



Hauksuonnevan tuulivoimahankkeen meluselvitys



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1 Johdanto

Wpd Suomi Oy suunnittelee enintään 59 tuulivoimalan rakentamista Pyhäjoen ja Merijärven kuntien alueelle. Ympäristövaikutusten arvioinnissa on tarkasteltu kolmea toteutusvaihtoehtoa sekä 0-vaihtoehtoa, jossa hanketta ei toteuteta. Toteutusvaihtoehdot tuulivoiman osalta ovat VE1, jossa alueelle rakennettaisiin enintään 59 uutta tuulivoimalaa, VE2, jossa rakennettaisiin enintään 44 uutta tuulivoimalaa sekä VE3, jossa rakennettaisiin enintään 36 uutta tuulivoimalaa. Tässä selvityksessä on mallinnettu Hauksuonnevan tuulivoimahankkeen toteutusvaihtoehtojen mukaisten tuulivoimaloiden ympäristöönsä aiheuttama melupäästö sekä voimaloiden aiheuttama pienitaajuinen melu rakennusten sisällä. Lisäksi on mallinnettu yhteisvaikutukset muiden lähiseudun hankkeiden kanssa.

Melumallinnus on toteutettu SoundPlan 8.2 -ohjelmistolla ympäristöministeriön julkaiseman ”Tuulivoimaloiden melun mallintaminen” -raportin mukaisilla laskentaparametreilla ja Nord2000 -melulaskentamallia käyttäen. Pienitaajuisen melun leviäminen on mallinnettu ympäristöministeriön ohjeiden mukaisesti windPRO 4.1 -ohjelmistolla soveltaen Tanskan ympäristöministeriön julkaiseman DSO 1284 -määräyksen menetelmää. Pienitaajuisen melun mallintamisessa on huomioitu suomalaisten pientalojen ilmaääneneristävyys, jonka arvot perustuvat Turun ammattikorkeakoulussa tehtyyn tutkimukseen (Keränen et al. 2019).

Mallinnuksessa käytetyn voimalamallin mittasuhteet vastaavat Hauksuonnevan tuulivoimahankkeen YVA-menettelyssä määritellyjä maksimimittoja, joiden mukaan voimalan napakorkeus on enintään 200 metriä, roottorin halkaisija enintään 200 metriä ja voimalan kokonaiskorkeus enintään 300 metriä. Tämän kokoluokan tuulivoimaloita ei selvityksen laatimishetkellä ole vielä kaupallisessa käytössä eikä niiden melupäästöarvoja ole saatavilla, minkä vuoksi voimalan lähtömelutasona on käytetty voimalavalmistajan ilmoittamia Nordex N175 6.8 -voimalan melupäästöarvoja, joihin on lisätty varmuusarvo +2 dB.

2 Tuulivoimaloiden melun syntymekanismit

Tuulivoimalan ääni muodostuu roottorin lapojen liikkeen synnyttämästä aerodynaamisesta äänestä sekä voimalan koneiston osien aiheuttamasta mekaanisesta äänestä. Aerodynaaminen ääni on haittavaikutusten kannalta yleensä mekaanista ääntä merkittävämpi tekijä. Tuulivoimalan tuottama ääni syntyy roottorin korkeudella ja on lapojen pyörimisliikkeen vuoksi jaksottaista. Tuulivoimaloiden ääni on laajakaistaista ja se sisältää myös pienitaajuisia ääniä, joiden taajuus on noin 20–200 Hz. Hankealueen ympäristössä havaittavan äänen ominaisuudet, kuten voimakkuus, taajuus ja ajallinen vaihtelu, riippuvat muun muassa tuulivoimaloiden koosta, lukumäärästä ja sääolosuhteista. [1, s. 76]

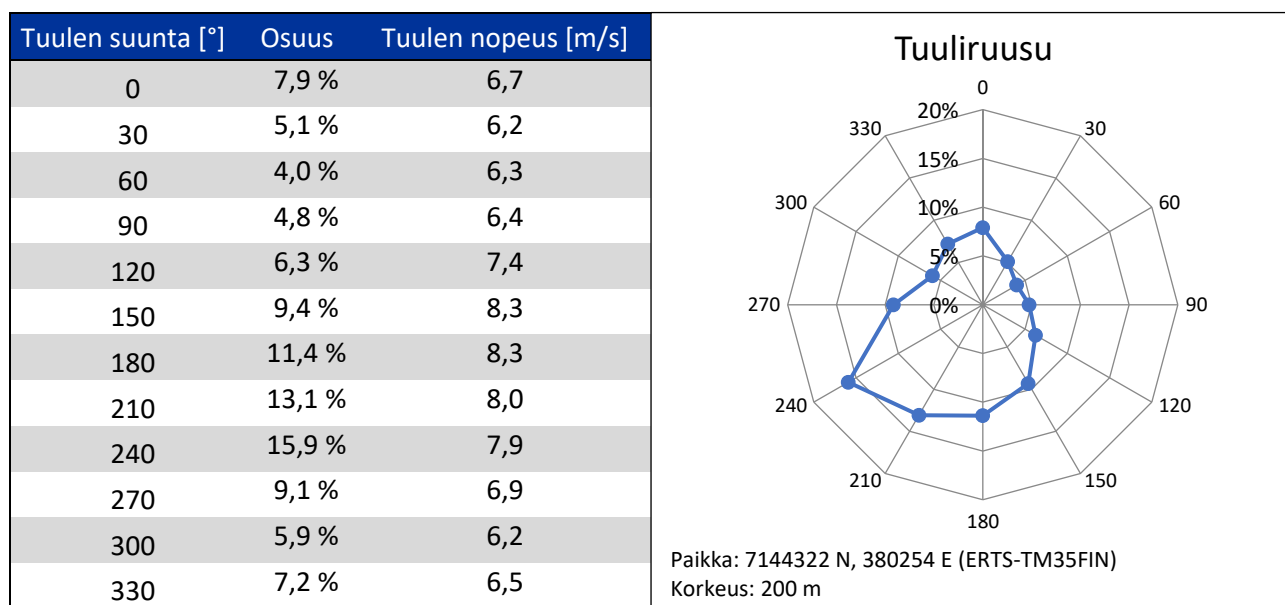
Maaston pinnanmuodot, kasvillisuus ja sääolot vaikuttavat tuulivoimaloiden äänen leviämiseen ympäristössä. Veden ja kosteikkojen yllä ääni leviää yleensä tehokkaammin kuin kuivalla maanpinnalla. Pienitaajuinen ääni etenee muuta ääntä laajemmalle alueelle, sillä se ei vaimene ilmakehässä yhtä herkästi kuin korkeataajuinen ääni. Tuulivoimaloiden äänen havaittavuuteen ja häiritsevyyteen vaikuttavat ympäristön taustääänet, kuten tuulen humina tai aaltojen kohina. [1, s. 76]

3 Alueen tuuliolosuhteet ja niiden vaikutukset meluun

Tuuliolosuhteet vaihtelevat alueella jatkuvasti, ja vallitsevat tuulet vaikuttavat tuulivoimaloiden äänitasoon. Sääolosuhteet ja maasto vaikuttavat myös äänen kulkeutumiseen alueella. Melumallinnukset perustuvat kuitenkin tilanteeseen, jossa tuulennopeus ja -suunta tuottaisivat suurimman mahdollisen äänitason tuulivoimaloista kaikkiin ilmansuuntiin vapaassa tilassa.

Todellinen äänitaso riippuu aina vallitsevista tuuliolosuhteista. Hankealueen vallitseva tuulensuunta on lounaasta, joten melumallinnuksen tasot toteutuvat todennäköisemmin hankealueen koillispuolella. Vastaavasti alueen lounaispuolella eli päätuulensuunnassa mallinnuksen mukaisia olosuhteita koetaan koillispuolta huomattavasti harvemmin.

Kuvassa 1 on esitetty ns. tuuliruusu, joka kuvaa tuulen vuosittaista jakautumista eri ilmansuuntiin hankealueella. Vallitseva päätuulensuunta on ilmansuunnista 210°–240°, joiden suhteellinen osuus vuoden tuulitilastossa on yhteensä 29,0 %. Tuulitiedot on haettu Suomen tuuliatlaksesta [2].



Kuva 1. Hankealueen tuulen vuosittainen jakautuminen eri ilmansuuntiin 200 metrin korkeudessa.

4 Tuulivoimaloiden melupäästön ohjearvot

Tuulivoimaloiden aiheuttaman melun osalta suunnittelua ohjaa valtioneuvoston asetus tuulivoimaloiden ulkomelutason ohjearvoista (1107/2015). Asetuksessa on määritelty suurimmat sallitut melun keskiäänitasot tiettyjen kohteiden ulkopuolella päivä- ja yöaikaan. Ohjearvot on esitetty taulukossa 1. [3]

Taulukko 1. Tuulivoimaloiden aiheuttaman ulkomelutason ohjearvot.

Kohteen tyyppi	L _{Aeq} päivällä klo 07–22 [dB(A)]	L _{Aeq} yöllä klo 22–07 [dB(A)]
Pysyvä asutus	45	40
Vapaa-ajan asutus	45	40
Hoitolaitokset	45	40
Oppilaitokset	45	-
Virkistysalueet	45	-
Leirintäalueet	45	40
Kansallispuistot	40	40

Lisäksi asumisterveysasetuksessa (545/2015) on määritetty ohjearvot pienitaajuuden melun taajuuspainottamattomille keskiäänitasoille nukkumiseen tarkoitetuissa sisätiloissa. Ohjearvot on esitetty taulukossa 2. [4, s. 8]

Taulukko 2. Pienitaajuuden sisämelun tunnin keskiäänitason toimenpiderajat nukkumiseen tarkoitetuissa tiloissa (Sosiaali- ja terveysministeriön asumisterveysasetus, 2015).

Taajuus [Hz]	20	25	31,5	40	50	63	80	100	125	160	200
L _{eq,1h} [dB]	74	64	56	49	44	42	40	38	36	34	32

5 Mallinnusmenetelmät

Melumallinnus on tehty SoundPlan 8.2-ohjelmistolla Nord2000-laskentamallia käyttäen ja ympäristöministeriön 28.2.2014 julkaiseman ”Tuulivoimaloiden melun mallintaminen” -raportin mukaisilla laskentaparametreilla [5].

5.1 Melupäästöarvot

Melumallinnuksessa Hauksuonnevan voimaloiden voimalamallina on käytetty nk. Future F200 -voimalaa, jonka roottorin halkaisija on 200 metriä, napakorkeus 200 metriä ja kokonaiskorkeus 300 metriä, mikä vastaa hankkeen ympäristövaikutusten arvioinnissa tarkasteltavaa maksimikorkeutta. Voimalamallilla pyritään ennakoimaan tuulivoimaloiden kokonaiskorkeuden mahdollista kasvua lähitulevaisuudessa.

Melupäästöarvot pohjautuvat Nordex N175 6.8 -voimalan melupäästöarvoihin 6,8 MW:n nimellisteholla ja hammastetuilla lavoilla. Ympäristöministeriön ohjeistuksen mukaan mallinnuksissa tulisi käyttää voimalavalmistajan ilmoittamia, standardin IEC TS 61400-14 mukaisia melupäästön takuuarvoja. Hauksuonnevan tuulivoimahankkeen mallinnuksissa N175 6.8 -voimalan melupäästöarvoihin on lisätty varmuusarvo +2 dB, koska melupäästön arvoa ei tässä tilanteessa voida määrittää standardin IEC TS 61400-14 mukaisesti. Varmuusarvon lisäyksen jälkeen melupäästön lähtöarvot vastaavat ympäristöministeriön muistion ”Yhteenveto tuulivoimaloiden melupäästön takuuarvon käyttämisestä meluselvityksissä liittyvästä kyselystä” (YM9/5511/2016) ohjeistusta [6].

Liitteissä 1–6 on esitetty Hauksuonnevan voimaloiden melupäästön taajuusjakauma 1/3-oktaaveittain eli terssikaistoittain keskitäajuuksilla 10 Hz – 10 kHz voimalavalmistajan Nordexin dokumentin F008_278_A17_EN Rev. 03 (13.10.2023) mukaisesti +2 dB:n varmuusarvon lisäyksellä [7].

Mallinnuksissa käytetyt melupäästöarvot perustuvat voimalamalliin, jonka lavoissa on hammastukset. Lapojen johtoreunan hammastukset eli serraatiot pienentävät voimalan melupäästöjä. Mikäli Hauksuonnevan tuulivoimahanke toteutuu, valitaan lopullinen tuulivoimalamalli hankkeen toteutussuunnitteluvaiheessa. Valittu voimalamalli voi olla vastaavanlainen tai hiljaisempi malli kuin melumallinnuksessa käytetty voimalamalli, ja tarvittaessa voidaan hyödyntää lapojen hammastuksia tai muita vaimennusmenetelmiä.

Taulukko 3. Hauksuonnevan hankkeen melumallinnuksissa käytettyjen voimaloiden tiedot.

	Voimaloita [kpl]	Voimalamalli, johon melupäästöarvot perustuvat	Lähtömelu- taso [dB(A)]	Hammas- tukset	Napa- korkeus [m]	Roottorin halkaisija [m]	Kokonais- korkeus [m]
VE1	59	Nordex N175 6.8	106,9 + 2	Kyllä	200	200	300
VE2	44	Nordex N175 6.8	106,9 + 2	Kyllä	200	200	300
VE3	36	Nordex N175 6.8	106,9 + 2	Kyllä	200	200	300

5.2 Havaintopisteet

Melumallinnuksessa melupäästön arvot lasketaan tietyille reseptoreille eli havaintopisteille hankealueen ympäristössä. Havaintopisteet ovat loma- tai asuinrakennuksia, joihin voisi niiden sijainnin perusteella kohdistua tuulivoimahankkeen meluvaikutuksia. Melu mallinnetaan rakennusten kohdalle aiheutuvana ulkomelutasona.

Hauksuonnevan melumallinnuksissa ulkomelutaso on laskettu 48 havaintopisteelle. Asuinrakennuksia on yhteensä 38 ja lomarakennuksia 10. Asuin- ja lomarakennusten sijainti- ja käyttötarkoitustiedot perustuvat maastotietokannan aineistoon. Selvityksen taulukoissa ja kartoissa lomarakennuksia kuvaa lyhenne HH (lomarakennus = holiday house) ja asuinrakennuksia RH (asuinrakennus = residential house).

Ympäristöministeriön ohjeistuksen mukaan tuulivoimalan perustusten ja melulle altistuvan havaintopisteen sijaintipaikan korkeuseron ollessa yli 60 metriä tulee voimalakohtaiseen lähtömelutasoon lisätä +2 dB(A), mikäli voimala sijaitsee alle kolmen kilometrin etäisyydellä kohteesta. Hauksuonnevan hankealueen ympäristössä ei sijaitse tällaisia asuin- tai lomarakennuksia, sillä alueen korkeuserot ovat varsin vähäisiä.

5.3 Laskentaparametrit

Seuraavan sivun taulukossa 4 on esitetty melumallinnuksen tiedot ja laskentaparametreja ympäristöministeriön ohjeistuksen mukaisesti.

Taulukko 4. Hauksuonnevan tuulivoimahankkeen melumallinnuksen tiedot ja laskentaparametreja.

Melumallinnuksen tiedot		
Laatija	Päivämäärä	
Alina von Randow, wpd europe GmbH	19.6.2025	
Hanke	Hankevastaava	
Hauksuonnevan tuuli- ja aurinkovoimahanke	wpd Suomi Oy	
Mallinnusohjelma	Mallinnusmenetelmä	
SoundPLAN 8.2 (6/2023)	Nord2000	
Melun laskentamallin parametrit		
Melupäästö (Hauksuonnevan tuulivoimalat)		
Valmistajan ilmoittama melupäästöarvo + varmuusarvo: 106,9 dB(A) + 2 dB = 108,9 dB(A)		
Kapeakaistaisuus/Tonaalisuus	Impulssimaisuus	Merkityksellinen sykintä
Ei	Ei	Ei
Laskentaverkko		
Laskentakorkeus	Laskentaruudun koko	
2 m (Nord2000)	10 m x 10 m	
Sääolosuhteet		
Suhteellinen kosteus	Lämpötila	
70 %	15°C	
Maastomallin lähde ja tarkkuus		
Korkeusmallin lähde	Vaakaresoluutio	Pystyresoluutio
Nord2000: Maanmittauslaitos, korkeusmalli 2 m	2 m	0,3 m
Voimalan äänen suuntaavuus ja vaimentuminen		
Vapaa avaruus		
Maaston kovuusarvot		
Nord2000 (Aluetyypit: Maanmittauslaitoksen maastotietokanta)		
Hankealueen korkeuserot		
Tuulivoimaloiden perustusten sijaitessa yli 60 m korkeammalla kuin melulle altistuva kohde lisätään melupäästön takuuarvoon +2 dB (enintään 3 km etäisyydellä voimaloista). Hauksuonnevan hankkeessa tällaisia kohteita ei ole.		
Tuulen suuntien osuus		
Tuuliatlaksen tuulitilastot 200 metrin korkeudella maanpinnasta pisteessä 7144322 N, 380254 E on esitetty kuvassa 1. Näitä tuulisuustietoja ei ole käytetty Nord2000-laskennan aineistona. Mallinnuksissa oletuksena on, että tuulen suunta on aina kohti havaintopistettä, jolloin voimaloiden melupäästö on suurimmillaan.		

5.4 Maaston kovuuden määrittely

Maastoon kovuus on mallinnettu Nord2000-laskennassa jokaiselle maaston aluetyypille erikseen Maanmittauslaitoksen maastotietokannan perusteella. Alla oleva taulukko 5 esittää mallinnuksessa kullekin aluetyypille määritetyn kovuusarvon. Taustakovuus on asetettu luokkaan B, joka vastaa metsän kovuusluokkaa.

Taulukko 5. Mallinnuksessa käytetyt maaston kovuusarvot.

Alueen tyyppi	Luokka	Alueen tyyppi	Luokka
Suo, helppokulkuinen metsää kasvava	B	Tulva-alue	G
Suo, vaikeakulkuinen metsää kasvava	B	Allasalue	G
Hietikko	E	Varastoalue	G
Puisto	E	Asuinrakennus, ? krs	G
Pelto	E	Asuinrakennus, 1–2 krs	G
Puutarha	E	Asuinrakennus, 3-n krs	G
Niitty	E	Liike- tai julkinen rakennus, ? krs	G
Suo, helppokulkuinen puuton	E	Liike- tai julkinen rakennus, 1–2 krs	G
Soistuma	E	Liike- tai julkinen rakennus, 3-n krs	G
Turvetuotantoalue	E	Lomarakennus, ? krs	G
Kaatopaikka	E	Lomarakennus, 1–2 krs	G
Täytemaa	E	Lomarakennus, 3-n krs	G
Urheilu- ja virkistysalue	E	Teollinen rakennus, krs	G
Avoin metsämaa	E	Teollinen rakennus, 1–2 krs	G
Varvikko	E	Teollinen rakennus, 3-n krs	G
Kallio - alue	F	Kirkollinen rakennus, ? krs	G
Harva louhikko	F	Kirkollinen rakennus, 1–2 krs	G
Kivikko	F	Kirkollinen rakennus, 3–n krs	G
Louhos	F	Muu rakennus, ? krs	G
Sorakuoppa	F	Muu rakennus, 1–2 krs	G
Taajaan rakennettu alue	F	Muu rakennus, 3–n krs	G
Suo, vaikeakulkuinen puuton	G	Järvivesi	G
Avoin vesijättöalue	G	Vesikivikko	G
Merivesi	G	Liikennealue	G
Maatuvaa vesialue	G		

5.5 Pienitaajuinen melu

Sosiaali- ja terveysministeriön asumisterveysasetuksessa on määritelty toimenpiderajat yöaikaiselle pienitaajuiselle sisämelulle terssikaistoittain taajuusvälillä 20–200 Hz (taulukko 6). Ympäristöministeriön ohjeiden mukainen pienitaajuisen melun laskenta perustuu Tanskan ympäristöhallinnon julkaisemaan DSO 1284 -määräykseen.

Tanskan ympäristöhallinnon laskentamenetelmä on sovitettu Suomen olosuhteisiin määrittämällä rakennusten sisälle aiheutuva pienitaajuisen melun taso Turun ammattikorkeakoulussa tehdyssä ”The sound insulation of façades at frequencies 5–5000 Hz” -tutkimuksessa (Keränen et al. 2019) esitettyjen pientalojen julkisivun ilmaääneneristävyyssarvojen avulla (taulukko 6). Tulokset perustuvat suomalaisissa asuintaloissa tehtyihin mittauksiin, joiden perusteella on arvioitu talojen äänieristävyys eri taajuuksille. Tutkimuksen mukaan eristävyysarvot ylittyvät 84 % todennäköisyydellä suomalaisissa pientaloissa [8].

Taulukosta 6 nähdään, että tutkimukseen perustuvat ääneneristävyyssarvot ovat merkittävästi alhaisemmat kuin Tanskan ympäristöhallinnon ohjeiden mukaiset arvot. Pienitaajuisen melun mallinnuksissa rakennukset siis vaimentavat ääntä heikommin kuin Tanskan ohjearvoilla laskettuna.

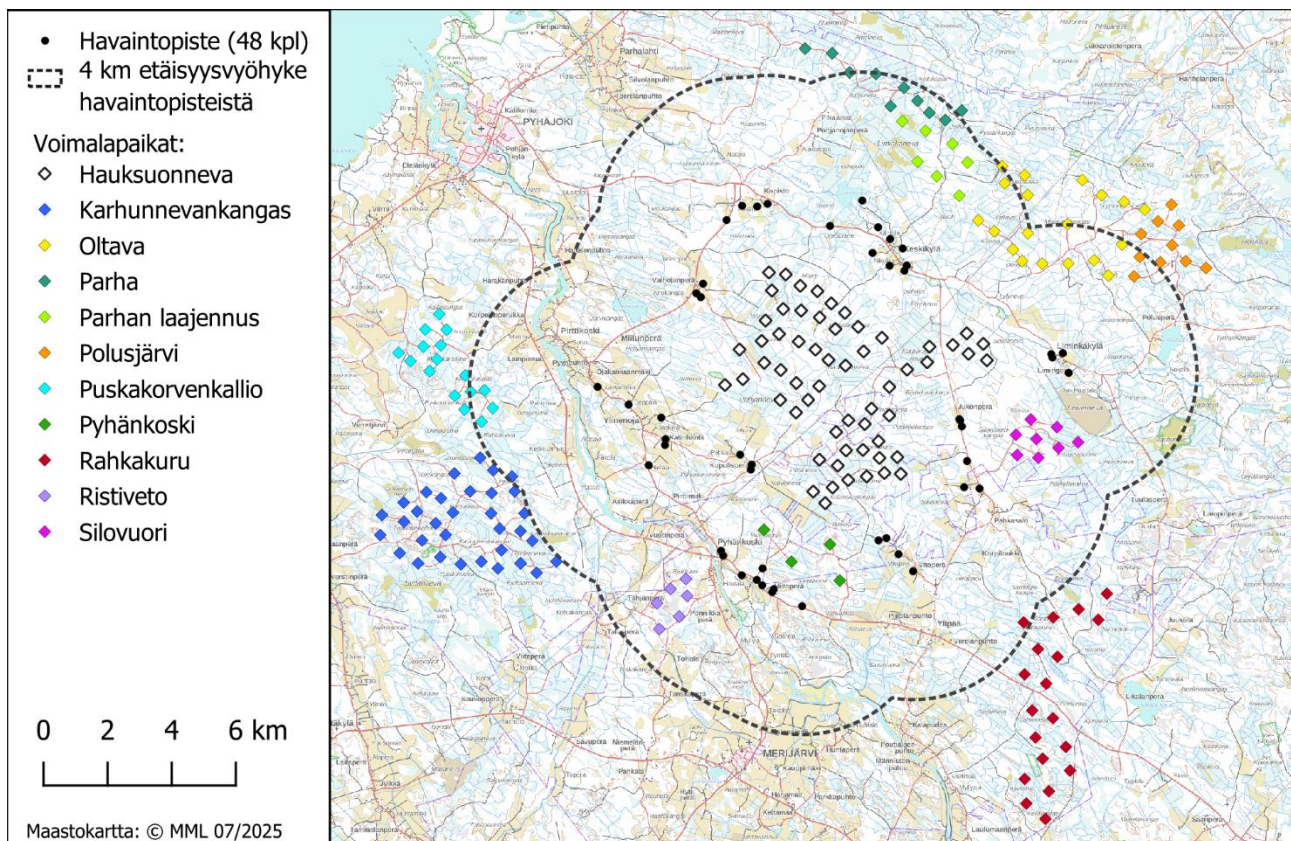
Taulukko 6. Pientalojen ääneneristävyyden arvot terssikaistoilla 20–200 Hz Tanskan ympäristöministeriön ohjeistuksen sekä Suomessa tehdyn tutkimuksen mukaan [8].

Taajuus [Hz]	20	25	31,5	40	50	63	80	100	125	160	200
Ääneneristävyys [dB] (Tanskan ohjeistus)	6,6	8,4	10,8	11,4	13,0	16,6	19,7	21,2	20,2	21,2	-
Ääneneristävyys [dB] (Keränen et. al. 2019)	7,6	8,3	9,2	10,3	11,5	13,0	14,8	16,8	18,8	21,1	22,8

Pienitaajuisen melun mallintamisessa on käytetty nk. Future F200 -voimalaa, jonka roottorin halkaisija on 200 metriä, napakorkeus 200 metriä ja kokonaiskorkeus 300 metriä. Pienitaajuisen melun lähtöarvot pohjautuvat Nordex N175 6.8 -voimalan melupäästöarvoihin, joihin on lisätty +2 dB:n varmuusarvo. Mallinnukset on tehty windPRO 4.1 -ohjelman DECIBEL-moduulilla.

5.6 Yhteisvaikutusten mallintaminen

Yhteisvaikutusten mallintamisessa on huomioitu ne hankkeet, joiden yksi tai useampi voimala on neljän kilometrin säteellä Hauksuonnevan hankkeen ympäristössä sijaitsevista havaintopisteistä (kuva 2). Taulukossa 7 on eritelty yhteisvaikutusten mallinnuksiin Hauksuonnevan tuulivoimahankkeen lisäksi sisällytetyt 10 hanketta ja niiden voimaloiden tiedot.



Kuva 2. Hankkeet, jotka sijaitsevat enintään 4 kilometrin etäisyydellä Hauksuonnevan ympäristössä olevista havaintopisteistä.

Taulukko 7. Yhteisvaikutusten mallintamisessa huomioitavat hankkeet ja niiden voimaloiden tiedot (* = hanke on suunnitteilla).

Hanke	Voimaloita	Voimalamalli	Lähtömelu- taso [dB(A)]	Hammas- tukset	Napa- korkeus [m]	Roottorin halkaisija [m]	Kokonais- korkeus [m]
Silovuori	8	V126 3.3 MW	105,8	Kyllä	147	126	210
Ristiveto	6	SWT108 2.3 MW	103,7	Ei	115	108	169
Pyhäkoski	4	V126 3.3 MW	105,8	Kyllä	137	126	200
Puskakorvenkallio	16	GE158 5.5 MW	106,0	Kyllä	161	158	240
Polusjärvi	10	V150 4.3 MW	104,9	Kyllä	160	150	235
Parha	10	V162 5.6 MW	104,0	Kyllä	166	162	247
Oltava	19	N149 4.8 MW	106,1	Kyllä	145	149	219,5
Karhunnevakangas	33	N163 5.5 MW	109,2	Ei	159	163	240,5
Rahkakuru*	19	V172 7.2 MW	106,9 + 2	Kyllä	166	200	300
Parhan laajennos*	7	N175 6.8 MW	106,9 + 2	Kyllä	200	200	300

Mallinnuksissa on Hauksuonnevan toteutusvaihtoehtojen mukaisten voimaloiden lisäksi huomioitu yhteensä 132 olemassa olevaa ja suunniteltua voimalaa. Hankkeista kahdeksan on toiminnassa olevia ja kaksi (Prokon Oy:n Rahkakuru ja Puhuri Oy:n Parhan laajennus) suunnitteluvaiheessa.

Toiminnassa olevien voimaloiden tiedot on saatu hankkeet omistavilta tai niiden ylläpidosta vastaavilta yrityksiltä loka-marraskuussa 2024. Voimalasijainnit perustuvat Maanmittauslaitoksen maastotietokantaan, jonka aineisto on ladattu 11.10.2024. Voimaloiden melupäästöarvojen lähteet on eritelty taulukossa 8.

Taulukko 8. Voimaloiden melupäästöarvojen lähteet.

Voimalamalli	Melupäästöarvojen lähdedokumentti
Nordex N149 4.8 MW	F008_270_A14_EN Revision 01 (8.11.2018)
Nordex N163 5.5 MW	F008_276_A17_EN Revision 00 (21.5.2019)
Nordex N175 6.8 MW	Third octave sound power levels Nordex N175/6.X F008_278_A17_EN Revision 03 (13.10.2023)
Vestas V126 3.3 MW	V126-3.3MW-Mk2A-50/60 Hz Third Octaves according to General Specification; DMS 0048-2151_V01 (11.11.2014)
Vestas V150 4.3 MW	V150-4.3 MW Third octave noise emission; DMS 0080-4413_00 (20.12.2028)
Vestas V162 5.6 MW	V162-5.6 MW Third octave noise emission; DMS 0079-5298_01 (28.1.2019)
Vestas V172 7.2 MW	Third octave noise emission EnVentus™ V172-7.2MW 50/60 Hz; DMS 0128-4336_00 (30.6.2022)
General Electric GE158 5.5 MW	Technical Documentation Wind Turbine Generator Systems 5.3-158 - 50 Hz; Noise_Emission-NO_5.3-158-50Hz_IEC_EN_r03 (2018)
Siemens SWT108 2.3 MW	windPro 4.1 WTG catalogue (26.4.2016)

Siemens SWT108 2.3 MW -voimalamallille ei ollut saatavilla terssikaista-arvoa 200 Hz:n taajuudelle. Mallinnusta varten kyseinen terssikaista-arvo on määritetty interpoloimalla oktaavikaista-arvoista.

Suunnitteilla olevien hankkeiden voimaloiden sijainnit perustuvat Prokon Oy:ltä ja Puhuri Oy:ltä marraskuussa 2024 saatuihin tietoihin. Melumallinnuksissa on käytetty hankkeissa ilmoitettuja enimmäisvoimalamääriä. Suunnitteilla olevien hankkeiden voimalamallit eivät ole vielä tiedossa, mutta Prokon Oy:n Rahkakurun tuulivoimahankkeen melumallinnuksissa voimaloiden lähtömelutaso on Vestas V172 7.2 MW -voimalamallin mukainen. Puhuri Oy:n Parhan laajennus on hyvin aikaisessa vaiheessa, eikä melumallinnuksissa käytettävä voimalamalli ole vielä tiedossa. Hauksuonnevan hankkeen yhteisvaikutusten melumallinnuksissa Rahkakurun voimaloiden lähtömelutaso on Vestas V172 7.2 -mallin mukainen +2 dB(A):n varmuusarvon lisäyksellä, ja Parhan laajennuksen voimaloiden lähtömelutasona on käytetty samaa, Nordex N175 6.8 MW -voimalamalliin perustuvaa arvoa kuin Hauksuonnevan hankkeen voimaloissa.

6 Tulokset ja yhteenveto

Melumallinnuksen tuloksia verrataan valtioneuvoston asetuksen mukaisiin melun ohjearvoihin (taulukko 1) ja pienitaajuisen melun aiheuttamia sisämelutasoja verrataan sosiaali- ja terveysministeriön asumisterveysasetuksen mukaisiin ohjearvoihin (taulukko 2).

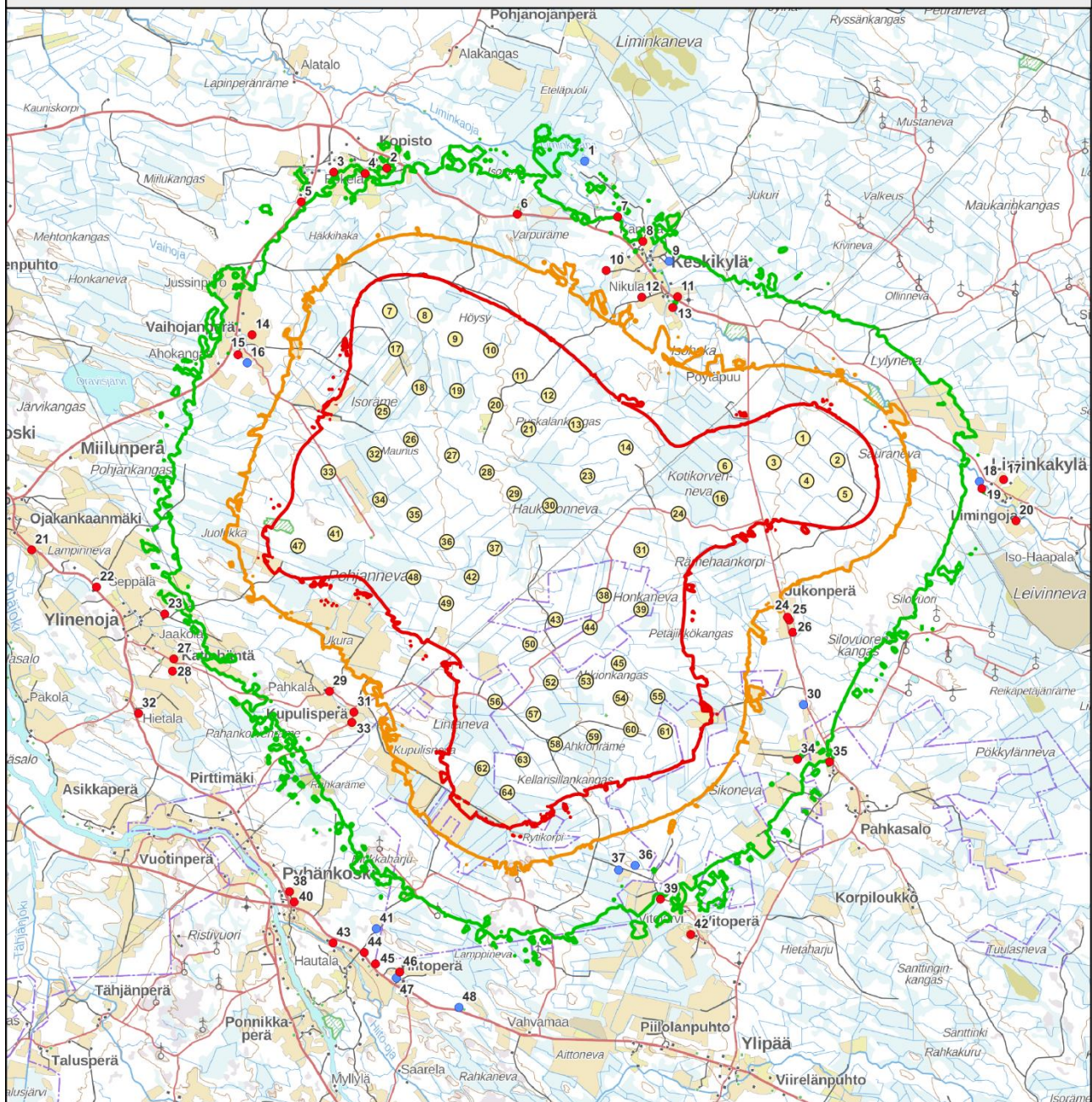
6.1 Keskiäänitason mallinnustulokset

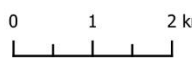
6.1.1 Hauksuonnevan tuulivoimahankkeen melumallinnus

Toteutusvaihtoehtojen VE1, VE2 ja VE3 mukaisten melumallinnusten tulokset on esitetty ohjearvoihin verrannollisina pitkän ajan keskiäänitasoina karttapohjalla kuvissa 3, 4 ja 5. Taulukossa 9 on esitetty mallinnetut melupäästön arvot havaintopistekohtaisesti. Taulukkoon 10 on koottu suunnitelluohjearvot ylittävälle melulle altistuvien kohteiden lukumäärä.

Karttoihin on merkitty A-painotettujen äänitasojen 35 dB(A), 40 dB(A) ja 45 dB(A) mukaisten vyöhykkeiden rajat sekä havaintopisteinä toimineet loma- ja asuinrakennukset. Kartoissa havaintopisteet on numeroitu taulukon 9 mukaisesti. Melumallinnuksen tarkemmat tulokset on esitetty liitteessä 1.

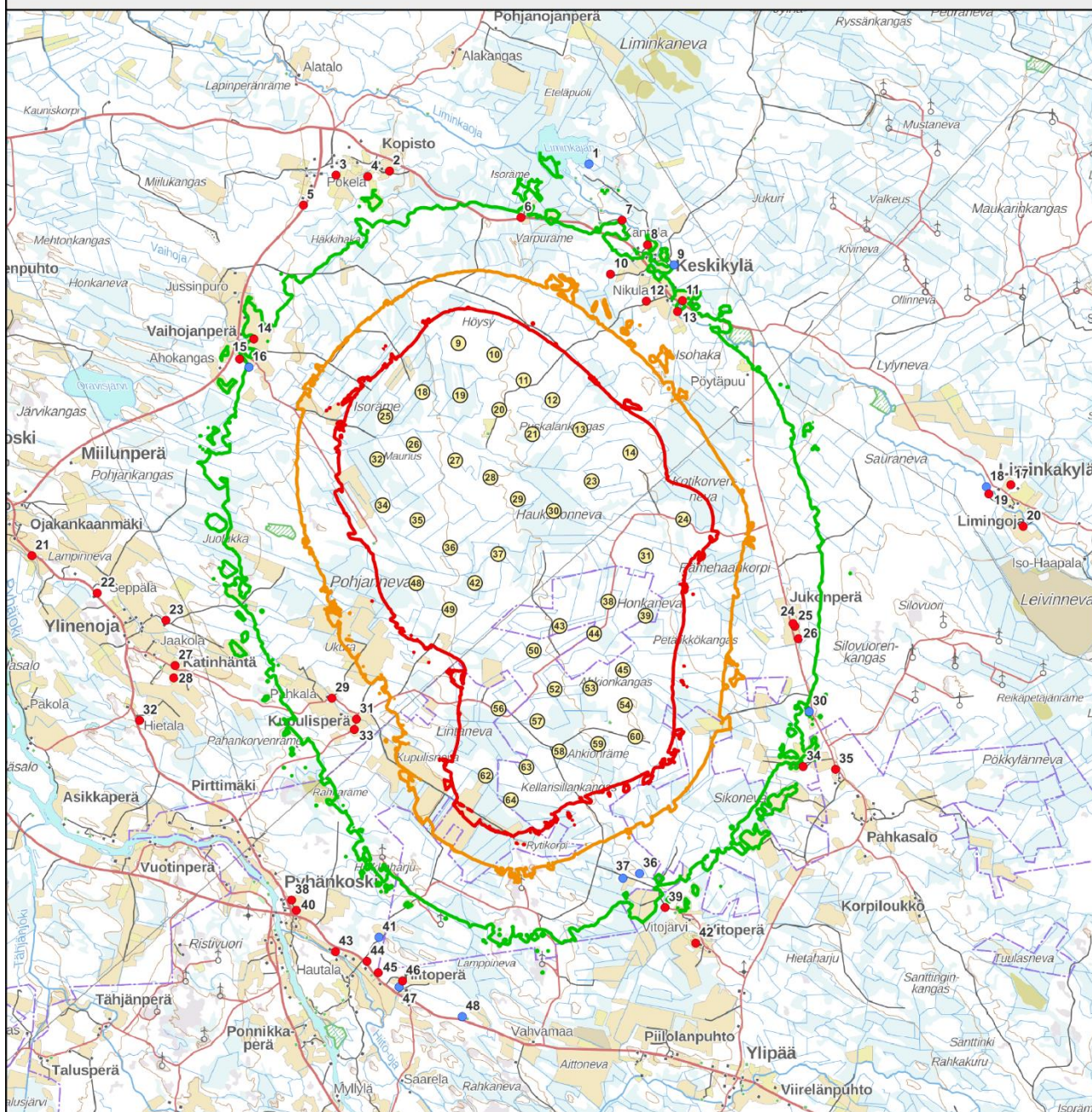
Hauksuonnevan tuulivoimahanke – meluvyöhykkeet (VE1)



Selite	Laskentaparametrit		Kartan tiedot
○ Hauksuonnevan voimalat (VE1)	Mallinnusohjelma	SoundPlan 8.2	Koordinaatisto: ETRS-TM35FIN Tekijä: Emma Berkovits / wpd Suomi Oy Päivämäärä: 1.7.2024 Maastokartta: © Maanmittauslaitos 7/2025   
● Asuinrakennus (RH)	Laskentamenetelmä	Nord2000	
● Lomarakennus (HH)	Lähtömelutaso	106,9 + 2 dB(A)	
Meluvyöhykkeiden rajat:	Voimalan napakorkeus	200 metriä	
— 35 dB(A)	Havaintopisteen korkeus	2 metriä maanpinnasta	
— 40 dB(A)	Tuulen suunta	Aina kohti havaintopistettä	
— 45 dB(A)			

Kuva 3. Melumallinnuksen mukaiset meluvyöhykkeet, VE1. Havaintopisteet on numeroitu taulukon 9 mukaisesti.

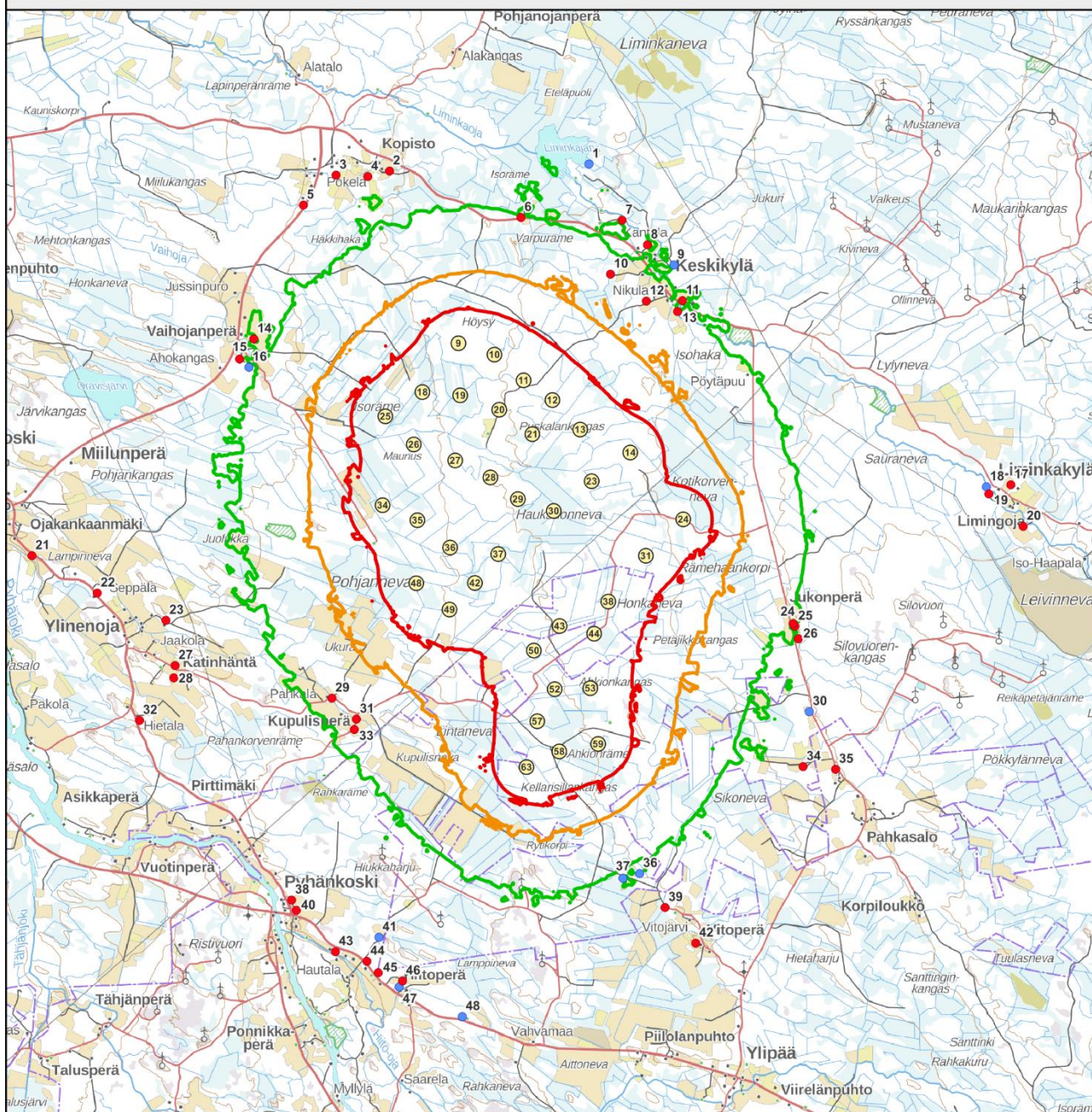
Hauksuonnevan tuulivoimahanke – meluvyöhykkeet (VE2)



Selite	Laskentaparametrit		Kartan tiedot
○ Hauksuonnevan voimalat (VE2) ● Asuinrakennus (RH) ● Lomarakennus (HH)	Mallinnusohjelma	SoundPlan 8.2	Koordinaatisto: ETRS-TM35FIN Tekijä: Emma Berkovits / wpd Suomi Oy Päivämäärä: 1.7.2024 Maastokartta: © Maanmittauslaitos 7/2025 0 1 2 km 
Meluvyöhykkeiden rajat: 35 dB(A) 40 dB(A) 45 dB(A)	Laskentamenetelmä	Nord2000	
	Lähtömelutaso	106,9 + 2 dB(A)	
	Voimalan napakorkeus	200 metriä	
	Havaintopisteen korkeus	2 metriä maanpinnasta	
	Tuulen suunta	Aina kohti havaintopistettä	

Kuva 4. Melumallinnuksen mukaiset meluvyöhykkeet, VE2.

Hauksuonnevan tuulivoimahanke – meluvyöhykkeet (VE3)



Selite	Laskentaparametrit		Kartan tiedot
○ Hauksuonnevan voimalat (VE3) ● Asuinrakennus (RH) ● Lomarakennus (HH)	Mallinnusohjelma	SoundPlan 8.2	Koordinaatisto: ETRS-TM35FIN Tekijä: Emma Berkovits / wpd Suomi Oy Päivämäärä: 1.7.2024 Maastokartta: © Maanmittauslaitos 7/2025
Meluvyöhykkeiden rajat: 35 dB(A) 40 dB(A) 45 dB(A)	Laskentamenetelmä	Nord2000	
	Lähtömelutaso	106,9 + 2 dB(A)	
	Voimalan napakorkeus	200 metriä	
	Havaintopisteen korkeus	2 metriä maanpinnasta	
	Tuulen suunta	Aina kohti havaintopistettä	
			0 1 2 km 

Kuva 5. Melumallinnuksen mukaiset meluvyöhykkeet, VE3.

Taulukko 9. Melumallinnusten tulokset havaintopisteittäin hankevaihtoehtoille VE1, VE2 ja VE3.

Nro	Havaintopiste	VE1, dB(A)	VE2, dB(A)	VE3, dB(A)
1	HH Liminkajärvi	33,6	32,3	32,0
2	RH Ojakangas	33,8	30,8	30,7
3	RH Pokela	34,0	31,5	31,2
4	RH Haanpää	34,4	31,7	31,4
5	RH Vaihojantie	34,4	31,9	31,6
6	RH Heikkilä	36,7	35,3	35,1
7	RH Keskikylä	34,3	33,1	32,9
8	RH Kantola	35,0	33,7	33,5
9	HH Lystilä	36,3	35,0	34,6
10	RH Uusitalo	37,7	36,8	36,6
11	RH Kotila	36,7	35,1	34,9
12	RH Nikula	37,6	36,4	36,3
13	RH Ojatalo	37,3	35,9	35,8
14	RH Vaihoja 1	37,3	35,1	34,5
15	RH Vaihoja 2	36,3	34,1	33,5
16	HH Vaihoja	37,2	35,1	34,5
17	RH Tienvieri	33,3	29,1	28,3
18	HH Koskela	33,2	26,4	25,4
19	RH Limingoja	33,2	26,5	25,4
20	RH Hautala	33,6	29,0	28,1
21	RH Paskoja	30,1	28,6	27,9
22	RH Seppälä	30,8	28,8	28,1
23	RH Välitähti	33,6	31,4	30,5
24	RH Jukkola 1	39,0	36,4	35,0
25	RH Jukkola 2	39,0	36,3	34,8
26	RH Jukkola 3	38,6	36,1	34,6
27	RH Katinhäntä 1	33,3	31,7	30,8
28	RH Katinhäntä 2	33,2	31,6	30,7
29	RH Pahkala	37,6	36,6	35,6
30	HH Kankaala	36,6	34,6	32,6
31	RH Kupulisperä	38,3	37,7	36,3
32	RH Hietala	31,6	30,2	29,4
33	RH Kupulisoja	37,9	37,4	35,9
34	RH Uutela	35,6	33,6	31,2
35	RH Yppäriä	34,8	32,9	31,0
36	HH Hietakaivonkangas	37,3	36,5	34,0
37	HH Ruunakorpi	38,9	38,3	35,7
38	RH Pyhäkoski 1	31,4	30,7	28,9
39	RH Vitoperä	34,8	33,9	31,5
40	RH Pyhäkoski 2	32,4	31,8	30,0
41	HH Kylä-Anttila	32,5	32,0	29,8
42	RH Vitomaa	33,9	32,9	31,1
43	RH Pyhäkoskentie	32,8	32,1	30,5
44	RH Pinola	33,5	32,9	31,2
45	RH Lepola	32,3	31,6	29,9
46	RH Karppi	31,8	31,2	29,2
47	HH Hiitoperä	31,4	30,9	28,8
48	HH Holma	31,2	30,6	28,5

Taulukko 10. Suunnitteluohjearvot ylittävälle melulle altistuvien kohteiden lukumäärä Hauksuonnevan melumallinnuksissa.

Kohteen tyyppi	Lukumäärä
Pysyvä asutus	0
Vapaa-ajan asutus	0
Hoitolaitokset	0
Oppilaitokset	0
Virkistysalueet	0
Leirintäalueet	0
Kansallispuistot	0

Mallinnusten perusteella Hauksuonnevan toteutusvaihtoehtojen VE1, VE2 ja VE3 mukaiset voimat eivät aiheuta 40 dB(A):n ohjearvoa ylittävää melua minkään havaintopisteen kohdalla.

6.1.2 Yhteisvaikutusten melumallinnus

Taulukossa 11 on esitetty yhteisvaikutusten melumallinnuksen tulokset havaintopisteittäin. Taulukoon 12 on koottu suunnitteluohjearvot ylittävälle melulle altistuvien kohteiden lukumäärä. Yhteisvaikutukset on mallinnettu Hauksuonnevan hankkeen toteutusvaihtoehdoille VE1, VE2 ja VE3. Suunnitteilla olevien Rahkakurun ja Parhan laajennuksen osalta kaikissa mallinnuksissa on käytetty suurinta hankevaihtoehtoa.

Taulukko 11. Yhteisvaikutusten melumallinnuksen tulokset havaintopisteittäin hankevaihtoehdoille VE1, VE2 ja VE3.

Nro	Havaintopiste	VE1 + YV, dB(A)	VE2 + YV, dB(A)	VE3 + YV, dB(A)
1	HH Liminkajärvi	36,7	36,1	35,9
2	RH Ojakangas	34,3	31,9	31,7
3	RH Pokela	34,5	32,3	32,1
4	RH Haanpää	34,8	32,5	32,2
5	RH Vaihojantie	34,8	32,5	32,2
6	RH Heikkilä	37,4	36,3	36,2
7	RH Keskikylä	36,6	36,0	35,9
8	RH Kantola	37,2	36,4	36,3
9	HH Lystilä	38,1	37,3	37,1
10	RH Uusitalo	38,6	37,9	37,8
11	RH Kotila	37,8	36,7	36,6
12	RH Nikula	38,6	37,7	37,6
13	RH Ojatalo	38,4	37,3	37,2
14	RH Vaihoja 1	37,7	35,8	35,2
15	RH Vaihoja 2	36,6	34,5	34,0
16	HH Vaihoja	37,4	35,4	34,8
17	RH Tienvieri	36,3	34,6	34,4
18	HH Koskela	35,7	33,2	33,0
19	RH Limingoja	36,0	33,6	33,4
20	RH Hautala	36,9	35,3	35,1
21	RH Paskoja	33,4	32,8	32,5
22	RH Seppälä	33,0	31,9	31,6
23	RH Välitälo	34,8	33,3	32,7
24	RH Jukkola 1	40,0	38,1	37,1
25	RH Jukkola 2	40,0	38,0	37,1
26	RH Jukkola 3	39,8	38,0	37,1
27	RH Katinhätä 1	35,0	33,9	33,4
28	RH Katinhätä 2	34,8	33,8	33,2
29	RH Pahkala	38,0	37,1	36,2
30	HH Kankaala	38,2	36,9	35,8
31	RH Kupulisperä	38,8	38,2	37,1
32	RH Hietala	34,4	33,8	33,4
33	RH Kupulisoja	38,5	38,0	36,7
34	RH Uutela	37,1	35,8	34,5
35	RH Yppärilä	37,3	36,3	35,5
36	HH Hietakaivonkangas	38,2	37,5	35,8
37	HH Ruunakorpi	39,6	39,1	37,2
38	RH Pyhäkoski 1	37,7	37,6	37,2
39	RH Vitoperä	36,3	35,7	34,3
40	RH Pyhäkoski 2	36,9	36,7	36,2
41	HH Kylä-Anttila	37,8	37,6	37,1
42	RH Vitomaa	35,9	35,4	34,5
43	RH Pyhäkoskentie	37,0	36,7	36,2
44	RH Pinola	37,1	36,9	36,3
45	RH Lepola	36,4	36,1	35,5
46	RH Karppi	36,6	36,4	35,8
47	HH Hiitoperä	35,9	35,7	35,1
48	HH Holma	35,3	35,1	34,4

Taulukko 12. Suunnitteluohjearvot ylittävälle melulle altistuvien kohteiden lukumäärä yhteisvaikutusten mallinnuksessa (VE1+YV).

Kohteen tyyppi	Lukumäärä
Pysyvä asutus	1
Vapaa-ajan asutus	0
Hoitolaitokset	0
Oppilaitokset	0
Virkistysalueet	0
Leirintäalueet	0
Kansallispuistot	0

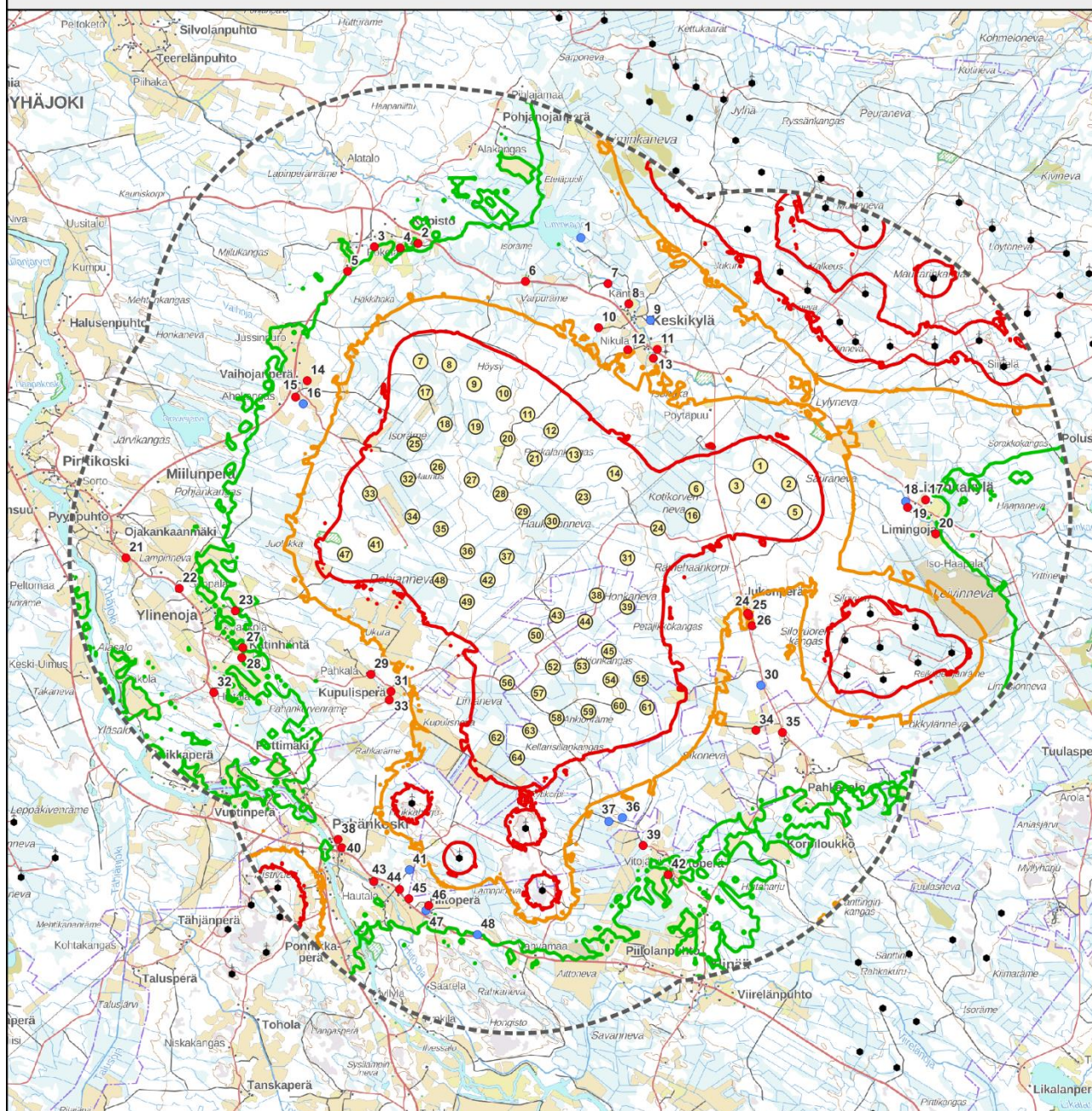
Melu saa kahden havaintopisteen (Jukkola 1 ja Jukkola 2) kohdalla arvon 40,0 dB(A) Hauksuonnevan VE1-toteutusvaihtoehdon mukaisessa mallinnuksessa, kun yhteisvaikutukset muiden tuulivoimahankkeiden kanssa huomioidaan. Liitteessä 4 esitettyjen mallinnustulosten perusteella melun tarkka arvo on Jukkola 2:n kohdalla 39,97 dB(A). Jukkola 1:n kohdalla tarkka arvo on 40,02 dB(A), jolloin yöajan ulkomelutason ohjearvo ylittyy. Ylitys on hyvin pieni, ja ohjearvon alittava melutaso olisi todennäköisesti saavutettavissa, mikäli yksi havaintopisteen lähellä sijaitsevista Hauksuonnevan voimaloista poistettaisiin. Lyhyin etäisyys havaintopisteestä on koillisessa sijaitsevalle voimalapaikalle 5. Vaihtoehtoisesti meluvaikutuksia voidaan pienentää rajoittamalla voimaloiden toimintaa.

Mahdollinen voimalan poistaminen tai siirtäminen tullaan tekemään kaavaehdotusvaiheessa, jolloin myös melumallinnukset päivitetään. Tällöin voidaan varmistaa, etteivät ohjearvot ylity minäkään havaintopisteen kohdalla.

Kuvien 6, 7 ja 8 kartoissa on esitetty melumallinnuksen tulokset ja laskenta-alue, jolle meluvyöhykkeet on mallinnettu. Laskenta-alue ulottuu 5 000 metrin etäisyydelle Hauksuonnevan toteutusvaihtoehdon VE1 mukaisista voimalapaikoista. Tällä etäisyydellä Hauksuonnevan voimaloiden aiheuttama melu on jo erittäin vähäistä.

Vaikka muiden hankkeiden voimalat sijoittuvat laskenta-alueen ulkopuolelle, niiden meluvaikutus laskenta-alueella on mallinnoissa huomioitu. Suurin osa mallinnoissa huomioituista voimaloista ei näy kartoissa, mutta niiden melualueet näkyvät osittain. Kaikkien hankkeiden meluvaikutusten esittäminen kartalla kokonaisuudessaan ei ole mielekästä, sillä Hauksuonnevaa ympäröivien hankkeiden 35 dB(A):n melurajat ulottuisivat varsin kauas Hauksuonnevan suunnitelluista voimaloista.

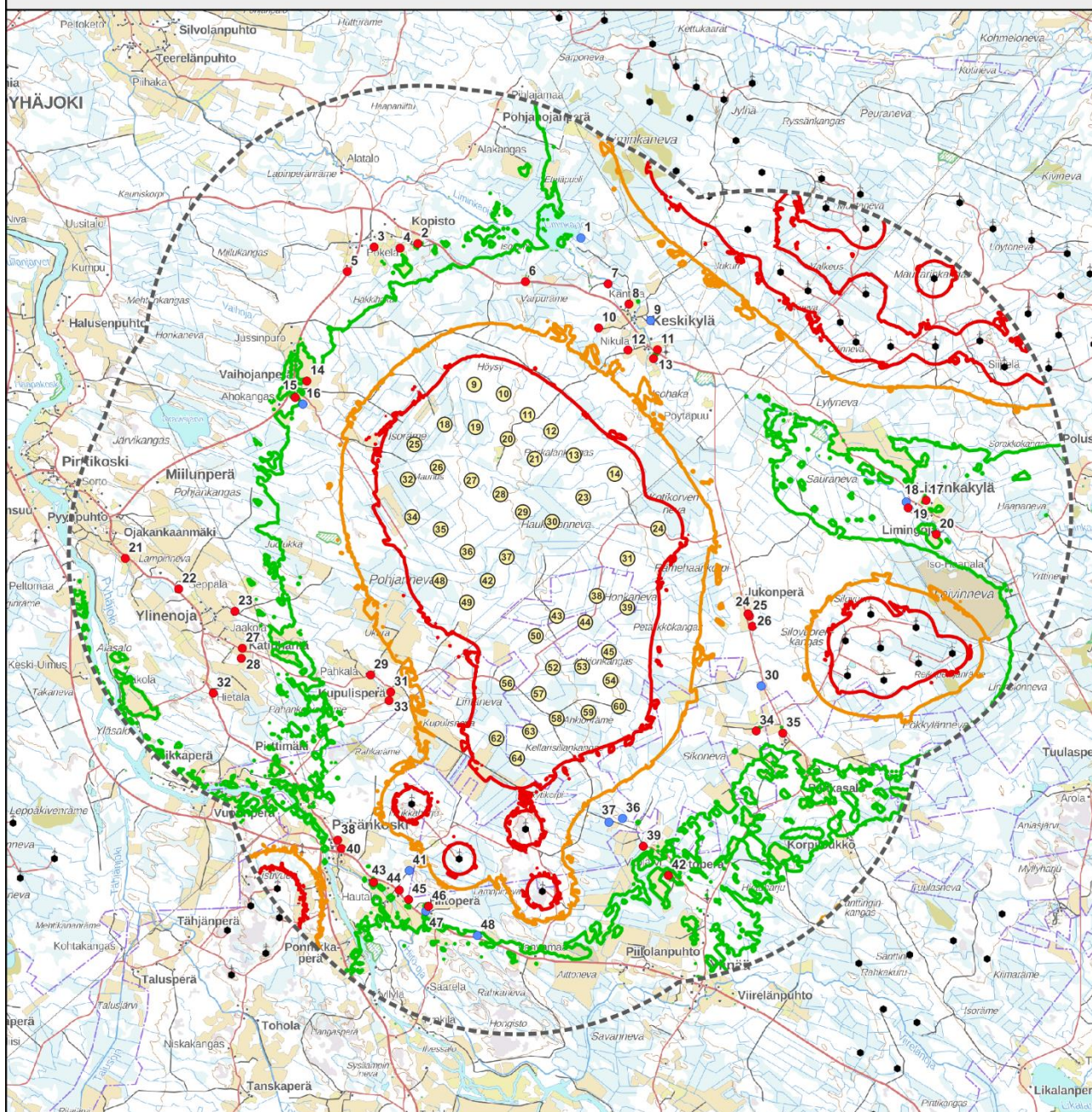
Hauksuonnevan tuulivoimahanke – melu- ja ympäristövaikutukset (VE1 + yhteisvaikutukset)



Selite	Laskentaparametrit		Kartan tiedot
- Hauksuonnevan voimalat (VE1) - Muiden hankkeiden voimalat - Asuinrakennus (RH) - Lomarakennus (HH) - Laskenta-alue	Mallinnusohjelma	SoundPlan 8.2	Koordinaatisto: ETRS-TM35FIN Tekijä: Emma Berkovits / wpd Suomi Oy Päivämäärä: 1.7.2024 Maastokartta: © Maanmittauslaitos 7/2025
Meluyöhykkeiden rajat:	Laskentamenetelmä	Nord2000	
35 dB(A) 40 dB(A) 45 dB(A)	Lähtömelutaso	106,9 + 2 dB(A)	
	Voimalan napakorkeus	200 metriä	
	Havaintopisteen korkeus	2 metriä maanpinnasta	
	Tuulen suunta	Aina kohti havaintopistettä	0 1 2 3 km  

Kuva 6. Yhteisvaikutusten melumallinnuksen mukaiset meluyöhykkeet, VE1.

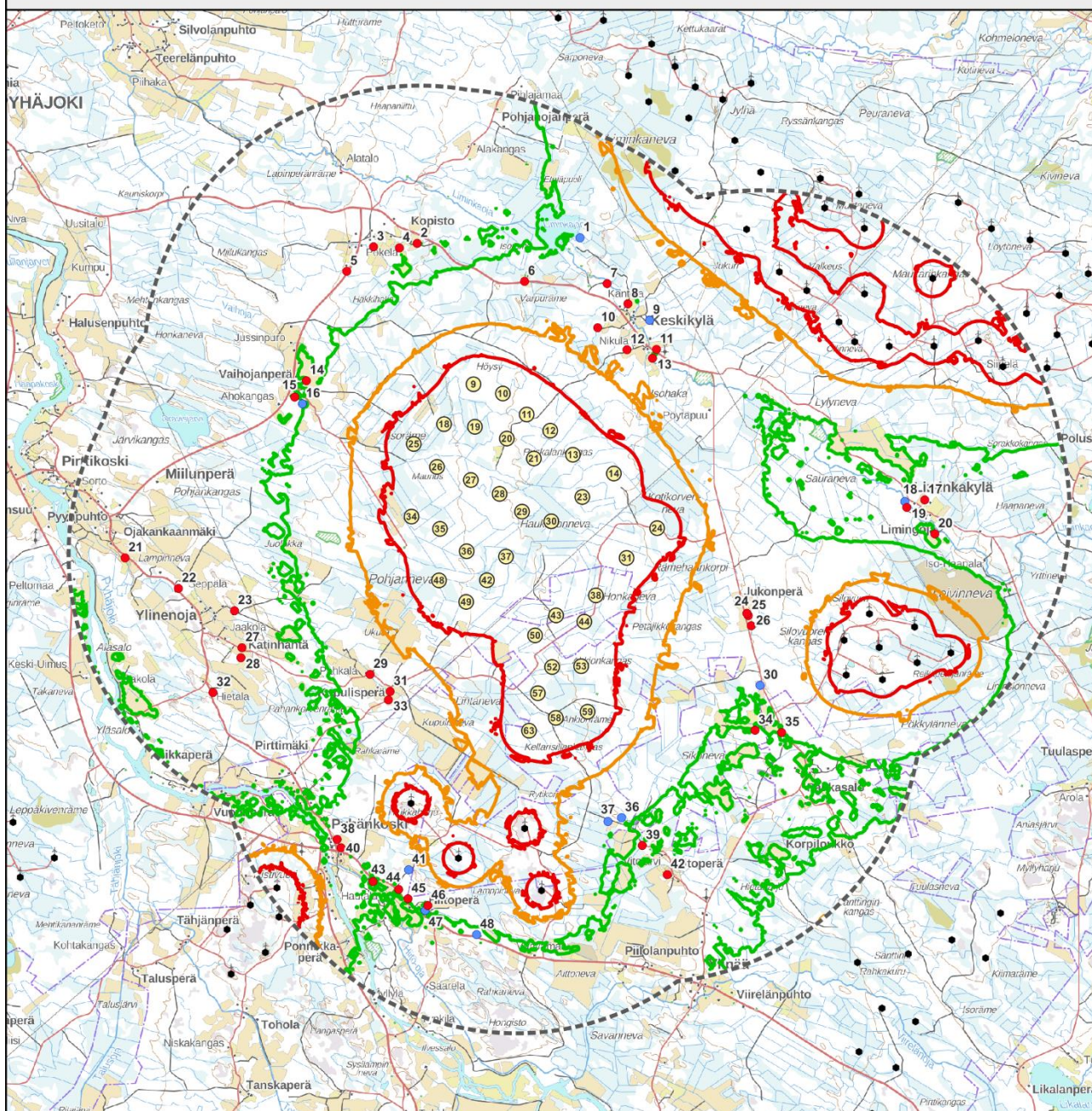
Hauksuonnevan tuulivoimahanke – meluvyöhykkeet (VE2 + yhteisvaikutukset)



Selite	Laskentaparametrit		Kartan tiedot
○ Hauksuonnevan voimalat (VE2) ● Muiden hankkeiden voimalat ● Asuinrakennus (RH) ● Lomarakennus (HH) □ Laskenta-alue	Mallinnusohjelma	SoundPlan 8.2	Koordinaatisto: ETRS-TM35FIN Tekijä: Emma Berkovits / wpd Suomi Oy Päivämäärä: 1.7.2024 Maastokartta: © Maanmittauslaitos 7/2025
Meluvyöhykkeiden rajat:	Laskentamenetelmä	Nord2000	
35 dB(A) 40 dB(A) 45 dB(A)	Lähtömelutaso	106,9 + 2 dB(A)	
	Voimalan napakorkeus	200 metriä	
	Havaintopisteen korkeus	2 metriä maanpinnasta	
	Tuulen suunta	Aina kohti havaintopistettä	0 1 2 3 km  

Kuva 7. Yhteisvaikutusten melumallinnuksen mukaiset meluvyöhykkeet, VE2.

Hauksuonnevan tuulivoimahanke – meluvyöhykkeet (VE3 + yhteisvaikutukset)



Selite	Laskentaparametrit		Kartan tiedot
○ Hauksuonnevan voimalat (VE3) ● Muiden hankkeiden voimalat ● Asuinrakennus (RH) ● Lomarakennus (HH) □ Laskenta-alue	Mallinnusohjelma	SoundPlan 8.2	Koordinaatisto: ETRS-TM35FIN Tekijä: Emma Berkovits / wpd Suomi Oy Päivämäärä: 1.7.2024 Maastokartta: © Maanmittauslaitos 7/2025
Meluvyöhykkeiden rajat:	Laskentamenetelmä	Nord2000	
35 dB(A) 40 dB(A) 45 dB(A)	Lähtömelutaso	106,9 + 2 dB(A)	
	Voimalan napakorkeus	200 metriä	
	Havaintopisteen korkeus	2 metriä maanpinnasta	
	Tuulen suunta	Aina kohti havaintopistettä	0 1 2 3 km  

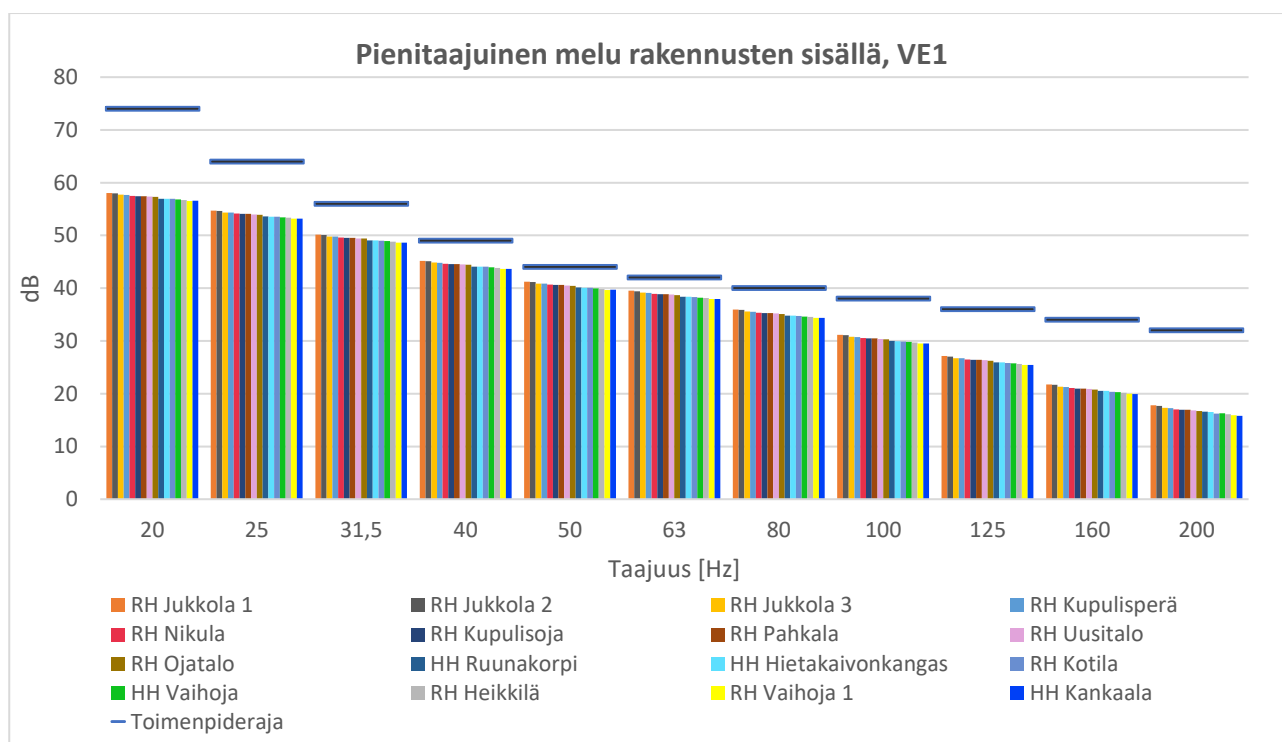
Kuva 8. Yhteisvaikutusten melumallinnuksen mukaiset meluvyöhykkeet, VE3.

6.2 Pienitaajuuden melun mallinnustulokset

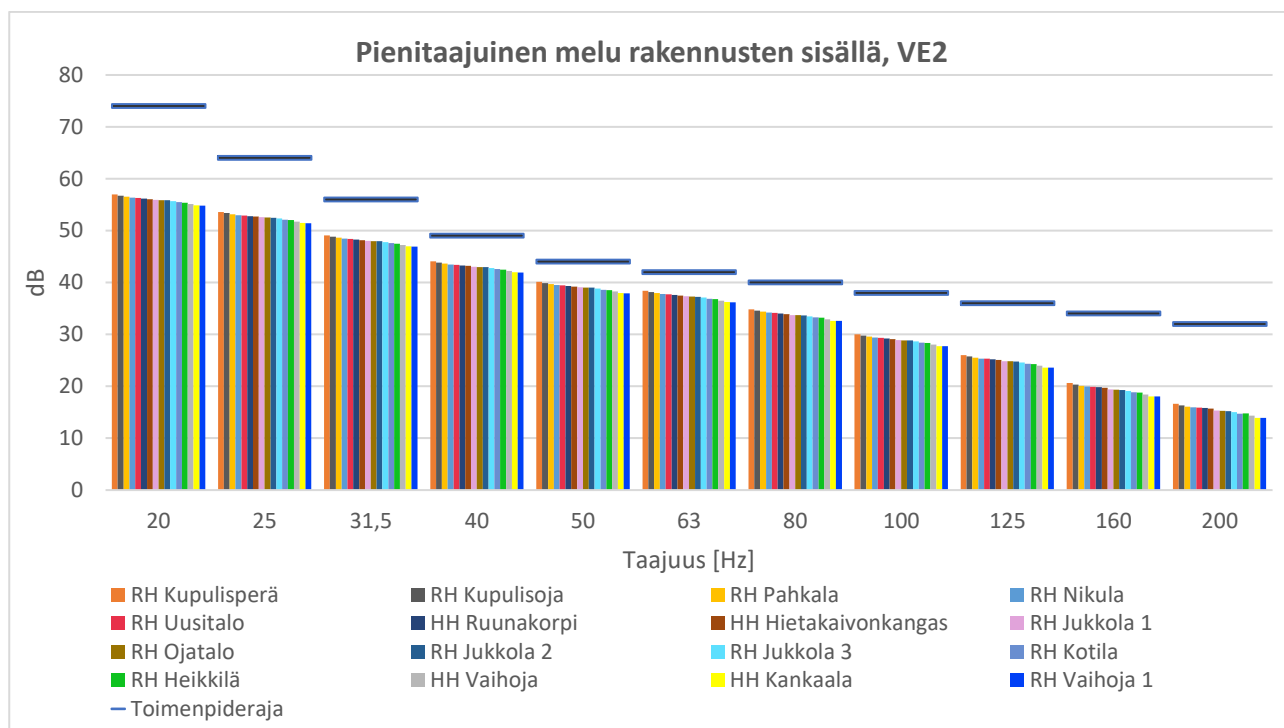
6.2.1 Hauksuonneva

Pienitaajuuden melun osalta melutasot on laskettu ympäristöministeriön ohjeen mukaisesti käyttäen Tanskan ympäristöhallinnon DSO1284-määräyksessä esitettyä menetelmää. Menetelmä on sovitettu Suomen olosuhteisiin korvaamalla määräyksen mukaiset tanskalaisten rakennusten ääneneristävyyssarvot suomalaisten pientalojen ääneneristävyyden arvoilla. Mallinnuksissa käytetyt ääneneristävyyssarvot perustuvat Turun ammattikorkeakoulussa tehtyyn tutkimukseen suomalaisista pientaloista (Keränen et al. 2019).

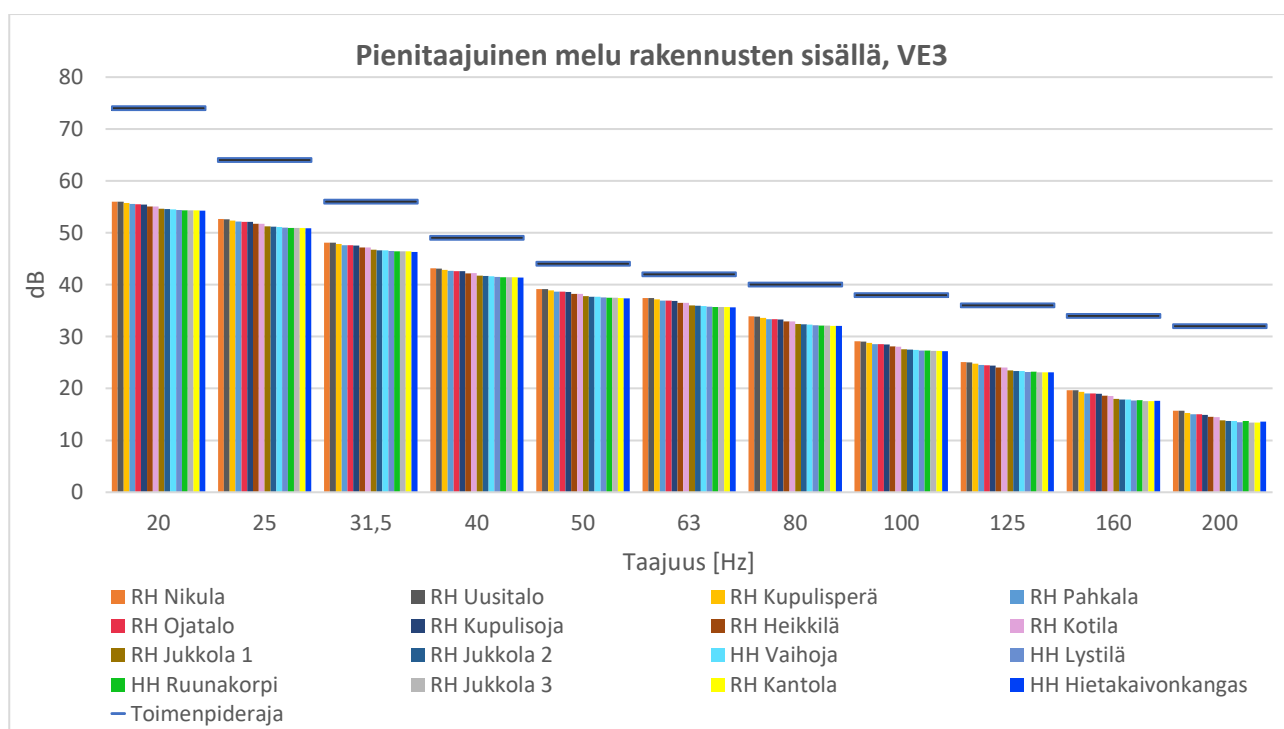
Pienitaajuuden melun laskennassa on käytetty samoja havaintopisteitä kuin edellä olleissa keskiäänitason melumallinnuksissa. Mallinnusten mukaan asumisterveysasetuksen rajat eivät ylitä yhdessäkään havaintopisteessä. Kuvissa 9–11 on esitetty pienitaajuuden melun mallinnustulokset 16 meluisimman havaintopisteen kohdalla vaihtoehdoissa VE1, VE2 ja VE3. Mallinnusten lähtötiedot ja tulokset on esitetty liitteissä 7, 8 ja 9. Mallinnustulokset terssikaistoittain jokaisen havaintopisteen kohdalla on esitetty liitteessä 13.



Kuva 9. Pienitaajuuden melun laskentatulokset sisätiloissa verrattuna STM:n asumisterveysasetuksen toimenpiderajoihin. VE1, 16 meluisinta havaintopistettä.



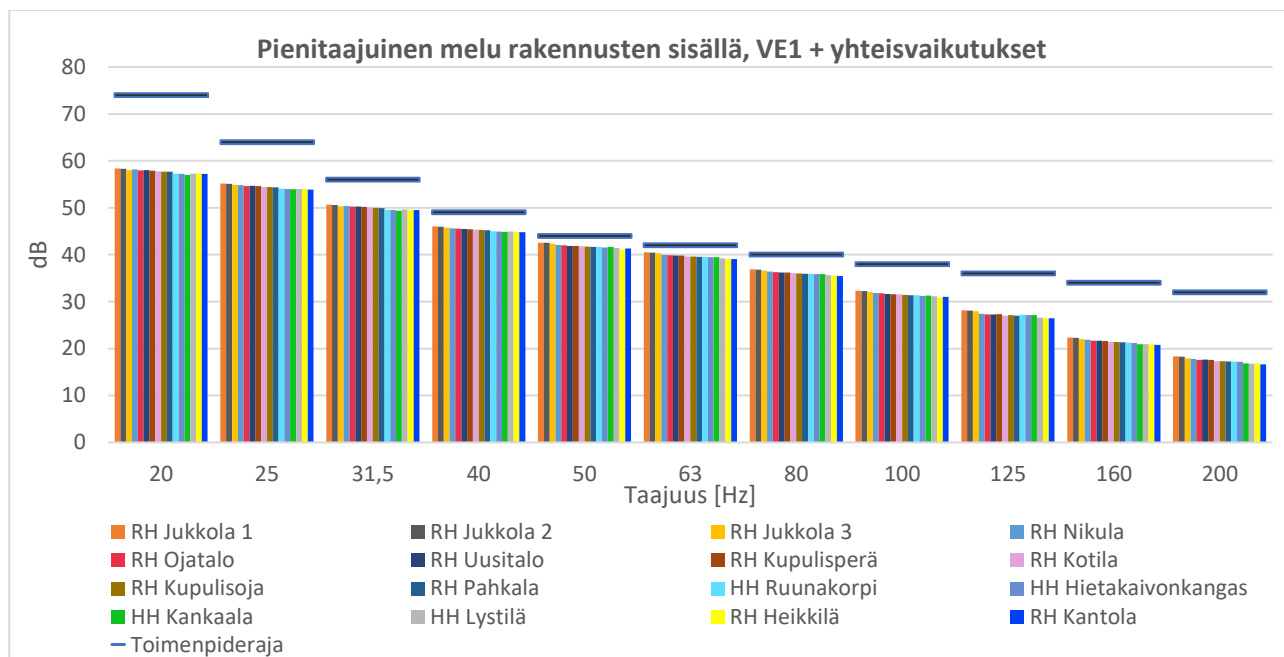
Kuva 10. Pienitaajuisen melun laskentatulokset sisätiloissa verrattuna STM:n asumisterveysasetuksen toimenpiderajoihin. VE2, 16 meluisinta havaintopistettä.



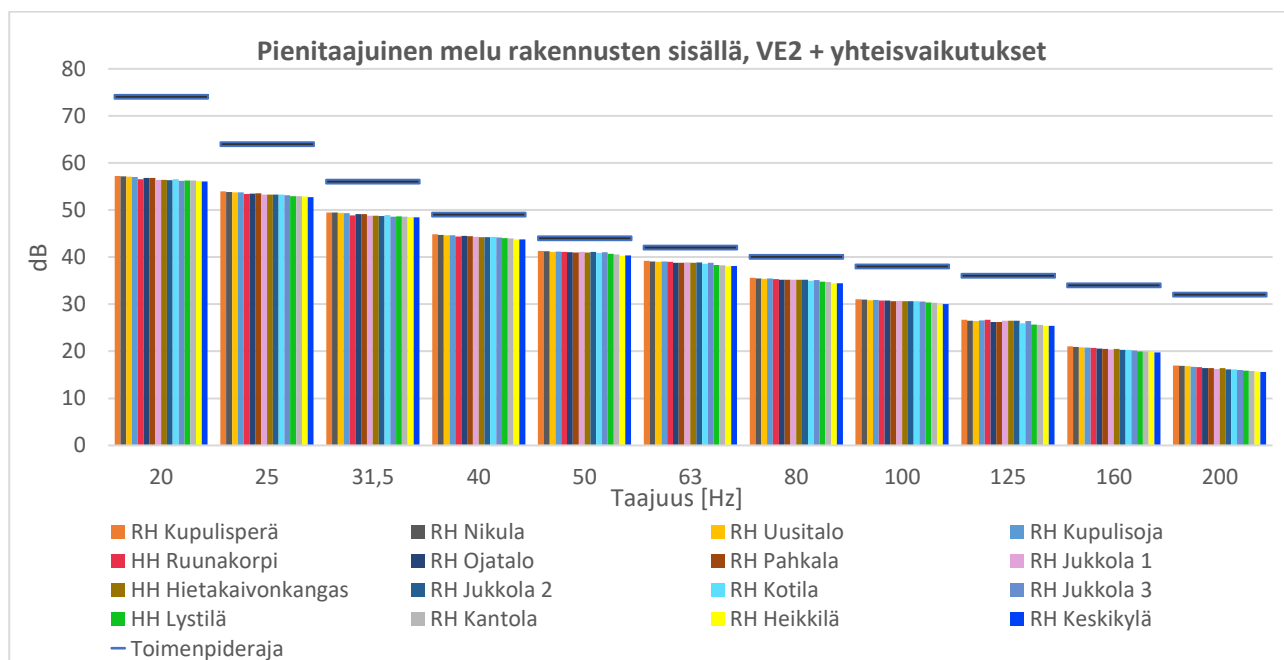
Kuva 11. Pienitaajuisen melun laskentatulokset sisätiloissa verrattuna STM:n asumisterveysasetuksen toimenpiderajoihin. VE3, 16 meluisinta havaintopistettä.

6.2.2 Yhteisvaikutukset

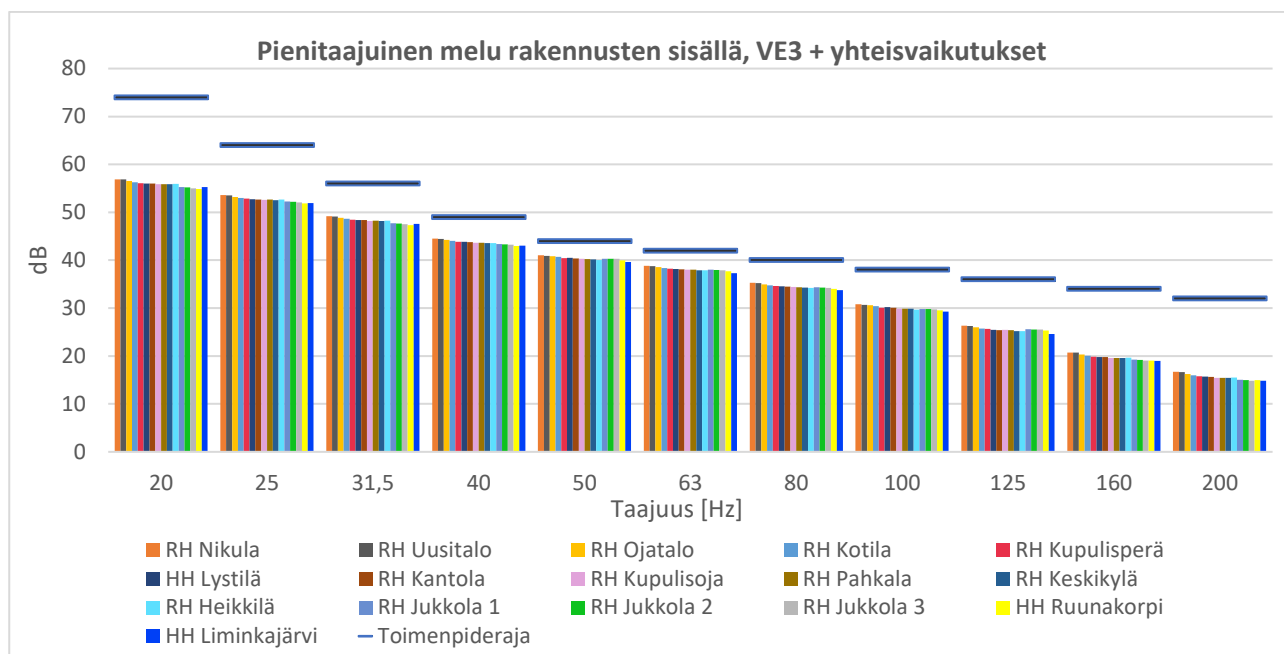
Pienitaajuinen melun yhteisvaikutusten mallinnuksissa on huomioitu taulukossa 7 esitetyt hankkeet Hauksuonnevan tuulivoimahankkeen lisäksi. Mallinnusten mukaan asumisterveysasetuksen raja-arvot eivät yhteisvaikutustenkaan myötä ylitä yhdessäkään havaintopisteessä. Tulokset 16 meluisimman havaintopisteen kohdalla eri toteutusvaihtoehdoissa on esitetty pylväsdiagrammeina kuvissa 12–14. Mallinnusten lähtötiedot ja tulokset on esitetty liitteissä 10, 11 ja 12. Liitteessä 13 on esitetty mallinnusten yksityiskohtaiset tulokset terssikaistoittain jokaisen havaintopisteen kohdalla.



Kuva 12. Pienitaajuinen melun laskentatulokset sisätiloissa verrattuna STM:n asumisterveysasetuksen toimenpiderajoihin. VE1 + yhteisvaikutukset, 16 meluisinta havaintopistettä.



Kuva 13. Pienitaajuinen melun laskentatulokset sisätiloissa verrattuna STM:n asumisterveysasetuksen toimenpiderajoihin. VE2 + yhteisvaikutukset, 16 meluisinta havaintopistettä.



Kuva 14. Pienitaajuisen melun laskentatulokset sisätiloissa verrattuna STM:n asumisterveysasetuksen toimenpiderajoihin. VE3 + yhteisvaikutukset, 16 meluisinta havaintopistettä.

6.3 Tulosten yhteenveto

Ulkomelutaso saa mallinnusten perusteella arvon 40,0 dB(A) kahden havaintopisteen kohdalla toteutusvaihtoehdossa VE1, kun mallinnuksessa on huomioitu läheisten rakennettujen ja suunnitteilla olevien hankkeiden yhteisvaikutukset. Valtioneuvoston asetuksen mukainen yöajan ulkomelutason ohjearvo ylittyy, sillä toisen havaintopisteen kohdalla melumallinnuksen tarkka tulos on 40,02 dB(A). Havaintopisteet sijaitsevat hankealueesta itään, ja etäisyyttä lähimpiin suunniteltuihin Hauksuon-nevan voimaloihin on noin 2 kilometriä.

Ylitys on hyvin vähäinen ja se on estettävissä yhden voimalan poistamisella tai voimaloiden toiminnan rajoittamisella. Mahdollinen poistettava voimala on numero 5, sillä se sijaitsee lähimpänä ky-seistä havaintopistettä. Voimalasuunnitelmaa tullaan tarkentamaan kaavaehdotusvaiheessa, jolloin myös melumallinnukset päivitetään.

Muissa toteutusvaihtoehdoissa ohjearvot eivät ylity yhdessäkään havaintopisteessä. Asumisterveysasetuksen raja-arvot pienitaajuiselle melulle asuinrakennusten sisällä eivät myöskään ylity yhdessäkään havaintopisteessä minkään toteutusvaihtoehdon tai yhteisvaikutusten mallinnuksissa.

7 Viitteet

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Liitteet

Liite 1 – Hauksuonnevan tuulivoimahankkeen melumallinnus – SoundPLAN-mallinnuksen tiedot ja tulokset, VE1

Liite 2 – Hauksuonnevan tuulivoimahankkeen melumallinnus – SoundPLAN-mallinnuksen tiedot ja tulokset, VE2

Liite 3 – Hauksuonnevan tuulivoimahankkeen melumallinnus – SoundPLAN-mallinnuksen tiedot ja tulokset, VE3

Liite 4 – Hauksuonnevan tuulivoimahankkeen melumallinnus – SoundPLAN-mallinnuksen tiedot ja tulokset, VE1 + Yhteisvaikutukset

Liite 5 – Hauksuonnevan tuulivoimahankkeen melumallinnus – SoundPLAN-mallinnuksen tiedot ja tulokset, VE2 + Yhteisvaikutukset

Liite 6 – Hauksuonnevan tuulivoimahankkeen melumallinnus – SoundPLAN-mallinnuksen tiedot ja tulokset, VE3 + Yhteisvaikutukset

Liite 7 – Pienitaajuisen melun laskennan tiedot ja laskentatulokset – Hauksuonnevan tuulivoimahanke, VE1

Liite 8 – Pienitaajuisen melun laskennan tiedot ja laskentatulokset – Hauksuonnevan tuulivoimahanke, VE2

Liite 9 – Pienitaajuisen melun laskennan tiedot ja laskentatulokset – Hauksuonnevan tuulivoimahanke, VE3

Liite 10 – Pienitaajuisen melun laskennan tiedot ja laskentatulokset – Hauksuonnevan tuulivoimahanke, VE1 + Yhteisvaikutukset

Liite 11 – Pienitaajuisen melun laskennan tiedot ja laskentatulokset – Hauksuonnevan tuulivoimahanke, VE2 + Yhteisvaikutukset

Liite 12 – Pienitaajuisen melun laskennan tiedot ja laskentatulokset – Hauksuonnevan tuulivoimahanke, VE3 + Yhteisvaikutukset

Liite 13 – Pienitaajuisen melun laskentatulokset terssikaistoittain; VE1, VE2, VE3 ja yhteisvaikutukset

Havaintopiste	Leq- lim/dB(A)	Leq /dB(A)	Lw dB(A)	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	ADI dB	dLrefl dB(A)	Ls dB(A)	dLw dB	ZR dB	Lr dB(A)
HH Hietakaivonkangas	40	37,30	108,9	6857,60	-87,70	-0,50	0,00	-13,30	0,00	0,00	7,30	0,00	0,00	7,30
HH Hiitoperä	40	31,40	108,9	10093,23	-91,10	1,70	0,00	-12,40	0,00	0,00	7,10	0,00	0,00	7,10
HH Holma	40	31,20	108,9	9934,31	-90,90	2,20	0,00	-11,40	0,00	0,00	8,80	0,00	0,00	8,80
HH Kankaala	40	36,70	108,9	3983,63	-83,00	0,40	0,00	-7,80	0,00	0,00	18,50	0,00	0,00	18,50
HH Koskela	40	33,20	108,9	2721,90	-79,70	0,10	0,00	-6,70	0,00	0,00	22,60	0,00	0,00	22,60
HH Kylä-Anttila	40	32,50	108,9	9710,02	-90,70	0,40	0,00	-11,20	0,00	0,00	7,40	0,00	0,00	7,40
HH Liminkajärvi	40	33,60	108,9	5272,13	-85,40	0,60	0,00	-8,90	0,00	0,00	15,30	0,00	0,00	15,30
HH Lystilä	40	36,30	108,9	3319,03	-81,40	0,50	0,00	-7,00	0,00	0,00	21,00	0,00	0,00	21,00
HH Ruunakorpi	40	38,90	108,9	7015,44	-87,90	0,30	0,00	-13,00	0,00	0,00	8,30	0,00	0,00	8,30
HH Vaihoja	40	37,20	108,9	8377,89	-89,50	0,30	0,00	-13,10	0,00	0,00	6,60	0,00	0,00	6,60
RH Haanpää	40	34,40	108,9	7643,44	-88,70	-0,10	0,00	-14,10	0,00	0,00	6,00	0,00	0,00	6,00
RH Hautala	40	33,60	108,9	3417,12	-81,70	1,80	0,00	-6,60	0,00	0,00	22,50	0,00	0,00	22,50
RH Heikkilä	40	36,70	108,9	5426,45	-85,70	1,00	0,00	-9,70	0,00	0,00	14,50	0,00	0,00	14,50
RH Hietala	40	31,60	108,9	10741,44	-91,60	2,90	0,00	-12,90	0,00	0,00	7,30	0,00	0,00	7,30
RH Jukkola 1	40	39,00	108,9	2690,93	-79,60	0,60	0,00	-5,70	0,00	0,00	24,30	0,00	0,00	24,30
RH Jukkola 2	40	39,00	108,9	2728,53	-79,70	0,70	0,00	-5,80	0,00	0,00	24,10	0,00	0,00	24,10
RH Jukkola 3	40	38,60	108,9	2908,73	-80,30	0,60	0,00	-6,00	0,00	0,00	23,30	0,00	0,00	23,30
RH Kantola	40	35,00	108,9	3795,54	-82,60	1,40	0,00	-8,20	0,00	0,00	19,60	0,00	0,00	19,60
RH Karppi	40	31,80	108,9	9993,89	-91,00	2,90	0,00	-11,80	0,00	0,00	9,10	0,00	0,00	9,10
RH Katinhätä 1	40	33,30	108,9	9959,15	-91,00	2,70	0,00	-12,10	0,00	0,00	8,50	0,00	0,00	8,50
RH Katinhätä 2	40	33,30	108,9	10038,79	-91,00	1,20	0,00	-11,20	0,00	0,00	7,90	0,00	0,00	7,90
RH Keskikylä	40	34,30	108,9	4316,98	-83,70	0,60	0,00	-7,90	0,00	0,00	17,90	0,00	0,00	17,90
RH Kotila	40	36,70	108,9	2830,74	-80,00	0,50	0,00	-6,10	0,00	0,00	23,30	0,00	0,00	23,30
RH Kupulisaja	40	37,90	108,9	7965,36	-89,00	0,80	0,00	-9,80	0,00	0,00	10,90	0,00	0,00	10,90
RH Kupulisperä	40	38,30	108,9	7858,79	-88,90	0,90	0,00	-9,90	0,00	0,00	11,10	0,00	0,00	11,10
RH Lepola	40	32,30	108,9	10119,27	-91,10	2,10	0,00	-13,50	0,00	0,00	6,40	0,00	0,00	6,40
RH Limingoja	40	33,20	108,9	2782,61	-79,90	0,40	0,00	-6,40	0,00	0,00	23,10	0,00	0,00	23,10
RH Nikula	40	37,60	108,9	3205,69	-81,10	0,50	0,00	-6,70	0,00	0,00	21,60	0,00	0,00	21,60
RH Ojakangas	40	33,80	108,9	7413,45	-88,40	0,20	0,00	-14,30	0,00	0,00	6,40	0,00	0,00	6,40
RH Ojatalo	40	37,30	108,9	2763,07	-79,80	0,50	0,00	-6,30	0,00	0,00	23,20	0,00	0,00	23,20
RH Pahkala	40	37,60	108,9	8020,64	-89,10	2,20	0,00	-11,90	0,00	0,00	10,10	0,00	0,00	10,10
RH Paskoja	40	30,10	108,9	11639,64	-92,30	2,70	0,00	-13,00	0,00	0,00	6,40	0,00	0,00	6,40
RH Pinola	40	33,40	108,9	10097,30	-91,10	1,70	0,00	-11,00	0,00	0,00	8,60	0,00	0,00	8,60
RH Pokela	40	34,00	108,9	8059,23	-89,10	-0,10	0,00	-14,70	0,00	0,00	5,00	0,00	0,00	5,00
RH Pyhänskosentie	40	32,80	108,9	10300,92	-91,20	2,20	0,00	-11,00	0,00	0,00	8,90	0,00	0,00	8,90
RH Pyhänskoski 1	40	31,40	108,9	10232,23	-91,20	0,90	0,00	-10,90	0,00	0,00	7,80	0,00	0,00	7,80
RH Pyhänskoski 2	40	32,30	108,9	10281,76	-91,20	2,90	0,00	-12,00	0,00	0,00	8,60	0,00	0,00	8,60
RH Seppälä	40	30,90	108,9	10782,72	-91,60	0,80	0,00	-11,40	0,00	0,00	6,70	0,00	0,00	6,70
RH Tienvieri	40	33,30	108,9	3066,47	-80,70	0,50	0,00	-6,50	0,00	0,00	22,30	0,00	0,00	22,30
RH Uusitalo	40	37,70	108,9	3867,96	-82,70	0,60	0,00	-7,30	0,00	0,00	19,50	0,00	0,00	19,50
RH Uutela	40	35,70	108,9	4798,92	-84,60	0,50	0,00	-8,80	0,00	0,00	16,00	0,00	0,00	16,00
RH Vaihoja 1	40	37,20	108,9	8373,75	-89,50	1,80	0,00	-10,20	0,00	0,00	11,00	0,00	0,00	11,00
RH Vaihoja 2	40	36,40	108,9	8533,47	-89,60	0,20	0,00	-13,50	0,00	0,00	6,00	0,00	0,00	6,00
RH Vaihojantie	40	34,40	108,9	8285,82	-89,40	0,50	0,00	-15,40	0,00	0,00	4,60	0,00	0,00	4,60
RH Väitalo	40	33,60	108,9	9888,34	-90,90	0,90	0,00	-10,90	0,00	0,00	8,10	0,00	0,00	8,10
RH Vitomaa	40	33,90	108,9	7602,19	-88,60	0,20	0,00	-11,90	0,00	0,00	8,60	0,00	0,00	8,60
RH Viitoperä	40	34,80	108,9	7208,11	-88,10	-0,40	0,00	-14,50	0,00	0,00	5,80	0,00	0,00	5,80
RH Yppärilä	40	34,80	108,9	4854,56	-84,70	2,40	0,00	-9,70	0,00	0,00	16,90	0,00	0,00	16,90

Nro	Hanke	X	Y	Lw dB(A)	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1 kHz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz
1	Hauksuonneva	383203,0	7145659,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
2	Hauksuonneva	383720,5	7145332,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
3	Hauksuonneva	382768,6	7145298,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
4	Hauksuonneva	383258,2	7145023,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
5	Hauksuonneva	383831,9	7144821,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
6	Hauksuonneva	382038,5	7145245,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
7	Hauksuonneva	377034,2	7147558,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
8	Hauksuonneva	377556,8	7147494,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
9	Hauksuonneva	378010,4	7147142,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
10	Hauksuonneva	378543,9	7146973,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
11	Hauksuonneva	378976,4	7146592,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
12	Hauksuonneva	379404,1	7146300,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
13	Hauksuonneva	379815,3	7145862,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
14	Hauksuonneva	380558,2	7145522,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
16	Hauksuonneva	381968,8	7144761,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
17	Hauksuonneva	377123,8	7146994,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
18	Hauksuonneva	377476,1	7146418,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
19	Hauksuonneva	378036,4	7146370,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
20	Hauksuonneva	378615,3	7146156,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
21	Hauksuonneva	379106,1	7145794,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
23	Hauksuonneva	379985,8	7145097,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
24	Hauksuonneva	381343,6	7144531,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
25	Hauksuonneva	376926,2	7146058,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
26	Hauksuonneva	377348,1	7145641,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
27	Hauksuonneva	377962,3	7145404,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
28	Hauksuonneva	378484,1	7145153,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
29	Hauksuonneva	378891,8	7144831,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
30	Hauksuonneva	379422,9	7144656,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
31	Hauksuonneva	380789,7	7143991,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
32	Hauksuonneva	376805,9	7145422,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
33	Hauksuonneva	376114,9	7145156,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
34	Hauksuonneva	376885,4	7144741,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
35	Hauksuonneva	377402,0	7144518,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
36	Hauksuonneva	377886,5	7144112,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
37	Hauksuonneva	378600,4	7144016,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
38	Hauksuonneva	380232,4	7143312,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
39	Hauksuonneva	380785,7	7143102,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
41	Hauksuonneva	376218,7	7144232,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5

42	Hauksuonneva	378254,6	7143587,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
43	Hauksuonneva	379510,2	7142949,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
44	Hauksuonneva	380022,2	7142835,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
45	Hauksuonneva	380450,5	7142298,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
47	Hauksuonneva	375660,9	7144051,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
48	Hauksuonneva	377385,1	7143584,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
49	Hauksuonneva	377877,7	7143193,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
50	Hauksuonneva	379128,4	7142586,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
52	Hauksuonneva	379437,2	7142013,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
53	Hauksuonneva	379965,0	7142028,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
54	Hauksuonneva	380479,2	7141777,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
55	Hauksuonneva	381033,9	7141803,2	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
56	Hauksuonneva	378606,1	7141725,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
57	Hauksuonneva	379178,6	7141537,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
58	Hauksuonneva	379505,2	7141090,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
59	Hauksuonneva	380081,6	7141201,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
60	Hauksuonneva	380634,4	7141309,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
61	Hauksuonneva	381145,5	7141280,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
62	Hauksuonneva	378414,3	7140730,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
63	Hauksuonneva	379019,0	7140858,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
64	Hauksuonneva	378787,5	7140369,2	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5

Project description

Project title: Hauksuonneva
 Project No.: 1-61-035
 Project engineer: GF

Run description

Calculation type: Single Point Sound
 Title: Single Point VE1 (06/2025) 59xF200 9MW
 @200m, 108.9dB (N175), STANDALONE
 Calculation group: EIA (06-2025)
 Run file: RunFile.runx
 Result number: 48
 Local calculation (ThreadCount=8)
 Calculation start: 23-06-25 08:15
 Calculation end: 23-06-25 08:18
 Calculation time: 00:02:859 [m:s:ms]
 No. of points: 48
 No. of calculated points: 48
 Kernel version: SoundPLAN 8.2 (20.06.2023) - 64 bit

Run parameters

Reflection order: 3
 Maximum reflection distance to receiver: 200 m
 Maximum reflection distance to source: 50 m
 Search radius: 50000 m
 Weighting: dB(A)
 Allowed tolerance (per individual source): 0,100 dB
 Create ground effect areas from road surfaces: Yes

Standards

Wind turbine: Nord2000
 Air absorption: ISO 9613-1
 Environment:
 Air pressure: 1013,3 mbar
 rel. humidity: 70,00%
 Temperature: 15,0 °C
 Meteo param

Nord2000 - downwind

$p=100,0[\%]$ $z_0=0,05[m]$ $z_U=10,0[m]$ $u=8,0+/-0,80[m/s]$ Dir=downwind (src->rec) $dT/dz=0,00+/-0,00[K/m]$

$Cw_2=0,00[m^{4/3}/s^2]$ $Ct_2=0,000[K/s^2]$

Dissection parameters:

Distance to diameter factor: 8
 Minimal distance: 1 m
 Max. difference ground effect + diffraction: 1,0 dB
 Max. number of iterations: 4

Assessment: FIN 40 dB(A)

Reflection of "own" facade is suppressed

Geometry data

2025-06 EIA VE1 ConFi endorsed 59xF200 @200 m with STE 108.9 dB
 (N175 SPL) CUMULATIVE.sit 23-06-25 08:14
 - contains:
 2025 VE1 59xF200 9MW @200m with STE +2 dB 108.9 (N175).geo 19-06-25 08:28
 Calculation area VE1 buffered 5km AvR.geo 06-06-25 08:24
 Ground Hardness06.geo 19-06-25 09:07
 Noise receptors EIA.geo 18-06-25 16:23
 RDGM0006.dgm 05-11-24 12:00

Havaintopiste	Leq- lim/dB(A)	Leq /dB(A)	Lw dB(A)	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	ADI dB	dLrefl dB(A)	Ls dB(A)	dLw dB	ZR dB	Lr dB(A)
HH Hietakaivonkangas	40	36,40	108,9	8310,60	-89,40	-0,20	0,00	-15,30	0,00	0,00	4,00	0,00	0,00	4,00
HH Hiitoperä	40	30,80	108,9	9585,91	-90,60	-0,80	0,00	-11,20	0,00	0,00	6,30	0,00	0,00	6,30
HH Holma	40	30,60	108,9	9985,24	-91,00	0,80	0,00	-11,20	0,00	0,00	7,50	0,00	0,00	7,50
HH Kankaala	40	34,60	108,9	7544,45	-88,50	0,70	0,00	-10,30	0,00	0,00	10,70	0,00	0,00	10,70
HH Koskela	40	26,50	108,9	8115,68	-89,20	0,70	0,00	-15,70	0,00	0,00	4,70	0,00	0,00	4,70
HH Kylä-Anttila	40	32,00	108,9	8888,29	-90,00	0,80	0,00	-10,30	0,00	0,00	9,40	0,00	0,00	9,40
HH Liminkajärvi	40	32,30	108,9	3291,63	-81,30	0,50	0,00	-6,90	0,00	0,00	21,20	0,00	0,00	21,20
HH Lystilä	40	35,00	108,9	3405,25	-81,60	0,40	0,00	-6,60	0,00	0,00	21,10	0,00	0,00	21,10
HH Ruunakorpi	40	38,30	108,9	8300,51	-89,40	0,60	0,00	-14,40	0,00	0,00	5,70	0,00	0,00	5,70
HH Vaihoja	40	35,10	108,9	3133,54	-80,90	0,60	0,00	-6,50	0,00	0,00	22,10	0,00	0,00	22,10
RH Haanpää	40	31,70	108,9	2821,42	-80,00	0,50	0,00	-6,40	0,00	0,00	23,00	0,00	0,00	23,00
RH Hautala	40	29,00	108,9	8804,80	-89,90	1,90	0,00	-11,60	0,00	0,00	9,40	0,00	0,00	9,40
RH Heikkilä	40	35,20	108,9	2091,58	-77,40	0,50	0,00	-5,20	0,00	0,00	26,80	0,00	0,00	26,80
RH Hietala	40	30,20	108,9	7326,65	-88,30	2,70	0,00	-11,70	0,00	0,00	11,70	0,00	0,00	11,70
RH Jukkola 1	40	36,40	108,9	6475,39	-87,20	1,10	0,00	-9,10	0,00	0,00	13,70	0,00	0,00	13,70
RH Jukkola 2	40	36,30	108,9	6520,29	-87,30	2,30	0,00	-10,30	0,00	0,00	13,70	0,00	0,00	13,70
RH Jukkola 3	40	36,10	108,9	6680,61	-87,50	2,30	0,00	-10,20	0,00	0,00	13,50	0,00	0,00	13,50
RH Kantola	40	33,70	108,9	3165,06	-81,00	0,50	0,00	-6,90	0,00	0,00	21,50	0,00	0,00	21,50
RH Karppi	40	31,20	108,9	9493,89	-90,50	2,50	0,00	-12,10	0,00	0,00	8,80	0,00	0,00	8,80
RH Katinhäntä 1	40	31,70	108,9	6367,08	-87,10	0,80	0,00	-9,80	0,00	0,00	12,90	0,00	0,00	12,90
RH Katinhäntä 2	40	31,70	108,9	6517,20	-87,30	1,30	0,00	-10,30	0,00	0,00	12,70	0,00	0,00	12,70
RH Keskikylä	40	33,10	108,9	3041,99	-80,70	0,50	0,00	-6,60	0,00	0,00	22,10	0,00	0,00	22,10
RH Kotila	40	35,10	108,9	3386,41	-81,60	0,40	0,00	-7,10	0,00	0,00	20,70	0,00	0,00	20,70
RH Kupulisaja	40	37,40	108,9	5934,69	-86,50	0,60	0,00	-8,90	0,00	0,00	14,20	0,00	0,00	14,20
RH Kupulisperä	40	37,70	108,9	5779,24	-86,20	0,60	0,00	-9,20	0,00	0,00	14,10	0,00	0,00	14,10
RH Lepola	40	31,70	108,9	9410,01	-90,50	2,20	0,00	-10,80	0,00	0,00	9,80	0,00	0,00	9,80
RH Limingoja	40	26,60	108,9	8177,84	-89,20	0,00	0,00	-14,50	0,00	0,00	5,20	0,00	0,00	5,20
RH Nikula	40	36,40	108,9	2861,90	-80,10	0,20	0,00	-7,20	0,00	0,00	21,80	0,00	0,00	21,80
RH Ojakangas	40	30,90	108,9	2758,07	-79,80	0,40	0,00	-6,20	0,00	0,00	23,30	0,00	0,00	23,30
RH Ojatalo	40	35,90	108,9	3288,43	-81,30	0,40	0,00	-7,10	0,00	0,00	20,90	0,00	0,00	20,90
RH Pahkala	40	36,60	108,9	5591,34	-85,90	0,30	0,00	-9,20	0,00	0,00	14,10	0,00	0,00	14,10
RH Paskoja	40	28,60	108,9	7069,06	-88,00	1,40	0,00	-10,10	0,00	0,00	12,30	0,00	0,00	12,30
RH Pinola	40	32,90	108,9	9265,74	-90,30	2,30	0,00	-10,60	0,00	0,00	10,30	0,00	0,00	10,30
RH Pokela	40	31,50	108,9	3090,14	-80,80	0,60	0,00	-6,50	0,00	0,00	22,20	0,00	0,00	22,20
RH Pyhänskosentie	40	32,10	108,9	9205,41	-90,30	2,00	0,00	-11,30	0,00	0,00	9,30	0,00	0,00	9,30
RH Pyhänskoski 1	40	30,70	108,9	8620,22	-89,70	0,70	0,00	-11,30	0,00	0,00	8,70	0,00	0,00	8,70
RH Pyhänskoski 2	40	31,70	108,9	8746,63	-89,80	2,80	0,00	-12,30	0,00	0,00	9,60	0,00	0,00	9,60
RH Seppälä	40	28,80	108,9	6515,70	-87,30	0,70	0,00	-9,60	0,00	0,00	12,70	0,00	0,00	12,70
RH Tienvieri	40	29,10	108,9	8456,76	-89,50	1,80	0,00	-11,10	0,00	0,00	10,10	0,00	0,00	10,10
RH Uusitalo	40	36,80	108,9	2483,25	-78,90	0,50	0,00	-5,70	0,00	0,00	24,90	0,00	0,00	24,90
RH Uutela	40	33,60	108,9	8096,09	-89,20	0,30	0,00	-15,10	0,00	0,00	4,90	0,00	0,00	4,90
RH Vaihoja 1	40	35,10	108,9	3042,29	-80,70	0,40	0,00	-6,40	0,00	0,00	22,30	0,00	0,00	22,30
RH Vaihoja 2	40	34,10	108,9	3261,38	-81,30	1,50	0,00	-7,70	0,00	0,00	21,40	0,00	0,00	21,40
RH Vaihojantie	40	31,90	108,9	3086,98	-80,80	0,60	0,00	-6,60	0,00	0,00	22,20	0,00	0,00	22,20
RH Väitalo	40	31,40	108,9	5978,32	-86,50	0,60	0,00	-9,70	0,00	0,00	13,30	0,00	0,00	13,30
RH Vitomaa	40	32,90	108,9	9567,38	-90,60	3,00	0,00	-9,70	0,00	0,00	11,70	0,00	0,00	11,70
RH Viitoperä	40	33,90	108,9	8911,11	-90,00	0,10	0,00	-15,90	0,00	0,00	3,10	0,00	0,00	3,10
RH Yppärilä	40	32,80	108,9	8438,20	-89,50	3,50	0,00	-12,70	0,00	0,00	10,20	0,00	0,00	10,20

Nro	Hanke	X	Y	Lw dB(A)	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1 kHz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz
9	Hauksuonneva	378010,4	7147142,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
10	Hauksuonneva	378543,9	7146973,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
11	Hauksuonneva	378976,4	7146592,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
12	Hauksuonneva	379404,1	7146300,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
13	Hauksuonneva	379815,3	7145862,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
14	Hauksuonneva	380558,2	7145522,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
18	Hauksuonneva	377476,1	7146418,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
19	Hauksuonneva	378036,4	7146370,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
20	Hauksuonneva	378615,3	7146156,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
21	Hauksuonneva	379106,1	7145794,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
23	Hauksuonneva	379985,8	7145097,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
24	Hauksuonneva	381343,6	7144531,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
25	Hauksuonneva	376926,2	7146058,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
26	Hauksuonneva	377348,1	7145641,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
27	Hauksuonneva	377962,3	7145404,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
28	Hauksuonneva	378484,1	7145153,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
29	Hauksuonneva	378891,8	7144831,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
30	Hauksuonneva	379422,9	7144656,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
31	Hauksuonneva	380789,7	7143991,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
32	Hauksuonneva	376805,9	7145422,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
34	Hauksuonneva	376885,4	7144741,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
35	Hauksuonneva	377402,0	7144518,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
36	Hauksuonneva	377886,5	7144112,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
37	Hauksuonneva	378600,4	7144016,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
38	Hauksuonneva	380232,4	7143312,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
39	Hauksuonneva	380785,7	7143102,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
42	Hauksuonneva	378254,6	7143587,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
43	Hauksuonneva	379510,2	7142949,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
44	Hauksuonneva	380022,2	7142835,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
45	Hauksuonneva	380450,5	7142298,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
48	Hauksuonneva	377385,1	7143584,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
49	Hauksuonneva	377877,7	7143193,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
50	Hauksuonneva	379128,4	7142586,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
52	Hauksuonneva	379437,2	7142013,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
53	Hauksuonneva	379965,0	7142028,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
54	Hauksuonneva	380479,2	7141777,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
56	Hauksuonneva	378606,1	7141725,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
57	Hauksuonneva	379178,6	7141537,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5

58 Hauksuonneva	379505,2	7141090,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
59 Hauksuonneva	380081,6	7141201,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
60 Hauksuonneva	380634,4	7141309,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
62 Hauksuonneva	378414,3	7140730,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
63 Hauksuonneva	379019,0	7140858,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
64 Hauksuonneva	378787,5	7140369,2	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5

Project description

Project title: Hauksuonneva
 Project No.: 1-61-035
 Project engineer: GF

Run description

Calculation type: Single Point Sound
 Title: Single Point VE2 (06/2025) 44xF200 9MW
 @200m, 108.9dB (N175), STANDALONE
 Calculation group: EIA (06-2025)
 Run file: RunFile.runx
 Result number: 50
 Local calculation (ThreadCount=8)
 Calculation start: 23-06-25 08:46
 Calculation end: 23-06-25 08:49
 Calculation time: 00:02:379 [m:s:ms]
 No. of points: 48
 No. of calculated points: 48
 Kernel version: SoundPLAN 8.2 (20.06.2023) - 64 bit

Run parameters

Reflection order: 3
 Maximum reflection distance to receiver: 200 m
 Maximum reflection distance to source: 50 m
 Search radius: 50000 m
 Weighting: dB(A)
 Allowed tolerance (per individual source): 0,100 dB
 Create ground effect areas from road surfaces: Yes

Standards

Wind turbine: Nord2000
 Air absorption: ISO 9613-1
 Environment:
 Air pressure: 1013,3 mbar
 rel. humidity: 70,00%
 Temperature: 15,0 °C
 Meteo param

Nord2000 - downwind

$p=100,0[\%]$ $z_0=0,05[m]$ $z_U=10,0[m]$ $u=8,0+/-0,80[m/s]$ Dir=downwind (src->rec) $dT/dz=0,00+/-0,00[K/m]$

$Cw2=0,00[m^{4/3}/s^2]$ $Ct2=0,000[K/s^2]$

Dissection parameters:

Distance to diameter factor: 8
 Minimal distance: 1 m
 Max. difference ground effect + diffraction: 1,0 dB
 Max. number of iterations: 4

Assessment: FIN 40 dB(A)

Reflection of "own" facade is suppressed

Geometry data

2025-06 EIA VE2 ConFi endorsed 44xF200 @200 m with STE 108.9 dB
 (N175 SPL) CUMULATIVE.sit 23-06-25 08:39
 - contains:
 2025 VE2 44xF200 9MW @200m with STE +2 dB 108.9 (N175).geo 23-06-25 08:39
 Calculation area VE1 buffered 5km AvR.geo 06-06-25 08:24
 Ground Hardness06.geo 19-06-25 09:07
 Noise receptors EIA.geo 18-06-25 16:23
 RDGM0006.dgm 05-11-24 12:00

Havaintopiste	Leq- lim/dB(A)	Leq /dB(A)	Lw dB(A)	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	ADI dB	dLrefl dB(A)	Ls dB(A)	dLw dB	ZR dB	Lr dB(A)
HH Hietakaivonkangas	40	34,00	108,9	8310,60	-89,40	-0,20	0,00	-15,30	0,00	0,00	4,00	0,00	0,00	4,00
HH Hiitoperä	40	28,80	108,9	9585,91	-90,60	-0,80	0,00	-11,20	0,00	0,00	6,30	0,00	0,00	6,30
HH Holma	40	28,50	108,9	9985,24	-91,00	0,80	0,00	-11,20	0,00	0,00	7,50	0,00	0,00	7,50
HH Kankaala	40	32,60	108,9	7544,45	-88,50	0,70	0,00	-10,30	0,00	0,00	10,70	0,00	0,00	10,70
HH Koskela	40	25,40	108,9	8115,68	-89,20	0,70	0,00	-15,70	0,00	0,00	4,70	0,00	0,00	4,70
HH Kylä-Anttila	40	29,80	108,9	8888,29	-90,00	0,80	0,00	-10,30	0,00	0,00	9,40	0,00	0,00	9,40
HH Liminkajärvi	40	32,00	108,9	3291,63	-81,30	0,50	0,00	-6,90	0,00	0,00	21,20	0,00	0,00	21,20
HH Lystilä	40	34,60	108,9	3405,25	-81,60	0,40	0,00	-6,60	0,00	0,00	21,10	0,00	0,00	21,10
HH Ruunakorpi	40	35,70	108,9	8300,51	-89,40	0,60	0,00	-14,40	0,00	0,00	5,70	0,00	0,00	5,70
HH Vaihoja	40	34,50	108,9	3133,54	-80,90	0,60	0,00	-6,50	0,00	0,00	22,10	0,00	0,00	22,10
RH Haanpää	40	31,40	108,9	2821,42	-80,00	0,50	0,00	-6,40	0,00	0,00	23,00	0,00	0,00	23,00
RH Hautala	40	28,10	108,9	8804,80	-89,90	1,90	0,00	-11,60	0,00	0,00	9,40	0,00	0,00	9,40
RH Heikkilä	40	35,10	108,9	2091,58	-77,40	0,50	0,00	-5,20	0,00	0,00	26,80	0,00	0,00	26,80
RH Hietala	40	29,40	108,9	7326,65	-88,30	2,70	0,00	-11,70	0,00	0,00	11,70	0,00	0,00	11,70
RH Jukkola 1	40	35,00	108,9	6475,39	-87,20	1,10	0,00	-9,10	0,00	0,00	13,70	0,00	0,00	13,70
RH Jukkola 2	40	34,80	108,9	6520,29	-87,30	2,30	0,00	-10,30	0,00	0,00	13,70	0,00	0,00	13,70
RH Jukkola 3	40	34,60	108,9	6680,61	-87,50	2,30	0,00	-10,20	0,00	0,00	13,50	0,00	0,00	13,50
RH Kantola	40	33,50	108,9	3165,06	-81,00	0,50	0,00	-6,90	0,00	0,00	21,50	0,00	0,00	21,50
RH Karppi	40	29,20	108,9	9493,89	-90,50	2,50	0,00	-12,10	0,00	0,00	8,80	0,00	0,00	8,80
RH Katinhäntä 1	40	30,80	108,9	6367,08	-87,10	0,80	0,00	-9,80	0,00	0,00	12,90	0,00	0,00	12,90
RH Katinhäntä 2	40	30,70	108,9	6517,20	-87,30	1,30	0,00	-10,30	0,00	0,00	12,70	0,00	0,00	12,70
RH Keskikylä	40	32,90	108,9	3041,99	-80,70	0,50	0,00	-6,60	0,00	0,00	22,10	0,00	0,00	22,10
RH Kotila	40	34,90	108,9	3386,41	-81,60	0,40	0,00	-7,10	0,00	0,00	20,70	0,00	0,00	20,70
RH Kupulisaja	40	35,90	108,9	5934,69	-86,50	0,60	0,00	-8,90	0,00	0,00	14,20	0,00	0,00	14,20
RH Kupulisperä	40	36,30	108,9	5779,24	-86,20	0,60	0,00	-9,20	0,00	0,00	14,10	0,00	0,00	14,10
RH Lepola	40	29,90	108,9	9410,01	-90,50	2,20	0,00	-10,80	0,00	0,00	9,80	0,00	0,00	9,80
RH Limingoja	40	25,40	108,9	8177,84	-89,20	0,00	0,00	-14,50	0,00	0,00	5,20	0,00	0,00	5,20
RH Nikula	40	36,30	108,9	2861,90	-80,10	0,20	0,00	-7,20	0,00	0,00	21,80	0,00	0,00	21,80
RH Ojakangas	40	30,70	108,9	2758,07	-79,80	0,40	0,00	-6,20	0,00	0,00	23,30	0,00	0,00	23,30
RH Ojatalo	40	35,80	108,9	3288,43	-81,30	0,40	0,00	-7,10	0,00	0,00	20,90	0,00	0,00	20,90
RH Pahkala	40	35,60	108,9	5591,34	-85,90	0,30	0,00	-9,20	0,00	0,00	14,10	0,00	0,00	14,10
RH Paskoja	40	27,90	108,9	7069,06	-88,00	1,40	0,00	-10,10	0,00	0,00	12,30	0,00	0,00	12,30
RH Pinola	40	31,20	108,9	9265,74	-90,30	2,30	0,00	-10,60	0,00	0,00	10,30	0,00	0,00	10,30
RH Pokela	40	31,20	108,9	3090,14	-80,80	0,60	0,00	-6,50	0,00	0,00	22,20	0,00	0,00	22,20
RH Pyhänskosentie	40	30,50	108,9	9205,41	-90,30	2,00	0,00	-11,30	0,00	0,00	9,30	0,00	0,00	9,30
RH Pyhänskoski 1	40	28,90	108,9	8620,22	-89,70	0,70	0,00	-11,30	0,00	0,00	8,70	0,00	0,00	8,70
RH Pyhänskoski 2	40	30,00	108,9	8746,63	-89,80	2,80	0,00	-12,30	0,00	0,00	9,60	0,00	0,00	9,60
RH Seppälä	40	28,10	108,9	6515,70	-87,30	0,70	0,00	-9,60	0,00	0,00	12,70	0,00	0,00	12,70
RH Tienvieri	40	28,30	108,9	8456,76	-89,50	1,80	0,00	-11,10	0,00	0,00	10,10	0,00	0,00	10,10
RH Uusitalo	40	36,60	108,9	2483,25	-78,90	0,50	0,00	-5,70	0,00	0,00	24,90	0,00	0,00	24,90
RH Uutela	40	31,20	108,9	8096,09	-89,20	0,30	0,00	-15,10	0,00	0,00	4,90	0,00	0,00	4,90
RH Vaihoja 1	40	34,50	108,9	3042,29	-80,70	0,40	0,00	-6,40	0,00	0,00	22,30	0,00	0,00	22,30
RH Vaihoja 2	40	33,50	108,9	3261,38	-81,30	1,50	0,00	-7,70	0,00	0,00	21,40	0,00	0,00	21,40
RH Vaihojantie	40	31,60	108,9	3086,98	-80,80	0,60	0,00	-6,60	0,00	0,00	22,20	0,00	0,00	22,20
RH Väitalo	40	30,50	108,9	5978,32	-86,50	0,60	0,00	-9,70	0,00	0,00	13,30	0,00	0,00	13,30
RH Vitomaa	40	31,10	108,9	9567,38	-90,60	3,00	0,00	-9,70	0,00	0,00	11,70	0,00	0,00	11,70
RH Viitoperä	40	31,50	108,9	8911,11	-90,00	0,10	0,00	-15,90	0,00	0,00	3,10	0,00	0,00	3,10
RH Yppärilä	40	31,00	108,9	8438,20	-89,50	3,50	0,00	-12,70	0,00	0,00	10,20	0,00	0,00	10,20

Nro	Hanke	X	Y	Lw dB(A)	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1 kHz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz
9	Hauksuonneva	378010,4	7147142,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
10	Hauksuonneva	378543,9	7146973,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
11	Hauksuonneva	378976,4	7146592,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
12	Hauksuonneva	379404,1	7146300,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
13	Hauksuonneva	379815,3	7145862,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
14	Hauksuonneva	380558,2	7145522,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
18	Hauksuonneva	377476,1	7146418,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
19	Hauksuonneva	378036,4	7146370,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
20	Hauksuonneva	378615,3	7146156,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
21	Hauksuonneva	379106,1	7145794,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
23	Hauksuonneva	379985,8	7145097,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
24	Hauksuonneva	381343,6	7144531,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
25	Hauksuonneva	376926,2	7146058,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
26	Hauksuonneva	377348,1	7145641,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
27	Hauksuonneva	377962,3	7145404,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
28	Hauksuonneva	378484,1	7145153,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
29	Hauksuonneva	378891,8	7144831,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
30	Hauksuonneva	379422,9	7144656,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
31	Hauksuonneva	380789,7	7143991,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
34	Hauksuonneva	376885,4	7144741,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
35	Hauksuonneva	377402,0	7144518,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
36	Hauksuonneva	377886,5	7144112,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
37	Hauksuonneva	378600,4	7144016,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
38	Hauksuonneva	380232,4	7143312,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
42	Hauksuonneva	378254,6	7143587,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
43	Hauksuonneva	379510,2	7142949,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
44	Hauksuonneva	380022,2	7142835,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
48	Hauksuonneva	377385,1	7143584,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
49	Hauksuonneva	377877,7	7143193,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
50	Hauksuonneva	379128,4	7142586,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
52	Hauksuonneva	379437,2	7142013,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
53	Hauksuonneva	379965,0	7142028,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
57	Hauksuonneva	379178,6	7141537,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
58	Hauksuonneva	379505,2	7141090,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
59	Hauksuonneva	380081,6	7141201,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
63	Hauksuonneva	379019,0	7140858,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5

Project description

Project title: Hauksuonneva
 Project No.: 1-61-035
 Project engineer: GF

Run description

Calculation type: Single Point Sound
 Title: Single Point VE3 (06/2025) 36xF200 9MW
 @200m, 108.9dB (N175), STANDALONE
 Calculation group: EIA (06-2025)
 Run file: RunFile.runx
 Result number: 52
 Local calculation (ThreadCount=8)
 Calculation start: 23-06-25 08:57
 Calculation end: 23-06-25 09:00
 Calculation time: 00:01:874 [m:s:ms]
 No. of points: 48
 No. of calculated points: 48
 Kernel version: SoundPLAN 8.2 (20.06.2023) - 64 bit

Run parameters

Reflection order: 3
 Maximum reflection distance to receiver: 200 m
 Maximum reflection distance to source: 50 m
 Search radius: 50000 m
 Weighting: dB(A)
 Allowed tolerance (per individual source): 0,100 dB
 Create ground effect areas from road surfaces: Yes

Standards

Wind turbine: Nord2000
 Air absorption: ISO 9613-1
 Environment:
 Air pressure: 1013,3 mbar
 rel. humidity: 70,00%
 Temperature: 15,0 °C
 Meteo param

Nord2000 - downwind

$p=100,0[\%]$ $z_0=0,05[m]$ $z_U=10,0[m]$ $u=8,0+/-0,80[m/s]$ Dir=downwind (src->rec) $dT/dz=0,00+/-0,00[K/m]$

$Cw2=0,00[m^{4/3}/s^2]$ $Ct2=0,000[K/s^2]$

Dissection parameters:

Distance to diameter factor: 8
 Minimal distance: 1 m
 Max. difference ground effect + diffraction: 1,0 dB
 Max. number of iterations: 4

Assessment: FIN 40 dB(A)

Reflection of "own" facade is suppressed

Geometry data

2025-06 EIA VE3 ConFi endorsed 36xF200 @200 m with STE 108.9 dB
 (N175 SPL) STANDALONE.sit 23-06-25 08:53
 - contains:
 2025 VE3 36xF200 9MW @200m with STE +2 dB 108.9 (N175).geo 23-06-25 08:49
 Calculation area VE1 buffered 5km AvR.geo 06-06-25 08:24
 Ground Hardness06.geo 19-06-25 09:07
 Noise receptors EIA.geo 18-06-25 16:23
 RDGM0006.dgm 05-11-24 12:00

Havaintopiste	Leq- lim/dB(A)	Leq /dB(A)	Lw dB(A)	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	ADI dB	dLrefl dB(A)	Ls dB(A)	dLw dB	ZR dB	Lr dB(A)
HH Hietakaivonkangas	40	38,20	108,9	6857,6	-87,70	-0,50	0,00	-13,30	0,00	0,00	7,30	0,00	0,00	7,30
HH Hiitoperä	40	35,86	108,9	10093,23	-91,10	1,70	0,00	-12,40	0,00	0,00	7,10	0,00	0,00	7,10
HH Holma	40	35,32	108,9	9934,31	-90,90	2,20	0,00	-11,40	0,00	0,00	8,80	0,00	0,00	8,80
HH Kankaala	40	38,23	108,9	3983,63	-83,00	0,40	0,00	-7,80	0,00	0,00	18,50	0,00	0,00	18,50
HH Koskela	40	35,74	108,9	2721,9	-79,70	0,10	0,00	-6,70	0,00	0,00	22,60	0,00	0,00	22,60
HH Kylä-Anttila	40	37,77	108,9	9710,02	-90,70	0,40	0,00	-11,20	0,00	0,00	7,40	0,00	0,00	7,40
HH Liminkajärvi	40	36,66	108,9	5272,13	-85,40	0,60	0,00	-8,90	0,00	0,00	15,30	0,00	0,00	15,30
HH Lystilä	40	38,13	108,9	3319,03	-81,40	0,50	0,00	-7,00	0,00	0,00	21,00	0,00	0,00	21,00
HH Ruunakorpi	40	39,65	108,9	7015,44	-87,90	0,30	0,00	-13,00	0,00	0,00	8,30	0,00	0,00	8,30
HH Vaihoja	40	37,45	108,9	8377,89	-89,50	0,30	0,00	-13,10	0,00	0,00	6,60	0,00	0,00	6,60
RH Haanpää	40	34,84	108,9	7643,44	-88,70	-0,10	0,00	-14,10	0,00	0,00	6,00	0,00	0,00	6,00
RH Hautala	40	36,91	108,9	3417,12	-81,70	1,80	0,00	-6,60	0,00	0,00	22,50	0,00	0,00	22,50
RH Heikkilä	40	37,45	108,9	5426,45	-85,70	1,00	0,00	-9,70	0,00	0,00	14,50	0,00	0,00	14,50
RH Hietala	40	34,42	108,9	10741,44	-91,60	2,90	0,00	-12,90	0,00	0,00	7,30	0,00	0,00	7,30
RH Jukkola 1	40	40,02	108,9	2690,93	-79,60	0,60	0,00	-5,70	0,00	0,00	24,30	0,00	0,00	24,30
RH Jukkola 2	40	39,97	108,9	2728,53	-79,70	0,70	0,00	-5,80	0,00	0,00	24,10	0,00	0,00	24,10
RH Jukkola 3	40	39,79	108,9	2908,73	-80,30	0,60	0,00	-6,00	0,00	0,00	23,30	0,00	0,00	23,30
RH Kantola	40	37,17	108,9	3795,54	-82,60	1,40	0,00	-8,20	0,00	0,00	19,60	0,00	0,00	19,60
RH Karppi	40	36,57	108,9	9993,89	-91,00	2,90	0,00	-11,80	0,00	0,00	9,10	0,00	0,00	9,10
RH Katinhätä 1	40	34,96	108,9	9959,15	-91,00	2,70	0,00	-12,10	0,00	0,00	8,50	0,00	0,00	8,50
RH Katinhätä 2	40	34,83	108,9	10038,79	-91,00	1,20	0,00	-11,20	0,00	0,00	7,90	0,00	0,00	7,90
RH Keskikylä	40	36,65	108,9	4316,98	-83,70	0,60	0,00	-7,90	0,00	0,00	17,90	0,00	0,00	17,90
RH Kotila	40	37,81	108,9	2830,74	-80,00	0,50	0,00	-6,10	0,00	0,00	23,30	0,00	0,00	23,30
RH Kupulisaja	40	38,46	108,9	7965,36	-89,00	0,80	0,00	-9,80	0,00	0,00	10,90	0,00	0,00	10,90
RH Kupulisperä	40	38,80	108,9	7858,79	-88,90	0,90	0,00	-9,90	0,00	0,00	11,10	0,00	0,00	11,10
RH Lepola	40	36,36	108,9	10119,27	-91,10	2,10	0,00	-13,50	0,00	0,00	6,40	0,00	0,00	6,40
RH Limingoja	40	35,96	108,9	2782,61	-79,90	0,40	0,00	-6,40	0,00	0,00	23,10	0,00	0,00	23,10
RH Nikula	40	38,56	108,9	3205,69	-81,10	0,50	0,00	-6,70	0,00	0,00	21,60	0,00	0,00	21,60
RH Ojakangas	40	34,33	108,9	7413,45	-88,40	0,20	0,00	-14,30	0,00	0,00	6,40	0,00	0,00	6,40
RH Ojatalo	40	38,40	108,9	2763,07	-79,80	0,50	0,00	-6,30	0,00	0,00	23,20	0,00	0,00	23,20
RH Pahkala	40	37,99	108,9	8020,64	-89,10	2,20	0,00	-11,90	0,00	0,00	10,10	0,00	0,00	10,10
RH Paskoja	40	33,41	108,9	11639,64	-92,30	2,70	0,00	-13,00	0,00	0,00	6,40	0,00	0,00	6,40
RH Pinola	40	37,11	108,9	10097,3	-91,10	1,70	0,00	-11,00	0,00	0,00	8,60	0,00	0,00	8,60
RH Pokela	40	34,46	108,9	8059,23	-89,10	-0,10	0,00	-14,70	0,00	0,00	5,00	0,00	0,00	5,00
RH Pyhänskosentie	40	36,96	108,9	10300,92	-91,20	2,20	0,00	-11,00	0,00	0,00	8,90	0,00	0,00	8,90
RH Pyhänskoski 1	40	37,70	108,9	10232,23	-91,20	0,90	0,00	-10,90	0,00	0,00	7,80	0,00	0,00	7,80
RH Pyhänskoski 2	40	36,88	108,9	10281,76	-91,20	2,90	0,00	-12,00	0,00	0,00	8,60	0,00	0,00	8,60
RH Seppälä	40	33,03	108,9	10782,72	-91,60	0,80	0,00	-11,40	0,00	0,00	6,70	0,00	0,00	6,70
RH Tienvieri	40	36,27	108,9	3066,47	-80,70	0,50	0,00	-6,50	0,00	0,00	22,30	0,00	0,00	22,30
RH Uusitalo	40	38,62	108,9	3867,96	-82,70	0,60	0,00	-7,30	0,00	0,00	19,50	0,00	0,00	19,50
RH Uutela	40	37,12	108,9	4798,92	-84,60	0,50	0,00	-8,80	0,00	0,00	16,00	0,00	0,00	16,00
RH Vaihoja 1	40	37,67	108,9	8373,75	-89,50	1,80	0,00	-10,20	0,00	0,00	11,00	0,00	0,00	11,00
RH Vaihoja 2	40	36,60	108,9	8533,47	-89,60	0,20	0,00	-13,50	0,00	0,00	6,00	0,00	0,00	6,00
RH Vaihojantie	40	34,77	108,9	8285,82	-89,40	0,50	0,00	-15,40	0,00	0,00	4,60	0,00	0,00	4,60
RH Väitalo	40	34,82	108,9	9888,34	-90,90	0,90	0,00	-10,90	0,00	0,00	8,10	0,00	0,00	8,10
RH Vitomaa	40	35,94	108,9	7602,19	-88,60	0,20	0,00	-11,90	0,00	0,00	8,60	0,00	0,00	8,60
RH Viitoperä	40	36,30	108,9	7208,11	-88,10	-0,40	0,00	-14,50	0,00	0,00	5,80	0,00	0,00	5,80
RH Yppärilä	40	37,26	108,9	4854,56	-84,70	2,40	0,00	-9,70	0,00	0,00	16,90	0,00	0,00	16,90

Nro	Hanke	X	Y	Lw dB(A)	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1 kHz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz
1	Hauksuonneva	383203,0	7145659,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
2	Hauksuonneva	383720,5	7145332,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
3	Hauksuonneva	382768,6	7145298,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
4	Hauksuonneva	383258,2	7145023,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
5	Hauksuonneva	383831,9	7144821,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
6	Hauksuonneva	382038,5	7145245,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
7	Hauksuonneva	377034,2	7147558,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
8	Hauksuonneva	377556,8	7147494,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
9	Hauksuonneva	378010,4	7147142,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
10	Hauksuonneva	378543,9	7146973,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
11	Hauksuonneva	378976,4	7146592,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
12	Hauksuonneva	379404,1	7146300,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
13	Hauksuonneva	379815,3	7145862,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
14	Hauksuonneva	380558,2	7145522,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
16	Hauksuonneva	381968,8	7144761,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
17	Hauksuonneva	377123,8	7146994,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
18	Hauksuonneva	377476,1	7146418,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
19	Hauksuonneva	378036,4	7146370,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
20	Hauksuonneva	378615,3	7146156,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
21	Hauksuonneva	379106,1	7145794,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
23	Hauksuonneva	379985,8	7145097,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
24	Hauksuonneva	381343,6	7144531,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
25	Hauksuonneva	376926,2	7146058,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
26	Hauksuonneva	377348,1	7145641,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
27	Hauksuonneva	377962,3	7145404,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
28	Hauksuonneva	378484,1	7145153,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
29	Hauksuonneva	378891,8	7144831,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
30	Hauksuonneva	379422,9	7144656,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
31	Hauksuonneva	380789,7	7143991,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
32	Hauksuonneva	376805,9	7145422,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
33	Hauksuonneva	376114,9	7145156,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
34	Hauksuonneva	376885,4	7144741,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
35	Hauksuonneva	377402,0	7144518,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
36	Hauksuonneva	377886,5	7144112,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
37	Hauksuonneva	378600,4	7144016,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
38	Hauksuonneva	380232,4	7143312,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
39	Hauksuonneva	380785,7	7143102,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
41	Hauksuonneva	376218,7	7144232,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5

42 Hauksuonneva	378254,6	7143587,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
43 Hauksuonneva	379510,2	7142949,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
44 Hauksuonneva	380022,2	7142835,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
45 Hauksuonneva	380450,5	7142298,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
47 Hauksuonneva	375660,9	7144051,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
48 Hauksuonneva	377385,1	7143584,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
49 Hauksuonneva	377877,7	7143193,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
50 Hauksuonneva	379128,4	7142586,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
52 Hauksuonneva	379437,2	7142013,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
53 Hauksuonneva	379965,0	7142028,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
54 Hauksuonneva	380479,2	7141777,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
55 Hauksuonneva	381033,9	7141803,2	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
56 Hauksuonneva	378606,1	7141725,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
57 Hauksuonneva	379178,6	7141537,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
58 Hauksuonneva	379505,2	7141090,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
59 Hauksuonneva	380081,6	7141201,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
60 Hauksuonneva	380634,4	7141309,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
61 Hauksuonneva	381145,5	7141280,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
62 Hauksuonneva	378414,3	7140730,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
63 Hauksuonneva	379019,0	7140858,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
64 Hauksuonneva	378787,5	7140369,2	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
K01 Karhunnevankangas	364907,4	7139375,0	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K02 Karhunnevankangas	365514,3	7138812,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K03 Karhunnevankangas	366085,9	7138496,1	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K04 Karhunnevankangas	364957,8	7139999,4	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K05 Karhunnevankangas	365647,1	7139789,5	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K06 Karhunnevankangas	366211,5	7139209,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K07 Karhunnevankangas	366778,4	7138689,1	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K08 Karhunnevankangas	365636,1	7140389,9	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K09 Karhunnevankangas	366055,0	7140110,6	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K10 Karhunnevankangas	366636,2	7139740,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K11 Karhunnevankangas	366944,8	7139378,0	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K12 Karhunnevankangas	367423,4	7138465,5	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K13 Karhunnevankangas	366344,8	7140712,1	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K14 Karhunnevankangas	366801,8	7140520,3	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K15 Karhunnevankangas	367175,1	7140077,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K16 Karhunnevankangas	368060,2	7138548,6	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K17 Karhunnevankangas	368574,8	7138338,4	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K18 Karhunnevankangas	367219,7	7141295,2	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7

K19 Karhunnevan kangas	367709,8	7140737,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K20 Karhunnevan kangas	368364,4	7140051,7	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K21 Karhunnevan kangas	368628,5	7139575,5	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K22 Karhunnevan kangas	368684,2	7138905,6	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K23 Karhunnevan kangas	369285,2	7138494,9	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K24 Karhunnevan kangas	369782,6	7138199,3	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K25 Karhunnevan kangas	368382,9	7140682,7	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K26 Karhunnevan kangas	369278,6	7139495,9	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K27 Karhunnevan kangas	369653,1	7139196,7	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K28 Karhunnevan kangas	370402,9	7138551,3	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K29 Karhunnevan kangas	368024,6	7141785,1	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K30 Karhunnevan kangas	368430,4	7141392,7	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K31 Karhunnevan kangas	369016,6	7141198,3	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K32 Karhunnevan kangas	369098,0	7140736,2	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K33 Karhunnevan kangas	369404,7	7140051,9	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
Olt01 Oltava	384645,0	7148270,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt02 Oltava	385558,0	7147831,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt03 Oltava	384930,0	7147912,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt04 Oltava	384060,0	7148842,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt05 Oltava	387174,0	7147933,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt06 Oltava	388049,0	7148426,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt07 Oltava	387621,0	7147461,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt08 Oltava	388113,0	7149759,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt09 Oltava	387412,0	7149965,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt10 Oltava	386347,0	7149063,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt11 Oltava	385009,0	7150591,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt12 Oltava	385106,0	7149969,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt13 Oltava	384306,0	7150874,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt14 Oltava	384386,0	7150341,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt15 Oltava	383563,0	7149179,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt16 Oltava	386809,9	7150437,4	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt17 Oltava	388758,1	7149514,9	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt18 Oltava	385108,9	7148780,7	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt19 Oltava	386369,1	7147833,5	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Pa01 Parha	381244,0	7153314,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa02 Parha	380370,0	7153743,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa03 Parha	380825,0	7152738,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa04 Parha	381669,0	7152906,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa05 Parha	382535,5	7152305,5	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7

Pa06 Parha	382037,0	7152534,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa07 Parha	379549,0	7153786,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa08 Parha	379004,0	7154386,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa09 Parha	378159,0	7154533,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa10 Parha	383050,0	7152602,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
PaE01 Parhan laajennos	382754,6	7151564,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE02 Parhan laajennos	381918,0	7151969,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE03 Parhan laajennos	382266,9	7150556,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE04 Parhan laajennos	381668,8	7151012,2	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE05 Parhan laajennos	383224,6	7150987,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE06 Parhan laajennos	381191,8	7152265,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE07 Parhan laajennos	382968,2	7149951,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
Po01 Polusjärvi	390672,0	7147695,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po02 Polusjärvi	389612,0	7148410,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po03 Polusjärvi	390037,0	7147908,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po04 Polusjärvi	389241,0	7147874,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po05 Polusjärvi	388642,0	7148755,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po06 Polusjärvi	388603,0	7148040,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po07 Polusjärvi	388422,0	7147437,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po08 Polusjärvi	389591,0	7149670,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po09 Polusjärvi	389817,0	7149024,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po10 Polusjärvi	389170,0	7149147,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Pu01 Puskakorvenkallio	366745,0	7146260,6	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu02 Puskakorvenkallio	368067,3	7142907,4	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu03 Puskakorvenkallio	368164,0	7143885,9	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu04 Puskakorvenkallio	368414,8	7143336,4	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu05 Puskakorvenkallio	367734,0	7143844,8	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu06 Puskakorvenkallio	366310,2	7145778,7	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu07 Puskakorvenkallio	366976,5	7145772,5	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu08 Puskakorvenkallio	366797,3	7145286,2	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu09 Puskakorvenkallio	366250,1	7145249,3	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu10 Puskakorvenkallio	365477,2	7145054,7	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu11 Puskakorvenkallio	365846,2	7144794,0	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu12 Puskakorvenkallio	366673,7	7144851,0	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu13 Puskakorvenkallio	366447,9	7144480,6	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu14 Puskakorvenkallio	367229,6	7143718,4	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu15 Puskakorvenkallio	367562,6	7144350,7	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu16 Puskakorvenkallio	367533,5	7143284,9	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Py01 Pyhäkoski	378939,9	7139085,7	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	

Py02 Pyhäkoski	377736,4	7138545,6	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
Py03 Pyhäkoski	379244,9	7137958,5	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
Py04 Pyhäkoski	376877,0	7139539,9	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
Ra01 Rahkakuru	385246,4	7133910,3	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra02 Rahkakuru	385350,1	7133065,8	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra03 Rahkakuru	385895,1	7133667,9	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra04 Rahkakuru	385574,6	7132407,2	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra05 Rahkakuru	386295,3	7132774,7	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra06 Rahkakuru	386425,7	7132037,0	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra07 Rahkakuru	385657,8	7130531,2	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra08 Rahkakuru	385063,9	7131009,6	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra09 Rahkakuru	385766,7	7131392,2	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra10 Rahkakuru	385011,2	7131774,3	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra11 Rahkakuru	385680,0	7134746,7	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra12 Rahkakuru	385008,1	7135033,8	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra13 Rahkakuru	385426,4	7135824,0	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra14 Rahkakuru	386034,6	7135582,1	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra15 Rahkakuru	385901,7	7136810,0	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra16 Rahkakuru	384981,1	7136653,6	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra17 Rahkakuru	387306,4	7136734,3	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra18 Rahkakuru	386693,7	7137063,6	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra19 Rahkakuru	387577,0	7137548,5	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ri01 Ristiveto	374232,6	7136835,9	107,0					85,5			93,0			98,1			102,1		102,1				98,4			91,2			87,2	
Ri02 Ristiveto	373613,1	7136444,4	107,0					85,5			93,0			98,1			102,1		102,1				98,4			91,2			87,2	
Ri03 Ristiveto	374441,6	7138007,9	107,0					85,5			93,0			98,1			102,1		102,1				98,4			91,2			87,2	
Ri04 Ristiveto	374480,0	7137480,1	107,0					85,5			93,0			98,1			102,1		102,1				98,4			91,2			87,2	
Ri05 Ristiveto	373960,4	7137696,3	107,0					85,5			93,0			98,1			102,1		102,1				98,4			91,2			87,2	
Ri06 Ristiveto	373536,6	7137252,2	107,0					85,5			93,0			98,1			102,1		102,1				98,4			91,2			87,2	
S01 Silovuori	385198,3	7142977,5	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S02 Silovuori	385375,3	7142367,8	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S03 Silovuori	384738,0	7142499,0	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S04 Silovuori	384777,0	7141867,0	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S05 Silovuori	385433,9	7141783,3	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S06 Silovuori	386018,2	7142739,0	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S07 Silovuori	386676,2	7142269,6	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S08 Silovuori	386064,4	7142091,3	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	

Project description

Project title: Hauksuonneva
 Project No.: 1-61-035
 Project engineer: GF

Run description

Calculation type: Single Point Sound
 Title: Single Point VE1 (06/2025) 59xF200 9MW
 @200m, 108.9dB (N175), CUMULATIVE
 Calculation group: EIA (06-2025)
 Run file: RunFile.runx
 Result number: 37
 Local calculation (ThreadCount=8)
 Calculation start: 19-06-25 08:28
 Calculation end: 19-06-25 08:31
 Calculation time: 00:07:162 [m:s:ms]
 No. of points: 48
 No. of calculated points: 48
 Kernel version: SoundPLAN 8.2 (20.06.2023) - 64 bit

Run parameters

Reflection order: 3
 Maximum reflection distance to receiver: 200 m
 Maximum reflection distance to source: 50 m
 Search radius: 50000 m
 Weighting: dB(A)
 Allowed tolerance (per individual source): 0,100 dB
 Create ground effect areas from road surfaces: Yes

Standards

Wind turbine: Nord2000
 Air absorption: ISO 9613-1
 Environment:
 Air pressure: 1013,3 mbar
 rel. humidity: 70,00%
 Temperature: 15,0 °C
 Meteo param

Nord2000 - downwind

p=100,0[%] z0=0,05[m] zU=10,0[m] u=8,0+/-0,80[m/s] Dir=downwind (src->rec) dT/dz=0,00+/-0,00[K/m]
 Cw2=0,00[m^4/3/s^2] Ct2=0,000[K/s^2]

Dissection parameters:

Distance to diameter factor: 8
 Minimal distance: 1 m
 Max. difference ground effect + diffraction: 1,0 dB
 Max. number of iterations: 4
 Assessment: FIN 40 dB(A)

Reflection of "own" facade is suppressed

Geometry data

2025-06 EIA VE1 ConFi endorsed 59xF200 @200 m with
 STE 108.9 dB (N175 SPL) CUMULATIVE.sit 19-06-25 08:28
 - contains:
 2025 VE1 59xF200 9MW @200m with STE +2 dB 108.9 (N1 19-06-25 08:28
 Calculation area VE1 buffered 5km AvR.geo 06-06-25 08:24
 Ground Hardness06.geo 13-12-24 10:17
 N - Karhunneuvankangas WF.geo 19-06-25 08:28
 N - Oltava WF.geo 19-06-25 08:28
 N - Parha WF extensions.geo 19-06-25 08:28
 N - Parha WF.geo 19-06-25 08:28
 N - Polusjärvi WF.geo 19-06-25 08:28
 N - Pyhäkoski.geo 19-06-25 08:28
 N - Rahkakuru WF.geo 19-06-25 08:28
 N - Ristiveto WF.geo 19-06-25 08:28
 N - Silovuori WF.geo 19-06-25 08:28
 N - Puskakorvenkallio WF.geo 19-06-25 08:28
 Noise receptors EIA.geo 18-06-25 16:23
 RDGM0006.dgm 05-11-24 12:00

Havaintopiste	Leq- lim/dB(A)	Leq /dB(A)	Lw dB(A)	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	ADI dB	dLrefl dB(A)	Ls dB(A)	dLw dB	ZR dB	Lr dB(A)
HH Hietakaivonkangas	40	37,50	108,9	8310,60	-89,40	-0,20	0,00	-15,30	0,00	0,00	4,00	0,00	0,00	4,00
HH Hiitoperä	40	35,70	108,9	9585,91	-90,60	-0,80	0,00	-11,20	0,00	0,00	6,30	0,00	0,00	6,30
HH Holma	40	35,10	108,9	9985,24	-91,00	0,80	0,00	-11,20	0,00	0,00	7,50	0,00	0,00	7,50
HH Kankaala	40	36,90	108,9	7544,45	-88,50	0,70	0,00	-10,30	0,00	0,00	10,70	0,00	0,00	10,70
HH Koskela	40	33,20	108,9	8115,68	-89,20	0,70	0,00	-15,70	0,00	0,00	4,70	0,00	0,00	4,70
HH Kylä-Anttila	40	37,60	108,9	8888,29	-90,00	0,80	0,00	-10,30	0,00	0,00	9,40	0,00	0,00	9,40
HH Liminkajärvi	40	36,10	108,9	3291,63	-81,30	0,50	0,00	-6,90	0,00	0,00	21,20	0,00	0,00	21,20
HH Lystilä	40	37,30	108,9	3405,25	-81,60	0,40	0,00	-6,60	0,00	0,00	21,10	0,00	0,00	21,10
HH Ruunakorpi	40	39,10	108,9	8300,51	-89,40	0,60	0,00	-14,40	0,00	0,00	5,70	0,00	0,00	5,70
HH Vaihoja	40	35,40	108,9	3133,54	-80,90	0,60	0,00	-6,50	0,00	0,00	22,10	0,00	0,00	22,10
RH Haanpää	40	32,50	108,9	2821,42	-80,00	0,50	0,00	-6,40	0,00	0,00	23,00	0,00	0,00	23,00
RH Hautala	40	35,30	108,9	8804,80	-89,90	1,90	0,00	-11,60	0,00	0,00	9,40	0,00	0,00	9,40
RH Heikkilä	40	36,30	108,9	2091,58	-77,40	0,50	0,00	-5,20	0,00	0,00	26,80	0,00	0,00	26,80
RH Hietala	40	33,80	108,9	7326,65	-88,30	2,70	0,00	-11,70	0,00	0,00	11,70	0,00	0,00	11,70
RH Jukkola 1	40	38,10	108,9	6475,39	-87,20	1,10	0,00	-9,10	0,00	0,00	13,70	0,00	0,00	13,70
RH Jukkola 2	40	38,00	108,9	6520,29	-87,30	2,30	0,00	-10,30	0,00	0,00	13,70	0,00	0,00	13,70
RH Jukkola 3	40	38,00	108,9	6680,61	-87,50	2,30	0,00	-10,20	0,00	0,00	13,50	0,00	0,00	13,50
RH Kantola	40	36,40	108,9	3165,06	-81,00	0,50	0,00	-6,90	0,00	0,00	21,50	0,00	0,00	21,50
RH Karppi	40	36,40	108,9	9493,89	-90,50	2,50	0,00	-12,10	0,00	0,00	8,80	0,00	0,00	8,80
RH Katinhäntä 1	40	33,90	108,9	6367,08	-87,10	0,80	0,00	-9,80	0,00	0,00	12,90	0,00	0,00	12,90
RH Katinhäntä 2	40	33,80	108,9	6517,20	-87,30	1,30	0,00	-10,30	0,00	0,00	12,70	0,00	0,00	12,70
RH Keskikylä	40	36,00	108,9	3041,99	-80,70	0,50	0,00	-6,60	0,00	0,00	22,10	0,00	0,00	22,10
RH Kotila	40	36,70	108,9	3386,41	-81,60	0,40	0,00	-7,10	0,00	0,00	20,70	0,00	0,00	20,70
RH Kupulisaja	40	38,00	108,9	5934,69	-86,50	0,60	0,00	-8,90	0,00	0,00	14,20	0,00	0,00	14,20
RH Kupulisperä	40	38,20	108,9	5779,24	-86,20	0,60	0,00	-9,20	0,00	0,00	14,10	0,00	0,00	14,10
RH Lepola	40	36,10	108,9	9410,01	-90,50	2,20	0,00	-10,80	0,00	0,00	9,80	0,00	0,00	9,80
RH Limingoja	40	33,60	108,9	8177,84	-89,20	0,00	0,00	-14,50	0,00	0,00	5,20	0,00	0,00	5,20
RH Nikula	40	37,70	108,9	2861,90	-80,10	0,20	0,00	-7,20	0,00	0,00	21,80	0,00	0,00	21,80
RH Ojakangas	40	31,90	108,9	2758,07	-79,80	0,40	0,00	-6,20	0,00	0,00	23,30	0,00	0,00	23,30
RH Ojatalo	40	37,30	108,9	3288,43	-81,30	0,40	0,00	-7,10	0,00	0,00	20,90	0,00	0,00	20,90
RH Pahkala	40	37,10	108,9	5591,34	-85,90	0,30	0,00	-9,20	0,00	0,00	14,10	0,00	0,00	14,10
RH Paskoja	40	32,80	108,9	7069,06	-88,00	1,40	0,00	-10,10	0,00	0,00	12,30	0,00	0,00	12,30
RH Pinola	40	36,90	108,9	9265,74	-90,30	2,30	0,00	-10,60	0,00	0,00	10,30	0,00	0,00	10,30
RH Pokela	40	32,30	108,9	3090,14	-80,80	0,60	0,00	-6,50	0,00	0,00	22,20	0,00	0,00	22,20
RH Pyhänskosentie	40	36,70	108,9	9205,41	-90,30	2,00	0,00	-11,30	0,00	0,00	9,30	0,00	0,00	9,30
RH Pyhänskoski 1	40	37,60	108,9	8620,22	-89,70	0,70	0,00	-11,30	0,00	0,00	8,70	0,00	0,00	8,70
RH Pyhänskoski 2	40	36,70	108,9	8746,63	-89,80	2,80	0,00	-12,30	0,00	0,00	9,60	0,00	0,00	9,60
RH Seppälä	40	31,90	108,9	6515,70	-87,30	0,70	0,00	-9,60	0,00	0,00	12,70	0,00	0,00	12,70
RH Tienvieri	40	34,60	108,9	8456,76	-89,50	1,80	0,00	-11,10	0,00	0,00	10,10	0,00	0,00	10,10
RH Uusitalo	40	37,90	108,9	2483,25	-78,90	0,50	0,00	-5,70	0,00	0,00	24,90	0,00	0,00	24,90
RH Uutela	40	35,80	108,9	8096,09	-89,20	0,30	0,00	-15,10	0,00	0,00	4,90	0,00	0,00	4,90
RH Vaihoja 1	40	35,80	108,9	3042,29	-80,70	0,40	0,00	-6,40	0,00	0,00	22,30	0,00	0,00	22,30
RH Vaihoja 2	40	34,50	108,9	3261,38	-81,30	1,50	0,00	-7,70	0,00	0,00	21,40	0,00	0,00	21,40
RH Vaihojantie	40	32,50	108,9	3086,98	-80,80	0,60	0,00	-6,60	0,00	0,00	22,20	0,00	0,00	22,20
RH Väitalo	40	33,30	108,9	5978,32	-86,50	0,60	0,00	-9,70	0,00	0,00	13,30	0,00	0,00	13,30
RH Vitomaa	40	35,40	108,9	9567,38	-90,60	3,00	0,00	-9,70	0,00	0,00	11,70	0,00	0,00	11,70
RH Viitoperä	40	35,70	108,9	8911,11	-90,00	0,10	0,00	-15,90	0,00	0,00	3,10	0,00	0,00	3,10
RH Yppärilä	40	36,30	108,9	8438,20	-89,50	3,50	0,00	-12,70	0,00	0,00	10,20	0,00	0,00	10,20

Nro	Hanke	X	Y	Lw dB(A)	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1 kHz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz
9	Hauksuonneva	378010,4	7147142,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
10	Hauksuonneva	378543,9	7146973,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
11	Hauksuonneva	378976,4	7146592,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
12	Hauksuonneva	379404,1	7146300,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
13	Hauksuonneva	379815,3	7145862,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
14	Hauksuonneva	380558,2	7145522,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
18	Hauksuonneva	377476,1	7146418,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
19	Hauksuonneva	378036,4	7146370,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
20	Hauksuonneva	378615,3	7146156,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
21	Hauksuonneva	379106,1	7145794,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
23	Hauksuonneva	379985,8	7145097,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
24	Hauksuonneva	381343,6	7144531,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
25	Hauksuonneva	376926,2	7146058,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
26	Hauksuonneva	377348,1	7145641,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
27	Hauksuonneva	377962,3	7145404,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
28	Hauksuonneva	378484,1	7145153,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
29	Hauksuonneva	378891,8	7144831,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
30	Hauksuonneva	379422,9	7144656,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
31	Hauksuonneva	380789,7	7143991,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
32	Hauksuonneva	376805,9	7145422,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
34	Hauksuonneva	376885,4	7144741,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
35	Hauksuonneva	377402,0	7144518,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
36	Hauksuonneva	377886,5	7144112,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
37	Hauksuonneva	378600,4	7144016,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
38	Hauksuonneva	380232,4	7143312,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
39	Hauksuonneva	380785,7	7143102,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
42	Hauksuonneva	378254,6	7143587,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
43	Hauksuonneva	379510,2	7142949,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
44	Hauksuonneva	380022,2	7142835,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
45	Hauksuonneva	380450,5	7142298,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
48	Hauksuonneva	377385,1	7143584,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
49	Hauksuonneva	377877,7	7143193,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
50	Hauksuonneva	379128,4	7142586,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
52	Hauksuonneva	379437,2	7142013,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
53	Hauksuonneva	379965,0	7142028,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
54	Hauksuonneva	380479,2	7141777,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
56	Hauksuonneva	378606,1	7141725,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
57	Hauksuonneva	379178,6	7141537,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5

58	Hauksuonneva	379505,2	7141090,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
59	Hauksuonneva	380081,6	7141201,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
60	Hauksuonneva	380634,4	7141309,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
62	Hauksuonneva	378414,3	7140730,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
63	Hauksuonneva	379019,0	7140858,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
64	Hauksuonneva	378787,5	7140369,2	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
K01	Karhunnevan kangas	364907,4	7139375,0	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K02	Karhunnevan kangas	365514,3	7138812,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K03	Karhunnevan kangas	366085,9	7138496,1	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K04	Karhunnevan kangas	364957,8	7139999,4	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K05	Karhunnevan kangas	365647,1	7139789,5	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K06	Karhunnevan kangas	366211,5	7139209,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K07	Karhunnevan kangas	366778,4	7138689,1	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K08	Karhunnevan kangas	365636,1	7140389,9	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K09	Karhunnevan kangas	366055,0	7140110,6	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K10	Karhunnevan kangas	366636,2	7139740,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K11	Karhunnevan kangas	366944,8	7139378,0	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K12	Karhunnevan kangas	367423,4	7138465,5	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K13	Karhunnevan kangas	366344,8	7140712,1	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K14	Karhunnevan kangas	366801,8	7140520,3	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K15	Karhunnevan kangas	367175,1	7140077,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K16	Karhunnevan kangas	368060,2	7138548,6	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K17	Karhunnevan kangas	368574,8	7138338,4	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K18	Karhunnevan kangas	367219,7	7141295,2	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K19	Karhunnevan kangas	367709,8	7140737,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K20	Karhunnevan kangas	368364,4	7140051,7	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K21	Karhunnevan kangas	368628,5	7139575,5	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K22	Karhunnevan kangas	368684,2	7138905,6	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K23	Karhunnevan kangas	369285,2	7138494,9	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K24	Karhunnevan kangas	369782,6	7138199,3	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K25	Karhunnevan kangas	368382,9	7140682,7	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K26	Karhunnevan kangas	369278,6	7139495,9	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K27	Karhunnevan kangas	369653,1	7139196,7	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K28	Karhunnevan kangas	370402,9	7138551,3	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K29	Karhunnevan kangas	368024,6	7141785,1	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K30	Karhunnevan kangas	368430,4	7141392,7	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K31	Karhunnevan kangas	369016,6	7141198,3	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K32	Karhunnevan kangas	369098,0	7140736,2	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K33	Karhunnevan kangas	369404,7	7140051,9	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7

Olt01 Oltava	384645,0	7148270,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt02 Oltava	385558,0	7147831,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt03 Oltava	384930,0	7147912,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt04 Oltava	384060,0	7148842,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt05 Oltava	387174,0	7147933,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt06 Oltava	388049,0	7148426,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt07 Oltava	387621,0	7147461,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt08 Oltava	388113,0	7149759,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt09 Oltava	387412,0	7149965,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt10 Oltava	386347,0	7149063,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt11 Oltava	385009,0	7150591,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt12 Oltava	385106,0	7149969,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt13 Oltava	384306,0	7150874,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt14 Oltava	384386,0	7150341,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt15 Oltava	383563,0	7149179,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt16 Oltava	386809,9	7150437,4	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt17 Oltava	388758,1	7149514,9	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt18 Oltava	385108,9	7148780,7	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt19 Oltava	386369,1	7147833,5	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Pa01 Parha	381244,0	7153314,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa02 Parha	380370,0	7153743,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa03 Parha	380825,0	7152738,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa04 Parha	381669,0	7152906,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa05 Parha	382535,5	7152305,5	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa06 Parha	382037,0	7152534,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa07 Parha	379549,0	7153786,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa08 Parha	379004,0	7154386,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa09 Parha	378159,0	7154533,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa10 Parha	383050,0	7152602,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
PaE01 Parhan laajennos	382754,6	7151564,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE02 Parhan laajennos	381918,0	7151969,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE03 Parhan laajennos	382266,9	7150556,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE04 Parhan laajennos	381668,8	7151012,2	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE05 Parhan laajennos	383224,6	7150987,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE06 Parhan laajennos	381191,8	7152265,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE07 Parhan laajennos	382968,2	7149951,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
Po01 Polusjärvi	390672,0	7147695,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po02 Polusjärvi	389612,0	7148410,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po03 Polusjärvi	390037,0	7147908,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0

Po04 Polusjärvi	389241,0	7147874,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po05 Polusjärvi	388642,0	7148755,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po06 Polusjärvi	388603,0	7148040,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po07 Polusjärvi	388422,0	7147437,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po08 Polusjärvi	389591,0	7149670,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po09 Polusjärvi	389817,0	7149024,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po10 Polusjärvi	389170,0	7149147,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Pu01 Puskakorvenkalio	366745,0	7146260,6	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu02 Puskakorvenkalio	368067,3	7142907,4	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu03 Puskakorvenkalio	368164,0	7143885,9	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu04 Puskakorvenkalio	368414,8	7143336,4	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu05 Puskakorvenkalio	367734,0	7143844,8	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu06 Puskakorvenkalio	366310,2	7145778,7	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu07 Puskakorvenkalio	366976,5	7145772,5	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu08 Puskakorvenkalio	366797,3	7145286,2	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu09 Puskakorvenkalio	366250,1	7145249,3	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu10 Puskakorvenkalio	365477,2	7145054,7	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu11 Puskakorvenkalio	365846,2	7144794,0	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu12 Puskakorvenkalio	366673,7	7144851,0	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu13 Puskakorvenkalio	366447,9	7144480,6	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu14 Puskakorvenkalio	367229,6	7143718,4	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu15 Puskakorvenkalio	367562,6	7144350,7	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu16 Puskakorvenkalio	367533,5	7143284,9	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Py01 Pyhäkoski	378939,9	7139085,7	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
Py02 Pyhäkoski	377736,4	7138545,6	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
Py03 Pyhäkoski	379244,9	7137958,5	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
Py04 Pyhäkoski	376877,0	7139539,9	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
Ra01 Rahkakuru	385246,4	7133910,3	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra02 Rahkakuru	385350,1	7133065,8	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra03 Rahkakuru	385895,1	7133667,9	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra04 Rahkakuru	385574,6	7132407,2	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra05 Rahkakuru	386295,3	7132774,7	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra06 Rahkakuru	386425,7	7132037,0	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra07 Rahkakuru	385657,8	7130531,2	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra08 Rahkakuru	385063,9	7131009,6	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra09 Rahkakuru	385766,7	7131392,2	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra10 Rahkakuru	385011,2	7131774,3	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra11 Rahkakuru	385680,0	7134746,7	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra12 Rahkakuru	385008,1	7135033,8	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9

Ra13 Rahkakuru	385426,4	7135824,0	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra14 Rahkakuru	386034,6	7135582,1	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra15 Rahkakuru	385901,7	7136810,0	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra16 Rahkakuru	384981,1	7136653,6	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra17 Rahkakuru	387306,4	7136734,3	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra18 Rahkakuru	386693,7	7137063,6	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra19 Rahkakuru	387577,0	7137548,5	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ri01 Ristiveto	374232,6	7136835,9	107,0					85,5			93,0			98,1		102,1			102,1			98,4				91,2			87,2	
Ri02 Ristiveto	373613,1	7136444,4	107,0					85,5			93,0			98,1		102,1			102,1			98,4				91,2			87,2	
Ri03 Ristiveto	374441,6	7138007,9	107,0					85,5			93,0			98,1		102,1			102,1			98,4				91,2			87,2	
Ri04 Ristiveto	374480,0	7137480,1	107,0					85,5			93,0			98,1		102,1			102,1			98,4				91,2			87,2	
Ri05 Ristiveto	373960,4	7137696,3	107,0					85,5			93,0			98,1		102,1			102,1			98,4				91,2			87,2	
Ri06 Ristiveto	373536,6	7137252,2	107,0					85,5			93,0			98,1		102,1			102,1			98,4				91,2			87,2	
S01 Silovuori	385198,3	7142977,5	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S02 Silovuori	385375,3	7142367,8	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S03 Silovuori	384738,0	7142499,0	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S04 Silovuori	384777,0	7141867,0	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S05 Silovuori	385433,9	7141783,3	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S06 Silovuori	386018,2	7142739,0	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S07 Silovuori	386676,2	7142269,6	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
S08 Silovuori	386064,4	7142091,3	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	

Project description

Project title: Hauksuonneva
Project No.: 1-61-035
Project engineer: GF

Run description

Calculation type: Single Point Sound
Title: Single Point VE2 (06/2025) 44xF200 9MW
@200m, 108.9dB (N175), CUMULATIVE
Calculation group: EIA (06-2025)
Run file: RunFile.runx
Result number: 49
Local calculation (ThreadCount=8)
Calculation start: 23-06-25 08:41
Calculation end: 23-06-25 08:45
Calculation time: 00:06:432 [m:s:ms]
No. of points: 48
No. of calculated points: 48
Kernel version: SoundPLAN 8.2 (20.06.2023) - 64 bit

Run parameters

Reflection order: 3
Maximum reflection distance to receiver: 200 m
Maximum reflection distance to source: 50 m
Search radius: 50000 m
Weighting: dB(A)
Allowed tolerance (per individual source): 0,100 dB
Create ground effect areas from road surfaces: Yes

Standards

Wind turbine: Nord2000
Air absorption: ISO 9613-1
Environment:
Air pressure: 1013,3 mbar
rel. humidity: 70,00%
Temperature: 15,0 °C
Meteo param

Nord2000 - downwind

p=100,0[%] z0=0,05[m] zU=10,0[m] u=8,0+/-0,80[m/s] Dir=downwind (src->rec) dT/dz=0,00+/-0,00[K/m]

Cw2=0,00[m^4/3/s^2] Ct2=0,000[K/s^2]

Dissection parameters:

Distance to diameter factor: 8
Minimal distance: 1 m
Max. difference ground effect + diffraction: 1,0 dB
Max. number of iterations: 4
Assessment: FIN 40 dB(A)
Reflection of "own" facade is suppressed

Geometry data

2025-06 EIA VE2 ConFi endorsed 44xF200 @200 m with STE 108.9 dB (N175 SPL) CUMULATIVE.sit 23-06-25 08:39
- contains:
2025 VE1 59xF200 9MW @200m with STE +2 dB 108.9 (N175).geo 19-06-25 08:28
Calculation area VE1 buffered 5km AvR.geo 06-06-25 08:24
Ground Hardness06.geo 19-06-25 09:07
Calculation area VE1 buffered 5km AvR.geo 06-06-25 08:24
Ground Hardness06.geo 19-06-25 09:07
N - Karhunneuvankangas WF.geo 19-06-25 09:07
N - Oltava WF.geo 19-06-25 09:07
N - Parha WF extensions.geo 19-06-25 09:07
N - Parha WF.geo 19-06-25 09:07
N - Polusjärvi WF.geo 19-06-25 09:07
N - Pyhäkoski.geo 19-06-25 09:07
N - Rahkakuru WF.geo 19-06-25 09:07
N - Ristiveto WF.geo 19-06-25 09:07
N - Silovuori WF.geo 19-06-25 09:07
N - Puskakorvenkallio WF.geo 19-06-25 09:07
Noise receptors EIA.geo 18-06-25 16:23
2025 VE2 44xF200 9MW @200m with STE +2 dB 108.9 (N175).geo 23-06-25 08:39
RDGM0006.dgm 05-11-24 12:00

Havaintopiste	Leq- lim/dB(A)	Leq /dB(A)	Lw dB(A)	S m	Adiv dB	Agr dB	Abar dB	Aatm dB	ADI dB	dLrefl dB(A)	Ls dB(A)	dLw dB	ZR dB	Lr dB(A)
HH Hietakaivonkangas	40	35,80	108,9	8310,60	-89,40	-0,20	0,00	-15,30	0,00	0,00	4,00	0,00	0,00	4,00
HH Hiitoperä	40	35,10	108,9	9585,91	-90,60	-0,80	0,00	-11,20	0,00	0,00	6,30	0,00	0,00	6,30
HH Holma	40	34,40	108,9	9985,24	-91,00	0,80	0,00	-11,20	0,00	0,00	7,50	0,00	0,00	7,50
HH Kankaala	40	35,80	108,9	7544,45	-88,50	0,70	0,00	-10,30	0,00	0,00	10,70	0,00	0,00	10,70
HH Koskela	40	33,00	108,9	8115,68	-89,20	0,70	0,00	-15,70	0,00	0,00	4,70	0,00	0,00	4,70
HH Kylä-Anttila	40	37,10	108,9	8888,29	-90,00	0,80	0,00	-10,30	0,00	0,00	9,40	0,00	0,00	9,40
HH Liminkajärvi	40	35,90	108,9	3291,63	-81,30	0,50	0,00	-6,90	0,00	0,00	21,20	0,00	0,00	21,20
HH Lystilä	40	37,10	108,9	3405,25	-81,60	0,40	0,00	-6,60	0,00	0,00	21,10	0,00	0,00	21,10
HH Ruunakorpi	40	37,20	108,9	8300,51	-89,40	0,60	0,00	-14,40	0,00	0,00	5,70	0,00	0,00	5,70
HH Vaihoja	40	34,80	108,9	3133,54	-80,90	0,60	0,00	-6,50	0,00	0,00	22,10	0,00	0,00	22,10
RH Haanpää	40	32,20	108,9	2821,42	-80,00	0,50	0,00	-6,40	0,00	0,00	23,00	0,00	0,00	23,00
RH Hautala	40	35,10	108,9	8804,80	-89,90	1,90	0,00	-11,60	0,00	0,00	9,40	0,00	0,00	9,40
RH Heikkilä	40	36,20	108,9	2091,58	-77,40	0,50	0,00	-5,20	0,00	0,00	26,80	0,00	0,00	26,80
RH Hietala	40	33,40	108,9	7326,65	-88,30	2,70	0,00	-11,70	0,00	0,00	11,70	0,00	0,00	11,70
RH Jukkola 1	40	37,10	108,9	6475,39	-87,20	1,10	0,00	-9,10	0,00	0,00	13,70	0,00	0,00	13,70
RH Jukkola 2	40	37,10	108,9	6520,29	-87,30	2,30	0,00	-10,30	0,00	0,00	13,70	0,00	0,00	13,70
RH Jukkola 3	40	37,10	108,9	6680,61	-87,50	2,30	0,00	-10,20	0,00	0,00	13,50	0,00	0,00	13,50
RH Kantola	40	36,30	108,9	3165,06	-81,00	0,50	0,00	-6,90	0,00	0,00	21,50	0,00	0,00	21,50
RH Karppi	40	35,80	108,9	9493,89	-90,50	2,50	0,00	-12,10	0,00	0,00	8,80	0,00	0,00	8,80
RH Katinhäntä 1	40	33,40	108,9	6367,08	-87,10	0,80	0,00	-9,80	0,00	0,00	12,90	0,00	0,00	12,90
RH Katinhäntä 2	40	33,20	108,9	6517,20	-87,30	1,30	0,00	-10,30	0,00	0,00	12,70	0,00	0,00	12,70
RH Keskikylä	40	35,90	108,9	3041,99	-80,70	0,50	0,00	-6,60	0,00	0,00	22,10	0,00	0,00	22,10
RH Kotila	40	36,60	108,9	3386,41	-81,60	0,40	0,00	-7,10	0,00	0,00	20,70	0,00	0,00	20,70
RH Kupulisaja	40	36,70	108,9	5934,69	-86,50	0,60	0,00	-8,90	0,00	0,00	14,20	0,00	0,00	14,20
RH Kupulisperä	40	37,10	108,9	5779,24	-86,20	0,60	0,00	-9,20	0,00	0,00	14,10	0,00	0,00	14,10
RH Lepola	40	35,50	108,9	9410,01	-90,50	2,20	0,00	-10,80	0,00	0,00	9,80	0,00	0,00	9,80
RH Limingoja	40	33,40	108,9	8177,84	-89,20	0,00	0,00	-14,50	0,00	0,00	5,20	0,00	0,00	5,20
RH Nikula	40	37,60	108,9	2861,90	-80,10	0,20	0,00	-7,20	0,00	0,00	21,80	0,00	0,00	21,80
RH Ojakangas	40	31,70	108,9	2758,07	-79,80	0,40	0,00	-6,20	0,00	0,00	23,30	0,00	0,00	23,30
RH Ojatalo	40	37,20	108,9	3288,43	-81,30	0,40	0,00	-7,10	0,00	0,00	20,90	0,00	0,00	20,90
RH Pahkala	40	36,20	108,9	5591,34	-85,90	0,30	0,00	-9,20	0,00	0,00	14,10	0,00	0,00	14,10
RH Paskoja	40	32,50	108,9	7069,06	-88,00	1,40	0,00	-10,10	0,00	0,00	12,30	0,00	0,00	12,30
RH Pinola	40	36,30	108,9	9265,74	-90,30	2,30	0,00	-10,60	0,00	0,00	10,30	0,00	0,00	10,30
RH Pokela	40	32,10	108,9	3090,14	-80,80	0,60	0,00	-6,50	0,00	0,00	22,20	0,00	0,00	22,20
RH Pyhänskosentie	40	36,20	108,9	9205,41	-90,30	2,00	0,00	-11,30	0,00	0,00	9,30	0,00	0,00	9,30
RH Pyhänskoski 1	40	37,20	108,9	8620,22	-89,70	0,70	0,00	-11,30	0,00	0,00	8,70	0,00	0,00	8,70
RH Pyhänskoski 2	40	36,20	108,9	8746,63	-89,80	2,80	0,00	-12,30	0,00	0,00	9,60	0,00	0,00	9,60
RH Seppälä	40	31,60	108,9	6515,70	-87,30	0,70	0,00	-9,60	0,00	0,00	12,70	0,00	0,00	12,70
RH Tienvieri	40	34,40	108,9	8456,76	-89,50	1,80	0,00	-11,10	0,00	0,00	10,10	0,00	0,00	10,10
RH Uusitalo	40	37,80	108,9	2483,25	-78,90	0,50	0,00	-5,70	0,00	0,00	24,90	0,00	0,00	24,90
RH Uutela	40	34,50	108,9	8096,09	-89,20	0,30	0,00	-15,10	0,00	0,00	4,90	0,00	0,00	4,90
RH Vaihoja 1	40	35,20	108,9	3042,29	-80,70	0,40	0,00	-6,40	0,00	0,00	22,30	0,00	0,00	22,30
RH Vaihoja 2	40	34,00	108,9	3261,38	-81,30	1,50	0,00	-7,70	0,00	0,00	21,40	0,00	0,00	21,40
RH Vaihojantie	40	32,20	108,9	3086,98	-80,80	0,60	0,00	-6,60	0,00	0,00	22,20	0,00	0,00	22,20
RH Väitalo	40	32,70	108,9	5978,32	-86,50	0,60	0,00	-9,70	0,00	0,00	13,30	0,00	0,00	13,30
RH Vitomaa	40	34,50	108,9	9567,38	-90,60	3,00	0,00	-9,70	0,00	0,00	11,70	0,00	0,00	11,70
RH Viitoperä	40	34,30	108,9	8911,11	-90,00	0,10	0,00	-15,90	0,00	0,00	3,10	0,00	0,00	3,10
RH Yppärilä	40	35,50	108,9	8438,20	-89,50	3,50	0,00	-12,70	0,00	0,00	10,20	0,00	0,00	10,20

Nro	Hanke	X	Y	Lw dB(A)	25 Hz	31.5 Hz	40 Hz	50 Hz	63 Hz	80 Hz	100 Hz	125 Hz	160 Hz	200 Hz	250 Hz	315 Hz	400 Hz	500 Hz	630 Hz	800 Hz	1 kHz	1.25 kHz	1.6 kHz	2 kHz	2.5 kHz	3.15 kHz	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz
9	Hauksuonneva	378010,4	7147142,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
10	Hauksuonneva	378543,9	7146973,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
11	Hauksuonneva	378976,4	7146592,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
12	Hauksuonneva	379404,1	7146300,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
13	Hauksuonneva	379815,3	7145862,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
14	Hauksuonneva	380558,2	7145522,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
18	Hauksuonneva	377476,1	7146418,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
19	Hauksuonneva	378036,4	7146370,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
20	Hauksuonneva	378615,3	7146156,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
21	Hauksuonneva	379106,1	7145794,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
23	Hauksuonneva	379985,8	7145097,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
24	Hauksuonneva	381343,6	7144531,6	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
25	Hauksuonneva	376926,2	7146058,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
26	Hauksuonneva	377348,1	7145641,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
27	Hauksuonneva	377962,3	7145404,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
28	Hauksuonneva	378484,1	7145153,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
29	Hauksuonneva	378891,8	7144831,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
30	Hauksuonneva	379422,9	7144656,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
31	Hauksuonneva	380789,7	7143991,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
34	Hauksuonneva	376885,4	7144741,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
35	Hauksuonneva	377402,0	7144518,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
36	Hauksuonneva	377886,5	7144112,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
37	Hauksuonneva	378600,4	7144016,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
38	Hauksuonneva	380232,4	7143312,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
42	Hauksuonneva	378254,6	7143587,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
43	Hauksuonneva	379510,2	7142949,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
44	Hauksuonneva	380022,2	7142835,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
48	Hauksuonneva	377385,1	7143584,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
49	Hauksuonneva	377877,7	7143193,9	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
50	Hauksuonneva	379128,4	7142586,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
52	Hauksuonneva	379437,2	7142013,4	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
53	Hauksuonneva	379965,0	7142028,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
57	Hauksuonneva	379178,6	7141537,7	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
58	Hauksuonneva	379505,2	7141090,1	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
59	Hauksuonneva	380081,6	7141201,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
63	Hauksuonneva	379019,0	7140858,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
K01	Karhunnevan kangas	364907,4	7139375,0	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K02	Karhunnevan kangas	365514,3	7138812,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7

K03	Karhunnevan kangas	366085,9	7138496,1	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K04	Karhunnevan kangas	364957,8	7139999,4	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K05	Karhunnevan kangas	365647,1	7139789,5	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K06	Karhunnevan kangas	366211,5	7139209,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K07	Karhunnevan kangas	366778,4	7138689,1	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K08	Karhunnevan kangas	365636,1	7140389,9	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K09	Karhunnevan kangas	366055,0	7140110,6	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K10	Karhunnevan kangas	366636,2	7139740,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K11	Karhunnevan kangas	366944,8	7139378,0	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K12	Karhunnevan kangas	367423,4	7138465,5	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K13	Karhunnevan kangas	366344,8	7140712,1	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K14	Karhunnevan kangas	366801,8	7140520,3	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K15	Karhunnevan kangas	367175,1	7140077,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K16	Karhunnevan kangas	368060,2	7138548,6	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K17	Karhunnevan kangas	368574,8	7138338,4	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K18	Karhunnevan kangas	367219,7	7141295,2	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K19	Karhunnevan kangas	367709,8	7140737,8	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K20	Karhunnevan kangas	368364,4	7140051,7	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K21	Karhunnevan kangas	368628,5	7139575,5	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K22	Karhunnevan kangas	368684,2	7138905,6	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K23	Karhunnevan kangas	369285,2	7138494,9	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K24	Karhunnevan kangas	369782,6	7138199,3	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K25	Karhunnevan kangas	368382,9	7140682,7	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K26	Karhunnevan kangas	369278,6	7139495,9	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K27	Karhunnevan kangas	369653,1	7139196,7	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K28	Karhunnevan kangas	370402,9	7138551,3	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K29	Karhunnevan kangas	368024,6	7141785,1	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K30	Karhunnevan kangas	368430,4	7141392,7	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K31	Karhunnevan kangas	369016,6	7141198,3	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K32	Karhunnevan kangas	369098,0	7140736,2	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
K33	Karhunnevan kangas	369404,7	7140051,9	109,2	68,5	74,0	77,5	83,0	83,9	86,7	91,4	89,9	91,2	92,8	93,9	97,4	97,1	97,6	100,0	99,3	100,3	99,7	99,0	97,4	95,2	91,8	87,2	82,1	81,8	79,9	75,7
Olt01	Oltava	384645,0	7148270,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt02	Oltava	385558,0	7147831,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt03	Oltava	384930,0	7147912,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt04	Oltava	384060,0	7148842,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt05	Oltava	387174,0	7147933,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt06	Oltava	388049,0	7148426,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt07	Oltava	387621,0	7147461,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt08	Oltava	388113,0	7149759,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0

Olt09 Oltava	387412,0	7149965,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt10 Oltava	386347,0	7149063,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt11 Oltava	385009,0	7150591,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt12 Oltava	385106,0	7149969,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt13 Oltava	384306,0	7150874,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt14 Oltava	384386,0	7150341,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt15 Oltava	383563,0	7149179,0	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt16 Oltava	386809,9	7150437,4	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt17 Oltava	388758,1	7149514,9	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt18 Oltava	385108,9	7148780,7	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Olt19 Oltava	386369,1	7147833,5	106,1	66,8	72,3	75,8	81,0	82,2	85,0	89,7	88,2	89,5	90,8	91,7	95,0	94,6	94,9	96,8	95,9	96,7	96,0	95,0	93,8	91,8	89,1	85,1	80,4	80,1	78,2	74,0
Pa01 Parha	381244,0	7153314,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa02 Parha	380370,0	7153743,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa03 Parha	380825,0	7152738,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa04 Parha	381669,0	7152906,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa05 Parha	382535,5	7152305,5	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa06 Parha	382037,0	7152534,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa07 Parha	379549,0	7153786,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa08 Parha	379004,0	7154386,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa09 Parha	378159,0	7154533,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
Pa10 Parha	383050,0	7152602,0	104,0	63,8	68,1	72,3	76,0	79,1	82,2	84,8	87,0	89,2	90,8	92,1	93,2	93,9	94,3	94,4	94,1	93,5	92,6	91,3	89,8	87,9	85,7	83,1	80,3	77,1	73,5	69,7
PaE01 Parhan laajennos	382754,6	7151564,0	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE02 Parhan laajennos	381918,0	7151969,8	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE03 Parhan laajennos	382266,9	7150556,5	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE04 Parhan laajennos	381668,8	7151012,2	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE05 Parhan laajennos	383224,6	7150987,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE06 Parhan laajennos	381191,8	7152265,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
PaE07 Parhan laajennos	382968,2	7149951,3	108,9	77,2	79,1	80,3	82,0	86,6	89,3	90,9	93,5	95,5	96,5	97,0	97,8	97,7	97,5	97,8	98,5	98,5	98,7	98,0	96,6	93,4	90,1	85,8	81,7	74,6	66,9	57,5
Po01 Polusjärvi	390672,0	7147695,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po02 Polusjärvi	389612,0	7148410,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po03 Polusjärvi	390037,0	7147908,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po04 Polusjärvi	389241,0	7147874,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po05 Polusjärvi	388642,0	7148755,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po06 Polusjärvi	388603,0	7148040,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po07 Polusjärvi	388422,0	7147437,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po08 Polusjärvi	389591,0	7149670,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po09 Polusjärvi	389817,0	7149024,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Po10 Polusjärvi	389170,0	7149147,0	104,9	66,6	70,7	74,7	78,0	81,2	84,1	86,5	88,7	90,7	92,2	93,4	94,3	94,9	95,2	95,2	94,8	94,2	93,2	91,8	90,2	88,4	86,1	83,4	80,6	77,4	73,8	70,0
Pu01 Puskakorvenkallio	366745,0	7146260,6	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3

Pu02 Puskakorvenkallio	368067,3	7142907,4	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu03 Puskakorvenkallio	368164,0	7143885,9	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu04 Puskakorvenkallio	368414,8	7143336,4	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu05 Puskakorvenkallio	367734,0	7143844,8	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu06 Puskakorvenkallio	366310,2	7145778,7	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu07 Puskakorvenkallio	366976,5	7145772,5	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu08 Puskakorvenkallio	366797,3	7145286,2	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu09 Puskakorvenkallio	366250,1	7145249,3	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu10 Puskakorvenkallio	365477,2	7145054,7	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu11 Puskakorvenkallio	365846,2	7144794,0	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu12 Puskakorvenkallio	366673,7	7144851,0	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu13 Puskakorvenkallio	366447,9	7144480,6	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu14 Puskakorvenkallio	367229,6	7143718,4	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu15 Puskakorvenkallio	367562,6	7144350,7	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Pu16 Puskakorvenkallio	367533,5	7143284,9	106,0	67,8	72,2	76,1	79,0	82,2	84,4	86,1	87,7	89,2	90,8	92,3	93,6	94,1	94,9	95,5	96,0	96,5	97,0	95,7	94,3	92,3	89,7	85,9	81,8	75,5	65,9	53,3
Py01 Pyhäkoski	378939,9	7139085,7	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
Py02 Pyhäkoski	377736,4	7138545,6	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
Py03 Pyhäkoski	379244,9	7137958,5	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
Py04 Pyhäkoski	376877,0	7139539,9	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9	
Ra01 Rahkakuru	385246,4	7133910,3	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra02 Rahkakuru	385350,1	7133065,8	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra03 Rahkakuru	385895,1	7133667,9	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra04 Rahkakuru	385574,6	7132407,2	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra05 Rahkakuru	386295,3	7132774,7	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra06 Rahkakuru	386425,7	7132037,0	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra07 Rahkakuru	385657,8	7130531,2	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra08 Rahkakuru	385063,9	7131009,6	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra09 Rahkakuru	385766,7	7131392,2	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra10 Rahkakuru	385011,2	7131774,3	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra11 Rahkakuru	385680,0	7134746,7	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra12 Rahkakuru	385008,1	7135033,8	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra13 Rahkakuru	385426,4	7135824,0	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra14 Rahkakuru	386034,6	7135582,1	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra15 Rahkakuru	385901,7	7136810,0	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra16 Rahkakuru	384981,1	7136653,6	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9	95,2	96,8	98,0	98,6	98,8	98,9	98,7	98,6	98,1	97,2	95,9	94,4	92,4	90,1	87,5	84,5	81,1	77,4	73,3	68,9
Ra17 Rahkakuru	387306,4	7136734,3	108,9	68,9	73,8	78,6	83,0	86,8	90,2	92,9																				

Ri02 Ristiveto	373613,1	7136444,4	107,0											85,5						93,0						98,1						102,1						102,1						98,4						91,2						87,2
Ri03 Ristiveto	374441,6	7138007,9	107,0											85,5						93,0						98,1						102,1						102,1						98,4						91,2						87,2
Ri04 Ristiveto	374480,0	7137480,1	107,0											85,5						93,0						98,1						102,1						102,1						98,4						91,2						87,2
Ri05 Ristiveto	373960,4	7137696,3	107,0											85,5						93,0						98,1						102,1						102,1						98,4						91,2						87,2
Ri06 Ristiveto	373536,6	7137252,2	107,0											85,5						93,0						98,1						102,1						102,1						98,4						91,2						87,2
S01 Silovuori	385198,3	7142977,5	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9																											
S02 Silovuori	385375,3	7142367,8	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9																											
S03 Silovuori	384738,0	7142499,0	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9																											
S04 Silovuori	384777,0	7141867,0	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9																											
S05 Silovuori	385433,9	7141783,3	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9																											
S06 Silovuori	386018,2	7142739,0	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9																											
S07 Silovuori	386676,2	7142269,6	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9																											
S08 Silovuori	386064,4	7142091,3	105,8	70,6	70,6	74,6	80,0	83,1	85,0	87,4	91,0	88,8	89,6	90,9	92,0	92,4	93,7	96,3	96,8	97,3	96,9	94,4	93,7	91,4	88,3	87,2	80,3	76,2	73,9																											

Project description

Project title: Hauksuonneva
 Project No.: 1-61-035
 Project engineer: GF

Run description

Calculation type: Single Point Sound
 Title: Single Point VE3 (06/2025) 36xF200 9MW
 @200m, 108.9dB (N175), CUMULATIVE
 Calculation group: EIA (06-2025)
 Run file: RunFile.runx
 Result number: 51
 Local calculation (ThreadCount=8)
 Calculation start: 23-06-25 08:52
 Calculation end: 23-06-25 08:55
 Calculation time: 00:07:736 [m:s:ms]
 No. of points: 48
 No. of calculated points: 48
 Kernel version: SoundPLAN 8.2 (20.06.2023) - 64 bit

Run parameters

Reflection order: 3
 Maximum reflection distance to receiver: 200 m
 Maximum reflection distance to source: 50 m
 Search radius: 50000 m
 Weighting: dB(A)
 Allowed tolerance (per individual source): 0,100 dB
 Create ground effect areas from road surfaces: Yes

Standards

Wind turbine: Nord2000
 Air absorption: ISO 9613-1
 Environment:
 Air pressure: 1013,3 mbar
 rel. humidity: 70,00%
 Temperature: 15,0 °C
 Meteo param
 Nord2000 - downwind
 p=100,0[%] z0=0,05[m] zU=10,0[m] u=8,0+/-0,80[m/s] Dir=downwind (src->rec) dT/dz=0,00+/-0,00[K/m]
 Cw2=0,00[m^4/3/s^2] Ct2=0,000[K/s^2]
 Dissection parameters:
 Distance to diameter factor: 8
 Minimal distance: 1 m
 Max. difference ground effect + diffraction: 1,0 dB
 Max. number of iterations: 4
 Assessment: FIN 40 dB(A)
 Reflection of "own" facade is suppressed

Geometry data

2025-06 EIA VE3 ConFi endorsed 36xF200 @200 m with STE 108.9 dB
 (N175 SPL) CUMULATIVE.sit 23-06-25 08:49
 - contains:
 Calculation area VE1 buffered 5km AvR.geo 06-06-25 08:24
 Ground Hardness06.geo 19-06-25 09:07
 N - Karhunneuvankangas WF.geo 19-06-25 09:07
 N - Oltava WF.geo 19-06-25 09:07
 N - Parha WF extensions.geo 19-06-25 09:07
 N - Parha WF.geo 19-06-25 09:07
 N - Polusjärvi WF.geo 19-06-25 09:07
 N - Pyhäkoski.geo 19-06-25 09:07
 N - Rahkakuru WF.geo 19-06-25 09:07
 N - Ristiveto WF.geo 19-06-25 09:07
 N - Silovuori WF.geo 19-06-25 09:07
 N- Puskakorvenkallio WF.geo 19-06-25 09:07
 Noise receptors EIA.geo 18-06-25 16:23
 2025 VE3 36xF200 9MW @200m with STE +2 dB 108.9 (N175).geo 23-06-25 08:49
 RDGM0006.dgm 05-11-24 12:00

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor

Noise calculation model:

Finland Low frequency

Wind speed (at 10 m height):

Highest noise value at receptor

Spectral distribution:

From 20.0 Hz to 200.0 Hz

Meteorological coefficient, C0:

Selected option: Fixed value: 0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure tone penalty is subtracted from demand

Model: 5.0 dB(A)

Height above ground level, when no value in NSA object:

4.0 m; Don't allow override of model height with height from NSA object

Uncertainty margin:

0.0 dB; Uncertainty margin in NSA has priority

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0.0 dB(A)

Low frequency calculation

dLsigma

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
7.6	8.3	9.2	10.3	11.5	13.0	14.8	16.8	18.8	21.1	22.8

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

WTG: FUTURE F200 9.0 MW 9000 200.0 !-!

Noise: N175 Third octave SPL w STE Mode 0 + 2 dB

Source

Source/Date Creator Edited

Based on F008_278_A17_EN revision 03, 2023-20-13 02-Sep-24 USER 03-Sep-24 12:10

Based on F008_278_A17_EN revision 03, 2023-20-13, third octave sound power levels, 2 dB added, 179m hub height

Status	Hub height	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	(10m)	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	200.0	8.0	101.21	73.8	77.2	79.1	80.3	82.3	86.6	89.3	90.9	93.5	95.5	96.5

Noise sensitive area: HH Hietakaivonkangas Noise sensitive point: Finnish low frequency - Residential health guide

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Hiitoperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor

Noise sensitive area: HH Holma Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Kankaala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Koskela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Kylä-Anttila Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Liminkajärvi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Lystilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

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+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor

Noise sensitive area: HH Ruunakorpi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Vaihoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Haanpää Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Hautala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Heikkilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Hietala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

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DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor

Noise sensitive area: RH Jukkola 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 3 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kantola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Karppi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Katinhätä 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor

Noise sensitive area: RH Katinhätä 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Keskikylä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kotila Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kupulisoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kupulisperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Lepola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor

Noise sensitive area: RH Limingoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Nikula Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Ojakangas Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Ojatalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pahkala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Paskoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor

Noise sensitive area: RH Pinola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pokela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoskentie Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoski 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoski 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Seppälä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor

Noise sensitive area: RH Tienvieri Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Uusitalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Uutela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihoja 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihoja 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihojantie Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor

Noise sensitive area: RH Vältalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vitomaa Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vitoperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Yppärilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH
Stephanitorsbollwerk 3 (Haus LUV)
DE-28211 Bremen
+49 7142 77810
Emma Berkovits / e.berkovits@wpd.fi
Calculated:
03-Jul-25 13:35/4.1.264

DECIBEL - Main Result

Calculation: VE1 59xF200 LF Indoor

Noise calculation model:

Finland Low frequency

Wind speed (at 10 m height):

Highest noise value at receptor

Spectral distribution:

From 20.0 Hz to 200.0 Hz

Meteorological coefficient, C0:

Selected option: Fixed value: 0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure tone penalty is subtracted from demand

Model: 5.0 dB(A)

Height above ground level, when no value in NSA object:

4.0 m; Don't allow override of model height with height from NSA object

Uncertainty margin:

0.0 dB; Uncertainty margin in NSA has priority

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0.0 dB(A)

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

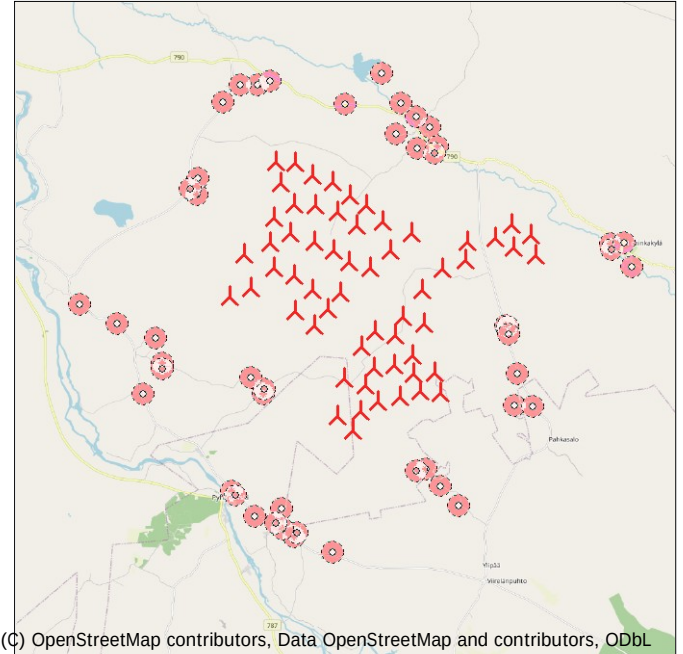
All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

WTGs

East	North	Z	Row data/Description	WTG type			Power, rated	Rotor diameter	Hub height	Noise data		First wind speed [m/s]	LwaRef [dB(A)]	Last wind speed [m/s]	LwaRef [dB(A)]
				Valid	Manufact.	Type-generator				Creator	Name				
[m]															
1	383,203	7,145,660	69.5 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
2	383,721	7,145,332	72.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
3	382,769	7,145,298	68.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
4	383,258	7,145,024	71.3 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
5	383,832	7,144,822	74.5 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
6	382,039	7,145,246	63.2 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
7	377,034	7,147,558	38.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
8	377,557	7,147,494	43.7 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
9	378,010	7,147,142	46.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
10	378,544	7,146,974	50.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
11	378,976	7,146,593	53.5 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
12	379,404	7,146,300	54.3 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
13	379,815	7,145,863	54.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
14	380,558	7,145,522	58.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
15	381,969	7,144,761	62.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
16	377,124	7,146,994	39.0 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
17	377,476	7,146,419	39.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
18	378,036	7,146,370	45.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
19	378,615	7,146,157	50.3 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
20	379,106	7,145,795	53.1 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
21	379,986	7,145,097	54.3 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
22	381,344	7,144,532	63.4 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
23	376,926	7,146,059	34.6 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
24	377,348	7,145,642	37.1 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
25	377,962	7,145,405	44.2 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
26	378,484	7,145,153	49.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
27	378,892	7,144,832	51.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
28	379,423	7,144,656	52.2 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
29	380,790	7,143,991	57.7 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
30	376,806	7,145,422	33.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
31	376,115	7,145,157	33.2 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
32	376,885	7,144,741	37.4 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
33	377,402	7,144,519	38.0 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
34	377,887	7,144,113	41.4 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
35	378,600	7,144,017	45.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
36	380,232	7,143,312	55.6 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
37	380,786	7,143,103	57.7 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
38	376,219	7,144,232	38.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
39	378,255	7,143,588	42.2 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
40	379,510	7,142,950	51.6 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
41	380,022	7,142,836	55.1 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
42	380,455	7,142,299	56.2 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
43	375,661	7,144,052	37.4 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
44	377,385	7,143,584	38.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
45	377,878	7,143,194	40.4 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
46	379,128	7,142,586	48.6 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
47	379,437	7,142,013	49.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
48	379,965	7,142,028	53.7 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
49	380,479	7,141,778	61.2 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
50	381,034	7,141,803	58.6 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2

To be continued on next page...



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New WTG

Scale 1:200,000

Noise sensitive area

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH
Stephanitorsbollwerk 3 (Haus LUV)
DE-28211 Bremen
+49 7142 77810
Emma Berkovits / e.berkovits@wpd.fi
Calculated:
03-Jul-25 13:35/4.1.264

DECIBEL - Main Result

Calculation: VE1 59xF200 LF Indoor

...continued from previous page

	East	North	Z	Row data/Description	WTG type			Power, rated	Rotor diameter	Hub height	Noise data		First wind speed [m/s]	LwaRef [dB(A)]	Last wind speed [m/s]	LwaRef [dB(A)]
					Valid	Manufact.	Type-generator				Creator	Name				
			[m]					[kW]	[m]	[m]						
56	378,606	7,141,726	41.8	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9.000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
57	379,179	7,141,538	46.5	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9.000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
58	379,505	7,141,090	47.5	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9.000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
59	380,082	7,141,202	51.8	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9.000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
60	380,634	7,141,310	60.1	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9.000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
61	381,146	7,141,281	59.8	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9.000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
62	378,414	7,140,731	41.8	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9.000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
63	379,019	7,140,858	43.6	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9.000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
64	378,788	7,140,369	43.0	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9.000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2

Calculation Results

Sound level

Noise sensitive area		Most critical demandPredicted sound level Demands fulfilled ?														
No.	Name	East	North	Z	Immission height	Frequency	Noise	WTG noise	Noise							
					[m]	[Hz]	[dB]	[dB]								
HH	Hietakaivonkangas	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (173)	380,697	7,139,280	50.7	4.0	63.0	42.00	38.35							Yes
HH	Hiitoperä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (170)	377,133	7,137,599	44.2	4.0	63.0	42.00	34.13							Yes
HH	Holma	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (169)	378,138	7,137,133	48.2	4.0	63.0	42.00	33.93							Yes
HH	Kankaala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (174)	383,213	7,141,681	67.3	4.0	63.0	42.00	37.95							Yes
HH	Koskela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (175)	385,840	7,145,013	76.7	4.0	63.0	42.00	35.64							Yes
HH	Kylä-Anttila	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (171)	376,833	7,138,334	47.5	4.0	63.0	42.00	35.03							Yes
HH	Liminkajärvi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (168)	379,944	7,149,798	48.9	4.0	63.0	42.00	35.83							Yes
HH	Lystilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (167)	381,168	7,148,313	55.7	4.0	63.0	42.00	37.51							Yes
HH	Ruunakorpi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (172)	380,450	7,139,211	49.2	4.0	63.0	42.00	38.38							Yes
HH	Vaihoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (166)	374,905	7,146,787	26.0	4.0	63.0	42.00	38.21							Yes
RH	Haanpää	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (176)	376,666	7,149,614	36.6	4.0	63.0	42.00	36.43							Yes
RH	Hautala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (177)	386,385	7,144,428	79.5	4.0	63.0	42.00	34.39							Yes
RH	Heikkilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (178)	378,937	7,149,007	49.4	4.0	63.0	42.00	38.11							Yes
RH	Hietala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (179)	373,282	7,141,550	30.6	4.0	63.0	42.00	34.12							Yes
RH	Jukkola 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (180)	382,973	7,142,986	70.2	4.0	63.0	42.00	39.51							Yes
RH	Jukkola 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (181)	382,998	7,142,946	70.6	4.0	63.0	42.00	39.42							Yes
RH	Jukkola 3	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (182)	383,051	7,142,762	70.2	4.0	63.0	42.00	39.14							Yes
RH	Kantola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (183)	380,813	7,148,601	55.0	4.0	63.0	42.00	37.33							Yes
RH	Karppi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (184)	377,182	7,137,687	46.3	4.0	63.0	42.00	34.30							Yes
RH	Katinhänkä 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (185)	373,808	7,142,364	30.0	4.0	63.0	42.00	35.53							Yes
RH	Katinhänkä 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (186)	373,789	7,142,182	30.1	4.0	63.0	42.00	35.35							Yes
RH	Keskikylä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (187)	380,437	7,148,967	52.4	4.0	63.0	42.00	36.99							Yes
RH	Kotila	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (188)	381,332	7,147,774	56.3	4.0	63.0	42.00	38.32							Yes
RH	Kupulisoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (189)	376,466	7,141,416	38.6	4.0	63.0	42.00	38.86							Yes
RH	Kupulisperä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (190)	376,497	7,141,568	37.2	4.0	63.0	42.00	39.11							Yes
RH	Lepola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (191)	376,821	7,137,810	44.9	4.0	63.0	42.00	34.21							Yes
RH	Limingoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (192)	385,875	7,144,908	77.9	4.0	63.0	42.00	35.55							Yes
RH	Nikula	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (193)	380,797	7,147,767	56.2	4.0	63.0	42.00	38.93							Yes
RH	Ojakangas	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (194)	376,989	7,149,696	39.3	4.0	63.0	42.00	36.46							Yes
RH	Ojatalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (195)	381,260	7,147,613	56.5	4.0	63.0	42.00	38.70							Yes
RH	Pahkala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (196)	376,133	7,141,880	33.9	4.0	63.0	42.00	38.86							Yes
RH	Paskoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (197)	371,686	7,143,992	21.2	4.0	63.0	42.00	32.92							Yes
RH	Pinola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (198)	376,653	7,137,979	44.9	4.0	63.0	42.00	34.32							Yes
RH	Pokela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (199)	376,196	7,149,635	34.8	4.0	63.0	42.00	35.96							Yes
RH	Pyhänskoskentie	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (200)	376,101	7,138,166	41.8	4.0	63.0	42.00	34.08							Yes
RH	Pyhänskoski 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (201)	375,536	7,138,987	41.9	4.0	63.0	42.00	34.40							Yes
RH	Pyhänskoski 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (202)	375,606	7,138,735	42.4	4.0	63.0	42.00	34.29							Yes
RH	Sepälä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (203)	372,654	7,143,438	22.9	4.0	63.0	42.00	34.24							Yes
RH	Tienvieri	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (204)	386,201	7,145,044	78.9	4.0	63.0	42.00	34.81							Yes
RH	Uusitalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (205)	380,265	7,148,166	56.7	4.0	63.0	42.00	38.77							Yes
RH	Uutela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (206)	383,121	7,140,866	62.8	4.0	63.0	42.00	37.36							Yes
RH	Vaihoja 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (207)	374,977	7,147,206	24.4	4.0	63.0	42.00	37.93							Yes
RH	Vaihoja 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (208)	374,765	7,146,909	24.4	4.0	63.0	42.00	37.76							Yes
RH	Vaihojantie	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (209)	375,711	7,149,190	31.8	4.0	63.0	42.00	36.26							Yes
RH	Vitomaa	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (210)	381,529	7,138,247	50.6	4.0	63.0	42.00	35.38							Yes
RH	Vitoperä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (211)	381,074	7,138,777	49.7	4.0	63.0	42.00	36.79							Yes
RH	Valitalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (212)	373,673	7,143,034	30.0	4.0	63.0	42.00	35.82							Yes
RH	Yppärilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (213)	383,603	7,140,826	67.9	4.0	63.0	42.00	36.42							Yes
*)Spectral distribution, please see details in report "Detailed results"																

Distances (m)

WTG	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	
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DECIBEL - Main Result

Calculation: VE1 59xF200 LF Indoor

[illegible]

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Main Result

Calculation: VE1 59xF200 LF Indoor

WTG	RH Vältalo	RH Vitomaa	RH Vitoperä	RH Yppärilä
1	9886	7599	7205	4850
2	10307	7416	7070	4508
3	9374	7159	6738	4550
4	9790	6994	6618	4212
5	10315	6966	6645	4003
6	8653	7017	6540	4688
7	5636	10339	9666	9406
8	5915	10064	9401	9001
9	5974	9565	8909	8436
10	6265	9223	8579	7962
11	6387	8727	8093	7393
12	6597	8328	7707	6899
13	6763	7806	7197	6302
14	7322	7339	6765	5597
16	8474	6529	6051	4261
17	5253	9794	9118	8946
18	5091	9121	8447	8296
19	5493	8842	8179	7856
20	5847	8429	7779	7300
21	6095	7927	7289	6702
23	6642	7021	6414	5597
24	7816	6287	5761	4340
25	4442	9067	8381	8483
26	4507	8495	7811	7894
27	4901	7997	7322	7265
28	5258	7547	6883	6703
29	5520	7093	6436	6184
30	5975	6746	6107	5670
31	7181	5791	5223	4235
32	3940	8590	7898	8205
33	3236	8778	8081	8650
34	3638	7983	7289	7775
35	4014	7507	6816	7217
36	4350	6904	6216	6594
37	5025	6470	5795	5933
38	6566	5228	4613	4188
39	7113	4912	4336	3622
41	2814	8001	7304	8132
42	4615	6264	5577	6019
43	5838	5117	4457	4611
44	6353	4829	4193	4106
45	6818	4192	3577	3479
47	2234	8254	7558	8572
48	3753	6757	6060	6802
49	4208	6148	5453	6196
50	5474	4959	4278	4808
52	5854	4308	3627	4332
53	6372	4091	3435	3831
54	6921	3683	3060	3266
55	7464	3590	3027	2749
56	5104	4543	3846	5077
57	5706	4044	3349	4481
58	6148	3490	2795	4106
59	6666	3290	2620	3541
60	7172	3190	2571	3008
61	7676	3058	2505	2499
62	5271	3983	3301	5189
63	5772	3621	2925	4584
64	5767	3467	2787	4837

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:33/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor CUMUL

Noise calculation model:

Finland Low frequency

Wind speed (at 10 m height):

Highest noise value at receptor

Spectral distribution:

From 20.0 Hz to 200.0 Hz

Meteorological coefficient, C0:

Selected option: Fixed value: 0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure tone penalty is subtracted from demand

Model: 5.0 dB(A)

Height above ground level, when no value in NSA object:

4.0 m; Don't allow override of model height with height from NSA object

Uncertainty margin:

0.0 dB; Uncertainty margin in NSA has priority

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0.0 dB(A)

Low frequency calculation

dLsigma

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
7.6	8.3	9.2	10.3	11.5	13.0	14.8	16.8	18.8	21.1	22.8

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

WTG: FUTURE F200 9.0 MW 9000 200.0 !-!

Noise: N175 Third octave SPL w STE Mode 0 + 2 dB

Source

Source/Date Creator Edited

Based on F008_278_A17_EN revision 03, 2023-20-13 02-Sep-24 USER 03-Sep-24 12:10

Based on F008_278_A17_EN revision 03, 2023-20-13, third octave sound power levels, 2 dB added, 179m hub height

Status	Hub height	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	200.0	8.0	101.21	73.8	77.2	79.1	80.3	82.3	86.6	89.3	90.9	93.5	95.5	96.5

WTG: VESTAS V126-3.3 GrStr 3rdOc 3300 126.0 !O!

Noise: Level 0 - - Mode 0 - 1/3 octave - official, serrations

Source Source/Date Creator Edited

Vestas 11-Nov-14 USER 29-Apr-15 10:21

0048-2151_V01 - V126-3_3MW-Third Octaves according to General Spe....pdf

137m hub => 12.0 m/s

167m hub => 12.3 m/s

Status	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	8.0	96.22	63.5	70.9	71.0	75.0	80.0	83.1	85.2	87.3	90.9	88.9	89.8

WTG: NORDEX N149/4.0-4.8 4800 149.0 !O!

Noise: Serrations Mode 00 - 106.1 dB(A) - octave

Source Source/Date Creator Edited

F008_270_A14_R01 08-Nov-18 USER 03-Apr-25 10:39

Status	Hub height	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	145.0	8.0	96.39	62.8	66.8	72.3	75.8	80.9	82.2	85.0	89.7	88.2	89.5	90.8

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:33/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor CUMUL

WTG: Siemens SWT-2.3-108 2300 108.0 !O!

Noise: SWT108 2.3 with serrations Mode 0 3rd Oct LF

Source Source/Date Creator Edited
 03-Apr-25 USER 08-Aug-25 10:11
 windPRO 4.1 WTG catalogue

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	115.0	8.0	95.71	63.6	67.3	69.8	73.0	76.9	80.8	82.7	86.3	88.2	89.5	91.3

WTG: VESTAS V162 5600 162.0 !O!

Noise: V162 5.6 with serrations LF

Source Source/Date Creator Edited
 03-Apr-25 USER 08-Aug-25 10:13
 V162-5.6 MW Third octave noise emission DMS 0079-5298_01, 28.1.2019

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	166.0	8.0	95.59	60.3	64.7	69.0	73.1	76.6	79.9	83.0	85.5	87.7	89.8	91.3

WTG: VESTAS V150-4.3 (3rd oct) 4300 150.0 !O!

Noise: V150 4.3 MW 3rd Oct serrated blades HH160m

Source Source/Date Creator Edited
 03-Apr-25 USER 08-Aug-25 10:14
 V150-4.3 MW Third octave noise emission DMS 0080-4413_00 (20.12.2028)

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	160.0	8.0	96.55	62.3	66.6	70.7	74.7	78.0	81.2	84.1	86.5	88.7	90.7	92.2

WTG: NORDEX N163/5.X 5500 163.0 !O!

Noise: Third octave SPL without serrated trailing edge – Mode 0

Source Source/Date Creator Edited
 F008_276_A17_EN Revision 00, 2019-05-21 09-Jul-19 USER 08-Aug-25 10:16
 F008_276_A17_EN Revision 00, 2019-05-21

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	159.0	8.0	98.17	64.5	68.5	74.0	77.5	82.6	83.9	86.7	91.4	89.9	91.2	92.8

WTG: GE WIND ENERGY 5.5-158 Thrust 700 5500 158.0 !O!

Noise: GE158 5.5 with serrations LF

Source Source/Date Creator Edited
 03-Apr-25 USER 03-Apr-25 14:34

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	161.0	8.0	95.59	63.1	67.8	72.2	76.1	79.4	82.2	84.4	86.1	87.7	89.2	90.8

Project:

HAUK_LF_Indoor

Licensed user:

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 Emma Berkovits / e.berkovits@wpd.fi
 Calculated:
 08-Aug-25 10:33/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor CUMUL

WTG: FUTURE F200 9.0 MW 9000 200.0 !-!

Noise: V172-7,2, PO7200, with STE + 2dB

Source	Source/Date	Creator	Edited											
DMS no.: 0128-4336_00, 2022-06-30	14-May-24	USER	26-Feb-25 11:51											
Status	Hub height	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	200.0	8.0	102.73	64.1	69.3	74.1	78.9	83.3	87.1	90.4	93.1	95.3	96.9	98.1

Noise sensitive area: HH Hietakaivonkangas Noise sensitive point: Finnish low frequency - Residential health guide

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Hiitoperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Holma Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Kankaala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Koskela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

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Stephanitorsbollwerk 3 (Haus LUV)

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:33/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor CUMUL

Noise sensitive area: HH Kylä-Anttila Noise sensitive point: Finnish low frequency - Residential health guide 2003,

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Liminkajärvi Noise sensitive point: Finnish low frequency - Residential health guide 2003,

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Lystilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Ruunakorpi Noise sensitive point: Finnish low frequency - Residential health guide 2003,

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Vaihoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Haanpää Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:33/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor CUMUL

Noise sensitive area: RH Hautala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Heikkilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Hietala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 3 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

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 Emma Berkovits / e.berkovits@wpd.fi
 Calculated:
 08-Aug-25 10:33/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor CUMUL

Noise sensitive area: RH Kantola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Karppi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Katinhätä 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Katinhätä 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kesikylä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kotila Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

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 Emma Berkovits / e.berkovits@wpd.fi
 Calculated:
 08-Aug-25 10:33/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor CUMUL

Noise sensitive area: RH Kupulisoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kupulisperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Lepola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Limingoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Nikula Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Ojakangas Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:33/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor CUMUL

Noise sensitive area: RH Ojatalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pahkala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Paskoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pinola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pokela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoskentie Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH
 Stephanitorsbollwerk 3 (Haus LUV)
 DE-28211 Bremen
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 Emma Berkovits / e.berkovits@wpd.fi
 Calculated:
 08-Aug-25 10:33/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor CUMUL

Noise sensitive area: RH Pyhäkoski 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoski 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Seppälä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Tienvieri Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Uusitalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Uutela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH
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 Emma Berkovits / e.berkovits@wpd.fi
 Calculated:
 08-Aug-25 10:33/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor CUMUL

Noise sensitive area: RH Vaihoja 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihoja 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihojantie Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vältalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vitomaa Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vitoperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

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Stephanitorsbollwerk 3 (Haus LUV)

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:33/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE1 59xF200 LF Indoor CUMUL

Noise sensitive area: RH Yppärilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, ind

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:33/4.1.264

DECIBEL - Main Result

Calculation: VE1 59xF200 LF Indoor CUMUL

Noise calculation model:

Finland Low frequency

Wind speed (at 10 m height):

Highest noise value at receptor

Spectral distribution:

From 20.0 Hz to 200.0 Hz

Meteorological coefficient, C0:

Selected option: Fixed value: 0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure tone penalty is subtracted from demand

Model: 5.0 dB(A)

Height above ground level, when no value in NSA object:

4.0 m; Don't allow override of model height with height from NSA object

Uncertainty margin:

0.0 dB; Uncertainty margin in NSA has priority

Deviation from "official" noise demands. Negative is more

restrictive, positive is less restrictive.:

0.0 dB(A)

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

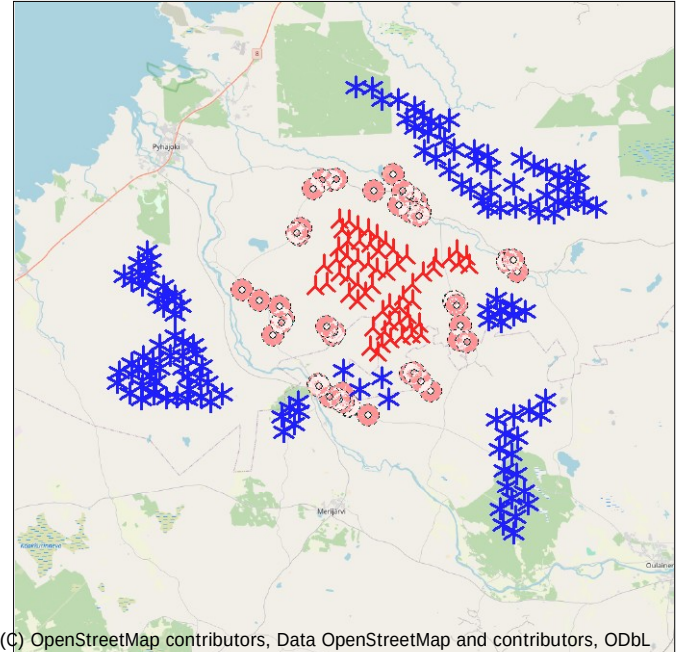
All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

WTGs

	East	North	Z	Row data/Description	WTG type Valid Manufact.	Type-generator	Noise data			First wind speed [m/s]	LwaRef [dB(A)]	Last wind speed [m/s]	LwaRef [dB(A)]
							Power, rated [kW]	Rotor diameter [m]	Hub height [m]				
1	383,203	7,145,660	69.5	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2
10	378,544	7,146,974	50.9	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2
100	381,669	7,152,906	56.5	VESTAS V162 5600 162.0 IOI hub: 16...Yes	VESTAS	V162-5,600	5,600	162.0	166.0	USER	V162 5.6 with serrations LF	8.0	95.6
101	382,535	7,152,306	62.3	VESTAS V162 5600 162.0 IOI hub: 16...Yes	VESTAS	V162-5,600	5,600	162.0	166.0	USER	V162 5.6 with serrations LF	8.0	95.6
102	382,037	7,152,534	58.2	VESTAS V162 5600 162.0 IOI hub: 16...Yes	VESTAS	V162-5,600	5,600	162.0	166.0	USER	V162 5.6 with serrations LF	8.0	95.6
103	379,549	7,153,786	44.7	VESTAS V162 5600 162.0 IOI hub: 16...Yes	VESTAS	V162-5,600	5,600	162.0	166.0	USER	V162 5.6 with serrations LF	8.0	95.6
104	379,004	7,154,386	42.2	VESTAS V162 5600 162.0 IOI hub: 16...Yes	VESTAS	V162-5,600	5,600	162.0	166.0	USER	V162 5.6 with serrations LF	8.0	95.6
105	378,159	7,154,533	37.2	VESTAS V162 5600 162.0 IOI hub: 16...Yes	VESTAS	V162-5,600	5,600	162.0	166.0	USER	V162 5.6 with serrations LF	8.0	95.6
106	383,050	7,152,602	65.1	VESTAS V162 5600 162.0 IOI hub: 16...Yes	VESTAS	V162-5,600	5,600	162.0	166.0	USER	V162 5.6 with serrations LF	8.0	95.6
107	390,672	7,147,695	103.6	VESTAS V150-4.3 (3rd oct) 4300 150...Yes	VESTAS	V150-4.3 (3rd oct)-4,300	4,300	150.0	160.0	USER	V150 4.3 MW 3rd Oct serrated blades HH160m	8.0	96.6
108	389,612	7,148,410	102.8	VESTAS V150-4.3 (3rd oct) 4300 150...Yes	VESTAS	V150-4.3 (3rd oct)-4,300	4,300	150.0	160.0	USER	V150 4.3 MW 3rd Oct serrated blades HH160m	8.0	96.6
109	390,037	7,147,908	99.1	VESTAS V150-4.3 (3rd oct) 4300 150...Yes	VESTAS	V150-4.3 (3rd oct)-4,300	4,300	150.0	160.0	USER	V150 4.3 MW 3rd Oct serrated blades HH160m	8.0	96.6
11	378,976	7,146,593	53.5	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2
110	389,241	7,147,874	97.6	VESTAS V150-4.3 (3rd oct) 4300 150...Yes	VESTAS	V150-4.3 (3rd oct)-4,300	4,300	150.0	160.0	USER	V150 4.3 MW 3rd Oct serrated blades HH160m	8.0	96.6
111	388,642	7,148,755	99.6	VESTAS V150-4.3 (3rd oct) 4300 150...Yes	VESTAS	V150-4.3 (3rd oct)-4,300	4,300	150.0	160.0	USER	V150 4.3 MW 3rd Oct serrated blades HH160m	8.0	96.6
112	388,603	7,148,040	96.8	VESTAS V150-4.3 (3rd oct) 4300 150...Yes	VESTAS	V150-4.3 (3rd oct)-4,300	4,300	150.0	160.0	USER	V150 4.3 MW 3rd Oct serrated blades HH160m	8.0	96.6
113	388,422	7,147,437	94.2	VESTAS V150-4.3 (3rd oct) 4300 150...Yes	VESTAS	V150-4.3 (3rd oct)-4,300	4,300	150.0	160.0	USER	V150 4.3 MW 3rd Oct serrated blades HH160m	8.0	96.6
114	389,591	7,149,670	103.2	VESTAS V150-4.3 (3rd oct) 4300 150...Yes	VESTAS	V150-4.3 (3rd oct)-4,300	4,300	150.0	160.0	USER	V150 4.3 MW 3rd Oct serrated blades HH160m	8.0	96.6
115	389,817	7,149,024	105.8	VESTAS V150-4.3 (3rd oct) 4300 150...Yes	VESTAS	V150-4.3 (3rd oct)-4,300	4,300	150.0	160.0	USER	V150 4.3 MW 3rd Oct serrated blades HH160m	8.0	96.6
116	389,170	7,149,147	99.8	VESTAS V150-4.3 (3rd oct) 4300 150...Yes	VESTAS	V150-4.3 (3rd oct)-4,300	4,300	150.0	160.0	USER	V150 4.3 MW 3rd Oct serrated blades HH160m	8.0	96.6
117	382,755	7,151,564	60.5	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2
118	381,918	7,151,970	54.1	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2
119	382,267	7,150,557	57.0	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2
12	379,404	7,146,300	54.3	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2
120	381,669	7,151,012	51.9	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2
121	383,225	7,150,987	64.2	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2
122	381,192	7,152,265	51.4	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2
123	382,968	7,149,951	64.1	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2
124	367,710	7,140,738	26.9	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
125	367,220	7,141,295	26.7	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
126	365,636	7,140,390	27.1	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
127	366,345	7,140,712	25.0	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
128	366,802	7,140,520	27.3	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
129	367,175	7,140,078	26.7	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
13	379,815	7,145,863	54.9	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2
130	366,055	7,140,111	28.7	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
131	366,636	7,139,741	31.1	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
132	366,778	7,138,689	33.2	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
133	365,647	7,139,790	33.0	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
134	365,514	7,138,813	35.8	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
135	367,423	7,138,465	32.3	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
136	366,086	7,138,496	34.7	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
137	364,958	7,139,999	29.1	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
138	364,907	7,139,375	43.8	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
139	369,017	7,141,198	26.6	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
14	380,558	7,145,522	58.9	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2
140	369,098	7,140,736	29.5	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
141	368,025	7,141,785	23.4	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
142	368,430	7,141,393	24.6	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
143	368,383	7,140,683	30.2	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
144	368,364	7,140,052	29.1	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
145	369,405	7,140,052	34.3	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
146	369,653	7,139,197	33.3	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
147	370,403	7,138,551	34.2	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
148	369,285	7,138,495	32.1	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
149	369,783	7,138,199	33.2	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
150	369,279	7,139,496	33.0	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
151	368,628	7,139,575	30.8	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2
152	368,684	7,138,906	32.5	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2

To be continued on next page...



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Scale 1:400,000
New WT

Project:

HAUK_LF_Indoor

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Calculated:
08-Aug-25 10:33/4.1.264

DECIBEL - Main Result

Calculation: VE1 59xF200 LF Indoor CUMUL

...continued from previous page

	East	North	Z	Row data/Description	WTG type Valid Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator Name	First wind speed [m/s]	LwaRef [dB(A)]	Last wind speed [m/s]	LwaRef [dB(A)]
			[m]				[kW]	[m]	[m]					
153	368,060	7,138,549	33.2	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge – Mode 0	8.0	98.2	8.0 98.2
154	368,575	7,138,338	32.4	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge – Mode 0	8.0	98.2	8.0 98.2
155	366,211	7,139,210	36.5	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge – Mode 0	8.0	98.2	8.0 98.2
156	366,945	7,139,378	29.7	NORDEX N163/5.X 5500 163.0 IOI hu...Yes	NORDEX	N163/5.X-5500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge – Mode 0	8.0	98.2	8.0 98.2
157	366,745	7,146,261	15.7	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
158	368,067	7,142,907	22.3	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
159	368,164	7,143,886	20.5	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
160	381,969	7,144,761	62.9	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
160	368,415	7,143,336	22.8	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
161	367,734	7,143,845	19.7	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
162	366,310	7,145,779	13.0	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
163	366,976	7,145,773	15.2	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
164	366,797	7,145,286	14.5	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
165	366,250	7,145,249	15.2	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
166	365,477	7,145,055	15.5	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
167	365,846	7,144,794	16.4	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
168	366,674	7,144,851	15.7	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
169	366,448	7,144,481	20.3	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
17	377,124	7,146,994	39.0	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
170	367,230	7,143,718	20.8	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
171	367,563	7,144,351	18.6	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
172	367,534	7,143,285	22.4	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0 95.6
18	377,476	7,146,419	39.8	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
19	378,036	7,146,370	45.8	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
20	378,615	7,146,157	50.3	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
21	379,106	7,145,795	53.1	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
23	379,986	7,145,097	54.3	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
24	381,344	7,144,532	63.4	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
25	376,926	7,146,059	34.6	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
26	377,348	7,145,642	37.1	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
27	377,962	7,145,405	44.2	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
28	378,484	7,145,153	49.8	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
29	378,892	7,144,832	51.9	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
3	382,769	7,145,298	68.9	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
30	379,423	7,144,656	52.2	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
31	380,790	7,143,991	57.7	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
32	376,806	7,145,422	33.9	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
33	376,115	7,145,157	33.2	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
34	376,885	7,144,741	37.4	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
35	377,402	7,144,519	38.0	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
36	377,887	7,144,113	41.4	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
37	378,609	7,144,097	41.8	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
38	380,232	7,143,312	55.6	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
39	380,786	7,143,103	57.7	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
4	383,258	7,145,024	71.3	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
41	376,219	7,144,232	38.8	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
42	378,255	7,143,588	42.2	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
43	379,510	7,142,950	51.6	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
44	380,022	7,142,836	55.1	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
45	380,451	7,142,299	56.2	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
46	375,661	7,144,030	41.8	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
48	377,385	7,143,584	38.8	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
49	377,878	7,143,194	40.4	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
5	383,832	7,144,822	74.5	FUTURE F200 9.0 MW 9000 200.0 H...Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101

Project:

HAUK_LF_Indoor

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Calculated:
08-Aug-25 10:33/4.1.264

DECIBEL - Main Result

Calculation: VE1 59xF200 LF Indoor CUMUL

...continued from previous page

	East	North	Z	Row data/Description	WTG type		Type-generator	Power, rated	Rotor diameter	Hub height	Noise data		First wind speed [m/s]	LwaRef [dB(A)]	Last wind speed [m/s]	LwaRef [dB(A)]
					Valid	Manufact.					Creator	Name				
			[m]					[kW]	[m]	[m]						
WTG01	385,246	713,910	60.0	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG02	385,350	713,066	59.0	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG03	385,895	713,668	63.4	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG04	385,575	7132,407	58.4	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG05	386,295	7132,775	62.2	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG06	386,426	7132,037	60.6	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG07	385,658	7130,531	62.0	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG08	385,064	7131,010	59.0	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG09	385,767	7131,392	61.0	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG10	385,011	7131,774	59.6	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG11	385,680	7134,747	62.8	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG12	385,008	7135,034	59.8	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG13	385,426	7135,824	62.1	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG14	386,035	7135,582	62.1	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG15	385,902	7136,810	72.0	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG16	384,981	7136,654	60.1	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG17	387,306	7136,734	81.1	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG18	386,694	7137,064	82.9	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG19	387,577	7137,548	84.4	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE		F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7

Calculation Results

Sound level

Noise sensitive area		Most critical demand										Predicted sound level	Demands fulfilled ?	
No.	Name	East	North	Z	Immission height	Frequency	Noise	WTG noise	Noise				Noise	
					[m]	[Hz]	[dB]	[dB]						
HH	Hietakaivonkangas	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (173)	380,697	7,139,280	50.7	4.0	50.0	44.00	41.55				Yes	
HH	Hiitoperä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (170)	377,133	7,137,599	44.2	4.0	50.0	44.00	39.60				Yes	
HH	Holma	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (169)	378,138	7,137,133	48.2	4.0	50.0	44.00	39.31				Yes	
HH	Kankaala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (174)	383,213	7,141,681	67.3	4.0	50.0	44.00	41.69				Yes	
HH	Koskela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (175)	385,840	7,145,013	76.7	4.0	50.0	44.00	40.65				Yes	
HH	Kylä-Anttila	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (171)	376,833	7,138,334	47.5	4.0	50.0	44.00	40.58				Yes	
HH	Liminkajärvi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (168)	379,944	7,149,798	48.9	4.0	50.0	44.00	40.42				Yes	
HH	Lystilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (167)	381,168	7,148,313	55.7	4.0	50.0	44.00	41.47				Yes	
HH	Ruunakorpi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (172)	380,450	7,139,211	49.2	4.0	50.0	44.00	41.66				Yes	
HH	Vaihoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (166)	374,905	7,146,787	26.0	4.0	50.0	44.00	40.85				Yes	
RH	Haanpää	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (176)	376,666	7,149,614	36.6	4.0	50.0	44.00	39.47				Yes	
RH	Hautala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (177)	386,385	7,144,428	79.5	4.0	50.0	44.00	40.18				Yes	
RH	Heikkilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (178)	378,937	7,149,007	49.4	4.0	50.0	44.00	41.15				Yes	
RH	Hietala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (179)	373,282	7,141,550	30.6	4.0	50.0	44.00	39.33				Yes	
RH	Jukkola 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (180)	382,973	7,142,986	70.2	4.0	50.0	44.00	42.58				Yes	
RH	Jukkola 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (181)	382,998	7,142,946	70.6	4.0	50.0	44.00	42.53				Yes	
RH	Jukkola 3	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (182)	383,051	7,142,762	70.2	4.0	50.0	44.00	42.38				Yes	
RH	Kantola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (183)	380,813	7,148,601	55.0	4.0	50.0	44.00	41.30				Yes	
RH	Karppi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (184)	377,182	7,137,687	46.3	4.0	50.0	44.00	39.83				Yes	
RH	Katinhantä 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (185)	373,808	7,142,364	30.0	4.0	50.0	44.00	39.65				Yes	
RH	Katinhantä 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (186)	373,789	7,142,182	30.1	4.0	50.0	44.00	39.59				Yes	
RH	Keski kylä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (187)	380,437	7,148,967	52.4	4.0	50.0	44.00	41.04				Yes	
RH	Kotila	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (188)	381,332	7,147,774	56.3	4.0	50.0	44.00	41.83				Yes	
RH	Kupulisoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (189)	376,466	7,141,416	38.6	4.0	50.0	44.00	41.75				Yes	
RH	Kupulisperä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (190)	376,497	7,141,568	37.2	4.0	50.0	44.00	41.90				Yes	
RH	Lepola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (191)	376,821	7,137,810	44.9	4.0	50.0	44.00	39.66				Yes	
RH	Limingoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (192)	385,875	7,144,908	77.9	4.0	50.0	44.00	40.61				Yes	
RH	Nikula	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (193)	380,797	7,147,767	56.2	4.0	50.0	44.00	42.06				Yes	
RH	Ojakangas	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (194)	376,989	7,149,696	39.3	4.0	50.0	44.00	39.55				Yes	
RH	Ojatalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (195)	381,260	7,147,613	56.5	4.0	50.0	44.00	42.01				Yes	
RH	Pakala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (196)	376,133	7,141,880	33.9	4.0	50.0	44.00	41.67				Yes	
RH	Paskoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (197)	371,686	7,143,992	21.2	4.0	50.0	44.00	38.91				Yes	
RH	Pirola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (198)	376,653	7,137,979	44.9	4.0	50.0	44.00	39.74				Yes	
RH	Pokela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (199)	376,196	7,149,635	34.8	4.0	50.0	44.00	39.07				Yes	
RH	Pyhänskökentie	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (200)	376,101	7,138,166	41.8	4.0	50.0	44.00	39.56				Yes	
RH	Pyhänsköski 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (201)	375,536	7,138,887	41.9	4.0	50.0	44.00	39.74				Yes	
RH	Pyhänsköski 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (202)	375,606	7,138,735	42.4	4.0	50.0	44.00	39.72				Yes	
RH	Seppälä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (203)	372,654	7,143,438	22.9	4.0	50.0	44.00	39.16				Yes	
RH	Tienvieri	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (204)	386,201	7,145,044	78.9	4.0	50.0	44.00	40.26				Yes	
RH	Uusitalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (205)	380,265	7,148,166	56.7	4.0	50.0	44.00	41.87				Yes	
RH	Uutela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (206)	383,121	7,140,866	62.8	4.0	50.0	44.00	41.11				Yes	
RH	Vaihoja 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (207)	374,977	7,147,206	24.4	4.0	50.0	44.00	40.60				Yes	
RH	Vaihoja 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (208)	374,765	7,146,909	24.4	4.0	50.0	44.00	40.49				Yes	
RH	Vaihojantie	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (209)	375,711	7,149,190	31.8	4.0	50.0	44.00	39.25				Yes	
RH	Vitoma	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (210)	381,529	7,138,247	50.6	4.0	50.0	44.00	39.67				Yes	
RH	Viitopää	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (211)	381,074	7,138,777	49.7	4.0	50.0	44.00	40.49				Yes	
RH	Välitalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (212)	373,673	7,143,034	30.0	4.0	50.0	44.00	39.73				Yes	
RH	Yppärilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (213)	383,603	7,140,826	67.9	4.0	50.0	44.00	40.83				Yes	
*)Spectral distribution, please see details in report "Detailed results"														

Distances (m)

WTG	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	RH	RH	RH	RH	RH	RH	RH	RH	RH			
	Hietakaivonkangas	Hiitoperä	Holma	Kankaala	Koskela	Kylä-Anttila	Liminkajärvi	Lystilä	Ruunakorpi	Vaihoja	Haanpää	Hautala	Heikkilä	Hietala	Rukola	Rukola	Rukola	Kantola	Karppi	Katinhänkä	Katinhänkä	Keskiskylä
1	6854	10091	9918	3979	2715	9708	5268	3344	7012	8374	7640	3412	5422	10739	2684	2721	2902	3790	9991	9956	10036	4312
10	7989	9481	9849	7058	7555	8807	3153	2946	7994	3644	3240	8244	2071	7557	5960	6005	6169	2792	9387	6609	6751	2149
100	13661	15965	16164	11330	7927	15353	3554	4621	13749	9121	5989	9701	4761	14118	10005	10048	10238	4390	15867	13151	13308	4279
101	13155	15668	15797	10646	8006	15090	3605	4221	13260	9417	6457	8768	4881	14189	9330	9371	9558	4086	15568	13229	13379	3943
102	13321	15720	15887	10916	8427	15123	3444	4310	13418	9160	6114	9198	4696	14047	9594	9636	9825	4119	15621	13082	13236	3910
103	14551	16367	16713	12647	10795	15689	4007	5708	14603	8400	5071	11589	4818	13748	11330	11375	11567	5337	16273	12784	12955	4900
104	15200	16891	17275	13384	11601	16198	4683	6447	15244	8634	5314	12395	5380	14504	12071	12117	12309	6062	16799	13097	13272	5605
105	15463	16966	17400	13810	12232	16253	5060	6910	15493	8402	5141	13330	5581	13869	12510	12557	12748	6499	16875	12924	13102	6044
106	13528	16128	16231	10922	8085	15563	4184	4684	13641	10008	7049	8820	5462	14750	9616	9656	9840	4584	16028	13793	13941	4417
107	13050	16889	16391	9582	5526	16707	10932	9524	13284	15793	14137	5390	11808	18444	9025	9024	9078	9901	16798	17687	17760	10314
108	12761	16511	16088	9286	5076	16273	9767	8445	12983	14797	13002	5126	10691	17173	8573	8579	8657	8801	16417	16921	17005	9192
109	12715	16516	16053	9238	5098	16309	10268	8879	12944	15174	13480	5045	11154	17921	8180	8612	8677	9250	16424	17150	17228	9659
11	7512	9181	9497	6486	7043	8532	3349	2786	7528	4076	3803	7718	2414	7607	5863	5429	5593	9271	9085	6678	6809	2787
110	12118	15880	15449	8642	4444	15651	9494	8085	12342	14377	12695	4476	10366	17167	7949	7954	8028	8459	17877	16387	16467	8872
111	12365	16029	15666	8917	4674	15749	8760	7487	12578	13878	12007	4880	9708	16966	8088	8099	8196	7831	15933	16152	16243	8208
112	11800	15511	15116	8336	4098	15255	8835	7440	12018	13755	12040	4239	9714	16639	7566	7574	7660	7810	15416	15846	15930	8219
113	11234	14974	14558	7763	3541	14736	8800	7307	11455	13533	11956	3634	9614	16245	7036	7042	7121	7697	14880	15470	15548	8131

DECIBEL - Main Result

Calculation: VE1 59xF200 LF Indoor CUMUL

[illegible]

To be continued on next page...

Calculation: VE1 59xF200 LF Indoor CUMUL

... continued from previous page		WTG																							
	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH		
	Hietakaivonkangas	Hiitoperä	Holma	Kankaala	Koskela	Kylä-Anttila	Liminkajärvi	Lystylä	Ruunakorpi	Vaihoja	Haanpää	Hautala	Heikkilä	Hietala	Jukkola	1	2	3	Jukkola	Kantola	Karppi	Katinhantä	Katinhantä	Keskikylä	
6	6114	9085	9002	3753	3809	8652	5011	3188	6240	7298	6924	4422	4875	9505	2445	2492	2682	3572	8985	8720	8900	7051			
60	5825	9694	9166	2371	2135	9567	8610	6687	6061	10976	10809	1874	8692	12002	2225	2200	2158	7131	9605	11407	11437	7652			
60	2031	5102	4866	2605	6389	4827	8517	7023	2107	7926	9204	6541	7882	7357	2877	2875	2819	7293	5005	6907	6901	7660			
61	5605	9522	8933	2269	6286	9447	9204	7283	5850	11365	11330	2294	9248	12121	2481	2447	2357	7274	9437	11567	11588	8243			
61	2050	5446	5124	2106	5998	5223	8602	7032	2184	8323	9461	6112	8035	7868	2499	2491	2414	7327	5351	7417	7411	7719			
62	5166	9047	8507	1731	2745	8935	8733	6823	5404	10727	10760	2536	8718	11496	1831	1796	1707	7255	8959	10931	10954	7768			
62	2705	3384	3669	4892	8572	2871	9196	8066	2541	6999	9053	8786	8293	5198	5086	5091	5062	8227	3284	4487	4488	8481			
63	2303	3766	3828	4274	7987	3339	8988	7758	2182	7217	9067	8185	8149	5797	4490	4494	4459	7948	3665	5424	5395	8123			
63	4831	8755	8154	1575	3321	8694	9288	7387	5077	11030	11216	3024	9224	11500	2123	2081	1944	7814	8670	10980	10992	8322			
64	5358	9296	8652	2223	3256	9267	9715	7800	5609	11658	11756	2810	9715	12154	2739	2699	2576	8236	9213	11640	11652	8751			
64	2198	3227	3201	4616	8444	2821	9500	8292	2026	7501	9485	8613	8639	5631	4936	4936	4889	8477	3127	5364	5317	8754			
65	6347	10265	9671	2998	2281	10187	9313	7389	6592	11828	11607	1728	9456	12792	3055	3027	2967	7839	10179	12216	12242	8363			
66	6085	10625	9965	3513	2868	10601	10100	8177	6937	12608	12416	2178	10261	13414	3772	3740	3658	8629	10543	12869	12888	9154			
67	6059	9997	9350	2881	2931	9967	9841	7917	6310	12107	12308	2358	9931	12794	3218	3183	3087	8364	9913	12259	12276	8885			
68	1768	2340	2111	4999	9097	2237	10760	9492	1515	8694	10771	9163	9921	6171	5610	5601	5515	9698	2247	6089	6010	9994			
69	3050	1123	1469	6311	10368	928	11467	10352	2794	8714	11120	10459	10530	5373	6866	6859	6784	10515	1023	5478	5376	10676			
7	9052	9960	10480	8527	9166	9226	3673	4202	9019	2265	2089	9861	2392	7084	7495	7539	7695	3920	9872	6115	6280	3063			
70	1963	2142	1381	5441	9658	2441	11861	10531	1738	9837	11937	9635	11053	6961	6259	6242	6129	10757	2081	6997	6899	11078			
71	3829	1958	2717	6688	10502	1206	10707	9766	3588	7511	10076	10691	9689	4119	7003	7005	6964	9879	1878	4170	4064	10077			
72	9819	13050	12899	6743	3469	12639	4943	3478	9983	9853	8092	4218	5755	13202	5542	5573	5734	3846	12950	12342	12447	4266			
73	9836	13254	13020	6582	2832	12896	5948	4417	10020	10704	9069	3502	6724	13790	5492	5515	5655	4807	13156	12960	13055	5246			
74	9614	12929	12741	6463	3038	12542	5331	3784	9787	10008	8438	3776	6092	13273	5301	5328	5482	4174	12830	12429	12528	4616			
75	10136	13206	13122	7211	4222	12759	4225	2940	10286	9383	7434	4999	5125	13013	5956	5991	6133	6256	13106	12127	12242	3612			
76	10809	14409	14082	7401	3210	14103	7466	6018	11013	12323	10642	3593	8306	15289	6490	6504	6614	6396	14312	14480	14568	6169			
77	11735	15375	14506	4055	15482	11485	8229	6862	11230	12346	11165	7433	9310	12934	7441	7273	7354	7257	15216	15178	15567	7632			
78	10718	14395	14026	7265	3029	14139	80931	9274	11675	11852	11675	7820	15510	14606	6446	6462	6565	68903	7201	14732	14740	15567			
79	12838	16384	16091	9448	5262	16055	8169	7094	13038	13539	11448	5604	9206	16925	8503	8519	8636	7391	16286	16103	16205	7711			
8	8794	9905	10378	8111	8647	9189	3318	3702	8774	2745	2299	9345	2048	7322	7047	7092	7252	3439	9515	6354	6513	3235			
80	12620	16080	15803	9287	5195	15722	7469	6459	12811	12905	10752	5632	8529	16446	8271	8291	8420	6739	15982	15584	15690	7040			
81	11297	14708	14482	8020	4081	14339	6445	5233	11482	11666	9697	4635	7410	15071	6951	6974	7111	5553	14609	14216	14320	5911			
82	12105	15193	15111	9089	5639	14733	5126	4466	12260	10767	8400	6315	6275	14808	7873	7905	8070	4644	15093	13989	14022	4852			
83	11563	14717	14106	8501	5010	14276	5164	4272	11723	10686	8448	5687	6243	14515	7302	7332	7494	4505	14617	13619	13738	4776			
84	12143	15089	15062	9258	6058	14597	4492	4051	12284	10251	7743	6713	5684	14439	8000	8035	8209	4168	14989	13514	13644	4314			
85	11660	14662	14112	8739	5522	14145	4475	3804	11806	10126	7754	6242	5610	14163	7490	7524	7696	3974	14562	13249	13374	4182			
86	10305	13246	13212	7506	4747	12763	3671	2547	10443	8983	6911	5526	4629	12803	6221	6258	6438	2810	13145	11900	12021	3134			
87	12722	16077	15881	9466	5510	15685	6895	6029	12903	12452	10177	6024	8001	16186	8381	8405	8546	6272	15978	15305	15418	6541			
88	13028	16647	16313	9598	5364	16347	8818	7685	13236	14119	12093	6513	9834	17406	8723	8737	8842	7998	16551	16572	16689	8339			
89	10475	13735	13575	7348	3838	13327	5264	3969	10644	10397	8484	4536	6176	13862	6176	6205	6361	4300	13635	12996	13103	4676			
9	8308	9584	10010	7542	8114	8886	3286	3367	8298	3126	2814	8803	2082	7324	6473	6518	6678	3159	9492	6363	6514	3038			
90	10263	13786	13501	6915	2869	13460	6718	5223	10459	11512	9865	3406	5245	14518	5919	5937	6061	5609	13688	13700	13791	6040			
91	6111	2999	3916	10204	14199	3001	14165	13409	6656	9974	13008	14329	13049	4809	10687	10685	10625	13480	3069	5544	5364	13625			
92	7630	3705	4577	10935	14931	3734	14779	14069	7375	10423	13519	15062	13644	5116	11419	11417	11357	14128	3778	5922	5740	14261			
93	6383	2723	3798	9509	13379	2414	13011	12306	6128	8791	11817	13559	11882	3727	9877	9879	9835	12361	2759	4402	4242	12492			
94	6472	2656	3674	9691	13631	2503	13476	12731	6216	9316	12329	13784	12359	4243	10121	10121	10068	12797	2709	4930	4752	12939			
95	6920	3174	4215	10074	13952	2943	13501	12832	6664	9139	12221	14131	12357	3913	10450	10452	10407	12879	3221	4670	4488	12993			
96	7442	3613	4603	10642	14547	3470	14088	13438	7186	9632	12752	14716	12936	4305	11042	11043	10995	13481	3671	5119	4936	13596			
97	14045	16244	16177	11798	9488	15616	3748	5008	14126	9099	5886	10266	4886	14205	10472	10515	10706	4733	16147	13236	13398	4421			
98	14467	16466	16760	12392	10302	15809	3967	5489	14533	8846	5547	11088	4948	14104	11067	11112	11304	5161	16370	13136	13303	4777			
99	13458	15583	15835	11312	9210	14947	3069	4439	13533	8394	5202	9998	4181	13494	9986	10030	10222	4137	15486	12525	12686	3791			
WTG01	7038	8912	7805	8033	11119	9506	16749	14969	7148	16515	17895	10579	16362	14196	9356	9311	9119	15345	8905	14223	14131	15806			
WTG02	7763	9384	8280	8876	11958	10015	17584	15810	7859	17244	18688	11409	17183	14752	10201	10156	9965	16184	9385	14821	14723	16643			
WTG03	7650	9603	8496	8450	11346	10193	17193	15389	7770	17114	18424	10717	16843	14874	9765	9720	9528	15774	9596	14890	14800	16244			
WTG04	8428	9910	8811	9570	12609	10562	18280	16505	8517	17906	19376	12048	17877	15320	10894	10849	10657	16879	9915	15414	15311	17339			
WTG05	8563	10354	9249	9425	12247	10975	18107	16362	8694	18058	19398	11654	17822	15695	10738	10692	10501	16749	10353	15744	15649	17720			
WTG06	9235	10852	9729	10165																					

[illegible]

To be continued on next page...

DECIBEL - Main Result

Calculation: VE1 59xF200 LF Indoor CUMUL

WGTG	RH Kotila	RH Kupusloja	RH Kupusperä	RH Lepola	RH Limmingoja	RH Nikula	RH Ojakangas	RH Ojalato	RH Pahkala	RH Paskoja	RH Pinola	RH Pokela	RH Pyhänskententie	RH Pyhänskosi	RH Pyhänskosi 2	RH Seppälä	RH Tienvieri	RH Uusitalo	RH Uutela	RH Vaihoja 1	RH Vaihoja 2	RH Vaihojantie	
129	16113	9387	9440	9909	19314	15642	13741	15973	9137	5972	9077	13142	9129	8445	8537	6428	19663	15387	15966	10568	10211	12486	
130	2340	5567	5427	8592	6135	2143	4762	2269	5425	8342	8495	5227	8547	8184	8278	7560	6438	2347	5992	5021	5158	5284	
131	17091	10493	10543	11009	20393	16612	14540	16955	10232	6839	10810	13912	10233	9560	9650	7391	20741	16334	17083	11399	11049	13254	
132	16748	9092	10029	10366	19121	16277	14362	16607	9734	6601	10170	13758	10595	8941	9026	7063	20271	16023	16524	11193	10838	13101	
133	17156	10064	10136	10081	20084	16701	15013	17010	9884	7225	9900	14440	9338	8760	8828	7555	20436	16483	16487	11821	11461	13786	
134	17600	10941	10995	11348	20866	17122	15059	17463	10692	7357	11154	14429	10580	9930	10015	7900	21215	16848	17507	11918	11568	13772	
134	18180	11257	11323	11351	21254	17713	15815	18037	11053	8057	11170	15206	10607	10022	10092	8507	21605	17466	17726	12648	12293	14549	
135	16736	9512	9590	9421	19544	16290	14752	16586	9355	6979	9242	14203	8683	8124	8187	7217	19896	16094	15880	11552	11189	13554	
136	17847	10783	10855	10757	20802	17389	15630	17702	10601	7846	10580	15043	10023	9458	9523	8220	21154	17163	17200	12446	12087	14388	
137	18126	11595	11646	12064	21486	17641	15452	17992	11332	7824	11868	14043	11291	10637	10723	8430	21834	17349	18184	12342	11997	14146	
138	18447	11738	11795	12016	21686	17970	15889	18310	11501	8202	11828	15254	11259	10640	10718	8748	22035	17696	18275	12756	12407	14597	
139	13961	7453	7490	8508	17262	13488	11652	13821	7149	3864	8287	11078	7707	6917	7035	4272	17609	13232	14109	8462	8102	10425	
14	2381	5797	5668	8570	5353	2258	5492	2205	5732	9003	8495	5995	8602	8321	8402	8174	7564	5663	2660	5315	5830	5997	6079
140	14114	7400	7446	8259	17288	13649	11939	13971	7127	4159	8424	11383	7460	6698	6809	4466	17637	13413	14024	8742	8397	10733	
141	14593	8450	8475	9653	18122	14104	11955	14461	8109	4275	9430	11331	8851	8051	8172	4916	18446	13804	15125	8816	8467	10673	
142	14393	8036	8069	9124	17796	13913	11924	14257	7718	4166	8903	11324	8322	7535	7652	4693	18162	13636	14700	8755	8399	10668	
143	14764	8117	8162	8914	17996	14293	12462	14623	7842	4676	8701	11882	8119	7375	7481	5083	18344	14042	14740	8745	8816	11229	
144	15575	8216	8273	8743	18172	16232	12938	14563	7981	5163	8817	12376	7266	7366	7466	5466	18522	14440	14779	9272	8913	11725	
145	14208	7192	7253	7748	17172	13759	12269	14053	6942	4553	7539	10657	6247	6340	4693	17521	13557	13741	8658	8703	11100	14007	
146	14490	7166	7301	7119	17198	14058	12808	14337	0101	5208	7105	12319	6530	5891	5971	5196	17551	13895	13571	9617	9252	11686	
147	14300	6706	6800	6461	16727	13921	12945	14141	6626	5590	6276	12506	5711	5144	5207	5381	17080	13773	12927	9789	9427	11890	
148	15206	7752	7840	7567	17786	14782	13594	15050	7638	5998	7386	13109	6824	6263	6326	5982	18139	14632	14038	10405	10041	12477	
149	15002	7417	7512	7049	17435	14590	13568	14843	7340	6097	6874	13111	6319	5795	5848	5974	17788	14464	13603	10397	10034	12488	
150	14622	7440	7510	7729	17457	14810	12786	14471	7257	5100	7529	12274	6951	6287	6373	5190	17809	13959	13910	9587	9222	11634	
151	15119	8051	8117	8381	18052	14669	13127	14971	7850	5371	8182	12588	7805	6942	7028	5579	18404	14464	14550	9226	9562	11942	
152	15447	8177	8254	8210	18209	15008	13616	15295	8020	5906	8022	13097	7454	6852	6924	6026	18561	14828	14570	10416	10051	12456	
153	16163	8882	8961	8792	18916	15723	14282	16012	8733	6540	8611	13751	8050	7484	7548	6709	19269	15539	15238	11081	10716	13107	
154	15867	8470	8555	8263	18506	15436	14134	15713	8346	6453	8086	13627	7528	6983	7043	6531	18859	15272	14765	10937	10572	12988	
155	17377	10489	10553	10702	20473	16910	15037	17235	10274	7269	10514	14325	9945	9330	9407	7707	18232	16665	16699	11865	11508	13779	
156	16658	9737	9800	10000	19722	16194	14399	16514	9522	6616	9808	13813	9236	8605	8685	7006	20072	15958	16245	11215	10856	13158	
157	14665	10862	10822	13151	19178	14132	10804	14577	10360	5437	12913	10305	12372	11474	11626	6549	19494	13653	17242	8286	8046	9432	
158	14129	8531	8536	10130	17920	13626	11210	14006	8131	3778	9900	10551	9329	8482	8617	4618	18259	13283	15192	8137	7802	9894	
159	13730	8662	8649	10577	17741	13216	10656	13615	8217	3524	10342	9877	9284	8907	9051	4513	18074	12836	15259	7579	7260	9225	
16	3079	6440	6335	8650	3909	3227	7011	2938	6509	10311	8618	7555	8828	8711	8764	9408	4242	3808	4062	7407	7517	7667	
160	13658	8278	8273	10060	17531	13151	10675	13538	7854	3336	9827	10011	9264	8397	8538	4241	17868	12797	14913	7618	7286	9354	
161	14154	9064	9054	10909	18172	13639	10949	14041	8626	3955	10675	10253	10113	9244	9385	4937	18506	13255	15673	7985	7669	9602	
162	15154	11054	11023	13190	19585	14622	11374	15061	10658	5665	12954	10611	12403	11516	11663	6762	19904	14157	17514	8783	8530	10001	
163	14494	10442	10408	12662	18919	13964	10753	14401	9949	5035	12425	9996	11890	10985	11136	6139	19238	13502	16874	8128	7871	9379	
164	14746	10415	10388	12585	18082	14218	11104	14648	9938	5057	12269	10356	11716	10831	10978	6142	19405	13772	16912	8402	8131	9731	
165	15292	10912	10888	12927	19628	14763	11623	15194	10441	5580	12692	10870	12134	11257	11401	6655	19952	14315	17431	8943	8675	10249	
166	16086	11576	11558	13460	20399	15558	11212	15988	11119	6299	13227	11656	12636	11799	11939	7357	20724	15111	18135	9740	9471	11038	
167	15770	11145	11129	13009	19209	15243	12173	15669	10691	5895	12776	11426	11211	11348	11488	6942	20356	14808	17716	9444	9166	10800	
168	14947	10378	10357	12351	19202	14421	11396	14845	9915	5086	12717	10656	11257	10682	10826	6145	19528	13999	16924	8631	8349	10025	
169	15244	10477	10463	12333	19432	14721	11760	15139	10028	5261	12100	11027	11536	10671	10812	6293	19761	14300	17061	8954	8664	10392	
17	4280	5617	5462	9190	8997	3753	2705	4182	5212	6212	9028	7799	8888	8261	8398	5712	9284	3352	8755	2157	2361	2611	
170	14674	9520	9514	11265	18684	14159	11444	14560	9991	4465	11034	10743	10466	9609	9747	5432	19018	13773	16146	8496	8183	10093	
171	14189	9375	9358	11336	18321	13668	10836	14080	8919	4139	11101	10122	10543	9666	9810	5173	18651	13263	15944	7945	7643	9477	
172	14510	9126	9126	10781	18413	14000	11423	14392	8713	4212	10551	10741	9981	9131	9267	5123	18750	13635	15774	8413	8088	10087	
18	4087	5104	4948	8634	8534	3584	3313	3967	4734	6278	8480	3462	8367	7777	7908	5668	8833	3291	7918	2620	2755	3286	
19	3582	5197	5042	8646	7974	3084	3487	3454	4877	6781	8505	3748	8430	7890	8013	6129	8272	2862	7494	3172	3316	3656	
2	3415	8244	8145	10207	2196	3095	8022	3355	8336	12109	10200	8668	10460	10418	10458	11227	2497	4469	4507	8942	9093	8881	
20	3162	5210	5054	8585	7367	2712	3895	3019	4945	7260	8140	4237	7777	7895	8009	6552	7667	2600	5950	3787	3923	4200	
21	2378	5118	4967	8306	6827	2198	4438	2818	4911	7636	8192	4818	7947	7860	7860	6869	7219	2839	6357	4482	4802	4802	
22	2996	5093	4962	7945	5893	2971	5489	2819	5020	8733	7860	5912	8366	7773	7724	7517	6213	3026	5265	5485	5626	5919	
24	3242	5788	5681	8102	4547	3282	6755	3082	5847	9673	8059	7248	8247	8099	8156	8758	4						

To be continued on next page...

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:33/4.1.264

DECIBEL - Main Result

Calculation: VE1 59xF200 LF Indoor CUMUL

...continued from previous page

WTG	RH Vältalo	RH Vitomaa	RH Vitoperä	RH Yppärilä
125	6683	14630	14082	16390
126	8460	16037	15522	17972
127	7687	15383	14856	17258
128	7316	14901	14379	16804
129	7138	14470	13960	16445
13	6763	7806	7197	6302
130	8159	15586	15078	17563
131	7769	14967	14470	17001
132	8149	14757	14296	16960
133	8656	15956	15460	17986
134	9186	16025	15560	18200
135	7741	14107	13654	16351
136	8840	15445	14991	17671
137	9228	16663	16163	18663
138	9498	16660	16178	18752
139	5005	12856	12298	14591
14	7322	7339	6765	5597
140	5119	12678	12135	14505
141	5784	13960	13392	15608
142	5493	13471	12912	15183
143	5789	13370	12834	15221
144	6089	13288	12774	15258
145	5206	12258	11739	14219
146	5557	11914	11429	14045
147	5548	11130	10674	13395
148	6313	12246	11792	14506
149	6205	11746	11306	14068
150	5641	12314	11818	14386
151	6116	12969	12471	15027
152	6475	12862	12391	15042
153	7184	13472	13016	15709
154	6931	12954	12507	15233
155	8384	15348	14869	17466
156	7657	14628	14142	16721
157	7642	16816	16166	17712
158	5607	14245	13647	15674
159	5574	14506	13885	15739
16	8474	6529	6051	4261
160	5267	14067	13456	15394
161	5994	14887	14271	16154
162	7857	16980	16340	17988
163	7235	16383	15738	17347
164	7235	16327	15691	17387
165	7746	16807	16176	17908
166	8441	17436	16813	18612
167	8022	16994	16374	18195
168	7231	16257	15629	17401
169	7368	16318	15699	17540
17	5253	9794	9118	8946
170	6479	15310	14700	16627
171	6250	15242	14616	16423
172	6144	14874	14272	16256
18	5091	9121	8447	8296
19	5493	8842	8179	7856
2	10307	7416	7070	4508
20	5847	8429	7779	7300
21	6095	7927	7289	6702
23	6642	7021	6414	5597
24	7816	6287	5761	4340
25	4442	9067	8381	8483
26	4507	8495	7811	7894
27	4901	7997	7322	7265
28	5258	7547	6883	6703
29	5520	7093	6436	6184
3	9374	7159	6738	4550
30	5975	6746	6107	5670

To be continued on next page...

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

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Calculated:

08-Aug-25 10:33/4.1.264

DECIBEL - Main Result

Calculation: VE1 59xF200 LF Indoor CUMUL

...continued from previous page

WTG	RH Vältalo	RH Vitomaa	RH Vitoperä	RH Yppärilä
31	7181	5791	5223	4235
32	3940	8590	7898	8205
33	3236	8778	8081	8650
34	3638	7983	7289	7775
35	4014	7507	6816	7217
36	4350	6904	6216	6594
37	5025	6470	5795	5933
38	6566	5228	4613	4188
39	7113	4912	4336	3622
4	9790	6994	6618	4212
41	2814	8001	7304	8132
42	4615	6264	5577	6019
43	5838	5117	4457	4611
44	6353	4829	4193	4106
45	6818	4192	3577	3479
47	2234	8254	7558	8572
48	3753	6757	6060	6802
49	4208	6148	5453	6196
5	10315	6966	6645	4003
50	5474	4959	4278	4808
52	5854	4308	3627	4332
53	6372	4091	3435	3831
54	6921	3683	3060	3266
55	7464	3590	3027	2749
56	5104	4543	3846	5077
57	5706	4044	3349	4481
58	6148	3490	2795	4106
59	6666	3290	2620	3541
6	8653	7017	6540	4688
60	11526	5987	5887	2679
60	7172	3190	2571	3008
61	11722	5637	5603	2349
61	7676	3058	2505	2499
62	11078	5327	5223	2022
62	5271	3983	3301	5189
63	5772	3621	2925	4584
63	11166	4863	4823	1569
64	11828	5268	5296	2066
64	5767	3467	2787	4837
65	12349	6350	6336	3081
66	13026	6533	6602	3396
67	12428	5945	5991	2768
68	6583	2721	2157	4977
69	6055	3804	3346	6294
7	5636	10339	9666	9406
70	7537	2302	2004	5217
71	4741	4828	4266	6848
72	12158	10496	10143	7517
73	12817	10396	10104	7273
74	12269	10246	9916	7209
75	11901	10893	10499	8029
76	14363	11211	11002	7954
77	15354	12088	11906	8805
78	14634	11046	10876	7757
79	15930	13262	13044	10007
8	5915	10064	9401	9001
80	15389	13112	12859	9901
81	14035	11840	11559	8682
82	13624	12825	12452	9866
83	13372	12255	11896	9266
84	13211	12928	12522	10073
85	12968	12427	12029	9547
86	11644	11119	10696	8353
87	15080	13285	12995	10132
88	16419	13387	13204	10103
89	12799	11125	10787	8096

To be continued on next page...

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:33/4.1.264

DECIBEL - Main Result

Calculation: VE1 59xF200 LF Indoor CUMUL

...continued from previous page

WTG	RH Vältalo	RH Vitomaa	RH Vitoperä	RH Yppärilä
9	5974	9565	8909	8436
90	13573	10739	10491	7534
91	6223	7432	7112	10184
92	6590	8118	7817	10908
93	5084	7091	6677	9585
94	5612	7091	6721	9717
95	5345	7588	7195	10138
96	5783	8054	7690	10682
97	12767	15069	14538	12709
98	12631	15539	14983	13316
99	12055	14508	13964	12232
WTG01	14737	5712	6410	7108
WTG02	15353	6438	7134	7954
WTG03	15398	6327	7024	7516
WTG04	15956	7105	7799	8646
WTG05	16266	7257	7955	8489
WTG06	16840	7909	8606	9231
WTG07	17319	8751	9434	10498
WTG08	16563	8055	8732	9924
WTG09	16787	8059	8749	9679
WTG10	15979	7350	8033	9160
WTG11	14590	5430	6120	6424
WTG12	13874	4736	5430	5960
WTG13	13789	4589	5259	5324
WTG14	14434	5235	5900	5780
WTG15	13722	4603	5213	4627
WTG16	12984	3802	4446	4394
WTG17	15019	5972	6558	5519
WTG18	14325	5299	5875	4869
WTG19	14947	6088	6618	5151

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor

Noise calculation model:

Finland Low frequency

Wind speed (at 10 m height):

Highest noise value at receptor

Spectral distribution:

From 20.0 Hz to 200.0 Hz

Meteorological coefficient, C0:

Selected option: Fixed value: 0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure tone penalty is subtracted from demand

Model: 5.0 dB(A)

Height above ground level, when no value in NSA object:

4.0 m; Don't allow override of model height with height from NSA object

Uncertainty margin:

0.0 dB; Uncertainty margin in NSA has priority

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0.0 dB(A)

Low frequency calculation

dLsigma

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
7.6	8.3	9.2	10.3	11.5	13.0	14.8	16.8	18.8	21.1	22.8

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

WTG: FUTURE F200 9.0 MW 9000 200.0 !-!

Noise: N175 Third octave SPL w STE Mode 0 + 2 dB

Source

Source/Date Creator Edited

Based on F008_278_A17_EN revision 03, 2023-20-13 02-Sep-24 USER 03-Sep-24 12:10

Based on F008_278_A17_EN revision 03, 2023-20-13, third octave sound power levels, 2 dB added, 179m hub height

Status	Hub height	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	200.0	8.0	101.21	73.8	77.2	79.1	80.3	82.3	86.6	89.3	90.9	93.5	95.5	96.5

Noise sensitive area: HH Hietakaivonkangas Noise sensitive point: Finnish low frequency - Residential health guide

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Hiitoperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor

Noise sensitive area: HH Holma Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Kankaala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Koskela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Kylä-Anttila Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Liminkajärvi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Lystilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:
HAUK_LF_Indoor

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Emma Berkovits / e.berkovits@wpd.fi
Calculated:
03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor

Noise sensitive area: HH Ruunakorpi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Vaihoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Haanpää Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Hautala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Heikkilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Hietala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:
HAUK_LF_Indoor

Licensed user:
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Emma Berkovits / e.berkovits@wpd.fi
Calculated:
03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor

Noise sensitive area: RH Jukkola 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 3 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kantola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Karppi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Katinhätä 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

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 Emma Berkovits / e.berkovits@wpd.fi
 Calculated:
 03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor

Noise sensitive area: RH Katinhätä 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Keskikylä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kotila Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kupulisoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kupulisperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Lepola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:
HAUK_LF_Indoor

Licensed user:
wpd GmbH
Stephanitorsbollwerk 3 (Haus LUV)
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Emma Berkovits / e.berkovits@wpd.fi
Calculated:
03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor

Noise sensitive area: RH Limingoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Nikula Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Ojakangas Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Ojatalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pahkala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Paskoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:
HAUK_LF_Indoor

Licensed user:
wpd GmbH
Stephanitorsbollwerk 3 (Haus LUV)
DE-28211 Bremen
+49 7142 77810
Emma Berkovits / e.berkovits@wpd.fi
Calculated:
03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor

Noise sensitive area: RH Pinola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pokela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoskentie Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoski 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoski 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Seppälä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor

Noise sensitive area: RH Tienvieri Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Uusitalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Uutela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihoja 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihoja 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihojantie Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor

Noise sensitive area: RH Vältalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vitomaa Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vitoperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Yppärilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Main Result

Calculation: VE2 44xF200 LF Indoor

Noise calculation model:

Finland Low frequency

Wind speed (at 10 m height):

Highest noise value at receptor

Spectral distribution:

From 20.0 Hz to 200.0 Hz

Meteorological coefficient, C0:

Selected option: Fixed value: 0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure tone penalty is subtracted from demand

Model: 5.0 dB(A)

Height above ground level, when no value in NSA object:

4.0 m; Don't allow override of model height with height from NSA object

Uncertainty margin:

0.0 dB; Uncertainty margin in NSA has priority

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0.0 dB(A)

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

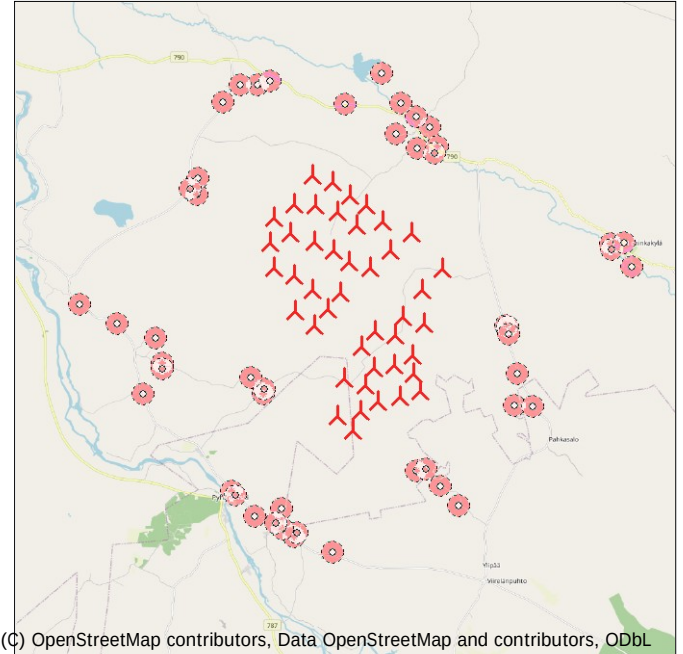
All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

WTGs

East	North	Z	Row data/Description	WTG type		Type-generator	Power, rated	Rotor diameter	Hub height	Noise data		First wind speed [m/s]	LwaRef [dB(A)]	Last wind speed [m/s]	LwaRef [dB(A)]
				Valid	Manufact.					Creator	Name				
		[m]					[kW]	[m]	[m]						
9	378,010	7,147,142	46.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
10	378,544	7,146,974	50.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
11	378,976	7,146,593	53.5 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
12	379,404	7,146,300	54.3 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
13	379,815	7,145,863	54.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
14	380,558	7,145,522	58.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
18	377,476	7,146,419	39.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
19	378,036	7,146,370	45.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
20	378,615	7,146,157	50.3 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
21	379,106	7,145,795	53.1 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
23	379,986	7,145,097	54.3 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
24	381,344	7,144,532	63.4 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
25	376,926	7,146,059	34.6 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
26	377,348	7,145,642	37.1 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
27	377,962	7,145,405	44.2 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
28	378,484	7,145,153	49.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
29	378,892	7,144,832	51.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
30	379,423	7,144,656	52.2 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
31	380,790	7,143,991	57.7 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
32	376,806	7,145,422	33.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
34	376,885	7,144,741	37.4 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
35	377,402	7,144,519	38.0 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
36	377,887	7,144,113	41.4 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
37	378,600	7,144,017	45.9 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
38	380,232	7,143,312	55.6 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
39	380,786	7,143,103	57.7 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
42	378,255	7,143,588	42.2 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
43	379,510	7,142,950	51.6 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
44	380,022	7,142,836	55.1 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
45	380,451	7,142,299	56.2 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
48	377,385	7,143,584	38.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
49	377,878	7,143,194	40.4 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
50	379,128	7,142,586	48.6 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
52	379,437	7,142,013	49.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
53	379,965	7,142,028	53.7 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
54	380,479	7,141,778	61.2 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
56	378,606	7,141,726	41.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
57	379,179	7,141,538	46.5 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
58	379,505	7,141,090	47.5 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
59	380,082	7,141,202	51.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
60	380,634	7,141,310	60.1 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
62	378,414	7,140,731	41.8 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
63	379,019	7,140,858	43.6 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
64	378,788	7,140,369	43.0 FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2

Calculation Results



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

New WTG

Scale 1:200,000
Noise sensitive area

Project:

HAUK_LF_Indoor

Licensed user:

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Calculated:
03-Jul-25 13:35/4.1.264

DECIBEL - Main Result

Calculation: VE2 44xF200 LF Indoor
Sound level

Noise sensitive area No.	Name	East	North	Z	Immission height [m]	Most critical demand Frequency [Hz]	Predicted sound level Noise [dB]	WTG noise	Demands fulfilled ? Noise
HH Hietakaivonkangas	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (173)	380.697	7,139,280	50.7	4.0	63.0	42.00	37.49	Yes
HH Hiitoperä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (170)	377.133	7,137,599	44.2	4.0	63.0	42.00	33.41	Yes
HH Holma	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (169)	378.138	7,137,133	48.2	4.0	63.0	42.00	33.18	Yes
HH Kankaala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (174)	383.213	7,141,681	67.3	4.0	63.0	42.00	36.23	Yes
HH Koskela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (175)	385.840	7,145,013	76.7	4.0	63.0	42.00	31.97	Yes
HH Kylä-Anttila	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (171)	376.833	7,138,334	47.5	4.0	63.0	42.00	34.36	Yes
HH Liminkajärvi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (168)	379.944	7,149,798	48.9	4.0	63.0	42.00	34.52	Yes
HH Lystilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (167)	381.168	7,148,313	55.7	4.0	63.0	42.00	36.13	Yes
HH Ruunakorpi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (172)	380.450	7,139,211	49.2	4.0	63.0	42.00	37.60	Yes
HH Vaihoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (166)	374.905	7,146,787	26.0	4.0	63.0	42.00	36.50	Yes
RH Haanpää	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (176)	376.666	7,149,614	36.6	4.0	63.0	42.00	34.59	Yes
RH Hautala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (177)	386.385	7,144,428	79.5	4.0	63.0	42.00	31.35	Yes
RH Heikkilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (178)	378.937	7,149,007	49.4	4.0	63.0	42.00	36.79	Yes
RH Hietala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (179)	373.282	7,141,550	30.6	4.0	63.0	42.00	32.92	Yes
RH Jukkola 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (180)	382.973	7,142,986	70.2	4.0	63.0	42.00	37.34	Yes
RH Jukkola 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (181)	382.998	7,142,946	70.6	4.0	63.0	42.00	37.26	Yes
RH Jukkola 3	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (182)	383.051	7,142,762	70.2	4.0	63.0	42.00	37.09	Yes
RH Kantola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (183)	380.813	7,148,601	55.0	4.0	63.0	42.00	36.05	Yes
RH Karppi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (184)	377.182	7,137,687	46.3	4.0	63.0	42.00	33.59	Yes
RH Katinhätä 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (185)	373.808	7,142,364	30.0	4.0	63.0	42.00	34.15	Yes
RH Katinhätä 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (186)	373.789	7,142,182	30.1	4.0	63.0	42.00	34.01	Yes
RH Keskiylä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (187)	380.437	7,148,967	52.4	4.0	63.0	42.00	35.75	Yes
RH Kotila	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (188)	381.332	7,147,774	56.3	4.0	63.0	42.00	36.86	Yes
RH Kupulisoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (189)	376.466	7,141,416	38.6	4.0	63.0	42.00	38.16	Yes
RH Kupulisperä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (190)	376.497	7,141,568	37.2	4.0	63.0	42.00	38.40	Yes
RH Lepola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (191)	376.821	7,137,810	44.9	4.0	63.0	42.00	33.49	Yes
RH Limingoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (192)	385.875	7,144,908	77.9	4.0	63.0	42.00	31.94	Yes
RH Nikula	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (193)	380.797	7,147,767	56.2	4.0	63.0	42.00	37.77	Yes
RH Ojakangas	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (194)	376.989	7,149,696	39.3	4.0	63.0	42.00	34.67	Yes
RH Ojatalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (195)	381.260	7,147,613	56.5	4.0	63.0	42.00	37.28	Yes
RH Pahlala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (196)	376.133	7,141,880	33.9	4.0	63.0	42.00	37.97	Yes
RH Pasjoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (197)	371.686	7,143,992	21.2	4.0	63.0	42.00	31.53	Yes
RH Pinola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (198)	376.653	7,137,979	44.9	4.0	63.0	42.00	33.60	Yes
RH Pokela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (199)	376.196	7,149,635	34.8	4.0	63.0	42.00	34.15	Yes
RH Pyhänskoskentie	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (200)	376.101	7,138,166	41.8	4.0	63.0	42.00	33.33	Yes
RH Pyhänskoski 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (201)	375.536	7,138,887	41.9	4.0	63.0	42.00	33.62	Yes
RH Pyhänskoski 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (202)	375.606	7,138,735	42.4	4.0	63.0	42.00	33.52	Yes
RH Seppälä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (203)	372.654	7,143,438	22.9	4.0	63.0	42.00	32.80	Yes
RH Tienvieri	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (204)	386.201	7,145,044	78.9	4.0	63.0	42.00	31.48	Yes
RH Uusitalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (205)	380.265	7,148,166	56.7	4.0	63.0	42.00	37.70	Yes
RH Uutela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (206)	383.121	7,140,866	62.8	4.0	63.0	42.00	35.79	Yes
RH Vaihoja 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (207)	374.977	7,147,206	24.4	4.0	63.0	42.00	36.18	Yes
RH Vaihoja 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (208)	374.765	7,146,909	24.4	4.0	63.0	42.00	36.06	Yes
RH Vaihojantie	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (209)	375.711	7,149,190	31.8	4.0	63.0	42.00	34.40	Yes
RH Vitomaa	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (210)	381.529	7,138,247	50.6	4.0	63.0	42.00	34.39	Yes
RH Vitoperä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (211)	381.074	7,138,777	49.7	4.0	63.0	42.00	35.86	Yes
RH Väitala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (212)	373.673	7,143,034	30.0	4.0	63.0	42.00	34.26	Yes
RH Yppälä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (213)	383.603	7,140,826	67.9	4.0	63.0	42.00	34.84	Yes

*)Spectral distribution, please see details in report "Detailed results"

Distances (m)

	WTG	9	10	11	12	13	14	18	19	20	21	23	24	25	26	27	28	29	30	31	32	34	35
NSA																							
HH Hietakaivonkangas	8308	7989	7512	7138	6642	6244	7831	7573	7185	6706	5860	5291	7757	7189	6707	6276	5838	5525	4712	7271	6660	6189	
HH Hiitoperä	9584	9481	9181	8993	8689	8632	8827	8818	8686	8430	8023	8111	8463	8046	7850	7675	7444	7420	7365	7830	7147	6925	
HH Holma	10010	9849	9497	9254	8890	8732	9309	9238	9037	8716	8176	8064	9008	8546	8274	8028	7736	7633	7354	8396	7711	7423	
HH Kankaala	7542	7058	6486	5987	5388	4669	7440	6984	6416	5813	4699	3409	7661	7077	6437	5867	5348	4818	3348	7419	7028	6467	
HH Koskela	8114	7555	7043	6563	6084	5306	8481	7921	7315	6779	5855	4522	8975	8515	7888	7357	6951	6427	5153	9043	8959	8453	
HH Kylä-Anttila	8886	8807	8532	8370	8098	8096	8110	8125	8023	7799	7462	7665	7725	7326	7160	7016	6816	6832	6903	7088	6407	6210	
HH Liminkajärvi	3286	3153	3349	3540	3938	4320	4185	3924	3877	4090	4702	5450	4806	4901	4820	4869	5077	5169	5868	5385	5911	5860	
HH Lystilä	3367	2946	2786	2676	2798	2856	4149	3685	3341	3254	3426	3785	4803	4661	4328	4145	4159	4051	4338	5233	5576	5346	
HH Ruunakorpi	8298	7994	7528	7166	6682	6313	7797	7555	7184	6720	5905	5395	7702	7140	6675	6259	5833	5542	4793	7201	6580	6121	
HH Vaihoja	3126	3644	4076	4526	4997	5793	2598	3159	3764	4317	5355	6822	2149	2698	3355	3934	4441	4995	6515	2340	2847	3374	
RH Haanpää	2814	3240	3803	4299	4898	5647	3296	3521	3969	4532	5606	6907	3565	4030	4404	4817	5275	5673	6973	4194	4878	5148	
RH Hautala	8803	8244	7718	7227	6724	5928	9128	8571	7959	7406	6434	5042	9598	9118	8479	7934	7504	6966	5612	9630	9505	8983	
RH Heikkilä	2082	2071	2414	2747	3264	3843	2972	2787	2868	3216	4048	5081	3569	3721	3732	3880	4175	4378	5347	4171	4734	4744	
RH Hietala	7324	7557	7607	7749	7829	8290	6426	6771	7048	7207	7585	8596	5798	5769	6064	6328	6500	6882	7895	5236	4814	5078	
RH Jukkola 1	6473	5960	5383	4870	4272	3502	6481	5985	5389	4779	3658	2246	6783	6220	5564	4985	4479	3923	2404	6631	6335	5778	
RH Jukkola 2	6518	6005	5429	4916	4317	3548	6523	6028	5433	4823	3701	2292	6823	6260	5604	5025	4518	3963	2443	6669	6371	5813	
RH Jukkola 3	6678	6169	5593	5082	4482	3720	6668	6178	5586	4976	3854	2460	6956	6389	5734	5156	4646	4093	2574	6788	6476	5916	
RH Kantola	3159	2792	2721	2698	2914	3089	3987	3562	3287	3284	3600	4103	4644	4556	4283	4160	4230	4182	4609	5115	5506	5320	
RH Karppi	9492	9387	9085	8896	8590	8532	8737	8725	8591	8334	7923	8011	8376	7957	7757	7580	7347	7321	7264	7745	7061	6836	
RH Katinhätä 1	6363	6609	6678	6842	6952	7453	5468	5825	6123	6312	6755	7841	4835	4825	5148	5445	5651	6065	7169	4283	3889	4191	
RH Katinhätä 2	6514	6751	6809	6964	7062	7549	5617	5965	6253	6429	6848	7912	4987	4964	5273	5557	5750	6153	7231	4427	4017	4303	
RH Keskiylä	3036	2749	2787	2860	3166	3447	3906	3536	3349	3440	3896	4527	4559	4538	4337	4284	4414	4428	4988	5074	5520	5385	
RH Kotila	3381	2901	2635	2427	2440	2381	4087	3582	3162	2978	2996	3242	4728	4518	4119	3870	3822	3655	3821	5101	5382	5103	
RH Kupulisoija	5931	5934	5754	5700	5567	5797	5104	5197	5205	5113	5093	5788	4666	4317	4260	4248	4190	4387	5032	4021	3352	3241	
RH Kupulisperä	5776	5780	5603	5553	5427	5668	4948	5042	5054	4967	4962	5681	4511	4161	4107	4099	4048	4254	4929	3866	3196	3086	
RH Lepola	9408	9324	9044	8874	8592	8570	8634	8646	8538	8306	7945	8102	8250	7850	7680	7530	7321	7324	7346	7612	6932	6734	
RH Limingoja	8176	7617	7102	6619	6135	5353	8534	7974	7367	6827	5893	4547	9023	8559	7929	7395	6984	6457	5168	9084	8991	8482	
RH Nikula	2856	2389	2166	2023	2143	2258	3584	3094	2712	2598	2791	3282	4231	4051	3690	3490	3500	3401	3776	4629	4945	4699	
RH Ojakangas	2750	3135	3685	4167	4762	5492	3313	3487	3895	4438	5489	6755	3637	4070	4400	4782	5223	5597	6855	4278	4956	5193	
RH Ojatalo	3283	2790	2501	2273	2269	2205	3967	3454	3019	2818	2819	3082	4604	4380	3968	3708	3652	3480	3652	4932	5232	4945	
RH Pahkala	5587	5636	5505	5499	5425	5732	4734	4877	4945	4916	5020	5847	4254	3954	3971	4031	4041	4305	5113	3606	2959	2928	

Project:

HAUK_LF_Indoor

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Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Main Result

Calculation: VE2 44xF200 LF Indoor

...continued from previous page

	WTG																						
NSA	9	10	11	12	13	14	18	19	20	21	23	24	25	26	27	28	29	30	31	32	34	35	
RH Paskoja	7066	7478	7740	8056	8342	9003	6278	6781	7260	7636	8373	9673	5633	5898	6433	6897	7255	7765	9104	5316	5253	5740	
RH Pinola	9264	9192	8922	8764	8495	8495	8480	8505	8410	8192	7860	8059	8085	7695	7541	7405	7210	7229	7298	7445	6767	6583	
RH Pokela	3083	3549	4121	4627	5227	5995	3462	3748	4237	4818	5912	7248	3650	4156	4584	5032	5508	5933	7277	4257	4942	5256	
RH Pyhäkoskentie	9177	9141	8904	8779	8547	8602	8367	8430	8377	8200	7946	8247	7936	7580	7475	7383	7227	7291	7478	7291	6622	6485	
RH Pyhäkoski 1	8618	8628	8439	8361	8184	8321	7777	7890	7895	7776	7640	8099	7305	6994	6954	6925	6826	6956	7325	6657	6008	5933	
RH Pyhäkoski 2	8744	8747	8550	8465	8278	8402	7908	8013	8009	7880	7724	8156	7442	7123	7074	7034	6926	7045	7382	6794	6141	6056	
RH Seppälä	6512	6869	7065	7331	7560	8174	5668	6129	6552	6869	7517	8758	5012	5185	5660	6077	6391	6877	8154	4601	4427	4869	
RH Tienvieri	8455	7897	7389	6912	6438	5663	8833	8272	7667	7135	6215	4884	9330	8873	8247	7718	7312	6789	5513	9403	9321	8815	
RH Uusitalo	2476	2094	2034	2055	2347	2660	3291	2862	2600	2639	3082	3792	3948	3858	3596	3500	3606	3610	4208	4415	4812	4637	
RH Uutela	8094	7633	7070	6584	5992	5315	7918	7494	6950	6357	5266	4074	8084	7493	6871	6316	5798	5296	3899	7787	7342	6786	
RH Vaihoja 1	3034	3575	4046	4519	5021	5830	2620	3172	3787	4364	5435	6906	2262	2841	3487	4064	4579	5125	6642	2555	3117	3620	
RH Vaihoja 2	3254	3780	4223	4679	5158	5957	2755	3316	3923	4482	5526	6995	2322	2877	3533	4113	4620	5174	6694	2525	3032	3559	
RH Vaihojantie	3080	3597	4173	4690	5284	6079	3286	3656	4200	4802	5919	7310	3359	3908	4405	4898	5396	5860	7268	3924	4602	4969	
RH Vitomaa	9565	9223	8727	8328	7806	7339	9121	8842	8429	7927	7021	6287	9067	8495	7997	7547	7093	6746	5791	8590	7983	7507	
RH Vitoperä	8909	8579	8093	7707	7197	6765	8447	8179	7779	7289	6414	5761	8381	7811	7322	6883	6436	6107	5223	7898	7289	6816	
RH Väitalo	5974	6265	6387	6597	6763	7322	5091	5493	5847	6095	6642	7816	4442	4507	4901	5258	5520	5975	7181	3940	3638	4014	
RH Yppäriä	8436	7962	7393	6899	6302	5597	8296	7856	7300	6702	5597	4340	8483	7894	7265	6703	6184	5670	4235	8205	7775	7217	

	WTG																					
NSA	36	37	38	39	42	43	44	45	48	49	50	52	53	54	56	57	58	59	60	62	63	64
HH Hietakaivonkangas	5591	5180	4059	3824	4952	3857	3619	3029	5431	4823	3659	3010	2844	2507	3218	2721	2167	2018	2031	2705	2303	2198
HH Hiitoperä	6558	6584	6500	6606	6093	5855	5981	5753	5991	5645	5372	4980	5257	5354	4382	4439	4221	4656	5102	3384	3766	3227
HH Holma	6985	6899	6525	6531	6456	5977	6006	5660	6495	6067	5543	5051	5225	5202	4617	4526	4187	4509	4866	3609	3828	3301
HH Kankaala	5855	5170	3397	2813	5312	3914	3393	2830	6131	5545	4183	3790	3266	2735	4607	4037	3754	3168	2605	4892	4274	4616
HH Koskela	8004	7308	5860	5404	7718	6658	6212	6035	8575	8168	7137	7071	6590	6262	7946	7514	7451	6906	6389	8572	7987	8444
HH Kylä-Anttila	5874	5951	6028	6194	5442	5336	5517	5367	5279	4971	4832	4507	4843	5015	3827	3970	3839	4333	4827	2871	3339	2821
HH Liminkajärvi	6047	5936	6493	6748	6437	6862	6963	7517	6720	6920	7258	7802	7771	8038	8183	8296	8719	8598	8517	9196	8988	9500
HH Lystilä	5330	5005	5087	5224	5551	5613	5596	6057	6055	6085	6079	6533	6399	6571	7067	7061	7411	7194	7023	8066	7758	8292
HH Ruunakorpi	5532	5150	4107	3906	4897	3855	3650	3088	5341	4742	3625	2980	2859	2567	3119	2652	2104	2025	2107	2541	2182	2026
HH Vaihoja	4005	4619	6361	6940	4632	5994	6465	7134	4051	4663	5957	6582	6946	7494	6270	6769	7322	7616	7926	6999	7217	7501
RH Haanpää	5635	5922	7241	7705	6232	7246	7564	8236	6072	6533	7447	8090	8272	8715	8123	8458	8984	9079	9204	9053	9067	9485
RH Hautala	8504	7795	6253	5754	8174	7032	6559	6305	9039	8596	7486	7355	6854	6473	8235	7764	7647	7081	6541	8786	8185	8613
RH Heikkilä	5006	5002	5840	6187	5462	6084	6266	6877	5640	5909	6423	7011	7054	7392	7289	7473	7937	7889	7882	8793	8149	8639
RH Hietala	5270	5863	7171	7663	5374	6384	6862	7208	4580	4881	5938	6173	6700	7201	5327	5897	6240	6809	7357	5198	5779	5631
RH Jukkola 1	5210	4492	2760	2190	4757	3463	2954	2614	5620	5099	3865	3667	3157	2771	4545	4061	3952	3398	2877	5086	4490	4936
RH Jukkola 2	5243	4526	2790	2218	4787	3488	2978	2629	5649	5126	3886	3681	3169	2777	4558	4071	3955	3398	2875	5091	4494	4936
RH Jukkola 3	5339	4625	2872	2291	4867	3546	3030	2642	5726	5192	3927	3691	3172	2754	4564	4062	3920	3355	2819	5062	4459	4889
RH Kantola	5358	5090	5320	5498	5628	5799	5819	6312	6076	6152	6246	6729	6627	6831	7220	7250	7623	7435	7293	8227	7948	8477
RH Karppi	6465	6487	6399	6506	5998	5755	5881	5653	5901	5551	5272	4880	5157	5255	4283	4338	4121	4557	5005	3284	3665	3127
RH Katinhämä 1	4438	5069	6494	7017	4612	5732	6232	6643	3780	4153	5325	5640	6166	6697	4840	5434	5838	6300	6907	4887	5424	5364
RH Katinhämä 2	4530	5149	6542	7057	4682	5773	6268	6663	3860	4212	5355	5651	6178	6702	4839	5428	5819	6368	6901	4848	5395	5317
RH Keskiskylä	5483	5280	5659	5875	5805	6088	6145	6668	6187	6315	6513	7025	6955	7189	7469	7535	7932	7774	7660	8481	8232	8754
RH Kotila	5027	4645	4595	4703	5195	5156	5109	5545	5756	5736	5636	6064	5906	6056	6634	6597	6929	6690	6501	7623	7292	7829
RH Kupulisoja	3048	3364	4217	4637	2814	3409	3829	4081	2355	2270	2908	3030	3552	4029	2162	2715	3056	3622	4169	2065	2613	2546
RH Kupulisperä	2899	3228	4112	4555	2677	3315	3746	4020	2203	2133	2821	2974	3498	3988	2115	2682	3046	3603	4145	2092	2620	2585
RH Lepola	6393	6457	6474	6613	5953	5801	5959	5773	5802	5487	5305	4951	5261	5397	4304	4411	4239	4705	5176	5327	3758	3228
RH Limingoja	8028	7329	5864	5400	7734	6660	6209	6020	8593	8179	7135	7059	6575	6238	7935	7497	7427	6878	6357	8551	7963	8416
RH Nikula	4672	4347	4491	4665	4892	4986	4992	5480	5398	5426	5443	5912	5799	5998	6426	6346	6801	6605	6460	7429	7134	7666
RH Ojakangas	5655	5903	7161	7608	6238	7202	7501	8167	6124	6562	7424	8063	8225	8653	8132	8447	8966	9040	9144	9077	9068	9498
RH Ojatalo	4861	4472	4421	4535	5023	4980	4934	5375	5589	5564	5459	5888	5733	5887	6457	6421	6754	6518	6334	7447	7116	7654
RH Pahlkala	2840	3264	4343	4811	2724	3543	4005	4338	2115	2185	3078	3307	3835	4348	2478	3065	3464	4007	4538	2554	3062	3054
RH Paskoja	6202	6914	8573	9143	6581	7893	8416	8926	7144	6243	7574	8000	8509	9067	7282	7884	8340	8847	9342	7477	7974	7972
RH Pinola	6257	6344	6423	6583	5833	5734	5911	5752	5653	5357	5231	4902	5231	5392	4226	4364	4221	4706	5191	3268	3727	3205
RH Pokela	5775	6111	7501	7983	6388	7461	7802	8480	6166	6657	7634	8282	8489	8948	8268	8629	9163	9285	9434	9176	9220	9621
RH Pyhäňkoskentie	6210	6362	6599	6806	5834	5874	6098	6000	5569	5333	5358	5093	5463	5676	4353	4565	4488	5006	5517	3454	3970	3474
RH Pyhäňkoski 1	5730	5975	6452	6733	5430	5683	5976	5982	5048	4902	5156	4999	5429	5726	4181	4505	4539	5101	5645	3418	4002	3573
RH Pyhäňkoski 2	5842	6071	6508	6775	5529	5745	6026	6014	5165	5004	5219	5042	5463	5745	4236	4541	4555	5110	5649	3445	4019	3577
RH Seppälä	5275	5974	7579	8138	5602	6873	7392	7879	4733	5229	6530	6931	7445	7999	6193	6795	7242	7757	8259	6365	6868	6858
RH Tienvieira	8366	7670	6215	5753	8079	7011	6561	6372	8936	8526	7487	7412	6927	6588	8288	7849	7776	7226	6703	8901	8313	8764
RH Uusitalo	4700	4471	4855	5091	5001	5271	5336	5871	5412	5516	5695	6208	6146	6392	6651	6717	7117	6967	6867	7662	7414	7936
RH Utelä	6160	5511	3786	3234	5576	4169	3672	3031	6348	5737	4348	3859	3364	2795	4596	4000	3623	3058	2526	4709	4102	4362
RH Vaihoja 1	4247	4827	6541	7112	4882	6218	6675	7351	4349	4951	6211	6845	7190	7729	6573	7056	7610	7881	8171	7331	7526	7827
RH Vaihoja 2	4191	4804	6544	7123	4817	6180	6650	7320	4233	4846	6142	6767	7132	7680	6451	6952	7505	7800	8112	7175	7396	7678
RH Vaihojantie	5524	5926	7416	7926	6153	7306	7679	8364	5851	6376	7436	8087	8331	8814	8007	8402	8945	9106	9292	8881	8965	9342
RH Vitomaa	6904	6470	5228	4912	6264	5117	4829	4192	6757	6148	4959	4308	4091	3683	4543	4044	3490	3290	3190	3983	3621	3467
RH Vitoperä	6216	5795	4613	4336	5577	4457	4193	3577	6060	5453	4278	3627	3435	3060	3846	3349	2795	2620	2571	3301	2925	2787
RH Väitälä	4350	5025	6566	7113	4615	5838	6353	6818	3753	4208	5474	5854	6372	6921	5104	5706	6148	6666	7172	5271	5772	5767
RH Yppärilä	6594	5933	4188	3622	6019	4611	4106	3479	6802	6196	4808	4332	3831	3266	5077	4481	4106	3541	3008	5189	4584	4837

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor

Noise calculation model:

Finland Low frequency

Wind speed (at 10 m height):

Highest noise value at receptor

Spectral distribution:

From 20.0 Hz to 200.0 Hz

Meteorological coefficient, C0:

Selected option: Fixed value: 0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure tone penalty is subtracted from demand

Model: 5.0 dB(A)

Height above ground level, when no value in NSA object:

4.0 m; Don't allow override of model height with height from NSA object

Uncertainty margin:

0.0 dB; Uncertainty margin in NSA has priority

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0.0 dB(A)

Low frequency calculation

dLsigma

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
7.6	8.3	9.2	10.3	11.5	13.0	14.8	16.8	18.8	21.1	22.8

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

WTG: FUTURE F200 9.0 MW 9000 200.0 !-!

Noise: N175 Third octave SPL w STE Mode 0 + 2 dB

Source

Source/Date Creator Edited

Based on F008_278_A17_EN revision 03, 2023-20-13 02-Sep-24 USER 03-Sep-24 12:10

Based on F008_278_A17_EN revision 03, 2023-20-13, third octave sound power levels, 2 dB added, 179m hub height

Status	Hub height	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	200.0	8.0	101.21	73.8	77.2	79.1	80.3	82.3	86.6	89.3	90.9	93.5	95.5	96.5

Noise sensitive area: HH Hietakaivonkangas Noise sensitive point: Finnish low frequency - Residential health guide

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Hiitoperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor

Noise sensitive area: HH Holma Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Kankaala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Koskela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Kylä-Anttila Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Liminkajärvi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Lystilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor

Noise sensitive area: HH Ruunakorpi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Vaihoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Haanpää Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Hautala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Heikkilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Hietala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

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Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor

Noise sensitive area: RH Jukkola 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 3 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kantola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Karppi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Katinhätä 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor

Noise sensitive area: RH Katinhätä 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Keskikylä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kotila Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kupulisoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kupulisperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Lepola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor

Noise sensitive area: RH Limingoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Nikula Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Ojakangas Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Ojatalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pahkala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Paskoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor

Noise sensitive area: RH Pinola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pokela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoskentie Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoski 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoski 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Seppälä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

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 Stephanitorsbollwerk 3 (Haus LUV)
 DE-28211 Bremen
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 Emma Berkovits / e.berkovits@wpd.fi
 Calculated:
 03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor

Noise sensitive area: RH Tienvieri Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Uusitalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Uutela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihoja 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihoja 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihojantie Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor

Noise sensitive area: RH Vältalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vitomaa Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vitoperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Yppärilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Main Result

Calculation: VE3 36xF200 LF Indoor

Noise calculation model:

Finland Low frequency

Wind speed (at 10 m height):

Highest noise value at receptor

Spectral distribution:

From 20.0 Hz to 200.0 Hz

Meteorological coefficient, C0:

Selected option: Fixed value: 0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure tone penalty is subtracted from demand

Model: 5.0 dB(A)

Height above ground level, when no value in NSA object:

4.0 m; Don't allow override of model height with height from NSA object

Uncertainty margin:

0.0 dB; Uncertainty margin in NSA has priority

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0.0 dB(A)

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

WTGs

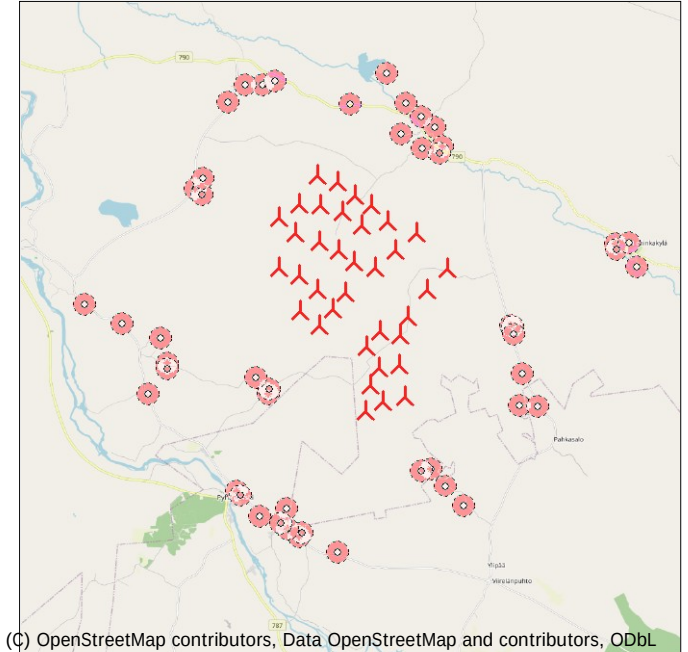
	East	North	Z	Row data/Description	WTG type		Type-generator	Power, rated	Rotor diameter	Hub height	Noise data		First wind speed [m/s]	LwaRef [dB(A)]	Last wind speed [m/s]	LwaRef [dB(A)]
					Valid	Manufact.					Creator	Name				
				[m]				[kW]	[m]	[m]						
9	378,010	7,147,142	46.9	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
10	378,544	7,146,974	50.9	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
11	378,976	7,146,593	53.5	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
12	379,404	7,146,300	54.3	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
13	379,815	7,145,863	54.9	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
14	380,558	7,145,522	58.9	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
18	377,476	7,146,419	39.8	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
19	378,036	7,146,370	45.8	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
20	378,615	7,146,157	50.3	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
21	379,106	7,145,795	53.1	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
23	379,986	7,145,097	54.3	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
24	381,344	7,144,532	63.4	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
25	376,926	7,146,059	34.6	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
26	377,348	7,145,642	37.1	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
27	377,962	7,145,405	44.2	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
28	378,484	7,145,153	49.8	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
29	378,892	7,144,832	51.9	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
30	379,423	7,144,656	52.2	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
31	380,790	7,143,991	57.7	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
34	376,885	7,144,741	37.4	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
35	377,402	7,144,519	38.0	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
36	377,887	7,144,113	41.4	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
37	378,600	7,144,017	45.9	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
38	380,232	7,143,312	55.6	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
42	378,255	7,143,588	42.2	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
43	379,510	7,142,950	51.6	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
44	380,022	7,142,836	55.1	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
48	377,385	7,143,584	38.8	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
49	377,878	7,143,194	40.4	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
50	379,128	7,142,586	48.6	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
52	379,437	7,142,013	49.8	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
53	379,965	7,142,028	53.7	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
57	379,179	7,141,538	46.5	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
58	379,505	7,141,090	47.5	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
59	380,082	7,141,202	51.8	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
63	379,019	7,140,858	43.6	FUTURE F200 9.0 MW 9000 20...	Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2

Calculation Results

Sound level

Noise sensitive area No.	Name	East	North	Z	Immission height [m]	Most critical demand		Predicted sound level	Demands fulfilled ?
						Frequency [Hz]	Noise [dB]	WTG noise [dB]	Noise
HH Hietakaivonkangas	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (173)	380,697	7,139,280	50.7	4.0	63.0	42.00	35.62	Yes
HH Hiltopera	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (170)	377,133	7,137,599	44.2	4.0	63.0	42.00	31.77	Yes
HH Holma	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (169)	378,138	7,137,133	48.2	4.0	63.0	42.00	31.53	Yes
HH Kankaala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (174)	383,213	7,141,681	67.3	4.0	63.0	42.00	34.64	Yes

To be continued on next page...



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New WTG

Scale 1:200,000
Noise sensitive area

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH
Stephanitorsbollwerk 3 (Haus LUV)
DE-28211 Bremen
+49 7142 77810
Emma Berkovits / e.berkovits@wpd.fi
Calculated:
03-Jul-25 13:35/4.1.264

DECIBEL - Main Result

Calculation: VE3 36xF200 LF Indoor

...continued from previous page

Noise sensitive area					Most critical demand		Predicted sound level	Demands fulfilled ?	
No.	Name	East	North	Z	Immission height	Frequency	Noise	WTG noise	Noise
					[m]	[Hz]	[dB]	[dB]	
HH Koskela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (175)	385,840	7,145,013	76.7	4.0	63.0	42.00	31.09	Yes
HH Kylä-Anttila	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (171)	376,833	7,138,334	47.5	4.0	63.0	42.00	32.66	Yes
HH Liminkajärvi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (168)	379,944	7,149,798	48.9	4.0	63.0	42.00	34.13	Yes
HH Lystilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (167)	381,168	7,148,313	55.7	4.0	63.0	42.00	35.76	Yes
HH Ruunakorpi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (172)	380,450	7,139,211	49.2	4.0	63.0	42.00	35.72	Yes
HH Vaihoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (166)	374,905	7,146,787	26.0	4.0	63.0	42.00	35.89	Yes
RH Haanpää	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (176)	376,666	7,149,614	36.6	4.0	63.0	42.00	34.18	Yes
RH Hautala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (177)	386,385	7,144,428	79.5	4.0	63.0	42.00	30.42	Yes
RH Heikkilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (178)	378,937	7,149,007	49.4	4.0	63.0	42.00	36.48	Yes
RH Hietala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (179)	373,282	7,141,550	30.6	4.0	63.0	42.00	32.00	Yes
RH Jukkola 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (180)	382,973	7,142,986	70.2	4.0	63.0	42.00	36.01	Yes
RH Jukkola 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (181)	382,998	7,142,946	70.6	4.0	63.0	42.00	35.93	Yes
RH Jukkola 3	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (182)	383,051	7,142,762	70.2	4.0	63.0	42.00	35.70	Yes
RH Kantola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (183)	380,813	7,148,601	55.0	4.0	63.0	42.00	35.69	Yes
RH Karppi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (184)	377,182	7,137,687	46.3	4.0	63.0	42.00	31.93	Yes
RH Katinhanta 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (185)	373,808	7,142,364	30.0	4.0	63.0	42.00	33.30	Yes
RH Katinhanta 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (186)	373,789	7,142,182	30.1	4.0	63.0	42.00	33.14	Yes
RH Kesikylä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (187)	380,437	7,148,967	52.4	4.0	63.0	42.00	35.39	Yes
RH Kotila	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (188)	381,332	7,147,774	56.3	4.0	63.0	42.00	36.49	Yes
RH Kupulisaja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (189)	376,466	7,141,416	38.6	4.0	63.0	42.00	36.88	Yes
RH Kupulisperä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (190)	376,497	7,141,568	37.2	4.0	63.0	42.00	37.17	Yes
RH Lepola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (191)	376,821	7,137,810	44.9	4.0	63.0	42.00	31.87	Yes
RH Limingoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (192)	385,875	7,144,908	77.9	4.0	63.0	42.00	31.06	Yes
RH Nikula	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (193)	380,797	7,147,767	56.2	4.0	63.0	42.00	37.45	Yes
RH Ojakangas	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (194)	376,989	7,149,696	39.3	4.0	63.0	42.00	34.27	Yes
RH Ojatalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (195)	381,260	7,147,613	56.5	4.0	63.0	42.00	36.92	Yes
RH Pahlkala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (196)	376,133	7,141,880	33.9	4.0	63.0	42.00	36.95	Yes
RH Paskoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (197)	371,686	7,143,992	21.2	4.0	63.0	42.00	30.77	Yes
RH Pinola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (198)	376,653	7,137,979	44.9	4.0	63.0	42.00	31.99	Yes
RH Pokela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (199)	376,196	7,149,635	34.8	4.0	63.0	42.00	33.71	Yes
RH Pyhänskoskentie	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (200)	376,101	7,138,166	41.8	4.0	63.0	42.00	31.81	Yes
RH Pyhänskoski 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (201)	375,536	7,138,887	41.9	4.0	63.0	42.00	32.19	Yes
RH Pyhänskoski 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (202)	375,606	7,138,735	42.4	4.0	63.0	42.00	32.08	Yes
RH Seppälä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (203)	372,654	7,143,438	22.9	4.0	63.0	42.00	32.02	Yes
RH Tienvieri	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (204)	386,201	7,145,044	78.9	4.0	63.0	42.00	30.60	Yes
RH Uusitalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (205)	380,265	7,148,166	56.7	4.0	63.0	42.00	37.41	Yes
RH Uutela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (206)	383,121	7,140,866	62.8	4.0	63.0	42.00	34.11	Yes
RH Vaihoja 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (207)	374,977	7,147,206	24.4	4.0	63.0	42.00	35.61	Yes
RH Vaihoja 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (208)	374,765	7,146,909	24.4	4.0	63.0	42.00	35.46	Yes
RH Vaihontie	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (209)	375,711	7,149,190	31.8	4.0	63.0	42.00	33.94	Yes
RH Vitomaa	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (210)	381,529	7,138,247	50.6	4.0	63.0	42.00	32.71	Yes
RH Vitopera	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (211)	381,074	7,138,777	49.7	4.0	63.0	42.00	34.08	Yes
RH Väitalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (212)	373,673	7,143,034	30.0	4.0	63.0	42.00	33.46	Yes
RH Yppärilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (213)	383,603	7,140,826	67.9	4.0	63.0	42.00	33.28	Yes

*)Spectral distribution, please see details in report "Detailed results"

Distances (m)

NSA	WTG																																		
	9	10	11	12	13	14	18	19	20	21	23	24	25	26	27	28	29	30	31	34	35	36													
HH Hietakaivonkangas	8308	7989	7512	7138	6642	6244	7831	7573	7185	6706	5860	5291	7757	7189	6707	6276	5838	5525	4712	6660	6189	5591													
HH Hiitoperä	9584	9481	9181	8993	8689	8632	8827	8818	8686	8430	8023	8111	8463	8046	7850	7675	7444	7420	7365	7147	6925	6558													
HH Holma	10010	9849	9497	9254	8890	8732	9309	9238	9037	8716	8176	8064	9008	8546	8274	8028	7736	7633	7354	7711	7423	6985													
HH Kankaala	7542	7058	6486	5987	5388	4669	7440	6984	6416	5813	4699	3409	7661	7077	6437	5867	5348	4818	3348	7428	7028	6467	5855												
HH Koskela	8114	7555	7043	6563	6084	5306	8481	7921	7315	6779	5855	4522	8975	8515	7888	7357	6951	6427	5153	8959	8453	8004													
HH Kylä-Anttila	8886	8807	8532	8370	8098	8096	8110	8125	8023	7799	7462	7665	7725	7326	7160	7016	6816	6832	6903	6407	6210	5874													
HH Liminkajärvi	3286	3153	3349	3540	3938	4320	4185	3924	3877	4090	4702	5450	4806	4901	4820	4869	5077	5169	5868	5911	5860	6047													
HH Lystilä	3367	2946	2786	2676	2798	2856	4149	3685	3341	3254	3426	3785	4803	4661	4328	4145	4159	4051	4338	5576	5346	5330													
HH Ruunakorpi	8298	7994	7528	7166	6682	6313	7797	7555	7184	6720	5905	5395	7702	7140	6675	6259	5833	5542	4793	6580	6121	5532													
HH Vaihoja	3126	3644	4076	4526	4997	5793	2598	3159	3764	4317	5355	6822	2149	2698	3355	3934	4441	4995	6515	2847	3374	4005													
RH Haanpää	2814	3240	3803	4299	4898	5647	3296	3521	3969	4532	5606	6907	3565	4030	4404	4817	5275	5673	6973	4878	5148	5635													
RH Hautala	8803	8244	7718	7227	6724	5928	9128	8571	7959	7406	6434	5042	9598	9118	8479	7934	7504	6966	5612	9505	8983	8504													
RH Heikkilä	2082	2071	2414	2747	3264	3843	2972	2787	2868	3216	4048	5081	3569	3721	3732	3880	4175	4378	5347	4734	4744	5006													
RH Hietala	7324	7557	7607	7749	7829	8290	6426	6771	7048	7207	7585	8596	5798	5769	6064	6328	6500	6882	7895	4814	5078	5270													
RH Jukkola 1	6473	5960	5383	4870	4272	3502	6481	5985	5389	4779	3658	2246	6783	6220	5564	4985	4479	3923	2404	6335	5778	5210													
RH Jukkola 2	6518	6005	5429	4916	4317	3548	6523	6028	5433	4823	3701	2292	6823	6260	5604	5025	4518	3963	2443	6371	5813	5243													
RH Jukkola 3	6678	6169	5593	5082	4482	3720	6668	6178	5586	4976	3854	2460	6956	6389	5734	5156	4646	4093	2574	6476	5916	5339													
RH Kantola	3159	2792	2721	2698	2914	3089	3987	3562	3287	3284	3600	4103	4644	4556	4283	4160	4230	4182	4609	5506	5320	5358													
RH Karppi	9492	9387	9085	8896	8590	8532	8737	8725	8591	8334	7923	8011	8376	7957	7757	7580	7347	7321	7264	7061	6865	6635													
RH Katinhantä 1	6363	6609	6678	6842	6952	7453	5468	5825	6123	6312	6755	7841	4835	4825	5148	5445	5651	6065	7169	3889	4191	4438													
RH Katinhantä 2	6514	6751	6809	6694	7062	7549	5617	5965	6253	6429	6848	7912	4887	4964	5273	5557	5750	6153	7231	4017	4303	4530													
RH Kesikivylä	3036	2749	2787	2860	3166	3447	3906	3536	3349	3440	3896	4527	4595	4538	4337	4284	4414	4428	4988	5520	5385	5483													
RH Kotila	3381	2901	2635	2427	2440	2381	4087	3582	3162	2978	2996	3242	4728	4518	4119	3870	3822	3655	3821	5382	5103	5027													
RH Kupulisoija	5931	5934	5754	5700	5567	5797	5104	5197	5205	5113	5093	5788	4666	4317	4260	4248	4190	4387	5032	3352	3241	3048													
RH Kupulisiperä	5776	5780	5603	5553	5427	5668	4948	5042	5054	4967	4962	5681	4511	4161	4107	4099	4048	4254	4929	3196	3086	2989													
RH Lepola	9408	9324	9044	8874	8592	8570	8634	8646	8538	8306	7945	8102	8250	7850	7680	7530	7321	7324	7346	6932	6734	6393													
RH Limingoja	8176	7617	7102	6619	6135	5353	8534	7974	7367	6827	5893	4547	9023	8559	7929	7395	6984	6457	5168	8991	8482	80228													
RH Nikula	2856	2389	2166	2023	2143	2258	3584	3094	2712	2598	2791	3282	4231	4051	3690	3490	3500	3401	3776	4945	4699	4672													
RH Ojakangas	2750	3135	3685	4167	4762	5492	3313	3487	3895	4438	5489	6755	3637	4070	4400	4782	5223	5597	6855	4956	5193	56555													
RH Ojatalo	3283	2790	2501	2273	2269	2205	3967	3454	3019	2818	2819	3082	4604	4380	3968	3708	3652	3480	3652	5232	4945	48616													
RH Paskala	5587	5636	5505	5499	5425	5732	4734	4877	4945	4816	5020	5847	4254	3954	3971	4031	4041	4305	5113	2959	2928	2840													
RH Paskoja	7066	7478	7740	8056	8342	9003	6278	6781	7260	7636	8373	9673	5633	5898	6433	6897	7255	7765	9104	5253	5740	62020													
RH Pinola	9264	9192	8922	8764	8495	8495	8480	8505	8410	8192	7860	8059	8085	7695	7541	7405	7210	7229	7298	6767	6583	62575													
RH Pokela	3083	3549	4121	4627	5227	5995	3462	3748	4237	4818	5912	7248	3650	4156	4584	5032	5508	5933	7277	4942	5256	5775													
RH Pyhänskoskentie	9177	9141	8904	8779	8547	8602	8367	8430	8377	8200	7946	8247	7936	7580	7475	7383	7227	7291	7478	6622	6485	6210													

Project:

HAUK_LF_Indoor

Licensed user:

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Calculated:

03-Jul-25 13:35/4.1.264

DECIBEL - Main Result

Calculation: VE3 36xF200 LF Indoor

...continued from previous page

	WTG																											
NSA	9	10	11	12	13	14	18	19	20	21	23	24	25	26	27	28	29	30	31	34	35	36						
RH Pyhäkoski 1	8618	8628	8439	8361	8184	8321	7777	7890	7895	7776	7640	8099	7305	6994	6954	6925	6826	6956	7325	6008	5933	5730						
RH Pyhäkoski 2	8744	8747	8550	8465	8278	8402	7908	8013	8009	7880	7724	8156	7442	7123	7074	7034	6926	7045	7382	6141	6056	5842						
RH Seppälä	6512	6869	7065	7331	7560	8174	5668	6129	6552	6869	7517	8758	5012	5185	5660	6077	6391	6877	8154	4427	4869	5275						
RH Tienvieri	8455	7897	7389	6912	6438	5663	8833	8272	7667	7135	6215	4884	9330	8873	8247	7718	7312	6789	5513	9321	8815	8366						
RH Uusitalo	2476	2094	2034	2055	2347	2660	3291	2862	2600	2639	3082	3792	3948	3858	3596	3500	3606	3610	4208	4812	4637	4700						
RH Uutela	8094	7633	7070	6584	5992	5315	7918	7494	6950	6357	5266	4074	8084	7493	6871	6316	5798	5296	3899	7342	6786	6160						
RH Vaihoja 1	3034	3575	4046	4519	5021	5830	2620	3172	3787	4364	5435	6906	2262	2841	3487	4064	4579	5125	6642	3117	3620	4247						
RH Vaihoja 2	3254	3780	4223	4679	5158	5957	2755	3316	3923	4482	5526	6995	2322	2877	3533	4113	4620	5174	6694	3032	3559	4191						
RH Vaihojantie	3080	3597	4173	4690	5284	6079	3286	3656	4200	4802	5919	7310	3359	3908	4405	4898	5396	5860	7268	4602	4969	5524						
RH Vitomaa	9565	9223	8727	8328	7806	7339	9121	8842	8429	7927	7021	6287	9067	8495	7997	7547	7093	6746	5791	7983	7507	6904						
RH Vitoperä	8909	8579	8093	7707	7197	6765	8447	8179	7779	7289	6414	5761	8381	7811	7322	6883	6436	6107	5223	7289	6816	6216						
RH Väitalo	5974	6265	6387	6597	6763	7322	5091	5493	5847	6095	6642	7816	4442	4507	4901	5258	5520	5975	7181	3638	4014	4350						
RH Yppärilä	8436	7962	7393	6899	6302	5597	8296	7856	7300	6702	5597	4340	8483	7894	7265	6703	6184	5670	4235	7775	7217	6594						

	WTG														
NSA	37	38	42	43	44	48	49	50	52	53	57	58	59	63	
HH Hietakaivonkangas	5180	4059	4952	3857	3619	5431	4823	3659	3010	2844	2721	2167	2018	2303	
HH Hiitoperä	6584	6500	6093	5855	5981	5991	5645	5372	4980	5257	4439	4221	4656	3766	
HH Holma	6899	6525	6456	5977	6006	6495	6067	5543	5051	5225	4526	4187	4509	3828	
HH Kankaala	5170	3397	5312	3914	3393	6131	5545	4183	3790	3266	4037	3754	3168	4274	
HH Koskela	7308	5860	7718	6658	6212	8575	8168	7137	7071	6590	7514	7451	6906	7987	
HH Kylä-Anttila	5951	6028	5442	5336	5517	5279	4971	4832	4507	4843	3970	3839	4333	3339	
HH Liminkajärvi	5936	6493	6437	6862	6963	6720	6920	7258	7802	7771	8296	8719	8598	8988	
HH Lystilä	5005	5087	5551	5613	5596	6055	6085	6079	6533	6399	7061	7411	7194	7758	
HH Ruunakorpi	5150	4107	4897	3855	3650	5341	4742	3625	2980	2859	2652	2104	2025	2182	
HH Vaihoja	4619	6361	4632	5994	6465	4051	4663	5957	6582	6946	6769	7322	7616	7217	
RH Haanpää	5922	7241	6232	7246	7564	6072	6533	7447	8090	8272	8458	8984	9079	9067	
RH Hautala	7795	6253	8174	7032	6559	9039	8596	7486	7355	6854	7764	7647	7081	8185	
RH Heikkilä	5002	5840	5462	6084	6266	5640	5909	6423	7011	7054	7473	7937	7889	8149	
RH Hietala	5863	7171	5374	6384	6862	4580	4881	5938	6173	6700	5897	6240	6809	5779	
RH Jukkola 1	4492	2760	4757	3463	2954	5620	5099	3865	3667	3157	4061	3952	3398	4490	
RH Jukkola 2	4526	2790	4787	3488	2978	5649	5126	3886	3681	3169	4071	3955	3398	4494	
RH Jukkola 3	4625	2872	4867	3546	3030	5726	5192	3927	3691	3172	4062	3920	3355	4459	
RH Kantola	5090	5320	5628	5799	5819	6076	6152	6246	6729	6627	7250	7623	7435	7948	
RH Karppi	6487	6399	5998	5755	5881	5901	5551	5272	4880	5157	4338	4121	4557	3665	
RH Katinhätä 1	5069	6494	4612	5732	6232	3780	4153	5325	5640	6166	5434	5838	6380	5424	
RH Katinhätä 2	5149	6542	4682	5773	6268	3860	4212	5355	5651	6178	5428	5819	6368	5395	
RH Keskipylä	5280	5659	5805	6088	6145	6187	6315	6513	7025	6955	7535	7932	7774	8232	
RH Kotila	4645	4595	5195	5156	5109	5756	5736	5636	6064	5906	6597	6929	6690	7292	
RH Kupulisoja	3364	4217	2814	3409	3829	2355	2270	2908	3030	3552	2715	3056	3622	2613	
RH Kupulisperä	3228	4122	2677	3315	3746	2203	2133	2821	2974	3498	2682	3046	3603	2620	
RH Lepola	6457	6474	5953	5801	5959	5802	5487	5305	4951	5261	4411	4239	4705	3758	
RH Limingoja	7329	5864	7734	6660	6209	8593	8179	7135	7059	6575	7497	7427	6878	7963	
RH Nikula	4347	4491	4892	4986	4992	5398	5426	5443	5912	5799	6436	6801	6605	7134	
RH Ojakangas	5903	7161	6238	7202	7501	6124	6562	7424	8063	8225	8447	8966	9040	9068	
RH Ojatalo	4472	4421	5023	4980	4934	5589	5564	5459	5888	5733	6421	6754	6518	7116	
RH Pahkala	3264	4343	2724	3543	4005	2115	2185	3078	3307	3835	3065	3464	4007	3062	
RH Paskoja	6914	8573	6581	7893	8416	5714	6243	7574	8000	8509	7884	8340	8847	7974	
RH Pinola	6344	6423	5833	5734	5911	5653	5357	5231	4902	5231	4364	4221	4706	3727	
RH Pokela	6111	7501	6388	7461	7802	6166	6657	7634	8282	8489	8629	9163	9285	9220	
RH Pyhänskoskentie	6362	6599	5834	5874	6098	5569	5333	5358	5093	5463	4565	4488	5006	3970	
RH Pyhänskoski 1	5975	6452	5430	5683	5976	5048	4902	5156	4999	5429	4505	4539	5101	4002	
RH Pyhänskoski 2	6071	6508	5529	5745	6026	5165	5004	5219	5042	5463	4541	4555	5110	4019	
RH Seppälä	5974	7579	5602	6873	7392	4733	5229	6530	6931	7445	6795	7242	7757	6868	
RH Tienvieri	7670	6215	8079	7011	6561	8936	8526	7487	7412	6927	7849	7776	7226	8313	
RH Uusitalo	4471	4855	5001	5271	5336	5412	5516	5695	6208	6146	6717	7117	6967	7414	
RH Uutela	5511	3786	5576	4169	3672	6348	5737	4348	3859	3364	4000	3623	3058	4102	
RH Vaihoja 1	4827	6541	4882	6218	6675	4349	4951	6211	6845	7190	7056	7610	7881	7526	
RH Vaihoja 2	4804	6544	4817	6180	6650	4233	4846	6142	6767	7132	6952	7505	7800	7396	
RH Vaihojantie	5926	7416	6153	7306	7679	5851	6376	7436	8087	8331	8402	8945	9106	8965	
RH Vitomaa	6470	5228	6264	5117	4829	6757	6148	4959	4308	4091	4044	3490	3290	3621	
RH Vitoperä	5795	4613	5577	4457	4193	6060	5453	4278	3627	3435	3349	2795	2620	2925	
RH Väitalo	5025	6566	4615	5838	6353	3753	4208	5474	5854	6372	5706	6148	6666	5772	
RH Ypäjärvi	5933	4188	6019	4611	4106	6802	6196	4808	4332	3831	4481	4106	3541	4584	

Project:

HAUK_LF_Indoor

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 Calculated:
 08-Aug-25 10:36/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor CUMUL

Noise calculation model:

Finland Low frequency

Wind speed (at 10 m height):

Highest noise value at receptor

Spectral distribution:

From 20.0 Hz to 200.0 Hz

Meteorological coefficient, C0:

Selected option: Fixed value: 0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure tone penalty is subtracted from demand

Model: 5.0 dB(A)

Height above ground level, when no value in NSA object:

4.0 m; Don't allow override of model height with height from NSA object

Uncertainty margin:

0.0 dB; Uncertainty margin in NSA has priority

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0.0 dB(A)

Low frequency calculation

dLsigma

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
7.6	8.3	9.2	10.3	11.5	13.0	14.8	16.8	18.8	21.1	22.8

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

WTG: FUTURE F200 9.0 MW 9000 200.0 !-!

Noise: N175 Third octave SPL w STE Mode 0 + 2 dB

Source

Source/Date Creator Edited

Based on F008_278_A17_EN revision 03, 2023-20-13 02-Sep-24 USER 03-Sep-24 12:10

Based on F008_278_A17_EN revision 03, 2023-20-13, third octave sound power levels, 2 dB added, 179m hub height

Status	Hub height	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	200.0	8.0	101.21	73.8	77.2	79.1	80.3	82.3	86.6	89.3	90.9	93.5	95.5	96.5

WTG: VESTAS V126-3.3 GrStr 3rdOc 3300 126.0 !O!

Noise: Level 0 - - Mode 0 - 1/3 octave - official, serrations

Source Source/Date Creator Edited

Vestas 11-Nov-14 USER 29-Apr-15 10:21

0048-2151_V01 - V126-3_3MW-Third Octaves according to General Spe....pdf

137m hub => 12.0 m/s

167m hub => 12.3 m/s

Status	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	8.0	96.22	63.5	70.9	71.0	75.0	80.0	83.1	85.2	87.3	90.9	88.9	89.8

WTG: NORDEX N149/4.0-4.8 4800 149.0 !O!

Noise: Serrations Mode 00 - 106.1 dB(A) - octave

Source Source/Date Creator Edited

F008_270_A14_R01 08-Nov-18 USER 03-Apr-25 10:39

Status	Hub height	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	145.0	8.0	96.39	62.8	66.8	72.3	75.8	80.9	82.2	85.0	89.7	88.2	89.5	90.8

Project:

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Calculated:

08-Aug-25 10:36/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor CUMUL

WTG: Siemens SWT-2.3-108 2300 108.0 !O!

Noise: SWT108 2.3 with serrations Mode 0 3rd Oct LF

Source Source/Date Creator Edited
03-Apr-25 USER 08-Aug-25 10:11
windPRO 4.1 WTG catalogue

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	115.0	8.0	95.71	63.6	67.3	69.8	73.0	76.9	80.8	82.7	86.3	88.2	89.5	91.3

WTG: VESTAS V162 5600 162.0 !O!

Noise: V162 5.6 with serrations LF

Source Source/Date Creator Edited
03-Apr-25 USER 08-Aug-25 10:13
V162-5.6 MW Third octave noise emission DMS 0079-5298_01, 28.1.2019

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	166.0	8.0	95.59	60.3	64.7	69.0	73.1	76.6	79.9	83.0	85.5	87.7	89.8	91.3

WTG: VESTAS V150-4.3 (3rd oct) 4300 150.0 !O!

Noise: V150 4.3 MW 3rd Oct serrated blades HH160m

Source Source/Date Creator Edited
03-Apr-25 USER 08-Aug-25 10:14
V150-4.3 MW Third octave noise emission DMS 0080-4413_00 (20.12.2028)

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	160.0	8.0	96.55	62.3	66.6	70.7	74.7	78.0	81.2	84.1	86.5	88.7	90.7	92.2

WTG: NORDEX N163/5.X 5500 163.0 !O!

Noise: Third octave SPL without serrated trailing edge – Mode 0

Source Source/Date Creator Edited
F008_276_A17_EN Revision 00, 2019-05-21 09-Jul-19 USER 08-Aug-25 10:16
F008_276_A17_EN Revision 00, 2019-05-21

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	159.0	8.0	98.17	64.5	68.5	74.0	77.5	82.6	83.9	86.7	91.4	89.9	91.2	92.8

WTG: GE WIND ENERGY 5.5-158 Thrust 700 5500 158.0 !O!

Noise: GE158 5.5 with serrations LF

Source Source/Date Creator Edited
03-Apr-25 USER 03-Apr-25 14:34

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	161.0	8.0	95.59	63.1	67.8	72.2	76.1	79.4	82.2	84.4	86.1	87.7	89.2	90.8

Project:

HAUK_LF_Indoor

Licensed user:

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:36/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor CUMUL

WTG: FUTURE F200 9.0 MW 9000 200.0 !-!

Noise: V172-7,2, PO7200, with STE + 2dB

Source	Source/Date	Creator	Edited											
DMS no.: 0128-4336_00, 2022-06-30	14-May-24	USER	26-Feb-25 11:51											
Status	Hub height	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	200.0	8.0	102.73	64.1	69.3	74.1	78.9	83.3	87.1	90.4	93.1	95.3	96.9	98.1

Noise sensitive area: HH Hietakaivonkangas Noise sensitive point: Finnish low frequency - Residential health guide

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Hiitoperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Holma Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Kankaala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Koskela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:36/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor CUMUL

Noise sensitive area: HH Kylä-Anttila Noise sensitive point: Finnish low frequency - Residential health guide 2003,

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Liminkajärvi Noise sensitive point: Finnish low frequency - Residential health guide 2003,

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Lystilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Ruunakorpi Noise sensitive point: Finnish low frequency - Residential health guide 2003,

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Vaihoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Haanpää Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:36/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor CUMUL

Noise sensitive area: RH Hautala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Heikkilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Hietala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 3 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:36/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor CUMUL

Noise sensitive area: RH Kantola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Karppi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Katinhätä 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Katinhätä 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kesikylä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kotila Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:36/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor CUMUL

Noise sensitive area: RH Kupulisoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kupulisperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Lepola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Limingoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Nikula Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Ojakangas Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

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Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:36/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor CUMUL

Noise sensitive area: RH Ojatalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pahkala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Paskoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pinola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pokela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoskentie Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:36/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor CUMUL

Noise sensitive area: RH Pyhäkoski 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoski 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Seppälä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Tienvieri Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Uusitalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Uutela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH
 Stephanitorsbollwerk 3 (Haus LUV)
 DE-28211 Bremen
 +49 7142 77810
 Emma Berkovits / e.berkovits@wpd.fi
 Calculated:
 08-Aug-25 10:36/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor CUMUL

Noise sensitive area: RH Vaihoja 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihoja 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihojantie Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vältalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vitomaa Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vitoperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:36/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE2 44xF200 LF Indoor CUMUL

Noise sensitive area: RH Yppärilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, ind

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH
Stephanitorsbollwerk 3 (Haus LUV)
DE-28211 Bremen
+49 7142 77810
Emma Berkovits / e.berkovits@wpd.fi
Calculated:
08-Aug-25 10:36/4.1.264

DECIBEL - Main Result

Calculation: VE2 44xF200 LF Indoor CUMUL

Noise calculation model:

Finland Low frequency

Wind speed (at 10 m height):

Highest noise value at receptor

Spectral distribution:

From 20.0 Hz to 200.0 Hz

Meteorological coefficient, C0:

Selected option: Fixed value: 0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure tone penalty is subtracted from demand

Model: 5.0 dB(A)

Height above ground level, when no value in NSA object:

4.0 m; Don't allow override of model height with height from NSA object

Uncertainty margin:

0.0 dB; Uncertainty margin in NSA has priority

Deviation from "official" noise demands. Negative is more

restrictive, positive is less restrictive.:

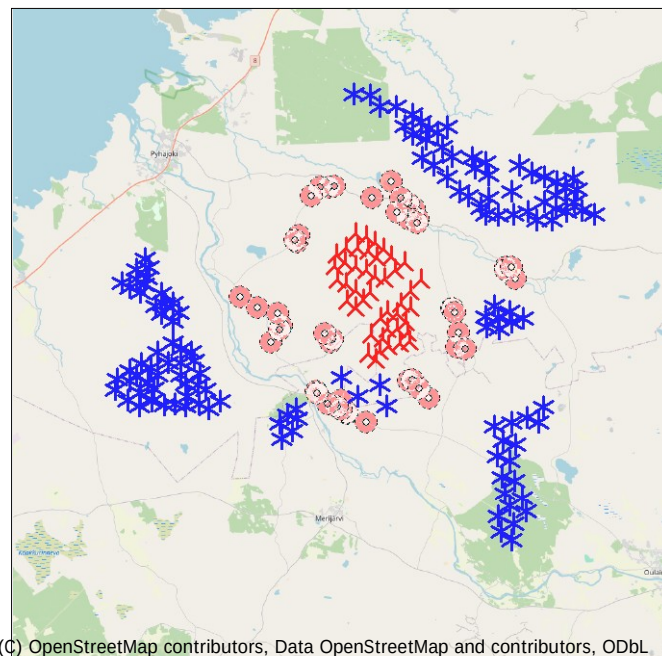
0.0 dB(A)

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

Scale 1:400,000
New WTG Existing WTG Noise sensitive area

WTGs

	East	North	Z	Row data/Description	WTG type		Type-generator	Power, rated	Rotor diameter	Hub height	Noise data		First wind speed	LwaRef	Last wind speed	LwaRef
					Valid	Manufact.					Creator	Name				
								[kW]	[m]	[m]			[m/s]	[dB(A)]	[m/s]	[dB(A)]
10	378,544	7,146,974	50.9	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2	
100	389,817	7,149,024	105.8	VESTAS V150-4.3 (3rd oct) 4300 150...Yes	VESTAS	V150-4.3 (3rd oct)-4,300	4,300	150.0	160.0	USER	V150 4.3 MW 3rd Oct serrated blades HH160m	8.0	96.6	8.0	96.6	
101	389,170	7,149,147	99.8	VESTAS V150-4.3 (3rd oct) 4300 150...Yes	VESTAS	V150-4.3 (3rd oct)-4,300	4,300	150.0	160.0	USER	V150 4.3 MW 3rd Oct serrated blades HH160m	8.0	96.6	8.0	96.6	
102	382,755	7,151,564	60.5	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2	
103	381,918	7,151,970	54.1	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2	
104	382,267	7,150,557	57.0	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2	
105	381,669	7,151,012	51.9	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2	
106	383,225	7,150,987	64.2	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2	
107	381,192	7,152,265	51.4	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2	
108	382,968	7,149,951	64.1	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2	
109	367,710	7,140,738	26.9	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
11	378,976	7,146,593	53.5	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2	
110	367,220	7,141,295	26.7	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
111	365,636	7,140,390	27.1	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
112	366,345	7,140,712	25.0	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
113	366,802	7,140,520	27.3	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
114	367,175	7,140,078	26.7	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
115	366,055	7,140,111	28.7	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
116	366,636	7,139,741	31.1	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
117	366,778	7,138,689	33.2	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
118	365,647	7,139,790	33.0	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
119	365,514	7,138,813	35.8	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
12	379,404	7,146,300	54.3	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2	
120	367,423	7,138,465	32.3	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
121	366,086	7,138,496	34.7	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
122	364,958	7,139,999	29.1	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
123	364,907	7,139,375	43.8	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
124	369,017	7,141,198	26.6	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
125	369,098	7,140,736	29.5	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
126	368,025	7,141,785	23.4	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
127	368,430	7,141,393	24.6	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
128	368,383	7,140,683	30.2	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
129	368,364	7,140,052	29.1	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
13	379,815	7,145,863	54.9	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2	
130	369,405	7,140,052	34.3	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
131	369,653	7,139,197	33.3	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
132	370,403	7,138,551	34.2	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
133	369,285	7,138,495	32.1	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
134	369,783	7,138,199	33.2	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
135	369,279	7,139,496	33.0	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
136	368,628	7,139,575	30.8	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
137	368,684	7,138,906	32.5	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
138	368,060	7,138,549	33.2	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
139	368,575	7,138,338	32.4	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
14	380,558	7,145,522	58.9	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2	
140	366,250	7,145,244	29.7	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
141	366,945	7,139,378	29.7	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2	
142	366,745	7,146,261	15.7	GE WIND ENERGY 5.5-158 Thrust 70...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6	
143	368,067	7,142,907	22.3	GE WIND ENERGY 5.5-158 Thrust 70...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6	
144	368,164	7,143,886	20.5	GE WIND ENERGY 5.5-158 Thrust 70...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6	
145	368,415	7,143,336	22.8	GE WIND ENERGY 5.5-158 Thrust 70...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6	
146	367,734	7,143,845	19.7	GE WIND ENERGY 5.5-158 Thrust 70...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6	
147	366,310	7,145,779	13.0	GE WIND ENERGY 5.5-158 Thrust 70...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6	
148	366,976	7,145,773	15.2	GE WIND ENERGY 5.5-158 Thrust 70...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6	
149	366,797	7,145,286	14.5	GE WIND ENERGY 5.5-158 Thrust 70...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6	
150	366,250	7,145,244	29.7	GE WIND ENERGY 5.5-158 Thrust 70...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6	
151	365,477	7,145,055	15.5	GE WIND ENERGY 5.5-158 Thrust 70...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6	
152	365,846	7,144,794	16.4	GE WIND ENERGY 5.5-158 Thrust 70...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6	
153	366,674	7,144,851	15.7	GE WIND ENERGY 5.5-158 Thrust 70...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6	

Project:

HAUK_LF_Indoor

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Calculated:

08-Aug-25 10:36/4.1.264

DECIBEL - Main Result

Calculation: VE2 44xF200 LF Indoor CUMUL

...continued from previous page

	East	North	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Creator	Noise data Name	First wind speed	LwaRef	Last wind speed	LwaRef
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]	[m/s]	[dB(A)]
154	366,448	7,144,481	20.3	GE WIND ENERGY 5.5-158 Thrust 70...	No	GE WIND ENERGY	5.5-158 Thrust 700-5.500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
155	367,230	7,143,718	20.8	GE WIND ENERGY 5.5-158 Thrust 70...	No	GE WIND ENERGY	5.5-158 Thrust 700-5.500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
156	367,563	7,144,351	18.6	GE WIND ENERGY 5.5-158 Thrust 70...	No	GE WIND ENERGY	5.5-158 Thrust 700-5.500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
157	367,534	7,143,285	22.4	GE WIND ENERGY 5.5-158 Thrust 70...	No	GE WIND ENERGY	5.5-158 Thrust 700-5.500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
18	377,476	7,146,419	39.8	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
19	378,036	7,146,370	45.8	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
20	378,615	7,146,157	50.3	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
21	379,106	7,145,795	53.1	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
23	379,986	7,145,097	54.3	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
24	381,344	7,144,532	63.4	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
25	376,926	7,146,059	34.6	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
26	377,348	7,145,642	37.1	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
27	377,962	7,145,405	44.2	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
28	378,484	7,145,153	49.8	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
29	378,892	7,144,832	51.9	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
30	379,423	7,144,656	52.2	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
31	380,790	7,143,991	51.6	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
32	376,806	7,145,422	33.9	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
34	376,885	7,144,741	37.4	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
35	377,402	7,144,519	38.0	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
36	377,887	7,144,113	41.4	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
37	378,600	7,144,017	45.9	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
38	380,232	7,143,312	55.6	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
39	380,786	7,143,103	57.7	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
42	378,255	7,143,588	42.2	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
43	379,510	7,142,950	51.6	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
44	380,022	7,142,836	55.1	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
45	385,198	7,142,977	95.9	VESTAS V126-3.3 GrSt 3rdOc 3300 1...	Yes	VESTAS	V126-3.3 GrSt 3rdOc-3300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0	96.2
46	380,451	7,142,299	56.2	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
45	385,375	7,142,368	91.2	VESTAS V126-3.3 GrSt 3rdOc 3300 1...	Yes	VESTAS	V126-3.3 GrSt 3rdOc-3300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0	96.2
47	384,738	7,142,499	89.8	VESTAS V126-3.3 GrSt 3rdOc 3300 1...	Yes	VESTAS	V126-3.3 GrSt 3rdOc-3300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0	96.2
48	377,385	7,143,584	38.8	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
48	384,777	7,141,867	86.1	VESTAS V126-3.3 GrSt 3rdOc 3300 1...	Yes	VESTAS	V126-3.3 GrSt 3rdOc-3300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0	96.2
49	377,878	7,143,194	40.4	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
49	385,434	7,141,781	91.3	VESTAS V126-3.3 GrSt 3rdOc 3300 1...	Yes	VESTAS	V126-3.3 GrSt 3rdOc-3300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0	96.2
50	386,018	7,142,739	88.1	VESTAS V126-3.3 GrSt 3rdOc 3300 1...	Yes	VESTAS	V126-3.3 GrSt 3rdOc-3300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0	96.2
50	379,128	7,142,586	48.6	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
51	386,676	7,142,270	87.6	VESTAS V126-3.3 GrSt 3rdOc 3300 1...	Yes	VESTAS	V126-3.3 GrSt 3rdOc-3300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0	96.2
52	386,064	7,142,091	88.9	VESTAS V126-3.3 GrSt 3rdOc 3300 1...	Yes	VESTAS	V126-3.3 GrSt 3rdOc-3300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0	96.2
52	379,437	7,142,013	49.8	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
53	378,940	7,139,086	55.6	VESTAS V126-3.3 GrSt 3rdOc 3300 1...	Yes	VESTAS	V126-3.3 GrSt 3rdOc-3300	3,300	126.0	137.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0	96.2
53	379,965	7,142,028	53.7	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
54	380,479	7,141,778	61.2	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
54	377,736	7,138,546	50.6	VESTAS V126-3.3 GrSt 3rdOc 3300 1...	Yes	VESTAS	V126-3.3 GrSt 3rdOc-3300	3,300	126.0	137.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0	96.2
55	379,245	7,137,959	57.3	VESTAS V126-3.3 GrSt 3rdOc 3300 1...	Yes	VESTAS	V126-3.3 GrSt 3rdOc-3300	3,300	126.0	137.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0	96.2
56	378,606	7,141,726	41.8	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
56	376,877	7,139,540	53.9	VESTAS V126-3.3 GrSt 3rdOc 3300 1...	Yes	VESTAS	V126-3.3 GrSt 3rdOc-3300	3,300	126.0	137.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0	96.2
57	379,179	7,141,538	46.5	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
57	384,645	7,148,270	73.2	NORDEX N149/4.0-4.8 4800 149.0 IO...	Yes	NORDEX	N149/4.0-4.8-4.800	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0	96.4
58	385,558	7,147,831	78.8	NORDEX N149/4.0-4.8 4800 149.0 IO...	Yes	NORDEX	N149/4.0-4.8-4.800	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0	96.4
58	379,505	7,141,090	47.5	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
59	384,939	7,147,912	73.8	NORDEX N149/4.0-4.8 4800 149.0 IO...	Yes	NORDEX	N149/4.0-4.8-4.800	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0	96.4
59	380,082	7,141,202	51.8	FUTURE F200 9.0 MW 9000 200.0 H...	Yes	FUTURE	F200 9.0 MW-9000	9,000	200.0							

Project:

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Calculated:
08-Aug-25 10:36/4.1.264

DECIBEL - Main Result

Calculation: VE2 44xF200 LF Indoor CUMUL

...continued from previous page

	East	North	Z	Row data/Description	WTG type Valid Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator Name		First wind speed	LwaRef	Last wind speed	LwaRef	
			[m]				[kW]	[m]	[m]			[m/s]	[dB(A)]	[m/s]	[dB(A)]	
WTG16	384,981	7,136,654	60.1	FUTURE F200 9.0 MW 9000 200.0	!-! ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG17	387,306	7,136,734	81.1	FUTURE F200 9.0 MW 9000 200.0	!-! ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG18	386,694	7,137,064	82.9	FUTURE F200 9.0 MW 9000 200.0	!-! ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7
WTG19	387,577	7,137,548	84.4	FUTURE F200 9.0 MW 9000 200.0	!-! ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	V172-7.2, PO7200, with STE + 2dB	8.0	102.7	8.0	102.7

Calculation Results

Sound level

Noise sensitive area		Most critical demand										Predicted sound level		Demands fulfilled ?	
No.	Name	East	North	Z	Immission height	Frequency	Noise	WTG noise	Noise						
					[m]	[Hz]	[dB]	[dB]							
HH	Hietakaivonkangas	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (173)	380,697	7,139,280	50.7	4.0	50.0	44.00	40.95					Yes	
HH	Hiitoperä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (170)	377,133	7,137,599	44.2	4.0	50.0	44.00	39.30					Yes	
HH	Holma	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (169)	378,138	7,137,133	48.2	4.0	50.0	44.00	38.99					Yes	
HH	Kankaala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (174)	383,213	7,141,681	67.3	4.0	50.0	44.00	40.69					Yes	
HH	Koskela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (175)	385,840	7,145,013	76.7	4.0	50.0	44.00	39.29					Yes	
HH	Kylä-Anttila	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (171)	376,833	7,138,334	47.5	4.0	50.0	44.00	40.30					Yes	
HH	Liminkajärvi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (168)	379,944	7,149,798	48.9	4.0	50.0	44.00	39.78					Yes	
HH	Lystilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (167)	381,168	7,148,313	55.7	4.0	50.0	44.00	40.69					Yes	
HH	Ruunakorpi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (172)	380,450	7,139,211	49.2	4.0	50.0	44.00	41.12					Yes	
HH	Vaihoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (166)	374,905	7,146,787	26.0	4.0	50.0	44.00	39.52					Yes	
RH	Haanpää	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (176)	376,666	7,149,614	36.6	4.0	50.0	44.00	38.19					Yes	
RH	Hautala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (177)	386,385	7,144,428	79.5	4.0	50.0	44.00	39.22					Yes	
RH	Heikkilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (178)	378,937	7,149,007	49.4	4.0	50.0	44.00	40.21					Yes	
RH	Hietala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (179)	373,282	7,141,550	30.6	4.0	50.0	44.00	38.82					Yes	
RH	Jukkola 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (180)	382,973	7,142,986	70.2	4.0	50.0	44.00	41.11					Yes	
RH	Jukkola 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (181)	382,998	7,142,946	70.6	4.0	50.0	44.00	41.09					Yes	
RH	Jukkola 3	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (182)	383,051	7,142,762	70.2	4.0	50.0	44.00	41.04					Yes	
RH	Kantola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (183)	380,813	7,148,601	55.0	4.0	50.0	44.00	40.57					Yes	
RH	Karppi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (184)	377,182	7,137,687	46.3	4.0	50.0	44.00	39.54					Yes	
RH	Katinhänkä 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (185)	373,808	7,142,364	30.0	4.0	50.0	44.00	38.89					Yes	
RH	Katinhänkä 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (186)	373,789	7,142,182	30.1	4.0	50.0	44.00	38.88					Yes	
RH	Keskikylä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (187)	380,437	7,148,967	52.4	4.0	50.0	44.00	40.35					Yes	
RH	Kotila	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (188)	381,332	7,147,774	56.3	4.0	50.0	44.00	40.91					Yes	
RH	Kupulisoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (189)	376,466	7,141,416	38.6	4.0	50.0	44.00	41.21					Yes	
RH	Kupulisperä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (190)	376,497	7,141,568	37.2	4.0	50.0	44.00	41.35					Yes	
RH	Lepola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (191)	376,821	7,137,810	44.9	4.0	50.0	44.00	39.36					Yes	
RH	Limingoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (192)	385,875	7,144,908	77.9	4.0	50.0	44.00	39.29					Yes	
RH	Nikula	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (193)	380,797	7,147,767	56.2	4.0	50.0	44.00	41.25					Yes	
RH	Ojakangas	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (194)	376,989	7,149,696	39.3	4.0	50.0	44.00	38.31					Yes	
RH	Ojatalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (195)	381,260	7,147,613	56.5	4.0	50.0	44.00	41.07					Yes	
RH	Pahkala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (196)	376,133	7,141,880	33.9	4.0	50.0	44.00	40.98					Yes	
RH	Paskoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (197)	371,686	7,143,992	21.2	4.0	50.0	44.00	38.43					Yes	
RH	Pirola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (198)	376,653	7,137,979	44.9	4.0	50.0	44.00	39.44					Yes	
RH	Pokela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (199)	376,196	7,149,635	34.8	4.0	50.0	44.00	37.82					Yes	
RH	Pyhänskoskentie	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (200)	376,101	7,138,166	41.8	4.0	50.0	44.00	39.24					Yes	
RH	Pyhänskoski 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (201)	375,536	7,138,887	41.9	4.0	50.0	44.00	39.41					Yes	
RH	Pyhänskoski 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (202)	375,606	7,138,735	42.4	4.0	50.0	44.00	39.40					Yes	
RH	Seppälä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (203)	372,654	7,143,438	22.9	4.0	50.0	44.00	38.51					Yes	
RH	Tienvieri	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (204)	386,201	7,145,044	78.9	4.0	50.0	44.00	39.14					Yes	
RH	Uusitalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (205)	380,265	7,148,166	56.7	4.0	50.0	44.00	41.12					Yes	
RH	Uutela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (206)	383,121	7,140,866	62.8	4.0	50.0	44.00	40.18					Yes	
RH	Vaihoja 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (207)	374,977	7,147,206	24.4	4.0	50.0	44.00	39.25					Yes	
RH	Vaihoja 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (208)	374,765	7,146,909	24.4	4.0	50.0	44.00	39.20					Yes	
RH	Vaihojantie	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (209)	375,711	7,149,190	31.8	4.0	50.0	44.00	37.93					Yes	
RH	Vitoma	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (210)	381,529	7,138,247	50.6	4.0	50.0	44.00	39.14					Yes	
RH	Vitoperä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (211)	381,074	7,138,777	49.7	4.0	50.0	44.00	39.91					Yes	
RH	Valitalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (212)	373,673	7,143,034	30.0	4.0	50.0	44.00	38.84					Yes	
RH	Yppärilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (213)	383,603	7,140,826	67.9	4.0	50.0	44.00	40.04					Yes	

*)Spectral distribution, please see details in report "Detailed results"

Distances (m)

WTG	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH
	Hietakaivonkangas	Hiitoperä	Holma	Kankaala	Koskela	Kylä-Anttila	Liminkajärvi	Lystilä	Ruunakorpi	Vaihoja	Haanpää	Hautala	Heikkilä	Hietala	Jukkola	Jukkola	Jukkola	Kantola	Karppi	Katinhänkä	Katinhänkä	Keskikylä
10	7989	9481	9849	7058	7555	8807	3153	2946	7994	3644	3240	8244	2071	7557	5960	6005	6169	2792	9387	6609	6751	2749
100	13346	17071	16668	9876	5648	16818	9903	8679	13566	15079	13164	5736	10880	18146	9127	9134	9219	9014	16976	17393	17427	9381
101	13006	16681	16311	9551	5308	16405	9249	8046	13220	14459	12513	5480	10234	17611	8739	8749	8844	8375	16585	16793	16885	8735
102	12455	15054	15152	9893	7241	14494	9319	3618	12566	9189	6393	8006	4595	13785	8581	8621	8807	3543	14955	12833	12977	3481
103	12748	15147	15311	10370	7986	14553	2934	3733	12843	8721	5756	8765	4203	13534	9046	9088	9278	3546	15048	12572	12724	3348
104	11385	13938	14045	8926	6595	13376	2443	2499	11490	8271	5680	7384	3673	12722	7603	7646	7834	2437	13838	11776	11917	2424
105	11772	14160	14322	9458	7306	13569	2109	2746	11864	7975	5195	8099	3389	12644	8132	8175	8366	2559	14061	11687	11835	2388
106	11977	14709	14759	9306	6521	14176	3489	3374	12099	9320	6701	7281	4723	13709	8005	8044	8227	3393	14609	12769	12906	3443
107	12995	15218	15438	10775	8614	14597	2764	3953	13076	8339	5245	9402	3962	13319	9449	9493	9684	3684	15120	12352	12509	3384
108	10910	13662	13699	8274	5712	13137	3028	2435	11032	8662	6311	6495	4140	12822	6965	7005	7190	2544	13561	11895	12026	2716
109	13069	9933	11033	15532	18628	9435	15224	15443	12832	9400	12609	19036	13944	5631	15428	15447	15475	15281	9951	6311	6248	15156
11	7512	9181	9497	6486	7043	8532	3349	2786	7528	4076	3803	7718	2414	7607	5383	5429	5593	2721	9085	6678	6809	2787
110	13627	10580	11685	15998	18988	10059	15304	15614	13394	9446	12587	19419	14028	6067	15844	15865	15900	15432	10595	6674	6629	15282
111	15102	18311	12919	17624	20726	11384	17124	17436	14861	11262	14378	21138	15849	7733	17530	17549	17576	17256	11858	8407	8347	17106
112	14423	11229	12324	16896	19676	10754	16356	16658	14185	10496	13630	20382	15079	6987	16783	16802	16832	16479	11251	7644	7588	16332
113	13950	10737	11831	16452	19561	10267	16088	16343	13711	10243	13416	19969	14809	6561	16358	16377	16403	16174	10760	7245	7182	16035
114	13545	10262	11351	16118	19307	9814	16048	16236	13303	10235	13454	19696	14767	6282	16063	16081	16102	16082	10288	7016	6940	15968
115	14665	11360	12444	17230	20384	10924	16934	17195	14423	11086	14244	20783	15656	7369	17161	17179	17202	17026	11388	8074	8006	16890
116	14068	10714	11793	16690	19195	10293	16681	16781	13824	10864	14074	20297	15401	6887	16665	16673	16691	16718	10744	7636	7558	16600
117	13931	10412	11465	16705	20088	10061	17227	17311	13682	11472	14735	20429	15947	7105	16755	16769	16775	17182	10451	7932	7832	17093
118	15058	11693	12770	17667	20854	11280	17453	17707	14814	11605	14762	21520	16174	7835	17618	17636	17656	17540	11725	8557	8486	17406
119	15190	11682	12735	17929	21251	11329	18136	18311	14941	12319	15525	21613	16855	8236	17950	17966	17976	18162	11722	9022	8934	18050
12	7138	8993	9254	5987	6563	8370	3540	2676	7166	4526	4299	7227	2747	7749	4870	4916	5082	6898	8896	6842	6964	2860
120	13298	9749	10797	16113	19546	9411	16888	16908	13048	11190	14481	19877	15611	6621	16193	16206	16208	16793	9789	7481	7371	16722
121	14632	11084	12129	17421	20802	10748	17883	17995	14382	12104	15347	21148	16602	7871	17474	17488	17494	17860	11125	8637	8539	17765
122	15756	12410	13488	18332	21476	11991	17906	18217	15512	12042	15150	12680	16830	8467	18261	18279	18303	18038	12441	9161	9097	17889
123	15790	12354	13419	18450	21679	11971	18297	18555	15544	12445	15592	22064	17018	8652	18423	18440	18457	18388	12390	9389	9315	18253
124	11837	8879	9986	14204	17251	8325	13906	14081	11605	8118	11372	17666	12625	4280	14070	14090	14122	13927	8888	4931	4873	13812
125	11690	8626	9731	14146	17280	8099	14134	14251	11454	8386	11667	17677	12854	4262	14056	14075	14100	14110	8640	4983	4909	14011
126	12918	10025	11132	15189	18106	9460	14363	14675	12689	8505	11660	18549	13086	5262	14996	15018	15058	14491	10032	5812	5778	14390
127	12447	9494	10601	14785	17782	8942	14256	14496	12216	8427	11637	18209	12976	4854	14630	14650	14685	14328	9504	5465	5416	14146

DECIBEL - Main Result

Calculation: VE2 44xF200 LF Indoor CUMUL

WTG	HH Hietakaivonkangas	HH Hiitoperä	HH Holma	HH Kankaala	HH Koskela	HH Kyla-Anttila	HH Liminkajärvi	HH Lystlä	HH Ruunakorpi	HH Vaihoja	HH Haanpää	HH Rautala	HH Heikkilä	HH Hietala	HH Jukola	HH Jukkola	HH Jukola	HH Kantola	HH Karppi	HH Katinhanta	HH Katinhanta	HH Keskikylä
128	12394	9278	10381	14864	17986	8770	14723	14889	12157	8933	12181	18387	13442	4975	14771	14789	14815	14738	9295	5680	5610	14626
129	12357	9106	10200	14938	18166	8641	15136	15237	12115	9388	12663	18544	13856	5140	14900	14917	14935	15101	9129	5914	5828	15007
130	6642	8689	8890	5388	6084	8098	3938	2798	6682	4997	4898	6724	3264	7829	4272	4317	4482	2914	8590	6952	7062	3166
131	11319	8109	8028	13904	17168	7624	14356	14374	11077	8695	12006	17535	13079	4156	13882	13898	13813	14256	8129	4973	4874	14184
132	11044	7649	8732	13785	17200	7232	14775	14686	10797	9230	12558	17530	13507	4325	13848	13862	13865	14594	7678	5224	5101	14551
133	10320	6798	7864	13187	16735	6434	14749	14532	10069	9386	12712	17028	13497	4157	13329	13340	13331	14469	6834	5112	4964	14462
134	11439	7899	8957	14287	17792	7550	15537	15414	11188	1001	13346	18100	14271	5030	14006	14477	14412	15330	7938	5952	5820	15298
135	10968	7375	8423	13674	17423	7062	15412	15222	10907	9907	13329	17732	14132	4842	14042	14031	15161	7417	5647	5467	15148	
136	11420	8081	9169	14105	17456	7643	174829	14802	11175	9209	12528	17843	13555	4499	14132	14147	14141	14695	8107	5361	5249	14636
137	12072	8732	9818	14736	18050	8298	15250	15283	11827	9560	12860	18407	13972	5055	14744	14760	14771	15163	8759	5882	5781	15087
138	12019	8550	9618	14791	18211	8169	15667	15631	11770	10040	13356	18542	14393	5304	14860	14873	14876	15527	8584	6182	6066	15471
139	12658	9123	10176	15473	18919	8776	16364	16345	12408	10711	14018	19245	15089	6023	15559	15572	15572	16238	9162	6899	6784	16178
140	12159	8590	9639	15015	18511	8258	16143	16064	11907	10517	13878	18822	14873	5698	15130	15141	15137	15971	8631	6602	6477	15927
141	6244	8632	8732	4669	5306	8096	4320	2856	6313	5793	5647	5928	3843	8290	3502	3548	3720	3089	8532	7453	7549	3447
142	14486	11040	12106	17180	20469	10658	17341	17509	14239	11532	14749	20837	16060	7447	17182	17197	17120	17361	11075	8225	8139	17250
143	13752	10343	11416	16430	19718	9943	16661	16796	13506	10874	14116	20085	15380	6699	16429	16445	16458	16655	10376	7485	7396	16552
144	15601	13526	14598	17093	19136	12829	13665	14568	15412	8177	10472	19725	12498	8057	16555	16588	16678	14261	13507	8067	8140	13957
144	13140	10506	11609	15195	17897	9887	13731	14172	12923	7861	10950	18380	12464	5388	14906	14931	14985	13959	10504	5766	5768	13774
143	13352	10504	12045	15209	17712	10294	13181	13736	13146	7338	10251	18229	11928	5626	14836	14864	14930	13499	10943	5846	5878	13283
145	12935	10437	11533	14890	17506	9792	13217	13689	12723	7350	10368	18003	11953	5184	14562	14589	14648	13470	10440	5480	5497	13275
144	13743	11286	12381	15629	18154	10638	13585	14157	13534	7751	10633	18660	12355	6004	15263	15290	15356	13917	11277	6252	6279	13696
147	15786	13567	14651	17392	19545	12890	14214	15072	15591	8653	10423	20120	13033	8154	16895	16927	17011	14775	13552	8239	8299	14482
148	15179	13037	14114	16744	18879	12348	13578	14417	14987	7993	10423	19455	12390	7589	16237	16269	16354	14123	13020	7635	7701	13834
149	15142	12882	13967	16807	19045	12208	13900	14686	14944	8245	10776	19606	12697	7484	16338	16369	16449	14402	12868	7596	7650	14127
150	15631	13303	14394	17334	19591	12642	14430	15229	15431	8790	11293	20151	13232	7945	16875	16909	16984	14944	13293	8090	8139	14666
151	16278	13837	14458	18050	20363	13195	15225	16025	15673	5882	10282	20911	14028	8585	17618	17647	17723	15740	13830	8755	8794	15463
152	15841	13386	14643	17643	19840	12752	15368	16215	15636	9275	15636	20542	13725	7842	17325	17352	17425	14718	12522	7666	7690	14565
153	15089	12728	13820	16804	19167	12070	14163	14902	14886	8455	11069	17176	12949	7387	16406	16435	16510	14628	12717	7552	7600	14365
154	15168	12710	13807	16997	19400	12068	14506	15210	14961	8766	11435	19937	13284	7436	16592	16621	16692	14494	12703	7659	7693	14691
155	14180	11642	12742	16112	18656	11010	14904	14676	13968	8266	11126	19168	12847	6429	15760	15787	15851	14434	11637	6717	6737	14212
156	14079	11713	12804	15876	18290	11052	13527	14170	13875	7736	10515	18822	12291	6368	15471	15499	15570	13915	11702	6554	6593	13677
157	13759	11158	12260	15761	18188	10535	14016	14532	13544	8161	11111	18886	12759	6004	15442	15468	15527	14304	11165	6342	6352	14099
18	7831	8827	9309	7440	8481	8110	4185	4149	7797	2598	3296	9128	2972	6426	6481	6523	6668	3987	8737	5468	5617	3906
19	7573	8818	9238	6984	7921	8125	3924	3685	7555	3159	3521	8571	2787	6771	5985	6028	6178	3562	8725	5825	5965	3536
20	7185	8686	9037	6416	7315	8023	3877	3341	7184	3764	3969	7959	2868	7048	5389	5433	5586	3287	8591	6123	6253	3349
21	6706	8430	8716	5813	6779	7799	4090	3254	6720	4317	4532	7406	3216	7047	4779	4823	4976	3284	8334	6312	6429	3440
23	5860	8023	8176	4699	5855	7462	4702	3426	5905	5355	5606	6434	4048	7585	3658	3701	3854	3600	7923	6755	6848	3896
24	5291	8111	8064	3409	4522	7665	5450	3785	5395	6822	6907	5042	5081	8596	2246	2292	2460	4103	8011	7841	7912	4527
25	7757	8463	9008	7661	8975	7725	4806	4803	7702	2149	3565	9598	3569	5798	6783	6823	6956	4644	8376	4835	4987	4559
26	7189	8046	8546	7077	8515	7326	4901	4661	7140	2698	4030	9118	3721	5799	6220	6260	6389	4556	7957	4825	4964	4538
27	6707	7850	8274	6437	7888	7106	4820	4328	6675	3355	4404	7939	3732	6064	5564	5604	5734	4283	7757	5148	5273	4337
28	6276	7675	8028	5867	7357	7016	4869	4145	6259	3934	4817	8734	3880	6328	4985	5025	5156	4160	7580	5445	5575	4284
29	5838	7444	7736	5348	6951	6816	5077	4159	5833	4441	5275	7504	4175	6500	4479	4518	4646	4230	7347	5651	5750	4414
30	5525	7420	7633	4818	6427	6832	5169	4051	5542	4995	5673	6966	4378	6882	3923	3963	4093	4182	7321	6065	6153	4428
31	4712	7365	7354	3948	5153	6838	5968	4338	4749	6515	6873	6612	5872	7895	2473	2504	2574	6080	7264	5404	5488	4988
32	6471	7038	7245	7419	8203	5308	5838	5233	7201	4194	4962	6172	4171	7301	6631	6662	6788	5133	745	4283	4407	5074
34	6660	7147	7171	7028	8959	6407	5911	5576	6580	2847	4878	9505	4734	4814	6335	6371	6476	5506	7061	3899	4017	5520
35	6189	6925	7423	6467	8453	6210	5860	5346	6121	3374	5148	8983	4744	5078	5778	5813	5916	5320	6836	4191	4303	5385
36	5591	6558	6985	5885	8004	5874	6047	5330	5532	4005	5635	8504	5006	5270	5210	5243	5339	5358	6465	4438	4530	5483
37	5180	6584	6899	5170	7308	5951	5936	5005	5150	4619	5922	7795	5002	5863	4492	4526	4625	5090	6487	5069	5149	5280
38	4059	6500	6525	3397	5860	6028	6493	5087	4107	6361	7241	6253	5840	7171	2760	2790	2872	3202	6399	6494	6542	5659
39	3824	6606	6531	2813	5404	6194	6748	5224	3906	6940	7705	5754	6187	7663	2190	2218	2291	5498	6506	7017	7057	5875
42	4952	6093	6456	5312	7718	5442	6437	5551	4897	4632	6232	8174	5462	5374	4757	4787	4867	5628	5998	4612	4682	5805
43	3857	5855	5977	3914	6658	5336	6862	5613	3855	5994	7246	7032	6084	6384	3463	3488	3546	5799	5755	5732	5773	6088
44	3619	5981	6006	3393	6212	5517	6963	5596	3650	6465	7564	6559	6266	6862	2954	2978	3030	5819	5581	6232	6268	6145
45	5825	9694	9166	2371	2135	9567	8610	6687	6061	10976												

To be continued on next page...

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH
Stephanitorsbollwerk 3 (Haus LUV)
DE-28211 Bremen
+49 7142 77810
Emma Berkovits / e.berkovits@wpd.fi
Calculated:
08-Aug-25 10:36/4.1.264

DECIBEL - Main Result

Calculation: VE2 44xF200 LF Indoor CUMUL

...continued from previous page

WTO	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH
	Hietakaivonkangas	Hiitoperä	Holma	Kankaala	Koskela	Kylä-Anttila	Liminkajärvi	Lystilä	Ruunakorpi	Vaihoja	Haanpää	Hautala	Heikkilä	Hietala	Jukka	Jukka	Jukka	Kantola	Karppi	Katinhanta	Katinhanta	Keskikylä
															1	2	3		1	2		
81	7442	3613	4603	10642	14547	3470	14088	13438	7186	9632	12752	14716	12936	4305	11042	11043	10995	13481	3671	5119	4936	13596
82	14045	16244	16477	11798	9488	15616	3748	5002	14126	9099	5886	10266	4886	14205	10472	10515	10706	4733	16147	13236	13398	4421
83	14467	16466	16760	12392	10302	15809	3967	5489	14533	8846	5547	11088	4948	14104	11067	11112	11304	5161	16370	13136	13303	4777
84	13458	15583	15835	11312	9210	14947	3069	4439	13533	8394	5202	9998	4181	13494	9986	10030	10222	4137	15486	12525	12686	3791
85	13661	15965	16164	11330	8927	15353	3554	4621	13749	9121	5989	9701	4761	14118	10005	10048	10238	4390	15867	13151	13308	4127
86	13155	15668	15797	10646	8006	15090	3605	4221	13260	9417	6457	8768	4881	14189	9330	9371	9558	4086	15568	13229	13379	3943
87	13321	15720	15887	10916	8427	15123	3444	4310	13418	9160	6114	9198	4696	14047	9594	9636	9825	4119	15621	13082	13236	3910
88	14551	16367	16713	12647	10795	15689	4007	5708	14603	8400	5071	11589	4818	13748	11330	11375	11567	5337	16273	12782	12955	4900
89	15200	16891	17275	13384	11601	16198	4683	6447	15244	8634	5314	12395	5390	14054	12071	12117	12309	6062	16799	13097	13272	5605
9	8308	9584	10010	7542	8114	8886	3286	3367	8298	3126	2814	8803	2082	7324	6473	6518	6678	3159	9492	6363	6514	3036
90	15463	16966	17400	13810	12232	16253	5060	6910	15493	8402	5141	13030	5581	13869	12510	12557	12748	4999	16875	12924	13102	6014
91	13528	16128	16231	10922	8085	15563	4184	4684	13641	10008	7049	8828	5462	14750	9616	9656	9840	4584	16028	13793	13941	4477
92	13050	16889	16391	9582	5526	16707	10932	9524	13284	15793	14137	5390	11808	18444	9025	9024	9078	9901	16798	17687	17760	10314
93	12761	16511	16088	9286	5076	16273	9767	8445	12983	14797	13002	5126	10691	17713	8573	8579	8657	8801	16417	16921	17005	9192
94	12715	16516	16053	9238	5098	16309	10268	8879	12944	15174	13480	5045	11154	17921	8610	8612	8677	9250	16424	17150	17228	9659
95	12118	15880	15449	8644	4444	15651	9494	8085	12342	14377	12695	4476	10366	17167	7949	7954	8028	8459	15787	16387	16467	8872
96	12365	16029	15666	8917	4674	15749	8760	7487	12578	13878	12007	4880	9708	16966	8088	8099	8196	7831	15933	16152	16243	8208
97	11800	15511	15116	8336	4098	15255	8835	7440	12018	13755	12040	4239	9714	16639	7566	7574	7660	7810	15416	15846	15930	8219
98	11234	14974	14558	7763	3541	14736	8800	7307	11455	13533	11956	3634	9614	16245	7036	7042	7121	7697	14880	15470	15548	8131
99	13677	17347	16981	10223	5979	17066	9647	8532	13891	14967	12925	6145	10674	18219	9406	9417	9513	8843	17251	17392	17487	9181
WTG01	7038	8912	7805	8033	11119	9506	16749	14969	7148	16515	17895	10579	16362	14196	9356	9311	9119	15345	8905	14223	14131	15806
WTG02	7763	9384	8280	8876	11958	10015	17584	15810	7859	17244	18688	11409	17183	14752	10201	10156	9965	16184	9385	14821	14723	16643
WTG03	7650	9603	8496	8450	11346	10193	17193	15389	7770	17114	18424	10771	16843	14874	9765	9720	9528	15774	9596	14890	14800	16244
WTG04	8428	9910	8811	9570	12609	10562	18280	16505	8517	17906	19376	12048	17877	15320	10894	10849	10657	16879	9915	15414	15311	17339
WTG05	8583	10354	9249	9425	12247	10975	18170	16362	8694	18058	19398	11654	17822	15696	10738	10692	10501	16749	10353	15744	15649	17220
WTG06	9235	10830	9729	10165	12990	11475	18907	17104	9337	18716	21005	12391	18549	16225	11481	11435	11243	17489	10834	16305	16205	17958
WTG07	10058	11073	10007	11415	14483	11780	20097	18340	10122	19490	20195	13916	19660	16570	10741	12697	12505	18708	11093	16746	16631	19161
WTG08	9353	10311	9245	10831	14025	11018	19474	17736	9411	18765	20412	13483	19011	15809	12157	12114	11923	18097	10330	15988	15872	18544
WTG09	9377	10633	9548	10601	13621	11314	19305	17534	9455	18841	20368	13050	18890	16095	11926	11881	11689	17907	10645	16229	16121	18365
WTG10	8657	9797	8715	10069	13265	10484	18723	16979	8724	18097	19695	12728	18272	15269	11395	11352	11161	17342	9811	15416	15305	17791
WTG11	6737	9010	7911	7360	10268	9547	16108	14297	6876	16158	17386	9707	15774	14142	8673	8627	8435	14684	8993	14105	14024	15156
WTG12	6051	8282	7184	6886	10014	8816	15609	13823	6182	15499	16798	9494	15235	13415	8208	8164	7972	14201	8264	13385	13303	14664
WTG13	5858	8481	7405	6261	9199	8952	15011	13195	6019	15195	16337	8657	14683	13427	7570	7525	7333	13584	8453	13332	13261	14058
WTG14	6494	9127	8048	6720	9433	9604	15466	13629	6660	15793	16872	8853	15185	14080	8012	7965	7775	14027	9100	13981	13911	14508
WTG15	5761	8804	7771	5564	8204	9196	14290	12439	5957	14848	15787	7633	14045	13481	6835	6788	6599	12842	8764	13308	13250	13329
WTG16	5025	7904	6860	5329	8404	8320	14077	12267	5203	14290	15398	7900	13752	12683	6643	6598	6406	12653	7868	12548	12483	13125
WTG17	7083	10210	9177	6421	8408	10595	14996	13105	7290	15964	16706	7749	14855	14828	7607	7560	7378	13527	10170	14625	14574	14030
WTG18	6393	9575	8556	5783	7996	9942	14413	12533	6603	15281	16064	7371	14241	14142	6994	6947	6763	12949	9533	13933	13883	13448
WTG19	7095	10444	9448	6010	7664	10773	14433	12528	7318	15682	16267	6982	14351	14845	7125	7078	6903	12958	10396	14587	14546	13467

WTO	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	R
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Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:36/4.1.264

DECIBEL - Main Result

Calculation: VE2 44xF200 LF Indoor CUMUL

...continued from previous page

WTG	RH Vältalo	RH Vitomaa	RH Vitoperä	RH Yppärilä
152	8022	16994	16374	18195
153	7231	16257	15629	17401
154	7368	16318	15699	17540
155	6479	15310	14700	16627
156	6250	15242	14616	16423
157	6144	14874	14272	16256
18	5091	9121	8447	8296
19	5493	8842	8179	7856
20	5847	8429	7779	7300
21	6095	7927	7289	6702
23	6642	7021	6414	5597
24	7816	6287	5761	4340
25	4442	9067	8381	8483
26	4507	8495	7811	7894
27	4901	7997	7322	7265
28	5258	7547	6883	6703
29	5520	7093	6436	6184
30	5975	6746	6107	5670
31	7181	5791	5223	4235
32	3940	8590	7898	8205
34	3638	7983	7289	7775
35	4014	7507	6816	7217
36	4350	6904	6216	6594
37	5025	6470	5795	5933
38	6566	5228	4613	4188
39	7113	4912	4336	3622
42	4615	6264	5577	6019
43	5838	5117	4457	4611
44	6353	4829	4193	4106
45	11526	5987	5887	2679
45	6818	4192	3577	3479
46	11722	5637	5603	2349
47	11078	5327	5223	2022
48	3753	6757	6060	6802
48	11166	4863	4823	1569
49	4208	6148	5453	6196
49	11828	5268	5296	2066
50	12349	6350	6336	3081
50	5474	4959	4278	4808
51	13026	6533	6602	3396
52	12428	5945	5991	2768
52	5854	4308	3627	4332
53	6583	2721	2157	4977
53	6372	4091	3435	3831
54	6921	3683	3060	3266
54	6055	3804	3346	6294
55	7537	2302	2004	5217
56	5104	4543	3846	5077
56	4741	4828	4266	6848
57	5706	4044	3349	4481
57	12158	10496	10143	7517
58	12817	10396	10104	7273
58	6148	3490	2795	4106
59	12269	10246	9916	7209
59	6666	3290	2620	3541
60	7172	3190	2571	3008
60	11901	10893	10499	8029
61	14363	11211	11002	7954
62	5271	3983	3301	5189
62	15354	12088	11906	8805
63	14634	11046	10876	7757
63	5772	3621	2925	4584
64	15930	13262	13044	10007
64	5767	3467	2787	4837
65	15389	13112	12859	9901
66	14035	11840	11559	8682

To be continued on next page...

Project:

HAUK_LF_Indoor

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Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

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Calculated:

08-Aug-25 10:36/4.1.264

DECIBEL - Main Result

Calculation: VE2 44xF200 LF Indoor CUMUL

...continued from previous page

WTG	RH Vältalo	RH Vitomaa	RH Vitoperä	RH Yppärilä
67	13624	12825	12452	9866
68	13372	12255	11896	9266
69	13211	12928	12522	10073
70	12968	12427	12029	9547
71	11644	11119	10696	8353
72	15080	13285	12995	10132
73	16419	13387	13204	10103
74	12799	11125	10787	8096
75	13573	10739	10491	7534
76	6223	7432	7112	10184
77	6590	8118	7817	10908
78	5084	7091	6677	9585
79	5612	7091	6721	9717
80	5345	7588	7195	10138
81	5783	8054	7690	10682
82	12767	15069	14538	12709
83	12631	15539	14983	13316
84	12055	14508	13964	12232
85	12704	14659	14142	12234
86	12826	14094	13608	11529
87	12658	14296	13791	11812
88	12253	15664	15087	13579
89	12542	16335	15746	14319
9	5974	9565	8909	8436
90	12343	16631	16024	14749
91	13397	14435	13966	11789
92	17627	13147	13102	9857
93	16822	12985	12872	9676
94	17075	12873	12795	9568
95	16303	12335	12225	9026
96	16025	12689	12524	9395
97	15747	12081	11937	8778
98	15393	11488	11357	8181
99	17246	13981	13828	10681
WTG01	14737	5712	6410	7108
WTG02	15353	6438	7134	7954
WTG03	15398	6327	7024	7516
WTG04	15956	7105	7799	8646
WTG05	16266	7257	7955	8489
WTG06	16840	7909	8606	9231
WTG07	17319	8751	9434	10498
WTG08	16563	8055	8732	9924
WTG09	16787	8059	8749	9679
WTG10	15979	7350	8033	9160
WTG11	14590	5430	6120	6424
WTG12	13874	4736	5430	5960
WTG13	13789	4589	5259	5324
WTG14	14434	5235	5900	5780
WTG15	13722	4603	5213	4627
WTG16	12984	3802	4446	4394
WTG17	15019	5972	6558	5519
WTG18	14325	5299	5875	4869
WTG19	14947	6088	6618	5151

Project:

HAUK_LF_Indoor

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Stephanitorsbollwerk 3 (Haus LUV)

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Calculated:

08-Aug-25 10:37/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor CUMUL

Noise calculation model:

Finland Low frequency

Wind speed (at 10 m height):

Highest noise value at receptor

Spectral distribution:

From 20.0 Hz to 200.0 Hz

Meteorological coefficient, C0:

Selected option: Fixed value: 0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure tone penalty is subtracted from demand

Model: 5.0 dB(A)

Height above ground level, when no value in NSA object:

4.0 m; Don't allow override of model height with height from NSA object

Uncertainty margin:

0.0 dB; Uncertainty margin in NSA has priority

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0.0 dB(A)

Low frequency calculation

dLsigma

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
7.6	8.3	9.2	10.3	11.5	13.0	14.8	16.8	18.8	21.1	22.8

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

WTG: FUTURE F200 9.0 MW 9000 200.0 !-!

Noise: N175 Third octave SPL w STE Mode 0 + 2 dB

Source

Source/Date Creator Edited

Based on F008_278_A17_EN revision 03, 2023-20-13 02-Sep-24 USER 03-Sep-24 12:10

Based on F008_278_A17_EN revision 03, 2023-20-13, third octave sound power levels, 2 dB added, 179m hub height

Status	Hub height	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	200.0	8.0	101.21	73.8	77.2	79.1	80.3	82.3	86.6	89.3	90.9	93.5	95.5	96.5

WTG: VESTAS V126-3.3 GrStr 3rdOc 3300 126.0 !O!

Noise: Level 0 - - Mode 0 - 1/3 octave - official, serrations

Source Source/Date Creator Edited

Vestas 11-Nov-14 USER 29-Apr-15 10:21

0048-2151_V01 - V126-3_3MW-Third Octaves according to General Spe....pdf

137m hub => 12.0 m/s

167m hub => 12.3 m/s

Status	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	8.0	96.22	63.5	70.9	71.0	75.0	80.0	83.1	85.2	87.3	90.9	88.9	89.8

WTG: NORDEX N149/4.0-4.8 4800 149.0 !O!

Noise: Serrations Mode 00 - 106.1 dB(A) - octave

Source Source/Date Creator Edited

F008_270_A14_R01 08-Nov-18 USER 03-Apr-25 10:39

Status	Hub height	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	145.0	8.0	96.39	62.8	66.8	72.3	75.8	80.9	82.2	85.0	89.7	88.2	89.5	90.8

Project:

HAUK_LF_Indoor

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 Calculated:
 08-Aug-25 10:37/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor CUMUL

WTG: Siemens SWT-2.3-108 2300 108.0 !O!

Noise: SWT108 2.3 with serrations Mode 0 3rd Oct LF

Source Source/Date Creator Edited
 03-Apr-25 USER 08-Aug-25 10:11
 windPRO 4.1 WTG catalogue

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	115.0	8.0	95.71	63.6	67.3	69.8	73.0	76.9	80.8	82.7	86.3	88.2	89.5	91.3

WTG: VESTAS V162 5600 162.0 !O!

Noise: V162 5.6 with serrations LF

Source Source/Date Creator Edited
 03-Apr-25 USER 08-Aug-25 10:13
 V162-5.6 MW Third octave noise emission DMS 0079-5298_01, 28.1.2019

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	166.0	8.0	95.59	60.3	64.7	69.0	73.1	76.6	79.9	83.0	85.5	87.7	89.8	91.3

WTG: VESTAS V150-4.3 (3rd oct) 4300 150.0 !O!

Noise: V150 4.3 MW 3rd Oct serrated blades HH160m

Source Source/Date Creator Edited
 03-Apr-25 USER 08-Aug-25 10:14
 V150-4.3 MW Third octave noise emission DMS 0080-4413_00 (20.12.2028)

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	160.0	8.0	96.55	62.3	66.6	70.7	74.7	78.0	81.2	84.1	86.5	88.7	90.7	92.2

WTG: FUTURE F200 9.0 MW 9000 200.0 !-!

Noise: N175 Third octave SPL w STE Mode 0 + 2 dB

Source Source/Date Creator Edited
 Based on F008_278_A17_EN revision 03, 2023-20-13 02-Sep-24 USER 03-Sep-24 12:10
 Based on F008_278_A17_EN revision 03, 2023-20-13, third octave sound power levels, 2 dB added, 179m hub height

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	200.0	8.0	101.21	73.8	77.2	79.1	80.3	82.3	86.6	89.3	90.9	93.5	95.5	96.5

WTG: NORDEX N163/5.X 5500 163.0 !O!

Noise: Third octave SPL without serrated trailing edge – Mode 0

Source Source/Date Creator Edited
 F008_276_A17_EN Revision 00, 2019-05-21 09-Jul-19 USER 08-Aug-25 10:16
 F008_276_A17_EN Revision 00, 2019-05-21

Status	Hub height	Wind speed (10m)	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	159.0	8.0	98.17	64.5	68.5	74.0	77.5	82.6	83.9	86.7	91.4	89.9	91.2	92.8

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

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Calculated:

08-Aug-25 10:37/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor CUMUL

WTG: GE WIND ENERGY 5.5-158 Thrust 700 5500 158.0 !O!

Noise: GE158 5.5 with serrations LF

Source	Source/Date	Creator	Edited
	03-Apr-25	USER	03-Apr-25 14:34

Status	Hub height	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	161.0	8.0	95.59	63.1	67.8	72.2	76.1	79.4	82.2	84.4	86.1	87.7	89.2	90.8

WTG: FUTURE F200 9.0 MW 9000 200.0 !-!

Noise: V172-7,2, PO7200, with STE + 2dB

Source	Source/Date	Creator	Edited
DMS no.: 0128-4336_00, 2022-06-30	14-May-24	USER	26-Feb-25 11:51

Status	Hub height	Wind speed	LwA,ref	20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
	[m]	[m/s]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
From Windcat	200.0	8.0	102.73	64.1	69.3	74.1	78.9	83.3	87.1	90.4	93.1	95.3	96.9	98.1

Noise sensitive area: HH Hietakaivonkangas Noise sensitive point: Finnish low frequency - Residential health guide

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Hiitoperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Holma Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Kankaala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

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 Emma Berkovits / e.berkovits@wpd.fi
 Calculated:
 08-Aug-25 10:37/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor CUMUL

Noise sensitive area: HH Koskela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Kylä-Anttila Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Liminkajärvi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Lystilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Ruunakorpi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: HH Vaihoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

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Calculated:

08-Aug-25 10:37/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor CUMUL

Noise sensitive area: RH Haanpää Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Hautala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Heikkilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Hietala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Jukkola 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

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 Calculated:
 08-Aug-25 10:37/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor CUMUL

Noise sensitive area: RH Jukkola 3 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kantola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Karppi Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Katinhätä 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Katinhätä 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Keskikylä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:37/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor CUMUL

Noise sensitive area: RH Kotila Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kupulisoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Kupulisperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Lepola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Limingoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Nikula Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:37/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor CUMUL

Noise sensitive area: RH Ojakangas Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Ojatalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pahkala Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Paskoja Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pinola Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pokela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:37/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor CUMUL

Noise sensitive area: RH Pyhäkoskentie Noise sensitive point: Finnish low frequency - Residential health guide 2003

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoski 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Pyhäkoski 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Seppälä Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Tienvieri Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Uusitalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH
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 Emma Berkovits / e.berkovits@wpd.fi
 Calculated:
 08-Aug-25 10:37/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor CUMUL

Noise sensitive area: RH Uutela Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihoja 1 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihoja 2 Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vaihojantie Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vältalo Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Vitomaa Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:37/4.1.264

DECIBEL - Assumptions for noise calculation

Calculation: VE3 36xF200 LF Indoor CUMUL

Noise sensitive area: RH Vitoperä Noise sensitive point: Finnish low frequency - Residential health guide 2003, ind

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Noise sensitive area: RH Yppärilä Noise sensitive point: Finnish low frequency - Residential health guide 2003, ind

Predefined calculation standard: Residential health guide 2003, indoor - night

Immission height(a.g.l.): Use standard value from calculation model

Uncertainty margin: 0.0 dB

No temporal binning

Noise demand:

20.0 Hz	25.0 Hz	31.5 Hz	40.0 Hz	50.0 Hz	63.0 Hz	80.0 Hz	100.0 Hz	125.0 Hz	160.0 Hz	200.0 Hz
74.0 dB	64.0 dB	56.0 dB	49.0 dB	44.0 dB	42.0 dB	40.0 dB	38.0 dB	36.0 dB	34.0 dB	32.0 dB

No distance demand

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:37/4.1.264

DECIBEL - Main Result

Calculation: VE3 36xF200 LF Indoor CUMUL

Noise calculation model:

Finland Low frequency

Wind speed (at 10 m height):

Highest noise value at receptor

Spectral distribution:

From 20.0 Hz to 200.0 Hz

Meteorological coefficient, C0:

Selected option: Fixed value: 0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

Pure tone penalty is subtracted from demand

Model: 5.0 dB(A)

Height above ground level, when no value in NSA object:

4.0 m; Don't allow override of model height with height from NSA object

Uncertainty margin:

0.0 dB; Uncertainty margin in NSA has priority

Deviation from "official" noise demands. Negative is more

restrictive, positive is less restrictive.:

0.0 dB(A)

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

All coordinates are in

Finish TM ETRS-TM35FIN-ETRS89

WTGs

	East	North	Z	Row data/Description	WTG type Valid Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator Name	First wind speed [m/s]	LwaRef [dB(A)]	Last wind speed [m/s]	LwaRef [dB(A)]	
			[m]				[kW]	[m]	[m]						
10	378,544	7,146,974	50.9	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
100	382,968	7,149,951	64.1	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
101	367,710	7,140,738	26.9	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
102	367,220	7,141,295	26.7	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
103	365,636	7,140,390	27.1	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
104	366,345	7,140,712	25.0	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
105	366,802	7,140,520	27.3	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
106	367,175	7,140,078	26.7	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
107	366,055	7,140,111	28.7	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
108	366,636	7,139,741	31.1	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
109	366,778	7,138,689	33.2	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
11	378,976	7,146,593	53.5	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
110	365,647	7,139,790	33.0	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
111	365,514	7,138,813	35.8	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
112	367,423	7,138,465	32.3	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
113	366,086	7,138,496	34.7	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
114	364,958	7,139,999	29.1	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
115	364,907	7,139,375	43.8	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
116	369,017	7,141,198	26.6	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
117	369,098	7,140,736	29.5	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
118	368,025	7,141,785	23.4	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
119	368,430	7,141,393	24.6	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
12	379,404	7,146,300	54.3	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
120	368,383	7,140,683	30.2	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
121	368,364	7,140,052	29.1	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
122	369,405	7,140,052	34.3	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
123	369,653	7,139,197	33.3	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
124	370,403	7,138,551	34.2	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
125	369,285	7,138,495	32.1	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
126	369,783	7,138,199	33.2	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
127	369,279	7,139,496	33.0	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
128	368,628	7,139,575	30.8	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
129	368,684	7,138,906	32.5	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
13	379,815	7,145,863	54.9	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
130	368,060	7,138,549	33.2	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
131	368,575	7,138,338	32.4	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
132	366,211	7,139,210	36.5	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
133	366,945	7,139,378	29.7	NORDEX N163/5.X 5500 163.0 I-I hu...Yes	NORDEX	N163/5.X-5,500	5,500	163.0	159.0	USER	Third octave SPL without serrated trailing edge - Mode 0	8.0	98.2	8.0	98.2
134	366,745	7,146,261	15.7	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
135	368,067	7,142,907	22.3	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
136	368,164	7,143,886	20.5	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
137	368,415	7,143,336	22.8	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
138	367,734	7,143,845	19.7	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
139	366,310	7,145,779	13.0	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
14	380,558	7,145,522	58.9	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
140	366,976	7,145,773	15.2	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
141	366,797	7,145,286	14.5	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
142	366,250	7,145,249	15.2	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
143	365,477	7,145,055	15.5	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
144	365,846	7,144,794	16.4	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
145	366,674	7,144,851	15.7	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
146	366,448	7,144,481	20.3	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
147	367,230	7,143,718	20.8	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
148	367,563	7,144,351	18.6	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
149	367,534	7,143,285	22.4	GE WIND ENERGY 5.5-158 Thrust 700...No	GE WIND ENERGY	5.5-158 Thrust 700-5,500	5,500	158.0	161.0	USER	GE158 5.5 with serrations LF	8.0	95.6	8.0	95.6
18	377,476	7,146,419	39.8	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
19	378,036	7,146,370	48.4	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
20	378,615	7,146,157	50.3	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2
21	379,106	7,145,795	53.1	FUTURE F200 9.0 MW 9000 200.0 I-I ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0	101.2

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

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Calculated:

08-Aug-25 10:37/4.1.264

DECIBEL - Main Result

Calculation: VE3 36xF200 LF Indoor CUMUL

...continued from previous page

	East	North	Z	Row data/Description	WTG type Valid Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator Name	First wind speed	LwaRef	Last wind speed	LwaRef
			[m]				[kW]	[m]	[m]		[m/s]	[dB(A)]	[m/s]	[dB(A)]
23	379,986	7,145,097	54.3	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
24	381,344	7,144,532	63.4	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
25	376,926	7,146,059	34.6	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
26	377,348	7,145,642	37.1	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
27	377,962	7,145,405	44.2	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
28	378,484	7,145,153	49.8	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
29	378,892	7,144,832	51.9	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
30	379,423	7,144,656	52.2	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
31	380,790	7,143,991	57.7	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
34	376,885	7,144,741	37.4	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
35	377,402	7,144,519	38.0	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
36	377,887	7,144,113	41.4	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
37	378,600	7,144,017	45.9	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
37	385,198	7,142,977	95.9	VESTAS V126-3.3 GrSt 3rdOc 3300 L...Yes	VESTAS	V126-3.3 GrSt 3rdOc-3,300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0 96.2
38	385,375	7,142,368	91.2	VESTAS V126-3.3 GrSt 3rdOc 3300 L...Yes	VESTAS	V126-3.3 GrSt 3rdOc-3,300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0 96.2
38	380,232	7,143,312	55.6	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
39	384,738	7,142,499	89.8	VESTAS V126-3.3 GrSt 3rdOc 3300 L...Yes	VESTAS	V126-3.3 GrSt 3rdOc-3,300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0 96.2
40	384,777	7,141,867	86.1	VESTAS V126-3.3 GrSt 3rdOc 3300 L...Yes	VESTAS	V126-3.3 GrSt 3rdOc-3,300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0 96.2
41	385,434	7,141,783	91.3	VESTAS V126-3.3 GrSt 3rdOc 3300 L...Yes	VESTAS	V126-3.3 GrSt 3rdOc-3,300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0 96.2
42	378,255	7,143,588	42.2	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
42	386,018	7,142,739	88.1	VESTAS V126-3.3 GrSt 3rdOc 3300 L...Yes	VESTAS	V126-3.3 GrSt 3rdOc-3,300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0 96.2
43	386,676	7,142,270	87.6	VESTAS V126-3.3 GrSt 3rdOc 3300 L...Yes	VESTAS	V126-3.3 GrSt 3rdOc-3,300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0 96.2
43	379,510	7,142,950	51.6	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
44	386,064	7,142,091	88.9	VESTAS V126-3.3 GrSt 3rdOc 3300 L...Yes	VESTAS	V126-3.3 GrSt 3rdOc-3,300	3,300	126.0	147.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0 96.2
44	380,022	7,142,636	55.1	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
45	378,940	7,139,086	55.6	VESTAS V126-3.3 GrSt 3rdOc 3300 L...Yes	VESTAS	V126-3.3 GrSt 3rdOc-3,300	3,300	126.0	137.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0 96.2
46	377,736	7,138,546	50.6	VESTAS V126-3.3 GrSt 3rdOc 3300 L...Yes	VESTAS	V126-3.3 GrSt 3rdOc-3,300	3,300	126.0	137.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0 96.2
47	379,245	7,137,959	57.3	VESTAS V126-3.3 GrSt 3rdOc 3300 L...Yes	VESTAS	V126-3.3 GrSt 3rdOc-3,300	3,300	126.0	137.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0 96.2
48	376,877	7,139,540	53.9	VESTAS V126-3.3 GrSt 3rdOc 3300 L...Yes	VESTAS	V126-3.3 GrSt 3rdOc-3,300	3,300	126.0	137.0	USER	Level 0 - - Mode 0 - 1/3 octave - official, serrations	8.0	96.2	8.0 96.2
48	377,385	7,143,584	38.8	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
49	377,878	7,143,194	40.4	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
49	384,645	7,148,270	73.2	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
50	385,558	7,147,831	78.8	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
50	379,128	7,142,586	58.2	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
51	384,930	7,147,912	73.8	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
52	379,437	7,142,013	49.8	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
52	384,060	7,148,842	71.3	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
53	387,174	7,147,933	87.4	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
53	379,965	7,142,028	53.7	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
54	388,049	7,148,426	94.5	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
55	387,621	7,147,461	90.6	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
56	388,113	7,149,759	93.0	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
57	379,170	7,141,188	58.2	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
57	387,412	7,149,965	90.2	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
58	386,347	7,149,063	84.2	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
58	379,505	7,141,090	47.5	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
59	385,009	7,150,591	72.5	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
59	380,082	7,141,202	51.8	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
60	385,106	7,149,969	73.0	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
61	384,306	7,150,874	72.1	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
62	384,386	7,150,341	71.6	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
63	383,563	7,149,555	69.3	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NORDEX	N149/4.0-4.8-8,400	4,800	149.0	145.0	USER	Serrations Mode 00 - 106.1 dB(A) - octave	8.0	96.4	8.0 96.4
63	379,019	7,140,858	43.6	FUTURE F200 9.0 MW 9000 200.0 H ...Yes	FUTURE	F200 9.0 MW-9,000	9,000	200.0	200.0	USER	N175 Third octave SPL w STE Mode 0 + 2 dB	8.0	101.2	8.0 101.2
64	386,810	7,150,437	86.1	NORDEX N149/4.0-4.8 4800 149.0 IO...Yes	NOR									

Project:

HAUK_LF_Indoor

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Calculated:
08-Aug-25 10:37/4.1.264

DECIBEL - Main Result

Calculation: VE3 36xF200 LF Indoor CUMUL
Sound level

Noise sensitive area			Most critical demand			Predicted sound level		Demands fulfilled ?	
No.	Name		East	North	Z	Immission height	Frequency	Noise	WTG noise
						[m]	[Hz]	[dB]	Noise
HH	Hietakaivonkangas	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (173)	380,697	7,139,280	50.7	4.0	50.0	44.00	39.79
HH	Hiitoperä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (170)	377,133	7,137,599	44.2	4.0	50.0	44.00	38.74
HH	Holma	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (169)	378,138	7,137,133	48.2	4.0	50.0	44.00	38.41
HH	Kankaala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (174)	383,213	7,141,681	67.3	4.0	50.0	44.00	39.91
HH	Koskela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (175)	385,840	7,145,013	76.7	4.0	50.0	44.00	39.06
HH	Kylä-Anttila	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (171)	376,833	7,138,334	47.5	4.0	50.0	44.00	39.73
HH	Liminkajärvi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (168)	379,944	7,149,798	48.9	4.0	50.0	44.00	39.60
HH	Lystilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (167)	381,168	7,148,313	55.7	4.0	50.0	44.00	40.49
HH	Ruunakorpi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (172)	380,450	7,139,211	49.2	4.0	50.0	44.00	39.98
HH	Vaihoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (166)	374,905	7,146,787	26.0	4.0	50.0	44.00	39.07
RH	Haanpää	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (176)	376,666	7,149,614	36.6	4.0	50.0	44.00	37.92
RH	Hautala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (177)	386,385	7,144,428	79.5	4.0	50.0	44.00	39.00
RH	Heikkilä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (178)	378,937	7,149,007	49.4	4.0	50.0	44.00	40.00
RH	Hietala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (179)	373,282	7,141,550	30.6	4.0	50.0	44.00	38.48
RH	Jukkola 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (180)	382,973	7,142,986	70.2	4.0	50.0	44.00	40.33
RH	Jukkola 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (181)	382,998	7,142,946	70.6	4.0	50.0	44.00	40.32
RH	Jukkola 3	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (182)	383,051	7,142,762	70.2	4.0	50.0	44.00	40.27
RH	Kantola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (183)	380,813	7,148,601	55.0	4.0	50.0	44.00	40.38
RH	Karppi	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (184)	377,182	7,137,687	46.3	4.0	50.0	44.00	38.98
RH	Katinhanta 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (185)	373,808	7,142,364	30.0	4.0	50.0	44.00	38.48
RH	Katinhanta 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (186)	373,789	7,142,182	30.1	4.0	50.0	44.00	38.47
RH	Keskikylä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (187)	380,437	7,148,967	52.4	4.0	50.0	44.00	40.16
RH	Kotila	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (188)	381,332	7,147,774	56.3	4.0	50.0	44.00	40.70
RH	Kupulisoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (189)	376,466	7,141,416	38.6	4.0	50.0	44.00	40.31
RH	Kupulisepä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (190)	376,497	7,141,568	37.2	4.0	50.0	44.00	40.46
RH	Lepola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (191)	376,821	7,137,810	44.9	4.0	50.0	44.00	38.80
RH	Limingoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (192)	385,875	7,144,908	77.9	4.0	50.0	44.00	39.06
RH	Nikula	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (193)	380,797	7,147,767	56.2	4.0	50.0	44.00	41.03
RH	Ojakangas	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (194)	376,989	7,149,696	39.3	4.0	50.0	44.00	38.05
RH	Ojatalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (195)	381,260	7,147,613	56.5	4.0	50.0	44.00	40.84
RH	Pahkala	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (196)	376,133	7,141,880	39.3	4.0	50.0	44.00	40.25
RH	Pasjoja	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (197)	371,686	7,143,992	21.2	4.0	50.0	44.00	38.21
RH	Pinola	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (198)	376,653	7,137,979	44.9	4.0	50.0	44.00	38.88
RH	Pokela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (199)	376,196	7,149,635	34.8	4.0	50.0	44.00	37.54
RH	Pyhänkoskentie	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (200)	376,101	7,138,166	41.8	4.0	50.0	44.00	38.72
RH	Pyhänkoski 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (201)	375,536	7,138,887	41.9	4.0	50.0	44.00	38.90
RH	Pyhänkoski 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (202)	375,606	7,138,735	42.4	4.0	50.0	44.00	38.89
RH	Seppälä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (203)	372,654	7,143,438	22.9	4.0	50.0	44.00	38.20
RH	Tienvieri	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (204)	386,201	7,145,044	78.9	4.0	50.0	44.00	38.92
RH	Uusitalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (205)	380,265	7,148,166	56.7	4.0	50.0	44.00	40.92
RH	Uutela	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (206)	383,121	7,140,866	62.8	4.0	50.0	44.00	39.35
RH	Vaihoja 1	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (207)	374,977	7,147,206	24.4	4.0	50.0	44.00	38.84
RH	Vaihoja 2	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (208)	374,765	7,146,909	24.4	4.0	50.0	44.00	38.77
RH	Vaihojantie	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (209)	375,711	7,149,190	31.8	4.0	50.0	44.00	37.62
RH	Vitomaa	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (210)	381,529	7,138,247	50.6	4.0	50.0	44.00	38.37
RH	Vitopera	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (211)	381,074	7,138,777	49.7	4.0	50.0	44.00	38.96
RH	Välitalo	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (212)	373,673	7,143,034	30.0	4.0	50.0	44.00	38.44
RH	Yppälä	Noise sensitive point: Finnish low frequency - Residential health guide 2003, indoor - night (213)	383,603	7,140,826	67.9	4.0	50.0	44.00	39.41

*)Spectral distribution, please see details in report "Detailed results"

Distances (m)

WTG	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH
	Hietakaivonkangas	Hiitoperä	Holma	Kankaala	Koskela	Kylä-Anttila	Liminkajärvi	Lystilä	Ruunakorpi	Vaihoja	Haanpää	Rhautala	Heikkilä	Hietala	Jukkola	Jukkola	Jukkola	Kantola	Karppi	RH
10	7989	9481	9849	7058	7555	8807	3153	2946	7994	3644	3240	8244	2071	7557	5960	6005	6169	2792	9387	6609
100	10910	13662	13699	8274	5712	13137	3028	2435	11032	8662	6311	6495	4140	12822	6965	7005	7190	2544	13561	11895
101	13069	9993	11033	15532	18628	9435	15224	15443	12832	9400	12609	19036	13944	5631	15428	15447	15475	15281	9951	6311
102	13627	10580	11685	15998	18988	10059	15304	15614	13394	9446	12587	19419	14028	6067	15844	15865	15900	15432	10595	6674
103	15102	11831	12919	17624	20726	11384	17124	17436	14861	11262	14378	21138	15849	7733	17530	17549	17576	17256	11858	8407
104	14423	11229	12324	16896	19964	10754	16356	16658	14185	10496	13630	20382	15079	6987	16783	16802	16832	16479	11251	7644
105	13950	10737	11831	16452	19561	10267	16088	16343	13711	10243	13416	19969	14809	6561	16358	16377	16403	16174	10760	7245
106	13545	10262	11351	16118	19307	9814	16048	16236	13303	10235	13454	19966	14767	6282	16063	16081	16102	16082	10288	7016
107	14665	11360	12444	17230	20384	10924	16934	17195	14423	11086	14244	20783	15656	7369	17161	17179	17202	17026	11388	8074
108	14068	10714	11793	16690	19915	10293	16681	16871	13824	10864	14074	20297	15401	6887	16656	16673	16691	16718	10744	7936
109	13931	10412	11465	16705	20084	10061	17227	17311	13682	11472	14735	20429	15947	7105	16755	16769	16775	17182	10451	7632
11	7512	9181	9497	6486	7043	8532	3349	2786	7528	4076	3803	7718	2414	7607	5383	5429	5593	2721	9085	7832
110	15058	11693	12770	17667	20858	11280	17453	17707	14814	11605	14762	21250	16174	7835	17618	17636	17656	17540	11725	8578
111	15190	11682	12735	17929	21251	11329	18136	18311	14941	12319	15525	21613	16855	8236	17950	17966	17976	18162	11722	8922
112	13298	9749	10797	16113	19546	9411	16888	16908	13048	11190	14481	19877	15611	6621	16193	16206	16208	16793	9789	7481
113	14632	11084	12129	17421	20802	10748	17883	17995	14382	12104	15347	21148	16602	7817	17474	17488	17494	17860	11125	8637
114	15756	12410	13488	18332	21476	11991	17906	18217	15512	12042	15150	21880	16630	8467	18261	18279	18303	18038	12441	9161
115	15790	12354	13419	18450	21679	11971	18297	18555	15544	12445	15592	22064	17018	8652	18423	18440	18457	18388	12390	9389
116	11837	8879	9986	14204	17251	8325	13906	14081	11605	8118	11372	17666	12625	4280	14070	14090	14122	13927	8888	4931
117	11690	8626	9731	14146	17280	8099	14134	14251	11454	8386	11666	17677	12854	4262	14056	14075	14100	14110	8640	4983
118	12918	10025	11132	15189	18106	9460	14363	14675	12689	8506	11660	18549	13086	5262	14996	15018	15058	14491	10032	5812
119	12447	9494	10601	14785	17782	8942	14256	14496	12216	8427	11637	18209	12976	4854	14630	14650	14685	14328	9054	5465
12	7138	8993	9254	5987	6563	8370	3540	2676	7166	4526	4299	7227	2747	7749	4870	4916	5082	2698	8896	6840
120	12394	9278	10381	14864	17986	8770	14723	14889	12157	8933	12181	18387	13442	4975	14771	14789	14815	14738	9295	5682
121	12357	9106	10200	14938	18166	8641	15136	15237	12115	9388	12663	18544	13856	5140	14900	14917	14935	15101	9129	5914
122	11319	8109	9208	13904	17168	7624	14356	14374	11077	8695	12006	17535	13079	4156	13882	13898	13913	14256	8129	4973
123	11044	7649	8732	13785	17200	7232	14775	14686	10797	8230	12558	17530	13507	4325	13848	13862	13865	14594	7678	5224
124	10320	6798	7864	13187	16735	6434	14749	14532	10069	9386	12712	17028	13497	4157	13329	13340	13331	14469	6884	5112
125	11439	7899	8957	14287	17792	7550	15537	15414	11188	10017	13346	18100	14271	5030	14406	14417	14412	15330	7938	5952
126	10968	7375	8423	13874	17444	7052	15421	15228	10715	9999	13329	17732	14164	4845	14032	14042	14031	15161	7417	5792
127	11420	8081	9169	14105	17456	7643	14829	14802	11175	9209	12528	17803	13555	4499	14132	14147	14155	14695	8107	5361
128	12072	8732	9818	14736	18050	8298	15250	15283	11827	9560	12860	18407	13972	5055	14744	14760	14771	15163	8759	5882
129	12019	8550	9618	14791	18211	8169	15667	16331	11770	10040	13355	18542	14393	5304	14860	14873	14876	15527	8584	6182
130	16242	9669	9890	5398	6094	8698	3939	2798	6682	4997	4698	8724	3264	7829	4272	4317	4482	2914	6989	6962
131	10582	9123	10776	18940	18776	10711	14712	14018	12716	10172	14018	15622	15509	6023	15022	15022	15022	15022	9150	6789
132	12159	8590	9639	15015	18511	8258	16143	16064	11907	10557	13878	18822	14873	5698	15130	15141	15137	15971	8631	6602
133	14486	11040	12106	17180	20469	10568	17341	17509	14239	11532	14749	20837	16060	7447	17182	17197	17210	13671	11075	8225
134	13752	10343	11416	16430	19718	9943	16661	16796	13506	10874	14116	20085	15380	6699	16429	16445	16458	16655	10376	7485
135	15601	13526	14598	17093	19136	12829	13665	14568	15412	8177	10472	19725	12498	8057	16555	16588	16678	1421	13507	8067
136	13140	10506	11609	15195	17897	9887	13731	14172	12923	7861	10905	18380	12464	5388	14906	14931	14985	13959	10504	5766
137	13352	10954	12045	15209	17712	10294	13181	13736	13146	7338	10251	18229	11928	5626	14836	14864	14930	13499	10943	5848
138	12935	10437	11533	14890	17506	9792	13217	13689	12723	7350	10368	18003	11953	5184	14562	14589	14648	13470	10430	5480
139	13743	11286	12381	15629	18144	10638	13585	14157	13534	7751	10633	18660	12365	6040	15263	15290	15356	13917	11277	6252
14	15786	13567	14651	17392	19545	12890	14210	15072	15591	8653	11043	20120	13033	8154	16895	16927	17011	14775	13552	8239
13	6244	8632	8732	4669	5306	8096	4324	2856	6333	5793	5647	5928	3843	8290	3502	3548	3720	3809	8532	7453

Project:

HAUK_LF_Indoor

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Calculated:
08-Aug-25 10:37/4.1.264

DECIBEL - Main Result

Calculation: VE3 36xF200 LF Indoor CUMUL

continued from previous page		HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	HH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH	RH
WTG	HH	Hietakaivonkangas	Hiitoperä	Holma	Kankaala	Koskela	Kylä-Anttila	Liminkajärvi	Lystilä	Ruunakorpi	Vaihoja	Haanpää	Hautala	Heikkilä	Hietala	Jukkola 1	Jukkola 2	Jukkola 3	Kantola	Karppi	Katinhanta 1	Katinhanta 2	Keskikylä
140	15179	13037	14114	16744	18879	12348	13578	14417	14987	7993	10423	19455	12390	7589	16237	16269	16354	14123	13020	7635	7701	13834	
141	15142	12882	13967	16807	19045	12208	13900	14686	14944	8245	10776	19606	12697	7484	16338	16369	16449	14402	12868	7596	7650	14127	
142	15631	13303	14394	17334	19591	12642	14430	15229	15431	8790	11293	20151	13232	7945	16875	16906	16984	14944	13293	8090	8139	14666	
143	16278	13837	14935	18054	20363	13195	15225	16025	16073	9585	12082	20917	14028	8555	17618	17647	17723	15740	13830	8755	8794	15463	
144	15841	13386	14484	17643	19995	12745	14960	15720	15635	9275	11845	20542	13752	8112	17222	17251	17325	15443	13379	8325	8361	15175	
145	15089	12728	13820	16840	19167	12070	14163	14902	14886	8456	11069	19716	12949	7387	16406	16435	16510	14628	12718	7556	7600	14365	
146	15168	12710	13807	16997	19400	12068	14506	15210	14961	8766	11435	19937	13284	7436	16592	16621	16692	14944	12703	7659	7693	14691	
147	14180	11642	12742	16112	18656	11010	14094	14676	13968	8266	11126	19168	12847	6429	15760	15787	15851	14434	11637	6717	6737	14212	
148	14079	11713	12804	15876	18290	11052	13527	14170	13875	7736	10515	18822	12291	6368	15471	15499	15570	13915	11702	6554	6593	13677	
149	13759	11158	12260	15761	18388	10535	14016	14532	13544	8161	11111	18886	12759	6004	15442	15468	15527	14304	11155	6342	6352	14099	
18	7831	8827	9309	7440	9481	8110	4185	4149	7797	2598	3296	9128	2972	6426	6481	6523	6668	3987	8737	5468	5617	3906	
19	7573	8818	9238	6984	7921	8125	3924	3685	7555	3159	3521	8571	2787	6771	5985	6028	6178	3562	8725	5825	5965	3536	
20	7185	8686	9037	6416	7315	8023	3877	3341	7184	3764	3969	7959	2868	7048	5389	5433	5586	3287	8591	6123	6253	3349	
21	6706	8430	8716	5813	6779	7799	4090	3254	6720	4317	4532	7406	3216	7207	4779	4823	4976	3284	8334	6312	6429	3440	
23	5860	8023	8176	4699	5855	7462	4702	3426	5905	3355	5606	6434	4048	7585	3658	3701	3854	3600	7923	6755	6848	3896	
24	5291	8111	8064	3409	4522	7665	5450	3785	5395	6822	6907	5042	5081	8596	2246	2292	2460	4103	8011	7841	7912	4527	
25	7757	8463	9008	7661	8975	7725	4806	4803	7702	2149	3565	9598	3569	5798	6783	6823	6956	4644	8376	4835	4987	4559	
26	7189	8046	8546	7077	8515	7326	4901	4661	7140	2698	4030	9118	3721	5769	6220	6260	6389	4556	7957	4825	4964	4538	
27	6707	7850	8274	6437	7888	7160	4820	4328	6675	3355	4404	8479	3732	6064	5564	5604	5734	4283	7757	5148	5273	4337	
28	6276	7675	8028	5867	7357	7016	4869	4145	6259	3934	4817	7934	3880	6328	4985	5025	5156	4160	7580	5445	5557	4284	
29	5838	7444	7736	5348	6951	6816	5077	4159	5833	4441	5275	7504	4175	6500	4479	4518	4646	4230	7347	5651	5750	4414	
30	5525	7420	7633	4818	6427	6832	5169	4051	5542	4995	5673	6966	4378	6882	3923	3963	4093	4182	7321	6065	6153	4428	
31	4712	7365	7354	3348	5153	6903	5868	4338	4793	6515	6973	5612	5347	7895	2404	2443	2574	4609	7264	7169	7231	4988	
34	6660	7147	7711	7028	8959	6407	5911	5576	6580	2847	4878	9505	4734	4814	6335	6371	6476	5506	7601	3889	4017	5520	
35	6189	6925	7243	6467	8453	6210	5860	5346	6121	3374	5148	9803	4744	5078	5778	5813	5916	5320	6836	4191	4303	5385	
36	5591	6558	6895	5855	8004	5874	6047	5330	5532	4005	5635	8504	5006	5270	5210	5243	5339	5358	6465	4438	4530	5483	
37	5180	6584	6989	5170	7308	5951	5936	5005	5150	4619	5922	7795	5002	5863	4492	4526	4625	5090	6487	5069	5149	5280	
37	5825	9694	9166	2371	2135	9567	8610	6687	6061	10976	10809	1874	8692	12002	2225	2200	2158	7131	9605	11407	11437	7652	
38	5605	9522	8933	2269	2686	9447	9204	7283	5850	11365	11330	2294	9248	12121	2481	2447	2357	7724	9437	11567	11588	8243	
38	4059	6500	6525	3397	5860	6028	6493	5087	4107	6361	7241	6253	5840	7171	2760	2790	2872	5320	6399	6494	6542	5659	
39	5166	9047	8507	1731	2745	8935	8733	6823	5404	10727	10760	2536	8718	11496	1831	1796	1707	7255	8959	10931	10954	7768	
40	4831	8755	8154	1575	3321	8694	9288	7387	5077	11030	11216	3024	9224	11500	2123	2081	1944	7814	8670	10980	10992	8322	
41	5358	9296	8652	2223	3256	9267	9715	7800	5609	11658	11756	2810	9715	12154	2739	2699	2576	8236	9213	11640	11652	8751	
42	4952	6093	6456	5312	7718	5442	6437	5551	4897	4632	6232	8174	5462	5374	4757	4787	4867	5628	5998	4612	4682	5805	
42	6347	10265	9671	2998	2281	10187	9313	7389	6592	11828	11607	1728	9456	12792	3055	3027	2967	7839	10179	12216	12242	8363	
43	6685	10625	9655	3513	2868	10601	10100	8177	6937	12608	12416	2178	10261	13414	3772	3740	3658	8629	10543	12869	12888	9154	
43	3857	5855	5977	3914	6658	5336	6862	5613	3855	5994	7246	7032	6084	6384	3463	3488	3546	5799	5755	5732	5773	6088	
44	6059	9997	9350	2881	2931	9967	9841	7917	6310	12107	12038	2358	9931	12794	3218	3183	3087	3864	9915	12259	12276	8885	
44	3619	5981	6006	3393	6212	5517	6963	5596	3650	6465	7564	6559	6266	6862	2954	2978	3030	5819	5881	6232	6268	6145	
45	1768	2340	2111	4999	9097	2237	10760	9492	1515	8694	10771	9163	9921	6171	5610	5601	5515	9698	2247	6089	6010	9994	
46	3050	1123	1469	6311	10368	928	11467	10352	2794	8714	11120	10459	10530	5373	6866	6859	6784	10515	1023	5478	5367	10766	
47	1963	2142	1381	5441	9658	2441	11861	10531	1738	9837	11937	9635	11053	6961	6259	6242	6129	10757	2081	6997	6899	11073	
48	3829	1957	2717	6688	10502	1206	10707	9766	3588	7511	10076	10691	9689	4119	7003	7005	6964	9879	1878	4170	4064	10077	
48	5431	5991	6495	6131	8575	5279	6720	6055	5341	4051	6072	9039	5640	4580	5620	5649	5726	6076	5901	3780	3860	6187	
49	4823	5645	6067	5545	8168	4971	6920	6085	4742	4663	6533	8596	5909	4881	5099	5126	5192	6152	5551	4153	4212	6315	
49	9819	13050	12899	6743	3469	12639	4943	3478	9883	9853	8092	4218	5755	13202	5542	5573	5734						

DECIBEL - Main Result

Calculation: VE3 36xF200 LF Indoor CUMUL

continued from previous page																						
WTG	HH Hietaikaivonkangas	HH Hiitoperä	HH Holma	HH Kankaala	HH Koskela	HH Kyla-Anttila	HH Liminkajärvi	HH Lystilä	HH Ruunakorpi	HH Vaihoja	RH Haanpää	RH Hautala	RH Heikkilä	RH Hietala	RH Jukola	RH Jukkola	RH Jukkola	RH Kantola	RH Karppi	RH Katinhänkä	RH Katinhänkä	RH Keskiskylä
WTG03	7650	9603	8496	8450	11346	10193	17193	15389	7770	17114	18424	10771	16843	14874	9765	9720	9527	15774	9596	14590	14800	16244
WTG04	8428	9910	8811	9570	12609	10562	18280	16505	8517	17906	19376	12048	17877	15520	10894	10849	10658	16879	9915	15814	15311	17339
WTG05	8583	10354	9249	9425	12247	10975	18170	16362	8694	18058	19398	11654	17822	15696	10738	10692	10501	16749	10353	15744	15649	17220
WTG06	9235	10830	9729	10165	12990	11475	18907	17104	9337	18716	21005	12391	18549	16225	11481	11435	11243	17489	10834	16305	16205	17958
WTG07	10058	11073	10007	11415	14483	11780	20097	18340	10122	19490	21095	13916	19660	16570	12741	12697	12505	18708	11093	16746	16631	19161
WTG08	9353	10311	9245	10831	14025	11018	19474	17736	9410	18765	20412	13483	19011	15809	12157	12114	11923	18097	10330	15988	15872	18544
WTG09	9377	10633	9548	10601	13621	11314	19305	17534	9455	18841	23398	13050	18892	16095	11926	11881	11689	17907	10645	16229	16121	18365
WTG10	8757	9797	8718	10069	13265	10484	18723	16049	8724	18091	19619	12738	18271	15569	11396	11362	11161	17342	9611	15305	15037	17791
WTG11	8737	9010	8718	7360	10262	9547	18708	14297	9687	16158	17368	9707	15774	14492	8673	8682	8485	14684	8993	14105	14024	15156
WTG12	6051	8282	7184	6886	10014	8816	15609	13823	6182	15499	16798	9494	15235	13415	8208	8164	7972	14201	8264	13385	13303	14664
WTG13	5858	8481	7405	6261	9199	8952	15011	13195	6019	15195	16337	8657	14693	13427	7570	7525	7333	13584	8453	13332	13261	14058
WTG14	6494	9127	8048	6720	9433	9604	15466	13629	6660	15793	16872	8853	15185	14080	8012	7965	7775	14027	9100	13981	13911	14508
WTG15	5761	8804	7771	5564	8204	9196	14290	12439	5957	14848	15787	7633	14045	13481	6835	6788	6599	12842	8764	13308	13250	13329
WTG16	5025	7904	6860	5329	8404	8320	14077	12267	5203	14290	15398	7900	13752	12683	6643	6598	6406	12653	7868	12548	12483	13125
WTG17	7083	10210	9177	6421	8408	10595	14996	13105	7290	15964	16706	7749	14855	14288	7607	7506	7378	13527	10170	14625	14574	14030
WTG18	6393	9575	8556	5783	7996	9942	14413	12533	6603	15281	16064	7371	14241	14142	6994	6947	6763	12949	9533	13933	13883	13448
WTG19	7095	10444	9448	6010	7664	10773	14433	12528	7318	15682	16267	6982	14351	14845	7125	7078	6903	12958	10396	14587	14546	13467
WTG	RH Kotila	RH Kupulisoja	RH Kupulisiperä	RH Lepola	RH Limingoja	RH Nikula	RH Ojakangas	RH Ojatalo	RH Pahkala	RH Paskoja	RH Pinola	RH Pokela	RH Pyhänskoskentie	RH Pyhänskoski	RH Pyhänskoski	RH Seppälä	RH Tienvieri	RH Uusitalo	RH Uutela	RH Vaihoja 1	RH Vaihoja 2	RH Vaihojantie
10	2901	5934	5780	9324	7617	2389	3135	2790	5636	7478	9192	3549	9141	8628	8747	6869	7897	2094	7633	3575	3780	3597
100	2724	10730	10590	13609	5821	3080	5985	2896	10577	12759	13536	6780	13640	13329	13417	12198	5877	3240	9087	8450	8749	7297
101	15332	8783	8827	9570	18638	14855	12897	15194	8500	5138	9359	12295	8777	8042	8147	5634	18986	14588	15412	9729	9373	11639
102	15528	9248	9281	10215	19002	15411	12884	15396	8932	5127	9999	12253	9417	8658	8769	5842	19348	14744	15908	9752	9404	11595
103	17346	10879	10925	11479	20737	16860	14679	17212	10602	7041	11277	14035	10699	10014	10107	7652	21085	16567	17492	11563	11217	13377
104	16568	10146	10188	10871	19976	16082	12928	16434	9857	6268	10664	13281	10083	9371	9470	6873	20323	15790	16777	10802	10454	12633
105	16240	9057	9742	10379	19572	13616	13710	10491	9812	5982	10102	13961	10661	8840	8840	6840	13396	13396	13396	13396	13396	13396
106	16113	9387	9440	9909	19314	15642	13741	115973	9137	5970	9707	13142	9129	8445	8537	6428	19663	15387	15966	10568	10211	12486
107	17091	10493	10543	11009	20393	16612	14540	16955	10232	6839	10810	13912	10233	9560	9650	7391	20741	16334	17083	11399	11049	13254
108	16748	9972	10029	10366	19921	16277	14362	16607	9734	6601	10170	13758	9595	8941	9026	7063	20271	16023	16524	11193	10838	13101
109	17156	10064	10136	10081	20084	16701	15013	17010	9888	7225	9900	14440	8760	8628	7555	20364	16483	16487	11821	11461	13786	
11	2635	5754	5603	9044	7102	2166	3685	2501	5505	7740	8922	4121	8904	8439	8550	7065	7389	2034	7070	4046	4223	4173
110	17600	10941	10995	11348	20866	17122	15059	17463	10692	7357	11154	14429	10580	9930	10015	7900	21215	16848	17507	11918	11568	13772
111	18180	11257	11323	11351	21254	17713	15815	18037	11053	8057	11170	15206	10607	10022	10092	8507	21605	17466	17726	12648	12293	14549
112	16736	9512	9590	9421	19544	16290	14752	16586	9355	6979	9242	14203	10683	8124	8187	7217	19896	16094	15880	11552	11189	13554
113	17847	10783	10855	10757	20802	17389	15630	17702	10601	7846	10580	15043	10021	9458	9523	8220	21154	17163	17200	12446	12087	14388
114	18126	11595	11646	12064	21486	17641	15452	17992	11332	7824	11868	14083	11293	10637	10723	8430	21834	17349	18184	12342	11997	14146
115	18447	11738	11795	12016	21686	17970	15889	18310	11501	8202	11828	15254	11259	10640	10718	8748	22035	17696	18275	12756	12407	14597
116	13961	7453	7490	8508	17262	13480	11652	13821	7149	3864	8287	11078	7707	6917	7035	4272	17609	13232	14109	8462	8102	10425
117	14114	7400	7446	8259	17822	13649	11939	13971	7127	4159	8042	11383	7460	6098	6809	4466	17637	13413	14024	8742	8379	10773
118	14593	8450	8475	9653	18128	14514	11955	14461	8109	4275	9430	11331	8851	8051	8172	4916	18466	13804	15125	8816	8467	10633
119	14393	8036	8069	9124	17796	13913	11924	14257	7718	4166	8903	11324	8322	7535	7652	4693	18142	13636	14700	8755	8399	10668
12	2427	5700	5553	8874	6619	2023	4167	2273	5499	8056	8764	4627	8169	8361	8465	7331	6912	2055	6584	4519	4679	4690
120	14764	8117	8162	8914	17996	14293	12462	14623	7842	4676	8701	11882	8119	7375	7481	5083	18344	14042	14740	9275	8916	11229
121	15093	8216	8273	8749	18172	14632	12938	14948	7981	5153	8544	12376	7863	7266	7361	5466	18522	14404	14779	9742	9380	11725
122	14209	7192	7253	7748	17172	13759	12269	14061	6972	4553	7539	11745	6957	6241	6340	4693	17522	13557	13741	9068	8703	11103
123	14490	7166	7243	7301	17198	14058	12808	14337	7013	5208	7105	12319	6530	5891	5971	5196	17551	13895	13571	9617	9252	11686
124	14300	6706	6800	6461	16727	13891	12945	14141	6626	5590	6276	12506	5711	5144	5207	5381	17080	13773	12927	9789	9427	11890
125	15206	7752	7840	7567	17786	14782	13594	15050	7638	5998	7386	13019	6824	6263	6326	5982	18139	13642	14038	10405	10041	12477
126	15002	7417	7512	7049	17435	14590	13568	14843	7340	6097	6874	13111	6319	5795	5848	5974	17788	14464	13603	10397	10034	12488
127	14622	7440	7510	7729	17457	14180	12786	14471	7257	5100	7529	12274	6951	6287	6373	5190	17809	13995	13910	9587	9222	11634
128	15119	8051	8117	8381	18052	14669	13127	14971	7850	5371	8182	12587	7605	6942	7028	5579	18404	14464	14550	9926	9562	11942
129	15447	8177	8254	8210	18209	15008	13616	15295	8020	5906	8022	13099	7454	6852	6924	6026	18561	14828	14570	10416	10051	12456
13	2440	5567	5427	8592	6135	2143	4762	2269	5425	8342	8495	5227	8547	8184	8278	7560	6438	2347	5992	5021	5158	5284
130	16163	8882	8961	8792	18916	15723	14282	16012	8733	6540	8611	13751	8050	7484	7548	6709	19269	15539	15238	11081	10716	13107
131	15867	8470	8555	8263	18506	15436	14134	15713	8346	6453	8086	13627	7528	6943	7043	6531	18859	15272	14765	10937	10572	12988
132	17377</																					

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DECIBEL - Main Result

Calculation: VE3 36xF200 LF Indoor CUMUL

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[illegible]

WTG	RH Väilitalo	RH Vitomaa	RH Vitoperä	RH Yppärilä
10	6265	9223	8579	7962
100	11587	11792	11334	9148
101	6390	14042	13508	15893
102	6683	14630	14082	16390
103	8460	16037	15522	17972
104	7687	15383	14856	17258
105	7316	14901	14379	16804
106	7138	14470	13960	16445
107	8159	15586	15078	17563
108	7769	14967	14470	17001

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Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

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Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:37/4.1.264

DECIBEL - Main Result

Calculation: VE3 36xF200 LF Indoor CUMUL

...continued from previous page

WTG	RH Vältalo	RH Vitomaa	RH Vitoperä	RH Yppärilä
109	8149	14757	14296	16960
11	6387	8727	8093	7393
110	8656	15956	15460	17986
111	9186	16025	15560	18200
112	7741	14107	13654	16351
113	8840	15445	14991	17671
114	9228	16663	16163	18663
115	9498	16660	16178	18752
116	5005	12856	12298	14591
117	5119	12678	12135	14505
118	5784	13960	13392	15608
119	5493	13471	12912	15183
12	6597	8328	7707	6899
120	5789	13370	12834	15221
121	6089	13288	12774	15258
122	5206	12258	11739	14219
123	5557	11914	11429	14045
124	5548	11130	10674	13395
125	6313	12246	11792	14506
126	6205	11746	11306	14068
127	5641	12314	11818	14386
128	6116	12969	12471	15027
129	6475	12862	12391	15042
13	6763	7806	7197	6302
130	7184	13472	13016	15709
131	6931	12954	12507	15233
132	8384	15348	14869	17466
133	7657	14628	14142	16721
134	7642	16816	16166	17712
135	5607	14245	13647	15674
136	5574	14506	13885	15739
137	5267	14067	13456	15394
138	5994	14887	14271	16154
139	7857	16980	16340	17988
14	7322	7339	6765	5597
140	7235	16383	15738	17347
141	7235	16327	15691	17387
142	7746	16807	16176	17908
143	8441	17436	16813	18612
144	8022	16994	16374	18195
145	7231	16257	15629	17401
146	7368	16318	15699	17540
147	6479	15310	14700	16627
148	6250	15242	14616	16423
149	6144	14874	14272	16256
18	5091	9121	8447	8296
19	5493	8842	8179	7856
20	5847	8429	7779	7300
21	6095	7927	7289	6702
23	6642	7021	6414	5597
24	7816	6287	5761	4340
25	4442	9067	8381	8483
26	4507	8495	7811	7894
27	4901	7997	7322	7265
28	5258	7547	6883	6703
29	5520	7093	6436	6184
30	5975	6746	6107	5670
31	7181	5791	5223	4235
34	3638	7983	7289	7775
35	4014	7507	6816	7217
36	4350	6904	6216	6594
37	5025	6470	5795	5933
37	11526	5987	5887	2679
38	11722	5637	5603	2349
38	6566	5228	4613	4188
39	11078	5327	5223	2022

To be continued on next page...

Project:

HAUK_LF_Indoor

Licensed user:

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Stephanitorsbollwerk 3 (Haus LUV)

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Calculated:

08-Aug-25 10:37/4.1.264

DECIBEL - Main Result

Calculation: VE3 36xF200 LF Indoor CUMUL

...continued from previous page

WTG	RH Vältälö	RH Vitomaa	RH Vitoperä	RH Yppärilä
40	11166	4863	4823	1569
41	11828	5268	5296	2066
42	4615	6264	5577	6019
42	12349	6350	6336	3081
43	13026	6533	6602	3396
43	5838	5117	4457	4611
44	12428	5945	5991	2768
44	6353	4829	4193	4106
45	6583	2721	2157	4977
46	6055	3804	3346	6294
47	7537	2302	2004	5217
48	4741	4828	4266	6848
48	3753	6757	6060	6802
49	4208	6148	5453	6196
49	12158	10496	10143	7517
50	12817	10396	10104	7273
50	5474	4959	4278	4808
51	12269	10246	9916	7209
52	5854	4308	3627	4332
52	11901	10893	10499	8029
53	14363	11211	11002	7954
53	6372	4091	3435	3831
54	15354	12088	11906	8805
55	14634	11046	10876	7757
56	15930	13262	13044	10007
57	5706	4044	3349	4481
57	15389	13112	12859	9901
58	14035	11840	11559	8682
58	6148	3490	2795	4106
59	13624	12825	12452	9866
59	6666	3290	2620	3541
60	13372	12255	11896	9266
61	13211	12928	12522	10073
62	12968	12427	12029	9547
63	11644	11119	10696	8353
63	5772	3621	2925	4584
64	15080	13285	12995	10132
65	16419	13387	13204	10103
66	12799	11125	10787	8096
67	13573	10739	10491	7534
68	6223	7432	7112	10184
69	6590	8118	7817	10908
70	5084	7091	6677	9585
71	5612	7091	6721	9717
72	5345	7588	7195	10138
73	5783	8054	7690	10682
74	12767	15069	14538	12709
75	12631	15539	14983	13316
76	12055	14508	13964	12232
77	12704	14659	14142	12234
78	12826	14094	13608	11529
79	12658	14296	13791	11812
80	12253	15664	15087	13579
81	12542	16335	15746	14319
82	12343	16631	16024	14749
83	13397	14435	13966	11789
84	17627	13147	13102	9857
85	16822	12985	12872	9676
86	17075	12873	12795	9568
87	16303	12335	12225	9026
88	16025	12689	12524	9395
89	15747	12081	11937	8778
9	5974	9565	8909	8436
90	15393	11488	11357	8181
91	17246	13981	13828	10681
92	17220	13595	13470	10287

To be continued on next page...

Project:

HAUK_LF_Indoor

Licensed user:

wpd GmbH

Stephanitorsbollwerk 3 (Haus LUV)

DE-28211 Bremen

+49 7142 77810

Emma Berkovits / e.berkovits@wpd.fi

Calculated:

08-Aug-25 10:37/4.1.264

DECIBEL - Main Result

Calculation: VE3 36xF200 LF Indoor CUMUL

...continued from previous page

WTG	RH Vältalo	RH Vitomaa	RH Vitoperä	RH Yppärilä
93	16660	13311	13156	10012
94	12460	13373	12897	10772
95	12159	13728	13220	11271
96	11422	12331	11840	9822
97	11296	12766	12250	10368
98	12430	12852	12399	10169
99	11906	14022	13489	11691
WTG01	14737	5712	6410	7108
WTG02	15353	6438	7134	7954
WTG03	15398	6327	7024	7516
WTG04	15956	7105	7799	8646
WTG05	16266	7257	7955	8489
WTG06	16840	7909	8606	9231
WTG07	17319	8751	9434	10498
WTG08	16563	8055	8732	9924
WTG09	16787	8059	8749	9679
WTG10	15979	7350	8033	9160
WTG11	14590	5430	6120	6424
WTG12	13874	4736	5430	5960
WTG13	13789	4589	5259	5324
WTG14	14434	5235	5900	5780
WTG15	13722	4603	5213	4627
WTG16	12984	3802	4446	4394
WTG17	15019	5972	6558	5519
WTG18	14325	5299	5875	4869
WTG19	14947	6088	6618	5151

Taajuus [Hz]	20	25	31,5	40	50	63	80	100	125	160	200
Toimenpideraja [dB]	74	64	56	49	44	42	40	38	36	34	32
Havaintopiste	Pienitaajuisen melun mallinnustulokset terssikaistoittain välillä 20–200 Hz [dB]										
HH Hietakaivonkangas	56,94	53,57	49,03	44,06	40,09	38,35	34,78	29,97	25,93	20,51	16,52
HH Hiitoperä	52,98	49,56	45,00	39,98	35,96	34,13	30,43	25,40	21,05	15,18	10,62
HH Holma	52,80	49,37	44,81	39,79	35,77	33,93	30,22	25,19	20,83	14,94	10,35
HH Kankaala	56,57	53,20	48,66	43,68	39,70	37,95	34,35	29,51	25,42	19,92	15,82
HH Koskela	54,37	50,97	46,42	41,43	37,43	35,64	32,01	27,10	22,92	17,32	13,12
HH Kylä-Anttila	53,82	50,41	45,86	40,85	36,85	35,03	31,36	26,39	22,12	16,35	11,92
HH Liminkajärvi	54,58	51,18	46,63	41,63	37,63	35,83	32,18	27,24	23,00	17,29	12,92
HH Lystilä	56,16	52,78	48,24	43,26	39,27	37,51	33,90	29,03	24,90	19,34	15,15
HH Ruunakorpi	56,97	53,60	49,06	44,09	40,12	38,38	34,81	30,00	25,96	20,55	16,56
HH Vaihoja	56,82	53,44	48,91	43,93	39,96	38,21	34,63	29,81	25,76	20,31	16,29
RH Haanpää	55,12	51,73	47,18	42,19	38,20	36,43	32,81	27,92	23,76	18,18	13,99
RH Hautala	53,21	49,79	45,24	40,22	36,21	34,39	30,71	25,72	21,42	15,65	11,22
RH Heikkilä	56,72	53,35	48,81	43,83	39,86	38,11	34,53	29,70	25,63	20,17	16,12
RH Hietala	52,99	49,57	45,01	39,99	35,96	34,12	30,42	25,37	21,00	15,08	10,43
RH Jukkola 1	58,06	54,70	50,16	45,20	41,23	39,51	35,94	31,16	27,15	21,76	17,81
RH Jukkola 2	57,98	54,61	50,08	45,11	41,15	39,42	35,86	31,07	27,05	21,66	17,70
RH Jukkola 3	57,71	54,34	49,81	44,84	40,87	39,14	35,57	30,77	26,74	21,32	17,33
RH Kantola	55,99	52,61	48,07	43,08	39,10	37,33	33,72	28,84	24,70	19,12	14,92
RH Karppi	53,14	49,72	45,16	40,15	36,13	34,30	30,61	25,59	21,26	15,41	10,87
RH Katinhätä 1	54,30	50,90	46,35	41,34	37,34	35,53	31,88	26,92	22,67	16,93	12,53
RH Katinhätä 2	54,13	50,73	46,17	41,17	37,16	35,35	31,69	26,72	22,45	16,69	12,25
RH Kesikylä	55,67	52,29	47,74	42,75	38,77	36,99	33,37	28,48	24,33	18,72	14,49
RH Kotila	56,94	53,56	49,02	44,05	40,07	38,32	34,73	29,90	25,82	20,33	16,23
RH Kupulisoja	57,45	54,08	49,55	44,58	40,61	38,86	35,29	30,47	26,43	20,98	16,95
RH Kupulisperä	57,69	54,32	49,78	44,82	40,85	39,11	35,54	30,73	26,70	21,27	17,26
RH Lepola	53,06	49,64	45,08	40,07	36,05	34,21	30,52	25,49	21,15	15,29	10,73
RH Limingoja	54,29	50,89	46,34	41,34	37,35	35,55	31,92	27,00	22,82	17,20	12,99
RH Nikula	57,52	54,15	49,62	44,64	40,67	38,93	35,36	30,55	26,51	21,07	17,04
RH Ojakangas	55,15	51,76	47,22	42,23	38,24	36,46	32,84	27,95	23,80	18,22	14,03
RH Ojatalo	57,30	53,93	49,39	44,42	40,44	38,70	35,12	30,30	26,24	20,78	16,73
RH Pahkala	57,45	54,08	49,54	44,57	40,60	38,86	35,28	30,47	26,42	20,97	16,93
RH Paskoja	51,88	48,44	43,87	38,83	34,79	32,92	29,17	24,06	19,58	13,52	8,69
RH Pinola	53,16	49,75	45,19	40,17	36,15	34,32	30,63	25,61	21,28	15,42	10,88
RH Pokela	54,68	51,28	46,74	41,74	37,75	35,96	32,32	27,41	23,22	17,59	13,34
RH Pyhänskoskentie	52,94	49,52	44,96	39,94	35,92	34,08	30,38	25,34	20,98	15,08	10,48
RH Pyhänskoski 1	53,24	49,83	45,27	40,25	36,23	34,40	30,70	25,68	21,34	15,47	10,89
RH Pyhänskoski 2	53,15	49,73	45,17	40,15	36,13	34,29	30,60	25,57	21,22	15,34	10,75
RH Seppälä	53,10	49,68	45,12	40,10	36,08	34,24	30,55	25,52	21,17	15,29	10,70
RH Tienvieri	53,59	50,19	45,63	40,63	36,62	34,81	31,15	26,19	21,94	16,23	11,90
RH Uusitalo	57,36	53,98	49,45	44,48	40,51	38,77	35,19	30,38	26,33	20,88	16,86
RH Utela	56,02	52,63	48,09	43,11	39,13	37,36	33,76	28,90	24,78	19,24	15,10
RH Vaihoja 1	56,55	53,17	48,63	43,66	39,68	37,93	34,35	29,51	25,45	19,98	15,93
RH Vaihoja 2	56,39	53,01	48,47	43,49	39,52	37,76	34,17	29,33	25,25	19,77	15,69
RH Vaihojantie	54,96	51,57	47,02	42,03	38,04	36,26	32,63	27,74	23,57	17,97	13,76
RH Välitälo	54,57	51,17	46,62	41,62	37,62	35,82	32,18	27,24	23,02	17,33	12,99
RH Vitomaa	54,14	50,74	46,19	41,18	37,18	35,38	31,72	26,77	22,53	16,81	12,45
RH Vitoperä	55,47	52,08	47,54	42,55	38,56	36,79	33,18	28,30	24,17	18,60	14,43
RH Yppärilä	55,13	51,74	47,19	42,20	38,20	36,42	32,79	27,88	23,70	18,06	13,78

Taajuus [Hz]	20	25	31,5	40	50	63	80	100	125	160	200
Toimenpideraja [dB]	74	64	56	49	44	42	40	38	36	34	32
Havaintopiste	Pienitaajuisen melun mallinnustulokset terssikaistoittain välillä 20–200 Hz [dB]										
HH Hietakaivonkangas	56,07	52,70	48,17	43,20	39,23	37,49	33,93	29,12	25,10	19,69	15,71
HH Hiitoperä	52,23	48,82	44,26	39,25	35,23	33,41	29,73	24,73	20,42	14,60	10,09
HH Holma	52,02	48,60	44,05	39,03	35,01	33,18	29,50	24,49	20,17	14,33	9,80
HH Kankaala	54,88	51,50	46,96	41,98	37,99	36,23	32,62	27,75	23,63	18,07	13,89
HH Koskela	50,92	47,48	42,91	37,88	33,84	31,97	28,23	23,12	18,64	12,57	7,72
HH Kylä-Anttila	53,11	49,71	45,16	40,16	36,16	34,36	30,70	25,76	21,52	15,81	11,44
HH Liminkajärvi	53,27	49,87	45,32	40,32	36,32	34,52	30,87	25,92	21,69	15,98	11,62
HH Lystilä	54,79	51,41	46,86	41,88	37,90	36,13	32,52	27,65	23,52	17,96	13,77
HH Ruunakorpi	56,17	52,80	48,27	43,30	39,34	37,60	34,03	29,24	25,22	19,82	15,86
HH Vaihoja	55,13	51,75	47,21	42,23	38,26	36,50	32,90	28,06	23,96	18,45	14,34
RH Haanpää	53,33	49,93	45,38	40,38	36,39	34,59	30,95	26,02	21,80	16,12	11,79
RH Hautala	50,35	46,91	42,33	37,29	33,24	31,35	27,59	22,44	17,90	11,74	6,77
RH Heikkilä	55,40	52,03	47,49	42,51	38,54	36,79	33,20	28,37	24,30	18,82	14,76
RH Hietala	51,80	48,38	43,82	38,79	34,77	32,92	29,21	24,16	19,77	13,81	9,11
RH Jukkola 1	55,94	52,57	48,03	43,06	39,08	37,34	33,75	28,93	24,86	19,39	15,32
RH Jukkola 2	55,87	52,50	47,96	42,99	39,01	37,26	33,68	28,85	24,78	19,31	15,23
RH Jukkola 3	55,70	52,33	47,79	42,81	38,84	37,09	33,50	28,66	24,58	19,09	15,00
RH Kantola	54,71	51,33	46,79	41,80	37,82	36,05	32,44	27,57	23,43	17,87	13,68
RH Karppi	52,40	48,99	44,43	39,42	35,41	33,59	29,91	24,93	20,63	14,84	10,36
RH Katinhätä 1	52,94	49,53	44,98	39,97	35,96	34,15	30,48	25,50	21,20	15,40	10,89
RH Katinhätä 2	52,82	49,41	44,85	39,84	35,83	34,01	30,34	25,35	21,05	15,23	10,70
RH Kesikylä	54,43	51,04	46,49	41,51	37,52	35,75	32,13	27,25	23,10	17,51	13,29
RH Kotila	55,48	52,10	47,57	42,59	38,61	36,86	33,27	28,43	24,34	18,84	14,73
RH Kupulisoja	56,73	53,37	48,83	43,86	39,90	38,16	34,60	29,80	25,77	20,34	16,34
RH Kupulisperä	56,96	53,59	49,06	44,09	40,13	38,40	34,83	30,04	26,02	20,62	16,63
RH Lepola	52,31	48,90	44,34	39,33	35,32	33,49	29,82	24,82	20,51	14,70	10,20
RH Limingoja	50,90	47,46	42,89	37,85	33,82	31,94	28,20	23,09	18,62	12,54	7,69
RH Nikula	56,35	52,98	48,44	43,47	39,50	37,77	34,20	29,39	25,36	19,94	15,94
RH Ojakangas	53,41	50,01	45,46	40,46	36,47	34,67	31,03	26,10	21,89	16,22	11,90
RH Ojatalo	55,88	52,51	47,97	43,00	39,02	37,28	33,70	28,87	24,81	19,34	15,28
RH Pahkala	56,55	53,18	48,64	43,67	39,70	37,97	34,39	29,58	25,54	20,10	16,06
RH Paskoja	50,52	47,08	42,51	37,46	33,42	31,53	27,78	22,64	18,12	11,99	7,06
RH Pinola	52,41	49,00	44,45	39,44	35,43	33,60	29,93	24,94	20,64	14,84	10,35
RH Pokela	52,92	49,52	44,97	39,96	35,96	34,15	30,50	25,54	21,29	15,56	11,16
RH Pyhänskoskentie	52,16	48,75	44,19	39,18	35,16	33,33	29,65	24,64	20,31	14,46	9,92
RH Pyhänskoski 1	52,44	49,03	44,47	39,46	35,45	33,62	29,94	24,94	20,63	14,80	10,28
RH Pyhänskoski 2	52,35	48,93	44,37	39,36	35,35	33,52	29,84	24,84	20,52	14,68	10,14
RH Seppälä	51,68	48,26	43,70	38,67	34,65	32,80	29,09	24,03	19,63	13,67	8,96
RH Tienvieri	50,47	47,03	42,46	37,41	33,37	31,48	27,72	22,58	18,06	11,92	6,97
RH Uusitalo	56,28	52,91	48,38	43,41	39,44	37,70	34,13	29,33	25,30	19,88	15,89
RH Utela	54,46	51,08	46,53	41,55	37,56	35,79	32,17	27,29	23,14	17,55	13,34
RH Vaihoja 1	54,83	51,45	46,91	41,92	37,94	36,18	32,58	27,72	23,60	18,07	13,92
RH Vaihoja 2	54,72	51,33	46,79	41,81	37,83	36,06	32,45	27,59	23,46	17,91	13,75
RH Vaihojantie	53,15	49,75	45,20	40,20	36,20	34,40	30,75	25,80	21,57	15,86	11,50
RH Väitalo	53,04	49,63	45,08	40,07	36,07	34,26	30,59	25,62	21,34	15,55	11,06
RH Vitomaa	53,14	49,74	45,19	40,19	36,19	34,39	30,74	25,80	21,57	15,86	11,51
RH Vitoperä	54,53	51,14	46,60	41,61	37,63	35,86	32,26	27,39	23,26	17,71	13,55
RH Yppärilä	53,57	50,18	45,63	40,63	36,63	34,84	31,20	26,27	22,05	16,36	12,02

Taajuus [Hz]	20	25	31,5	40	50	63	80	100	125	160	200
Toimenpideraja [dB]	74	64	56	49	44	42	40	38	36	34	32
Havaintopiste	Pienitaajuisen melun mallinnustulokset terssikaistoittain välillä 20–200 Hz [dB]										
HH Hietakaivonkangas	54,24	50,87	46,33	41,35	37,37	35,62	32,03	27,19	23,12	17,64	13,59
HH Hiitoperä	50,65	47,23	42,66	37,64	33,62	31,77	28,06	23,01	18,62	12,69	8,04
HH Holma	50,43	47,00	42,43	37,41	33,38	31,53	27,81	22,75	18,35	12,40	7,73
HH Kankaala	53,34	49,95	45,40	40,41	36,42	34,64	31,01	26,11	21,93	16,30	12,01
HH Koskela	50,04	46,61	42,04	37,00	32,96	31,09	27,35	22,24	17,77	11,69	6,84
HH Kylä-Anttila	51,47	48,06	43,51	38,49	34,48	32,66	28,98	23,98	19,66	13,84	9,31
HH Liminkajärvi	52,86	49,46	44,91	39,92	35,92	34,13	30,50	25,57	21,36	15,69	11,36
HH Lystilä	54,40	51,02	46,48	41,50	37,52	35,76	32,16	27,30	23,20	17,66	13,52
HH Ruunakorpi	54,33	50,96	46,42	41,44	37,47	35,72	32,13	27,30	23,23	17,77	13,72
HH Vaihoja	54,52	51,14	46,60	41,62	37,65	35,89	32,30	27,45	23,36	17,85	13,74
RH Haanpää	52,90	49,50	44,96	39,96	35,97	34,18	30,55	25,63	21,43	15,78	11,48
RH Hautala	49,42	45,98	41,40	36,36	32,31	30,42	26,65	21,50	16,95	10,78	5,80
RH Heikkilä	55,08	51,71	47,17	42,20	38,23	36,48	32,91	28,09	24,04	18,59	14,56
RH Hietala	50,88	47,46	42,90	37,87	33,85	32,00	28,29	23,24	18,84	12,88	8,16
RH Jukkola 1	54,64	51,26	46,72	41,74	37,77	36,01	32,42	27,57	23,48	17,97	13,84
RH Jukkola 2	54,56	51,18	46,64	41,67	37,69	35,93	32,34	27,49	23,39	17,87	13,74
RH Jukkola 3	54,35	50,96	46,42	41,44	37,46	35,70	32,10	27,24	23,13	17,59	13,43
RH Kantola	54,33	50,95	46,41	41,43	37,45	35,69	32,09	27,24	23,13	17,59	13,44
RH Karppi	50,80	47,38	42,82	37,79	33,77	31,93	28,23	23,19	18,81	12,91	8,28
RH Katinhätä 1	52,09	48,68	44,12	39,12	35,11	33,30	29,63	24,65	20,36	14,55	10,05
RH Katinhätä 2	51,95	48,54	43,98	38,97	34,96	33,14	29,47	24,48	20,18	14,36	9,83
RH Keskikylä	54,05	50,66	46,12	41,14	37,16	35,39	31,79	26,92	22,79	17,23	13,06
RH Kotila	55,10	51,72	47,19	42,21	38,24	36,49	32,91	28,08	24,02	18,55	14,48
RH Kupulisoja	55,47	52,10	47,56	42,59	38,62	36,88	33,30	28,48	24,43	18,97	14,92
RH Kupulisperä	55,75	52,38	47,85	42,88	38,91	37,17	33,60	28,80	24,76	19,33	15,30
RH Lepola	50,75	47,33	42,76	37,74	33,72	31,87	28,17	23,12	18,74	12,82	8,17
RH Limingoja	50,01	46,57	42,01	36,97	32,93	31,06	27,32	22,20	17,73	11,65	6,79
RH Nikula	56,01	52,65	48,11	43,15	39,18	37,45	33,89	29,10	25,09	19,69	15,73
RH Ojakangas	52,99	49,59	45,04	40,05	36,06	34,27	30,64	25,73	21,54	15,90	11,61
RH Ojatalo	55,51	52,14	47,60	42,63	38,66	36,92	33,35	28,54	24,50	19,06	15,04
RH Pahkala	55,54	52,17	47,63	42,66	38,69	36,95	33,37	28,56	24,51	19,06	15,01
RH Paskoja	49,75	46,31	41,74	36,70	32,65	30,77	27,02	21,89	17,38	11,26	6,33
RH Pinola	50,86	47,44	42,88	37,86	33,83	31,99	28,29	23,25	18,88	12,97	8,33
RH Pokela	52,46	49,06	44,51	39,51	35,51	33,71	30,07	25,13	20,90	15,19	10,83
RH Pyhänskoskentie	50,69	47,27	42,71	37,68	33,66	31,81	28,10	23,04	18,65	12,71	8,02
RH Pyhänskoski 1	51,05	47,63	43,07	38,05	34,03	32,19	28,50	23,46	19,09	13,18	8,54
RH Pyhänskoski 2	50,95	47,53	42,96	37,94	33,92	32,08	28,38	23,34	18,96	13,04	8,38
RH Seppälä	50,90	47,47	42,91	37,89	33,86	32,02	28,31	23,26	18,86	12,91	8,21
RH Tienvieri	49,59	46,15	41,58	36,53	32,49	30,60	26,84	21,70	17,17	11,03	6,08
RH Uusitalo	55,97	52,60	48,07	43,10	39,14	37,41	33,85	29,06	25,05	19,66	15,69
RH Uutela	52,84	49,44	44,89	39,89	35,90	34,11	30,47	25,54	21,33	15,66	11,32
RH Vaihoja 1	54,25	50,87	46,33	41,35	37,37	35,61	32,01	27,16	23,05	17,52	13,38
RH Vaihoja 2	54,11	50,73	46,19	41,21	37,22	35,46	31,86	27,00	22,88	17,33	13,17
RH Vaihojantie	52,67	49,28	44,73	39,73	35,73	33,94	30,30	25,37	21,15	15,47	11,13
RH Välitälo	52,24	48,84	44,29	39,28	35,28	33,46	29,80	24,83	20,56	14,78	10,30
RH Vitomaa	51,51	48,10	43,55	38,54	34,53	32,71	29,04	24,05	19,76	13,97	9,50
RH Vitoperä	52,79	49,40	44,85	39,86	35,87	34,08	30,45	25,54	21,36	15,73	11,47
RH Yppärilä	52,06	48,66	44,10	39,10	35,09	33,28	29,62	24,65	20,38	14,61	10,15

Taajuus [Hz]	20	25	31,5	40	50	63	80	100	125	160	200
Toimenpideraja [dB]	74	64	56	49	44	42	40	38	36	34	32
Havaintopiste	Pienitaajuisen melun mallinnustulokset terssikaistoittain välillä 20–200 Hz [dB]										
HH Hietakaivonkangas	57,22	54,03	49,53	44,94	41,55	39,47	35,86	31,26	27,10	21,22	17,15
HH Hiitoperä	53,84	50,98	46,43	42,30	39,60	37,08	33,25	28,90	24,57	17,60	13,18
HH Holma	53,59	50,73	46,17	42,04	39,31	36,81	33,01	28,58	24,27	17,28	12,80
HH Kankaala	56,99	53,92	49,36	44,88	41,69	39,50	35,84	31,28	27,16	20,95	16,80
HH Koskela	55,18	52,12	47,78	43,50	40,65	38,04	34,37	30,19	25,43	19,12	14,92
HH Kylä-Anttila	54,71	51,96	47,32	43,22	40,58	38,07	34,25	29,92	25,79	18,77	14,52
HH Liminkajärvi	56,32	52,98	48,62	43,93	40,42	38,22	34,60	30,05	25,47	19,79	15,61
HH Lystilä	57,30	53,98	49,62	44,93	41,47	39,24	35,63	31,19	26,56	20,90	16,77
HH Ruunakorpi	57,27	54,10	49,59	45,01	41,66	39,57	35,94	31,35	27,22	21,29	17,24
HH Vaihoja	57,05	53,71	49,29	44,51	40,85	38,79	35,17	30,50	26,13	20,55	16,47
RH Haanpää	55,62	52,27	47,86	43,10	39,47	37,34	33,69	28,97	24,48	18,75	14,49
RH Hautala	54,23	51,37	46,92	42,83	40,18	37,52	33,78	29,56	24,99	18,18	13,86
RH Heikkilä	57,35	54,01	49,58	44,80	41,15	39,10	35,50	30,85	26,48	20,91	16,81
RH Hietala	53,70	50,44	46,40	42,13	39,33	36,41	32,67	28,71	23,05	16,78	12,25
RH Jukkola 1	58,36	55,17	50,65	46,00	42,58	40,51	36,89	32,30	28,18	22,34	18,32
RH Jukkola 2	58,28	55,11	50,58	45,94	42,53	40,45	36,83	32,24	28,12	22,26	18,24
RH Jukkola 3	58,04	54,89	50,35	45,74	42,38	40,28	36,64	32,06	27,94	22,00	17,95
RH Kantola	57,20	53,87	49,50	44,79	41,30	39,10	35,49	31,00	26,42	20,76	16,62
RH Karppi	54,02	51,20	46,62	42,50	39,83	37,31	33,49	29,13	24,87	17,86	13,48
RH Katinhätä 1	54,78	51,48	47,26	42,78	39,65	37,06	33,34	29,06	23,91	17,86	13,43
RH Katinhätä 2	54,63	51,34	47,14	42,68	39,59	36,96	33,24	28,99	23,78	17,70	13,25
RH Kesikylä	56,98	53,65	49,27	44,56	41,04	38,86	35,25	30,72	26,16	20,50	16,34
RH Kotila	57,74	54,42	50,04	45,33	41,83	39,65	36,05	31,58	27,03	21,40	17,30
RH Kupulisoja	57,69	54,42	49,96	45,26	41,75	39,65	36,02	31,42	27,12	21,38	17,29
RH Kupulisperä	57,91	54,63	50,17	45,45	41,90	39,83	36,21	31,60	27,31	21,62	17,56
RH Lepola	53,94	51,05	46,52	42,38	39,66	37,14	33,31	29,00	24,61	17,70	13,29
RH Limingoja	55,11	52,08	47,71	43,45	40,61	38,01	34,33	30,13	25,42	19,04	14,84
RH Nikula	58,15	54,82	50,41	45,65	42,06	39,98	36,39	31,83	27,42	21,85	17,79
RH Ojakangas	55,69	52,35	47,93	43,18	39,55	37,42	33,77	29,06	24,57	18,85	14,59
RH Ojatalo	57,98	54,66	50,27	45,54	42,01	39,86	36,27	31,77	27,28	21,68	17,60
RH Pahkala	57,68	54,38	49,94	45,22	41,67	39,58	35,95	31,35	27,00	21,32	17,22
RH Paskoja	52,79	49,54	45,69	41,61	38,91	35,80	32,02	28,11	22,14	15,82	11,32
RH Pinola	54,04	51,14	46,62	42,47	39,74	37,22	33,39	29,10	24,69	17,83	13,43
RH Pokela	55,18	51,83	47,42	42,68	39,07	36,90	33,23	28,50	23,95	18,16	13,83
RH Pyhänskoskentie	53,89	50,88	46,47	42,31	39,56	37,02	33,17	29,00	24,38	17,71	13,29
RH Pyhänskoski 1	54,16	51,09	46,73	42,54	39,74	37,19	33,36	29,25	24,51	17,99	13,59
RH Pyhänskoski 2	54,10	51,04	46,68	42,50	39,72	37,18	33,33	29,24	24,51	17,98	13,59
RH Seppälä	53,75	50,46	46,40	42,09	39,16	36,30	32,56	28,45	22,89	16,70	12,19
RH Tienvieri	54,54	51,50	47,20	43,01	40,26	37,56	33,87	29,76	24,87	18,43	14,17
RH Uusitalo	58,01	54,68	50,26	45,49	41,87	39,81	36,22	31,63	27,25	21,69	17,62
RH Utela	56,42	53,30	48,80	44,32	41,11	38,93	35,29	30,72	26,51	20,36	16,15
RH Vaihoja 1	56,80	53,46	49,04	44,26	40,60	38,53	34,90	30,22	25,84	20,24	16,12
RH Vaihoja 2	56,65	53,31	48,89	44,12	40,49	38,39	34,76	30,08	25,66	20,03	15,90
RH Vaihojantie	55,38	52,03	47,62	42,87	39,25	37,10	33,43	28,71	24,18	18,43	14,13
RH Välitälo	55,00	51,70	47,45	42,94	39,73	37,20	33,49	29,15	24,09	18,12	13,74
RH Vitomaa	54,61	51,47	47,08	42,75	39,67	37,42	33,81	29,29	24,85	18,62	14,22
RH Vitoperä	55,84	52,67	48,21	43,73	40,49	38,32	34,69	30,12	25,82	19,73	15,48
RH Yppärilä	55,68	52,69	48,15	43,83	40,83	38,55	34,88	30,36	26,18	19,71	15,43

Taajuus [Hz]	20	25	31,5	40	50	63	80	100	125	160	200
Toimenpideraja [dB]	74	64	56	49	44	42	40	38	36	34	32
Havaintopiste	Pienitaajuisen melun mallinnustulokset terssikaistoittain välillä 20–200 Hz [dB]										
HH Hietakaivonkangas	56,41	53,26	48,77	44,24	40,95	38,83	35,21	30,65	26,48	20,53	16,46
HH Hiitoperä	53,24	50,46	45,91	41,88	39,30	36,73	32,90	28,62	24,29	17,27	12,90
HH Holma	52,96	50,18	45,63	41,60	38,99	36,44	32,65	28,28	23,98	16,93	12,50
HH Kankaala	55,49	52,53	47,97	43,65	40,69	38,38	34,69	30,19	26,05	19,57	15,34
HH Koskela	52,56	49,73	45,52	41,66	39,29	36,31	32,58	28,68	23,55	16,60	12,17
HH Kylä-Anttila	54,14	51,47	46,83	42,83	40,30	37,75	33,92	29,65	25,54	18,47	14,26
HH Liminkajärvi	55,48	52,16	47,83	43,21	39,78	37,51	33,90	29,41	24,78	19,10	14,95
HH Lystilä	56,29	52,98	48,66	44,04	40,69	38,36	34,76	30,40	25,67	19,99	15,86
HH Ruunakorpi	56,53	53,40	48,89	44,38	41,12	38,99	35,36	30,81	26,68	20,69	16,64
HH Vaihoja	55,48	52,15	47,77	43,06	39,52	37,33	33,68	29,04	24,51	18,82	14,62
RH Haanpää	54,07	50,73	46,37	41,70	38,19	35,92	32,24	27,56	22,87	17,00	12,59
RH Hautala	52,15	49,58	45,17	41,46	39,22	36,30	32,51	28,49	23,77	16,43	12,00
RH Heikkilä	56,23	52,90	48,51	43,78	40,21	38,08	34,47	29,87	25,42	19,80	15,68
RH Hietala	52,72	49,49	45,56	41,44	38,82	35,74	31,99	28,19	22,32	15,97	11,43
RH Jukkola 1	56,41	53,32	48,80	44,31	41,11	38,89	35,23	30,69	26,49	20,34	16,20
RH Jukkola 2	56,36	53,27	48,75	44,27	41,09	38,86	35,19	30,66	26,46	20,29	16,14
RH Jukkola 3	56,21	53,16	48,62	44,17	41,04	38,79	35,12	30,60	26,42	20,17	16,01
RH Kantola	56,26	52,95	48,62	43,98	40,57	38,29	34,69	30,27	25,61	19,94	15,82
RH Karppi	53,42	50,69	46,10	42,09	39,54	36,97	33,14	28,85	24,61	17,54	13,21
RH Katinhanta 1	53,58	50,31	46,19	41,84	38,89	36,13	32,39	28,24	22,86	16,67	12,15
RH Katinhanta 2	53,48	50,22	46,11	41,79	38,88	36,08	32,34	28,23	22,80	16,59	12,06
RH Kesikylä	56,09	52,77	48,43	43,78	40,35	38,09	34,48	30,03	25,40	19,74	15,60
RH Kotila	56,57	53,26	48,93	44,29	40,91	38,62	35,02	30,64	25,96	20,29	16,17
RH Kupulisoja	57,01	53,77	49,32	44,66	41,21	39,07	35,44	30,88	26,56	20,80	16,73
RH Kupulisperä	57,22	53,96	49,51	44,83	41,35	39,24	35,61	31,04	26,73	21,02	16,97
RH Lepola	53,33	50,52	46,00	41,96	39,36	36,79	32,95	28,71	24,33	17,38	13,01
RH Limingoja	52,54	49,75	45,49	41,65	39,29	36,33	32,59	28,65	23,61	16,60	12,16
RH Nikula	57,15	53,84	49,46	44,75	41,25	39,09	35,49	31,01	26,52	20,94	16,89
RH Ojakangas	54,19	50,86	46,50	41,82	38,31	36,05	32,38	27,70	23,04	17,18	12,79
RH Ojatalo	56,81	53,50	49,15	44,49	41,07	38,82	35,22	30,80	26,19	20,55	16,46
RH Pahkala	56,82	53,55	49,13	44,45	40,98	38,83	35,20	30,64	26,24	20,51	16,41
RH Paskoja	51,73	48,52	44,84	40,94	38,43	35,14	31,35	27,61	21,40	14,99	10,51
RH Pinola	53,43	50,61	46,10	42,05	39,44	36,87	33,04	28,81	24,41	17,50	13,15
RH Pokela	53,65	50,31	45,96	41,30	37,82	35,51	31,81	27,12	22,37	16,43	11,94
RH Pyhänskoskentie	53,27	50,33	45,94	41,88	39,24	36,65	32,80	28,71	24,08	17,38	13,00
RH Pyhänskoski 1	53,52	50,51	46,18	42,09	39,41	36,80	32,96	28,94	24,18	17,63	13,27
RH Pyhänskoski 2	53,47	50,46	46,14	42,06	39,40	36,80	32,95	28,94	24,19	17,64	13,28
RH Seppälä	52,56	49,30	45,38	41,24	38,51	35,46	31,70	27,75	21,91	15,60	11,03
RH Tienvieri	52,23	49,41	45,25	41,45	39,14	36,11	32,37	28,53	23,31	16,36	11,93
RH Uusitalo	57,11	53,79	49,39	44,67	41,12	39,00	35,40	30,87	26,43	20,87	16,82
RH Utela	55,03	52,01	47,51	43,19	40,18	37,89	34,24	29,73	25,48	19,11	14,83
RH Vaihoja 1	55,20	51,87	47,49	42,79	39,25	37,05	33,39	28,74	24,18	18,46	14,23
RH Vaihoja 2	55,09	51,76	47,40	42,71	39,20	36,96	33,30	28,67	24,07	18,32	14,07
RH Vaihojantie	53,77	50,43	46,08	41,42	37,93	35,63	31,92	27,23	22,50	16,57	12,11
RH Välitälo	53,65	50,37	46,23	41,85	38,84	36,11	32,38	28,18	22,84	16,69	12,18
RH Vitomaa	53,72	50,64	46,29	42,09	39,14	36,83	33,22	28,77	24,31	18,01	13,61
RH Vitoperä	54,98	51,87	47,42	43,04	39,91	37,69	34,06	29,54	25,22	19,06	14,80
RH Yppärilä	54,34	51,48	46,94	42,81	40,04	37,65	33,97	29,53	25,33	18,63	14,30

Taajuus [Hz]	20	25	31,5	40	50	63	80	100	125	160	200
Toimenpideraja [dB]	74	64	56	49	44	42	40	38	36	34	32
Havaintopiste	Pienitaajuisen melun mallinnustulokset terssikaistoittain välillä 20–200 Hz [dB]										
HH Hietakaivonkangas	54,75	51,69	47,22	42,86	39,79	37,53	33,89	29,38	25,13	18,93	14,75
HH Hiitoperä	52,03	49,43	44,89	41,08	38,74	36,04	32,18	27,99	23,65	16,34	11,94
HH Holma	51,72	49,13	44,57	40,77	38,41	35,74	31,91	27,63	23,32	15,98	11,51
HH Kankaala	54,18	51,36	46,78	42,65	39,91	37,48	33,76	29,33	25,16	18,39	14,08
HH Koskela	51,97	49,23	45,06	41,31	39,06	36,01	32,27	28,45	23,29	16,28	11,87
HH Kylä-Anttila	52,91	50,45	45,77	42,00	39,73	37,05	33,18	29,01	24,90	17,51	13,28
HH Liminkajärvi	55,24	51,93	47,61	43,01	39,60	37,32	33,72	29,26	24,62	18,96	14,84
HH Lystilä	56,01	52,71	48,41	43,81	40,49	38,14	34,55	30,22	25,48	19,81	15,71
HH Ruunakorpi	54,86	51,84	47,34	43,00	39,98	37,70	34,04	29,55	25,36	19,08	14,94
HH Vaihoja	54,91	51,59	47,23	42,56	39,07	36,83	33,18	28,57	23,99	18,27	14,06
RH Haanpää	53,70	50,38	46,03	41,39	37,92	35,62	31,94	27,29	22,59	16,73	12,34
RH Hautala	51,56	49,10	44,72	41,13	39,00	36,03	32,23	28,27	23,55	16,13	11,73
RH Heikkilä	55,96	52,64	48,26	43,55	40,00	37,86	34,25	29,67	25,22	19,62	15,52
RH Hietala	51,99	48,79	44,97	40,97	38,48	35,29	31,53	27,84	21,83	15,42	10,90
RH Jukkola 1	55,27	52,25	47,73	43,36	40,33	38,00	34,32	29,84	25,58	19,24	15,03
RH Jukkola 2	55,20	52,21	47,68	43,32	40,32	37,98	34,29	29,81	25,56	19,18	14,97
RH Jukkola 3	55,03	52,07	47,53	43,22	40,27	37,91	34,21	29,74	25,52	19,04	14,81
RH Kantola	56,00	52,69	48,37	43,75	40,38	38,08	34,48	30,10	25,42	19,77	15,67
RH Karppi	52,21	49,67	45,07	41,29	38,98	36,28	32,42	28,23	23,97	16,61	12,25
RH Katinhätä 1	52,85	49,61	45,56	41,31	38,48	35,61	31,86	27,81	22,30	16,06	11,54
RH Katinhätä 2	52,75	49,51	45,48	41,26	38,47	35,56	31,82	27,80	22,24	15,97	11,44
RH Kesikylä	55,84	52,53	48,20	43,57	40,16	37,89	34,29	29,86	25,22	19,57	15,46
RH Kotila	56,27	52,97	48,65	44,04	40,70	38,38	34,78	30,43	25,74	20,08	15,99
RH Kupulisoja	55,84	52,62	48,20	43,62	40,31	38,06	34,40	29,90	25,48	19,59	15,45
RH Kupulisperä	56,09	52,86	48,44	43,83	40,46	38,25	34,61	30,09	25,69	19,87	15,76
RH Lepola	52,14	49,50	44,99	41,16	38,80	36,10	32,23	28,09	23,68	16,46	12,06
RH Limingoja	51,95	49,25	45,03	41,30	39,06	36,03	32,28	28,42	23,35	16,27	11,86
RH Nikula	56,88	53,57	49,20	44,51	41,03	38,85	35,27	30,81	26,31	20,74	16,72
RH Ojakangas	53,84	50,52	46,17	41,52	38,05	35,77	32,09	27,45	22,77	16,93	12,55
RH Ojatalo	56,51	53,21	48,87	44,23	40,84	38,57	34,98	30,59	25,97	20,34	16,27
RH Pahkala	55,88	52,63	48,23	43,62	40,25	38,02	34,37	29,86	25,38	19,58	15,45
RH Paskoja	51,16	47,98	44,41	40,62	38,21	34,82	31,03	27,38	21,06	14,64	10,19
RH Pinola	52,25	49,59	45,09	41,26	38,88	36,18	32,31	28,19	23,76	16,59	12,20
RH Pokela	53,26	49,93	45,60	40,98	37,54	35,20	31,50	26,84	22,07	16,14	11,67
RH Pyhänskoskentie	52,18	49,36	45,00	41,14	38,72	36,01	32,12	28,15	23,46	16,57	12,17
RH Pyhänskoski 1	52,48	49,56	45,29	41,38	38,90	36,18	32,30	28,40	23,56	16,86	12,49
RH Pyhänskoski 2	52,43	49,52	45,25	41,36	38,89	36,18	32,29	28,41	23,59	16,88	12,52
RH Seppälä	51,92	48,70	44,87	40,82	38,20	35,05	31,29	27,44	21,47	15,12	10,58
RH Tienvieri	51,66	48,93	44,81	41,13	38,92	35,82	32,09	28,32	23,07	16,06	11,67
RH Uusitalo	56,85	53,53	49,15	44,44	40,92	38,78	35,19	30,68	26,24	20,69	16,67
RH Utela	53,63	50,74	46,25	42,13	39,35	36,94	33,26	28,83	24,52	17,88	13,50
RH Vaihoja 1	54,67	51,35	47,00	42,33	38,84	36,59	32,93	28,31	23,71	17,96	13,72
RH Vaihoja 2	54,54	51,22	46,88	42,23	38,77	36,48	32,81	28,21	23,56	17,79	13,53
RH Vaihojantie	53,36	50,03	45,70	41,07	37,62	35,29	31,59	26,93	22,16	16,25	11,79
RH Välitälo	52,96	49,71	45,63	41,34	38,44	35,61	31,88	27,76	22,30	16,11	11,60
RH Vitomaa	52,34	49,36	45,07	41,09	38,37	35,95	32,35	27,98	23,45	16,96	12,49
RH Vitoperä	53,45	50,44	46,04	41,85	38,96	36,60	32,96	28,51	24,11	17,70	13,34
RH Yppärilä	53,11	50,41	45,87	41,95	39,41	36,91	33,21	28,84	24,62	17,67	13,29