

VINDIN AB OY

PJELAX VINDKRAFTSPARK

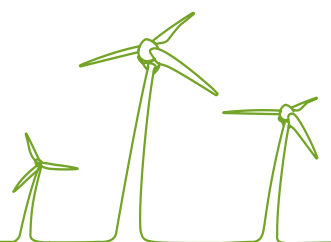
MILJÖKONSEKVENSBESKRIVNING

BILAGA 2. Bullermodelleringar



ALT 1.

Pjelax N131 x 30 x HH144 (104,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB)



Project:

Pjelas

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Calculated:

12.6.2014 11:39/2.8.579

DECIBEL - Main Result

Calculation: Pjelas N131 x 30 x HH144 (104,5 dB octave) + Svalskulla V112 x 5 x HH124 (106,5 dB)

Noise calculation model:

ISO 9613-2 General

Wind speed:

8,0 m/s

Ground attenuation:

General, Ground factor: 0,4

Meteorological coefficient, C0:

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:

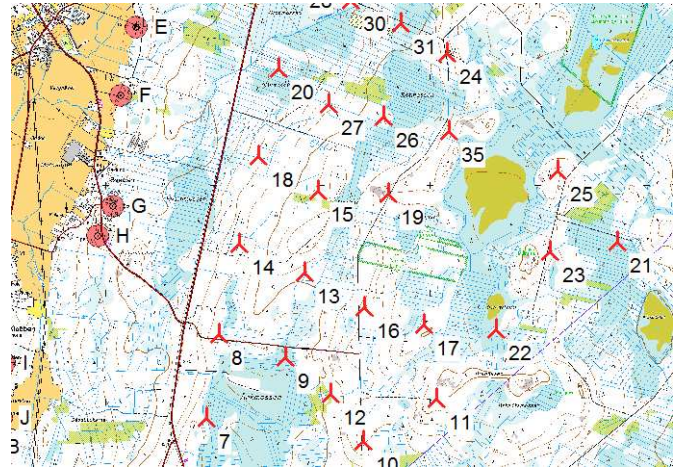
Pure and Impulse tone penalty are added to WTG source noise

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

4,0 m Allow override of model height with height from NSA object

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

0,0 dB(A)



New WTG

Noise sensitive area

WTGs

ETRS 89 Zone: 35				WTG type			Noise data			Wind speed [m/s]	Status	Lwa,ref [dB(A)]	Pure tones
East	North	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]				
1	209 519	6 924 515	14,3 VESTAS V112 3075 112,0 !OI h...	Yes	VESTAS	V112-3 075	3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5	0 dB h
2	209 669	6 925 195	21,5 VESTAS V112 3075 112,0 !OI h...	Yes	VESTAS	V112-3 075	3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5	0 dB h
3	209 768	6 925 865	13,6 VESTAS V112 3075 112,0 !OI h...	Yes	VESTAS	V112-3 075	3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5	0 dB h
4	210 312	6 925 688	32,5 VESTAS V112 3075 112,0 !OI h...	Yes	VESTAS	V112-3 075	3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5	0 dB h
5	210 468	6 925 158	31,7 VESTAS V112 3075 112,0 !OI h...	Yes	VESTAS	V112-3 075	3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5	0 dB h
6	211 658	6 926 173	36,0 3	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
7	210 931	6 926 851	35,0 5	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
8	211 046	6 927 628	35,0 13	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
9	211 663	6 927 415	35,0 6	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
10	212 377	6 926 641	50,0 8	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
11	213 056	6 927 024	58,8 9	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
12	212 075	6 927 068	42,1 7	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
13	211 841	6 928 191	41,5 12	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
14	211 233	6 928 461	33,8 14	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
15	211 962	6 928 954	42,8 15	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
16	212 386	6 927 877	51,3 11	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
17	212 939	6 927 714	59,6 10	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
18	211 406	6 929 267	27,9 17	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
19	212 611	6 928 926	55,0 16	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
20	211 593	6 930 079	23,3 20	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
21	214 727	6 928 477	45,0 28	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
22	213 612	6 927 667	57,5 30	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
23	214 105	6 928 388	57,9 29	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
24	213 156	6 930 224	47,7 25	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
25	214 179	6 929 140	57,5 27	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
26	212 568	6 929 639	44,5 18	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
27	212 056	6 929 748	33,6 19	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
28	211 762	6 930 925	28,9 21	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
29	211 962	6 931 732	31,2 23	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
30	212 264	6 930 708	31,4 22	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
31	212 724	6 930 502	38,3 24	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
32	212 064	6 925 850	39,4 2	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
33	211 412	6 925 364	33,5 1	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
34	211 109	6 926 227	35,0 4	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h
35	213 176	6 929 506	51,4 26	Yes	NORDEX	N131/3000-3 000	3 000	131,0	144,0	EMD	Level - 104,5 dB(A) - R00	104,5	0 dB h

h) Generic octave distribution used

Calculation Results

Sound Level

Noise sensitive area		ETRS 89 Zone: 35		Z [m]	Imission height [m]	Demands		Sound Level From WTGs [dB(A)]	Demands fulfilled ?
No.	Name	East	North			Noise [dB(A)]			
A	Bostad (Kullström)	210 919	6 932 257	14,1	2,0	40,0		31,9	Yes
B	Bostad (Nygård)	208 906	6 926 580	5,0	4,0	40,0		36,7	Yes
C	Fritidsbostad (Sjölund)	208 330	6 924 837	3,1	4,0	40,0		35,9	Yes
D	Bostad (Rönnlund)	208 344	6 924 294	10,0	4,0	40,0		35,1	Yes
E	Bostad (Östman)	210 277	6 930 461	6,7	2,0	40,0		33,3	Yes
F	Bostad (Östthag)	210 137	6 929 833	6,2	2,0	40,0		33,6	Yes
G	Bostad (Grannas)	210 065	6 928 808	16,0	2,0	40,0		34,7	Yes
H	Bostad (Kristinestadsvägen 1268)	209 928	6 928 534	17,7	2,0	40,0		34,4	Yes

To be continued on next page...

Project:

Pjelax

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Calculated:

12.6.2014 11:39/2.8.579

DECIBEL - Main Result**Calculation:** Pjelax N131 x 30 x HH144 (104,5 dB octave) + Svalskulla V112 x 5 x HH124 (106,5 dB)

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Noise sensitive area		ETRS 89 Zone: 35				Demands		Sound Level	Demands fulfilled ?
No.	Name	East	North	Z [m]	Imission height [m]	Noise [dB(A)]	From WTGs [dB(A)]	Noise	
	I Bostad (Skrattnäsvägen 973)	209 062	6 927 362	5,0	2,0	40,0	33,4		Yes
	J Bostad (Sörhannus)	209 038	6 926 853	5,0	2,0	40,0	35,3		Yes
	K Fritidsbostad (Klobbskatan)	208 413	6 927 416	9,1	2,0	35,0	31,0		Yes
	L Fritidsbostad (?)	217 234	6 928 218	64,5	4,0	40,0	26,0		Yes

Distances (m)

WTG	A	B	C	D	E	F	G	H	I	J	K	L
1	7860	2152	1230	1195	5988	5349	4324	4036	2881	2385	3102	8549
2	7165	1579	1384	1601	5295	4657	3631	3346	2248	1772	2549	8139
3	6489	1118	1765	2118	4619	3981	2955	2672	1653	1227	2058	7821
4	6591	1663	2155	2409	4768	4144	3127	2869	2087	1724	2565	7362
5	7107	2110	2159	2291	5301	4682	3669	3416	2612	2216	3051	7418
6	6123	2779	3582	3806	4500	3959	3076	2924	2852	2704	3472	5933
7	5401	2041	3286	3634	3664	3082	2138	1957	1935	1890	2578	6443
8	4627	2381	3890	4287	2933	2383	1534	1438	2000	2150	2639	6210
9	4894	2878	4209	4551	3343	2856	2118	2062	2599	2681	3247	5623
10	5797	3468	4426	4662	4355	3896	3166	3092	3389	3342	4035	5101
11	5647	4170	5203	5441	4415	4047	3479	3470	4005	4018	4655	4340
12	5311	3203	4355	4645	3836	3373	2656	2597	3024	3041	3675	5280
13	4166	3345	4850	5231	2754	2364	1879	1942	2897	3103	3511	5387
14	3806	2989	4638	5065	2214	1754	1217	1305	2431	2718	3004	6000
15	3461	3866	5484	5893	2258	2023	1900	2074	3305	3596	3864	5318
16	4615	3710	5064	5396	3332	2977	2498	2541	3360	3497	3996	4855
17	4968	4185	5427	5722	3821	3509	3072	3117	3889	3990	4531	4320
18	3027	3667	5388	5834	1642	1388	1416	1648	3018	3378	3516	5915
19	3733	4381	5914	6291	2791	2632	2546	2708	3874	4126	4457	4672
20	2279	4407	6168	6628	1369	1475	1985	2268	3710	4111	4144	5934
21	5360	6116	7352	7624	4867	4780	4669	4794	5768	5910	6396	2518
22	5317	4825	5986	6249	4346	4090	3722	3780	4556	4641	5200	3660
23	5008	5499	6772	7060	4349	4218	4058	4175	5141	5289	5769	3131
24	3020	5593	7225	7629	2885	3040	3396	3639	4990	5316	5506	4541
25	4507	5856	7254	7577	4115	4096	4123	4289	5412	5621	6012	3188
26	3092	4767	6398	6805	2431	2436	2634	2858	4176	4492	4707	4873
27	2753	4463	6158	6590	1914	1918	2199	2446	3824	4177	4321	5394
28	1575	5195	6982	7453	1555	1956	2711	3010	4466	4894	4846	6099
29	1167	5984	7785	8262	2108	2630	3481	3785	5239	5682	5581	6330
30	2050	5316	7060	7509	2000	2297	2903	3187	4627	5021	5061	5553
31	2516	5468	7162	7590	2445	2669	3149	3415	4819	5181	5296	5050
32	6503	3238	3864	4028	4940	4420	3567	3427	3358	3184	3969	5681
33	6904	2782	3123	3246	5216	4642	3694	3497	3081	2799	3630	6478
34	6027	2229	3104	3371	4310	3730	2781	2589	2338	2161	2944	6434
35	3556	5171	6722	7100	3049	3053	3185	3386	4635	4910	5196	4253

Project:

Pjelas

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12.6.2014 11:39/2.8.579



DECIBEL - Assumptions for noise calculation

Calculation: Pjelas N131 x 30 x HH144 (104,5 dB octave) + Svalskulla V112 x 5 x HH124 (106,5 dB) **Noise calculation model:** ISO 9613-2 General 8,0 m/s

Noise calculation model:

ISO 9613-2 General

Wind speed:

8,0 m/s

Ground attenuation:

General, Ground factor: 0,4

Meteorological coefficient, C0:

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 and Impulse tone penalty are added to WTG source noise

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

4,0 m Allow override of model height with height from NSA object

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

0,0 dB(A)

Octave data required

Air absorption

63	125	250	500	1 000	2 000	4 000	8 000
[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]
0,1	0,4	1,1	2,4	4,1	8,8	26,6	95,0

WTG: VESTAS V112 3075 112.0 !O!

Noise: Level 0 - Estimated - Mode 0 - 03-2012

Source	Source/Date	Creator	Edited
Manufacturer	6.3.2012	EMD	16.7.2012 14:53
Document no.: 0011-9181 V05			

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data								
					63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]	
From other hub height	124,0	8,0	106,5	No	Generic data	88,1	95,1	98,5	101,1	100,9	98,0	93,2	83,7

WTG: NORDEX N131/3000 3000 131.0 !O!

Noise: Level - 104.5 dB(A) - R00

Source	Source/Date	Creator	Edited
NORDEX	3.12.2013	EMD	24.4.2014 12:39
F008_245_A03_R00, 21.11.2013			

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data							
					63	125	250	500	1000	2000	4000	8000
User value	144,0	8,0	104,5	No	83,0	90,0	94,8	96,4	99,3	98,2	95,8	85,7

NSA: Bostad (Kullström)-A

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Nygård)-B

Predefined calculation standard:

Imission height(a.g.l.): 4,0 m

Noise demand: 40,0 dB(A)

Distance demand:

Project:

Pjelas

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12.6.2014 11:39/2.8.579

DECIBEL - Assumptions for noise calculation

Calculation: Pjelas N131 x 30 x HH144 (104,5 dB octave) + Svalskulla V112 x 5 x HH124 (106,5 dB) **Noise calculation model:** ISO 9613-2 General 8,0 m/s

NSA: Fritidsbostad (Sjölund)-C

Predefined calculation standard:

Imission height(a.g.l.): 4,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Rönnlund)-D

Predefined calculation standard:

Imission height(a.g.l.): 4,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Östman)-E

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Östtag)-F

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Grannas)-G

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Kristinestadsvägen 1268)-H

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Skrattnäsvägen 973)-I

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Sörhannus)-J

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Fritidsbostad (Klobbskatan)-K

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 35,0 dB(A)

Distance demand:

Project:

Pjelax

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Calculated:

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DECIBEL - Assumptions for noise calculation

Calculation: Pjelax N131 x 30 x HH144 (104,5 dB octave) + Svalskulla V112 x 5 x HH124 (106,5 dB) **Noise calculation model:** ISO 9613-2 General 8,0 m/s

NSA: Fritidsbostad (?) -L

Predefined calculation standard:

Imission height(a.g.l.): 4,0 m

Noise demand: 40,0 dB(A)

Distance demand:

Project:
Pjelax

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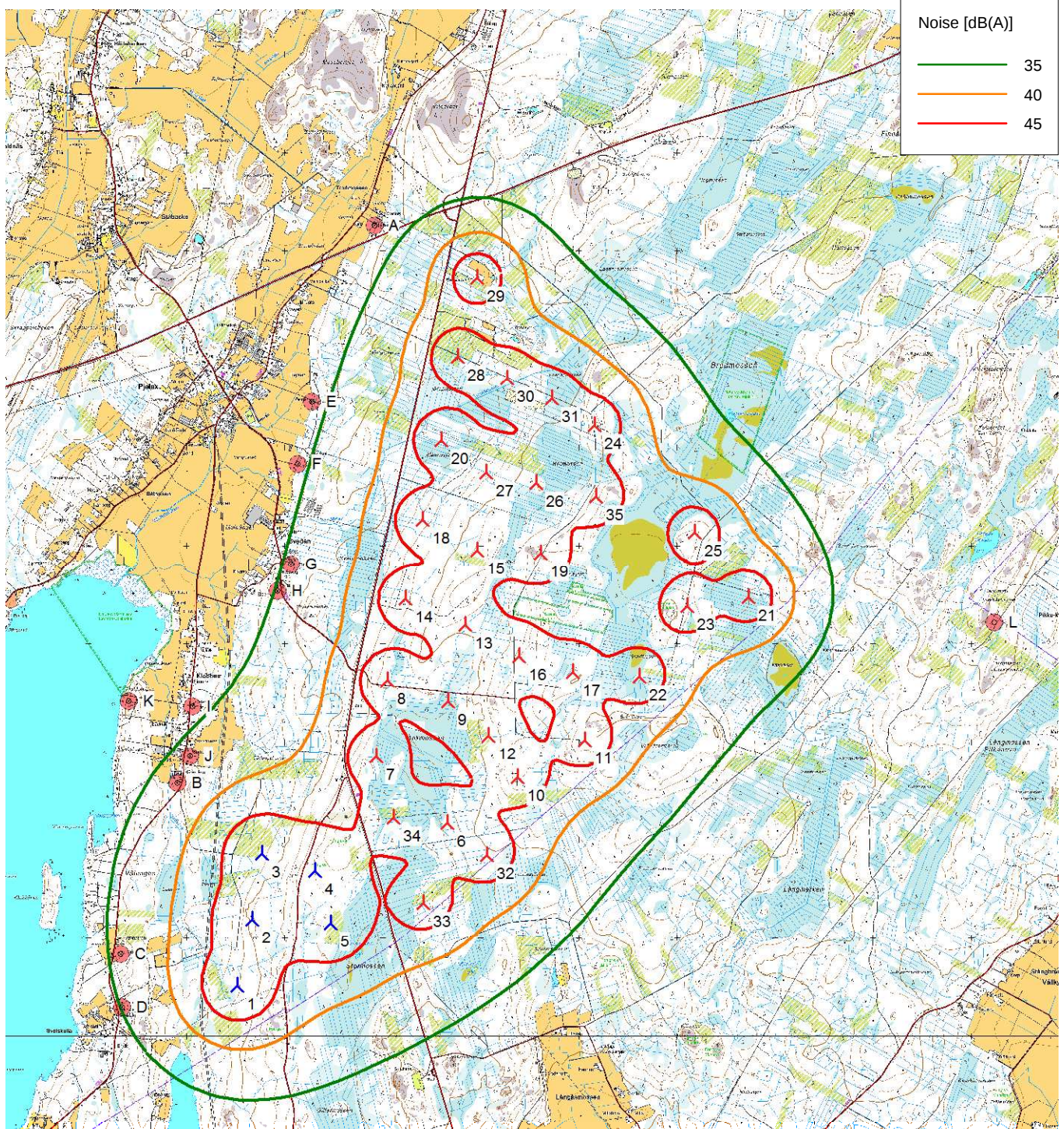
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FCG
SUUNNITTELU JA TEKNIikka

DECIBEL - Map 8,0 m/s

Calculation: Pjelax N131 x 30 x HH144 (104,5 dB octave) + Svaskulla V112 x 5 x HH124 (106,5 dB) Noise calculation model: ISO 9613-2 General 8,0 m/s



⚓ New WTG

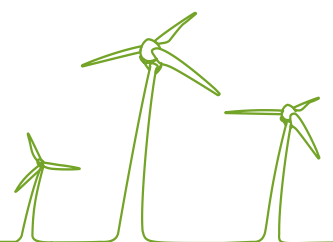
■ Noise sensitive area

Map: Peruskartat, Print scale 1:60 000, Map center ETRS 89 Zone: 35 East: 211 975 North: 6 928 266

Noise calculation model: ISO 9613-2 General. Wind speed: 8,0 m/s
Height above sea level from active line object

ALT 2.

Pjelax V126 x 23 x HH137 (107,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB)



Project:

Svalskulla, Pjelas

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Calculated:

15.5.2014 14:49/2.8.579

DECIBEL - Main Result

Calculation: Pjelas V126 x 23 x HH137 (107,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB)

Noise calculation model:

ISO 9613-2 General

Wind speed:

8,0 m/s

Ground attenuation:

General, Ground factor: 0,4

Meteorological coefficient, C0:

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:

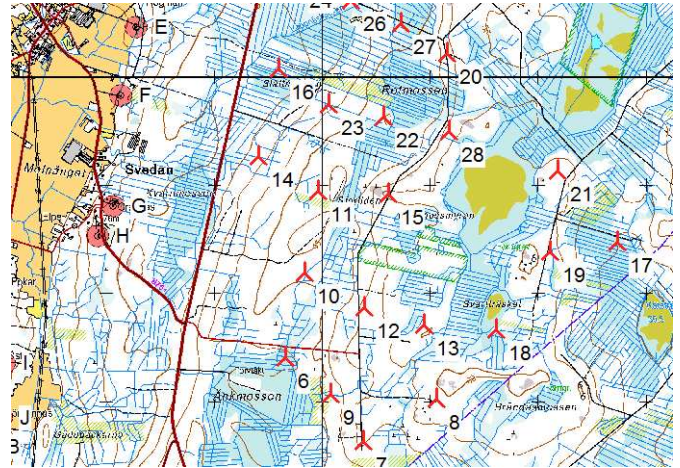
Pure and Impulse tone penalty are added to WTG source noise

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

4,0 m Allow override of model height with height from NSA object

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

0,0 dB(A)



New WTG

Noise sensitive area

WTGs

ETRS 89 Zone: 35				WTG type			Noise data			Wind speed [m/s]	Status	LWA_ref [dB(A)]	Pure tones
East	North	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]				
1	209 519	6 924 515	14,3 VESTAS V112 3075 112,0 !O! hub...	Yes	VESTAS	V112-3 075	3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5	0 dB h
2	209 669	6 925 195	21,5 VESTAS V112 3075 112,0 !O! hub...	Yes	VESTAS	V112-3 075	3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5	0 dB h
3	209 768	6 925 865	13,6 VESTAS V112 3075 112,0 !O! hub...	Yes	VESTAS	V112-3 075	3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5	0 dB h
4	210 312	6 925 688	32,5 VESTAS V112 3075 112,0 !O! hub...	Yes	VESTAS	V112-3 075	3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5	0 dB h
5	210 468	6 925 158	31,7 VESTAS V112 3075 112,0 !O! hub...	Yes	VESTAS	V112-3 075	3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5	0 dB h
6	211 663	6 927 415	35,0 6	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
7	212 377	6 926 641	50,0 8	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
8	213 056	6 927 024	58,8 9	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
9	212 075	6 927 068	42,1 7	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
10	211 841	6 928 191	41,5 12	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
11	211 962	6 928 954	42,8 15	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
12	212 386	6 927 877	51,3 11	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
13	212 939	6 927 714	59,6 10	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
14	211 406	6 929 267	27,9 17	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
15	212 611	6 928 926	55,0 16	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
16	211 593	6 930 079	23,3 20	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
17	214 727	6 928 477	45,0 28	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
18	213 612	6 927 667	57,5 30	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
19	214 105	6 928 388	57,9 29	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
20	213 156	6 930 224	47,7 25	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
21	214 179	6 929 140	57,5 27	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
22	212 568	6 929 639	44,5 18	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
23	212 056	6 929 748	33,6 19	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
24	211 762	6 930 925	28,9 21	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
25	211 962	6 931 732	31,2 23	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
26	212 264	6 930 708	31,4 22	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
27	212 724	6 930 502	38,3 24	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h
28	213 176	6 929 506	51,4 26	Yes	VESTAS	V126-3.3 GridStream-3 300	3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5	0 dB h

h) Generic octave distribution used

Calculation Results

Sound Level

Noise sensitive area		ETRS 89 Zone: 35				Demands	Sound Level	Demands fulfilled ?
No.	Name	East	North	Z	Imission height	Noise	From WTGs	Noise
				[m]	[m]	[dB(A)]	[dB(A)]	
	A Bostad (Kullström)	210 919	6 932 257	14,1	2,0	40,0	36,4	Yes
	B Bostad (Nygård)	208 906	6 926 580	5,0	4,0	40,0	36,9	Yes
	C Fritidsbostad (Sjölund)	208 330	6 924 837	3,1	4,0	40,0	36,1	Yes
	D Bostad (Rönnlund)	208 344	6 924 294	10,0	4,0	40,0	35,3	Yes
	E Bostad (Östman)	210 277	6 930 461	6,7	2,0	40,0	37,5	Yes
	F Bostad (Östhag)	210 137	6 929 833	6,2	2,0	40,0	37,4	Yes
	G Bostad (Grannas)	210 065	6 928 808	16,0	2,0	40,0	37,1	Yes
	H Bostad (Kristinestadsvägen 1268)	209 928	6 928 534	17,7	2,0	40,0	36,3	Yes
	I Bostad (Skrattnäsvägen 973)	209 062	6 927 362	5,0	2,0	40,0	34,2	Yes
	J Bostad (Sörhannus)	209 038	6 926 853	5,0	2,0	40,0	35,7	Yes
	K Fritidsbostad (Klobbskatan)	208 413	6 927 416	9,1	2,0	35,0	32,1	Yes
	L Fritidsbostad (?)	217 234	6 928 218	64,5	4,0	40,0	30,6	Yes

Project:

Svalskulla, Pjelas

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Calculated:

15.5.2014 14:49/2.8.579

DECIBEL - Assumptions for noise calculation

Calculation: Pjelas V126 x 23 x HH137 (107,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB) **Noise calculation model:** ISO 9613-2 General 8,0 m/s

Noise calculation model:

ISO 9613-2 General

Wind speed:

8,0 m/s

Ground attenuation:

General, Ground factor: 0,4

Meteorological coefficient, C0:

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 and Impulse tone penalty are added to WTG source noise

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

4,0 m Allow override of model height with height from NSA object

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

0,0 dB(A)

Octave data required

Air absorption

63	125	250	500	1 000	2 000	4 000	8 000
[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]
0,1	0,4	1,1	2,4	4,1	8,8	26,6	95,0

WTG: VESTAS V112 3075 112.0 !O!

Noise: Level 0 - Estimated - Mode 0 - 03-2012

Source	Source/Date	Creator	Edited
Manufacturer	6.3.2012	EMD	16.7.2012 14:53
Document no.: 0011-9181 V05			

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data								
					63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]	
From other hub height	124,0	8,0	106,5	No	Generic data	88,1	95,1	98,5	101,1	100,9	98,0	93,2	83,7

WTG: VESTAS V126-3.3 GridStreame 3300 126.0 !O!

Noise: Level 0 - - Mode 0 - 08-2013

Source	Source/Date	Creator	Edited
Manufacturer	22.8.2013	EMD	17.1.2014 9:51
Based on Document no.: 0034-7616 V07 2013-08-22.			

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data								
					63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]	
From Windcat	137,0	8,0	107,5	No	Generic data	89,1	96,1	99,5	102,1	101,9	99,0	94,2	84,7

NSA: Bostad (Kullström)-A

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Nygård)-B

Predefined calculation standard:

Imission height(a.g.l.): 4,0 m

Noise demand: 40,0 dB(A)

Distance demand:

Project:

Svalskulla, Pjelas

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Calculated:

15.5.2014 14:49/2.8.579

DECIBEL - Assumptions for noise calculation

Calculation: Pjelas V126 x 23 x HH137 (107,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB) **Noise calculation model:** ISO 9613-2 General 8,0 m/s

NSA: Fritidsbostad (Sjölund)-C

Predefined calculation standard:

Imission height(a.g.l.): 4,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Rönnlund)-D

Predefined calculation standard:

Imission height(a.g.l.): 4,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Östman)-E

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Östtag)-F

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Grannas)-G

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Kristinestadsvägen 1268)-H

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Skrattnäsvägen 973)-I

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Sörhannus)-J

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Fritidsbostad (Klobbskatan)-K

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 35,0 dB(A)

Distance demand:

Project:

Svalskulla, Pjelas

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Calculated:

15.5.2014 14:49/2.8.579



DECIBEL - Assumptions for noise calculation

Calculation: Pjelas V126 x 23 x HH137 (107,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB) **Noise calculation model:** ISO 9613-2 General 8,0 m/s

NSA: Fritidsbostad (?) -L

Predefined calculation standard:

Emission height(a.g.l.): 4,0 m

Noise demand: 40,0 dB(A)

Distance demand:

Project:

Svalskulla, Pjelax

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Calculated:

15.5.2014 14:49/2.8.579

DECIBEL - Map 8,0 m/s

Calculation: Pjelax V126 x 23 x HH137 (107,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB) **Noise calculation model:** ISO 9613-2 General 8,0 m/s


New WTG

Noise sensitive area

Noise calculation model: ISO 9613-2 General. Wind speed: 8,0 m/s

Height above sea level from active line object

SAMMANTAGNA BULLERKONSEKVENSER

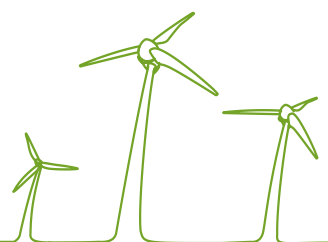
Pjelax V126 x 23 x HH137 (107,5 dB)

Svalskulla V112 x 5 x HH124 (106,5 dB)

Böle V126 x 30 x HH137 (107,5 dB)

Innopower G128-4500 x 6 x HH160 (107,5 dB)

Triventus V126 x 25 x HH137 (107,5)



Project:

Svalskulla, Pjelas

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Calculated:

16.5.2014 17:37/2.8.579

DECIBEL - Main Result

Calculation: Pjelas V126 x 23 x HH137 (107,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB) + Böle V126 x 30 x HH137 + Innopower G128-4500 x 6 x HH160 (107,5 dB) + Triventus V126 x 25 x HH137 (107,5)

Noise calculation model:

ISO 9613-2 General

Wind speed:

8,0 m/s

Ground attenuation:

General, Ground factor: 0,4

Meteorological coefficient, C0:

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)

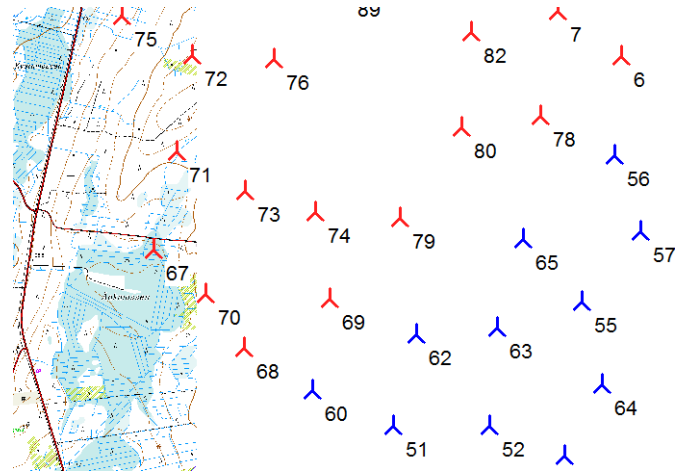
Pure tones:

Pure and Impulse tone penalty are added to WTG source noise

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

4,0 m Allow override of model height with height from NSA object

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:
0,0 dB(A)



New WTG

Scale 1:60 000
Noise sensitive area

WTGs

ETRS 89 Zone: 35				WTG type			Noise data		Wind speed [m/s]	Status	Lwa_ref [dB(A)]	Pure tones
East	North	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]				
1	209 519	6 924 515	14,3 VESTAS V112 3075 112.0 I/OI hub... Yes	VESTAS	V112-3 075		3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5 0 dB h
2	209 669	6 925 195	21,5 VESTAS V112 3075 112.0 I/OI hub... Yes	VESTAS	V112-3 075		3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5 0 dB h
3	209 768	6 925 865	13,6 VESTAS V112 3075 112.0 I/OI hub... Yes	VESTAS	V112-3 075		3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5 0 dB h
4	210 312	6 925 688	32,5 VESTAS V112 3075 112.0 I/OI hub... Yes	VESTAS	V112-3 075		3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5 0 dB h
5	210 468	6 925 158	31,7 VESTAS V112 3075 112.0 I/OI hub... Yes	VESTAS	V112-3 075		3 075	112,0	124,0	EMD	Level 0 - Estimated - Mode 0 - 03-2012	106,5 0 dB h
6	215 364	6 928 951	61,3 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
7	214 868	6 929 311	53,7 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
8	213 874	6 930 140	55,0 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
9	213 751	6 930 944	47,8 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
10	213 657	6 931 331	40,0 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
11	212 656	6 931 710	42,8 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
12	213 192	6 932 608	62,1 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
13	213 513	6 932 187	47,0 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
14	213 882	6 931 816	43,3 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
15	214 363	6 931 492	49,6 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
16	215 109	6 932 001	55,0 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
17	215 294	6 930 177	54,9 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
18	215 824	6 929 738	62,7 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
19	216 324	6 930 795	75,6 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
20	215 753	6 930 925	62,5 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
21	215 749	6 931 935	67,4 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
22	215 727	6 932 678	54,5 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
23	214 488	6 932 264	51,2 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
24	213 974	6 932 965	55,0 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
25	214 561	6 933 125	47,5 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
26	215 135	6 933 288	47,5 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
27	215 761	6 933 442	45,0 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
28	216 342	6 932 962	60,0 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
29	216 214	6 931 726	65,0 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
30	216 806	6 931 590	67,7 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
31	217 346	6 932 271	62,4 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
32	216 803	6 932 453	60,3 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
33	217 651	6 933 149	57,7 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
34	216 815	6 933 714	57,5 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
35	217 365	6 933 970	55,0 VESTAS V126-3.3 GridStream 33... Yes	VESTAS	V126-3.3 GridStream-3 300		3 300	126,0	137,0	EMD	Level 0 - Mode 0 - 08-2013	107,5 0 dB h
36	210 447	6 920 587	13,7 GAMESA G128 4500 128.0 I/OI hub... Yes	GAMESA	G128-4 500		4 500	128,0	160,0	USER	Runtime input	User value 107,5 0 dB h
37	209 808	6 920 560	27,0 GAMESA G128 4500 128.0 I/OI hub... Yes	GAMESA	G128-4 500		4 500	128,0	160,0	USER	Runtime input	User value 107,5 0 dB h
38	210 129	6 921 065	27,5 GAMESA G128 4500 128.0 I/OI hub... Yes	GAMESA	G128-4 500		4 500	128,0	160,0	USER	Runtime input	User value 107,5 0 dB h
39	210 317	6 921 612	30,0 GAMESA G128 4500 128.0 I/OI hub... Yes	GAMESA	G128-4 500		4 500	128,0	160,0	USER	Runtime input	User value 107,5 0 dB h
40	210 137	6 923 467	28,0 GAMESA G128 4500 128.0 I/OI hub... Yes	GAMESA	G128-4 500		4 500	128,0	160,0	USER	Runtime input	User value 107,5 0 dB h
41	210 069	6 923 970	30,0 GAMESA G128 4500 128.0 I/OI hub... Yes	GAMESA	G128-4 500		4 500	128,0	160,0	USER	Runtime input	User value 107,5 0 dB h
42	215 558	6 924 552	45,0 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
43	215 221	6 924 972	37,1 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
44	214 542	6 925 165	37,1 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
45	215 734	6 923 892	41,9 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
46	215 130	6 924 016	35,0 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
47	214 774	6 924 538	40,0 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
48	215 426	6 923 340	36,3 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
49	214 006	6 925 508	44,1 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
50	214 914	6 925 780	40,0 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
51	213 556	6 926 021	50,0 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
52	214 319	6 926 023	46,2 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
53	215 910	6 926 044	42,5 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
54	216 102	6 926 646	42,6 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
55	215 056	6 927 004	42,4 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
56	215 311	6 928 165	45,0 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
57	215 519	6 927 564	45,0 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
58	215 932	6 928 676	62,5 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
59	216 373	6 929 550	72,5 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
60	212 920	6 926 300	46,7 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	EMD	Level 0 - Estimated - Mode 0 - 01-2013	107,5 0 dB h
61	216 688	6 930 177	75,0 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
62	213 745	6 926 742	57,7 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300		3 300	126,0	137,0	USER	Runtime input	User value 107,5 0 dB h
63	214 387	6 926 800	55,3 VESTAS V126 3300 126.0 I/OI hub... Yes	VESTAS	V126-3 300							

Project:

Svalskulla, Pjelas

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Calculated:

16.5.2014 17:37/2.8.579

DECIBEL - Main Result

Calculation: Pjelas V126 x 23 x HH137 (107,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB) + Böle V126 x 30 x HH137 + Innopower G128-4500 x 6 x HH160 (107,5 dB) + Triventus V126 x 25 x HH137 (107,5)

...continued from previous page

ETRS 89 Zone: 35			WTG type			Noise data			Wind speed [m/s]	Status	LwA,ref [dB(A)]	Pure tones								
East	North	Z	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]					Creator	Name						
Row data/Description																				
		[m]																		
64	215 214	6 926 349	39.3	VESTAS	V126 3300	126.0	101	hub...	Yes	VESTAS	V126-3 300	3 300	126.0	137.0	USER	Runtime input	8,0	User value	107,5	0 dB h
65	214 588	6 927 497	44.9	VESTAS	V126 3300	126.0	101	hub...	Yes	VESTAS	V126-3 300	3 300	126.0	137.0	USER	Runtime input	8,0	User value	107,5	0 dB h
66	215 726	6 925 375	39.1	VESTAS	V126 3300	126.0	101	hub...	Yes	VESTAS	V126-3 300	3 300	126.0	137.0	USER	Runtime input	8,0	User value	107,5	0 dB h
67	211 663	6 927 415	35.0	6	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
68	212 377	6 926 641	50.0	8	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
69	213 056	6 927 024	58.8	9	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
70	212 075	6 927 068	42.1	7	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
71	211 841	6 928 191	41.5	12	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
72	211 962	6 928 954	42.8	15	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
73	212 386	6 927 877	51.3	11	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
74	212 939	6 927 714	59.6	10	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
75	211 406	6 929 267	27.9	17	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
76	212 611	6 928 926	55.0	16	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
77	211 593	6 930 079	23.3	20	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
78	214 727	6 928 477	45.0	28	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
79	213 612	6 927 667	57.5	30	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
80	214 105	6 928 388	57.9	29	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
81	213 156	6 930 224	47.7	25	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
82	214 179	6 929 140	57.5	27	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
83	212 568	6 929 639	44.5	18	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
84	212 056	6 929 748	33.6	19	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
85	211 762	6 930 925	28.9	21	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
86	211 962	6 931 732	31.2	23	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
87	212 264	6 930 708	31.4	22	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
88	212 724	6 930 502	38.3	24	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h
89	213 176	6 929 506	51.4	26	Yes	VESTAS	V126-3.3 GridStream	3 300	3 300	126.0	137.0	EMD	Level 0 -- Mode 0 - 08-2013	8,0					107,5	0 dB h

h) Generic octave distribution used

Calculation Results

Sound Level

Noise sensitive area			ETRS 89 Zone: 35			Demands			Sound Level		Demands fulfilled ?	
No.	Name		East	North	Z	Imission height	Noise	From WTGs	Noise		Noise	
					[m]	[m]	[dB(A)]	[dB(A)]				
	A Bostad (Kullström)		210 919	6 932 257	14,1	2,0	40,0	38,3	Yes			
	B Bostad (Nygård)		208 906	6 926 580	5,0	4,0	40,0	37,8	Yes			
	C Fritidsbostad (Sjölund)		208 330	6 924 837	3,1	4,0	40,0	37,4	Yes			
	D Bostad (Rönnlund)		208 344	6 924 294	10,0	4,0	40,0	37,2	Yes			
	E Bostad (Östman)		210 277	6 930 461	6,7	2,0	40,0	38,5	Yes			
	F Bostad (Östthag)		210 137	6 929 833	6,2	2,0	40,0	38,3	Yes			
	G Bostad (Grannas)		210 065	6 928 808	16,0	2,0	40,0	38,0	Yes			
	H Bostad (Kristinestadsvägen 1268)		209 928	6 928 534	17,7	2,0	40,0	37,3	Yes			
	I Bostad (Skrattnäs vägen 973)		209 062	6 927 362	5,0	2,0	40,0	35,4	Yes			
	J Bostad (Sörhannus)		209 038	6 926 853	5,0	2,0	40,0	36,6	Yes			
	K Fritidsbostad (Klobbskatan)		208 413	6 927 416	9,1	2,0	35,0	33,6	Yes			
	L Fritidsbostad (?)		217 234	6 928 218	64,5	4,0	40,0	39,9	Yes			

Distances (m)

WTG	A	B	C	D	E	F	G	H	I	J	K	L
1	7860	2152	1230	1195	5988	5349	4324	4036	2881	2385	3102	8549
2	7165	1579	1384	1601	5295	4657	3631	3346	2248	1772	2549	8139
3	6489	1118	1765	2118	4619	3981	2955	2672	1653	1227	2058	7821
4	6591	1663	2155	2409	4768	4144	3127	2869	2087	1724	2565	7362
5	7107	2110	2159	2291	5301	4682	3669	3416	2612	2216	3051	7418
6	5535	6873	8141	8416	5301	5295	5296	5446	6493	6658	7112	2006
7	4923	6551	7914	8221	4728	4754	4824	4995	6118	6320	6721	2604
8	3632	6106	7664	8039	3607	3745	4031	4255	5551	5841	6096	3868
9	3119	6514	8157	8562	3504	3777	4256	4514	5895	6234	6392	4418
10	2328	6303	8024	8461	2910	3278	3909	4192	5626	6011	6068	5205
11	1820	6349	8113	8570	2685	3138	3887	4182	5636	6051	6031	5752
12	2298	7389	9157	9614	3617	4123	4916	5214	6670	7090	7049	5962
13	2593	7250	8985	9426	3665	4112	4823	5113	6559	6956	6977	5435
14	2993	7216	8909	9331	3848	4233	4855	5133	6556	6928	7012	4913
15	3525	7335	8973	9373	4210	4535	5062	5325	6713	7055	7205	4350
16	4194	8230	9853	10245	5067	5418	5964	6227	7614	7952	8107	4335
17	4840	7324	8767	9096	5020	5163	5400	5606	6832	7077	7407	2754
18	5509	7597	8945	9242	5588	5681	5828	6011	7160	7366	7758	2072
19	5594	8523	9959	10282	6050	6254	6560	6776	8024	8275	8593	2730
20	5010	8102	9591	9933	5490	5715	6063	6290	7573	7845	8128	3083
21	4836	8681	10257	10630	5661	5986	6481	6734	8093	8409	8607	3999

To be continued on next page...

Project:

Svalskulla, Pjelas

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Calculated:

16.5.2014 17:37/2.8.579

DECIBEL - Main Result

Calculation: Pjelas V126 x 23 x HH137 (107,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB) + Böle V126 x 30 x HH137 + Innopower G128-4500 x 6 x HH160 (107,5 dB) + Triventus V126 x 25 x HH137 (107,5)

...continued from previous page

WTG	A	B	C	D	E	F	G	H	I	J	K	L
22	4822	9140	10768	11160	5878	6265	6851	7120	8517	8861	9001	4704
23	3566	7959	9638	10053	4576	4979	5607	5884	7305	7672	7764	4885
24	3133	8144	9885	10328	4461	4948	5700	5994	7444	7848	7848	5753
25	3741	8641	10358	10789	5040	5509	6227	6515	7958	8348	8381	5582
26	4336	9145	10839	11259	5615	6070	6759	7043	8477	8856	8917	5482
27	4980	9690	11358	11765	6236	6675	7335	7615	9038	9404	9493	5422
28	5464	9790	11400	11783	6554	6942	7520	7786	9176	9513	9667	4822
29	5317	8930	10459	10814	6065	6358	6800	7043	8370	8666	8904	3650
30	5919	9345	10826	11162	6619	6889	7285	7518	8814	9089	9364	3396
31	6421	10169	11674	12016	7290	7602	8054	8297	9620	9908	10157	4051
32	5882	9832	11381	11741	6817	7155	7653	7905	9256	9564	9776	4253
33	6785	10927	12476	12833	7841	8205	8731	8987	10346	10658	10861	4943
34	6067	10641	12267	12656	7295	7716	8336	8608	10013	10360	10490	5507
35	6663	11221	12833	13215	7901	8319	8931	9201	10601	10942	11083	5747
36	11668	6181	4743	4258	9865	9242	8222	7956	6908	6416	7119	10202
37	11738	6081	4520	4007	9902	9269	8244	7967	6835	6333	6990	10657
38	11209	5643	4174	3686	9387	8759	7736	7465	6380	5884	6572	10072
39	10652	5159	3784	3326	8840	8215	7193	6926	5879	5389	6102	9555
40	8816	3344	2265	1973	6988	6359	5336	5067	4036	3556	4305	8532
41	8322	2854	1941	1753	6487	5857	4833	4562	3534	3058	3820	8321
42	8986	6948	7226	7212	7917	7561	6943	6889	7071	6907	7691	4027
43	8453	6510	6885	6904	7380	7027	6421	6374	6600	6456	7227	3816
44	7957	5805	6214	6253	6793	6412	5767	5708	5898	5751	6523	4066
45	9643	7331	7457	7394	8532	8154	7497	7427	7513	7314	8118	4574
46	9246	6725	6842	6785	8060	7658	6966	6884	6923	6714	7522	4695
47	8621	6207	6444	6429	7430	7031	6351	6275	6366	6179	6975	4422
48	9983	7274	7245	7139	8779	8366	7651	7556	7521	7283	8104	5197
49	7415	5206	5710	5785	6194	5797	5136	5073	5275	5142	5904	4211
50	7603	6055	6644	6730	6582	6258	5712	5691	6056	5967	6698	3362
51	6765	4679	5353	5485	5514	5115	4463	4409	4685	4589	5324	4280
52	7095	5436	6099	6214	5997	5652	5080	5053	5420	5340	6063	3645
53	7963	7018	7668	7758	7151	6899	6460	6473	6967	6913	7615	2543
54	7632	7190	7972	8099	6956	6756	6407	6450	7070	7060	7720	1935
55	6681	6159	7059	7232	5893	5669	5302	5346	5999	6014	6650	2491
56	5998	6592	7726	7963	5528	5431	5280	5390	6295	6402	6932	1921
57	6565	6679	7680	7877	5983	5834	5588	5668	6453	6512	7100	1834
58	6156	7325	8508	8754	5924	5903	5863	6000	6988	7124	7617	1378
59	6084	8029	9313	9587	6158	6236	6346	6518	7624	7807	8233	1584
60	6279	4020	4812	4992	4924	4493	3797	3730	3998	3917	4639	4716
61	6127	8564	9908	10199	6410	6553	6756	6949	8121	8332	8714	2032
62	6191	4837	5734	5924	5079	4746	4216	4212	4719	4703	5369	3785
63	6460	5480	6360	6535	5498	5215	4761	4779	5349	5343	5999	3178
64	7298	6306	7041	7164	6419	6151	5701	5714	6229	6190	6878	2749
65	6005	5750	6793	7010	5226	5021	4705	4769	5522	5581	6169	2740
66	8387	6919	7408	7454	7446	7142	6614	6596	6947	6842	7585	3215
67	4894	2878	4209	4551	3343	2856	2118	2062	2599	2681	3247	5623
68	5797	3468	4426	4662	4355	3896	3166	3092	3389	3342	4035	5101
69	5647	4170	5203	5441	4415	4047	3479	3470	4005	4018	4655	4340
70	5311	3203	4355	4645	3836	3373	2656	2597	3024	3041	3675	5280
71	4166	3345	4850	5231	2754	2364	1879	1942	2897	3103	3511	5387
72	3461	3866	5484	5893	2258	2023	1900	2074	3305	3596	3864	5318
73	4615	3710	5064	5396	3332	2977	2498	2541	3360	3497	3996	4855
74	4968	4185	5427	5722	3821	3509	3072	3117	3889	3990	4531	4320
75	3027	3667	5388	5834	1642	1388	1416	1648	3018	3378	3516	5915
76	3733	4381	5914	6291	2791	2632	2546	2708	3874	4126	4457	4672
77	2279	4407	6168	6628	1369	1475	1985	2268	3710	4111	4144	5934
78	5360	6116	7352	7624	4867	4780	4669	4794	5768	5910	6396	2518
79	5317	4825	5986	6249	4346	4090	3722	3780	4556	4641	5200	3660
80	5008	5499	6772	7060	4349	4218	4058	4175	5141	5289	5769	3131
81	3020	5593	7225	7629	2885	3040	3396	3639	4990	5316	5506	4541
82	4507	5856	7254	7577	4115	4096	4123	4289	5412	5621	6012	3188
83	3092	4767	6398	6805	2431	2436	2634	2858	4176	4492	4707	4873

To be continued on next page...

Project:

Svalskulla, Pjelax

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Calculated:

16.5.2014 17:37/2.8.579



DECIBEL - Main Result

Calculation: Pjelax V126 x 23 x HH137 (107,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB) + Böle V126 x 30 x HH137 + Innopower G128-4500 x 6 x HH160 (107,5 dB) + Triventus V126 x 25 x HH137 (107,5)

...continued from previous page

WTG	A	B	C	D	E	F	G	H	I	J	K	L
84	2753	4463	6158	6590	1914	1918	2199	2446	3824	4177	4321	5394
85	1575	5195	6982	7453	1555	1956	2711	3010	4466	4894	4846	6099
86	1167	5984	7785	8262	2108	2630	3481	3785	5239	5682	5581	6330
87	2050	5316	7060	7509	2000	2297	2903	3187	4627	5021	5061	5553
88	2516	5468	7162	7590	2445	2669	3149	3415	4819	5181	5296	5050
89	3556	5171	6722	7100	3049	3053	3185	3386	4635	4910	5196	4253

Project:

Svalskulla, Pjelas

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DECIBEL - Assumptions for noise calculation

Calculation: Pjelas V126 x 23 x HH137 (107,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB) + Böle V126 x 30 x HH137 + Innopower G128-4500 x 6 x HH160 (107,5 dB) + Triventus V126 x 25 x HH137 (107,5)

Noise calculation model:

ISO 9613-2 General

Wind speed:

8,0 m/s

Ground attenuation:

General, Ground factor: 0,4

Meteorological coefficient, C0:

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 and Impulse tone penalty are added to WTG source noise

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

4,0 m Allow override of model height with height from NSA object

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

0,0 dB(A)

Octave data required

Air absorption

63	125	250	500	1 000	2 000	4 000	8 000
[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]	[dB/km]
0,1	0,4	1,1	2,4	4,1	8,8	26,6	95,0

WTG: VESTAS V112 3075 112.0 !O!

Noise: Level 0 - Estimated - Mode 0 - 03-2012

Source	Source/Date	Creator	Edited
Manufacturer	6.3.2012	EMD	16.7.2012 14:53
Document no.: 0011-9181 V05			

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data								
					63	125	250	500	1000	2000	4000	8000	
					[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	
From other hub height	124,0	8,0	106,5	No	Generic data	88,1	95,1	98,5	101,1	100,9	98,0	93,2	83,7

WTG: VESTAS V126-3.3 GridStreame 3300 126.0 !O!

Noise: Level 0 - - Mode 0 - 08-2013

Source	Source/Date	Creator	Edited
Manufacturer	22.8.2013	EMD	17.1.2014 9:51
Based on Document no.: 0034-7616 V07 2013-08-22.			

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data								
					63	125	250	500	1000	2000	4000	8000	
					[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	
From Windcat	137,0	8,0	107,5	No	Generic data	89,1	96,1	99,5	102,1	101,9	99,0	94,2	84,7

WTG: GAMESA G128 4500 128.0 !O!

Noise: Runtime input

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data								
					63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]	
User value	160.0	8.0	107.5	No	Generic data	89.1	96.1	99.5	102.1	101.9	99.0	94.2	84.7

Project:

Svalskulla, Pjelas

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Calculated:

16.5.2014 17:37/2.8.579

DECIBEL - Assumptions for noise calculation

Calculation: Pjelas V126 x 23 x HH137 (107,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB) + Böle V126 x 30 x HH137 + Innopower G128-4500 x 6 x HH160 (107,5 dB) + Triventus V126 x 25 x HH137 (107,5)

WTG: VESTAS V126 3300 126.0 !O!

Noise: Runtime input

Source	Source/Date	Creator	Edited
	30.12.1899	USER	30.12.1899 0:00

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data								
					63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]	
User value	137,0	8,0	107,5	No	Generic data	89,1	96,1	99,5	102,1	101,9	99,0	94,2	84,7

WTG: VESTAS V126 3300 126.0 !O!

Noise: Level 0 - Estimated - Mode 0 - 01-2013

Source	Source/Date	Creator	Edited
General Specification V126-3.3 MW (Doc. no.:0034-7616 V05)	16.1.2013	EMD	30.4.2013 14:09

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data								
					63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]	
From Windcat	137,0	8,0	107,5	No	Generic data	89,1	96,1	99,5	102,1	101,9	99,0	94,2	84,7

NSA: Bostad (Kullström)-A

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Nygård)-B

Predefined calculation standard:

Imission height(a.g.l.): 4,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Fritidsbostad (Sjölund)-C

Predefined calculation standard:

Imission height(a.g.l.): 4,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Rönnlund)-D

Predefined calculation standard:

Imission height(a.g.l.): 4,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Östman)-E

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Östhag)-F

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

Project:

Svalskulla, Pjelas

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Calculated:

16.5.2014 17:37/2.8.579



DECIBEL - Assumptions for noise calculation

Calculation: Pjelas V126 x 23 x HH137 (107,5 dB) + Svalskulla V112 x 5 x HH124 (106,5 dB) + Böle V126 x 30 x HH137 + Innopower G128-4500 x 6 x HH160 (107,5 dB) + Triventus V126 x 25 x HH137 (107,5)

NSA: Bostad (Grannas)-G

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Kristinestadsvägen 1268)-H

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Skrattnäsvägen 973)-I

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Bostad (Sörhannus)-J

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 40,0 dB(A)

Distance demand:

NSA: Fritidsbostad (Klobbskatan)-K

Predefined calculation standard:

Imission height(a.g.l.): 2,0 m

Noise demand: 35,0 dB(A)

Distance demand:

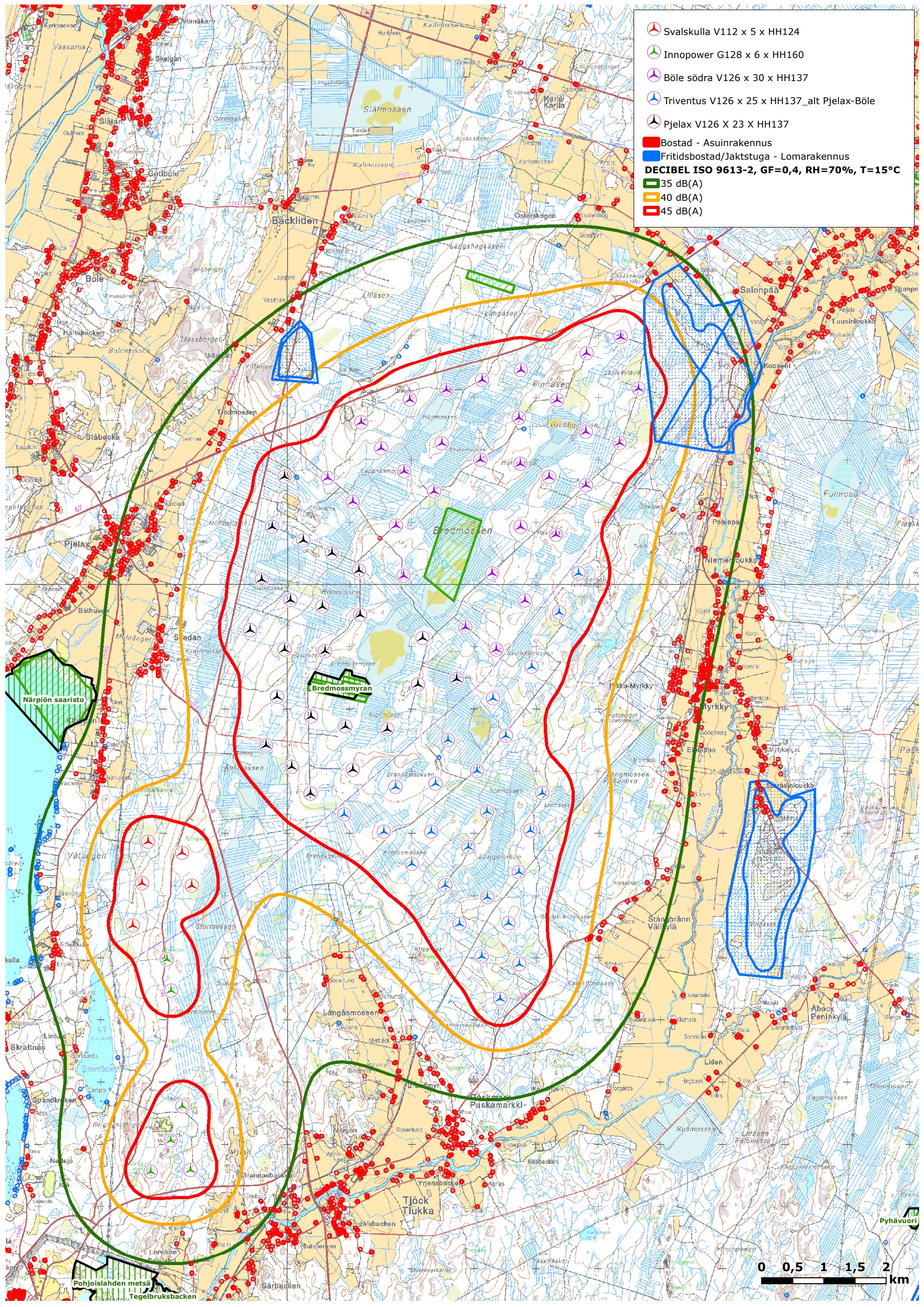
NSA: Fritidsbostad (?) -L

Predefined calculation standard:

Imission height(a.g.l.): 4,0 m

Noise demand: 40,0 dB(A)

Distance demand:

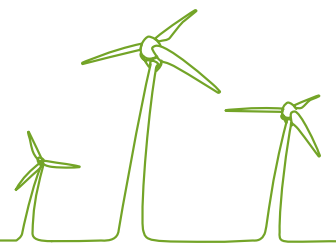


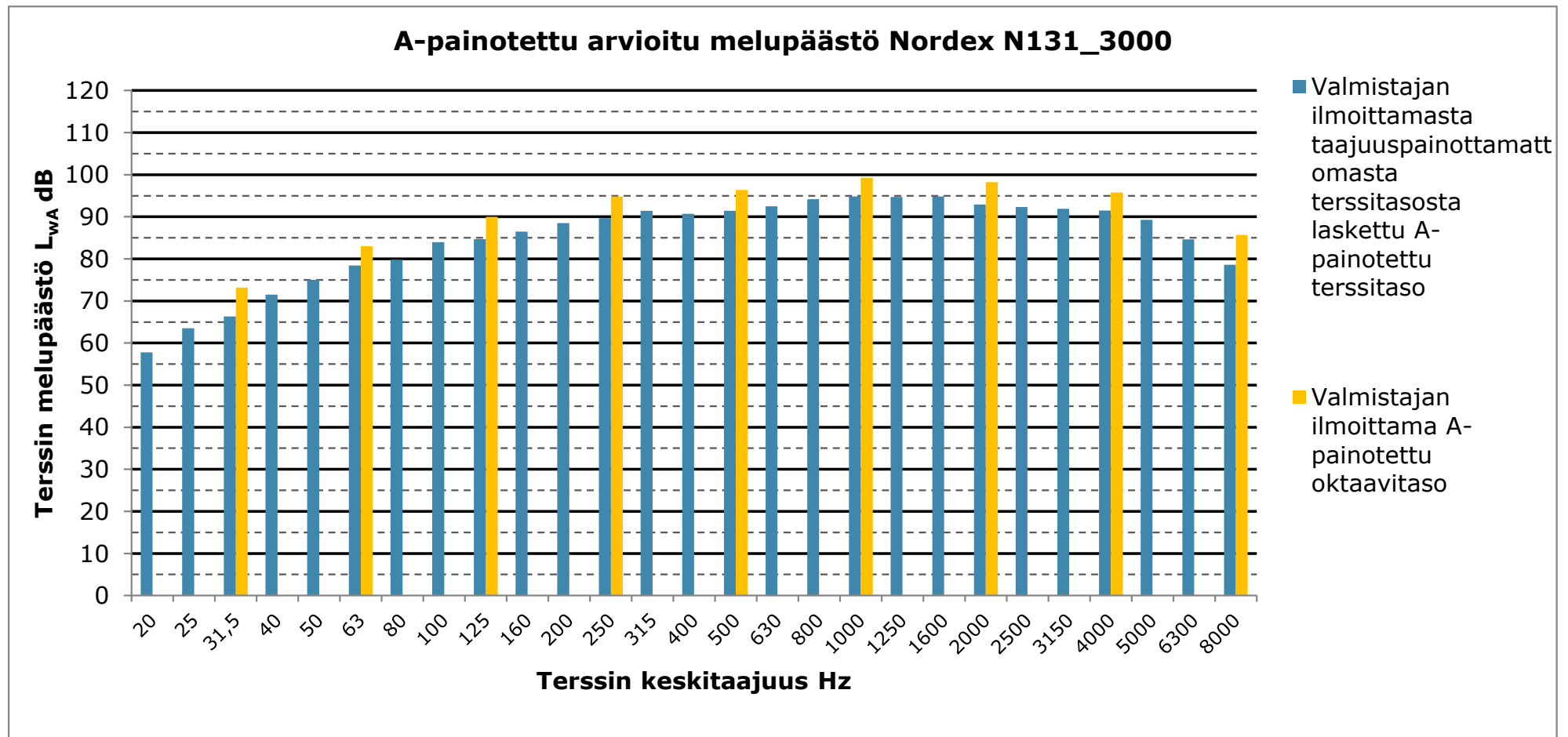
-  Svalskulla V112 x 5 x HH124
-  Innopower G128 x 6 x HH160
-  Böle södra V126 x 30 x HH137
-  Triventus V126 x 25 x HH137_alt Pjelax-Böle
-  Pjelax V126 X 23 X HH137
-  Bostad - Asuinrakennus
-  Fritidsbostad/Jaktstuga - Lomarakennus
- DECIBEL ISO 9613-2, GF=0,4, RH=70%, T=15°C**
-  35 dB(A)
-  40 dB(A)
-  45 dB(A)

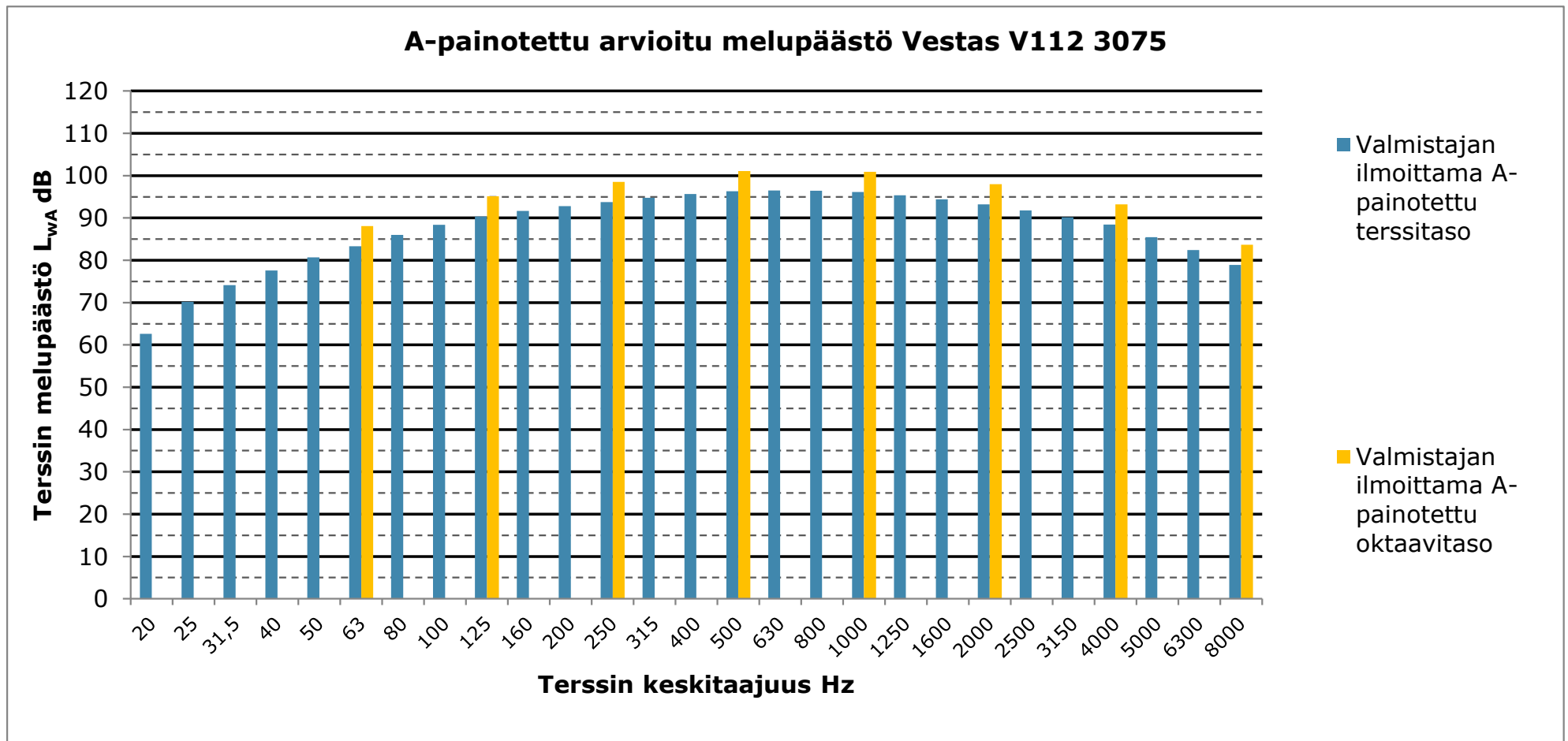
0 0,5 1 1,5 2 km

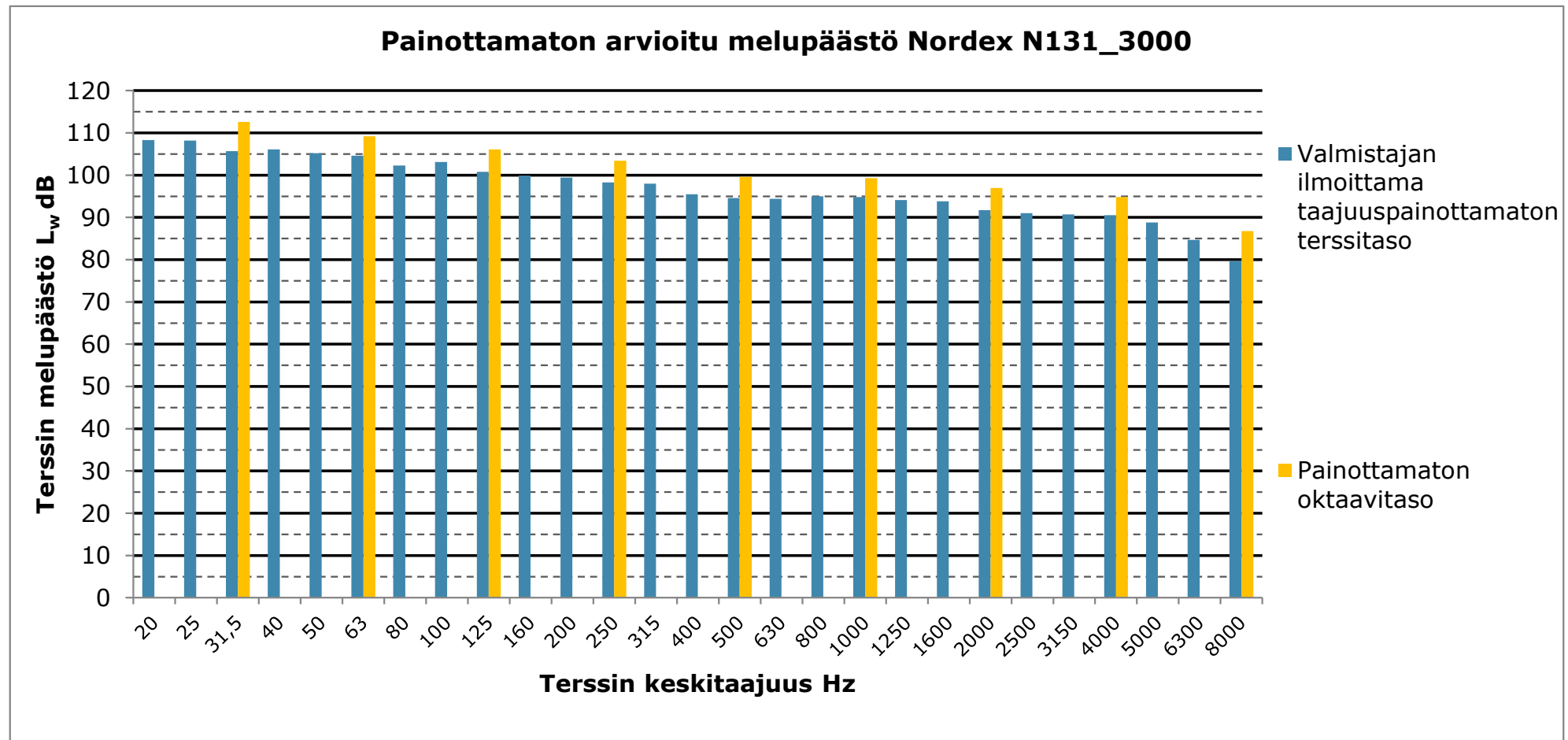
LÅGFREKVENT BULLER – MATALATAAJUISET MELUTASOT

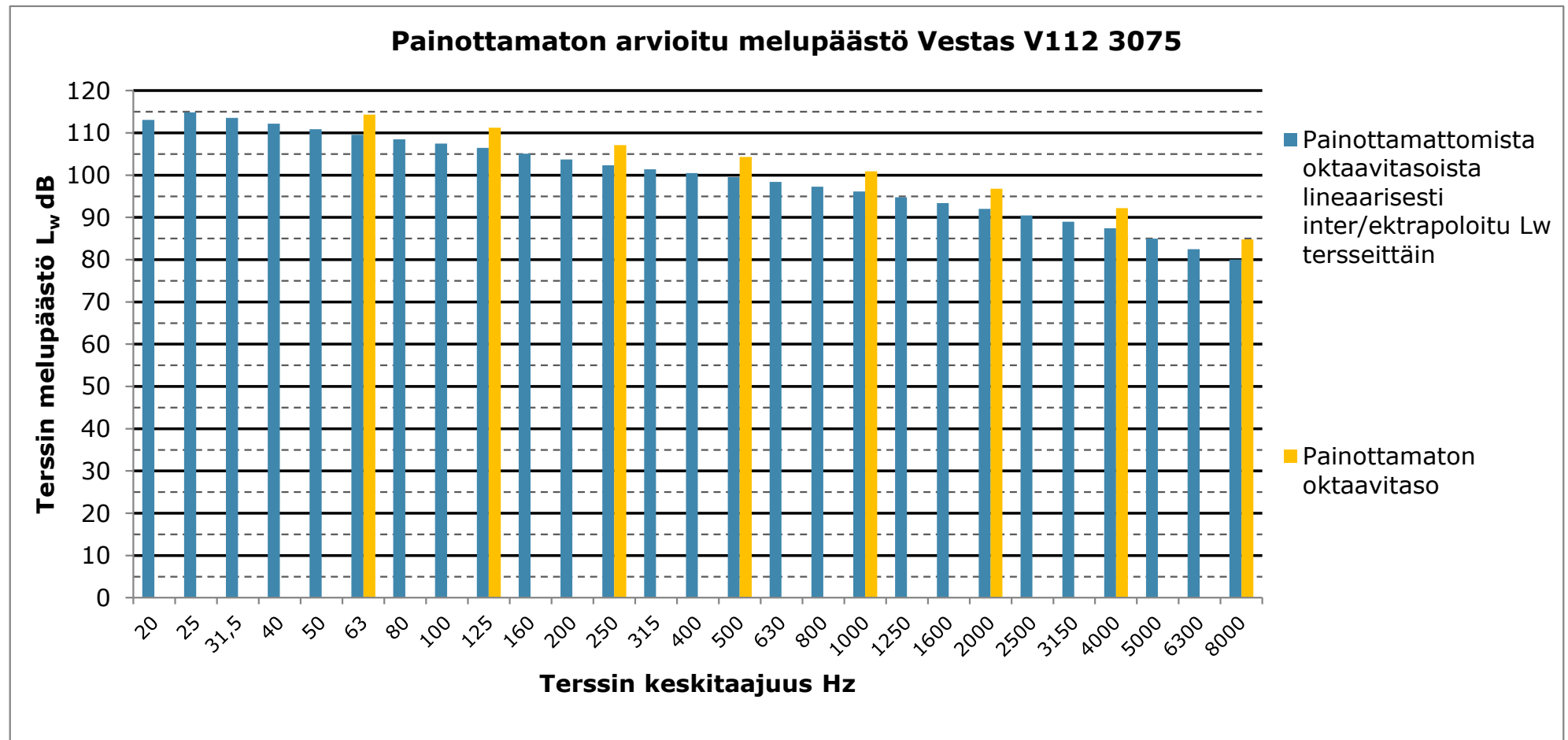
ALT 1. Pjelax N131 x 30 x HH144 + Svalskulla V112 x 5 x HH124



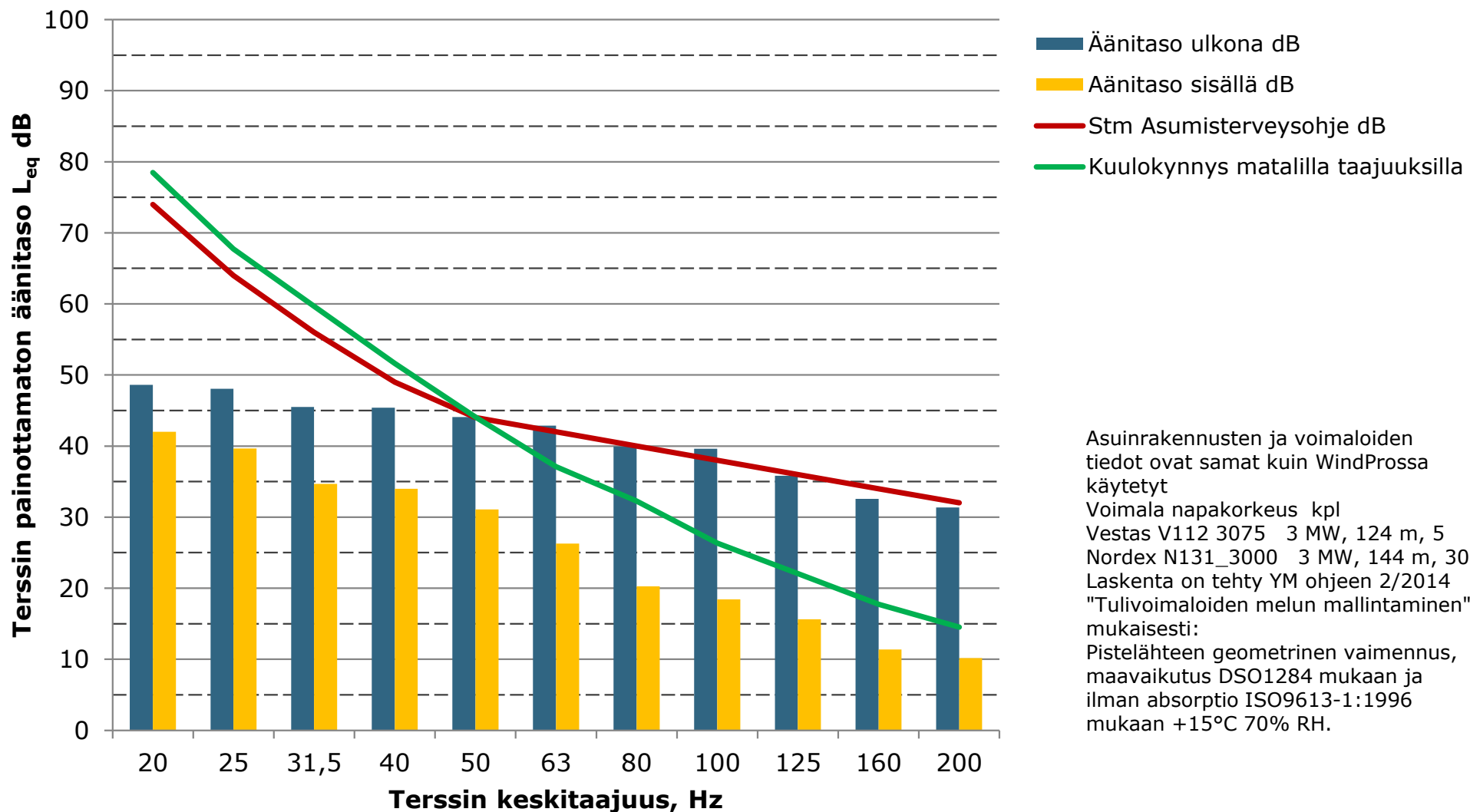




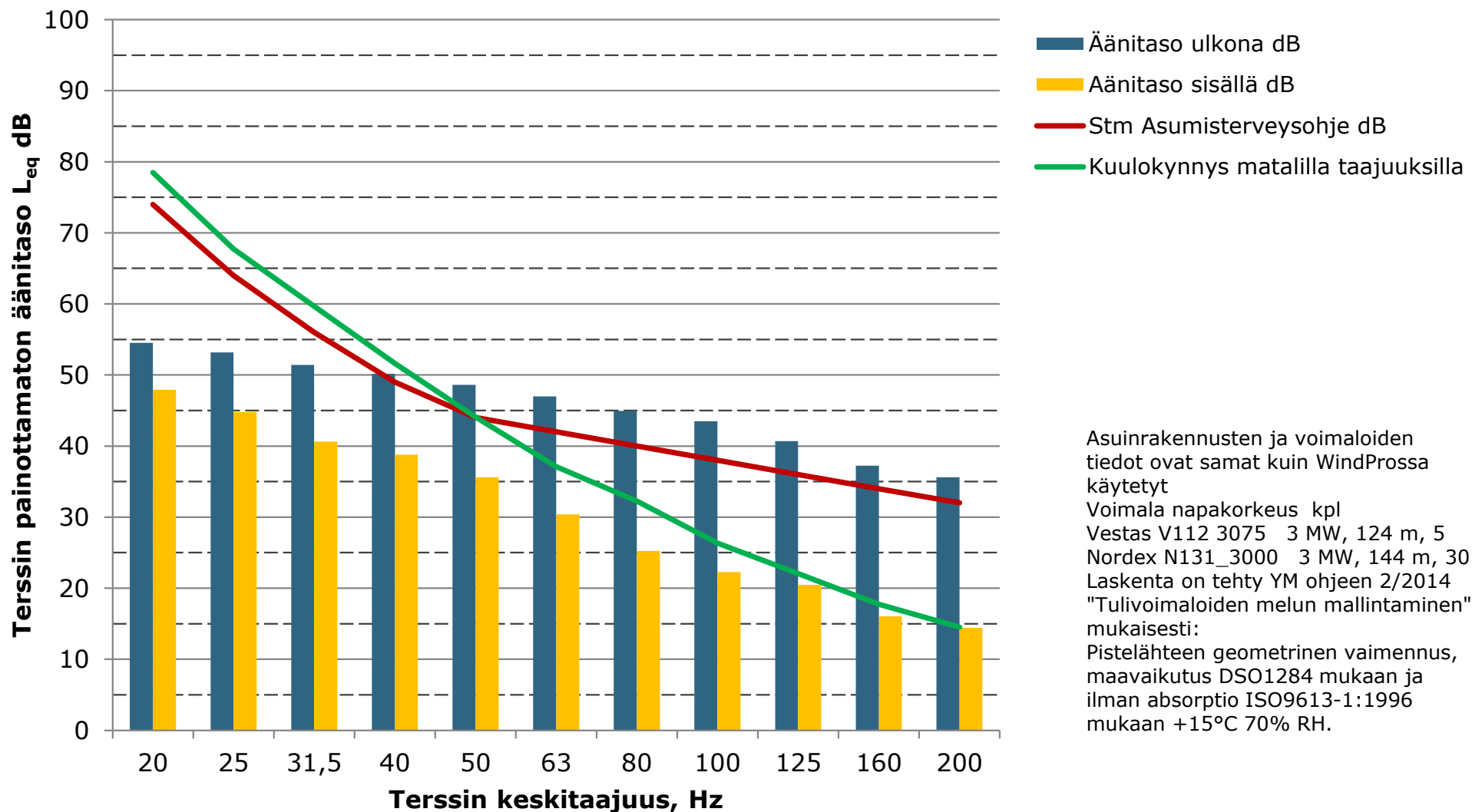




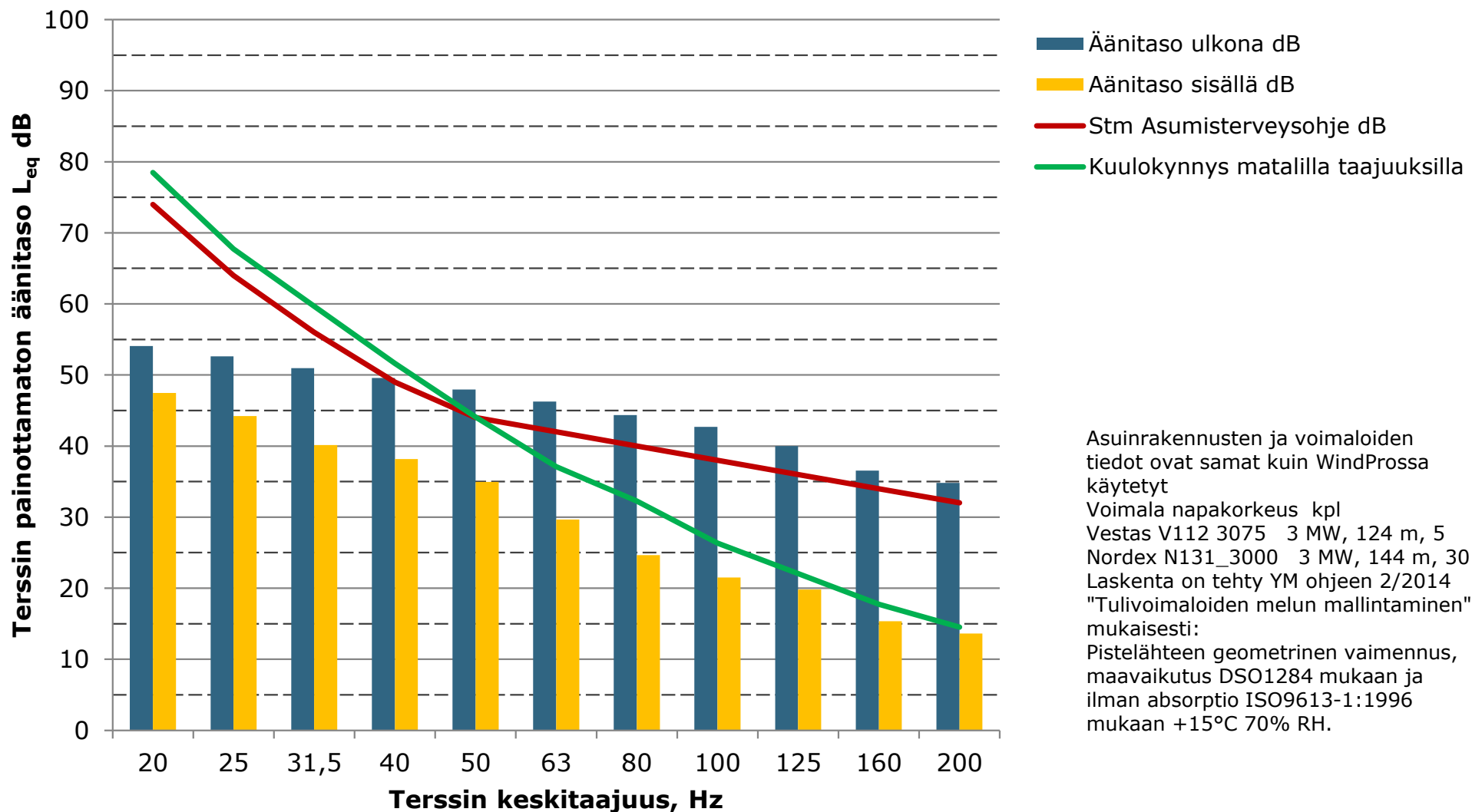
Matalien taajuuksien äänitasot ulkona ja sisällä, A Bostad (Kullström), ääneneristys DSO1284 mukaan



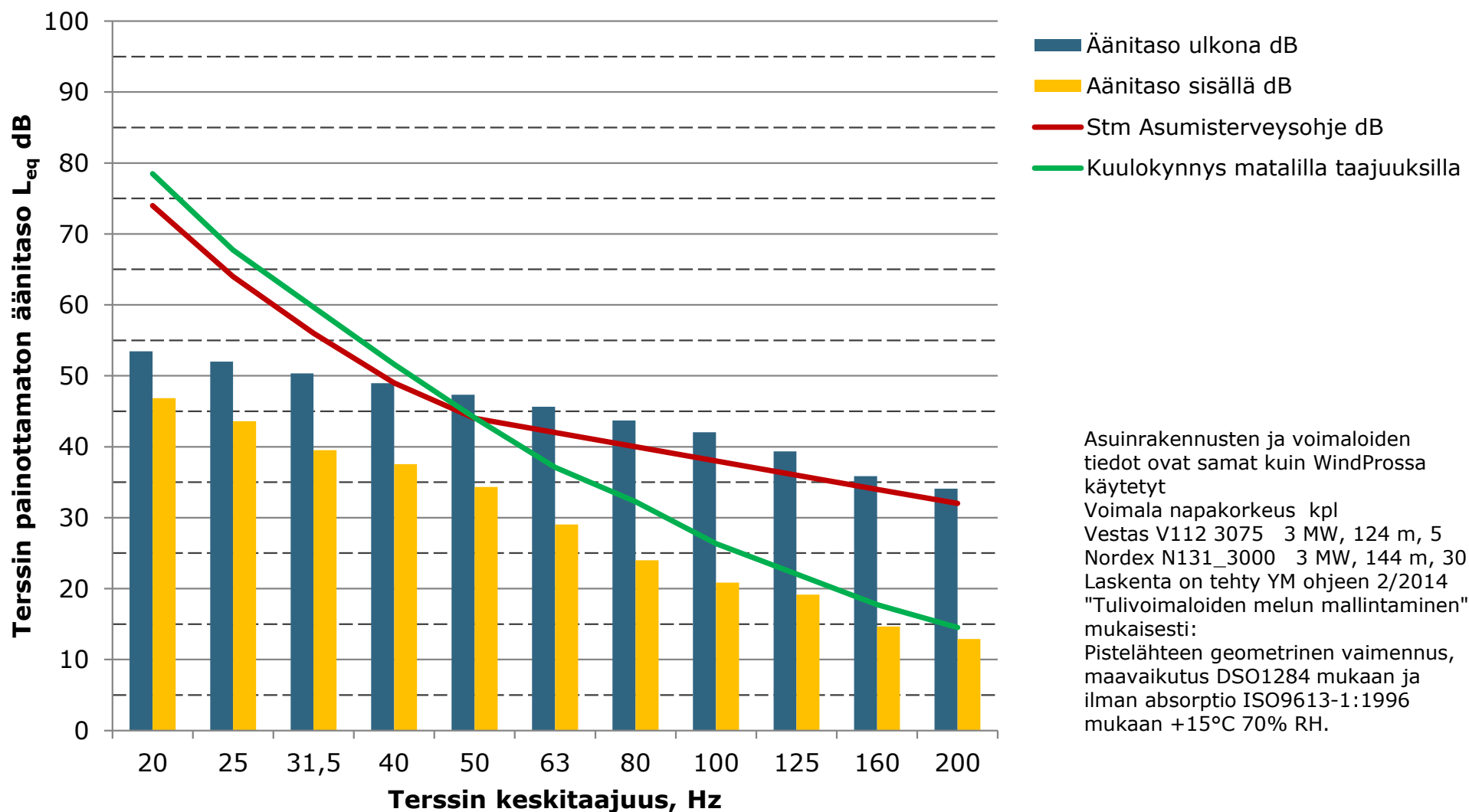
Matalien taajuuksien äänitasot ulkona ja sisällä, B Bostad (Nygård), ääneneristys DSO1284 mukaan



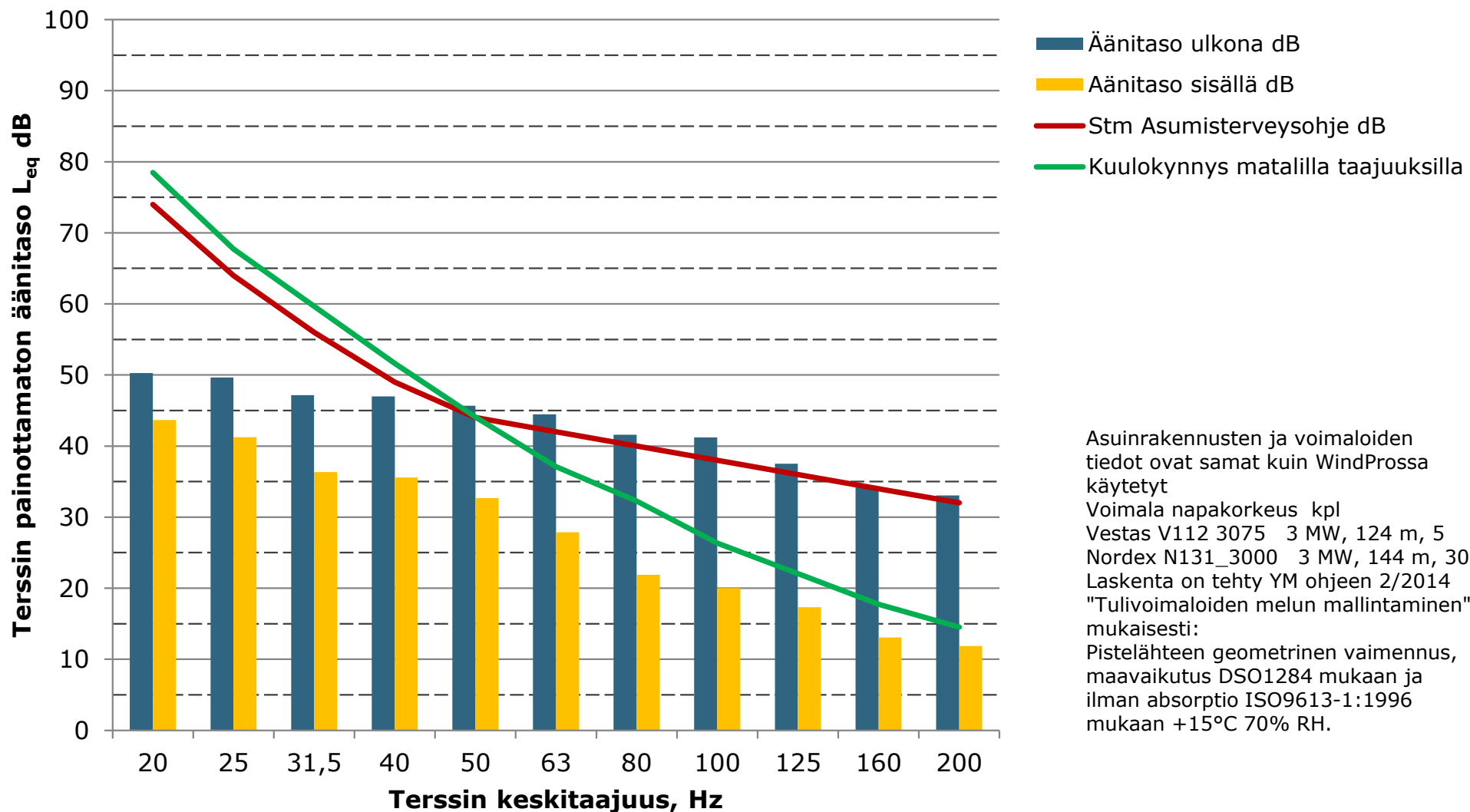
Matalien taajuuksien äänitasot ulkona ja sisällä, C Fritidsbostad (Sjölund), ääneneristys DSO1284 mukaan



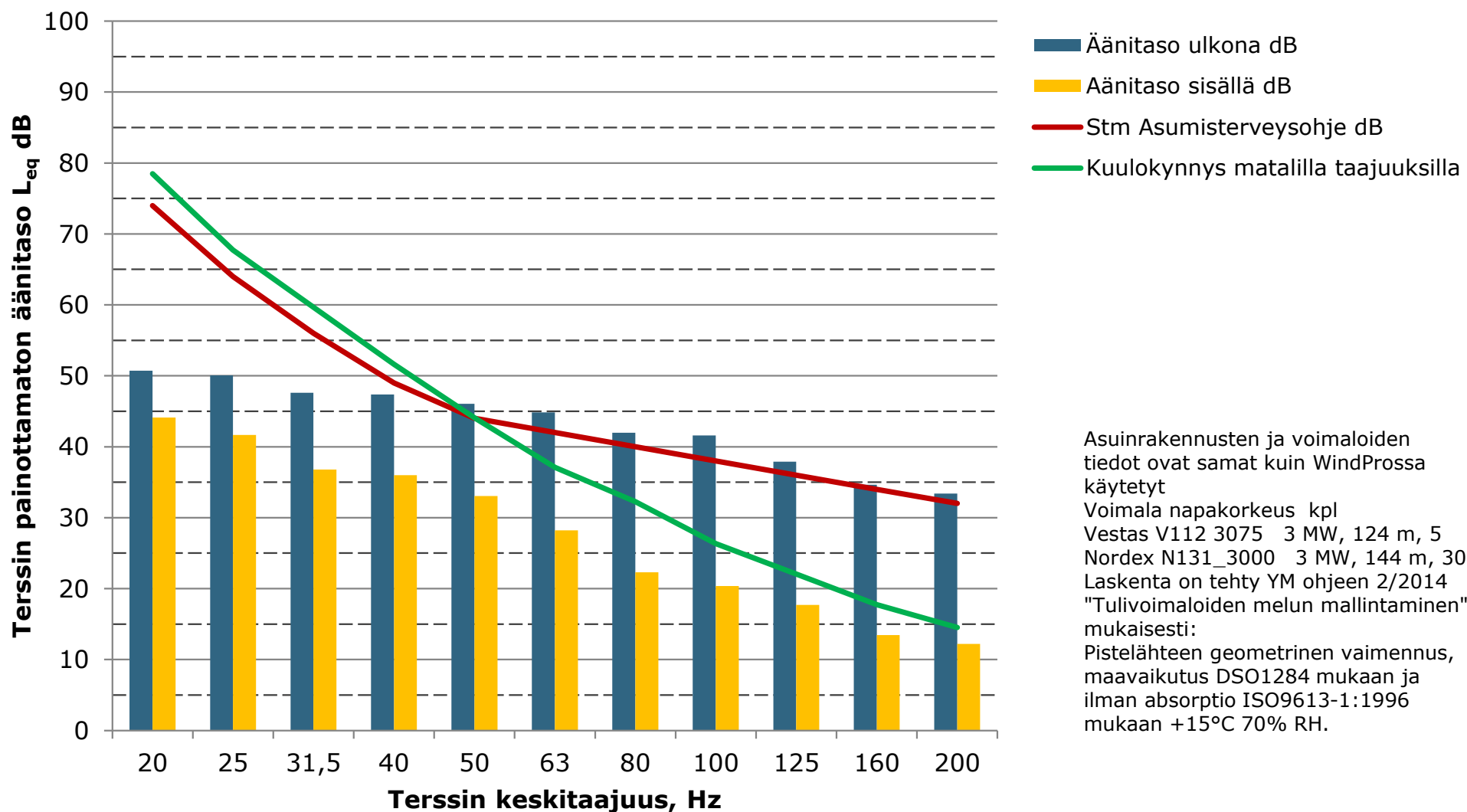
Matalien taajuuksien äänitasot ulkona ja sisällä, D Bostad (Rönnlund), ääneneristys DSO1284 mukaan



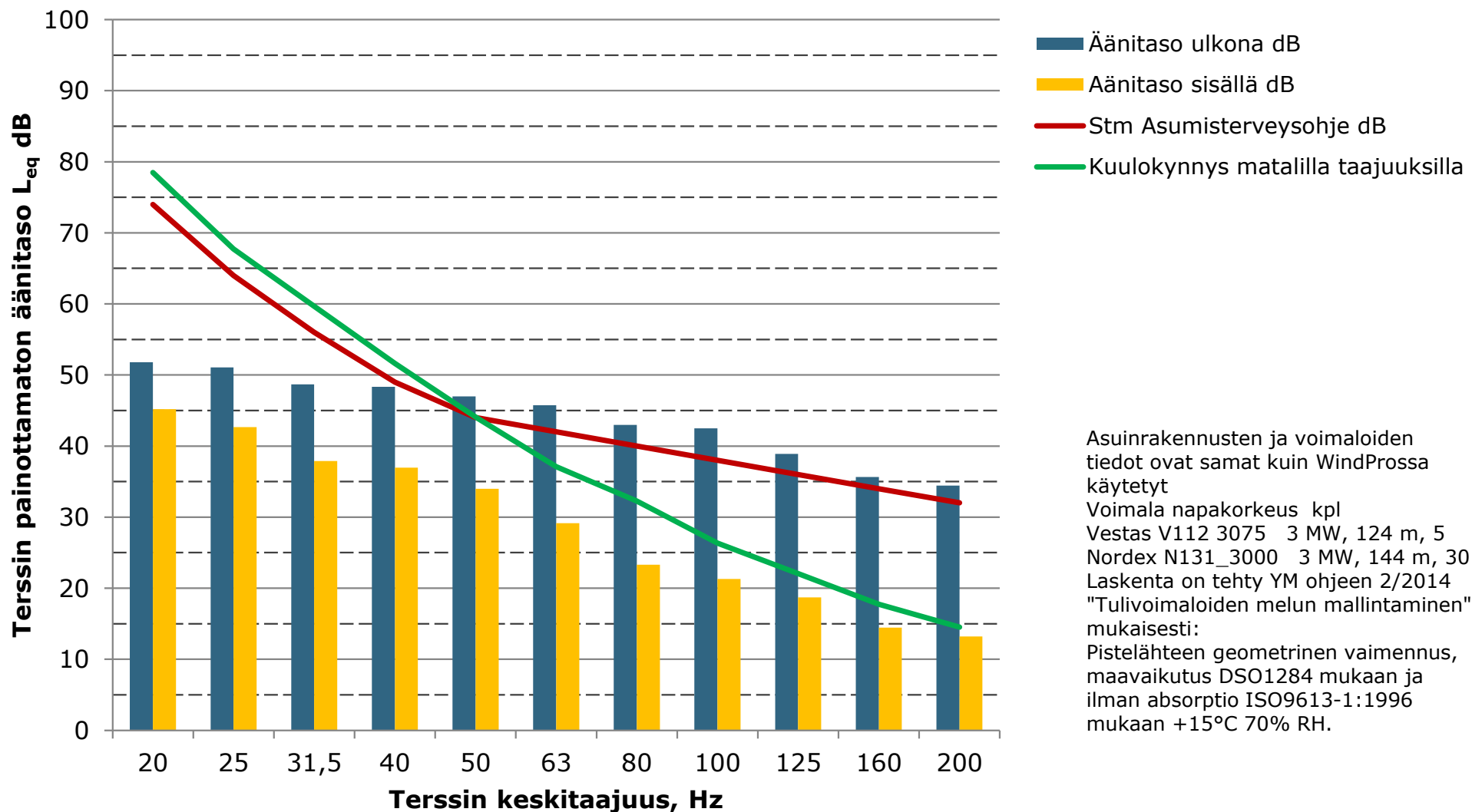
Matalien taajuuksien äänitasot ulkona ja sisällä, E Bostad (Östman), ääneneristys DSO1284 mukaan



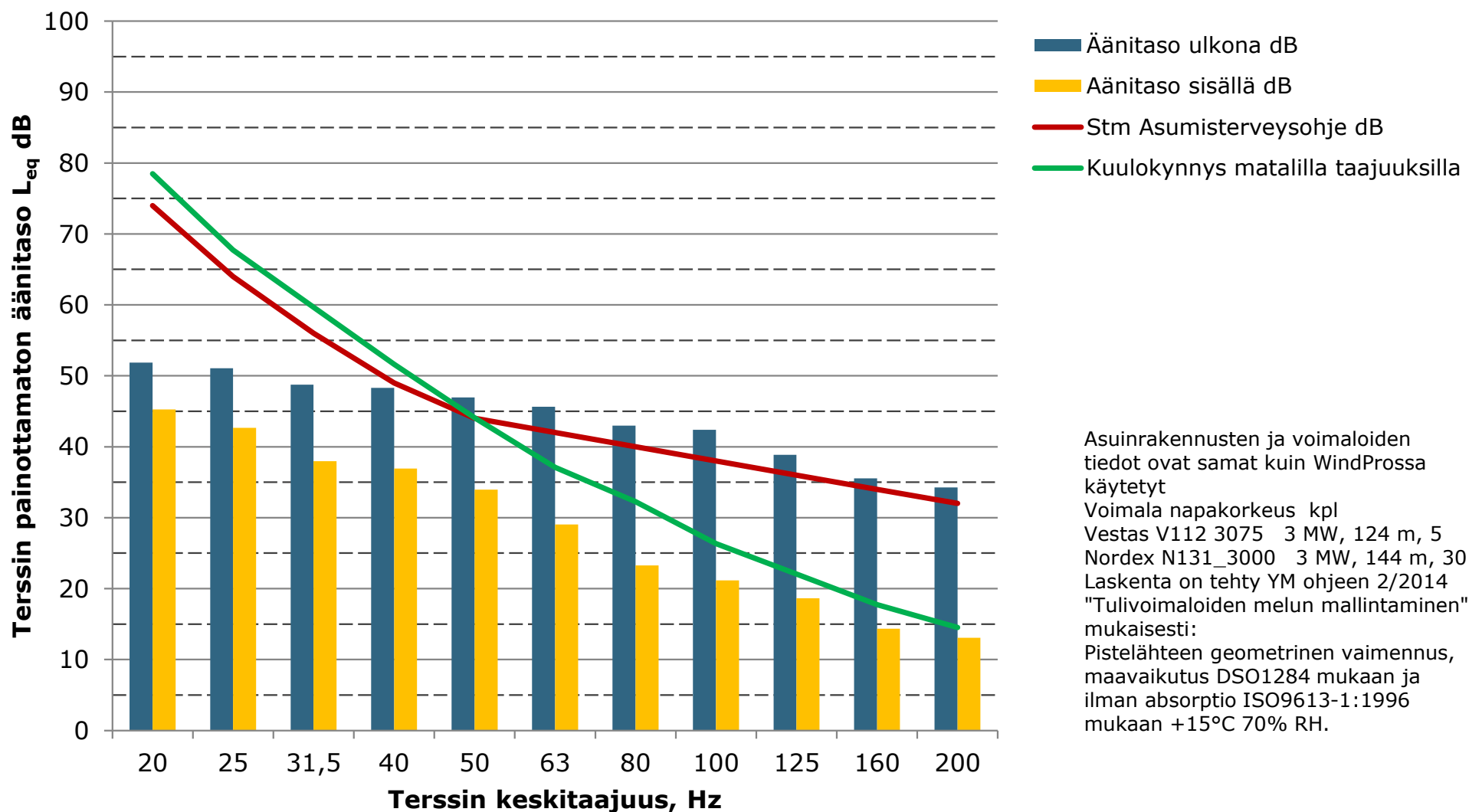
Matalien taajuuksien äänitasot ulkona ja sisällä, F Bostad (Östthag), ääneneristys DSO1284 mukaan



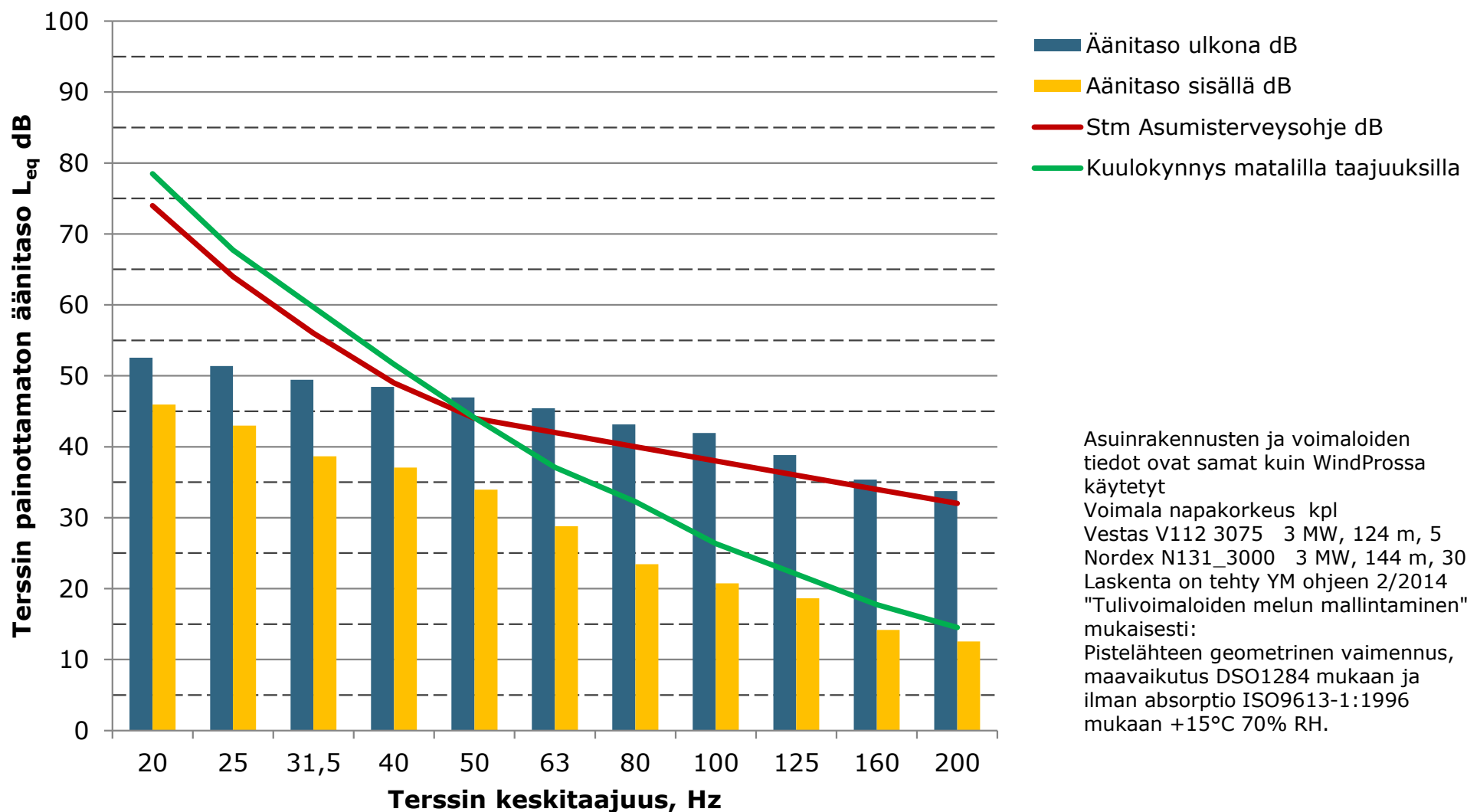
Matalien taajuuksien äänitasot ulkona ja sisällä, G Bostad (Grannas), ääneneristys DSO1284 mukaan



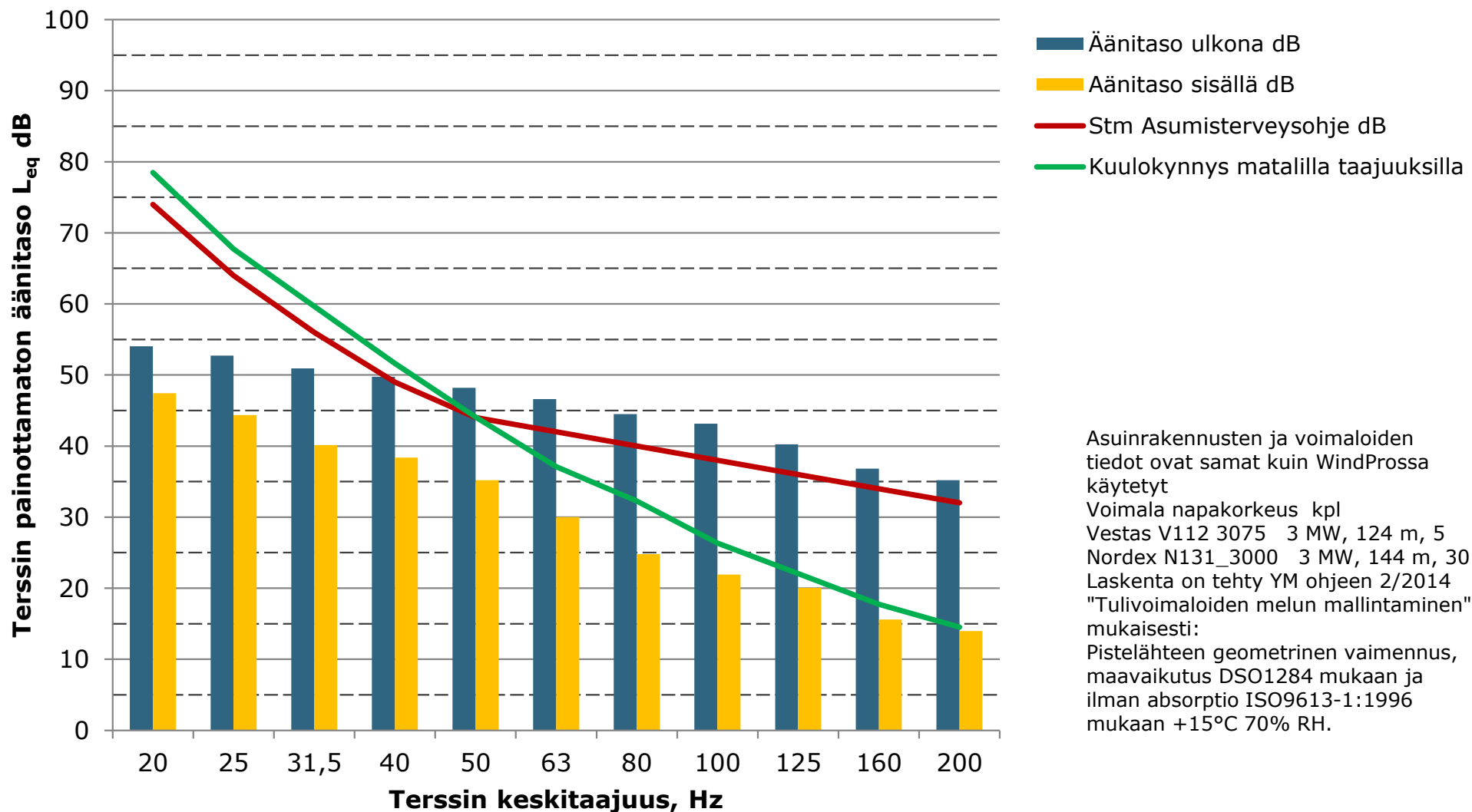
Matalien taajuuksien äänitasot ulkona ja sisällä, H Bostad (Kristinestadsvägen 1268), ääneneristys DSO1284 mukaan



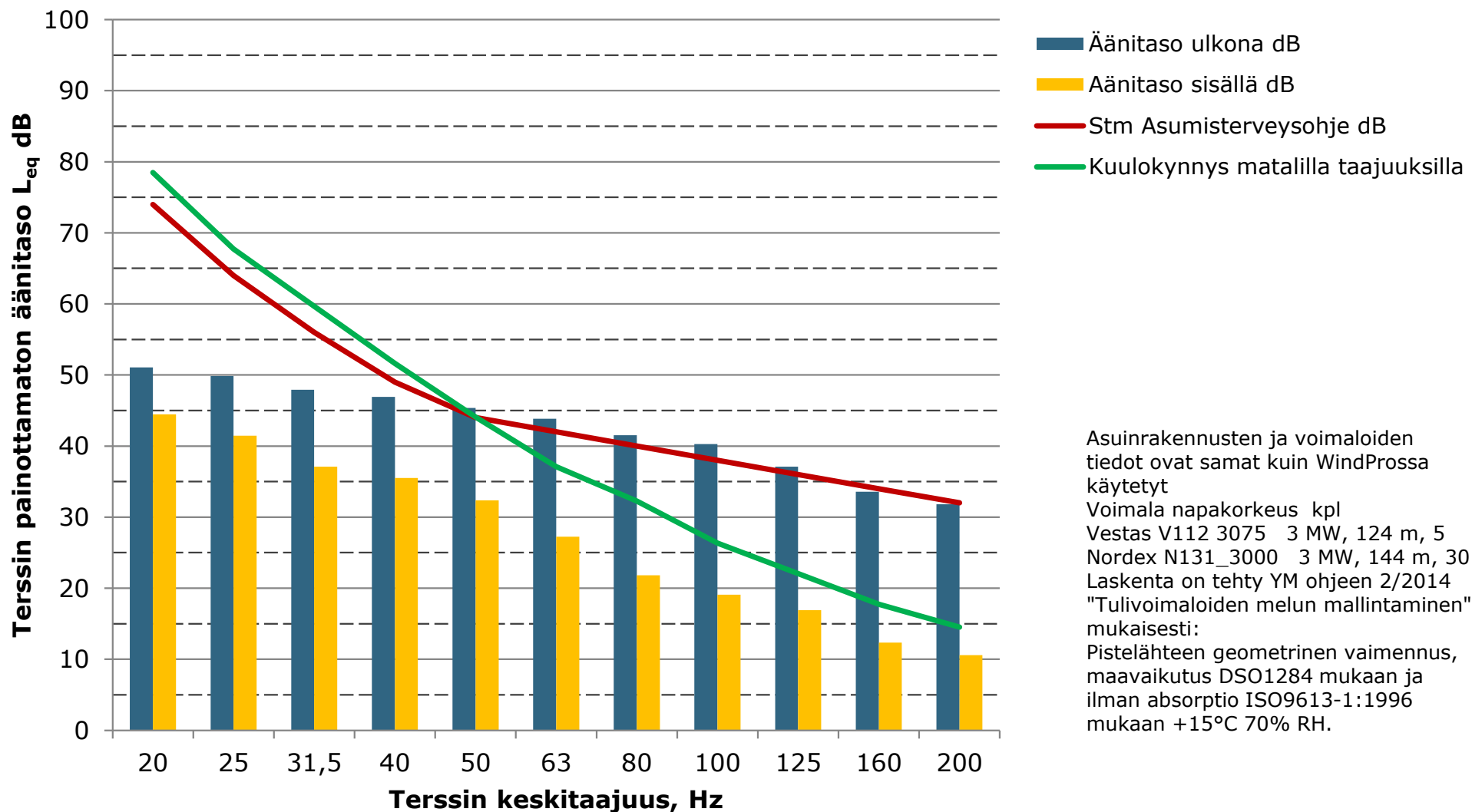
Matalien taajuuksien äänitasot ulkona ja sisällä, I Bostad (Skrattnäsvägen 973), ääneneristys DSO1284 mukaan

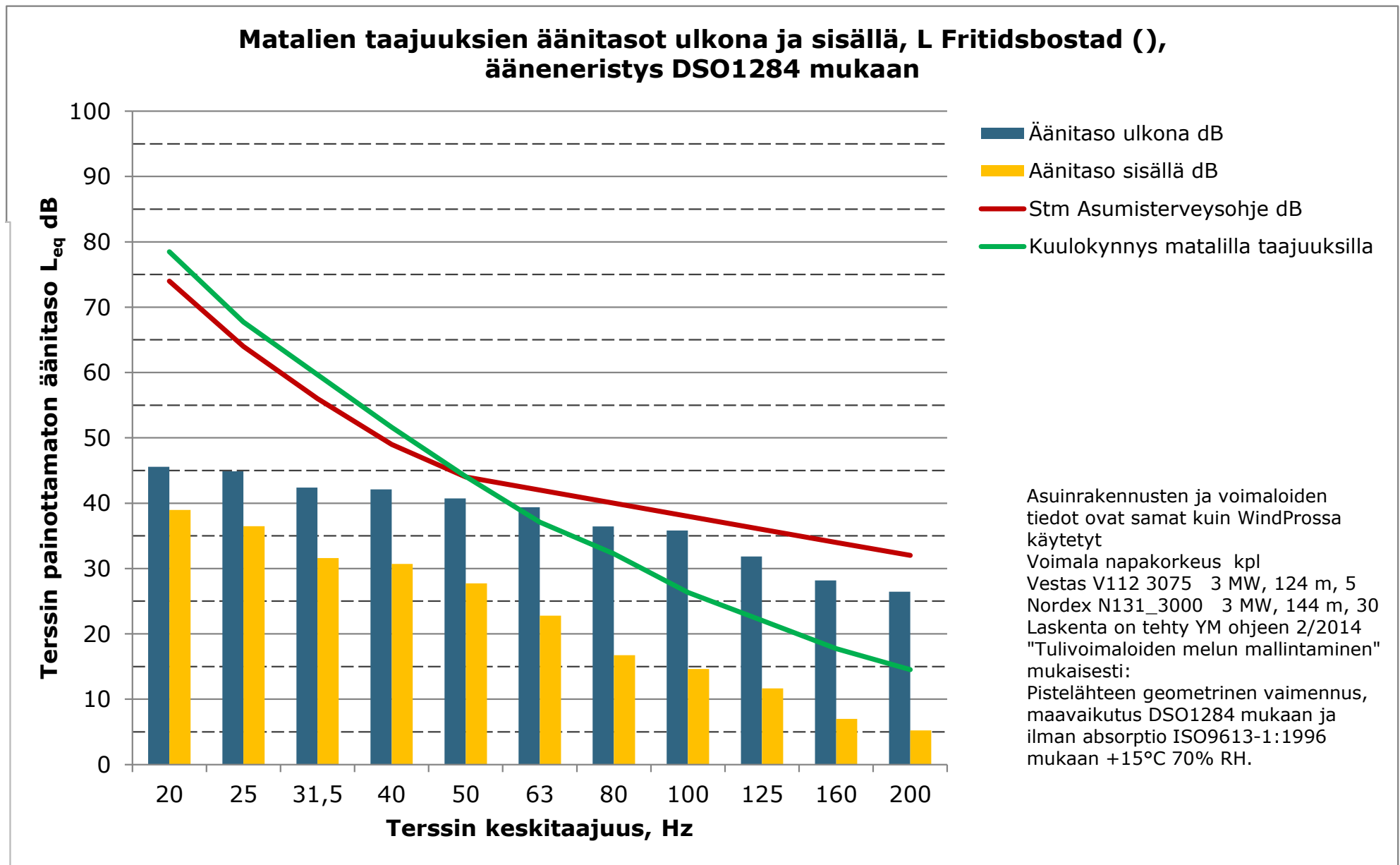


Matalien taajuuksien äänitasot ulkona ja sisällä, J Bostad (Sörhannus), ääneneristys DSO1284 mukaan



Matalien taajuuksien äänitasot ulkona ja sisällä, K Fritidsbostad (Klobbskatan), ääneneristys DSO1284 mukaan

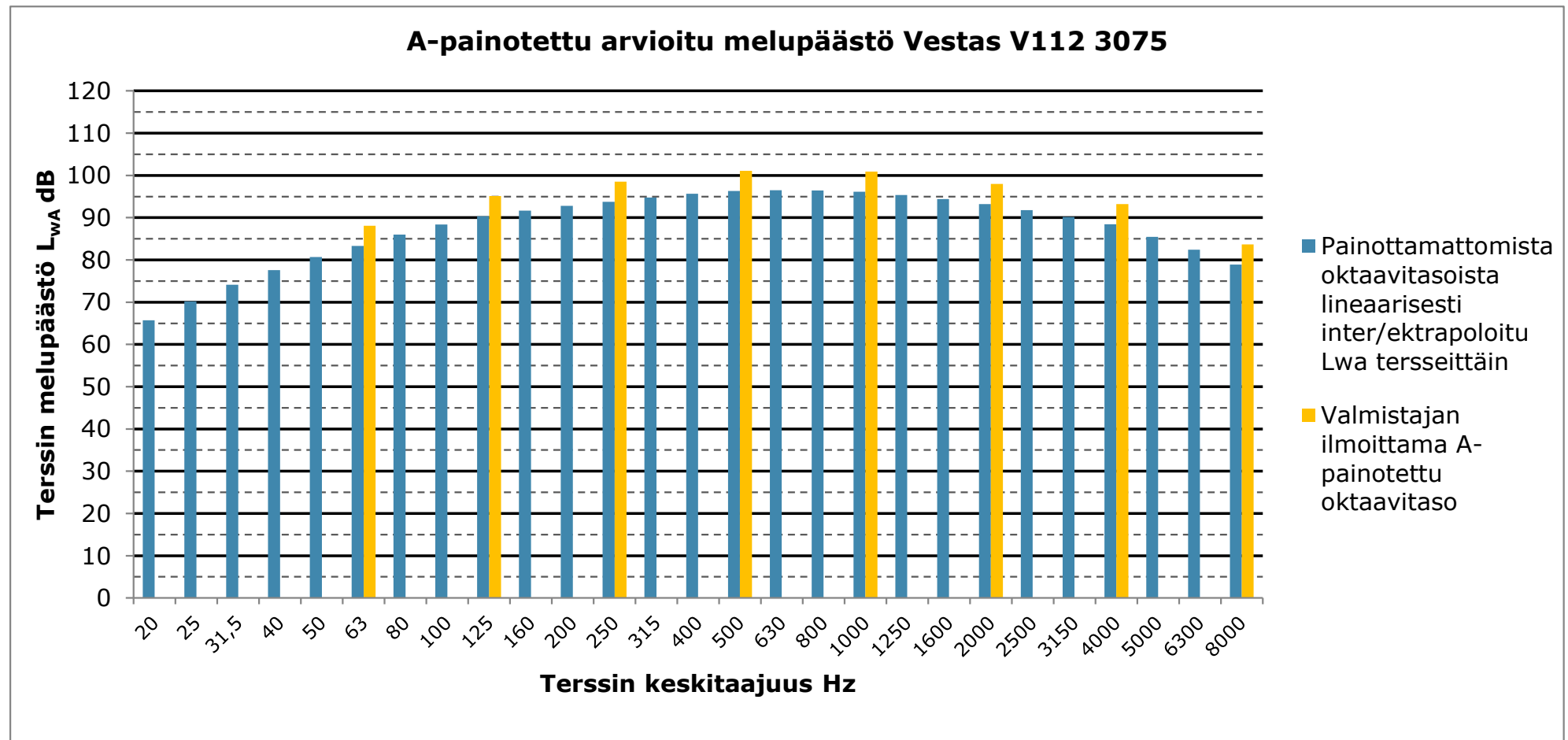


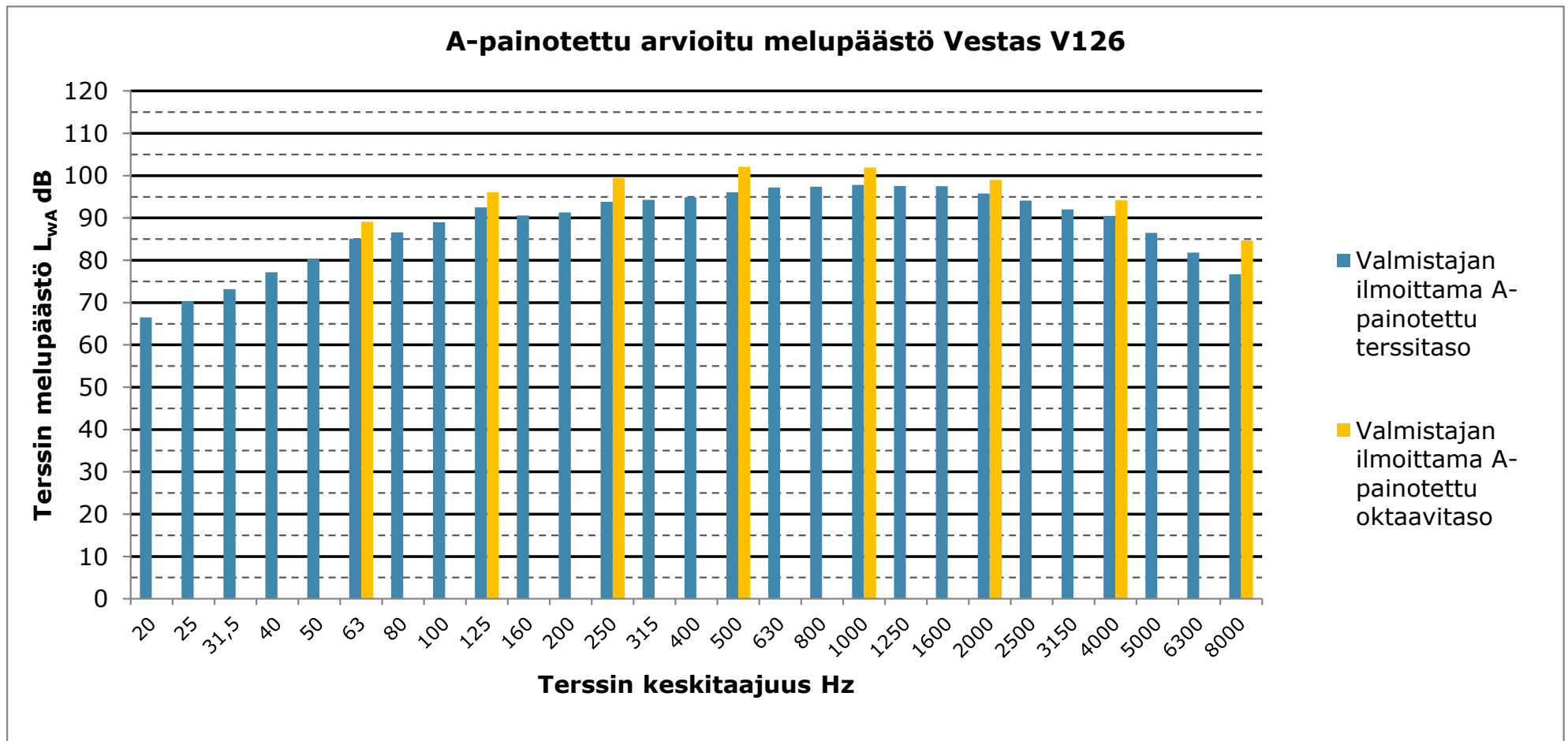


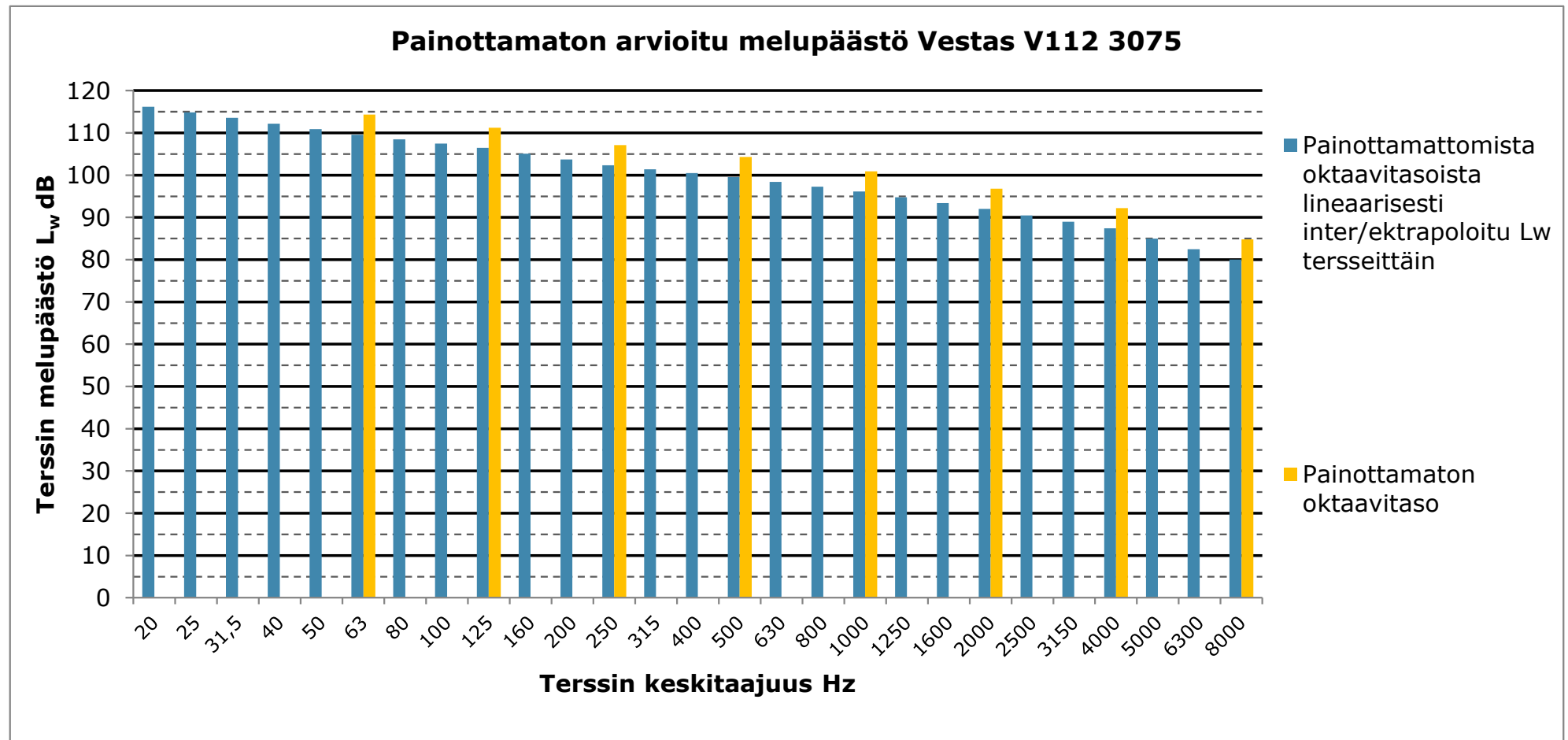
LÅGFREKVENT BULLER – MATALATAAJUISET MELUTASOT

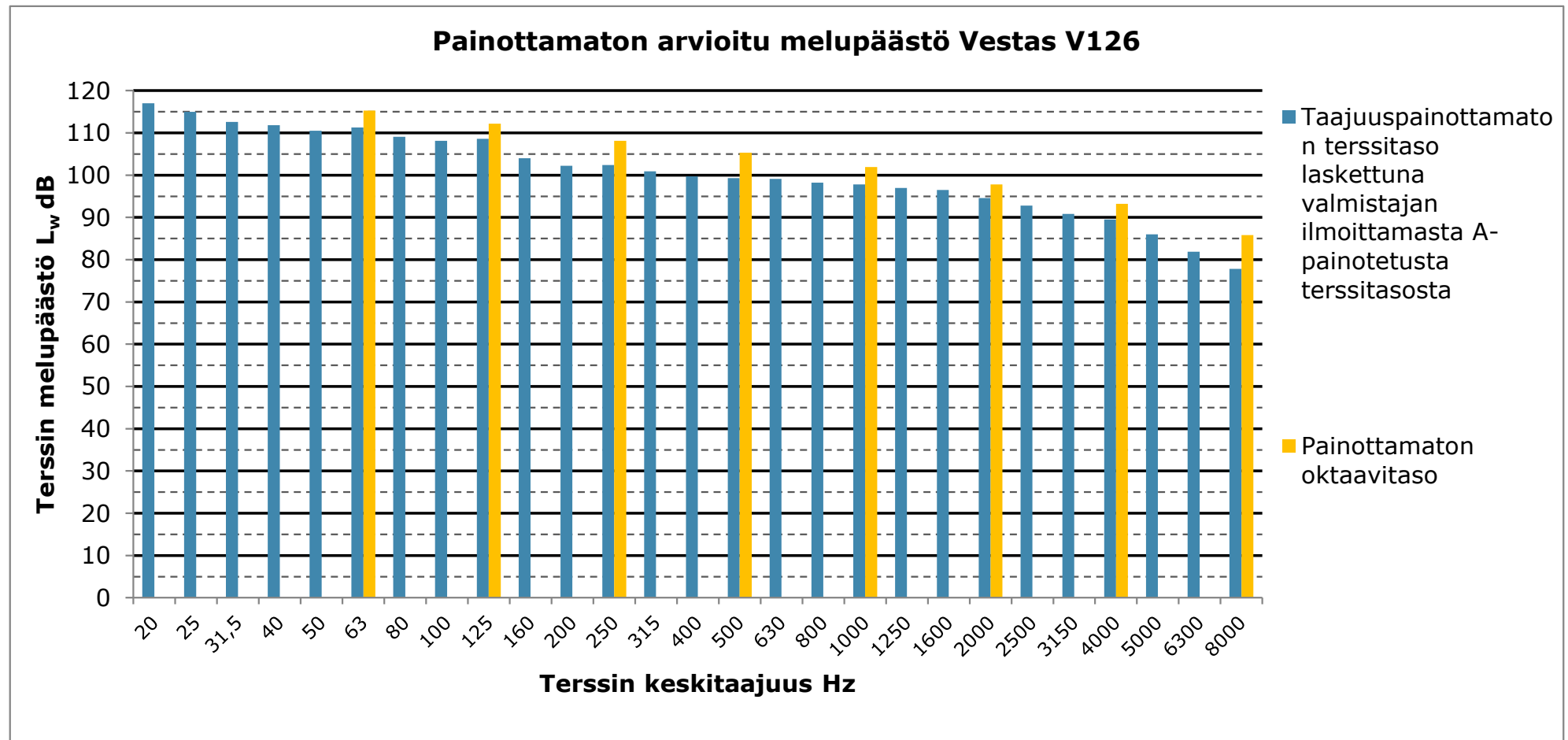
ALT 2. Pjelax V126 x 23 x HH137 + Svalskulla V112 x 5 x HH124



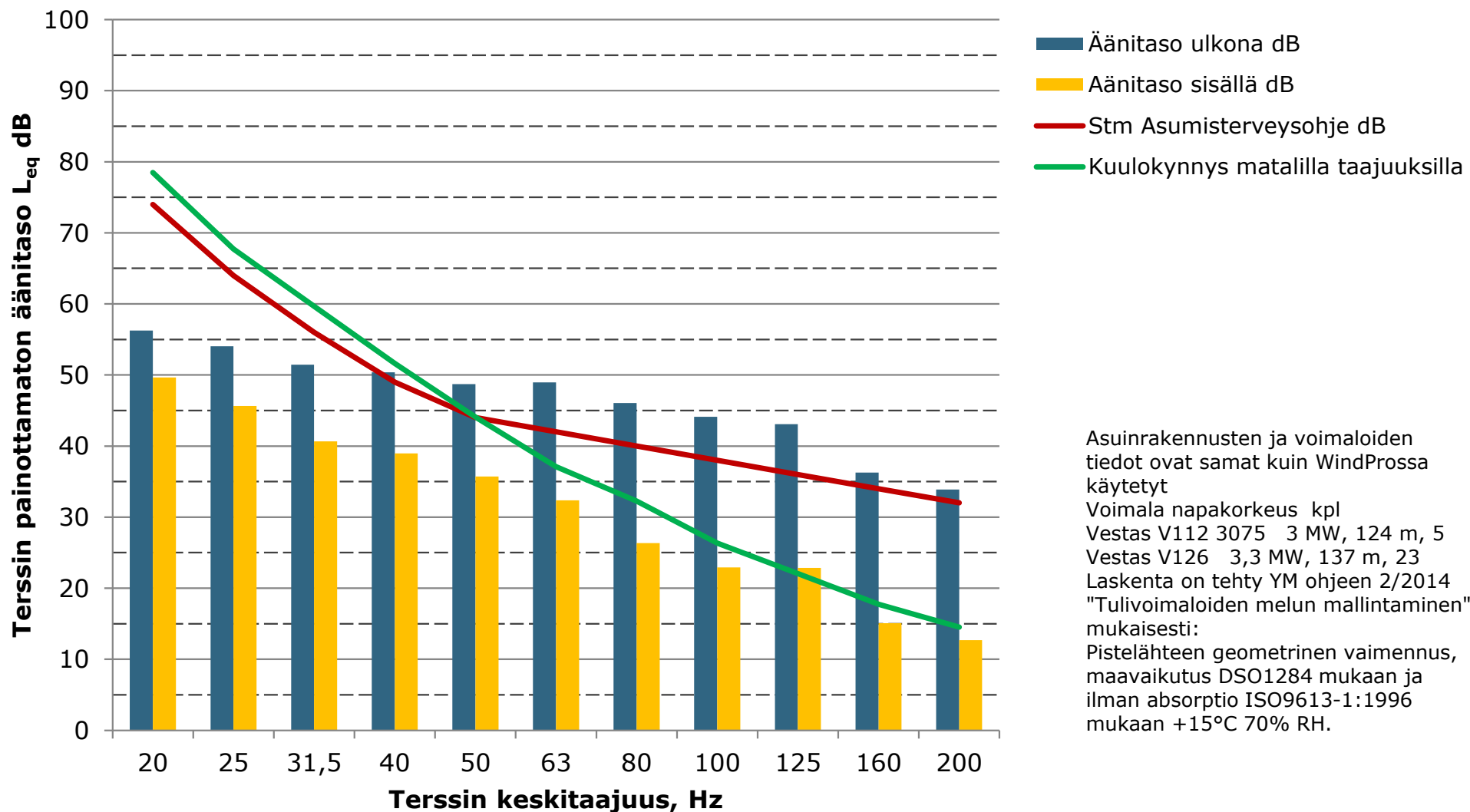




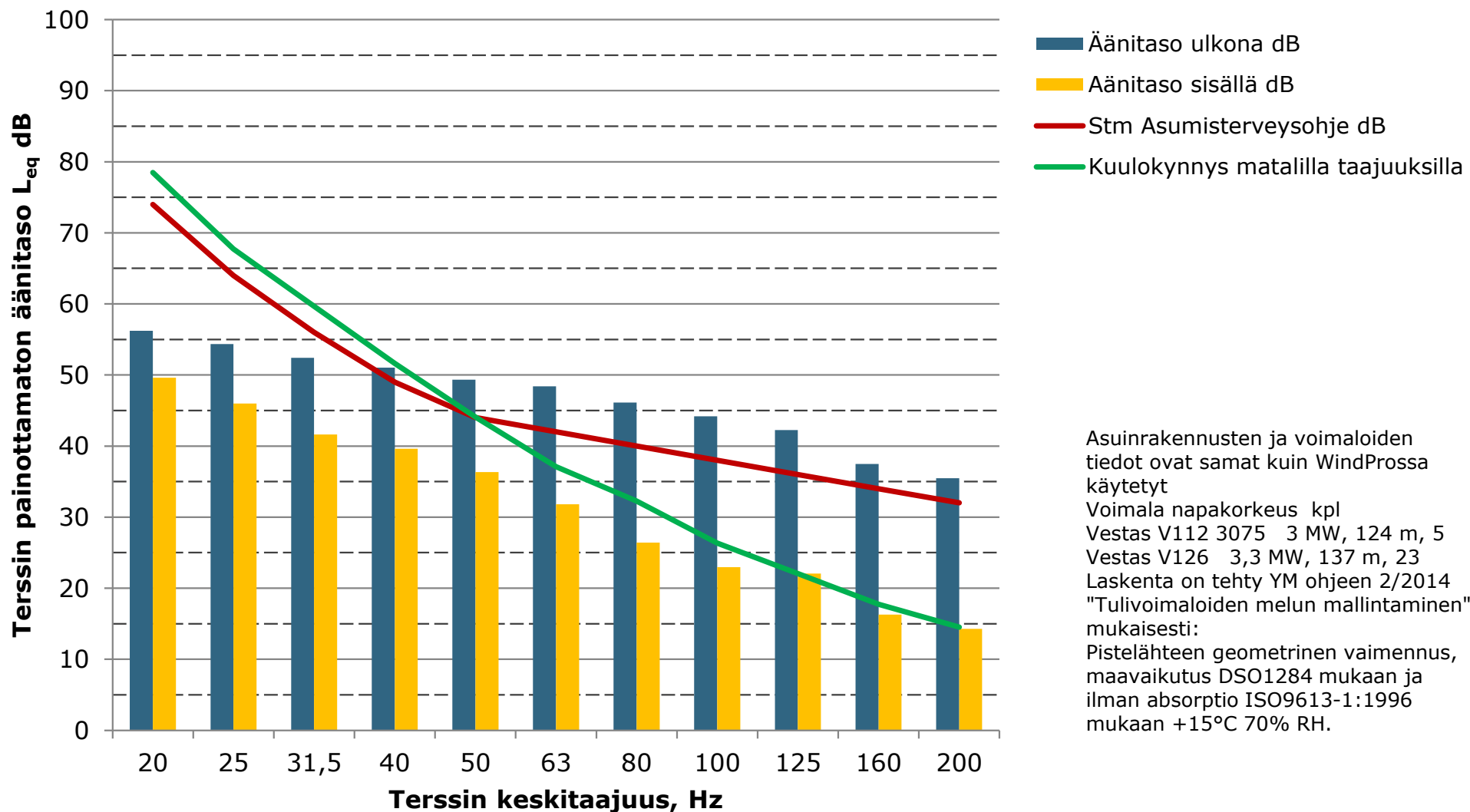




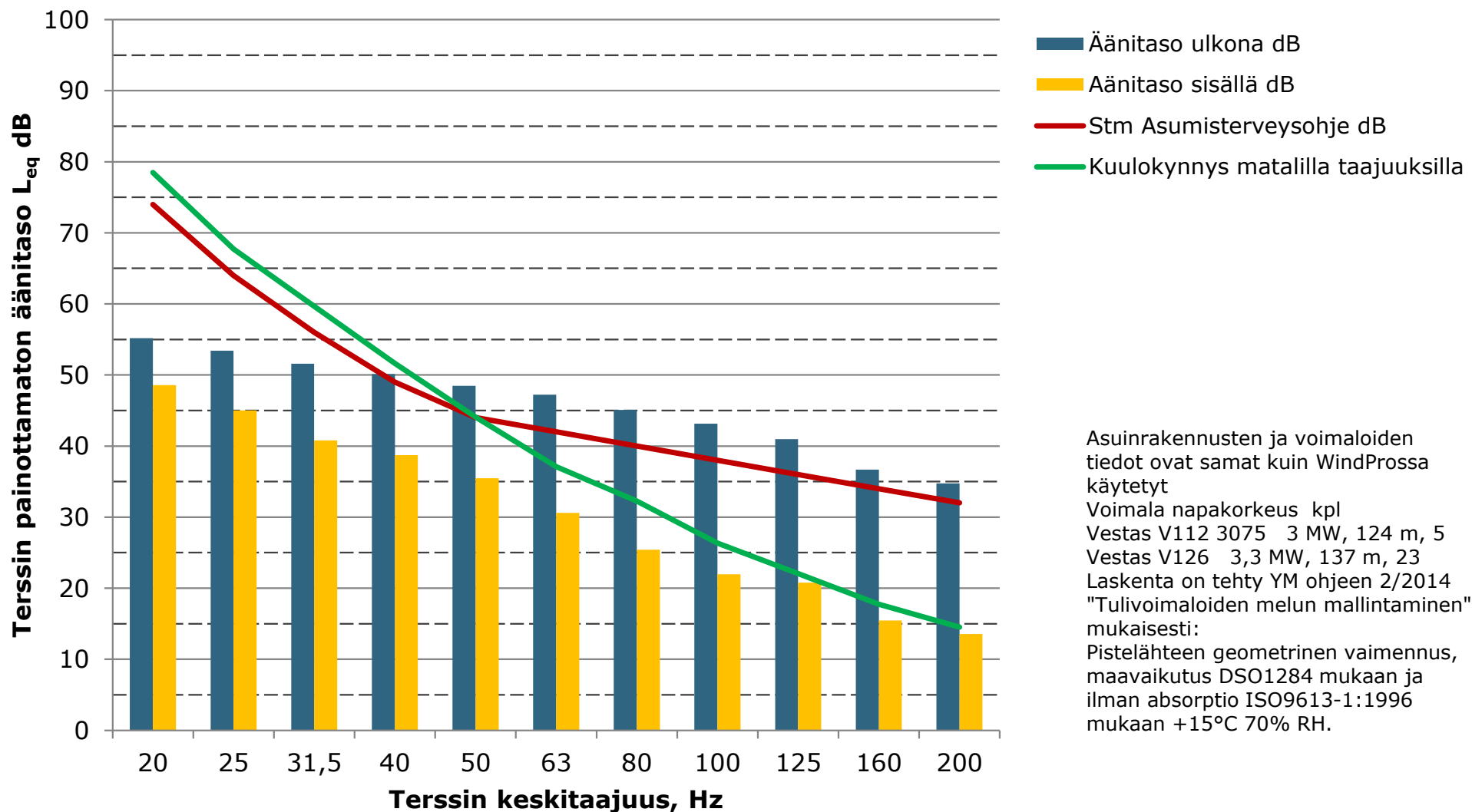
Matalien taajuuksien äänitasot ulkona ja sisällä, A Bostad (Kullström), ääneneristys DSO1284 mukaan



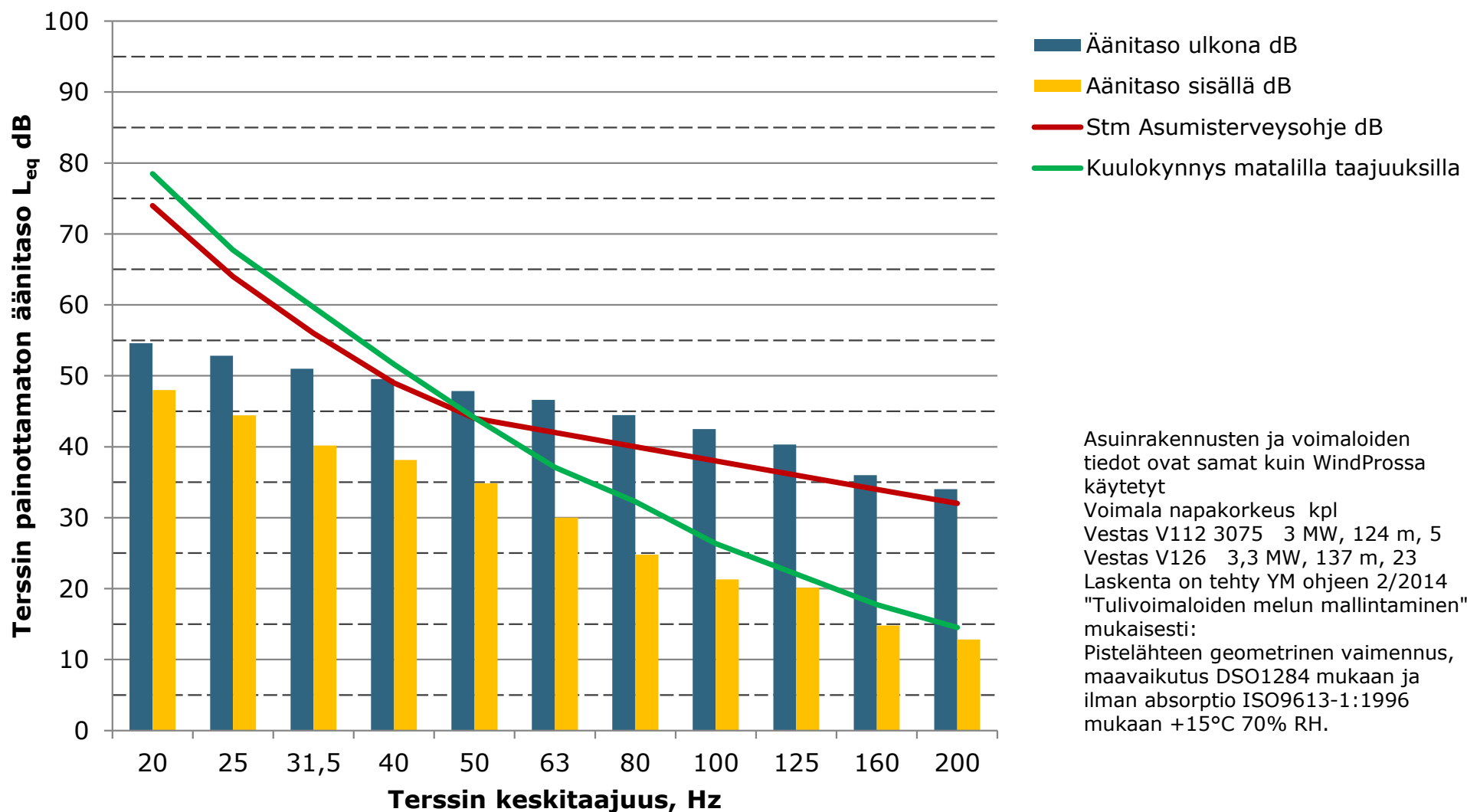
Matalien taajuuksien äänitasot ulkona ja sisällä, B Bostad (Nygård), ääneneristys DSO1284 mukaan



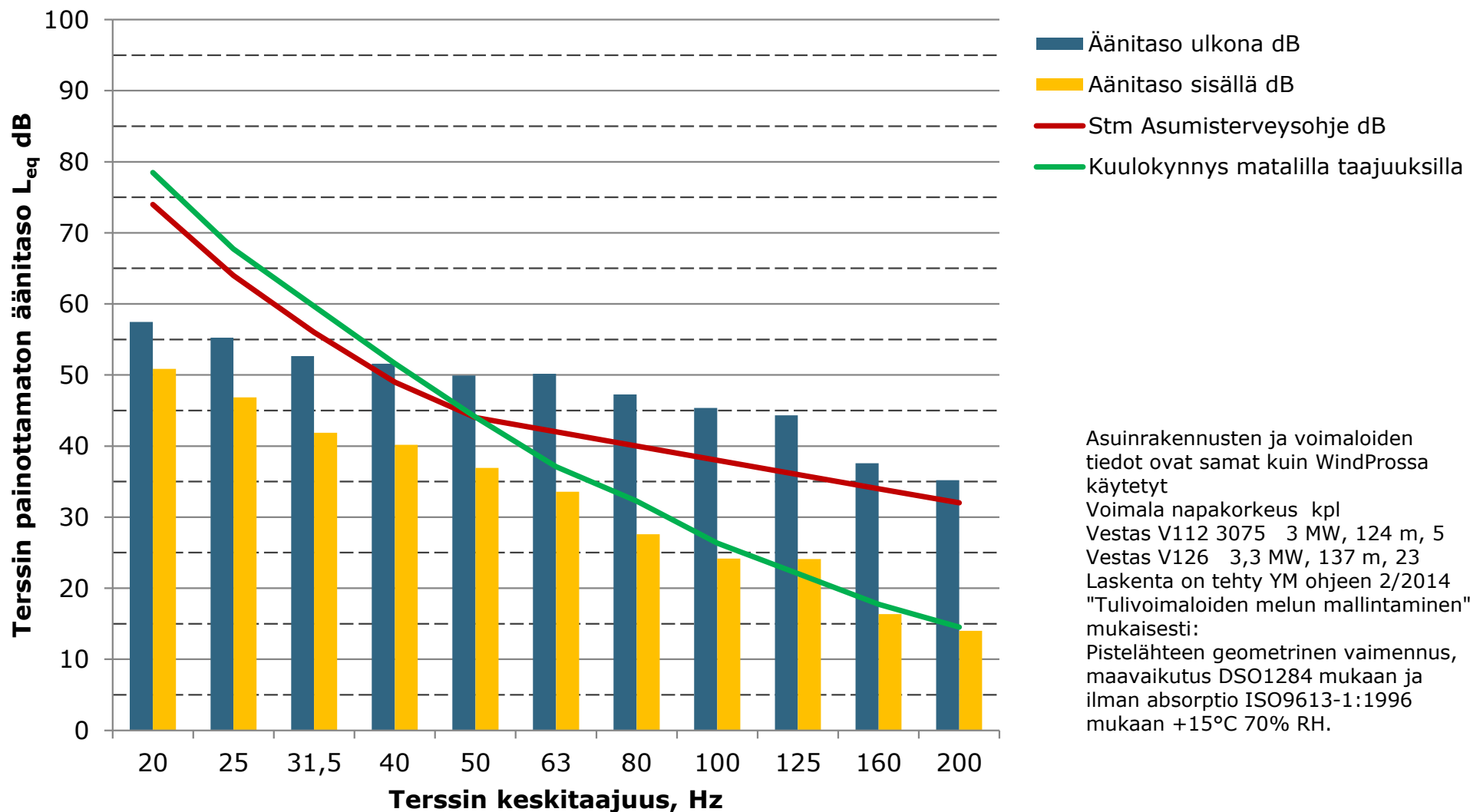
Matalien taajuuksien äänitasot ulkona ja sisällä, C Fritidsbostad (Sjölund), ääneneristys DSO1284 mukaan



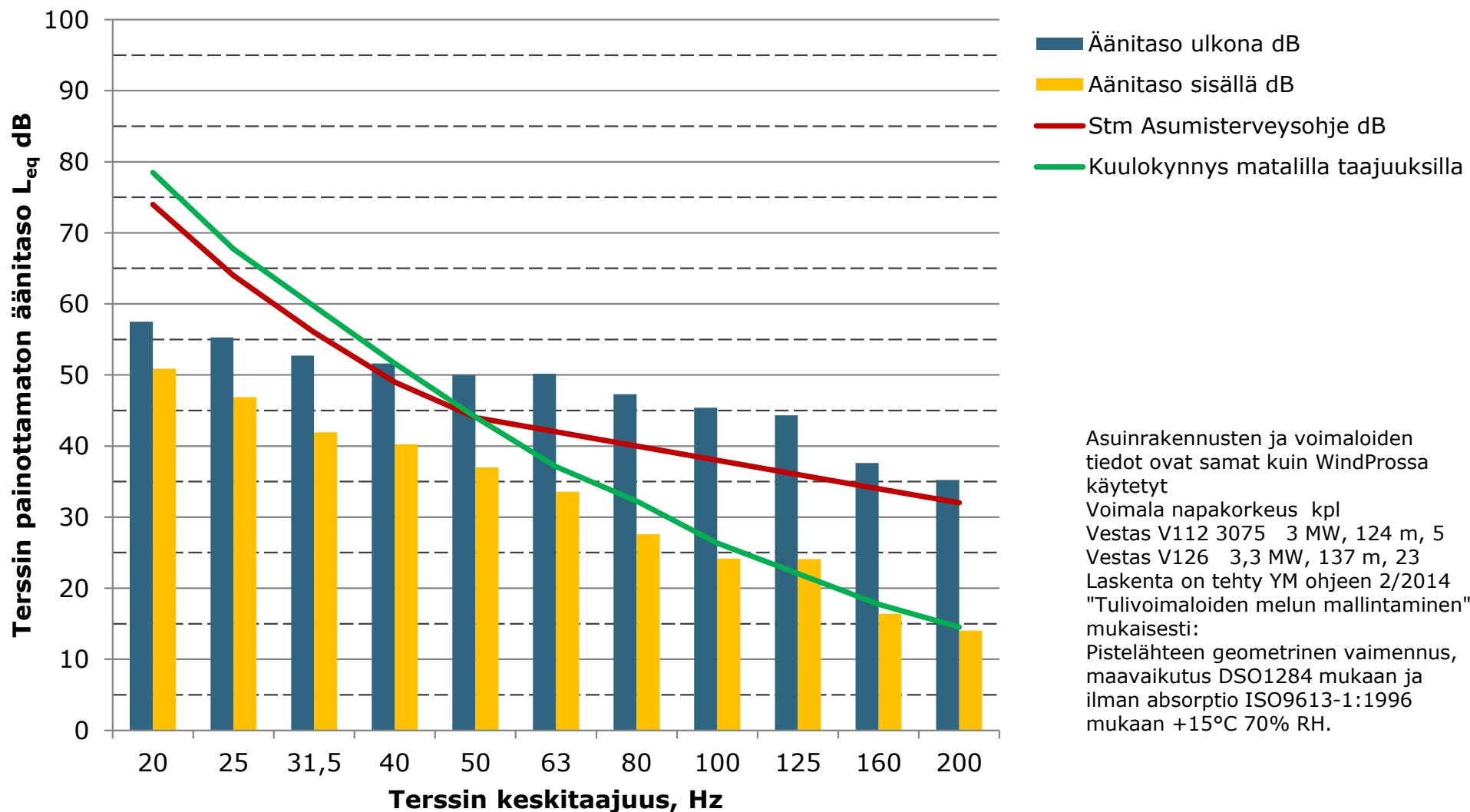
Matalien taajuuksien äänitasot ulkona ja sisällä, D Bostad (Rönnlund), ääneneristys DSO1284 mukaan



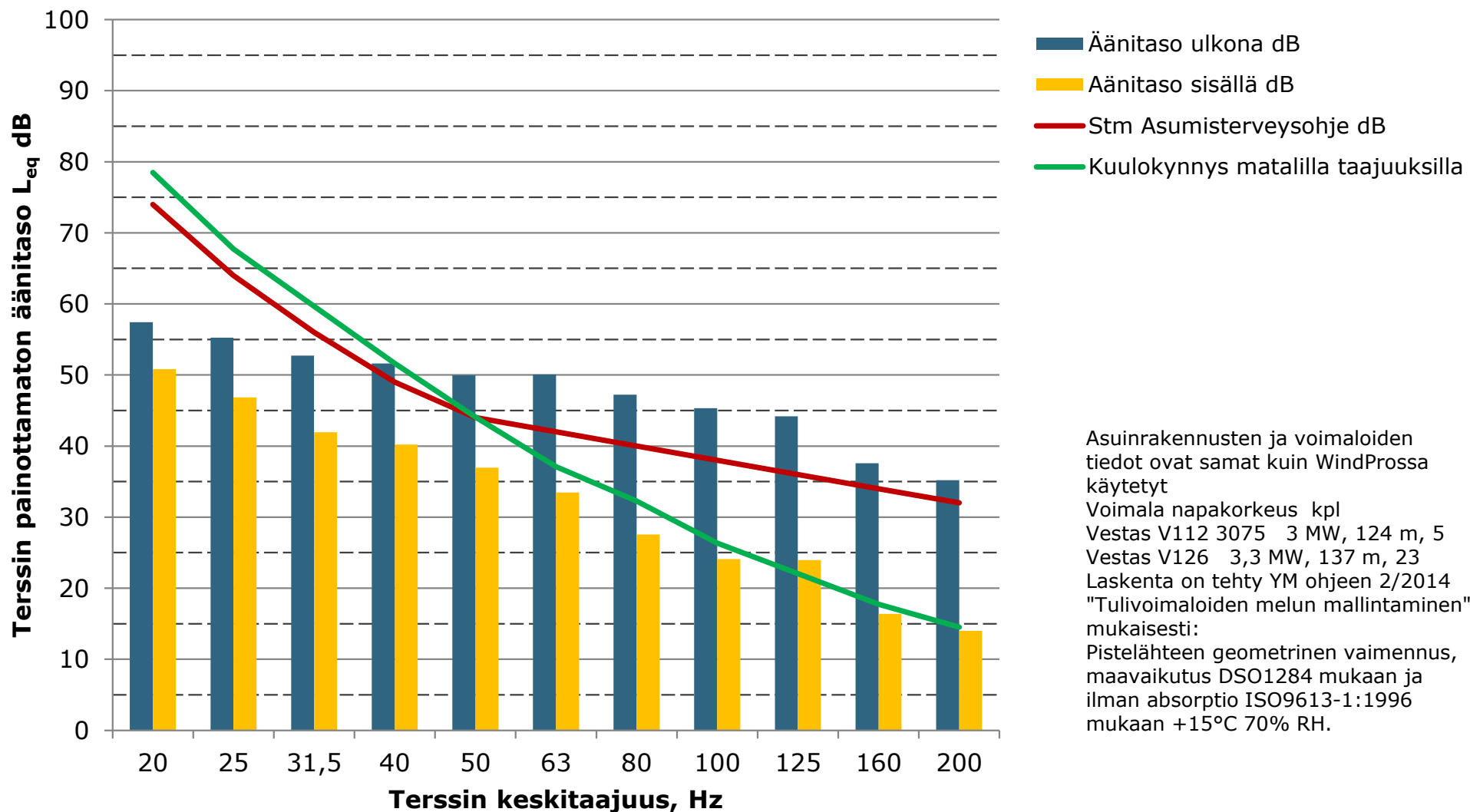
Matalien taajuuksien äänitasot ulkona ja sisällä, E Bostad (Östman), ääneneristys DSO1284 mukaan



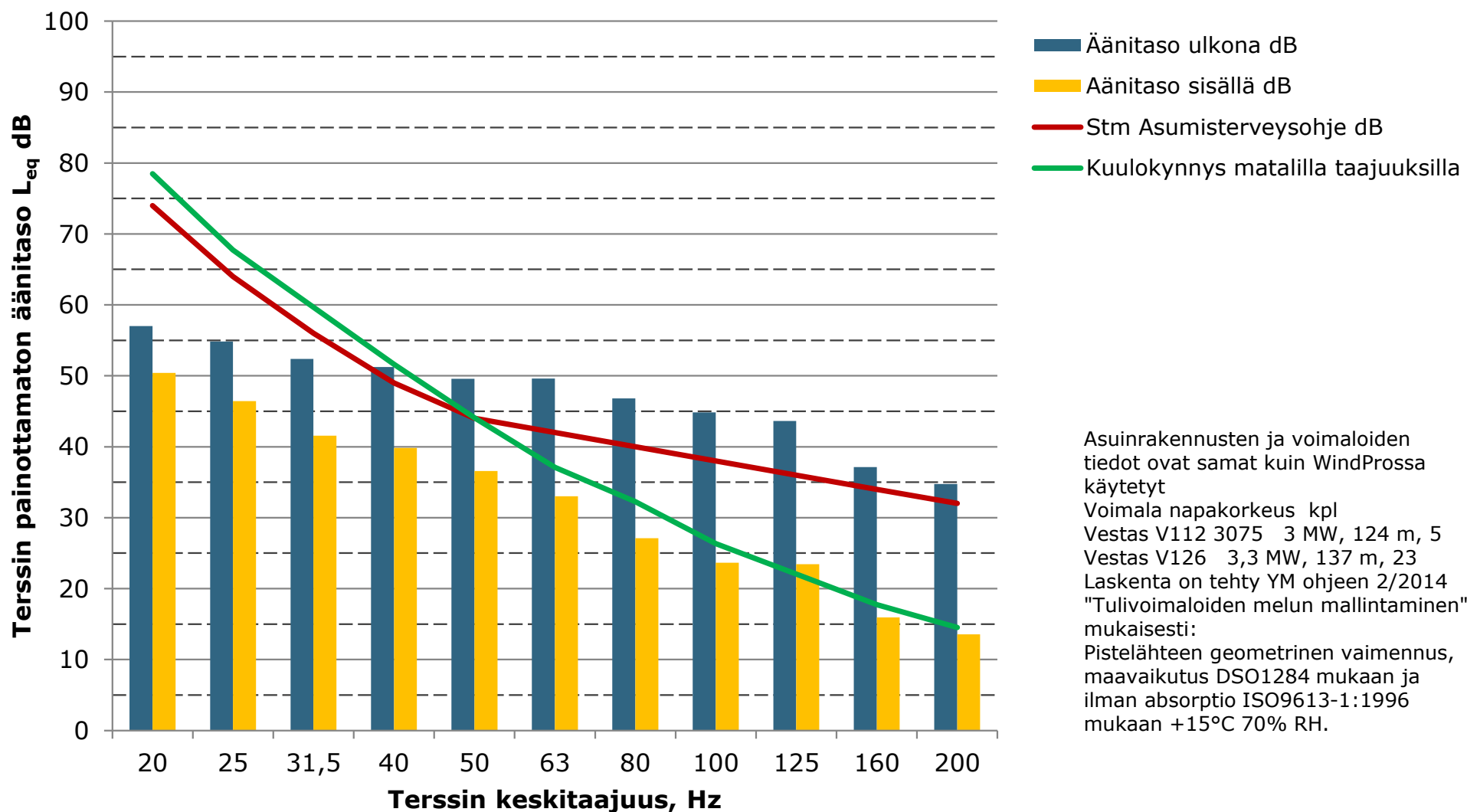
Matalien taajuuksien äänitasot ulkona ja sisällä, F Bostad (Östthag), ääneneristys DSO1284 mukaan



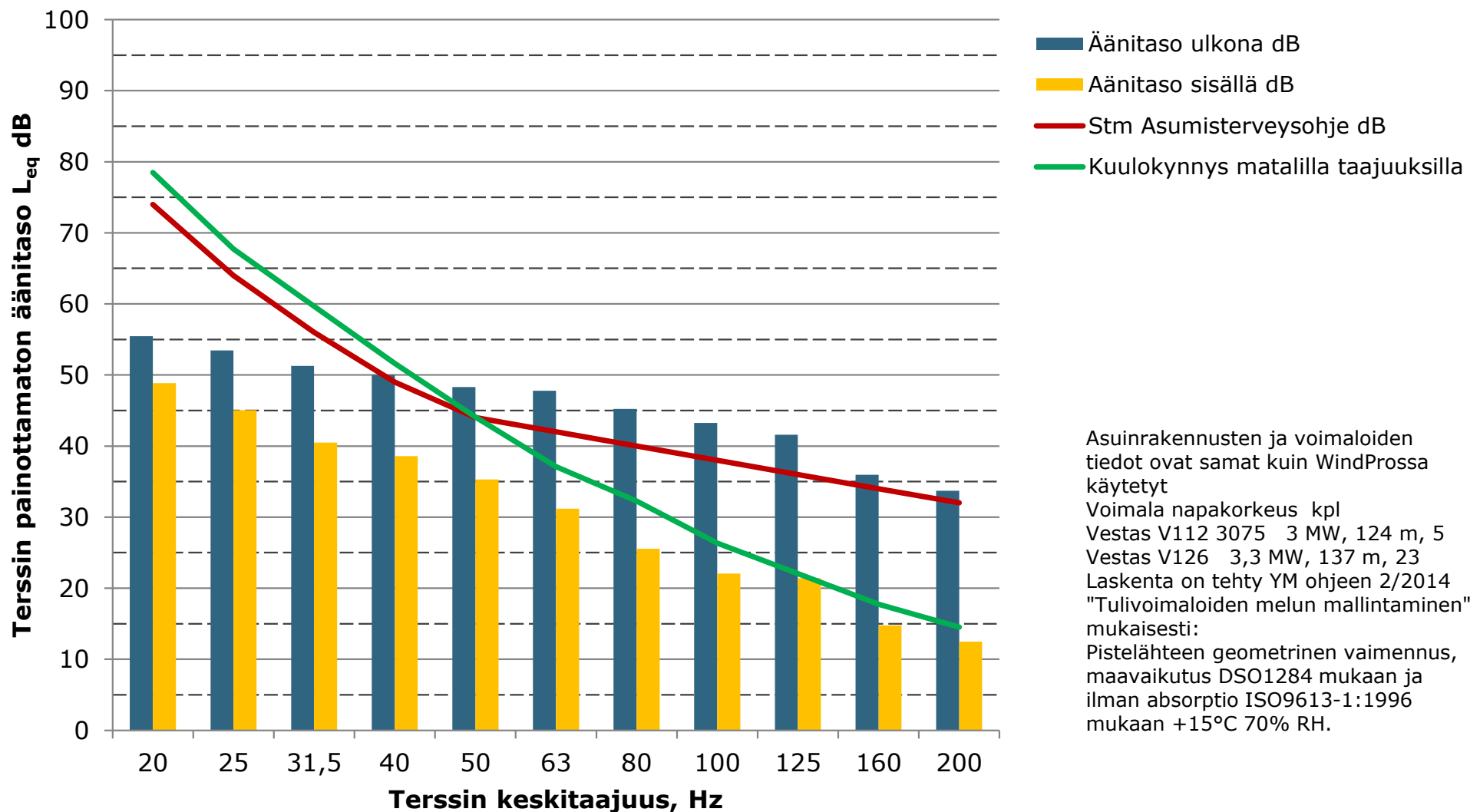
Matalien taajuuksien äänitasot ulkona ja sisällä, G Bostad (Grannas), ääneneristys DSO1284 mukaan



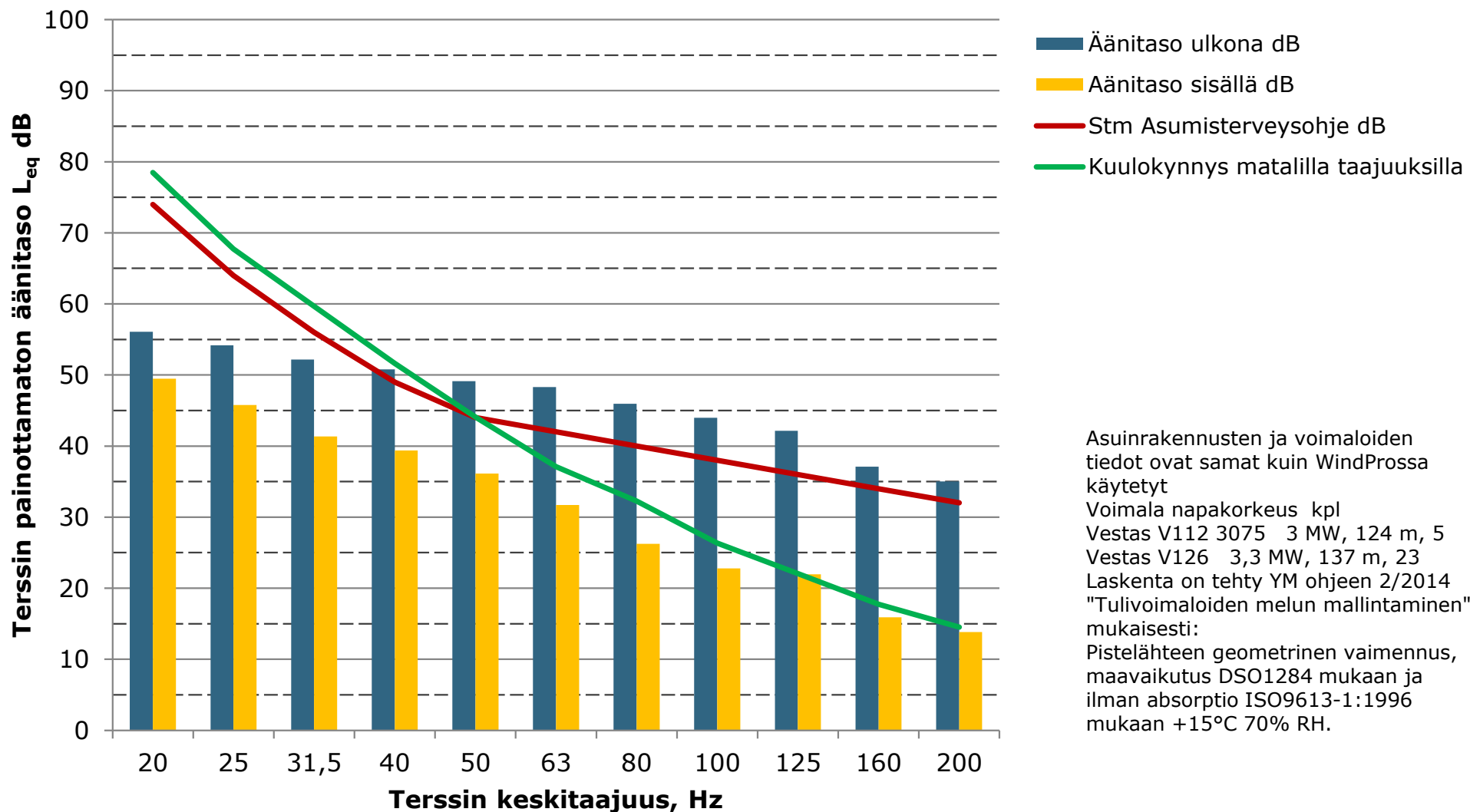
Matalien taajuuksien äänitasot ulkona ja sisällä, H Bostad (Kristinestadsvägen 1268), ääneneristys DSO1284 mukaan



Matalien taajuuksien äänitasot ulkona ja sisällä, I Bostad (Skrattnäsvägen 973), ääneneristys DSO1284 mukaan



Matalien taajuuksien äänitasot ulkona ja sisällä, J Bostad (Sörhannus), ääneneristys DSO1284 mukaan



Matalien taajuuksien äänitasot ulkona ja sisällä, K Fritidsbostad (Klobbskatan), ääneneristys DSO1284 mukaan

