

NRO 101 - 1/3 <sup>rd</sup> -Octave Spectra [dB]												
Hub Height Wind Speed [m/s]	4	5	6	7	8	9	10	11	12	13	14	15
Wind speed at 10 m height for a hub height of 110 m [m/s]	2.8	3.4	4.1	4.8	5.5	6.2	6.9	7.6	8.3	8.9	9.6	10.3
Wind speed at 10 m height for a hub height of 131.4 m [m/s]	2.7	3.4	4.0	4.7	5.4	6.1	6.7	7.4	8.1	8.8	9.4	10.1
Frequency [Hz]	12.5	40.1	42.1	46.1	48.6	48.6	48.6	48.6	48.6	48.6	48.6	48.6
	16	45.6	47.6	51.6	54.1	54.1	54.1	54.1	54.1	54.1	54.1	54.1
	20	50.6	52.6	56.6	59.1	59.1	59.1	59.1	59.1	59.1	59.1	59.1
	25	54.8	56.8	60.8	63.3	63.3	63.3	63.3	63.3	63.3	63.3	63.3
	32	58.3	60.3	64.3	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8
	40	61.8	63.8	67.8	70.3	70.3	70.3	70.3	70.3	70.3	70.3	70.3
	50	64.9	66.9	70.9	73.4	73.4	73.4	73.4	73.4	73.4	73.4	73.4
	63	67.0	69.0	73.0	75.5	75.5	75.5	75.5	75.5	75.5	75.5	75.5
	80	69.4	71.4	75.4	77.9	77.9	77.9	77.9	77.9	77.9	77.9	77.9
	100	71.3	73.3	77.3	79.8	79.8	79.8	79.8	79.8	79.8	79.8	79.8
	125	73.2	75.2	79.2	81.7	81.7	81.7	81.7	81.7	81.7	81.7	81.7
	160	74.7	76.7	80.7	83.2	83.2	83.2	83.2	83.2	83.2	83.2	83.2
	200	75.9	77.9	81.9	84.4	84.4	84.4	84.4	84.4	84.4	84.4	84.4
	250	77.0	79.0	83.0	85.5	85.5	85.5	85.5	85.5	85.5	85.5	85.5
	315	78.1	80.1	84.1	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
	400	79.2	81.2	85.2	87.7	87.7	87.7	87.7	87.7	87.7	87.7	87.7
	500	80.0	82.0	86.0	88.5	88.5	88.5	88.5	88.5	88.5	88.5	88.5
	630	80.9	82.9	86.9	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4
	800	81.9	83.9	87.9	90.4	90.4	90.4	90.4	90.4	90.4	90.4	90.4
	1000	82.9	84.9	88.9	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4
1250	83.6	85.6	89.6	92.1	92.1	92.1	92.1	92.1	92.1	92.1	92.1	
1600	83.8	85.8	89.8	92.3	92.3	92.3	92.3	92.3	92.3	92.3	92.3	
2000	83.0	85.0	89.0	91.5	91.5	91.5	91.5	91.5	91.5	91.5	91.5	
2500	80.9	82.9	86.9	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4	
3150	77.5	79.5	83.5	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0	
4000	73.3	75.3	79.3	81.8	81.8	81.8	81.8	81.8	81.8	81.8	81.8	
5000	68.2	70.2	74.2	76.7	76.7	76.7	76.7	76.7	76.7	76.7	76.7	
6300	63.2	65.2	69.2	71.7	71.7	71.7	71.7	71.7	71.7	71.7	71.7	
8000	58.1	60.1	64.1	66.6	66.6	66.6	66.6	66.6	66.6	66.6	66.6	
10000	53.1	55.1	59.1	61.6	61.6	61.6	61.6	61.6	61.6	61.6	61.6	
Total Sound Power Level [dB]	92.5	94.5	98.5	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0

Table 15: NRO 101 1/3<sup>rd</sup>-Octave Band Sound Power Levels as a function of wind speeds

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NRO 100 - 1/3 <sup>rd</sup> -Octave Spectra [dB]												
Hub Height Wind Speed [m/s]	4	5	6	7	8	9	10	11	12	13	14	15
Wind speed at 10 m height for a hub height of 110 m [m/s]	2.8	3.4	4.1	4.8	5.5	6.2	6.9	7.6	8.3	8.9	9.6	10.3
Wind speed at 10 m height for a hub height of 131.4 m [m/s]	2.7	3.4	4.0	4.7	5.4	6.1	6.7	7.4	8.1	8.8	9.4	10.1
Frequency [Hz]	12.5	40.1	42.1	46.1	47.6	47.6	47.6	47.6	47.6	47.6	47.6	47.6
	16	45.6	47.6	51.6	53.1	53.1	53.1	53.1	53.1	53.1	53.1	53.1
	20	50.6	52.6	56.6	58.1	58.1	58.1	58.1	58.1	58.1	58.1	58.1
	25	54.8	56.8	60.8	62.3	62.3	62.3	62.3	62.3	62.3	62.3	62.3
	32	58.3	60.3	64.3	65.8	65.8	65.8	65.8	65.8	65.8	65.8	65.8
	40	61.8	63.8	67.8	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3
	50	64.9	66.9	70.9	72.4	72.4	72.4	72.4	72.4	72.4	72.4	72.4
	63	67.0	69.0	73.0	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74.5
	80	69.4	71.4	75.4	76.9	76.9	76.9	76.9	76.9	76.9	76.9	76.9
	100	71.3	73.3	77.3	78.8	78.8	78.8	78.8	78.8	78.8	78.8	78.8
	125	73.2	75.2	79.2	80.7	80.7	80.7	80.7	80.7	80.7	80.7	80.7
	160	74.7	76.7	80.7	82.2	82.2	82.2	82.2	82.2	82.2	82.2	82.2
	200	75.9	77.9	81.9	83.4	83.4	83.4	83.4	83.4	83.4	83.4	83.4
	250	77.0	79.0	83.0	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5
	315	78.1	80.1	84.1	85.6	85.6	85.6	85.6	85.6	85.6	85.6	85.6
	400	79.2	81.2	85.2	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.7
	500	80.0	82.0	86.0	87.5	87.5	87.5	87.5	87.5	87.5	87.5	87.5
	630	80.9	82.9	86.9	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4
	800	81.9	83.9	87.9	89.4	89.4	89.4	89.4	89.4	89.4	89.4	89.4
	1000	82.9	84.9	88.9	90.4	90.4	90.4	90.4	90.4	90.4	90.4	90.4
1250	83.6	85.6	89.6	91.1	91.1	91.1	91.1	91.1	91.1	91.1	91.1	
1600	83.8	85.8	89.8	91.3	91.3	91.3	91.3	91.3	91.3	91.3	91.3	
2000	83.0	85.0	89.0	90.5	90.5	90.5	90.5	90.5	90.5	90.5	90.5	
2500	80.9	82.9	86.9	88.4	88.4	88.4	88.4	88.4	88.4	88.4	88.4	
3150	77.5	79.5	83.5	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	
4000	73.3	75.3	79.3	80.8	80.8	80.8	80.8	80.8	80.8	80.8	80.8	
5000	68.2	70.2	74.2	75.7	75.7	75.7	75.7	75.7	75.7	75.7	75.7	
6300	63.2	65.2	69.2	70.7	70.7	70.7	70.7	70.7	70.7	70.7	70.7	
8000	58.1	60.1	64.1	65.6	65.6	65.6	65.6	65.6	65.6	65.6	65.6	
10000	53.1	55.1	59.1	60.6	60.6	60.6	60.6	60.6	60.6	60.6	60.6	
Total Sound Power Level [dB]	92.5	94.5	98.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 16: NRO 100 1/3<sup>rd</sup>-Octave Band Sound Power Levels as a function of wind speeds

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## 2 Determination of the third octave sound power levels

### 2.1 Standard Mode

#### 2.1.1 Hub Height 105 m

Frequency	Third octave sound power levels at standardized wind speeds $v_s$ in dB(LIN) - unweighted									
	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s	12 m/s
20 Hz	101.8	102.8	107.1	111.1	112.9	113.2	113.2	113.2	113.2	113.2
25 Hz	100.7	101.7	105.9	109.9	111.7	111.6	111.6	111.6	111.6	111.6
31.5 Hz	99.2	100.2	104.8	108.8	110.6	111.4	111.4	111.4	111.4	111.4
40 Hz	100.4	101.4	104.5	108.5	110.3	110.4	110.4	110.4	110.4	110.4
50 Hz	97.3	98.3	103.5	107.5	109.3	111.2	111.2	111.2	111.2	111.2
63 Hz	98.1	99.1	102.0	106.0	107.8	108.4	108.4	108.4	108.4	108.4
80 Hz	97.3	98.3	101.8	105.8	107.6	107.4	107.4	107.4	107.4	107.4
100 Hz	95.0	96.0	100.6	104.6	106.4	108.8	108.8	108.8	108.8	108.8
125 Hz	94.3	95.3	98.6	102.6	104.4	104.4	104.4	104.4	104.4	104.4
160 Hz	94.6	95.6	98.7	102.7	104.5	102.8	102.8	102.8	102.8	102.8
200 Hz	91.3	92.3	96.3	100.3	102.1	101.7	101.7	101.7	101.7	101.7
250 Hz	90.4	91.4	95.6	99.6	101.4	100.4	100.4	100.4	100.4	100.4
315 Hz	89.6	90.6	95.2	99.2	101.0	101.6	101.6	101.6	101.6	101.6
400 Hz	88.1	89.1	93.6	97.6	99.4	99.4	99.4	99.4	99.4	99.4
500 Hz	85.4	86.4	91.8	95.8	97.6	98.1	98.1	98.1	98.1	98.1
630 Hz	85.1	86.1	92.1	96.1	97.9	98.7	98.7	98.7	98.7	98.7
800 Hz	83.4	84.4	90.5	94.5	96.3	96.7	96.7	96.7	96.7	96.7
1000 Hz	83.9	84.9	91.1	95.1	96.9	96.7	96.7	96.7	96.7	96.7
1250 Hz	82.9	83.9	90.1	94.1	95.9	95.4	95.4	95.4	95.4	95.4
1600 Hz	82.0	83.0	89.4	93.4	95.2	94.0	94.0	94.0	94.0	94.0
2000 Hz	80.3	81.3	87.5	91.5	93.3	92.6	92.6	92.6	92.6	92.6
2500 Hz	77.9	78.9	85.0	89.0	90.8	90.6	90.6	90.6	90.6	90.6
3150 Hz	75.8	76.8	80.9	84.9	86.7	87.9	87.9	87.9	87.9	87.9
4000 Hz	75.9	76.9	76.3	80.3	82.1	84.1	84.1	84.1	84.1	84.1
5000 Hz	71.7	72.7	74.3	78.3	80.1	79.8	79.8	79.8	79.8	79.8
6300 Hz	68.7	69.7	73.3	77.3	79.1	80.2	80.2	80.2	80.2	80.2
8000 Hz	67.8	68.8	72.2	76.2	78.0	79.3	79.3	79.3	79.3	79.3
10000 Hz	65.3	66.3	69.8	73.8	75.6	76.5	76.5	76.5	76.5	76.5
<b>Total SPL unweighted dB(LIN)</b>	<b>108.9</b>	<b>109.9</b>	<b>114.0</b>	<b>118.0</b>	<b>119.8</b>	<b>120.3</b>	<b>120.3</b>	<b>120.3</b>	<b>120.3</b>	<b>120.3</b>
<b>Total SPL A-weighted dB(A)</b>	<b>94.0</b>	<b>95.0</b>	<b>100.3</b>	<b>104.3</b>	<b>106.1</b>	<b>106.1</b>	<b>106.1</b>	<b>106.1</b>	<b>106.1</b>	<b>106.1</b>

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## 2.2 Sound optimized mode - Mode 1

### 2.2.1 Hub Height 105 m

Frequency	Third octave sound power levels at standardized wind speeds $v_s$ in dB(LIN) - unweighted									
	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s	12 m/s
20 Hz	101.8	102.8	107.1	111.1	112.3	112.6	112.6	112.6	112.6	112.6
25 Hz	100.7	101.7	105.9	109.9	111.1	111.0	111.0	111.0	111.0	111.0
31.5 Hz	99.2	100.2	104.8	108.8	110.0	110.8	110.8	110.8	110.8	110.8
40 Hz	100.4	101.4	104.5	108.5	109.7	109.8	109.8	109.8	109.8	109.8
50 Hz	97.3	98.3	103.5	107.5	108.7	110.6	110.6	110.6	110.6	110.6
63 Hz	98.1	99.1	102.0	106.0	107.2	107.8	107.8	107.8	107.8	107.8
80 Hz	97.3	98.3	101.8	105.8	107.0	106.8	106.8	106.8	106.8	106.8
100 Hz	95.0	96.0	100.6	104.6	105.8	108.2	108.2	108.2	108.2	108.2
125 Hz	94.3	95.3	98.6	102.6	103.8	103.8	103.8	103.8	103.8	103.8
160 Hz	94.6	95.6	98.7	102.7	103.9	102.2	102.2	102.2	102.2	102.2
200 Hz	91.3	92.3	96.3	100.3	101.5	101.1	101.1	101.1	101.1	101.1
250 Hz	90.4	91.4	95.6	99.6	100.8	99.8	99.8	99.8	99.8	99.8
315 Hz	89.6	90.6	95.2	99.2	100.4	101.0	101.0	101.0	101.0	101.0
400 Hz	88.1	89.1	93.6	97.6	98.8	98.8	98.8	98.8	98.8	98.8
500 Hz	85.4	86.4	91.8	95.8	97.0	97.5	97.5	97.5	97.5	97.5
630 Hz	85.1	86.1	92.1	96.1	97.3	98.1	98.1	98.1	98.1	98.1
800 Hz	83.4	84.4	90.5	94.5	95.7	96.1	96.1	96.1	96.1	96.1
1000 Hz	83.9	84.9	91.1	95.1	96.3	96.1	96.1	96.1	96.1	96.1
1250 Hz	82.9	83.9	90.1	94.1	95.3	94.8	94.8	94.8	94.8	94.8
1600 Hz	82.0	83.0	89.4	93.4	94.6	93.4	93.4	93.4	93.4	93.4
2000 Hz	80.3	81.3	87.5	91.5	92.7	92.0	92.0	92.0	92.0	92.0
2500 Hz	77.9	78.9	85.0	89.0	90.2	90.0	90.0	90.0	90.0	90.0
3150 Hz	75.8	76.8	80.9	84.9	86.1	87.3	87.3	87.3	87.3	87.3
4000 Hz	75.9	76.9	76.3	80.3	81.5	83.5	83.5	83.5	83.5	83.5
5000 Hz	71.7	72.7	74.3	78.3	79.5	79.2	79.2	79.2	79.2	79.2
6300 Hz	68.7	69.7	73.3	77.3	78.5	79.6	79.6	79.6	79.6	79.6
8000 Hz	67.8	68.8	72.2	76.2	77.4	78.7	78.7	78.7	78.7	78.7
10000 Hz	65.3	66.3	69.8	73.8	75.0	75.9	75.9	75.9	75.9	75.9
<b>Total SPL unweighted dB(LIN)</b>	<b>108.9</b>	<b>109.9</b>	<b>114.0</b>	<b>118.0</b>	<b>119.2</b>	<b>119.7</b>	<b>119.7</b>	<b>119.7</b>	<b>119.7</b>	<b>119.7</b>
<b>Total SPL A-weighted dB(A)</b>	<b>94.0</b>	<b>95.0</b>	<b>100.3</b>	<b>104.3</b>	<b>105.5</b>	<b>105.5</b>	<b>105.5</b>	<b>105.5</b>	<b>105.5</b>	<b>105.5</b>

## 2.3 Sound optimized mode - Mode 2

### 2.3.1 Hub height 105 m

Third octave sound power levels at standardized wind speeds $v_s$ in dB(LIN) - unweighted										
Frequency	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s	12 m/s
20 Hz	101.8	102.8	107.1	111.1	111.8	112.1	112.1	112.1	112.1	112.1
25 Hz	100.7	101.7	105.9	109.9	110.6	110.5	110.5	110.5	110.5	110.5
31.5 Hz	99.2	100.2	104.8	108.8	109.5	110.3	110.3	110.3	110.3	110.3
40 Hz	100.4	101.4	104.5	108.5	109.2	109.3	109.3	109.3	109.3	109.3
50 Hz	97.3	98.3	103.5	107.5	108.2	110.1	110.1	110.1	110.1	110.1
63 Hz	98.1	99.1	102.0	106.0	106.7	107.3	107.3	107.3	107.3	107.3
80 Hz	97.3	98.3	101.8	105.8	106.5	106.3	106.3	106.3	106.3	106.3
100 Hz	95.0	96.0	100.6	104.6	105.3	107.7	107.7	107.7	107.7	107.7
125 Hz	94.3	95.3	98.6	102.6	103.3	103.3	103.3	103.3	103.3	103.3
160 Hz	94.6	95.6	98.7	102.7	103.4	101.7	101.7	101.7	101.7	101.7
200 Hz	91.3	92.3	96.3	100.3	101.0	100.6	100.6	100.6	100.6	100.6
250 Hz	90.4	91.4	95.6	99.6	100.3	99.3	99.3	99.3	99.3	99.3
315 Hz	89.6	90.6	95.2	99.2	99.9	100.5	100.5	100.5	100.5	100.5
400 Hz	88.1	89.1	93.6	97.6	98.3	98.3	98.3	98.3	98.3	98.3
500 Hz	85.4	86.4	91.8	95.8	96.5	97.0	97.0	97.0	97.0	97.0
630 Hz	85.1	86.1	92.1	96.1	96.8	97.6	97.6	97.6	97.6	97.6
800 Hz	83.4	84.4	90.5	94.5	95.2	95.6	95.6	95.6	95.6	95.6
1000 Hz	83.9	84.9	91.1	95.1	95.8	95.6	95.6	95.6	95.6	95.6
1250 Hz	82.9	83.9	90.1	94.1	94.8	94.3	94.3	94.3	94.3	94.3
1600 Hz	82.0	83.0	89.4	93.4	94.1	92.9	92.9	92.9	92.9	92.9
2000 Hz	80.3	81.3	87.5	91.5	92.2	91.5	91.5	91.5	91.5	91.5
2500 Hz	77.9	78.9	85.0	89.0	89.7	89.5	89.5	89.5	89.5	89.5
3150 Hz	75.8	76.8	80.9	84.9	85.6	86.8	86.8	86.8	86.8	86.8
4000 Hz	75.9	76.9	76.3	80.3	81.0	83.0	83.0	83.0	83.0	83.0
5000 Hz	71.7	72.7	74.3	78.3	79.0	78.7	78.7	78.7	78.7	78.7
6300 Hz	68.7	69.7	73.3	77.3	78.0	79.1	79.1	79.1	79.1	79.1
8000 Hz	67.8	68.8	72.2	76.2	76.9	78.2	78.2	78.2	78.2	78.2
10000 Hz	65.3	66.3	69.8	73.8	74.5	75.4	75.4	75.4	75.4	75.4
<b>Total SPL unweighted dB(LIN)</b>	<b>108.9</b>	<b>109.9</b>	<b>114.0</b>	<b>118.0</b>	<b>118.7</b>	<b>119.2</b>	<b>119.2</b>	<b>119.2</b>	<b>119.2</b>	<b>119.2</b>
<b>Total SPL A-weighted dB(A)</b>	<b>94.0</b>	<b>95.0</b>	<b>100.3</b>	<b>104.3</b>	<b>105.0</b>	<b>105.0</b>	<b>105.0</b>	<b>105.0</b>	<b>105.0</b>	<b>105.0</b>

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## 2.4 Sound optimized mode - Mode 3

### 2.4.1 Hub height 105 m

	Third octave sound power levels at standardized wind speeds $v_s$ in dB(LIN) - unweighted									
Frequency	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s	12 m/s
20 Hz	101.8	102.8	107.1	111.1	111.4	111.7	111.7	111.7	111.7	111.7
25 Hz	100.7	101.7	105.9	109.9	110.2	110.1	110.1	110.1	110.1	110.1
31.5 Hz	99.2	100.2	104.8	108.8	109.1	109.9	109.9	109.9	109.9	109.9
40 Hz	100.4	101.4	104.5	108.5	108.8	108.9	108.9	108.9	108.9	108.9
50 Hz	97.3	98.3	103.5	107.5	107.8	109.7	109.7	109.7	109.7	109.7
63 Hz	98.1	99.1	102.0	106.0	106.3	106.9	106.9	106.9	106.9	106.9
80 Hz	97.3	98.3	101.8	105.8	106.1	105.9	105.9	105.9	105.9	105.9
100 Hz	95.0	96.0	100.6	104.6	104.9	107.3	107.3	107.3	107.3	107.3
125 Hz	94.3	95.3	98.6	102.6	102.9	102.9	102.9	102.9	102.9	102.9
160 Hz	94.6	95.6	98.7	102.7	103.0	101.3	101.3	101.3	101.3	101.3
200 Hz	91.3	92.3	96.3	100.3	100.6	100.2	100.2	100.2	100.2	100.2
250 Hz	90.4	91.4	95.6	99.6	99.9	98.9	98.9	98.9	98.9	98.9
315 Hz	89.6	90.6	95.2	99.2	99.5	100.1	100.1	100.1	100.1	100.1
400 Hz	88.1	89.1	93.6	97.6	97.9	97.9	97.9	97.9	97.9	97.9
500 Hz	85.4	86.4	91.8	95.8	96.1	96.6	96.6	96.6	96.6	96.6
630 Hz	85.1	86.1	92.1	96.1	96.4	97.2	97.2	97.2	97.2	97.2
800 Hz	83.4	84.4	90.5	94.5	94.8	95.2	95.2	95.2	95.2	95.2
1000 Hz	83.9	84.9	91.1	95.1	95.4	95.2	95.2	95.2	95.2	95.2
1250 Hz	82.9	83.9	90.1	94.1	94.4	93.9	93.9	93.9	93.9	93.9
1600 Hz	82.0	83.0	89.4	93.4	93.7	92.5	92.5	92.5	92.5	92.5
2000 Hz	80.3	81.3	87.5	91.5	91.8	91.1	91.1	91.1	91.1	91.1
2500 Hz	77.9	78.9	85.0	89.0	89.3	89.1	89.1	89.1	89.1	89.1
3150 Hz	75.8	76.8	80.9	84.9	85.2	86.4	86.4	86.4	86.4	86.4
4000 Hz	75.9	76.9	76.3	80.3	80.6	82.6	82.6	82.6	82.6	82.6
5000 Hz	71.7	72.7	74.3	78.3	78.6	78.3	78.3	78.3	78.3	78.3
6300 Hz	68.7	69.7	73.3	77.3	77.6	78.7	78.7	78.7	78.7	78.7
8000 Hz	67.8	68.8	72.2	76.2	76.5	77.8	77.8	77.8	77.8	77.8
10000 Hz	65.3	66.3	69.8	73.8	74.1	75.0	75.0	75.0	75.0	75.0
<b>Total SPL unweighted dB(LIN)</b>	<b>108.9</b>	<b>109.9</b>	<b>114.0</b>	<b>118.0</b>	<b>118.3</b>	<b>118.8</b>	<b>118.8</b>	<b>118.8</b>	<b>118.8</b>	<b>118.8</b>
<b>Total SPL A-weighted dB(A)</b>	<b>94.0</b>	<b>95.0</b>	<b>100.3</b>	<b>104.3</b>	<b>104.6</b>	<b>104.6</b>	<b>104.6</b>	<b>104.6</b>	<b>104.6</b>	<b>104.6</b>

## 2.5 Sound optimized mode - Mode 4

### 2.5.1 Hub height 105 m

Third octave sound power levels at standardized wind speeds $v_s$ in dB(LIN) - unweighted										
Frequency	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s	12 m/s
20 Hz	101.8	102.8	107.1	110.7	110.9	111.2	111.2	111.2	111.2	111.2
25 Hz	100.7	101.7	105.9	109.5	109.7	109.6	109.6	109.6	109.6	109.6
31.5 Hz	99.2	100.2	104.8	108.4	108.6	109.4	109.4	109.4	109.4	109.4
40 Hz	100.4	101.4	104.5	108.1	108.3	108.4	108.4	108.4	108.4	108.4
50 Hz	97.3	98.3	103.5	107.1	107.3	109.2	109.2	109.2	109.2	109.2
63 Hz	98.1	99.1	102.0	105.6	105.8	106.4	106.4	106.4	106.4	106.4
80 Hz	97.3	98.3	101.8	105.4	105.6	105.4	105.4	105.4	105.4	105.4
100 Hz	95.0	96.0	100.6	104.2	104.4	106.8	106.8	106.8	106.8	106.8
125 Hz	94.3	95.3	98.6	102.2	102.4	102.4	102.4	102.4	102.4	102.4
160 Hz	94.6	95.6	98.7	102.3	102.5	100.8	100.8	100.8	100.8	100.8
200 Hz	91.3	92.3	96.3	99.9	100.1	99.7	99.7	99.7	99.7	99.7
250 Hz	90.4	91.4	95.6	99.2	99.4	98.4	98.4	98.4	98.4	98.4
315 Hz	89.6	90.6	95.2	98.8	99.0	99.6	99.6	99.6	99.6	99.6
400 Hz	88.1	89.1	93.6	97.2	97.4	97.4	97.4	97.4	97.4	97.4
500 Hz	85.4	86.4	91.8	95.4	95.6	96.1	96.1	96.1	96.1	96.1
630 Hz	85.1	86.1	92.1	95.7	95.9	96.7	96.7	96.7	96.7	96.7
800 Hz	83.4	84.4	90.5	94.1	94.3	94.7	94.7	94.7	94.7	94.7
1000 Hz	83.9	84.9	91.1	94.7	94.9	94.7	94.7	94.7	94.7	94.7
1250 Hz	82.9	83.9	90.1	93.7	93.9	93.4	93.4	93.4	93.4	93.4
1600 Hz	82.0	83.0	89.4	93.0	93.2	92.0	92.0	92.0	92.0	92.0
2000 Hz	80.3	81.3	87.5	91.1	91.3	90.6	90.6	90.6	90.6	90.6
2500 Hz	77.9	78.9	85.0	88.6	88.8	88.6	88.6	88.6	88.6	88.6
3150 Hz	75.8	76.8	80.9	84.5	84.7	85.9	85.9	85.9	85.9	85.9
4000 Hz	75.9	76.9	76.3	79.9	80.1	82.1	82.1	82.1	82.1	82.1
5000 Hz	71.7	72.7	74.3	77.9	78.1	77.8	77.8	77.8	77.8	77.8
6300 Hz	68.7	69.7	73.3	76.9	77.1	78.2	78.2	78.2	78.2	78.2
8000 Hz	67.8	68.8	72.2	75.8	76.0	77.3	77.3	77.3	77.3	77.3
10000 Hz	65.3	66.3	69.8	73.4	73.6	74.5	74.5	74.5	74.5	74.5
<b>Total SPL unweighted dB(LIN)</b>	<b>108.9</b>	<b>109.9</b>	<b>114.0</b>	<b>117.6</b>	<b>117.8</b>	<b>118.3</b>	<b>118.3</b>	<b>118.3</b>	<b>118.3</b>	<b>118.3</b>
<b>Total SPL A-weighted dB(A)</b>	<b>94.0</b>	<b>95.0</b>	<b>100.3</b>	<b>103.9</b>	<b>104.1</b>	<b>104.1</b>	<b>104.1</b>	<b>104.1</b>	<b>104.1</b>	<b>104.1</b>

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## 2.6 Sound optimized mode - Mode 5

### 2.6.1 Hub height 105 m

Frequency	Third octave sound power levels at standardized wind speeds $v_s$ in dB(LIN) - unweighted									
	3 m/s	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9 m/s	10 m/s	11 m/s	12 m/s
20 Hz	101.8	102.8	107.1	110.4	110.4	110.7	110.7	110.7	110.7	110.7
25 Hz	100.7	101.7	105.9	109.2	109.2	109.1	109.1	109.1	109.1	109.1
31.5 Hz	99.2	100.2	104.8	108.1	108.1	108.9	108.9	108.9	108.9	108.9
40 Hz	100.4	101.4	104.5	107.8	107.8	107.9	107.9	107.9	107.9	107.9
50 Hz	97.3	98.3	103.5	106.8	106.8	108.7	108.7	108.7	108.7	108.7
63 Hz	98.1	99.1	102.0	105.3	105.3	105.9	105.9	105.9	105.9	105.9
80 Hz	97.3	98.3	101.8	105.1	105.1	104.9	104.9	104.9	104.9	104.9
100 Hz	95.0	96.0	100.6	103.9	103.9	106.3	106.3	106.3	106.3	106.3
125 Hz	94.3	95.3	98.6	101.9	101.9	101.9	101.9	101.9	101.9	101.9
160 Hz	94.6	95.6	98.7	102.0	102.0	100.3	100.3	100.3	100.3	100.3
200 Hz	91.3	92.3	96.3	99.6	99.6	99.2	99.2	99.2	99.2	99.2
250 Hz	90.4	91.4	95.6	98.9	98.9	97.9	97.9	97.9	97.9	97.9
315 Hz	89.6	90.6	95.2	98.5	98.5	99.1	99.1	99.1	99.1	99.1
400 Hz	88.1	89.1	93.6	96.9	96.9	96.9	96.9	96.9	96.9	96.9
500 Hz	85.4	86.4	91.8	95.1	95.1	95.6	95.6	95.6	95.6	95.6
630 Hz	85.1	86.1	92.1	95.4	95.4	96.2	96.2	96.2	96.2	96.2
800 Hz	83.4	84.4	90.5	93.8	93.8	94.2	94.2	94.2	94.2	94.2
1000 Hz	83.9	84.9	91.1	94.4	94.4	94.2	94.2	94.2	94.2	94.2
1250 Hz	82.9	83.9	90.1	93.4	93.4	92.9	92.9	92.9	92.9	92.9
1600 Hz	82.0	83.0	89.4	92.7	92.7	91.5	91.5	91.5	91.5	91.5
2000 Hz	80.3	81.3	87.5	90.8	90.8	90.1	90.1	90.1	90.1	90.1
2500 Hz	77.9	78.9	85.0	88.3	88.3	88.1	88.1	88.1	88.1	88.1
3150 Hz	75.8	76.8	80.9	84.2	84.2	85.4	85.4	85.4	85.4	85.4
4000 Hz	75.9	76.9	76.3	79.6	79.6	81.6	81.6	81.6	81.6	81.6
5000 Hz	71.7	72.7	74.3	77.6	77.6	77.3	77.3	77.3	77.3	77.3
6300 Hz	68.7	69.7	73.3	76.6	76.6	77.7	77.7	77.7	77.7	77.7
8000 Hz	67.8	68.8	72.2	75.5	75.5	76.8	76.8	76.8	76.8	76.8
10000 Hz	65.3	66.3	69.8	73.1	73.1	74.0	74.0	74.0	74.0	74.0
<b>Total SPL unweighted dB(LIN)</b>	<b>108.9</b>	<b>109.9</b>	<b>114.0</b>	<b>117.3</b>	<b>117.3</b>	<b>117.8</b>	<b>117.8</b>	<b>117.8</b>	<b>117.8</b>	<b>117.8</b>
<b>Total SPL A-weighted dB(A)</b>	<b>94.0</b>	<b>95.0</b>	<b>100.3</b>	<b>103.6</b>						