WINDTEST
Grevenbroich GmbH

Excerpt from the acoustic test report SE06010B2 about the wind turbine type REpower MM92 at St. Michaelisdonn / Germany

25.05.2007

SE06010B2A1

REpower Dokumenten-Nummer	Rev.
D-2.9-VM.SM.03-D	A-GB
Freigabe	Datum
SK	25.05.2007

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Deutscher Akkreditierungs Rat

DPT-P-03.175-00-97-00

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Abridged report SE06010B2A1

Location:	St. Michaelisdonn / Germany, Ser.-No. 90001
Customer:	REpower Systems AG Rödemis Hallig D-25813 Husum
Supplier:	WINDTEST Grevenbroich GmbH Frimmersdorfer Str. 73 D-41517 Grevenbroich

Date of Order:	12.06.06		**Order Number:**	06 0058 06

Editor:	**Auditor:**
Dipl.-Met. Klaus Hanswillemenke	Dipl.-Ing. Thomas Fischer

Grevenbroich, 25.05.2007

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It consists of a total of 3 pages including the appendix.

Excerpt from the acoustic test report SE06010B2

Summary of results from the acoustic noise measurement at the wind turbine type REpower MM92 according to

IEC 61400-11:2002: Wind turbine generator systems – Part 11: Acoustic noise measurement techniques.

General information		Technical data (manufacturers specifications)	
Manufacturer:	REpower Systems AG	Rated power (generator):	2000 kW
	Rödemis Hallig	Rotor diameter:	92,5 m
	D-25813 Husum	Hub height above ground:	80 m
Serial No.:	90001	Tower design:	Steel tube
Location:	RW: 3505388 HW: 5983725	Power control	Pitch
Supplementary data about the rotor (manufacturers specifications		**Supplementary data about gearbox and generator (manufacturers specifications)**	
Rotor blade manufacturer:	LM or similar	Gearbox manufacturer:	Eickhoff or similar
Blade type:	LM 45.3_P	Gearbox type:	CPNHZ-224
Blade pitch setting:	---°	Generator manufacturer:	VEM or similar
Number of blades	3	Generator type:	DASAA5025-4UA
Rotor speed range:	7,8 – 15,0 rpm	Generator speed range:	1000 – 1800 rpm

Test report for the power curve: REpower document No. D-2.9-VM.LK.01-A Rev B-GB

	Reference point		Noise emission-parameter		Comments
	Standardized wind speed at 10 m height	Electrical active power			
Sound power level $L_{WA,P}$	6 ms^{-1}	1088 kW	101,6 dB		95 % rated power at 7,6 m/s
	7 ms^{-1}	1640 kW	102,9 dB		> 95 % rated power
	8 ms^{-1}	1980 kW	103,0 dB		---
	9 ms^{-1}	2025 kW	102,1 dB		
	10 ms^{-1}	---	---		
Tonality for the vicinity of the wind turbine $\Delta L_{a,k}$	6 ms^{-1}	1088 kW	0 dB	6 ms^{-1}	95 % rated power at 7,6 m/s
	7 ms^{-1}	1640 kW	0 dB	7 ms^{-1}	> 95 % rated power
	8 ms^{-1}	1980 kW	0 dB	8 ms^{-1}	---
	9 ms^{-1}	2025 kW	0 dB	9 ms^{-1}	
	10 ms^{-1}	---	---	10 ms^{-1}	
Impulsivity for the vicinity of the wind turbine	6 ms^{-1}	1088 kW	0 dB		95 % rated power at 7,6 m/s
	7 ms^{-1}	1640 kW	0 dB		> 95 % rated power
	8 ms^{-1}	1980 kW	0 dB		---
	9 ms^{-1}	2025 kW	0 dB		
	10 ms^{-1}	---	---		

Third octave sound power level at v_{10} = 7,6 ms^{-1} in dB

Frequency	50	63	80	100	125	160	200	250	315	400	500	630
$L_{WA,P}$	74,44	78,59	82,1	84,5	86,49	88,8	89,83	92,86	94,05	93,33	94,18	93,76
Frequency	800	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000
$L_{WA,P}$	93,15	91,59	89,74	88,14	85,61	83,43	81,54	78,98	76,84	77,37	76,84	74,76

Octave sound power level at v_{10} = 7,6 ms^{-1} in dB

Frequency	63	125	250	500	1000	2000	4000	8000
$L_{WA,P}$	83,15	91,41	97,03	98,7	96,73	91,01	84,3	81,09

These specifications do not substitute the above mentioned full test report (particularly for noise immission prognosis).

Comments:

Measured by: WINDTEST Grevenbroich GmbH
Frimmersdorfer Str.73
D-41517 Grevenbroich

Schallemission FGW 2007 Konformitätssiegel

Date: 25.05.2007

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