

# Unit Certificate Einheitenzertifikat

By the product certificate number / Durch die Produktzertifikatsnummer

No. 2621/0067-8-A-M2-CER/E2

Issued to / Lautend auf

License holder / Lizenzinhaber: **SOLARMAX GmbH**  
Zur Schönhalde 10 D-89352 Ellzee, Germany

Trademark / Warenzeichen



Contract number / Vertragsnummer: **801566**

It is certified that the product / Es ist zertifiziert, dass das Produkt

Type of generator / Generatortyp: **Solar Grid-tied Inverter**

Models / Modelle	75SXT	80SXT	100SXT	110SXT	100SXT - 500	125SXT - 500	136SXT - 540
<b>Technical Data / Technische Daten:</b>							
<b>Rated AC Power / AC-Nennleistung</b>	75 kW	80 kW	100 kW	110 kW	100 kW	125 kW	136 kW
<b>Rated AC Voltage / Nennwechselfspannung</b>	230 V/ 400V	230 V/ 400V	230 V/ 400V	230 V/ 400V	500 V	500 V	540 V
<b>Rated Frequency / Nennfrequenz</b>	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
<b>Max DC Current / Max DC Strom</b>	8x 26 A	8x 26 A	10x 26 A	10x 26 A	10x 26 A	10x 26 A	12x 26 A
<b>Initial short-circuit AC current / Anfänglicher Kurzschluss Wechselstrom</b>	756.7 A (Peak)	756.7 A (Peak)	756.7 A (Peak)	756.7 A (Peak)	756.7 A (Peak)	756.7 A (Peak)	756.7 A (Peak)
<b>Firmware version / Firmware Version</b>	(1)	(1)	(1)	(1)	(1)	(1)	(1)
<b>Number of phases / Anzahl der Phasen</b>	3/N/PE	3/N/PE	3/N/PE	3/N/PE	3/PE	3/PE	3/PE
<b>Isolation transformer / Isolationstransformator</b>	No / Nein	No / Nein	No / Nein	No / Nein	No / Nein	No / Nein	No / Nein

(1) FW version is: **DSPM: V010000; DSPTS: V010000; ARM: V010000**

Is in compliance with the Network connection rule / In Übereinstimmung mit der Netzwerkverbindung Regel:

- **VDE-AR-N 4105: 2018-11.**

“Generators connected to the low-voltage distribution network / Erzeugungsanlagen am Niederspannungsnetz”

Technical minimum requirements for connection and parallel operation of power generation systems connected to the low-voltage network / Technische Mindestanforderungen für Anschluss und Parallelbetrieb von Erzeugungsanlagen am Niederspannungsnetz

Based on tests requirements defined in / Basierend auf Tests Anforderungen definiert in:

- **DIN VDE V 0124-100 (VDE V 0124-100): 2020-06.**

“Network integration of power generation systems – Low voltage / Netzintegration von Erzeugungsanlagen”

Test requirements for power generation units intended for connection to and parallel operation on the low-voltage network / Niederspannung – Prüfanforderungen an Erzeugungseinheiten, vorgesehen zum Anschluss und Parallelbetrieb am Niederspannungsnetz

This certificate is based upon test results offered in the test report no. 2221/0067-8, which issued on 26<sup>th</sup> July 2021. / Dieses Zertifikat basiert auf den Testergebnissen, die im Prüfbericht Nr. 2221/0067-8, herausgegeben am 26 Juli 2021.

The above-mentioned generating unit is certified according to the SGS internal procedure PE.T-ECPE-13 based on the requirements of the UNE-EN ISO / IEC 17065 / Die oben genannte Erzeugungseinheit ist gemäß dem internen SGS-Verfahren PE.T-ECPE-13 basierend auf den Anforderungen der UNE-EN ISO / IEC 17065 zertifiziert.

This certificate cancels and supersedes the certificate no. 2621/0067-8-A-M2-CER/E1. / Dieses Zertifikat ersetzt das Zertifikat Nr. 2621/0067-8-A-M2-CER/E1.

First issued on: 09<sup>th</sup> December 2021 / Zuerst veröffentlicht am: 09 Dezember 2021

This certificate is valid until 27<sup>th</sup> July 2024 / Dieses Zertifikat ist gültig bis: 27 Juli 2024.

Madrid, 03<sup>rd</sup> August 2022 / Madrid, 03. August 2022

Daniel Arranz Muñiz  
Certification Manager



# APPENDIX (ANHANG)

Annex to Certificate No. 2621/0067-8-A-M2-CER/E2



E.5 Requirements for the test report for power generation units					
E.5 Prüfbericht „Netzurückwirkungen“ für Erzeugungseinheiten mit einem Eingangsstrom > 75 A					
Extract from test report for unit certificate "Determination of electrical properties" Auszug aus dem Prüfbericht für Erzeugungseinheiten Bestimmung der elektrischen Eigenschaften"				No. 2221/0067-8	
System Manufacturer Anlagenhersteller:		SOLARMAX GmbH			
Manufacturer indications: Herstellerangaben:		Type of system / Anlagenart:	110SXT		
		Max. active power P <sub>E</sub> max / Max. Wirkleistung P <sub>E</sub> max	110 kW		
		Rated voltage / Bemessungsspannung	230 V		
Measuring period: 2021 Jan 08 to 2021 Jun 28					
Rapid voltage changes Schnelle Spannungsänderungen					
Connection without provision (regarding the primary energy carrier) Einschalten ohne Vorgabe (zum Primärenergieträger)		ki = 0.004			
Most adverse case when switching between generator levels Ungünstigster Fall beim Umschalten der Generatorstufen		ki = 0.683			
Connection at nominal conditions (of the primary energy carrier) Einschalten bei Nennbedingungen (des Primärenergieträgers)		ki = 0.019			
Disconnection at rated power Ausschalten bei Bemessungsleistung		ki = 0.019			
Worst value of all switching operation Schlechtester Wert aller Schaltvorgänge		kimax = 0.683			
Flicker	Network impedance angle $\psi_k$ Netzimpedanzwinkel $\psi_k$	30°	50°	70°	85°
	Initial flicker factor C <sub>p</sub> Anlagenflickerbeiwert C <sub>p</sub>	0.485	0.646	0.754	0.783
Remark: For PGU ≤ 75 A the verification is implemented per DIN EN 61000-3-11.					

Model: 110SXT												
Harmonics Phase A Oberschwingungen												
Active power P <sub>n</sub> [%] Wirkleistung P <sub>n</sub> [%]	0	10	20	30	40	50	60	70	80	90	100	110
Ordinal number Ordnungszahl	I <sub>v</sub> (%)	I <sub>v</sub> (%)	I <sub>v</sub> (%)	I <sub>v</sub> (%)	I <sub>v</sub> (%)	I <sub>v</sub> (%)	I <sub>v</sub> (%)	I <sub>v</sub> (%)	I <sub>v</sub> (%)	I <sub>v</sub> (%)	I <sub>v</sub> (%)	I <sub>v</sub> (%)
2	0.071	0.027	0.031	0.032	0.032	0.032	0.029	0.031	0.034	0.036	0.083	0.188
3	0.154	0.031	0.155	0.037	0.025	0.025	0.046	0.064	0.082	0.102	0.124	0.143
4	0.037	0.016	0.031	0.024	0.019	0.018	0.017	0.017	0.021	0.022	0.041	0.109
5	1.040	0.304	0.148	0.207	0.154	0.121	0.104	0.084	0.069	0.058	0.050	0.087
6	0.054	0.016	0.030	0.024	0.017	0.016	0.015	0.017	0.019	0.023	0.034	0.050
7	0.739	0.217	0.078	0.178	0.128	0.104	0.096	0.082	0.067	0.066	0.059	0.083
8	0.039	0.012	0.029	0.026	0.020	0.017	0.015	0.019	0.021	0.029	0.041	0.040
9	0.049	0.037	0.055	0.030	0.021	0.021	0.021	0.020	0.021	0.022	0.036	0.083
10	0.043	0.012	0.021	0.024	0.018	0.016	0.015	0.015	0.022	0.034	0.031	0.071
11	0.349	0.143	0.290	0.108	0.108	0.105	0.107	0.098	0.094	0.089	0.090	0.187
12	0.031	0.032	0.028	0.023	0.018	0.015	0.014	0.014	0.016	0.017	0.045	0.041
13	0.170	0.124	0.179	0.081	0.071	0.076	0.082	0.083	0.087	0.085	0.084	0.205
14	0.046	0.015	0.025	0.021	0.018	0.015	0.013	0.014	0.019	0.035	0.046	0.054
15	0.075	0.029	0.057	0.022	0.025	0.034	0.028	0.027	0.029	0.034	0.032	0.061
16	0.039	0.010	0.021	0.018	0.015	0.014	0.013	0.013	0.016	0.022	0.025	0.033
17	0.435	0.165	0.052	0.054	0.026	0.032	0.062	0.072	0.072	0.070	0.056	0.099
18	0.033	0.027	0.028	0.016	0.018	0.013	0.011	0.011	0.012	0.017	0.022	0.042
19	0.426	0.170	0.059	0.041	0.030	0.025	0.046	0.066	0.066	0.064	0.051	0.163
20	0.036	0.017	0.031	0.014	0.014	0.010	0.010	0.010	0.013	0.021	0.021	0.030
21	0.100	0.031	0.046	0.021	0.024	0.039	0.031	0.026	0.024	0.019	0.018	0.035



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# APPENDIX (ANHANG)

Annex to Certificate No. 2621/0067-8-A-M2-CER/E2



Harmonics Phase A (cont.) Oberschwingungen												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Ordinal number Ordnungszahl	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)
22	0.029	0.018	0.022	0.016	0.011	0.011	0.010	0.010	0.012	0.015	0.018	0.033
23	0.145	0.186	0.100	0.024	0.038	0.029	0.024	0.044	0.064	0.067	0.082	0.079
24	0.019	0.013	0.016	0.012	0.012	0.012	0.011	0.011	0.011	0.012	0.014	0.021
25	0.094	0.193	0.095	0.029	0.032	0.041	0.027	0.031	0.052	0.062	0.075	0.109
26	0.024	0.015	0.021	0.011	0.010	0.009	0.009	0.008	0.010	0.015	0.012	0.015
27	0.032	0.022	0.042	0.016	0.015	0.035	0.030	0.024	0.018	0.016	0.014	0.017
28	0.019	0.024	0.017	0.010	0.009	0.009	0.009	0.009	0.011	0.012	0.011	0.019
29	0.185	0.177	0.126	0.058	0.031	0.053	0.034	0.032	0.031	0.040	0.045	0.048
30	0.017	0.008	0.016	0.010	0.008	0.007	0.008	0.010	0.011	0.010	0.010	0.013
31	0.179	0.168	0.100	0.045	0.027	0.039	0.034	0.032	0.035	0.041	0.051	0.063
32	0.019	0.010	0.012	0.009	0.007	0.006	0.006	0.007	0.008	0.011	0.009	0.011
33	0.019	0.018	0.028	0.015	0.015	0.024	0.031	0.026	0.020	0.016	0.014	0.012
34	0.018	0.018	0.012	0.008	0.007	0.006	0.007	0.007	0.010	0.011	0.009	0.014
35	0.032	0.138	0.075	0.059	0.044	0.043	0.038	0.021	0.025	0.031	0.045	0.054
36	0.013	0.011	0.013	0.008	0.006	0.005	0.006	0.009	0.011	0.011	0.008	0.010
37	0.099	0.116	0.076	0.058	0.043	0.031	0.037	0.027	0.023	0.025	0.038	0.057
38	0.016	0.007	0.011	0.007	0.006	0.005	0.006	0.006	0.008	0.011	0.007	0.009
39	0.018	0.016	0.018	0.012	0.014	0.013	0.023	0.022	0.017	0.014	0.013	0.015
40	0.017	0.009	0.008	0.006	0.007	0.005	0.006	0.006	0.008	0.011	0.008	0.012

Inter-harmonics Phase A Zwischenharmonische												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Frequency [Hz] Frequenz [Hz]	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)
75	0.017	0.015	0.028	0.033	0.027	0.025	0.029	0.031	0.038	0.038	0.209	0.456
125	0.019	0.014	0.029	0.040	0.030	0.030	0.028	0.033	0.046	0.041	0.099	0.163
175	0.021	0.015	0.030	0.044	0.032	0.032	0.028	0.029	0.038	0.031	0.073	0.115
225	0.021	0.018	0.034	0.052	0.036	0.029	0.035	0.033	0.035	0.032	0.070	0.167
275	0.022	0.020	0.034	0.054	0.037	0.035	0.031	0.029	0.027	0.028	0.075	0.084
325	0.023	0.021	0.035	0.053	0.037	0.043	0.032	0.029	0.029	0.029	0.066	0.160
375	0.025	0.020	0.032	0.055	0.039	0.035	0.036	0.035	0.043	0.043	0.084	0.068
425	0.025	0.016	0.029	0.049	0.040	0.047	0.037	0.033	0.045	0.044	0.056	0.069
475	0.025	0.017	0.031	0.047	0.037	0.033	0.030	0.030	0.032	0.031	0.050	0.063
525	0.026	0.018	0.036	0.048	0.036	0.030	0.034	0.033	0.039	0.039	0.043	0.061
575	0.026	0.020	0.037	0.047	0.035	0.035	0.031	0.029	0.027	0.027	0.059	0.067
625	0.026	0.023	0.041	0.040	0.032	0.036	0.027	0.025	0.027	0.027	0.047	0.057
675	0.026	0.018	0.038	0.039	0.033	0.028	0.031	0.029	0.028	0.028	0.055	0.065
725	0.025	0.016	0.035	0.032	0.029	0.035	0.028	0.024	0.032	0.032	0.045	0.046
775	0.023	0.017	0.036	0.030	0.028	0.029	0.023	0.023	0.040	0.040	0.038	0.038
825	0.024	0.016	0.039	0.030	0.031	0.030	0.034	0.034	0.027	0.024	0.034	0.038
875	0.022	0.018	0.039	0.031	0.024	0.023	0.022	0.020	0.025	0.025	0.033	0.052
925	0.022	0.021	0.043	0.028	0.022	0.025	0.020	0.019	0.020	0.020	0.034	0.032
975	0.022	0.014	0.037	0.027	0.022	0.018	0.021	0.020	0.023	0.023	0.030	0.042
1025	0.021	0.013	0.034	0.025	0.020	0.020	0.019	0.018	0.022	0.020	0.031	0.028
1075	0.020	0.015	0.033	0.023	0.018	0.020	0.017	0.015	0.016	0.016	0.024	0.024
1125	0.020	0.013	0.036	0.023	0.018	0.017	0.017	0.017	0.016	0.016	0.021	0.024
1175	0.019	0.016	0.035	0.023	0.017	0.016	0.015	0.013	0.015	0.015	0.021	0.025
1225	0.018	0.018	0.036	0.020	0.017	0.018	0.018	0.017	0.014	0.014	0.022	0.022
1275	0.017	0.012	0.031	0.020	0.015	0.012	0.014	0.014	0.014	0.013	0.019	0.026



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Inter-harmonics Phase A (cont.) Zwischenharmonische												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Frequency [Hz] Frequenz [Hz]	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)
1325	0.016	0.012	0.028	0.019	0.014	0.016	0.015	0.013	0.016	0.015	0.021	0.020
1375	0.015	0.012	0.026	0.018	0.014	0.014	0.012	0.011	0.012	0.012	0.017	0.016
1425	0.016	0.010	0.027	0.018	0.013	0.012	0.013	0.014	0.014	0.011	0.015	0.018
1475	0.015	0.014	0.025	0.017	0.013	0.011	0.011	0.011	0.012	0.012	0.016	0.019
1525	0.015	0.014	0.026	0.015	0.012	0.012	0.011	0.010	0.011	0.011	0.014	0.018
1575	0.014	0.009	0.021	0.015	0.012	0.009	0.010	0.010	0.011	0.010	0.014	0.020
1625	0.014	0.010	0.019	0.014	0.011	0.012	0.010	0.010	0.012	0.011	0.015	0.015
1675	0.014	0.009	0.017	0.013	0.011	0.010	0.009	0.009	0.010	0.010	0.013	0.013
1725	0.014	0.009	0.017	0.014	0.011	0.008	0.009	0.010	0.010	0.008	0.012	0.016
1775	0.013	0.011	0.017	0.014	0.010	0.009	0.008	0.008	0.009	0.008	0.011	0.016
1825	0.012	0.011	0.018	0.012	0.009	0.011	0.009	0.008	0.008	0.009	0.011	0.014
1875	0.012	0.008	0.013	0.011	0.010	0.008	0.008	0.009	0.009	0.008	0.011	0.017
1925	0.012	0.008	0.013	0.010	0.010	0.010	0.008	0.008	0.010	0.009	0.011	0.012
1975	0.012	0.008	0.012	0.010	0.009	0.008	0.007	0.007	0.009	0.008	0.010	0.011

Higher frequencies Phase A Höhere Frequenzen												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Frequency [Hz] Frequenz [Hz]	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)
2.1	0.119	0.104	0.129	0.084	0.062	0.049	0.046	0.040	0.035	0.042	0.051	0.055
2.3	0.058	0.041	0.075	0.063	0.050	0.044	0.040	0.037	0.031	0.033	0.041	0.040
2.5	0.087	0.034	0.073	0.059	0.043	0.043	0.031	0.034	0.029	0.027	0.035	0.040
2.7	0.061	0.046	0.082	0.071	0.054	0.051	0.034	0.031	0.025	0.023	0.034	0.041
2.9	0.054	0.057	0.054	0.045	0.037	0.037	0.028	0.028	0.022	0.020	0.026	0.030
3.1	0.060	0.035	0.046	0.042	0.033	0.031	0.027	0.023	0.022	0.021	0.024	0.030
3.3	0.037	0.069	0.047	0.056	0.045	0.039	0.035	0.027	0.023	0.022	0.028	0.032
3.5	0.042	0.052	0.032	0.033	0.033	0.030	0.026	0.022	0.021	0.021	0.022	0.027
3.7	0.040	0.036	0.027	0.031	0.030	0.027	0.026	0.021	0.019	0.020	0.023	0.026
3.9	0.032	0.049	0.029	0.040	0.038	0.038	0.032	0.026	0.022	0.021	0.021	0.026
4.1	0.032	0.029	0.021	0.034	0.034	0.031	0.026	0.023	0.022	0.022	0.021	0.021
4.3	0.031	0.023	0.019	0.032	0.030	0.026	0.024	0.022	0.021	0.019	0.022	0.019
4.5	0.026	0.024	0.020	0.030	0.035	0.032	0.029	0.026	0.023	0.021	0.023	0.020
4.7	0.026	0.017	0.020	0.030	0.032	0.030	0.029	0.030	0.028	0.027	0.036	0.027
4.9	0.028	0.013	0.030	0.039	0.038	0.036	0.038	0.040	0.058	0.083	0.091	0.073
5.1	0.025	0.012	0.028	0.043	0.042	0.039	0.045	0.051	0.060	0.073	0.084	0.075
5.3	0.026	0.012	0.028	0.029	0.037	0.037	0.029	0.021	0.016	0.019	0.029	0.026
5.5	0.022	0.014	0.018	0.027	0.023	0.017	0.017	0.016	0.016	0.012	0.016	0.015
5.7	0.017	0.027	0.016	0.015	0.016	0.018	0.019	0.017	0.014	0.011	0.011	0.010
5.9	0.015	0.025	0.015	0.012	0.013	0.015	0.014	0.013	0.012	0.010	0.009	0.008
6.1	0.013	0.018	0.013	0.011	0.012	0.012	0.012	0.012	0.012	0.010	0.009	0.008
6.3	0.011	0.016	0.014	0.010	0.012	0.013	0.013	0.013	0.012	0.010	0.009	0.008
6.5	0.009	0.013	0.012	0.010	0.010	0.011	0.011	0.011	0.011	0.010	0.010	0.008
6.7	0.010	0.011	0.014	0.010	0.011	0.011	0.011	0.012	0.013	0.013	0.016	0.013
6.9	0.011	0.012	0.015	0.009	0.009	0.010	0.010	0.011	0.011	0.010	0.009	0.008
7.1	0.008	0.009	0.012	0.009	0.009	0.009	0.009	0.010	0.010	0.009	0.008	0.008
7.3	0.008	0.009	0.010	0.008	0.008	0.008	0.007	0.008	0.009	0.008	0.008	0.007
7.5	0.010	0.009	0.010	0.008	0.008	0.008	0.008	0.008	0.009	0.009	0.007	0.007
7.7	0.008	0.009	0.009	0.008	0.008	0.007	0.008	0.008	0.008	0.008	0.007	0.007
7.9	0.008	0.011	0.009	0.008	0.007	0.007	0.007	0.007	0.007	0.008	0.007	0.007



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# APPENDIX (ANHANG)

Annex to Certificate No. 2621/0067-8-A-M2-CER/E2



Higher frequencies Phase A (cont.) Höhere Frequenzen												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Frequency [Hz] Frequenz [Hz]	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)
8.1	0.008	0.013	0.010	0.008	0.007	0.008	0.008	0.008	0.008	0.008	0.007	0.007
8.3	0.008	0.011	0.010	0.008	0.007	0.007	0.008	0.008	0.008	0.008	0.007	0.007
8.5	0.008	0.012	0.010	0.008	0.008	0.008	0.007	0.007	0.007	0.008	0.008	0.007
8.7	0.008	0.011	0.010	0.008	0.008	0.008	0.008	0.008	0.007	0.007	0.008	0.007
8.9	0.008	0.009	0.010	0.008	0.008	0.007	0.008	0.008	0.007	0.007	0.008	0.007

Model: 110SXT												
Harmonics Phase B Oberschwingungen												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Ordinal number Ordnungszahl	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)
2	0.119	0.032	0.078	0.037	0.035	0.032	0.033	0.037	0.043	0.048	0.123	0.335
3	0.275	0.096	0.081	0.051	0.049	0.059	0.072	0.091	0.114	0.130	0.125	0.145
4	0.087	0.029	0.038	0.027	0.021	0.017	0.019	0.019	0.023	0.026	0.059	0.067
5	1.076	0.265	0.095	0.179	0.109	0.082	0.067	0.055	0.047	0.041	0.052	0.042
6	0.083	0.016	0.039	0.031	0.023	0.019	0.017	0.017	0.025	0.032	0.036	0.014
7	0.879	0.215	0.037	0.168	0.120	0.101	0.080	0.062	0.046	0.042	0.050	0.055
8	0.041	0.020	0.042	0.030	0.024	0.019	0.017	0.017	0.022	0.023	0.045	0.075
9	0.194	0.022	0.105	0.031	0.026	0.021	0.022	0.022	0.022	0.021	0.034	0.010
10	0.036	0.028	0.019	0.027	0.025	0.018	0.017	0.017	0.021	0.037	0.040	0.100
11	0.385	0.112	0.154	0.098	0.098	0.101	0.095	0.085	0.082	0.075	0.080	0.219
12	0.066	0.030	0.025	0.027	0.021	0.017	0.016	0.016	0.023	0.030	0.056	0.034
13	0.249	0.142	0.186	0.073	0.074	0.091	0.085	0.079	0.075	0.072	0.072	0.183
14	0.060	0.042	0.025	0.026	0.022	0.017	0.016	0.017	0.020	0.036	0.053	0.019
15	0.148	0.038	0.053	0.039	0.030	0.050	0.045	0.040	0.037	0.043	0.044	0.083
16	0.049	0.030	0.020	0.023	0.021	0.015	0.014	0.015	0.014	0.021	0.028	0.006
17	0.478	0.164	0.085	0.054	0.023	0.045	0.070	0.080	0.075	0.068	0.050	0.159
18	0.034	0.027	0.022	0.024	0.017	0.013	0.013	0.014	0.017	0.023	0.025	0.035
19	0.379	0.190	0.100	0.054	0.022	0.047	0.064	0.077	0.069	0.064	0.049	0.138
20	0.032	0.028	0.022	0.021	0.017	0.013	0.012	0.012	0.014	0.019	0.025	0.039
21	0.063	0.039	0.037	0.031	0.021	0.031	0.036	0.038	0.040	0.043	0.050	0.091
22	0.028	0.026	0.033	0.018	0.015	0.011	0.010	0.010	0.010	0.016	0.016	0.008
23	0.180	0.191	0.074	0.020	0.030	0.014	0.035	0.057	0.076	0.073	0.069	0.084
24	0.025	0.021	0.040	0.019	0.016	0.011	0.009	0.010	0.012	0.015	0.016	0.022
25	0.041	0.207	0.075	0.025	0.034	0.019	0.031	0.042	0.057	0.060	0.071	0.111
26	0.024	0.017	0.023	0.014	0.013	0.010	0.009	0.009	0.010	0.013	0.016	0.015
27	0.029	0.027	0.023	0.023	0.017	0.033	0.030	0.023	0.016	0.016	0.016	0.047
28	0.022	0.025	0.017	0.013	0.012	0.009	0.009	0.008	0.009	0.011	0.012	0.005
29	0.203	0.167	0.119	0.053	0.026	0.026	0.018	0.029	0.032	0.040	0.043	0.058
30	0.025	0.012	0.014	0.011	0.013	0.009	0.007	0.008	0.009	0.012	0.013	0.015
31	0.167	0.175	0.101	0.047	0.023	0.023	0.024	0.035	0.038	0.041	0.044	0.053
32	0.021	0.021	0.014	0.010	0.010	0.007	0.007	0.007	0.008	0.012	0.012	0.019
33	0.038	0.014	0.028	0.021	0.019	0.026	0.030	0.024	0.018	0.014	0.013	0.024
34	0.021	0.017	0.011	0.010	0.009	0.006	0.006	0.006	0.007	0.011	0.009	0.005
35	0.056	0.126	0.070	0.051	0.034	0.020	0.018	0.013	0.025	0.031	0.042	0.056
36	0.017	0.009	0.016	0.009	0.008	0.006	0.006	0.006	0.007	0.007	0.009	0.009
37	0.080	0.122	0.079	0.049	0.036	0.022	0.020	0.021	0.025	0.027	0.043	0.048
38	0.016	0.011	0.011	0.009	0.007	0.006	0.005	0.006	0.007	0.011	0.010	0.010
39	0.012	0.021	0.014	0.015	0.017	0.018	0.021	0.018	0.013	0.011	0.011	0.025
40	0.017	0.010	0.008	0.008	0.008	0.006	0.005	0.006	0.006	0.007	0.008	0.003



# APPENDIX (ANHANG)

Annex to Certificate No. 2621/0067-8-A-M2-CER/E2



Inter-harmonics Phase B Zwischenharmonische												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Frequency [Hz] Frequenz [Hz]	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)
75	0.018	0.017	0.031	0.035	0.030	0.028	0.029	0.034	0.040	0.040	0.187	0.398
125	0.020	0.015	0.035	0.048	0.036	0.037	0.036	0.034	0.045	0.040	0.090	0.142
175	0.021	0.015	0.037	0.053	0.040	0.037	0.037	0.031	0.038	0.033	0.067	0.093
225	0.022	0.020	0.039	0.057	0.043	0.035	0.037	0.034	0.041	0.036	0.072	0.134
275	0.022	0.017	0.035	0.063	0.041	0.042	0.037	0.038	0.042	0.038	0.078	0.078
325	0.023	0.017	0.035	0.060	0.043	0.048	0.038	0.043	0.049	0.042	0.062	0.116
375	0.024	0.023	0.034	0.061	0.048	0.039	0.038	0.037	0.038	0.036	0.069	0.068
425	0.026	0.017	0.035	0.055	0.047	0.049	0.041	0.038	0.040	0.036	0.053	0.077
475	0.027	0.016	0.037	0.050	0.045	0.040	0.036	0.031	0.035	0.030	0.050	0.069
525	0.027	0.021	0.037	0.048	0.044	0.037	0.037	0.034	0.038	0.038	0.054	0.088
575	0.026	0.016	0.036	0.047	0.038	0.036	0.033	0.034	0.036	0.034	0.074	0.076
625	0.027	0.019	0.037	0.043	0.036	0.038	0.032	0.037	0.040	0.036	0.062	0.060
675	0.026	0.023	0.040	0.041	0.037	0.032	0.032	0.031	0.032	0.031	0.064	0.060
725	0.026	0.016	0.039	0.037	0.036	0.043	0.032	0.030	0.032	0.028	0.049	0.047
775	0.026	0.017	0.041	0.034	0.034	0.033	0.028	0.024	0.052	0.050	0.039	0.048
825	0.024	0.018	0.042	0.033	0.040	0.038	0.041	0.042	0.027	0.025	0.040	0.044
875	0.023	0.014	0.039	0.033	0.027	0.026	0.023	0.023	0.026	0.026	0.038	0.048
925	0.022	0.018	0.037	0.031	0.025	0.027	0.022	0.026	0.027	0.025	0.038	0.035
975	0.022	0.017	0.039	0.032	0.025	0.020	0.021	0.020	0.024	0.025	0.032	0.040
1025	0.022	0.014	0.037	0.031	0.024	0.027	0.022	0.021	0.021	0.019	0.032	0.029
1075	0.023	0.015	0.038	0.029	0.023	0.021	0.019	0.016	0.016	0.016	0.026	0.026
1125	0.020	0.014	0.034	0.027	0.023	0.019	0.018	0.016	0.016	0.020	0.024	0.026
1175	0.018	0.013	0.033	0.027	0.019	0.019	0.016	0.016	0.016	0.015	0.023	0.024
1225	0.018	0.016	0.030	0.024	0.020	0.025	0.022	0.025	0.018	0.016	0.026	0.024
1275	0.018	0.016	0.034	0.025	0.018	0.014	0.015	0.013	0.015	0.014	0.023	0.023
1325	0.017	0.011	0.030	0.024	0.018	0.017	0.016	0.015	0.014	0.014	0.025	0.019
1375	0.017	0.011	0.030	0.022	0.017	0.015	0.014	0.012	0.012	0.012	0.019	0.018
1425	0.016	0.012	0.028	0.021	0.017	0.014	0.014	0.014	0.013	0.013	0.018	0.019
1475	0.015	0.011	0.027	0.020	0.014	0.014	0.012	0.013	0.013	0.012	0.017	0.019
1525	0.015	0.014	0.022	0.019	0.014	0.015	0.012	0.014	0.014	0.013	0.019	0.019
1575	0.015	0.011	0.023	0.018	0.014	0.011	0.011	0.010	0.012	0.011	0.017	0.017
1625	0.015	0.009	0.021	0.018	0.014	0.013	0.011	0.011	0.011	0.011	0.018	0.015
1675	0.015	0.010	0.021	0.017	0.013	0.011	0.010	0.009	0.010	0.009	0.015	0.014
1725	0.014	0.011	0.018	0.016	0.012	0.010	0.011	0.010	0.009	0.009	0.013	0.015
1775	0.013	0.009	0.017	0.016	0.011	0.010	0.009	0.010	0.009	0.008	0.012	0.016
1825	0.013	0.011	0.015	0.014	0.011	0.011	0.009	0.011	0.011	0.009	0.014	0.015
1875	0.012	0.009	0.016	0.013	0.012	0.009	0.009	0.009	0.010	0.009	0.013	0.013
1925	0.012	0.008	0.015	0.013	0.011	0.010	0.008	0.009	0.009	0.008	0.013	0.011
1975	0.012	0.008	0.015	0.012	0.010	0.009	0.008	0.007	0.007	0.007	0.011	0.011
625	0.027	0.019	0.037	0.043	0.036	0.038	0.032	0.037	0.040	0.036	0.062	0.060
675	0.026	0.023	0.040	0.041	0.037	0.032	0.032	0.031	0.032	0.031	0.064	0.060
725	0.026	0.016	0.039	0.037	0.036	0.043	0.032	0.030	0.032	0.028	0.049	0.047
775	0.026	0.017	0.041	0.034	0.034	0.033	0.028	0.024	0.052	0.050	0.039	0.048
825	0.024	0.018	0.042	0.033	0.040	0.038	0.041	0.042	0.027	0.025	0.040	0.044



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# APPENDIX (ANHANG)

Annex to Certificate No. 2621/0067-8-A-M2-CER/E2



Higher frequencies Phase B Höhere Frequenzen												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Frequency [Hz] Frequenz [Hz]	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)
2.1	0.137	0.109	0.127	0.081	0.050	0.034	0.029	0.029	0.034	0.041	0.047	0.051
2.3	0.065	0.053	0.068	0.059	0.043	0.039	0.033	0.030	0.026	0.031	0.038	0.042
2.5	0.082	0.038	0.076	0.054	0.040	0.034	0.028	0.026	0.024	0.026	0.039	0.037
2.7	0.070	0.045	0.081	0.065	0.049	0.036	0.021	0.019	0.019	0.022	0.034	0.035
2.9	0.058	0.052	0.047	0.044	0.034	0.030	0.024	0.021	0.018	0.017	0.026	0.029
3.1	0.060	0.036	0.050	0.039	0.031	0.026	0.022	0.018	0.018	0.020	0.030	0.028
3.3	0.039	0.063	0.046	0.049	0.036	0.028	0.023	0.017	0.021	0.024	0.029	0.030
3.5	0.046	0.046	0.030	0.032	0.028	0.024	0.023	0.019	0.020	0.022	0.025	0.027
3.7	0.040	0.038	0.031	0.030	0.030	0.026	0.021	0.019	0.020	0.021	0.025	0.025
3.9	0.031	0.047	0.028	0.034	0.034	0.029	0.023	0.021	0.020	0.022	0.023	0.023
4.1	0.036	0.026	0.021	0.030	0.030	0.028	0.023	0.021	0.020	0.018	0.022	0.020
4.3	0.029	0.023	0.021	0.031	0.029	0.026	0.023	0.022	0.022	0.020	0.027	0.020
4.5	0.023	0.022	0.019	0.028	0.029	0.026	0.024	0.025	0.023	0.025	0.032	0.020
4.7	0.023	0.016	0.019	0.028	0.028	0.023	0.026	0.026	0.030	0.034	0.041	0.026
4.9	0.018	0.013	0.020	0.034	0.034	0.028	0.031	0.036	0.050	0.068	0.079	0.038
5.1	0.019	0.013	0.023	0.032	0.033	0.029	0.032	0.037	0.049	0.059	0.071	0.047
5.3	0.024	0.014	0.021	0.028	0.027	0.028	0.027	0.024	0.024	0.028	0.036	0.030
5.5	0.019	0.014	0.020	0.022	0.024	0.022	0.019	0.017	0.017	0.018	0.018	0.020
5.7	0.017	0.032	0.018	0.015	0.018	0.018	0.017	0.016	0.015	0.014	0.012	0.014
5.9	0.016	0.028	0.019	0.013	0.016	0.017	0.016	0.012	0.011	0.009	0.010	0.010
6.1	0.012	0.018	0.016	0.012	0.013	0.016	0.016	0.015	0.014	0.012	0.010	0.009
6.3	0.012	0.018	0.018	0.011	0.012	0.014	0.014	0.014	0.013	0.012	0.010	0.009
6.5	0.010	0.014	0.015	0.012	0.011	0.012	0.013	0.012	0.011	0.009	0.010	0.009
6.7	0.009	0.012	0.015	0.011	0.012	0.012	0.013	0.014	0.014	0.014	0.018	0.014
6.9	0.012	0.014	0.016	0.010	0.011	0.010	0.010	0.011	0.012	0.011	0.010	0.010
7.1	0.009	0.010	0.014	0.011	0.011	0.009	0.010	0.010	0.010	0.009	0.008	0.008
7.3	0.008	0.009	0.011	0.009	0.009	0.009	0.008	0.009	0.010	0.010	0.008	0.008
7.5	0.011	0.009	0.011	0.009	0.008	0.009	0.008	0.009	0.010	0.010	0.008	0.008
7.7	0.009	0.008	0.010	0.009	0.008	0.009	0.008	0.008	0.009	0.008	0.008	0.007
7.9	0.008	0.010	0.010	0.008	0.008	0.009	0.008	0.008	0.009	0.009	0.008	0.007
8.1	0.010	0.013	0.011	0.009	0.009	0.009	0.008	0.007	0.008	0.009	0.008	0.008
8.3	0.009	0.013	0.010	0.009	0.009	0.009	0.008	0.008	0.008	0.008	0.008	0.007
8.5	0.008	0.013	0.010	0.008	0.008	0.009	0.009	0.008	0.008	0.009	0.009	0.008
8.7	0.009	0.012	0.011	0.009	0.008	0.008	0.008	0.007	0.007	0.008	0.008	0.007
8.9	0.009	0.010	0.010	0.009	0.009	0.008	0.009	0.007	0.007	0.007	0.008	0.007

Model: 110SXT

Harmonics Phase C Oberschwingungen												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Ordinal number Ordnungszahl	Iv(%)	Iv(%)	Iv(%)	Iv(%)	Iv(%)	Iv(%)	Iv(%)	Iv(%)	Iv(%)	Iv(%)	Iv(%)	Iv(%)
2	0.127	0.048	0.075	0.033	0.033	0.039	0.039	0.044	0.046	0.052	0.126	0.207
3	0.393	0.119	0.198	0.074	0.057	0.053	0.053	0.057	0.070	0.076	0.072	0.110
4	0.063	0.021	0.029	0.032	0.024	0.020	0.019	0.017	0.020	0.025	0.071	0.064
5	0.883	0.260	0.062	0.169	0.129	0.113	0.093	0.083	0.079	0.070	0.064	0.075
6	0.064	0.017	0.037	0.031	0.022	0.020	0.017	0.017	0.024	0.031	0.041	0.066
7	0.768	0.199	0.080	0.165	0.117	0.085	0.072	0.056	0.041	0.040	0.051	0.164
8	0.046	0.021	0.032	0.031	0.022	0.019	0.017	0.020	0.023	0.029	0.052	0.075
9	0.160	0.031	0.110	0.035	0.027	0.023	0.023	0.021	0.023	0.023	0.037	0.073



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# APPENDIX (ANHANG)

Annex to Certificate No. 2621/0067-8-A-M2-CER/E2



Harmonics Phase C (cont.) Oberschwingungen												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Ordinal number Ordnungszahl	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)	lv(%)
10	0.041	0.026	0.024	0.030	0.025	0.020	0.019	0.019	0.025	0.044	0.044	0.068
11	0.248	0.128	0.225	0.085	0.088	0.096	0.087	0.080	0.079	0.072	0.085	0.266
12	0.048	0.012	0.019	0.027	0.020	0.019	0.017	0.017	0.025	0.032	0.053	0.017
13	0.150	0.136	0.211	0.073	0.077	0.081	0.082	0.078	0.076	0.075	0.081	0.206
14	0.053	0.031	0.025	0.023	0.019	0.017	0.017	0.017	0.022	0.037	0.060	0.042
15	0.110	0.023	0.079	0.044	0.038	0.044	0.047	0.047	0.043	0.048	0.042	0.111
16	0.049	0.026	0.024	0.020	0.021	0.016	0.015	0.015	0.016	0.020	0.034	0.033
17	0.486	0.166	0.042	0.051	0.020	0.041	0.060	0.067	0.062	0.058	0.045	0.174
18	0.037	0.012	0.026	0.020	0.014	0.017	0.014	0.015	0.018	0.026	0.031	0.039
19	0.388	0.198	0.067	0.036	0.030	0.032	0.049	0.065	0.065	0.061	0.046	0.102
20	0.037	0.022	0.025	0.018	0.014	0.012	0.012	0.011	0.014	0.018	0.028	0.053
21	0.053	0.024	0.055	0.032	0.038	0.043	0.042	0.046	0.053	0.054	0.055	0.056
22	0.035	0.017	0.023	0.015	0.016	0.012	0.011	0.011	0.012	0.017	0.021	0.024
23	0.143	0.185	0.084	0.024	0.032	0.030	0.038	0.054	0.072	0.070	0.076	0.118
24	0.023	0.014	0.039	0.022	0.012	0.016	0.014	0.016	0.016	0.020	0.019	0.021
25	0.063	0.219	0.086	0.033	0.034	0.031	0.015	0.025	0.048	0.053	0.061	0.083
26	0.024	0.009	0.025	0.014	0.011	0.009	0.009	0.009	0.010	0.014	0.017	0.018
27	0.049	0.021	0.042	0.018	0.015	0.017	0.019	0.016	0.014	0.015	0.019	0.036
28	0.022	0.008	0.023	0.012	0.012	0.010	0.010	0.009	0.011	0.012	0.013	0.009
29	0.178	0.165	0.116	0.053	0.031	0.046	0.037	0.038	0.037	0.046	0.058	0.073
30	0.021	0.012	0.017	0.012	0.012	0.009	0.010	0.013	0.014	0.017	0.016	0.016
31	0.158	0.176	0.122	0.051	0.029	0.030	0.017	0.015	0.028	0.038	0.048	0.047
32	0.021	0.014	0.012	0.010	0.008	0.007	0.007	0.007	0.008	0.011	0.013	0.015
33	0.040	0.016	0.027	0.016	0.014	0.015	0.016	0.015	0.013	0.012	0.014	0.017
34	0.020	0.008	0.013	0.009	0.008	0.007	0.007	0.006	0.008	0.011	0.010	0.004
35	0.040	0.121	0.070	0.056	0.039	0.035	0.032	0.024	0.032	0.038	0.050	0.061
36	0.015	0.007	0.015	0.010	0.009	0.007	0.006	0.009	0.010	0.012	0.011	0.011
37	0.090	0.116	0.076	0.055	0.042	0.029	0.025	0.012	0.014	0.021	0.032	0.031
38	0.015	0.009	0.011	0.009	0.007	0.006	0.006	0.006	0.007	0.009	0.010	0.004
39	0.021	0.018	0.023	0.014	0.012	0.013	0.014	0.015	0.013	0.012	0.012	0.003
40	0.015	0.008	0.008	0.008	0.007	0.006	0.006	0.007	0.007	0.009	0.010	0.001

Inter-harmonics Phase C Zwischenharmonische												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Frequency [Hz] Frequenz [Hz]	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)
75	0.017	0.018	0.030	0.035	0.028	0.028	0.031	0.033	0.037	0.038	0.189	0.406
125	0.019	0.016	0.033	0.047	0.035	0.035	0.033	0.037	0.041	0.040	0.090	0.140
175	0.020	0.015	0.035	0.055	0.038	0.039	0.033	0.033	0.035	0.035	0.071	0.096
225	0.021	0.018	0.037	0.057	0.040	0.036	0.038	0.040	0.041	0.040	0.074	0.169
275	0.021	0.017	0.034	0.060	0.043	0.043	0.038	0.038	0.044	0.042	0.091	0.097
325	0.022	0.017	0.037	0.061	0.043	0.049	0.042	0.040	0.049	0.042	0.076	0.154
375	0.024	0.022	0.034	0.063	0.048	0.042	0.038	0.041	0.049	0.049	0.077	0.071
425	0.025	0.016	0.035	0.060	0.051	0.051	0.040	0.042	0.046	0.044	0.061	0.080
475	0.025	0.016	0.035	0.056	0.046	0.041	0.036	0.035	0.036	0.035	0.054	0.068
525	0.026	0.021	0.039	0.050	0.045	0.039	0.039	0.039	0.045	0.046	0.056	0.081
575	0.026	0.017	0.036	0.046	0.039	0.041	0.039	0.039	0.040	0.040	0.073	0.087
625	0.025	0.018	0.039	0.043	0.036	0.041	0.036	0.037	0.045	0.037	0.064	0.061
675	0.025	0.022	0.042	0.041	0.036	0.034	0.032	0.035	0.033	0.034	0.068	0.060
725	0.025	0.015	0.042	0.036	0.033	0.036	0.028	0.032	0.035	0.032	0.052	0.053



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Inter-harmonics Phase C (cont.) Zwischenharmonische												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Frequency [Hz] Frequenz [Hz]	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)
775	0.026	0.017	0.042	0.033	0.032	0.031	0.027	0.027	0.050	0.050	0.043	0.045
825	0.023	0.020	0.046	0.029	0.036	0.036	0.038	0.040	0.030	0.028	0.044	0.050
875	0.022	0.015	0.040	0.028	0.025	0.028	0.027	0.026	0.031	0.032	0.046	0.055
925	0.021	0.018	0.044	0.028	0.024	0.030	0.026	0.027	0.030	0.027	0.047	0.038
975	0.021	0.017	0.040	0.029	0.023	0.022	0.021	0.022	0.025	0.026	0.038	0.044
1025	0.021	0.012	0.040	0.028	0.021	0.025	0.019	0.022	0.022	0.020	0.034	0.032
1075	0.024	0.016	0.040	0.027	0.021	0.022	0.018	0.018	0.017	0.017	0.030	0.028
1125	0.019	0.015	0.042	0.023	0.020	0.018	0.018	0.018	0.019	0.025	0.027	0.031
1175	0.018	0.013	0.035	0.022	0.017	0.020	0.018	0.016	0.019	0.019	0.026	0.028
1225	0.017	0.017	0.036	0.021	0.022	0.031	0.030	0.031	0.020	0.017	0.029	0.025
1275	0.017	0.018	0.037	0.023	0.017	0.015	0.015	0.015	0.015	0.015	0.023	0.025
1325	0.017	0.011	0.034	0.022	0.017	0.020	0.015	0.017	0.016	0.015	0.026	0.022
1375	0.016	0.012	0.030	0.021	0.017	0.017	0.015	0.013	0.013	0.014	0.021	0.018
1425	0.015	0.012	0.033	0.017	0.017	0.015	0.015	0.015	0.016	0.015	0.020	0.023
1475	0.014	0.011	0.025	0.016	0.013	0.015	0.014	0.014	0.015	0.017	0.021	0.022
1525	0.014	0.014	0.027	0.016	0.012	0.013	0.014	0.014	0.016	0.014	0.021	0.020
1575	0.014	0.012	0.023	0.016	0.013	0.011	0.011	0.011	0.012	0.012	0.019	0.021
1625	0.014	0.009	0.022	0.016	0.012	0.014	0.011	0.013	0.012	0.012	0.019	0.017
1675	0.015	0.011	0.020	0.016	0.012	0.011	0.010	0.010	0.010	0.011	0.017	0.015
1725	0.013	0.010	0.021	0.014	0.011	0.010	0.010	0.010	0.010	0.010	0.015	0.019
1775	0.012	0.009	0.015	0.013	0.010	0.011	0.010	0.010	0.010	0.010	0.013	0.017
1825	0.011	0.011	0.018	0.013	0.010	0.011	0.011	0.011	0.012	0.010	0.014	0.015
1875	0.011	0.010	0.015	0.012	0.010	0.009	0.009	0.009	0.009	0.009	0.013	0.016
1925	0.012	0.008	0.015	0.012	0.010	0.011	0.008	0.010	0.010	0.009	0.014	0.013
1975	0.012	0.009	0.014	0.012	0.009	0.009	0.008	0.008	0.008	0.008	0.012	0.012

Higher frequencies Phase C Höhere Frequenzen												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Frequency [Hz] Frequenz [Hz]	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)	Ih(%)
2.1	0.116	0.095	0.134	0.085	0.055	0.049	0.040	0.035	0.035	0.045	0.052	0.058
2.3	0.065	0.048	0.070	0.058	0.045	0.040	0.032	0.030	0.028	0.034	0.047	0.045
2.5	0.080	0.034	0.075	0.059	0.041	0.041	0.028	0.027	0.023	0.023	0.034	0.035
2.7	0.058	0.053	0.084	0.072	0.053	0.045	0.031	0.025	0.021	0.021	0.035	0.038
2.9	0.056	0.060	0.052	0.043	0.034	0.028	0.025	0.021	0.018	0.019	0.029	0.030
3.1	0.055	0.041	0.048	0.042	0.035	0.030	0.026	0.020	0.018	0.018	0.027	0.027
3.3	0.038	0.071	0.045	0.054	0.039	0.034	0.032	0.022	0.021	0.024	0.027	0.031
3.5	0.043	0.051	0.032	0.033	0.030	0.025	0.023	0.019	0.020	0.023	0.028	0.027
3.7	0.036	0.039	0.030	0.032	0.032	0.028	0.025	0.019	0.018	0.019	0.025	0.025
3.9	0.034	0.049	0.026	0.038	0.039	0.035	0.028	0.023	0.020	0.022	0.025	0.024
4.1	0.035	0.027	0.021	0.031	0.027	0.026	0.020	0.019	0.019	0.018	0.020	0.018
4.3	0.026	0.023	0.019	0.030	0.031	0.028	0.024	0.021	0.019	0.017	0.023	0.017
4.5	0.025	0.022	0.017	0.030	0.030	0.027	0.024	0.023	0.022	0.021	0.026	0.019
4.7	0.023	0.015	0.019	0.033	0.029	0.023	0.024	0.026	0.029	0.029	0.035	0.027
4.9	0.019	0.012	0.022	0.038	0.038	0.035	0.038	0.044	0.061	0.081	0.094	0.077
5.1	0.021	0.011	0.027	0.037	0.037	0.030	0.032	0.037	0.050	0.069	0.082	0.065



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Higher frequencies Phase C (cont.) Höhere Frequenzen												
Active power Pn [%] Wirkleistung Pn [%]	0	10	20	30	40	50	60	70	80	90	100	110
Frequency [Hz] Frequenz [Hz]	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)	lh(%)
5.3	0.023	0.013	0.024	0.027	0.028	0.034	0.029	0.023	0.023	0.022	0.031	0.023
5.5	0.019	0.014	0.020	0.020	0.022	0.020	0.021	0.019	0.014	0.013	0.013	0.011
5.7	0.015	0.031	0.015	0.015	0.017	0.018	0.018	0.016	0.014	0.013	0.010	0.010
5.9	0.015	0.027	0.014	0.013	0.014	0.015	0.015	0.014	0.012	0.011	0.009	0.009
6.1	0.012	0.020	0.014	0.011	0.012	0.015	0.016	0.015	0.013	0.011	0.010	0.009
6.3	0.012	0.017	0.015	0.010	0.011	0.012	0.014	0.014	0.013	0.012	0.010	0.009
6.5	0.009	0.012	0.013	0.010	0.010	0.010	0.011	0.012	0.011	0.011	0.010	0.009
6.7	0.009	0.012	0.014	0.010	0.011	0.011	0.013	0.014	0.014	0.014	0.017	0.013
6.9	0.011	0.012	0.015	0.009	0.010	0.009	0.010	0.011	0.012	0.011	0.010	0.009
7.1	0.008	0.009	0.013	0.009	0.010	0.009	0.008	0.009	0.010	0.010	0.009	0.008
7.3	0.008	0.009	0.010	0.008	0.008	0.008	0.008	0.009	0.010	0.009	0.008	0.008
7.5	0.010	0.009	0.010	0.008	0.008	0.009	0.008	0.008	0.009	0.010	0.008	0.008
7.7	0.008	0.009	0.010	0.009	0.008	0.008	0.008	0.007	0.008	0.009	0.008	0.007
7.9	0.008	0.009	0.009	0.008	0.008	0.009	0.008	0.008	0.009	0.009	0.008	0.007
8.1	0.009	0.012	0.011	0.008	0.008	0.008	0.008	0.008	0.008	0.009	0.008	0.007
8.3	0.009	0.011	0.010	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.007
8.5	0.008	0.012	0.010	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.007
8.7	0.008	0.011	0.011	0.008	0.008	0.007	0.008	0.008	0.007	0.008	0.008	0.007
8.9	0.009	0.010	0.010	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.008	0.007
5.3	0.023	0.013	0.024	0.027	0.028	0.034	0.029	0.023	0.023	0.022	0.031	0.023
5.5	0.019	0.014	0.020	0.020	0.022	0.020	0.021	0.019	0.014	0.013	0.013	0.011
5.7	0.015	0.031	0.015	0.015	0.017	0.018	0.018	0.016	0.014	0.013	0.010	0.010
5.9	0.015	0.027	0.014	0.013	0.014	0.015	0.015	0.014	0.012	0.011	0.009	0.009
6.1	0.012	0.020	0.014	0.011	0.012	0.015	0.016	0.015	0.013	0.011	0.010	0.009
6.3	0.012	0.017	0.015	0.010	0.011	0.012	0.014	0.014	0.013	0.012	0.010	0.009
6.5	0.009	0.012	0.013	0.010	0.010	0.010	0.011	0.012	0.011	0.011	0.010	0.009
6.7	0.009	0.012	0.014	0.010	0.011	0.011	0.013	0.014	0.014	0.014	0.017	0.013
6.9	0.011	0.012	0.015	0.009	0.010	0.009	0.010	0.011	0.012	0.011	0.010	0.009
7.1	0.008	0.009	0.013	0.009	0.010	0.009	0.008	0.009	0.010	0.010	0.009	0.008
7.3	0.008	0.009	0.010	0.008	0.008	0.008	0.008	0.009	0.010	0.009	0.008	0.008
7.5	0.010	0.009	0.010	0.008	0.008	0.009	0.008	0.008	0.009	0.010	0.008	0.008
7.7	0.008	0.009	0.010	0.009	0.008	0.008	0.008	0.007	0.008	0.009	0.008	0.007
7.9	0.008	0.009	0.009	0.008	0.008	0.009	0.008	0.008	0.009	0.009	0.008	0.007
8.1	0.009	0.012	0.011	0.008	0.008	0.008	0.008	0.008	0.008	0.009	0.008	0.007
8.3	0.009	0.011	0.010	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.007
8.5	0.008	0.012	0.010	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.008	0.007
8.7	0.008	0.011	0.011	0.008	0.008	0.007	0.008	0.008	0.007	0.008	0.008	0.007
8.9	0.009	0.010	0.010	0.008	0.008	0.008	0.007	0.007	0.007	0.007	0.008	0.007

