Certificate of compliance

Applicant:	**SolarEdge Technologies Ltd.** 1 HaMada Street Herzliya 4673335 **Germany**
Product:	**Photovoltaic and battery inverter**
Model:	**SE3K, SE4K, SE5K, SE6K, SE7K, SE8K, SE9K, SE10K, SE12.5K, SE15K, SE16K, SE17K, SE5K-RWS, SE7K-RWS, SE8K-RWS, SE10K-RWS**

Use in accordance with regulations:

Automatic disconnection device with three-phase mains surveillance in accordance with EN 50438:2013 for systems with a three-phase parallel coupling via an inverter in the public mains supply. The automatic disconnection device is an integral part of the aforementioned inverter.

Applied rules and standards:

EN 50438:2013
Requirements for micro-generating plants to be connected in parallel with public low-voltage distribution networks

DIN V VDE V 0126-1-1:2006-02 (Functional safety)
Automatic disconnection device between a generator and the public low-voltage grid

The generators SE10K, SE12.5K, SE15K, SE16K, SE17K are rated >16A per phase. However all requirements of the EN 50438:2013 are fulfilled.

At the time of issue of this certificate the safety concept of an aforementioned representative product corresponds to the valid safety specifications for the specified use in accordance with regulations.

Report number:	**10TH0222_EN50438_5**
Certification program:	**NSOP-0032-DEU-ZE-V01**
Certificate number:	**U19-0575**
Date of issue:	**2019-10-25**

Certification body

Holger Schaffer

Certification body of Bureau Veritas Consumer Products Services Germany GmbH Accredited according to DIN EN ISO/IEC 17065

DAkkS Deutsche Akkreditierungsstelle D-ZE-12024-01-00

A partial representation of the certificate requires the written approval of Bureau Veritas Consumer Products Services Germany GmbH

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Type Approval and declaration of compliance with the requirements of EN 50438.				
Manufacturer / applicant:	SolarEdge Technologies Ltd. 1 HaMada Street Herzliya 4673335 Israel			
Micro-generator Type	**Photovoltaic inverter**			
Rated values	SE3K	SE4K	SE5K	SE6K
Maximum rated capacity	3 kW	4 kW	5 kW	6 kW
Rated voltage	230 / 400 3 wires, N, PE			
Rated values	SE7K	SE8K	SE9K	SE10K
Maximum rated capacity	7 kW	8 kW	9 kW	10 kW
Rated voltage	230 / 400 3 wires, N, PE			
Rated values	SE12,5K	SE15K	SE16K	SE17K
Maximum rated capacity	12,5 kW	15 kW	16 kW	17 kW
Rated voltage	230 / 400 3 wires, N, PE			
Micro-generator Type	**Photovoltaic and Battery Inverter**			
Rated values	SE5K-RWS	SE7K-RWS	SE8K-RWS	SE10K-RWS
Maximum rated capacity	5 kW	7 kW	8 kW	10kW
Rated voltage	230 / 400 3 wires, N, PE			
Firmware version	Main DSP software version is 1.130 Aux DSP software version is 2.19			
Measurement period:	2011-07-06 to 2012-04-20; 2015-09-08, 2015-05-30 to 2016-06-03, 2017-01-26			

Description of the structure of the power generation unit:

The power generation unit is equipped with a PV and line-side EMC filter. The power generation unit has no galvanic isolation between DC input and AC output. Output switch-off is performed with single-fault tolerance based on two series-connected relays in line and neutral. This enables a safe disconnection of the power generation unit from the network in case of error.

The above stated micro-generators are tested according to the requirements in the EN 50438. Any modification that affects the stated tests must be named by the manufacturer/supplier of the product to ensure that the product meets all requirements of the EN 50438.

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Type testing of the interface protection

Over-/under-voltage tests

Phase1

Parameter	Protection limit		Actual setting		Trip value (test result)	
	Voltage [V]	Disconnection time [s]	Voltage [V]	Disconnection time [s]	Voltage [V]	Disconnection time [s]
Over-voltage stage 1	253,0	3* / 600*	253,0	3* / 600*	253,0*	418,9
Over-voltage stage 2	264,5	0,2	264,5	0,2	265,1	0,176
Under-voltage stage 1	195,5	1,5	195,5	1,5	195,9	1,416

Phase2

Parameter	Protection limit		Actual setting		Trip value (test result)	
	Voltage [V]	Disconnection time [s]	Voltage [V]	Disconnection time [s]	Voltage [V]	Disconnection time [s]
Over-voltage stage 1	253,0	3* / 600*	253,0	3* / 600*	253,0*	417,5
Over-voltage stage 2	264,5	0,2	264,5	0,2	264,5	0,178
Under-voltage stage 1	195,5	1,5	195,5	1,5	195,2	1,419

Phase3

Parameter	Protection limit		Actual setting		Trip value (test result)	
	Voltage [V]	Disconnection time [s]	Voltage [V]	Disconnection time [s]	Voltage [V]	Disconnection time [s]
Over-voltage stage 1	253,0	3* / 600*	253,0	3* / 600*	253,0*	415,9
Over-voltage stage 2	264,5	0,2	264,5	0,2	263,2	0,171
Under-voltage stage 1	195,5	1,5	195,5	1,5	194,2	1,410

Note.
Minimum operation time according to default interface protection:
Over-voltage stage 1 -
Over-voltage stage 2 0,1s
Under-voltage 1,2s

* The over-voltage-stage 1 is a 10-min-mean-value according to EN 50160. The disconnection after detection of an overvoltage at the 10-min-mean-value takes place within 200ms.

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Over-/under-frequency tests						
Parameter	**Protection limit**		**Actual setting**		**Trip value (test result)**	
	Frequency [Hz]	**Disconnection time [s]**	**Frequency [Hz]**	**Disconnection time [s]**	**Frequency [Hz]**	**Disconnection time [s]**
Over-frequency	52,0	0,5	52,0	0,5	52,00	0,485
Under-frequency	47,5	0,5	47,5	0,5	47,50	0,493

Note.
Minimum operation time according to default interface protection:
Over-frequency 0,5 s
Under-frequency 0,5 s

LoM test						
Method used	**EN 62116**					
Balancing load on islanded network	**33% of -5% Q Test 22**	**66% of -5% Q Test 12**	**100% of -5% P Test 5**	**33% of +5% Q Test 31**	**66% of +5% Q Test 21**	**100% of +5% P Test 10**
Trip time. Phase 1 fuse removed [ms]	217	35	325	43	96	115
Trip time. Phase 2 fuse removed [ms]	217	35	325	43	96	115
Trip time. Phase 3 fuse removed [ms]	217	35	325	43	96	115

Appendix E Type Verification Test Report	
Extract from test report according to EN 50438	**Nr. 10TH0222_EN50438_5**

Type testing of a micro-generator

Operating range

Test 1: U = 195,5 V; f = 47,5 Hz; P = 1,00 Sn; cosφ = 1
Test 2: U = 253,0 V; f = 51,5 Hz; P = 1,00 Sn; cosφ = 1

Test sequence	Voltage [V]	Frequency [Hz]	Output power [W]	Cos φ [1]
1	195,5	47,50	17000	0,999
2	253,0	51,50	17000	0,999

Active power at under-frequency			
5-min mean value (each)	**a) 50 ± 0,01 [Hz]**	**b) - 0,4 to – 0,5 [Hz]**	**c) - 2,4 to - 2,5 [Hz]**
Frequency [Hz]:	50,00	49,53	47,54
Active power [kW]:	17080	16959	17054
ΔP/PM [%] per 1 Hz:			0,5

Power response to over-frequency							
1-min mean value [Hz]:	**a) 50,00**	**b) 50,25**	**c) 50,70**	**d) 51,15**	**e) 50,70**	**f) 50,25**	**g) 50,00**
1. Measurement a) to g): Active power output > 80% Pn							
Frequency [Hz]:	49,98	50,24	50,68	51,13	50,68	50,24	49,98
PM [kW]:	N/A	16,24	13,29	10,35	13,29	16,19	N/A
PE60 [kW]:	16,48	16,23	13,3 3	10,40	13,21	16,15	0,00
ΔPE60/PM [%]:	N/A	-0,05	0,25	0,33	-0,49	-0,26	N/A
2. Measurement a) to g): Active power output 40% and 60% after freezing > 80% Pn							
Frequency [Hz]:	49,98	50,25	50,70	51,12	50,67	50,23	49,98
PM [kW]:	N/A	8,34	6,81	5,39	6,91	8,41	N/A
PE60 [kW]:	8,51	8,39	6,84	5,38	6,90	8,39	10,10
ΔPE60/PM [%]:	N/A	0,57	0,33	-0,10	-0,13	-0,17	N/A
Limit ΔP/P1min:	+ 10 % of P_M						

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Reactive power			
Uncontrollable reactive power			
SE4K			
Test Voltage / Output power	**211,6V**	**230V**	**248,4V**
25% PN	0,984	0,969	0,959
50% PN	0,996	0,994	0,992
75% PN	0,998	0,997	0,997
100% PN	0,999	0,999	0,999
Limit	**>0,95**	**>0,95**	**>0,95**
SE17K			
Test Voltage / Output power	**211,6V**	**230V**	**248,4V**
25% PN	0,999	0,999	0,999
50% PN	0,999	0,999	0,999
75% PN	0,999	0,999	0,999
100% PN	0,999	0,999	0,999
Limit	**>0,95**	**>0,95**	**>0,95**

Controllable reactive power				
Inductive (supply reactive power)				
Power-BIN	**Active power [W]**	**Reactive power [Var]**	**Power factor (cos φ)**	**AC voltage [V]**
0% - 10%	-1,7	8,3	0,263	230
10% - 20%	-3,5	8,3	0,384	230
20% - 30%	-5,2	8,3	0,529	230
30% - 40%	-6,9	8,3	0,638	230
40% - 50%	-8,6	8,3	0,719	230
50% - 60%	-10,3	8,3	0,779	230
60% - 70%	-12,0	8,3	0,823	230
70% - 80%	-13,7	8,3	0,856	230
80% - 90%	-15,5	8,3	0,881	230
90% - 100%	-15,4*	8,3	0,881	230
Capacitive (supply reactive power)				
Power-BIN	**Active power [W]**	**Reactive power [Var]**	**Power factor (cos φ)**	**AC voltage [V]**
0% - 10%	-1,7	-8,3	0,260	230
10% - 20%	-3,4	-8,3	0,382	230
20% - 30%	-5,1	-8,3	0,527	230
30% - 40%	-6,8	-8,3	0,637	230
40% - 50%	-8,6	-8,3	0,718	230
50% - 60%	-10,3	-8,3	0,778	230
60% - 70%	-12,0	-8,3	0,822	230
70% - 80%	-13,7	-8,3	0,855	230
80% - 90%	-14,8	-8,3	0,872	230
90% - 100%	-14,8*	-8,3	0,873	230

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Reactive power supply with set point Q=0				
Power-BIN	**Active power [W]**	**Reactive power [Var]**	**Power factor (cos φ)**	**AC voltage [V]**
0% - 10%	-1,7	0,4	0,989	230
10% - 20%	-3,4	0,5	0,991	230
20% - 30%	-5,1	0,5	0,995	230
30% - 40%	-6,9	0,6	0,996	230
40% - 50%	-8,6	0,7	0,997	230
50% - 60%	-10,3	0,8	0,997	230
60% - 70%	-12,0	0,8	0,998	230
70% - 80%	-13,7	0,8	0,998	230
80% - 90%	-15,4	0,9	0,998	230
90% - 100%	-15,4*	0,9	0,998	230

Q adjustment				
	Reactive power set point Q [Var]	**Measured reactive power Q [Var]**	**Measured cos φ**	**Deviation compared to setpoint ΔQ / PN [%]**
- Qmin	-48.43	48,8%	0,900	0,4%
0	0	2,4%	0,999	2,4%
+ Qmax	+48,43	-48,8%	0,900	-0,4%

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Connection and starting to generate electrical power		
Test according EN 50438 with standard setting	**Min. voltage for connection to grid:**	204,7 V
	Max. voltage for connection to grid:	250,7 V
	Min. frequency for connection to grid:	47,45 Hz
	Max. frequency for connection to grid:	50,06 Hz
	Observation time (≥60s)	60s

Test		
	Voltage conditions	
a) Start up for voltage range	**<84% Un for twice of observation time**	**>111% Un for twice of observation time**
Connection:	No connection	No connection
Limit:	No connection allowed	
b) In voltage range at start-up	**≥84% Un within twice setting observation time**	**≤111% Un within twice setting observation time**
Reconnection time [s]	108	108
Limit:	Connected after setting observation time (≥60s)	
Gradient:	For adjustable micro generators the maximum occurring active power gradient after connection respectively start generating electrical power is less than the configured maximum active power per minute Max gradient: 10%Pn/min.	
c) In voltage range after voltage failure	**≥84% Un for twice of setting observation time**	**≤111% Un for twice of setting observation time**
Reconnection time [s]	97	97
Limit:	Reconnection after setting observation time (≥60s)	
Gradient:	For adjustable micro generators the maximum occurring active power gradient after connection respectively start generating electrical power is less than the configured maximum active power per minute Max gradient: 10%Pn/min.	
	Frequency conditions	
d) Start up for frequency range	**<47,45 Hz for twice of setting observation time**	**>50,15 Hz for twice of setting observation time**
Connection:	No connection	No connection
Limit	No connection allowed	
e) In frequency range at start-up	**≥47,45 Hz within twice of setting observation time**	**≤51,15 Hz within twice of setting observation time**
Reconnection time [s]	108	108
Limit:	Connected after setting delay time(≥60s)	
Gradient:	For adjustable micro generators the maximum occurring active power gradient after connection respectively start generating electrical power is less than the configured maximum active power per minute Max gradient: 10%Pn/min.	
f) In frequency range after frequency failure	**≥47,45 Hz for twice of setting observation time**	**≤51,15 Hz for twice of setting observation time**
Reconnection time [s]	94	98
Limit:	Reconnection after setting observation time (≥60s)	
Gradient:	For adjustable micro generators the maximum occurring active power gradient after connection respectively start generating electrical power is less than the configured maximum active power per minute Max gradient: 10%Pn/min.	

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Short-circuit current contribution					
Short-circuit current parameters					
SE10K					
For a directly coupled micro-generator			**For a Inverter micro-generator**		
Parameter	**Symbol**	**Value**	**Time after fault**	**Volts**	**Amps**
Peak Short Circuit current	I_p	N/A	20ms	131,95	23,50
Initial Value of aperiodic current	A	N/A	100ms	87,46	24,97
Initial symmetrical short-circuit current*	I_k	N/A	250ms	78,39	25,46
Decaying (aperiodic) component of short circuit current*	i_{DC}	N/A	500ms	75,14	25,64
Reactance/Resistance Ratio of source*	X/R	N/A	**Time to trip**	0,508	In seconds
SE17K					
For a directly coupled micro-generator			**For a Inverter micro-generator**		
Parameter	**Symbol**	**Value**	**Time after fault**	**Volts**	**Amps**
Peak Short Circuit current	I_p	N/A	20ms	132,82	14,63
Initial Value of aperiodic current	A	N/A	100ms	88,56	15,70
Initial symmetrical short-circuit current*	I_k	N/A	250ms	79,70	16,47
Decaying (aperiodic) component of short circuit current*	i_{DC}	N/A	500ms	76,19	16,88
Reactance/Resistance Ratio of source*	X/R	N/A	**Time to trip**	0,506	In seconds

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE3K		
Harmonic order n	**Current Magnitude [A] at 100% rated output power**	**% of Fundamental**	**Phase**	**Harmonic current limit EN 61000-3-2, Class A [A]**
1st	4,352	100,000	Phase 1	-
2nd	0,031	0,724	Phase 1	1,080
3rd	0,040	0,926	Phase 1	2,300
4th	0,017	0,382	Phase 1	0,430
5th	0,179	4,104	Phase 1	1,140
6th	0,013	0,306	Phase 1	0,300
7th	0,119	2,741	Phase 1	0,770
8th	0,005	0,124	Phase 1	0,230
9th	0,024	0,542	Phase 1	0,400
10th	0,004	0,099	Phase 1	0,184
11th	0,048	1,104	Phase 1	0,330
12th	0,007	0,159	Phase 1	0,153
13th	0,035	0,796	Phase 1	0,210
14th	0,004	0,087	Phase 1	0,131
15th	0,009	0,218	Phase 1	0,150
16th	0,004	0,099	Phase 1	0,115
17th	0,011	0,252	Phase 1	0,132
18th	0,007	0,153	Phase 1	0,102
19th	0,018	0,409	Phase 1	0,118
20th	0,003	0,064	Phase 1	0,092
21th	0,008	0,175	Phase 1	0,107
22th	0,003	0,070	Phase 1	0,084
23th	0,015	0,345	Phase 1	0,098
24th	0,003	0,075	Phase 1	0,077
25th	0,011	0,245	Phase 1	0,090
26th	0,002	0,055	Phase 1	0,071
27th	0,008	0,184	Phase 1	0,083
28th	0,002	0,053	Phase 1	0,066
29th	0,009	0,197	Phase 1	0,078
30th	0,003	0,062	Phase 1	0,061
31th	0,008	0,191	Phase 1	0,073
32th	0,002	0,055	Phase 1	0,058
33th	0,005	0,105	Phase 1	0,068
34th	0,002	0,057	Phase 1	0,054
35th	0,003	0,077	Phase 1	0,064
36th	0,003	0,065	Phase 1	0,051
37th	0,005	0,119	Phase 1	0,061
38th	0,002	0,041	Phase 1	0,048
39th	0,002	0,049	Phase 1	0,058
40th	0,002	0,041	Phase 1	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE3K		
Harmonic order n	**Current Magnitude [A] at 100% rated output power**	**% of Fundamental**	**Phase**	**Harmonic current limit EN 61000-3-2, Class A [A]**
1st	4,282	100,000	Phase 2	-
2nd	0,034	0,795	Phase 2	1,080
3rd	0,035	0,827	Phase 2	2,300
4th	0,021	0,481	Phase 2	0,430
5th	0,191	4,459	Phase 2	1,140
6th	0,009	0,208	Phase 2	0,300
7th	0,101	2,353	Phase 2	0,770
8th	0,006	0,129	Phase 2	0,230
9th	0,028	0,658	Phase 2	0,400
10th	0,006	0,147	Phase 2	0,184
11th	0,061	1,413	Phase 2	0,330
12th	0,004	0,105	Phase 2	0,153
13th	0,056	1,314	Phase 2	0,210
14th	0,007	0,157	Phase 2	0,131
15th	0,011	0,261	Phase 2	0,150
16th	0,006	0,144	Phase 2	0,115
17th	0,016	0,382	Phase 2	0,132
18th	0,003	0,078	Phase 2	0,102
19th	0,027	0,630	Phase 2	0,118
20th	0,003	0,080	Phase 2	0,092
21th	0,006	0,148	Phase 2	0,107
22th	0,004	0,083	Phase 2	0,084
23th	0,019	0,455	Phase 2	0,098
24th	0,002	0,057	Phase 2	0,077
25th	0,018	0,428	Phase 2	0,090
26th	0,003	0,063	Phase 2	0,071
27th	0,008	0,178	Phase 2	0,083
28th	0,002	0,055	Phase 2	0,066
29th	0,013	0,307	Phase 2	0,078
30th	0,002	0,044	Phase 2	0,061
31th	0,009	0,219	Phase 2	0,073
32th	0,002	0,052	Phase 2	0,058
33th	0,005	0,105	Phase 2	0,068
34th	0,002	0,046	Phase 2	0,054
35th	0,006	0,134	Phase 2	0,064
36th	0,002	0,037	Phase 2	0,051
37th	0,008	0,195	Phase 2	0,061
38th	0,002	0,048	Phase 2	0,048
39th	0,002	0,049	Phase 2	0,058
40th	0,002	0,050	Phase 2	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE3K		
Harmonic order n	**Current Magnitude [A] at 100% rated output power**	**% of Fundamental**	**Phase**	**Harmonic current limit EN 61000-3-2, Class A [A]**
1st	4,464	100,000	Phase 3	-
2nd	0,019	0,431	Phase 3	1,080
3rd	0,037	0,837	Phase 3	2,300
4th	0,015	0,335	Phase 3	0,430
5th	0,137	3,071	Phase 3	1,140
6th	0,016	0,351	Phase 3	0,300
7th	0,163	3,654	Phase 3	0,770
8th	0,006	0,131	Phase 3	0,230
9th	0,019	0,432	Phase 3	0,400
10th	0,006	0,128	Phase 3	0,184
11th	0,070	1,560	Phase 3	0,330
12th	0,006	0,136	Phase 3	0,153
13th	0,051	1,132	Phase 3	0,210
14th	0,006	0,140	Phase 3	0,131
15th	0,012	0,279	Phase 3	0,150
16th	0,006	0,144	Phase 3	0,115
17th	0,017	0,380	Phase 3	0,132
18th	0,006	0,136	Phase 3	0,102
19th	0,023	0,519	Phase 3	0,118
20th	0,004	0,092	Phase 3	0,092
21th	0,006	0,142	Phase 3	0,107
22th	0,003	0,072	Phase 3	0,084
23th	0,011	0,249	Phase 3	0,098
24th	0,003	0,069	Phase 3	0,077
25th	0,012	0,266	Phase 3	0,090
26th	0,002	0,053	Phase 3	0,071
27th	0,005	0,103	Phase 3	0,083
28th	0,002	0,052	Phase 3	0,066
29th	0,016	0,353	Phase 3	0,078
30th	0,002	0,055	Phase 3	0,061
31th	0,009	0,200	Phase 3	0,073
32th	0,002	0,052	Phase 3	0,058
33th	0,002	0,046	Phase 3	0,068
34th	0,002	0,051	Phase 3	0,054
35th	0,007	0,150	Phase 3	0,064
36th	0,003	0,064	Phase 3	0,051
37th	0,006	0,137	Phase 3	0,061
38th	0,002	0,055	Phase 3	0,048
39th	0,002	0,049	Phase 3	0,058
40th	0,002	0,047	Phase 3	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE4K		
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN 61000-3-2, Class A [A]
1st	5,896	100,000	Phase 1	-
2nd	0,017	0,297	Phase 1	1,080
3rd	0,188	3,185	Phase 1	2,300
4th	0,011	0,183	Phase 1	0,430
5th	0,091	1,543	Phase 1	1,140
6th	0,009	0,156	Phase 1	0,300
7th	0,081	1,382	Phase 1	0,770
8th	0,009	0,148	Phase 1	0,230
9th	0,069	1,168	Phase 1	0,400
10th	0,008	0,133	Phase 1	0,184
11th	0,058	0,982	Phase 1	0,330
12th	0,007	0,120	Phase 1	0,153
13th	0,032	0,548	Phase 1	0,210
14th	0,006	0,104	Phase 1	0,131
15th	0,010	0,164	Phase 1	0,150
16th	0,005	0,092	Phase 1	0,115
17th	0,015	0,251	Phase 1	0,132
18th	0,005	0,086	Phase 1	0,102
19th	0,024	0,410	Phase 1	0,118
20th	0,005	0,081	Phase 1	0,092
21th	0,020	0,339	Phase 1	0,107
22th	0,004	0,067	Phase 1	0,084
23th	0,017	0,285	Phase 1	0,098
24th	0,003	0,056	Phase 1	0,077
25th	0,009	0,157	Phase 1	0,090
26th	0,003	0,051	Phase 1	0,071
27th	0,004	0,063	Phase 1	0,083
28th	0,003	0,047	Phase 1	0,066
29th	0,006	0,100	Phase 1	0,078
30th	0,002	0,042	Phase 1	0,061
31th	0,007	0,124	Phase 1	0,073
32th	0,002	0,040	Phase 1	0,058
33th	0,006	0,097	Phase 1	0,068
34th	0,002	0,038	Phase 1	0,054
35th	0,004	0,072	Phase 1	0,064
36th	0,002	0,033	Phase 1	0,051
37th	0,004	0,067	Phase 1	0,061
38th	0,002	0,032	Phase 1	0,048
39th	0,005	0,078	Phase 1	0,058
40th	0,002	0,029	Phase 1	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE4K		
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN 61000-3-2, Class A [A]
1st	5,917	100,000	Phase 2	-
2nd	0,017	0,284	Phase 2	1,080
3rd	0,174	2,941	Phase 2	2,300
4th	0,011	0,180	Phase 2	0,430
5th	0,082	1,379	Phase 2	1,140
6th	0,010	0,162	Phase 2	0,300
7th	0,077	1,307	Phase 2	0,770
8th	0,009	0,149	Phase 2	0,230
9th	0,073	1,226	Phase 2	0,400
10th	0,008	0,135	Phase 2	0,184
11th	0,062	1,041	Phase 2	0,330
12th	0,007	0,115	Phase 2	0,153
13th	0,041	0,693	Phase 2	0,210
14th	0,006	0,102	Phase 2	0,131
15th	0,014	0,241	Phase 2	0,150
16th	0,005	0,088	Phase 2	0,115
17th	0,012	0,194	Phase 2	0,132
18th	0,004	0,075	Phase 2	0,102
19th	0,020	0,346	Phase 2	0,118
20th	0,005	0,078	Phase 2	0,092
21th	0,020	0,335	Phase 2	0,107
22th	0,004	0,064	Phase 2	0,084
23th	0,019	0,323	Phase 2	0,098
24th	0,003	0,054	Phase 2	0,077
25th	0,012	0,196	Phase 2	0,090
26th	0,003	0,045	Phase 2	0,071
27th	0,004	0,072	Phase 2	0,083
28th	0,002	0,042	Phase 2	0,066
29th	0,003	0,057	Phase 2	0,078
30th	0,002	0,035	Phase 2	0,061
31th	0,006	0,094	Phase 2	0,073
32th	0,002	0,035	Phase 2	0,058
33th	0,005	0,087	Phase 2	0,068
34th	0,002	0,034	Phase 2	0,054
35th	0,004	0,061	Phase 2	0,064
36th	0,002	0,031	Phase 2	0,051
37th	0,003	0,045	Phase 2	0,061
38th	0,002	0,029	Phase 2	0,048
39th	0,003	0,059	Phase 2	0,058
40th	0,002	0,027	Phase 2	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE4K		
Harmonic order n	**Current Magnitude [A] at 100% rated output power**	**% of Fundamental**	**Phase**	**Harmonic current limit EN 61000-3-2, Class A [A]**
1st	5,803	100,000	Phase 3	-
2nd	0,022	0,377	Phase 3	1,080
3rd	0,257	4,427	Phase 3	2,300
4th	0,010	0,179	Phase 3	0,430
5th	0,084	1,440	Phase 3	1,140
6th	0,010	0,167	Phase 3	0,300
7th	0,132	2,269	Phase 3	0,770
8th	0,010	0,164	Phase 3	0,230
9th	0,037	0,632	Phase 3	0,400
10th	0,008	0,142	Phase 3	0,184
11th	0,082	1,412	Phase 3	0,330
12th	0,007	0,120	Phase 3	0,153
13th	0,008	0,142	Phase 3	0,210
14th	0,006	0,107	Phase 3	0,131
15th	0,038	0,651	Phase 3	0,150
16th	0,006	0,107	Phase 3	0,115
17th	0,021	0,360	Phase 3	0,132
18th	0,005	0,094	Phase 3	0,102
19th	0,036	0,615	Phase 3	0,118
20th	0,005	0,086	Phase 3	0,092
21th	0,010	0,175	Phase 3	0,107
22th	0,004	0,069	Phase 3	0,084
23th	0,019	0,326	Phase 3	0,098
24th	0,003	0,058	Phase 3	0,077
25th	0,003	0,048	Phase 3	0,090
26th	0,003	0,055	Phase 3	0,071
27th	0,006	0,108	Phase 3	0,083
28th	0,003	0,054	Phase 3	0,066
29th	0,007	0,119	Phase 3	0,078
30th	0,003	0,046	Phase 3	0,061
31th	0,006	0,100	Phase 3	0,073
32th	0,002	0,043	Phase 3	0,058
33th	0,007	0,116	Phase 3	0,068
34th	0,002	0,037	Phase 3	0,054
35th	0,004	0,070	Phase 3	0,064
36th	0,002	0,031	Phase 3	0,051
37th	0,003	0,046	Phase 3	0,061
38th	0,002	0,030	Phase 3	0,048
39th	0,005	0,090	Phase 3	0,058
40th	0,002	0,027	Phase 3	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE5K / SE5K-RWS		
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN 61000-3-2, Class A [A]
1st	7,378	100,000	Phase 1	-
2nd	0,048	0,644	Phase 1	1,080
3rd	0,031	0,420	Phase 1	2,300
4th	0,008	0,111	Phase 1	0,430
5th	0,027	0,360	Phase 1	1,140
6th	0,007	0,093	Phase 1	0,300
7th	0,032	0,432	Phase 1	0,770
8th	0,007	0,098	Phase 1	0,230
9th	0,030	0,410	Phase 1	0,400
10th	0,007	0,095	Phase 1	0,184
11th	0,036	0,482	Phase 1	0,330
12th	0,007	0,093	Phase 1	0,153
13th	0,033	0,444	Phase 1	0,210
14th	0,007	0,091	Phase 1	0,131
15th	0,027	0,370	Phase 1	0,150
16th	0,007	0,089	Phase 1	0,115
17th	0,026	0,355	Phase 1	0,132
18th	0,005	0,074	Phase 1	0,102
19th	0,019	0,263	Phase 1	0,118
20th	0,005	0,070	Phase 1	0,092
21th	0,011	0,148	Phase 1	0,107
22th	0,005	0,068	Phase 1	0,084
23th	0,007	0,097	Phase 1	0,098
24th	0,004	0,061	Phase 1	0,077
25th	0,003	0,046	Phase 1	0,090
26th	0,005	0,064	Phase 1	0,071
27th	0,004	0,059	Phase 1	0,083
28th	0,005	0,065	Phase 1	0,066
29th	0,006	0,088	Phase 1	0,078
30th	0,004	0,060	Phase 1	0,061
31th	0,007	0,098	Phase 1	0,073
32th	0,005	0,061	Phase 1	0,058
33th	0,006	0,080	Phase 1	0,068
34th	0,004	0,061	Phase 1	0,054
35th	0,005	0,074	Phase 1	0,064
36th	0,004	0,052	Phase 1	0,051
37th	0,004	0,053	Phase 1	0,061
38th	0,004	0,052	Phase 1	0,048
39th	0,003	0,035	Phase 1	0,058
40th	0,004	0,050	Phase 1	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE5K / SE5K-RWS		
Harmonic order n	**Current Magnitude [A] at 100% rated output power**	**% of Fundamental**	**Phase**	**Harmonic current limit EN 61000-3-2, Class A [A]**
1st	7,378	100,000	Phase 2	-
2nd	0,046	0,629	Phase 2	1,080
3rd	0,022	0,298	Phase 2	2,300
4th	0,008	0,104	Phase 2	0,430
5th	0,029	0,399	Phase 2	1,140
6th	0,006	0,086	Phase 2	0,300
7th	0,031	0,421	Phase 2	0,770
8th	0,007	0,090	Phase 2	0,230
9th	0,031	0,414	Phase 2	0,400
10th	0,007	0,091	Phase 2	0,184
11th	0,036	0,492	Phase 2	0,330
12th	0,006	0,087	Phase 2	0,153
13th	0,036	0,491	Phase 2	0,210
14th	0,006	0,084	Phase 2	0,131
15th	0,030	0,404	Phase 2	0,150
16th	0,007	0,094	Phase 2	0,115
17th	0,029	0,388	Phase 2	0,132
18th	0,006	0,081	Phase 2	0,102
19th	0,023	0,316	Phase 2	0,118
20th	0,006	0,076	Phase 2	0,092
21th	0,014	0,194	Phase 2	0,107
22th	0,006	0,077	Phase 2	0,084
23th	0,010	0,139	Phase 2	0,098
24th	0,005	0,061	Phase 2	0,077
25th	0,005	0,072	Phase 2	0,090
26th	0,005	0,061	Phase 2	0,071
27th	0,003	0,047	Phase 2	0,083
28th	0,005	0,062	Phase 2	0,066
29th	0,006	0,082	Phase 2	0,078
30th	0,004	0,054	Phase 2	0,061
31th	0,007	0,099	Phase 2	0,073
32th	0,004	0,057	Phase 2	0,058
33th	0,006	0,082	Phase 2	0,068
34th	0,004	0,059	Phase 2	0,054
35th	0,006	0,087	Phase 2	0,064
36th	0,004	0,051	Phase 2	0,051
37th	0,005	0,068	Phase 2	0,061
38th	0,004	0,055	Phase 2	0,048
39th	0,003	0,042	Phase 2	0,058
40th	0,004	0,054	Phase 2	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE5K / SE5K-RWS		
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN 61000-3-2, Class A [A]
1st	7,320	100,000	Phase 3	-
2nd	0,044	0,606	Phase 3	1,080
3rd	0,050	0,678	Phase 3	2,300
4th	0,009	0,126	Phase 3	0,430
5th	0,034	0,465	Phase 3	1,140
6th	0,007	0,093	Phase 3	0,300
7th	0,081	1,102	Phase 3	0,770
8th	0,006	0,088	Phase 3	0,230
9th	0,038	0,513	Phase 3	0,400
10th	0,009	0,117	Phase 3	0,184
11th	0,066	0,904	Phase 3	0,330
12th	0,007	0,091	Phase 3	0,153
13th	0,033	0,451	Phase 3	0,210
14th	0,008	0,103	Phase 3	0,131
15th	0,049	0,664	Phase 3	0,150
16th	0,007	0,096	Phase 3	0,115
17th	0,017	0,234	Phase 3	0,132
18th	0,007	0,089	Phase 3	0,102
19th	0,034	0,468	Phase 3	0,118
20th	0,006	0,082	Phase 3	0,092
21th	0,009	0,130	Phase 3	0,107
22th	0,006	0,078	Phase 3	0,084
23th	0,014	0,194	Phase 3	0,098
24th	0,005	0,068	Phase 3	0,077
25th	0,007	0,098	Phase 3	0,090
26th	0,005	0,064	Phase 3	0,071
27th	0,005	0,065	Phase 3	0,083
28th	0,005	0,068	Phase 3	0,066
29th	0,008	0,107	Phase 3	0,078
30th	0,005	0,063	Phase 3	0,061
31th	0,008	0,115	Phase 3	0,073
32th	0,005	0,069	Phase 3	0,058
33th	0,007	0,090	Phase 3	0,068
34th	0,005	0,069	Phase 3	0,054
35th	0,006	0,084	Phase 3	0,064
36th	0,005	0,066	Phase 3	0,051
37th	0,005	0,068	Phase 3	0,061
38th	0,005	0,068	Phase 3	0,048
39th	0,003	0,046	Phase 3	0,058
40th	0,005	0,064	Phase 3	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE7K / SE7K-RWS		
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN 61000-3-2, Class A [A]
1st	10,277	100,000	Phase 1	-
2nd	0,062	0,599	Phase 1	1,080
3rd	0,030	0,296	Phase 1	2,300
4th	0,012	0,117	Phase 1	0,430
5th	0,024	0,234	Phase 1	1,140
6th	0,007	0,065	Phase 1	0,300
7th	0,028	0,272	Phase 1	0,770
8th	0,006	0,060	Phase 1	0,230
9th	0,020	0,199	Phase 1	0,400
10th	0,006	0,054	Phase 1	0,184
11th	0,020	0,196	Phase 1	0,330
12th	0,006	0,059	Phase 1	0,153
13th	0,015	0,148	Phase 1	0,210
14th	0,007	0,067	Phase 1	0,131
15th	0,012	0,122	Phase 1	0,150
16th	0,005	0,053	Phase 1	0,115
17th	0,015	0,142	Phase 1	0,132
18th	0,006	0,059	Phase 1	0,102
19th	0,011	0,110	Phase 1	0,118
20th	0,007	0,071	Phase 1	0,092
21th	0,011	0,106	Phase 1	0,107
22th	0,006	0,059	Phase 1	0,084
23th	0,012	0,121	Phase 1	0,098
24th	0,006	0,059	Phase 1	0,077
25th	0,011	0,106	Phase 1	0,090
26th	0,006	0,062	Phase 1	0,071
27th	0,009	0,083	Phase 1	0,083
28th	0,006	0,060	Phase 1	0,066
29th	0,009	0,092	Phase 1	0,078
30th	0,005	0,052	Phase 1	0,061
31th	0,008	0,077	Phase 1	0,073
32th	0,006	0,054	Phase 1	0,058
33th	0,005	0,052	Phase 1	0,068
34th	0,005	0,053	Phase 1	0,054
35th	0,005	0,052	Phase 1	0,064
36th	0,005	0,045	Phase 1	0,051
37th	0,004	0,038	Phase 1	0,061
38th	0,005	0,046	Phase 1	0,048
39th	0,003	0,025	Phase 1	0,058
40th	0,005	0,045	Phase 1	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE7K / SE7K-RWS		
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN 61000-3-2, Class A [A]
1st	10,282	100,000	Phase 2	-
2nd	0,061	0,592	Phase 2	1,080
3rd	0,021	0,204	Phase 2	2,300
4th	0,010	0,101	Phase 2	0,430
5th	0,035	0,340	Phase 2	1,140
6th	0,006	0,056	Phase 2	0,300
7th	0,031	0,306	Phase 2	0,770
8th	0,009	0,089	Phase 2	0,230
9th	0,026	0,251	Phase 2	0,400
10th	0,007	0,066	Phase 2	0,184
11th	0,026	0,250	Phase 2	0,330
12th	0,009	0,084	Phase 2	0,153
13th	0,011	0,102	Phase 2	0,210
14th	0,006	0,061	Phase 2	0,131
15th	0,014	0,138	Phase 2	0,150
16th	0,009	0,087	Phase 2	0,115
17th	0,015	0,149	Phase 2	0,132
18th	0,007	0,066	Phase 2	0,102
19th	0,008	0,077	Phase 2	0,118
20th	0,008	0,081	Phase 2	0,092
21th	0,014	0,135	Phase 2	0,107
22th	0,009	0,084	Phase 2	0,084
23th	0,015	0,145	Phase 2	0,098
24th	0,005	0,052	Phase 2	0,077
25th	0,010	0,098	Phase 2	0,090
26th	0,008	0,082	Phase 2	0,071
27th	0,013	0,127	Phase 2	0,083
28th	0,005	0,046	Phase 2	0,066
29th	0,009	0,087	Phase 2	0,078
30th	0,006	0,054	Phase 2	0,061
31th	0,010	0,096	Phase 2	0,073
32th	0,006	0,057	Phase 2	0,058
33th	0,008	0,078	Phase 2	0,068
34th	0,004	0,043	Phase 2	0,054
35th	0,005	0,048	Phase 2	0,064
36th	0,005	0,050	Phase 2	0,051
37th	0,006	0,062	Phase 2	0,061
38th	0,004	0,039	Phase 2	0,048
39th	0,004	0,036	Phase 2	0,058
40th	0,005	0,047	Phase 2	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE7K / SE7K-RWS		
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN 61000-3-2, Class A [A]
1st	10,225	100,000	Phase 3	-
2nd	0,057	0,553	Phase 3	1,080
3rd	0,045	0,442	Phase 3	2,300
4th	0,014	0,133	Phase 3	0,430
5th	0,031	0,306	Phase 3	1,140
6th	0,006	0,060	Phase 3	0,300
7th	0,080	0,787	Phase 3	0,770
8th	0,008	0,074	Phase 3	0,230
9th	0,027	0,261	Phase 3	0,400
10th	0,007	0,065	Phase 3	0,184
11th	0,057	0,553	Phase 3	0,330
12th	0,006	0,061	Phase 3	0,153
13th	0,028	0,271	Phase 3	0,210
14th	0,006	0,058	Phase 3	0,131
15th	0,035	0,338	Phase 3	0,150
16th	0,006	0,056	Phase 3	0,115
17th	0,023	0,223	Phase 3	0,132
18th	0,006	0,056	Phase 3	0,102
19th	0,023	0,220	Phase 3	0,118
20th	0,006	0,055	Phase 3	0,092
21th	0,018	0,173	Phase 3	0,107
22th	0,006	0,060	Phase 3	0,084
23th	0,014	0,141	Phase 3	0,098
24th	0,006	0,062	Phase 3	0,077
25th	0,014	0,142	Phase 3	0,090
26th	0,006	0,061	Phase 3	0,071
27th	0,008	0,081	Phase 3	0,083
28th	0,007	0,065	Phase 3	0,066
29th	0,010	0,101	Phase 3	0,078
30th	0,006	0,056	Phase 3	0,061
31th	0,009	0,092	Phase 3	0,073
32th	0,006	0,062	Phase 3	0,058
33th	0,007	0,065	Phase 3	0,068
34th	0,006	0,057	Phase 3	0,054
35th	0,006	0,064	Phase 3	0,064
36th	0,005	0,052	Phase 3	0,051
37th	0,005	0,045	Phase 3	0,061
38th	0,005	0,050	Phase 3	0,048
39th	0,005	0,044	Phase 3	0,058
40th	0,005	0,051	Phase 3	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE8K / SE8K-RWS		
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN 61000-3-2, Class A [A]
1st	11,725	100,000	Phase 1	-
2nd	0,045	0,380	Phase 1	1,080
3rd	0,039	0,332	Phase 1	2,300
4th	0,010	0,082	Phase 1	0,430
5th	0,021	0,177	Phase 1	1,140
6th	0,007	0,063	Phase 1	0,300
7th	0,027	0,227	Phase 1	0,770
8th	0,007	0,058	Phase 1	0,230
9th	0,022	0,190	Phase 1	0,400
10th	0,006	0,055	Phase 1	0,184
11th	0,020	0,168	Phase 1	0,330
12th	0,006	0,050	Phase 1	0,153
13th	0,013	0,113	Phase 1	0,210
14th	0,006	0,053	Phase 1	0,131
15th	0,010	0,083	Phase 1	0,150
16th	0,006	0,049	Phase 1	0,115
17th	0,009	0,073	Phase 1	0,132
18th	0,006	0,047	Phase 1	0,102
19th	0,007	0,061	Phase 1	0,118
20th	0,006	0,048	Phase 1	0,092
21th	0,006	0,051	Phase 1	0,107
22th	0,006	0,048	Phase 1	0,084
23th	0,007	0,063	Phase 1	0,098
24th	0,005	0,043	Phase 1	0,077
25th	0,007	0,057	Phase 1	0,090
26th	0,005	0,044	Phase 1	0,071
27th	0,006	0,049	Phase 1	0,083
28th	0,005	0,043	Phase 1	0,066
29th	0,007	0,058	Phase 1	0,078
30th	0,005	0,039	Phase 1	0,061
31th	0,006	0,055	Phase 1	0,073
32th	0,005	0,040	Phase 1	0,058
33th	0,006	0,047	Phase 1	0,068
34th	0,005	0,040	Phase 1	0,054
35th	0,006	0,049	Phase 1	0,064
36th	0,004	0,034	Phase 1	0,051
37th	0,006	0,047	Phase 1	0,061
38th	0,004	0,035	Phase 1	0,048
39th	0,004	0,037	Phase 1	0,058
40th	0,004	0,034	Phase 1	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE8K / SE8K-RWS		
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN 61000-3-2, Class A [A]
1st	11,735	100,000	Phase 2	-
2nd	0,045	0,380	Phase 2	1,080
3rd	0,030	0,252	Phase 2	2,300
4th	0,009	0,075	Phase 2	0,430
5th	0,030	0,254	Phase 2	1,140
6th	0,008	0,066	Phase 2	0,300
7th	0,028	0,241	Phase 2	0,770
8th	0,008	0,067	Phase 2	0,230
9th	0,028	0,238	Phase 2	0,400
10th	0,009	0,079	Phase 2	0,184
11th	0,022	0,185	Phase 2	0,330
12th	0,007	0,058	Phase 2	0,153
13th	0,013	0,111	Phase 2	0,210
14th	0,009	0,075	Phase 2	0,131
15th	0,016	0,136	Phase 2	0,150
16th	0,007	0,058	Phase 2	0,115
17th	0,008	0,065	Phase 2	0,132
18th	0,008	0,070	Phase 2	0,102
19th	0,012	0,100	Phase 2	0,118
20th	0,007	0,057	Phase 2	0,092
21th	0,011	0,090	Phase 2	0,107
22th	0,007	0,064	Phase 2	0,084
23th	0,005	0,045	Phase 2	0,098
24th	0,005	0,046	Phase 2	0,077
25th	0,010	0,084	Phase 2	0,090
26th	0,006	0,054	Phase 2	0,071
27th	0,005	0,045	Phase 2	0,083
28th	0,005	0,043	Phase 2	0,066
29th	0,005	0,044	Phase 2	0,078
30th	0,005	0,046	Phase 2	0,061
31th	0,008	0,066	Phase 2	0,073
32th	0,004	0,038	Phase 2	0,058
33th	0,004	0,034	Phase 2	0,068
34th	0,005	0,044	Phase 2	0,054
35th	0,006	0,053	Phase 2	0,064
36th	0,004	0,034	Phase 2	0,051
37th	0,006	0,055	Phase 2	0,061
38th	0,004	0,034	Phase 2	0,048
39th	0,004	0,034	Phase 2	0,058
40th	0,004	0,036	Phase 2	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE8K / SE8K-RWS		
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN 61000-3-2, Class A [A]
1st	11,673	100,000	Phase 3	-
2nd	0,040	0,342	Phase 3	1,080
3rd	0,038	0,330	Phase 3	2,300
4th	0,012	0,099	Phase 3	0,430
5th	0,037	0,317	Phase 3	1,140
6th	0,007	0,057	Phase 3	0,300
7th	0,077	0,660	Phase 3	0,770
8th	0,007	0,064	Phase 3	0,230
9th	0,026	0,220	Phase 3	0,400
10th	0,007	0,056	Phase 3	0,184
11th	0,055	0,471	Phase 3	0,330
12th	0,006	0,053	Phase 3	0,153
13th	0,023	0,195	Phase 3	0,210
14th	0,006	0,049	Phase 3	0,131
15th	0,031	0,269	Phase 3	0,150
16th	0,006	0,050	Phase 3	0,115
17th	0,017	0,142	Phase 3	0,132
18th	0,005	0,046	Phase 3	0,102
19th	0,017	0,148	Phase 3	0,118
20th	0,005	0,046	Phase 3	0,092
21th	0,011	0,098	Phase 3	0,107
22th	0,005	0,046	Phase 3	0,084
23th	0,008	0,065	Phase 3	0,098
24th	0,005	0,044	Phase 3	0,077
25th	0,009	0,077	Phase 3	0,090
26th	0,005	0,042	Phase 3	0,071
27th	0,007	0,061	Phase 3	0,083
28th	0,005	0,044	Phase 3	0,066
29th	0,006	0,052	Phase 3	0,078
30th	0,004	0,038	Phase 3	0,061
31th	0,010	0,085	Phase 3	0,073
32th	0,005	0,040	Phase 3	0,058
33th	0,004	0,037	Phase 3	0,068
34th	0,005	0,040	Phase 3	0,054
35th	0,009	0,075	Phase 3	0,064
36th	0,004	0,036	Phase 3	0,051
37th	0,004	0,035	Phase 3	0,061
38th	0,004	0,036	Phase 3	0,048
39th	0,006	0,054	Phase 3	0,058
40th	0,004	0,034	Phase 3	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE9K		
Harmonic order n	**Current Magnitude [A] at 100% rated output power**	**% of Fundamental**	**Phase**	**Harmonic current limit EN 61000-3-2, Class A [A]**
1st	13,195	100,000	Phase 1	-
2nd	0,054	0,411	Phase 1	1,080
3rd	0,019	0,146	Phase 1	2,300
4th	0,015	0,116	Phase 1	0,430
5th	0,037	0,277	Phase 1	1,140
6th	0,012	0,088	Phase 1	0,300
7th	0,040	0,300	Phase 1	0,770
8th	0,012	0,088	Phase 1	0,230
9th	0,032	0,243	Phase 1	0,400
10th	0,010	0,078	Phase 1	0,184
11th	0,028	0,211	Phase 1	0,330
12th	0,009	0,072	Phase 1	0,153
13th	0,020	0,155	Phase 1	0,210
14th	0,010	0,074	Phase 1	0,131
15th	0,014	0,107	Phase 1	0,150
16th	0,009	0,067	Phase 1	0,115
17th	0,014	0,103	Phase 1	0,132
18th	0,008	0,061	Phase 1	0,102
19th	0,011	0,080	Phase 1	0,118
20th	0,008	0,062	Phase 1	0,092
21th	0,007	0,052	Phase 1	0,107
22th	0,008	0,057	Phase 1	0,084
23th	0,006	0,046	Phase 1	0,098
24th	0,007	0,049	Phase 1	0,077
25th	0,004	0,031	Phase 1	0,090
26th	0,007	0,051	Phase 1	0,071
27th	0,003	0,024	Phase 1	0,083
28th	0,006	0,044	Phase 1	0,066
29th	0,003	0,024	Phase 1	0,078
30th	0,005	0,037	Phase 1	0,061
31th	0,004	0,029	Phase 1	0,073
32th	0,005	0,037	Phase 1	0,058
33th	0,004	0,031	Phase 1	0,068
34th	0,004	0,033	Phase 1	0,054
35th	0,005	0,037	Phase 1	0,064
36th	0,004	0,027	Phase 1	0,051
37th	0,005	0,040	Phase 1	0,061
38th	0,003	0,026	Phase 1	0,048
39th	0,005	0,039	Phase 1	0,058
40th	0,003	0,023	Phase 1	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE9K		
Harmonic order n	**Current Magnitude [A] at 100% rated output power**	**% of Fundamental**	**Phase**	**Harmonic current limit EN 61000-3-2, Class A [A]**
1st	13,207	100,000	Phase 2	-
2nd	0,054	0,411	Phase 2	1,080
3rd	0,015	0,112	Phase 2	2,300
4th	0,015	0,113	Phase 2	0,430
5th	0,046	0,351	Phase 2	1,140
6th	0,012	0,089	Phase 2	0,300
7th	0,043	0,327	Phase 2	0,770
8th	0,013	0,101	Phase 2	0,230
9th	0,040	0,300	Phase 2	0,400
10th	0,011	0,083	Phase 2	0,184
11th	0,028	0,211	Phase 2	0,330
12th	0,012	0,091	Phase 2	0,153
13th	0,027	0,204	Phase 2	0,210
14th	0,010	0,076	Phase 2	0,131
15th	0,020	0,149	Phase 2	0,150
16th	0,012	0,087	Phase 2	0,115
17th	0,015	0,115	Phase 2	0,132
18th	0,009	0,068	Phase 2	0,102
19th	0,017	0,132	Phase 2	0,118
20th	0,009	0,072	Phase 2	0,092
21th	0,006	0,046	Phase 2	0,107
22th	0,008	0,064	Phase 2	0,084
23th	0,009	0,071	Phase 2	0,098
24th	0,007	0,050	Phase 2	0,077
25th	0,004	0,033	Phase 2	0,090
26th	0,007	0,052	Phase 2	0,071
27th	0,003	0,025	Phase 2	0,083
28th	0,006	0,044	Phase 2	0,066
29th	0,004	0,032	Phase 2	0,078
30th	0,005	0,037	Phase 2	0,061
31th	0,004	0,029	Phase 2	0,073
32th	0,005	0,037	Phase 2	0,058
33th	0,003	0,022	Phase 2	0,068
34th	0,004	0,034	Phase 2	0,054
35th	0,005	0,036	Phase 2	0,064
36th	0,004	0,029	Phase 2	0,051
37th	0,004	0,031	Phase 2	0,061
38th	0,003	0,026	Phase 2	0,048
39th	0,004	0,033	Phase 2	0,058
40th	0,003	0,025	Phase 2	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE9K		
Harmonic order n	**Current Magnitude [A] at 100% rated output power**	**% of Fundamental**	**Phase**	**Harmonic current limit EN 61000-3-2, Class A [A]**
1st	13,142	100,000	Phase 3	-
2nd	0,048	0,364	Phase 3	1,080
3rd	0,061	0,464	Phase 3	2,300
4th	0,016	0,123	Phase 3	0,430
5th	0,027	0,202	Phase 3	1,140
6th	0,011	0,084	Phase 3	0,300
7th	0,093	0,706	Phase 3	0,770
8th	0,012	0,090	Phase 3	0,230
9th	0,023	0,173	Phase 3	0,400
10th	0,011	0,083	Phase 3	0,184
11th	0,065	0,496	Phase 3	0,330
12th	0,010	0,075	Phase 3	0,153
13th	0,019	0,147	Phase 3	0,210
14th	0,009	0,070	Phase 3	0,131
15th	0,040	0,308	Phase 3	0,150
16th	0,009	0,071	Phase 3	0,115
17th	0,014	0,105	Phase 3	0,132
18th	0,008	0,060	Phase 3	0,102
19th	0,025	0,193	Phase 3	0,118
20th	0,008	0,060	Phase 3	0,092
21th	0,011	0,084	Phase 3	0,107
22th	0,008	0,058	Phase 3	0,084
23th	0,011	0,086	Phase 3	0,098
24th	0,007	0,050	Phase 3	0,077
25th	0,007	0,052	Phase 3	0,090
26th	0,006	0,049	Phase 3	0,071
27th	0,004	0,031	Phase 3	0,083
28th	0,006	0,046	Phase 3	0,066
29th	0,004	0,033	Phase 3	0,078
30th	0,005	0,039	Phase 3	0,061
31th	0,006	0,047	Phase 3	0,073
32th	0,005	0,038	Phase 3	0,058
33th	0,003	0,021	Phase 3	0,068
34th	0,005	0,035	Phase 3	0,054
35th	0,008	0,059	Phase 3	0,064
36th	0,004	0,029	Phase 3	0,051
37th	0,003	0,024	Phase 3	0,061
38th	0,004	0,028	Phase 3	0,048
39th	0,007	0,053	Phase 3	0,058
40th	0,003	0,025	Phase 3	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE10K / SE10K-RWS		
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN 61000-3-2, Class A [A]
1st	14,655	100,000	Phase 1	-
2nd	0,057	0,391	Phase 1	1,080
3rd	0,025	0,173	Phase 1	2,300
4th	0,015	0,105	Phase 1	0,430
5th	0,032	0,217	Phase 1	1,140
6th	0,012	0,079	Phase 1	0,300
7th	0,038	0,258	Phase 1	0,770
8th	0,012	0,080	Phase 1	0,230
9th	0,031	0,211	Phase 1	0,400
10th	0,010	0,070	Phase 1	0,184
11th	0,027	0,186	Phase 1	0,330
12th	0,009	0,065	Phase 1	0,153
13th	0,021	0,140	Phase 1	0,210
14th	0,010	0,067	Phase 1	0,131
15th	0,015	0,104	Phase 1	0,150
16th	0,009	0,061	Phase 1	0,115
17th	0,014	0,099	Phase 1	0,132
18th	0,008	0,055	Phase 1	0,102
19th	0,011	0,074	Phase 1	0,118
20th	0,008	0,056	Phase 1	0,092
21th	0,008	0,051	Phase 1	0,107
22th	0,007	0,051	Phase 1	0,084
23th	0,007	0,048	Phase 1	0,098
24th	0,006	0,044	Phase 1	0,077
25th	0,005	0,034	Phase 1	0,090
26th	0,006	0,044	Phase 1	0,071
27th	0,003	0,022	Phase 1	0,083
28th	0,006	0,040	Phase 1	0,066
29th	0,003	0,020	Phase 1	0,078
30th	0,005	0,033	Phase 1	0,061
31th	0,003	0,020	Phase 1	0,073
32th	0,005	0,033	Phase 1	0,058
33th	0,003	0,022	Phase 1	0,068
34th	0,004	0,030	Phase 1	0,054
35th	0,004	0,026	Phase 1	0,064
36th	0,004	0,025	Phase 1	0,051
37th	0,004	0,030	Phase 1	0,061
38th	0,003	0,023	Phase 1	0,048
39th	0,004	0,030	Phase 1	0,058
40th	0,003	0,021	Phase 1	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE10K / SE10K-RWS		
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN 61000-3-2, Class A [A]
1st	14,671	100,000	Phase 2	-
2nd	0,057	0,389	Phase 2	1,080
3rd	0,019	0,132	Phase 2	2,300
4th	0,014	0,099	Phase 2	0,430
5th	0,039	0,268	Phase 2	1,140
6th	0,012	0,082	Phase 2	0,300
7th	0,045	0,305	Phase 2	0,770
8th	0,013	0,087	Phase 2	0,230
9th	0,038	0,256	Phase 2	0,400
10th	0,012	0,085	Phase 2	0,184
11th	0,032	0,219	Phase 2	0,330
12th	0,010	0,065	Phase 2	0,153
13th	0,029	0,196	Phase 2	0,210
14th	0,010	0,071	Phase 2	0,131
15th	0,016	0,110	Phase 2	0,150
16th	0,009	0,062	Phase 2	0,115
17th	0,017	0,113	Phase 2	0,132
18th	0,007	0,050	Phase 2	0,102
19th	0,011	0,072	Phase 2	0,118
20th	0,009	0,058	Phase 2	0,092
21th	0,010	0,068	Phase 2	0,107
22th	0,008	0,051	Phase 2	0,084
23th	0,009	0,059	Phase 2	0,098
24th	0,006	0,044	Phase 2	0,077
25th	0,008	0,056	Phase 2	0,090
26th	0,006	0,044	Phase 2	0,071
27th	0,004	0,028	Phase 2	0,083
28th	0,006	0,040	Phase 2	0,066
29th	0,003	0,023	Phase 2	0,078
30th	0,005	0,031	Phase 2	0,061
31th	0,003	0,020	Phase 2	0,073
32th	0,005	0,032	Phase 2	0,058
33th	0,003	0,019	Phase 2	0,068
34th	0,004	0,029	Phase 2	0,054
35th	0,004	0,024	Phase 2	0,064
36th	0,004	0,024	Phase 2	0,051
37th	0,004	0,024	Phase 2	0,061
38th	0,003	0,023	Phase 2	0,048
39th	0,003	0,023	Phase 2	0,058
40th	0,003	0,021	Phase 2	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission				
micro-generator		SE10K / SE10K-RWS		
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN 61000-3-2, Class A [A]
1st	14,603	100,000	Phase 3	-
2nd	0,051	0,347	Phase 3	1,080
3rd	0,056	0,383	Phase 3	2,300
4th	0,016	0,112	Phase 3	0,430
5th	0,030	0,205	Phase 3	1,140
6th	0,011	0,074	Phase 3	0,300
7th	0,091	0,620	Phase 3	0,770
8th	0,011	0,079	Phase 3	0,230
9th	0,022	0,149	Phase 3	0,400
10th	0,010	0,072	Phase 3	0,184
11th	0,064	0,437	Phase 3	0,330
12th	0,009	0,065	Phase 3	0,153
13th	0,019	0,130	Phase 3	0,210
14th	0,009	0,060	Phase 3	0,131
15th	0,040	0,273	Phase 3	0,150
16th	0,009	0,061	Phase 3	0,115
17th	0,013	0,087	Phase 3	0,132
18th	0,008	0,052	Phase 3	0,102
19th	0,025	0,171	Phase 3	0,118
20th	0,008	0,052	Phase 3	0,092
21th	0,009	0,064	Phase 3	0,107
22th	0,007	0,051	Phase 3	0,084
23th	0,011	0,078	Phase 3	0,098
24th	0,006	0,043	Phase 3	0,077
25th	0,007	0,047	Phase 3	0,090
26th	0,006	0,043	Phase 3	0,071
27th	0,004	0,025	Phase 3	0,083
28th	0,006	0,040	Phase 3	0,066
29th	0,005	0,032	Phase 3	0,078
30th	0,005	0,035	Phase 3	0,061
31th	0,005	0,037	Phase 3	0,073
32th	0,005	0,032	Phase 3	0,058
33th	0,003	0,021	Phase 3	0,068
34th	0,004	0,030	Phase 3	0,054
35th	0,007	0,045	Phase 3	0,064
36th	0,004	0,026	Phase 3	0,051
37th	0,003	0,018	Phase 3	0,061
38th	0,004	0,025	Phase 3	0,048
39th	0,006	0,042	Phase 3	0,058
40th	0,003	0,023	Phase 3	0,046

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE12,5K			
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN61000-3-12 [%]	
				1 phase	3 phase
1st	19,296	100,000	Phase 1	-	-
2nd	0,026	0,135	Phase 1	8	8
3rd	0,361	1,869	Phase 1	21,6	N/A
4th	0,012	0,060	Phase 1	4	4
5th	0,373	1,932	Phase 1	10,7	10,7
6th	0,016	0,081	Phase 1	2,67	2,67
7th	0,283	1,466	Phase 1	7,2	7,2
8th	0,011	0,055	Phase 1	2	2
9th	0,198	1,024	Phase 1	3,8	N/A
10th	0,010	0,050	Phase 1	1,6	1,6
11th	0,143	0,739	Phase 1	3,1	3,1
12th	0,010	0,051	Phase 1	1,33	1,33
13th	0,082	0,425	Phase 1	2	2
14th	0,009	0,048	Phase 1	N/A	N/A
15th	0,046	0,239	Phase 1	N/A	N/A
16th	0,009	0,045	Phase 1	N/A	N/A
17th	0,045	0,231	Phase 1	N/A	N/A
18th	0,009	0,046	Phase 1	N/A	N/A
19th	0,043	0,222	Phase 1	N/A	N/A
20th	0,009	0,047	Phase 1	N/A	N/A
21th	0,035	0,182	Phase 1	N/A	N/A
22th	0,008	0,043	Phase 1	N/A	N/A
23th	0,031	0,161	Phase 1	N/A	N/A
24th	0,008	0,044	Phase 1	N/A	N/A
25th	0,018	0,095	Phase 1	N/A	N/A
26th	0,008	0,043	Phase 1	N/A	N/A
27th	0,007	0,036	Phase 1	N/A	N/A
28th	0,007	0,039	Phase 1	N/A	N/A
29th	0,009	0,047	Phase 1	N/A	N/A
30th	0,007	0,038	Phase 1	N/A	N/A
31th	0,015	0,080	Phase 1	N/A	N/A
32th	0,007	0,039	Phase 1	N/A	N/A
33th	0,016	0,083	Phase 1	N/A	N/A
34th	0,007	0,036	Phase 1	N/A	N/A
35th	0,020	0,101	Phase 1	N/A	N/A
36th	0,007	0,035	Phase 1	N/A	N/A
37th	0,018	0,092	Phase 1	N/A	N/A
38th	0,007	0,036	Phase 1	N/A	N/A
39th	0,012	0,063	Phase 1	N/A	N/A
40th	0,006	0,033	Phase 1	N/A	N/A
THD_{40}	-	3,391	Phase 1	13	13
PWHD	-	0,004	Phase 1	22	22

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE12,5K			
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN61000-3-12 [%]	
				1 phase	3 phase
1st	19,373	100,000	Phase 2	-	-
2nd	0,025	0,131	Phase 2	8	8
3rd	0,373	1,926	Phase 2	21,6	N/A
4th	0,013	0,065	Phase 2	4	4
5th	0,367	1,892	Phase 2	10,7	10,7
6th	0,012	0,062	Phase 2	2,67	2,67
7th	0,295	1,521	Phase 2	7,2	7,2
8th	0,011	0,055	Phase 2	2	2
9th	0,196	1,013	Phase 2	3,8	N/A
10th	0,010	0,051	Phase 2	1,6	1,6
11th	0,136	0,702	Phase 2	3,1	3,1
12th	0,009	0,045	Phase 2	1,33	1,33
13th	0,084	0,433	Phase 2	2	2
14th	0,009	0,047	Phase 2	N/A	N/A
15th	0,041	0,213	Phase 2	N/A	N/A
16th	0,009	0,044	Phase 2	N/A	N/A
17th	0,042	0,217	Phase 2	N/A	N/A
18th	0,007	0,039	Phase 2	N/A	N/A
19th	0,040	0,208	Phase 2	N/A	N/A
20th	0,009	0,047	Phase 2	N/A	N/A
21th	0,033	0,169	Phase 2	N/A	N/A
22th	0,008	0,044	Phase 2	N/A	N/A
23th	0,029	0,152	Phase 2	N/A	N/A
24th	0,008	0,039	Phase 2	N/A	N/A
25th	0,019	0,097	Phase 2	N/A	N/A
26th	0,009	0,045	Phase 2	N/A	N/A
27th	0,007	0,034	Phase 2	N/A	N/A
28th	0,008	0,041	Phase 2	N/A	N/A
29th	0,009	0,048	Phase 2	N/A	N/A
30th	0,007	0,035	Phase 2	N/A	N/A
31th	0,015	0,078	Phase 2	N/A	N/A
32th	0,008	0,040	Phase 2	N/A	N/A
33th	0,016	0,080	Phase 2	N/A	N/A
34th	0,007	0,036	Phase 2	N/A	N/A
35th	0,021	0,106	Phase 2	N/A	N/A
36th	0,006	0,031	Phase 2	N/A	N/A
37th	0,019	0,099	Phase 2	N/A	N/A
38th	0,007	0,034	Phase 2	N/A	N/A
39th	0,012	0,062	Phase 2	N/A	N/A
40th	0,006	0,031	Phase 2	N/A	N/A
THD_{40}	-	3,410	Phase 2	13	13
PWHD	-	0,004	Phase 2	22	22

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission					
micro-generator		SE12,5K			
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN61000-3-12 [%]	
				1 phase	3 phase
1st	19,135	100,000	Phase 3	-	-
2nd	0,028	0,145	Phase 3	8	8
3rd	0,387	2,022	Phase 3	21,6	N/A
4th	0,012	0,064	Phase 3	4	4
5th	0,315	1,646	Phase 3	10,7	10,7
6th	0,013	0,068	Phase 3	2,67	2,67
7th	0,334	1,744	Phase 3	7,2	7,2
8th	0,010	0,054	Phase 3	2	2
9th	0,145	0,756	Phase 3	3,8	N/A
10th	0,010	0,054	Phase 3	1,6	1,6
11th	0,159	0,833	Phase 3	3,1	3,1
12th	0,009	0,049	Phase 3	1,33	1,33
13th	0,055	0,288	Phase 3	2	2
14th	0,009	0,047	Phase 3	N/A	N/A
15th	0,081	0,423	Phase 3	N/A	N/A
16th	0,009	0,049	Phase 3	N/A	N/A
17th	0,033	0,175	Phase 3	N/A	N/A
18th	0,008	0,044	Phase 3	N/A	N/A
19th	0,063	0,332	Phase 3	N/A	N/A
20th	0,008	0,044	Phase 3	N/A	N/A
21th	0,028	0,147	Phase 3	N/A	N/A
22th	0,009	0,046	Phase 3	N/A	N/A
23th	0,030	0,159	Phase 3	N/A	N/A
24th	0,008	0,041	Phase 3	N/A	N/A
25th	0,015	0,076	Phase 3	N/A	N/A
26th	0,008	0,042	Phase 3	N/A	N/A
27th	0,009	0,045	Phase 3	N/A	N/A
28th	0,009	0,044	Phase 3	N/A	N/A
29th	0,012	0,062	Phase 3	N/A	N/A
30th	0,007	0,037	Phase 3	N/A	N/A
31th	0,016	0,083	Phase 3	N/A	N/A
32th	0,007	0,039	Phase 3	N/A	N/A
33th	0,015	0,079	Phase 3	N/A	N/A
34th	0,008	0,040	Phase 3	N/A	N/A
35th	0,019	0,101	Phase 3	N/A	N/A
36th	0,006	0,034	Phase 3	N/A	N/A
37th	0,013	0,065	Phase 3	N/A	N/A
38th	0,007	0,036	Phase 3	N/A	N/A
39th	0,012	0,064	Phase 3	N/A	N/A
40th	0,007	0,036	Phase 3	N/A	N/A
THD_{40}	-	3,418	Phase 3	13	13
PWHD	-	0,009	Phase 3	22	22

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE15K			
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN61000-3-12 [%]	
				1 phase	3 phase
1st	20,442	100,000	Phase 1	-	-
2nd	0,088	0,431	Phase 1	8	8
3rd	0,076	0,374	Phase 1	21,6	N/A
4th	0,022	0,107	Phase 1	4	4
5th	0,075	0,365	Phase 1	10,7	10,7
6th	0,015	0,075	Phase 1	2,67	2,67
7th	0,071	0,349	Phase 1	7,2	7,2
8th	0,014	0,071	Phase 1	2	2
9th	0,057	0,279	Phase 1	3,8	N/A
10th	0,013	0,066	Phase 1	1,6	1,6
11th	0,049	0,242	Phase 1	3,1	3,1
12th	0,013	0,063	Phase 1	1,33	1,33
13th	0,038	0,186	Phase 1	2	2
14th	0,013	0,064	Phase 1	N/A	N/A
15th	0,029	0,143	Phase 1	N/A	N/A
16th	0,012	0,061	Phase 1	N/A	N/A
17th	0,026	0,126	Phase 1	N/A	N/A
18th	0,012	0,058	Phase 1	N/A	N/A
19th	0,019	0,094	Phase 1	N/A	N/A
20th	0,012	0,061	Phase 1	N/A	N/A
21th	0,013	0,063	Phase 1	N/A	N/A
22th	0,011	0,055	Phase 1	N/A	N/A
23th	0,013	0,062	Phase 1	N/A	N/A
24th	0,011	0,053	Phase 1	N/A	N/A
25th	0,010	0,048	Phase 1	N/A	N/A
26th	0,011	0,053	Phase 1	N/A	N/A
27th	0,007	0,035	Phase 1	N/A	N/A
28th	0,010	0,051	Phase 1	N/A	N/A
29th	0,008	0,038	Phase 1	N/A	N/A
30th	0,010	0,047	Phase 1	N/A	N/A
31th	0,008	0,041	Phase 1	N/A	N/A
32th	0,010	0,049	Phase 1	N/A	N/A
33th	0,008	0,041	Phase 1	N/A	N/A
34th	0,009	0,044	Phase 1	N/A	N/A
35th	0,010	0,048	Phase 1	N/A	N/A
36th	0,008	0,041	Phase 1	N/A	N/A
37th	0,011	0,053	Phase 1	N/A	N/A
38th	0,008	0,041	Phase 1	N/A	N/A
39th	0,011	0,052	Phase 1	N/A	N/A
40th	0,008	0,038	Phase 1	N/A	N/A
THD_{40}	-	0,958	Phase 1	13	13
PWHD	-	0,001	Phase 1	22	22

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE15K			
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN61000-3-12 [%]	
				1 phase	3 phase
1st	20,464	100,000	Phase 2	-	-
2nd	0,086	0,420	Phase 2	8	8
3rd	0,114	0,556	Phase 2	21,6	N/A
4th	0,023	0,115	Phase 2	4	4
5th	0,080	0,389	Phase 2	10,7	10,7
6th	0,016	0,076	Phase 2	2,67	2,67
7th	0,076	0,373	Phase 2	7,2	7,2
8th	0,015	0,073	Phase 2	2	2
9th	0,059	0,288	Phase 2	3,8	N/A
10th	0,014	0,069	Phase 2	1,6	1,6
11th	0,051	0,250	Phase 2	3,1	3,1
12th	0,013	0,063	Phase 2	1,33	1,33
13th	0,042	0,203	Phase 2	2	2
14th	0,013	0,066	Phase 2	N/A	N/A
15th	0,030	0,145	Phase 2	N/A	N/A
16th	0,013	0,062	Phase 2	N/A	N/A
17th	0,026	0,125	Phase 2	N/A	N/A
18th	0,011	0,053	Phase 2	N/A	N/A
19th	0,020	0,097	Phase 2	N/A	N/A
20th	0,013	0,062	Phase 2	N/A	N/A
21th	0,013	0,066	Phase 2	N/A	N/A
22th	0,011	0,056	Phase 2	N/A	N/A
23th	0,014	0,068	Phase 2	N/A	N/A
24th	0,010	0,048	Phase 2	N/A	N/A
25th	0,010	0,047	Phase 2	N/A	N/A
26th	0,011	0,055	Phase 2	N/A	N/A
27th	0,007	0,034	Phase 2	N/A	N/A
28th	0,011	0,052	Phase 2	N/A	N/A
29th	0,008	0,037	Phase 2	N/A	N/A
30th	0,009	0,042	Phase 2	N/A	N/A
31th	0,007	0,036	Phase 2	N/A	N/A
32th	0,010	0,049	Phase 2	N/A	N/A
33th	0,007	0,035	Phase 2	N/A	N/A
34th	0,009	0,044	Phase 2	N/A	N/A
35th	0,010	0,051	Phase 2	N/A	N/A
36th	0,007	0,036	Phase 2	N/A	N/A
37th	0,011	0,056	Phase 2	N/A	N/A
38th	0,008	0,041	Phase 2	N/A	N/A
39th	0,009	0,046	Phase 2	N/A	N/A
40th	0,008	0,038	Phase 2	N/A	N/A
THD_{40}	-	1,063	Phase 2	13	13
PWHD	-	0,001	Phase 2	22	22

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE15K			
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN61000-3-12 [%]	
				1 phase	3 phase
1st	20,404	100,000	Phase 3	-	-
2nd	0,080	0,390	Phase 3	8	8
3rd	0,148	0,725	Phase 3	21,6	N/A
4th	0,022	0,107	Phase 3	4	4
5th	0,039	0,192	Phase 3	10,7	10,7
6th	0,015	0,075	Phase 3	2,67	2,67
7th	0,126	0,619	Phase 3	7,2	7,2
8th	0,014	0,070	Phase 3	2	2
9th	0,036	0,174	Phase 3	3,8	N/A
10th	0,015	0,071	Phase 3	1,6	1,6
11th	0,086	0,423	Phase 3	3,1	3,1
12th	0,013	0,064	Phase 3	1,33	1,33
13th	0,024	0,118	Phase 3	2	2
14th	0,013	0,063	Phase 3	N/A	N/A
15th	0,054	0,265	Phase 3	N/A	N/A
16th	0,013	0,066	Phase 3	N/A	N/A
17th	0,017	0,081	Phase 3	N/A	N/A
18th	0,011	0,056	Phase 3	N/A	N/A
19th	0,034	0,169	Phase 3	N/A	N/A
20th	0,012	0,058	Phase 3	N/A	N/A
21th	0,016	0,080	Phase 3	N/A	N/A
22th	0,012	0,060	Phase 3	N/A	N/A
23th	0,019	0,091	Phase 3	N/A	N/A
24th	0,010	0,051	Phase 3	N/A	N/A
25th	0,012	0,060	Phase 3	N/A	N/A
26th	0,011	0,052	Phase 3	N/A	N/A
27th	0,007	0,033	Phase 3	N/A	N/A
28th	0,011	0,054	Phase 3	N/A	N/A
29th	0,008	0,039	Phase 3	N/A	N/A
30th	0,009	0,045	Phase 3	N/A	N/A
31th	0,009	0,046	Phase 3	N/A	N/A
32th	0,010	0,047	Phase 3	N/A	N/A
33th	0,006	0,031	Phase 3	N/A	N/A
34th	0,009	0,046	Phase 3	N/A	N/A
35th	0,013	0,064	Phase 3	N/A	N/A
36th	0,008	0,038	Phase 3	N/A	N/A
37th	0,008	0,040	Phase 3	N/A	N/A
38th	0,008	0,040	Phase 3	N/A	N/A
39th	0,012	0,060	Phase 3	N/A	N/A
40th	0,008	0,039	Phase 3	N/A	N/A
THD_{40}	-	1,245	Phase 3	13	13
PWHD	-	0,003	Phase 3	22	22

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE16K			
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN61000-3-12 [%]	
				1 phase	3 phase
1st	21,786	100,000	Phase 1	-	-
2nd	0,075	0,346	Phase 1	8	8
3rd	0,071	0,327	Phase 1	21,6	N/A
4th	0,020	0,094	Phase 1	4	4
5th	0,068	0,310	Phase 1	10,7	10,7
6th	0,015	0,069	Phase 1	2,67	2,67
7th	0,069	0,317	Phase 1	7,2	7,2
8th	0,015	0,068	Phase 1	2	2
9th	0,056	0,255	Phase 1	3,8	N/A
10th	0,014	0,063	Phase 1	1,6	1,6
11th	0,049	0,226	Phase 1	3,1	3,1
12th	0,013	0,060	Phase 1	1,33	1,33
13th	0,037	0,171	Phase 1	2	2
14th	0,013	0,061	Phase 1	N/A	N/A
15th	0,029	0,133	Phase 1	N/A	N/A
16th	0,013	0,057	Phase 1	N/A	N/A
17th	0,026	0,121	Phase 1	N/A	N/A
18th	0,012	0,054	Phase 1	N/A	N/A
19th	0,021	0,095	Phase 1	N/A	N/A
20th	0,012	0,056	Phase 1	N/A	N/A
21th	0,014	0,063	Phase 1	N/A	N/A
22th	0,011	0,052	Phase 1	N/A	N/A
23th	0,013	0,060	Phase 1	N/A	N/A
24th	0,011	0,049	Phase 1	N/A	N/A
25th	0,010	0,047	Phase 1	N/A	N/A
26th	0,011	0,050	Phase 1	N/A	N/A
27th	0,007	0,034	Phase 1	N/A	N/A
28th	0,010	0,047	Phase 1	N/A	N/A
29th	0,007	0,031	Phase 1	N/A	N/A
30th	0,009	0,042	Phase 1	N/A	N/A
31th	0,007	0,032	Phase 1	N/A	N/A
32th	0,009	0,043	Phase 1	N/A	N/A
33th	0,007	0,033	Phase 1	N/A	N/A
34th	0,009	0,040	Phase 1	N/A	N/A
35th	0,008	0,037	Phase 1	N/A	N/A
36th	0,008	0,036	Phase 1	N/A	N/A
37th	0,009	0,042	Phase 1	N/A	N/A
38th	0,008	0,036	Phase 1	N/A	N/A
39th	0,009	0,042	Phase 1	N/A	N/A
40th	0,007	0,033	Phase 1	N/A	N/A
THD_{40}	-	0,842	Phase 1	13	13
PWHD	-	0,001	Phase 1	22	22

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE16K			
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN61000-3-12 [%]	
				1 phase	3 phase
1st	21,809	100,000	Phase 2	-	-
2nd	0,073	0,336	Phase 2	8	8
3rd	0,107	0,493	Phase 2	21,6	N/A
4th	0,021	0,098	Phase 2	4	4
5th	0,072	0,330	Phase 2	10,7	10,7
6th	0,015	0,068	Phase 2	2,67	2,67
7th	0,073	0,334	Phase 2	7,2	7,2
8th	0,015	0,067	Phase 2	2	2
9th	0,057	0,264	Phase 2	3,8	N/A
10th	0,014	0,062	Phase 2	1,6	1,6
11th	0,051	0,233	Phase 2	3,1	3,1
12th	0,012	0,056	Phase 2	1,33	1,33
13th	0,041	0,188	Phase 2	2	2
14th	0,013	0,060	Phase 2	N/A	N/A
15th	0,029	0,135	Phase 2	N/A	N/A
16th	0,012	0,056	Phase 2	N/A	N/A
17th	0,026	0,120	Phase 2	N/A	N/A
18th	0,011	0,050	Phase 2	N/A	N/A
19th	0,021	0,097	Phase 2	N/A	N/A
20th	0,012	0,056	Phase 2	N/A	N/A
21th	0,014	0,064	Phase 2	N/A	N/A
22th	0,011	0,051	Phase 2	N/A	N/A
23th	0,015	0,067	Phase 2	N/A	N/A
24th	0,010	0,045	Phase 2	N/A	N/A
25th	0,010	0,047	Phase 2	N/A	N/A
26th	0,011	0,049	Phase 2	N/A	N/A
27th	0,007	0,033	Phase 2	N/A	N/A
28th	0,010	0,046	Phase 2	N/A	N/A
29th	0,007	0,033	Phase 2	N/A	N/A
30th	0,008	0,038	Phase 2	N/A	N/A
31th	0,007	0,030	Phase 2	N/A	N/A
32th	0,009	0,043	Phase 2	N/A	N/A
33th	0,006	0,029	Phase 2	N/A	N/A
34th	0,009	0,040	Phase 2	N/A	N/A
35th	0,009	0,040	Phase 2	N/A	N/A
36th	0,007	0,033	Phase 2	N/A	N/A
37th	0,010	0,046	Phase 2	N/A	N/A
38th	0,008	0,036	Phase 2	N/A	N/A
39th	0,008	0,038	Phase 2	N/A	N/A
40th	0,007	0,033	Phase 2	N/A	N/A
THD_{40}	-	0,934	Phase 2	13	13
PWHD	-	0,001	Phase 2	22	22

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE16K			
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN61000-3-12 [%]	
				1 phase	3 phase
1st	21,754	100,000	Phase 3	-	-
2nd	0,066	0,305	Phase 3	8	8
3rd	0,137	0,629	Phase 3	21,6	N/A
4th	0,019	0,087	Phase 3	4	4
5th	0,038	0,173	Phase 3	10,7	10,7
6th	0,014	0,066	Phase 3	2,67	2,67
7th	0,118	0,541	Phase 3	7,2	7,2
8th	0,014	0,064	Phase 3	2	2
9th	0,034	0,156	Phase 3	3,8	N/A
10th	0,014	0,065	Phase 3	1,6	1,6
11th	0,081	0,372	Phase 3	3,1	3,1
12th	0,012	0,057	Phase 3	1,33	1,33
13th	0,023	0,107	Phase 3	2	2
14th	0,013	0,058	Phase 3	N/A	N/A
15th	0,051	0,234	Phase 3	N/A	N/A
16th	0,013	0,060	Phase 3	N/A	N/A
17th	0,015	0,068	Phase 3	N/A	N/A
18th	0,011	0,052	Phase 3	N/A	N/A
19th	0,034	0,156	Phase 3	N/A	N/A
20th	0,012	0,054	Phase 3	N/A	N/A
21th	0,015	0,067	Phase 3	N/A	N/A
22th	0,012	0,055	Phase 3	N/A	N/A
23th	0,018	0,084	Phase 3	N/A	N/A
24th	0,010	0,047	Phase 3	N/A	N/A
25th	0,011	0,050	Phase 3	N/A	N/A
26th	0,011	0,049	Phase 3	N/A	N/A
27th	0,007	0,032	Phase 3	N/A	N/A
28th	0,011	0,049	Phase 3	N/A	N/A
29th	0,007	0,033	Phase 3	N/A	N/A
30th	0,009	0,041	Phase 3	N/A	N/A
31th	0,008	0,039	Phase 3	N/A	N/A
32th	0,010	0,044	Phase 3	N/A	N/A
33th	0,006	0,026	Phase 3	N/A	N/A
34th	0,009	0,042	Phase 3	N/A	N/A
35th	0,012	0,054	Phase 3	N/A	N/A
36th	0,008	0,035	Phase 3	N/A	N/A
37th	0,008	0,035	Phase 3	N/A	N/A
38th	0,008	0,037	Phase 3	N/A	N/A
39th	0,012	0,053	Phase 3	N/A	N/A
40th	0,008	0,035	Phase 3	N/A	N/A
THD_{40}	-	1,082	Phase 3	13	13
PWHD	-	0,002	Phase 3	22	22

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE17K			
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN61000-3-12 [%]	
				1 phase	3 phase
1st	23,093	100,000	Phase 1	-	-
2nd	0,061	0,266	Phase 1	8	8
3rd	0,065	0,281	Phase 1	21,6	N/A
4th	0,018	0,078	Phase 1	4	4
5th	0,061	0,266	Phase 1	10,7	10,7
6th	0,014	0,062	Phase 1	2,67	2,67
7th	0,067	0,292	Phase 1	7,2	7,2
8th	0,014	0,061	Phase 1	2	2
9th	0,054	0,234	Phase 1	3,8	N/A
10th	0,013	0,058	Phase 1	1,6	1,6
11th	0,048	0,208	Phase 1	3,1	3,1
12th	0,013	0,055	Phase 1	1,33	1,33
13th	0,037	0,159	Phase 1	2	2
14th	0,013	0,056	Phase 1	N/A	N/A
15th	0,029	0,125	Phase 1	N/A	N/A
16th	0,012	0,053	Phase 1	N/A	N/A
17th	0,027	0,116	Phase 1	N/A	N/A
18th	0,011	0,048	Phase 1	N/A	N/A
19th	0,022	0,094	Phase 1	N/A	N/A
20th	0,011	0,050	Phase 1	N/A	N/A
21th	0,015	0,065	Phase 1	N/A	N/A
22th	0,011	0,048	Phase 1	N/A	N/A
23th	0,014	0,062	Phase 1	N/A	N/A
24th	0,010	0,044	Phase 1	N/A	N/A
25th	0,011	0,048	Phase 1	N/A	N/A
26th	0,010	0,044	Phase 1	N/A	N/A
27th	0,008	0,034	Phase 1	N/A	N/A
28th	0,010	0,042	Phase 1	N/A	N/A
29th	0,007	0,030	Phase 1	N/A	N/A
30th	0,009	0,038	Phase 1	N/A	N/A
31th	0,006	0,027	Phase 1	N/A	N/A
32th	0,009	0,038	Phase 1	N/A	N/A
33th	0,006	0,027	Phase 1	N/A	N/A
34th	0,008	0,036	Phase 1	N/A	N/A
35th	0,007	0,028	Phase 1	N/A	N/A
36th	0,007	0,032	Phase 1	N/A	N/A
37th	0,008	0,033	Phase 1	N/A	N/A
38th	0,007	0,031	Phase 1	N/A	N/A
39th	0,008	0,033	Phase 1	N/A	N/A
40th	0,007	0,030	Phase 1	N/A	N/A
THD_{40}	-	0,738	Phase 1	13	13
PWHD	-	0,001	Phase 1	22	22

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE17K			
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN61000-3-12 [%]	
				1 phase	3 phase
1st	23,120	100,000	Phase 2	-	-
2nd	0,059	0,255	Phase 2	8	8
3rd	0,101	0,438	Phase 2	21,6	N/A
4th	0,019	0,080	Phase 2	4	4
5th	0,066	0,285	Phase 2	10,7	10,7
6th	0,014	0,061	Phase 2	2,67	2,67
7th	0,070	0,304	Phase 2	7,2	7,2
8th	0,014	0,060	Phase 2	2	2
9th	0,056	0,243	Phase 2	3,8	N/A
10th	0,013	0,056	Phase 2	1,6	1,6
11th	0,050	0,215	Phase 2	3,1	3,1
12th	0,012	0,052	Phase 2	1,33	1,33
13th	0,040	0,174	Phase 2	2	2
14th	0,013	0,054	Phase 2	N/A	N/A
15th	0,029	0,127	Phase 2	N/A	N/A
16th	0,012	0,051	Phase 2	N/A	N/A
17th	0,026	0,112	Phase 2	N/A	N/A
18th	0,010	0,045	Phase 2	N/A	N/A
19th	0,022	0,094	Phase 2	N/A	N/A
20th	0,011	0,049	Phase 2	N/A	N/A
21th	0,015	0,065	Phase 2	N/A	N/A
22th	0,011	0,046	Phase 2	N/A	N/A
23th	0,015	0,067	Phase 2	N/A	N/A
24th	0,009	0,041	Phase 2	N/A	N/A
25th	0,011	0,046	Phase 2	N/A	N/A
26th	0,010	0,044	Phase 2	N/A	N/A
27th	0,008	0,033	Phase 2	N/A	N/A
28th	0,009	0,041	Phase 2	N/A	N/A
29th	0,008	0,033	Phase 2	N/A	N/A
30th	0,008	0,035	Phase 2	N/A	N/A
31th	0,006	0,028	Phase 2	N/A	N/A
32th	0,009	0,039	Phase 2	N/A	N/A
33th	0,006	0,026	Phase 2	N/A	N/A
34th	0,008	0,035	Phase 2	N/A	N/A
35th	0,007	0,032	Phase 2	N/A	N/A
36th	0,007	0,030	Phase 2	N/A	N/A
37th	0,009	0,037	Phase 2	N/A	N/A
38th	0,007	0,032	Phase 2	N/A	N/A
39th	0,007	0,031	Phase 2	N/A	N/A
40th	0,007	0,030	Phase 2	N/A	N/A
THD_{40}	-	0,825	Phase 2	13	13
PWHD	-	0,001	Phase 2	22	22

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Power Quality. Harmonic current emission

micro-generator		SE17K			
Harmonic order n	Current Magnitude [A] at 100% rated output power	% of Fundamental	Phase	Harmonic current limit EN61000-3-12 [%]	
				1 phase	3 phase
1st	23,063	100,000	Phase 3	-	-
2nd	0,052	0,225	Phase 3	8	8
3rd	0,132	0,571	Phase 3	21,6	N/A
4th	0,017	0,073	Phase 3	4	4
5th	0,035	0,151	Phase 3	10,7	10,7
6th	0,014	0,060	Phase 3	2,67	2,67
7th	0,115	0,497	Phase 3	7,2	7,2
8th	0,014	0,059	Phase 3	2	2
9th	0,033	0,142	Phase 3	3,8	N/A
10th	0,014	0,060	Phase 3	1,6	1,6
11th	0,079	0,343	Phase 3	3,1	3,1
12th	0,012	0,054	Phase 3	1,33	1,33
13th	0,023	0,100	Phase 3	2	2
14th	0,013	0,055	Phase 3	N/A	N/A
15th	0,050	0,215	Phase 3	N/A	N/A
16th	0,013	0,055	Phase 3	N/A	N/A
17th	0,015	0,065	Phase 3	N/A	N/A
18th	0,011	0,048	Phase 3	N/A	N/A
19th	0,033	0,143	Phase 3	N/A	N/A
20th	0,012	0,050	Phase 3	N/A	N/A
21th	0,014	0,061	Phase 3	N/A	N/A
22th	0,012	0,051	Phase 3	N/A	N/A
23th	0,018	0,077	Phase 3	N/A	N/A
24th	0,010	0,043	Phase 3	N/A	N/A
25th	0,010	0,045	Phase 3	N/A	N/A
26th	0,010	0,045	Phase 3	N/A	N/A
27th	0,007	0,031	Phase 3	N/A	N/A
28th	0,010	0,045	Phase 3	N/A	N/A
29th	0,007	0,032	Phase 3	N/A	N/A
30th	0,009	0,038	Phase 3	N/A	N/A
31th	0,008	0,035	Phase 3	N/A	N/A
32th	0,009	0,040	Phase 3	N/A	N/A
33th	0,005	0,023	Phase 3	N/A	N/A
34th	0,009	0,038	Phase 3	N/A	N/A
35th	0,011	0,046	Phase 3	N/A	N/A
36th	0,007	0,032	Phase 3	N/A	N/A
37th	0,007	0,029	Phase 3	N/A	N/A
38th	0,008	0,034	Phase 3	N/A	N/A
39th	0,010	0,045	Phase 3	N/A	N/A
40th	0,007	0,031	Phase 3	N/A	N/A
THD_{40}	-	0,973	Phase 3	13	13
PWHD	-	0,002	Phase 3	22	22

Appendix E Type Verification Test Report

Extract from test report according to EN 50438 **Nr. 10TH0222_EN50438_5**

Voltage fluctuation and Flicker.					
	Maximum permissible flicker and voltage fluctuation as per EN 61000-3-11				
SE9K					
Value	**Pst**	**Plt 2 hours**	**d(t) $_{500ms}$**	**dc**	**dmax**
Limit	1,0	0,65	3,3%	3,3%	4%
Test value	0,08	0,08	3,04%	3,04%	0,30%
SE17K					
Value	**Pst**	**Plt 2 hours**	**d(t) $_{500ms}$**	**dc**	**dmax**
Limit	1,0	0,65	3,3%	3,3%	4%
Test value	0,05	0,05	1,61%	1,61%	0,16%

DC-Injection.				
Protection limit SE17K	Tested at four power levels, limit 0,5% of IAC_{nom} (127,5mA)			
Output power	**~20%**	**~50%**	**75%**	**~100%**
Max. test value (phase L1) [mA]	4,43	6,03	4,55	14,01
Max. test value (phase L2) [mA]	35,14	31,57	33,77	28,97
Max. test value (phase L3) [mA]	10,57	10,53	10,54	16,20