

# EMC TEST REPORT

The device described below is tested by Dongguan Nore Testing Center Co., Ltd. to determine the maximum emission levels emanating from the device, the severe levels which the device can endure and E.U.T.'s performance criterion. The test results are contained in this test report. Dongguan Nore Testing Center Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

Applicant : Flin Technologies Private Limited  
Address : 1601 Montreal Tower, Shastri Nagar, Andheri West, Mumbai - 400 053, India  
Manufacturer/ Factory : Flin Technologies Private Limited  
Address : 1601 Montreal Tower, Shastri Nagar, Andheri West, Mumbai - 400 053, India  
E.U.T. : FlinInfini Lite On-grid Inverter with Energy storage  
Brand Name :   
Model No. : FlinInfini Lite 3kW-48V, FlinInfini Lite 4kW-48V, FlinInfini Lite 5kW-48V  
Measurement Standard : EN 61000-6-3: 2007+A1: 2011+AC: 2012  
EN 61000-3-12: 2011, EN 61000-3-11: 2000  
EN 61000-6-2: 2005+AC: 2005  
(EN 61000-4-2: 2009, EN 61000-4-3: 2006+A2: 2010,  
EN 61000-4-4: 2012, EN 61000-4-5: 2014,  
EN 61000-4-6: 2014, EN 61000-4-11: 2004, EN 61000-4-8: 2010)  
Date of Receiver : September 14, 2016  
Date of Test : September 18, 2016 to September 20, 2016  
Date of Report : September 21, 2016

This Test Report is Issued Under the Authority of :

Prepared by



Yoyo Deng / Engineer



Approved & Authorized Signer



Iori Fan / Authorized Signatory

This report shows that the E.U.T. is technically compliant with the EN 61000-6-3, EN 61000-3-12, EN 61000-3-11 and EN 61000-6-2. This report applies to above tested sample only and shall not be reproduced in part without written approval of Dongguan Nore Testing Center Co., Ltd.

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Appendix I (Photos of E.U.T.) (49 pages)





## 1. SUMMARY OF TEST RESULTS


The E.U.T. has been tested according to the following specifications:

<b>EMISSION</b>			
<b>Standard</b>	<b>Test Type</b>	<b>Result</b>	<b>Remarks</b>
EN 61000-6-3: 2007+A1: 2011+AC: 2012	Mains Terminal Disturbance Voltage Test	PASS	Uncertainty: 2.7dB
	Radiated Emission Test	PASS	Uncertainty: 3.4dB
EN 61000-3-12: 2011	Harmonic current emission	PASS	Meets the requirements.
EN 61000-3-11: 2000	Voltage fluctuations & flicker	PASS	Meets the requirements.

<b>IMMUNITY (EN 61000-6-2: 2005+AC: 2005)</b>			
<b>Standard</b>	<b>Test Type</b>	<b>Result</b>	<b>Remarks</b>
EN 61000-4-2: 2009	Electrostatic discharge immunity test	PASS	Meets the requirements of Performance Criterion B
EN 61000-4-3: 2006+A2: 2010	Radio-frequency, electromagnetic field immunity test	PASS	Meets the requirements of Performance Criterion A
EN 61000-4-4: 2012	Electrical fast transient/ burst immunity test	PASS	Meets the requirements of Performance Criterion B
EN 61000-4-5: 2014	Surge immunity test	PASS	Meets the requirements of Performance Criterion B
EN 61000-4-6: 2014	Injected Currents immunity test	PASS	Meets the requirements of Performance Criterion A
EN 61000-4-11: 2004	Voltage Dips and Interruptions	PASS	Meets the requirements of Performance Criterion B&C
EN 61000-4-8: 2010	Magnetic Field Immunity Test	PASS	Meets the requirements of Performance Criterion A


## 2. GENERAL INFORMATION


### 2.1 Details of E.U.T.


- E.U.T. : FlinInfini Lite On-grid Inverter with Energy storage
- Model No. : FlinInfini Lite 3kW-48V, FlinInfini Lite 4kW-48V, FlinInfini Lite 5kW-48V
- Brand Name : 
- Rating : Details see page after
- Test Voltage : GRID INPUT: 230V/50Hz;  
BATTERY: DC 48V
- Cable : N/A
- Description of model : All models have the same circuitry, electrical mechanical difference and physical construction. Their differences in MPPT board, enclosure size and power data.
- Remark : N/A

### 2.2 Description of Support Device

None

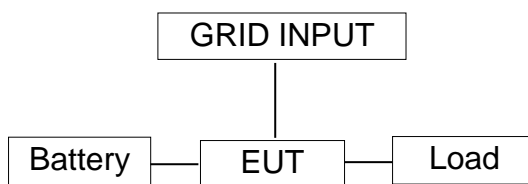
Model No. : <b>FlinInfini Lite 3kW-48V</b>	
Serial No. :  961 31112100001	
PV INPUT	Nominal operating voltage 360Vdc
	<u>Vmax</u> PV 500Vdc
	<u>Isc</u> PV 18A
	MPPT voltage range 250 - 450Vdc
GRID/AC OUTPUT	Nominal operating voltage 230 Vac
	Maximum output current 17A
	Nominal operating frequency 50Hz
	Maximum power 3000W
	Power factor range 0.9 lead-0.9lag
AC INPUT	Nominal operating voltage 230 Vac
	Maximum input current 20A
	Nominal operating frequency 50Hz
BATTERY	Battery voltage range 42-56Vdc
	Minimum capacity 125Ah
	Maximum battery current 82A

<b>Model No. : <u>FlinInfini Lite 4kW-48V</u></b>	
Serial No. :  96121112100001	
PV INPUT	Nominal operating voltage 360Vdc
	<u>V<sub>max</sub> PV</u> 580Vdc
	<u>I<sub>sc</sub> PV</u> 18A
	MPPT voltage range 280 ~ 500Vdc
GRID/AC OUTPUT	Nominal operating voltage 230 Vac
	Maximum output current 23A
	Nominal operating frequency 50Hz
	Maximum power 4000W
Power factor range 0.9 lead-0.9lag	
AC INPUT	Nominal operating voltage 230 Vac
	Maximum input current 40A
	Nominal operating frequency 50Hz
BATTERY	Battery voltage range 40~66Vdc
	Minimum capacity 125Ah
	Maximum battery current 110A

<b>Model No. : <u>FlinInfini Lite 5kW-48V</u></b>	
Serial No. :  96131511100001	
PV INPUT	Nominal operating voltage 720Vdc
	<u>V<sub>max</sub> PV</u> 900Vdc
	PV input voltage range 200-900Vdc
	<u>I<sub>sc</sub> PV</u> 2*10A
	MPPT voltage range 500 ~ 850Vdc
GRID/AC OUTPUT	Nominal operating voltage 230Vac
	Nominal output current 21.7A
	Nominal operating frequency 50Hz
	Maximum power 5000W
	Power factor range 0.9 lead-0.9lag
AC INPUT	Nominal operating voltage 230Vac
	Maximum input current 40A
	Nominal operating frequency 50Hz
BATTERY	Battery voltage range 42~60Vdc
	Maximum battery current 138A

## 2.3 Block Diagram of Test Setup

Block diagram of connection between the E.U.T. and simulators



## 2.4 Test Facility

### Site Description

#### EMC Lab

: Listed by CNAS, August 14, 2015  
The certificate is valid until August 13, 2018  
The Laboratory has been assessed and proved to be in compliance with CNAS/CL01  
The Certificate Registration Number is L5795.

Listed by FCC, August. 02, 2011  
The Certificate Number is 665078.

Listed by Industry Canada, July 01, 2011  
The Certificate Registration Number. Is 46405-9743

#### Name of Firm

: Dongguan Nore Testing Center Co., Ltd.  
(Dongguan NTC Co., Ltd.)

#### Site Location

: Building D, Gaosheng Science & Technology Park,  
Zhouxi Longxi Road, Nancheng District,  
Dongguan City, Guangdong Province, China

## 2.5 Abnormalities from Standard Conditions

None

### 3. MEASURING DEVICES AND TEST EQUIPMENT

#### 3.1.For Mains terminals Disturbance voltage Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI	101152	Mar. 07, 2016	1 Year
2.	L.I.S.N	Rohde & Schwarz	ENV 216	101317	Mar. 07, 2016	1 Year
3.	L.I.S.N	Schwarzbeck	NNLK8129	8129-212	Mar. 07, 2016	1 Year
4.	RF Switching Unit	Compliance Direction Systems Inc.	RSU-M2	38311	Mar. 07, 2016	1 Year
5.	Pulse Limiter	MTS-systemtechnik	MTS-IMP-136	26115-010-0007	Mar. 07, 2016	1 Year

#### 3.2.For Radiated Emission Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI7	100837	Mar. 07, 2016	1 Year
2.	Antenna	Schwarzbeck	VULB9162	9162-010	Mar. 14, 2016	1 Year
3.	Positioning Controller	UC	UC 3000	N/A	N/A	N/A
4.	Color Monitor	SUNSP0	SP-140A	N/A	N/A	N/A
5.	Single Phase Power Line Filter	SAEMC	PF201A-32	110210	N/A	N/A
6.	3 Phase Power Line Filter	SAEMC	PF401A-200	110318	N/A	N/A
7.	DC Power Filter	SAEMC	PF301A-200	110245	N/A	N/A
8.	Cable	Huber+Suhner	CBL3-NN-9M	21490001	Mar. 07, 2016	1 Year
9.	Cable	Huber+Suhner	RG223U	N/A	Mar. 07, 2016	1 Year
10.	Power Amplifier	HP	HP 8447D	1145A00203	Mar. 07, 2016	1 Year

#### 3.3.For Harmonic/ Flicker Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Three Phase Harmonic Flicker Test System	California Instruments	MX45-3PI-400-413-C TSHL-LF-SNK	1424A00547	Jul. 25, 2016	1 Year

### 3.4. For Electrostatic Discharge Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	ESD Tester	TESEQ	NSG 437	432	Mar. 14, 2016	1 Year

### 3.5.For RF Electromagnetic Field Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Signal Generator	Agilent	N5181A	MY501425 30	Aug. 31, 2016	1 Year
2.	Antenna	Schwarzbeck	VULB9162	9162-010	Mar. 14, 2016	1 Year
3.	RF Power Meter	ESE	4242	13984	Aug. 31, 2016	1 Year
4.	Power Amplifier	TESEQ	CBA 1G-150	T44029	N/A	1 Year
5.	Power Sensor	ESE	51011EMC	35716	Aug. 31, 2016	1 Year

### 3.6.For Electrical Fast Transient /Burst Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Burst Tester	EM TEST	UCS 500N	V1104108683	Mar. 07, 2016	1 Year
2.	Coupling Clamp	EM TEST	HFK	0311-94	Mar. 07, 2016	1 Year
3.	Test Soft	EM TEST	lec. control	N/A	N/A	N/A

### 3.7.For Surge Immunity Test

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Surge Tester	EM TEST	UCS 500N	V1104108683	Mar. 07, 2016	1 Year
2.	Test Soft	EM TEST	lec. control	N/A	N/A	N/A

### 3.8.For Injected Currents Immunity Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	CDN	Luthi	L-801M2/M3	2015	Oct.19, 2015	1 Year
2.	C/S Test System	HAEFELY	WinPAMP	NSEMC002	N/A	1 Year

### 3.9.For Voltage Dips and Interruptions Measurement

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Dips Tester	EM TEST	UCS500N	V1104108683	Mar. 07, 2016	1 Year
2.	Test Soft	EM TEST	lec.control	N/A	N/A	N/A
3.	Dips Modulator	EM TEST	V4780S2	0111-11	Mar. 07, 2016	1 Year

### 3.10.For Magnetic Field Immunity Measurement

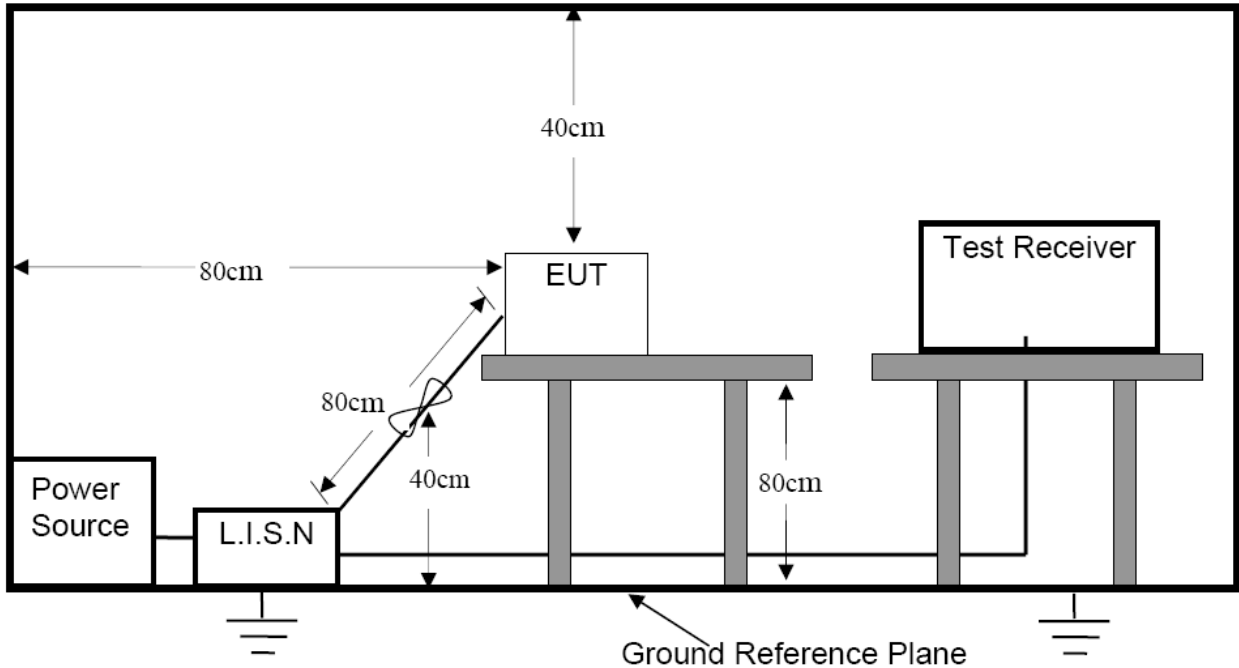
(GUANGZHOU GRG METROLOGY & TEST CO., LTD.)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Magnetic Field Tester	EMC PARTNER	TRA2000	853	Jun. 01, 2016	1 Year
2.	Variac Module	EMC PARTNER	VAR-EXT10000	041	Apr. 16, 2016	1 Year
3.	Induction Coil	EMC PARTNER	MF1000-1	150	Apr. 16, 2016	1 Year



## 4. MAINS TERMINAL DISTURBANCE VOLTAGE MEASUREMENT

### 4.1 Block Diagram of Test Setup



### 4.2 Limit of Mains Terminal Disturbance voltage measurement

Test Standard: EN 61000-6-3

Limits for conducted disturbance at the mains port.

Frequency range (MHz)	Limits (dB(uV))	
	Quasi-peak	Average
0.15 to 0.5	66 to 56	56 to 46
0.5 to 5	56	46
5 to 30	60	50

- Note:
1. The lower limit shall apply at the transition frequencies.
  2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

### 4.3 Test Procedure

The E.U.T. is put on the 0.8 m high table and connected to the AC mains through a Artificial Mains Network (AMN). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission levels according to the EN 61000-6-3 regulations during conducted emission test.

The bandwidth of the test receiver (R&S Test Receiver ESCI) is set at 9 KHz.

### 4.4 Operating Condition of E.U.T.

4.4.1 Setup the E.U.T. and simulators as shown in Section 2.3.

4.4.2 Turn on the power of all equipments.

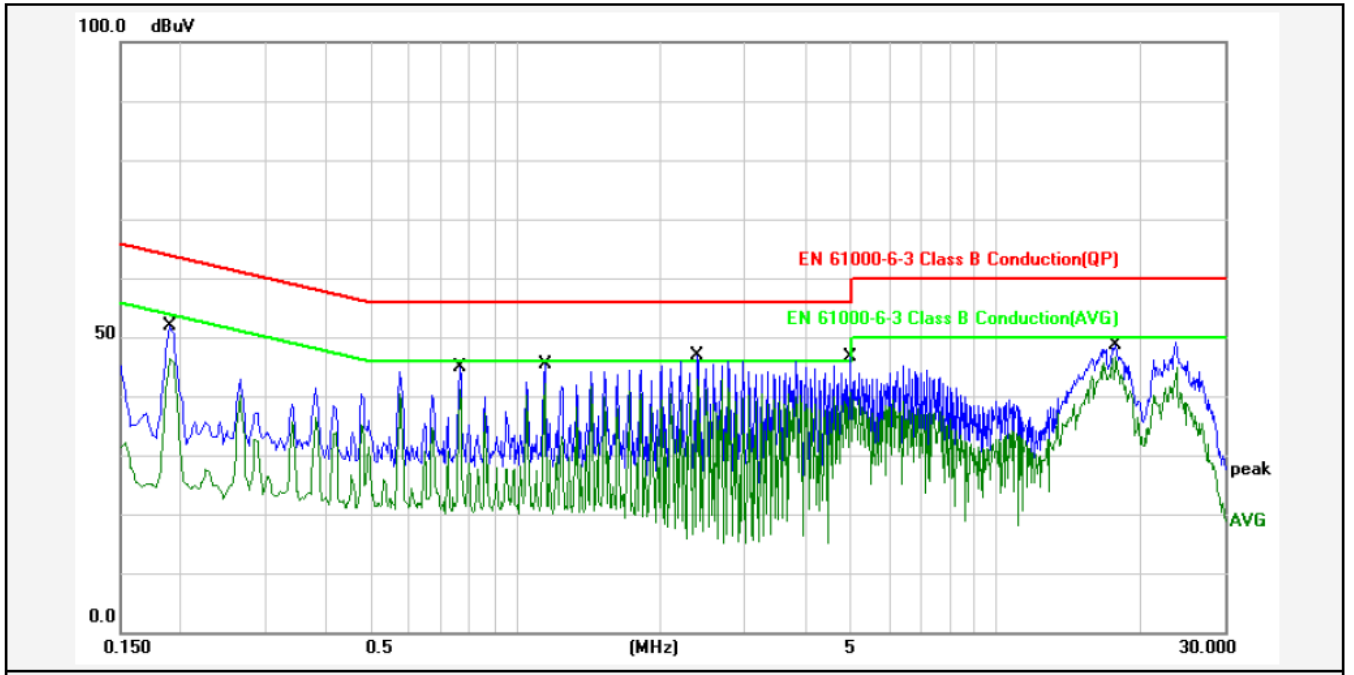
4.4.3 Let the E.U.T. work in test mode and test it.

### 4.5 Mains Terminal Disturbance Voltage Test Results

**PASS.**

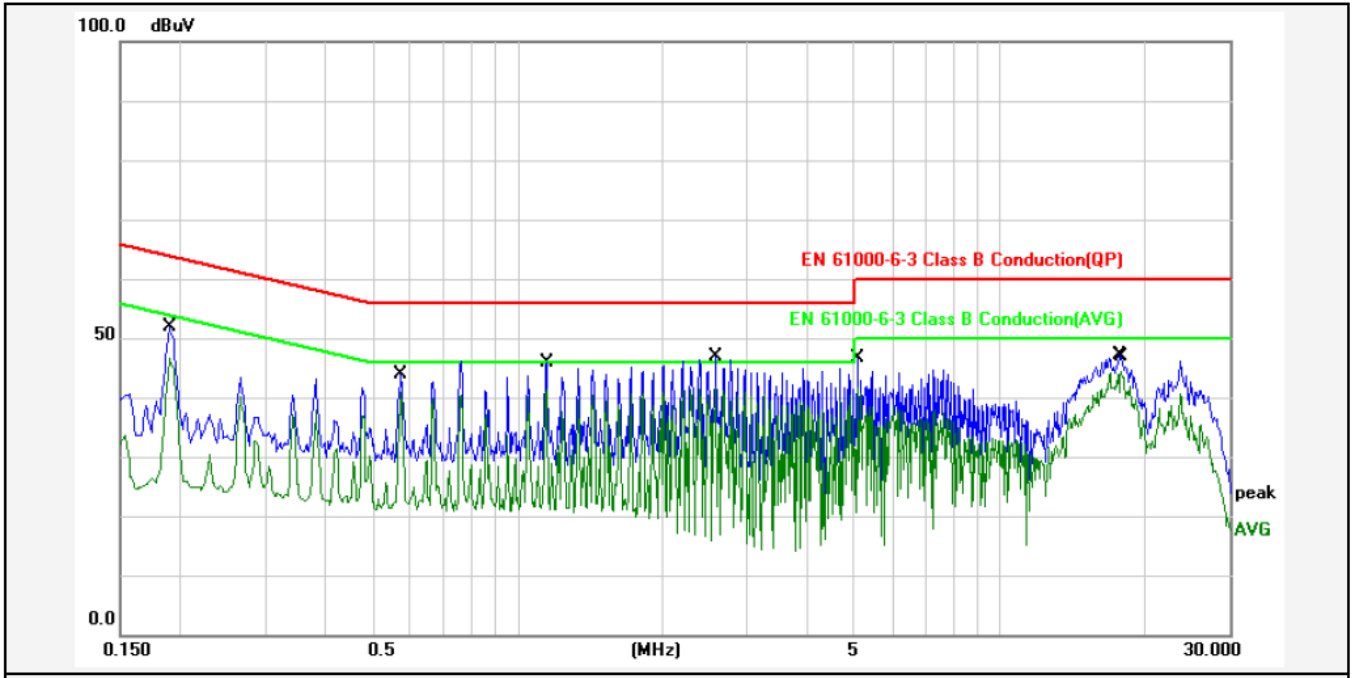
Please refer to the following pages.

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfini Lite 3kW-48V
Temperature :	26 °C	Relative Humidity :	55 %
Pressure :	1006 hPa	Test Voltage :	DC48V
Test Mode :	Battery+Full load	Phase:	Neutral



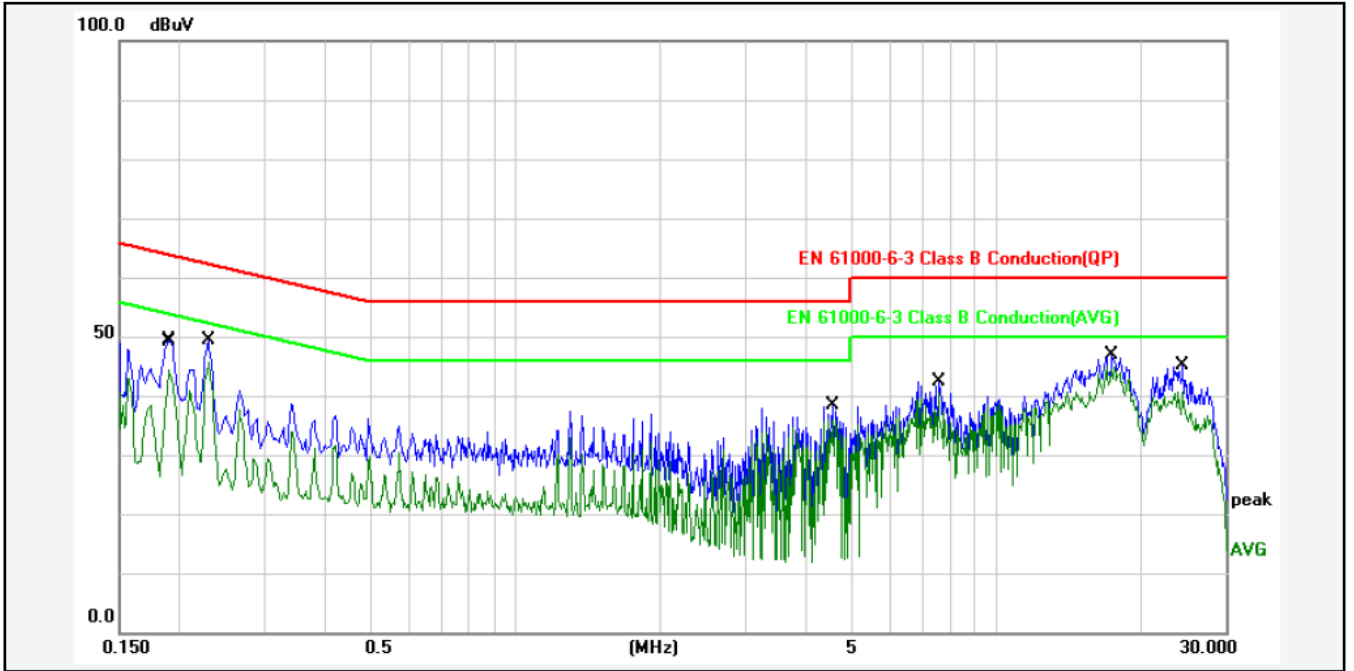
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1900	10.54	35.92	46.46	54.03	-7.57	AVG	P	
2	0.1903	10.53	41.09	51.62	64.02	-12.40	QP	P	
3	0.7660	10.24	34.70	44.94	56.00	-11.06	QP	P	
4	0.7660	10.24	31.00	41.24	46.00	-4.76	AVG	P	
5	1.1460	10.31	32.92	43.23	56.00	-12.77	QP	P	
6	1.1500	10.30	31.75	42.05	46.00	-3.95	AVG	P	
7	2.3940	10.22	36.78	47.00	56.00	-9.00	QP	P	
8	2.3940	10.22	32.65	42.87	46.00	-3.13	AVG	P	
9	4.9379	10.27	24.55	34.82	56.00	-21.18	QP	P	
10	4.9780	10.27	30.28	40.55	46.00	-5.45	AVG	P	
11	17.7899	10.37	38.32	48.69	60.00	-11.31	QP	P	
12	17.7900	10.37	36.31	46.68	50.00	-3.32	AVG	P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfiniLite 3kW-48V
Temperature :	26 °C	Relative Humidity :	55 %
Pressure :	1006 hPa	Test Voltage :	DC48V
Test Mode :	Battery+Full load	Phase:	Line



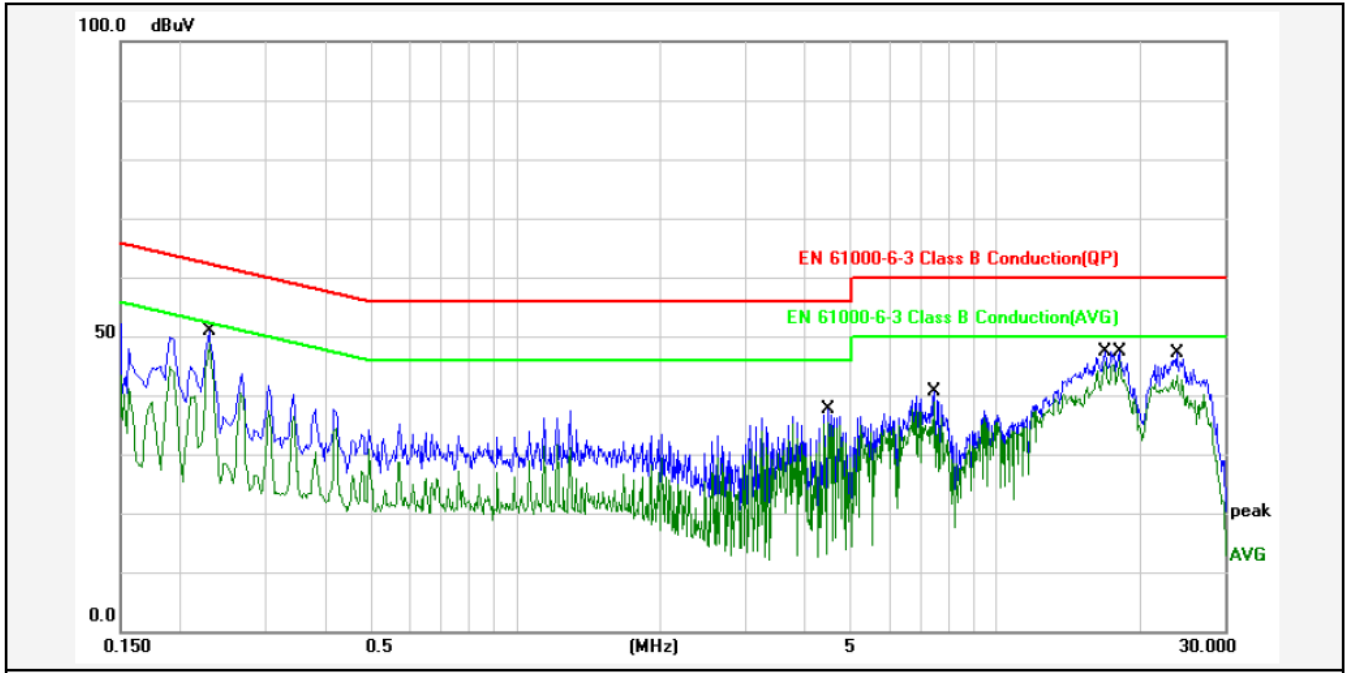
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1900	10.54	36.12	46.66	54.03	-7.37	AVG	P	
2	0.1903	10.53	40.85	51.38	64.02	-12.64	QP	P	
3	0.5740	10.23	33.73	43.96	56.00	-12.04	QP	P	
4	0.5740	10.23	30.53	40.76	46.00	-5.24	AVG	P	
5	1.1460	10.31	34.98	45.29	56.00	-10.71	QP	P	
6	1.1500	10.30	31.06	41.36	46.00	-4.64	AVG	P	
7	2.5860	10.22	36.61	46.83	56.00	-9.17	QP	P	
8	2.5860	10.22	31.46	41.68	46.00	-4.32	AVG	P	
9	5.0658	10.28	31.46	41.74	50.00	-8.26	AVG	P	
10	5.1019	10.28	21.26	31.54	60.00	-28.46	QP	P	
11	17.8819	10.37	34.04	44.41	50.00	-5.59	AVG	P	
12	17.9579	10.37	35.59	45.96	60.00	-14.04	QP	P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfiniLite 3kW-48V
Temperature :	26 °C	Relative Humidity :	55 %
Pressure :	1006 hPa	Test Voltage :	AC230V/50Hz
Test Mode :	Line+Battery+Full load	Phase:	Line



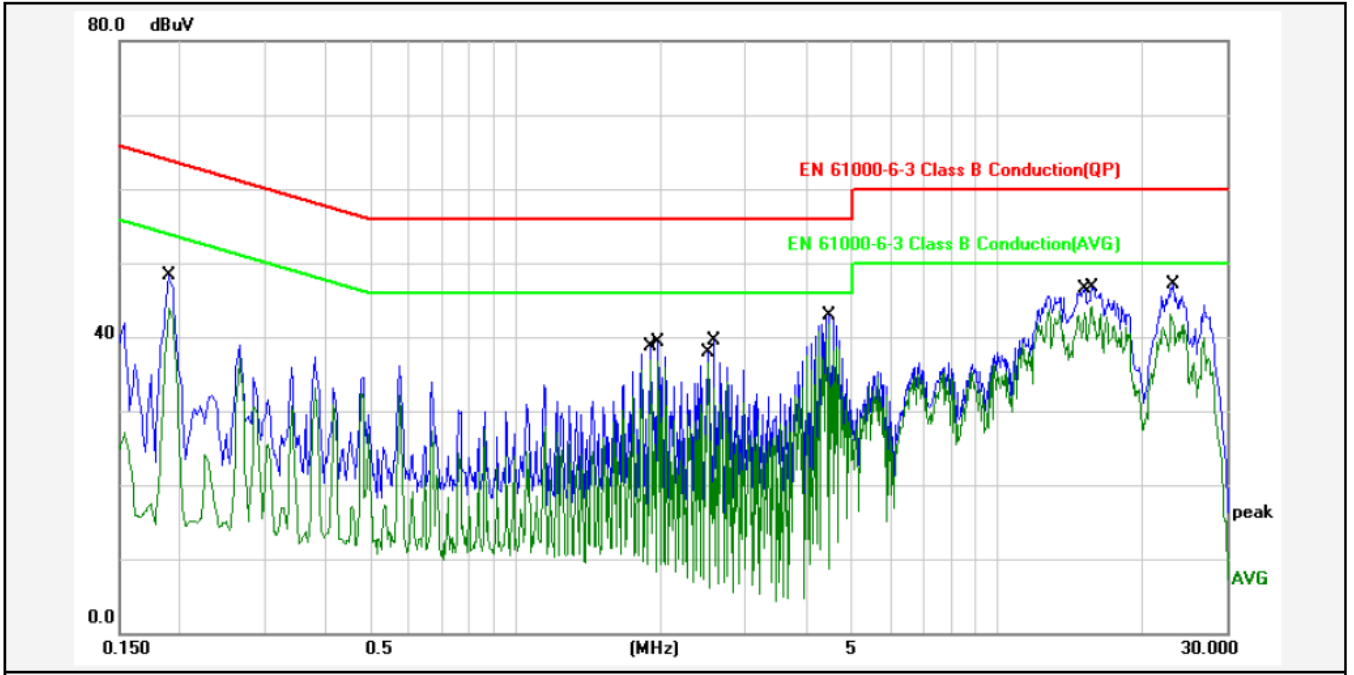
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1900	10.54	38.86	49.40	64.03	-14.63	QP	P	
2	0.1913	10.53	33.00	43.53	53.98	-10.45	AVG	P	
3	0.2300	10.52	38.88	49.40	62.45	-13.05	QP	P	
4	0.2316	10.52	33.34	43.86	52.39	-8.53	AVG	P	
5	4.5499	10.25	28.12	38.37	56.00	-17.63	QP	P	
6	4.6219	10.25	19.59	29.84	46.00	-16.16	AVG	P	
7	7.5700	10.34	30.05	40.39	50.00	-9.61	AVG	P	
8	7.6460	10.34	32.16	42.50	60.00	-17.50	QP	P	
9	17.4740	10.36	36.47	46.83	60.00	-13.17	QP	P	
10	17.6259	10.37	34.63	45.00	50.00	-5.00	AVG	P	
11	24.4740	10.40	34.63	45.03	60.00	-14.97	QP	P	
12	24.4740	10.40	30.16	40.56	50.00	-9.44	AVG	P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfiniLite 3kW-48V
Temperature :	26 °C	Relative Humidity :	55 %
Pressure :	1006 hPa	Test Voltage :	AC230V/50Hz
Test Mode :	Line+Battery+Full load	Phase:	Neutral



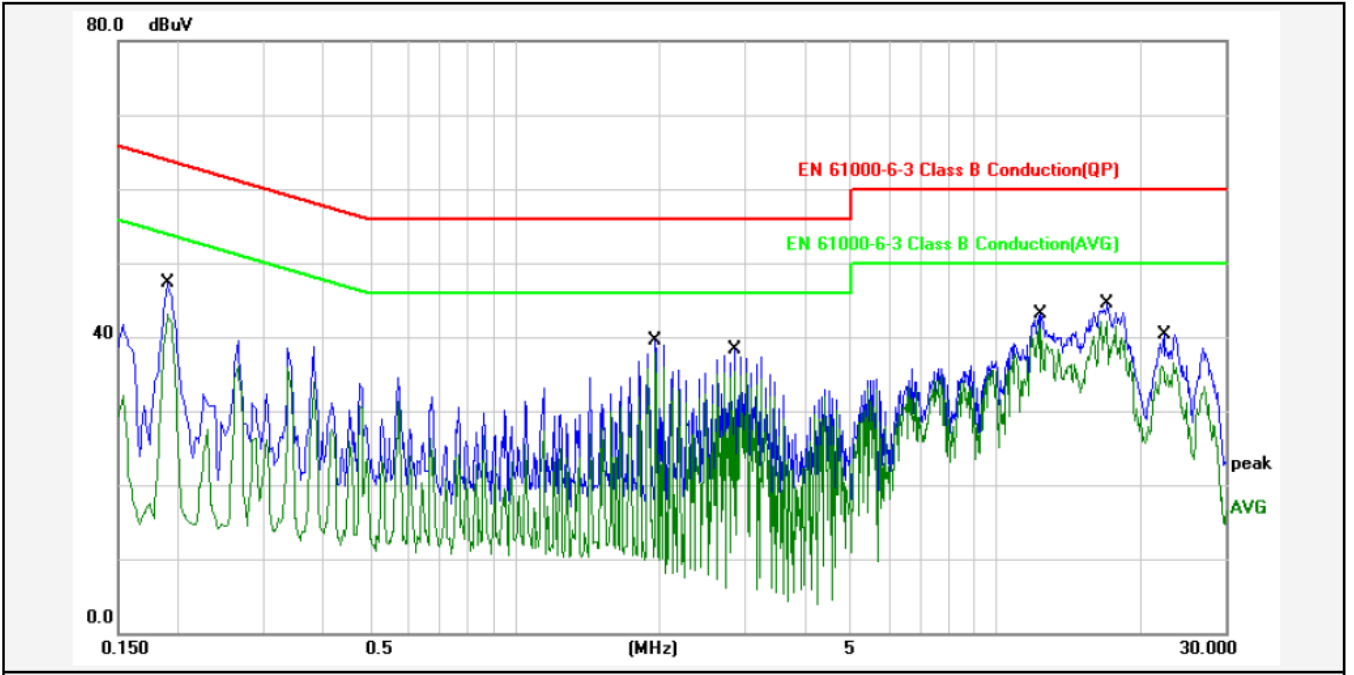
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.2300	10.52	40.35	50.87	62.45	-11.58	QP	P	
2	0.2300	10.52	38.30	48.82	52.45	-3.63	AVG	P	
3	4.4618	10.25	25.20	35.45	46.00	-10.55	AVG	P	
4	4.4979	10.25	20.47	30.72	56.00	-25.28	QP	P	
5	7.4780	10.34	28.65	38.99	50.00	-11.01	AVG	P	
6	7.5179	10.34	20.70	31.04	60.00	-28.96	QP	P	
7	16.9099	10.36	35.19	45.55	50.00	-4.45	AVG	P	
8	16.9100	10.36	37.14	47.50	60.00	-12.50	QP	P	
9	18.1299	10.37	35.63	46.00	50.00	-4.00	AVG	P	
10	18.2059	10.37	36.34	46.71	60.00	-13.29	QP	P	
11	23.8220	10.40	33.05	43.45	50.00	-6.55	AVG	P	
12	24.0060	10.40	35.33	45.73	60.00	-14.27	QP	P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfiniLite 4kW-48V
Temperature :	26 °C	Relative Humidity :	55 %
Pressure :	1006 hPa	Test Voltage :	DC48V
Test Mode :	Battery+Full load	Phase:	Neutral



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1900	10.43	37.93	48.36	64.03	-15.67	QP	P	
2	0.1900	10.43	33.54	43.97	54.03	-10.06	AVG	P	
3	1.9020	10.32	26.65	36.97	46.00	-9.03	AVG	P	
4	1.9780	10.32	28.91	39.23	56.00	-16.77	QP	P	
5	2.5100	10.32	26.15	36.47	46.00	-9.53	AVG	P	
6	2.5860	10.32	29.15	39.47	56.00	-16.53	QP	P	
7	4.4859	10.33	32.51	42.84	56.00	-13.16	QP	P	
8	4.4859	10.33	31.47	41.80	46.00	-4.20	AVG	P	
9	15.1819	10.37	36.14	46.51	60.00	-13.49	QP	P	
10	15.7539	10.39	33.74	44.13	50.00	-5.87	AVG	P	
11	22.9940	10.60	32.43	43.03	50.00	-6.97	AVG	P	
12	23.2260	10.60	36.56	47.16	60.00	-12.84	QP	P	

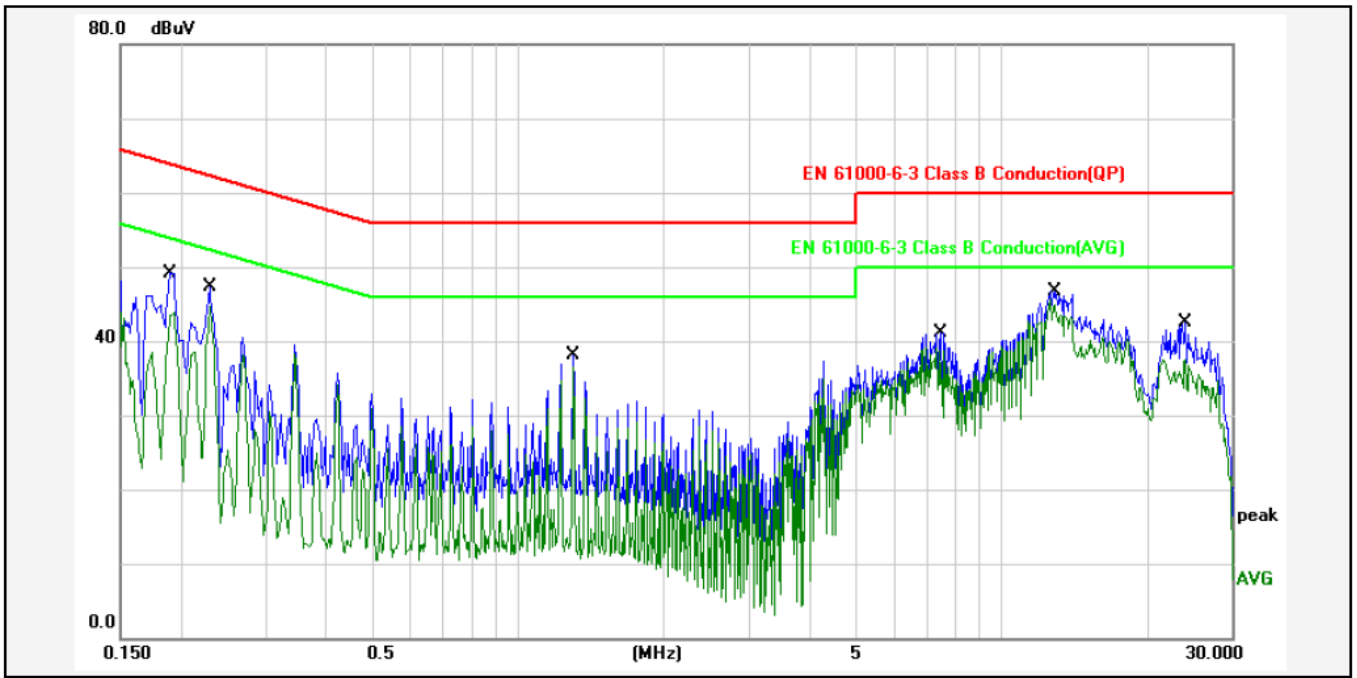
E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfiniLite 4kW-48V
Temperature :	26 °C	Relative Humidity :	55 %
Pressure :	1006 hPa	Test Voltage :	DC48V
Test Mode :	Battery+Full load	Phase:	Line



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1882	10.43	30.57	41.00	54.11	-13.11	AVG	P	
2	0.1900	10.43	36.88	47.31	64.03	-16.72	QP	P	
3	1.9658	10.32	29.11	39.43	56.00	-16.57	QP	P	
4	1.9658	10.32	27.53	37.85	46.00	-8.15	AVG	P	
5	2.8780	10.32	27.97	38.29	56.00	-17.71	QP	P	
6	2.8860	10.32	3.04	13.36	46.00	-32.64	AVG	P	
7	12.3939	10.35	32.70	43.05	60.00	-16.95	QP	P	
8	12.3939	10.35	30.78	41.13	50.00	-8.87	AVG	P	
9	17.0299	10.44	33.98	44.42	60.00	-15.58	QP	P	
10	17.0299	10.44	31.31	41.75	50.00	-8.25	AVG	P	
11	22.3140	10.59	29.76	40.35	60.00	-19.65	QP	P	
12	22.4618	10.59	23.53	34.12	50.00	-15.88	AVG	P	

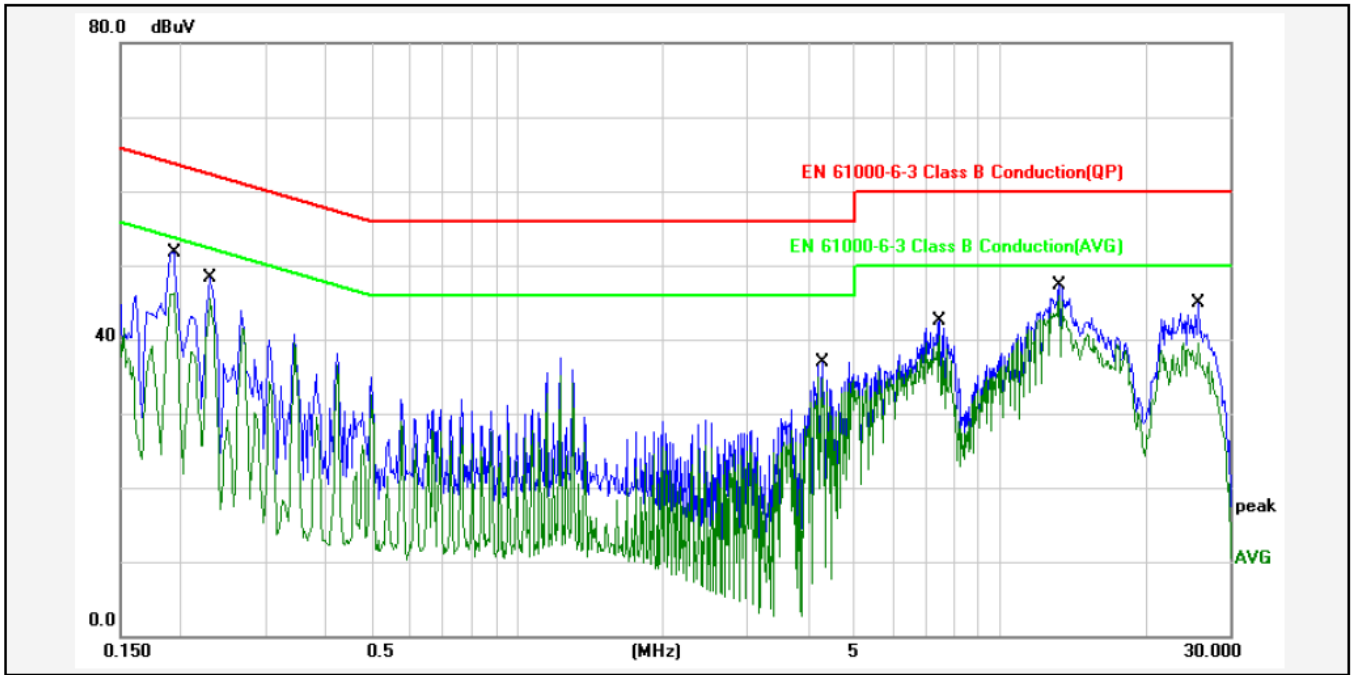


E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfiniLite 4kW-48V
Temperature :	26 °C	Relative Humidity :	55 %
Pressure :	1006 hPa	Test Voltage :	AC230V/50Hz
Test Mode :	Line+Battery+Full load	Phase:	Line



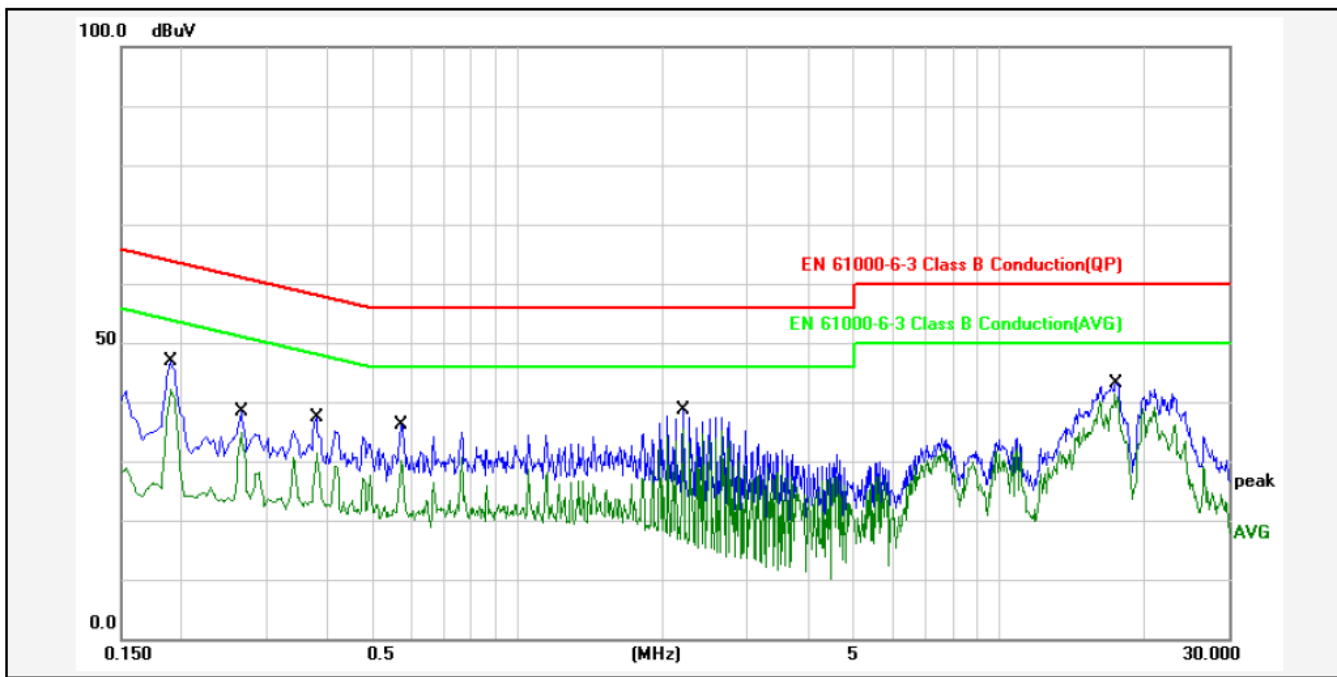
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1900	10.43	38.77	49.20	64.03	-14.83	QP	P	
2	0.1901	10.43	32.98	43.41	54.03	-10.62	AVG	P	
3	0.2300	10.39	36.84	47.23	62.45	-15.22	QP	P	
4	0.2303	10.39	33.80	44.19	52.44	-8.25	AVG	P	
5	1.3020	10.32	27.69	38.01	56.00	-17.99	QP	P	
6	1.3099	10.32	8.38	18.70	46.00	-27.30	AVG	P	
7	7.5099	10.34	30.76	41.10	60.00	-18.90	QP	P	
8	7.5099	10.34	26.84	37.18	50.00	-12.82	AVG	P	
9	12.8698	10.35	36.31	46.66	60.00	-13.34	QP	P	
10	13.0219	10.35	33.38	43.73	50.00	-6.27	AVG	P	
11	24.1299	10.60	31.83	42.43	60.00	-17.57	QP	P	
12	24.1299	10.60	26.84	37.44	50.00	-12.56	AVG	P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfiniLite 4kW-48V
Temperature :	26 °C	Relative Humidity :	55 %
Pressure :	1006 hPa	Test Voltage :	AC230V/50Hz
Test Mode :	Line+Battery+Full load	Phase:	Neutral



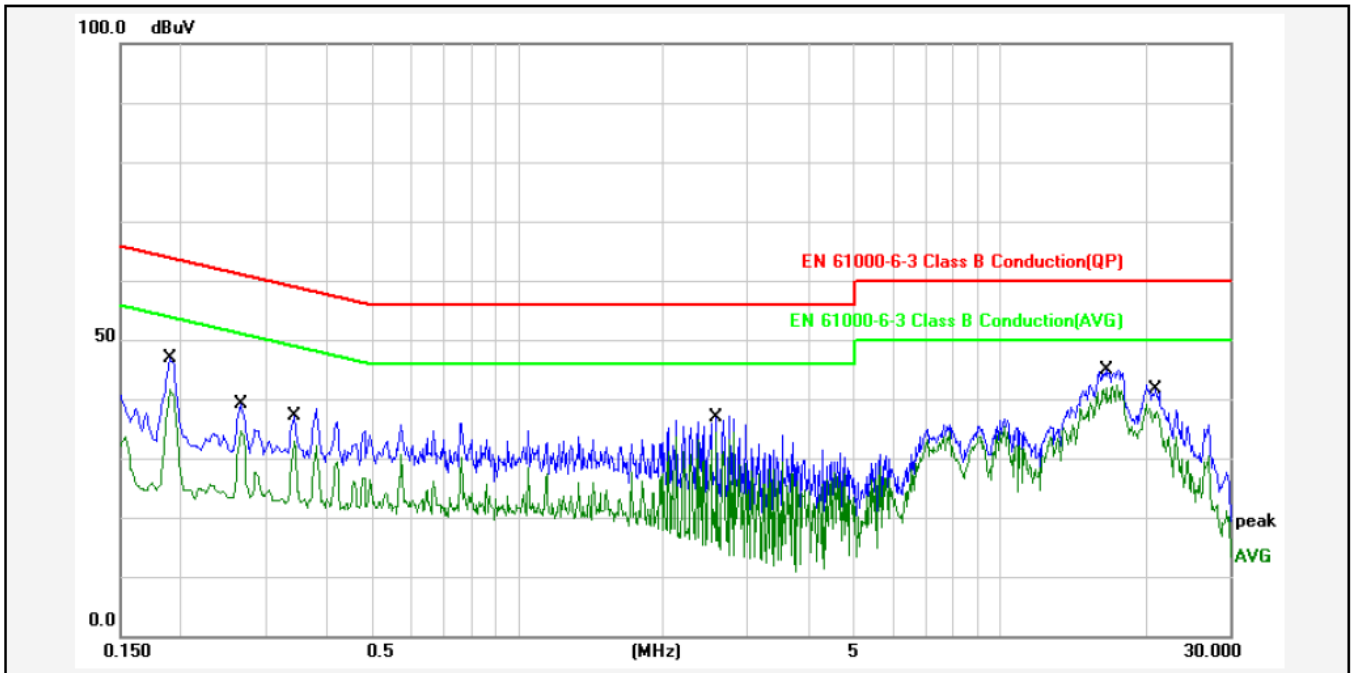
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1940	10.42	41.34	51.76	63.86	-12.10	QP	P	
2	0.1943	10.42	34.58	45.00	53.85	-8.85	AVG	P	
3	0.2300	10.39	37.93	48.32	62.45	-14.13	QP	P	
4	0.2303	10.39	34.80	45.19	52.44	-7.25	AVG	P	
5	4.2899	10.33	26.65	36.98	56.00	-19.02	QP	P	
6	4.2938	10.33	20.50	30.83	46.00	-15.17	AVG	P	
7	7.5099	10.34	32.13	42.47	60.00	-17.53	QP	P	
8	7.5499	10.34	22.22	32.56	50.00	-17.44	AVG	P	
9	13.2578	10.35	34.17	44.52	50.00	-5.48	AVG	P	
10	13.3338	10.35	36.96	47.31	60.00	-12.69	QP	P	
11	25.7500	10.62	34.38	45.00	60.00	-15.00	QP	P	
12	26.1340	10.63	25.97	36.60	50.00	-13.40	AVG	P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfiniLite 5kW-48V
Temperature :	26 °C	Relative Humidity :	55 %
Pressure :	1006 hPa	Test Voltage :	DC48V
Test Mode :	Battery+Full load	Phase:	Neutral



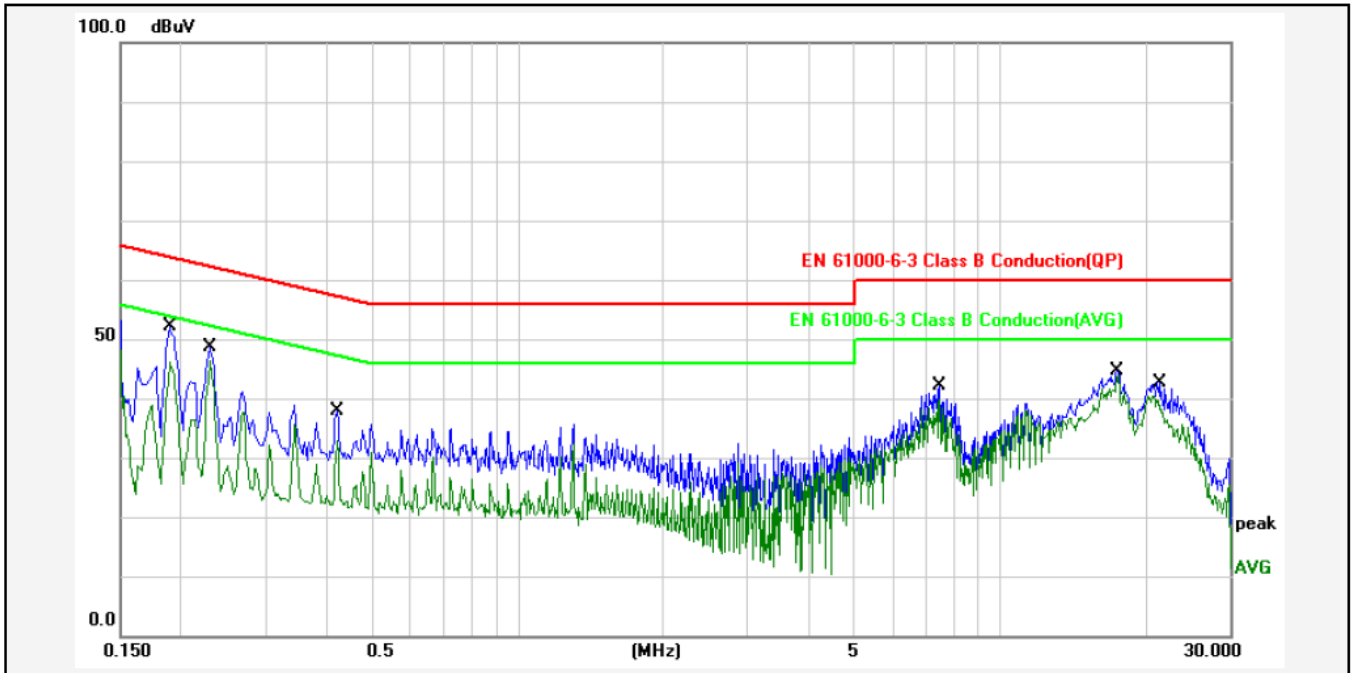
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1882	10.43	36.42	46.85	64.11	-17.26	QP	P	
2	0.1882	10.43	29.46	39.89	54.11	-14.22	AVG	P	
3	0.2630	10.36	27.91	38.27	61.33	-23.06	QP	P	
4	0.2630	10.36	21.21	31.57	51.33	-19.76	AVG	P	
5	0.3830	10.33	26.93	37.26	58.21	-20.95	QP	P	
6	0.3830	10.33	20.29	30.62	48.21	-17.59	AVG	P	
7	0.5778	10.33	25.82	36.15	56.00	-19.85	QP	P	
8	0.5778	10.33	18.50	28.83	46.00	-17.17	AVG	P	
9	2.2339	10.32	28.34	38.66	56.00	-17.34	QP	P	
10	2.2339	10.32	6.53	16.85	46.00	-29.15	AVG	P	
11	17.5416	10.47	32.71	43.18	60.00	-16.82	QP	P	
12	17.5416	10.47	28.65	39.12	50.00	-10.88	AVG	P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfiniLite 5kW-48V
Temperature :	26 °C	Relative Humidity :	55 %
Pressure :	1006 hPa	Test Voltage :	DC48V
Test Mode :	Battery+Full load	Phase:	Line



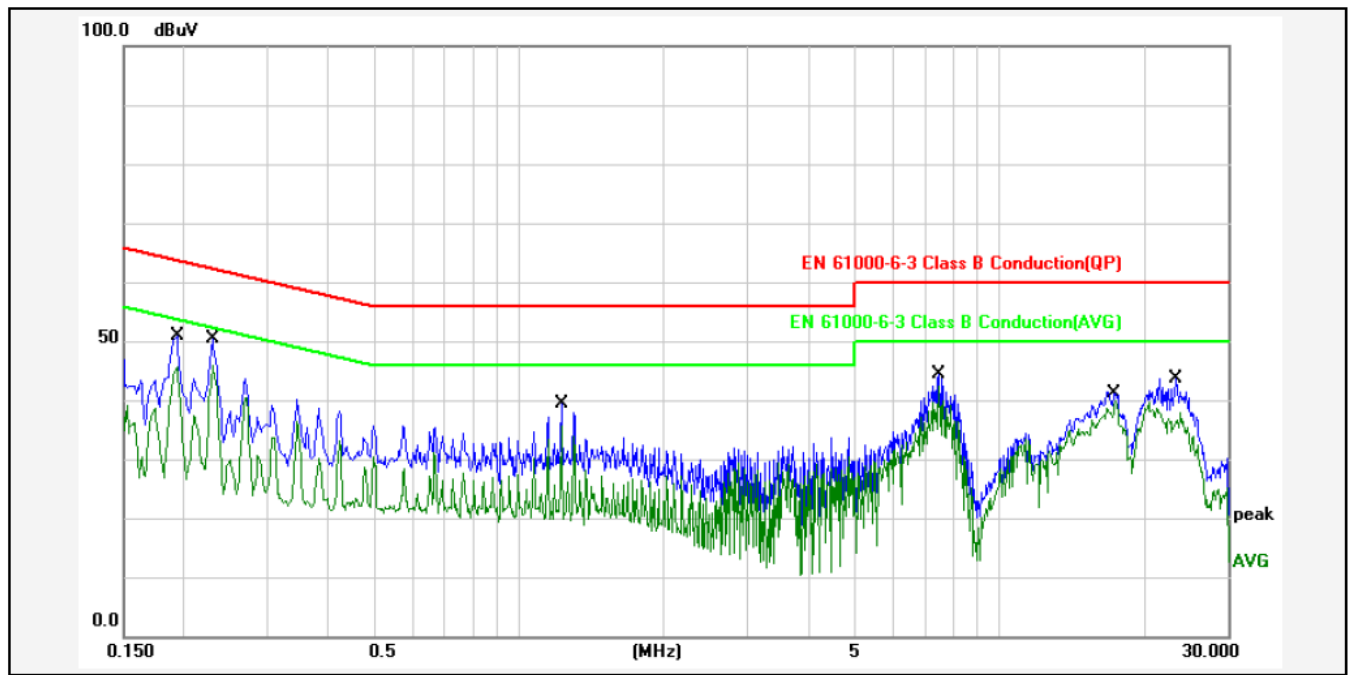
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1900	10.43	36.39	46.82	64.03	-17.21	QP	P	
2	0.1900	10.43	31.27	41.70	54.03	-12.33	AVG	P	
3	0.2660	10.35	28.72	39.07	61.24	-22.17	QP	P	
4	0.2660	10.35	24.37	34.72	51.24	-16.52	AVG	P	
5	0.3459	10.33	28.16	38.49	59.06	-20.57	QP	P	
6	0.3459	10.33	22.54	32.87	49.06	-16.19	AVG	P	
7	2.5899	10.32	26.59	36.91	56.00	-19.09	QP	P	
8	2.5899	10.32	24.11	34.43	46.00	-11.57	AVG	P	
9	16.5737	10.42	34.40	44.82	60.00	-15.18	QP	P	
10	16.5737	10.42	31.57	41.99	50.00	-8.01	AVG	P	
11	21.2259	10.59	31.01	41.60	60.00	-18.40	QP	P	
12	21.2259	10.59	27.18	37.77	50.00	-12.23	AVG	P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfiniLite 5kW-48V
Temperature :	26 °C	Relative Humidity :	55 %
Pressure :	1006 hPa	Test Voltage :	AC230V/50Hz
Test Mode :	Line+Battery+Full load	Phase:	Line



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1912	10.43	41.71	52.14	63.98	-11.84	QP	P	
2	0.1912	10.43	34.91	45.34	53.98	-8.64	AVG	P	
3	0.2316	10.39	38.29	48.68	62.39	-13.71	QP	P	
4	0.2316	10.39	34.23	44.62	52.39	-7.77	AVG	P	
5	0.4219	10.33	27.52	37.85	57.41	-19.56	QP	P	
6	0.4219	10.33	22.44	32.77	47.41	-14.64	AVG	P	
7	7.5099	10.34	31.87	42.21	60.00	-17.79	QP	P	
8	7.5099	10.34	29.43	39.77	50.00	-10.23	AVG	P	
9	17.5899	10.47	34.28	44.75	60.00	-15.25	QP	P	
10	17.5899	10.47	33.33	43.80	50.00	-6.20	AVG	P	
11	21.5019	10.59	32.05	42.64	60.00	-17.36	QP	P	
12	21.5019	10.59	28.33	38.92	50.00	-11.08	AVG	P	

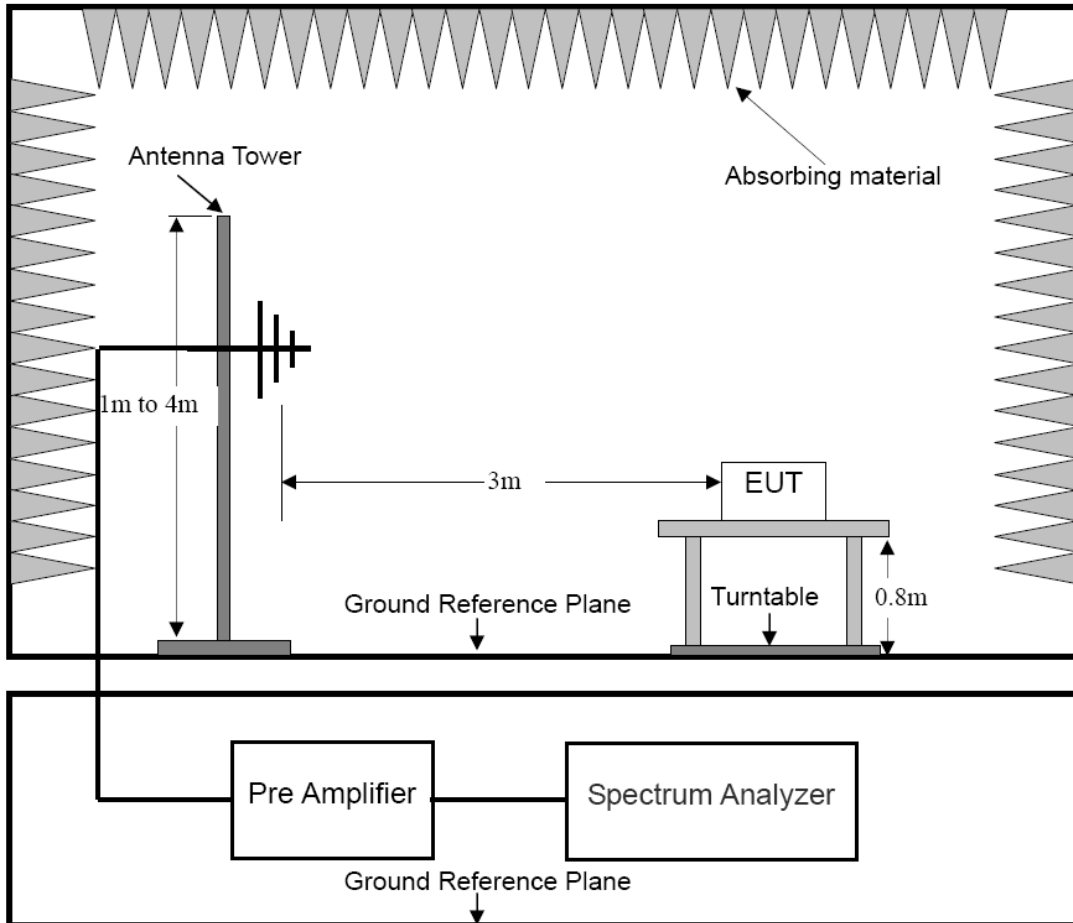
E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfiniLite 5kW-48V
Temperature :	26 °C	Relative Humidity :	55 %
Pressure :	1006 hPa	Test Voltage :	AC230V/50Hz
Test Mode :	Line+Battery+Full load	Phase:	Neutral



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1940	10.42	40.39	50.81	63.86	-13.05	QP	P	
2	0.1940	10.42	35.16	45.58	53.86	-8.28	AVG	P	
3	0.2300	10.39	39.93	50.32	62.45	-12.13	QP	P	
4	0.2300	10.39	35.40	45.79	52.45	-6.66	AVG	P	
5	1.2259	10.32	28.96	39.28	56.00	-16.72	QP	P	
6	1.2259	10.32	25.21	35.53	46.00	-10.47	AVG	P	
7	7.5138	10.34	34.05	44.39	60.00	-15.61	QP	P	
8	7.5138	10.34	31.94	42.28	50.00	-7.72	AVG	P	
9	17.5218	10.47	30.86	41.33	60.00	-18.67	QP	P	
10	17.5218	10.47	29.48	39.95	50.00	-10.05	AVG	P	
11	23.5779	10.60	32.94	43.54	60.00	-16.46	QP	P	
12	23.5779	10.60	25.97	36.57	50.00	-13.43	AVG	P	

## 5. RADIATED EMISSION MEASUREMENT

### 5.1 Block Diagram of Test



### 5.2 Limit of Radiated Emission Measurement

Test Standard: EN 61000-6-3

Limits for radiated disturbance at a measuring distance of 3m

Frequency range MHz	Quasi-peak limits dB(uV/m)
30 to 230	40
230 to 1000	47

Note 1 The lower limit shall apply at the transition frequency.

Note 2 If the internal emission source is operating at a frequency below 9KHz, then measurements need only to be performed up to 230MHz

### 5.3 Test Procedure

E.U.T. and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. E.U.T. is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to EN 61000-6-3 on radiated emission measurement.

The bandwidth of the EMI test receiver (R&S ESCI7) is set at 120 KHz. The frequency range from 30 MHz to 1000 MHz is checked.

### 5.4 Operating Condition of E.U.T.

5.4.1 Setup the E.U.T. and simulators as shown in Section 2.3.

5.4.2 Turn on the power of all equipments.

5.4.3 Let the E.U.T. work in test mode and test it.

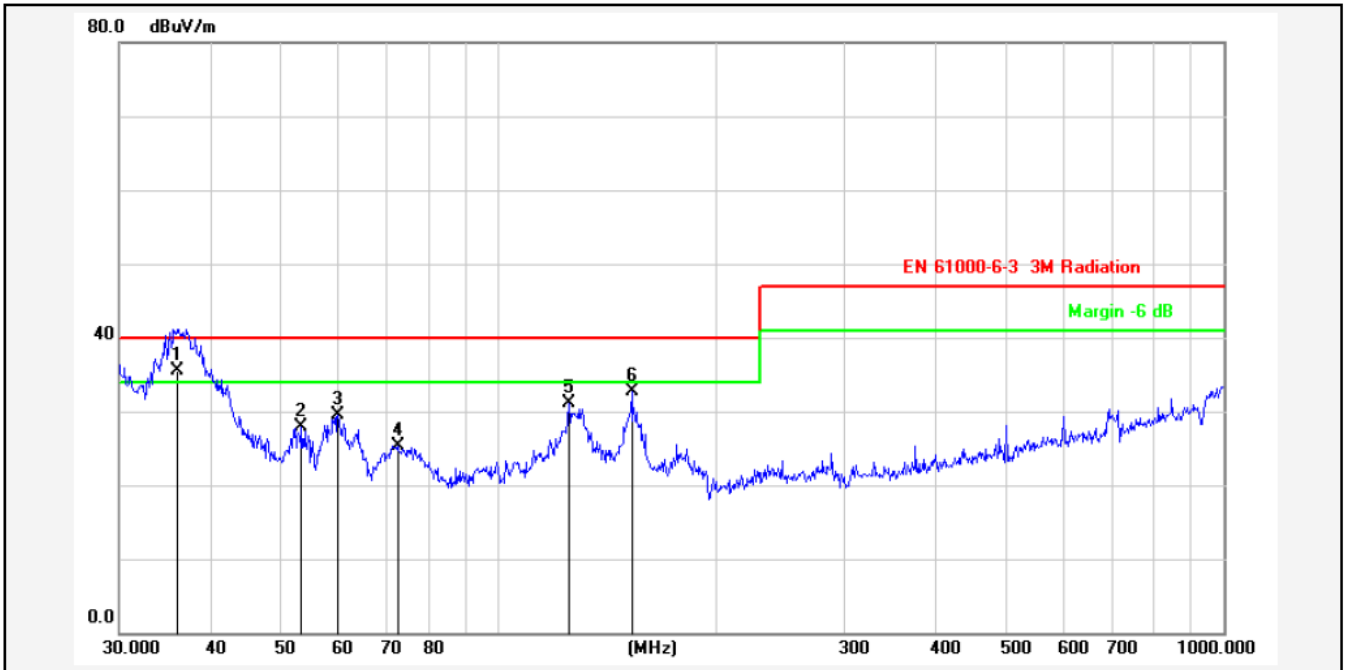
### 5.5 Radiated Emission Measurement Result

**PASS.**

Please refer to the following pages.

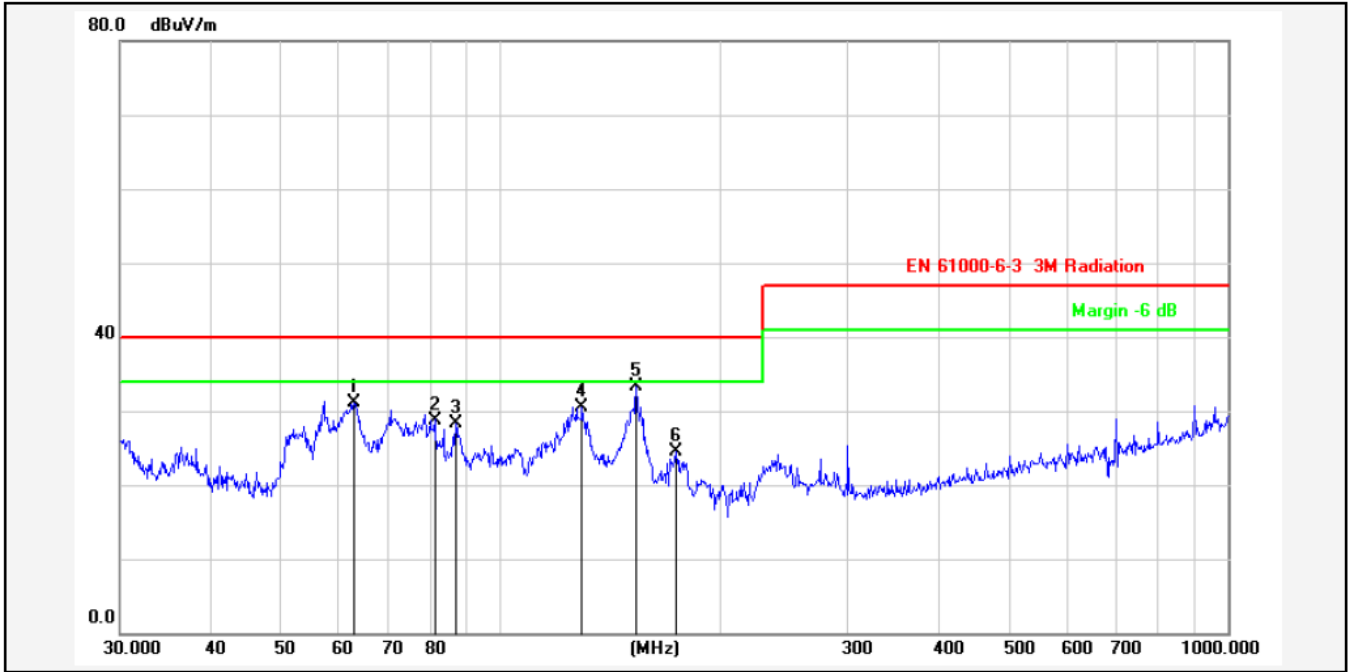


E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfini Lite 3kW-48V
Temperature :	25 °C	Relative Humidity :	60 %
Pressure :	1006 hPa	Test Voltage :	DC48V
Test Mode :	Battery+Full load	Polarization:	Vertical



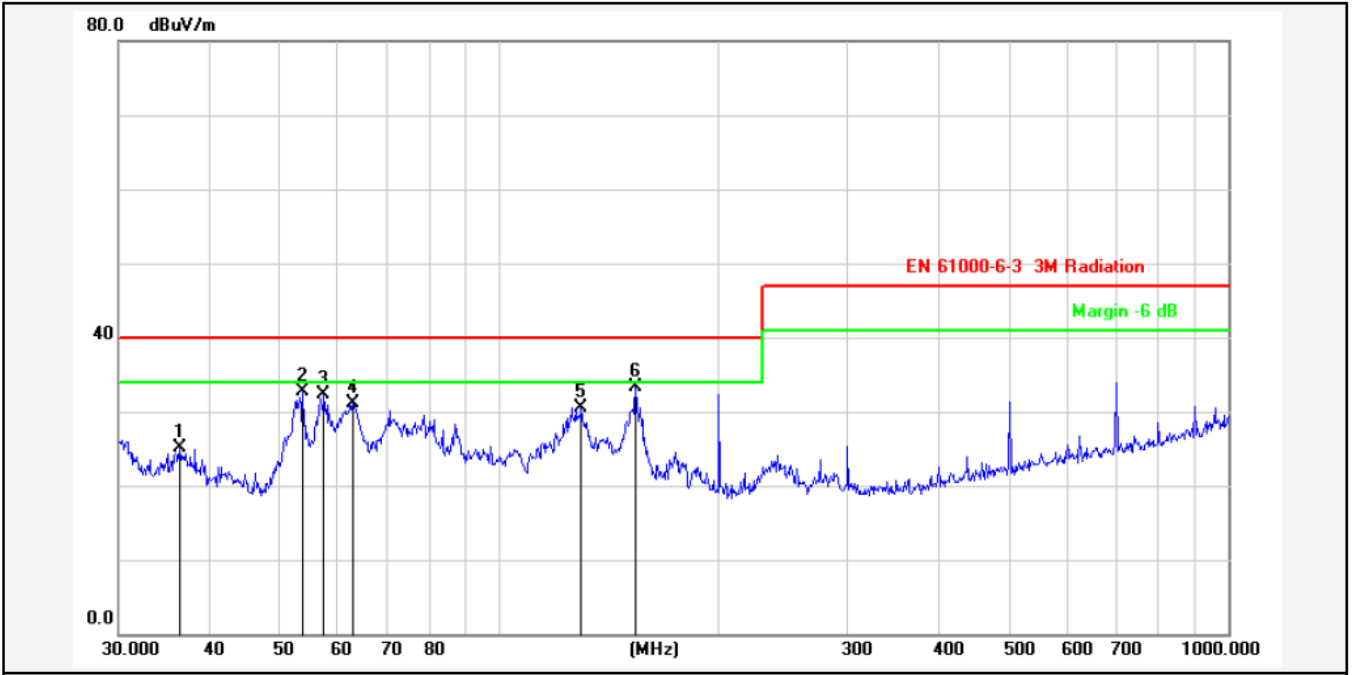
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	36.0007	-2.41	37.89	35.48	40.00	-4.52	QP			P	
2	53.5052	-12.05	40.05	28.00	40.00	-12.00	QP			P	
3	60.0690	-13.62	43.05	29.43	40.00	-10.57	QP			P	
4	72.5915	-11.52	36.86	25.34	40.00	-14.66	QP			P	
5	125.0065	-5.52	36.58	31.06	40.00	-8.94	QP			P	
6	152.6640	-6.46	39.15	32.69	40.00	-7.31	QP			P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfini Lite 3kW-48V
Temperature :	25 °C	Relative Humidity :	60 %
Pressure :	1006 hPa	Test Voltage :	DC48V
Test Mode :	Battery+Full load	Polarization:	Horizontal



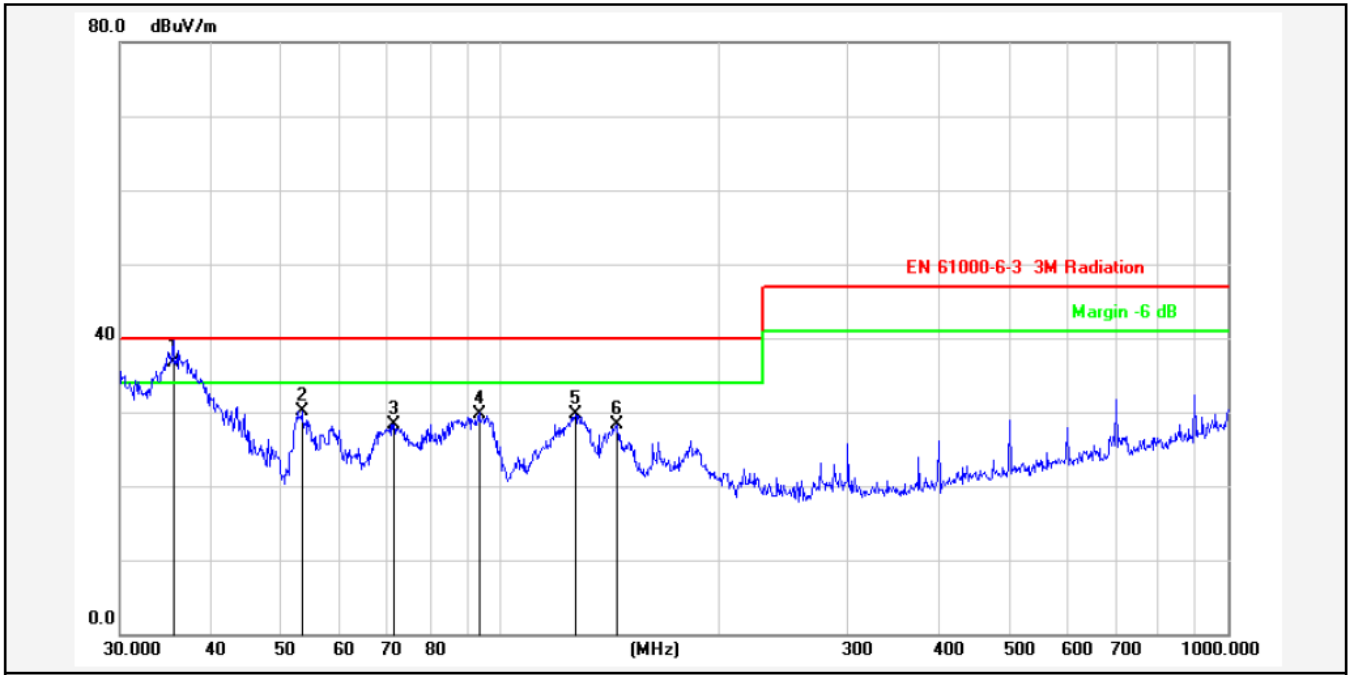
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	62.8707	-13.18	44.33	31.15	40.00	-8.85	QP			P	
2	81.2117	-9.74	38.54	28.80	40.00	-11.20	QP			P	
3	86.8067	-8.59	36.89	28.30	40.00	-11.70	QP			P	
4	129.4677	-5.36	35.84	30.48	40.00	-9.52	QP			P	
5	153.7385	-6.51	39.81	33.30	40.00	-6.70	QP			P	
6	174.4240	-7.34	31.75	24.41	40.00	-15.59	QP			P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfini Lite 3kW-48V
Temperature :	25 °C	Relative Humidity :	60 %
Pressure :	1006 hPa	Test Voltage :	AC230V/50Hz
Test Mode :	Line+Battery+Full load	Polarization:	Horizontal



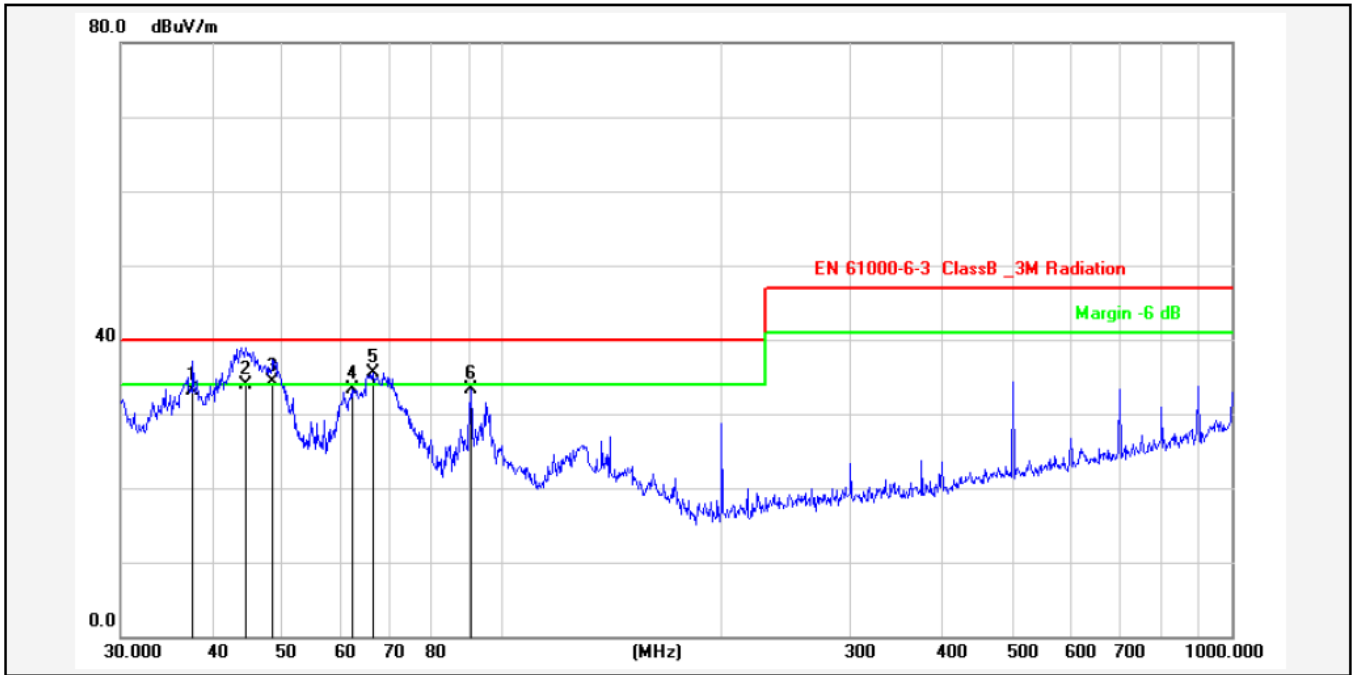
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	36.3814	-2.51	27.71	25.20	40.00	-14.80	QP			P	
2	53.6931	-12.09	44.81	32.72	40.00	-7.28	QP			P	
3	57.3923	-12.99	45.23	32.24	40.00	-7.76	QP			P	
4	62.8707	-13.18	44.33	31.15	40.00	-8.85	QP			P	
5	129.4677	-5.36	35.84	30.48	40.00	-9.52	QP			P	
6	153.7385	-6.51	39.81	33.30	40.00	-6.70	QP			P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfini Lite 3kW-48V
Temperature :	25 °C	Relative Humidity :	60 %
Pressure :	1006 hPa	Test Voltage :	AC230V/50Hz
Test Mode :	Line+Battery+Full load	Polarization:	Vertical



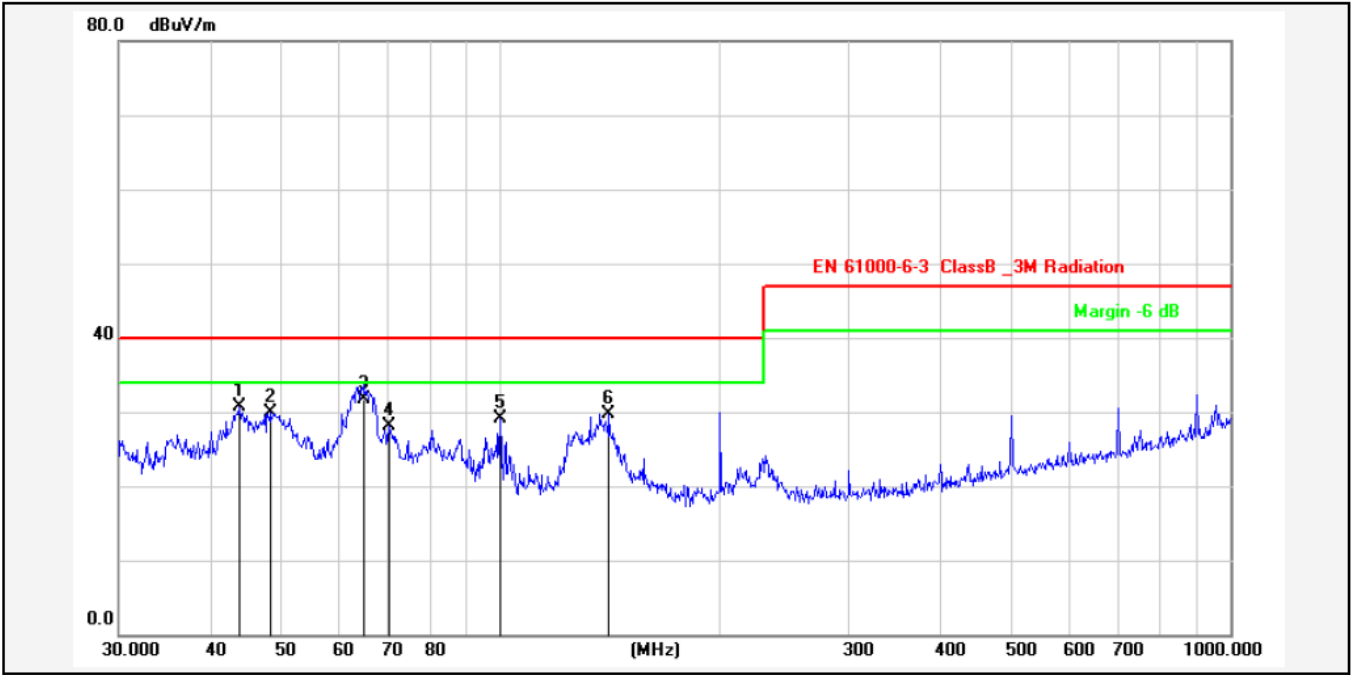
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	35.4993	-2.27	38.99	36.72	40.00	-3.28	QP			P	
2	53.3179	-12.01	42.20	30.19	40.00	-9.81	QP			P	
3	71.3300	-11.78	40.12	28.34	40.00	-11.66	QP			P	
4	93.4402	-7.41	37.21	29.80	40.00	-10.20	QP			P	
5	126.7723	-5.45	35.06	29.61	40.00	-10.39	QP			P	
6	144.8417	-6.09	34.32	28.23	40.00	-11.77	QP			P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfini Lite 4kW-48V
Temperature :	25 °C	Relative Humidity :	60 %
Pressure :	1006 hPa	Test Voltage :	DC48V
Test Mode :	Battery+Full load	Polarization:	Vertical



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	37.6796	-5.82	38.87	33.05	40.00	-6.95	QP			P	
2	44.5868	-8.68	42.58	33.90	40.00	-6.10	QP			P	
3	48.5015	-10.50	44.72	34.22	40.00	-5.78	QP			P	
4	62.2128	-13.28	46.66	33.38	40.00	-6.62	QP			P	
5	66.4989	-12.61	48.08	35.47	40.00	-4.53	QP			P	
6	90.5374	-7.85	41.19	33.34	40.00	-6.66	QP			P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfini Lite 4kW-48V
Temperature :	25 °C	Relative Humidity :	60 %
Pressure :	1006 hPa	Test Voltage :	DC48V
Test Mode :	Battery+Full load	Polarization:	Horizontal



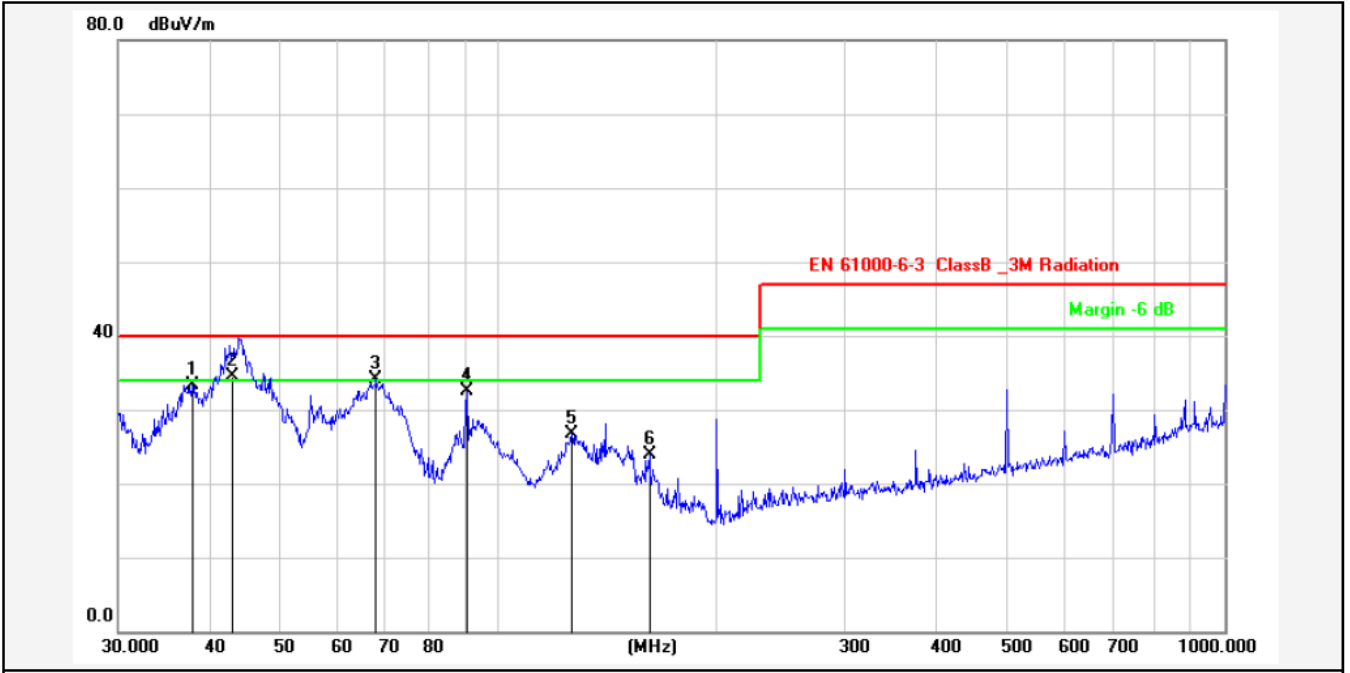
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	43.9658	-6.58	37.33	30.75	40.00	-9.25	QP			P	
2	48.3316	-9.93	39.80	29.87	40.00	-10.13	QP			P	
3	64.8865	-12.86	44.47	31.61	40.00	-8.39	QP			P	
4	70.3365	-11.98	40.17	28.19	40.00	-11.81	QP			P	
5	99.8777	-6.42	35.58	29.16	40.00	-10.84	QP			P	
6	140.8350	-5.89	35.60	29.71	40.00	-10.29	QP			P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfini Lite 4kW-48V
Temperature :	25 °C	Relative Humidity :	60 %
Pressure :	1006 hPa	Test Voltage :	AC230V/50Hz
Test Mode :	Line+Battery+Full load	Polarization:	Horizontal



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	43.3534	-6.11	37.41	31.30	40.00	-8.70	QP			P	
2	48.3318	-9.93	39.80	29.87	40.00	-10.13	QP			P	
3	64.8865	-12.86	46.47	33.61	40.00	-6.39	QP			P	
4	99.8777	-6.42	35.58	29.16	40.00	-10.84	QP			P	
5	134.5592	-5.57	36.26	30.69	40.00	-9.31	QP			P	
6	230.9068	-5.68	29.83	24.15	47.00	-22.85	QP			P	

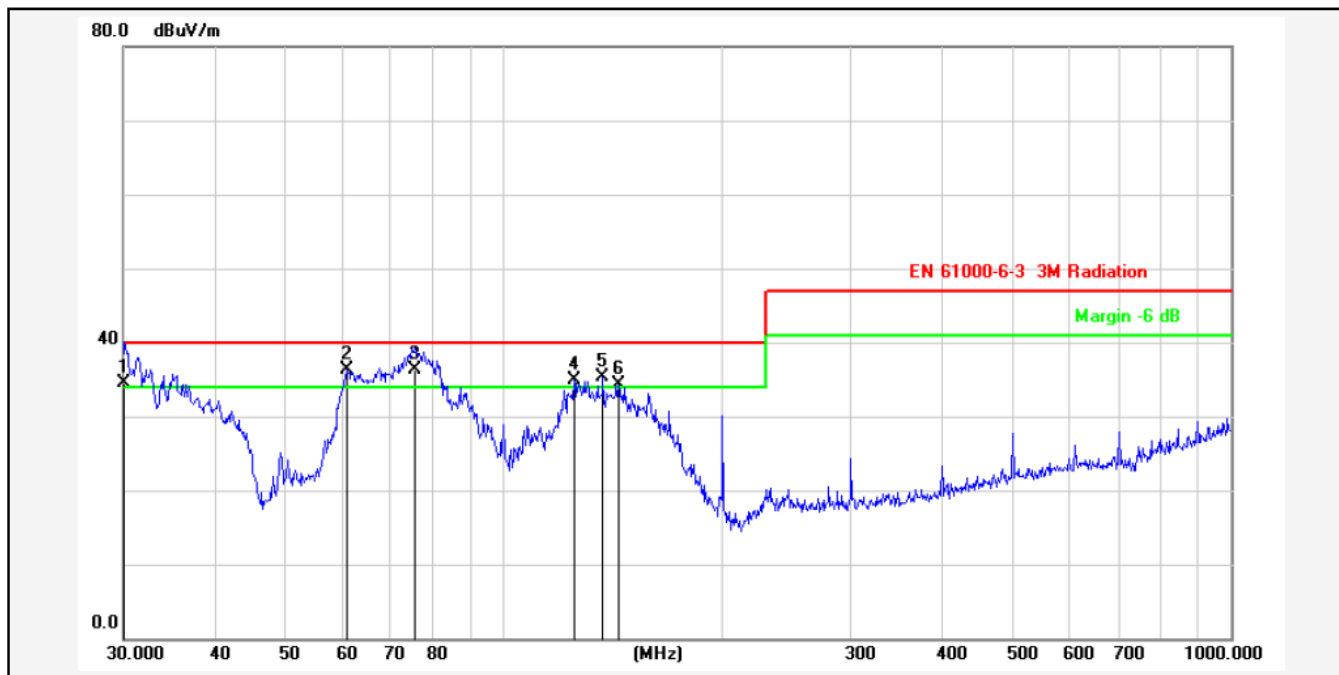
E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfini Lite 4kW-48V
Temperature :	25 °C	Relative Humidity :	60 %
Pressure :	1006 hPa	Test Voltage :	AC230V/50Hz
Test Mode :	Line+Battery+Full load	Polarization:	Vertical



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	37.9450	-5.90	39.30	33.40	40.00	-6.60	QP			P	
2	43.0241	-7.95	42.45	34.50	40.00	-5.50	QP			P	
3	67.9129	-12.38	46.43	34.05	40.00	-5.95	QP			P	
4	90.5374	-7.85	40.44	32.59	40.00	-7.41	QP			P	
5	126.3286	-5.46	32.11	26.65	40.00	-13.35	QP			P	
6	161.4742	-6.81	30.75	23.94	40.00	-16.06	QP			P	



E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfini Lite 5kW-48V
Temperature :	25 °C	Relative Humidity :	60 %
Pressure :	1006 hPa	Test Voltage :	DC48V
Test Mode :	Battery+Full load	Polarization:	Vertical



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	30.0800	-0.73	35.33	34.60	40.00	-5.40	QP			P	
2	60.9176	-13.48	49.77	36.29	40.00	-3.71	QP			P	
3	75.4464	-10.92	47.28	36.36	40.00	-3.64	QP			P	
4	125.0066	-5.52	40.39	34.87	40.00	-5.13	QP			P	
5	136.9391	-5.69	41.08	35.39	40.00	-4.61	QP			P	
6	143.8295	-6.04	40.28	34.24	40.00	-5.76	QP			P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfini Lite 5kW-48V
Temperature :	25 °C	Relative Humidity :	60 %
Pressure :	1006 hPa	Test Voltage :	DC48V
Test Mode :	Battery+Full load	Polarization:	Horizontal



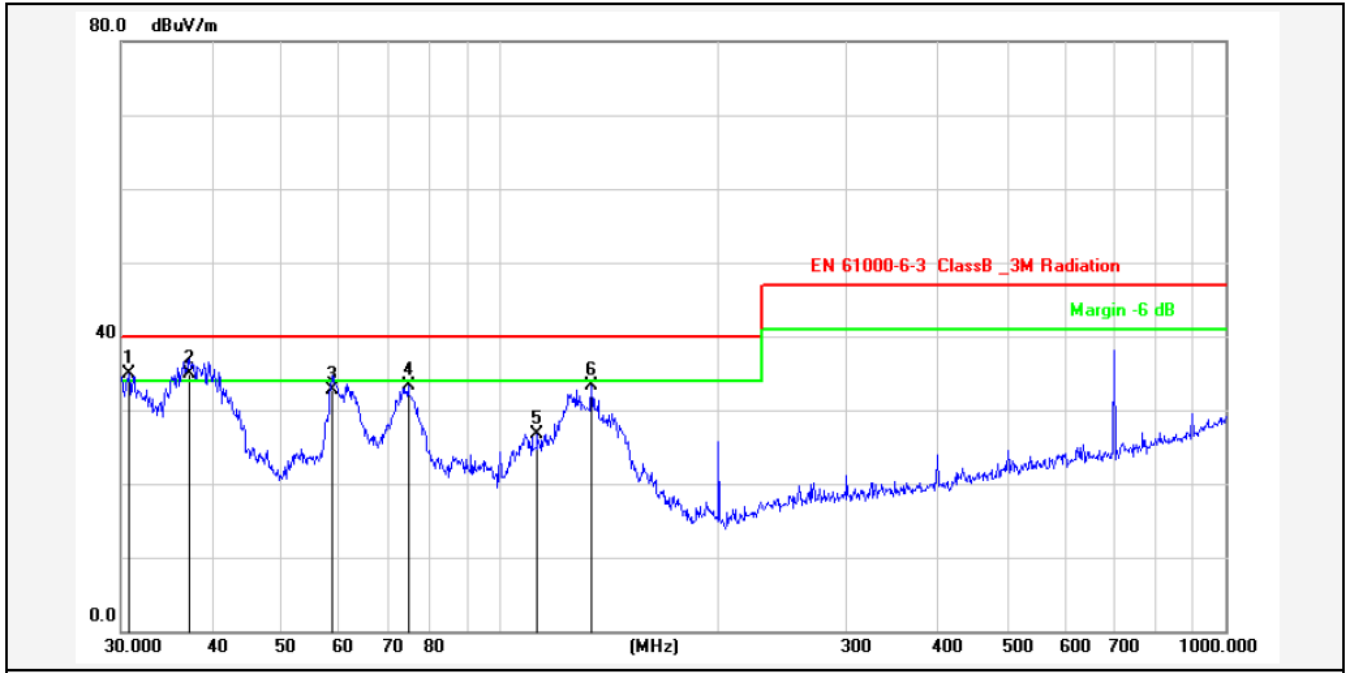
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	30.3420	-0.79	36.79	36.00	40.00	-4.00	QP			P	
2	38.2120	-3.05	32.21	29.16	40.00	-10.84	QP			P	
3	61.5618	-13.39	47.75	34.36	40.00	-5.64	QP			P	
4	76.1600	-10.78	46.18	35.40	40.00	-4.60	QP			P	
5	88.6524	-8.21	40.35	32.14	40.00	-7.86	QP			P	
6	127.6645	-5.43	39.24	33.81	40.00	-6.19	QP			P	

E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfini Lite 5kW-48V
Temperature :	25 °C	Relative Humidity :	60 %
Pressure :	1006 hPa	Test Voltage :	AC230V/50Hz
Test Mode :	Line+Battery+Full load	Polarization:	Horizontal



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	36.3814	-2.51	36.91	34.40	40.00	-5.60	QP			P	
2	61.1316	-13.45	48.11	34.66	40.00	-5.34	QP			P	
3	76.3399	-10.74	44.64	33.90	40.00	-6.10	QP			P	
4	125.4457	-5.50	41.04	35.54	40.00	-4.46	QP			P	
5	143.3259	-6.02	40.62	34.60	40.00	-5.40	QP			P	
6	158.1123	-6.69	37.12	30.43	40.00	-9.57	QP			P	

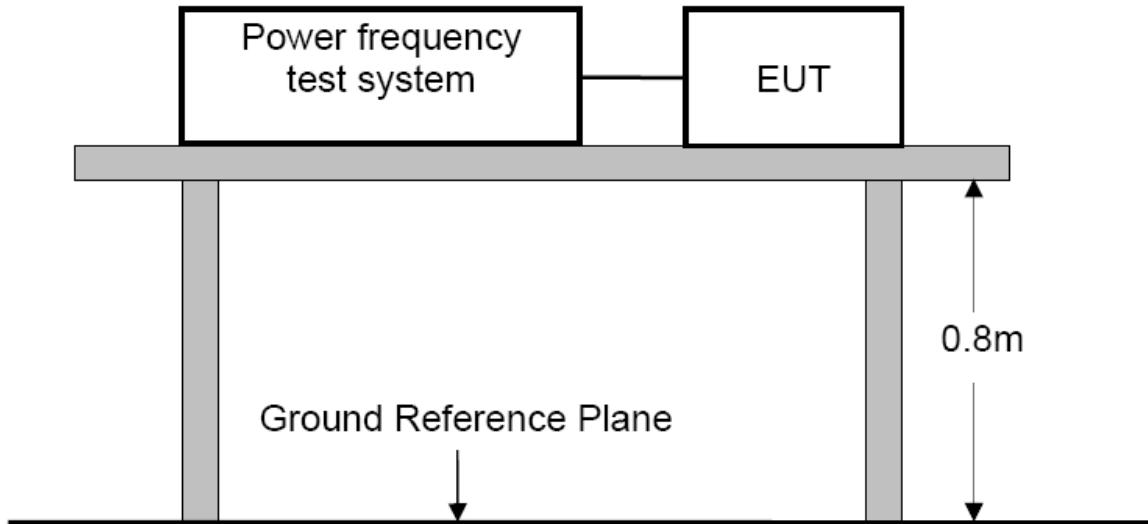
E.U.T :	FlinInfini Lite On-grid Inverter with Energy storage	Model Name :	FlinInfini Lite 5kW-48V
Temperature :	25 °C	Relative Humidity :	60 %
Pressure :	1006 hPa	Test Voltage :	AC230V/50Hz
Test Mode :	Line+Battery+Full load	Polarization:	Vertical



No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	30.7454	-3.64	38.46	34.82	40.00	-5.18	QP			P	
2	37.2855	-5.69	40.67	34.98	40.00	-5.02	QP			P	
3	58.6126	-13.29	46.08	32.79	40.00	-7.21	QP			P	
4	74.6569	-11.09	44.34	33.25	40.00	-6.75	QP			P	
5	112.5243	-5.95	32.61	26.66	40.00	-13.34	QP			P	
6	133.6188	-5.53	38.85	33.32	40.00	-6.68	QP			P	

## 6. HARMONIC CURRENT EMISSION TEST

### 6.1 Block Diagram of Test Setup



### 6.2 Limits of Harmonics current measurement

Test Standard: EN 61000-3-12

#### Current emission limits for equipment other than balanced three-phase equipment

Minimal $R_{s_{ce}}$	Admissible individual harmonic current $I_n/I_1$ <sup>a</sup>						Admissible harmonic current distortion factors	
	%						%	
	$I_3$	$I_5$	$I_7$	$I_9$	$I_{11}$	$I_{13}$	<i>THD</i>	<i>PWHD</i>
33	21,6	10,7	7,2	3,8	3,1	2	23	23
66	24	13	8	5	4	3	26	26
120	27	15	10	6	5	4	30	30
250	35	20	13	9	8	6	40	40
≥ 350	41	24	15	12	10	8	47	47

The relative values of even harmonics up to order 12 shall not exceed  $16/n$  %. Even harmonics above order 12 are taken into account in *THD* and *PWHD* in the same way as odd order harmonics.

NOTE Linear interpolation between successive  $R_{s_{ce}}$  values is permitted. See also Annex B.

<sup>a</sup>  $I_1$  = reference fundamental current;  $I_n$  = harmonic current component.

### 6.3 Test Procedure

The E.U.T. was put on the top of a wooden table 0.8m above the ground and operated to produce the maximum harmonic components under normal operating conditions for each successive harmonic component in turn.

### 6.4 Operating Condition of E.U.T.

6.4.1 Setup the E.U.T. and simulators as shown in Section 2.3.

6.4.2 Turn on the power of all equipments.

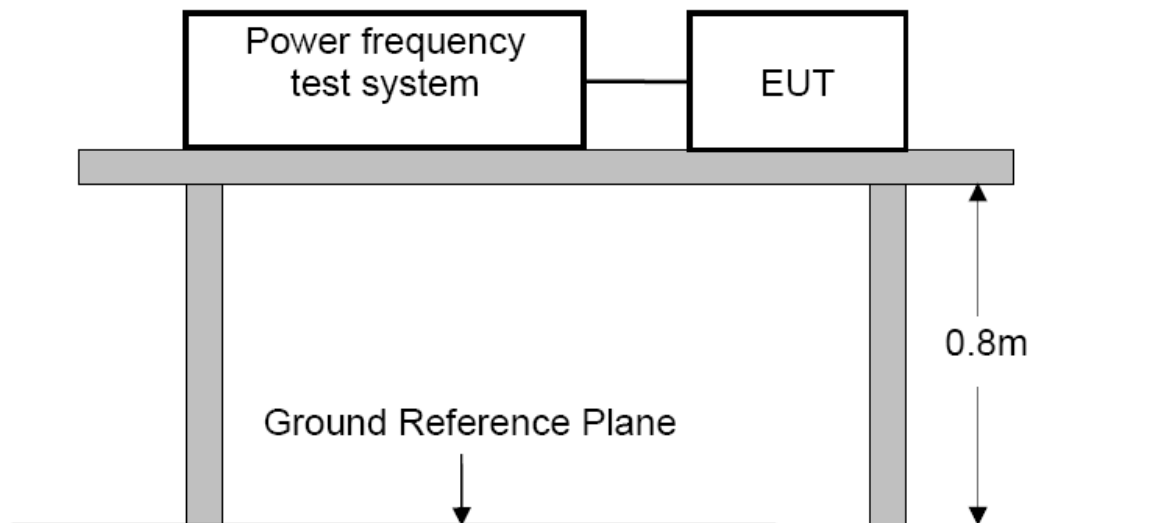
6.4.3 Let the E.U.T. work in test mode and test it.

### 6.5 Test Results

**PASS**

## 7. VOLTAGE FLUCTUATIONS & FLICKER TEST

### 7.1 Block Diagram of Test Setup



### 7.2 Limits of Voltage Fluctuations & Flicker Measurement

Test Standard: EN 61000-3-11

The following limits apply:

- the value of the short-term flicker indicator,  $P_{st}$  shall not be greater than 1,0;
- the value of the long-term flicker indicator,  $P_{lt}$  shall not be greater than 0,65;
- the value of  $d(t)$  during a voltage change shall not exceed 3,3% for more than 500ms;
- the relative steady-state voltage change,  $d_c$ , shall not exceed 3,3%;
- the maximum relative voltage change  $d_{max}$ , shall not exceed:
  - a) 4% without additional conditions;
  - b) 6% for equipment with:
    - manual switching, or
    - automatic switching more frequently than twice per day and having a delayed restart (the delay being not less than a few tens of seconds) or, manual restart after a power supply interruption.

- c)  $\pm 7\%$  for equipment which
- is attended whilst in use (for example: hair dryers, vacuum cleaners, kitchen equipment such as mixers, garden equipment such as lawnmowers, portable tools such as electric drills); or
  - is switched on automatically, or is intended to be switched on manually, no more than twice per day and has a delayed restart (the delay being not less than a few tens of seconds) or manual restart after a power supply interruption.

In the case of equipment incorporating multiple loads, limits b) and c) shall only apply if there is delayed or manual restart after a power supply interruption; for all equipment with automatic switching which is energized immediately on restoration of supply after a power supply interruption, limits a) shall apply; for all equipment with manual switching, limits b) or c) shall apply, depending on the rate of switching.

Pst and Plt requirements shall not be applicable to voltage changes caused by manual switching.

The limits shall not be applicable to emergency switching or emergency operations.

### 7.3 Test Procedure

The E.U.T. was put on the top of a wooden table 0.8m above the ground and operated to produce the most unfavorable sequence of voltage changes under normal operating conditions.



## 7.4 Operating Condition of E.U.T.

7.4.1 Setup the E.U.T. and simulators as shown in Section 2.3.

7.4.2 Turn on the power of all equipments.

7.4.3 Let the E.U.T. work in test mode and test it.

## 7.5 Test Results

**PASS.**

## 8. PERFORMANCE CRITERIA FOR IMMUNITY

The performance criteria are referred to the test standard: EN 61000-6-2

The variety and the diversity of the apparatus within the scope of this standard makes it difficult to define precise criteria for the evaluation of the immunity test results. If, as a result of the application of the tests defined in this standard, the apparatus becomes dangerous or unsafe, the apparatus shall be deemed to have failed the test. A functional description and a definition of performance criteria, during or as a consequence of the EMC testing, shall be provided by the manufacturer and noted in the test report.

### **Performance Criterion A:**

The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonable expect from the apparatus if used as intended.

### **Performance Criterion B:**

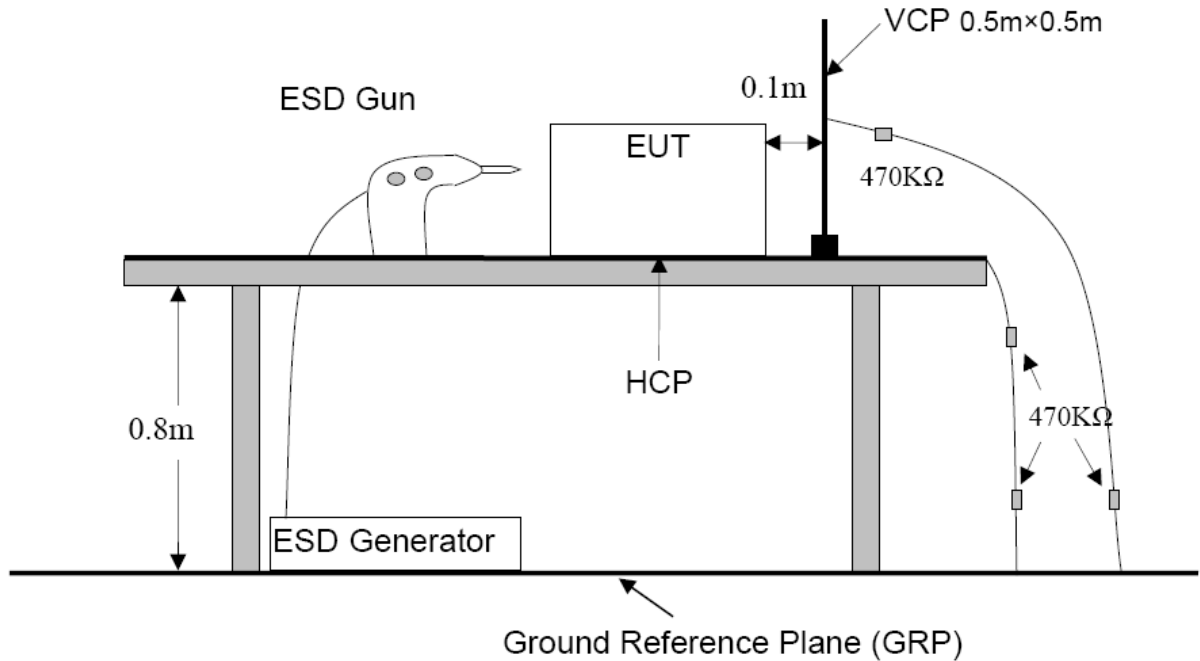
The apparatus shall continue to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. The performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed. No change of actual operation state or stored data is allowed. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, either of these may be derived from the product description and documentation and what the user may reasonably expect from the apparatus if used as intended.

### **Performance Criteria C**

Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

## 9. ELECTROSTATIC DISCHARGE TEST

### 9.1 Block Diagram of Test Setup



### 9.2 Test Standard and Severity Levels

#### 9.2.1 Test Standard:

EN 61000-6-2

(EN 61000-4-2 Air Discharge: Severity Level: 3,  $\pm 8$ KV;

Contact Discharge: Level: 2,  $\pm 4$ KV)

#### 9.2.2 Severity Levels:

Level	Test Voltage Contact Discharge (KV)	Test Voltage Air Discharge (KV)
1.	$\pm 2$	$\pm 2$
2.	$\pm 4$	$\pm 4$
3.	$\pm 6$	$\pm 8$
4.	$\pm 8$	$\pm 15$
X	Special	Special

## 9.3 Test Procedure

### 9.3.1 Air Discharge:

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the E.U.T.. After each discharge, the discharge electrode shall be removed from the E.U.T.. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed

### 9.3.2 Contact Discharge:

All the procedure shall be same as Section 9.3.1. except that the tip of the discharge electrode shall touch the E.U.T..

### 9.3.3 Indirect discharge for horizontal coupling plane

At least 10 single discharges(in the most sensitive polarity) shall be applied at the front edge of each HCP opposite the center point of each unit(if applicable) of the E.U.T. and 0.1m from the front of the E.U.T.. The long axis of the discharge electrode shall be in the plane of the HCP and perpendicular to its front edge during the discharge.

### 9.3.4 Indirect discharge for vertical coupling plane

At least 10 single discharge (in the most sensitive polarity) shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the E.U.T.. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the E.U.T. are completely illuminated.

## 9.4 Test Results

**PASS.**

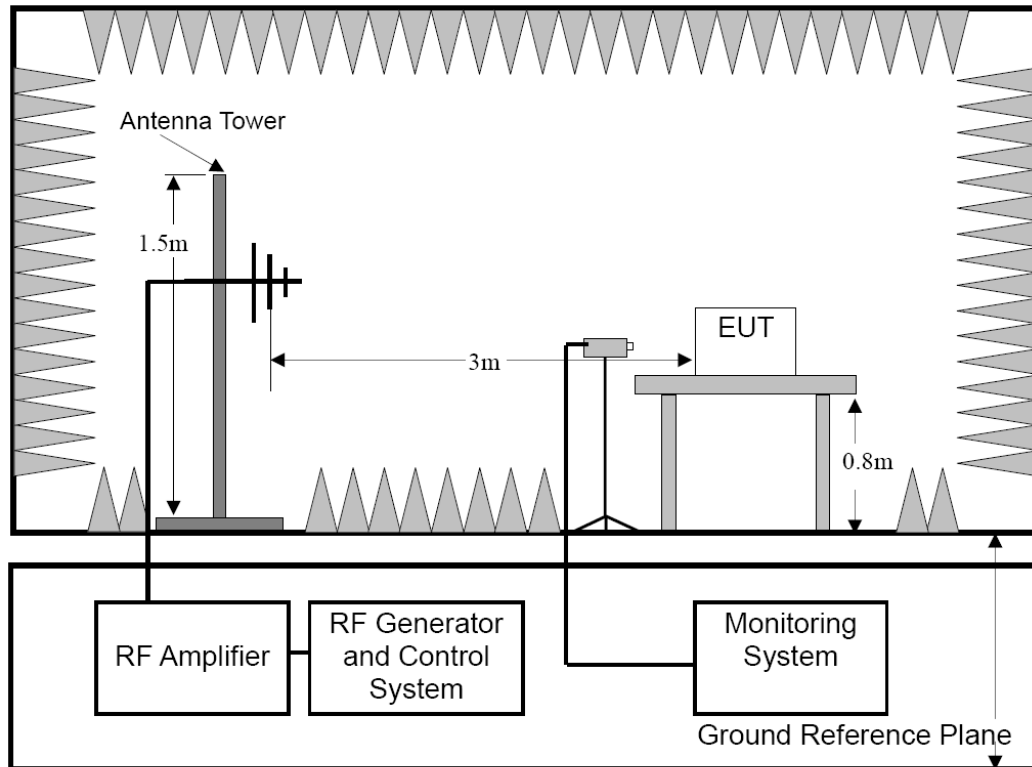
Please refer to the following page.

## Electrostatic Discharge Test Results

Ambient Condition:	Temp.: 25 °C	R.H.: 51 %	Air Pressure: 101 kPa
Power Supply:	AC 230V/ 50Hz DC 48V	Required Performance Criterion: B	
Test Specifications:	±2, 4 kV Contact Discharge; ±2, 4, 8 kV Air Discharge For each point positive 10 times and negative 10 times		
Tested mode:	Battery+Full load, Line+Battery+Full load		
<b>Test Point</b>	<b>Kind</b> A-Air Discharge C-Contact Discharge	<b>Result</b> (Performance Criterion)	
Slot of EUT	A	A	
Screen	A	A	
Metal	C	A	
Button	A	A	
Indirect Discharge (HCP)	C	A	
Indirect Discharge (VCP)	C	A	
Note:			
Test Equipment : ESD Tester (TESEQ, NSG 437)		Test Engineer : Stan	

## 10. RF FIELD STRENGTH SUSCEPTIBILITY TEST

### 10.1 Block Diagram of Test Setup



### 10.2 Test Standard and Severity Levels

#### 10.2.1 Test Standard

EN 61000-6-2  
 (EN 61000-4-3,  
 80 to 1000MHz Severity Level: 3, 10V/m;  
 1.4 to 2.0GHz Severity Level: 2, 3V/m;  
 2.0 to 2.7GHz Severity Level: 1, 1V/m)

#### 10.2.2 Severity Levels

Level	Field Strength V/m
1.	1
2.	3
3.	10
X	Special

### 10.3 Test Procedure

The E.U.T. and its simulators are placed on a turn table which is 0.8 meter above ground. E.U.T. is set 3 meter away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna are set on test. Each of the four sides of E.U.T. must be faced this transmitting antenna and measured individually.

All the scanning conditions are as follows :

Condition of Test	Remarks
1. Fielded Strength	80 to 1000MHz Severity Level: 3, 10V/m; 1.4 to 2.0GHz Severity Level: 2, 3V/m; 2.0 to 2.7GHz Severity Level: 1, 1V/m
2. Radiated Signal	Modulated
3. Dwell time of radiated	0.0015 decade/s
4. Waiting Time	1 Sec.

### 10.4 Test Results

**PASS.**

Please refer to the following page.

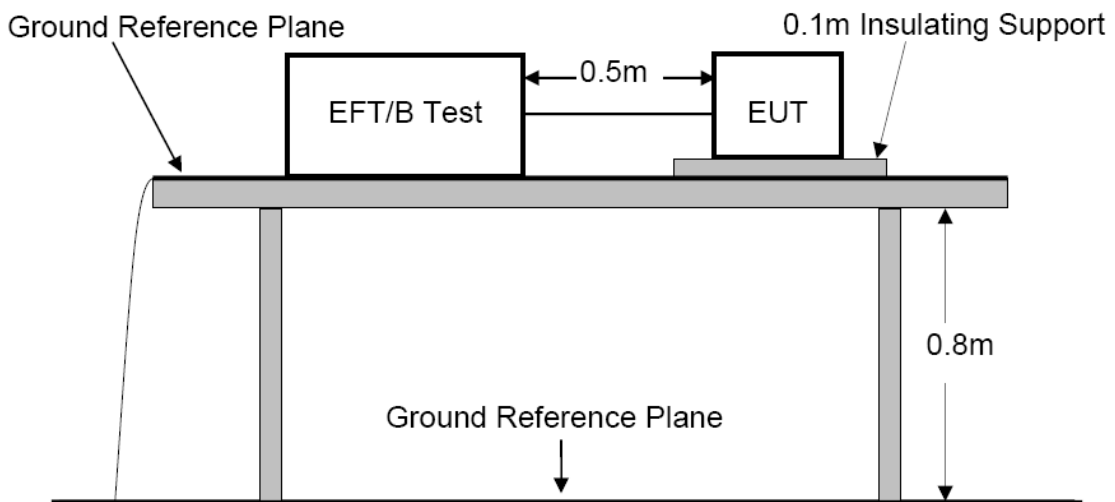
## RF Field Strength Susceptibility Test Results

Ambient Condition:	Temp.: 25 °C	R.H.: 51 %	Air Pressure: 101 kPa	
Power Supply:	AC 230V 50Hz DC 48V	Required Performance Criterion: A		
Test Specifications:	Modulation: 1kHz, 80%AM; Step Size: 1%; Dwell Time: 1s			
Tested mode:	Battery+Full load, Line+Battery+Full load			
Frequency (MHz)	Level (V/m)	Antenna polarity	Side	Result (Performance Criterion)
80-1000	10	Horizontal/ Vertical	Front/ Left/ Right/ Back	A
1400-2000	3			A
2000-2700	1			A
Note:				
Test Equipment : 1. RF Power Meter : 4242 (ESE) 2. Power Amplifier : CBA 1G-150 (TESEQ) 3. Power Sensor: 51011EMC(ESE) 4. Antenna: VULB9162 (Schwarzbeck)				Test Engineer : Stan



## 11.ELECTRICAL FAST TRANSIENT/BURST TEST

### 11.1 Block Diagram of Test Setup



### 11.2 Test Standard and Severity Levels

#### 11.2.1 Test Standard

EN 61000-6-2

(EN 61000-4-4, Severity Level, Level 3: 2KV)

#### 11.2.2 Severity level

Open circuit output test voltage and repetition rate of the impulses				
Level	On power port, PE		On I/O (Input/Output) Signal data and control ports	
	Voltage peak KV	Repetition rate KHz	Voltage peak KV	Repetition rate KHz
1.	0.5	5 or 100	0.25	5 or 100
2.	1.0	5 or 100	0.5	5 or 100
3.	2.0	5 or 100	1.0	5 or 100
4.	4.0	5 or 100	2.0	5 or 100
X	Special	Special	Special	Special

Note 1 Use of 5 KHz repetition rates is traditional; however, 100 KHz is closer to reality. Product committees should determine which frequencies are relevant for specific products or product types.

Note 2 With some products, there may be no clear distinction, between power ports and I/O ports, in which case it is up to product committees to make this determination for test purposes.

Note 3 "X" is an open level. The level has to be specified in the dedicated equipment specification.

### 11.3 Test Procedure

The E.U.T. is put on the table which is 0.8 meter high above the ground. This reference ground plane shall project beyond the E.U.T. by at least 0.1m on all sides and the minimum distance between E.U.T. and all other conductive structure, except the ground plane beneath the E.U.T., shall be more than 0.5m.

#### 11.3.1 For input and output AC power ports:

The E.U.T. is connected to the power mains by using a coupling device which couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test is 2 minutes.

#### 11.3.2 For signal lines ports:

It's unnecessary to test.

#### 11.3.3 For DC ports:

It's unnecessary to test.

### 11.4 Test Result

**PASS.**

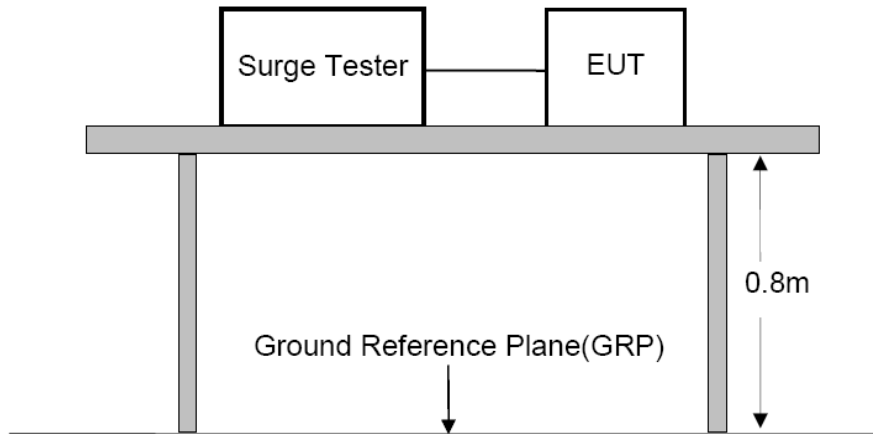
Please refer to the following page.

## Electrical Fast Transient/Burst Test Results

Ambient Condition:	Temp.: 25 °C	R.H.: 51 %	Air Pressure: 101 kPa
Power Supply:	AC 230V 50Hz	Required Performance Criterion: B	
Test Specifications:	Repetition Frequency: 5kHz; Duration: 15ms; Period: 300ms		
Test mode:	Line+Battery+Full load		
Line :	<input checked="" type="checkbox"/> AC Mains	<input type="checkbox"/> Signal line	<input type="checkbox"/> DC line
Coupling :	<input checked="" type="checkbox"/> Direct	<input type="checkbox"/> Capacitive	
<b>Line</b>	<b>Test Voltage</b>	<b>Result</b> (Performance Criterion)	
L	±2KV	A	
N	±2KV	A	
PE	±2KV	A	
L、N	±2KV	A	
L、PE	±2KV	A	
N、PE	±2KV	A	
L、N、PE	±2KV	A	
Signal line			
DC line			
Note :			
Test Equipment : Burst Tester(EM TEST, UCS500N)		Test Engineer : Stan	

## 12. SURGE IMMUNITY TEST

### 12.1 Block Diagram of Test Setup



### 12.2 Test Standard and Severity Levels

#### 12.2.1 Test Standard

EN 61000-6-2

(EN 61000-4-5, Severity Level: Line To Line, Level 2: 1.0KV  
 Line To Earth, level 3: 2.0KV)

#### 12.2.2 Severity level

Severity Level	Open-Circuit Test Voltage KV
1	0.5
2	1.0
3	2.0
4	4.0
*	Special

### 12.3 Test Procedure

1. Set up the E.U.T. and test generator as shown on Section 12.1.
2. For line to line coupling mode, provide a 1.0KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to E.U.T. selected points. For line to earth coupling mode, provide a 2.0KV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to E.U.T. selected points.

3. At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.
4. Different phase angles are done individually.
5. Record the E.U.T. operating situation during compliance test and decide the E.U.T. immunity criterion for above each test.

#### 12.4 Test Result

**PASS.**

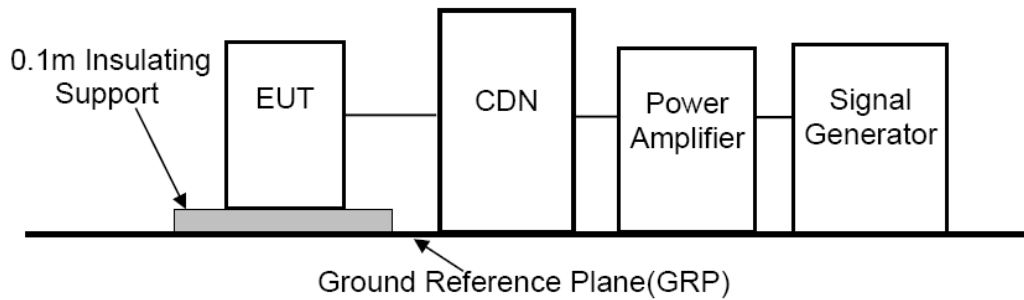
Please refer to the following page.

## Surge Immunity Test Results

Ambient Condition:	Temp.: 25 °C	R.H.: 51 %	Air Pressure: 101 kPa
Power Supply:	AC 230V 50Hz	Required Performance Criterion: B	
Test Specifications:	Voltage surge 1.2/50 us ; Current surge 8/20 us .		
Test mode:	Line+Battery+Full load		
<b>Line</b>	<b>Phase Angle</b>	<b>Test Voltage</b>	<b>Result</b> (Performance Criterion)
L-N	0°, 90°, 180°, 270°	±1KV	A
L-PE	0°, 90°, 180°, 270°	±2KV	A
N-PE	0°, 90°, 180°, 270°	±2KV	A
Signal line			
DC line			
Note :			
Test Equipment : Burst Tester(EM TEST, UCS500N)		Test Engineer : Stan	

## 13. INJECTED CURRENTS SUSCEPTIBILITY TEST

### 13.1 Block Diagram of Test Setup



### 13.2 Test Standard and Severity Levels

#### 13.2.1 Test Standard

EN 61000-6-2

(EN 61000-4-6, Severity Level 3: 10V (rms), 0.15MHz ~ 80MHz)

#### 13.2.2 Severity level

Level	Field Strength V
1.	1
2.	3
3.	10
X	Special

### 13.3 Test Procedure

1. Set up the E.U.T., CDN and test generators as shown on Section 13.1.
2. Let the E.U.T. work in test mode and measure it.
3. The E.U.T. are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3m from E.U.T.. Cables between CDN and E.U.T. are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).
4. The disturbance signal described below is injected to E.U.T. through CDN.
5. The E.U.T. operates within its operational mode(s) under intended climatic conditions after power on.
6. The frequency range is swept from 150 KHz to 80 MHz using 10V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave.
7. The rate of sweep shall not exceed  $1.5 \times 10^{-3}$  decades/s. Where the frequency is swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.
8. Recording the E.U.T. operating situation during compliance testing and decide the E.U.T. immunity criterion.

### 13.4 Test Result

**PASS.**

Please refer to the following page.

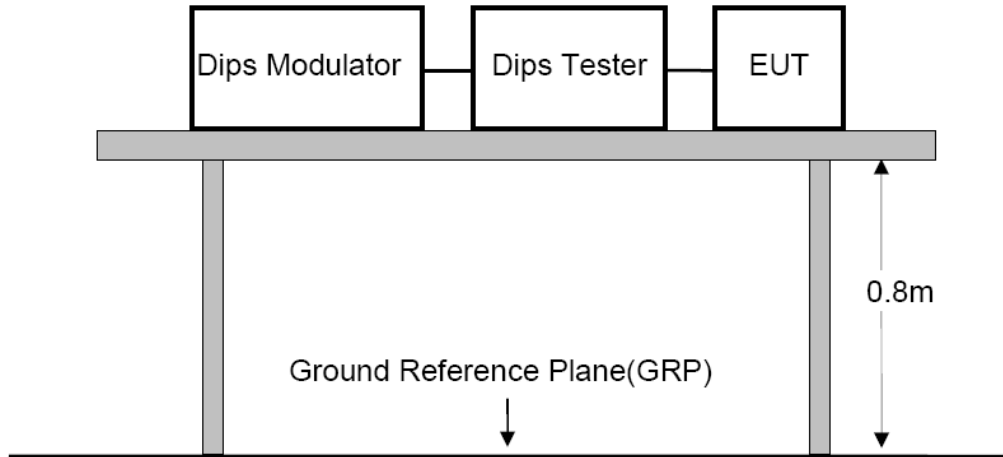


## Injected Currents Susceptibility Test Results

Ambient Condition:	Temp.: 25 °C	R.H.: 51 %	Air Pressure: 101 kPa
Power Supply:	AC 230V 50Hz	Required Performance Criterion: A	
Test Specifications:	Modulation : 1KHz, 80%AM, Step Size : 1%, Dwell Time : 3s		
Test mode:	Line+Battery+Full load		
Test Port	Frequency (MHz)	Level(V)	Result (Performance Criterion)
AC Mains	0.15~80	10	A
Note :			
Test Equipment : CDN (Luthi, L-801M2/M3)		Test Engineer : Stan	

## 14.VOLTAGE DIPS AND INTERRUPTIONS TEST

### 14.1 Block Diagram of Test Setup



### 14.2 Test Standard and Severity Levels

14.2.1 Test Standard  
 EN 61000-6-2  
 (EN 61000-4-11)

14.2.2 Severity level

Test Level $\%U_T$	Voltage dip and short interruptions $\%U_T$	Duration (in period)
0	100	0.5
40	60	1
70	30	5
		10
		25
		50
		*

### 14.3 Test Procedure

1. Set up the E.U.T. and test generator as shown on Section 14.1.
2. The interruption is introduced at selected phase angles with specified duration.
3. Record any degradation of performance.

#### 14.4 Test Result

**PASS.**

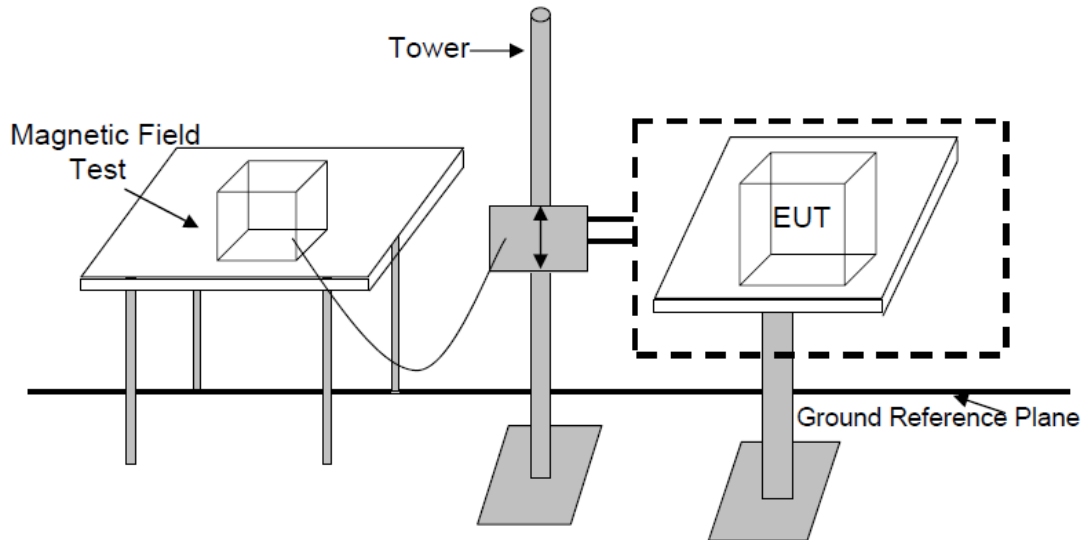
Please refer to the following page.

## Voltage Dips And Interruptions Test Results

Ambient Condition:	Temp.: 25 °C	R.H.: 51 %	Air Pressure: 101 kPa
Power Supply:	AC 230V 50Hz	Required Performance Criterion: B & C	
Test Specifications:	0%U <sub>T</sub> , 1Cycle; 40%U <sub>T</sub> , 10/12Cycles at 50/60Hz ; 70% U <sub>T</sub> , 25/30Cycles at 50/60Hz; 0%U <sub>T</sub> , 250/300Cycles at 50/60Hz;		
Test mode:	Line+Battery+Full load		
Test Level % UT	Duration (in period)		Result (Performance Criterion)
	50Hz	60Hz	
0	1	--	B
40	10	--	B
70	25	--	B
0	250	--	B
Note : The EUT change to battery mode automatically, and it can be recovered itself after test.			
Test Equipment : Dips Tester: EM TEST, UCS 500N		Test Engineer : Stan	

## 15.MAGNETIC FIELD IMMUNITY TEST

### 15.1 Block Diagram of Test Setup



### 15.2 Test Standard and Severity Levels

#### 15.2.1 Test Standard

EN 61000-6-2

(EN 61000-4-8: 2010, Severity level 4: 30A/m)

#### 15.2.2 Severity level

Level	Magnetic Field Strength A/m
1	1
2	3
3	10
4	30
5	100
X	Special

### 15.3 Test Procedure

The E.U.T. is placed in the middle of a induction coil (1\*1m), under which is a 1\*1\*0.1m (high) table, this small table is also placed on a larger table, 0.8m above the ground. X, Y and Z polarization of the induction coil are set on test, so that each side of the E.U.T. is affected by the magnetic field. Also can reach the same aim by change the position of the E.U.T..

## 15.4 Test Result

**PASS.**

Please refer to the following page.

## Magnetic Field Immunity Test Results

Ambient Condition:	Temp.: 25 °C	R.H.: 51 %	Air Pressure: 101 kPa
Power Supply:	AC 230V 50Hz DC48V	Required Performance Criterion: A	
Test Specifications:	30A/m 50/60Hz		
Test mode:	Line+Battery+Full load		
<b>Test Level</b>	<b>Testig Duration</b>	<b>Coil Orientati on</b>	<b>Result</b> (Performance Criterion)
30A/m	5min	X	A
30A/m	5min	Y	A
30A/m	5min	Z	A
Note :			
Test Equipment : Magnetic Field Tester (EMC PARTNER, TRA2000)    Test Engineer : Stan			

# 16.PHOTOGRAPH

## 16.1 Photo of Conducted Emission Measurement

M/N: FlinInfini Lite 3kW-48V



## 16.2 Photo of Radiation Emission Measurement

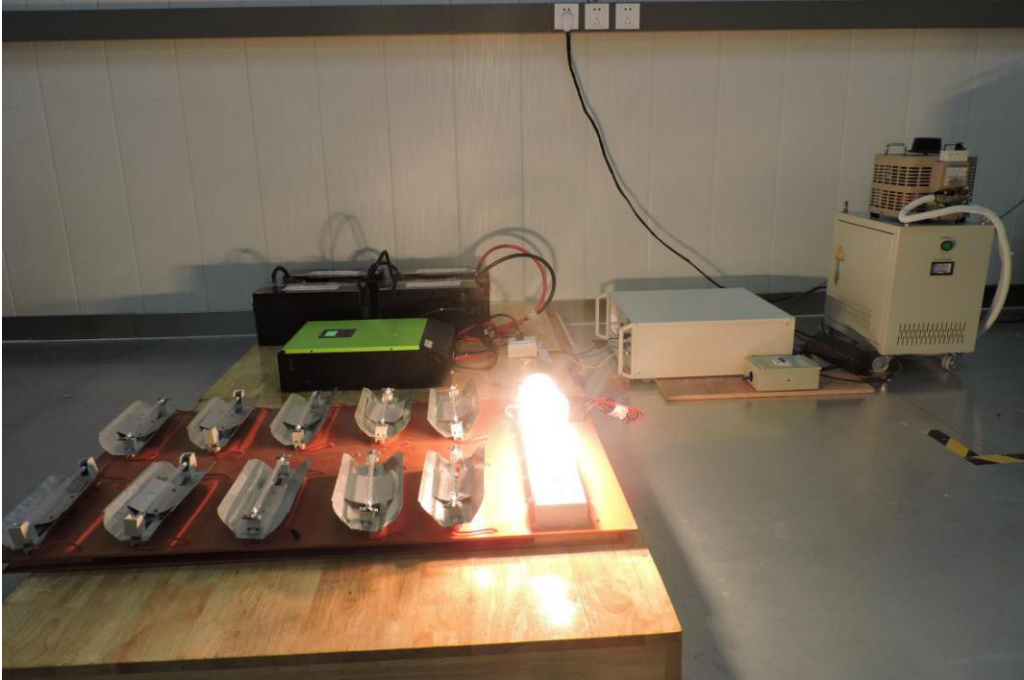
M/N: FlinInfini Lite 3kW-48V





16.3 Photo of Surge/Electrical Fast Transient /Dips Test

M/N: FlinInfini Lite 3kW-48V



16.4 Photo of Electrostatic Discharge Test

M/N: FlinInfini Lite 3kW-48V



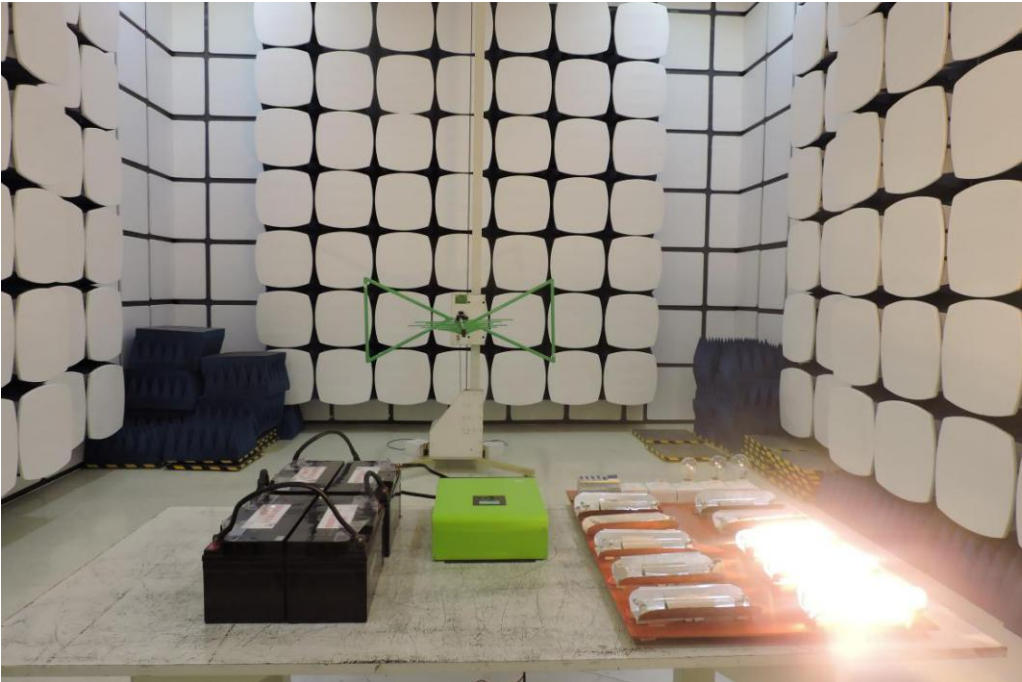
16.5 Photo of Conducted Emission Measurement

M/N: FlinInfini Lite 4kW-48V



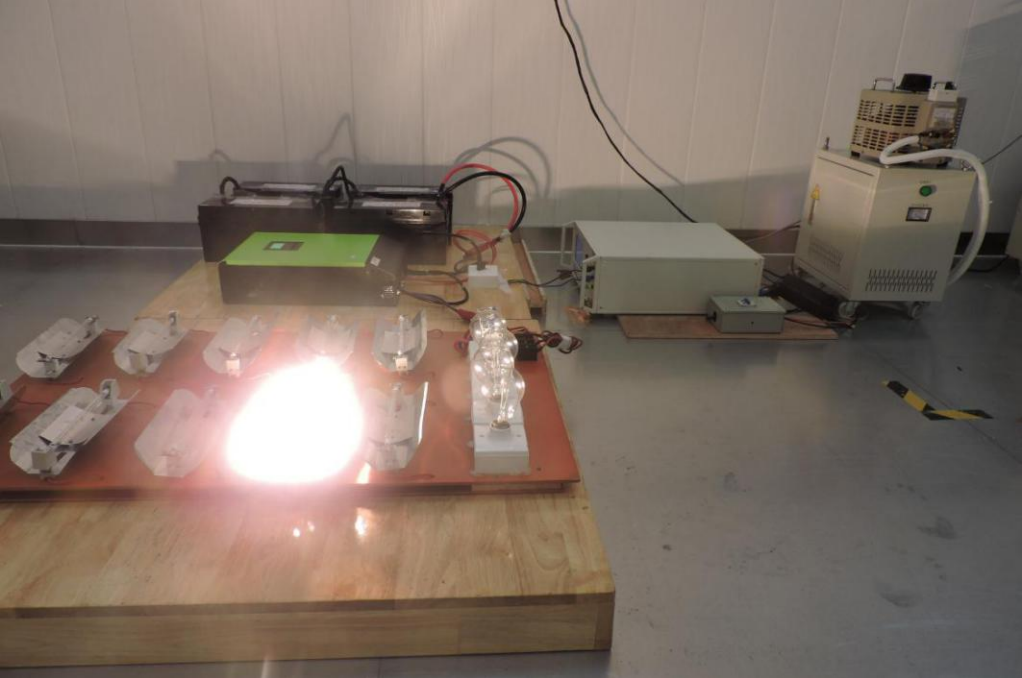
16.6 Photo of Radiation Emission Measurement

M/N: FlinInfini Lite 4kW-48V



16.7 Photo of Surge/Electrical Fast Transient /Dips Test

M/N: FlinInfini Lite 4kW-48V



16.8 Photo of Electrostatic Discharge Test

M/N: FlinInfini Lite 4kW-48V





16.9 Photo of Conducted Emission Measurement

M/N: FlinInfini Lite 5kW-48V



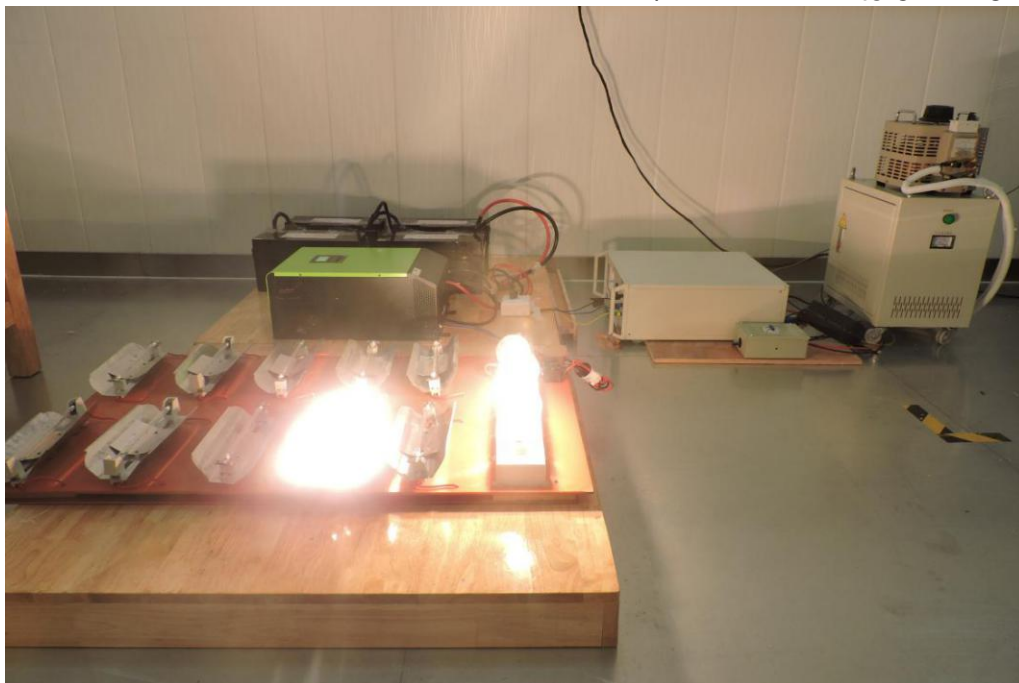
16.10 Photo of Radiation Emission Measurement

M/N: FlinInfini Lite 5kW-48V



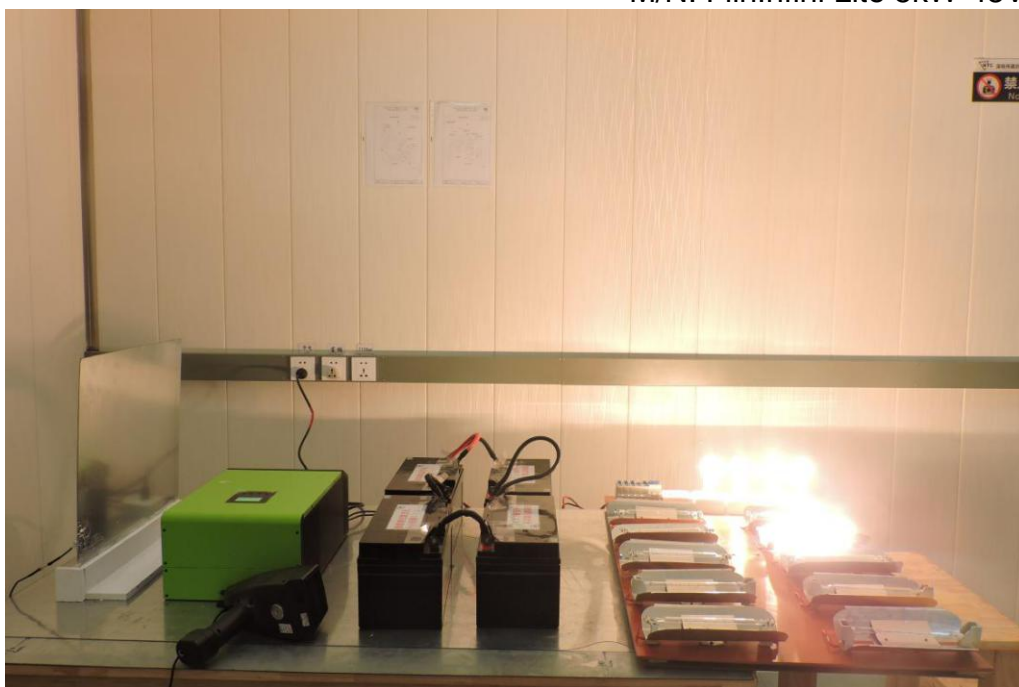
### 16.11 Photo of Surge/Electrical Fast Transient /Dips Test

M/N: FlinInfini Lite 5kW-48V



### 16.12 Photo of Electrostatic Discharge Test

M/N: FlinInfini Lite 5kW-48V



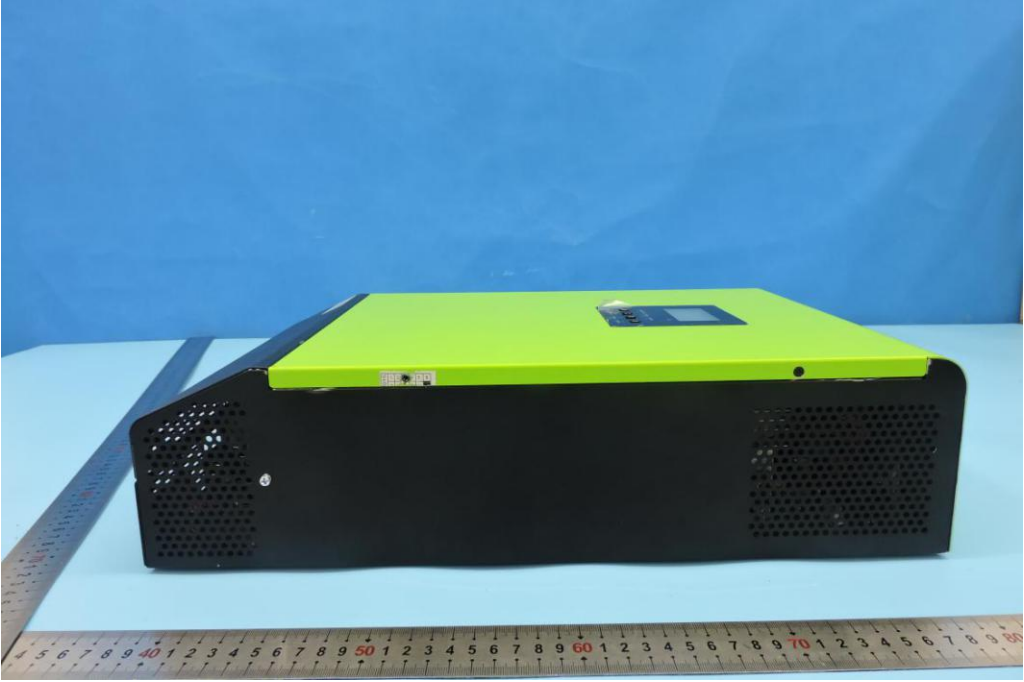
# APPENDIX I

## (Photos of E.U.T.)

**Figure 1**  
General Appearance of the E.U.T.  
M/N: FlinInfini Lite 3kW-48V



**Figure 2**  
General Appearance of the E.U.T.  
M/N: FlinInfini Lite 3kW-48V



**Figure 3**  
General Appearance of the E.U.T.  
M/N: FlinInfini Lite 3kW-48V

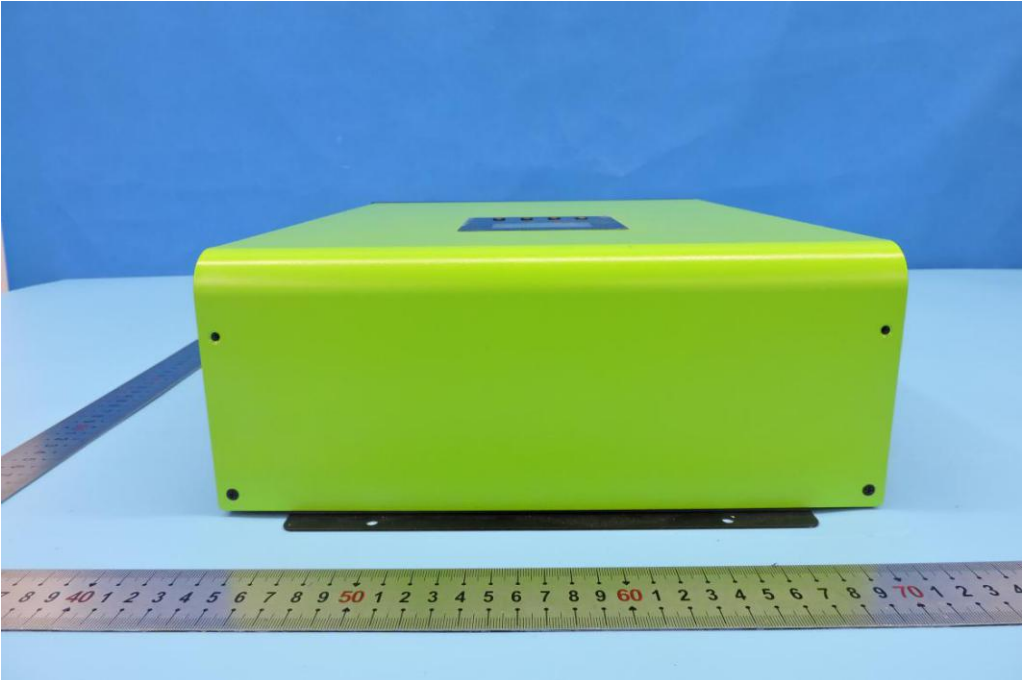


**Figure 4**  
General Appearance of the E.U.T.  
M/N: FlinInfini Lite 3kW-48V

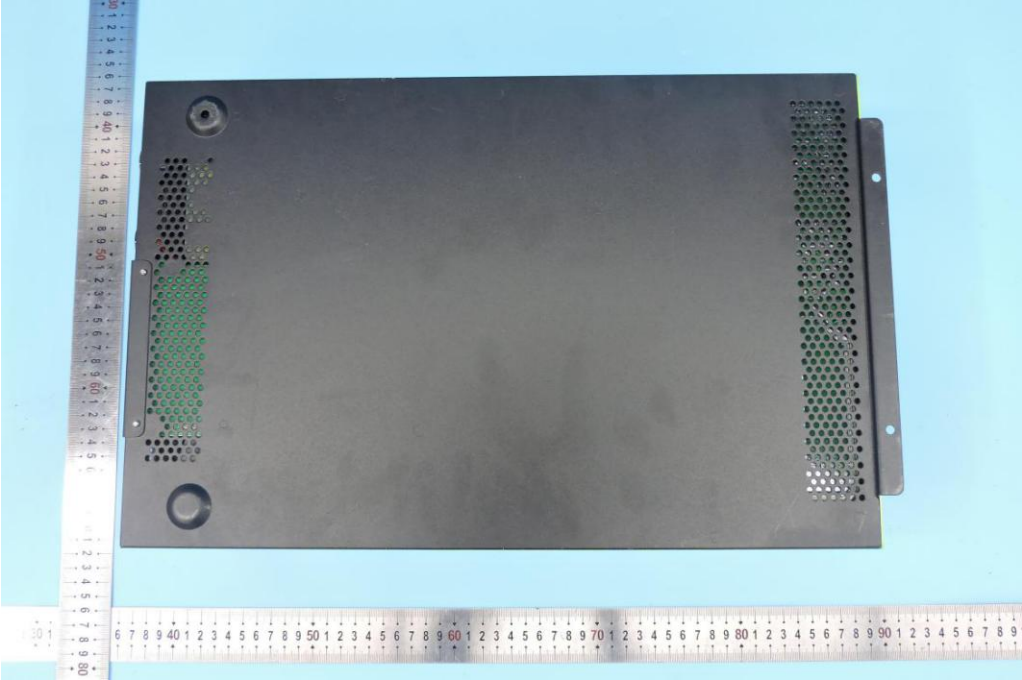




**Figure 5**  
General Internal of the E.U.T.  
M/N: FlinInfini Lite 3kW-48V



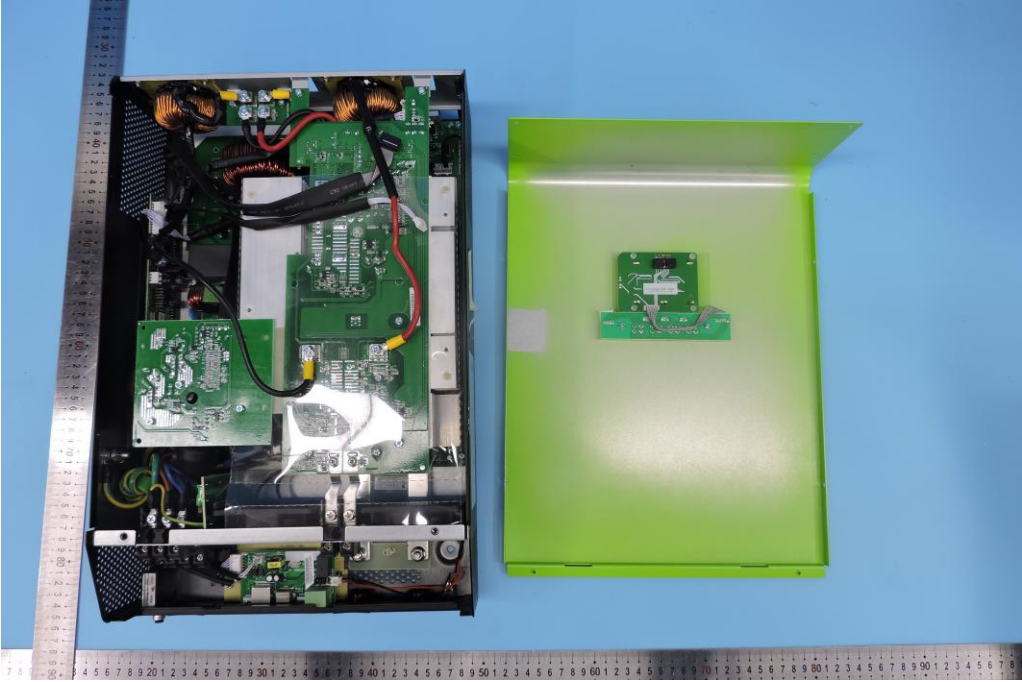
**Figure 6**  
General Internal of the E.U.T.  
M/N: FlinInfini Lite 3kW-48V



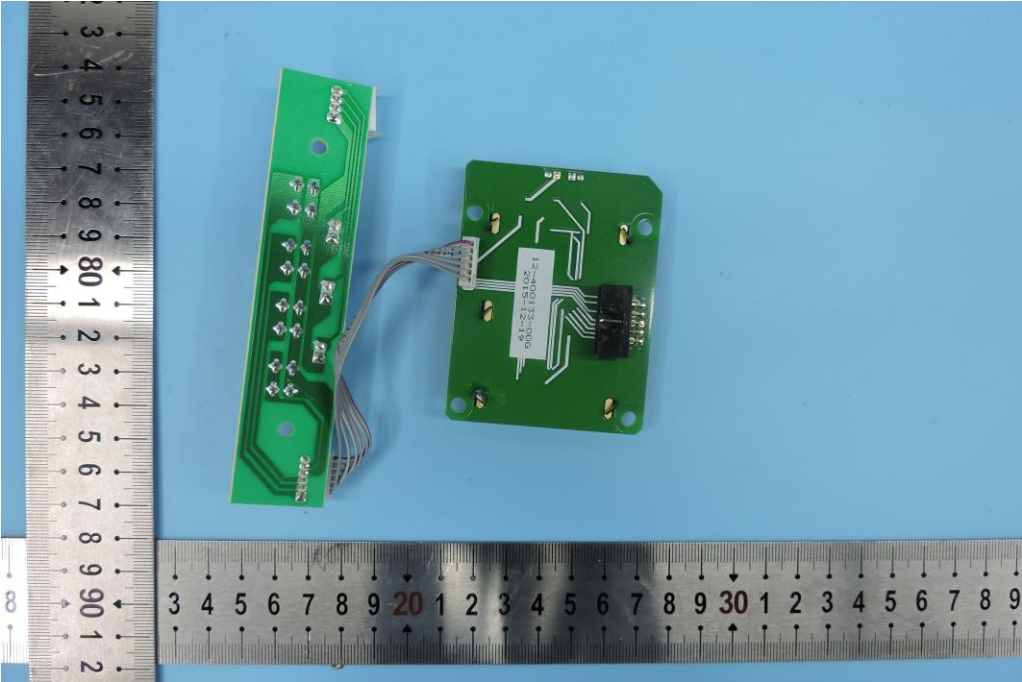
**Figure 7**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



**Figure 8**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



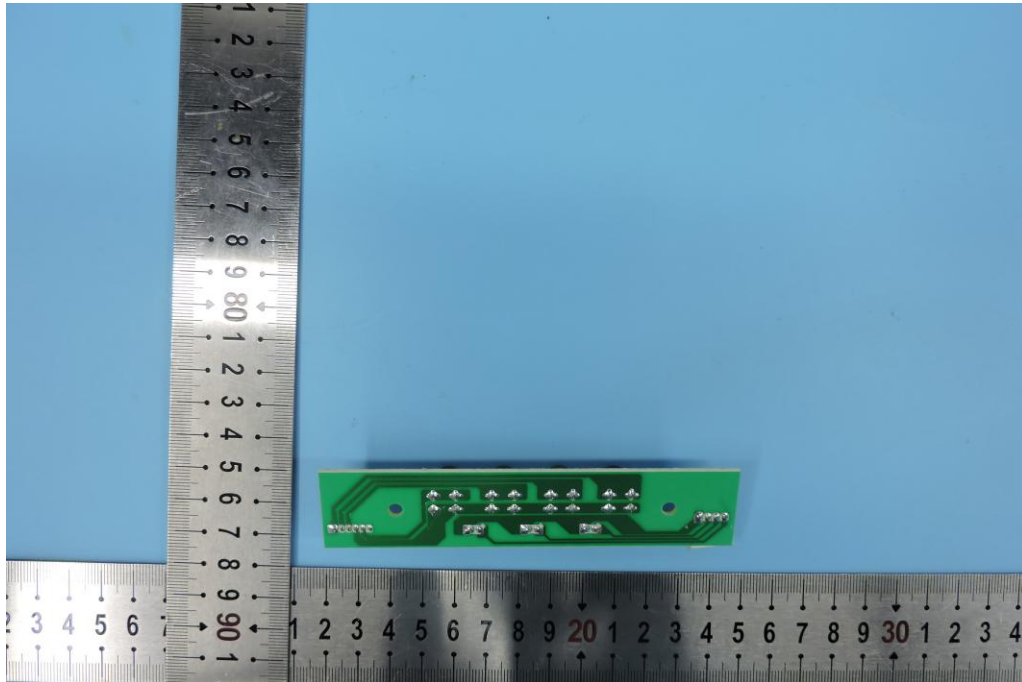
**Figure 9**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



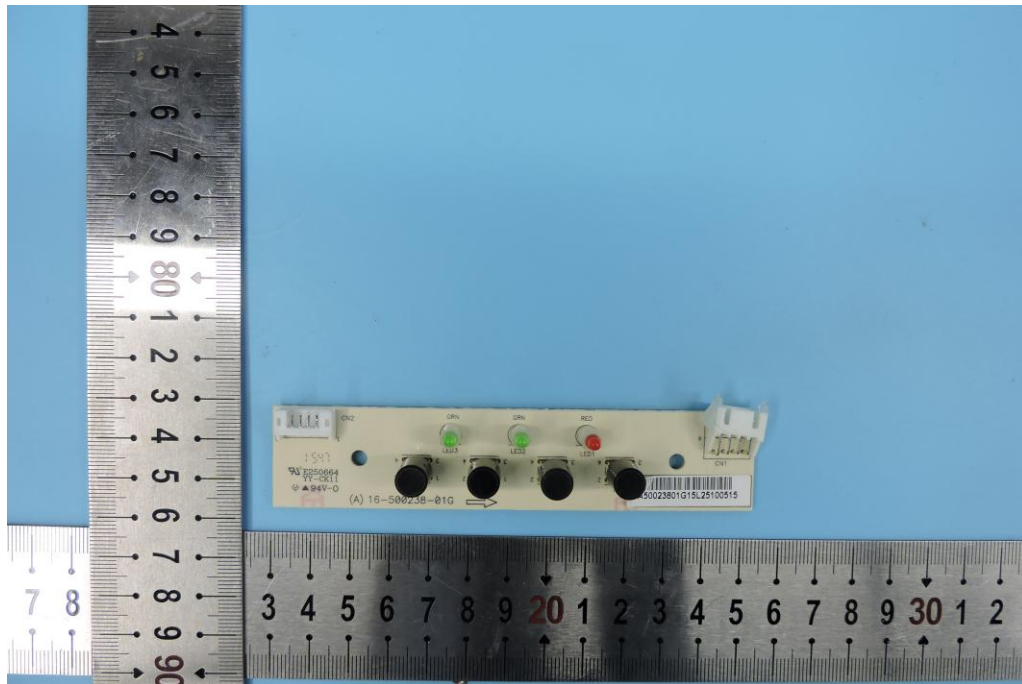
**Figure 10**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



**Figure 11**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V

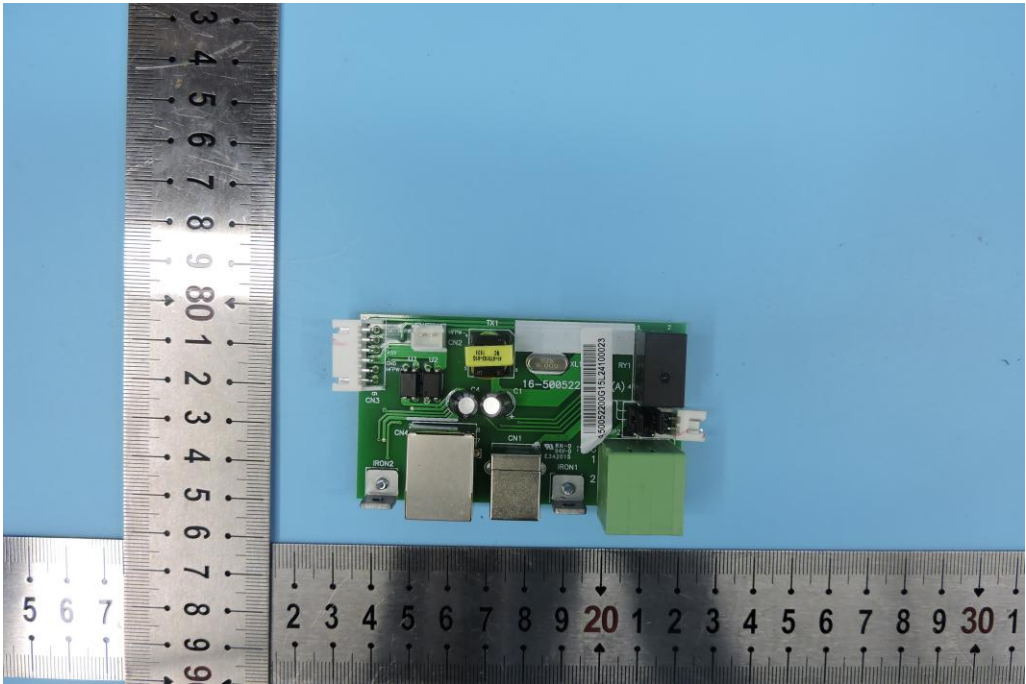


**Figure 12**  
General Internal of the PCB  
M/N: FlinInfini Lite 3kW-48V

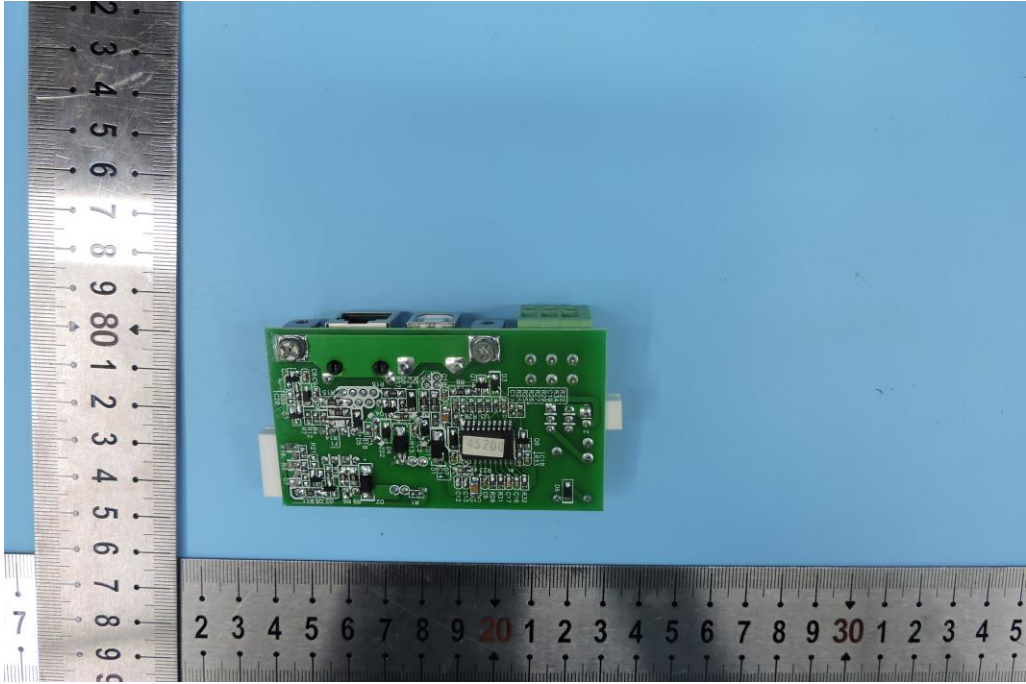




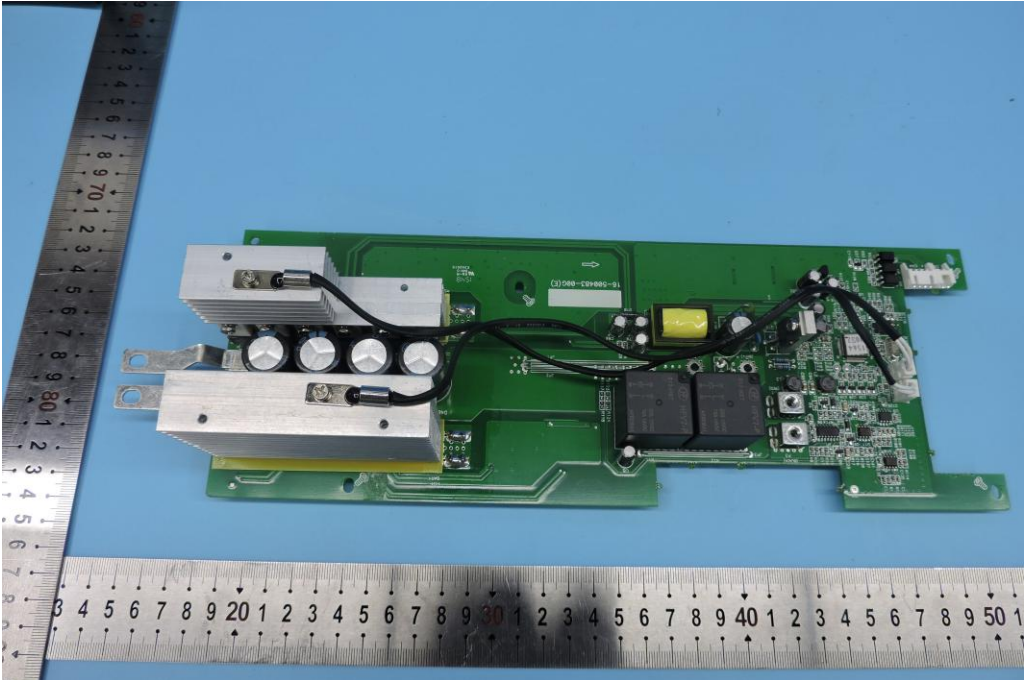
**Figure 13**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



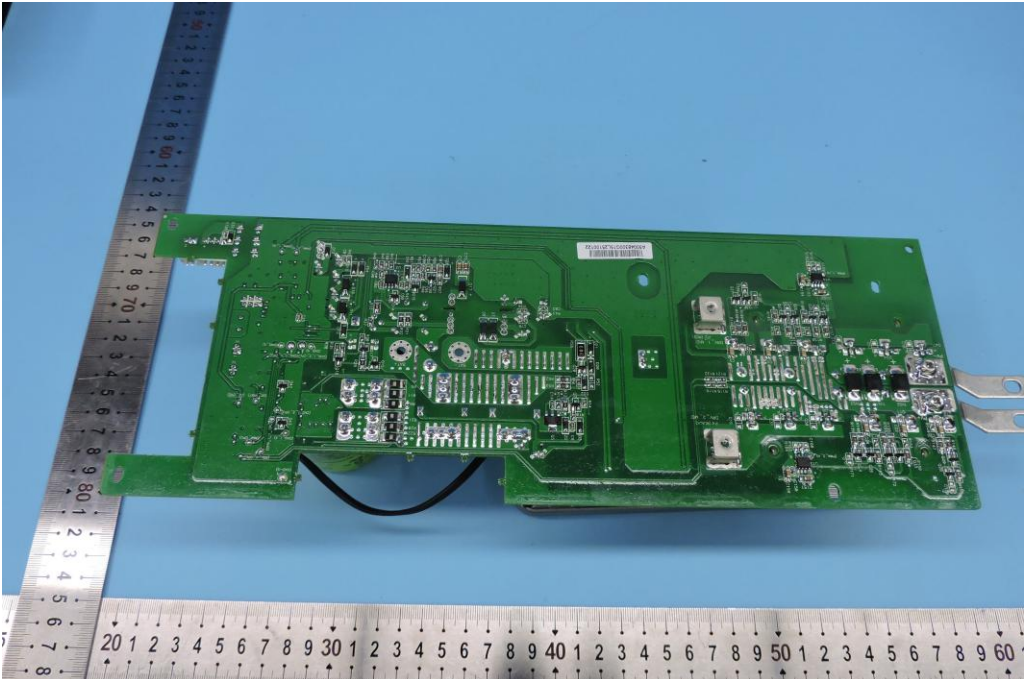
**Figure 14**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



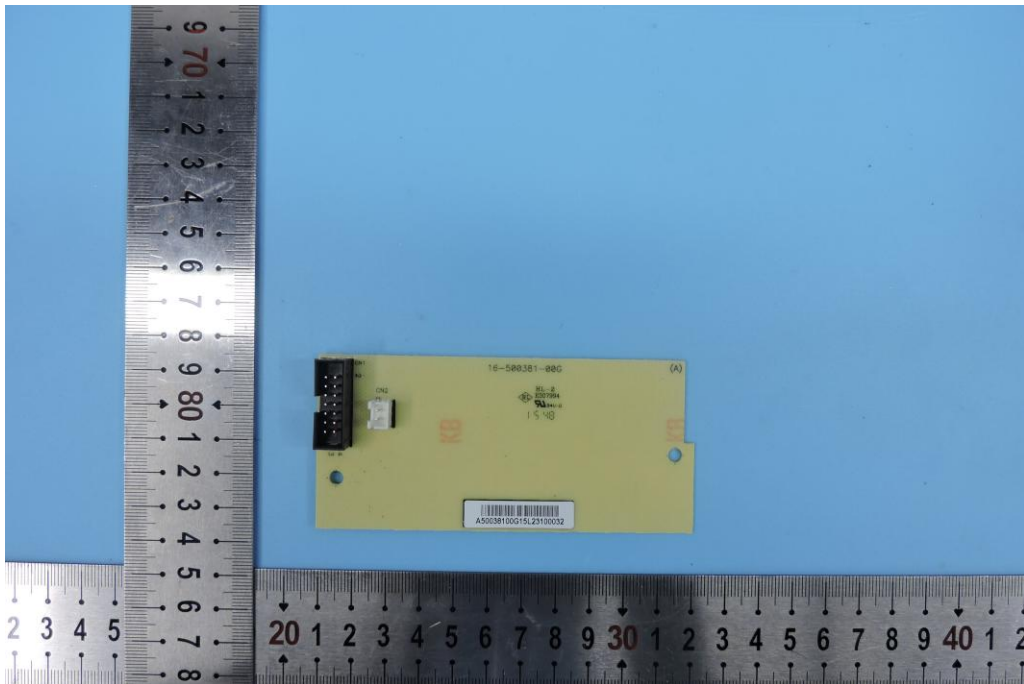
**Figure 15**  
General Internal of the PCB  
M/N: FlinInfini Lite 3kW-48V



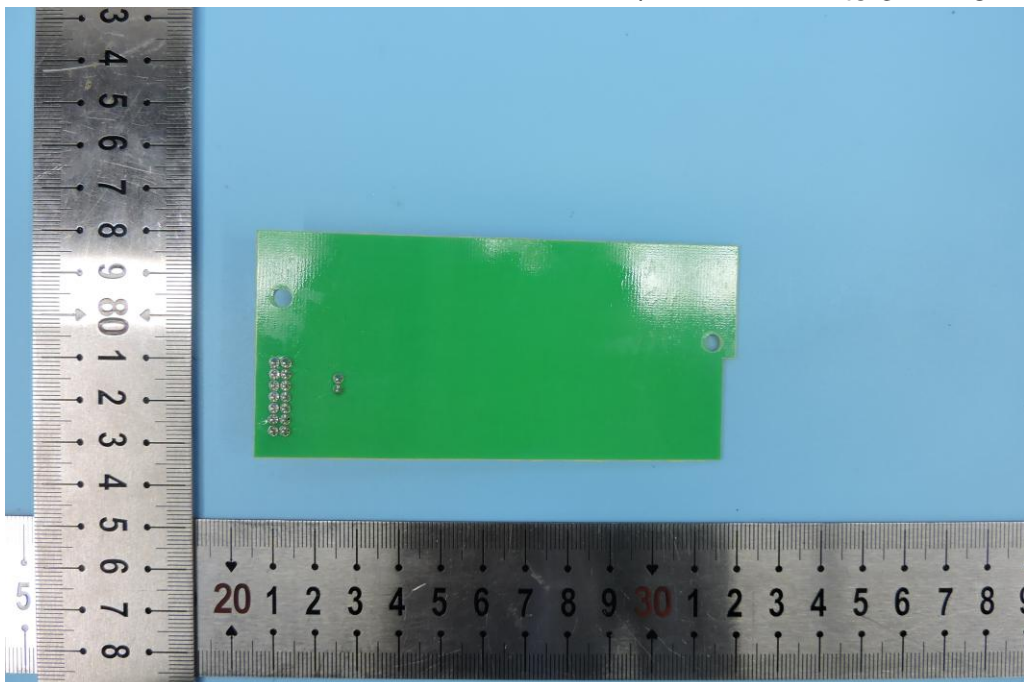
**Figure 16**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



**Figure 17**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V

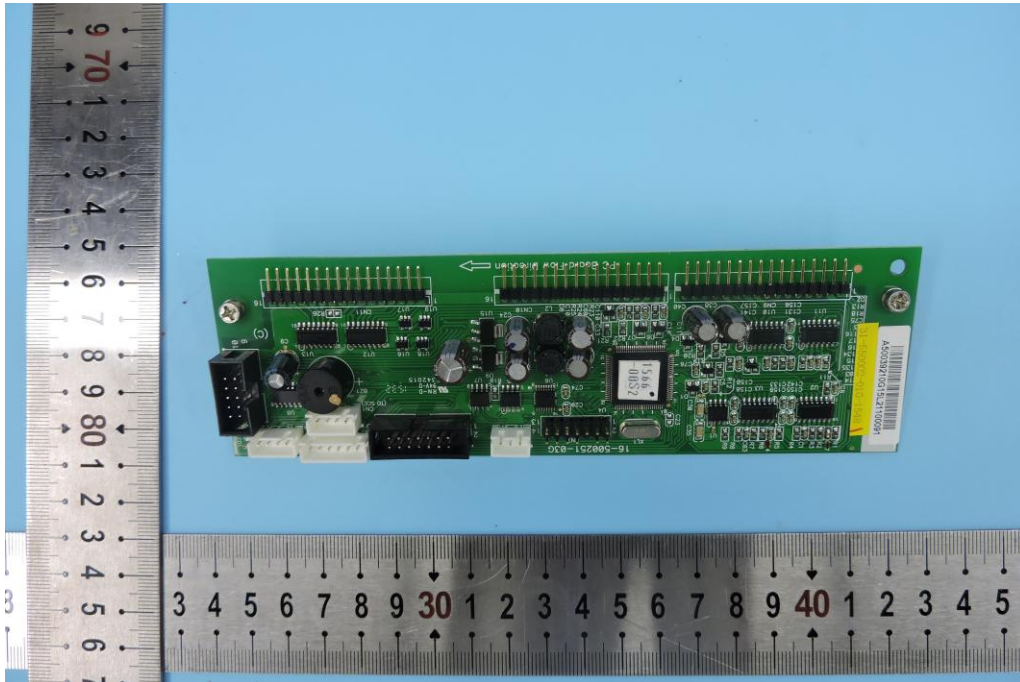


**Figure 18**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V

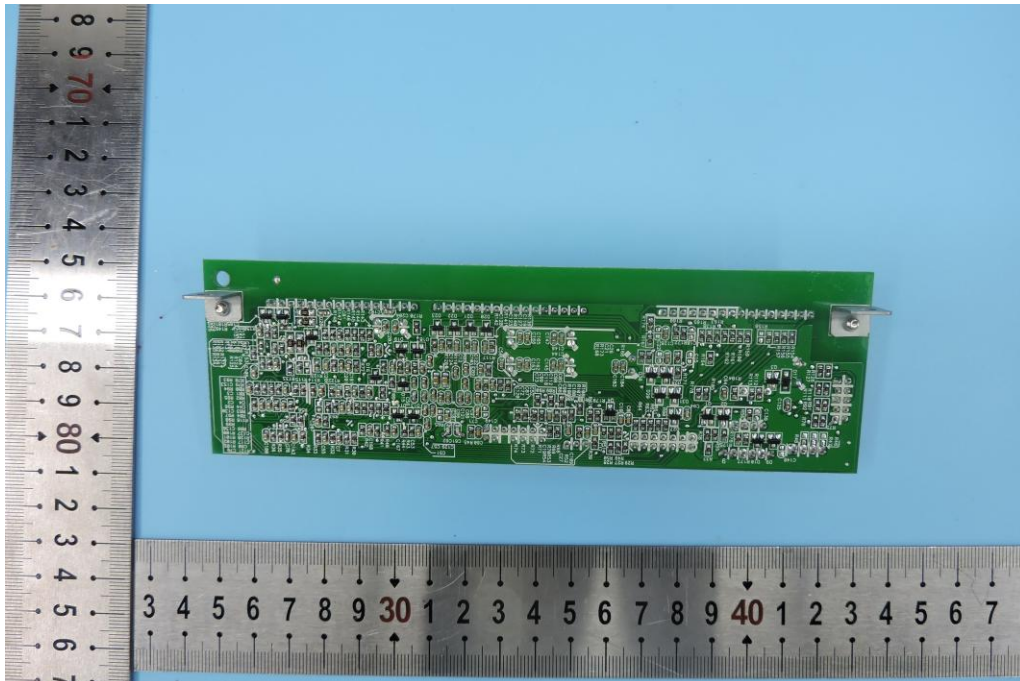




**Figure 19**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V

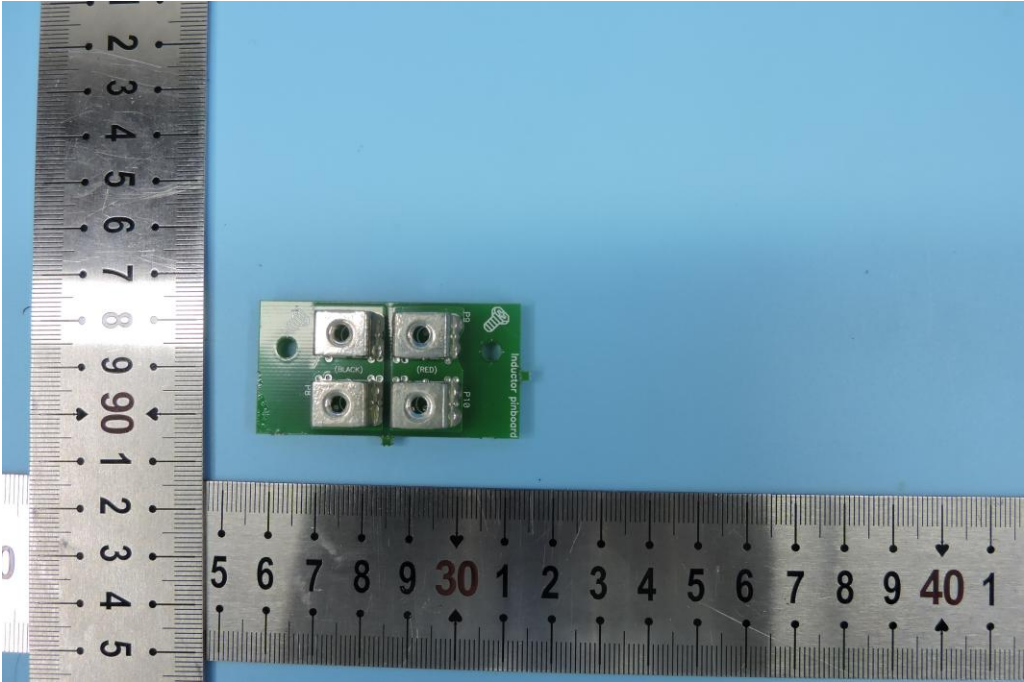


**Figure 20**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V

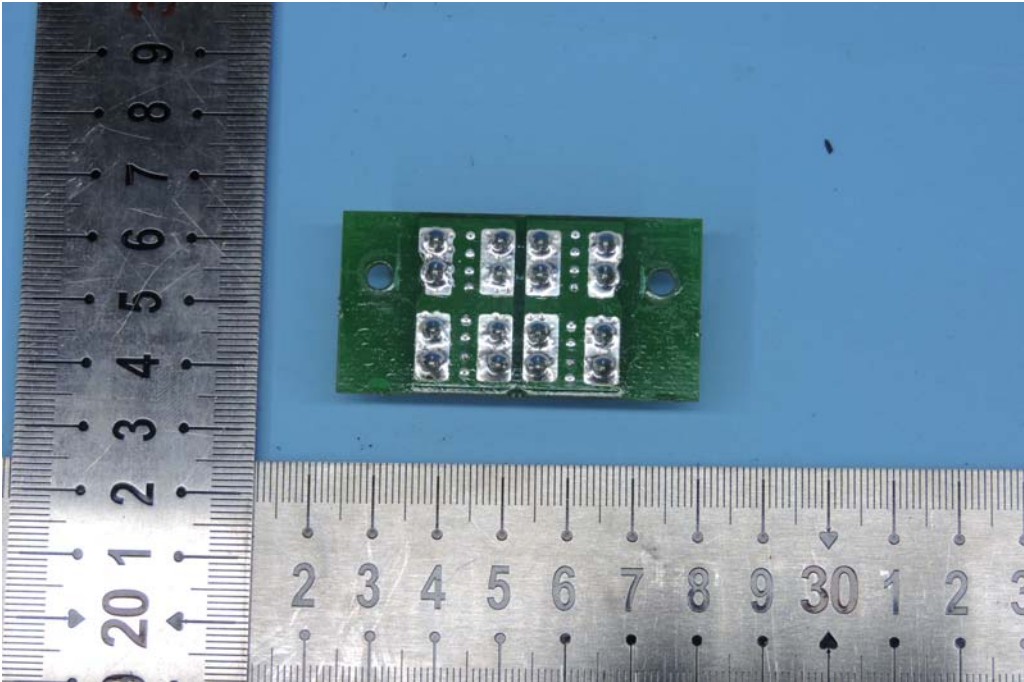




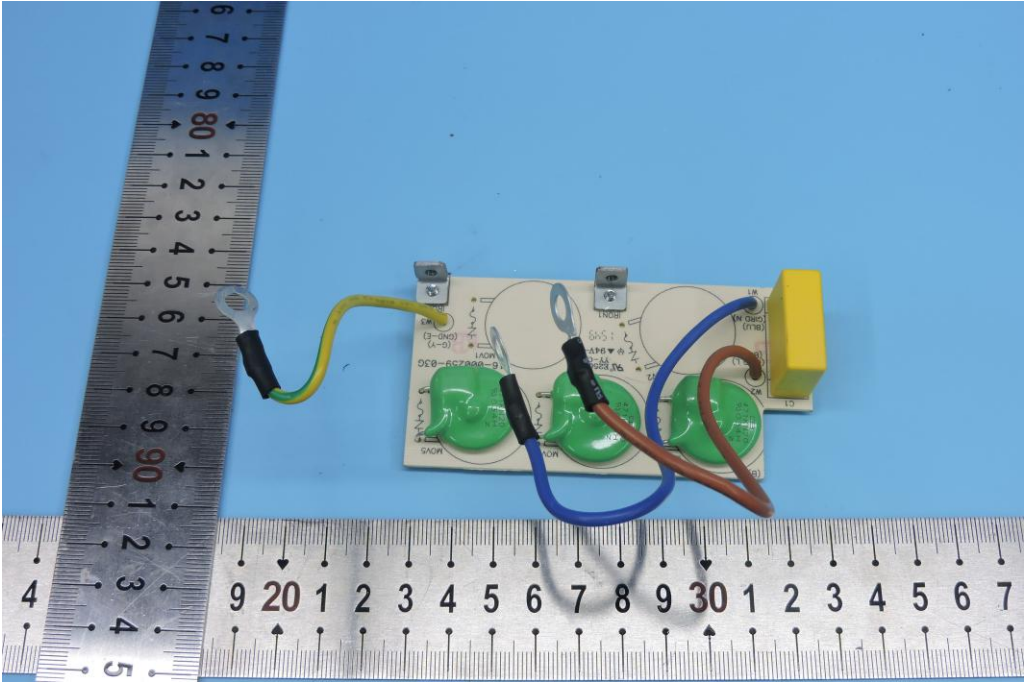
**Figure 21**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



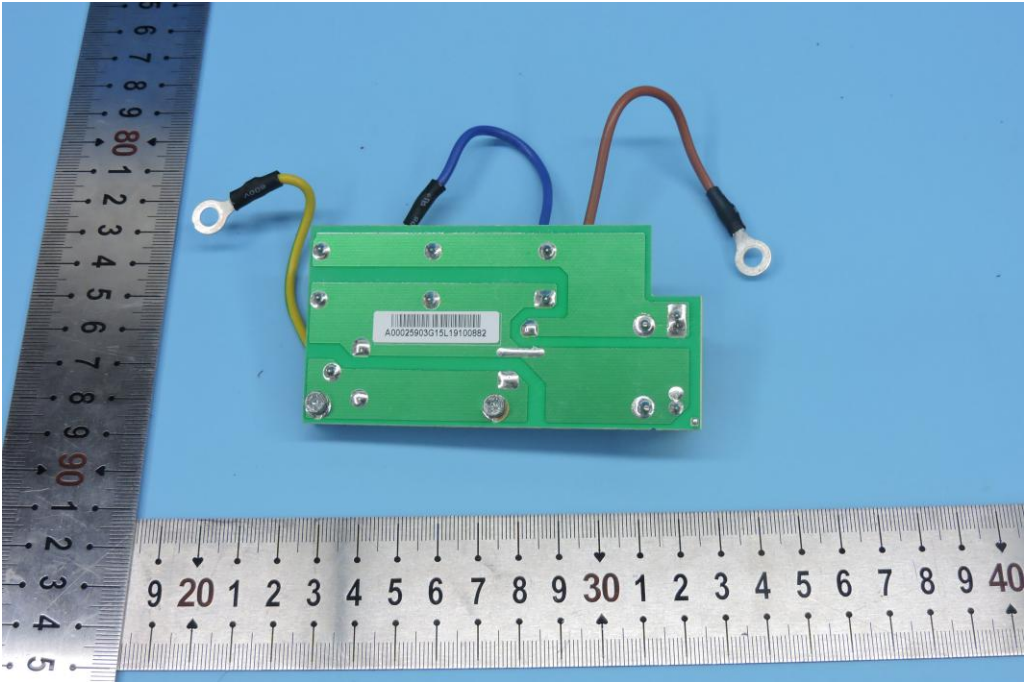
**Figure 22**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



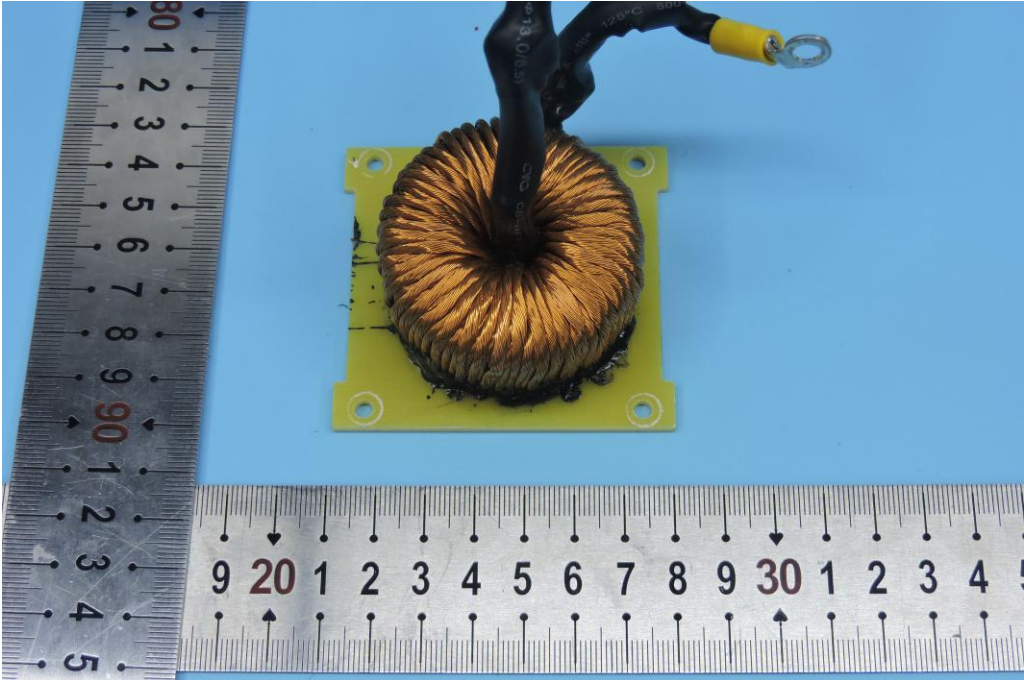
**Figure 23**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



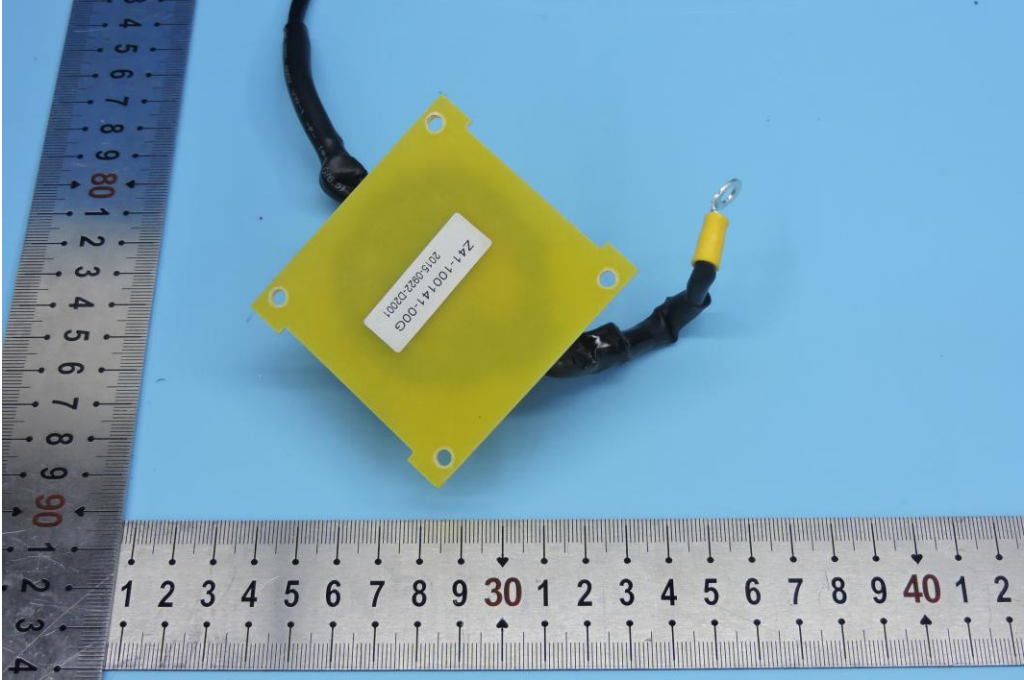
**Figure 24**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



**Figure 25**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V

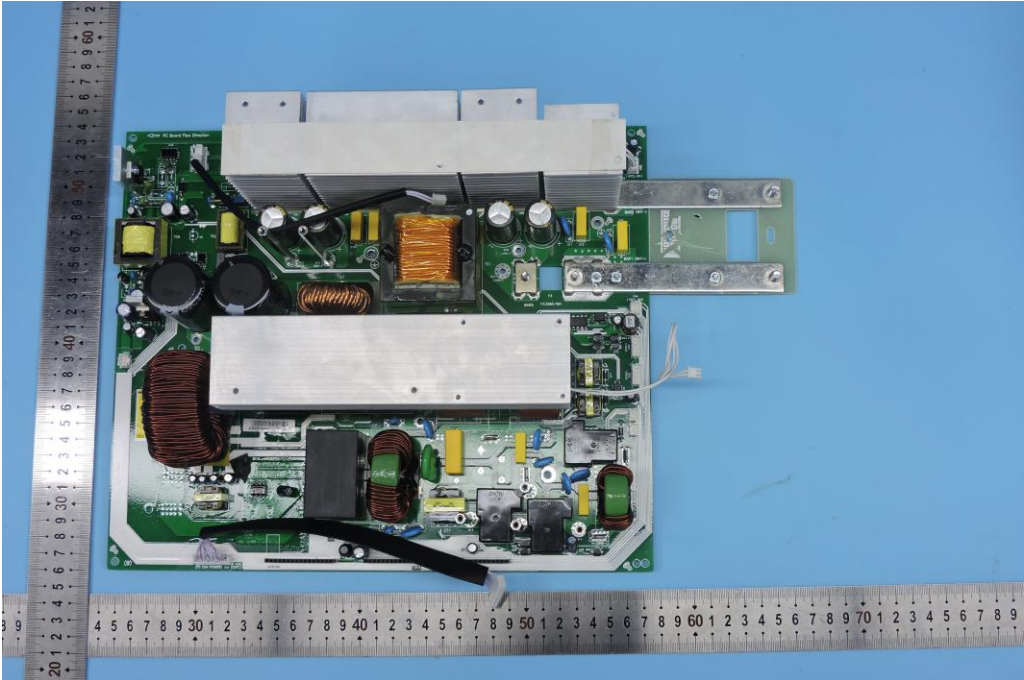


**Figure 26**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V

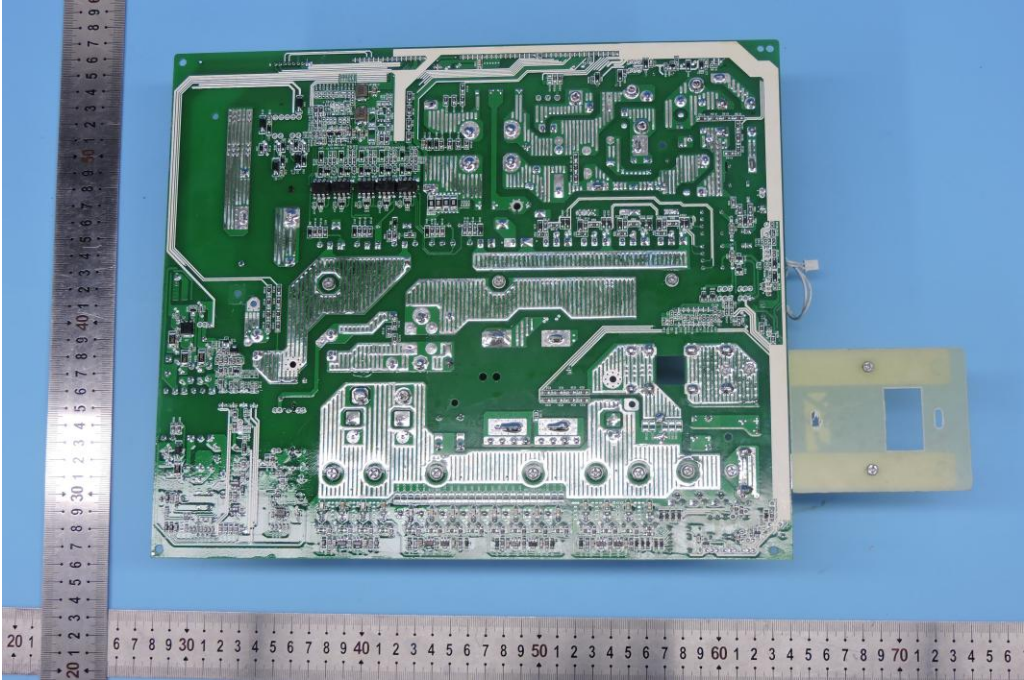




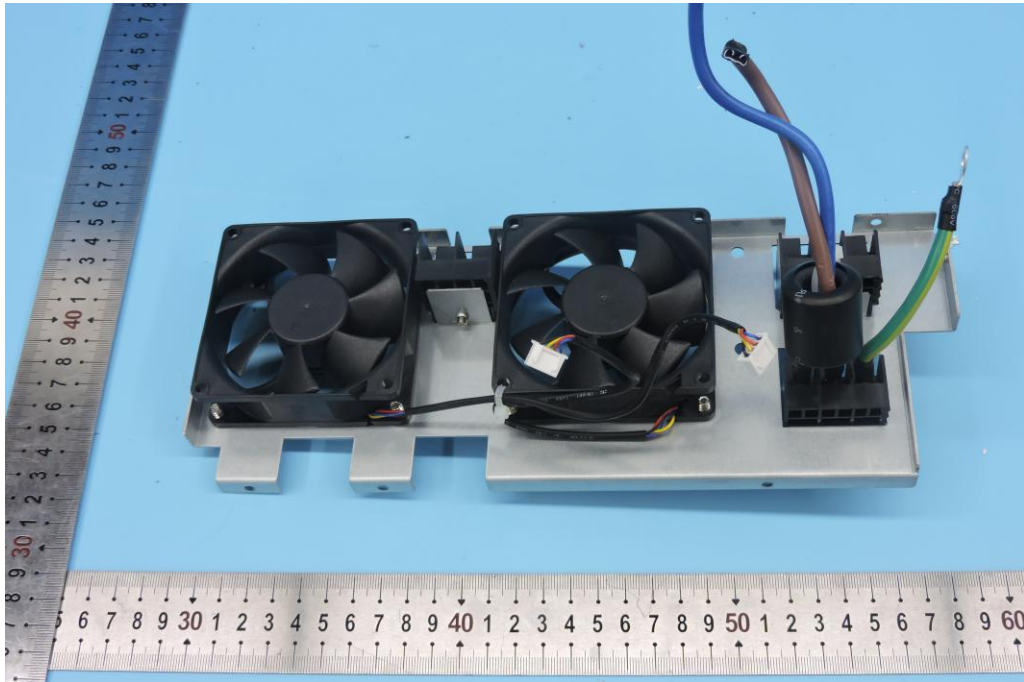
**Figure 27**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



**Figure 28**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



**Figure 29**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V

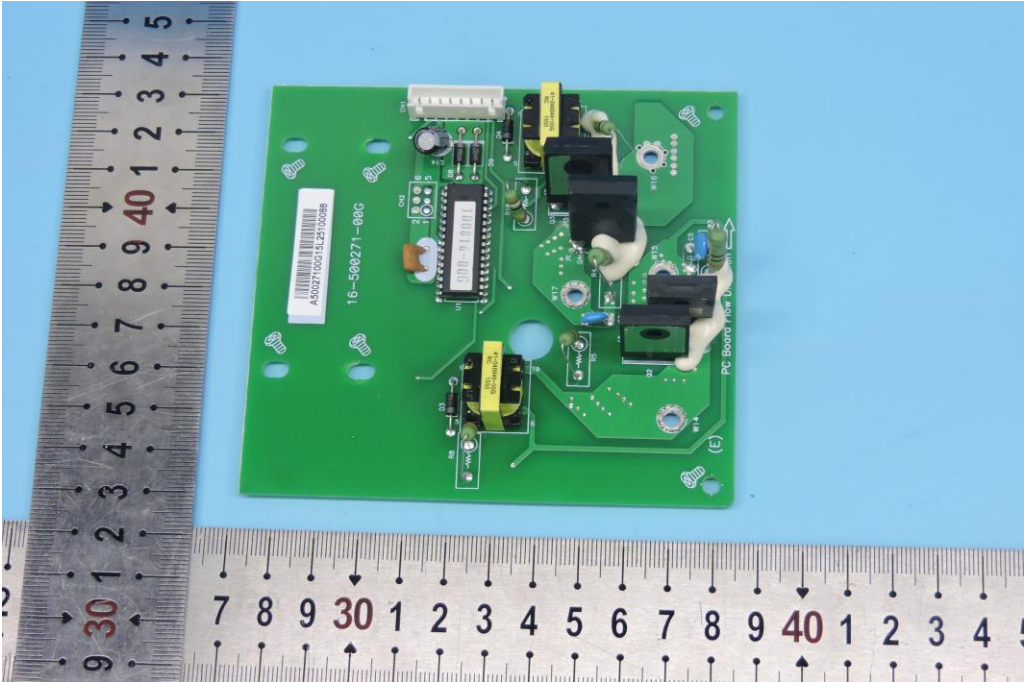


**Figure 30**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V

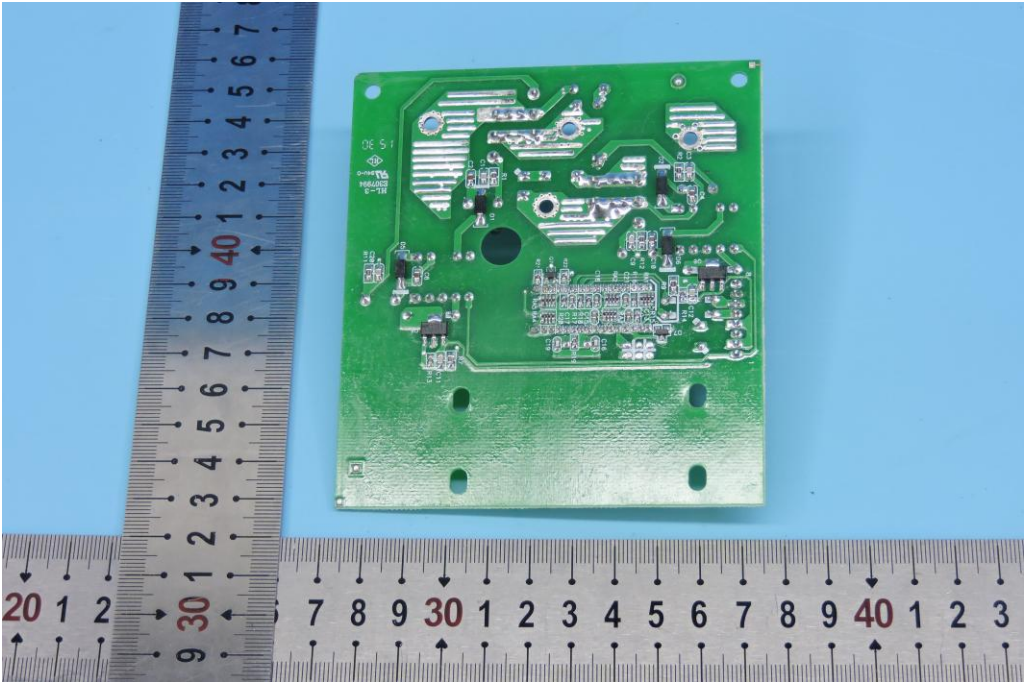




**Figure 31**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



**Figure 32**  
General Appearance of the PCB  
M/N: FlinInfini Lite 3kW-48V



**Figure 33**  
General Appearance of the E.U.T.  
M/N: FlinInfini Lite 4kW-48V



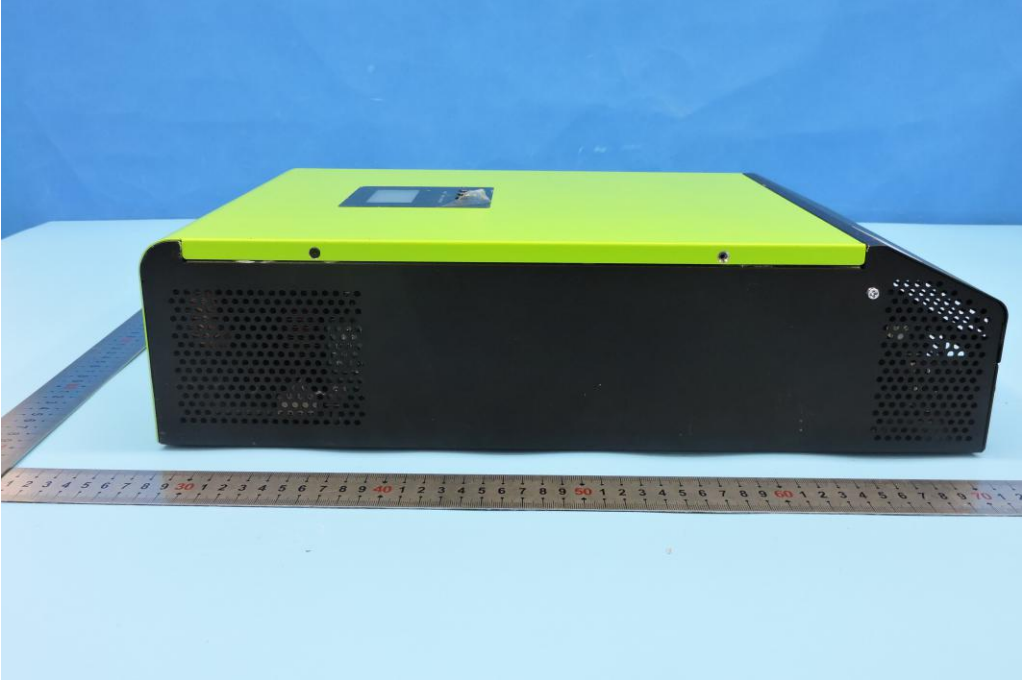
**Figure 34**  
General Appearance of the E.U.T.  
M/N: FlinInfini Lite 4kW-48V



**Figure 35**  
General Appearance of the E.U.T.  
M/N: FlinInfini Lite 4kW-48V

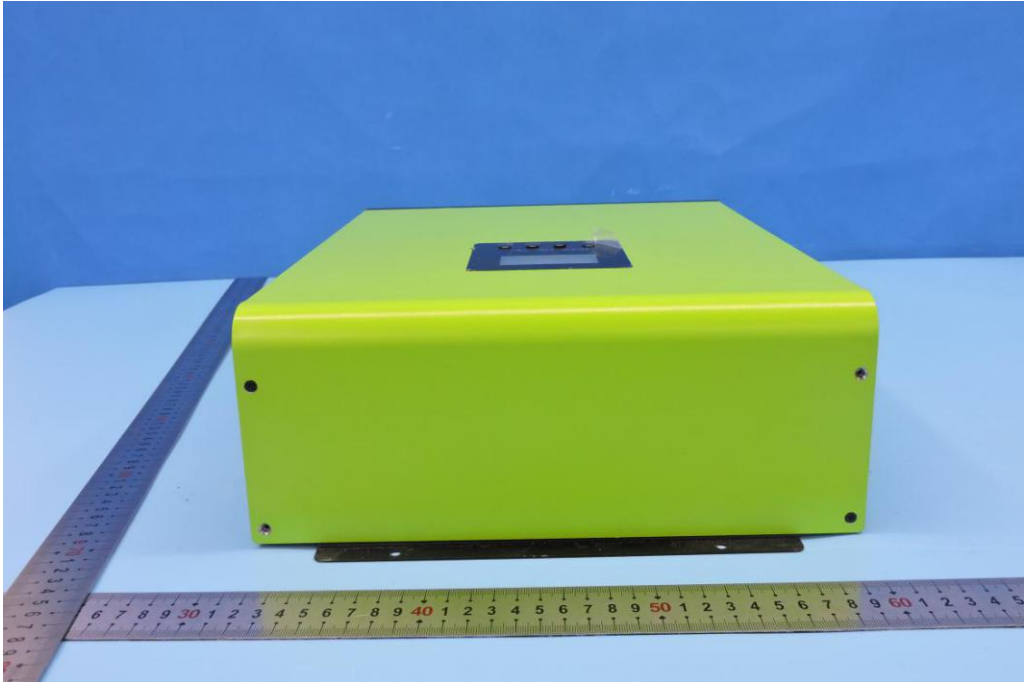


**Figure 36**  
General Appearance of the E.U.T.  
M/N: FlinInfini Lite 4kW-48V

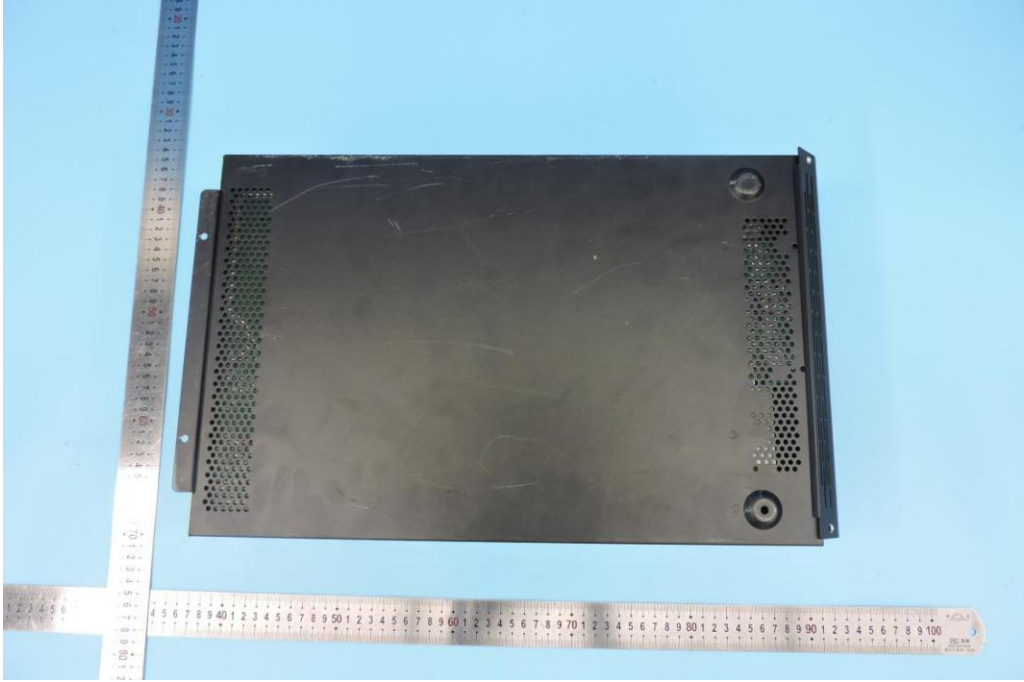




**Figure 37**  
General Internal of the E.U.T.  
M/N: FlinInfini Lite 4kW-48V



**Figure 38**  
General Internal of the E.U.T.  
M/N: FlinInfini Lite 4kW-48V



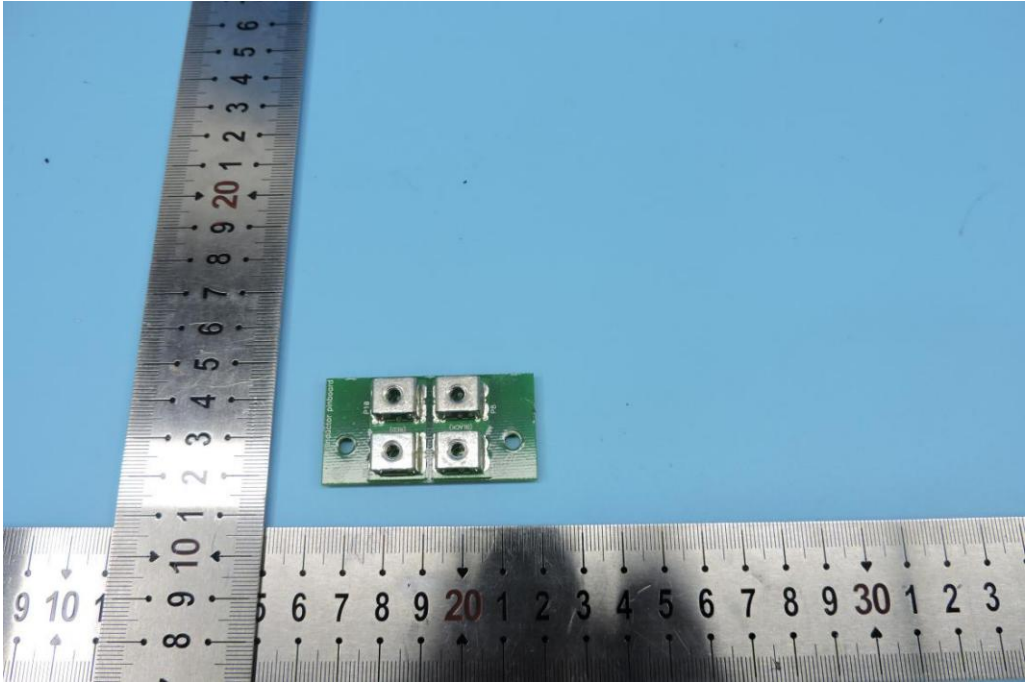
**Figure 39**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



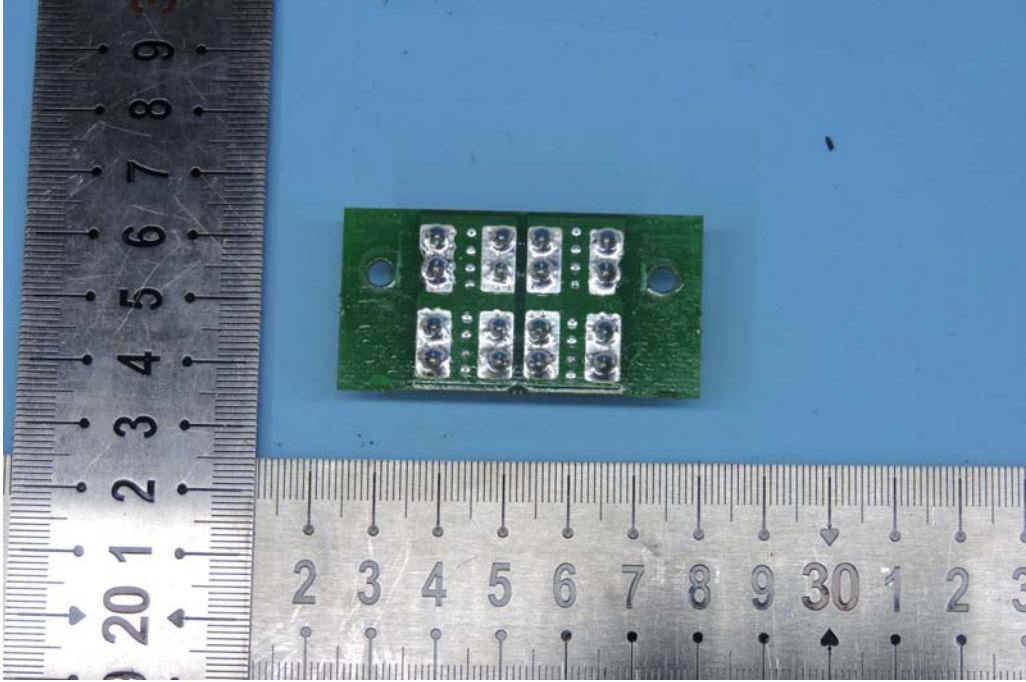
**Figure 40**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



**Figure 41**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



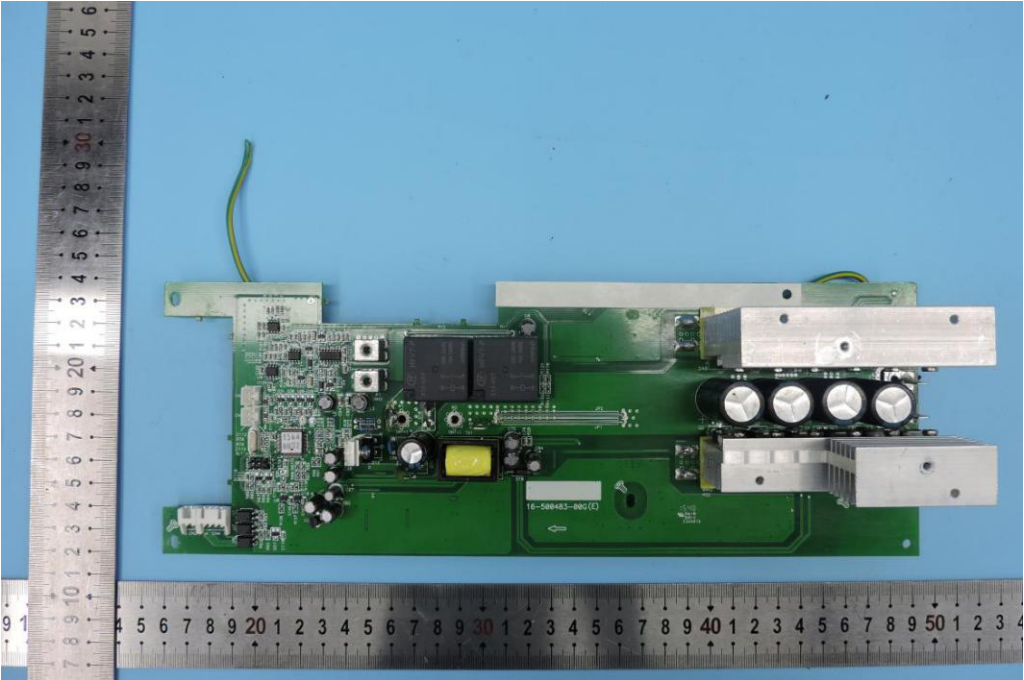
**Figure 42**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



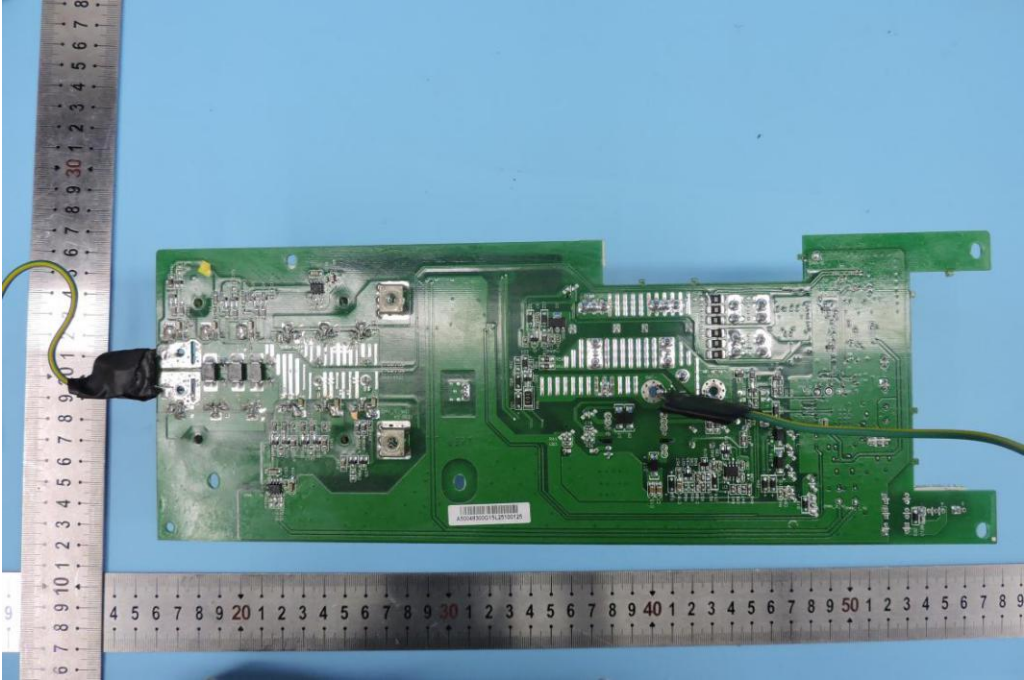




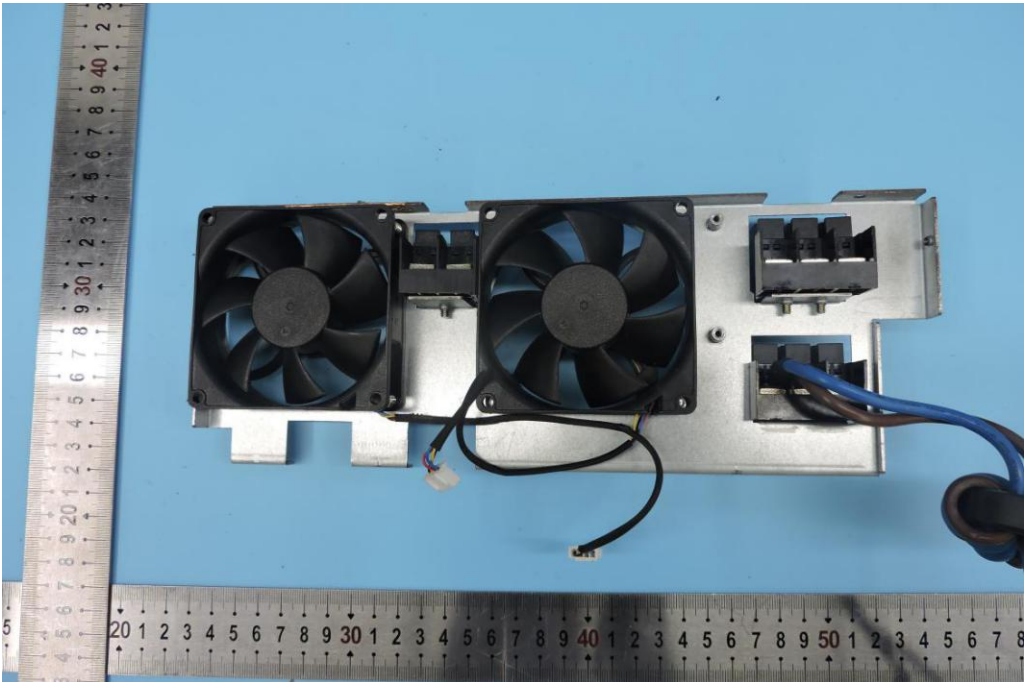
**Figure 45**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



**Figure 46**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



**Figure 47**  
General Internal of the PCB  
M/N: FlinInfini Lite 4kW-48V

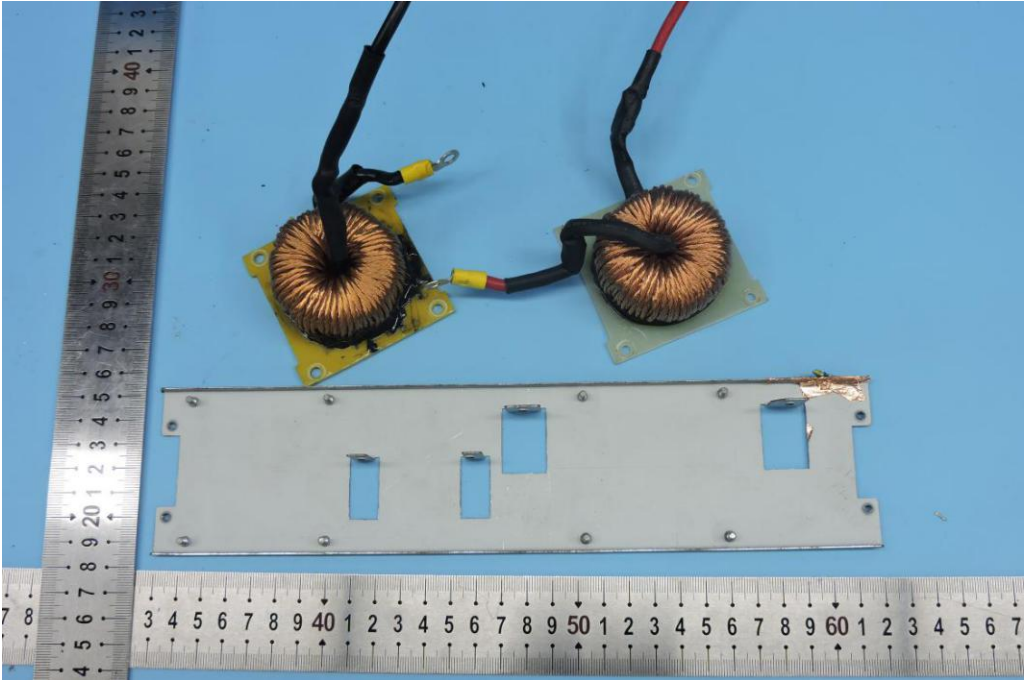


**Figure 48**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V

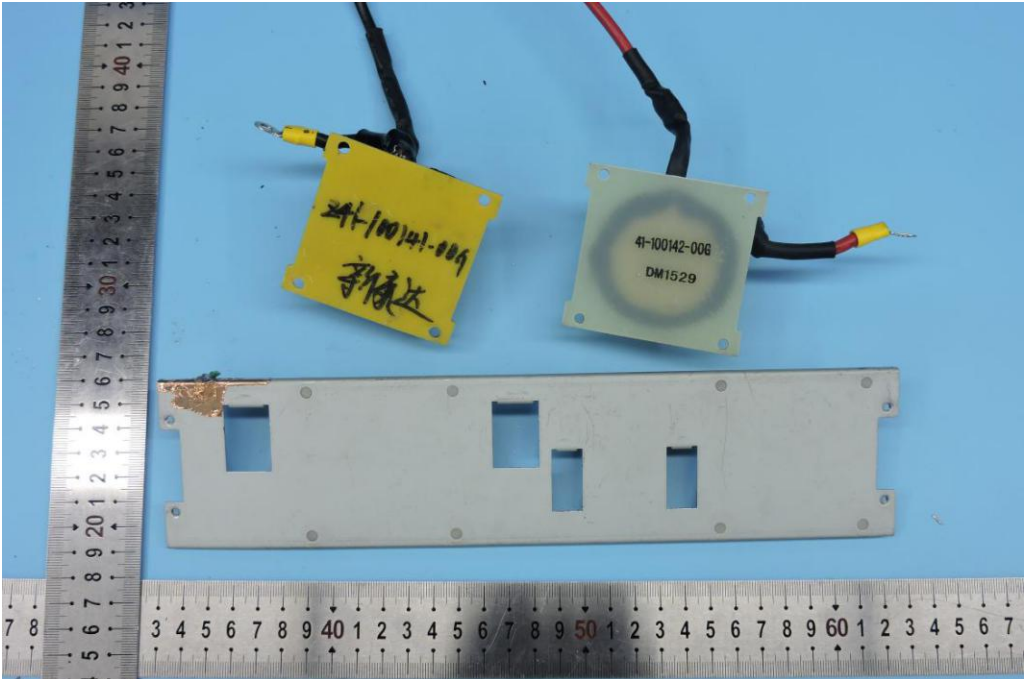




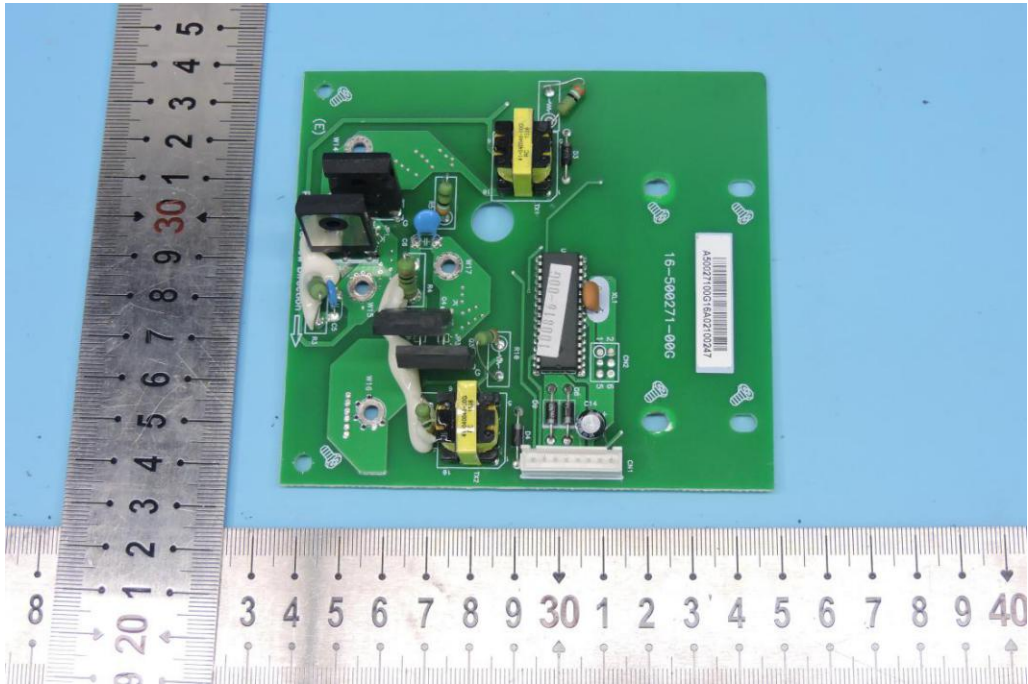
**Figure 49**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



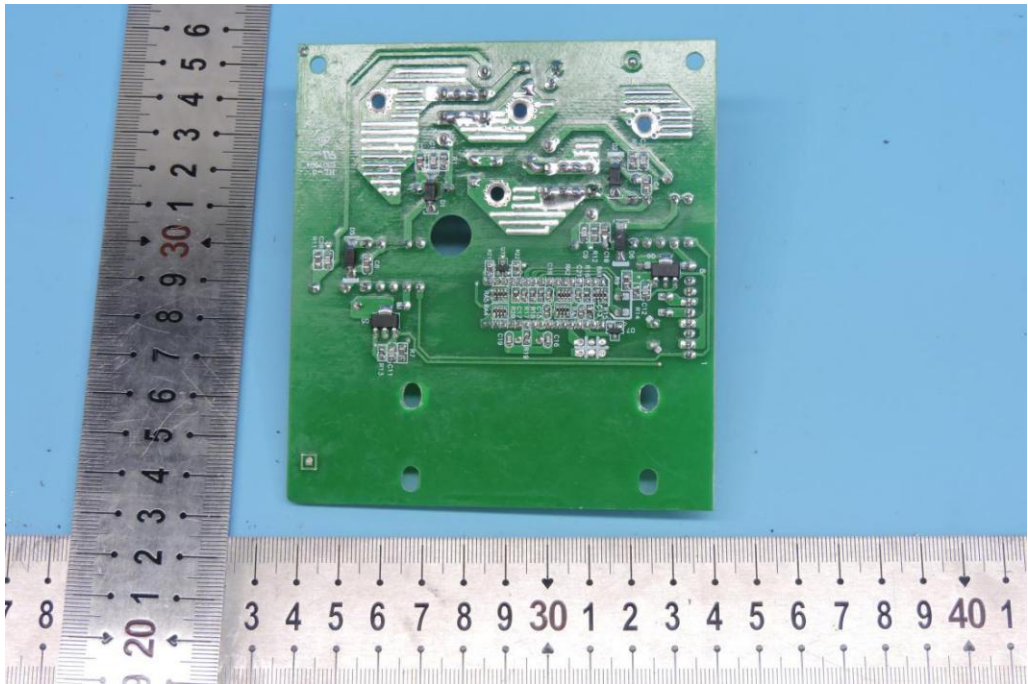
**Figure 50**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



**Figure 51**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V

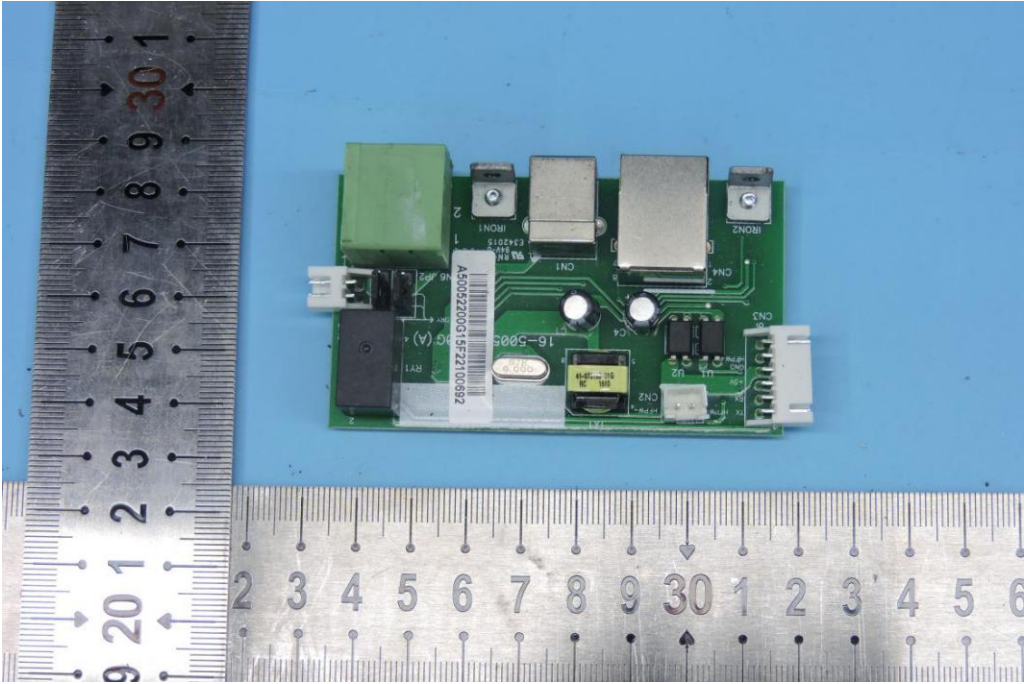


**Figure 52**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V

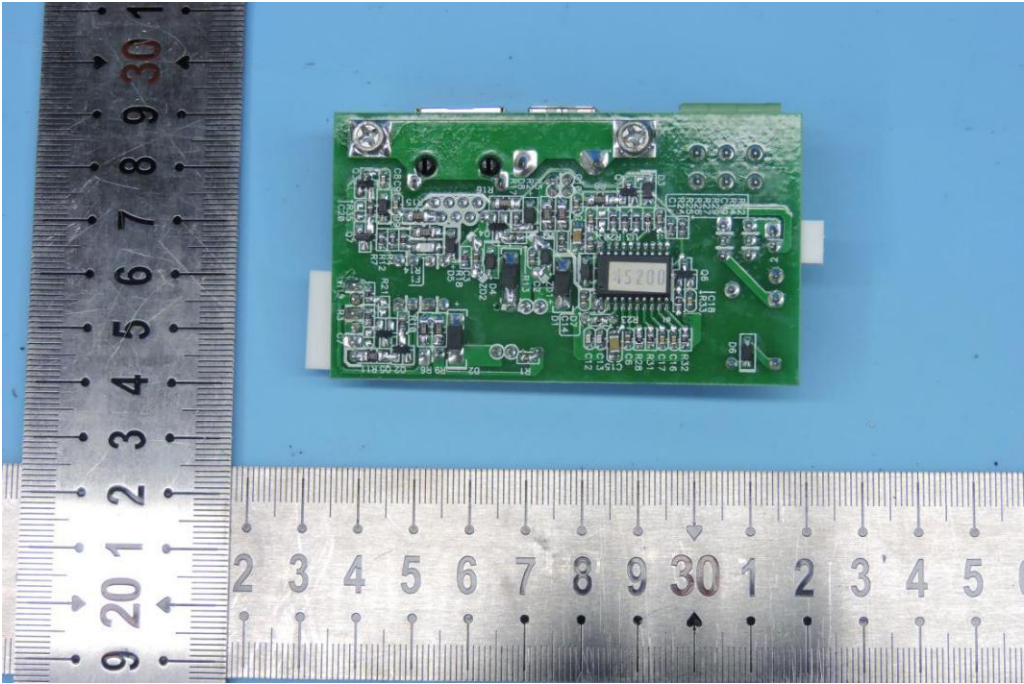




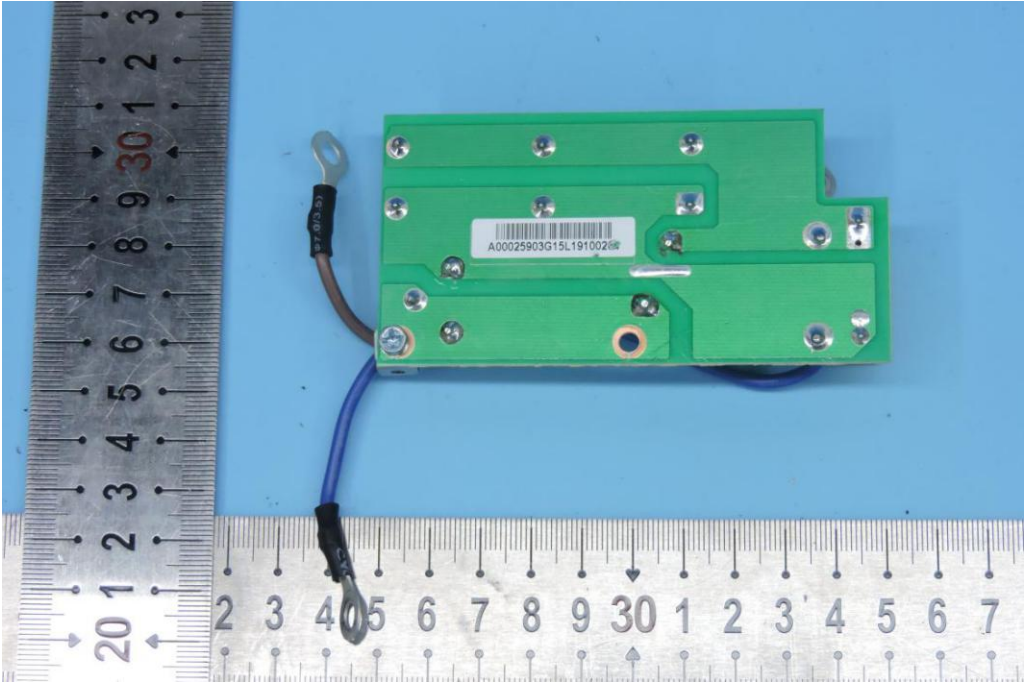
**Figure 53**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



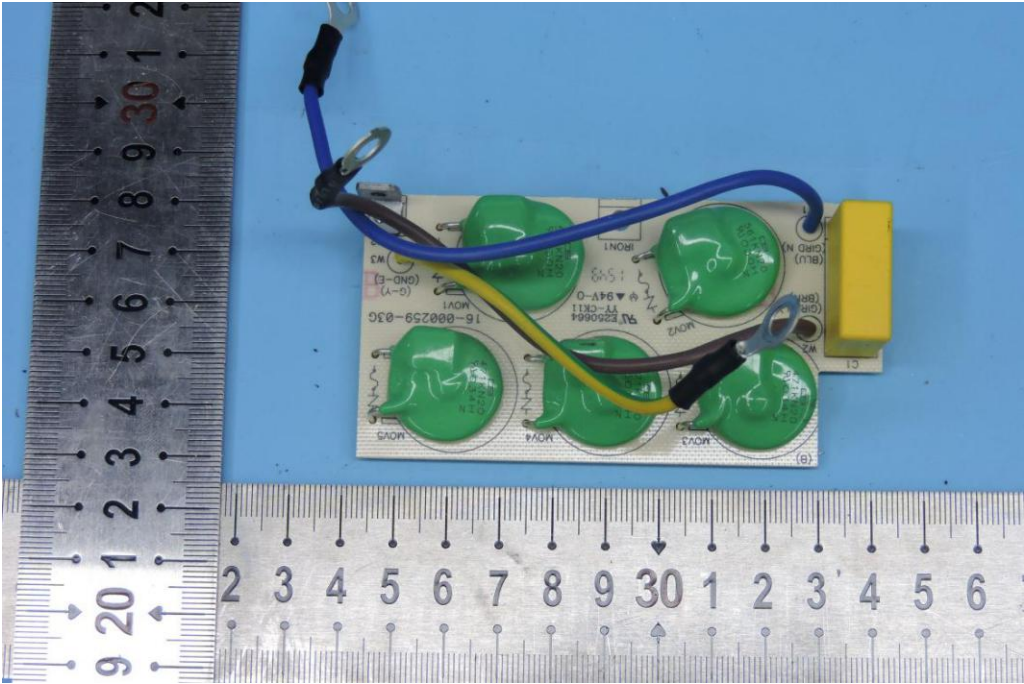
**Figure 54**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



**Figure 55**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V

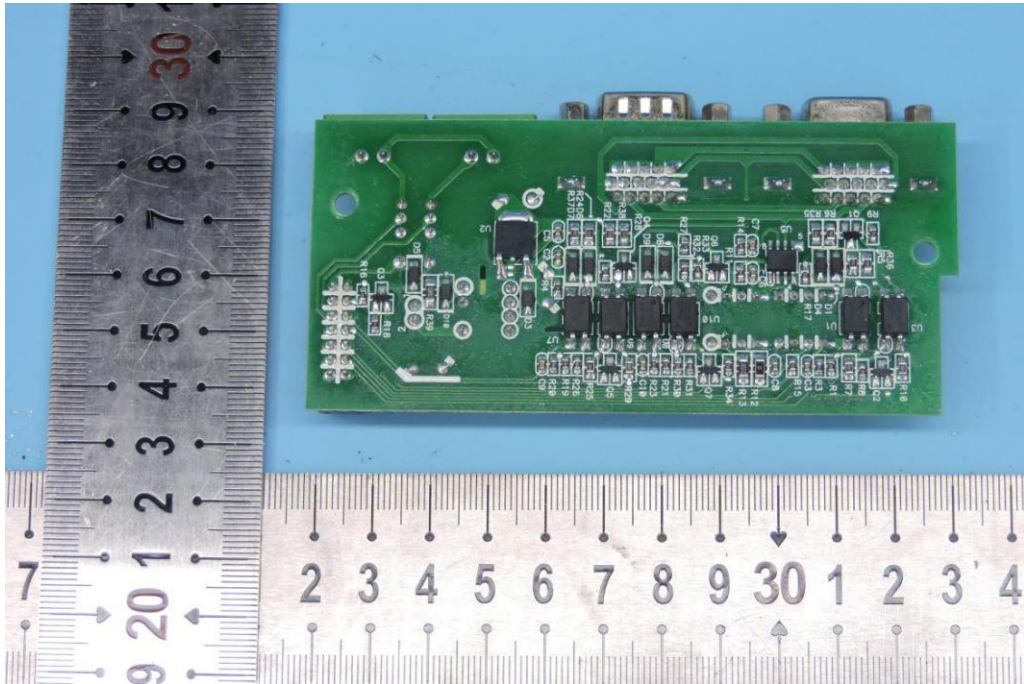


**Figure 56**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V

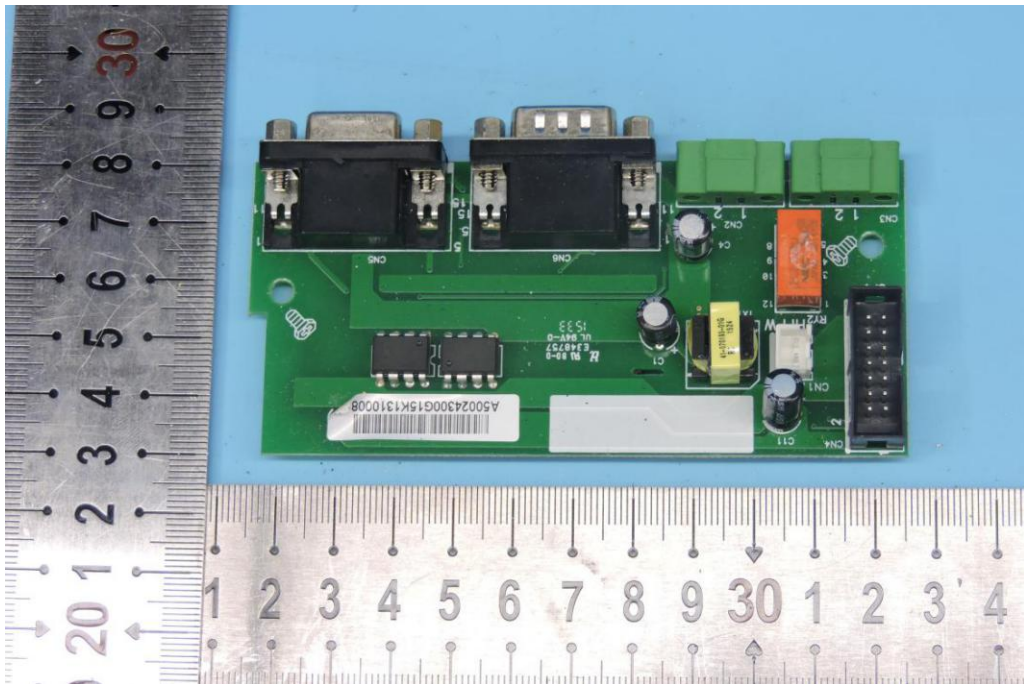




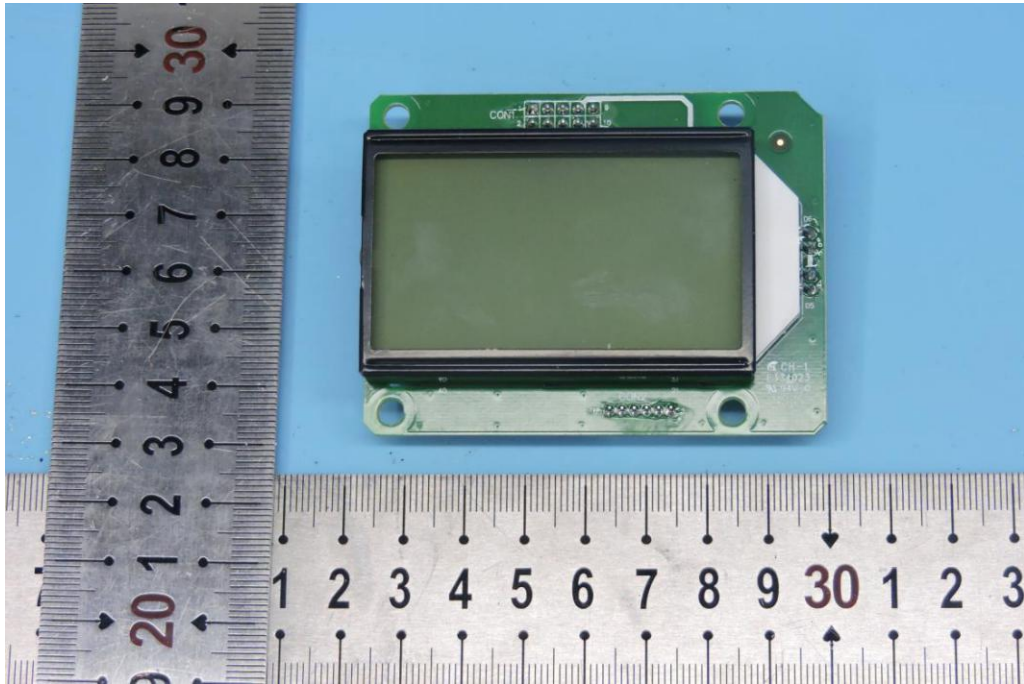
**Figure 57**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



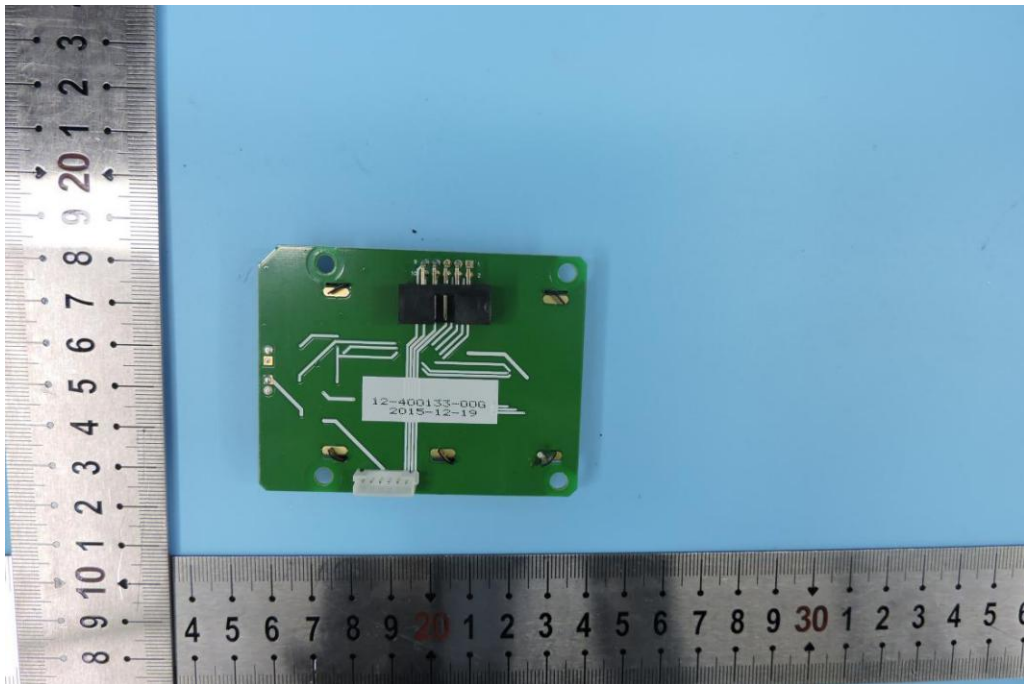
**Figure 58**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



**Figure 59**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



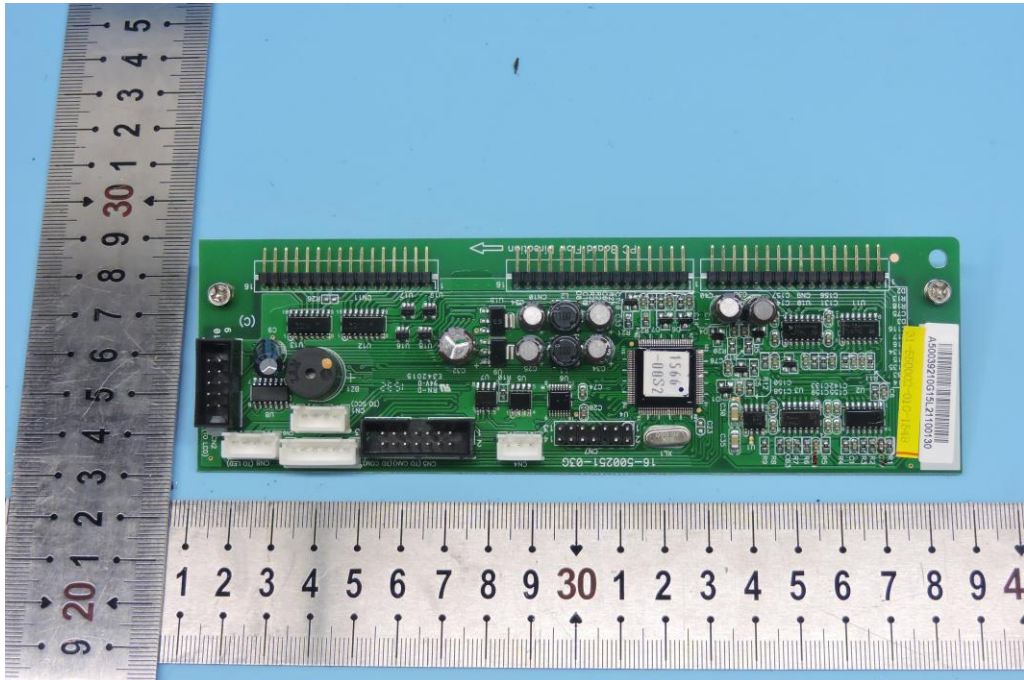
**Figure 60**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



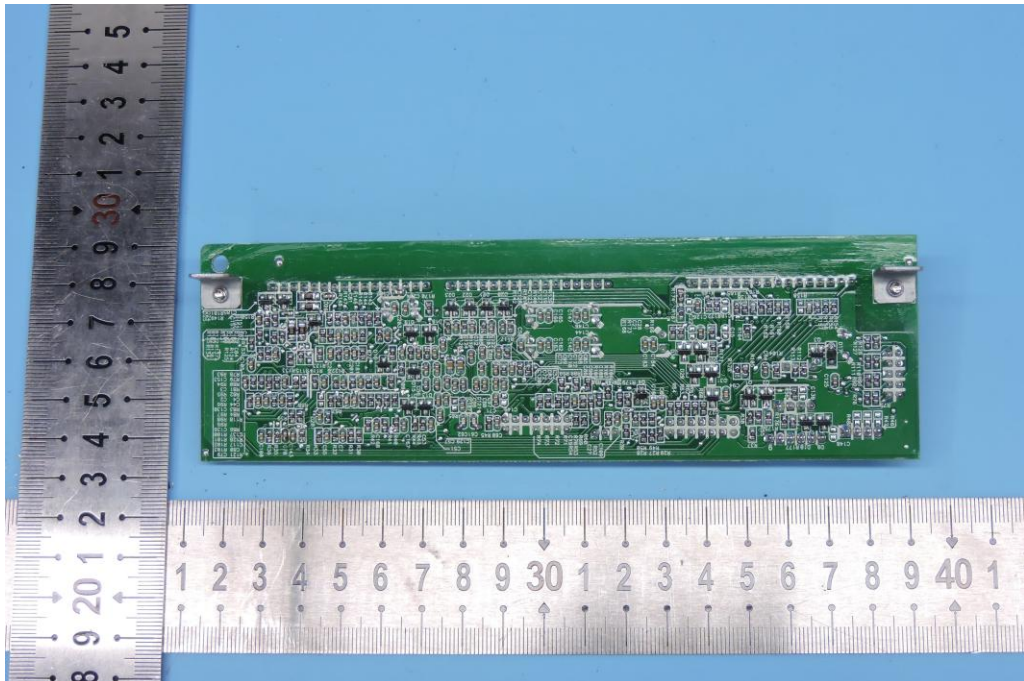




**Figure 63**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V

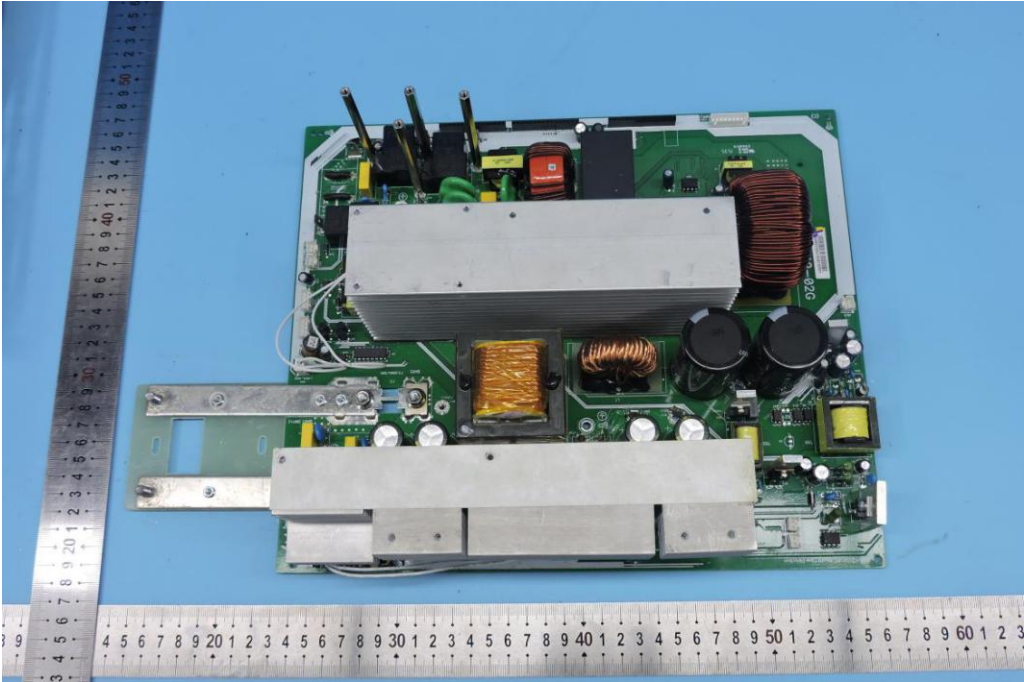


**Figure 64**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V

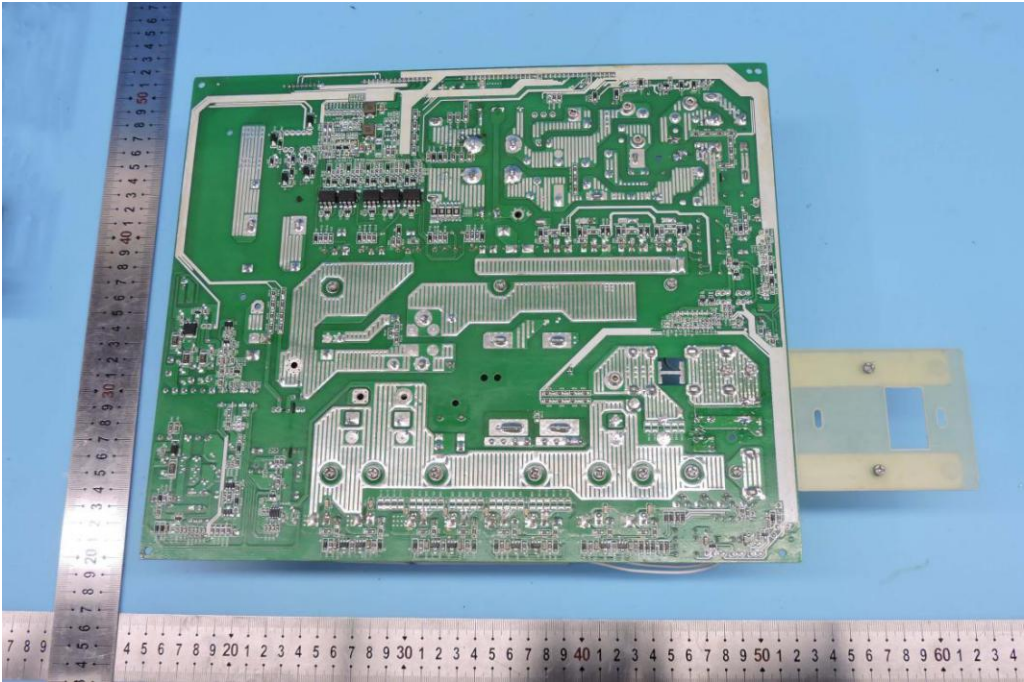




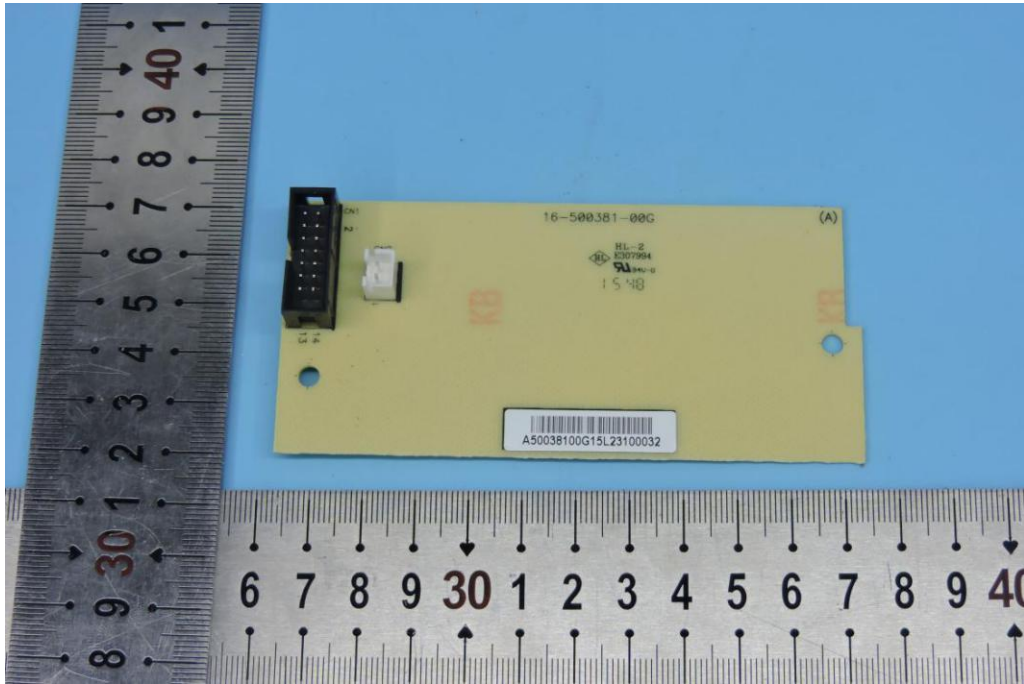
**Figure 65**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



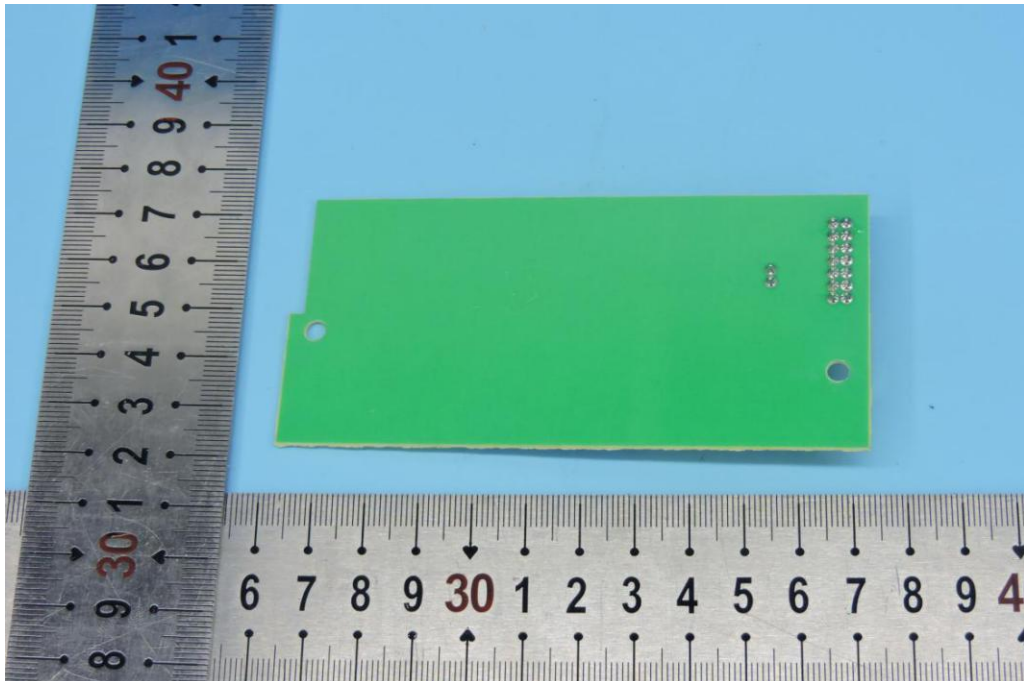
**Figure 66**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V



**Figure 67**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V

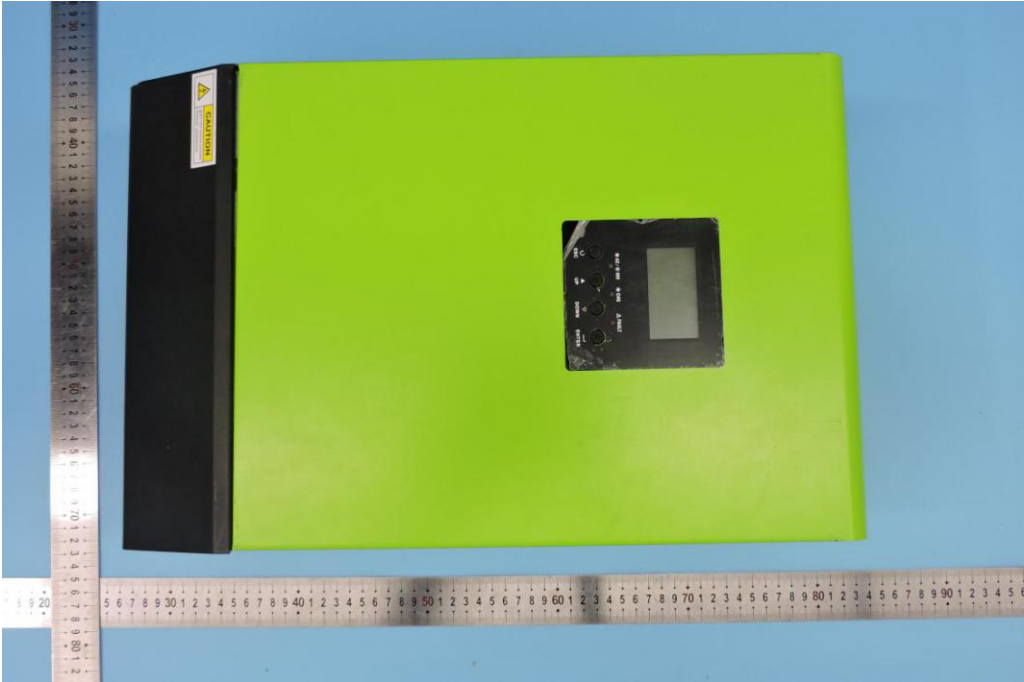


**Figure 68**  
General Appearance of the PCB  
M/N: FlinInfini Lite 4kW-48V





**Figure 69**  
General Appearance of the E.U.T.  
M/N: FlinInfini Lite 5kW-48V



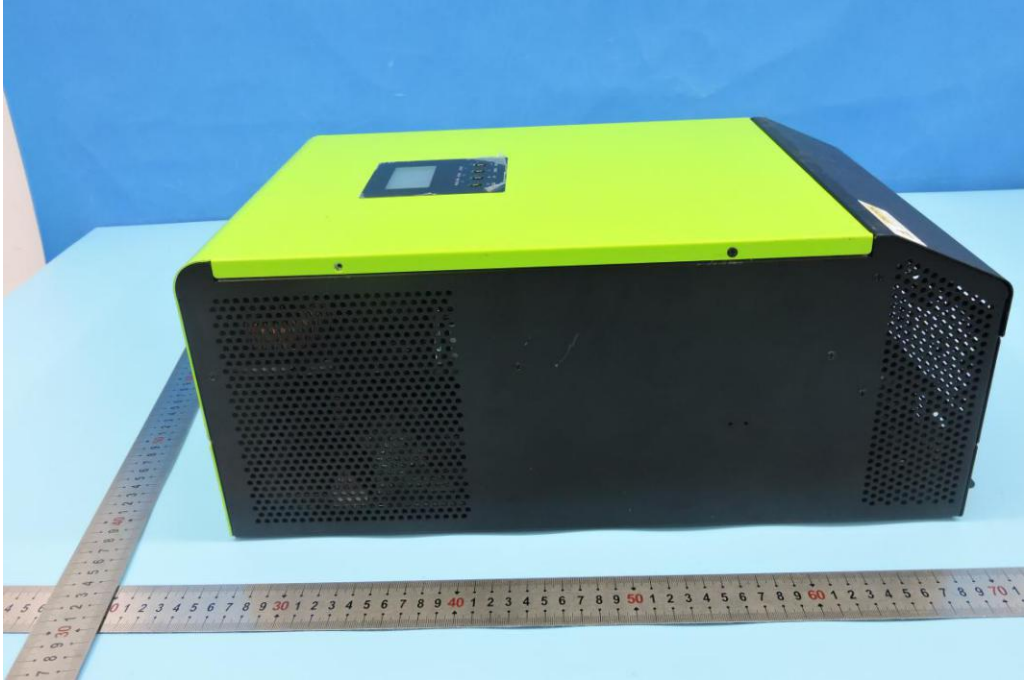
**Figure 70**  
General Appearance of the E.U.T.  
M/N: FlinInfini Lite 5kW-48V



**Figure 71**  
General Appearance of the E.U.T.  
M/N: FlinInfini Lite 5kW-48V



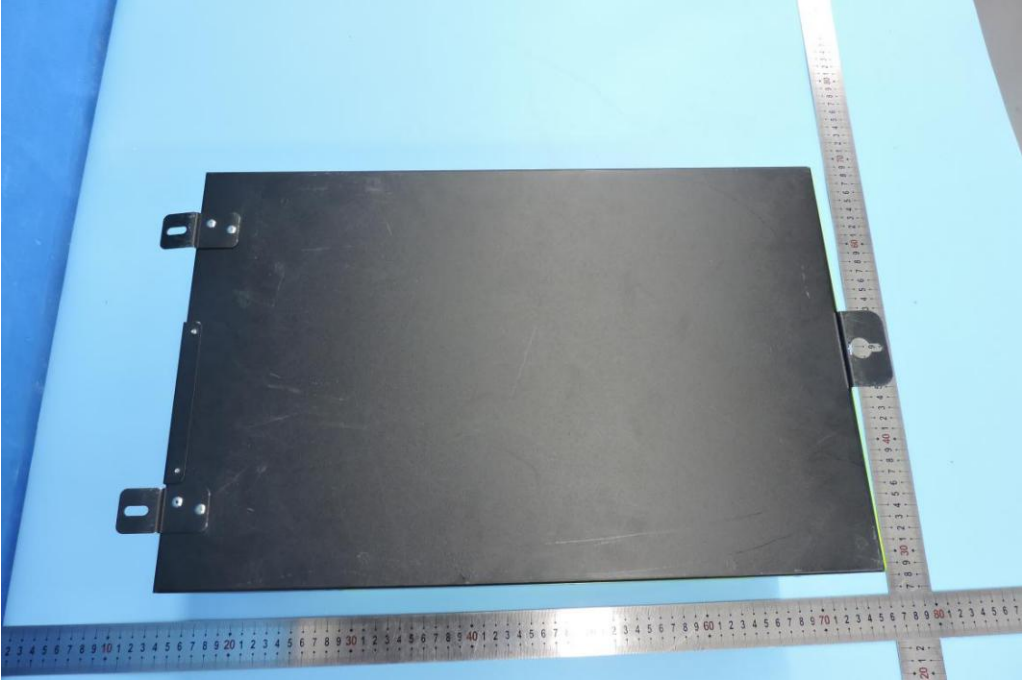
**Figure 72**  
General Appearance of the E.U.T.  
M/N: FlinInfini Lite 5kW-48V



**Figure 73**  
General Internal of the E.U.T.  
M/N: FlinInfini Lite 5kW-48V



**Figure 74**  
General Internal of the E.U.T.  
M/N: FlinInfini Lite 5kW-48V



**Figure 75**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V



**Figure 76**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V





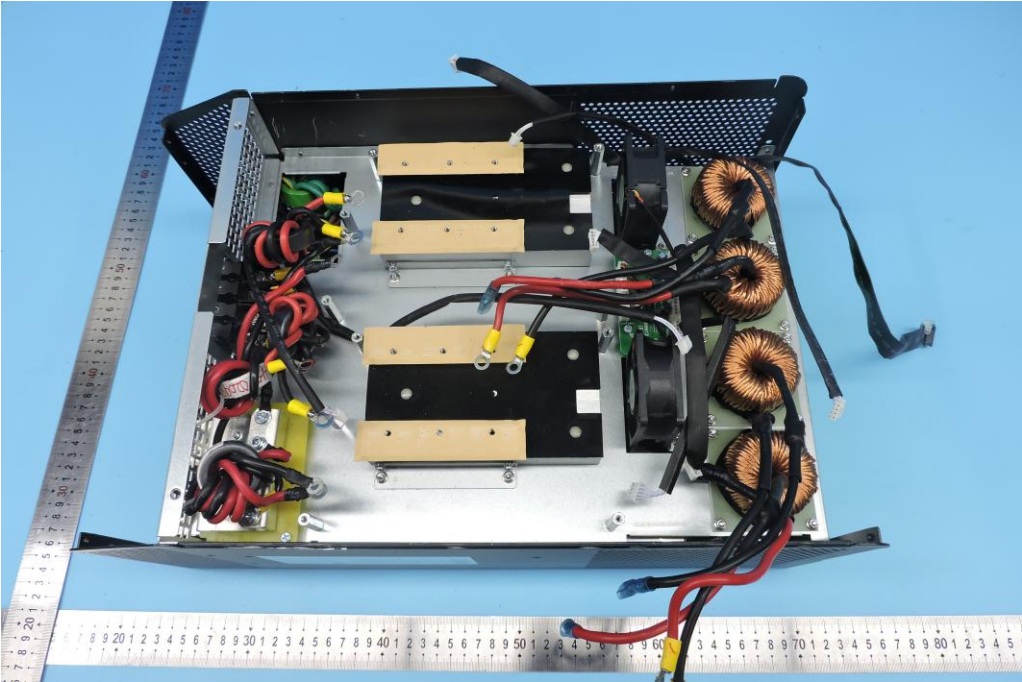
**Figure 77**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V



**Figure 78**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V



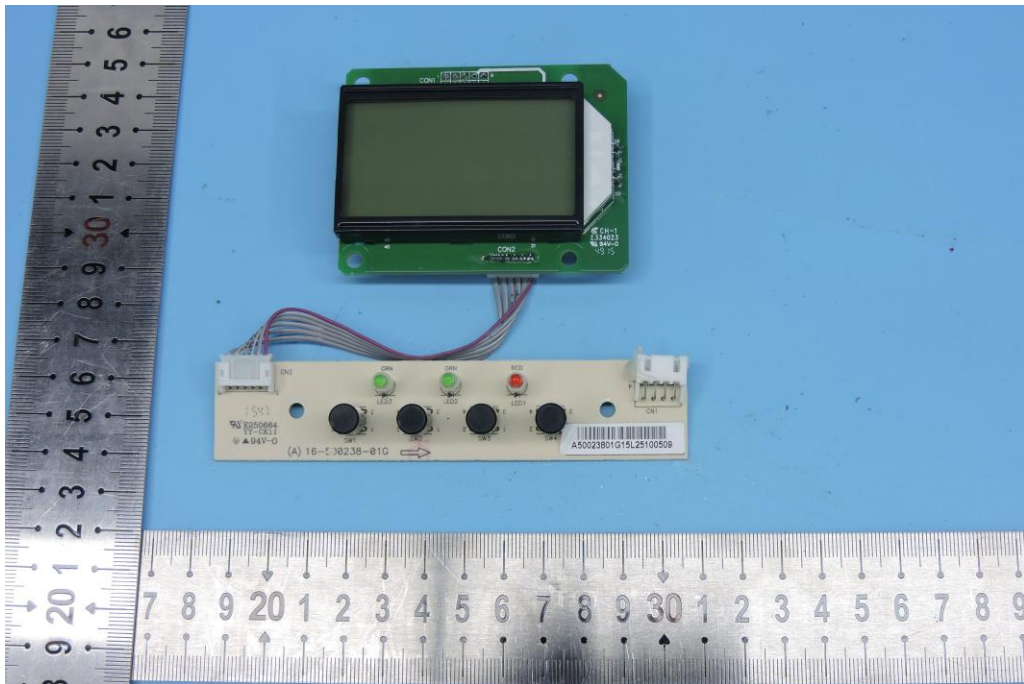
**Figure 79**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V



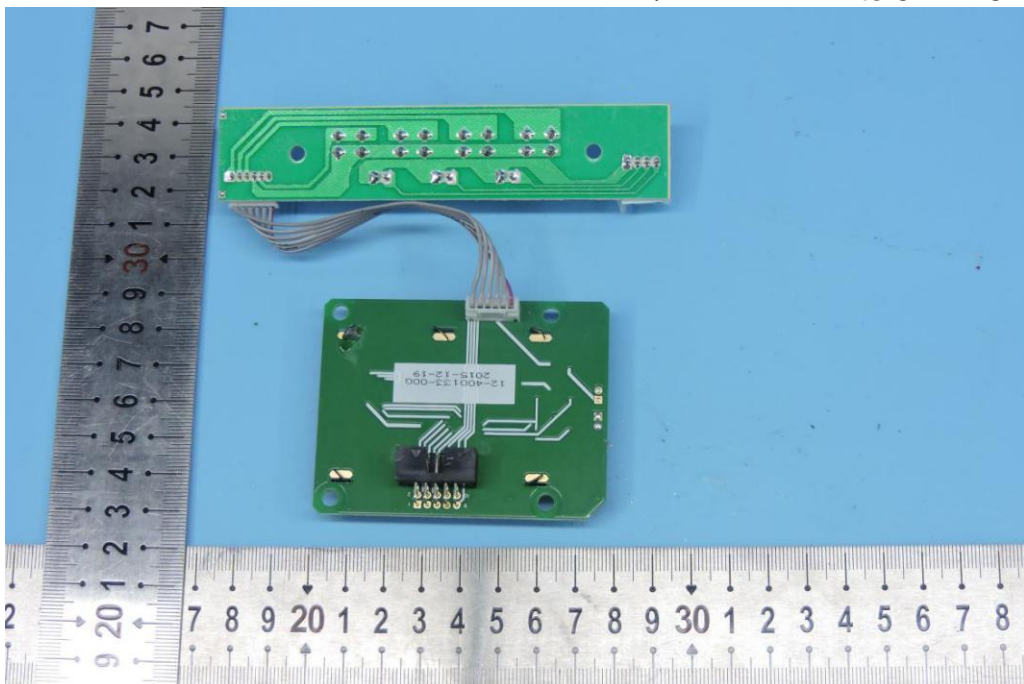
**Figure 80**  
General Internal of the PCB  
M/N: FlinInfini Lite 5kW-48V



**Figure 81**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V

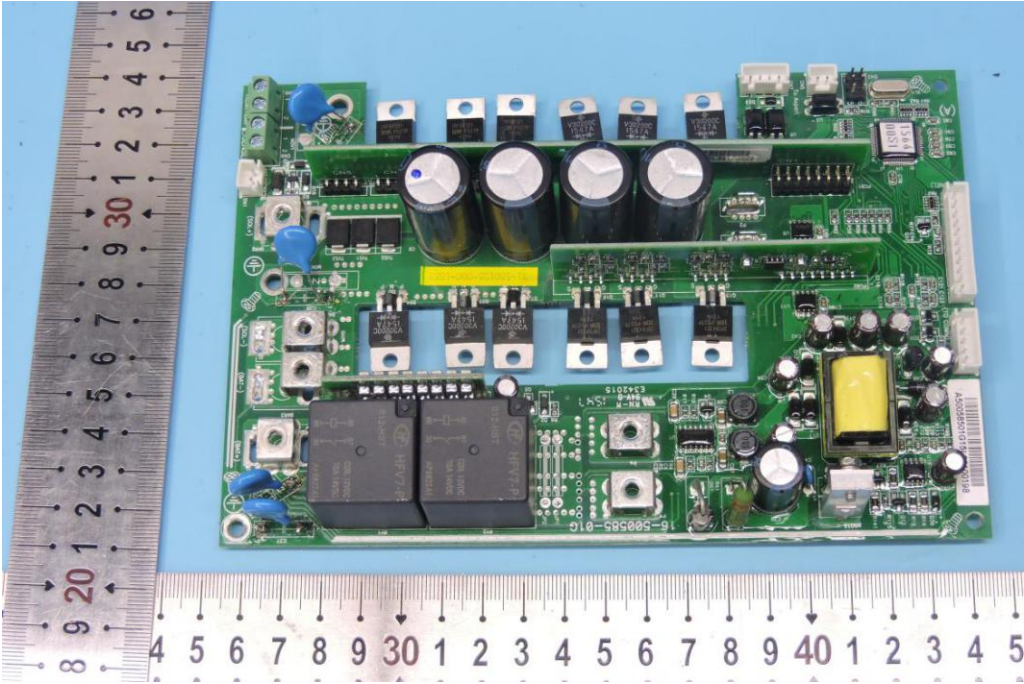


**Figure 82**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V

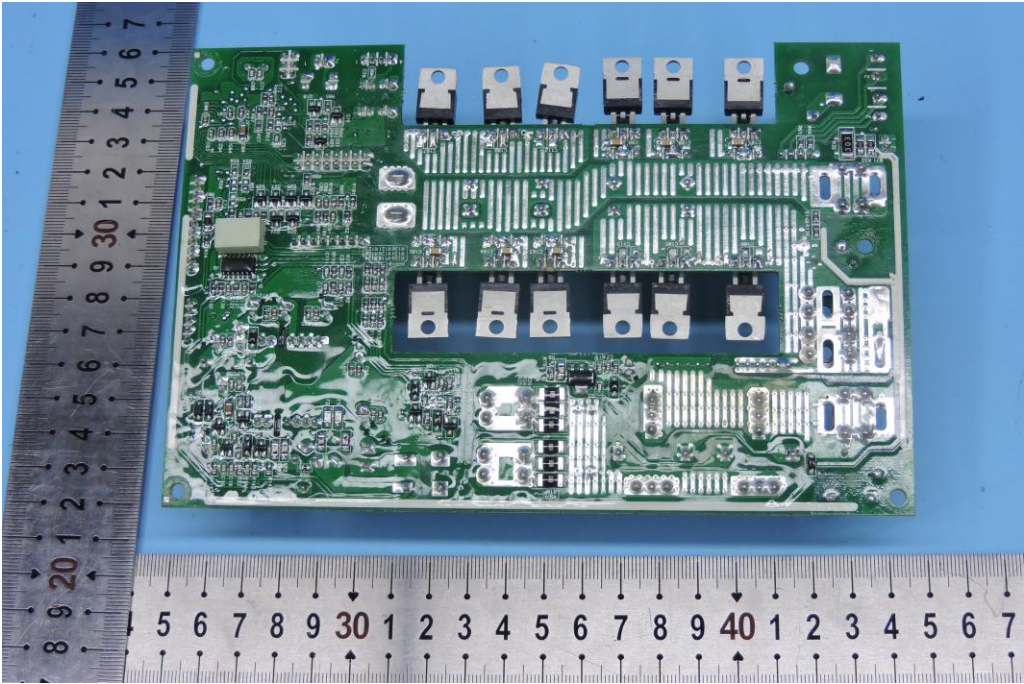




**Figure 83**  
General Internal of the PCB  
M/N: FlinInfini Lite 5kW-48V



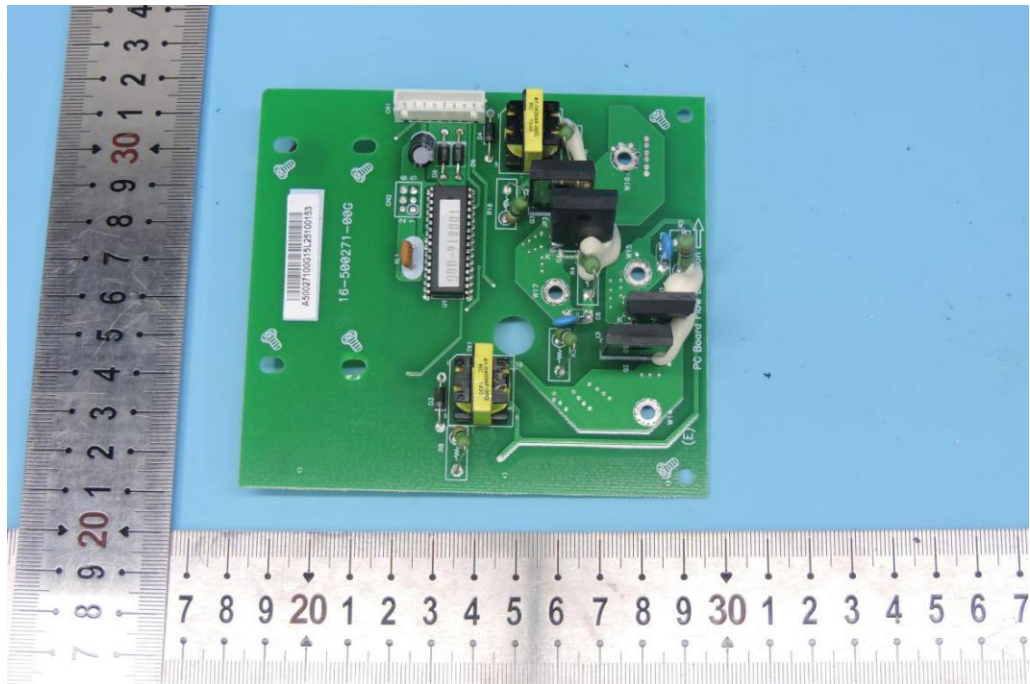
**Figure 84**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V



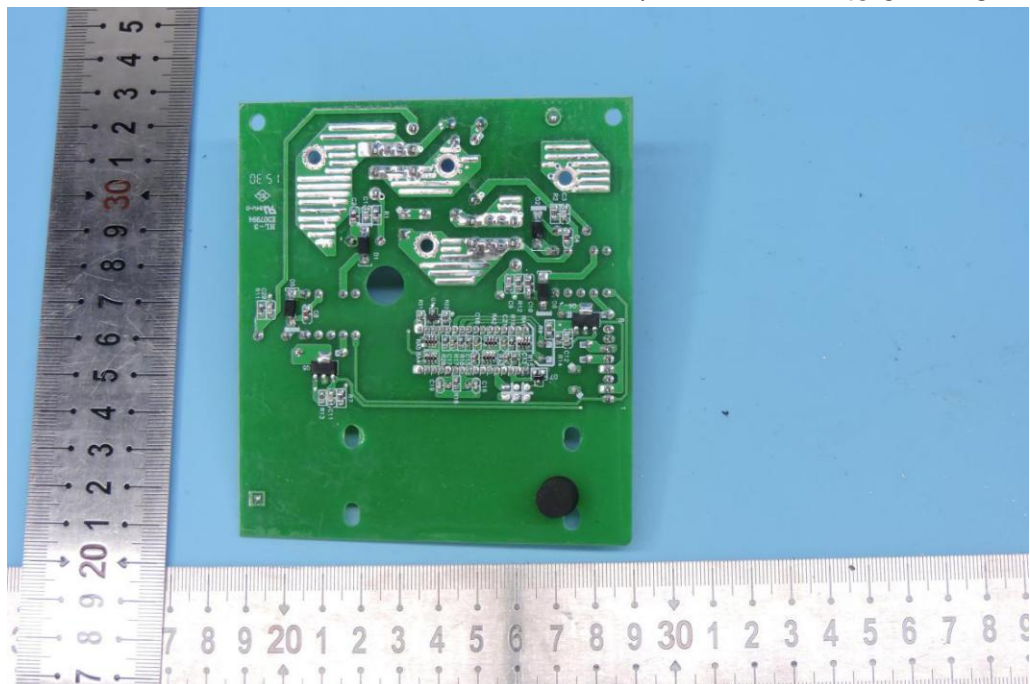




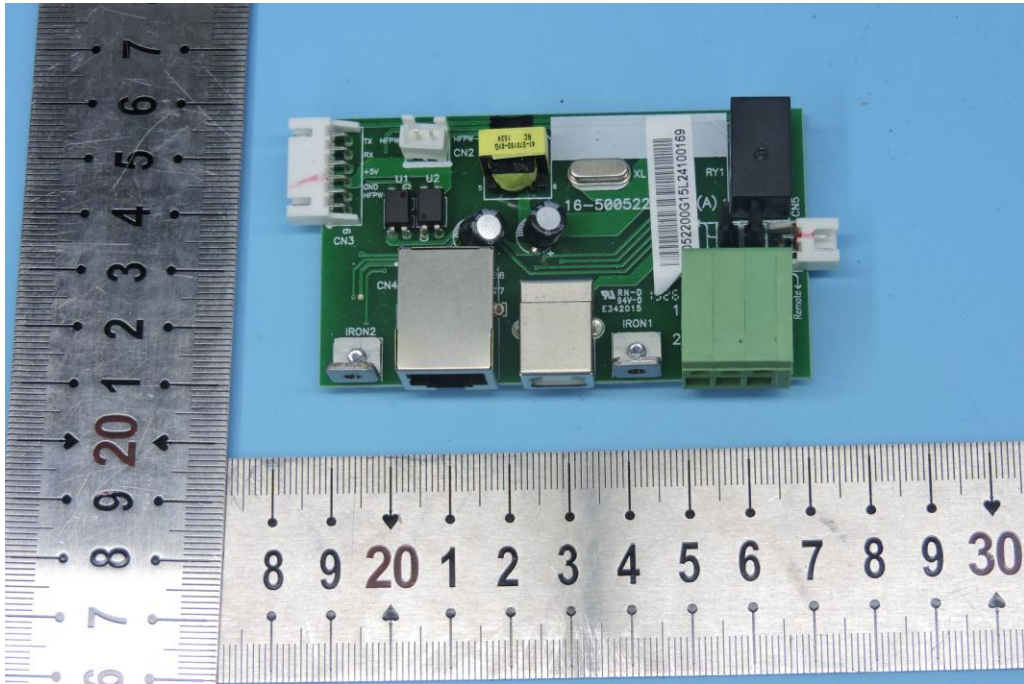
**Figure 87**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V



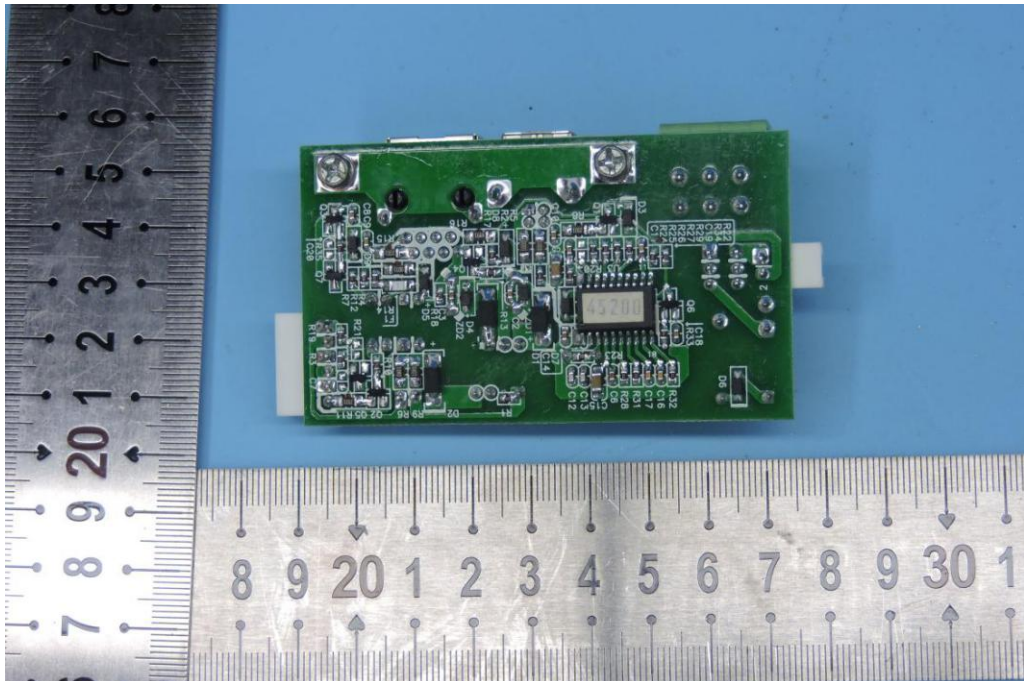
**Figure 88**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V



**Figure 89**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V

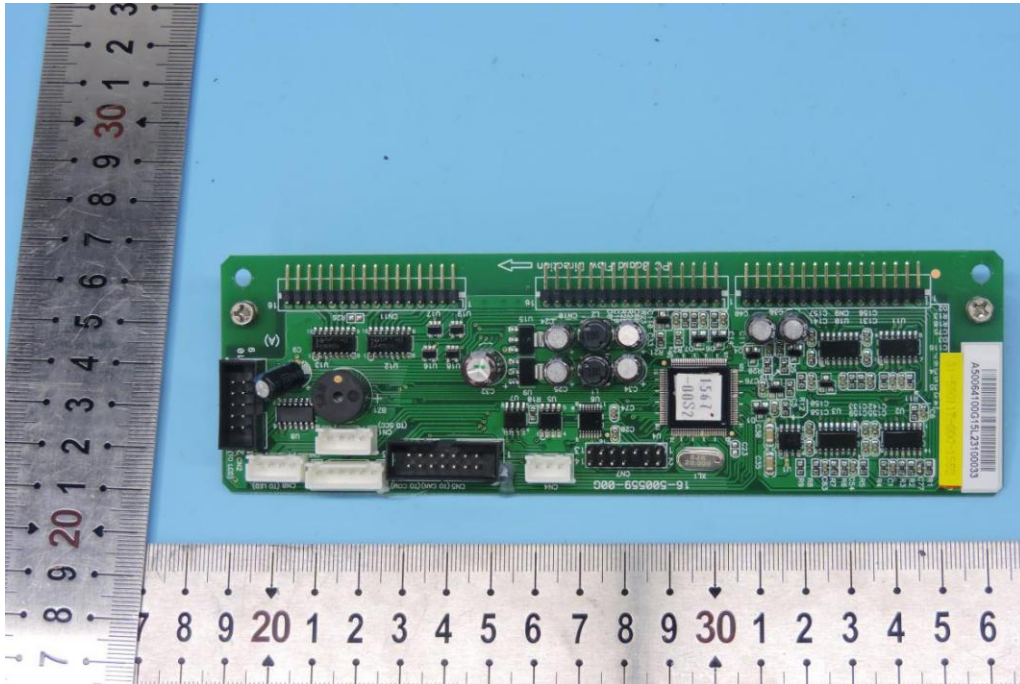


**Figure 90**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V

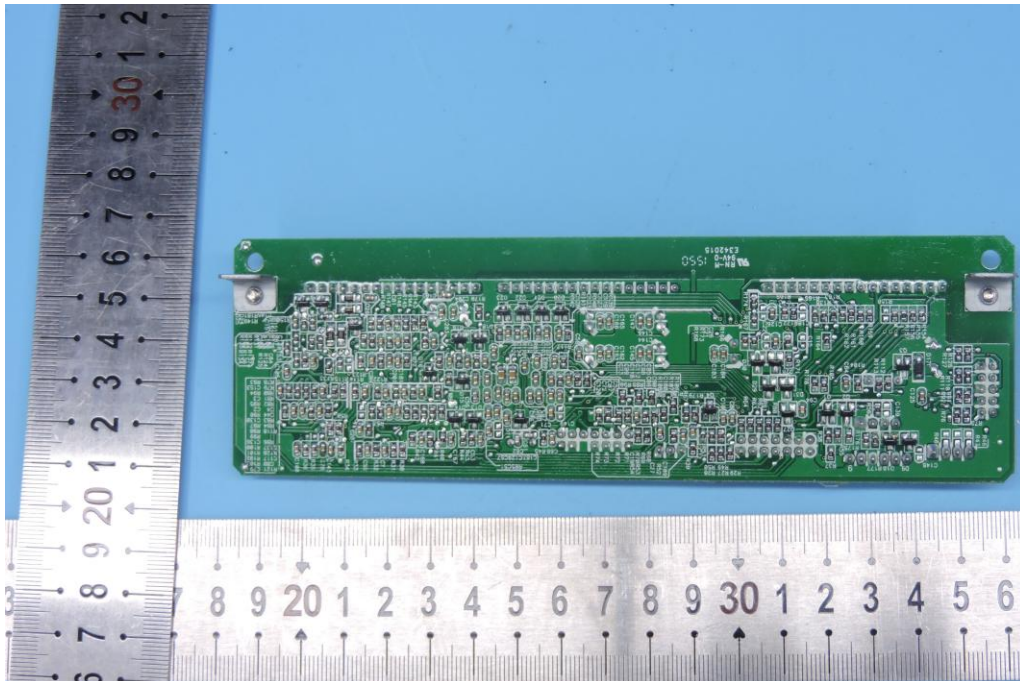




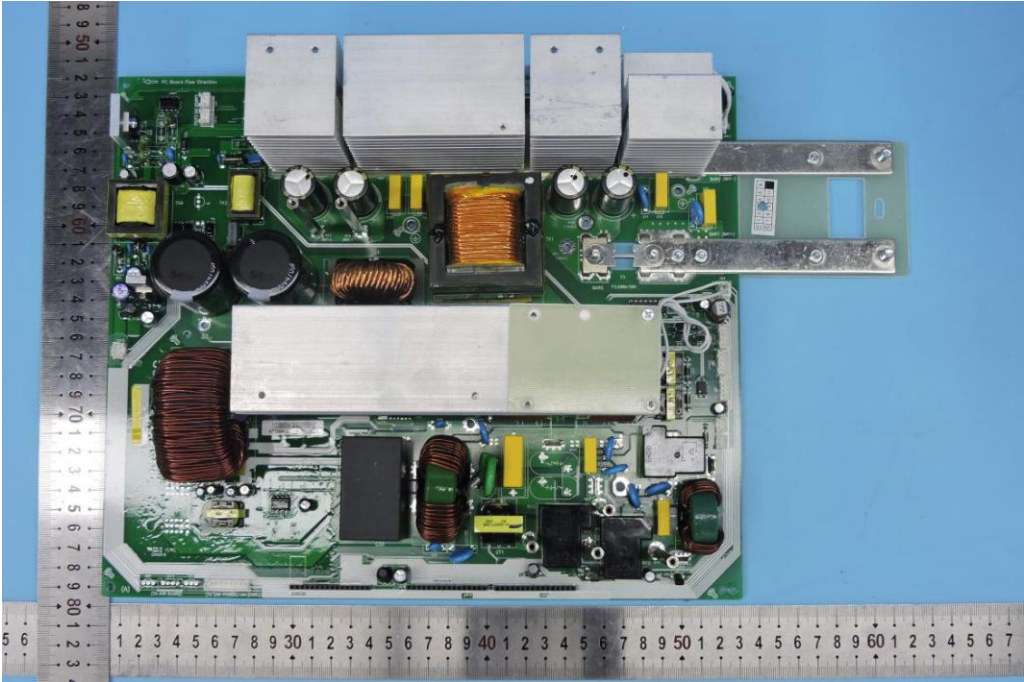
**Figure 91**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V



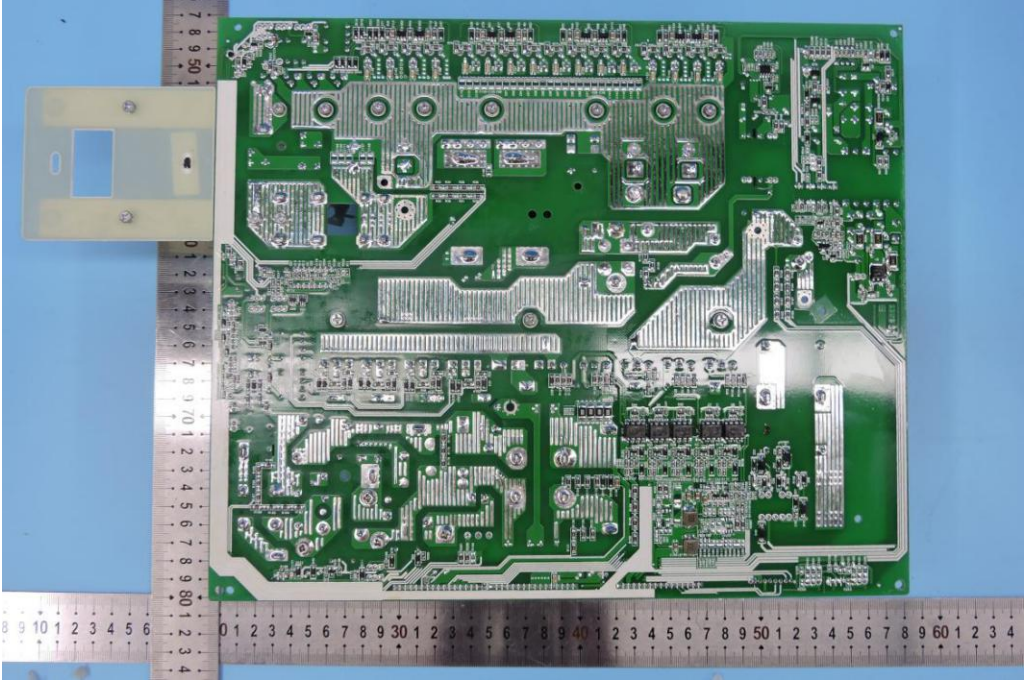
**Figure 92**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V



**Figure 93**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V

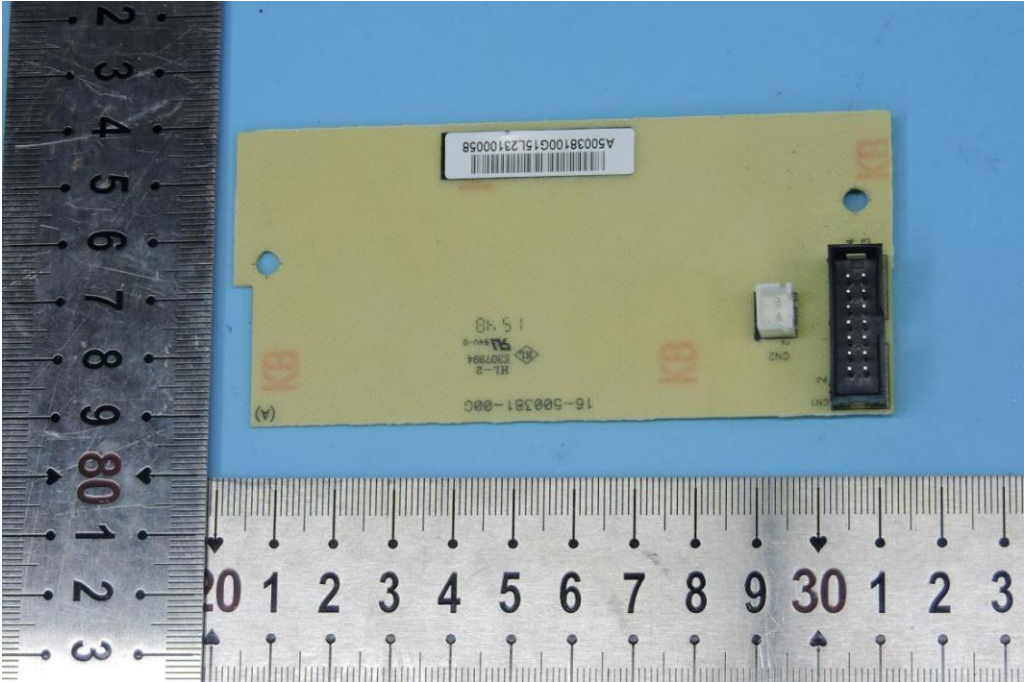


**Figure 94**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V





**Figure 95**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V



**Figure 96**  
General Appearance of the PCB  
M/N: FlinInfini Lite 5kW-48V

