

EMC

Measurement and Test Report

For

GlobTek, Inc.

186 Veterans Dr. Northvale, NJ 07647 USA

Test Standards:	EN 55032:2015/AC:2016-07 EN 61000-3-2:2014 EN 61000-3-3:2013 EN 55035:2017 <u>EN 60601-1-2:2015</u>
Product Description:	<u>ITE/Medical Power Supply</u>
Tested Model:	<u>GT(M or -) 21097-X-Y.Y series</u>
Report No.:	<u>WTX19X10069291E</u>
Tested Date:	<u>2019-10-09 to 2019-10-15</u> <u>2019-10-15</u>
Issued Date:	
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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen SEM Test Technology Co., Ltd.

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: GlobTek, Inc.
Address of applicant: 186 Veterans Dr. Northvale, NJ 07647 USA
Manufacturer:
1. GlobTek, Inc.
2. GlobTek (Suzhou) Co., Ltd
Address of manufacturer: 1.186 Veterans Dr. Northvale, NJ 07647 USA
2. Building 4, No. 76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China

General Description of EUT	
Product Name:	ITE/Medical Power Supply
Trade Name:	 GlobTek, Inc.
Model No.:	GT(M or -) 21097-X-Y.Y series
Adding Model(s):	/
Note:	<p>GT(M or -) 21097-X-Y.Y Where "M" or "-" for market identification and not related to safety. "X" denotes the standard output power and voltage, which can be 2003, 3005, 4509, 5012, 5015, 5018, 5024 or 5048, the former two numbers of figures indicate max. output power, 50W max. and the latter two numbers of figures indicate standard model output voltage. "-Y.Y" is optional variable or blank for specifying output voltage deviation from standard model; which means subcontracting volts from standard output voltage in 0.1V increments or blank; 0.1min.to 23.9 max., actual voltage range is 3.3-48V only.</p>
<i>Note: The test data is gathered from a production sample, provided by the manufacturer. The appearance of others models listed in the report is different from main-test model GTM21097-5048, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>	

Technical Characteristics of EUT	
Rated Voltage:	AC 100-240V, 50-60Hz
Rated Current:	/
Rated Power:	/
Power Adaptor Model:	/
Highest Internal Frequency:	Below 108MHz
Classification of Equipment:	Class B

1.2 Test Standards

The tests were performed according to following standards:

EN 55032:2015/AC:2016-07 Electromagnetic compatibility of multimedia equipment - Emission requirements

EN 55035:2017 Electromagnetic compatibility of multimedia equipment - Immunity requirements

EN 61000-3-2:2014 Electromagnetic compatibility (EMC) -- Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase),

EN 61000-3-3:2013 Electromagnetic compatibility (EMC) -- Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16 A per phase and not subject to conditional connection.

EN 60601-1-2:2015 Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral standard: Electromagnetic compatibility – Requirements and tests

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product maybe which result in lowering the emission/immunity should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with the standards EN55032, EN61000-3-2, EN61000-3-3, and EN55035 for electromagnetic compatibility of multimedia equipment, and all related testing and measurement techniques intentional standards, and EN 60601-1-2 for Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral standard: Electromagnetic compatibility – Requirements and tests.

1.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC – Registration No.: 125990

Shenzhen SEM Test Technology Co., Ltd. Laboratory has been recognized to perform compliance testing on equipment subject to the Commissions Declaration Of Conformity (DOC). The Designation Number is CN5010, and Test Firm Registration Number is 125990.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Shenzhen SEM Test Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission/immunity level. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List			
Test Mode	Description	Remark	Power Supply Mode
TM1	Full load	/	AC 230V/50Hz
Note: The product was Measured at two nominal voltages of 230V and 110V, using a frequency of 50Hz or 60Hz. This report shows the worst case with 230V/50Hz data.			

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
DC Cable	2m	Shielded	With Core

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
/	/	/	/

1.6 Performance Criteria for EMS

All the test data has been collected, reduced, and analyzed within this report in accordance with Immunity requires the following as specific performance criteria:

- A. The apparatus shall continue to operate as intended during and after the test. The manufacturer specifies some minimum performance level. The performance level may be specified by the manufacturer as a permissible loss of performance.
- B. The apparatus shall continue to operate as intended after the test. This indicates that the EUT does not need to function at normal performance levels during the test, but must recover. Again some minimal performance is defined by the manufacturer. No change in operating state or loss or data is permitted.
- C. Temporary loss of function is allowed. Operation of the EUT may stop as long as it is either automatically reset or can be manually restored by operation of the controls.

1.7 Test Equipment List and Details

Description	Manufacturer	Model	Serial No.	Cal. Date	Due. Date
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2019-04-30	2020-04-29
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2019-04-30	2020-04-29
Amplifier	Agilent	8447F	3113A06717	2019-04-30	2020-04-29
Amplifier	C&D	PAP-1G18	2002	2019-04-30	2020-04-29
Trilog Broadband Antenna	Schwarz beck	VULB9163	9163-333	2019-05-05	2021-05-04
Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-635	2019-05-05	2021-05-04
Horn Antenna	ETS	3117	00086197	2019-05-05	2021-05-04
Loop Antenna	Schwarz beck	FMZB 1516	9773	2019-05-05	2021-05-04
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2019-04-30	2020-04-29
EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2019-04-30	2020-04-29
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2019-04-30	2020-04-29
AC LISN	Schwarz beck	NSLK8126	8126-224	2019-04-30	2020-04-29
8-WIRE LISN	Schwarz beck	8158	CAT3-8158-0059	2019-04-30	2020-04-29
8-WIRE LISN	Schwarz beck	8158	CAT5-8158-0117	2019-04-30	2020-04-29
PMF Generator	LIONCEL	PMF-801C-C	0171101	2019-04-30	2020-04-29
PMF Antenna	LIONCEL	PMF-801C-A	0180302	2019-04-30	2020-04-29
Instantaneous PMF Generator Module	LIONCEL	PMF-801C-T	0171001	2019-04-30	2020-04-29
Digital Power Analyzer	California Instrument	CTS	72831	2019-04-30	2020-04-29
Power Source	California Instrument	5001IX-CTS-400	25965	2019-04-30	2020-04-29
ESD Generator	LIONCEL	ESD-203B	0170901	2019-05-05	2020-05-04
Amplifier	Agilent	8447D	2944A10179	2019-04-30	2020-04-29
Transient 2000	EMC PARTNER	TRA2000	863	2019-05-21	2020-05-20
Couple Clamp	EMC PARTNER	CN-EFT1000	513	2019-05-21	2020-05-20
CS Immunity Tester	SCHAFFNER	NSG2070	1123	2019-04-30	2020-04-29
Attenuator	EMTEST	MA-5100/6BF2	1009	2019-04-30	2020-04-29
CDN	Luthi	L-801M2/M3	2665	2019-04-30	2020-04-29
Signal Generator	R&S	SMB100A	105942	2019-09-09	2020-09-08
Power Meter	R&S	NRP2	102031	2019-09-09	2020-09-08
RF Power Amplifier	BONN Elektronik	BLWA0830-160/100/40D	128740	2019-09-09	2020-09-08
RF Power Amplifier	NJNT	NTWPAS-2560025	2560025	2019-09-09	2020-09-08
Antenna	SCHWARZBECK	STLP9128D	043	2017-09-11	2020-09-10
Antenna	SCHWARZBECK	BBHA 9120 D	667	2017-09-11	2020-09-10
CS Generator	MARCONI	2024	112260/042	2019-05-31	2020-05-30
Attenuator	FRANKONIA	75-A-FFN-06	1001698	2019-05-31	2020-05-30
CDN	FRANKONIA	CDN M2+M3	A3027019	2019-05-31	2020-05-30

EM Injection Clamp	FCC	F-203I-23mm	91536	2019-05-31	2020-05-30
RF POWER AMPLIFIER	FRANKONIA	FLL-75	102A1109	2019-05-31	2020-05-30

2. SUMMARY OF TEST RESULTS

Standards	Description of Test Item	Result
EN 55032 EN 61000-3-2 EN 61000-3-3 EN 55035 EN 60601-1-2	Conducted Emission	Compliant
	Radiated Emission	Compliant
	Harmonic Current Emission	Compliant
	Voltage Fluctuation and Flicker	Compliant
	Electrostatic Discharge Immunity in accordance with EN 61000-4-2	Compliant
	Continuous RF electromagnetic field Disturbances Immunity in accordance with EN 61000-4-3	Compliant
	Electrical Fast Transient/Burst Immunity in accordance with EN 61000-4-4	Compliant
	Surges Immunity in accordance with EN 61000-4-5	Compliant
	Continuous induced RF disturbances Immunity in accordance with EN 61000-4-6	Compliant
	Power-frequency Magnetic Fields Immunity in accordance With EN 61000-4-8	Compliant
	Voltage Dips/Interruptions Immunity in accordance with EN 61000-4-11	Compliant
	Broadband impulse noise disturbances, repetitive	N/A
	Broadband impulse noise disturbances, isolated	N/A

N/A: not applicable

3. Conducted Emission

3.1 Measurement Uncertainty

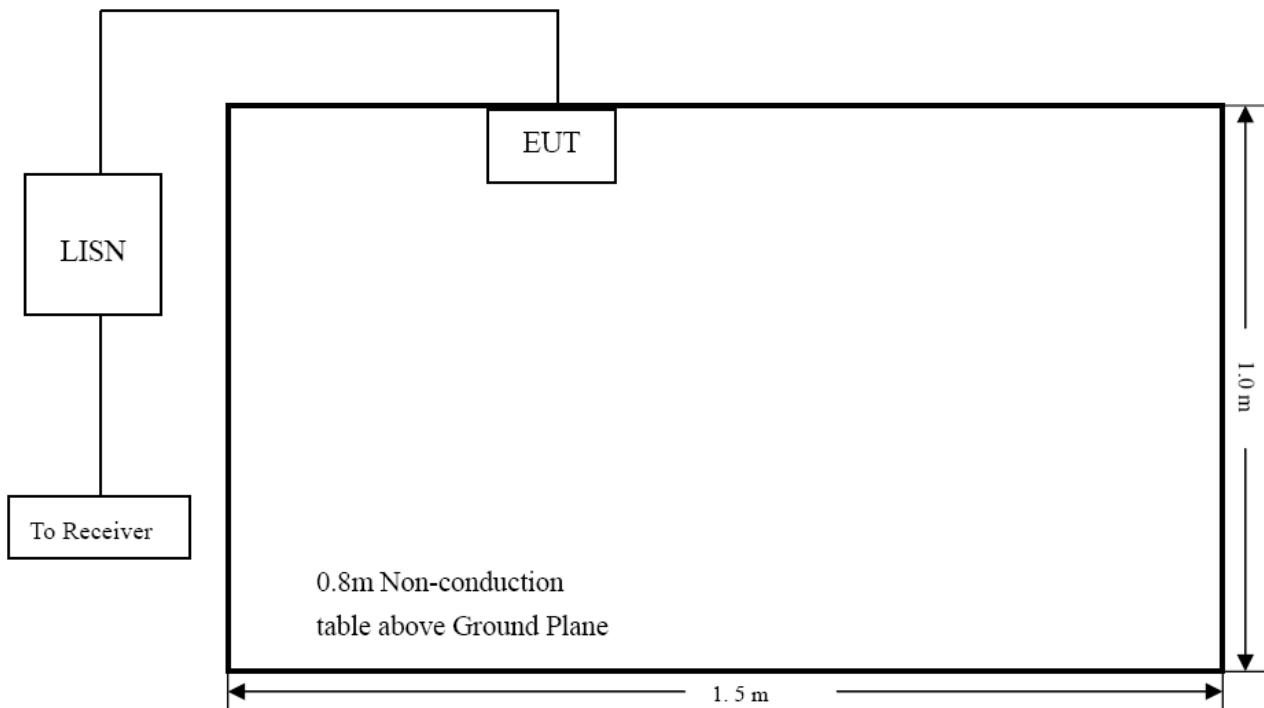
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement

Measurement uncertainty		
Parameter	Conditions	Uncertainty
Conducted Emissions	Conducted	9-150kHz $\pm 3.74\text{dB}$
		0.15-30MHz $\pm 3.34\text{dB}$

3.2 Test Procedure

Test is conducting under the description of EN55032 Annex A.3.5.

3.3 Basic Test Setup Block Diagram



3.4 Environmental Conditions

Temperature:	22 °C
Relative Humidity:	55 %
ATM Pressure:	1015 mbar

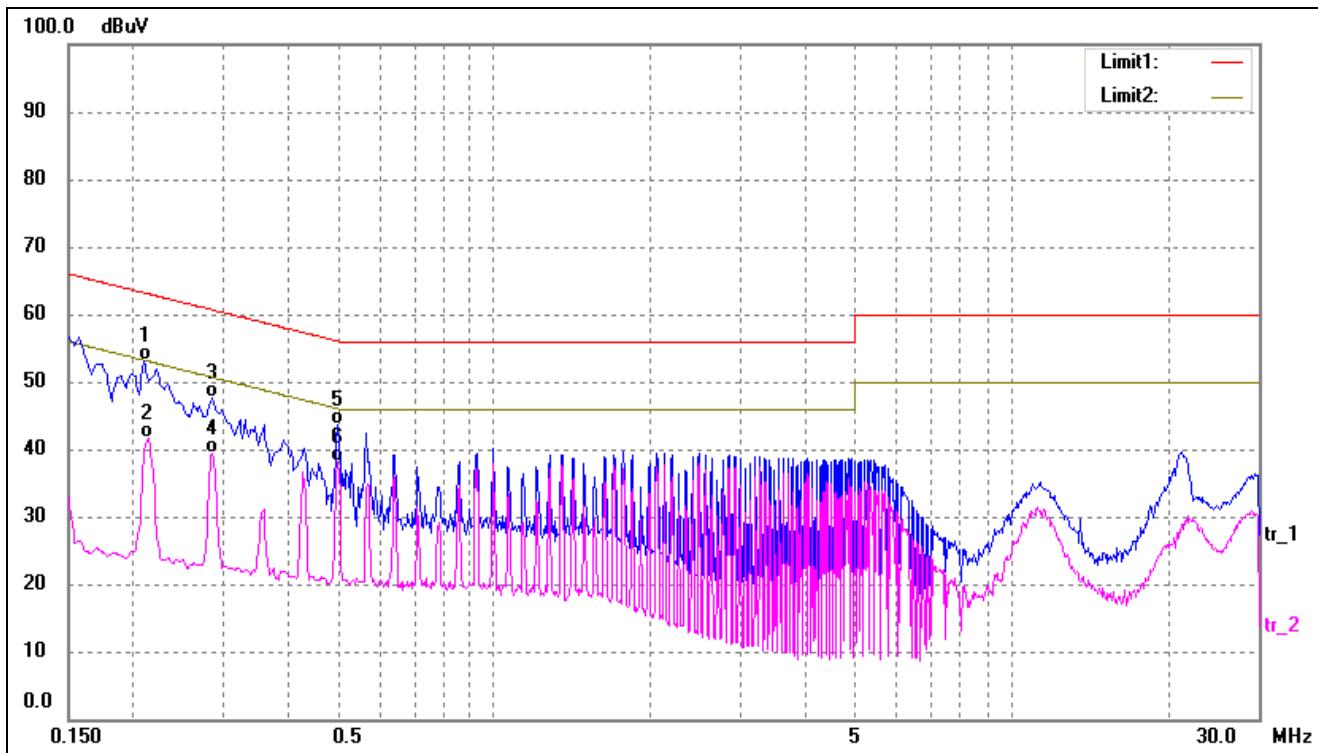
3.5 Summary of Test Results/Plots

According to the data in section 3.6, the EUT complied with the EN55032 / EN 60601-1-2 conducted margin for a Class B device, with the *worst* margin reading of:

-7.99 dB at 0.4980 MHz in the **Line** mode, **AVG** detector, **0.15-30 MHz**

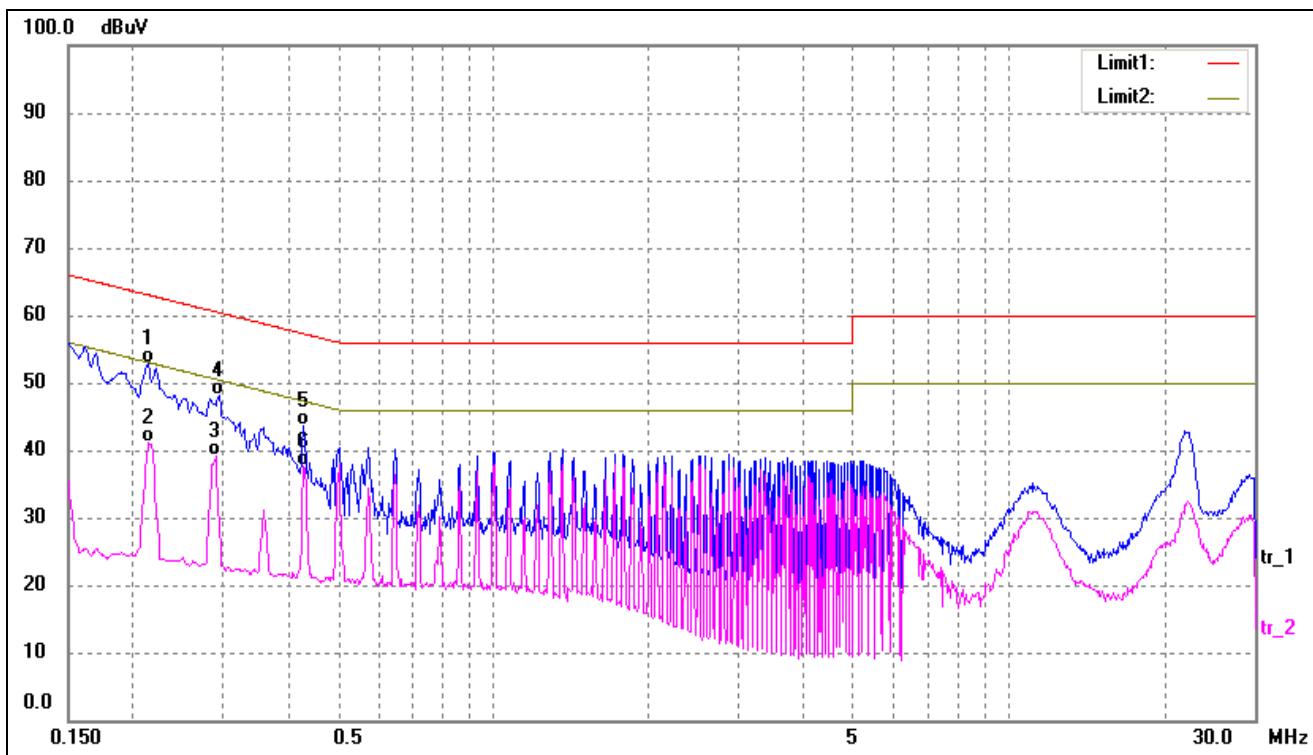
3.6 Conducted Emissions Test Data

Test mode:	TM1	Polarity:	Line
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2100	43.21	9.98	53.19	63.20	-10.01	QP
2	0.2140	31.55	9.98	41.53	53.04	-11.51	AVG
3	0.2860	37.66	10.01	47.67	60.64	-12.97	QP
4	0.2860	29.34	10.01	39.35	50.64	-11.29	AVG
5	0.4980	33.70	10.02	43.72	56.03	-12.31	QP
6*	0.4980	28.02	10.02	38.04	46.03	-7.99	AVG

Test mode:	TM1	Polarity:	Neutral
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2140	43.02	9.98	53.00	63.04	-10.04	QP
2	0.2140	31.11	9.98	41.09	53.04	-11.95	AVG
3	0.2900	29.16	10.01	39.17	50.52	-11.35	AVG
4	0.2940	38.06	10.01	48.07	60.41	-12.34	QP
5	0.4300	33.65	10.01	43.66	57.25	-13.59	QP
6*	0.4300	27.68	10.01	37.69	47.25	-9.56	AVG

4. Radiated Emission

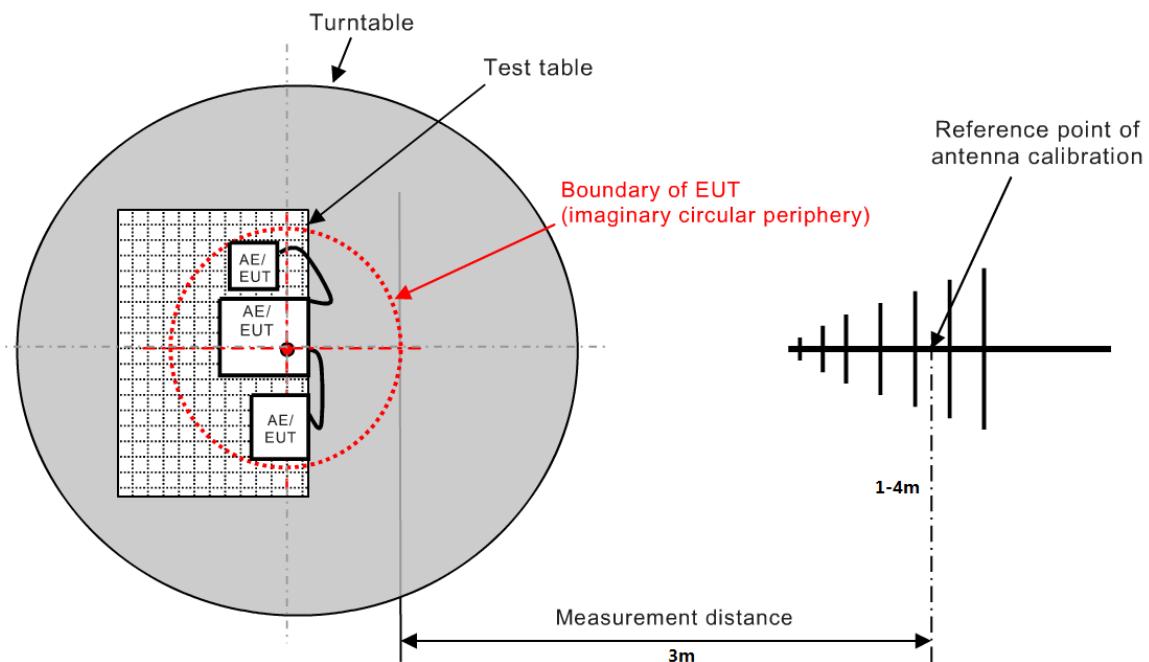
4.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement

Measurement uncertainty		
Parameter	Conditions	Uncertainty
Radiated Emissions	Radiated	30-200MHz $\pm 4.52\text{dB}$
		0.2-1GHz $\pm 5.56\text{dB}$
		1-6GHz $\pm 3.84\text{dB}$
		6-18GHz $\pm 3.92\text{dB}$

4.2 Test Procedure

Test is conducting under the description of EN55032 Annex C.2.2.4



4.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\begin{aligned}\text{Corr. Ampl.} &= \text{Indicated Reading} + \text{Correct} \\ \text{Correct} &= \text{Ant.Factor} + \text{Cable Loss} - \text{Ampl.Gain}\end{aligned}$$

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dB μ V means the emission is 6dB μ V below the maximum limit for Class B device. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{EN55032 / EN 60601-1-2 Class B Limit}$$

4.4 Environmental Conditions

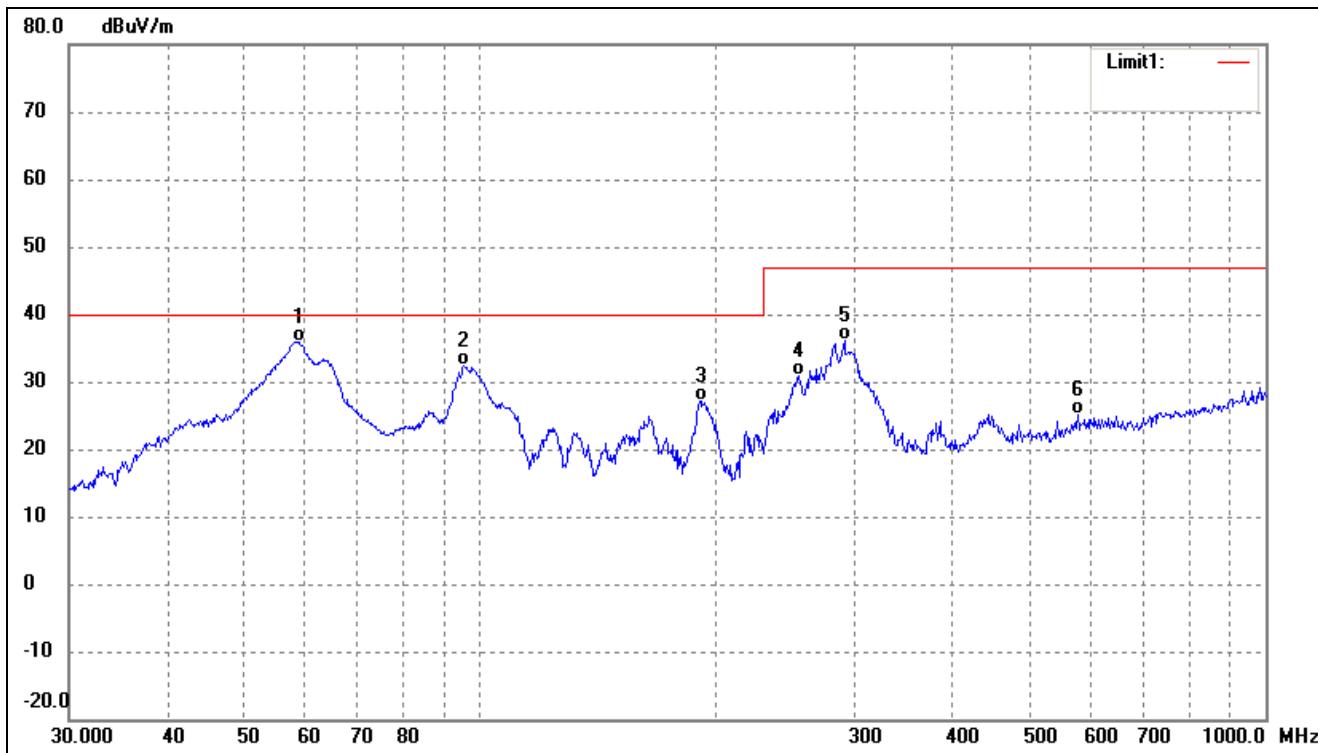
Temperature:	23° C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

4.5 Summary of Test Results/Plots

According to the data in section 4.5, the EUT complied with the EN55032 / EN 60601-1-2 Class B standards, and had the worst margin is:

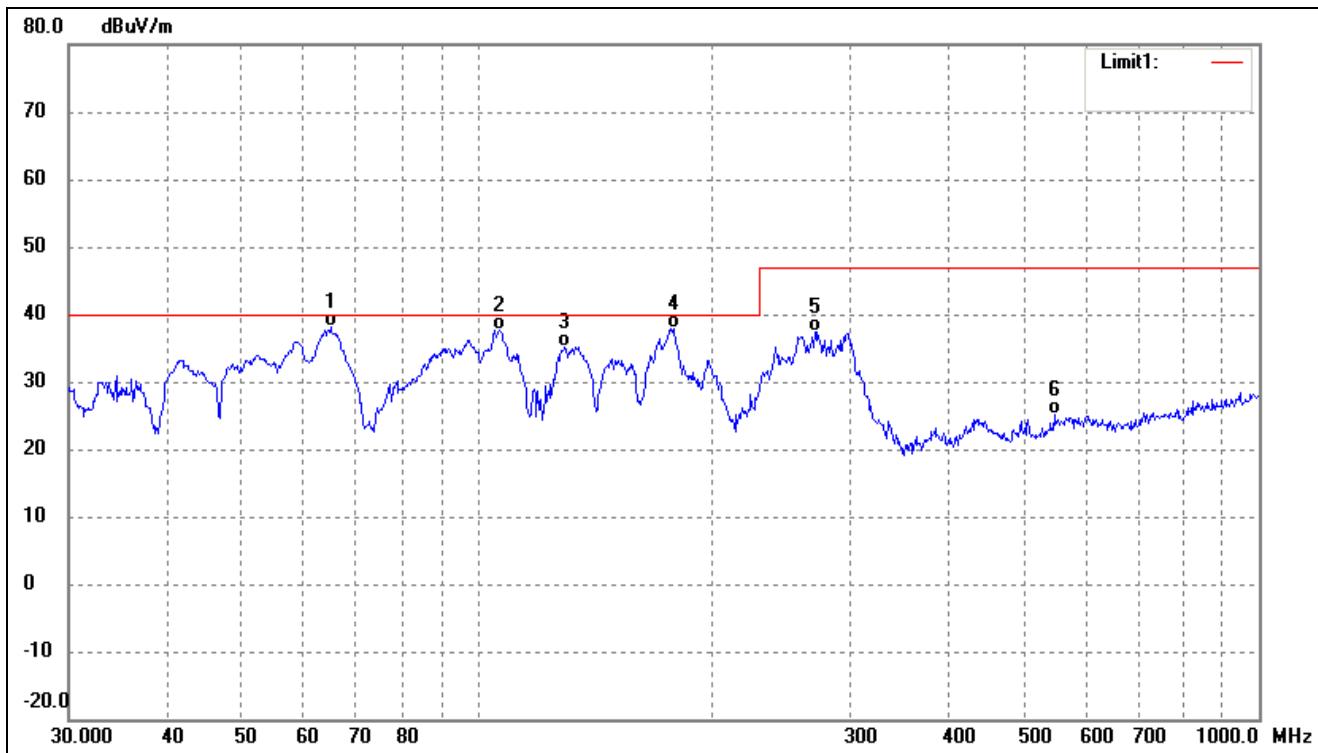
-1.87 dB at 64.8864 MHz in the Vertical polarization, 30 MHz to 1 GHz, 3 Meters

Test mode:	TM1	Polarity:	Horizontal
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	59.0251	49.04	-13.10	35.94	40.00	-4.06	281	100	QP
2	95.4270	46.54	-14.21	32.33	40.00	-7.67	92	100	QP
3	191.0738	40.40	-13.33	27.07	40.00	-12.93	331	100	QP
4	254.7284	41.70	-10.91	30.79	47.00	-16.21	97	100	QP
5	291.0360	45.80	-9.70	36.10	47.00	-10.90	217	100	QP
6	576.6443	29.27	-4.25	25.02	47.00	-21.98	115	100	QP

Test mode:	TM1	Polarity:	Vertical
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No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (°)	Height (cm)	Remark
1	64.8864	52.18	-14.05	38.13	40.00	-1.87	149	100	QP
2	106.7587	50.77	-13.07	37.70	40.00	-2.30	114	100	QP
3	129.4678	51.90	-16.69	35.21	40.00	-4.79	97	100	QP
4	178.1326	52.65	-14.66	37.99	40.00	-2.01	132	100	QP
5	270.3748	48.10	-10.64	37.46	47.00	-9.54	184	100	QP
6	547.0977	30.61	-5.59	25.02	47.00	-21.98	308	100	QP

5. Harmonic Current Emissions

5.1 Test Procedure

Test is conducting under the description of EN 61000-3-2.

5.2 Test Standards

EN61000-3-2, Clause 7.1 Limits for Class A equipment.

Environmental Conditions

Temperature:	22 °C
Relative Humidity:	48%
ATM Pressure:	1022 mbar

5.3 Harmonic Current Emissions Test Data

According to Clause 7 of EN 61000-3-2, the rated power of the EUT is less than 75W, belong to 'equipment with a rated power of 75W or less', therefore 'limits are not specified in this edition of the standards'. It is deemed to fully fit the requirements of the standards.

Result: The EUT is compliant with the requirements of this section.

6. Voltage Fluctuation Flicker

6.1 Test Procedure

Test is conducting under the description of EN 61000-3-3.

6.2 Test Standards

EN61000-3-3, Limit: Clause 5.

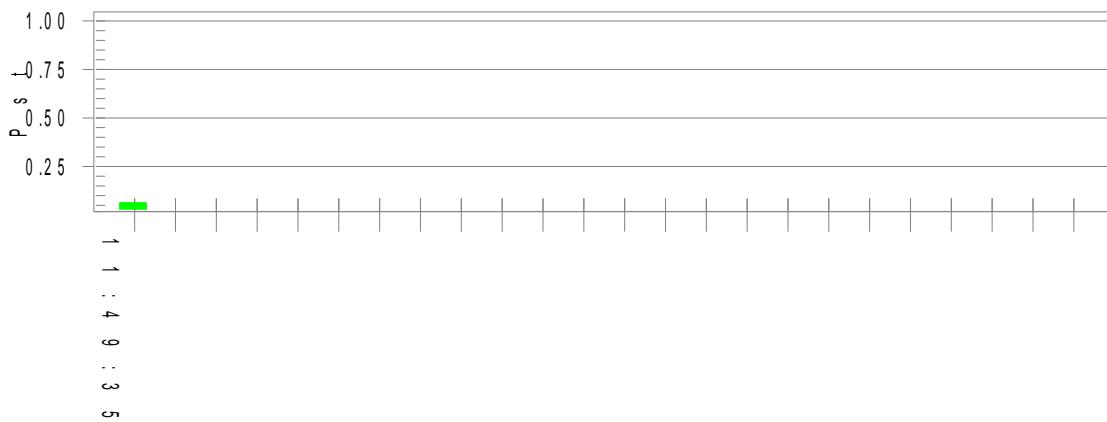
Environmental Conditions

Temperature:	22 °C
Relative Humidity:	48%
ATM Pressure:	1022 mbar

6.3 Voltage Fluctuation and Flicker Test Data

Test mode:

TM1

Flicker Test Summary per EN/IEC61000-3-3 Ed. 3.0 (2013) (Run time)**Test Result: Pass****Status: Test Completed****Pst_s and limit line****European Limits****Plt and limit line****Parameter values recorded during the test:**

Vrms at the end of test (Volt): 229.95

T-max (mS):	0	Test limit (mS):	500.0	Pass
Highest dc (%):	0.00	Test limit (%):	3.30	Pass
Highest dmax (%):	0.00	Test limit (%):	4.00	Pass
Highest Pst (10 min. period):	0.064	Test limit:	1.000	Pass
Highest Plt (2 hr. period):	0.028	Test limit:	0.650	Pass

7. Electrostatic Discharges (ESD)

7.1 Test Procedure

Test is conducting under the description of EN 61000-4-2.

Test Performance

Performance Criterion: B

Environmental Conditions

Temperature:	26 °C
Relative Humidity:	55%
ATM Pressure:	1011 mbar

7.2 Electrostatic Discharge Immunity Test Data

Table 1: Electrostatic Discharge Immunity (Air Discharge)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
Shell crack	A	A	A	A	A	A	A	A	/	/

Table 2: Electrostatic Discharge Immunity (Direct Contact)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
/	/	/	/	/	/	/	/	/	/	/

Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP & VCP)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
HCP (6 Sides)	A	A	A	A	/	/	/	/	/	/
VCP (4 Sides)	A	A	A	A	/	/	/	/	/	/

Test Result: Pass

EN 60601-1-2

Table 1: Electrostatic Discharge Immunity (Air Discharge)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-8	+8	-15	+15	-18	+18
Shell crack	A	A	A	A	A	A	A	A	/	/
indicator light	A	A	A	A	A	A	A	A	/	/

Table 2: Electrostatic Discharge Immunity (Direct Contact)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-10	+10
/	/	/	/	/	/	/	/	/	/	/

Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP & VCP)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-10	+10
HCP (6 Sides)	A	A	A	A	A	A	A	A	/	/
VCP (4 Sides)	A	A	A	A	A	A	A	A	/	/

Test Result: Pass

8. Continuous RF electromagnetic field Disturbances (RS)

8.1 Test Procedure

Test is conducting under the description of EN 61000-4-3, EN 61000-4-20, EN 61000-4-21.

Test Performance

Performance Criterion: A

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1010 mbar

8.2 Continuous Radiated Disturbances Test Data

Frequency step: 1% of fundamental

Dwell time: 1 second

Modulation: AM by 1kHz sine wave with 80% modulation depth

EN 55035

Frequency Range(MHz)	Field (V/m)	Front		Rear		Left Side		Right Side	
		VERT	HORI	VERT	HORI	VERT	HORI	VERT	HORI
80-1000	3	A	A	A	A	A	A	A	A

Spot frequencies (MHz)	Field (V/m)	Front		Rear		Left Side		Right Side	
		VERT	HORI	VERT	HORI	VERT	HORI	VERT	HORI
1800	3	A	A	A	A	A	A	A	A
2600	3	A	A	A	A	A	A	A	A
3500	3	A	A	A	A	A	A	A	A
5000	3	A	A	A	A	A	A	A	A

EN 60601-1-2

Frequency Range(MHz)	Field (V/m)	Front		Rear		Left Side		Right Side	
		VERT	HORI	VERT	HORI	VERT	HORI	VERT	HORI
80~2700	3	A	A	A	A	A	A	A	A

Test Result: Pass

9. Electrical Fast Transients (EFT)

9.1 Test Procedure

Test is conducting under the description of EN 61000-4-4.

Test Performance

Performance Criterion: B

Environmental Conditions

Temperature:	22 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

9.2 Electrical Fast Transients Test Data

EN 55035

Repetition frequency 5 kHz

EN 61000-4-4		Test Levels (kV)							
		+0.5	-0.5	+1.0	-1.0	+2.0	-2.0	+4.0	-4.0
Power Supply	L1	/	/	A	A	/	/	/	/
	L2	/	/	A	A	/	/	/	/
	PE	/	/	A	A	/	/	/	/
	L1+L2	/	/	A	A	/	/	/	/
	L1 + PE	/	/	A	A	/	/	/	/
	L2 + PE	/	/	A	A	/	/	/	/
	L1+L2+PE	/	/	A	A	/	/	/	/
Signal ports	RJ45	/	/	/	/	/	/	/	/

EN 60601-1-2

Repetition frequency 100 kHz

EN 61000-4-4 Test Points		Test Levels (kV)							
		+0.5	-0.5	+1.0	-1.0	+2.0	-2.0	+4.0	-4.0
Power Supply	L1	/	/	/	/	A	A	/	/
	L2	/	/	/	/	A	A	/	/
	PE	/	/	/	/	A	A	/	/
	L1+L2	/	/	/	/	A	A	/	/
	L1 + PE	/	/	/	/	A	A	/	/
	L2 + PE	/	/	/	/	A	A	/	/
	L1+L2+PE	/	/	/	/	A	A	/	/
Signal ports	/	/	/	/	/	/	/	/	/

Test Result: Pass

10. Surges

10.1 Test Procedure

Test is conducting under the description of EN 61000-4-5.

Test Performance

Performance Criterion: B

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

10.2 Surge Test Data

EN 55035

Level	Voltage	Poll	Path	Pass	Fail
1	0.5kV	±	L-N	/	/
2	1kV	±	L-N	A	/
3	2kV	±	L-PE, N-PE	A	/
4	4kV	±	/	/	/

EN 60601-1-2

Level	Voltage	Poll	Path	Pass	Fail
1	0.5kV	±	L-N	/	/
2	1kV	±	L-N	A	/
3	2kV	±	L-N,L-PE, N-PE	A	/
4	4kV	±	L-PE, N-PE	/	/

Test Result: Pass

11. Continuous induced RF disturbances (C/S)

11.1 Test Procedure

Test is conducting under the description of EN 61000-4-6.

Test Performance

Performance Criterion: A

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

11.2 Continuous Conducted Disturbances Test Data

EN 55035

Sweep frequency range: 0,15 MHz to 10 MHz 3 V; 10 MHz to 30 MHz 3 V to 1 V; 30 MHz to 80 MHz 1V

Frequency step: 1% of fundamental

Dwell time: 1 second

Frequency MHz	Injected Position	Level	Observations (Performance Criterion)	Result
0.15-10	AC Mains	3Vrms	A	Pass
10-30	AC Mains	3-1Vrms	A	Pass
30-80	AC Mains	1Vrms	A	Pass

EN 60601-1-2

Sweep frequency range: 0,15 MHz to 80 MHz 3 V; Frequency step: 1% of fundamental; Dwell time: 1 second

Level	Voltage Level (e.m.f.) U_0	Modulation:	Pass	Fail
1	1	AM 80%, 1kHz sinewave	/	/
2	3	AM 80%, 1kHz sinewave	A	/
3	10	AM 80%, 1kHz sinewave	/	/
X	Special	/	/	/

Test Result: Pass

12. Power-Frequency Magnetic Fields (PFMF)

12.1 Test Procedure

Test is conducting under the description of EN 61000-4-8.

Test Performance

Performance Criterion: A

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	50%
ATM Pressure:	1011 mbar

12.2 Power-Frequency Magnetic Field Test Data

EN 55035

Level	Magnetic Field Strength (r.m.s) A/m	Frequency Hz	Induction Coil Postion	Pass	Fail
1	1	50	X, Y, Z	A	/
2	3	50	X, Y, Z	/	/
3	10	50	X, Y, Z	/	/
X	Special	/		/	/

EN 60601-1-2

Level	Magnetic Field Strength (r.m.s) A/m	Frequency Hz	Induction Coil Postion	Pass	Fail
1	3	50	X, Y, Z	/	/
2	10	50	X, Y, Z	/	/
3	30	50	X, Y, Z	A	/
X	Special	/		/	/

Test Result: Pass

13. Voltage Dips and Interruptions

13.1 Test Procedure

Test is conducting under the description of EN 61000-4-11.

Test Performance

Performance Criterion: B/C

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	50%
ATM Pressure:	1011 mbar

13.2 Voltage Dips And Interruptions Test Data

U: Voltage dips in % U_T (U_T is rated voltage for the EUT)

T: Test duration

EN 55035

Level	U	T	Phase Angle	N	Pass	Fail
1	100%	0.5P	0/90/180/270	3	B	/
2	30%	25P	0/90/180/270	3	B	/
3	100%	250P	0/90/180/270	3	B	/

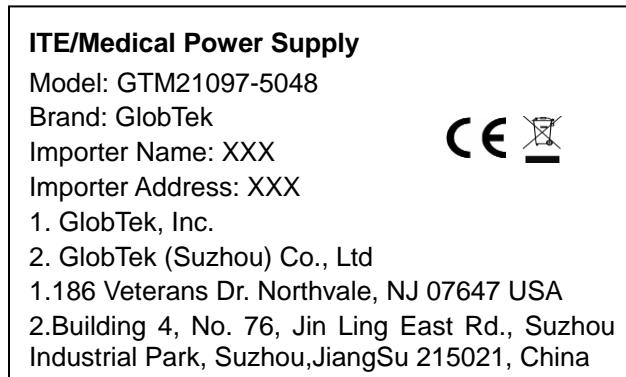
EN 60601-1-2

Level	U	T	Phase Angle	N	Pass	Fail
1	100%	0.5P	0/90/180/270	3	B	/
2	60%	5P	0/90/180/270	3	B	/
3	100%	250P	0/90/180/270	3	B	/
4	70%	25P	0/90/180/270	3	B	/

Test Result: Pass

EXHIBIT 1 - PRODUCT LABELING

Proposed CE Label Format



Specifications: Text is Black in color and is justified. Labels are printed in indelible ink on permanent adhesive backing or silk-screened onto the EUT or shall be affixed at a conspicuous location on the EUT. The 'CE' marking must be affixed to the EUT or to its data plate. Where this is not possible or not warranted on account of the nature of the apparatus, it must be affixed to the packaging, if any, and to the accompanying documents. The 'CE' marking is allowed less than 5 mm but must clear. If the 'CE' marking is reduced or enlarged the proportions given in the above graduated drawing must be respected. The Importer name, address and Manufacturer name and address should indicate on marking label or packaging or in a document accompanying

Proposed Label Location on EUT



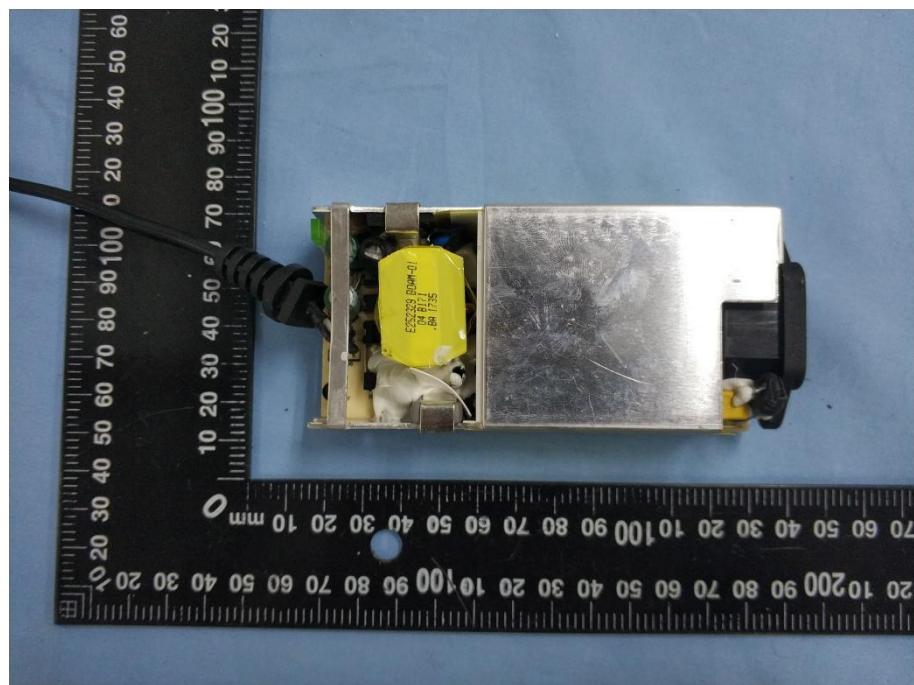
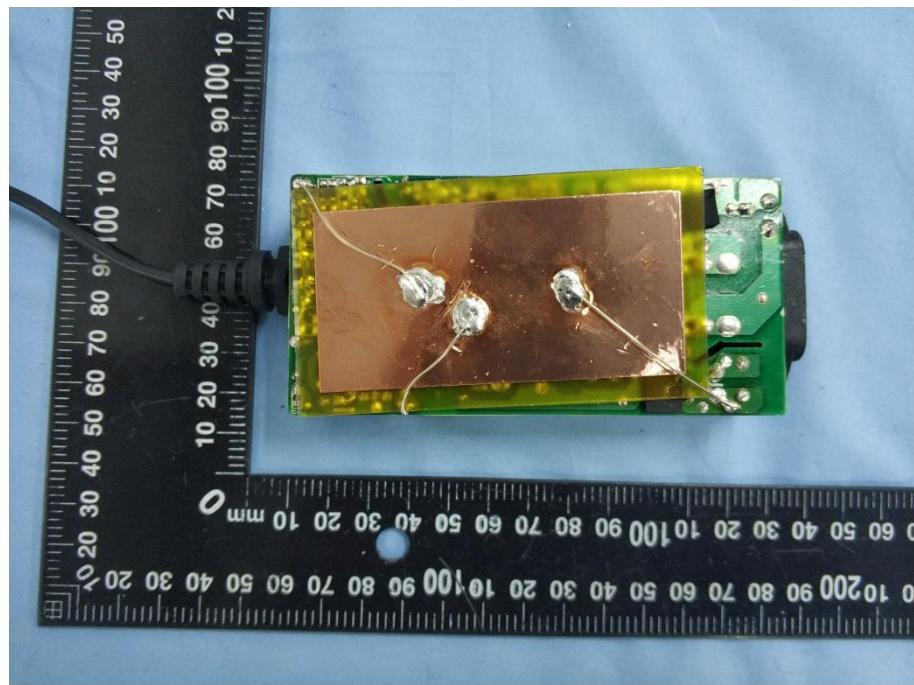
EXHIBIT 2 - EUT PHOTOGRAPHS

EUT View 1



EUT View 2



EUT Housing and Board View 1**EUT Housing and Board View 2**

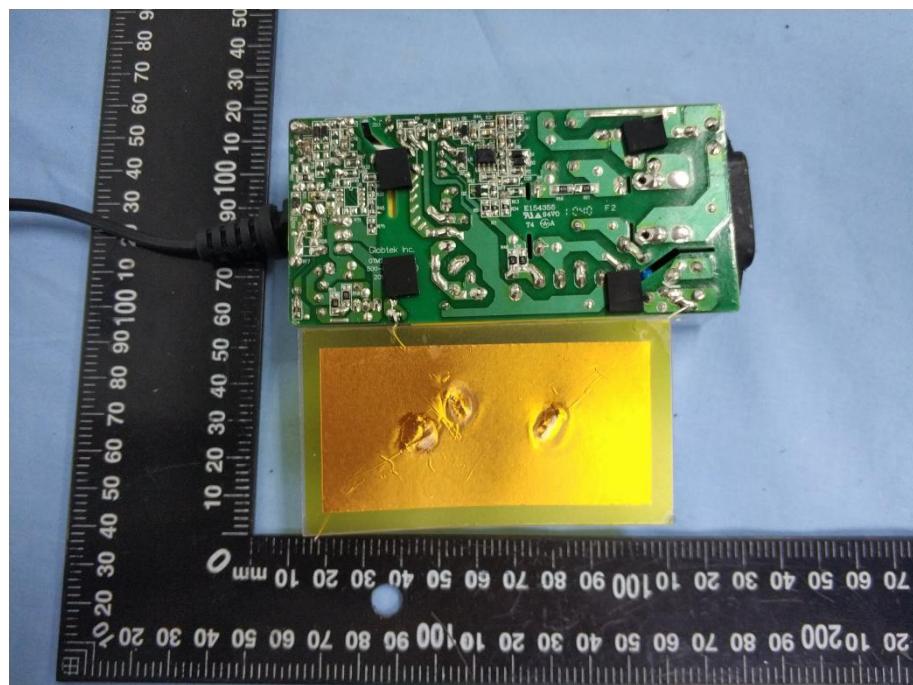
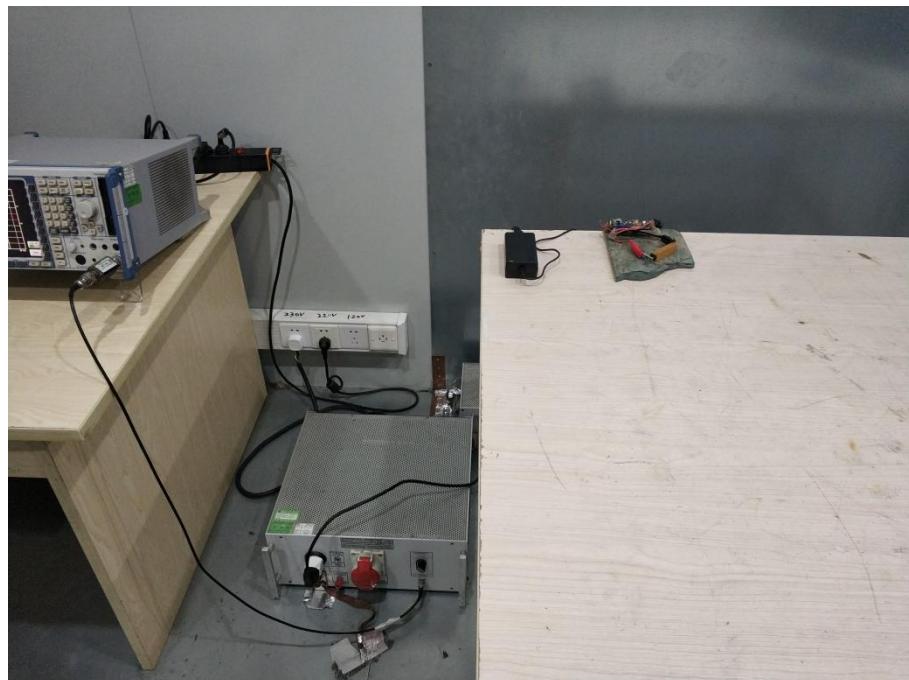
EUT Housing and Board View 3

EXHIBIT 3 - TEST SETUP PHOTOGRAPHS

Conduction Emission Test View

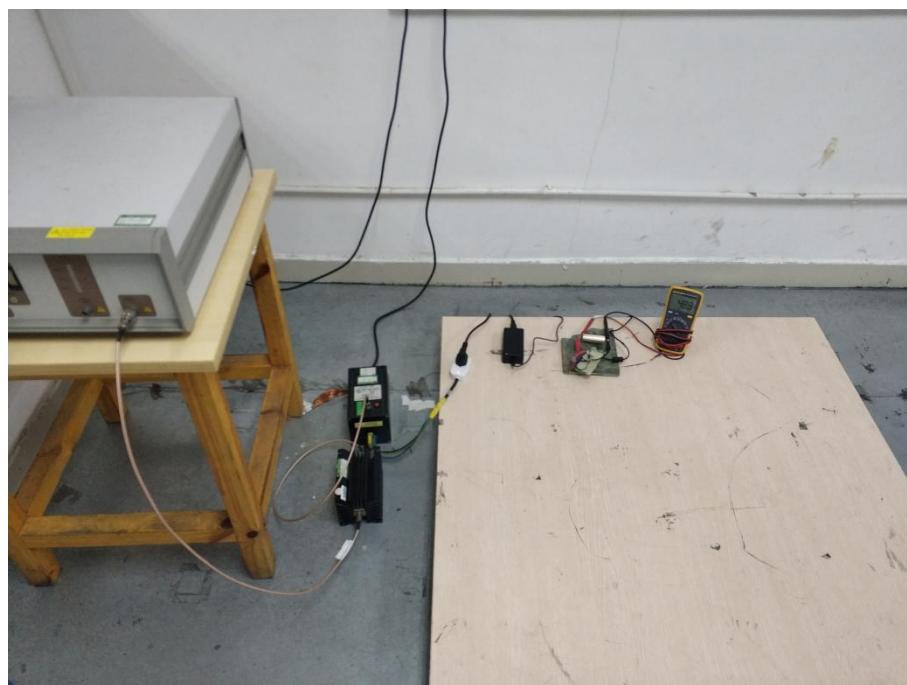
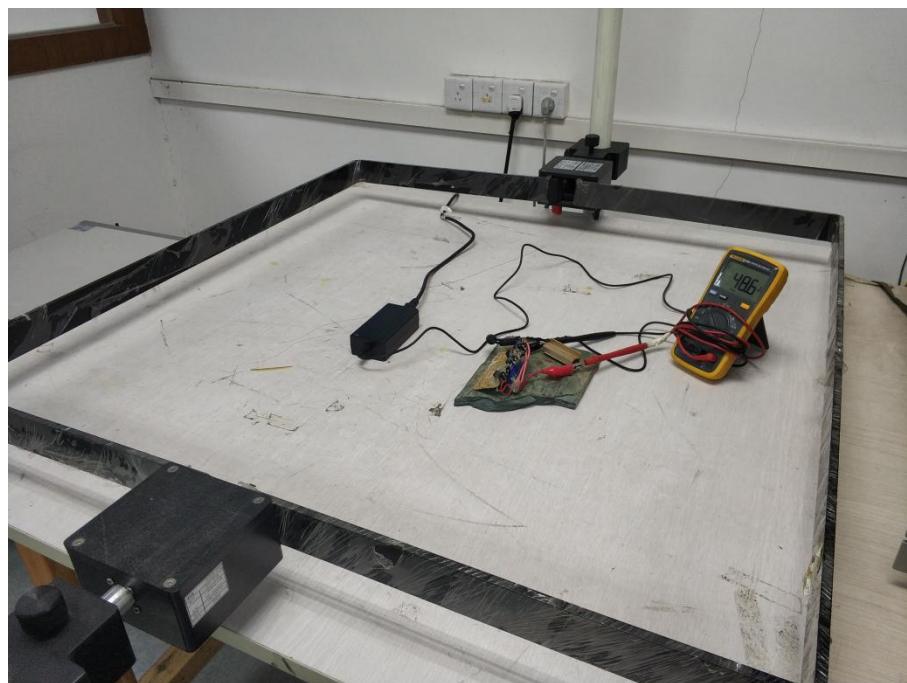


Radiation Emission Test View



Harmonic/Flicker Test View**EN 61000-4-2 Test View**

EN 61000-4-3 Test View**EN 61000-4-4/5/11 Test View**

EN 61000-4-6 Test View**EN 61000-4-8 Test View**

***** END OF REPORT *****