

EMC

Measurement and Test Report

For

GlobTek, Inc.

186 Veterans Dr. Northvale, NJ 07647 USA

Test Standards:	EN 55032:2012+AC:2013 EN 61000-3-2:2014 EN 61000-3-3:2013 EN 55024:2010 <u>EN 60601-1-2:2015</u>
Product Description:	<u>X-PLORE 8000 STANDARD CHARGER EX</u>
Tested Model:	<u>GT-93036SHG3050</u>
Report No.:	<u>STR17018133E</u>
Tested Date:	<u>2017-01-13 to 2017-01-18</u>
Issued Date:	<u>2017-01-19</u>
Tested By:	<u>Jeffry Zhang / Engineer</u> <i>Jeffry Zhang</i>
Reviewed By:	<u>Silin Chen / EMC Manager</u> <i>Silin Chen</i>
Approved & Authorized By:	<u>Jandy So / PSQ Manager</u> <i>Jandy So</i>
Prepared By:	

Shenzhen SEM.Test Technology Co., Ltd.
1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road,
Bao'an District, Shenzhen, P.R.C. (518101)
Tel.: +86-755-33663308 Fax.: +86-755-33663309 Website: www.semtest.com.cn

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.

TABLE OF CONTENTS

1. GENERAL INFORMATION.....	4
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT).....	4
1.2 TEST STANDARDS.....	5
1.3 TEST METHODOLOGY.....	5
1.4 TEST FACILITY.....	5
1.5 EUT SETUP AND OPERATION MODE.....	6
1.6 PERFORMANCE CRITERIA FOR EMS.....	6
1.7 TEST EQUIPMENT LIST AND DETAILS.....	7
2. SUMMARY OF TEST RESULTS.....	8
3. CONDUCTED EMISSION.....	9
3.1 MEASUREMENT UNCERTAINTY.....	9
3.2 TEST PROCEDURE.....	9
3.3 BASIC TEST SETUP BLOCK DIAGRAM.....	9
3.4 ENVIRONMENTAL CONDITIONS.....	10
3.5 SUMMARY OF TEST RESULTS/PLOTS.....	10
3.6 CONDUCTED EMISSIONS TEST DATA.....	10
4. RADIATED EMISSION.....	13
4.1 MEASUREMENT UNCERTAINTY.....	13
4.2 TEST PROCEDURE.....	13
4.3 CORRECTED AMPLITUDE & MARGIN CALCULATION.....	14
4.4 ENVIRONMENTAL CONDITIONS.....	14
4.5 SUMMARY OF TEST RESULTS/PLOTS.....	14
5. HARMONIC CURRENT EMISSIONS.....	17
5.1 TEST PROCEDURE.....	17
5.2 TEST STANDARDS.....	17
5.3 HARMONIC CURRENT EMISSIONS TEST DATA.....	17
6. VOLTAGE FLUCTUATION FLICKER.....	23
6.1 TEST PROCEDURE.....	23
6.2 TEST STANDARDS.....	23
6.3 VOLTAGE FLUCTUATION AND FLICKER TEST DATA.....	23
7. ELECTROSTATIC DISCHARGES (ESD).....	25
7.1 TEST PROCEDURE.....	25
7.2 ELECTROSTATIC DISCHARGE IMMUNITY TEST DATA.....	25
8. CONTINUOUS RADIATED DISTURBANCES (R/S).....	28
8.1 TEST PROCEDURE.....	28
8.2 CONTINUOUS RADIATED DISTURBANCES TEST DATA.....	28
9. ELECTRICAL FAST TRANSIENTS (EFT).....	29
9.1 TEST PROCEDURE.....	29
9.2 ELECTRICAL FAST TRANSIENTS TEST DATA.....	29
10. SURGES.....	31
10.1 TEST PROCEDURE.....	31
10.2 SURGE TEST DATA.....	31
11. CONTINUOUS CONDUCTED DISTURBANCES (C/S).....	32
11.1 TEST PROCEDURE.....	32
11.2 CONTINUOUS CONDUCTED DISTURBANCES TEST DATA.....	32
12. VOLTAGE DIPS AND INTERRUPTIONS.....	33
12.1 TEST PROCEDURE.....	33
12.2 VOLTAGE DIPS AND INTERRUPTIONS TEST DATA.....	33
EXHIBIT 1 - PRODUCT LABELING.....	34
PROPOSED CE LABEL FORMAT.....	34

PROPOSED LABEL LOCATION ON EUT	34
EXHIBIT 2 - EUT PHOTOGRAPHS.....	35
EXHIBIT 3 - TEST SETUP PHOTOGRAPHS.....	41

EMC TEST


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:	X-PLORE 8000 STANDARD CHARGER EX
Trade Name:	
Model No.:	GT-93036SHG3050
Adding Model(s):	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer.</i>	

Technical Characteristics of EUT	
Rated Voltage:	Input: AC 100-240V, 50-60Hz Output: DC 16V
Rated Current:	Input: 1.5A; Output: 3.75A
Rated Power:	60W
Power Adaptor Model:	GTM91099-6024-8.0-T2
Charge Model:	GT93036SHC5012G3050R
Highest Internal Frequency:	Below 108MHz
Classification of Equipment:	Class B

1.2 Test Standards

The following report is prepared on behalf of the GlobTek, Inc. in accordance with EN55032, Electromagnetic compatibility of multimedia equipment - Emission requirements, and EN61000-3-2, Electromagnetic compatibility (EMC) -- Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16 A per phase), and EN61000-3-3, 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, and EN55024, Immunity characteristics Limits and methods of measurement.

The objective of the manufacturer is to demonstrate compliance with the standards EN55032, EN61000-3-2, EN61000-3-3, and EN55024 for multimedia equipment.

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 EN55024 for Information Technology Equipment, and all related testing and measurement techniques intentional standards.

1.4 Test Facility

FCC – Registration No.: 934118

Shenzhen SEM.Test Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 934118.

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.

CNAS Registration No.: L4062

Shenzhen SEM.Test Technology Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road, Bao'an District, Shenzhen, P.R.C (518101).

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
TM1	Working	/

Note: The product is Measurement at two nominal voltages of 230V and 110V, using a frequency of 50Hz or 60Hz. This report is display the worst case with 230V/50Hz data.

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
DC Cable	1.8	Unshielded	With Core

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
/	/	/	/

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
AC Power Cable	1.0	Unshielded	Without Core

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 manufacture. 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

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due. Date
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2016-06-04	2017-06-03
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2016-06-04	2017-06-03
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2016-06-04	2017-06-03
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2016-06-04	2017-06-03
SEMT-1011	Trilog Broadband Antenna	Schwarz beck	VULB9163	9163-333	2016-06-04	2017-06-03
SEMT-1068	Trilog Broadband Antenna	Schwarz beck	VULB9163(B)	9163-333	2016-06-04	2017-06-03
SEMT-1042	Horn Antenna	ETS	3117	00086197	2016-06-04	2017-06-03
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2016-06-04	2017-06-03
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2016-06-04	2017-06-03
SEMT-1066	EMI Test Receiver	Rohde & Schwarz	ESPI	101391	2016-06-04	2017-06-03
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2016-06-04	2017-06-03
SEMT-1003	AC LISN	Schwarz beck	NSLK8126	8126-224	2016-06-04	2017-06-03
SEMT-1060	DC LISN	Schwarz beck	NNBM8126D	279	2016-06-04	2017-06-03
SEMT-1061	DC LISN	Schwarz beck	NNBM8126D	280	2016-06-04	2017-06-03
SEMT-1085	8-WIRE LISN	Schwarz beck	8158	CAT3-8158-0059	2016-06-04	2017-06-03
SEMT-1086	8-WIRE LISN	Schwarz beck	8158	CAT5-8158-0117	2016-06-04	2017-06-03
SEMT-1005	Clamp	Schwarz beck	MDS21	3809	2016-06-04	2017-06-03
SEMT-1014	Loop Antenna	EVERFINE	LLA-2	711001	2016-06-04	2017-06-03
SEMT-1071	VDH Test Head	AFJ	VDH 30	SC022Z	2016-06-04	2017-06-03
SEMT-1056	Digital Power Analyzer	California Instrument	CTS	72831	2016-06-04	2017-06-03
SEMT-1057	Power Source	California Instrument	5001IX-CTS-400	25965	2016-06-04	2017-06-03
SEMT-1027	ESD Generator	TESQ AG	NSG 437	161	2016-06-04	2017-06-03
SEMT-1055	Signal Generator	HP	8648A	3642U01277	2016-06-04	2017-06-03
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2016-06-04	2017-06-03
SEMT-1067	Amplifier	Agilent	8447D	2944A10179	2016-06-04	2017-06-03
SEMT-1024	Transient 2000	EMC PARTNER	TRA2000	863	2016-06-04	2017-06-03
SEMT-1045	CS Immunity Tester	EMTEST	CWS500	0900-03	2016-06-04	2017-06-03

2. SUMMARY OF TEST RESULTS

Standards	Description of Test Item	Result
EN55032	Conducted Emission	Compliant
	Radiated Emission	Compliant
EN61000-3-2	Harmonic Current Emission	Compliant
EN61000-3-3	Voltage Fluctuation and Flicker	Compliant
EN55024	Electrostatic Discharge Immunity in accordance with IEC 61000-4-2	Compliant
	Continuous Radiated Disturbances Immunity in accordance with IEC 61000-4-3	Compliant
	Electrical Fast Transient/Burst Immunity in accordance with IEC 61000-4-4	Compliant
	Surges Immunity in accordance with IEC 61000-4-5	Compliant
	Continuous Conducted Disturbances Immunity in accordance with IEC 61000-4-6	Compliant
	Power-frequency Magnetic Fields Immunity in accordance with IEC 61000-4-8	N/A
	Voltage Dips/Interruptions Immunity in accordance with IEC 61000-4-11	Compliant

N/A: not applicable

3. Conducted Emission

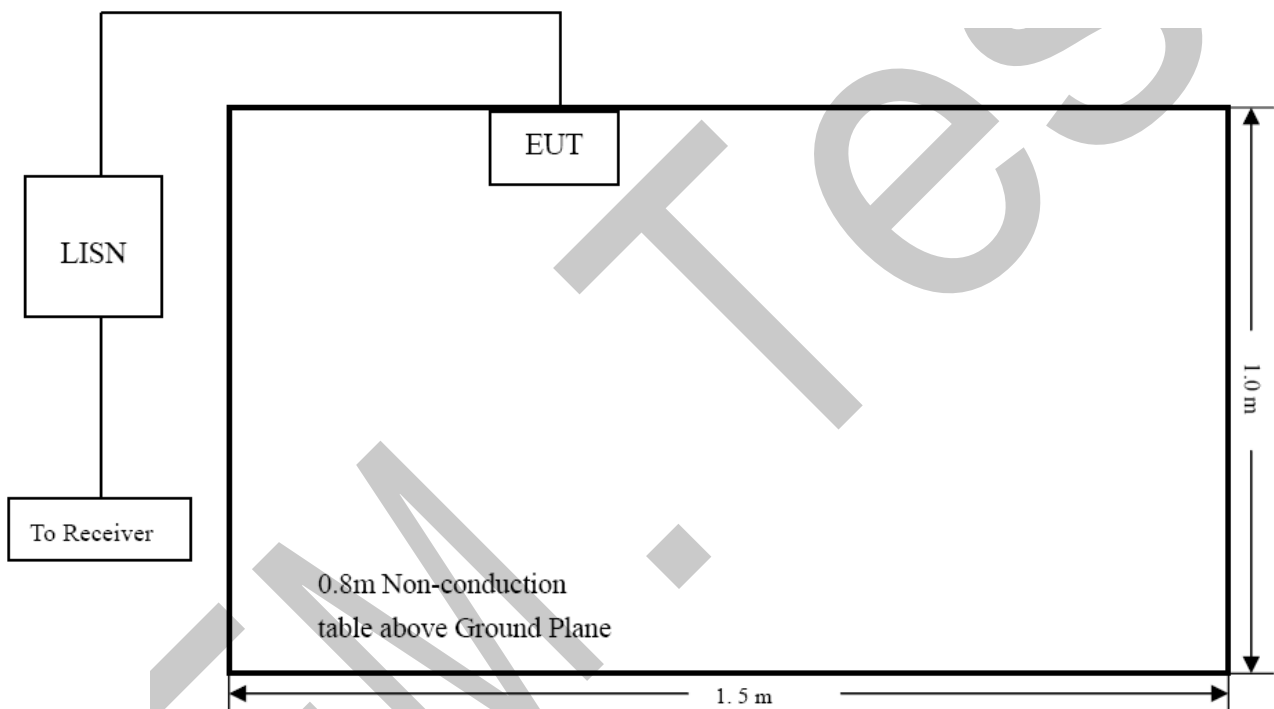
3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 2.88 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 Conducted margin for a Class B device, with the *worst* margin reading of:

-8.19 dB at 0.1780 MHz in the Line mode, QP detector, 0.15-30MHz

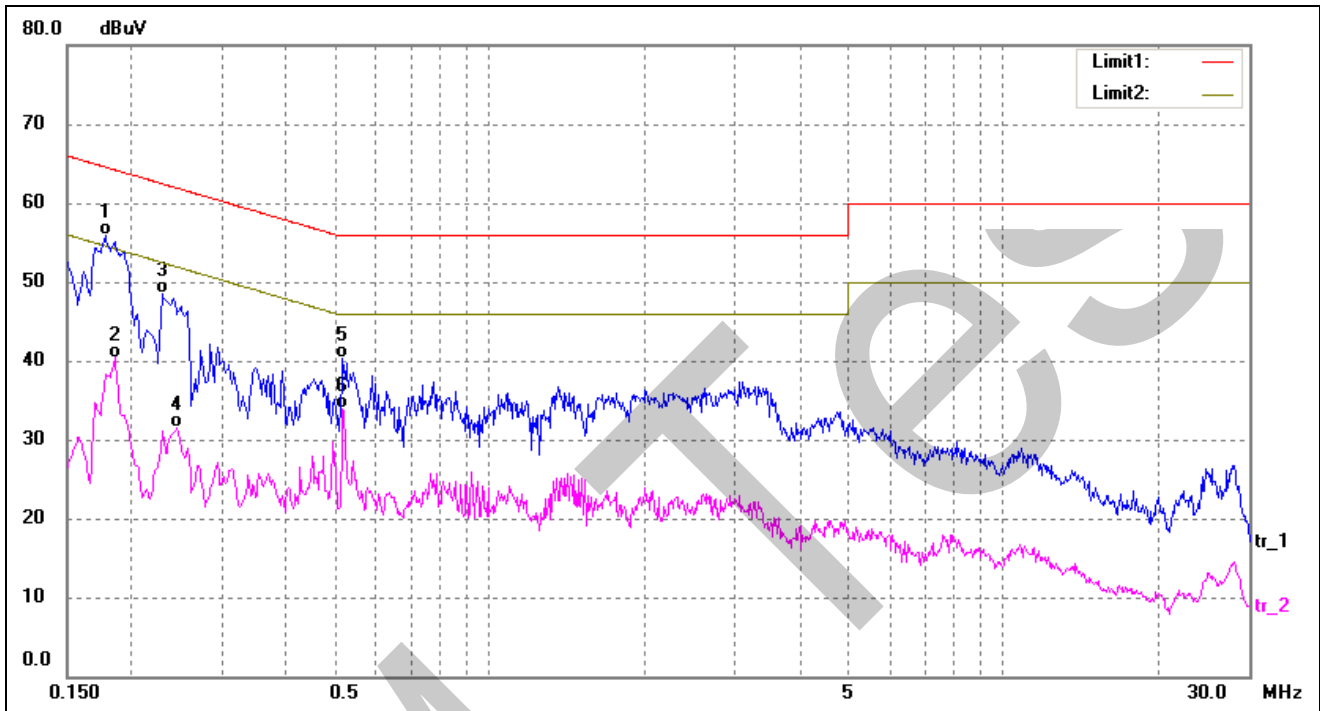
3.6 Conducted Emissions Test Data

EMC TEST

Plot of Conducted Emissions Test Data

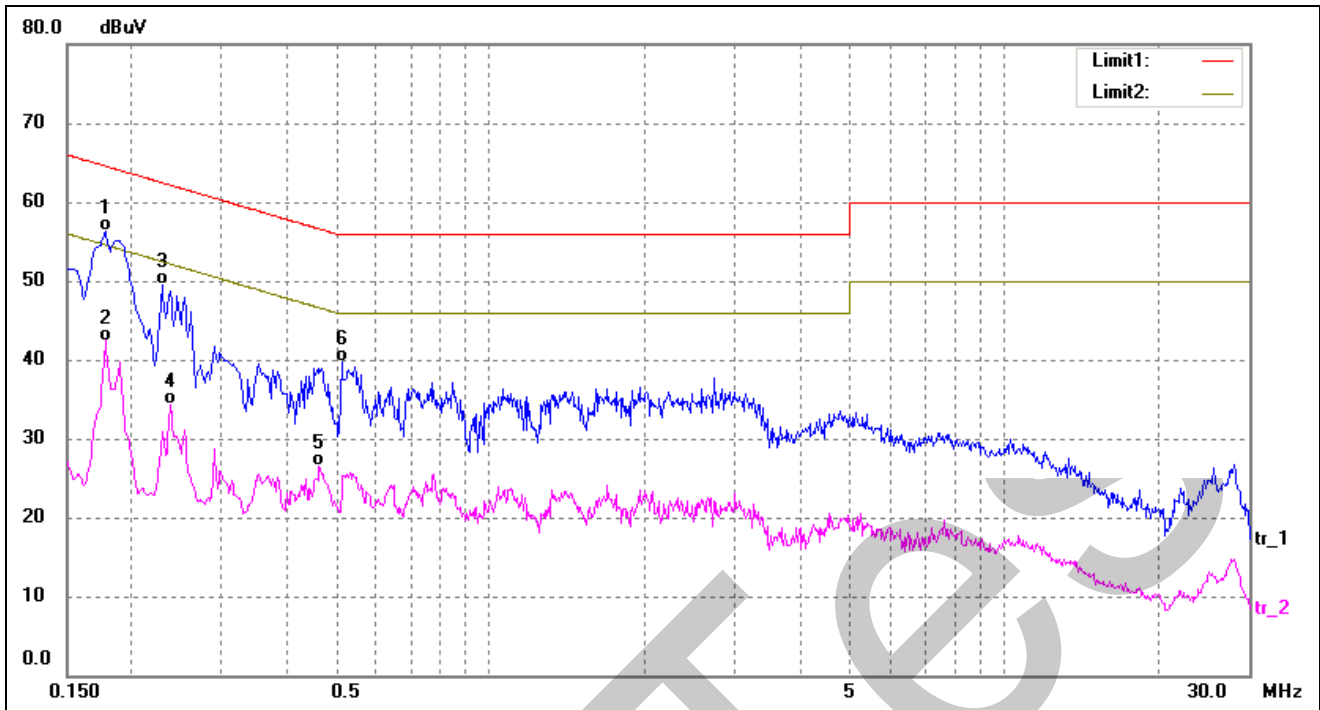
EUT: X-PLORE 8000 STANDARD CHARGER EX
 Tested Model: GT-93036SHG3050
 Operating Condition: TM1
 Comment: AC 230V/50Hz

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1780	45.99	9.82	55.81	64.58	-8.77	QP
2	0.1860	30.59	9.81	40.40	54.21	-13.81	AVG
3	0.2300	38.66	9.80	48.46	62.45	-13.99	QP
4	0.2460	21.68	9.80	31.48	51.89	-20.41	AVG
5	0.5180	30.56	9.80	40.36	56.00	-15.64	QP
6	0.5180	24.16	9.80	33.96	46.00	-12.04	AVG

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1780	46.57	9.82	56.39	64.58	-8.19	QP
2	0.1780	32.58	9.82	42.40	54.58	-12.18	AVG
3	0.2300	39.70	9.80	49.50	62.45	-12.95	QP
4	0.2380	24.41	9.80	34.21	52.17	-17.96	AVG
5	0.4660	16.62	9.80	26.42	46.58	-20.16	AVG
6	0.5140	29.95	9.80	39.75	56.00	-16.25	QP

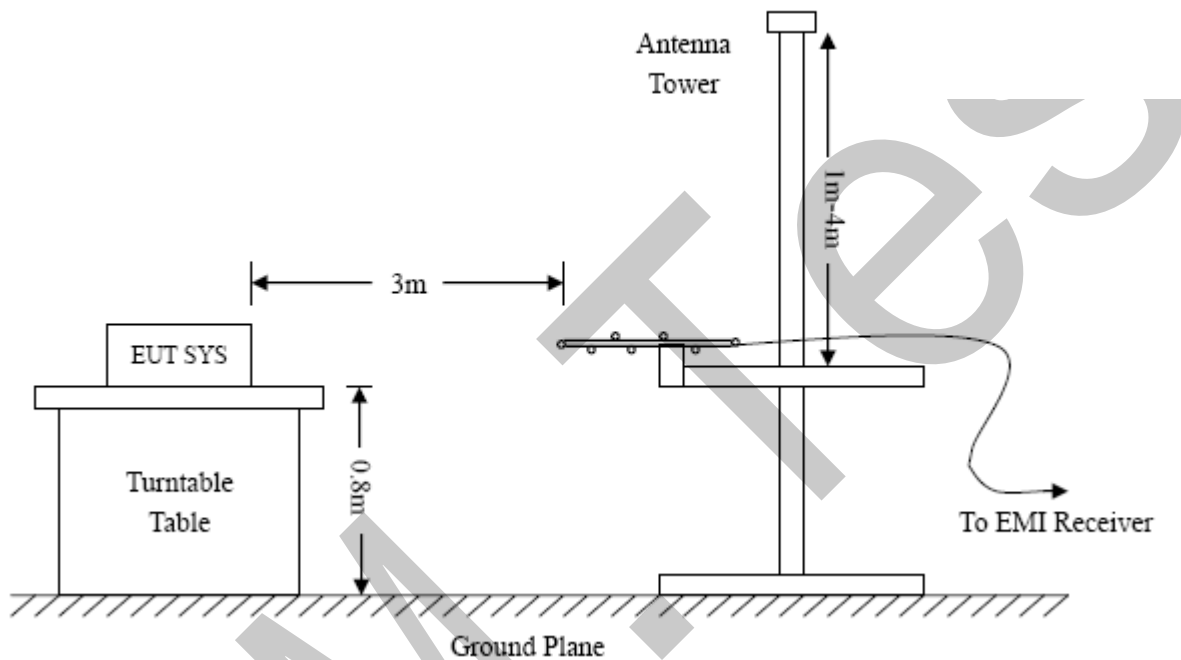
4. Radiated Emission

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 is ± 5.10 dB.

4.2 Test Procedure

Test is conducting under the description of EN55032 Annex A.3.4.



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:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

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

$$\text{Margin} = \text{Corr. Ampl.} - \text{EN55032 Class B Limit}$$

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 Class B standards, and had the worst margin is:

-8.73 dB at 58.6126 MHz in the Vertical polarization, 30 MHz to 1 GHz, 3Meters

Plot of Radiated Emissions Test Data

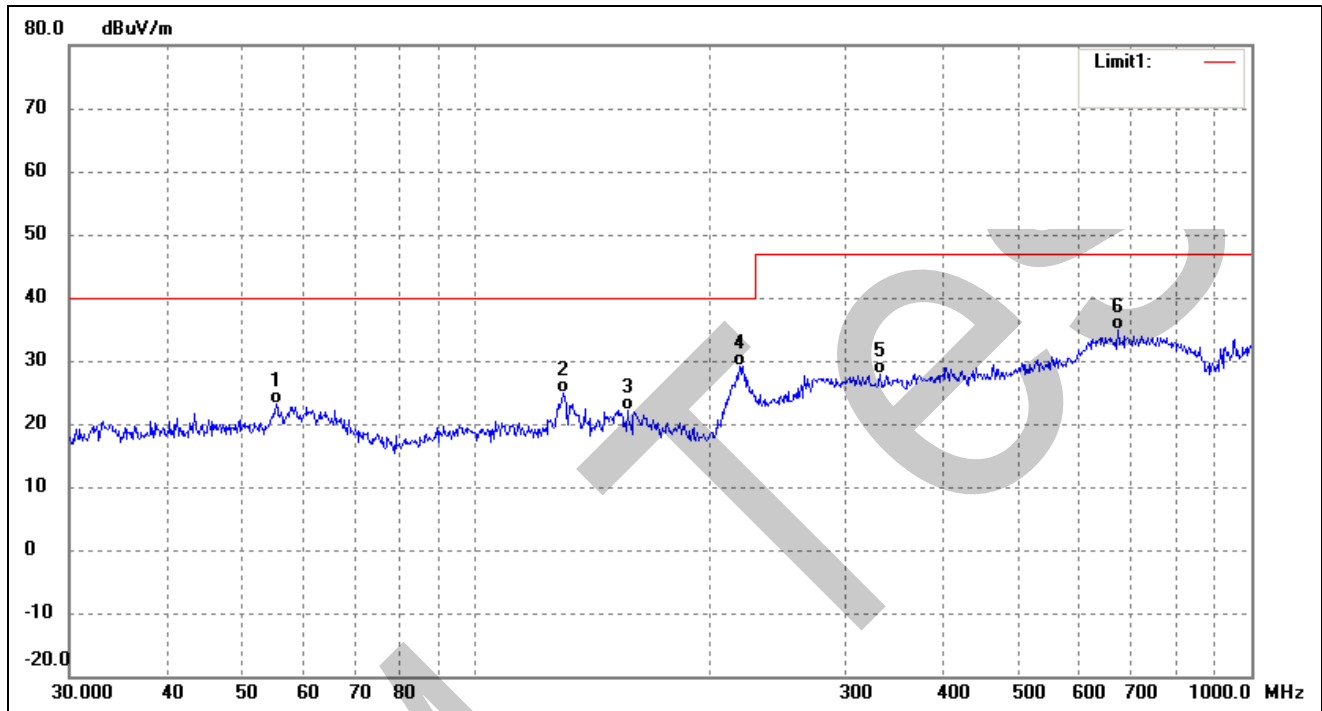
EUT: X-PLORE 8000 STANDARD CHARGER EX

Tested Model: GT-93036SHG3050

Operating Condition: TM1

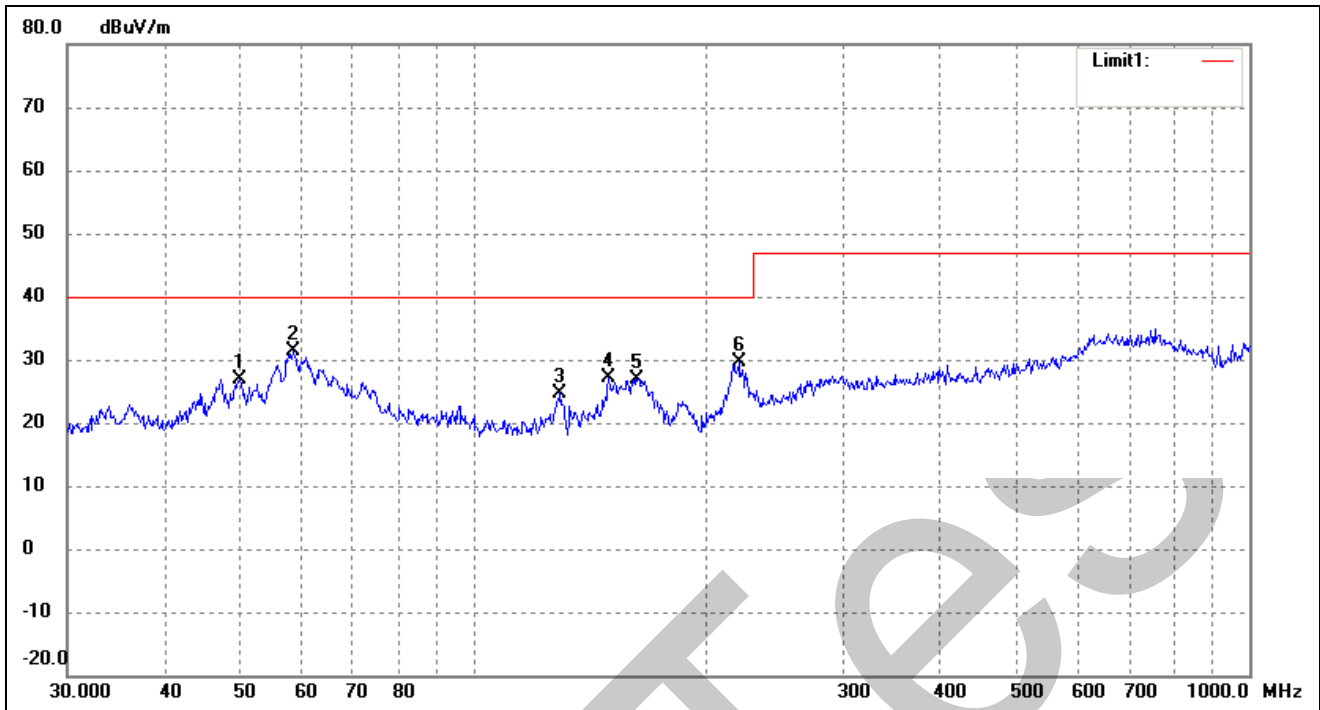
Comment: AC 230V/50Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	55.4147	6.29	16.82	23.11	40.00	-16.89	350	100	QP
2	129.9226	9.21	15.79	25.00	40.00	-15.00	91	100	QP
3	157.0074	7.88	14.30	22.18	40.00	-17.82	75	100	QP
4	219.0753	9.93	19.28	29.21	40.00	-10.79	105	100	QP
5	332.5187	4.54	23.38	27.92	47.00	-19.08	193	100	QP
6	672.8445	4.70	30.09	34.79	47.00	-12.21	229	100	QP

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	50.0566	10.20	16.78	26.98	40.00	-13.02	169	100	QP
2	58.6126	14.47	16.80	31.27	40.00	-8.73	110	100	QP
3	129.4678	8.92	15.83	24.75	40.00	-15.25	86	100	QP
4	149.4857	12.51	14.57	27.08	40.00	-12.92	122	100	QP
5	162.6106	12.76	14.22	26.98	40.00	-13.02	321	100	QP
6	219.8449	10.25	19.44	29.69	40.00	-10.31	268	100	QP

5. Harmonic Current Emissions

5.1 Test Procedure

Test is conducting under the description of EN61000-3-2.

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

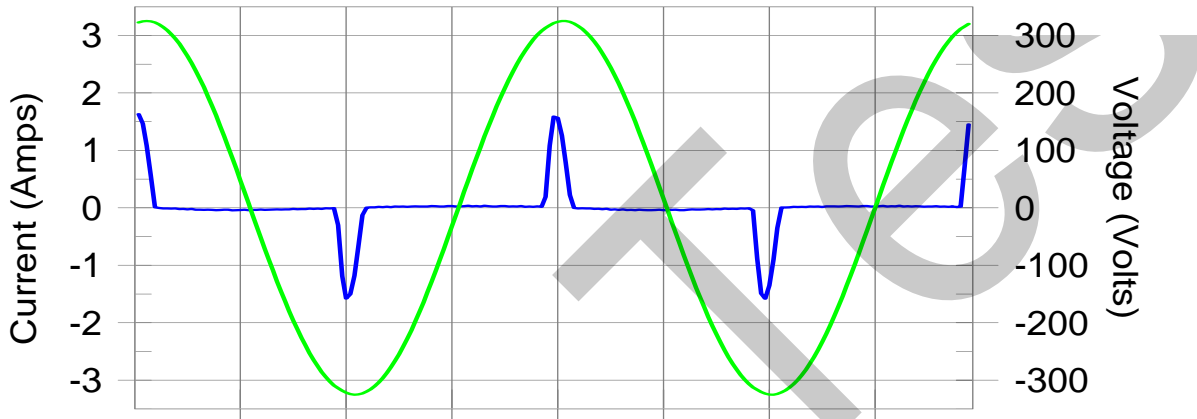
5.3 Harmonic Current Emissions Test Data

Harmonics – Class-A per Ed. 3.2 (Run time)

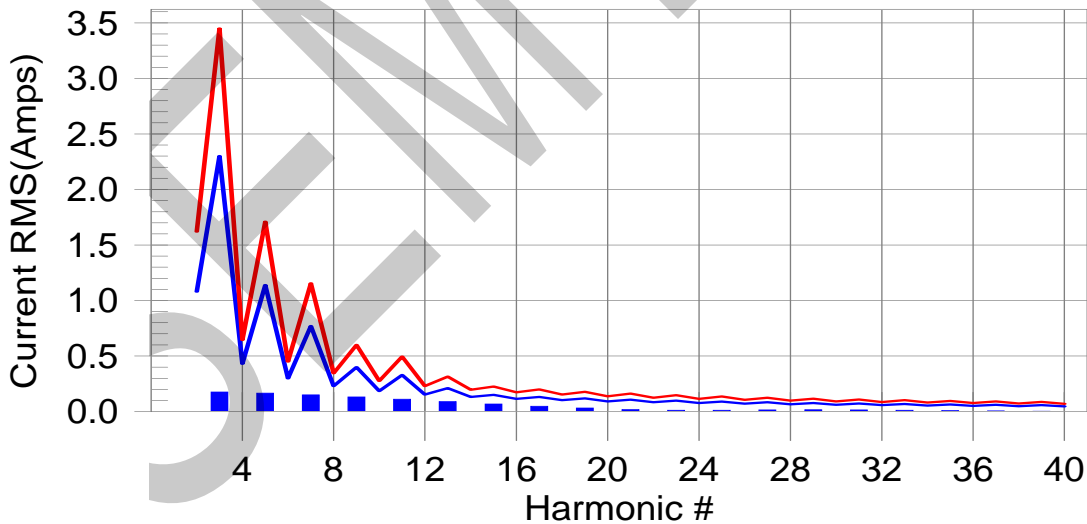
EUT: X-PLORE 8000 STANDARD CHARGER EX Tested by: Jeffry
 Test category: Class-A per Ed. 3.2 (European limits) Test Margin: 100
 Test date: 2017-1-17 Start time: 04:41:53 PM End time: 04:44:44 PM
 Test duration (min): 2.5 Data file name: H-000190.cts_data
 Comment: TM1
 Customer: GlobTek, Inc.

Test Result: Pass Source qualification: Normal

Current & voltage waveforms



Harmonics and Class A limit line European Limits



Test result: Pass Worst harmonic was #15 with 45.25% of the limit.

Current Test Result Summary (Run time)

EUT: X-PLORE 8000 STANDARD CHARGER EX Tested by: Jeffry
Test category: Class-A per Ed. 3.2 (European limits) Test Margin: 100
Test date: 2017-1-17 Start time: 04:41:53 PM End time: 04:44:44 PM
Test duration (min): 2.5 Data file name: H-000190.cts_data
Comment: TM1
Customer: GlobTek, Inc.

Test Result: Pass Source qualification: Normal
THC(A): 0.36 I-THD(%): 193.21 POHC(A): 0.039 POHC Limit(A): 0.256

Highest parameter values during test:

V_RMS (Volts): 229.83	Frequency(Hz): 50.00
I_Peak (Amps): 1.637	I_RMS (Amps): 0.404
I_Fund (Amps): 0.186	Crest Factor: 4.059
Power (Watts): 41.6	Power Factor: 0.451

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.001	1.080	0.0	0.002	1.620	0.10	Pass
3	0.176	2.300	7.6	0.177	3.450	5.13	Pass
4	0.001	0.430	0.0	0.001	0.645	0.21	Pass
5	0.165	1.140	14.5	0.165	1.710	9.68	Pass
6	0.001	0.300	0.0	0.001	0.450	0.26	Pass
7	0.150	0.770	19.5	0.150	1.155	13.03	Pass
8	0.001	0.230	0.0	0.001	0.345	0.36	Pass
9	0.132	0.400	32.9	0.132	0.600	22.01	Pass
10	0.001	0.184	0.0	0.001	0.276	0.48	Pass
11	0.111	0.330	33.6	0.111	0.495	22.51	Pass
12	0.001	0.153	0.0	0.001	0.230	0.56	Pass
13	0.089	0.210	42.5	0.090	0.315	28.51	Pass
14	0.001	0.131	0.0	0.001	0.197	0.61	Pass
15	0.068	0.150	45.2	0.068	0.225	30.44	Pass
16	0.001	0.115	0.0	0.001	0.173	0.62	Pass
17	0.048	0.132	36.4	0.049	0.199	24.46	Pass
18	0.001	0.102	0.0	0.001	0.153	0.64	Pass
19	0.031	0.118	26.2	0.032	0.178	17.74	Pass
20	0.001	0.092	0.0	0.001	0.138	0.61	Pass
21	0.018	0.107	16.8	0.018	0.161	11.45	Pass
22	0.000	0.084	0.0	0.001	0.125	0.57	Pass
23	0.011	0.098	11.7	0.012	0.147	7.94	Pass
24	0.000	0.077	0.0	0.001	0.115	0.55	Pass
25	0.012	0.090	13.6	0.012	0.135	9.21	Pass
26	0.000	0.071	0.0	0.001	0.106	0.57	Pass
27	0.015	0.083	17.6	0.015	0.125	11.87	Pass

28	0.000	0.066	0.0	0.001	0.099	0.60	Pass
29	0.016	0.078	20.0	0.016	0.116	13.44	Pass
30	0.000	0.061	0.0	0.001	0.092	0.59	Pass
31	0.015	0.073	20.0	0.015	0.109	13.44	Pass
32	0.000	0.058	0.0	0.001	0.086	0.59	Pass
33	0.012	0.068	17.7	0.012	0.102	12.03	Pass
34	0.000	0.054	0.0	0.000	0.081	0.50	Pass
35	0.009	0.064	13.8	0.009	0.096	9.43	Pass
36	0.000	0.051	0.0	0.000	0.077	0.40	Pass
37	0.005	0.061	9.0	0.006	0.091	6.23	Pass
38	0.000	0.048	0.0	0.000	0.073	0.42	Pass
39	0.003	0.058	0.0	0.003	0.087	3.59	Pass
40	0.000	0.046	0.0	0.000	0.069	0.43	Pass

EMC TEST

Voltage Source Verification Data (Run time)

EUT: X-PLORE 8000 STANDARD CHARGER EX Tested by: Jeffry
 Test category: Class-A per Ed. 3.2 (European limits) Test Margin: 100
 Test date: 2017-1-17 Start time: 04:41:53 PM End time: 04:44:44 PM
 Test duration (min): 2.5 Data file name: H-000190.cts_data
 Comment: TM1
 Customer: GlobTek ,Inc.

Test Result: Pass Source qualification: Normal

Highest parameter values during test:

Voltage (Vrms):	229.83	Frequency(Hz):	50.00
I_Peak (Amps):	1.637	I_RMS (Amps):	0.404
I_Fund (Amps):	0.186	Crest Factor:	4.059
Power (Watts):	41.6	Power Factor:	0.451

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.058	0.460	12.57	OK
3	0.563	2.068	27.22	OK
4	0.059	0.460	12.77	OK
5	0.054	0.919	5.90	OK
6	0.029	0.459	6.35	OK
7	0.062	0.689	9.00	OK
8	0.015	0.460	3.20	OK
9	0.073	0.460	15.96	OK
10	0.011	0.460	2.38	OK
11	0.072	0.230	31.25	OK
12	0.011	0.230	4.74	OK
13	0.065	0.230	28.20	OK
14	0.004	0.230	1.72	OK
15	0.051	0.230	22.19	OK
16	0.008	0.230	3.30	OK
17	0.041	0.230	17.77	OK
18	0.009	0.230	3.88	OK
19	0.037	0.230	16.01	OK
20	0.014	0.230	6.29	OK
21	0.024	0.230	10.36	OK
22	0.005	0.230	2.02	OK
23	0.016	0.230	6.88	OK
24	0.002	0.230	0.97	OK
25	0.016	0.230	6.87	OK
26	0.002	0.230	0.80	OK
27	0.024	0.230	10.31	OK

28	0.004	0.230	1.69	OK
29	0.019	0.230	8.12	OK
30	0.003	0.230	1.09	OK
31	0.021	0.230	9.16	OK
32	0.003	0.230	1.22	OK
33	0.018	0.230	7.95	OK
34	0.002	0.230	0.84	OK
35	0.015	0.230	6.46	OK
36	0.002	0.230	0.71	OK
37	0.010	0.230	4.19	OK
38	0.002	0.230	0.89	OK
39	0.008	0.230	3.53	OK
40	0.007	0.230	3.23	OK

EMC TEST

6. Voltage Fluctuation Flicker

6.1 Test Procedure

Test is conducting under the description of EN61000-3-3.

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

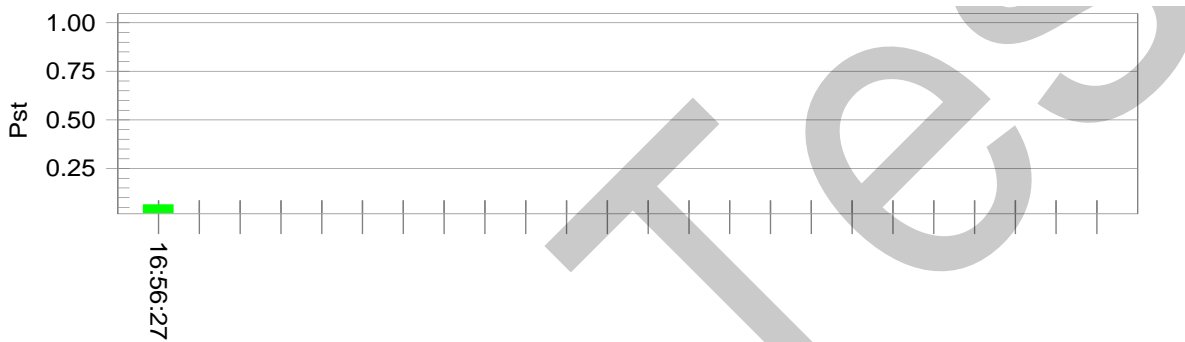
Flicker Test Summary per EN/IEC61000-3-3 (Run time)

EUT: X-PLORE 8000 STANDARD CHARGER EX		Tested by: Jeffry
Test category: All parameters (European limits)		Test Margin: 100
Test date: 2017-1-17	Start time: 04:46:07 PM	End time: 04:56:28 PM
Test duration (min): 10	Data file name: F-000191.cts_data	
Comment: TM1		
Customer: GloTek, Inc.		

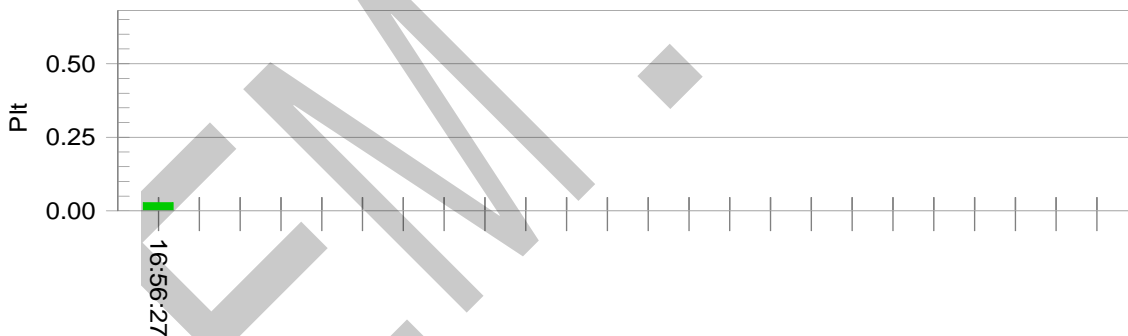
Test Result: Pass
Status: Test Completed

Pst_i and limit line

European Limits



Plt and limit line



Parameter values recorded during the test:

Vrms at the end of test (Volt):	229.68			
Highest dt (%):	0.00	Test limit (%):	3.30	Pass
Time(mS) > dt:	0.0	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 IEC61000-4-2.

Test Performance

Performance Criterion: B

Environmental Conditions

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

7.2 Electrostatic Discharge Immunity Test Data

Test Standard(s): EN55032, EN55024

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
Slots	A	A	A	A	A	A	A	A		
Surface	A	A	A	A	A	A	A	A		
LED	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)

EN 61000-4-2	Test Levels (kV)									
Test Points	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
Front Side	A	A	A	A						
Top Side	A	A	A	A						
Back Side	A	A	A	A						
Left Side	A	A	A	A						
Right Side	A	A	A	A						

Table 4: Electrostatic Discharge Immunity (Indirect Contact VCP)

EN 61000-4-2	Test Levels (kV)									
Test Points	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
Front Side	A	A	A	A						
Top Side	A	A	A	A						
Back Side	A	A	A	A						
Left Side	A	A	A	A						
Right Side	A	A	A	A						

Test Standard(s): EN60601

Table 1: Electrostatic Discharge Immunity (Air Discharge)

EN 61000-4-2	Test Levels (kV)									
Test Points	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
Slots	A	A	A	A	A	A	A	A	A	A
Surface	A	A	A	A	A	A	A	A	A	A
LED	A	A	A	A	A	A	A	A	A	A

Table 2: Electrostatic Discharge Immunity (Direct Contact)

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

Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
Front Side	A	A	A	A						
Top Side	A	A	A	A						
Back Side	A	A	A	A						
Left Side	A	A	A	A						
Right Side	A	A	A	A						

Table 4: Electrostatic Discharge Immunity (Indirect Contact VCP)

EN 61000-4-2 Test Points	Test Levels (kV)									
	-2	+2	-4	+4	-6	+6	-8	+8	-15	+15
Front Side	A	A	A	A						
Top Side	A	A	A	A						
Back Side	A	A	A	A						
Left Side	A	A	A	A						
Right Side	A	A	A	A						

Test Result: Pass

8. Continuous Radiated Disturbances (R/S)

8.1 Test Procedure

Test is conducting under the description of IEC61000-4-3.

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

Test Standard(s): EN55032, EN55024

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

Test Standard(s): EN60601

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 IEC61000-4-4.

Test Performance

Performance Criterion: B

Environmental Conditions

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

9.2 Electrical Fast Transients Test Data

Test Standard(s): EN55032, EN55024

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 Power Port of EUT	L1	A	A	A	A	/	/	/	/
	L2	A	A	A	A	/	/	/	/
	PE	/	/	/	/	/	/	/	/
	L1+L2	A	A	A	A	/	/	/	/
	L1 + PE	/	/	/	/	/	/	/	/
	L2 + PE	/	/	/	/	/	/	/	/
	L1+L2+PE	/	/	/	/	/	/	/	/
Signal ports	RJ45	/	/	/	/	/	/	/	/

Test Standard(s): EN60601

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 Power Port of EUT	L1	A	A	A	A	A	A	/	/
	L2	A	A	A	A	A	A	/	/
	PE	/	/	/	/	/	/	/	/
	L1+L2	A	A	A	A	A	A	/	/
	L1 + PE	/	/	/	/	/	/	/	/
	L2 + PE	/	/	/	/	/	/	/	/
	L1+L2+PE	/	/	/	/	/	/	/	/
Signal ports	RJ45	/	/	/	/	/	/	/	/

Test Result: Pass

10. Surges

10.1 Test Procedure

Test is conducting under the description of IEC 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

Test Standard(s): EN55032, EN55024, EN60601

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

Test Result: Pass

11. Continuous Conducted Disturbances (C/S)

11.1 Test Procedure

Test is conducting under the description of IEC 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

Sweep frequency range: 150kHz~80MHz

Frequency step: 1% of fundamental

Dwell time: 1 second

Test Standard(s): EN55032, EN55024, EN60601

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. Voltage Dips and Interruptions

12.1 Test Procedure

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

Test Performance

Performance Criterion: B/C

Environmental Conditions

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

12.2 Voltage Dips And Interruptions Test Data

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

T: Test duration

Test Standard(s): EN55032, EN55024

Level	U	T	Phase Angle	N	Pass	Fail
1	100%	10ms	0/90/180/270	3	A	/
2	30%	500ms	0/90/180/270	3	B	/
3	100%	5000ms	0/90/180/270	3	B	/

Test Standard(s): EN60601

Level	U	T	Phase Angle	N	Pass	Fail
1	100%	10ms	0/90/180/270	3	A	/
2	100%	20ms	0/90/180/270	3	B	/
3	30%	500ms	0/90/180/270	3	B	/
4	100%	5000ms	0/90/180/270	3	B	/

Test Result: Pass

EXHIBIT 1 - PRODUCT LABELING

Proposed CE Label Format

X-PLORE 8000 STANDARD CHARGER EX	
Model: GT-93036SHG3050	
Brand: GlobTek	
Importer Name: XXX	CE  
Importer Address: XXX	
1. GlobTek, Inc.	
2. GlobTek (Suzhou)Co., Ltd	
1.186 Veterans Dr. Northvale, NJ 07647 USA	
2. Building 4, No. 76, Jin Ling East Rd., Suzhou	
Industrial Park, Suzhou, JiangSu 215021, China	

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

CE Label Location

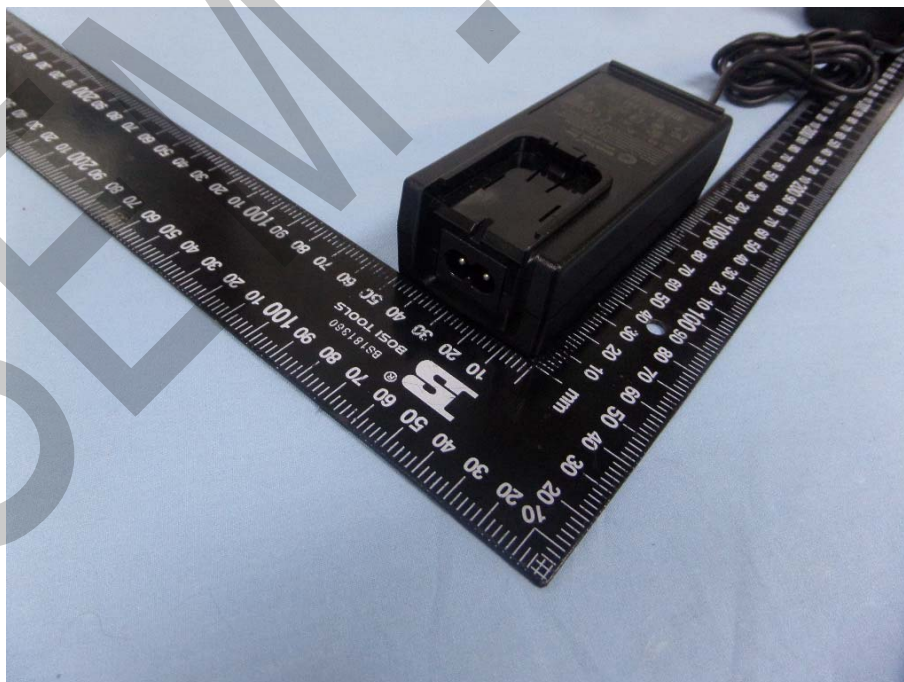


EXHIBIT 2 - EUT PHOTOGRAPHS

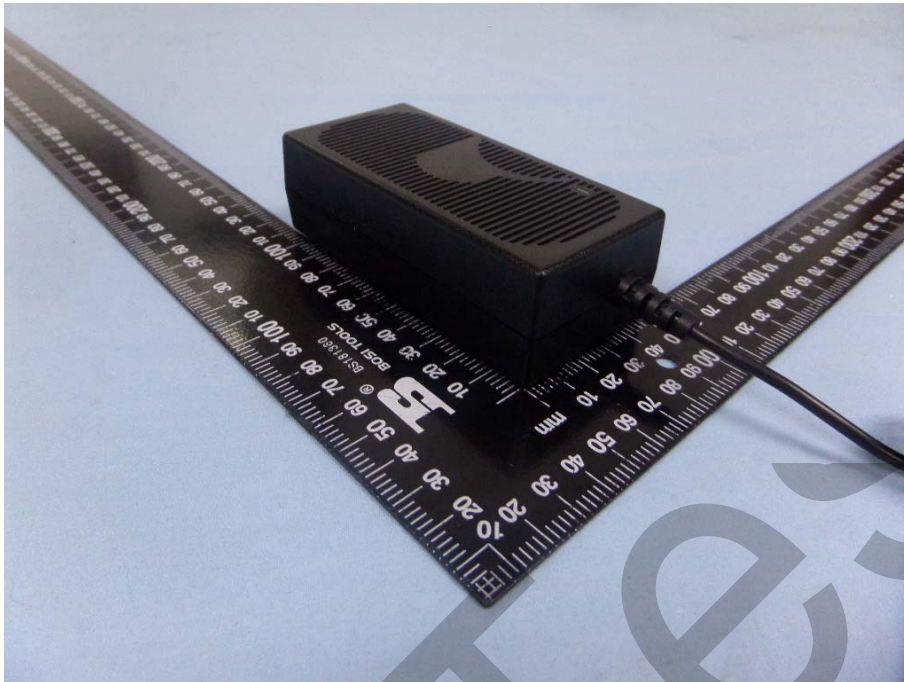
EUT View 1



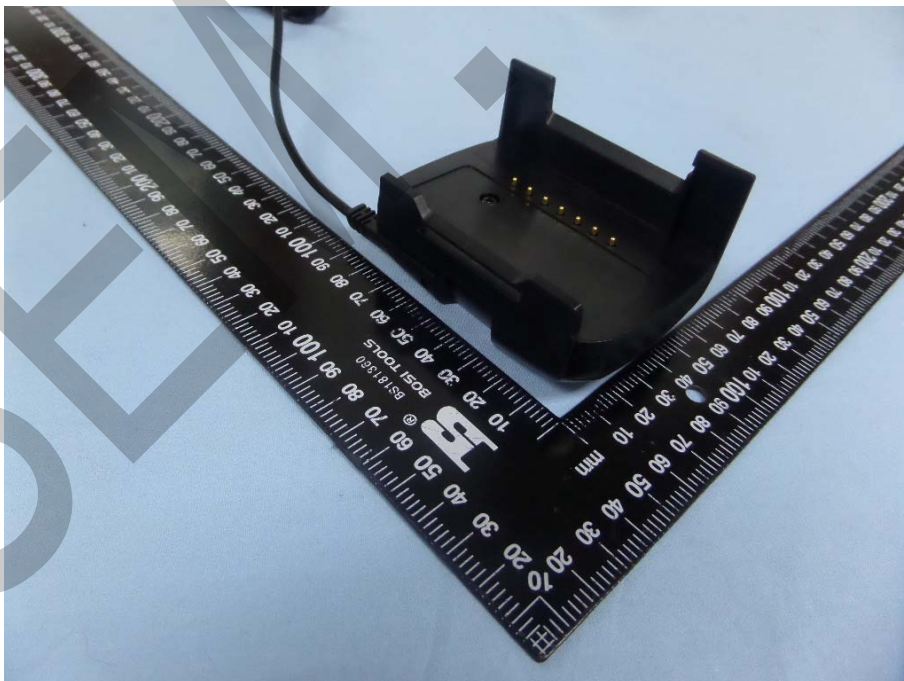
EUT View 2



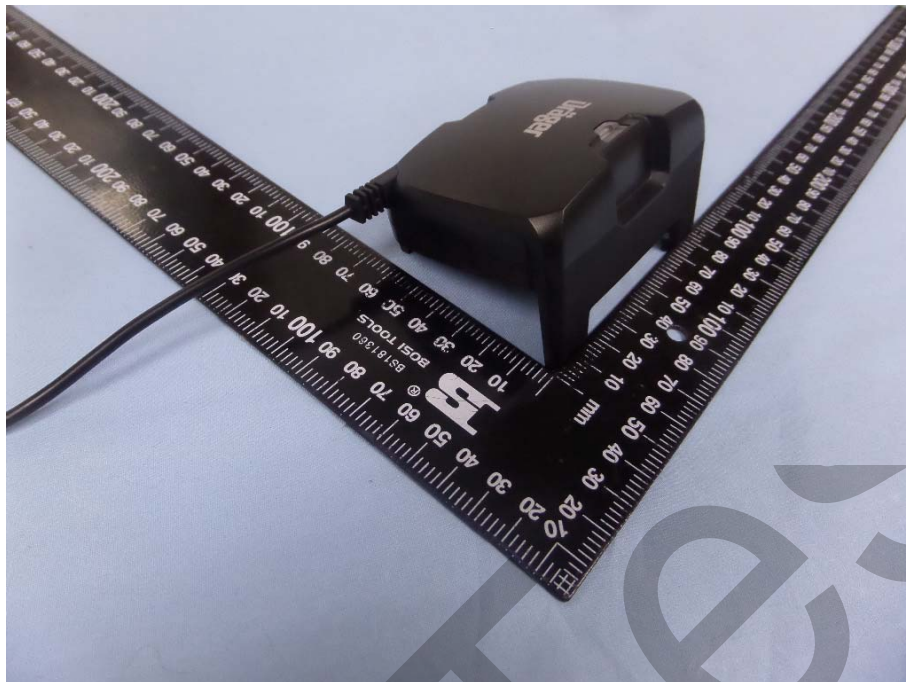
EUT View 3



EUT View 4



EUT View 5



EUT Housing and Board View 1

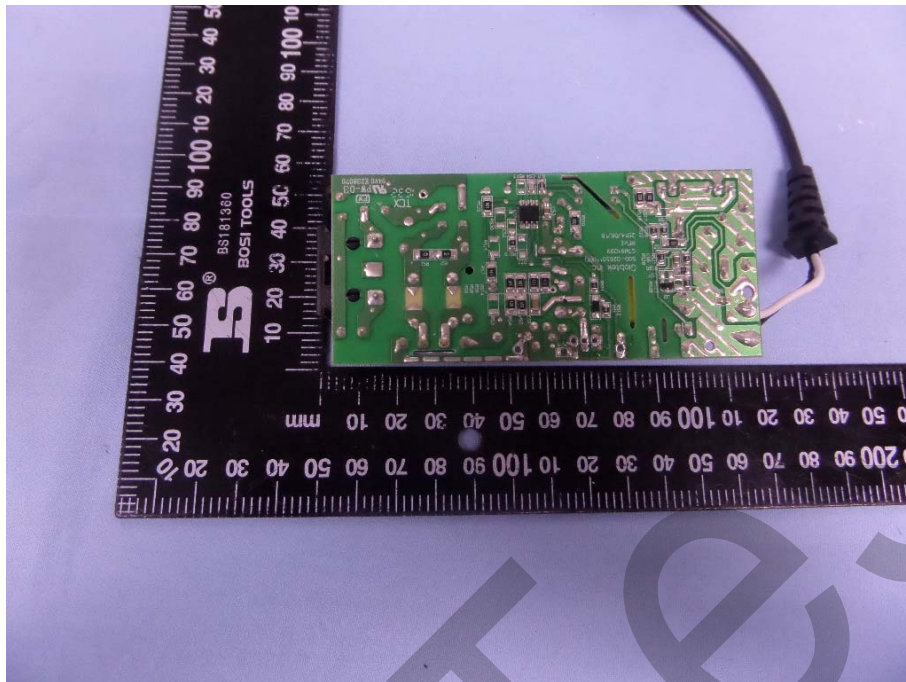


EUT Housing and Board View 2

Solder Board-Component View 1

EMC TEST

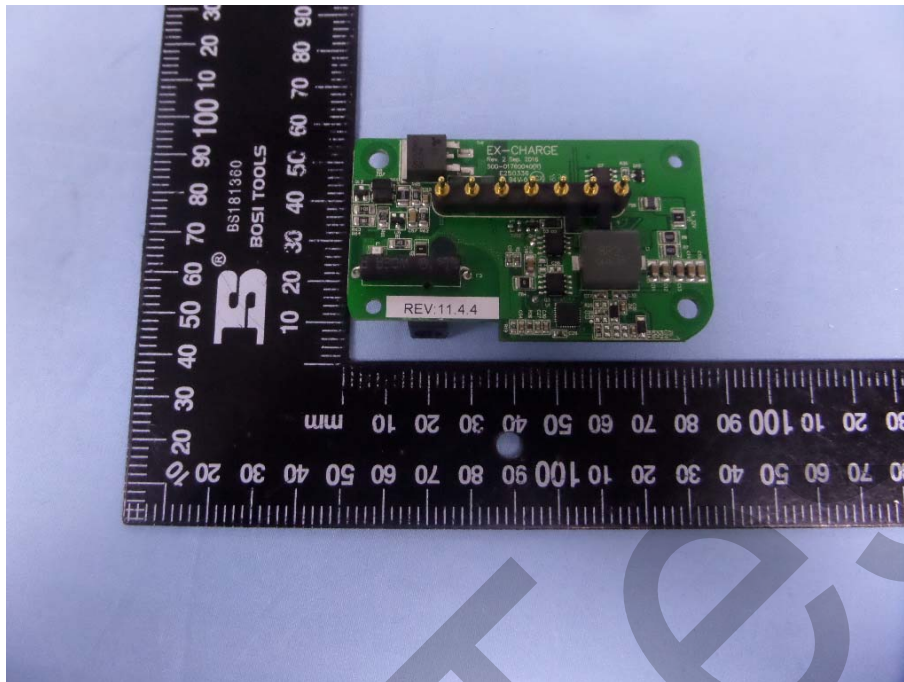
Solder Board-Component View 2



EUT Housing and Board View 1



Solder Board-Component View 1



Solder Board-Component View 2

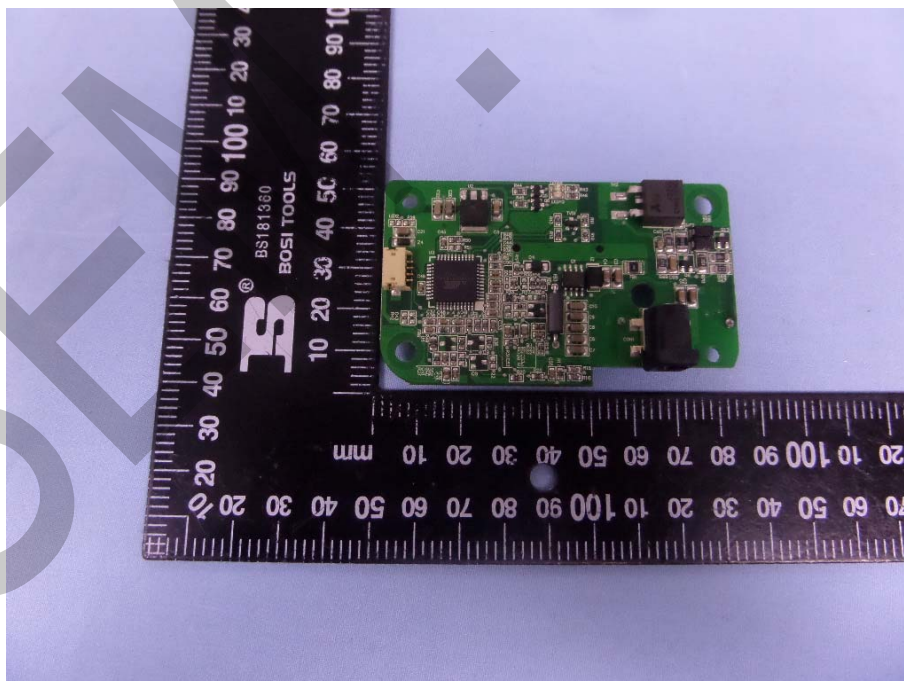
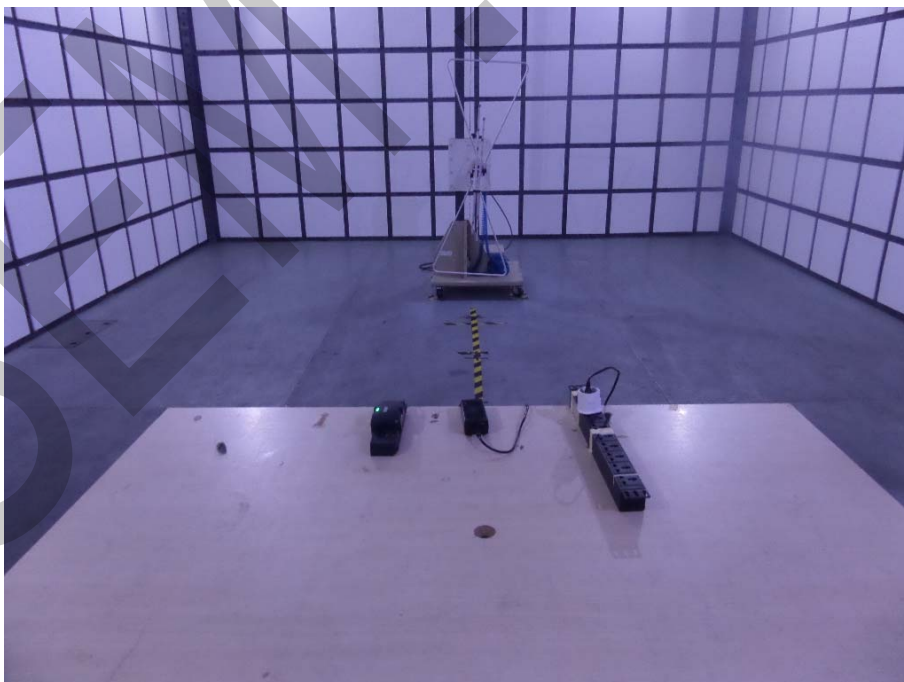


EXHIBIT 3 - TEST SETUP PHOTOGRAPHS

Conduction Emission Test View



Radiation Emission Test View

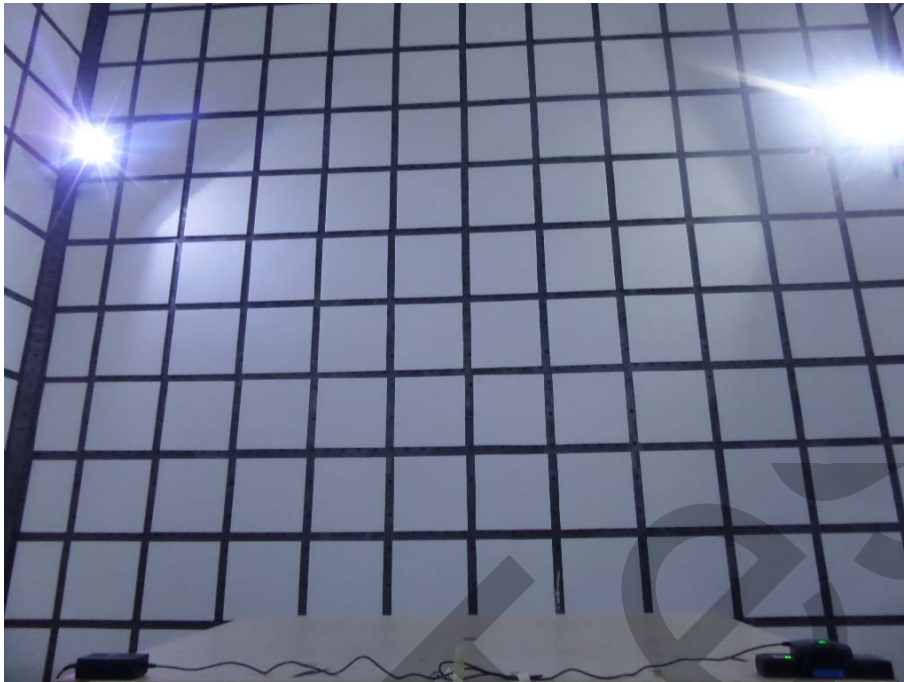


Harmonic/Flicker Test View



IEC61000-4-2 Test View



IEC61000-4-3 Test View**IEC61000-4-4/5/11 Test View**

IEC61000-4-6 Test View

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