

FCC Part 15B Measurement and Test Report

For

GlobTek, Inc.

186 Veterans Dr. Northvale, NJ 07647 USA

FCC Rule(s):	<u>FCC Part 15 Subpart B</u>	
Product Description:	<u>X-plore 8000 Standard Charger System</u>	
Tested Model:	<u>GT-93036SHG2799(P/N:R59580)</u>	
Report No.:	<u>STR14078171E-3</u>	
Tested Date:	<u>2014-07-21 to 2014-07-31</u>	
Issued Date:	<u>2014-07-31</u>	
Tested By:	<u>Mark Chen / Engineer</u>	<i>Mark chen</i>
Reviewed By:	<u>Lahm Peng / EMC Manager</u>	<i>Lahm peng</i>
Approved & Authorized By:	<u>Jandy so / PSQ Manager</u>	<i>Jandyso</i>
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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 applicant: 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 System
Trade Name:	GlobTek
Model No.:	GT-93036SHG2799(P/N:R59580)
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 12.6V
Rated Current:	Input: 1.5A Output: Max 4A
Rated Power:	50W
Power Adaptor Model:	GTM91099-6024-8.0-T2
Charge Model:	GT-93036SHC5012
Lowest Internal Frequency:	/
Highest Internal Frequency:	Below 108MHz
Classification of ITE:	Class B

1.2 Test Standards

The following report is prepared on behalf of the GlobTek, Inc. in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart B, and section 15.205, 15.107, and 15.109 rules.

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

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

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 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	Charging	/

EUT Cable List and Details

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

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
AC ADAPTER	GlobTek	GTM91099-WWVV- X.X-AB Series	/
Battery	/	/	/

Special Cable List and Details

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

2. SUMMARY OF TEST RESULTS

Description of Test	Result
§15.107 (a) Conducted Emission	Compliant
§15.109(a) Radiated Emission	Compliant

N/A: not applicable

SEM. Test

3. CONDUCTED EMISSIONS

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.

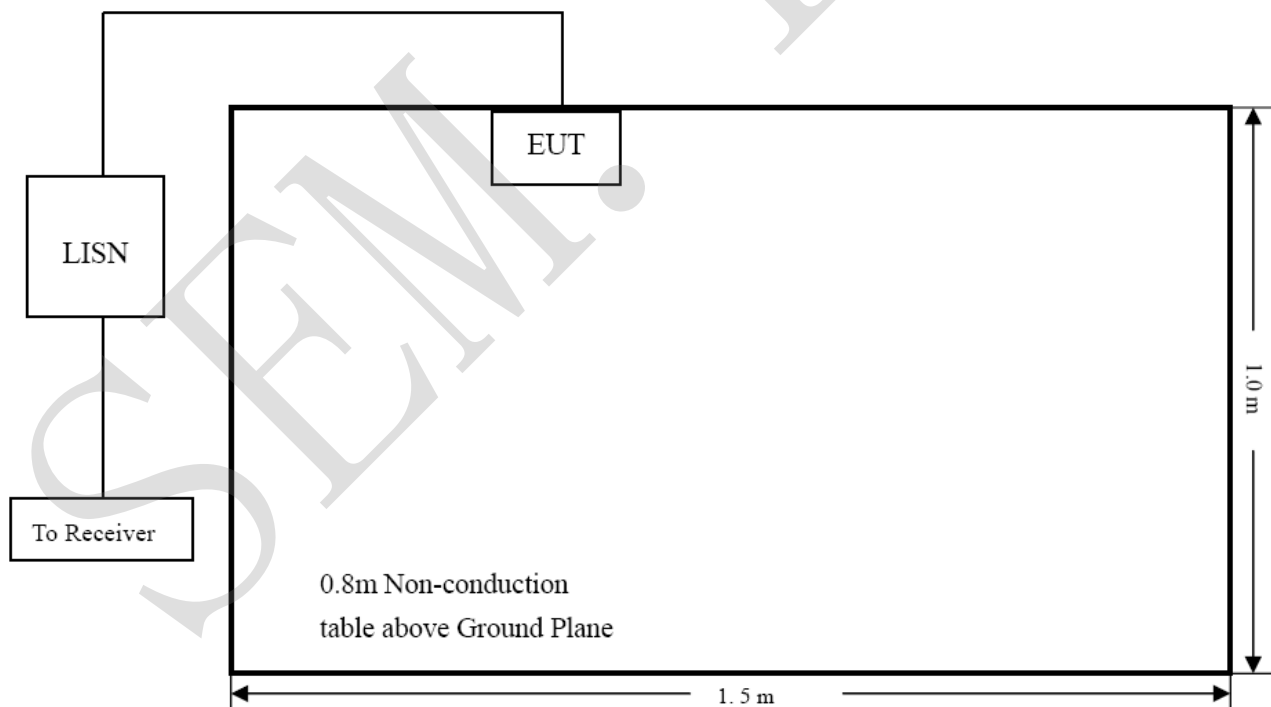
3.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2014-05-28	2015-05-27
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2014-05-28	2015-05-27
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2014-05-28	2015-05-27

3.3 Test Procedure

Test is conducting under the description of ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

3.4 Basic Test Setup Block Diagram



3.5 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	52%
ATM Pressure:	1011 mbar

3.6 Summary of Test Results/Plots

According to the data in section 3.7, the EUT complied with the FCC Part 15.107(a) Conducted margin for a Class B device, with the *worst* margin reading of:

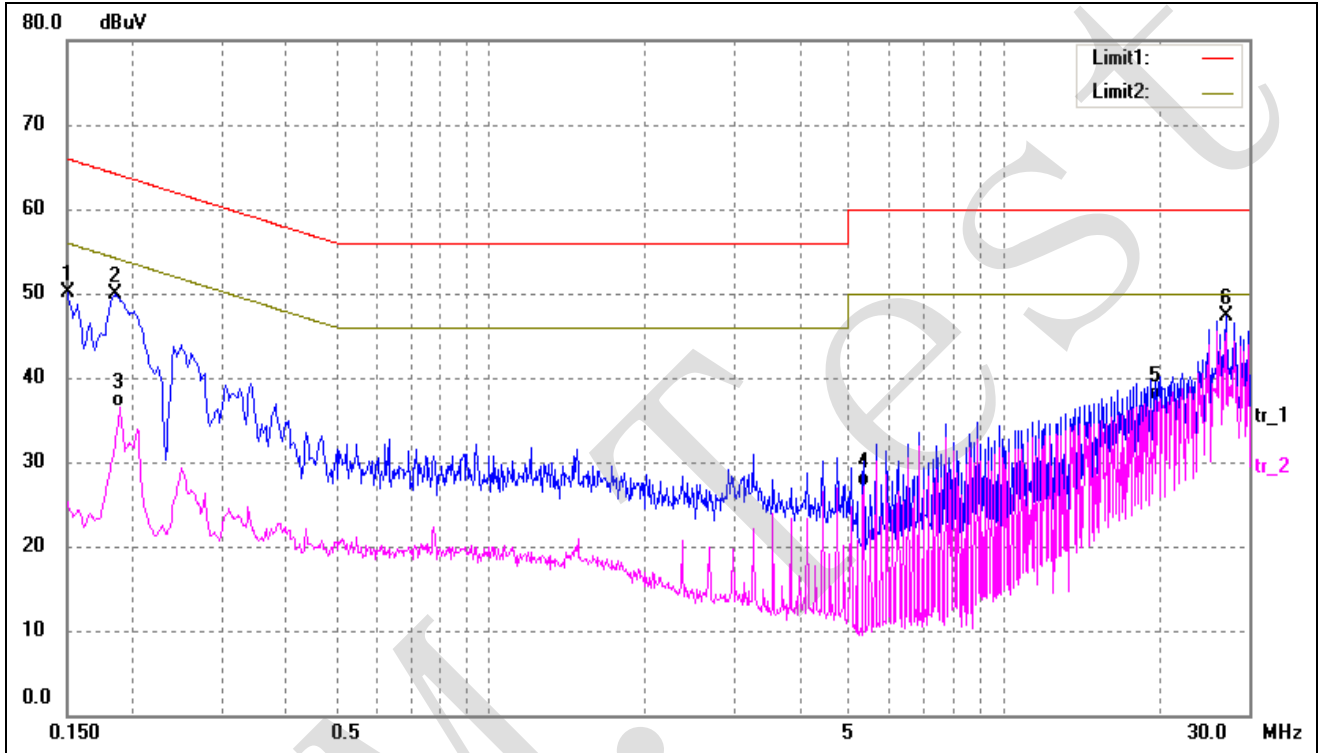
-3.85 dB at 26.9580 MHz in the **Neutral, Average** detector, 0.15-30MHz

3.7 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

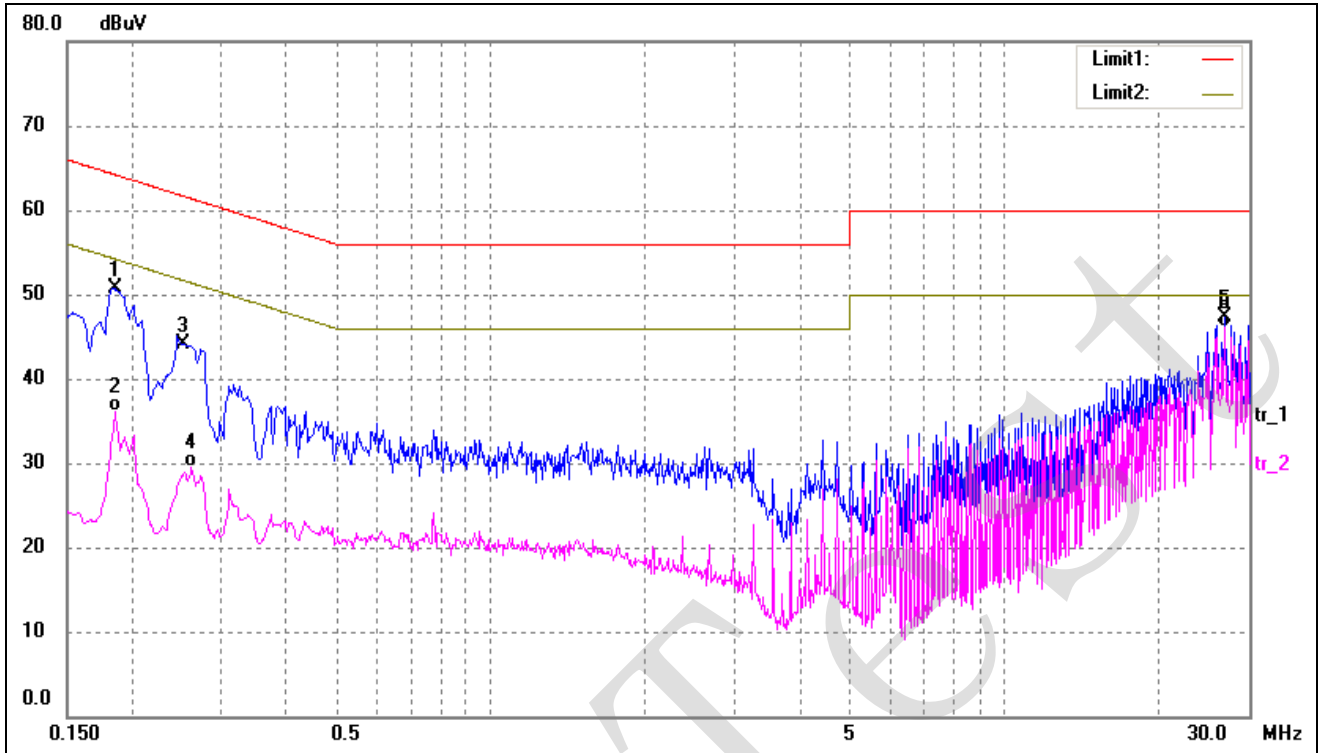
EUT: X-plore 8000 Standard Charger System
 Tested Model: GT-93036SHG2799(P/N:R59580)
 Operating Condition: TM1
 Comment: AC 120V/60Hz

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1500	40.67	9.50	50.17	66.00	-15.83	peak
2	0.1860	40.45	9.50	49.95	64.21	-14.26	peak
3	0.1900	27.06	9.50	36.56	54.04	-17.48	AVG
4	5.3340	17.20	10.00	27.20	50.00	-22.80	AVG
5*	19.6980	25.29	11.94	37.23	50.00	-12.77	AVG
6	27.2500	34.21	13.00	47.21	60.00	-12.79	peak

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1860	41.19	9.50	50.69	64.21	-13.52	peak
2	0.1860	26.63	9.50	36.13	54.21	-18.08	AVG
3	0.2521	34.52	9.50	44.02	61.69	-17.67	peak
4	0.2620	19.94	9.50	29.44	51.37	-21.93	AVG
5	26.9580	34.37	13.00	47.37	60.00	-12.63	peak
6*	26.9580	33.15	13.00	46.15	50.00	-3.85	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 is ± 5.10 dB.

4.2 Test Equipment List and Details

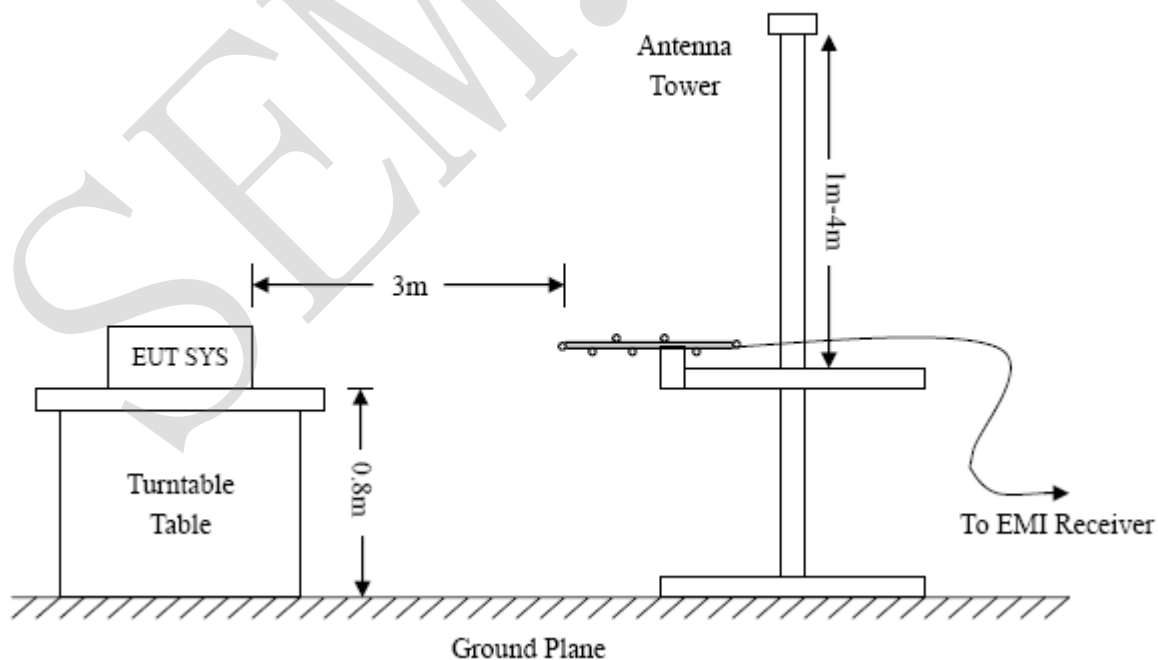
Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Spectrum Analyzer	R&S	FSP	836079/035	2014-05-28	2015-05-27
EMI Test Receiver	R&S	ESVB	825471/005	2014-05-28	2015-05-27
Pre-amplifier	Agilent	8447F	3113A06717	2014-05-28	2015-05-27
Pre-amplifier	Compliance Direction	PAP-0118	24002	2014-05-28	2015-05-27
Trilog Broadband Antenna	SCHWARZBECK	VULB9163	9163-333	2014-05-24	2015-05-23
Horn Antenna	ETS	3117	00086197	2014-05-24	2015-05-23
Loop Antenna	SCHWARZECK	HFRA 5165	9365	2014-05-24	2015-05-23

4.3 Test Procedure

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.109 Limit.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.



4.4 Test Receiver Setup

Frequency :9kHz-30MHz	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW =30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

4.5 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:

$$\text{Corr. Ampl.} = \text{Indicated Reading} - \text{Corr. Factor}$$

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

$$\text{Margin} = \text{Corr. Ampl.} - \text{FCC Part 15.109(a) Limit}$$

4.6 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

4.7 Summary of Test Results/Plots

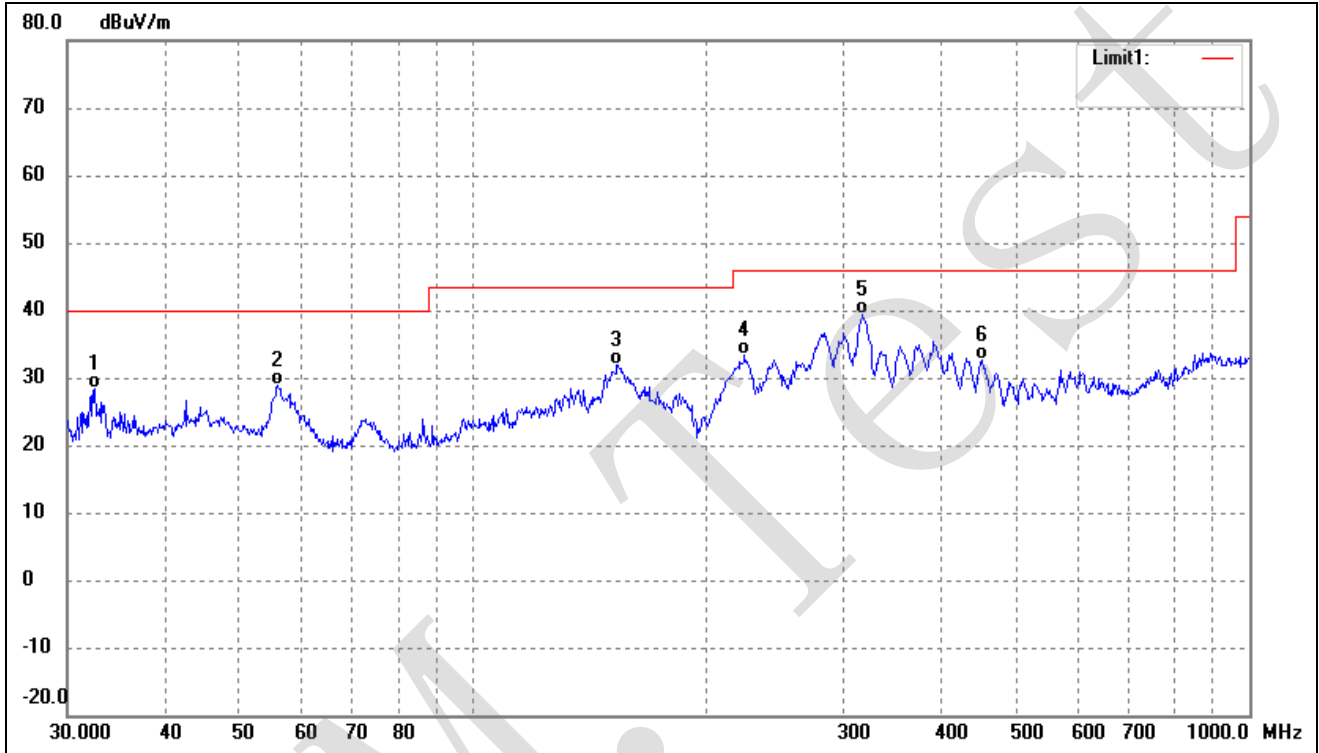
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-1.91 dB at 53.3179 MHz in the Vertical polarization, 30 MHz to 1 GHz, 3Meters

Plot of Radiated Emissions Test Data

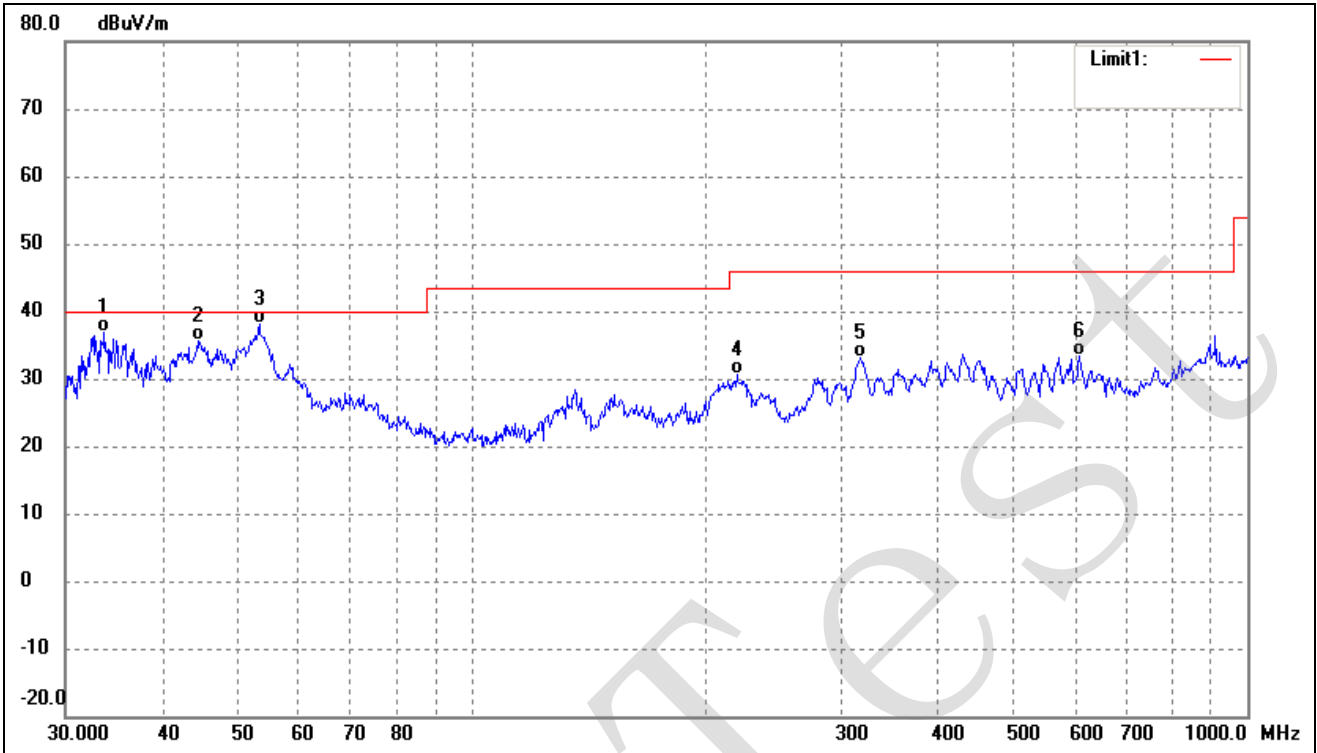
EUT: X-plore 8000 Standard Charger System
 Tested Model: GT-93036SHG2799(P/N:R59580)
 Operating Condition: TM1
 Comment: AC 120V/60Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Detector
1	32.5198	23.03	5.27	28.30	40.00	-11.70	112	100	QP
2	56.0007	23.21	5.73	28.94	40.00	-11.06	147	100	QP
3	153.2004	29.32	2.54	31.86	43.50	-11.64	168	100	QP
4	223.7334	27.94	5.33	33.27	46.00	-12.73	179	100	QP
5*	317.7011	29.99	9.29	39.28	46.00	-6.72	183	100	QP
6	452.7197	22.27	10.38	32.65	46.00	-13.35	201	100	QP

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Detector
1	33.6803	28.79	8.19	36.98	40.00	-3.02	114	100	QP
2	44.4308	27.79	7.93	35.72	40.00	-4.28	128	100	QP
3*	53.3179	32.12	5.97	38.09	40.00	-1.91	133	100	QP
4	219.8449	25.51	5.09	30.60	46.00	-15.40	149	100	QP
5	317.7011	23.80	9.29	33.09	46.00	-12.91	156	100	QP
6	607.7867	20.66	12.77	33.43	46.00	-12.57	188	100	QP

EXHIBIT 1 - PRODUCT LABELING

Proposed FCC Label Format

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received,
including interference that may cause undesired operation.

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. Where the EUT is constructed in two or more sections connected by wires and marketed together, the above statement is required to be affixed only to the main control unit. When the EUT is so small or for such use that it is not practicable to place the statement on it, the above information shall be placed in a prominent location in the instruction manual or pamphlet supplied to the user or, alternatively, shall be placed on the container in which the device is marketed.

Proposed Label Location on EUT

FCC Label Location



EXHIBIT 2 - EUT PHOTOGRAPHS

EUT View 1



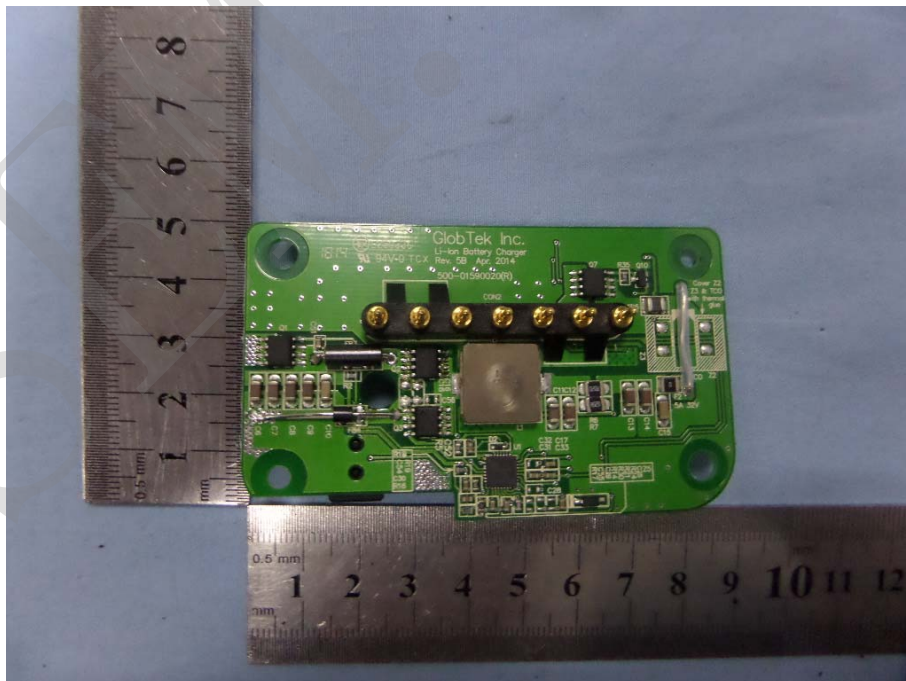
EUT View 2



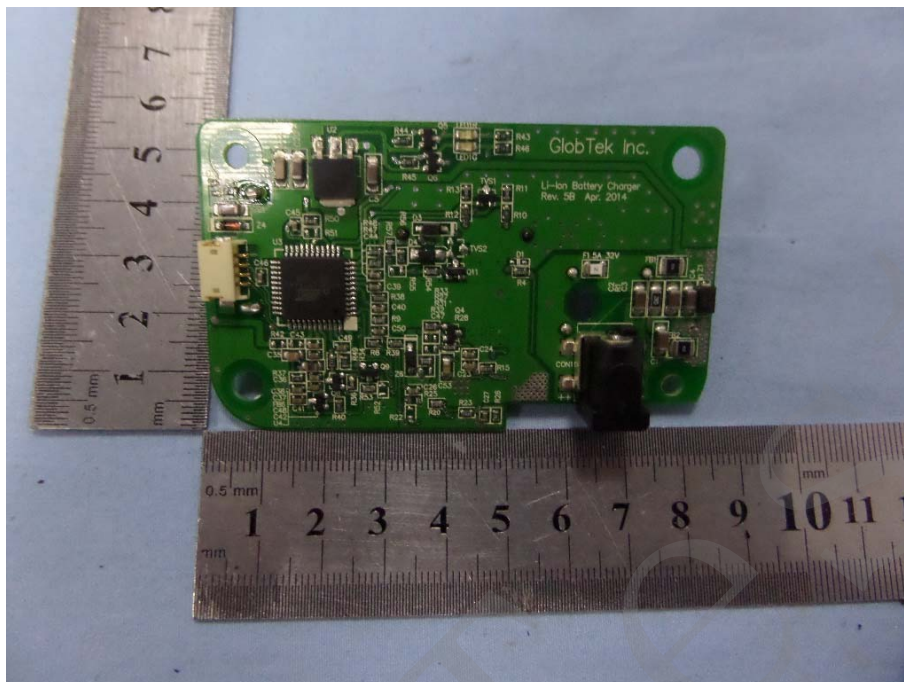
EUT Housing and Board View 1



Solder Board-Component View 1



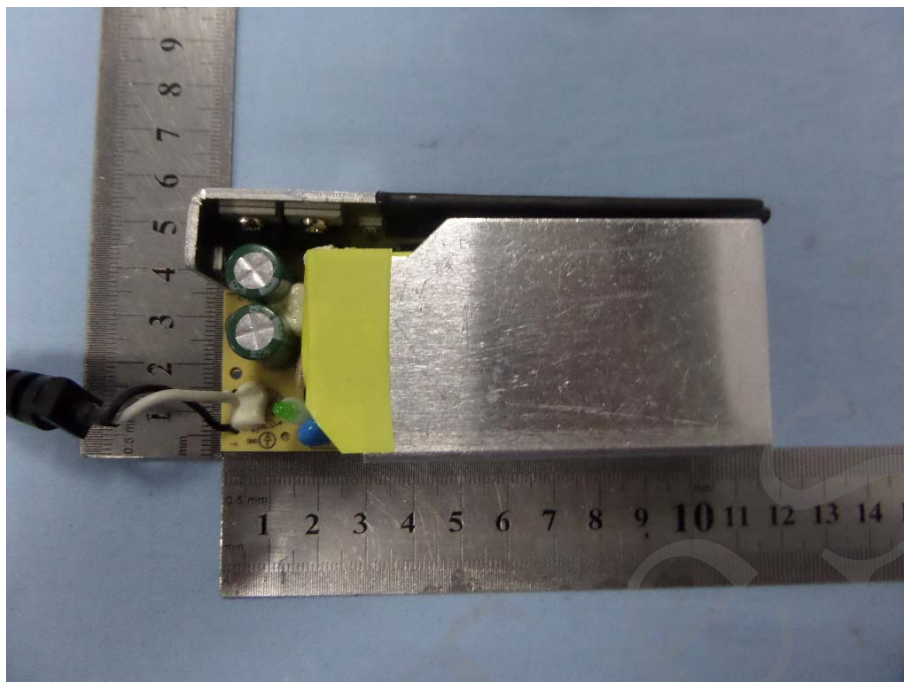
Solder Board-Component View 2



EUT Housing and Board View 2



Solder Board-Component View 3



Solder Board-Component View 4

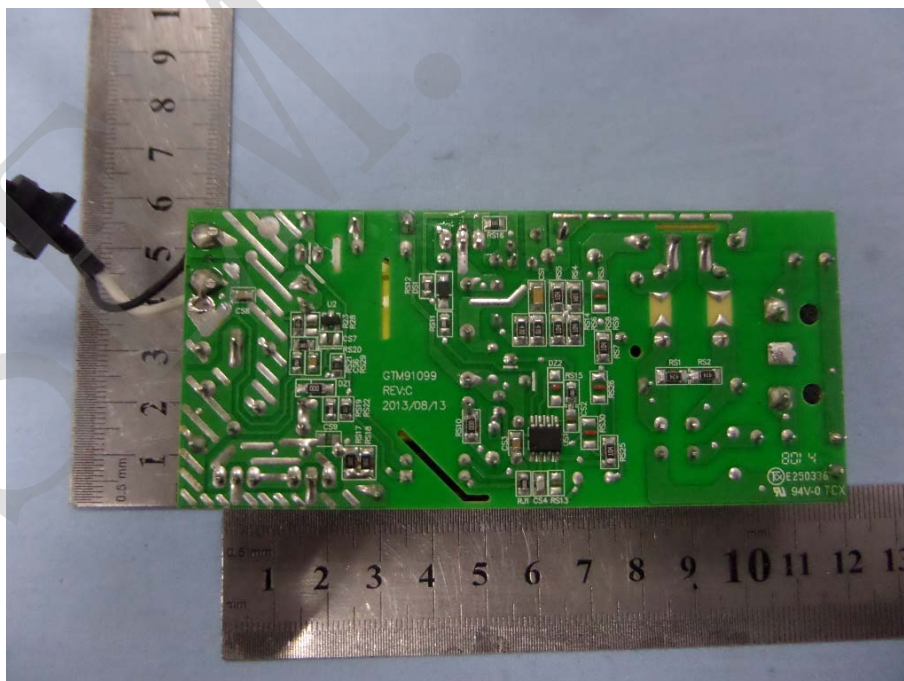


EXHIBIT 3 - TEST SETUP PHOTOGRAPHS

Conduction Emission View



Radiation Emission View



EXHIBIT 4 - USERS MANUAL

Information to Users

According to the FCC Part 15.19, 15.21 rules, for this EUT, the instructions or operation manual furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

FCC Caution

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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