ICES-003
Measurement and Test Report

For

GlobTek, Inc.

186 Veterans Dr. Northvale, NJ 07647 USA

Test Standards:	ICES-003 Issue 5 (2012-08)
Product Description:	ITE Power Supply/Class 2 Power Supply
Tested Model:	GT-41134-0606-W2-TAB
Report No.:	STR14088337C
Tested Date:	2014-08-27 to 2014-09-04
Issued Date:	2014-09-04
Tested By:	Jong Wang / Engineer
Reviewed By:	Lahm Peng / EMC Manager
Approved & Authorized By:	Jandy so / PSQ Manager
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

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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 Power Supply/Class 2 Power Supply
Trade Name:	GlobTek
Model No.:	GT-41134-0606-W2-TAB
Adding Model(s):	/
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Rated Voltage:	AC 120V/60Hz
Rated Current:	0.3A
Rated Power:	6W
Power Adaptor Model:	/
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 ICES-003 Issue 5 August 2012, Information Technology Equipment (ITE) – Limits and methods of measurement.

The objective is to determine compliance with ICES-003 I Issue 5 August 2012.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, 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 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/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	FULL LOAD	/

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
/	/	/	/

Special Cable List and Details

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

2. SUMMARY OF TEST RESULTS

Standards	Description of Test Item	Result
ICES-003	Conducted Disturbance	Compliant
	Radiated Disturbance	Compliant

N/A: not applicable

3. Conducted Disturbance

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.

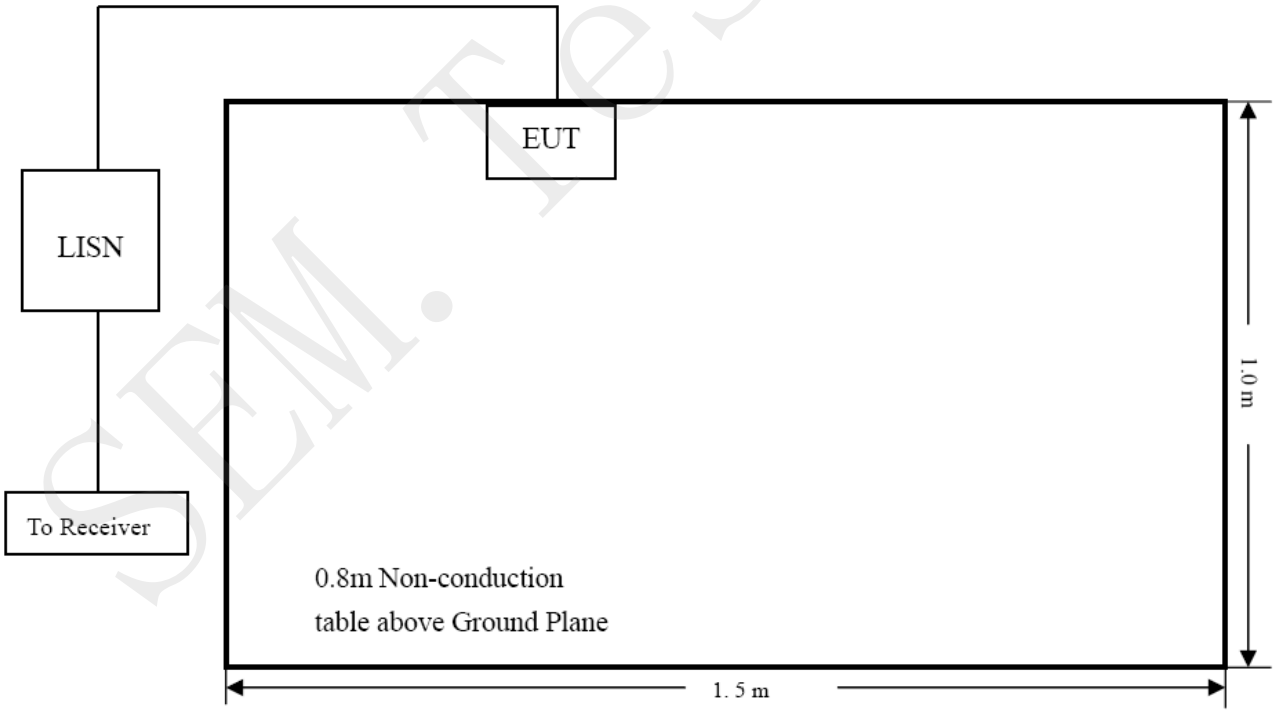
3.2 Test Equipment List and Details

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

3.6 Summary of Test Results/Plots

According to the data in section 3.7, the EUT complied with the ICES-003 Conducted margin for a Class B device, with the *worst* margin reading of:

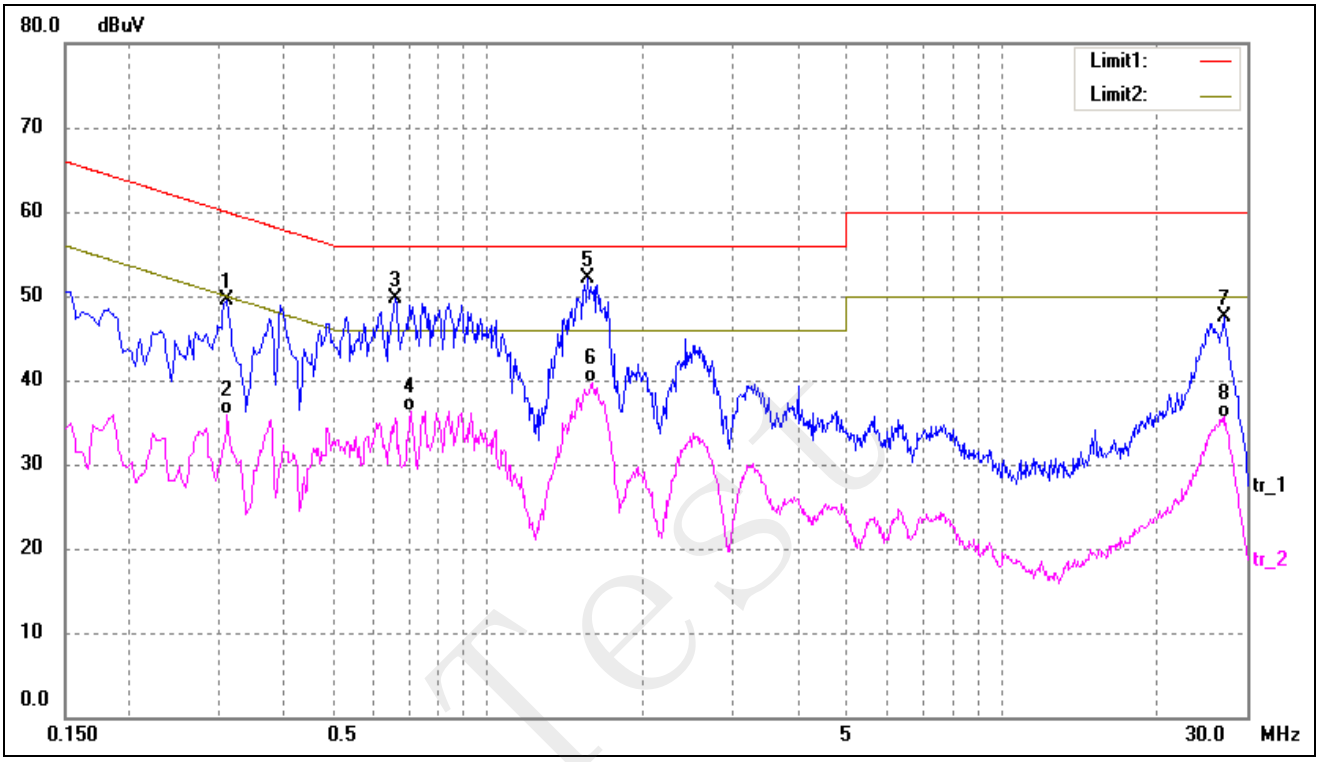
-3.94 dB at **1.5620 MHz** in the **Line**, **Peak** detector, 0.15-30MHz

3.7 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

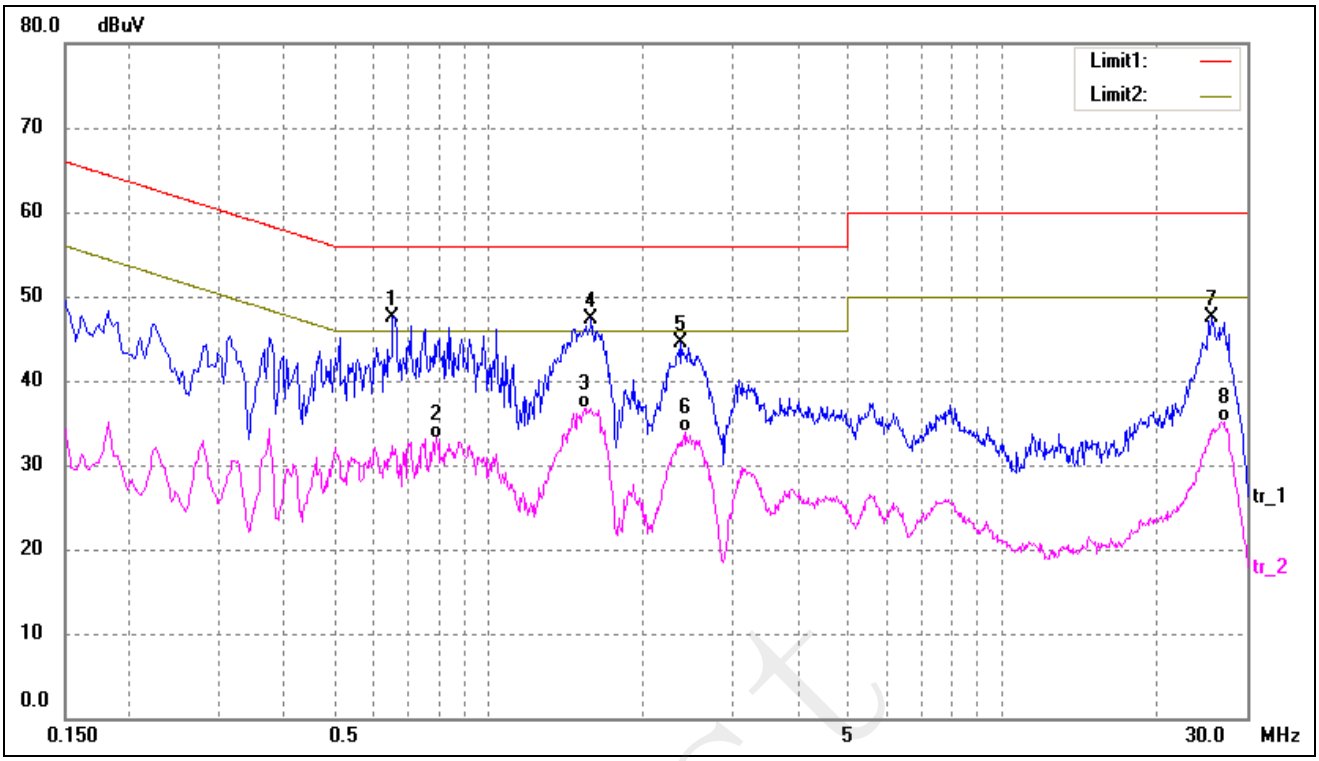
EUT: *ITE Power Supply/Class 2 Power Supply*
Tested Model: *GT-41134-0606-W2-TAB*
Operating Condition: *TM1*
Comment: *AC 120V/60Hz*

Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.3100	39.97	9.50	49.47	59.97	-10.50	peak
2	0.3100	26.43	9.50	35.93	49.97	-14.04	AVG
3	0.6580	40.10	9.66	49.76	56.00	-6.24	peak
4	0.7060	26.64	9.71	36.35	46.00	-9.65	AVG
5*	1.5620	42.06	10.00	52.06	56.00	-3.94	peak
6	1.5940	29.71	10.00	39.71	46.00	-6.29	AVG
7	27.1060	34.41	13.00	47.41	60.00	-12.59	peak
8	27.1540	22.60	13.00	35.60	50.00	-14.40	AVG

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.6540	37.89	9.65	47.54	56.00	-8.46	peak
2	0.7940	23.41	9.79	33.20	46.00	-12.80	AVG
3	1.5380	26.77	10.00	36.77	46.00	-9.23	AVG
4	1.5900	37.23	10.00	47.23	56.00	-8.77	peak
5	2.3700	34.48	10.00	44.48	56.00	-11.52	peak
6	2.4340	23.97	10.00	33.97	46.00	-12.03	AVG
7	25.7020	34.57	13.00	47.57	60.00	-12.43	peak
8	27.0340	22.05	13.00	35.05	50.00	-14.95	AVG

4. Radiated Disturbance

4.1 Measurement Uncertainty

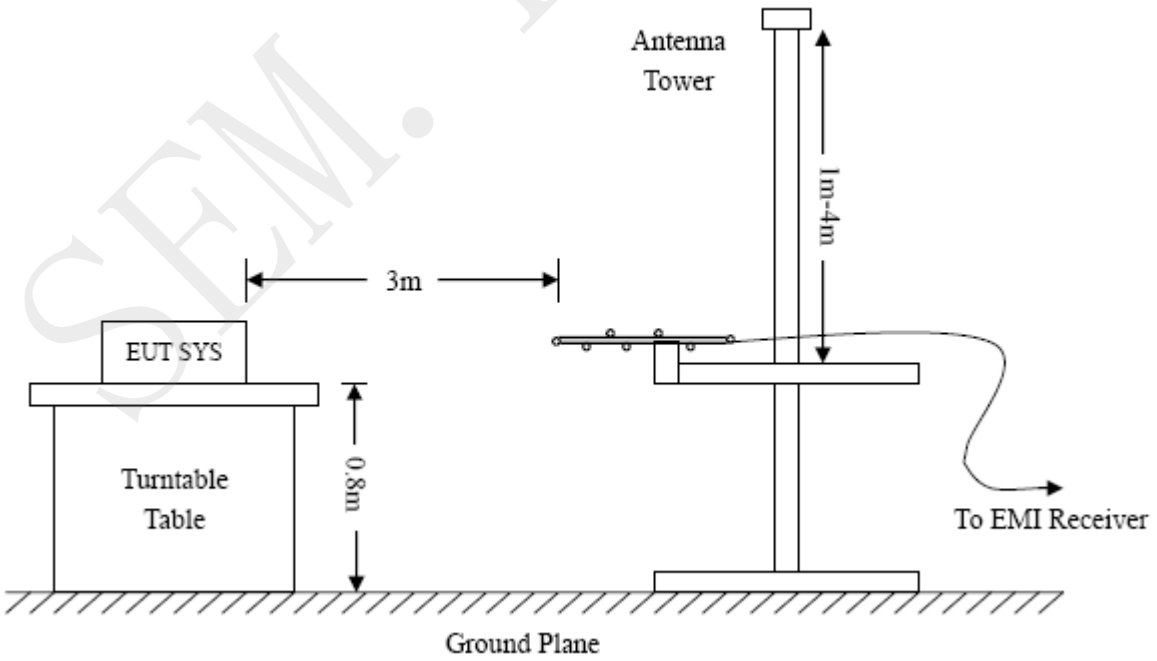
Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

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 ICES-003 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

During the radiated emission test for above 1GHz, the test receiver was set with the following configurations:

For peak detector:
RBW = 1000kHz, VBW = 3000kHz, Sweep Time = Auto

For average detector:
RBW = 1000kHz, VBW = 10Hz, Sweep Time = Auto

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:

Corr. Ampl. = Indicated Reading – Corr. Factor

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

Margin = Corr. Ampl. – ICES-003 Limit

4.6 Environmental Conditions

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

4.7 Summary of Test Results/Plots

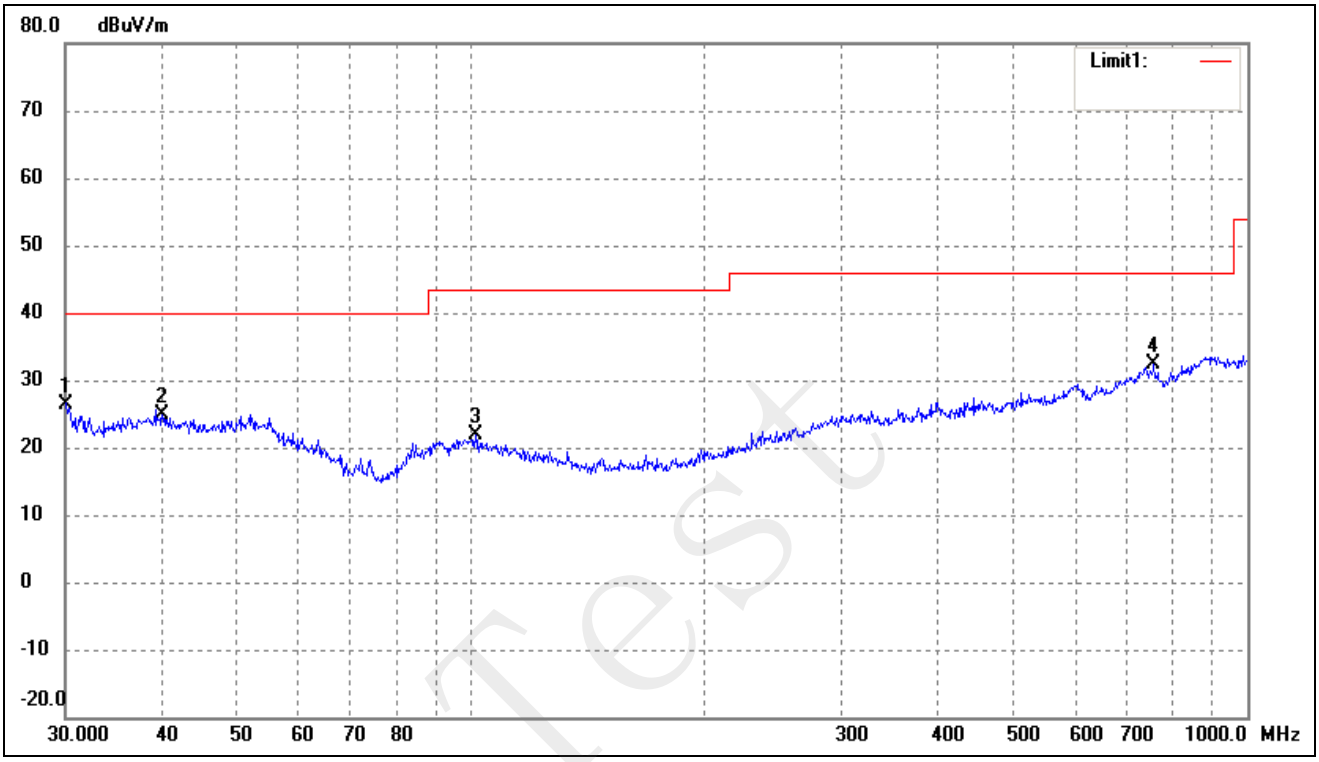
According to the data in section 4.6, the EUT complied with the ICES-003 Class B standards, and had the worst margin is:

-5.46 dB at **49.8814 MHz** in the **Vertical** polarization, **30 MHz** to **1 GHz**, **3Meters**

Plot of Radiated Emissions Test Data

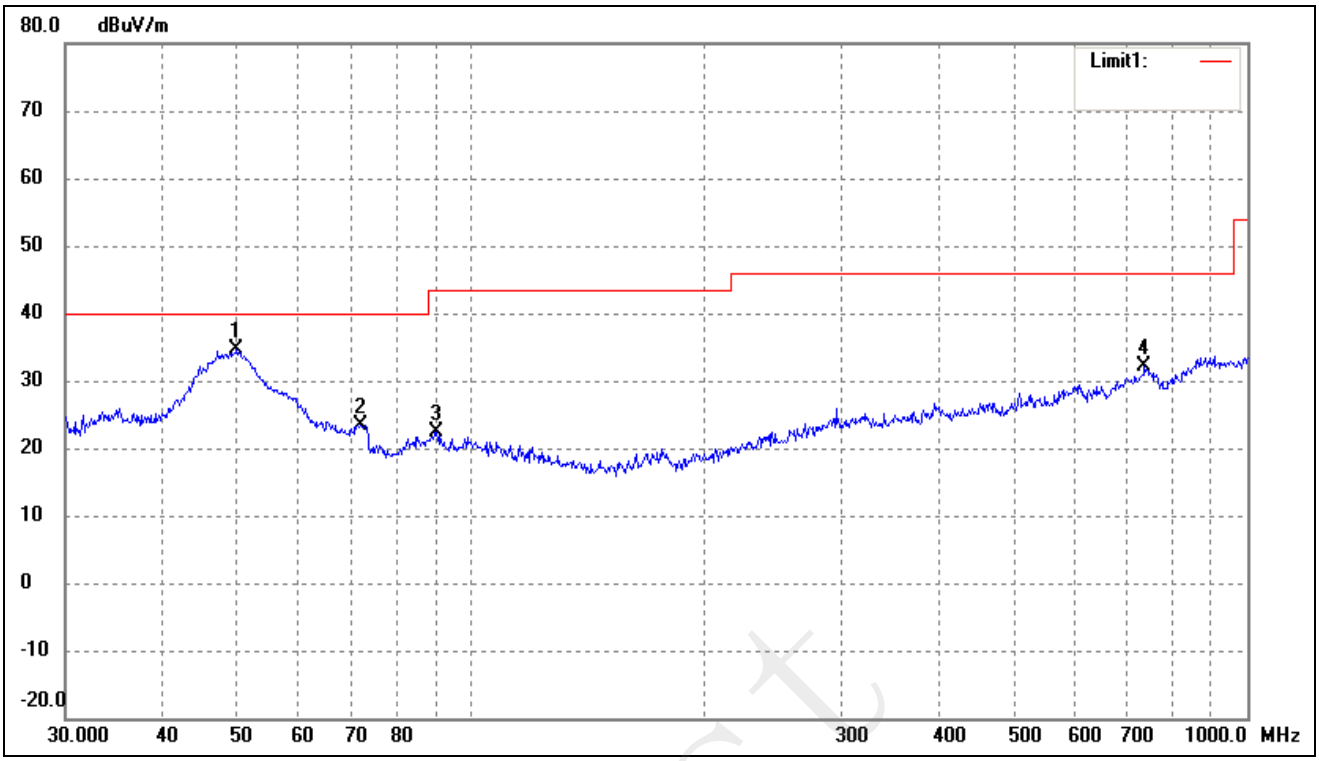
EUT: *ITE Power Supply/Class 2 Power Supply*
Tested Model: *GT-41134-0606-W2-TAB*
Operating Condition: *TM1*
Comment: *AC 120V/60Hz*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1*	30.1054	21.83	4.67	26.50	40.00	-13.50	46	100	peak
2	39.9942	17.59	7.25	24.84	40.00	-15.16	105	100	peak
3	101.2885	15.78	5.99	21.77	43.50	-21.73	168	100	peak
4	758.0408	17.94	14.54	32.48	46.00	-13.52	210	100	peak

Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1*	49.8814	28.24	6.30	34.54	40.00	-5.46	76	100	peak
2	72.0843	21.49	1.94	23.43	40.00	-16.57	138	100	peak
3	90.2205	18.76	3.68	22.44	43.50	-21.06	169	100	peak
4	737.0714	16.75	15.37	32.12	46.00	-13.88	200	100	peak

EXHIBIT 1 - PRODUCT LABELING

Proposed IC Label Format

CAN ICES-3 (B) / NMB-3 (B)

Specifications: Text is Black in color and is justified. The label shall be permanently affixed to the ITE or displayed electronically and its text must be clearly legible. When the dimension of the device is too small or it is otherwise not practical to place the label on the ITE, the label shall be placed in a prominent location in the user manual supplied with the ITE. The user manual may be in an electronic format and must be readily available.

Proposed Label Location on EUT

IC Label Location

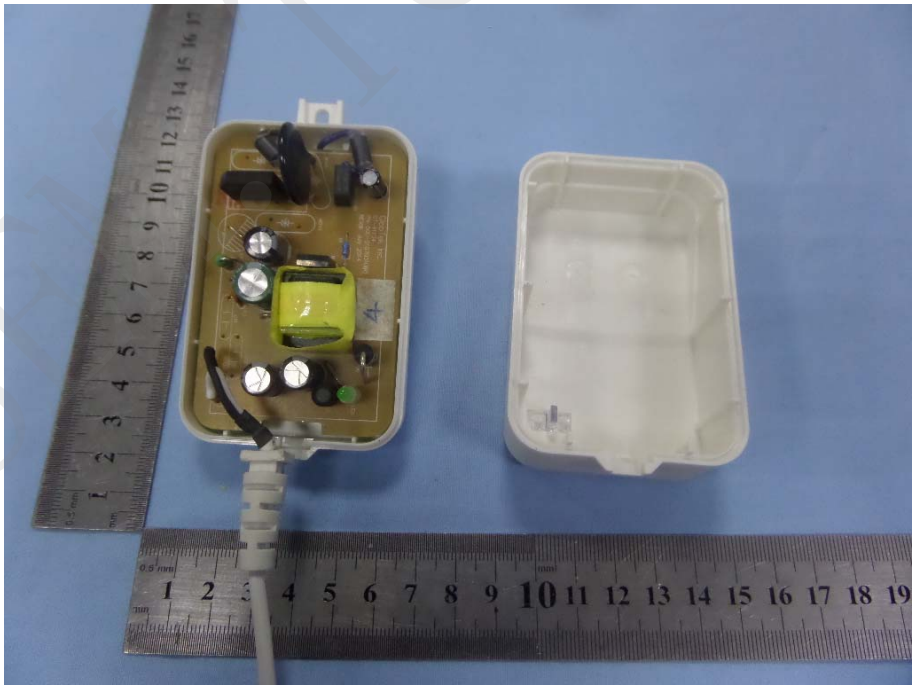
EXHIBIT 2 - EUT PHOTOGRAPHS

EUT View 1

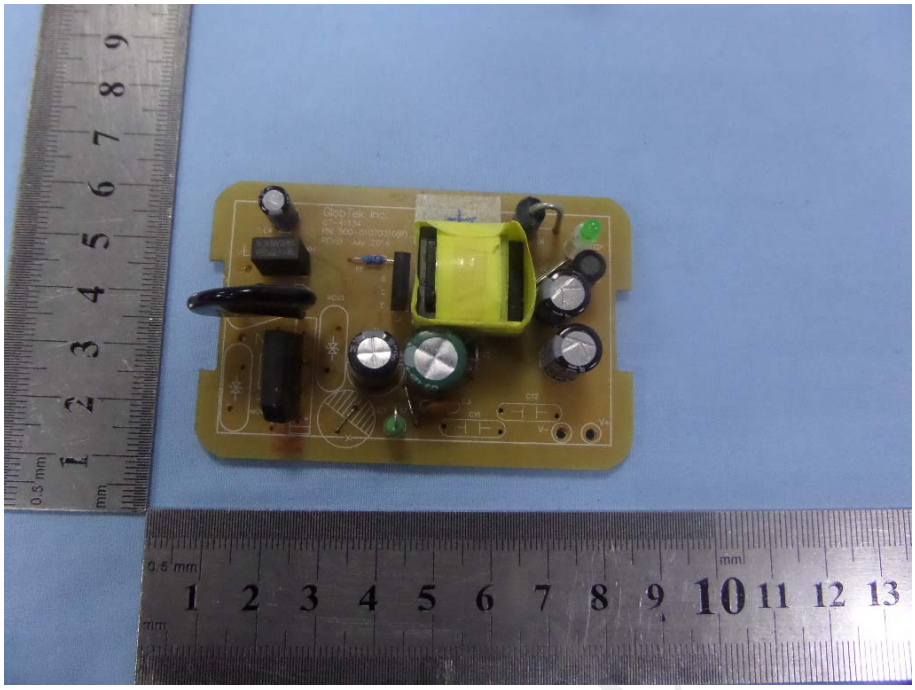
EUT View 2

EUT View 3

EUT Housing and Board View 1



Solder Board-Component View 1



Solder Board-Component View 2

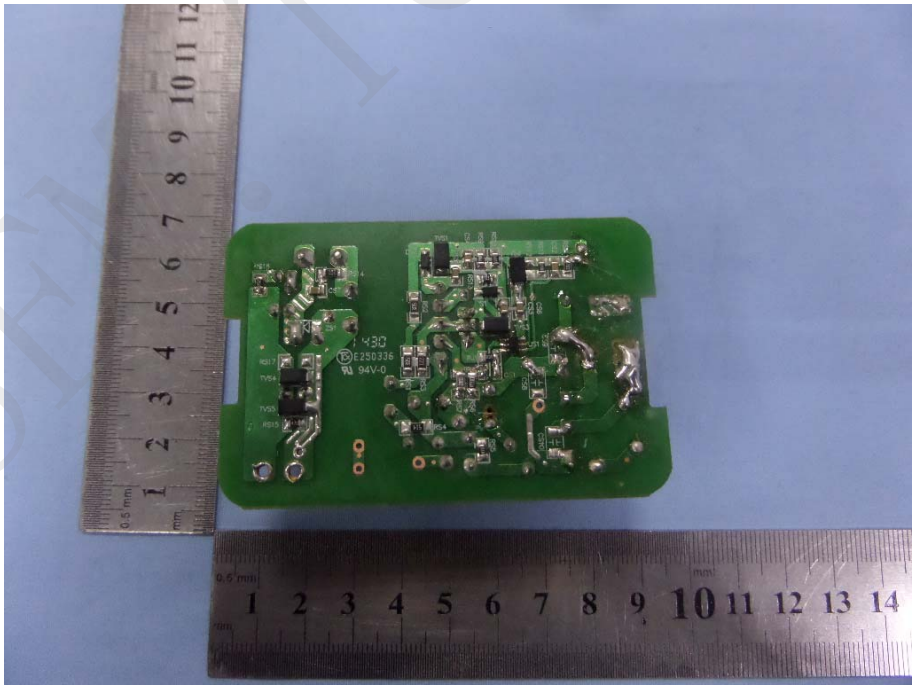
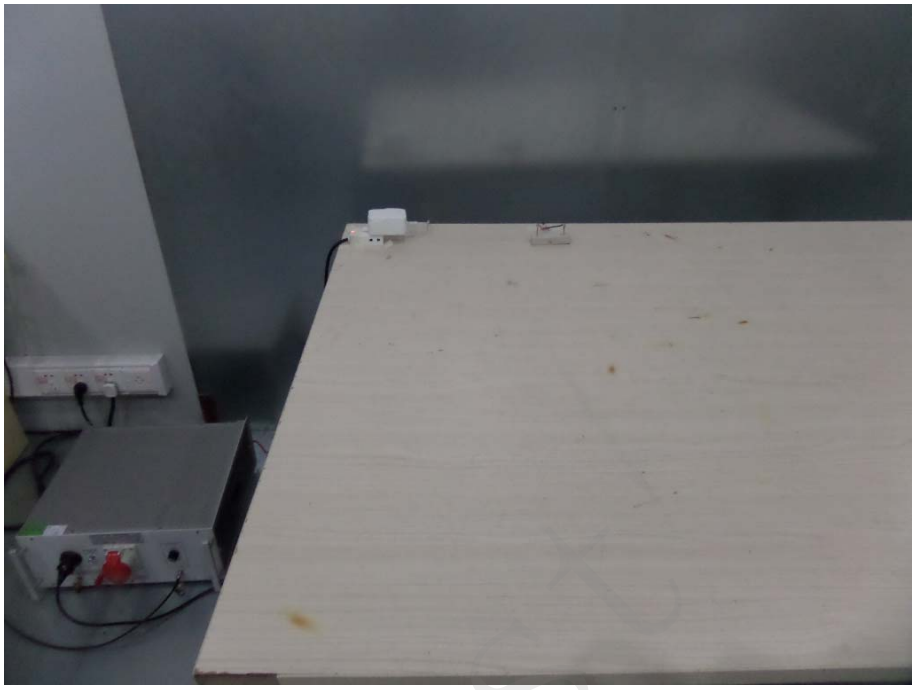
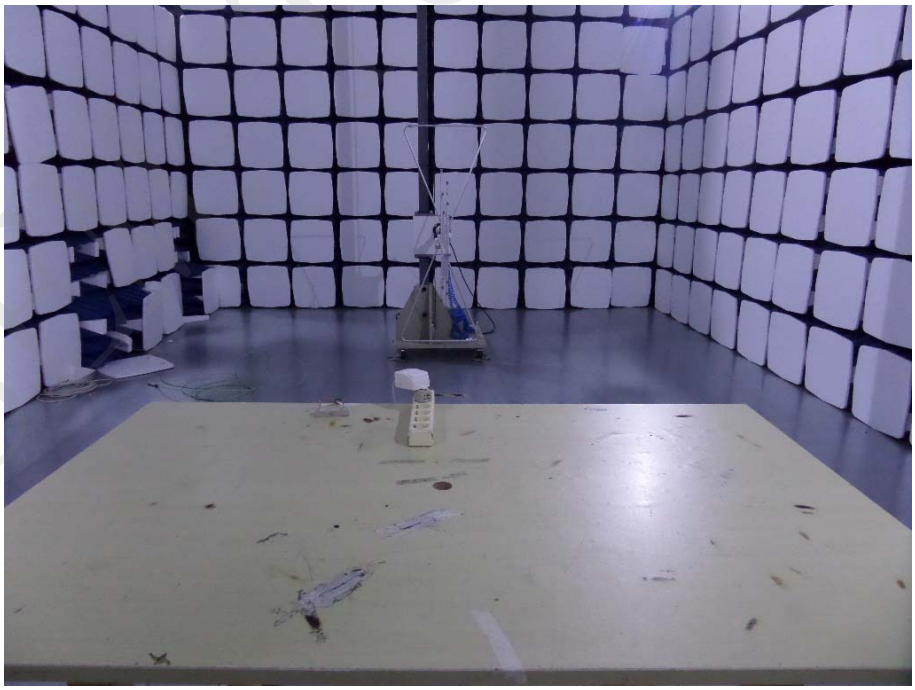


EXHIBIT 3 - TEST SETUP PHOTOGRAPHS

Conduction Emission Test View



Radiation Emission Test View



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