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
Product Description:	ITE Power Supply
Tested Model:	GT-46600-WWVV-X.X-TB
Report No.:	STR15098144E
Tested Date:	2015-09-14 to 2015-09-22
Issued Date:	2015-09-22
Tested By:	Jong Wang / Engineer
Reviewed By:	Jack kang / EMC Manager
Approved & Authorized By:	Jandy so / PSQ Manager
Prepared By:	

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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
Trade Name:	GlobTek, Inc.
Model No.:	GT-46600-WWVV-X.X-TB
Adding Model(s):	/
Note: The test data is gathered from a production sample, provided by the manufacturer. *GT-46600-WWVV-X.X-TB* *WW is the standard output wattage, with a maximum value of "65",* *VV is the standard rated output voltage designation, with a value of "12" "15"and "24";* *-X.X denote the output voltage differentiator, subtracting X.X volts from standard output voltage VV in 0.1V increments, the actual output voltage rang is 12-24V, blank is to indicate the no voltage different.* *B can be 2 or 3 or 3A, 2 means C8 inlet type, 3 means C14 inlet type, 3A means C6 inlet type*	

Technical Characteristics of EUT	
Rated Voltage:	Model1: Input: AC 100-240V, 50-60Hz Output: DC 12V, 5A Model2: Input: AC 100-240V, 50-60Hz Output: DC 24V, 2.7A
Rated Current:	1.5A
Rated Power:	Max 65W
Power Adaptor Model:	/
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	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
/	/	/	/

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

Description	Manufacturer	Model	Serial Number	Due. Date
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2016-06-16
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2016-06-16
Amplifier	Agilent	8447F	3113A06717	2016-06-16
Amplifier	C&D	PAP-1G18	2002	2016-06-16
Broadband Antenna	Schwarz beck	VULB9163	9163-333	2016-06-16
Horn Antenna	ETS	3117	00086197	2016-06-16
Loop Antenna	Schwarz beck	FMZB 1516	9773	2016-06-16
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2016-06-16
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2016-06-16
AC LISN	Schwarz beck	NSLK8126	8126-224	2016-06-16
DC LISN	Schwarz beck	NNBM8126D	279	2016-06-16
8-WIRE LISN	Schwarz beck	8158	CAT3-8158-0059	2016-06-16
8-WIRE LISN	Schwarz beck	8158	CAT5-8158-0117	2016-06-16
Clamp	Schwarz beck	MDS21	3809	2016-06-16
Loop Antenna	EVERFINE	LLA-2	711001	2016-06-16
VDH Test Head	AFJ	VDH 30	SC022Z	2016-06-16
Digital Power Analyzer	California Instrument	PACS-1	72831	2016-06-16
Power Source	California Instrument	5001iX	25965	2016-06-16
ESD Generator	TESQ AG	NSG 437	161	2016-06-16
Signal Generator	Rohde & Schwarz	SMT03	100059	2016-06-16
Voltage Probe	Rohde & Schwarz	URV5-Z2	100013	2016-06-16
Power Amplifier	AR	150W1000	300999	2016-06-16
Power Amplifier	AR	25S1G4AM1	305993	2016-06-16
Transient 2000	EMC PARTNER	TRA2000	863	2016-06-16
CW Simulator	EM Test	CWS 500C	0900-03	2016-06-16
EMCPRO	KEYTEK	EMCPro	0509124	2016-06-16
Coil	KEYTEK	F-1000-4-8	0533	2016-06-16

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

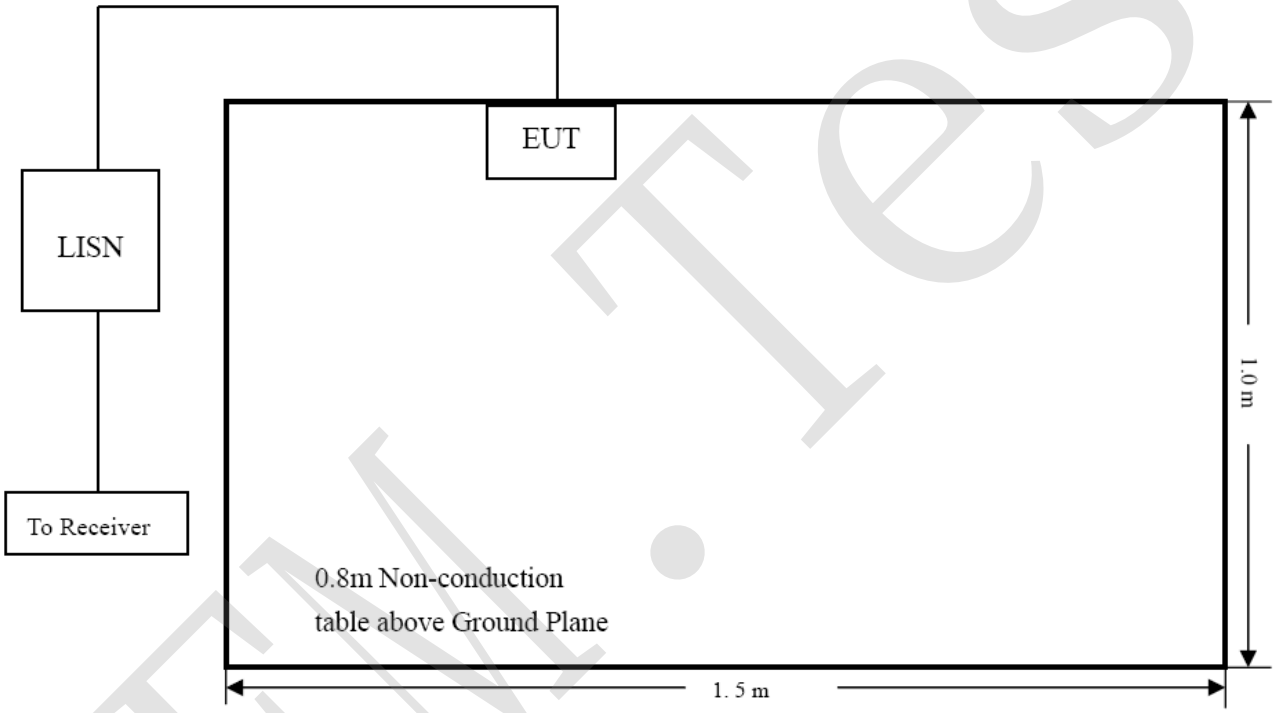
3.1 Measurement Uncertainty

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:

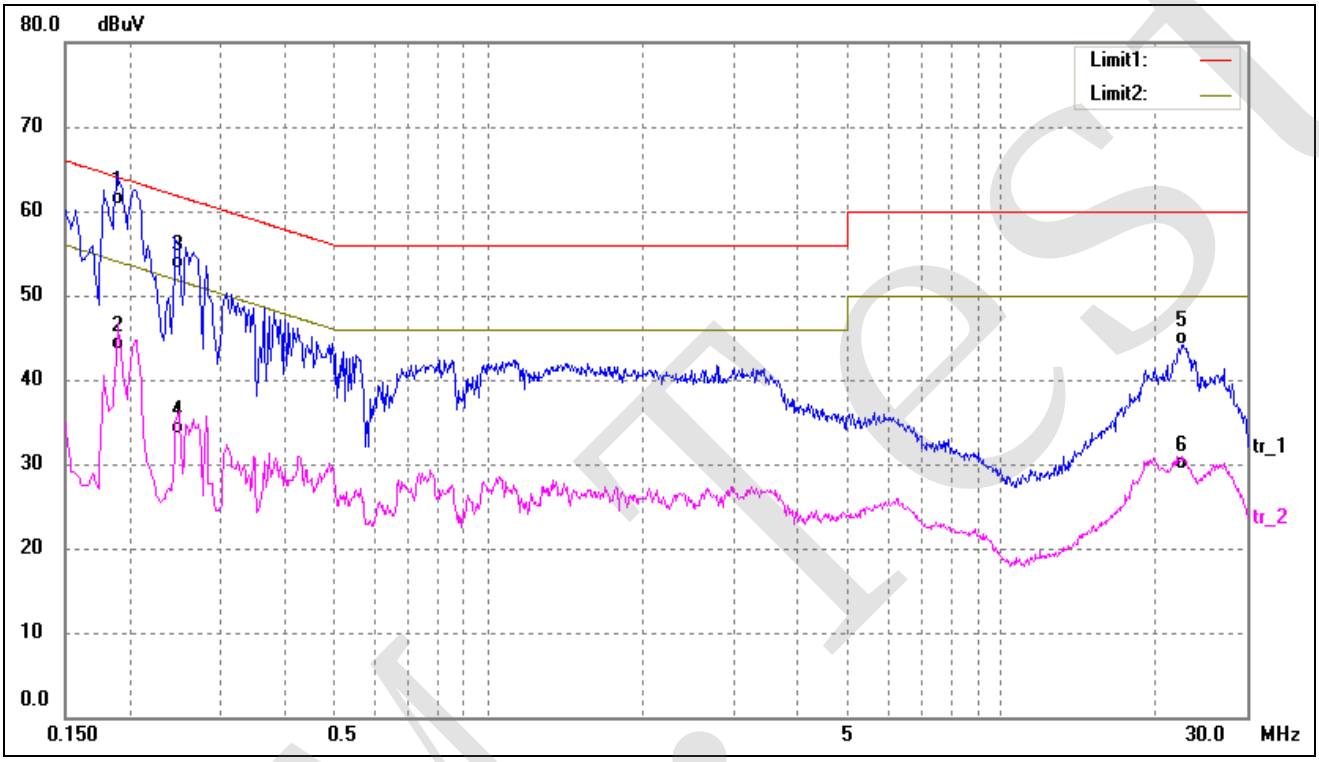
-3.01 dB at **0.1860 MHz** in the **Neutral** mode, **QP** detector, **GT-46600-6524-T3** Mode, **0.15-30MHz**

3.6 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

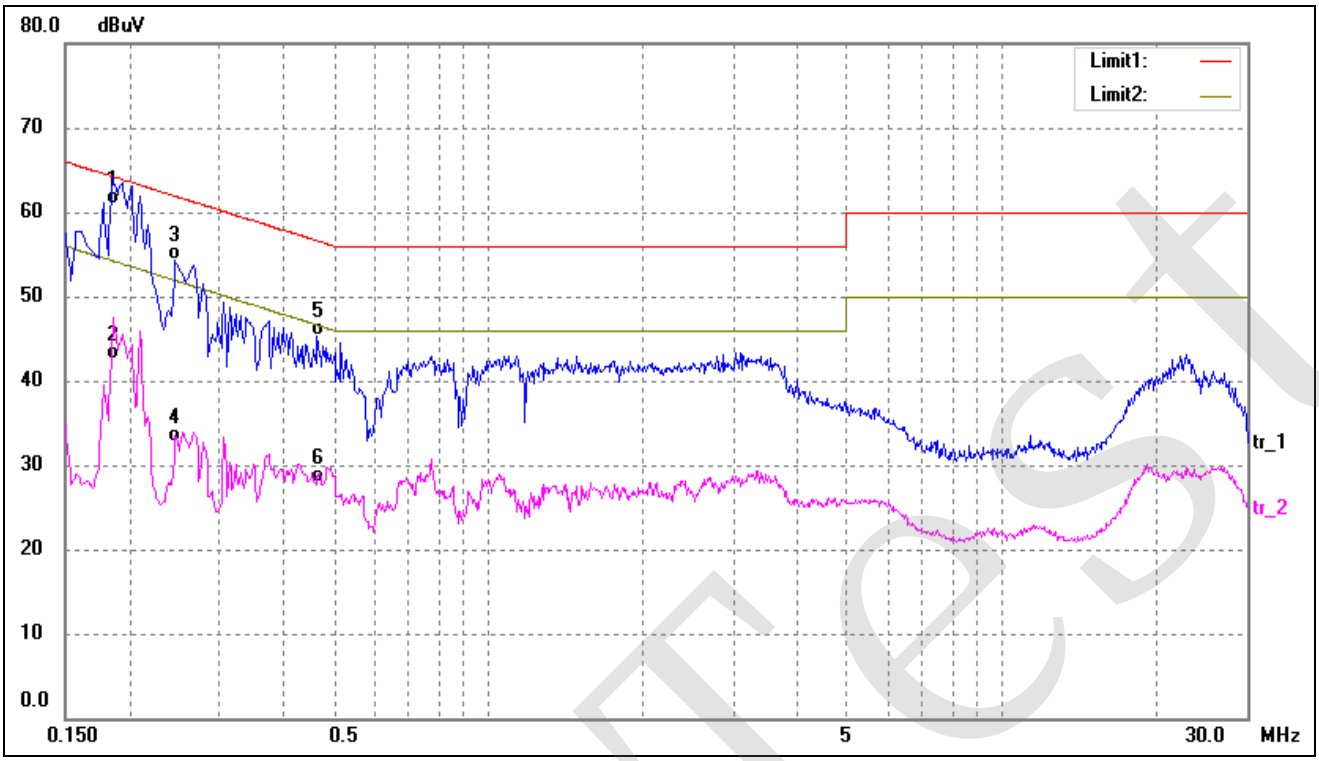
EUT: *ITE Power Supply*
Tested Model: *GT-46600-6012-T2*
Operating Condition: *TM1*
Comment: *AC 230V/50Hz*

Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1900	48.30	12.50	60.80	64.03	-3.23	QP
2	0.1900	31.07	12.50	43.57	54.03	-10.46	AVG
3	0.2460	40.55	12.50	53.05	61.89	-8.84	QP
4	0.2460	21.01	12.50	33.51	51.89	-18.38	AVG
5	22.4420	31.99	12.15	44.14	60.00	-15.86	QP
6	22.4420	17.06	12.15	29.21	50.00	-20.79	AVG

Test Specification: *Neutral*

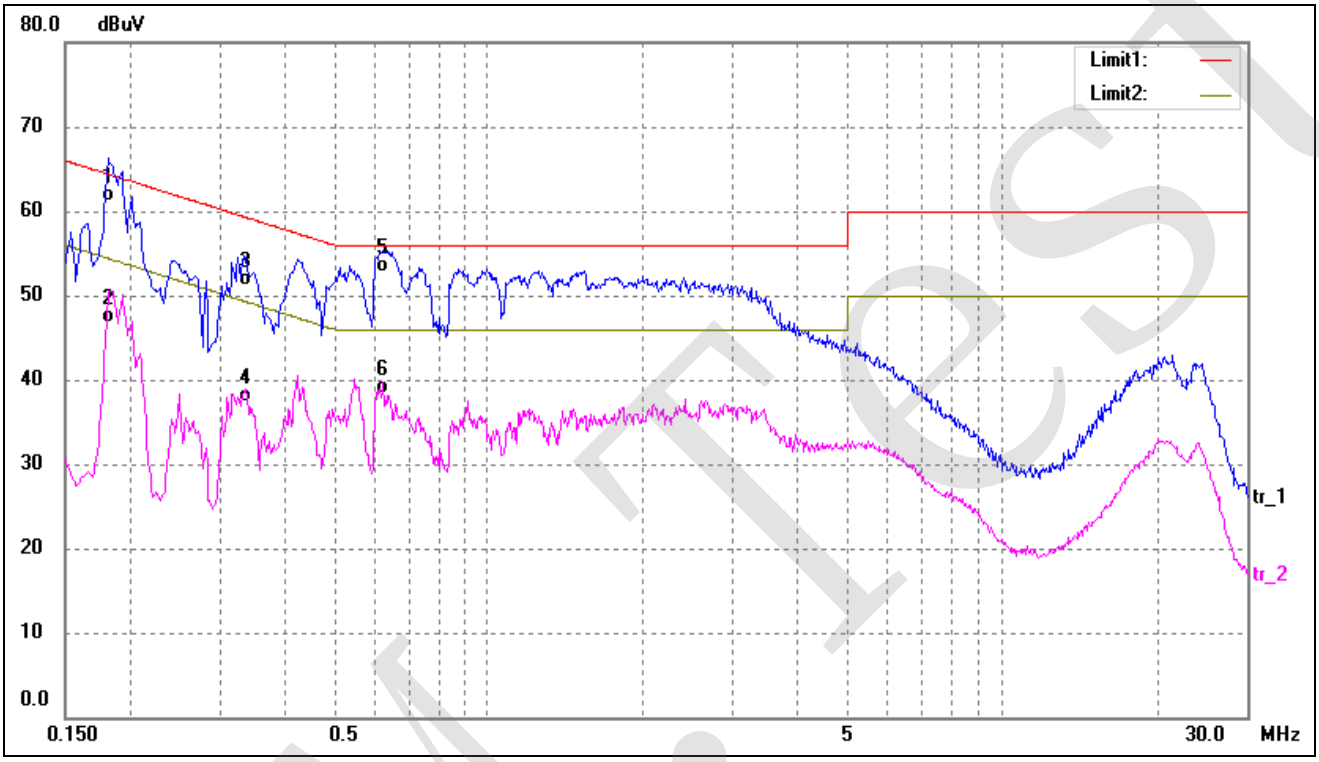


No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1860	48.47	12.50	60.97	64.21	-3.24	QP
2	0.1860	29.92	12.50	42.42	54.21	-11.79	AVG
3	0.2460	41.84	12.50	54.34	61.89	-7.55	QP
4	0.2460	20.14	12.50	32.64	51.89	-19.25	AVG
5	0.4660	32.82	12.50	45.32	56.58	-11.26	QP
6	0.4660	15.41	12.50	27.91	46.58	-18.67	AVG

Plot of Conducted Emissions Test Data

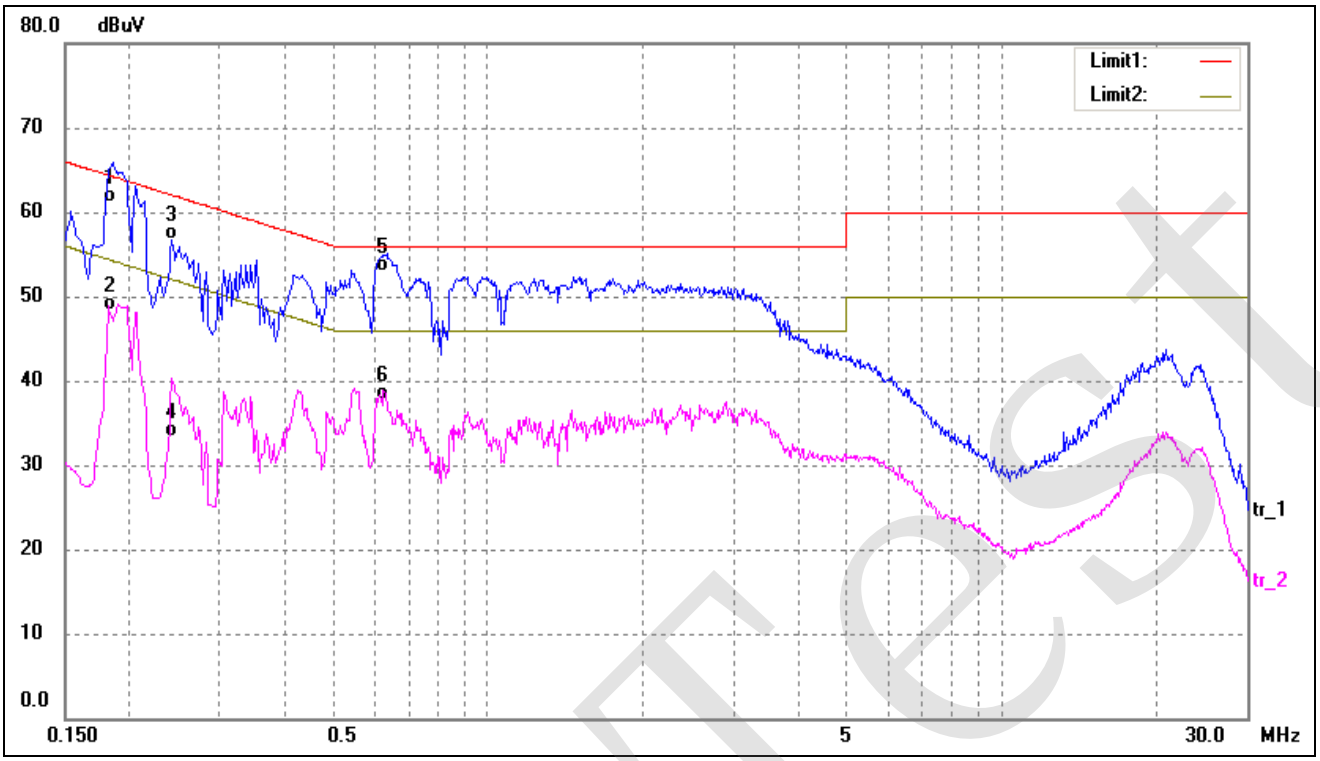
EUT: *ITE Power Supply*
Tested Model: *GT-46600-6524-T3*
Operating Condition: *TM1*
Comment: *AC 230V/50Hz*

Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1819	48.70	12.50	61.20	64.39	-3.19	QP
2	0.1819	34.28	12.50	46.78	54.39	-7.61	AVG
3	0.3339	38.70	12.50	51.20	59.35	-8.15	QP
4	0.3339	24.77	12.50	37.27	49.35	-12.08	AVG
5	0.6260	40.07	12.63	52.70	56.00	-3.30	QP
6	0.6260	25.70	12.63	38.33	46.00	-7.67	AVG

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.1860	48.70	12.50	61.20	64.21	-3.01	QP
2	0.1860	35.77	12.50	48.27	54.21	-5.94	AVG
3	0.2420	44.13	12.50	56.63	62.02	-5.39	QP
4	0.2420	20.84	12.50	33.34	52.02	-18.68	AVG
5	0.6340	40.27	12.63	52.90	56.00	-3.10	QP
6	0.6340	25.08	12.63	37.71	46.00	-8.29	AVG

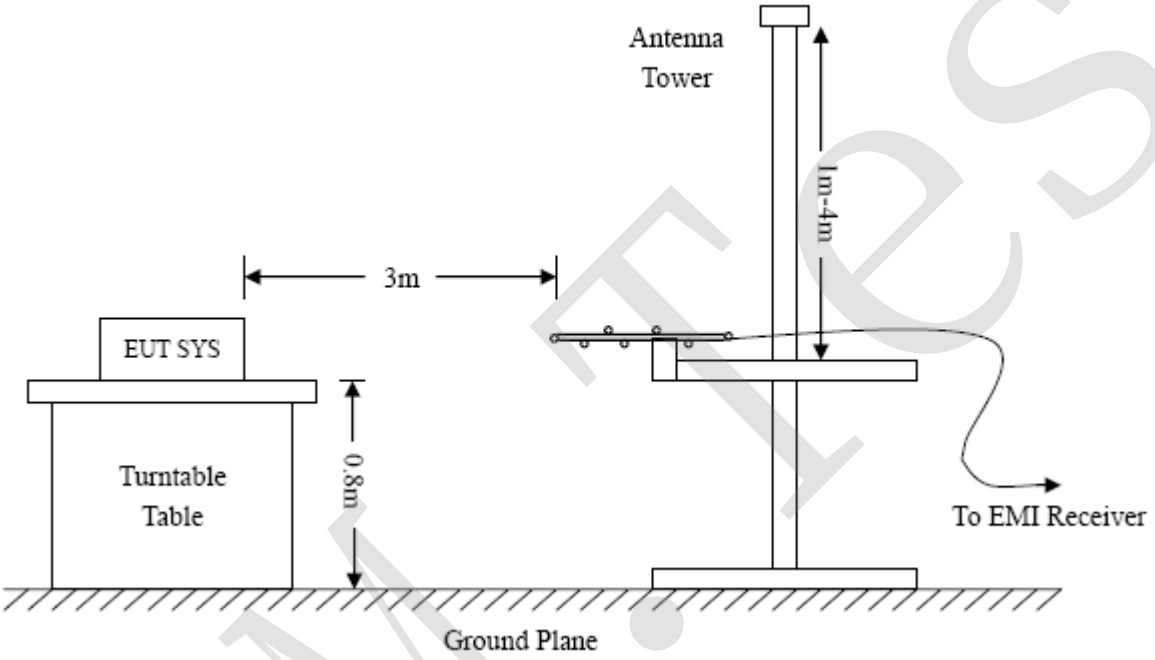
4. Radiated Emission

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 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:

Corr. Ampl. = Indicated Reading + Antenna Factor + Cable Factor - Amplifier Gain

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 Class B device. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – 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

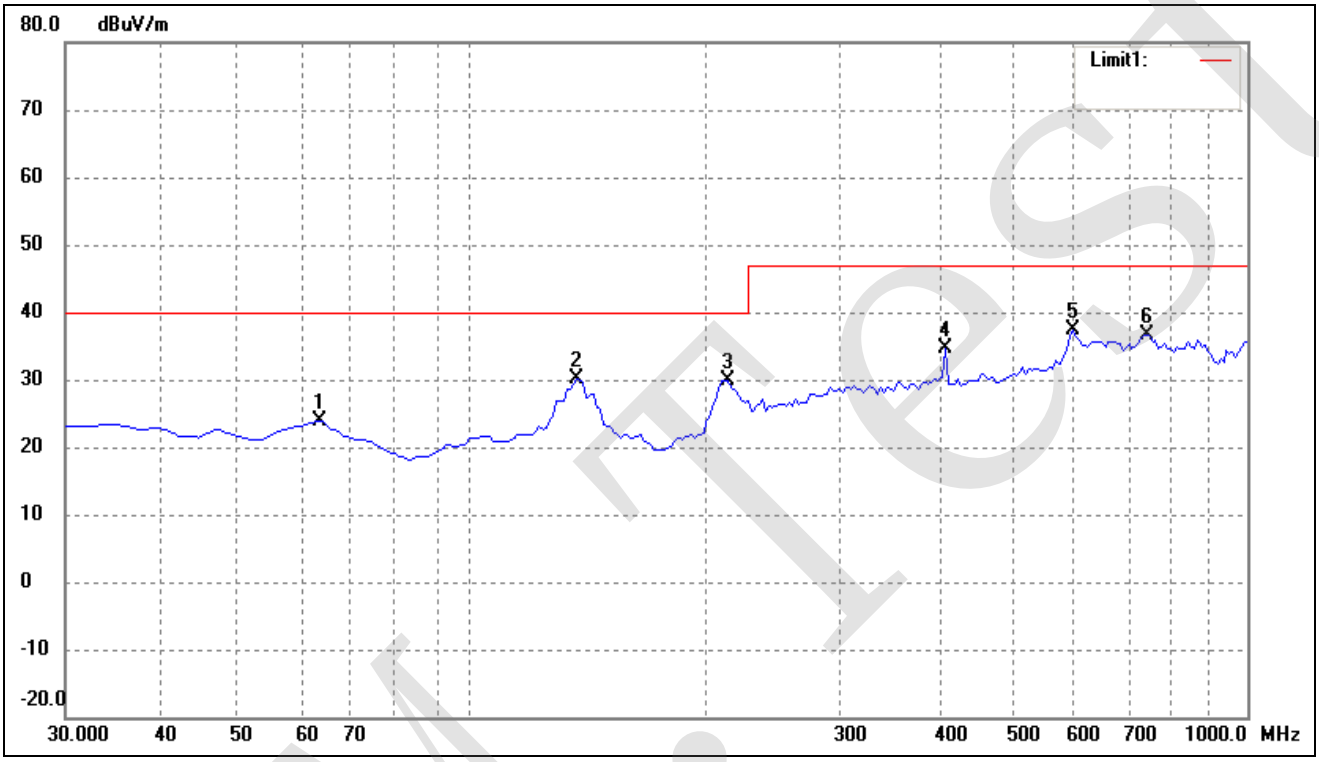
According to the data in section 4.5, the EUT complied with the EN55032 Class B standards, and had the worst margin is:

-6.88 dB at **34.8500 MHz** in the **Vertical** polarization, **GT-46600-6524-T3** Mode, **30 MHz to 1 GHz, 3Meters**

Plot of Radiated Emissions Test Data

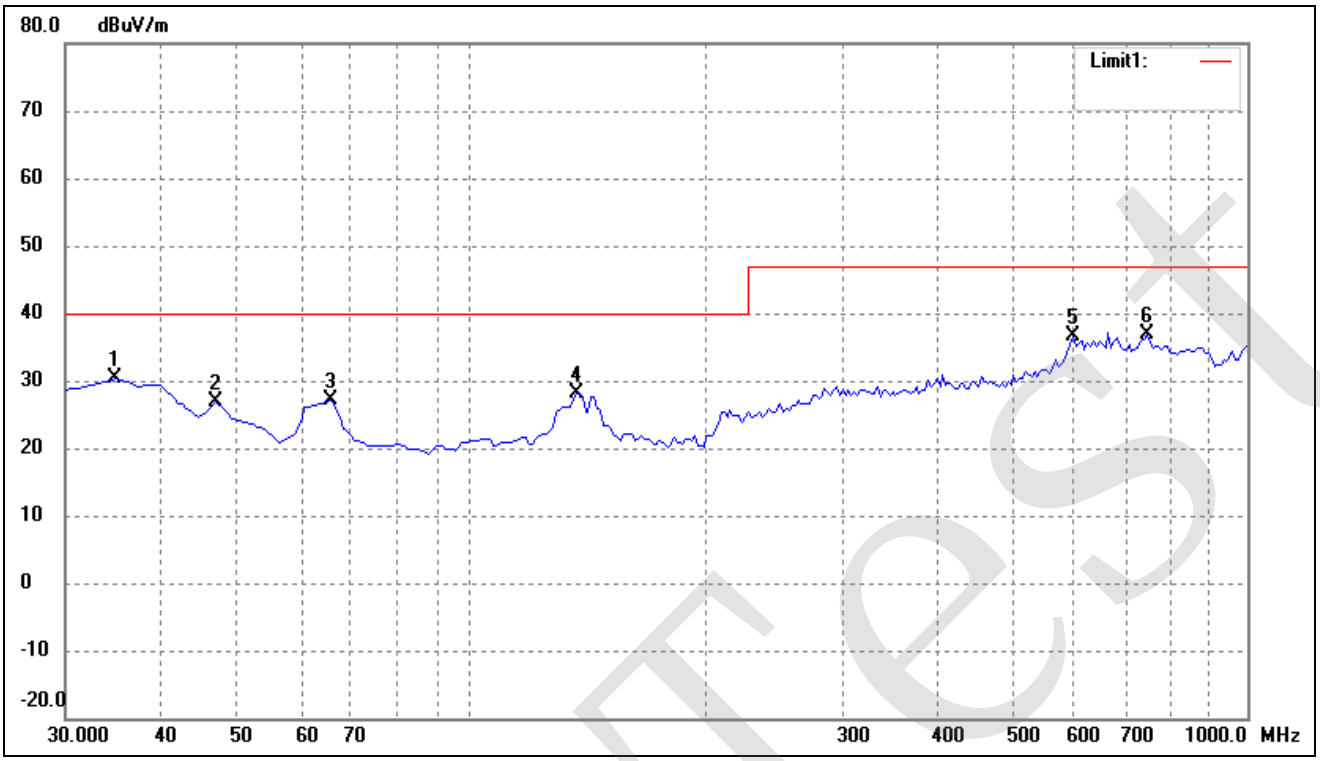
EUT: *ITE Power Supply*
Tested Model: *GT-46600-6012-T2*
Operating Condition: *TM1*
Comment: *AC 230V/50Hz*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	63.9500	19.47	4.51	23.98	40.00	-16.02	0	100	peak
2	136.7000	26.34	3.67	30.01	40.00	-9.99	0	100	peak
3	214.3000	22.99	6.84	29.83	40.00	-10.17	0	100	peak
4	410.7250	21.99	12.73	34.72	47.00	-12.28	0	100	peak
5	599.8750	17.97	19.30	37.27	47.00	-9.73	0	100	peak
6	742.9500	17.27	19.42	36.69	47.00	-10.31	0	100	peak

Test Specification: *Vertical*

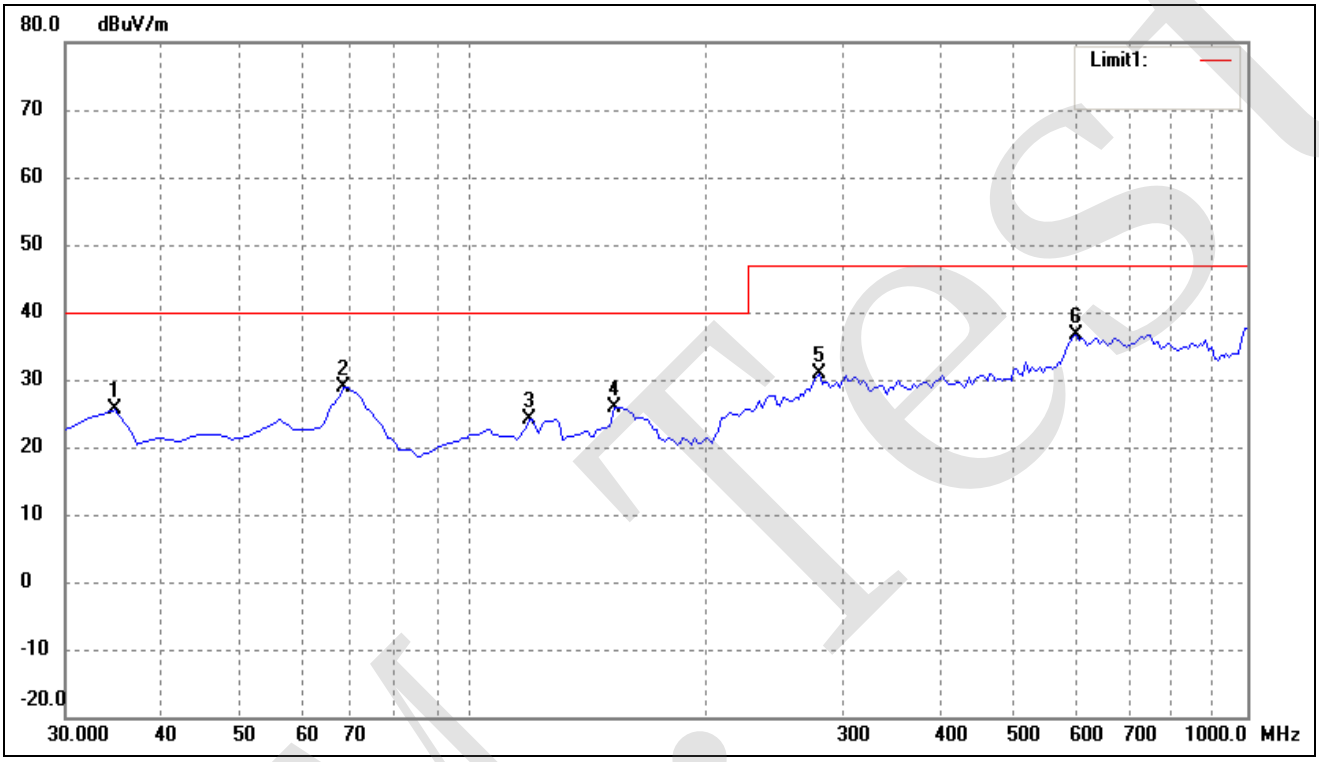


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	34.8500	25.98	4.37	30.35	40.00	-9.65	0	100	peak
2	46.9750	21.53	5.26	26.79	40.00	-13.21	0	100	peak
3	66.3750	23.08	3.99	27.07	40.00	-12.93	0	100	peak
4	136.7000	24.47	3.67	28.14	40.00	-11.86	0	100	peak
5	599.8750	17.23	19.30	36.53	47.00	-10.47	0	100	peak
6	745.3750	17.62	19.31	36.93	47.00	-10.07	0	100	peak

Plot of Radiated Emissions Test Data

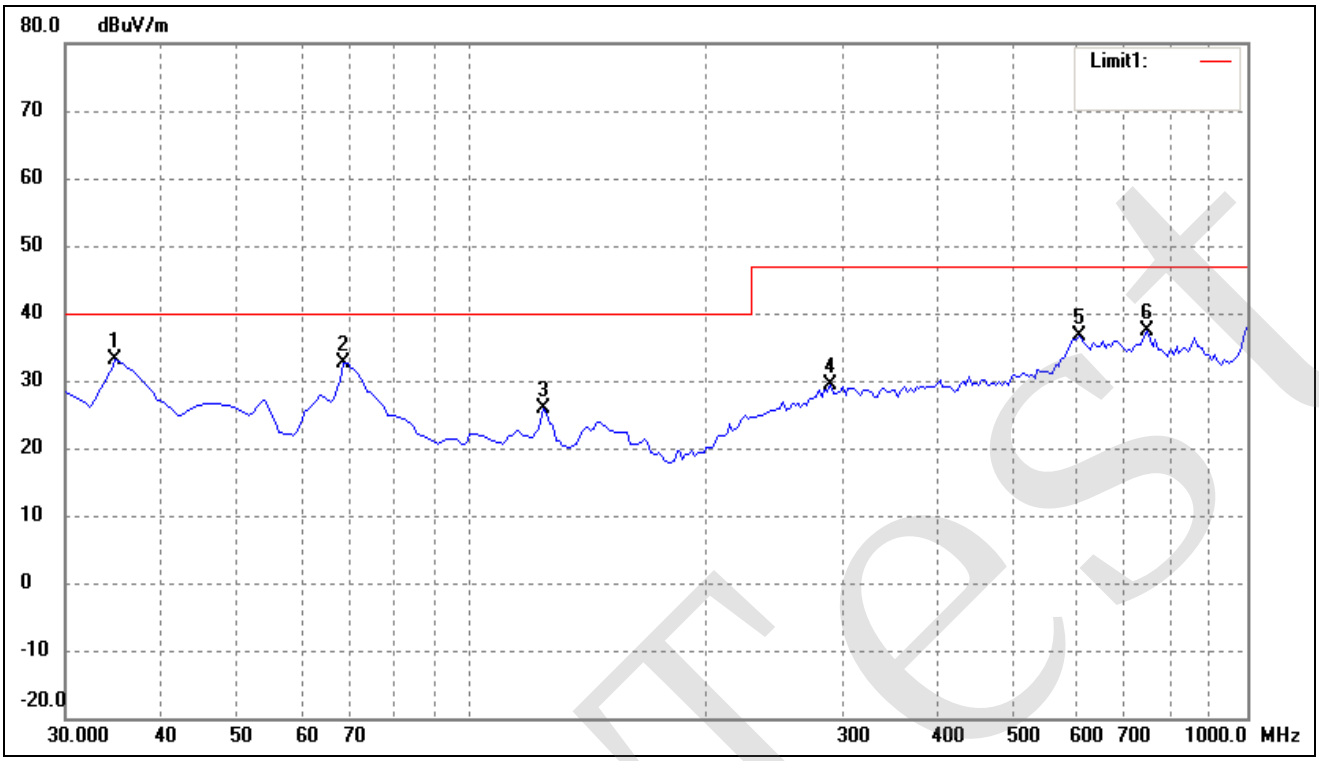
EUT: *ITE Power Supply*
Tested Model: *GT-46600-6524-T3*
Operating Condition: *TM1*
Comment: *AC 230V/50Hz*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	34.8500	21.20	4.37	25.57	40.00	-14.43	0	100	peak
2	68.8000	25.39	3.45	28.84	40.00	-11.16	0	100	peak
3	119.7250	19.15	5.02	24.17	40.00	-15.83	0	100	peak
4	153.6750	23.03	2.85	25.88	40.00	-14.12	0	100	peak
5	282.2000	19.35	11.49	30.84	47.00	-16.16	0	100	peak
6	604.7250	17.70	18.98	36.68	47.00	-10.32	0	100	peak

Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	34.8500	28.75	4.37	33.12	40.00	-6.88	0	100	peak
2	68.8000	29.20	3.45	32.65	40.00	-7.35	0	100	peak
3	124.5750	21.15	4.65	25.80	40.00	-14.20	0	100	peak
4	291.9000	17.43	11.86	29.29	47.00	-17.71	0	100	peak
5	607.1500	17.82	18.82	36.64	47.00	-10.36	0	100	peak
6	747.8000	18.08	19.19	37.27	47.00	-9.73	0	100	peak

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

According to Clause 7 of EN61000-3-2, the rated power of the EUT is less than 75W, belong to ‘equipment with a rated power of Max 65W or less’, therefore ‘limits are not specified in this edition of the standards’. It is deem to full fit the requirements of the standards.

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

6. Voltage Fluctuation and 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

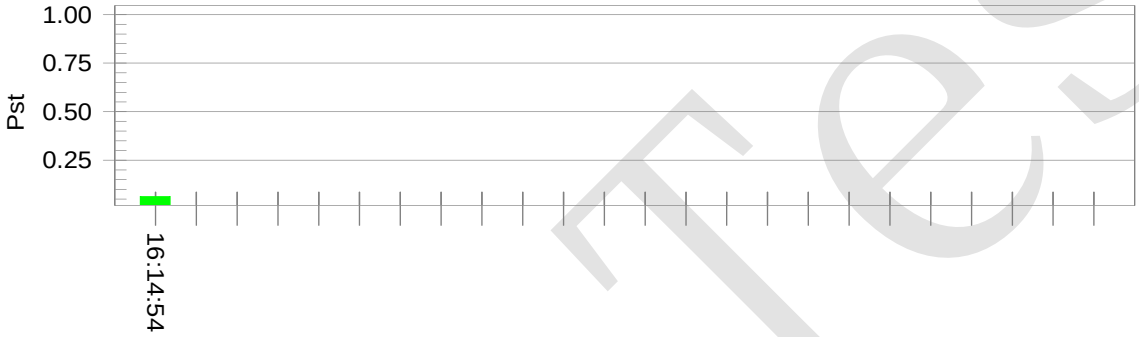
6.3 Voltage Fluctuation and Flicker Test Data

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

EUT: GT-46600-6012-T2 **Tested by: JONG**
Test category: All parameters (European limits) **Test Margin: 100**
Test date: 2015-9-18 **Start time: 04:04:35 PM** **End time: 04:14:56 PM**
Test duration (min): 10 **Data file name: F-000066.cts_data**
Comment: TM1
Customer: GlobTek, Inc.

Test Result: Pass **Status: Test Completed**

Pst and limit line **European Limits**



Plt and limit line

Parameter values recorded during the test:

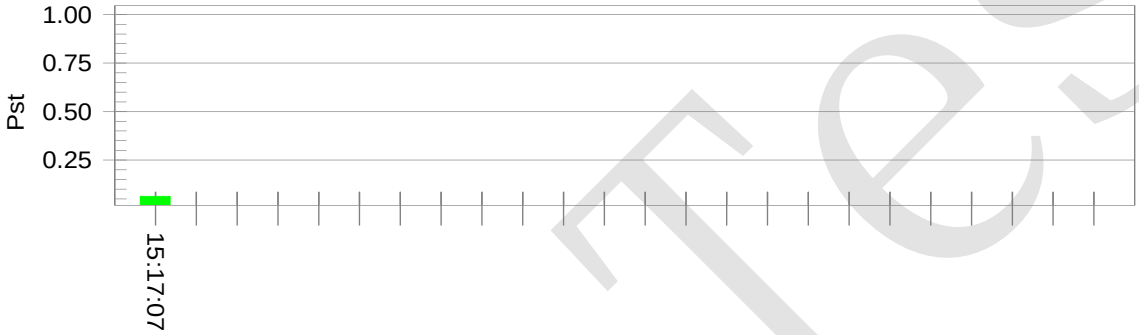
Vrms at the end of test (Volt):	**229.54**			
Highest dt (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Time(mS) > dt:	**0.0**	**Test limit (mS):**	**500.0**	**Pass**
Highest dc (%):	**0.00**	**Test limit (%):**	**3.30**	**Pass**
Highest dmax (%):	**0.00**	**Test limit (%):**	**4.00**	**Pass**
Highest Pst (10 min. period):	**0.064**	**Test limit:**	**1.000**	**Pass**
Highest Plt (2 hr. period):	**0.028**	**Test limit:**	**0.650**	**Pass**

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

EUT: GT-46600-6524-T3 **Tested by: JONG**
Test category: All parameters (European limits) **Test Margin: 100**
Test date: 2015-9-18 **Start time: 03:06:47 PM** **End time: 03:17:08 PM**
Test duration (min): 10 **Data file name: F-000063.cts_data**
Comment: TM1
Customer: GlobTek, 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):	**231.11**			
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 Model: GT-46600-6012-T2

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
DC Port	A	A	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
slit	A	A	A	A	A	A	A	A	A	A

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	A	A	A	A	A	A
Top Side	A	A	A	A	A	A	A	A	A	A
Back Side	A	A	A	A	A	A	A	A	A	A
Left Side	A	A	A	A	A	A	A	A	A	A
Right Side	A	A	A	A	A	A	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	A	A	A	A	A	A
Top Side	A	A	A	A	A	A	A	A	A	A
Back Side	A	A	A	A	A	A	A	A	A	A
Left Side	A	A	A	A	A	A	A	A	A	A
Right Side	A	A	A	A	A	A	A	A	A	A

Test Model: GT-46600-6524-T3

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
DC Port	A	A	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
slit	A	A	A	A	A	A	A	A	A	A

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	A	A	A	A	A	A
Top Side	A	A	A	A	A	A	A	A	A	A
Back Side	A	A	A	A	A	A	A	A	A	A
Left Side	A	A	A	A	A	A	A	A	A	A
Right Side	A	A	A	A	A	A	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	A	A	A	A	A	A
Top Side	A	A	A	A	A	A	A	A	A	A
Back Side	A	A	A	A	A	A	A	A	A	A
Left Side	A	A	A	A	A	A	A	A	A	A
Right Side	A	A	A	A	A	A	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 Model: GT-46600-6012-T2

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 Model: GT-46600-6524-T3

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 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 Model: GT-46600-6012-T2

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	A	A
	L2	A	A	A	A	A	A	A	A
	PE	/	/	/	/	/	/	/	/
	L1+L2	A	A	A	A	A	A	A	A
	L1 + PE	/	/	/	/	/	/	/	/
	L2 + PE	/	/	/	/	/	/	/	/
	L1+L2+PE	/	/	/	/	/	/	/	/
Signal ports		/	/	/	/	/	/	/	/

Test Model: GT-46600-6524-T3

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	A	A
	L2	A	A	A	A	A	A	A	A
	PE	A	A	A	A	A	A	A	A
	L1+L2	A	A	A	A	A	A	A	A
	L1 + PE	A	A	A	A	A	A	A	A
	L2 + PE	A	A	A	A	A	A	A	A
	L1+L2+PE	A	A	A	A	A	A	A	A
Signal ports		/	/	/	/	/	/	/	/

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 Model: GT-46600-6012-T2

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 Model: GT-46600-6524-T3

Level	Voltage	Poll	Path	Pass	Fail
1	0.5kV	±	L-N	A	/
2	1kV	±	L-N	A	/
3	2kV	±	L-PE, N-PE	A	/
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 Model: GT-46600-6012-T2

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 Model: GT-46600-6524-T3

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: Vlotage dips in % U_T (U_T is rated voltage for the EUT)
T: Test duration

Test Model: GT-46600-6012-T2

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	A	/
3	100%	5000ms	0/90/180/270	3	C	/

Test Model: GT-46600-6524-T3

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	A	/
3	100%	5000ms	0/90/180/270	3	C	/

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 must have a height of at least 5 mm. If the 'CE' marking is reduced or enlarged the proportions given in the above graduated drawing must be respected.

Proposed Label Location on EUT

Test Model: GT-46600-6012-T2

CE Label Location

Test Model: GT-46600-6524-T3

CE Label Location

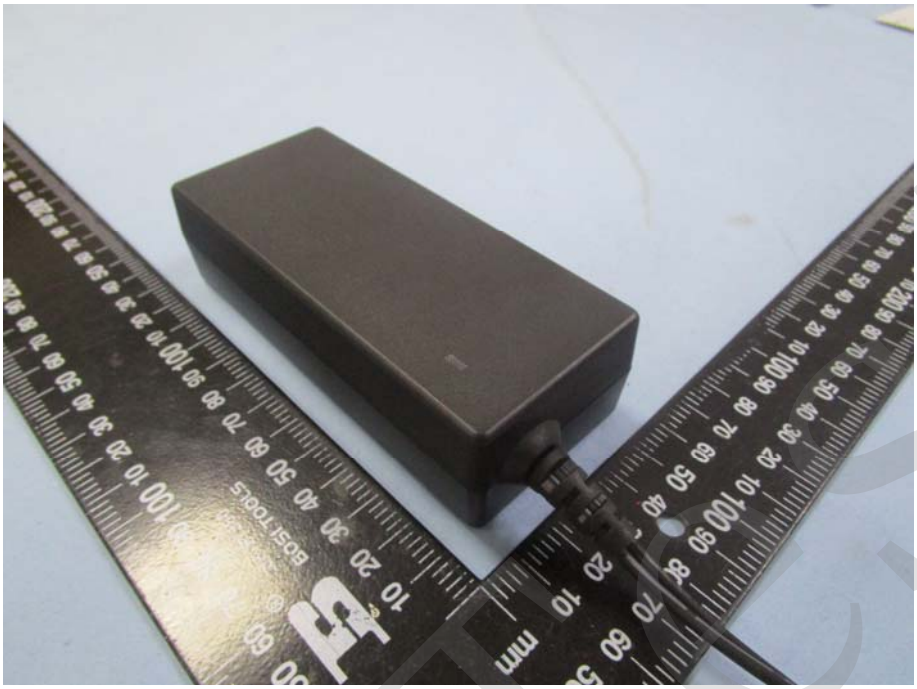
EXHIBIT 2 - EUT PHOTOGRAPHS

Test Model: GT-46600-6012-T2

EUT View 1

EUT View 2

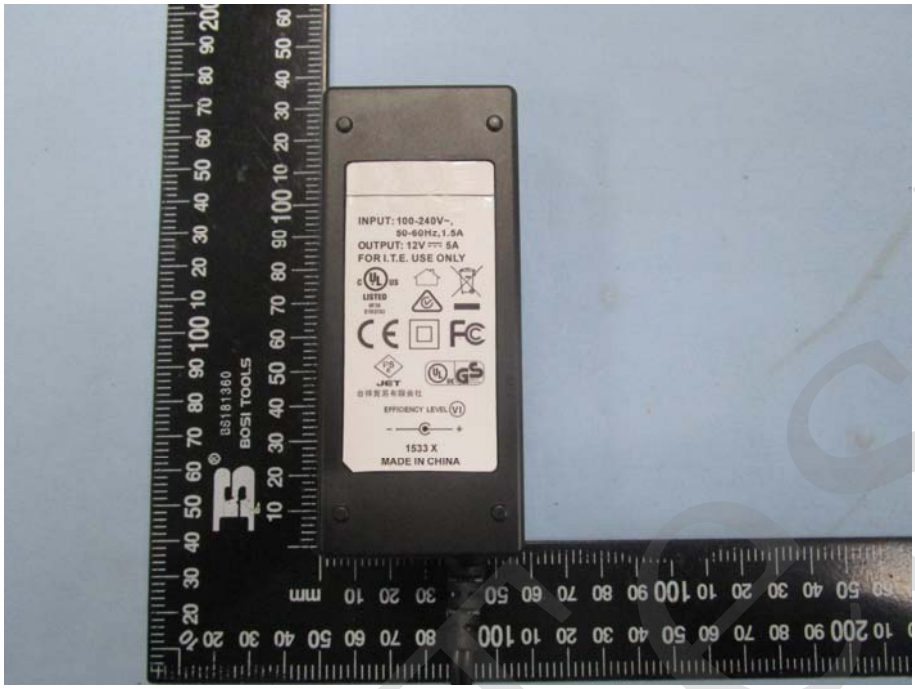
EUT View 3



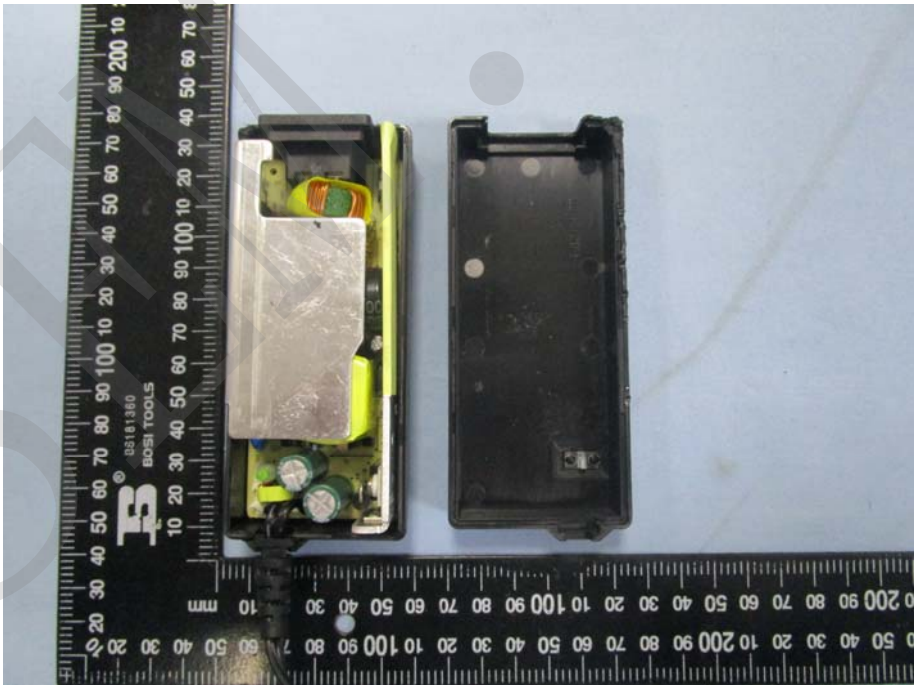
EUT View 4

``

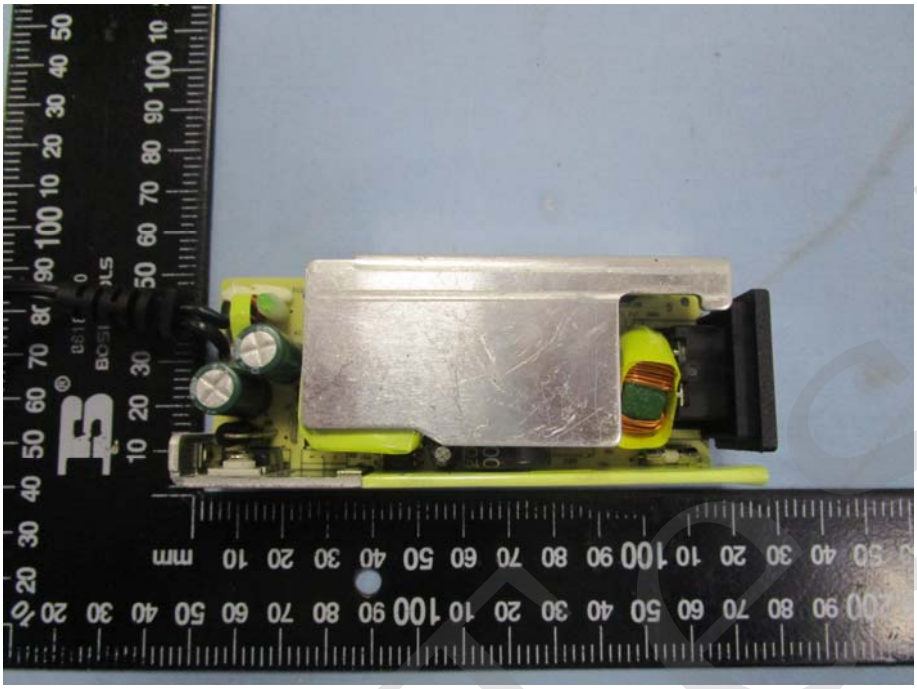
EUT View 5



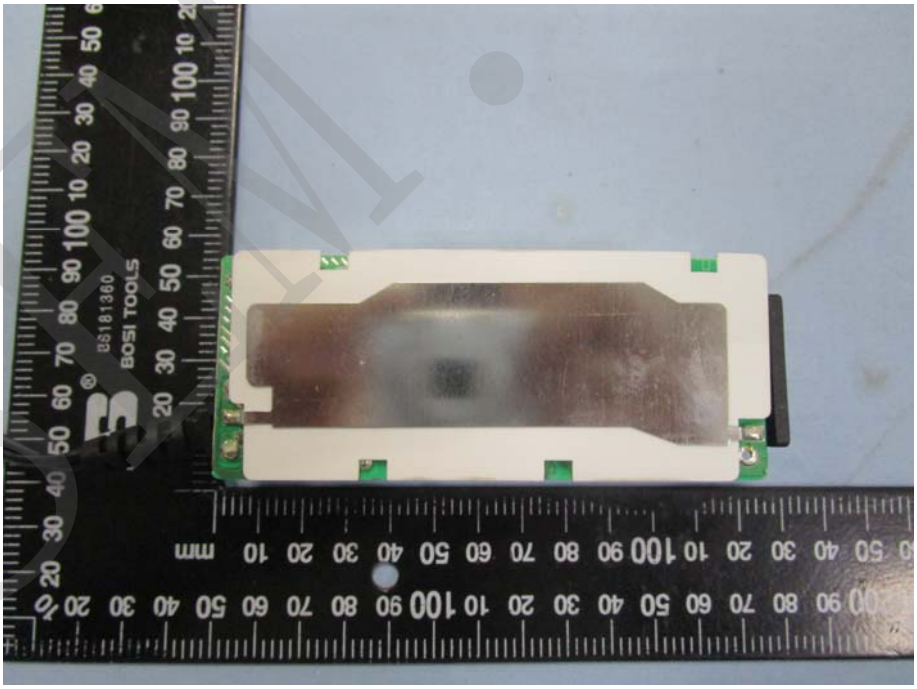
EUT Housing and Board View 1



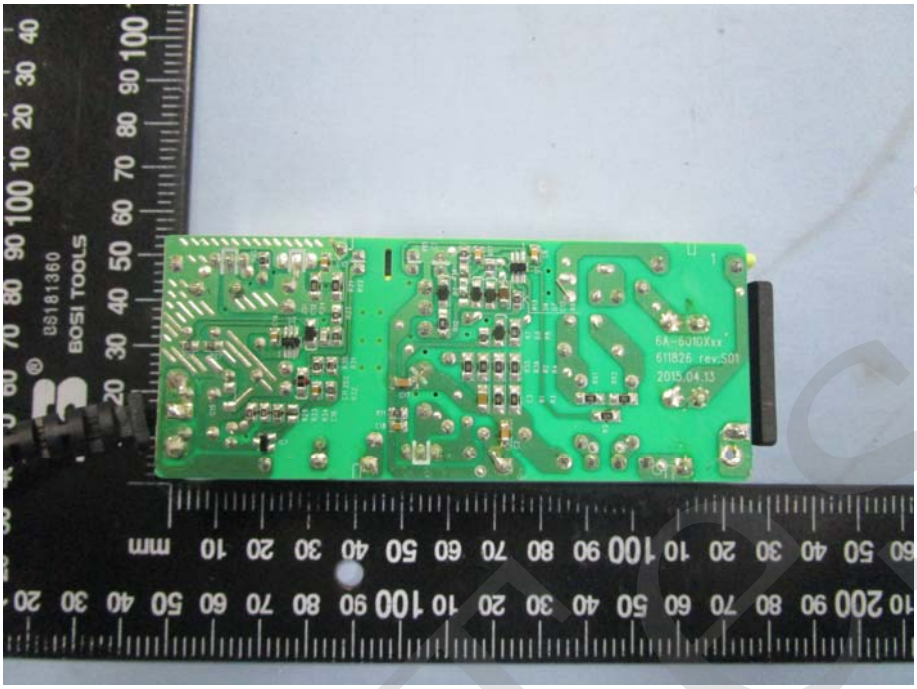
Solder Board-Component View 1



Solder Board-Component View 2



Solder Board-Component View 3

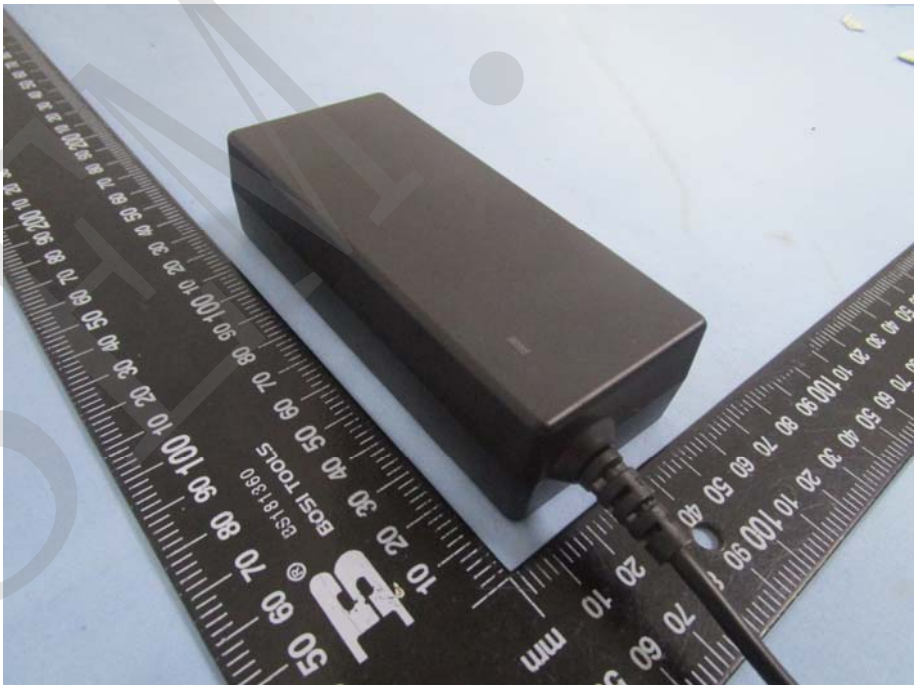


Test Model: GT-46600-6524-T3

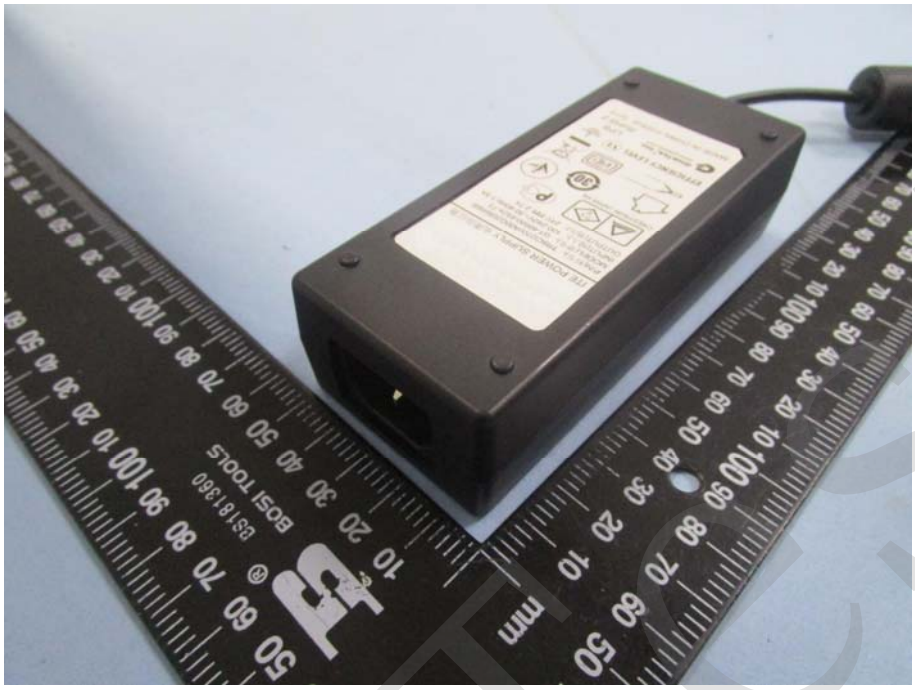
EUT View 1

EUT View 2

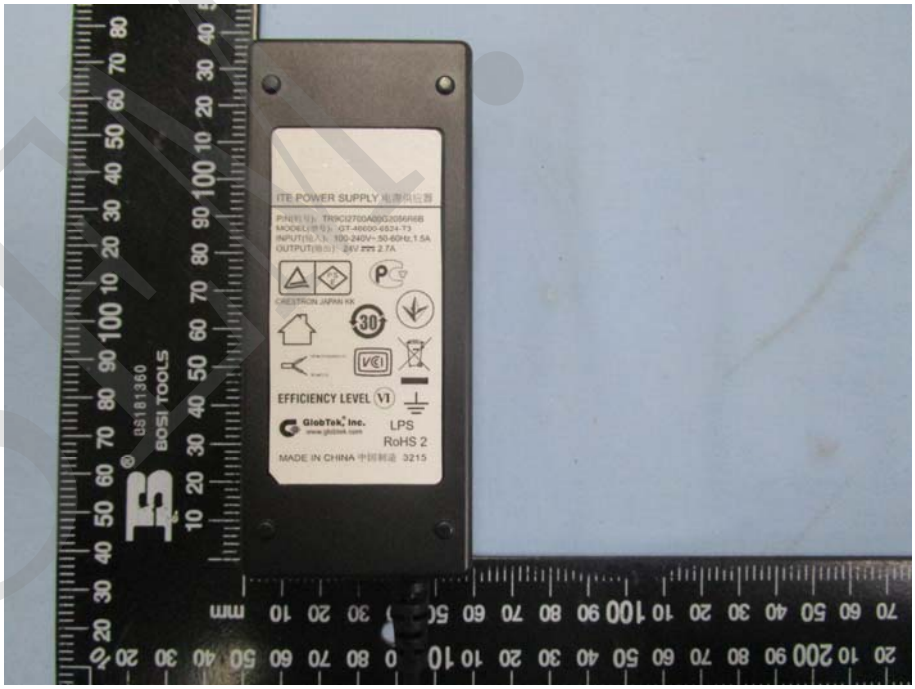
EUT View 3



EUT View 4

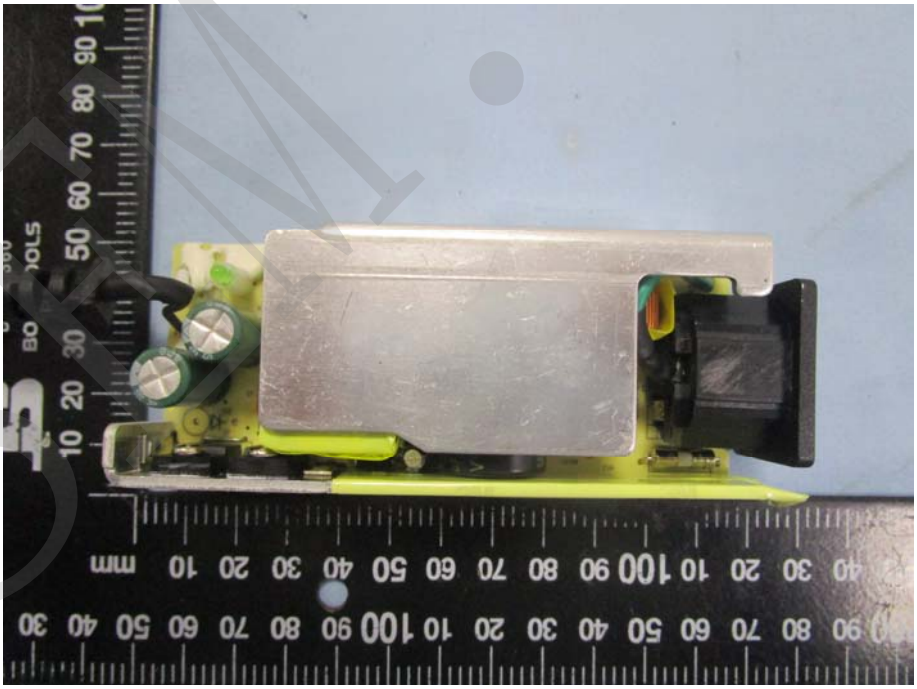


EUT View 5

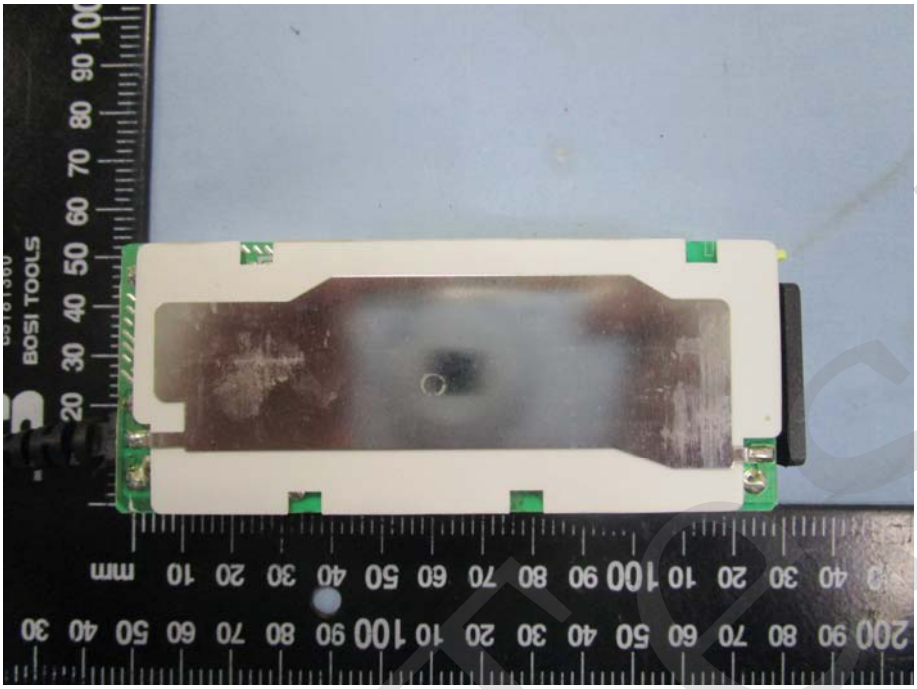


EUT Housing and Board View 1

Solder Board-Component View 1



Solder Board-Component View 2



Solder Board-Component View 3

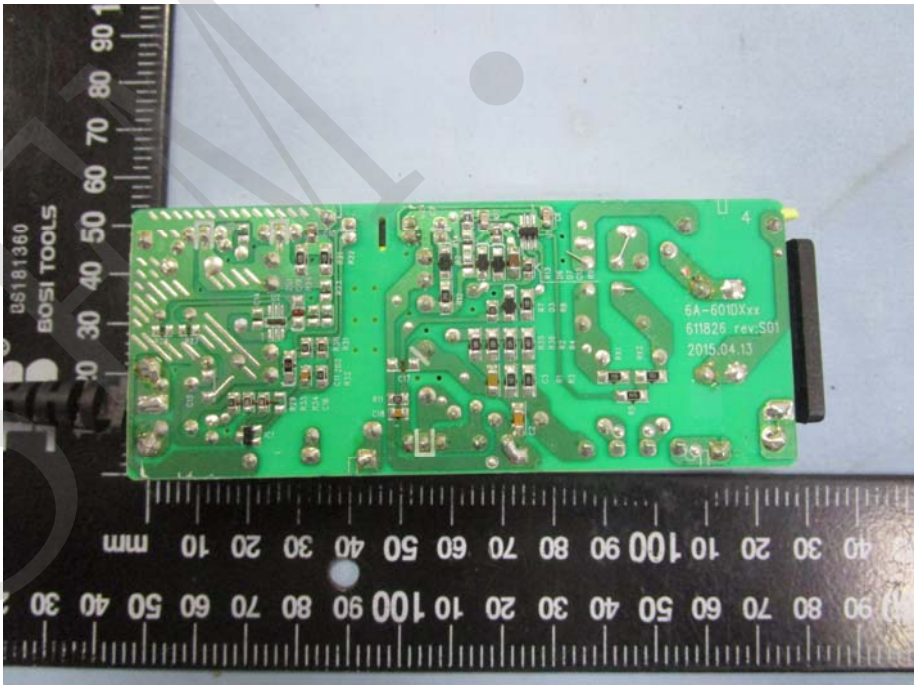
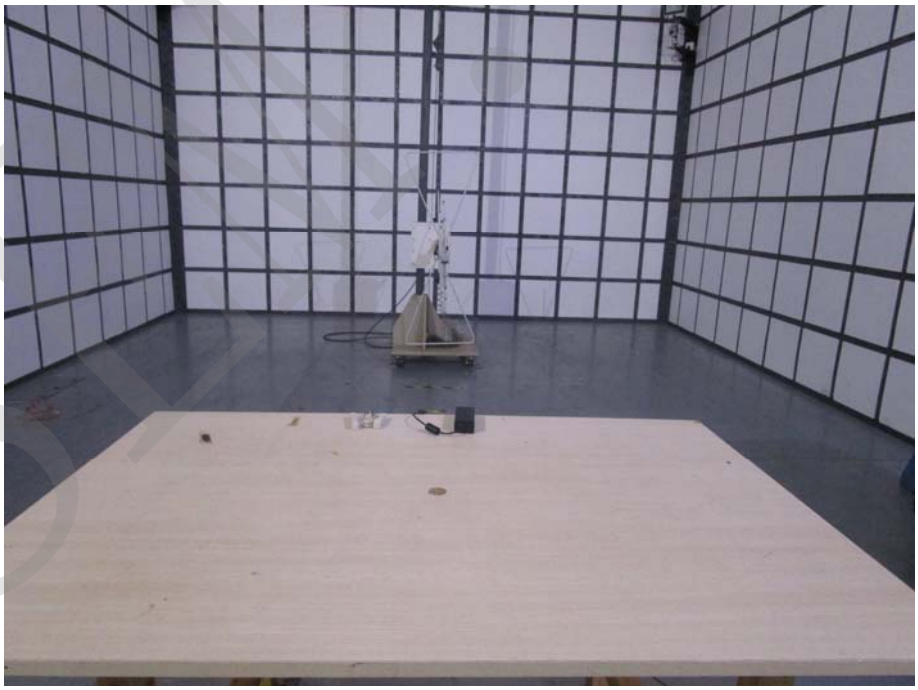


EXHIBIT 3 - TEST SETUP PHOTOGRAPHS

Conduction Emission Test View

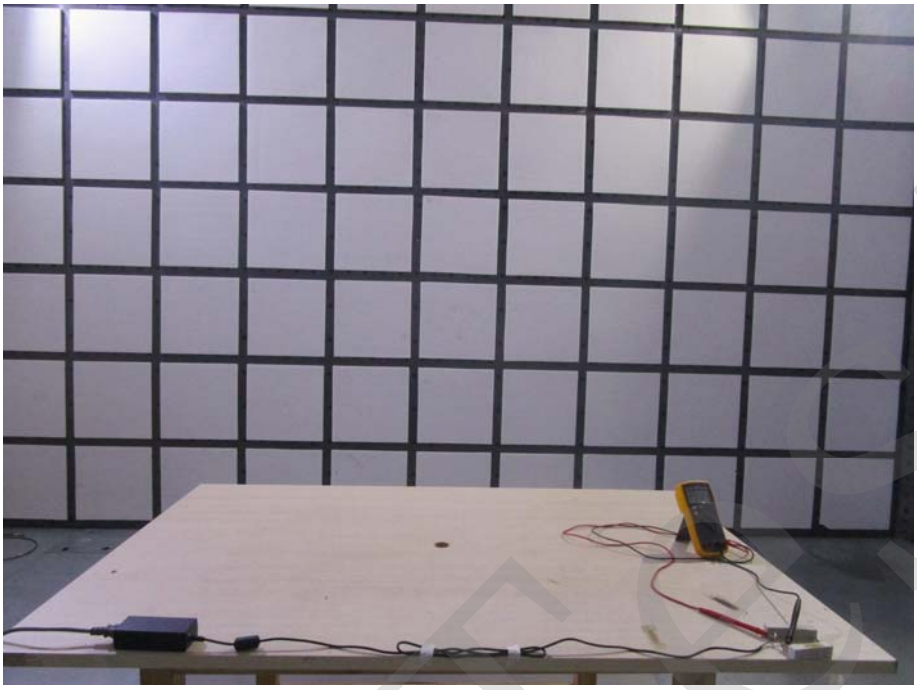
Radiation Emission Test View



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 *******