EMC
Measurement and Test Report

For

GlobTek, Inc.

186 Veterans Dr. Northvale, NJ 07647 USA

Test Standards:	EN 60601-1-2:2015
Product Description:	Power adapter
Tested Model:	GTM41076-WWVV-X.X
Report No.:	STR16088001E
Tested Date:	2016-08-01 to 2016-08-06
Issued Date:	2016-08-08
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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:	Power adapter
Trade Name:	GlobTek, Inc.
Model No.:	GTM41076-WWVV-X.X
Adding Model(s):	/
Note: The test data is gathered from a production sample, provided by the manufacturer. *GTM41076-WWVV-X.X* *Where:* *41076 denotes series code* *WW denotes rated power* *VV denotes rated output voltage between 5 and 30 Vd.c* *-X.X is optional or blank and denotes voltage differentiator* *(subtracting X.X Volts from standard output voltage in 0,1 V increments)*	

Technical Characteristics of EUT	
Rated Voltage:	AC 100-240V
Rated Current:	0.16-0.1A
Rated Power:	Max.6W
Power Adaptor Model:	GTM41076-0605
Class of Equipment:	Class B
Highest Internal Frequency:	Below 108MHz

1.2 Test Standards

The following report is prepared on behalf of the GlobTek, Inc. in accordance with EN 60601-1-2, Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral standard: Electromagnetic compatibility – Requirements and tests

The objective of the manufacturer is to demonstrate compliance with the standards EN 60601-1-2 for Medical electrical 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 EN 60601-1-2 for Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral standard: Electromagnetic compatibility – Requirements and tests.

1.4 Test Facility

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	Type test: GTM41076-0605
TM2	Working	Type test: GTM41076-0624

EUT Cable List and Details

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

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
EN 60601-1-2	Conducted Disturbance	Compliant
	Radiated Disturbance	Compliant
	Harmonic Current Emission	Compliant
	Voltage Fluctuation and Flicker	Compliant
	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 Disturbance

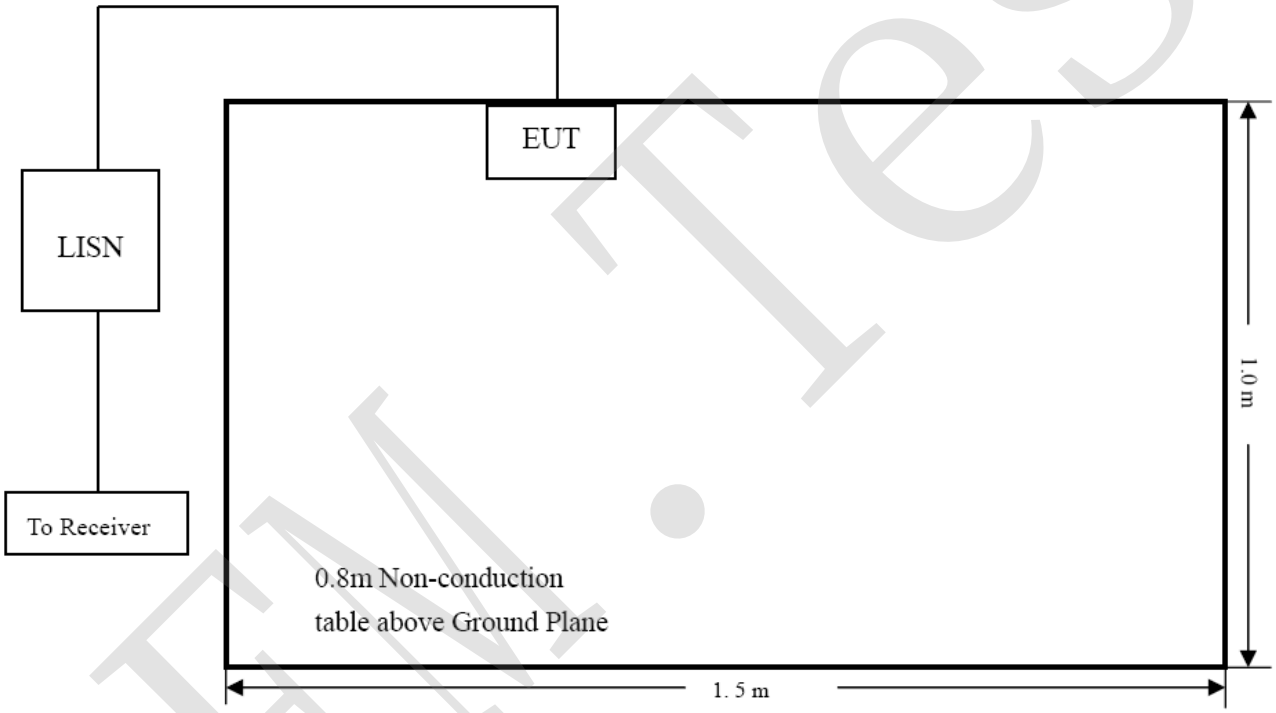
3.1 Measurement Uncertainty

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 Procedure

Test is conducting under the description of EN55022 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.

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 EN 60601-1-2 Conducted margin for a Class B device, with the *worst* margin reading of:

-9.86 dB at **0.2060 MHz** in the **Line** mode, **Peak** detector, **TM1** mode, **0.15-30MHz**

3.6 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

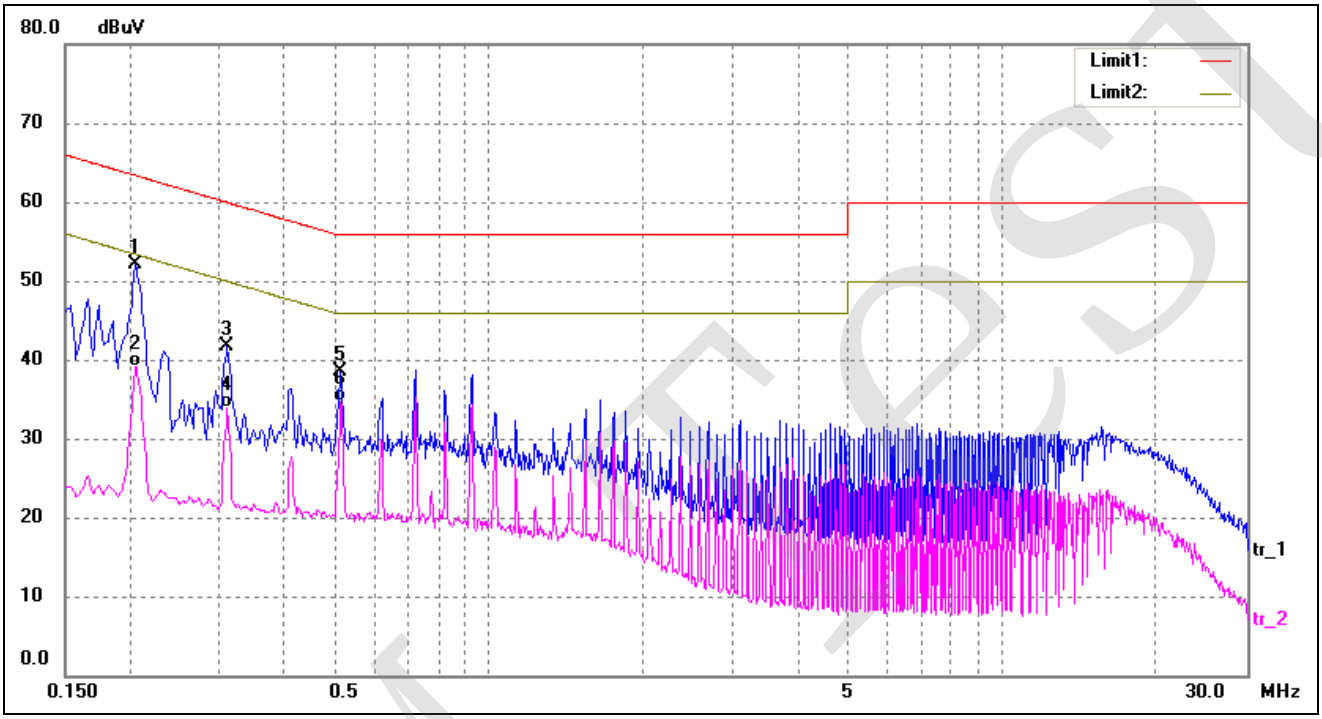
EUT: *Power adapter*

Tested Model: *GTM41076-0605*

Operating Condition: *TM1*

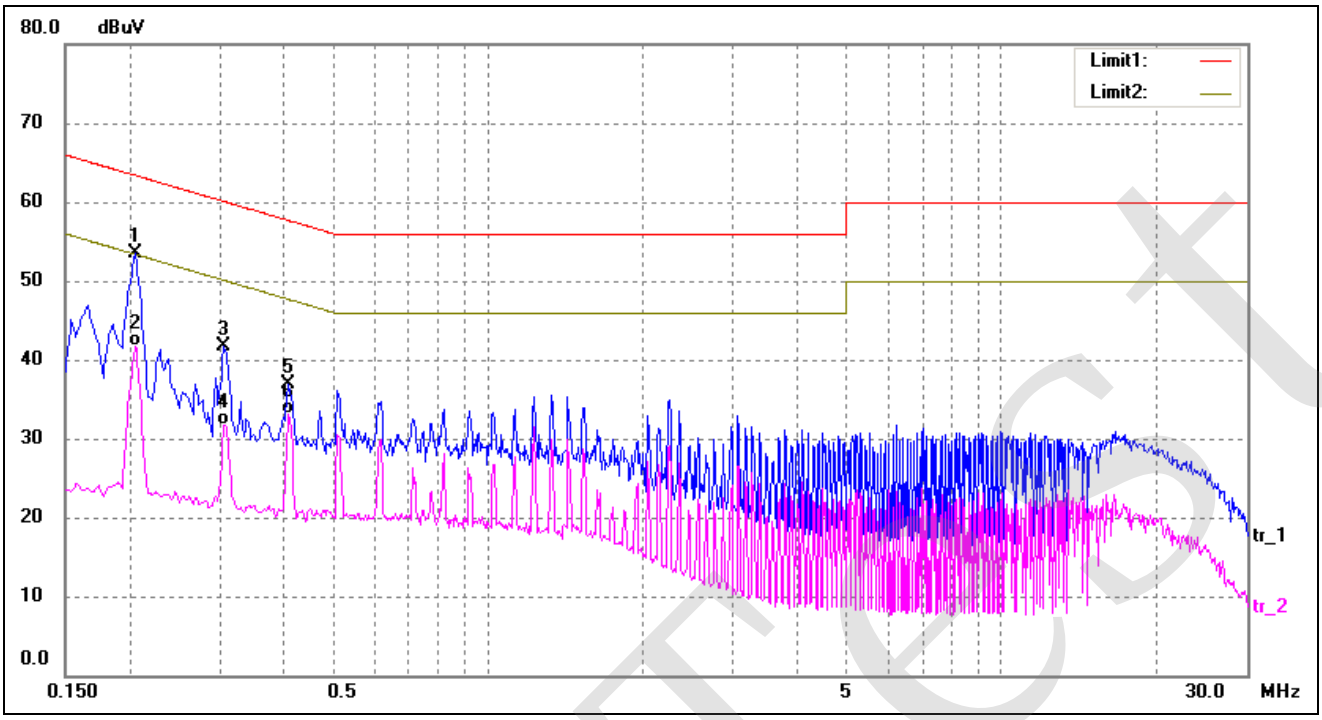
Comment: *AC 230V/50Hz*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.2060	42.67	9.50	52.17	63.37	-11.20	peak
2	0.2060	29.68	9.50	39.18	53.37	-14.19	AVG
3	0.3100	32.11	9.50	41.61	59.97	-18.36	peak
4	0.3100	24.46	9.50	33.96	49.97	-16.01	AVG
5	0.5180	28.86	9.56	38.42	56.00	-17.58	peak
6	0.5180	25.06	9.56	34.62	46.00	-11.38	AVG

Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.2060	44.01	9.50	53.51	63.37	-9.86	peak
2	0.2060	32.16	9.50	41.66	53.37	-11.71	AVG
3	0.3060	32.22	9.50	41.72	60.08	-18.36	peak
4	0.3060	22.23	9.50	31.73	50.08	-18.35	AVG
5	0.4100	27.30	9.51	36.81	57.65	-20.84	peak
6	0.4100	23.57	9.51	33.08	47.65	-14.57	AVG

Plot of Conducted Emissions Test Data

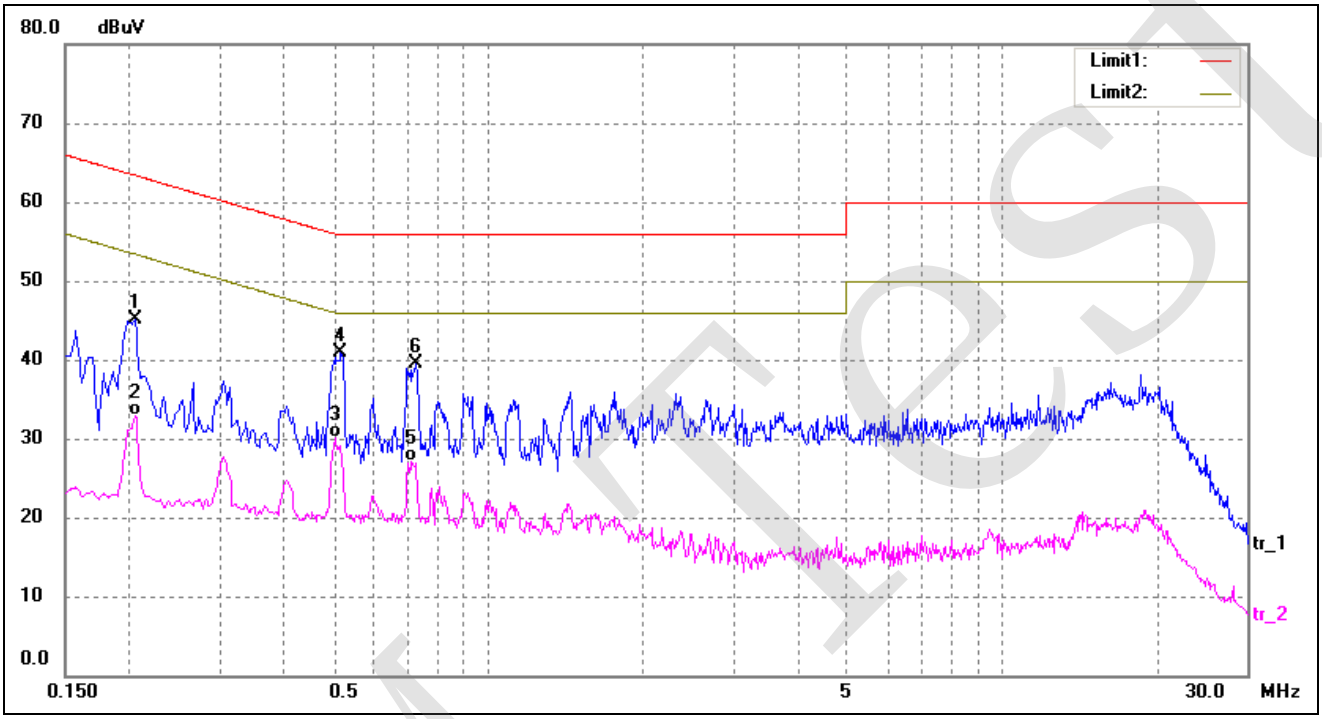
EUT: *Power adapter*

Tested Model: *GTM41076-0624*

Operating Condition: *TM2*

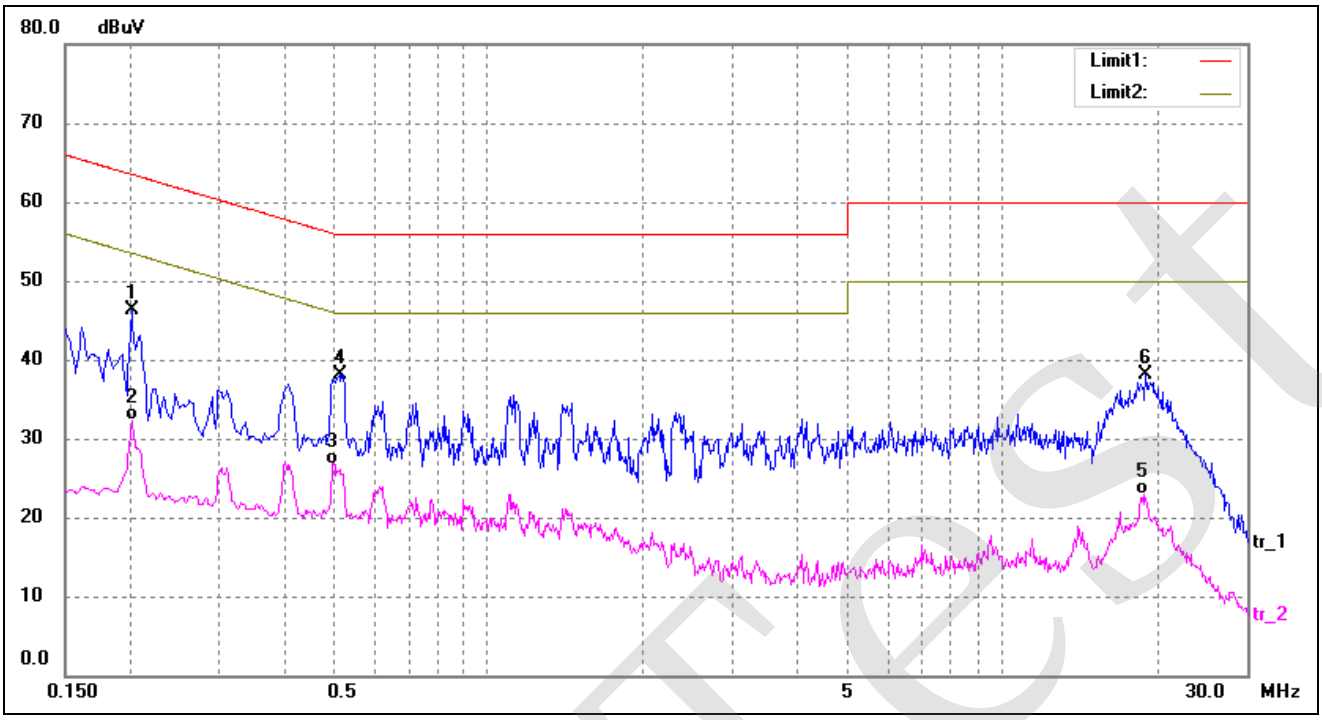
Comment: *AC 230V/50Hz*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.2060	35.66	9.50	45.16	63.37	-18.21	peak
2	0.2060	23.49	9.50	32.99	53.37	-20.38	AVG
3	0.5020	20.49	9.56	30.05	46.00	-15.95	AVG
4*	0.5180	31.42	9.56	40.98	56.00	-15.02	peak
5	0.7060	17.52	9.61	27.13	46.00	-18.87	AVG
6	0.7260	29.94	9.61	39.55	56.00	-16.45	peak

Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1*	0.2020	36.84	9.50	46.34	63.53	-17.19	peak
2	0.2020	22.89	9.50	32.39	53.53	-21.14	AVG
3	0.4980	17.24	9.56	26.80	46.03	-19.23	AVG
4	0.5140	28.60	9.56	38.16	56.00	-17.84	peak
5	18.9180	12.37	10.45	22.82	50.00	-27.18	AVG
6	19.0260	27.62	10.45	38.07	60.00	-21.93	peak

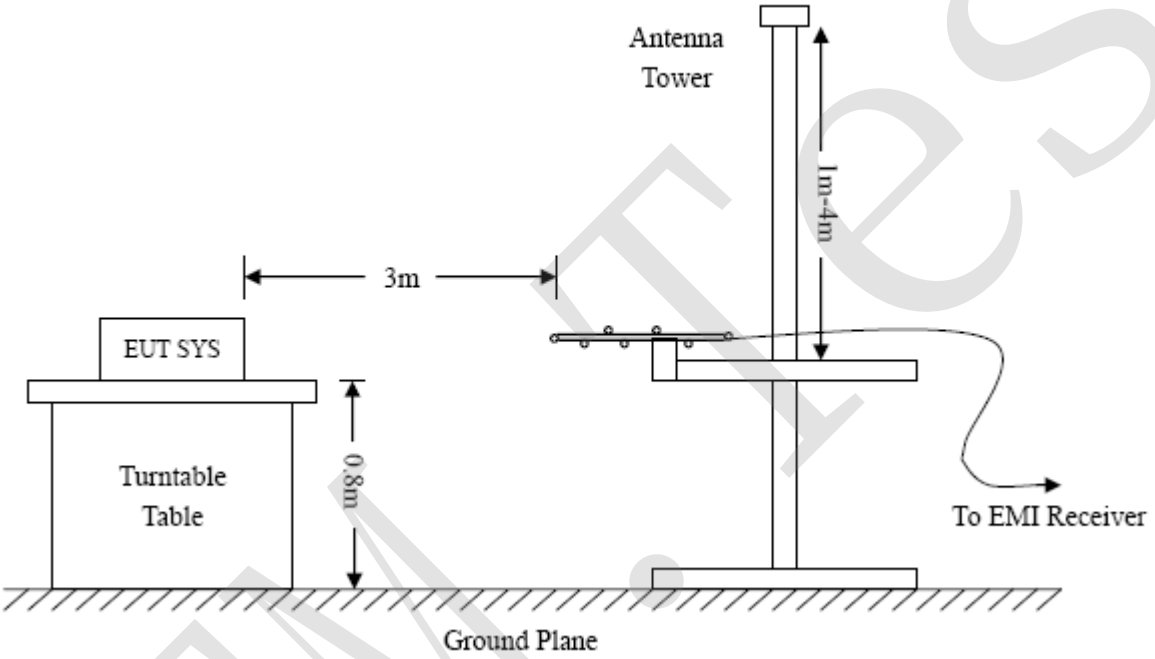
4. Radiated Disturbance

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 Procedure

Test is conducting under the description of EN55022 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.



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. – EN 60601-1-2 Class B Limit

4.4 Environmental Conditions

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

4.5 Summary of Test Results/Plots

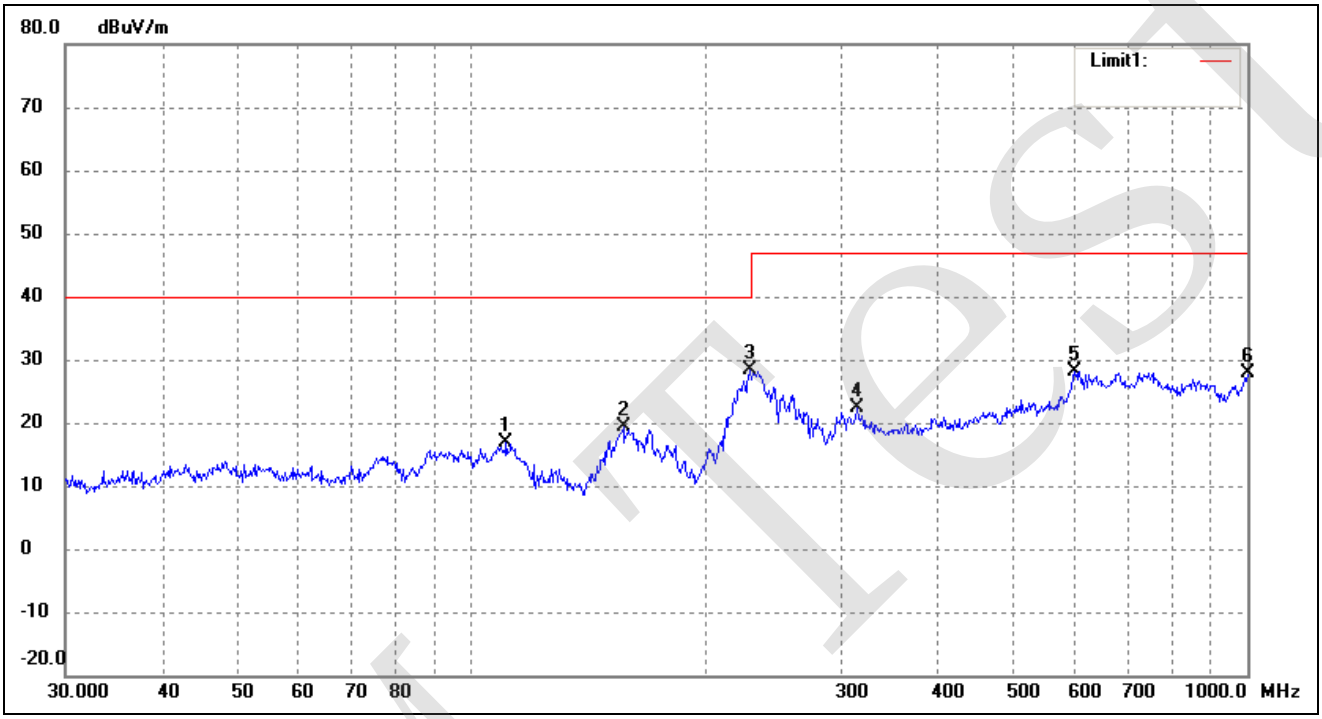
According to the data in section 4.5, the EUT complied with the EN 60601-1-2 Class B standards, and had the worst margin is:

-11.61 dB at **228.4904 MHz** in the **Horizontal** polarization, **TM1** mode, **30 MHz to 1 GHz, 3Meters**

Plot of Radiated Emissions Test Data

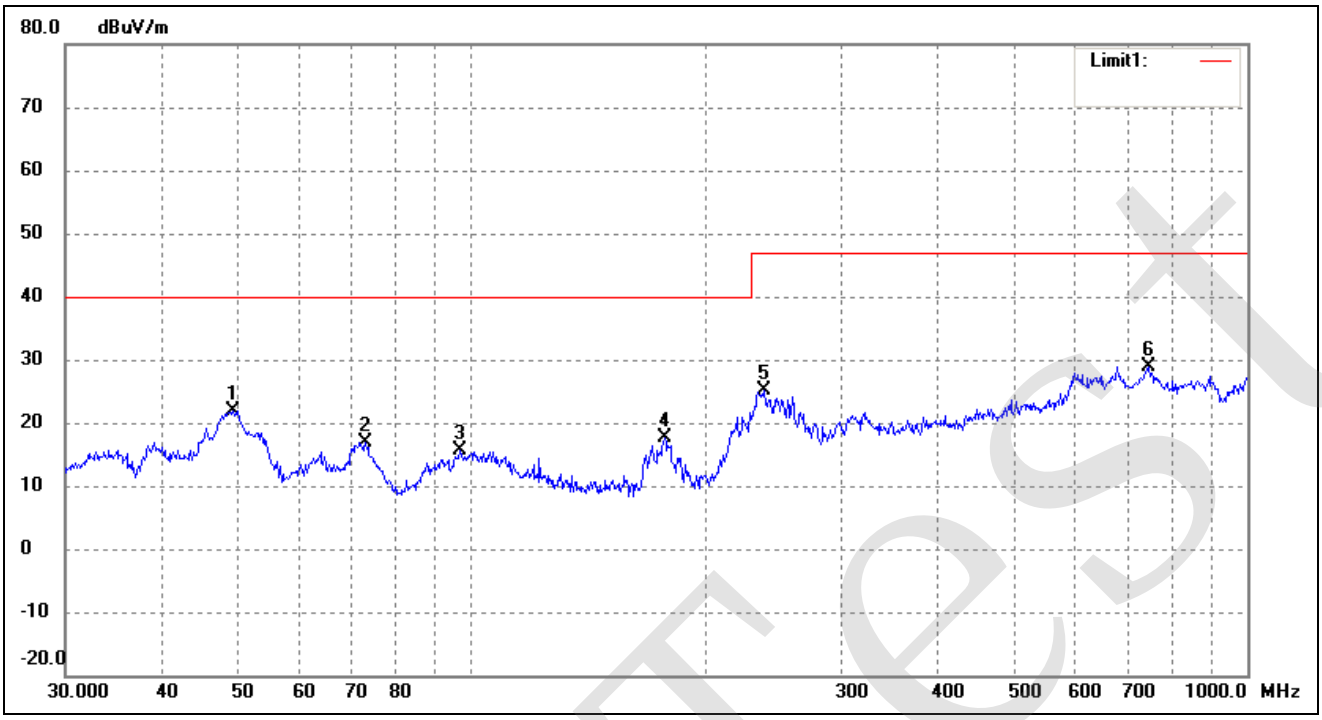
EUT: *Power adapter*
Tested Model: *GTM41076-0605*
Operating Condition: *TM1*
Comment: *AC 230V/50Hz*

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	110.9571	25.22	-8.28	16.94	40.00	-23.06	100	100	peak
2	157.0074	30.35	-11.04	19.31	40.00	-20.69	100	100	peak
3	228.4904	36.87	-8.48	28.39	40.00	-11.61	100	100	peak
4	314.3765	28.59	-6.31	22.28	47.00	-24.72	100	100	peak
5	599.3213	27.78	0.38	28.16	47.00	-18.84	100	100	peak
6	1000.0000	22.29	5.58	27.87	47.00	-19.13	100	100	peak

Test Specification: *Vertical*

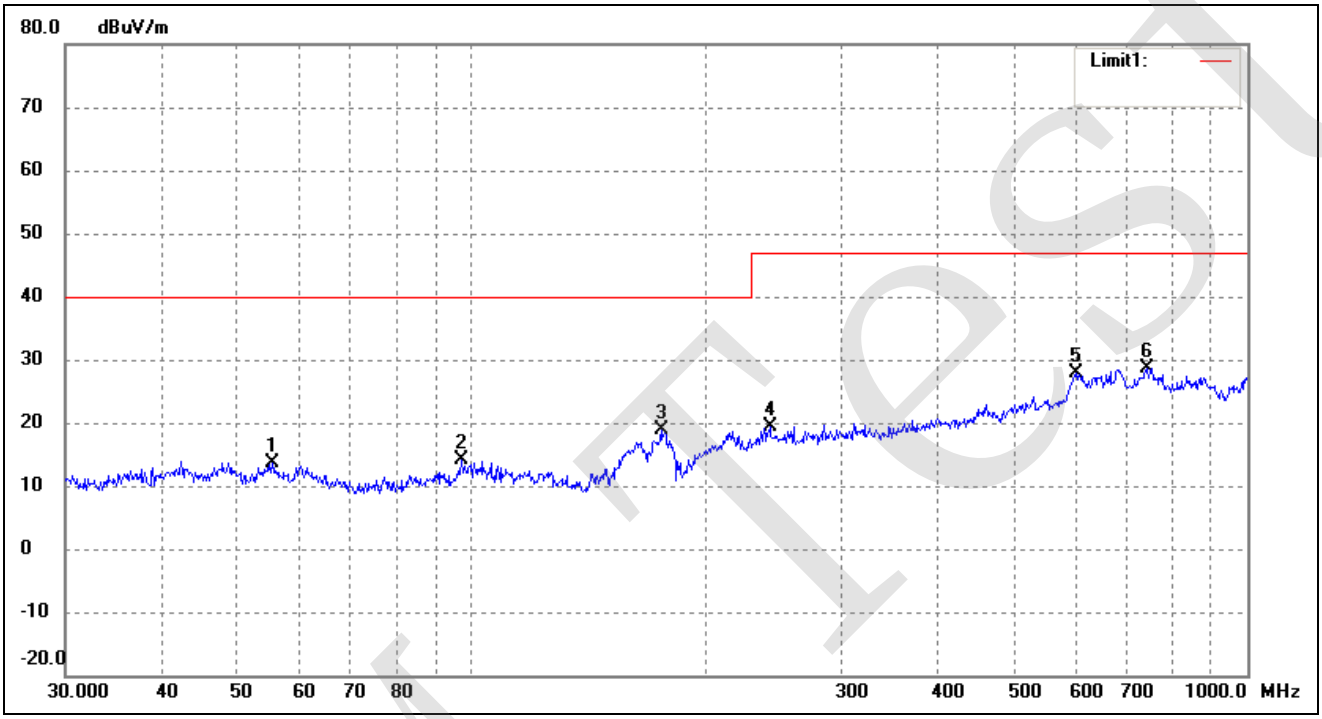


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	49.3594	31.84	-9.97	21.87	40.00	-18.13	100	100	peak
2	73.1025	29.47	-12.49	16.98	40.00	-23.02	100	100	peak
3	96.7749	26.42	-10.76	15.66	40.00	-24.34	100	100	peak
4	177.5092	30.59	-12.89	17.70	40.00	-22.30	100	100	peak
5	238.3102	31.66	-6.55	25.11	47.00	-21.89	100	100	peak
6	747.4826	23.06	5.86	28.92	47.00	-18.08	100	100	peak

Plot of Radiated Emissions Test Data

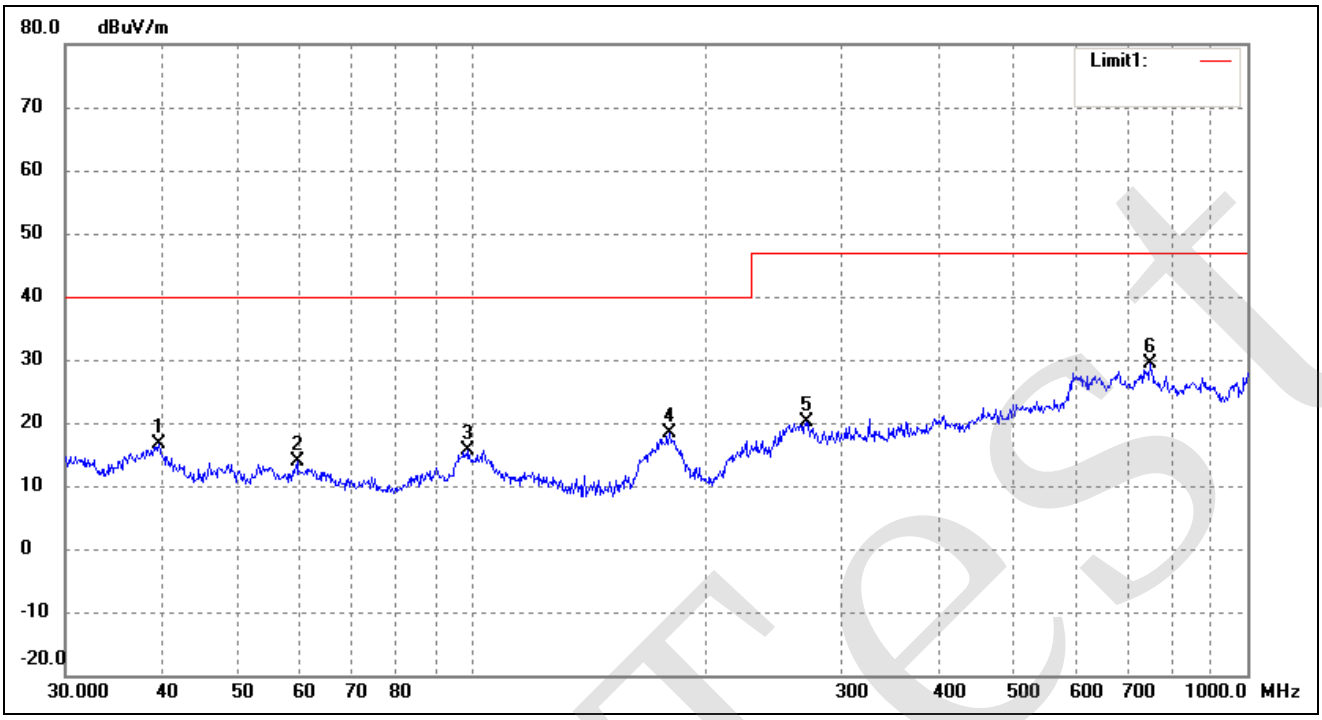
EUT: *Power adapter*
Tested Model: *GTM41076-0624*
Operating Condition: *TM2*
Comment: *AC 230V/50Hz*

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	55.4147	20.25	-6.63	13.62	40.00	-26.38	100	100	peak
2	97.1148	21.86	-7.64	14.22	40.00	-25.78	100	100	peak
3	175.6516	29.60	-10.69	18.91	40.00	-21.09	100	100	peak
4	242.5253	27.20	-7.73	19.47	47.00	-27.53	100	100	peak
5	601.4265	27.36	0.51	27.87	47.00	-19.13	100	100	peak
6	742.2587	25.67	3.07	28.74	47.00	-18.26	100	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	39.5757	26.68	-10.01	16.67	40.00	-23.33	100	100	peak
2	59.6493	23.79	-9.89	13.90	40.00	-26.10	100	100	peak
3	98.8326	26.12	-10.47	15.65	40.00	-24.35	100	100	peak
4	180.0165	31.18	-12.88	18.30	40.00	-21.70	100	100	peak
5	270.3748	25.28	-5.13	20.15	47.00	-26.85	100	100	peak
6	750.1083	23.74	5.75	29.49	47.00	-17.51	100	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

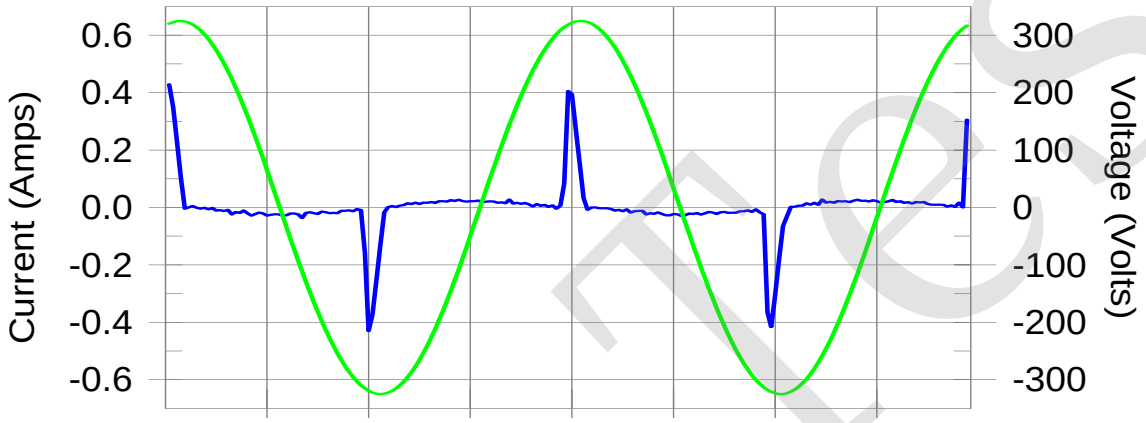
5.3 Harmonic Current Emissions Test Data

Harmonics – Class-A per Ed. 3.2 (2009)(Run time)

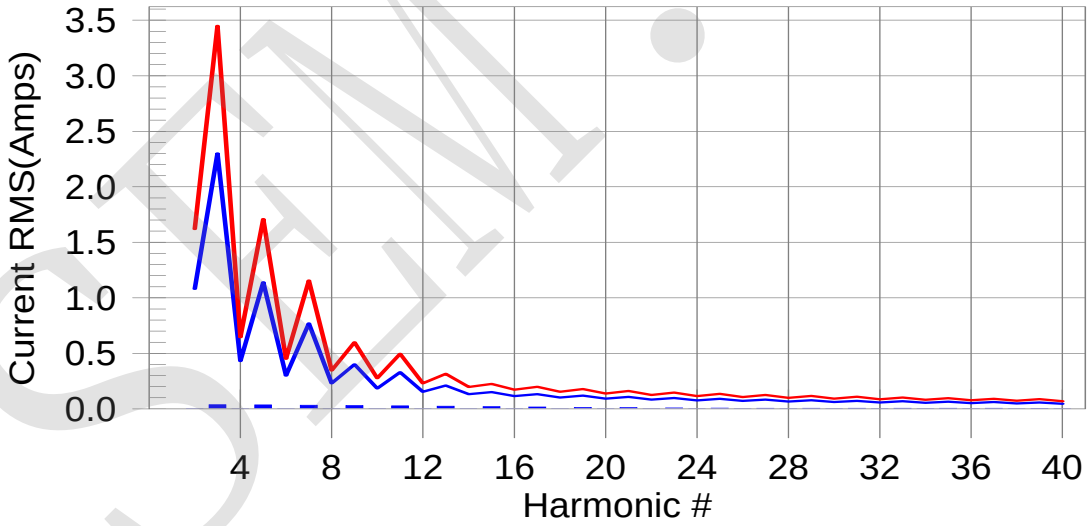
EUT: Power adapter **Tested by: Vicky**
Test category: Class-A per Ed. 3.2 (2009) (European limits) **Test Margin: 100**
Test date: 2016-8-4 **Start time: 10:51:06 AM** **End time: 10:53:57 AM**
Test duration (min): 2.5 **Data file name: H-000374.cts_data**
Comment: TM1
Customer: GlobTek, Inc.

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 13.15% of the limit.

Current Test Result Summary (Run time)

EUT: Power adapter **Tested by: Vicky**
Test category: Class-A per Ed. 3.2 (2009) (European limits) **Test Margin: 100**
Test date: 2016-8-4 **Start time: 10:51:06 AM** **End time: 10:53:57 AM**
Test duration (min): 2.5 **Data file name: H-000374.cts_data**
Comment: TM1
Customer: GlobTek, Inc.

Test Result: Pass **Source qualification: Normal**
THC(A): 0.08 **I-THD(%): 197.19** **POHC(A): 0.017** **POHC Limit(A): 0.271**
Highest parameter values during test:

V_RMS (Volts):	229.83	Frequency(Hz):	50.00
I_Peak (Amps):	0.456	I_RMS (Amps):	0.094
I_Fund (Amps):	0.043	Crest Factor:	4.908
Power (Watts):	8.5	Power Factor:	0.400

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.001	1.080	0.0	0.001	1.620	0.06	Pass
3	0.036	2.300	1.6	0.037	3.450	1.08	Pass
4	0.001	0.430	0.0	0.001	0.645	0.12	Pass
5	0.035	1.140	3.0	0.035	1.710	2.04	Pass
6	0.000	0.300	0.0	0.001	0.450	0.13	Pass
7	0.032	0.770	4.2	0.033	1.155	2.83	Pass
8	0.000	0.230	0.0	0.000	0.345	0.14	Pass
9	0.030	0.400	7.4	0.030	0.600	4.98	Pass
10	0.000	0.184	0.0	0.001	0.276	0.23	Pass
11	0.027	0.330	8.1	0.027	0.495	5.40	Pass
12	0.000	0.153	0.0	0.001	0.230	0.24	Pass
13	0.023	0.210	11.1	0.023	0.315	7.42	Pass
14	0.000	0.131	0.0	0.000	0.197	0.25	Pass
15	0.020	0.150	13.1	0.020	0.225	8.82	Pass
16	0.000	0.115	0.0	0.000	0.173	0.29	Pass
17	0.016	0.132	12.3	0.016	0.199	8.26	Pass
18	0.000	0.102	0.0	0.000	0.153	0.30	Pass
19	0.013	0.118	11.1	0.013	0.178	7.47	Pass
20	0.000	0.092	0.0	0.000	0.138	0.32	Pass
21	0.010	0.107	9.6	0.011	0.161	6.53	Pass
22	0.000	0.084	0.0	0.000	0.125	0.29	Pass
23	0.008	0.098	8.3	0.008	0.147	5.61	Pass
24	0.000	0.077	0.0	0.000	0.115	0.29	Pass
25	0.007	0.090	7.3	0.007	0.135	4.94	Pass
26	0.000	0.071	0.0	0.000	0.106	0.32	Pass
27	0.006	0.083	6.8	0.006	0.125	4.63	Pass

28	0.000	0.066	0.0	0.000	0.099	0.38	Pass
29	0.005	0.078	6.8	0.005	0.116	4.63	Pass
30	0.000	0.061	0.0	0.000	0.092	0.37	Pass
31	0.005	0.073	7.1	0.005	0.109	4.77	Pass
32	0.000	0.058	0.0	0.000	0.086	0.41	Pass
33	0.005	0.068	0.0	0.005	0.102	4.89	Pass
34	0.000	0.054	0.0	0.000	0.081	0.39	Pass
35	0.005	0.064	0.0	0.005	0.096	4.88	Pass
36	0.000	0.051	0.0	0.000	0.077	0.39	Pass
37	0.004	0.061	0.0	0.004	0.091	4.65	Pass
38	0.000	0.048	0.0	0.000	0.073	0.36	Pass
39	0.004	0.058	0.0	0.004	0.087	4.19	Pass
40	0.000	0.046	0.0	0.000	0.069	0.33	Pass

Voltage Source Verification Data (Run time)

EUT: Power adapter **Tested by: Vicky**
Test category: Class-A per Ed. 3.2 (2009) (European limits) **Test Margin: 100**
Test date: 2016-8-4 **Start time: 10:51:06 AM** **End time: 10:53:57 AM**
Test duration (min): 2.5 **Data file name: H-000374.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):	0.456	I_RMS (Amps):	0.094
I_Fund (Amps):	0.043	Crest Factor:	4.908
Power (Watts):	8.5	Power Factor:	0.400

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.060	0.460	13.09	OK
3	0.559	2.068	27.02	OK
4	0.070	0.460	15.25	OK
5	0.071	0.919	7.74	OK
6	0.032	0.459	7.00	OK
7	0.021	0.689	2.97	OK
8	0.017	0.460	3.74	OK
9	0.023	0.459	5.11	OK
10	0.013	0.460	2.79	OK
11	0.028	0.230	12.21	OK
12	0.013	0.230	5.63	OK
13	0.021	0.230	8.98	OK
14	0.005	0.230	2.15	OK
15	0.022	0.230	9.76	OK
16	0.009	0.230	3.81	OK
17	0.012	0.230	5.14	OK
18	0.010	0.230	4.31	OK
19	0.022	0.230	9.45	OK
20	0.015	0.230	6.59	OK
21	0.016	0.230	6.81	OK
22	0.006	0.230	2.66	OK
23	0.013	0.230	5.85	OK
24	0.004	0.230	1.79	OK
25	0.009	0.230	4.11	OK
26	0.004	0.230	1.73	OK
27	0.014	0.230	6.13	OK

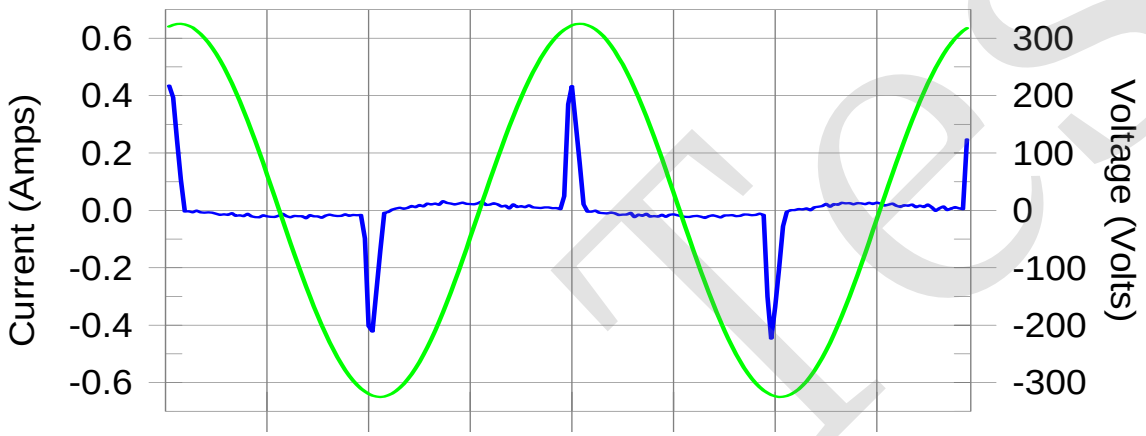
28	**0.005**	**0.230**	**2.27**	**OK**
29	**0.006**	**0.230**	**2.62**	**OK**
30	**0.005**	**0.230**	**2.01**	**OK**
31	**0.009**	**0.230**	**4.11**	**OK**
32	**0.004**	**0.230**	**1.95**	**OK**
33	**0.009**	**0.230**	**3.92**	**OK**
34	**0.004**	**0.230**	**1.66**	**OK**
35	**0.009**	**0.230**	**3.91**	**OK**
36	**0.004**	**0.230**	**1.57**	**OK**
37	**0.010**	**0.230**	**4.31**	**OK**
38	**0.003**	**0.230**	**1.51**	**OK**
39	**0.011**	**0.230**	**4.60**	**OK**
40	**0.009**	**0.230**	**3.86**	**OK**

Harmonics – Class-A per Ed. 3.2 (2009)(Run time)

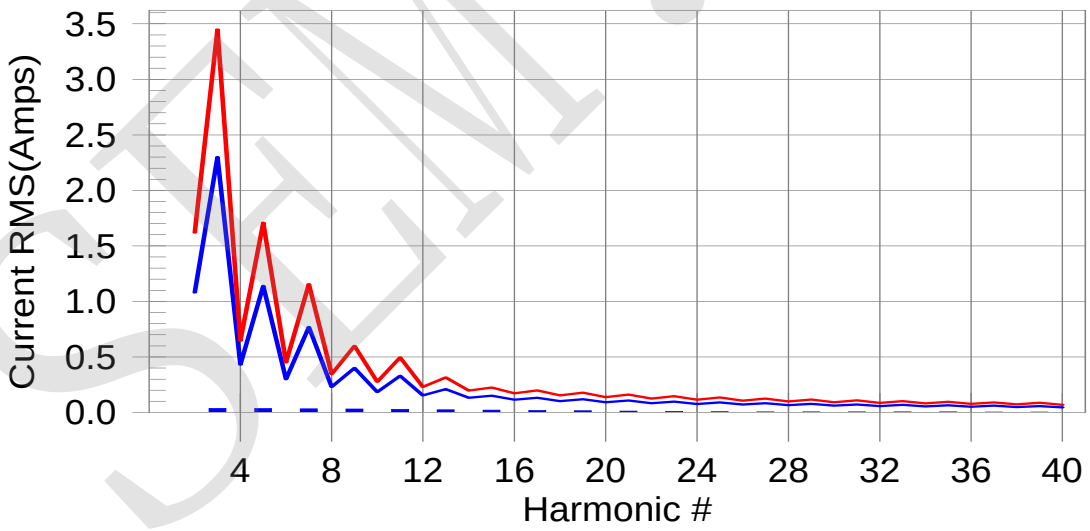
EUT: Power adapter **Tested by: Vicky**
Test category: Class-A per Ed. 3.2 (2009) (European limits) **Test Margin: 100**
Test date: 2016-8-4 **Start time: 11:13:31 AM** **End time: 11:16:22 AM**
Test duration (min): 2.5 **Data file name: H-000376.cts_data**
Comment: TM2
Customer: GlobTek, Inc.

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 13.91% of the limit.**

Current Test Result Summary (Run time)

EUT: Power adapter **Tested by: Vicky**
Test category: Class-A per Ed. 3.2 (2009) (European limits) **Test Margin: 100**
Test date: 2016-8-4 **Start time: 11:13:31 AM** **End time: 11:16:22 AM**
Test duration (min): 2.5 **Data file name: H-000376.cts_data**
Comment: TM2
Customer: GlobTek, Inc.

Test Result: Pass **Source qualification: Normal**
THC(A): 0.08 **I-THD(%): 202.21** **POHC(A): 0.017** **POHC Limit(A): 0.283**
Highest parameter values during test:

V_RMS (Volts):	229.84	Frequency(Hz):	50.00
I_Peak (Amps):	0.468	I_RMS (Amps):	0.095
I_Fund (Amps):	0.042	Crest Factor:	4.986
Power (Watts):	8.5	Power Factor:	0.392

Harm#	Harms(avg)	100%Limit	%of Limit	Harms(max)	150%Limit	%of Limit	Status
2	0.001	1.080	0.0	0.001	1.620	0.06	Pass
3	0.036	2.300	1.6	0.037	3.450	1.08	Pass
4	0.001	0.430	0.0	0.001	0.645	0.15	Pass
5	0.034	1.140	3.0	0.035	1.710	2.04	Pass
6	0.000	0.300	0.0	0.001	0.450	0.15	Pass
7	0.032	0.770	4.2	0.033	1.155	2.85	Pass
8	0.000	0.230	0.0	0.001	0.345	0.18	Pass
9	0.030	0.400	7.5	0.030	0.600	5.07	Pass
10	0.000	0.184	0.0	0.001	0.276	0.27	Pass
11	0.027	0.330	8.3	0.028	0.495	5.56	Pass
12	0.000	0.153	0.0	0.001	0.230	0.27	Pass
13	0.024	0.210	11.5	0.024	0.315	7.73	Pass
14	0.000	0.131	0.0	0.001	0.197	0.34	Pass
15	0.021	0.150	13.9	0.021	0.225	9.35	Pass
16	0.000	0.115	0.0	0.001	0.173	0.35	Pass
17	0.018	0.132	13.3	0.018	0.199	8.91	Pass
18	0.000	0.102	0.0	0.001	0.153	0.40	Pass
19	0.014	0.118	12.2	0.015	0.178	8.19	Pass
20	0.000	0.092	0.0	0.001	0.138	0.41	Pass
21	0.012	0.107	10.8	0.012	0.161	7.24	Pass
22	0.000	0.084	0.0	0.000	0.125	0.38	Pass
23	0.009	0.098	9.2	0.009	0.147	6.20	Pass
24	0.000	0.077	0.0	0.000	0.115	0.36	Pass
25	0.007	0.090	7.8	0.007	0.135	5.24	Pass
26	0.000	0.071	0.0	0.000	0.106	0.34	Pass
27	0.006	0.083	6.7	0.006	0.125	4.52	Pass

28	0.000	0.066	0.0	0.000	0.099	0.37	Pass
29	0.005	0.078	0.0	0.005	0.116	4.16	Pass
30	0.000	0.061	0.0	0.000	0.092	0.37	Pass
31	0.004	0.073	0.0	0.004	0.109	4.09	Pass
32	0.000	0.058	0.0	0.000	0.086	0.43	Pass
33	0.004	0.068	0.0	0.004	0.102	4.24	Pass
34	0.000	0.054	0.0	0.000	0.081	0.41	Pass
35	0.004	0.064	0.0	0.004	0.096	4.34	Pass
36	0.000	0.051	0.0	0.000	0.077	0.40	Pass
37	0.004	0.061	0.0	0.004	0.091	4.27	Pass
38	0.000	0.048	0.0	0.000	0.073	0.40	Pass
39	0.003	0.058	0.0	0.003	0.087	4.01	Pass
40	0.000	0.046	0.0	0.000	0.069	0.37	Pass

Voltage Source Verification Data (Run time)

EUT: Power adapter **Tested by: Vicky**
Test category: Class-A per Ed. 3.2 (2009) (European limits) **Test Margin: 100**
Test date: 2016-8-4 **Start time: 11:13:31 AM** **End time: 11:16:22 AM**
Test duration (min): 2.5 **Data file name: H-000376.cts_data**
Comment: TM2
Customer: GlobTek, Inc.

Test Result: Pass **Source qualification: Normal**

Highest parameter values during test:

Voltage (Vrms):	229.84	Frequency(Hz):	50.00
I_Peak (Amps):	0.468	I_RMS (Amps):	0.095
I_Fund (Amps):	0.042	Crest Factor:	4.986
Power (Watts):	8.5	Power Factor:	0.392

Harm#	Harmonics V-rms	Limit V-rms	% of Limit	Status
2	0.050	0.460	10.97	OK
3	0.552	2.068	26.68	OK
4	0.076	0.460	16.57	OK
5	0.066	0.919	7.18	OK
6	0.033	0.460	7.27	OK
7	0.020	0.689	2.84	OK
8	0.018	0.460	3.93	OK
9	0.025	0.460	5.46	OK
10	0.012	0.460	2.59	OK
11	0.027	0.230	11.61	OK
12	0.012	0.230	5.23	OK
13	0.022	0.230	9.71	OK
14	0.005	0.230	2.28	OK
15	0.022	0.230	9.43	OK
16	0.008	0.230	3.47	OK
17	0.014	0.230	6.18	OK
18	0.010	0.230	4.54	OK
19	0.023	0.230	10.03	OK
20	0.016	0.230	6.83	OK
21	0.017	0.230	7.46	OK
22	0.005	0.230	2.30	OK
23	0.015	0.230	6.46	OK
24	0.004	0.230	1.70	OK
25	0.011	0.230	4.58	OK
26	0.003	0.230	1.51	OK
27	0.012	0.230	5.23	OK

28	**0.005**	**0.230**	**2.20**	**OK**
29	**0.007**	**0.230**	**2.99**	**OK**
30	**0.004**	**0.230**	**1.58**	**OK**
31	**0.008**	**0.230**	**3.29**	**OK**
32	**0.004**	**0.230**	**1.77**	**OK**
33	**0.007**	**0.230**	**3.07**	**OK**
34	**0.003**	**0.230**	**1.49**	**OK**
35	**0.008**	**0.230**	**3.27**	**OK**
36	**0.003**	**0.230**	**1.39**	**OK**
37	**0.007**	**0.230**	**3.06**	**OK**
38	**0.003**	**0.230**	**1.44**	**OK**
39	**0.008**	**0.230**	**3.64**	**OK**
40	**0.010**	**0.230**	**4.21**	**OK**

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

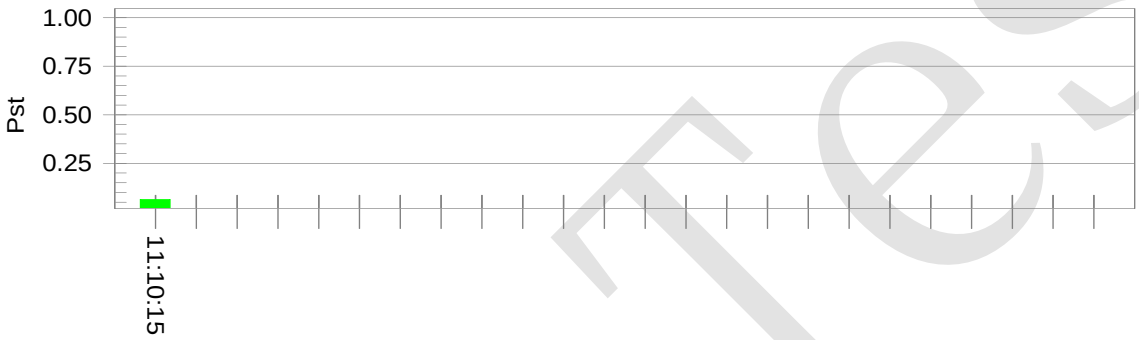
6.3 Voltage Fluctuation and Flicker Test Data

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

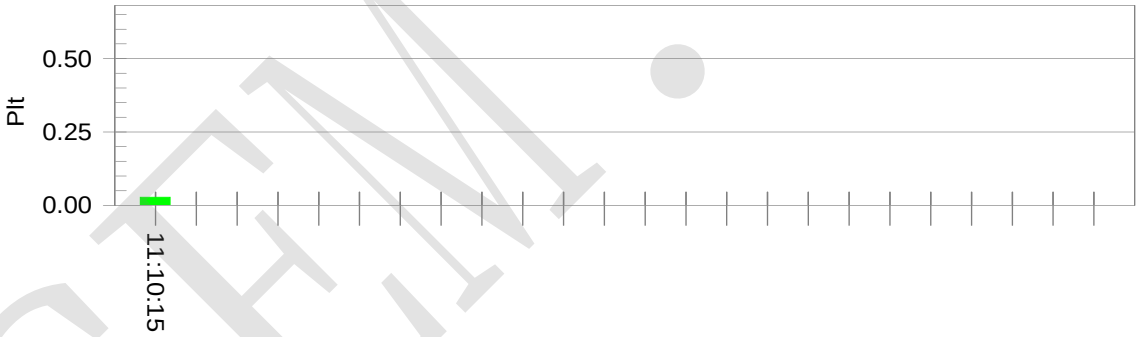
EUT: Power adapter **Tested by: Vicky**
Test category: All parameters (European limits) **Test Margin: 100**
Test date: 2016-8-4 **Start time: 10:59:55 AM** **End time: 11:10:16 AM**
Test duration (min): 10 **Data file name: F-000375.cts_data**
Comment: TM1
Customer: GlobTek,Inc.

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):	**229.71**			
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**

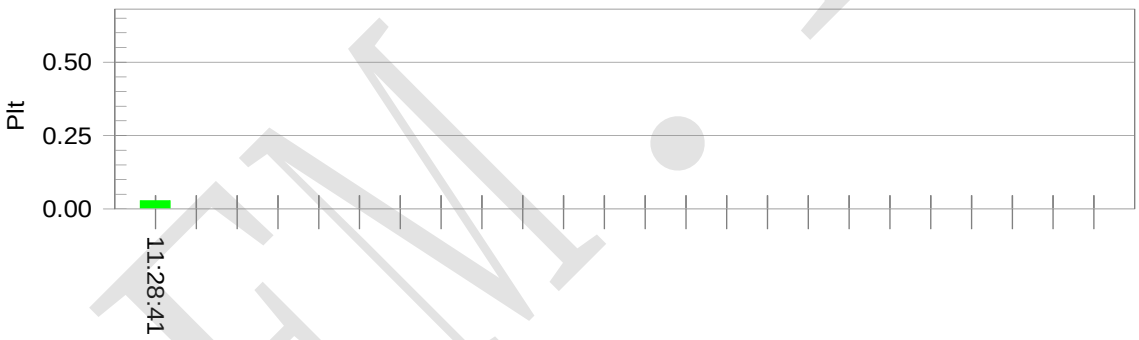
licker Test Summary per EN/IEC61000-3-3 (Run time)

EUT: Power adapter **Tested by: Vicky**
Test category: All parameters (European limits) **Test Margin: 100**
Test date: 2016-8-4 **Start time: 11:18:21 AM** **End time: 11:28:42 AM**
Test duration (min): 10 **Data file name: F-000377.cts_data**
Comment: TM2
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):	**229.73**			
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

Table 1: Electrostatic Discharge Immunity (Air Discharge)

Test Mode: TM1/TM2

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

Table 2: Electrostatic Discharge Immunity (Direct Contact)

Test Mode: TM1/TM2

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)

Test Mode: TM1/TM2

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)

Test Mode: TM1/TM2

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 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 Mode: TM1/TM2

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 Mode: TM1/TM2

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		/	/	/	/	/	/	/	/

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 Mode: TM1/TM2

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 Mode: TM1/TM2

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 Mode: TM1/TM2

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

GlobTek, Inc.
Model: GTM41076-WWVV-X.X
Brand: GlobTek, Inc.
Importer Name: XXX
Importer Address: XXX
GlobTek, Inc.
186 Veterans Dr. Northvale, NJ 07647 USA

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

Test Model: GTM41076-0605

CE Label Location

Test Model: GTM41076-0624

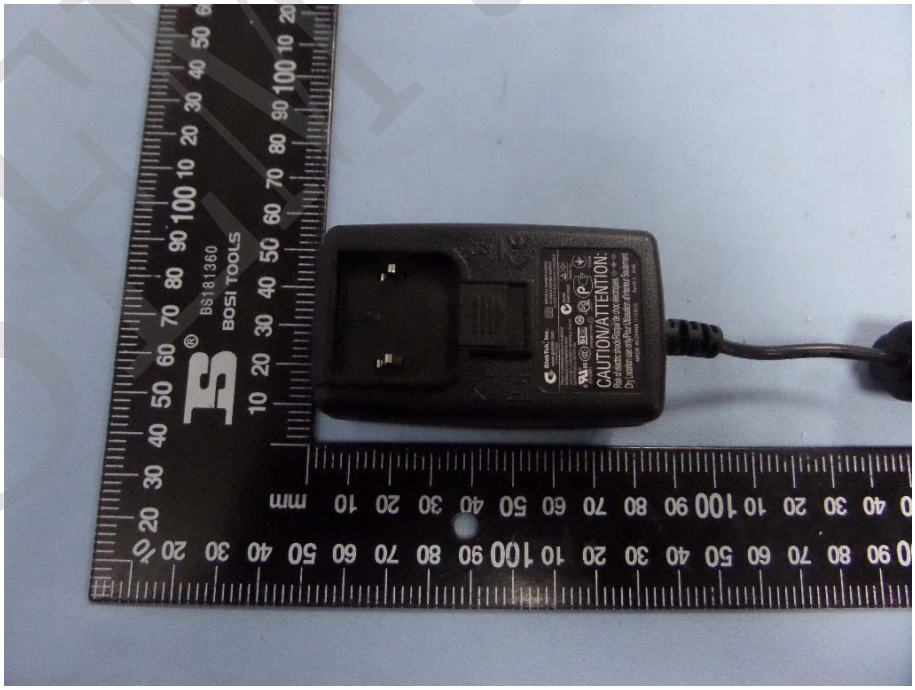
CE Label Location

EXHIBIT 2 - EUT PHOTOGRAPHS

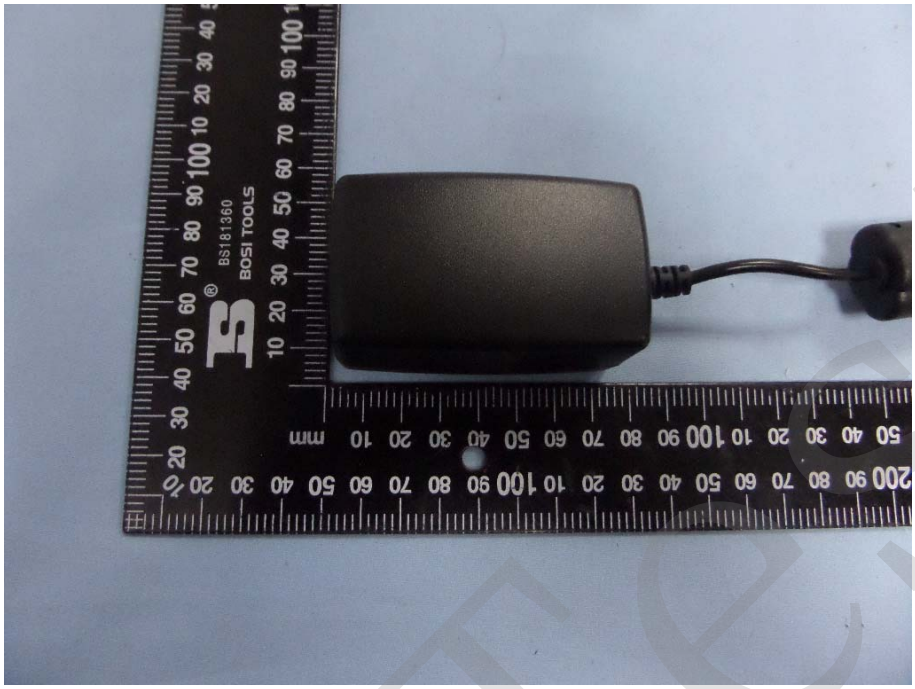
Test Model: GTM41076-0605

EUT View 1

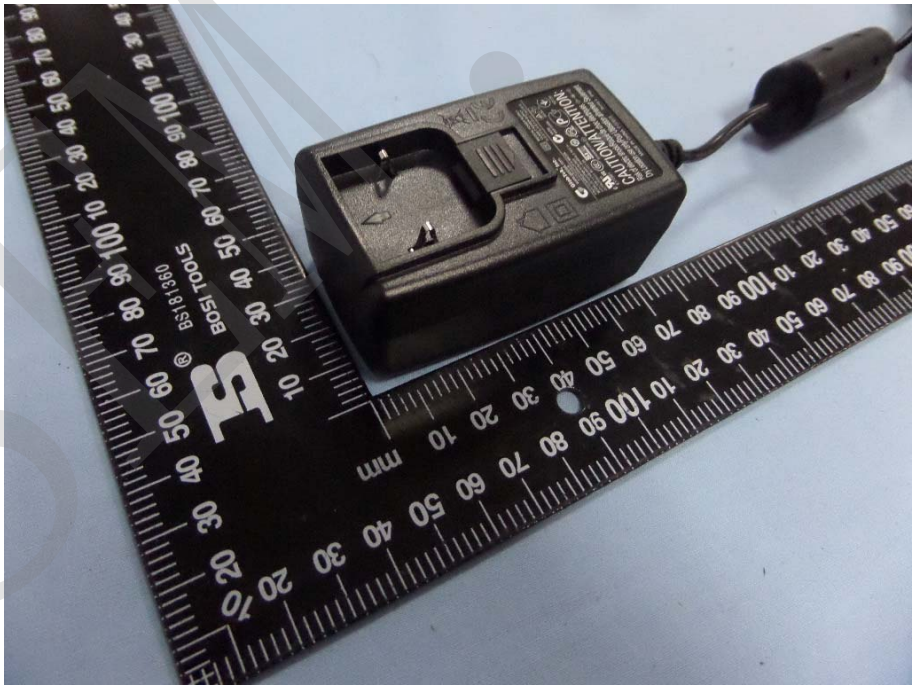
EUT View 2



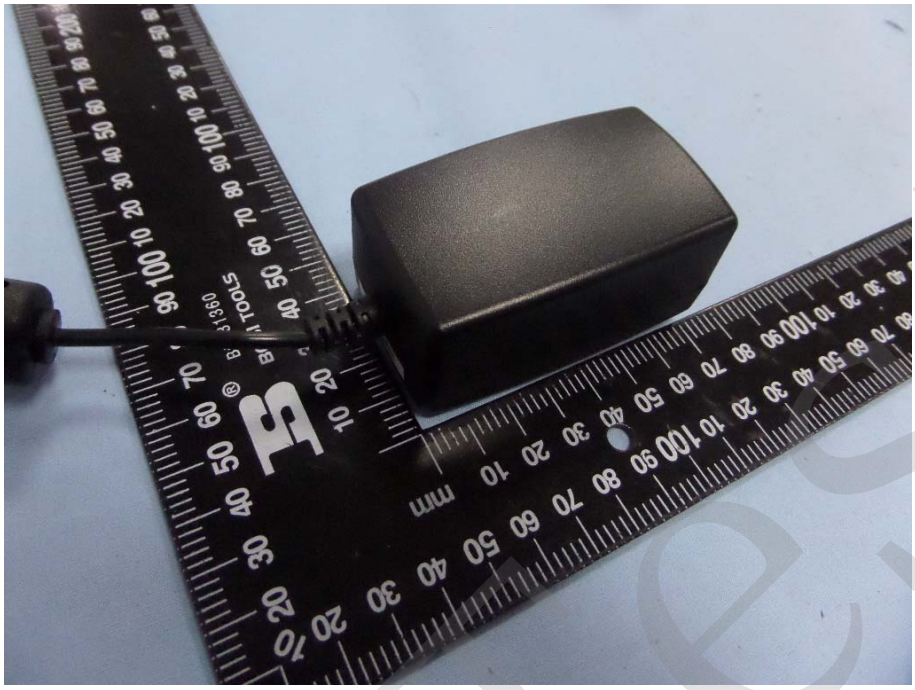
EUT View 3



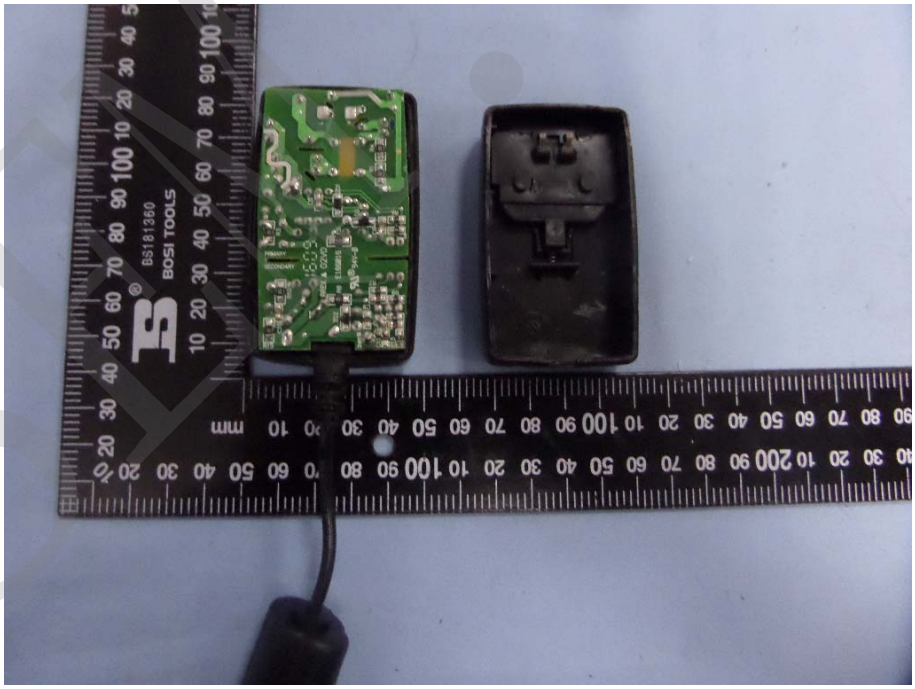
EUT View 4



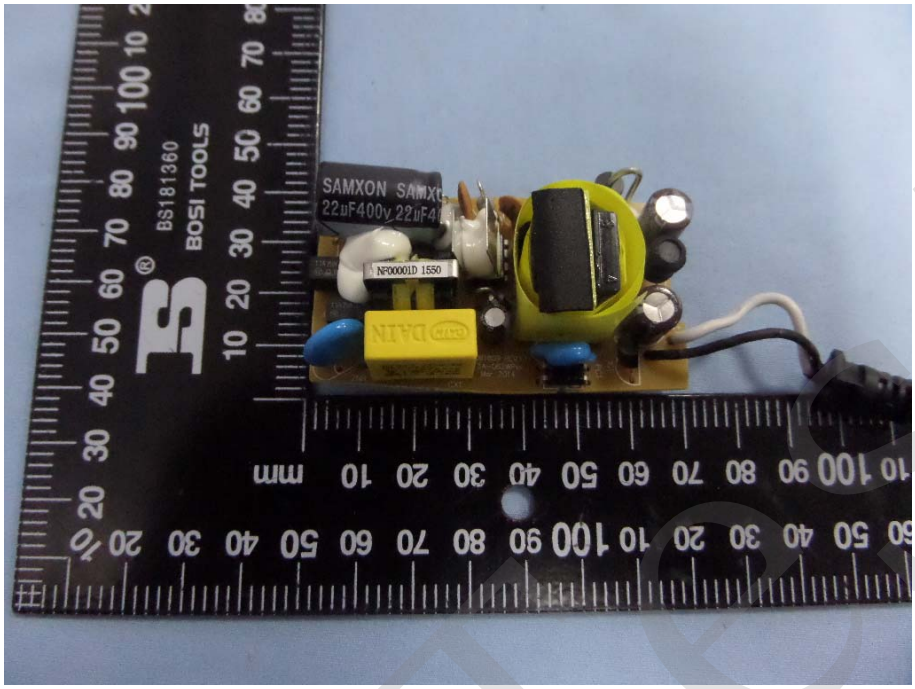
EUT View 5



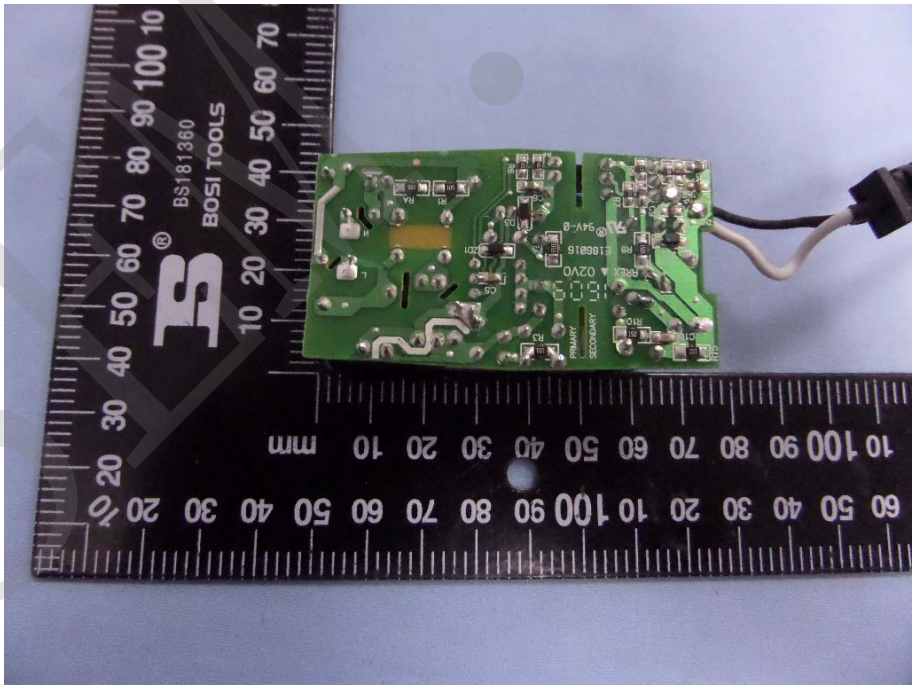
EUT Housing and Board View 1



Solder Board-Component View 1



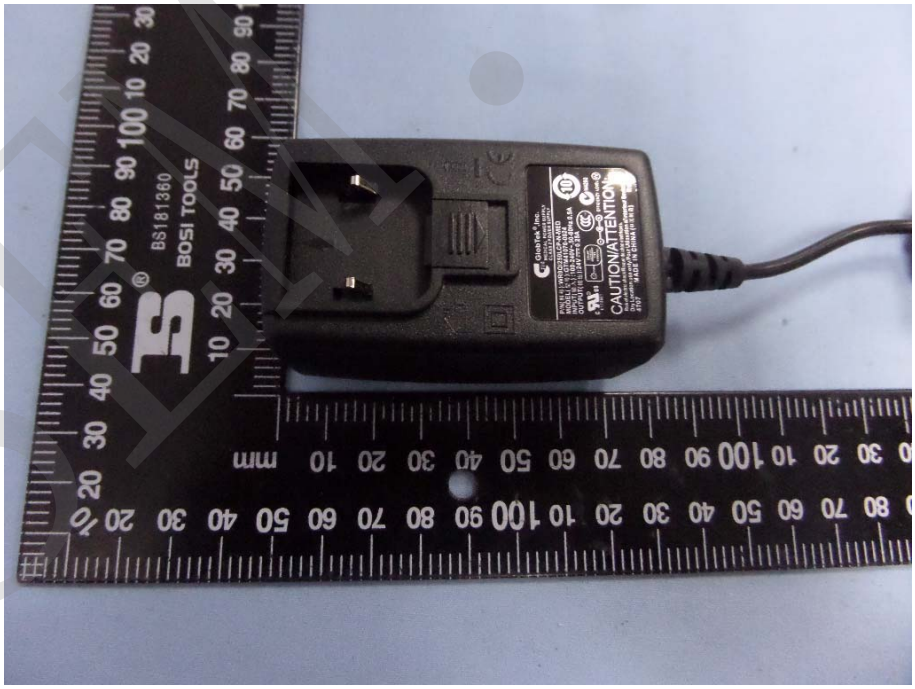
Solder Board-Component View 2



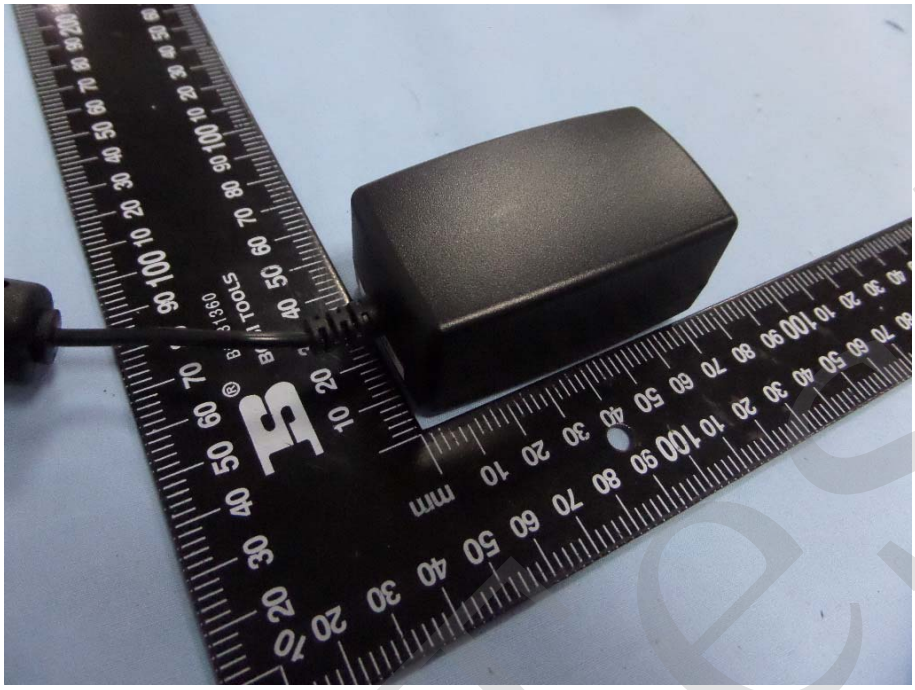
Test Model: GTM41076-0624

EUT View 1

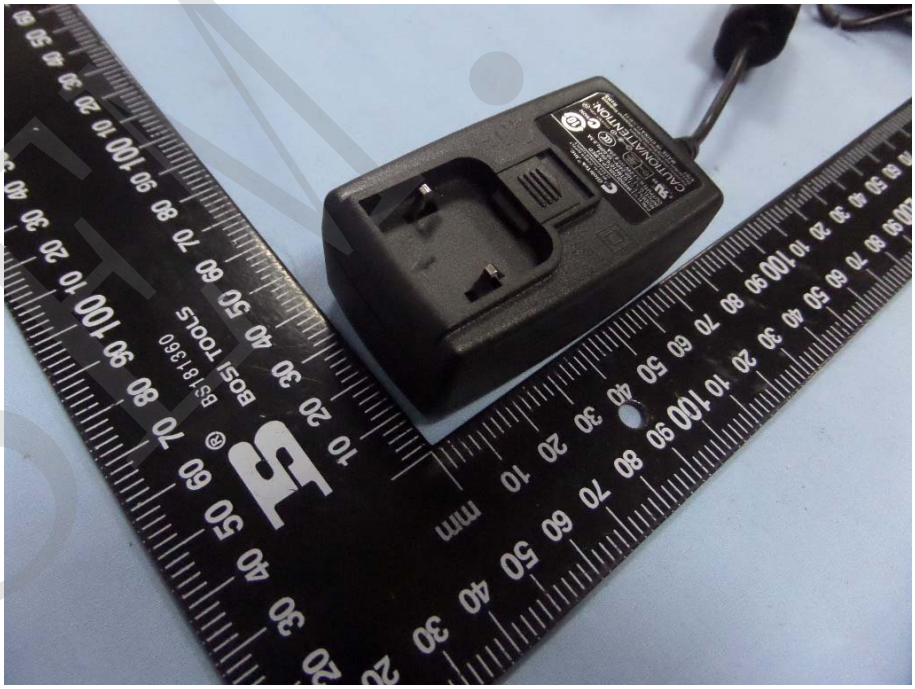
EUT View 2



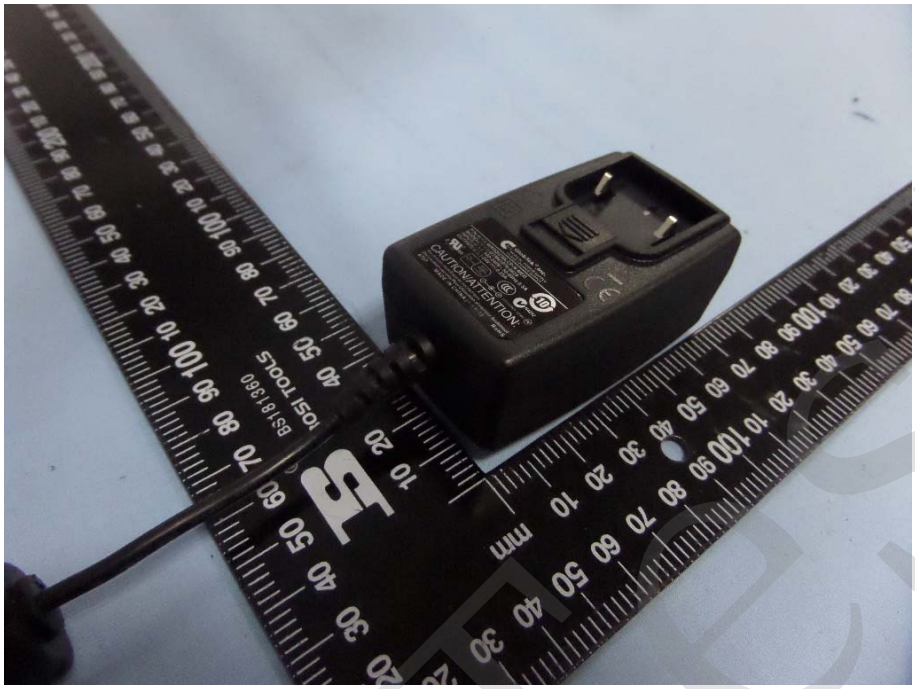
EUT View 3



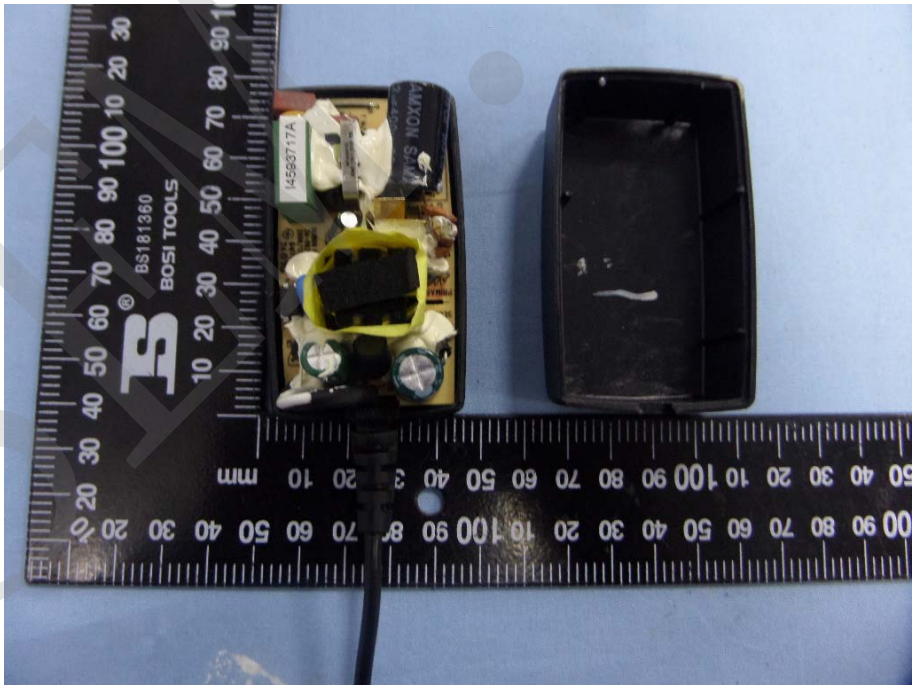
EUT View 4



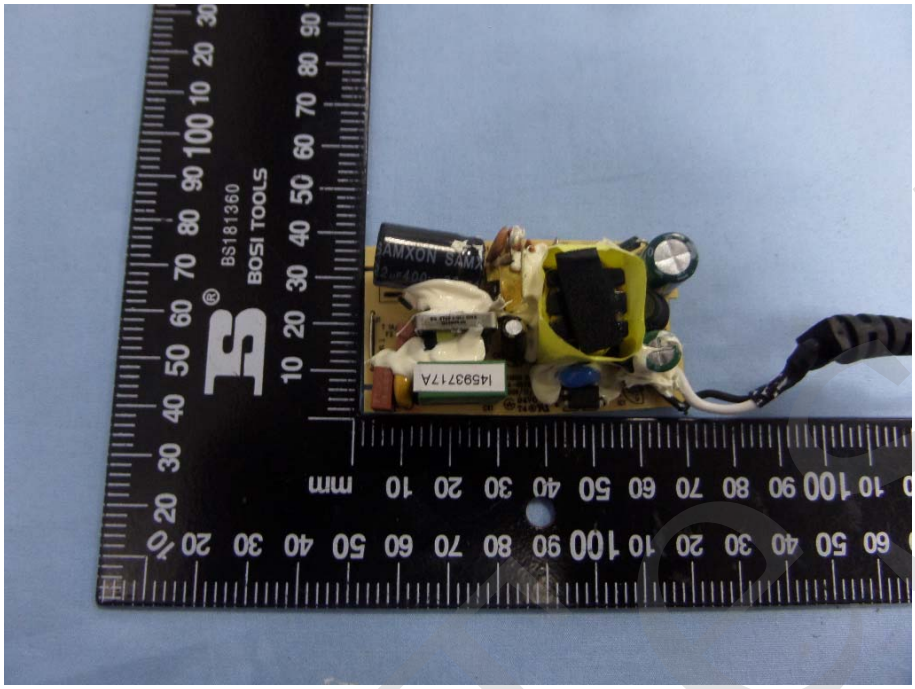
EUT View 5



EUT Housing and Board View 1



Solder Board-Component View 1



Solder Board-Component View 2

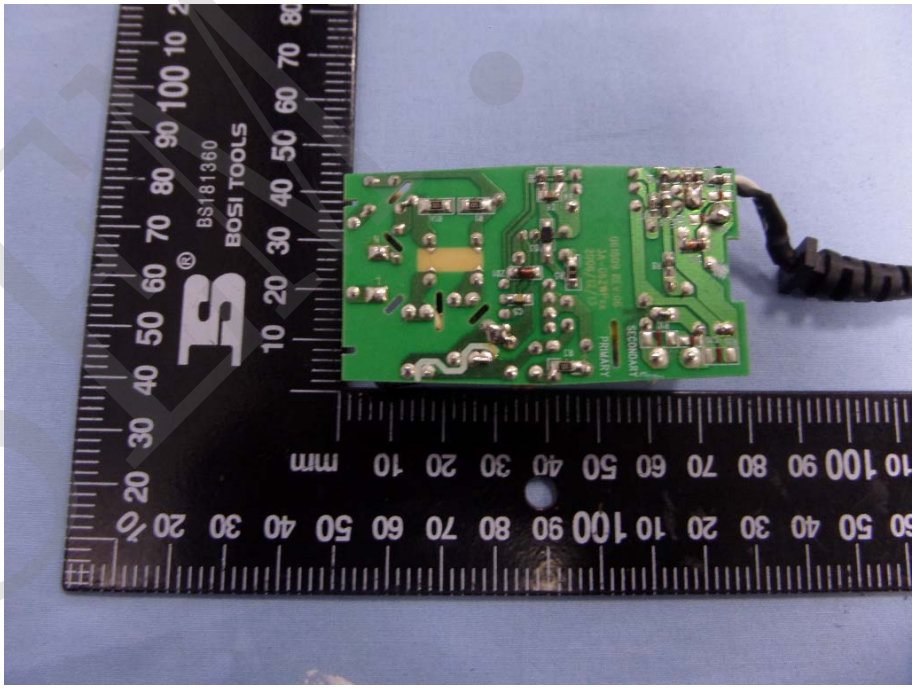
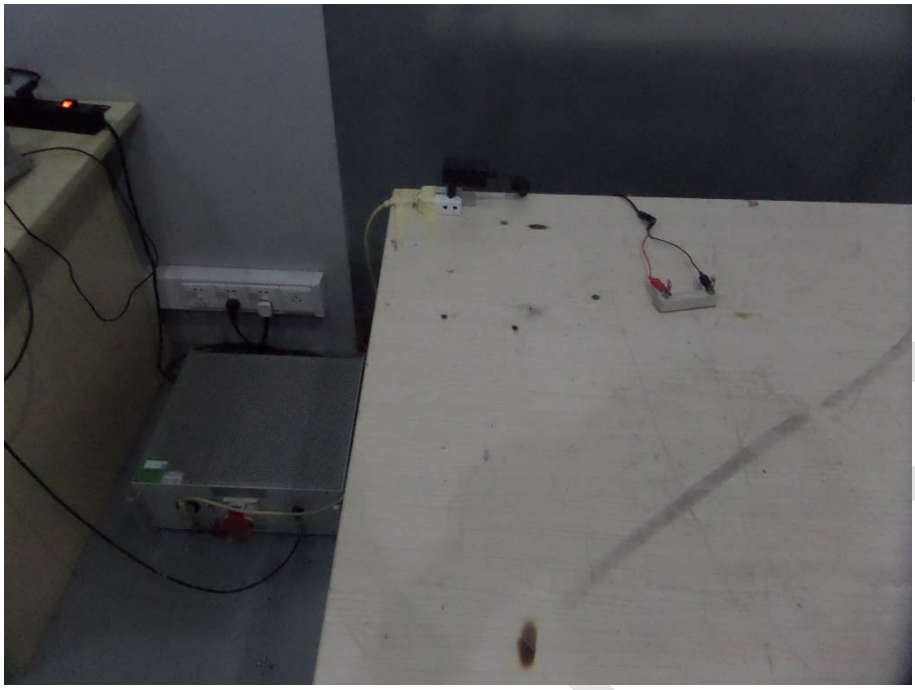
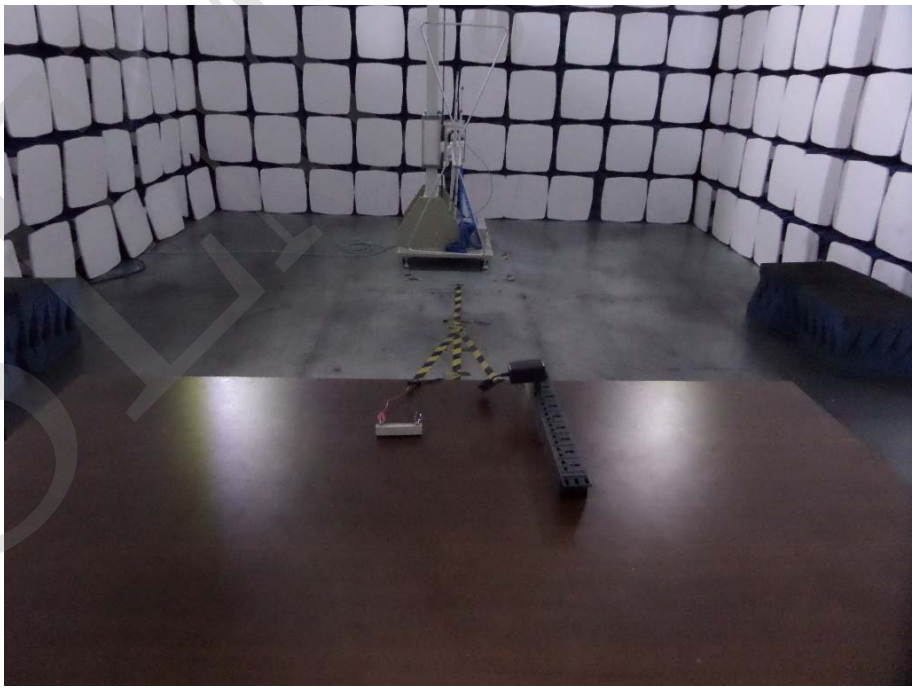


EXHIBIT 3 - TEST SETUP PHOTOGRAPHS

Conduction Emission Test View



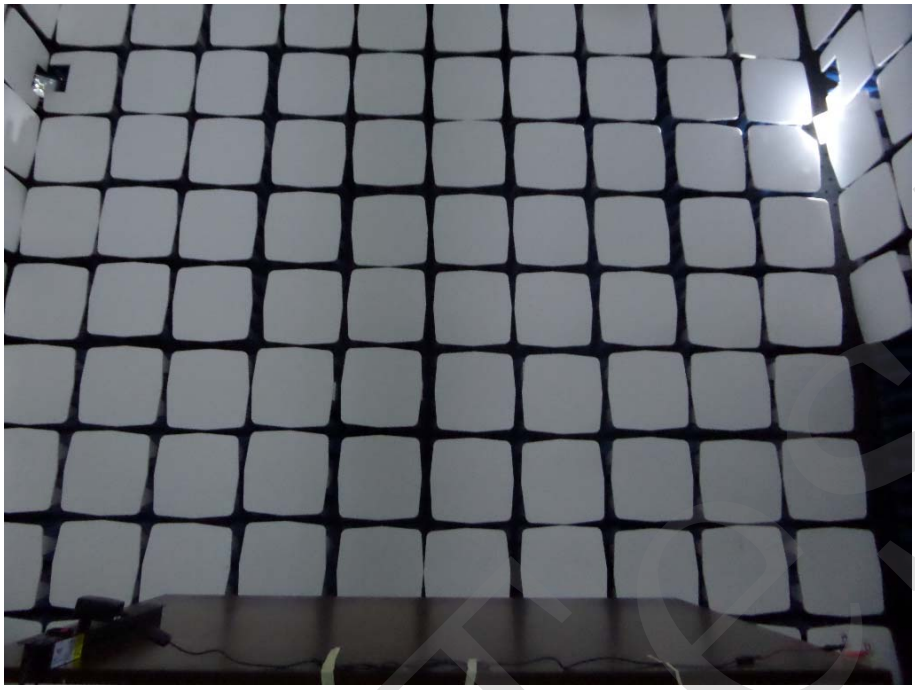
Radiation Emission Test View



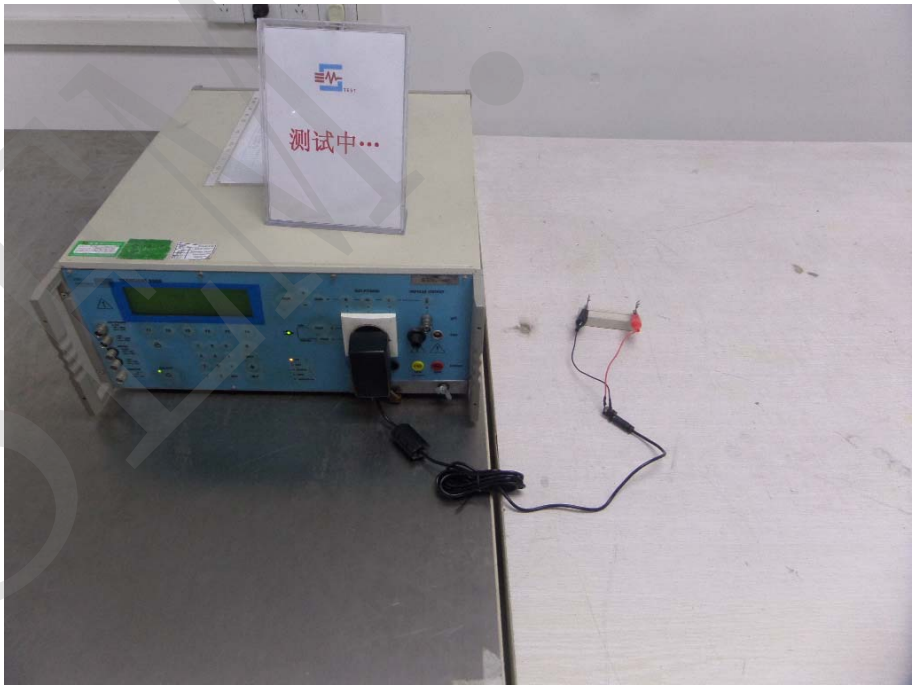
Harmonic/Flicker Test View

IEC61000-4-2 Test View

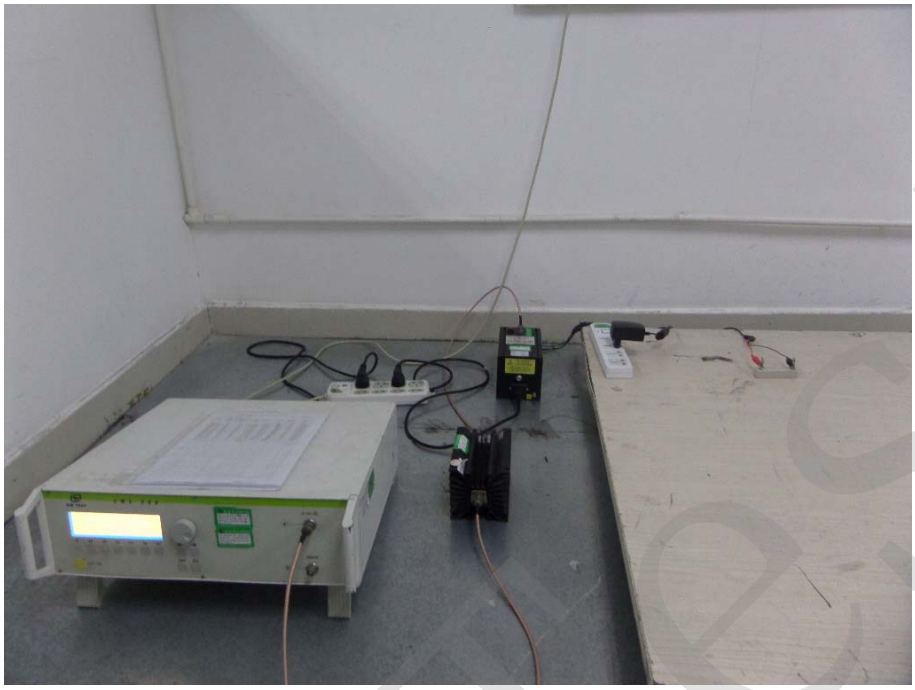
IEC61000-4-3 Test View



IEC61000-4-4/5/11 Test View



IEC61000-4-6 Test View



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