

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 60601-1-2:2015 <u>EN 55024:2010</u>
Product Description:	<u>Medical Power Supply/ ITE Power Supply</u>
Tested Model:	<u>GT*43007-***** series</u>
Report No.:	<u>STR16068063E</u>
Tested Date:	<u>2016-06-25 to 2016-06-29</u>
Issued Date:	<u>2016-06-29</u>
Tested By:	<u>Jeffry Zhang / Engineer</u> 
Reviewed By:	<u>Silin Chen / EMC Manager</u> 
Approved & Authorized By:	<u>Jandy So / PSQ Manager</u> 
Prepared By:	

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

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen SEM.Test Technology Co., Ltd.

TABLE OF CONTENTS

1. GENERAL INFORMATION	4
1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	4
1.2 TEST STANDARDS	5
1.3 TEST METHODOLOGY	5
1.4 TEST FACILITY	5
1.5 EUT SETUP AND OPERATION MODE	6
1.6 PERFORMANCE CRITERIA FOR EMS	6
1.7 TEST EQUIPMENT LIST AND DETAILS	7
2. SUMMARY OF TEST RESULTS	8
3. CONDUCTED EMISSION	9
3.1 MEASUREMENT UNCERTAINTY	9
3.2 TEST PROCEDURE	9
3.3 BASIC TEST SETUP BLOCK DIAGRAM	9
3.4 ENVIRONMENTAL CONDITIONS	10
3.5 SUMMARY OF TEST RESULTS/PLOTS	10
3.6 CONDUCTED EMISSIONS TEST DATA	10
4. RADIATED EMISSION	21
4.1 MEASUREMENT UNCERTAINTY	21
4.2 TEST PROCEDURE	21
4.3 CORRECTED AMPLITUDE & MARGIN CALCULATION	22
4.4 ENVIRONMENTAL CONDITIONS	22
4.5 SUMMARY OF TEST RESULTS/PLOTS	22
5. HARMONIC CURRENT EMISSIONS	33
5.1 TEST PROCEDURE	33
5.2 TEST STANDARDS	33
5.3 HARMONIC CURRENT EMISSIONS TEST DATA	33
6. VOLTAGE FLUCTUATION AND FLICKER	34
6.1 TEST PROCEDURE	34
6.2 TEST STANDARDS	34
6.3 VOLTAGE FLUCTUATION AND FLICKER TEST DATA	34
7. ELECTROSTATIC DISCHARGES (ESD)	35
7.1 TEST PROCEDURE	35
7.2 ELECTROSTATIC DISCHARGE IMMUNITY TEST DATA	35
8. CONTINUOUS RADIATED DISTURBANCES (R/S)	37
8.1 TEST PROCEDURE	37
8.2 CONTINUOUS RADIATED DISTURBANCES TEST DATA	37
9. ELECTRICAL FAST TRANSIENTS (EFT)	38
9.1 TEST PROCEDURE	38
9.2 ELECTRICAL FAST TRANSIENTS TEST DATA	38
10. SURGES	39
10.1 TEST PROCEDURE	39
10.2 SURGE TEST DATA	39
11. CONTINUOUS CONDUCTED DISTURBANCES (C/S)	40
11.1 TEST PROCEDURE	40
11.2 CONTINUOUS CONDUCTED DISTURBANCES TEST DATA	40
12. VOLTAGE DIPS AND INTERRUPTIONS	41
12.1 TEST PROCEDURE	41
12.2 VOLTAGE DIPS AND INTERRUPTIONS TEST DATA	41
EXHIBIT 1 - PRODUCT LABELING	42
PROPOSED CE LABEL FORMAT	42
PROPOSED LABEL LOCATION ON EUT	42

EXHIBIT 2 - EUT PHOTOGRAPHS.....	43
EXHIBIT 3 - TEST SETUP PHOTOGRAPHS.....	46

EMC TEST

1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant: GlobTek, Inc.
Address of applicant: 186 Veterans Dr. Northvale, NJ 07647 USA

Manufacturer 1: GlobTek, Inc.
Address of manufacturer 1: 186 Veterans Dr. Northvale, NJ 07647 USA
Manufacturer 2: GlobTek(Suzhou)Co., Ltd
Address of manufacturer 2: Building 4, No. 76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China

General Description of EUT	
Product Name:	Medical Power Supply/ ITE Power Supply
Trade Name:	
Model No.:	GT*43007-***** series
Adding Model(s):	/
<i>Note: The test data is gathered from a production sample, provided by the manufacturer. The output power and current of others models listed in the report is different from main-test model GTM43007-A3005-F, GTM43007-A6048-F, GTM43007-A3005-FW, GTM43007-A6048-FW and GTM43007-B6048-FW, but the circuit and the electronic construction do not change, declared by the manufacturer.</i> <i>GT*43007-***** series</i> <i>The 1st "*" can be "M" or "-" or "H" for market identification and not related to safety.</i> <i>The 2nd * is A, B, or C and is related to PCB size: A= 2"x3", B=2"x4", C=3"x5"</i> <i>The 3rd "*" denote the rated output wattage designation, which can be "01" to "60", with interval of 1.</i> <i>The 4th "*" denote the standard rated output voltage designation, which can be "05", "07", "09", "12", "15", "18", "24", "36", "48".</i> <i>The 5th "*" is optional deviation, subtracted from standard output voltage, which can be "-0,1" to "-11,9" with interval of 0,1 or blank to indicate no voltage different.</i> <i>The 4th "*" and 5th "*" together denote the output voltage, with a range of 5- 48 volts.</i> <i>The 6th "*" can be -F or -FW, -F means class I, -FW means class II</i>	

Technical Characteristics of EUT	
Rated Voltage:	AC 100-240V, 50-60Hz
Rated Current:	1.5A
Rated Power:	Max.60W
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	Working	GTM43007-A3005-F GTM43007-A6048-F GTM43007-A3005-FW GTM43007-A6048-FW GTM43007-B6048-FW

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
DC Cable	1.6	Unshielded	With Core

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
/	/	/	/

Special Cable List and Details

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

1.6 Performance Criteria for EMS

All the test data has been collected, reduced, and analyzed within this report in accordance with Immunity requires the following as specific performance criteria:

- A. The apparatus shall continue to operate as intended during and after the test. The manufacturer specifies some minimum performance level. The performance level may be specified by the manufacturer as a permissible loss of performance.
- B. The apparatus shall continue to operate as intended after the test. This indicates that the EUT does not need to function at normal performance levels during the test, but must recover. Again some minimal performance is defined by the manufacture. No change in operating state or loss or data is permitted.
- C. Temporary loss of function is allowed. Operation of the EUT may stop as long as it is either automatically reset or can be manually restored by operation of the controls.

1.7 Test Equipment List and Details

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

2. SUMMARY OF TEST RESULTS

Standards	Description of Test Item	Result
EN55032	Conducted Emission	Compliant
	Radiated Emission	Compliant
EN61000-3-2	Harmonic Current Emission	Compliant
EN61000-3-3	Voltage Fluctuation and Flicker	Compliant
EN55024 EN60601	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

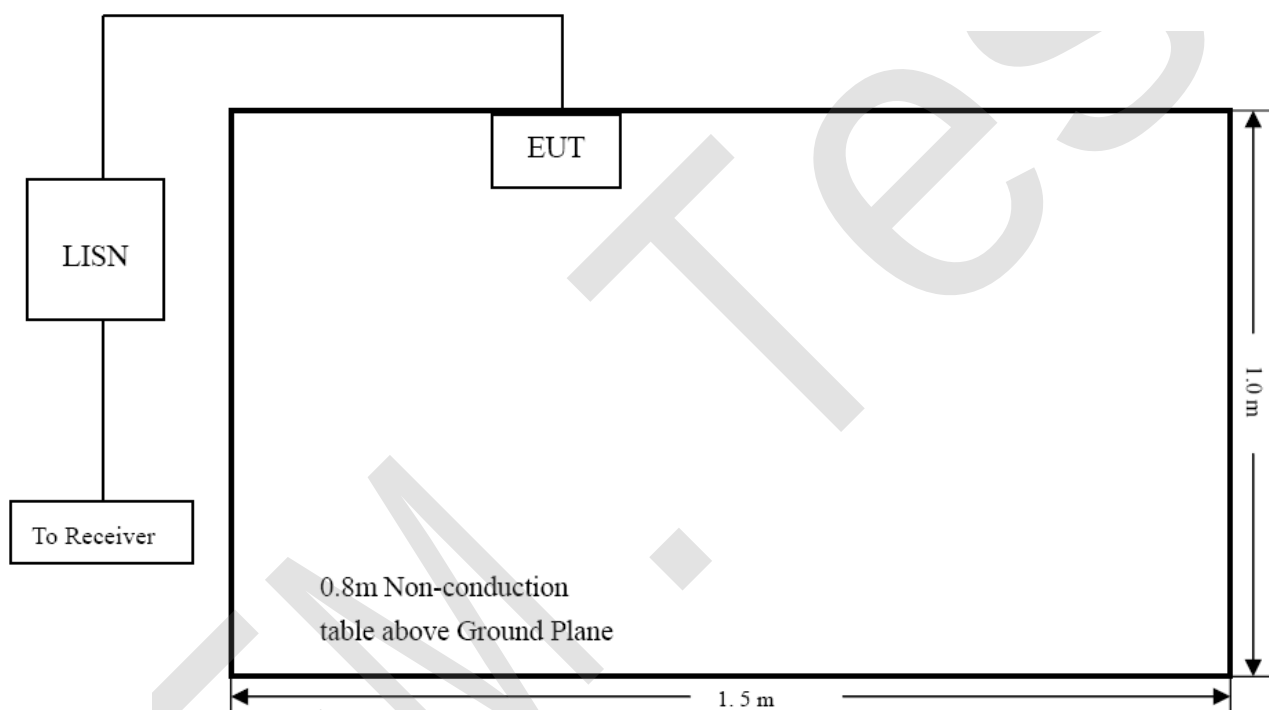
3.1 Measurement Uncertainty

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:

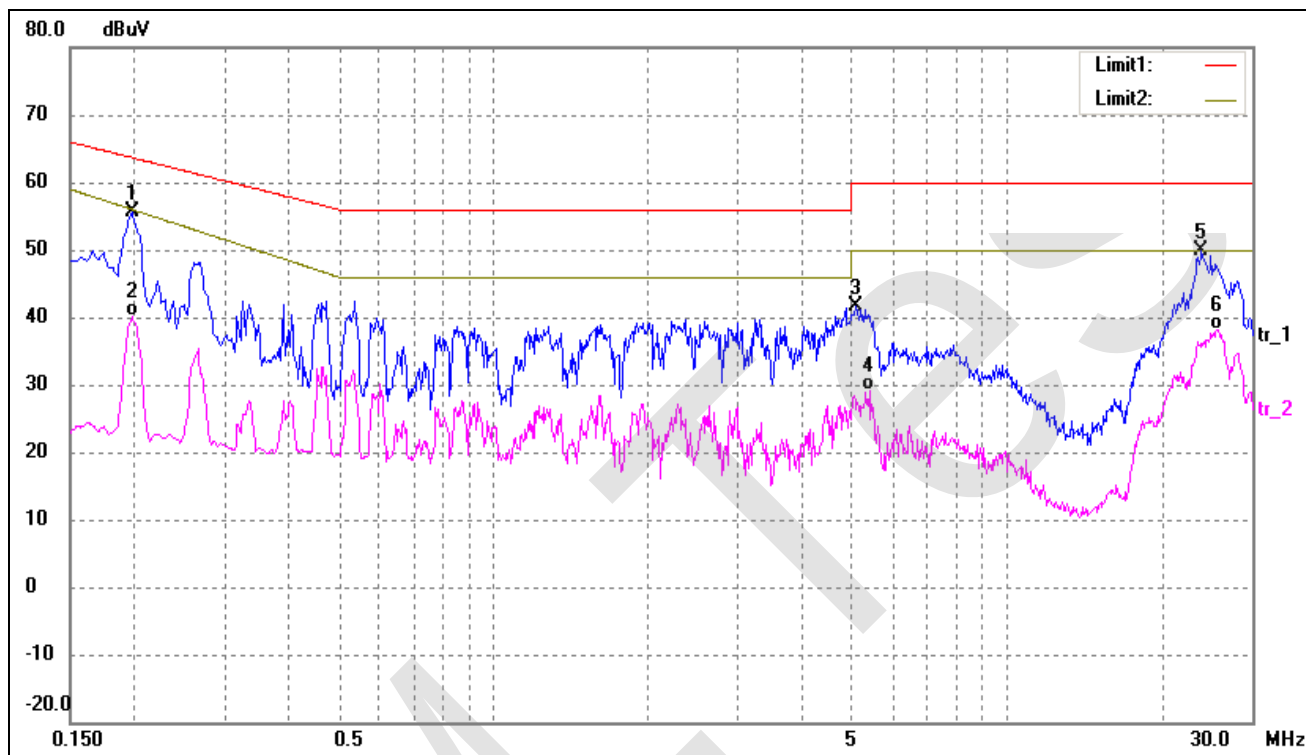
-1.69 dB at 0.2020 MHz in the Neutral mode, AVG detector, GTM43007-A3005-FW Model, 0.15-30MHz

3.6 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

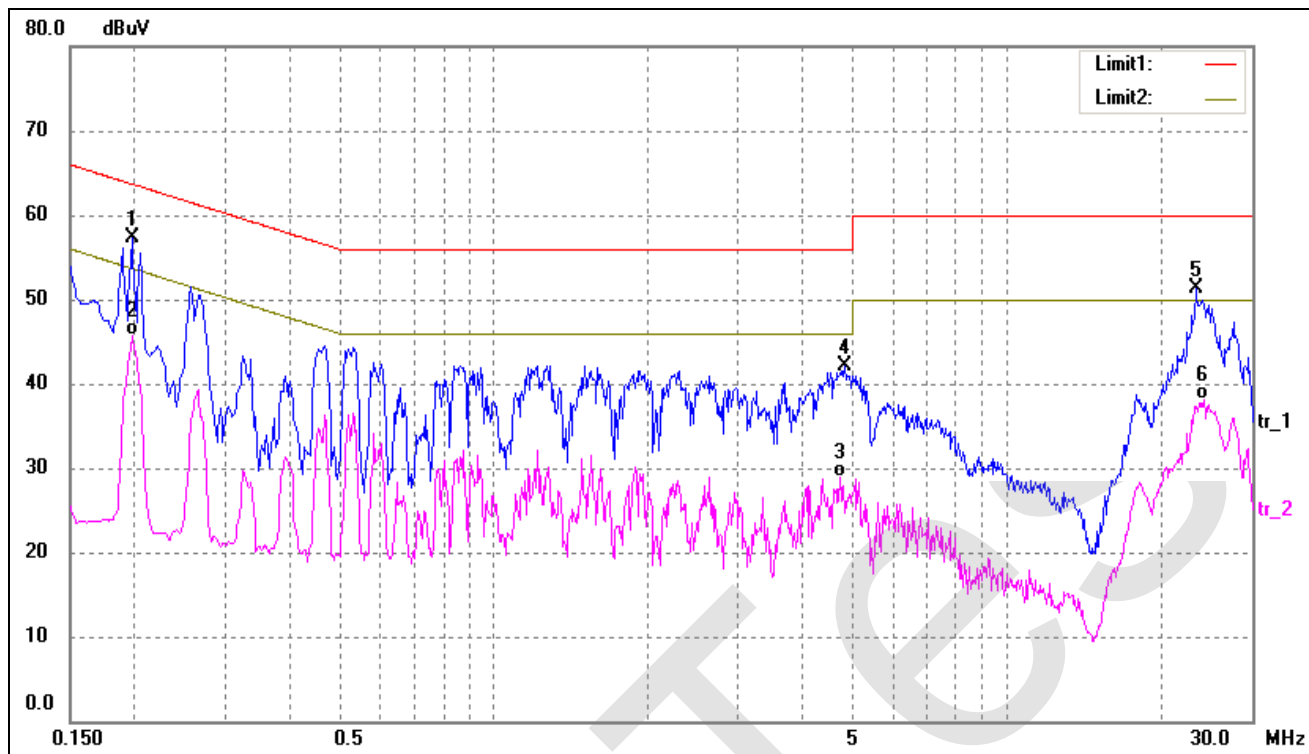
EUT: Medical Power Supply/ITE Power Supply
Tested Model: GTM43007-A3005-F
Operating Condition: TM1
Comment: AC 230V/50Hz

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1980	46.20	9.50	55.70	63.69	-7.99	peak
2	0.1980	30.64	9.50	40.14	56.00	-15.86	AVG
3	5.0940	31.68	10.00	41.68	60.00	-18.32	peak
4	5.4140	19.13	10.00	29.13	50.00	-20.87	AVG
5	23.9820	37.19	12.66	49.85	60.00	-10.15	peak
6	25.8380	25.16	13.00	38.16	50.00	-11.84	AVG

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1980	47.75	9.50	57.25	63.69	-6.44	peak
2	0.1980	36.28	9.50	45.78	53.69	-7.91	AVG
3	4.7460	18.82	10.00	28.82	46.00	-17.18	AVG
4	4.8460	32.08	10.00	42.08	56.00	-13.92	peak
5	23.2860	38.79	12.43	51.22	60.00	-8.78	peak
6	24.1700	25.29	12.72	38.01	50.00	-11.99	AVG

Plot of Conducted Emissions Test Data

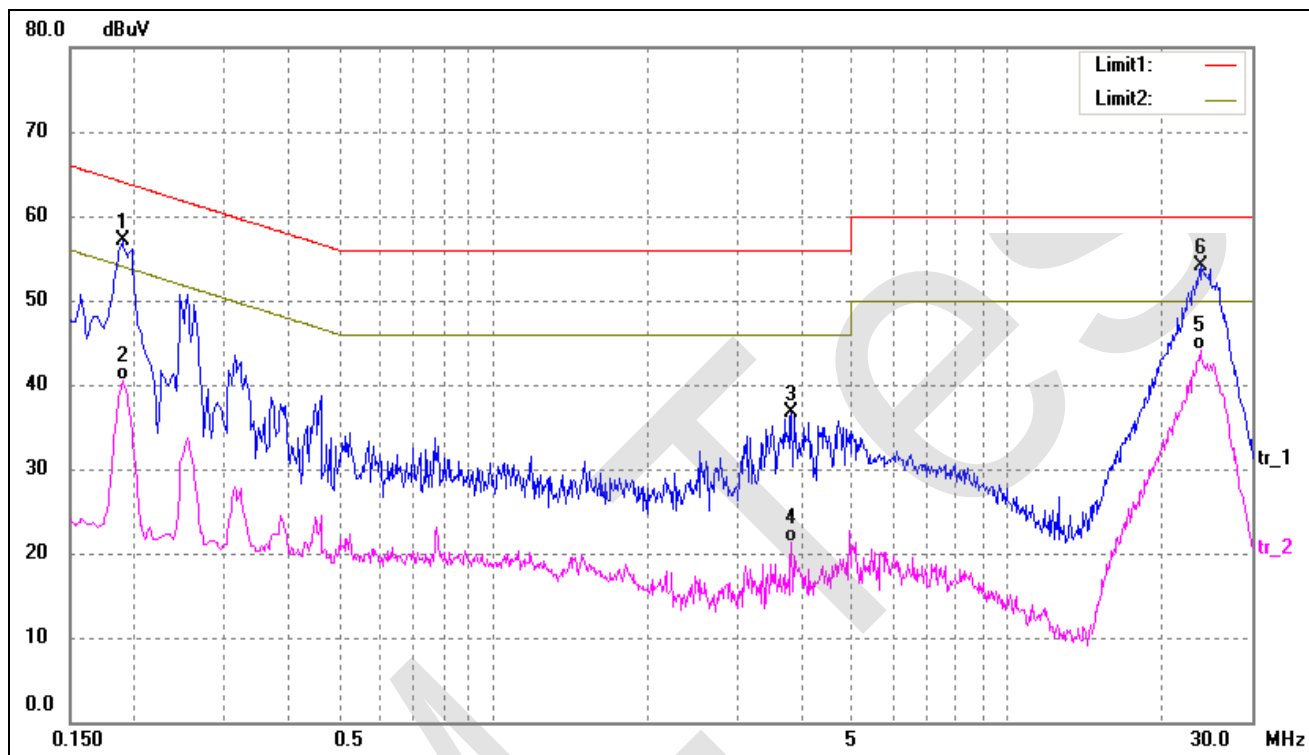
EUT: Medical Power Supply/ITE Power Supply

Tested Model: GTM43007-A6048-F

Operating Condition: TM1

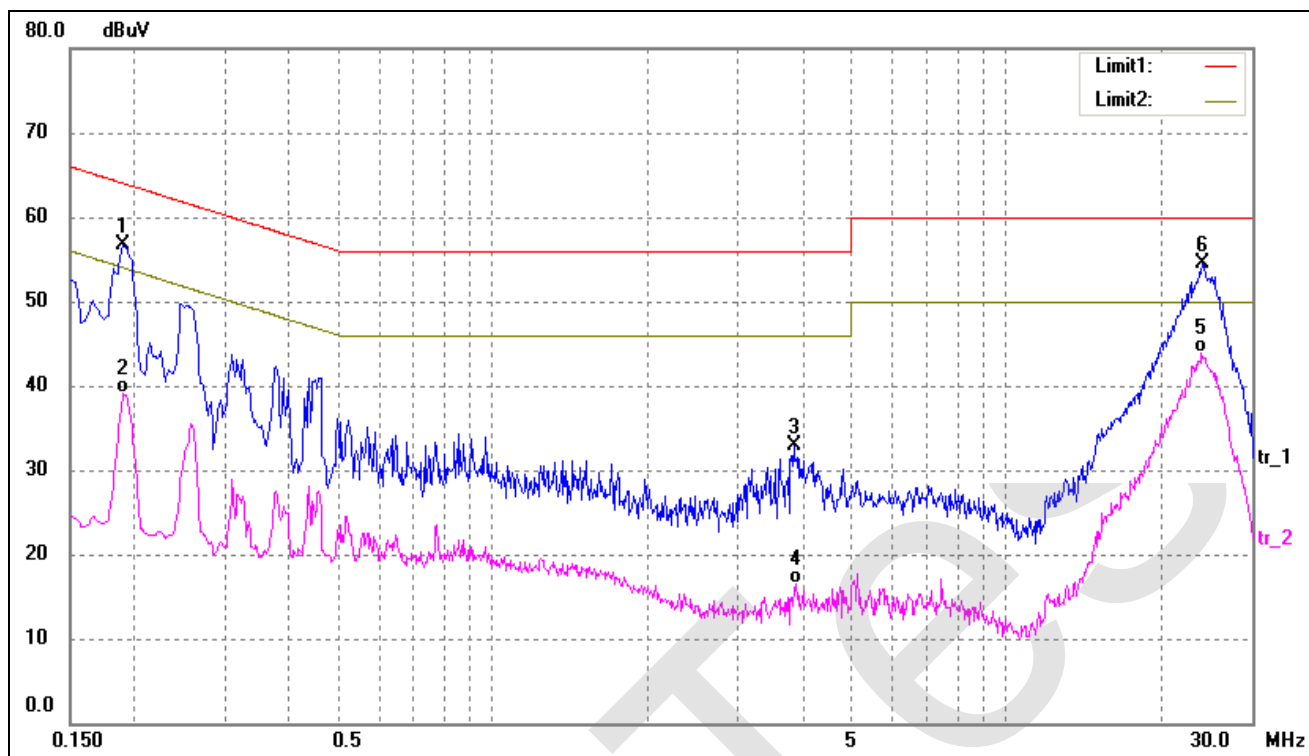
Comment: AC 230V/50Hz

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1900	47.54	9.50	57.04	64.03	-6.99	peak
2	0.1900	31.08	9.50	40.58	54.03	-13.45	AVG
3	3.8060	26.66	10.00	36.66	56.00	-19.34	peak
4	3.8060	11.29	10.00	21.29	46.00	-24.71	AVG
5*	23.7939	31.54	12.60	44.14	50.00	-5.86	AVG
6	23.9220	41.41	12.64	54.05	60.00	-5.95	peak

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1900	47.30	9.50	56.80	64.04	-7.24	peak
2	0.1900	29.68	9.50	39.18	54.04	-14.86	AVG
3	3.8500	22.85	10.00	32.85	56.00	-23.15	peak
4	3.8820	6.46	10.00	16.46	46.00	-29.54	AVG
5	23.9580	31.19	12.65	43.84	50.00	-6.16	AVG
6*	24.0220	41.75	12.67	54.42	60.00	-5.58	peak

Plot of Conducted Emissions Test Data

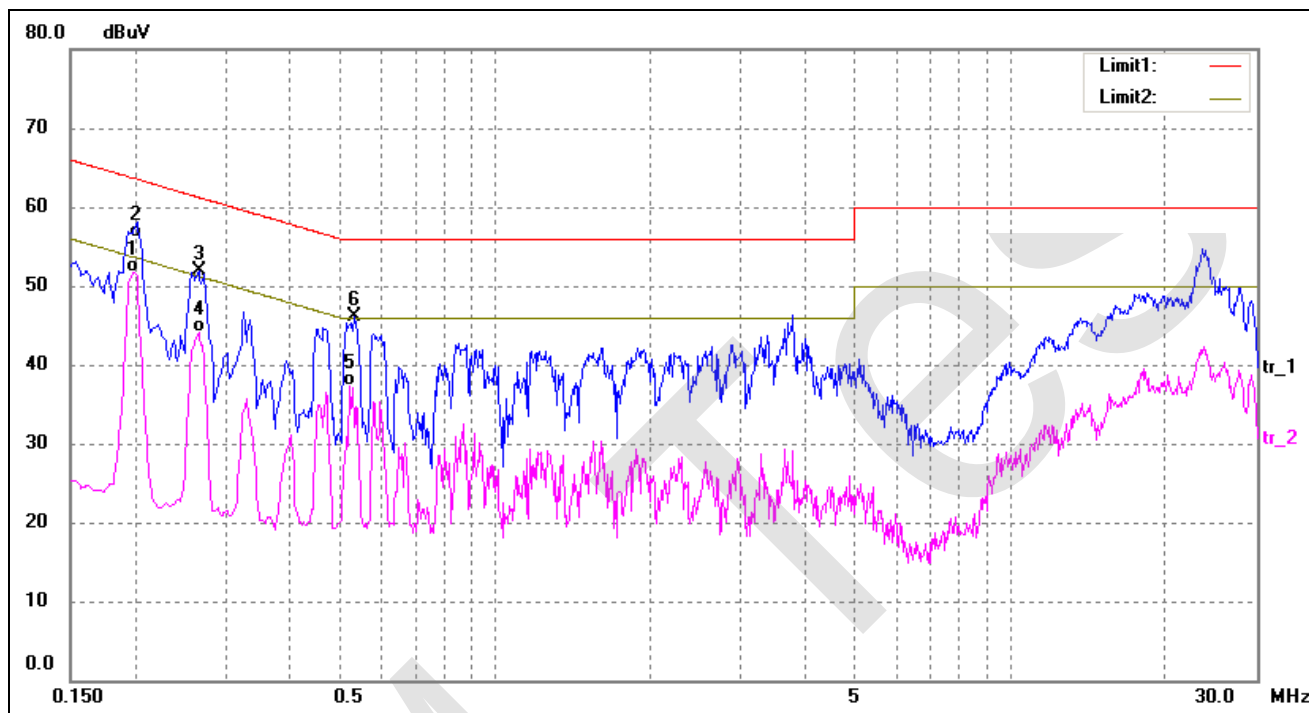
EUT: Medical Power Supply/ITE Power Supply

Tested Model: GTM43007-A3005-FW

Operating Condition: TM1

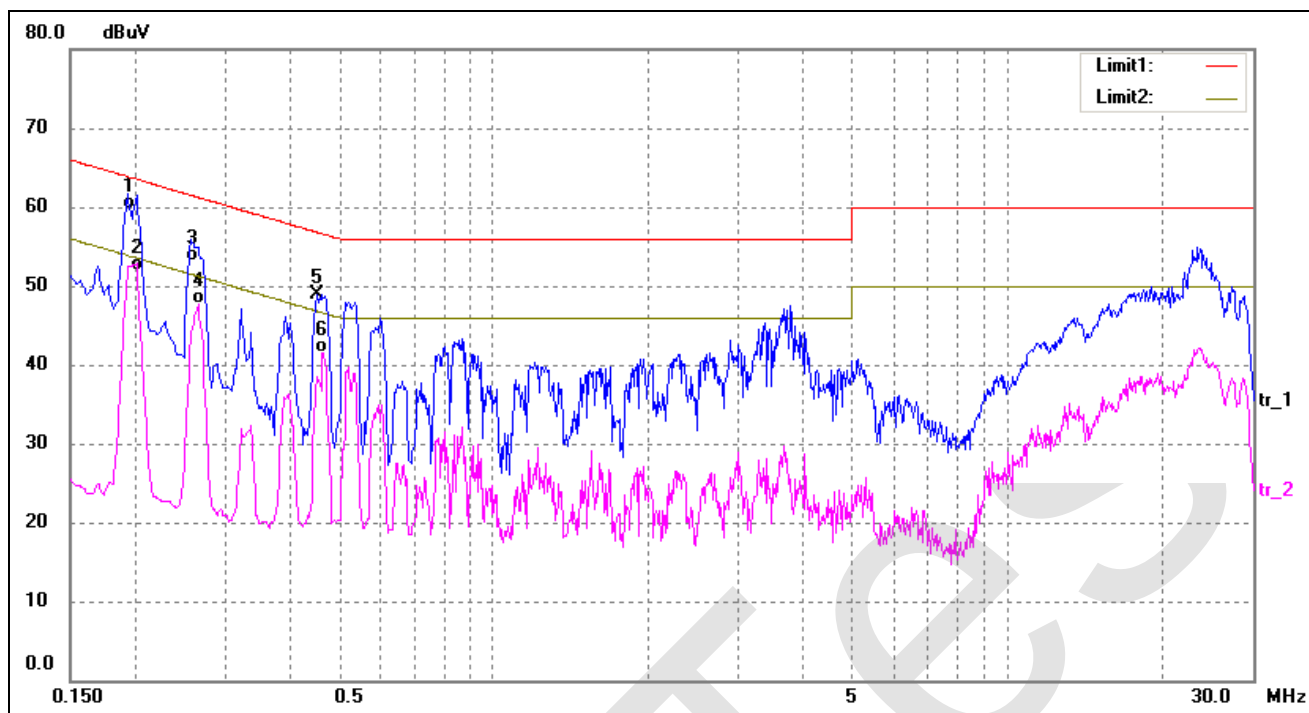
Comment: AC 230V/50Hz

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1980	42.28	9.50	51.78	53.69	-1.91	AVG
2	0.2020	46.62	9.50	56.12	63.52	-7.40	QP
3	0.2660	42.38	9.50	51.88	61.24	-9.36	peak
4	0.2660	34.64	9.50	44.14	51.24	-7.10	AVG
5	0.5220	27.80	9.57	37.37	46.00	-8.63	AVG
6	0.5340	36.46	9.57	46.03	56.00	-9.97	peak

Test Specification: Neutral



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1940	50.14	9.50	59.64	63.86	-4.22	QP
2	0.2020	42.33	9.50	51.83	53.52	-1.69	AVG
3	0.2580	43.53	9.50	53.03	61.49	-8.46	QP
4	0.2660	38.16	9.50	47.66	51.24	-3.58	AVG
5	0.4540	39.39	9.53	48.92	56.80	-7.88	peak
6	0.4660	32.05	9.54	41.59	46.58	-4.99	AVG

Plot of Conducted Emissions Test Data

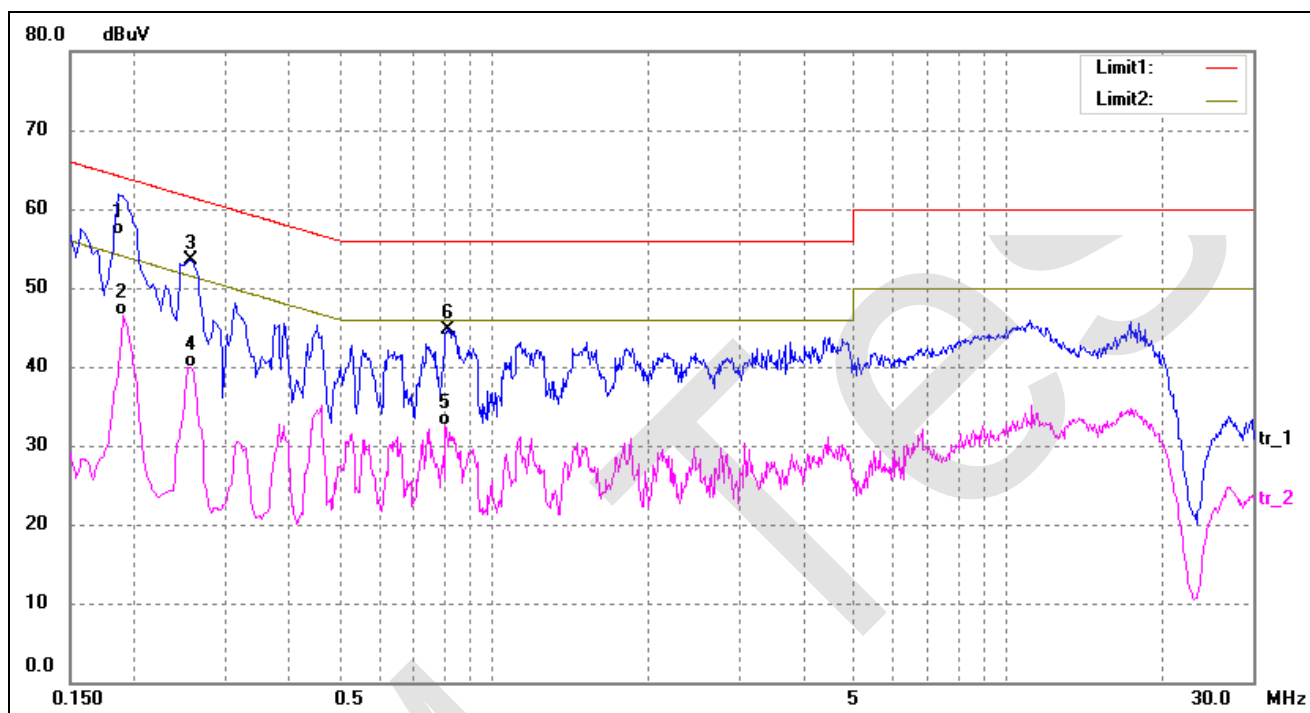
EUT: Medical Power Supply/ ITE Power Supply

Tested Model: GTM43007-A6048-FW

Operating Condition: TM1

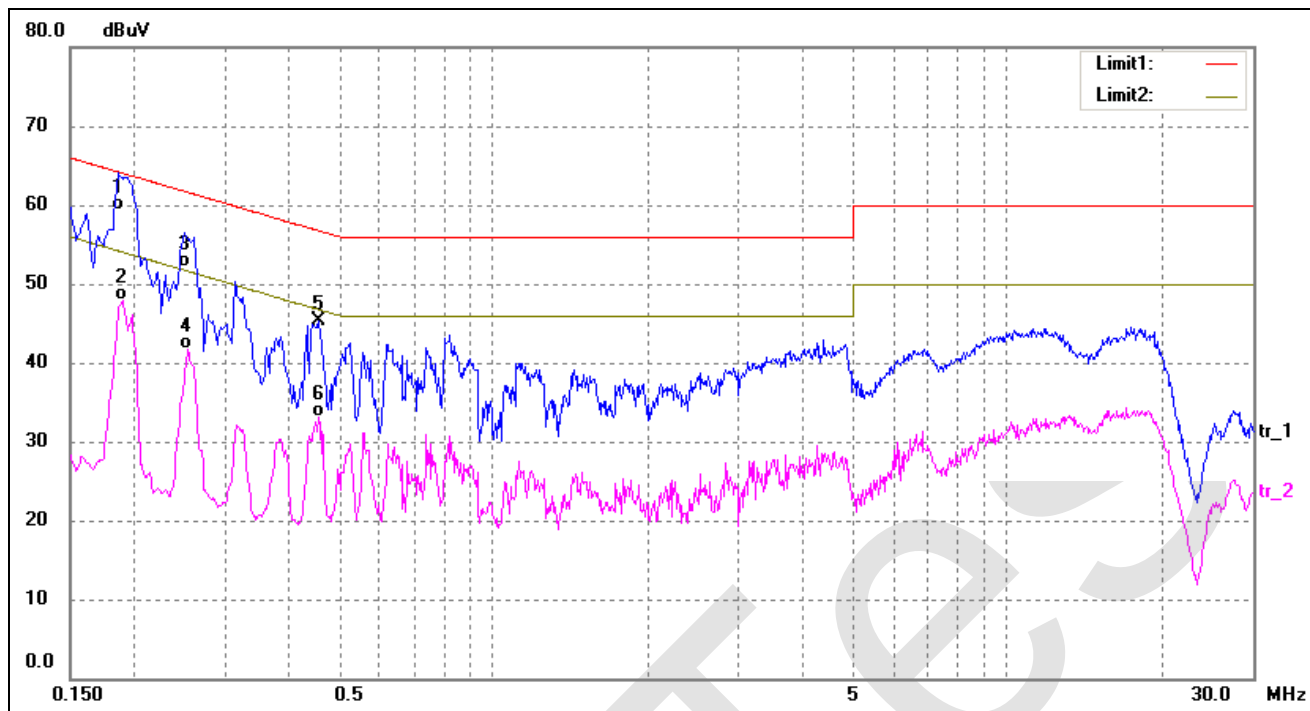
Comment: AC 230V/50Hz

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1860	47.11	9.50	56.61	64.21	-7.60	QP
2*	0.1900	37.09	9.50	46.59	54.04	-7.45	AVG
3	0.2580	44.07	9.50	53.57	61.50	-7.93	peak
4	0.2580	30.46	9.50	39.96	51.50	-11.54	AVG
5	0.8060	22.90	9.63	32.53	46.00	-13.47	AVG
6	0.8140	35.11	9.64	44.75	56.00	-11.25	peak

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1860	49.89	9.50	59.39	64.21	-4.82	QP
2	0.1900	38.46	9.50	47.96	54.04	-6.08	AVG
3	0.2500	42.63	9.50	52.13	61.76	-9.63	QP
4	0.2540	32.11	9.50	41.61	51.63	-10.02	AVG
5	0.4580	35.72	9.53	45.25	56.73	-11.48	peak
6	0.4580	23.51	9.53	33.04	46.73	-13.69	AVG

Plot of Conducted Emissions Test Data

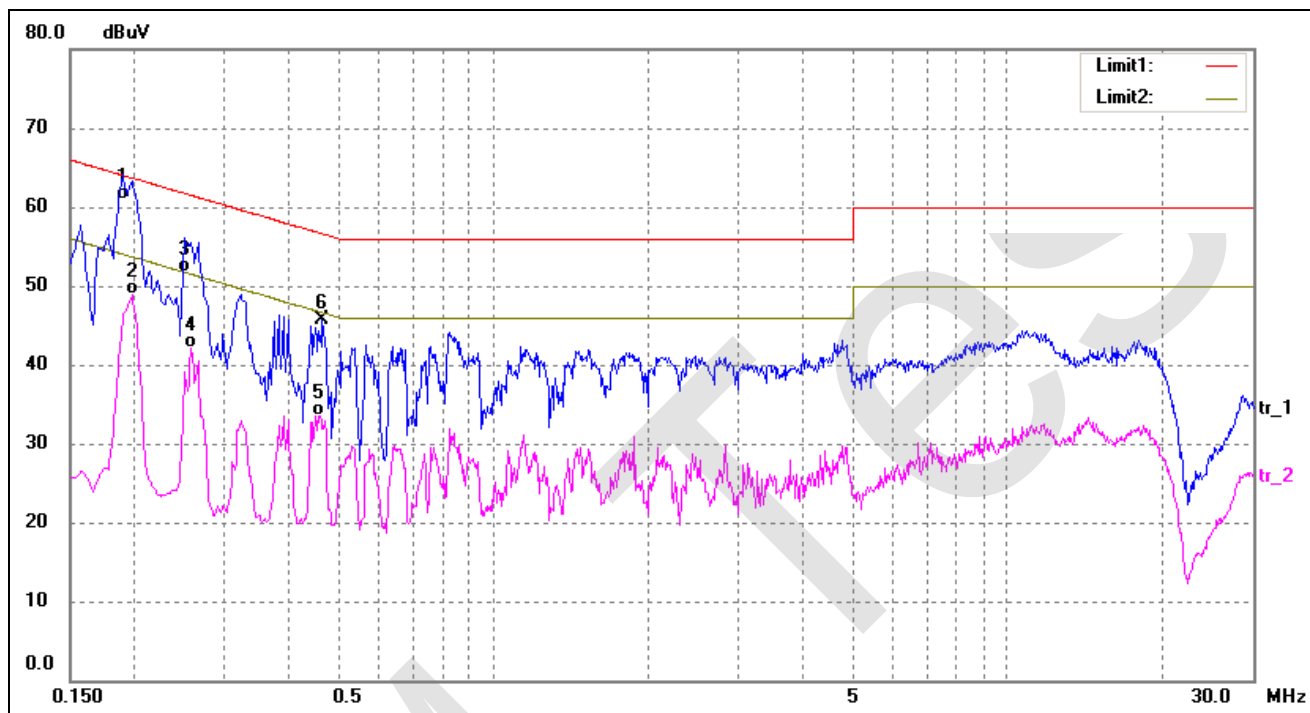
EUT: Medical Power Supply/ ITE Power Supply

Tested Model: GTM43007-B6048-FW

Operating Condition: TM1

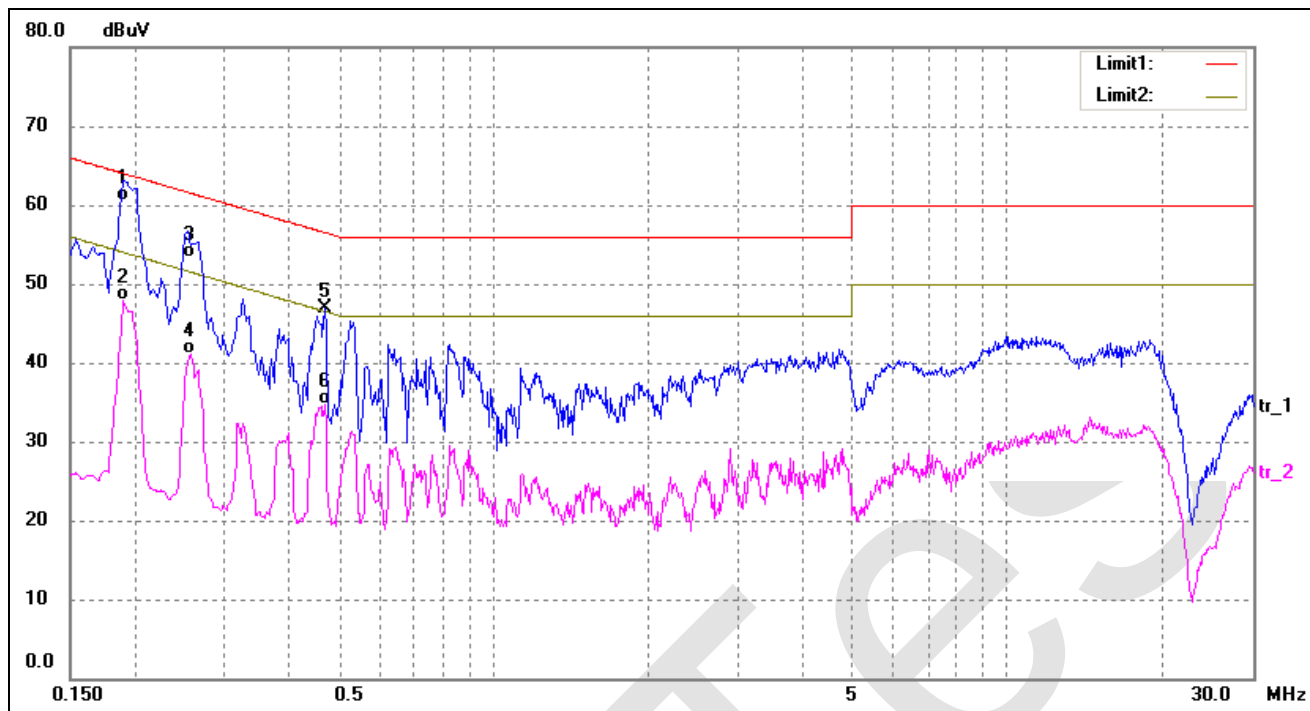
Comment: AC 230V/50Hz

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1900	51.48	9.50	60.98	64.04	-3.06	QP
2	0.1980	39.42	9.50	48.92	53.69	-4.77	AVG
3	0.2500	42.11	9.50	51.61	61.76	-10.15	QP
4	0.2580	32.65	9.50	42.15	51.50	-9.35	AVG
5	0.4580	23.93	9.53	33.46	46.73	-13.27	AVG
6	0.4660	36.18	9.54	45.72	56.58	-10.86	peak

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1900	51.10	9.50	60.60	64.04	-3.44	QP
2	0.1900	38.40	9.50	47.90	54.04	-6.14	AVG
3	0.2540	43.71	9.50	53.21	61.63	-8.42	QP
4	0.2580	31.52	9.50	41.02	51.50	-10.48	AVG
5	0.4700	37.27	9.54	46.81	56.51	-9.70	peak
6	0.4700	25.16	9.54	34.70	46.51	-11.81	AVG

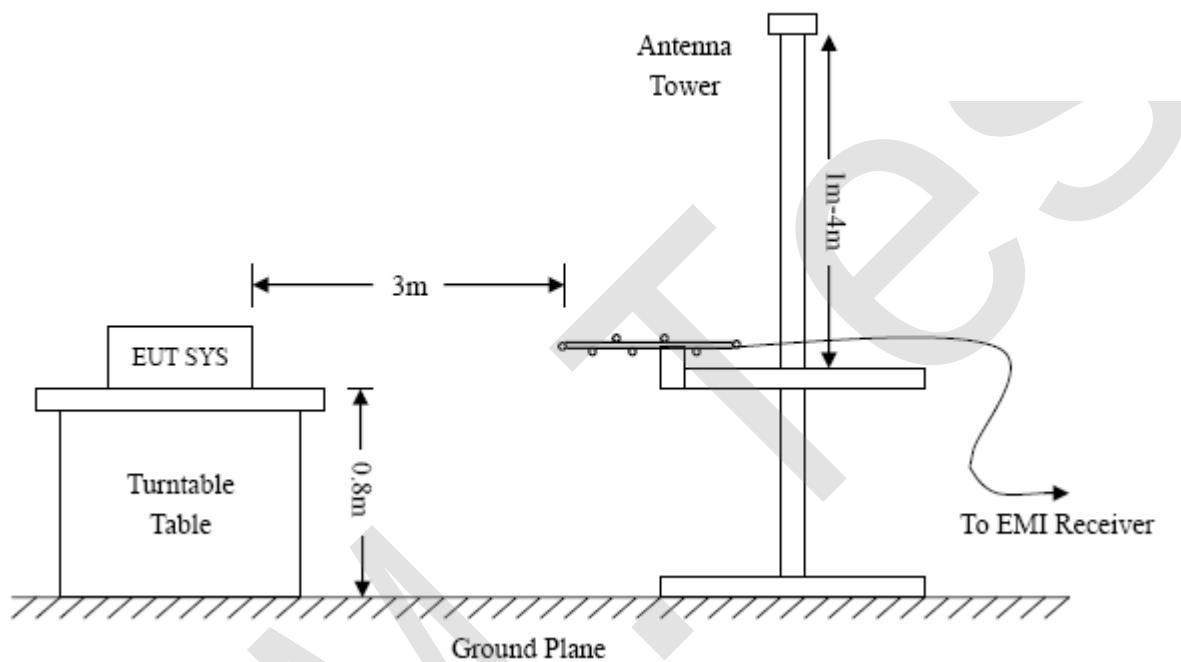
4. Radiated Emission

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:

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

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

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

4.4 Environmental Conditions

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

4.5 Summary of Test Results/Plots

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

**-2.30 dB at 76.7808 MHz in the Vertical polarization, GTM43007-B6048-FW Model, 30 MHz to 1 GHz,
3Meters**

Plot of Radiated Emissions Test Data

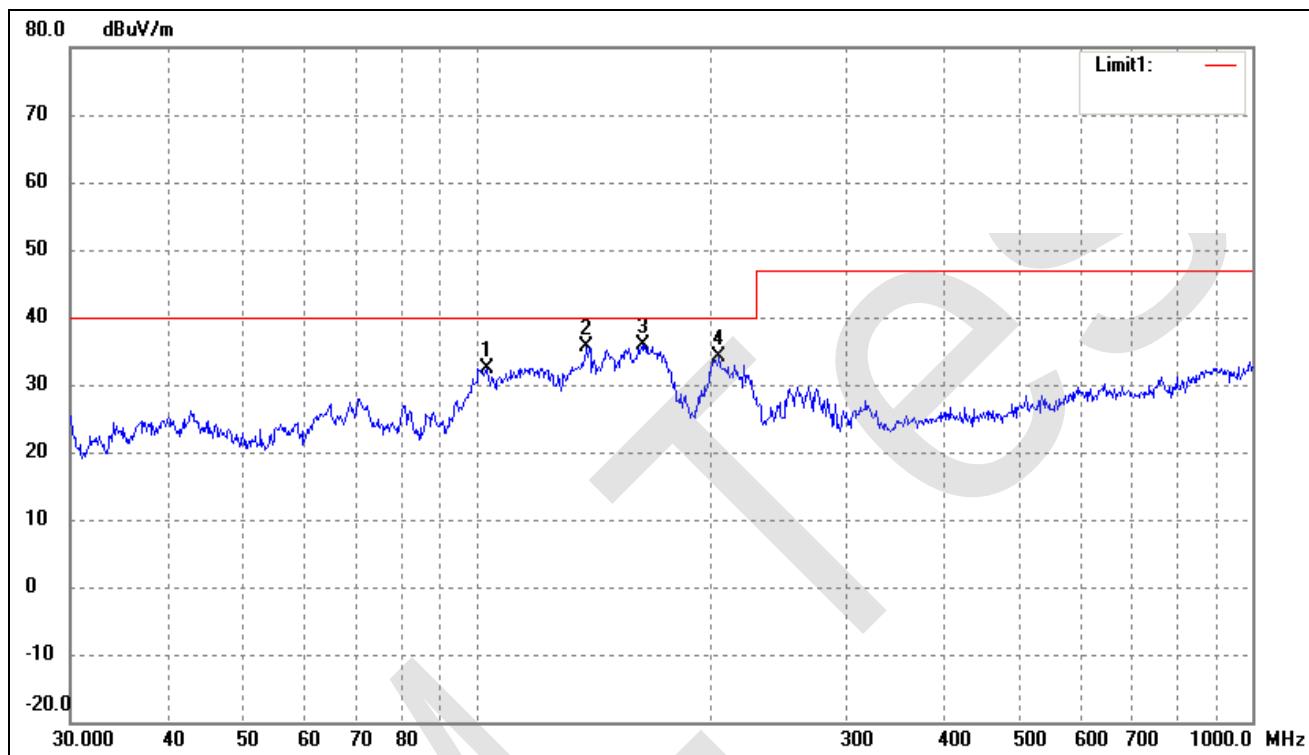
EUT: Medical Power Supply/ITE Power Supply

Tested Model: GTM43007-A3005-F

Operating Condition: TM1

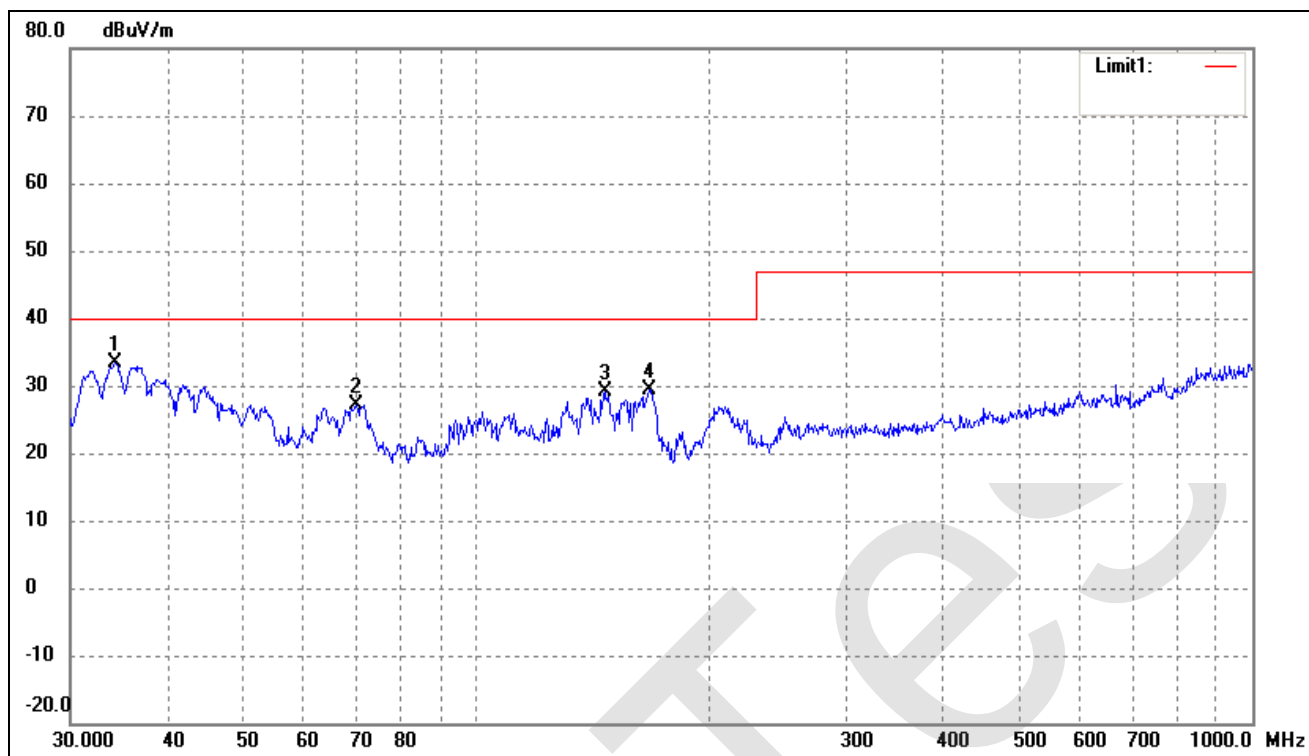
Comment: AC 230V/50Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Detector
1	103.0798	26.60	5.81	32.41	40.00	-7.59	360	100	peak
2	138.8735	33.09	2.51	35.60	40.00	-4.40	360	100	peak
3*	163.7547	33.34	2.64	35.98	40.00	-4.02	360	100	peak
4	205.6750	29.99	4.08	34.07	40.00	-5.93	360	100	peak

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Detector
1*	34.2760	24.98	8.28	33.26	40.00	-6.74	360	100	peak
2	70.0901	25.05	2.18	27.23	40.00	-12.77	360	100	peak
3	146.3735	26.62	2.46	29.08	40.00	-10.92	360	100	peak
4	167.2367	26.82	2.66	29.48	40.00	-10.52	360	100	peak

Plot of Radiated Emissions Test Data

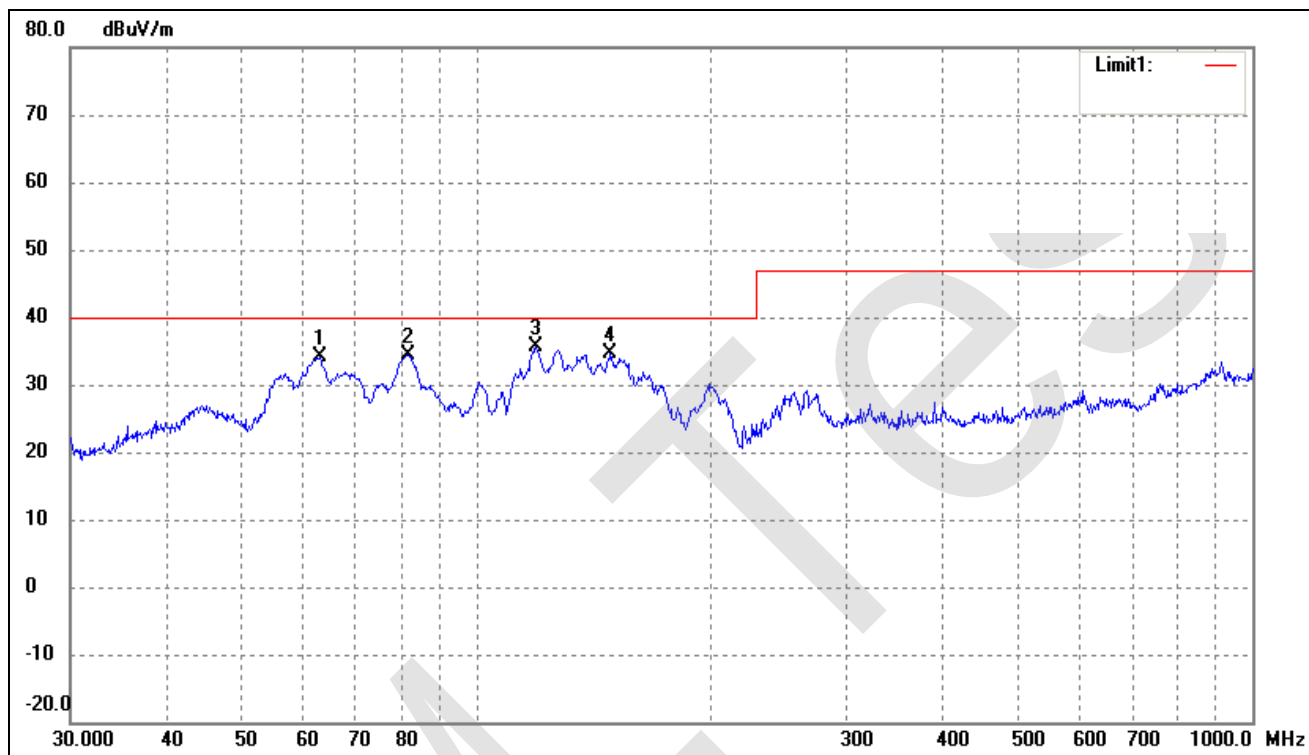
EUT: Medical Power Supply/ITE Power Supply

Tested Model: GTM43007-A6048-F

Operating Condition: TM1

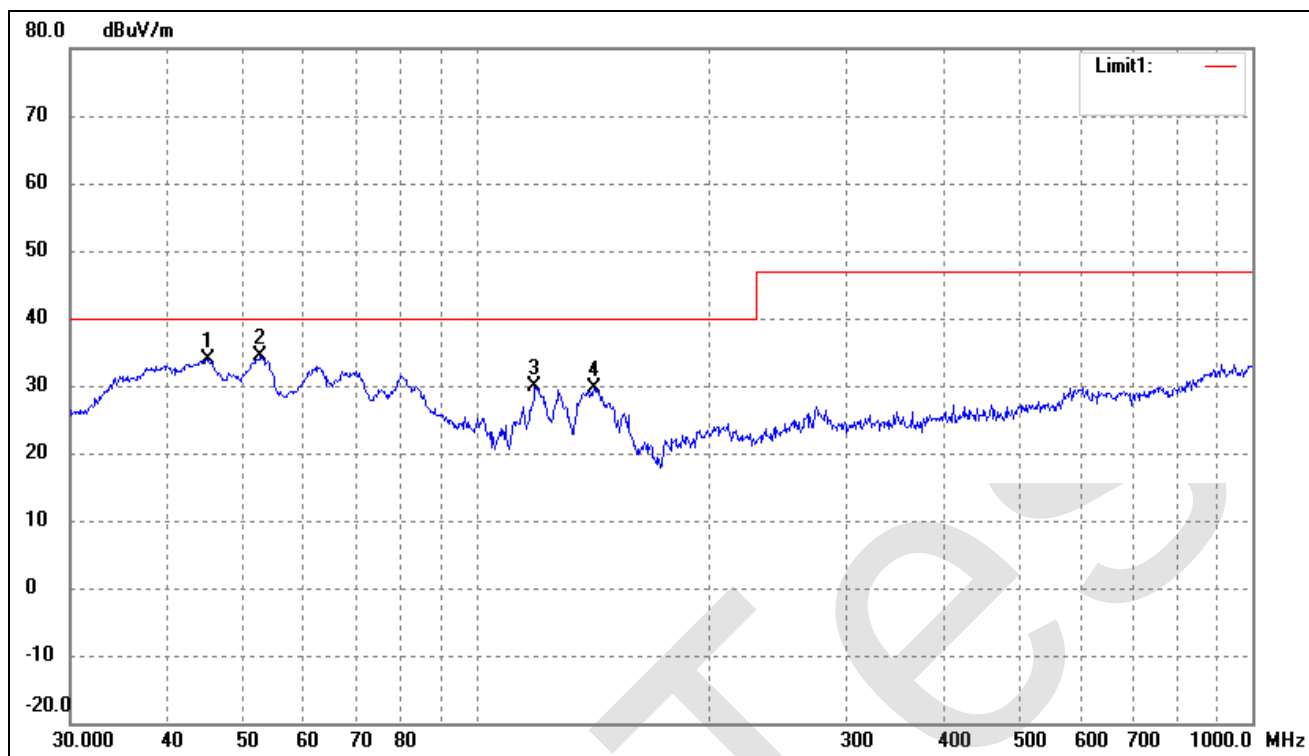
Comment: AC 230V/50Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Detector
1	62.8708	29.55	4.46	34.01	40.00	-5.99	360	100	peak
2	81.7831	32.96	1.47	34.43	40.00	-5.57	360	100	peak
3*	119.4360	31.49	4.08	35.57	40.00	-4.43	360	100	peak
4	148.9625	32.04	2.49	34.53	40.00	-5.47	360	100	peak

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Detector
1	45.0583	26.26	7.74	34.00	40.00	-6.00	360	100	peak
2*	52.7599	28.29	6.02	34.31	40.00	-5.69	360	100	peak
3	119.0180	25.69	4.13	29.82	40.00	-10.18	360	100	peak
4	141.8262	27.29	2.42	29.71	40.00	-10.29	360	100	peak

Plot of Radiated Emissions Test Data

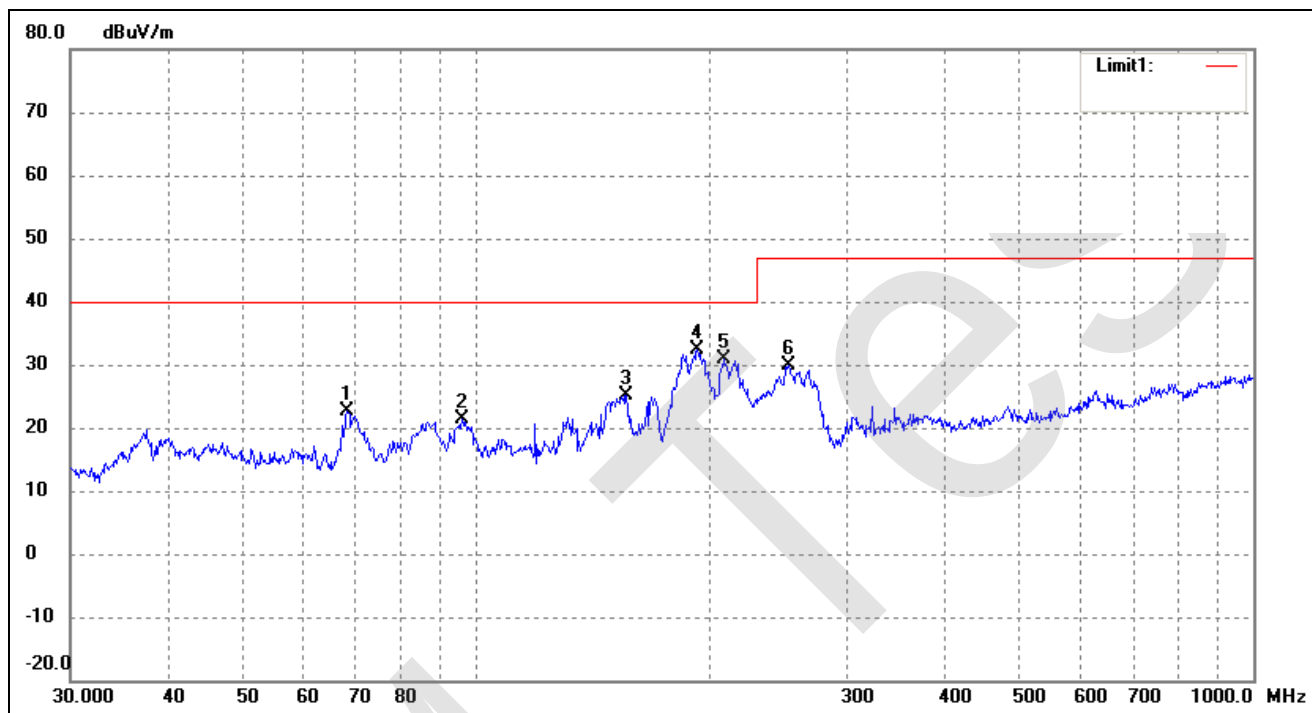
EUT: Medical Power Supply/ ITE Power Supply

Tested Model: GTM43007-A3005-FW

Operating Condition: TM1

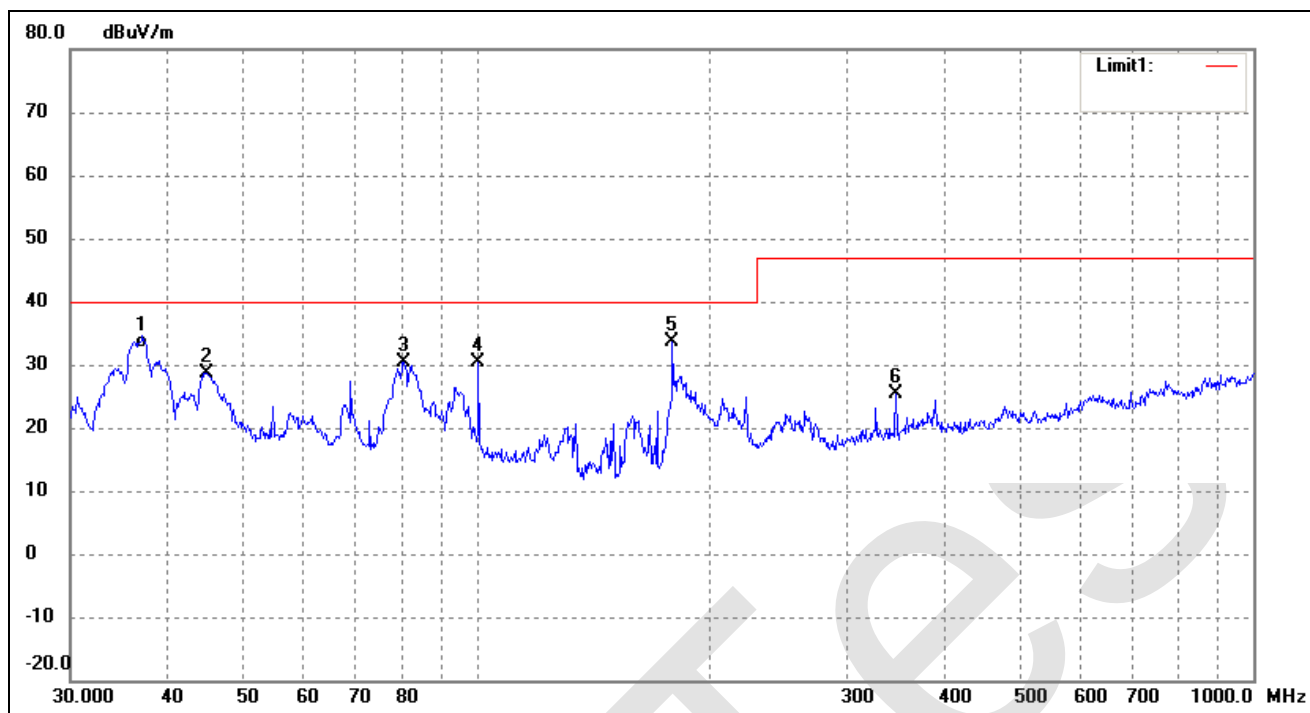
Comment: AC 230V/50Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	68.1514	34.79	-12.23	22.56	40.00	-17.44	100	100	peak
2	95.7622	33.20	-11.77	21.43	40.00	-18.57	100	100	peak
3	155.9101	37.40	-12.34	25.06	40.00	-14.94	100	100	peak
4	192.4186	42.07	-9.67	32.40	40.00	-7.60	100	100	peak
5	207.8501	39.68	-8.72	30.96	40.00	-9.04	100	100	peak
6	252.0627	37.30	-7.49	29.81	47.00	-17.19	100	100	peak

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	37.1550	40.96	-8.45	32.51	40.00	-7.49	100	100	QP
2	44.9006	36.67	-7.98	28.69	40.00	-11.31	100	100	peak
3	80.6442	42.52	-12.05	30.47	40.00	-9.53	100	100	peak
4	100.5806	41.31	-10.92	30.39	40.00	-9.61	100	100	peak
5	178.7584	45.04	-11.41	33.63	40.00	-6.37	100	100	peak
6	346.8092	29.80	-4.39	25.41	47.00	-21.59	100	100	peak

Plot of Radiated Emissions Test Data

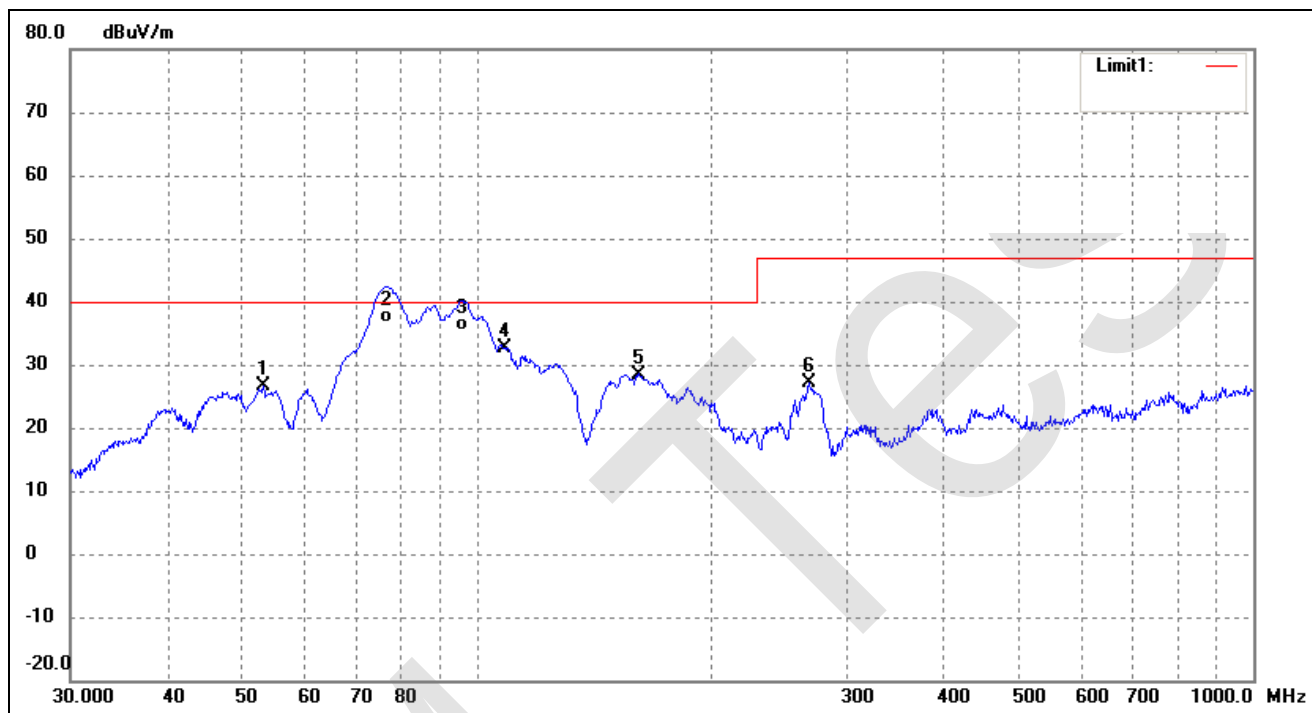
EUT: Medical Power Supply/ ITE Power Supply

Tested Model: GTM43007-A6048-FW

Operating Condition: TM1

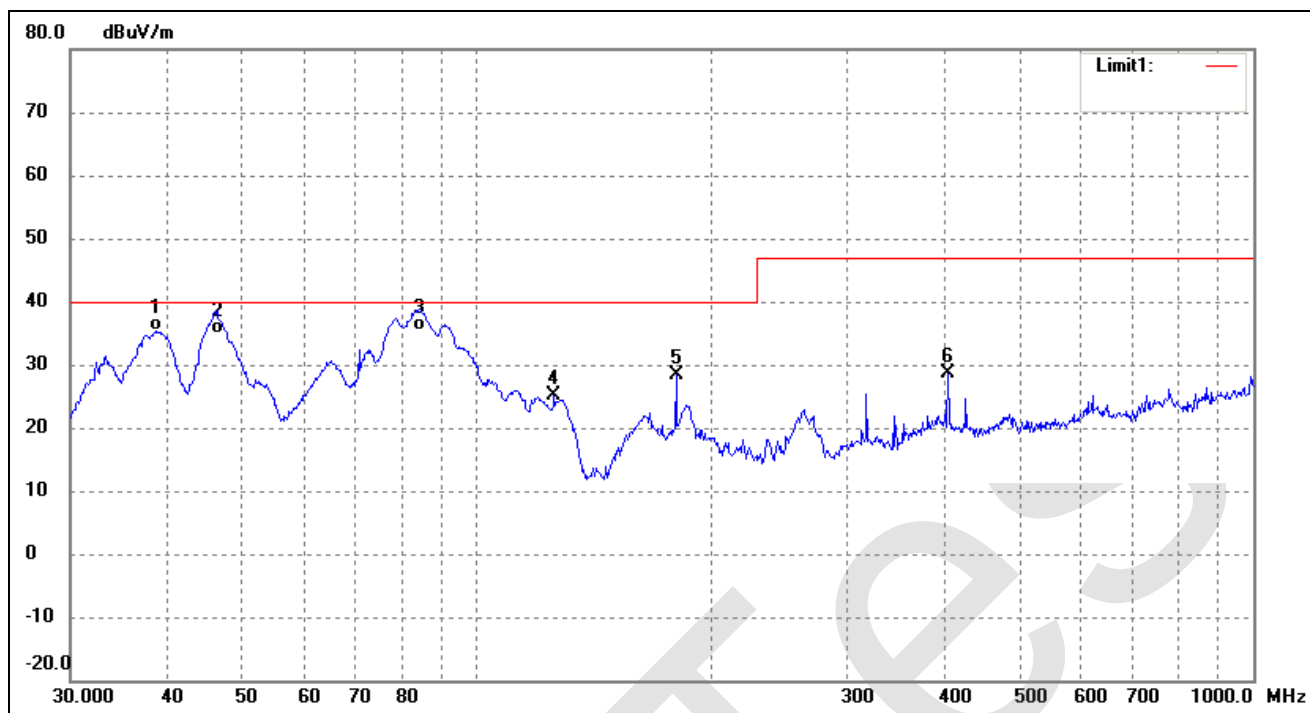
Comment: AC 230V/50Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	53.1313	35.36	-8.72	26.64	40.00	-13.36	100	100	peak
2	76.5121	48.98	-12.28	36.70	40.00	-3.30	100	100	QP
3	95.7622	47.27	-11.77	35.50	40.00	-4.50	100	100	QP
4	108.6470	43.82	-11.12	32.70	40.00	-7.30	100	100	peak
5	161.4742	40.70	-12.20	28.50	40.00	-11.50	100	100	peak
6	267.5455	33.72	-6.63	27.09	47.00	-19.91	100	100	peak

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	38.6160	43.39	-8.05	35.34	40.00	-4.66	100	100	QP
2	46.3402	43.08	-8.08	35.00	40.00	-5.00	100	100	QP
3	84.4054	47.81	-12.41	35.40	40.00	-4.60	100	100	QP
4	125.8864	36.89	-11.76	25.13	40.00	-14.87	100	100	peak
5	180.6488	39.61	-11.28	28.33	40.00	-11.67	100	100	peak
6	404.6665	31.86	-3.23	28.63	47.00	-18.37	100	100	peak

Plot of Radiated Emissions Test Data

EUT: Medical Power Supply/ ITE Power Supply

Tested Model: GTM43007-B6048-FW

Operating Condition: TM1

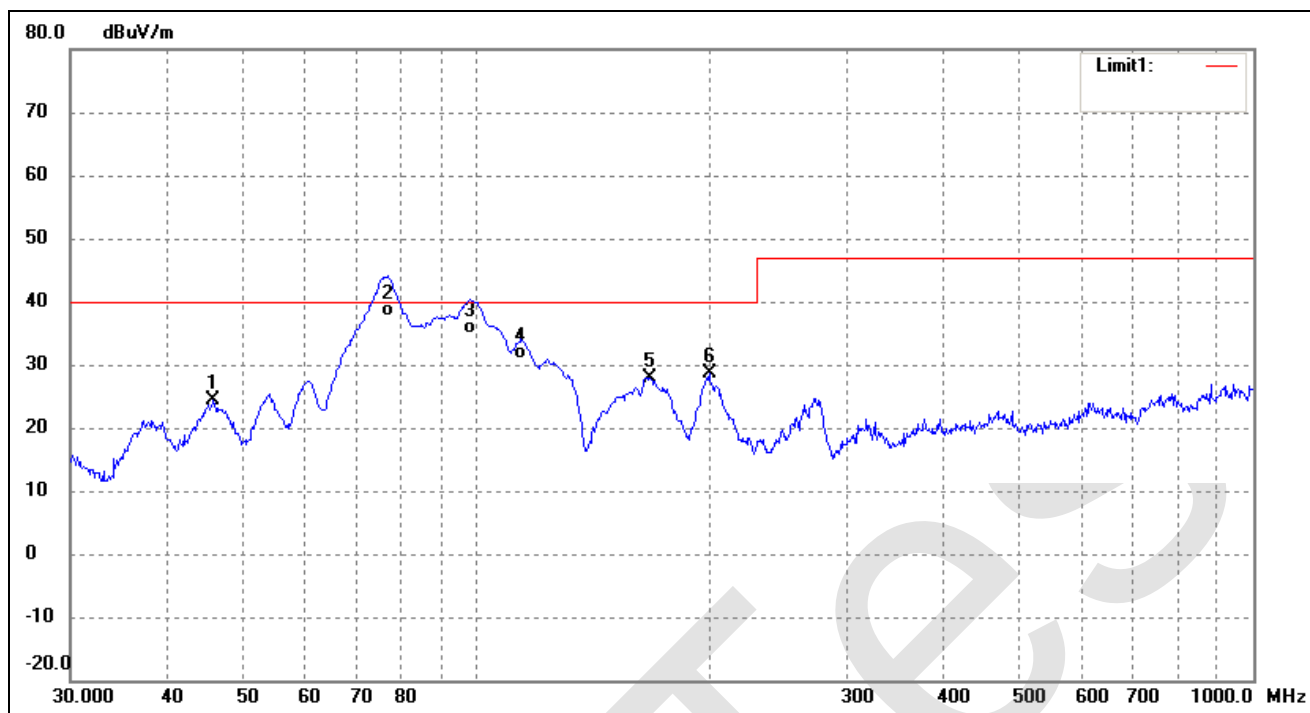
Comment: AC 230V/50Hz

Test Specification: Horizontal



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	36.7662	38.85	-8.55	30.30	40.00	-9.70	100	100	QP
2	44.9006	38.98	-7.98	31.00	40.00	-9.00	100	100	QP
3	65.5727	44.49	-11.39	33.10	40.00	-6.90	100	100	QP
4	78.6888	45.70	-12.10	33.60	40.00	-6.40	100	100	QP
5	98.4866	44.48	-11.21	33.27	40.00	-6.73	100	100	peak
6	252.0627	31.15	-7.49	23.66	47.00	-23.34	100	100	peak

Test Specification: Vertical



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	45.8553	32.47	-8.05	24.42	40.00	-15.58	100	100	peak
2	76.7808	49.96	-12.26	37.70	40.00	-2.30	100	100	QP
3	98.1419	46.18	-11.28	34.90	40.00	-5.10	100	100	QP
4	114.1138	42.28	-11.28	31.00	40.00	-9.00	100	100	QP
5	167.2368	39.86	-11.94	27.92	40.00	-12.08	100	100	peak
6	199.2855	37.36	-8.75	28.61	40.00	-11.39	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

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 75W 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

According to clause 6.1 of EN 61000-3-3:2013, “Tests need not be made on equipment which is unlikely to produce significant voltage fluctuations or flicker.”

The max.rated input power of the EUTs is about 75W only, which unlikely to produce significant voltage fluctuation. Therefore no test was applied.

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

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)

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

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
VCP	A	A	A	A	A	A				
HCP	A	A	A	A	A	A				

Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP)

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

Table 4: Electrostatic Discharge Immunity (Indirect Contact VCP)

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

Test 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

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

EN 61000-4-4		Test Levels (kV)							
Test Points		+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	A	A	A	A	A	A	/	/
	L1+L2	A	A	A	A	A	A	/	/
	L1 + PE	A	A	A	A	A	A	/	/
	L2 + PE	A	A	A	A	A	A	/	/
	L1+L2+PE	A	A	A	A	A	A	/	/
Signal ports	RJ45	/	/	/	/	/	/	/	/

Test Result: Pass

10. Surges

10.1 Test Procedure

Test is conducting under the description of IEC 61000-4-5.

Test Performance

Performance Criterion: B

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	53%
ATM Pressure:	1011 mbar

10.2 Surge Test Data

Level	Voltage	Poll	Path	Pass	Fail
1	0.5kV	±	L-N	A	/
2	1kV	±	L-N	A	/
3	0.5kV	±	L-PE, N-PE	A	/
4	1kV	±	L-PE, N-PE	A	/
5	2kV	±	L-PE, N-PE	A	/
6	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

Level	Voltage Level (e.m.f.) U_0	Modulation:	Pass	Fail
1	1	AM 80%, 1kHz sinewave	/	/
2	3	AM 80%, 1kHz sinewave	A	/
3	10	AM 80%, 1kHz sinewave	/	/
X	Special	/	/	/

Test Result: Pass

12. Voltage Dips and Interruptions

12.1 Test Procedure

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

Test Performance

Performance Criterion: B/C

Environmental Conditions

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

12.2 Voltage Dips And Interruptions Test Data

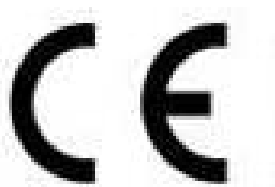
U: Voltage dips in % U_T (U_T is rated voltage for the EUT)

T: Test duration

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	C	/

Test Result: Pass

Proposed CE Label Format



Proposed Label Location on EUT

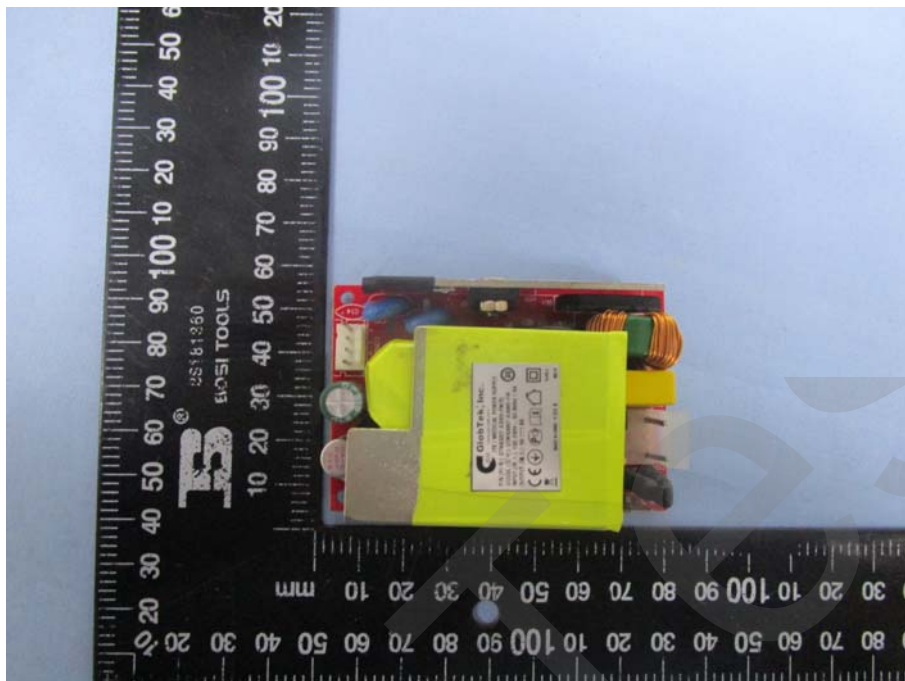
CE Label Location



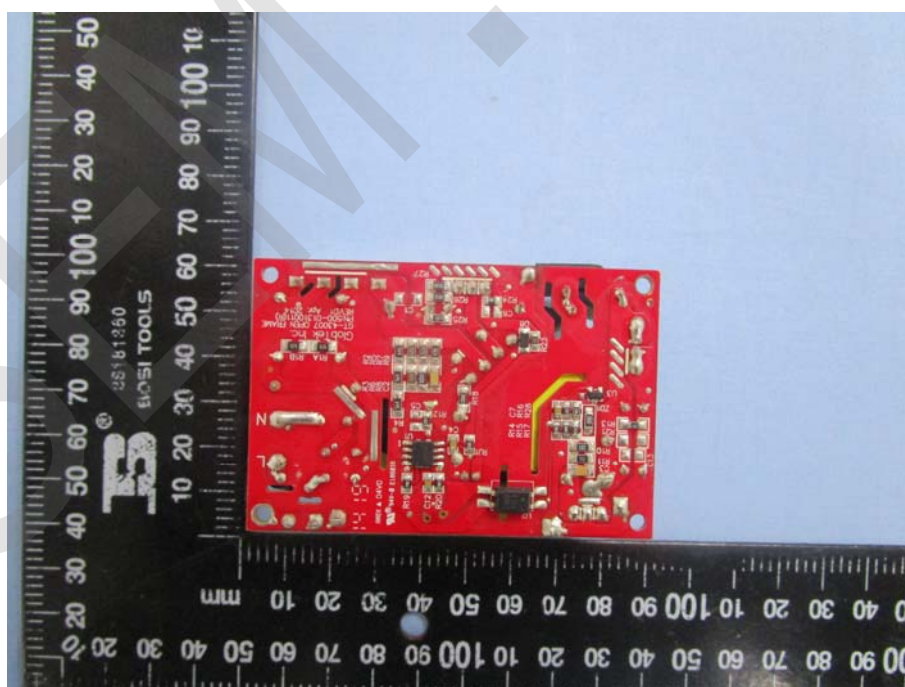
EXHIBIT 2 - EUT PHOTOGRAPHS

EUT View 1

Model: GTM43007-A3005-FW

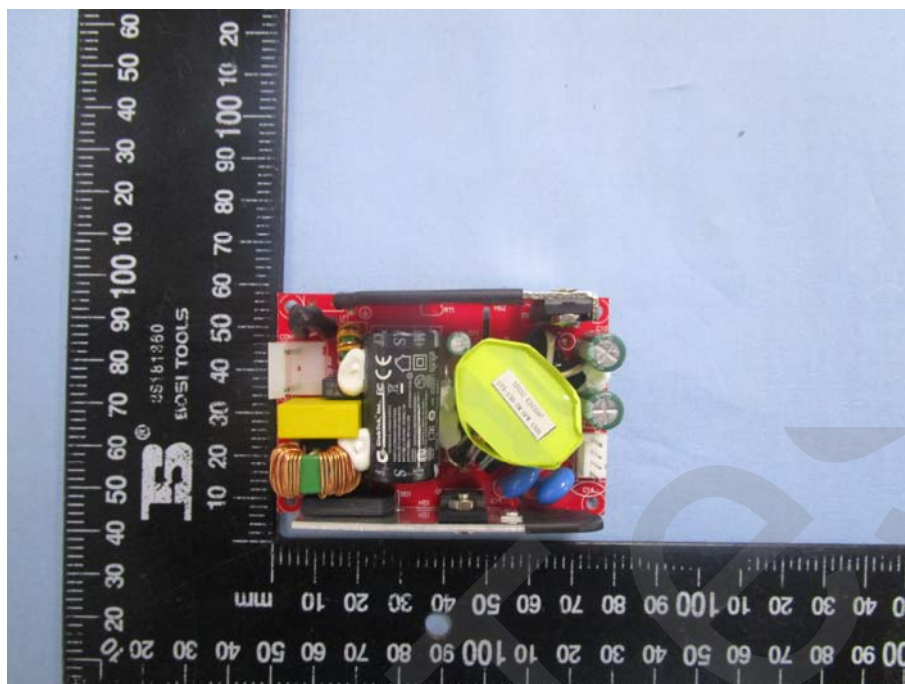


EUT View 2

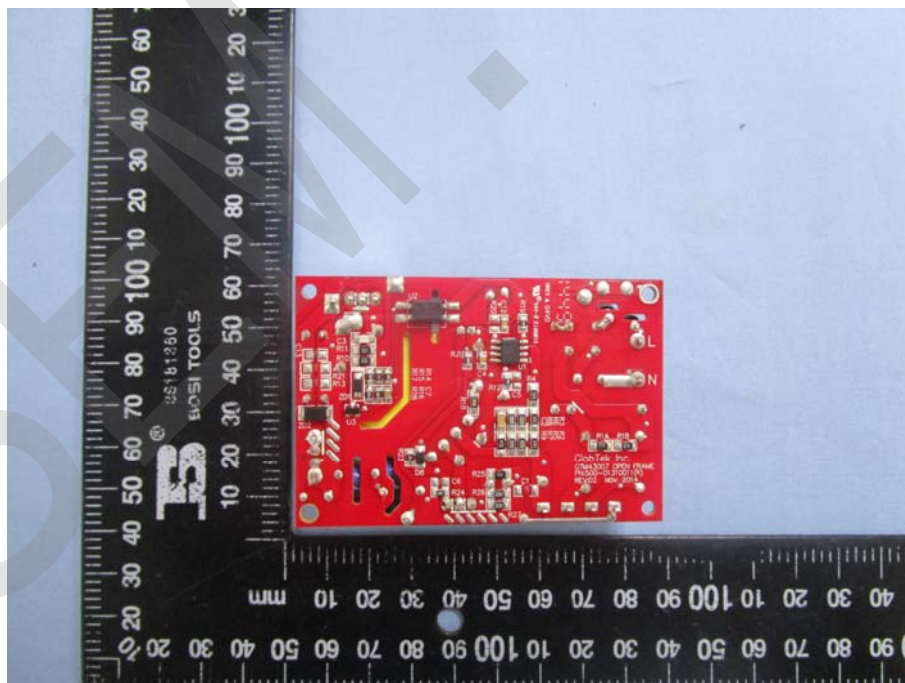


EUT View 3

Model: GTM43007-A6048-FW

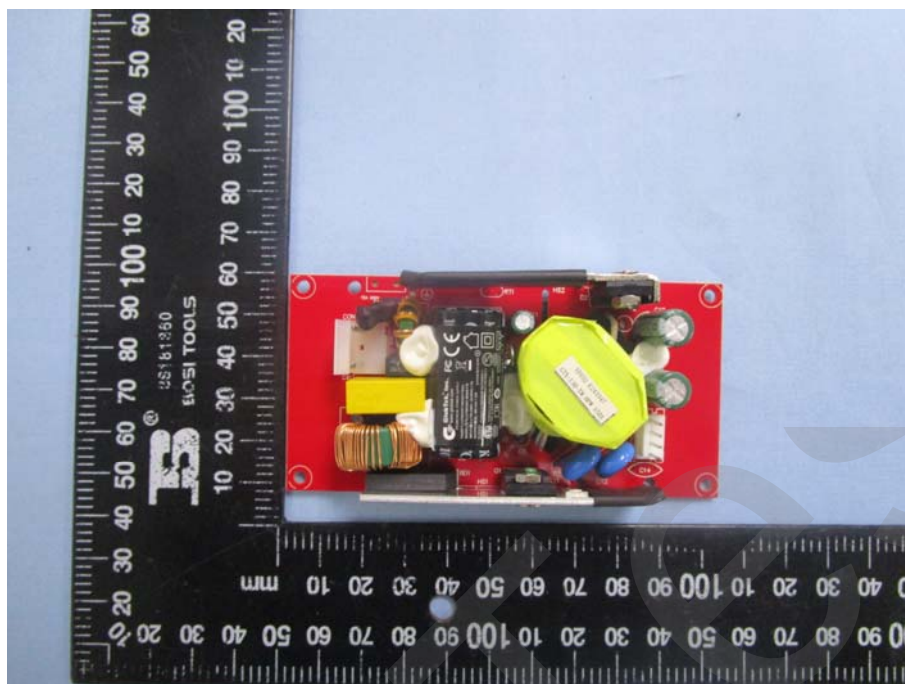


EUT View 4



EUT View 5

Model: GTM43007-B6048-FW



EUT View 6

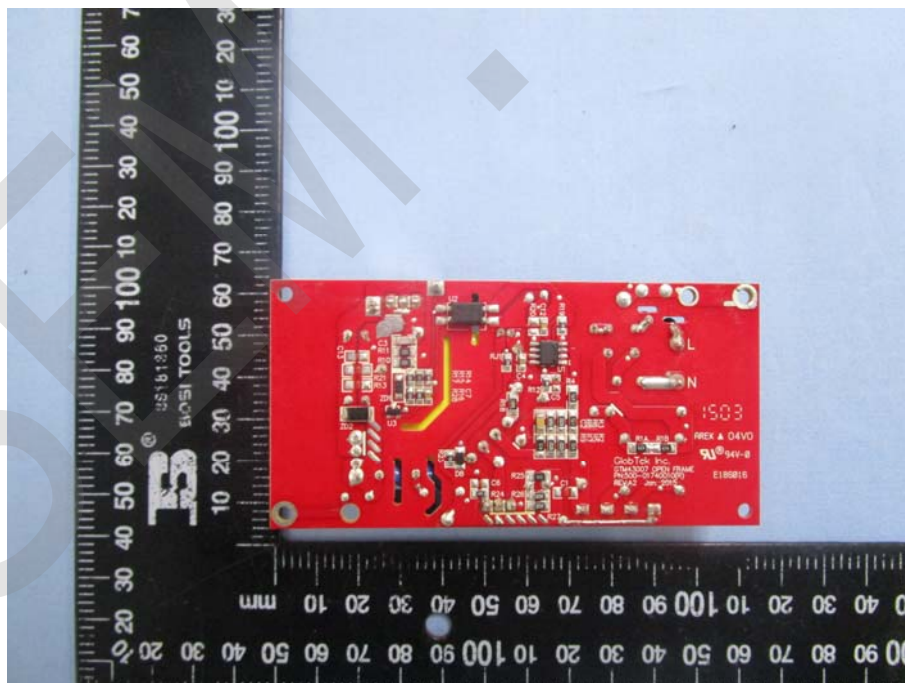


EXHIBIT 3 - TEST SETUP PHOTOGRAPHS

Conduction Emission Test View



Radiation Emission Test View

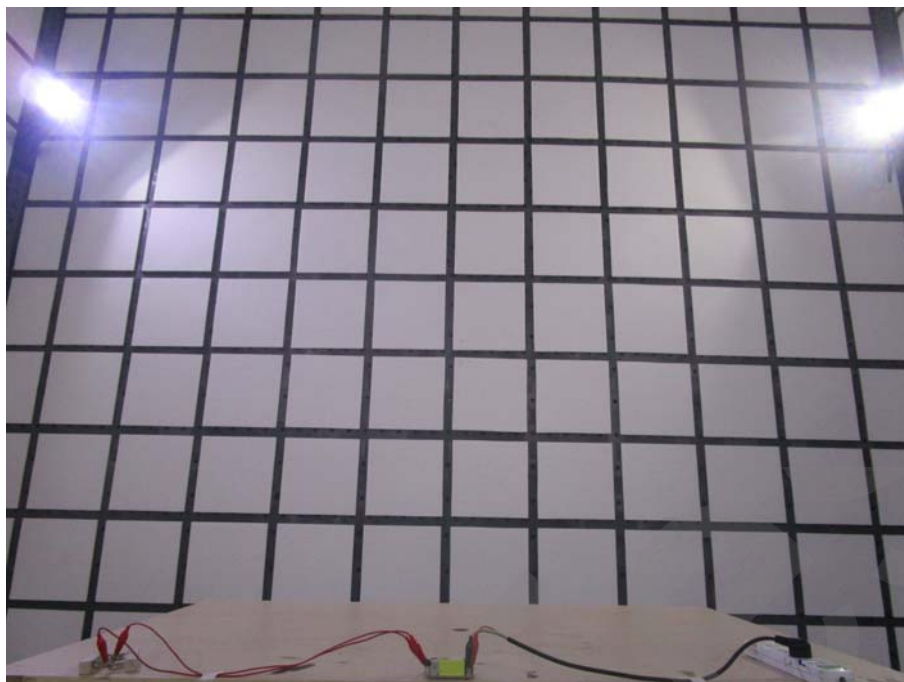
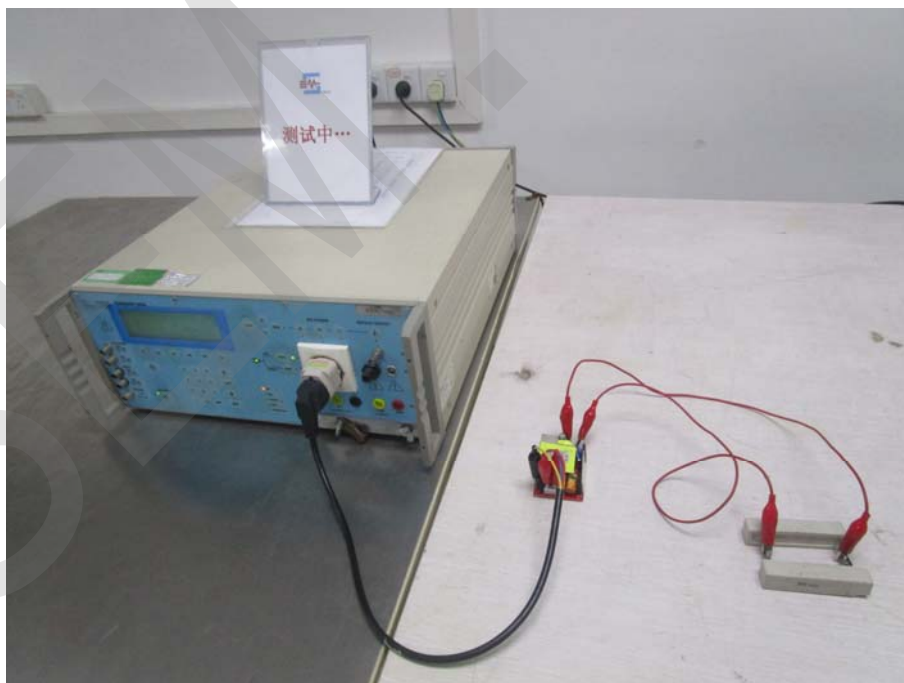


Harmonic/Flicker Test View



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 *******