

# CE/EMC TEST REPORT

For

GlobTek, Inc.

ITE POWER SUPPLY

Prepared for : GlobTek, Inc.

Address : 186 Veterans Dr. Northvale, NJ 07647 USA

Prepared by : EST Technology Co., Ltd.

Address : Chilingxiang, Qishantou, Santun, Houjie, Dongguan,  
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Report No. : ESTE-E1504018

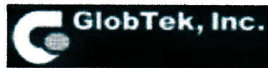



Date of Report : Apr. 13, 2015



# TABLE OF CONTENTS

Test Report Declaration	Page
<b>1. GENERAL PRODUCT INFORMATION.....</b>	<b>4</b>
1.1. Product Function.....	4
1.2. Description of Device (EUT).....	4
1.3. Difference between Model Numbers .....	4
1.4. Independent Operation Modes.....	4
<b>2. TEST STANDARDS AND SITES .....</b>	<b>5</b>
2.1. Description of Standards and Results .....	5
2.2. Test Facilities .....	6
2.3. List of Test and Measurement Instruments.....	7
<b>3. TEST SET-UP AND OPERATION MODES.....</b>	<b>9</b>
3.1. Principle of Configuration Selection .....	9
3.2. Block Diagram of Test Set-up .....	9
3.3. Test Operation Mode and Test Software .....	9
3.4. Special Accessories and Auxiliary Equipment .....	9
3.5. Countermeasures to Achieve EMC Compliance.....	9
<b>4. EMISSION TEST RESULTS .....</b>	<b>10</b>
4.1. Conducted Emission at The Mains Terminals Test .....	10
4.2. Radiated Emission Test.....	23
4.3. Harmonic Current Emissions on AC Mains Test.....	36
4.4. Voltage Fluctuations and Flicker on AC Mains Test.....	37
<b>5. IMMUNITY TEST RESULT.....</b>	<b>38</b>
5.1. Description of Performance Criteria: .....	38
5.2. Electrostatic Discharge Immunity Test.....	39
5.3. Radio Frequency Electromagnetic Field Immunity Test .....	41
5.4. Electrical Fast Transient/Burst Immunity Test .....	43
5.5. Surge Immunity Test.....	45
5.6. Injected Currents Susceptibility Test .....	47
5.7. Power Frequency Magnetic Field Immunity Test.....	49
5.8. Voltage Dips and Short Interruptions Immunity Test.....	50
<b>6. PHOTOGRAPHS OF THE EUT.....</b>	<b>51</b>

# EST Technology Co., Ltd.

<b>Applicant/ Manufacturer: Address:</b>	GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 USA		
<b>Factory 1: Address:</b>	GlobTek, Inc. 186 Veterans Dr. Northvale, NJ 07647 USA		
<b>Factory 2: Address:</b>	GlobTek (Suzhou) Co., Ltd Building 4, No.76, Jin Ling East Rd., Suzhou Industrial Park, Suzhou, JiangSu 215021, China		
<b>E.U.T:</b>	ITE POWER SUPPLY		
<b>Model Number:</b>	GT-83083-WW05-USB-W2Z (WW, Z are variables, Refer to section 1.3)		
<b>Trade Name:</b>		<b>Serial No:</b>	-----
<b>Date of Receipt:</b>	Apr. 09, 2015	<b>Date of Test:</b>	Apr. 09-13, 2015
<b>Test Specification:</b>	EN 55022:2010 CISPR 22:2008 EN 61000-3-2:2014 EN 61000-3-3:2013 EN 55024:2010 CISPR 24:2010		
<b>Test Result:</b>	The equipment under test was found to be compliance with the requirements of the standards applied.  <div style="text-align: right;"><b>Issue Date: Apr. 13, 2015</b></div>		
<b>Prepared by:</b>	<b>Tested by:</b>	<b>Approved by:</b>	
 <hr style="width: 100%;"/> Amy / Assistant	 <hr style="width: 100%;"/> Dick / Engineer	 Iceman Hu / Manager	
<b>Other Aspects:</b>	None.		
Abbreviations: OK/P=passed    fail/F=failed    n.a/N=not applicable    E.U.T=equipment under tested			
This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of EST Technology Co., Ltd.			

# 1. GENERAL PRODUCT INFORMATION

## 1.1. Product Function

Refer to Technical Construction Form and User Manual.

## 1.2. Description of Device (EUT)

Description	: ITE POWER SUPPLY
Model No.	: GT-83083-0505-USB-W2E, GT-83083-0505-USB
System Input Voltage	: AC 100V-240V, 50/60Hz, 0.2A
Output	: DC 5V/1A
Power	: 5W
USB Line	: Unshielded, Detachable 0.5m

## 1.3. Difference between Model Numbers

Model Name	Output Voltage	Output Current	Output Watt
GT-83083-WW05-USB-W2Z WW is the standard output wattage, with a maximum value of "05" Z designates type of plug and can be E for European plug, U for British plug, blank for North American / Japan plug/Taiwan plug, C for Chinese plug, I for India plug, A for Australia plug, K for Korea plug, AR for Argentina plug, BR for Brazilian plug, SA for South African plug. -W2Z for fixed pin model use, When -W2E is blank, the interchangeable plug should be Q-EU for European plug, Q-UK for British plug, Q-NA for North American / Japan plug/Taiwan plug, Q-CN for Chinese plug, Q-IR for India plug, Q-SAA for Australia plug, Q-KR for Korea plug, Q-AR for Argentina plug, Q-BR for Brazilian plug, Q-SAF for South African plug			
GT-83083-WW05-USB	5V	Max.1A	Max.5W
GT-83083-WW05-USB-W2Z	5V	Max.1A	Max.5W

## 1.4. Independent Operation Modes

The basic operation modes are:

1.4.1. Full Load

1.4.2. Half Load

1.4.3. No Load

## 2. TEST STANDARDS AND SITES

### 2.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION(EN 55022:2010)				
Description of Test Item	Standard	Limits		Results
Conducted disturbance at mains terminals	EN 55022:2010	Class B		PASS
		Minimum passing margin is 3.32dB at 0.49MHz		
Radiated disturbance	EN 55022:2010	Class B		PASS
		Minimum passing margin is 5.35dB at 30.00MHz		
Harmonic current emissions	EN 61000-3-2:2014	Class A		N/A
Voltage fluctuations & flicker	EN 61000-3-3:2013	Section 4.4		PASS
IMMUNITY (EN 55024:2010)				
Description of Test Item	Basic Standard	Performance Criteria	Observation Criteria	Results
Electrostatic discharge (ESD)	EN 61000-4-2:2009	B	A	PASS
Radio-frequency, Continuous radiated disturbance	EN 61000-4-3:2006+A1:2008+A2:2010	A	A	PASS
Electrical fast transient (EFT)	EN 61000-4-4:2012	B	A	PASS
Surge (Input a.c. power port)	EN 61000-4-5:2006	B	A	PASS
Radio-frequency,Continuous conducted disturbance	EN 61000-4-6:2009	A	A	PASS
Power frequency magnetic field	EN 61000-4-8:2010	A	A	PASS
Voltage dips, >95% reduction	EN 61000-4-11:2004	B	A	PASS
Voltage dips, 30% reduction		C	B	PASS
Voltage interruptions		C	B	PASS
N/A is an abbreviation for Not Applicable.				

## 2.2. Test Facilities

EMC Lab :      Certificated by CNAS, CHINA  
                            Registration No.: L5288  
                            Date of registration: November 13, 2014

                            Certificated by FCC, USA  
                            Registration No.: 989591  
                            Date of registration: November 20, 2013

                            Certificated by Industry Canada  
                            Registration No.: 9405A  
                            Date of registration: January 03, 2013

                            Certificated by VCCI, Japan  
                            Registration No.: R-3663 & C-4103  
                            Date of registration: July 25, 2014

                            Certificated by TUV Rheinland, Germany  
                            Registration No.: UA 50195514 0001  
                            Date of registration: January 07, 2011

                            Certificated by TUV/PS, Shenzhen  
                            Registration No.: SCN1017  
                            Date of registration: January 27, 2011

                            Certificated by Intertek ETL SEMKO  
                            Registration No.: 2011-RTL-L1-18  
                            Date of registration: April 28, 2011

                            Certificated by Nemko, Hong Kong  
                            Registration No.: 175193  
                            Date of registration: May 4, 2011

Name of Firm :      EST Technology Co., Ltd.

Site Location :      Chilingxiang, Qishantou, Santun, Houjie, Dongguan,  
                            Guangdong, China

## 2.3.List of Test and Measurement Instruments

### 2.3.1. For conducted emission at the mains terminals test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESHS30	832354	June 28,14	1 Year
Artificial Mains Networ	Rohde & Schwarz	ENV216	101260	June 28,14	1 Year
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	101100	June 28,14	1 Year

### 2.3.2. For radiated emission test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde & Schwarz	ESVS10	100004	June 28,14	1 Year
Spectrum Analyzer	Agilent	E4411B	MY50140697	June 28,14	1 Year
Bilog Antenna	Teseq	CBL 6111D	25872	June 28,14	1.5 Year
Signal Amplifier	Agilent	310N	187037	June 28,14	1 Year

### 2.3.3. For harmonic current emissions and voltage fluctuations/flicker test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Analyzer	Chroma	6630	663000002099	June 28,14	1 Year
Voltage Source	Chroma	6530	653000007115	N/A	N/A

### 2.3.4. For electrostatic discharge immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
ESD Generator	HAEFELY	ONYX16	174153	June 28,14	1 Year

### 2.3.5. Radio Frequency Electromagnetic Field Immunity (R/S) Test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Signal Generator	HP	8648A	3426A01263	June 28,14	1 Year
Amplifier	A&R	500A100	17034	June 28,14	1 Year
Amplifier	A&R	100W	17028	June 28,14	1 Year
Isotropic Field Monitor	A&R	FM2000	16829	June 28,14	1 Year
Isotropic Field Probe	A&R	FP2000	16755	June 28,14	1 Year
Biconic Antenna	EMCO	3108	9507-2534	June 28,14	1 Year
Log-periodic Antenna	A&R	AT1080	16812	June 28,14	1 Year

### 2.3.6. For electrical fast transient/burst immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EFT Generator	HAEFELY	ECOMPACT 4	173659	June 28,14	1 Year

### 2.3.7. For surge immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Surge Controller	HAEFELY	PSURGE8000	174034	June 28,14	1 Year
Surge Impulse Module	HAEFELY	PIM100	174125	June 28,14	1 Year
Surge Coupling Module	HAEFELY	PCD100	174134	June 28,14	1 Year

### 2.3.8. For injected currents susceptibility test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
CS Test System	FRANKONIA	CIT-10	126A1163	June 28,14	1 Year
CDN	FRANKONIA	CDN-M2+M3	A2210150	June 28,14	1 Year

2.3.9.For power frequency magnetic field immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Magnetic Field Tester	HEAFELY	MFS 100	-----	June 28,14	1 Year

2.3.10.For voltage dips and short interruptions immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
DIPS Tester	HAEFELY	ECOMPACT 4	173659	June 28,14	1 Year



### 3. TEST SET-UP AND OPERATION MODES

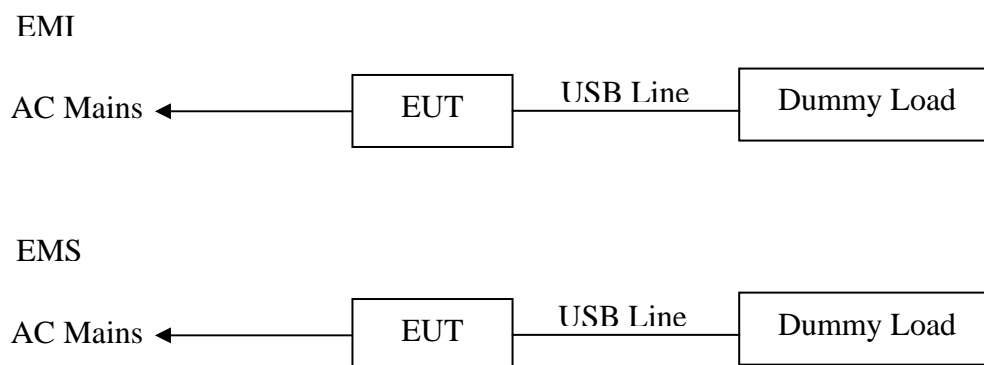
#### 3.1. Principle of Configuration Selection

**Emission:** The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the Operating Instructions.

**Immunity:** The equipment under test (EUT) was configured to the representative operating mode and conditions.

#### 3.2. Block Diagram of Test Set-up

System Diagram of Connections Between EUT and Simulators



*(EUT: ITE POWER SUPPLY)*

#### 3.3. Test Operation Mode and Test Software

Refer to Test Setup in clause 4 & 5.

#### 3.4. Special Accessories and Auxiliary Equipment

None.

#### 3.5. Countermeasures to Achieve EMC Compliance

None.

## 4. EMISSION TEST RESULTS

### 4.1. Conducted Emission at The Mains Terminals Test

**RESULT** : **Pass**  
Test procedure : EN 55022:2010  
Frequency range : 0.15 ~ 30MHz  
Test Site : Shielded Room  
Limits : EN 55022:2010 Class B

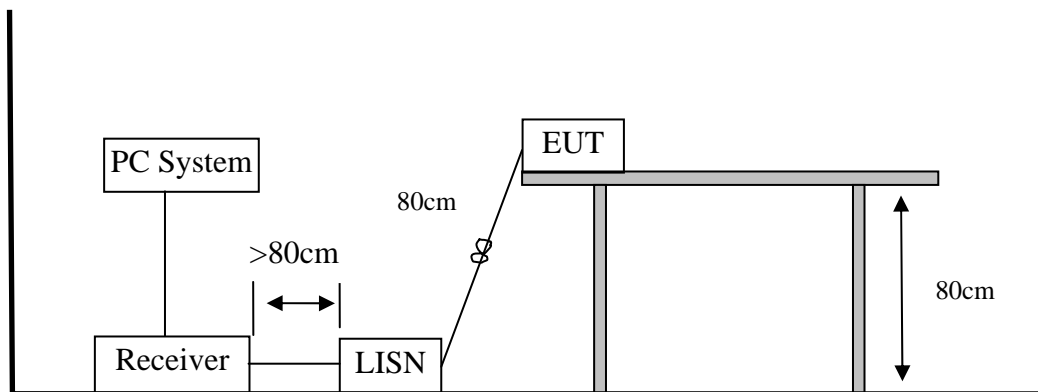
#### Test Setup

Date of test : Apr. 12, 2015  
Model No. : GT-83083-0505-USB-W2E, GT-83083-0505-USB  
Input Voltage : AC 100V/60Hz, AC 240V/50Hz  
Operation Mode : Full/ Half/ No Load

The frequency range from 150 kHz to 30 MHz was investigated.

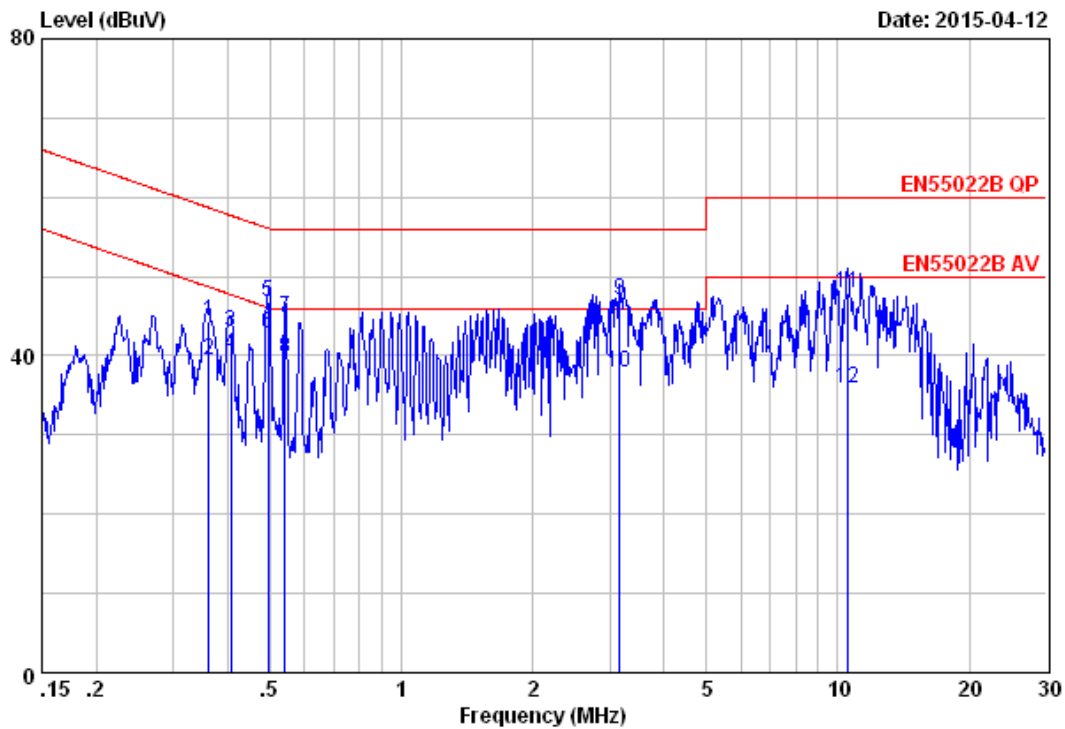
The bandwidth of the test receiver was set at 9 kHz.

The test data of the worst case condition(s) was reported on the following page.



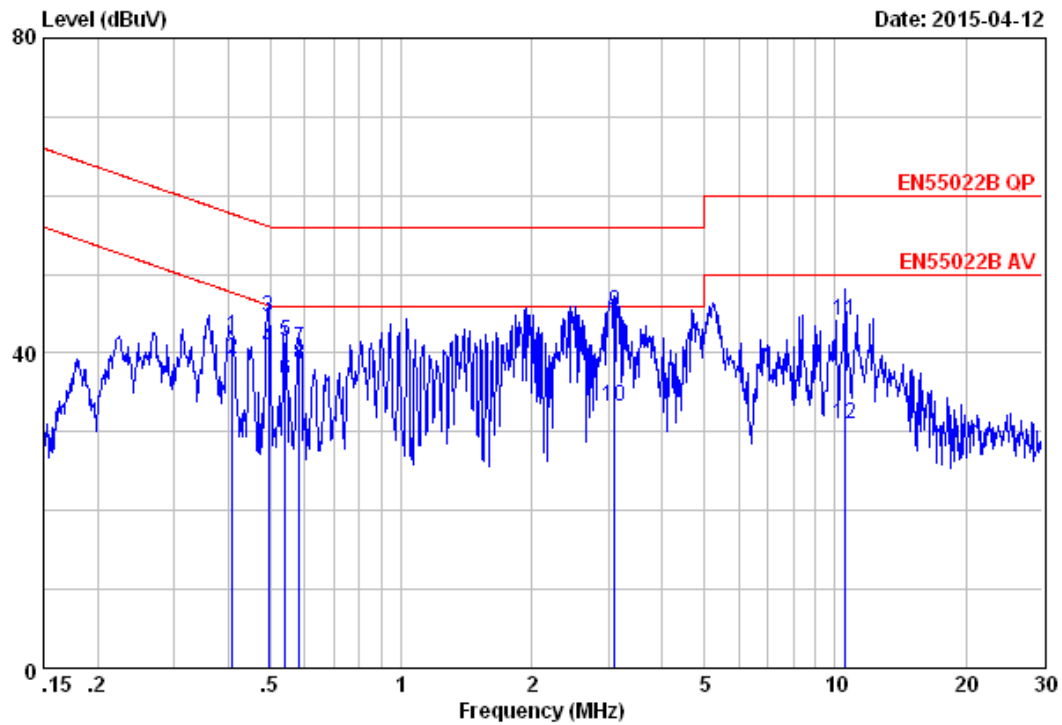
**Note: Test uncertainty:  $\pm 2.54\text{dB}$  at a level of confidence of 95%.**

## Test Data



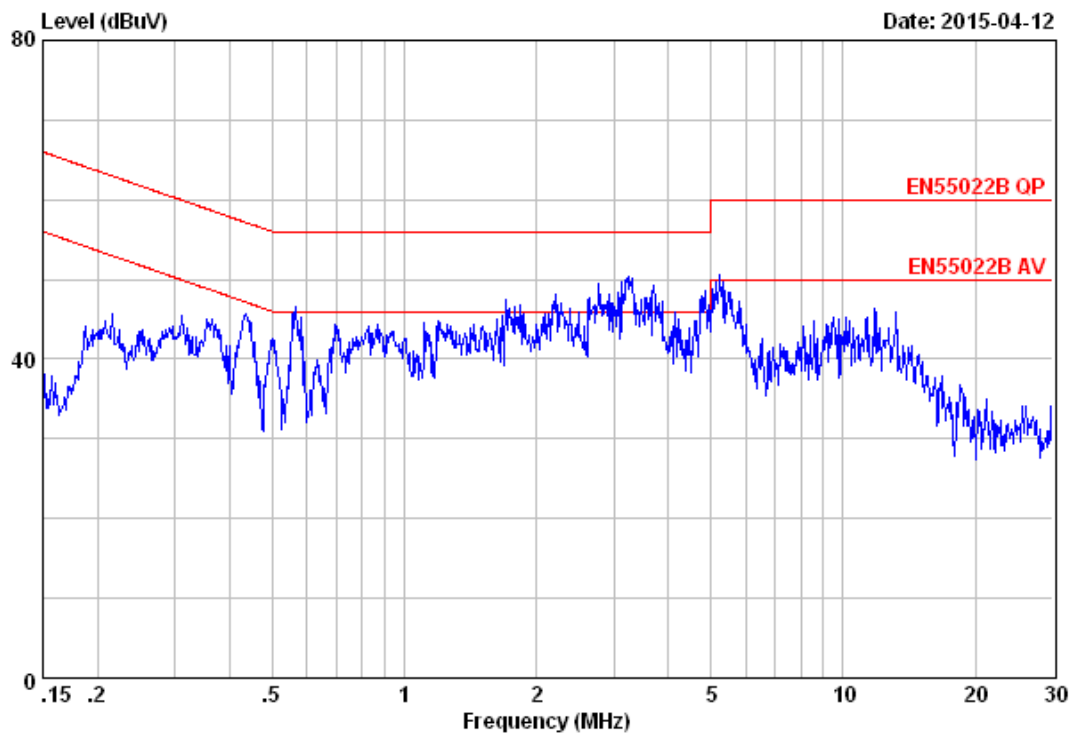
Site no. : EST Conduction Shielded RoomData no. : 305  
 Limit : EN55022B QP LINE Phase : LINE  
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa  
 Engineer : Dick  
 EUT : ITE POWER SUPPLY  
 Power : AC 240V/50Hz  
 M/N : GT-83083-0505-USB-W2E  
 Test Mode : Half Load(Output:5V/0.5A)

	Freq.	LISN	Cable		Emission			
	(MHz)	Factor	Loss	Reading	Level	Limits	Margin	Remark
		(dB)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)	
1	0.36	9.61	9.82	24.95	44.38	58.69	14.31	QP
2	0.36	9.61	9.82	19.95	39.38	48.69	9.31	Average
3	0.41	9.61	9.82	23.63	43.06	57.73	14.67	QP
4	0.41	9.61	9.82	20.63	40.06	47.73	7.67	Average
5	0.49	9.61	9.81	27.36	46.78	56.10	9.32	QP
6	0.49	9.61	9.81	23.36	42.78	46.10	3.32	Average
7	0.54	9.61	9.82	25.33	44.76	56.00	11.24	QP
8	0.54	9.61	9.82	20.33	39.76	46.00	6.24	Average
9	3.16	9.63	9.84	27.49	46.96	56.00	9.04	QP
10	3.16	9.63	9.84	18.49	37.96	46.00	8.04	Average
11	10.51	9.66	9.88	28.43	47.97	60.00	12.03	QP
12	10.51	9.66	9.88	16.43	35.97	50.00	14.03	Average

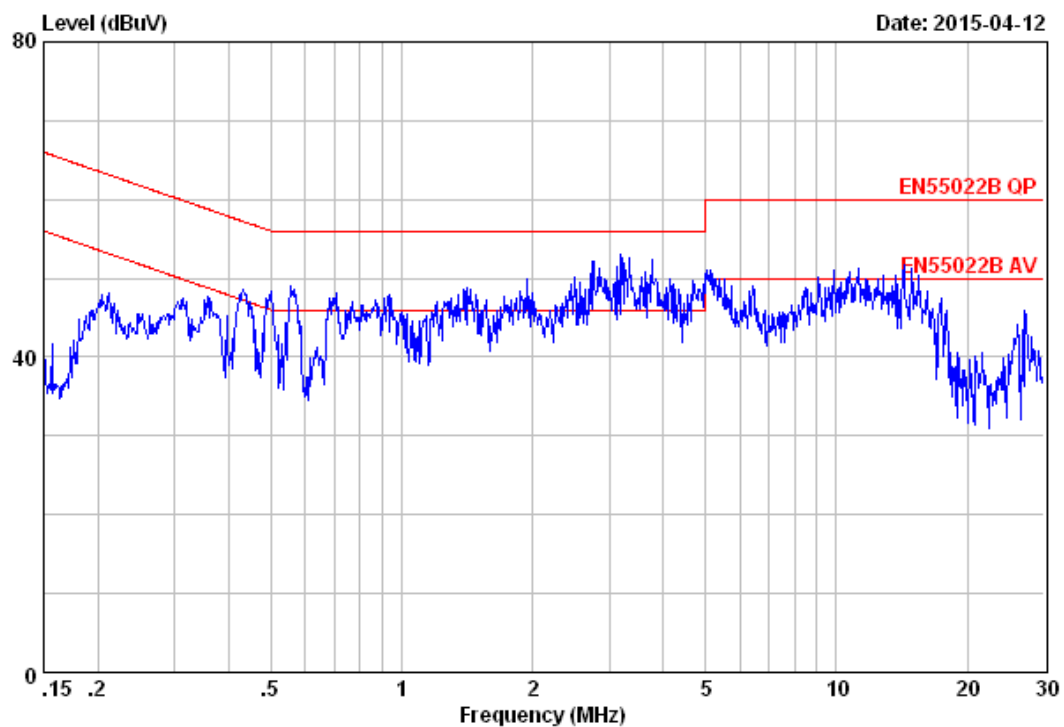


Site no. : EST Conduction Shielded RoomData no. : 307  
 Limit : EN55022B QP LINE Phase : NEUTRAL  
 Env. / Ins. : Temp:24.3°C Humi:58% Press:101.50kPa  
 Engineer : Dick  
 EUT : ITE POWER SUPPLY  
 Power : AC 240V/50Hz  
 M/N : GT-83083-0505-USB-W2E  
 Test Mode : Half Load (Output:5V/0.5A)

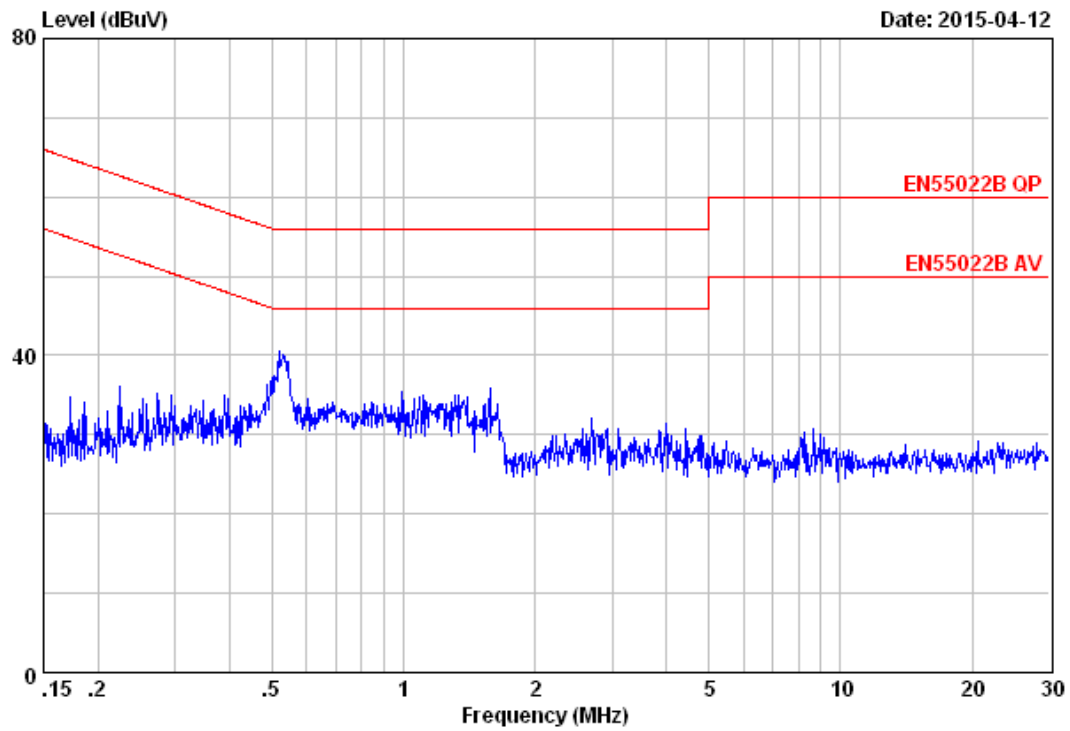
	Freq.	LISN	Cable		Emission			
	(MHz)	Factor	Loss	Reading	Level	Limits	Margin	Remark
		(dB)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)	
1	0.41	9.59	9.82	22.81	42.22	57.68	15.46	QP
2	0.41	9.59	9.82	19.81	39.22	47.68	8.46	Average
3	0.49	9.59	9.81	25.06	44.46	56.10	11.64	QP
4	0.49	9.59	9.81	21.06	40.46	46.10	5.64	Average
5	0.54	9.60	9.82	22.05	41.47	56.00	14.53	QP
6	0.54	9.60	9.82	17.05	36.47	46.00	9.53	Average
7	0.58	9.61	9.82	21.15	40.58	56.00	15.42	QP
8	0.58	9.61	9.82	19.15	38.58	46.00	7.42	Average
9	3.11	9.63	9.84	25.80	45.27	56.00	10.73	QP
10	3.11	9.63	9.84	13.80	33.27	46.00	12.73	Average
11	10.56	9.71	9.89	24.45	44.05	60.00	15.95	QP
12	10.56	9.71	9.89	11.45	31.05	50.00	18.95	Average



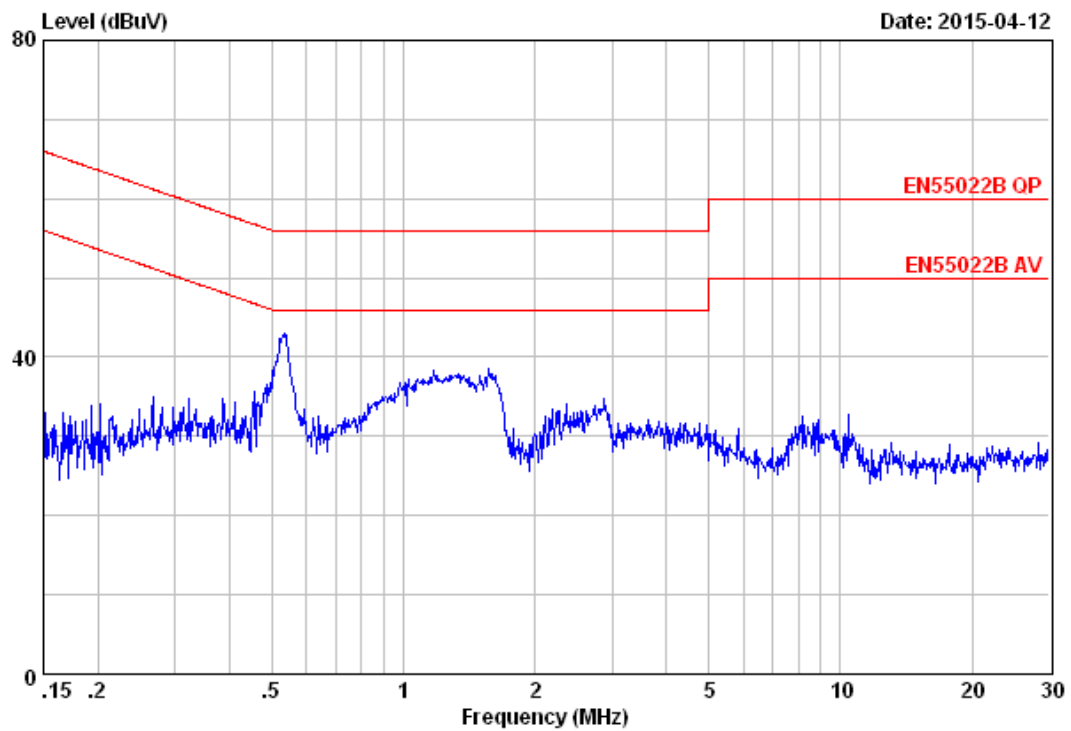
Site no. : EST Conduction Shielded RoomData no. : 301  
 Limit : EN55022B QP LINE Phase : NEUTRAL  
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa  
 Engineer : Dick  
 EUT : ITE POWER SUPPLY  
 Power : AC 240V/50Hz  
 M/N : GT-83083-0505-USB-W2E  
 Test Mode : Full Load(Output:5V/1A)



Site no. : EST Conduction Shielded RoomData no. : 303  
 Limit : EN55022B QP LINE Phase : LINE  
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa  
 Engineer : Dick  
 EUT : ITE POWER SUPPLY  
 Power : AC 240V/50Hz  
 M/N : GT-83083-0505-USB-W2E  
 Test Mode : Full Load(Output:5V/1A)

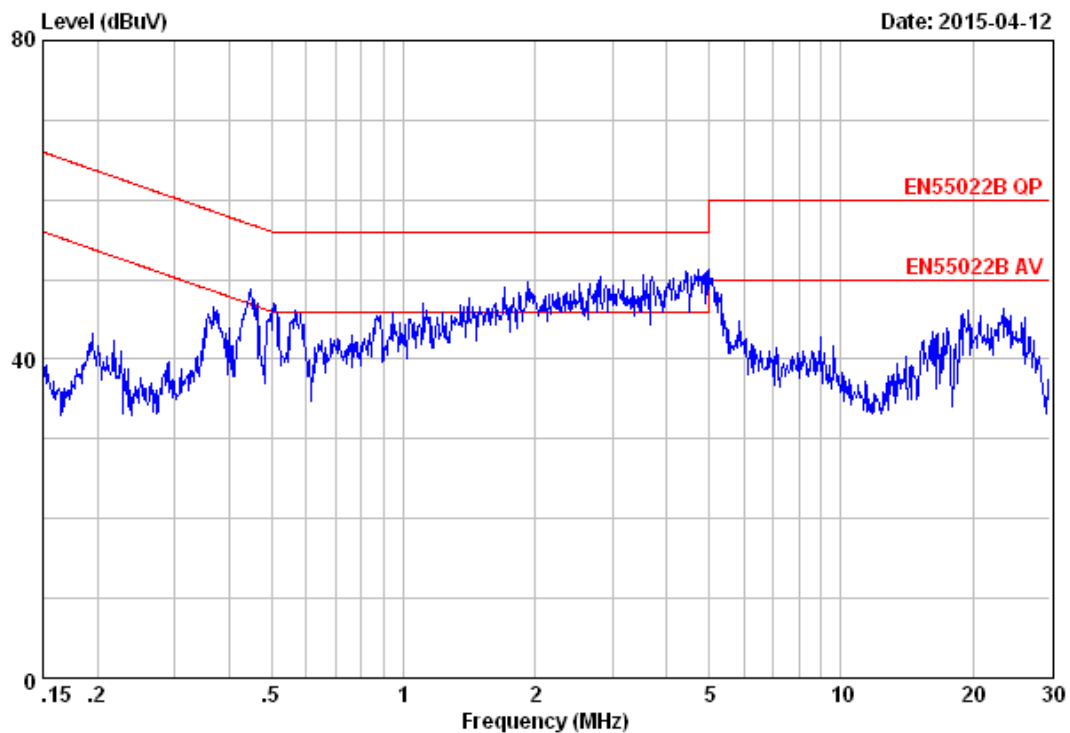


Site no. : EST Conduction Shielded RoomData no. : 309  
 Limit : EN55022B QP LINE Phase : NEUTRAL  
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa  
 Engineer : Dick  
 EUT : ITE POWER SUPPLY  
 Power : AC 240V/50Hz  
 M/N : GT-83083-0505-USB-W2E  
 Test Mode : No Load

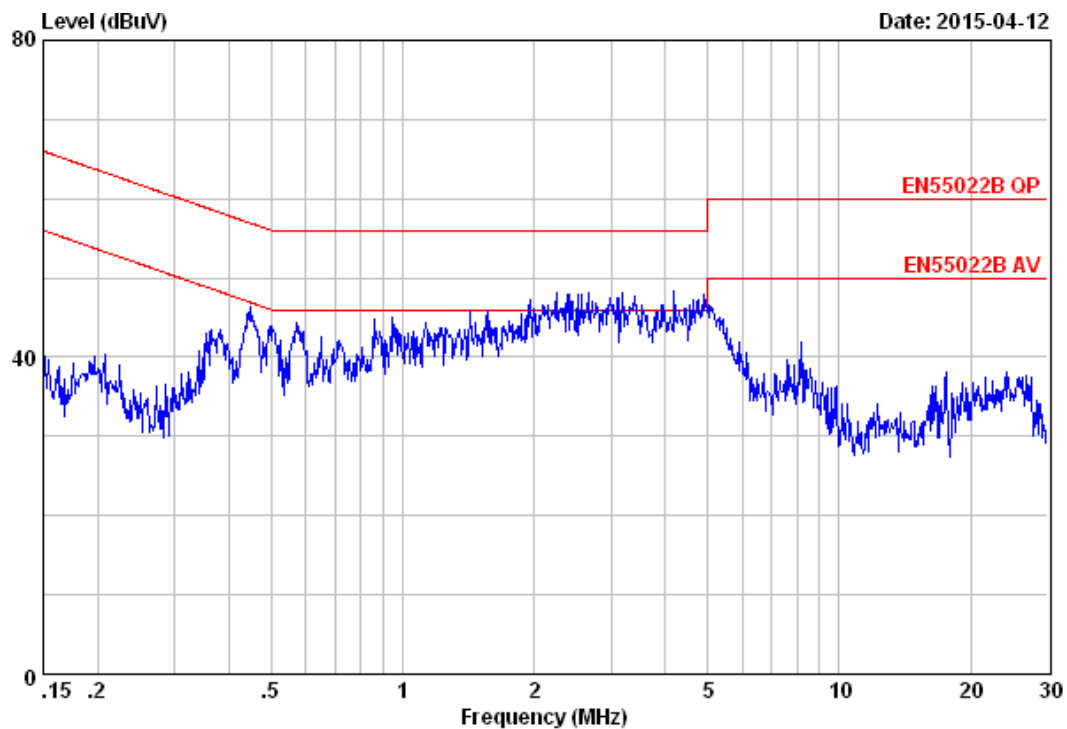


Site no. : EST Conduction Shielded RoomData no. : 311  
 Limit : EN55022B QP LINE Phase : LINE  
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa  
 Engineer : Dick  
 EUT : ITE POWER SUPPLY  
 Power : AC 240V/50Hz  
 M/N : GT-83083-0505-USB-W2E  
 Test Mode : No Load

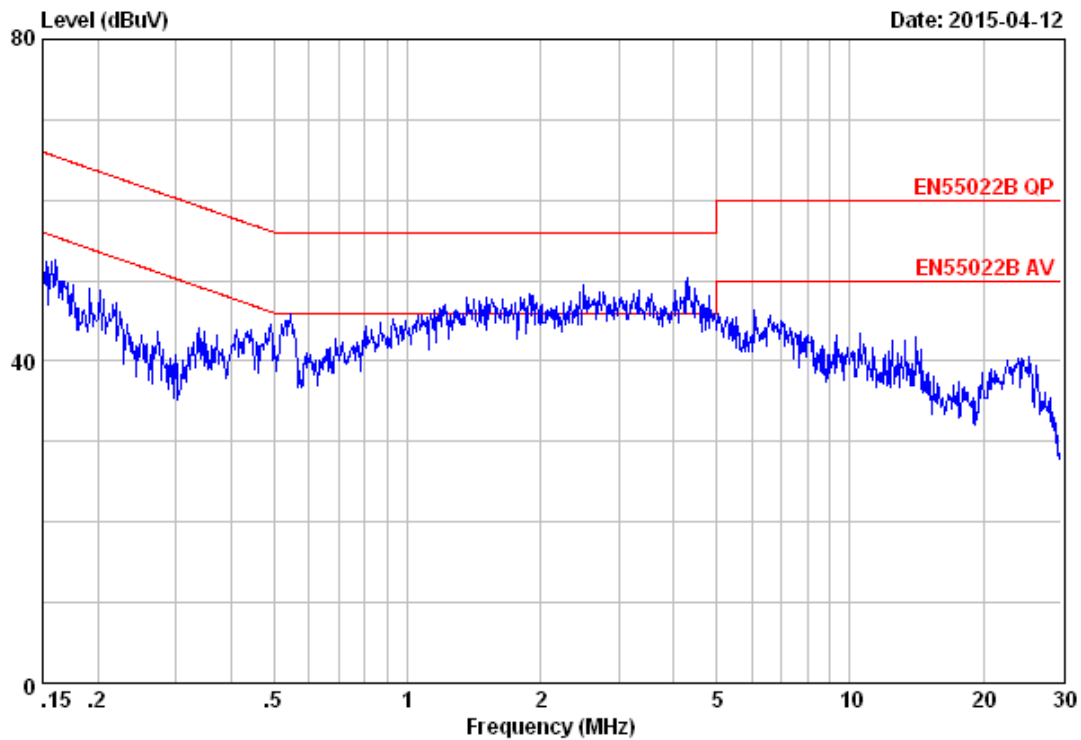




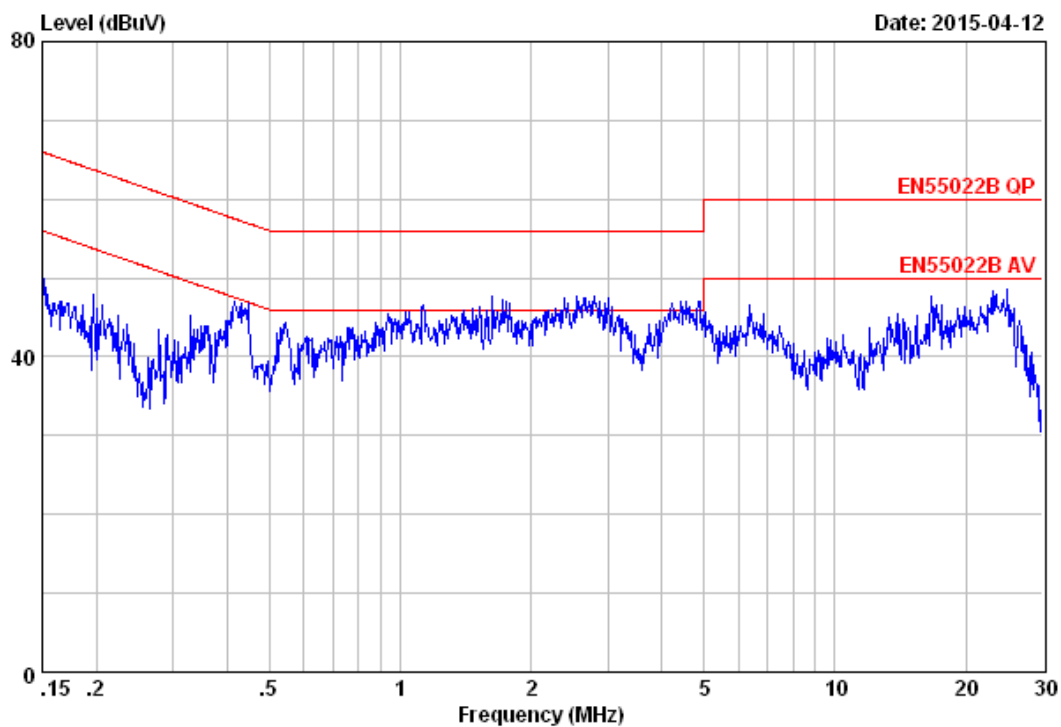
Site no. : EST Conduction Shielded RoomData no. : 313  
 Limit : EN55022B QP LINE Phase : LINE  
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa  
 Engineer : Dick  
 EUT : ITE POWER SUPPLY  
 Power : AC 100V/60Hz  
 M/N : GT-83083-0505-USB-W2E  
 Test Mode : Full Load(Output:5V/1A)



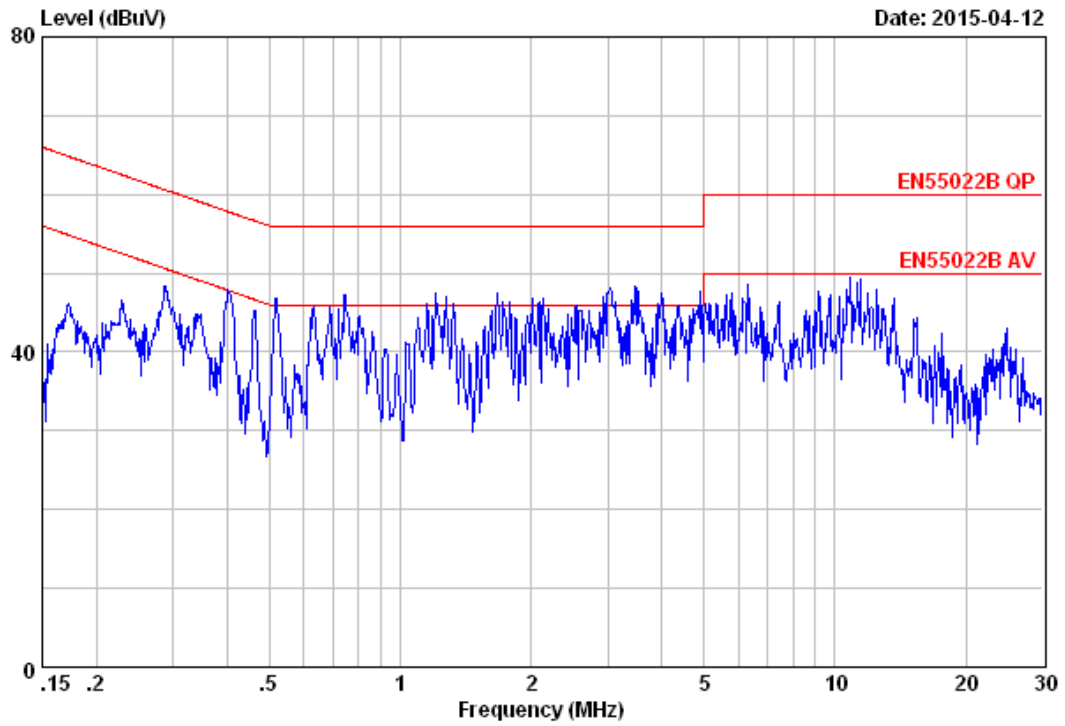
Site no. : EST Conduction Shielded RoomData no. : 315  
 Limit : EN55022B QP LINE Phase : NEUTRAL  
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa  
 Engineer : Dick  
 EUT : ITE POWER SUPPLY  
 Power : AC 100V/60Hz  
 M/N : GT-83083-0505-USB-W2E  
 Test Mode : Full Load(Output:5V/1A)



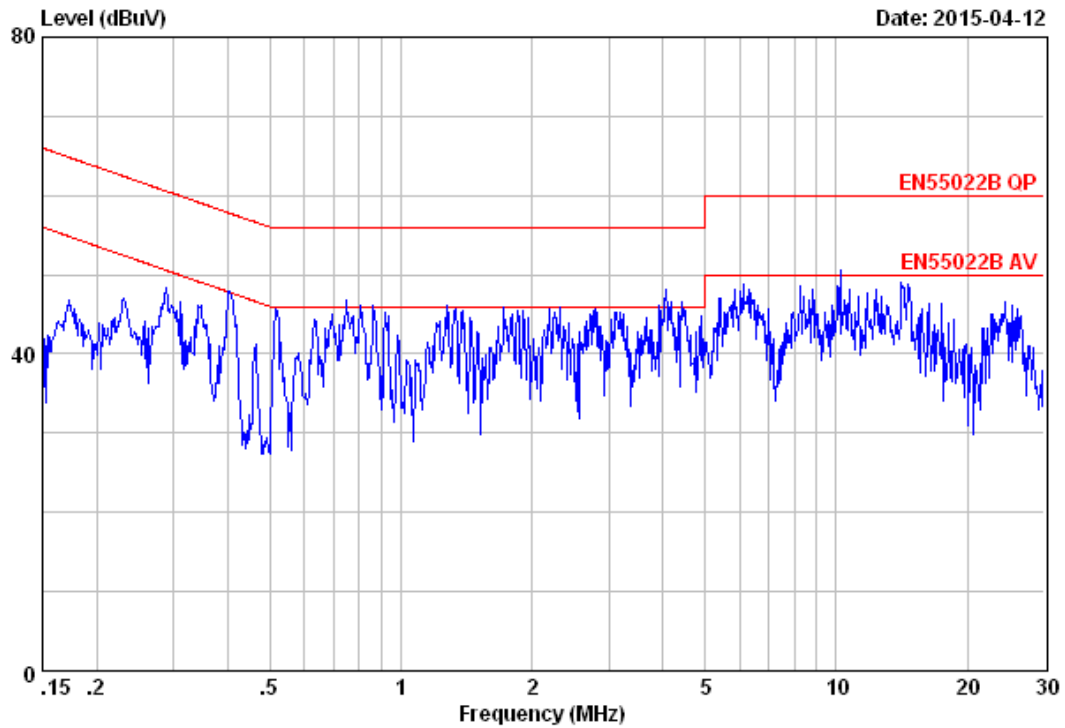
Site no. : EST Conduction Shielded RoomData no. : 341  
 Limit : EN55022B QP LINE Phase : LINE  
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa  
 Engineer : Dick  
 EUT : ITE POWER SUPPLY  
 Power : AC 100V/60Hz  
 M/N : GT-83083-0505-USB  
 Test Mode : Full Load(Output:5V/1A)



Site no. : EST Conduction Shielded RoomData no. : 343  
 Limit : EN55022B QP LINE Phase : NEUTRAL  
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa  
 Engineer : Dick  
 EUT : ITE POWER SUPPLY  
 Power : AC 100V/60Hz  
 M/N : GT-83083-0505-USB  
 Test Mode : Full Load(Output:5V/1A)



Site no. : EST Conduction Shielded RoomData no. : 345  
Limit : EN55022B QP LINE Phase : LINE  
Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa  
Engineer : Dick  
EUT : ITE POWER SUPPLY  
Power : AC 240V/50Hz  
M/N : GT-83083-0505-USB  
Test Mode : Full Load(Output:5V/1A)



Site no. : EST Conduction Shielded RoomData no. : 347  
 Limit : EN55022B QP LINE Phase : NEUTRAL  
 Env. / Ins. : Temp:24.3'C Humi:58% Press:101.50kPa  
 Engineer : Dick  
 EUT : ITE POWER SUPPLY  
 Power : AC 240V/50Hz  
 M/N : GT-83083-0505-USB  
 Test Mode : Full Load(Output:5V/1A)

## 4.2. Radiated Emission Test

**RESULT** : **Pass**  
Test procedure : EN 55022:2010  
Frequency range : 30~1000MHz  
Test Site : 966 Chamber  
Limits : EN 55022:2010 Class B

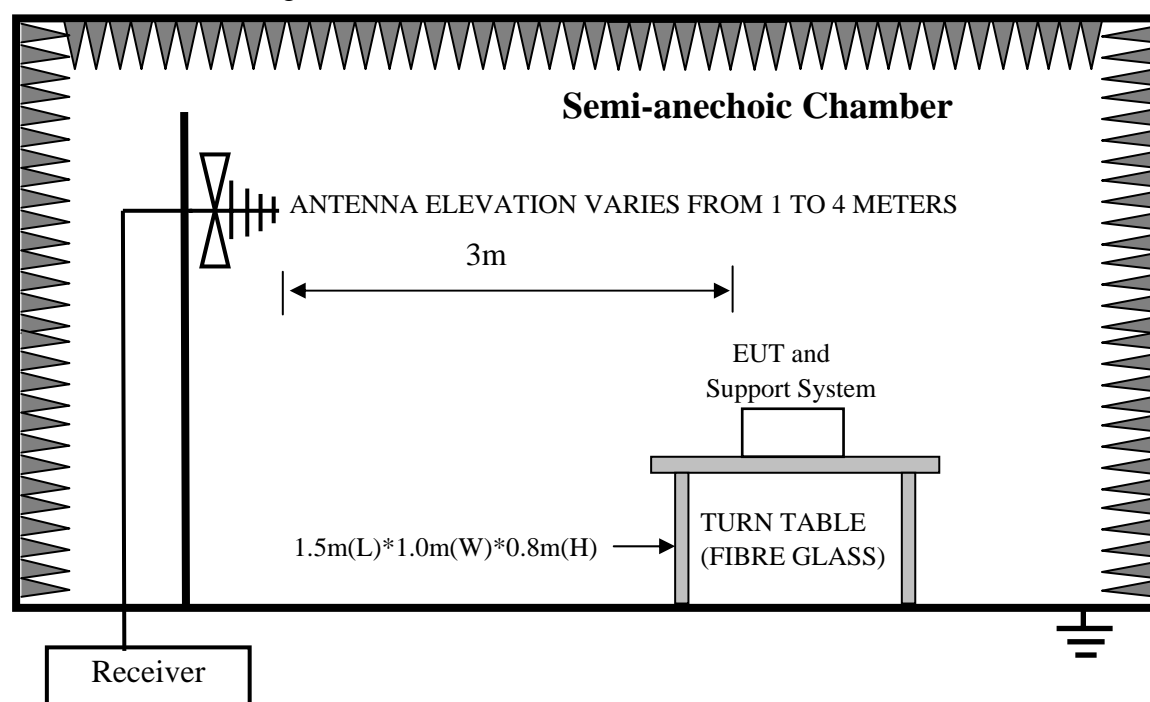
### Test Setup

Date of test : Apr. 13, 2015  
Model No. : GT-83083-0505-USB-W2E, GT-83083-0505-USB  
Input Voltage : AC 100V/60Hz, AC 240V/50Hz  
Operation Mode : Full/ Half/ No Load

The EUT was placed on a turn table which was 0.8 m above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 m distance from the receiving antenna which was mounted on an antenna tower. The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 m to 4 m for both horizontal and vertical polarizations.

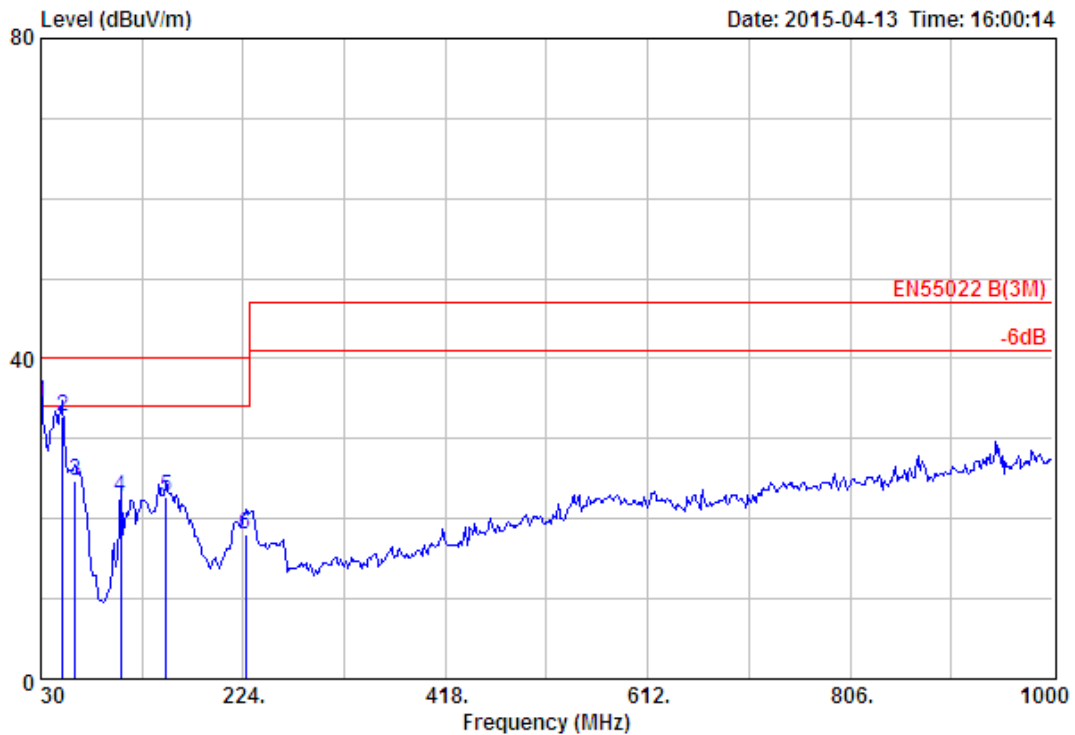
The EUT was tested in the Chamber Site. It was pre-scanned with a Peak detector from the spectrum, and all the final readings from the test receiver were measured with the Quasi-Peak detector.

The bandwidth setting on the test receiver was 120 kHz.



**Note: Test uncertainty:  $\pm 3.62\text{dB}$  at a level of confidence of 95%**

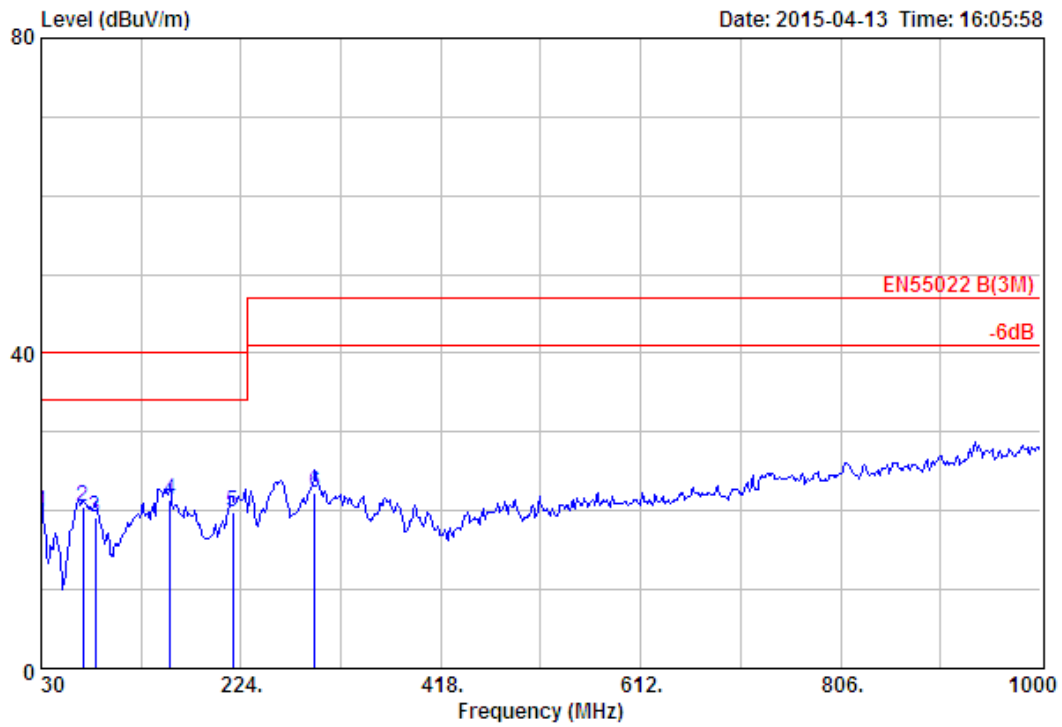
## Test Data



Site no. : 3m Chamber Data no. : 114  
 Dis. / Ant. : 3m 27137 Ant. pol. : VERTICAL  
 Limit : EN55022 B(3M)  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Dick  
 EUT : ITE POWER SUPPLY  
 Power : AC 240V/50Hz  
 M/N : GT-83083-0505-USB-W2E  
 Test Mode : Full Load (Output:5V/1A)

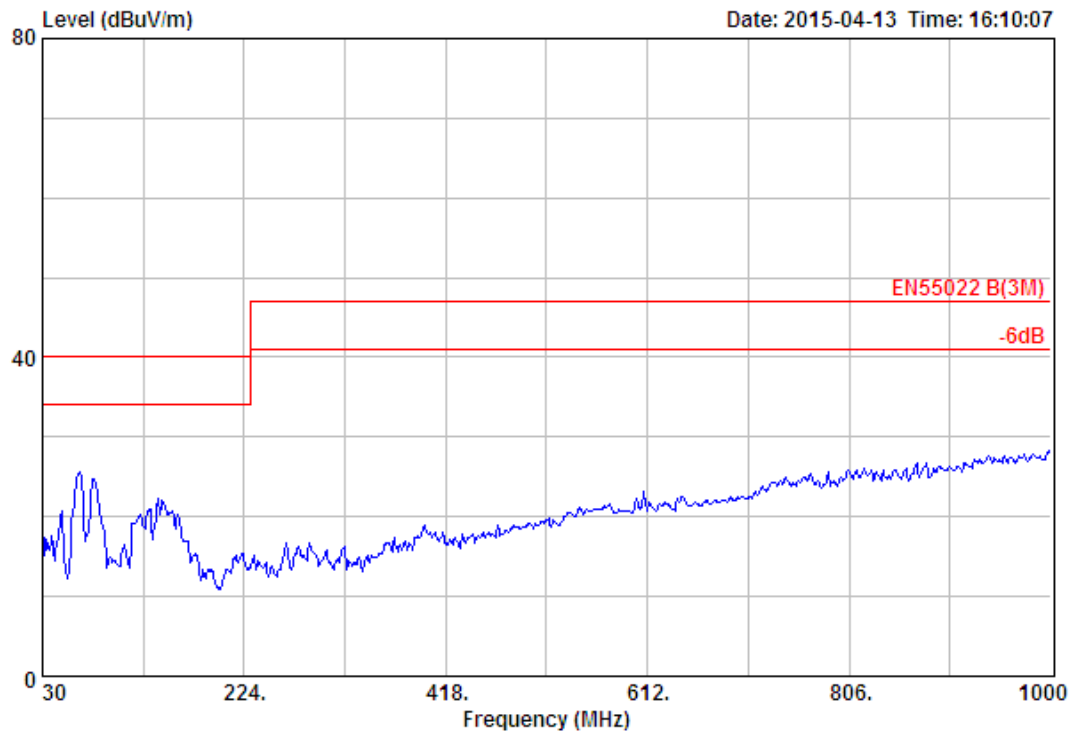
	Freq. (MHz)	Ant.	Cable	Emission				Remark
		Factor (dB/m)	Loss (dB)	Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	30.00	18.51	0.65	15.49	34.65	40.00	5.35	QP
2	51.34	6.92	0.89	24.99	32.80	40.00	7.20	QP
3	62.98	4.82	1.03	18.84	24.69	40.00	15.31	QP
4	106.63	10.15	1.38	11.22	22.75	40.00	17.25	QP
5	150.28	10.86	1.60	10.24	22.70	40.00	17.30	QP
6	225.94	9.47	1.99	6.67	18.13	40.00	21.87	QP



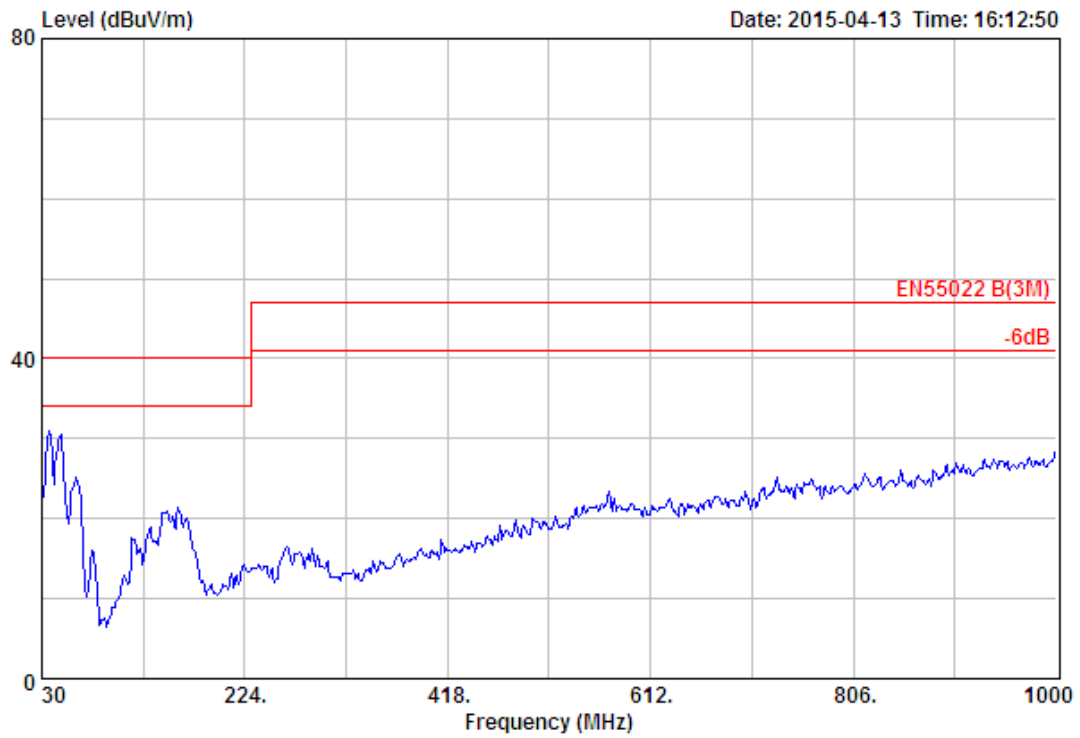


Site no. : 3m Chamber Data no. : 115  
 Dis. / Ant. : 3m 27137 Ant. pol. : HORIZONTAL  
 Limit : EN55022 B(3M)  
 Env. / Ins. : Temp:25.6';Humi:56%;Press:101.52kPa  
 Engineer : Dick  
 EUT : ITE POWER SUPPLY  
 Power : AC 240V/50Hz  
 M/N : GT-83083-0505-USB-W2E  
 Test Mode : Full Load(Output:5V/1A)

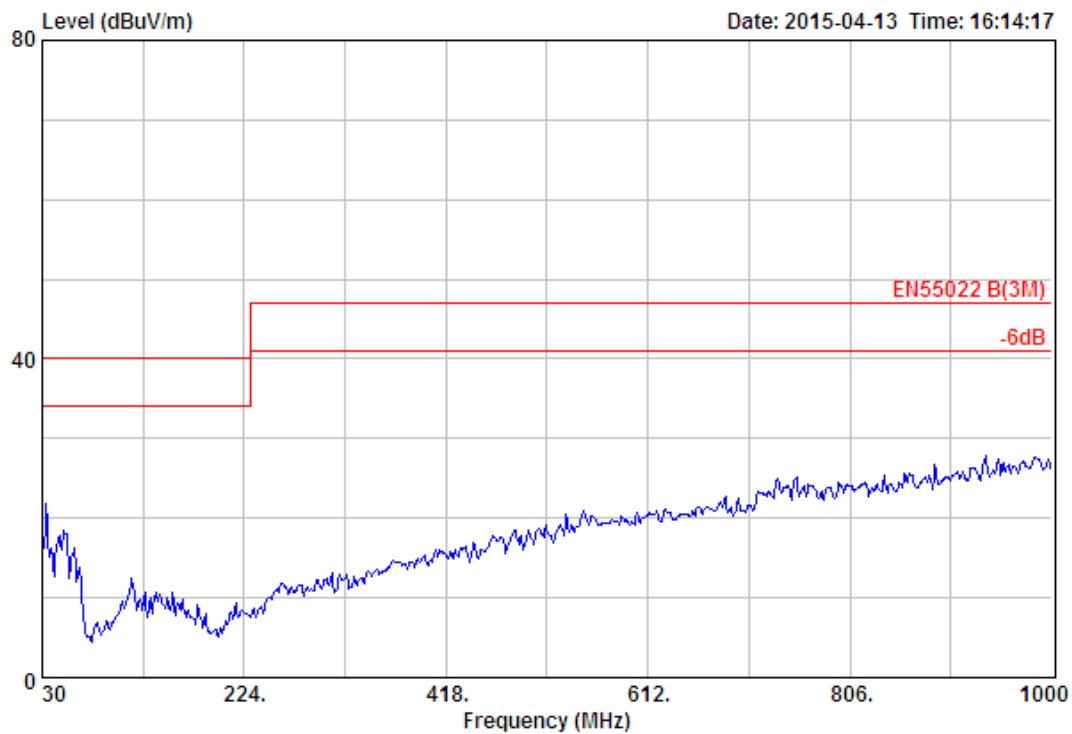
	Freq.	Ant.	Cable		Emission			
	(MHz)	Factor	Loss	Reading	Level	Limits	Margin	Remark
		(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	30.00	18.51	0.65	0.68	19.84	40.00	20.16	QP
2	70.74	5.82	1.04	13.55	20.41	40.00	19.59	QP
3	82.38	7.34	1.25	10.50	19.09	40.00	20.91	QP
4	155.13	10.67	1.69	9.00	21.36	40.00	18.64	QP
5	216.24	8.80	1.95	9.16	19.91	40.00	20.09	QP
6	295.78	12.98	2.28	7.00	22.26	47.00	24.74	QP



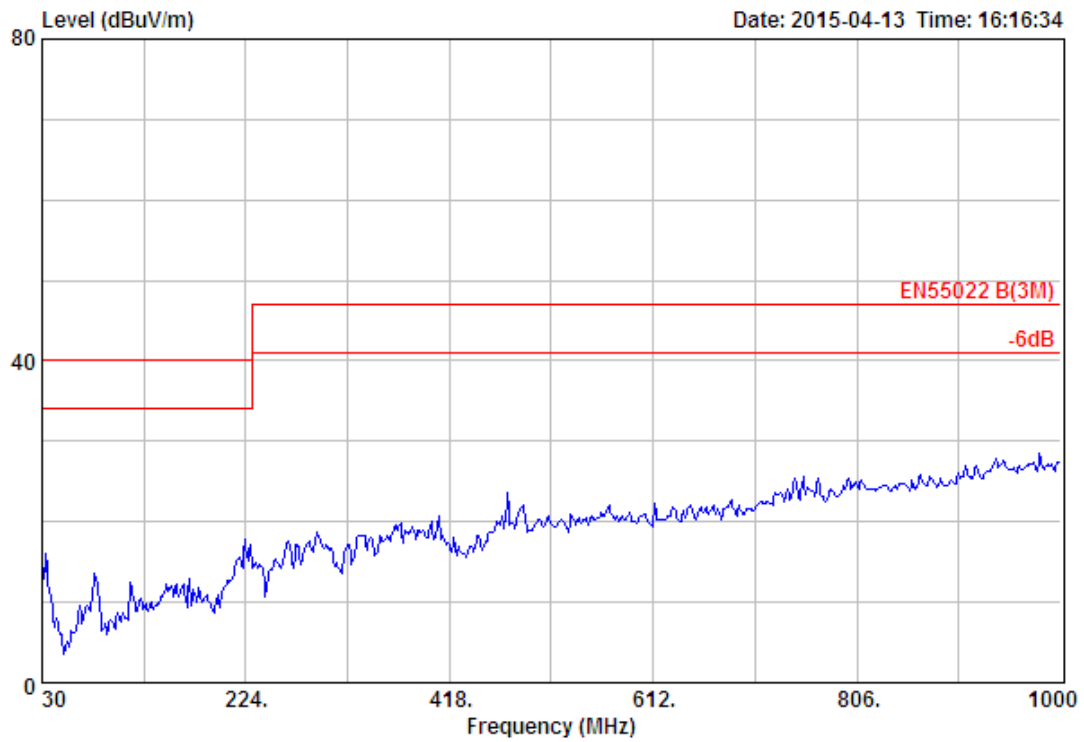
Site no.	: 3m Chamber	Data no.	: 116
Dis. / Ant.	: 3m 27137	Ant. pol.	: HORIZONTAL
Limit	: EN55022 B(3M)		
Env. / Ins.	: Temp:25.6';Humi:56%;Press:101.52kPa		
Engineer	: Dick		
EUT	: ITE POWER SUPPLY		
Power	: AC 240V/50Hz		
M/N	: GT-83083-0505-USB-W2E		
Test Mode	: Half Load (Output:5V/0.5A)		



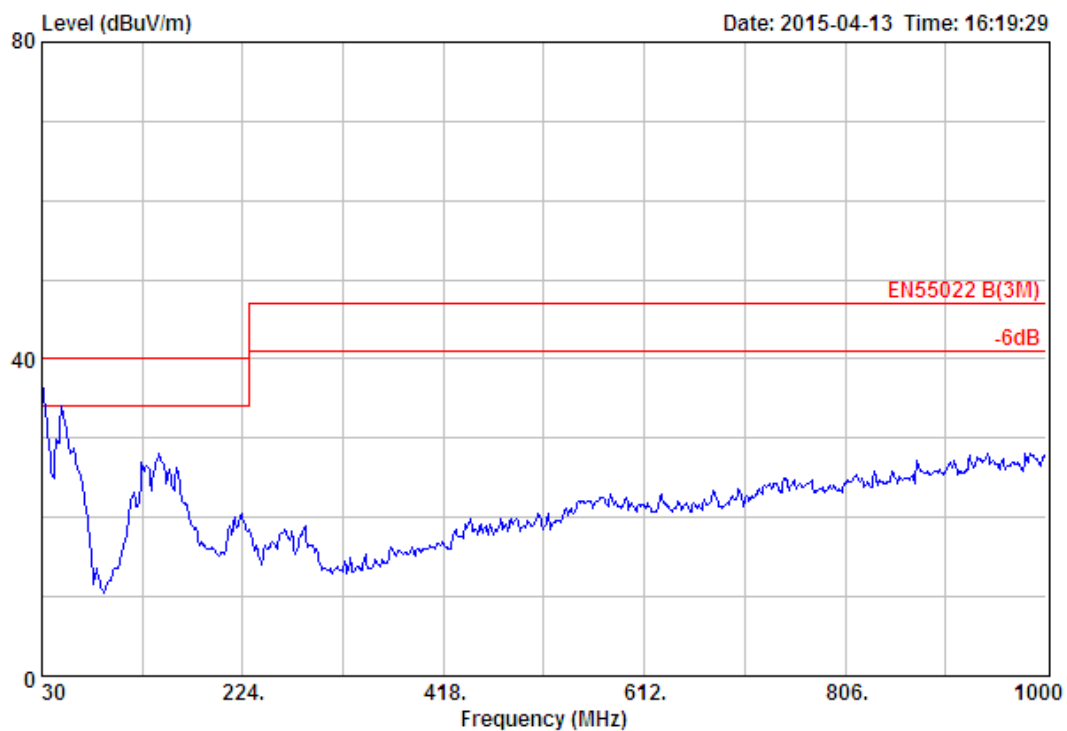
Site no.	: 3m Chamber	Data no. :	117
Dis. / Ant.	: 3m 27137	Ant. pol. :	VERTICAL
Limit	: EN55022 B(3M)		
Env. / Ins.	: Temp:25.6';Humi:56%;Press:101.52kPa		
Engineer	: Dick		
EUT	: ITE POWER SUPPLY		
Power	: AC 240V/50Hz		
M/N	: GT-83083-0505-USB-W2E		
Test Mode	: Half Load (Output:5V/0.5A)		



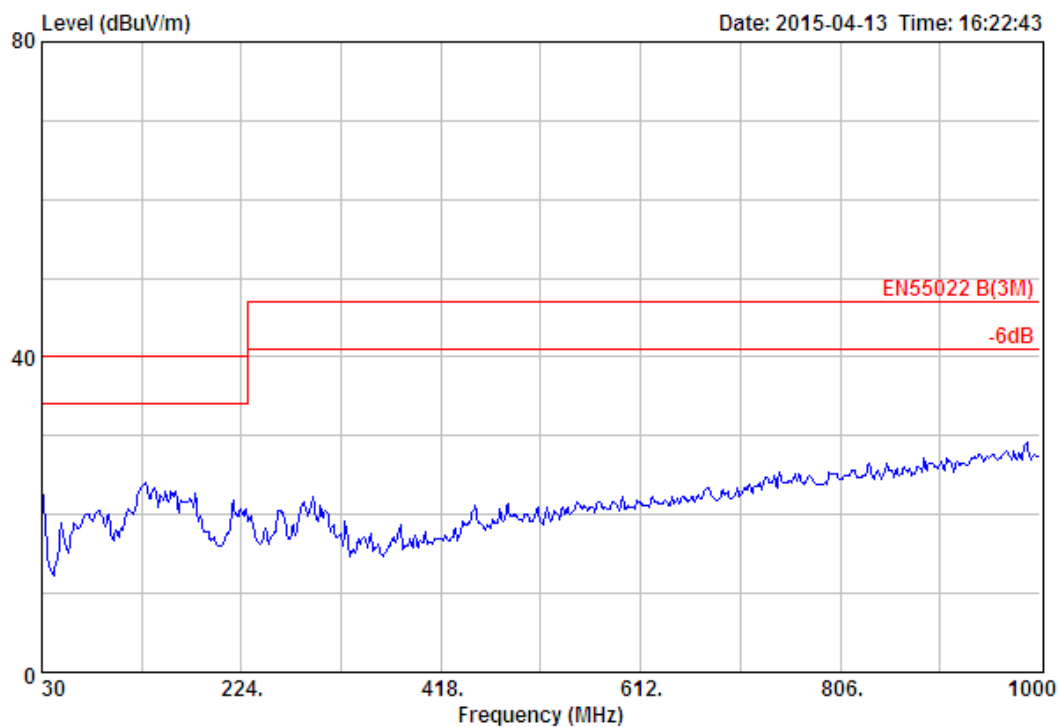
Site no.	: 3m Chamber	Data no.	: 118
Dis. / Ant.	: 3m 27137	Ant. pol.	: VERTICAL
Limit	: EN55022 B(3M)		
Env. / Ins.	: Temp:25.6';Humi:56%;Press:101.52kPa		
Engineer	: Dick		
EUT	: ITE POWER SUPPLY		
Power	: AC 240V/50Hz		
M/N	: GT-83083-0505-USB-W2E		
Test Mode	: No Load		



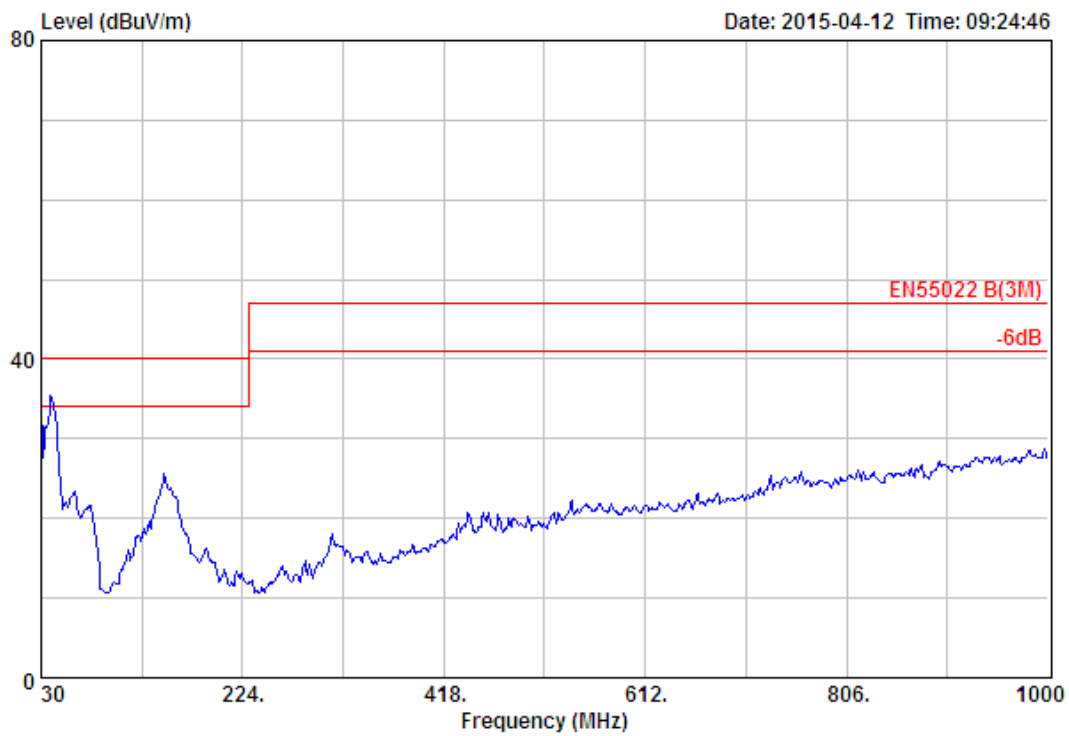
Site no.	: 3m Chamber	Data no. :	119
Dis. / Ant.	: 3m 27137	Ant. pol. :	HORIZONTAL
Limit	: EN55022 B(3M)		
Env. / Ins.	: Temp:25.6';Humi:56%;Press:101.52kPa		
Engineer	: Dick		
EUT	: ITE POWER SUPPLY		
Power	: AC 240V/50Hz		
M/N	: GT-83083-0505-USB-W2E		
Test Mode	: No Load		



Site no.	: 3m Chamber	Data no. :	120
Dis. / Ant.	: 3m 27137	Ant. pol. :	VERTICAL
Limit	: EN55022 B(3M)		
Env. / Ins.	: Temp:25.6';Humi:56%;Press:101.52kPa		
Engineer	: Dick		
EUT	: ITE POWER SUPPLY		
Power	: AC 100V/60Hz		
M/N	: GT-83083-0505-USB-W2E		
Test Mode	: Full Load(Output:5V/1A)		

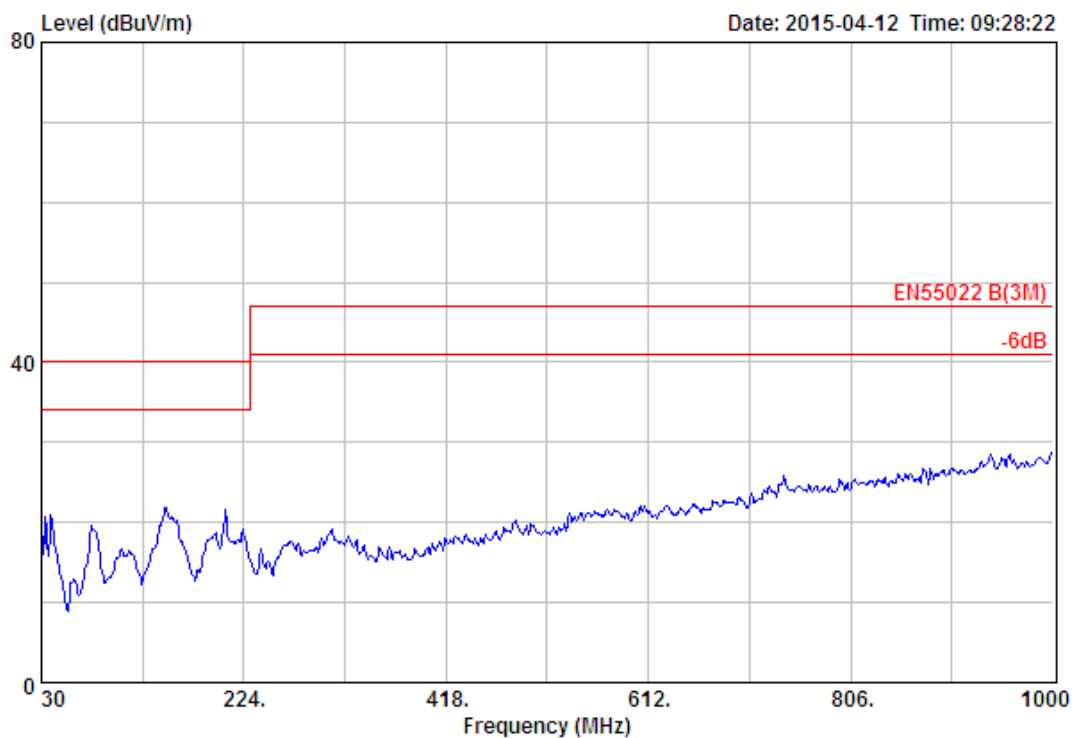


Site no.	: 3m Chamber	Data no. :	121
Dis. / Ant.	: 3m 27137	Ant. pol. :	HORIZONTAL
Limit	: EN55022 B(3M)		
Env. / Ins.	: Temp:25.6';Humi:56%;Press:101.52kPa		
Engineer	: Dick		
EUT	: ITE POWER SUPPLY		
Power	: AC 100V/60Hz		
M/N	: GT-83083-0505-USB-W2E		
Test Mode	: Full Load(Output:5V/1A)		

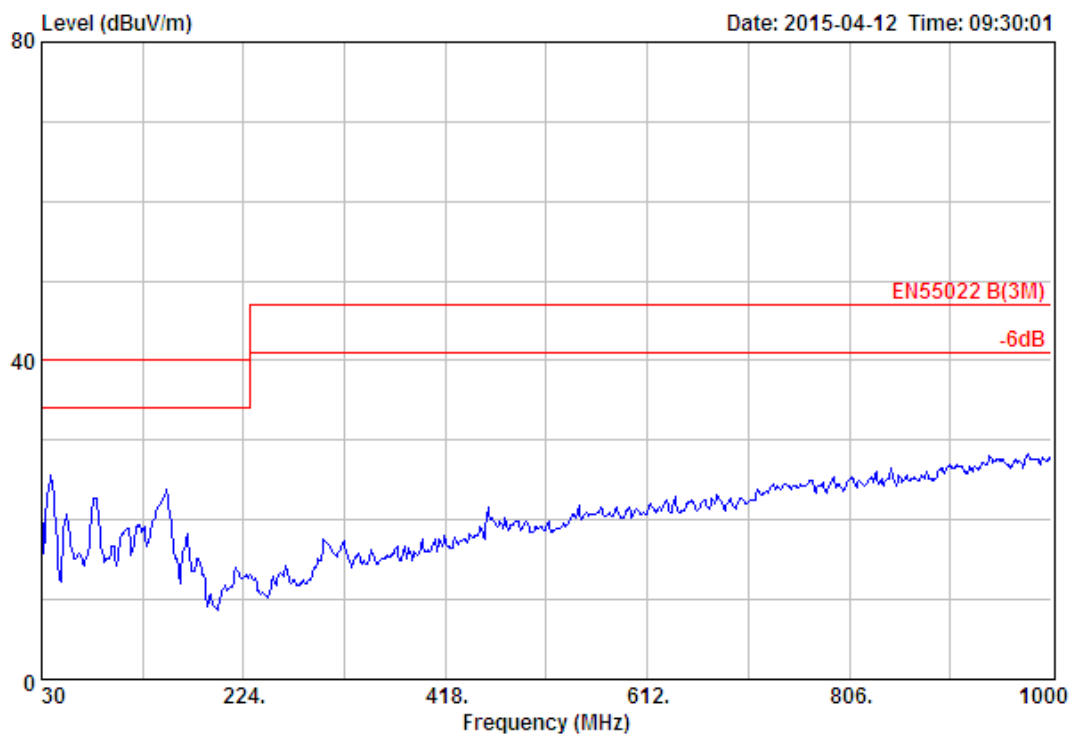


Site no.	: 3m Chamber	Data no. :	134
Dis. / Ant.	: 3m 27137	Ant. pol. :	VERTICAL
Limit	: EN55022 B(3M)		
Env. / Ins.	: Temp:25.6°;Humi:56%;Press:101.52kPa		
Engineer	: Dick		
EUT	: ITE POWER SUPPLY		
Power	: AC 100V/60Hz		
M/N	: GT-83083-0505-USB		
Test Mode	: Full Load(Output:5V/1A)		

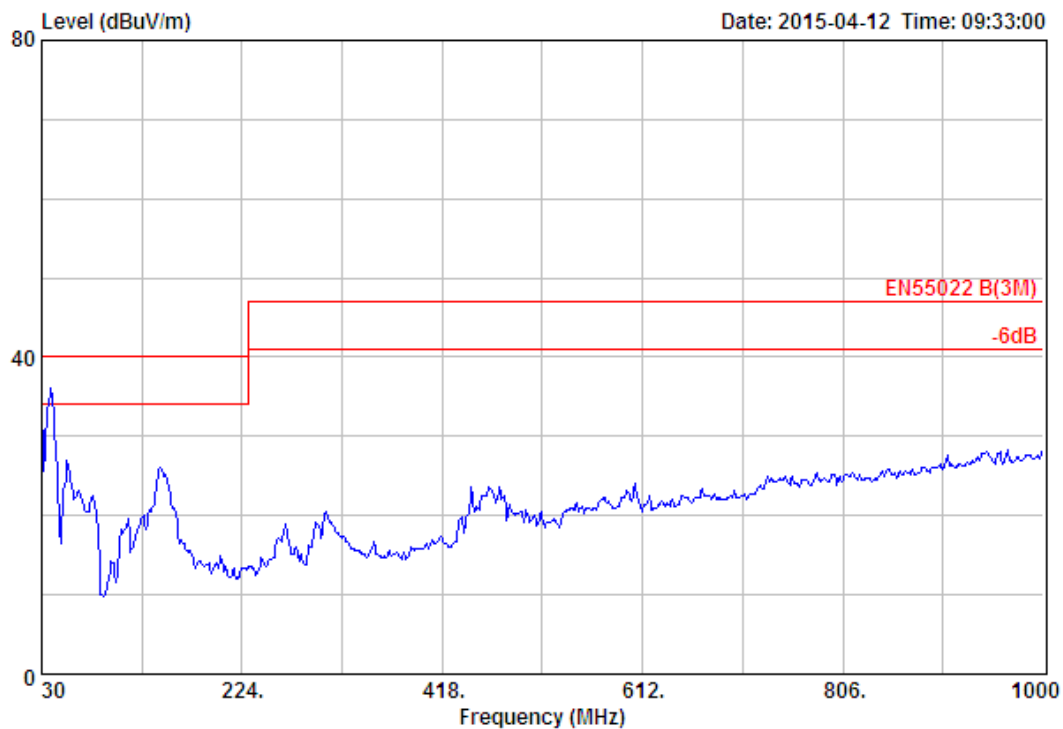




Site no.	: 3m Chamber	Data no.	: 135
Dis. / Ant.	: 3m 27137	Ant. pol.	: HORIZONTAL
Limit	: EN55022 B(3M)		
Env. / Ins.	: Temp:25.6';Humi:56%;Press:101.52kPa		
Engineer	: Dick		
EUT	: ITE POWER SUPPLY		
Power	: AC 100V/60Hz		
M/N	: GT-83083-0505-USB		
Test Mode	: Full Load(Output:5V/1A)		



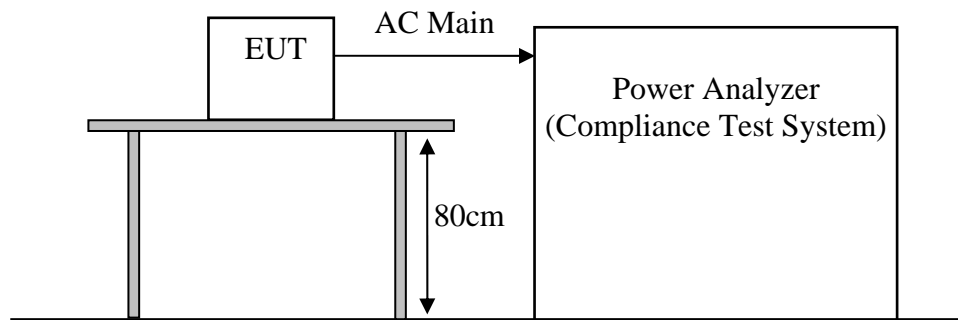
Site no.	: 3m Chamber	Data no. :	136
Dis. / Ant.	: 3m 27137	Ant. pol. :	HORIZONTAL
Limit	: EN55022 B(3M)		
Env. / Ins.	: Temp:25.6';Humi:56%;Press:101.52kPa		
Engineer	: Dick		
EUT	: ITE POWER SUPPLY		
Power	: AC 240V/50Hz		
M/N	: GT-83083-0505-USB		
Test Mode	: Full Load(Output:5V/1A)		



Site no.	: 3m Chamber	Data no. :	137
Dis. / Ant.	: 3m 27137	Ant. pol. :	VERTICAL
Limit	: EN55022 B(3M)		
Env. / Ins.	: Temp:25.6';Humi:56%;Press:101.52kPa		
Engineer	: Dick		
EUT	: ITE POWER SUPPLY		
Power	: AC 240V/50Hz		
M/N	: GT-83083-0505-USB		
Test Mode	: Full Load(Output:5V/1A)		

#### 4.3. Harmonic Current Emissions on AC Mains Test

**RESULT** : **Pass**  
Test procedure : EN 61000-3-2:2014  
Measured harmonics : 1~40<sup>th</sup>  
Limits : EN 61000-3-2:2014



There is no need for Harmonics test to be performed on this product (rated power is less than 75W) in accordance with EN 61000-3-2:2014.

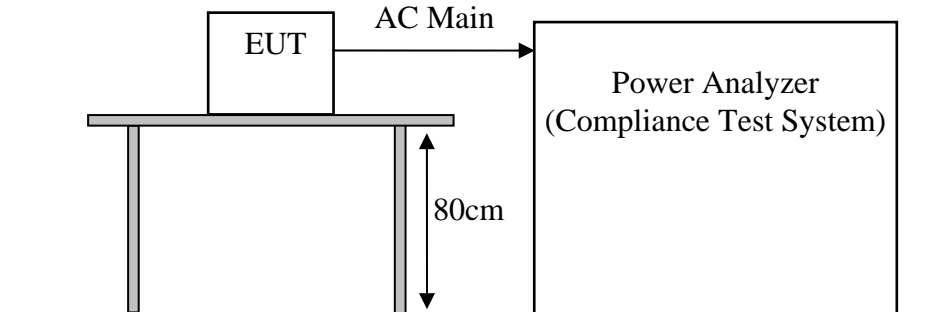
For further details, please refer to Clause 7 of EN 61000-3-2:2014 which states:

“For the following categories of equipment, limits are not specified in this edition of the standard:

- equipment with a rated power of 75W or less, other than lighting equipment.”

#### 4.4. Voltage Fluctuations and Flicker on AC Mains Test

**RESULT** : **Pass**(Please refer to the following page)  
 Test procedure : EN 61000-3-3:2013  
 Limits : EN 61000-3-3:2013



#### Test Conditions

EUT:	ITE POWER SUPPLY	Temperature:	24.8°C
Model No.:	GT-83083-0505-USB-W2E	Humidity:	56%
Test Mode :	Full Load	Pressure	101.50kPa
Date of test	Apr. 13, 2015	Test Engineer:	Dick
Operation Mode	Full Load	Input Voltage	AC 230V/50Hz

**Chroma**
ANALYZER 6630
2015.04.13 10:49:48

---

### Extreme Flicker-I M1

Note: MN:GT-83083-0505-USB-W2E OP:FULL LOAD  
 Numerical Reference Impedance  
 U: 230.4 V I: 67.8 mA f: 49.998 Hz PF: 0.431

EVALUATION:-----

Type of observation period	Short	Long	Limit
Observation time	10	10 min	
Maximum relative voltage change	dmax:	0.00 %	4
Max rel steady state voltage change	dc :	0.00 %	3
Duration of d(t) > 3 %	t :	0.00 s	0.2
Short term flicker severity	Pst :	0.00	1.00
Long term flicker severity	Plt :	---	0.65

Based on 1 (1) short term cycles

**PASSED**

Measurement completed

Next measure

---

Extreme time graph

---

Change to histogram

---

Write to disk

---

Select module

---

Appl: DEFAULT
(1311\_00)

## 5. IMMUNITY TEST RESULT

### 5.1. Description of Performance Criteria:

#### Performance criteria A

During and after the test the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed below a minimum performance level specified by the manufacturer when the EUT is used as intended. The performance level may be replaced by a permissible loss of performance. If the minimum performance level or the permissible performance loss is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the EUT if used as intended.

#### Performance criteria B

After the test, the EUT shall continue to operate as intended without operator intervention. No degradation of performance or loss of function is allowed, after the application of the phenomena below a performance level specified by the manufacturer, when the EUT is used as intended. The performance level may be replaced by a permissible loss of performance.

During the test, degradation of performance is allowed. However, no change of operating state or stored data is allowed to persist after the test.

If the minimum performance level (or the permissible performance loss) is not specified by the manufacturer, then either of these may be derived from the product description and documentation, and by what the user may reasonably expect from the equipment if used as intended.

#### Performance criteria C

During and after testing, a temporary loss of function is allowed, provided the function is self-recoverable, or can be restored by the operation of the controls or cycling of the power to the EUT by the user in accordance with the manufacturer's instructions. Functions, and/or information stored in non-volatile memory, or protected by a backup, shall not be lost.

## 5.2. Electrostatic Discharge Immunity Test

<b>RESULT</b>	<b>: Pass</b>
Test procedure	: EN 55024:2010
Basic standard	: EN 61000-4-2:2009
Test specification	: +/-2.0kV ; +/-4.0kV(Contact discharge) +/-2.0kV ; +/-4.0kV ; +/-6.0kV ; +/-8.0kV(Air discharge)
Number of discharges	: $\geq 10$ (Air discharge for single polarity discharge) $\geq 25$ (Contact discharge for single polarity discharge)
Polarity	: Positive/Negative
Performance criterion	: B

### Test Setup

Date of test	: Apr. 13, 2015
Model No.	: GT-83083-0505-USB-W2E, GT-83083-0505-USB
Input Voltage	: AC 230V/50Hz
Operation Mode	: Full/ Half/ No Load
Temperature	: 24.8°C
Humidity	: 56%
Pressure	: 101.50kPa

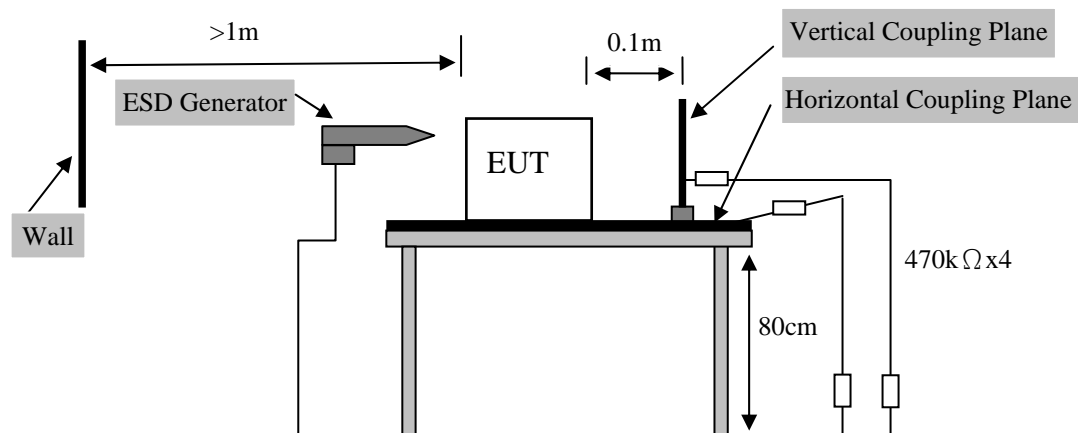


Table 1: Electrostatic Discharge Immunity Test Result

Discharge Location		Type of discharge	Result
HCP	4 points	Contact	Pass
VCP	4 points	Contact	Pass
Slot	4 points	Air	Pass
USB Port	1 point	Contact	Pass

*Remark: 1. There was no change compared with initial operation during the test.  
2. Discharge should be considered on Contact and Air and Horizontal Coupling Plane (HCP) and Vertical Coupling Plane (VCP).*



### 5.3. Radio Frequency Electromagnetic Field Immunity Test

**RESULT : Pass**

Test procedure : EN 55024:2010  
Basic standard : EN 61000-4-3:2006+A1;2008+A2:2010  
Performance criterion : A  
Test site : ITS

#### **Test Setup**

Date of test : Apr. 13, 2015  
Model No. : GT-83083-0505-USB-W2E, GT-83083-0505-USB  
Input Voltage : AC 230V/50Hz  
Operation Mode : Full/ Half/ No Load  
Temperature : 24.8°C  
Humidity : 56%  
Pressure : 101.50kPa

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The EUT was set 3 m away from the transmitting antenna which was mounted on an antenna tower. Both horizontal and vertical polarization of the antenna were set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually.

In order to judge the EUT performance, a CCD camera was used to monitor EUT screen.

All the scanning conditions were as follows:

Condition of Test	Remarks
1. Field Strength	3 V/m (Severity Level 2)
2. Radiated Signal	Modulated
3. Scanning Frequency	80 - 1000 MHz
4. Sweeping time of radiated	0.0015 decade/s
5. Dwell Time	3 Sec.

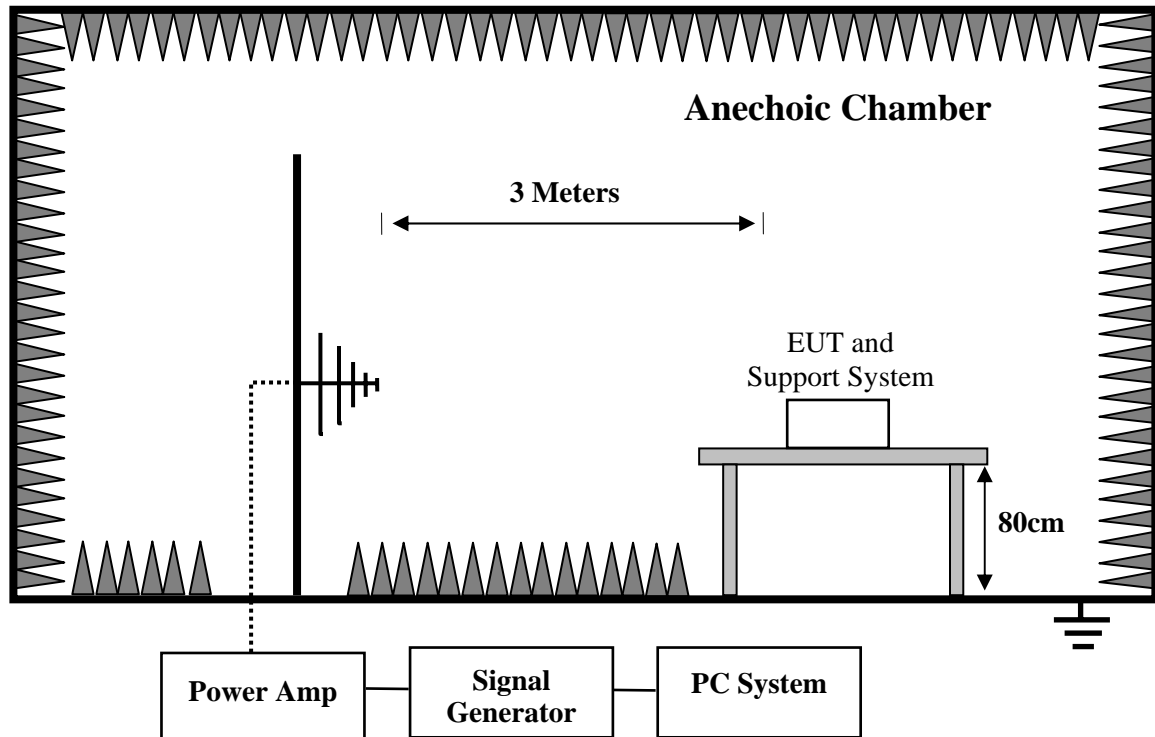


Table 2: Radio Frequency Electromagnetic Field Immunity Test Result

Position	Modulated signal	Test level	Step	Result
Front	AM 80% 1kHz	3 V/m	1%	Pass
Right				Pass
Rear				Pass
Left				Pass

*Remark: There was no change compared with initial operation during the test.*

#### 5.4. Electrical Fast Transient/Burst Immunity Test

**RESULT** : **Pass**  
Test procedure : EN 55024:2010  
Basic standard : EN 61000-4-4:2012  
Pulseform : Tr/Th = 5/50ns  
Repetition Frequency : 5kHz  
Test Duration : 120s  
Performance criterion : B

##### Test Setup

Date of test : Apr. 13, 2015  
Model No. : GT-83083-0505-USB-W2E, GT-83083-0505-USB  
Input Voltage : AC 230V/50Hz  
Operation Mode : Full/ Half/ No Load  
Temperature : 24.8°C  
Humidity : 56%  
Pressure : 101.50kPa

The EUT and its simulators were placed 0.1m high above the ground reference plane which was a min. 2m\*2m metallic sheet with 0.65mm minimum thickness. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

##### 1. For input and AC power ports:

The EUT was connected to the power mains by using a coupling device which coupled the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test can't less than 2 mains.

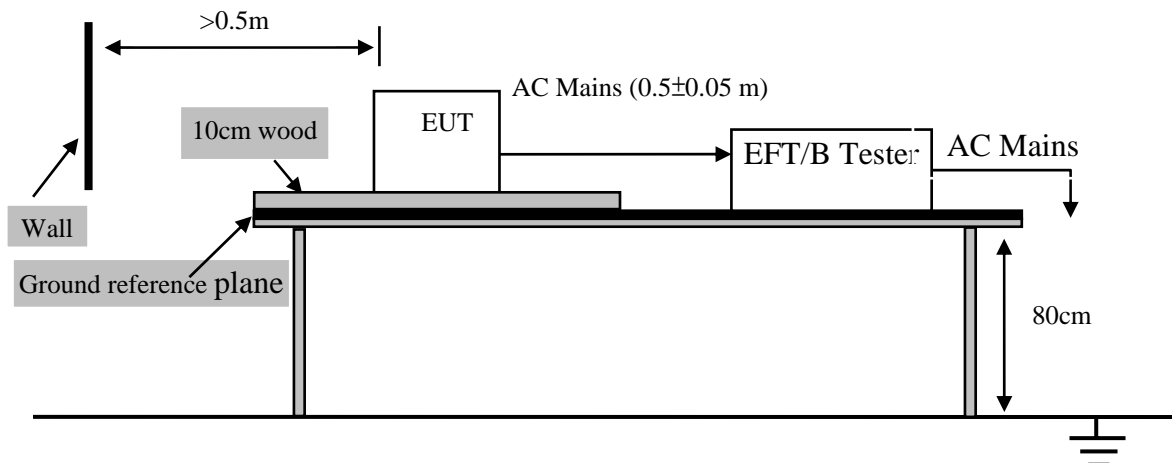


Table 3: Electrical Fast Transient/Burst Immunity Test Result

Coupling Ports		Coupling Voltage	Inject Method	Result
AC Power Ports	L-N	+/-1kV	Direct	Pass

*Remark: There was no change compared with initial operation during the test.*

## 5.5. Surge Immunity Test

**RESULT** : **Pass**  
Test procedure : EN 55024:2010  
Basic standard : EN 61000-4-5:2006  
Pulseform :  $Tr/Td = 1.2/50\mu s$   
Test Duration : 60s  
Performance criterion : B

### Test Setup

Date of test : Apr. 13, 2015  
Model No. : GT-83083-0505-USB-W2E, GT-83083-0505-USB  
Input Voltage : AC 230V/50Hz  
Operation Mode : Full/ Half/ No Load  
Temperature : 24.8°C  
Humidity : 56%  
Pressure : 101.50kPa

2  $\Omega$  effective output impedance of the generator was used for L-N test. 12  $\Omega$  effective output impedance of the generator was used for L-PE, N-PE test.

5 positive and 5 negative (polarity) tests were applied successively synchronized to the voltage phase 0°, 90°, 180°, 270° to L-N respectively. The repetition rate was 1 per minute during test.

#### 1. For input and AC power ports:

The EUT was connected to the power mains by using a coupling device which coupled the surge interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration was 1 minute.

#### 2. For signal lines and control lines ports:

None.

#### 3. For DC input and DC output power ports:

None.

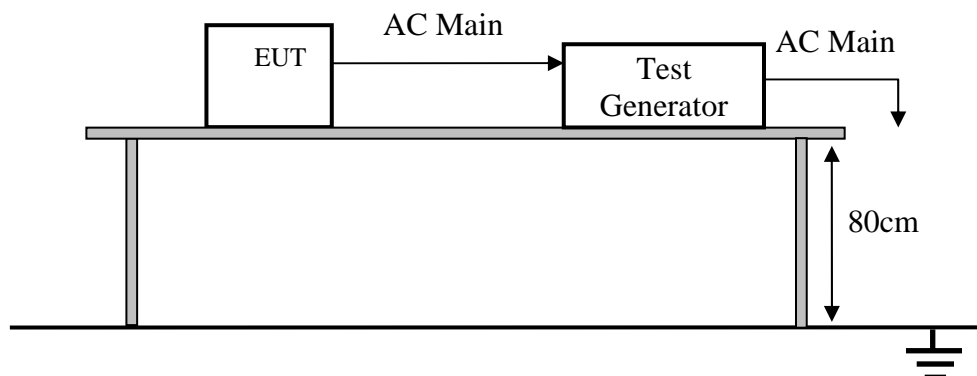


Table 4: Surge Immunity Test Result

Coupling Ports		Coupling Voltage	Coupling Phase / Result			
			0°	90°	180°	270°
AC power ports	L-N	+/-1kV Direct	Pass	Pass	Pass	Pass

*Remark: There was no change compared with initial operation during the test*

## 5.6. Injected Currents Susceptibility Test

<b>RESULT</b>	<b>: Pass</b>
Test procedure	: EN 55024:2010
Basic standard	: EN 61000-4-6:2009
Test specification	: 3V(r.m.s) unmodulated,1kHz sinusoidal signal, AM 80%, 0.15MHz ~ 80MHz
Performance criterion	: A

### Test Setup

Date of test	: Apr. 13, 2015
Model No.	: GT-83083-0505-USB-W2E, GT-83083-0505-USB
Input Voltage	: AC 230V/50Hz
Operation Mode	: Full/ Half/ No Load
Temperature	: 24.8°C
Humidity	: 56%
Pressure	: 101.50kPa

The EUT were placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) was placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT were as short as possible, and their height above the ground reference plane were between 30 and 50 mm (where possible).

The frequency range was swept from 150KHz to 80MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave.

The rate of sweep shall not exceed  $1.5 \times 10^{-3}$  decades/s. Where the frequency was swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.

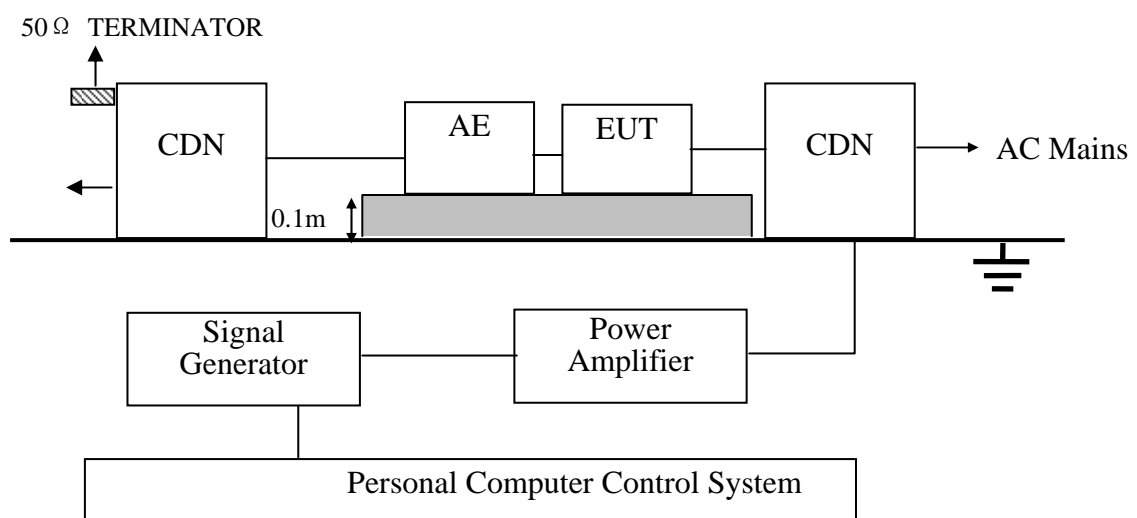


Table 5: Injected Currents Susceptibility Test Result

Coupling ports	Voltage (r.m.s)	Modulation	Freq. step	Dwell time	Coupling method	Result
AC power ports	3V	1kHz AM 80%	1%	1.5s	CDN	Pass
DC power ports	/		/	/	EM Clamp	/
Signal/control	/		/	/	EM Clamp	/

*Remark: There was no change compared with initial operation during the test*



## 5.7. Power Frequency Magnetic Field Immunity Test

**RESULT** : **Pass**  
Test procedure : EN 55024:2010  
Basic standard : EN 61000-4-8:2010  
Test specification : 1 A/m  
Performance criterion : A

### Test Setup

Date of test : Apr. 13, 2015  
Model No. : GT-83083-0505-USB-W2E, GT-83083-0505-USB  
Input Voltage : AC 230V/50Hz  
Operation Mode : Full/ Half/ No Load  
Temperature : 24.8°C  
Humidity : 56%  
Pressure : 101.50kPa

The EUT was subjected to the test magnetic field by using the induction coil of standard dimensions (1m\*1m). The induction coil then was rotated by 90° in order to expose the EUT to the test field with different orientations.

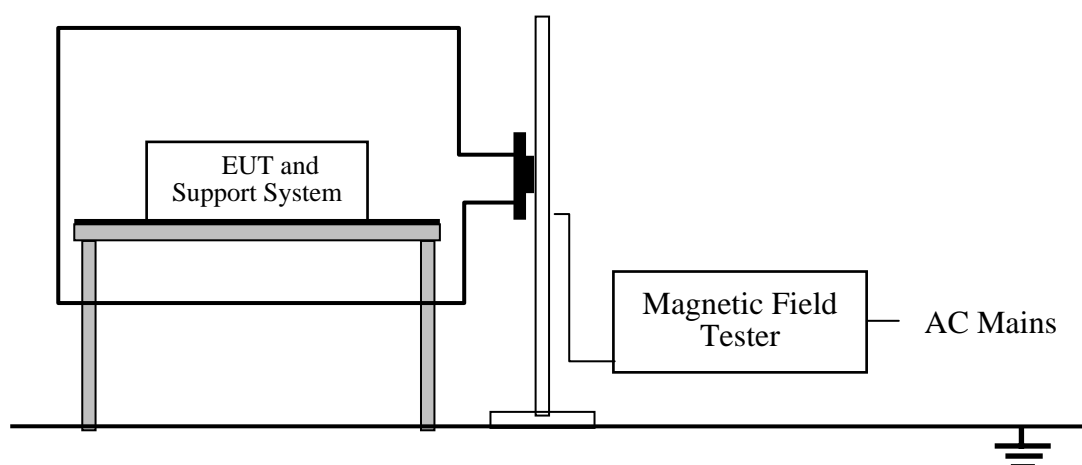


Table 6: Power Frequency Magnetic Field Immunity Test Result

Test Level	Testing Duration	Coil Orientation	Criterion	Result
1A/m	5 mins	X	A	Pass
1A/m	5 mins	Y	A	Pass
1A/m	5 mins	Z	A	Pass

*Remark: There was no change compared with initial operation during the test*

## 5.8. Voltage Dips and Short Interruptions Immunity Test

**RESULT** : **Pass**  
Test procedure : EN 55024:2010  
Basic standard : EN 61000-4-11:2004  
Test specification : 0%  $U_T$  / 0.5P, Criterion: B  
70%  $U_T$  / 25P, Criterion: C  
0%  $U_T$  / 250P, Criterion: C

### Test Setup

Date of test : Apr. 13, 2015  
Model No. : GT-83083-0505-USB-W2E, GT-83083-0505-USB  
Input Voltage : AC 230V/50Hz  
Operation Mode : Full/ Half/ No Load  
Temperature : 24.8°C  
Humidity : 56%  
Pressure : 101.50kPa

The interruptions was introduced at selected phase angles with specified duration.  
Recorded any degradation of performance.

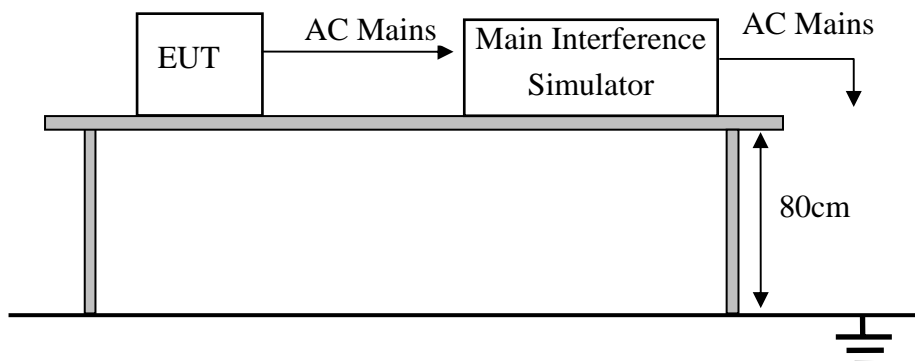


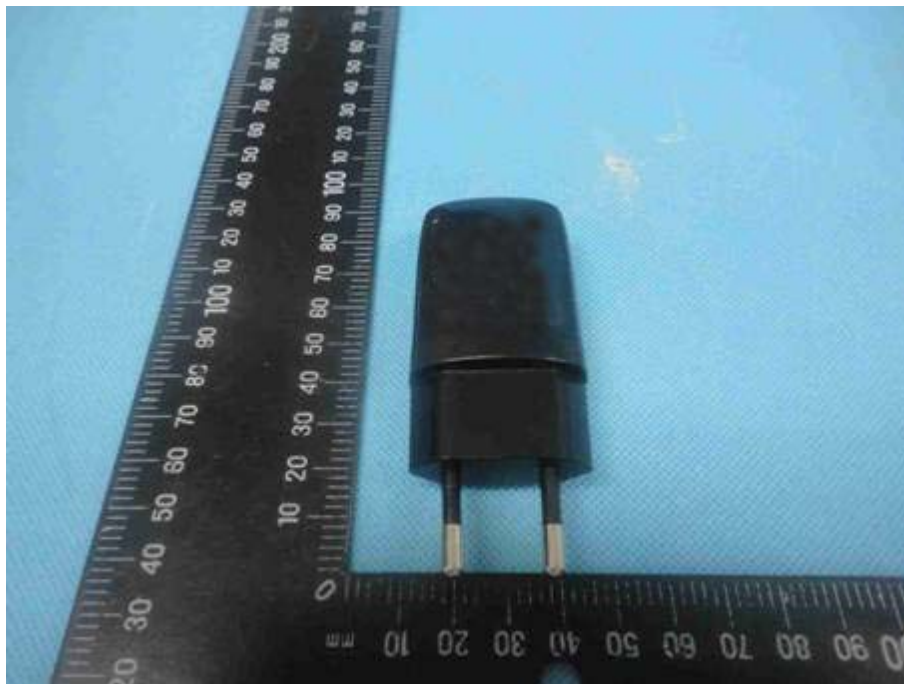
Table 7: Voltage Dips and Short Interruptions Immunity Test Result

Test Level % $U_T$	Voltage Dips & Short Interruptions % $U_T$	Duration (in period)	Criterion	Result
0	100	0.5P	B	PASS
70	30	25P	C	PASS
0	100	250P	C	PASS

*Remark: The EUT was Stopped during the test, but self-recoverable after the test.*

## 6. PHOTOGRAPHS OF THE EUT

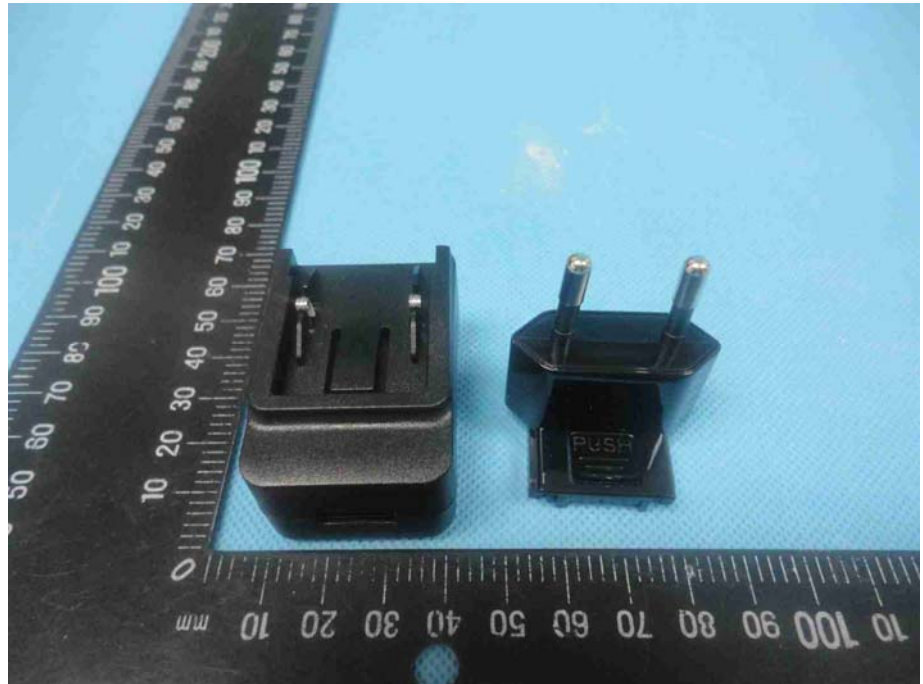
**Figure 1**  
**General Appearance of the EUT**  
**M/N: GT-83083-0505-USB-W2E**



**Figure 2**  
**General Appearance of the EUT**  
**M/N: GT-83083-0505-USB-W2E**



**Figure 3**  
**General Appearance of the EUT**  
**M/N: GT-83083-0505-USB**



**Figure 4**  
**General Appearance of the EUT**  
**M/N: GT-83083-0505-USB**

