

# FCC Verification Test Report

**For**

**Chengdu XGimi Technology Co.,Ltd.**

EUT Name: LED Projector

Model No: SLP

Brand Name: XGIMI

Prepared By:

DongGuan NTEK Testing Technology Co., Ltd.

Add: 5/F, Building 11, Creative Industry Center Park, No. 34 Guantai Road,

Guancheng District, Dong Guan, 523000, P.R.China

Date of Receipt: July 02, 2015

Date of Test: July 02~ 12,2015

Date of Issue: July 12, 2015

Test Result: Pass

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# Verification of Compliance

## Client Information:

Applicant: Chengdu XGimi Technology Co.,Ltd.

Applicant add.: 5F,Building A7,Tianfu Software Park, Tianfu Avenue,Hi-tech Zone,Chengdu,China.

## EUT Information:

EUT Name : LED Projector

Model No.: SLP

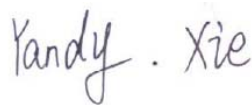
Derivative model: Refer to page6

Brand Name: XGIMI

## Test procedure used: FCC Part 15 Subpart B Class B

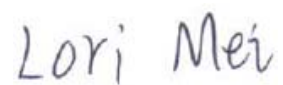
This device described above has been tested by DongGuan NTEK Testing Technology Co., Ltd.and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Reviewed by:



Yandy Xie

Approved by:



Lori Mei

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## 2 Test Summary

Test	Test Requirement	Test Method	Criterion	Result
Mains Terminals Disturbance Voltage, 150kHz to 30MHz	FCC Part 15 Subpart B	FCC Part 15 Subpart B ANSI C63.4: 2009	Limits	PASS
Radiated Emissions 30MHz to 1GHz	FCC Part 15 Subpart B	FCC Part 15 Subpart B ANSI C63.4: 2009	Limits	PASS
Radiated Emission above 1 GHz	FCC Part 15 Subpart B	FCC Part 15 Subpart B ANSI C63.4: 2009	Limits	PASS

**Remark:** None.

### Model description:

According to the declaration of the applicant, the electrical circuit design, layout, components used and internal wiring were identical for all models, with only difference being the model names.

Therefore only one model SLP was tested in this report.

### 2.1 Measurement Uncertainty

The report uncertainty of measurement  $y \pm U$ , where expended uncertainty  $U$  is based on a standard uncertainty Multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95% .

No.	Item	Frequency Range	U , Value
1	Power Vertical Conducted Emission	150KHz~30MHz	1.20 dB
2	Radiated Emission Test	30MHz~1GHz	3.30 dB
3	Radiated Emission Test	1GHz~18GHz	3.30 dB

### 3 General Information

#### 3.1 General Description of EUT

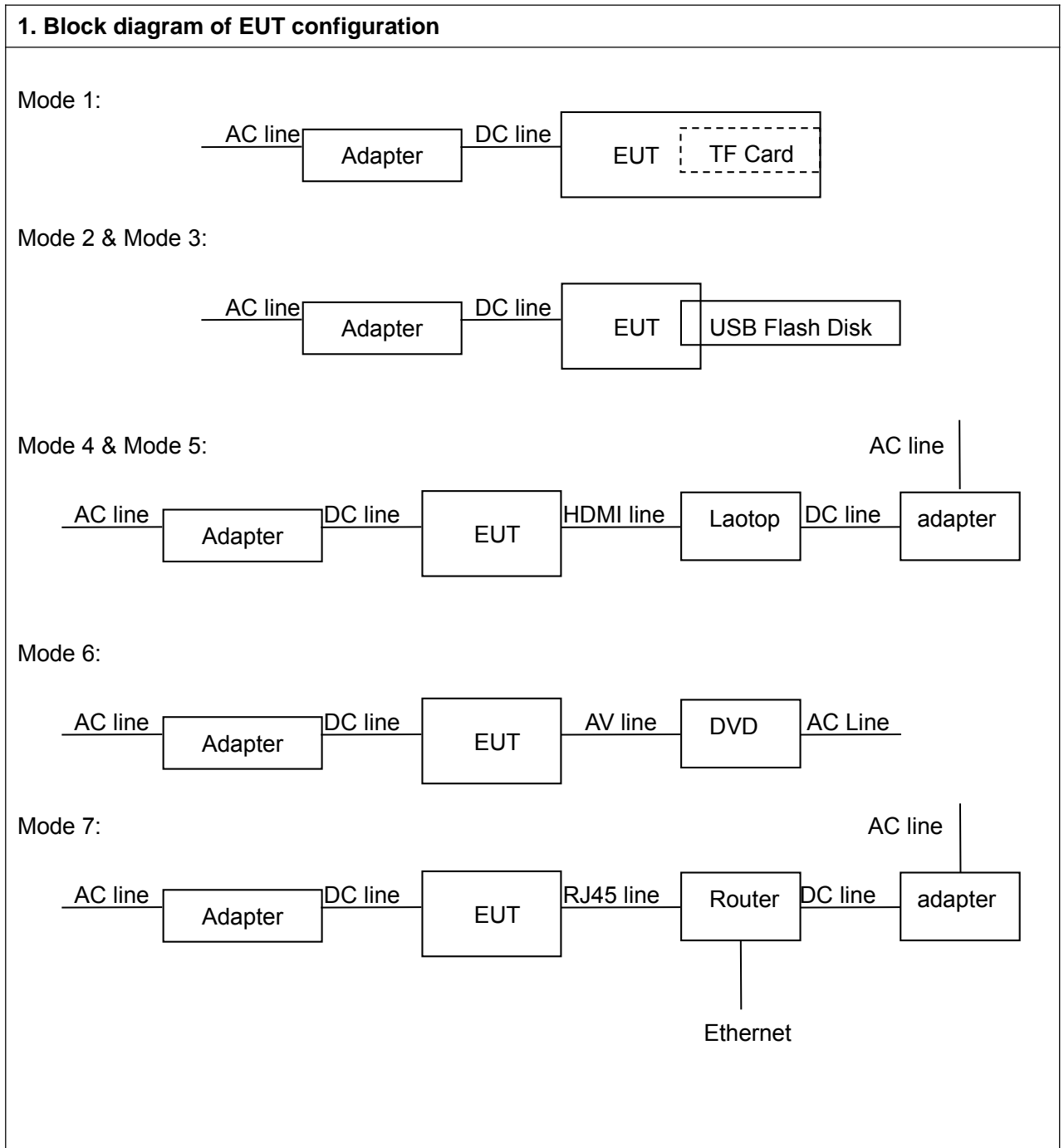
Manufacturer:	(1) Fujian Ruichi electronic technology CO., LTD. (2) TCL King electrical appliances (Chengdu) CO., LTD.
Manufacturer Address:	(1) No. C-09 land of the first planning about special automobile foundation in Quanzhou city of China. (2) Chengdu high-tech industrial development zone (west park), Chengdu, Sichuan, China
EUT Name:	LED Projector
Model No:	SLP
Brand Name:	XGIMI
Derivative No:	Z1,Z2,Z3,Z4,Z5,Z6,Z7,Z8,Z9,Z1S,Z2S,Z3S,Z4S,Z5S,Z6S,Z7S,Z8S,Z9S,Z1D,Z2D,Z3D,Z4D,Z5D,Z6D,Z7D,Z8D,Z9D,Z1M,Z2M,Z3M,Z4M,Z5M,Z6M,Z7M,Z8M,Z9M,Z1MP, Z2MP, Z3MP, Z4MP, Z5MP, Z6MP, Z7MP,Z8MP,Z9MP, SLP,SLPD,SLPM,SLPN,SLP-B,SLPD-B,SLPM-B,SLPN-B, Ottaly Hscreen 27,Holight 27,Ottaly Hscreen 27M,Holight 27M, Promacto Pro X11,Promacto Pro X12,Promacto Pro X14, Promacto Pro X15,Promacto Pro X16,Promacto Pro X17
Power Supply Range:	DC 16.8V from battery or DC 19V from adapter
Test Power Supply:	DC 16.8V from battery or DC 19V from adapter, AC 120V/60Hz for adapter
Power Cord:	1.5 m x 2 wires unscreened AC mains cable 1.8 m x 2 wires unscreened DC mains cable

#### 3.2 EUT Test Mode

Set EUT in AC and B/O mode, find the worse case in AC mode.			
Number	AV input mode	Audio output mode	Power supply mode
Mode 1	TF Card	Built in speaker of EUT	DC 19V from adapter, AC 120V/60Hz for adapter
Mode 2	USB 2.0		
Mode 3	USB 3.0		
Mode 4	HDMI 1		
Mode 5	HDMI 2		
Mode 6	AV port		
Mode 7	WLAN		
EUT also have another two Aduio output modes of SPDIF port or Headphone port, but found the worst case in speaker mode.			

### 3.3 Description of Test setup

EUT was tested in normal configuration (Please See following Block diagram)



### 3.4 Peripheral List

No.	Equipment	Manufacturer	EMC Compliance	Model No.	Serial No.	Power cord	signal cable
1	Lap top	ASUS	N/A	X401A	X16-96072	N/A	N/A
2	Adapter (laptop)	ASUS	N/A	EXA0703 YH	N/A	1.8m/unshielded /detachable	N/A
3	DVD	G-code	N/A	LVW-1105	N/A	N/A	N/A
4	Router	TP-Link	N/A	TL-WR20 41+	5151028001512	N/A	N/A
5	Adapter ( Router)	TP-Link	N/A	T090085-2A1	N/A	1.5m/unshielded /detachable	N/A
6	USB flash disk	Kingston	N/A	DT 101G2	N/A	N/A	N/A
7	TF Card	SanDisk	N/A	microSDH C™ UHS-I	N/A	N/A	N/A
8	HDMI Line	N/A	N/A	N/A	N/A	N/A	1.0m/unshielded /detachable
9	RJ45 Line	N/A	N/A	N/A	N/A	N/A	0.6m/unshielded /detachable
10	AV Line	N/A	N/A	N/A	N/A	N/A	1.0m/unshielded /detachable
11	USB extension cable	N/A	N/A	N/A	N/A	0.4m/unshielded /detachable	N/A

### 3.5 EUT Peripheral List

No.	Equipment	Manufacturer	EMC Compliance	Model No.	Serial No.	Power cord	signal cable
1	Adapter	Huntkey	CE, FCC	HKA0651 9034-8J	N/A	N/A	N/A
2	AC Line(adapt er)	N/A	N/A	N/A	N/A	1.5m /unshielded /detachable	N/A
3	DC Line(adapt er)	N/A	N/A	N/A	N/A	1.8m /unshielded /detachable	N/A
4	remote control	N/A	N/A	N/A	N/A	N/A	N/A
5	AV Line	N/A	N/A	N/A	N/A	N/A	0.15m /unshielded /detachable

### 3.6 Test Location

All tests were performed at:

NTEK Testing Technology Co., Ltd

1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street

Bao' an District, Shenzhen P.R. China

The FCC Registration No. of NTEK Testing Technology Co., Ltd is 238937.



## 4 Equipments List for All Test Items

<input checked="" type="checkbox"/> Radiation Test Equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	Spectrum Analyzer	ADVANTEST	R3132	160400005	2015.04.07	2016.04.06
2	EMI Measuring Receiver	R&S	ESCI	1164.6407.03	2015.06.23	2016.06.22
3	Low Noise Pre Amplifier	Tsj	MLA-10K01-B01-27	1205323	2015.03.07	2016.03.06
4	TRILOG Super Broadband test Antenna	SCHWARZBECK	VULB9160	9160-3206	2015.07.02	2016.07.01
5	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2015.03.07	2016.03.06
6	Spectrum Analyzer	ADVANTEST	R3182	150900201	2014.09.21	2015.09.20
7	Low Noise Pre Amplifier	Tsj	MLA-0120-A02-34	2648A04738	2015.04.07	2016.04.06
8	Broadband Horn Antenna	Schwarzbeck	BBHA 9120D	452	2015.01.09	2016.01.09

<input checked="" type="checkbox"/> Conduction Test equipment						
No	Test Equipment	Manufacturer	Model No	Serial No	Cal. Date	Cal. Due Date
1	EMI Test Receiver	R&S	ESCI	100124	2014.12.29	2015.12.28
2	LISN	Kyoritsu	KNW-242	8-837-4	2015.04.08	2016.04.07
3	LISN	Kyoritsu	KNW-407	8-1789-3	2015.04.08	2016.04.07
4	Pulse limiter	R&S	ESH3-Z2	0357.8810.54	2015.04.08	2016.04.07
5	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2015.04.08	2016.04.07

Note:

1. ☐ is not applicable in this Test Report. ☒ is applicable in this Test Report.

## 5 Emission Test Results

### 5.1 Mains Terminals Disturbance Voltage Measurement

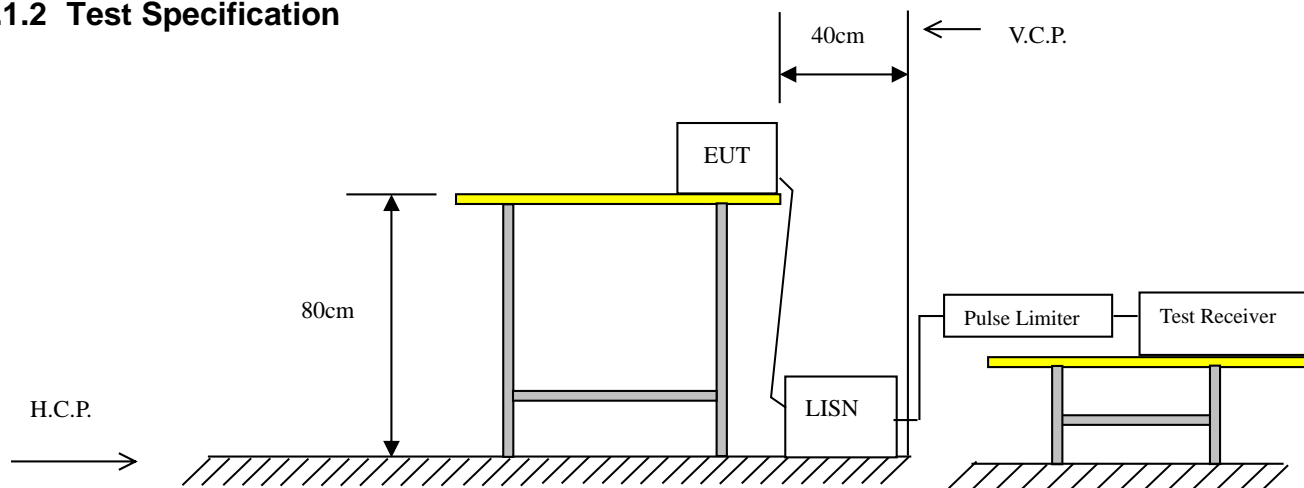
Frequency (MHz)	<input type="checkbox"/> Class A (dB $\mu$ V)		<input checked="" type="checkbox"/> Class B (dB $\mu$ V)	
	Q.P. (Quasi-Peak)	A.V. (Average)	Q.P. (Quasi-Peak)	A.V. (Average)
0.15 ~ 0.50	79	66	66 to 56	56 to 46
0.50 ~ 5.0	73	60	56	46
5.0 ~ 30	73	60	60	50

Detector: Peak for pre-scan (9kHz Resolution Bandwidth)  
Quasi-Peak & Average if maximized peak within 6dB of Average Limit

#### 5.1.1 E.U.T. Operation

Temperature:	25°C	Humidity:	54% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1/ Mode 2/ Mode 3/ Mode 4/ Mode 5/ Mode 6/ Mode 7			The Worse Mode:	Mode 6	

#### 5.1.2 Test Specification



EUT was placed upon a wooden test table 0.8m above the horizontal metal reference plane and 0.4m from the vertical ground plane, and it was connected to an AMN. The closest distance between the boundary of the EUT and the surface of the AMN is 0.8m. All peripherals were connected to another AMN, and placed at a distance of 10cm from each other. A spectrum and receiver was connected to the RF output port of the AMN. Both average and quasi-peak value were detected.

### 5.1.3 Measurement Data

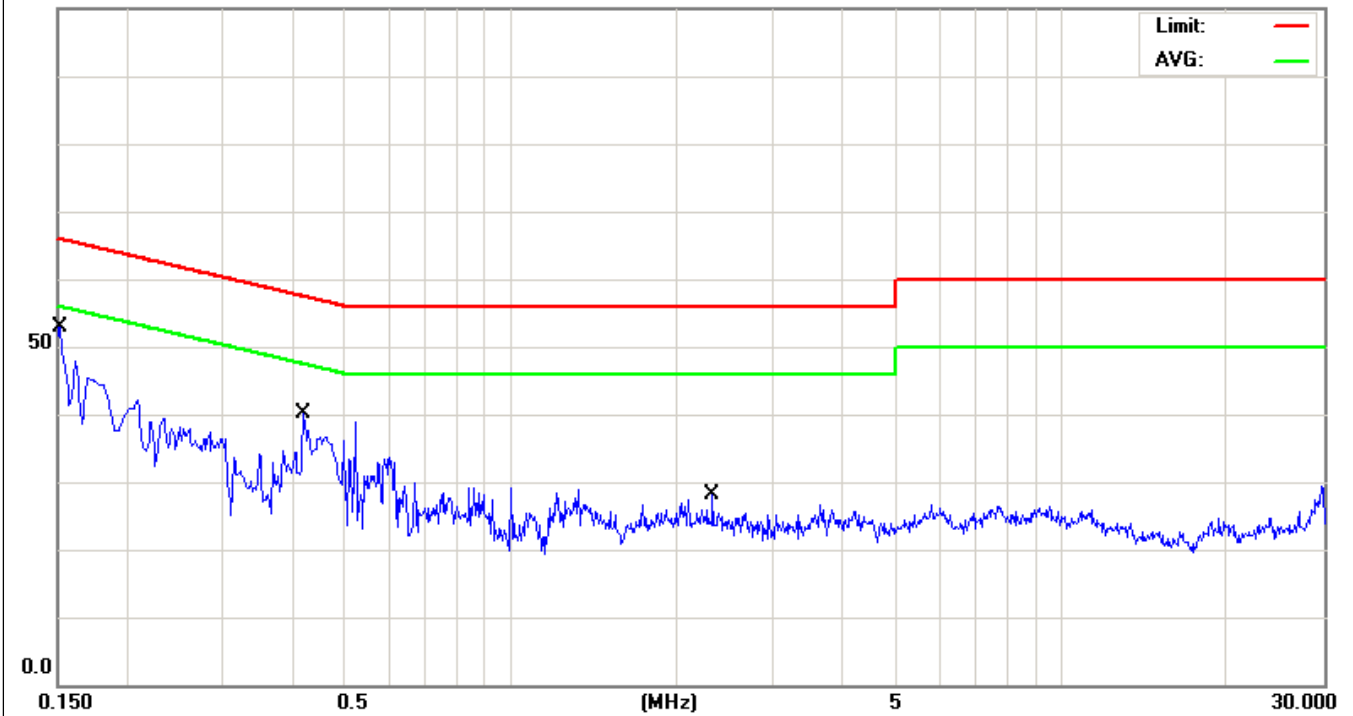
An initial pre-scan was performed on the live and neutral lines.

Quasi-peak or average measurements were performed at the frequency which maximum peak emissions were detected.

Please refer to the attached quasi-peak & average measurement data for reference.

Model Name :	SLP	Phase :	Line
Test Mode :	Mode 6		

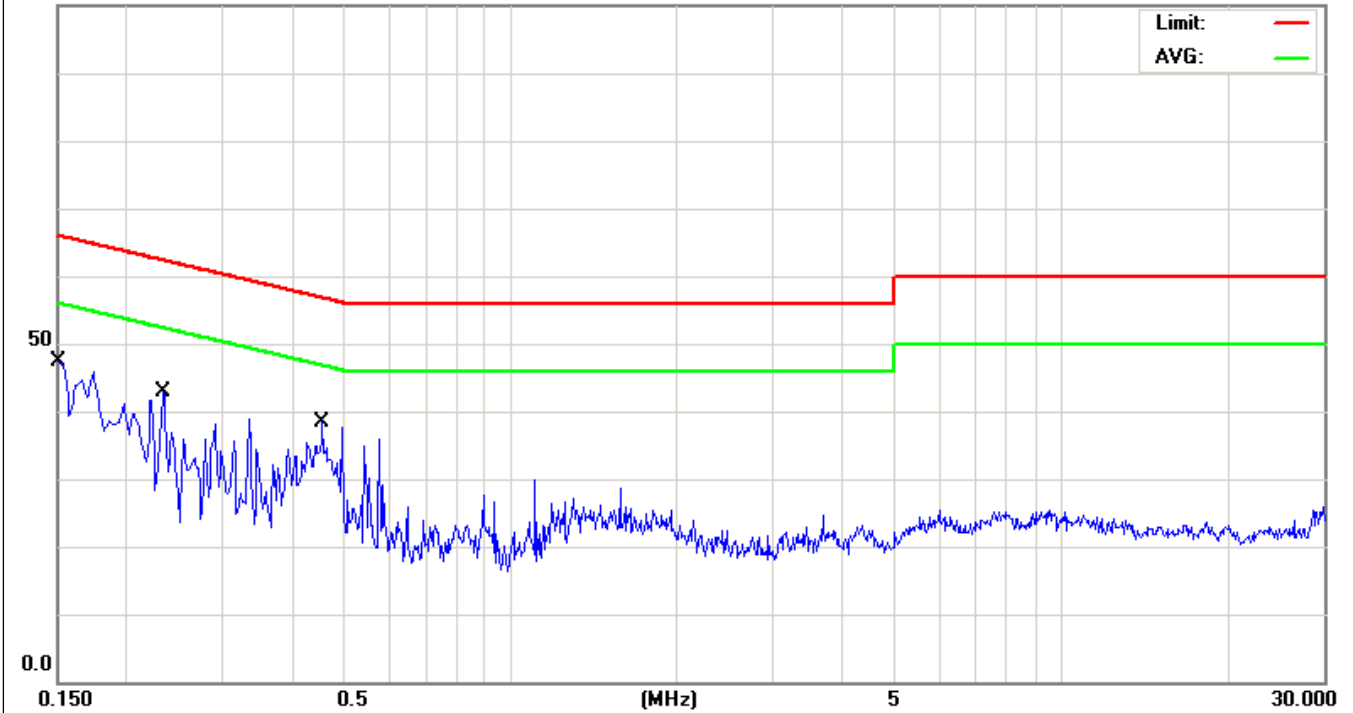
100.0 dBuV



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1500	40.86	11.94	52.80	65.99	-13.19	QP	
2		0.1500	20.36	11.94	32.30	55.99	-23.69	AVG	
3		0.4193	29.99	10.11	40.10	57.46	-17.36	QP	
4		0.4193	15.59	10.11	25.70	47.46	-21.76	AVG	
5		2.3300	18.11	10.00	28.11	56.00	-27.89	QP	
6		2.3300	5.60	10.00	15.60	46.00	-30.40	AVG	

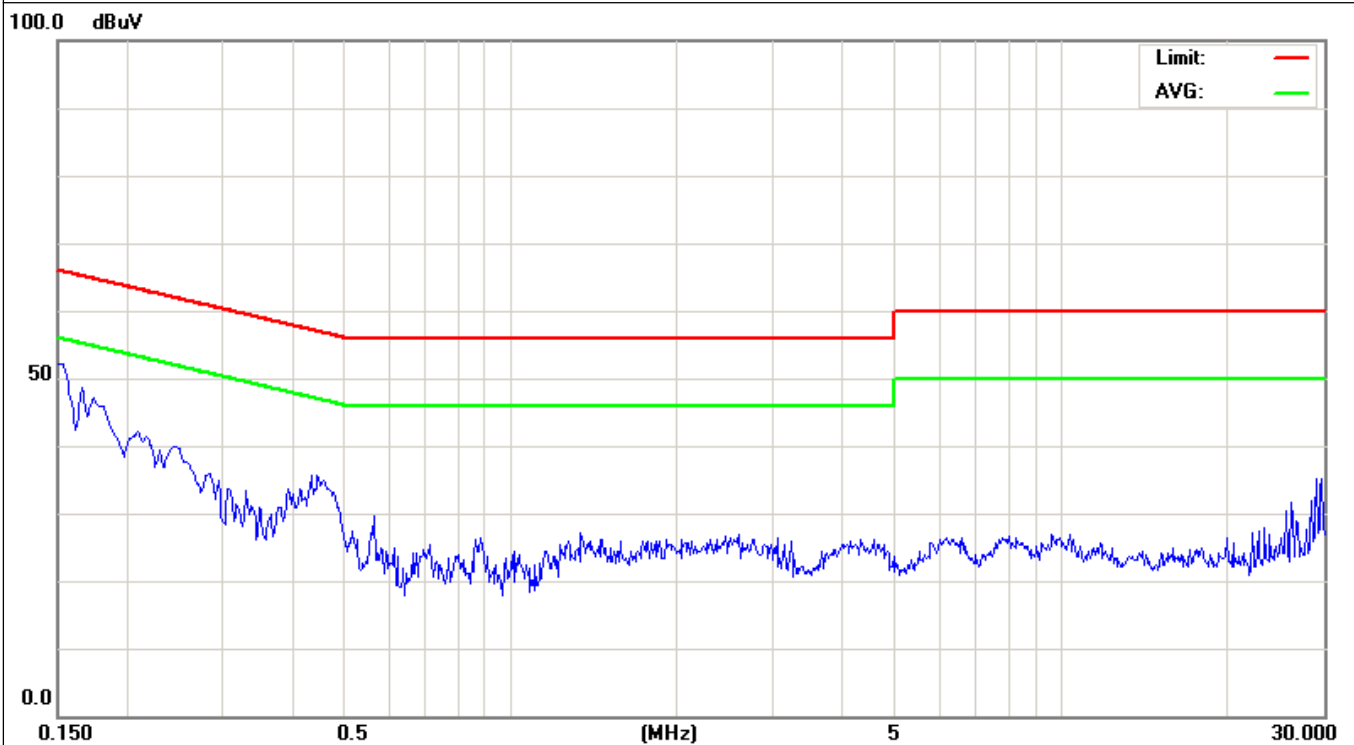
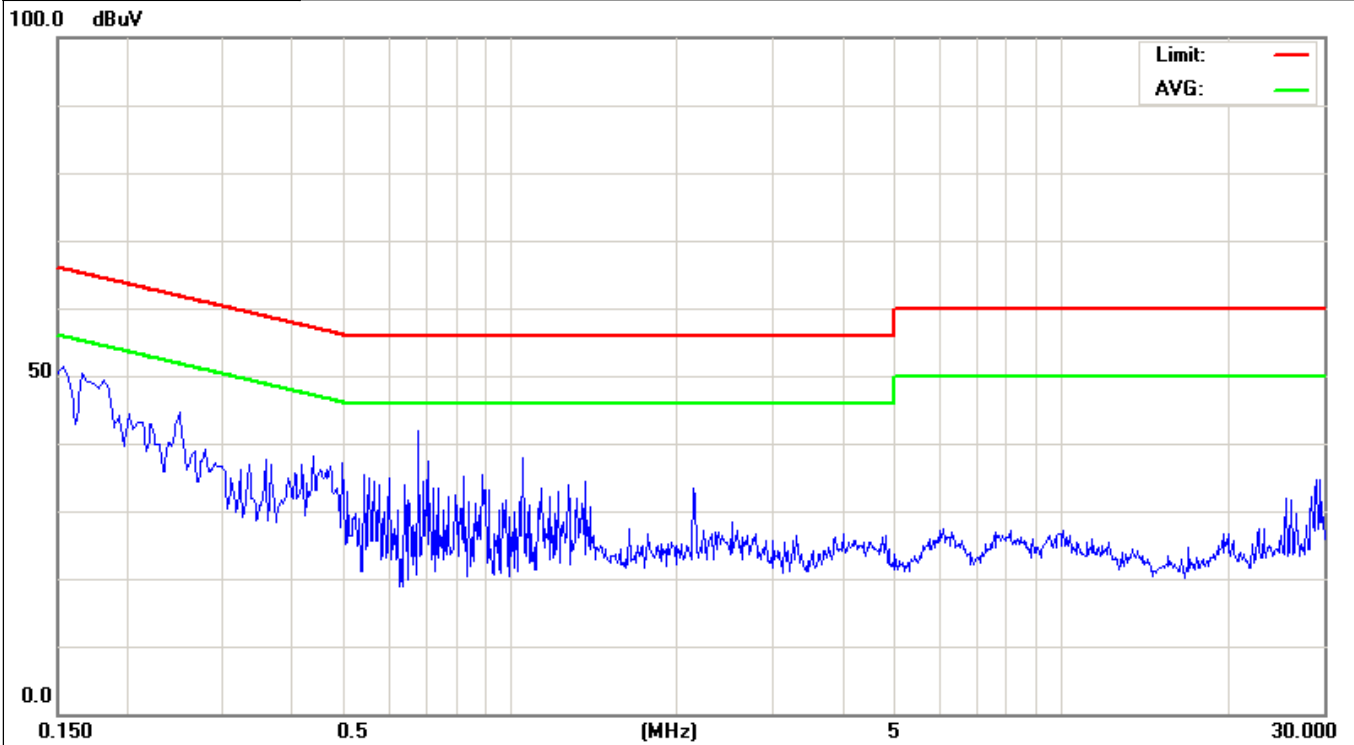
Model Name :	SLP	Phase :	Neutral
Test Mode :	Mode 6		

100.0 dBuV



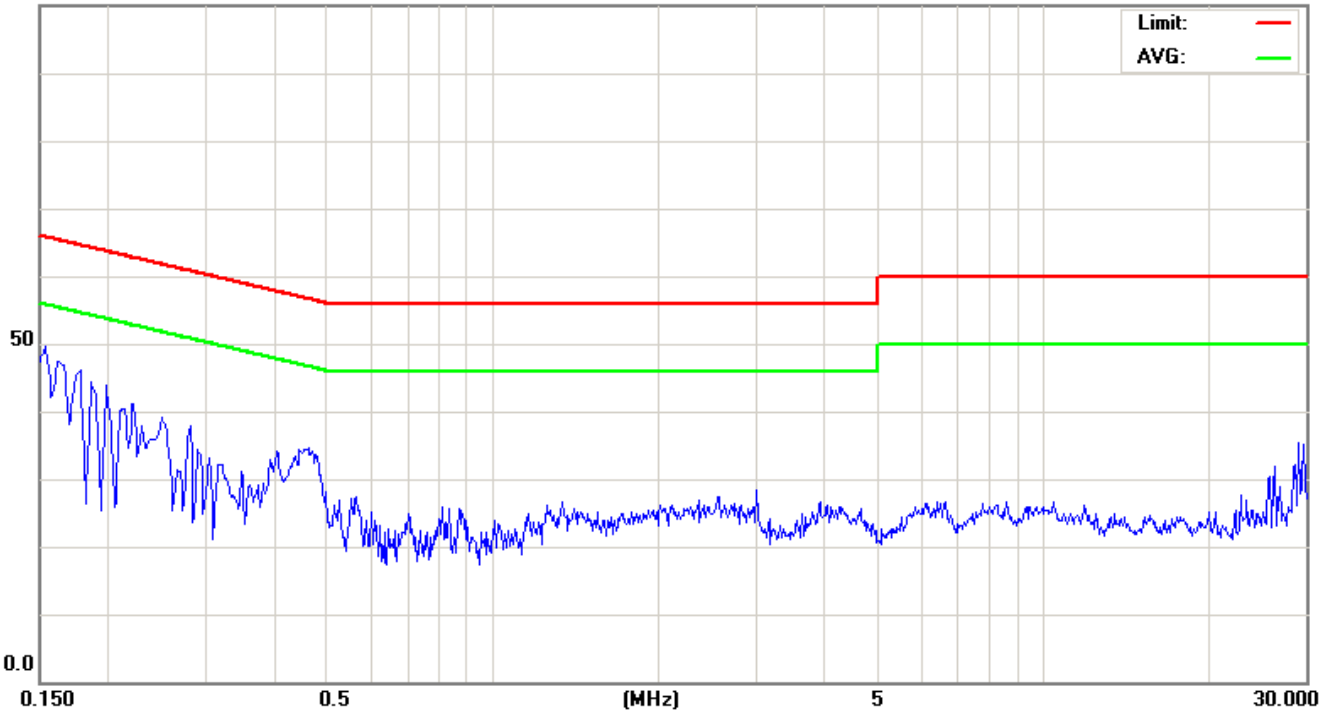
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1500	35.32	11.94	47.26	65.99	-18.73	QP	
2		0.1500	20.66	11.94	32.60	55.99	-23.39	AVG	
3		0.2340	31.83	10.94	42.77	62.30	-19.53	QP	
4		0.2340	17.66	10.94	28.60	52.30	-23.70	AVG	
5	*	0.4540	28.26	10.06	38.32	56.80	-18.48	QP	
6		0.4540	9.54	10.06	19.60	46.80	-27.20	AVG	

Model Name :	SLP	Phase :	Line / Neutral
Test Mode :	Mode 1		

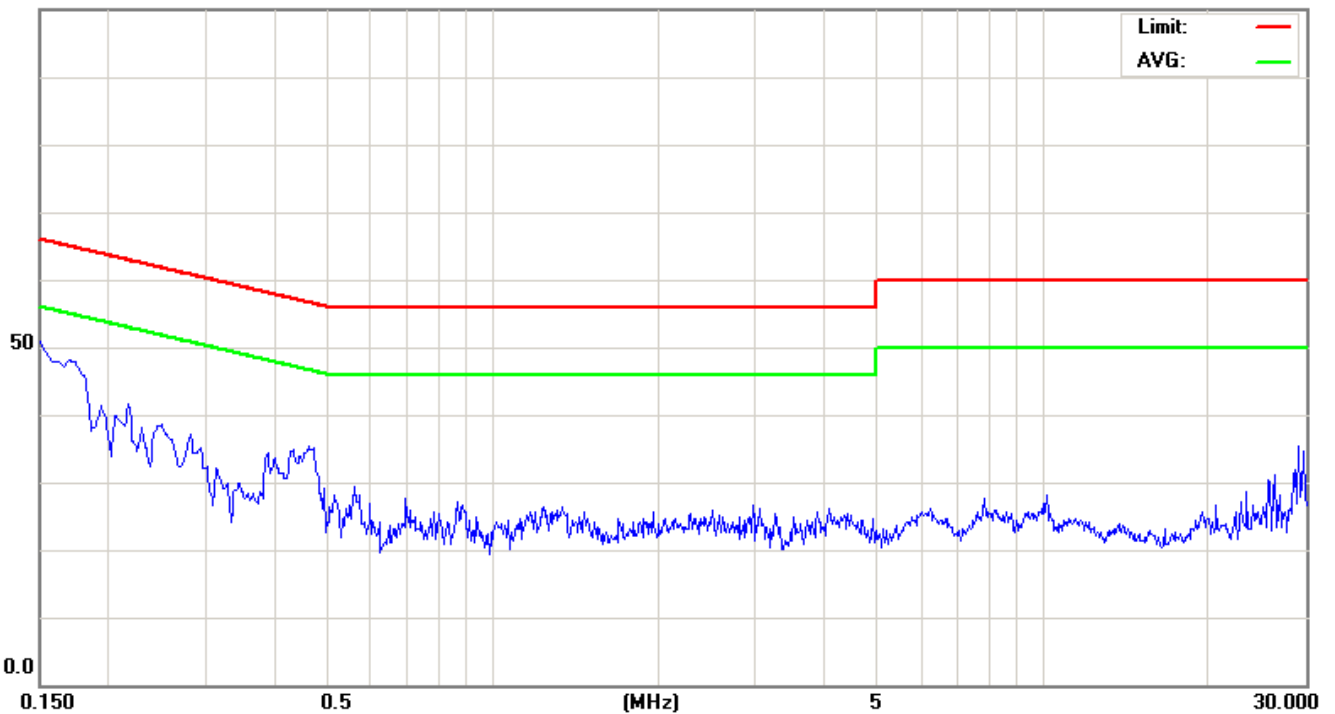


Model Name :	SLP	Phase :	Line / Neutral
Test Mode :	Mode 2		

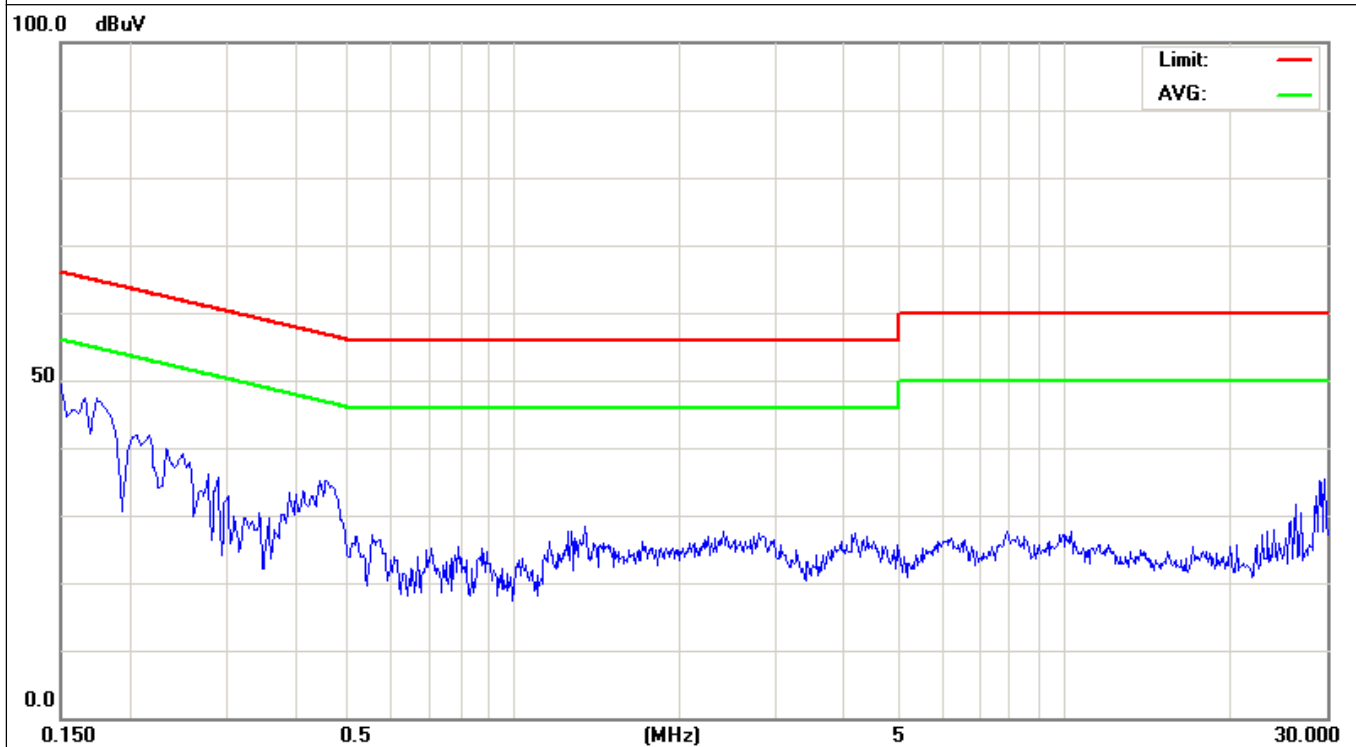
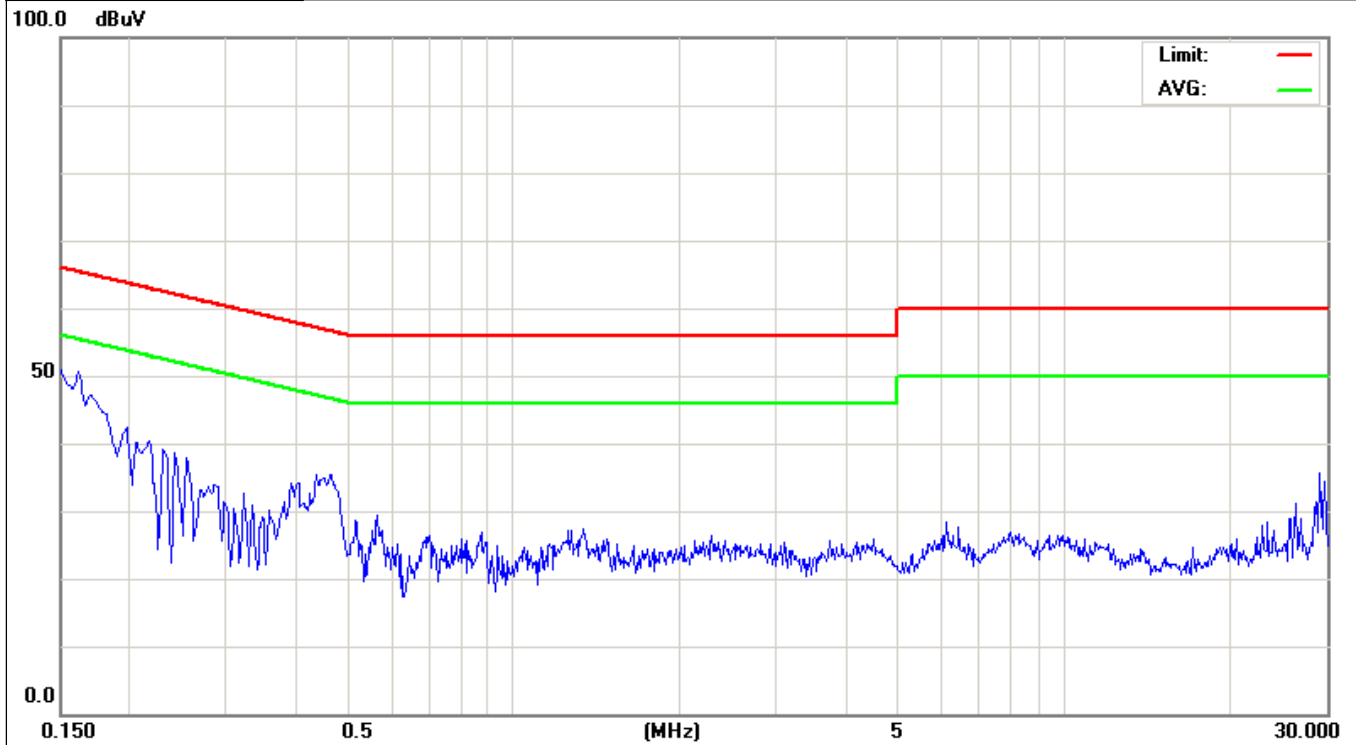
100.0 dBuV



100.0 dBuV

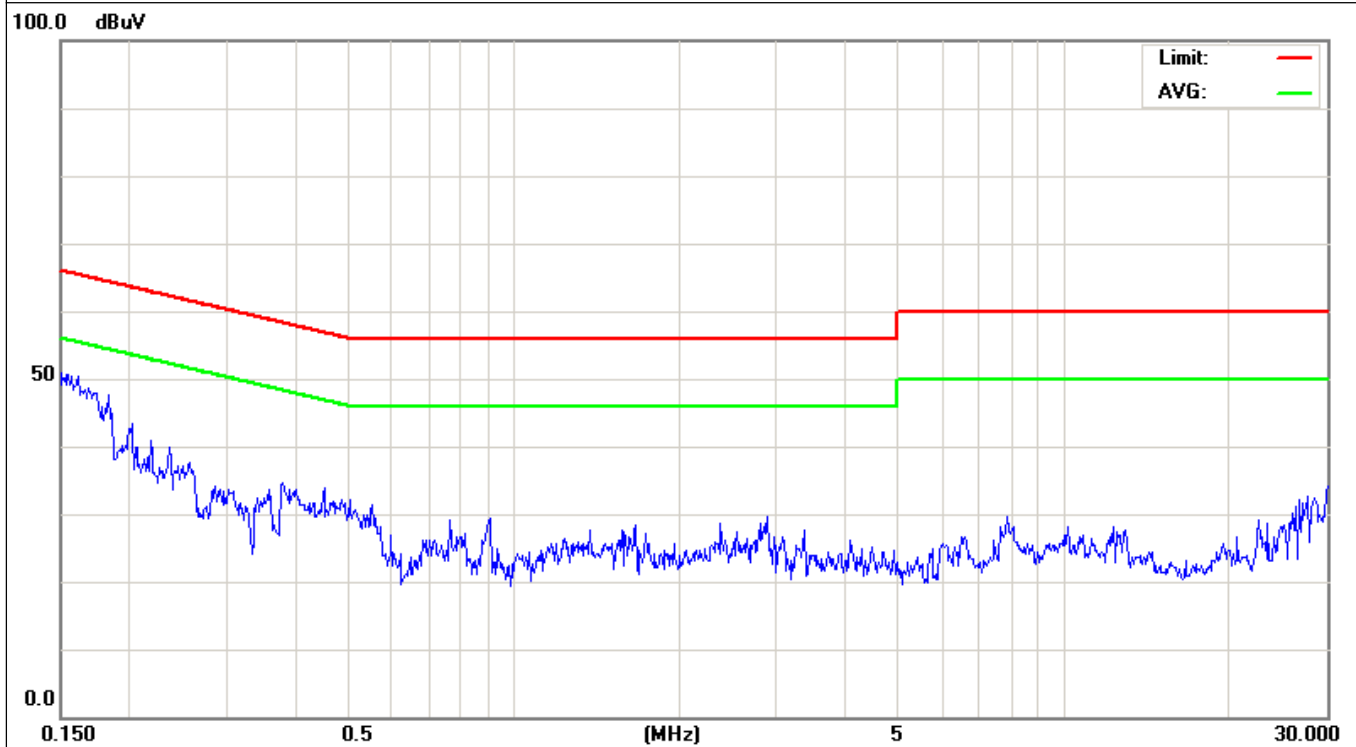
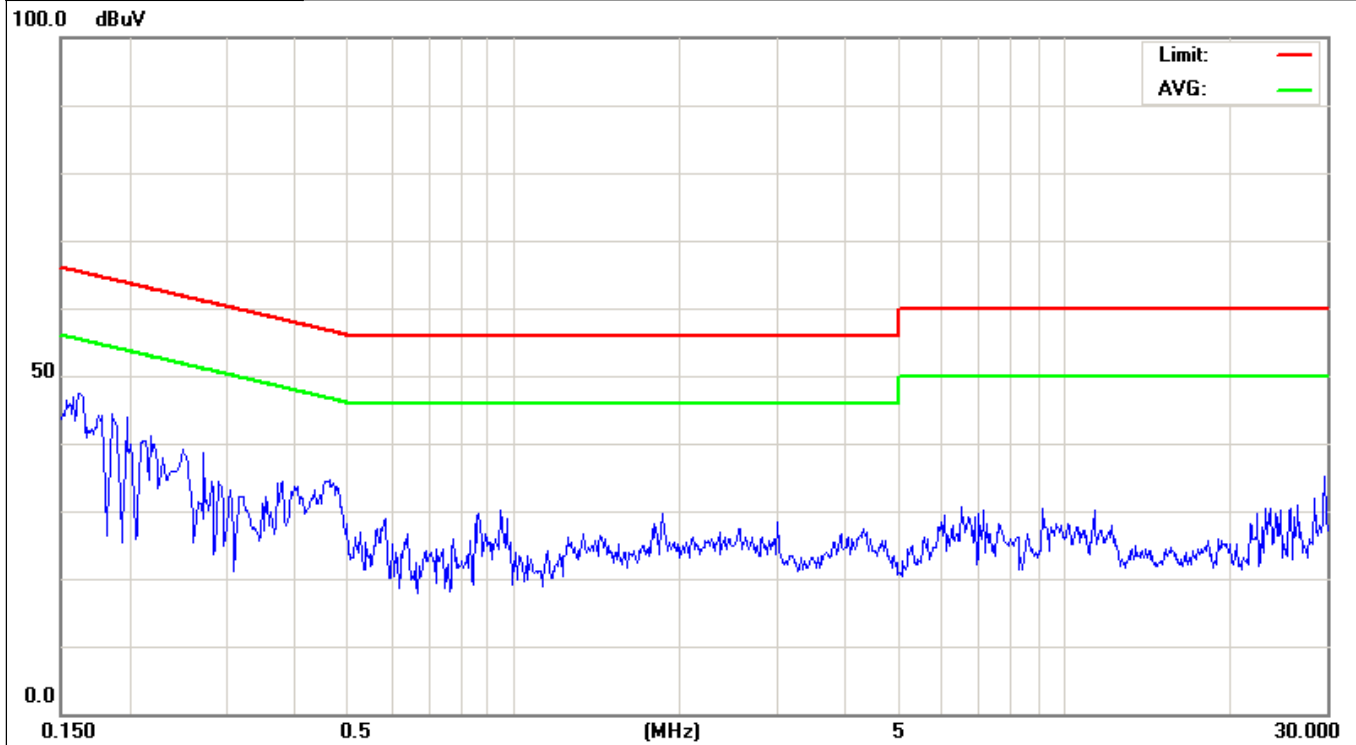


Model Name :	SLP	Phase :	Line / Neutral
Test Mode :	Mode 3		

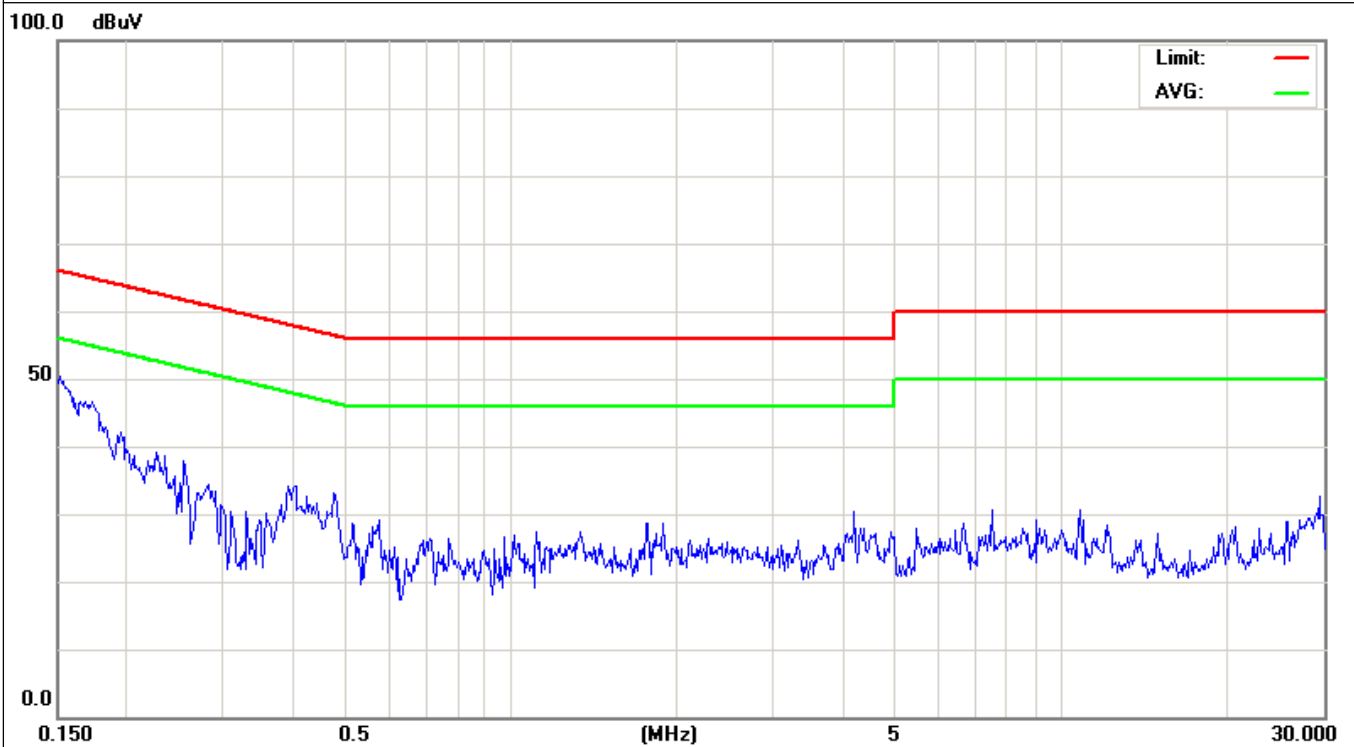
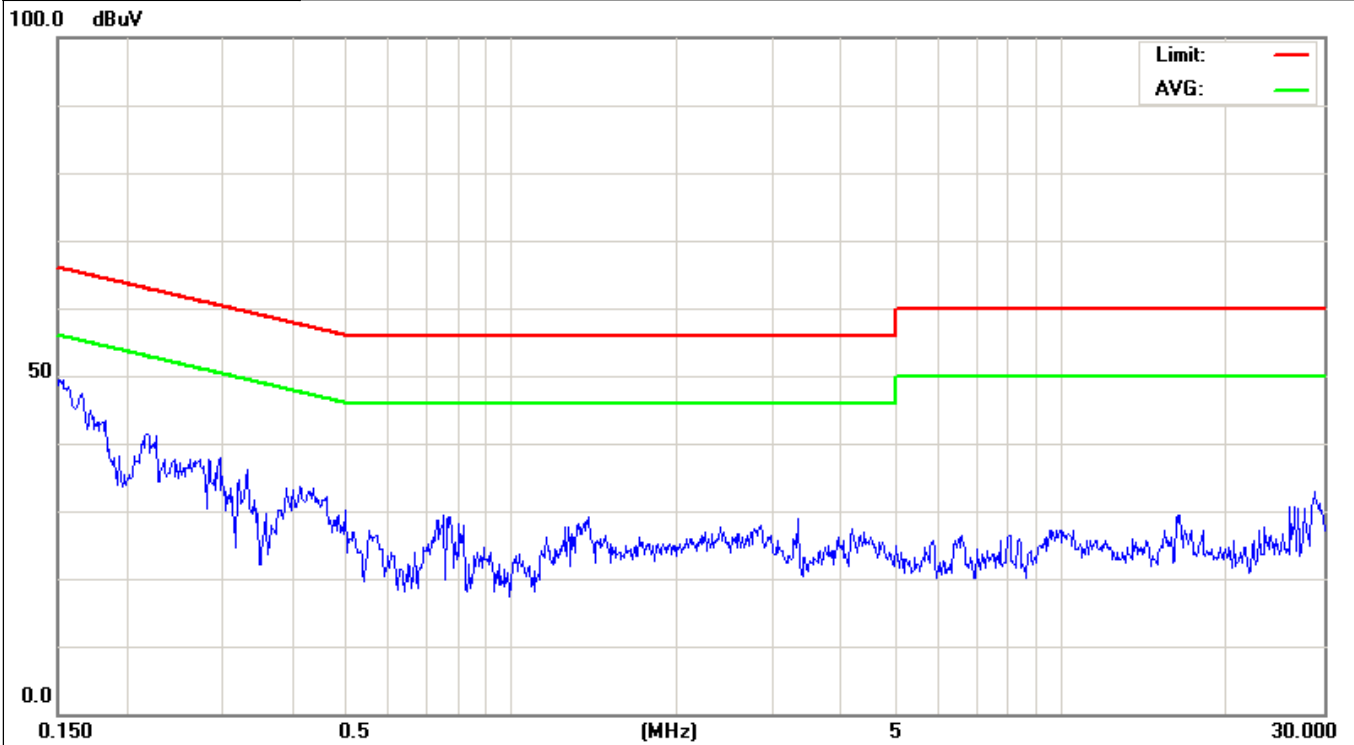




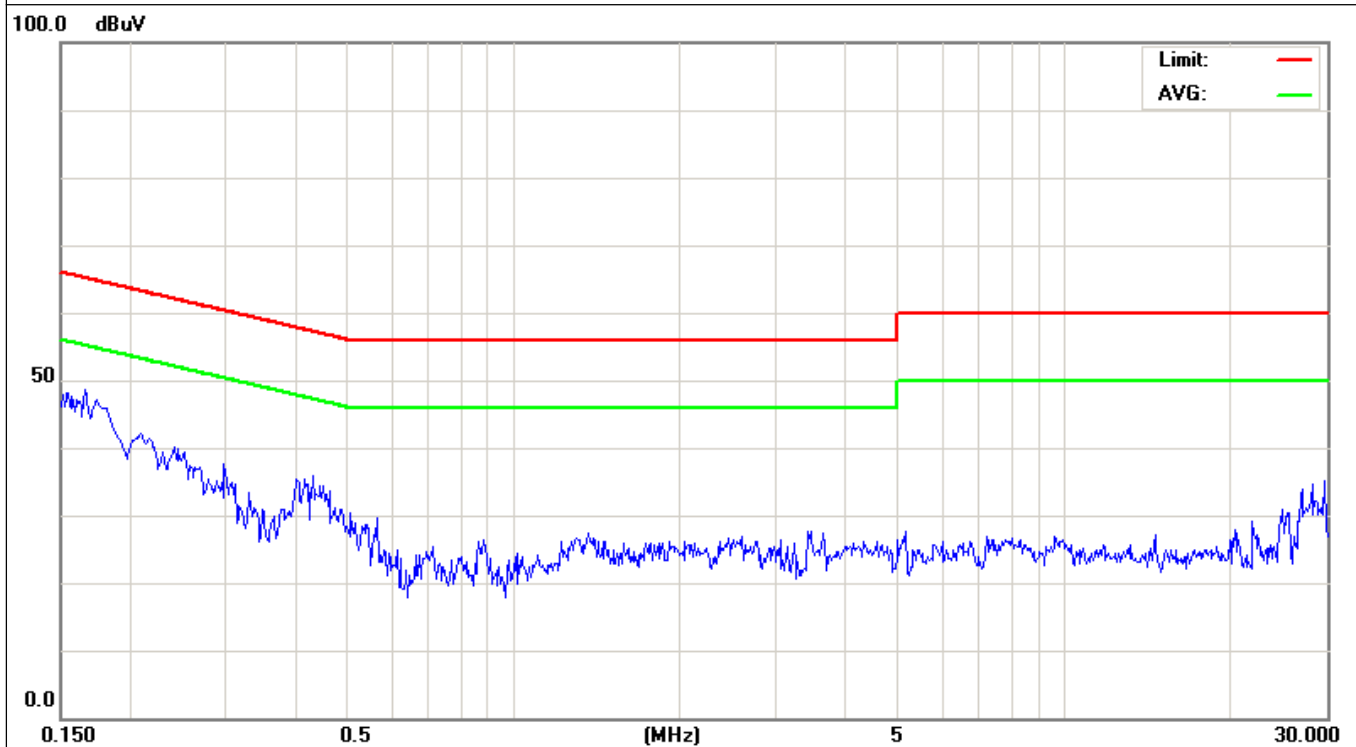
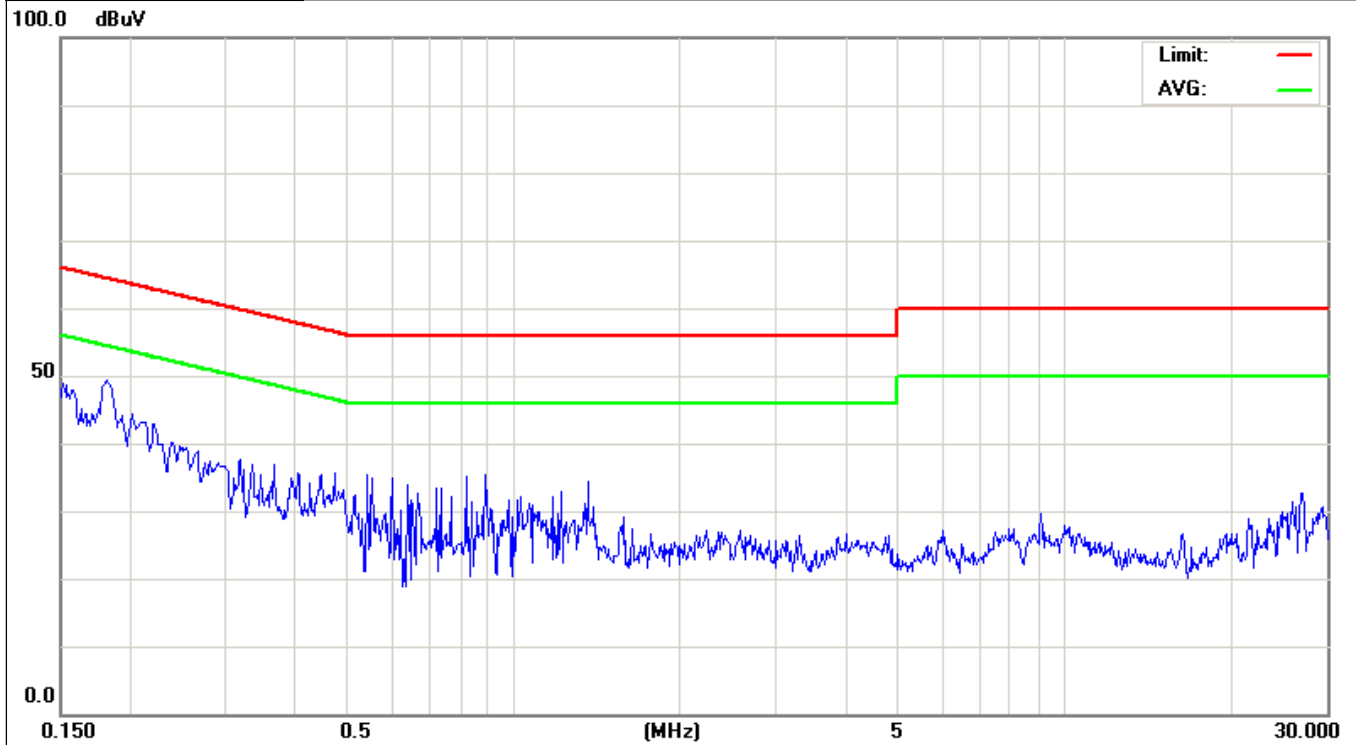
Model Name :	SLP	Phase :	Line / Neutral
Test Mode :	Mode 4		



Model Name :	SLP	Phase :	Line / Neutral
Test Mode :	Mode 5		



Model Name :	SLP	Phase :	Line / Neutral
Test Mode :	Mode 7		



## 5.2 Radiated Emission Measurement

### Limits of Radiated Emission Measurement

Frequency (MHz)	<input type="checkbox"/> Class A (10m)	<input checked="" type="checkbox"/> Class B (3m)
	Quasi-Peak dB( $\mu$ V/m)	Quasi-Peak dB( $\mu$ V/m)
30 ~ 88	39.0	40.0
88 ~ 216	43.5	43.5
216 ~ 960	46.5	46.0
Above 960	49.5	54.0

Detector:

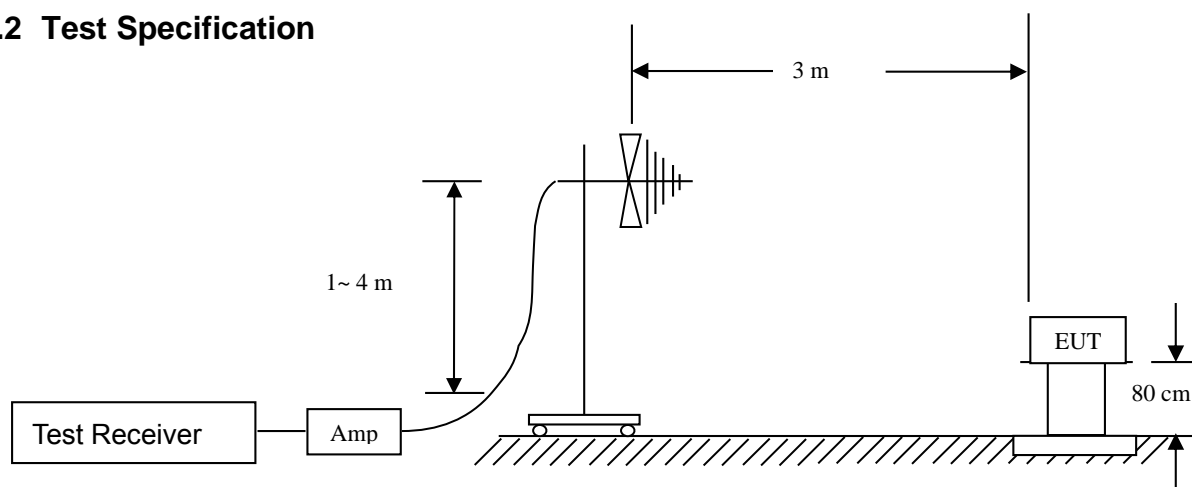
Peak for pre-scan (120kHz resolution bandwidth)

Quasi-Peak if maximum peak within 6dB of limit

### 5.2.1 E.U.T. Operation

Temperature:	26°C	Humidity:	55% RH	Atmospheric Pressure:	101	Kpa
Test Mode:	Mode 1/ Mode 2/ Mode 3/ Mode 4/ Mode 5/ Mode 6/ Mode 7			The Worst Mode:	Mode 6	

### 5.2.2 Test Specification



EUT was placed upon a wooden test table which was placed on the turn table 0.8m above the horizontal metal ground plane, and operating in the mode as mentioned above. A receiving antenna was placed 3m away from the EUT. During testing, turn around the turn table and move the antenna from 1m to 4m to find the maximum field-strength reading. All peripherals were placed at a distance of 10cm between each other. Both horizontal and vertical antenna polarities were tested.

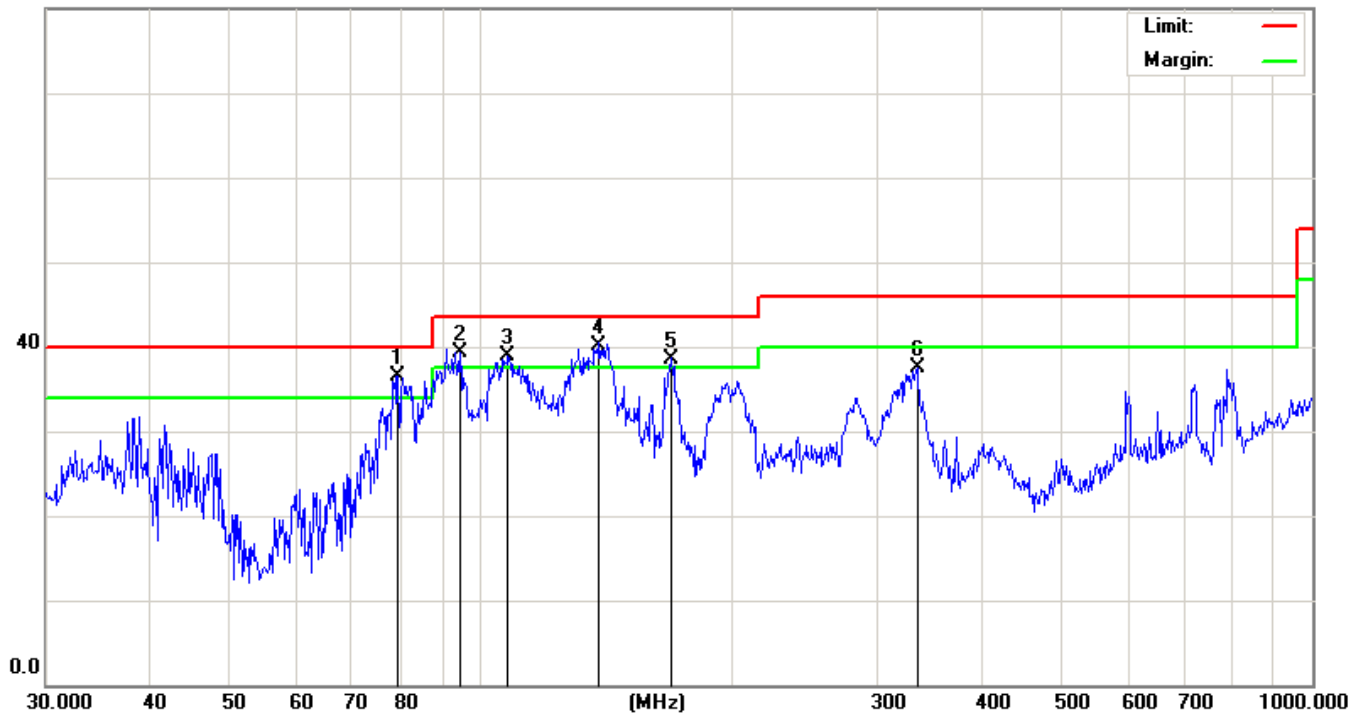
### 5.2.3 Measurement Data

An initial pre-scan was performed in the 3m chamber using the spectrum analyzers in peak detection mode. The EUT was measured by Biology antenna with 2 orthogonal polarities and peak emissions from the EUT were detected within 6dB of the class B limit line.

The following quasi-peak measurements were performed on the EUT.

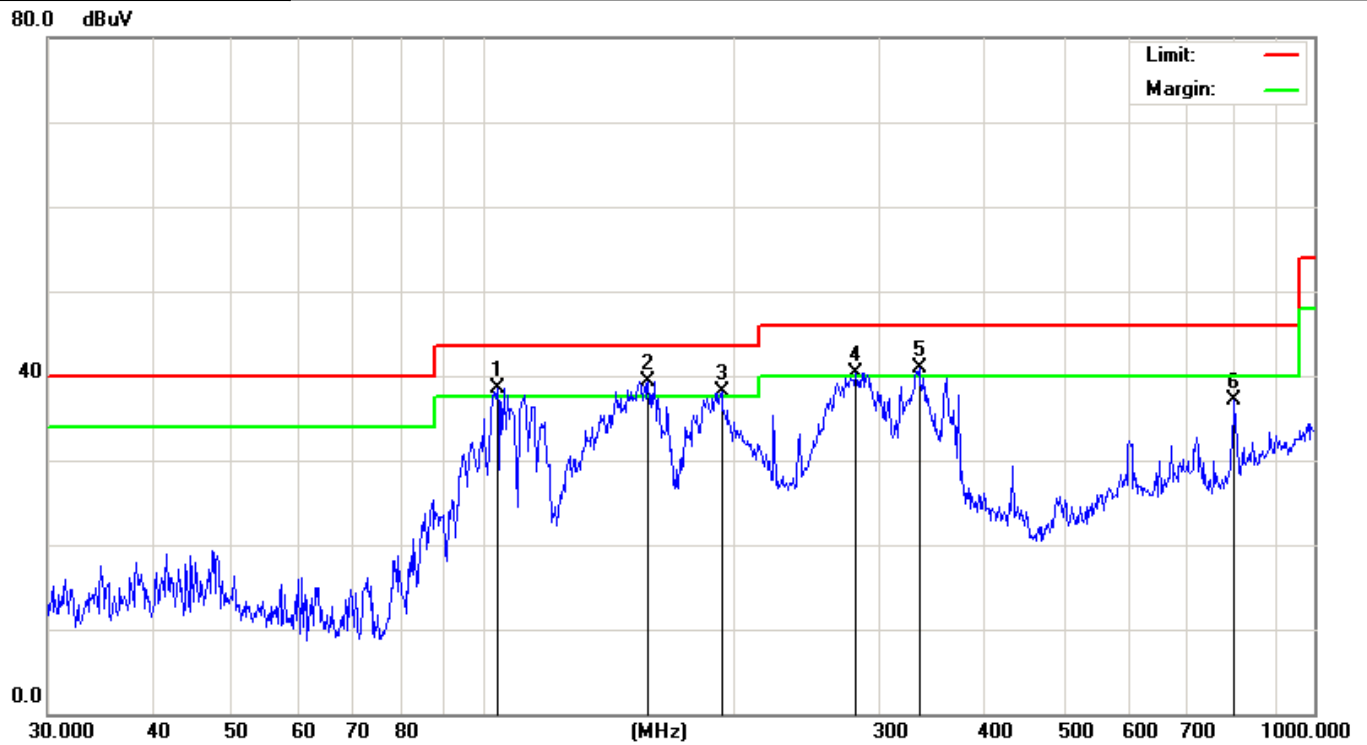
Model Name :	SLP	Phase :	Vertical
Test Mode :	Mode 6		

80.0 dBuV



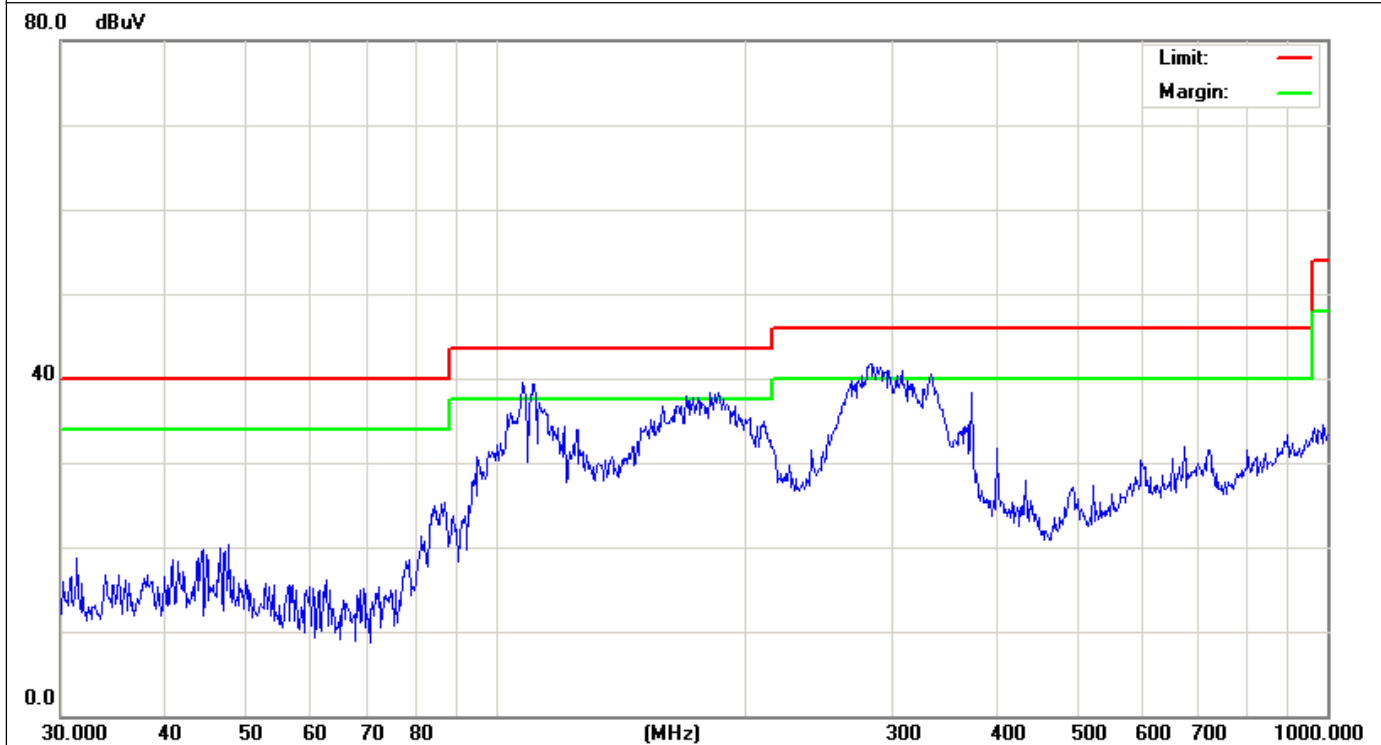
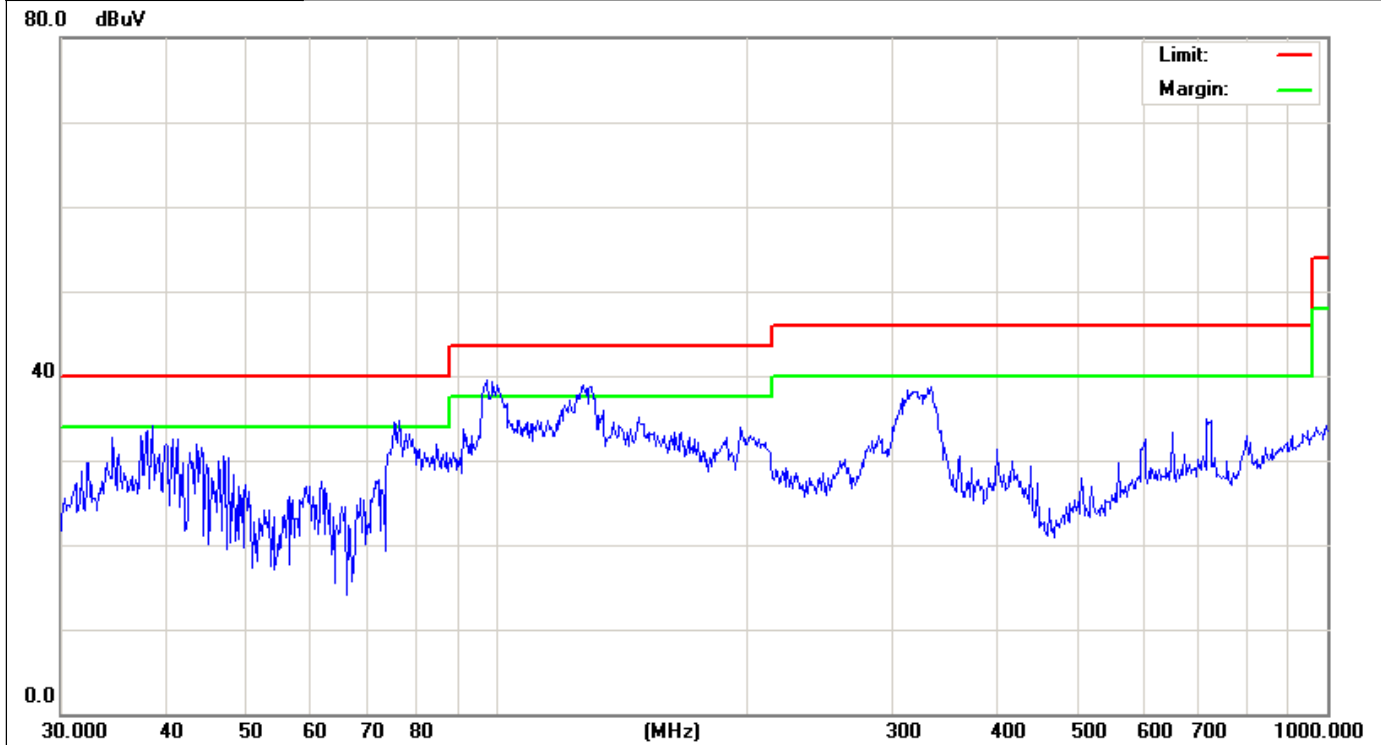
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	!	79.5208	55.66	-19.11	36.55	40.00	-3.45	QP
2	!	94.4283	56.67	-17.41	39.26	43.50	-4.24	QP
3	!	107.8876	52.46	-13.46	39.00	43.50	-4.50	QP
4	*	138.8735	55.07	-14.87	40.20	43.50	-3.30	QP
5	!	169.5989	53.65	-15.05	38.60	43.50	-4.90	QP
6		334.8589	46.13	-8.65	37.48	46.00	-8.52	QP

Model Name :	SLP	Phase :	Horizontal
Test Mode :	Mode 6		



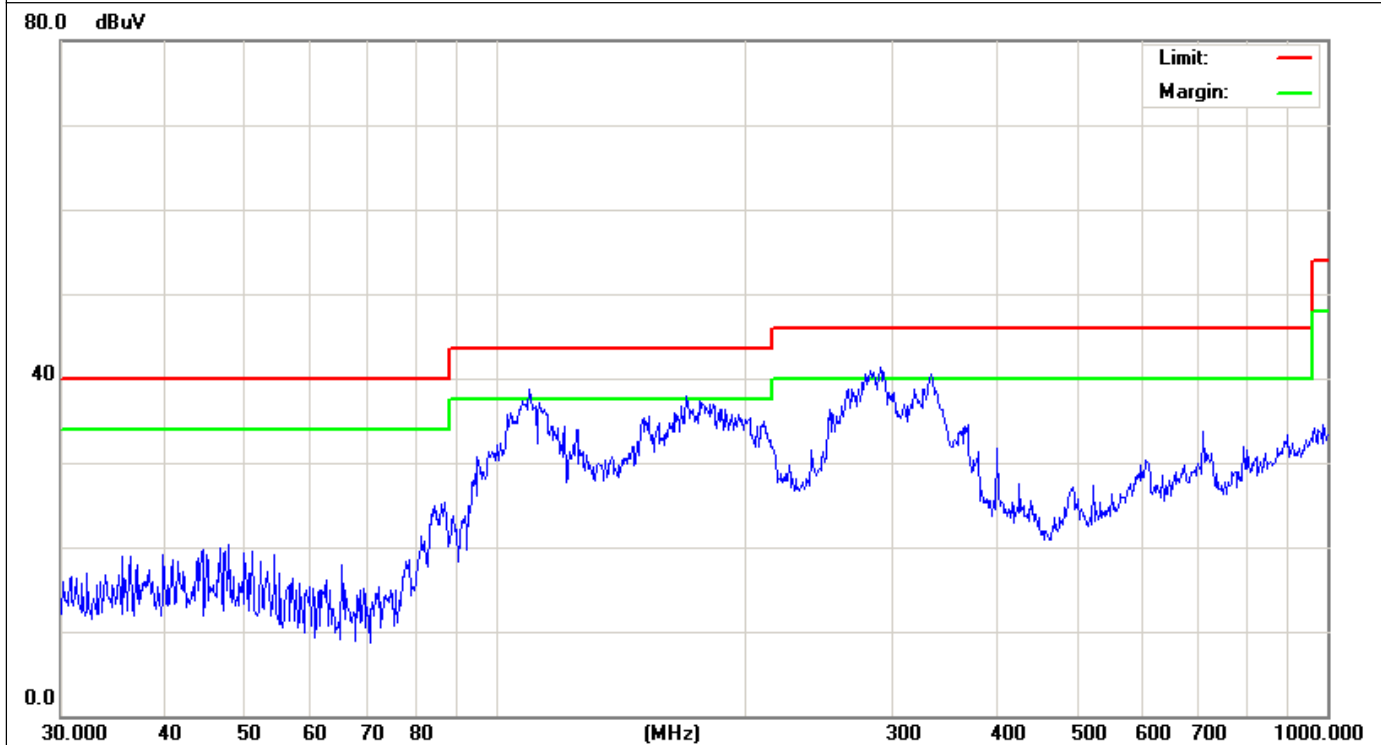
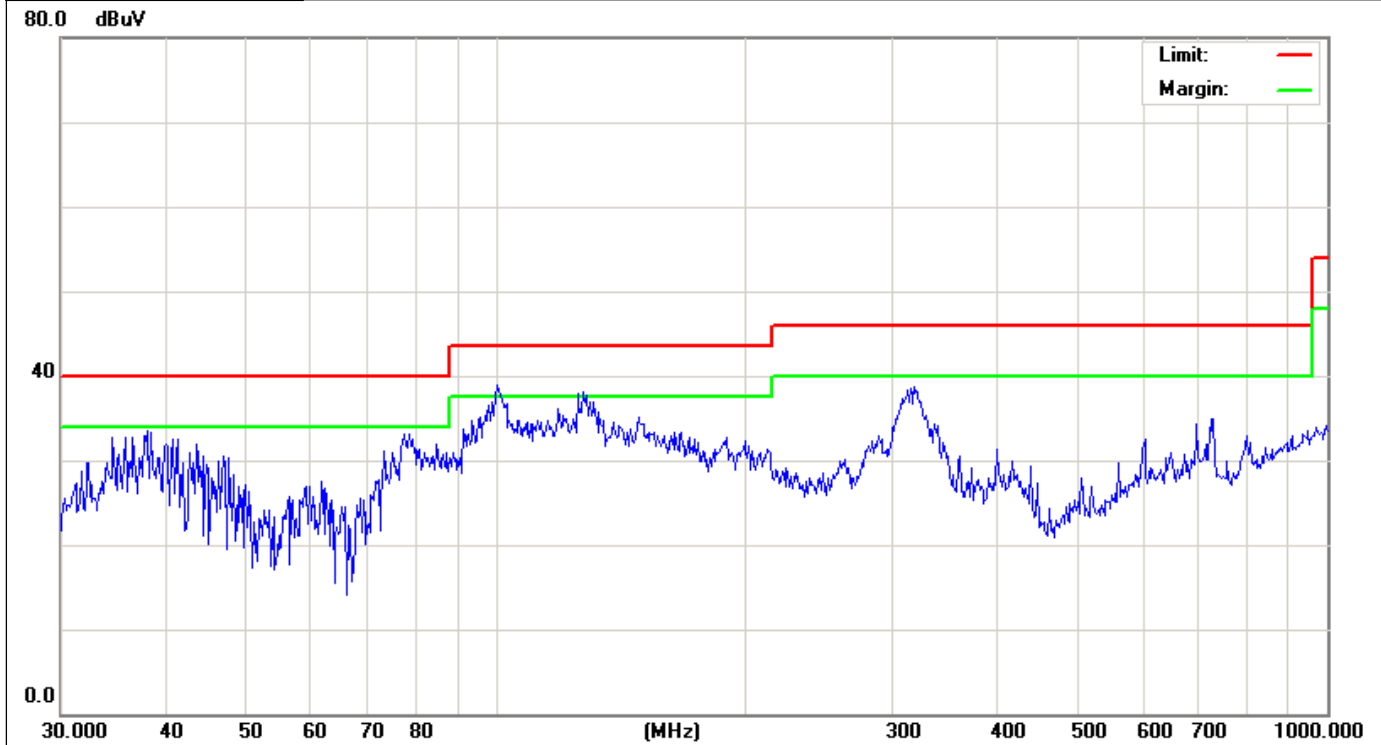
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	!	104.1701	54.10	-15.63	38.47	43.50	-5.03	QP
2	*	158.1123	54.57	-15.17	39.40	43.50	-4.10	QP
3	!	193.7727	51.79	-13.69	38.10	43.50	-5.40	QP
4	!	281.0074	50.53	-10.23	40.30	46.00	-5.70	QP
5	!	334.8589	49.48	-8.65	40.83	46.00	-5.17	QP
6		801.7862	36.38	0.66	37.04	46.00	-8.96	QP

Model Name :	SLP	Phase :	Vertical / Horizontal
Test Mode :	Mode 1		

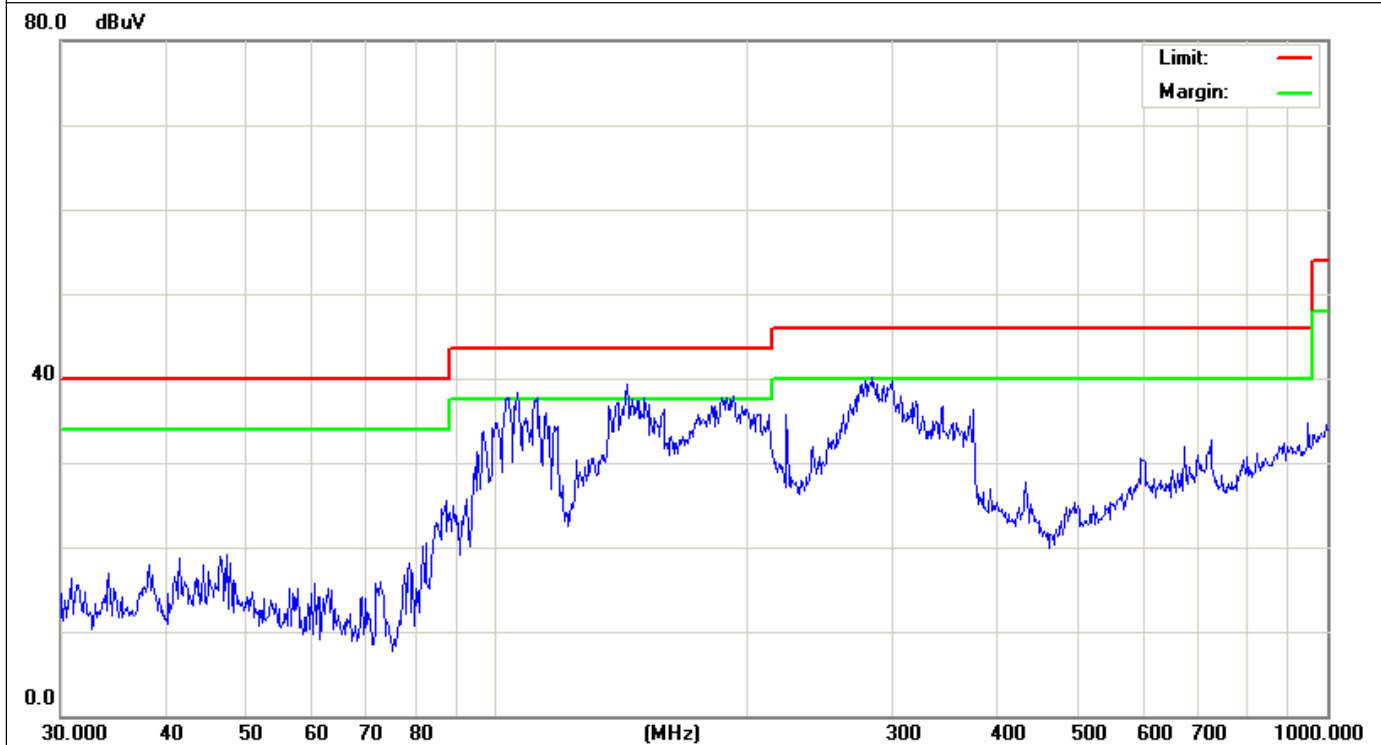
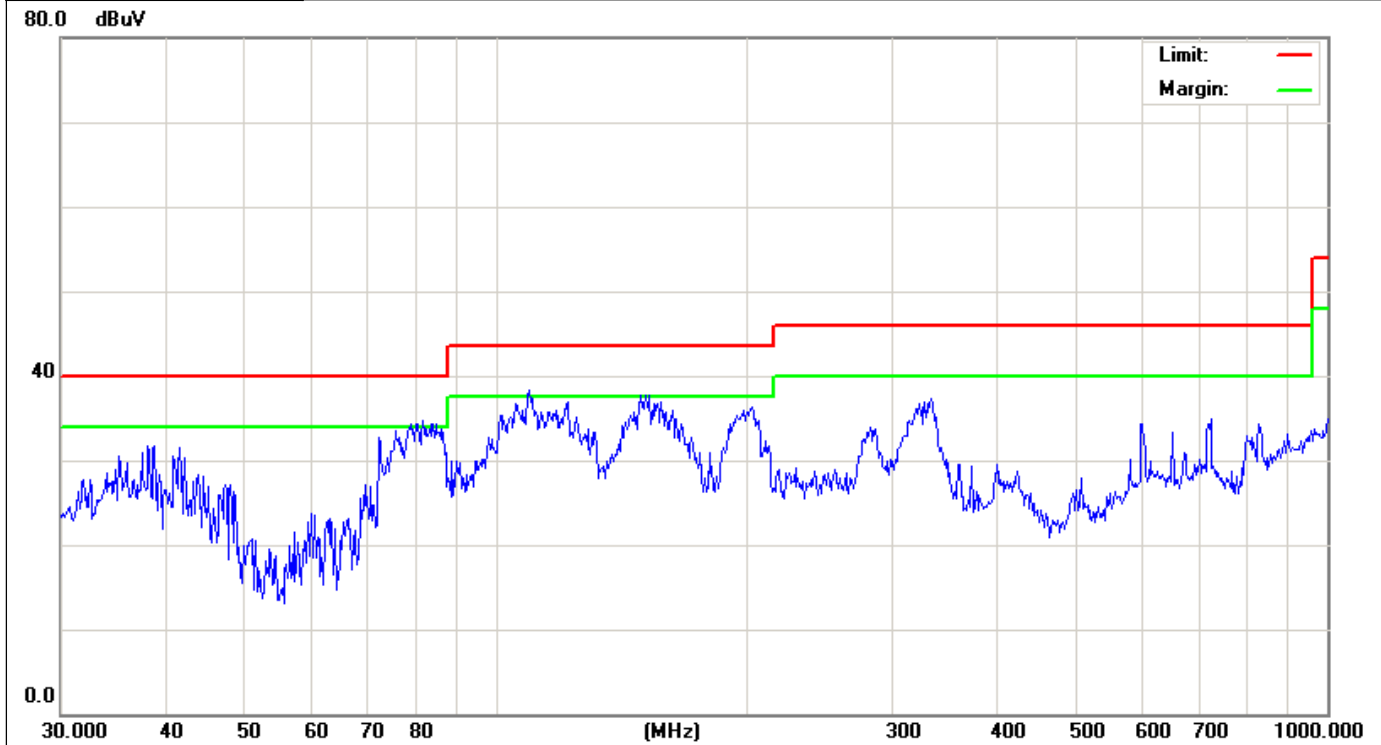




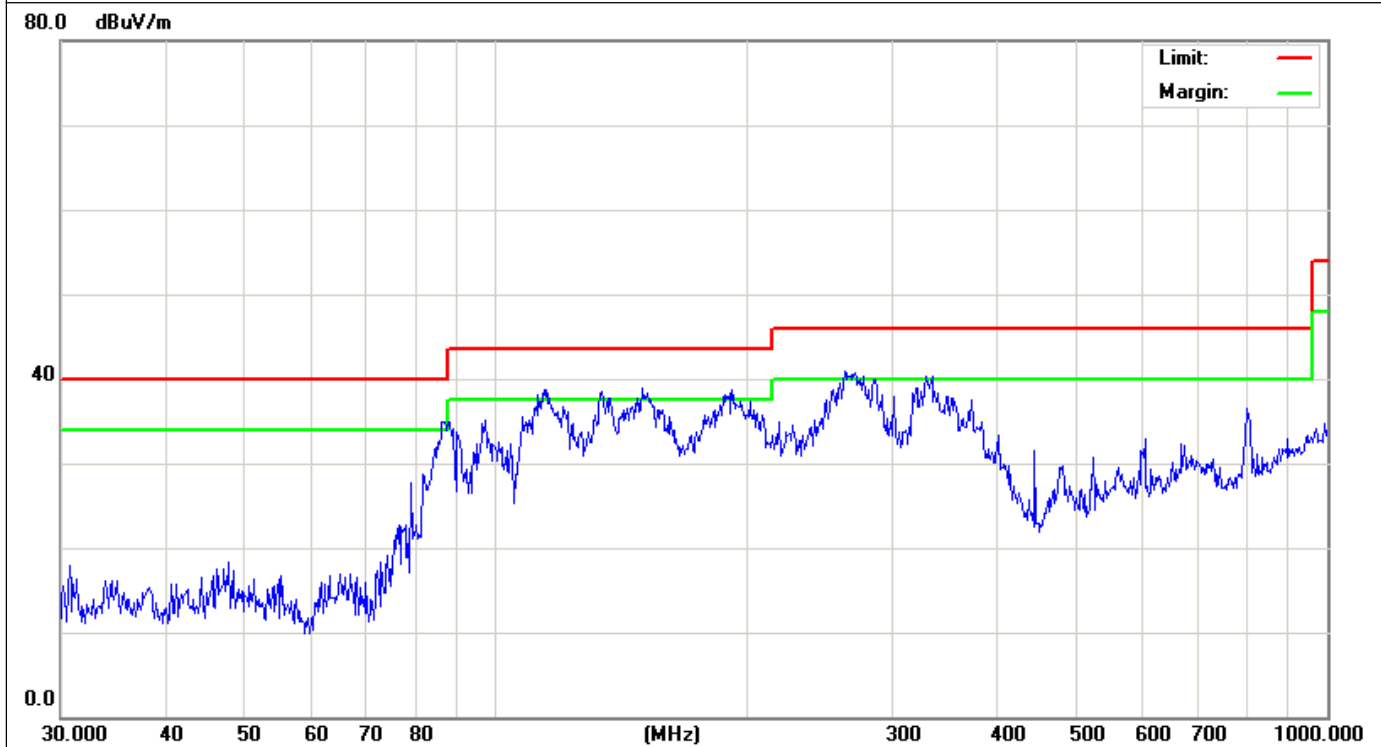
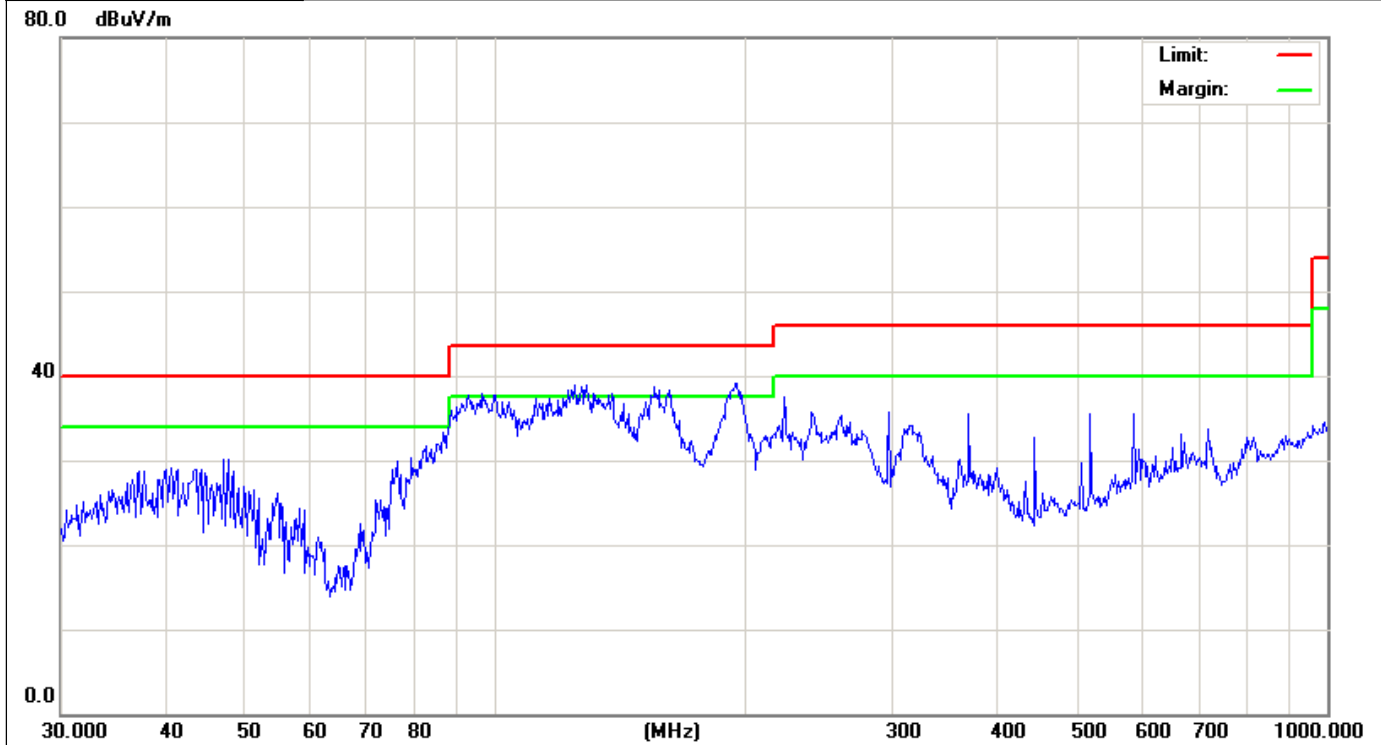
Model Name :	SLP	Phase :	Vertical / Horizontal
Test Mode :	Mode 2		



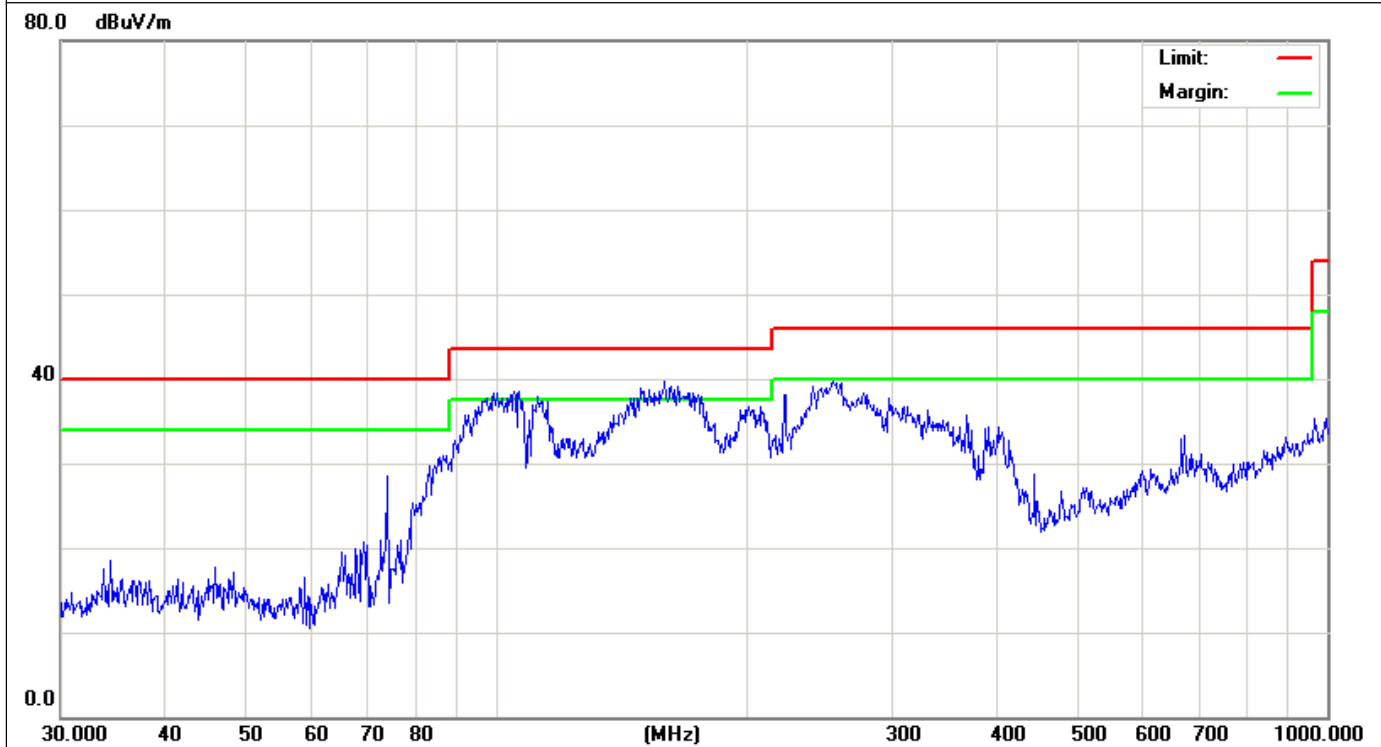
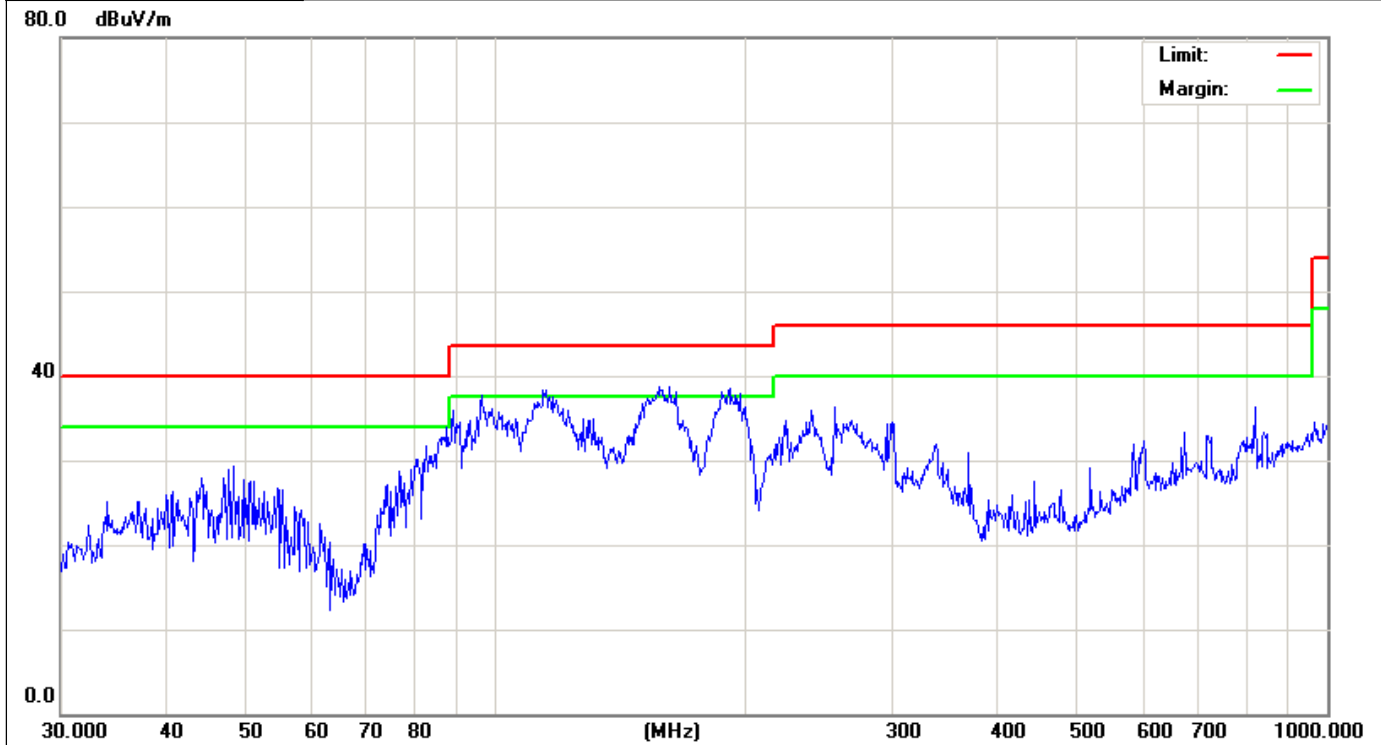
Model Name :	SLP	Phase :	Vertical / Horizontal
Test Mode :	Mode 3		



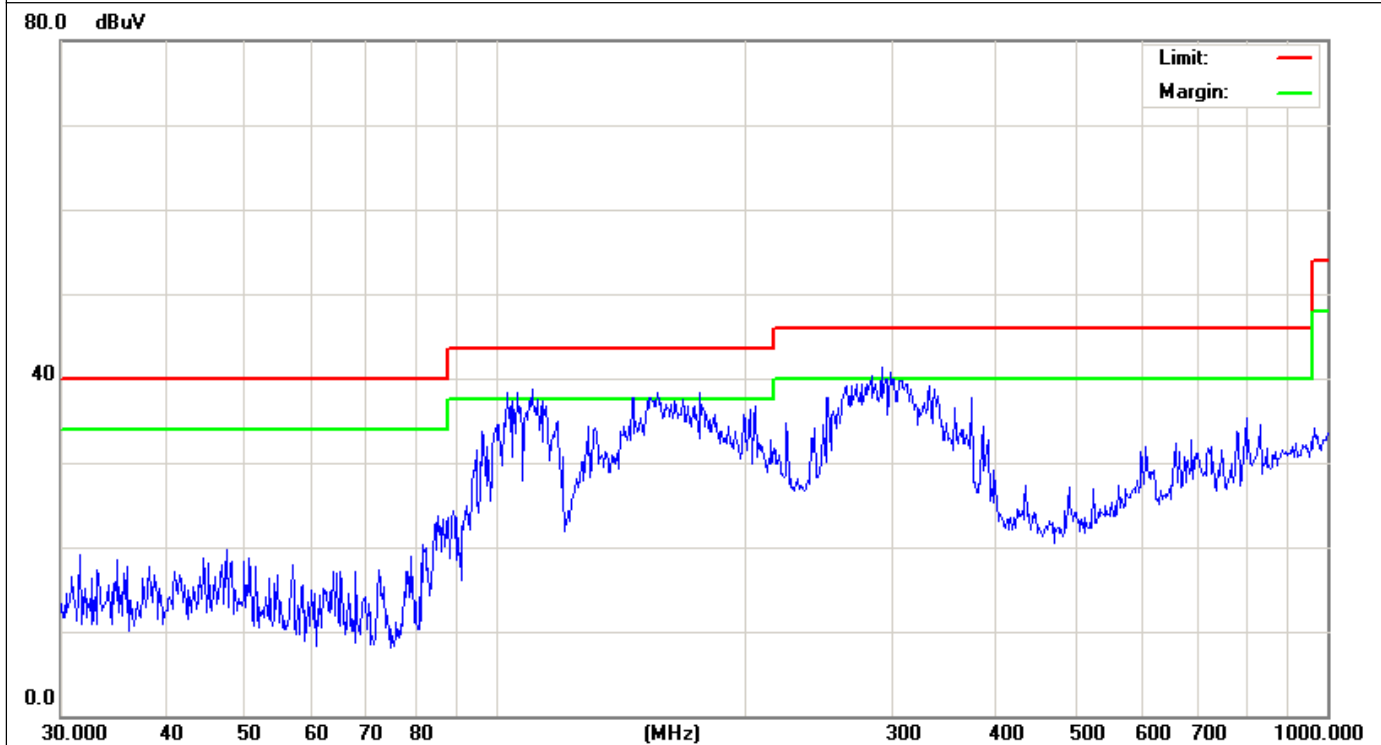
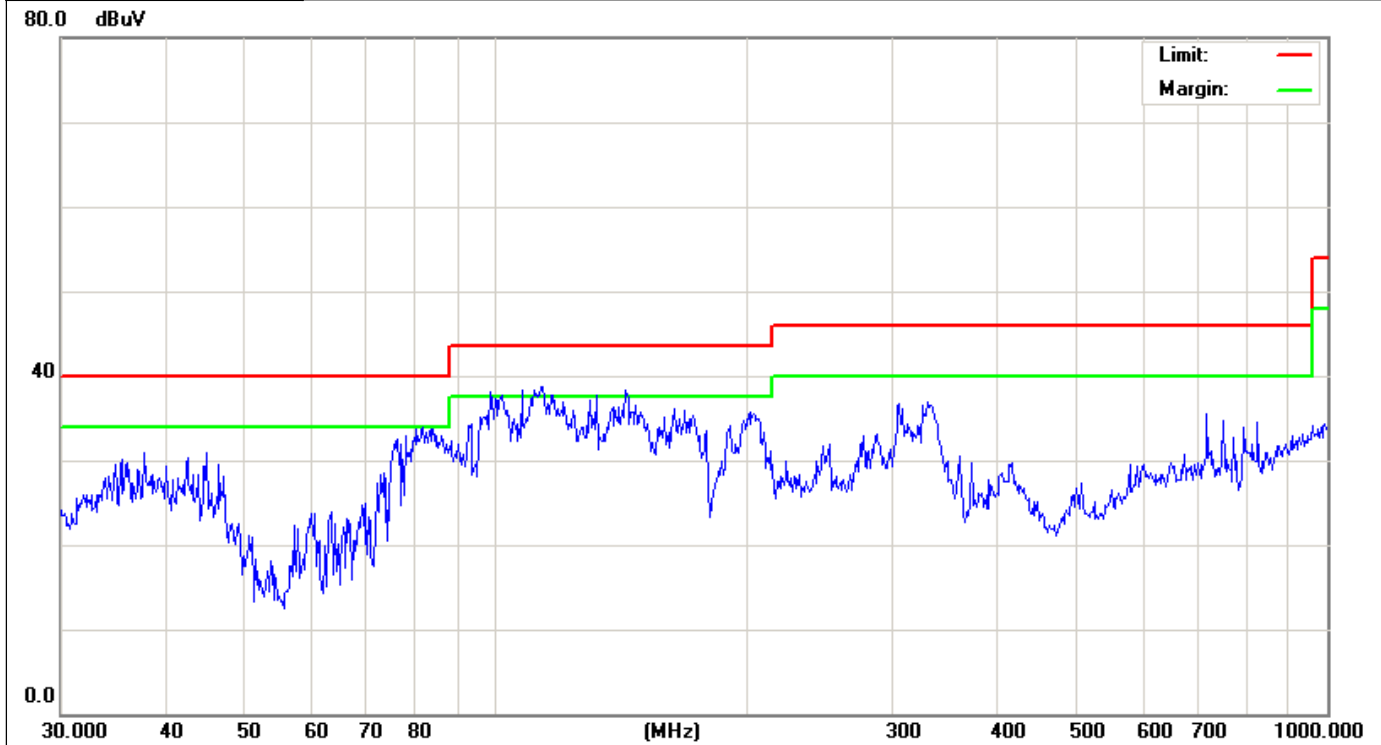
Model Name :	SLP	Phase :	Vertical / Horizontal
Test Mode :	Mode 4		



Model Name :	SLP	Phase :	Vertical / Horizontal
Test Mode :	Mode 5		



Model Name :	SLP	Phase :	Vertical / Horizontal
Test Mode :	Mode 7		



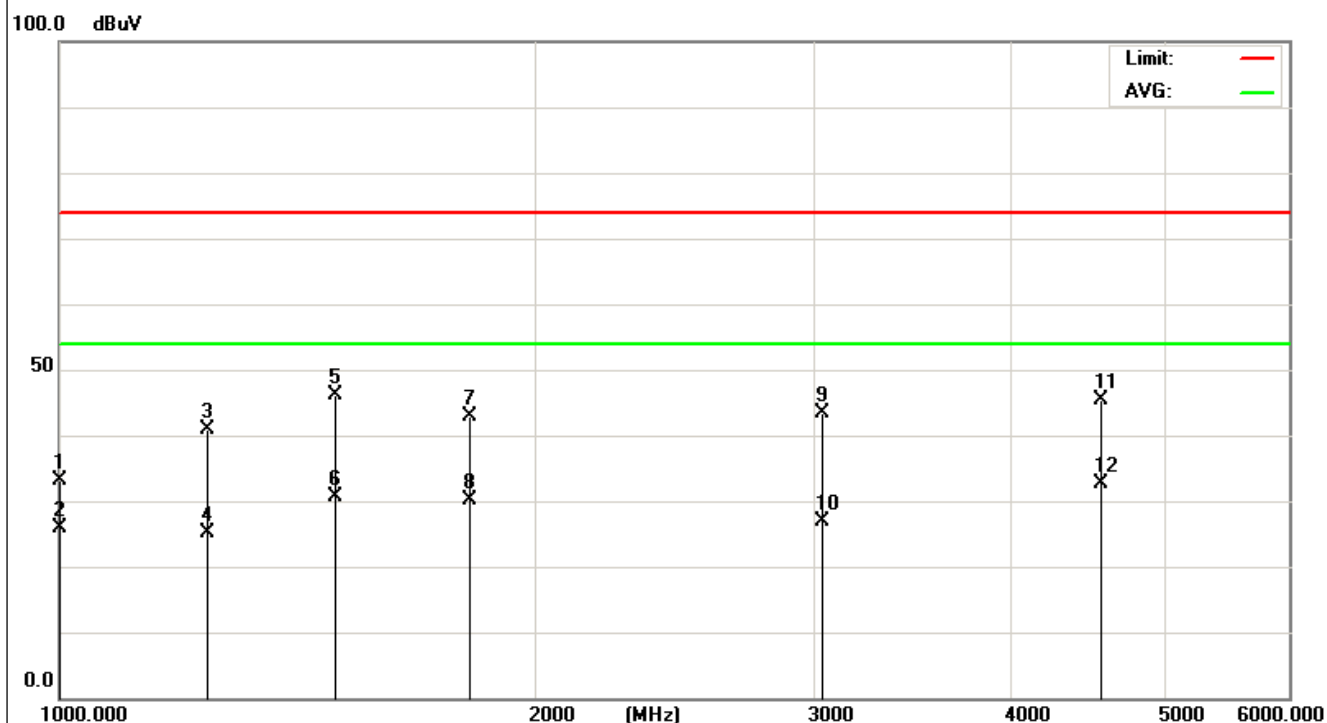
## Between 1000-6000MHz

EUT:	LED Projector	Model Name :	SLP
Temperature:	23 °C	Relative Humidity:	56%
Pressure:	1010hPa	Test Date :	2015-07-10
Test Mode:	Mode 3 (the worst case)	Phase :	Vertical
Test Voltage :	DC 19V from adapter, AC 120V/60Hz for adapter		

Frequency (MHz)	Meter Reading (dBμV)		Factor (dB)	Emission Level (dBμV)		Limits (dBμV)		Margin (dBμV)	
	Peak	Average		Peak	Average	Peak	Average	Peak	Average
1000.000	63.17	56.13	-30.16	33.01	25.97	74.00	54.00	-40.99	-28.03
1238.000	65.96	50.12	-25.04	40.92	25.08	74.00	54.00	-33.08	-28.92
1493.000	69.46	54.12	-23.39	46.07	30.73	74.00	54.00	-27.93	-23.27
1816.255	65.78	53.15	-22.94	42.84	30.21	74.00	54.00	-31.16	-23.79
3040.000	60.63	44.12	-17.17	43.46	26.95	74.00	54.00	-30.54	-27.05
*4553.230	61.02	48.15	-15.57	45.45	32.58	74.00	54.00	-28.55	-21.42

Remark:

- Factor = Antenna Factor + Cable Loss – Pre-amplifier.
- \*\* means the worst case



EUT:	LED Projector	Model Name :	SLP
Temperature:	23 °C	Relative Humidity:	56%
Pressure:	1010hPa	Test Date :	2015-07-10
Test Mode:	Mode 3 (the worst case)	Phase :	Horizontal
Test Voltage :	DC 19V from adapter, AC 120V/60Hz for adapter		

Frequency (MHz)	Meter Reading (dBμV)		Factor (dB)	Emission Level (dBμV)		Limits (dBμV)		Margin (dBμV)	
	Peak	Average		Peak	Average	Peak	Average	Peak	Average
1000.000	69.38	56.78	-27.66	41.72	29.12	74.00	54.00	-32.28	-24.88
*1323.000	71.27	57.36	-23.80	47.47	33.56	74.00	54.00	-26.53	-20.44
1816.000	64.13	50.41	-22.48	41.65	27.93	74.00	54.00	-32.35	-26.07
3023.440	60.70	41.25	-21.07	39.63	20.18	74.00	54.00	-34.37	-33.82
4111.000	60.97	44.15	-19.48	41.49	24.67	74.00	54.00	-32.51	-29.33
5267.000	60.88	47.45	-15.44	45.44	32.01	74.00	54.00	-28.56	-21.99

Remark:

3. Factor = Antenna Factor + Cable Loss – Pre-amplifier.

4. '\*' means the worst case

