TEST REPORT

Applicant:	Klipsch Group Inc.
Address of Applicant:	3502 Woodview Trace, Suite 200, Indianapolis, IN 46268, United States.
Manufacturer:	Klipsch Group Inc.
Address of Manufacturer:	3502 Woodview Trace, Suite 200, Indianapolis, IN 46268, United States.
Product name:	Powered Monitor
Model:	R-15PM
Rating(s):	100-240Vac, 50/60Hz, 120W
Trademark:	Klipsch
FCC register number：	935596
IC register number：	8368A-1
FCC ID:	STI-R15PM
Standards:	FCC Part15 subpart B：2013 ICES(Interference-Causing Equipment Standard)-003 Issue 5 August 2012
Date of Receipt:	2015-10-30
Date of Test:	2015-10-30~2015-11-25
Date of Issue:	2015-11-26
Test Result	**Pass***

* In the configuration tested, the test item complied with the standards specified above.

Authorized for issue by:

Test by: ***Reviewed by:***

Nov.26, 2015 Jumy Qiu Jumy qiu — Project Engineer

Nov.26, 2015 Pauler Li Pauler Li — Project Manager

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Date	Name/Position	Signature	Date	Name/Position	Signature

Testing Laboratory information:	
Testing Laboratory Name ..... :	I-Test Laboratory
Address ..... :	1-2 floor, South Block, Building A2 , No 3 Keyan Lu, Science City, Guangzhou, Guangdong Province, P.R. China
Testing location ..... :	Same as above
Tel..... :	0086-20-32209330
Fax ..... :	0086-20-62824387
E-mail ..... :	itl@i-testlab.com

Possible test case verdicts:

- test case does not apply to the test object..: N/A
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement .: F (Fail)

General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report would be invalid test report without all the signatures of testing technician and approver.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

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General product information:

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Test Summary:

The following standards have been applied to ensure the product conforms with the protection requirements of the council directive FCC part 15B / ICES-003.

Electromagnetic Emissions				
Test Item	**Test Standard**	**Test Method**	**Class/Severity**	**Result**
Conducted Emission(0.15-30MHz)	FCC part 15.107/ ICES-003	ANSI C63.4:2009/ ICES-003	Class B	PASS
Radiated Emission(30-1000MHz)	FCC part 15.109/ ICES-003	ANSI C63.4:2009/ ICES-003	Class B	PASS

Test Location:

All the tests were performed in GuangZhou ITL Co., Ltd. Which is located at 1-2 floor, South Block, Building A2 , No 3 Keyan Lu, Science City, Guangzhou, Guangdong Province, P.R. China

Tel: 0086-20-32209330, Fax: 0086-20-62824387

No test is subcontracted

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Section 1 General Information and Equipment Used

1.1 Client Information

Applicant:	Klipsch Group Inc.
Address of Applicant:	3502 Woodview Trace, Suite 200, Indianapolis, IN 46268, United States.

1.2 EUT General and Technical Descriptions

EUT Name:	Powered Monitor
EUT Model:	R-15PM
EUT Trademark:	Klipsch
Input Voltage:	100-240V ~
Frequency:	50/60Hz
Input Power/Current:	120W
Output rated:	/
Power Cable Description:	/
Other Cables Description:	/
I/O Ports:	USB Audio in, Optical, SuB out, Aux in, Line in, Left speaker out
Function(s) Description:	/
Accessories information:	/

1.3 Support Equipment(s) and Test Configuration

1.3.1 Details of Support Equipment(s)

Description	Manufacturer	Model No.	Connection	Working state
PC	/	/	/	Normal

1.3.2 Working State of EUT

Power Supply of EUT:	120V~ 60Hz
EUT Status:	Test the EUT in USB Audio in mode.

1.3.3 Block Diagram of Test Configuration

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1.4 Equipment Used during Test

Conducted Emission						
No.	**Test Equipment**	**Manufacturer**	**Model**	**Serial No.**	**Last Cal.**	**Cal. Due**
ITL-102	EMI Test receiver	R&S	ESCI	100910	2015/06/23	2016/06/23
ITL-103	Two-line v-network	R&S	ENV216	100120	2015/06/23	2016/06/23
ITL-101	Shielded Room	ETS•Lindgren	8*4*3	CT09010	2015/03/09	2018/03/09

Radiated Emission						
No.	**Test Equipment**	**Manufacturer**	**Model**	**Serial No.**	**Last Cal.**	**Cal. Due**
ITL-100	Semi-Anechoic chamber	ETS•Lindgren	FACT3 2.0	CT09015	2013/06/17	2016/06/17
ITL-111	EMI Test receiver	R&S	ESVS10	833616/003	2015/01/19	2016/01/19
ITL-114	EXA Spectrum Analyzer	Agilent Technologies	N9010A	MY51250936	2015/01/19	2016/01/19
ITL-105	Biconilog Antenna	ETS•Lindgren	3142D	00108096	2015/01/24	2018/01/24
ITL-116	Pre Amplifier	HP	8447F	3113A05905	2015/01/19	2016/01/19

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Section 2 Emission Test Results

2.1 Conducted Emission at Mains Terminals, 150 kHz to 30MHz

Test Requirement:	FCC part 15.107/ ICES-003
Test Method:	ANSI C63.4:2009/ ICES-003
Test Voltage:	120V AC, 60Hz
Test Date:	2015-11-05
Frequency Range:	150 kHz to 30MHz
Detector:	Peak for pre-scan Quasi-Peak and Average at frequency with maximum peak (9 kHz resolution bandwidth)
Uncertainty:	2Uc（V）= 2.3dB
Class / Limit:	Class B

Frequency range MHz	**Class B Limits dB (μV)**	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
NOTE 1 :The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz. NOTE 2: The lower limit is applicable at the transition frequency.		

2.1.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C Humidity: 51 % RH Atmospheric Pressure: 101 kPa

EUT Operation: Test the EUT in USB Audio in mode.

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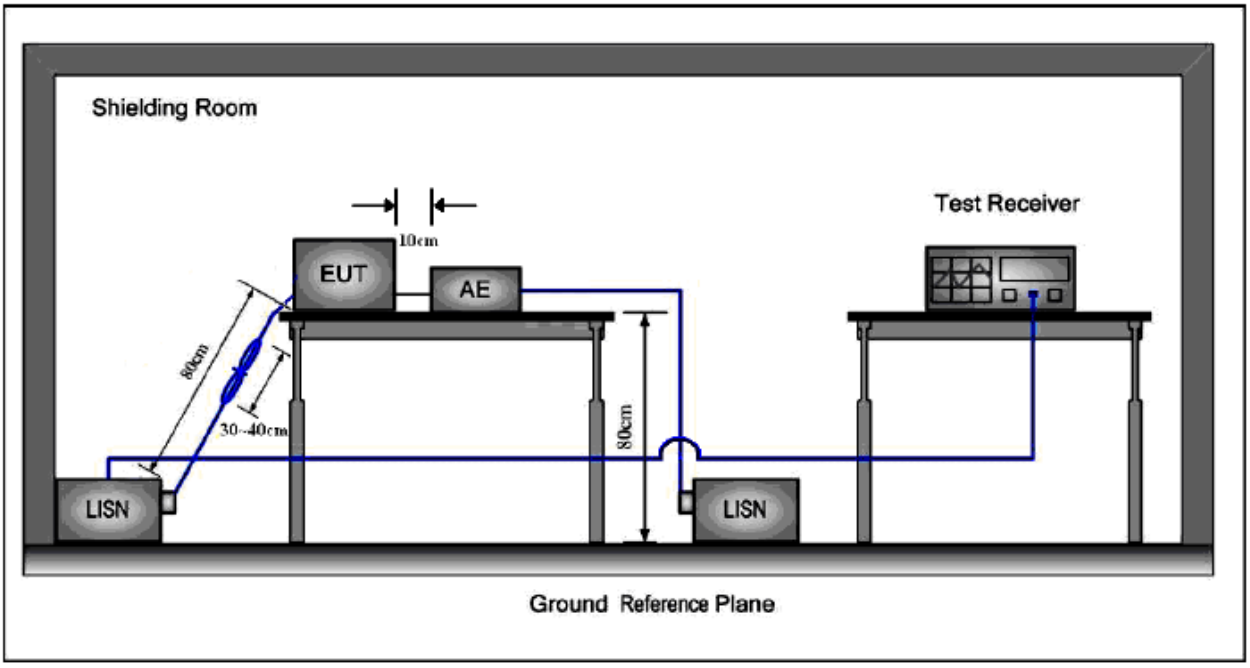
2.1.2 Test Setup and Procedure



1. The mains terminal disturbance voltage test was conducted in a shielded room.
2. The EUT was connected to nominal power supply through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH+5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
4. The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

2.1.3 Measurement Data

Pre-scan was performed with peak detected on both live and neutral cable. Quasi-peak & average measurements were performed at the frequencies which maximum peak emission level was detected. Please see the attached Quasi-peak and Average test results.

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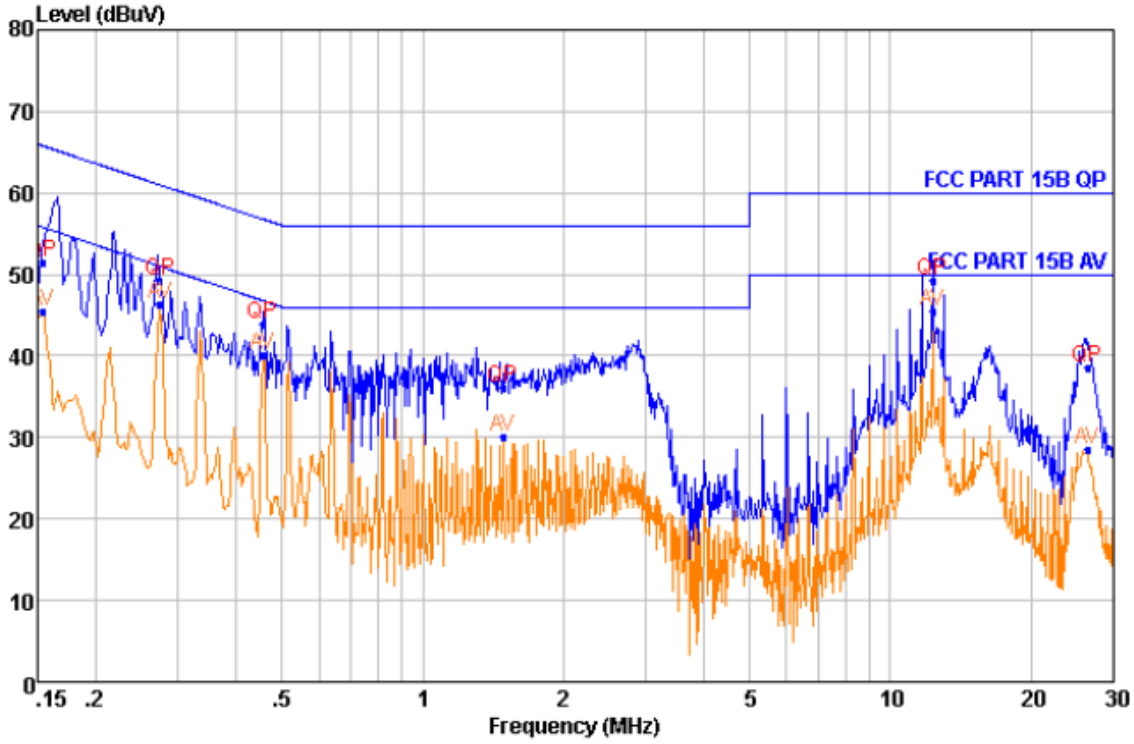
Model: R-15PM
Live Line:
Peak Scan:
Level (dBµV)



Quasi-peak and Average measurement

NO.	Freq MHz	Level dBuV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBuV	Over Limit dB
1	0.154	51.38	QP	9.38	0.39	65.78	-14.40
2	0.154	45.45	Average	9.38	0.39	55.78	-10.33
3	0.274	49.19	QP	9.47	0.41	60.98	-11.79
4	0.274	46.25	Average	9.47	0.41	50.98	-4.73
5	0.454	43.89	QP	9.35	0.43	56.80	-12.91
6	0.454	40.11	Average	9.35	0.43	46.80	-6.69
7	1.487	36.11	QP	9.30	0.48	56.00	-19.89
8	1.487	30.12	Average	9.30	0.48	46.00	-15.88
9	12.318	49.23	QP	9.36	0.56	60.00	-10.77
10	12.318	45.54	Average	9.36	0.56	50.00	-4.46
11	26.418	38.44	QP	9.72	0.59	60.00	-21.56
12	26.418	28.49	Average	9.72	0.59	50.00	-21.51

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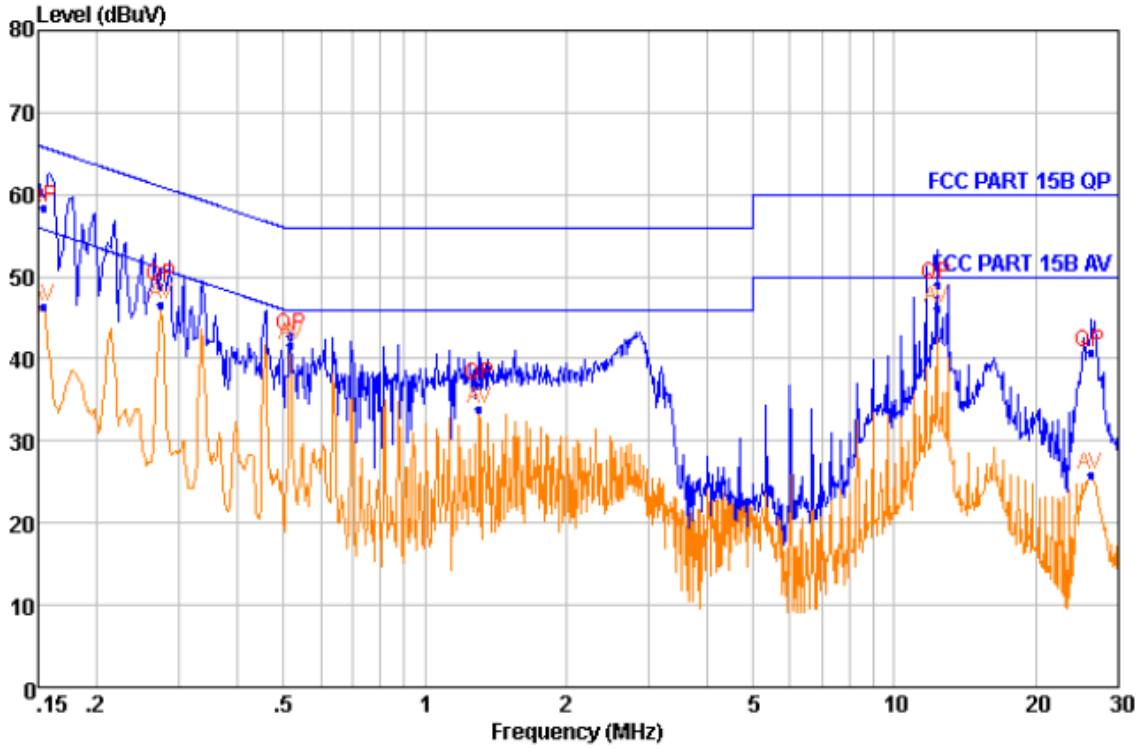
Neutral Line:

Peak Scan:

Level (dBµV)



Quasi-peak and Average measurement

NO.	Freq MHz	Level dBuV	Remark	LISN Factor dB	Cable Loss dB	Limit Line dBuV	Over Limit dB
1	0.154	58.37	QP	9.38	0.39	65.78	-7.41
2	0.154	46.43	Average	9.38	0.39	55.78	-9.35
3	0.274	48.78	QP	9.37	0.41	60.98	-12.20
4	0.274	46.66	Average	9.37	0.41	50.98	-4.32
5	0.518	42.69	QP	9.36	0.44	56.00	-13.31
6	0.518	41.68	Average	9.36	0.44	46.00	-4.32
7	1.303	36.85	QP	9.38	0.48	56.00	-19.15
8	1.303	33.95	Average	9.38	0.48	46.00	-12.05
9	12.318	49.00	QP	9.60	0.56	60.00	-11.00
10	12.318	46.05	Average	9.60	0.56	50.00	-3.95
11	26.139	40.78	QP	9.83	0.59	60.00	-19.22
12	26.139	25.80	Average	9.83	0.59	50.00	-24.20

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2.2 Radiated Emissions, 30MHz to 1GHz

Test Requirement:	FCC part 15.109/ ICES-003
Test Method:	ANSI C63.4:2009/ ICES-003
Test Voltage:	120V AC, 60Hz
Test Date:	2015-11-09
Frequency Range:	30MHz to 1GHz
Measurement Distance	3m
Detector:	Peak for pre-scan
	Quasi-Peak if maximised peak within 6dB of limit (120 kHz resolution bandwidth)
Uncertainty:	2Uc（V）= 3.35dB
Class / Limit:	Class B

Frequency range MHz	**Quasi-peak limits** dB (μV/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
960 to 1000	54
At transitional frequencies the lower limit applies	

2.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24.0 °C Humidity: 50 % RH Atmospheric Pressure: 101 kPa

EUT Operation: Test the EUT in USB Audio in mode.

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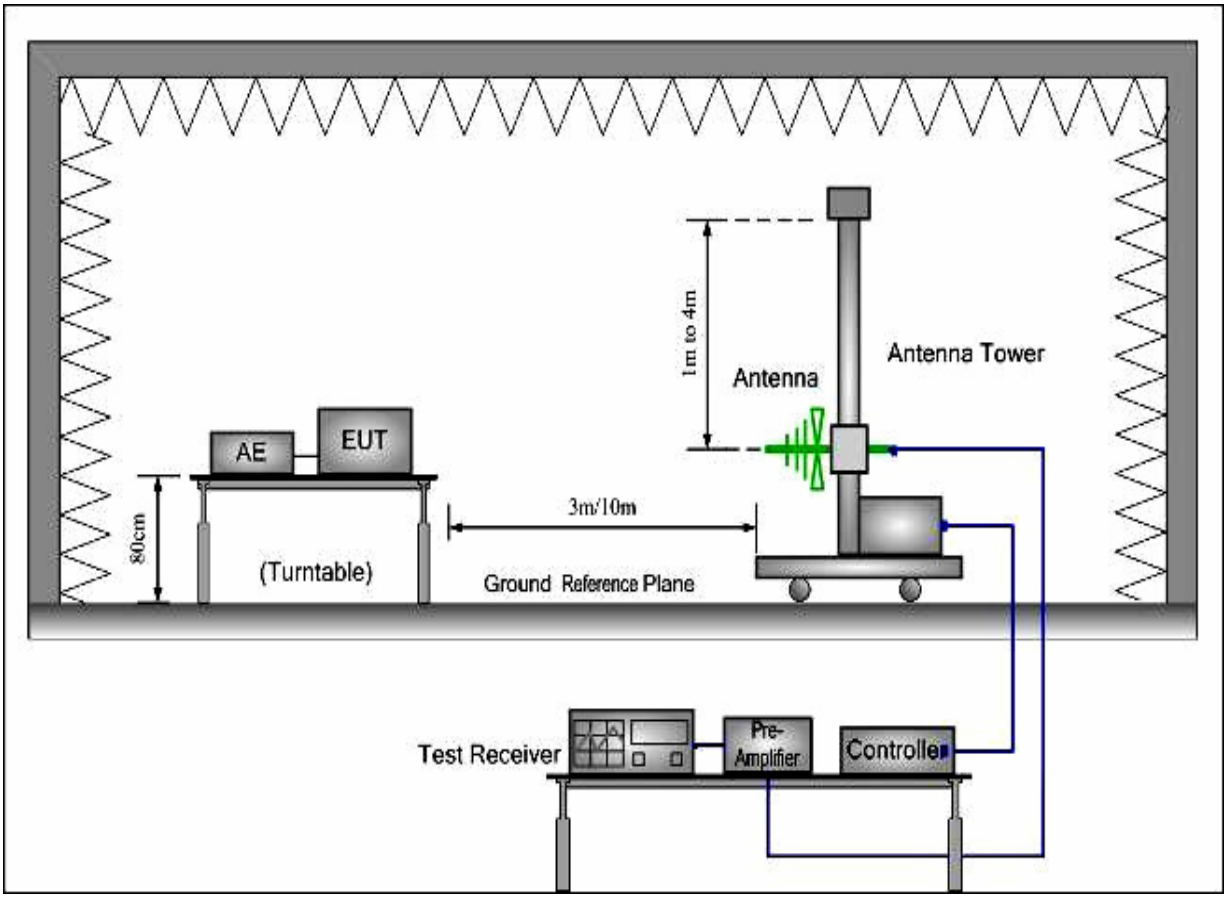
2.2.2 Test Setup and Procedure



1. The radiated emissions test was conducted in a semi-anechoic chamber.
2. Biconical and log periodic antenna was used for the frequency range from 30MHz to 1GHz
3. The EUT was connected to nominal power supply through a mains power outlet which was bonded to the ground reference plane; The mains cables were draped to the ground reference plane. The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, but separated from metallic contact with the ground reference plane by 0.1m of insulation.
4. Before final measurements of radiated emissions, a pre-scan was performed in the spectrum mode with the peak detector to find out the maximum emissions spectrum plots of the EUT.
5. The frequencies of maximum emission were determined in the final radiated emissions measurement. At each frequency, the EUT was rotated 360°, and the antenna was raised and lowered from 1 to 4 meters in order to determine the maximum disturbance. Measurements were performed for both horizontal and vertical antenna polarization.

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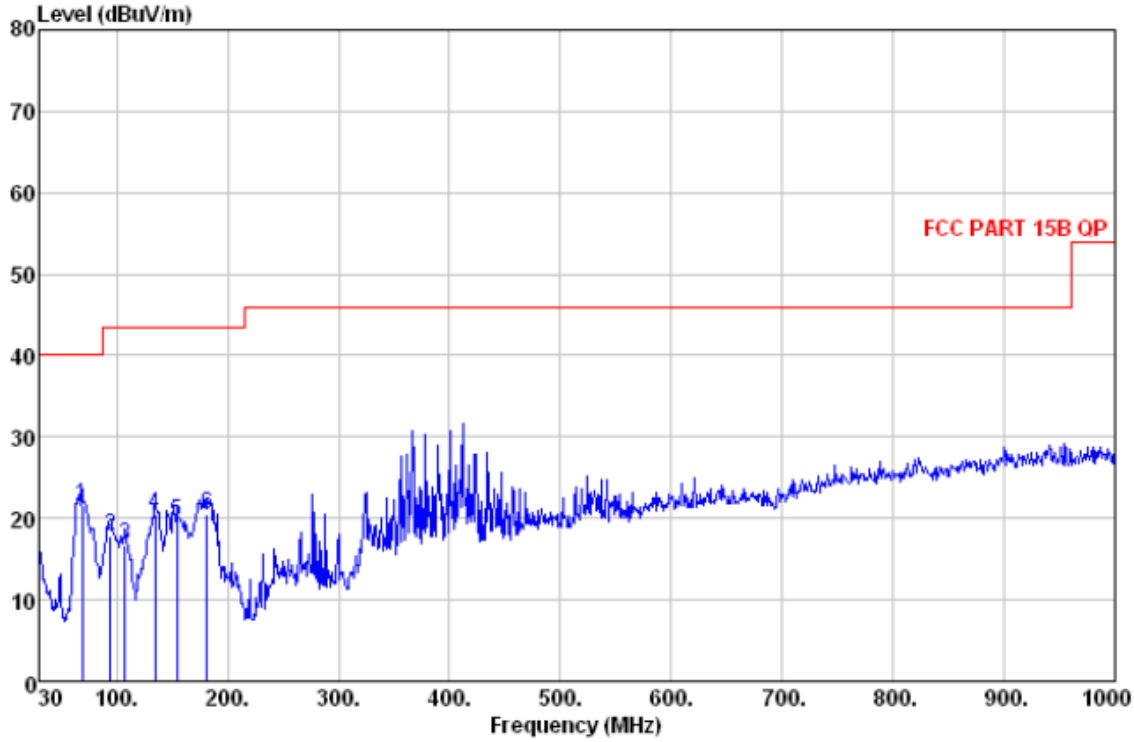
2.2.3 Measurement Data

Model: R-15PM

Horizontal:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	68.800	21.68	QP	6.98	0.97	40.00	-18.32	100	38
2	94.020	17.91	QP	8.36	1.13	43.50	-25.59	100	223
3	107.600	16.68	QP	8.50	1.22	43.50	-26.82	100	117
4	134.760	20.40	QP	7.40	1.38	43.50	-23.10	200	148
5	154.160	19.51	QP	7.52	1.48	43.50	-23.99	200	324
6	181.320	20.58	QP	8.30	1.62	43.50	-22.92	200	178

Level=Read Level + Antenna Factor + Cable Loss

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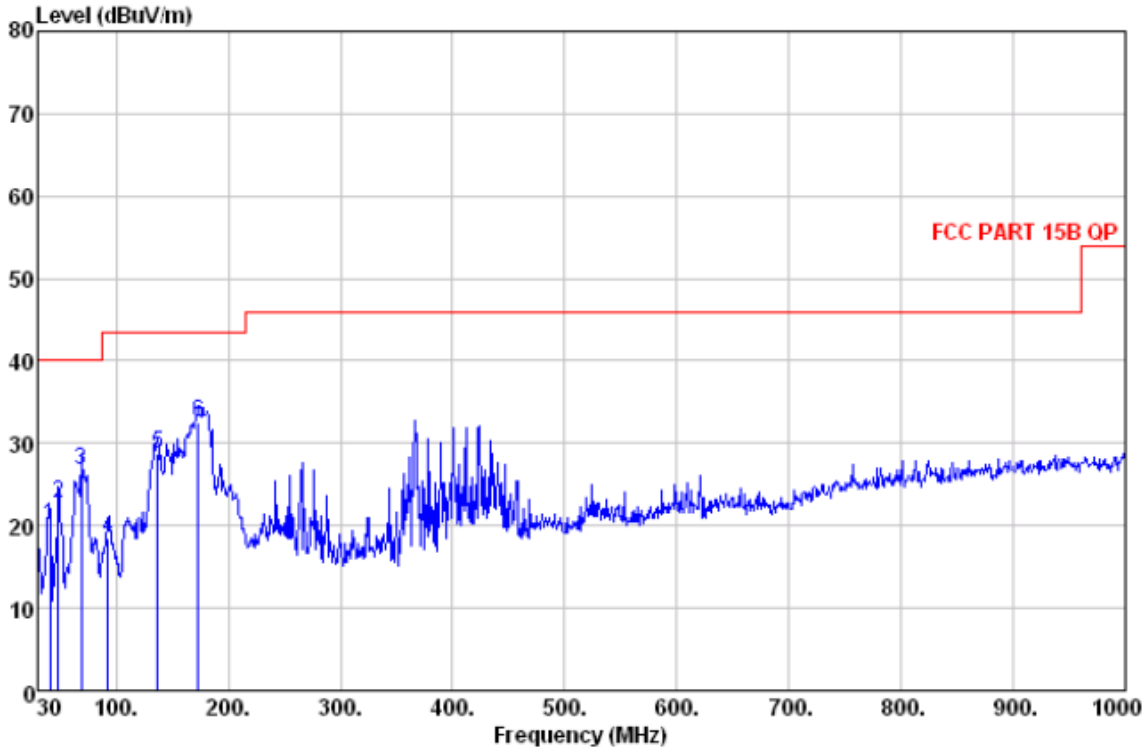
Vertical:

Peak scan

Level (dBμV/m)



Quasi-peak measurement

No.	Freq	Level	Remark	Antenna Factor	Cable Loss	Limit Line	Margin	A/pos	T/pos
	MHz	dBuV/m		dB/m	dB	dBuV/m	dB	cm	deg
1	40.670	20.14	QP	11.86	0.72	40.00	-19.86	100	114
2	48.430	22.82	QP	9.00	0.79	40.00	-17.18	100	253
3	68.800	26.82	QP	6.98	0.97	40.00	-13.18	100	257
4	93.050	18.53	QP	8.32	1.13	43.50	-24.97	200	235
5	136.700	28.73	QP	7.40	1.39	43.50	-14.77	200	286
6	173.560	32.55	QP	8.26	1.58	43.50	-10.95	200	214

Level=Read Level + Antenna Factor + Cable Loss

END OF THE TEST REPORT

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