



Report No.: ET-24122243E01

TEST REPORT

Applicant: DONGGUAN YI RUI ELECTRONIC TECHNOLOGY CO.,LTD

Address of Applicant: ROOM NO. 202, BUILDING 2, NO. 11, NIULING ROAD, CHANGPING TOWN, DONGGUAN CITY, GUANGDONG-523570

Manufacturer/Factory: DONGGUAN YI RUI ELECTRONIC TECHNOLOGY CO.,LTD

Address of Manufacturer/Factory: ROOM NO. 202, BUILDING 2, NO. 11, NIULING ROAD, CHANGPING TOWN, DONGGUAN CITY, GUANGDONG-523570

Product Name: Power Up 15W Wireless Charger

Model No.: ESC-PD25, WXC-16

Trade Mark: GEMBIRD

FCC ID: 2A6HU-ESCPD25

Applicable standards: FCC CFR Title 47 Part 15 Subpart C

Date of Test: Dec.31, 2024-Jan.13, 2025

Date of report issued: Jan.14, 2025

Test Result : PASS

Remark:

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

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full without prior written permission of the company.

The report would be invalid without specific stamp of test institute and the signatures of compiler and approver

Prepared By

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Report Revision History		
Report No.	Description	Issue Date
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1 Test Summary

Test Item	Section in CFR 47	Result	Test by
Antenna requirement	15.203	Pass	/
AC Power Line Conducted Emission	15.207	Pass	Carr Kang
Radiated Emission	15.209	Pass	Carr Kang
20dB Occupied Bandwidth	2.1049&15.215	Pass	Yvan Fan

Remarks:

1. Pass: The EUT complies with the essential requirements in the standard.
2. Test according to ANSI C63.10:2013

Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	30MHz-1000MHz	±4.30 dB	(1)
Radiated Emission	1GHz-18GHz	±4.35 dB	(1)
Radiated Emission	18GHz-40GHz	±4.59 dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	± 3.02 dB	(1)
Occupied Channel Bandwidth	/	±0.55%	(1)

Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

2 General Information

2.1 General Description of EUT

Product Name:	Power Up 15W Wireless Charger
Model No.:	ESC-PD25, WXC-16
Model of difference:	All the model are the same circuit and RF module, except the model names and appearance colors.
Test model:	ESC-PD25
Sample(s) Status:	Engineer sample
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	115~205KHz
Modulation type:	ASK
Antenna Type:	Induction coil Antenna
Power supply:	Input: DC 5V/9V/12V from adapter Output: wireless DC 5V/5/10/15W

Operation channel list

Channel	Frequency
00	147.2KHz
/	/
/	/

Test channel

Channel	Frequency
00	147.2 KHz
/	/
/	/

2.2 Test mode

Pretest mode	Description
Mode 1	Adapter+empty load
Mode 2	Adapter+half load
Mode 3	Adapter+full load
For conducted emission	
Final test mode	Adapter+full load
For Radiated emission	
Final test mode	Adapter+full load

2.3 Description of Support Units

Equipment	Model	S/N	Manufacturer
Adapter	MDY-11-EM	/	Xiaomi
Load	5W/7.5W/10W/15W Load	/	/

2.4 Deviation from Standards

None.

2.5 Abnormalities from Standard Conditions

None.

2.6 Test Facility

Test laboratory: Shenzhen ETR Standard Technology Co., Ltd.
 CNAS Registration Number: L11864
 A2LA Certificate Number: 6640.01
 FCC Designation Number: CN1326
 FCC Test Firm Registration: 183064

2.7 Test Location

All tests were performed at:

Laboratory location: No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
 Telephone: +86 755 85259392
 Fax: +86 755 27219460

2.8 Additional Instructions

Test Software	/
Power level setup	Default

3 Test Instruments list

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESC17	100605	2024.3.12	2025.3.11
2	EMI Test Receiver	Rohde&schwarz	ESC13	102696	2024.3.12	2025.3.11
3	Loop Antenna	schwarabeck	FMZB 1519 B	FMZB 1519 B	2024.3.22	2026.3.21
4	Broadband antenna	schwarabeck	VULB9168	1064	2024.3.22	2026.3.21
5	Horn antenna	schwarabeck	BBHA9120D	9120D-1145	2024.3.22	2026.3.21
6	amplifier	EMtrace	RP01A	50117	2024.3.12	2025.3.11
7	Artificial power network	schwarabeck	NSLK8127	8127483	2024.3.12	2025.3.11
8	Artificial power network	ETS	3186/2NM	1132	2024.3.12	2025.3.11
9	10dB attenuator	HUBER+SUHNER	10dB	/	2024.3.12	2025.3.11
10	amplifier	Space-Dtronics	EWLAN0118 G-P40	19113001	2024.3.12	2025.3.11
11	Filter	Xingbo	XBLBQ-GTA19	210410-3-1	2024.3.12	2025.3.11
12	Spectrum analyzer	KEYSIGHT	N9020A	MY55370280	2024.3.12	2025.3.11
13	Power detector box	MWRFTest	MW100-PSB	MW201020JYT	2024.3.12	2025.3.11

Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).

Software Name	Manufacturer	Model	Version
Conducted test software	EZ-EMC	Farad	Ver.EMC-CON 3A1.1
Radiated test software	EZ-EMC	Farad	Ver.FA-03A2 RE

4 Test results and Measurement Data

4.1 Antenna requirement

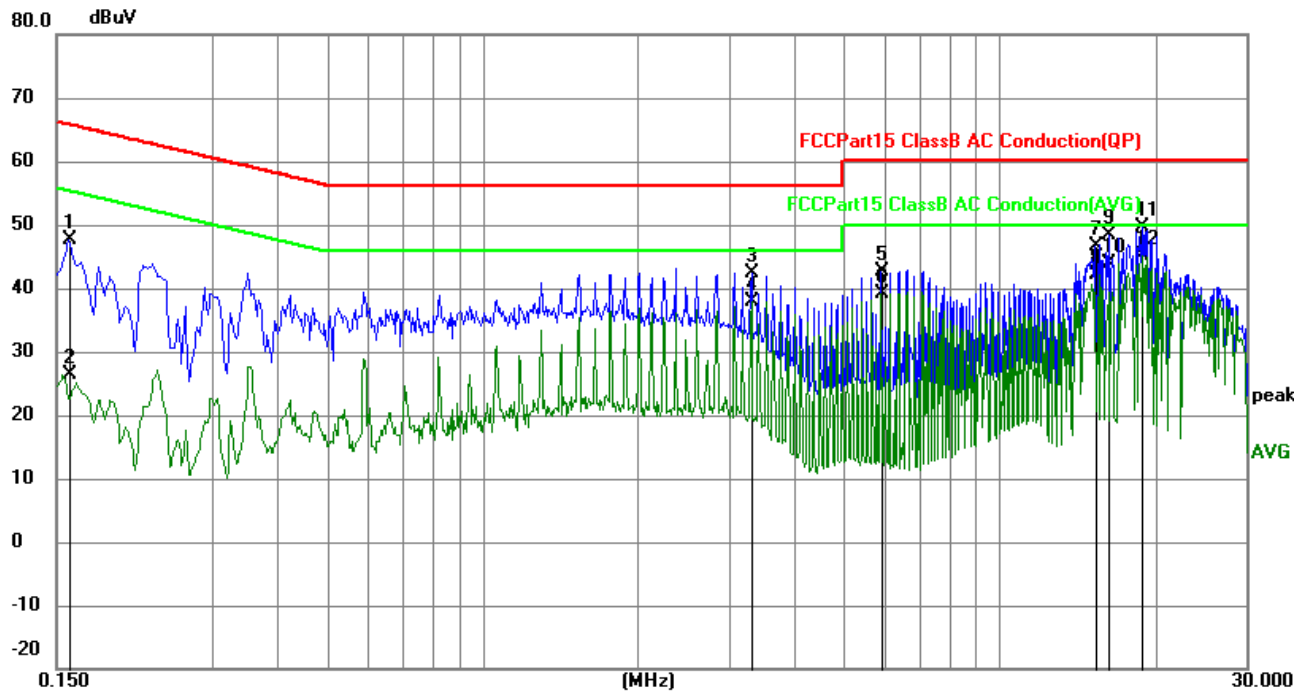
Standard requirement:
FCC part 15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.
EUT Antenna:
The EUT antenna is Coil Antenna. It comply with the standard requirement. In case of replacement of broken antenna the same antenna type must be used.

4.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207,					
Test Method:	ANSI C63.10:2013					
Test Frequency Range:	150KHz to 30MHz					
Class / Severity:	Class B					
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto					
Limit:	Frequency range (MHz)		Limit (dBuV)			
			Quasi-peak		Average	
	0.15-0.5		66 to 56*		56 to 46*	
	0.5-5		56		46	
	5-30		60		50	
* Decreases with the logarithm of the frequency.						
Test setup:	<div><div><div><div><div></div><div>Reference Plane</div></div><div><div></div><div>40cm</div></div></div><div><div><div>LISN</div><div><div>AUX Equipment</div><div>E.U.T</div></div><div>80cm</div><div>LISN</div></div><div><div>Test table/Insulation plane</div></div></div><div><div><div>Filter</div><div>AC power</div></div><div><div>EMI Receiver</div></div></div></div><div><div>Remark</div><div>E.U.T: Equipment Under Test</div><div>LISN: Line Impedance Stabilization Network</div><div>Test table height=0.8m</div></div></div>					
Test procedure:	<div><div>1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment.</div><div>2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).</div><div>3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10:2013 on conducted measurement.</div></div>					
Test Instruments:	Refer to section 3.0 for details					
Test mode:	Refer to section 2.2 for details					
Test environment:	Temp.:	23.8 °C	Humid.:	35%	Press.:	1012mbar
Test voltage:	DC 12V from adapter					

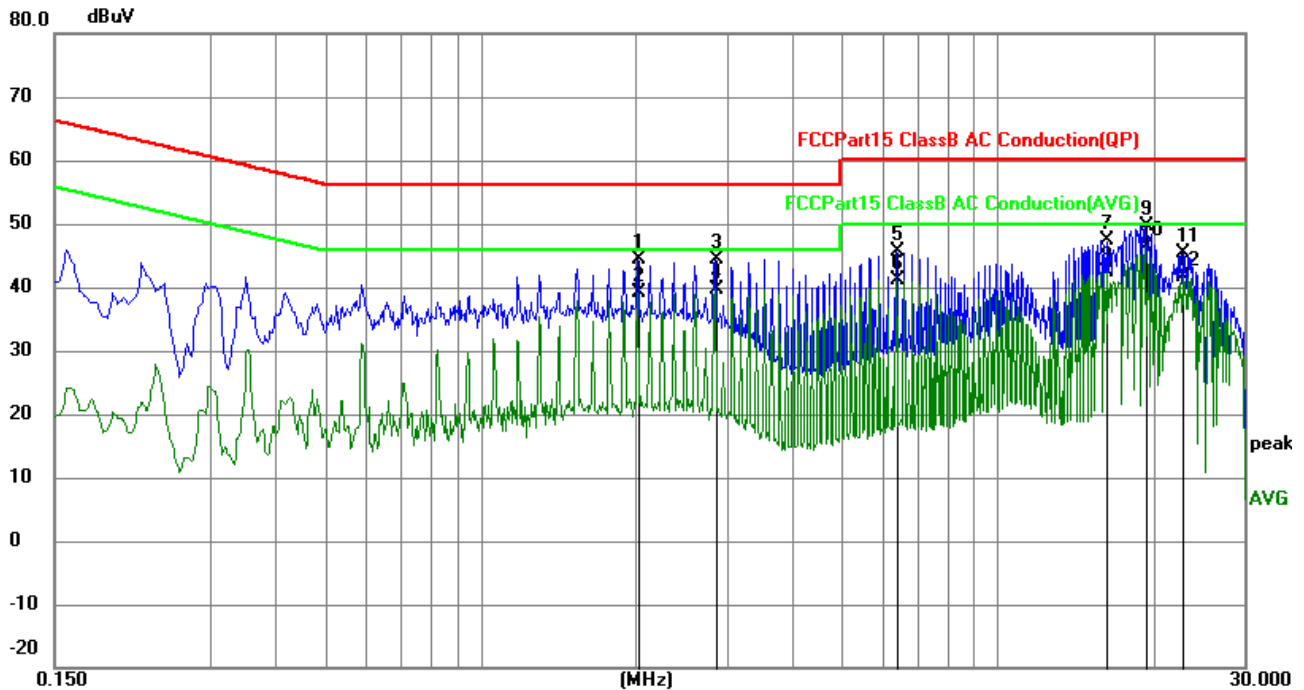
Measurement data

Line:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1590	37.78	9.80	47.58	65.52	-17.94	QP
2	0.1590	16.55	9.80	26.35	55.52	-29.17	AVG
3	3.3135	32.56	9.84	42.40	56.00	-13.60	QP
4	3.3135	28.07	9.84	37.91	46.00	-8.09	AVG
5	5.9055	32.79	9.83	42.62	60.00	-17.38	QP
6	5.9055	29.40	9.83	39.23	50.00	-10.77	AVG
7	15.3465	36.89	9.74	46.63	60.00	-13.37	QP
8	15.3465	32.31	9.74	42.05	50.00	-7.95	AVG
9	16.2509	38.70	9.74	48.44	60.00	-11.56	QP
10	16.2509	34.03	9.74	43.77	50.00	-6.23	AVG
11	18.8880	39.89	9.69	49.58	60.00	-10.42	QP
12	18.8880	35.52	9.69	45.21	50.00	-4.79	AVG

Neutral:

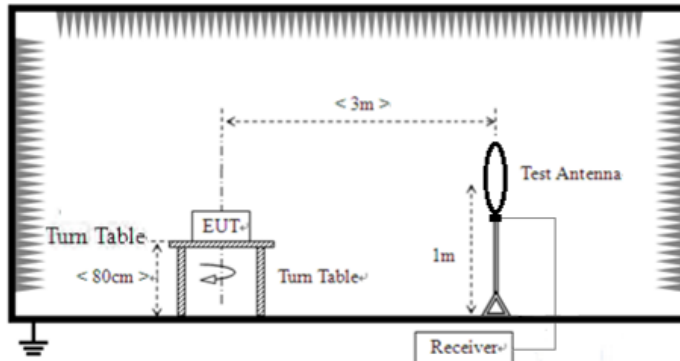
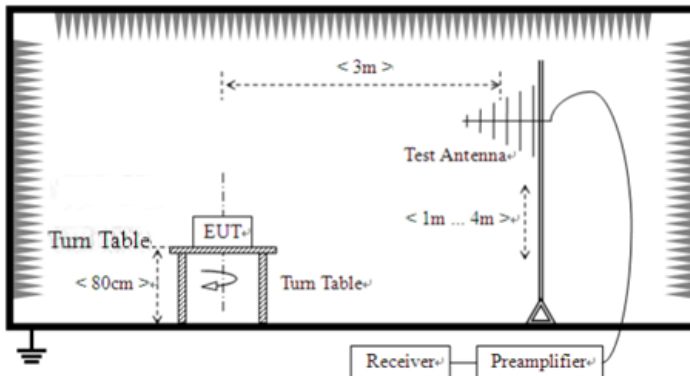


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	2.0130	34.58	9.85	44.43	56.00	-11.57	QP
2	2.0130	29.24	9.85	39.09	46.00	-6.91	AVG
3	2.8455	34.51	9.85	44.36	56.00	-11.64	QP
4	2.8455	29.85	9.85	39.70	46.00	-6.30	AVG
5	6.3825	35.79	9.83	45.62	60.00	-14.38	QP
6	6.3825	31.40	9.83	41.23	50.00	-8.77	AVG
7	16.3095	37.59	9.73	47.32	60.00	-12.68	QP
8	16.3095	32.57	9.73	42.30	50.00	-7.70	AVG
9	19.3830	40.02	9.68	49.70	60.00	-10.30	QP
10	19.3830	36.75	9.68	46.43	50.00	-3.57	AVG
11	22.8120	35.66	9.61	45.27	60.00	-14.73	QP
12	22.8120	31.97	9.61	41.58	50.00	-8.42	AVG

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss
4. If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

4.3 Radiated Emission measurement

Test Requirement:	FCC Part15 C Section 15.209 & 15.249 (a) &(d). RSS-210 B10(a)& RSS-210 B10(b)& RSS-Gen Clause 8.9&8.10				
Test Method:	ANSI C63.10: 2013 & RSS-Gen				
Test Frequency Range:	9kHz to 30MHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz-150kHz	Quasi-peak	200Hz	300Hz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	10kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
Limit:	Frequency	Limit (uV/m)		Remark	
	0.009MHz-0.490MHz	2400/F(kHz) @300m		Quasi-peak Value	
	0.490MHz-1.705MHz	24000/F(kHz) @30m		Quasi-peak Value	
	1.705MHz-30.0MHz	30 @30m		Quasi-peak Value	
	30MHz-88MHz	100 @3m		Quasi-peak Value	
	88MHz-216MHz	150 @3m		Quasi-peak Value	
	216MHz-960MHz	200 @3m		Quasi-peak Value	
	960MHz-1GHz	500 @3m		Quasi-peak Value	
Test setup:	<p>For radiated emissions from 9kHz to 30MHz</p>  <p>For radiated emissions from 30MHz to1GHz</p> 				
Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8m above the				

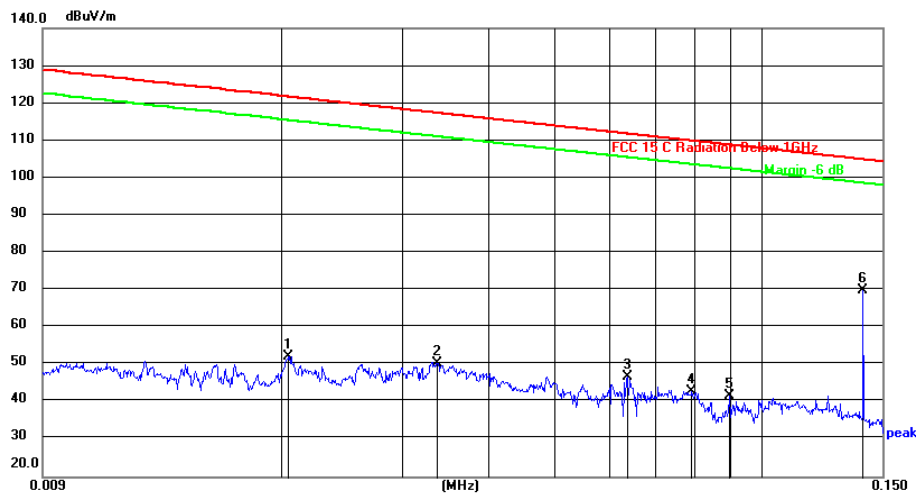
	<p>ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.</p> <ol style="list-style-type: none"> The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. 					
Test Instruments:	Refer to section 3.0 for details					
Test mode:	Refer to section 2.2 for details					
Test environment:	Temp.:	23.8 °C	Humid.:	40%	Press.:	1012mbar
Test voltage:	DC 12V from adapter					
Test results:	Pass					

■ Measurement data:

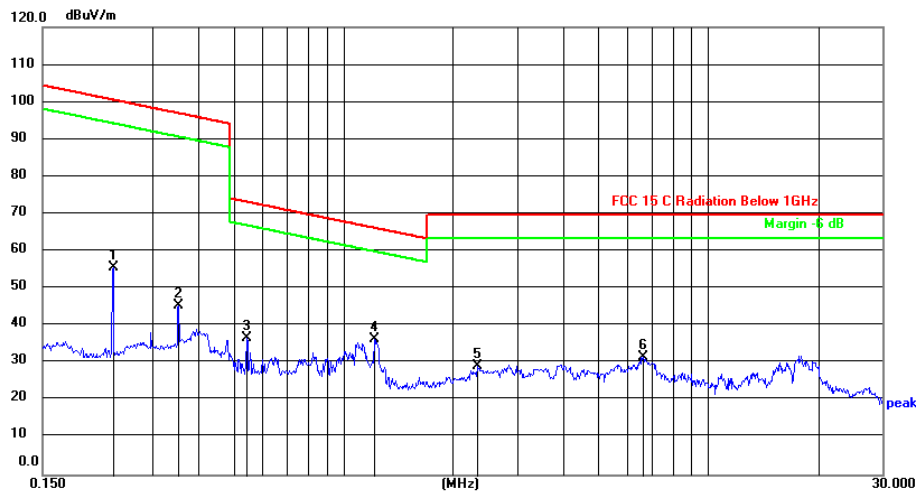
Note: Limit dBuV/m @3m = Limit dBuV/m @300m+ 80

Limit dBuV/m @3m = Limit dBuV/m @30m + 40

Below 30MHz



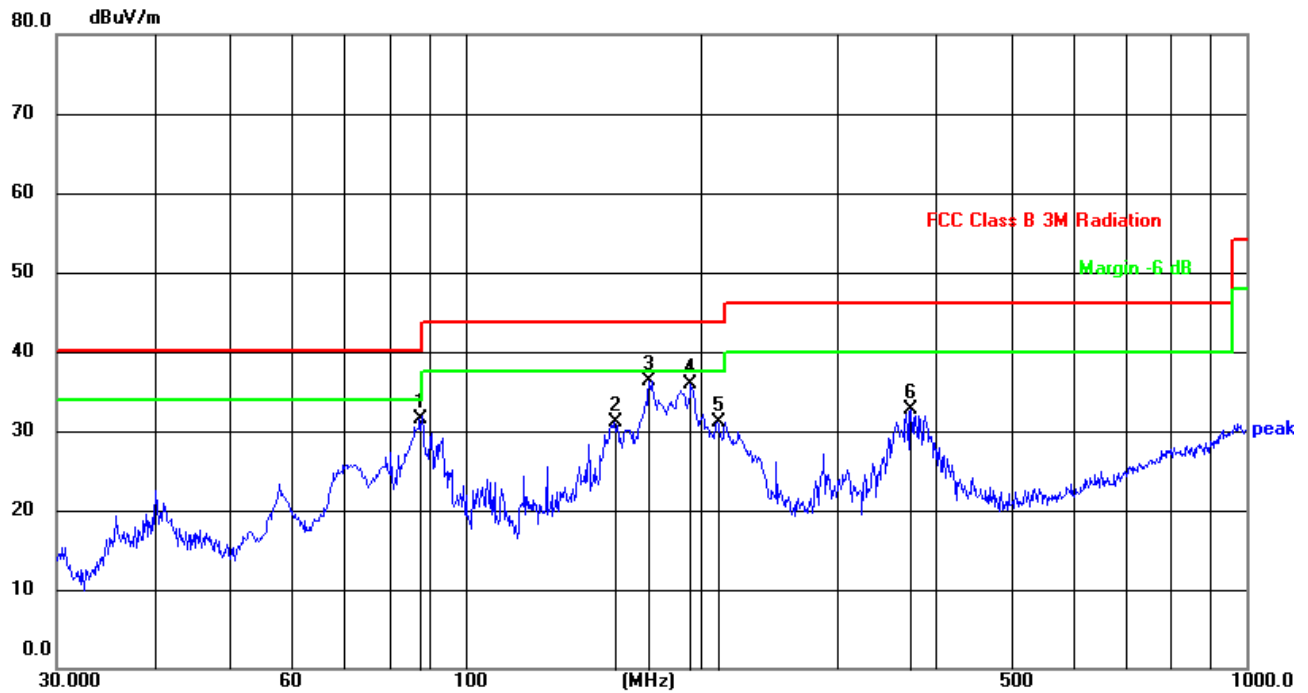
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0205	78.24	-25.88	52.36	121.37	-69.01	peak
2	0.0337	76.39	-25.88	50.51	117.05	-66.54	peak
3	0.0637	72.88	-25.88	47.00	111.52	-64.52	peak
4	0.0792	68.90	-25.88	43.02	109.63	-66.61	peak
5	0.0898	67.69	-25.87	41.82	108.54	-66.72	peak
6	0.1406	95.95	-25.92	70.03	104.64	-34.61	peak



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.2340	35.85	19.81	55.66	100.22	-44.56	peak
2	0.3537	25.59	19.77	45.36	96.63	-51.27	peak
3	0.5433	16.98	19.78	36.76	72.91	-36.15	peak
4	1.2157	16.10	20.21	36.31	65.93	-29.62	peak
5	2.3334	9.28	20.00	29.28	69.50	-40.22	peak
6	6.6271	11.21	20.51	31.72	69.50	-37.78	peak

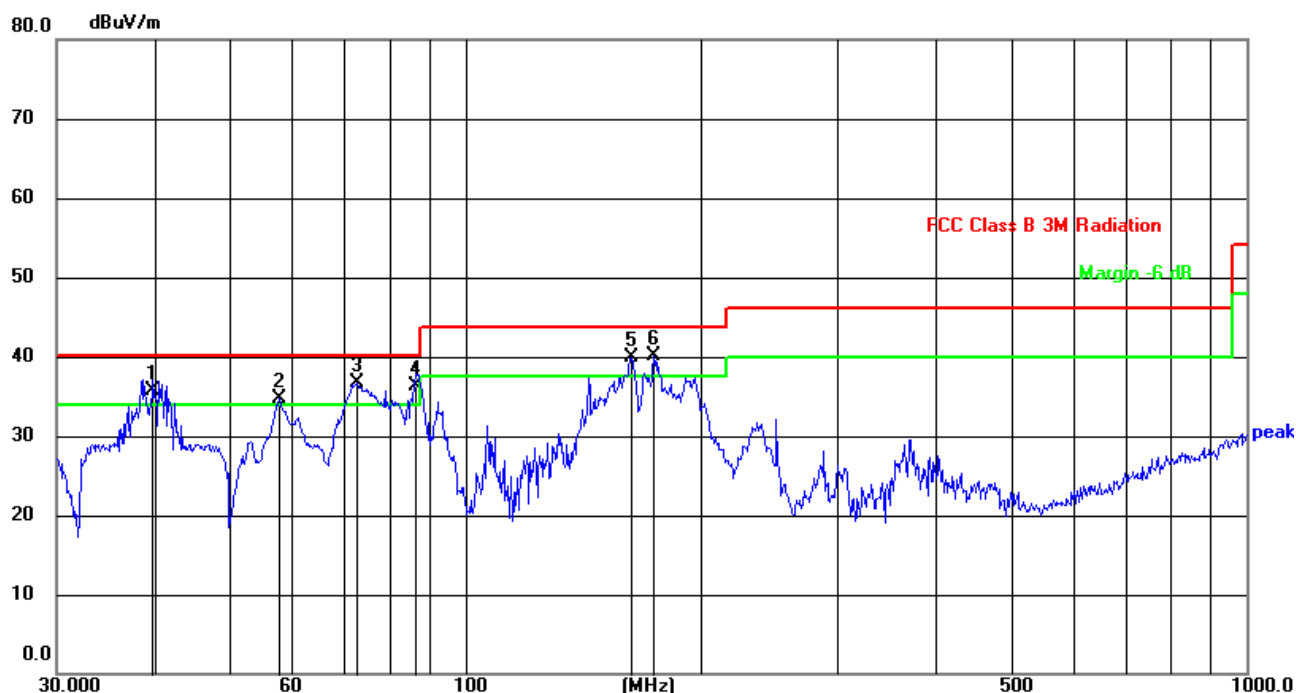
Below 1GHz

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	87.4177	57.16	-25.57	31.59	40.00	-8.41	QP
2	155.3644	51.59	-20.55	31.04	43.50	-12.46	QP
3	171.9946	57.63	-21.26	36.37	43.50	-7.13	QP
4	194.4534	59.13	-23.22	35.91	43.50	-7.59	QP
5	210.0482	54.66	-23.48	31.18	43.50	-12.32	QP
6	372.0045	50.93	-18.30	32.63	46.00	-13.37	QP

Vertical:

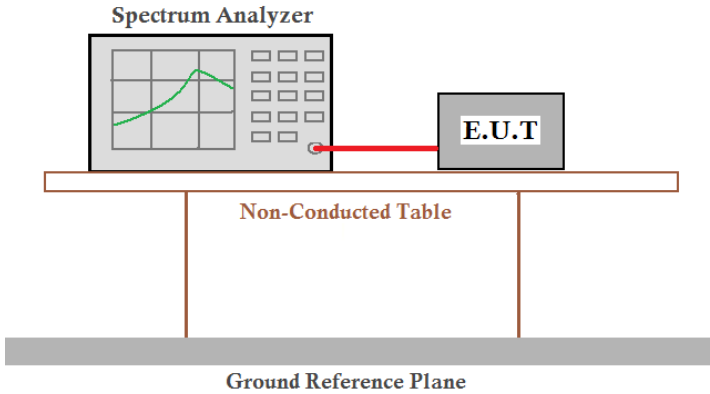


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	39.8542	56.66	-20.97	35.69	40.00	-4.31	QP
2	57.7962	57.02	-22.38	34.64	40.00	-5.36	QP
3	72.8466	61.44	-24.71	36.73	40.00	-3.27	QP
4	86.5027	61.89	-25.64	36.25	40.00	-3.75	QP
5	163.1817	60.53	-20.69	39.84	43.50	-3.66	QP
6	174.4240	61.65	-21.64	40.01	43.50	-3.49	QP

Remark:

1. Final Level = Receiver Read level + Correction Factor (Antenna Factor + Cable Loss - Preamplifier Factor)
2. The emission levels of other frequencies are more than 20 dB below the limit and not show in test report.
3. "*", means this data is the too weak instrument of signal is unable to test.

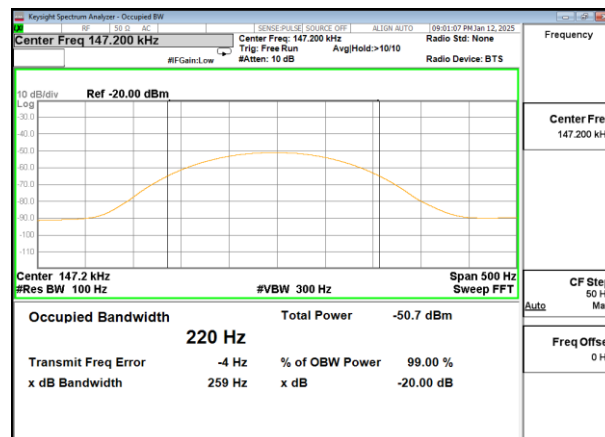
4.4 20dB Bandwidth

Test Requirement:	FCC Part15 C Section 15.215 RSS-Gen Section 6.7					
Test Method:	ANSI C63.10:2013 and RSS-Gen					
Limit:	Only appliance report					
Test setup:						
Test Instruments:	Refer to section 3.0 for details					
Test mode:	Refer to section 2.2 for details					
Test environment:	Temp.:	23.8 °C	Humid.:	40%	Press.:	1012mbar
Test voltage:	DC 12V from adapter					
Test Mode:	TX					

Measurement Data

Test frequency (KHz)	20dB Bandwidth (KHz)
147.2	0.259

Test plot as follows:



5 Test Setup Photo

Reference to the **appendix I** for details.

6 EUT Constructional Details

Reference to the **appendix II** for details.

-----End-----