



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, CHINA

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, CHINA

Product Name: Wireless charger

Model No.: WXC-5W-02

Trade Mark: N/A

FCC ID: 2A6HU-WXC5W02

Applicable standards: FCC CFR Title 47 Part 15 Subpart C

Date of Test: May.20,2022- May.28,2022

Date of report issued: Jun.06,2022

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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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	Qiao Li
Radiated Emission	15.209	Pass	Qiao Li
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:	Wireless charger
Model No.:	WXC-5W-02
Model of difference:	N/A
Test model:	WXC-5W-02
Sample(s) Status:	Engineer sample
Hardware Version:	V1.0
Software Version:	V1.0
Operation Frequency:	110~205KHz
Modulation type:	ASK
Antenna Type:	Induction coil Antenna
Power supply:	Input: DC 5V from adapter Output: wireless DC 5V/5W

Operation channel list

Channel	Frequency
00	142.1 KHz
/	/
/	/

Test channel

Channel	Frequency
00	142.1 KHz
/	/
/	/

2.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.		
	Test mode	Description	
	Mode 1	Charging +TX	

2.3 Description of Support Units

Equipment	Model	S/N	Manufacturer
Adapter	HW-050200CH0	/	HUAWEI
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	ESPI7	100605	2022.3.09	2023.3.08
2	EMI Test Receiver	Rohde&schwarz	ESCI3	102696	2022.3.09	2023.3.08
3	Broadband antenna	schwarabeck	VULB9168	1064	2022.3.11	2024.3.10
4	amplifier	EMtrace	RP01A	50117	2022.3.09	2023.3.08
5	Artificial power network	schwarabeck	NSLK8127	8127483	2022.3.09	2023.3.08
6	Artificial power network	ETS	3186/2NM	1132	2022.3.09	2023.3.08
7	10dB attenuator	HUBER+SUHNE R	10dB	/	2022.3.09	2023.3.08
8	Spectrum analyzer	KEYSIGHT	N9020A	MY55370280	2022.3.09	2023.3.08
9	loop antenna	schwarabeck	FMZB 1519 B	FMZB 1519 B	2022.3.11	2024.3.10

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

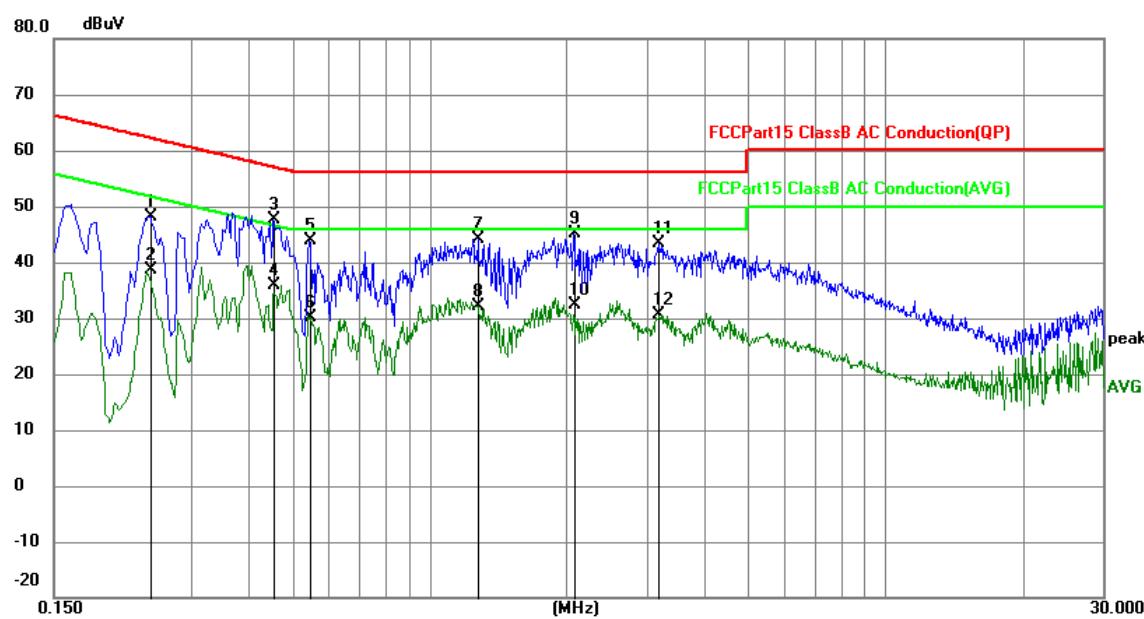
Standard requirement:
FCC part 15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional 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.
RSS-Gen 6.8: The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list. For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).
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

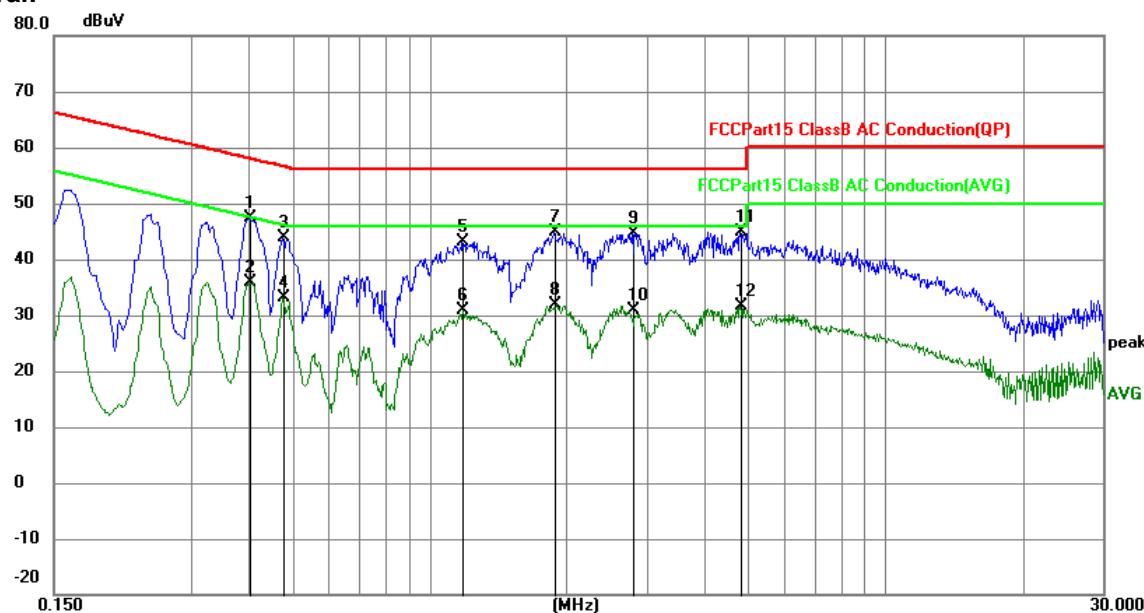
Test Requirement:	FCC Part15 C Section 15.207,																
Test Method:	ANSI C63.10:2013																
Test Frequency Range:	150KHz to 30MHz																
Class / Severity:	Class B																
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto																
Limit:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dBuV)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table>			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
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:	<p style="text-align: center;">Reference Plane</p> <p><i>Remark</i> <i>E.U.T: Equipment Under Test</i> <i>LISN: Line Impedance Stabilization Network</i> <i>Test table height=0.8m</i></p>																
Test procedure:	<ol style="list-style-type: none"> 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. 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). 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. 																
Test Instruments:	Refer to section 3.0 for details																
Test mode:	Refer to section 2.2 for details																
Test environment:	Temp.:	23.5 °C	Humid.:	55%	Press.:	1012mbar											
Test voltage:	AC 120V/60Hz																

Measurement data

Line:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.2445	35.67	12.43	48.10	61.94	-13.84	QP
2	0.2445	26.26	12.43	38.69	51.94	-13.25	AVG
3	0.4560	35.22	12.37	47.59	56.77	-9.18	QP
4	0.4560	23.54	12.37	35.91	46.77	-10.86	AVG
5	0.5460	31.60	12.35	43.95	56.00	-12.05	QP
6	0.5460	17.67	12.35	30.02	46.00	-15.98	AVG
7	1.2795	31.87	12.29	44.16	56.00	-11.84	QP
8	1.2795	19.84	12.29	32.13	46.00	-13.87	AVG
9	2.0760	32.91	12.30	45.21	56.00	-10.79	QP
10	2.0760	19.98	12.30	32.28	46.00	-13.72	AVG
11	3.1875	31.06	12.32	43.38	56.00	-12.62	QP
12	3.1875	18.30	12.32	30.62	46.00	-15.38	AVG

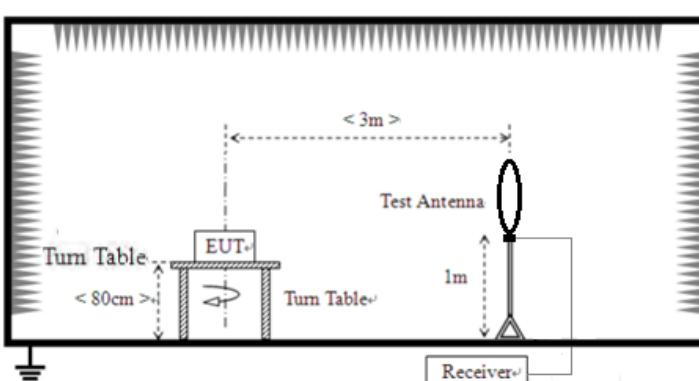
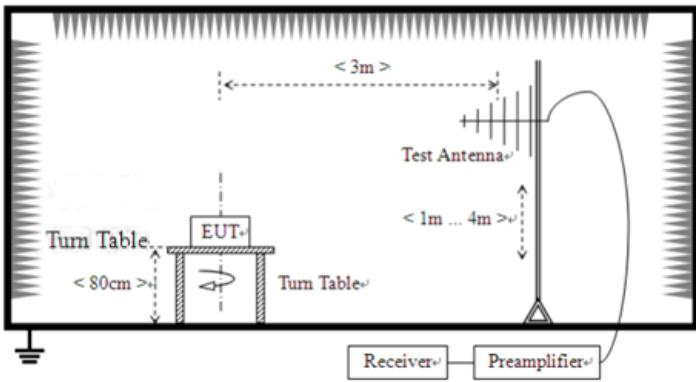
Neutral:

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.4020	34.98	12.38	47.36	57.81	-10.45	QP
2	0.4020	23.43	12.38	35.81	47.81	-12.00	AVG
3	0.4785	31.40	12.36	43.76	56.37	-12.61	QP
4	0.4785	20.70	12.36	33.06	46.37	-13.31	AVG
5	1.1805	30.90	12.29	43.19	56.00	-12.81	QP
6	1.1805	18.64	12.29	30.93	46.00	-15.07	AVG
7	1.8780	32.51	12.30	44.81	56.00	-11.19	QP
8	1.8780	19.53	12.30	31.83	46.00	-14.17	AVG
9	2.7869	32.41	12.31	44.72	56.00	-11.28	QP
10	2.7869	18.69	12.31	31.00	46.00	-15.00	AVG
11	4.8029	32.52	12.34	44.86	56.00	-11.14	QP
12	4.8029	19.41	12.34	31.75	46.00	-14.25	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								
Test Method:	ANSI C63.10: 2013								
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:	For radiated emissions from 9kHz to 30MHz								
									
	For radiated emissions from 30MHz to1GHz								
									
Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8m above the ground at a 3 meter camber. The table was rotated 360 degrees to								

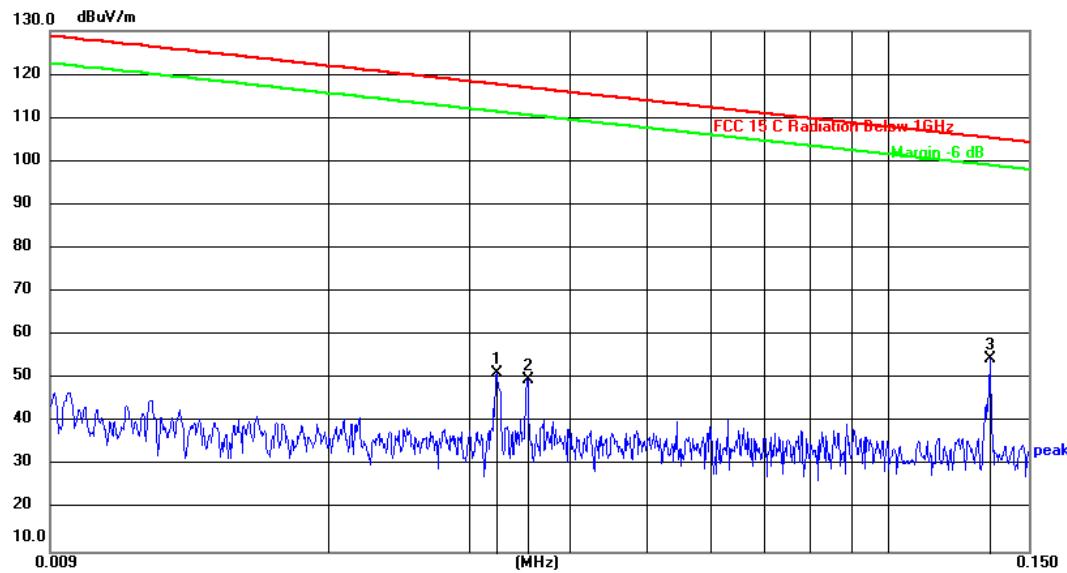
	<p>determine the position of the highest radiation.</p> <p>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</p> <p>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</p> <p>4. 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.</p> <p>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>6. 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.</p>
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test environment:	Temp.: 25.6 °C Humid.: 55% Press.: 1012mbar
Test voltage:	DC 5V
Test results:	Pass

■ Measurement data:

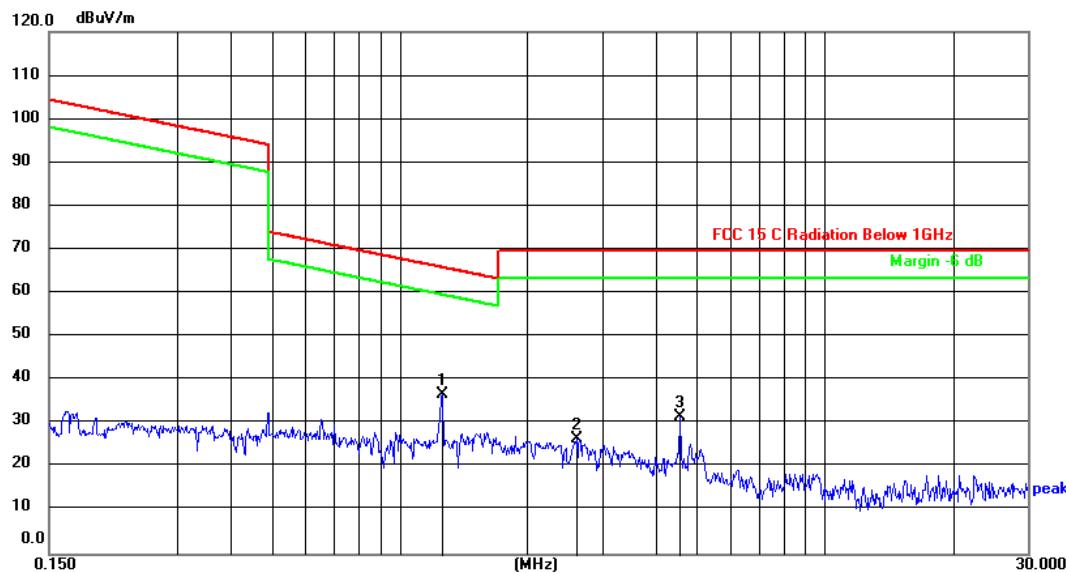
Note: Limit dBuV/m @3m = Limit dBuV/m @300m+ 80

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

Below 30MHz



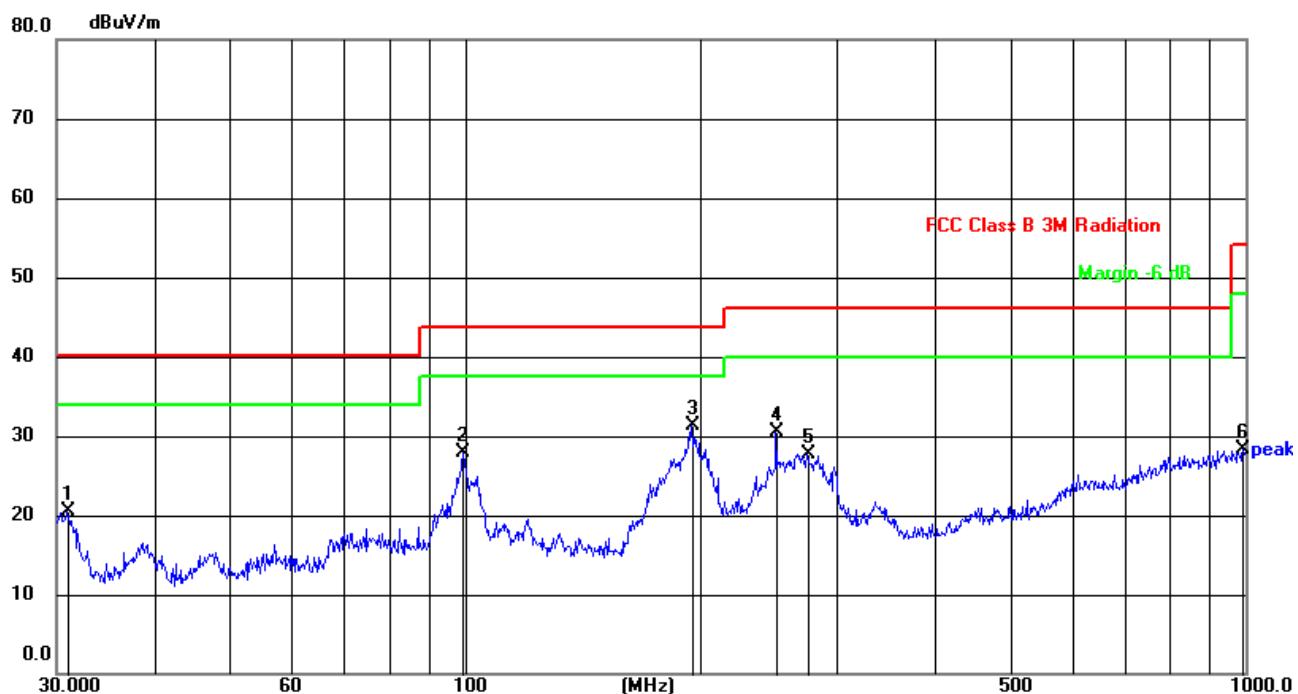
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0325	31.68	19.63	51.31	117.37	-66.06	peak
2	0.0355	30.20	19.65	49.85	116.60	-66.75	peak
3	0.1344	34.67	19.75	54.42	105.04	-50.62	peak



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	1.2620	16.44	20.20	36.64	65.61	-28.97	peak
2	2.6082	6.47	19.96	26.43	69.50	-43.07	peak
3	4.5734	11.55	20.22	31.77	69.50	-37.73	peak

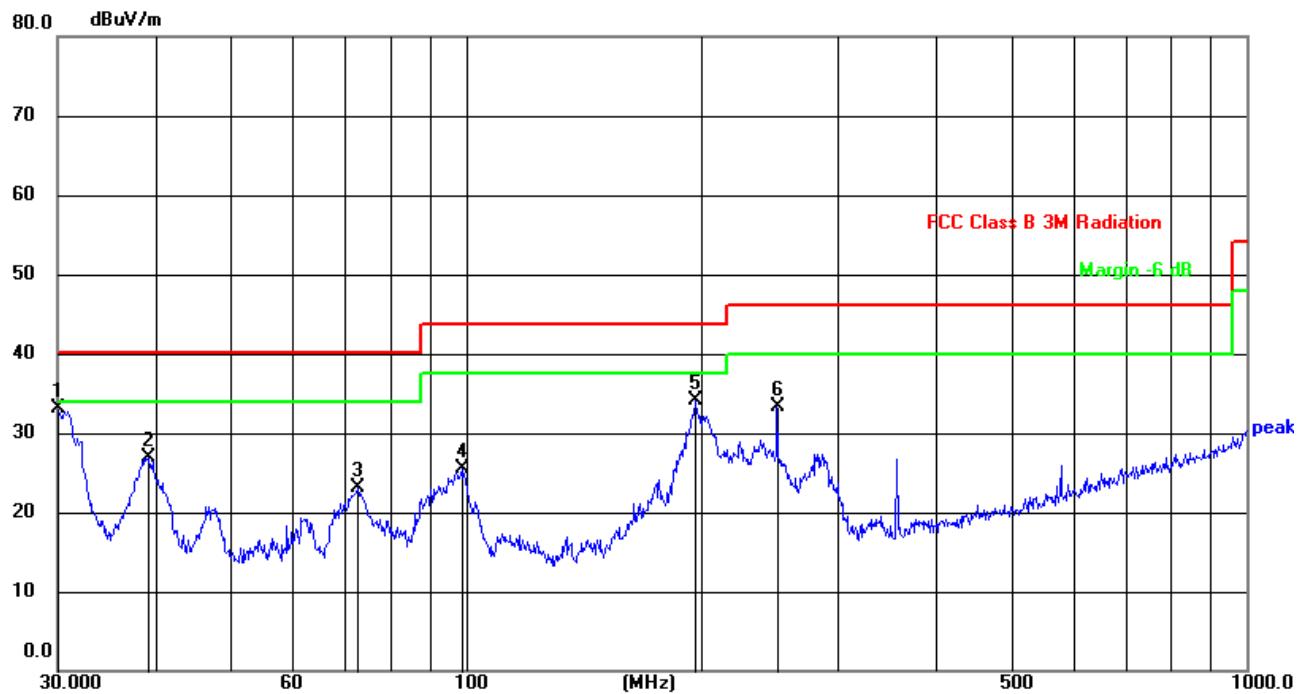
Below 1GHz

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	30.9619	41.98	-21.48	20.50	40.00	-19.50	QP
2	99.5281	47.90	-20.07	27.83	43.50	-15.67	QP
3	195.1365	49.49	-18.26	31.23	43.50	-12.27	QP
4	250.3012	48.66	-18.20	30.46	46.00	-15.54	QP
5	274.1939	46.02	-18.32	27.70	46.00	-18.30	QP
6	993.0114	33.75	-5.52	28.23	54.00	-25.77	QP

Vertical:

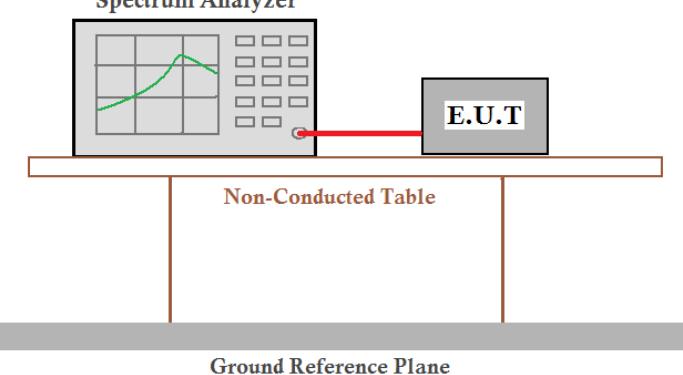


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	30.0000	54.54	-21.52	33.02	40.00	-6.98	QP
2	39.1616	47.54	-20.70	26.84	40.00	-13.16	QP
3	72.5916	43.52	-20.49	23.03	40.00	-16.97	QP
4	98.8326	45.42	-19.98	25.44	43.50	-18.06	QP
5	196.5098	52.79	-18.76	34.03	43.50	-9.47	QP
6	250.3012	51.54	-18.20	33.34	46.00	-12.66	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.

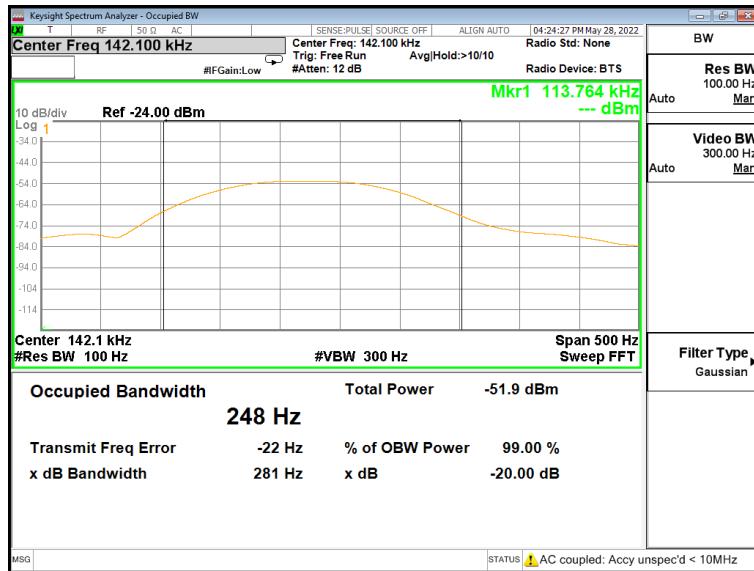
4.4 20dB Bandwidth

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:	<p style="text-align: center;">Spectrum Analyzer</p>  <p style="text-align: center;">Non-Conducted Table</p> <p style="text-align: center;">Ground Reference Plane</p>
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test environment:	Temp.: 25.6 °C Humid.: 55% Press.: 1012mbar
Test voltage:	DC 5V
Test Mode:	TX

Measurement Data

Test frequency (KHz)	20dB Bandwidth (KHz)
142.1	0.281

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-----