



# TEST REPORT

Applicant: Shenzhen Yujie Technology Co., Ltd.

Address of Applicant: 823, Jiaxiye Plaza, No. 318, Minzhi Avenue, Minzhi Street, Longhua District, Shenzhen

Manufacturer/Factory: Shenzhen Yujie Technology Co., Ltd.

Address of Manufacturer/Factory: 823, Jiaxiye Plaza, No. 318, Minzhi Avenue, Minzhi Street, Longhua District, Shenzhen

Product Name: Magnetic wireless power bank

Model No.: PO1

Trade Mark: N/A

FCC ID: 2A7WB-PO1

Applicable standards: FCC CFR Title 47 Part 15 Subpart C

Date of Test: Jul.13,2022- Jul.19,2022

Date of report issued: Aug.03,2022

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

Shenzhen ETR Standard Technology Co., Ltd.

Address: No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Compiled by:

Project Engineer

Reviewed by:

Project Manager

Approved by:

Authorized Signature

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	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	9KHz-30MHz	±3.98 dB	(1)
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:	Magnetic wireless power bank
Model No.:	PO1
Model of difference:	N/A
Test model:	PO1
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 from adapter Output: wireless 5W/7.5W

#### Operation channel list

Channel	Frequency
1	115 KHz
2	139.14 KHz
3	205KHz

#### Test channel

Channel	Frequency
2	139.14 KHz

## 2.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.	
	Test mode	Description
	Mode 1	DC5V Input +Wireless charging(7.5W)
Mode 2 We tested the above two modes, and only show the worst mode (mode1) data in the report.		

## 2.3 Description of Support Units

Equipment	Model	S/N	Manufacturer
Adapter	HW-050200CH0	/	HUAWEI
Load	iphone 13	/	Apple

## 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

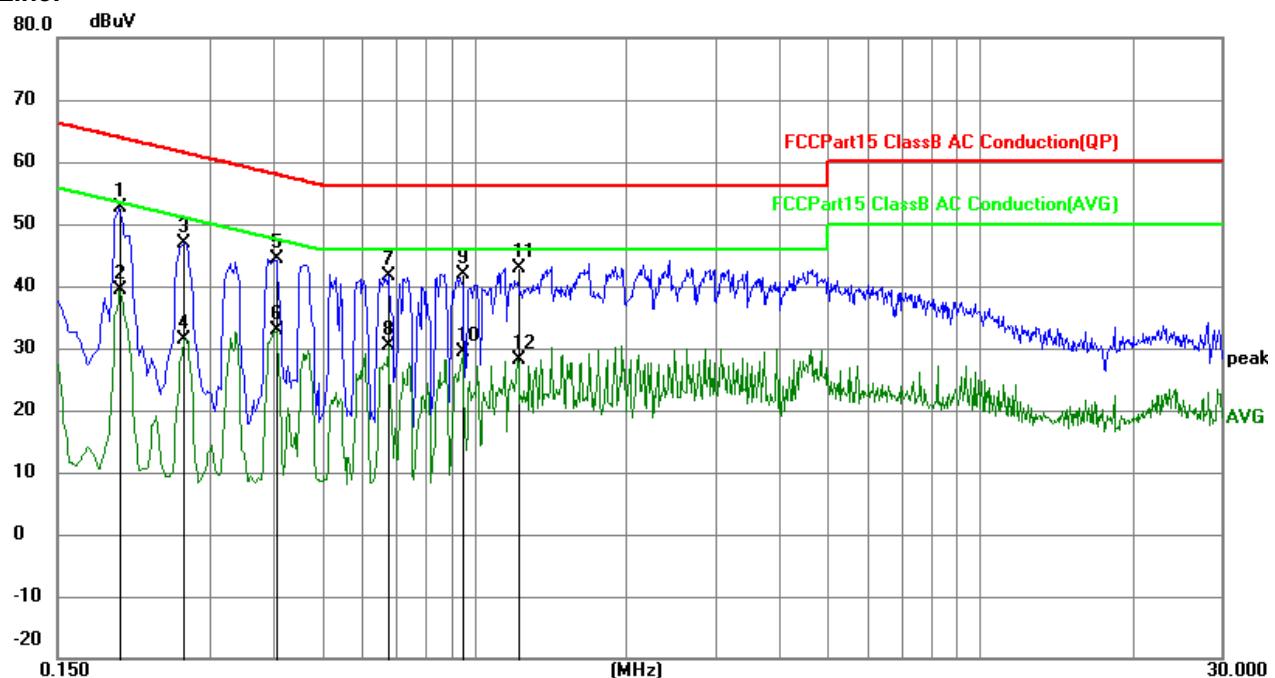
<b>Standard requirement:</b>
<b>FCC part 15.203 requirement:</b> <p>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling 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.</p>
<b>RSS-Gen 6.8:</b> <p>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.</p> <p>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).</p>
<b>EUT Antenna:</b>
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

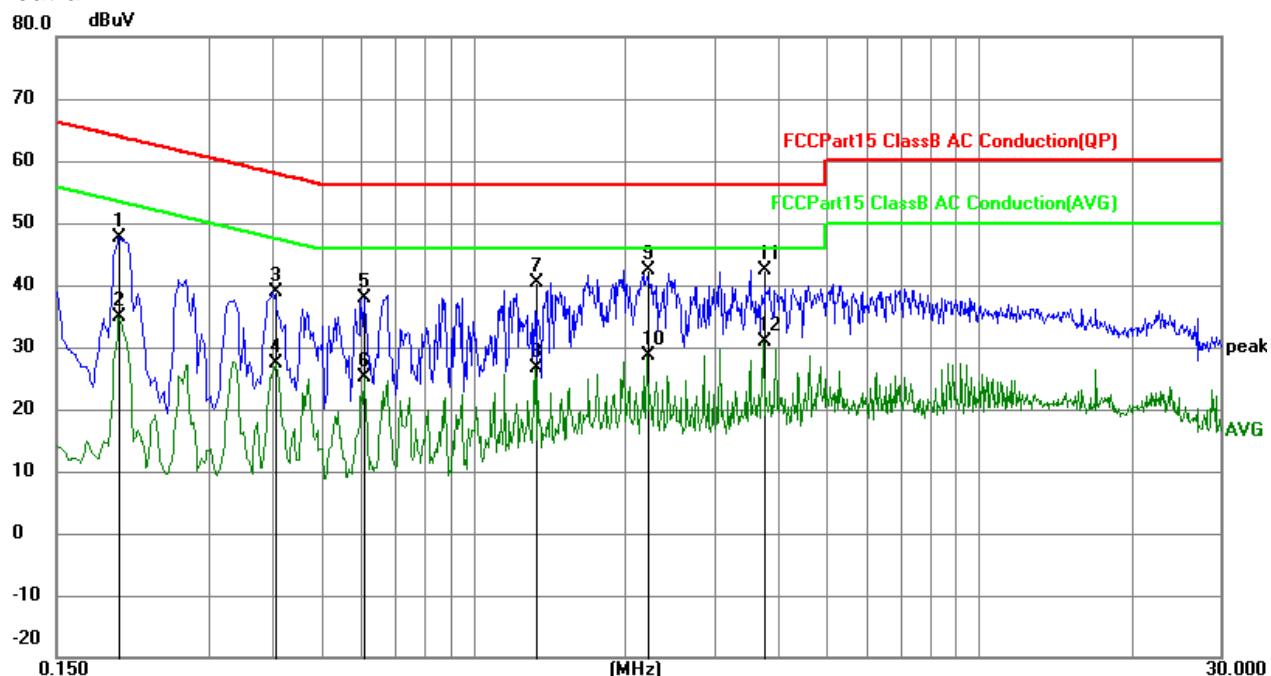
Test Requirement:	FCC Part15 C Section 15.207,																
Test Method:	ANSI C63.10:2013																
Test Frequency Range:	150KHz to 30MHz																
Class / Severity:	Class B																
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto																
Limit:	<table border="1"> <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;"><b>Reference Plane</b></p> <p><i>Remark</i> E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>																
Test procedure:	<ol style="list-style-type: none"> <li>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.</li> <li>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).</li> <li>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.</li> </ol>																
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.:	52%	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	0.1995	40.22	12.46	52.68	63.63	-10.95	QP
2	0.1995	26.84	12.46	39.30	53.63	-14.33	AVG
3	0.2670	34.57	12.41	46.98	61.21	-14.23	QP
4	0.2670	18.91	12.41	31.32	51.21	-19.89	AVG
5	0.4065	32.12	12.37	44.49	57.72	-13.23	QP
6	0.4065	20.53	12.37	32.90	47.72	-14.82	AVG
7	0.6765	29.31	12.34	41.65	56.00	-14.35	QP
8	0.6765	18.12	12.34	30.46	46.00	-15.54	AVG
9	0.9510	29.54	12.30	41.84	56.00	-14.16	QP
10	0.9510	17.03	12.30	29.33	46.00	-16.67	AVG
11	1.2210	30.50	12.29	42.79	56.00	-13.21	QP
12	1.2210	15.95	12.29	28.24	46.00	-17.76	AVG

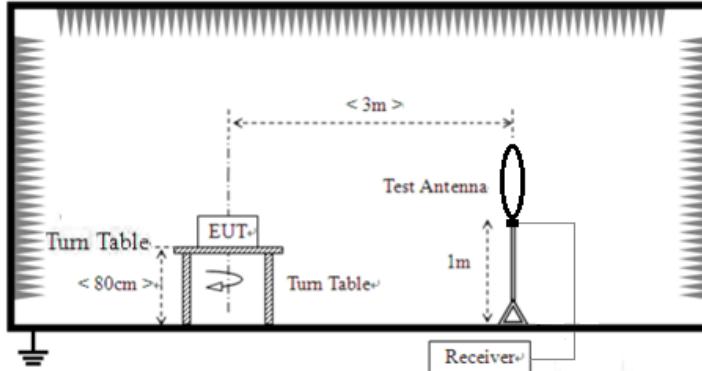
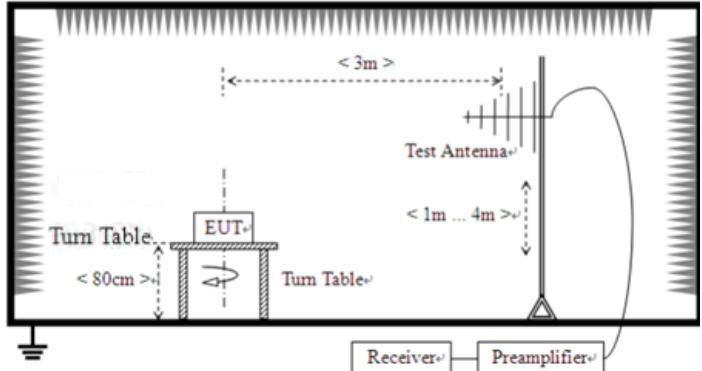
**Neutral:**

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1995	35.23	12.46	47.69	63.63	-15.94	QP
2	0.1995	22.31	12.46	34.77	53.63	-18.86	AVG
3	0.4065	26.43	12.37	38.80	57.72	-18.92	QP
4	0.4065	14.90	12.37	27.27	47.72	-20.45	AVG
5	0.6090	25.61	12.35	37.96	56.00	-18.04	QP
6	0.6090	12.74	12.35	25.09	46.00	-20.91	AVG
7	1.3245	28.12	12.29	40.41	56.00	-15.59	QP
8	1.3245	14.24	12.29	26.53	46.00	-19.47	AVG
9	2.2065	30.00	12.30	42.30	56.00	-13.70	QP
10	2.2065	16.38	12.30	28.68	46.00	-17.32	AVG
11	3.7500	30.09	12.32	42.41	56.00	-13.59	QP
12	3.7500	18.49	12.32	30.81	46.00	-15.19	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:	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Detector</th> <th>RBW</th> <th>VBW</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>9kHz-150kHz</td> <td>Quasi-peak</td> <td>200Hz</td> <td>300Hz</td> <td>Quasi-peak Value</td> </tr> <tr> <td>150kHz-30MHz</td> <td>Quasi-peak</td> <td>9kHz</td> <td>10kHz</td> <td>Quasi-peak Value</td> </tr> <tr> <td>30MHz-1GHz</td> <td>Quasi-peak</td> <td>120KHz</td> <td>300KHz</td> <td>Quasi-peak Value</td> </tr> </tbody> </table>					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				
Frequency	Detector	RBW	VBW	Remark																									
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30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value																									
Limit:	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Limit (uV/m)</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>0.009MHz-0.490MHz</td> <td>2400/F(kHz) @300m</td> <td>Quasi-peak Value</td> </tr> <tr> <td>0.490MHz-1.705MHz</td> <td>24000/F(kHz) @30m</td> <td>Quasi-peak Value</td> </tr> <tr> <td>1.705MHz-30.0MHz</td> <td>30 @30m</td> <td>Quasi-peak Value</td> </tr> <tr> <td>30MHz-88MHz</td> <td>100 @3m</td> <td>Quasi-peak Value</td> </tr> <tr> <td>88MHz-216MHz</td> <td>150 @3m</td> <td>Quasi-peak Value</td> </tr> <tr> <td>216MHz-960MHz</td> <td>200 @3m</td> <td>Quasi-peak Value</td> </tr> <tr> <td>960MHz-1GHz</td> <td>500 @3m</td> <td>Quasi-peak Value</td> </tr> </tbody> </table>					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
Frequency	Limit (uV/m)	Remark																											
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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 to 1GHz</p> 																												
Test Procedure:	<ol style="list-style-type: none"> <li>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</li> </ol>																												

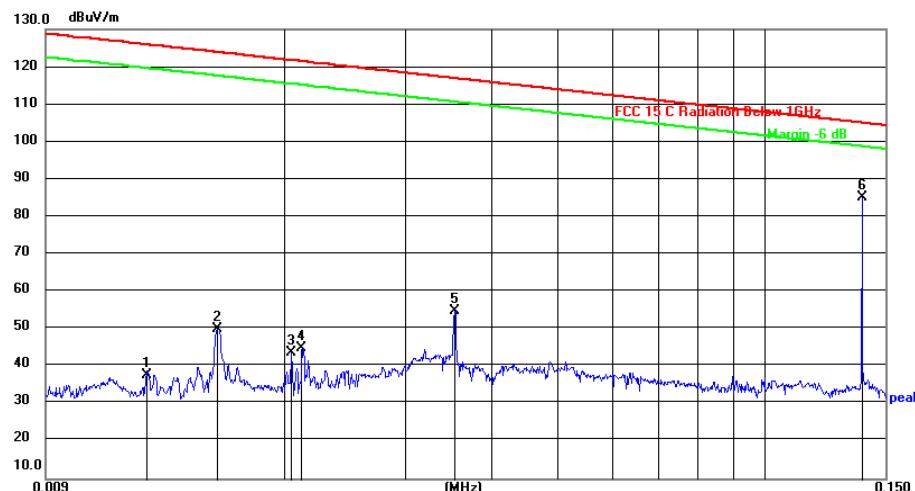
	<p>determine the position of the highest radiation.</p> <p>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</p> <p>3. The antenna height is varied from one meter to four meters above the ground to determine the 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.: 24.8 °C    Humid.: 57%    Press.: 1012mbar
Test voltage:	DC 5V
Test results:	Pass

**■ Measurement data:**

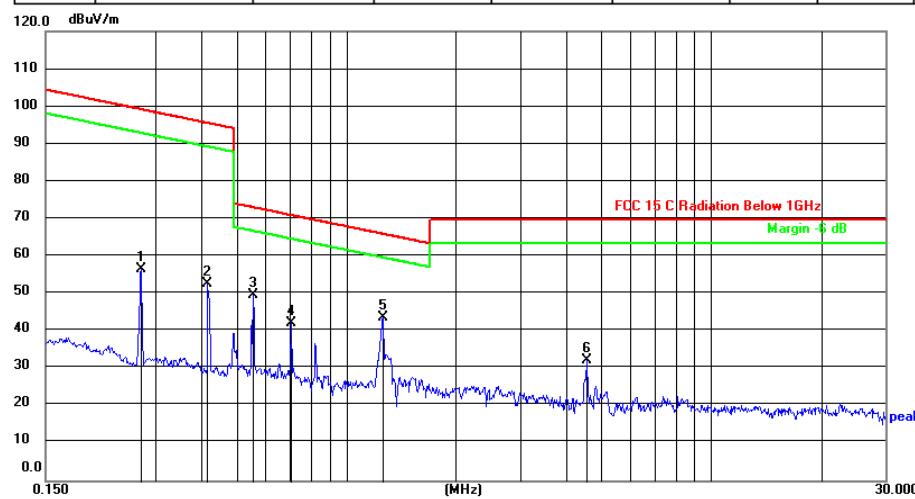
Note: Limit dBuV/m @3m = Limit dBuV/m @300m+ 80

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

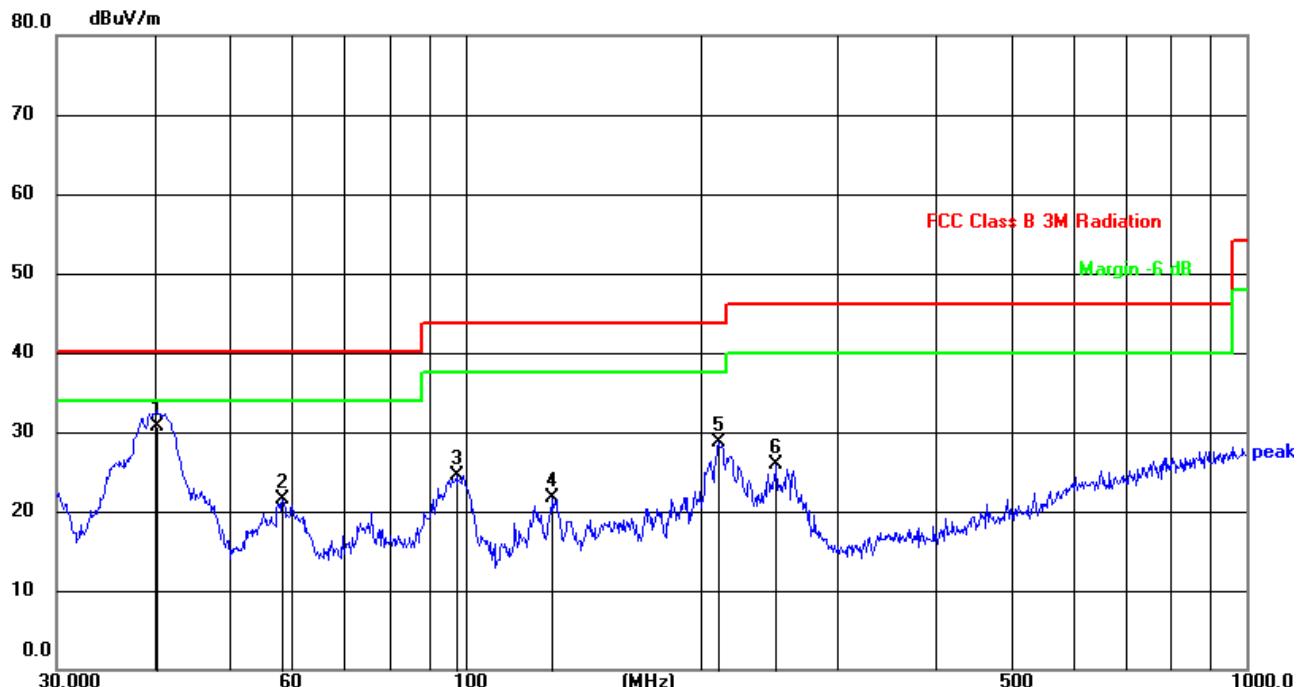
## Below 30MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0126	63.69	-25.88	37.81	125.60	-87.79	peak
2	0.0160	75.89	-25.88	50.01	123.52	-73.51	peak
3	0.0205	69.74	-25.88	43.86	121.37	-77.51	peak
4	0.0212	70.76	-25.88	44.88	121.08	-76.20	peak
5	0.0354	80.63	-25.88	54.75	116.62	-61.87	peak
6	0.1386	111.04	-25.92	85.12	104.77	-19.65	peak



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.2741	36.83	19.79	56.62	98.85	-42.23	peak
2	0.4168	32.78	19.76	52.54	95.21	-42.67	peak
3	0.5551	30.00	19.79	49.79	72.72	-22.93	peak
4	0.7084	22.30	19.95	42.25	70.61	-28.36	peak
5	1.2620	23.44	20.20	43.64	65.61	-21.97	peak
6	4.5494	12.11	20.22	32.33	69.50	-37.17	peak

**Below 1GHz****Horizontal:**

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	40.2756	51.38	-20.60	30.78	40.00	-9.22	QP
2	58.4074	42.32	-20.82	21.50	40.00	-18.50	QP
3	97.4559	44.55	-20.11	24.44	43.50	-19.06	QP
4	129.4677	40.57	-18.96	21.61	43.50	-21.89	QP
5	210.7860	47.15	-18.51	28.64	43.50	-14.86	QP
6	250.3009	44.19	-18.20	25.99	46.00	-20.01	QP

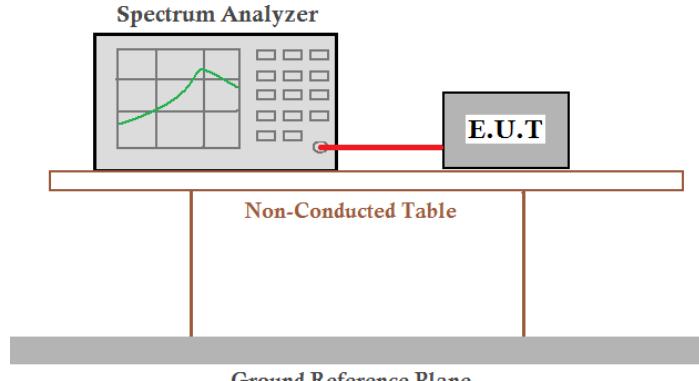
**Vertical:**

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	30.0000	50.77	-21.52	29.25	40.00	-10.75	QP
2	38.8877	53.03	-20.74	32.29	40.00	-7.71	QP
3	69.6003	47.36	-20.55	26.81	40.00	-13.19	QP
4	87.4175	48.56	-20.12	28.44	40.00	-11.56	QP
5	98.1418	50.57	-19.98	30.59	43.50	-12.91	QP
6	213.0149	46.26	-18.43	27.83	43.50	-15.67	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.

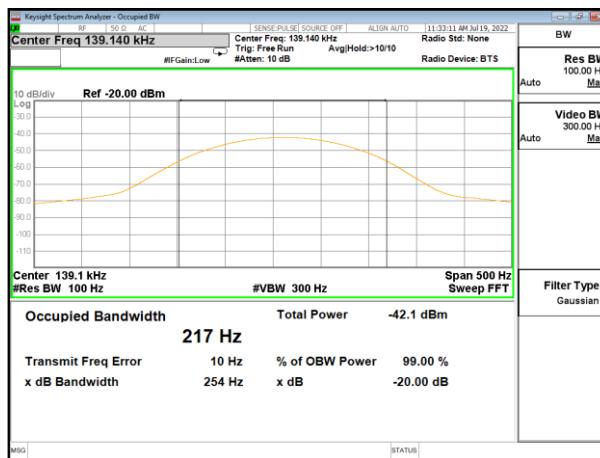
#### 4.4 20dB Bandwidth

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.:	24.8 °C	Humid.:	57%	Press.:	1012mbar
Test voltage:	DC 3.7V					
Test Mode:	TX					

#### Measurement Data

Test frequency (KHz)	20dB Bandwidth (KHz)
139.14	0.254

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-----