

TEST REPORT

Reference No...... : WTF20S12103018W001
FCC ID : 2AYBOBH-QPB50
Applicant..... : JVCKENWOOD USA Corporation
Address..... : 2201 E Dominguez St, Long Beach, California, United States
Manufacturer : Ningbo United Win Long Enterprises Co., Ltd
Address..... : Jiacun Industry Zone, Yinzhou District, Ningbo 315100, China
Product..... : WIRELESS POWER BANK
Model(s) : BH-QPB50
Standards : FCC PART 18, SUBPART C
Date of Receipt sample : 2020-12-29
Date of Test : 2020-12-29 to 2021-03-05
Date of Issue..... : 2021-03-08
Test Result..... : **Pass**

Remarks:

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:

Waltek Testing Group Co., Ltd.

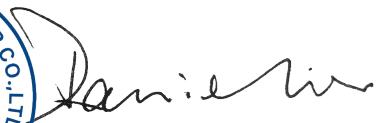
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3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTF20S12103 018W001	2020-12-29	2020-12-29 to 2021-03-05	2021-03-08	original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	WIRELESS POWER BANK
Model(s):	BH-QPB50
Model Description:	N/A
Frequency Range:	110~205kHz
Modulation Type:	ASK
Antenna Type:	Coil Antenna

4.2 Details of E.U.T.

Ratings:	Input: USB-C: 5V DC==3A Output: USB-C: 5V DC==3A USB-A: 5V DC==2.4A Wireless: 5W Battery:5000mAh
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4.3 Standards Applicable for Testing

The tests were performed according to following standards:

FCC PART 18, SUBPART C Industrial, Scientific, and medical medical equipment.

4.4 Subcontracted

Whether parts of tests for the product have been subcontracted to other labs:

Yes No

If Yes, list the related test items and lab information:

Test Lab: N/A

Lab address: N/A

Test items: N/A

4.5 Abnormalities from Standard Conditions

None.

4.6 Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

5 Test Summary

Test Items	Test Requirement	Test Result
Power Line Conducted Emission (150kHz to 30MHz)	FCC PART 18.307	Pass
Radiated Emission 9KHz to 30MHz)	FCC PART 18.305	Pass

Remark:

Pass Test item meets the requirement

Fail Test item does not meet the requirement

N/A Test case does not apply to the test object

6 Equipment Used during Test

6.1 Equipment List

Conducted Emissions Test Site 1#						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1.	EMI Test Receiver	R&S	ESCI	100947	2020-07-30	1Year
2.	LISN	R&S	ENV216	100115	2020-07-30	1Year
3.	Cable	Top	TYPE16(3.5M)	-	2020-07-30	1Year
3m Semi-anechoic Chamber for Radiation Emissions Test site 2#						
Item	Equipment	Manufacturer	Model No.	Serial No	Last Calibration Date	Calibration Due Date
1	Spectrum Analyzer	R&S	FSP30	100091	2020-04-20	1Year
2	Amplifier	Agilent	8447D	2944A10178	2020-08-26	1Year
4	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	2020-08-22	1Year
5	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	2020-04-20	1Year

6.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
Adapter	Shenzhen Yajingyuan Technology Co., Ltd	PA-B6S	N/A
Simulated load	/	/	/

6.3 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conduction Emission	150kHz~30MHz	±3.64dB	(1)
Radiation Emission	9kHz~30MHz	±5.03dB	(1)
Confidence interval: 95%. Confidence factor:k=2			

7 Emission Test Results

7.1 Power Line Conducted Emission, 150kHz to 30MHz

Test Requirement : FCC PART 18.307
 Test Method : FCC MP-5
 Test Result : Pass
 Frequency Range : 150kHz to 30MHz
 Class : Class B
 Limit :

Frequency (MHz)	Limit (dB μ V)	
	Quasi-peak	average
0.15 to 0.5	66 to 56*	56 to 46*
0.5 to 5	56	46
5 to 30	60	50

7.1.1 E.U.T. Operation

Operating Environment:

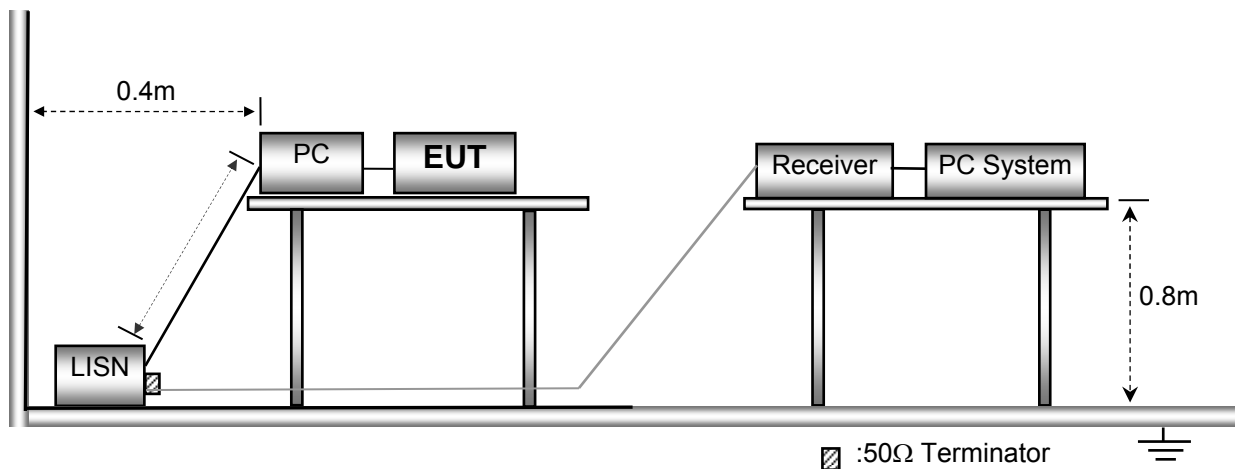
Temperature : 23°C
 Humidity : 53.6%RH
 Atmospheric Pressure : 101kPa

EUT Operation:

Input Voltage : AC 120V/60Hz by adapter
 Operating Mode : Wireless charging

7.1.2 Block Diagram of Test Setup

The Mains Terminals Disturbance Voltage tests were performed in accordance with FCC MP-5.

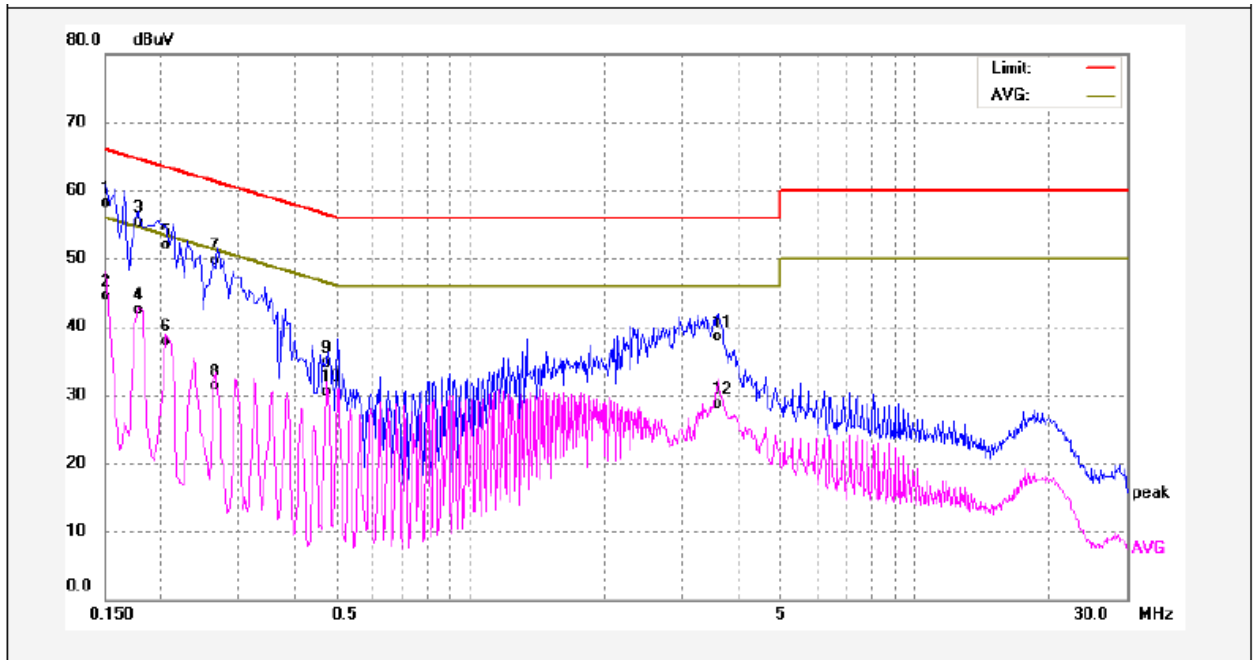


7.1.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line. According to the data in below section, the EUT complied with the FCC PART 18, SUBPART C standards.

7.1.4 Power Line Conducted Emission Test Data

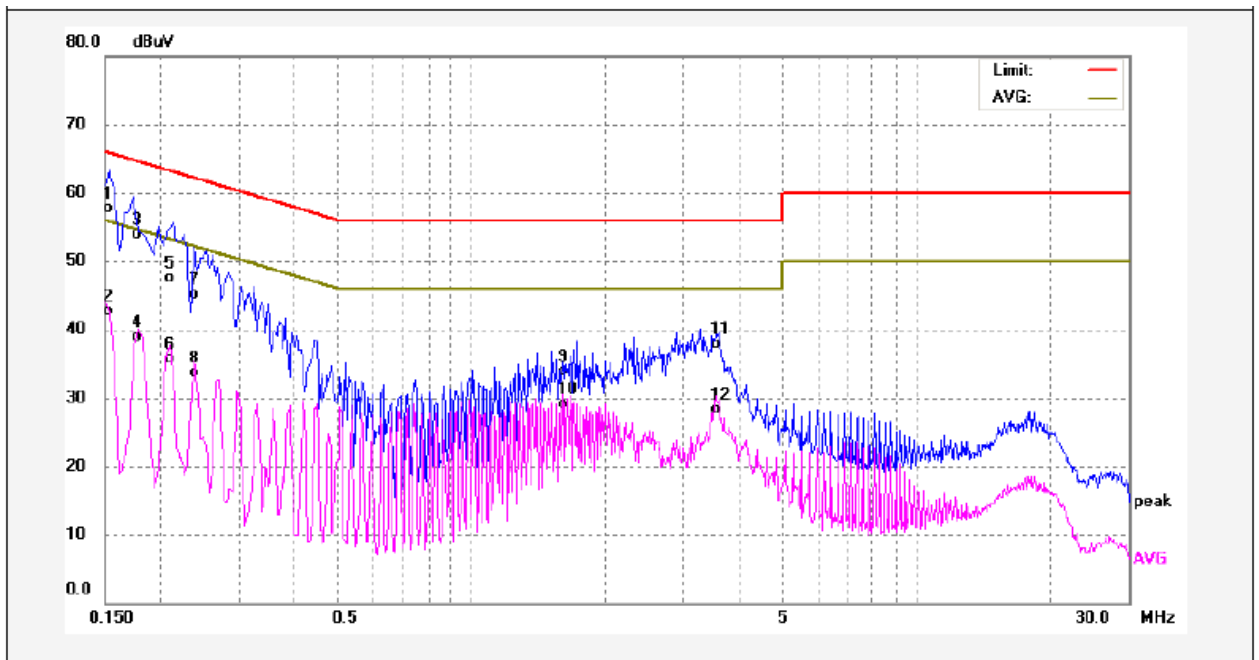
Wireless charging(worst mode):
Live Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1500	47.38	10.82	58.20	65.99	-7.79	QP	
2	0.1500	33.62	10.82	44.44	55.99	-11.55	AVG	
3	0.1780	44.61	10.74	55.35	64.57	-9.22	QP	
4	0.1780	31.83	10.74	42.57	54.57	-12.00	AVG	
5	0.2060	41.31	10.67	51.98	63.36	-11.38	QP	
6	0.2060	27.26	10.67	37.93	53.36	-15.43	AVG	
7	0.2660	39.13	10.64	49.77	61.24	-11.47	QP	
8	0.2660	20.68	10.64	31.32	51.24	-19.92	AVG	
9	0.4740	24.18	10.53	34.71	56.44	-21.73	QP	
10	0.4740	19.89	10.53	30.42	46.44	-16.02	AVG	
11	3.5900	27.77	10.73	38.50	56.00	-17.50	QP	
12	3.5900	17.92	10.73	28.65	46.00	-17.35	AVG	

Wireless charging(worst mode):

Neutral Line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1539	46.91	10.81	57.72	65.78	-8.06	QP	
2	0.1539	31.82	10.81	42.63	55.78	-13.15	AVG	
3	0.1749	43.09	10.75	53.84	64.72	-10.88	QP	
4	0.1749	28.13	10.75	38.88	54.72	-15.84	AVG	
5	0.2100	36.76	10.66	47.42	63.20	-15.78	QP	
6	0.2100	25.13	10.66	35.79	53.20	-17.41	AVG	
7	0.2380	34.48	10.65	45.13	62.16	-17.03	QP	
8	0.2380	22.97	10.65	33.62	52.16	-18.54	AVG	
9	1.6100	23.29	10.60	33.89	56.00	-22.11	QP	
10	1.6100	18.50	10.60	29.10	46.00	-16.90	AVG	
11	3.5380	27.09	10.73	37.82	56.00	-18.18	QP	
12	3.5380	17.67	10.73	28.40	46.00	-17.60	AVG	

7.2 Radiation Emission, 9KHz to 30MHz

Test Requirement : FCC PART 18.305
 Test Method : FCC MP-5
 Test Result : Pass
 Frequency Range : 9KHz to 30MHz
 Class : Class B
 Limit..... :

Frequency (MHz)	Distance (Meter)	Limit (dB μ V/m)
0.009 to 30	3	103.5

7.2.1 E.U.T. Operation

Operating Environment:

Temperature : 22.5°C
 Humidity : 52.6%RH
 Atmospheric Pressure : 101.2kPa

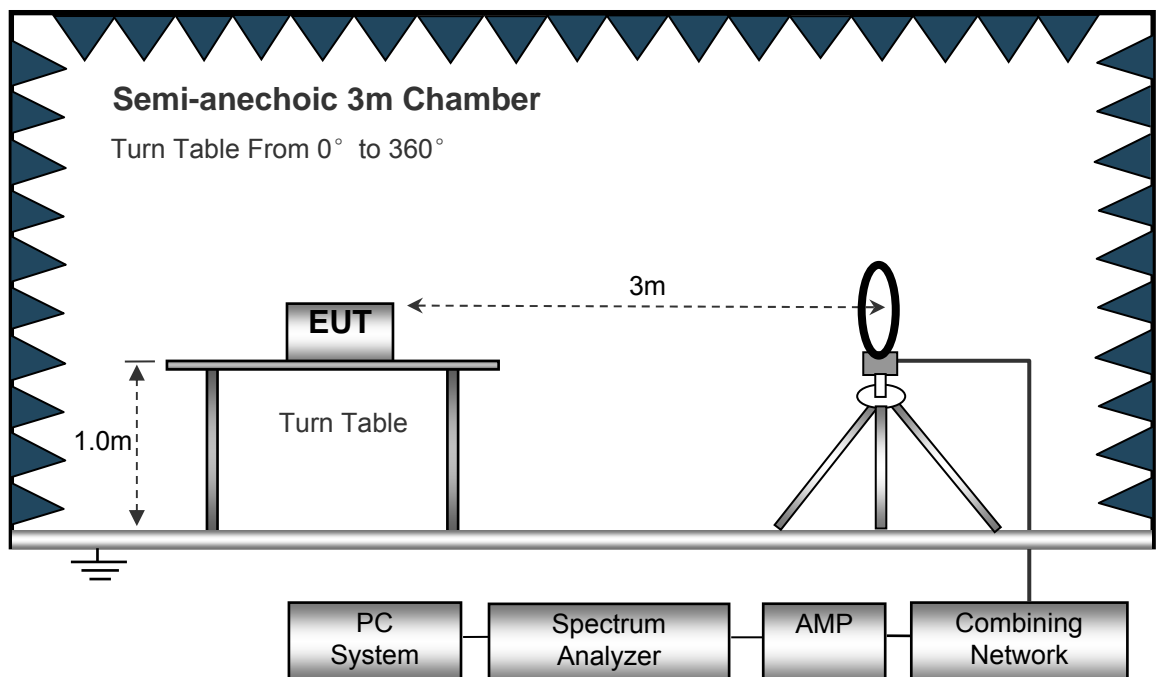
EUT Operation:

Input Voltage..... : N/A
 Operating Mode : Wireless charging

7.2.2 Block Diagram of Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the FCC MP-5.

The test setup for emission measurement below 30MHz.



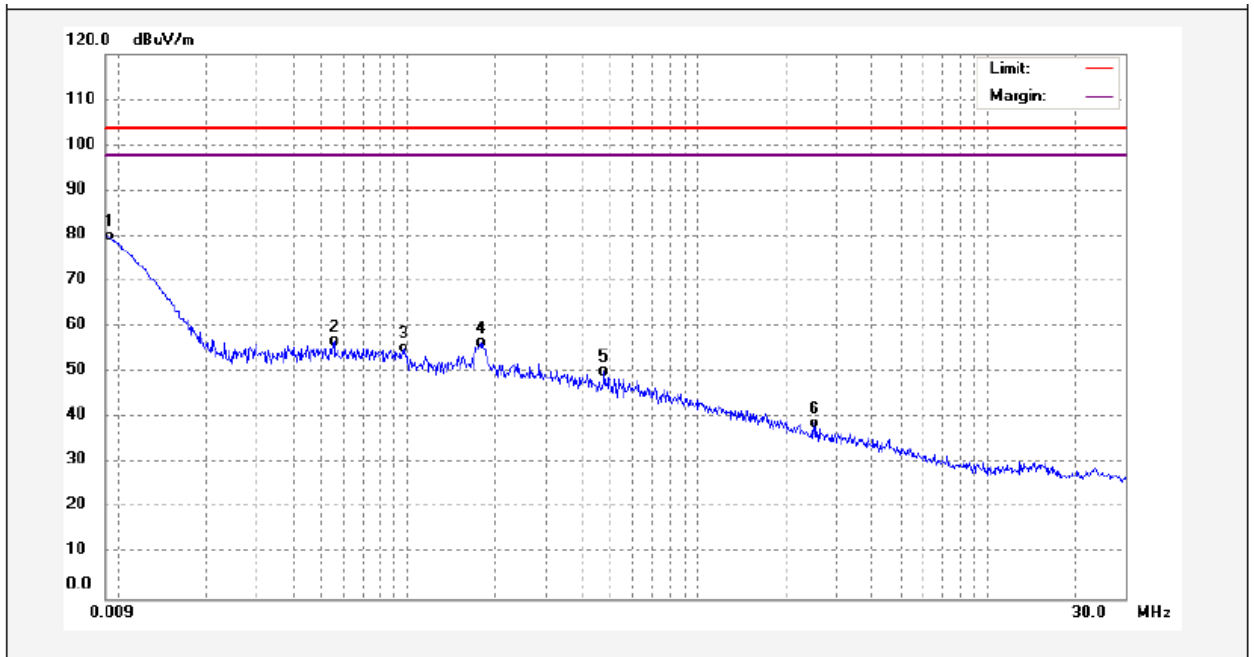
7.2.3 Measurement Data

The maximised peak emissions from the EUT was scanned and measured for both the Antenna Vertical Polarization and Antenna Horizontal Polarization. Quasi-peak measurements were performed if peak emissions were within 6dB of the Quasi-peak limit line.

7.2.4 Radiated Emission Test Data, 9KHz to 30MHz

Wireless charging(worst mode):

Antenna Polarization: Vertical



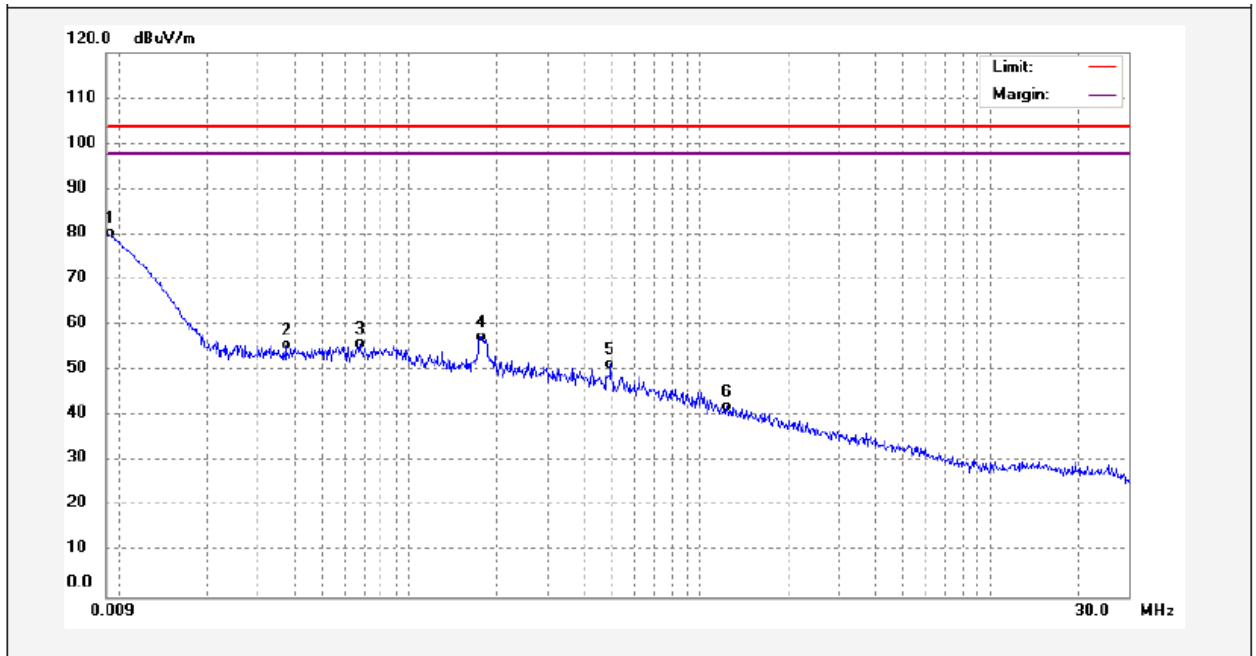
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	0.0092	64.58	15.37	79.95	103.50	-23.55	Peak	
2	0.0554	42.04	14.83	56.87	103.50	-46.63	Peak	
3	0.0961	40.76	14.64	55.40	103.50	-48.10	Peak	
4	0.1781	42.32	14.15	56.47	103.50	-47.03	Peak	
5	0.4753	36.72	13.44	50.16	103.50	-53.34	Peak	
6	2.5272	24.35	14.39	38.74	103.50	-64.76	Peak	

Factor= antenna factor + cable loss - preamplifier factor

Result = Reading + Factor

Wireless charging(worst mode):

Antenna Polarization: Horizontal



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	0.0090	64.98	15.39	80.37	103.50	-23.13	Peak	
2	0.0375	40.84	14.83	55.67	103.50	-47.83	Peak	
3	0.0673	41.00	14.82	55.82	103.50	-47.68	Peak	
4	0.1767	43.43	14.16	57.59	103.50	-45.91	Peak	
5	0.4909	37.95	13.43	51.38	103.50	-52.12	Peak	
6	1.2377	28.34	13.70	42.04	103.50	-61.46	Peak	

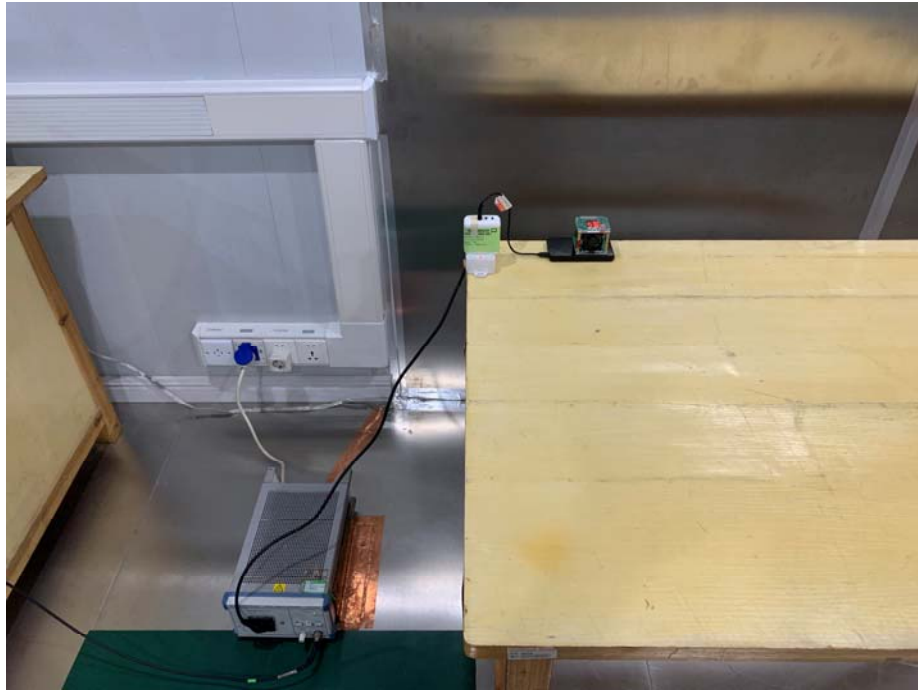
Factor= antenna factor + cable loss - preamplifier factor

Result = Reading + Factor

Note : Test with carry on X, Y, Z. The worst is Z.

8 Photographs – Test Setup FCC ID 2AYBOBH-QPB50

8.1 Photograph – Power Line Conducted Emission Test Setup at Test Site 1#



8.2 Photograph – Radiated Emission Test Setup for 9KHz~30MHz at Test Site 2#



====End of Report====