

FCC REPORT

Applicant: Shenzhen Amisir Digital Technology Co.,Ltd.

Address of Applicant: Floor 3,Block 1,Fuqiao 2nd Ind Park,Fuyong Town,Bao'an District,Shenzhen,China

Equipment Under Test (EUT)

Product Name: Wireless Charger

Model No.: WCPA4++,WCPA4+,WCPA4

Trade mark: Amisir

FCC ID: 2AGZT-WCPA4

Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.209

Date of sample receipt: 08 Dec., 2015

Date of Test: 09 Dec., 2015 to 06 Jan., 2016

Date of report issue: 07 Jan., 2016

Test Result: PASS*

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

Authorized Signature:



Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

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2 Version

Version No.	Date	Description
00	07 Jan., 2016	Original

Prepared By:

Carey Chen

Report Clerk

Date:

07 Jan., 2016

Check By:

Wimmer Zhang

Project Engineer

Date:

07 Jan., 2016

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4 Test Summary

Test Item	Section in CFR 47	Result
Spurious emissions	15.209	Pass
20dB Bandwidth	15.215(c)	Pass
Conducted Emission	15.207	Pass

Remarks:

Pass: The EUT complies with the essential requirements in the standard.

5 General Information

5.1 Client Information

Applicant:	Shenzhen Amisir Digital Technology Co.,Ltd.
Address of Applicant:	Floor 3,Block 1,Fuqiao 2nd IndPark,FuyongTown,Bao'anDistrict,Shenzhen,China
Manufacturer/Factory:	Shenzhen Amisir Digital Technology Co.,Ltd.
Address of Manufacturer/ Factory:	Floor 3,Block 1,Fuqiao 2nd IndPark,FuyongTown,Bao'anDistrict,Shenzhen,China

5.2 General Description of E.U.T.

Product Name:	Wireless Charger
Model No.:	WCPA4++,WCPA4+,WCPA4
Operation Frequency:	110kHz ~ 205kHz
Modulation type:	ASK
Antenna Type:	Coil Antenna
Power supply:	DC 5.0V
Remark:	Item No.: WCPA4++,WCPA4+,WCPA4 were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name and exterior colours.

5.3 Test mode

Transmitting mode:	Keep the EUT in transmitting mode with modulation
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5.4 Description of Support Units

Description	Model	INPUT	OUTPUT
AC adapter	SWITCHINGADAPTOR	100V-240V~50/60Hz 0.4A Max	5V 2000mA

5.5 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

● **FCC - Registration No.: 817957**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 817957, February 27, 2012.

● **IC - Registration No.: 10106A-1**

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

● **CNAS - Registration No.: CNAS L6048**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

5.6 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
Address: No.B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao'an District, Shenzhen, Guangdong, China
Tel: +86-755-23118282
Fax: +86-755-23116366

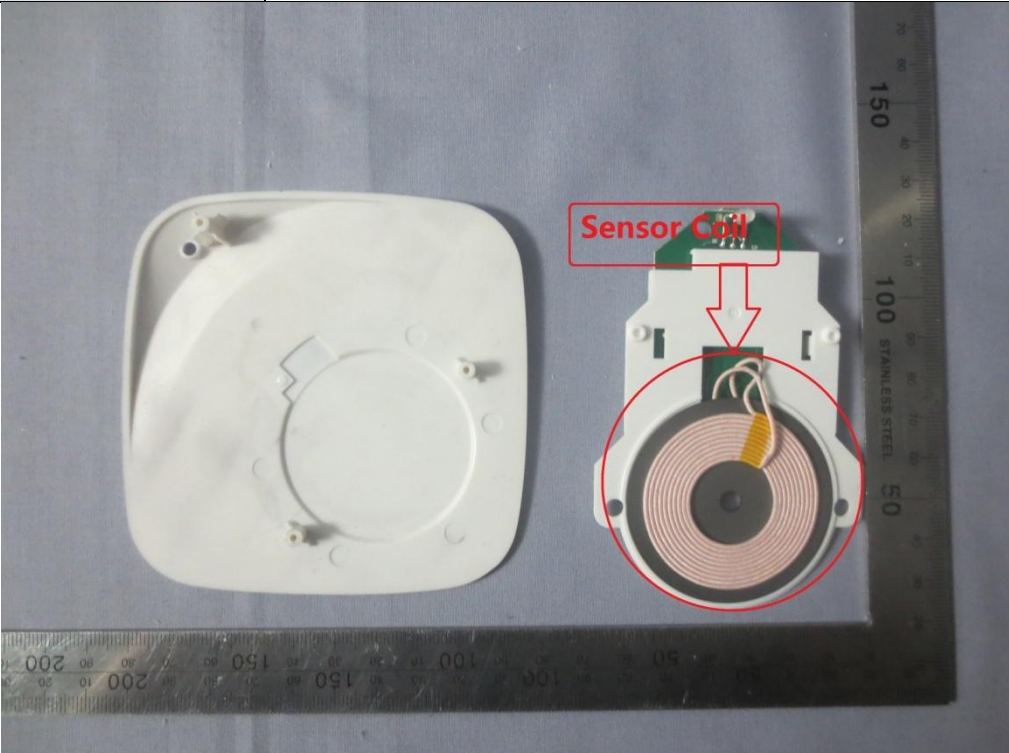
5.7 Test Instrumentslist

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
1	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	04-08-2015	04-08-2016
2	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	03-28-2015	03-28-2016
3	Amplifier (10kHz-1.3GHz)	HP	8447D	CCIS0003	04-01-2015	03-31-2016
4	Loop antenna	Laplace instrument	RF300	EMC0701	04-01-2015	03-31-2016

Conducted Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Date (mm-dd-yy)
1	Shielding Room	ZhongShuo Electron	11.0(L)x4.0(W)x3.0(H)	CCIS0061	06-09-2015	06-08-2016
2	EMI Test Receiver	Rohde & Schwarz	ESCI	CCIS0002	03-28-2015	03-28-2016
3	LISN	CHASE	MN2050D	CCIS0074	03-28-2015	03-28-2016
4	EMI Test Software	AUDIX	E3	N/A	N/A	N/A

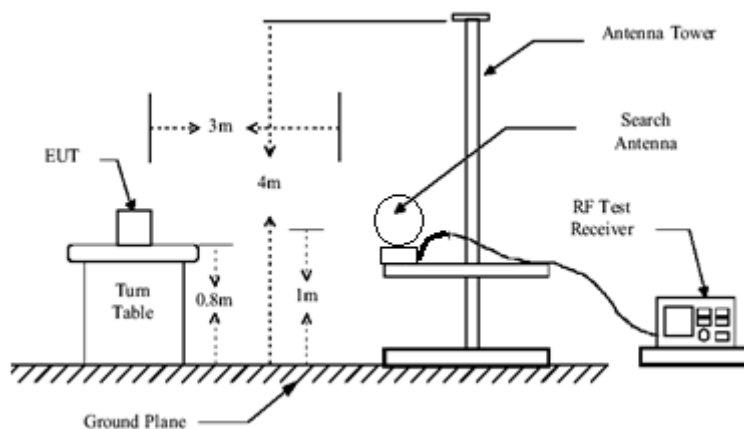
6 Test results and Measurement Data

6.1 Antenna requirement

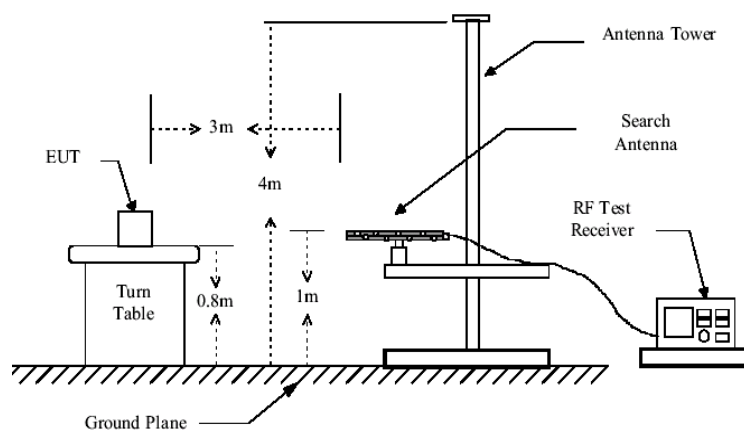
Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling 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.	
E.U.T Antenna:	
	

6.2 Radiated Emission

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.4:2009				
TestFrequencyRange:	9kHz to 1000MHz				
Test site:	Measurement Distance: 3m(Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz-150kHz	Quasi-peak	200Hz	600Hz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
Limit: (Field strength of the fundamental signal)	Frequency		Limit (uV/m @30m)		Limit (dBuV/m @3m)
	13.553MHz-13.567MHz		15848		124.0
	13.410MHz-13.553MHz & 13.567MHz-13.710MHz		334		90.5
	13.110MHz-13.410MHz & 13.710MHz-14.010MHz		106		80.5
	Remark: Per FCC part 15.31, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).				
Limit: (Spurious Emissions)	Frequency (MHz)		Limit (uV/m @3m)		Distance (m)
	0.009-0.490		2400/F(kHz)		300
	0.490-1.705		24000/F(kHz)		30
	1.705-30		30		30
	30-88		100		3
	88-216		150		3
	216-960		200		3
	Above 1GHz		500		3
Test Procedure:	<p>a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</p> <p>b. 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>c. 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>d. 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 rotating table was turned from 0 degrees to 360 degrees to find the maximum reading.</p> <p>e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>f. 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 setup:	9kHz-30MHz				



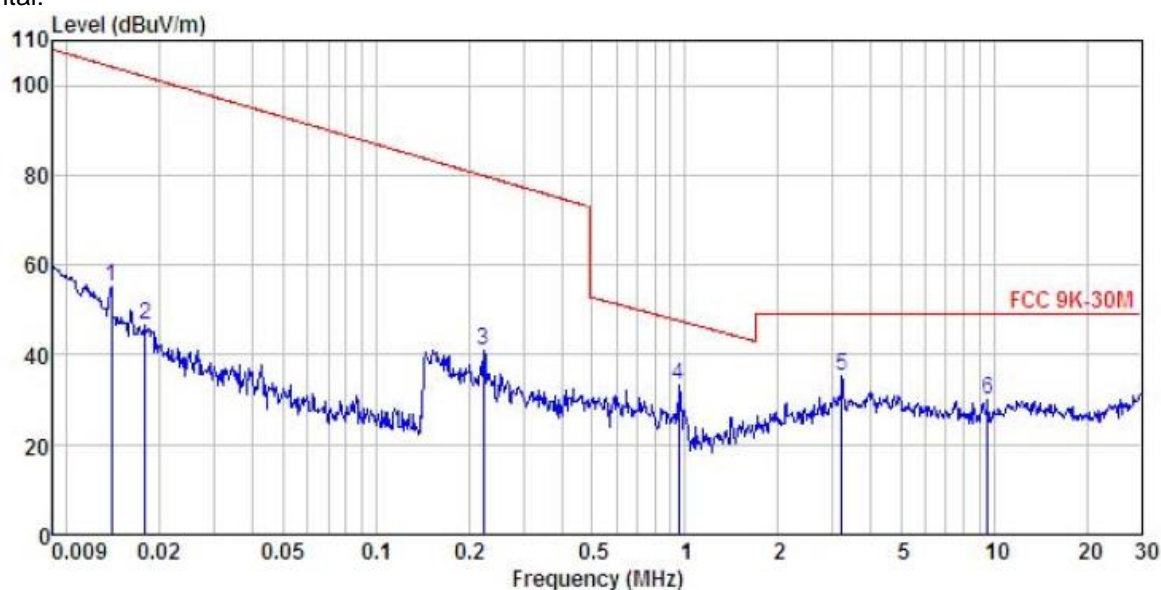
30MHz-1GHz



Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Measurement Record:	Uncertainty:±4.88 dB
Test results:	Pass

9kHz-30MHz:

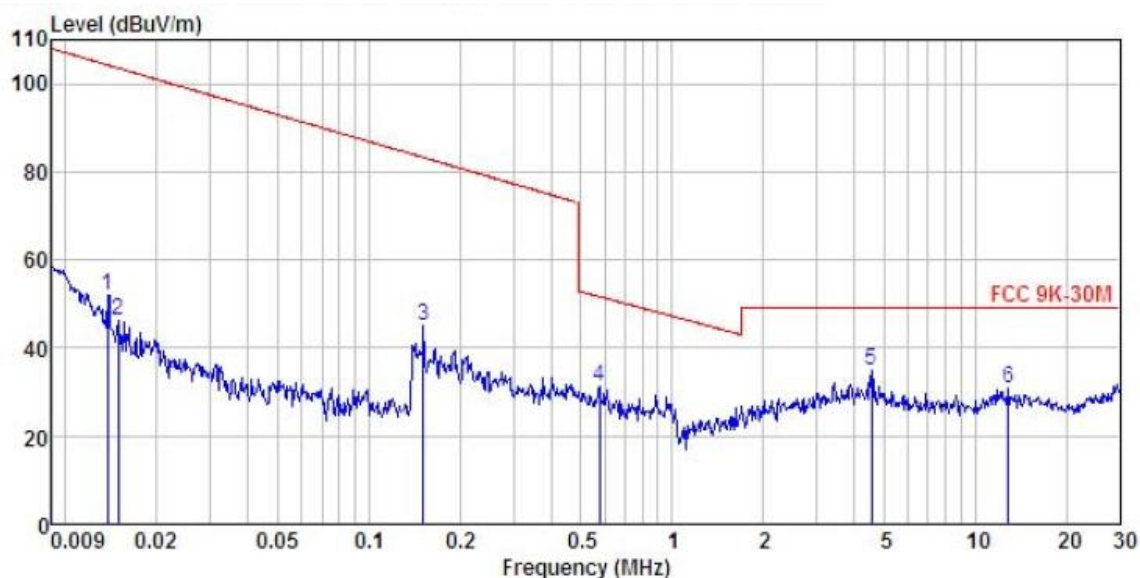
Horizontal:



Site : 3m chamber
 Condition : FCC 9K-30M 3m LOOP ANTENNA(9K-30M) VERTICAL
 EUT : Wireless Charger
 Model : WCPA4++
 Test mode : Wireless Charging Mode
 Power Rating : AC 120/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Carey
 REMARK :

	Freq	Read	Antenna	Cable	Preamp	Level	Limit	Over	
	MHz	Level	Factor	Loss	Factor	dBuV/m	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	0.014	36.39	18.62	0.04	0.00	55.05	104.16	-49.11	QP
2	0.018	29.98	16.75	0.05	0.00	46.78	101.96	-55.18	QP
3	0.224	18.78	22.07	0.34	0.00	41.19	79.87	-38.68	QP
4	0.955	10.34	22.39	0.61	0.00	33.34	47.65	-14.31	QP
5	3.224	10.85	23.72	0.66	0.00	35.23	49.00	-13.77	QP
6	9.559	9.09	20.35	0.50	0.00	29.94	49.00	-19.06	QP

Vertical:

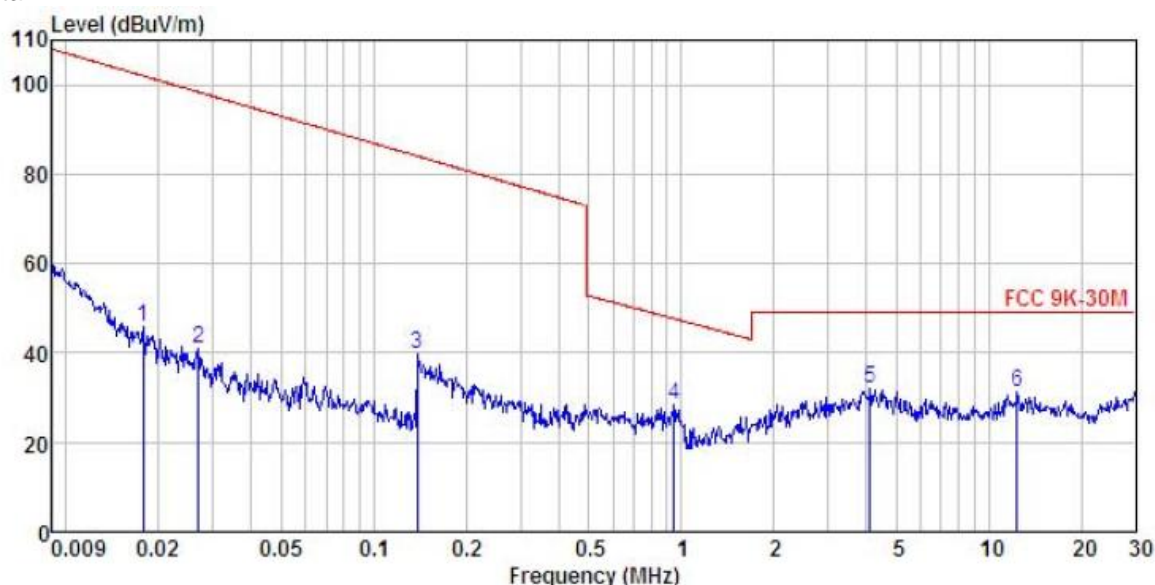


Site : 3m chamber
 Condition : FCC 9K-30M 3m LOOP ANTENNA(9K-30M) HORIZONTAL
 EUT : Wireless Charger
 Model : WCPA4++
 Test mode : Wireless Charging Mode
 Power Rating : AC 120/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Carey
 REMARK :

	Freq	Read	Antenna	Cable	Preamp	Level	Limit	Over	
	MHz	Level	Factor	Loss	Factor	dBuV/m	dBuV/m	Limit	Remark
		dBuV	dB/m	dB	dB			dB	
1	0.014	33.35	18.74	0.04	0.00	52.13	104.31	-52.18	QP
2	0.015	27.97	18.14	0.05	0.00	46.16	103.60	-57.44	QP
3	0.151	23.46	21.53	0.27	0.00	45.26	83.28	-38.02	QP
4	0.577	8.31	22.47	0.50	0.00	31.28	51.68	-20.40	QP
5	4.569	10.88	23.26	0.61	0.00	34.75	49.00	-14.25	QP
6	12.905	7.80	22.40	0.62	0.00	30.82	49.00	-18.18	QP

Standby mode:

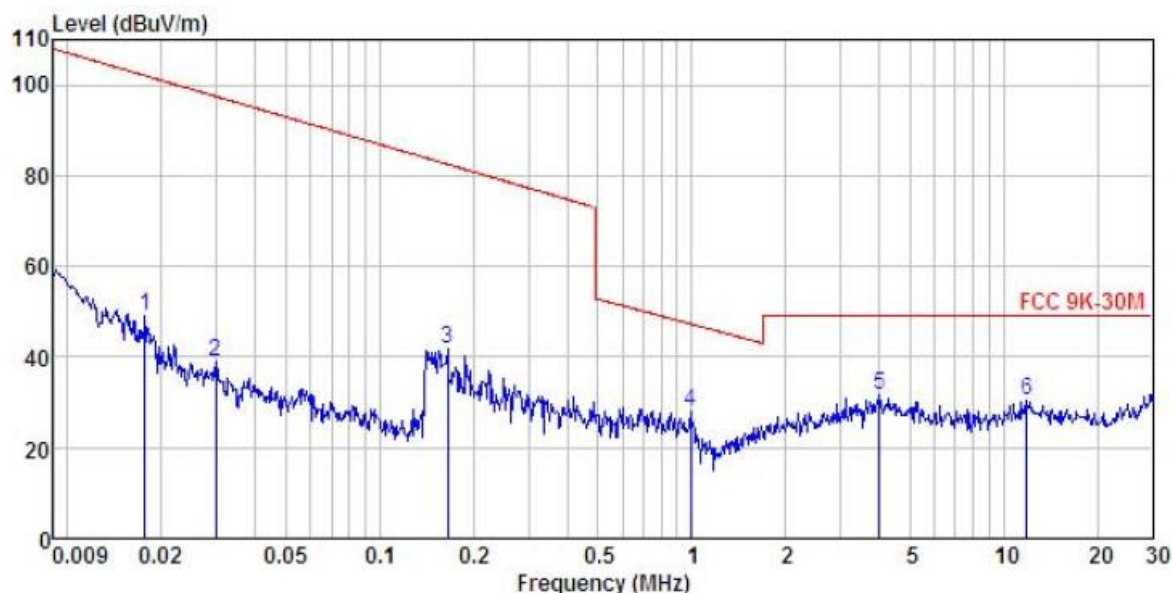
Horizontal:



Site : 3m chamber
 Condition : FCC 9K-30M 3m LOOP ANTENNA(9K-30M) HORIZONTAL
 EUT : Wireless Charger
 Model : WCPA4++
 Test mode : Standby Mode
 Power Rating : AC 120/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Carey
 REMARK :

	Freq	ReadAntenna	Cable	Preamp	Level	Limit	Over	
	MHz	Level	Factor	Loss	Factor	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	0.018	28.97	16.81	0.05	0.00	45.83	102.03	-56.20 Peak
2	0.027	24.28	16.56	0.10	0.00	40.94	98.41	-57.47 Peak
3	0.139	17.94	21.41	0.25	0.00	39.60	84.06	-44.46 Peak
4	0.947	5.23	22.40	0.61	0.00	28.24	47.72	-19.48 Peak
5	4.112	7.32	24.24	0.65	0.00	32.21	49.00	-16.79 Peak
6	12.392	7.93	22.72	0.60	0.00	31.25	49.00	-17.75 Peak

Vertical:

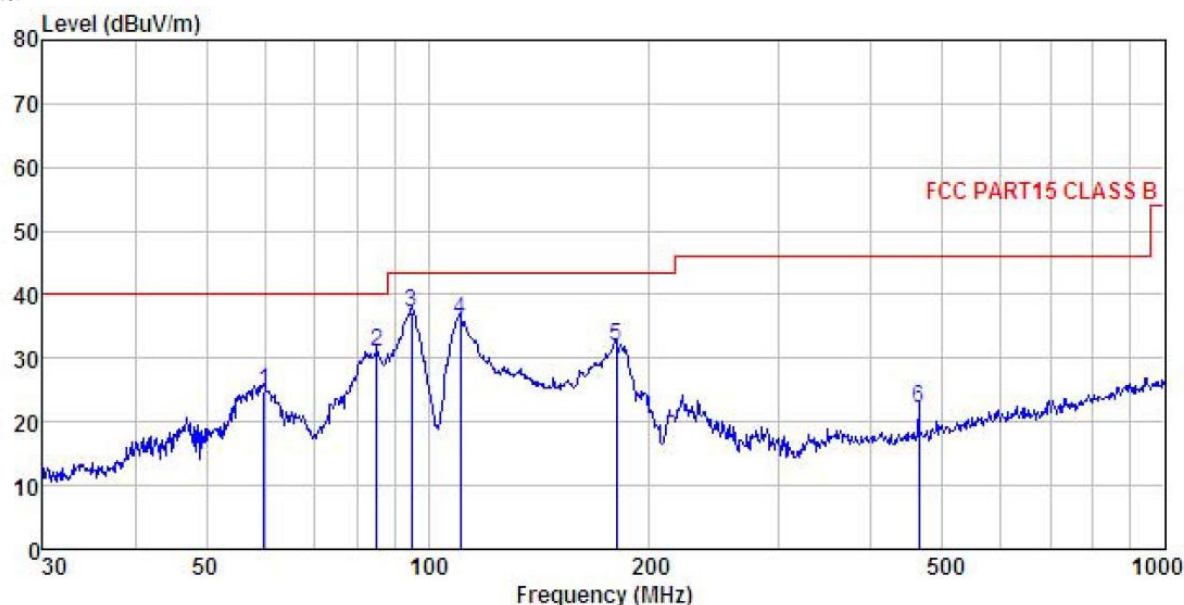


Site : 3m chamber
 Condition : FCC 9K-30M 3m LOOP ANTENNA(9K-30M) VERTICAL
 EUT : Wireless Charger
 Model : WCPA4++
 Test mode : Standby Mode
 Power Rating : AC 120/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Carey
 REMARK :

	Freq	Read	Antenna	Cable	Preamp	Limit	Over	
	MHz	Level	Factor	Loss	Factor	Level	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	0.018	32.13	16.87	0.05	0.00	49.05	102.10	-53.05 Peak
2	0.030	22.05	16.77	0.11	0.00	38.93	97.49	-58.56 Peak
3	0.166	19.95	21.66	0.29	0.00	41.90	82.50	-40.60 Peak
4	0.994	4.97	22.37	0.61	0.00	27.95	47.33	-19.38 Peak
5	4.013	6.63	24.47	0.66	0.00	31.76	49.00	-17.24 Peak
6	11.899	6.88	22.85	0.59	0.00	30.32	49.00	-18.68 Peak

30MHz-1000MHz

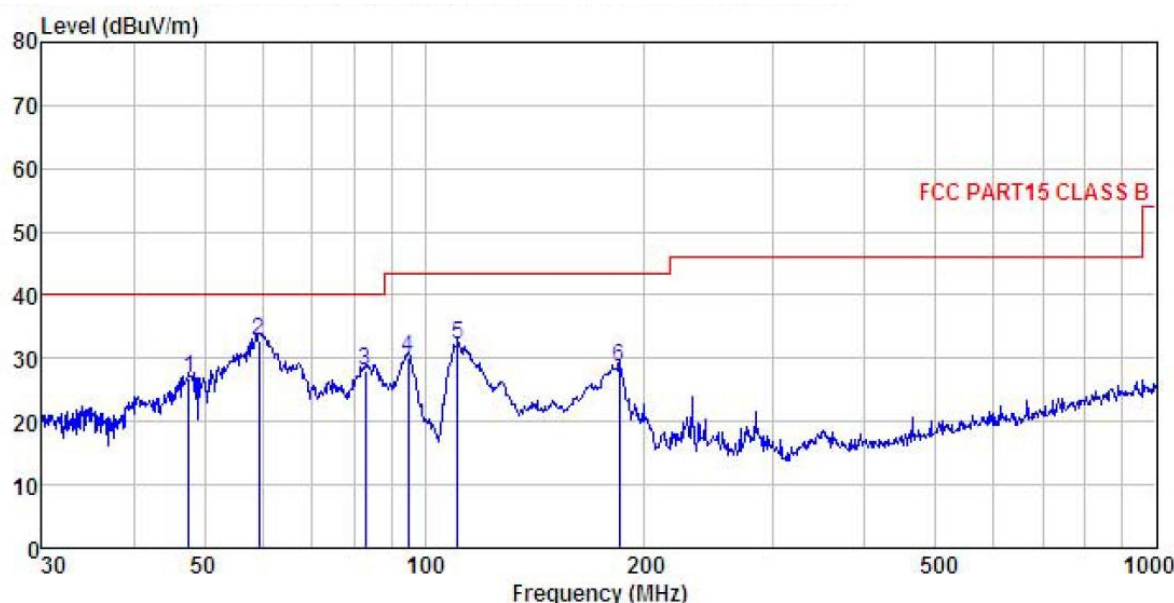
Horizontal:



Site : 3m chamber
 Condition : FCC PART15 CLASS B 3m VULB9163(30M1G) HORIZONTAL
 EUT : Wireless Charger
 Model : WCPA4++
 Test mode : Wireless Charging Mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Carey
 REMARK :

	Freq	ReadAntenna	Cable	Preamp	Limit	Over	
	Level	Factor	Loss	Factor	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m
1	59.859	41.22	12.71	0.69	29.77	24.85	40.00
2	85.298	49.24	10.45	0.88	29.60	30.97	40.00
3	95.093	52.85	12.84	0.93	29.55	37.07	43.50
4	110.569	52.34	12.15	1.05	29.45	36.09	43.50
5	180.017	49.70	9.68	1.36	28.97	31.77	43.50
6	463.970	33.14	15.71	2.30	28.89	22.26	46.00

Vertical:



Site : 3m chamber
 Condition : FCC PART15 CLASS B 3m VULB9163(30M1G) VERTICAL
 EUT : Wireless Charger
 Model : WCPA4++
 Test mode : Wireless Charging Mode
 Power Rating : AC120V/60Hz
 Environment : Temp:25.5°C Humi:55%
 Test Engineer: Carey
 REMARK :

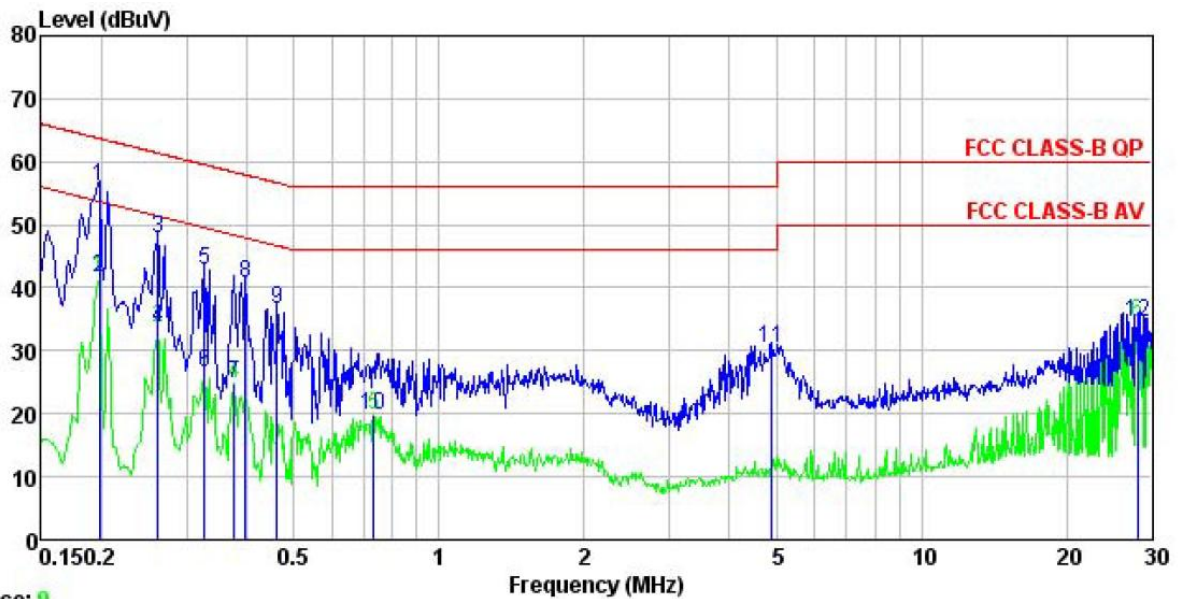
	Freq	ReadAntenna	Cable	Preamp	Level	Limit	Over	
		Level	Factor	Loss	Factor	Line	Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB
1	47.659	42.75	13.39	0.59	29.84	26.89	40.00	-13.11 QP
2	59.441	49.19	12.73	0.69	29.77	32.84	40.00	-7.16 QP
3	82.938	47.12	9.57	0.87	29.62	27.94	40.00	-12.06 QP
4	95.093	45.83	12.84	0.93	29.55	30.05	43.50	-13.45 QP
5	110.957	48.55	12.04	1.05	29.45	32.19	43.50	-11.31 QP
6	184.490	46.27	10.08	1.36	28.94	28.77	43.50	-14.73 QP

6.3 Conducted Emission

Test Requirement:	FCC Part15 B Section 15.207		
Test Method:	ANSI C63.4:2009		
TestFrequencyRange:	150kHz to 30MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9kHz, VBW=30kHz		
Limit:	Frequency range (MHz)	Limit (dBμV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	0.5-30	60	50
* Decreases with the logarithm of the frequency.			
Test setup:	<p>Reference Plane</p> <p>40cm</p> <p>80cm</p> <p>LISN</p> <p>AUX Equipment</p> <p>E.U.T</p> <p>Test table/Insulation plane</p> <p>Filter</p> <p>AC power</p> <p>EMI Receiver</p>		
	<p>Remark</p> <p>E.U.T: Equipment Under Test</p> <p>LISN: Line Impedance Stabilization Network</p> <p>Test table height=0.8m</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.).It provide 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 C63.4: 2003 on conducted measurement. 		
Test environment:	Temp.:	23°C	Humid.: 56% Press.: 101kPa
Measurement Record:	Uncertainty: 3.28dB		
Test Instruments:	Refer to section 5.7 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Pass		

Measurement Data:

Line:

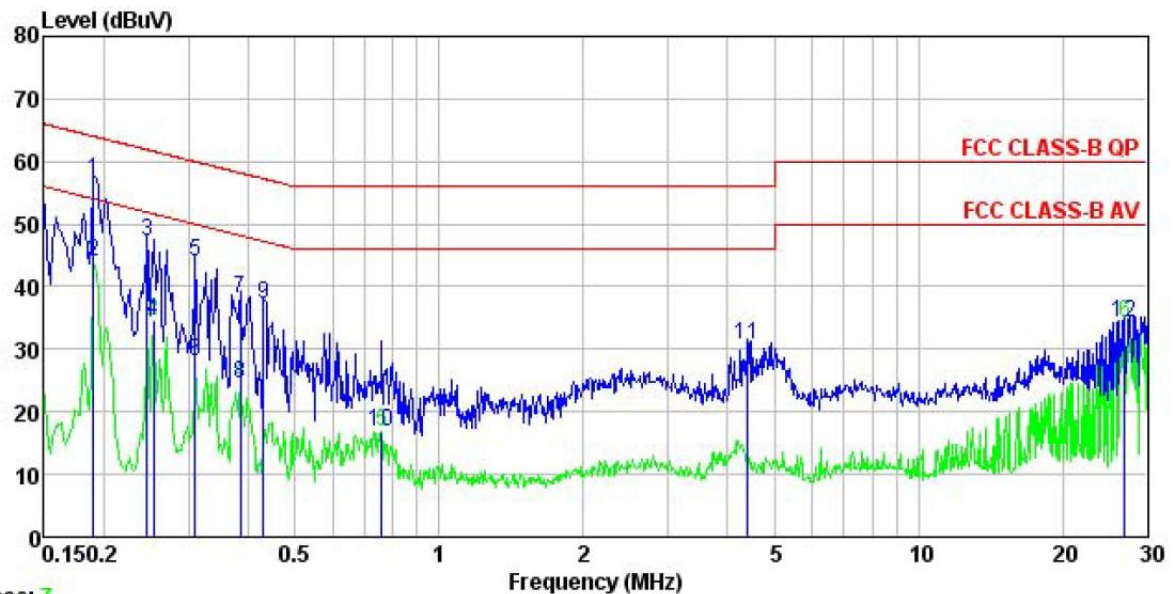


Trace: 9

Site : CCIS Shielding Room
 Condition : FCC CLASS-B QP LISN LINE
 Job No. : 936RF
 EUT : Wireless Charger
 Model : WCPA4++
 Test Mode : wireless charging mode
 Power Rating : AC 120/60Hz
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa
 Test Engineer: Carey
 Remark :

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.198	45.03	0.28	10.76	56.07	63.71	-7.64	QP
2	0.198	30.65	0.28	10.76	41.69	53.71	-12.02	Average
3	0.262	36.84	0.27	10.75	47.86	61.38	-13.52	QP
4	0.262	22.77	0.27	10.75	33.79	51.38	-17.59	Average
5	0.327	31.79	0.27	10.73	42.79	59.53	-16.74	QP
6	0.327	15.53	0.27	10.73	26.53	49.53	-23.00	Average
7	0.377	13.83	0.28	10.72	24.83	48.34	-23.51	Average
8	0.398	29.63	0.28	10.72	40.63	57.90	-17.27	QP
9	0.461	25.47	0.29	10.75	36.51	56.67	-20.16	QP
10	0.731	8.72	0.22	10.78	19.72	46.00	-26.28	Average
11	4.874	19.15	0.29	10.85	30.29	56.00	-25.71	QP
12	28.003	22.87	0.74	10.87	34.48	50.00	-15.52	Average

Neutral:

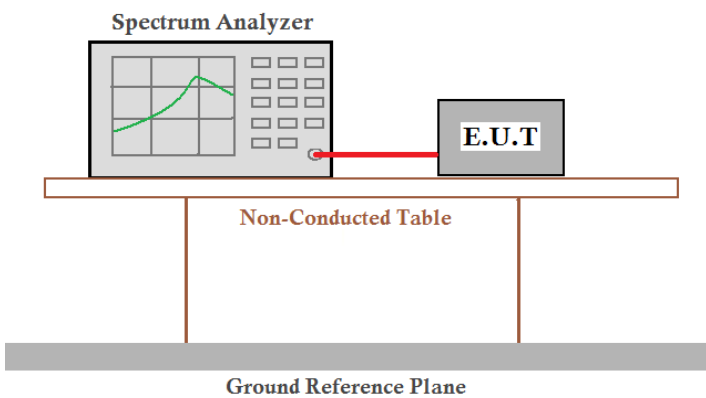


Trace: 7

Site : CCIS Shielding Room
 Condition : FCC CLASS-B QP LISN NEUTRAL
 Job No. : 936RF
 EUT : Wireless Charger
 Model : WCPA4++
 Test Mode : wireless charging mode
 Power Rating : AC 120/60Hz
 Environment : Temp: 23 °C Humi:56% Atmos:101KPa
 Test Engineer: Carey
 Remark :

	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dBuV	dBuV	dB	
1	0.190	45.92	0.25	10.76	56.93	64.02	-7.09	QP
2	0.190	33.11	0.25	10.76	44.12	54.02	-9.90	Average
3	0.246	36.19	0.26	10.75	47.20	61.91	-14.71	QP
4	0.253	23.49	0.26	10.75	34.50	51.64	-17.14	Average
5	0.310	33.00	0.26	10.74	44.00	59.97	-15.97	QP
6	0.310	16.96	0.26	10.74	27.96	49.97	-22.01	Average
7	0.385	27.16	0.25	10.72	38.13	58.17	-20.04	QP
8	0.385	13.65	0.25	10.72	24.62	48.17	-23.55	Average
9	0.431	26.17	0.26	10.73	37.16	57.24	-20.08	QP
10	0.759	5.86	0.19	10.80	16.85	46.00	-29.15	Average
11	4.407	19.44	0.28	10.87	30.59	56.00	-25.41	QP
12	26.984	22.57	0.66	10.87	34.10	50.00	-15.90	Average

6.4 20dB Bandwidth

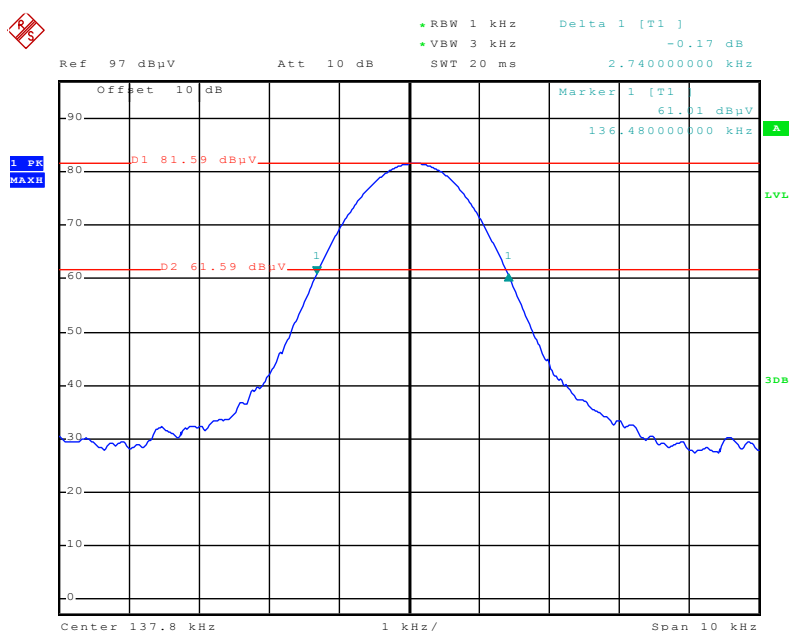
Test Requirement:	FCC Part15 C Section 15.215 (c)
Test Method:	ANSI C63.4:2009
Receiver setup:	RBW=1 kHz, VBW=3 kHz, detector: Peak
Limit:	The fundamentelemission be kept within atleast the central 80% of the permittedband
Test Procedure:	<ol style="list-style-type: none"> 1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 2. Set the EUT to proper test channel. 3. Max hold the radiated emissions, mark the peak power frequency point and the -20dB upper and lower frequency points. 4. Read 20dB bandwidth.
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

20dB bandwidth (kHz)	Limits
2.74	N/A

Remark: For report purpose only.

Test plot as follows:



Date: 23.DEC.2015 16:04:41