TEST REPORT

Product Name	:	**Ohsnap Wireless Snapcharger**
Model Number	:	**WC-SC1**
FCC ID	:	**2AXC5-WC-SC1**

Prepared for	:	OhSnap,Inc.
Address	:	255 Shue Rd Broadway,NC 27505 US
Prepared by	:	EMTEK (SHENZHEN) CO., LTD.
Address	:	Building 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China Tel: (0755) 26954280 Fax: (0755) 26954282

Report Number	:	ES200807027W
Date(s) of Tests	:	August 07, 2020 to August 20, 2020
Date of issue	:	August 20, 2020

VERIFICATION OF COMPLIANCE

Applicant:	OhSnap,Inc. 255 Shue Rd Broadway,NC 27505 US
Manufacturer:	Shenzhens Ared Technology Co.,Ltd Shenli Industrial Zone, Qinghu Community, Longhua Street, LonghuaDistrict, Shenzhen
Product Description:	Ohsnap Wireless Snapcharger
Trade Mark:	Ohsnap
Model Number:	WC-SC1

We hereby certify that:

The above equipment was tested by EMTEK(SHENZHEN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10-2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15C.

Date of Test : August 07, 2020 to August 20, 2020

Prepared by : Loren Luo /Editor

Reviewer : Tim Dong /Supervisor

Approved & Authorized Signer : Lisa Wang /Manager

Modified Information

Version	Summary	Revision Date	Report No.
Ver.1.0	Original Report	/	ES200807027W

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General Information

1.1 Product Description

Characteristics	Description
Product Name	Ohsnap Wireless Snapcharger
Model number	WC-SC1
Power Supply	DC 5V from Adapter
Operating Frequency	110-205kHz
Product Software Version	V1.0
Product Hardware version	V1.0
Modulation Technique	Induction
Antenna Type	Induction coil

1.2 Related Submittal(s) / Grant(s)

This submittal(s) (test report) is intended for FCC ID: 2AXC5-WC-SC1 filing to comply with the FCC Part 15, Subpart C Rules.

1.3 Test Methodology

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013). Radiated testing was performed at an antenna to EUT distance 3 meters.

1.4 Special Accessories

Not available for this EUT intended for grant.

1.5 Equipment Modifications

Not available for this EUT intended for grant.

1.6 Test Facility

Site Description

EMC Lab.	:	Accredited by CNAS, 2018.11.30 The certificate is valid until 2022.10.28 The Laboratory has been assessed and proved to be in compliance with CNAS-CL01:2006 (identical to ISO/IEC 17025:2017) The Certificate Registration Number is L2291 Designation Number: CN1204 Test Firm Registration Number: 882943 Accredited by A2LA, August 08, 2018 The Certificate Registration Number is 4321.01 Accredited by Industry Canada, November 09, 2018 The Certificate Registration Number is CN0008
Name of Firm	:	EMTEK(SHENZHEN) CO., LTD.
Site Location	:	Bldg 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China.

1 System Test Configuration

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

2.3 Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

2.3.2 Radiated Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the fixed in a particular direction according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013.

2.4 Configuration of Tested System

Fig. 2-1 Configuration of Tested System

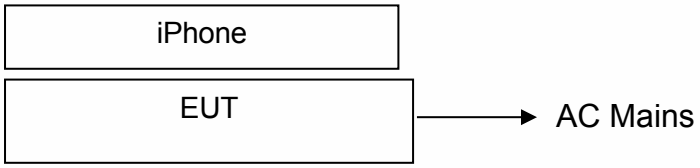


Table 2-1 Equipment Used in Tested System

Item	Equipment	Trade Mark	Model No.	FCC ID	Note
1.	Ohsnap Wireless Snapcharger	Ohsnap	WC-SC1	/	***EUT***
2.	Adapter	Ohsnap	BQ30A-09025 00-U	N/A	***Support Equipment***

Note:
(1) Unless otherwise denoted as EUT in『Remark』column, device(s) used in tested system is a support equipment.

2 Summary of Test Results

FCC Rules	Description Of Test	Result
§15.207	AC Power Conducted Emission	Compliant
§15.209	Radiated Emission	Compliant
§2.1049	20dB Bandwidth	Compliant
§15.203	Antenna Requirement	Compliant

3 Description of test modes

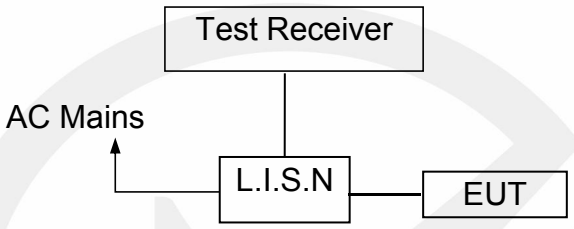
Channel	Frequency(KHz)
Low frequency	110
Mid frequency	158
High frequency	205

4 Conducted Emissions Test

4.1 Measurement Procedure

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured was complete.

4.2 Test SET-UP (Block Diagram of Configuration)



4.3 Measurement Equipment Used

Conducted Emission Test Site					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUMBER**	**Last Cal.**	**Due date**
Test Receiver	Rohde & Schwarz	ESCS30	100018	05/22/2020	05/21/2021
L.I.S.N	Rohde & Schwarz	ENV216	100017	05/22/2020	05/21/2021
RF Switching Unit	CDS	RSU-M2	38401	05/22/2020	05/21/2021
Coaxial Cable	CDS	79254	46107086	05/22/2020	05/21/2021

4.4 Conducted Emission Limit

Conducted Emission

Frequency(MHz)	**Quasi-peak**	**Average**
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

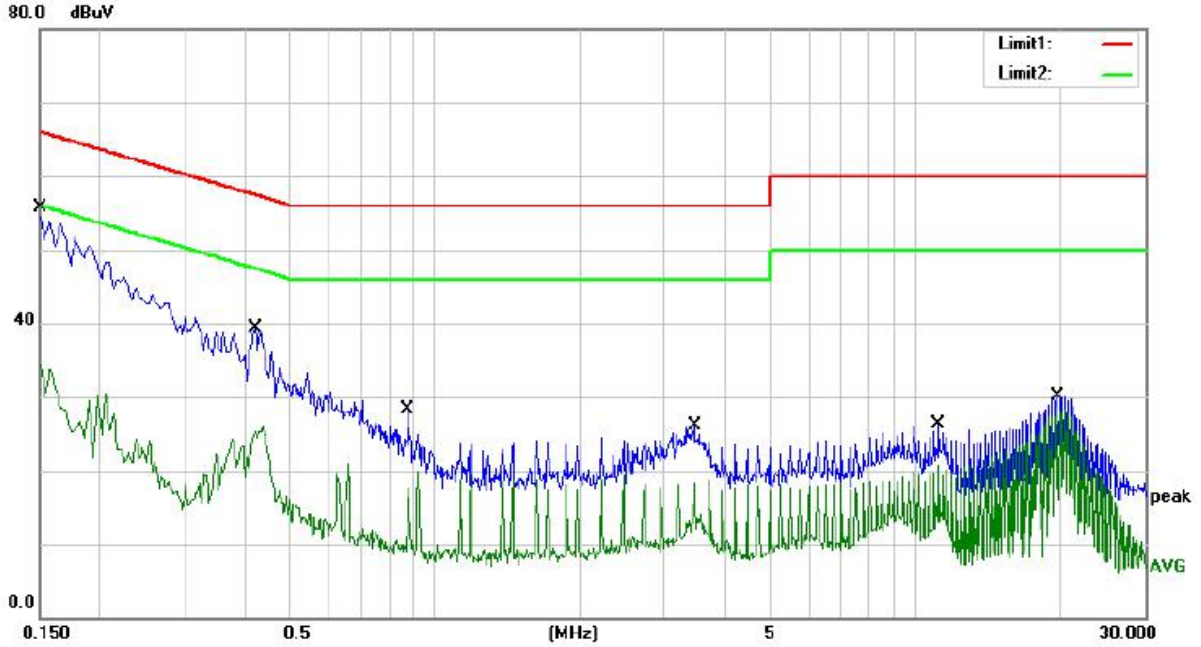
4.5 Measurement Result

Operation Mode:	TX	Test Date :	August 14, 2020
Frequency Range:	0.15MHz~30MHz	Temperature :	28℃
Test Result:	PASS	Humidity :	65 %
Test By:	Loren		

Pass

We pretested three modes (max load, mid load, min load) for EUT. The worst mode (max load) test data see follow the table.

Wireless Charging



Site site #1 Phase: L1 Temperature: 25

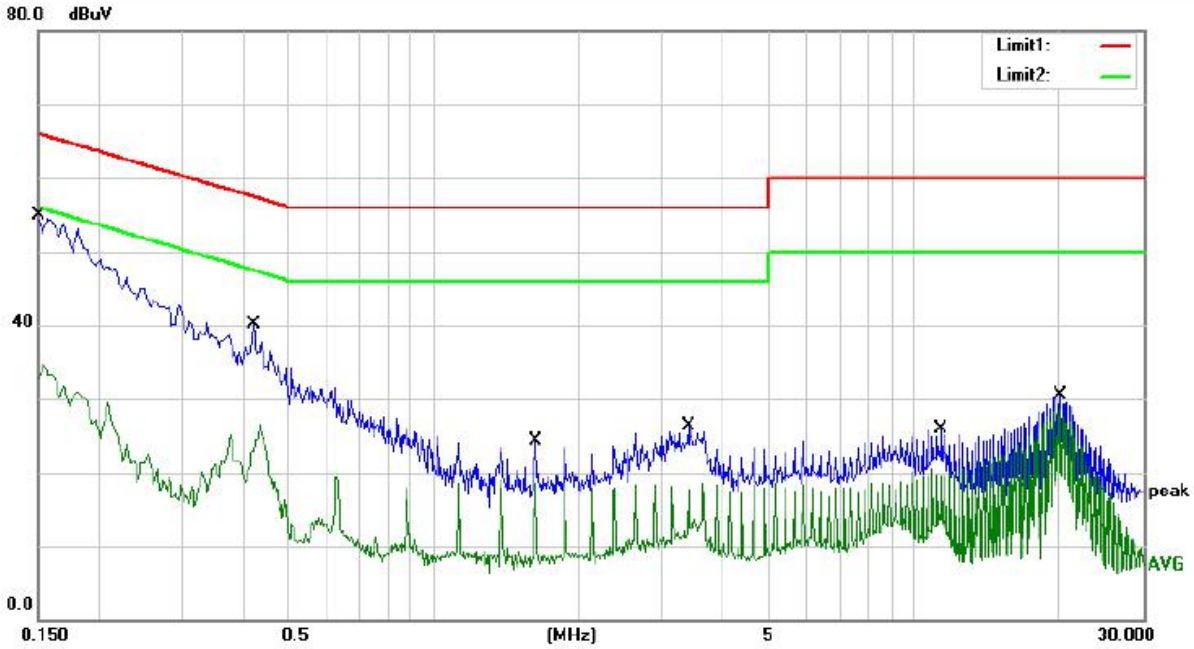
Limit: (CE)FCC PART 15 C_QP Power: AC 120V/60Hz Humidity: 55 %

Mode: Wireless charging

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1500	45.63	10.01	55.64	66.00	-10.36	QP	
2		0.1500	25.29	10.01	35.30	56.00	-20.70	AVG	
3		0.4220	29.15	10.14	39.29	57.41	-18.12	QP	
4		0.4220	15.90	10.14	26.04	47.41	-21.37	AVG	
5		0.8780	18.06	10.18	28.24	56.00	-27.76	QP	
6		0.8780	9.74	10.18	19.92	46.00	-26.08	AVG	
7		3.4700	16.01	10.18	26.19	56.00	-29.81	QP	
8		3.4700	8.56	10.18	18.74	46.00	-27.26	AVG	
9		11.1700	16.04	10.22	26.26	60.00	-33.74	QP	
10		11.1700	10.47	10.22	20.69	50.00	-29.31	AVG	
11		19.7020	19.89	10.27	30.16	60.00	-29.84	QP	
12		19.7020	18.33	10.27	28.60	50.00	-21.40	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: HU



Site site #1 Phase: N Temperature: 25

Limit: (CE)FCC PART 15 C_QP Power: AC 120V/60Hz Humidity: 55 %

Mode: Wireless charging

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1500	44.86	10.01	54.87	66.00	-11.13	QP	
2		0.1500	24.76	10.01	34.77	56.00	-21.23	AVG	
3		0.4220	29.88	10.14	40.02	57.41	-17.39	QP	
4		0.4220	16.27	10.14	26.41	47.41	-21.00	AVG	
5		1.6300	14.06	10.18	24.24	56.00	-31.76	QP	
6		1.6300	8.71	10.18	18.89	46.00	-27.11	AVG	
7		3.3860	16.19	10.18	26.37	56.00	-29.63	QP	
8		3.3860	8.24	10.18	18.42	46.00	-27.58	AVG	
9		11.4180	15.77	10.22	25.99	60.00	-34.01	QP	
10		11.4180	10.21	10.22	20.43	50.00	-29.57	AVG	
11		20.2020	20.20	10.28	30.48	60.00	-29.52	QP	
12		20.2020	18.39	10.28	28.67	50.00	-21.33	AVG	

*:Maximum data x:Over limit !:over margin Comment: Factor build in receiver. Operator: HU

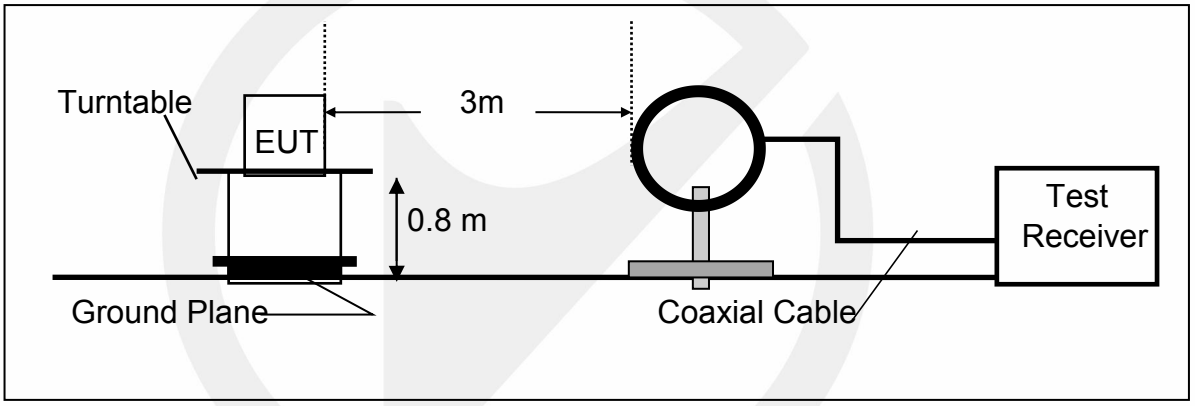
5 Radiated Emission Test

5.1 Measurement Procedure

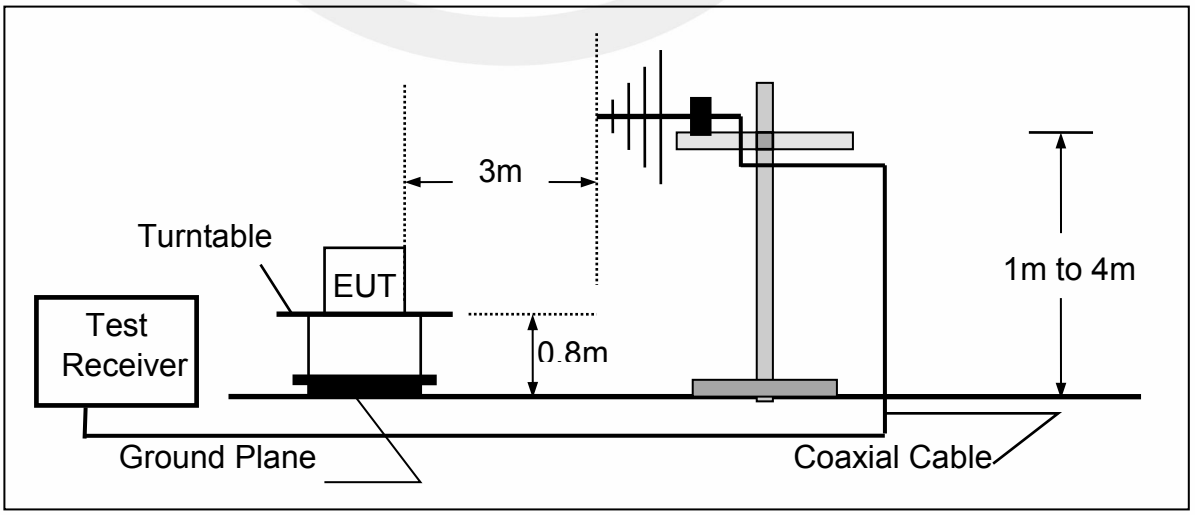
1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measured were complete.

5.2 Test SET-UP (Block Diagram of Configuration)

(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



5.3 Measurement Equipment Used

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due date
Test Receiver	Rohde & Schwarz	ESCI	1166.5950.03	05/22/2020	05/21/2021
Signal Analyzer	Rohde & Schwarz	FSV30	103040	05/22/2020	05/21/2021
Loop Antenna	Schwarzbeck	FMZB 1519	012	05/22/2020	05/21/2021
Bilog Antenna	Schwarzbeck	VULB9163	000141	05/22/2020	05/21/2021
Power Amplifier	CDS	RSU-M352	818	05/22/2020	05/21/2021
Power Amplifier	HP	8447F	OPT H64	05/22/2020	05/21/2021
Color Monitor	SUNSPO	SP-140A	N/A	05/22/2020	05/21/2021
Single Line Filter	JIANLI	XL-3	N/A	05/22/2020	05/21/2021
Single Phase Power Line Filter	JIANLI	DL-2X100B	N/A	05/22/2020	05/21/2021
3 Phase Power Line Filter	JIANLI	DL-4X100B	N/A	05/22/2020	05/21/2021
DC Power Filter	JIANLI	DL-2X50B	N/A	05/22/2020	05/21/2021
Cable	Schwarzbeck	PLF-100	549489	05/22/2020	05/21/2021
Cable	Rosenberger	CIL02	A0783566	05/22/2020	05/21/2021
Cable	Rosenberger	RG 233/U	525178	05/22/2020	05/21/2021

5.4 Radiated Emission Limit

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table 15.209(a):

FCC Part 15.209				
Frequency (MHz)	Field Strength Limitation		Field Strength Limitation Frequency tion at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
0.009 – 0.490	2400 / F(KHz)	300m	10000 * 2400/F(KHz)	20log 2400/F(KHz) + 80
0.490 – 1.705	24000 / F(KHz)	30m	100 * 24000/F(KHz)	20log 24000/F(KHz) + 40
1.705 – 30.00	30	30m	100* 30	20log 30 + 40
30.0 – 88.0	100	3m	100	20log 100
88.0 – 216.0	150	3m	150	20log 150
216.0 – 960.0	200	3m	200	20log 200
Above 960.0	500	3m	500	20log 500

15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])

Remark: 1. Emission level in dBuV/m=20 log (uV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
3. Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of ξ 15.205, and the emissions located in restricted bands also comply with 15.209 limit.

5.5 Measurement Result

We pretested three modes (max load, mid load, min load) for EUT. The worst mode (max load) and worst test frequency(frequency: 158KHz)test data see follow the table.

Operation Mode:	Low frequency	Test Date :	August 14, 2020
Frequency Range:	9KHz~30MHz	Temperature :	25℃
Test Result:	PASS	Humidity :	55 %
Measured Distance:	3m	Test By:	Loren

Wireless Charging

Freq. (MHz)	Ant.Pol. H/V	Emission Level (dBuV/m)	Limit 3m (dBuV/m)	Over (dB)	Note
0.15812(F)	H	79.56	103.62	-24.06	PK
0.168	H	62.24	103.10	-40.86	PK
0.245	H	63.15	99.82	-36.67	PK
0.415	H	64.58	95.24	-30.66	PK
0.537	H	61.34	73.00	-11.66	PK
0.15812(F)	V	78.67	103.62	-24.95	PK
0.221	V	64.15	99.51	-35.36	PK
0.346	V	62.38	94.50	-32.12	PK
0.424	V	63.46	95.24	-31.78	PK
0.619	V	60.09	73.30	-13.21	PK

Note: (1) All Readings are Peak Value.
(2) Emission Level= Reading Level+Probe Factor +Cable Loss.
(3) The average measurement was not performed when the peak measured data under the limit of average detection.
(4) EUT lying on the table position is the worst case result in the report.

Site Chamber #1 Polarization: *Horizontal* Temperature: 26.9

Limit: (RE)FCC PART 15 C 3m Power: AC 120V/60Hz Humidity: 70 %

Mode:Wireless Charging

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		30.1054	37.69	-18.78	18.91	40.00	-21.09	QP			
2		35.6240	36.57	-18.33	18.24	40.00	-21.76	QP			
3		74.6570	46.45	-21.28	25.17	40.00	-14.83	QP			
4	*	107.5101	52.90	-18.29	34.61	43.50	-8.89	QP			
5		220.6171	45.07	-16.73	28.34	46.00	-17.66	QP			
6		239.1473	44.07	-15.80	28.27	46.00	-17.73	QP			

*:Maximum data x:Over limit !:over margin Operator: Lian

Site Chamber #1 Polarization: *Vertical* Temperature: 26.9

Limit: (RE)FCC PART 15 C 3m Power: AC 120V/60Hz Humidity: 70 %

Mode:Wireless Charging

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	35.1278	50.59	-18.53	32.06	40.00	-7.94	QP			
2		73.3593	46.45	-20.82	25.63	40.00	-14.37	QP			
3		106.7587	53.25	-18.25	35.00	43.50	-8.50	QP			
4		127.2176	50.38	-21.19	29.19	43.50	-14.31	QP			
5		189.7385	40.55	-18.23	22.32	43.50	-21.18	QP			
6		218.3085	39.22	-16.91	22.31	46.00	-23.69	QP			

*:Maximum data x:Over limit !:over margin Operator: Lian

6 20db Bandwidth

6.1 20dB Bandwidth Limit

None: for reporting purposed only.

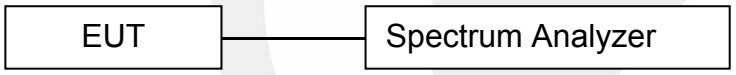
6.2 Test Instruments

Refer a test equipment and calibration data table in this test report.

6.3 Test Procedure

The bandwidth of the fundamental frequency was measured by spectrum analyzer with 10Hz RBW and 30Hz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB. The working mode (9W wireless charging)

6.4 Test Setup

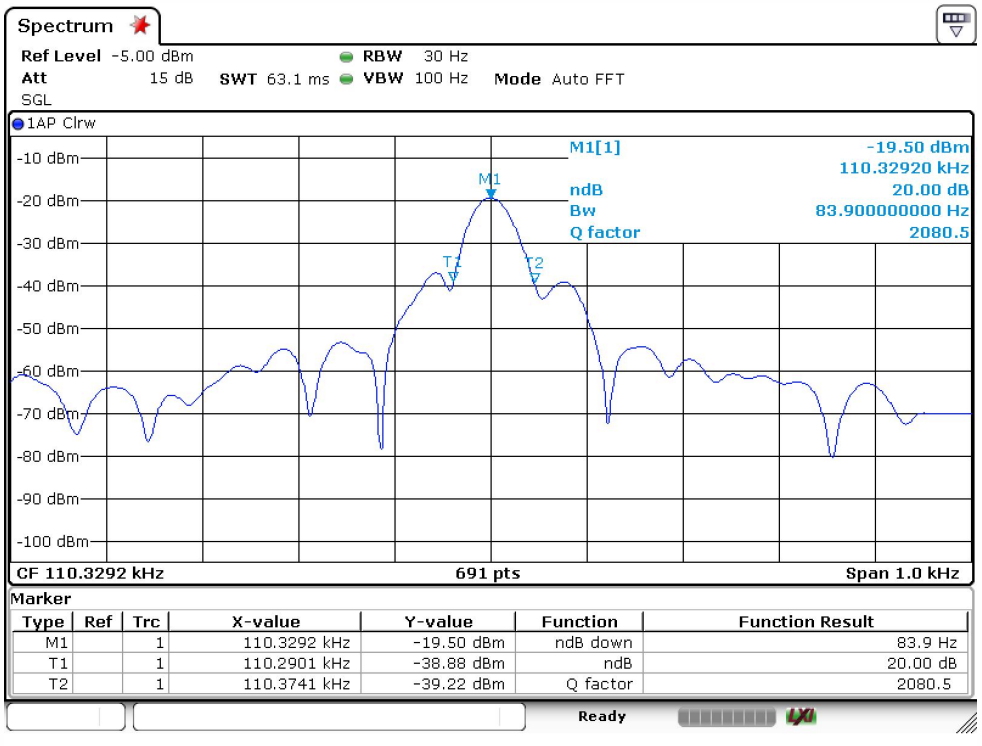


6.5 Test Result

Wireless Charging

Lowest frequency (KHz)	20dB Bandwidth (Hz)	Results
110.33	83.9	PASS

20 dB Bandwidth Test plot



7 Antenna Application

7.1 Antenna requirement

For intentional device, according to FCC 47 CFR Section 15.203, 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.

7.2 Result

The EUT's antenna, permanent attached antenna, used an Induction coil and integrated on PCB, The antenna's gain meets the requirement.

8 Photos of EUT

Please refer to external photos and internal photos.

声 明
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Objections shall be raised within 20 days from the date receiving the report.