TEST REPORT

Reference No.	:	WTK20S12095556W001
FCC ID	:	2AODN-T6
Applicant.....	:	CYSPO Technology (Shenzhen) Co., Ltd.
Address.....	:	10/F, Building B, Chaxi Sanwei Second Industrial Zone, Sanwei Community, Hangcheng, Shenzhen, China
Manufacturer	:	CYSPO Technology (Shenzhen) Co., Ltd.
Address.....	:	10/F, Building B, Chaxi Sanwei Second Industrial Zone, Sanwei Community, Hangcheng, Shenzhen, China
Product.....	:	3-in-1 Wireless Charging Station
Model(s)	:	T6
Brand Name.....	:	N/A
Standards.....	:	FCC Part 15 subpart C
Date of Receipt sample	:	2020-12-11
Date of Test	:	2020-12-14 to 2020-12-22
Date of Issue.....	:	2020-12-24
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:
WaltekTesting Group Co., Ltd.
Address:No. 77, Houjie Section, Guantai Road, Houjie Town, Dongguan City, Guangdong, China
Tel: +86-769-2267 6998
Fax: +86-769-2267 6828

Compiled by:

Levi Xiao

Levi Xiao / Project Engineer

Approved by:

Daniel Liu / Manager

2. Contents

3. Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTK20S12095556W001	2020-12-11	2020-12-14 to 2020-12-22	202-12-24	original	-	Valid

4. General Information

4.1 General Description of E.U.T

Product:	3-in-1 Wireless Charging Station
Model(s):	T6
Model Difference:	Only the model names are different. The model BMCA142A is the tested sample.
Type of Modulation:	ASK
Frequency Range:	110~205kHz
Antenna installation:	Coil Antenna
Antenna Gain:	0dBi

4.2 Details of EUT

Ratings: DC Input: 9V⎓2A / 12V⎓2A

4.3 Test Facility

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

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

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files. Registration number 7760A, October 15, 2016.

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

Waltek Testing Group 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 number 523476, September 10, 2019.

5. Test Summary

Test Items	Load type	Test Requirement	Result
Conducted Emissions	Full load (15W)*	15.207	PASS
	Full load (5W)		
	Full load (3W)		
Radiated Spurious Emissions	Full load (15W)*	15.209	PASS
	Full load (5W)		
	Full load (3W)		
Occupied Bandwidth	Full load (15W)*	15.215	PASS
	Full load (5W)		
	Full load (3W)		
Antenna Requirement	/	15.203	PASS
Note: All the mode were tested and passed, "*" show the worst case mode which were recorded in this report.			

6. Equipment Used during Test

6.1 Equipments List

Conducted Emissions Test Site 1#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Valid**
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
Conducted Emissions Test Site 2#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Valid**
1.	EMI Test Receiver	R&S	ESCI	101155	2020-07-30	1Year
2.	LISN	SCHWARZBECK	NSLK 8128	8128-259	2020-07-30	1Year
3.	Limiter	CYBERTEK	EM5010	261115-001-0024	2020-07-30	1Year
4.	Cable	**Laplace**	RF300	-	2020-07-30	1Year
3m Semi-anechoic Chamber for Radiation Emissions Test site 1#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Valid**
1	Test Receiver	R&S	ESCI	101296	2020-04-20	1Year
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2020-04-25	1Year
3	Active Loop Antenna	Com-Power Corp.	AL-130R	10160007	2020-05-06	1Year
4	Amplifier	ANRITSU	MH648A	M43381	2020-04-20	1Year
5	Cable	HUBER+SUHNER	CBL2	525178	2020-04-20	1Year
3m Semi-anechoic Chamber for Radiation Emissions Test site 2#						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Valid**
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
RF Conducted Testing						
Item	**Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Last Calibration Date**	**Valid**
1.	Signal Analyzer (9k~26.5GHz)	Agilent	N9010A	MY50520207	2020-04-20	1Year
2	Spectrum Analyzer	R&S	FSP40	100501	2020-07-30	1Year

6.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
Switching Adapter	TM	TM-K065G	/
Simulated load			
Smart phone	Iphone	Iphone 11	

6.3 Measurement Uncertainty

Test Item	Frequency Range	Uncertainty	Note
Conducted Emissions	150kHz~30MHz	±3.64dB	(1)
Radiated Spurious Emissions	26KHz~30MHz	±3.03dB	(1)
Radiated Spurious Emissions	30MHz~1000MHz	±5.03dB	(1)

(1)This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

6.4 Test Equipment Calibration

All the test equipments used are valid and calibrated by GUANG ZHOU GRG METROLOGY & TEST CO., LTD. address is No.163, Pingyun Rd. West of Huangpu Ave,Tianhe District, Guangzhou, Guangdong, China.

7. Conducted Emission

Test Requirement:	FCC CFR 47 Part 15 Section 15.207
Test Method:	ANSI C63.10:2013
Test Result:	PASS
Frequency Range:	150kHz to 30MHz
Class/Severity:	Class B
Limit:	66-56 dBμV between 0.15MHz & 0.5MHz
	56 dBμV between 0.5MHz & 5MHz
	60 dBμV between 5MHz & 30MHz
Detector:	Peak for pre-scan (9kHz Resolution Bandwidth)

7.1 E.U.T. Operation

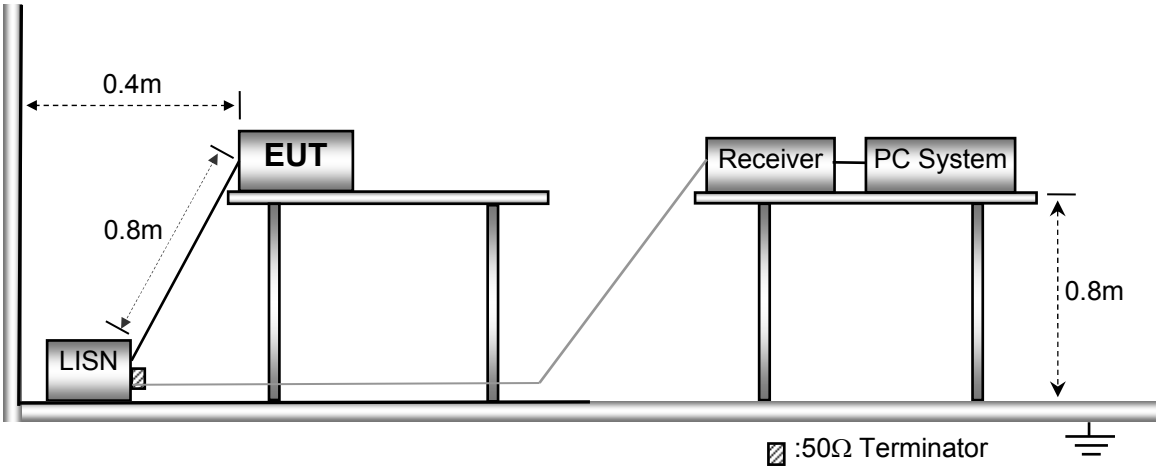
Operating Environment **:**

Temperature:	25.5 °C
Humidity:	51 % RH
Atmospheric Pressure:	101.2kPa
EUT Operation **:**	Wireless charging

The test was performed in Wireless charging, the test data were shown in the report.

7.2 EUT Setup

The EUT was placed on the test table in shielding room.



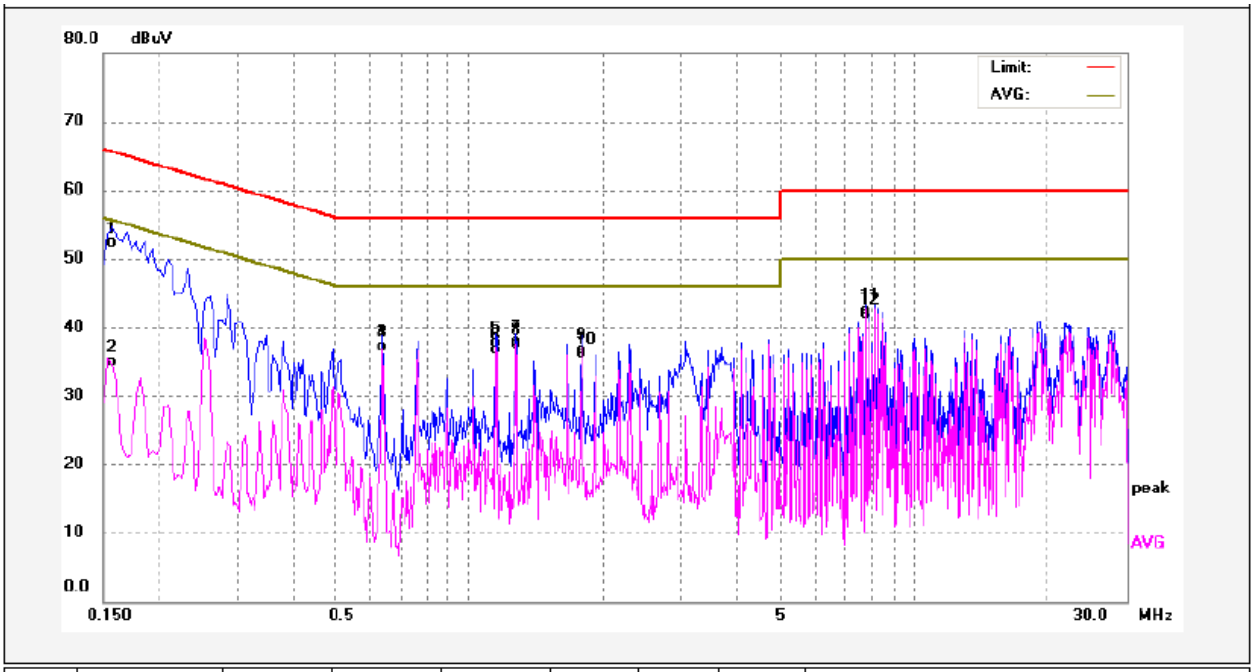
7.3 Measurement Description

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.

7.4 Conducted Emission Test Result

Wireless charging (worst mode):

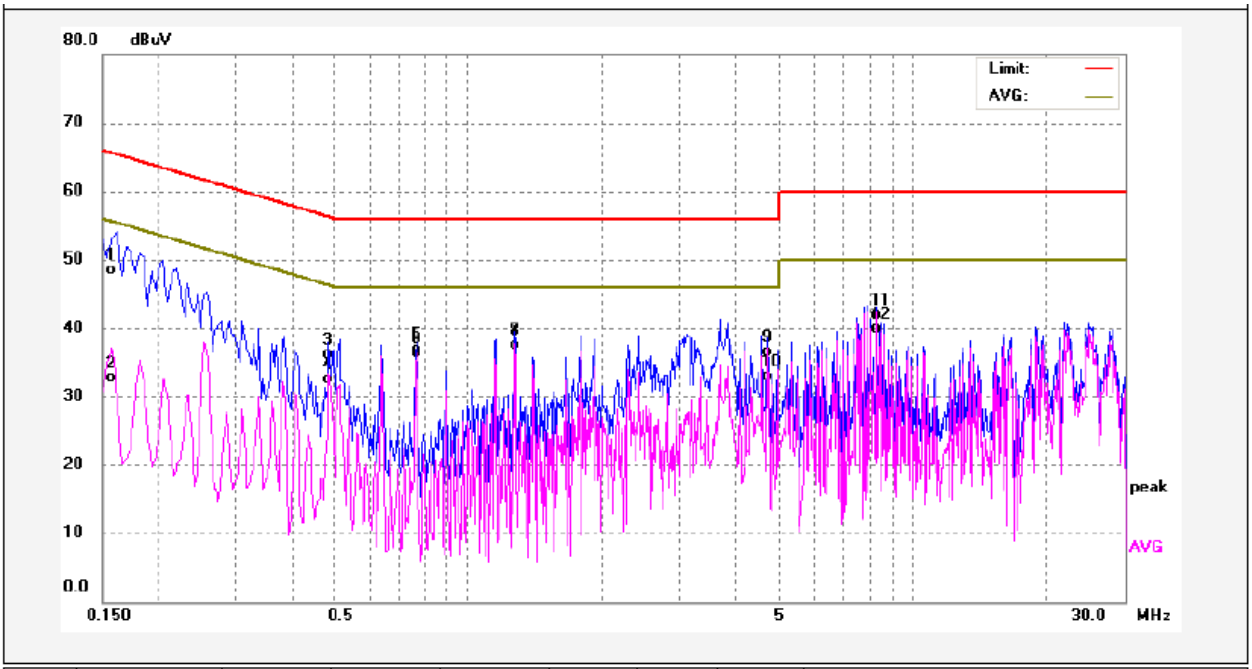
Live line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1580	41.53	10.80	52.33	65.56	-13.23	QP	
2	0.1580	24.07	10.80	34.87	55.56	-20.69	AVG	
3	0.6380	26.43	10.58	37.01	56.00	-18.99	QP	
4	0.6380	26.45	10.58	37.03	46.00	-8.97	AVG	
5	1.1460	27.07	10.60	37.67	56.00	-18.33	QP	
6	1.1460	26.11	10.60	36.71	46.00	-9.29	AVG	
7	1.2740	27.21	10.60	37.81	56.00	-18.19	QP	
8	1.2740	26.82	10.60	37.42	46.00	-8.58	AVG	
9	1.7860	26.11	10.60	36.71	56.00	-19.29	QP	
10	1.7860	25.45	10.60	36.05	46.00	-9.95	AVG	
11	7.7780	31.87	10.68	42.55	60.00	-17.45	QP	
12	7.7780	31.29	10.68	41.97	50.00	-8.03	AVG	

Wireless charging (worst mode):

Neutral line:



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Margin (dB)	Detector	Remark
1	0.1580	37.75	10.80	48.55	65.56	-17.01	QP	
2	0.1580	21.89	10.80	32.69	55.56	-22.87	AVG	
3	0.4860	25.59	10.53	36.12	56.24	-20.12	QP	
4	0.4860	22.06	10.53	32.59	46.24	-13.65	AVG	
5	0.7660	26.29	10.60	36.89	56.00	-19.11	QP	
6	0.7660	25.77	10.60	36.37	46.00	-9.63	AVG	
7	1.2740	26.88	10.60	37.48	56.00	-18.52	QP	
8	1.2740	26.87	10.60	37.47	46.00	-8.53	AVG	
9	4.7180	25.67	10.79	36.46	56.00	-19.54	QP	
10	4.7180	22.14	10.79	32.93	46.00	-13.07	AVG	
11	8.2860	31.18	10.71	41.89	60.00	-18.11	QP	
12	8.2860	29.22	10.71	39.93	50.00	-10.07	AVG	

8. Radiated Spurious Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.209

Test Method: ANSI C63.10:2013

Test Result: PASS

Measurement Distance: 3m

Limit:

FCC Part15 Paragraph 15.209

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))} + 80$
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))} + 40$
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

8.1 EUT Operation

Operating Environment **:**

Temperature: 23.5 °C

Humidity: 51.1 % RH

Atmospheric Pressure: 101.2kPa

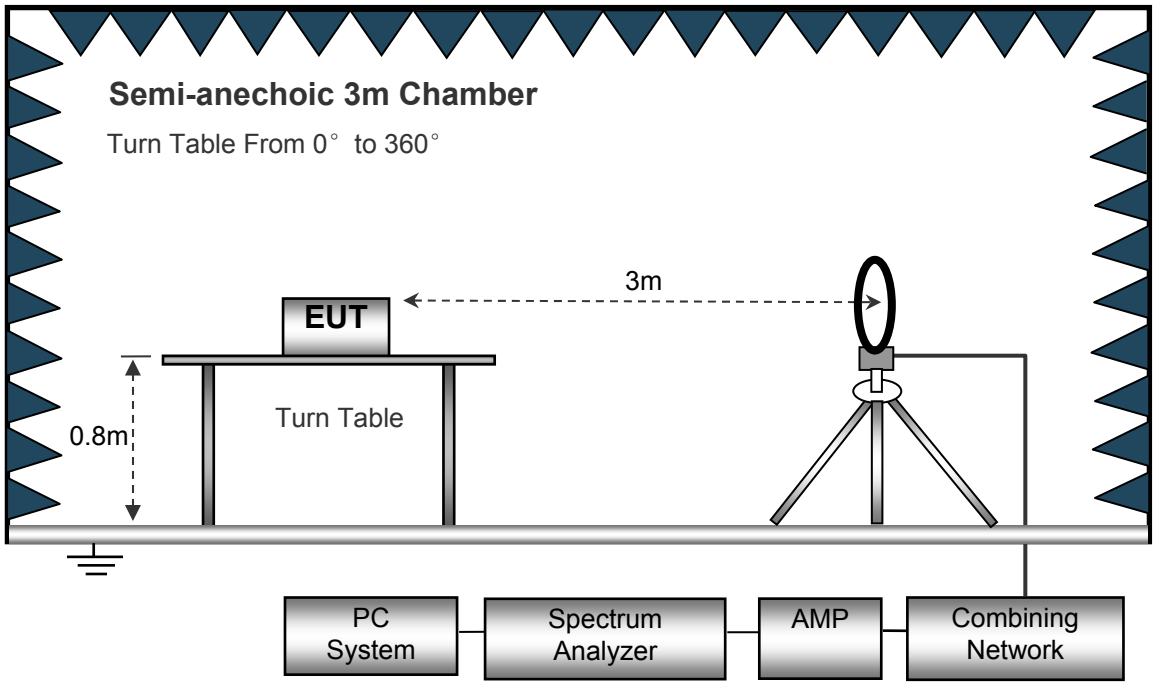
EUT Operation **:**

Only the worst case Wireless charging were record in the report.

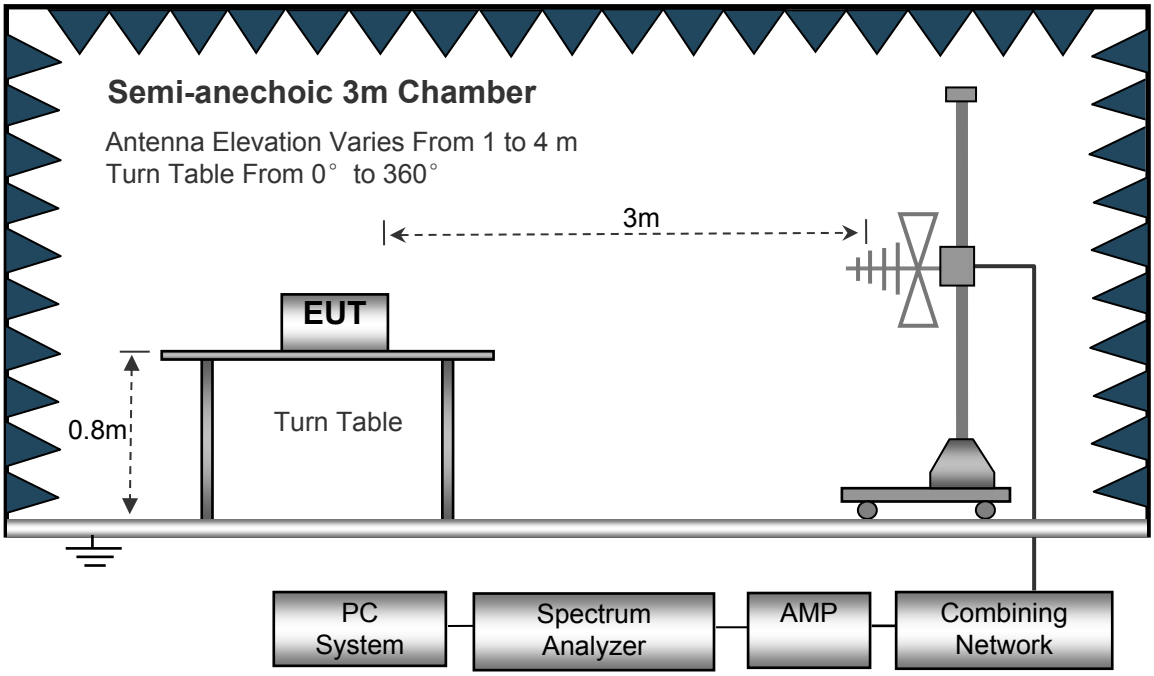
8.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10: 2013.

The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



8.3 Spectrum Analyzer Setup

Below 30MHz

Sweep Speed .....Auto
IF Bandwidth.....10kHz
Video Bandwidth.....10kHz
Resolution Bandwidth.....10kHz

30MHz ~ 1GHz

Sweep Speed .....Auto
Detector .....PK
Resolution Bandwidth.....100kHz
Video Bandwidth.....300kHz

8.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are tested under 3-axes(X, Y, Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand). After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown was the X position only.

8.5 Summary of Test Results

Wireless charging(worst mode):

Test Frequency: 9KHz ~ 30MHz, Note: Correct factor = Cable loss + Antenna factor

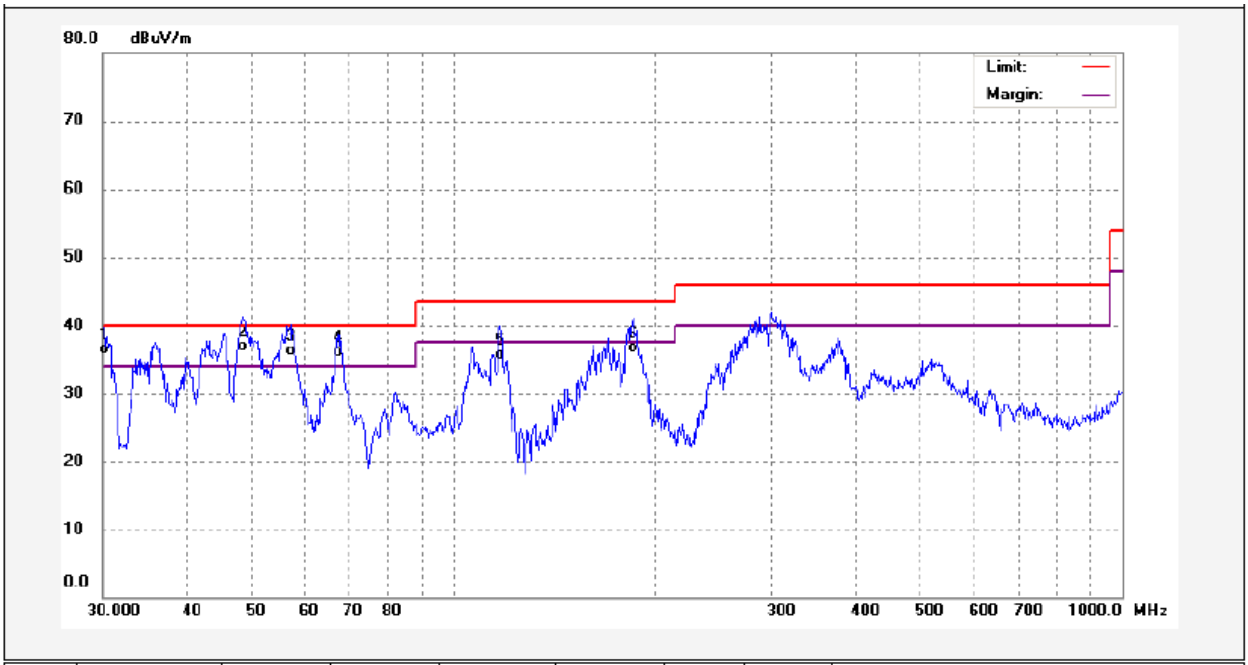
Frequency (MHz)	Measurement results	Detector	Correct factor	Polarization	Measurement results (calculated)	Limits	Margin
	dBμV @3m	PK/QP	dB/m	H/V	dBμV/m @3m	dBμV/m @3m	dB
0.127	88.52	QP	-28.98	H	59.54	104.4	-44.86
0.127	81.81	QP	-28.98	V	52.83	104.4	-51.57
0.061	70.12	QP	-28.53	H	41.59	111.9	-70.31
0.061	65.06	QP	-28.53	V	36.53	111.9	-75.37

Note: 0.144 MHz is the Center frequency of the EUT for Radiated Spurious Emissions.

Wireless charging (worst mode):

Test Frequency: 30MHz ~ 1GHz

Antenna Polarization: Vertical



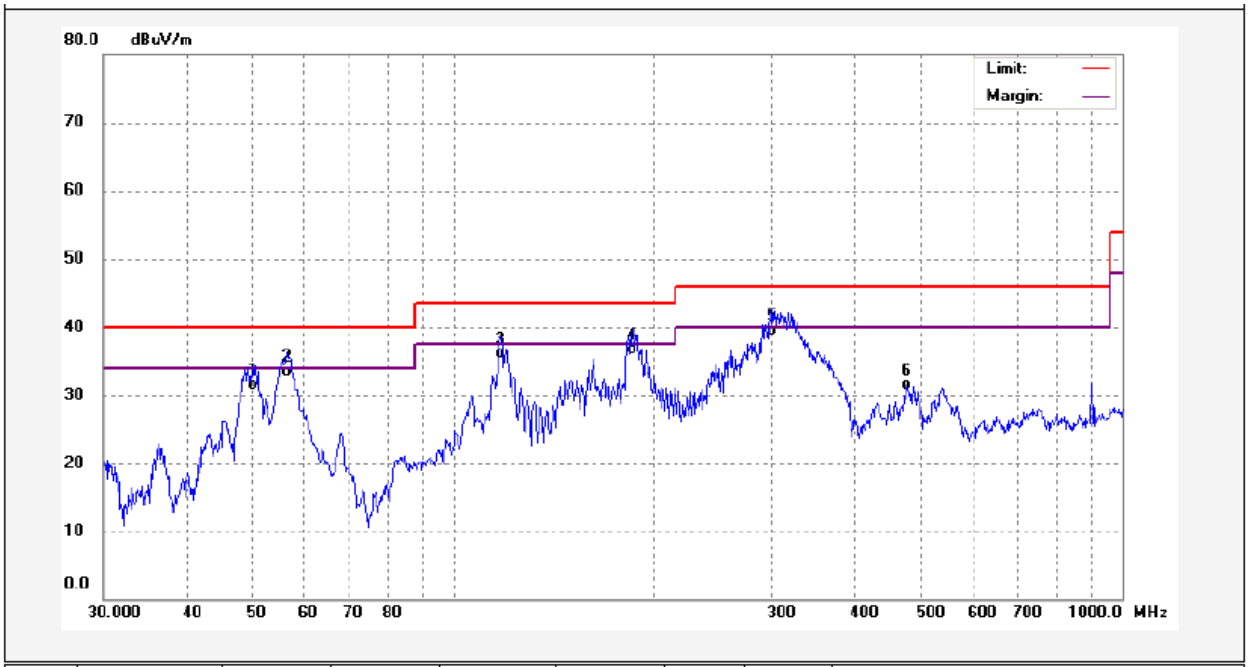
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Remark
1	30.1051	54.66	-18.16	36.50	40.00	-3.50	QP	
2	48.6719	53.87	-16.97	36.90	40.00	-3.10	QP	
3	57.1914	53.56	-17.16	36.40	40.00	-3.60	QP	
4	67.4381	54.38	-18.28	36.10	40.00	-3.90	QP	
5	117.7724	53.22	-17.42	35.80	43.50	-7.70	QP	
6	185.7880	54.18	-17.38	36.80	43.50	-6.70	QP	

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	50.2324	48.35	-16.85	31.50	40.00	-8.50	QP	
2	56.3948	50.72	-17.12	33.60	40.00	-6.40	QP	
3	117.7725	53.52	-17.42	36.10	43.50	-7.40	QP	
4	185.1379	54.10	-17.30	36.80	43.50	-6.70	QP	
5	299.3158	54.22	-14.72	39.50	46.00	-6.50	QP	
6	477.1694	42.04	-10.61	31.43	46.00	-14.57	QP	

Factor= antenna factor + cable loss - preamplifier factor

Result = Reading + Factor

9. Bandwidth Measurement

Test Requirement: FCC CFR47 Part 15 Section 15.215

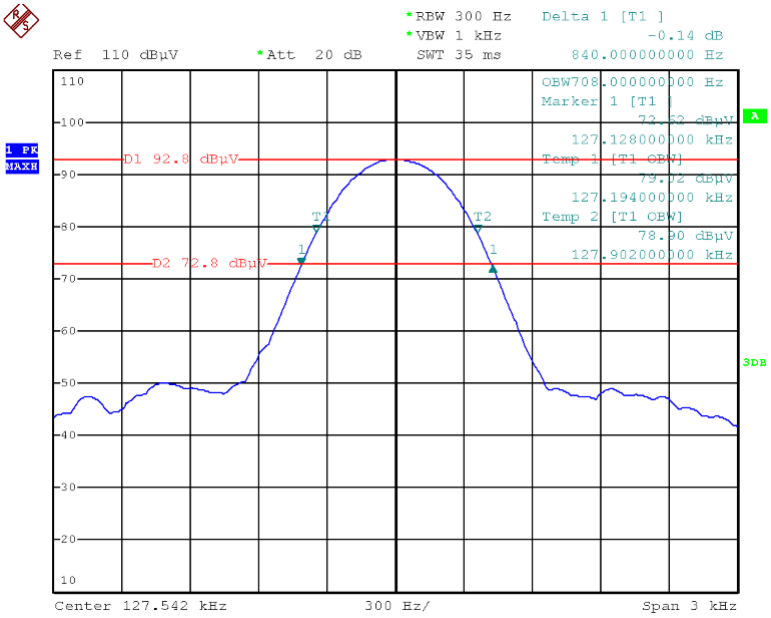
9.1 Test Procedure

1. The transmitter shall be operated at its maximum carrier power measured under normal test conditions;
2. The span of the analyzer shall be set to capture all products of the modulation process,including the emission skirts.
3. The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) shall be approximately 3x RBW.

9.2 Test Result Plot:

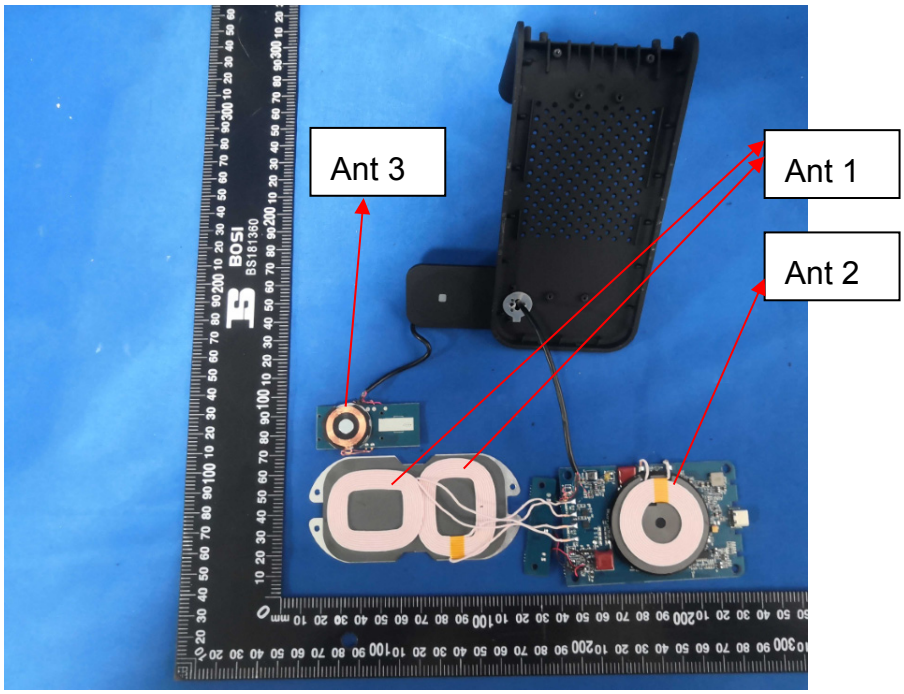
Test Channel(kHz)	99% Bandwidth(Hz)	20dB Bandwidth Emission(Hz)
127.194	708	840

Test result plot as follows:



10. Antenna Requirement

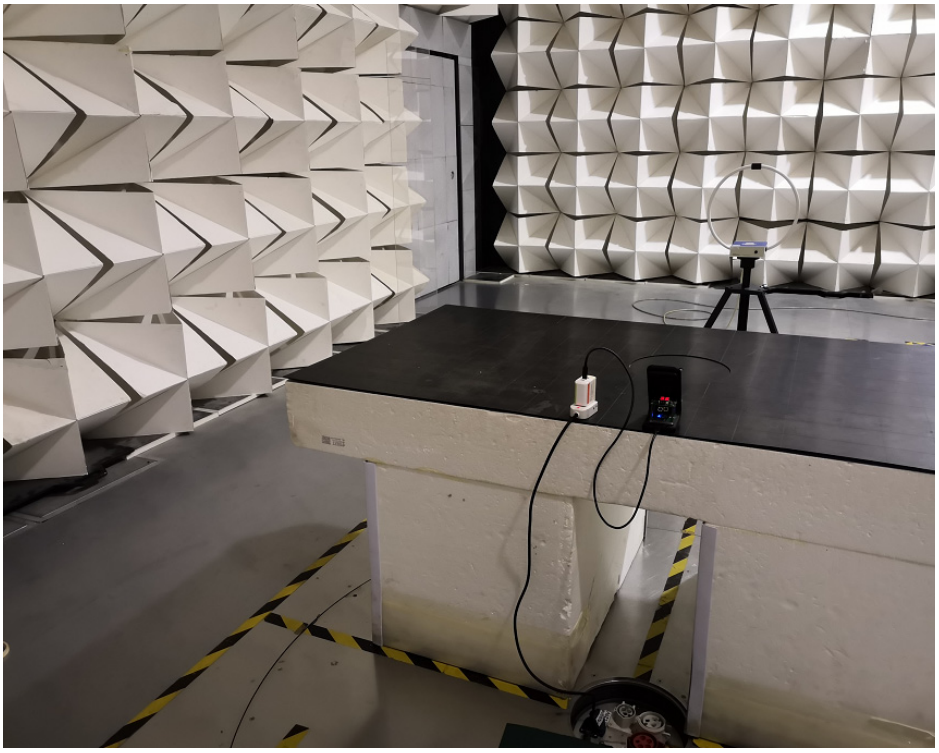
According to the FCC Part 15 Paragraph 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna to the intentional radiator shall be considered sufficient to comply with the provisions of this section. This product has a Coil antenna, fulfill the requirement of this section.



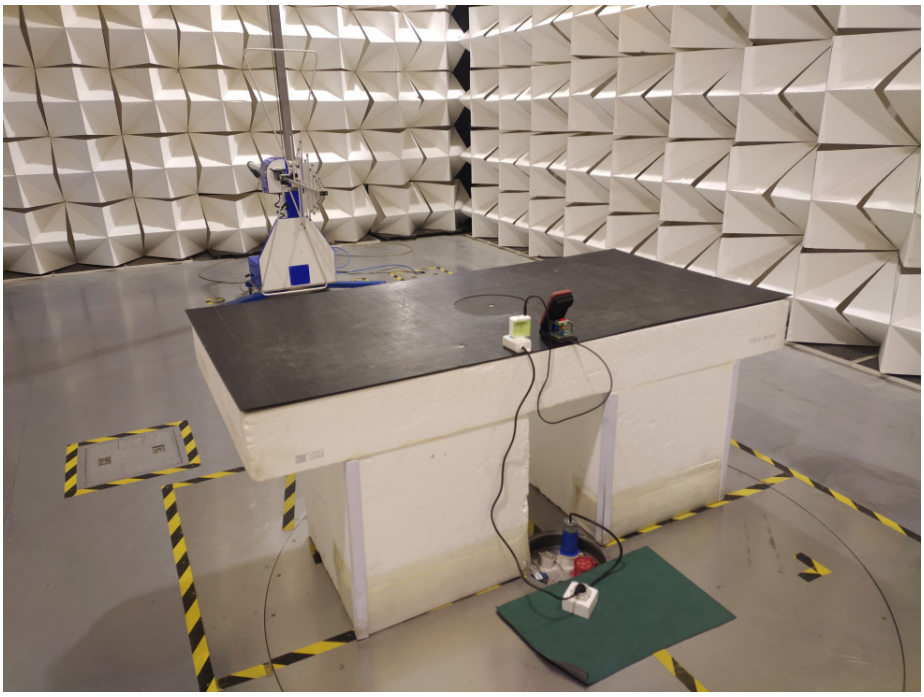
11. Photographs-Test Setup

11.1 Radiation Emission Test Setup

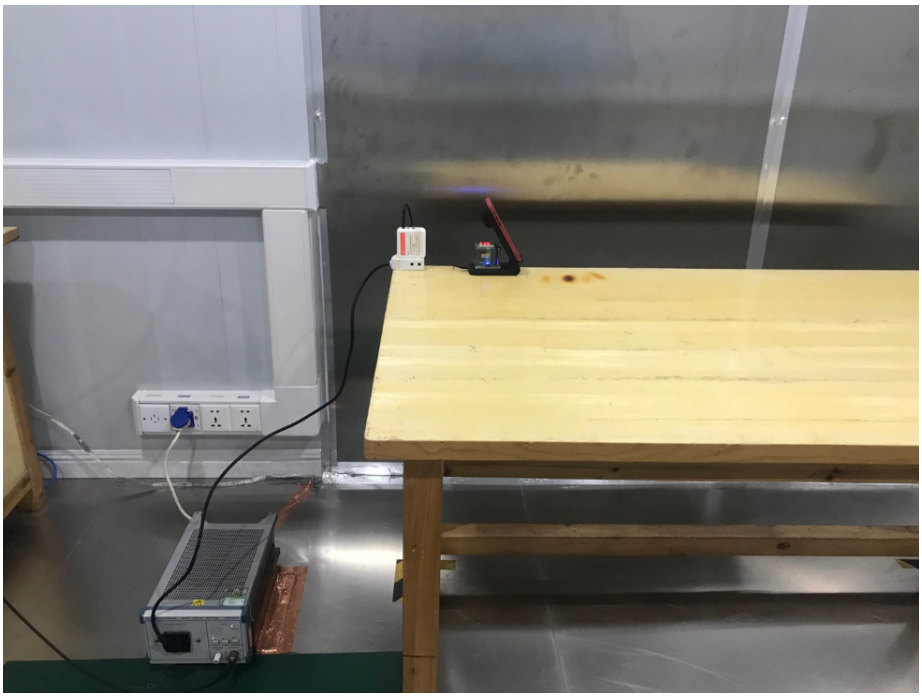
Below 30MHz



From 30MHz to 1GHz



11.2 Photograph – Conducted Emission Test Setup



====== End of Report ======