FCC RADIO TEST REPORT

FCC ID: 2ATWUWI055

Product：	wireless 6700mAH power bank super charger
Trade Name：	N/A
Model Name：	WI-055
Serial Model：	KP-Super, KP-Super2, KP-Super3, KP-Super4, KP-Super5
Report No.：	UNIA19102110FR-01

Prepared for

Mei Shun He Electronic Limited

301,8th Building,No.69 Xikeng Road,Xikeng Community,Fucheng Street, Longhua District,518110,Shenzhen City,China

Prepared by

Shenzhen United Testing Technology Co., Ltd.

2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China

TEST RESULT CERTIFICATION

Applicant's name ..... :	Mei Shun He Electronic Limited
Address ..... :	301,8th Building,No.69 Xikeng Road,Xikeng Community,Fucheng Street,Longhua District,518110,Shenzhen City,China
Manufacture's Name ..... :	Mei Shun He Electronic Limited
Address ..... :	301,8th Building,No.69 Xikeng Road,Xikeng Community,Fucheng Street,Longhua District,518110,Shenzhen City,China

Product description

Product name..... :	wireless 6700mAH power bank super charger
Trade Mark ..... :	N/A
Model and/or type reference :	WI-055, KP-Super, KP-Super2, KP-Super3, KP-Super4, KP-Super5
Standards ..... :	FCC Rules and Regulations Part 15 Subpart C Section 15.209 ANSI C63.10: 2013

This device described above has been tested by Shenzhen United Testing Technology Co., Ltd., and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test.....:	
Date (s) of performance of tests.....:	Oct. 21, 2019 ~ Oct. 31, 2019
Date of Issue .....:	Oct. 31, 2019
Test Result .....:	Pass

Prepared by: Bob Liao

Bob liao/Editor

Reviewer: Kahn Yang

Kahn yang/Supervisor

Approved & Authorized Signer: liuze

Liuze/Manager

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1 TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

ITEM	STANGARD	RESULT
CONDUCTED EMISSION	FCC Part 15.207	COMPLIANT
RADIATED EMISSION	FCC Part 15.209	COMPLIANT
ANTENNA REQUIREMENT	FCC Part 15.203	COMPLIANT

1.2 TEST FACILITY

Test Firm : Shenzhen United Testing Technology Co., Ltd.

Address : 2F, Annex Bldg, Jiahuangyuan Tech Park, #365 Baotian 1 Rd, Tiegang Community, Xixiang Str, Bao'an District, Shenzhen, China

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.The testing quality system of our laboratory meets with ISO/IEC-17025 requirements. This approval result is accepted by MRA of APLAC.

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

A2LA Certificate Number: 4747.01
The EMC Laboratory has been accredited by A2LA, and in compliance with ISO/IEC 17025:2017 General Requirements for testing Laboratories.

FCC Registration Number: 674885
The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission.

IC Registration Number: 21947
The EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada.

1.3 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
UNI	ANSI	9KHz ~ 150KHz	2.96	
		150KHz ~ 30MHz	2.44	

B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
UNI	ANSI	9KHz ~ 30MHz	2.50	
		30MHz ~ 1000MHz	4.80	
		1000MHz ~ 6000MHz	4.13	

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment:	wireless 6700mAH power bank super charger
Trade Mark:	N/A
Model Name:	WI-055
Serial No.:	KP-Super, KP-Super2, KP-Super3, KP-Super4, KP-Super5
Model Difference:	All model's the function, software and electric circuit are the same, only with a product color and model named different. Test sample model: WI-055.
FCC ID:	2ATWUWI055
Antenna Type:	Coil Antenna
Antenna Gain:	0dBi
Operation frequency:	125KHz
Number of Channels:	1CH
Modulation Type:	ASK
Battery:	DC 3.6V, 6700mAh
Power Source:	DC 5V from adapter with AC 120(240)V/60Hz

2.2 CARRIER FREQUENCY OF CHANNELS

Channel List							
Channel	Frequency (KHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	125						

2.3 TEST MODE

The EUT was programmed to be in transmitting mode.

Channel List	
Test Channel	Test Frequency (KHz)
01	125

2.4 TEST SETUP

Operation of EUT during testing:

2.5 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Note
E-1	wireless 6700mAH power bank super charger	N/A	WI-055	EUT
E-2	Adapter	XIAOMI	MDY-08-EF	AE

Item	Shielded Type	Ferrite Core	Length	Note

Note:

1. The support equipment was authorized by Declaration of Confirmation.
2. For detachable type I/O cable should be specified the length in cm in『Length』column.
3. “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

2.6 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
Conduction Emissions Measurement					
1	Conducted Emission Test Software	EZ-EMC	Ver.CCS-3A1-CE	N/A	N/A
2	AMN	Schwarzbeck	NNLK8121	8121370	2020.09.06
3	AMN	ETS	3810/2	00020199	2020.09.06
4	EMI TEST RECEIVER	Rohde&Schwarz	ESCI	101210	2020.09.06
5	Pulse limiter	CYBRTEK	EM5010	E115010056	2020.05.26
6	AAN	TESEQ	T8-Cat6	38888	2020.09.06
Radiated Emissions Measurement					
1	Radiated Emission Test Software	EZ-EMC	Ver.CCS-03A1	N/A	N/A
2	Horn Antenna	Sunol	DRH-118	A101415	2020.10.08
3	Broadband Hybrid Antenna	Sunol	JB1	A090215	2019.12.09
4	PREAMP	HP	8449B	3008A00160	2020.09.06
5	PREAMP	HP	8447D	2944A07999	2020.05.26
6	EMI TEST RECEIVER	Rohde&Schwarz	ESR3	101891	2020.09.06
7	VECTOR Signal Generator	Rohde&Schwarz	SMU200A	101521	2020.09.06
8	Signal Generator	Agilent	E4421B	MY4335105	2020.09.06
9	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2020.09.06
10	MXA Signal Analyzer	Keysight	N9020A	MY51110104	2020.09.06
11	RF Power sensor	DARE	RPR3006W	15I00041SNO88	2020.06.09
12	RF Power sensor	DARE	RPR3006W	15I00041SNO89	2020.06.09
13	RF power divider	Anritsu	K241B	992289	2020.09.06
14	Wideband radio communication tester	Rohde&Schwarz	CMW500	154987	2020.09.06
15	Active Loop Antenna	Com-Power	AL-130R	10160009	2020.05.28
16	Broadband Hybrid Antennas	Schwarzbeck	VULB9163	VULB9163#958	2020.05.28
17	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1680	2020.05.28
18	Horn Antenna	A-INFOMW	LB-180400-KF	J211060660	2020.05.28
19	Microwave Broadband Preamplifier	Schwarzbeck	BBV 9721	100472	2020.05.28
20	Signal Generator	Agilent	N5183A	MY47420153	2020.05.28
21	Spctrum Analyzer	Rohde&Schwarz	FSP 40	100501	2020.05.28
22	Power Meter	KEYSIGHT	N1911A	MY50520168	2020.05.28
23	Frequency Meter	VICTOR	VC2000	997406086	2020.05.28
24	DC Power Source	HYELEC	HY5020E	055161818	2020.05.28

3 CONDUCTED EMISSION

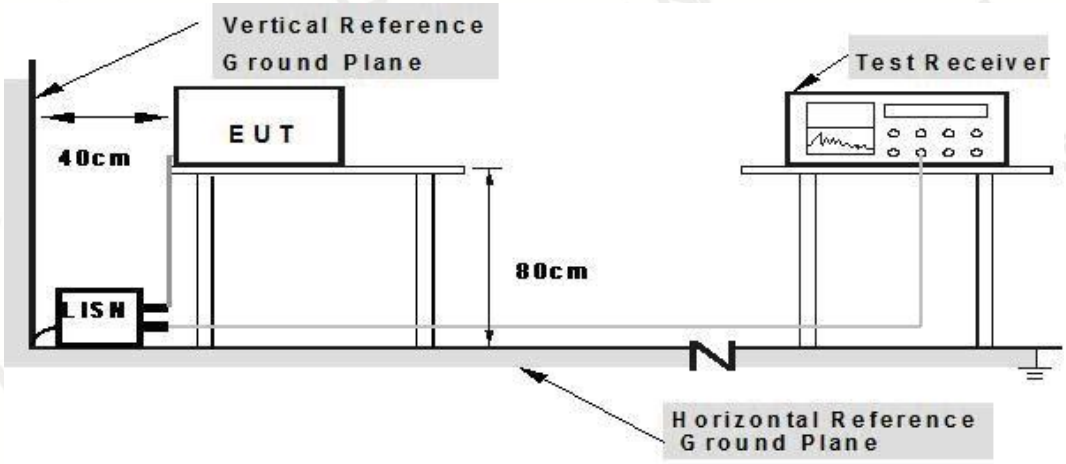
3.1 TEST LIMIT

For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following

Frequency (MHz)	Maximum RF Line Voltage (dBμV)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15~0.50	79	66	66~56*	56~46*
0.50~5.00	73	60	56	46
5.00~30.0	73	60	60	50

* Decreasing linearly with the logarithm of the frequency.
For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

3.2 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

3.3 TEST PROCEDURE

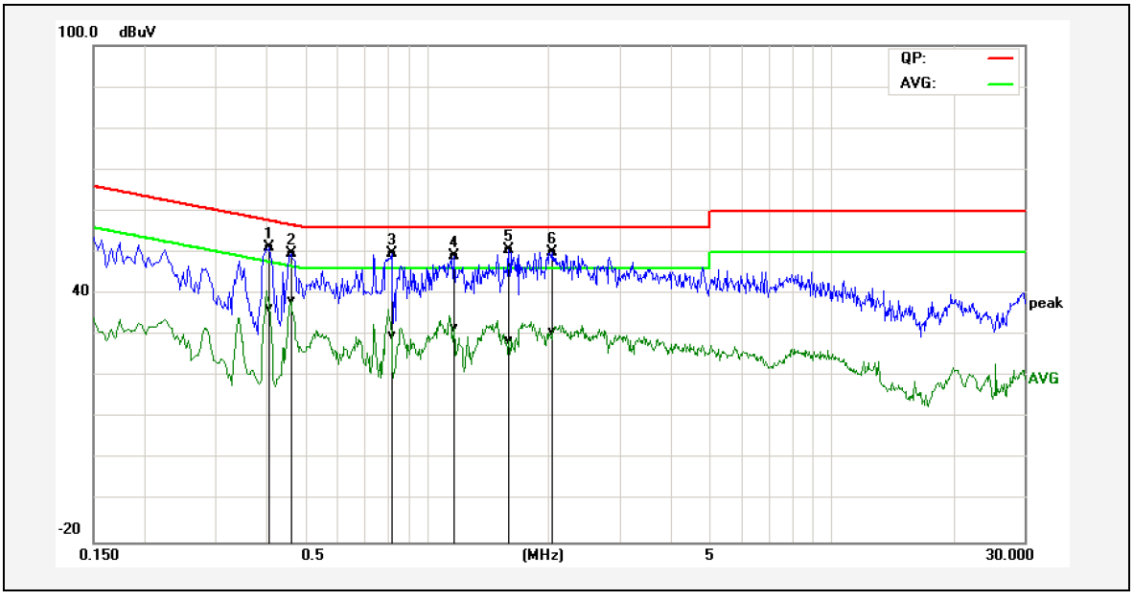
1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is placed on a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10.
2. Support equipment, if needed, was placed as per ANSI C63.10.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4. If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5. All support equipments received AC power from a second LISN, if any.
6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

3.4 TEST RESULT

PASS

Remark: EUT was tested at AC 120V and 240V, only the worst result of AC 120V was reported.

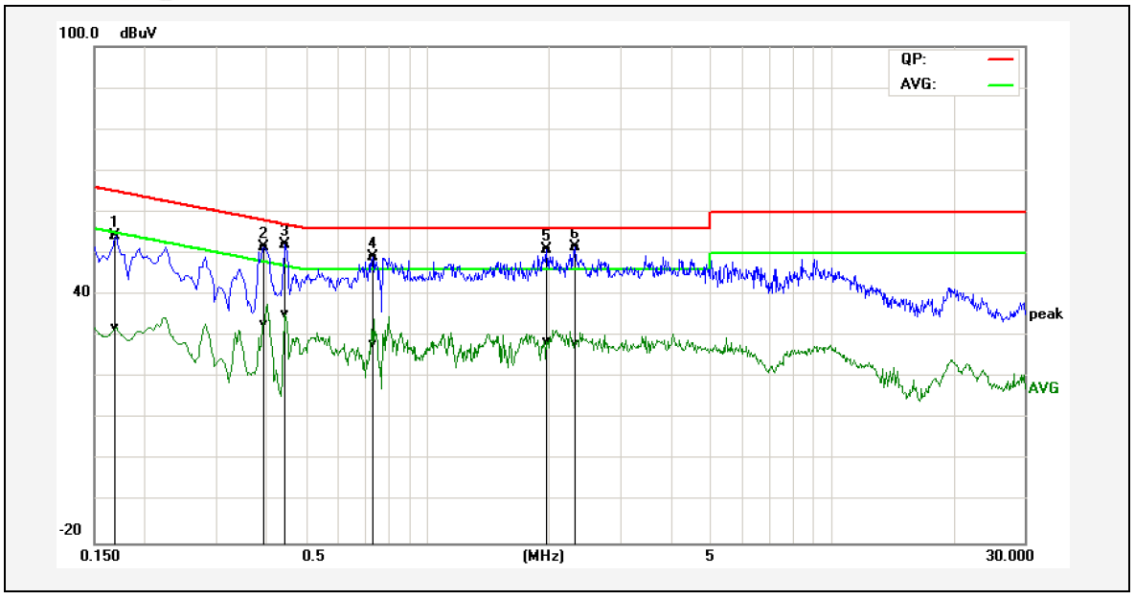
Temperature:	24℃	Relative Humidity:	48%
Test Date:	Oct. 28, 2019	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Line
Test Mode:	Charging battery of power bank		



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1P	0.4100	41.51	26.60	9.82	51.33	36.42	57.65	47.65	-6.32	-11.23	Pass
2P	0.4620	39.99	28.44	9.80	49.79	38.24	56.66	46.66	-6.87	-8.42	Pass
3P	0.8180	39.89	20.05	9.85	49.74	29.90	56.00	46.00	-6.26	-16.10	Pass
4P	1.1660	39.32	21.94	9.84	49.16	31.78	56.00	46.00	-6.84	-14.22	Pass
5*	1.5980	40.63	18.89	9.89	50.52	28.78	56.00	46.00	-5.48	-17.22	Pass
6P	2.0540	40.11	21.10	9.89	50.00	30.99	56.00	46.00	-6.00	-15.01	Pass

Remark: Factor = Insertion Loss + Cable Loss, Result = Reading + Factor, Margin = Result – Limit.

Temperature:	24℃	Relative Humidity:	48%
Test Date:	Oct. 28, 2019	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Neutral
Test Mode:	Charging battery of power bank		



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1P	0.1700	44.44	22.49	9.68	54.12	32.17	64.96	54.96	-10.84	-22.79	Pass
2P	0.3940	41.72	23.22	9.82	51.54	33.04	57.98	47.98	-6.44	-14.94	Pass
3P	0.4460	42.36	25.48	9.80	52.16	35.28	56.95	46.95	-4.79	-11.67	Pass
4P	0.7340	39.35	18.48	9.82	49.17	28.30	56.00	46.00	-6.83	-17.70	Pass
5P	1.9780	41.10	18.94	9.88	50.98	28.82	56.00	46.00	-5.02	-17.18	Pass
6*	2.3260	41.55	18.24	9.90	51.45	28.14	56.00	46.00	-4.55	-17.86	Pass

Remark: Factor = Insertion Loss + Cable Loss, Result = Reading + Factor, Margin = Result – Limit.

4 RADIATED EMISSION

4.1 TEST LIMIT

CFR 47 Part 15, section 15.205
Only spurious emissions are permitted in any of the frequency bands listed the tables in these sections:

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\)
13.36-13.41			

CFR 47 Part 15, section 15.209
The emissions from an intentional radiator shall not exceed the limits in the tables in these sections using an average detector:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100**	3
88–216	150**	3
216–960	200**	3
Above 960	500	3

Limit calculation and transfer to 3m distance as showed in the following table:

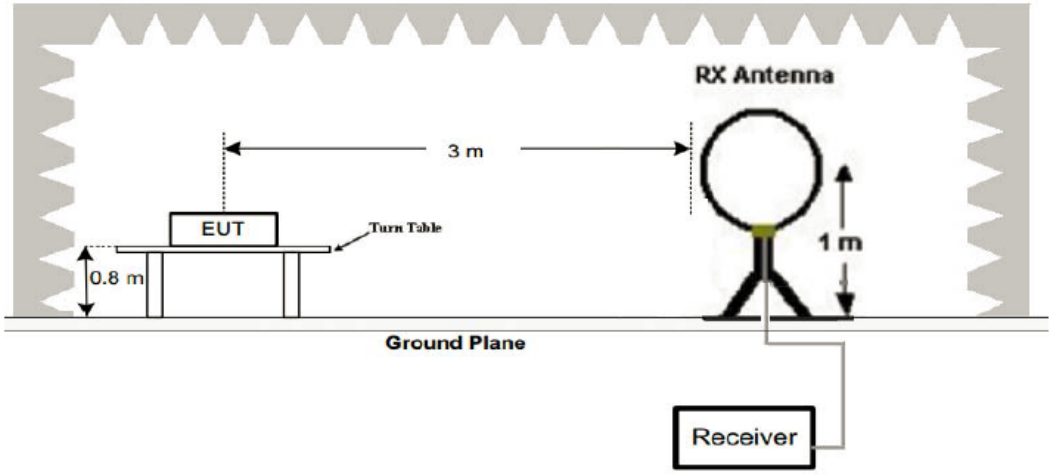
Frequency (MHz)	Limit (dBuV/m)	Distance (m)
0.009-0.490	20log(2400/F(KHz))+40log(300/3)	3
0.490-1.705	20log(24000/F(KHz))+40log(30/3)	3
1.705-30.0	69.5	3
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

CFR 47 Part 15, section 15.35
When average radiated emission measurements are specified, the limit on the peak level of the radio Frequency emission is 20dB above the maximum permitted average emission limit.

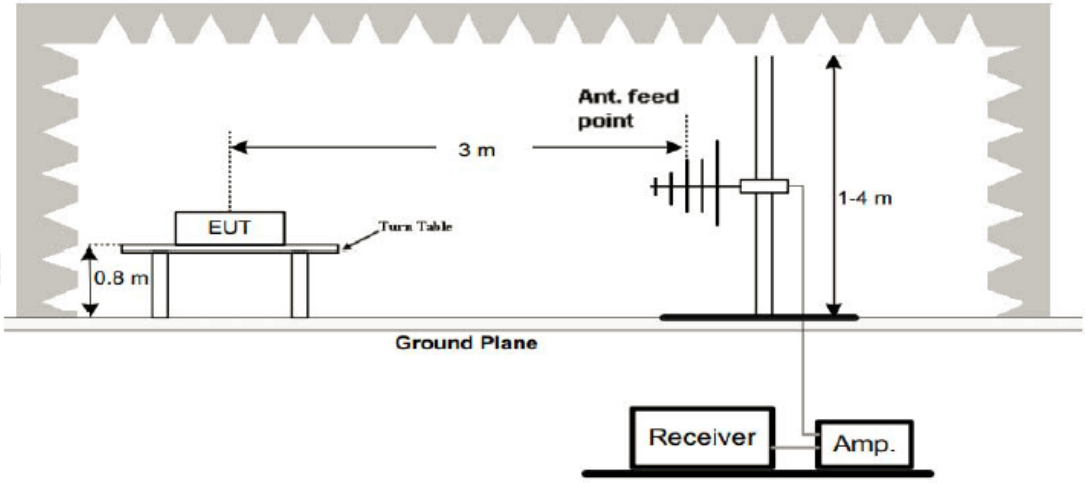
Transmitter Spurious Emissions 9KHz-30MHz			
	9-150KHz	150-490KHz	490KHz-30MHz
Resolution Bandwidth	200Hz	9KHz	9KHz
Video Bandwidth	2KHz	100KHz	100KHz
Detector	Peak	Peak	Peak
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep Time	Auto	Auto	Auto

4.2 TEST SETUP

1. Radiated Emission Test-Up Frequency Below 30MHz



2. Radiated Emission Test-Up Frequency 30MHz~1GHz



4.3 TEST PROCEDURE

1. Measurement distance is 3m.
2. For the measurement range up to 30MHz in the following plots the field strength result from 3m.
3. Distance measurement are extrapolated to 300m and 30m distance respectively, by 40dB/decade. According to part 15.31(f)(2), per antenna factor scaling.
4. Measurements below 1000MHz are performed with a peak detector and compared to average limits. Measurements with an average detector are not required.

Note:
For battery operated equipment, the equipment tests shall be performed using a new battery.

4.4 TEST RESULT

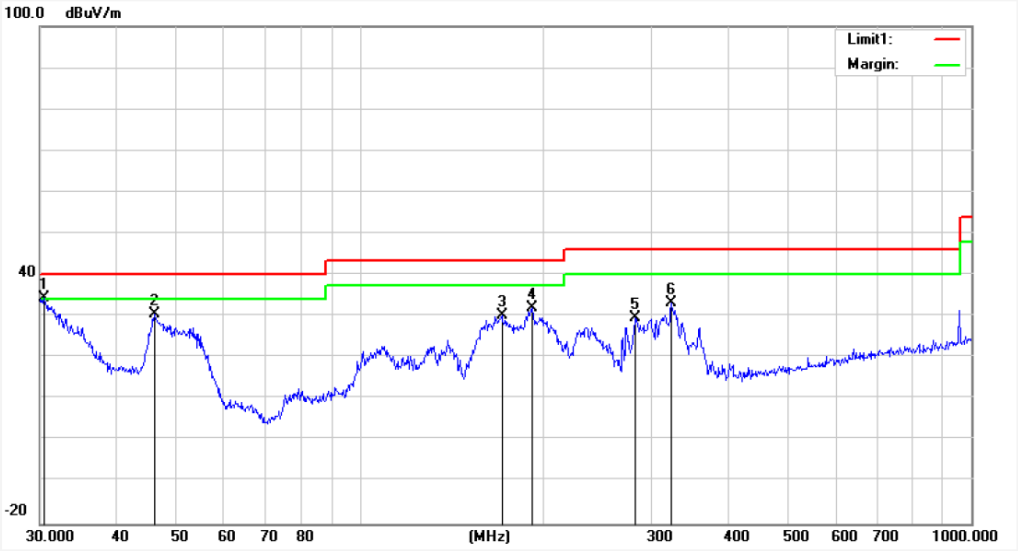
PASS

For 9KHz-30MHz Test Results:

Frequency (MHz)	Detector Mode (PK/QP)	Reading (dBuV)	Factor (dB)	Actual FS (dBuV/m)	Limits 3m (dBuV/m)	Margin (dBuV/m)
0.125	PK	69.69	15.48	85.17	105.67	-20.50
0.480	PK	35.76	15.96	51.72	73.98	-22.26
1.646	PK	24.60	16.20	40.80	63.28	-22.48
2.555	PK	32.02	15.18	47.20	69.50	-22.30
4.267	PK	30.95	15.66	46.61	69.50	-22.89
8.456	PK	31.44	15.60	47.04	69.50	-22.46

For 30MHz-1GHz Test Results:

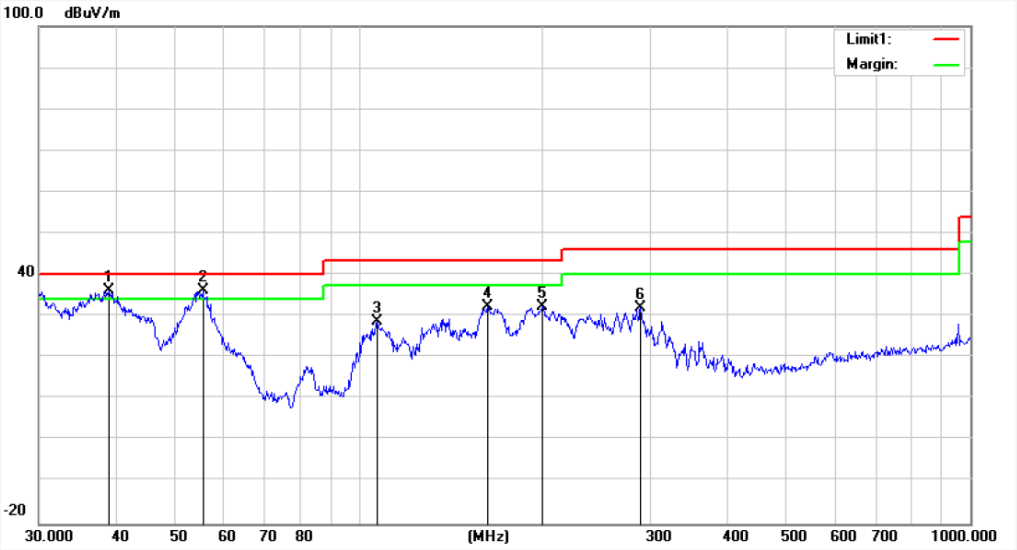
Temperature:	24℃	Relative Humidity:	48%
Test Date:	Oct. 28, 2019	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Horizontal
Test Mode:	Transmitting mode		



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1*	30.4238	41.54	-7.05	34.49	40.00	-5.51	225	100	peak
2	46.1780	49.86	-19.40	30.46	40.00	-9.54	300	100	peak
3	170.7926	45.73	-15.50	30.23	43.50	-13.27	60	100	peak
4	191.0738	48.08	-15.96	32.12	43.50	-11.38	85	100	peak
5	281.9946	42.62	-13.01	29.61	46.00	-16.39	175	100	peak
6	323.3204	45.31	-12.16	33.15	46.00	-12.85	280	100	peak

Remark: Absolute Level = Reading Level + Factor, Margin = Absolute Level – Limit
Factor = Ant. Factor + Cable Loss – Pre-amplifier

Temperature:	24℃	Relative Humidity:	48%
Test Date:	Oct. 28, 2019	Pressure:	1010hPa
Test Voltage:	AC 120V, 60Hz	Phase:	Vertical
Test Mode:	Transmitting mode		



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1*	39.0245	51.00	-14.64	36.36	40.00	-3.64	200	100	peak
2!	55.6094	58.24	-22.10	36.14	40.00	-3.86	105	100	peak
3	107.1337	46.26	-17.64	28.62	43.50	-14.88	310	100	peak
4	162.6106	48.57	-16.15	32.42	43.50	-11.08	80	100	peak
5	199.9856	47.77	-15.34	32.43	43.50	-11.07	60	100	peak
6	289.0021	46.75	-14.65	32.10	46.00	-13.90	90	100	peak

Remark: Absolute Level = Reading Level + Factor, Margin = Absolute Level – Limit
Factor = Ant. Factor + Cable Loss – Pre-amplifier

Remark:

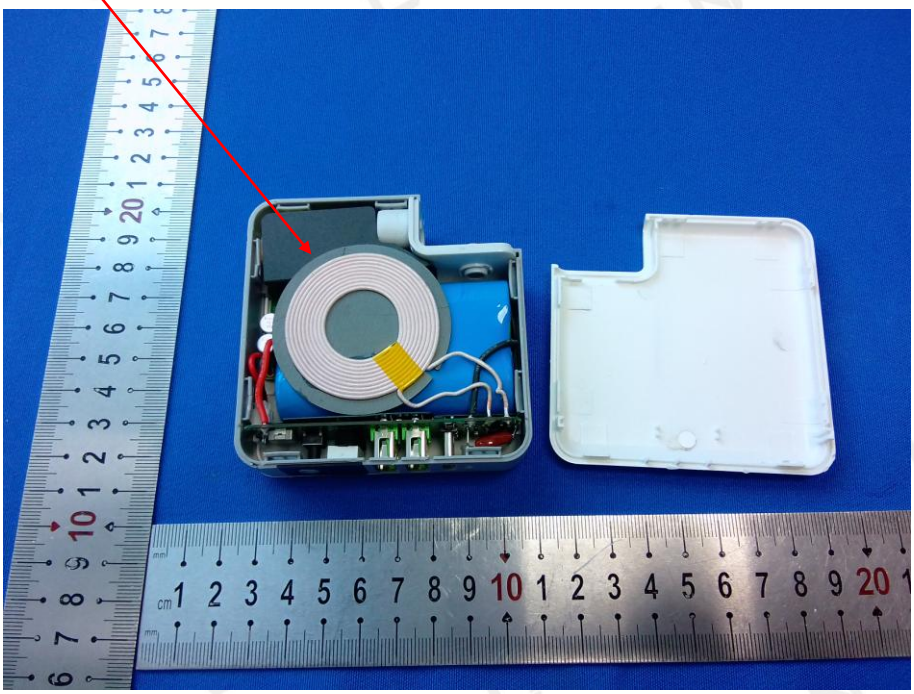
1. Measuring frequencies from 9 KHz to the 1 GHz, Radiated emission test from 9KHz to 30MHzwas verified, and no any emission was found except system noise floor.
2. * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
3. The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

5 ANTENNA REQUIREMENT

Standard Applicable:
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.

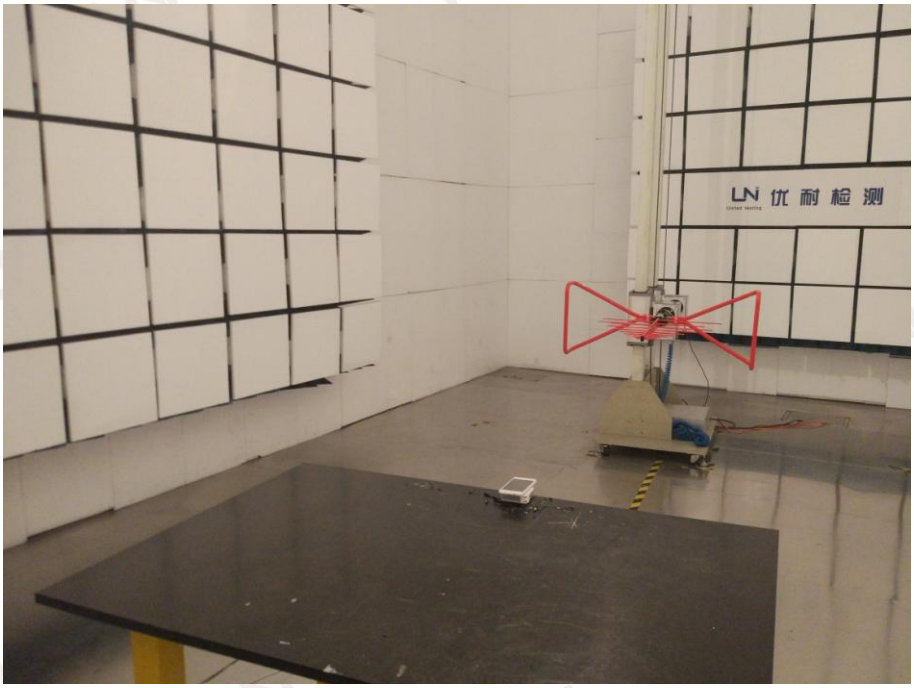
Antenna Connected Construction:
The antenna used in this product is a Coil Antenna, The directional gains of antenna used for transmitting is 0dBi.

ANTENNA:

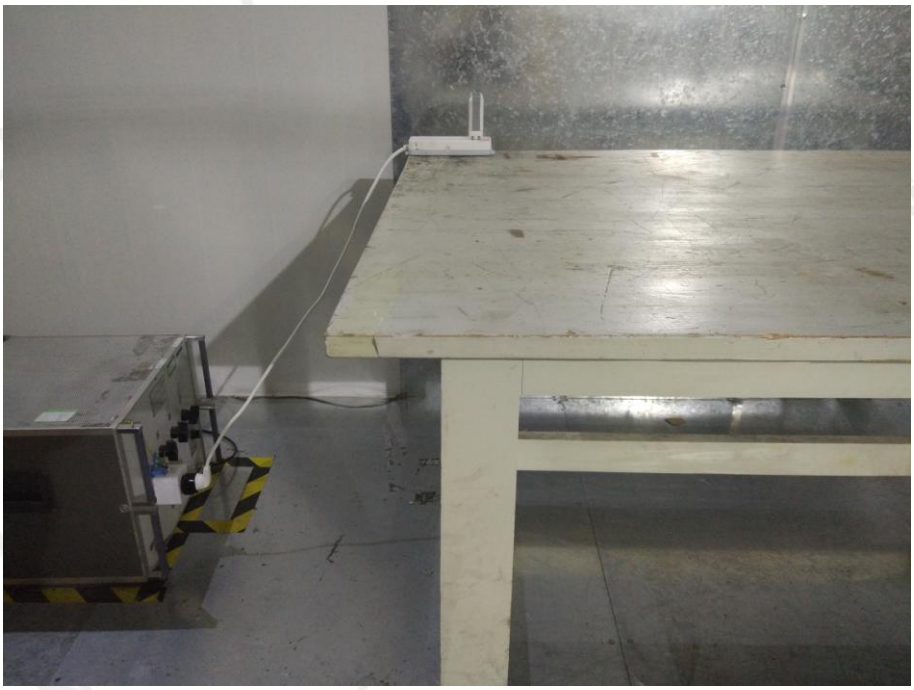


6 PHOTO OF TEST

6.1 RADIATED EMISSION



6.2 CONDUCTED EMISSION



End of Report