

Test Report

Under
FCC Part15 Subpart C

Report Reference No. : A1304031F 02001

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Date of issue : 2013-6-20

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FCC Registered Test Site Number: 721657

Address :
FCC Registered Test Site Number: 721657

Performed location..... : QuieTek Technology (Suzhou) Co., Ltd.
No. 99 Hongye Rd., Suzhou Industrial Park Loufeng Hi-Tech
Development Zone, Suzhou, China
FCC Registered Test Site Number: 800392

Address :
FCC Registered Test Site Number: 800392

Product name..... : Dual QI

Model No. : HO-WLC-2XX

FCC ID : O3ZHOWLC2XX

Applicant's name..... : Konnext Corporation Limited

Address..... : Flat A, 5/F, Contempo Place, 81 Hung To Rd, Kwun Tong,
Kowloon, Hong Kong

Manufacturer..... : Konnext Corporation Limited

Address..... : Flat A, 5/F, Contempo Place, 81 Hung To Rd, Kwun Tong,
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1. General Information

1.1. EUT Description

Product	Dual QI
Brand Name	KONNEXT
Model No.	HO-WLC-2XX
Working Voltage	DC 18V
Charging Frequency	110~132kHz
Antenna Type	Loop Antenna

1.2. Mode of Operation

Test Mode
Mode 1: Transmit

Note:

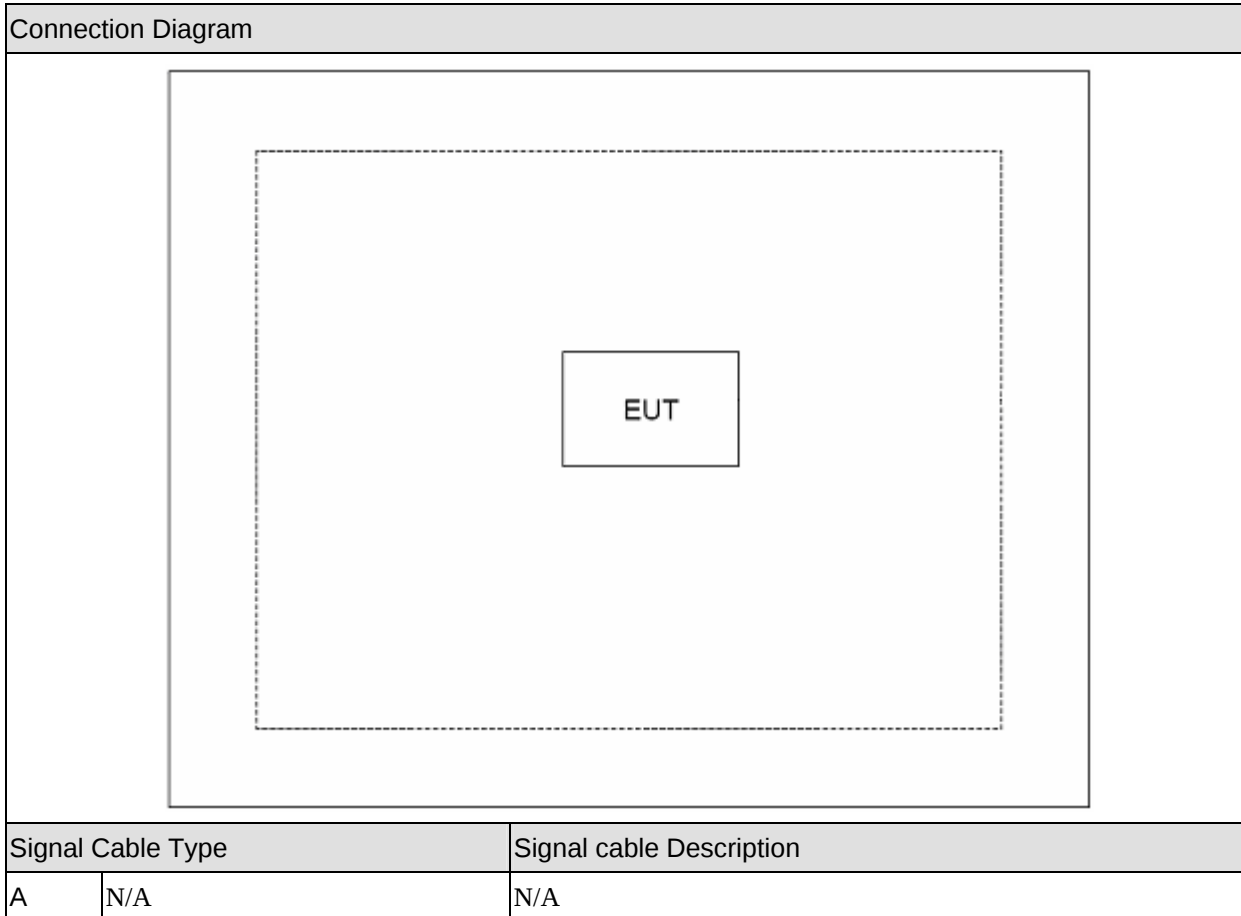
1. The device described above was tested by Dong Guan Anci Electronic Technology Co., Ltd. to determine the maximum emission levels emanated from the device and severity levels of the device endure and its performance criterion. The measurement results are contained in this test report and Dong Guan Anci Electronic Technology Co., Ltd. assumes full responsibility for the accuracy and completeness of these measurements. This report shows the EUT is technically compliance with the above official standards.
2. This report applies to the above sample only and shall not be reproduced in part without written approval of Dong Guan Anci Electronic Technology Co., Ltd

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	Power Cord
1 N/A	N/A	N/A	N/A	N/A

1.4. Configuration of Tested System



1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of equipment.
3	Make the EUT work on “Wireless Charging” mode, then start to test.

2. Technical Test

2.1. Summary of Test Result

Performed Test Item	Normative References	Test Result
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2012 Section 15.207	Pass
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2012 Section 15.209	Pass

2.2. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

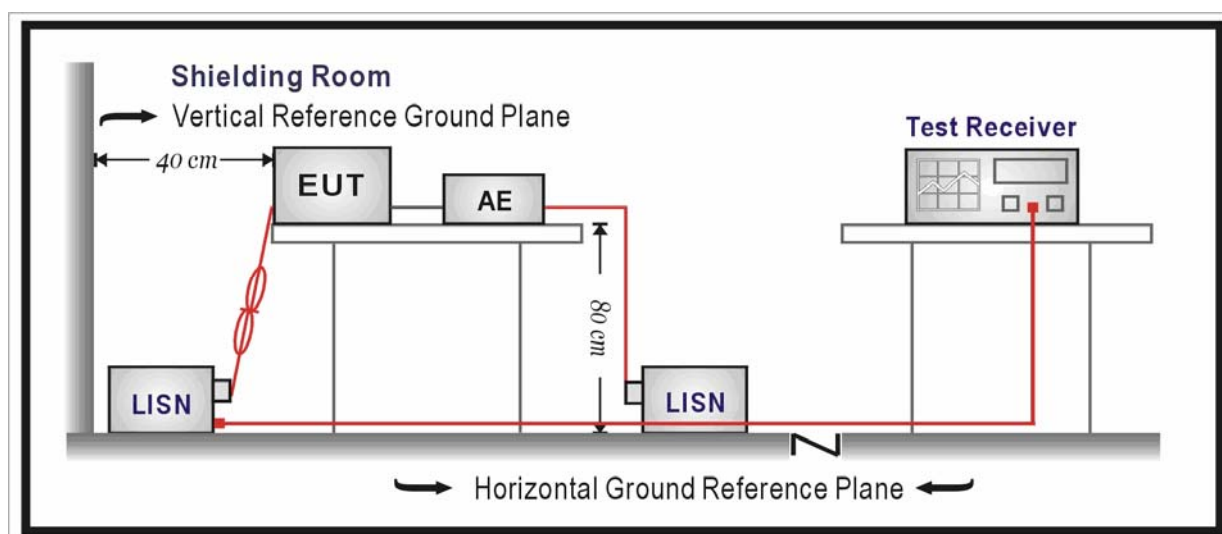
3. Conducted Emission

3.1. Test Equipment

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100726	2013.03.31	2014.03.30
Two-Line V-Network	R&S	ENV216	100043	2013.03.31	2014.03.30
Two-Line V-Network	R&S	ENV216	100044	2013.03.18	2014.03.17
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2013.03.02	2014.03.01
50ohm Termination	SHX	TF2	07081401	2013.03.18	2014.03.17
Temperature/Humidity Meter	zhicheng	ZC1-2	TR1-TH	2013.01.11	2014.01.10

Note: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

3.2. Test Setup



3.3. Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

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

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.

3.4. Test Procedure

According to FCC ANSI C63.4: 2009 & ANSI C63.10: 2009.

The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)

Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.

The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Uncertainty

The measurement uncertainty is defined as ± 2.01 dB

3.6. Test Result

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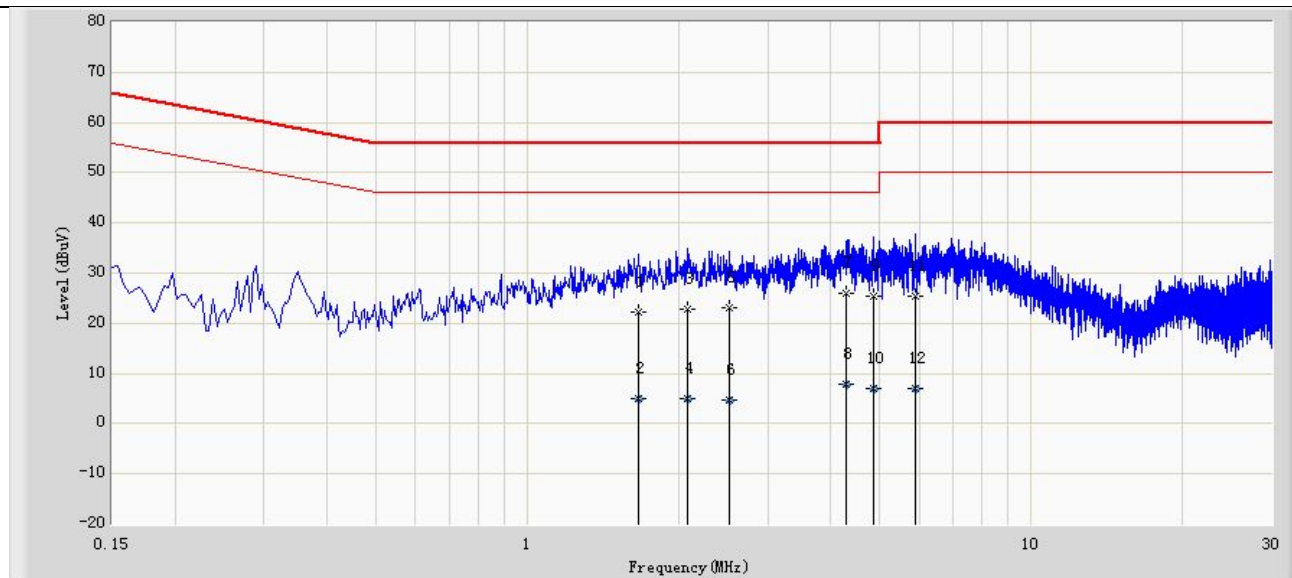
Limit: FCC_Part15.207_CE_AC Power

Power: AC 120V/60Hz

Probe: ENV216_101044(0.009-30MHz)

Polarity: Line

Note: Mode 1



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		1.666	22.161	12.367	-33.839	56.000	9.794	QP
2		1.666	5.105	-4.689	-40.895	46.000	9.794	AV
3		2.074	22.858	13.068	-33.142	56.000	9.790	QP
4		2.074	5.077	-4.713	-40.923	46.000	9.790	AV
5		2.514	23.141	13.339	-32.859	56.000	9.802	QP
6		2.514	4.780	-5.022	-41.220	46.000	9.802	AV
7	*	4.306	26.104	16.256	-29.896	56.000	9.848	QP
8		4.306	7.837	-2.011	-38.163	46.000	9.848	AV
9		4.866	25.445	15.585	-30.555	56.000	9.860	QP
10		4.866	7.147	-2.713	-38.853	46.000	9.860	AV
11		5.878	25.377	15.484	-34.623	60.000	9.893	QP
12		5.878	6.894	-2.999	-43.106	50.000	9.893	AV

Time: 2013/06/16 - 14:59

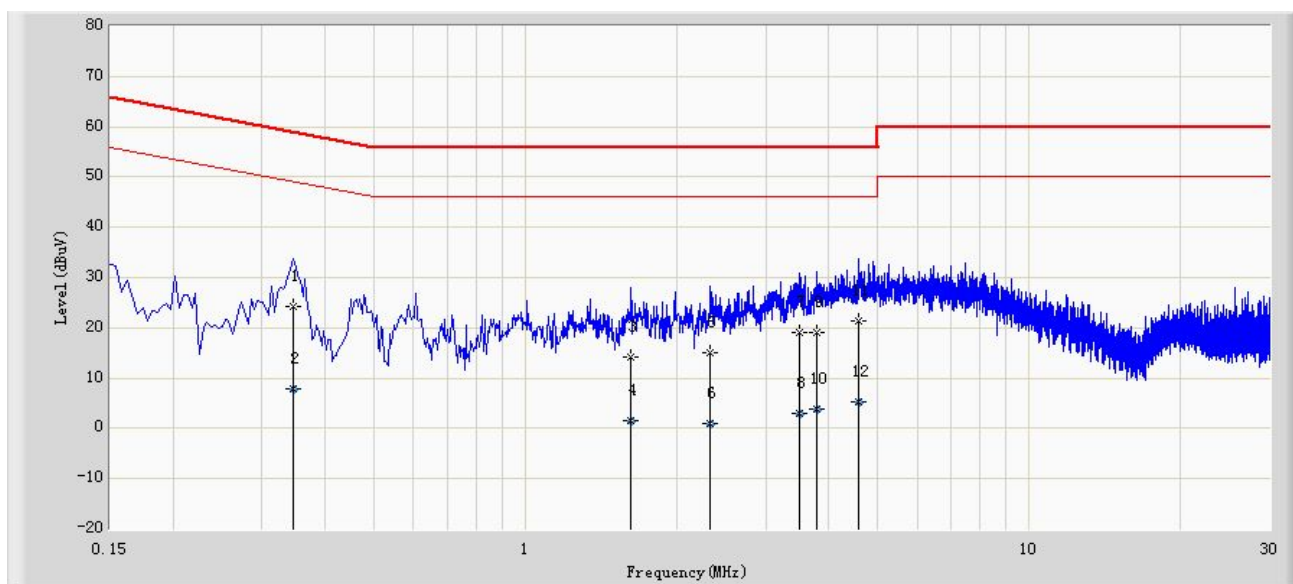
Limit: FCC_Part15.207_CE_AC Power

Power: AC 120V/60Hz

Probe: ENV216_101044(0.009-30MHz)

Polarity: Neutral

Note: Mode 1



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.346	24.228	14.256	-34.830	59.058	9.973	QP
2		0.346	7.932	-2.040	-41.126	49.058	9.973	AV
3		1.618	14.289	4.307	-41.711	56.000	9.982	QP
4		1.618	1.456	-8.526	-44.544	46.000	9.982	AV
5		2.326	15.085	5.116	-40.915	56.000	9.969	QP
6		2.326	1.099	-8.870	-44.901	46.000	9.969	AV
7		3.506	19.024	8.998	-36.976	56.000	10.026	QP
8		3.506	3.103	-6.923	-42.897	46.000	10.026	AV
9		3.798	19.193	9.148	-36.807	56.000	10.044	QP
10		3.798	3.838	-6.206	-42.162	46.000	10.044	AV
11	*	4.598	21.312	11.234	-34.688	56.000	10.078	QP
12		4.598	5.211	-4.867	-40.789	46.000	10.078	AV

4. Radiated Emission

4.1. Test Equipment

Radiated Emissions / Below 30MHz

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100175	2013.03.28	2014.03.27
EMI Test Receiver	R&S	ESCI	100726	2013.03.31	2014.03.30
Preamplifier	Quietek	AP-025C	CHM-0602008	2013.04.13	2014.04.12
Preamplifier	Quietek	AP-025C	CHM-0503006	2013.04.13	2014.04.12
Bilog Antenna	Schaffner	CBL6112B	2933	2013.03.18	2014.03.17
Bilog Antenna	Schaffner	CBL6112B	2931	2013.03.18	2014.03.17
Loop Antenna	R&S	HFH2-Z2	833799/003	2013.03.18	2014.03.17
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC1-L	2013.03.08	2014.03.07
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC1-R	2013.03.08	2014.03.07
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC1-C	2013.03.08	2014.03.07
Temperature/Humidity Meter	Zhicheng	ZC1-2	N/A	2013.01.15	2014.01.14

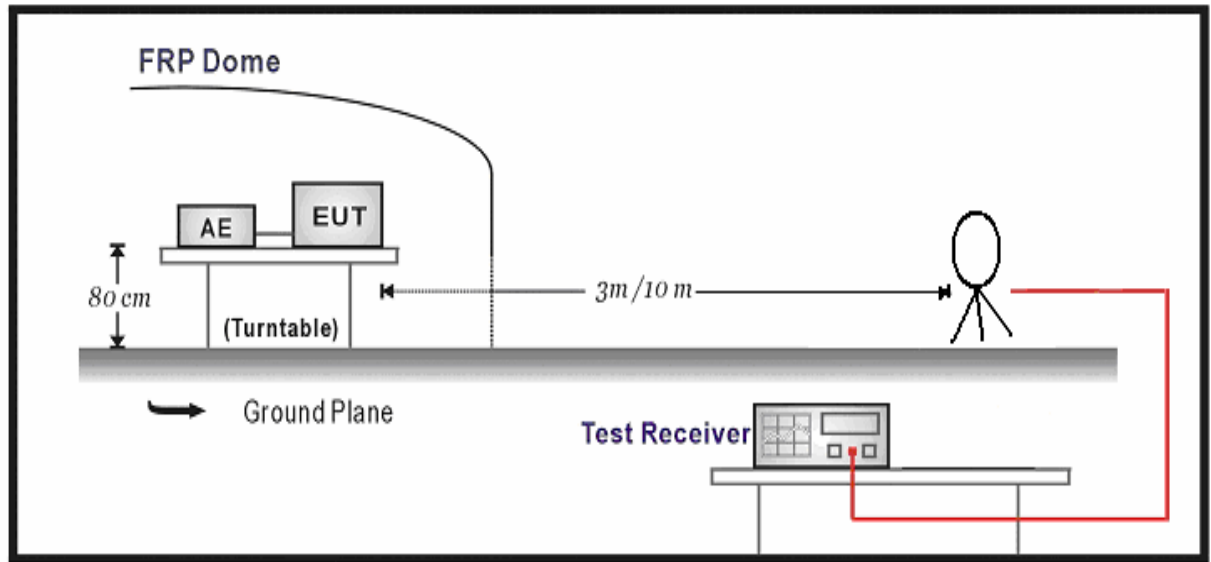
☒ Radiated Emission / Above 30MHz

Instrument	Manufacturer	Type No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	R&S	ESCI	100573	2013.03.31	2014.03.30
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2013.03.16	2014.03.15
Loop Antenna	R&S	HFH2-Z2	833799/003	2013.03.18	2014.03.17
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	499	2013.03.25	2014.03.24
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC2-C	2013.03.02	2014.03.01
Temperature/Humidity Meter	Zhicheng	ZC1-2	AC2-TH	2013.01.15	2014.01.14

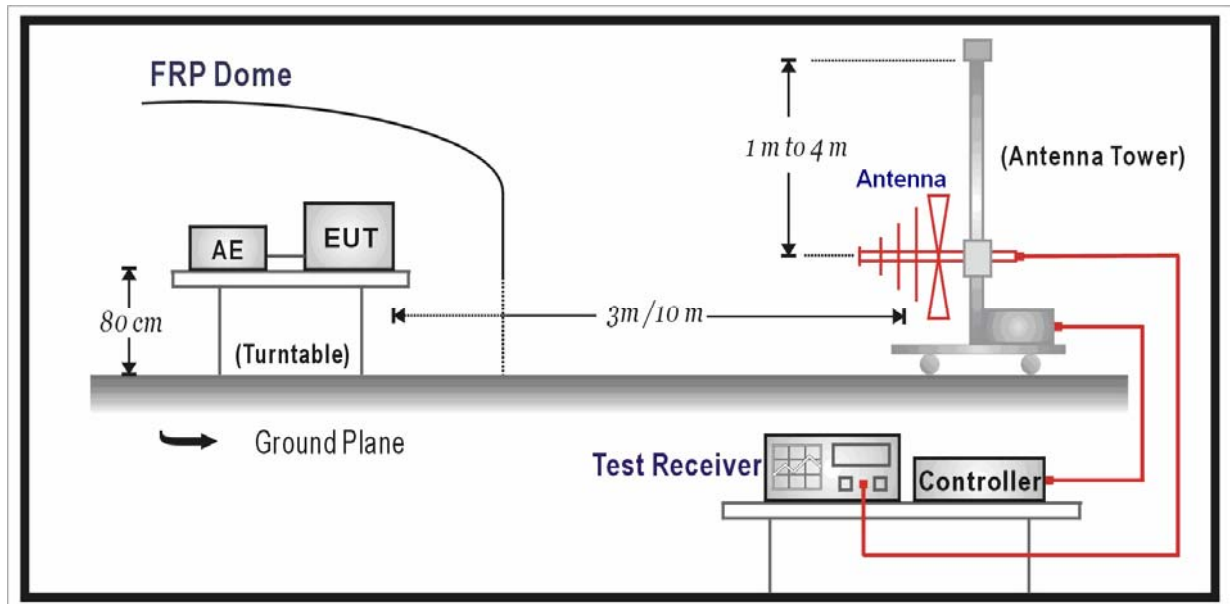
Note 1: All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

4.2. Test Setup

Below 30MHz Test Setup:



Below 1GHz Test Setup:



4.3. Limit

FCC Part 15 Subpart C Paragraph 15.209		
Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (uV/m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-80	100**	3
80-216	150**	3
216-960	200**	3
Above 960	500	3

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

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

Note 3: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2009 and tested according to ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 10 meters for below 30MHz and 3 meters for above 30MHz.

The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2009 on radiated measurement.

The EUT should be operate in transmission mode.

4.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB
below 1G is defined as ± 3.8 dB

4.6. Test Result

All of the test result shown indicates the worst case.

Working Frequency: 121kHz

Radiated Emission(<30MHz)

Measurement Distance: 10 Meters

Frequency (MHz)	Reading Level (dBuV/m)	Factor	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin [dB]	Detector
Fundamental						
0.121	70.9	22.91	93.81	105.03	-11.22	PK
0.121	49.0	22.91	71.91	85.03	-13.12	AV
Spurious Emission						
0.242	71.0	22.95	93.95	99.01	-5.06	PK
0.242	48.7	22.95	71.65	79.01	-7.36	AV
0.363	32.2	22.98	55.18	95.49	-40.31	PK
0.363	10.4	22.98	33.38	75.49	-42.11	AV
0.484	31.6	23.01	54.61	92.99	-38.38	PK
0.484	9.9	23.01	32.91	72.99	-40.08	AV
0.605	16.3	23.11	39.41	51.05	-11.64	QP
0.726	5.6	23.16	28.76	50.47	-21.71	QP
0.847	12.4	23.17	35.57	50.13	-14.56	QP
0.968	3.1	23.17	26.27	49.97	-23.7	QP
1.089	8.7	23.21	31.91	49.94	-18.03	QP
1.210	2.2	23.25	25.45	50.03	-24.58	QP

Notes:

1. All measurements were performed using a loop antenna. The antenna was positioned in two orthogonal (face on and face off) and the position with the highest emission level was recorded.
2. The emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
3. Measurements were performed at 10m and the data was extrapolated to the specified measurement distance of 30m using the square of an inverse linear extrapolation factor (40 dB/decade) as specified in &15.31(f)(2).

Extrapolation Factor = $40 * \text{LOG}(300/10) = 59 \text{ dB}$

Extrapolation Factor = $40 * \text{LOG}(30/10) = 19 \text{ dB}$

Radiated Emission(>30MHz)

Measurement Distance: 3 Meters

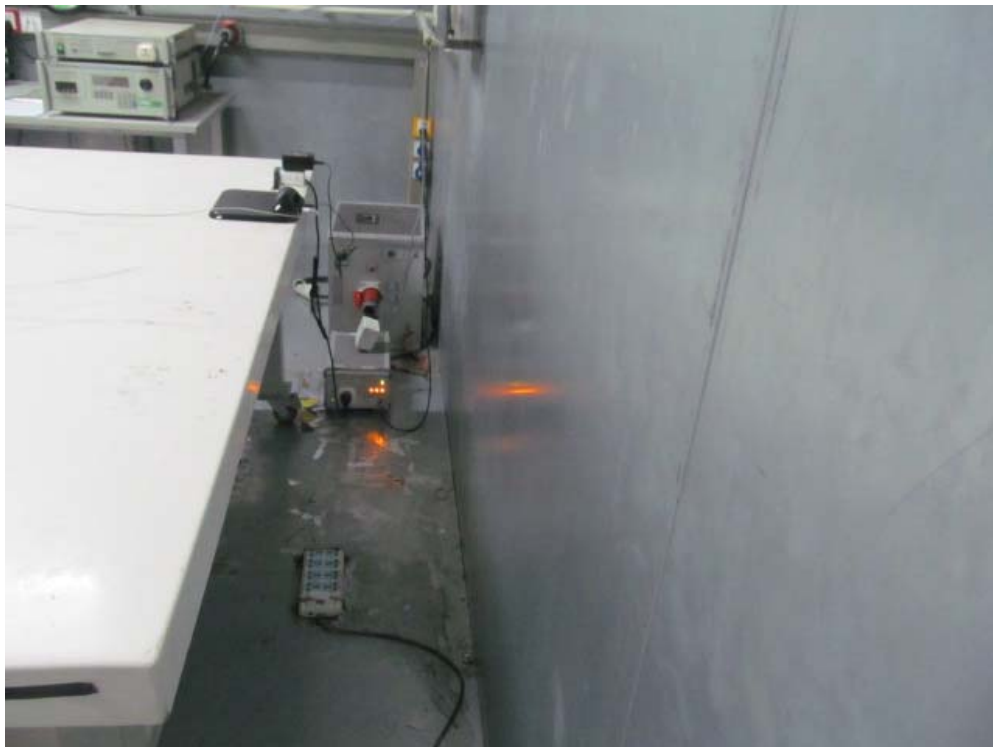
Frequency (MHz)	Reading Level (dBuV/m)	Factor	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin [dB]	Detector
Horizontal						
47.95	6.12	15.18	21.30	40.00	-18.71	QP
143.98	12.64	17.45	30.10	43.50	-13.40	QP
191.99	10.55	15.98	26.52	43.50	-16.98	QP
312.03	8.59	21.13	29.72	46.00	-16.28	QP
393.27	5.73	23.58	29.31	46.00	-16.69	QP
544.10	6.00	26.36	32.35	46.00	-13.65	QP
Vertical						
84.93	8.40	14.27	22.67	40.00	-17.34	QP
143.98	10.42	17.45	27.87	43.50	-15.63	QP
167.98	9.47	16.17	25.64	43.50	-17.86	QP
191.99	11.85	15.98	27.83	43.50	-15.67	QP
360.04	8.10	22.61	30.71	46.00	-15.29	QP
505.54	5.49	25.48	30.97	46.00	-15.03	QP

5. Appendix 1 – Test Setup Photograph

Description: Front View of Conducted Emission Test Setup



Description: Back View of Conducted Emission Test Setup



Description: Radiated Emission Test Setup for Below 30MHz



Description: Radiated Emission Test Setup for Above 30MHz



6. Appendix 2 – EUT Photograph

(1) EUT Photo



(2) EUT Photo



(3) EUT Photo



(4) EUT Photo



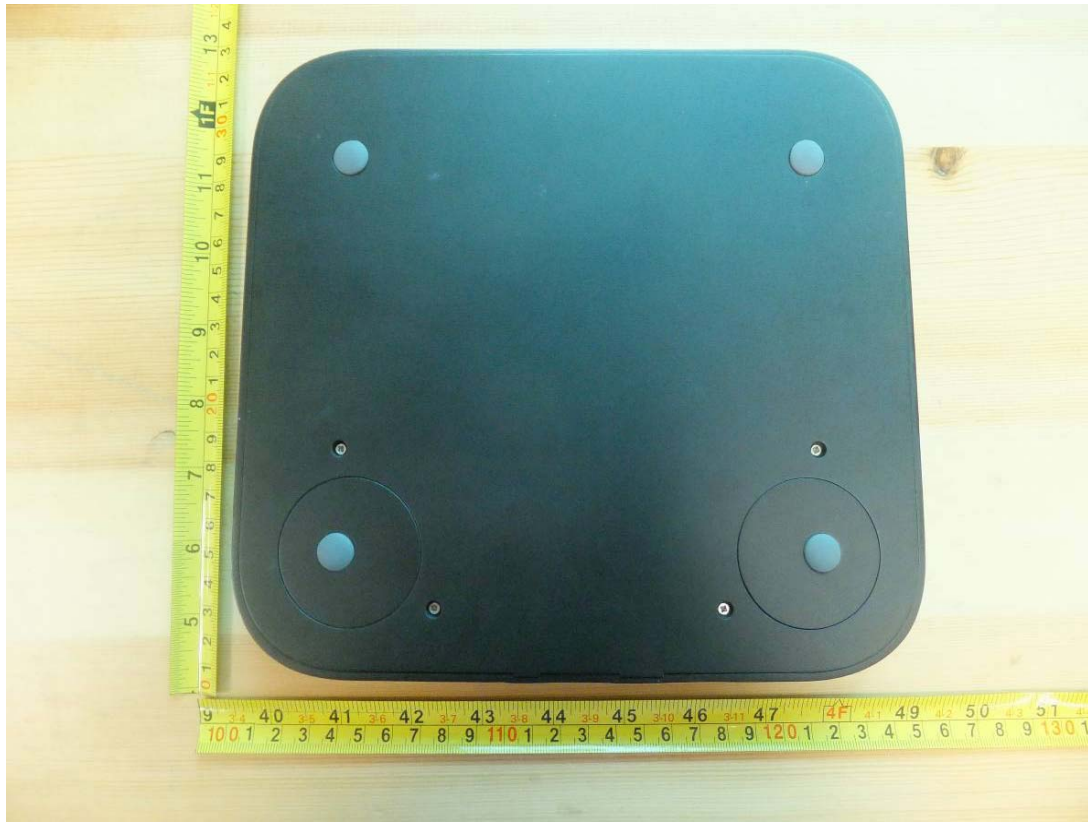
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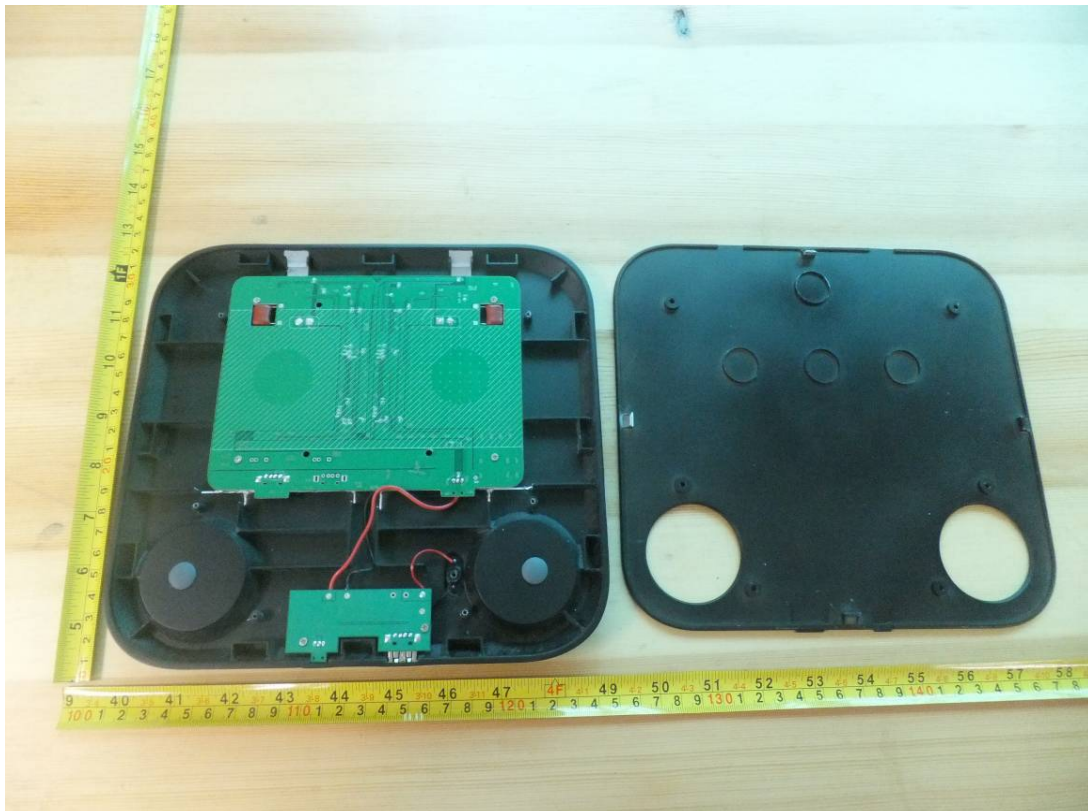
(6) EUT Photo



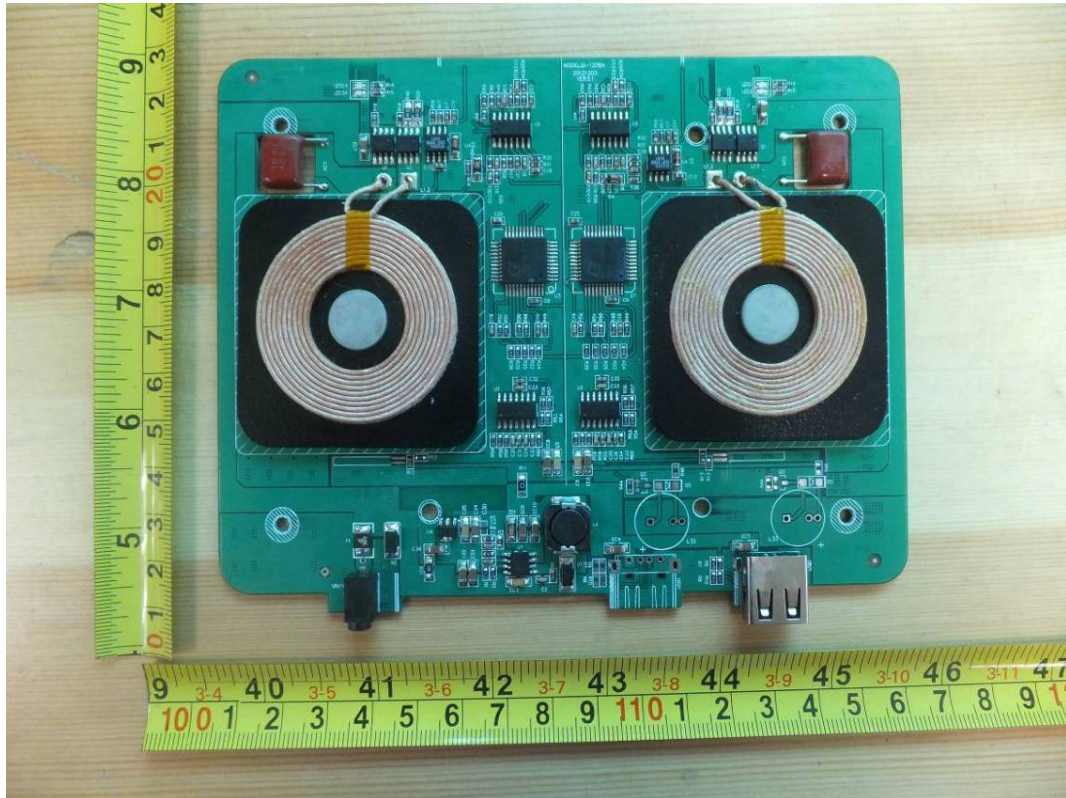
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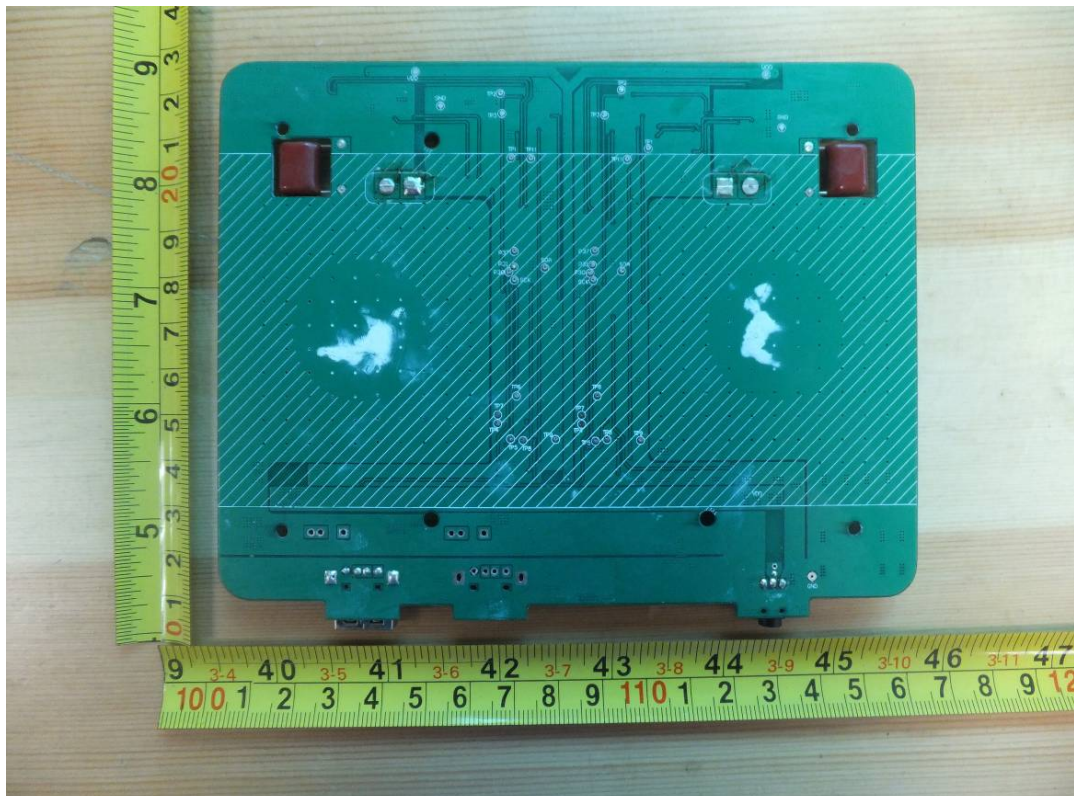
(8) EUT Photo



(9) EUT Photo



(10) EUT Photo



(11) EUT Photo



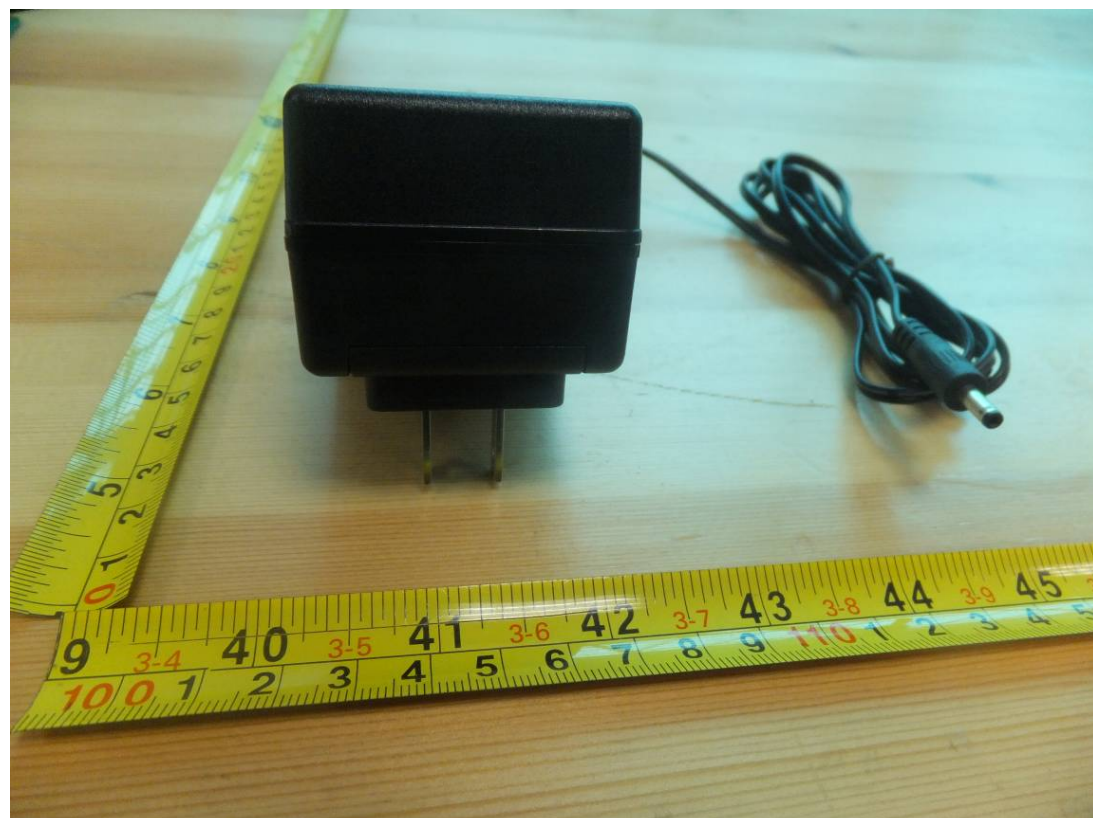
(12) EUT Photo



(13) EUT Photo



(14) EUT Photo



(15) EUT Photo

