APPLICATION FOR VERIFICATION
On Behalf of
Shenzhen Kinlan Technology Company Limited

Wireless Charging
Model No.: BE1028W

FCC ID: 2AE3CBE1028W

Prepared for	:	Shenzhen Kinlan Technology Company Limited
Address	:	West of 3F, Building A4, Yinlong Industrial Park, No.292 Shenshan Road, Longgang District, Shenzhen, Guangdong, China
Prepared by	:	Shenzhen Accurate Technology Co., Ltd.
Address	:	1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China
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Report No.	:	ATE20191377
Date of Test	:	September 18, 2019
Date of Report	:	September 24, 2019

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Test Report Declaration

Applicant	:	Shenzhen Kinlan Technology Company Limited
Address	:	West of 3F, Building A4, Yinlong Industrial Park, No.292 Shenshan Road, Longgang District, Shenzhen, Guangdong, China
Manufacturer	:	Shenzhen Kinlan Technology Company Limited
Address	:	West of 3F, Building A4, Yinlong Industrial Park, No.292 Shenshan Road, Longgang District, Shenzhen, Guangdong, China
Product	:	Wireless Charging
Model No.	:	BE1028W
Trade name	:	n.a.

Measurement Procedure Used:

FCC CFR47 Part 15 Subpart C Section 15.207 and 15.209, 2.1049
ANSI C63.10: 2013

The device described above is tested by Shenzhen Accurate Technology Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both radiated and conducted emissions. The measurement results are contained in this test report and Shenzhen Accurate Technology Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Accurate Technology Co., Ltd.

Date of Test :	September 18, 2019
Date of Report :	September 24, 2019
Test Engineer :	(Ben, Engineer)
Prepared by :	(Bo Wang, Engineer)
Approved & Authorized Signer :	(Sean Liu, Manager)

1. TEST RESULTS SUMMARY

Test Items	Test Standard	Test Results
Power Line Conducted Emission	FCC Part 15.207	Pass
Radiated Emission	FCC Part 15.209	Pass
Occupied bandwidth	FCC Part 2.1049	Pass

2. GENERAL INFORMATION

2.1.Description of Device (EUT)

		Wireless Charging
Frequency	:	110-205kHz
Modulation Type	:	ASK
Type of Antenna	:	Coil Antenna
Rating	:	DC 3.7V (Powered by Lithium battery) or DC 5.0V (Powered by USB port)
Antenna Gain	:	0dBi
Hardware version	:	1.1
Software version	:	V1.0

2.2.Special Accessory and Auxiliary Equipment

AC/DC Power Adapter (provided by laboratory)	:	Model:BEK-QC-001 INPUT: 120V~60Hz OUTPUT:5V/1A

2.3.Description of Test Facility

EMC Lab	:	Recognition of accreditation by Federal Communications Commission (FCC) The Designation Number is CN1189 The Registration Number is 708358 Listed by Innovation, Science and Economic Development Canada (ISEDC) The Registration Number is 5077A-2 Accredited by China National Accreditation Service for Conformity Assessment (CNAS) The Registration Number is CNAS L3193 Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 4297.01
Name of Firm	:	Shenzhen Accurate Technology Co., Ltd
Site Location	:	1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

2.4.Measurement Uncertainty

Conducted emission expanded uncertainty	:	U=2.23dB, k=2
Radiated emission expanded uncertainty (9kHz-30MHz)	:	U=3.08dB, k=2
Radiated emission expanded uncertainty (30MHz-1000MHz)	:	U=4.42dB, k=2
Radiated emission expanded uncertainty (Above 1GHz)	:	U=4.06dB, k=2

3. MEASURING DEVICE AND TEST EQUIPMENT

3.1. The Equipment Used to Measure Conducted Disturbance

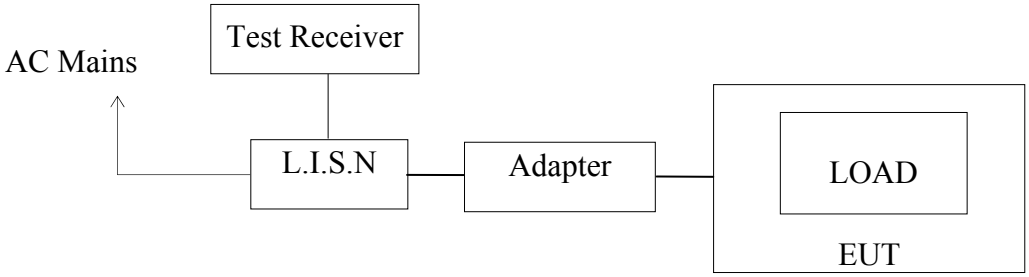
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCS30	100307	Jan.05, 2019	1 Year
2.	Test Receiver	Rohde & Schwarz	ESPI3	100396/003	Jan.05, 2019	1 Year
3.	Test Receiver	Rohde & Schwarz	ESPI3	101526/003	Jan.05, 2019	1 Year
4.	L.I.S.N.	Schwarzbeck	NLSK8126	8126431	Jan.05, 2019	1 Year
5.	L.I.S.N.	Rohde & Schwarz	ESH3-Z5	100305	Jan.05, 2019	1 Year
6.	L.I.S.N.	Rohde & Schwarz	ESH3-Z5	100310	Jan.05, 2019	1 Year
7.	L.I.S.N.	Rohde & Schwarz	ESH3-Z6	100132	Jan.05, 2019	1 Year
8.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100305	Jan.05, 2019	1 Year
9.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100312	Jan.05, 2019	1 Year
10.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100815	Jan.05, 2019	1 Year
11.	50Ω Coaxial Switch	Anritsu Corp	MP59B	6200283936	Jan.05, 2019	1 Year
12.	50Ω Coaxial Switch	Anritsu Corp	MP59B	6200283933	Jan.05, 2019	1 Year
13.	50Ω Coaxial Switch	Anritsu Corp	MP59B	6200506474	Jan.05, 2019	1 Year
14.	VOLTAGE PROBE	Schwarzbeck	TK9416	N/A	Jan.05, 2019	1 Year
15.	RF CURRENT PROBE	Rohde & Schwarz	EZ-17	100048	Jan.05, 2019	1 Year
16.	8-Wire Impedance Stabilisation Network	Schwarzbeck	CAT5 8158	8158-0035	Jan.05, 2019	1 Year
17.	RF Coaxial Cable	SUHNER	N-2m	No.2	Jan.05, 2019	1 Year
18.	RF Coaxial Cable	SUHNER	N-2m	No.3	Jan.05, 2019	1 Year
19.	RF Coaxial Cable	SUHNER	N-2m	No.14	Jan.05, 2019	1 Year

3.2. The Equipment Used to Measure Radiated Emission

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan.05, 2019	1 Year
2.	Spectrum Analyzer	Rohde&Schwarz	FSV40	101495	Jan.05, 2019	1 Year
3.	Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan.05, 2019	1 Year
4.	Test Receiver	Rohde& Schwarz	ESPI	100396/003	Jan.05, 2019	1 Year
5.	Test Receiver	Rohde& Schwarz	ESPI	101526/003	Jan.05, 2019	1 Year
6.	Test Receiver	Rohde& Schwarz	ESR	101817	Jan.05, 2019	1 Year
7.	Bilog Antenna	Schwarzbeck	VULB9163	9163-194	Jan.05, 2019	1 Year
8.	Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan.05, 2019	1 Year
9.	Log.-Per.Antenna	Schwarzbeck	VUSLP 9111B	9111B-074	Jan.05, 2019	1 Year
10.	Biconical Broad Band Antenna	Schwarzbeck	VHBB 9124+BBA 9106	9124-617	Jan.05, 2019	1 Year
11.	Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan.05, 2019	1 Year
12.	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan.05, 2019	1 Year
13.	Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1067	Jan.05, 2019	1 Year
14.	Vertical Active Monopole Antenna	Schwarzbeck	VAMP 9243	9243-370	Jan.05, 2019	1 Year
15.	RF Switching Unit+PreAMP	Compliance Direction	RSU-M2	38322	Jan.05, 2019	1 Year
16.	Pre-Amplifier	Agilent	8447D	294A10619	Jan.05, 2019	1 Year
17.	Pre-Amplifier	Rohde&Schwarz	CBLU11835 40-01	3791	Jan.05, 2019	1 Year
18.	50 Coaxial Switch	Anritsu Corp	MP59B	6200237248	Jan.05, 2019	1 Year
19.	50 Coaxial Switch	Anritsu Corp	MP59B	6200506474	Jan.05, 2019	1 Year
20.	RF Coaxial Cable	Schwarzbeck	N-5m	No.1	Jan.05, 2019	1 Year
21.	RF Coaxial Cable	Schwarzbeck	N-1m	No.6	Jan.05, 2019	1 Year
22.	RF Coaxial Cable	Schwarzbeck	N-1m	No.7	Jan.05, 2019	1 Year
23.	RF Coaxial Cable	SUHNER	N-3m	No.8	Jan.05, 2019	1 Year
24.	RF Coaxial Cable	RESENBERGER	N-3.5m	No.9	Jan.05, 2019	1 Year
25.	RF Coaxial Cable	SUHNER	N-6m	No.10	Jan.05, 2019	1 Year
26.	RF Coaxial Cable	RESENBERGER	N-12m	No.11	Jan.05, 2019	1 Year
27.	RF Coaxial Cable	RESENBERGER	N-0.5m	No.12	Jan.05, 2019	1 Year
28.	RF Coaxial Cable	SUHNER	N-2m	No.13	Jan.05, 2019	1 Year
29.	RF Coaxial Cable	SUHNER	N-0.5m	No.15	Jan.05, 2019	1 Year
30.	RF Coaxial Cable	SUHNER	N-2m	No.16	Jan.05, 2019	1 Year
31.	RF Coaxial Cable	RESENBERGER	N-6m	No.17	Jan.05, 2019	1 Year

4. POWER LINE CONDUCTED MEASUREMENT

4.1.Block Diagram of Test Setup



(EUT: Wireless Charging)

4.2.Power Line Conducted Emission Measurement Limits

Frequency (MHz)	Limit dB(μV)	
	Quasi-peak Level	Average Level
0.15 - 0.50	66.0 – 56.0 *	56.0 – 46.0 *
0.50 - 5.00	56.0	46.0
5.00 - 30.00	60.0	50.0
NOTE1: The lower limit shall apply at the transition frequencies. NOTE2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.		

4.3.Configuration of EUT on Measurement

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

4.4.Operating Condition of EUT

4.4.1. Setup the EUT and simulator as shown as Section 4.1.

4.4.2. Turn on the power of all equipment.

4.4.3. Let the EUT work in test mode and measure it.

4.5. Test Procedure

The EUT is put on the plane 0.8 m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Measurement.
The bandwidth of test receiver (R & S ESCS30) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

4.6. Data Sample

Frequency (MHz)	QuasiPeak Level (dBμv)	Average Level (dBμv)	Transducer value (dB)	QuasiPeak Result (dBμv)	Average Result (dBμv)	QuasiPeak Limit (dBμv)	Average Limit (dBμv)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
X.XX	29.4	18.3	11.1	40.5	29.4	56.0	56.0	15.5	16.6	Pass

Transducer value = Insertion loss of LISN + Cable Loss
Result = Quasi-peak Level/Average Level + Transducer value
Limit = Limit stated in standard

Calculation Formula:

Margin = Limit – Reading level value – Transducer value

4.7. Power Line Conducted Emission Measurement Results

PASS.
Test Lab: Shielding room
Test Engineer: Ben

The frequency range from 150kHz to 30MHz is checked.

Emissions attenuated more than 20 dB below the permissible value are not reported.

The spectral diagrams are attached as below.

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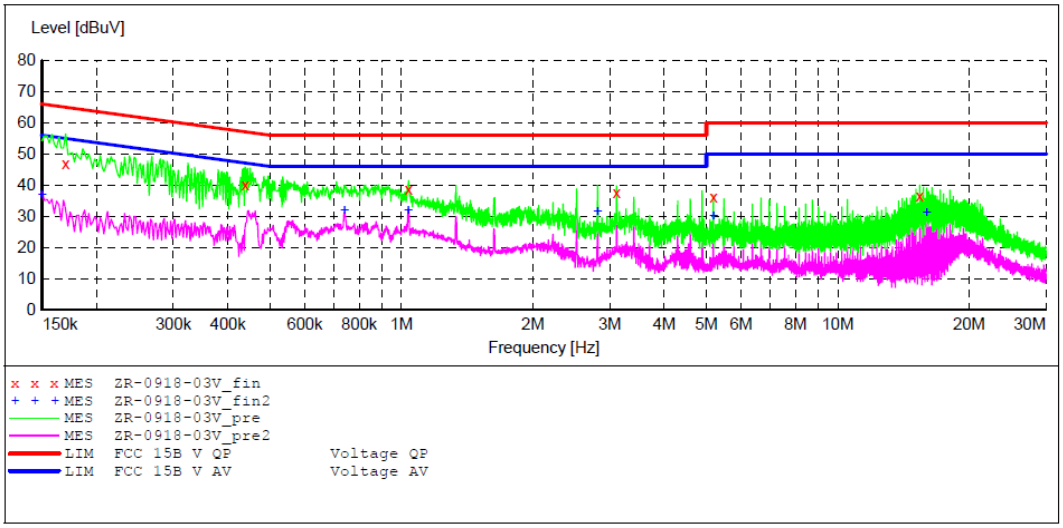
CONDUCTED EMISSION STANDARD FCC PART 15C

```
EUT:                 Wireless Charging M/N:BE1028W
Manufacturer:        Kinlan
Operating Condition: CHARGING
Test Site:           2#Shielding Room
Operator:            Ben
Test Specification:  N 120V 60Hz
Comment:             Report NO.:ATE20191377
Start of Test:       2019-9-18 / 10:29:52
```

SCAN TABLE: "V 150K-30MHz fin"

```
  Short Description:            _SUB_STD_VTERM2 1.70
  Start      Stop       Step      Detector  Meas.     IF      Transducer
  Frequency  Frequency  Width               Time      Bandw.
  150.0 kHz  30.0 MHz   4.5 kHz   QuasiPeak 1.0 s     9 kHz   NSLK8126 2008
                                  Average
```



MEASUREMENT RESULT: "ZR-0918-03V_fin"

2019-9-18 10:31

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.170000	46.90	10.8	65	18.1	QP	N	GND
0.438000	40.30	11.0	57	16.8	QP	N	GND
1.038000	38.70	11.1	56	17.3	QP	N	GND
3.110000	37.70	11.3	56	18.3	QP	N	GND
5.185000	36.40	11.4	60	23.6	QP	N	GND
15.410000	36.60	11.7	60	23.4	QP	N	GND

MEASUREMENT RESULT: "ZR-0918-03V_fin2"

2019-9-18 10:31

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.150000	36.80	10.8	56	19.2	AV	N	GND
0.740000	31.80	11.1	46	14.2	AV	N	GND
1.036000	32.10	11.1	46	13.9	AV	N	GND
2.815000	31.50	11.3	46	14.5	AV	N	GND
5.185000	30.20	11.4	50	19.8	AV	N	GND
16.000000	31.10	11.7	50	18.9	AV	N	GND

ACCURATE TECHNOLOGY CO.,LTD

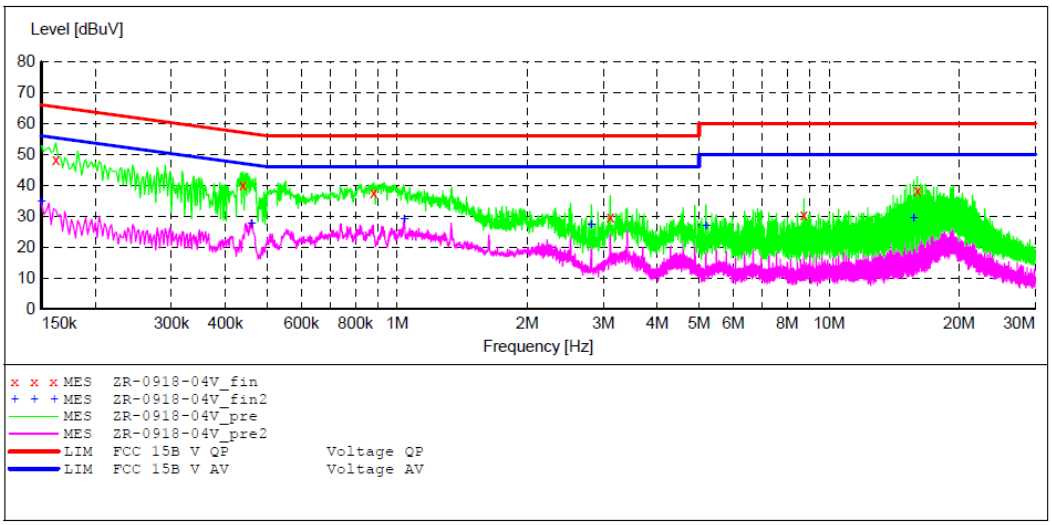
CONDUCTED EMISSION STANDARD FCC PART 15C

EUT: Wireless Charging M/N:BE1028W
Manufacturer: Kinlan
Operating Condition: CHARGING
Test Site: 2#Shielding Room
Operator: Ben
Test Specification: L 120V 60Hz
Comment: Report NO.:ATE20191377
Start of Test: 2019-9-18 / 10:34:42

SCAN TABLE: "V 150K-30MHz fin"

Short Description: _SUB_STD_VTERM2 1.70

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	30.0 MHz	4.5 kHz	QuasiPeak Average	1.0 s	9 kHz	NSLK8126 2008



MEASUREMENT RESULT: "ZR-0918-04V_fin"

2019-9-18 10:36

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.162000	48.40	10.8	65	17.0	QP	L1	GND
0.440000	40.00	11.0	57	17.1	QP	L1	GND
0.882000	37.60	11.1	56	18.4	QP	L1	GND
3.115000	29.70	11.3	56	26.3	QP	L1	GND
8.740000	30.40	11.5	60	29.6	QP	L1	GND
16.000000	38.40	11.7	60	21.6	QP	L1	GND

MEASUREMENT RESULT: "ZR-0918-04V_fin2"

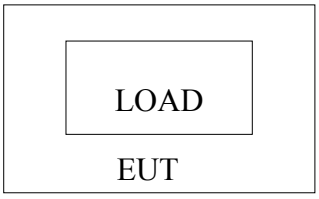
2019-9-18 10:36

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
0.150000	34.80	10.8	56	21.2	AV	L1	GND
0.460000	27.70	11.0	47	19.0	AV	L1	GND
1.038000	28.90	11.1	46	17.1	AV	L1	GND
2.815000	27.50	11.3	46	18.5	AV	L1	GND
5.185000	26.80	11.4	50	23.2	AV	L1	GND
15.705000	29.60	11.7	50	20.4	AV	L1	GND

5. RADIATED EMISSION MEASUREMENT

5.1.Block Diagram of Test

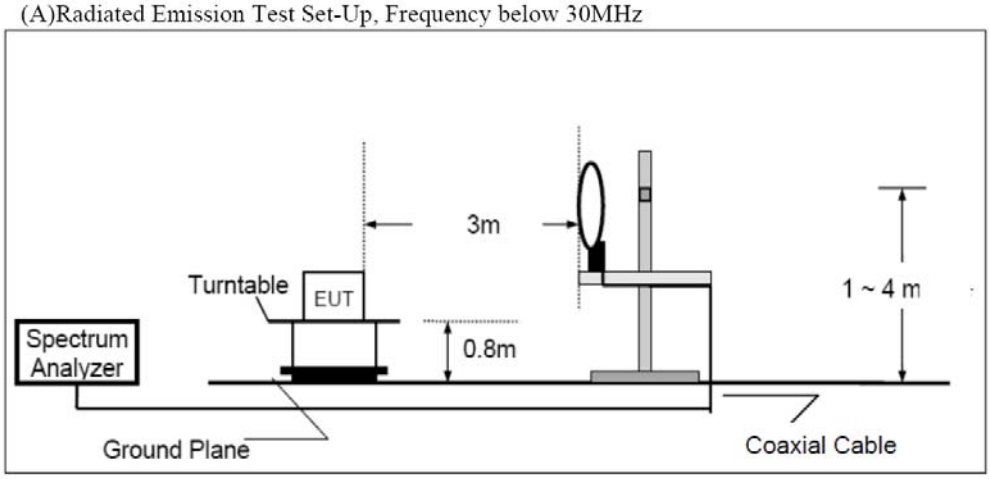
5.1.1.Block diagram of connection between the EUT and simulators



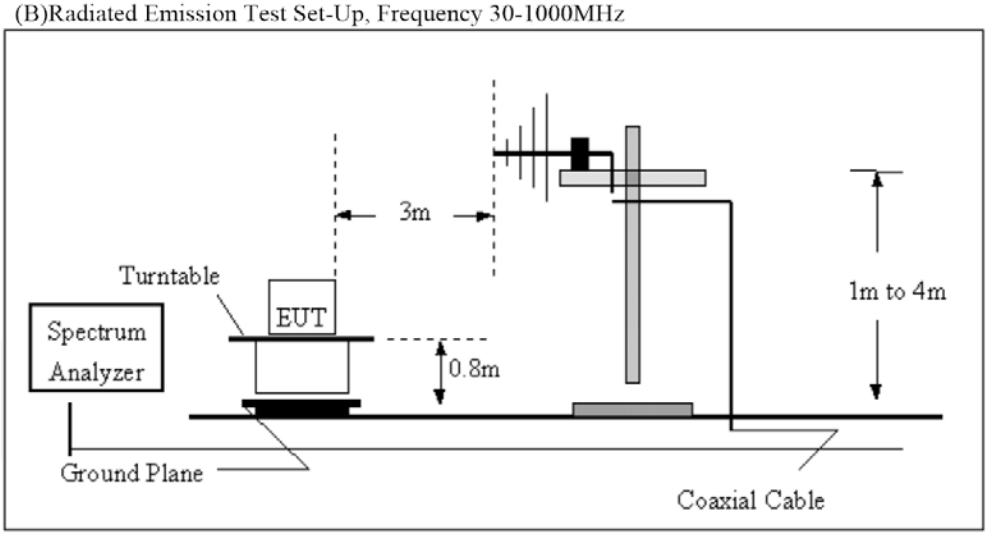
(EUT: Wireless Charging)

5.1.2.Block diagram of test setup (In chamber)

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



(B)Radiated Emission Test Set-Up, Frequency 30-1000MHz



5.2.Radiated Emission Limit (Class B)

Frequency (MHz)	Field Strength Limitation		Field Strength Limitation 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

Limit: 2400/125=19.2uV/m@300m
Distance Correction Factor=40log(test distance/specific distance)

5.3.EUT Configuration on Measurement

The following equipments are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

5.3.1.Wireless Charging (EUT)

Model Number **:** BE1028W
Manufacturer **:** Shenzhen Kinlan Technology Company Limited

5.4.Operating Condition of EUT

5.4.1. Setup the EUT and simulator as shown as Section 5.1.

5.4.2. Turn on the power of all equipment.

5.4.3. Let the EUT work in test mode and measure it.

5.5. Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated emission measurement.

From 9kHz to 30MHz at distance 3m The EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

From 30MHz to 1000MHz at distance 3m The measuring antenna height varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity. The measurements were performed for both vertical and horizontal antenna polarization.

The final measurement will be performed with an EMI Receiver set to Quasi Peak detector for the frequency bands 9kHz to 90kHz and 110 to 490 kHz where an average detector will be used according to Section 15.209(d)(2).

The final level, expressed in dBuV/m, is arrived at by taking the reading from the EMI receiver(Level dBuV) and adding the antenna correction factor and cable loss factor(Factor dB) to it. This result then has to be compared with the relevant FCC limit.The resolution bandwidth during the measurement is as follows:
9kHz – 150kHz: ResBW:200Hz
150kHz – 30MHz: ResBW:9kHz

The bandwidth of the EMI test receiver (R&S ESCS30) is set at 120kHz from 30MHz to 1000MHz.

5.6.Data Sample

Frequency(MHz)	Reading (dBμv)	Factor (dB/m)	Result (dBμv/m)	Limit (dBμv/m)	Margin (dB)	Remark
X.XX	49.83	-22.03	27.80	43.50	-15.70	QP

Frequency(MHz) = Emission frequency in MHz
Reading(dBμv) = Uncorrected Analyzer/Receiver reading
Factor (dB/m)= Antenna factor + Cable Loss – Amplifier gain
Result(dBμv/m) = Reading + Factor
Limit (dBμv/m)= Limit stated in standard

Margin (dB) = Result(dBμv/m) - Limit (dBμv/m)
Calculation Formula:

Margin(dB) = Result (dBμv/m)–Limit(dBμv/m)
Result(dBμv/m)= Reading(dBμv)+ Factor(dB/m)

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit.

5.7.Radiated Emission Measurement Result

PASS.
Test Lab: 3m Anechoic chamber
Test Engineer: Ben

From 9kHz to 30MHz(Low channel 110kHz)

Frequency (MHz)	Quasi Peak (dBμV/m)	Detector	Azimuth	Height (cm)	Limit @3m (dBμV/m)	Margin (dB)
0.110	86.12	AV	176	128	106.8	-20.68
2.21	37.20	QP	355	155	69.5	-32.30
2.59	36.42	QP	228	201	69.5	-33.08
0.100	80.39	AV	208	142	106.8	-26.41
2.66	32.31	QP	35	157	69.5	-37.19
3.56	35.38	QP	38	146	69.5	-34.12

From 9kHz to 30MHz(Middle channel 145kHz)

Frequency (MHz)	Quasi Peak (dBμV/m)	Detector	Azimuth	Height (cm)	Limit @3m (dBμV/m)	Margin (dB)
0.145	85.48	AV	78	124	103.7	-18.22
2.21	36.20	QP	356	150	69.5	-33.30
2.59	35.42	QP	229	202	69.5	-34.08
0.145	79.87	AV	145	145	103.7	-23.83
2.66	31.31	QP	37	154	69.5	-38.19
3.56	34.38	QP	40	148	69.5	-35.12

From 9kHz to 30MHz(High channel 205kHz)

Frequency (MHz)	Quasi Peak (dBμV/m)	Detector	Azimuth	Height (cm)	Limit @3m (dBμV/m)	Margin (dB)
0.205	82.67	AV	176	128	101.4	-18.73
2.21	37.56	QP	315	158	69.5	-31.94
2.59	36.42	QP	228	101	69.5	-33.08
0.205	75.98	AV	208	112	101.4	-25.42
2.66	31.76	QP	323	137	69.5	-37.74
3.56	36.02	QP	130	121	69.5	-33.48

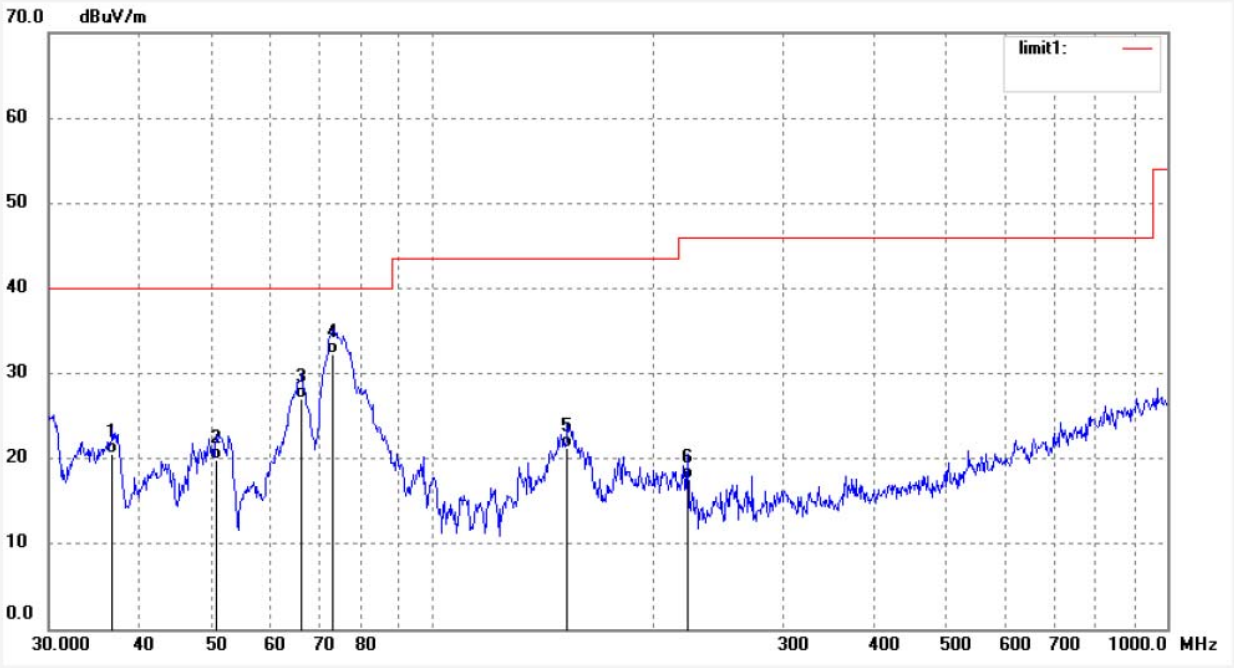
Part 15 Section 15.31(f)(2) (9kHz-30MHz)
Limit at 3m=Limit at 300m-40*log(3(m)/300(m))
Limit at 3m=Limit at 30m-40*log(3(m)/30(m))

From 30MHz to 1000MHz

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: JP2019_tmp #28	Polarization: Vertical
Standard: FCC Class B 3M Radiated	Power Source: AC 120V/60Hz
Test item: Radiation Test	Date: 19/09/18/
Temp.(C)/Hum.(%) 25 C / 55 %	Time: 11/40/08
EUT: Wireless Charging	Engineer Signature: Ben
Mode: TX 110KHz	Distance: 3m
Model: BE1028W	
Manufacturer: Kinlan	

Note: Report NO.:ATE20191377



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	36.6520	42.66	-22.16	20.50	40.00	-19.50	QP	100	96	
2	50.8171	46.13	-26.33	19.80	40.00	-20.20	QP	100	136	
3	66.3714	54.35	-27.35	27.00	40.00	-13.00	QP	100	175	
4	73.2331	59.93	-27.63	32.30	40.00	-7.70	QP	100	203	
5	152.6255	49.03	-27.83	21.20	43.50	-22.30	QP	100	263	
6	222.2806	41.58	-23.98	17.60	46.00	-28.40	QP	100	326	

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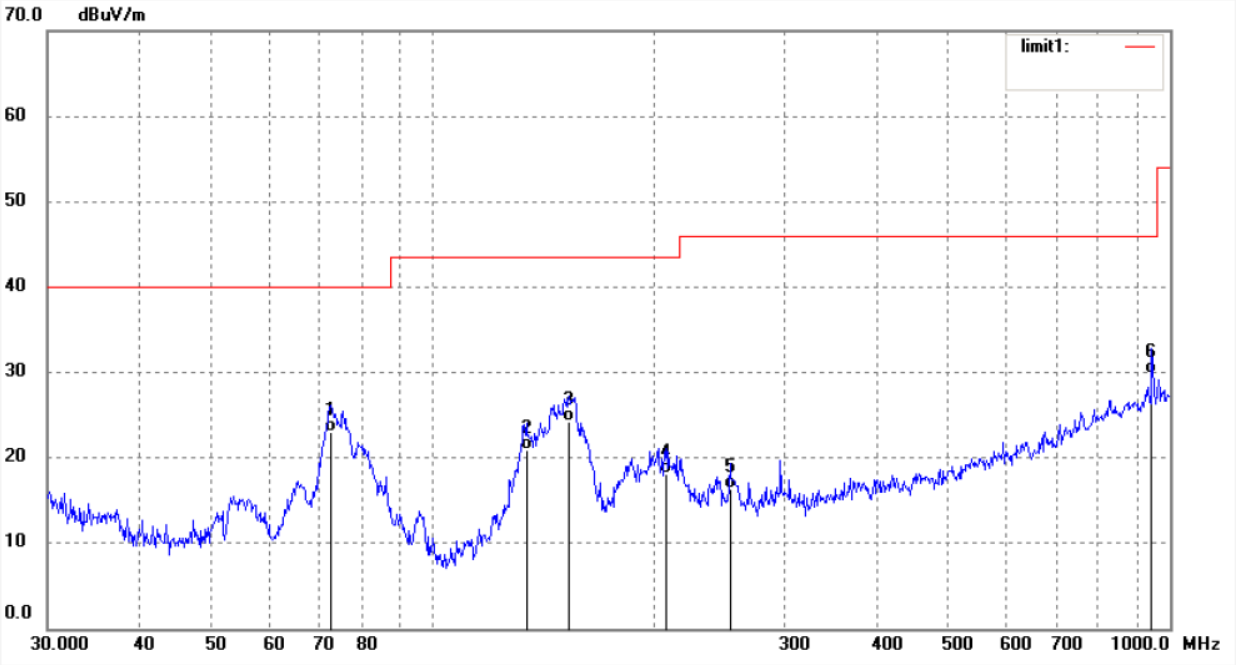
Job No.: JP2019_tmp #29
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wireless Charging
Mode: TX 110KHz
Model: BE1028W
Manufacturer: Kinlan

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 19/09/18/
Time: 11/41/55
Engineer Signature: Ben
Distance: 3m

Note: Report NO.:ATE20191377



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	72.7202	50.70	-27.60	23.10	40.00	-16.90	QP	200	108	
2	134.0193	48.83	-27.83	21.00	43.50	-22.50	QP	200	136	
3	153.1627	51.97	-27.77	24.20	43.50	-19.30	QP	200	186	
4	207.1967	42.24	-24.14	18.10	43.50	-25.40	QP	200	204	
5	253.1401	39.86	-23.46	16.40	46.00	-29.60	QP	200	268	
6	945.3336	36.21	-6.41	29.80	46.00	-16.20	QP	200	309	

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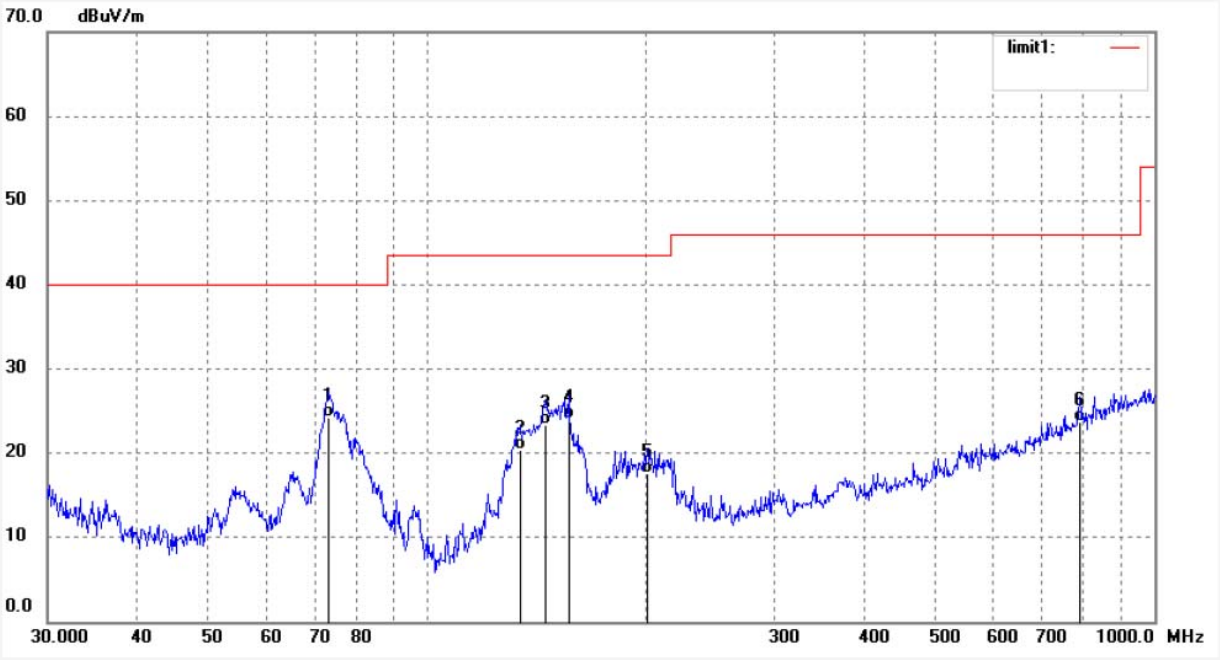
Job No.: JP2019_tmp #30
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wireless Charging
Mode: TX 145KHz
Model: BE1028W
Manufacturer: Kinlan

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 19/09/18/
Time: 11/42/34
Engineer Signature: Ben
Distance: 3m

Note: Report NO.:ATE20191377



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	73.2331	51.93	-27.63	24.30	40.00	-15.70	QP	200	109	
2	134.0194	48.23	-27.83	20.40	43.50	-23.10	QP	200	156	
3	145.2995	51.44	-28.04	23.40	43.50	-20.10	QP	200	186	
4	156.4259	51.46	-27.46	24.00	43.50	-19.50	QP	200	206	
5	200.7473	41.93	-24.33	17.60	43.50	-25.90	QP	200	263	
6	790.2466	32.95	-9.25	23.70	46.00	-22.30	QP	200	319	

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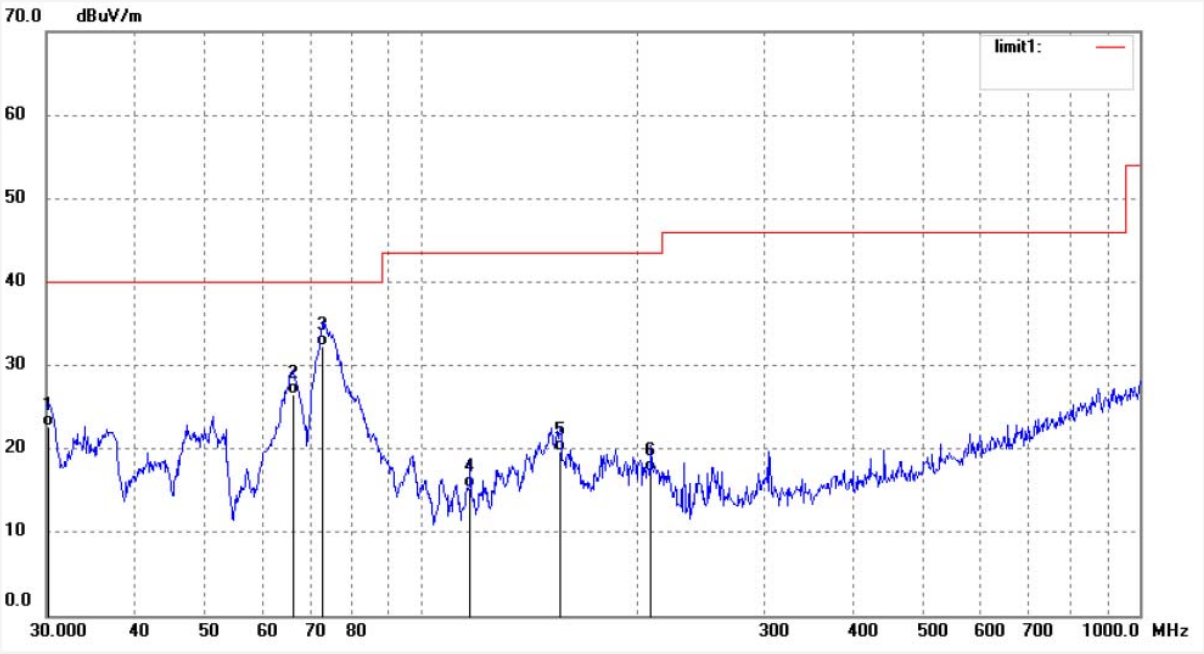
Job No.: JP2019_tmp #31
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wireless Charging
Mode: TX 145KHz
Model: BE1028W
Manufacturer: Kinlan

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 19/09/18/
Time: 11/43/59
Engineer Signature: Ben
Distance: 3m

Note: Report NO.:ATE20191377



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	30.2116	42.95	-20.25	22.70	40.00	-17.30	QP	100	86	
2	66.3714	53.85	-27.35	26.50	40.00	-13.50	QP	100	126	
3	72.7203	59.90	-27.60	32.30	40.00	-7.70	QP	100	186	
4	116.8573	42.80	-27.40	15.40	43.50	-28.10	QP	100	216	
5	155.8771	47.22	-27.52	19.70	43.50	-23.80	QP	100	296	
6	208.6580	41.44	-24.14	17.30	43.50	-26.20	QP	100	315	

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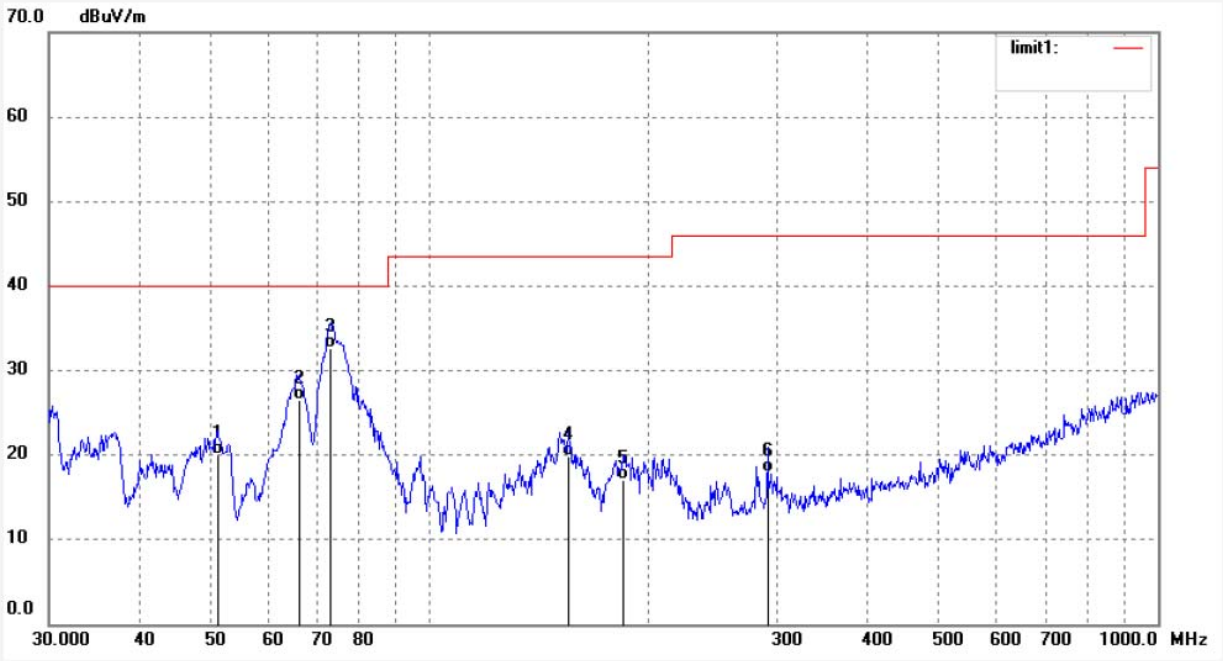
Job No.: JP2019_tmp #32
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wireless Charging
Mode: TX 205KHz
Model: BE1028W
Manufacturer: Kinlan

Polarization: Vertical
Power Source: AC 120V/60Hz
Date: 19/09/18/
Time: 11/44/50
Engineer Signature: Ben
Distance: 3m

Note: Report NO.:ATE20191377



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	51.1756	46.49	-26.39	20.10	40.00	-19.90	QP	100	96	
2	66.1386	53.84	-27.34	26.50	40.00	-13.50	QP	100	126	
3	73.2331	60.23	-27.63	32.60	40.00	-7.40	QP	100	186	
4	155.3305	47.38	-27.58	19.80	43.50	-23.70	QP	100	206	
5	184.5132	42.59	-25.59	17.00	43.50	-26.50	QP	100	245	
6	291.3388	39.61	-21.61	18.00	46.00	-28.00	QP	100	309	

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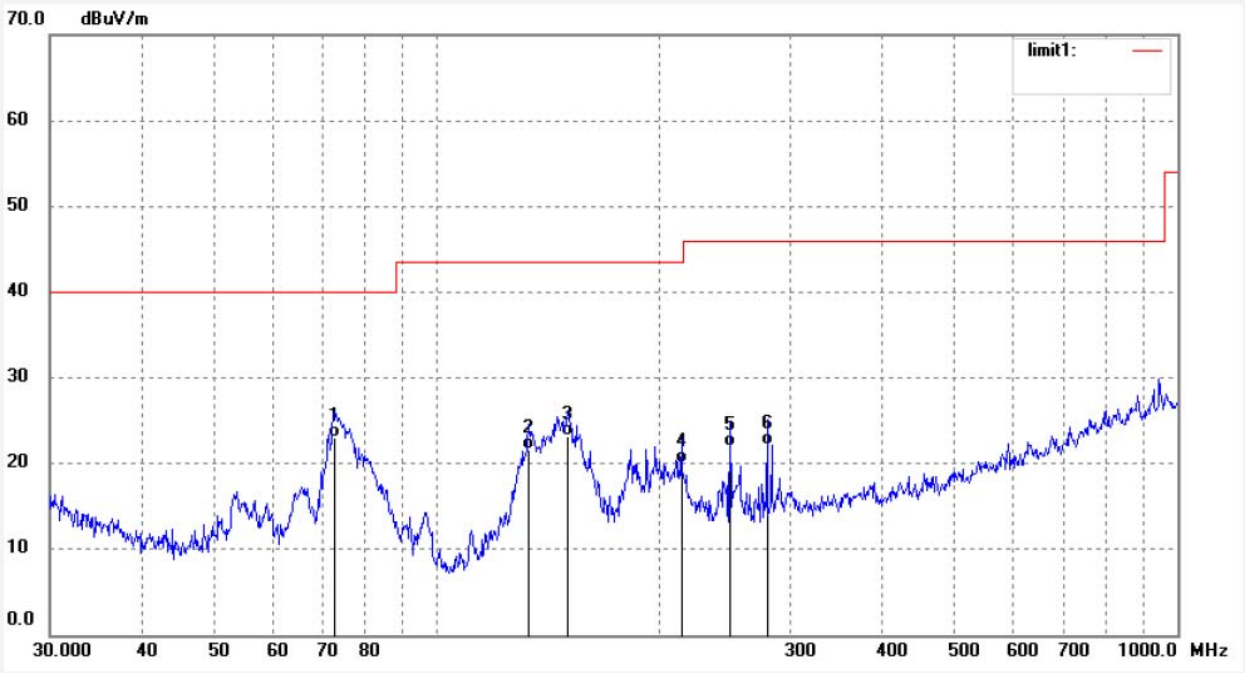
Fax:+86-0755-26503396

Job No.: JP2019_tmp #33
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Wireless Charging
Mode: TX 205KHz
Model: BE1028W
Manufacturer: Kinlan

Polarization: Horizontal
Power Source: AC 120V/60Hz
Date: 19/09/18/
Time: 11/47/19
Engineer Signature: Ben
Distance: 3m

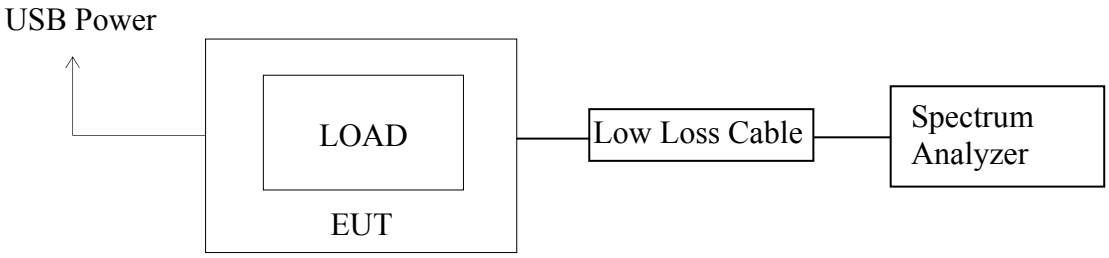
Note: Report NO.:ATE20191377



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	72.7203	50.60	-27.60	23.00	40.00	-17.00	QP	200	103	
2	133.0809	49.38	-27.78	21.60	43.50	-21.90	QP	200	136	
3	150.4955	51.21	-28.01	23.20	43.50	-20.30	QP	200	178	
4	213.8535	44.08	-24.08	20.00	43.50	-23.50	QP	200	202	
5	248.7319	45.65	-23.65	22.00	46.00	-24.00	QP	200	236	
6	279.3105	44.24	-22.14	22.10	46.00	-23.90	QP	200	305	

6. 99% OCCUPIED BANDWIDTH

6.1. Block Diagram of Test Setup



(EUT: Wireless Charging)

6.2. EUT Configuration on Measurement

The following equipment is installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.3. Operating Condition of EUT

6.3.1. Setup the EUT and simulator as shown as Section 6.1.

6.3.2. Turn on the power of all equipment.

6.3.3. Let the EUT work in TX modes measure it. The transmit frequency are 110-205kHz. We select 110kHz, 157kHz and 205kHz TX frequency to transmit.

6.4. Test Procedure

6.4.1. The transmitter output was connected to the spectrum analyzer through a low loss cable.

6.4.2. Set RBW of spectrum analyzer to 10Hz and VBW to 30Hz.

6.4.3. Set SPA “Meas” function, Select “Occupied Bandwidth” function, Select “99% Power Bandwidth”. The frequency of the upper and lower markers indicating the edges of the transmitters “99% Power” emission bandwidth shall be recorded to automate by SPA.

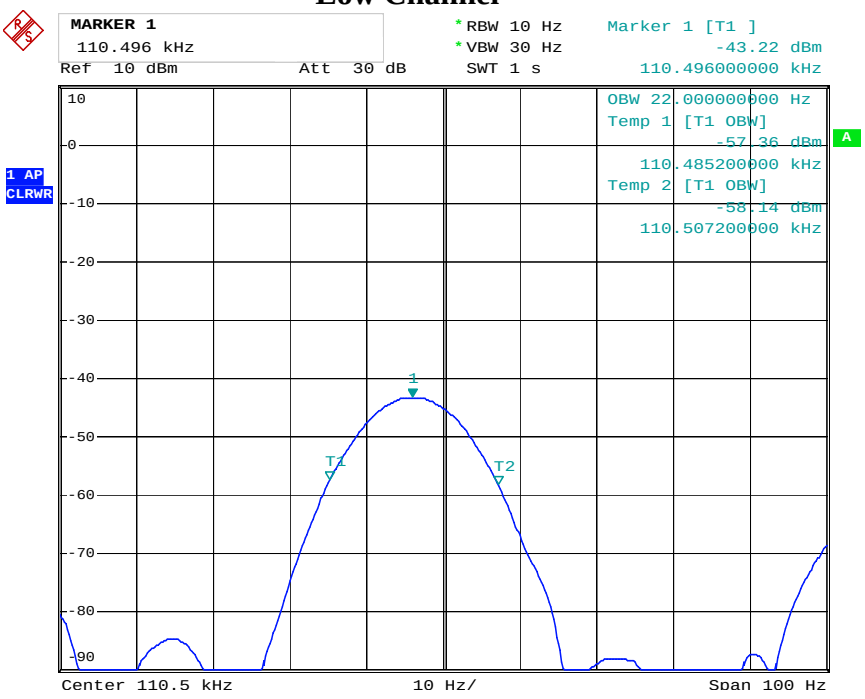
6.5. Measurement Result

Test Lab: Shielding room
Test Engineer: Ben

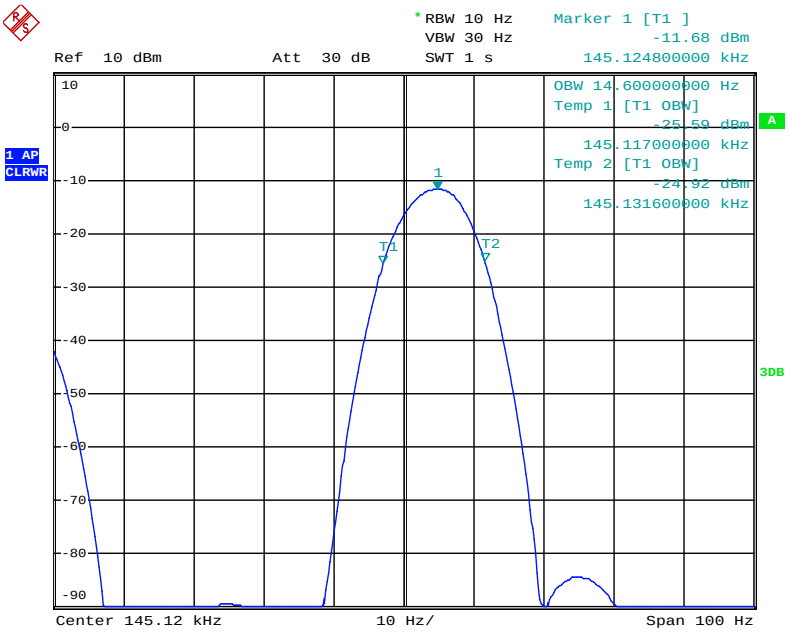
Frequency (kHz)	99% Occupied Bandwidth (Hz)
110	22.0
145	14.6
205	23.6

The spectrum analyzer plots are attached as below.

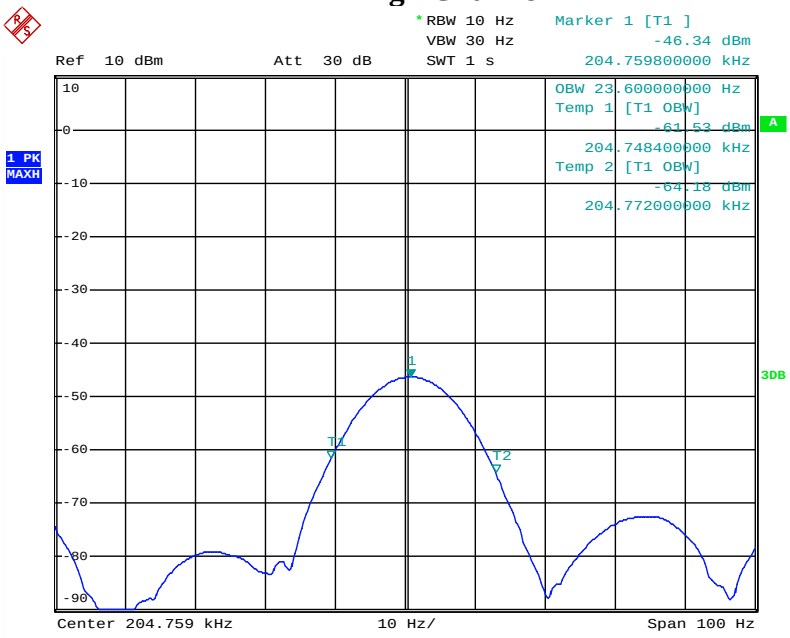
Low Channel



Middle Channel



High Channel



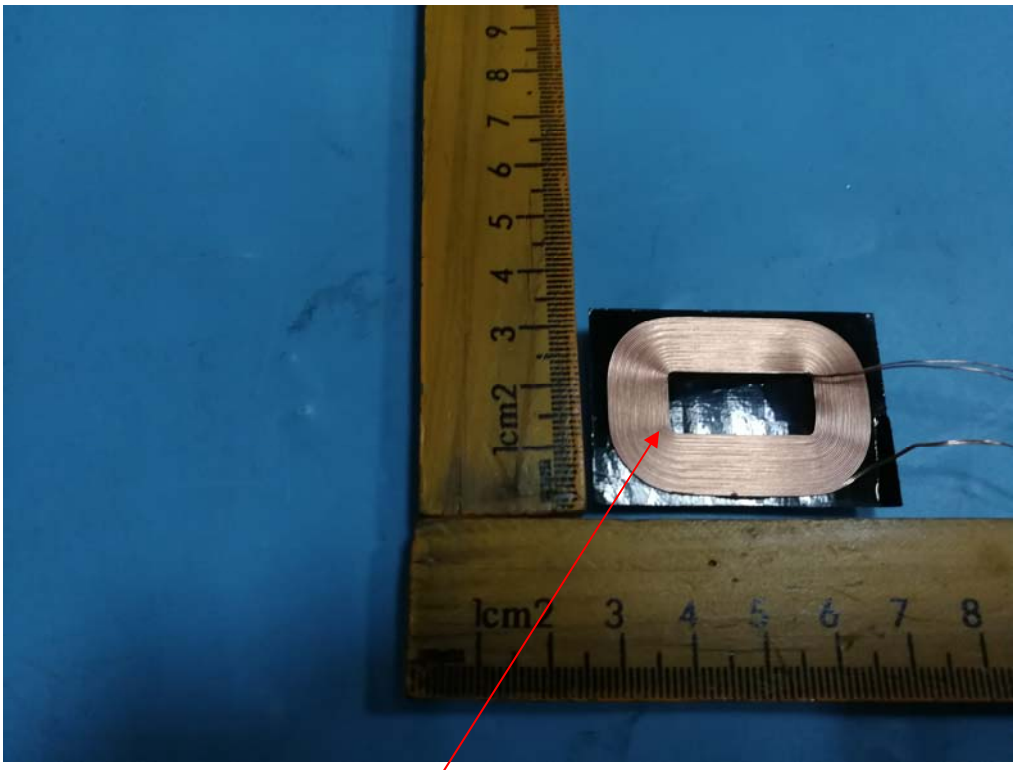
7. ANTENNA REQUIREMENT

7.1.The Requirement

According to 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.Antenna Construction

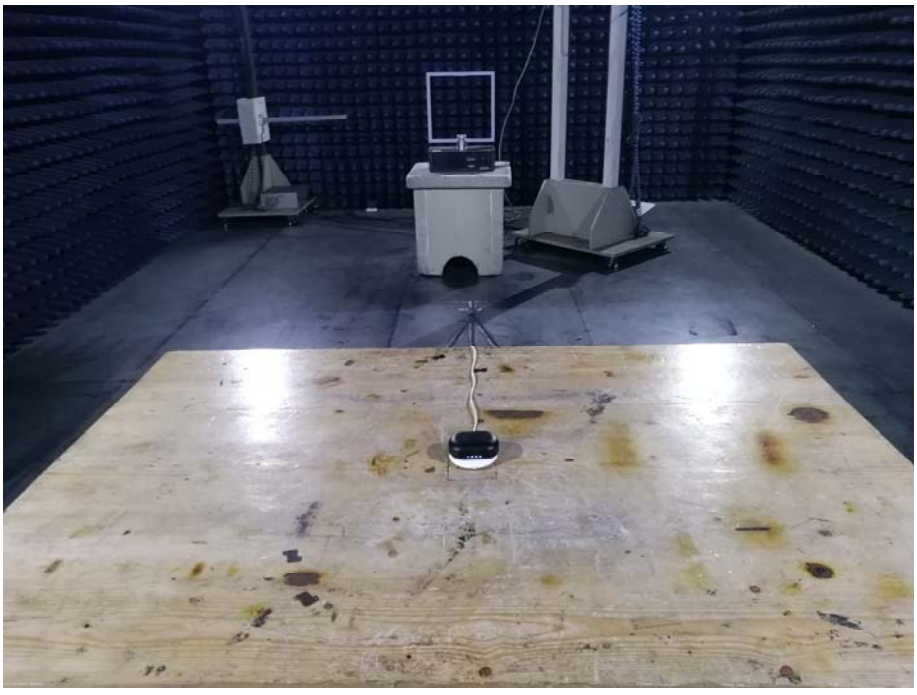
Device is equipped with permanent attached antenna, which isn't displaced by other antenna. The max Antenna gain of EUT is 0dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.

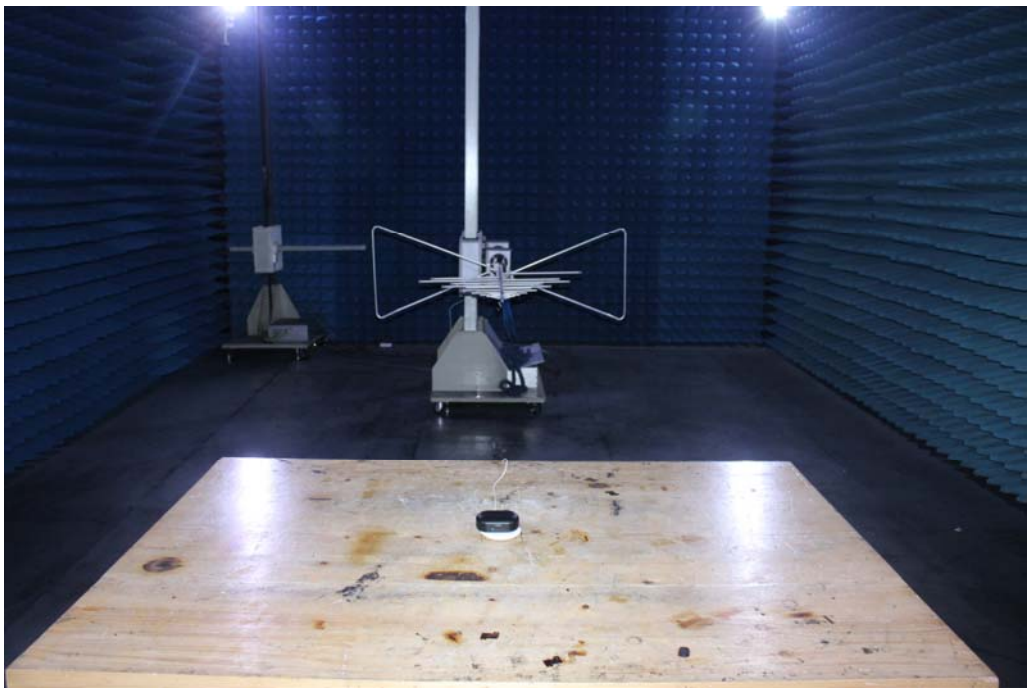


8. PHOTOGRAPHS

8.1.Photo of Power Line Conducted Emission Measurement

8.2.Photo of Radiated Emission Measurement Below 1GHz

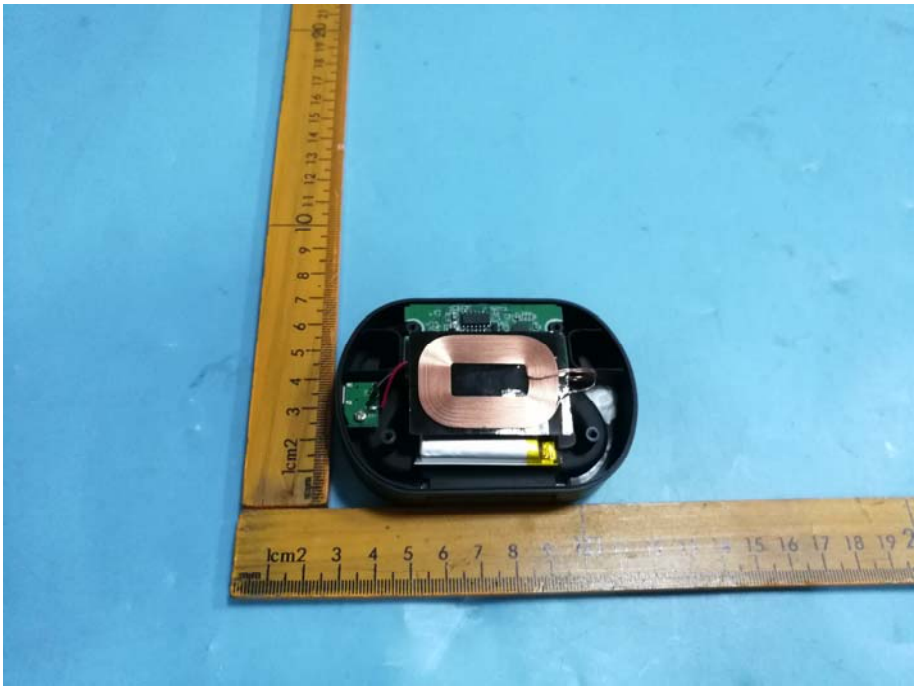


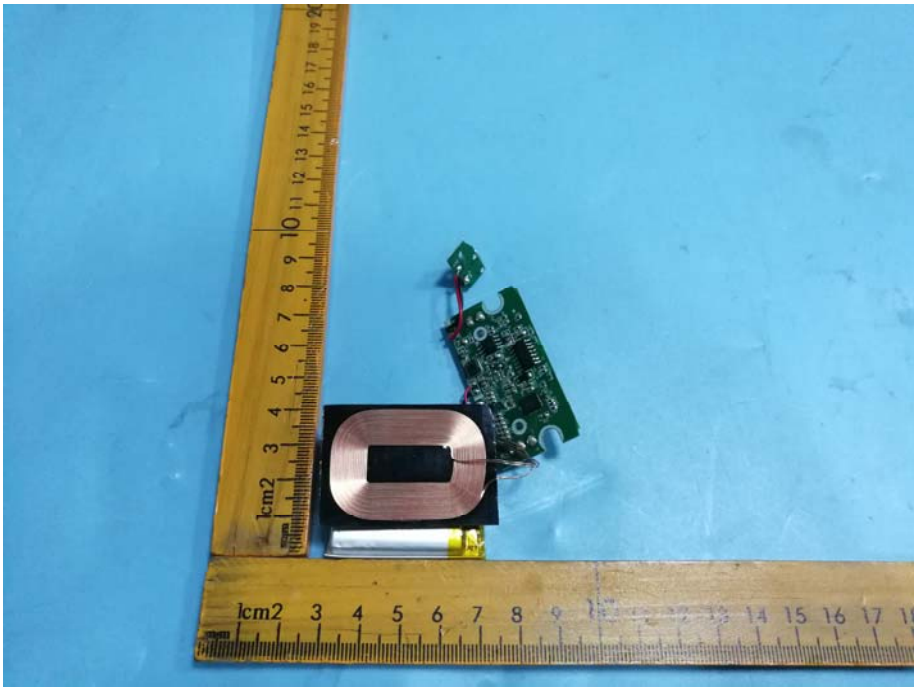


8.3.Photo of EUT

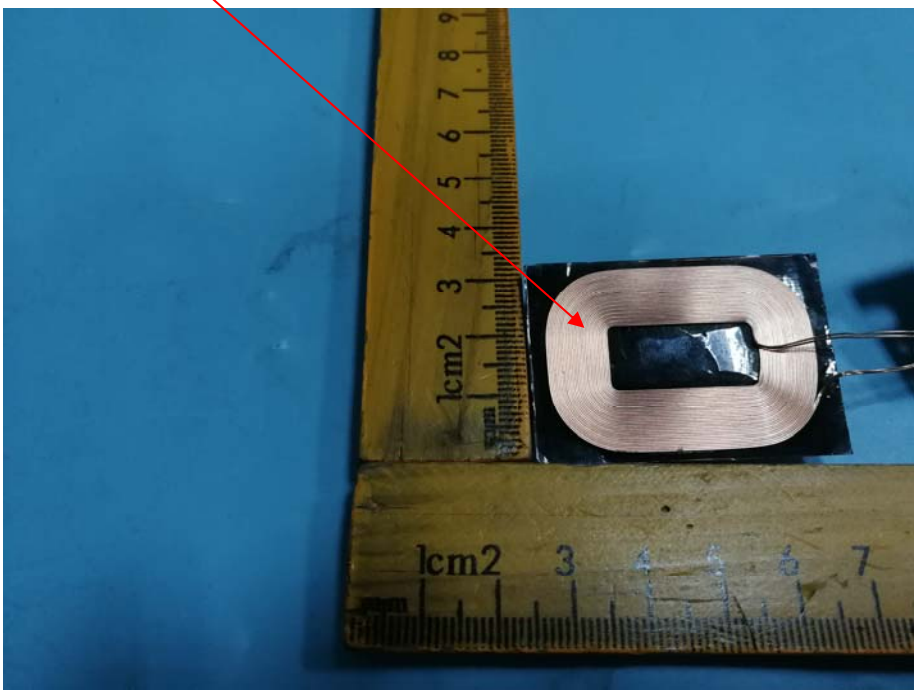

B&Q
MM

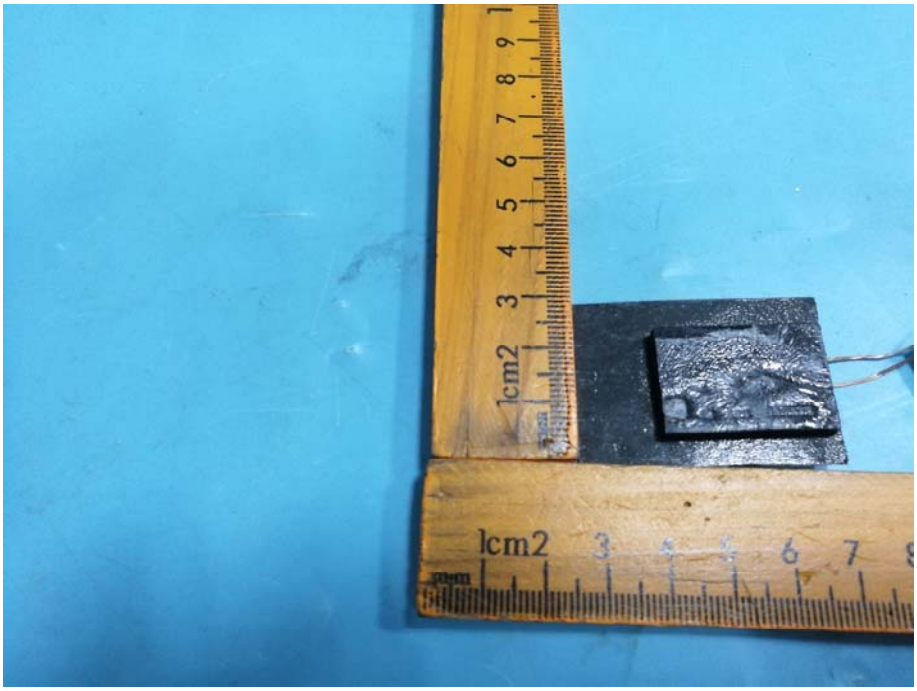

B&Q
MM





Antenna

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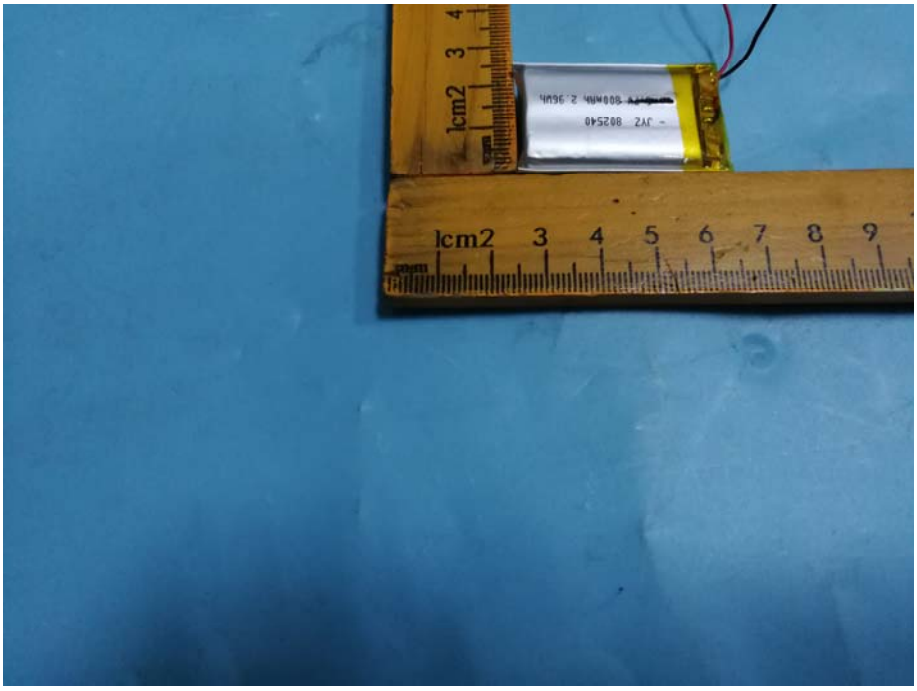
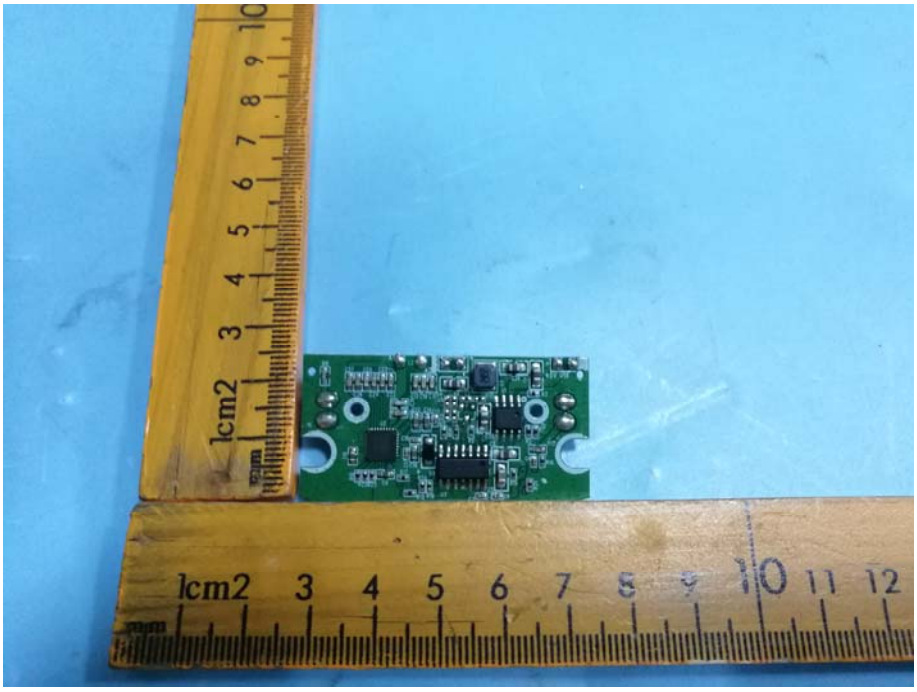
1cm2


1cm2
1cm2


lcm2
3
4
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6
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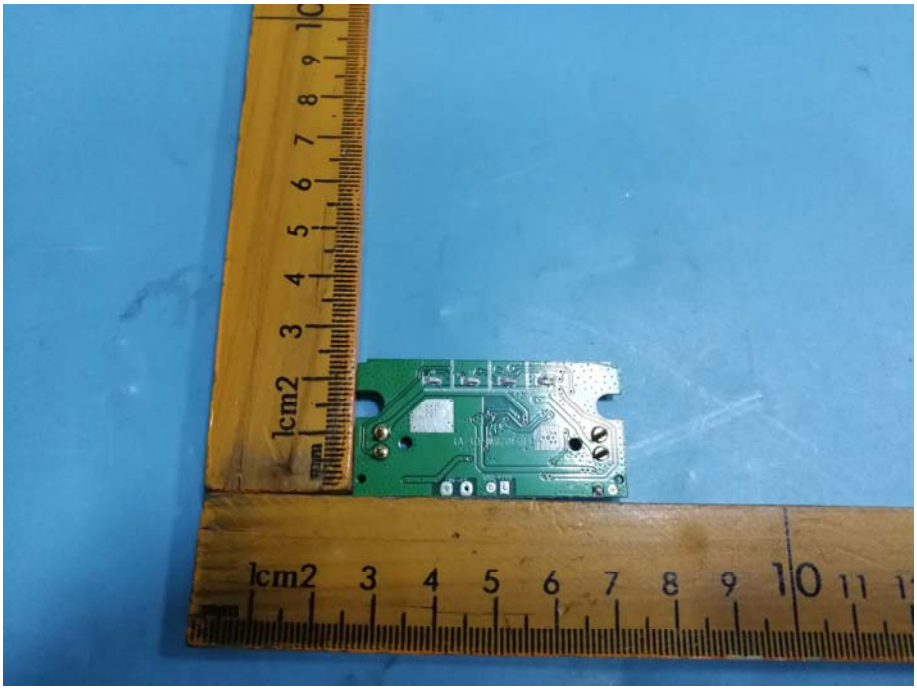
12


lcm2
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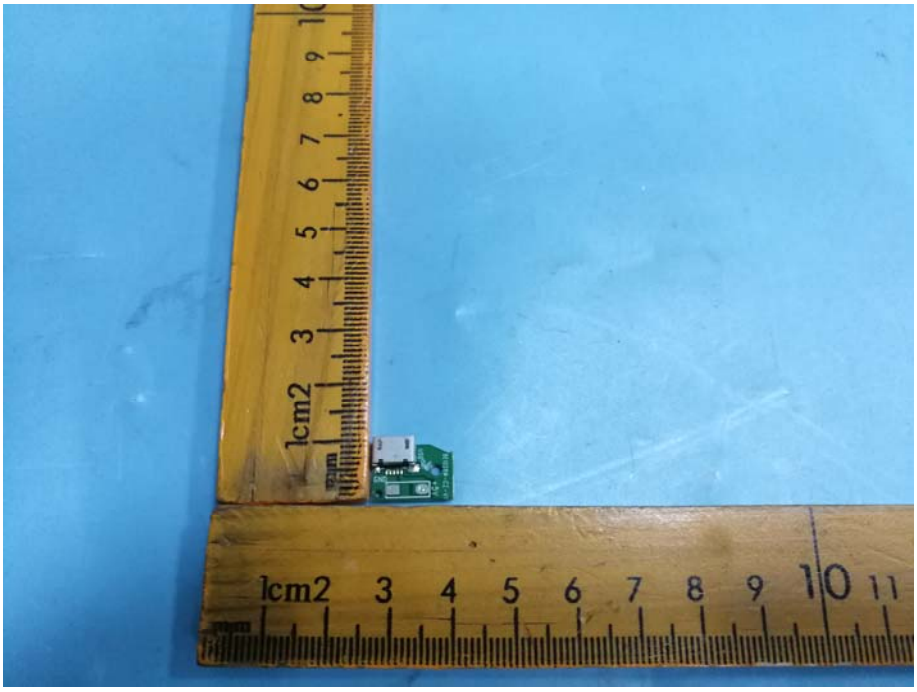
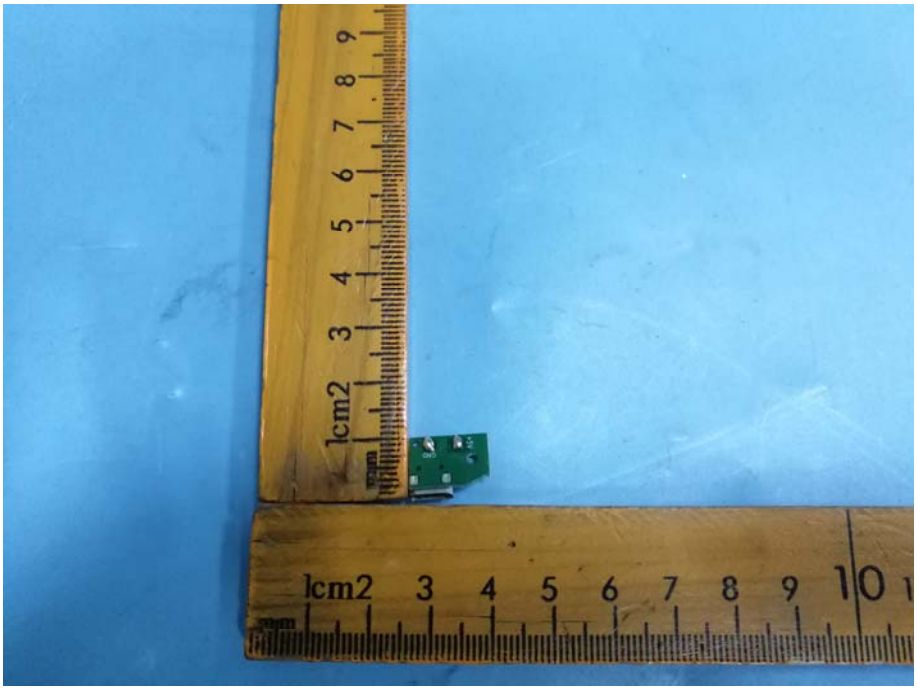
11





******* End of Test Report *******