S T S L A B

FCC TEST REPORT

Report No:STS1803105W01

Issued for

SHENZHEN BAIJUNDA ELECTRONIC CO.,LTD

2nd and 5th Floor C Building,KeShangMei Industrial Park,ChongQing Road,Hi-Tech Area,HePing Village,FuYong Town,Five,Bao'An district,ShenZhen,China

Product Name:	Quick Wireless Charger
Brand Name:	N/A
Model Name:	WD-213-5100QI
Series Model:	N/A
FCC ID:	2AO8C-WD-213-5100QI
Test Standard:	FCC Part 15 Subpart C

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TEST RESULT CERTIFICATION

Applicant's name.....:	SHENZHEN BAIJUNDA ELECTRONIC CO.,LTD
Address.....:	2nd and 5th Floor C Building,KeShangMei Industrial Park,ChongQing Road,Hi-Tech Area,HePing Village,FuYong Town,Five,Bao'An district,ShenZhen,China
Manufacture's Name .....:	SHENZHEN BAIJUNDA ELECTRONIC CO.,LTD
Address.....:	2nd and 5th Floor C Building,KeShangMei Industrial Park,ChongQing Road,Hi-Tech Area,HePing Village,FuYong Town,Five,Bao'An district,ShenZhen,China

Product description

Product Name .....:	Quick Wireless Charger
Brand Name .....:	N/A
Model Name.....:	WD-213-5100QI
Series Model .....:	N/A
Test Standards.....:	FCC Part 15 Subpart C
Test Procedure :	ANSI C63.10-2013

This device described above has been tested by STS, 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 performance of tests:	09 Mar. 2018 ~25 Apr. 2018
Date of Issue :	26 Apr. 2018
Test Result :	**Pass**

Testing Engineer : Chris chen

(Chris chen)

Technical Manager : Sean She

(Sean she)

Authorized Signatory : Vita Li

(Vita Li)

TESTING CONSULTING SOLUTION CERTIFICATION STS APPROVAL

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	26 Apr. 2018	STS1803105W01	ALL	Initial Issue

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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.209	Radiated emission, Spurious Emission	PASS	
15.35	20 dB Bandwidth	PASS	

1.1 TEST FACTORY

Shenzhen STS Test Services Co., Ltd.
Add. : 1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road, Fuyong Street, Bao'an District, Shenzhen, Guangdong, China
CNAS Registration No.: L7649; FCC Registration No.: 625569
IC Registration No.: 12108A; A2LA Certificate No.: 4338.01;

1.2 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** %。

No.	Item	Uncertainty
1	Conducted Emission (9KHz-150KHz)	±2.88dB
2	Conducted Emission (150KHz-30MHz)	±2.67 dB
3	All emissions,radiated(<1G) 30MHz-200MHz	±2.83dB
4	All emissions,radiated(<1G) 200MHz-1000MHz	±2.94dB
5	Temperature	±0.5°C
6	Humidity	±2%

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product Name	Quick Wireless Charger
Trade Name	N/A
Model Name	WD-213-5100QI
Series Model	N/A
Model Difference	N/A
Channel List	Please refer to the Note 2.
Equipemnt Category	Non-ISM frequency
Operating frequency	112.4kHz~121.6kHz
Modulation Type	ASK
Power Adapter	Input: DC5V,2A; DC 9V,1.67A Output: DC5V,1A ; 9V,1A
Hardware version number	N/A
Software version number	N/A
Connecting I/O Port(s)	Please refer to the User's Manual

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2.

Channel List					
Channel	Frequency (KHz)	Channel	Frequency (KHz)	Channel	Frequency (KHz)
00	112.4	01	115.5	02	121.6

3. Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	NOTE
1	N/A	WD-213-5100QI	Coil	N/A	Antenna

2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Charging+TX Mode (Mid CH)

For Conducted Emission	
Final Test Mode	Description
Mode 1	Charging+TX Mode (Mid CH)

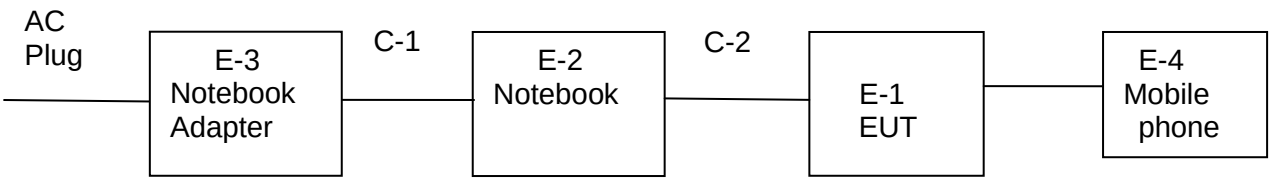
For Radiated Emission	
Final Test Mode	Description
Mode 1	Charging+TX Mode (Mid CH)

Note: According to ANSI C63.10-2013 5.6.1, Frequency range is less than 1MHz, Middle channel is to be tested.

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters

Conducted Emission Test



Radiated EmissionTest

2.4 DESCRIPTION OF SUPPORT UNITS

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.	Serial No.	Note
E-2	Notebook	HP	500-320cx	N/A	N/A
E-3	Notebook Adapter	HP	HSTNN-CA15	N/A	N/A
E-4	Mobile phone	N/A	N/A	N/A	N/A

Item	Shielded Type	Ferrite Core	Length	Note
C-1	DC Cable	NO	100cm	/
C-2	USB Cable (FTP)	NO	80cm	/

Note:

(1) FCC DOC approved.
(2) FTP is Foiled Twisted Pair.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2017.10.15	2018.10.14
Bilog Antenna	TESEQ	CBL6111D	34678	2017.11.02	2018.11.01
50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2017.10.15	2018.10.14
PreAmplifier	Agilent	8449B	60538	2017.10.15	2018.10.14
Loop Antenna	EMCO	6502	9003-2485	2017.10.15	2018.10.14
USB RF power sensor	DARE	RPR3006W	15I00041SNO03	2017.10.15	2018.10.14

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2017.10.15	2018.10.14
LISN	R&S	ENV216	101242	2017.10.15	2018.10.14
LISN	EMCO	3810/2NM	000-23625	2017.10.15	2018.10.14

3.CONDUCTED EMISSION TEST RESULT(SECTION 15.207)

3.1 POWER LINE CONDUCTED EMISSION LIMITS

Operating frequency band. In case the emission fall within the restricted band specified on Part 15.207 limit in the table below has to be followed.

FREQUENCY (MHz)	Class B (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	**Setting**
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

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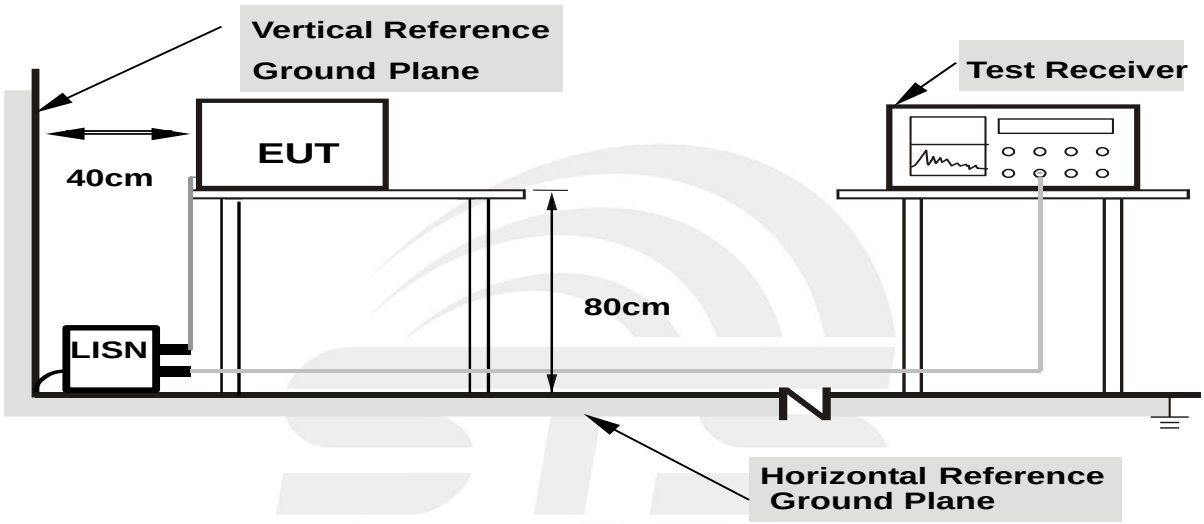
3.2 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.3 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

3.4 EUT OPERATING CONDITIONS

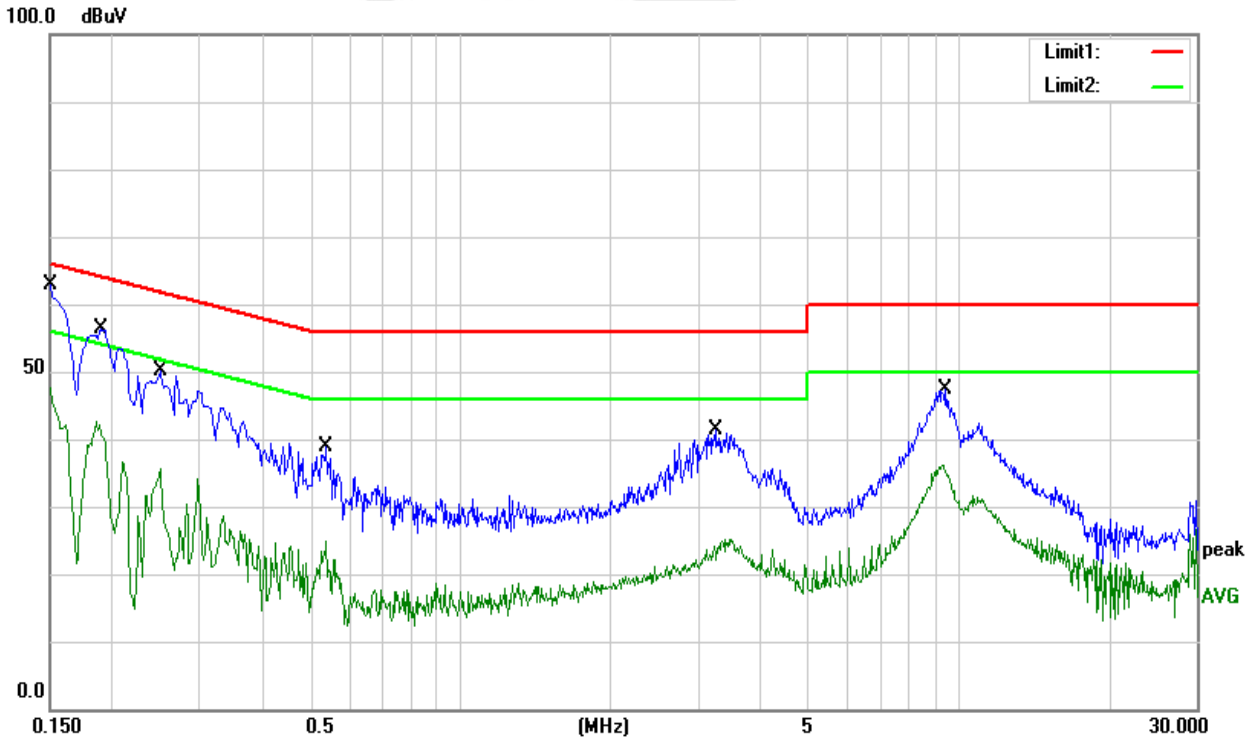
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.5TEST RESULTS

Temperature:	23.5 ℃	Relative Humidity:	59%
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 1		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1500	53.13	9.79	62.92	66.00	-3.08	QP
2	0.1500	35.82	9.79	45.61	56.00	-10.39	AVG
3	0.1900	46.48	9.78	56.26	64.04	-7.78	QP
4	0.1900	30.68	9.78	40.46	54.04	-13.58	AVG
5	0.2500	40.08	10.00	50.08	61.76	-11.68	QP
6	0.2500	24.01	10.00	34.01	51.76	-17.75	AVG
7	0.5380	28.79	9.99	38.78	56.00	-17.22	QP
8	0.5380	14.85	9.99	24.84	46.00	-21.16	AVG
9	3.2460	31.59	9.81	41.40	56.00	-14.60	QP
10	3.2460	12.34	9.81	22.15	46.00	-23.85	AVG
11	9.4300	37.15	10.15	47.30	60.00	-12.70	QP
12	9.4300	25.20	10.15	35.35	50.00	-14.65	AVG

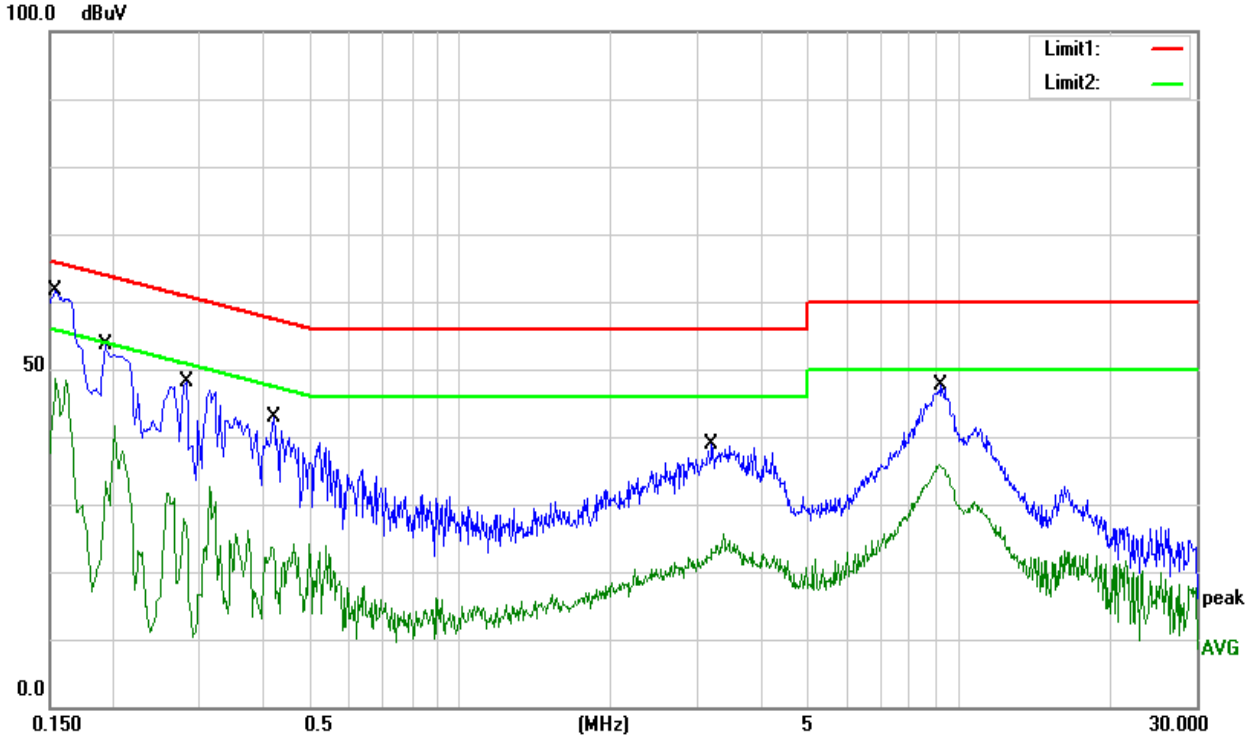
Remark:
1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)–Limit



Temperature:	23.5℃	Relative Humidity:	59%
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	Mode 1		

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1547	51.55	9.79	61.34	65.74	-4.40	QP
2	0.1547	37.73	9.79	47.52	55.74	-8.22	AVG
3	0.1940	43.82	9.78	53.60	63.86	-10.26	QP
4	0.1940	22.29	9.78	32.07	53.86	-21.79	AVG
5	0.2820	38.06	10.15	48.21	60.76	-12.55	QP
6	0.2820	16.69	10.15	26.84	50.76	-23.92	AVG
7	0.4220	32.76	10.03	42.79	57.41	-14.62	QP
8	0.4220	13.25	10.03	23.28	47.41	-24.13	AVG
9	3.2060	29.03	9.81	38.84	56.00	-17.16	QP
10	3.2060	13.04	9.81	22.85	46.00	-23.15	AVG
11	9.2100	37.57	10.13	47.70	60.00	-12.30	QP
12	9.2100	25.28	10.13	35.41	50.00	-14.59	AVG

Remark:
1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)–Limit



4. RADIATED& FIELD EMISSION TEST RESULT(SECTIOU 15.209)

4.1 Limit

Frequency [MHz]	Field Strength [uV/m]	Measurement Distance [Meters]
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Note:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

§ 15.209(d)The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

4.2 TEST PROCEDURE

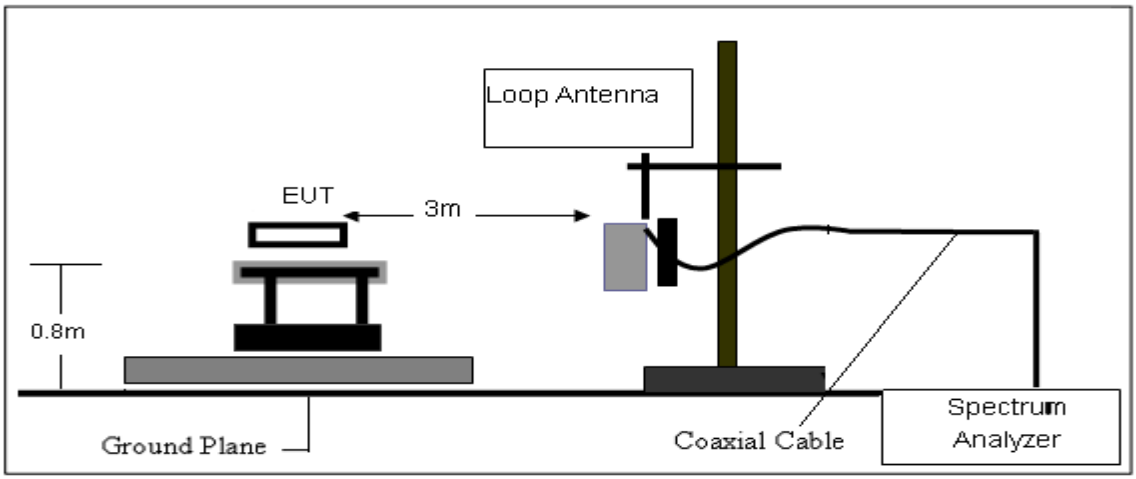
a. The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz.
b. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
d. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

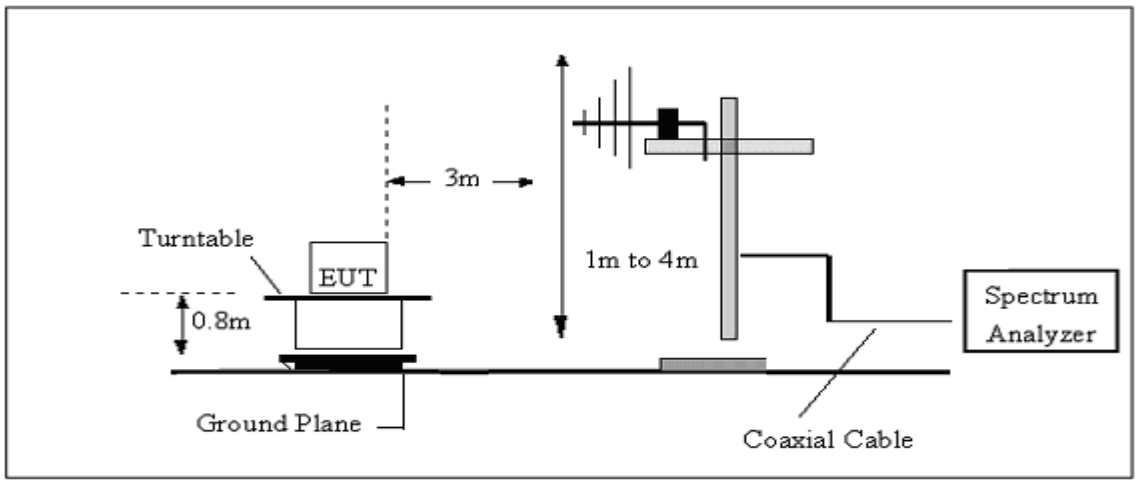
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

4.3 TEST SETUP

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



（B）Radiated Emission Test-Up Frequency 30MHz~1GHz



4.4 TEST RESULTS

Temperature :	25 ℃	Relative Humidity :	50%
Test Voltage :	AC 120V/60Hz	Test Mode :	TX Mode (Mid CH)

4.4.1 Spurious Radiated Emission Below 30 MHz

Frequency	Reading	Detector	Ant. Factor	Cable	Emission	Limits	Margin
(KHz)	(dBμV)	(PK/QP/AV)	(dB/m)	Loss	Level (dBμV/m)	(dBμV/m)	(dB)
15	74.74	PK	26.27	0.1	101.11	144.08	-42.97
15	59.66	AV	26.27	0.1	86.03	124.08	-38.05
36	70.58	PK	22.03	0.1	92.71	136.48	-43.77
36	55.33	AV	22.03	0.1	77.46	116.48	-39.02
110	77.5	PK	10.04	0.1	87.64	126.78	-39.14
110	62.6	AV	10.04	0.1	72.74	106.78	-34.04
119.125	96.6	PK	9.95	0.1	106.65	126.08	-19.43
119.125	80.79	AV	9.95	0.1	90.84	106.08	-15.24
554	54.54	QP	-16.36	0.1	38.28	72.73	-34.45
23214	42.41	QP	-17.9	0.9	25.41	69.50	-44.09

1. "*" Means Fundamental frequency
2. Emission Level [dBμV/m] = Reading [dBμV] + Ant. Factor [dB/m] + Cable Loss [dB]
3.Margin [dB] = Emission Level [dBμV/m] – Limit [dBμV/m]
4.Limit calculation: Limit at specified distance + 40log (300/3) = Limit + 80 dB for up to 0.49 MHz
Limit at specified distance + 40log (30/3) = Limit + 40 dB for above 0.49 MHz, Below 30 MHz

4.4.2 Spurious Radiated Emission below 1 GHz

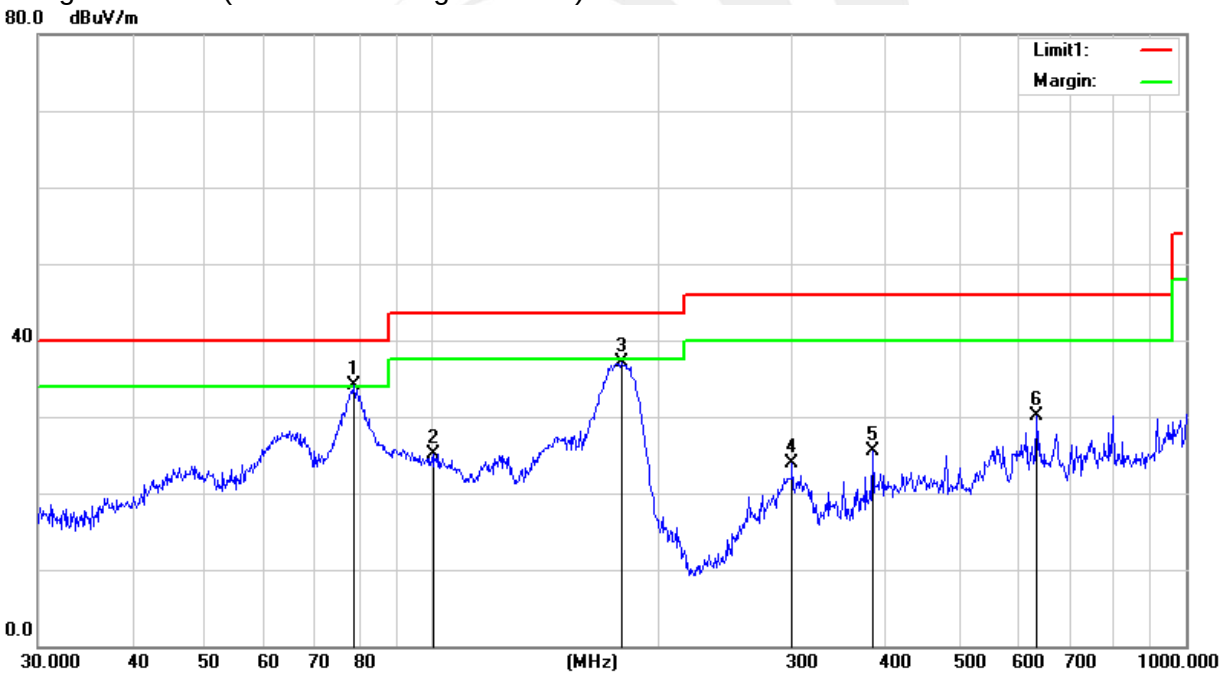
Temperature :	22.1 ℃	Relative Humidity :	56%
Test Voltage :	AC 120V/60Hz	Test Mode :	Mode 1

The following table shows the highest levels of radiated emissions on polarizations of vertical

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
78.6888	56.94	-22.88	34.06	40.00	-5.94	QP
100.5806	44.24	-19.14	25.10	43.50	-18.40	QP
178.7581	56.47	-19.44	37.03	43.50	-6.47	QP
300.3672	38.71	-14.81	23.90	46.00	-22.10	QP
383.9318	37.77	-12.35	25.42	46.00	-20.58	QP
633.9071	36.56	-6.39	30.17	46.00	-15.83	QP

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit



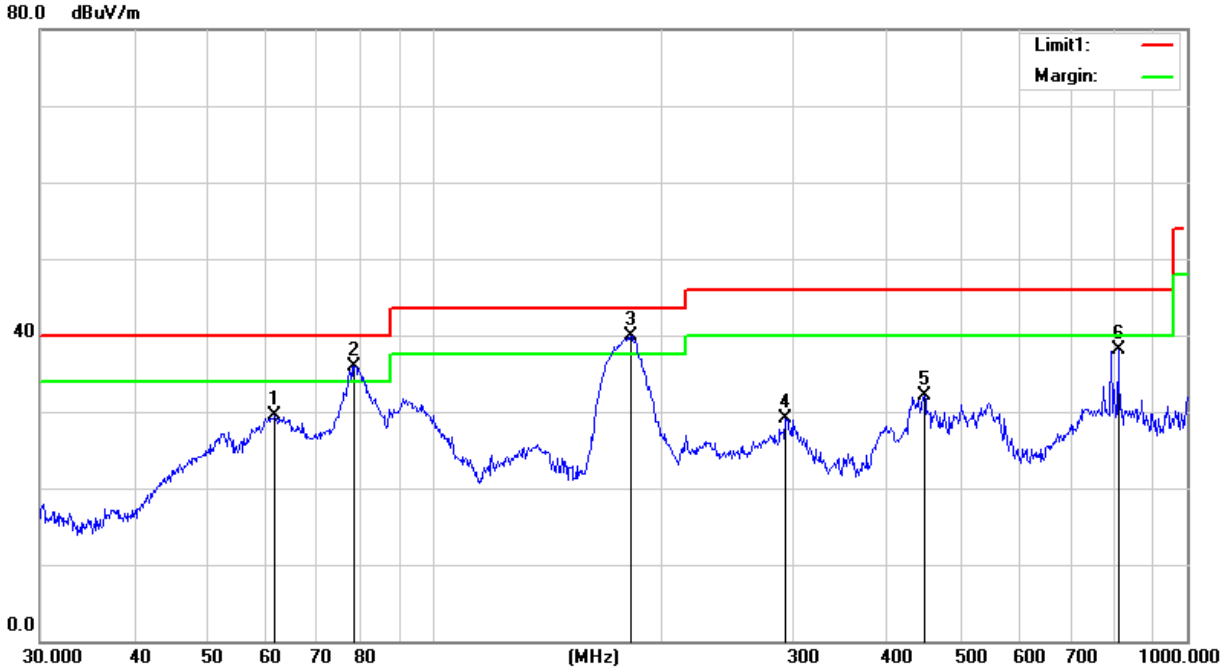
Temperature：	22.1 ℃	Relative Humidity：	56%
Test Voltage ：	AC 120V/60Hz	Test Mode ：	Mode 1

The following table shows the highest levels of radiated emissions on polarizations of horizontal

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
61.5617	53.84	-24.31	29.53	40.00	-10.47	QP
78.4133	58.89	-22.92	35.97	40.00	-4.03	QP
182.5592	59.53	-19.65	39.88	43.50	-3.62	QP
293.0842	44.31	-15.24	29.07	46.00	-16.93	QP
447.9821	42.88	-10.85	32.03	46.00	-13.97	QP
810.2653	41.55	-3.49	38.06	46.00	-7.94	QP

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit



5. 20 DB BANDWIDTH TEST

5.1 Limit

FCC Part 2.1049, Only applicable to report.

5.2 TEST SETUP

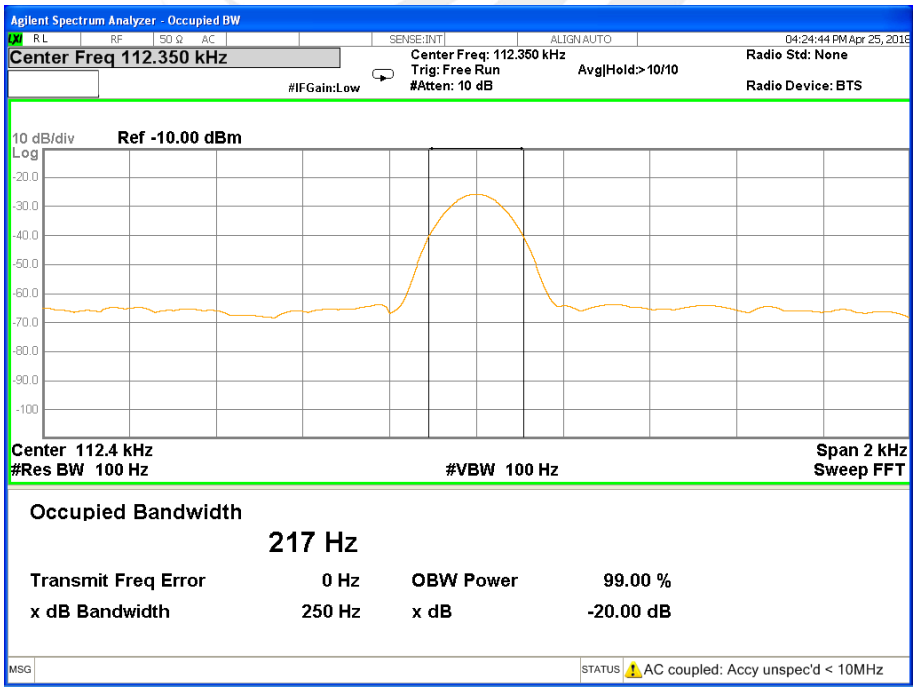
Spectrum Parameter	Setting
Span Frequency	approximately 2 to 3 times the 20 dB bandwidth
RB	greater than 1 % of the 20 dB bandwidth,
VB	equal to the RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

The test program and configuration,Refer to 4.2 and 4.3

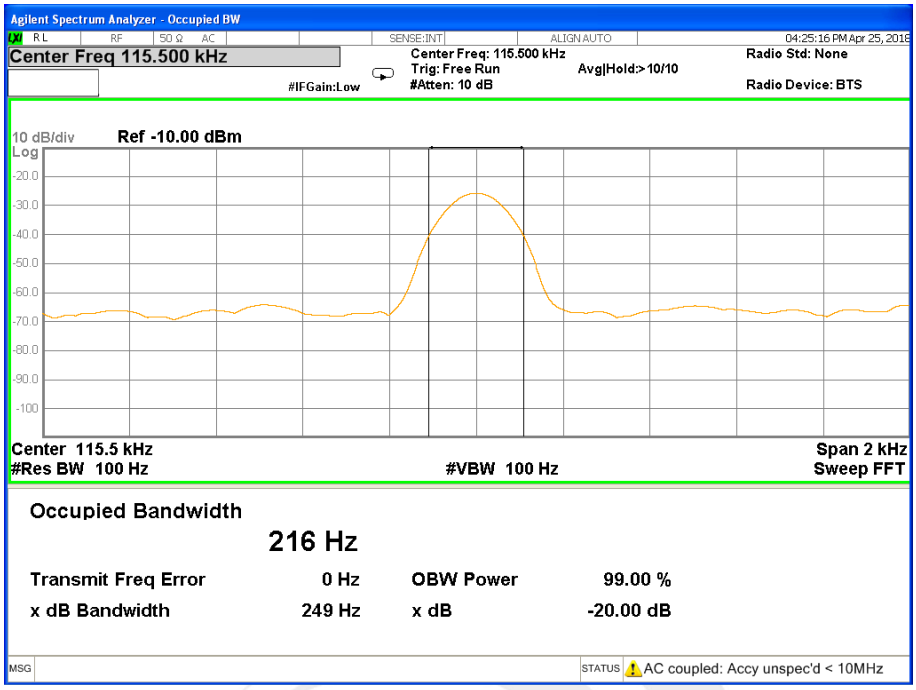
5.3 TEST RESULTS

OperatingFrequency（kHz）	20 dB Bandwhidth(Hz)
112.4	250
115.5	249
121.6	250

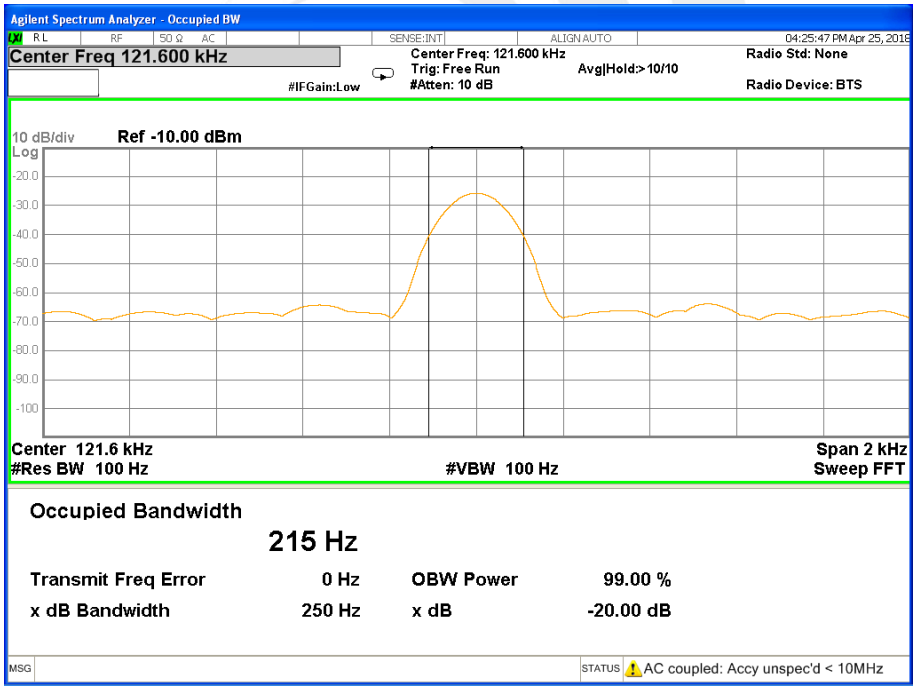
CH00



CH01

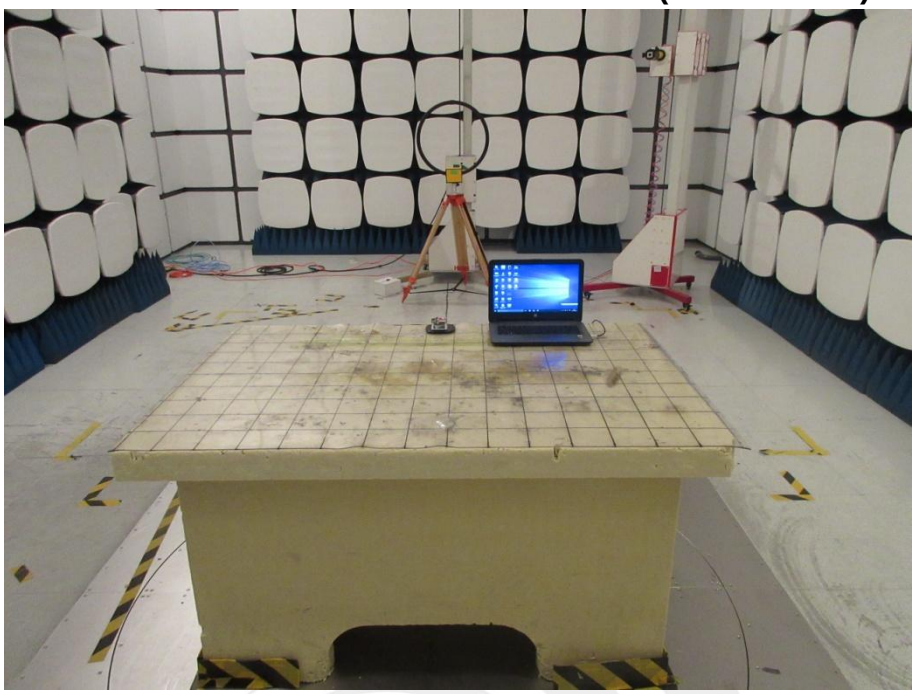

Agilent Spectrum Analyzer - Occupied BW
Center Freq 115.500 kHz
Center Freq: 115.500 kHz
Trig: Free Run
#Atten: 10 dB
Avg|Hold:>10/10
Radio Std: None
Radio Device: BTS
04:25:16 PM Apr 25, 2018
10 dB/div
Ref -10.00 dBm
Center 115.5 kHz
#Res BW 100 Hz
#VBW 100 Hz
Span 2 kHz
Sweep FFT
Occupied Bandwidth
216 Hz
Transmit Freq Error 0 Hz
OBW Power 99.00 %
x dB Bandwidth 249 Hz
x dB -20.00 dB
AC coupled: Accy unspec'd < 10MHz

CH02

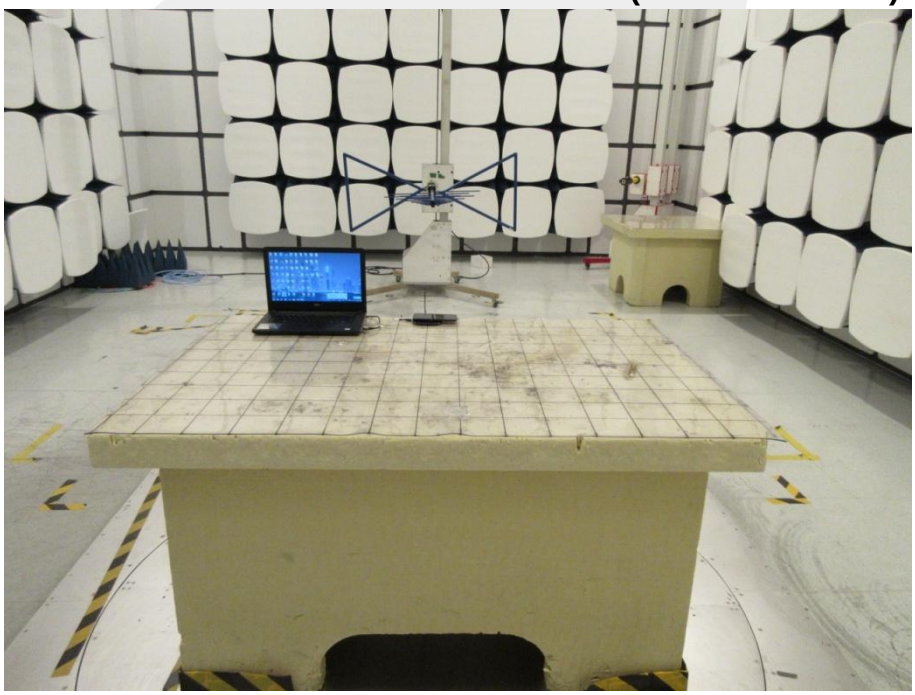

Agilent Spectrum Analyzer - Occupied BW
Center Freq 121.600 kHz
Center Freq: 121.600 kHz
Trig: Free Run
#Atten: 10 dB
Avg|Hold:>10/10
Radio Std: None
Radio Device: BTS
04:25:47 PM Apr 25, 2018
10 dB/div
Ref -10.00 dBm
Center 121.6 kHz
#Res BW 100 Hz
#VBW 100 Hz
Span 2 kHz
Sweep FFT
Occupied Bandwidth
215 Hz
Transmit Freq Error 0 Hz
OBW Power 99.00 %
x dB Bandwidth 250 Hz
x dB -20.00 dB
AC coupled: Accy unspec'd < 10MHz

APPENDIX-PHOTOS OF TEST SETUP

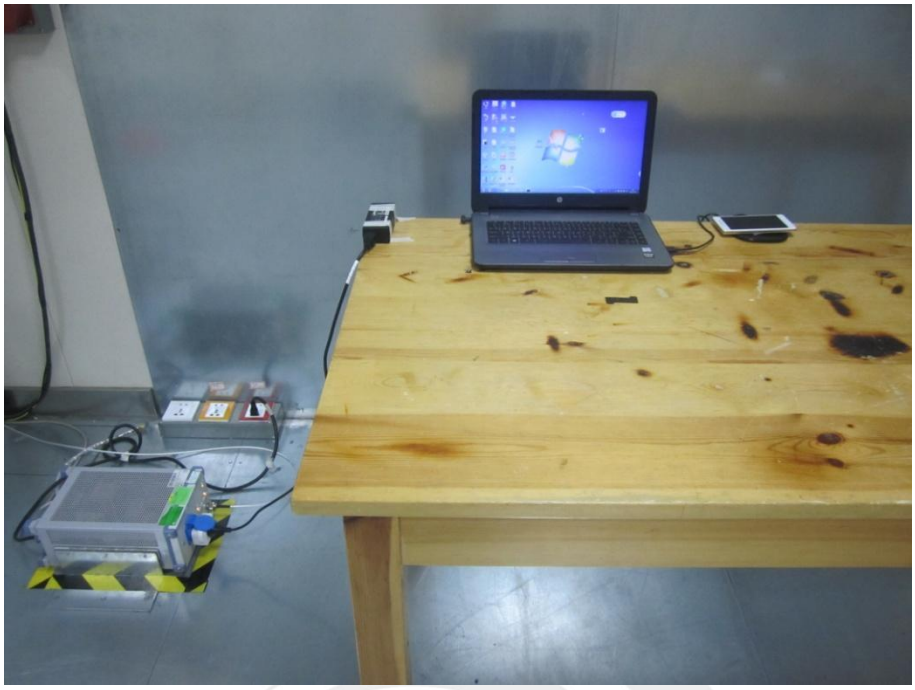
Radiated emission Measurement Photos(9KHz-30MHz)



Radiated emission Measurement Photos(30MHz-1000MHz)



ConductionMeasurement Photos



※※※※※END OF THE REPORT※※※※※