Test Report (Bluetooth)

Applicant:	Orange View Limited
Address of Applicant:	Suite 603,6/F,Laws Commerical Plaza,788 Cheung Sha Wan Road,Kowloon, Hong Kong
Manufacturer/Factory:	Orange View Limited
Address of Manufacturer/Factory:	Suite 603,6/F,Laws Commerical Plaza,788 Cheung Sha Wan Road,Kowloon, Hong Kong

Equipment Under Test (EUT)

Product Name:	Aicool Smart Trash Can
Model No.:	Hero
Trade Mark:	AICOOL
FCC ID:	2AUD5-Hero
Applicable standards:	FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt:	Aug 15,2019
Date of Test:	Aug 15,2019-Aug 23,2019
Date of report issued:	Aug 23,2019
Test Result :	PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Robinson Lo
Laboratory Manager

This 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.

2 Version

Version No.	Date	Description
00	*Aug 23,2019*	*Original*

Prepared By:	***Project Engineer***	***Date:***	Aug 23,2019
Check By:	***Reviewer***	***Date:***	Aug 23,2019

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203/15.247 (c)	Pass
AC Power Line Conducted Emission	15.207	Pass
Conducted Output Power	15.247 (b)(3)	Pass
Channel Bandwidth	15.247 (a)(2)	Pass
Power Spectral Density	15.247 (e)	Pass
Band Edge	15.247(d)	Pass
Spurious Emission	15.205/15.209	Pass

Remarks:

1. *Pass: The EUT complies with the essential requirements in the standard.*
2. *Test according to ANSI C63.10:2013*

Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	30MHz-200MHz	3.8039dB	(1)
Radiated Emission	200MHz-1GHz	3.9679dB	(1)
Radiated Emission	1GHz-18GHz	4.29dB	(1)
Radiated Emission	18GHz-40GHz	3.30dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	3.44dB	(1)
Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.			

5 General Information

5.1 General Description of EUT

Product Name:	Aicool Smart Trash Can
Model No.:	Hero
Test sample(s) ID:	GTS201908000149-1
Sample(s) Status:	Engineering sample
Serial No.:	N/A
Hardware Version:	N/A
Software Version:	SmartRF Studio7 1,0,3,0
Operation Frequency:	2402~2480MHz
Channel Numbers:	40
Channel Separation:	2MHz
Modulation Type:	GFSK
Antenna Type:	PCB antenna
Antenna Gain:	-3dBi
Power Supply:	Adapter information:input100-240V~50/60Hz 0.65A Max Output:18V/2A

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402MHz	11	2422MHz	21	2442MHz	31	2462MHz
2	2404MHz	12	2424MHz	22	2444MHz	32	2464MHz
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
9	2418MHz	19	2438MHz	29	2458MHz	39	2478MHz
10	2420MHz	20	2440MHz	30	2460MHz	40	2480MHz

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel	2402MHz
The middle channel	2440MHz
The Highest channel	2480MHz

5.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode
Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.	

5.3 Description of Support Units

Adapter information:input100-240V~50/60Hz 0.65A Max Output:18V/2A

5.4 Test Facility

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

● **FCC —Registration No.: 381383**

Global United Technology Services Co., Ltd., Shenzhen 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 files. Registration 381383.

● **NVLAP (LAB CODE:600179-0)**

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0

5.5 Test Location

All tests were performed at:
Global United Technology Services Co., Ltd. Address: No. 301-309, 3/F., Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102 Tel: 0755-27798480 Fax: 0755-27798960

6 Test Instruments list

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July. 03 2015	July. 02 2020
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 26 2019	June. 25 2020
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 26 2019	June. 25 2020
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 26 2019	June. 25 2020
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 26 2019	June. 25 2020
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 26 2019	June. 25 2020
9	Coaxial Cable	GTS	N/A	GTS211	June. 26 2019	June. 25 2020
10	Coaxial cable	GTS	N/A	GTS210	June. 26 2019	June. 25 2020
11	Coaxial Cable	GTS	N/A	GTS212	June. 26 2019	June. 25 2020
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 26 2019	June. 25 2020
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 26 2019	June. 25 2020
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 26 2019	June. 25 2020
15	Band filter	Amindeon	82346	GTS219	June. 26 2019	June. 25 2020
16	Power Meter	Anritsu	ML2495A	GTS540	June. 26 2019	June. 25 2020
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 26 2019	June. 25 2020
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 26 2019	June. 25 2020
19	Splitter	Agilent	11636B	GTS237	June. 26 2019	June. 25 2020
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 26 2019	June. 25 2020
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 20 2018	Oct. 19 2019
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 20 2018	Oct. 19 2019
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 20 2018	Oct. 19 2019
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 26 2019	June. 25 2020

Conducted Emission						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.15 2019	May.14 2022
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 26 2019	June. 25 2020
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 26 2019	June. 25 2020
4	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June. 26 2019	June. 25 2020
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June. 26 2019	June. 25 2020
8	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	June. 26 2019	June. 25 2020
9	ISN	SCHWARZBECK	NTFM 8158	GTD565	June. 26 2019	June. 25 2020

RF Conducted Test:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	June. 26 2019	June. 25 2020
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 26 2019	June. 25 2020
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 26 2019	June. 25 2020
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 26 2019	June. 25 2020
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 26 2019	June. 25 2020
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 26 2019	June. 25 2020
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 26 2019	June. 25 2020
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 26 2019	June. 25 2020

General used equipment:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal.Date (mm-dd-yy)**	**Cal.Due date (mm-dd-yy)**
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 26 2019	June. 25 2020
2	Barometer	ChangChun	DYM3	GTS255	June. 26 2019	June. 25 2020

7 Test results and Measurement Data

7.1 Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203 /247(c)
15.203 requirement: 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 or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. **15.247(c) (1)(i) requirement:** (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.	
E.U.T Antenna:	
The antenna is PIFA antenna, the best case gain of the antenna is -3dBi, reference to the appendix II for details.	

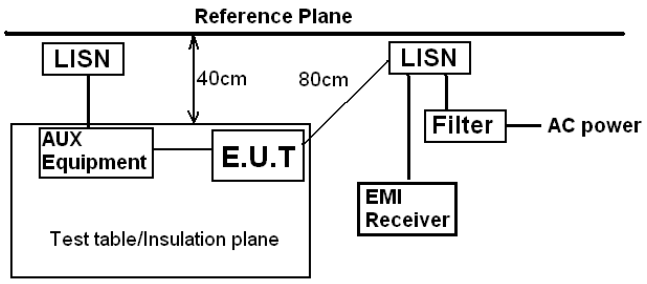
7.2 Conducted Emissions

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Test Frequency Range:	150KHz to 30MHz
Class / Severity:	Class B
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto
Limit:	

Frequency range (MHz)	Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

Test setup:



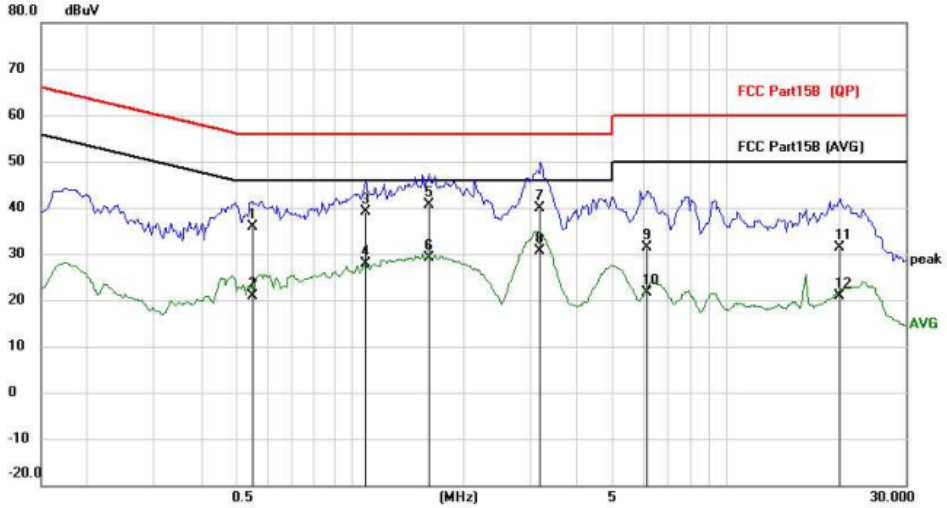
Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m

Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	AC 120V, 60Hz					
Test results:	Pass					

Measurement data

Mode:	Bluetooth mode	Probe:	Line

Conducted Emission Measurement



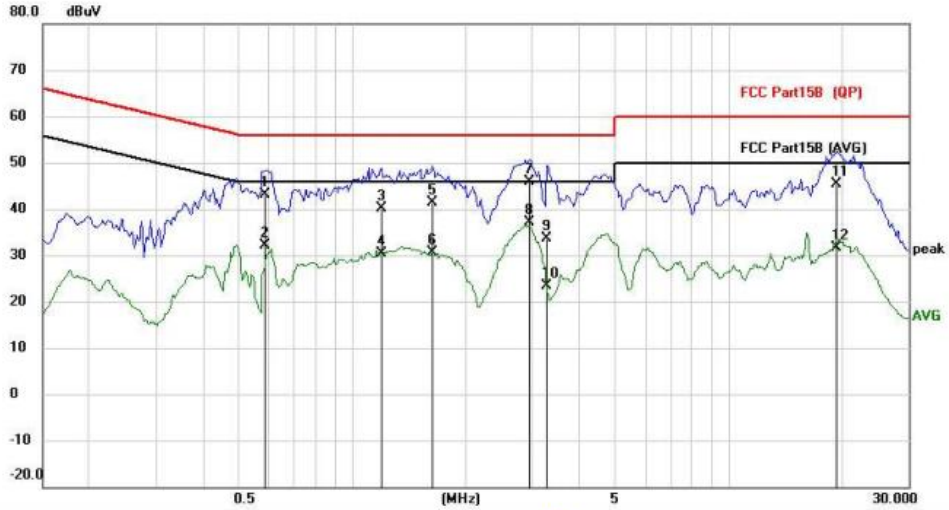
Site LAB | Phase: *L1* | Temperature: 26

Limit: FCC Part15B (QP) | Power: | Humidity: 60 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.5478	25.10	10.82	35.92	56.00	-20.08	QP	
2		0.5478	10.09	10.82	20.91	46.00	-25.09	AVG	
3		1.0976	28.07	11.11	39.18	56.00	-16.82	QP	
4		1.0976	16.84	11.11	27.95	46.00	-18.05	AVG	
5	*	1.6164	29.47	11.17	40.64	56.00	-15.36	QP	
6		1.6164	18.08	11.17	29.25	46.00	-16.75	AVG	
7		3.2028	28.50	11.37	39.87	56.00	-16.13	QP	
8		3.2028	19.18	11.37	30.55	46.00	-15.45	AVG	
9		6.1590	19.84	11.66	31.50	60.00	-28.50	QP	
10		6.1590	9.97	11.66	21.63	50.00	-28.37	AVG	
11		20.0040	18.69	12.80	31.49	60.00	-28.51	QP	
12		20.0040	7.96	12.80	20.76	50.00	-29.24	AVG	

Mode:	Bluetooth mode	Probe:	Neutral

Conducted Emission Measurement



Site LAB | Phase: N | Temperature: 26

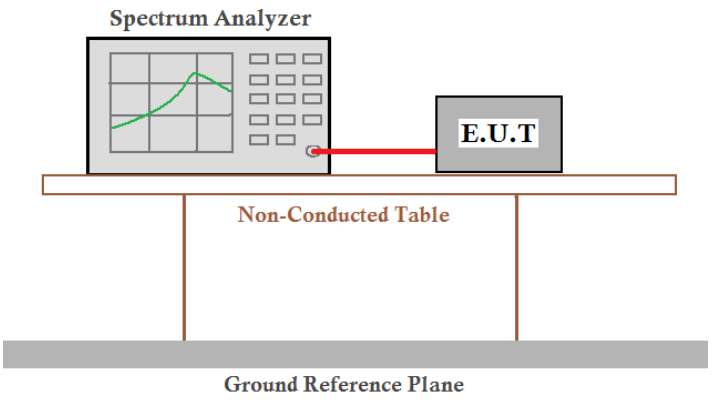
Limit: FCC Part15B (QP) | Power: | Humidity: 60 %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.5868	32.40	10.84	43.24	56.00	-12.76	QP	
2		0.5868	21.25	10.84	32.09	46.00	-13.91	AVG	
3		1.1913	28.99	11.12	40.11	56.00	-15.89	QP	
4		1.1913	19.29	11.12	30.41	46.00	-15.59	AVG	
5		1.6281	30.32	11.17	41.49	56.00	-14.51	QP	
6		1.6281	19.38	11.17	30.55	46.00	-15.45	AVG	
7		2.9463	34.55	11.33	45.88	56.00	-10.12	QP	
8		2.9463	25.80	11.33	37.13	46.00	-8.87	AVG	
9		3.2925	22.36	11.38	33.74	56.00	-22.26	QP	
10		3.2925	12.10	11.38	23.48	46.00	-22.52	AVG	
11		19.3995	32.53	12.76	45.29	60.00	-14.71	QP	
12		19.3995	18.80	12.76	31.56	50.00	-18.44	AVG	

Notes:

1. *An initial pre-scan was performed on the line and neutral lines with peak detector.*
2. *Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.*
3. *Final Level =Receiver Read level + LISN Factor + Cable Loss*
4. *If the average limit is met when using a quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.*

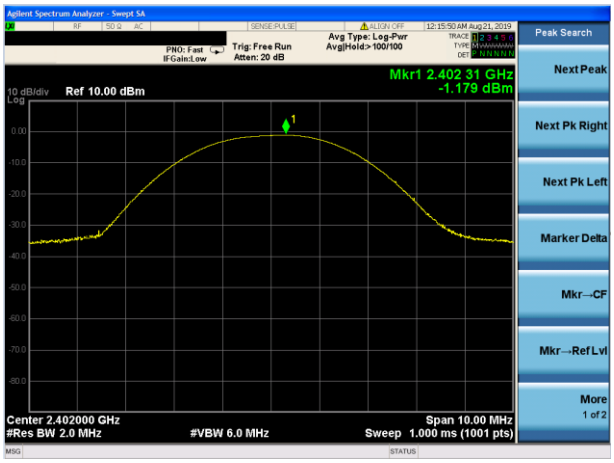
7.3 Conducted Output Power

Test Requirement:	FCC Part15 C Section 15.247 (b)(3)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05r02
Limit:	30dBm
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Test channel	Peak Output Power (dBm)	Limit(dBm)	Result
Lowest	-1.179	30.00	Pass
Middle	-1.472		
Highest	-1.961		

Test plot as follows:

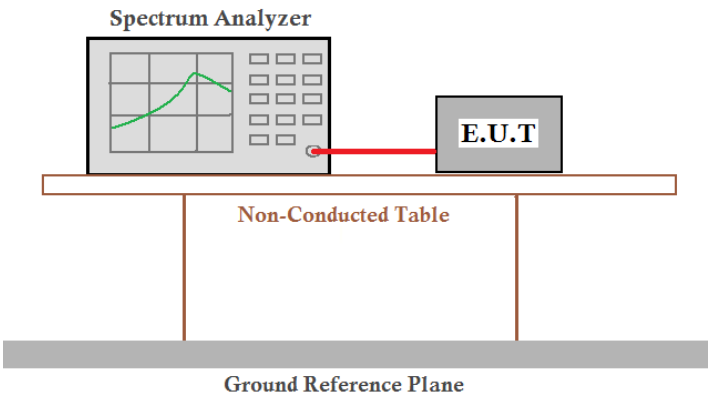


Lowest channel

Middle channel

Highest channel

7.4 Channel Bandwidth

Test Requirement:	FCC Part15 C Section 15.247 (a)(2)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05r02
Limit:	>500KHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Test channel	Channel Bandwidth (MHz)	Limit(KHz)	Result
Lowest	0.6900	>500	Pass
Middle	0.6609		
Highest	0.6739		

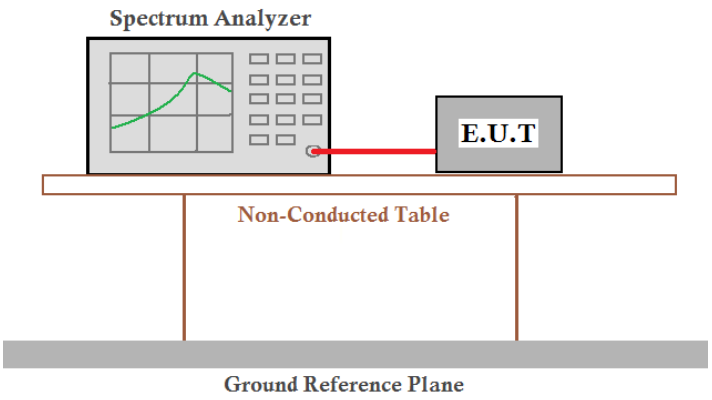
Test plot as follows:

Lowest channel

Middle channel

Highest channel

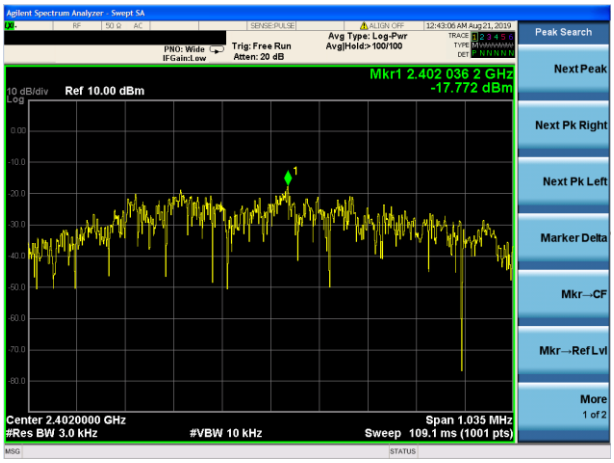
7.5 Power Spectral Density

Test Requirement:	FCC Part15 C Section 15.247 (e)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05r02
Limit:	8dBm/3kHz
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

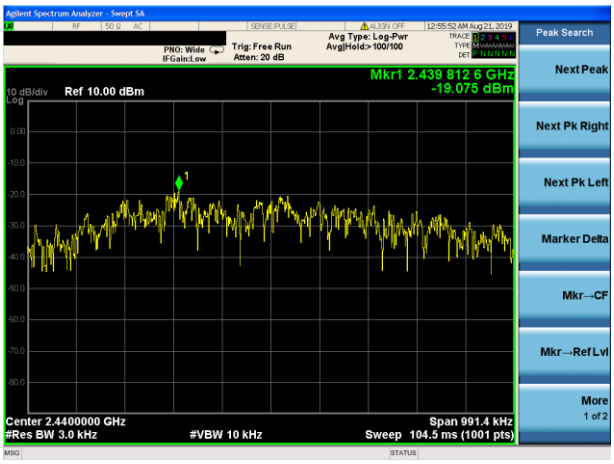
Measurement Data

Test channel	Power Spectral Density (dBm/3kHz)	Limit(dBm/3kHz)	Result
Lowest	-17.721	8.00	Pass
Middle	-19.075		
Highest	-19.527		

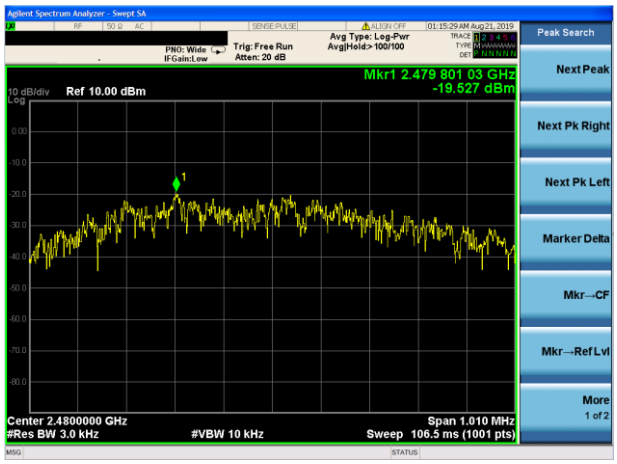
Test plot as follows:



Lowest channel



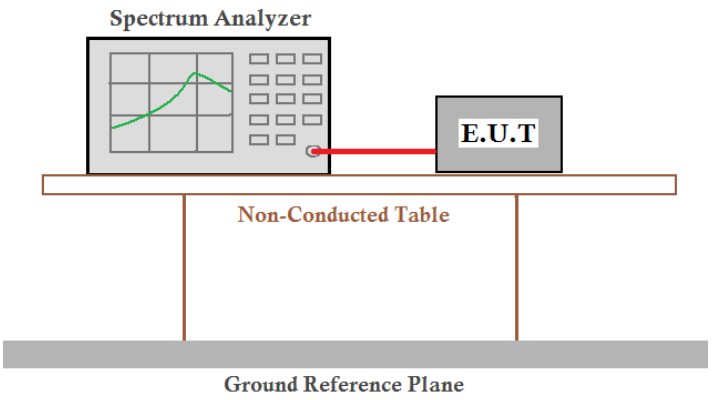
Middle channel



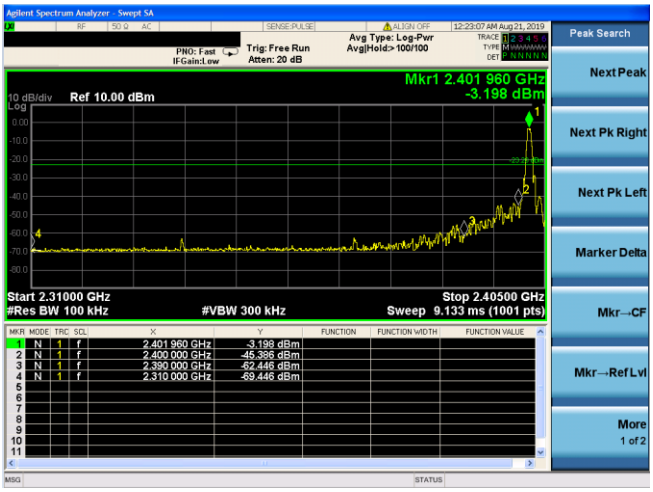
Highest channel

7.6 Band edges

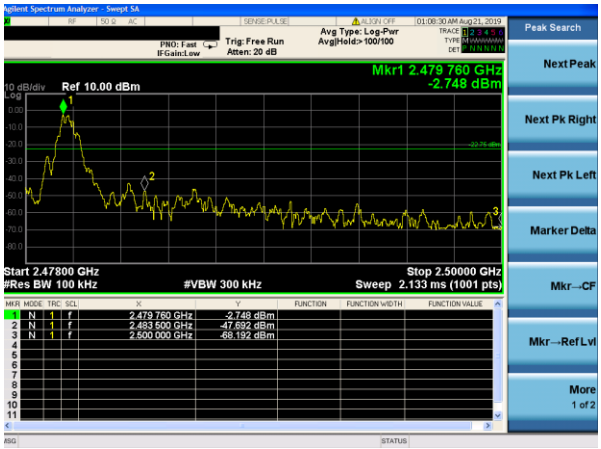
7.6.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05r02
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Test plot as follows:



Lowest channel



Highest channel

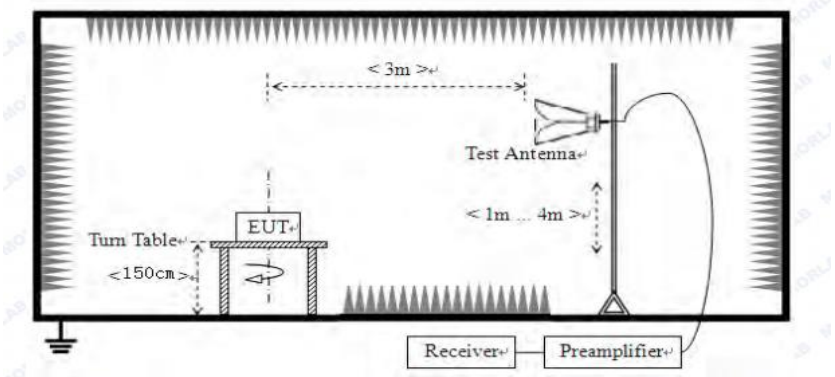
7.6.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205
Test Method:	ANSI C63.10:2013
Test Frequency Range:	All of the restrict bands were tested, only the worst band's (2310MHz to 2500MHz) data was showed.
Test site:	Measurement Distance: 3m
Receiver setup:	

Frequency	Detector	RBW	VBW	Value
Above 1GHz	Peak	1MHz	3MHz	Peak
	RMS	1MHz	3MHz	Average

Limit:	Frequency	Limit (dBuV/m @3m)	Value
	Above 1GHz	54.00	Average
		74.00	Peak

Test setup:



Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement Data

Test channel:	Lowest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	41.29	27.59	5.38	30.18	44.08	74.00	-29.92	Horizontal
2400.00	57.86	27.58	5.39	30.18	60.65	74.00	-13.35	Horizontal
2390.00	41.69	27.59	5.38	30.18	44.48	74.00	-29.52	Vertical
2400.00	59.72	27.58	5.39	30.18	62.51	74.00	-11.49	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2390.00	32.20	27.59	5.38	30.18	34.99	54.00	-19.01	Horizontal
2400.00	43.35	27.58	5.39	30.18	46.14	54.00	-7.87	Horizontal
2390.00	32.03	27.59	5.38	30.18	34.82	54.00	-19.18	Vertical
2400.00	44.84	27.58	5.39	30.18	47.63	54.00	-6.37	Vertical

Test channel:	Highest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	43.21	27.53	5.47	29.93	46.28	74.00	-27.72	Horizontal
2500.00	42.68	27.55	5.49	29.93	45.79	74.00	-28.21	Horizontal
2483.50	43.79	27.53	5.47	29.93	46.86	74.00	-27.14	Vertical
2500.00	43.53	27.55	5.49	29.93	46.64	74.00	-27.36	Vertical

Average value:

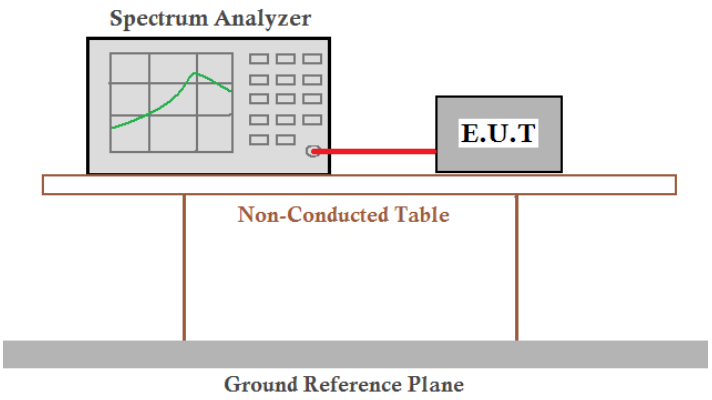
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	35.01	27.53	5.47	29.93	38.08	54.00	-15.92	Horizontal
2500.00	33.24	27.55	5.49	29.93	36.35	54.00	-17.65	Horizontal
2483.50	36.09	27.53	5.47	29.93	39.16	54.00	-14.84	Vertical
2500.00	33.03	27.55	5.49	29.93	36.14	54.00	-17.86	Vertical

Remarks:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *The pre-test were performed on lowest, middle and highest frequencies, only the worst case's (lowest and highest frequencies) data was showed.*

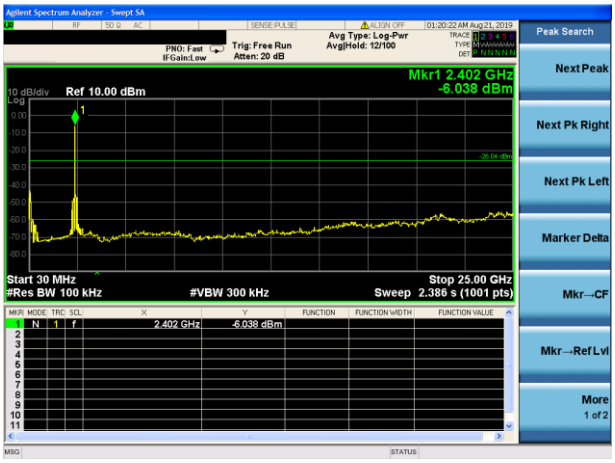
7.7 Spurious Emission

7.7.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance V05r02
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

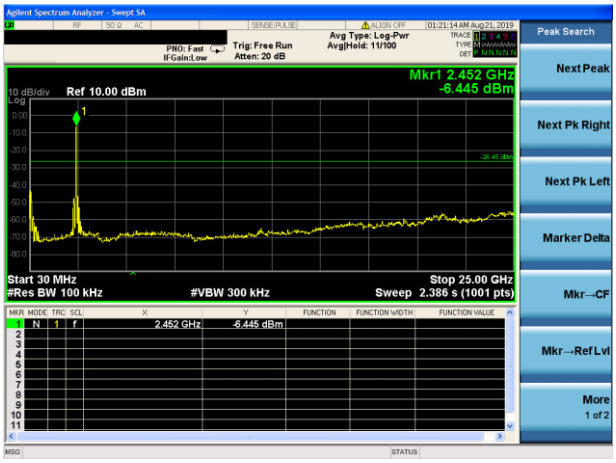
Test plot as follows:

Lowest channel



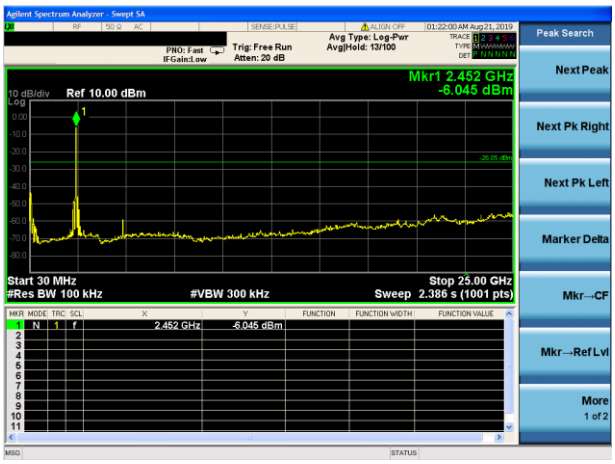
30MHz~25GHz

Middle channel



30MHz~25GHz

Highest channel



30MHz~25GHz

7.7.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209
Test Method:	ANSI C63.10:2013
Test Frequency Range:	9kHz to 25GHz
Test site:	Measurement Distance: 3m

Receiver setup:

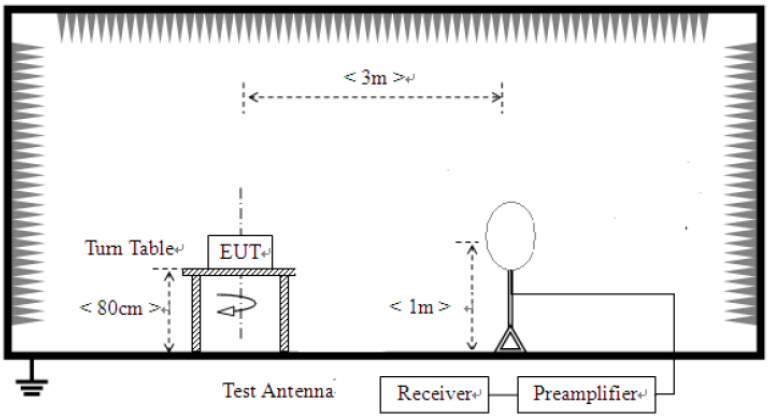
Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

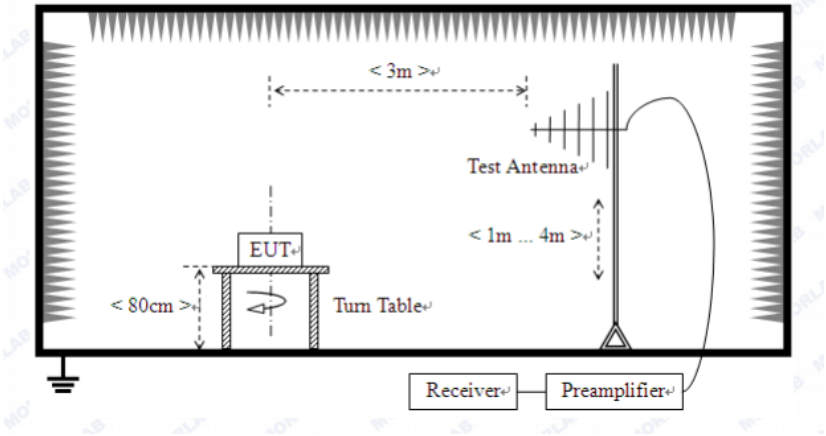
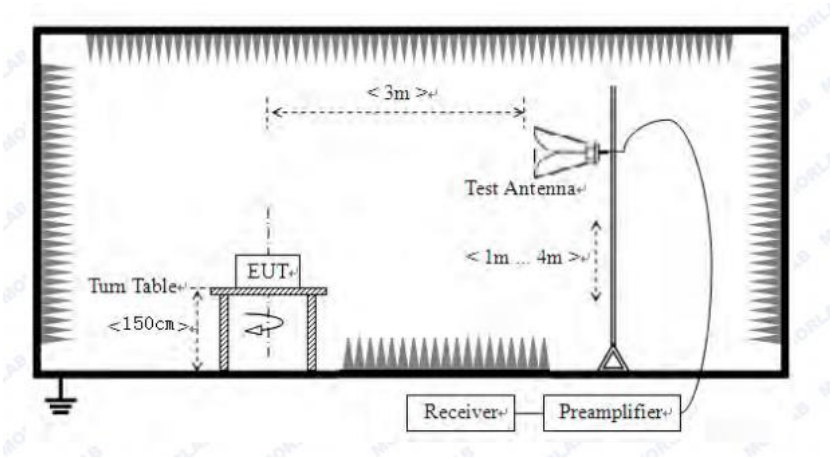
Limit:

Frequency	Limit (uV/m)	Value	Measurement Distance
0.009MHz-0.490MHz	2400/F(KHz)	QP	300m
0.490MHz-1.705MHz	24000/F(KHz)	QP	30m
1.705MHz-30MHz	30	QP	30m
30MHz-88MHz	100	QP	3m
88MHz-216MHz	150	QP	
216MHz-960MHz	200	QP	
960MHz-1GHz	500	QP	
Above 1GHz	500	Average	
	5000	Peak	

Test setup:

For radiated emissions from 9kHz to 30MHz



	For radiated emissions from 30MHz to1GHz  For radiated emissions above 1GHz  					
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	AC 120V, 60Hz					
Test results:	Pass					

Measurement data:

Remark:
Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

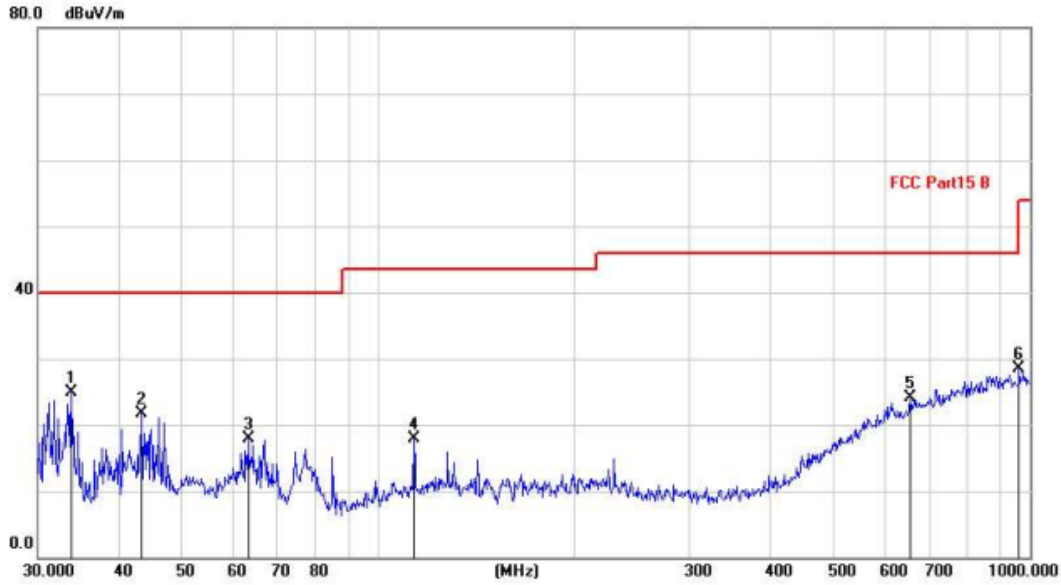
■ **9kHz~30MHz**

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

■ **Below 1GHz**

Mode:	**Bluetooth mode**	**Polarization:**	**Horizontal**

Radiated Emission Measurement



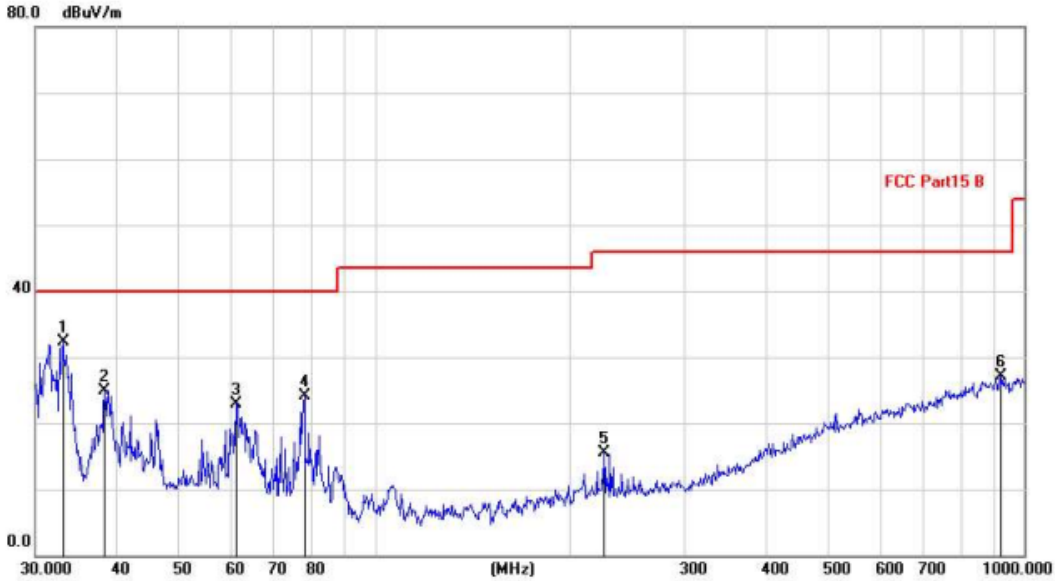
Site LAB | Polarization: ***Horizontal*** | Temperature:

Limit: FCC Part15 B | Power: | Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree	Comment
1	*	33.7986	43.59	-18.59	25.00	40.00	-15.00	peak			
2		43.3534	36.59	-14.93	21.66	40.00	-18.34	peak			
3		63.0916	32.70	-14.82	17.88	40.00	-22.12	peak			
4		113.3163	34.73	-16.79	17.94	43.50	-25.56	peak			
5		654.2318	28.38	-4.35	24.03	46.00	-21.97	peak			
6		962.1623	28.58	-0.08	28.50	54.00	-25.50	peak			

Mode:	Bluetooth mode	Polarization:	Vertical

Radiated Emission Measurement



Site LAB | Polarization: *Vertical* | Temperature:

Limit: FCC Part15 B | Power: | Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree	Comment
1	*	33.0950	47.73	-15.46	32.27	40.00	-7.73	peak			
2		38.3462	38.85	-13.88	24.97	40.00	-15.03	peak			
3		61.1316	39.79	-16.80	22.99	40.00	-17.01	peak			
4		77.8654	44.39	-20.32	24.07	40.00	-15.93	peak			
5		225.3080	32.68	-17.23	15.45	46.00	-30.55	peak			
6		922.5157	28.57	-1.41	27.16	46.00	-18.84	peak			

■ **Above 1GHz**

Test channel:	Lowest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	36.35	31.78	8.60	32.09	44.64	74.00	-29.36	Vertical
7206.00	31.20	36.15	11.65	32.00	47.00	74.00	-27.00	Vertical
9608.00	30.91	37.95	14.14	31.62	51.38	74.00	-22.62	Vertical
12010.00	*					74.00		Vertical
14412.00	*					74.00		Vertical
4804.00	40.45	31.78	8.60	32.09	48.74	74.00	-25.26	Horizontal
7206.00	32.87	36.15	11.65	32.00	48.67	74.00	-25.33	Horizontal
9608.00	30.24	37.95	14.14	31.62	50.71	74.00	-23.29	Horizontal
12010.00	*					74.00		Horizontal
14412.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4804.00	25.35	31.78	8.60	32.09	33.64	54.00	-20.36	Vertical
7206.00	19.99	36.15	11.65	32.00	35.79	54.00	-18.21	Vertical
9608.00	19.13	37.95	14.14	31.62	39.60	54.00	-14.40	Vertical
12010.00	*					54.00		Vertical
14412.00	*					54.00		Vertical
4804.00	29.47	31.78	8.60	32.09	37.76	54.00	-16.24	Horizontal
7206.00	22.10	36.15	11.65	32.00	37.90	54.00	-16.10	Horizontal
9608.00	18.78	37.95	14.14	31.62	39.25	54.00	-14.75	Horizontal
12010.00	*					54.00		Horizontal
14412.00	*					54.00		Horizontal

Remarks:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test channel:	Middle

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4884.00	36.96	31.85	8.67	32.12	45.36	74.00	-28.64	Vertical
7326.00	31.60	36.37	11.72	31.89	47.80	74.00	-26.20	Vertical
9768.00	31.27	38.35	14.25	31.62	52.25	74.00	-21.75	Vertical
12210.00	*					74.00		Vertical
14652.00	*					74.00		Vertical
4884.00	41.18	31.85	8.67	32.12	49.58	74.00	-24.42	Horizontal
7326.00	33.33	36.37	11.72	31.89	49.53	74.00	-24.47	Horizontal
9768.00	30.66	38.35	14.25	31.62	51.64	74.00	-22.36	Horizontal
12210.00	*					54.00		Horizontal
14652.00	*					54.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4884.00	25.85	31.85	8.67	32.12	34.25	54.00	-19.75	Vertical
7326.00	20.33	36.37	11.72	31.89	36.53	54.00	-17.47	Vertical
9768.00	19.43	38.35	14.25	31.62	40.41	54.00	-13.59	Vertical
12210.00	*					54.00		Vertical
14652.00	*					54.00		Vertical
4884.00	30.04	31.85	8.67	32.12	38.44	54.00	-15.56	Horizontal
7326.00	22.49	36.37	11.72	31.89	38.69	54.00	-15.31	Horizontal
9768.00	19.13	38.35	14.25	31.62	40.11	54.00	-13.89	Horizontal
12210.00	*					54.00		Horizontal
14652.00	*					54.00		Horizontal

Remarks:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test channel:	Highest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	37.16	31.93	8.73	32.16	45.66	74.00	-28.34	Vertical
7440.00	31.73	36.59	11.79	31.78	48.33	74.00	-25.67	Vertical
9920.00	31.38	38.81	14.38	31.88	52.69	74.00	-21.31	Vertical
12400.00	*					74.00		Vertical
14880.00	*					74.00		Vertical
4960.00	41.41	31.93	8.73	32.16	49.91	74.00	-24.09	Horizontal
7440.00	33.47	36.59	11.79	31.78	50.07	74.00	-23.93	Horizontal
9920.00	30.79	38.81	14.38	31.88	52.10	74.00	-21.90	Horizontal
12400.00	*					74.00		Horizontal
14880.00	*					74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
4960.00	26.08	31.93	8.73	32.16	34.58	54.00	-19.42	Vertical
7440.00	20.49	36.59	11.79	31.78	37.09	54.00	-16.91	Vertical
9920.00	19.57	38.81	14.38	31.88	40.88	54.00	-13.12	Vertical
12400.00	*					54.00		Vertical
14880.00	*					54.00		Vertical
4960.00	30.30	31.93	8.73	32.16	38.80	54.00	-15.20	Horizontal
7440.00	22.66	36.59	11.79	31.78	39.26	54.00	-14.74	Horizontal
9920.00	19.30	38.81	14.38	31.88	40.61	54.00	-13.39	Horizontal
12400.00	*					54.00		Horizontal
14880.00	*					54.00		Horizontal

Remarks:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *"*", means this data is the too weak instrument of signal is unable to test.*
3. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

------End------