FCC Test Report

Report No.: AGC00940190102FE08

FCC ID	:	2AOGVJAXMV50JM
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	Smart phone
BRAND NAME	:	Vonino
MODEL NAME	:	JAX M
CLIENT	:	VONINO ELECTRONICS LIMITED
DATE OF ISSUE	:	Mar. 12, 2019
STANDARD(S) **TEST PROCEDURE(S)**	:	FCC Part 15.247 KDB 558074 D01 15.247 Meas Guidance v05
REPORT VERSION	:	V1.1

Attestation of ***G***lobal ***C***ompliance (Shenzhen) Co., Ltd

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Mar. 01, 2019	Invalid	Initial Release
V1.1	1st	Mar. 12, 2019	Valid	Revise report p22

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1. VERIFICATION OF COMPLIANCE

Applicant	VONINO ELECTRONICS LIMITED
Address	Vonino Electronics (HK) Limited #1109, 11/F, Kowloon Center 33 Ashley Road, Tsim Sha Tsui, Kowloon, Hong Kong
Manufacturer	VONINO ELECTRONICS LIMITED
Address	Vonino Electronics (HK) Limited #1109, 11/F, Kowloon Center 33 Ashley Road , Tsim Sha Tsui, Kowloon, Hong Kong
Factory	Guangdong Homecare High-Technology Co., Ltd
Address	Guangdong homecare high-tech industrial park, wuliting, puzhai town, fengshun county, meizhou city, guangdong province
Product Designation	Smart phone
Brand Name	Vonino
Test Model	JAX M
Date of test	Feb. 27, 2019~Mar. 01, 2019
Deviation	None
Condition of Test Sample	Normal
Report Template	AGCRT-US-BLE/RF

We hereby certify that:
The above equipment was tested by Attestation of Global Compliance(Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with requirement of FCC Part 15 Rules requirement.

The test results of this report relate only to the tested sample identified in this report.

Tested By	Jeast	
	Jeast Zhan(Zhan jiangdong)	Mar. 01, 2019
Reviewed By	Bart Xie	
	Bart Xie(Xie Xiaobin)	Mar. 12, 2019
Approved By	Forrest Lei	
	Forrest Lei(Lei Yonggang) Authorized Officer	Mar. 12, 2019

2.GENERAL INFORMATION

2.1PRODUCT DESCRIPTION

The EUT is designed as “MOBILE PHONE ”. It is designed by way of utilizing the FHSS technology to achieve the system operation.

Operation Frequency	2.402 GHz to 2.480GHz
Bluetooth Version	V4.0
Modulation	GFSK
Number of channels	40 Channel(37 Hopping Channel,3 advertising Channel)
Antenna Designation	PIFA Antenna
Antenna Gain	1.0dBi
Hardware Version	Y393B_MB_V2
Software Version	Y393B16.YBT.V51B10.EU.16+1.8.1.Go.V01.01.20181228
Power Supply	DC3.7V by Built-in Li-ion Battery

2.2 RELATED SUBMITTAL(S)/GRANT(S)

This submittal(s) (test report) is intended for **FCC ID: 2AOGVJAXMV50JM** filing to comply with Section 15.247of the FCC Part 15, Subpart C Rules.

2.3TEST METHODOLOGY

All measurements contained in this report were conducted with KDB 558074, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions. The EUT was tested in all three orthogonal planes and the worse case was showed.

2.4 TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Designation Number	CN1259
A2LA Cert. No.	5054.02
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA

2.5 SPECIAL ACCESSORIES

Refer to section 2.2.

2.6 EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

3. MEASUREMENT UNCERTAINTY

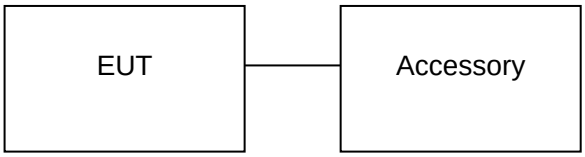
Test	Measurement Uncertainty	Notes
Transmitter power conducted	±0.57 dB	(1)
Transmitter power Radiated	±2.20 dB	(1)
Conducted spurious emission 9KHz-40 GHz	±2.20 dB	(1)
Occupied Bandwidth	±0.01ppm	(1)
Radiated Emission 30~1000MHz	±4.10dB	(1)
Radiated Emission Above 1GHz	±4.32dB	(1)
Conducted Disturbance0.15~30MHz	±3.20dB	(1)

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

4. SYSTEM TEST CONFIGURATION

4.1 CONFIGURATION OF TESTED SYSTEM

Configuration:



4.2 EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	Smart phone	JAX M	2AOGVJAXMV50JM	EUT
2	Adapter	TPA-97070070VM	DC 5.0V 1A	Accessory
3	Battery	V50JM	DC3.7V / 2150mAh	Accessory
4	USB	N/A	N/A	Accessory

TEST EQUIPMENT OF CONDUCTED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESPI	101206	Jun. 12, 2018	Jun. 11, 2019
LISN	R&S	ESH2-Z5	100086	Aug. 28, 2018	Aug. 27, 2019

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	Jun. 12, 2018	Jun. 11, 2019
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 20, 2018	Dec. 19, 2019
2.4GHz Fliter	Micro-tronics	087	N/A	Jun. 12, 2018	Jun. 11, 2019
Attenuator	Weinachel Corp	58-30-33	N/A	Jun. 12, 2018	Jun. 11, 2019
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep. 21, 2017	Sep. 20, 2020
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	Jun. 14, 2018	Jun. 13, 2020
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May. 26, 2018	May. 25, 2020
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Oct. 25, 2018	Oct. 24, 2019
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep. 28, 2017	Sep. 27, 2019
Horn Ant (18G-40GHz)	Schwarzbeck	BBHA 9170	/	Mar.01,2018	Feb. 28, 2020
Horn Ant (18G-40GHz)	ETS	QWH_SL_18_40_K_SG	/	Mar.01,2018	Feb. 28, 2020

5. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.203	Antenna Requirement	Compliant
§15.209 §15.247(d)	Radiated Emission	Compliant
§15.247(d)	Band Edges	Compliant
§15.247	6 dB Bandwidth	Compliant
§15.247(b)	Conducted Power	Compliant
§15.247(e)	Maximum Conducted Output Power SPECTRAL Density	Compliant
§15.207	Line Conduction Emission	Compliant
§15.207	Conduction Emission	Compliant

6. DESCRIPTION OF TEST MODES

The EUT has been operated in three modulations: GFSK independently.

NO.	TEST MODE DESCRIPTION
1	Low channel TX
2	Middle channel TX
3	High channel TX
4	Normal Operating (BT)

Note:
1. All the test modes can be supply by Built-in Li-ion battery, only the result of the worst case was recorded in the report if no any records.
2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
3. EUT is operating at its maximum duty cycle>or equal 98%

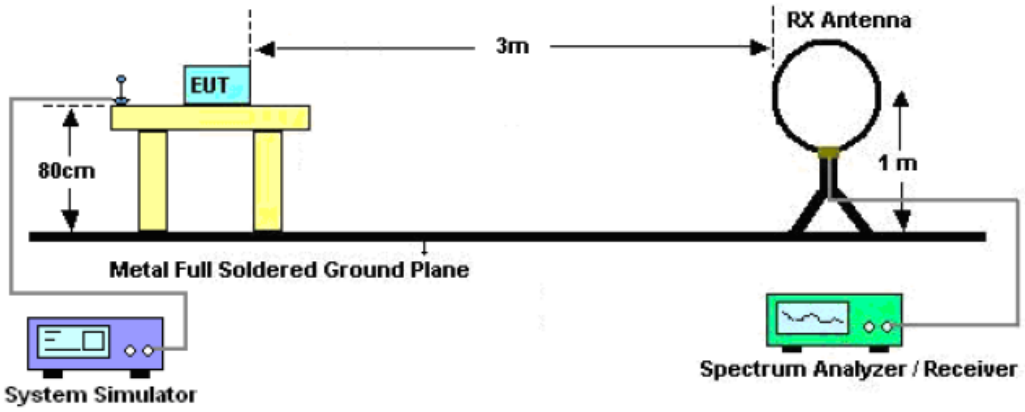
7. RADIATED EMISSION

7.1 MEASUREMENT PROCEDURE

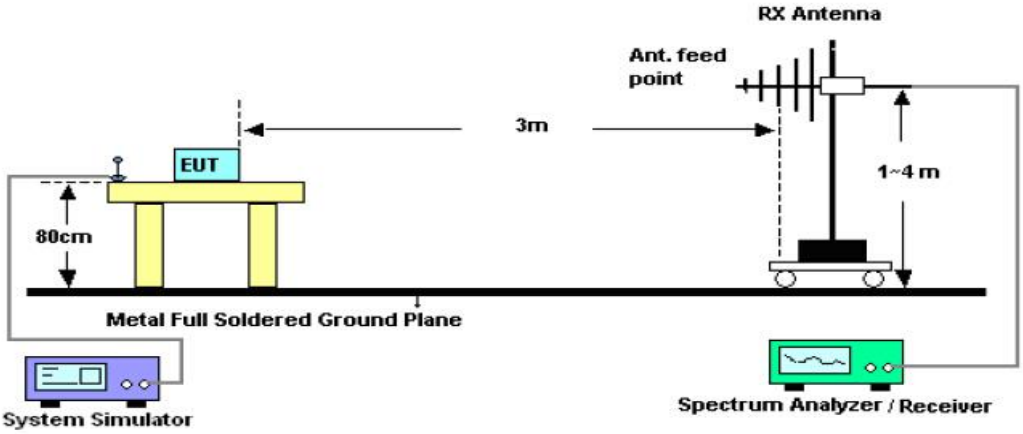
1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

7.2 TEST SETUP

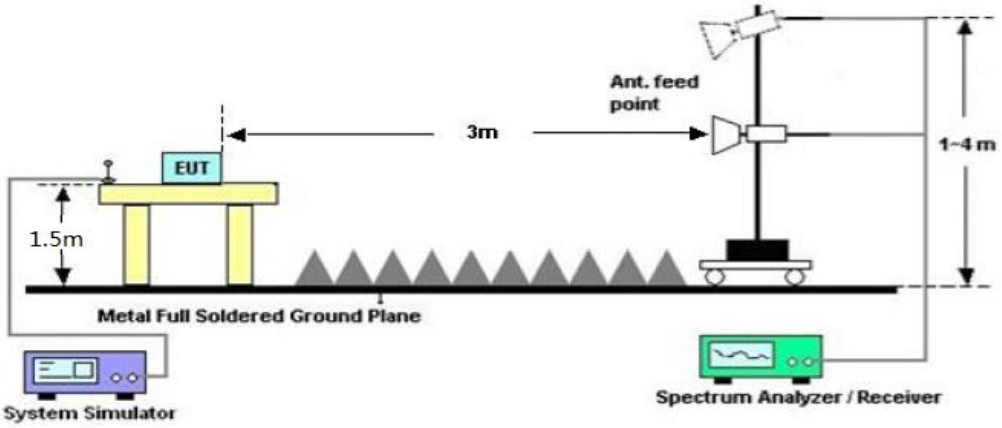
Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



7.3 LIMITS AND MEASUREMENT RESULT

15.209 Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: All modes were tested For restricted band radiated emission,

the test records reported below are the worst result compared to other modes.

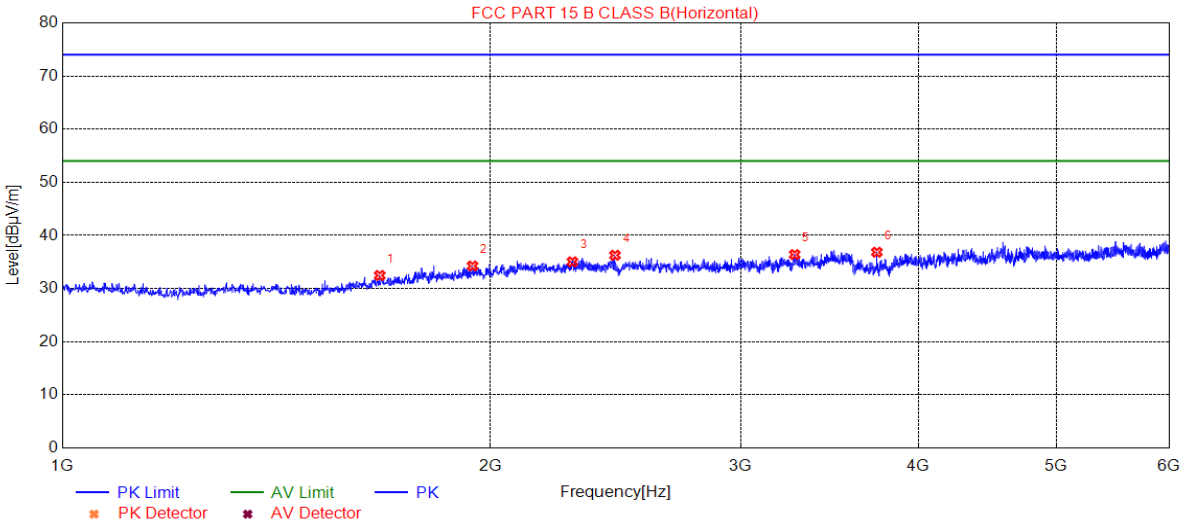
7.4 TEST RESULT

RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequencies to 30MHz.

RADIATED EMISSION BELOW 1GHZ

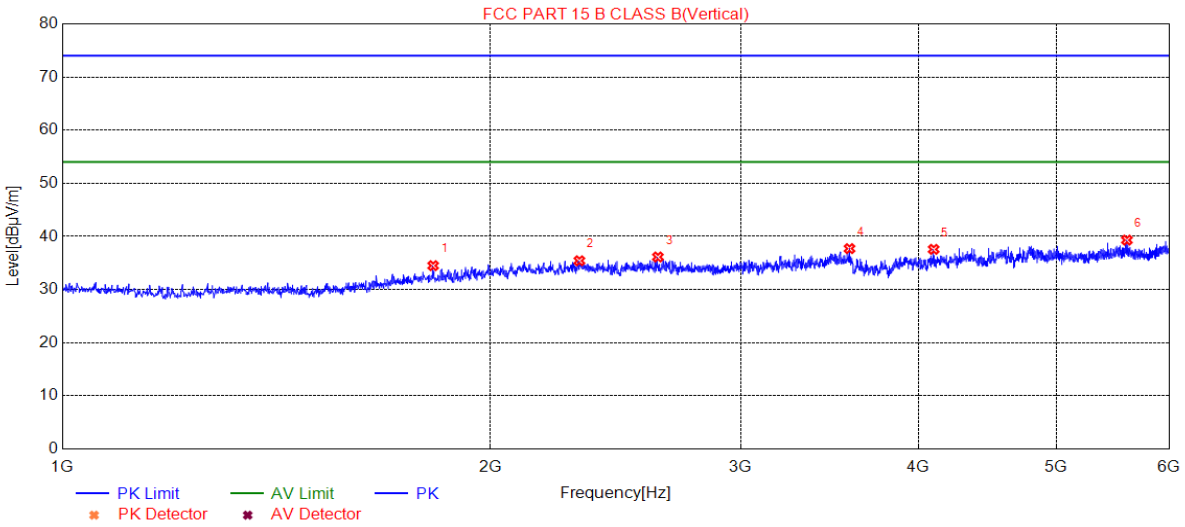
RADIATED EMISSION TEST- (30MHZ-1GHZ) -HORIZONTAL



Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1672.1344	32.47	-10.80	74.00	41.53	150	130	Horizontal
2	1943.1886	34.25	-7.82	74.00	39.75	150	90	Horizontal
3	2284.2569	35.04	-5.89	74.00	38.96	200	100	Horizontal
4	2447.2895	36.27	-5.13	74.00	37.73	100	200	Horizontal
5	3273.4547	36.40	-2.36	74.00	37.60	200	100	Horizontal
6	3739.5479	36.84	-0.28	74.00	37.16	200	290	Horizontal

RESULT: PASS

RADIATED EMISSION TEST- (30MHZ-1GHZ) -VERTICAL



Suspected Data List								
NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1823.1646	34.50	-9.14	74.00	39.50	150	170	Vertical
2	2310.2621	35.42	-5.77	74.00	38.58	150	0	Vertical
3	2623.3247	36.13	-4.62	74.00	37.87	200	310	Vertical
4	3577.5155	37.71	-0.90	74.00	36.29	150	110	Vertical
5	4099.6199	37.57	1.01	74.00	36.43	150	340	Vertical
6	5605.9212	39.31	3.78	74.00	34.69	200	10	Vertical

RESULT: PASS

Note: 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

2. The “Factor” value can be calculated automatically by software of measurement system.

3. All test modes for different EUT are pre-tested. The low channel for GFSK mode is the worst case and recorded in the report.

RADIATED EMISSION ABOVE 1GHZ

Frequency	Emission Level	Limits	Margin	Detector	Comment
(MHz)	(dBμV/m)	(dBμV/m)	(dB)	Type	
Low Channel (2402 MHz)					
4804	50.46	74	-23.54	Pk	Vertical
4804	40.22	54	-13.78	AV	Vertical
4804	53.19	74	-20.81	Pk	Horizontal
4804	37.27	54	-16.73	AV	Horizontal
Mid Channel (2440 MHz)					
4880	51.75	74	-22.25	Pk	Vertical
4880	39.15	54	-14.85	AV	Vertical
4880	49.69	74	-24.31	Pk	Horizontal
4880	38.71	54	-15.29	AV	Horizontal
High Channel (2480 MHz)					
4960	49.96	74	-24.04	pk	Vertical
4960	39.45	54	-14.55	AV	Vertical
4960	48.66	74	-25.34	pk	Horizontal
4960	39.42	54	-14.58	AV	Horizontal

RESULT: PASS

Note: 1~25GHz scan with GFSK. No recording in the test report at least have 20dB margin.
Margin = Emission - Level Limit

8. BAND EDGE EMISSION

8.1. MEASUREMENT PROCEDURE

1)Radiated restricted band edge measurements

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting

2)Conducted Emissions at the bang edge

a)The transmitter output was connected to the spectrum analyzer

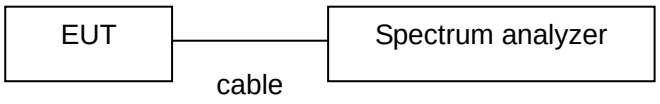
b)Set RBW=100kHz,VBW=300kHz

c)Suitable frequency span including 100kHz bandwidth from band edge

8.2. TEST SET-UP

Radiated same as 6.2

Conducted set up



8.3. RADIATED TEST RESULT

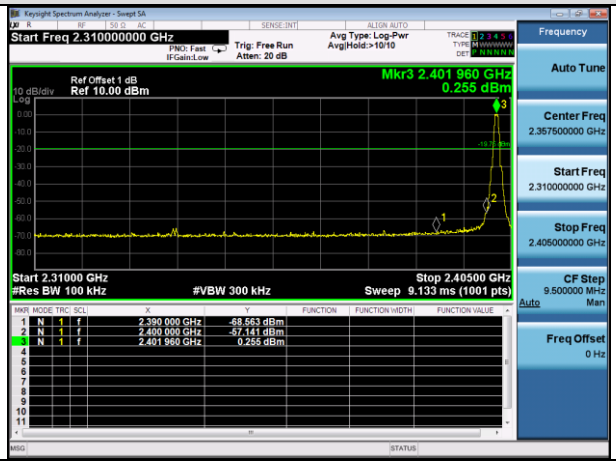
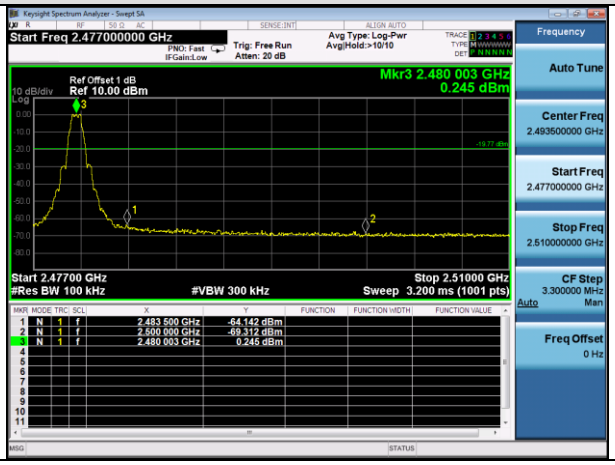
Frequency	Emission Level	Limits	Margin	Detector	Comment
(MHz)	(dBμV/m)	(dBμV/m)	(dB)	Type	
GFSK					
2399.9	51.45	74	-22.55	peak	Vertical
2399.9	39.34	54	-14.66	AVG	Vertical
2399.9	49.56	74	-24.44	peak	Horizontal
2399.9	38.33	54	-15.67	AVG	Horizontal
2483.6	50.52	74	-23.48	peak	Vertical
2483.6	39.43	54	-14.57	AVG	Vertical
2483.6	49.86	74	-24.14	peak	Horizontal
2483.6	37.42	54	-16.58	AVG	Horizontal

RESULT: PASS

Note: Margin= Emission Level -Limit.

8.4. CONDUCTED TEST RESULT

Test Graph

GFSK-LCH	GFSK-HCH
	

9.6DB BANDWIDTH

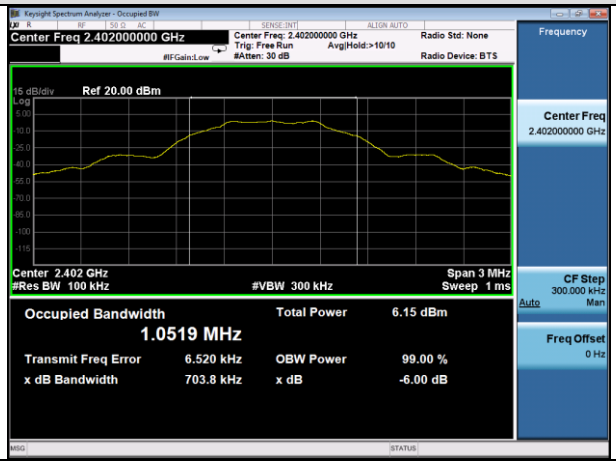
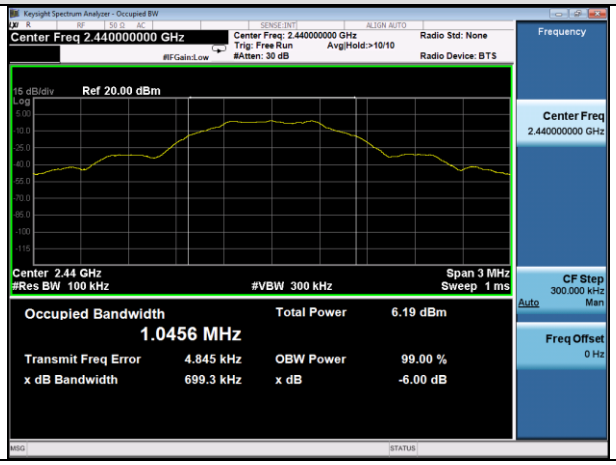
9.1. TEST PROCEDURE

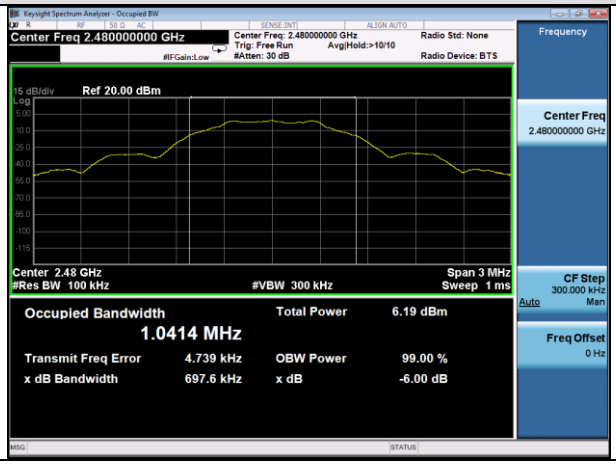
1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz, VBW≥RBW.
4. Set SPA Trace 1 Max hold, then View.

9.2. SUMMARY OF TEST RESULTS/PLOTS

Mode	Channel	6dB Bandwidth [KHz]	Verdict
BLE	LCH	703.8	PASS
BLE	MCH	699.3	PASS
BLE	HCH	697.6	PASS

Test Graph

GFSK-LCH	GFSK-MCH
	

GFSK-HCH	
	

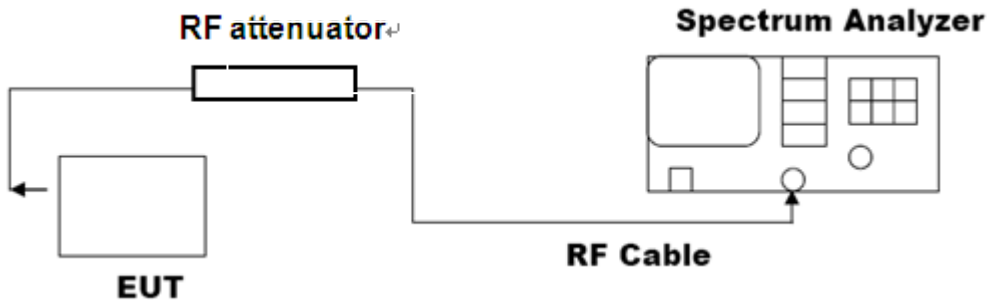
10. CONDUCTED OUTPUT POWER

10.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, middle and the bottom operation frequency individually.
3. Use the following spectrum analyzer settings:
   Set the RBW ≥ DTS bandwidth
   Set the VBW ≥ 3 x RBW
   Set the span ≥ 3 x RBW
   Detector = peak
   Sweep time = auto couple
   Trace mode = max hold
4. Allow the trace to stabilize. Use peak marker function to determine the peak amplitude level
5. Record the result form the Spectrum Analyzer.

Note：The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

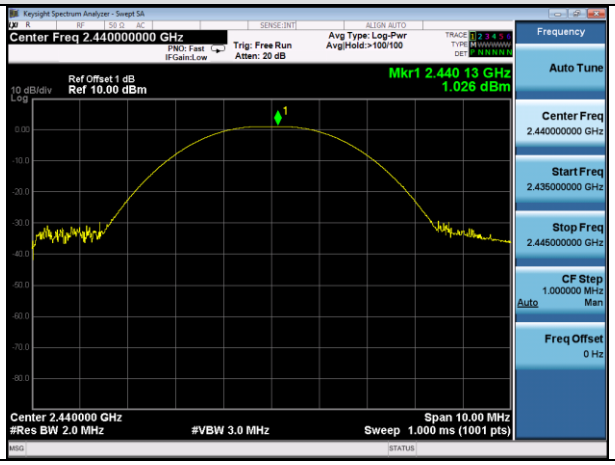
10.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



10.3. LIMITS AND MEASUREMENT RESULT

Channel	Peak Power (dBm)	Applicable Limits (dBm)	Pass/Fail
Low Channel	0.908	30	Pass
Middle Channel	1.026	30	Pass
High Channel	1.023	30	Pass

Test Graph

GFSK-LCH	GFSK-MCH
	

GFSK-HCH	
	

11. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY

11.1 MEASUREMENT PROCEDURE

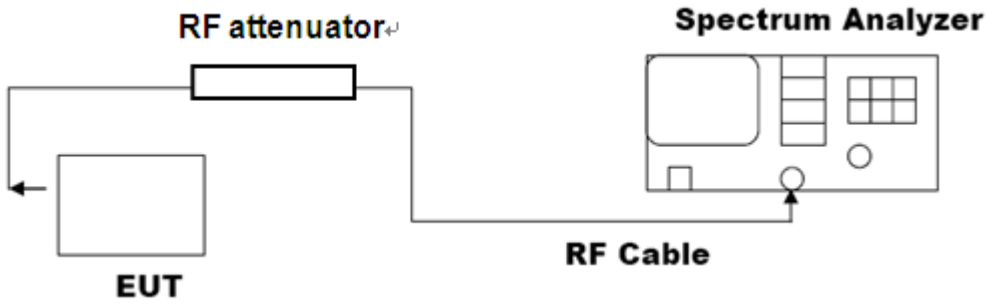
(1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator

(2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.

(3). Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

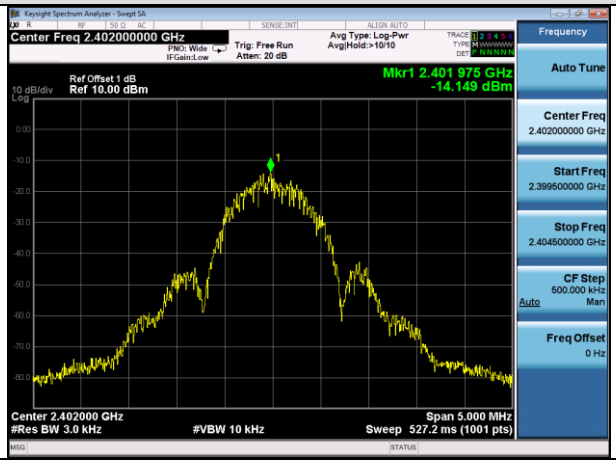
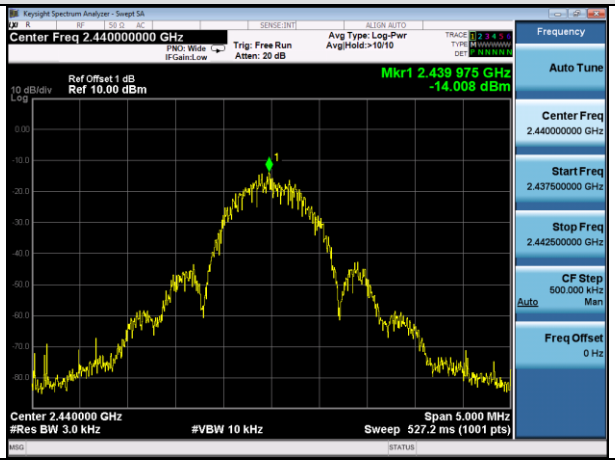
11.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

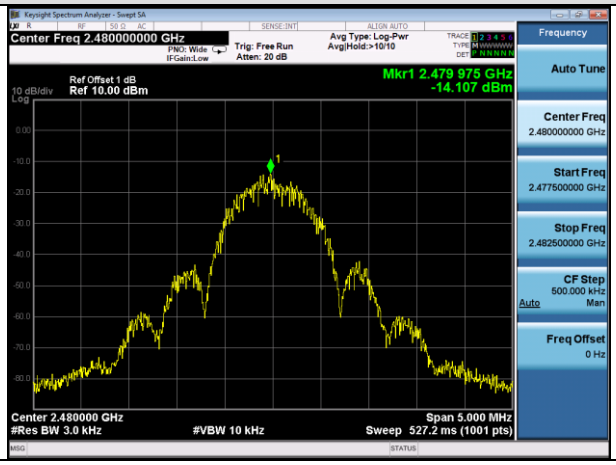


11.3 LIMITS AND MEASUREMENT RESULT

Mode	Channel	PSD [dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE	LCH	-14.149	8	PASS
BLE	MCH	-14.008	8	PASS
BLE	HCH	-14.107	8	PASS

Test Graph

GFSK-LCH	GFSK-MCH
	

GFSK-HCH	
	

12. FCC LINE CONDUCTED EMISSION TEST

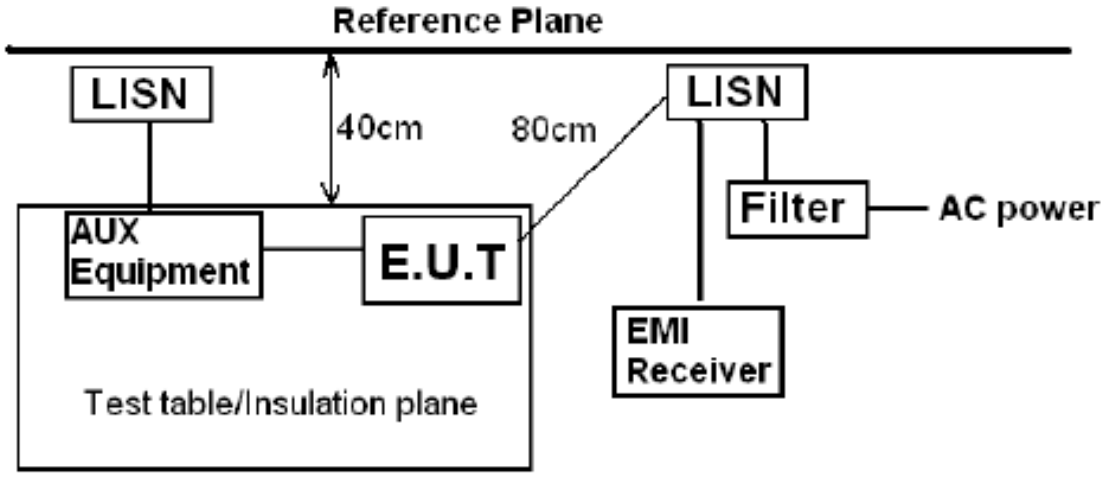
12.1 LIMITS

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

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

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

12.2 TEST SETUP



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

12.3 PRELIMINARY PROCEDURE

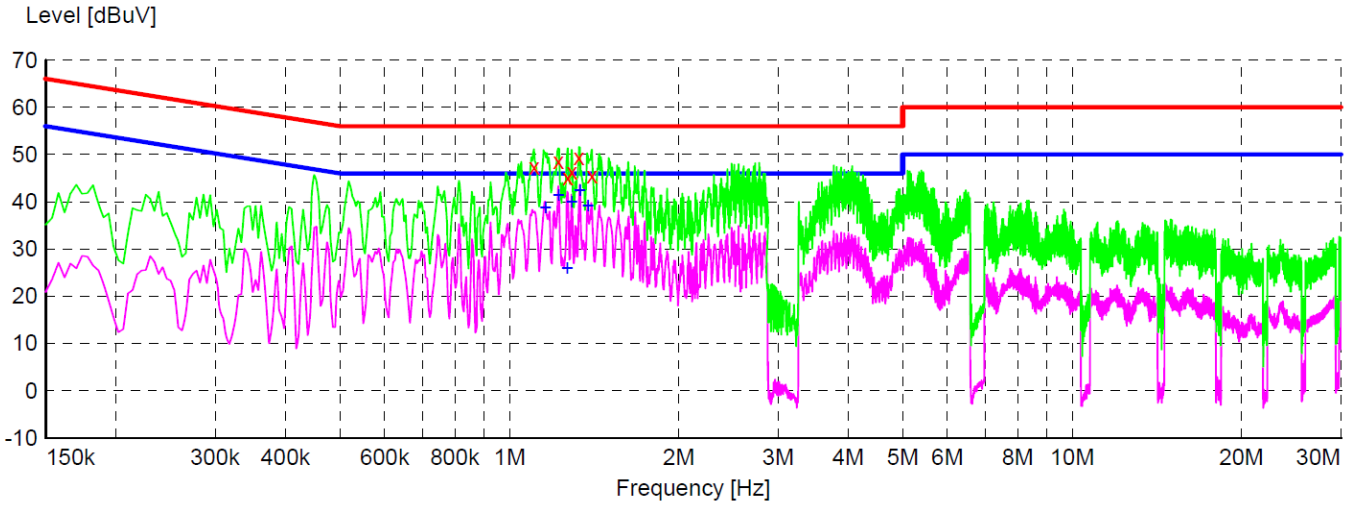
1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2) Support equipment, if needed, was placed as per ANSI C63.10.
3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4) All support equipments received AC120V/60Hz power from a LISN, if any.
5) The EUT received power by adapter which received power by a LISN.
6) The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7) Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
8) During the above scans, the emissions were maximized by cable manipulation.
9) The following test mode(s) were scanned during the preliminary test.
   Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

12.4 FINAL TEST PROCEDURE

1) EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
3) The test data of the worst case condition(s) was reported on the Summary Data page.

12.5 TEST RESULT OF POWER LINE

Line Conducted Emission Test Line 1-L



MEASUREMENT RESULT: "TEST_fin"

2019/1/15 10:46

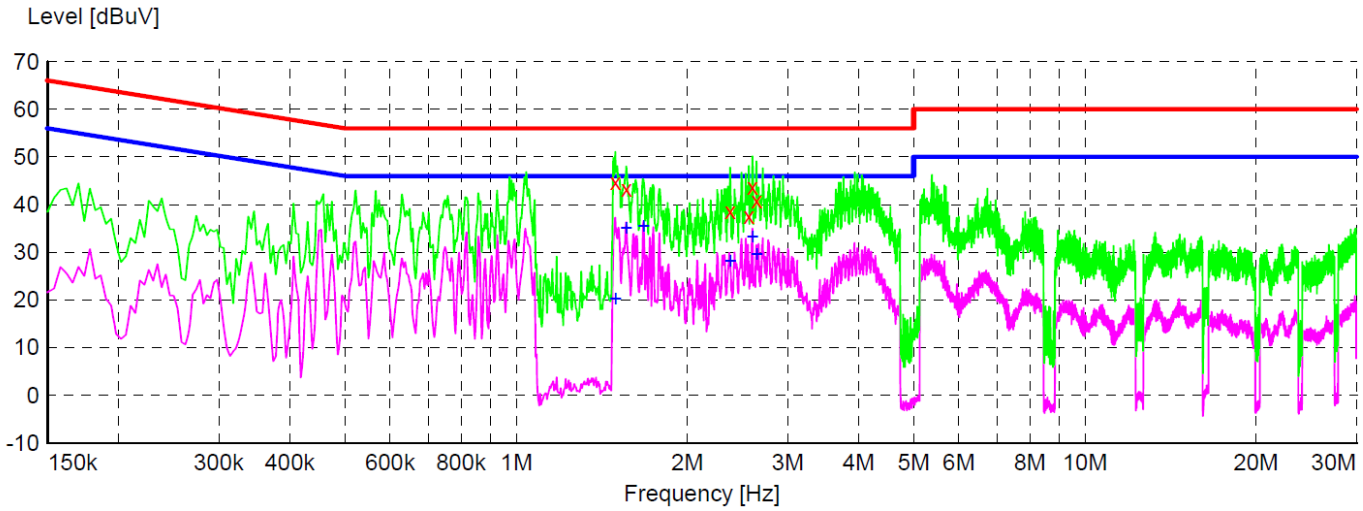
Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
1.106000	47.30	10.4	56	8.7	QP	L1	FLO
1.222000	48.60	10.4	56	7.4	QP	L1	FLO
1.270000	45.00	10.4	56	11.0	QP	L1	FLO
1.290000	46.30	10.4	56	9.7	QP	L1	FLO
1.330000	49.40	10.4	56	6.6	QP	L1	FLO
1.402000	45.50	10.4	56	10.5	QP	L1	FLO

MEASUREMENT RESULT: "TEST_fin2"

2019/1/15 10:46

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
1.158000	38.80	10.4	46	7.2	AV	L1	FLO
1.222000	41.50	10.4	46	4.5	AV	L1	FLO
1.266000	26.00	10.4	46	20.0	AV	L1	FLO
1.290000	40.10	10.4	46	5.9	AV	L1	FLO
1.334000	42.50	10.4	46	3.5	AV	L1	FLO
1.378000	39.20	10.4	46	6.8	AV	L1	FLO

Line Conducted Emission Test Line 1-N



MEASUREMENT RESULT: "TEST_fin"

2019/1/15 10:37

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
1.494000	44.70	10.4	56	11.3	QP	N	FLO
1.562000	43.30	10.4	56	12.7	QP	N	FLO
2.378000	38.50	10.4	56	17.5	QP	N	FLO
2.566000	37.60	10.4	56	18.4	QP	N	FLO
2.602000	43.60	10.4	56	12.4	QP	N	FLO
2.646000	40.80	10.4	56	15.2	QP	N	FLO

MEASUREMENT RESULT: "TEST_fin2"

2019/1/15 10:37

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line	PE
1.494000	20.20	10.4	46	25.8	AV	N	FLO
1.562000	35.20	10.4	46	10.8	AV	N	FLO
1.674000	35.60	10.4	46	10.4	AV	N	FLO
2.378000	28.10	10.4	46	17.9	AV	N	FLO
2.602000	33.30	10.4	46	12.7	AV	N	FLO
2.646000	29.70	10.4	46	16.3	AV	N	FLO

13. CONDUCTED SPURIOUS EMISSION

13.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the top, the Middle and the bottom operation frequency individually.
3. Set the Span = wide enough to capture the peak level of the in-band emission and all spurious emissions from the lowest frequency generated in the EUT up through the 10th harmonic.
   RBW = 100 kHz; VBW ≥ RBW; Sweep = auto; Detector function = peak.
4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to DA000705 for compliance to FCC 47CFR 15.247 requirements. Owing to satisfy the requirements of the number of measurement points, we set the RBW=1MHz, VBW＞RBW, scan up through 10th harmonic, and consider the tested results as the worst case, if the tested results conform to the requirement, we can deem that the real tested results(set the RBW=100KHz, VBW＞RBW) are conform to the requirement.

13.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 8.2

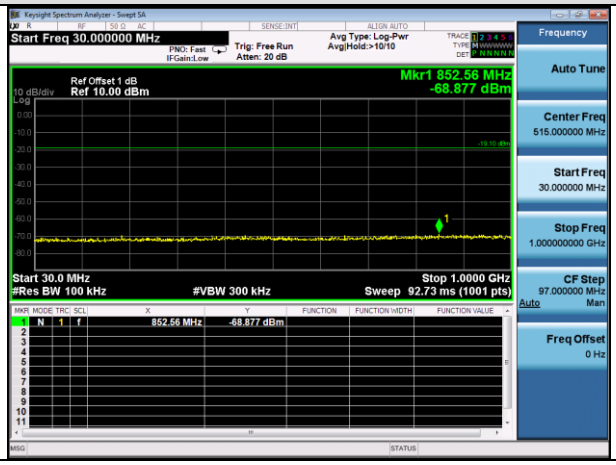
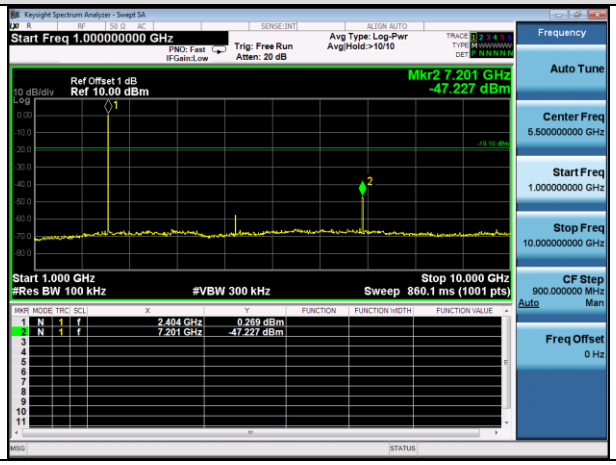
13.3. MEASUREMENT EQUIPMENT USED

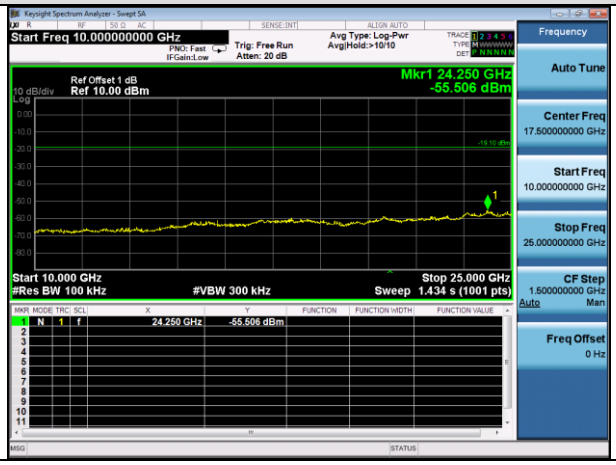
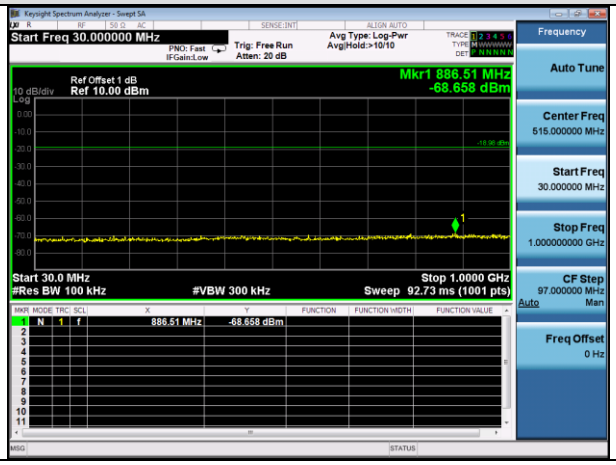
The same as described in section 6

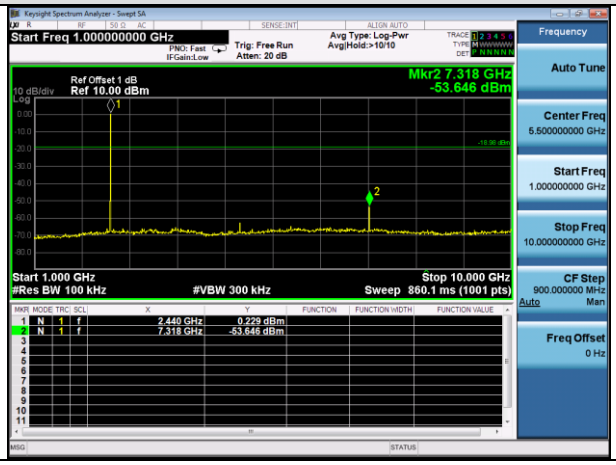
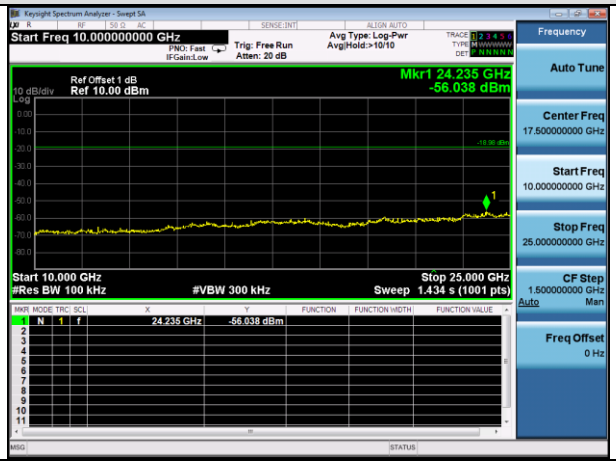
13.4. LIMITS AND MEASUREMENT RESULT

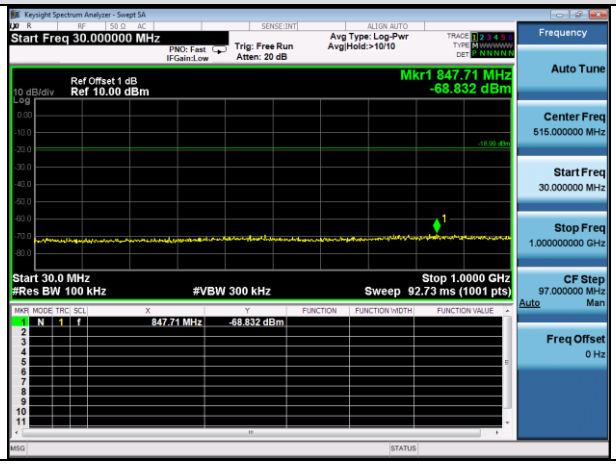
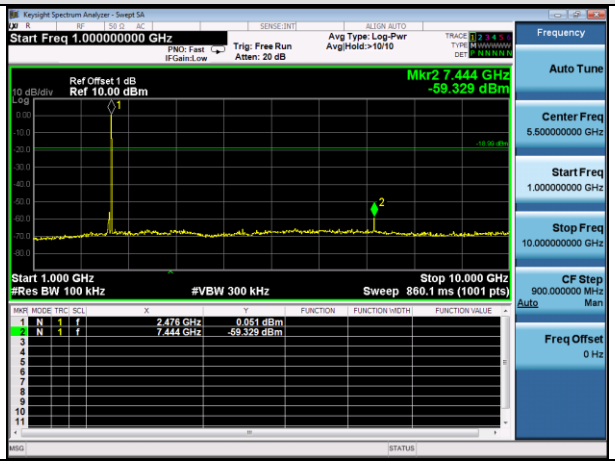
LIMITS AND MEASUREMENT RESULT		
Applicable Limits	**Measurement Result**	
	Test Data	**Criteria**
In any 100 KHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power. In addition, radiation emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in§15.209(a))	Refer Test Graph	PASS

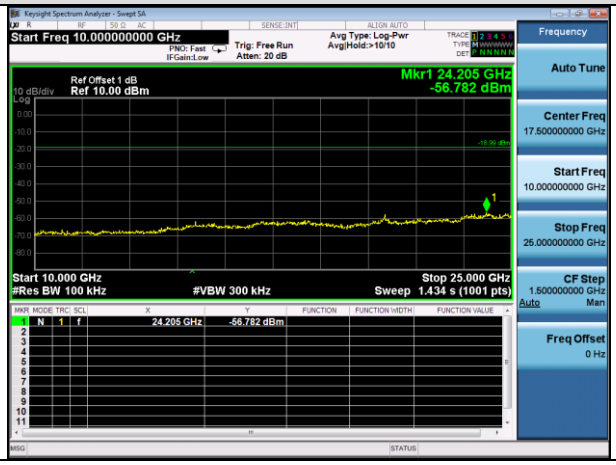
Test Graph

GFSK-LCH	GFSK-LCH
	

GFSK-LCH	GFSK-MCH
	

GFSK-MCH	GFSK-MCH
	

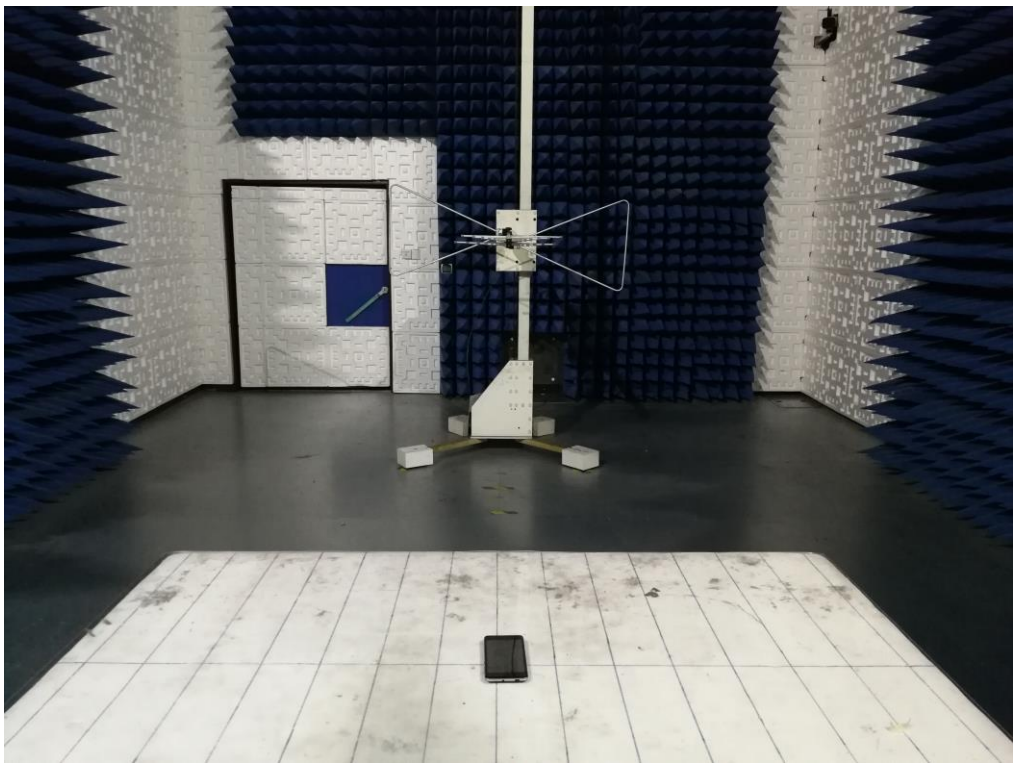
GFSK-HCH	GFSK-HCH
	

GFSK-HCH	
	

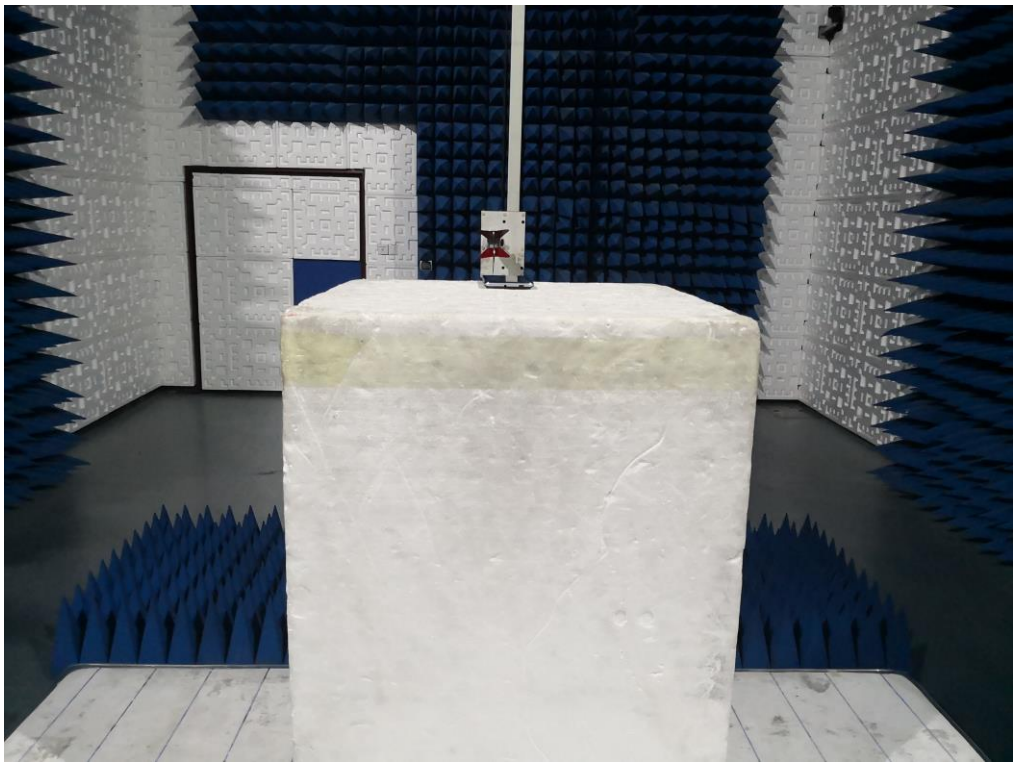
APPENDIX A: PHOTOGRAPHS OF TEST SETUP

LINE CONDUCTED EMISSION TEST SETUP

RADIATED EMISSION TEST SETUP



RADIATED EMISSION ABOVE 1G TEST SETUP



----END OF REPORT----