

FCC TEST REPORT

FCC ID: 2AKRG-BB

Product : Bluetooth Bone Conduction Headphones

Model Name : B&B

Brand : Zhi Hang

Report No. : PTCDQ04161110801E-FC01

Prepared for

Shenzhen City Zhi Hang Technology Co., Ltd.
4G, Building 2, Longduming Park, Xili street, Nanshan District,
Shenzhen, China

Prepared by

DongGuan Precise Testing Service Co.,Ltd.
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Dongcheng District, Dongguan, Guangdong, China

TEST RESULT CERTIFICATION

Applicant's name : Shenzhen City Zhi Hang Technology Co., Ltd.
Address : 4G, Building 2, Longduming Park, Xili street, Nanshan District,, Shenzhen, China
Manufacture's name : Shenzhen City Zhi Hang Technology Co., Ltd.
Address : 4G, Building 2, Longduming Park, Xili street, Nanshan District,, Shenzhen, China
Product name : Bluetooth Bone Conduction Headphones
Model name : B&B
Standards : FCC CFR47 Part 15 Section 15.247
Test procedure : ANSI C63.10:2013, KDB 558074 D01 DTS MEAS GUIDANCE V03R05
Test Date : Dec.15. 2016 ~ Dec.16. 2016
Date of Issue : Dec.19. 2016
Test Result : Pass

This device described above has been tested by PTC, and 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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Contents

	Page
2 TEST SUMMARY.....	5
3 GENERAL INFORMATION.....	6
3.1 GENERAL DESCRIPTION OF E.U.T.....	6
3.2 CHANNEL LIST	7
3.3 TEST MODE.....	7
3.4 TEST SITE	7
4 EQUIPMENT DURING TEST.....	8
4.1 EQUIPMENTS LIST.....	8
4.2 MEASUREMENT UNCERTAINTY	9
5 CONDUCTED EMISSION.....	10
5.1 E.U.T. OPERATION.....	10
5.2 EUT SETUP	10
5.3 MEASUREMENT DESCRIPTION.....	11
5.4 CONDUCTED EMISSION TEST RESULT.....	11
6 RADIATED SPURIOUS EMISSIONS.....	13
6.1 EUT OPERATION	13
6.2 TEST SETUP.....	14
6.3 SPECTRUM ANALYZER SETUP.....	15
6.4 TEST PROCEDURE.....	16
6.5 SUMMARY OF TEST RESULTS.....	17
7 CONDUCTED SPURIOUS EMISSION.....	21
7.1 TEST PROCEDURE	21
7.2 TEST RESULT.....	21
8 BAND EDGE MEASUREMENT	23
8.1 TEST PROCEDURE	23
8.2 TEST RESULT.....	24
9 6DB BANDWIDTH MEASUREMENT	25
9.1 TEST PROCEDURE	25
9.2 TEST RESULT.....	25
10 MAXIMUM PEAK OUTPUT POWER	28
10.1 TEST PROCEDURE.....	28
10.2 TEST RESULT	29



11	POWER SPECTRAL DENSITY.....	30
11.1	TEST PROCEDURE.....	30
11.2	TEST RESULT	30
12	ANTENNA REQUIREMENT.....	33
13	TEST SETUP.....	34
14	EUT PHOTOS.....	35

2 Test Summary

Test Items	Test Requirement	Result
Conduct Emission	15.207	PASS
Radiated Spurious Emissions	15.205(a) 15.209 15.247(d)	PASS
Conducted Spurious Emission	15.247(d)	PASS
Band edge	15.247(d) 15.205(a)	PASS
6dB Bandwidth	15.247(a)(2)	PASS
Maximum Peak Output Power	15.247(b)(1)	PASS
Power Spectral Density	15.247(e)	PASS
Antenna Requirement	15.203	PASS
Remark:		
N/A: Not Applicable		

3 General Information

3.1 General Description of E.U.T.

Product Name	:	Bluetooth Bone Conduction Headphones
Model Name	:	B&B
Model Description	:	N/A
Bluetooth Version	:	V4.1(BLE Only)
Operating frequency	:	For BLE: 2402-2480MHz, 40 channels
Antenna installation:	:	PCB printed antenna
Antenna Gain:	:	BLE: 0dBi
The lowest oscillator:	:	32.768KHz
Type of Modulation	:	For BLE: GFSK
Power supply	:	DC 4.2V 210mAh by battery
Hardware Version	:	V0.3
Software Version	:	V0.5

3.2 Channel List

BLE							
Channel No.	Frequency (MHz)						
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

3.3 Test Mode

All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported. New battery is used during all test

Modulation	Test mode	Low channel	Middle channel	High channel
GFSK(BLE)	Transmitting	2402MHz	2440MHz	2480MHz
Tests Carried Out Under FCC part 15.207				
Test Item		Test Mode		
Conduction Emission 0.15MHz to 30MHz		BT Communication		

3.4 Test Site

Dongguan Precise Testing Service Co., Ltd.

Building D, Baoding Technology Park, Guangming Road 2, Dongcheng District, Dongguan,

Guangdong, China, Dongguan, 523129

China

FCC Registration Number: 371540

IC Registration Number: 12191A-1



4 Equipment During Test

4.1 Equipments List

RF Conducted Test							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	EMC Analyzer (9k~26.5GHz)	Agilent	E4407B	MY45109572	Aug.04, 2016	Aug.03, 2017	1 year
2	EXA Signal Analyzer	Keysight	N9010A	MY50520207 526B25MPB W7X	Aug.04, 2016	Aug.03, 2017	1 year
3	EMI Test Receiver	R&S	ESCI	101155	July 15, 2016	July 14, 2017	1 year
4	Humidity Chamber	GF	GTH-225-40-1P	IAA061225	July 15, 2016	July 14, 2017	1 year
5	USB RF power sensor	DARE	RPR3006W	15I00041SN 001	July 15, 2016	July 14, 2017	1 year
Radiated Emissions							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	EMI Test Receiver	Rohde&Schwarz	ESCI	101417	July 15, 2016	July 14, 2017	1 year
2	Trilog Broadband Antenna	SCHWARZB ECK	VULB9160	9160-3355	July 15, 2016	July 14, 2017	1 year
3	Amplifier	EM	EM-30180	060538	July 15, 2016	July 14, 2017	1 year
4	Horn Antenna	SCHWARZB ECK	BBHA9120 D	9120D-1246	July 15, 2016	July 14, 2017	1 year
5	Coaxial Cable(below 1GHz)	LARGE	CALB1	-	July 15, 2016	July 14, 2017	1 year
6	Coaxial Cable(above 1GHz)	LARGE	CALB2	-	July 15, 2016	July 14, 2017	1 year
Conducted Emissions							
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	EMI Test Receiver	R&S	ESCI	101155	July 15, 2016	July 14, 2017	1 year
2	LISN	SCHWARZB ECK	NSLK 8128	8128-289	July 15, 2016	July 14, 2017	1 year
3	Cable	LARGE	RF300	-	July 15, 2016	July 14, 2017	1 year

4.2 Measurement Uncertainty

Parameter	Uncertainty
RF output power, conducted	±1.0dB
Power Spectral Density, conducted	±2.2dB
Radio Frequency	± 1 x 10 ⁻⁶
Bandwidth	± 1.5 x 10 ⁻⁶
Time	±2%
Duty Cycle	±2%
Temperature	±1°C
Humidity	±5%
DC and low frequency voltages	±3%
Conducted Emissions(150kHz~30MHz)	±3.64dB
Radiated Emission(30MHz~1GHz)	±5.03dB
Radiated Emission(1GHz~25GHz)	±4.74dB

5 Conducted Emission

Test Requirement:	: FCC CFR 47 Part 15 Section 15.207
Test Method:	: ANSI C63.4:2014
Test Result:	: PASS
Frequency Range:	: 150kHz to 30MHz
Class/Severity:	: Class B
Limit:	: 66-56 dB μ V between 0.15MHz & 0.5MHz
	: 56 dB μ V between 0.5MHz & 5MHz
	: 60 dB μ V between 5MHz & 30MHz
Detector:	: Peak for pre-scan(9kHz Resolution Bandwidth)

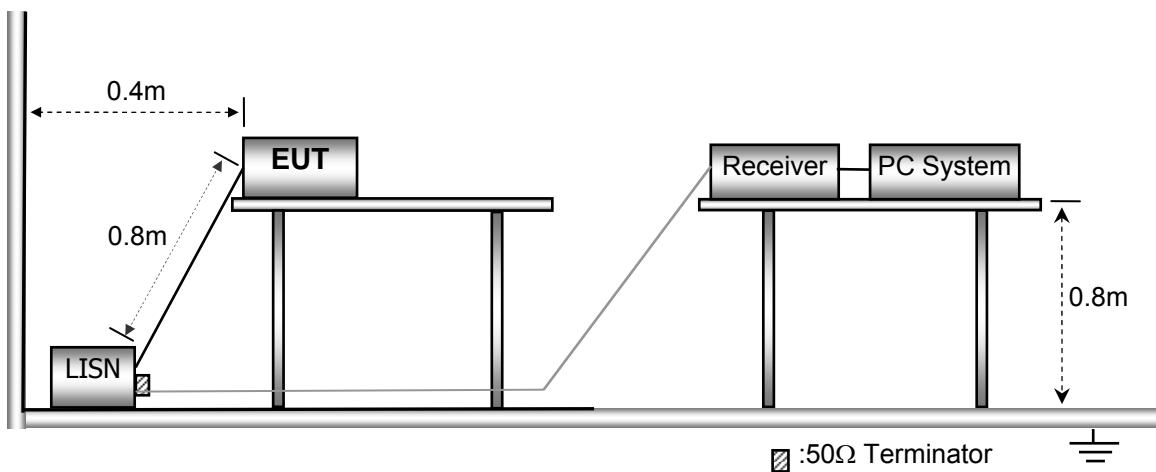
5.1 E.U.T. Operation

Operating Environment:

Temperature:	: 25.5 °C
Humidity:	: 51 % RH
Atmospheric Pressure:	: 101.2kPa
EUT Operation:	: Refer to section 3.3

5.2 EUT Setup

The conducted emission tests were performed using the setup accordance with the ANSI C63.10:2013.

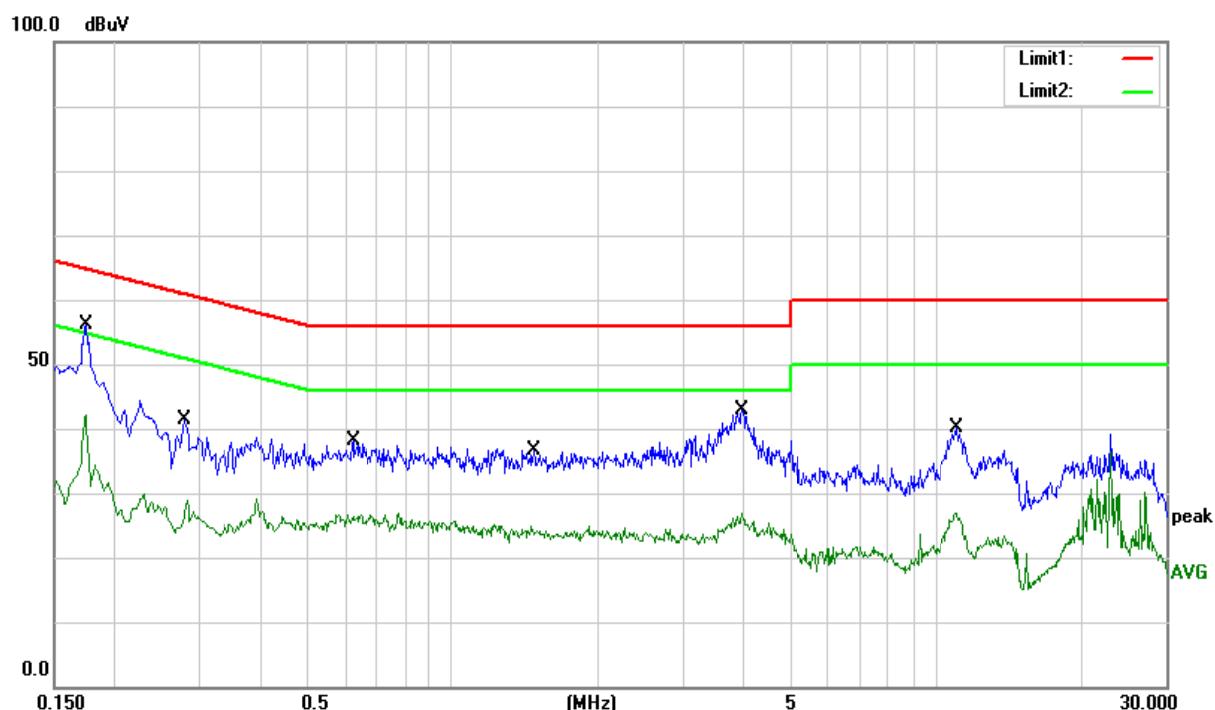


5.3 Measurement Description

The maximised peak emissions from the EUT was scanned and measured for both the Live and Neutral Lines. Quasi-peak & average measurements were performed if peak emissions were within 6dB of the average limit line.

5.4 Conducted Emission Test Result

Live line:



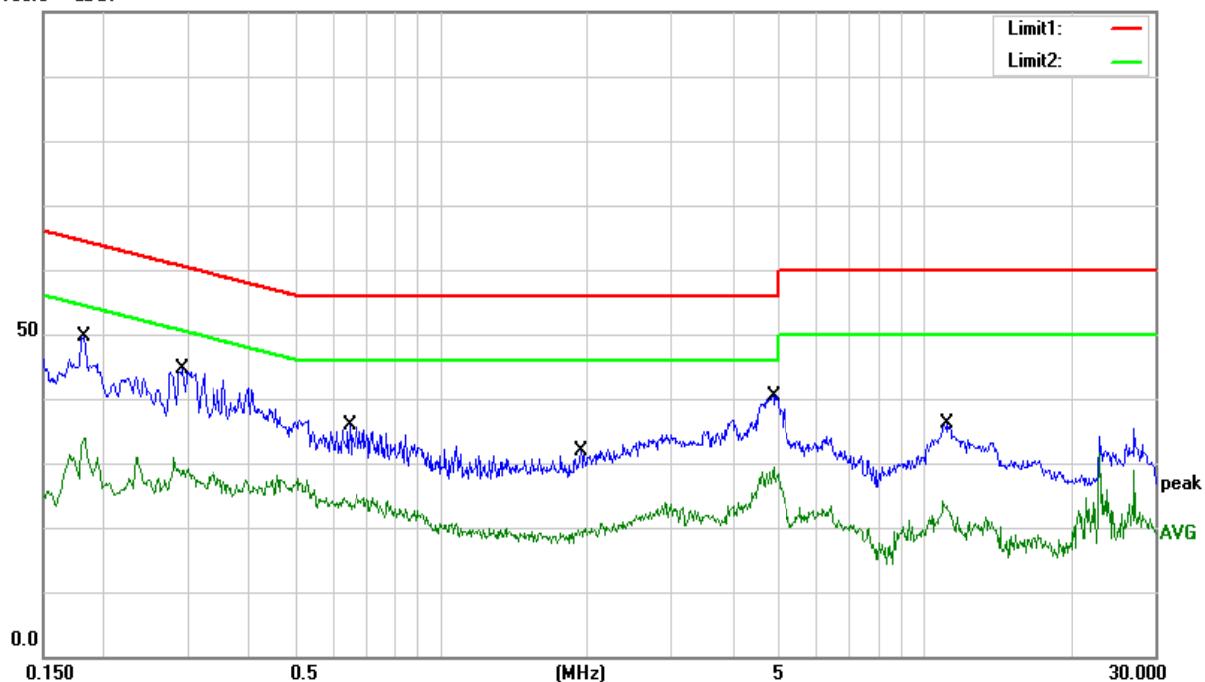
Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
0.1748	46.04	10.00	56.04	64.73	-8.69	QP
0.1748	32.24	10.00	42.24	54.73	-12.49	AVG
0.2780	31.56	9.92	41.48	60.88	-19.40	QP
0.2780	17.01	9.92	26.93	50.88	-23.95	AVG
0.6220	28.10	9.96	38.06	56.00	-17.94	QP
0.6220	16.29	9.96	26.25	46.00	-19.75	AVG
1.4740	26.58	9.95	36.53	56.00	-19.47	QP
1.4740	13.74	9.95	23.69	46.00	-22.31	AVG
3.9660	32.67	10.19	42.86	56.00	-13.14	QP
3.9660	16.67	10.19	26.86	46.00	-19.14	AVG
11.0540	29.72	10.38	40.10	60.00	-19.90	QP
11.0540	16.37	10.38	26.75	50.00	-23.25	AVG

Remark:Emission Level=Receiver Reading+Cable Loss+AMN Factor



Neutral line:

100.0 dBuV



Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
0.1820	39.55	10.00	49.55	64.39	-14.84	QP
0.1820	24.00	10.00	34.00	54.39	-20.39	AVG
0.2900	34.71	9.91	44.62	60.52	-15.90	QP
0.2900	18.95	9.91	28.86	50.52	-21.66	AVG
0.6460	25.84	9.97	35.81	56.00	-20.19	QP
0.6460	13.39	9.97	23.36	46.00	-22.64	AVG
1.9460	21.81	10.00	31.81	56.00	-24.19	QP
1.9460	8.53	10.00	18.53	46.00	-27.47	AVG
4.8580	30.24	10.20	40.44	56.00	-15.56	QP
4.8580	17.69	10.20	27.89	46.00	-18.11	AVG
11.1940	25.77	10.30	36.07	60.00	-23.93	QP
11.1940	13.81	10.30	24.11	50.00	-25.89	AVG

Remark: Emission Level = Receiver Reading + Cable Loss + AMN Factor

6 Radiated Spurious Emissions

Test Requirement: : FCC CFR47 Part 15 Section 15.209 & 15.247
 Test Method: : ANSI C63.10:2013,KDB 558074 D01 DTS MEAS GUIDANCE V03R03
 Test Result: : PASS
 Measurement Distance: : 3m
 Limit: : See the follow table

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))} + 80$
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))} + 40$
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

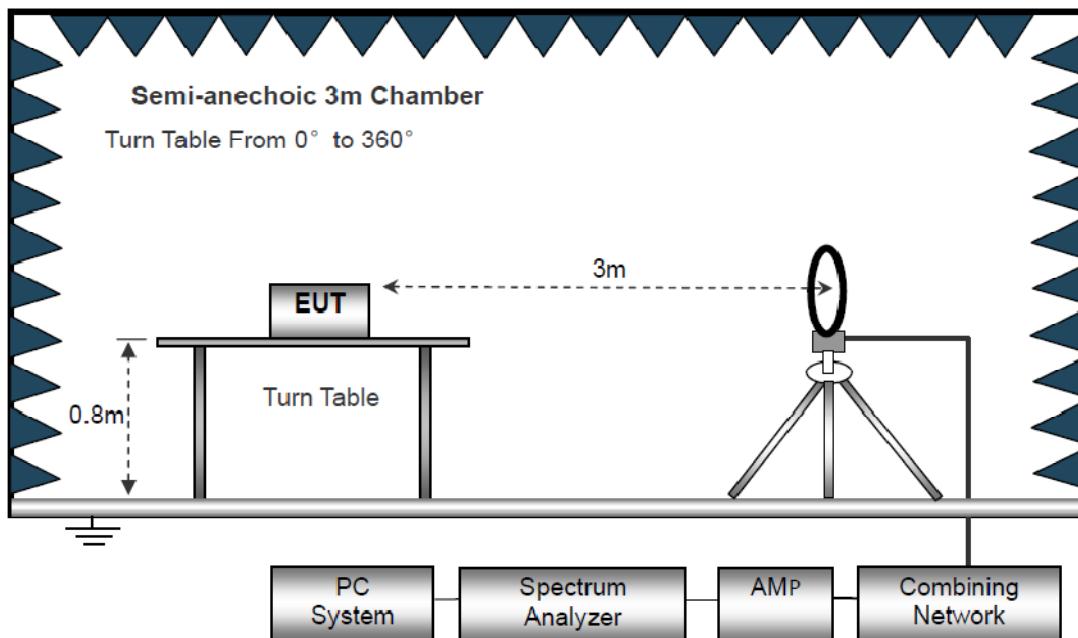
6.1 EUT Operation

Operating Environment :
 Temperature: : 23.5 °C
 Humidity: : 51.1 % RH
 Atmospheric Pressure: : 101.2kPa
 EUT Operation : : Refer to section 3.3

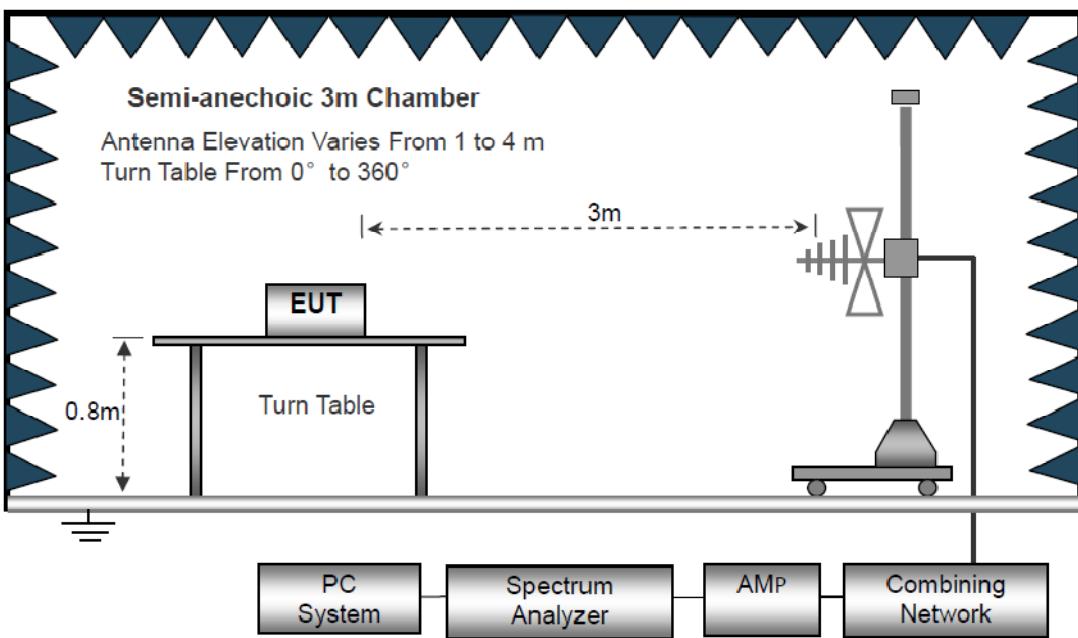
6.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber testsite

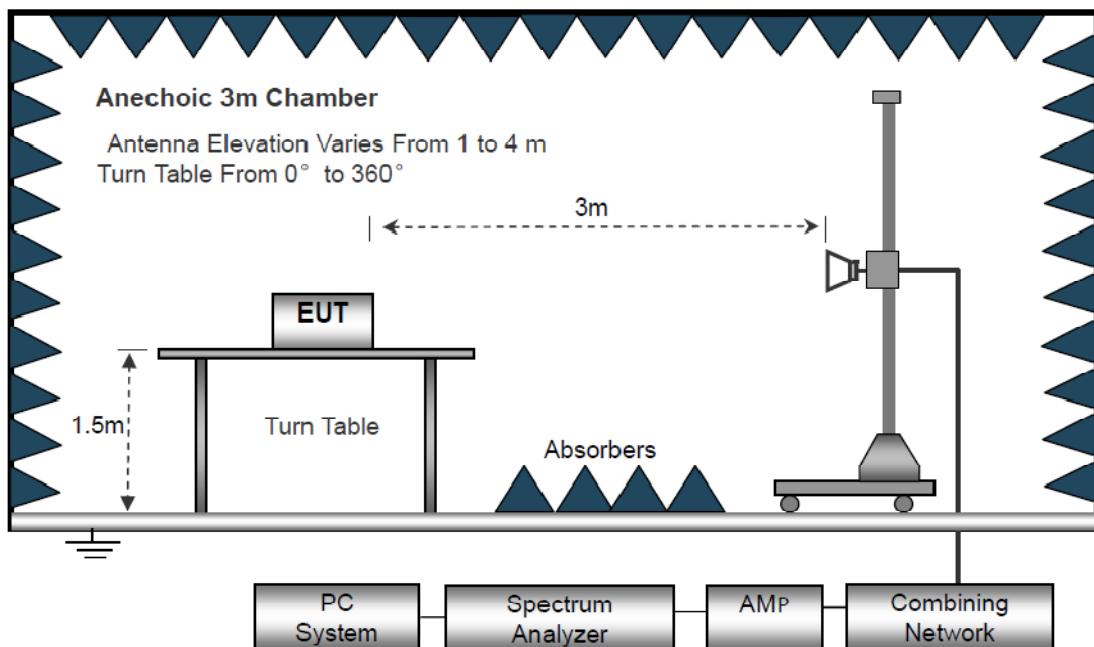
The test setup for emission measurement below 30MHz



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz



6.3 Spectrum Analyzer Setup

Below 30MHz

IF Bandwidth	10kHz
Resolution Bandwidth	10kHz
Video Bandwidth	10kHz

30MHz ~ 1GHz

Detector	: PK
Resolution Bandwidth	: 100kHz
Video Bandwidth	: 300kHz
Detector	: QP
Resolution Bandwidth	: 120kHz
Video Bandwidth	: 300kHz

Above 1GHz

Detector	: PK
Resolution Bandwidth	: 1MHz
Video Bandwidth	: 3MHz
Detector	: PK detector is for AV value
Resolution Bandwidth	: 1MHz
Video Bandwidth	: 10Hz

6.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions. The spectrum was investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are tested under 3-axes(X,Y,Z) position(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand), After pre-test, It was found that the worse radiation emission was get at the X position. So the data shown was the X position only.
8. The test above 1GHz must be use the fully anechoic room and the test below 1GHz use the half anechoic room



6.5 Summary of Test Results

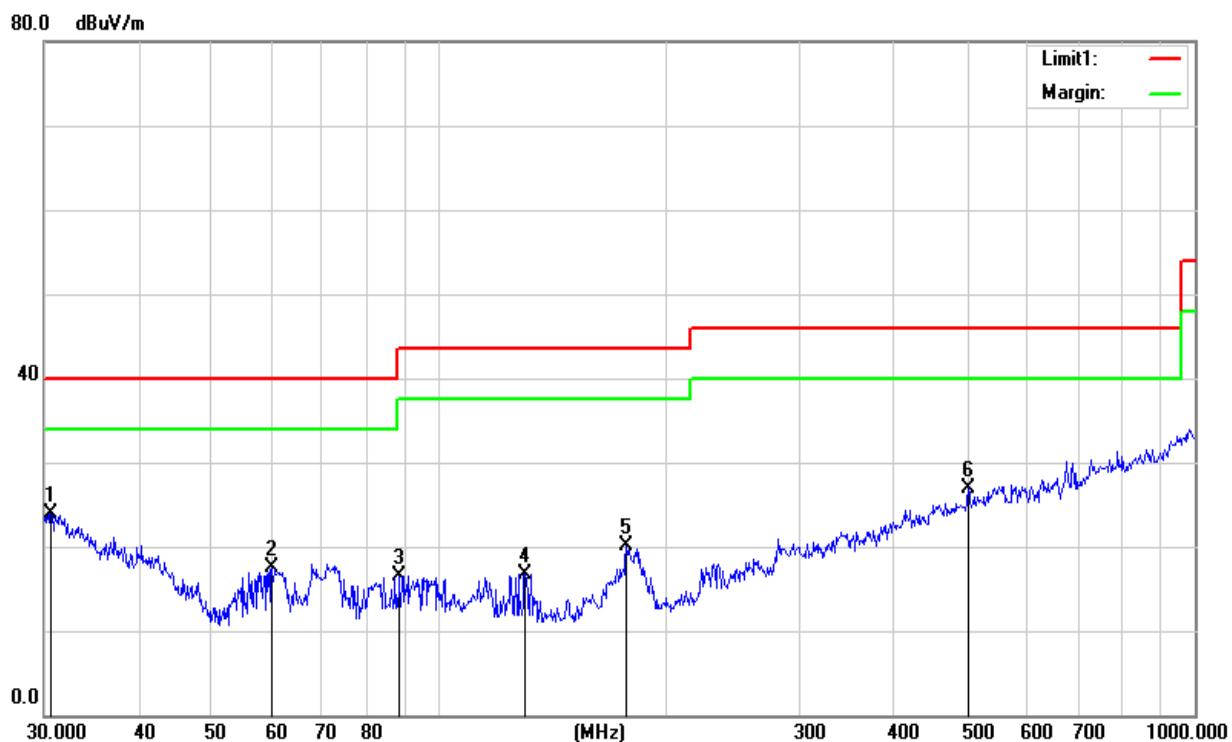
Test Frequency: Below 30MHz

The measurements were more than 20 dB below the limit and not reported.

Test Frequency: 30MHz ~ 1GHz

All applicable test modes have been tested and only the worst case (802.11b TX in middle channel) is recorded.

Antenna Polarization: Horizontal

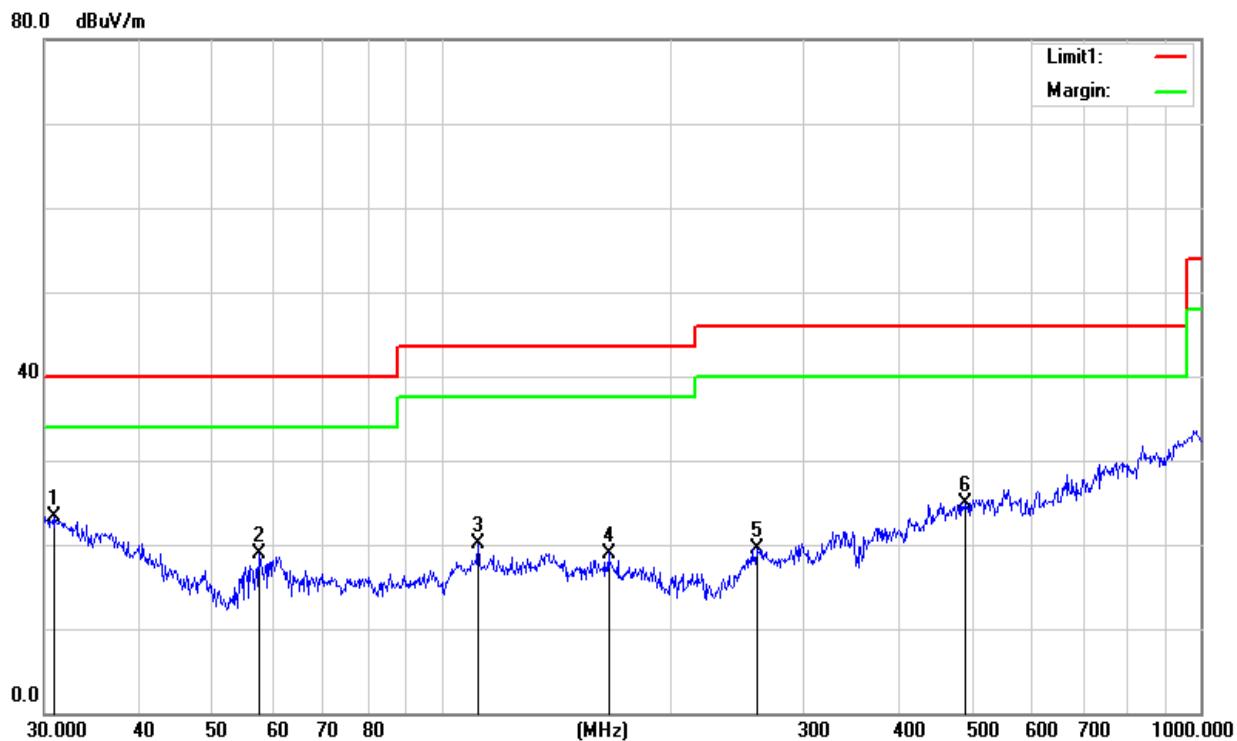


Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
30.6378	5.45	18.37	23.82	40.00	-16.18	QP
60.0690	12.24	5.33	17.57	40.00	-22.43	QP
88.6524	7.22	9.33	16.55	43.50	-26.95	QP
129.9225	5.01	11.78	16.79	43.50	-26.71	QP
176.8877	9.95	10.23	20.18	43.50	-23.32	QP
501.1790	6.57	20.38	26.95	46.00	-19.05	QP

Remark: Emission Level=Receiver Reading+Receiver Cable Loss+ANT Factor-AMP Factor



Antenna Polarization: Vertical



Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
30.8535	5.13	18.26	23.39	40.00	-16.61	QP
57.5938	13.09	5.72	18.81	40.00	-21.19	QP
111.7380	8.18	11.92	20.10	43.50	-23.40	QP
166.0680	8.07	10.93	19.00	43.50	-24.50	QP
260.1444	4.57	14.95	19.52	46.00	-26.48	QP
489.0270	4.69	20.23	24.92	46.00	-21.08	QP

Remark: Emission Level=Receiver Reading+Cable Loss+ANT Factor-AMP Factor



Test Frequency: 1GHz ~ 18GHz

Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission Level (dB μ V/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
Low Channel (GFSK/2402 MHz)							
4804.20	65.91	-3.62	62.29	74	-11.71	PK	Vertical
4804.22	46.63	-3.62	43.01	54	-10.99	AV	Vertical
7206.13	62.01	-0.9	61.11	74	-12.89	PK	Vertical
7206.12	40.99	-0.9	40.09	54	-13.91	AV	Vertical
4803.99	62.09	-3.65	58.44	74	-15.56	PK	Horizontal
4803.98	43.94	-3.65	40.29	54	-13.71	AV	Horizontal
Mid Channel (GFSK/2440 MHz)							
4882.08	64.83	-3.65	61.18	74	-12.82	PK	Vertical
4882.07	48.67	-3.65	45.02	54	-8.98	AV	Vertical
7320.21	60.71	-0.83	59.88	74	-14.12	PK	Vertical
7320.21	44.20	-0.83	43.37	54	-10.63	AV	Vertical
4882.18	61.29	-3.68	57.61	74	-16.39	PK	Horizontal
4882.15	44.90	-3.68	41.22	54	-12.78	AV	Horizontal
High Channel (GFSK/2480 MHz)							
4960.26	61.03	-3.59	57.44	74	-16.56	PK	Vertical
4960.31	45.03	-3.59	41.44	54	-12.56	AV	Vertical
7440.26	60.73	-0.73	60	74	-14	PK	Vertical
7440.31	45.01	-0.73	44.28	54	-9.72	AV	Vertical
4960.33	60.91	-3.59	57.32	74	-16.68	PK	Horizontal
4960.31	45.37	-3.59	41.78	54	-12.22	AV	Horizontal
Remark:							
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.							

**Radiated band edge:**

Frequency (MHz)	Reading (dBuV)	Factor (dB)	Emission Level (dB μ V/m)	Limit (dBuV/m)	Margin (dB)	Detector	Comment
GFSK							
2390.0	68.09	-12.99	55.10	74	-18.90	PK	Vertical
2390.0	54.06	-12.99	41.07	54	-12.93	AV	Vertical
2390.0	69.26	-12.99	56.27	74	-17.73	PK	Horizontal
2390.0	52.85	-12.99	39.86	54	-14.14	AV	Horizontal
2483.6	69.95	-12.78	52.97	74	-16.83	PK	Vertical
2483.6	52.90	-12.78	38.73	54	-13.88	AV	Vertical
2483.6	70.07	-12.78	53.98	74	-16.71	PK	Horizontal
2483.6	52.77	-12.78	40.17	54	-14.01	AV	Horizontal
Remark:							
1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.							
Low measurement frequencies is range from 2310 to 2400 MHz, high measurement frequencies is range from 2483.5 to 2500 MHz.							
Only show the worst point data of the emissions in the frequency 2310-2400 MHz and 2483.5-2500 MHz.							



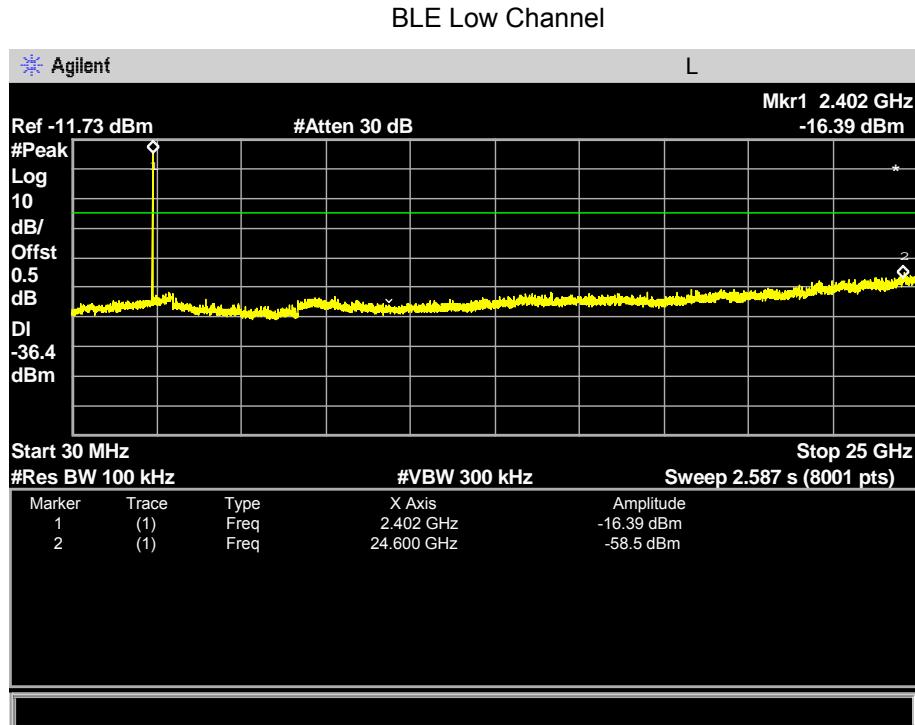
7 Conducted Spurious Emission

Test Requirement	:	FCC CFR47 Part 15 Section 15.247
Test Method	:	ANSI C63.10:2013, KDB 558074 D01 DTS MEAS GUIDANCE V03R05
Test Limit	:	Regulation 15.247 (d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated 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) (see §15.205(c)).
Test Mode	:	Refer to section 3.3

7.1 Test Procedure

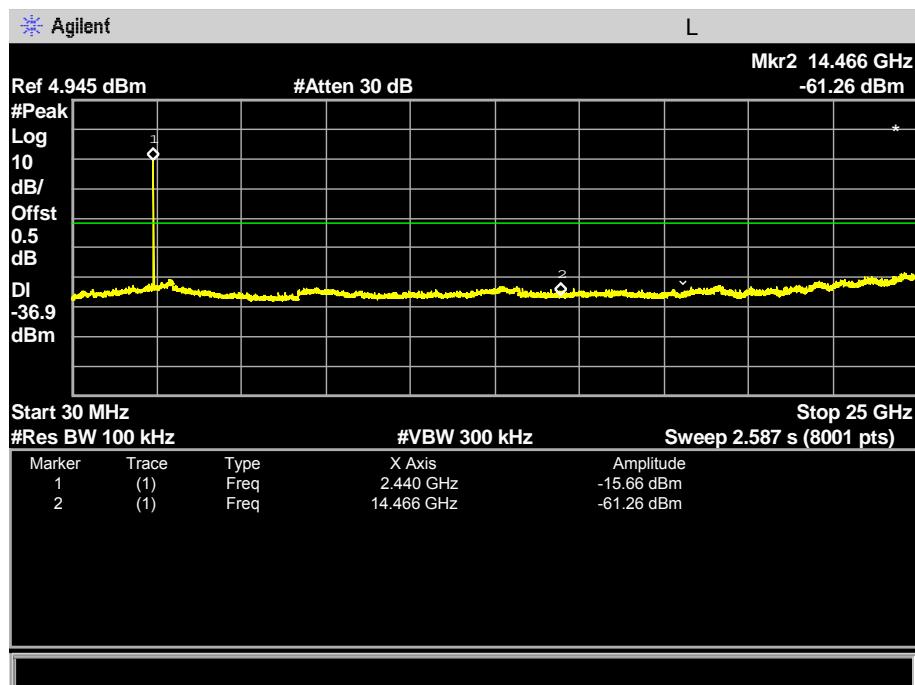
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz, Sweep = auto
Detector function = peak, Trace = max hold

7.2 Test Result

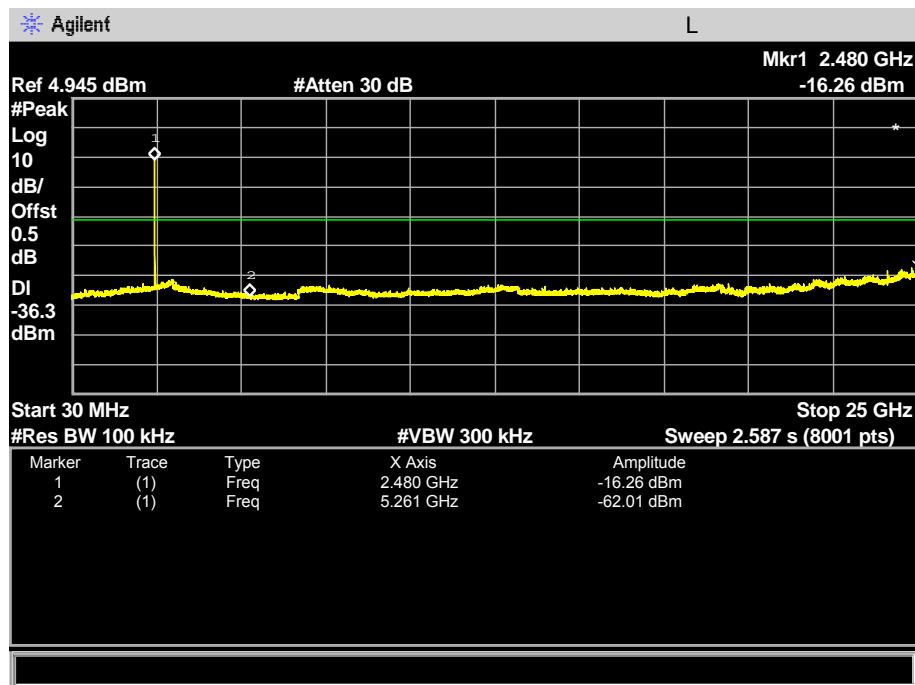




BLE Middle Channel



BLE High Channel



8 Band Edge Measurement

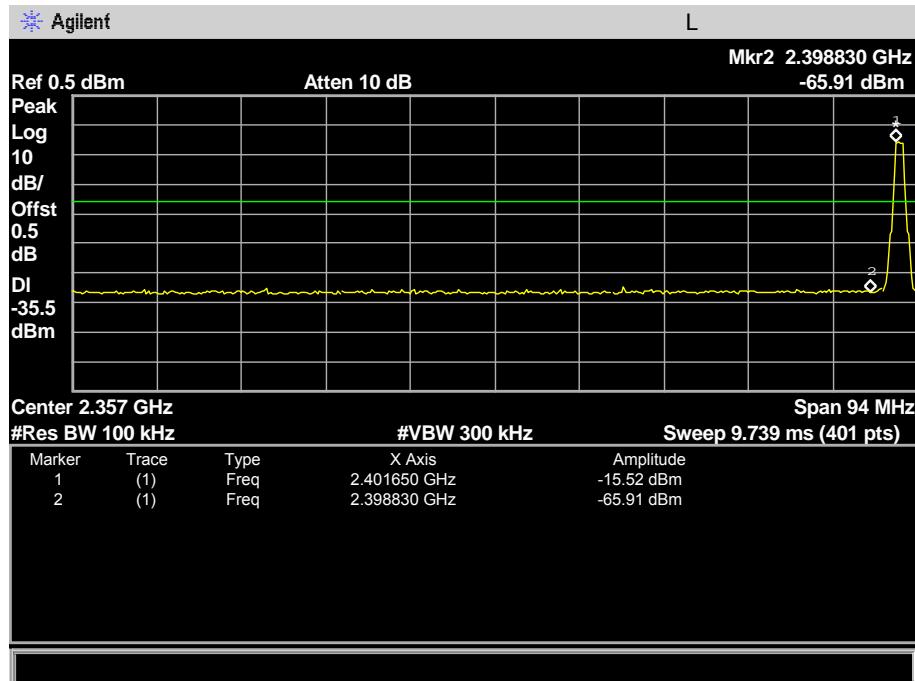
Test Requirement	: Section 15.247(d) In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).
Test Method	: ANSI C63.10:2013, KDB 558074 D01 DTS MEAS GUIDANCE V03R03
Test Limit	: Regulation 15.247 (d), In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated 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) (see §15.205(c)).
Test Mode	: Refer to section 3.3

8.1 Test Procedure

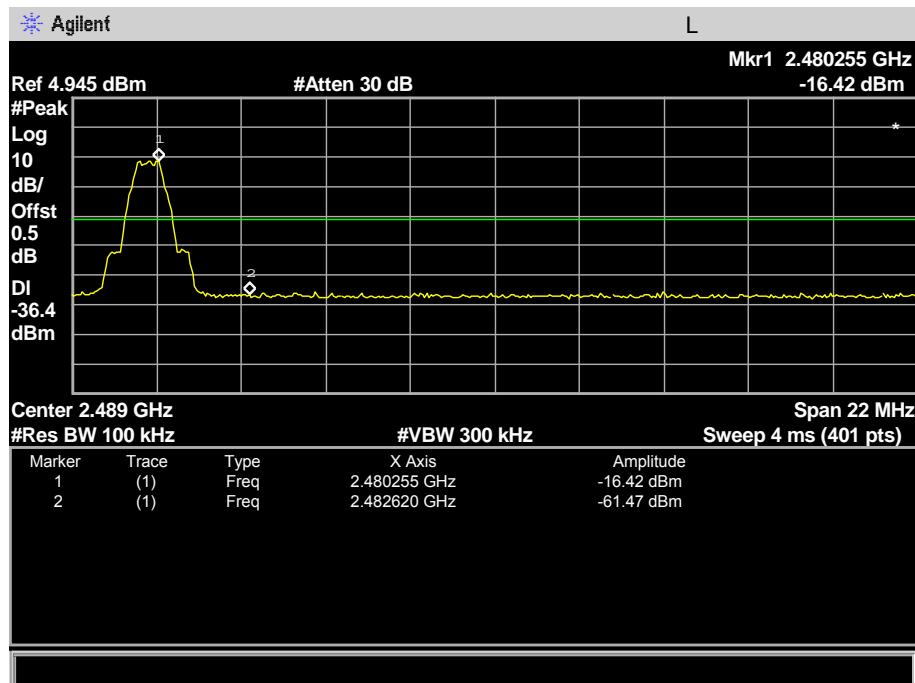
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: RBW = 100kHz, VBW = 300kHz, Sweep = auto
Detector function = peak, Trace = max hold

8.2 Test Result

GFSK(BLE) Band edge-left side



GFSK(BLE) Band edge-right side



9 6dB Bandwidth Measurement

Test Requirement : FCC CFR47 Part 15 Section 15.247
 Test Method : ANSI C63.10:2013,KDB 558074 D01 DTS MEAS GUIDANCE V03R03
 Test Limit : Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.
 Test Mode : Refer to section 3.3

9.1 Test Procedure

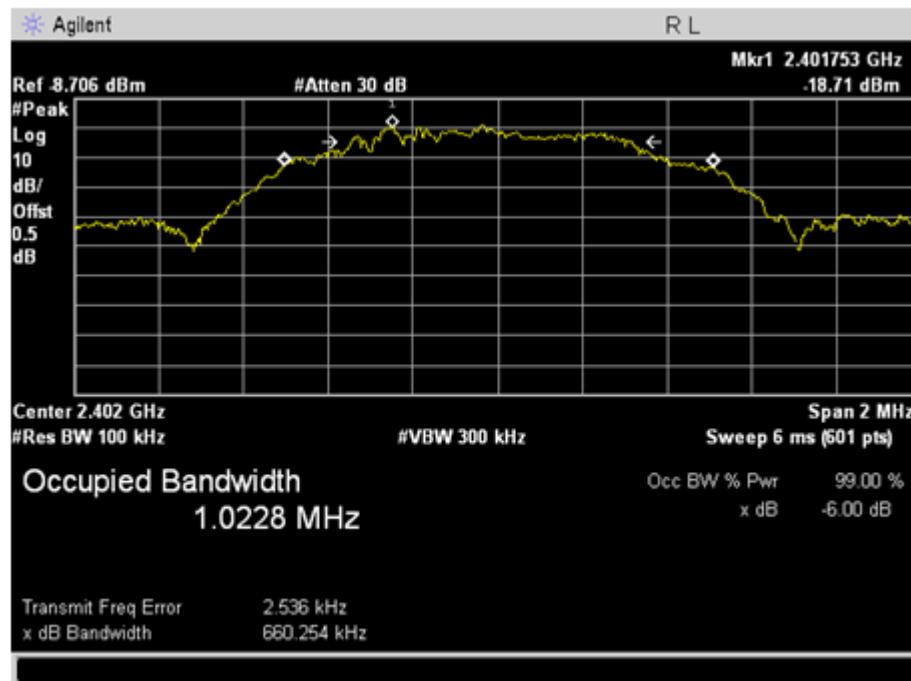
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum;
2. Set the spectrum analyzer: For BLE, RBW = 100 kHz, VBW = 300kHz, For WIFI, RBW = 100kHz, VBW = 300kHz

9.2 Test Result

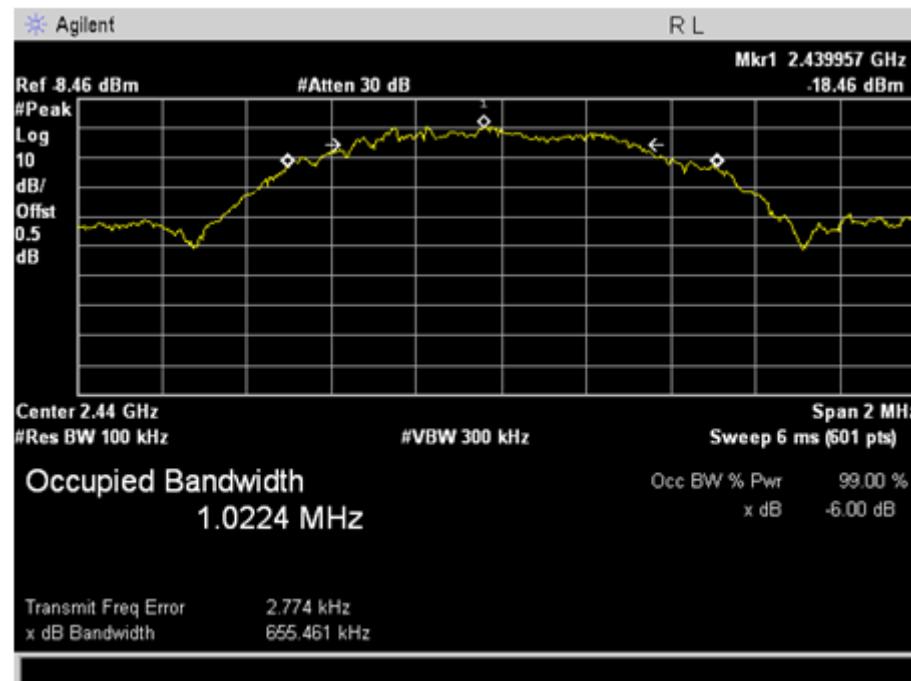
Modulation	Bandwidth(MHz)			Limit
	Low Channel	Middle Channel	High Channel	
GFSK(BLE)	0.660	0.655	0.715	≥500kHz



GFSK(BLE) Low Channel

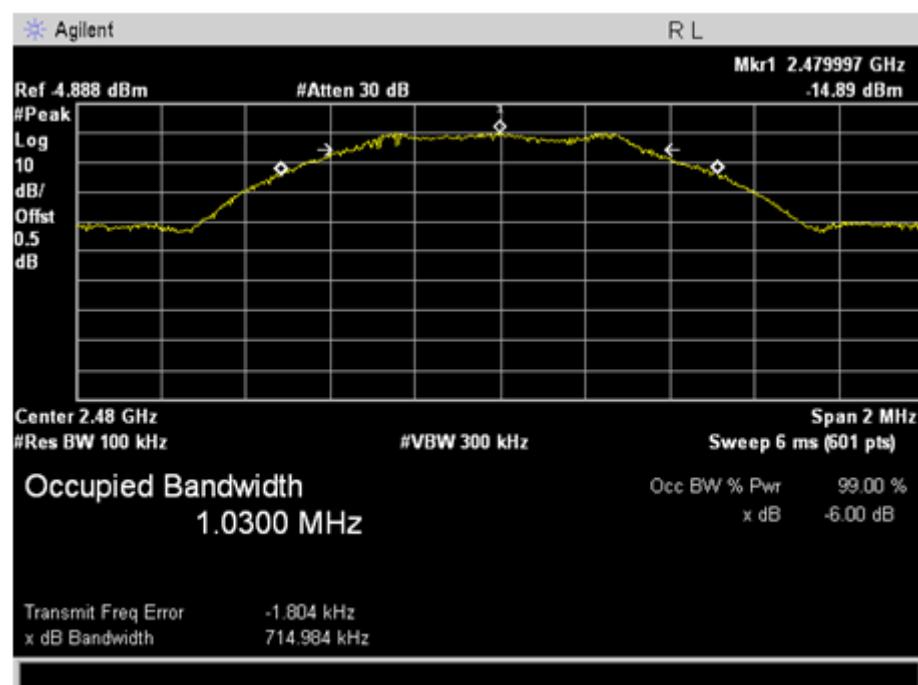


GFSK(BLE) Middle Channel





GFSK(BLE)High Channel



10 Maximum Peak Output Power

Test Requirement	:	FCC CFR47 Part 15 Section 15.247
Test Method	:	ANSI C63.10:2013, KDB 558074 D01 DTS MEAS GUIDANCE V03R03
Test Limit	:	Regulation 15.247 (b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power.
Test Mode	:	Refer to section 3.3

10.1 Test Procedure

KDB 558074 D01 DTS Meas Guidance v03r03

The maximum peak conducted output power measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.





10.2 Test Result

Modulation	Maximum Peak Output Power (dBm)			Limit
	Low Channel	Middle Channel	High Channel	
GFSK(BLE)	-13.70	-13.56	-14.16	1W(30dBm)

11 Power Spectral density

Test Requirement	:	FCC CFR47 Part 15 Section 15.247
Test Method	:	ANSI C63.10:2013, KDB 558074 D01 DTS MEAS GUIDANCE V03R03
Test Limit	:	Regulation 15.247(f) The power spectral density conducted from the intentional radiator to the antenna due to the digital modulation operation of the hybrid system, with the frequency hopping operation turned off, shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.
Test Mode	:	Refer to section 3.3

11.1 Test Procedure

KDB 558074 D01 DTS Meas Guidance V03R03

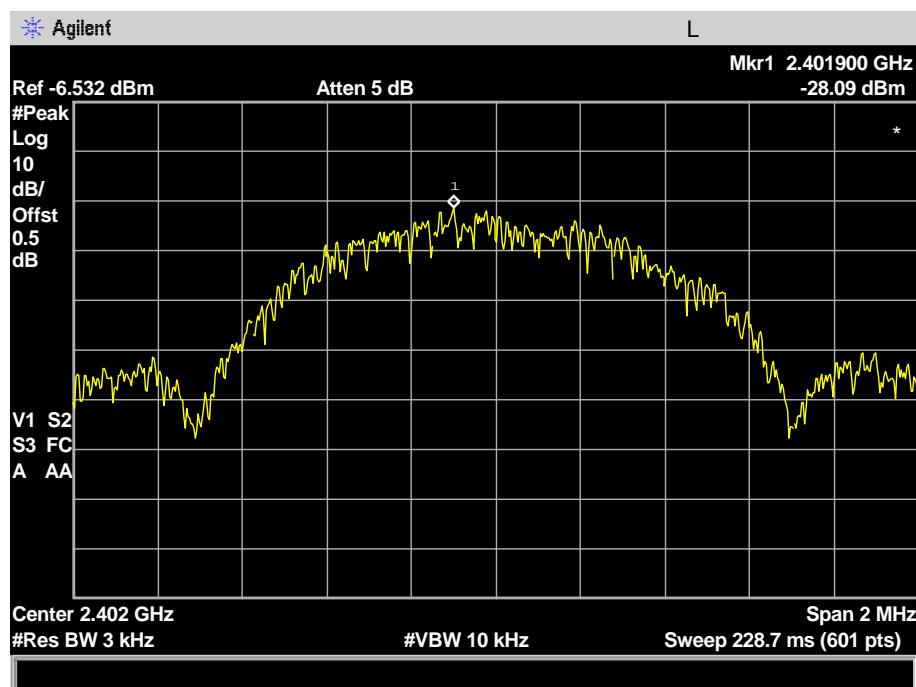
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW = 3kHz. VBW = 10kHz, Span = 1.5 times the DTS channel bandwidth (6 dB bandwidth). Sweep = auto; Detector Function = Peak. Trace = Max hold.
3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section
Submit this plot.

11.2 Test Result

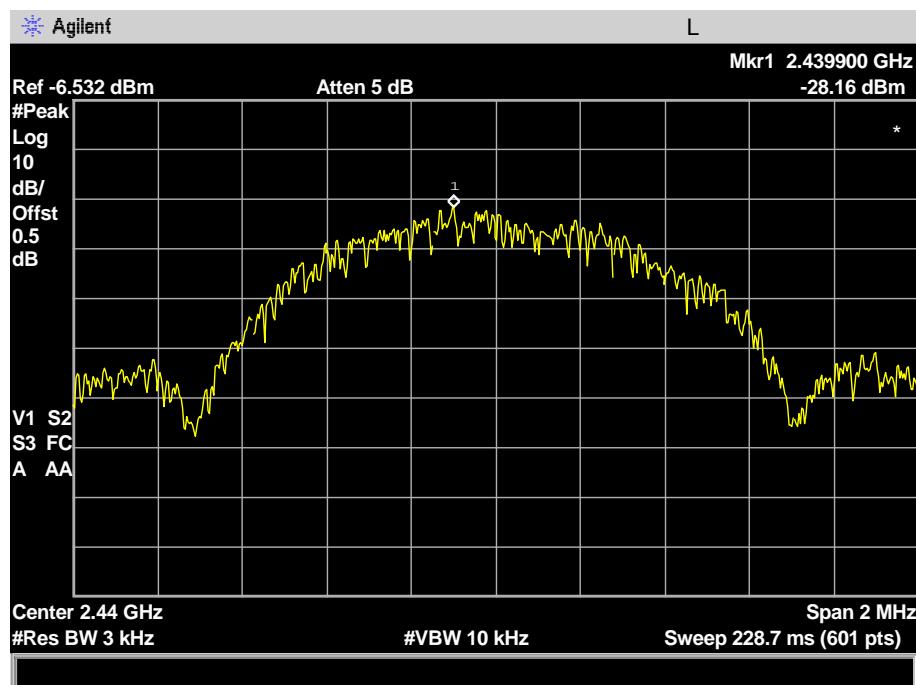
Modulation	Power Spectral Density (dBm/3kHz)			Limit
	Low Channel	Middle Channel	High Channel	
GFSK(BLE)	-28.09	-28.16	-28.73	8dBm/3kHz



GFSK(BLE) Low Channel

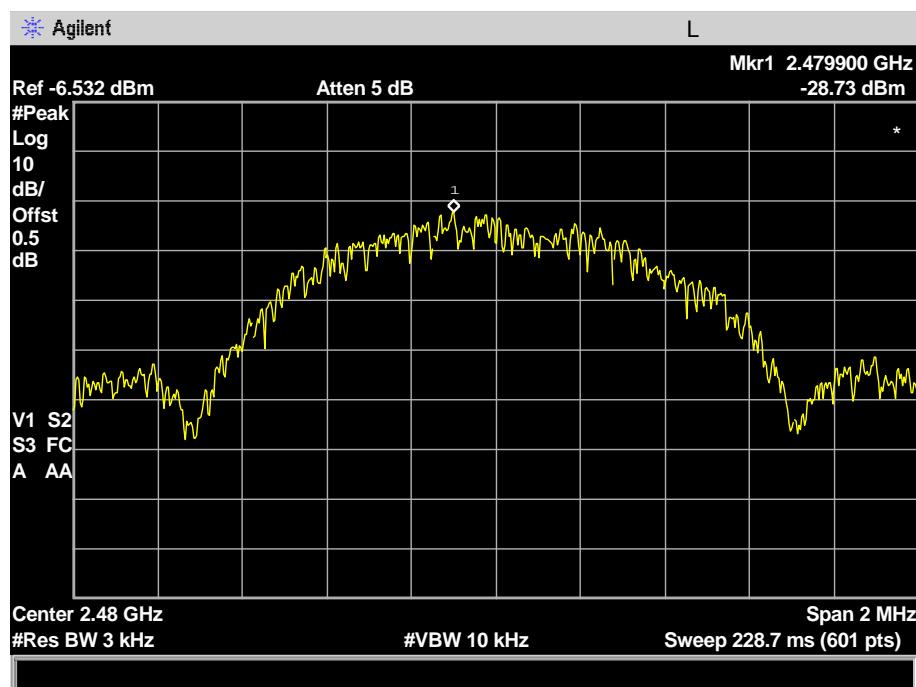


GFSK(BLE) Middle Channel





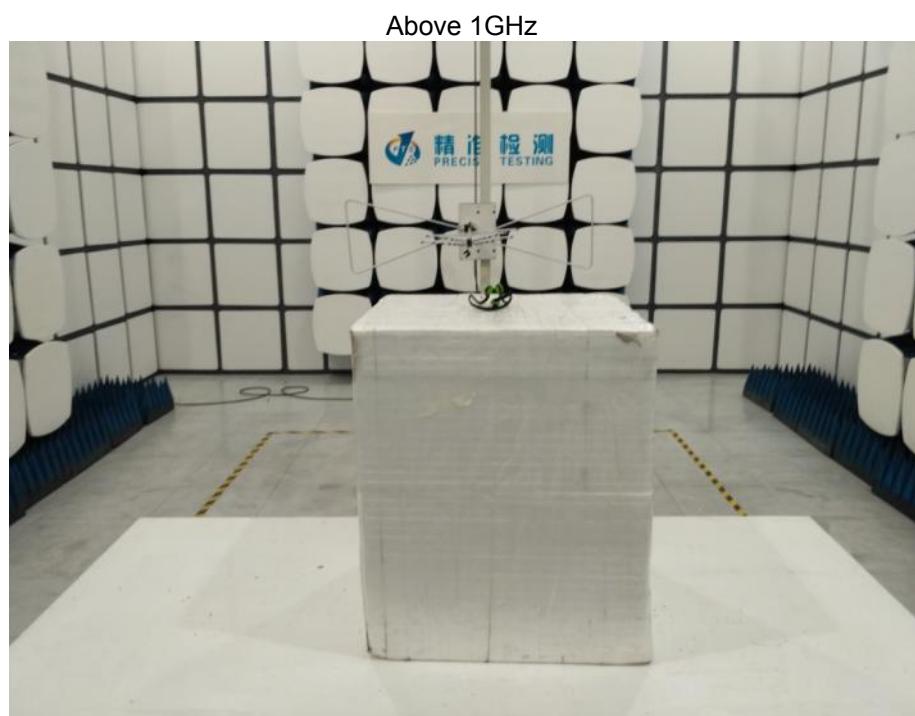
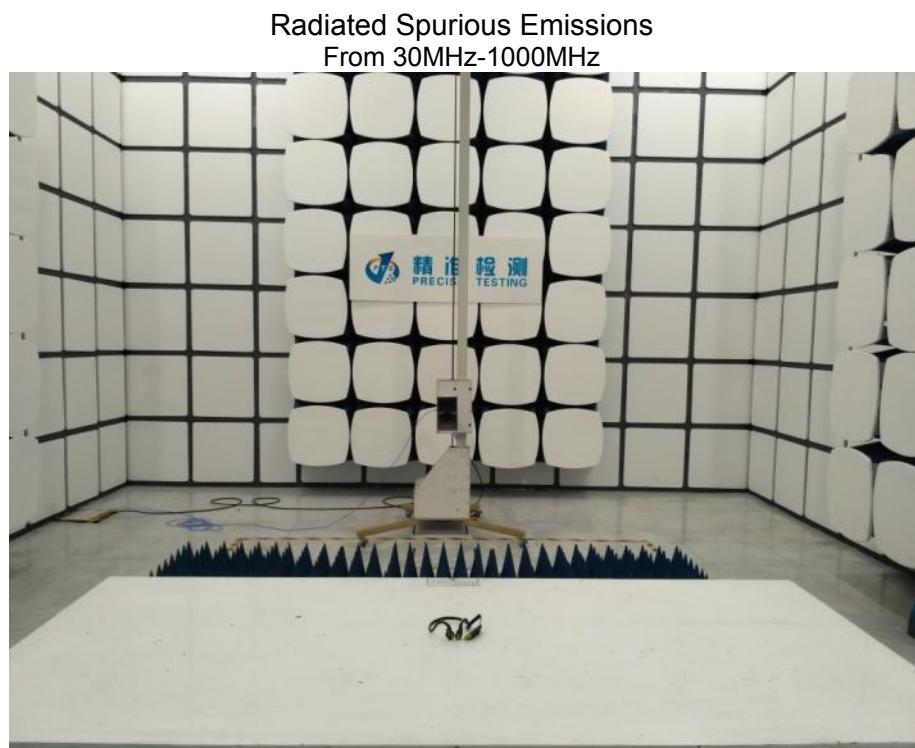
GFSK(BLE)High Channel



12 Antenna Requirement

According to the FCC part15.203, a transmitter can only be sold or operated with antennas with which it was approved. This product has anPCB printed antenna, it meet the requirement of this section.

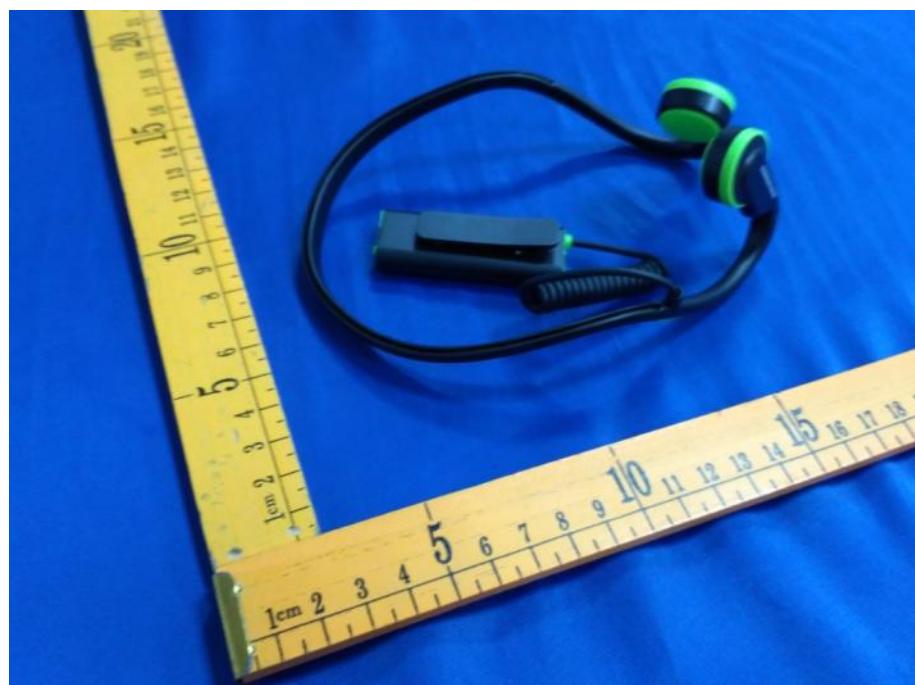
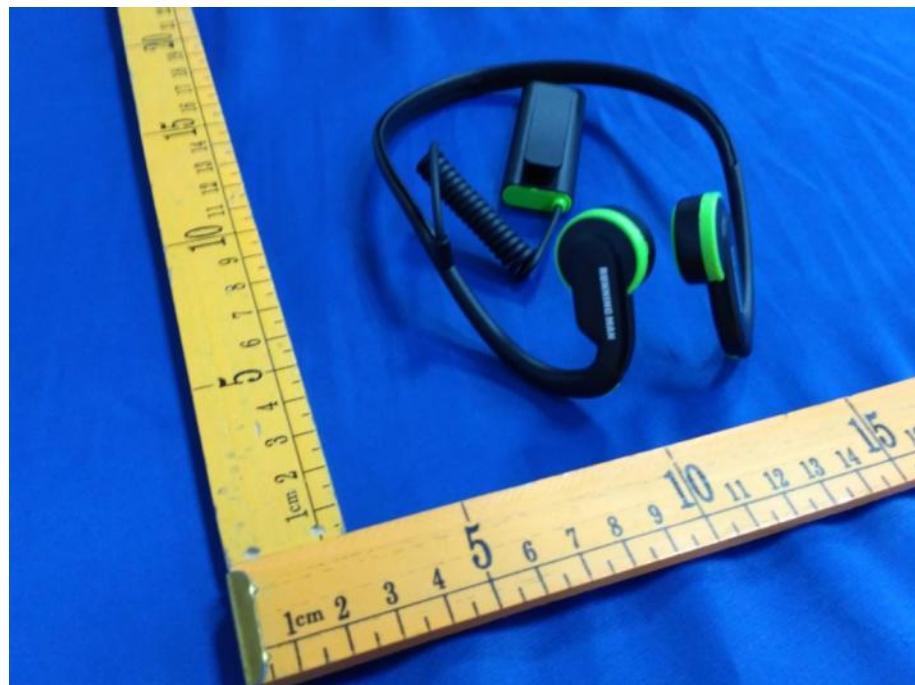
13 Test Setup



14 EUT Photos

External Photos

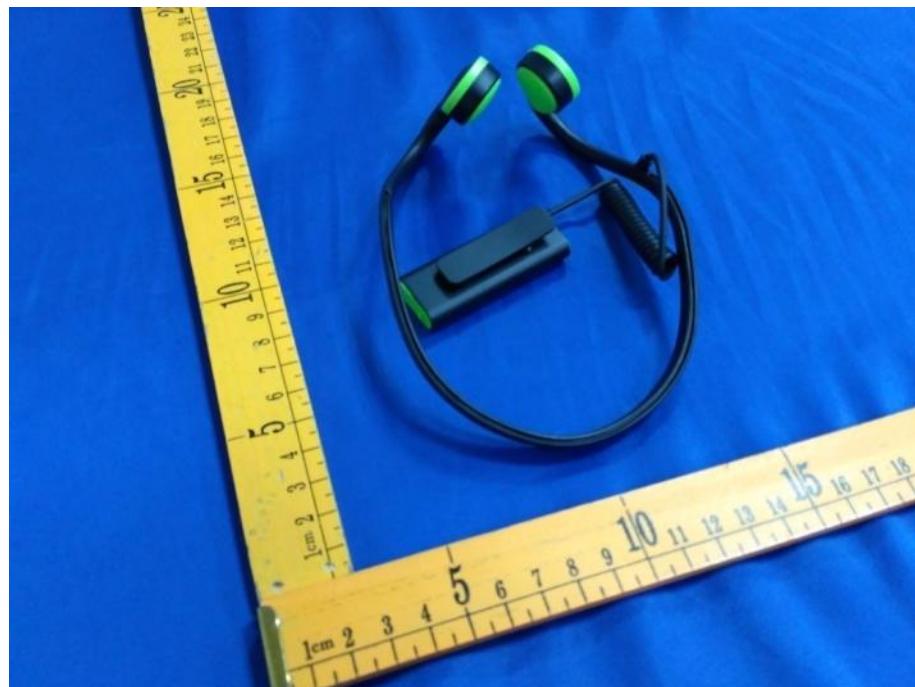


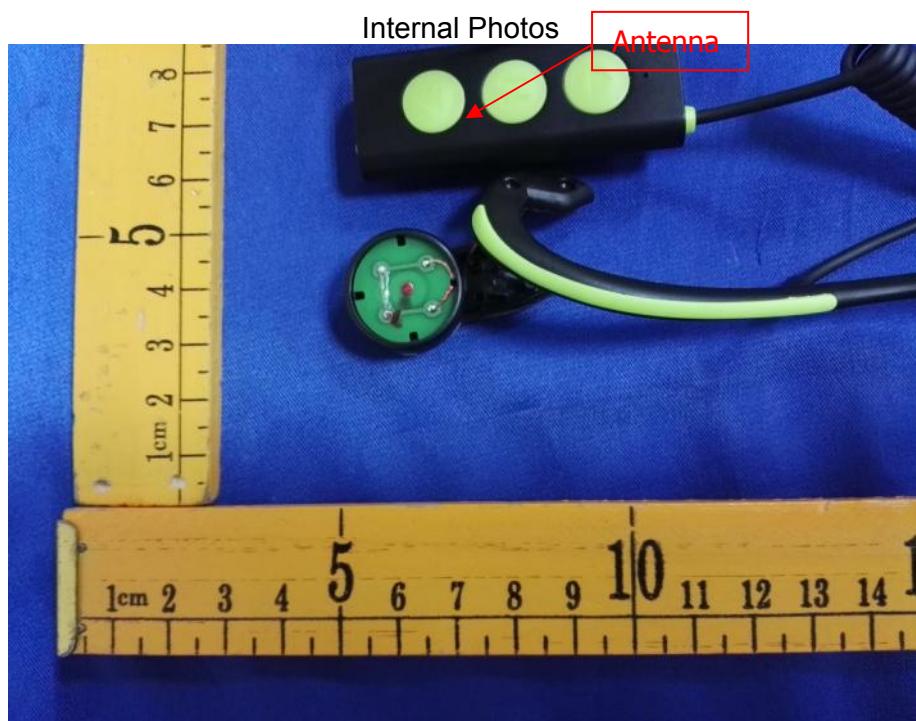




PRECISE TESTING

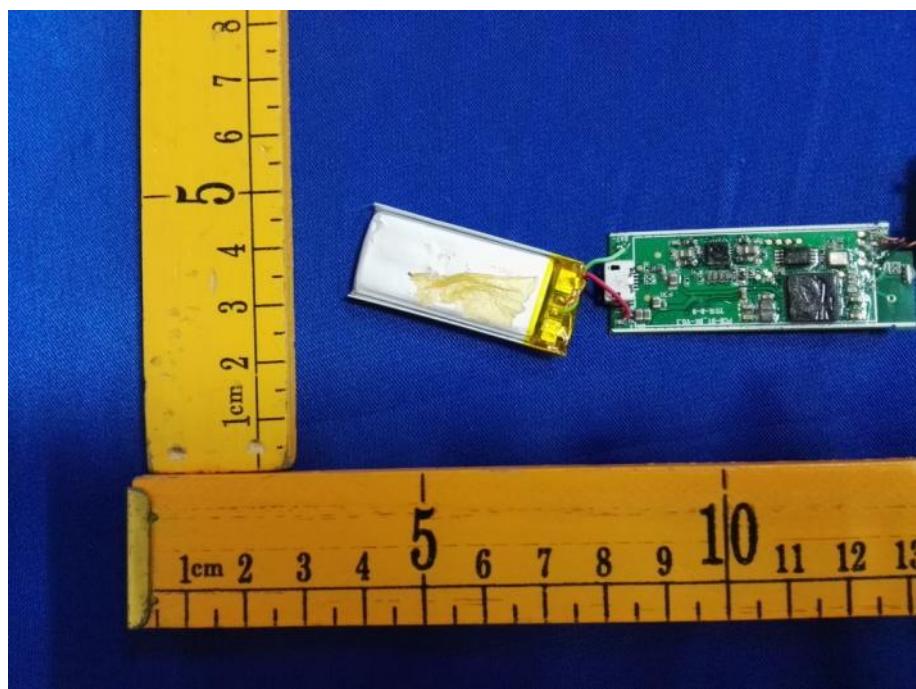
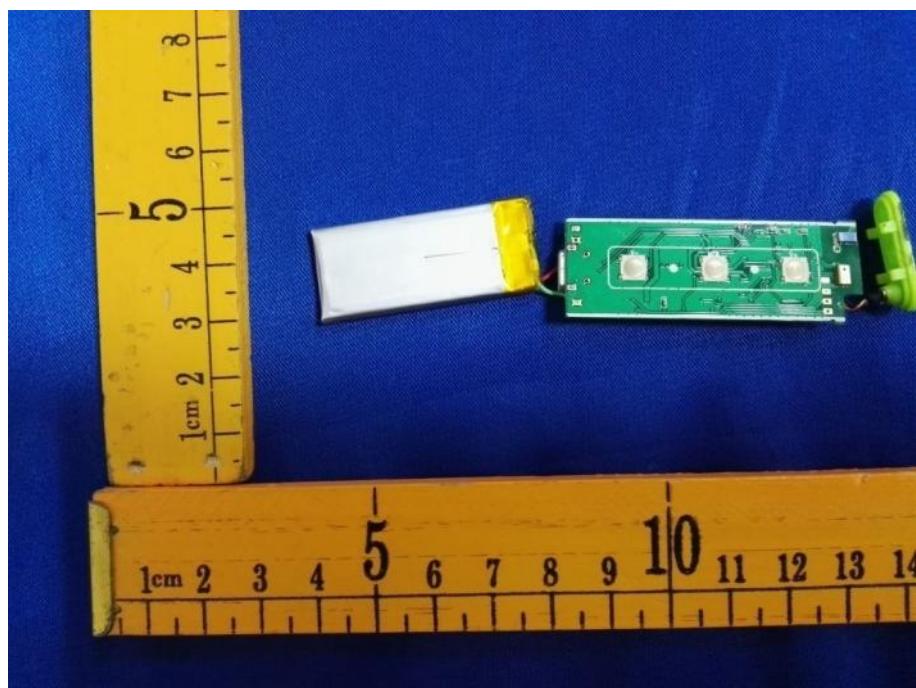
Report No.: PTCDQ04161110801E-FC01











*****THE END REPORT*****