

## TEST REPORT

**Product** : Blood Pressure Monitor  
**Trade mark** : N/A  
**Model/Type reference** : BUA6350  
**Serial Number** : N/A  
**Report Number** : EED32L00104501  
**FCC ID** : 2ABRGBUA6350  
**Date of Issue** : May 23, 2019  
**Test Standards** : 47 CFR Part 15 Subpart C  
**Test result** : PASS

Prepared for:

**Kaz USA, Inc.**

**400 DONALD LYNCH BOULEVARD SUITE 300  
MARLBOROUGH, MA 01752**

Prepared by:

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May 23, 2019

Check No.:3570140796



## 2 Version

Version No.	Date	Description
00	May 23, 2019	Original

### 3 Test Summary

Test Item	Test Requirement	Test method	Result
<b>Antenna Requirement</b>	47 CFR Part 15Subpart C Section 15.203/15.247 (c)	ANSI C63.10-2013	PASS
<b>AC Power Line Conducted Emission</b>	47 CFR Part 15Subpart C Section 15.207	ANSI C63.10-2013	N/A
<b>Conducted Peak Output Power</b>	47 CFR Part 15Subpart C Section 15.247 (b)(3)	ANSI C63.10-2013	PASS
<b>6dB Occupied Bandwidth</b>	47 CFR Part 15Subpart C Section 15.247 (a)(2)	ANSI C63.10-2013	PASS
<b>Power Spectral Density</b>	47 CFR Part 15Subpart C Section 15.247 (e)	ANSI C63.10-2013	PASS
<b>Band-edge for RF Conducted Emissions</b>	47 CFR Part 15Subpart C Section 15.247(d)	ANSI C63.10-2013	PASS
<b>RF Conducted Spurious Emissions</b>	47 CFR Part 15Subpart C Section 15.247(d)	ANSI C63.10-2013	PASS
<b>Radiated Spurious Emissions</b>	47 CFR Part 15Subpart C Section 15.205/15.209	ANSI C63.10-2013	PASS
<b>Restricted bands around fundamental frequency (Radiated Emission)</b>	47 CFR Part 15Subpart C Section 15.205/15.209	ANSI C63.10-2013	PASS

Remark:

Test according to ANSI C63.4-2014 & ANSI C63.10-2013.

The tested sample(s) and the sample information are provided by the client.

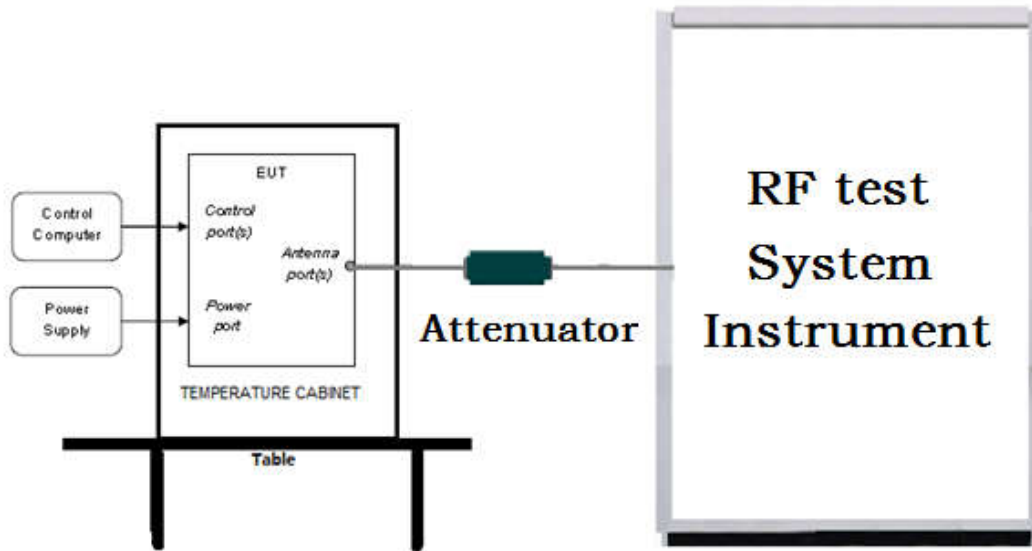
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## 5 Test Requirement

### 5.1 Test setup

#### 5.1.1 For Conducted test setup



#### 5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

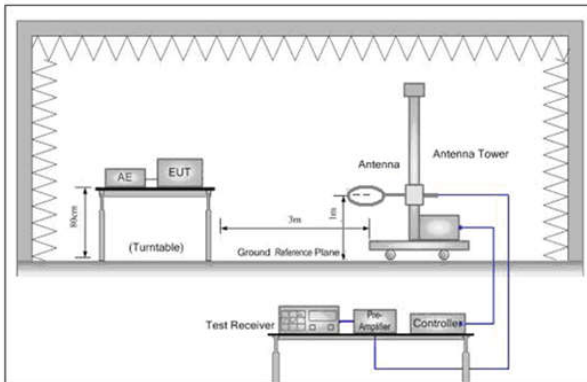


Figure 1. Below 30MHz

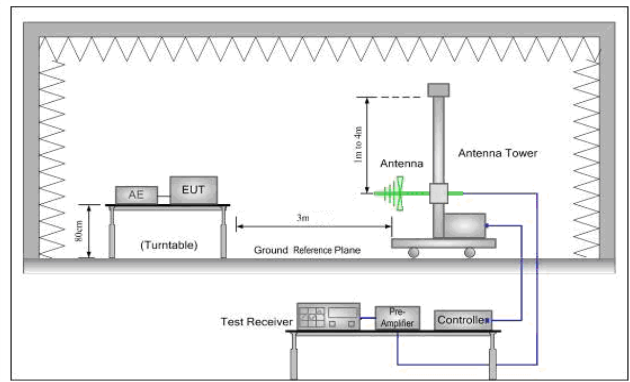


Figure 2. 30MHz to 1GHz

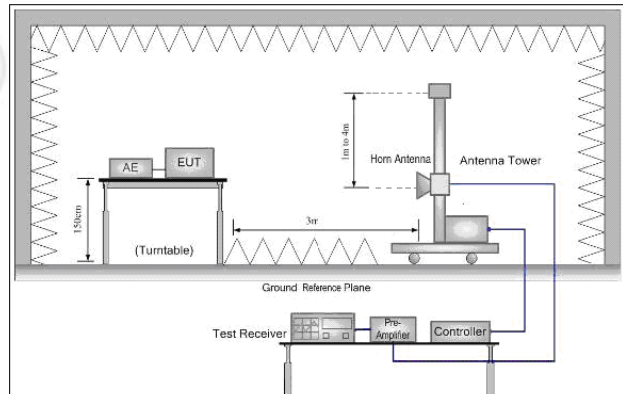


Figure 3. Above 1GHz

## 5.2 Test Environment

Operating Environment for RF Conducted test:	
Temperature:	22°C
Humidity:	57%
Atmospheric Pressure:	101kPa

## 5.3 Test Condition

Test channel:

Test Mode	Tx/Rx	RF Channel		
		Low(L)	Middle(M)	High(H)
GFSK	2402MHz ~2480MHz	Channel 1	Channel 20	Channel 40
		2402MHz	2440MHz	2480MHz
TX mode:	The EUT transmitted the continuous signal at the specific channel(s).			

## 6 General Information

### 6.1 Client Information

Applicant:	Kaz USA, Inc.
Address of Applicant:	400 DONALD LYNCH BOULEVARD SUITE 300 MARLBOROUGH, MA 01752
Manufacturer:	Guangdong Transtek Medical Electronics Co., Ltd.
Address of Manufacturer:	Zone A, No.105 , Dongli Road, Torch Development District, Zhongshan, 528437, Guangdong,China
Factory:	Guangdong Transtek Medical Electronics Co., Ltd.
Address of Factory:	Zone B, No.105, Dongli Road, Torch Development District, Zhongshan, 528437, Guangdong, China

### 6.2 General Description of EUT

Product Name:	Blood Pressure Monitor
Model No.(EUT):	BUA6350
Trade mark:	N/A
EUT Supports Radios application:	BT: 4.0 BLE Single mode: 2402MHz to 2480MHz ;
Power Supply:	AA Battery 4X1.5V
Hardware version:	V1.0 (manufacturer declare)
Firmware version:	1.0.13 (manufacturer declare)
Sample Received Date:	May 08, 2019
Sample tested Date:	May 13, 2019 to May 16, 2019

### 6.3 Product Specification subjective to this standard

Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	4.0
Modulation Technique:	DSSS
Modulation Type:	GFSK
Number of Channel:	40
Test Power Grade:	N/A
Test Software of EUT:	N/A
Antenna Type:	PCB Printed Trace (PIFA)
Antenna Gain:	5 dBi
Test Voltage:	6V

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
3	2406MHz	13	2426MHz	23	2446MHz	33	2466MHz
4	2408MHz	14	2428MHz	24	2448MHz	34	2468MHz
5	2410MHz	15	2430MHz	25	2450MHz	35	2470MHz
6	2412MHz	16	2432MHz	26	2452MHz	36	2472MHz
7	2414MHz	17	2434MHz	27	2454MHz	37	2474MHz
8	2416MHz	18	2436MHz	28	2456MHz	38	2476MHz
9	2418MHz	19	2438MHz	29	2458MHz	39	2478MHz
10	2420MHz	20	2440MHz	30	2460MHz	40	2480MHz

#### 6.4 Description of Support Units

The EUT has been tested independently.

#### 6.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

#### 6.6 Deviation from Standards

None.

#### 6.7 Abnormalities from Standard Conditions

None.

#### 6.8 Other Information Requested by the Customer

None.



### 6.9 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	$7.9 \times 10^{-8}$
2	RF power, conducted	0.46dB (30MHz-1GHz)
		0.55dB (1GHz-18GHz)
3	Radiated Spurious emission test	4.3dB (30MHz-1GHz)
		4.5dB (1GHz-12.75GHz)
4	Conduction emission	3.5dB (9kHz to 150kHz)
		3.1dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	3.8%
7	DC power voltages	0.026%

## 7 Equipment List

RF test system					
Equipment	Manufacturer	Model No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Signal Generator	Keysight	E8257D	MY53401106	03-01-2019	02-28-2020
Spectrum Analyzer	Keysight	N9010A	MY54510339	03-01-2019	02-28-2020
Signal Generator	Keysight	N5182B	MY53051549	03-01-2019	02-28-2020
High-pass filter	Sinoscite	FL3CX03WG1 8NM12-0398-0 02	---	01-09-2019	01-08-2020
High-pass filter	MICRO-TRO NICS	SPA-F-63029-4	---	01-09-2019	01-08-2020
DC Power	Keysight	E3642A	MY54426035	03-01-2019	02-28-2020
PC-1	Lenovo	R4960d	---	03-01-2019	02-28-2020
BT&WI-FI Automatic control	R&S	OSP120	101374	03-01-2019	02-28-2020
RF control unit	JS Tonscend	JS0806-2	15860006	03-01-2019	02-28-2020
RF control unit	JS Tonscend	JS0806-1	15860004	03-01-2019	02-28-2020
RF control unit	JS Tonscend	JS0806-4	158060007	03-01-2019	02-28-2020
BT&WI-FI Automatic test software	JS Tonscend	JS1120-2	---	03-01-2019	02-28-2020
Temperature/ Humidity Indicator	biaozhi	HM10	1804186	10-12-2018	10-11-2019

3M Semi/full-anechoic Chamber					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
3M Chamber & Accessory Equipment	TDK	SAC-3	---	06-04-2016	06-03-2019
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	9163-401	12-21-2018	12-20-2019
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	9163-618	07-30-2018	07-29-2019
Microwave Preamplifier	Agilent	8449B	3008A02425	08-21-2018	08-20-2019
Microwave Preamplifier	Tonscend	EMC051845SE	980380	01-16-2019	01-15-2020
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1869	04-25-2018	04-23-2021
Horn Antenna	ETS-LINDGREN	3117	00057410	06-05-2018	06-03-2021
Double ridge horn antenna	A.H.SYSTEMS	SAS-574	374	06-05-2018	06-04-2021
Pre-amplifier	A.H.SYSTEMS	PAP-1840-60	6041.6041	08-08-2018	08-07-2019
Preamplifier	EMCI	EMC001330	980563	06-20-2018	06-19-2019
Loop Antenna	ETS	6502	00071730	06-22-2017	06-21-2019
Spectrum Analyzer	R&S	FSP40	100416	04-28-2019	04-26-2020
Receiver	R&S	ESCI	100435	05-25-2018	05-24-2019
Receiver	R&S	ESCI7	100938-003	11-23-2018	11-22-2019
Multi device Controller	maturo	NCD/070/10711112	---	01-09-2019	01-08-2020
Signal Generator	Agilent	E4438C	MY45095744	03-01-2019	02-28-2020
Signal Generator	Keysight	E8257D	MY53401106	03-01-2019	02-28-2020
Temperature/ Humidity Indicator	Shanghai qixiang	HM10	1804298	10-12-2018	10-11-2019
Communication test set	Agilent	E5515C	GB47050534	03-01-2019	02-28-2020
Cable line	Fulai(7M)	SF106	5219/6A	01-09-2019	01-08-2020
Cable line	Fulai(6M)	SF106	5220/6A	01-09-2019	01-08-2020
Cable line	Fulai(3M)	SF106	5216/6A	01-09-2019	01-08-2020
Cable line	Fulai(3M)	SF106	5217/6A	01-09-2019	01-08-2020
Communication test set	R&S	CMW500	104466	01-18-2019	01-17-2020
High-pass filter	Sinoscite	FL3CX03WG18NM12-0398-002	---	01-09-2019	01-08-2020
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX01CA09CL12-0395-001	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX01CA08CL12-0393-001	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX02CA04CL12-0396-002	---	01-09-2019	01-08-2020
band rejection filter	Sinoscite	FL5CX02CA03CL12-0394-001	---	01-09-2019	01-08-2020

## 8 Radio Technical Requirements Specification

### Reference documents for testing:

No.	Identity	Document Title
1	FCC Part15C	Subpart C-Intentional Radiators
2	ANSI C63.10-2013	American National Standard for Testing Unlicensed Wireless Devices

### Test Results List:

Test Requirement	Test method	Test item	Verdict	Note
Part15C Section 15.247 (a)(2)	ANSI C63.10	6dB Occupied Bandwidth	PASS	Appendix A)
Part15C Section 15.247 (b)(3)	ANSI C63.10	Conducted Peak Output Power	PASS	Appendix B)
Part15C Section 15.247(d)	ANSI C63.10	Band-edge for RF Conducted Emissions	PASS	Appendix C)
Part15C Section 15.247(d)	ANSI C63.10	RF Conducted Spurious Emissions	PASS	Appendix D)
Part15C Section 15.247 (e)	ANSI C63.10	Power Spectral Density	PASS	Appendix E)
Part15C Section 15.203/15.247 (c)	ANSI C63.10	Antenna Requirement	PASS	Appendix F)
Part15C Section 15.207	ANSI C63.10	AC Power Line Conducted Emission	PASS	N/A
Part15C Section 15.205/15.209	ANSI C63.10	Restricted bands around fundamental frequency (Radiated Emission)	PASS	Appendix G)
Part15C Section 15.205/15.209	ANSI C63.10	Radiated Spurious Emissions	PASS	Appendix H)

### Appendix A): 6dB Occupied Bandwidth

#### Test Result

Mode	Channel	6dB Bandwidth [MHz]	99% OBW[MHz]	Verdict
BLE	LCH	0.6806	1.0963	PASS
BLE	MCH	0.6875	1.0948	PASS
BLE	HCH	0.6729	1.1028	PASS

**Test Graphs**

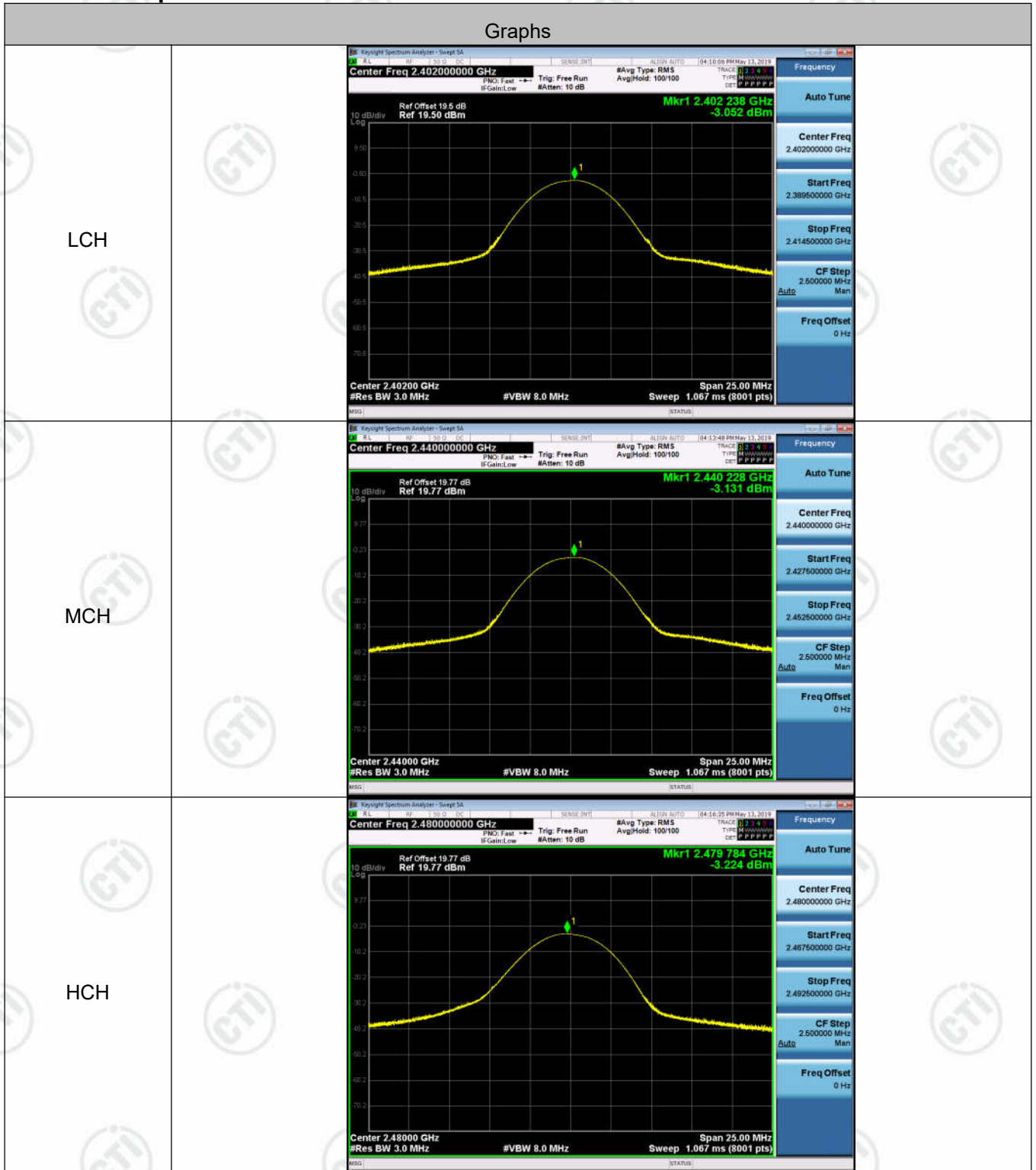
Graphs	
LCH	<p>Keyight Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 2.402000000 GHz</p> <p>Ref Offset: 19.6 dB Ref: 10.00 dBm</p> <p>Center 2.402 GHz</p> <p>Occupied Bandwidth: <b>1.0963 MHz</b></p> <p>Total Power: 2.86 dBm</p> <p>Transmit Freq Error: -22.621 kHz</p> <p>x dB Bandwidth: 680.6 kHz</p>
MCH	<p>Keyight Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 2.440000000 GHz</p> <p>Ref Offset: 19.77 dB Ref: 10.00 dBm</p> <p>Center 2.44 GHz</p> <p>Occupied Bandwidth: <b>1.0948 MHz</b></p> <p>Total Power: 2.85 dBm</p> <p>Transmit Freq Error: -20.251 kHz</p> <p>x dB Bandwidth: 687.5 kHz</p>
HCH	<p>Keyight Spectrum Analyzer - Occupied BW</p> <p>Center Freq: 2.480000000 GHz</p> <p>Ref Offset: 19.77 dB Ref: 10.00 dBm</p> <p>Center 2.48 GHz</p> <p>Occupied Bandwidth: <b>1.1028 MHz</b></p> <p>Total Power: 2.67 dBm</p> <p>Transmit Freq Error: -57.528 kHz</p> <p>x dB Bandwidth: 672.9 kHz</p>

### Appendix B): Conducted Peak Output Power

#### Test Result

Mode	Channel	Conduct Peak Power[dBm]	Verdict
BLE	LCH	-3.052	PASS
BLE	MCH	-3.131	PASS
BLE	HCH	-3.224	PASS

**Test Graphs**





**Appendix C): Band-edge for RF Conducted Emissions**

**Result Table**

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BLE	LCH	-3.885	-51.389	-23.89	PASS
BLE	HCH	-3.822	-45.102	-23.82	PASS

**Test Graphs**

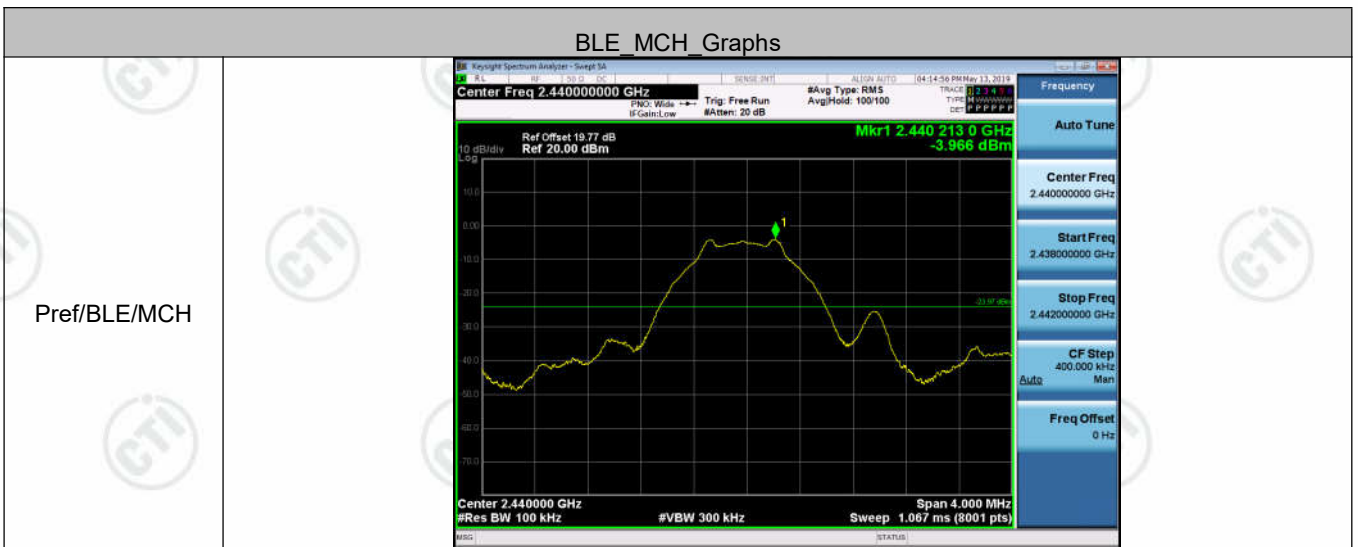
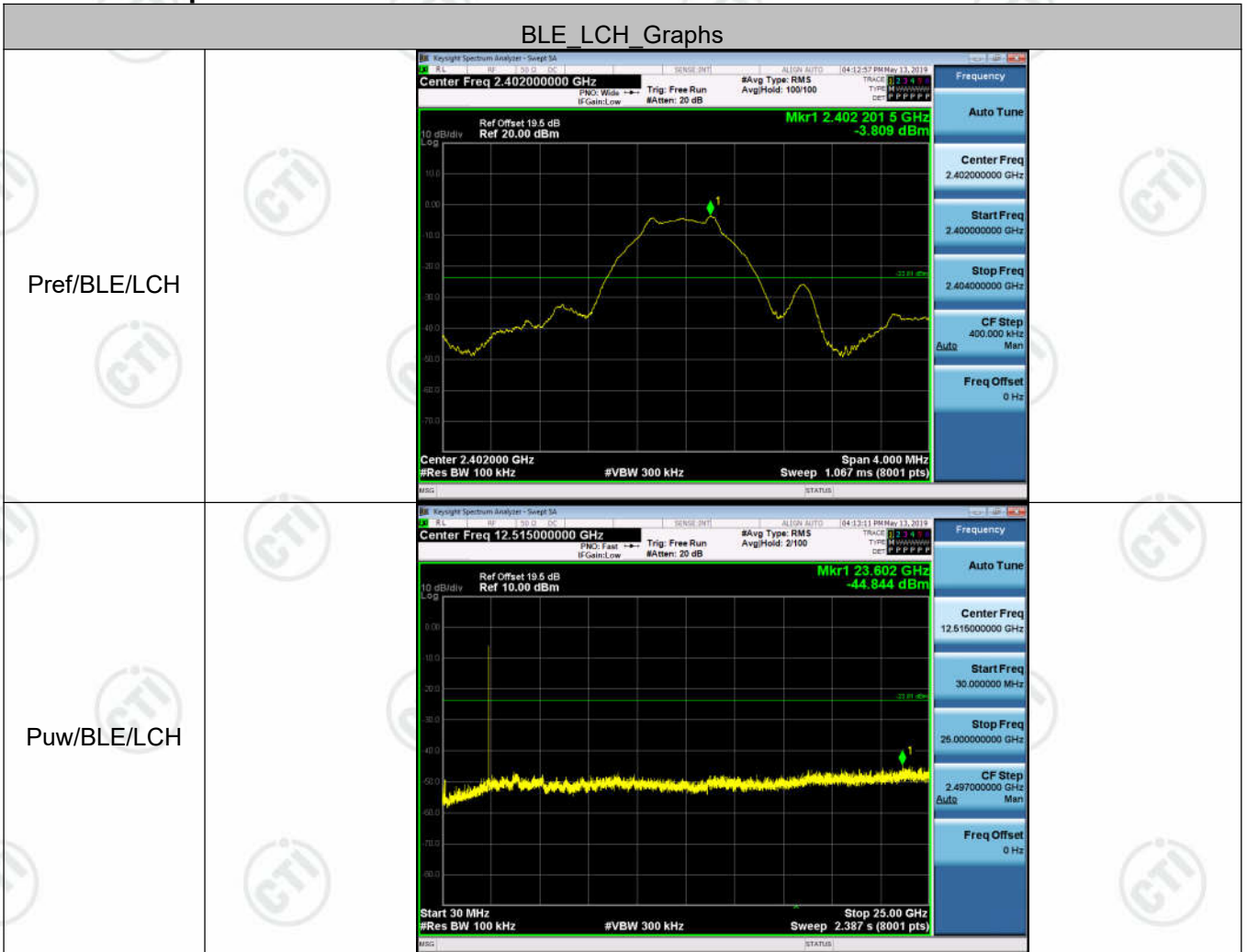


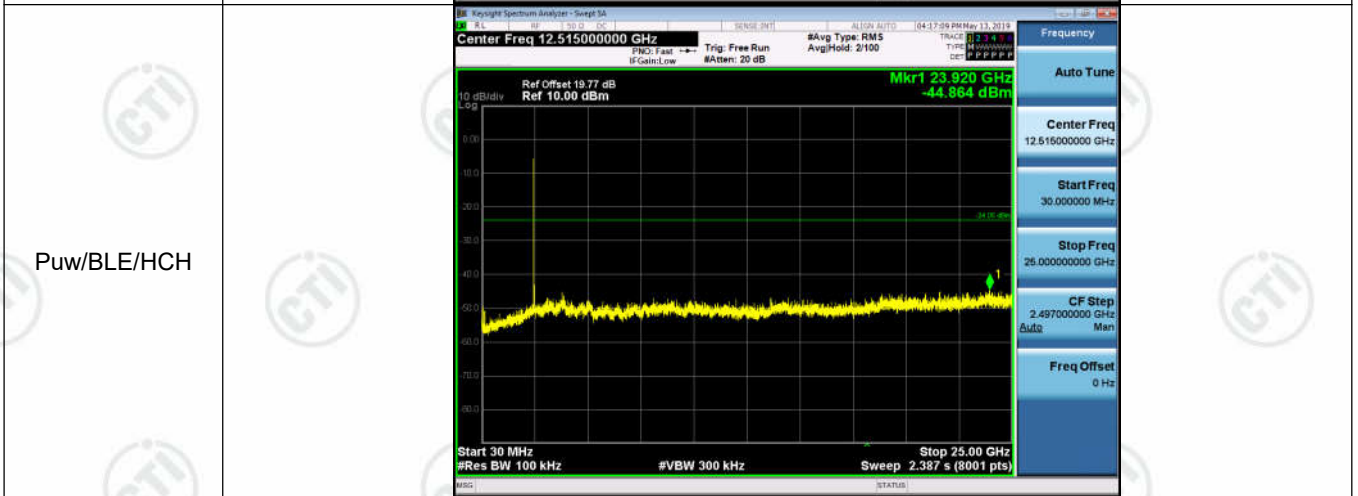
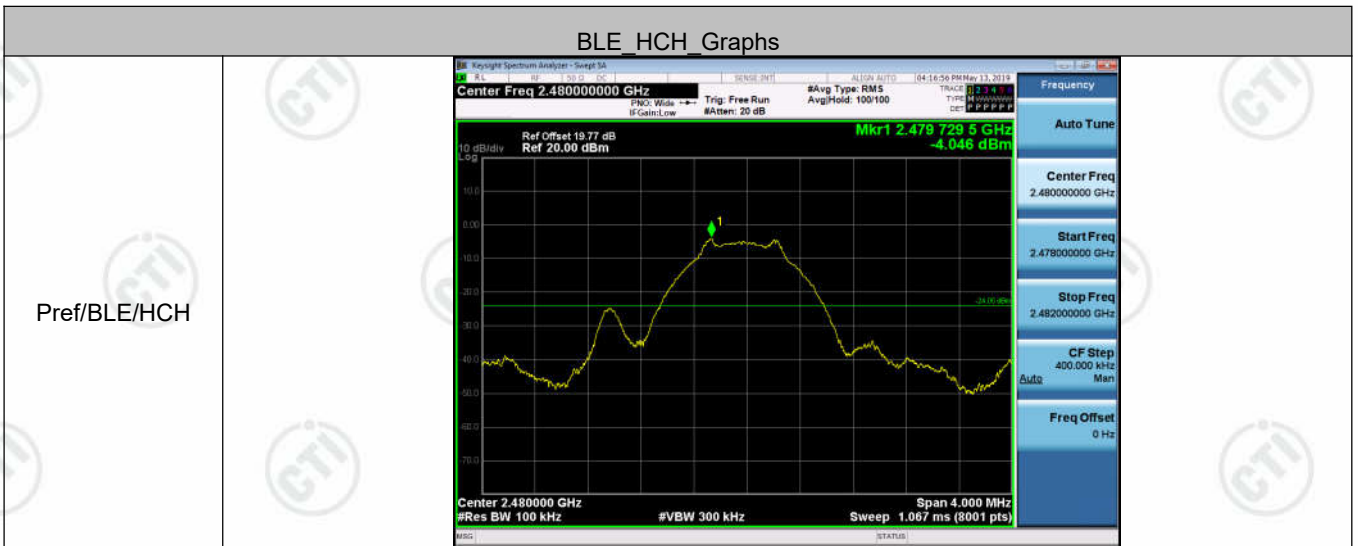
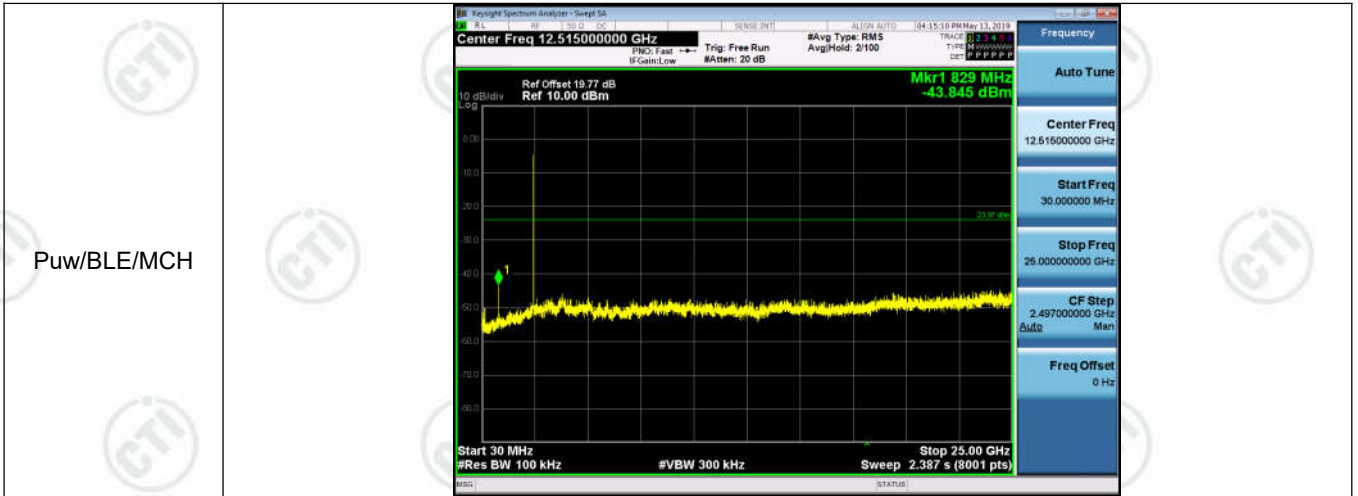
## Appendix D): RF Conducted Spurious Emissions

### Result Table

Mode	Channel	Pref [dBm]	Puw[dBm]	Verdict
BLE	LCH	-3.809	<Limit	PASS
BLE	MCH	-3.966	<Limit	PASS
BLE	HCH	-4.046	<Limit	PASS

**Test Graphs**



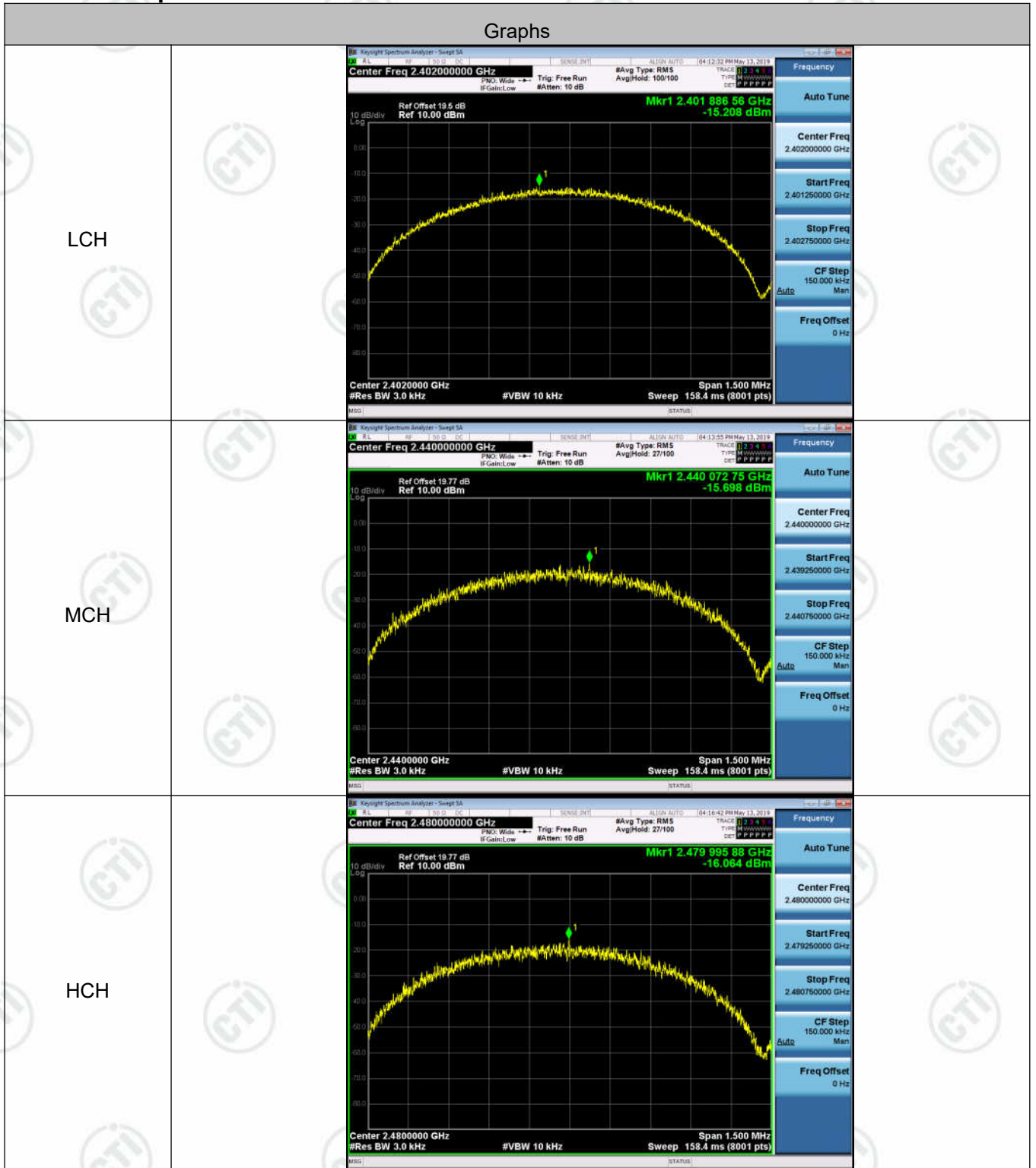


## Appendix E): Power Spectral Density

### Result Table

Mode	Channel	PSD [dBm]	Verdict
BLE	LCH	-15.208	PASS
BLE	MCH	-15.698	PASS
BLE	HCH	-16.064	PASS

**Test Graphs**



## Appendix F): Antenna Requirement

### 15.203 requirement:

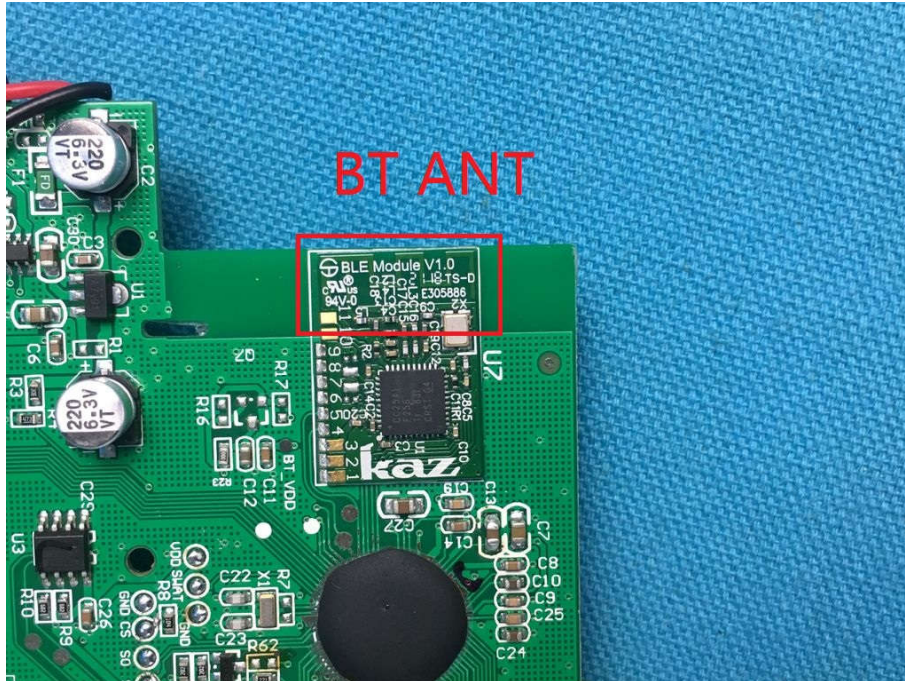
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit 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(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### EUT Antenna:

The antenna is PCB Printed Trace (PIFA) antenna and no consideration of replacement. The best case gain of the antenna is 5 dBi





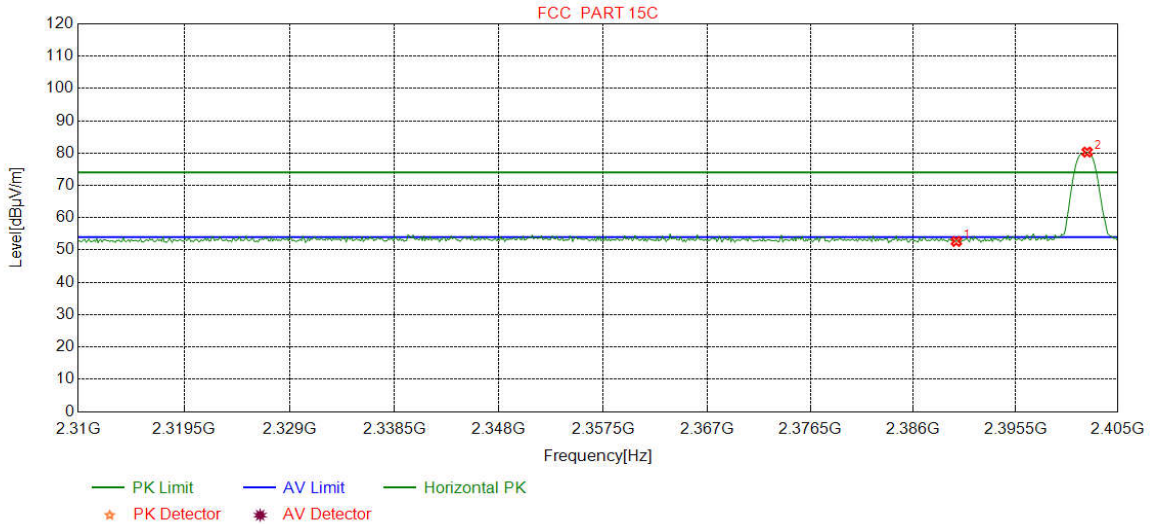
## Appendix G): Restricted bands around fundamental frequency (Radiated)

Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
Peak		1MHz	10Hz	Average	
Test Procedure:	<p><b>Below 1GHz test procedure as below:</b></p> <ol style="list-style-type: none"> <li>The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li> <li>For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel</li> </ol> <p><b>Above 1GHz test procedure as below:</b></p> <ol style="list-style-type: none"> <li>Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber change form table 0.8 meter to 1.5 meter( Above 18GHz the distance is 1 meter and table is 1.5 meter).</li> <li>. Test the EUT in the lowest channel , the Highest channel</li> <li>The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.</li> <li>Repeat above procedures until all frequencies measured was complete.</li> </ol>				
Limit:	Frequency	Limit (dB $\mu$ V/m @3m)	Remark		
	30MHz-88MHz	40.0	Quasi-peak Value		
	88MHz-216MHz	43.5	Quasi-peak Value		
	216MHz-960MHz	46.0	Quasi-peak Value		
	960MHz-1GHz	54.0	Quasi-peak Value		
	Above 1GHz	54.0	Average Value		
74.0		Peak Value			
Test Ambient:	Temp.: 22°C	Humid.: 57%	Press.: 101kPa		

**Test plot as follows:**

Mode:	BLE GFSK Transmitting	Channel:	2402
Remark:	PK		

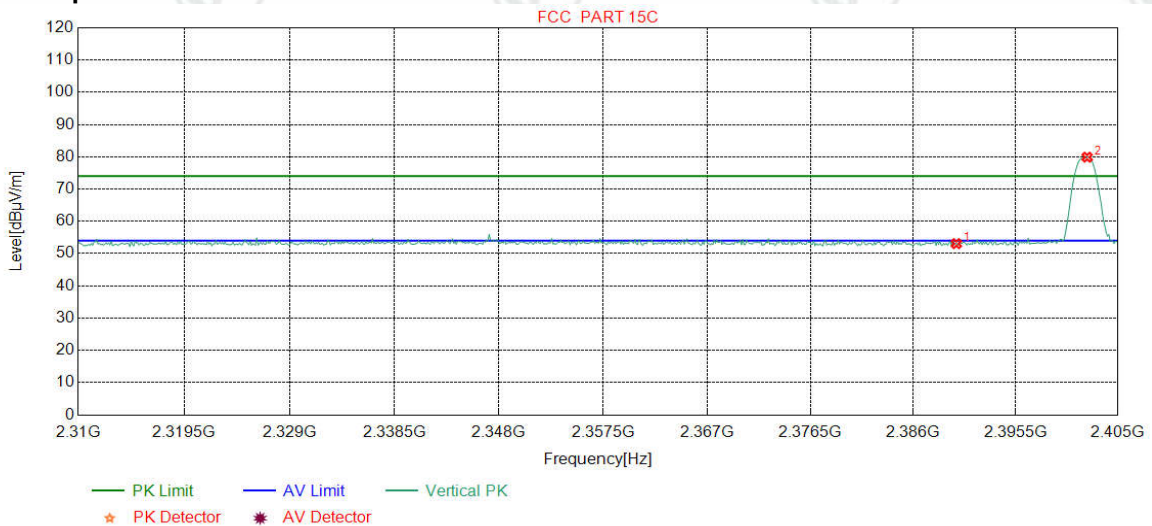
**Test Graph**



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	49.51	52.69	74.00	21.31	Pass	Horizontal
2	2402.1464	32.26	13.31	-42.43	77.18	80.32	74.00	-6.32	Pass	Horizontal

Mode:	BLE GFSK Transmitting	Channel:	2402
Remark:	PK		

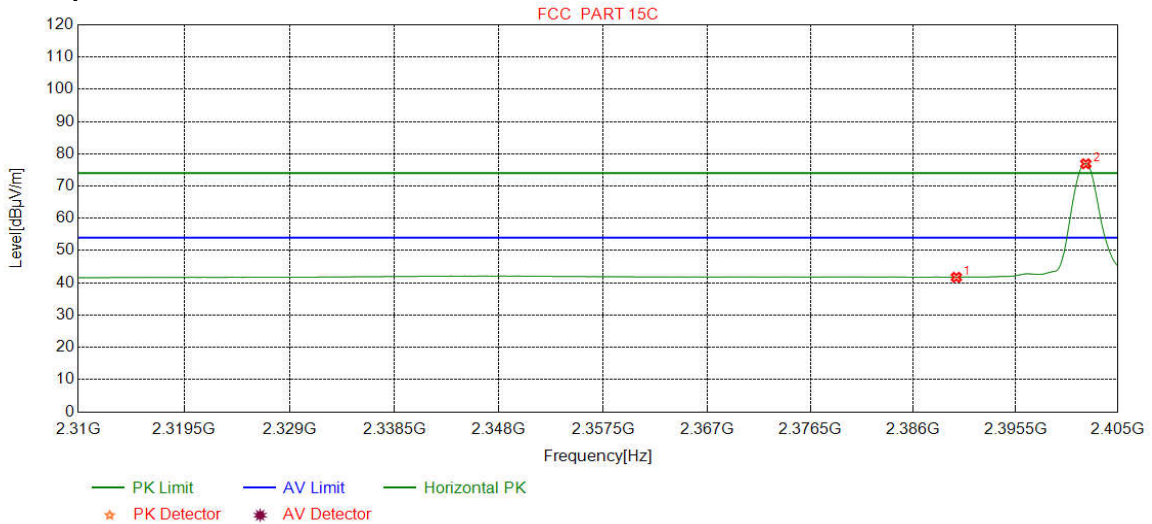
**Test Graph**



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	49.92	53.10	74.00	20.90	Pass	Vertical
2	2402.1464	32.26	13.31	-42.43	76.75	79.89	74.00	-5.89	Pass	Vertical

Mode:	BLE GFSK Transmitting	Channel:	2402
Remark:	AV		

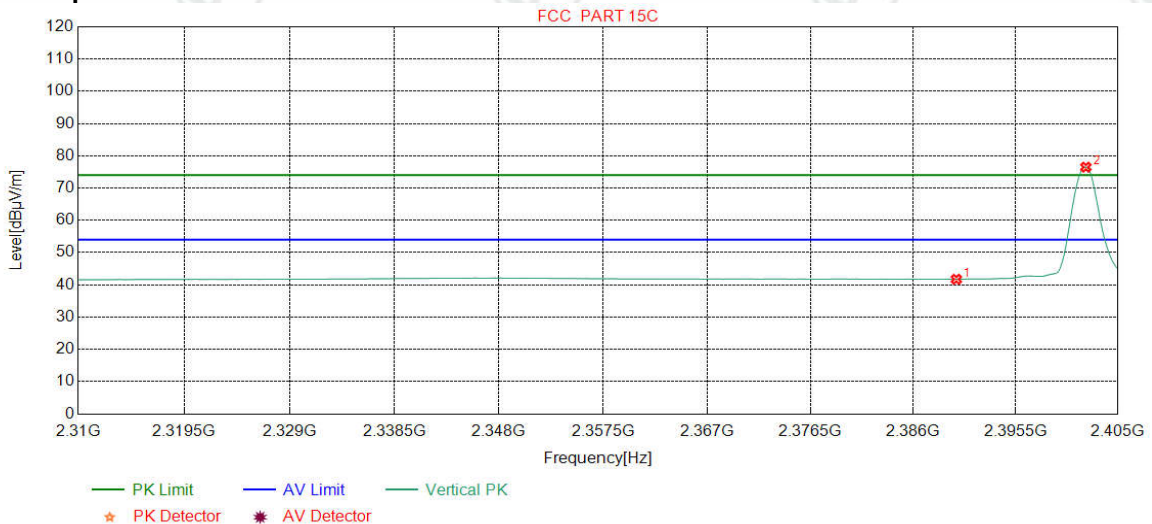
**Test Graph**



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	38.55	41.73	54.00	12.27	Pass	Horizontal
2	2402.0275	32.26	13.31	-42.43	73.77	76.91	54.00	-22.91	Pass	Horizontal

Mode:	BLE GFSK Transmitting	Channel:	2402
Remark:	AV		

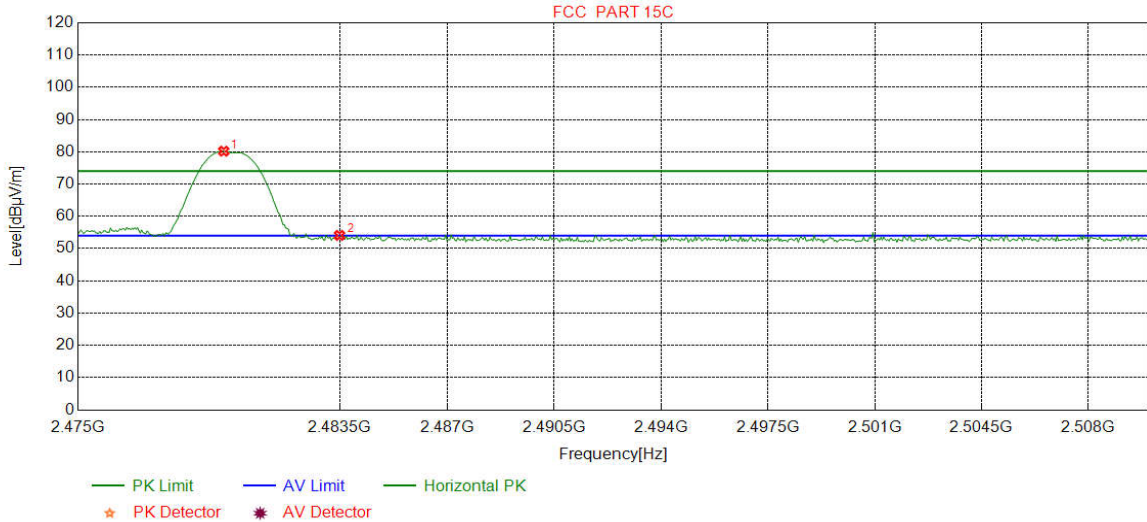
**Test Graph**



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2390.0000	32.25	13.37	-42.44	38.56	41.74	54.00	12.26	Pass	Vertical
2	2402.0275	32.26	13.31	-42.43	73.34	76.48	54.00	-22.48	Pass	Vertical

Mode:	BLE GFSK Transmitting	Channel:	2480
Remark:	PK		

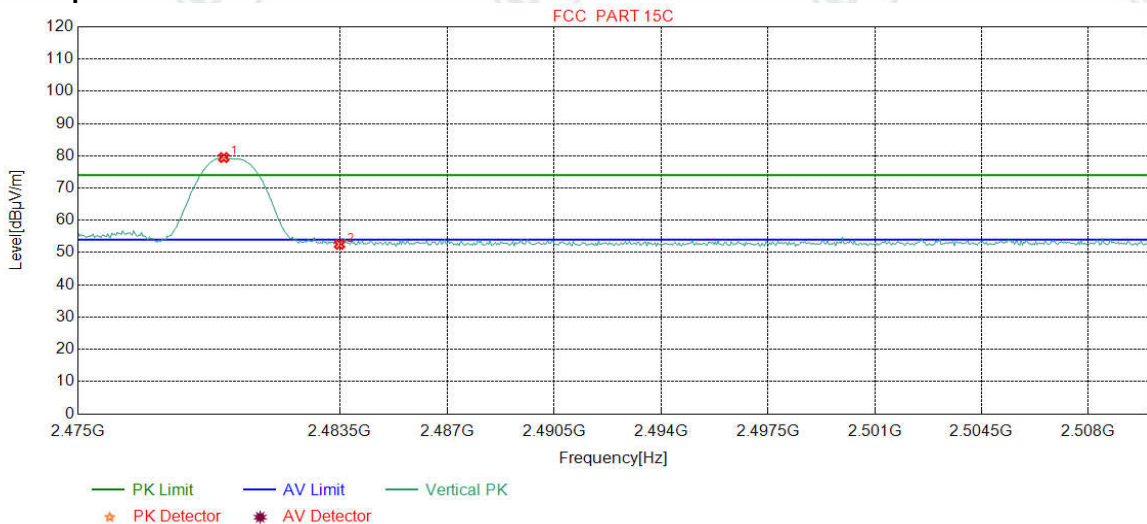
**Test Graph**



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2479.7309	32.37	13.39	-42.39	76.82	80.19	74.00	-6.19	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	50.73	54.09	74.00	19.91	Pass	Horizontal

Mode:	BLE GFSK Transmitting	Channel:	2480
Remark:	PK		

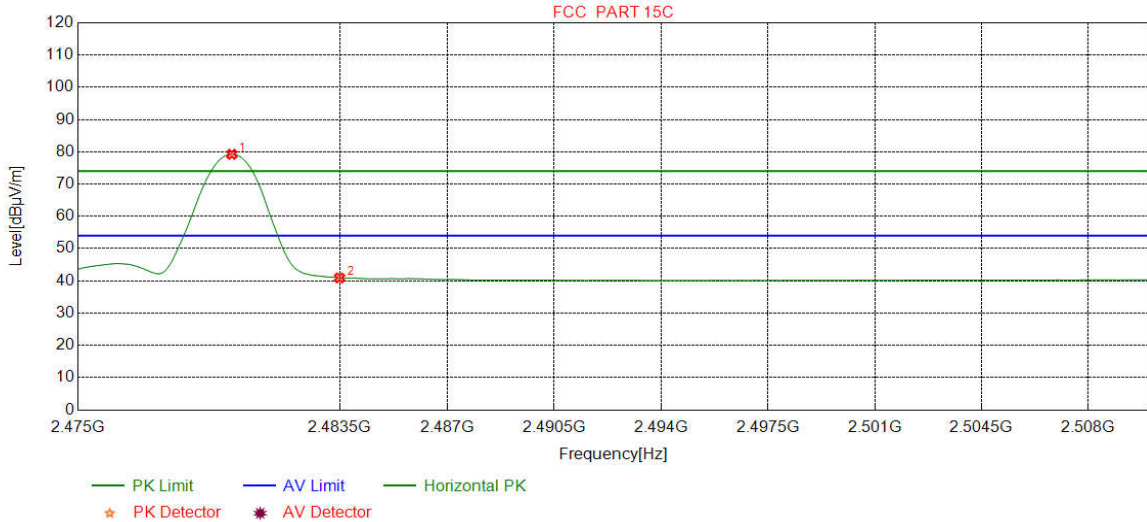
**Test Graph**



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2479.7309	32.37	13.39	-42.39	76.08	79.45	74.00	-5.45	Pass	Vertical
2	2483.5000	32.38	13.38	-42.40	49.20	52.56	74.00	21.44	Pass	Vertical

Mode:	BLE GFSK Transmitting	Channel:	2480
Remark:	AV		

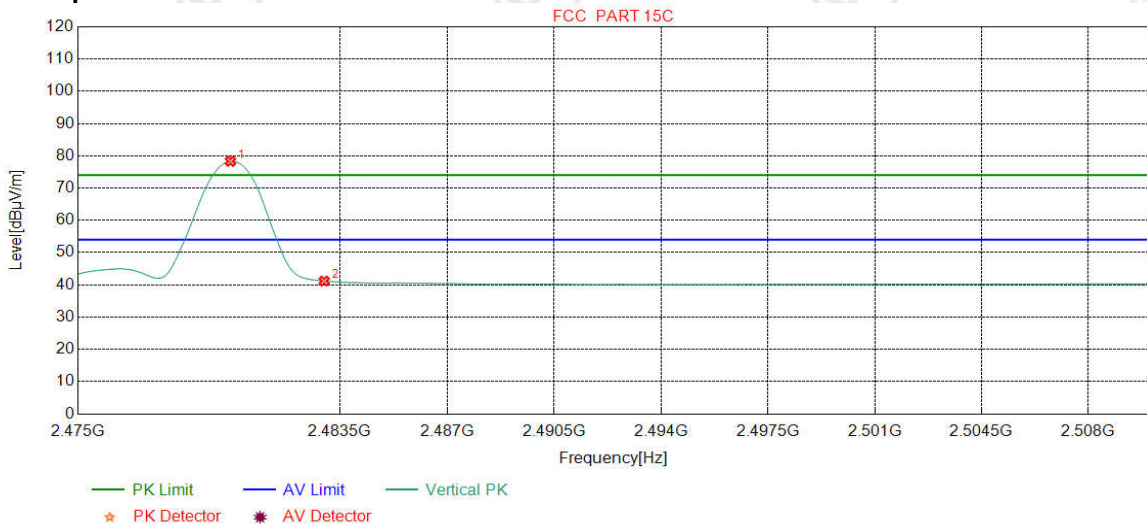
**Test Graph**



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2479.9937	32.37	13.39	-42.39	75.86	79.23	54.00	-25.23	Pass	Horizontal
2	2483.5000	32.38	13.38	-42.40	37.55	40.91	54.00	13.09	Pass	Horizontal

Mode:	BLE GFSK Transmitting	Channel:	2480
Remark:	AV		

**Test Graph**



NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBµV]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Result	Polarity
1	2479.9499	32.37	13.39	-42.39	74.92	78.29	54.00	-24.29	Pass	Vertical
2	2483.0000	32.38	13.38	-42.40	37.82	41.18	54.00	12.82	Pass	Vertical

Note:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor - Antenna Factor - Cable Factor

## Appendix H): Radiated Spurious Emissions

Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
Peak		1MHz	10Hz	Average	

**Test Procedure:**

**Below 1GHz test procedure as below:**

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

**Above 1GHz test procedure as below:**

- Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter (Above 18GHz the distance is 1 meter and table is 1.5 meter).
- Test the EUT in the lowest channel ,the middle channel ,the Highest channel
- The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.
- Repeat above procedures until all frequencies measured was complete.

Limit:	Frequency	Field strength (microvolt/meter)	Limit (dB $\mu$ V/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3

Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

<b>Test Ambient:</b>	Temp.: 22°C	Humid.: 57%	Press.: 101kPa
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### Radiated Spurious Emissions test Data: Radiated Emission below 1GHz

Mode:			BLE GFSK Transmitting				Channel:		2402	
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Magin [dB]	Result	Polarity
1	55.1255	12.38	0.84	-32.08	32.46	13.60	40.00	26.40	Pass	Horizontal
2	120.0250	9.20	1.30	-32.07	39.90	18.33	43.50	25.17	Pass	Horizontal
3	208.8859	11.13	1.71	-31.94	37.20	18.10	43.50	25.40	Pass	Horizontal
4	325.0065	13.75	2.14	-31.79	39.20	23.30	46.00	22.70	Pass	Horizontal
5	687.5318	19.70	3.14	-32.06	36.13	26.91	46.00	19.09	Pass	Horizontal
6	844.9785	21.44	3.50	-31.82	35.21	28.33	46.00	17.67	Pass	Horizontal
7	36.8877	11.30	0.68	-32.11	36.92	16.79	40.00	23.21	Pass	Vertical
8	54.4464	12.49	0.84	-32.09	37.40	18.64	40.00	21.36	Pass	Vertical
9	94.9965	10.20	1.12	-32.08	37.36	16.60	43.50	26.90	Pass	Vertical
10	208.8859	11.13	1.71	-31.94	46.10	27.00	43.50	16.50	Pass	Vertical
11	325.0065	13.75	2.14	-31.79	38.93	23.03	46.00	22.97	Pass	Vertical
12	649.9890	19.40	3.10	-32.07	37.60	28.03	46.00	17.97	Pass	Vertical

Mode:			BLE GFSK Transmitting				Channel:		2440	
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Magin [dB]	Result	Polarity
1	47.9468	13.20	0.78	-32.12	30.29	12.15	40.00	27.85	Pass	Horizontal
2	71.1321	8.78	0.96	-32.04	34.71	12.41	40.00	27.59	Pass	Horizontal
3	120.0250	9.20	1.30	-32.07	40.13	18.56	43.50	24.94	Pass	Horizontal
4	208.8859	11.13	1.71	-31.94	37.49	18.39	43.50	25.11	Pass	Horizontal
5	325.0065	13.75	2.14	-31.79	38.90	23.00	46.00	23.00	Pass	Horizontal
6	832.6583	21.29	3.48	-31.95	37.71	30.53	46.00	15.47	Pass	Horizontal
7	56.2896	12.19	0.86	-32.07	37.34	18.32	40.00	21.68	Pass	Vertical
8	94.9965	10.20	1.12	-32.08	38.96	18.20	43.50	25.30	Pass	Vertical
9	120.0250	9.20	1.30	-32.07	39.10	17.53	43.50	25.97	Pass	Vertical
10	208.8859	11.13	1.71	-31.94	46.16	27.06	43.50	16.44	Pass	Vertical
11	325.0065	13.75	2.14	-31.79	37.37	21.47	46.00	24.53	Pass	Vertical
12	649.9890	19.40	3.10	-32.07	38.36	28.79	46.00	17.21	Pass	Vertical



Mode:			BLE GFSK Transmitting				Channel:		2480	
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB $\mu$ V]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Magin [dB]	Result	Polarity
1	91.9892	9.72	1.11	-32.09	33.98	12.72	43.50	30.78	Pass	Horizontal
2	120.0250	9.20	1.30	-32.07	39.31	17.74	43.50	25.76	Pass	Horizontal
3	208.8859	11.13	1.71	-31.94	37.13	18.03	43.50	25.47	Pass	Horizontal
4	325.0065	13.75	2.14	-31.79	36.44	20.54	46.00	25.46	Pass	Horizontal
5	600.0290	19.00	2.96	-31.99	36.71	26.68	46.00	19.32	Pass	Horizontal
6	948.9729	22.39	3.72	-31.15	33.06	28.02	46.00	17.98	Pass	Horizontal
7	55.0285	12.40	0.84	-32.08	37.84	19.00	40.00	21.00	Pass	Vertical
8	120.0250	9.20	1.30	-32.07	38.96	17.39	43.50	26.11	Pass	Vertical
9	208.8859	11.13	1.71	-31.94	46.18	27.08	43.50	16.42	Pass	Vertical
10	289.9860	13.00	2.03	-31.88	36.64	19.79	46.00	26.21	Pass	Vertical
11	625.0575	19.20	2.97	-31.98	35.94	26.13	46.00	19.87	Pass	Vertical
12	897.9458	22.08	3.60	-31.60	39.21	33.29	46.00	12.71	Pass	Vertical

**Transmitter Emission above 1GHz**

Mode:			BLE GFSK Transmitting				Channel:		2402		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1299.0299	28.20	2.75	-42.79	51.70	39.86	74.00	34.14	Pass	H	PK
2	2402.1402	32.26	3.92	-42.43	51.71	45.46	74.00	28.54	Pass	H	PK
3	4805.8204	34.50	4.56	-40.66	49.81	48.21	74.00	25.79	Pass	H	PK
4	7187.5792	36.29	5.79	-41.04	47.17	48.21	74.00	25.79	Pass	H	PK
5	9608.0000	37.64	6.63	-40.76	44.59	48.10	74.00	25.90	Pass	H	PK
6	12010.0000	39.31	7.60	-41.21	44.51	50.21	74.00	23.79	Pass	H	PK
7	1410.6411	28.31	2.91	-42.68	51.16	39.70	74.00	34.30	Pass	V	PK
8	2401.7402	32.26	3.92	-42.43	51.77	45.52	74.00	28.48	Pass	V	PK
9	4960.0000	34.50	4.82	-40.53	45.81	44.60	74.00	29.40	Pass	V	PK
10	7434.5956	36.53	5.85	-40.82	47.58	49.14	74.00	24.86	Pass	V	PK
11	9920.0000	37.77	6.79	-40.48	43.17	47.25	74.00	26.75	Pass	V	PK
12	12400.0000	39.54	7.86	-41.12	44.66	50.94	74.00	23.06	Pass	V	PK

Mode:			BLE GFSK Transmitting				Channel:		2440		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dBμV]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Result	Polarity	Remark
1	1684.0684	29.61	3.18	-42.69	50.79	40.89	74.00	33.11	Pass	H	PK
2	2709.5710	32.74	4.13	-42.29	50.77	45.35	74.00	28.65	Pass	H	PK
3	4881.8755	34.50	4.81	-40.60	49.67	48.38	74.00	25.62	Pass	H	PK
4	7320.0000	36.42	5.85	-40.92	43.82	45.17	74.00	28.83	Pass	H	PK
5	9760.0000	37.70	6.73	-40.62	42.45	46.26	74.00	27.74	Pass	H	PK
6	12200.0000	39.42	7.67	-41.17	44.93	50.85	74.00	23.15	Pass	H	PK
7	1423.0423	28.32	2.92	-42.67	51.73	40.30	74.00	33.70	Pass	V	PK
8	2378.5379	32.23	3.89	-42.44	50.96	44.64	74.00	29.36	Pass	V	PK
9	4881.8755	34.50	4.81	-40.60	50.49	49.20	74.00	24.80	Pass	V	PK
10	7320.0000	36.42	5.85	-40.92	44.16	45.51	74.00	28.49	Pass	V	PK
11	9760.0000	37.70	6.73	-40.62	42.72	46.53	74.00	27.47	Pass	V	PK
12	12200.0000	39.42	7.67	-41.17	44.14	50.06	74.00	23.94	Pass	V	PK

Mode:			BLE GFSK Transmitting				Channel:		2480		
NO	Freq. [MHz]	Ant Factor [dB]	Cable loss [dB]	Pream gain [dB]	Reading [dB $\mu$ V]	Level [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Result	Polarity	Remark
1	1932.0932	31.25	3.42	-42.64	51.02	43.05	74.00	30.95	Pass	H	PK
2	2677.5678	32.68	4.11	-42.29	51.35	45.85	74.00	28.15	Pass	H	PK
3	4957.9305	34.50	4.82	-40.53	51.37	50.16	74.00	23.84	Pass	H	PK
4	7440.0000	36.54	5.85	-40.82	44.34	45.91	74.00	28.09	Pass	H	PK
5	9920.0000	37.77	6.79	-40.48	43.78	47.86	74.00	26.14	Pass	H	PK
6	12400.0000	39.54	7.86	-41.12	44.57	50.85	74.00	23.15	Pass	H	PK
7	1725.0725	29.89	3.22	-42.68	51.16	41.59	74.00	32.41	Pass	V	PK
8	2788.3788	32.86	4.22	-42.23	50.78	45.63	74.00	28.37	Pass	V	PK
9	4957.2805	34.50	4.82	-40.54	49.63	48.41	74.00	25.59	Pass	V	PK
10	7440.0000	36.54	5.85	-40.82	43.90	45.47	74.00	28.53	Pass	V	PK
11	9920.0000	37.77	6.79	-40.48	43.58	47.66	74.00	26.34	Pass	V	PK
12	12392.4762	39.54	7.83	-41.13	47.04	53.28	74.00	20.72	Pass	V	PK

**Note:**

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading - Correct Factor

Correct Factor = Preamplifier Factor - Antenna Factor - Cable Factor

2) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.