FCC RF Test Report

APPLICANT	:	**Satco Products Inc.**
EQUIPMENT	:	**Smart Control Panel-5 inch**
MODEL NAME	:	**S11575**
FCC ID	:	**2BNMQ-S11575**
STANDARD	:	**FCC Part 15 Subpart C §15.247**
CLASSIFICATION	:	**(DTS) Digital Transmission System**
TEST DATE(S)	:	**Mar. 23, 2024 ~ Apr. 15, 2024**

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia

ACCREDITED Cert #5145.02

Sporton International Inc. (Kunshan)
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR372501-03E	Rev. 01	Initial issue of report	Apr. 21, 2025

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.1	-	99% Bandwidth	-	Report only	-
3.2	15.247(b)(3)	Peak Output Power	≤ 30dBm	Pass	-
3.3	15.247(e)	Power Spectral Density	≤ 8dBm/3kHz	Pass	-
3.4	15.247(d)	Conducted Band Edges and Spurious Emission	≤ 20dBc	Pass	-
3.5	15.247(d)	Radiated Band Edges and Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 2.29 dB at 324.880 MHz for Quasi-peak
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 6.27 dB at 0.532 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	15.203 & 15.247(b)	Pass	-

Note: This is a change FCC ID report. Since no changes have been made to this device, therefore, all test cases were leveraged from original report (FCC ID: 2A789-TPP05, report number FR372501-01).

Conformity Assessment Condition:
1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account. 2. The measurement uncertainty please refer to each test result in the section “Measurement Uncertainty”
Disclaimer:
The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

1 General Description

1.1 Applicant

Satco Products Inc.
110 Heartland Blvd. Brentwood, NY 11717, USA

1.2 Manufacturer

Satco Products Inc.
110 Heartland Blvd. Brentwood, NY 11717, USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Smart Control Panel-5 inch
Model Name	S11575
FCC ID	2BNMQ-S11575

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Frequency Range	2402 MHz ~ 2480 MHz
Number of Channels	40
Carrier Frequency of Each Channel	40 Channel(37 hopping + 3 advertising channel)
Maximum Output Power to Antenna	BLE 1Mbps: 7.56 dBm (0.0057 W) BLE 2Mbps: 7.83 dBm (0.0061 W)
99% Occupied Bandwidth	BLE 1Mbps:1.020MHz BLE 2Mbps:2.040MHz
Antenna Type / Gain	IPEX Antenna with gain -2.07 dBi
Type of Modulation	Bluetooth LE : GFSK

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	CO01-KS 03CH07-KS TH01-KS	CN1257	314309

1.7 Test Software

Item	Site	Manufacturer	Name	Version
1.	TH01-KS	SPORTON	FCC 15C-15E Test Tools Ver10.0_210607	10.0
2.	03CH07-KS	AUDIX	E3	210616
3.	CO01-KS	AUDIX	E3	6.2009-8-24

1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 15 Subpart C §15.247
- FCC KDB 558074 D01 15.247 Meas Guidance v05r02
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	0	2402	21	2444
	1	2404	22	2446
	2	2406	23	2448
	3	2408	24	2450
	4	2410	25	2452
	5	2412	26	2454
	6	2414	27	2456
	7	2416	28	2458
	8	2418	29	2460
	9	2420	30	2462
	10	2422	31	2464
	11	2424	32	2466
	12	2426	33	2468
	13	2428	34	2470
	14	2430	35	2472
	15	2432	36	2474
	16	2434	37	2476
	17	2436	38	2478
	18	2438	39	2480
	19	2440	-	-
	20	2442	-	-

2.2 Test Mode

a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

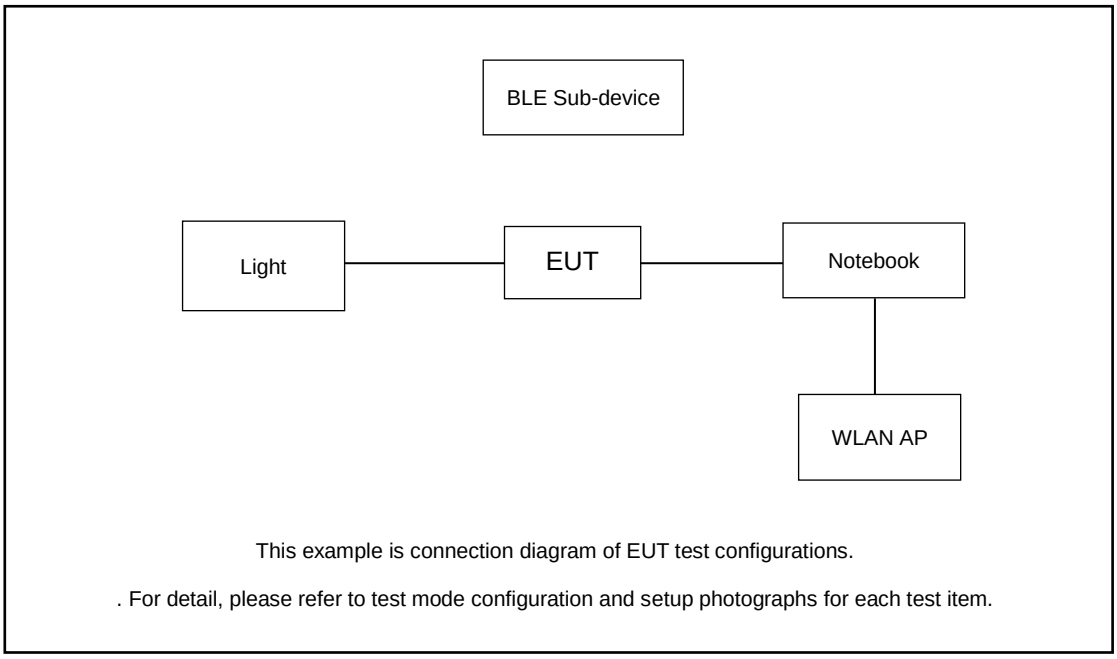
b. AC power line Conducted Emission was tested under maximum output power.

The following summary table is showing all test modes to demonstrate in compliance with the standard.

Summary table of Test Cases	
Test Item	**Data Rate / Modulation**
	Bluetooth – LE / GFSK
Conducted TCs	Mode 1: Bluetooth Tx CH00_2402 MHz_BLE 1Mbps Mode 2: Bluetooth Tx CH19_2440 MHz_BLE 1Mbps Mode 3: Bluetooth Tx CH39_2480 MHz_BLE 1Mbps Mode 4: Bluetooth Tx CH00_2402 MHz_BLE 1Mbps Mode 5: Bluetooth Tx CH19_2440 MHz_BLE 1Mbps Mode 6: Bluetooth Tx CH39_2480 MHz_BLE 1Mbps
Radiated TCs	Mode 1: Bluetooth Tx CH00_2402 MHz_BLE 1Mbps Mode 2: Bluetooth Tx CH19_2440 MHz_BLE 1Mbps Mode 3: Bluetooth Tx CH39_2480 MHz_BLE 1Mbps Mode 4: Bluetooth Tx CH00_2402 MHz_BLE 1Mbps Mode 5: Bluetooth Tx CH19_2440 MHz_BLE 1Mbps Mode 6: Bluetooth Tx CH39_2480 MHz_BLE 1Mbps
AC Conducted Emission	Mode 1: BT Link + WLAN Link(2.4G) + L1+L2 light link + RS485 Link + AC Power

2.3 Connection Diagram of Test System

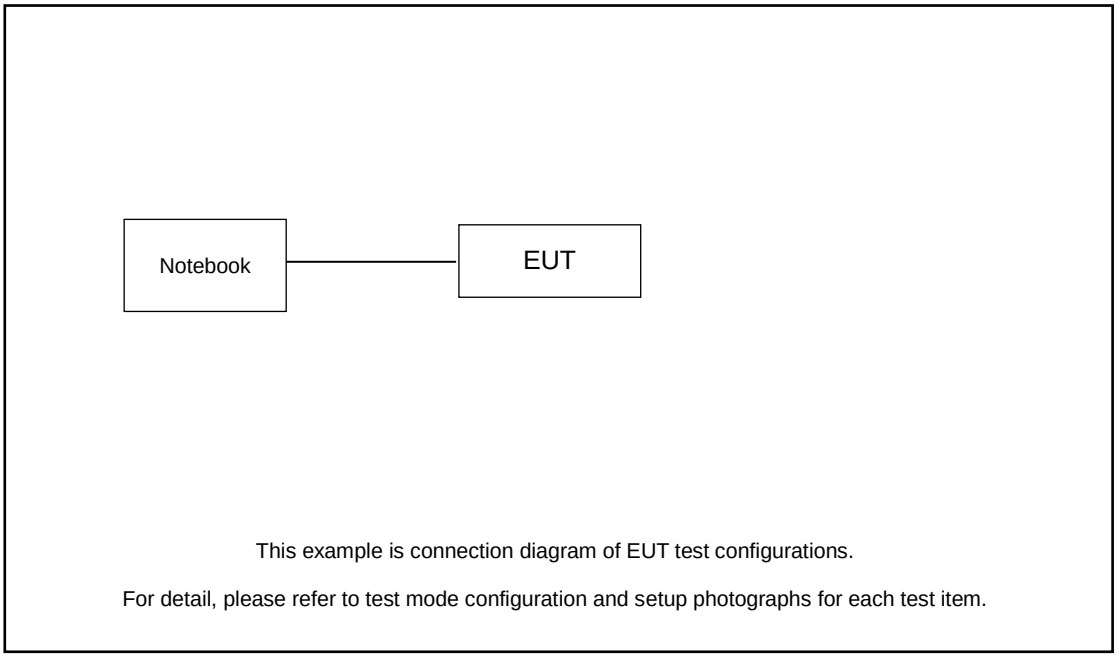
Conducted Emission:



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

Radiated Emission:



This example is connection diagram of EUT test configurations.

For detail, please refer to test mode configuration and setup photographs for each test item.

2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded,1.8m
2.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	Shielded cable DC O/P 1.8m, Unshielded AC I/P cable 1.8m
3.	Light	N/A	N/A	N/A	N/A	N/A
4.	AC Power	N/A	N/A	N/A	N/A	N/A
5.	BLE Sub-device	N/A	N/A	N/A	N/A	N/A

2.5 EUT Operation Test Setup

For BLE function, the engineering test program was provided and enabled to make EUT continuous transmit.

For AC power line conducted emissions, the EUT was set to connect with the BLE Sub-device under large package sizes transmission.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 5.80 dB

Offset(dB) = RF cable loss(dB)

= 5.80(dB)

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

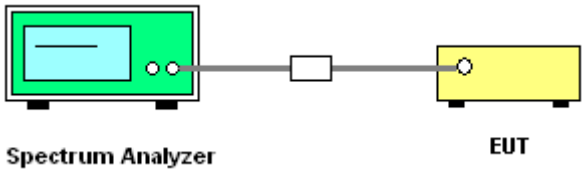
3.1.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.1.3 Test Procedures

1. The testing follows ANSI C63.10-2013 clause 11.8
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1% to 5% of the 99% OBW and the VBW is set to 3 times of the RBW.
6. Measure and record the results in the test report.

3.1.4 Test Setup

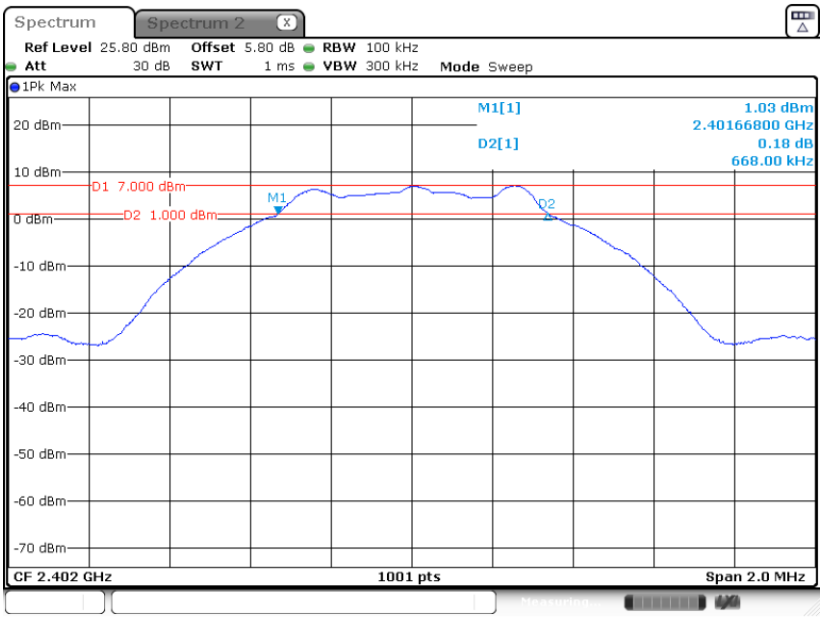


3.1.5 Test Result of 6dB Bandwidth

Please refer to Appendix A.

BLE 1Mbps

6 dB Bandwidth Plot on Channel 00



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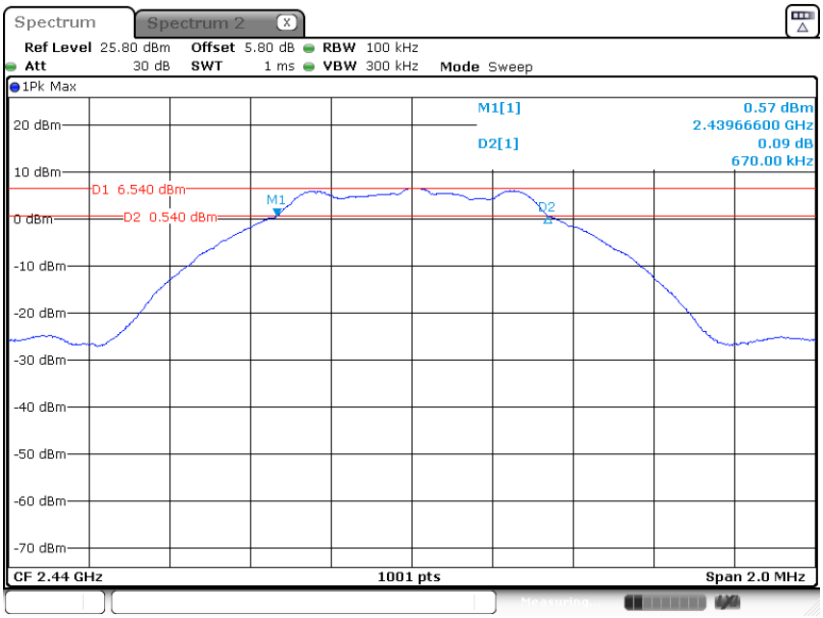
6 dB Bandwidth Plot on Channel 19



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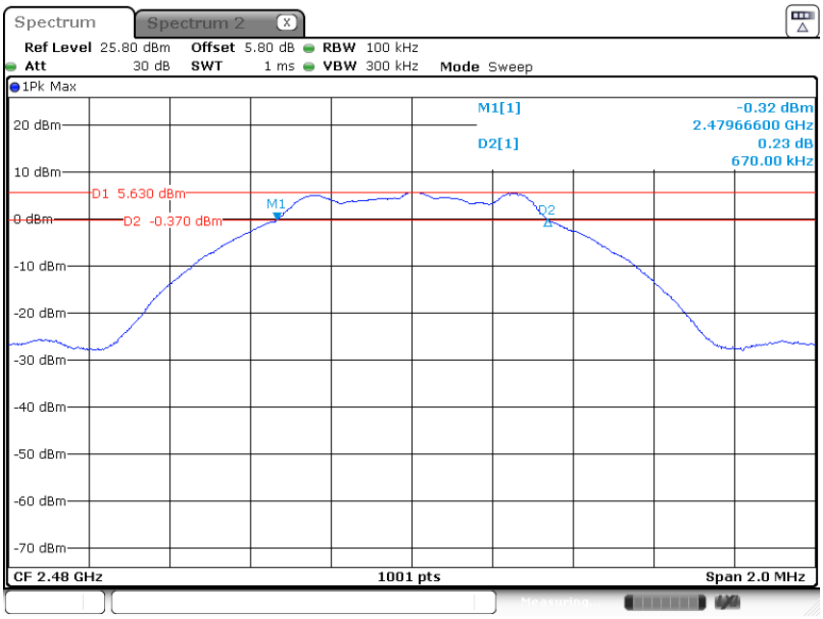
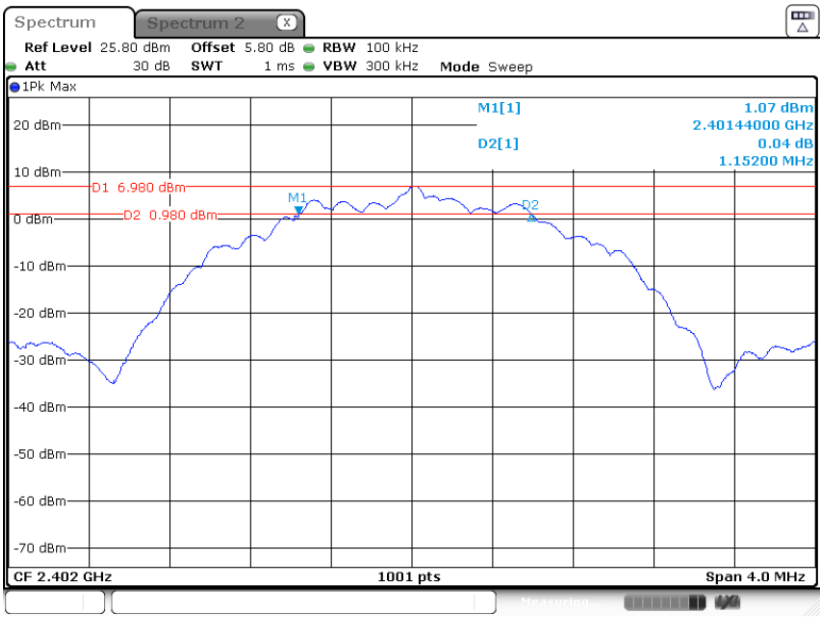
6 dB Bandwidth Plot on Channel 39



Date: 23.MAR.2024 04:42:20

BLE 2Mbps

6 dB Bandwidth Plot on Channel 00



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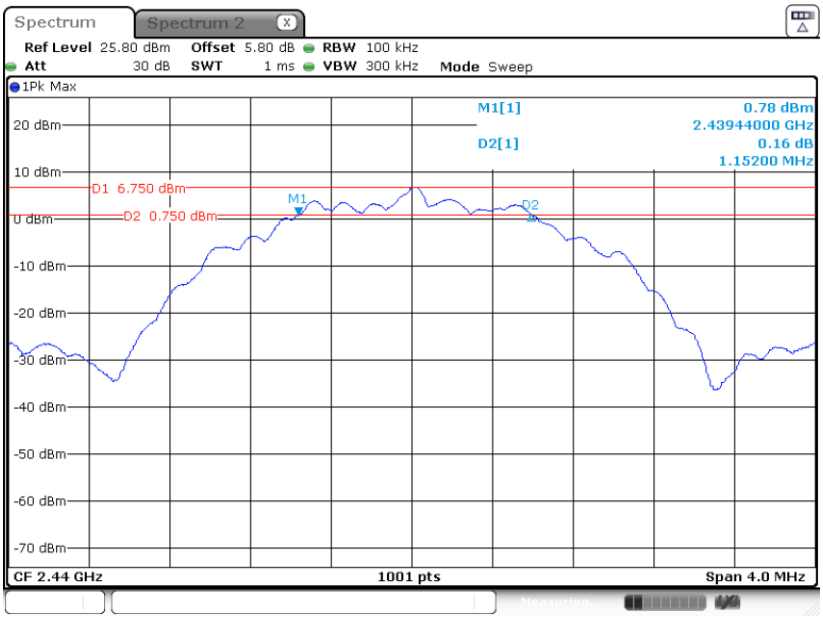
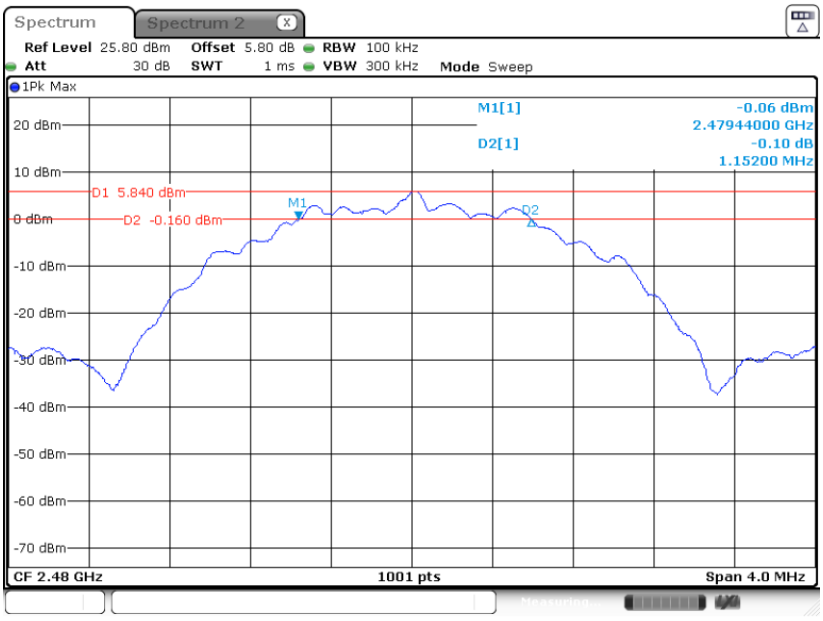
6 dB Bandwidth Plot on Channel 19



6 dB Bandwidth Plot on Channel 39

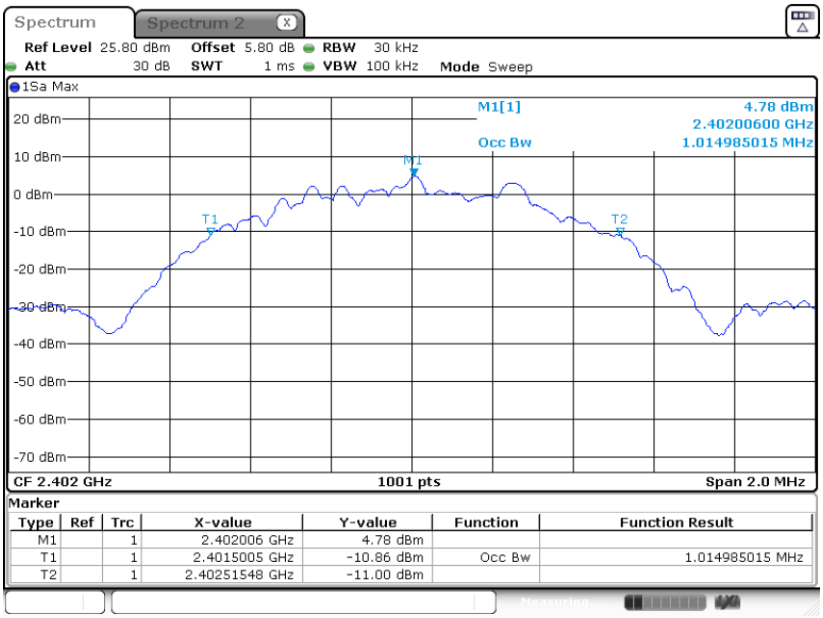


3.1.6 Test Result of 99% Occupied Bandwidth

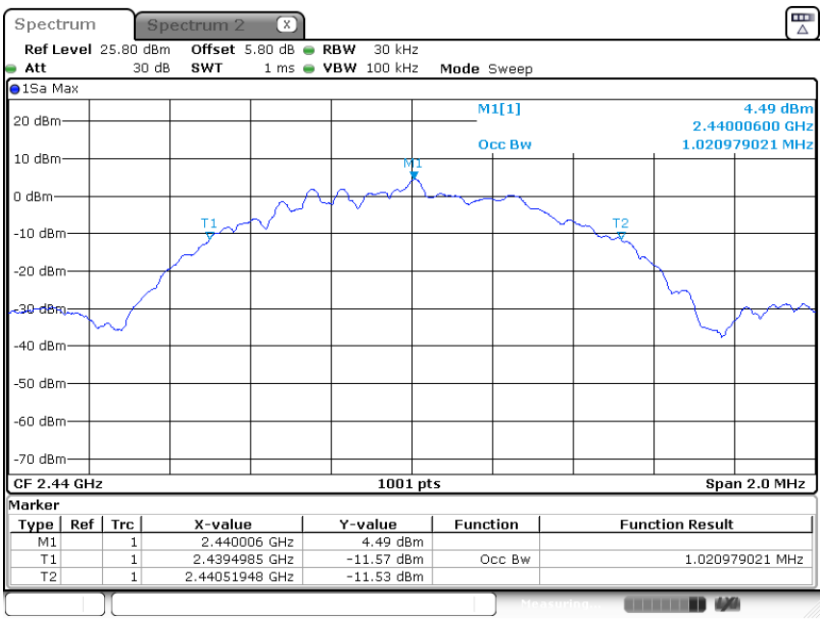
Please refer to Appendix A.

BLE 1Mbps

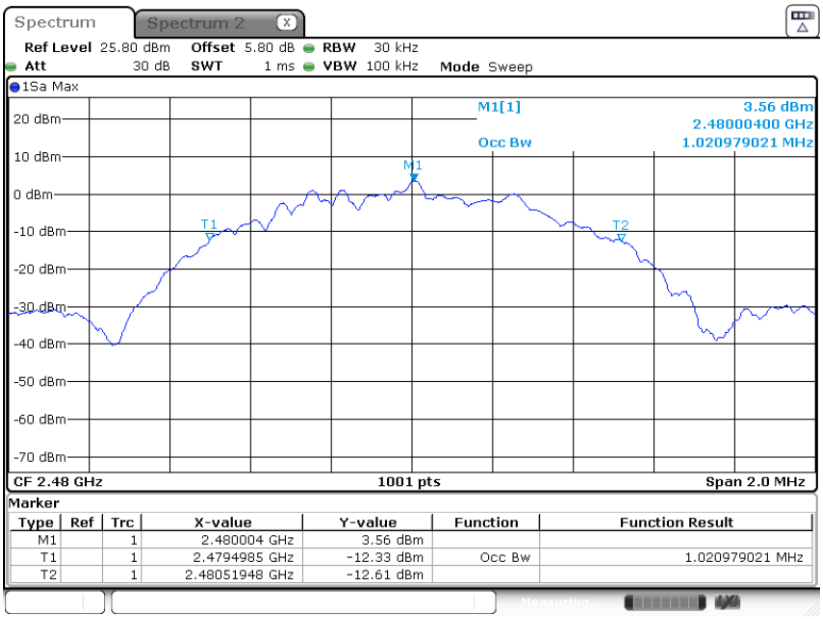
99% Occupied Bandwidth Plot on Channel 00



99% Occupied Bandwidth Plot on Channel 19



99% Occupied Bandwidth Plot on Channel 39



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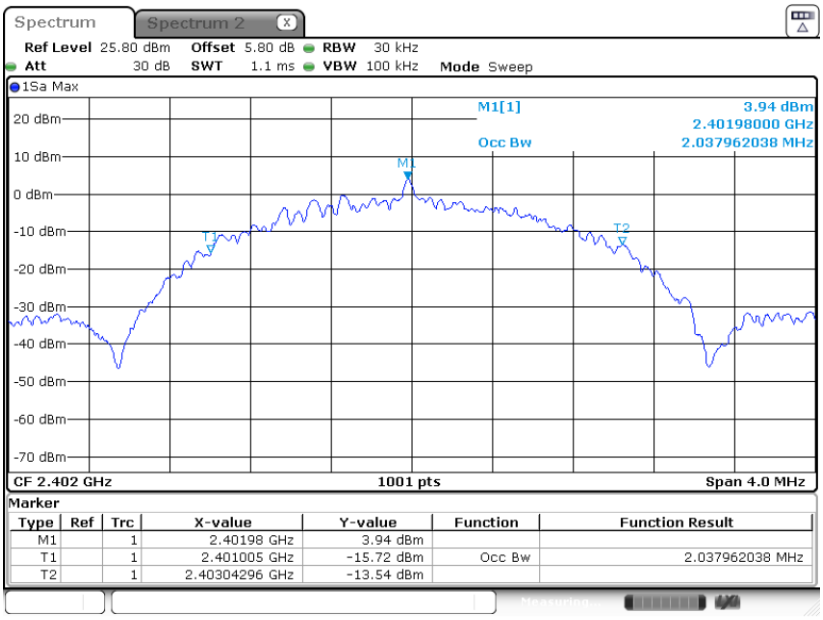
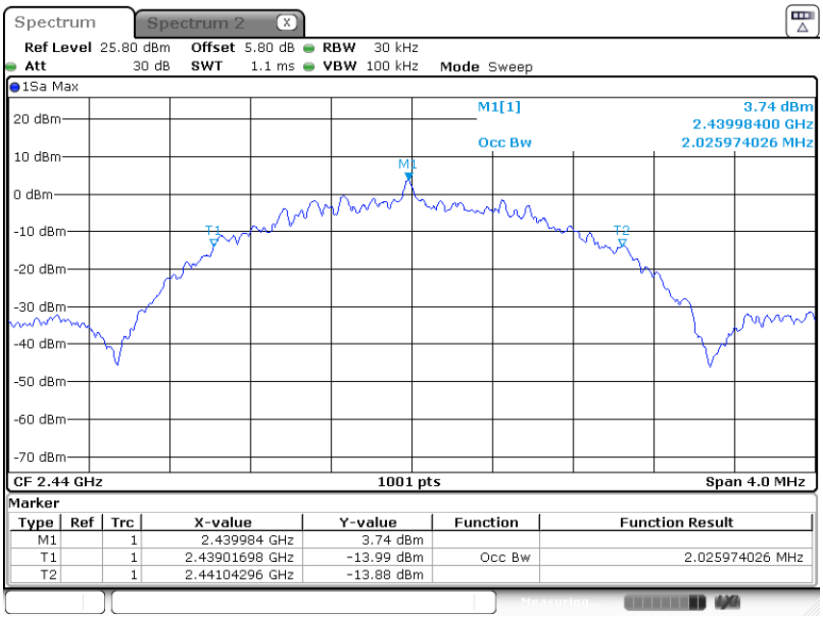
BLE 2Mbps

99% Occupied Bandwidth Plot on Channel 00



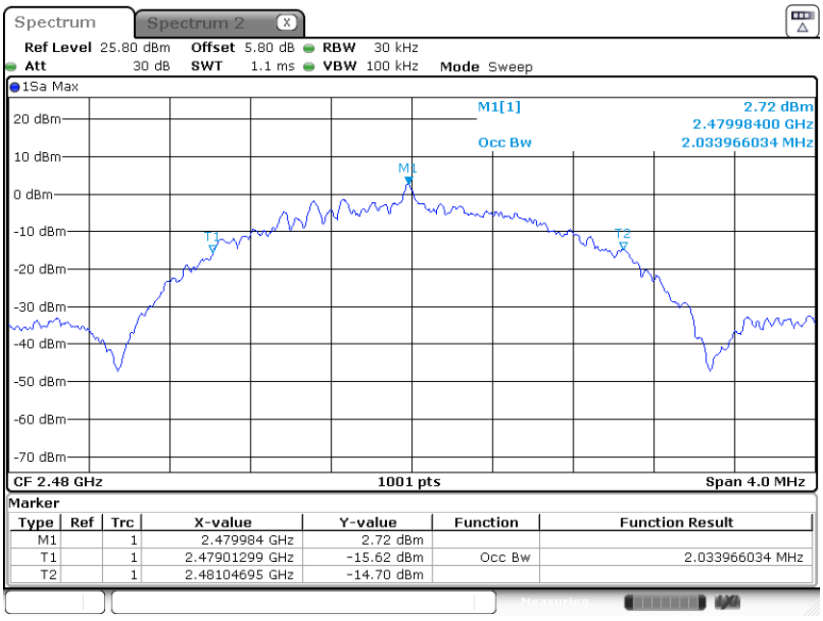
Date: 23.MAR.2024 04:48:37

99% Occupied Bandwidth Plot on Channel 19



Date: 23.MAR.2024 05:27:48

99% Occupied Bandwidth Plot on Channel 39



Date: 23.MAR.2024 05:32:16

Note : The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna of directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

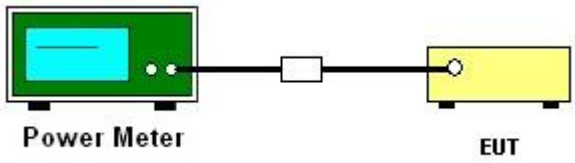
3.2.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of ANSI C63.10-2013 clause 11.9.1.3 PKPM1 Peak power meter or ANSI C63.10-2013 clause 11.9.2.3.1 Method AVGPM method.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Please refer to Appendix A.

3.2.6 Test Result of Average Output Power (Reporting Only)

Please refer to Appendix A.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

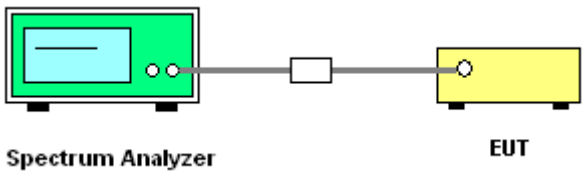
3.3.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure of ANSI C63.10-2013 clause 11.10.2 Method PKPSD.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. The Measured power density (dBm)/ 100kHz is a reference level and used as 20dBc down limit line for Conducted Band Edges and Conducted Spurious Emission.

3.3.4 Test Setup



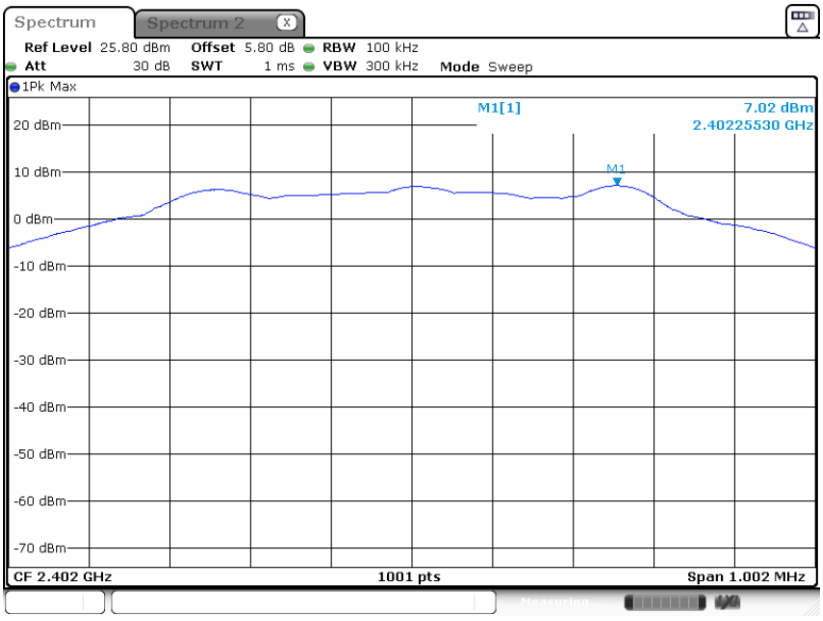
3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

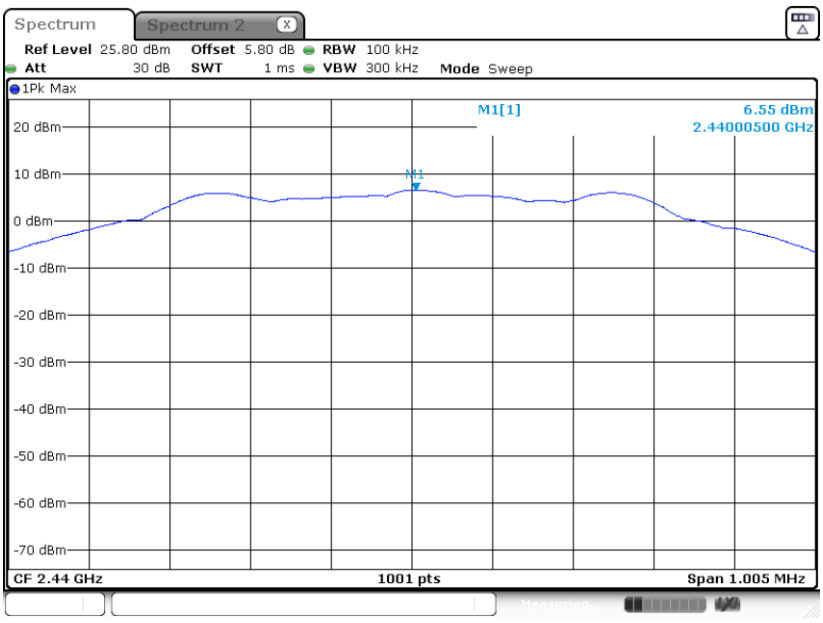
3.3.6 Test Result of Power Spectral Density Plots (100kHz)

BLE 1Mbps

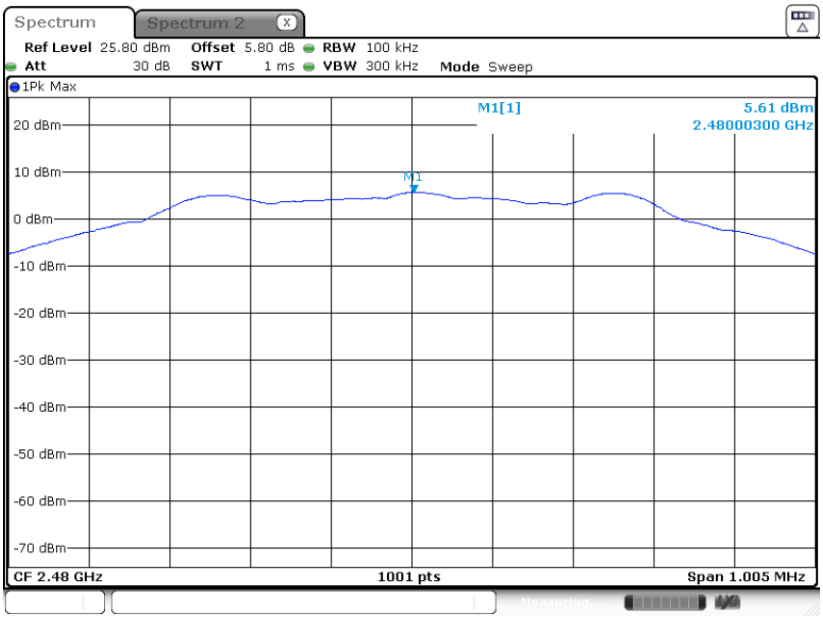
PSD 100kHz Plot on Channel 00



PSD 100kHz Plot on Channel 19

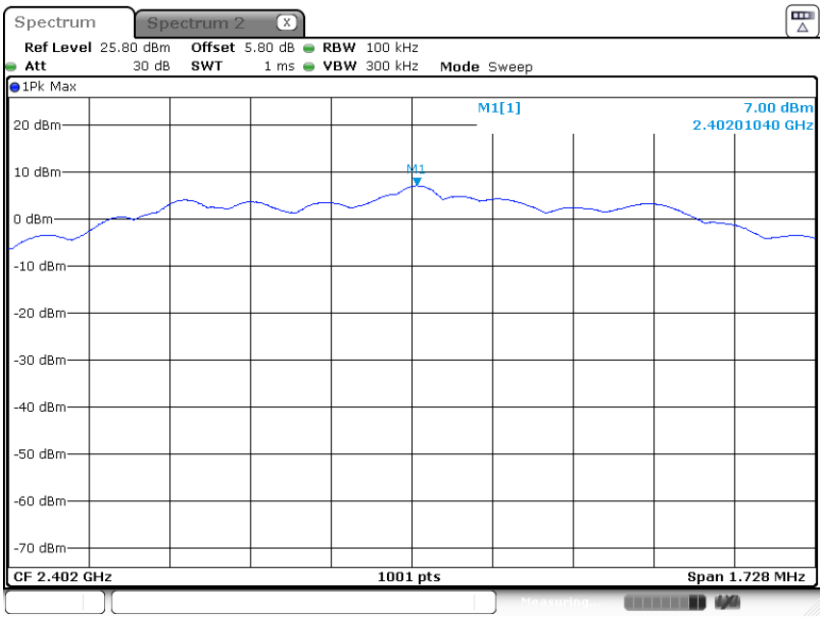


PSD 100kHz Plot on Channel 39

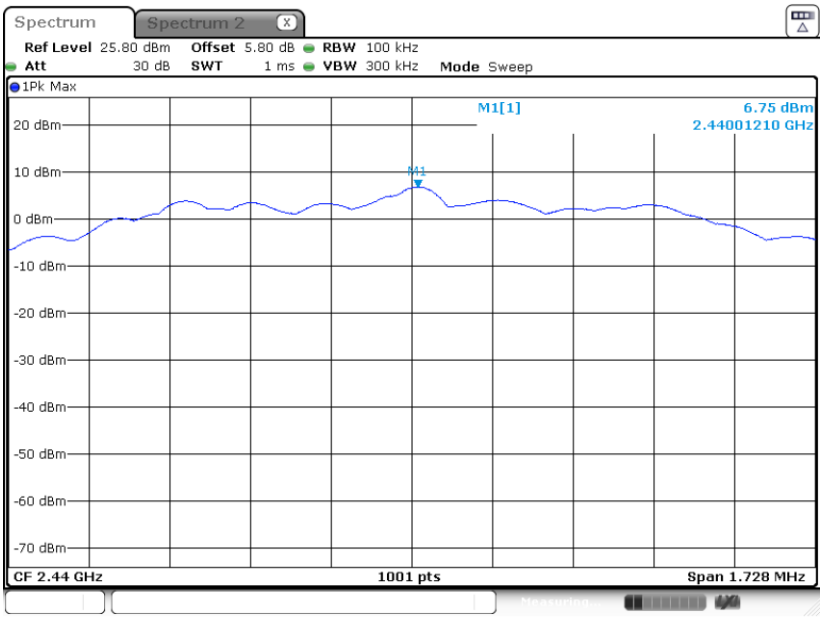


BLE 2Mbps

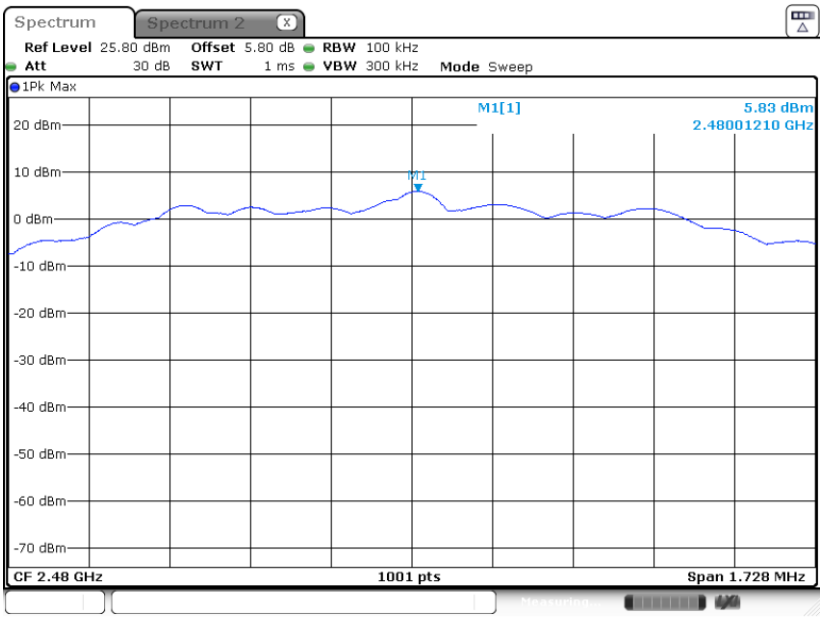
PSD 100kHz Plot on Channel 00



PSD 100kHz Plot on Channel 19



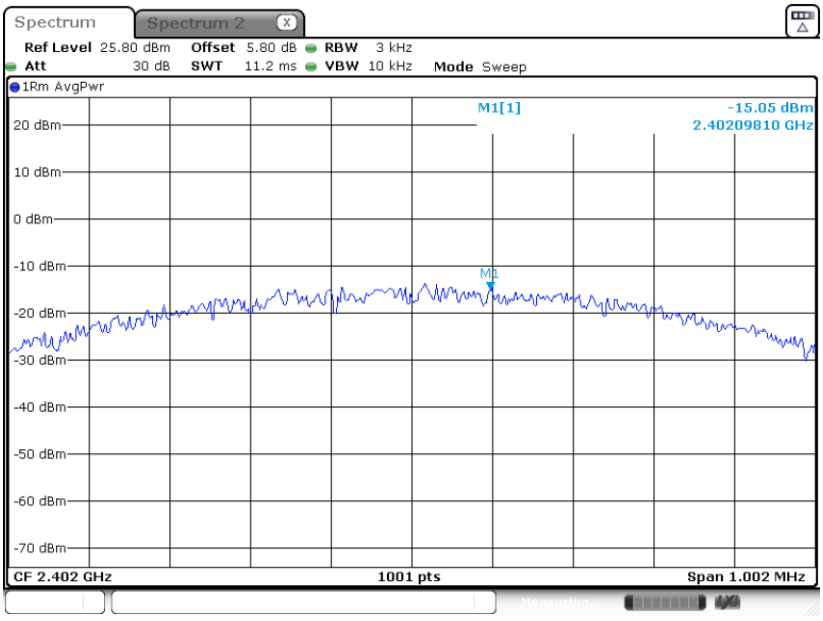
PSD 100kHz Plot on Channel 39



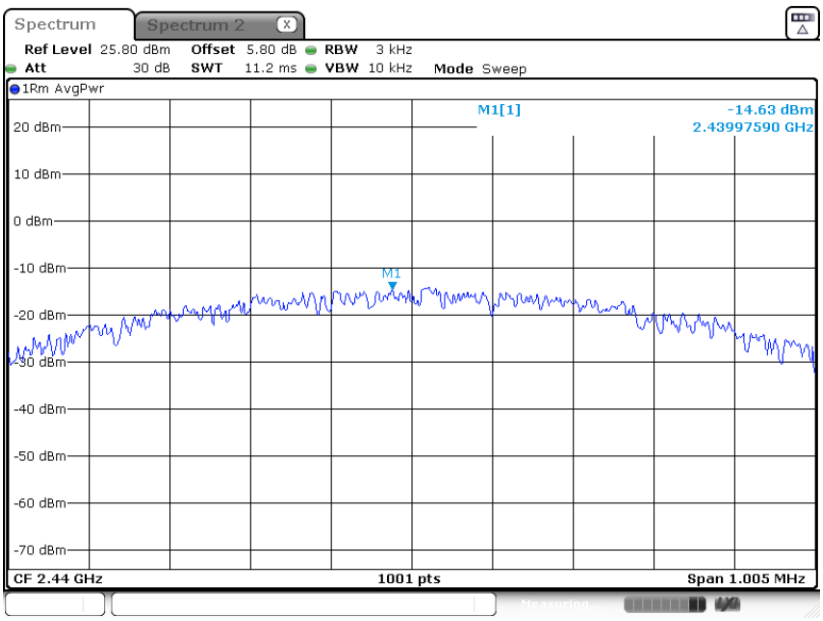
3.3.7 Test Result of Power Spectral Density Plots (3kHz)

BLE 1Mbps

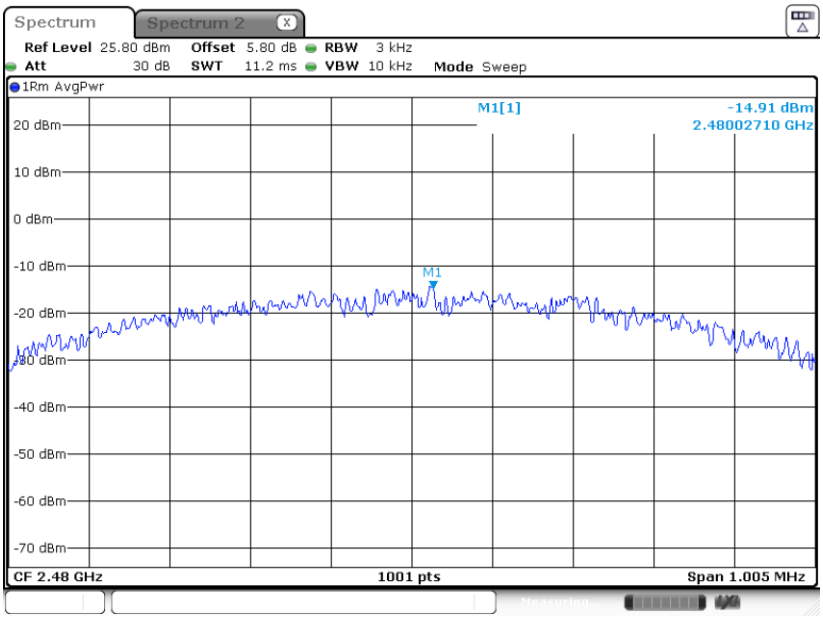
PSD 3kHz Plot on Channel 00



PSD 3kHz Plot on Channel 19

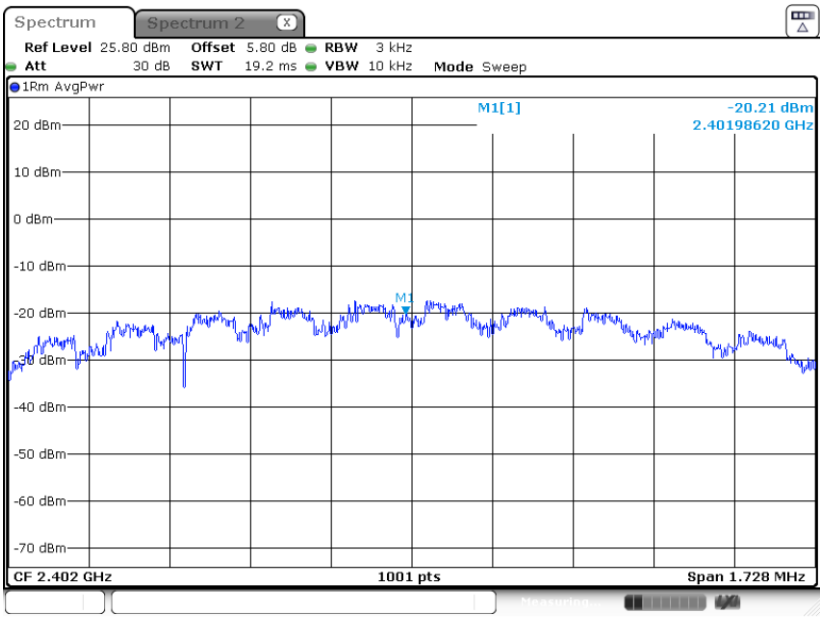


PSD 3kHz Plot on Channel 39

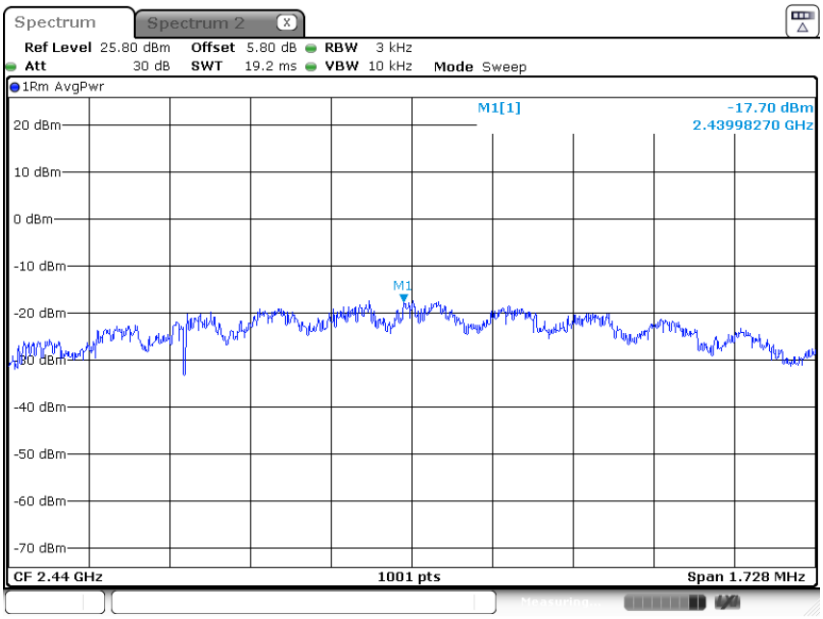


BLE 2Mbps

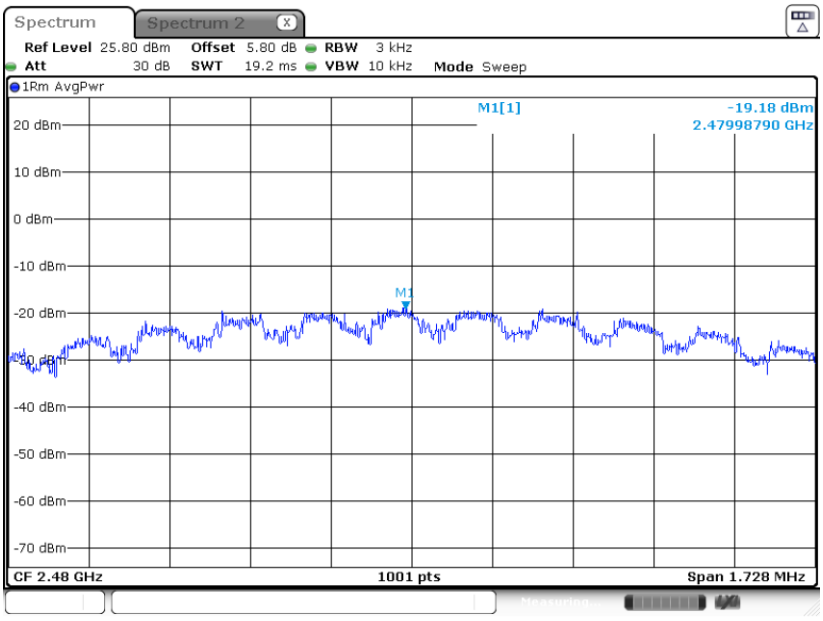
PSD 3kHz Plot on Channel 00



PSD 3kHz Plot on Channel 19



PSD 3kHz Plot on Channel 39



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission

All harmonics/spurious must be at least 20 dB down from the highest emission level within the authorized band.

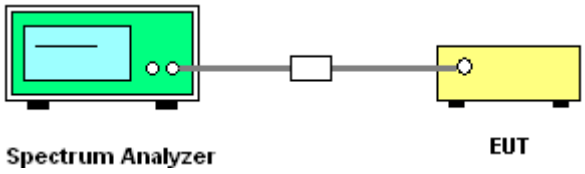
3.4.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.4.3 Test Procedure

1. The testing follows ANSI C63.10-2013 clause 11.13
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

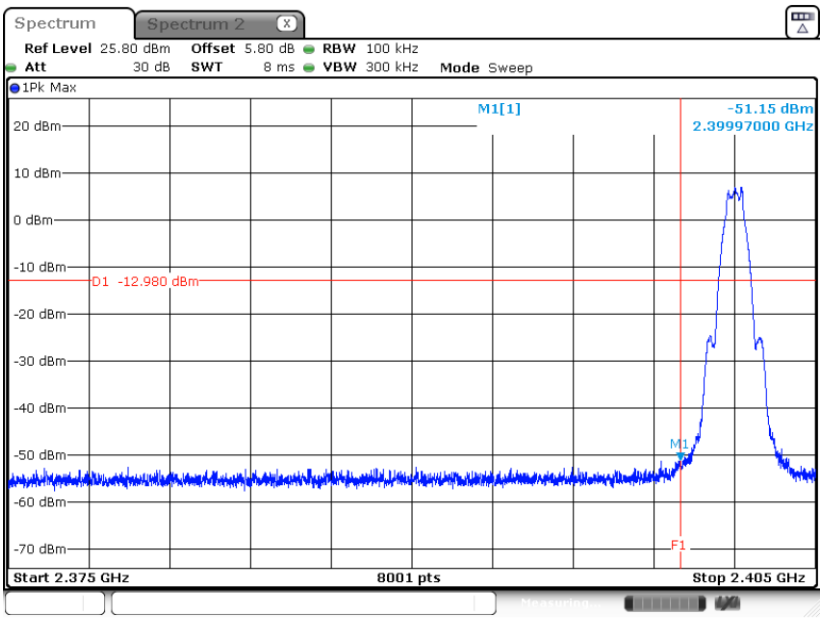
3.4.4 Test Setup



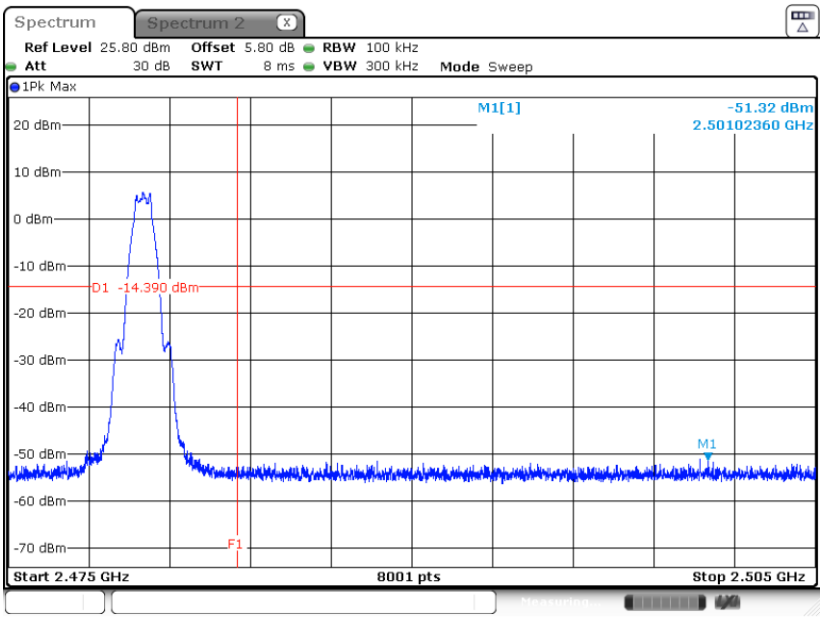
3.4.5 Test Result of Conducted Band Edges Plots

BLE 1Mbps

Low Band Edge Plot on Channel 00

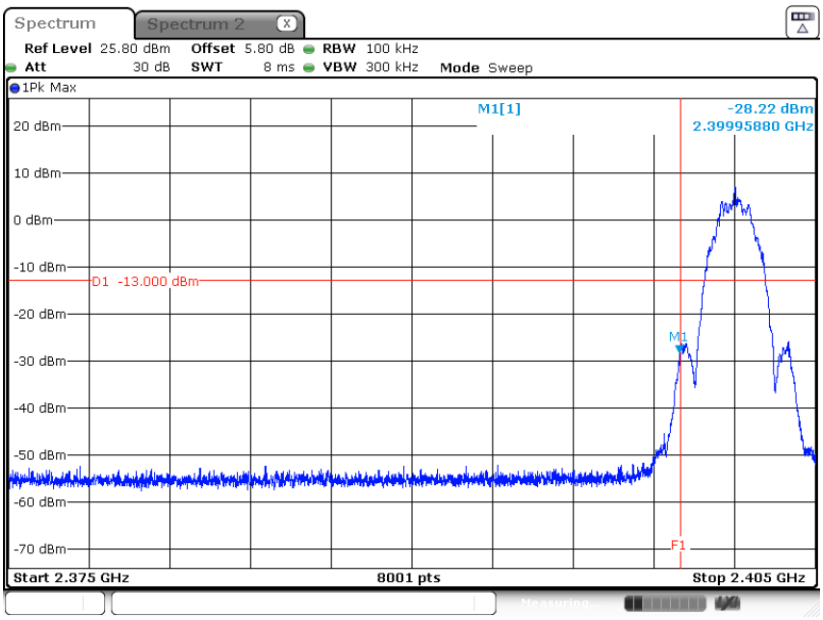


High Band Edge Plot on Channel 39

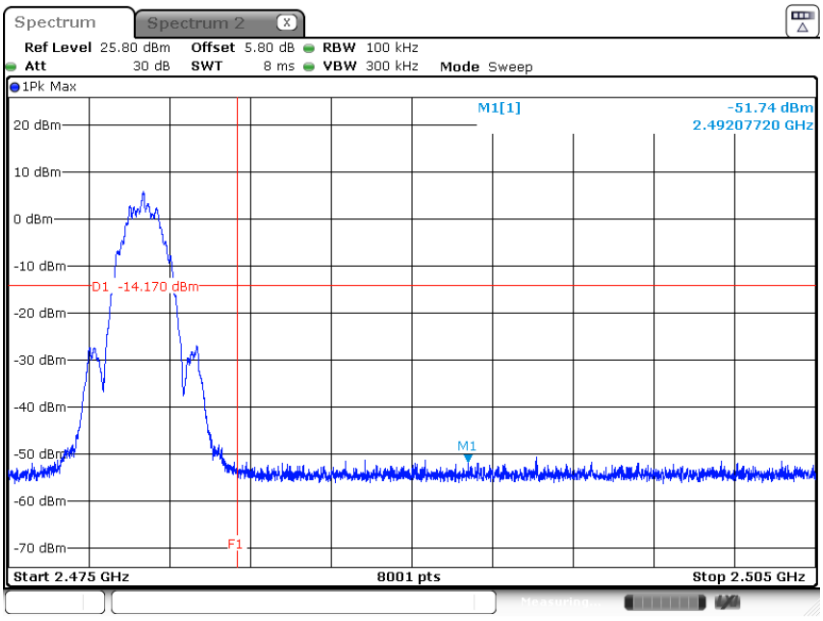


BLE 2Mbps

Low Band Edge Plot on Channel 00



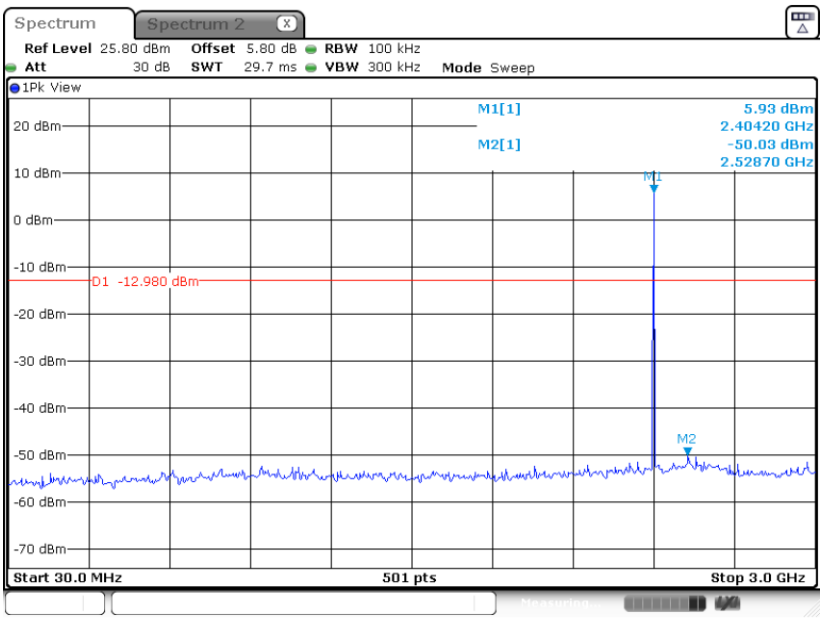
High Band Edge Plot on Channel 39



3.4.6 Test Result of Conducted Spurious Emission Plots

Conducted Spurious Emission Plot on Bluetooth LE 1Mbps

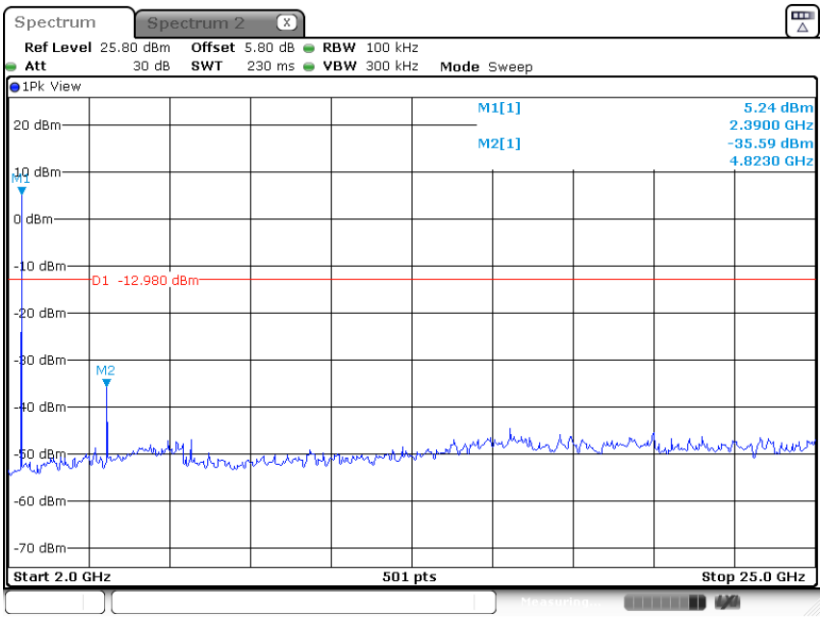
GFSK Channel 00



Date: 23.MAR.2024 04:35:10

Conducted Spurious Emission Plot on Bluetooth LE 1Mbps

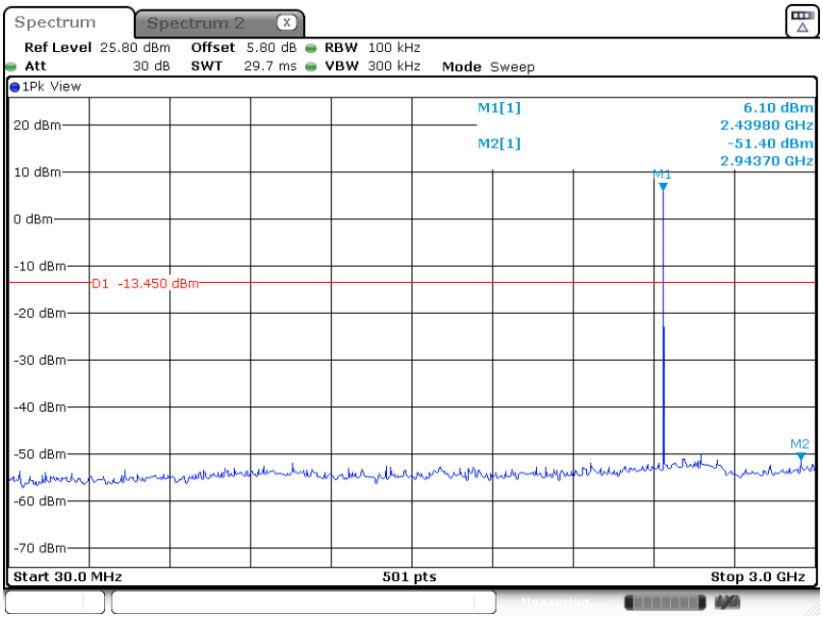
GFSK Channel 00



Date: 23.MAR.2024 04:35:30

Conducted Spurious Emission Plot on Bluetooth LE 1Mbps

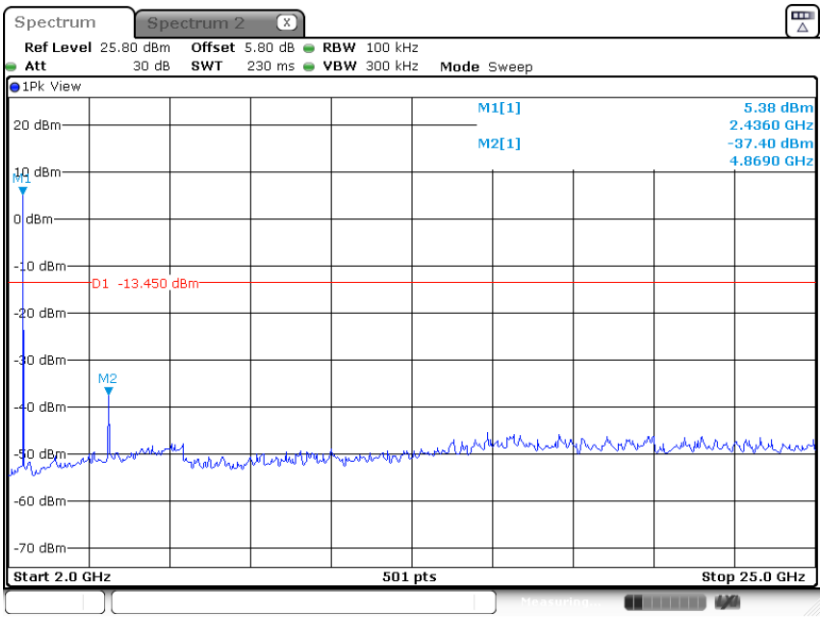
GFSK Channel 19



Date: 23.MAR.2024 04:38:07

Conducted Spurious Emission Plot on Bluetooth LE 1Mbps

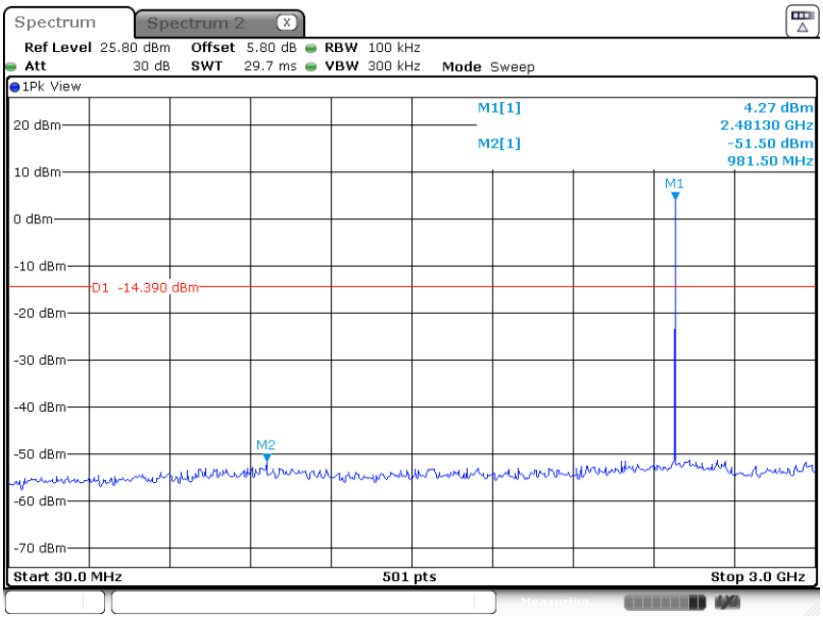
GFSK Channel 19



Date: 23.MAR.2024 04:38:27

Conducted Spurious Emission Plot on Bluetooth LE 1Mbps

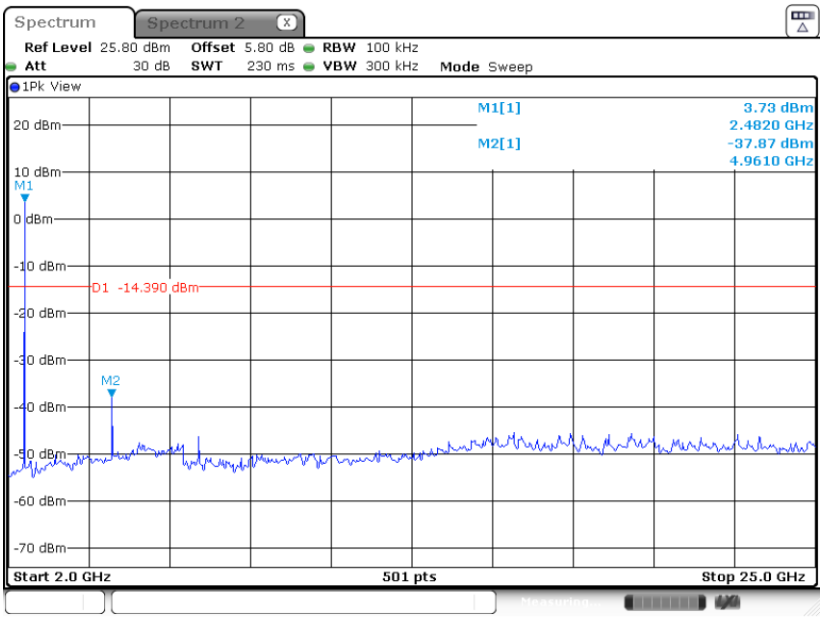
GFSK Channel 39



Date: 23.MAR.2024 04:43:38

Conducted Spurious Emission Plot on Bluetooth LE 1Mbps

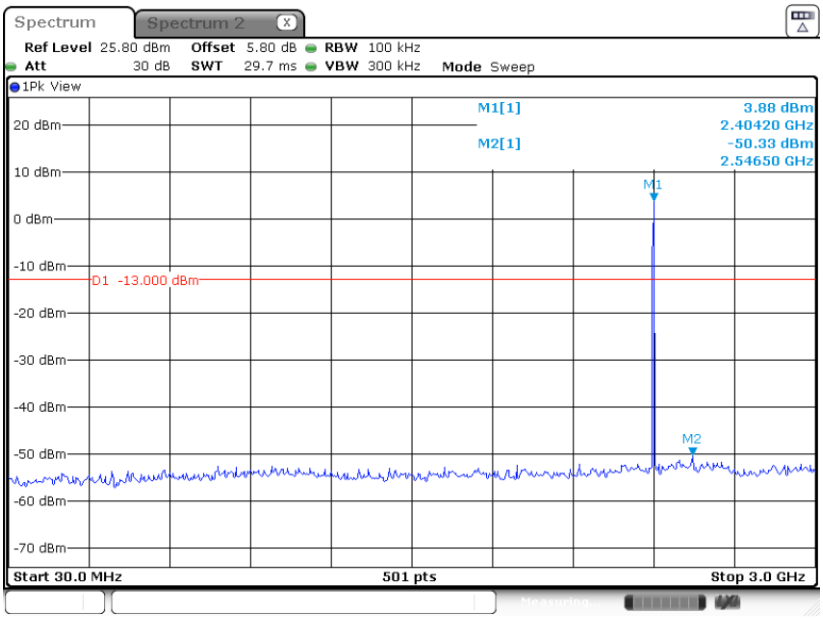
GFSK Channel 39



Date: 23.MAR.2024 04:43:58

Conducted Spurious Emission Plot on Bluetooth LE 2Mbps

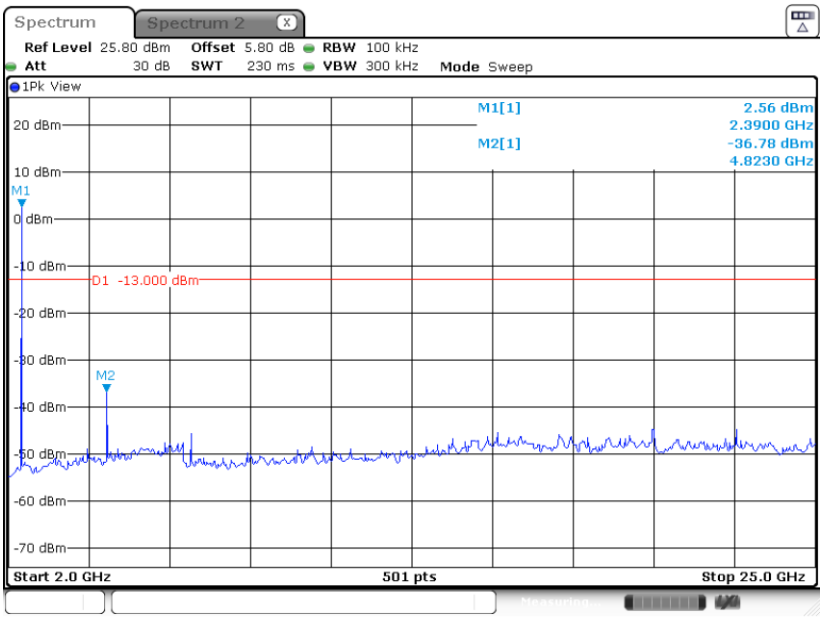
GFSK Channel 00



Date: 23.MAR.2024 04:48:08

Conducted Spurious Emission Plot on Bluetooth LE 2Mbps

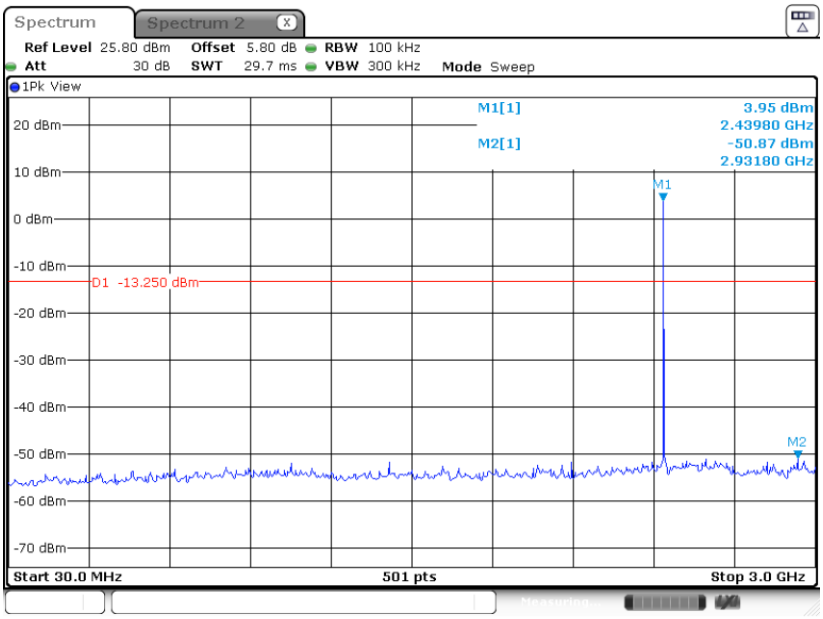
GFSK Channel 00



Date: 23.MAR.2024 04:48:28

Conducted Spurious Emission Plot on Bluetooth LE 2Mbps

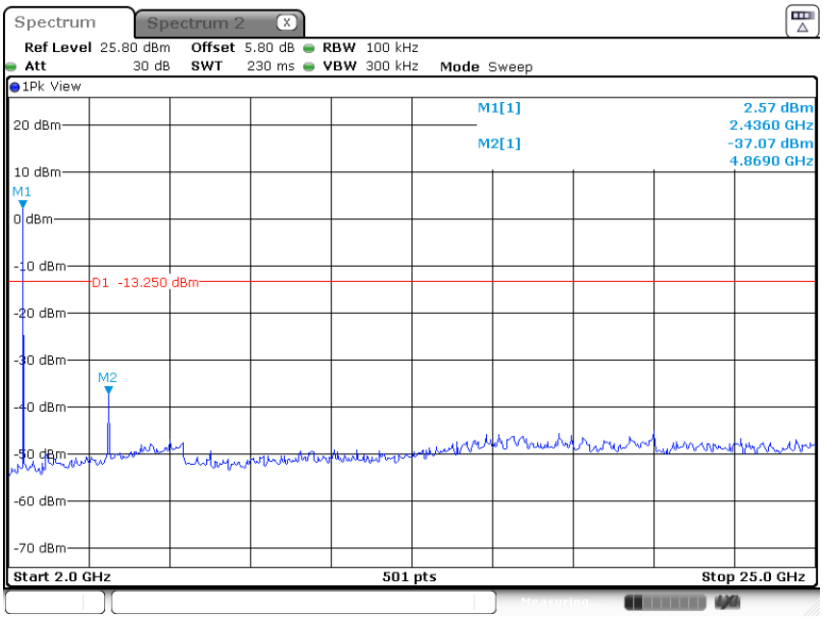
GFSK Channel 19



Date: 23.MAR.2024 05:27:19

Conducted Spurious Emission Plot on Bluetooth LE 2Mbps

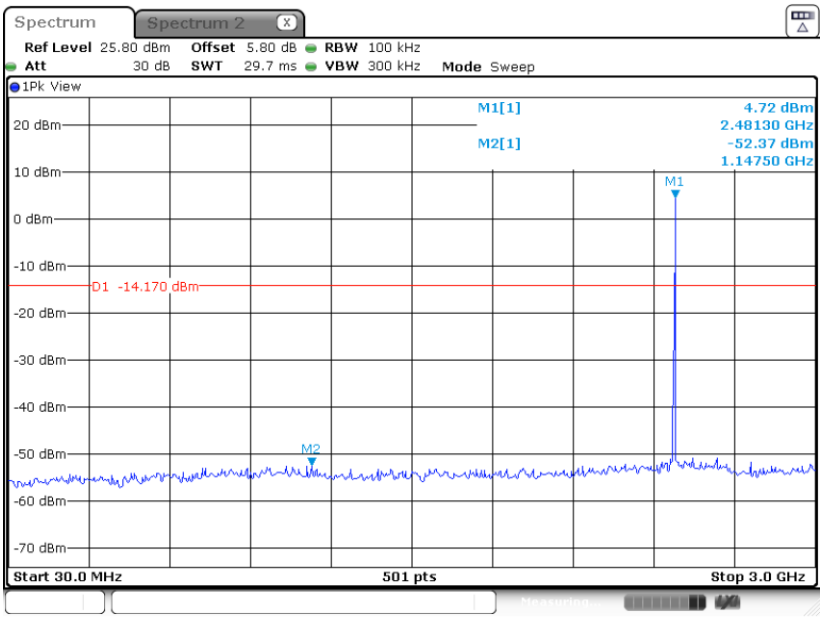
GFSK Channel 19



Date: 23.MAR.2024 05:27:39

Conducted Spurious Emission Plot on Bluetooth LE 2Mbps

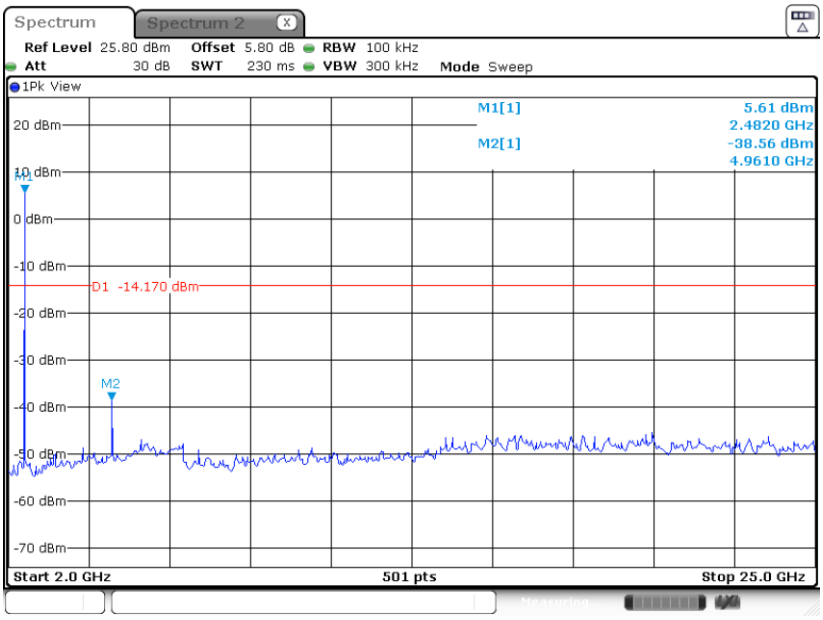
GFSK Channel 39



Date: 23.MAR.2024 05:31:47

Conducted Spurious Emission Plot on Bluetooth LE 2Mbps

GFSK Channel 39



Date: 23.MAR.2024 05:32:07

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (MHz)	Field Strength (microvolts/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

3.5.2 Measuring Instruments

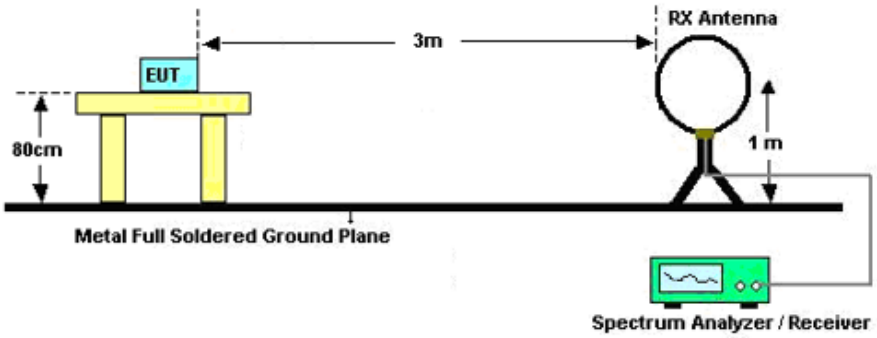
The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.5.3 Test Procedures

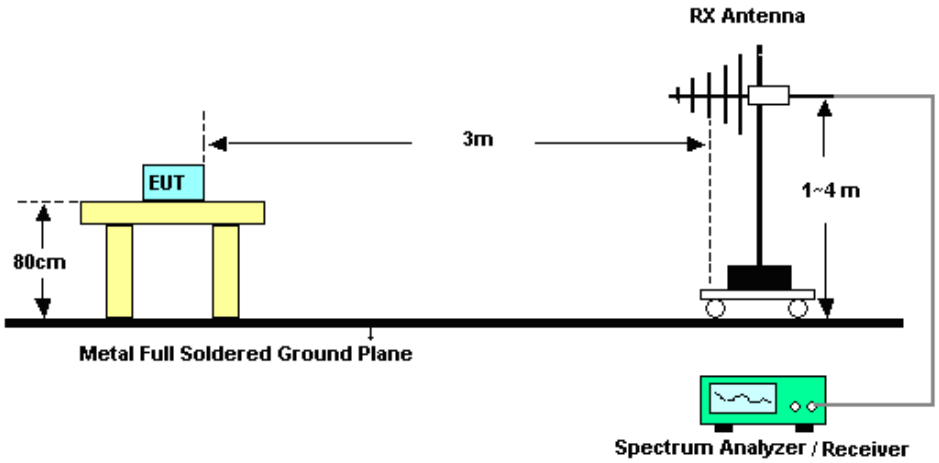
1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

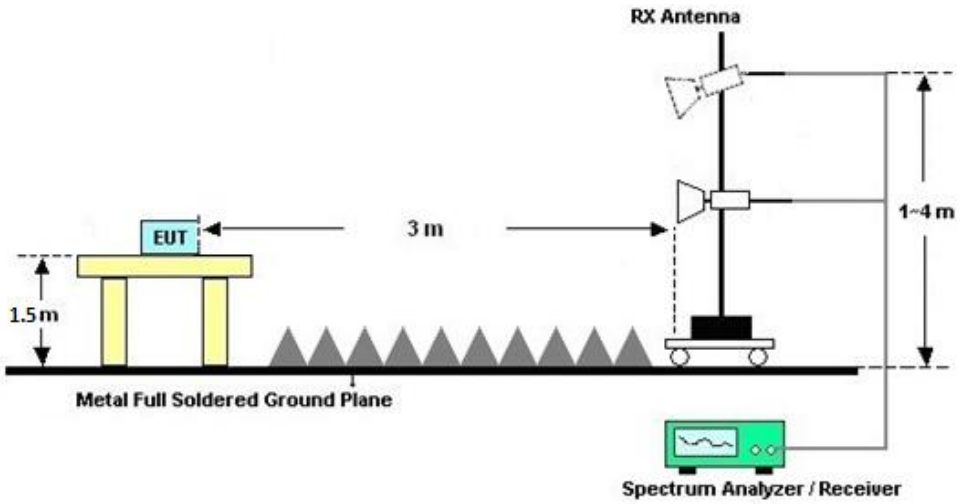
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

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

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C

3.5.7 Duty Cycle

Please refer to Appendix D.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix C

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	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.

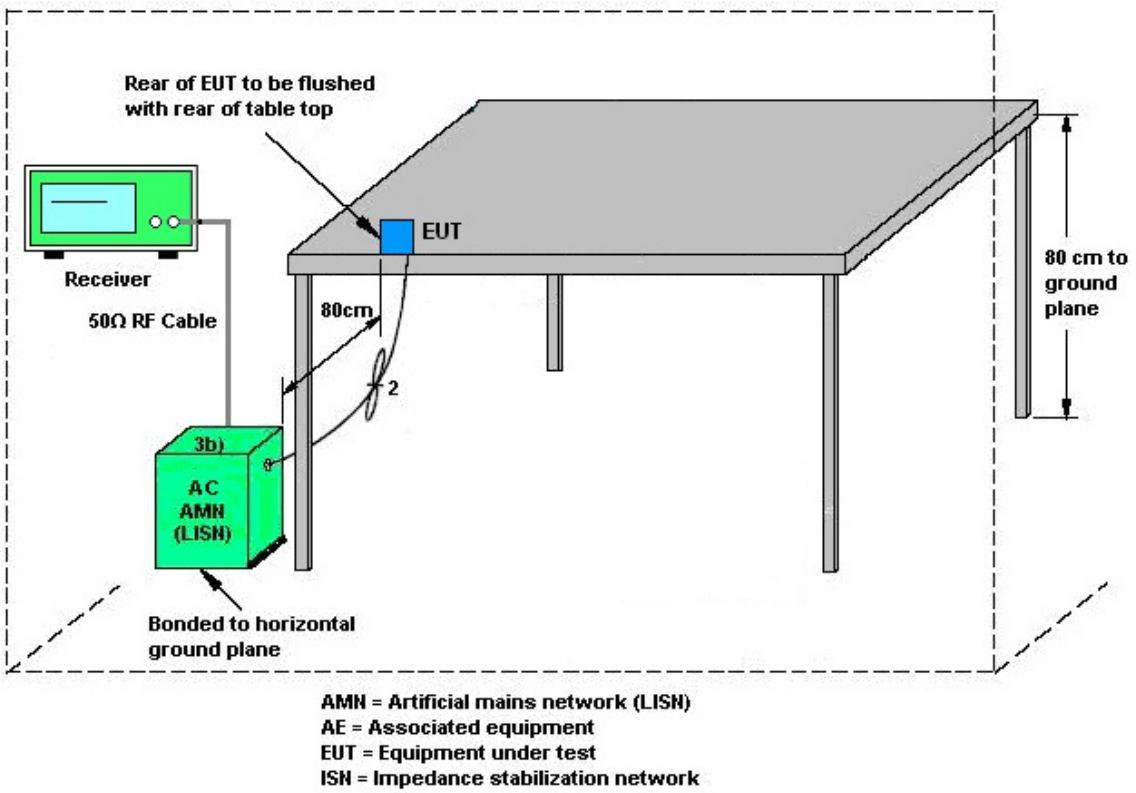
3.6.2 Measuring Instruments

The section 4.0 of List of Measuring Equipment of this test report is used for test.

3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 11, 2023	Mar. 23, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 02, 2024	Mar. 23, 2024	Jan. 01, 2025	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 02, 2024	Mar. 23, 2024	Jan. 01, 2025	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Max 30dBm	Oct. 10, 2023	Apr. 15, 2024	Oct. 09, 2024	Radiation (03CH07-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz-44G,MAX 30dB	Oct. 10, 2023	Apr. 15, 2024	Oct. 09, 2024	Radiation (03CH07-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Oct. 10, 2023	Apr. 15, 2024	Oct. 09, 2024	Radiation (03CH07-KS)
Bilog Antenna	TeseQ	CBL6111D	59913	30MHz-1GHz	Aug. 12, 2023	Apr. 15, 2024	Aug. 11, 2024	Radiation (03CH07-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218642	1GHz~18GHz	Apr. 06, 2023	Apr. 15, 2024	Apr. 05, 2024	Radiation (03CH07-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 10, 2023	Apr. 15, 2024	Oct. 09, 2024	Radiation (03CH07-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Oct. 10, 2023	Apr. 15, 2024	Oct. 09, 2024	Radiation (03CH07-KS)
Amplifier	SONOMA	310N	413740	9KHz-1GHz	Jan. 04, 2024	Apr. 15, 2024	Jan. 03, 2025	Radiation (03CH07-KS)
Amplifier	EM	EM01G18GA	060834	1Ghz-18Ghz	Oct. 10, 2023	Apr. 15, 2024	Oct. 09, 2024	Radiation (03CH07-KS)
Amplifier	EM	EM18G40GGA	060851	18~40GHz	Jan. 04, 2024	Apr. 15, 2024	Jan. 03, 2025	Radiation (03CH07-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Apr. 15, 2024	NCR	Radiation (03CH07-KS)
Turn Table	EM	EM 1000-T	N/A	0~360 degree	NCR	Apr. 15, 2024	NCR	Radiation (03CH07-KS)
Antenna Mast	EM	EM 1000-A	N/A	1 m~4 m	NCR	Apr. 15, 2024	NCR	Radiation (03CH07-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	May 16, 2023	Mar. 27, 2024	May 15, 2024	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 11, 2023	Mar. 27, 2024	Oct. 10, 2024	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	May 16, 2023	Mar. 27, 2024	May 15, 2024	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	AC 0V~300V, 45Hz~1000Hz	Oct. 11, 2023	Mar. 27, 2024	Oct. 10, 2024	Conduction (CO01-KS)

NCR: No Calibration Required

5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Conducted Spurious Emission & Bandedge	**±2.26 dB**
Occupied Channel Bandwidth	**±0.1%**
Conducted Power	**±0.46 dB**
Conducted Power Spectral Density	**±0.88 dB**
Frequency	**±0.4 Hz**

Uncertainty of AC Conducted Emission Measurement (0.15 MHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.84dB**

Uncertainty of Radiated Emission Measurement (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.30dB**

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**6.20dB**

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.86dB**

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.24dB**

---------- THE END ----------

Appendix A. Conducted Test Results

Report Number : FR372501-03E

Bluetooth Low Energy

Test Engineer:	Jiang Jun	Temperature:	20~26	°C
Test Date:	2024/3/23	Relative Humidity:	40~51	%

BLE1M

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
BLE	1Mbps	1	0	2402	1.010	0.67	0.50	Pass
BLE	1Mbps	1	19	2440	1.020	0.67	0.50	Pass
BLE	1Mbps	1	39	2480	1.020	0.67	0.50	Pass

TEST RESULTS DATA
Peak Power Table

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	1Mbps	1	0	2402	7.56	30.00	-2.07	5.49	36.00	Pass
BLE	1Mbps	1	19	2440	7.28	30.00	-2.07	5.21	36.00	Pass
BLE	1Mbps	1	39	2480	6.35	30.00	-2.07	4.28	36.00	Pass

TEST RESULTS DATA
Average Power Table
(Reporting Only)

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)
BLE	1Mbps	1	0	2402	0.68	7.50
BLE	1Mbps	1	19	2440	0.68	7.25
BLE	1Mbps	1	39	2480	0.68	6.23

TEST RESULTS DATA
Peak Power Density

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm /100kHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
BLE	1Mbps	1	0	2402	7.02	-15.05	-2.07	8.00	Pass
BLE	1Mbps	1	19	2440	6.55	-14.63	-2.07	8.00	Pass
BLE	1Mbps	1	39	2480	5.61	-14.91	-2.07	8.00	Pass

Note: PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 20dBc limit.

Report Number : FR372501-03E

Bluetooth Low Energy

Test Engineer:	Jiang Jun	Temperature:	20~26	°C
Test Date:	2024/3/23	Relative Humidity:	40~51	%

BLE2M

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
BLE	2Mbps	1	0	1000	2.040	1.15	0.50	Pass
BLE	2Mbps	1	19	2440	2.025	1.15	0.50	Pass
BLE	2Mbps	1	39	2480	2.030	1.15	0.50	Pass

TEST RESULTS DATA
Peak Power Table

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	2Mbps	1	0	2402	7.83	30.00	-2.07	5.76	36.00	Pass
BLE	2Mbps	1	19	2440	7.69	30.00	-2.07	5.62	36.00	Pass
BLE	2Mbps	1	39	2480	6.69	30.00	-2.07	4.62	36.00	Pass

TEST RESULTS DATA
Average Power Table
(Reporting Only)

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)
BLE	2Mbps	1	0	2402	2.40	7.25
BLE	2Mbps	1	19	2440	2.40	7.23
BLE	2Mbps	1	39	2480	2.40	6.52

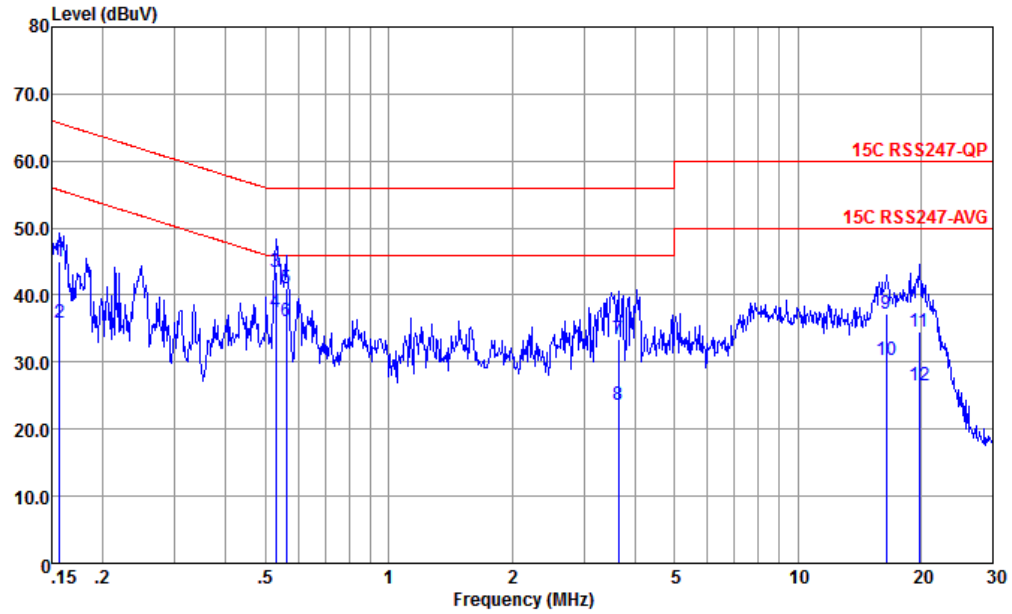
TEST RESULTS DATA
Peak Power Density

Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm /100kHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
BLE	2Mbps	1	0	2402	7.00	-20.21	-2.07	8.00	Pass
BLE	2Mbps	1	19	2440	6.75	-17.70	-2.07	8.00	Pass
BLE	2Mbps	1	39	2480	5.83	-19.18	-2.07	8.00	Pass

Note: PSD (dBm/ 100kHz) is a reference level used for Conducted Band Edges and Conducted Spurious Emission 20dBc limit.

Appendix B. AC Conducted Emission Test Results

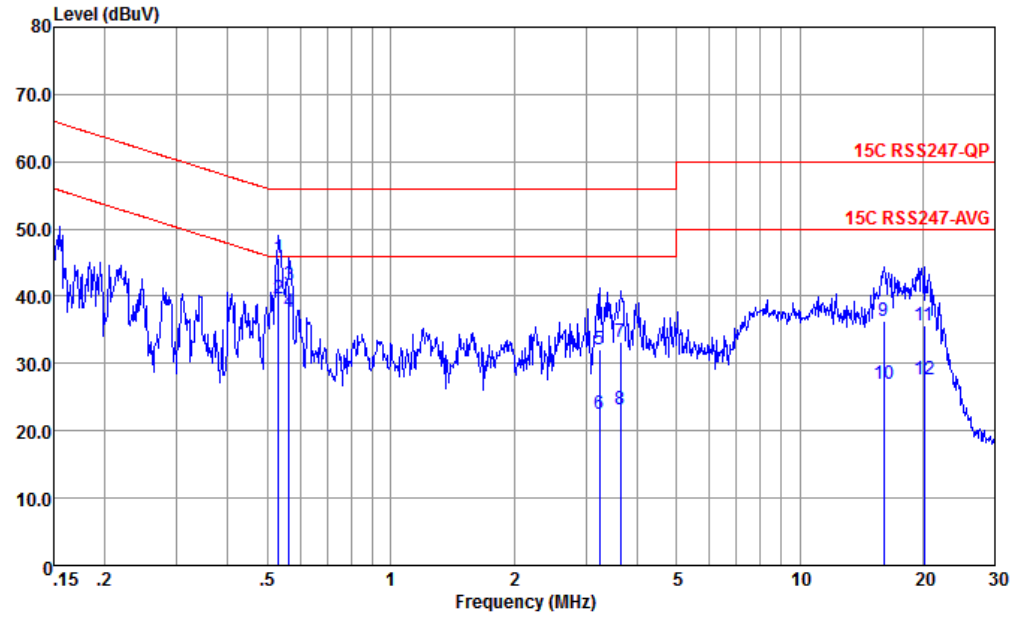
Test Engineer :	Amos zhang	**Temperature :**	24.2~25.6℃
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-KS
Condition : 15C RSS247-QP LISN-060105-L 2023 LINE

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.156	45.08	-20.57	65.65	34.60	0.05	10.43	QP
2		0.156	35.98	-19.67	55.65	25.50	0.05	10.43	Average
3		0.529	43.46	-12.54	56.00	33.30	-0.04	10.20	QP
4	*	0.529	37.46	-8.54	46.00	27.30	-0.04	10.20	Average
5		0.561	40.95	-15.05	56.00	30.80	-0.04	10.19	QP
6		0.561	36.05	-9.95	46.00	25.90	-0.04	10.19	Average
7		3.642	33.45	-22.55	56.00	23.49	-0.10	10.06	QP
8		3.642	23.55	-22.45	46.00	13.59	-0.10	10.06	Average
9		16.486	37.27	-22.73	60.00	26.21	-0.20	11.26	QP
10		16.486	30.37	-19.63	50.00	19.31	-0.20	11.26	Average
11		19.845	34.46	-25.54	60.00	23.50	-0.36	11.32	QP
12		19.845	26.56	-23.44	50.00	15.60	-0.36	11.32	Average

Test Engineer :	Amos zhang	**Temperature :**	24.2~25.6℃
		Relative Humidity :	38~40%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-KS
Condition : 15C RSS247-QP LISN-060105-N 2023 NEUTRAL

		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.532	45.63	-10.37	56.00	35.50	-0.07	10.20	QP
2	*	0.532	39.73	-6.27	46.00	29.60	-0.07	10.20	Average
3		0.564	41.62	-14.38	56.00	31.50	-0.07	10.19	QP
4		0.564	37.62	-8.38	46.00	27.50	-0.07	10.19	Average
5		3.241	32.13	-23.87	56.00	22.20	-0.13	10.06	QP
6		3.241	22.53	-23.47	46.00	12.60	-0.13	10.06	Average
7		3.642	33.13	-22.87	56.00	23.20	-0.13	10.06	QP
8		3.642	23.13	-22.87	46.00	13.20	-0.13	10.06	Average
9		16.055	36.32	-23.68	60.00	25.20	-0.14	11.26	QP
10		16.055	27.02	-22.98	50.00	15.90	-0.14	11.26	Average
11		20.162	35.66	-24.34	60.00	24.61	-0.28	11.33	QP
12		20.162	27.66	-22.34	50.00	16.61	-0.28	11.33	Average

Note:

1. Level(dBμV) = Read Level(dBμV) + LISN Factor(dB) + Cable Loss(dB)
2. Over Limit(dB) = Level(dBμV) – Limit Line(dBμV)

Appendix C. Radiated Spurious Emission

Test Engineer :	Jake Zhou	Relative Humidity :	41 ~ 42 ％
		Temperature :	22 ~ 23 ℃

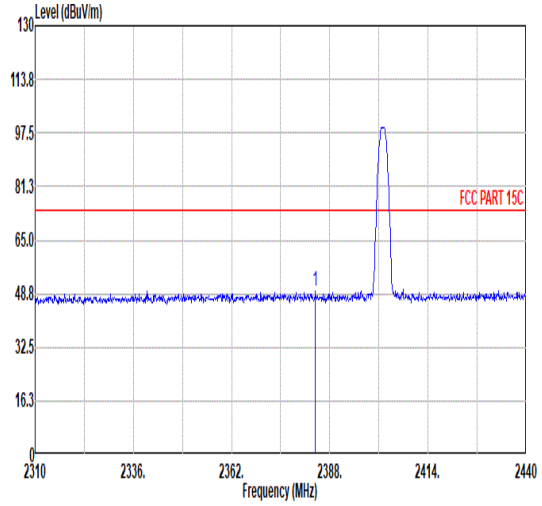
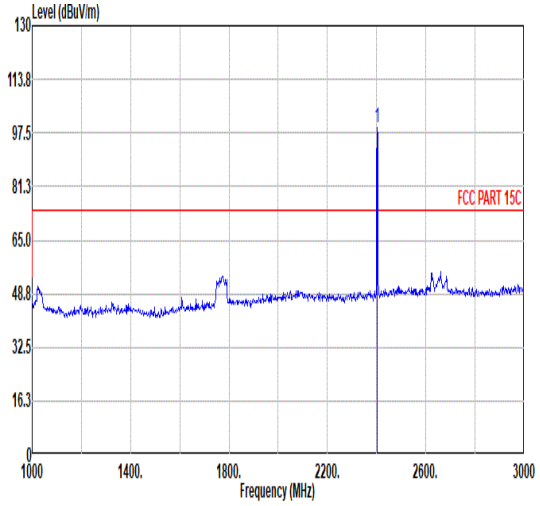
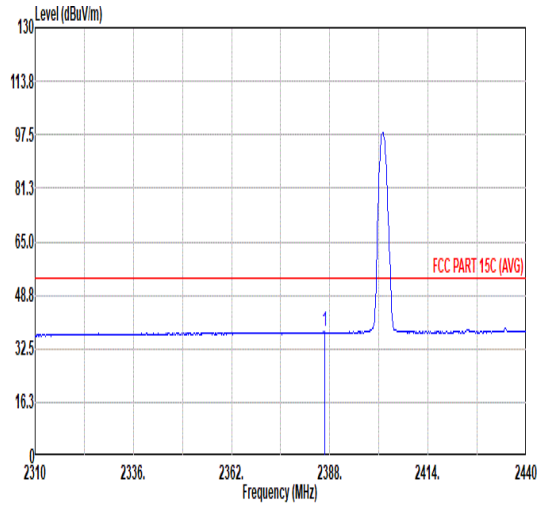
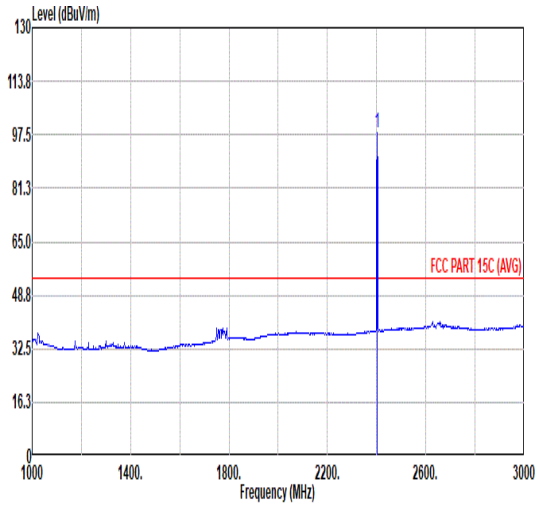
Radiated Spurious Emission Test Modes

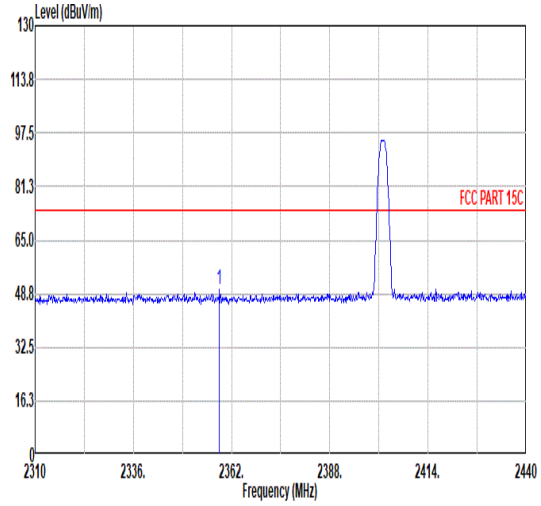
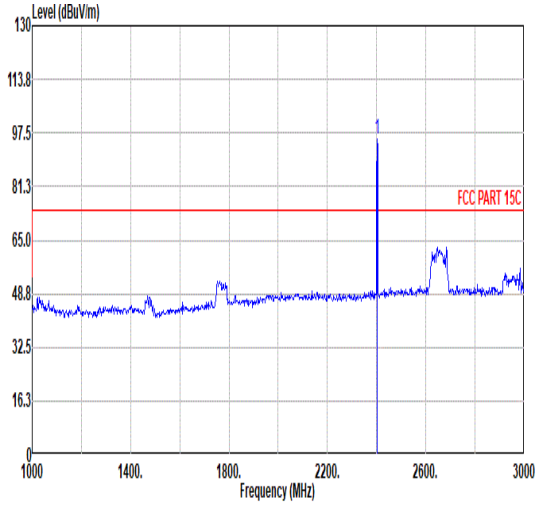
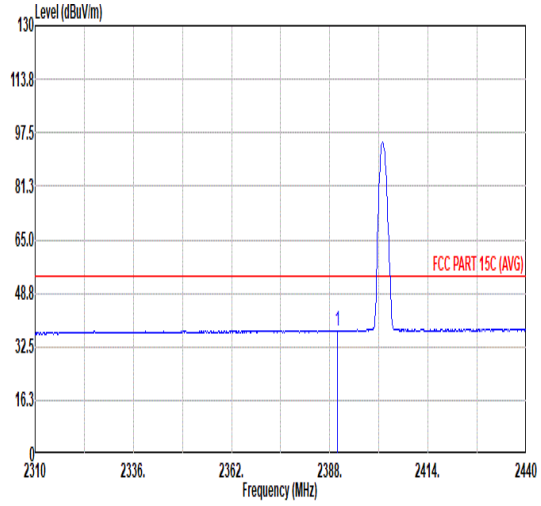
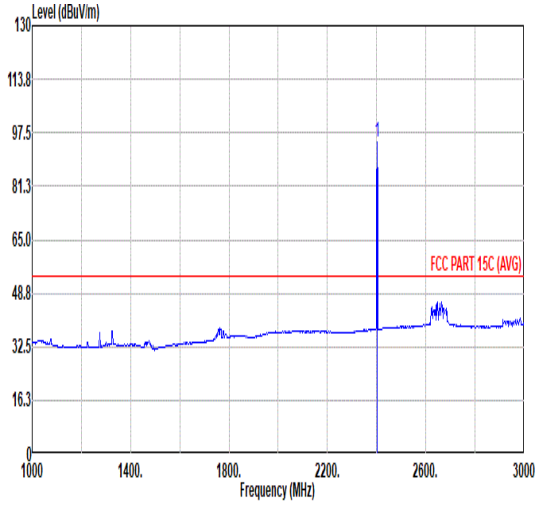
Mode	Band (MHz)	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 1	2400-2483.5	Bluetooth-LE_GSFK	00	2402	1Mbps	-	-
Mode 2	2400-2483.5	Bluetooth-LE_GSFK	19	2440	1Mbps	-	-
Mode 3	2400-2483.5	Bluetooth-LE_GSFK	39	2480	1Mbps	-	-
Mode 4	2400-2483.5	Bluetooth-LE_GSFK	00	2402	2Mbps	-	-
Mode 5	2400-2483.5	Bluetooth-LE_GSFK	19	2440	2Mbps	-	-
Mode 6	2400-2483.5	Bluetooth-LE_GSFK	39	2480	2Mbps	-	-
Co-Location	2400-2483.5	Bluetooth-LE_GSFK	00	2402	1Mbps	-	-
	2400-2483.5	Zigbee	26	2480	250Kbps	-	-

Summary of each worse mode

Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	Remark
1	Bluetooth-LE_GSFK	00	2386.57	37.55	54.00	-16.45	H	AVERAGE	Pass	Band Edge
1	Bluetooth-LE_GSFK	00	4804.00	47.92	54.00	-6.08	H	AVERAGE	Pass	Harmonic
2	Bluetooth-LE_GSFK	19	-	-	-	-	-	-	-	Band Edge
2	Bluetooth-LE_GSFK	19	5371.00	41.21	54.00	-12.79	V	Average	Pass	Harmonic
3	Bluetooth-LE_GSFK	39	2483.50	39.20	54.00	-14.80	H	AVERAGE	Pass	Band Edge
3	Bluetooth-LE_GSFK	39	5073.00	41.85	54.00	-12.15	V	Average	Pass	Harmonic
4	Bluetooth-LE_GSFK	00	2369.28	37.84	54.00	-16.16	H	AVERAGE	Pass	Band Edge
4	Bluetooth-LE_GSFK	00	4954.00	41.44	54.00	-12.56	V	Average	Pass	Harmonic
5	Bluetooth-LE_GSFK	19	-	-	-	-	-	-	-	Band Edge
5	Bluetooth-LE_GSFK	19	5073.00	41.85	54.00	-12.15	H	Average	Pass	Harmonic
6	Bluetooth-LE_GSFK	39	2483.50	42.28	54.00	-11.72	H	AVERAGE	Pass	Band Edge
	Bluetooth-LE_GSFK	39	5071.00	41.14	54.00	-12.86	H	Average	Pass	Harmonic
Co-Location	Bluetooth-LE_GSFK	00	2480.00	100.63	54.00	46.63	V	Average	Fail	Band Edge
	Zigbee	26	2483.50	47.47	54.00	-6.53	H	AVERAGE	Pass	Band Edge
		26	5367.00	41.29	54.00	-12.71	V	Average	Pass	Harmonic

Note: The following frequencies of Harmonic which fall in the non-restricted frequency band, the limit is 100kHz-PSD down 20dB.

Mode	1	
	Band Edge	
	2400-2483.5_Bluetooth-LE_GSFK _CH00_2402MHz	
Pol.	Horizontal	Fundamental
Peak	 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2384.23 49.58 74.00 -24.42 41.50 31.79 7.15 36.86 6.00 150 0 PEAK	 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2402.00 99.32 ------ ------ 91.09 31.91 7.18 36.86 6.00 150 0 PEAK
Avg	 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2386.57 37.55 54.00 -16.45 29.44 31.81 7.16 36.86 6.00 150 0 AVERAGE	 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2402.00 98.25 ------ ------ 90.02 31.91 7.18 36.86 6.00 150 0 AVERAGE

Mode	1	
	Band Edge	
	2400-2483.5_Bluetooth-LE_GSFK _CH00_2402MHz	
Pol.	Vertical	Fundamental
Peak		
Avg		

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2358.75	50.14	74.00	-23.86	42.29	31.61	7.11	36.87	6.00	297	262	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2402.00	95.54	------	------	87.31	31.91	7.18	36.86	6.00	297	262	PEAK

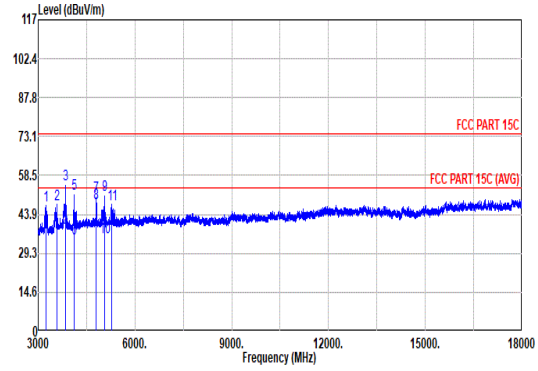
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2389.95	37.43	54.00	-16.57	29.30	31.83	7.16	36.86	6.00	297	262	AVERAGE

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2402.00	94.45	------	------	86.22	31.91	7.18	36.86	6.00	297	262	AVERAGE

Mode	1
	Harmonic
	2400-2483.5_Bluetooth-LE_GSFK _CH00_2402MHz

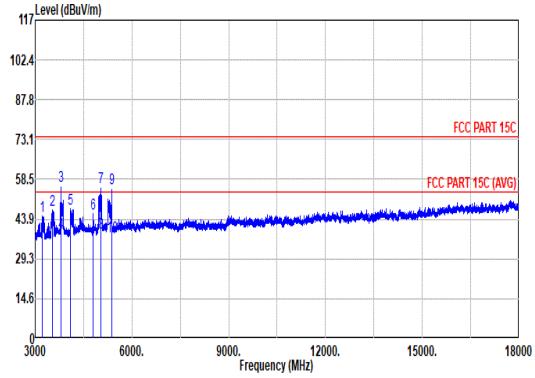
Pol. Horizontal

Peak Avg



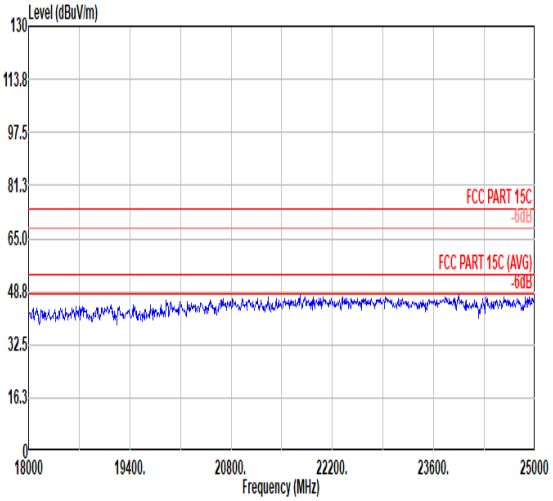
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	3247.50	47.05	76.54	-29.49	68.97	32.92	8.41	63.25	0.00	--	--	Peak
2	3589.50	47.85	76.54	-28.69	69.79	32.95	8.86	63.75	0.00	--	--	Peak
3	3847.50	55.25	74.00	-18.75	76.37	33.45	9.20	63.77	0.00	398	259	Peak
4	3847.50	37.81	54.00	-16.19	58.93	33.45	9.20	63.77	0.00	398	259	Average
5	4123.50	51.71	74.00	-22.29	72.55	33.27	9.49	63.60	0.00	395	249	Peak
6	4123.50	35.08	54.00	-18.92	55.92	33.27	9.49	63.60	0.00	395	249	Average
7	4804.00	50.87	74.00	-23.13	69.99	34.09	10.27	63.48	0.00	300	172	PEAK
8	4804.00	47.92	54.00	-6.08	67.04	34.09	10.27	63.48	0.00	300	172	AVERAGE
9	5058.00	51.27	74.00	-22.73	70.22	34.00	10.55	63.50	0.00	158	32	Peak
10	5058.00	35.51	54.00	-18.49	54.46	34.00	10.55	63.50	0.00	158	32	Average
11	5289.00	47.78	76.54	-28.76	66.21	34.37	10.78	63.58	0.00	--	--	Peak

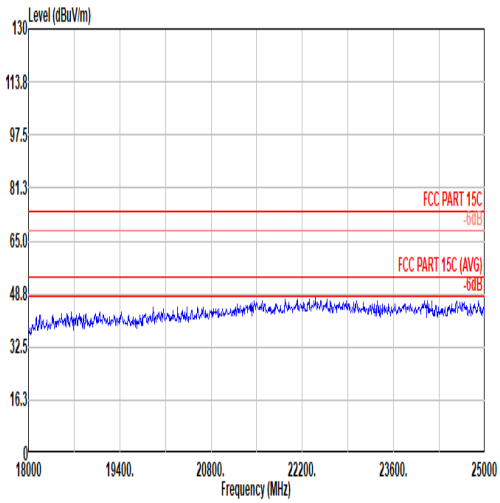
Vertical



	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	3228.00	45.22	76.54	-31.32	67.04	33.03	8.37	63.22	0.00	--	--	Peak
2	3526.50	47.39	76.54	-29.15	69.60	32.63	8.82	63.66	0.00	--	--	Peak
3	3789.00	56.19	74.00	-17.81	77.38	33.47	9.14	63.80	0.00	104	351	Peak
4	3789.00	38.98	54.00	-15.02	60.17	33.47	9.14	63.80	0.00	104	351	Average
5	4080.00	47.65	74.00	-26.35	68.61	33.24	9.43	63.63	0.00	--	--	Peak
6	4804.00	46.13	74.00	-27.87	65.25	34.09	10.27	63.48	0.00	--	--	PEAK
7	5047.50	55.74	74.00	-18.26	74.69	34.00	10.54	63.49	0.00	100	177	Peak
8	5047.50	39.03	54.00	-14.97	57.98	34.00	10.54	63.49	0.00	100	177	Average
9	5370.00	55.00	74.00	-19.00	73.22	34.54	10.86	63.62	0.00	256	129	Peak
10	5370.00	37.68	54.00	-16.32	55.90	34.54	10.86	63.62	0.00	256	129	Average

Peak Avg



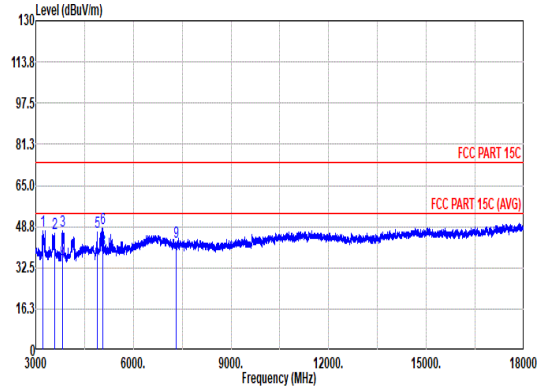


Mode	2
	Harmonic
	2400-2483.5_Bluetooth-LE_GSFK _CH19_2440MHz

Pol. — Horizontal

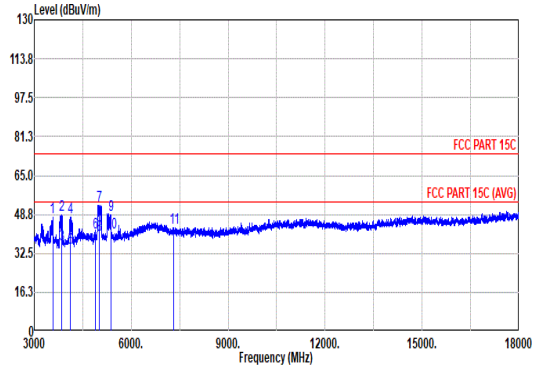
Peak

Avg

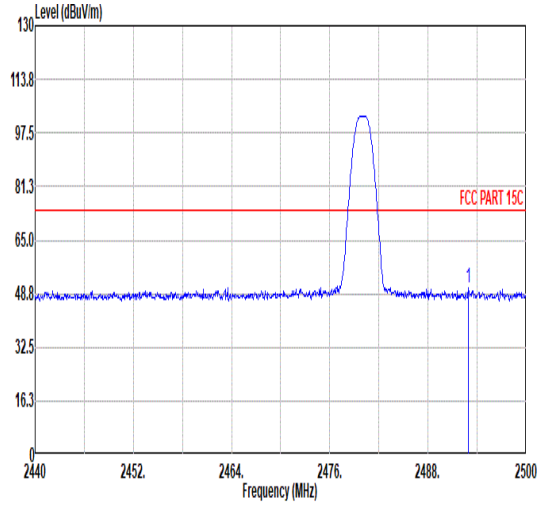
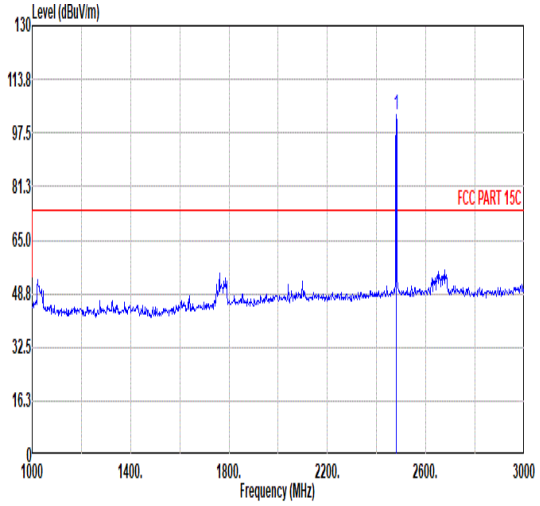
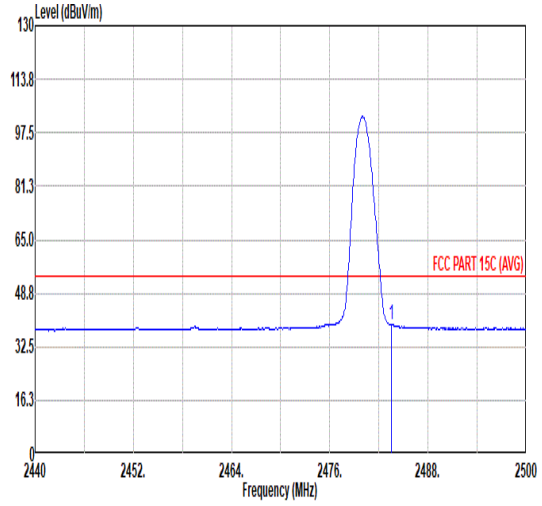
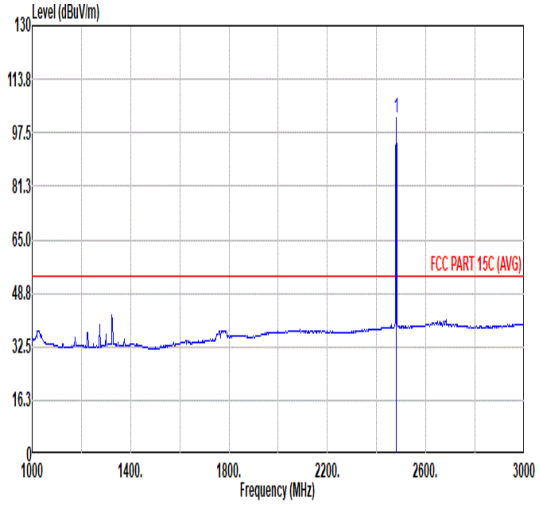


	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	3213.00	47.07	75.33	-28.26	69.40	32.78	9.92	65.03	0.00	100	323	PEAK
2	3580.00	46.23	75.33	-29.10	68.50	32.86	10.45	65.58	0.00	100	310	PEAK
3	3825.00	47.32	74.00	-26.68	70.06	33.50	10.73	66.97	0.00	175	360	PEAK
4	3825.00	34.84	54.00	-19.16	57.58	33.50	10.73	66.97	0.00	175	360	Average
5	4880.00	46.50	74.00	-27.50	65.78	34.20	12.07	65.55	0.00	--	--	PEAK
6	5065.00	48.26	74.00	-25.74	67.01	34.30	12.29	65.34	0.00	300	50	PEAK
7	5065.00	38.82	54.00	-15.18	57.57	34.30	12.29	65.34	0.00	300	50	Average
8	5065.00	39.88	54.00	-14.12	58.63	34.30	12.29	65.34	0.00	300	50	Average
9	7320.00	42.74	74.00	-31.26	56.81	35.80	14.98	64.85	0.00	--	--	PEAK

Vertical



	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	3570.00	47.59	69.52	-21.93	69.94	32.84	10.39	65.58	0.00	100	194	PEAK
2	3838.00	48.39	74.00	-25.61	70.99	33.60	10.75	66.95	0.00	100	202	PEAK
3	3838.00	36.06	54.00	-17.94	58.66	33.60	10.75	66.95	0.00	100	202	Average
4	4125.00	47.58	74.00	-26.42	68.51	33.50	11.99	66.42	0.00	300	266	PEAK
5	4125.00	34.72	54.00	-19.28	55.65	33.50	11.99	66.42	0.00	300	266	Average
6	4880.00	41.09	74.00	-32.91	60.37	34.20	12.07	65.55	0.00	--	--	PEAK
7	5011.00	52.59	74.00	-21.41	71.51	34.07	12.31	65.30	0.00	113	360	PEAK
8	5011.00	40.43	54.00	-13.57	59.35	34.07	12.31	65.30	0.00	113	360	Average
9	5371.00	48.68	74.00	-25.32	66.99	34.60	12.76	65.67	0.00	100	178	Peak
10	5371.00	41.21	54.00	-12.79	59.52	34.60	12.76	65.67	0.00	100	178	Average
11	7320.00	43.24	74.00	-30.76	57.31	35.80	14.98	64.85	0.00	--	--	PEAK

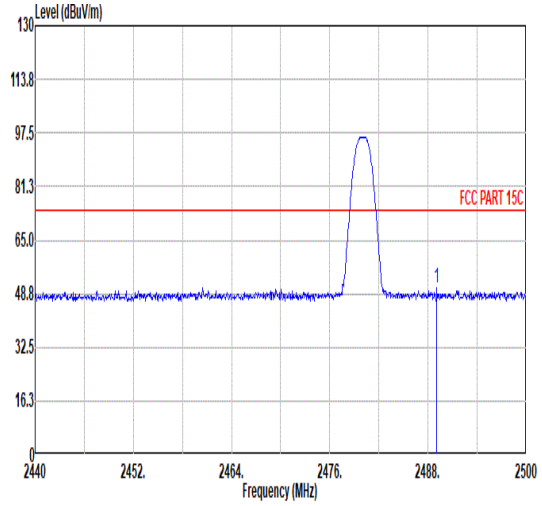
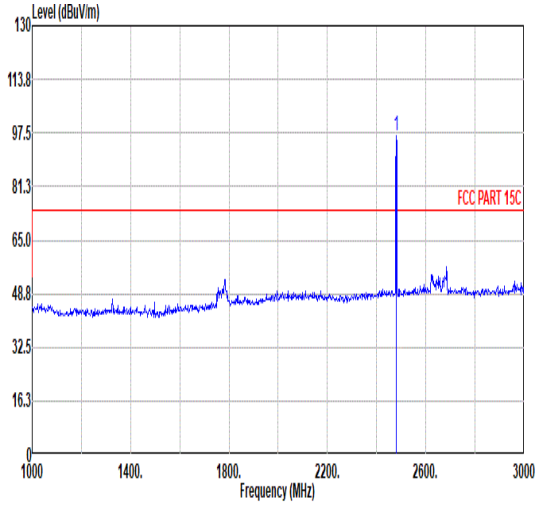
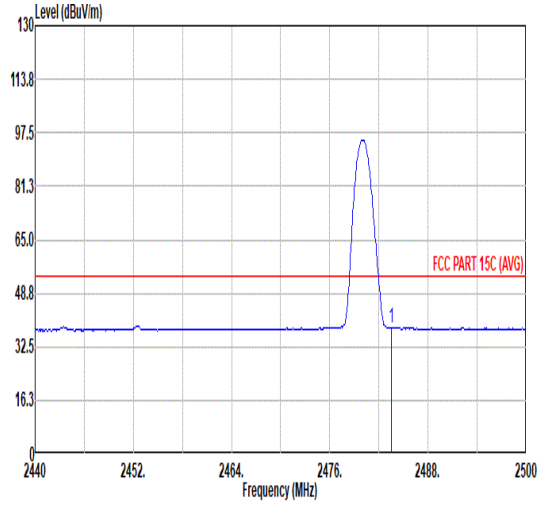
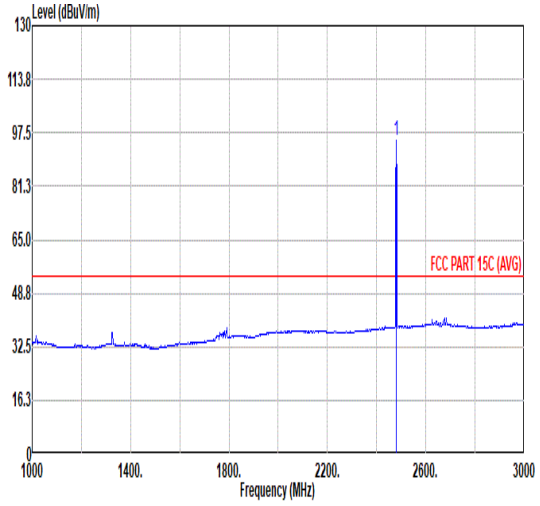
Mode	3	
	Band Edge	
	2400-2483.5_Bluetooth-LE_GSFK _CH39_2480MHz	
Pol.	Horizontal	Fundamental
Peak		
Avg		

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2492.92	50.61	74.00	-23.39	41.84	32.27	7.35	36.85	6.00	176	0	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2480.00	103.05	------	------	94.36	32.22	7.32	36.85	6.00	176	0	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2483.50	39.20	54.00	-14.80	30.49	32.23	7.33	36.85	6.00	176	0	AVERAGE

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2480.00	101.90	------	------	93.21	32.22	7.32	36.85	6.00	176	0	AVERAGE

Mode	3	
	Band Edge	
	2400-2483.5_Bluetooth-LE_GSFK _CH39_2480MHz	
Pol.	Vertical	Fundamental
Peak		
Avg		

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2489.08	50.37	74.00	-23.63	41.62	32.26	7.34	36.85	6.00	399	308	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2480.00	96.44	------	------	87.75	32.22	7.32	36.85	6.00	399	308	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2483.56	38.39	54.00	-15.61	29.68	32.23	7.33	36.85	6.00	399	308	AVERAGE

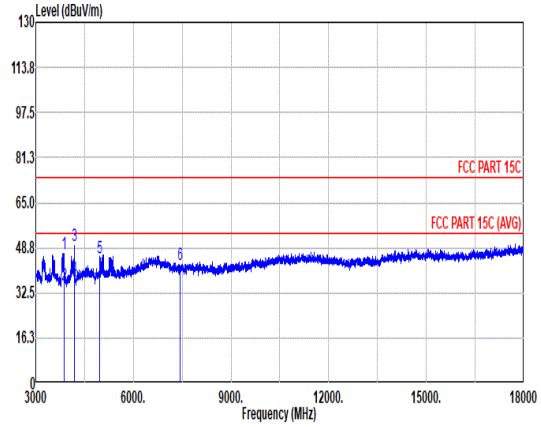
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2480.00	95.38	------	------	86.69	32.22	7.32	36.85	6.00	399	308	AVERAGE

Mode	3
	Harmonic
	2400-2483.5_Bluetooth-LE_GSFK _CH39_2480MHz

Pol. — Horizontal

Peak

Avg

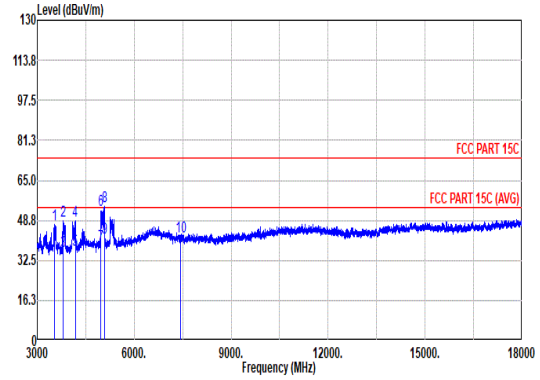


	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	3871.00	46.75	74.00	-27.25	69.16	33.57	10.90	66.88	0.00	100	319	Peak
2	3871.00	35.13	54.00	-18.87	57.54	33.57	10.90	66.88	0.00	100	319	Average
3	4177.00	49.44	74.00	-24.56	70.35	33.50	11.91	66.32	0.00	300	307	Peak
4	4177.00	37.64	54.00	-16.36	58.55	33.50	11.91	66.32	0.00	300	307	Average
5	4960.00	45.19	74.00	-28.81	64.28	34.24	12.07	65.40	0.00	--	--	PEAK
6	7440.00	42.70	74.00	-31.30	56.88	35.80	15.21	65.19	0.00	--	--	PEAK

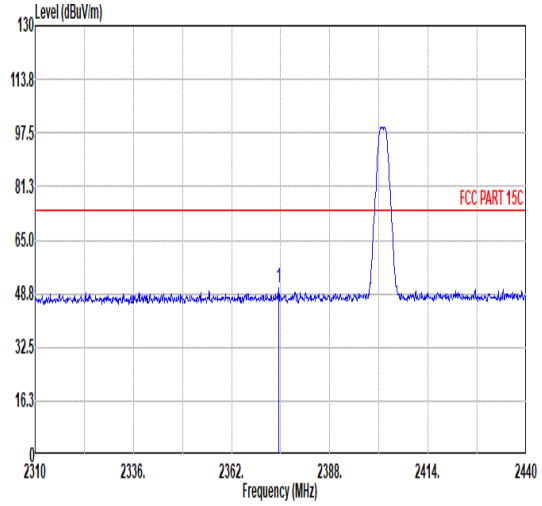
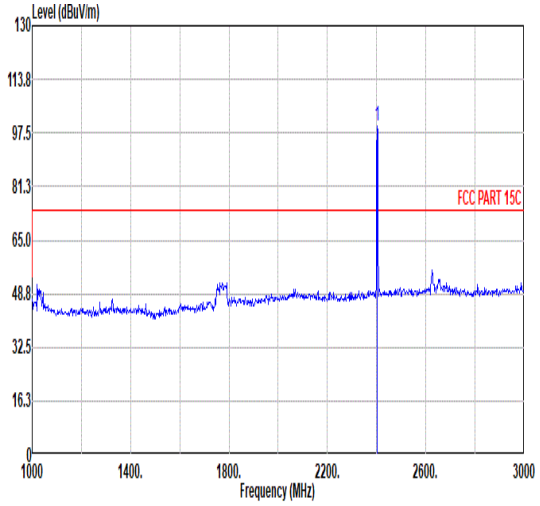
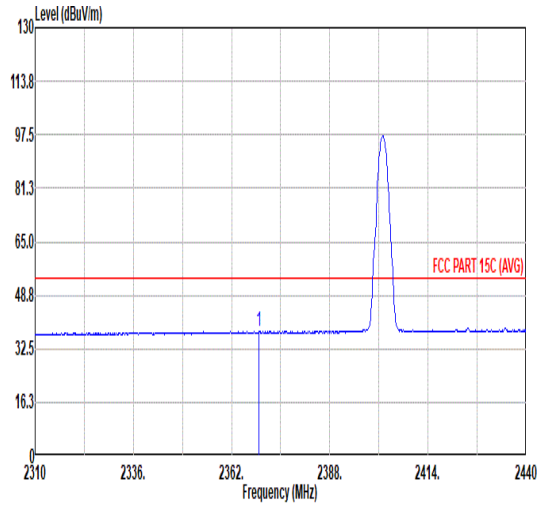
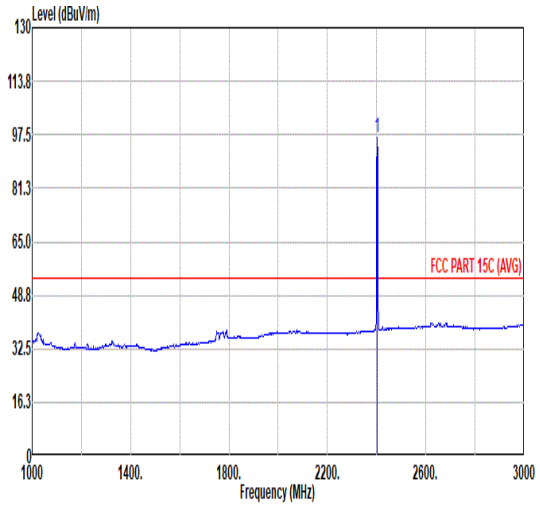
Pol. — Vertical

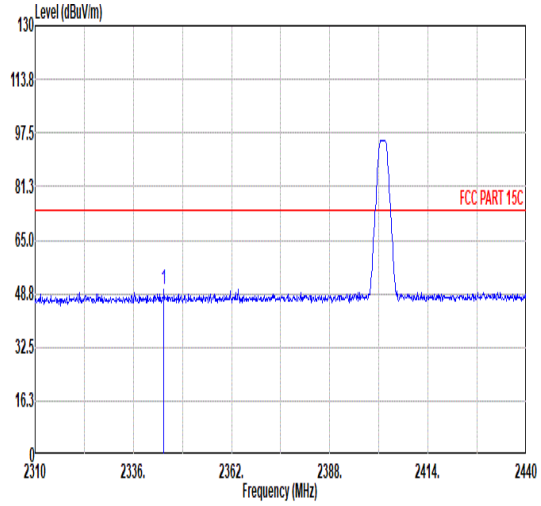
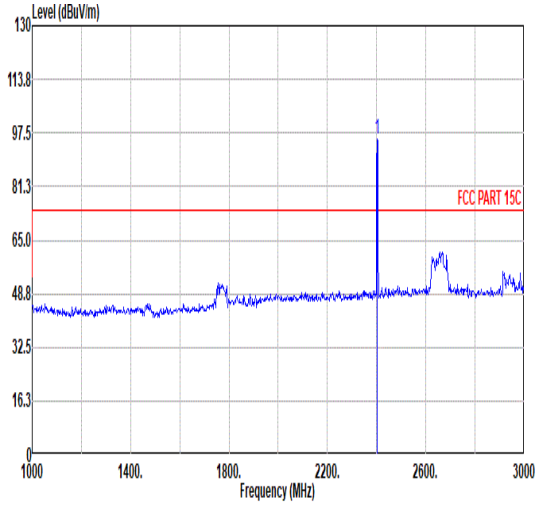
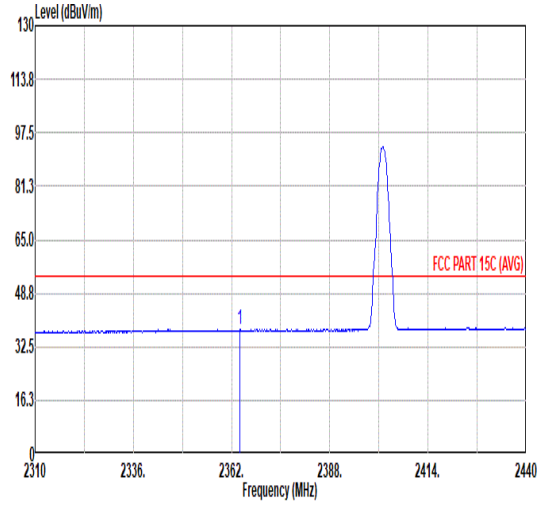
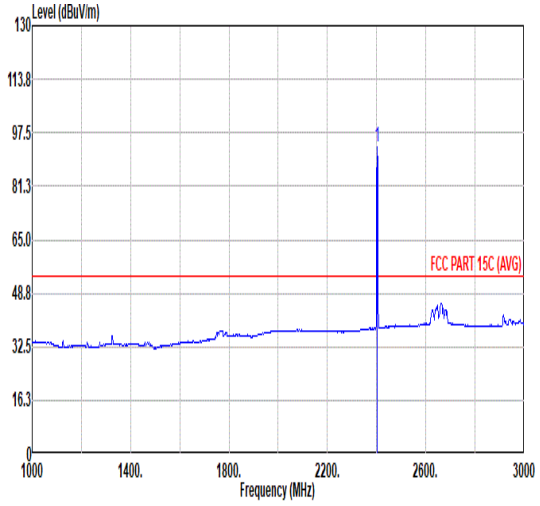
Peak

Avg



	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	3535.00	47.02	69.52	-22.50	69.45	32.80	10.32	65.55	0.00	100	199	Peak
2	3792.00	48.38	74.00	-25.62	71.48	33.24	10.69	67.03	0.00	100	206	Peak
3	3792.00	36.43	54.00	-17.57	59.53	33.24	10.69	67.03	0.00	100	206	Average
4	4176.00	48.39	74.00	-25.61	69.30	33.50	11.91	66.32	0.00	100	245	Peak
5	4176.00	36.63	54.00	-17.37	57.54	33.50	11.91	66.32	0.00	100	245	Average
6	4960.00	53.13	74.00	-20.87	72.22	34.24	12.07	65.40	0.00	100	0	PEAK
7	4960.00	38.70	54.00	-15.30	57.79	34.24	12.07	65.40	0.00	100	0	AVERAGE
8	5073.00	54.27	74.00	-19.73	72.99	34.30	12.33	65.35	0.00	220	360	Peak
9	5073.00	41.85	54.00	-12.15	60.57	34.30	12.33	65.35	0.00	220	360	Average
10	7440.00	42.18	74.00	-31.82	56.36	35.80	15.21	65.19	0.00	--	--	PEAK

Mode	4	
	Band Edge	
	2400-2483.5_Bluetooth-LE_GSFK _CH00_2402MHz	
Pol.	Horizontal	Fundamental
Peak	 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2374.48 50.41 74.00 -23.59 42.42 31.72 7.14 36.87 6.00 149 0 PEAK	 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2402.00 99.40 ------ ------ 91.17 31.91 7.18 36.86 6.00 149 0 PEAK
Avg	 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2369.28 37.84 54.00 -16.16 29.90 31.68 7.13 36.87 6.00 149 0 AVERAGE	 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2402.00 96.83 ------ ------ 88.60 31.91 7.18 36.86 6.00 149 0 AVERAGE

Mode	4	
	Band Edge	
	2400-2483.5_Bluetooth-LE_GSFK _CH00_2402MHz	
Pol.	Vertical	Fundamental
Peak		
Avg		

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2344.06	49.89	74.00	-24.11	42.16	31.51	7.09	36.87	6.00	388	263	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2402.00	95.70	------	------	87.47	31.91	7.18	36.86	6.00	388	263	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2364.21	37.79	54.00	-16.21	29.89	31.65	7.12	36.87	6.00	388	263	AVERAGE

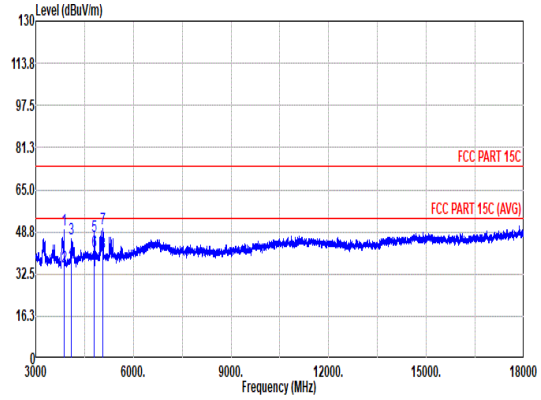
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2402.00	93.16	------	------	84.93	31.91	7.18	36.86	6.00	388	263	AVERAGE

Mode	4
	Harmonic
	2400-2483.5_Bluetooth-LE_GSFK _CH00_2402MHz

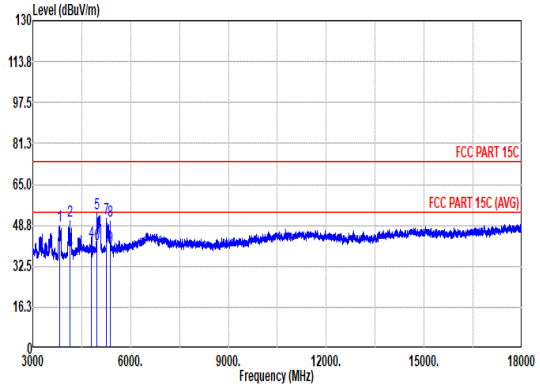
Pol.	Horizontal	Vertical

Peak

Avg



	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	3879.00	49.41	74.00	-24.59	71.81	33.53	10.94	66.87	0.00	100	39	Peak
2	3879.00	35.14	54.00	-18.86	57.54	33.53	10.94	66.87	0.00	100	39	Average
3	4081.00	46.28	74.00	-27.72	67.50	33.46	11.82	66.50	0.00	100	238	Peak
4	4081.00	37.65	54.00	-16.35	58.87	33.46	11.82	66.50	0.00	100	238	Average
5	4804.00	47.11	74.00	-26.89	65.97	34.29	12.54	65.69	0.00	200	245	PEAK
6	4804.00	41.39	54.00	-12.61	60.25	34.29	12.54	65.69	0.00	200	245	Average
7	5071.00	49.91	74.00	-24.09	68.64	34.30	12.32	65.35	0.00	100	48	Peak
8	5071.00	40.96	54.00	-13.04	59.69	34.30	12.32	65.35	0.00	100	48	Average



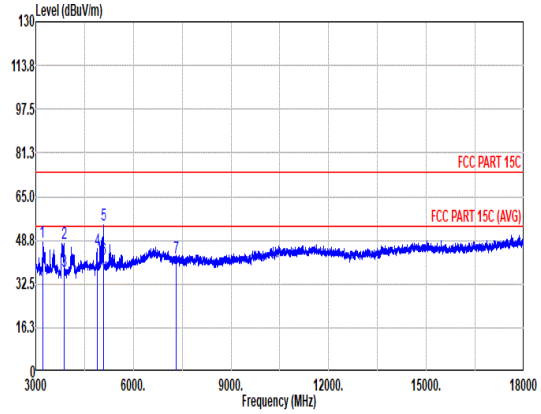
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	3825.00	48.40	74.00	-25.60	71.14	33.50	10.73	66.97	0.00	100	220	Peak
2	4144.00	50.61	74.00	-23.39	71.55	33.50	11.94	66.38	0.00	300	250	Peak
3	4144.00	38.58	54.00	-15.42	59.52	33.50	11.94	66.38	0.00	300	250	Average
4	4804.00	42.24	74.00	-31.76	61.10	34.29	12.54	65.69	0.00	--	--	PEAK
5	4954.00	53.50	74.00	-20.50	72.59	34.28	12.04	65.41	0.00	227	0	Peak
6	4954.00	41.44	54.00	-12.56	60.53	34.28	12.04	65.41	0.00	227	0	Average
7	5247.00	51.44	74.00	-22.56	70.27	34.19	12.52	65.54	0.00	100	169	Peak
8	5371.00	50.36	74.00	-23.64	68.67	34.60	12.76	65.67	0.00	100	344	Peak
9	5371.00	40.34	54.00	-13.66	58.65	34.60	12.76	65.67	0.00	100	344	Average

Mode	5
	Harmonic
	2400-2483.5_Bluetooth-LE_GSFK _CH19_2440MHz

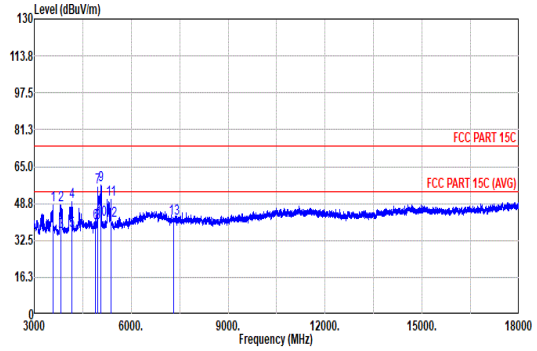
Pol.	Horizontal	Vertical

Peak

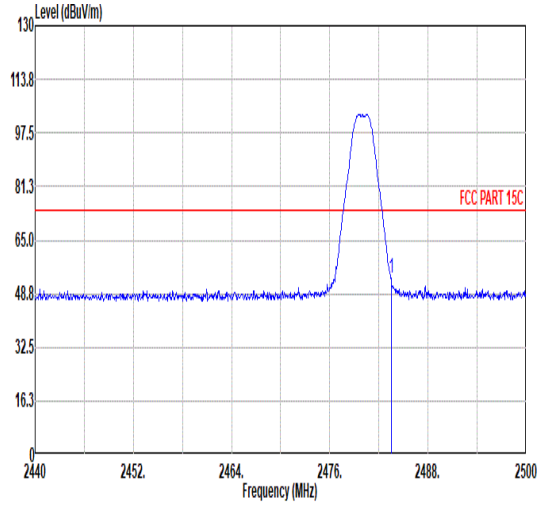
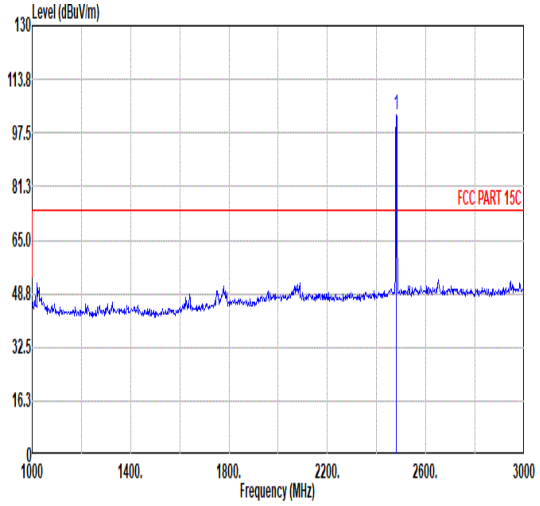
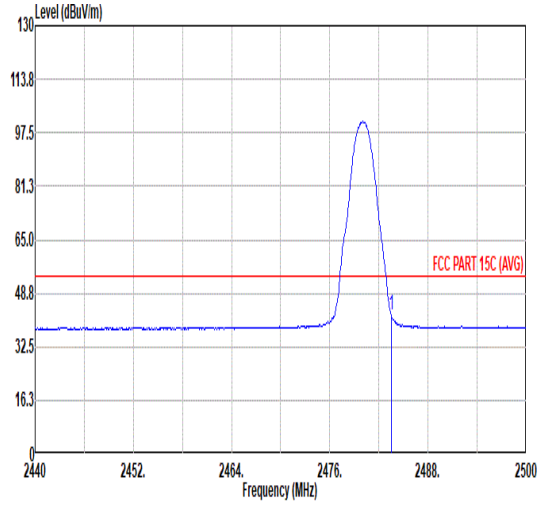
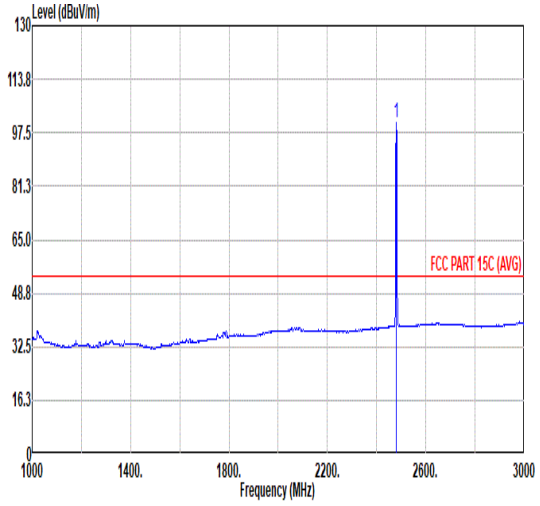
Avg



	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	3207.00	47.93	75.59	-27.66	70.29	32.74	9.91	65.01	0.00	299	0	Peak
2	3879.00	47.71	74.00	-26.29	70.11	33.53	10.94	66.87	0.00	100	243	Peak
3	3879.00	37.14	54.00	-16.86	59.54	33.53	10.94	66.87	0.00	100	243	Average
4	4880.00	44.92	74.00	-29.08	64.20	34.20	12.07	65.55	0.00	--	--	PEAK
5	5073.00	54.62	74.00	-19.38	73.34	34.30	12.33	65.35	0.00	100	321	Peak
6	5073.00	41.85	54.00	-12.15	60.57	34.30	12.33	65.35	0.00	100	321	Average
7	7320.00	42.01	74.00	-31.99	56.08	35.80	14.98	64.85	0.00	--	--	PEAK



	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	3580.00	47.91	70.55	-22.64	70.18	32.86	10.45	65.58	0.00	103	0	Peak
2	3828.00	48.26	74.00	-25.74	70.97	33.52	10.73	66.96	0.00	100	200	Peak
3	3828.00	36.16	54.00	-17.84	58.87	33.52	10.73	66.96	0.00	100	200	Average
4	4159.00	49.32	74.00	-24.68	70.25	33.50	11.92	66.35	0.00	300	250	Peak
5	4159.00	36.61	54.00	-17.39	57.54	33.50	11.92	66.35	0.00	300	250	Average
6	4880.00	40.35	74.00	-33.65	59.63	34.20	12.07	65.55	0.00	--	--	PEAK
7	4956.00	55.79	74.00	-18.21	74.89	34.26	12.05	65.41	0.00	186	0	Peak
8	4956.00	40.45	54.00	-13.55	59.55	34.26	12.05	65.41	0.00	400	241	Average
9	5071.00	56.88	74.00	-17.12	75.61	34.30	12.32	65.35	0.00	198	0	Peak
10	5071.00	41.52	54.00	-12.48	60.25	34.30	12.32	65.35	0.00	198	0	Average
11	5370.00	50.77	74.00	-23.23	69.09	34.60	12.75	65.67	0.00	100	179	Peak
12	5370.00	41.25	54.00	-12.75	59.57	34.60	12.75	65.67	0.00	100	179	Average
13	7320.00	42.25	74.00	-31.75	56.32	35.80	14.98	64.85	0.00	--	--	PEAK

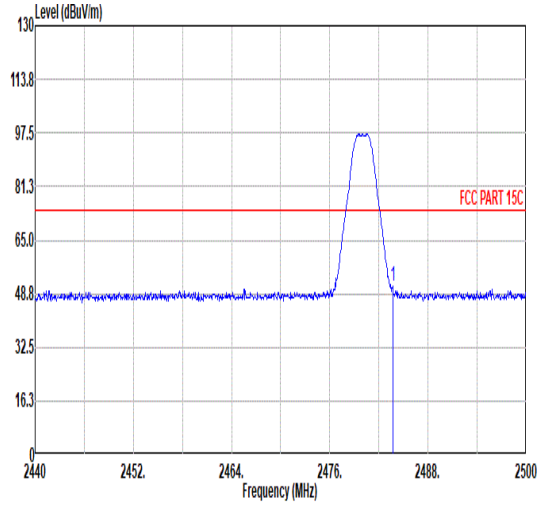
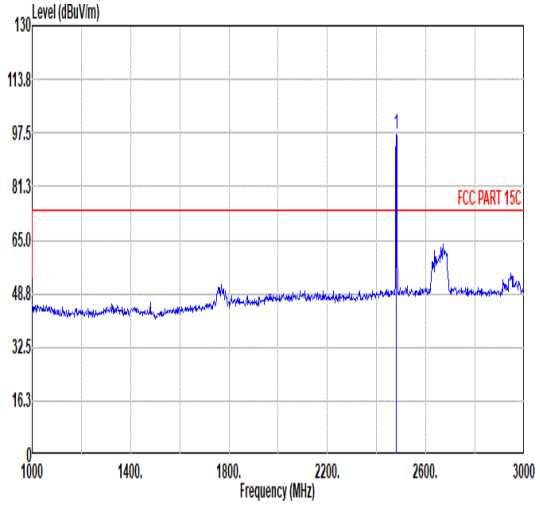
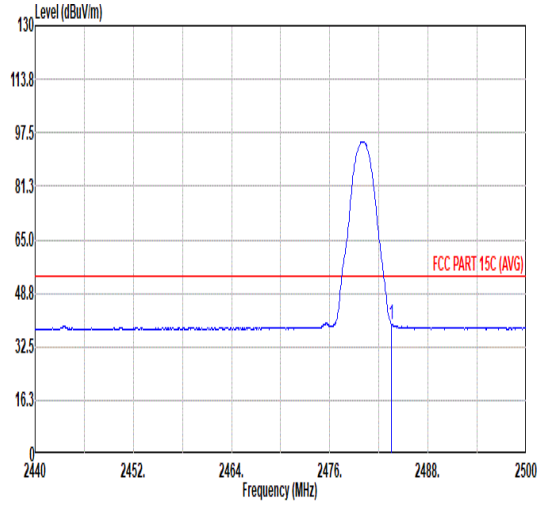
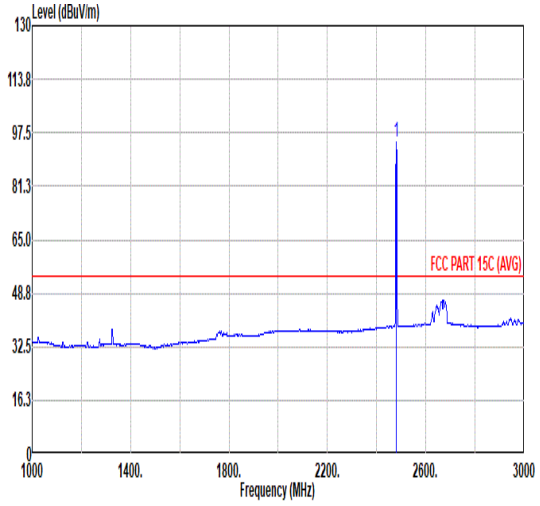
Mode	6	
	Band Edge	
	2400-2483.5_Bluetooth-LE_GSFK _CH39_2480MHz	
Pol.	Horizontal	Fundamental
Peak		
Avg		

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2483.50	53.38	74.00	-20.62	44.67	32.23	7.33	36.85	6.00	163	360	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2480.00	103.25	------	------	94.56	32.22	7.32	36.85	6.00	163	360	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2483.50	42.28	54.00	-11.72	33.57	32.23	7.33	36.85	6.00	163	360	AVERAGE

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2480.00	100.70	------	------	92.01	32.22	7.32	36.85	6.00	163	360	AVERAGE

Mode	6	
	Band Edge	
	2400-2483.5_Bluetooth-LE_GSFK _CH39_2480MHz	
Pol.	Vertical	Fundamental
Peak		
Avg		

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2483.68	50.86	74.00	-23.14	42.15	32.23	7.33	36.85	6.00	377	248	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2480.00	97.24	------	------	88.55	32.22	7.32	36.85	6.00	377	248	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2483.50	39.47	54.00	-14.53	30.76	32.23	7.33	36.85	6.00	377	248	AVERAGE

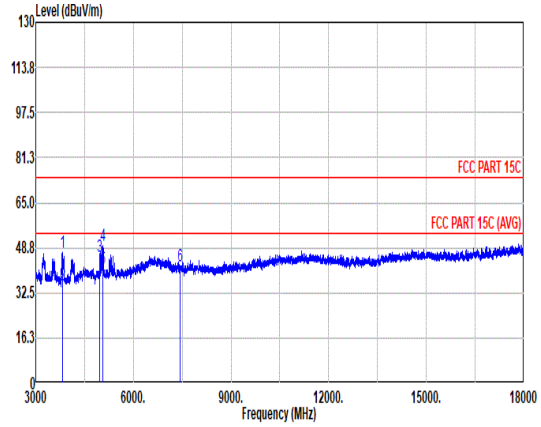
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2480.00	94.79	------	------	86.10	32.22	7.32	36.85	6.00	377	248	AVERAGE

Mode	6
	Harmonic
	2400-2483.5_Bluetooth-LE_GSFK _CH39_2480MHz

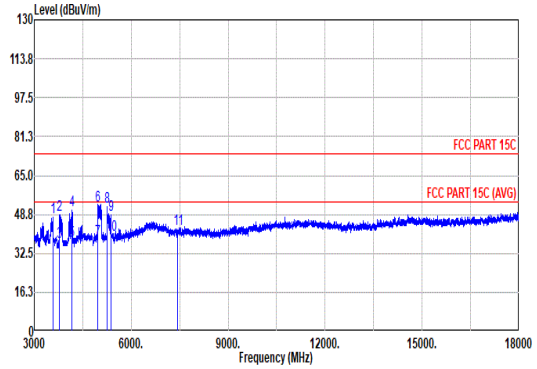
Pol.	Horizontal	Vertical

Peak

Avg

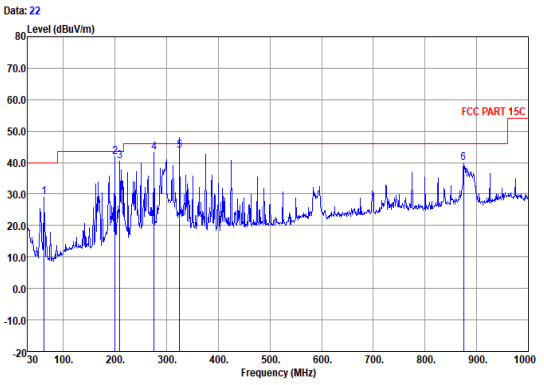


	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	3825.00	46.99	74.00	-27.01	69.73	33.50	10.73	66.97	0.00	163	0	Peak
2	3825.00	35.50	54.00	-18.50	58.24	33.50	10.73	66.97	0.00	163	0	Average
3	4960.00	45.48	74.00	-28.52	64.57	34.24	12.07	65.40	0.00	--	--	PEAK
4	5071.00	49.49	74.00	-24.51	68.22	34.30	12.32	65.35	0.00	300	295	Peak
5	5071.00	41.14	54.00	-12.86	59.87	34.30	12.32	65.35	0.00	300	295	Average
6	7440.00	42.33	74.00	-31.67	56.51	35.80	15.21	65.19	0.00	--	--	PEAK

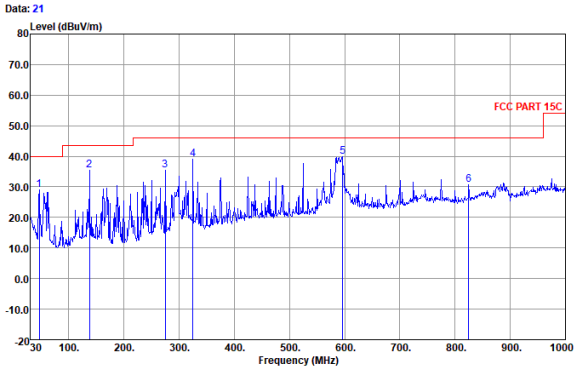


	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	3579.00	47.52	64.65	-17.13	69.80	32.86	10.44	65.58	0.00	100	360	Peak
2	3787.00	48.72	74.00	-25.28	71.87	33.20	10.69	67.04	0.00	100	208	Peak
3	3787.00	37.08	54.00	-16.92	60.23	33.20	10.69	67.04	0.00	400	208	Average
4	4170.00	50.54	74.00	-23.46	71.45	33.50	11.92	66.33	0.00	300	263	Peak
5	4170.00	37.75	54.00	-16.25	58.66	33.50	11.92	66.33	0.00	300	263	Average
6	4960.00	52.73	74.00	-21.27	71.82	34.24	12.07	65.40	0.00	300	360	PEAK
7	4960.00	38.22	54.00	-15.78	57.31	34.24	12.07	65.40	0.00	300	360	AVERAGE
8	5245.00	52.11	74.00	-21.89	70.92	34.19	12.53	65.53	0.00	105	0	Peak
9	5370.00	48.51	74.00	-25.49	66.83	34.60	12.75	65.67	0.00	100	277	Peak
10	5370.00	40.22	54.00	-13.78	58.54	34.60	12.75	65.67	0.00	100	277	Average
11	7440.00	42.58	74.00	-31.42	56.76	35.80	15.21	65.19	0.00	--	--	PEAK

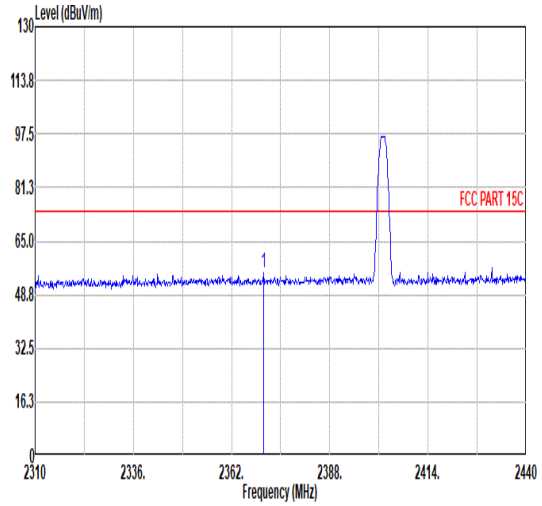
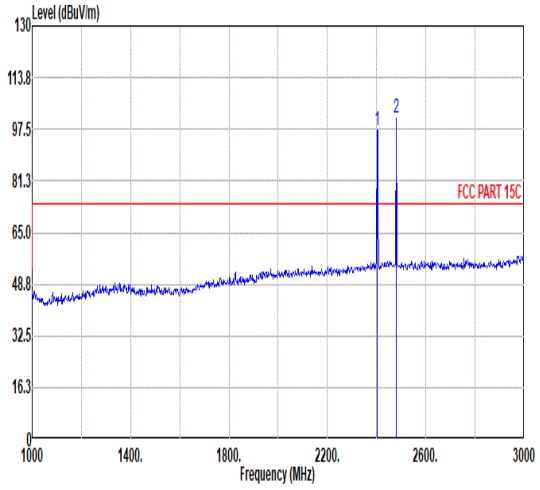
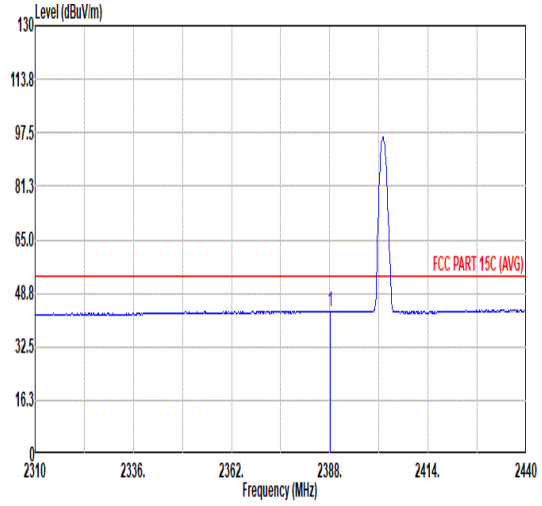
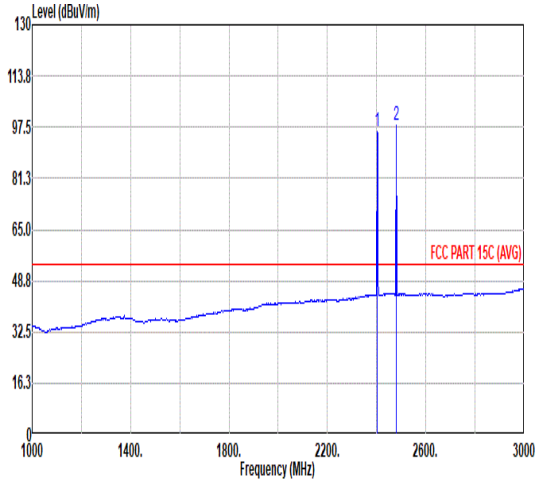
1	
LF	
2400-2483.5_Bluetooth-LE_GSFK _CH00_2402MHz	
Horizontal	**Vertical**



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB/m	cm	deg	
1	62.9800	28.99	-11.01	40.00	48.80	11.77	1.12	-19.81	---	---	Peak
2 p	199.7500	41.87	-1.63	43.50	57.91	14.75	2.09	-16.04	---	---	Peak
3	209.4500	40.49	-3.01	43.50	56.41	14.91	2.09	-15.92	---	---	Peak
4	275.4100	43.21	-2.79	46.00	55.19	18.63	2.33	-11.98	---	---	Peak
5 q	324.8800	43.71	-2.29	46.00	54.50	19.47	2.65	-10.79	100	52	QP
6	874.8700	39.87	-6.13	46.00	39.08	29.13	4.37	0.79	---	---	Peak



	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB/m	cm	deg	
1	46.4900	29.10	-10.90	40.00	45.16	15.93	0.96	-16.06	---	---	Peak
2	137.6700	35.50	-8.00	43.50	49.00	17.46	1.73	-13.50	---	---	Peak
3	274.4400	35.53	-10.47	46.00	47.52	18.64	2.32	-11.99	---	---	Peak
4	324.8800	38.98	-7.02	46.00	49.77	19.47	2.65	-10.79	---	---	Peak
5 p	596.4800	39.90	-6.10	46.00	44.21	25.64	3.61	-4.31	---	---	Peak
6	824.4301	30.68	-15.32	46.00	31.19	28.29	4.24	-0.51	---	---	Peak

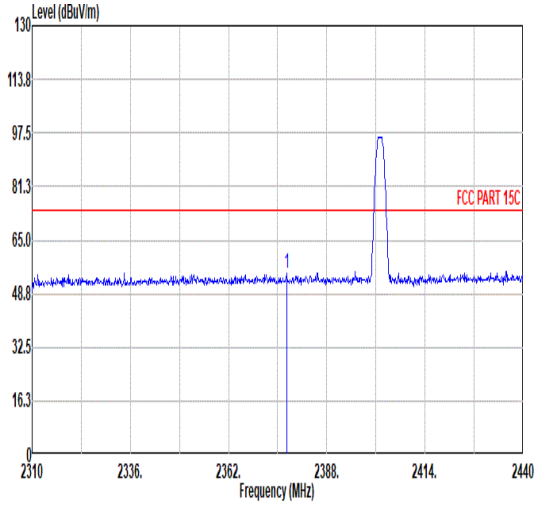
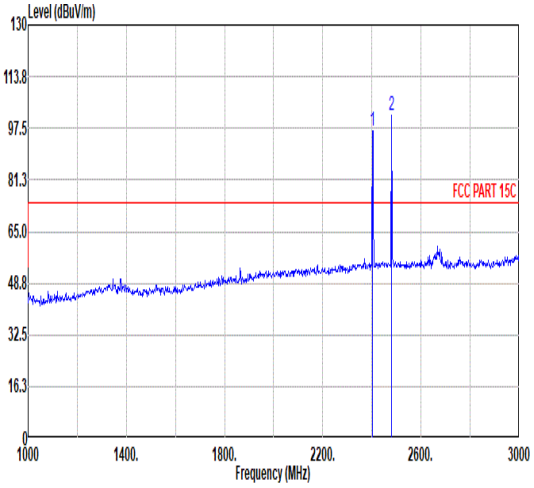
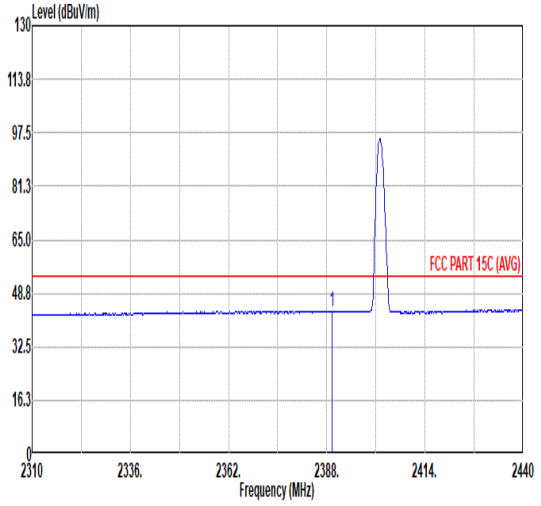
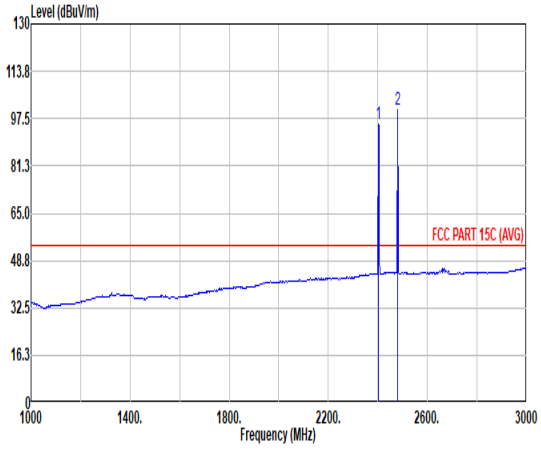
Mode	Co-Location mode	
	Band Edge - L	
	2400-2483.5_Bluetooth-LE_GSFK _CH00_2402MHz	
Pol.	Horizontal	Fundamental
Peak		
Avg		

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2370.58	55.22	74.00	-18.78	39.09	32.34	8.73	30.94	6.00	250	0	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2402.00	96.96	------	------	80.68	32.40	8.81	30.93	6.00	250	0	PEAK
2	2480.00	100.88	------	------	84.57	32.40	8.88	30.97	6.00	250	0	Peak

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2388.13	43.37	54.00	-10.63	27.15	32.38	8.77	30.93	6.00	250	0	AVERAGE

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2402.00	95.91	------	------	79.64	32.40	8.80	30.93	6.00	250	0	AVERAGE
2	2480.00	98.11	------	------	81.80	32.40	8.88	30.97	6.00	250	0	Average

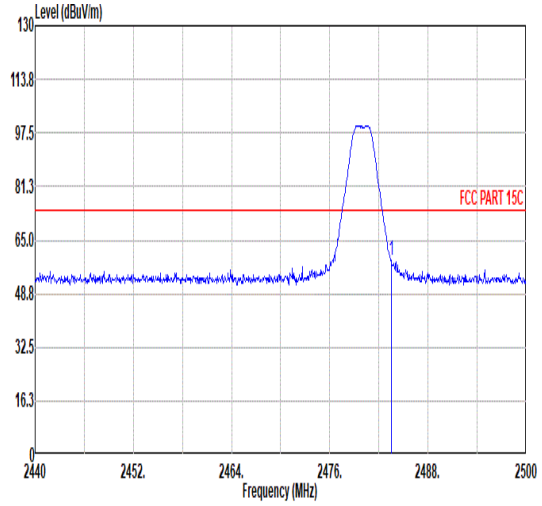
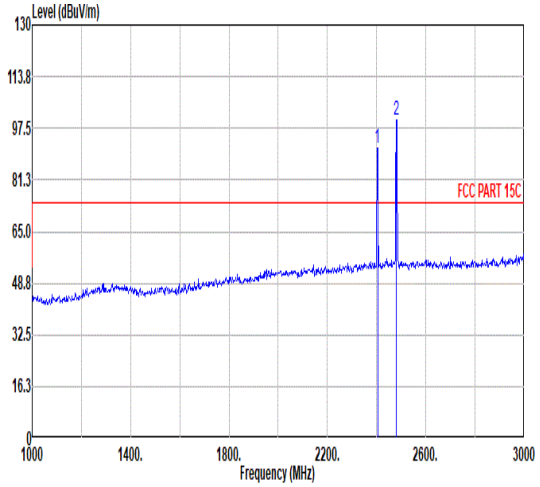
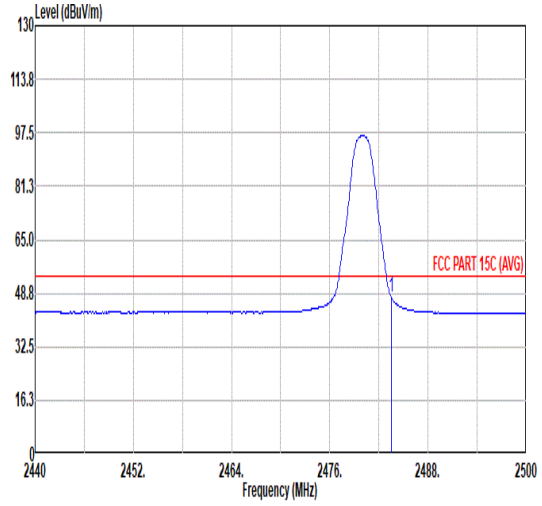
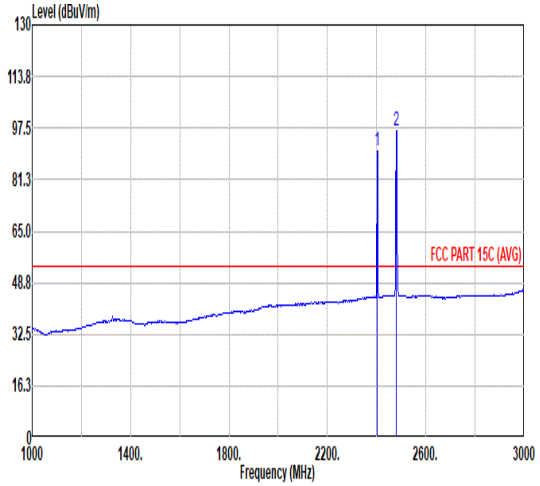
Mode	Co-Location mode	
	Band Edge - L	
	2400-2483.5_Bluetooth-LE_GSFK _CH00_2402MHz	
Pol.	Vertical	Fundamental
Peak		
Avg		

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2377.34	55.10	74.00	-18.90	38.93	32.35	8.75	30.93	6.00	112	62	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2402.00	96.59	------	------	80.31	32.40	8.81	30.93	6.00	112	62	PEAK
2	2480.00	101.51	------	------	85.20	32.40	8.88	30.97	6.00	112	62	Peak

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2389.43	43.40	54.00	-10.60	27.18	32.38	8.77	30.93	6.00	112	62	AVERAGE

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2402.00	95.50	------	------	79.23	32.40	8.80	30.93	6.00	112	62	AVERAGE
2	2480.00	100.63	------	------	84.32	32.40	8.88	30.97	6.00	112	62	Average

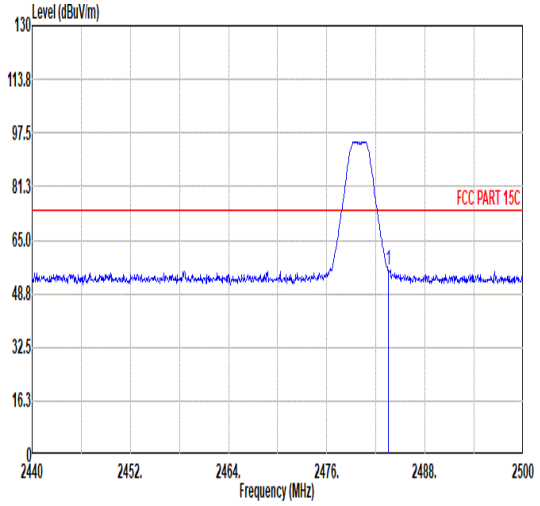
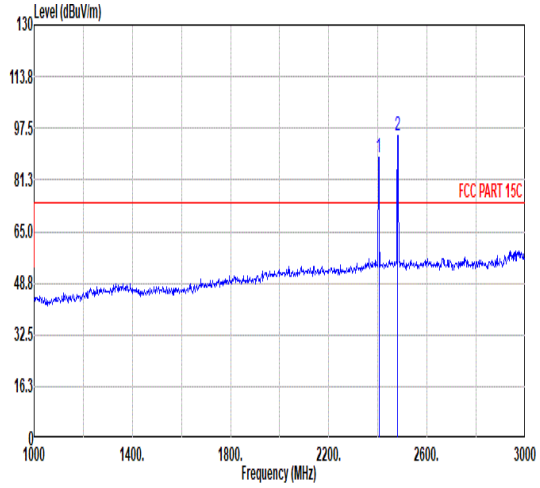
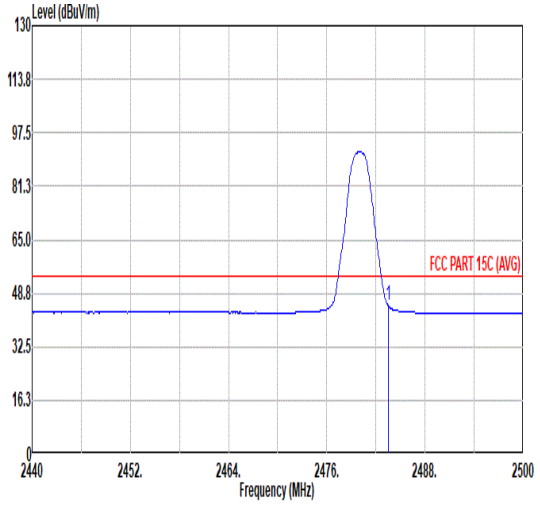
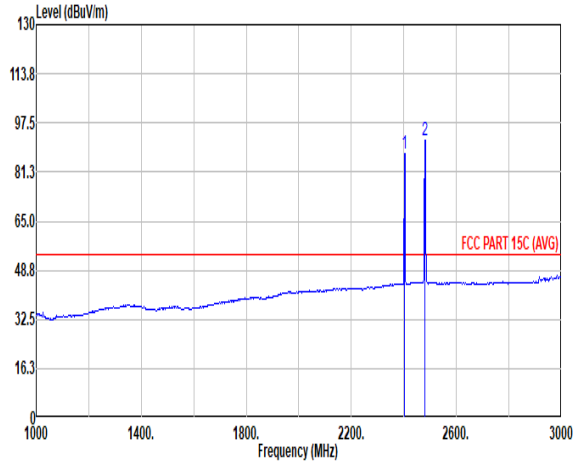
Mode	Co-Location mode	
	Band Edge - L	
	2400-2483.5_ Zigbee _CH26_2480MHz	
Pol.	Horizontal	Fundamental
Peak		
Avg		

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2483.50	58.89	74.00	-15.11	42.58	32.40	8.88	30.97	6.00	161	156	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2404.00	91.39	------	------	75.11	32.40	8.81	30.93	6.00	161	156	Peak
2	2480.00	100.07	------	------	83.76	32.40	8.88	30.97	6.00	161	156	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2483.50	47.47	54.00	-6.53	31.16	32.40	8.88	30.97	6.00	161	156	AVERAGE

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2402.00	90.24	------	------	73.97	32.40	8.80	30.93	6.00	161	156	Average
2	2480.00	96.78	------	------	80.47	32.40	8.88	30.97	6.00	161	156	AVERAGE

Mode	Co-Location mode	
	Band Edge - L	
	2400-2483.5_ Zigbee _CH26_2480MHz	
Pol.	Vertical	Fundamental
Peak		
Avg		

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2483.50	55.93	74.00	-18.07	39.62	32.40	8.88	30.97	6.00	300	75	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2404.00	88.29	------	------	72.01	32.40	8.81	30.93	6.00	300	75	Peak
2	2480.00	95.05	------	------	78.74	32.40	8.88	30.97	6.00	300	75	PEAK

	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2483.50	44.95	54.00	-9.05	28.64	32.40	8.88	30.97	6.00	300	75	AVERAGE

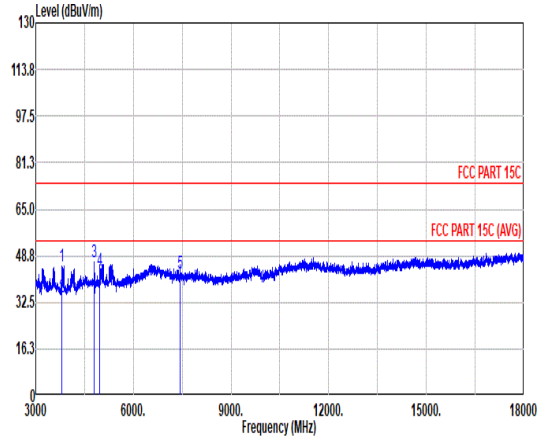
	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	2402.00	87.23	------	------	70.96	32.40	8.80	30.93	6.00	300	75	Average
2	2480.00	91.76	------	------	75.45	32.40	8.88	30.97	6.00	300	75	AVERAGE

Mode	Co-Location mode
	Harmonic
	2400-2483.5_ Zigbee _CH26_2480MHz

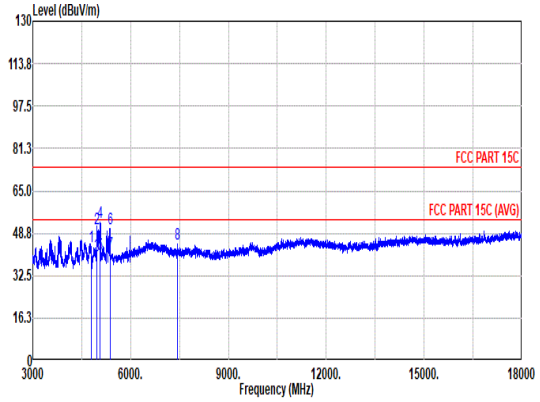
Pol.	Horizontal	Vertical

Peak

Avg



	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	3789.00	45.37	74.00	-28.63	68.51	33.21	10.69	67.04	0.00	100	271	Peak
2	3789.00	34.51	54.00	-19.49	57.65	33.21	10.69	67.04	0.00	100	271	Average
3	4804.00	46.65	74.00	-27.35	65.51	34.29	12.54	65.69	0.00	100	350	Peak
4	4960.00	43.87	74.00	-30.13	62.96	34.24	12.07	65.40	0.00	--	--	PEAK
5	7440.00	42.49	74.00	-31.51	56.67	35.80	15.21	65.19	0.00	--	--	PEAK

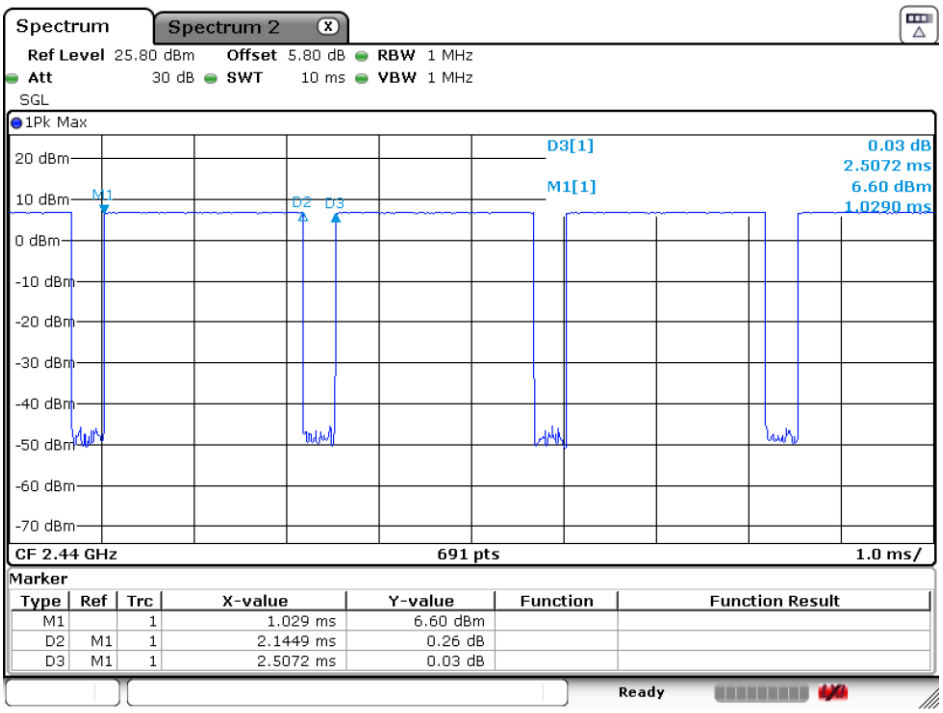


	Freq	Level	Limit Line	Margin	Read Level	Ant Factor	Cable Loss	Preamp Factor	Aux Factor	APos	TPos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	dB	dB	dB	cm	deg	
1	4804.00	43.42	74.00	-30.58	62.28	34.29	12.54	65.69	0.00	100	250	Peak
2	4960.00	50.70	74.00	-23.30	69.79	34.24	12.07	65.40	0.00	--	--	PEAK
3	4960.00	40.46	54.00	-13.54	59.55	34.24	12.07	65.40	0.00	100	205	Average
4	5071.00	53.21	74.00	-20.79	71.94	34.30	12.32	65.35	0.00	246	360	Peak
5	5071.00	40.95	54.00	-13.05	59.68	34.30	12.32	65.35	0.00	246	360	Average
6	5367.00	50.57	74.00	-23.43	68.92	34.60	12.72	65.67	0.00	100	73	Peak
7	5367.00	41.29	54.00	-12.71	59.64	34.60	12.72	65.67	0.00	100	73	Average
8	7440.00	44.56	74.00	-29.44	58.74	35.80	15.21	65.19	0.00	--	--	PEAK

Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
Bluetooth LE 1Mbps	85.55	2.145	0.466	0.47kHz
Bluetooth LE 2Mbps	57.53	1.080	0.926	1kHz

Bluetooth LE 1Mbps



Bluetooth LE 2Mbps