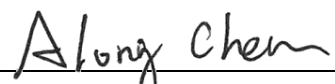


NCC Test Report

Equipment : GPS 心率跑錶
Model No. : FORERUNNER 245 MUSIC
Brand Name : GARMIN
Applicant : 台灣國際航電股份有限公司
Address : 新北市汐止區樟樹二路 68 號 6 樓
Standard : LP0002 Section 3.10.1 (2018-01-10)
Received Date : Aug. 30, 2018
Tested Date : Nov. 12 ~ Nov. 22, 2018

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:


Along Chen / Assistant Manager

Approved by:

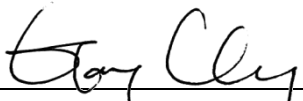

Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
TR883003AD	Rev. 01	Initial issue	Nov. 29, 2018

Summary of Test Results

NCC Rules	Test Items	Measured	Result
2.3	Conducted Emissions	[dBuV]: 0.731MHz 28.65(Margin -17.35dB) - AV	Pass
3.10.1.5 2.8	Radiated Emissions	[dBuV/m at 3m]: 12205.00MHz 51.28 (Margin -2.72dB) - AV	Pass
3.10.1.5	Band Edge	Meet the requirement of limit	Pass
3.10.1.2(1)(B)	Conducted Output Power	Power [dBm]: 11.06	Pass
3.10.1.6(1)(A)	Number of Hopping Channels	Meet the requirement of limit	Pass
3.10.1.6(1)(A)	Hopping Channel Separation	Meet the requirement of limit	Pass
3.10.1.6(1)(A)	Dwell Time	Meet the requirement of limit	Pass
3.10.1.4	Antenna Requirement	Meet the requirement of limit	Pass

Declaration of Conformity:

The judgement of conformity in the report is based on the measurement results excluding the measurement uncertainty.

Comments and Explanations:

None

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

RF General Information				
Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number	Data Rate
2400-2483.5	BR V4.2	2402-2480	0-78 [79]	1 Mbps
2400-2483.5	EDR V4.2	2402-2480	0-78 [79]	2 Mbps
2400-2483.5	EDR V4.2	2402-2480	0-78 [79]	3 Mbps
Note 1: RF output power specifies that Maximum Peak Conducted Output Power.				
Note 2: Bluetooth BR uses a GFSK.				
Note 3: Bluetooth EDR uses a combination of $\pi/4$ -DQPSK and 8DPSK.				

1.1.2 Antenna Details

Ant. No.	Type	Connector	Gain (dBi)	Remarks
1	IFA	N/A	-2.23392	---

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	5Vdc, 550mA 3.8Vdc, 180mAh
-------------------	-------------------------------

1.1.4 Accessories

No.	Equipment	Description
1	内建電池 01	Brand: Garmin Model: 361-00086-11 Power Rating: 3.8Vdc, 180mAh, 0.68Wh
2	内建電池 02	Brand: Garmin Model: 361-00086-21 Power Rating: 3.8Vdc, 178mAh
3	USB cable	0.52m non-shielded without core

1.1.5 Channel List

Frequency band (MHz)				2400~2483.5			
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	20	2422	40	2442	60	2462
1	2403	21	2423	41	2443	61	2463
2	2404	22	2424	42	2444	62	2464
3	2405	23	2425	43	2445	63	2465
4	2406	24	2426	44	2446	64	2466
5	2407	25	2427	45	2447	65	2467
6	2408	26	2428	46	2448	66	2468
7	2409	27	2429	47	2449	67	2469
8	2410	28	2430	48	2450	68	2470
9	2411	29	2431	49	2451	69	2471
10	2412	30	2432	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	76	2478
17	2419	37	2439	57	2459	77	2479
18	2420	38	2440	58	2460	78	2480
19	2421	39	2441	59	2461	---	---

1.1.6 Test Tool and Duty Cycle

Test Tool	CBT 控制發射	
Modulation Mode	Duty Cycle (%)	Duty Factor (dB)
GFSK/1Mbps	79.68%	0.99
8DPSK/3Mbps	78.19%	1.07

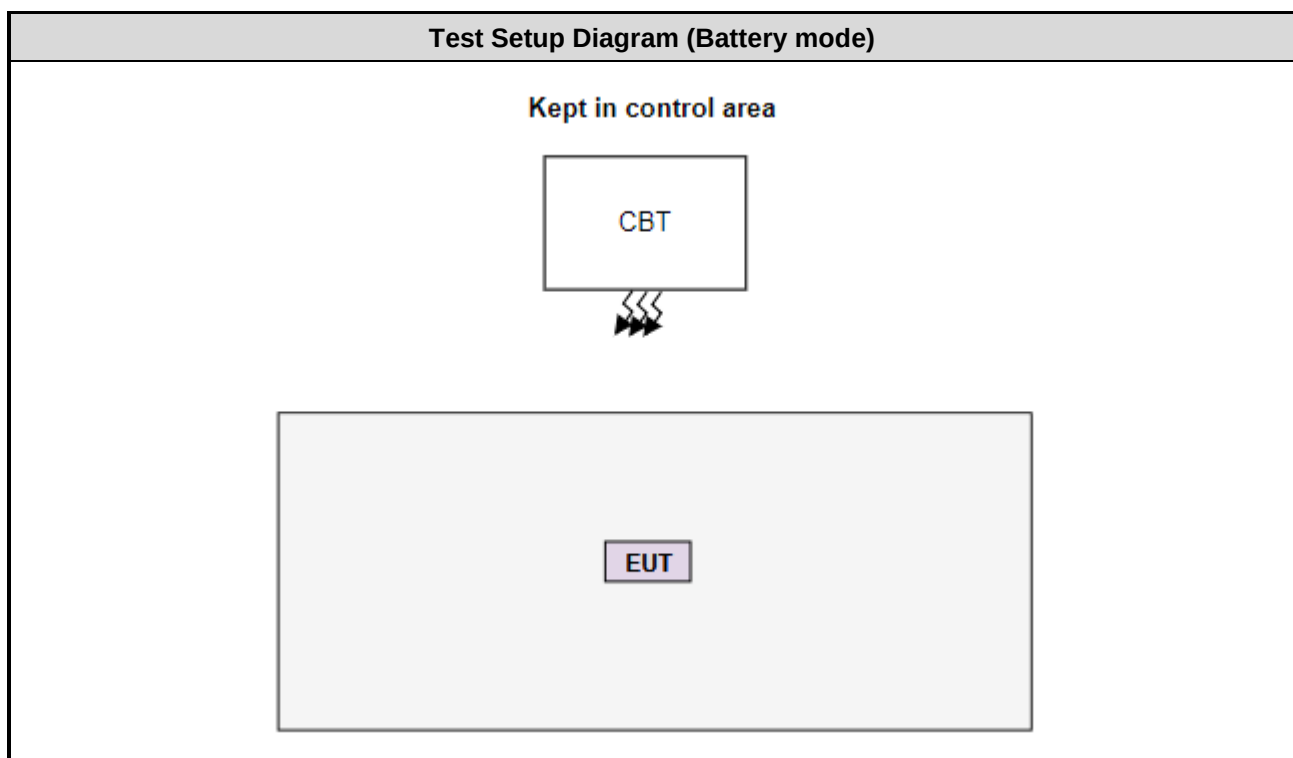
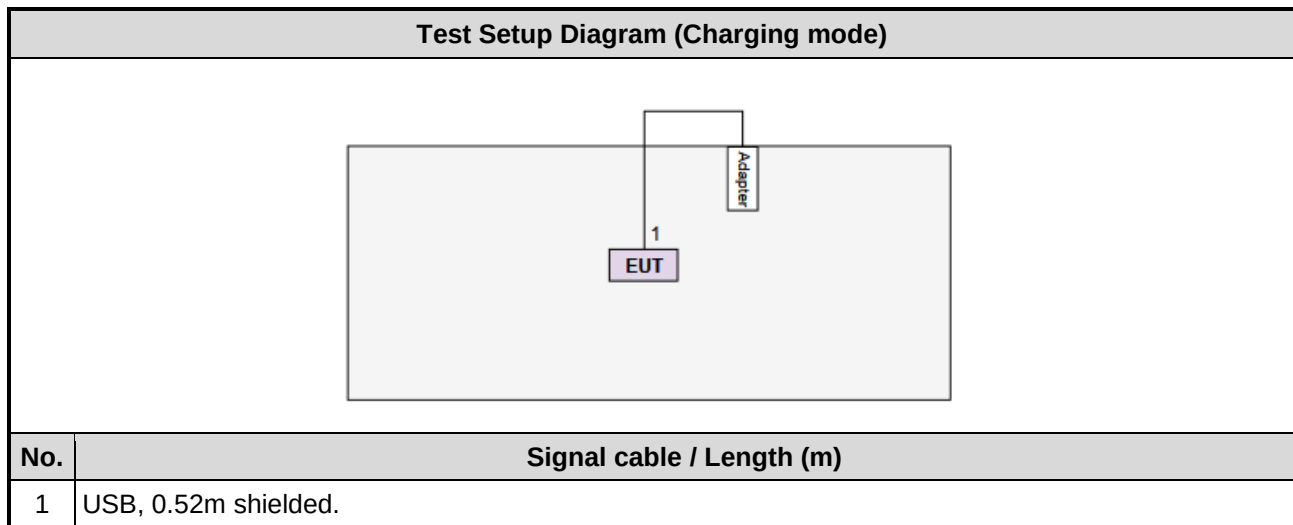
1.1.7 Power Setting

Modulation Mode	Test Frequency (MHz)		
	2402	2441	2480
GFSK/1Mbps	Default	Default	Default
$\pi/4$ -DQPSK /2Mbps	Default	Default	Default
8DPSK/3Mbps	Default	Default	Default

1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	Adapter	Apple	A1385	---	---

1.3 Test Setup Chart



1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Nov. 22, 2018				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Jan. 05, 2018	Jan. 04, 2019
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 05, 2018	Nov. 04, 2019
RF Cable-CON	EMC	EMCCFD300-BM-B M-6000	50821	Dec. 18, 2017	Dec. 17, 2018
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Bluetooth Tester	R&S	CBT	100959	Sep. 24, 2018	Sep. 23, 2019
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber 3 / (03CH03-WS)				
Tested Date	Nov. 20 ~ Nov. 21, 2018				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101499	Jan. 03, 2018	Jan. 02, 2019
Receiver	R&S	ESR3	101657	Jan. 05, 2018	Jan. 04, 2019
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Apr. 19, 2018	Apr. 18, 2019
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Jan. 18, 2018	Jan. 17, 2019
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 15, 2018	Nov. 14, 2019
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 09, 2018	Nov. 08, 2019
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Dec. 07, 2017	Dec. 06, 2018
Preamplifier	EMC	EMC02325	980187	Aug. 24, 2018	Aug. 23, 2019
Preamplifier	Agilent	83017A	MY53270014	Aug. 09, 2018	Aug. 08, 2019
Preamplifier	EMC	EMC184045B	980192	Aug. 09, 2018	Aug. 08, 2019
RF cable-3M	EMC	EMC104-SM-SM-80 00	181107	Oct. 30, 2018	Oct. 29, 2019
RF cable-8M	HUBER+SUHNER	SUCOFLEX104	MY32487/4	Oct. 30, 2018	Oct. 29, 2019
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Oct. 30, 2018	Oct. 29, 2019
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800 -001	Oct. 30, 2018	Oct. 29, 2019
LF cable-3M	EMC	EMC8D-NM-NM-300 0	131103	Oct. 30, 2018	Oct. 29, 2019
LF cable-13M	EMC	EMC8D-NM-NM-130 00	131104	Oct. 30, 2018	Oct. 29, 2019
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Bluetooth Tester	R&S	CBT	100959	Sep. 24, 2018	Sep. 23, 2019
Note: Calibration Interval of instruments listed above is one year.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Nov. 12, 2018				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101063	Apr. 16, 2018	Apr. 15, 2019
Power Meter	Anritsu	ML2495A	1241002	Oct. 09, 2018	Oct. 08, 2019
Power Sensor	Anritsu	MA2411B	1207366	Oct. 09, 2018	Oct. 08, 2019
DC POWER SOURCE	GW INSTEK	GPC-6030D	EM892433	Oct. 25, 2018	Oct. 24, 2019
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
Bluetooth Tester	R&S	CBT	100959	Sep. 24, 2018	Sep. 23, 2019
Note: Calibration Interval of instruments listed above is one year.					

1.5 Test Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

LP0002 Section 3.10.1 (2018-01-10)

ANSI C63.10-2013

ANSI C63.4-2014

FCC KDB 558074 D01 15.247 Meas Guidance v05

1.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	±34.134 Hz
Conducted power	±0.808 dB
Power density	±0.463 dB
Conducted emission	±2.670 dB
AC conducted emission	±2.90 dB
Radiated emission ≤ 1GHz	±3.66 dB
Radiated emission > 1GHz	±5.37 dB

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	24°C / 56%	Alex Tsai
Radiated Emissions	03CH03-WS	24- 25°C / 65-66%	Roger Lu Aska Huang
RF Conducted	TH01-WS	23°C / 65%	Felix Sung

- FCC Designation No.: TW0009
- FCC site registration No.: 207696
- IC site registration No.: 10807C-1

2.2 The Worst Test Modes and Channel Details

Test item	Mode	Test Frequency (MHz)	Data Rate	Mode
AC Power Line Conducted Emissions	---	---	---	Charging mode
Radiated Emissions ≤ 1GHz	---	---	---	Charging mode
	GFSK	2402	1Mbps	Battery mode (TX)
Radiated Emissions > 1GHz	GFSK	2402, 2441, 2480	1Mbps	Battery mode (TX)
	8DPSK	2402, 2441, 2480	3Mbps	
Conducted Output Power	GFSK	2402, 2441, 2480	1Mbps	Battery mode (TX)
	1/4 DQPSK	2402, 2441, 2480	2Mbps	
	8DPSK	2402, 2441, 2480	3Mbps	
Number of Hopping Channels	GFSK	2402~2480	1Mbps	Battery mode (TX)
	1/4 DQPSK	2402~2480	2Mbps	
	8DPSK	2402~2480	3Mbps	
Hopping Channel Separation	GFSK	2402, 2441, 2480	1Mbps	Battery mode (TX)
	1/4 DQPSK	2402, 2441, 2480	2Mbps	
	8DPSK	2402, 2441, 2480	3Mbps	
Dwell Time	GFSK	2441	1Mbps	Battery mode (TX)
	1/4 DQPSK	2441	2Mbps	
	8DPSK	2441	3Mbps	

NOTE:

- The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Y-plane** results were found as the worst case and were shown in this report.
- 內建電池 01 and 內建電池 02 had been pretested and found that 內建電池 01 was the worst case and was selected for final testing. (內建電池 01: 361-00086-11, 內建電池 02: 361-00086-21)

Test item	Mode	Test Frequency (MHz)	Data Rate	Mode
Radiated Emissions	GFSK	2402	1Mbps	Battery mode (RX)
NOTE: 1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The Y-plane results were found as the worst case and were shown in this report. 2. 內建電池 01 and 內建電池 02 had been pretested and found that 內建電池 01 was the worst case and was selected for final testing. (內建電池 01: 361-00086-11, 內建電池 02: 361-00086-21)				

3 Transmitter Test Results

3.1 Conducted Emissions

3.1.1 Limit of Conducted Emissions

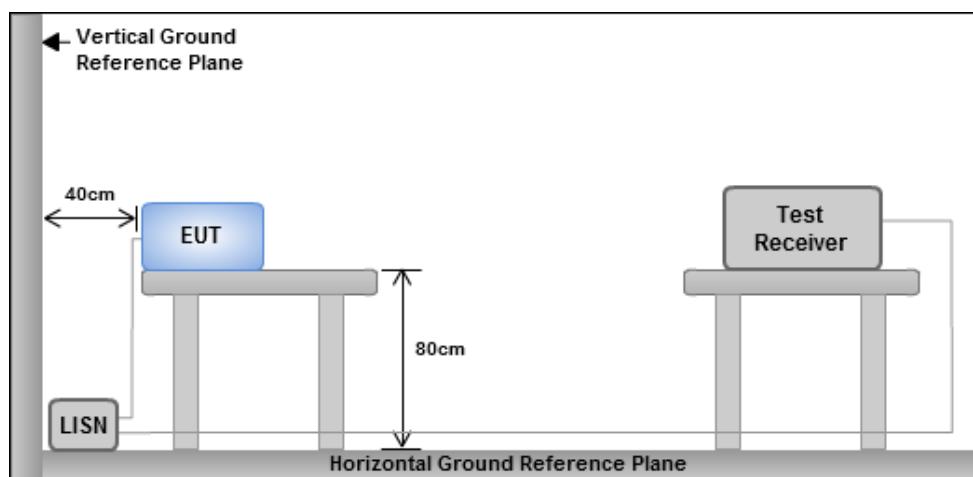
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

3.1.2 Test Procedures

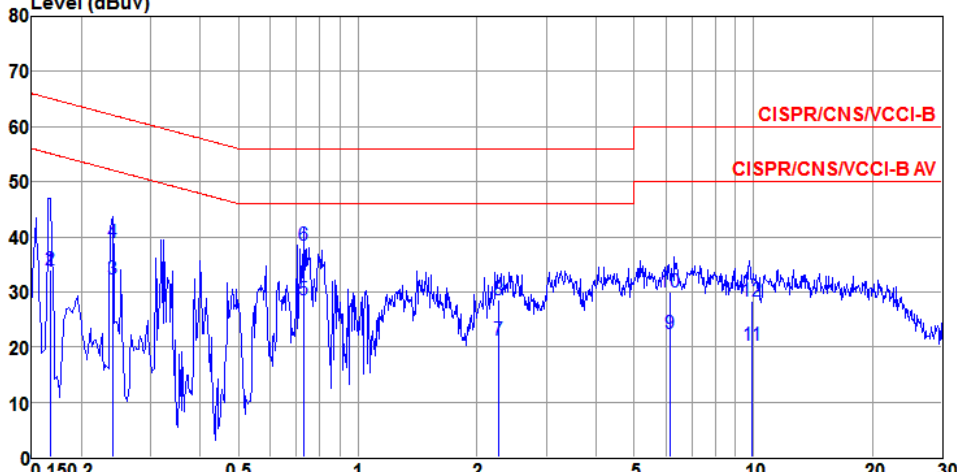
1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V/60Hz

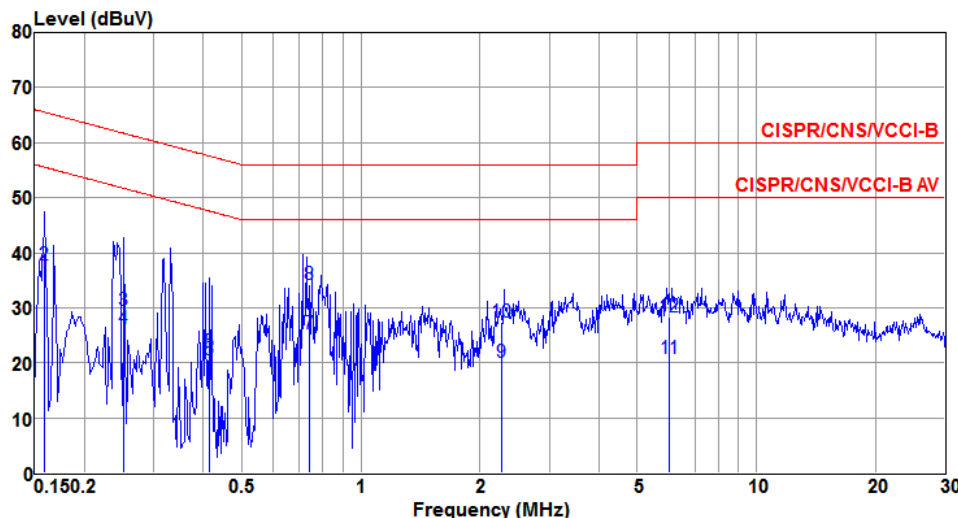
3.1.3 Test Setup



- Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 Test Result of Conducted Emissions

Mode	Charging mode	Power Phase	Line																																																																																																																					
Level (dBuV)  Frequency (MHz) <table><thead><tr><th></th><th>Freq MHz</th><th>Level dBuV</th><th>Limit Line dBuV</th><th>Over Limit dB</th><th>Read Level dBuV</th><th>LISN factor dB</th><th>cable loss dB</th><th>Remark</th></tr></thead><tbody><tr><td>1</td><td>0.168</td><td>33.66</td><td>55.08</td><td>-21.42</td><td>33.47</td><td>0.07</td><td>0.02</td><td>Average</td></tr><tr><td>2</td><td>0.168</td><td>34.03</td><td>65.08</td><td>-31.05</td><td>33.84</td><td>0.07</td><td>0.02</td><td>QP</td></tr><tr><td>3</td><td>0.240</td><td>32.34</td><td>52.08</td><td>-19.74</td><td>32.13</td><td>0.06</td><td>0.03</td><td>Average</td></tr><tr><td>4</td><td>0.240</td><td>38.92</td><td>62.08</td><td>-23.16</td><td>38.71</td><td>0.06</td><td>0.03</td><td>QP</td></tr><tr><td>5*</td><td>0.731</td><td>28.65</td><td>46.00</td><td>-17.35</td><td>28.36</td><td>0.07</td><td>0.03</td><td>Average</td></tr><tr><td>6</td><td>0.731</td><td>38.44</td><td>56.00</td><td>-17.56</td><td>38.15</td><td>0.07</td><td>0.03</td><td>QP</td></tr><tr><td>7</td><td>2.271</td><td>21.26</td><td>46.00</td><td>-24.74</td><td>20.81</td><td>0.09</td><td>0.12</td><td>Average</td></tr><tr><td>8</td><td>2.271</td><td>28.68</td><td>56.00</td><td>-27.32</td><td>28.23</td><td>0.09</td><td>0.12</td><td>QP</td></tr><tr><td>9</td><td>6.168</td><td>22.50</td><td>50.00</td><td>-27.50</td><td>21.82</td><td>0.14</td><td>0.27</td><td>Average</td></tr><tr><td>10</td><td>6.168</td><td>29.94</td><td>60.00</td><td>-30.06</td><td>29.26</td><td>0.14</td><td>0.27</td><td>QP</td></tr><tr><td>11</td><td>9.922</td><td>20.30</td><td>50.00</td><td>-29.70</td><td>19.51</td><td>0.18</td><td>0.32</td><td>Average</td></tr><tr><td>12</td><td>9.922</td><td>28.31</td><td>60.00</td><td>-31.69</td><td>27.52</td><td>0.18</td><td>0.32</td><td>QP</td></tr></tbody></table> Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB). 2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).					Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark	1	0.168	33.66	55.08	-21.42	33.47	0.07	0.02	Average	2	0.168	34.03	65.08	-31.05	33.84	0.07	0.02	QP	3	0.240	32.34	52.08	-19.74	32.13	0.06	0.03	Average	4	0.240	38.92	62.08	-23.16	38.71	0.06	0.03	QP	5*	0.731	28.65	46.00	-17.35	28.36	0.07	0.03	Average	6	0.731	38.44	56.00	-17.56	38.15	0.07	0.03	QP	7	2.271	21.26	46.00	-24.74	20.81	0.09	0.12	Average	8	2.271	28.68	56.00	-27.32	28.23	0.09	0.12	QP	9	6.168	22.50	50.00	-27.50	21.82	0.14	0.27	Average	10	6.168	29.94	60.00	-30.06	29.26	0.14	0.27	QP	11	9.922	20.30	50.00	-29.70	19.51	0.18	0.32	Average	12	9.922	28.31	60.00	-31.69	27.52	0.18	0.32	QP
	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark																																																																																																																
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12	9.922	28.31	60.00	-31.69	27.52	0.18	0.32	QP																																																																																																																

Mode	Charging mode	Power Phase	Neutral																																																																																																																																							
Level (dBuV)  Frequency (MHz) <table><thead><tr><th></th><th>Freq</th><th>Level</th><th>Limit</th><th>Over</th><th>Read</th><th>LISN</th><th>cable</th><th></th></tr><tr><th></th><th>MHz</th><th>dBuV</th><th>Line</th><th>Limit</th><th>Level</th><th>factor</th><th>loss</th><th>Remark</th></tr><tr><th></th><th></th><th></th><th>dBuV</th><th>dB</th><th>dBuV</th><th>dB</th><th>dB</th><th></th></tr></thead><tbody><tr><td>1*</td><td>0.159</td><td>36.44</td><td>55.52</td><td>-19.08</td><td>36.18</td><td>0.05</td><td>0.01</td><td>Average</td></tr><tr><td>2</td><td>0.159</td><td>37.81</td><td>65.52</td><td>-27.71</td><td>37.55</td><td>0.05</td><td>0.01</td><td>QP</td></tr><tr><td>3</td><td>0.252</td><td>29.56</td><td>51.69</td><td>-22.13</td><td>29.26</td><td>0.04</td><td>0.03</td><td>Average</td></tr><tr><td>4</td><td>0.252</td><td>26.17</td><td>61.69</td><td>-35.52</td><td>25.87</td><td>0.04</td><td>0.03</td><td>QP</td></tr><tr><td>5</td><td>0.415</td><td>21.92</td><td>47.55</td><td>-25.63</td><td>21.59</td><td>0.05</td><td>0.02</td><td>Average</td></tr><tr><td>6</td><td>0.415</td><td>20.63</td><td>57.55</td><td>-36.92</td><td>20.30</td><td>0.05</td><td>0.02</td><td>QP</td></tr><tr><td>7</td><td>0.739</td><td>25.19</td><td>46.00</td><td>-20.81</td><td>24.81</td><td>0.06</td><td>0.03</td><td>Average</td></tr><tr><td>8</td><td>0.739</td><td>34.24</td><td>56.00</td><td>-21.76</td><td>33.86</td><td>0.06</td><td>0.03</td><td>QP</td></tr><tr><td>9</td><td>2.268</td><td>19.98</td><td>46.00</td><td>-26.02</td><td>19.47</td><td>0.07</td><td>0.12</td><td>Average</td></tr><tr><td>10</td><td>2.268</td><td>27.37</td><td>56.00</td><td>-28.63</td><td>26.86</td><td>0.07</td><td>0.12</td><td>QP</td></tr><tr><td>11</td><td>6.029</td><td>20.70</td><td>50.00</td><td>-29.30</td><td>19.96</td><td>0.13</td><td>0.26</td><td>Average</td></tr><tr><td>12</td><td>6.029</td><td>28.24</td><td>60.00</td><td>-31.76</td><td>27.50</td><td>0.13</td><td>0.26</td><td>QP</td></tr></tbody></table> Note 1: Level (dBuV) = Read Level (dBuV) + LISN Factor (dB) + Cable Loss (dB). 2: Over Limit (dB) = Level (dBuV) – Limit Line (dBuV).					Freq	Level	Limit	Over	Read	LISN	cable			MHz	dBuV	Line	Limit	Level	factor	loss	Remark				dBuV	dB	dBuV	dB	dB		1*	0.159	36.44	55.52	-19.08	36.18	0.05	0.01	Average	2	0.159	37.81	65.52	-27.71	37.55	0.05	0.01	QP	3	0.252	29.56	51.69	-22.13	29.26	0.04	0.03	Average	4	0.252	26.17	61.69	-35.52	25.87	0.04	0.03	QP	5	0.415	21.92	47.55	-25.63	21.59	0.05	0.02	Average	6	0.415	20.63	57.55	-36.92	20.30	0.05	0.02	QP	7	0.739	25.19	46.00	-20.81	24.81	0.06	0.03	Average	8	0.739	34.24	56.00	-21.76	33.86	0.06	0.03	QP	9	2.268	19.98	46.00	-26.02	19.47	0.07	0.12	Average	10	2.268	27.37	56.00	-28.63	26.86	0.07	0.12	QP	11	6.029	20.70	50.00	-29.30	19.96	0.13	0.26	Average	12	6.029	28.24	60.00	-31.76	27.50	0.13	0.26	QP
	Freq	Level	Limit	Over	Read	LISN	cable																																																																																																																																			
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12	6.029	28.24	60.00	-31.76	27.50	0.13	0.26	QP																																																																																																																																		

3.2 Unwanted Emissions into Restricted Frequency Bands

3.2.1 Limit of Unwanted Emissions into Restricted Frequency Bands

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Quasi-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

3.2.2 Test Procedures

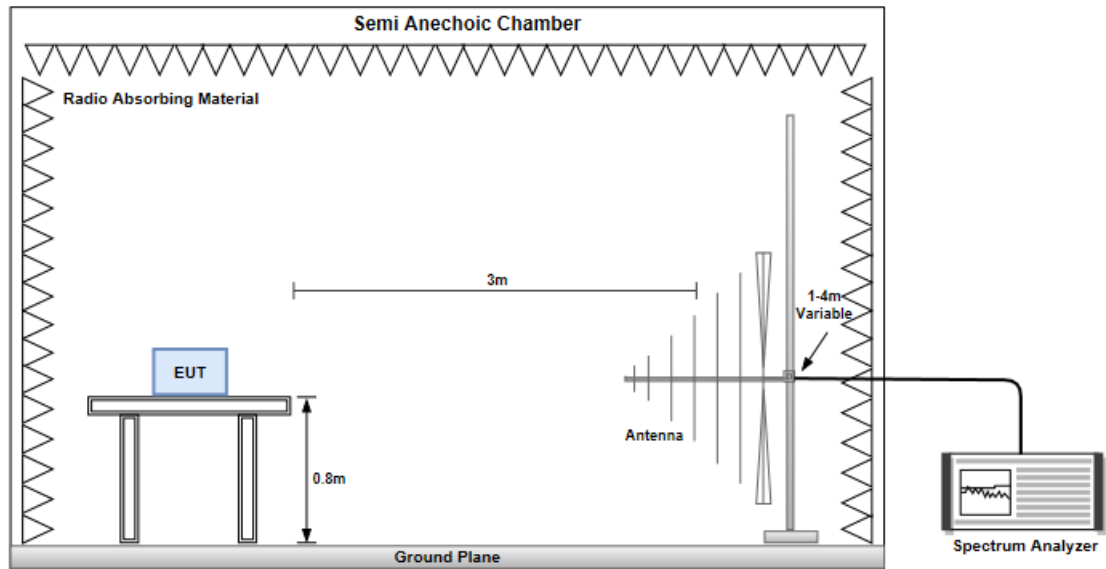
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

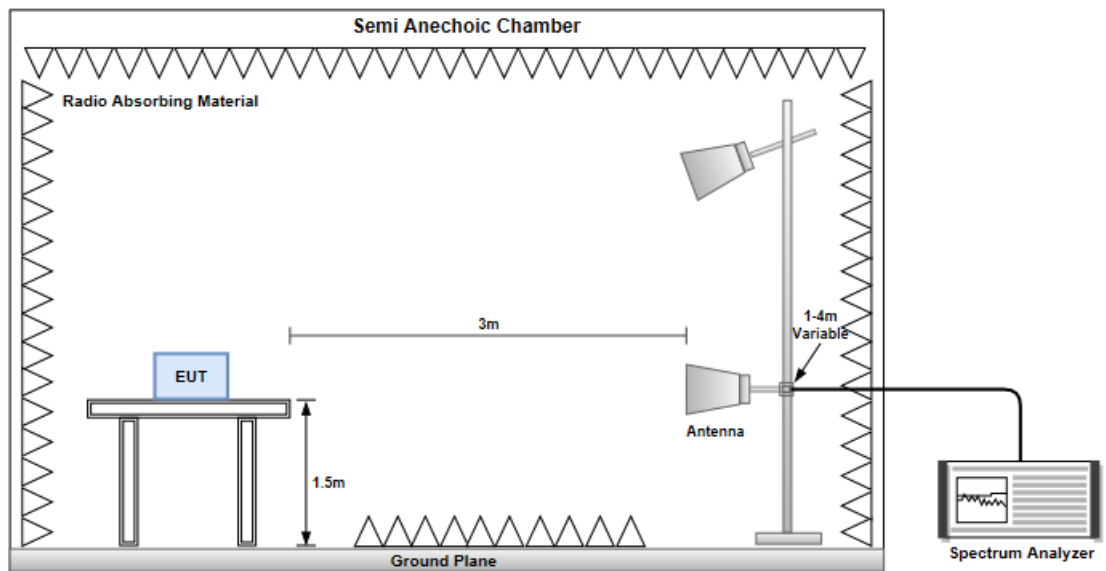
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. Radiated emission above 1GHz / Peak value
RBW=1MHz, VBW=3MHz and Peak detector
3. Radiated emission above 1GHz / Average value
RBW=1MHz, VBW=1/T and Peak detector

3.2.3 Test Setup

Radiated Emissions below 1 GHz

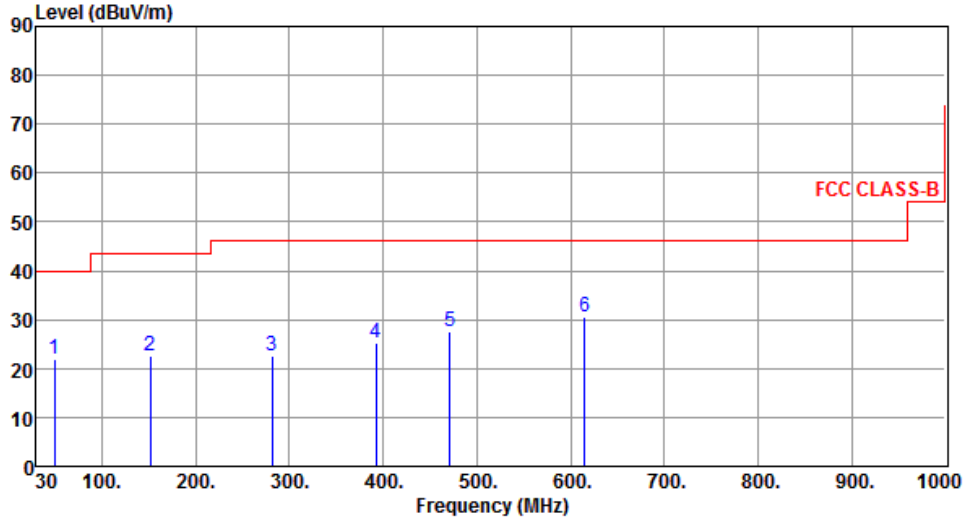


Radiated Emissions above 1 GHz



3.2.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Polarization	Horizontal	Mode	Charging mode
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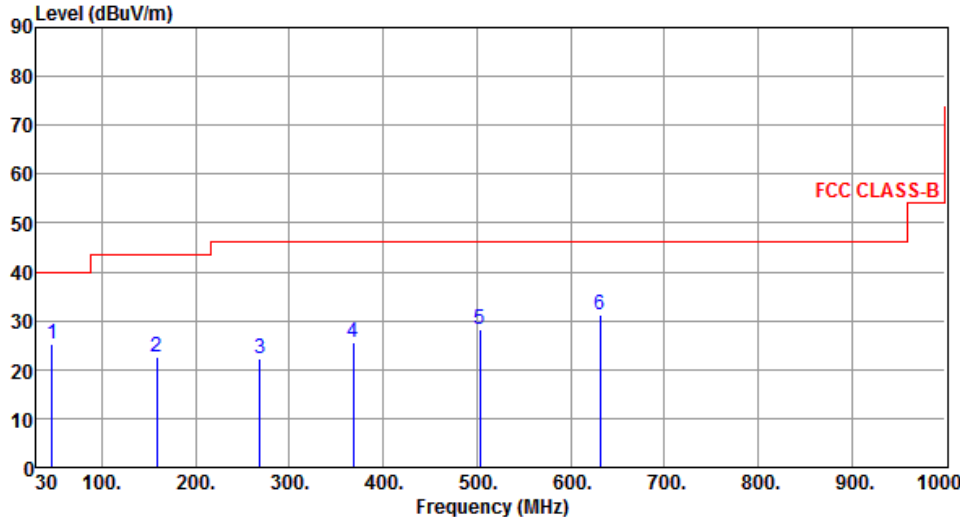


The graph displays the radiated unwanted emissions for FCC CLASS-B. The y-axis represents the Level in dBuV/m, ranging from 0 to 90. The x-axis represents the Frequency in MHz, ranging from 30 to 1000. A red line indicates the FCC CLASS-B limit, which is 40 dBuV/m from 30 to 100 MHz, 45 dBuV/m from 100 to 300 MHz, and 55 dBuV/m from 300 to 1000 MHz. Six blue vertical lines represent measured peaks at the following frequencies: 49.36 MHz (Peak 1), 151.35 MHz (Peak 2), 281.23 MHz (Peak 3), 392.68 MHz (Peak 4), 471.47 MHz (Peak 5), and 614.91 MHz (Peak 6). All measured peaks are well below the FCC CLASS-B limit.

	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	49.36	21.97	40.00	-18.03	29.87	-7.90	Peak	---	---
2	151.35	22.47	43.50	-21.03	30.71	-8.24	Peak	---	---
3	281.23	22.49	46.00	-23.51	30.62	-8.13	Peak	---	---
4	392.68	25.37	46.00	-20.63	30.56	-5.19	Peak	---	---
5	471.47	27.41	46.00	-18.59	30.77	-3.36	Peak	---	---
6	614.91	30.55	46.00	-15.45	30.73	-0.18	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

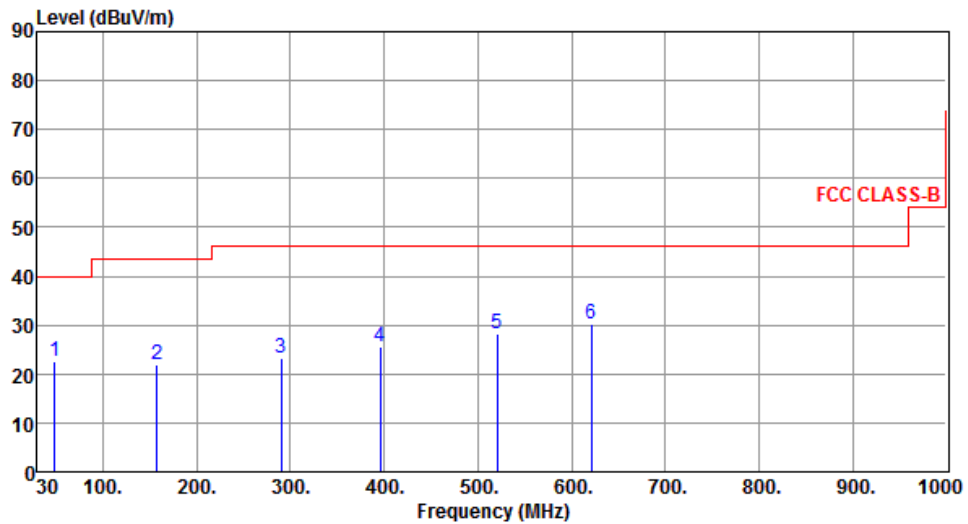
Polarization	Vertical	Mode	Charging mode
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	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	46.58	25.37	40.00	-14.63	33.41	-8.04	Peak	---	---
2	158.12	22.48	43.50	-21.02	30.71	-8.23	Peak	---	---
3	268.49	22.38	46.00	-23.62	31.05	-8.67	Peak	---	---
4	368.53	25.48	46.00	-20.52	31.34	-5.86	Peak	---	---
5	503.41	28.27	46.00	-17.73	31.09	-2.82	Peak	---	---
6	631.38	31.27	46.00	-14.73	31.20	0.07	Peak	---	---

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).
 Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	GFSK	Test Freq. (MHz)	2402
Polarization	Horizontal	Mode	Battery mode



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	48.43	22.53	40.00	-17.47	30.46	-7.93	Peak	---	---
2	158.04	21.77	43.50	-21.73	30.00	-8.23	Peak	---	---
3	289.96	23.37	46.00	-22.63	31.29	-7.92	Peak	---	---
4	395.69	25.55	46.00	-20.45	30.65	-5.10	Peak	---	---
5	520.82	28.27	46.00	-17.73	30.74	-2.47	Peak	---	---
6	620.73	30.25	46.00	-15.75	30.34	-0.09	Peak	---	---

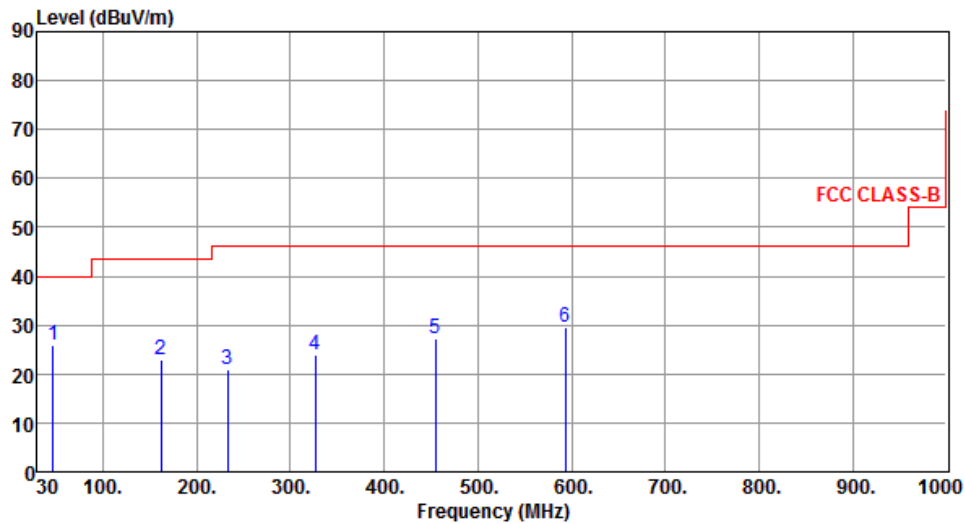
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	GFSK	Test Freq. (MHz)	2402
Polarization	Vertical	Mode	Battery mode



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	46.49	25.75	40.00	-14.25	33.79	-8.04	Peak	---	---
2	161.92	22.96	43.50	-20.54	31.23	-8.27	Peak	---	---
3	232.73	21.02	46.00	-24.98	31.05	-10.03	Peak	---	---
4	326.82	24.04	46.00	-21.96	31.03	-6.99	Peak	---	---
5	454.86	27.21	46.00	-18.79	30.84	-3.63	Peak	---	---
6	593.57	29.71	46.00	-16.29	30.31	-0.60	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

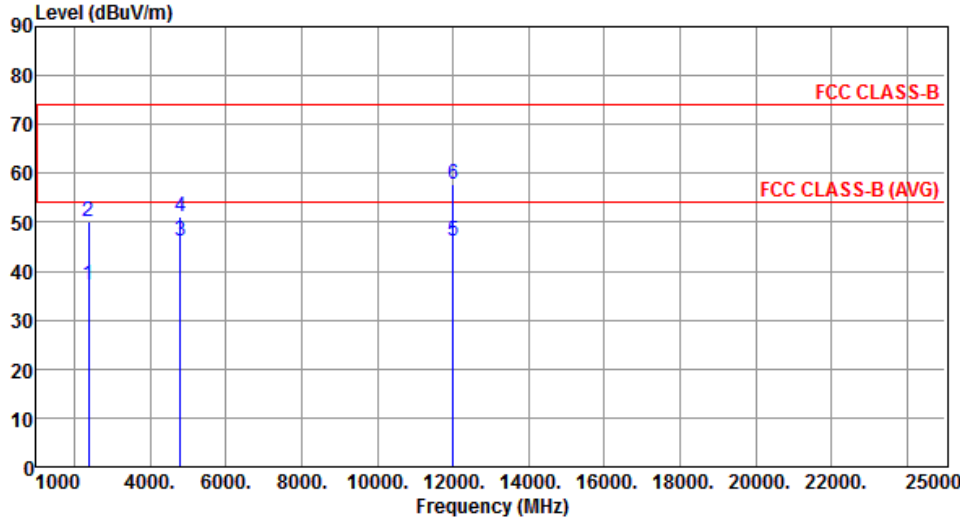
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

3.2.5 Transmitter Radiated Unwanted Emissions (Above 1GHz) for GFSK

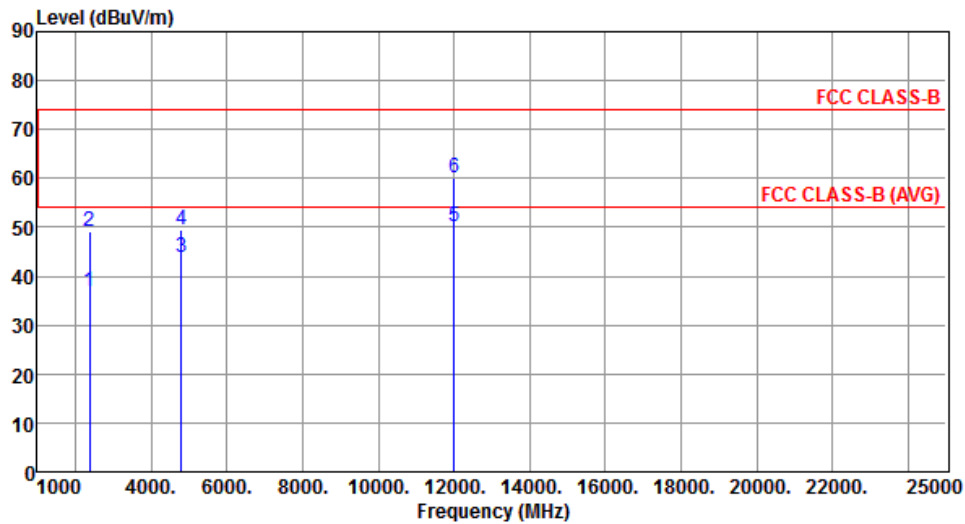
Modulation	GFSK	Test Freq. (MHz)	2402
Polarization	Horizontal	Mode	Battery mode



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.19	54.00	-16.81	38.43	-1.24	Average	132	32
2	2390.00	50.05	74.00	-23.95	51.29	-1.24	Peak	132	32
3	4804.00	46.14	54.00	-7.86	40.64	5.50	Average	100	230
4	4804.00	51.13	74.00	-22.87	45.63	5.50	Peak	100	230
5	12010.00	46.19	54.00	-7.81	30.45	15.74	Average	100	223
6	12010.00	57.65	74.00	-16.35	41.91	15.74	Peak	100	223

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	GFSK	Test Freq. (MHz)	2402
Polarization	Vertical	Mode	Battery mode



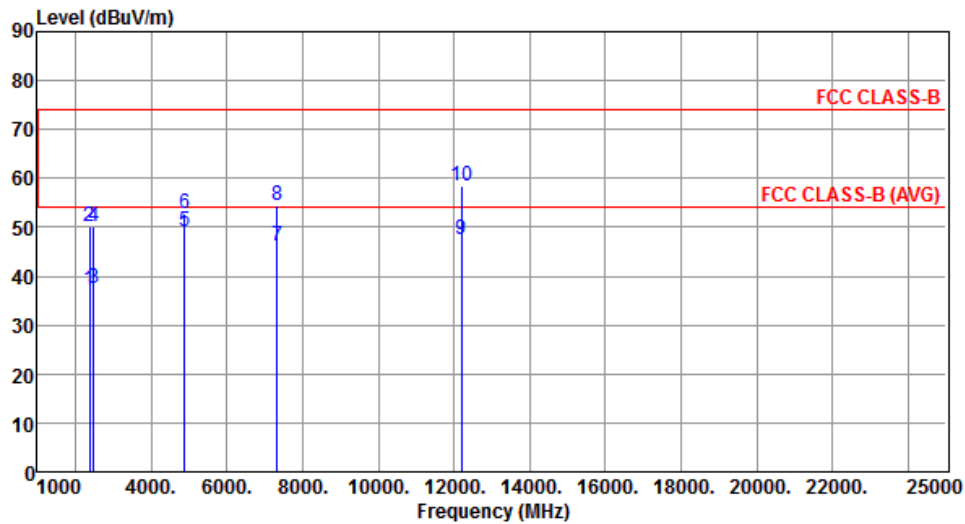
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	36.75	54.00	-17.25	37.99	-1.24	Average	100	254
2	2390.00	48.99	74.00	-25.01	50.23	-1.24	Peak	100	254
3	4804.00	43.73	54.00	-10.27	38.23	5.50	Average	100	277
4	4804.00	49.55	74.00	-24.45	44.05	5.50	Peak	100	277
5	12010.00	50.28	54.00	-3.72	34.54	15.74	Average	183	156
6	12010.00	60.08	74.00	-13.92	44.34	15.74	Peak	183	156

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	GFSK	Test Freq. (MHz)	2441
Polarization	Horizontal	Mode	Battery mode



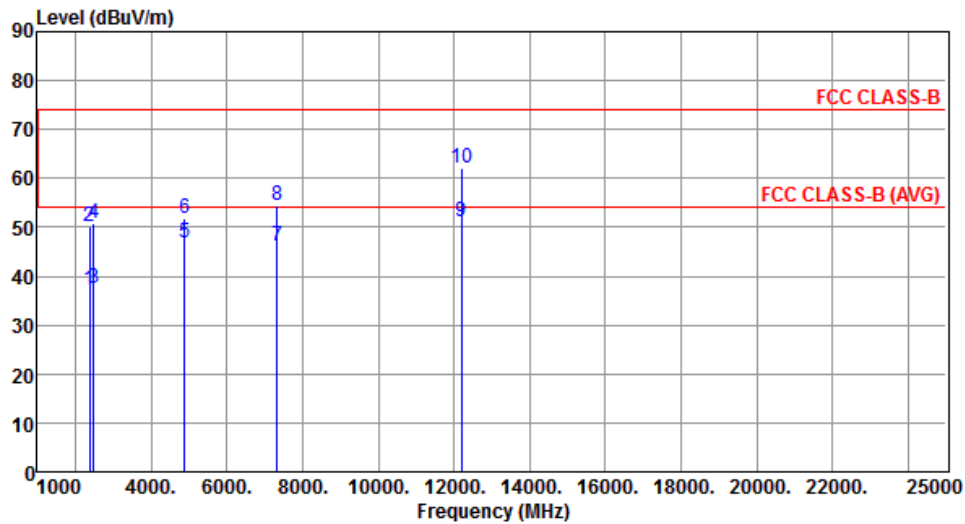
	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.18	54.00	-16.82	38.42	-1.24	Average	211	20
2	2390.00	50.21	74.00	-23.79	51.45	-1.24	Peak	211	20
3	2483.50	37.55	54.00	-16.45	38.43	-0.88	Average	211	20
4	2483.50	50.25	74.00	-23.75	51.13	-0.88	Peak	211	20
5	4882.00	49.01	54.00	-4.99	43.29	5.72	Average	176	177
6	4882.00	52.91	74.00	-21.09	47.19	5.72	Peak	176	177
7	7323.00	46.26	54.00	-7.74	35.33	10.93	Average	100	229
8	7323.00	54.54	74.00	-19.46	43.61	10.93	Peak	100	229
9	12205.00	47.33	54.00	-6.67	31.87	15.46	Average	149	243
10	12205.00	58.57	74.00	-15.43	43.11	15.46	Peak	149	243

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	GFSK	Test Freq. (MHz)	2441
Polarization	Vertical	Mode	Battery mode



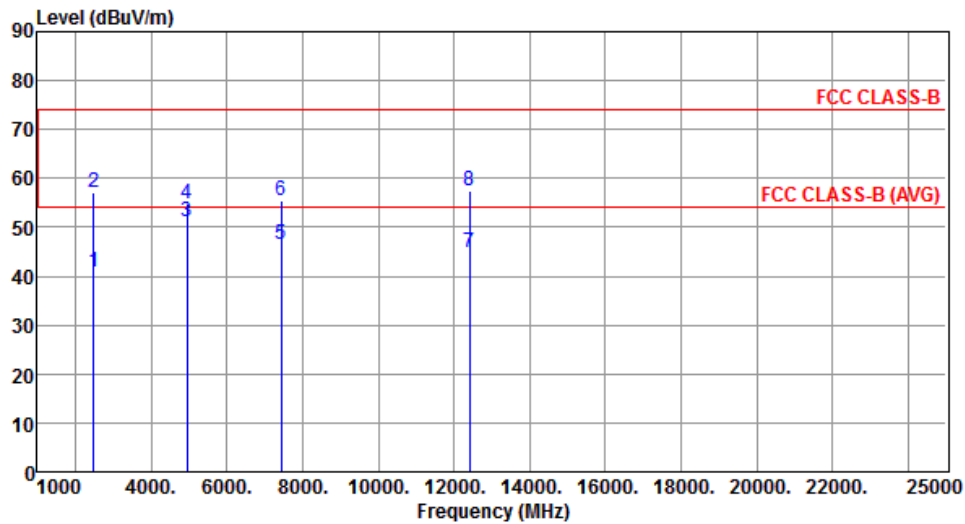
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.15	54.00	-16.85	38.39	-1.24	Average	100	240
2	2390.00	50.27	74.00	-23.73	51.51	-1.24	Peak	100	240
3	2483.50	37.45	54.00	-16.55	38.33	-0.88	Average	100	240
4	2483.50	50.66	74.00	-23.34	51.54	-0.88	Peak	100	240
5	4882.00	46.99	54.00	-7.01	41.27	5.72	Average	161	172
6	4882.00	51.87	74.00	-22.13	46.15	5.72	Peak	161	172
7	7323.00	46.07	54.00	-7.93	35.14	10.93	Average	100	103
8	7323.00	54.30	74.00	-19.70	43.37	10.93	Peak	100	103
9	12205.00	51.28	54.00	-2.72	35.82	15.46	Average	165	174
10	12205.00	62.06	74.00	-11.94	46.60	15.46	Peak	165	174

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	GFSK	Test Freq. (MHz)	2480
Polarization	Horizontal	Mode	Battery mode



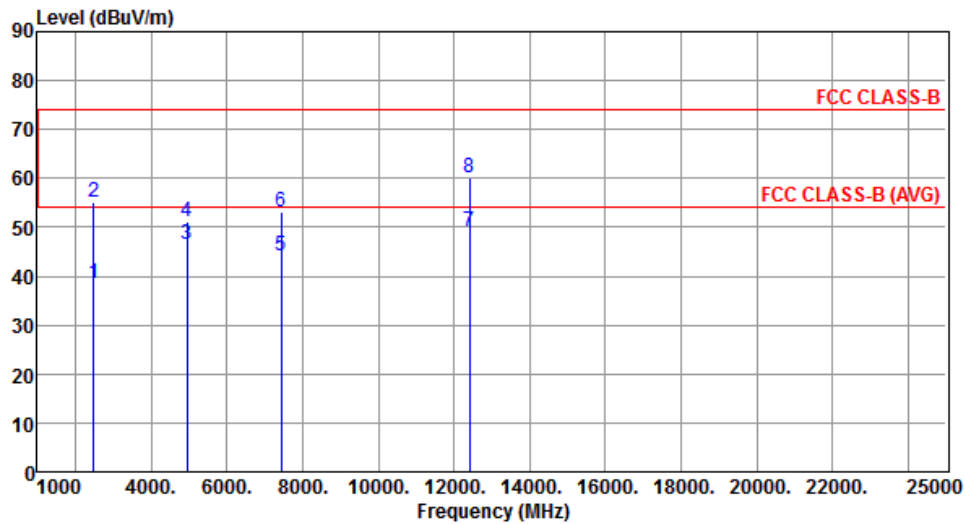
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	40.82	54.00	-13.18	41.70	-0.88	Average	124	17
2	2483.50	57.06	74.00	-16.94	57.94	-0.88	Peak	124	17
3	4960.00	51.04	54.00	-2.96	45.11	5.93	Average	169	179
4	4960.00	54.88	74.00	-19.12	48.95	5.93	Peak	169	179
5	7440.00	46.46	54.00	-7.54	35.16	11.30	Average	157	310
6	7440.00	55.49	74.00	-18.51	44.19	11.30	Peak	157	310
7	12400.00	44.76	54.00	-9.24	29.57	15.19	Average	149	257
8	12400.00	57.58	74.00	-16.42	42.39	15.19	Peak	149	257

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	GFSK	Test Freq. (MHz)	2480
Polarization	Vertical	Mode	Battery mode



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	38.62	54.00	-15.38	39.50	-0.88	Average	100	253
2	2483.50	55.07	74.00	-18.93	55.95	-0.88	Peak	100	253
3	4960.00	46.41	54.00	-7.59	40.48	5.93	Average	100	274
4	4960.00	51.25	74.00	-22.75	45.32	5.93	Peak	100	274
5	7440.00	44.04	54.00	-9.96	32.74	11.30	Average	100	103
6	7440.00	53.10	74.00	-20.90	41.80	11.30	Peak	100	103
7	12400.00	49.11	54.00	-4.89	33.92	15.19	Average	181	177
8	12400.00	60.07	74.00	-13.93	44.88	15.19	Peak	181	177

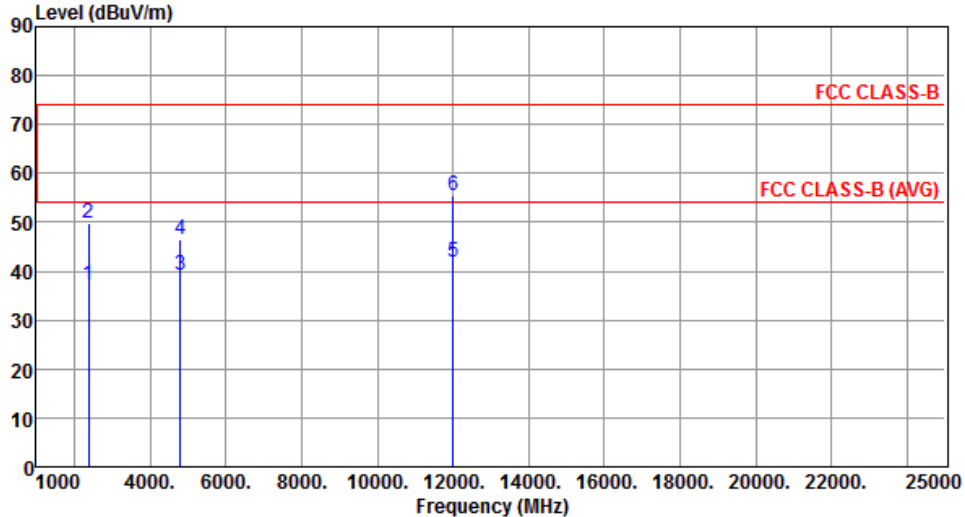
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

3.2.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 8DPSK

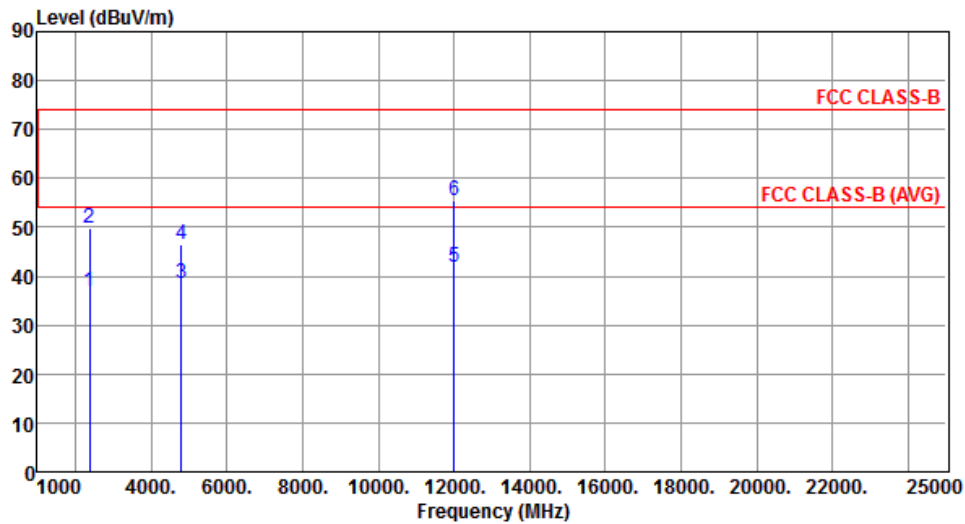
Modulation	8DPSK	Test Freq. (MHz)	2402
Polarization	Horizontal	Mode	Battery mode



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.25	54.00	-16.75	38.49	-1.24	Average	130	31
2	2390.00	49.91	74.00	-24.09	51.15	-1.24	Peak	130	31
3	4804.00	39.15	54.00	-14.85	33.65	5.50	Average	100	228
4	4804.00	46.64	74.00	-27.36	41.14	5.50	Peak	100	228
5	12010.00	41.94	54.00	-12.06	26.20	15.74	Average	100	221
6	12010.00	55.54	74.00	-18.46	39.80	15.74	Peak	100	221

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Modulation	8DPSK	Test Freq. (MHz)	2402
Polarization	Vertical	Mode	Battery mode



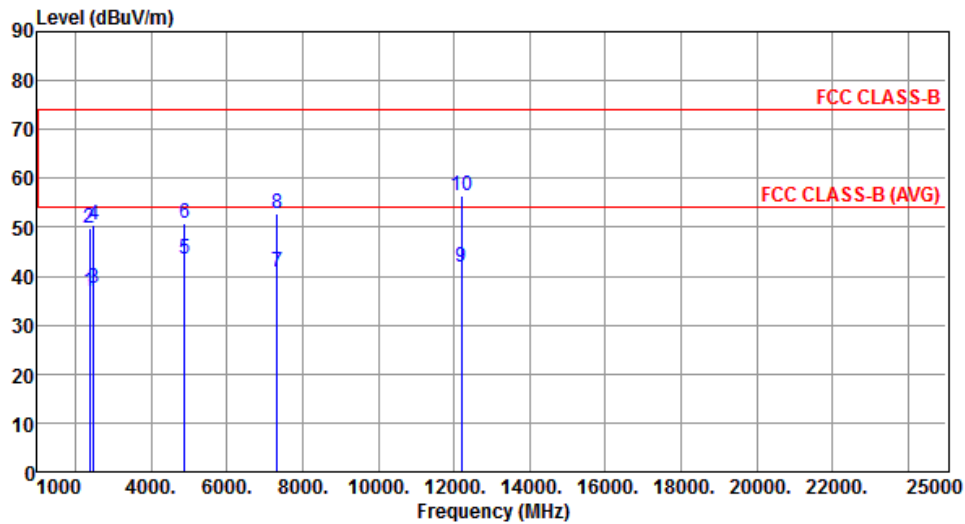
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	36.97	54.00	-17.03	38.21	-1.24	Average	100	251
2	2390.00	49.94	74.00	-24.06	51.18	-1.24	Peak	100	251
3	4804.00	38.45	54.00	-15.55	32.95	5.50	Average	100	275
4	4804.00	46.52	74.00	-27.48	41.02	5.50	Peak	100	275
5	12010.00	41.83	54.00	-12.17	26.09	15.74	Average	175	151
6	12010.00	55.54	74.00	-18.46	39.80	15.74	Peak	175	151

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	8DPSK	Test Freq. (MHz)	2441
Polarization	Horizontal	Mode	Battery mode



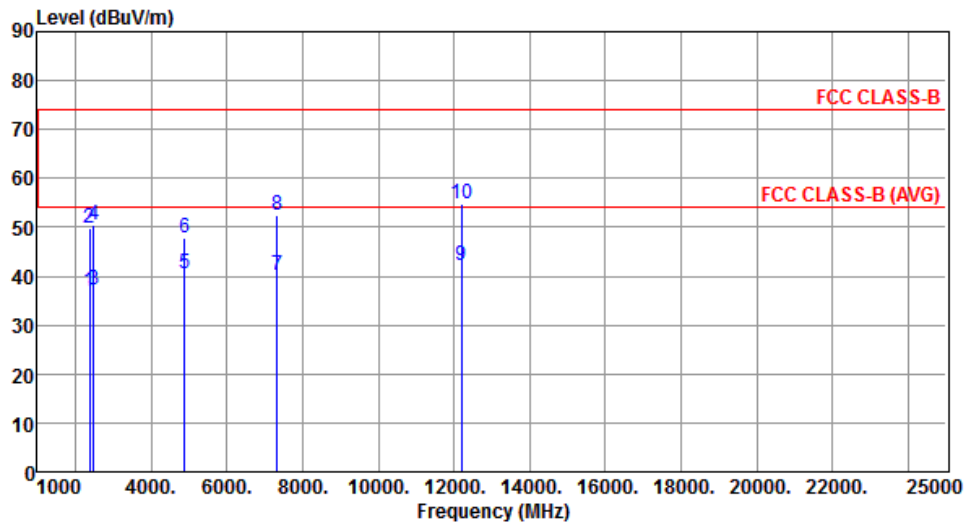
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	36.91	54.00	-17.09	38.15	-1.24	Average	205	18
2	2390.00	49.79	74.00	-24.21	51.03	-1.24	Peak	205	18
3	2483.50	37.48	54.00	-16.52	38.36	-0.88	Average	205	18
4	2483.50	50.38	74.00	-23.62	51.26	-0.88	Peak	205	18
5	4882.00	43.64	54.00	-10.36	37.92	5.72	Average	172	175
6	4882.00	50.89	74.00	-23.11	45.17	5.72	Peak	175	175
7	7323.00	40.76	54.00	-13.24	29.83	10.93	Average	100	221
8	7323.00	52.96	74.00	-21.04	42.03	10.93	Peak	100	221
9	12205.00	41.77	54.00	-12.23	26.31	15.46	Average	137	241
10	12205.00	56.49	74.00	-17.51	41.03	15.46	Peak	137	241

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	8DPSK	Test Freq. (MHz)	2441
Polarization	Vertical	Mode	Battery mode



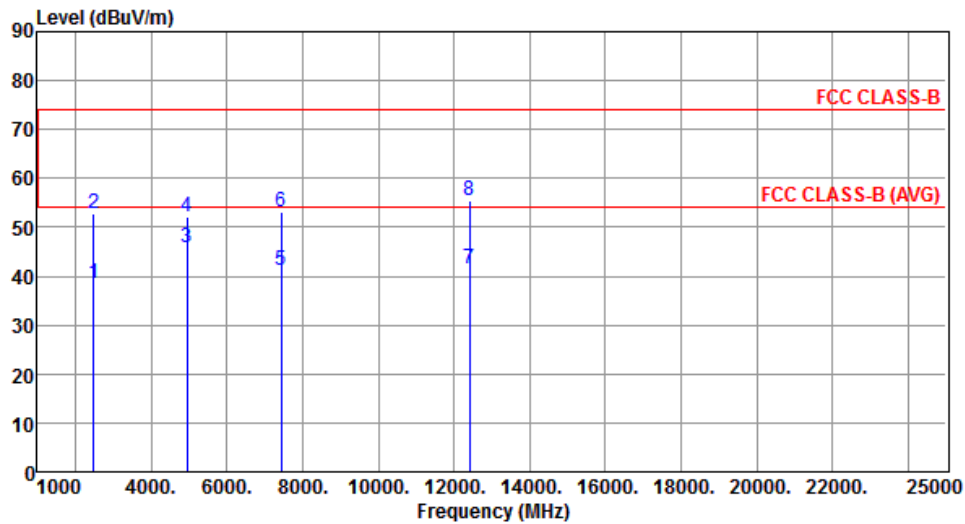
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	36.94	54.00	-17.06	38.18	-1.24	Average	100	238
2	2390.00	49.87	74.00	-24.13	51.11	-1.24	Peak	100	238
3	2483.50	37.32	54.00	-16.68	38.20	-0.88	Average	100	238
4	2483.50	50.47	74.00	-23.53	51.35	-0.88	Peak	100	238
5	4882.00	40.68	54.00	-13.32	34.96	5.72	Average	158	171
6	4882.00	47.68	74.00	-26.32	41.96	5.72	Peak	158	171
7	7323.00	40.21	54.00	-13.79	29.28	10.93	Average	100	102
8	7323.00	52.37	74.00	-21.63	41.44	10.93	Peak	100	102
9	12205.00	42.27	54.00	-11.73	26.81	15.46	Average	161	171
10	12205.00	54.75	74.00	-19.25	39.29	15.46	Peak	161	171

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	8DPSK	Test Freq. (MHz)	2480
Polarization	Horizontal	Mode	Battery mode



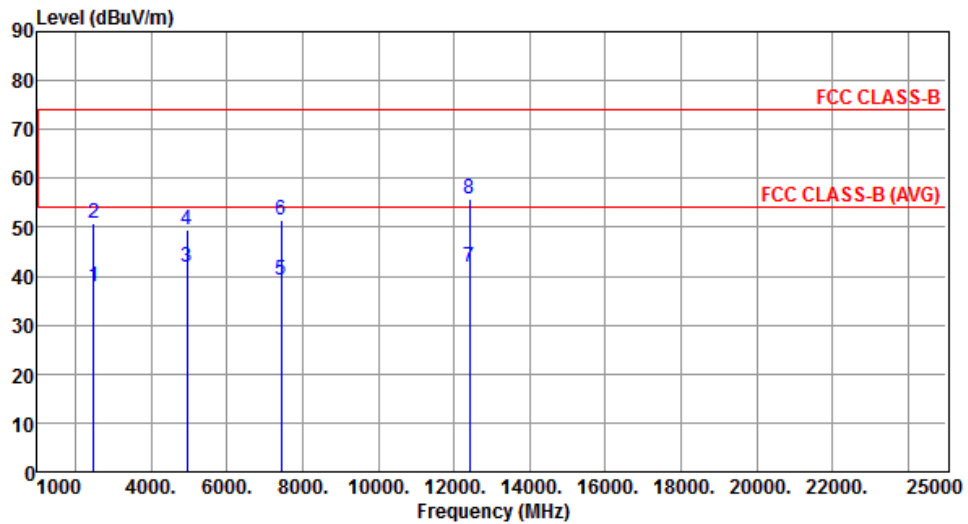
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	38.57	54.00	-15.43	39.45	-0.88	Average	122	19
2	2483.50	52.66	74.00	-21.34	53.54	-0.88	Peak	122	19
3	4960.00	45.67	54.00	-8.33	39.74	5.93	Average	162	172
4	4960.00	51.99	74.00	-22.01	46.06	5.93	Peak	162	172
5	7440.00	41.07	54.00	-12.93	29.77	11.30	Average	151	318
6	7440.00	53.09	74.00	-20.91	41.79	11.30	Peak	151	318
7	12400.00	41.52	54.00	-12.48	26.33	15.19	Average	142	251
8	12400.00	55.46	74.00	-18.54	40.27	15.19	Peak	142	251

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	8DPSK	Test Freq. (MHz)	2480
Polarization	Vertical	Mode	Battery mode



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	37.80	54.00	-16.20	38.68	-0.88	Average	100	251
2	2483.50	50.81	74.00	-23.19	51.69	-0.88	Peak	100	251
3	4960.00	41.79	54.00	-12.21	35.86	5.93	Average	100	272
4	4960.00	49.57	74.00	-24.43	43.64	5.93	Peak	100	272
5	7440.00	39.09	54.00	-14.91	27.79	11.30	Average	100	107
6	7440.00	51.57	74.00	-22.43	40.27	11.30	Peak	100	107
7	12400.00	42.00	54.00	-12.00	26.81	15.19	Average	155	172
8	12400.00	55.80	74.00	-18.20	40.61	15.19	Peak	155	172

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

3.3 Unwanted Emissions into Non-Restricted Frequency Bands

3.3.1 Limit of Unwanted Emissions into Non-Restricted Frequency Bands

The peak output power 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.

3.3.2 Test Procedures

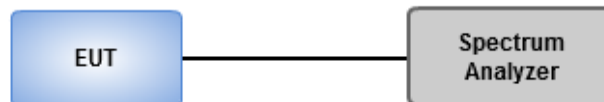
Reference Level Measurement

1. Set the RBW = 100 kHz, VBW = 300 kHz, Detector = peak.
2. Set Sweep time = auto couple, Trace mode = max hold.
3. Allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

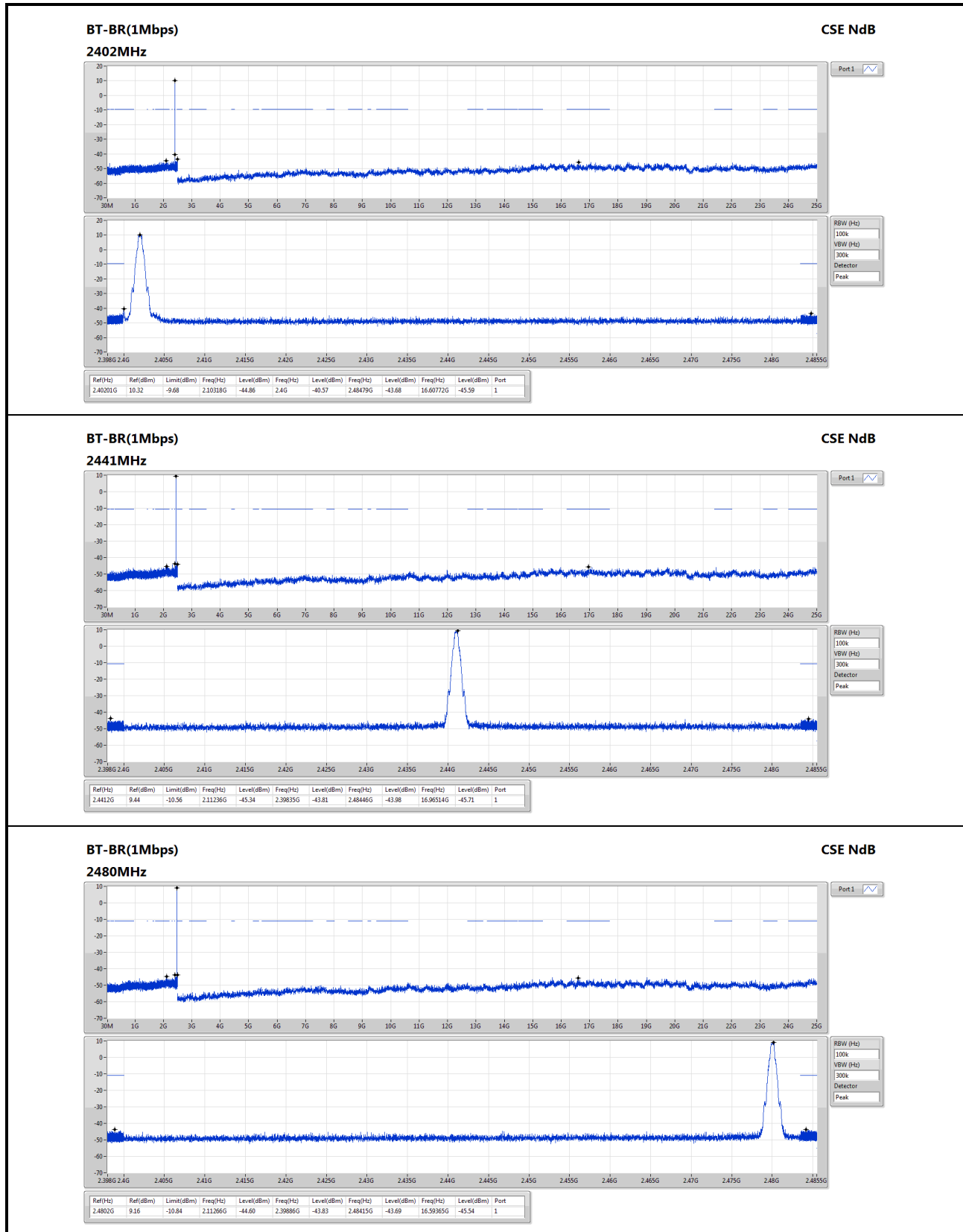
Unwanted Emissions Level Measurement

1. Set RBW = 100 kHz, VBW = 300 kHz, Detector = peak.
2. Trace Mode = max hold, Sweep = auto couple.
3. Allow the trace to stabilize.
4. Use peak marker function to determine maximum amplitude of all unwanted emissions within any 100 kHz bandwidth.

3.3.3 Test Setup



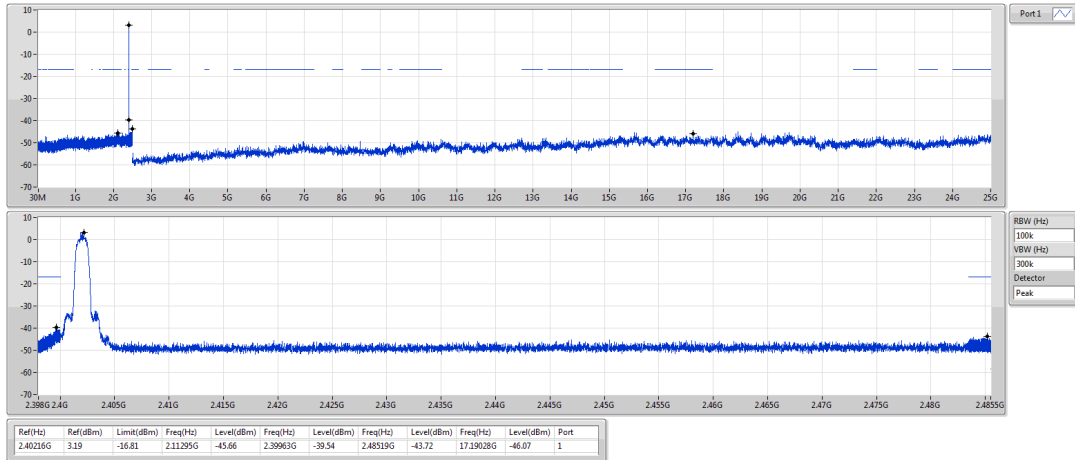
3.3.4 Unwanted Emissions into Non-Restricted Frequency Bands



BT-EDR(2Mbps)

CSE NdB

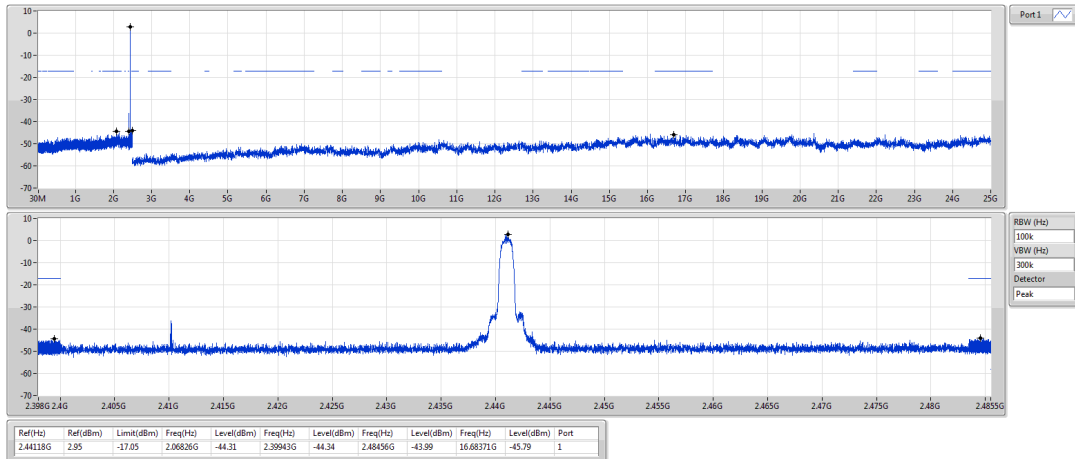
2402MHz



BT-EDR(2Mbps)

CSE NdB

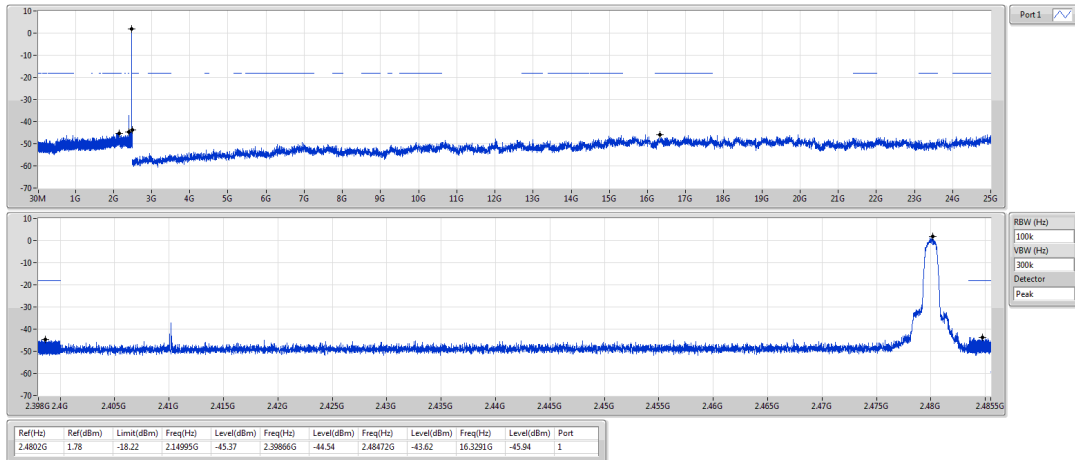
2441MHz



BT-EDR(2Mbps)

CSE NdB

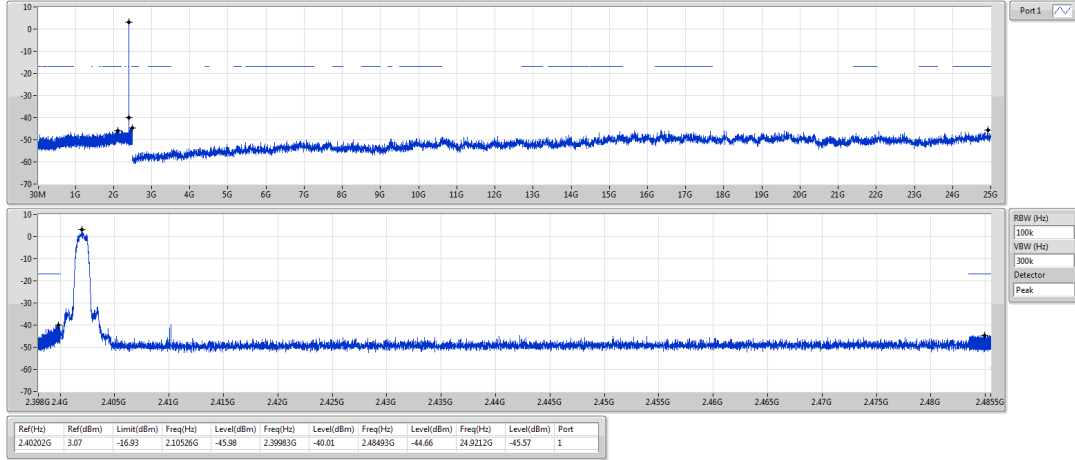
2480MHz



BT-EDR(3Mbps)

CSE NdB

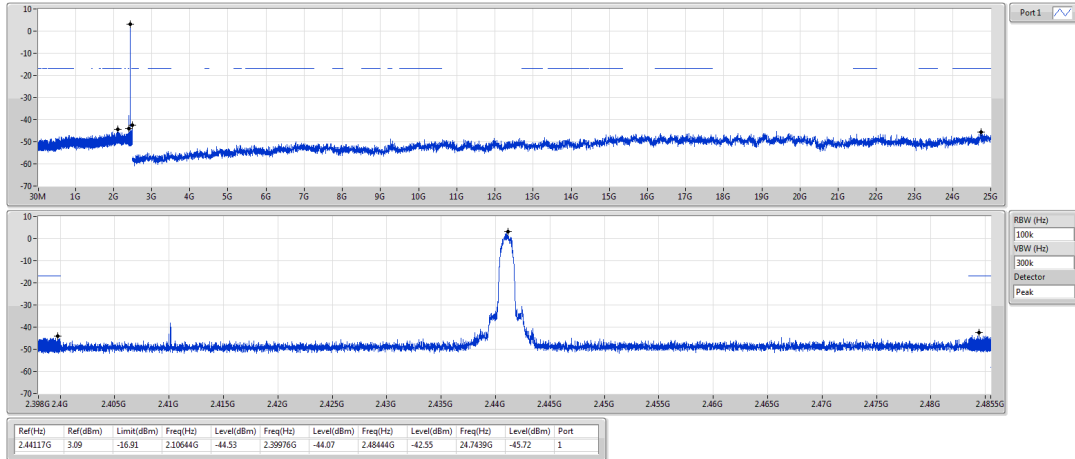
2402MHz



BT-EDR(3Mbps)

CSE NdB

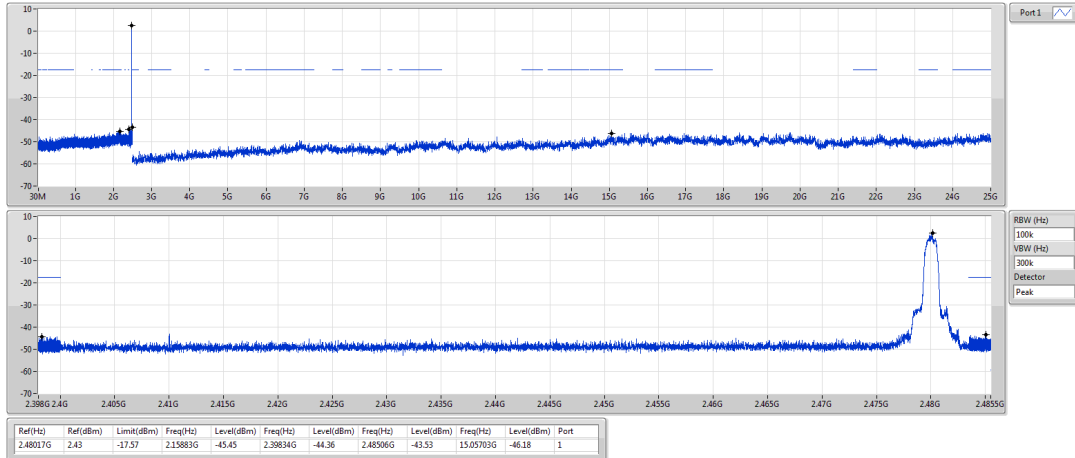
2441MHz



BT-EDR(3Mbps)

CSE NdB

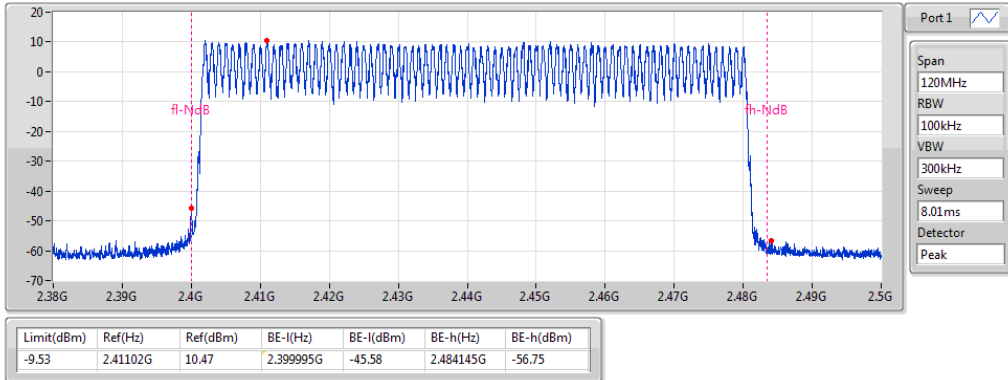
2480MHz



BT-BR(1Mbps)

2441MHz

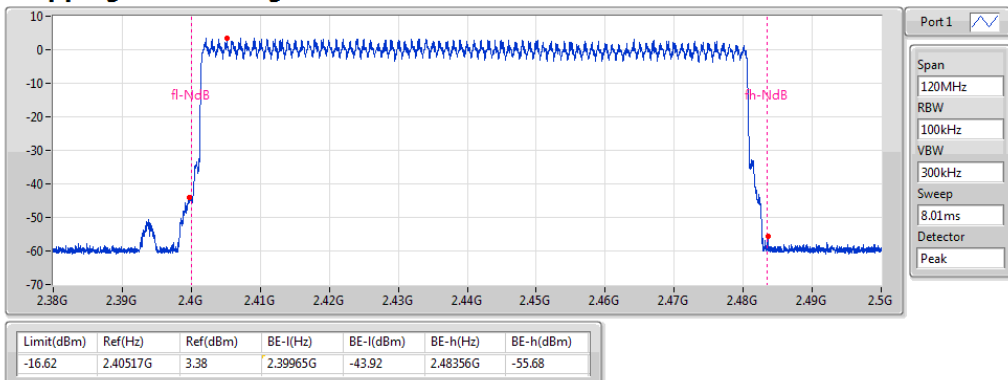
Hopping Ch Bandedge (Non-restricted Band)



BT-EDR(2Mbps)

2441MHz

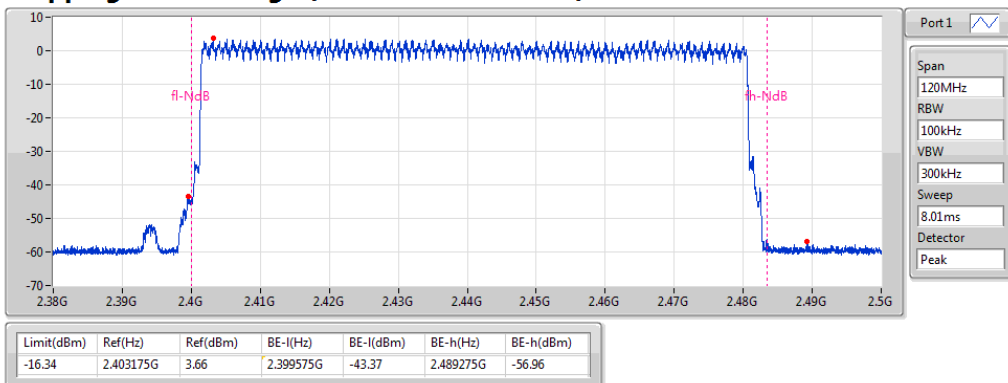
Hopping Ch Bandedge (Non-restricted Band)



BT-EDR(3Mbps)

2441MHz

Hopping Ch Bandedge (Non-restricted Band)



3.4 Conducted Output Power

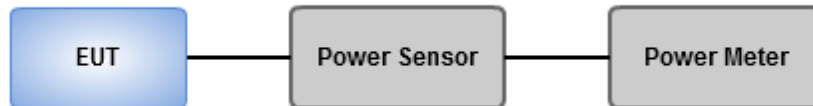
3.4.1 Limit of Conducted Output Power

- ☐ 1 Watt
For frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non overlapping hopping channels, and all frequency hopping systems in the 5725–5850 MHz band.
- ☒ 0.125 Watt
For all other frequency hopping systems in the 2400–2483.5 MHz band.
- ☐ 0.125 Watt
For Frequency hopping systems operating in the 2400–2483.5 MHz band have hopping channel carrier frequencies that are separated by two-thirds of the 20 dB bandwidth of the hopping channel.

3.4.2 Test Procedures

1. A wideband power meter is used for power measurement. Bandwidth of power sensor and meter is 50MHz
2. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power

3.4.3 Test Setup



3.4.4 Test Result of Conducted Output Power

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	11.06	0.01276
BT-EDR(2Mbps)	6.61	0.00458
BT-EDR(3Mbps)	6.85	0.00484

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	-2.23392	11.06	21.00
2441MHz	Pass	-2.23392	10.01	21.00
2480MHz	Pass	-2.23392	9.46	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	-2.23392	6.61	21.00
2441MHz	Pass	-2.23392	6.40	21.00
2480MHz	Pass	-2.23392	5.31	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	-2.23392	6.85	21.00
2441MHz	Pass	-2.23392	6.68	21.00
2480MHz	Pass	-2.23392	5.57	21.00

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	11.02	0.01265
BT-EDR(2Mbps)	4.05	0.00254
BT-EDR(3Mbps)	4.06	0.00255

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	-2.23392	11.02	-
2441MHz	Pass	-2.23392	9.96	-
2480MHz	Pass	-2.23392	9.41	-
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	-2.23392	4.05	-
2441MHz	Pass	-2.23392	3.79	-
2480MHz	Pass	-2.23392	2.66	-
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	-2.23392	4.06	-
2441MHz	Pass	-2.23392	3.82	-
2480MHz	Pass	-2.23392	2.71	-

Note: Average power is for reference only.

3.5 Number of Hopping Frequency

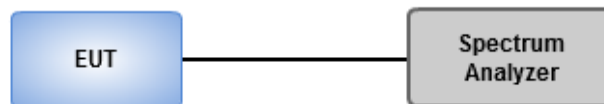
3.5.1 Limit of Number of Hopping Frequency

Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels.

3.5.2 Test Procedures

1. Set RBW = 100kHz, VBW = 300kHz, Sweep time = Auto, Detector = Peak Trace max hold.
2. Allow trace to stabilize.

3.5.3 Test Setup



3.5.4 Test Result of Number of Hopping Frequency

Summary

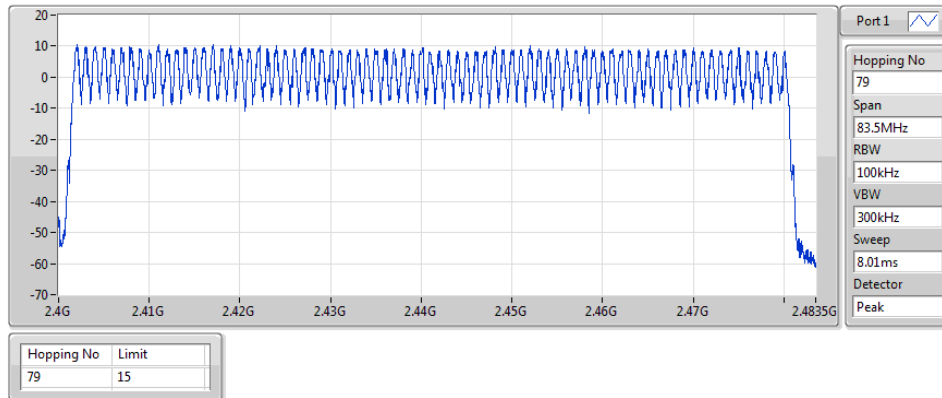
Mode	Max-Hop No
2.4-2.4835GHz	-
BT-BR(1Mbps)	79
BT-EDR(2Mbps)	79
BT-EDR(3Mbps)	79

Result

Mode	Result	Hopping No	Limit
BT-BR(1Mbps)	-	-	-
2441MHz	Pass	79	15
BT-EDR(2Mbps)	-	-	-
2441MHz	Pass	79	15
BT-EDR(3Mbps)	-	-	-
2441MHz	Pass	79	15

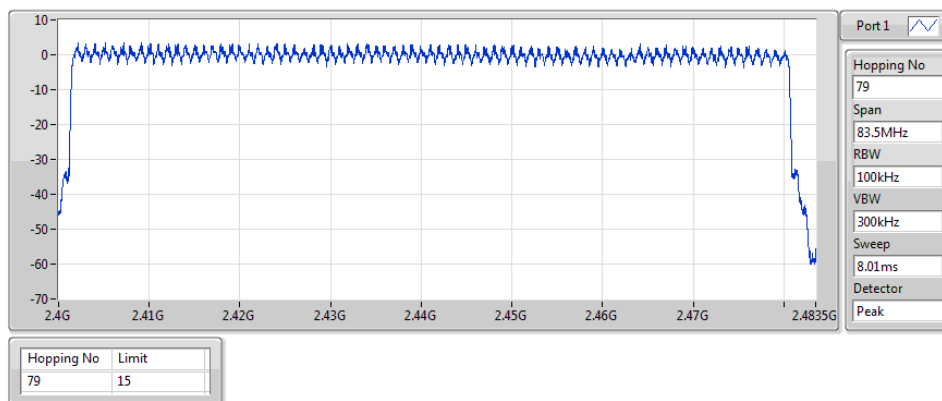
BT-BR(1Mbps)
2441MHz

Hopping Ch



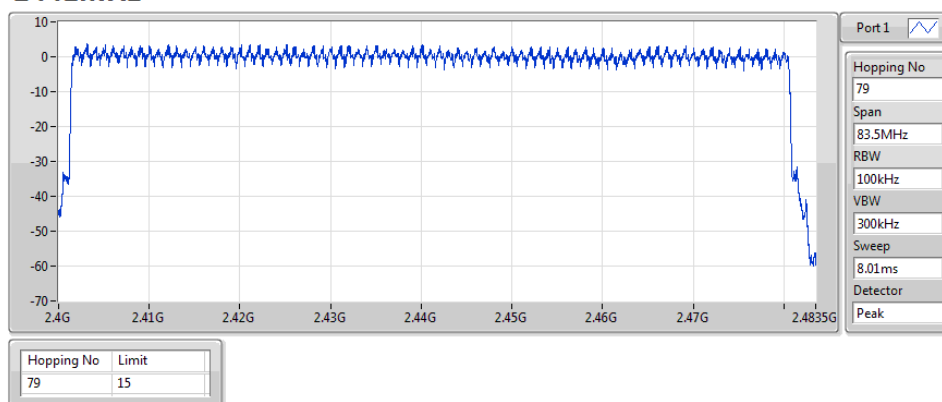
BT-EDR(2Mbps)
2441MHz

Hopping Ch



BT-EDR(3Mbps)
2441MHz

Hopping Ch



3.6 20dB and Occupied Bandwidth

3.6.1 Test Procedures

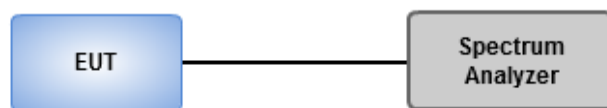
20 dB Bandwidth

1. Set RBW=10kHz VBW= 30kHz for BT BR mode, RBW=20kHz, VBW=100kHz for other modes, Sweep time = Auto, Detector=Peak , Trace max hold
2. Allow trace to stabilize
3. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

Occupied Bandwidth

1. Set RBW=10kHz VBW= 30kHz for BT BR mode, RBW=20kHz, VBW=100kHz for other modes, Sweep time = Auto, Detector=Sample , Trace max hold
2. Allow trace to stabilize
3. Use Occupied bandwidth function of spectrum analyzer to measuring 99% occupied bandwidth

3.6.2 Test Setup



3.6.3 Test result of 20dB and Occupied Bandwidth

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-BR(1Mbps)	963.768k	933.43k	933KF1D	920.29k	915.34k
BT-EDR(2Mbps)	1.351M	1.237M	1M24G1D	1.344M	1.216M
BT-EDR(3Mbps)	1.366M	1.226M	1M23G1D	1.337M	1.216M

Max-N dB = Maximum 20dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 20dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

Result

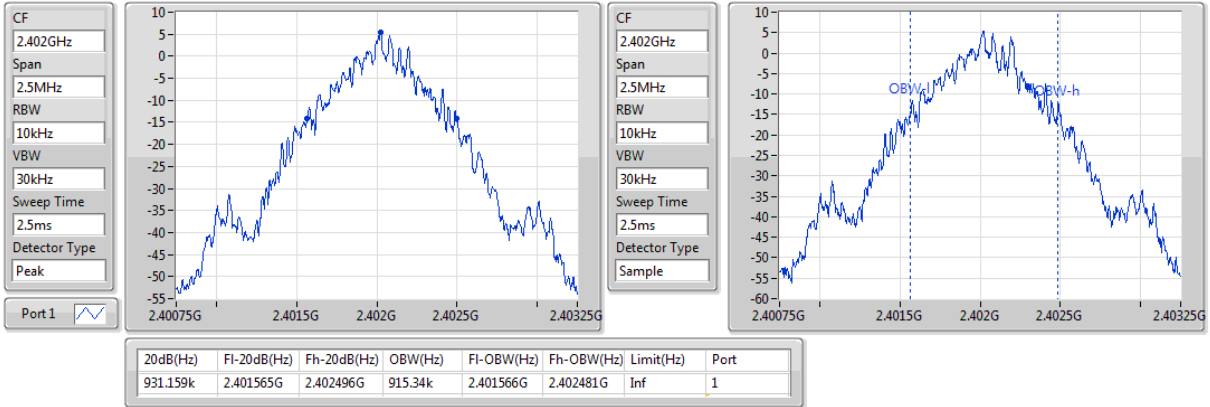
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	931.159k	915.34k
2441MHz	Pass	Inf	920.29k	922.576k
2480MHz	Pass	Inf	963.768k	933.43k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.344M	1.219M
2441MHz	Pass	Inf	1.344M	1.216M
2480MHz	Pass	Inf	1.351M	1.237M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.337M	1.216M
2441MHz	Pass	Inf	1.366M	1.223M
2480MHz	Pass	Inf	1.348M	1.226M

Port X-N dB = Port X 20dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

BT-BR(1Mbps)

EBW

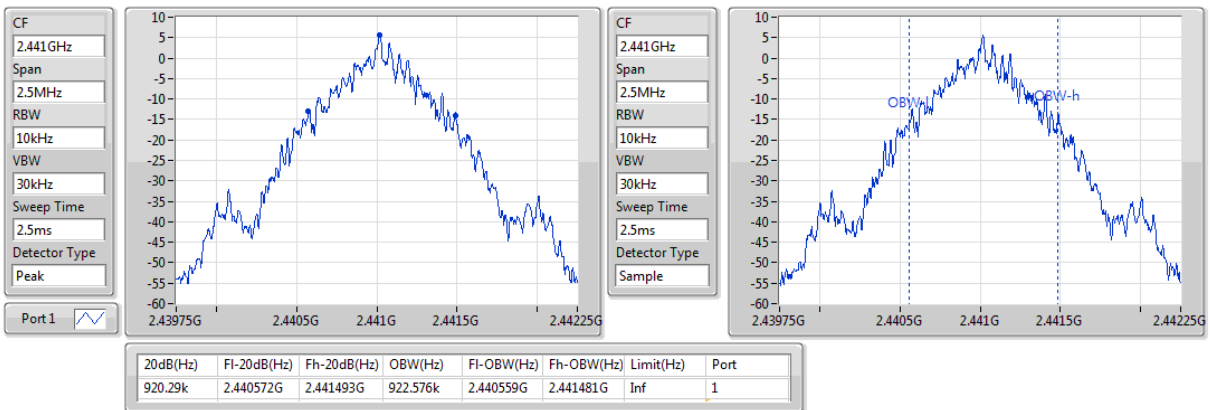
2402MHz



BT-BR(1Mbps)

EBW

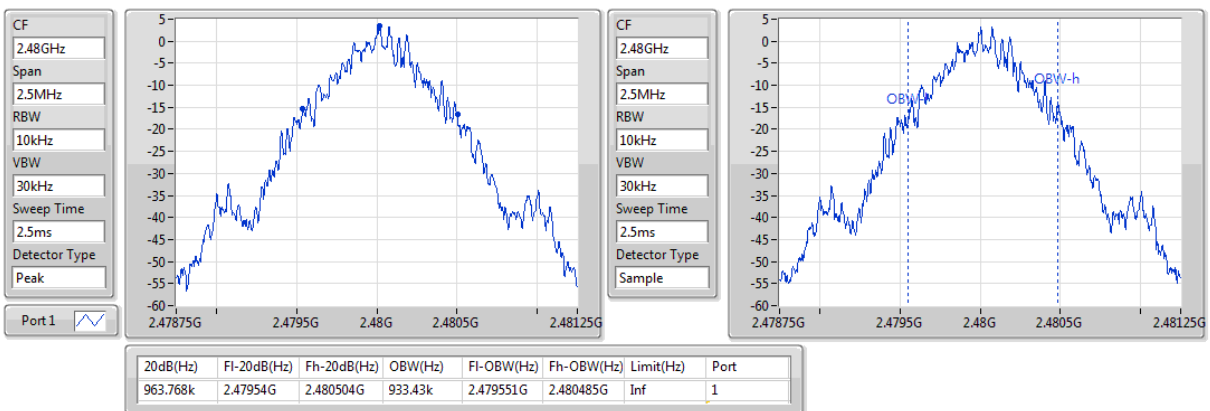
2441MHz



BT-BR(1Mbps)

EBW

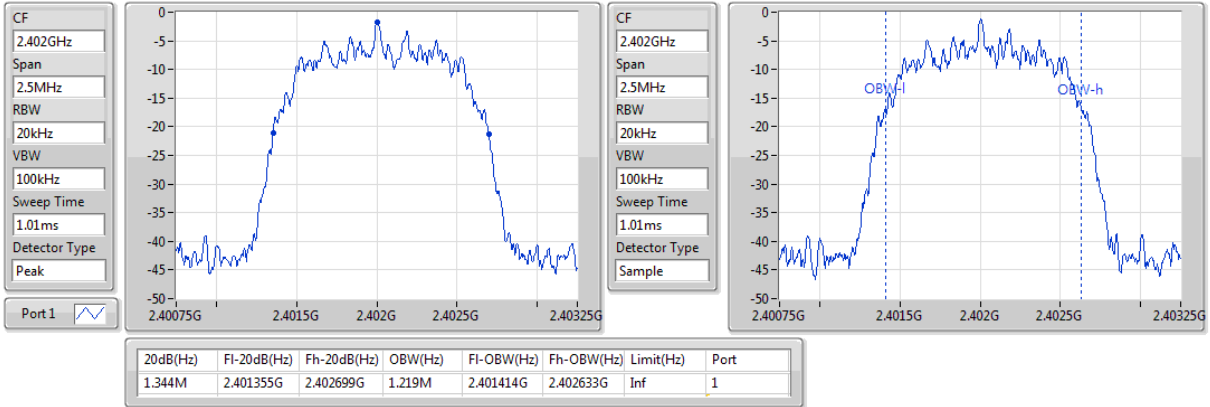
2480MHz



BT-EDR(2Mbps)

EBW

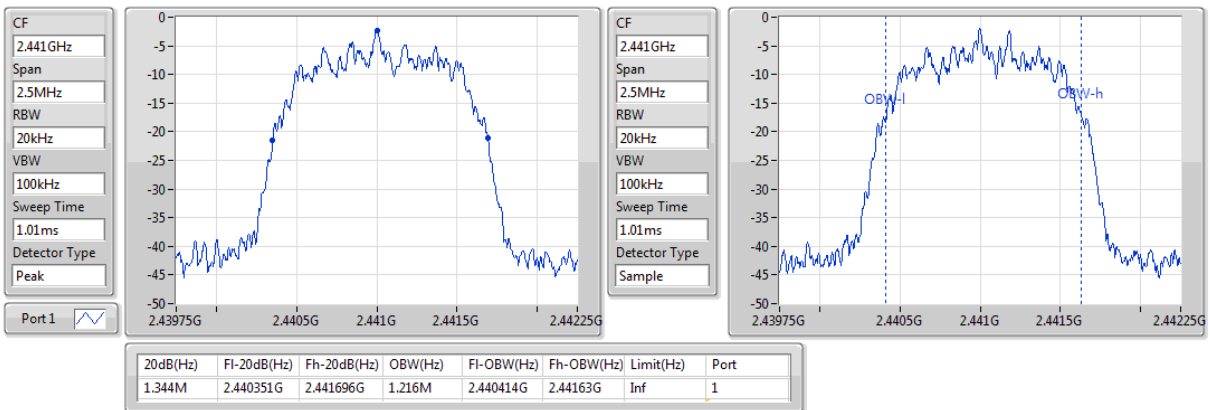
2402MHz



BT-EDR(2Mbps)

EBW

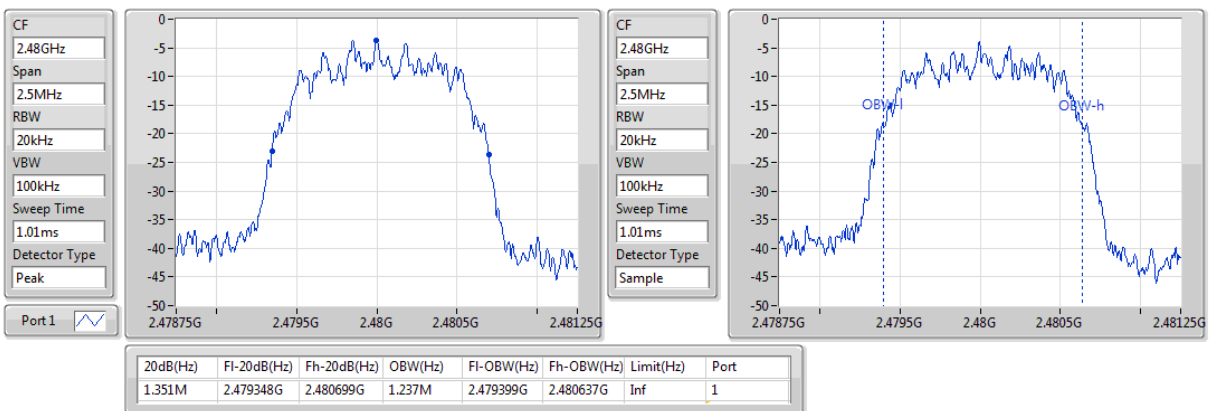
2441MHz



BT-EDR(2Mbps)

EBW

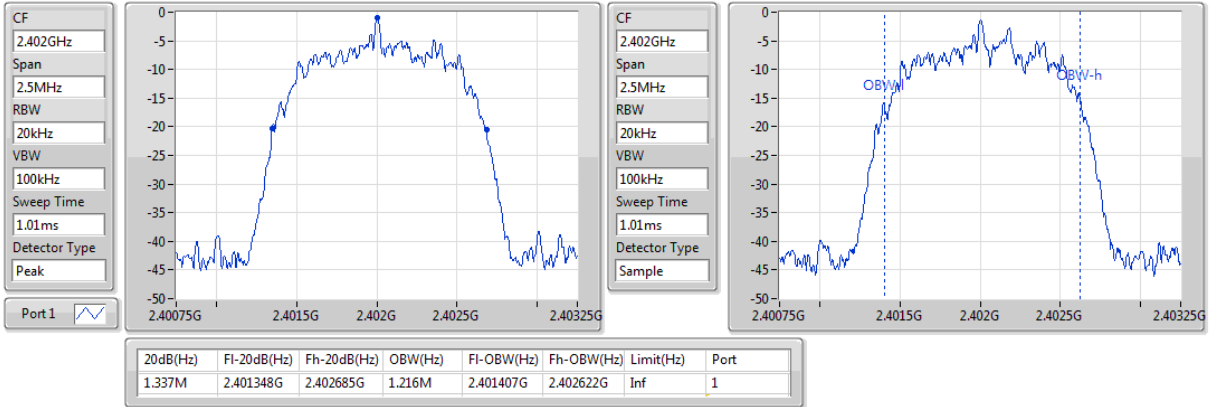
2480MHz



BT-EDR(3Mbps)

EBW

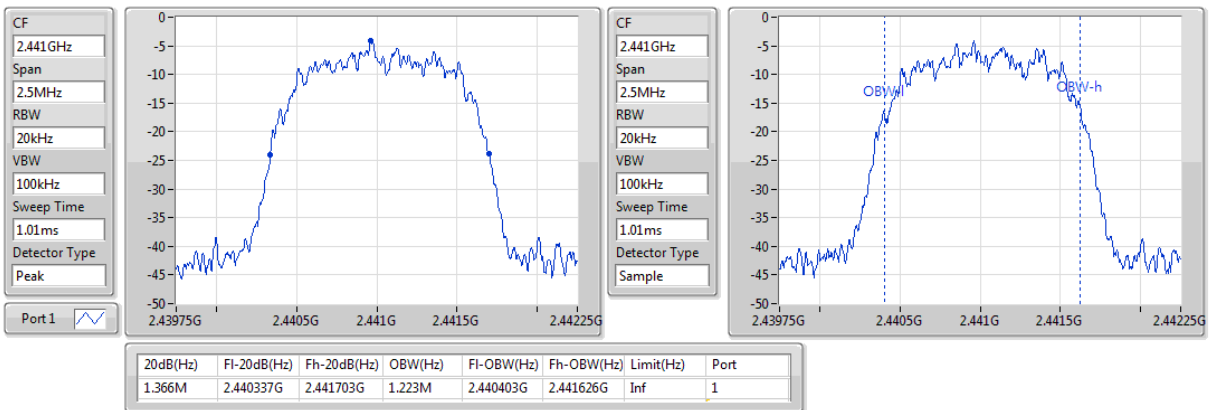
2402MHz



BT-EDR(3Mbps)

EBW

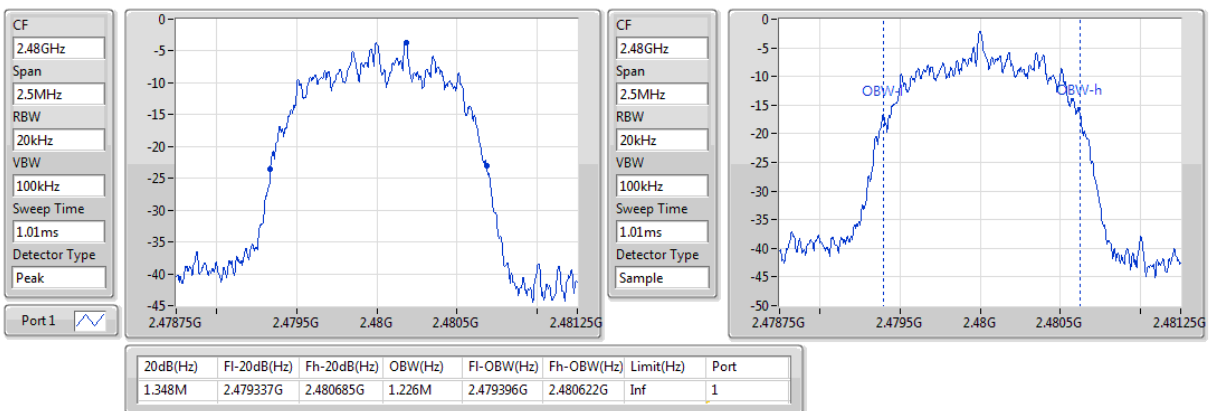
2441MHz



BT-EDR(3Mbps)

EBW

2480MHz



3.7 Channel Separation

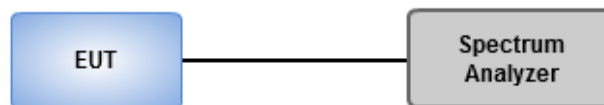
3.7.1 Limit of Channel Separation

- ☐ Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.
- ☒ Frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

3.7.2 Test Procedures

1. Set RBW=30kHz, VBW=100kHz, Sweep time = Auto, Detector=Peak Trace max hold
2. Allow trace to stabilize
3. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The EUT shall show compliance with the appropriate regulatory limit

3.7.3 Test Setup



3.7.4 Test result of Channel Separation

Summary

Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.004348M	1M
BT-EDR(2Mbps)	1.008696M	1M
BT-EDR(3Mbps)	1.004348M	1M

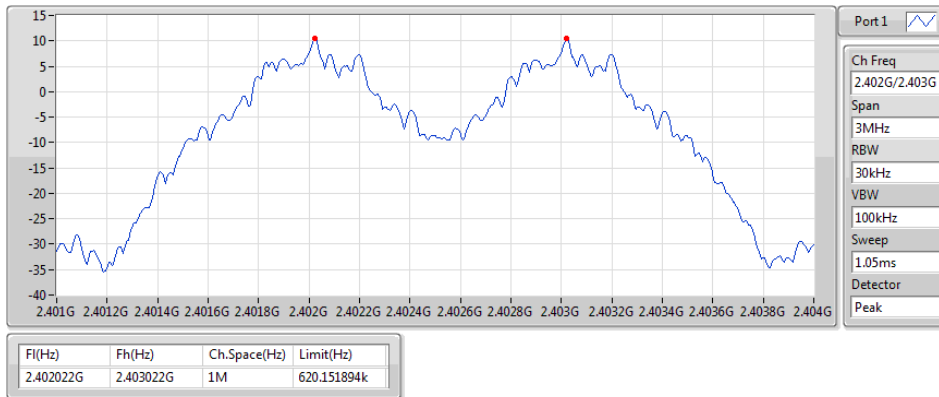
Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402022G	2.403022G	1M	620.151894k
2441MHz	Pass	2.441022G	2.442022G	1M	612.91314k
2480MHz	Pass	2.479017G	2.480022G	1.004348M	641.869488k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.402009G	2.403009G	1M	895.104k
2441MHz	Pass	2.441004G	2.442009G	1.004348M	895.104k
2480MHz	Pass	2.479G	2.480009G	1.008696M	899.766k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.402009G	2.403013G	1.004348M	890.442k
2441MHz	Pass	2.441009G	2.442009G	1M	909.756k
2480MHz	Pass	2.479004G	2.480004G	1M	897.768k

BT-BR(1Mbps)

Channel Separation

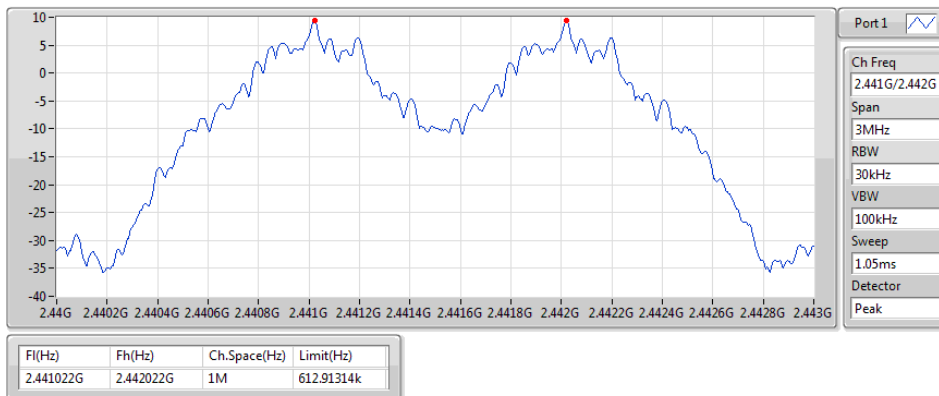
2.402G/2.403GHz



BT-BR(1Mbps)

Channel Separation

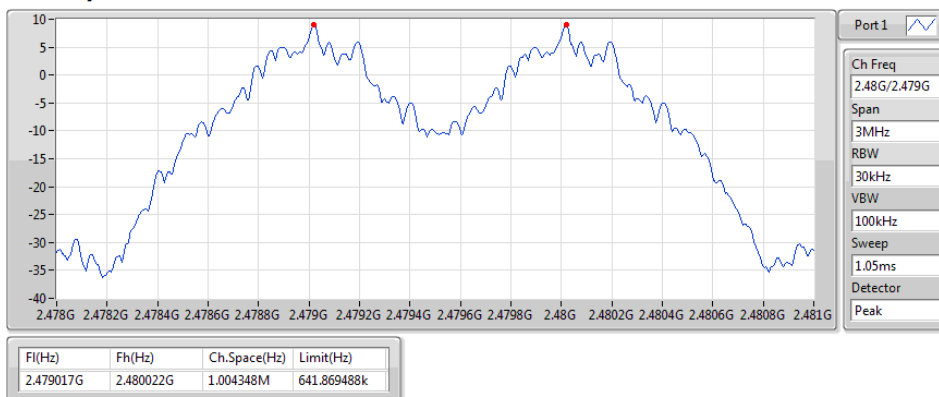
2.441G/2.442GHz



BT-BR(1Mbps)

Channel Separation

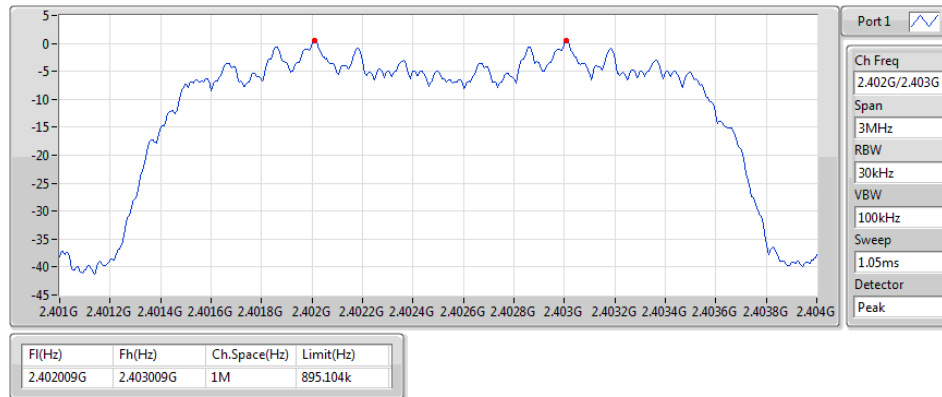
2.48G/2.479GHz



BT-EDR(2Mbps)

Channel Separation

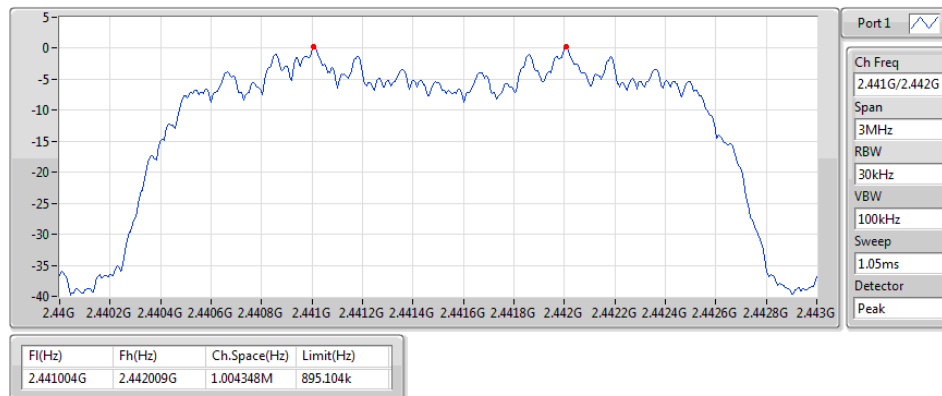
2.402G/2.403GHz



BT-EDR(2Mbps)

Channel Separation

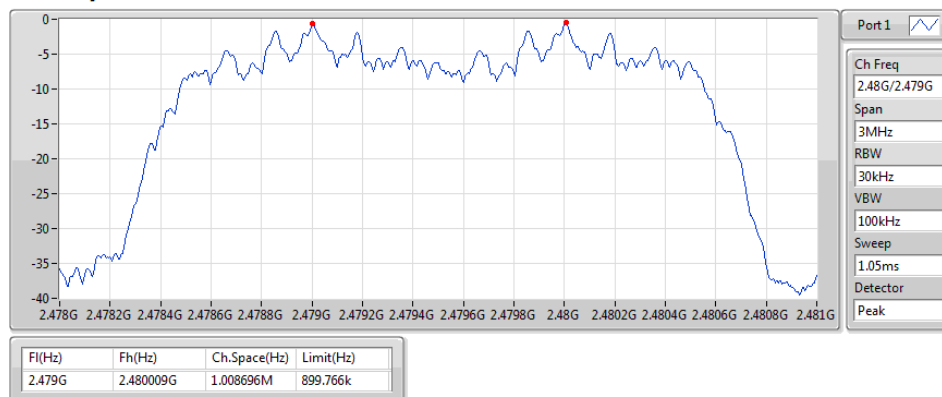
2.441G/2.442GHz



BT-EDR(2Mbps)

Channel Separation

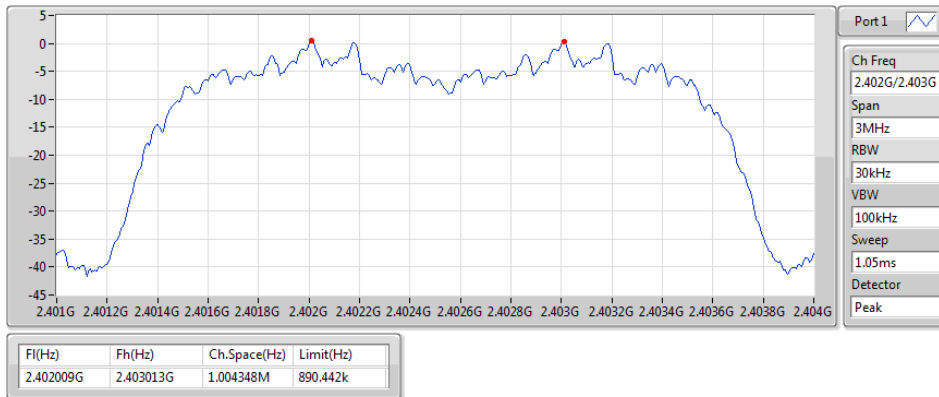
2.48G/2.479GHz



BT-EDR(3Mbps)

Channel Separation

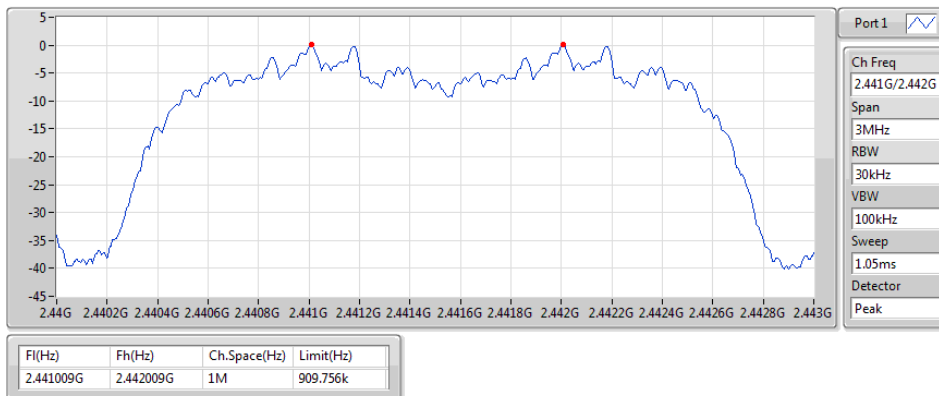
2.402G/2.403GHz



BT-EDR(3Mbps)

Channel Separation

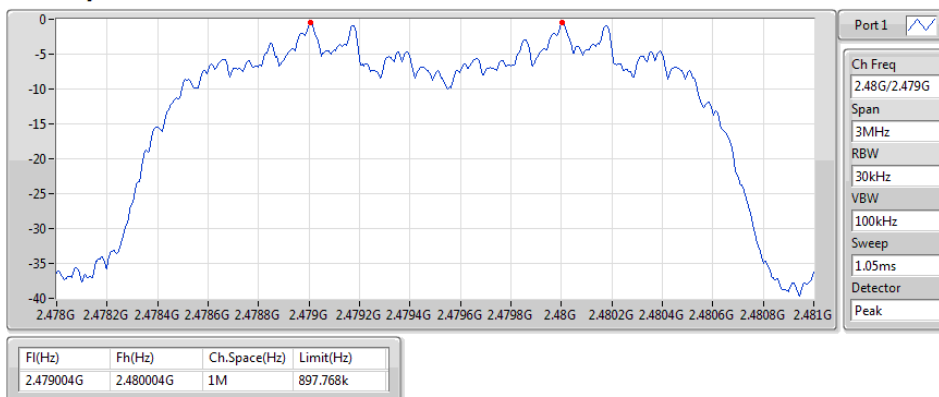
2.441G/2.442GHz



BT-EDR(3Mbps)

Channel Separation

2.48G/2.479GHz



3.8 Number of Dwell Time

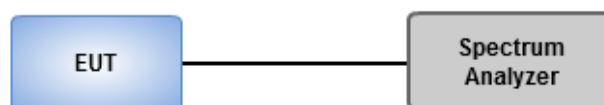
3.8.1 Limit of Dwell time

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

3.8.2 Test Procedures

1. Set RBW=300kHz,VBW=1MHz,Sweep time = 10 ms, Detector=Peak, Span=0Hz,Trace max hold
2. Enable gating and trigger function of spectrum analyzer to measure burst on time.
3. The DH1 packet can cover a single time slot. A maximum length packet has duration of 1 time slots.
Non AFH mode
The hopping rate is 1600 hops/second so the maximum dwell time is 1/1600 seconds. DH1 Packet permit maximum $1600 / 79 / 2 = 10.12$ hops per second in each channel (1 time slot TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times $10.12 \times 31.6 = 320$ within 31.6 seconds.
AFH mode
The hopping rate is 800 hops/second so the maximum dwell time is 1/800 seconds. DH1 Packet permit maximum $800 / 20 / 2 = 20$ hops per second in each channel (1 time slot TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times $20 \times 8 = 160$ within 8 seconds.
4. The DH3 packet can cover up to 3 time slots. A maximum length packet has duration of 3 time slots.
Non AFH mode
The hopping rate is 1600 hops/second so the maximum dwell time is 3/1600 seconds. DH3 Packet permit maximum $1600 / 79 / 4 = 5.06$ hops per second in each channel (3 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times $5.06 \times 31.6 = 160$ within 31.6 seconds.
AFH mode
The hopping rate is 800hops/second so the maximum dwell time is 3/800 seconds. DH3 Packet permit maximum $800 / 20 / 4 = 10$ hops per second in each channel (3 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times $10 \times 8 = 80$ within 8 seconds.
5. The DH5 packet can cover up to 5 time slots. Operate DH5 at maximum dwell time and maximum duty cycle. A maximum length packet has duration of 5 time slots.
Non AFH mode
The hopping rate is 1600 hops/second so the maximum dwell time is 5/1600 seconds, or 3.125ms. DH5 Packet permit maximum $1600 / 79 / 6 = 3.37$ hops per second in each channel (5 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times $3.37 \times 31.6 = 106.6$ within 31.6 seconds
AFH mode
The hopping rate is 800 hops/second so the maximum dwell time is 5/800 seconds. DH5 Packet permit maximum $800 / 20 / 6 = 6.667$ hops per second in each channel (5 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times $6.667 \times 8 = 53.33$ within 8 seconds

3.8.3 Test Setup



3.8.4 Test Result of Dwell Time

Summary

Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	316.710145m_DH5
BT-EDR(2Mbps)	310.530435m_DH5
BT-EDR(3Mbps)	310.530435m_DH5

Result/ Non AFH mode

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2441MHz	Pass	31.6	316.710145m_DH5	400m	2.971014m
2441MHz	Pass	31.6	273.623188m_DH3	400m	1.710145m
2441MHz	Pass	31.6	148.405797m_DH1	400m	463.768116u
BT-EDR(2Mbps)	-	-	-	-	-
2441MHz	Pass	31.6	310.530435m_DH5	400m	2.913043m
2441MHz	Pass	31.6	266.666667m_DH3	400m	1.666667m
2441MHz	Pass	31.6	129.855072m_DH1	400m	405.797101u
BT-EDR(3Mbps)	-	-	-	-	-
2441MHz	Pass	31.6	310.530435m_DH5	400m	2.913043m
2441MHz	Pass	31.6	266.666667m_DH3	400m	1.666667m
2441MHz	Pass	31.6	129.855072m_DH1	400m	405.797101u

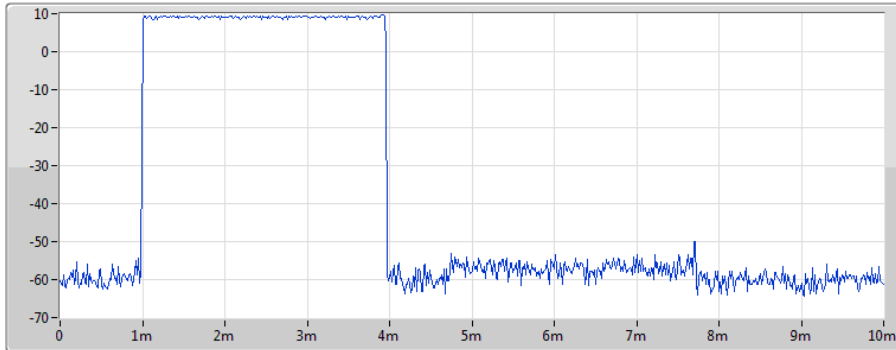
Result/ AFH mode

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2441MHz	Pass	8	158.4442m_DH5	400m	2.971014m
2441MHz	Pass	8	136.8116m_DH3	400m	1.710145m
2441MHz	Pass	8	74.2029m_DH1	400m	463.768116u
BT-EDR(2Mbps)	-	-	-	-	-
2441MHz	Pass	8	155.3526m_DH5	400m	2.913043m
2441MHz	Pass	8	133.3334m_DH3	400m	1.666667m
2441MHz	Pass	8	64.92754m_DH1	400m	405.797101u
BT-EDR(3Mbps)	-	-	-	-	-
2441MHz	Pass	8	155.3526m_DH5	400m	2.913043m
2441MHz	Pass	8	133.3334m_DH3	400m	1.666667m
2441MHz	Pass	8	64.92754m_DH1	400m	405.797101u

BT-BR(1Mbps)

Dwell

2441MHz



Port 1 

Ch Freq
2.441GHz

RBW
300kHz

VBW
1MHz

Sweep Time
10ms

TX Time
2.971014ms

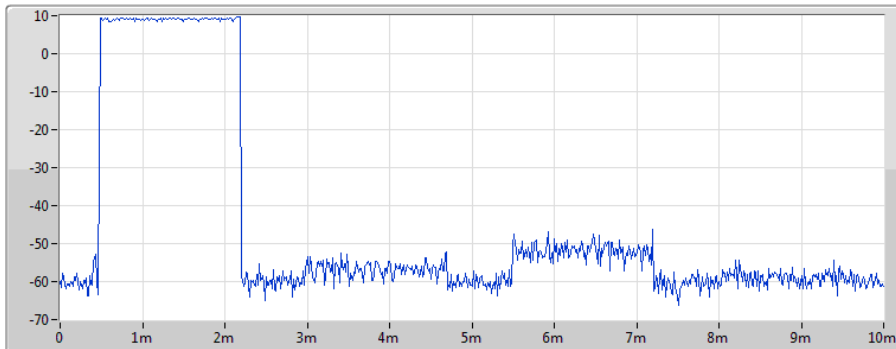
DH5

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	316.710145m	400m	2.971014m

BT-BR(1Mbps)

Dwell

2441MHz



Port 1 

Ch Freq
2.441GHz

RBW
300kHz

VBW
1MHz

Sweep Time
10ms

TX Time
1.710145ms

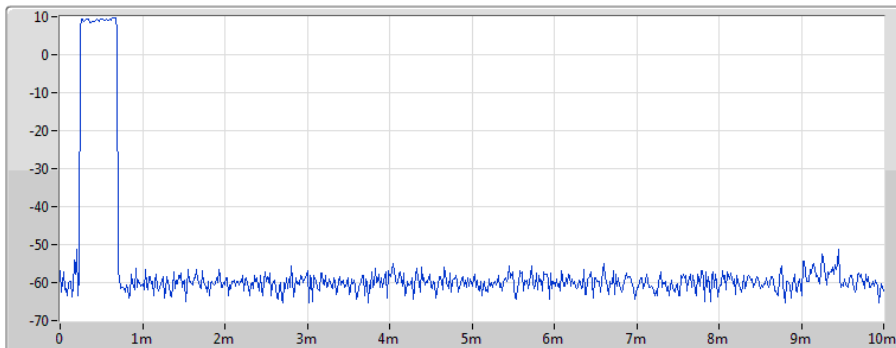
DH3

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	273.623188m	400m	1.710145m

BT-BR(1Mbps)

Dwell

2441MHz



Port 1 

Ch Freq
2.441GHz

RBW
300kHz

VBW
1MHz

Sweep Time
10ms

TX Time
463.768116us

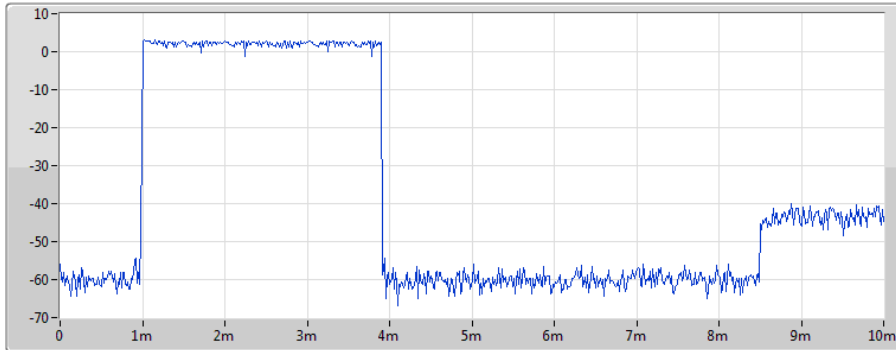
DH1

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	148.405797m	400m	463.768116u

BT-EDR(2Mbps)

Dwell

2441MHz



Port 1 

Ch Freq
2.441GHz

RBW
300kHz

VBW
1MHz

Sweep Time
10ms

TX Time
2.913043ms

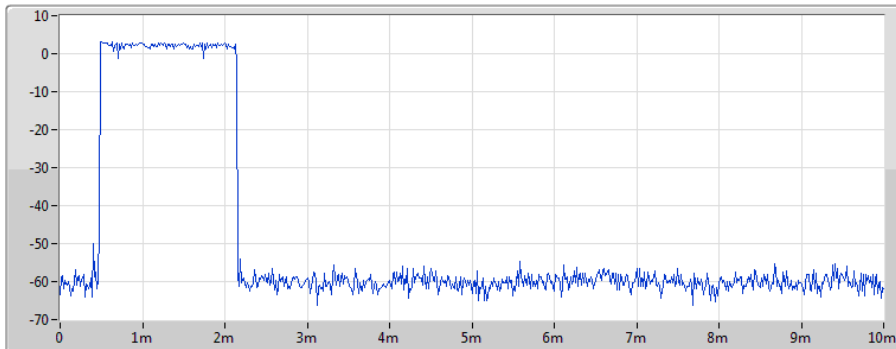
DH5

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	310.530435m	400m	2.913043m

BT-EDR(2Mbps)

Dwell

2441MHz



Port 1 

Ch Freq
2.441GHz

RBW
300kHz

VBW
1MHz

Sweep Time
10ms

TX Time
1.666667ms

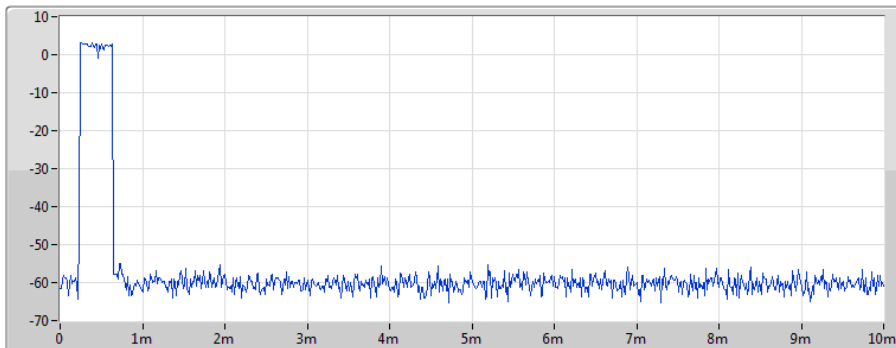
DH3

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	266.666667m	400m	1.666667m

BT-EDR(2Mbps)

Dwell

2441MHz



Port 1 

Ch Freq
2.441GHz

RBW
300kHz

VBW
1MHz

Sweep Time
10ms

TX Time
405.797101us

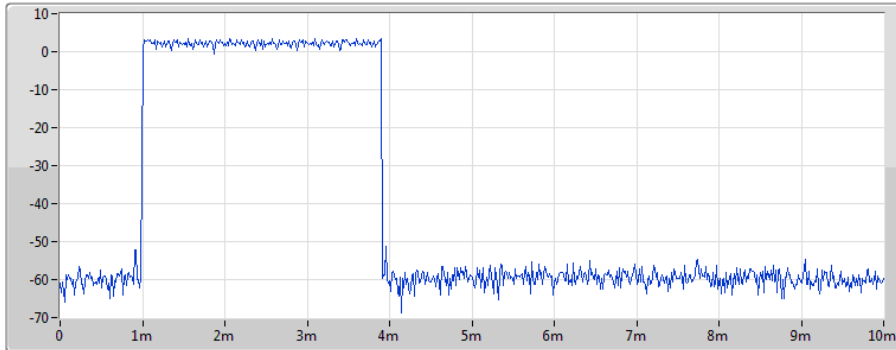
DH1

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	129.855072m	400m	405.797101u

BT-EDR(3Mbps)

Dwell

2441MHz



Port 1 

Ch Freq
2.441GHz

RBW
300kHz

VBW
1MHz

Sweep Time
10ms

TX Time
2.913043ms

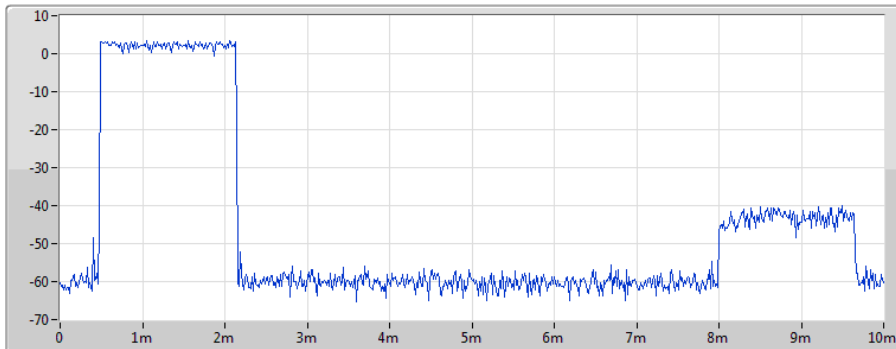
DH5

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	310.530435m	400m	2.913043m

BT-EDR(3Mbps)

Dwell

2441MHz



Port 1 

Ch Freq
2.441GHz

RBW
300kHz

VBW
1MHz

Sweep Time
10ms

TX Time
1.666667ms

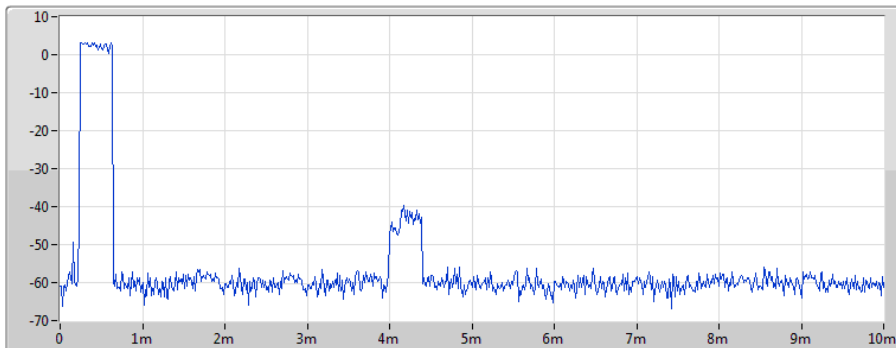
DH3

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	266.666667m	400m	1.666667m

BT-EDR(3Mbps)

Dwell

2441MHz



Port 1 

Ch Freq
2.441GHz

RBW
300kHz

VBW
1MHz

Sweep Time
10ms

TX Time
405.797101us

DH1

Period(s)	Dwell(s)	Limit(s)	Tx On(s)
31.6	129.855072m	400m	405.797101u

4 Receiver Test Results

4.1 Unwanted Emissions into Restricted Frequency Bands

4.1.1 Limit of Unwanted Emissions into Restricted Frequency Bands

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9~90 kHz, 110~490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

4.1.2 Test Procedures

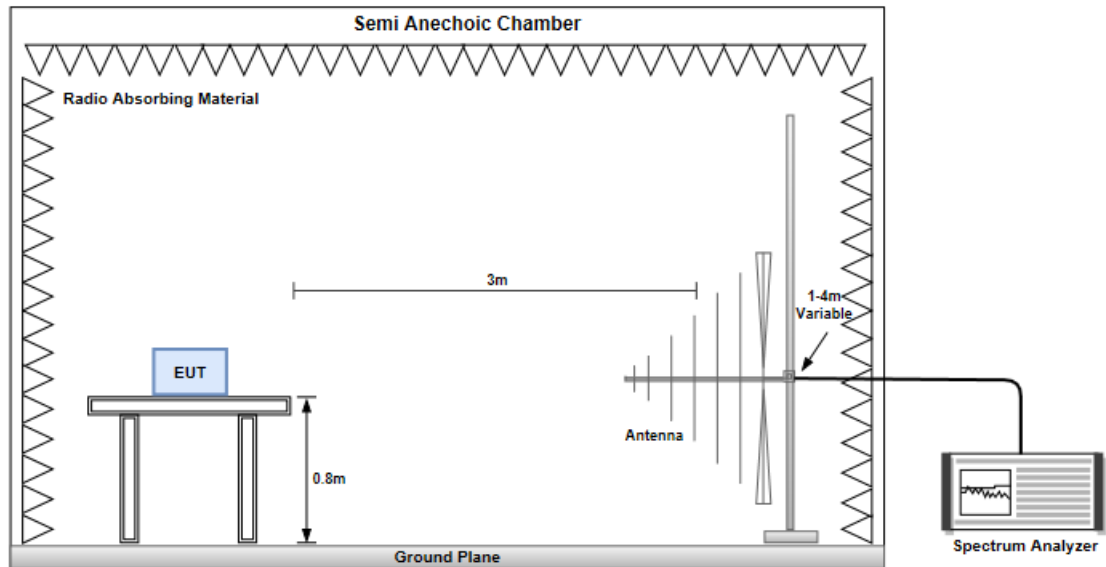
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

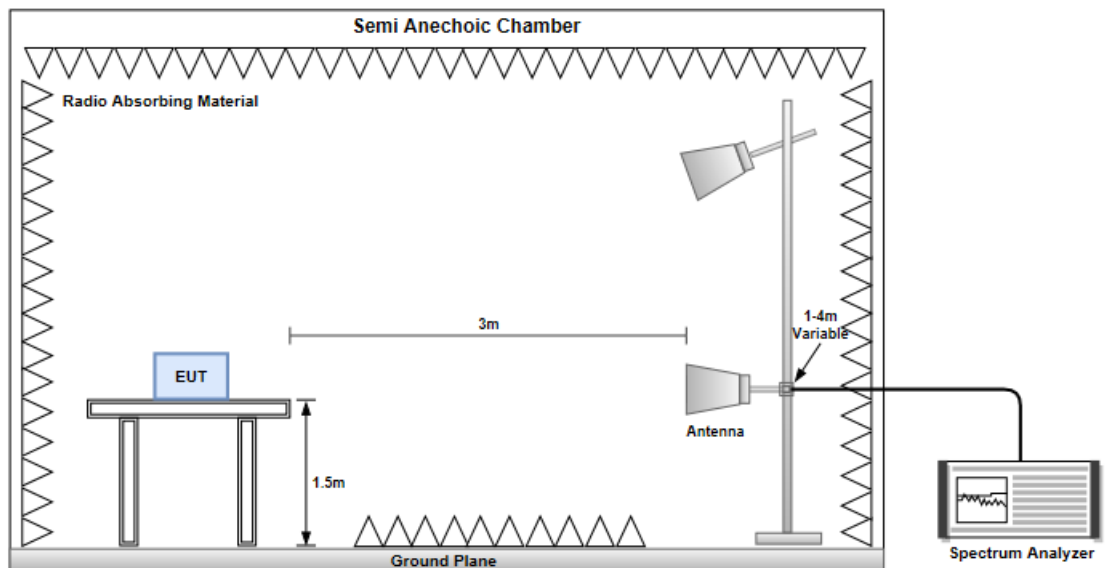
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=3MHz and RMS detector is for average measured value of radiated emission above 1GHz.

4.1.3 Test Setup

Radiated Emissions below 1 GHz

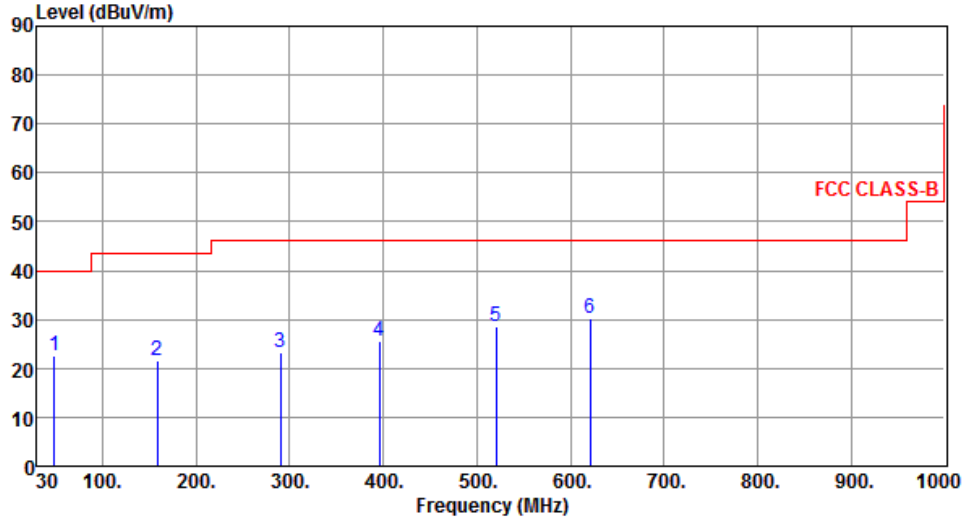


Radiated Emissions above 1 GHz



4.1.4 Receiver Radiated Unwanted Emissions

Modulation	GFSK	Test Freq. (MHz)	2402
Polarization	Horizontal	Mode	Battery Mode

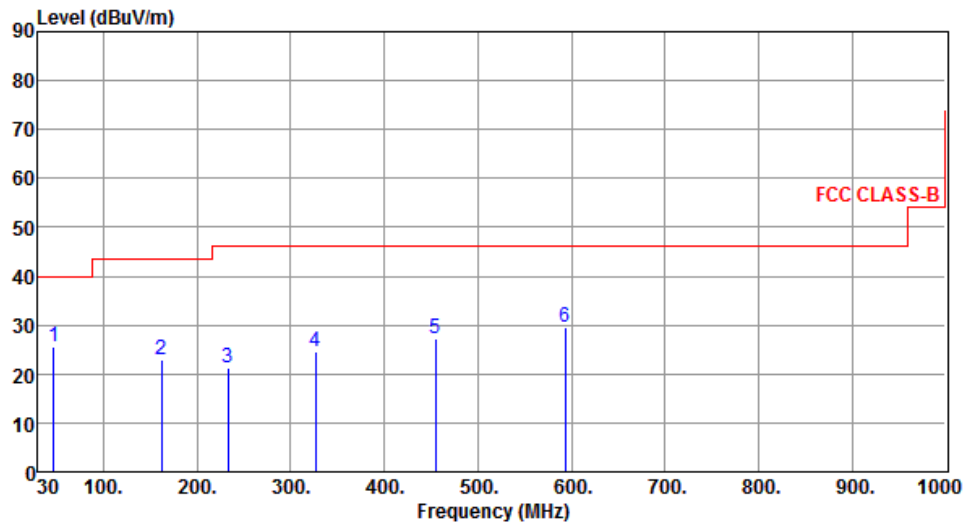


The graph displays the emission level in dBUV/m on the y-axis (0 to 90) against frequency in MHz on the x-axis (30 to 1000). A red line represents the FCC CLASS-B limit, which is 40 dBUV/m from 30 to 100 MHz, 45 dBUV/m from 100 to 300 MHz, and 55 dBUV/m from 300 to 1000 MHz. Six blue vertical lines indicate specific emission peaks, labeled 1 through 6, with their corresponding data listed in the table below.

	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB	Remark	ANT High cm	Turn Table deg
1	48.51	22.49	40.00	-17.51	30.42	-7.93	Peak	---	---
2	158.21	21.69	43.50	-21.81	29.92	-8.23	Peak	---	---
3	289.96	23.41	46.00	-22.59	31.33	-7.92	Peak	---	---
4	395.58	25.47	46.00	-20.53	30.58	-5.11	Peak	---	---
5	520.79	28.41	46.00	-17.59	30.88	-2.47	Peak	---	---
6	620.73	30.37	46.00	-15.63	30.46	-0.09	Peak	---	---

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Modulation	GFSK	Test Freq. (MHz)	2402
Polarization	Vertical	Mode	Battery Mode



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	46.51	25.68	40.00	-14.32	33.72	-8.04	Peak	---	---
2	161.92	23.02	43.50	-20.48	31.29	-8.27	Peak	---	---
3	232.66	21.23	46.00	-24.77	31.27	-10.04	Peak	---	---
4	326.82	24.51	46.00	-21.49	31.50	-6.99	Peak	---	---
5	454.79	27.33	46.00	-18.67	30.96	-3.63	Peak	---	---
6	593.48	29.68	46.00	-16.32	30.28	-0.60	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

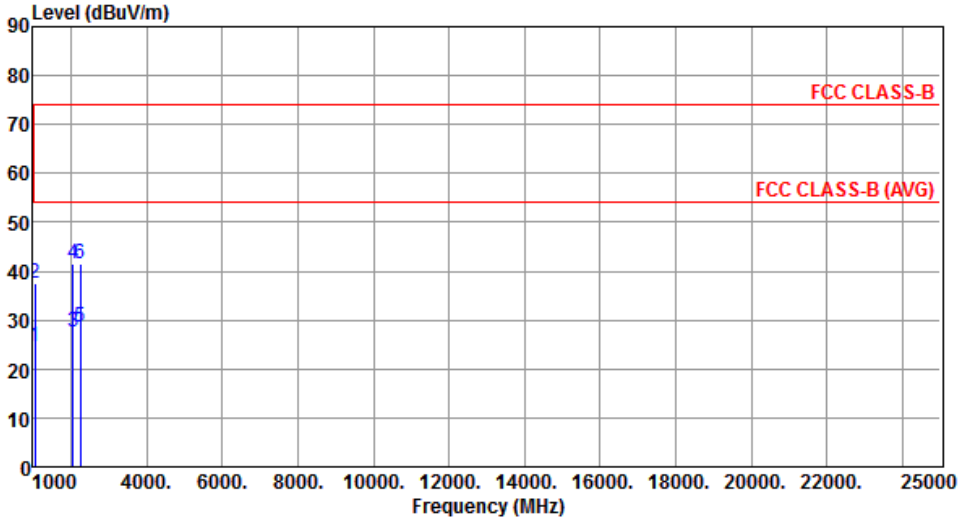
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

4.1.5 Receiver Radiated Unwanted Emissions (Above 1GHz)

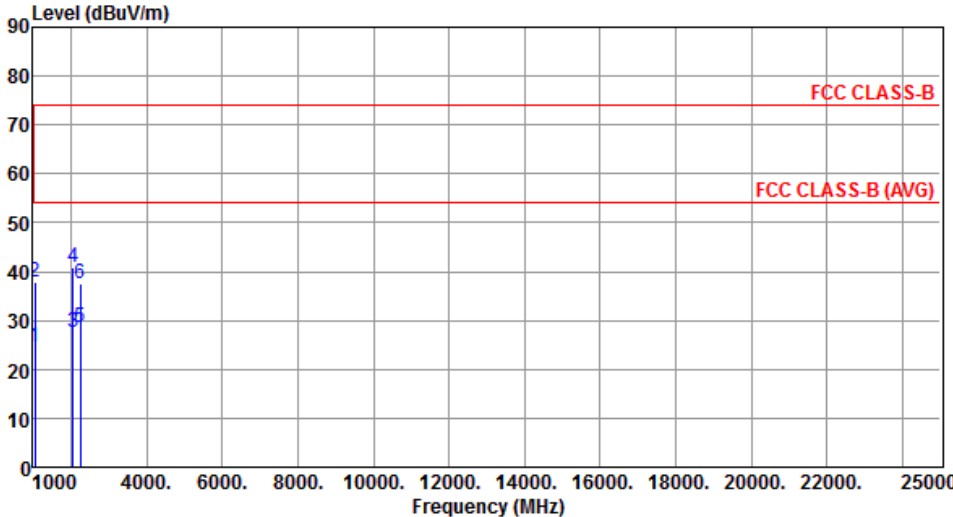
Modulation	GFSK	Test Freq. (MHz)	2402
Polarization	Horizontal	Mode	Battery Mode



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1050.00	24.66	54.00	-29.34	32.96	-8.30	Average	100	85
2	1050.00	37.61	74.00	-36.39	45.91	-8.30	Peak	100	85
3	2065.00	27.63	54.00	-26.37	30.19	-2.56	Average	100	78
4	2065.00	41.35	74.00	-32.65	43.91	-2.56	Peak	100	78
5	2260.00	28.52	54.00	-25.48	30.28	-1.76	Average	100	44
6	2260.00	41.55	74.00	-32.45	43.31	-1.76	Peak	100	44

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Modulation	GFSK	Test Freq. (MHz)	2402
Polarization	Vertical	Mode	Battery Mode



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	1050.00	24.49	54.00	-29.51	32.79	-8.30	Average	100	29
2	1050.00	37.99	74.00	-36.01	46.29	-8.30	Peak	100	29
3	2065.00	27.54	54.00	-26.46	30.10	-2.56	Average	100	45
4	2065.00	40.76	74.00	-33.24	43.32	-2.56	Peak	100	45
5	2260.00	28.46	54.00	-25.54	30.22	-1.76	Average	100	58
6	2260.00	37.67	74.00	-36.33	39.43	-1.76	Peak	100	58

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
 *Factor includes antenna factor , cable loss and amplifier gain
 Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

5 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

Tel: 886-2-2601-1640

No. 30-2, Ding Fwu Tsuen, Lin Kou
District, New Taipei City, Taiwan,
R.O.C.

Kwei Shan

Tel: 886-3-271-8666

No. 3-1, Lane 6, Wen San 3rd
St., Kwei Shan District, Tao Yuan
City 333, Taiwan, R.O.C.

Kwei Shan Site II

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd
St., Kwei Shan District, Tao Yuan
City 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information

Tel: 886-3-271-8666

Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

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