

# FCC Test Report

**FCC ID** : MXF-WRTQ-337  
**Equipment** : Router  
**Model No.** : AC1300  
**Brand Name** : Onelink  
**Applicant** : Gemtek Technology Co., Ltd.  
**Address** : No.15-1 Zhoughua Rd, Hsinchu Industrial  
Park, Hukou, Hsinchu, Taiwan, R.O.C  
**Standard** : 47 CFR FCC Part 15.247  
**Received Date** : Nov. 05, 2018  
**Tested Date** : Nov. 09 ~ Nov. 19, 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
FR8N0502AD	Rev. 01	Initial issue	Nov. 26, 2018

## Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 1.898MHz 32.32 (Margin -13.68dB) - AV	Pass
15.247(d) 15.209	Radiated Emissions	[dBuV/m at 3m]: 51.28MHz 36.88 (Margin -3.12dB) - PK	Pass
15.247(d)	Band Edge	Meet the requirement of limit	Pass
15.247(b)(1)	Conducted Output Power	Power [dBm]: 7.37	Pass
15.247(a)(1)(iii)	Number of Hopping Channels	Meet the requirement of limit	Pass
15.247(a)(1)	Hopping Channel Separation	Meet the requirement of limit	Pass
15.247(a)(1)(iii)	Dwell Time	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

# 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	2402-2480	0-78 [79]	1 Mbps
2400-2483.5	EDR	2402-2480	0-78 [79]	2 Mbps
2400-2483.5	EDR	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	Chip	N/A	3.68	---

### 1.1.3 Power Supply Type of Equipment under Test (EUT)

<b>Power Supply Type</b>	12Vdc from adapter
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### 1.1.4 Accessories

Accessories		
No.	Equipment	Description
1	AC adapter	Brand: APD Model: WB-18D12FU Power Rating: I/P: 100-240Vac, 50-60Hz O/P: 12Vdc, 1.5A Power Line: 1.5m non-shielded without core
2	RJ45 (white)	1.5m 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	By CBT control
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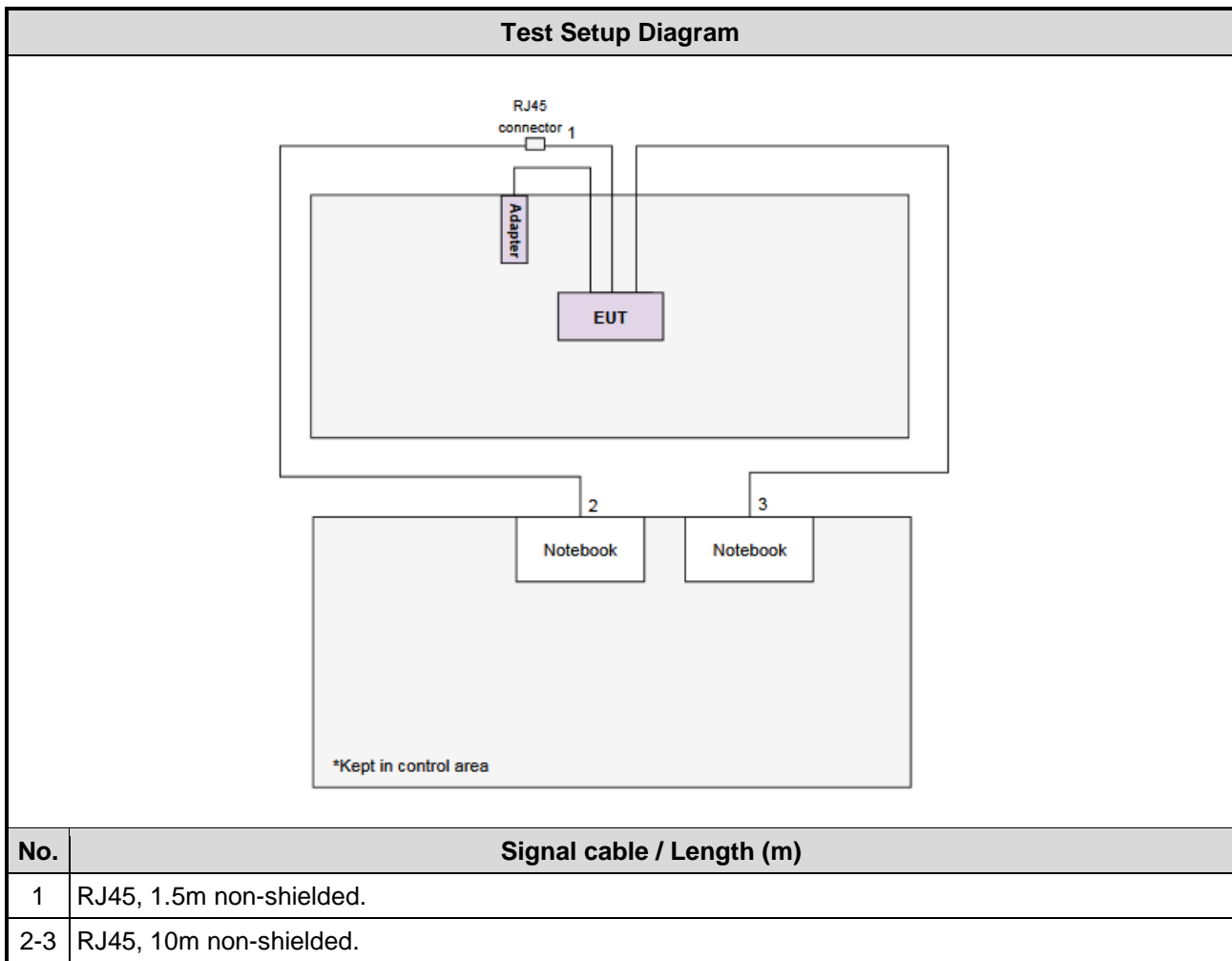
### 1.1.7 Power Setting

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	Notebook	DELL	Latitude E6430	DoC	---
2	Notebook	DELL	Latitude E5470	DoC	---

## 1.3 Test Setup Chart



## 1.4 The Equipment List

<b>Test Item</b>	Conducted Emission				
<b>Test Site</b>	Conduction room 1 / (CO01-WS)				
<b>Tested Date</b>	Nov. 19, 2018				
<b>Instrument</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Calibration Date</b>	<b>Calibration Until</b>
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-BM-6000	50821	Dec. 18, 2017	Dec. 17, 2018
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

<b>Test Item</b>	Radiated Emission				
<b>Test Site</b>	966 chamber 3 / (03CH03-WS)				
<b>Tested Date</b>	Nov. 09, 2018				
<b>Instrument</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Calibration Date</b>	<b>Calibration Until</b>
Spectrum Analyzer	R&S	FSV40	101499	Jan. 03, 2018	Jan. 02, 2019
Receiver	R&S	ESR3	101658	Nov. 20, 2017	Nov. 19, 2018
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. 23, 2017	Nov. 22, 2018
Loop Antenna	TESEQ	HLA 6120	31244	Mar. 29, 2018	Mar. 28, 2019
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	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Nov. 27, 2017	Nov. 26, 2018
RF cable-8M	HUBER+SUHNER	SUCOFLEX104	MY32487/4	Nov. 27, 2017	Nov. 26, 2018
RF cable-1M	HUBER+SUHNER	SUCOFLEX104	MY22624/4	Nov. 27, 2017	Nov. 26, 2018
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800-001	Nov. 27, 2017	Nov. 26, 2018
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Nov. 27, 2017	Nov. 26, 2018
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Nov. 27, 2017	Nov. 26, 2018
Measurement Software	AUDIX	e3	6.120210g	NA	NA
Note: Calibration Interval of instruments listed above is one year.					



<b>Test Item</b>	RF Conducted				
<b>Test Site</b>	(TH01-WS)				
<b>Tested Date</b>	Nov. 19, 2018				
<b>Instrument</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Calibration Date</b>	<b>Calibration Until</b>
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
AC POWER SOURCE	APC	AFC-500W	F312060012	Dec. 01, 2017	Nov. 30, 2018
Measurement Software	Sporton	Sporton_1	1.3.30	NA	NA
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.

47 CFR FCC Part 15.247

ANSI C63.10-2013

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	25°C / 56%	Alex Tsai
Radiated Emissions	03CH03-WS	24-25°C / 62-66%	Akun Chung Aska Huang
RF Conducted	TH01-WS	23°C / 62%	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 (Mbps)	Test Configuration
Conducted Emissions	GFSK	2480	1Mbps	---
Radiated Emissions ≤ 1GHz	GFSK	2480	1Mbps	---
Radiated Emissions > 1GHz	GFSK	2402, 2441, 2480	1Mbps	---
	8DPSK	2402, 2441, 2480	3Mbps	
Conducted Output Power	GFSK	2402, 2441, 2480	1Mbps	---
	π/4 DQPSK	2402, 2441, 2480	2Mbps	
	8DPSK	2402, 2441, 2480	3Mbps	
Number of Hopping Channels	GFSK	2402~2480	1Mbps	---
	π/4 DQPSK	2402~2480	2Mbps	
	8DPSK	2402~2480	3Mbps	
Hopping Channel Separation 20dB and Occupied bandwidth	GFSK	2402, 2441, 2480	1Mbps	---
	π/4 DQPSK	2402, 2441, 2480	2Mbps	
	8DPSK	2402, 2441, 2480	3Mbps	
Dwell Time	GFSK	2441	1Mbps	---
	π/4 DQPSK	2441	2Mbps	
	8DPSK	2441	3Mbps	

## 3 Transmitter Test Results

### 3.1 Conducted Emissions

#### 3.1.1 Limit of Conducted Emissions

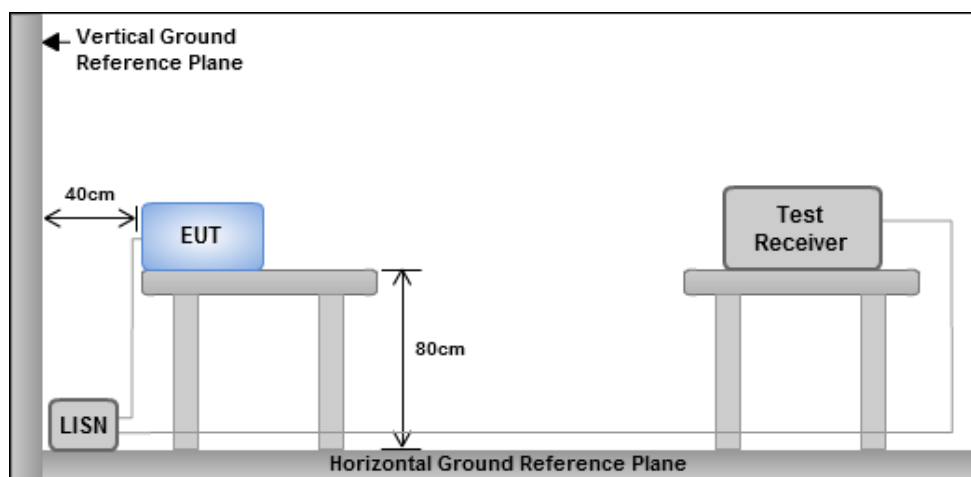
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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

#### 3.1.2 Test Procedures

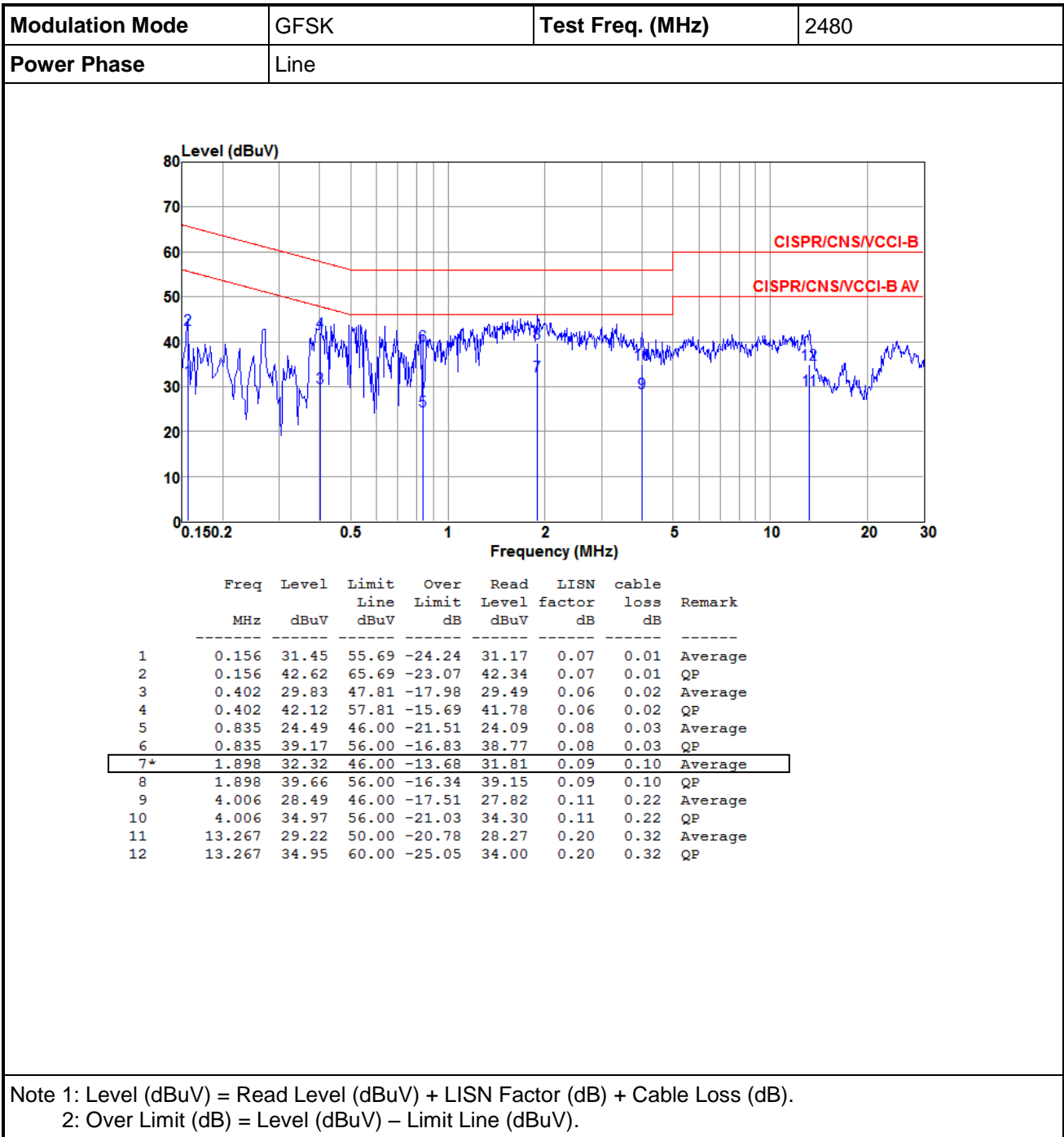
1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50  $\Omega$  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

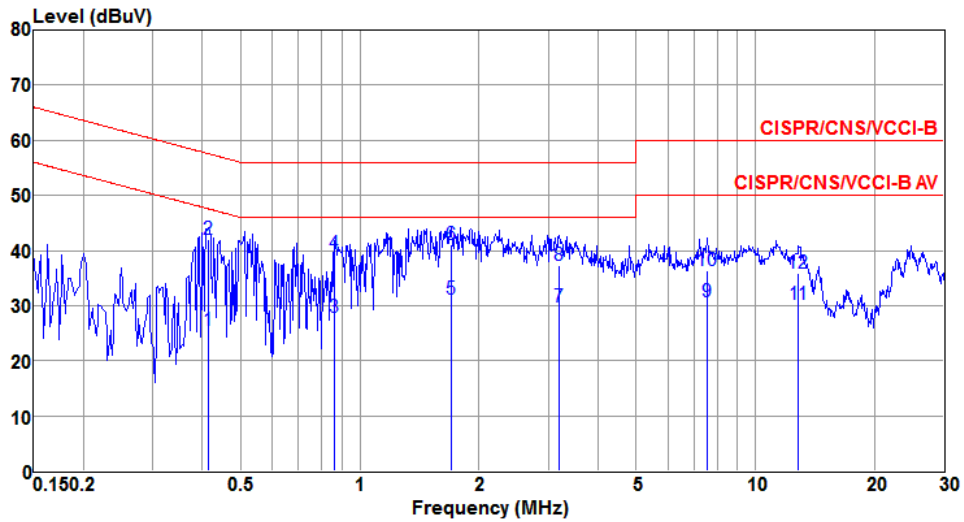


- Note: 1. Support units were connected to second LISN.  
 2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

### 3.1.4 Test Result of Conducted Emissions



<b>Modulation Mode</b>	GFSK	<b>Test Freq. (MHz)</b>	2480
<b>Power Phase</b>	Neutral		



	Freq MHz	Level dBuV	Limit Line dBuV	Over Limit dB	Read Level dBuV	LISN factor dB	cable loss dB	Remark
1	0.415	25.50	47.55	-22.05	25.17	0.05	0.02	Average
2	0.415	41.94	57.55	-15.61	41.61	0.05	0.02	QP
3	0.862	27.88	46.00	-18.12	27.50	0.06	0.03	Average
4	0.862	39.41	56.00	-16.59	39.03	0.06	0.03	QP
5*	1.698	31.23	46.00	-14.77	30.76	0.07	0.08	Average
6	1.698	41.12	56.00	-14.88	40.65	0.07	0.08	QP
7	3.190	29.86	46.00	-16.14	29.27	0.08	0.18	Average
8	3.190	37.33	56.00	-18.67	36.74	0.08	0.18	QP
9	7.566	30.65	50.00	-19.35	29.85	0.15	0.29	Average
10	7.566	36.36	60.00	-23.64	35.56	0.15	0.29	QP
11	12.852	30.29	50.00	-19.71	29.34	0.21	0.32	Average
12	12.852	35.96	60.00	-24.04	35.01	0.21	0.32	QP

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

## 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

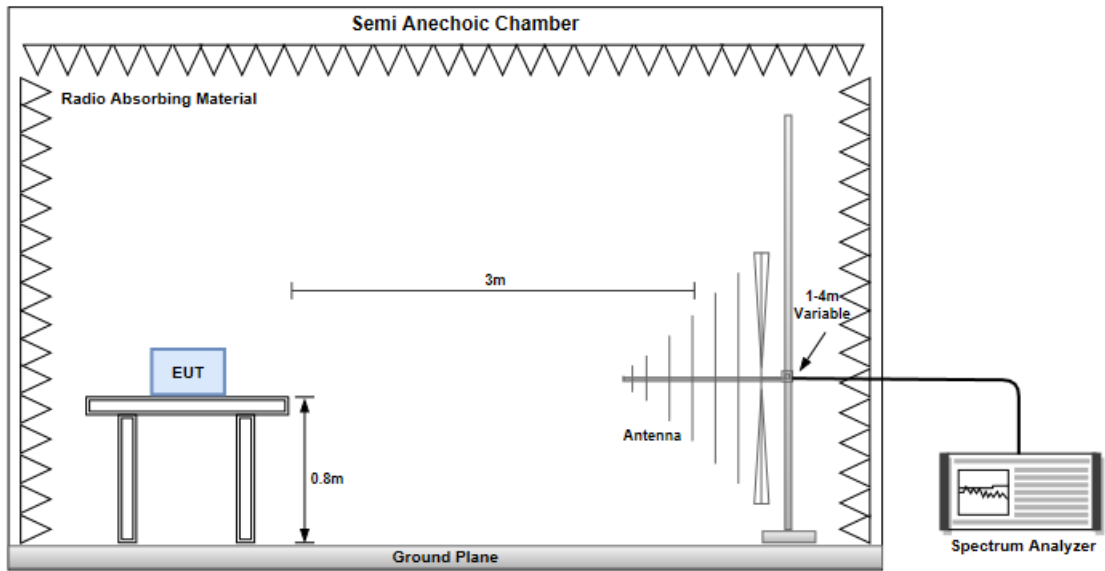
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission 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:**

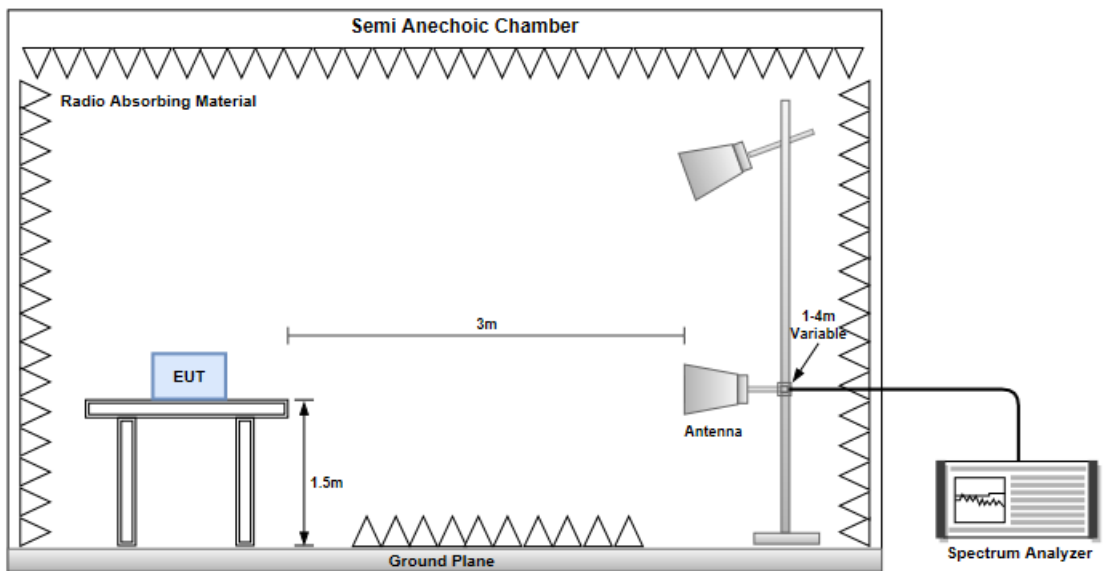
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. Radiated emission above 1GHz / Peak value  
RBW=1MHz, VBW=3MHz and Peak detector
3. Radiated emission above 1GHz / Average value  
RBW=1MHz, VBW=1/T and Peak detector

### 3.2.3 Test Setup

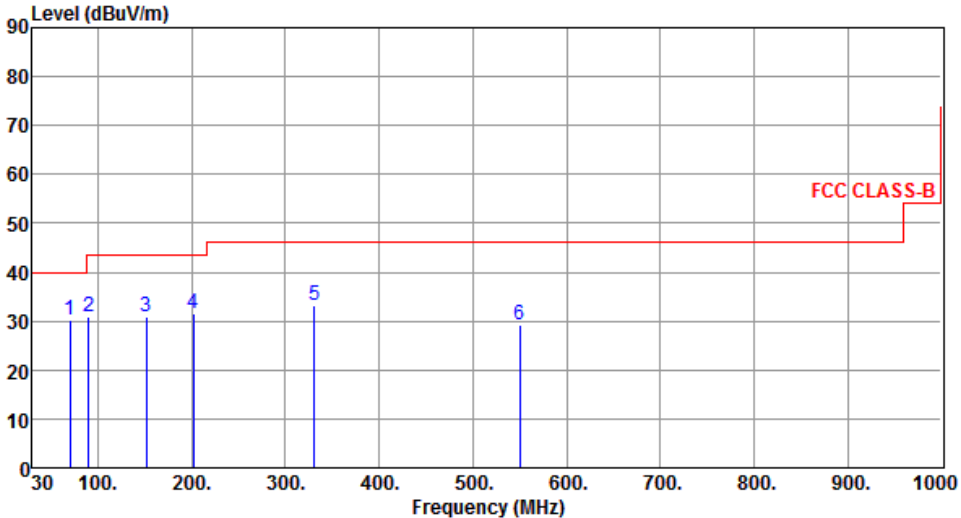
#### Radiated Emissions below 1 GHz



#### Radiated Emissions above 1 GHz

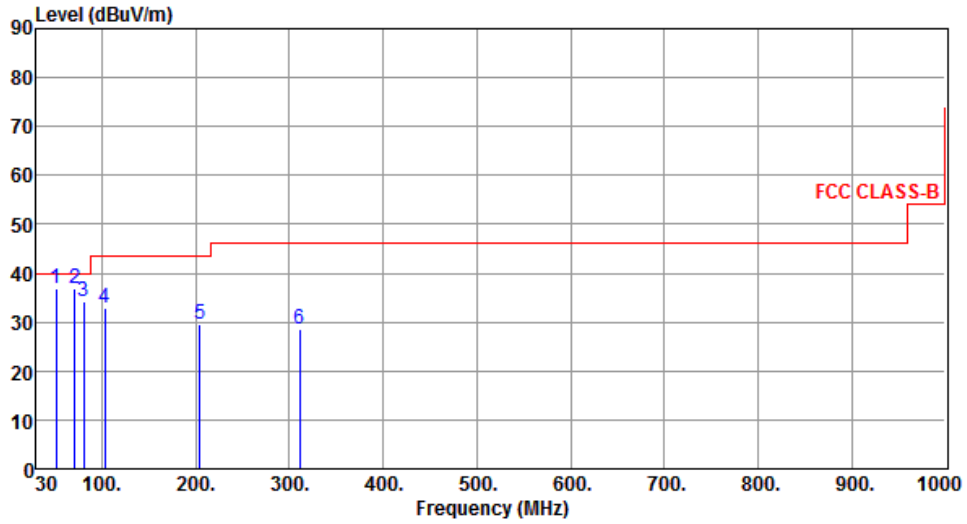


### 3.2.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Modulation	GFSK	Test Freq. (MHz)	2480						
Polarization	Horizontal								
									
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High cm	Turn Table deg
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB			
1	69.77	30.23	40.00	-9.77	40.68	-10.45	Peak	---	---
2	90.14	30.98	43.50	-12.52	45.44	-14.46	Peak	---	---
3	151.25	30.94	43.50	-12.56	39.18	-8.24	Peak	---	---
4	201.69	31.62	43.50	-11.88	42.64	-11.02	Peak	---	---
5	330.70	33.31	46.00	-12.69	40.19	-6.88	Peak	---	---
6	549.92	29.22	46.00	-16.78	31.09	-1.87	Peak	---	---
<p>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.</p>									



<b>Modulation</b>	GFSK	<b>Test Freq. (MHz)</b>	2480
<b>Polarization</b>	Vertical		



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	51.28	36.88	40.00	-3.12	44.84	-7.96	Peak	100	3
2	70.74	36.85	40.00	-3.15	47.53	-10.68	Peak	---	---
3	80.44	34.18	40.00	-5.82	47.20	-13.02	Peak	---	---
4	102.75	32.90	43.50	-10.60	45.93	-13.03	Peak	---	---
5	204.60	29.65	43.50	-13.85	40.66	-11.01	Peak	---	---
6	311.30	28.40	46.00	-17.60	35.79	-7.39	Peak	---	---

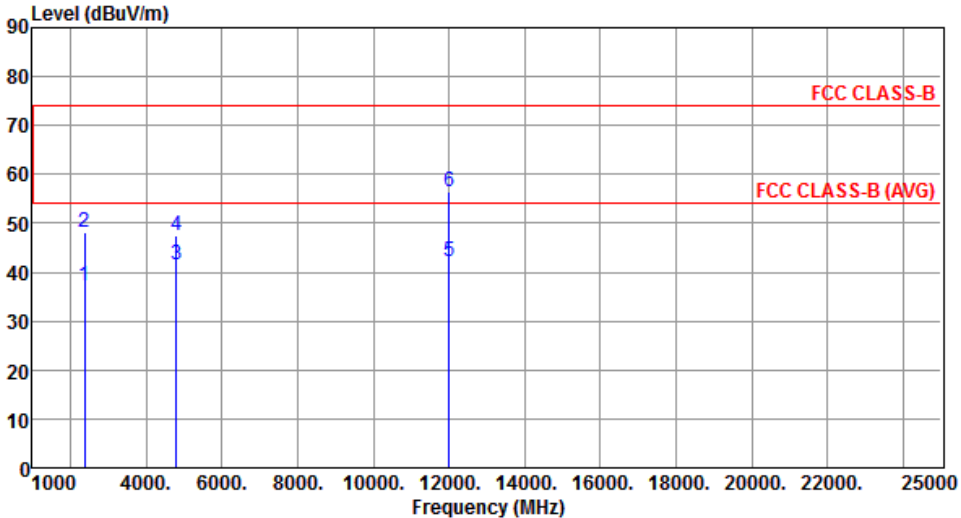
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor\* (dB)

\*Factor includes antenna factor , cable loss and amplifier gain

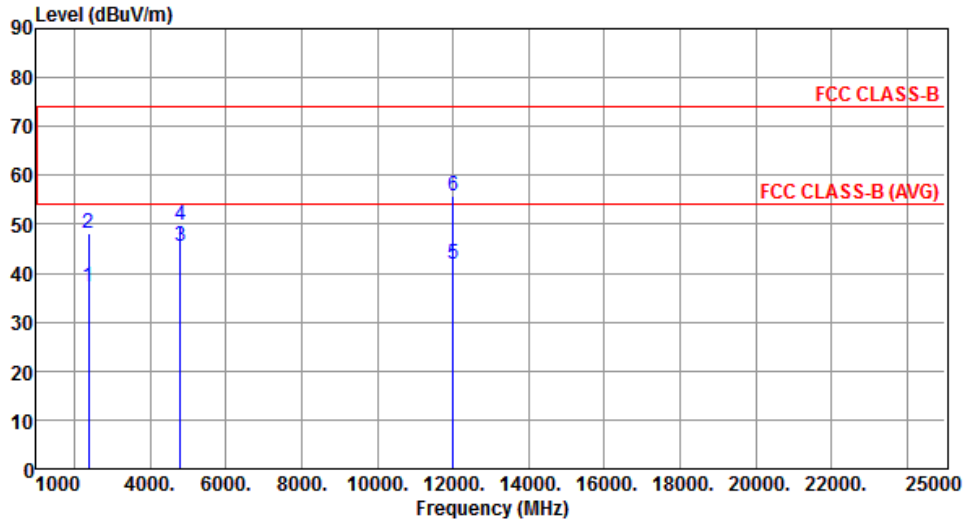
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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								
									
	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	37.14	54.00	-16.86	38.38	-1.24	Average	180	315
2	2390.00	48.18	74.00	-25.82	49.42	-1.24	Peak	180	315
3	4804.00	41.40	54.00	-12.60	35.90	5.50	Average	106	180
4	4804.00	47.47	74.00	-26.53	41.97	5.50	Peak	106	180
5	12010.00	42.05	54.00	-11.95	26.31	15.74	Average	100	25
6	12010.00	56.33	74.00	-17.67	40.59	15.74	Peak	100	25
<p>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).</p>									

<b>Modulation</b>	GFSK	<b>Test Freq. (MHz)</b>	2402
<b>Polarization</b>	Vertical		



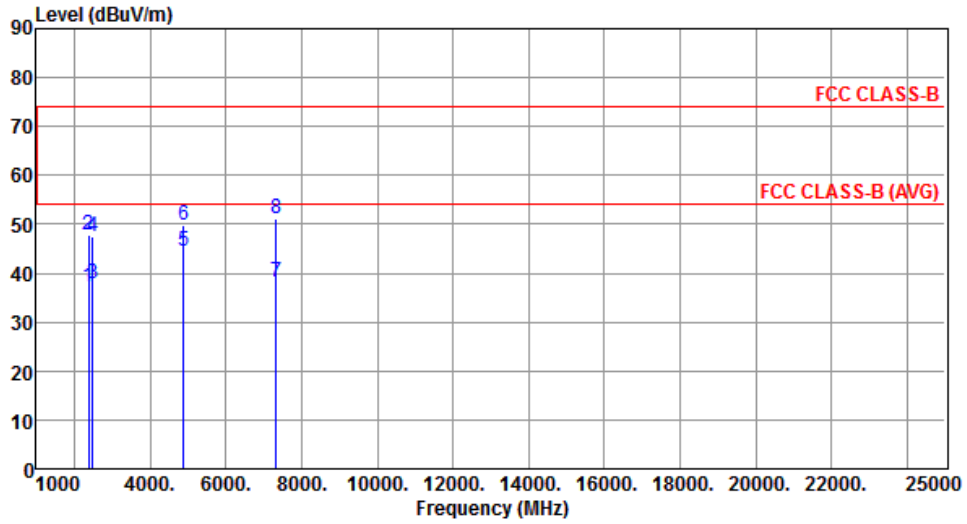
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.21	54.00	-16.79	38.45	-1.24	Average	104	257
2	2390.00	48.20	74.00	-25.80	49.44	-1.24	Peak	104	257
3	4804.00	45.39	54.00	-8.61	39.89	5.50	Average	100	161
4	4804.00	49.77	74.00	-24.23	44.27	5.50	Peak	100	161
5	12010.00	41.87	54.00	-12.13	26.13	15.74	Average	100	56
6	12010.00	55.96	74.00	-18.04	40.22	15.74	Peak	100	56

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).

<b>Modulation</b>	GFSK	<b>Test Freq. (MHz)</b>	2441
<b>Polarization</b>	Horizontal		



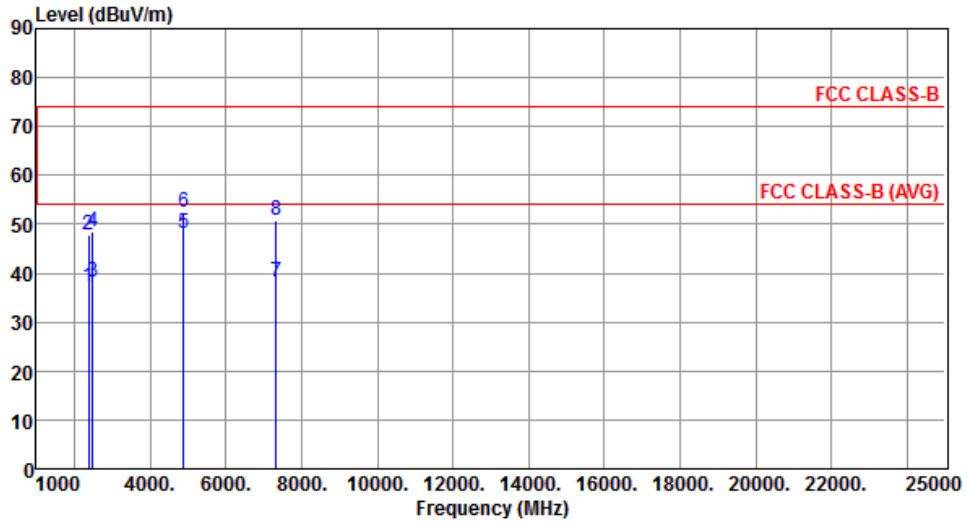
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.14	54.00	-16.86	38.38	-1.24	Average	160	322
2	2390.00	47.86	74.00	-26.14	49.10	-1.24	Peak	160	322
3	2483.50	37.93	54.00	-16.07	38.81	-0.88	Average	160	322
4	2483.50	47.40	74.00	-26.60	48.28	-0.88	Peak	160	322
5	4882.00	44.60	54.00	-9.40	38.88	5.72	Average	106	179
6	4882.00	49.88	74.00	-24.12	44.16	5.72	Peak	106	179
7	7323.00	38.20	54.00	-15.80	27.27	10.93	Average	100	52
8	7323.00	51.21	74.00	-22.79	40.28	10.93	Peak	100	52

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).

<b>Modulation</b>	GFSK	<b>Test Freq. (MHz)</b>	2441
<b>Polarization</b>	Vertical		



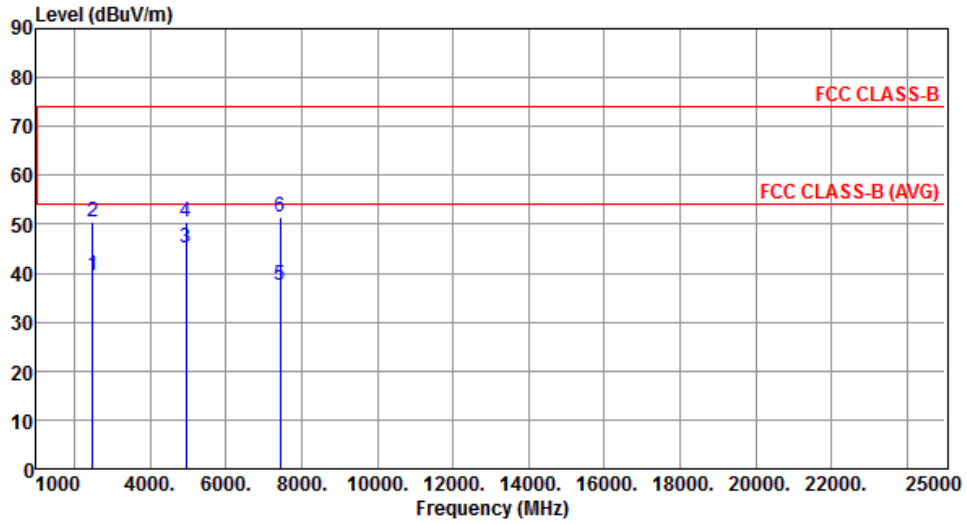
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.04	54.00	-16.96	38.28	-1.24	Average	105	254
2	2390.00	47.94	74.00	-26.06	49.18	-1.24	Peak	105	254
3	2483.50	38.26	54.00	-15.74	39.14	-0.88	Average	105	254
4	2483.50	48.62	74.00	-25.38	49.50	-0.88	Peak	105	254
5	4882.00	48.13	54.00	-5.87	42.41	5.72	Average	100	158
6	4882.00	52.42	74.00	-21.58	46.70	5.72	Peak	100	158
7	7323.00	38.09	54.00	-15.91	27.16	10.93	Average	100	151
8	7323.00	50.79	74.00	-23.21	39.86	10.93	Peak	100	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).

<b>Modulation</b>	GFSK	<b>Test Freq. (MHz)</b>	2480
<b>Polarization</b>	Horizontal		



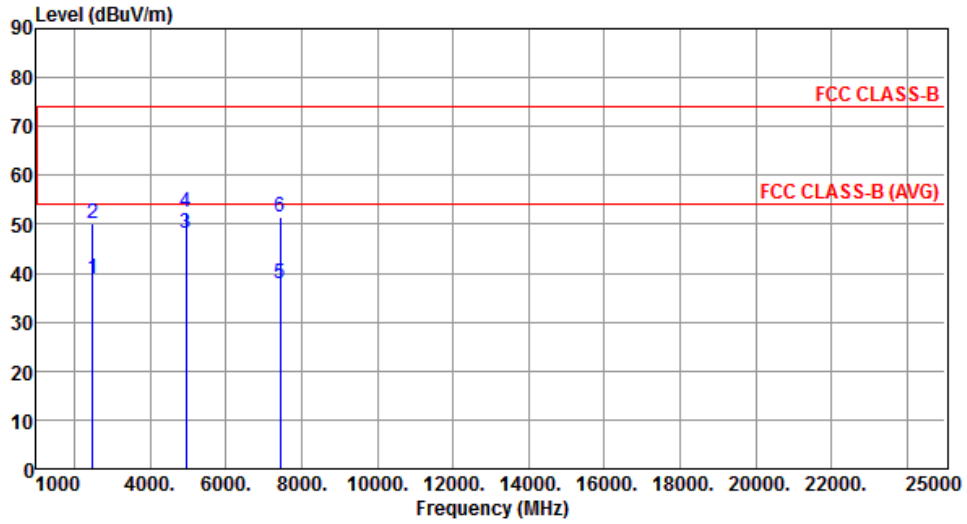
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	39.63	54.00	-14.37	40.51	-0.88	Average	100	321
2	2483.50	50.59	74.00	-23.41	51.47	-0.88	Peak	100	321
3	4960.00	45.23	54.00	-8.77	39.30	5.93	Average	112	174
4	4960.00	50.35	74.00	-23.65	44.42	5.93	Peak	112	174
5	7440.00	37.67	54.00	-16.33	26.37	11.30	Average	100	51
6	7440.00	51.51	74.00	-22.49	40.21	11.30	Peak	100	51

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).

<b>Modulation</b>	GFSK	<b>Test Freq. (MHz)</b>	2480
<b>Polarization</b>	Vertical		



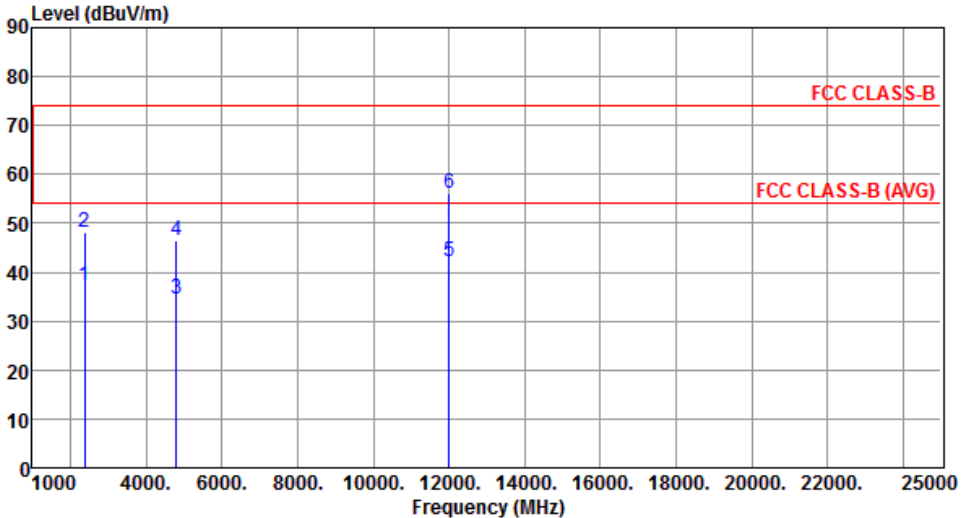
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	38.89	54.00	-15.11	39.77	-0.88	Average	103	255
2	2483.50	49.99	74.00	-24.01	50.87	-0.88	Peak	103	255
3	4960.00	48.25	54.00	-5.75	42.32	5.93	Average	100	158
4	4960.00	52.36	74.00	-21.64	46.43	5.93	Peak	100	158
5	7440.00	37.97	54.00	-16.03	26.67	11.30	Average	100	153
6	7440.00	51.40	74.00	-22.60	40.10	11.30	Peak	100	153

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

\*Factor includes antenna factor , cable loss and amplifier gain

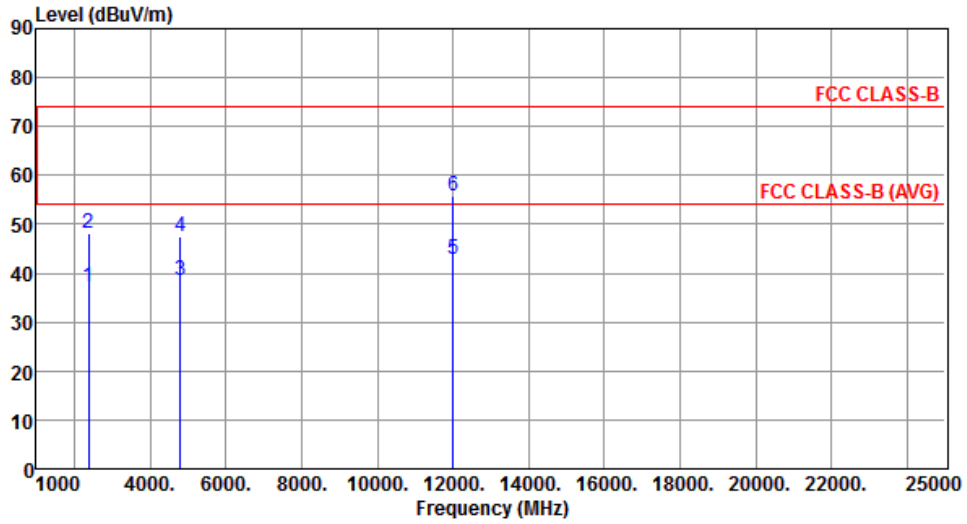
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

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

Modulation	8DPSK	Test Freq. (MHz)	2402						
Polarization	Horizontal								
									
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	37.21	54.00	-16.79	38.45	-1.24	Average	177	318
2	2390.00	48.15	74.00	-25.85	49.39	-1.24	Peak	177	318
3	4804.00	34.46	54.00	-19.54	28.96	5.50	Average	100	180
4	4804.00	46.47	74.00	-27.53	40.97	5.50	Peak	100	180
5	12010.00	42.07	54.00	-11.93	26.33	15.74	Average	100	23
6	12010.00	56.07	74.00	-17.93	40.33	15.74	Peak	100	23
<p>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).</p>									



<b>Modulation</b>	8DPSK	<b>Test Freq. (MHz)</b>	2402
<b>Polarization</b>	Vertical		



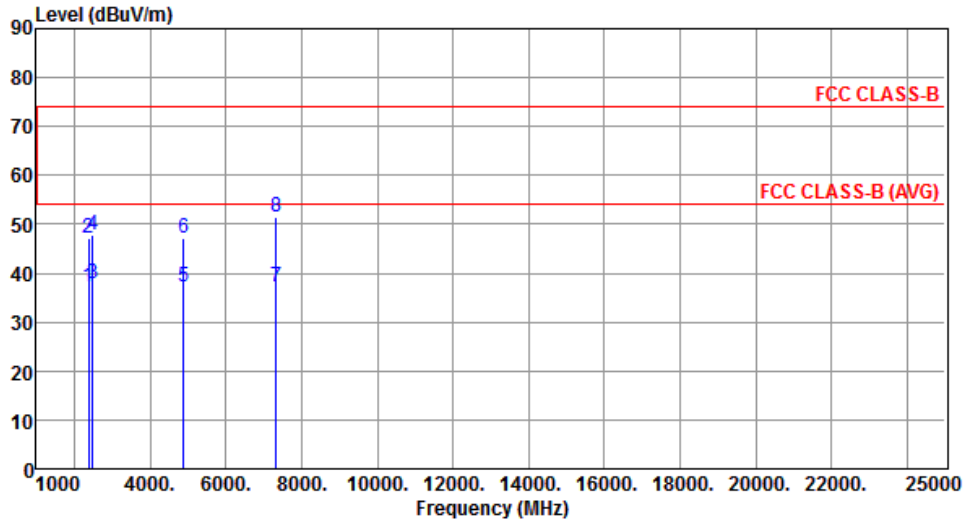
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.21	54.00	-16.79	38.45	-1.24	Average	106	248
2	2390.00	48.21	74.00	-25.79	49.45	-1.24	Peak	106	248
3	4804.00	38.47	54.00	-15.53	32.97	5.50	Average	100	157
4	4804.00	47.49	74.00	-26.51	41.99	5.50	Peak	100	157
5	12010.00	42.92	54.00	-11.08	27.18	15.74	Average	100	53
6	12010.00	55.95	74.00	-18.05	40.21	15.74	Peak	100	53

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).

<b>Modulation</b>	8DPSK	<b>Test Freq. (MHz)</b>	2441
<b>Polarization</b>	Horizontal		



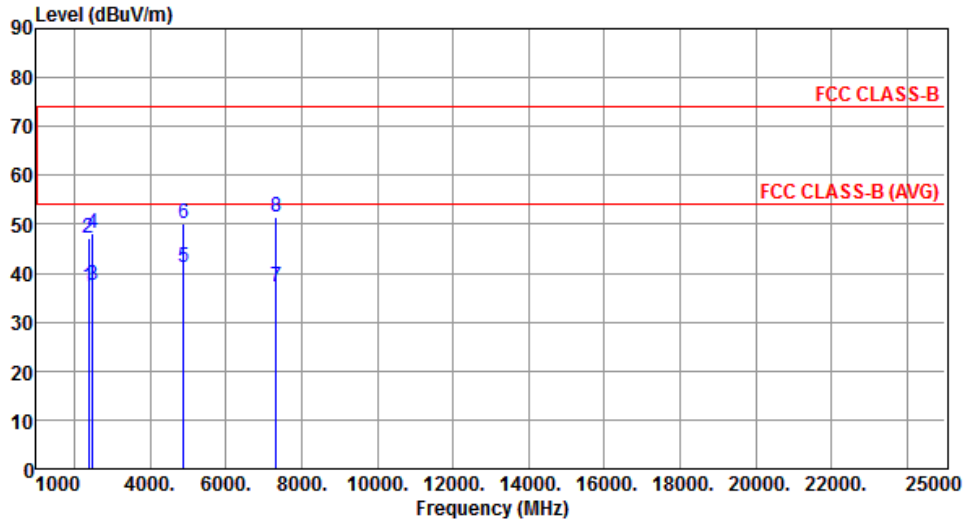
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.14	54.00	-16.86	38.38	-1.24	Average	174	321
2	2390.00	47.19	74.00	-26.81	48.43	-1.24	Peak	174	321
3	2483.50	37.89	54.00	-16.11	38.77	-0.88	Average	174	321
4	2483.50	47.91	74.00	-26.09	48.79	-0.88	Peak	174	321
5	4882.00	37.08	54.00	-16.92	31.36	5.72	Average	110	177
6	4882.00	47.04	74.00	-26.96	41.32	5.72	Peak	110	177
7	7323.00	37.34	54.00	-16.66	26.41	10.93	Average	100	53
8	7323.00	51.50	74.00	-22.50	40.57	10.93	Peak	100	53

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).

<b>Modulation</b>	8DPSK	<b>Test Freq. (MHz)</b>	2441
<b>Polarization</b>	Vertical		



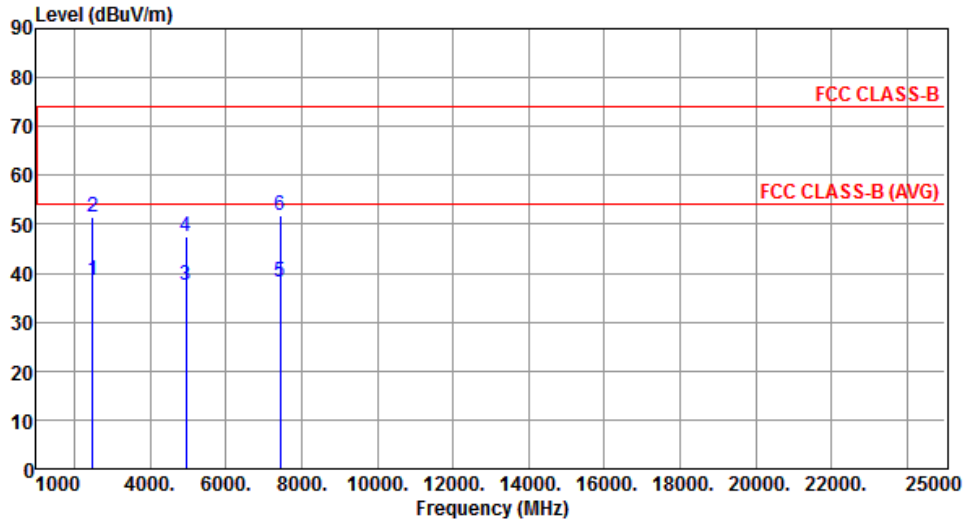
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	37.13	54.00	-16.87	38.37	-1.24	Average	104	254
2	2390.00	47.19	74.00	-26.81	48.43	-1.24	Peak	104	254
3	2483.50	37.60	54.00	-16.40	38.48	-0.88	Average	104	254
4	2483.50	48.04	74.00	-25.96	48.92	-0.88	Peak	104	254
5	4882.00	41.25	54.00	-12.75	35.53	5.72	Average	100	159
6	4882.00	50.03	74.00	-23.97	44.31	5.72	Peak	100	159
7	7323.00	37.19	54.00	-16.81	26.26	10.93	Average	100	154
8	7323.00	51.34	74.00	-22.66	40.41	10.93	Peak	100	154

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).

<b>Modulation</b>	8DPSK	<b>Test Freq. (MHz)</b>	2480
<b>Polarization</b>	Horizontal		



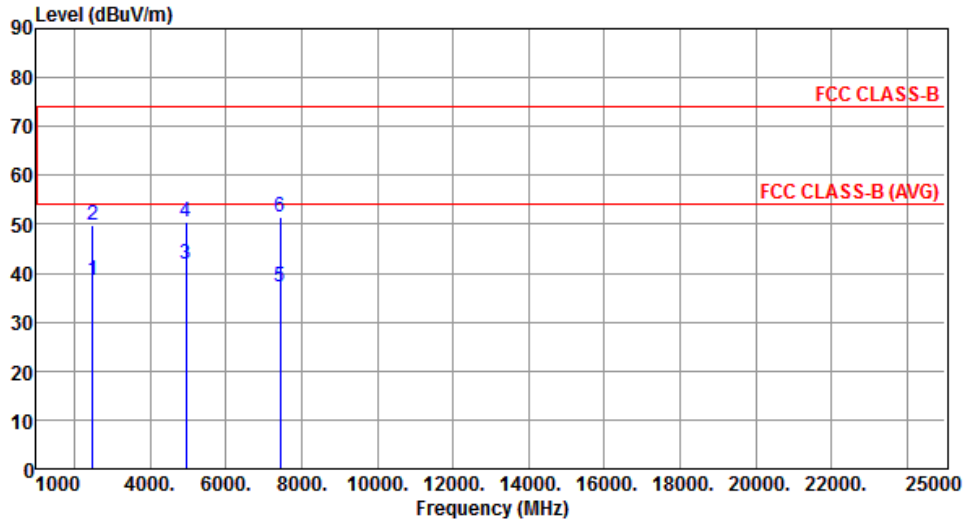
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	38.54	54.00	-15.46	39.42	-0.88	Average	180	313
2	2483.50	51.56	74.00	-22.44	52.44	-0.88	Peak	180	313
3	4960.00	37.46	54.00	-16.54	31.53	5.93	Average	108	169
4	4960.00	47.56	74.00	-26.44	41.63	5.93	Peak	108	169
5	7440.00	38.32	54.00	-15.68	27.02	11.30	Average	100	48
6	7440.00	51.73	74.00	-22.27	40.43	11.30	Peak	100	48

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).

<b>Modulation</b>	8DPSK	<b>Test Freq. (MHz)</b>	2480
<b>Polarization</b>	Vertical		



	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	38.58	54.00	-15.42	39.46	-0.88	Average	113	261
2	2483.50	49.71	74.00	-24.29	50.59	-0.88	Peak	113	261
3	4960.00	41.94	54.00	-12.06	36.01	5.93	Average	100	160
4	4960.00	50.50	74.00	-23.50	44.57	5.93	Peak	100	160
5	7440.00	37.36	54.00	-16.64	26.06	11.30	Average	100	160
6	7440.00	51.40	74.00	-22.60	40.10	11.30	Peak	100	160

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

Peak power 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

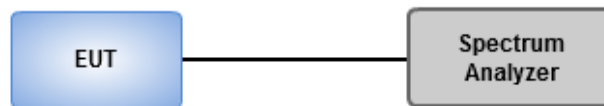
##### Reference level measurement

1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Use the peak marker function to determine the maximum PSD level

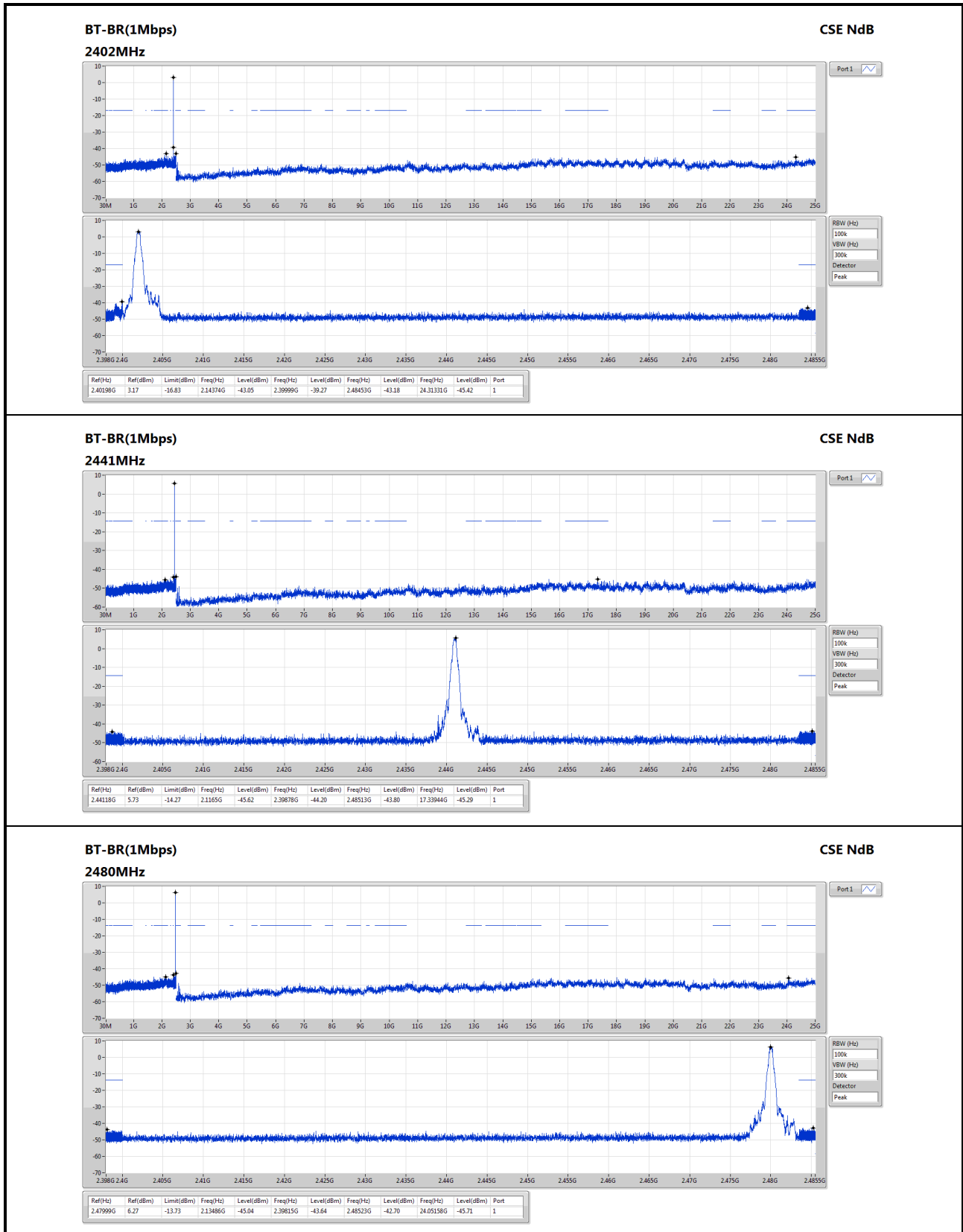
##### Emission level measurement

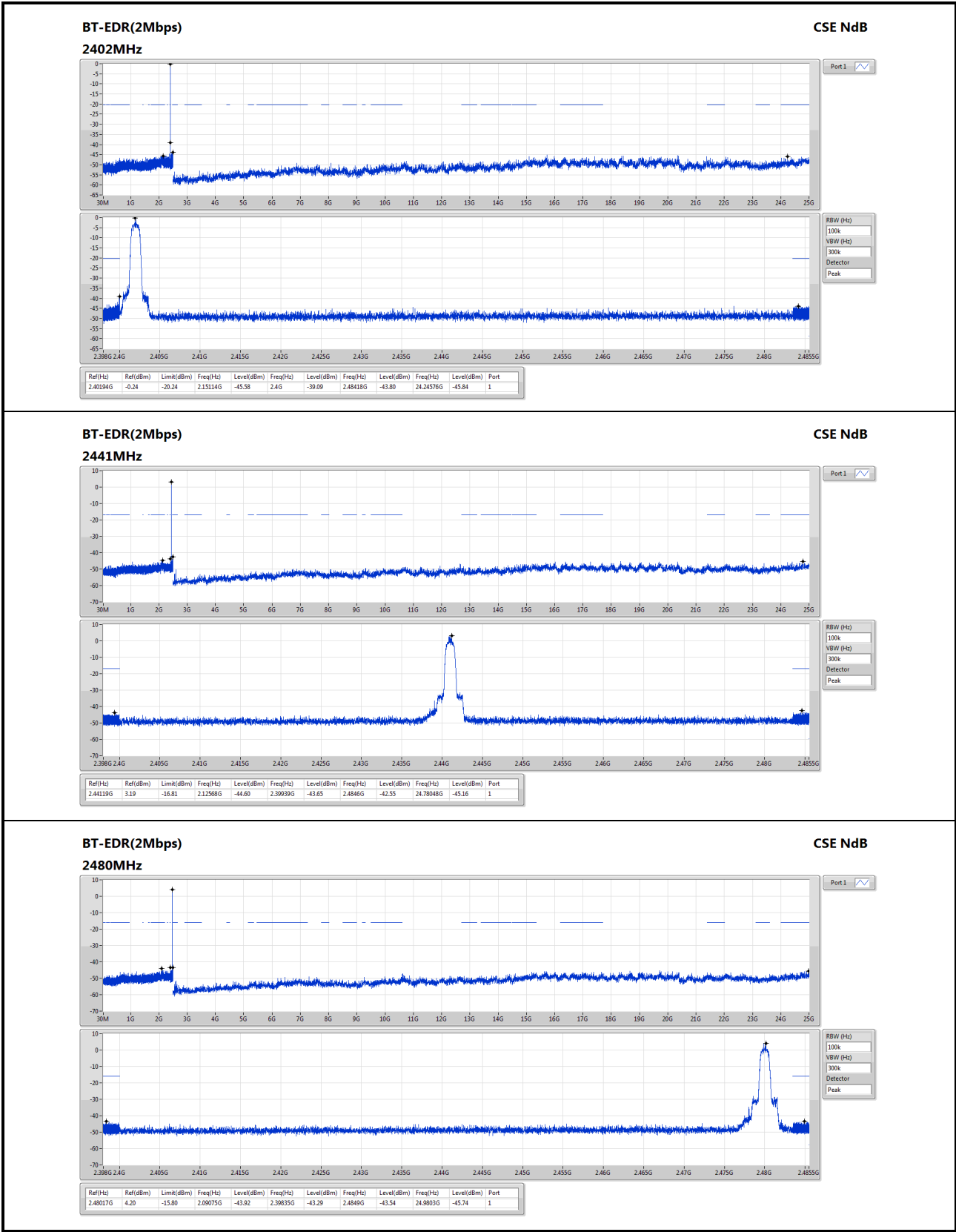
1. Set RBW=100kHz, VBW = 300kHz , Detector = Peak, Sweep time = Auto
2. Trace = max hold , Allow Trace to fully stabilize
3. Scan Frequency range is up to 25GHz
4. Use the peak marker function to determine the maximum amplitude level

#### 3.3.3 Test Setup

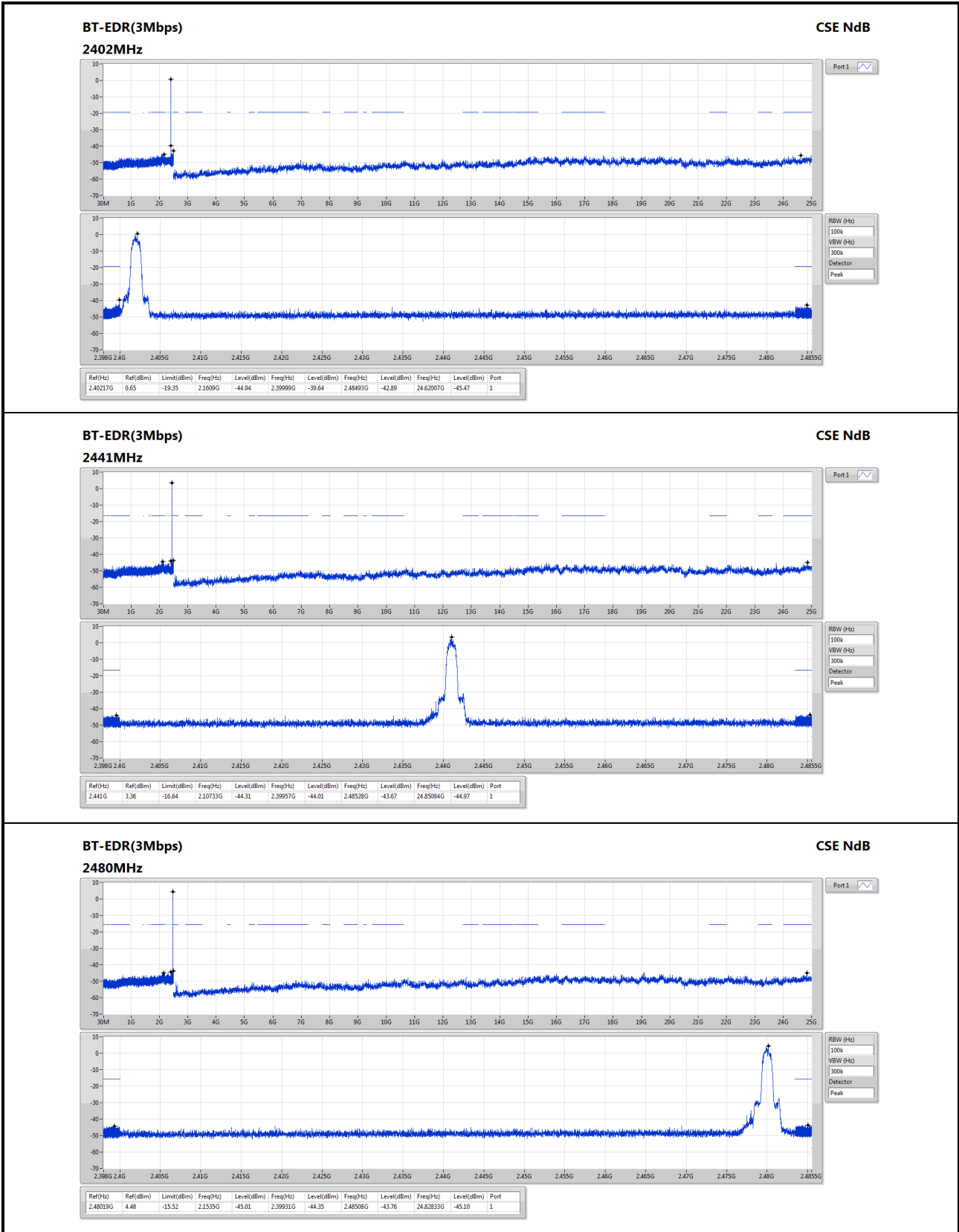


### 3.3.4 Unwanted Emissions into Non-Restricted Frequency Bands

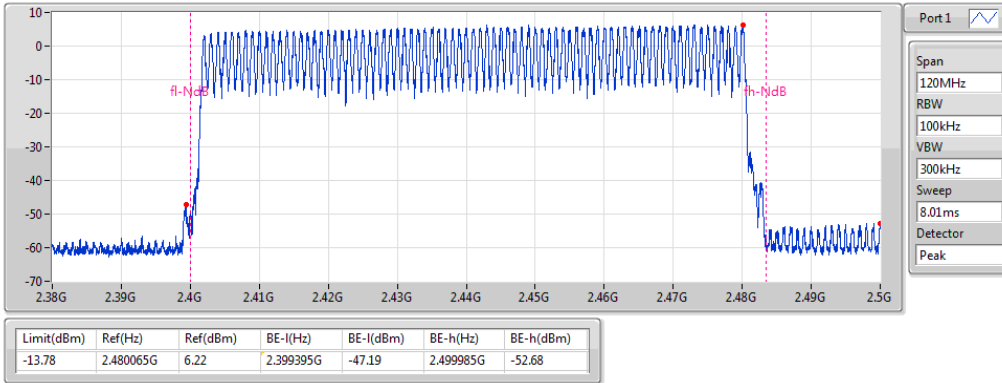




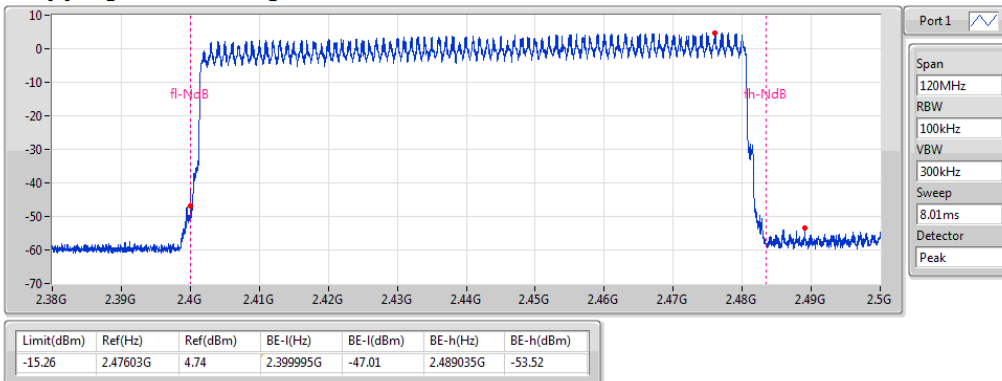




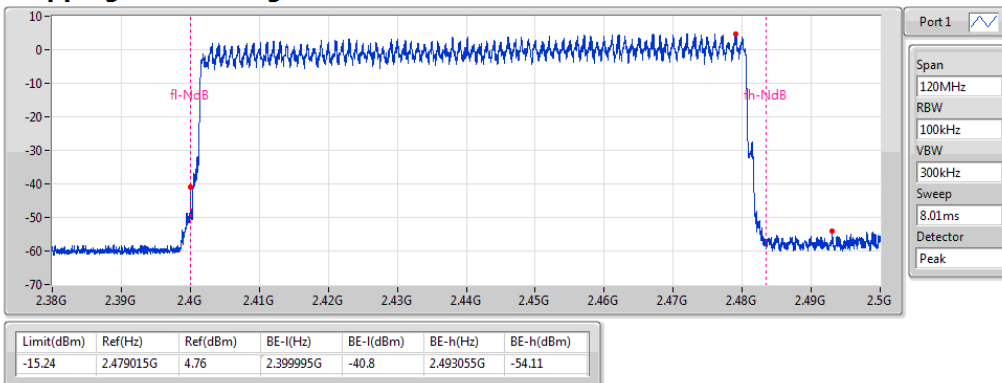
**BT-BR(1Mbps)**  
**2441MHz**  
**Hopping Ch Bandedge (Non-restricted Band)**



**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

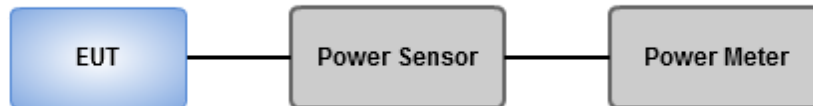
#### 3.4.1 Limit of Conducted Output Power

- 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 of Peak Conducted Output Power

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	7.37	0.00546
BT-EDR(2Mbps)	6.17	0.00414
BT-EDR(3Mbps)	6.42	0.00439

#### Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	3.68	4.31	21.00
2441MHz	Pass	3.68	6.38	21.00
2480MHz	Pass	3.68	7.37	21.00
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	3.68	2.37	21.00
2441MHz	Pass	3.68	4.87	21.00
2480MHz	Pass	3.68	6.17	21.00
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	3.68	2.72	21.00
2441MHz	Pass	3.68	5.23	21.00
2480MHz	Pass	3.68	6.42	21.00

### Summary of Conducted (Average) Output Power

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	7.22	0.00527
BT-EDR(2Mbps)	4.08	0.00256
BT-EDR(3Mbps)	4.09	0.00256

### Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	3.68	4.02	
2441MHz	Pass	3.68	6.19	
2480MHz	Pass	3.68	7.22	
BT-EDR(2Mbps)	-	-	-	
2402MHz	Pass	3.68	-0.19	
2441MHz	Pass	3.68	2.60	
2480MHz	Pass	3.68	4.08	
BT-EDR(3Mbps)	-	-	-	
2402MHz	Pass	3.68	-0.18	
2441MHz	Pass	3.68	2.61	
2480MHz	Pass	3.68	4.09	

Note: Average power is for reference only.

## 3.5 Number of Hopping Frequency

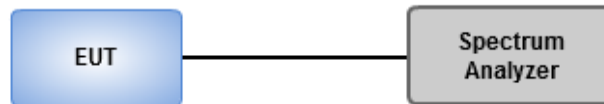
### 3.5.1 Limit of Number of Hopping Frequency

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



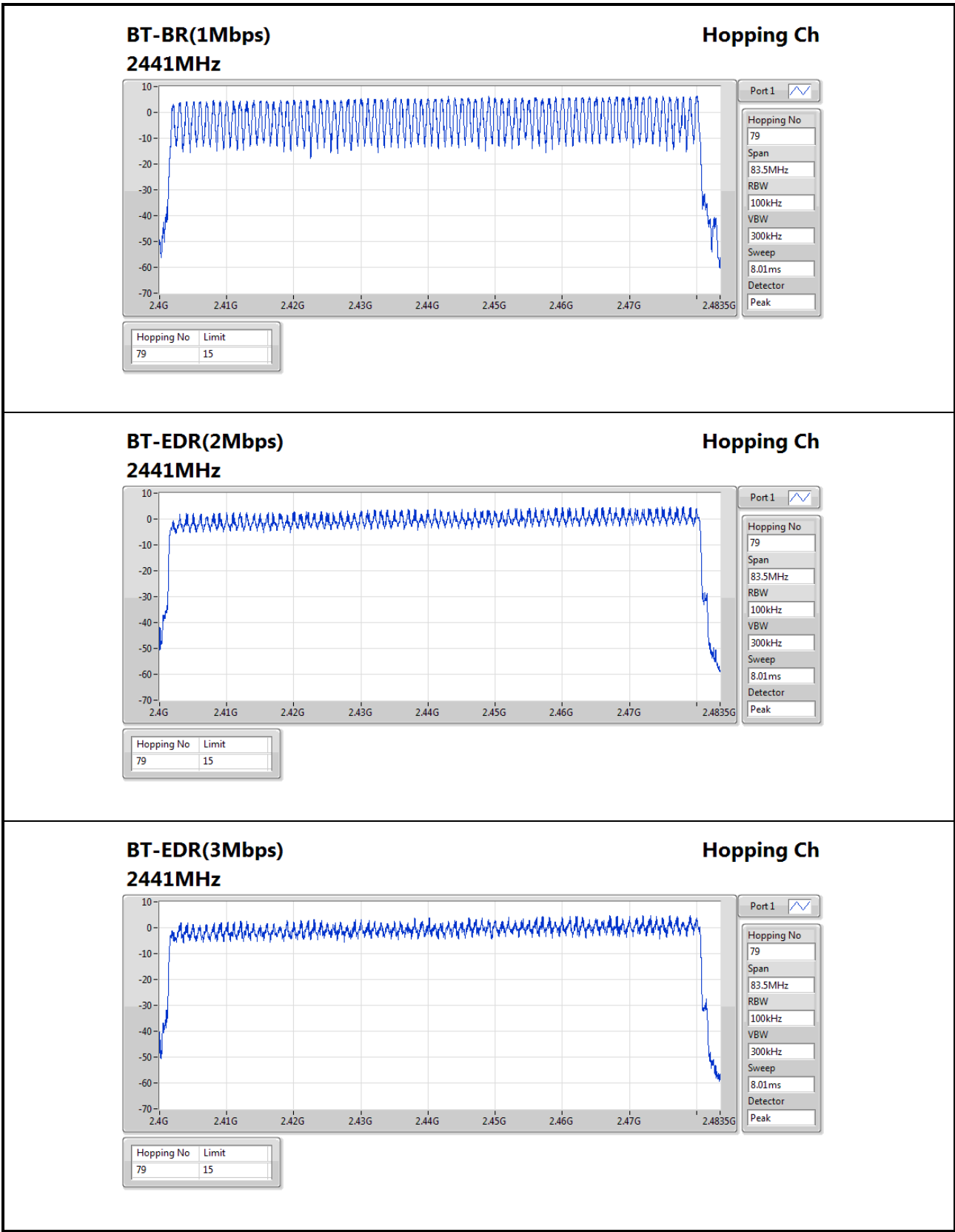
### 3.5.4 Test Result of Number of Hopping Frequency

#### 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





## 3.6 20dB and Occupied Bandwidth

### 3.6.1 Test Procedures

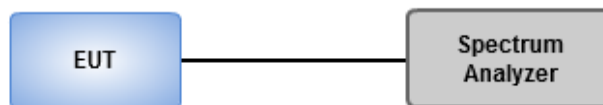
#### 20dB Bandwidth

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

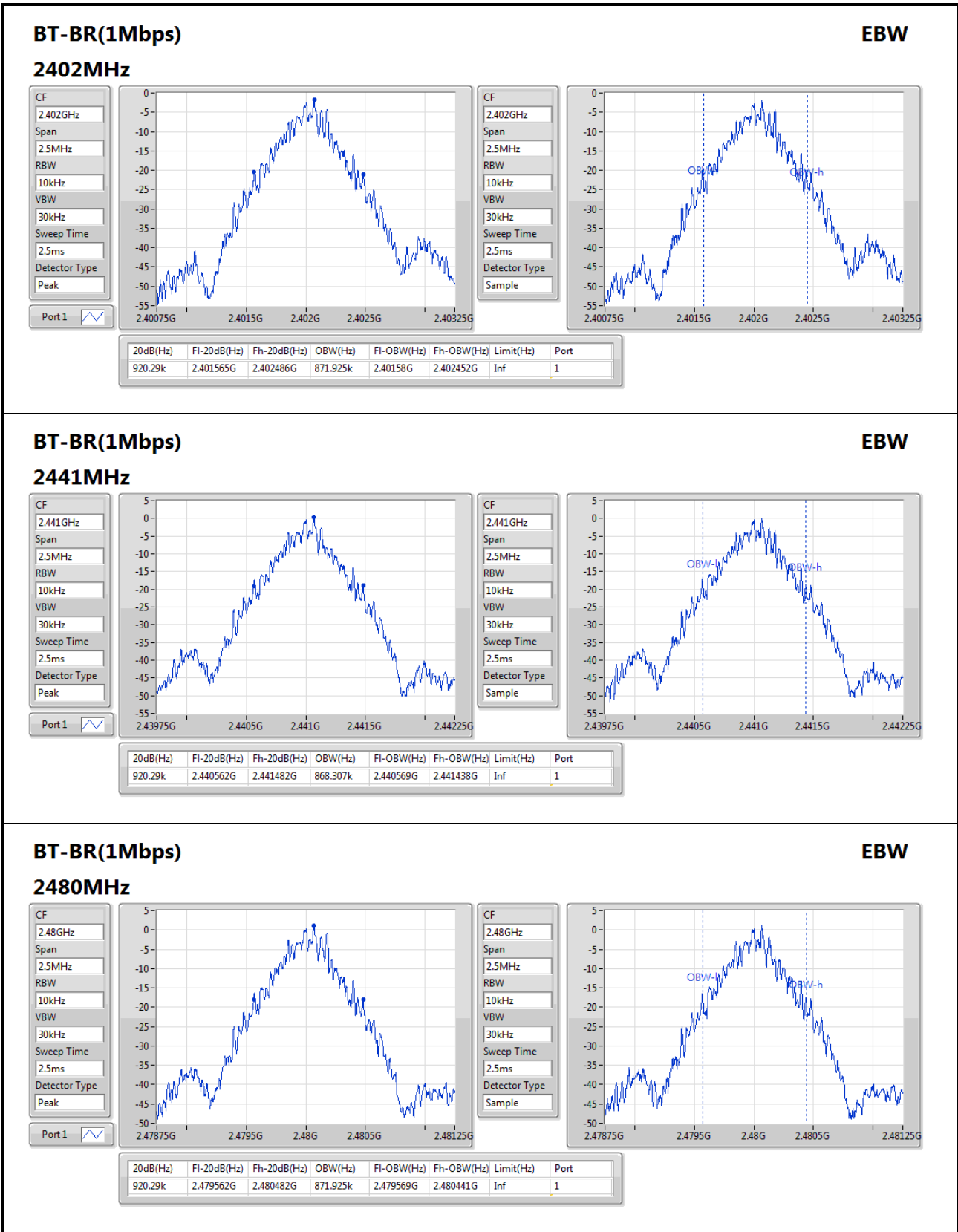
Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-BR(1Mbps)	920.29k	871.925k	872KF1D	920.29k	868.307k
BT-EDR(2Mbps)	1.319M	1.194M	1M19G1D	1.315M	1.169M
BT-EDR(3Mbps)	1.304M	1.208M	1M21G1D	1.297M	1.187M

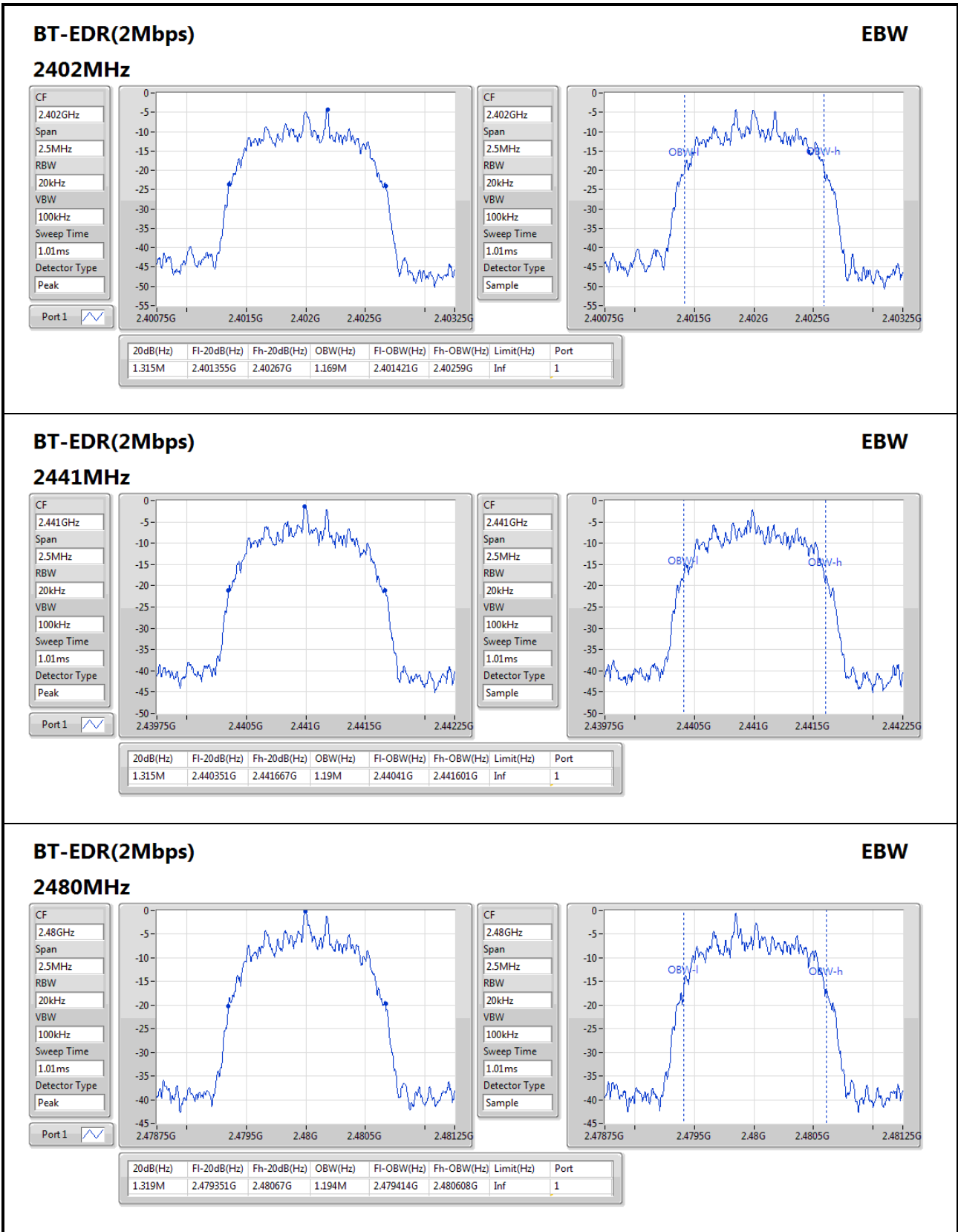
**Max-N dB** = Maximum 20dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;  
**Min-N dB** = Minimum 20dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

#### Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	920.29k	871.925k
2441MHz	Pass	Inf	920.29k	868.307k
2480MHz	Pass	Inf	920.29k	871.925k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.315M	1.169M
2441MHz	Pass	Inf	1.315M	1.19M
2480MHz	Pass	Inf	1.319M	1.194M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.297M	1.187M
2441MHz	Pass	Inf	1.304M	1.205M
2480MHz	Pass	Inf	1.301M	1.208M

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




**BT-EDR(2Mbps)**
**EBW**

### 2480MHz

CF  
2.48GHz

Span  
2.5MHz

RBW  
20kHz

VBW  
100kHz

Sweep Time  
1.01ms

Detector Type  
Peak

Port 1



CF  
2.48GHz

Span  
2.5MHz

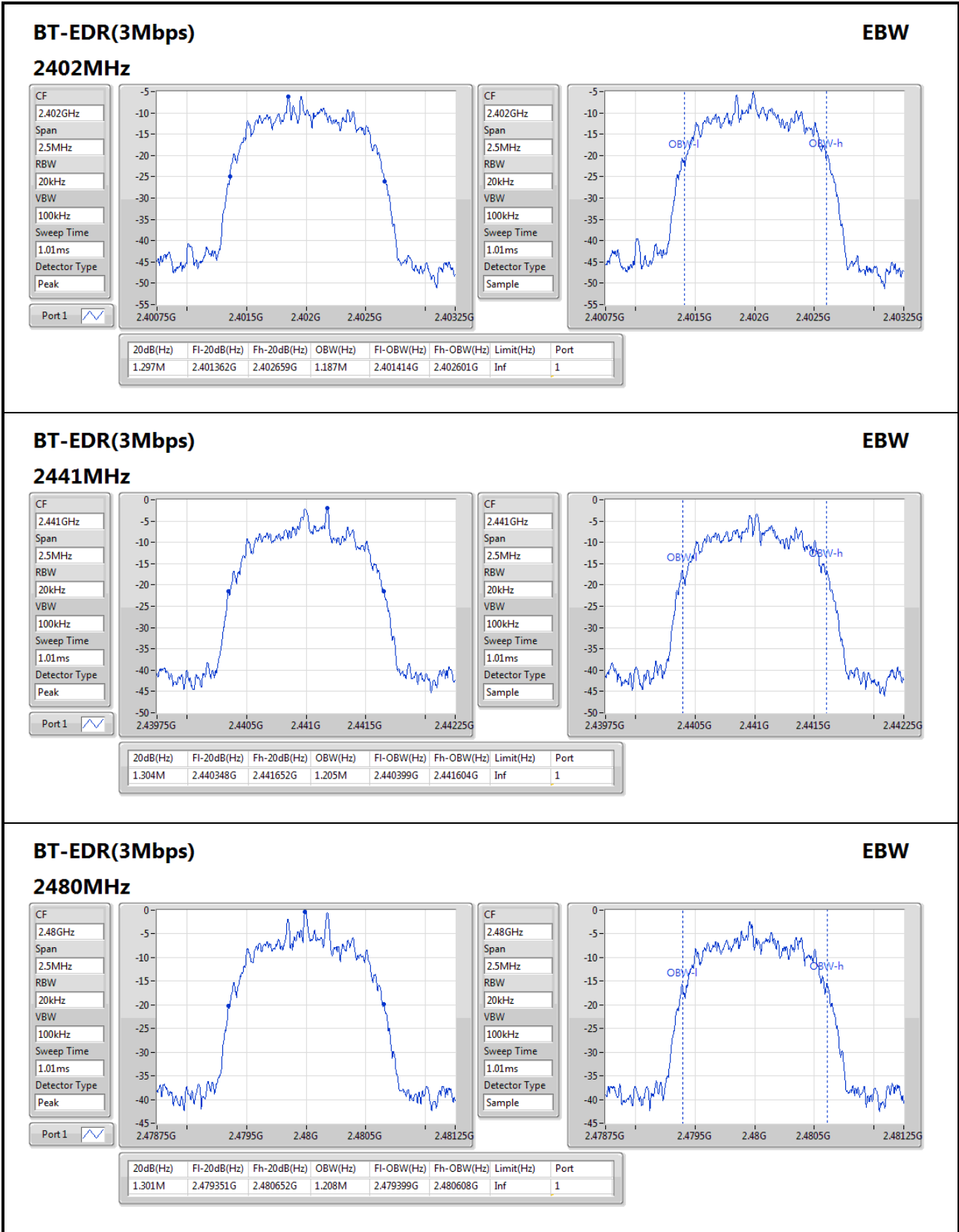
RBW  
20kHz

VBW  
100kHz

Sweep Time  
1.01ms

Detector Type  
Sample





## 3.7 Channel Separation

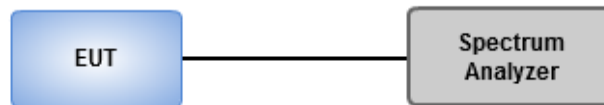
### 3.7.1 Limit of Channel Separation

- 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	934.782609k
BT-EDR(2Mbps)	1.043478M	991.304348k
BT-EDR(3Mbps)	1.186957M	1M

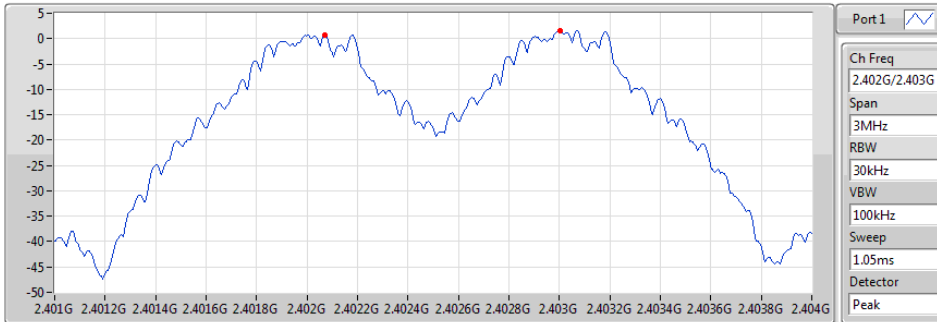
#### Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.40207G	2.403004G	934.782609k	612.91314k
2441MHz	Pass	2.441G	2.442004G	1.004348M	612.91314k
2480MHz	Pass	2.47907G	2.480004G	934.782609k	612.91314k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.401961G	2.403004G	1.043478M	875.79k
2441MHz	Pass	2.441G	2.442G	1M	875.79k
2480MHz	Pass	2.479009G	2.48G	991.304348k	878.454k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.402004G	2.403004G	1M	863.802k
2441MHz	Pass	2.440991G	2.442178G	1.186957M	868.464k
2480MHz	Pass	2.479G	2.480004G	1.004348M	866.466k

### BT-BR(1Mbps)

### Channel Separation

2.402G/2.403GHz

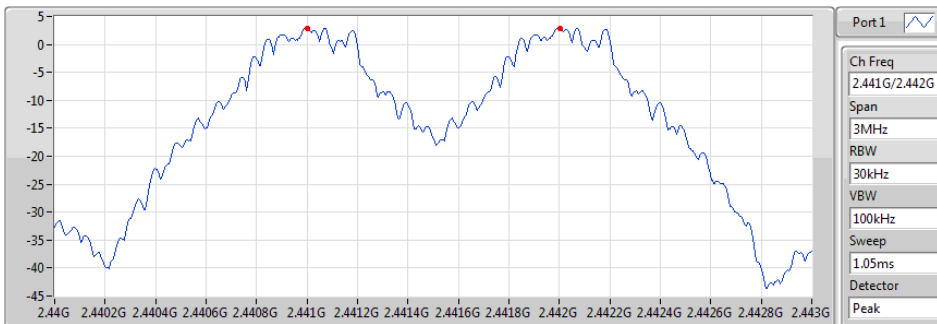


F1(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.40207G	2.403004G	934.782609k	612.91314k

### BT-BR(1Mbps)

### Channel Separation

2.441G/2.442GHz



F1(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.441G	2.442004G	1.004348M	612.91314k

### BT-BR(1Mbps)

### Channel Separation

2.48G/2.479GHz



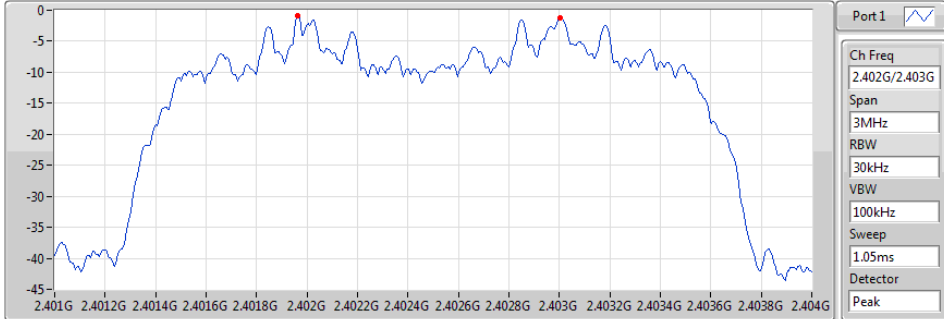
F1(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.47907G	2.480004G	934.782609k	612.91314k



### BT-EDR(2Mbps)

### Channel Separation

2.402G/2.403GHz

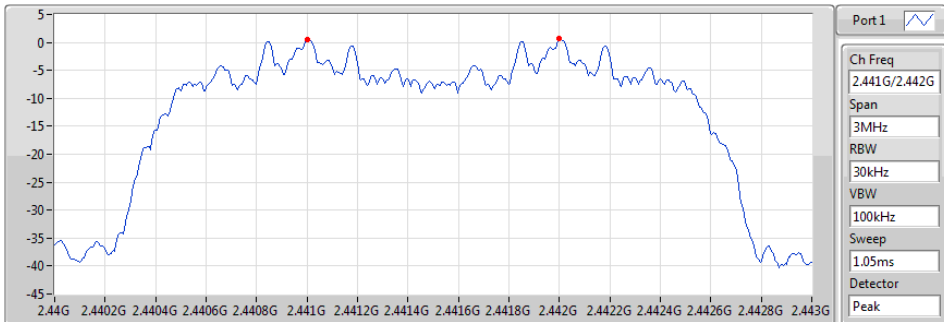


Ff(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.401961G	2.403004G	1.043478M	875.79k

### BT-EDR(2Mbps)

### Channel Separation

2.441G/2.442GHz

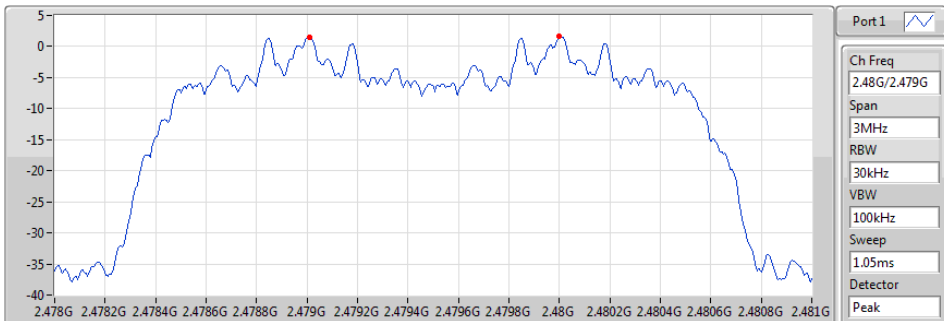


Ff(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.441G	2.442G	1M	875.79k

### BT-EDR(2Mbps)

### Channel Separation

2.48G/2.479GHz

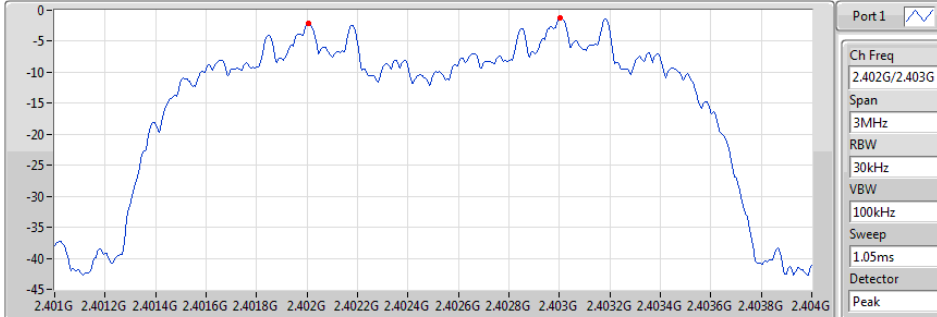


Ff(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479009G	2.48G	991.304348k	878.454k

### BT-EDR(3Mbps)

### Channel Separation

2.402G/2.403GHz

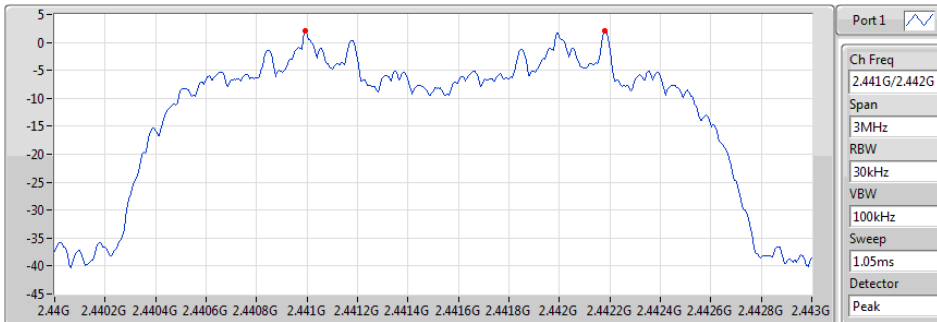


Ff(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.402004G	2.403004G	1M	863.802k

### BT-EDR(3Mbps)

### Channel Separation

2.441G/2.442GHz

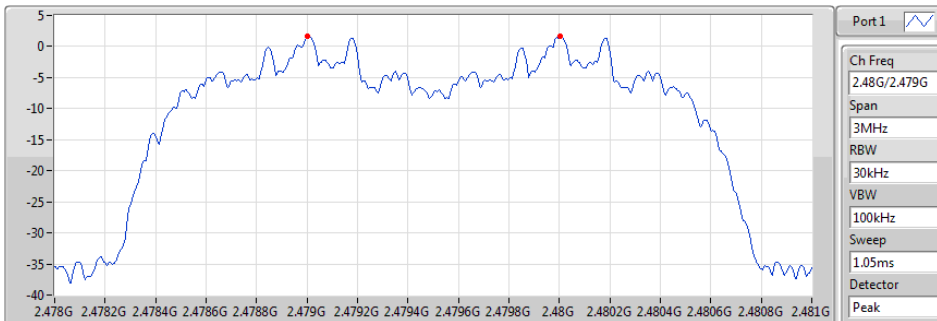


Ff(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440991G	2.442178G	1.186957M	868.464k

### BT-EDR(3Mbps)

### Channel Separation

2.48G/2.479GHz



Ff(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.479G	2.480004G	1.004348M	866.466k

## 3.8 Number of Dwell Time

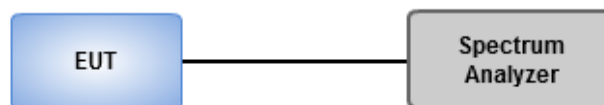
### 3.8.1 Limit of Dwell time

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

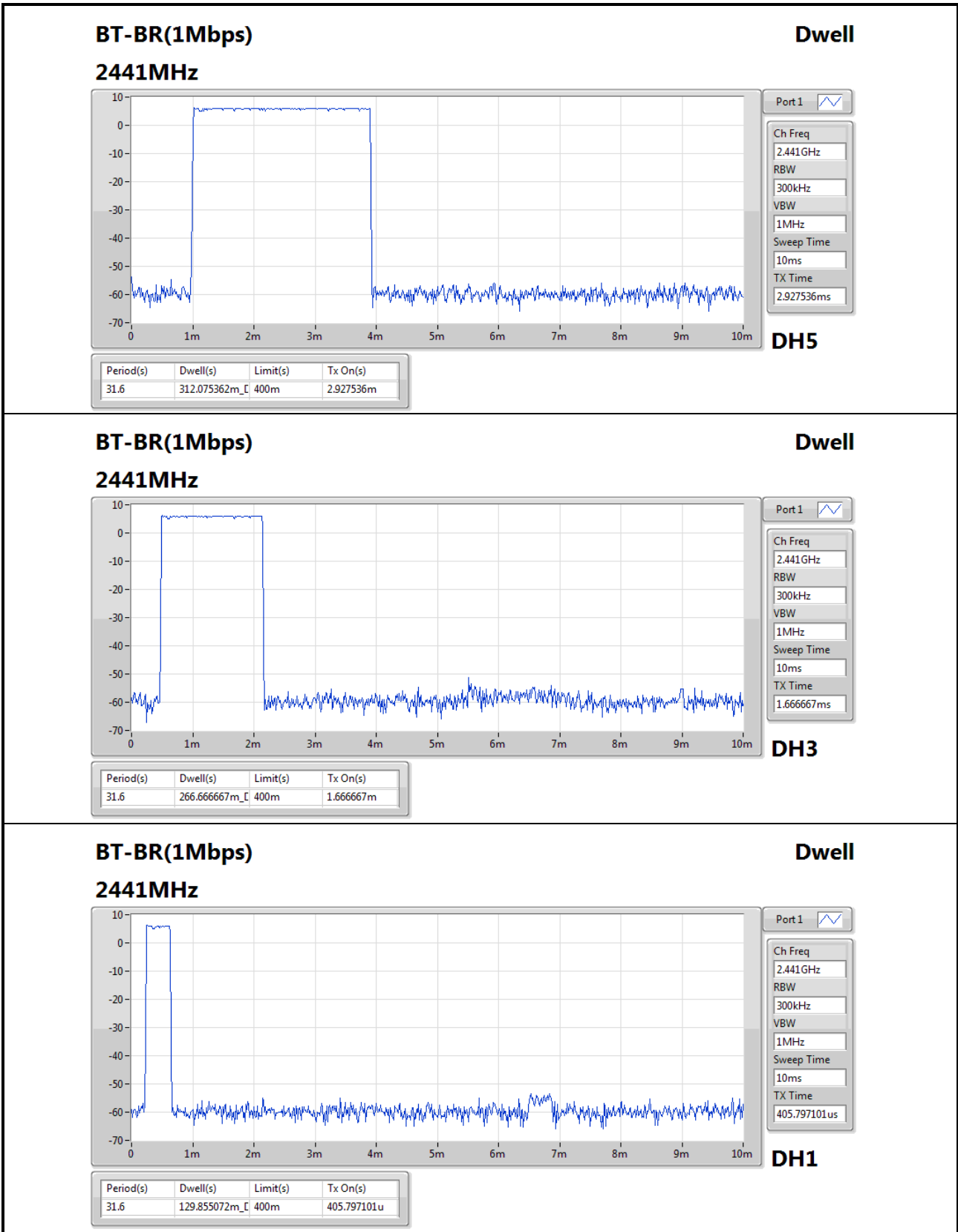
Mode	Max-Dwell (s)
2.4-2.4835GHz	-
BT-BR(1Mbps)	312.075362m_DH5
BT-EDR(2Mbps)	312.075362m_DH5
BT-EDR(3Mbps)	312.075362m_DH5

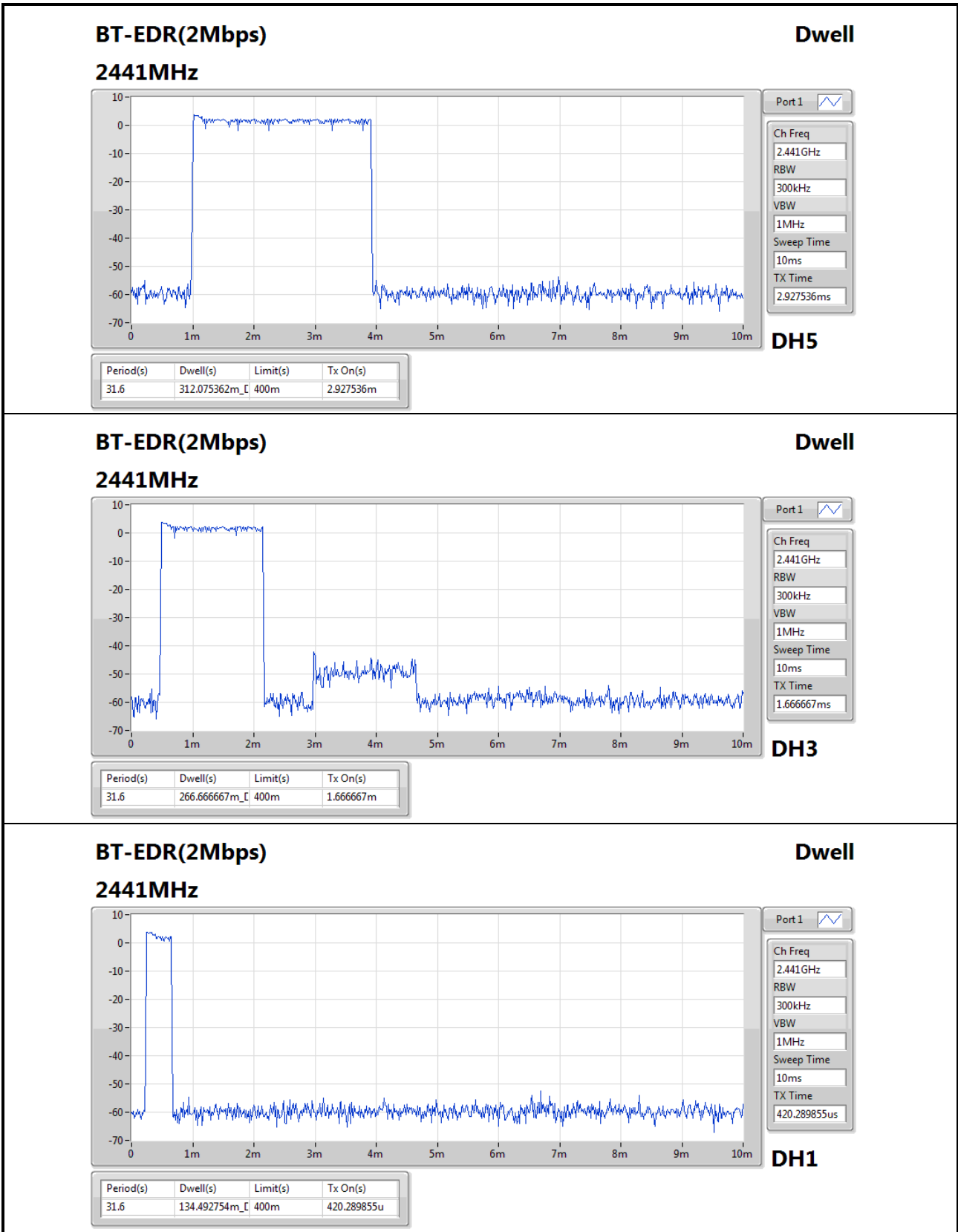
#### Result / Non AFH mode

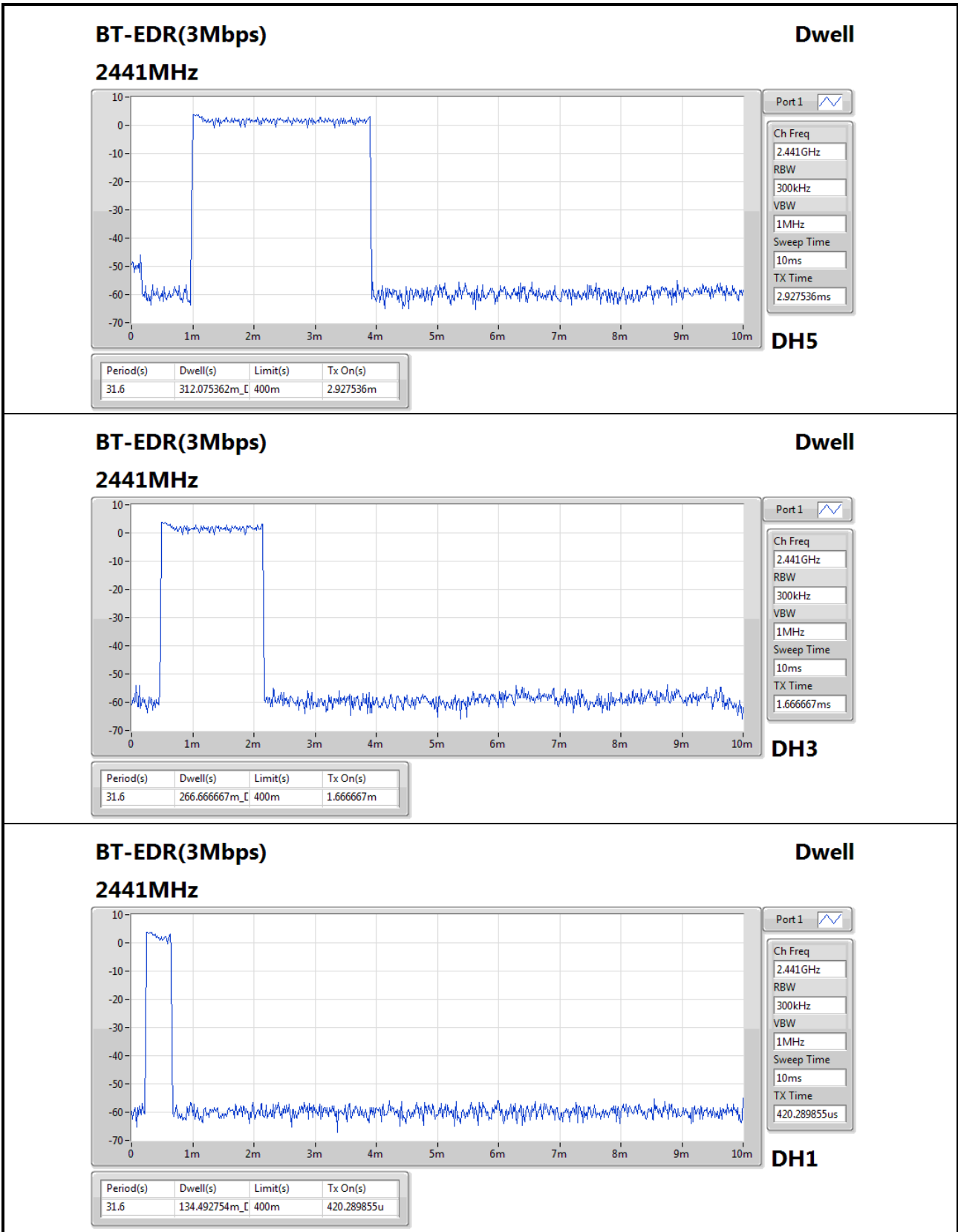
Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (s)
BT-BR(1Mbps)	-	-	-	-	-
2441MHz	Pass	31.6	312.075362m_DH5	400m	2.927536m
2441MHz	Pass	31.6	266.666667m_DH3	400m	1.666667m
2441MHz	Pass	31.6	129.855072m_DH1	400m	405.797101u
BT-EDR(2Mbps)	-	-	-	-	-
2441MHz	Pass	31.6	312.075362m_DH5	400m	2.927536m
2441MHz	Pass	31.6	266.666667m_DH3	400m	1.666667m
2441MHz	Pass	31.6	134.492754m_DH1	400m	420.289855u
BT-EDR(3Mbps)	-	-	-	-	-
2441MHz	Pass	31.6	312.075362m_DH5	400m	2.927536m
2441MHz	Pass	31.6	266.666667m_DH3	400m	1.666667m
2441MHz	Pass	31.6	134.492754m_DH1	400m	420.289855u

**Result / AFH mode**

<b>Mode</b>	<b>Result</b>	<b>Period (s)</b>	<b>Dwell (s)</b>	<b>Limit (s)</b>	<b>Tx On (s)</b>
BT-BR(1Mbps)	-	-	-	-	-
2441MHz_DH5	Pass	8	156.1353m_DH5	400m	2.927536m
2441MHz_DH3	Pass	8	133.3334m_DH3	400m	1.666667m
2441MHz_DH1	Pass	8	64.92754m_DH1	400m	405.797101u
BT-EDR(2Mbps)	-	-	-	-	-
2441MHz_DH5	Pass	8	156.1353m_DH5	400m	2.927536m
2441MHz_DH3	Pass	8	133.3334m_DH3	400m	1.666667m
2441MHz_DH1	Pass	8	67.24638m_DH1	400m	420.289855u
BT-EDR(3Mbps)	-	-	-	-	-
2441MHz_DH5	Pass	8	156.1353m_DH5	400m	2.927536m
2441MHz_DH3	Pass	8	133.3334m_DH3	400m	1.666667m
2441MHz_DH1	Pass	8	67.24638m_DH1	400m	420.289855u









## 4 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>.

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