

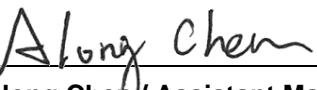


FCC Test Report

FCC ID : R3UDSBT4
Equipment : Bluetooth dongle
Model No. : DSBT4
Brand Name : EPOS
Applicant : DSEA A/S
Address : Kongebakken 9, DK-2765 Smoerum, Denmark
Standard : 47 CFR FCC Part 15.247
Received Date : Feb. 02, 2024
Tested Date : Feb. 07 ~ Feb. 17, 2024

We, International Certification Corporation, 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 shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:


Along Chen / Assistant Manager

Approved by:

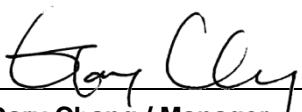

Gary Chang / Manager

Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information.....	5
1.2	Local Support Equipment List	8
1.3	Test Setup Chart	8
1.4	The Equipment List	9
1.5	Test Standards	11
1.6	Reference Guidance	11
1.7	Deviation from Test Standard and Measurement Procedure.....	11
1.8	Measurement Uncertainty	11
2	TEST CONFIGURATION.....	12
2.1	Testing Facility	12
2.2	The Worst Test Modes and Channel Details	12
3	TRANSMITTER TEST RESULTS	13
3.1	Unwanted Emissions into Restricted Frequency Bands	13
3.2	Unwanted Emissions into Non-Restricted Frequency Bands	16
3.3	Conducted Output Power.....	17
3.4	Number of Hopping Frequency	18
3.5	20dB and Occupied Bandwidth	19
3.6	Channel Separation.....	20
3.7	Number of Dwell Time.....	21
3.8	AC Power Line Conducted Emissions	22
4	TEST LABORATORY INFORMATION	23

Appendix A. Unwanted Emissions into Restricted Frequency Bands

Appendix B. Unwanted Emissions into Non-Restricted Frequency Bands

Appendix C. Conducted Output Power

Appendix D. Number of Hopping Frequency

Appendix E. 20dB and Occupied Bandwidth

Appendix F. Channel Separation

Appendix G. Number of Dwell Time

Appendix H. AC Power Line Conducted Emissions

Release Record

Report No.	Version	Description	Issued Date
FR420201AD	Rev. 01	Initial issue	Aug. 29, 2024
FR420201AD	Rev. 02	Modified antenna gain	Jun. 04, 2025

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emission	[dBuV]: 0.150MHz 49.77 (Margin -16.23dB) - QP	Pass
15.247(d) 15.209	Unwanted Emissions	[dBuV/m at 3m]: 132MHz 39.25 (Margin -4.25dB) - QP	Pass
15.247(d)	Band Edge	Meet the requirement of limit	Pass
15.247(b)(1)	Conducted Output Power	Power [dBm]: 15.21	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

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

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.	Brand	Model	Type	Connector	Gain (dBi)
1	Epos	SPEED MINI - ANTENNA	Monopole	No	-3.89

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Type	5Vdc from host
------------	----------------

1.1.4 Accessories

N/A

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	Airoha.Tool.kit, V3.7.4	
Modulation Mode	Duty Cycle Of Test Signal (%)	Duty Factor (dB)
DH5	79.12%	1.02
2DH5	78.81%	1.03
3DH5	79.58%	0.99

1.1.7 Power Index of Test Tool

Modulation Mode	Test Frequency (MHz)		
	2402	2441	2480
GFSK/1Mbps	CG=63	CG=63	CG=63
$\pi/4$ -DQPSK /2Mbps	CG=63	CG=63	CG=63
8DPSK/3Mbps	CG=63	CG=63	CG=63

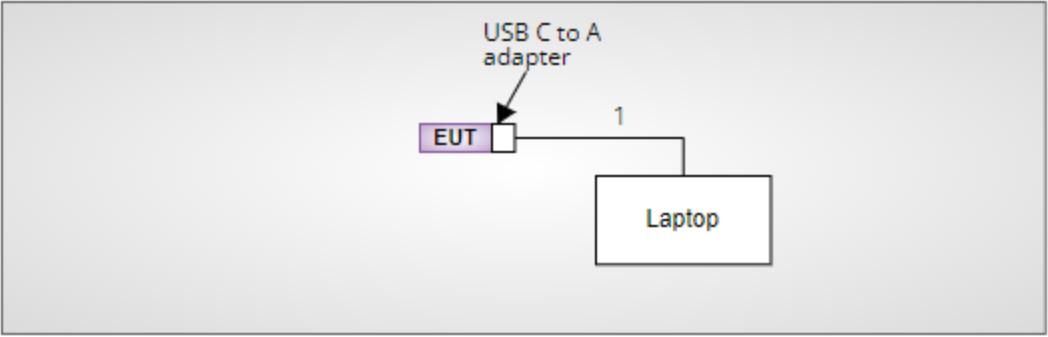
1.2 Local Support Equipment List

Support Equipment List					
No.	Equipment	Brand	Model	FCC ID	Remarks
1	USB C to A adapter	ICC	---	---	---
2	Laptop	DELL	Latitude 3440	DoC	---

1.3 Test Setup Chart

Test Setup Diagram	
No.	Signal cable / Length (m)
1	USB, 0.5m shielded.

Note: The support Laptop executed "RF test tool" to control EUT transmission RF function.



1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Feb. 15, 2024				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101658	Feb. 17, 2023	Feb. 16, 2024
LISN	R&S	ENV216	101579	May 09, 2023	May 08, 2024
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127-666	Feb. 24, 2023	Feb. 23, 2024
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 11, 2023	Oct. 10, 2024
50 ohm terminal	NA	50	03	Aug. 08, 2023	Aug. 07, 2024
Measurement Software	AUDIX	e3	6.120210k	NA	NA

Note: Calibration Interval of instruments listed above is one year.

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Feb. 15 ~ Feb. 17, 2024				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV40	101910	Apr. 14, 2023	Apr. 13, 2024
Power Meter	Anritsu	ML2495A	1241002	Nov. 21, 2023	Nov. 20, 2024
Power Sensor	Anritsu	MA2411B	1207366	Nov. 21, 2023	Nov. 20, 2024
Attenuator	Pasternack	PE7005-10	10-2	Oct. 05, 2023	Oct. 04, 2024
Measurement Software	Sporton	SENSE-15247_FS	V5.11	NA	NA

Note: Calibration Interval of instruments listed above is one year.

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Feb. 07, 2024				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Receiver	R&S	ESR3	101657	Mar. 03, 2023	Mar. 02, 2024
Spectrum Analyzer	R&S	FSV40	101498	Nov. 23, 2023	Nov. 22, 2024
Loop Antenna	R&S	HFH2-Z2	100330	Oct. 31, 2023	Oct. 30, 2024
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jul. 31, 2023	Jul. 30, 2024
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Nov. 27, 2023	Nov. 26, 2024
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 30, 2023	Oct. 29, 2024
Preamplifier	EMC	EMC02325	980225	Jun. 28, 2023	Jun. 27, 2024
Preamplifier	EMC	EMC118A45SE	980898	Jul. 14, 2023	Jul. 13, 2024
Preamplifier	EMC	EMC184045SE	980903	Jul. 17, 2023	Jul. 16, 2024
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 03, 2023	Oct. 02, 2024
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 03, 2023	Oct. 02, 2024
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Oct. 03, 2023	Oct. 02, 2024
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 03, 2023	Oct. 02, 2024
RF Cable	EMC	EMC104-35M-35M- 8000	210920	Oct. 03, 2023	Oct. 02, 2024
RF Cable	EMC	EMC104-35M-35M- 3000	210922	Oct. 03, 2023	Oct. 02, 2024
Attenuator	Pasternack	PE7005-10	10-1	Oct. 05, 2023	Oct. 04, 2024
HIGHPASS FILTER 3.1-18G	WHK	WHK3.1/18G-10SS	39	Oct. 05, 2023	Oct. 04, 2024
Measurement Software	Sporton	SENSE-15247_FS	V5.11	NA	NA
Measurement Software	Sporton	SENSE-EMI	V5.11	NA	NA

Note: Calibration Interval of instruments listed above is one year.

1.5 Test Standards

47 CFR FCC Part 15.247

ANSI C63.10-2013

1.6 Reference Guidance

FCC KDB 558074 D01 15.247 Meas Guidance v05r02

1.7 Deviation from Test Standard and Measurement Procedure

None

1.8 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Measurement Uncertainty	
Parameters	Uncertainty
Bandwidth	±34.130 Hz
Conducted power	±0.808 dB
Power density	±0.583 dB
Conducted emission	±2.715 dB
AC conducted emission	±2.92 dB
Radiated emission ≤ 1GHz	±3.41 dB
Radiated emission > 1GHz	±4.59 dB
Time	±0.1%

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	CO01-WS, 03CH01-WS, TH01-WS
Address of Test Site	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- ISED#: 10807A
- CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps)	Test Configuration
Conducted Emissions Radiated Emissions ≤ 1GHz	GFSK	2441	1Mbps	---
Radiated Emissions > 1GHz	GFSK 8DPSK	2402, 2441, 2480 2402, 2441, 2480	1Mbps 3Mbps	---
Conducted Output Power	GFSK ½ /4 DQPSK 8DPSK	2402, 2441, 2480 2402, 2441, 2480 2402, 2441, 2480	1Mbps 2Mbps 3Mbps	---
Number of Hopping Channels	GFSK ½ /4 DQPSK 8DPSK	2402~2480 2402~2480 2402~2480	1Mbps 2Mbps 3Mbps	---
Hopping Channel Separation 20dB and Occupied bandwidth	GFSK ½ /4 DQPSK 8DPSK	2402, 2441, 2480 2402, 2441, 2480 2402, 2441, 2480	1Mbps 2Mbps 3Mbps	---
Dwell Time	GFSK ½ /4 DQPSK 8DPSK	2402 2402 2402	1Mbps 2Mbps 3Mbps	---
NOTE:				
1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.				

3 Transmitter Test Results

3.1 Unwanted Emissions into Restricted Frequency Bands

3.1.1 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.

3.1.2 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. Radiated emission above 1GHz / Peak value
RBW=1MHz, VBW=3MHz and Peak detector

Radiated emission above 1GHz / Average value for harmonics

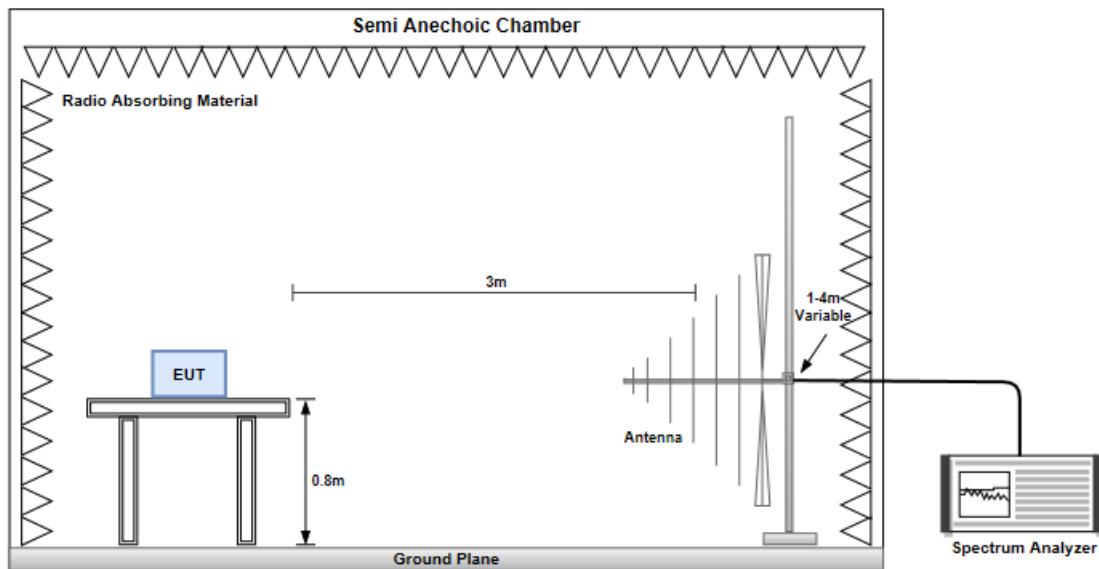
The average value is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula for DH5 packet type which has worst duty factor:

3.
$$20\log(\text{Duty cycle}) = 20\log \frac{1s / 1600 * 5}{100 \text{ ms}} = -30.1 \text{ dB}$$

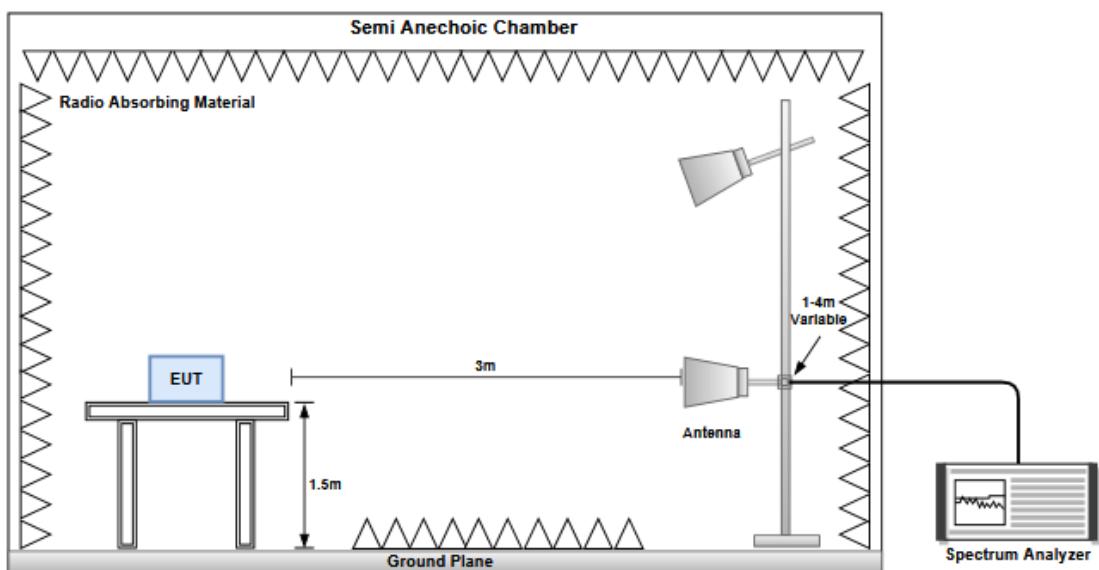
4. Radiated emission above 1GHz / Average value for other emissions
RBW=1MHz, VBW=1/T and Peak detector

3.1.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.1.4 Test Results

Refer to Appendix A.

3.2 Unwanted Emissions into Non-Restricted Frequency Bands

3.2.1 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.

3.2.2 Test Procedures

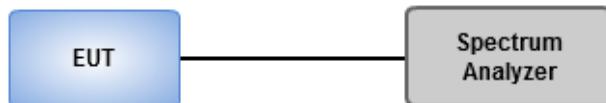
Reference level measurement

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

3.2.3 Test Setup



3.2.4 Test Results

Ambient Condition	22-23°C / 65-66%	Tested By	Brad Wu
-------------------	------------------	-----------	---------

Refer to Appendix B.

3.3 Conducted Output Power

3.3.1 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.

3.3.2 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

3.3.3 Test Setup



3.3.4 Test Results

Ambient Condition	22-23°C / 65-66%	Tested By	Brad Wu
-------------------	------------------	-----------	---------

Refer to Appendix C.

3.4 Number of Hopping Frequency

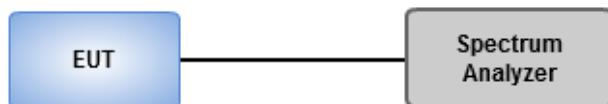
3.4.1 Limit of Number of Hopping Frequency

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

3.4.2 Test Procedures

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

3.4.3 Test Setup



3.4.4 Test Results

Ambient Condition	22-23°C / 65-66%	Tested By	Brad Wu
-------------------	------------------	-----------	---------

Refer to Appendix D.

3.5 20dB and Occupied Bandwidth

3.5.1 Test Procedures

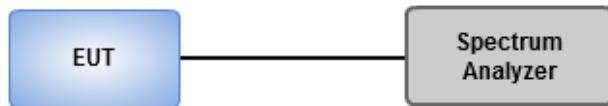
20dB Bandwidth

1. Set RBW=20kHz, VBW=100kHz, 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=20kHz, VBW=100kHz, 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

3.5.2 Test Setup



3.5.3 Test Results

Ambient Condition	22-23°C / 65-66%	Tested By	Brad Wu
-------------------	------------------	-----------	---------

Refer to Appendix E.

3.6 Channel Separation

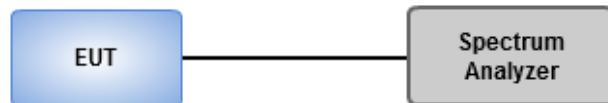
3.6.1 Limit of Channel Separation

- 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.

3.6.2 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

3.6.3 Test Setup



3.6.4 Test Results

Ambient Condition	22-23°C / 65-66%	Tested By	Brad Wu
-------------------	------------------	-----------	---------

Refer to Appendix F.

3.7 Number of Dwell Time

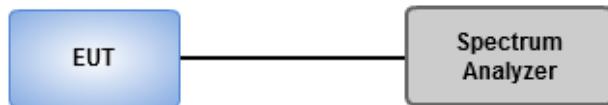
3.7.1 Limit of Dwell time

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.

3.7.2 Test Procedures

1. Set RBW=300 kHz, VBW=1 MHz, Sweep time=8 ms, Detector=Peak, Span=0 Hz, Trace max hold.
2. Enable gating and trigger function of spectrum analyzer to measure burst on time.
3. Set RBW=300 kHz, VBW=1 MHz, Sweep time=5 s / 2 s, Detector=Peak, Span=0 Hz, Trace max hold.
4. Enable gating and trigger function of spectrum analyzer to measure burst on number of transmission.
5. Set RBW=300 kHz, VBW=1 MHz, Sweep time=31.6 s / 8 s, Detector=Peak, Span=0 Hz, Trace max hold.
6. Enable gating and trigger function of spectrum analyzer to measure burst on number of transmission of entire time cycle.

3.7.3 Test Setup



3.7.4 Test Results

Ambient Condition	22-23°C / 65-66%	Tested By	Brad Wu
-------------------	------------------	-----------	---------

Refer to Appendix G.

3.8 AC Power Line Conducted Emissions

3.8.1 Limit of AC Power Line Conducted Emissions

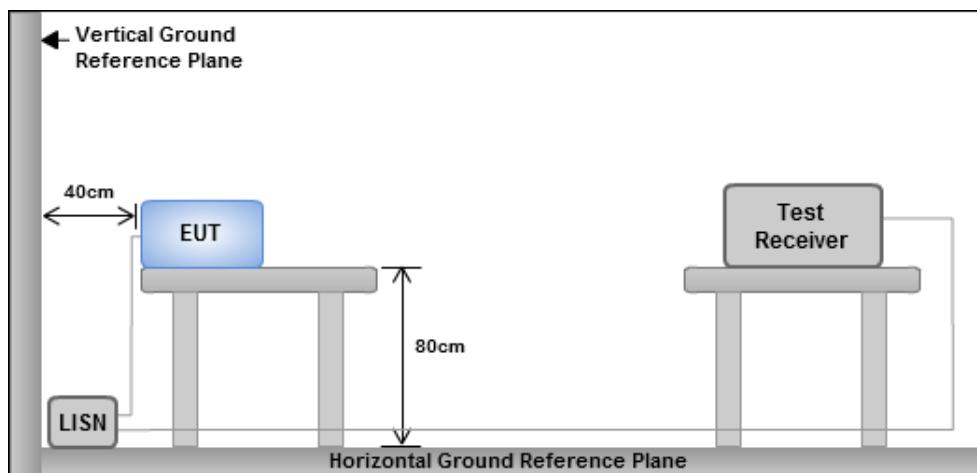
Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

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

3.8.2 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 50Ω 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

3.8.3 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

3.8.4 Test Results

Refer to Appendix H.

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 Corporation (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 Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)
No.2-1, Lane 6, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640
No.14-1, Lane 19, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

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

Tel: 886-3-271-8666
Fax: 886-3-318-0345
Email: ICC_Service@icertifi.com.tw

—END—

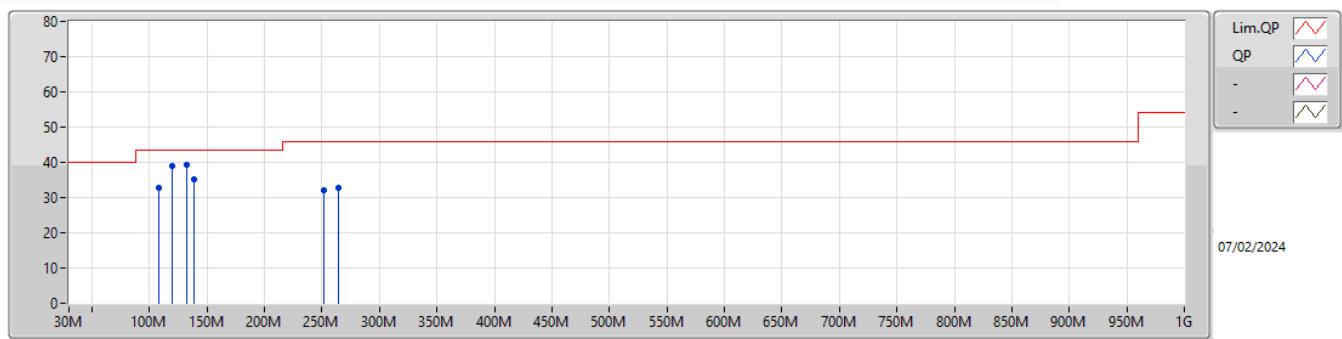


Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	QP	132M	39.25	43.50	-4.25	Horizontal



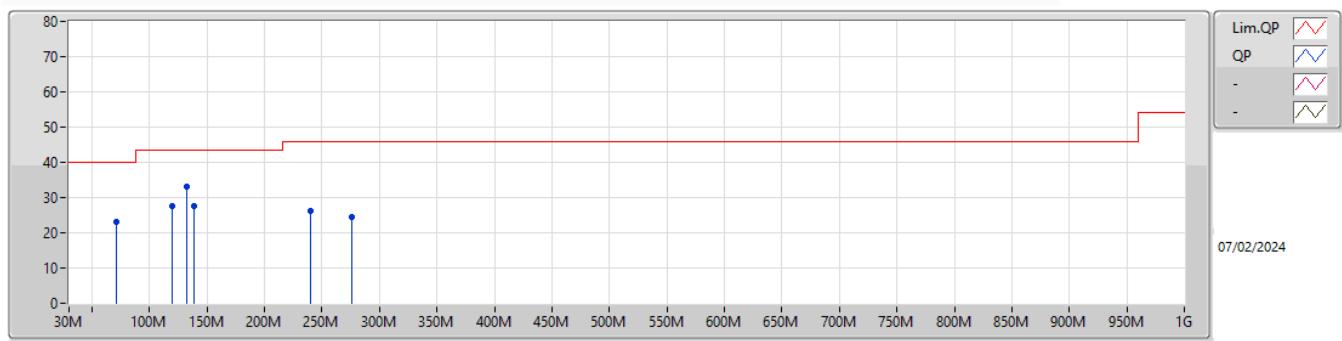
Mode 1



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)	
PK	108M	32.81	43.50	-10.69	-12.10	3	Horizontal	-	-	-	44.91	15.30	0.98	28.38	
PK	120M	39.11	43.50	-4.39	-10.96	3	Horizontal	-	-	-	50.07	16.40	1.03	28.39	
QP	132M	39.25	43.50	-4.25	-10.02	3	Horizontal	44	1.46	-	49.27	17.30	1.08	28.40	
PK	138.4M	35.15	43.50	-8.35	-9.36	3	Horizontal	-	-	-	44.51	17.94	1.10	28.40	
PK	252M	31.97	46.00	-14.03	-9.90	3	Horizontal	-	-	-	41.87	17.04	1.49	28.43	
PK	264M	32.65	46.00	-13.35	-9.34	3	Horizontal	-	-	-	41.99	17.56	1.53	28.43	



Mode 1

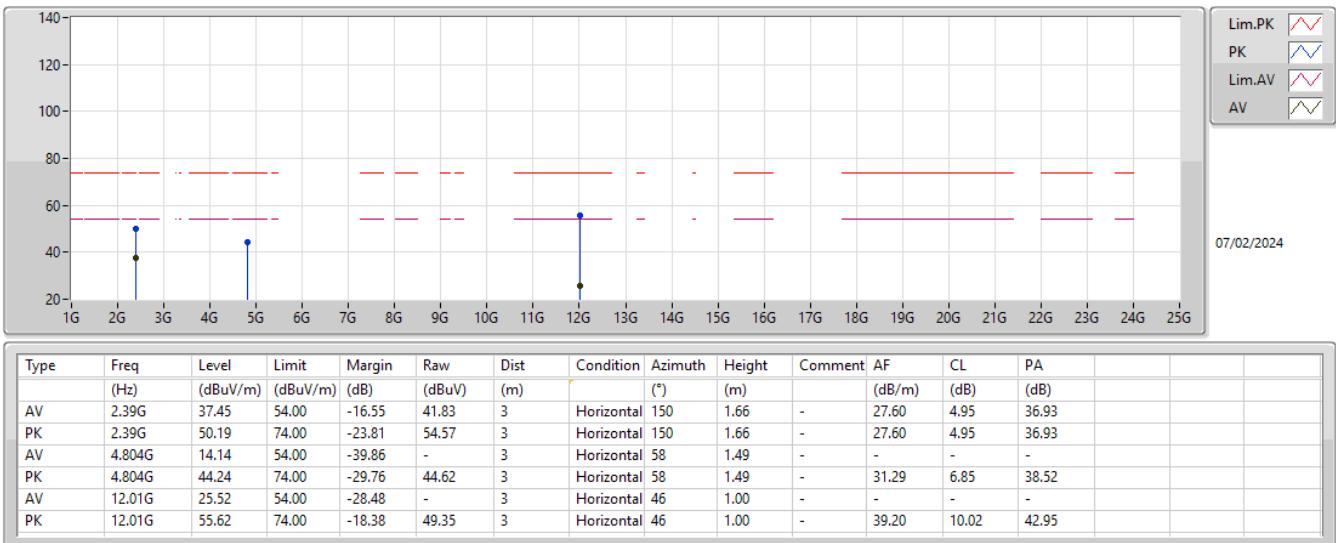


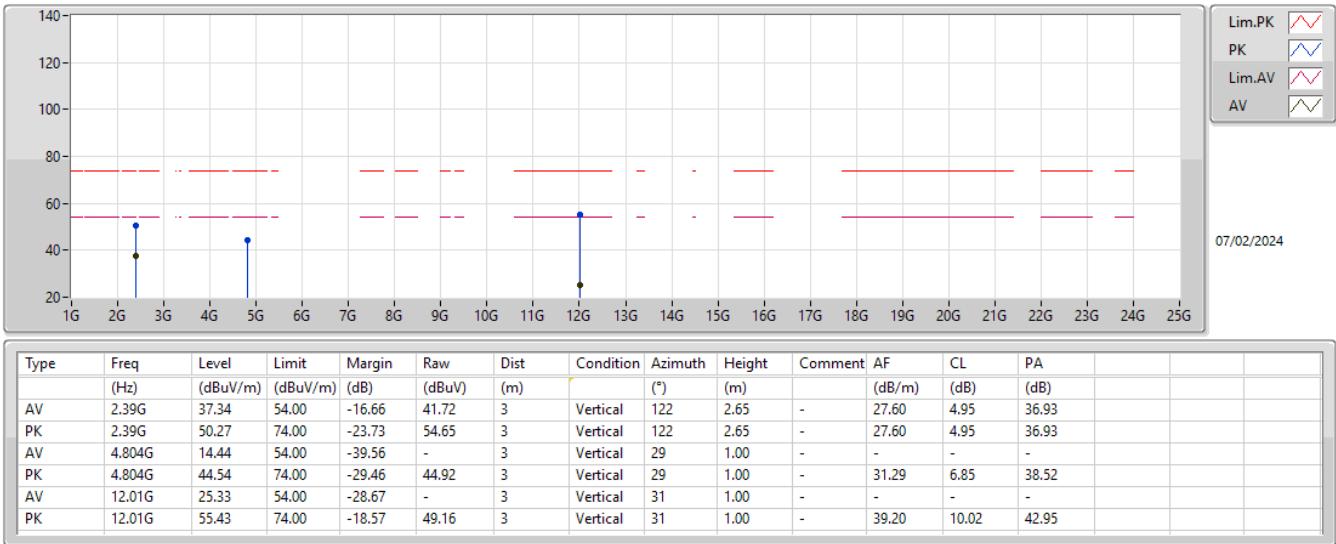
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB/m)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB/m)	CL (dB)	PA (dB)	
PK	71.6M	23.01	40.00	-16.99	-11.23	3	Vertical	-	-	-	34.24	16.18	0.80	28.21	
PK	120M	27.74	43.50	-15.76	-10.96	3	Vertical	-	-	-	38.70	16.40	1.03	28.39	
PK	132M	33.11	43.50	-10.39	-10.02	3	Vertical	-	-	-	43.13	17.30	1.08	28.40	
PK	138.4M	27.53	43.50	-15.97	-9.36	3	Vertical	-	-	-	36.89	17.94	1.10	28.40	
PK	240M	26.31	46.00	-19.69	-10.28	3	Vertical	-	-	-	36.59	16.70	1.45	28.43	
PK	276M	24.45	46.00	-21.55	-8.73	3	Vertical	-	-	-	33.18	18.12	1.57	28.42	

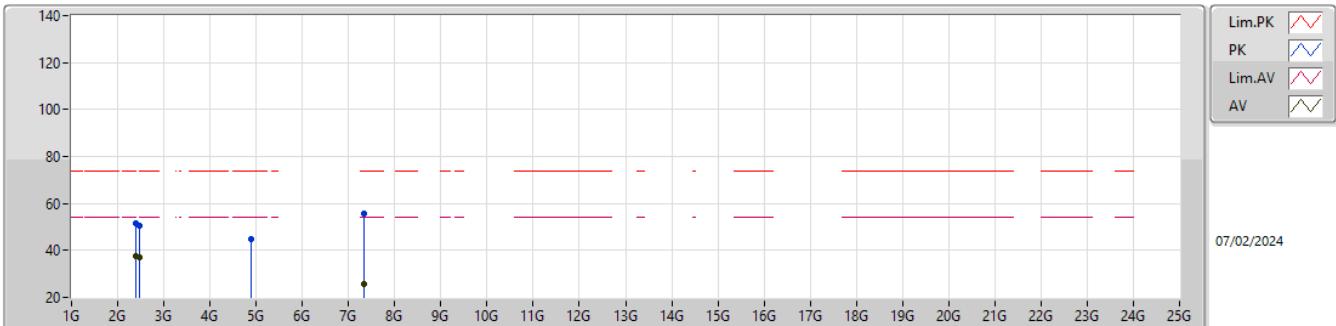


Summary

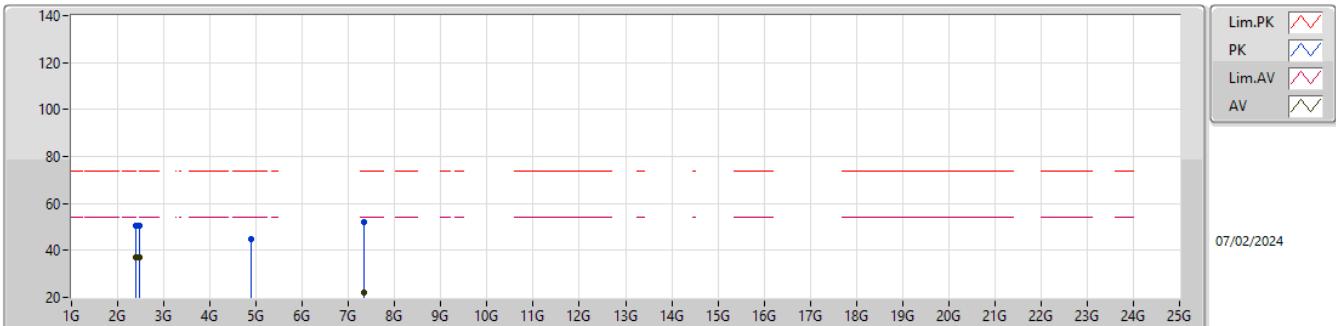
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-BR(1Mbps)	Pass	AV	2.4835G	37.76	54.00	-16.24	3	Horizontal	153	1.60	-
BT-EDR(3Mbps)	Pass	AV	2.4835G	42.79	54.00	-11.21	3	Horizontal	150	1.69	-

2.4-2.4835GHz_BT-BR(1Mbps)
2402MHz_TX


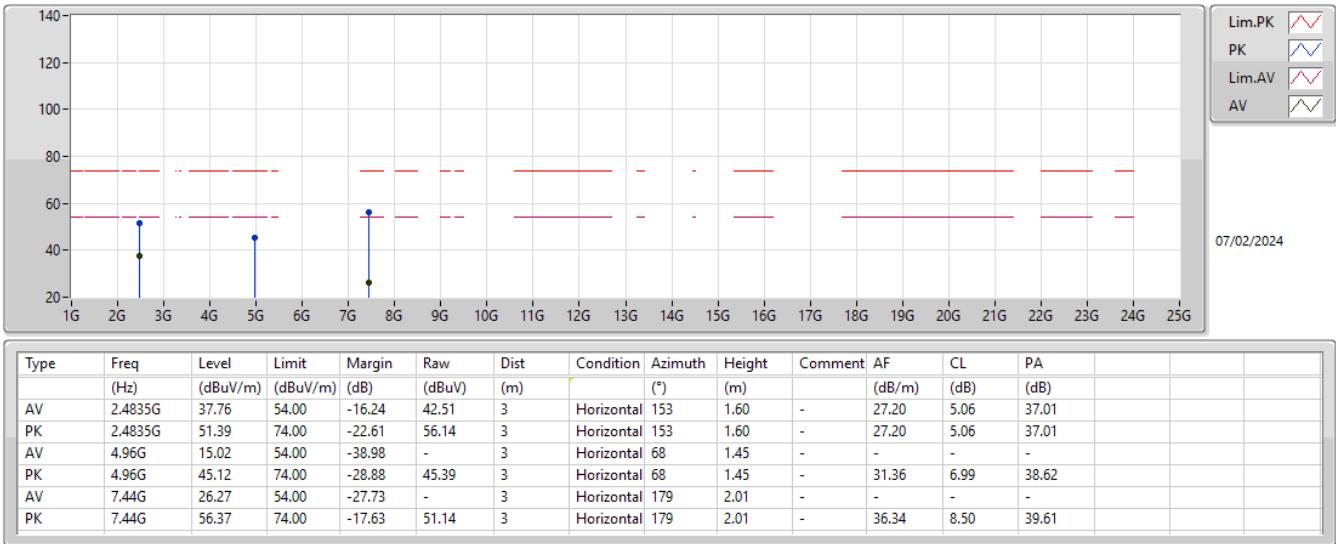
2.4-2.4835GHz_BT-BR(1Mbps)
2402MHz_TX


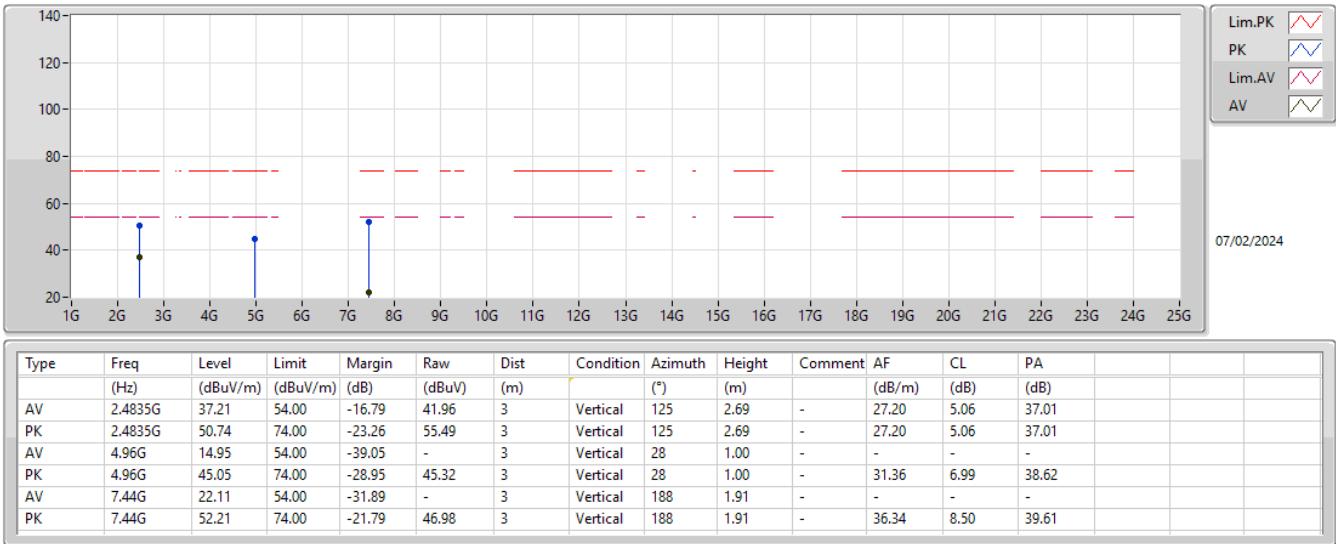
2.4-2.4835GHz_BT-BR(1Mbps)
2441MHz_TX


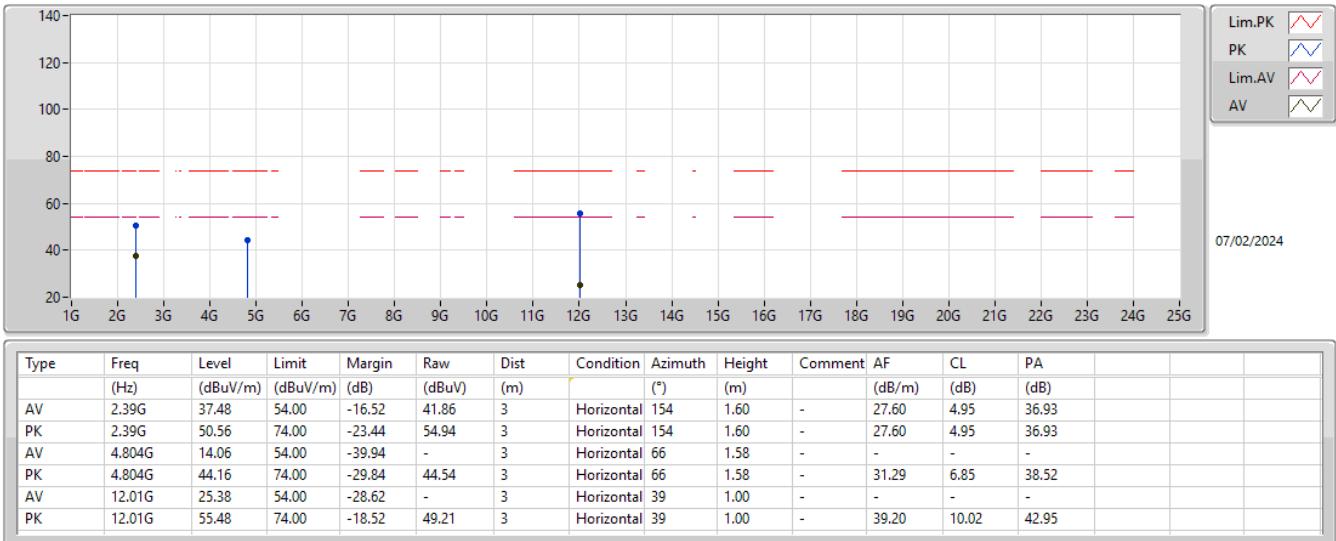
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.39G	37.38	54.00	-16.62	41.76	3	Horizontal	152	1.57	-	27.60	4.95	36.93			
PK	2.39G	51.47	74.00	-22.53	55.85	3	Horizontal	152	1.57	-	27.60	4.95	36.93			
AV	2.4835G	37.16	54.00	-16.84	41.91	3	Horizontal	152	1.57	-	27.20	5.06	37.01			
PK	2.4835G	50.37	74.00	-23.63	55.12	3	Horizontal	152	1.57	-	27.20	5.06	37.01			
AV	4.882G	14.88	54.00	-39.12	-	3	Horizontal	66	1.55	-	-	-	-			
PK	4.882G	44.98	74.00	-29.02	45.49	3	Horizontal	66	1.55	-	31.14	6.92	38.57			
AV	7.323G	25.57	54.00	-28.43	-	3	Horizontal	174	2.28	-	-	-	-			
PK	7.323G	55.67	74.00	-18.33	50.55	3	Horizontal	174	2.28	-	36.15	8.43	39.46			

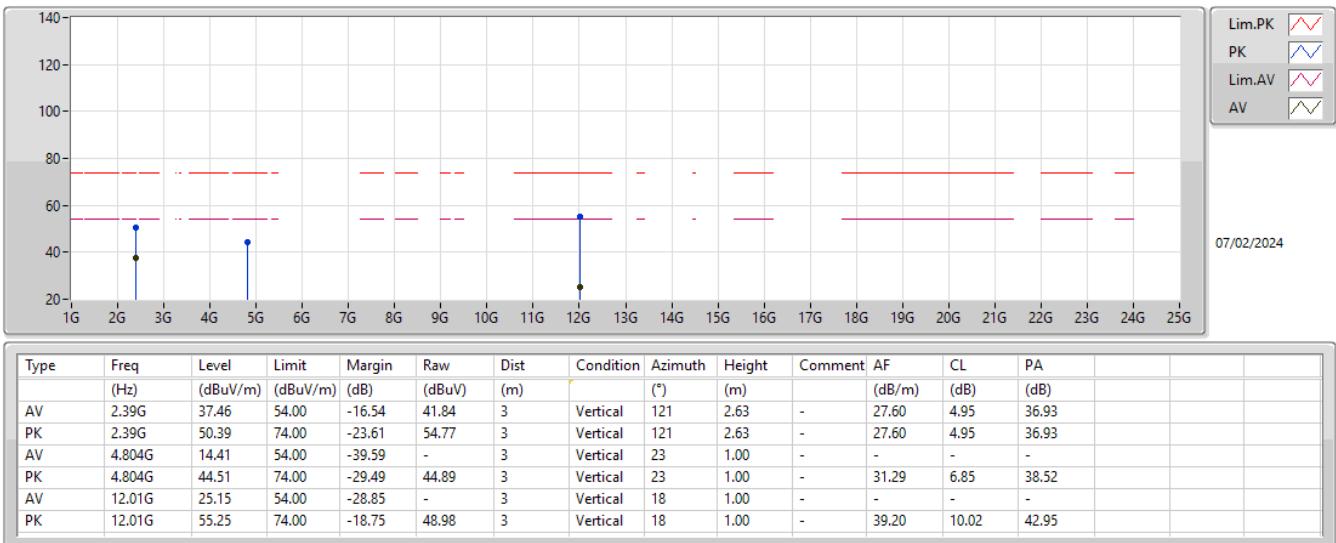
2.4-2.4835GHz_BT-BR(1Mbps)
2441MHz_TX


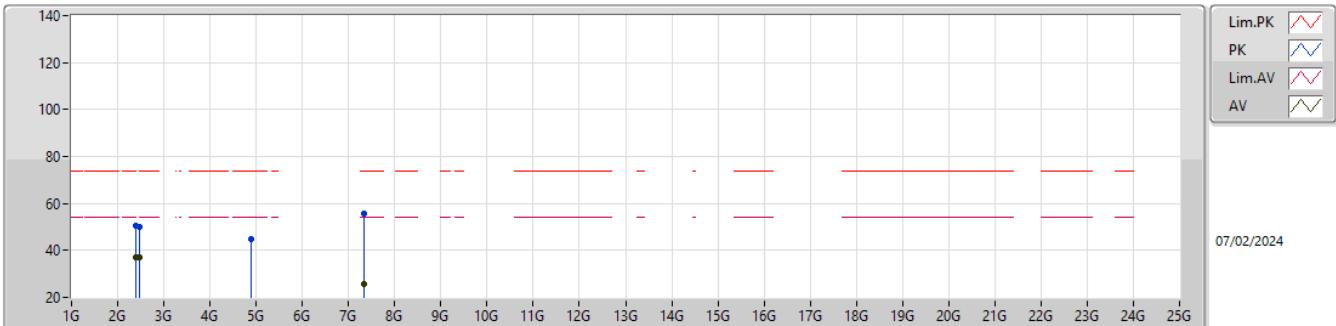
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)		
AV	2.39G	37.28	54.00	-16.72	41.66	3	Vertical	122	2.58	-	27.60	4.95	36.93		
PK	2.39G	50.46	74.00	-23.54	54.84	3	Vertical	122	2.58	-	27.60	4.95	36.93		
AV	2.4835G	37.07	54.00	-16.93	41.82	3	Vertical	122	2.58	-	27.20	5.06	37.01		
PK	2.4835G	50.31	74.00	-23.69	55.06	3	Vertical	122	2.58	-	27.20	5.06	37.01		
AV	4.882G	14.74	54.00	-39.26	-	3	Vertical	25	1.00	-	-	-	-		
PK	4.882G	44.84	74.00	-29.16	45.35	3	Vertical	25	1.00	-	31.14	6.92	38.57		
AV	7.323G	21.93	54.00	-32.07	-	3	Vertical	203	2.05	-	-	-	-		
PK	7.323G	52.03	74.00	-21.97	46.91	3	Vertical	203	2.05	-	36.15	8.43	39.46		

2.4-2.4835GHz_BT-BR(1Mbps)
2480MHz_TX


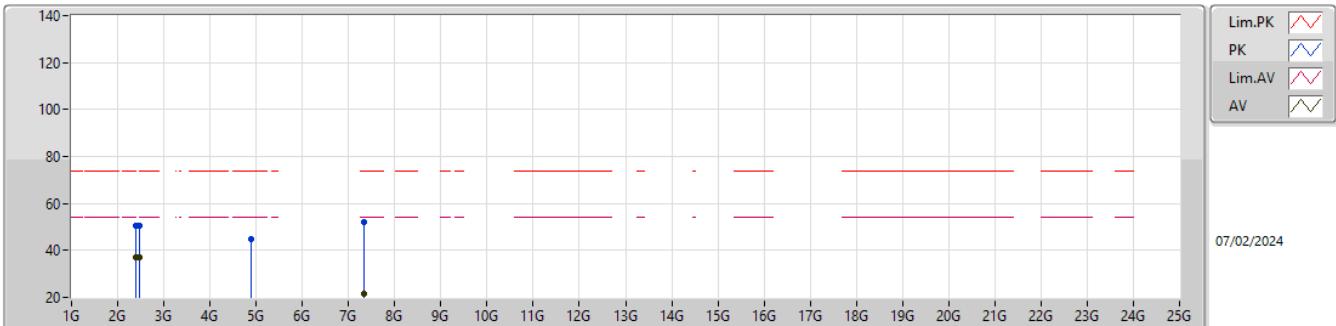
2.4-2.4835GHz_BT-BR(1Mbps)
2480MHz_TX


2.4-2.4835GHz_BT-EDR(3Mbps)
2402MHz_TX


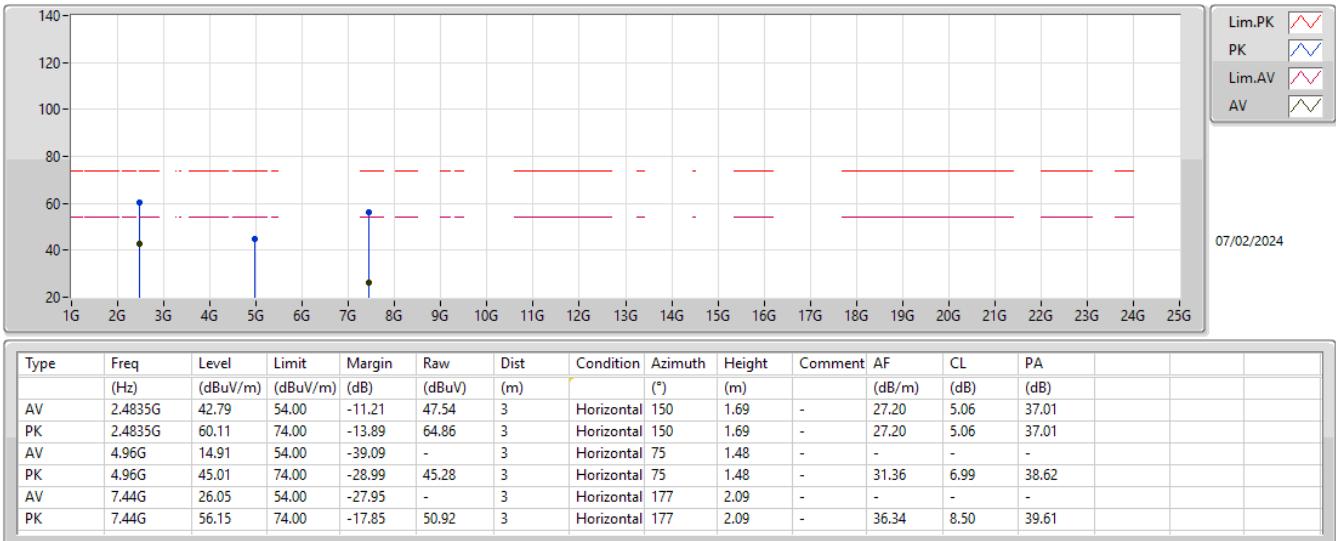
2.4-2.4835GHz_BT-EDR(3Mbps)
2402MHz_TX


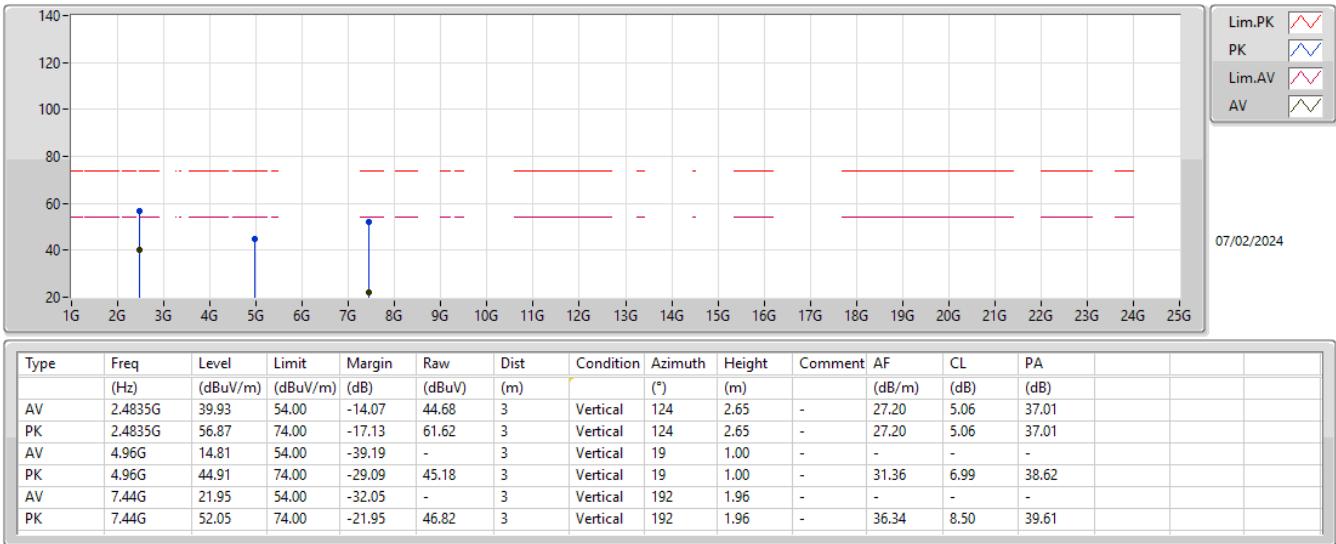
2.4-2.4835GHz_BT-EDR(3Mbps)
2441MHz_TX


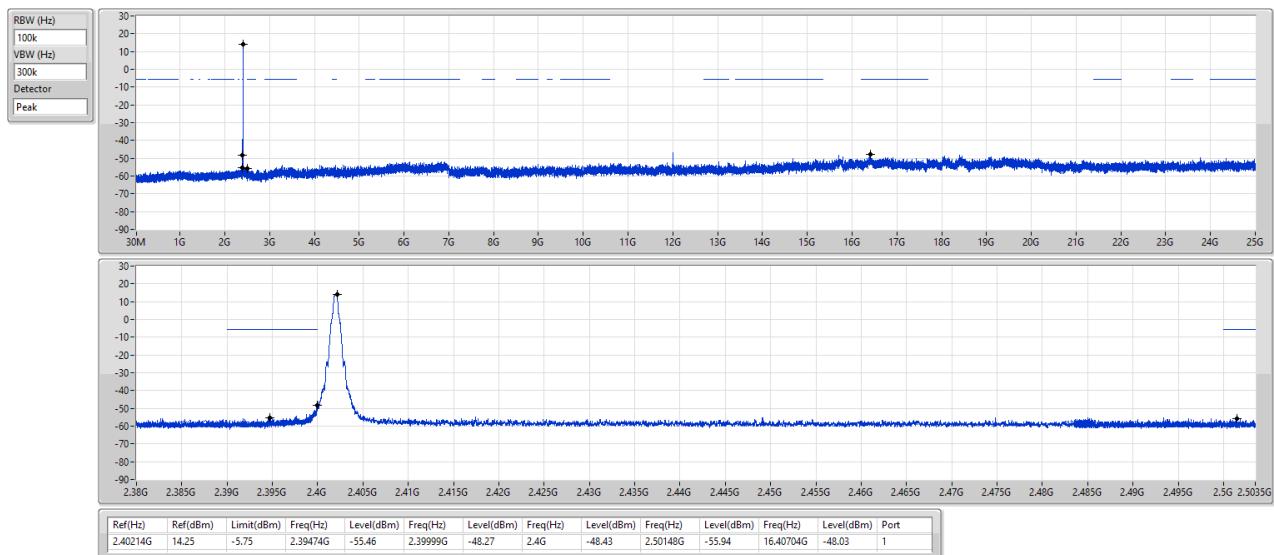
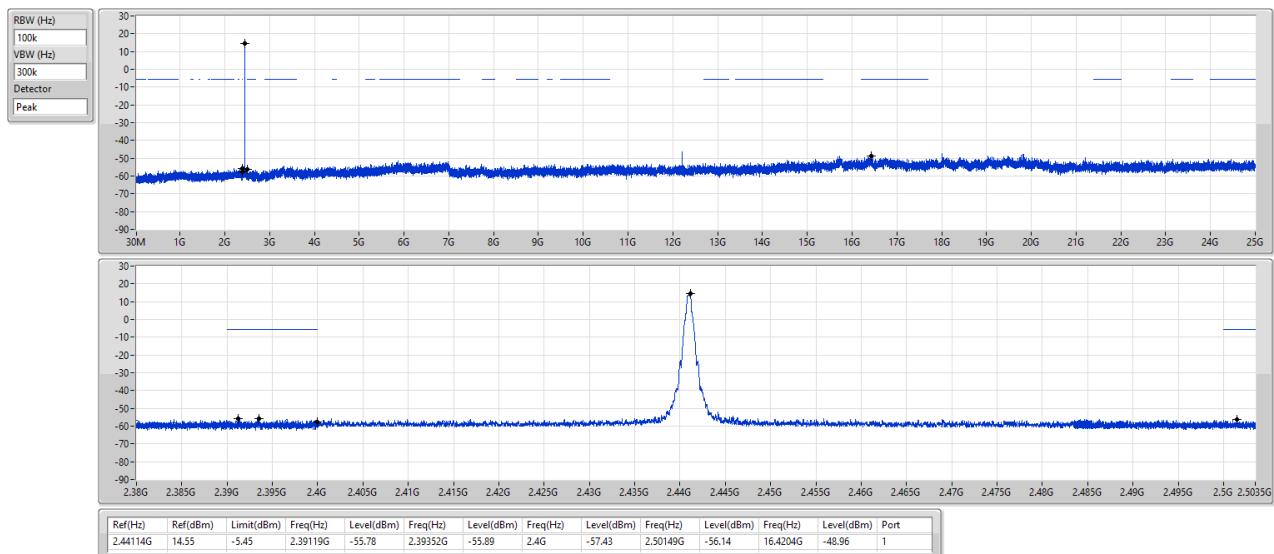
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)		
AV	2.39G	37.29	54.00	-16.71	41.67	3	Horizontal	152	1.58	-	27.60	4.95	36.93		
PK	2.39G	50.53	74.00	-23.47	54.91	3	Horizontal	152	1.58	-	27.60	4.95	36.93		
AV	2.4835G	37.29	54.00	-16.71	42.04	3	Horizontal	152	1.58	-	27.20	5.06	37.01		
PK	2.4835G	50.24	74.00	-23.76	54.99	3	Horizontal	152	1.58	-	27.20	5.06	37.01		
AV	4.882G	14.50	54.00	-39.50	-	3	Horizontal	85	1.69	-	-	-	-		
PK	4.882G	44.60	74.00	-29.40	45.11	3	Horizontal	85	1.69	-	31.14	6.92	38.57		
AV	7.323G	25.50	54.00	-28.50	-	3	Horizontal	181	2.36	-	-	-	-		
PK	7.323G	55.60	74.00	-18.40	50.48	3	Horizontal	181	2.36	-	36.15	8.43	39.46		

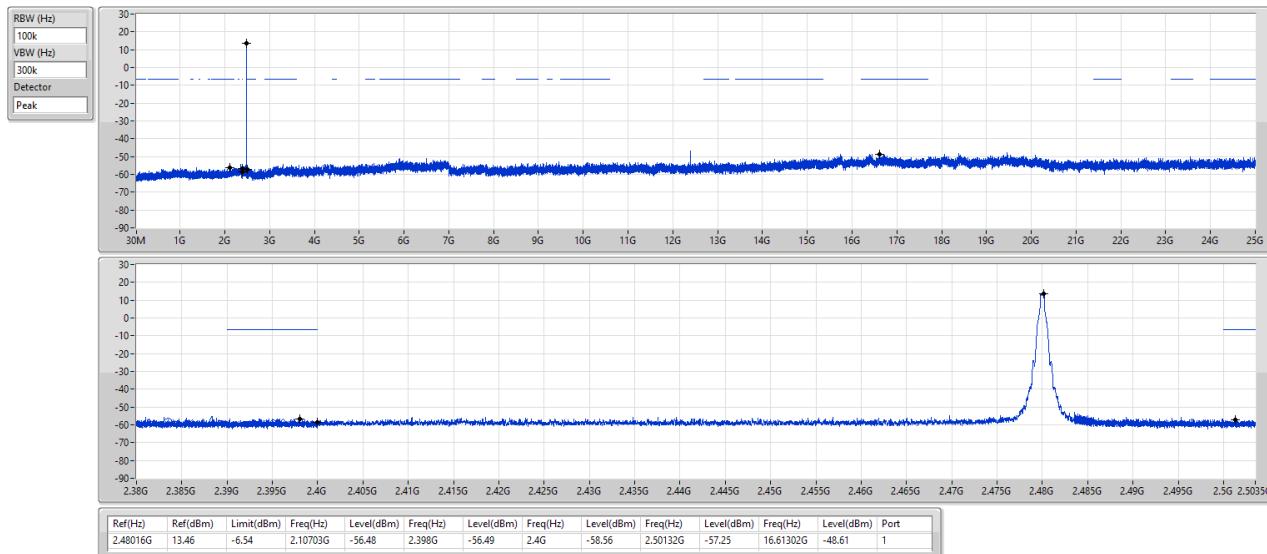
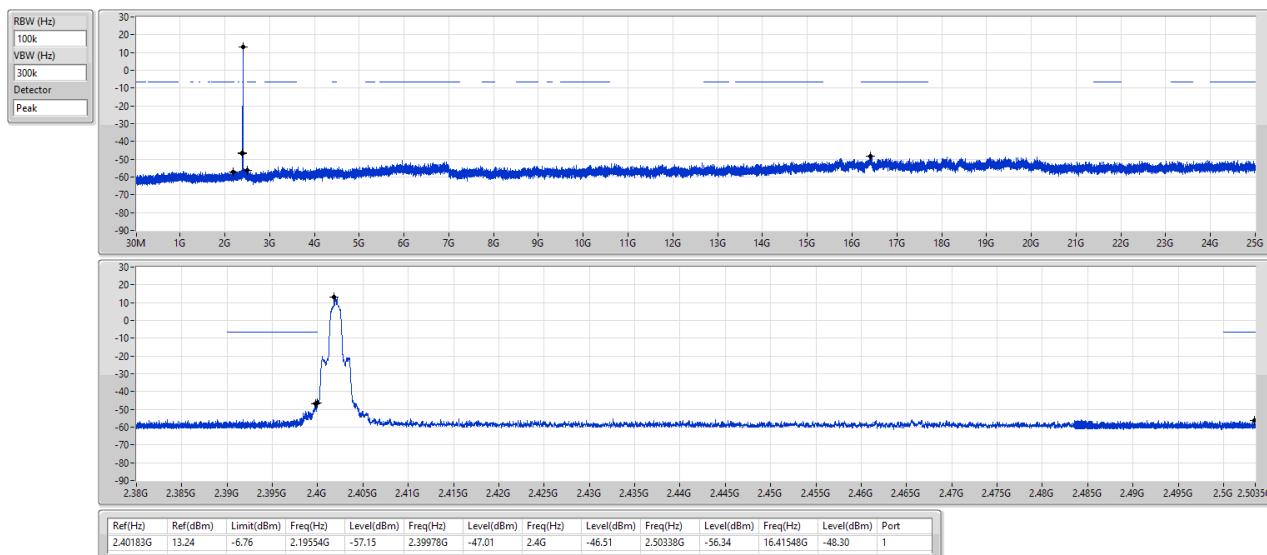
2.4-2.4835GHz_BT-EDR(3Mbps)
2441MHz_TX


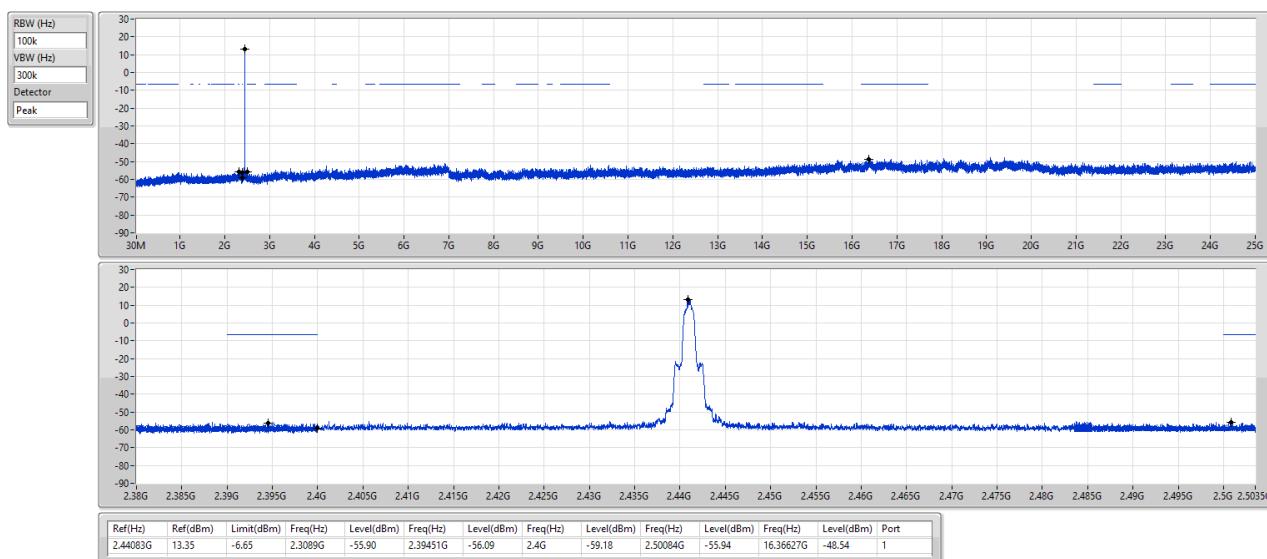
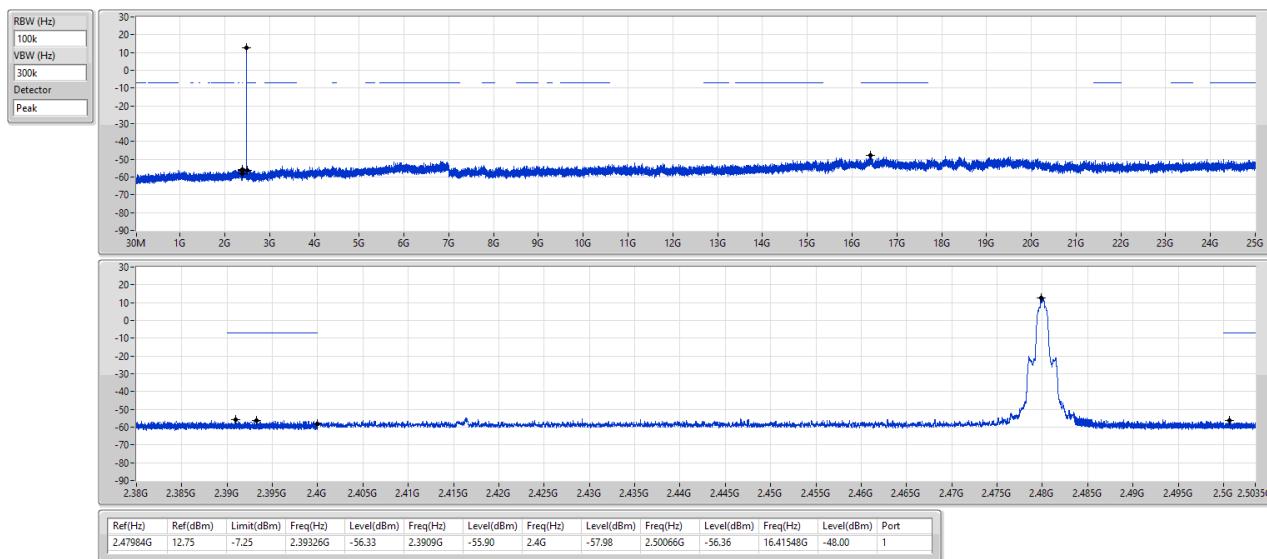
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB/m)	CL (dB)	PA (dB)			
AV	2.39G	37.23	54.00	-16.77	41.61	3	Vertical	121	2.63	-	27.60	4.95	36.93			
PK	2.39G	50.66	74.00	-23.34	55.04	3	Vertical	121	2.63	-	27.60	4.95	36.93			
AV	2.4835G	37.31	54.00	-16.69	42.06	3	Vertical	121	2.63	-	27.20	5.06	37.01			
PK	2.4835G	50.33	74.00	-23.67	55.08	3	Vertical	121	2.63	-	27.20	5.06	37.01			
AV	4.882G	14.50	54.00	-39.50	-	3	Vertical	26	1.00	-	-	-	-			
PK	4.882G	44.60	74.00	-29.40	45.11	3	Vertical	26	1.00	-	31.14	6.92	38.57			
AV	7.323G	21.76	54.00	-32.24	-	3	Vertical	201	1.96	-	-	-	-			
PK	7.323G	51.86	74.00	-22.14	46.74	3	Vertical	201	1.96	-	36.15	8.43	39.46			

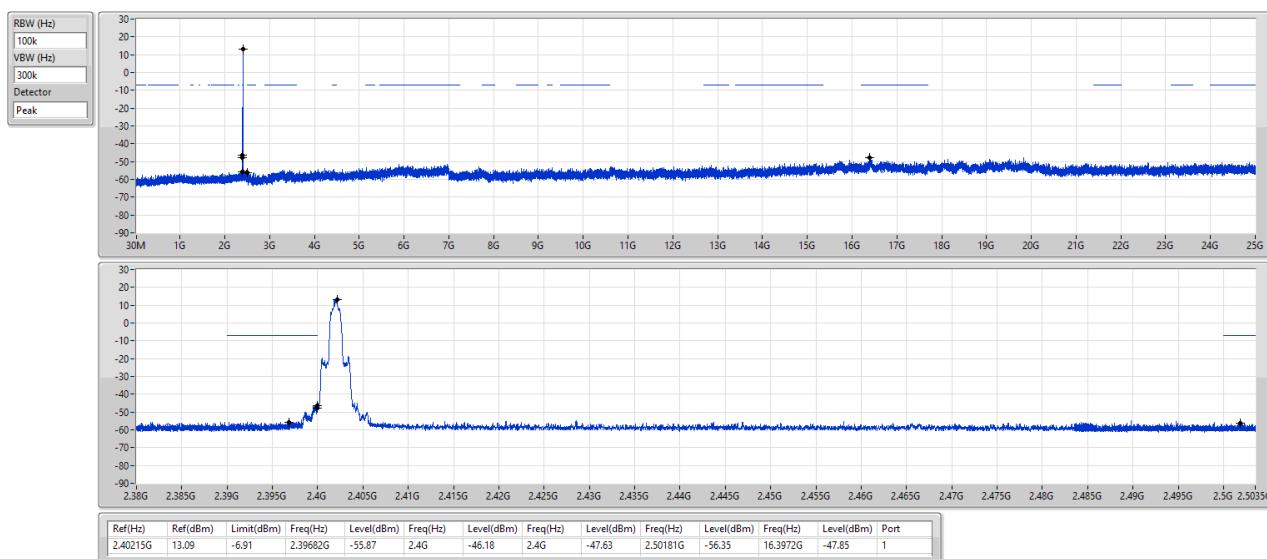
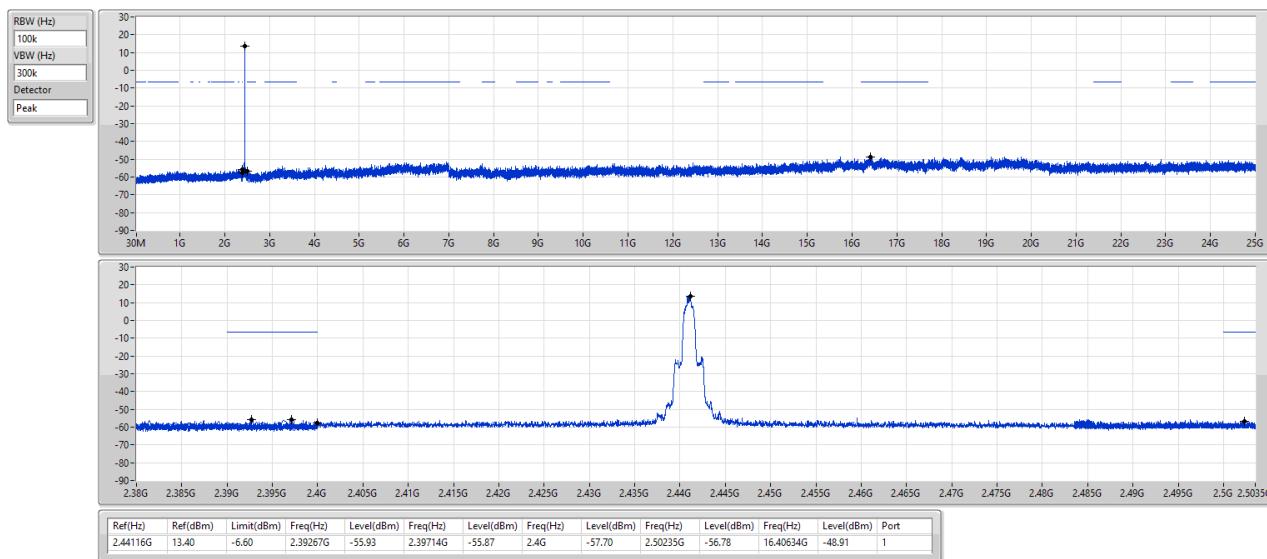
2.4-2.4835GHz_BT-EDR(3Mbps)
2480MHz_TX


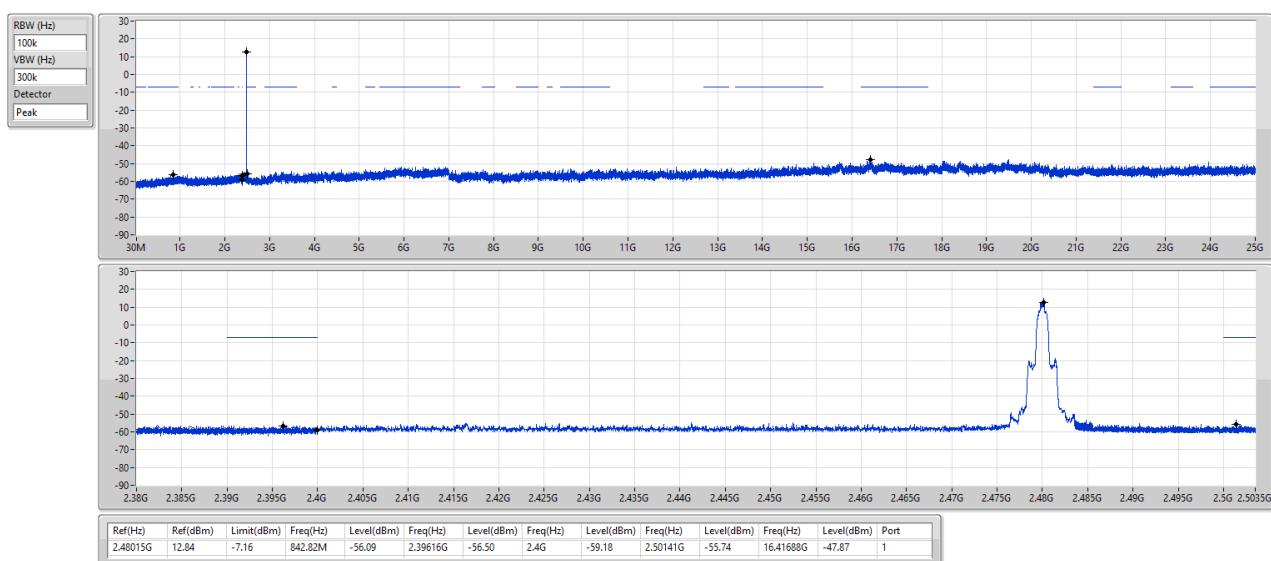
2.4-2.4835GHz_BT-EDR(3Mbps)
2480MHz_TX


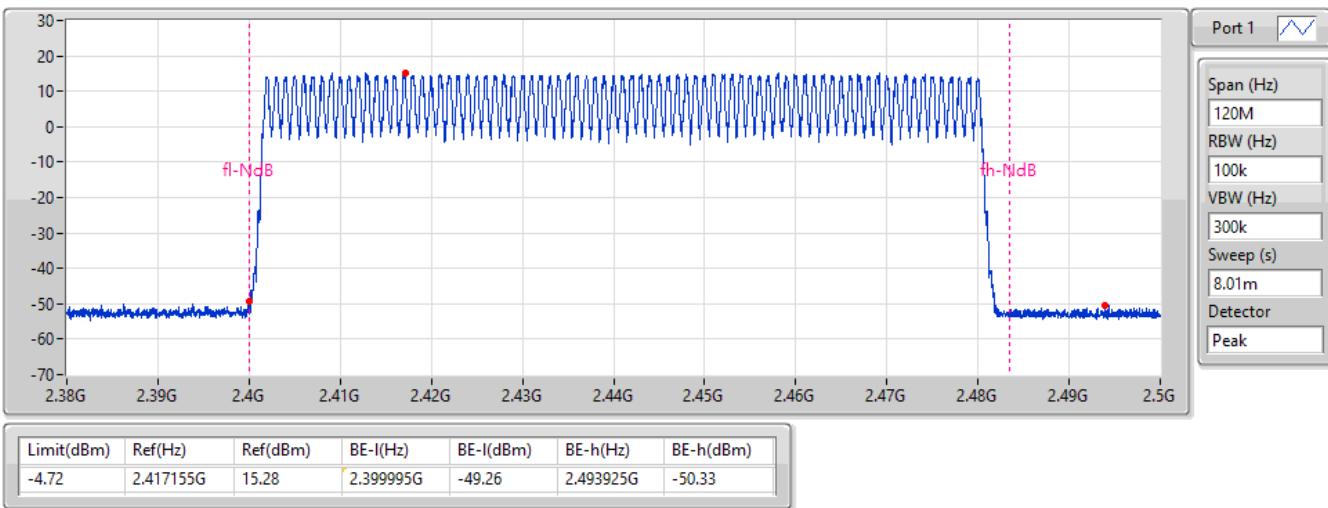
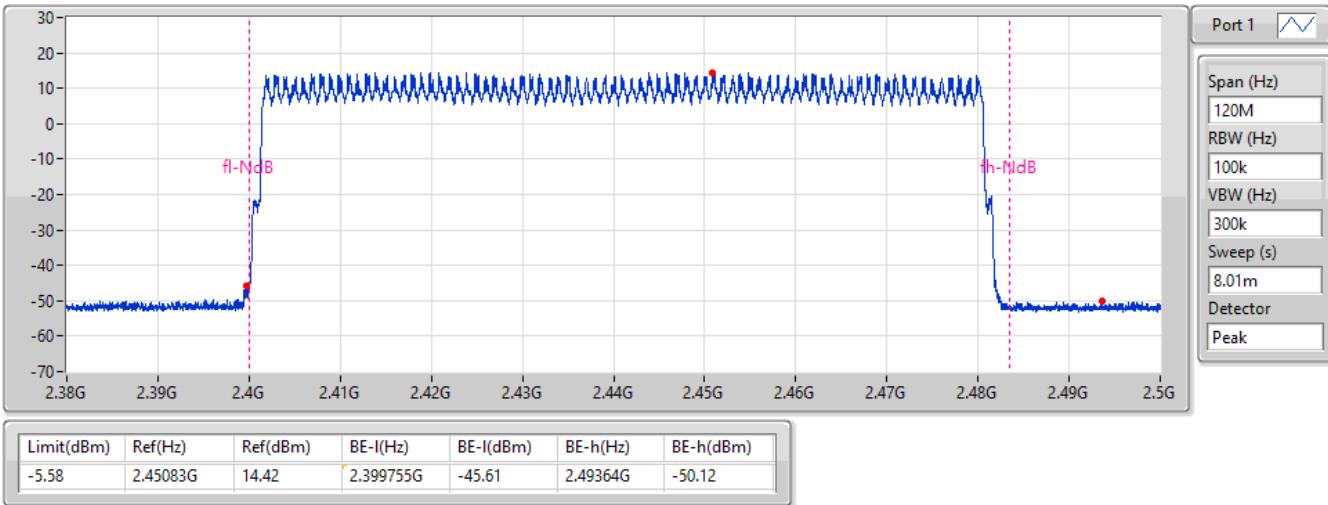
2.4-2.4835GHz_BT-BR(1Mbps)
CSEndB-FS
2402MHz

2.4-2.4835GHz_BT-BR(1Mbps)
CSEndB-FS
2441MHz


2.4-2.4835GHz_BT-BR(1Mbps)
CSEndB-FS
2480MHz

2.4-2.4835GHz_BT-EDR(2Mbps)
CSEndB-FS
2402MHz


2.4-2.4835GHz_BT-EDR(2Mbps)
CSEndB-FS
2441MHz

2.4-2.4835GHz_BT-EDR(2Mbps)
CSEndB-FS
2480MHz


2.4-2.4835GHz_BT-EDR(3Mbps)
CSEndB-FS
2402MHz

2.4-2.4835GHz_BT-EDR(3Mbps)
CSEndB-FS
2441MHz


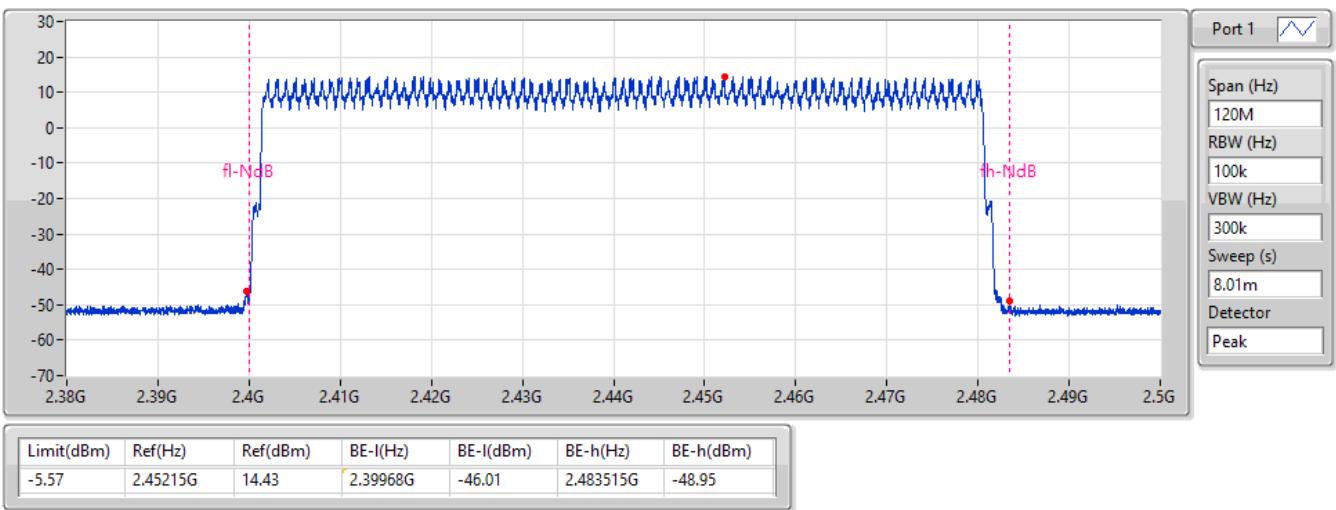
2.4-2.4835GHz_BT-EDR(3Mbps)
CSEndB-FS
2480MHz


2.4-2.4835GHz_BT-BR(1Mbps)
2402MHz
Hopping Ch Bandedge (Non-restricted Band)

2.4-2.4835GHz_BT-EDR(2Mbps)
2402MHz
Hopping Ch Bandedge (Non-restricted Band)


2.4-2.4835GHz_BT-EDR(3Mbps)

2402MHz

Hopping Ch Bandedge (Non-restricted Band)



**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	15.21	0.03319
BT-EDR(2Mbps)	13.89	0.02449
BT-EDR(3Mbps)	14.01	0.02518

Result

Mode	Result	Antenna Gain (dBi)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
BT-BR(1Mbps)	-	-	-	-	-	-
2402MHz	Pass	-3.89	14.91	21.00	11.02	27.00
2441MHz	Pass	-3.89	15.21	21.00	11.32	27.00
2480MHz	Pass	-3.89	14.53	21.00	10.64	27.00
BT-EDR(2Mbps)	-	-	-	-	-	-
2402MHz	Pass	-3.89	13.89	21.00	10.00	27.00
2441MHz	Pass	-3.89	13.81	21.00	9.92	27.00
2480MHz	Pass	-3.89	13.64	21.00	9.75	27.00
BT-EDR(3Mbps)	-	-	-	-	-	-
2402MHz	Pass	-3.89	14.01	21.00	10.12	27.00
2441MHz	Pass	-3.89	13.91	21.00	10.02	27.00
2480MHz	Pass	-3.89	13.71	21.00	9.82	27.00

DG = Directional Gain; Port X = Port X output power

**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	15.09	0.03228
BT-EDR(2Mbps)	11.93	0.01560
BT-EDR(3Mbps)	11.96	0.01570

Result

Mode	Result	Antenna Gain (dBi)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
BT-BR(1Mbps)	-	-	-	-	-	-
2402MHz	Pass	-3.89	14.83	-	10.94	-
2441MHz	Pass	-3.89	15.09	-	11.20	-
2480MHz	Pass	-3.89	14.43	-	10.54	-
BT-EDR(2Mbps)	-	-	-	-	-	-
2402MHz	Pass	-3.89	11.93	-	8.04	-
2441MHz	Pass	-3.89	11.75	-	7.86	-
2480MHz	Pass	-3.89	11.68	-	7.79	-
BT-EDR(3Mbps)	-	-	-	-	-	-
2402MHz	Pass	-3.89	11.96	-	8.07	-
2441MHz	Pass	-3.89	11.78	-	7.89	-
2480MHz	Pass	-3.89	11.69	-	7.80	-

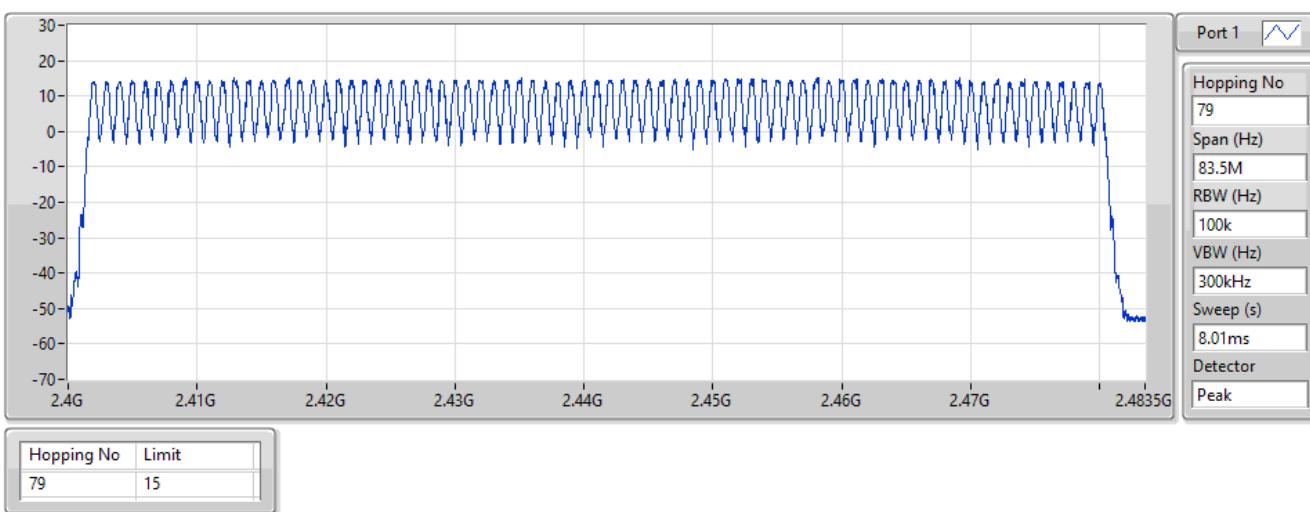
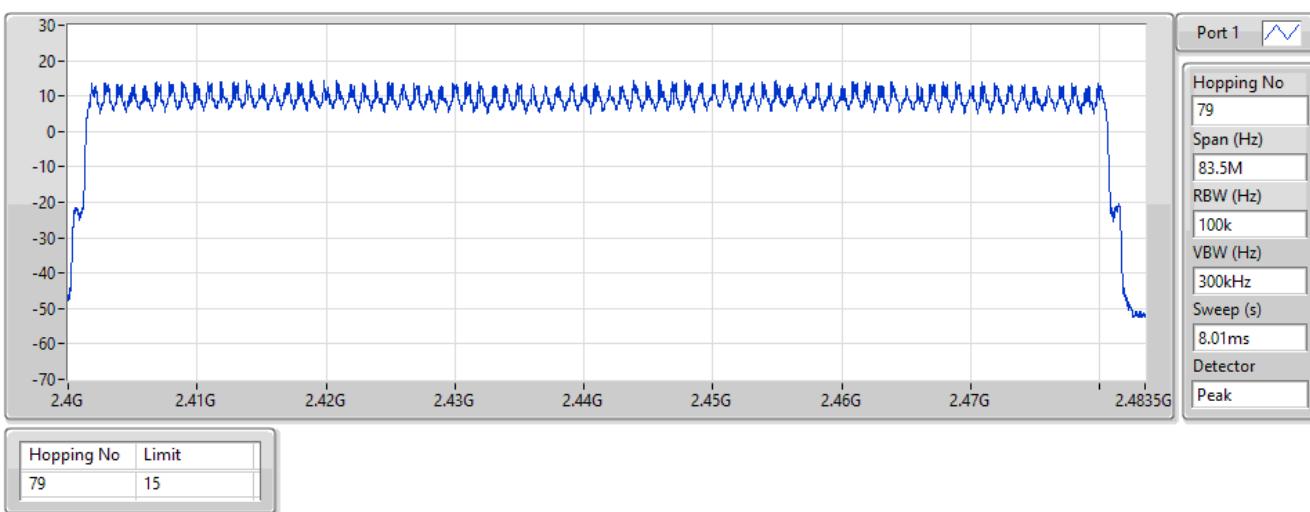
Note: Average power is for reference only

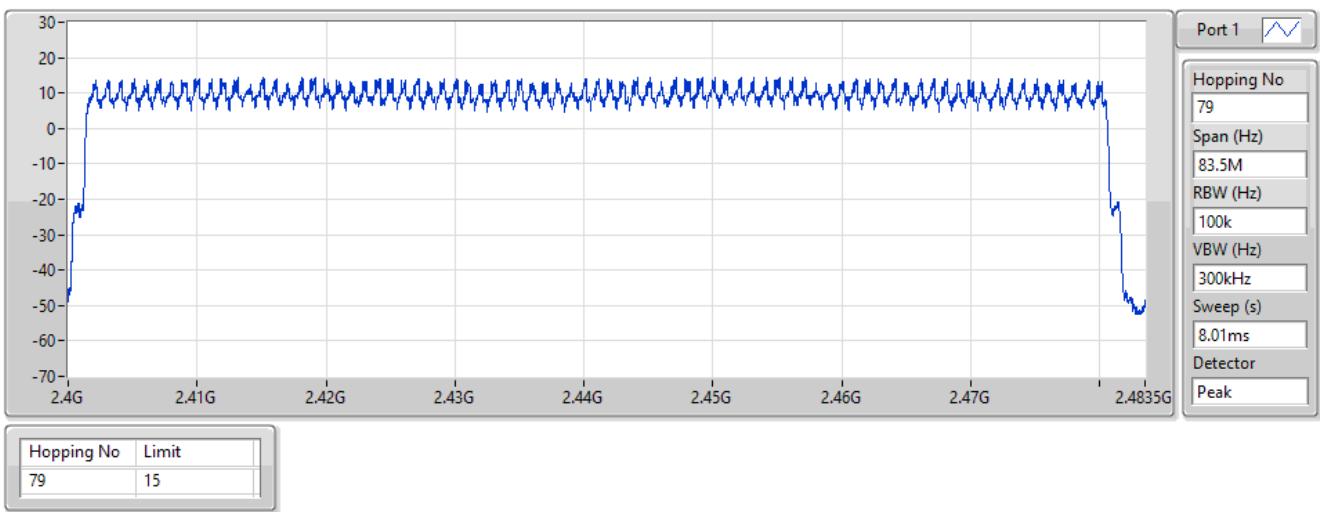
**Summary**

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)	-	-	-
2402MHz	Pass	79	15
BT-EDR(2Mbps)	-	-	-
2402MHz	Pass	79	15
BT-EDR(3Mbps)	-	-	-
2402MHz	Pass	79	15

2.4-2.4835GHz_BT-BR(1Mbps)**Hopping-FS****2402MHz****2.4-2.4835GHz_BT-EDR(2Mbps)****Hopping-FS****2402MHz**

2.4-2.4835GHz_BT-EDR(3Mbps)**Hopping-FS****2402MHz**

**Summary**

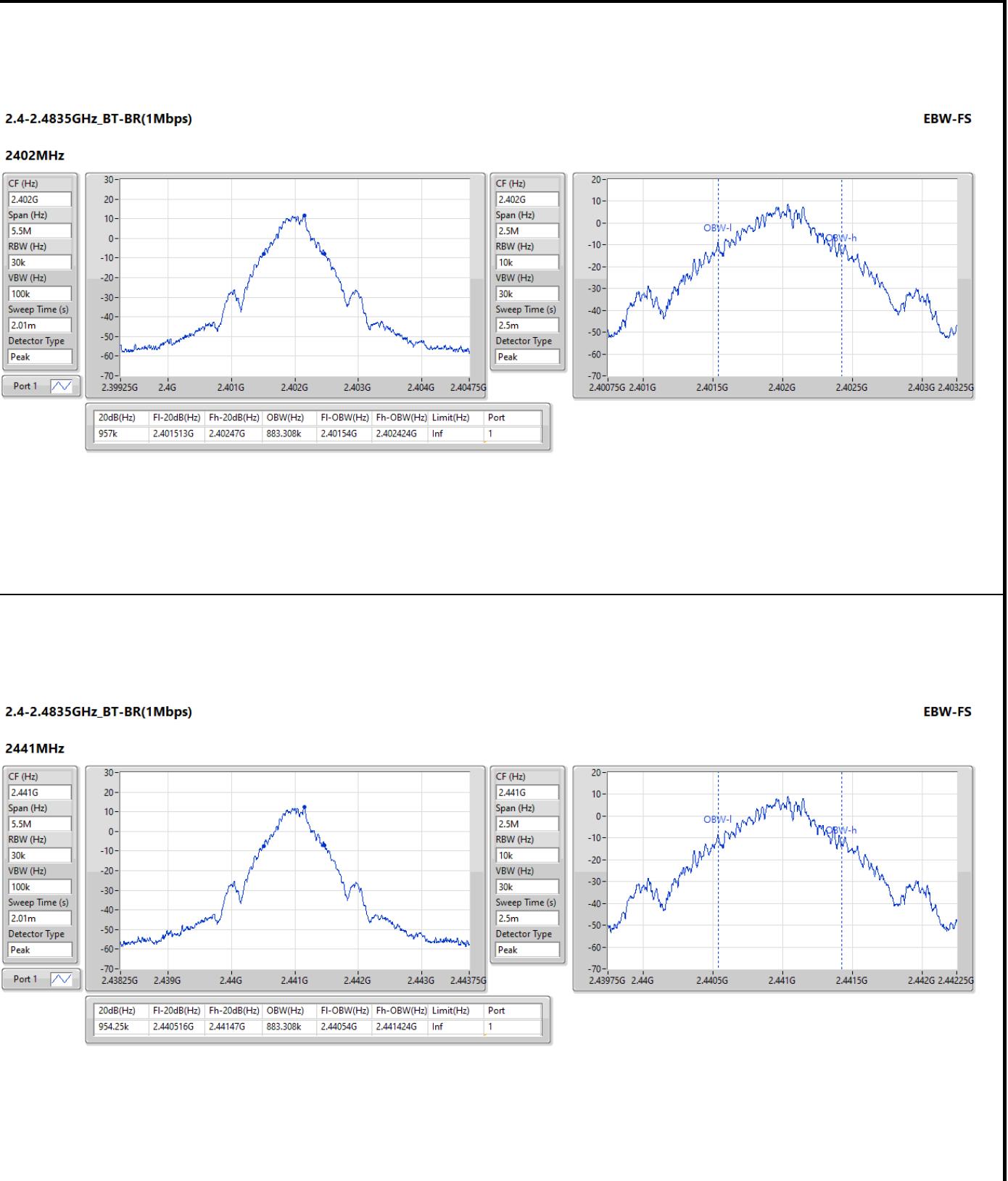
Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-BR(1Mbps)	970.75k	883.308k	883KF1D	954.25k	882.059k
BT-EDR(2Mbps)	1.246M	1.168M	1M17G1D	1.246M	1.162M
BT-EDR(3Mbps)	1.279M	1.176M	1M18G1D	1.271M	1.168M

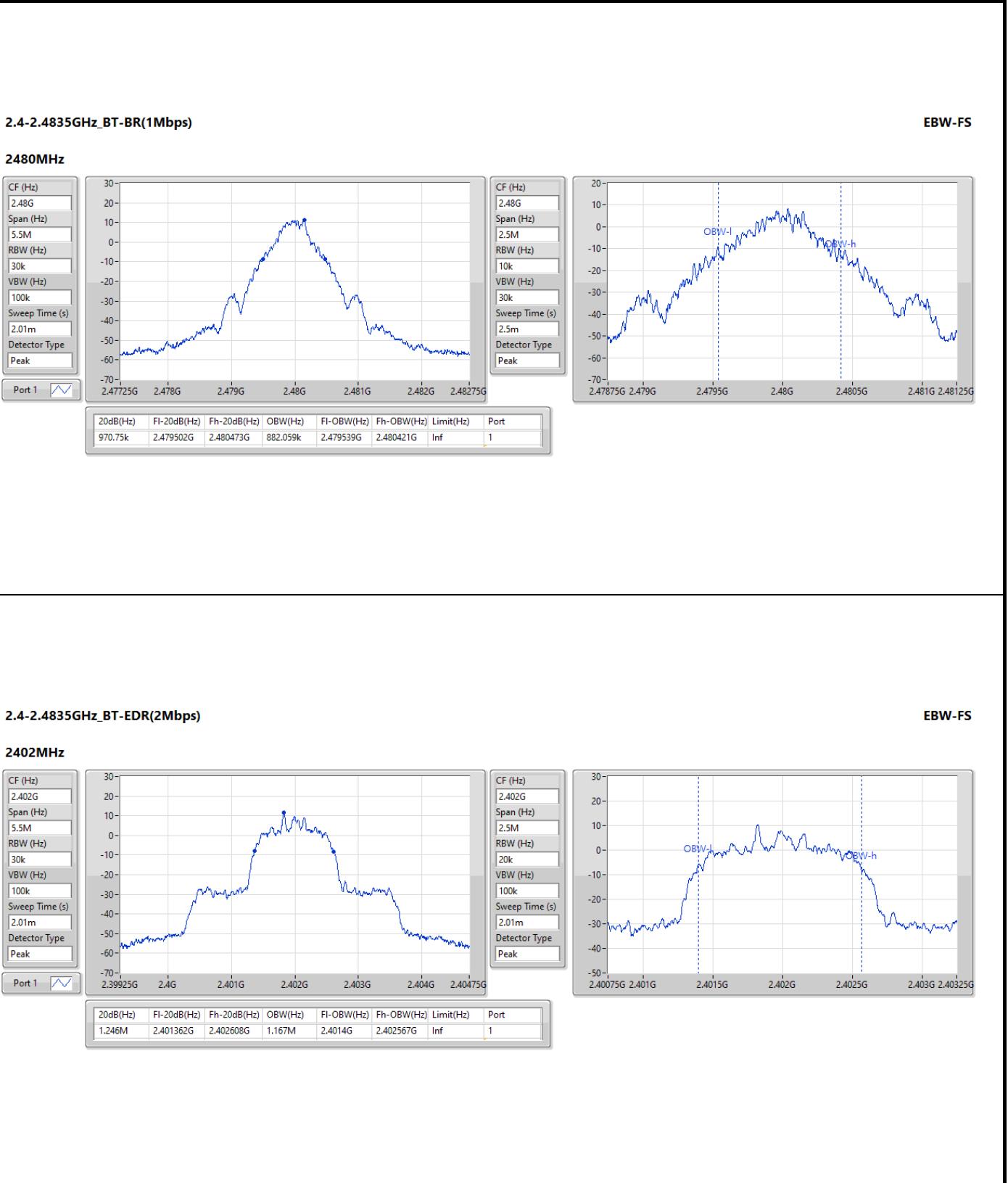
Max-N dB = Maximum 20dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 20dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

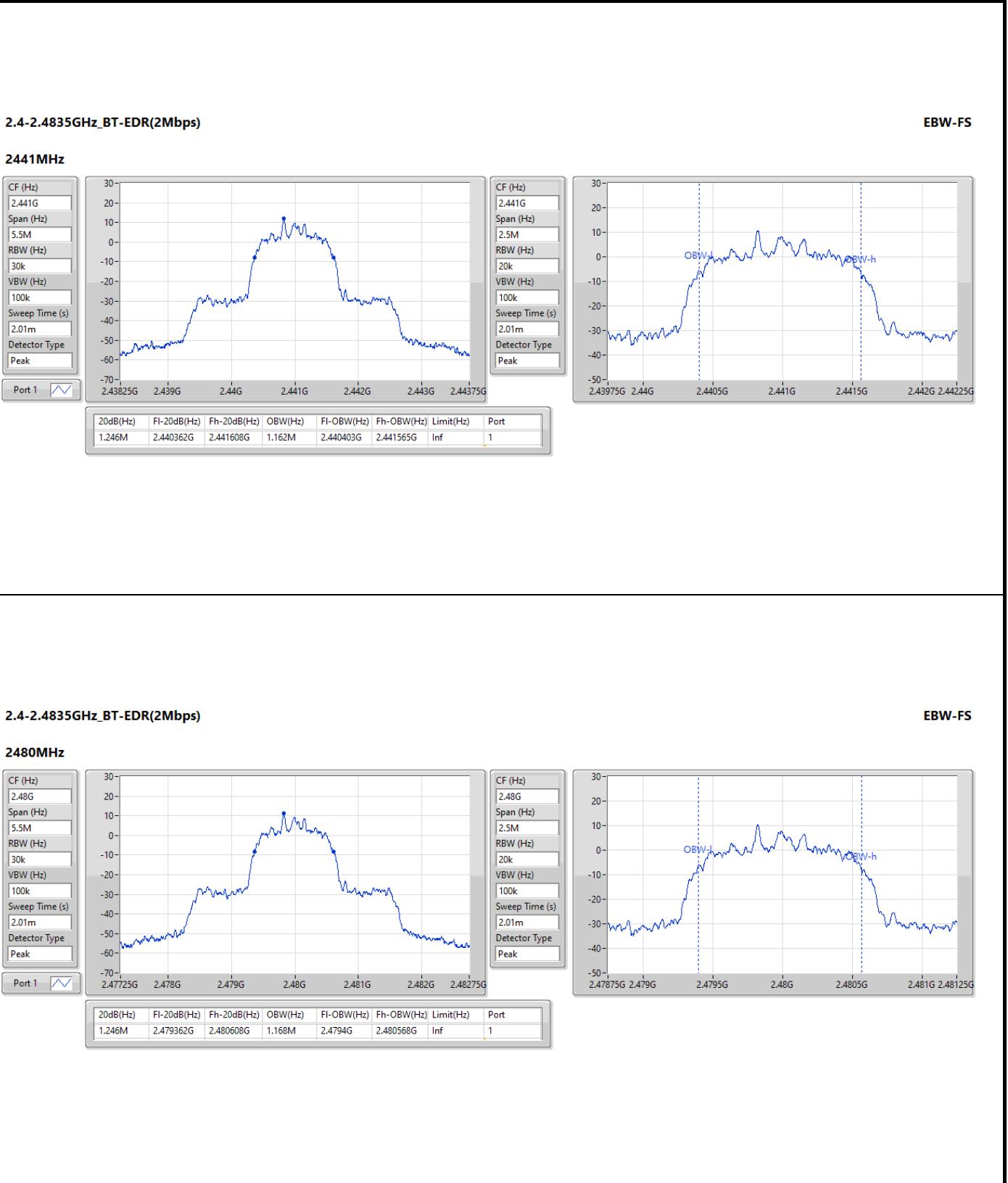
Result

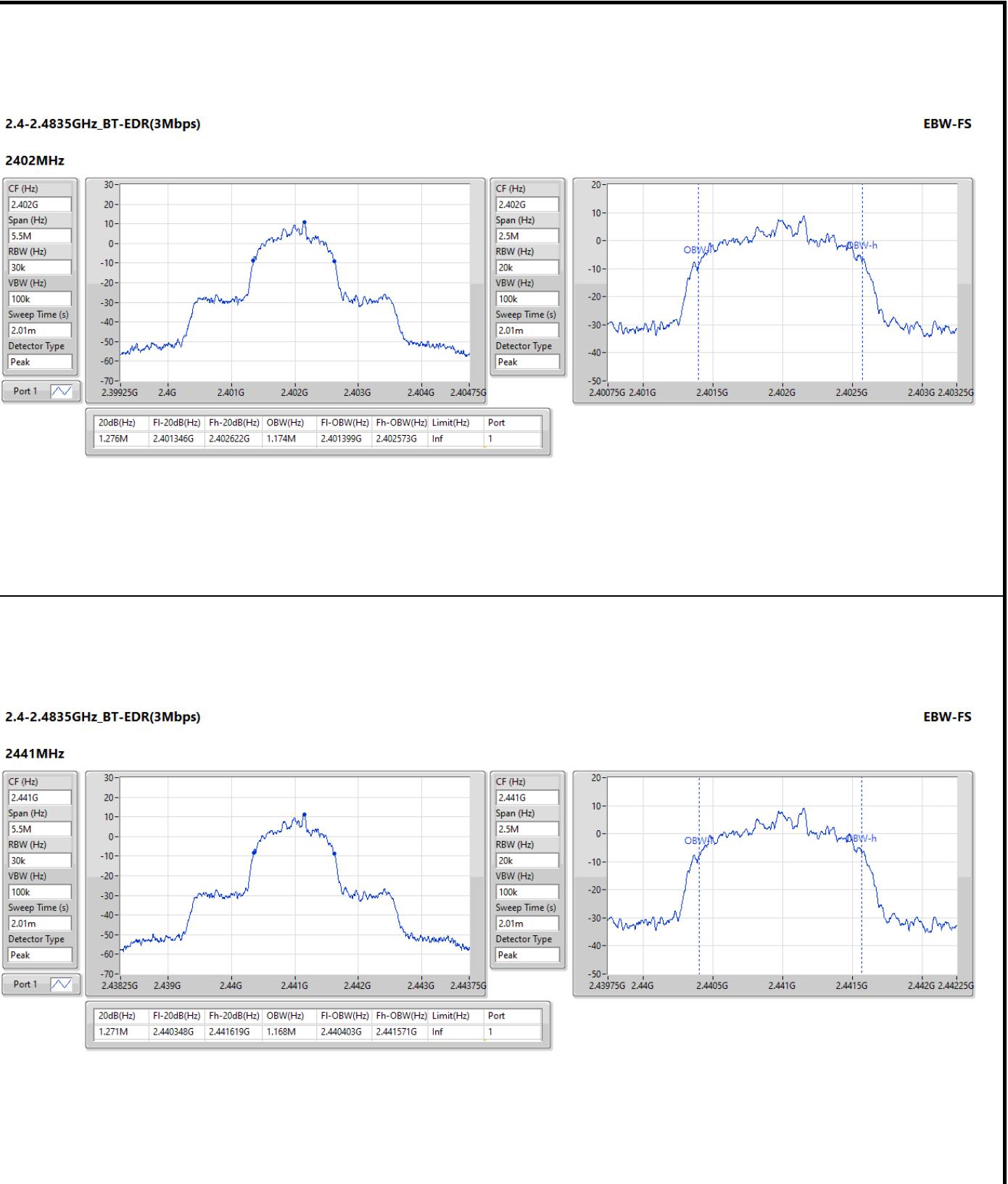
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	957k	883.308k
2441MHz	Pass	Inf	954.25k	883.308k
2480MHz	Pass	Inf	970.75k	882.059k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.246M	1.167M
2441MHz	Pass	Inf	1.246M	1.162M
2480MHz	Pass	Inf	1.246M	1.168M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.276M	1.174M
2441MHz	Pass	Inf	1.271M	1.168M
2480MHz	Pass	Inf	1.279M	1.176M

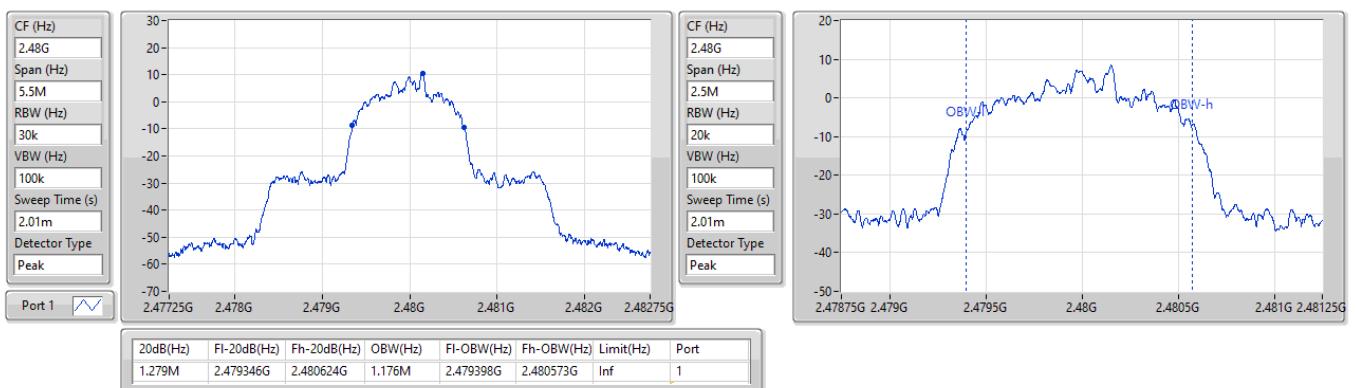
Port X-N dB = Port X 20dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth









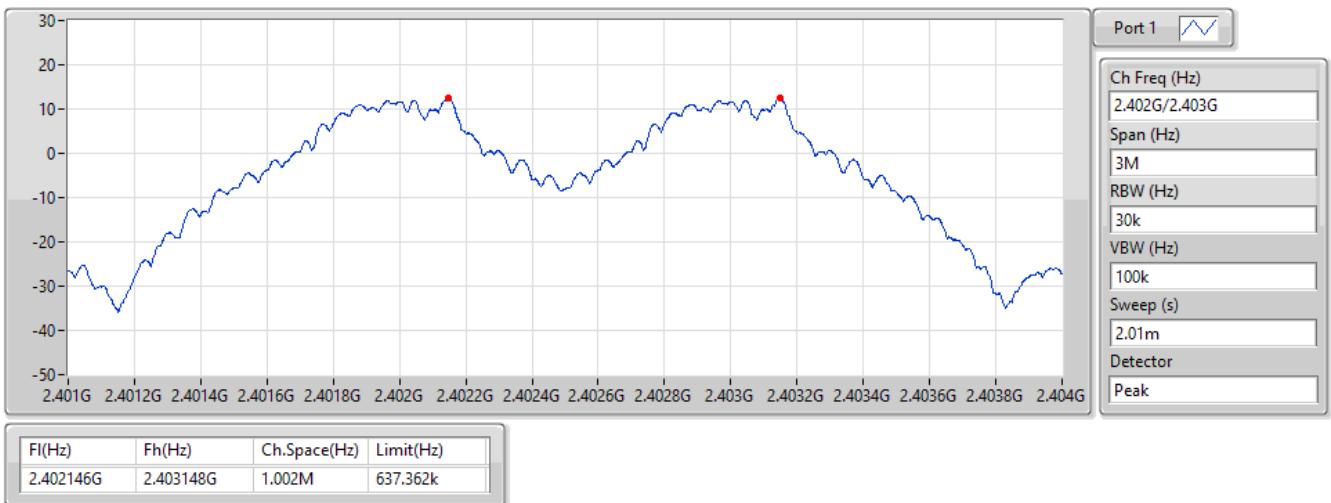
2.4-2.4835GHz_BT-EDR(3Mbps)
EBW-FS
2480MHz


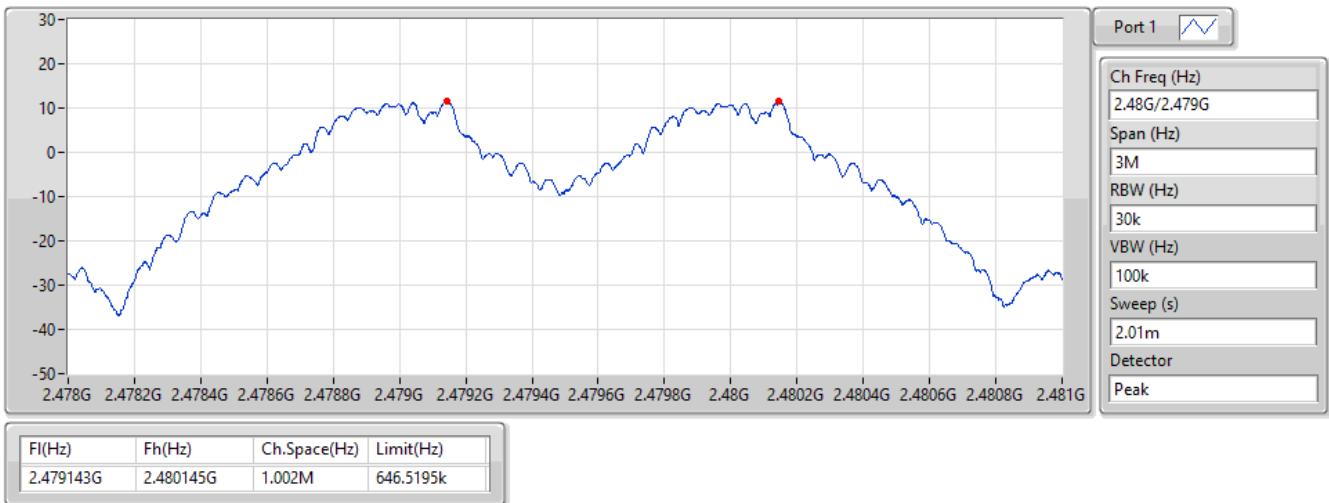
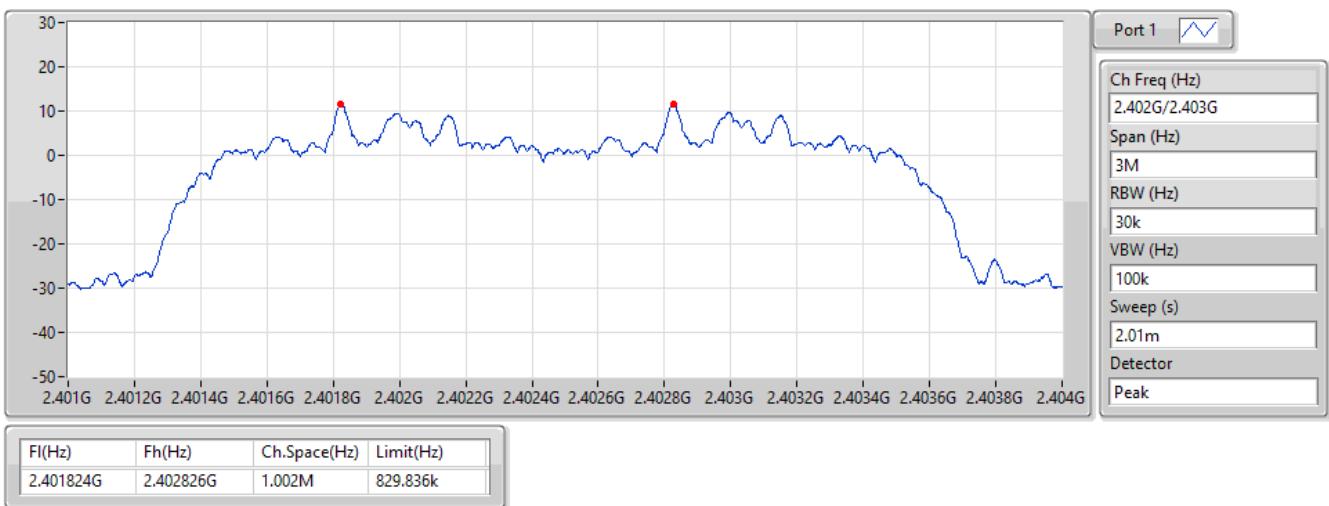
**Summary**

Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.008M	1.002M
BT-EDR(2Mbps)	1.002M	1.0005M
BT-EDR(3Mbps)	1.0065M	1.0035M

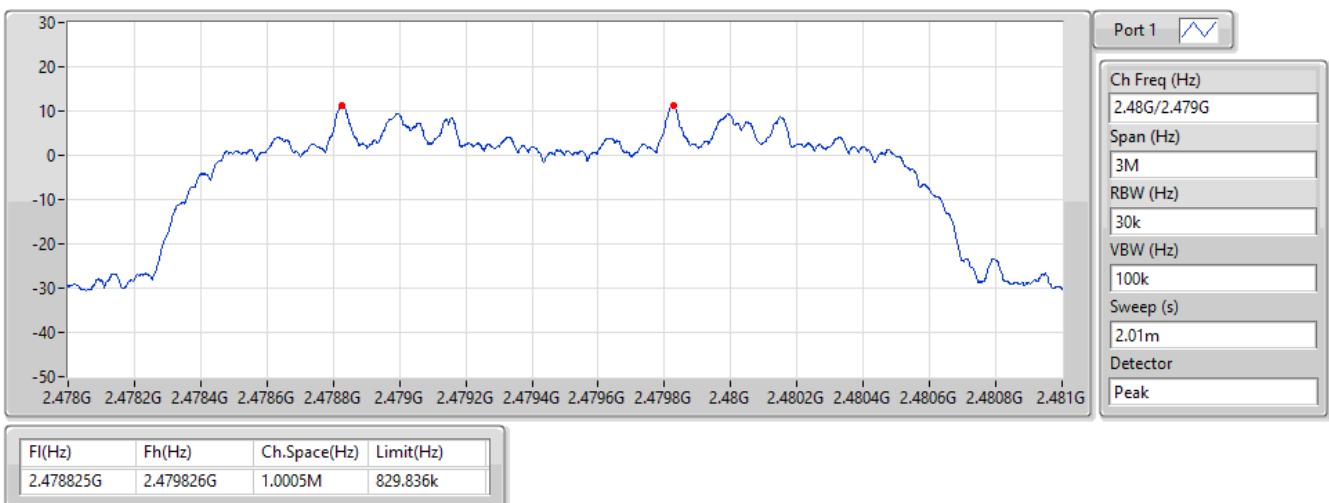
Result

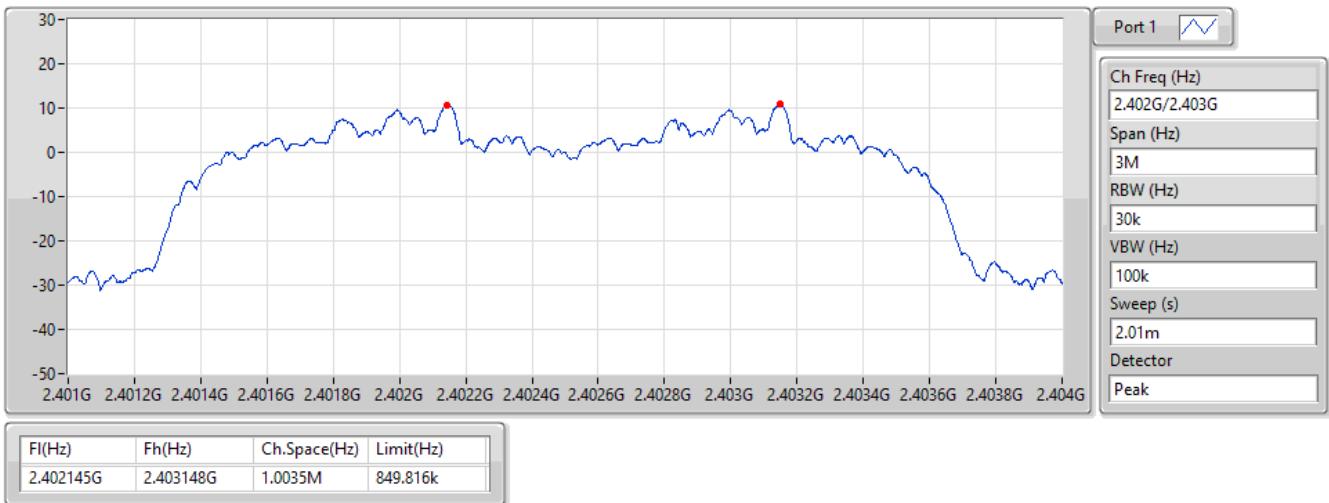
Mode	Result	FI (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.402146G	2.403148G	1.002M	637.362k
2441MHz	Pass	2.441139G	2.442147G	1.008M	635.5305k
2480MHz	Pass	2.479143G	2.480145G	1.002M	646.5195k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.401824G	2.402826G	1.002M	829.836k
2441MHz	Pass	2.440825G	2.441827G	1.002M	829.836k
2480MHz	Pass	2.478825G	2.479826G	1.0005M	829.836k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.402145G	2.403148G	1.0035M	849.816k
2441MHz	Pass	2.441142G	2.442148G	1.0065M	846.486k
2480MHz	Pass	2.479143G	2.480148G	1.005M	851.814k

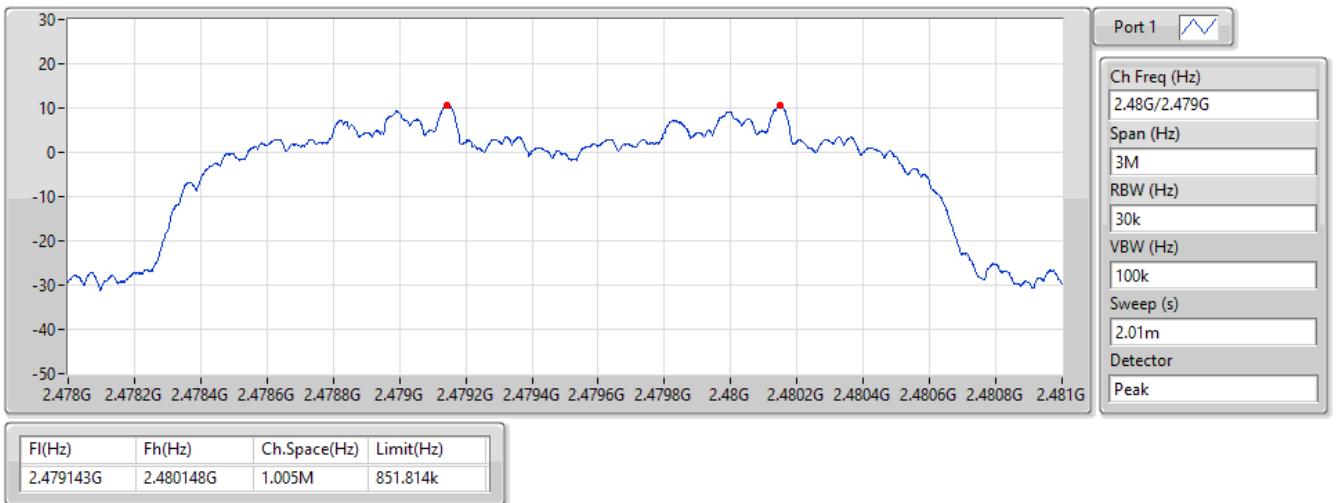
2.4-2.4835GHz_BT-BR(1Mbps)
Channel Separation-FS
2.402G/2.403GHz

2.4-2.4835GHz_BT-BR(1Mbps)
Channel Separation-FS
2.441G/2.442GHz


2.4-2.4835GHz_BT-BR(1Mbps)
Channel Separation-FS
2.48G/2.479GHz

2.4-2.4835GHz_BT-EDR(2Mbps)
Channel Separation-FS
2.402G/2.403GHz


2.4-2.4835GHz_BT-EDR(2Mbps)
Channel Separation-FS
2.441G/2.442GHz

2.4-2.4835GHz_BT-EDR(2Mbps)
Channel Separation-FS
2.48G/2.479GHz


2.4-2.4835GHz_BT-EDR(3Mbps)
Channel Separation-FS
2.402G/2.403GHz

2.4-2.4835GHz_BT-EDR(3Mbps)
Channel Separation-FS
2.441G/2.442GHz


2.4-2.4835GHz_BT-EDR(3Mbps)**Channel Separation-FS****2.48G/2.479GHz**

**Summary**

2.4-2.4835GHz		-
BT-BR(1Mbps)		309.91068m_DH5
BT-BR-AFH(1Mbps)		299.988m_DH5-AFH
BT-EDR(2Mbps)		310.04498m_DH5
BT-EDR-AFH(2Mbps)		311.661m_DH5-AFH
BT-EDR(3Mbps)		310.233m_DH5
BT-EDR-AFH(3Mbps)		300.3m_DH5-AFH

Result**Result/ Non AFH mode**

Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (ms)	Number of transmission in a 5 s
BT-BR(1Mbps)	-	-	-	-	-	-
2402MHz_DH5	PASS	31.6	0.30991	0.4	2.88450	17
BT-EDR(2Mbps)	-	-	-	-	-	-
2402MHz_DH5	PASS	31.6	0.31004	0.4	2.88575	17
BT-EDR(3Mbps)	-	-	-	-	-	-
2402MHz_DH5	PASS	31.6	0.31023	0.4	2.88750	17

Note 1: Dwell time =Number of transmission in a 5 second x Tx On Time x 6.32

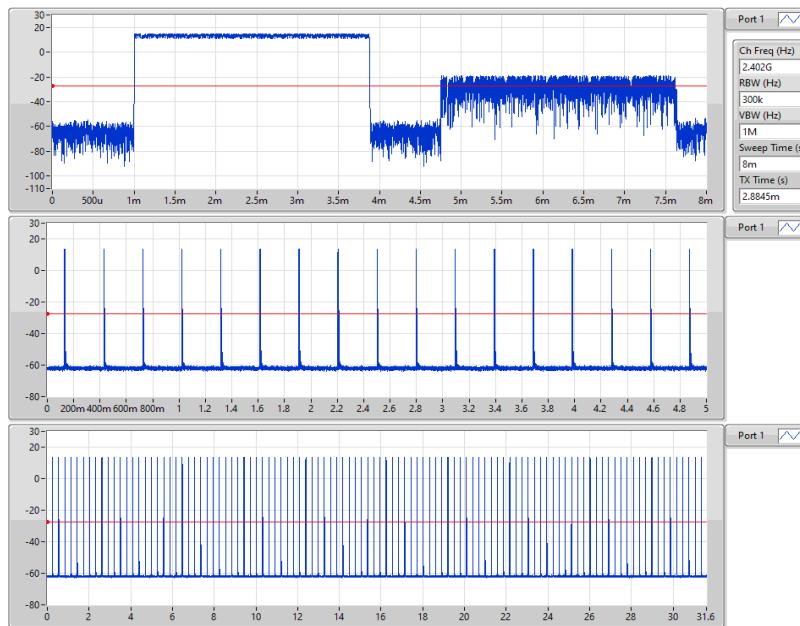
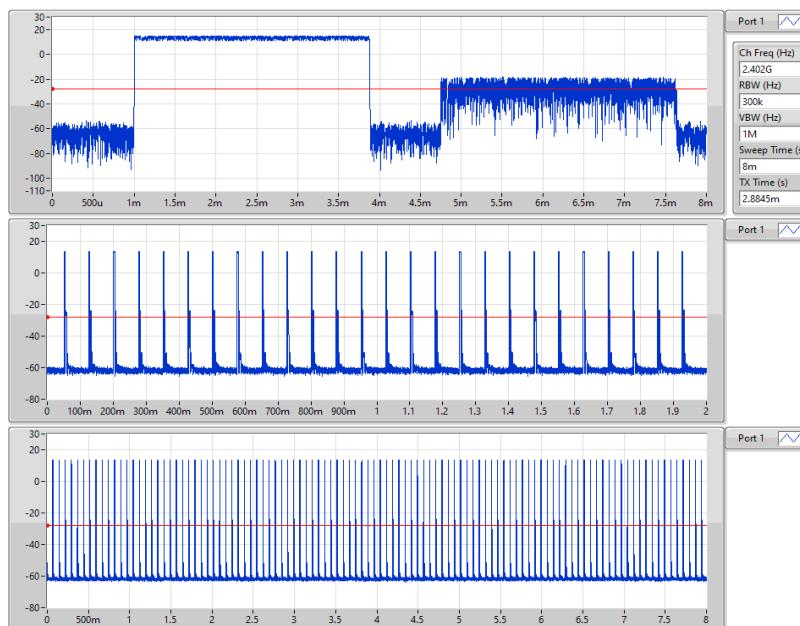
Note 2: DH5 was the worst mode.

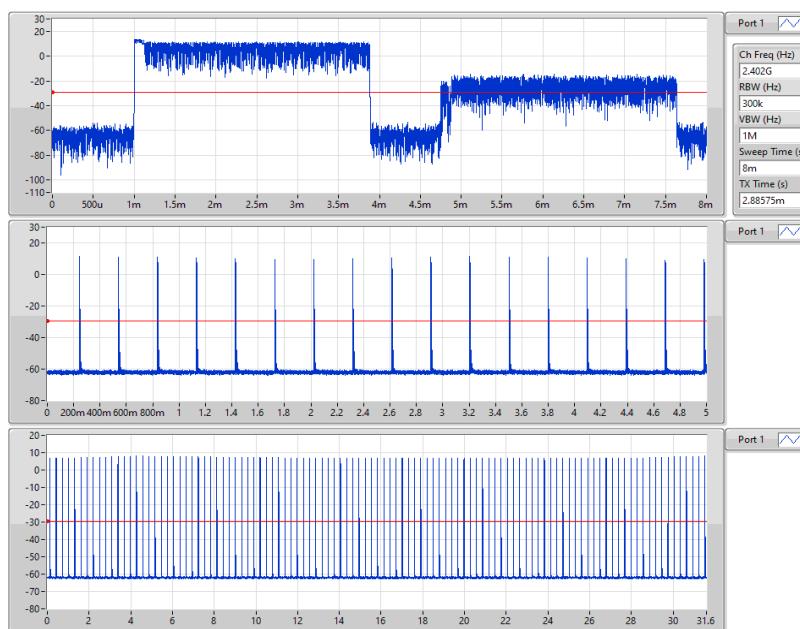
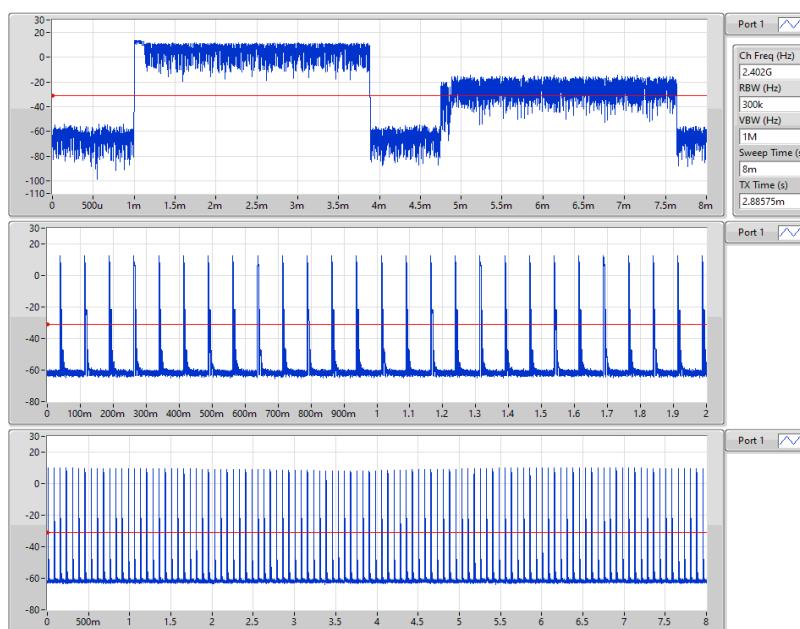
Result/ AFH mode

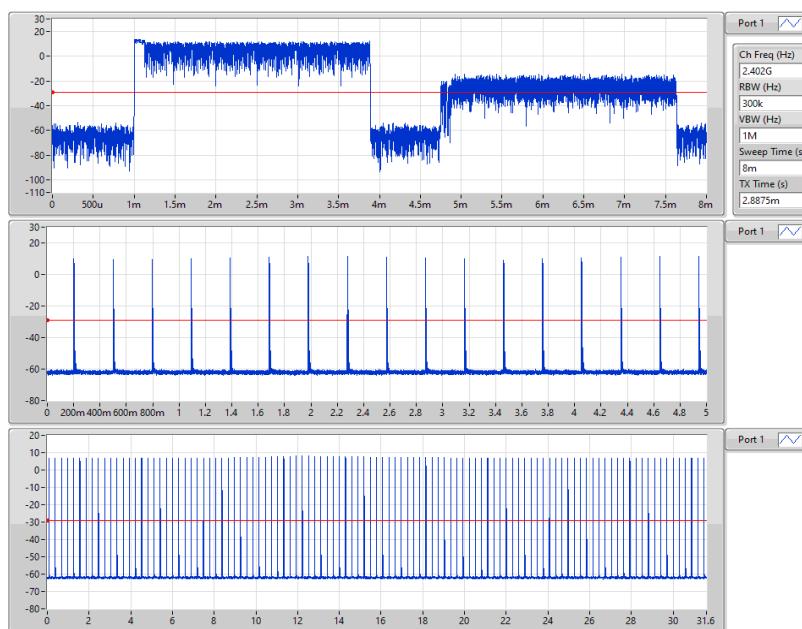
Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (ms)	Number of transmission in a 2 s
BT-BR-AFH(1Mbps)	-	-	-	-	-	-
2402MHz_DH5	PASS	8	0.29999	0.4	2.88450	26
BT-EDR-AFH(2Mbps)	-	-	-	-	-	-
2402MHz_DH5	PASS	8	0.31166	0.4	2.88575	27
BT-EDR-AFH(3Mbps)	-	-	-	-	-	-
2402MHz_DH5	PASS	8	0.30030	0.4	2.88750	26

Note 1: Dwell time =Number of transmission in a 2 second x Tx On Time x 4

Note 2: DH5 was the worst mode.

2.4-2.4835GHz_BT-BR(1Mbps)
Dwell-FS
2402MHz

2.4-2.4835GHz_BT-BR-AFH(1Mbps)
Dwell-FS
2402MHz


2.4-2.4835GHz_BT-EDR(2Mbps)
Dwell-FS
2402MHz

2.4-2.4835GHz_BT-EDR-AFH(2Mbps)
Dwell-FS
2402MHz


2.4-2.4835GHz_BT-EDR(3Mbps)
Dwell-FS
2402MHz

2.4-2.4835GHz_BT-EDR-AFH(3Mbps)
Dwell-FS
2402MHz
