FCC Test Report

FCC ID	:	**IPH-04225**
Equipment	:	**Outdoor Product**
Model No.	:	**A04225**
Brand Name	:	**GARMIN**
Applicant	:	**Garmin International, Inc.**
Address	:	**1200 E. 151st Street Olathe, KS 66062 United States**
Standard	:	**47 CFR FCC Part 15.247**
Received Date	:	**Jun. 25, 2024**
Tested Date	:	**Aug. 22 ~ Sep. 04, 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: **Approved by:**

Along Chen / Assistant Manager **Gary Chang / Manager**

Table of Contents

Release Record

Report No.	Version	Description	Issued Date
FR462501AD	Rev. 01	Initial issue	Sep. 10, 2024

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emission	[dBuV]: 0.150MHz 49.52 (Margin -16.48dB) - QP	Pass
15.247(d) 15.209	Unwanted Emissions	[dBuV/m at 3m]: 148.4MHz 42.42 (Margin -1.08dB) - QP	Pass
15.247(d)	Band Edge	Meet the requirement of limit	Pass
15.247(b)(1)	Conducted Output Power	Power [dBm]: 6.98	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 π/4-DQPSK and 8DPSK.				

1.1.2 Antenna Details

Brand	Model	Type	Connector	Gain (dBi)
Unictron Technologies Corporation	H2U84W1H1S0300	Chip	No	4.36

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from AC adapter 7.2Vdc from battery

1.1.4 Accessories

Accessories		
No.	**Equipment**	**Description**
1	AC adapter	Brand: DELTA ELECTRONICS, INC. Model: ADT-060A12AA I/P: 100-240V~1.4A MAX, 50-60Hz O/P: 12V⎓ 5.0A Power Line: AC 1.18m non-shielded without core DC 1.22m non-shielded with one core
2	Battery	Brand: Garmin Model: 361-00149-00 Rating: 7.2V, 12225mAh

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	Bluetooth Test, version: Rev6 Ver2.13 Bluetooth Simulator, Brand: R&S, Model: CMW270	
Modulation Mode	**Duty Cycle Of Test Signal (%)**	**Duty Factor (dB)**
DH5	74.55%	1.28
2DH5	78.55%	1.05
3DH5	78.80%	1.03

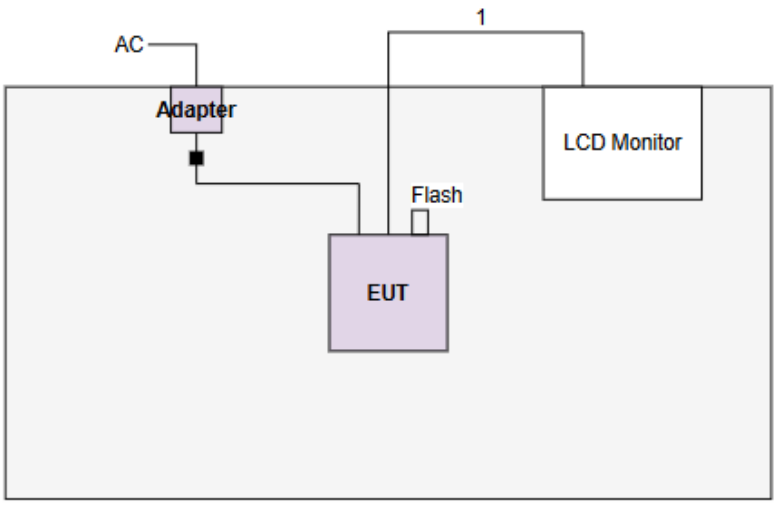
1.1.7 Power Index of Test Tool

Modulation Mode	Test Frequency (MHz)		
	2402	**2441**	**2480**
GFSK/1Mbps	default	default	default
π/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	USB 3.1 Type-C OTG Flash	pqi	Connect 313	---	---
2	LCD Monitor	HP	M24fw	---	---

1.3 Test Setup Chart

Test Setup Diagram


No.	Signal cable / Length (m)
1	HDMI, 2m shielded.

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Aug. 23, 2024				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101658	Feb. 23, 2024	Feb. 22, 2025
LISN	R&S	ENV216	101579	May 09, 2024	May 08, 2025
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127667	Jan. 10, 2024	Jan. 09, 2025
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Oct. 11, 2023	Oct. 10, 2024
50 ohm terminal	NA	50	01	Jun. 19, 2024	Jun. 18, 2025
Measurement Software	AUDIX	e3	6.120210k	NA	NA
Note: Calibration Interval of instruments listed above is one year.					

Test Item	Radiated Emission				
Test Site	966 chamber3 / (03CH03-WS)				
Tested Date	Aug. 22, 2024				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Wireless connectivity tester	R&S	CMW270	100856	Nov. 14, 2023	Nov. 13, 2024
Receiver	R&S	ESR3	101657	Mar. 05, 2024	Mar. 04, 2025
Spectrum Analyzer	R&S	FSV40	101499	Apr. 02, 2024	Apr. 01, 2025
Loop Antenna	R&S	HFH2-Z2	100330	Oct. 31, 2023	Oct. 30, 2024
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-685	Jul. 02, 2024	Jul. 01, 2025
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1206	Dec. 14, 2023	Dec. 13, 2024
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Oct. 30, 2023	Oct. 29, 2024
Preamplifier	EMC	EMC02325	980187	Jun. 27, 2024	Jun. 26, 2025
Preamplifier	EMC	EMC118A45SE	980897	Aug. 05, 2024	Aug. 04, 2025
Preamplifier	EMC	EMC184045SE	980903	Jul. 30, 2024	Jul. 29, 2025
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 03, 2023	Oct. 02, 2024
LF cable-0.8M	EMC	EMC8D-NM-NM-800	EMC8D-NM-NM-800 -001	Sep. 22, 2023	Sep. 21, 2024
LF cable-3M	EMC	EMC8D-NM-NM-3000	131103	Sep. 22, 2023	Sep. 21, 2024
LF cable-13M	EMC	EMC8D-NM-NM-13000	131104	Sep. 22, 2023	Sep. 21, 2024
RF cable-3M	HUBER+SUHNER	SUCOFLEX104	MY22620/4	Sep. 22, 2023	Sep. 21, 2024
RF cable-8M	EMC	EMC104-SM-SM-8000	181107	Sep. 22, 2023	Sep. 21, 2024
Attenuator	Pasternack	PE7005-10	10-3	Sep. 27, 2023	Sep. 26, 2024
HIGHPASS FILTER	WI	WHK3.1-18G-10SS	43	Sep. 27, 2023	Sep. 26, 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.					

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Tested Date	Sep. 04, 2024				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Wireless connectivity tester	R&S	CMW270	100856	Nov. 14, 2023	Nov. 13, 2024
Spectrum Analyzer	R&S	FSV40	101910	Apr. 18, 2024	Apr. 17, 2025
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.					

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
Unwanted Emission ≤ 1GHz	±3.96 dB
Unwanted Emission > 1GHz	±4.51 dB
Time	±0.1%

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	CO01-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.)
Test Site	03CH03-WS
Address of Test Site	No.14-1, Lane 19, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 333, Taiwan (R.O.C.)

- FCC Designation No.: TW0009
- FCC site registration No.: 207696
- ISED#: 10807C
- CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps)	Test Configuration
AC Power line Conducted Emission Radiated Emissions ≤ 1GHz	GFSK	2441	1Mbps	---
Radiated Emissions > 1GHz	GFSK 8DPSK	2402, 2441, 2480 2402, 2441, 2480	1Mbps 3Mbps	---
Conducted Output Power	GFSK π/4 DQPSK 8DPSK	2402, 2441, 2480 2402, 2441, 2480 2402, 2441, 2480	1Mbps 2Mbps 3Mbps	---
Number of Hopping Channels	GFSK π/4 DQPSK 8DPSK	2402~2480 2402~2480 2402~2480	1Mbps 2Mbps 3Mbps	---
Hopping Channel Separation 20dB and Occupied bandwidth	GFSK π/4 DQPSK 8DPSK	2402, 2441, 2480 2402, 2441, 2480 2402, 2441, 2480	1Mbps 2Mbps 3Mbps	---
Dwell Time	GFSK π/4 DQPSK 8DPSK	2402 2402 2402	1Mbps 2Mbps 3Mbps	---

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:

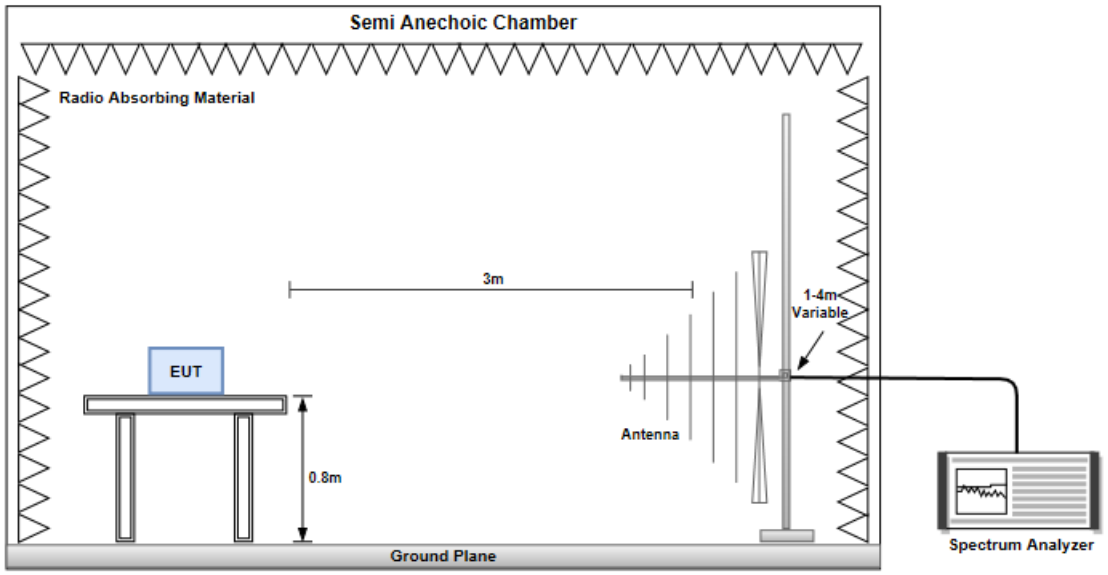
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. Radiated emission above 1GHz / Peak value
   RBW=1MHz, VBW=3MHz and Peak detector
3. Radiated emission above 1GHz / Average value for harmonics
   The average value is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula for DH5 packet type which has worst duty factor:

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

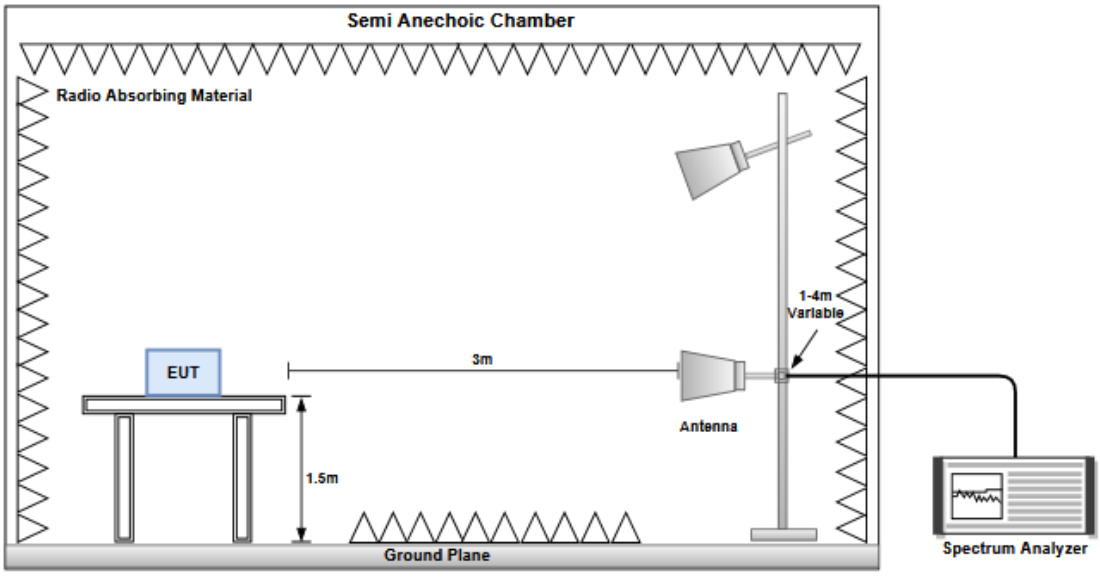
4. Radiated emission above 1GHz / Average value for other emissions
   RBW=1MHz, VBW=1/T and Peak detector

3.1.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.1.4 Test Results

Ambient Condition	25°C / 63%	Tested By	Roger Lu / Akun Chung

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

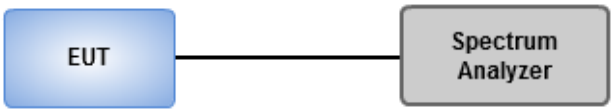
Reference level measurement

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	24°C / 64%	Tested By	Akun Chung

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 senor 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	24°C / 64%	Tested By	Akun Chung

Refer to Appendix C.

3.4 Number of Hopping Frequency

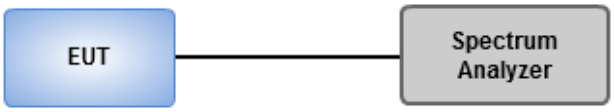
3.4.1 Limit of Number of Hopping Frequency

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	24°C / 64%	**Tested By**	Akun Chung

Refer to Appendix D.

3.5 20dB and Occupied Bandwidth

3.5.1 Test Procedures

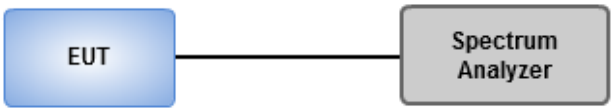
20dB Bandwidth

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	24°C / 64%	**Tested By**	Akun Chung

Refer to Appendix E.

3.6 Channel Separation

3.6.1 Limit of Channel Separation

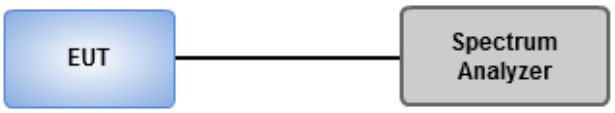
☐ Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

☒ 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	24°C / 64%	Tested By	Akun Chung

Refer to Appendix F.

3.7 Number of Dwell Time

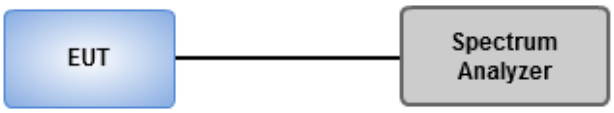
3.7.1 Limit of Dwell time

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	24°C / 64%	**Tested By**	Akun Chung

Refer to Appendix G.

3.8 AC Power Line Conducted Emissions

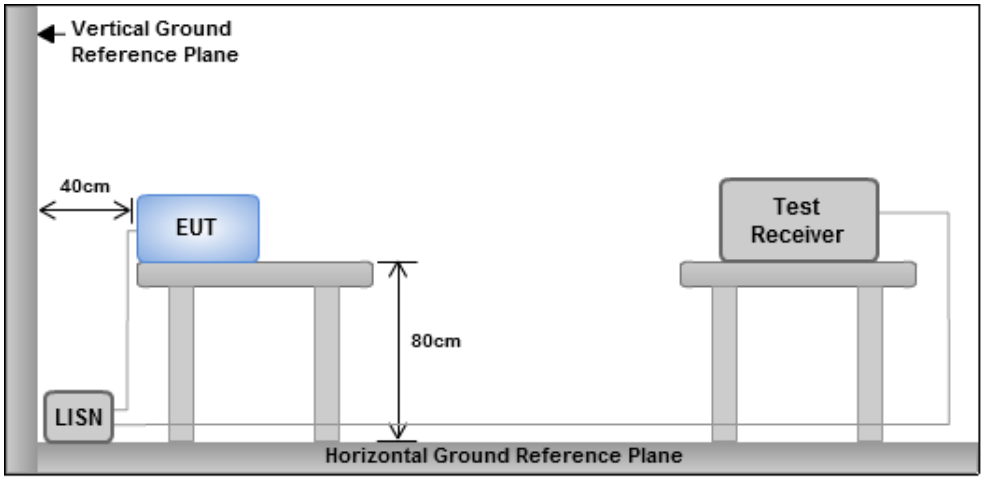
3.8.1 Limit of AC Power Line Conducted Emissions

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 50 Ω LISN port.
3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
4. This measurement was performed with AC 120V/60Hz

3.8.3 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.

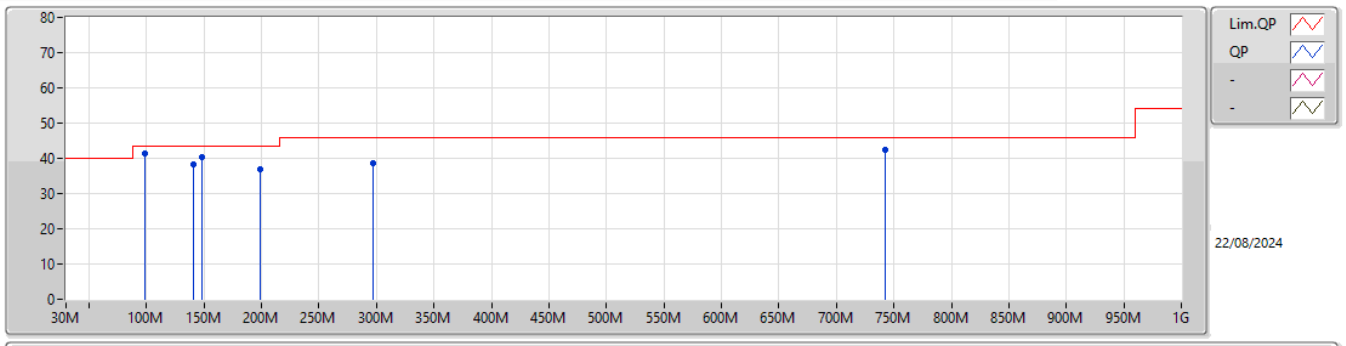
Tel: 886-3-271-8666
Fax: 886-3-318-0345
Email: ICC_Service@icertifi.com.tw

==END==

Summary

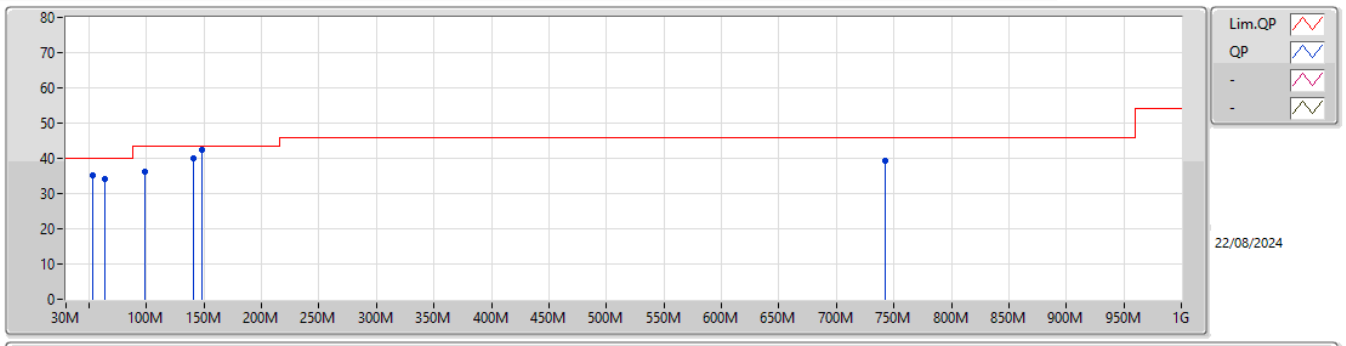
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	QP	148.4M	42.42	43.50	-1.08	Vertical

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
QP	98.9M	41.55	43.50	-1.95	-13.43	3	Horizontal	103	2.01	-	54.98	13.59	1.03	28.05
PK	141M	38.21	43.50	-5.29	-8.97	3	Horizontal	-	-	-	47.18	17.90	1.21	28.08
PK	148.5M	40.30	43.50	-3.20	-8.60	3	Horizontal	-	-	-	48.90	18.25	1.24	28.09
PK	198.5M	36.76	43.50	-6.74	-11.68	3	Horizontal	-	-	-	48.44	15.00	1.45	28.13
PK	297M	38.53	46.00	-7.47	-8.17	3	Horizontal	-	-	-	46.70	18.14	1.89	28.20
PK	742.6M	42.54	46.00	-3.46	2.70	3	Horizontal	-	-	-	39.84	26.45	3.87	27.62

Mode 1



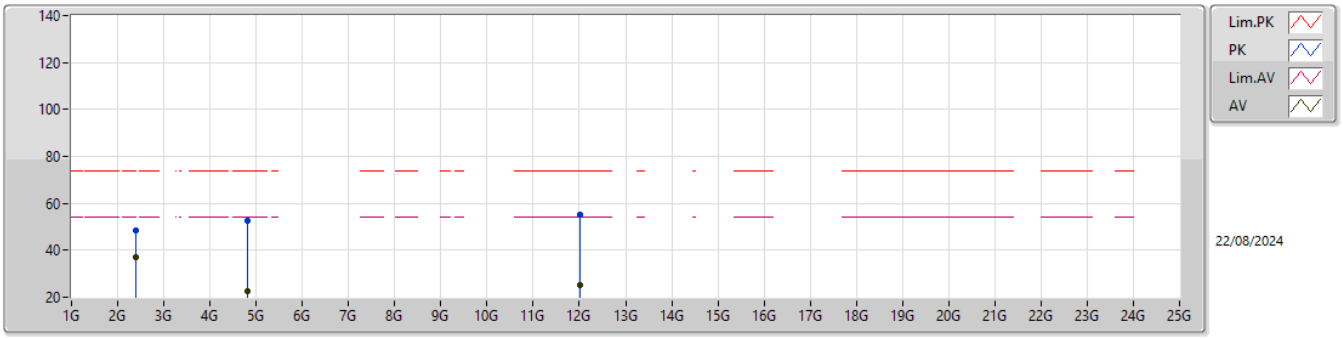
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
QP	63.6M	34.02	40.00	-5.98	-9.78	3	Vertical	134	1.00	-	43.80	17.50	0.77	28.05
QP	141M	39.95	43.50	-3.55	-8.97	3	Vertical	88	1.00	-	48.92	17.90	1.21	28.08
QP	148.4M	42.42	43.50	-1.08	-8.61	3	Vertical	209	1.00	-	51.03	18.24	1.24	28.09
PK	99M	36.36	43.50	-7.14	-13.42	3	Vertical	-	-	-	49.78	13.60	1.03	28.05
PK	742.6M	39.31	46.00	-6.69	2.70	3	Vertical	-	-	-	36.61	26.45	3.87	27.62
PK	53.6M	35.28	40.00	-4.72	-8.61	3	Vertical	-	-	-	43.89	18.74	0.70	28.05

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	2.39G	37.95	54.00	-16.05	3	Vertical	184	1.95	-
BT-EDR(3Mbps)	Pass	AV	2.39G	37.88	54.00	-16.12	3	Vertical	183	2.18	-

2.4-2.4835GHz_BT-BR(1Mbps)

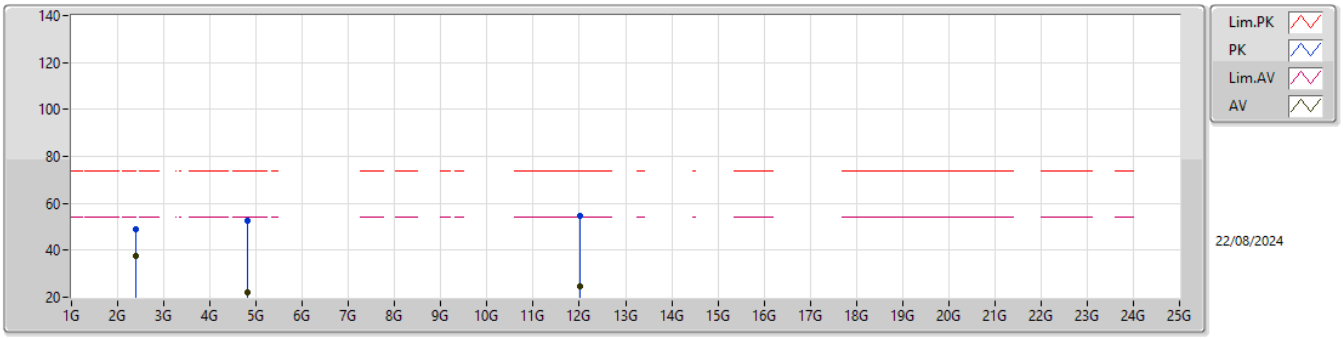
2402MHz_TX



Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB/m)	(dB)	(dB)
AV	2.39G	37.18	54.00	-16.82	40.75	3	Horizontal	151	2.85	-	27.70	5.15	36.42
PK	2.39G	48.62	74.00	-25.38	52.19	3	Horizontal	151	2.85	-	27.70	5.15	36.42
AV	4.804G	22.57	54.00	-31.43	-	3	Horizontal	-	-	-	-	-	-
PK	4.804G	52.67	74.00	-21.33	52.53	3	Horizontal	25	2.55	-	31.51	6.83	38.20
AV	12.01G	24.97	54.00	-29.03	-	3	Horizontal	-	-	-	-	-	-
PK	12.01G	55.07	74.00	-18.93	47.26	3	Horizontal	60	1.00	-	39.22	10.73	42.14

2.4-2.4835GHz_BT-BR(1Mbps)

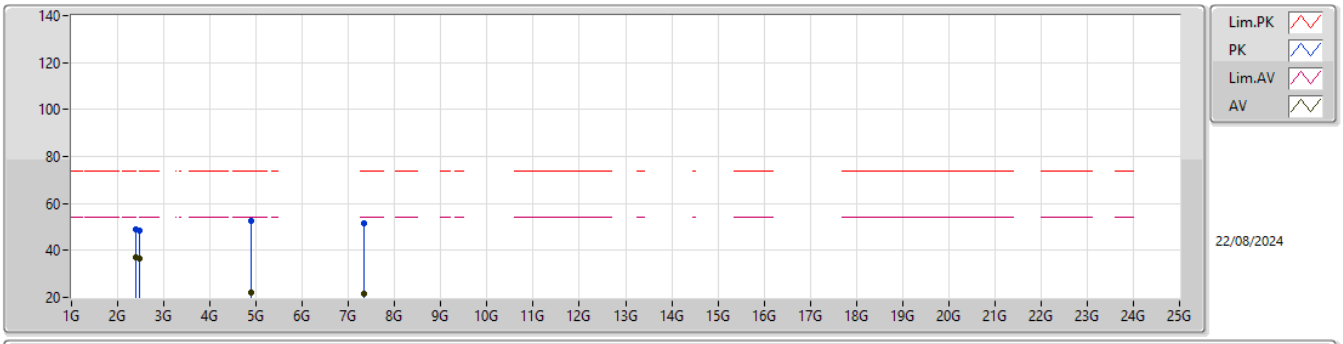
2402MHz_TX



Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB/m)	(dB)	(dB)
AV	2.39G	37.79	54.00	-16.21	41.36	3	Vertical	182	1.93	-	27.70	5.15	36.42
PK	2.39G	48.74	74.00	-25.26	52.31	3	Vertical	182	1.93	-	27.70	5.15	36.42
AV	4.804G	22.30	54.00	-31.70	-	3	Vertical	-	-	-	-	-	-
PK	4.804G	52.40	74.00	-21.60	52.26	3	Vertical	340	3.31	-	31.51	6.83	38.20
AV	12.01G	24.74	54.00	-29.26	-	3	Vertical	-	-	-	-	-	-
PK	12.01G	54.84	74.00	-19.16	47.03	3	Vertical	20	1.00	-	39.22	10.73	42.14

2.4-2.4835GHz_BT-BR(1Mbps)

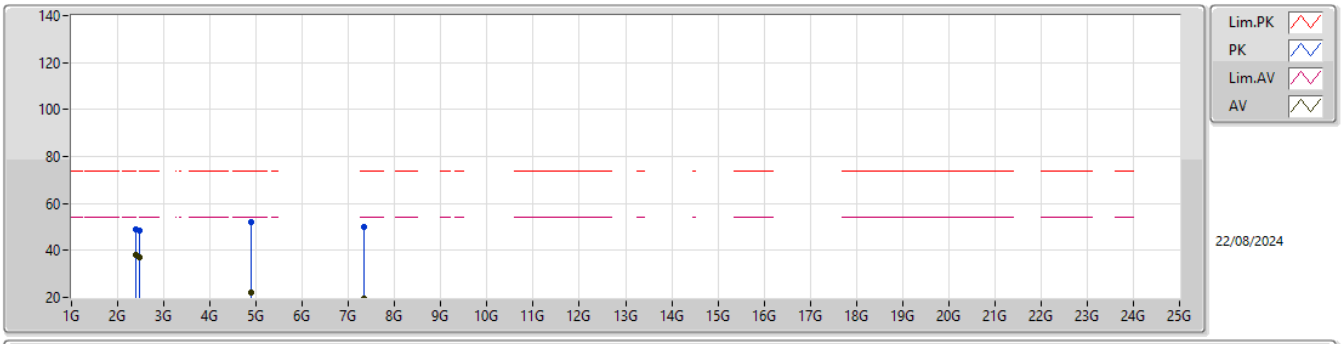
2441MHz_TX



Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB/m)	(dB)	(dB)
AV	2.39G	37.32	54.00	-16.68	40.89	3	Horizontal	148	2.85	-	27.70	5.15	36.42
PK	2.39G	48.74	74.00	-25.26	52.31	3	Horizontal	148	2.85	-	27.70	5.15	36.42
AV	2.4835G	36.69	54.00	-17.31	40.56	3	Horizontal	148	2.85	-	27.46	5.18	36.51
PK	2.4835G	48.49	74.00	-25.51	52.36	3	Horizontal	148	2.85	-	27.46	5.18	36.51
AV	4.882G	22.29	54.00	-31.71	-	3	Horizontal	-	-	-	-	-	-
PK	4.882G	52.39	74.00	-21.61	52.29	3	Horizontal	25	2.81	-	31.47	6.88	38.25
AV	7.323G	21.55	54.00	-32.45	-	3	Horizontal	-	-	-	-	-	-
PK	7.323G	51.65	74.00	-22.35	46.22	3	Horizontal	11	2.18	-	36.40	8.20	39.17

2.4-2.4835GHz_BT-BR(1Mbps)

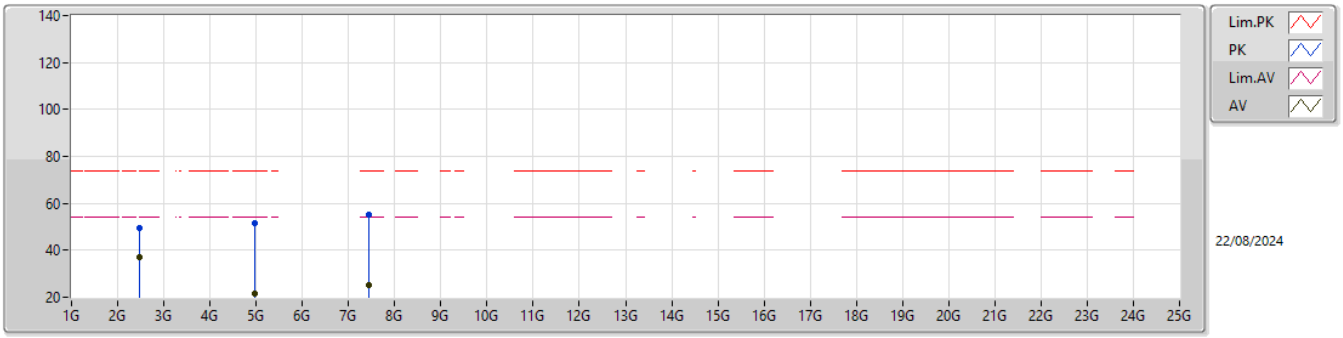
2441MHz_TX



Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB/m)	(dB)	(dB)
AV	2.39G	37.95	54.00	-16.05	41.52	3	Vertical	184	1.95	-	27.70	5.15	36.42
PK	2.39G	48.89	74.00	-25.11	52.46	3	Vertical	184	1.95	-	27.70	5.15	36.42
AV	2.4835G	36.92	54.00	-17.08	40.79	3	Vertical	184	1.95	-	27.46	5.18	36.51
PK	2.4835G	48.68	74.00	-25.32	52.55	3	Vertical	184	1.95	-	27.46	5.18	36.51
AV	4.882G	21.97	54.00	-32.03	-	3	Vertical	-	-	-	-	-	-
PK	4.882G	52.07	74.00	-21.93	51.97	3	Vertical	342	3.35	-	31.47	6.88	38.25
AV	7.323G	19.67	54.00	-34.33	-	3	Vertical	-	-	-	-	-	-
PK	7.323G	49.77	74.00	-24.23	44.34	3	Vertical	345	3.41	-	36.40	8.20	39.17

2.4-2.4835GHz_BT-BR(1Mbps)

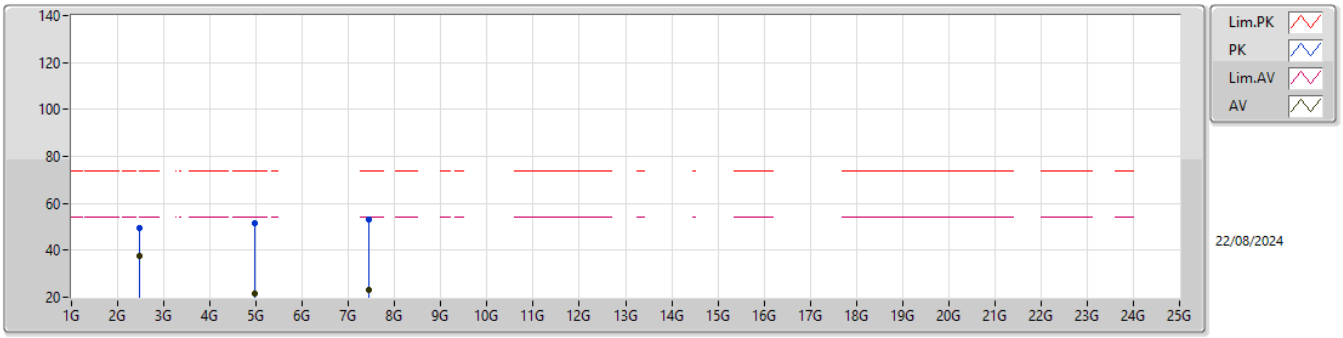
2480MHz_TX



Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB/m)	(dB)	(dB)
AV	2.4835G	37.08	54.00	-16.92	40.95	3	Horizontal	146	2.83	-	27.46	5.18	36.51
PK	2.4835G	49.39	74.00	-24.61	53.26	3	Horizontal	146	2.83	-	27.46	5.18	36.51
AV	4.96G	21.66	54.00	-32.34	-	3	Horizontal	-	-	-	-	-	-
PK	4.96G	51.76	74.00	-22.24	51.60	3	Horizontal	28	2.57	-	31.54	6.92	38.30
AV	7.44G	25.08	54.00	-28.92	-	3	Horizontal	-	-	-	-	-	-
PK	7.44G	55.18	74.00	-18.82	49.82	3	Horizontal	11	2.16	-	36.40	8.26	39.30

2.4-2.4835GHz_BT-BR(1Mbps)

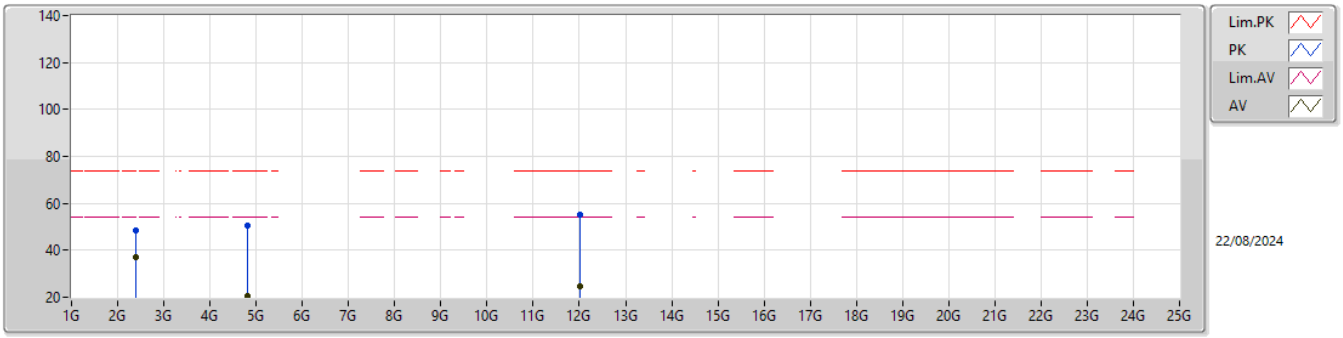
2480MHz_TX



Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB/m)	(dB)	(dB)
AV	2.4835G	37.65	54.00	-16.35	41.52	3	Vertical	183	2.16	-	27.46	5.18	36.51
PK	2.4835G	49.66	74.00	-24.34	53.53	3	Vertical	183	2.16	-	27.46	5.18	36.51
AV	4.96G	21.39	54.00	-32.61	-	3	Vertical	-	-	-	-	-	-
PK	4.96G	51.49	74.00	-22.51	51.33	3	Vertical	341	3.31	-	31.54	6.92	38.30
AV	7.44G	22.92	54.00	-31.08	-	3	Vertical	-	-	-	-	-	-
PK	7.44G	53.02	74.00	-20.98	47.66	3	Vertical	345	3.28	-	36.40	8.26	39.30

2.4-2.4835GHz_BT-EDR(3Mbps)

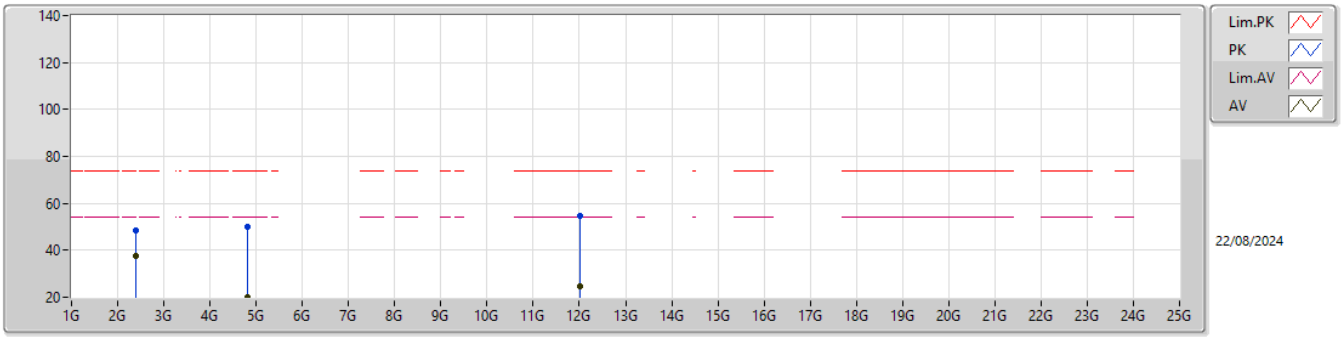
2402MHz_TX



Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB/m)	(dB)	(dB)
AV	2.39G	37.01	54.00	-16.99	40.58	3	Horizontal	150	2.84	-	27.70	5.15	36.42
PK	2.39G	48.56	74.00	-25.44	52.13	3	Horizontal	150	2.84	-	27.70	5.15	36.42
AV	4.804G	20.46	54.00	-33.54	-	3	Horizontal	-	-	-	-	-	-
PK	4.804G	50.56	74.00	-23.44	50.42	3	Horizontal	22	2.62	-	31.51	6.83	38.20
AV	12.01G	24.84	54.00	-29.16	-	3	Horizontal	-	-	-	-	-	-
PK	12.01G	54.94	74.00	-19.06	47.13	3	Horizontal	55	1.00	-	39.22	10.73	42.14

2.4-2.4835GHz_BT-EDR(3Mbps)

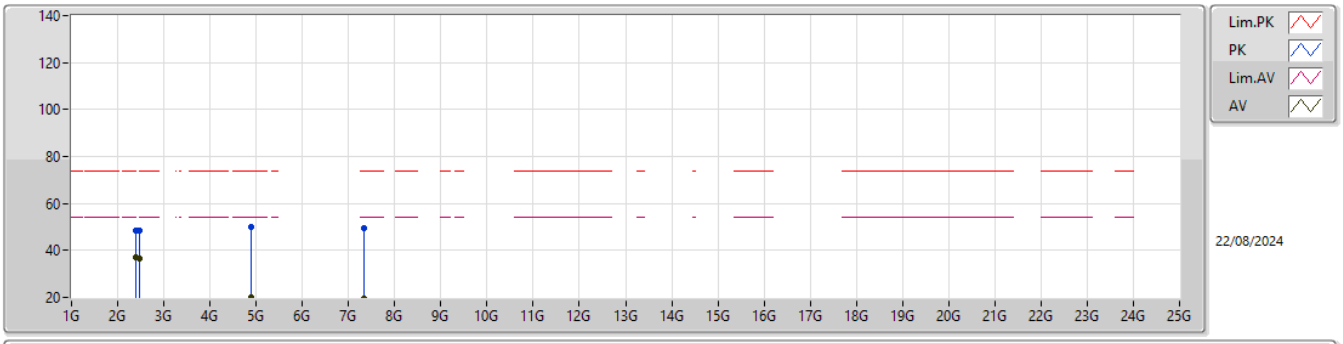
2402MHz_TX



Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB/m)	(dB)	(dB)
AV	2.39G	37.55	54.00	-16.45	41.12	3	Vertical	183	1.89	-	27.70	5.15	36.42
PK	2.39G	48.61	74.00	-25.39	52.18	3	Vertical	183	1.89	-	27.70	5.15	36.42
AV	4.804G	20.07	54.00	-33.93	-	3	Vertical	-	-	-	-	-	-
PK	4.804G	50.17	74.00	-23.83	50.03	3	Vertical	341	3.25	-	31.51	6.83	38.20
AV	12.01G	24.60	54.00	-29.40	-	3	Vertical	-	-	-	-	-	-
PK	12.01G	54.70	74.00	-19.30	46.89	3	Vertical	18	1.00	-	39.22	10.73	42.14

2.4-2.4835GHz_BT-EDR(3Mbps)

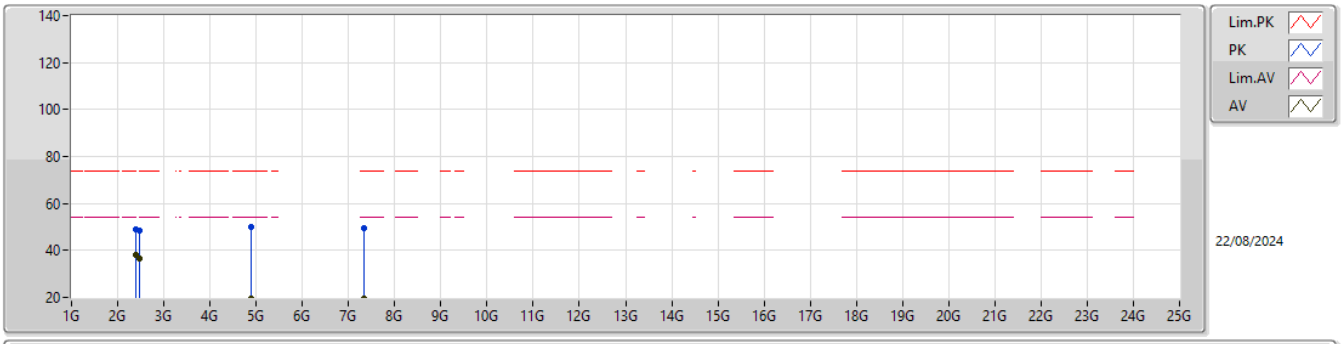
2441MHz_TX



Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB/m)	(dB)	(dB)
AV	2.39G	37.22	54.00	-16.78	40.79	3	Horizontal	149	2.88	-	27.70	5.15	36.42
PK	2.39G	48.58	74.00	-25.42	52.15	3	Horizontal	149	2.88	-	27.70	5.15	36.42
AV	2.4835G	36.59	54.00	-17.41	40.46	3	Horizontal	149	2.88	-	27.46	5.18	36.51
PK	2.4835G	48.32	74.00	-25.68	52.19	3	Horizontal	149	2.88	-	27.46	5.18	36.51
AV	4.882G	19.97	54.00	-34.03	-	3	Horizontal	-	-	-	-	-	-
PK	4.882G	50.07	74.00	-23.93	49.97	3	Horizontal	25	2.77	-	31.47	6.88	38.25
AV	7.323G	19.43	54.00	-34.57	-	3	Horizontal	-	-	-	-	-	-
PK	7.323G	49.53	74.00	-24.47	44.10	3	Horizontal	15	1.00	-	36.40	8.20	39.17

2.4-2.4835GHz_BT-EDR(3Mbps)

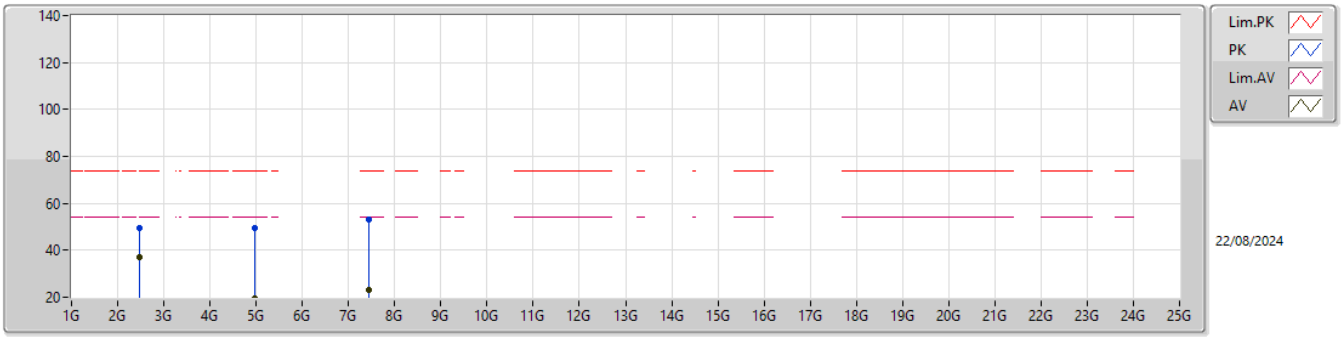
2441MHz_TX



Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB/m)	(dB)	(dB)
AV	2.39G	37.88	54.00	-16.12	41.45	3	Vertical	183	2.18	-	27.70	5.15	36.42
PK	2.39G	48.74	74.00	-25.26	52.31	3	Vertical	183	2.18	-	27.70	5.15	36.42
AV	2.4835G	36.72	54.00	-17.28	40.59	3	Vertical	183	2.18	-	27.46	5.18	36.51
PK	2.4835G	48.44	74.00	-25.56	52.31	3	Vertical	183	2.18	-	27.46	5.18	36.51
AV	4.882G	19.65	54.00	-34.35	-	3	Vertical	-	-	-	-	-	-
PK	4.882G	49.75	74.00	-24.25	49.65	3	Vertical	345	3.32	-	31.47	6.88	38.25
AV	7.323G	19.34	54.00	-34.66	-	3	Vertical	-	-	-	-	-	-
PK	7.323G	49.44	74.00	-24.56	44.01	3	Vertical	347	1.00	-	36.40	8.20	39.17

2.4-2.4835GHz_BT-EDR(3Mbps)

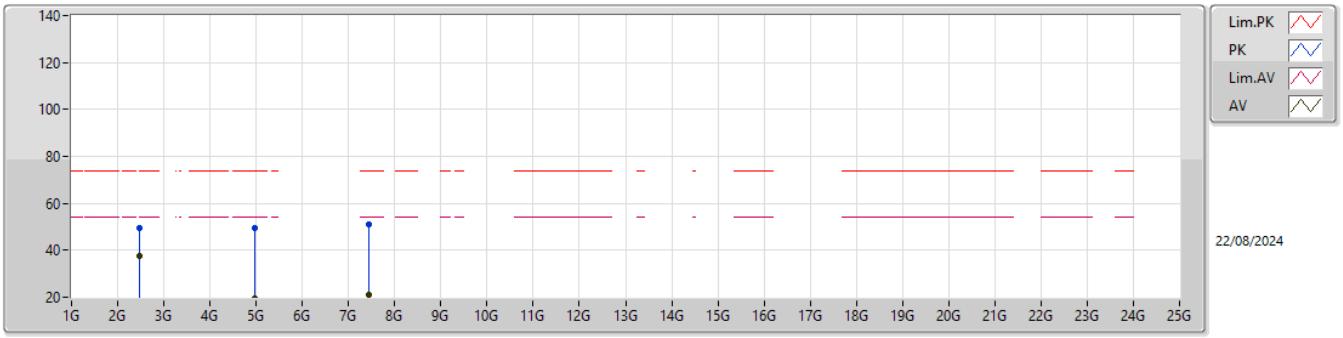
2480MHz_TX



Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB/m)	(dB)	(dB)
AV	2.4835G	36.91	54.00	-17.09	40.78	3	Horizontal	148	2.83	-	27.46	5.18	36.51
PK	2.4835G	49.26	74.00	-24.74	53.13	3	Horizontal	148	2.83	-	27.46	5.18	36.51
AV	4.96G	19.61	54.00	-34.39	-	3	Horizontal	-	-	-	-	-	-
PK	4.96G	49.71	74.00	-24.29	49.55	3	Horizontal	29	2.61	-	31.54	6.92	38.30
AV	7.44G	22.92	54.00	-31.08	-	3	Horizontal	-	-	-	-	-	-
PK	7.44G	53.02	74.00	-20.98	47.66	3	Horizontal	13	2.18	-	36.40	8.26	39.30

2.4-2.4835GHz_BT-EDR(3Mbps)

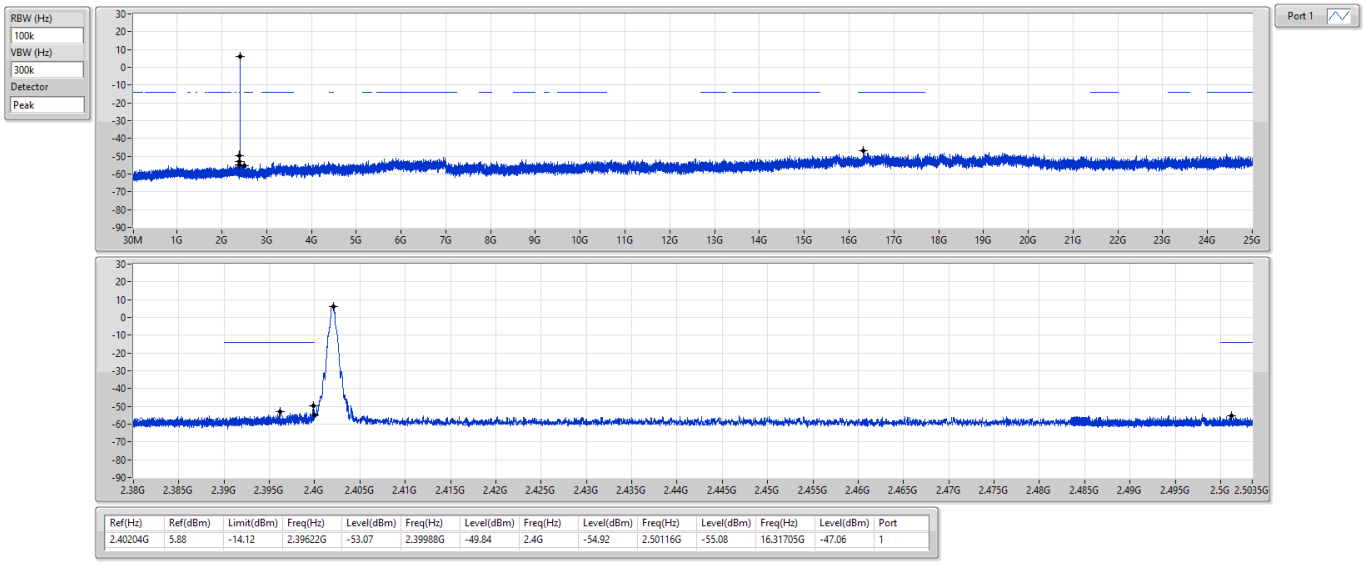
2480MHz_TX



Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB/m)	(dB)	(dB)
AV	2.4835G	37.56	54.00	-16.44	41.43	3	Vertical	185	2.16	-	27.46	5.18	36.51
PK	2.4835G	49.41	74.00	-24.59	53.28	3	Vertical	185	2.16	-	27.46	5.18	36.51
AV	4.96G	19.48	54.00	-34.52	-	3	Vertical	-	-	-	-	-	-
PK	4.96G	49.58	74.00	-24.42	49.42	3	Vertical	342	3.26	-	31.54	6.92	38.30
AV	7.44G	20.85	54.00	-33.15	-	3	Vertical	-	-	-	-	-	-
PK	7.44G	50.95	74.00	-23.05	45.59	3	Vertical	343	3.24	-	36.40	8.26	39.30

2.4-2.4835GHz_BT-BR(1Mbps) **CSENdB-FS**

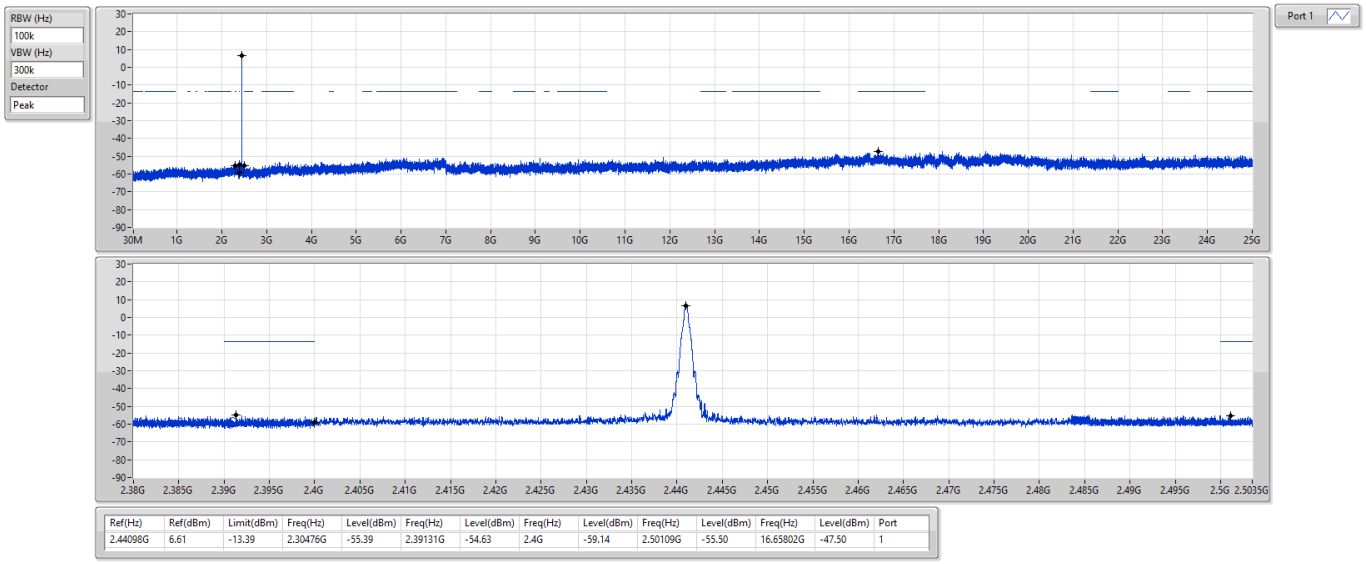
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40204G	5.88	-14.12	2.39622G	-53.07	2.39988G	-49.84	2.4G	-54.92	2.50116G	-55.08	16.31705G	-47.06	1

2.4-2.4835GHz_BT-BR(1Mbps) **CSENdB-FS**

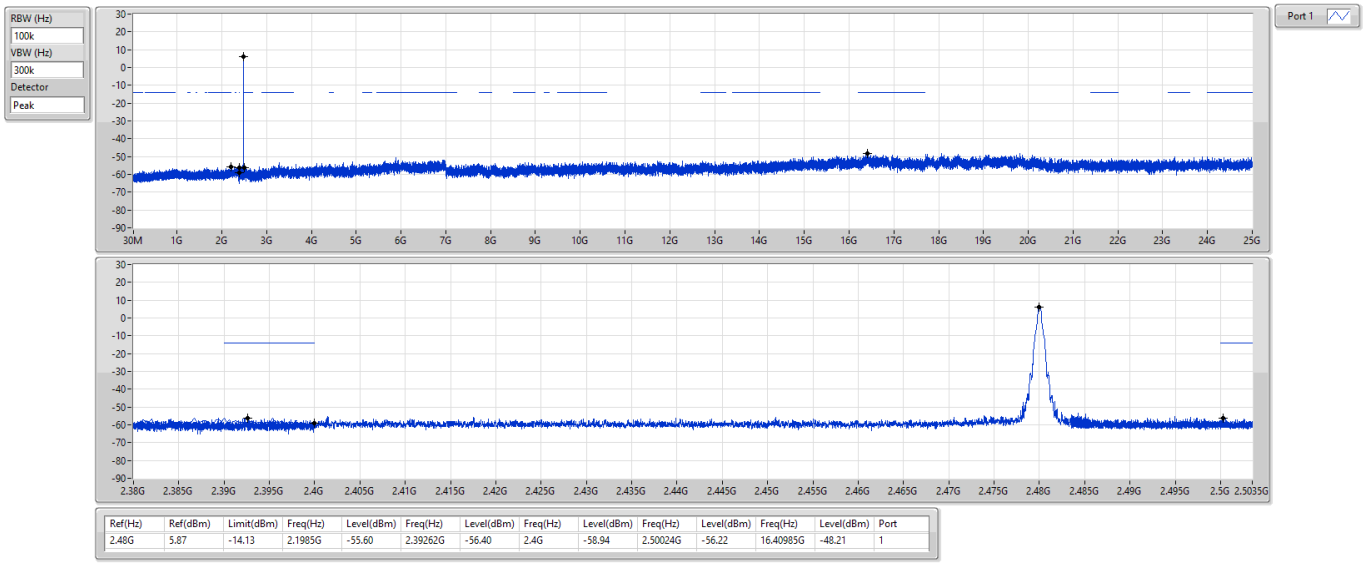
2441MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44098G	6.61	-13.39	2.30476G	-55.39	2.39131G	-54.63	2.4G	-59.14	2.50109G	-55.50	16.65802G	-47.50	1

2.4-2.4835GHz_BT-BR(1Mbps) **CSENdB-FS**

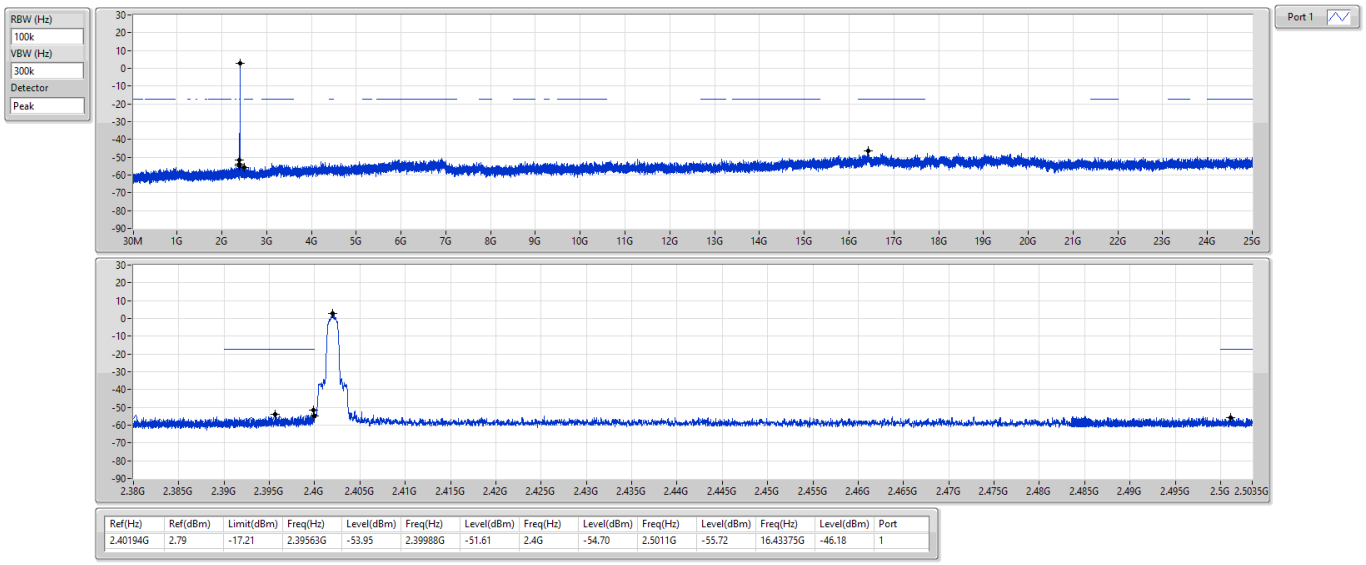
2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48G	5.87	-14.13	2.1985G	-55.60	2.39262G	-56.40	2.4G	-58.94	2.50024G	-56.22	16.40985G	-48.21	1

2.4-2.4835GHz_BT-EDR(2Mbps) **CSENdB-FS**

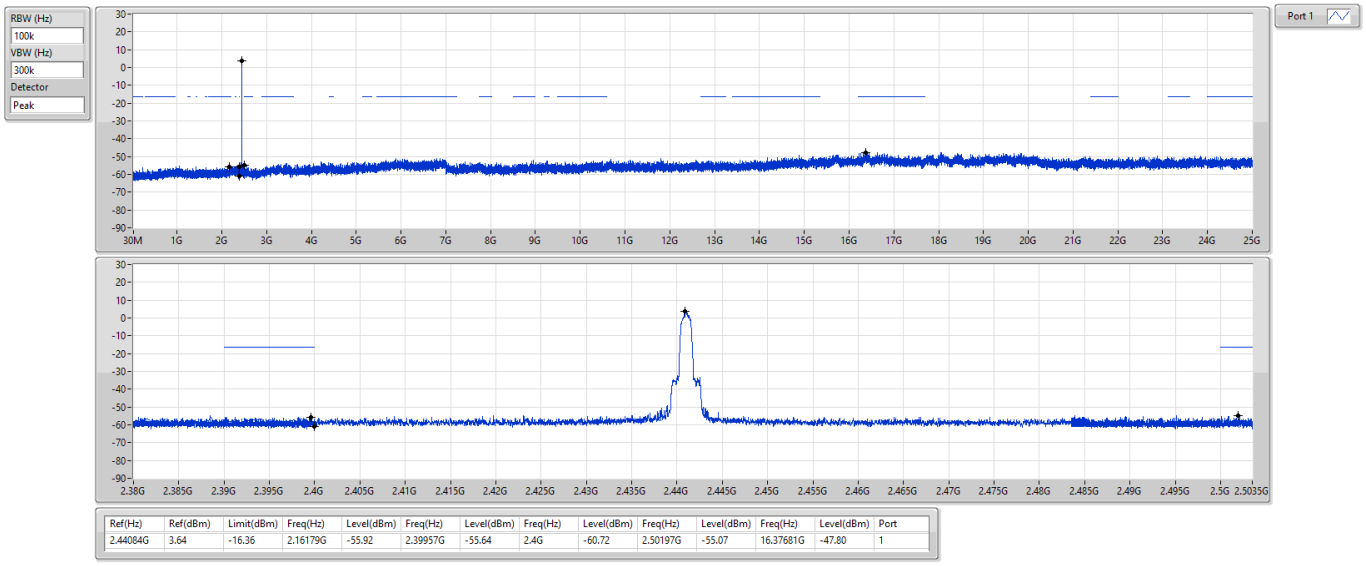
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40194G	2.79	-17.21	2.39563G	-53.95	2.39988G	-51.61	2.4G	-54.70	2.5011G	-55.72	16.43375G	-46.18	1

2.4-2.4835GHz_BT-EDR(2Mbps) CSENdB-FS

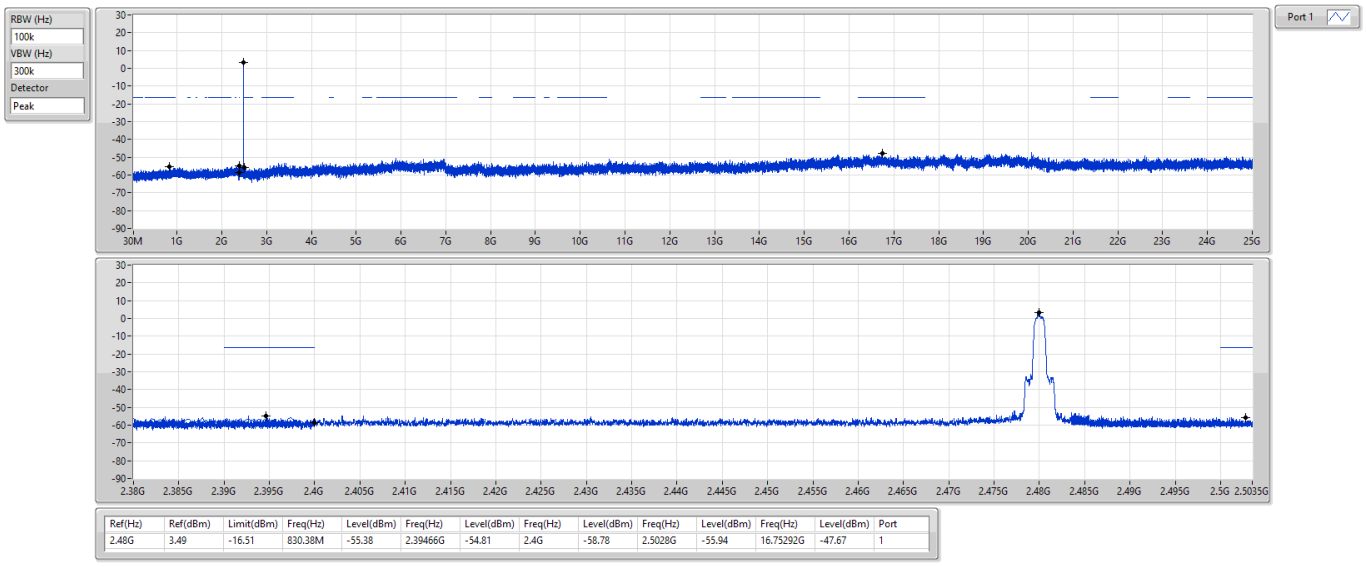
2441MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44084G	3.64	-16.36	2.16179G	-55.92	2.39957G	-55.64	2.4G	-60.72	2.50197G	-55.07	16.37681G	-47.80	1

2.4-2.4835GHz_BT-EDR(2Mbps) CSENdB-FS

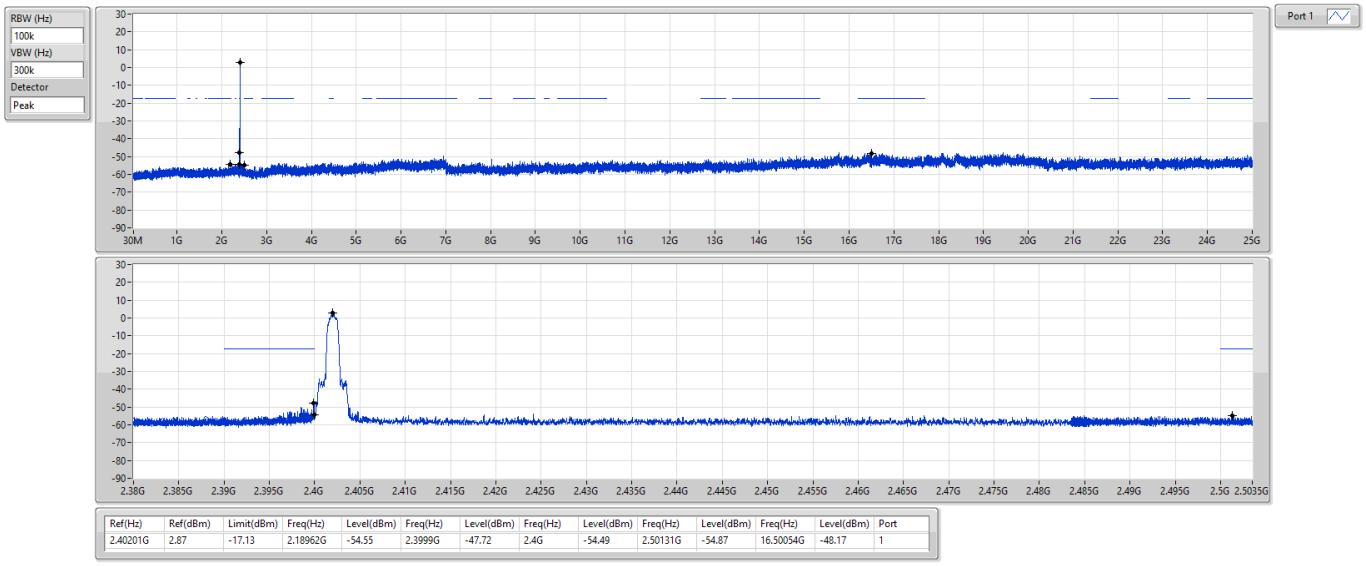
2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48G	3.49	-16.51	830.38M	-55.38	2.39466G	-54.81	2.4G	-58.78	2.5028G	-55.94	16.75292G	-47.67	1

2.4-2.4835GHz_BT-EDR(3Mbps) **CSENdB-FS**

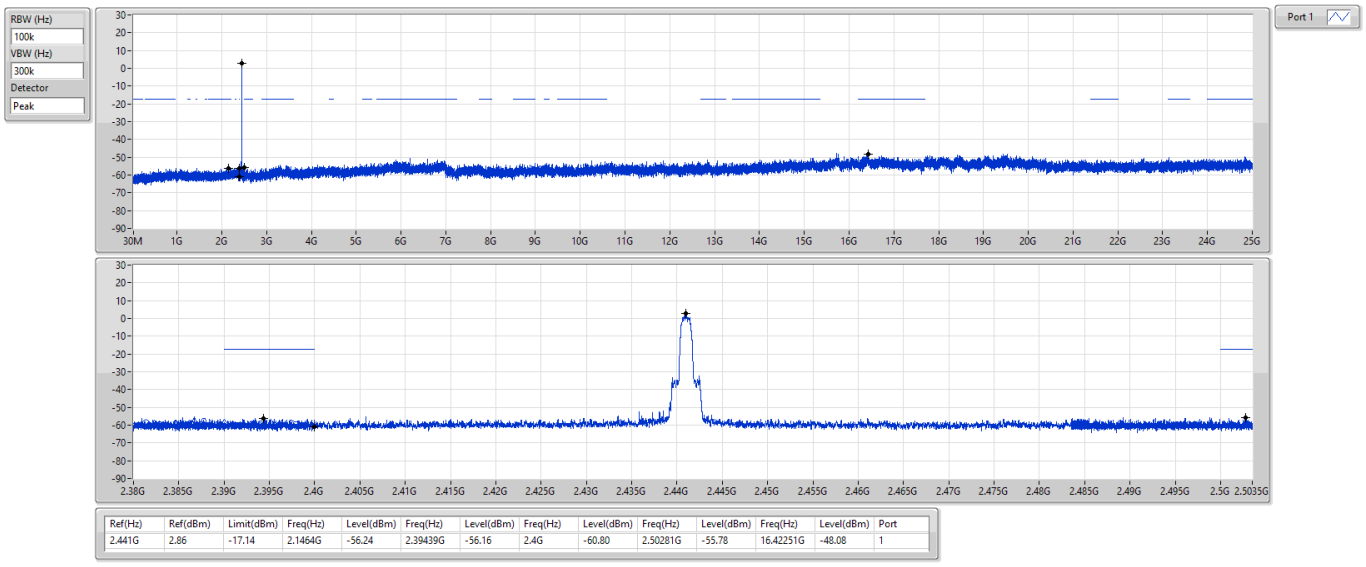
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40201G	2.87	-17.13	2.18962G	-54.55	2.3999G	-47.72	2.4G	-54.49	2.50131G	-54.87	16.50054G	-48.17	1

2.4-2.4835GHz_BT-EDR(3Mbps) **CSENdB-FS**

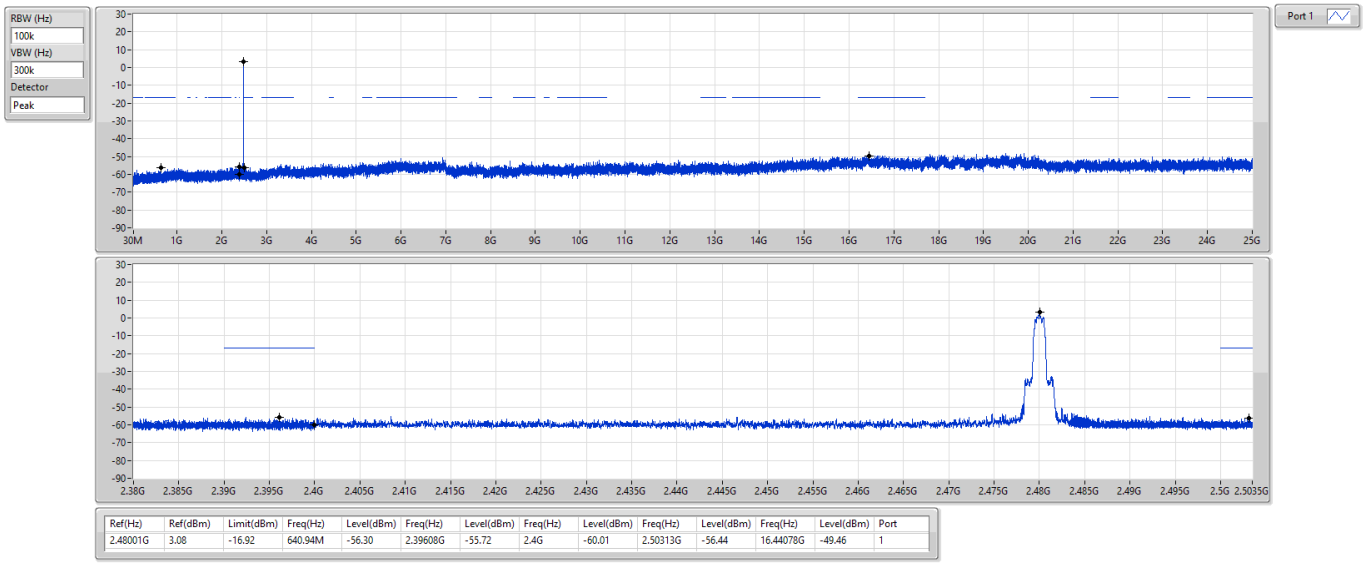
2441MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.441G	2.86	-17.14	2.1464G	-56.24	2.39439G	-56.16	2.4G	-60.80	2.50281G	-55.78	16.42251G	-48.08	1

2.4-2.4835GHz_BT-EDR(3Mbps) **CSENdB-FS**

2480MHz

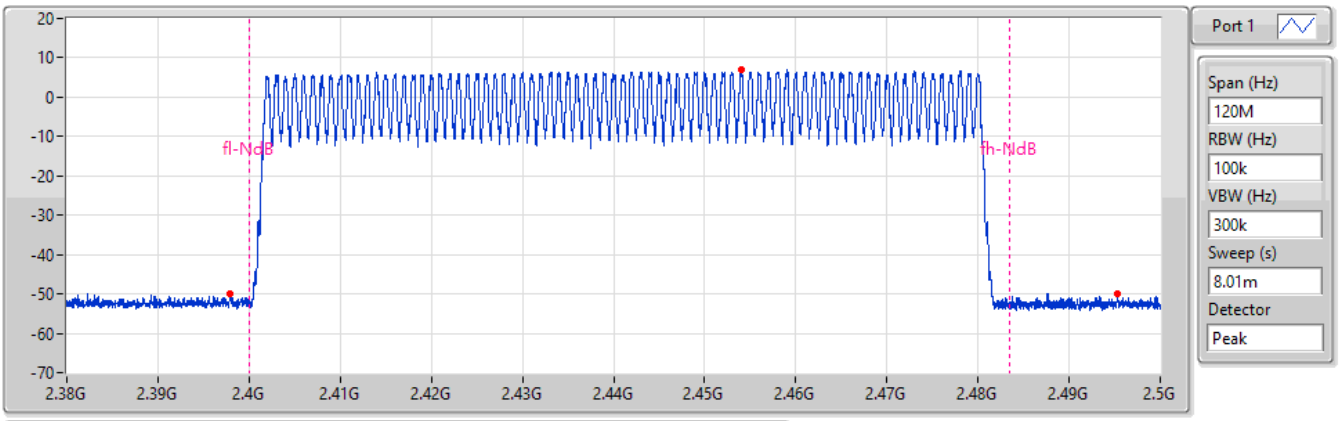


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48001G	3.08	-16.92	640.94M	-56.30	2.39608G	-55.72	2.4G	-60.01	2.50313G	-56.44	16.44078G	-49.46	1

2.4-2.4835GHz_BT-BR(1Mbps)

2402MHz

Hopping Ch Bandedge (Non-restricted Band)

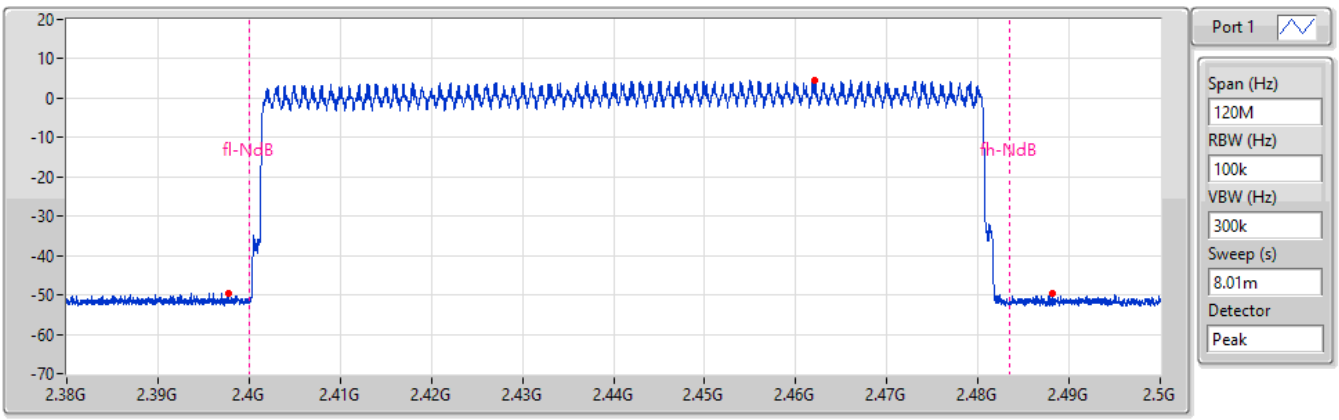


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-13.1	2.45401G	6.9	2.39788G	-49.96	2.495275G	-49.97

2.4-2.4835GHz_BT-EDR(2Mbps)

2402MHz

Hopping Ch Bandedge (Non-restricted Band)

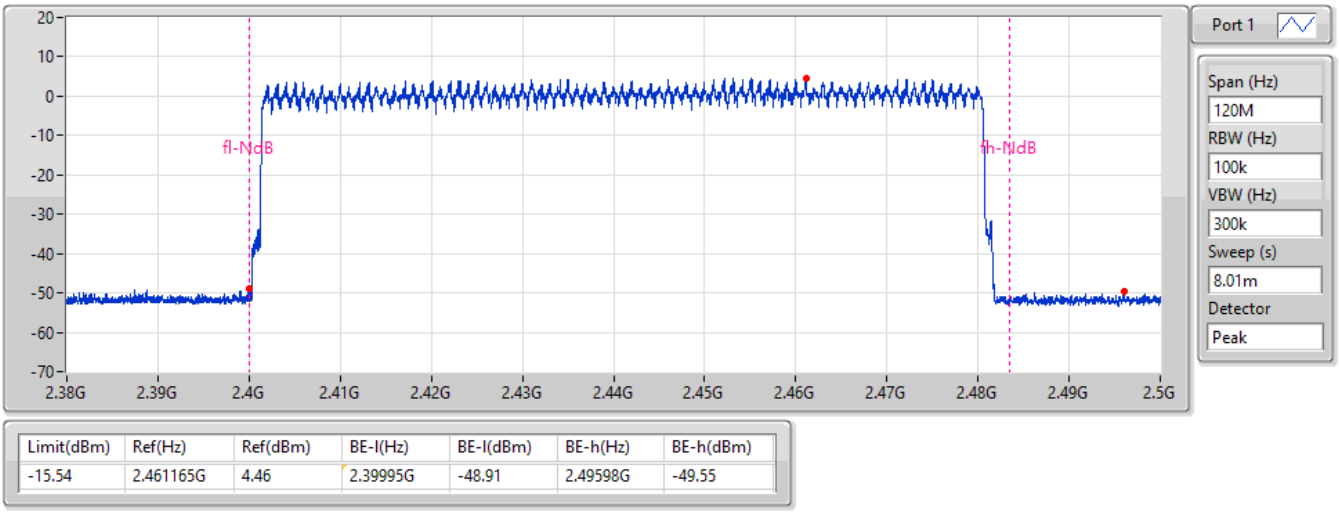


Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-15.61	2.462005G	4.39	2.3977G	-49.53	2.48821G	-49.78

2.4-2.4835GHz_BT-EDR(3Mbps)

2402MHz

Hopping Ch Bandedge (Non-restricted Band)



Limit(dBm)	Ref(Hz)	Ref(dBm)	BE-l(Hz)	BE-l(dBm)	BE-h(Hz)	BE-h(dBm)
-15.54	2.461165G	4.46	2.39995G	-48.91	2.49598G	-49.55

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	6.98	0.00499
BT-EDR(2Mbps)	6.14	0.00411
BT-EDR(3Mbps)	6.44	0.00441

Result

Mode	Result	Antenna Gain (dBi)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
BT-BR(1Mbps)	-	-	-	-	-	-
2402MHz	Pass	4.36	6.77	21.00	11.13	27.00
2441MHz	Pass	4.36	6.98	21.00	11.34	27.00
2480MHz	Pass	4.36	6.79	21.00	11.15	27.00
BT-EDR(2Mbps)	-	-	-	-	-	-
2402MHz	Pass	4.36	5.88	21.00	10.24	27.00
2441MHz	Pass	4.36	6.14	21.00	10.50	27.00
2480MHz	Pass	4.36	6.02	21.00	10.38	27.00
BT-EDR(3Mbps)	-	-	-	-	-	-
2402MHz	Pass	4.36	6.21	21.00	10.57	27.00
2441MHz	Pass	4.36	6.44	21.00	10.80	27.00
2480MHz	Pass	4.36	6.32	21.00	10.68	27.00

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	6.87	0.00486
BT-EDR(2Mbps)	3.78	0.00239
BT-EDR(3Mbps)	3.79	0.00239

Result

Mode	Result	Antenna Gain (dBi)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
BT-BR(1Mbps)	-	-	-	-	-	-
2402MHz	Pass	4.36	6.66	-	11.02	-
2441MHz	Pass	4.36	6.87	-	11.23	-
2480MHz	Pass	4.36	6.70	-	11.06	-
BT-EDR(2Mbps)	-	-	-	-	-	-
2402MHz	Pass	4.36	3.43	-	7.79	-
2441MHz	Pass	4.36	3.78	-	8.14	-
2480MHz	Pass	4.36	3.75	-	8.11	-
BT-EDR(3Mbps)	-	-	-	-	-	-
2402MHz	Pass	4.36	3.44	-	7.80	-
2441MHz	Pass	4.36	3.79	-	8.15	-
2480MHz	Pass	4.36	3.77	-	8.13	-

Note: Average power is for reference only

Summary

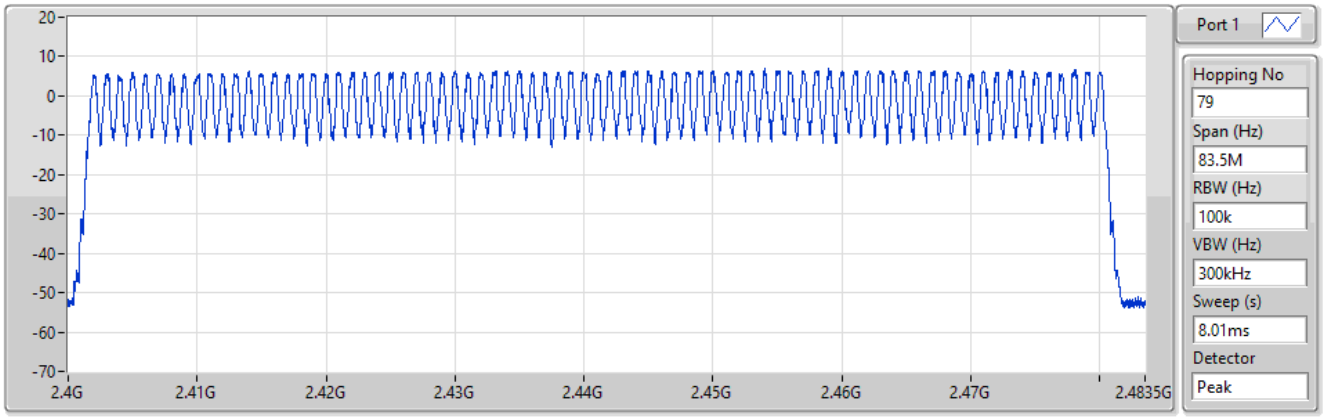
Mode 2.4-2.4835GHz	Max-Hop No -
BT-BR(1Mbps)	79
BT-EDR(2Mbps)	79
BT-EDR(3Mbps)	79

Result

Mode BT-BR(1Mbps)	Result -	Hopping No -	Limit -
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**

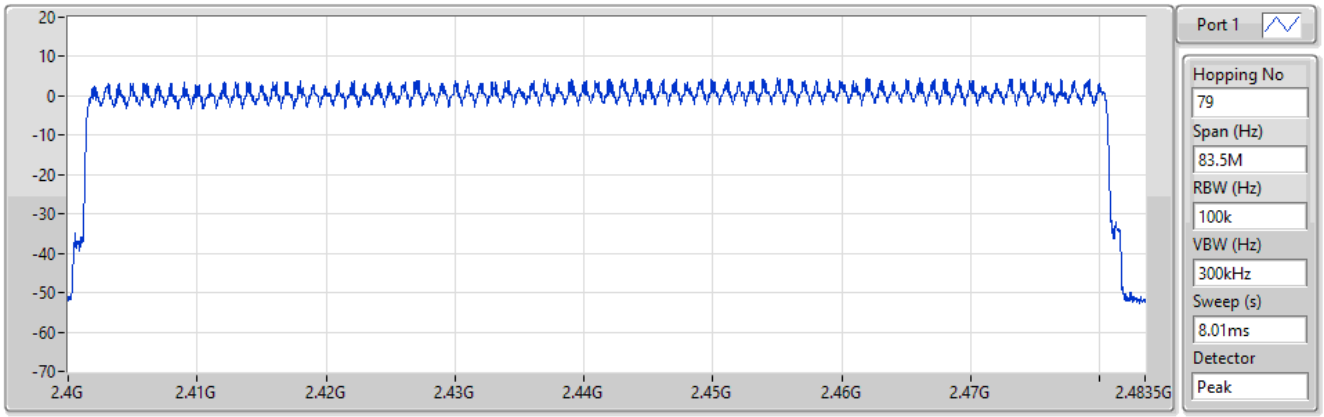
2402MHz



Hopping No	Limit
79	15

2.4-2.4835GHz_BT-EDR(2Mbps) **Hopping-FS**

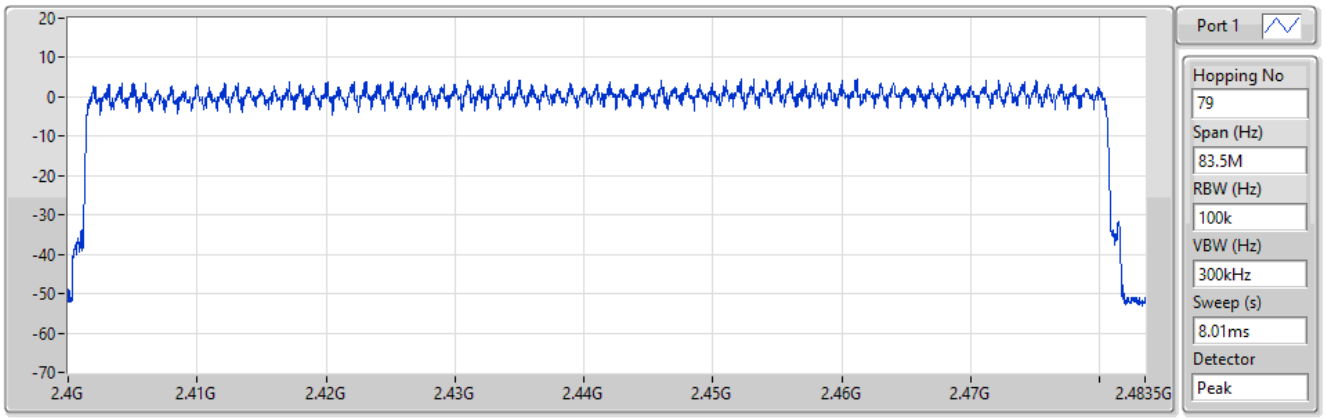
2402MHz



Hopping No	Limit
79	15

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

2402MHz



Hopping No	Limit
79	15

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)	921.25k	892.054k	892KF1D	921.25k	889.555k
BT-EDR(2Mbps)	1.315M	1.182M	1M18G1D	1.315M	1.178M
BT-EDR(3Mbps)	1.287M	1.186M	1M19G1D	1.282M	1.182M

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

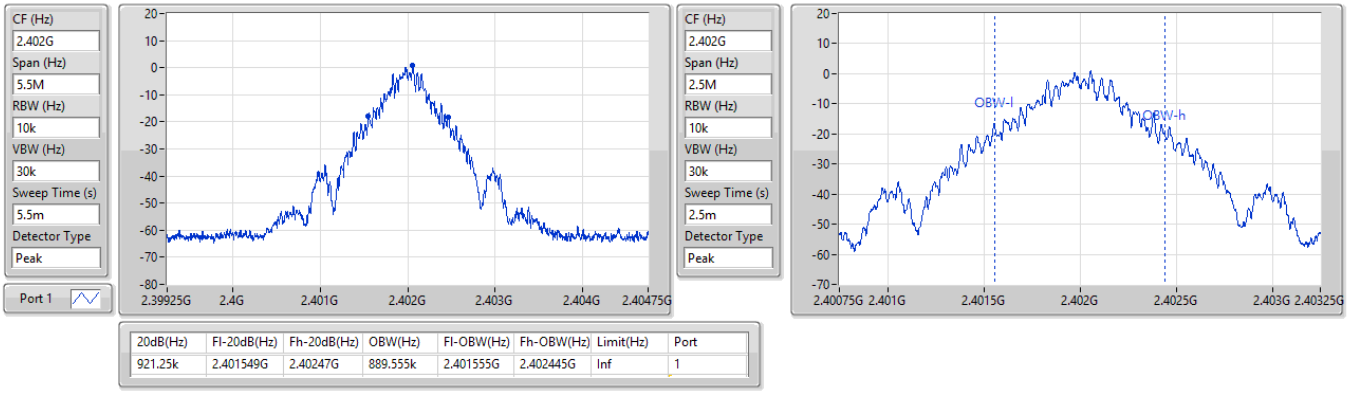
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-BR(1Mbps)	-	-	-	-
2402MHz	Pass	Inf	921.25k	889.555k
2441MHz	Pass	Inf	921.25k	890.805k
2480MHz	Pass	Inf	921.25k	892.054k
BT-EDR(2Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.315M	1.178M
2441MHz	Pass	Inf	1.315M	1.182M
2480MHz	Pass	Inf	1.315M	1.178M
BT-EDR(3Mbps)	-	-	-	-
2402MHz	Pass	Inf	1.287M	1.182M
2441MHz	Pass	Inf	1.282M	1.182M
2480MHz	Pass	Inf	1.284M	1.186M

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

2.4-2.4835GHz_BT-BR(1Mbps) **EBW-FS**

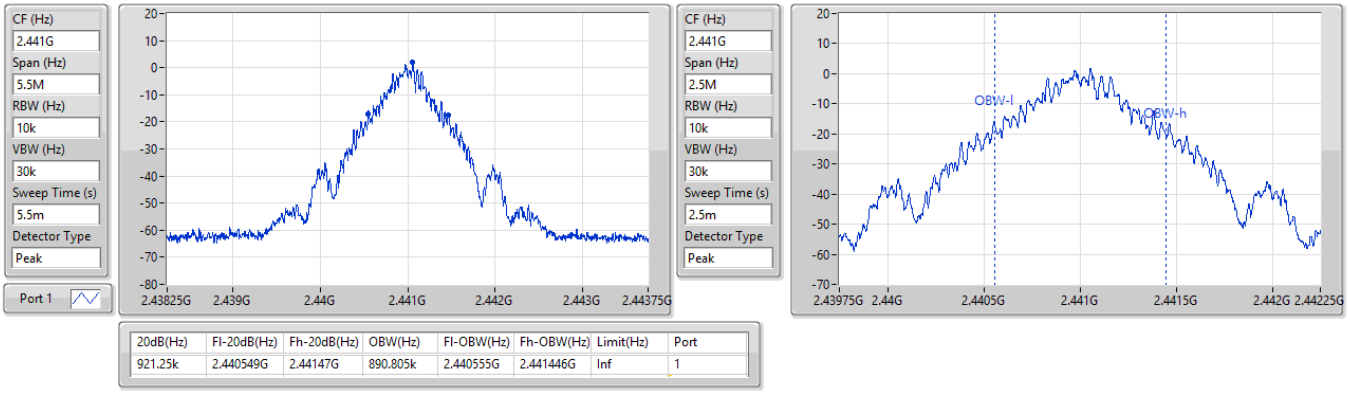
2402MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
921.25k	2.401549G	2.40247G	889.555k	2.401555G	2.402445G	Inf	1

2.4-2.4835GHz_BT-BR(1Mbps) **EBW-FS**

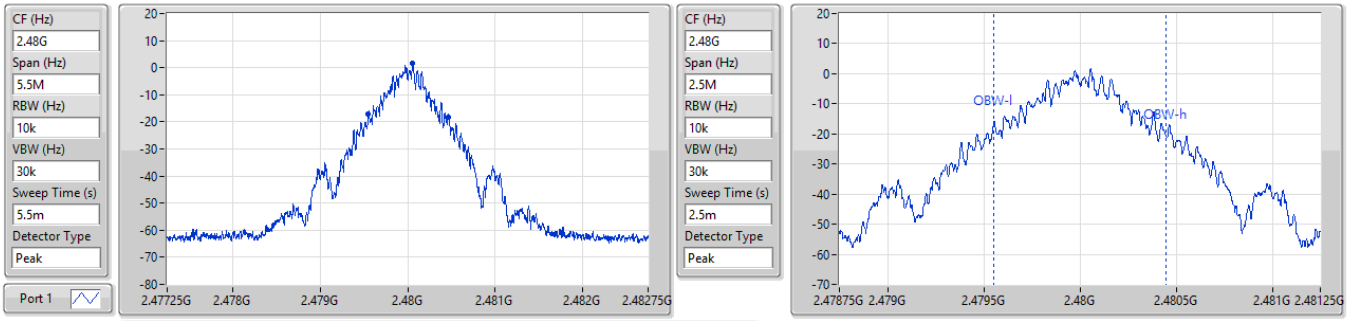
2441MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
921.25k	2.440549G	2.44147G	890.805k	2.440555G	2.441446G	Inf	1

2.4-2.4835GHz_BT-BR(1Mbps) **EBW-FS**

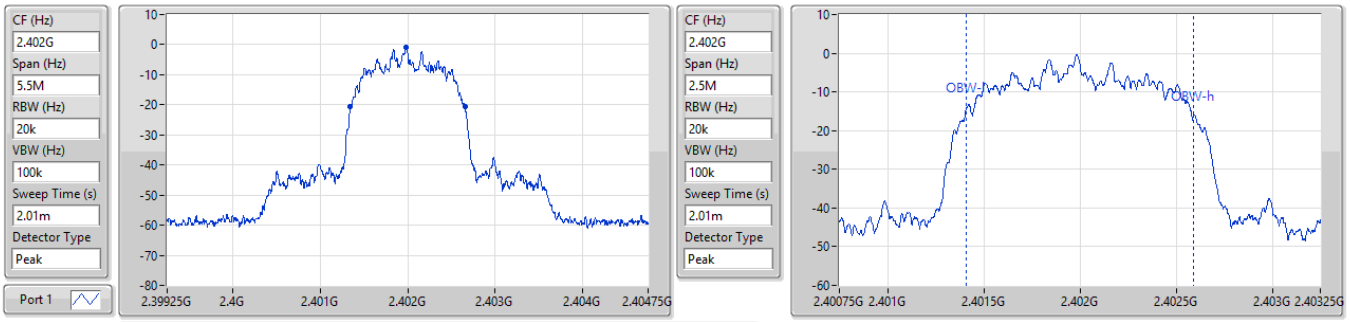
2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
921.25k	2.479549G	2.48047G	892.054k	2.479554G	2.480446G	Inf	1

2.4-2.4835GHz_BT-EDR(2Mbps) **EBW-FS**

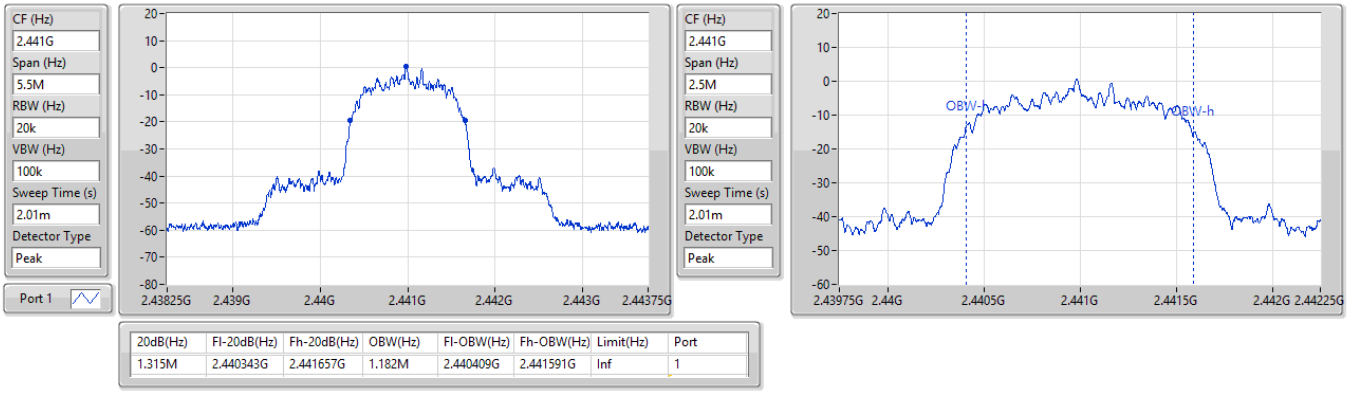
2402MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.315M	2.401343G	2.402657G	1.178M	2.40141G	2.402588G	Inf	1

2.4-2.4835GHz_BT-EDR(2Mbps) **EBW-FS**

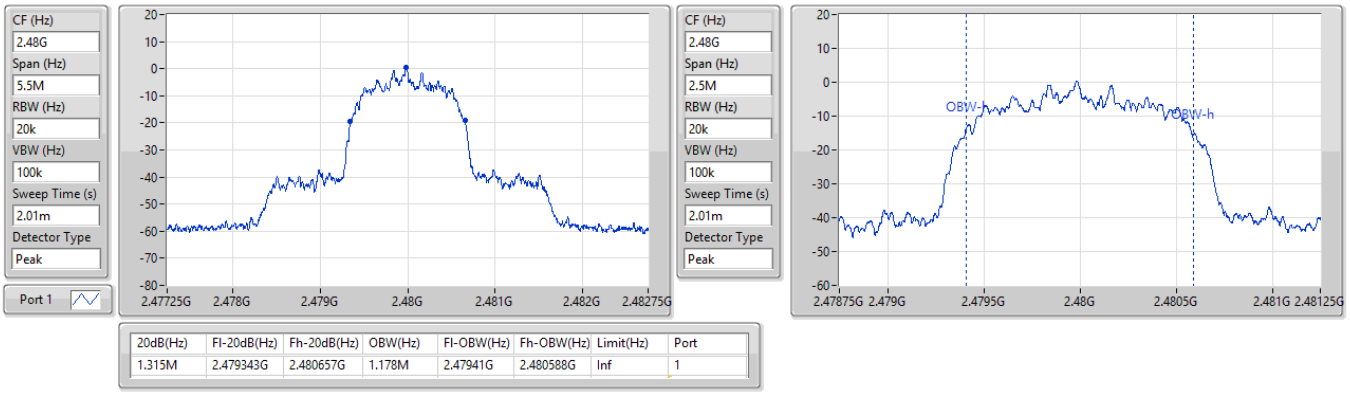
2441MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.315M	2.440343G	2.441657G	1.182M	2.440409G	2.441591G	Inf	1

2.4-2.4835GHz_BT-EDR(2Mbps) **EBW-FS**

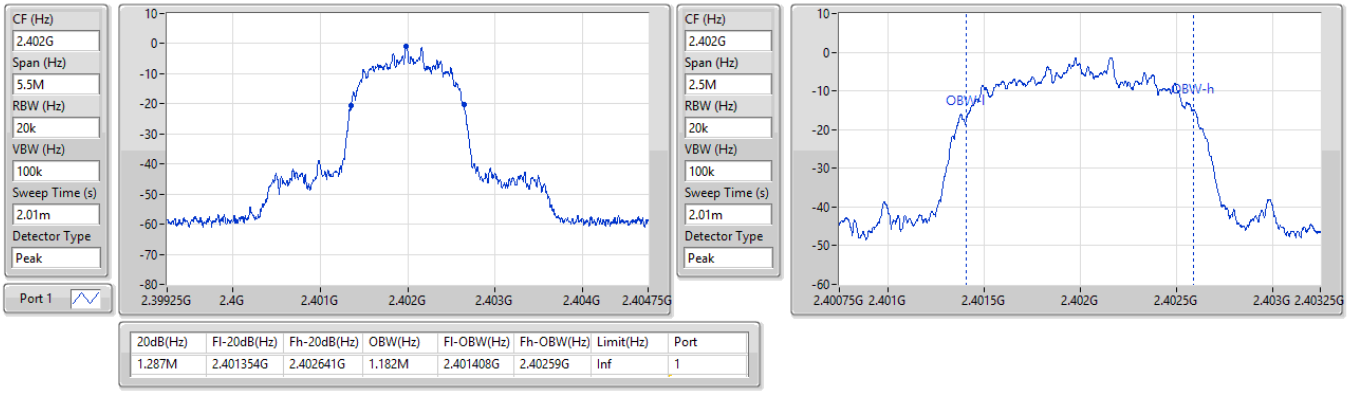
2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.315M	2.479343G	2.480657G	1.178M	2.47941G	2.480588G	Inf	1

2.4-2.4835GHz_BT-EDR(3Mbps) **EBW-FS**

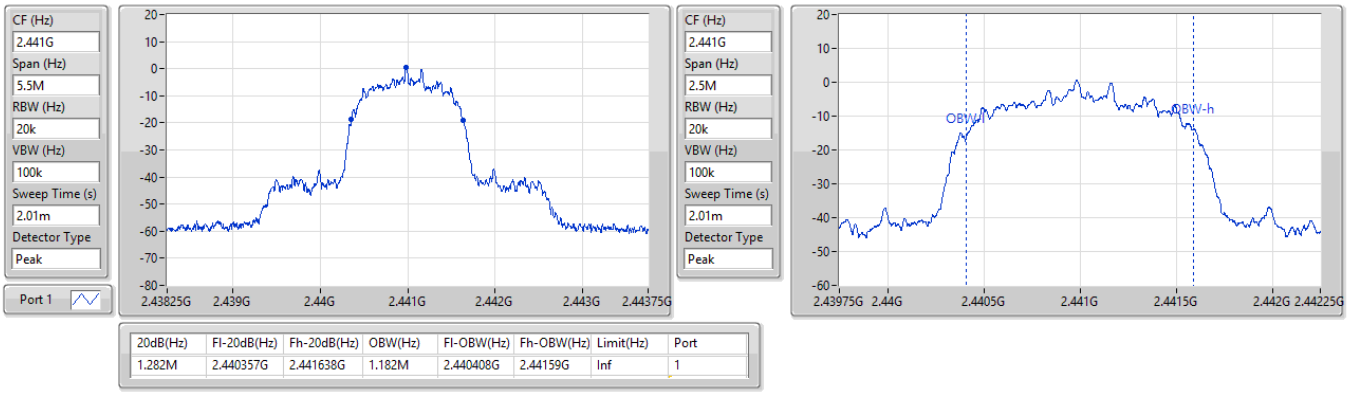
2402MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.287M	2.401354G	2.402641G	1.182M	2.401408G	2.40259G	Inf	1

2.4-2.4835GHz_BT-EDR(3Mbps) **EBW-FS**

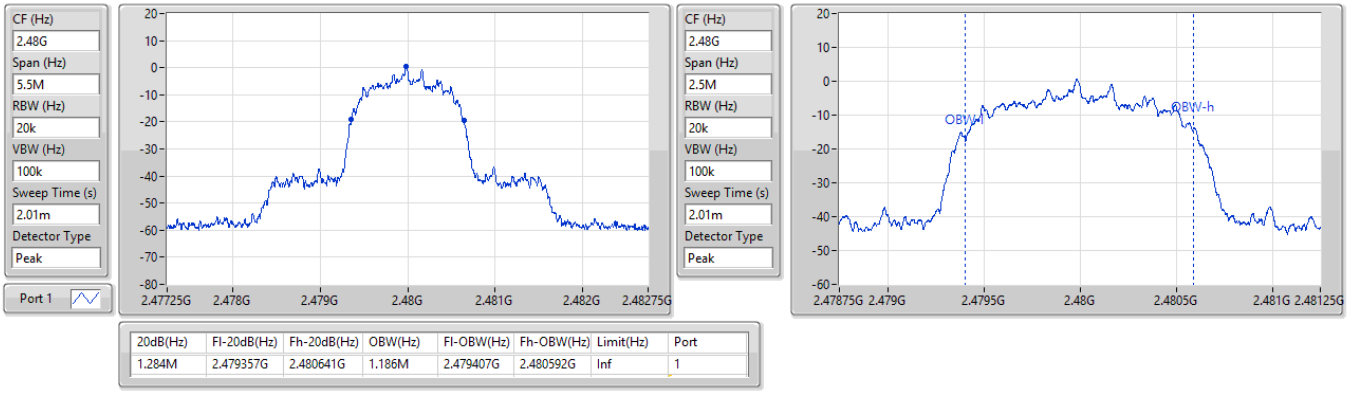
2441MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.282M	2.440357G	2.441638G	1.182M	2.440408G	2.44159G	Inf	1

2.4-2.4835GHz_BT-EDR(3Mbps) **EBW-FS**

2480MHz



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.284M	2.479357G	2.480641G	1.186M	2.479407G	2.480592G	Inf	1

Summary

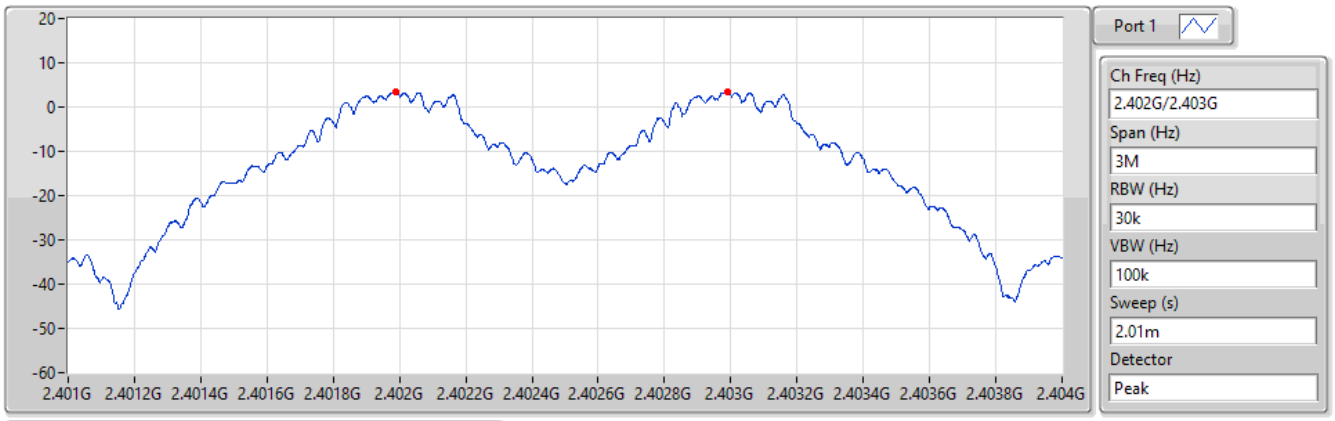
Mode	Max-Space (Hz)	Min-Space (Hz)
2.4-2.4835GHz	-	-
BT-BR(1Mbps)	1.0035M	1.0005M
BT-EDR(2Mbps)	1.0035M	1.0005M
BT-EDR(3Mbps)	1.002M	1.0005M

Result

Mode	Result	Fl (Hz)	Fh (Hz)	Ch.Space (Hz)	Limit (Hz)
BT-BR(1Mbps)	-	-	-	-	-
2402MHz	Pass	2.401987G	2.402989G	1.002M	613.5525k
2441MHz	Pass	2.440989G	2.441992G	1.0035M	613.5525k
2480MHz	Pass	2.478987G	2.479988G	1.0005M	613.5525k
BT-EDR(2Mbps)	-	-	-	-	-
2402MHz	Pass	2.40199G	2.402991G	1.0005M	875.79k
2441MHz	Pass	2.440989G	2.441989G	1.0005M	875.79k
2480MHz	Pass	2.47899G	2.479994G	1.0035M	875.79k
BT-EDR(3Mbps)	-	-	-	-	-
2402MHz	Pass	2.401987G	2.402989G	1.002M	857.142k
2441MHz	Pass	2.44099G	2.441991G	1.0005M	853.812k
2480MHz	Pass	2.478987G	2.479988G	1.0005M	855.144k

2.4-2.4835GHz_BT-BR(1Mbps) **Channel Separation-FS**

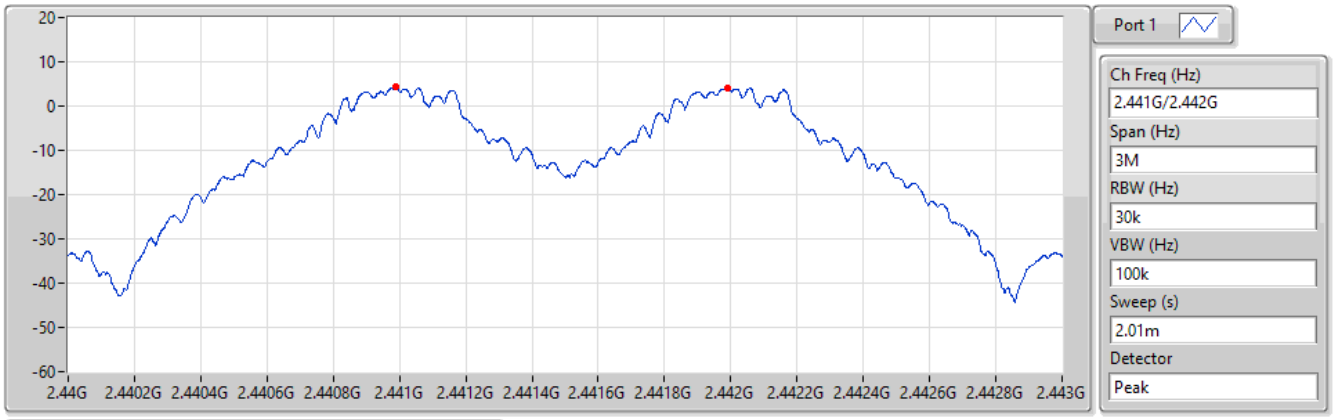
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.401987G	2.402989G	1.002M	613.5525k

2.4-2.4835GHz_BT-BR(1Mbps) **Channel Separation-FS**

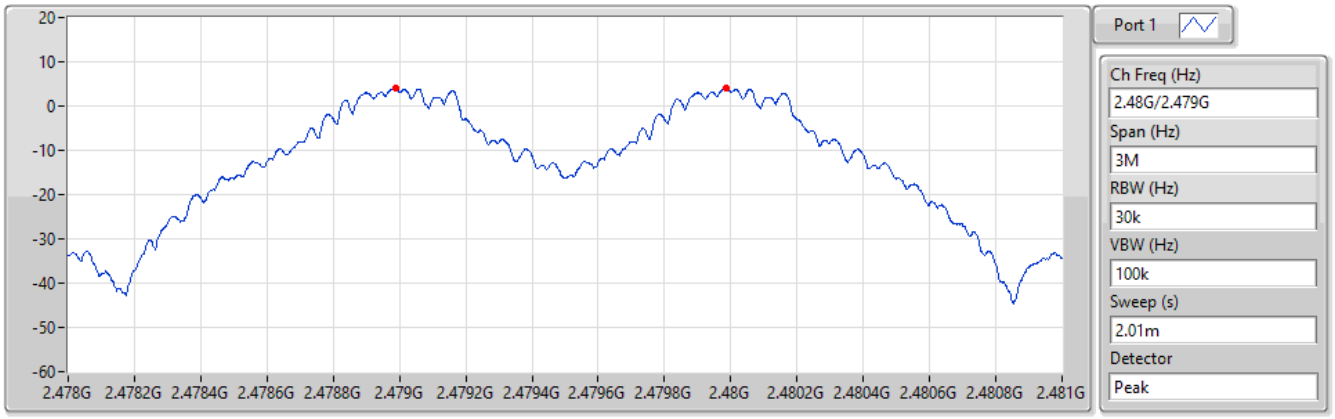
2.441G/2.442GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440989G	2.441992G	1.0035M	613.5525k

2.4-2.4835GHz_BT-BR(1Mbps) **Channel Separation-FS**

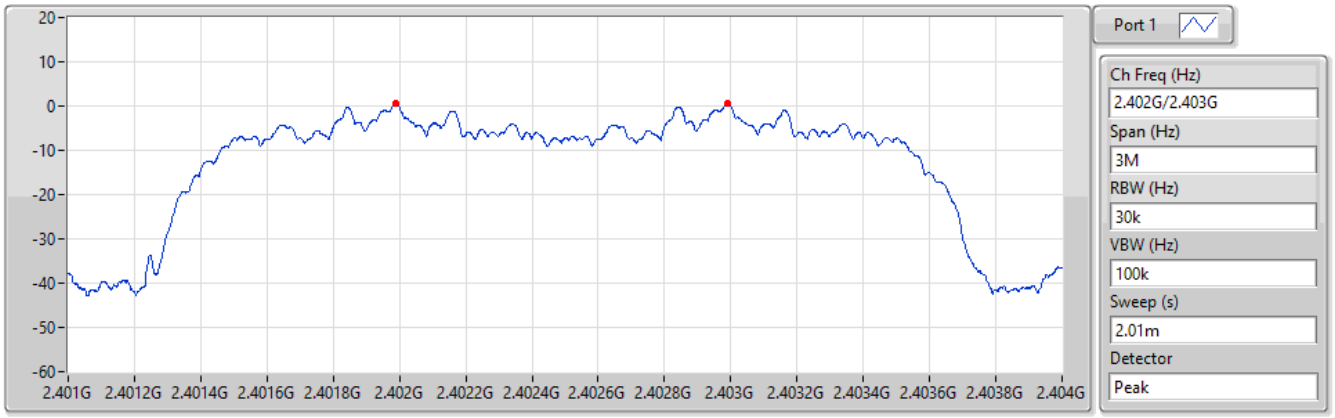
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.478987G	2.479988G	1.0005M	613.5525k

2.4-2.4835GHz_BT-EDR(2Mbps) **Channel Separation-FS**

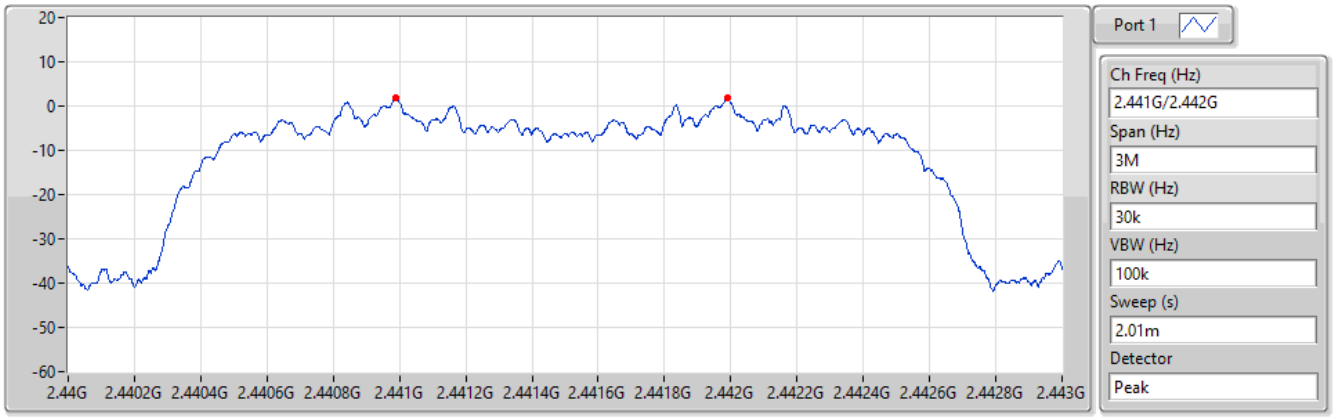
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.40199G	2.402991G	1.0005M	875.79k

2.4-2.4835GHz_BT-EDR(2Mbps) **Channel Separation-FS**

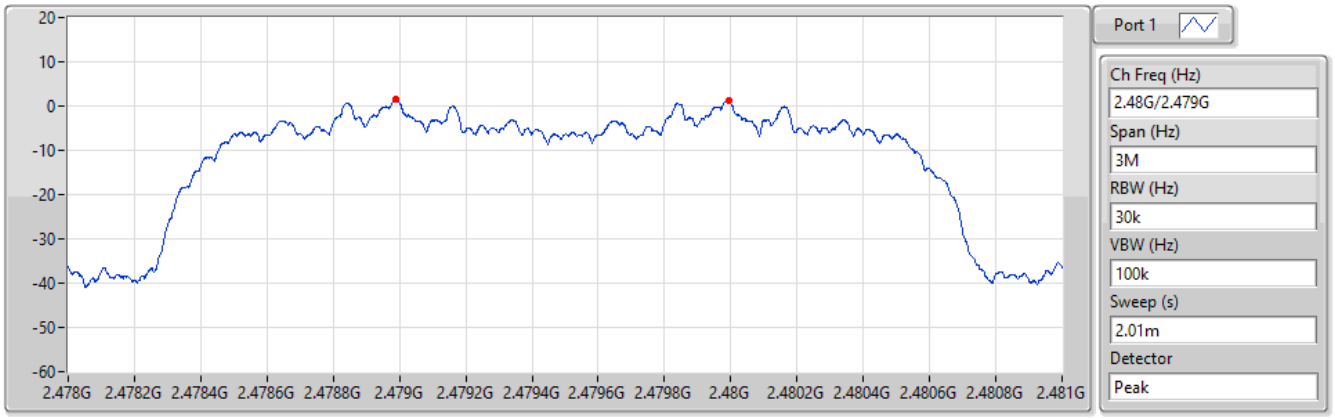
2.441G/2.442GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.440989G	2.441989G	1.0005M	875.79k

2.4-2.4835GHz_BT-EDR(2Mbps) **Channel Separation-FS**

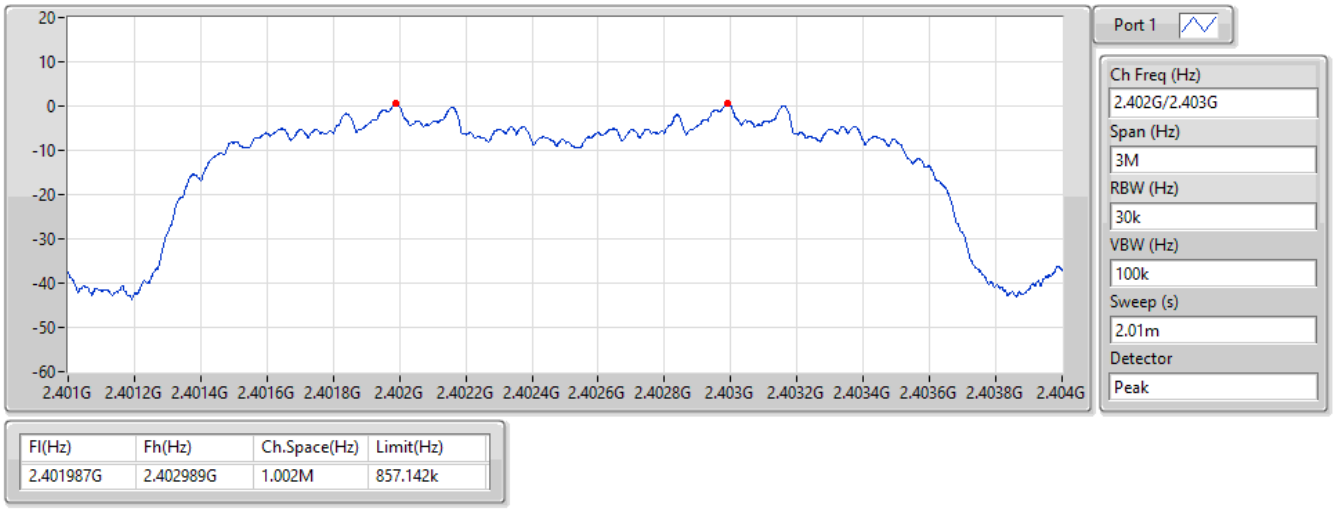
2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.47899G	2.479994G	1.0035M	875.79k

2.4-2.4835GHz_BT-EDR(3Mbps) **Channel Separation-FS**

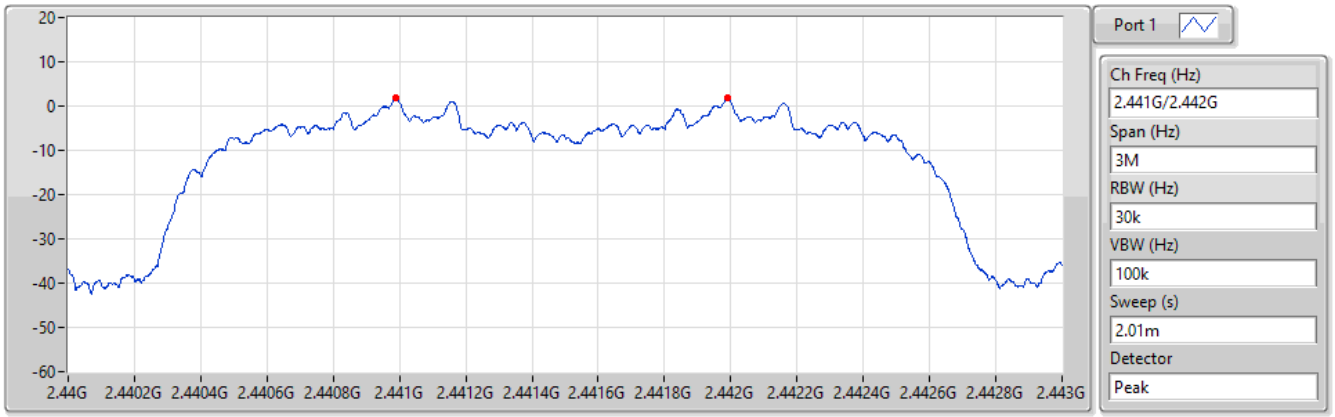
2.402G/2.403GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.401987G	2.402989G	1.002M	857.142k

2.4-2.4835GHz_BT-EDR(3Mbps) **Channel Separation-FS**

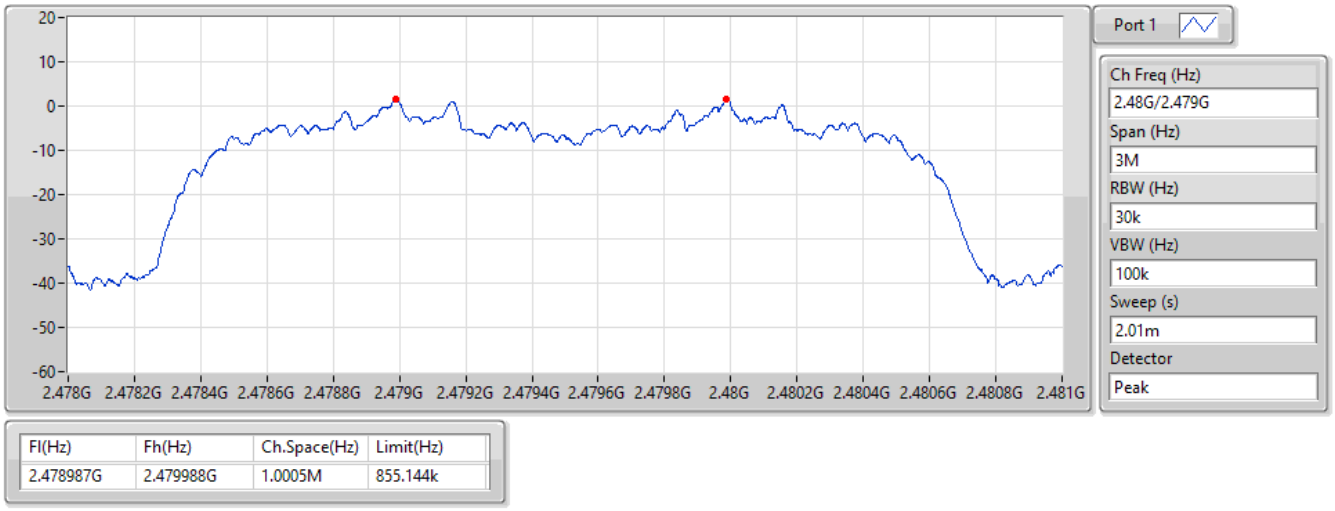
2.441G/2.442GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.44099G	2.441991G	1.0005M	853.812k

2.4-2.4835GHz_BT-EDR(3Mbps) **Channel Separation-FS**

2.48G/2.479GHz



Fl(Hz)	Fh(Hz)	Ch.Space(Hz)	Limit(Hz)
2.478987G	2.479988G	1.0005M	855.144k

Summary

2.4-2.4835GHz	**-**
BT-BR(1Mbps)	347.60158m_DH5
BT-BR-AFH(1Mbps)	289.575m_DH5-AFH
BT-EDR(2Mbps)	348.35208m_DH5
BT-EDR-AFH(2Mbps)	301.47m_DH5-AFH
BT-EDR(3Mbps)	311.87146m_DH5
BT-EDR-AFH(3Mbps)	313.416m_DH5-AFH

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	0.34760	0.4	2.89475	19
BT-EDR(2Mbps)	-	-	-	-	-	-
2402MHz_DH5	PASS	31.6	0.34835	0.4	2.90100	19
BT-EDR(3Mbps)	-	-	-	-	-	-
2402MHz_DH5	PASS	31.6	0.31187	0.4	2.90275	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

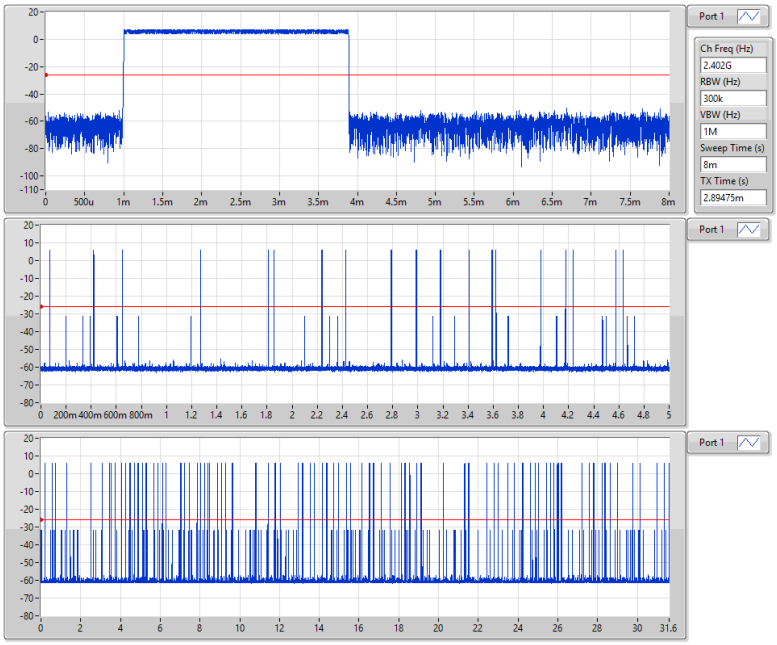
Mode	Result	Period (s)	Dwell (s)	Limit (s)	Tx On (ms)	Number of transmission in a 2 s
BT-BR-AFH(1Mbps)	-	-	-	-	-	-
2402MHz_DH5	PASS	8	0.28958	0.4	2.89575	25
BT-EDR-AFH(2Mbps)	-	-	-	-	-	-
2402MHz_DH5	PASS	8	0.30147	0.4	2.89875	26
BT-EDR-AFH(3Mbps)	-	-	-	-	-	-
2402MHz_DH5	PASS	8	0.31342	0.4	2.90200	27

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

Note 2: DH5 was the worst mode.

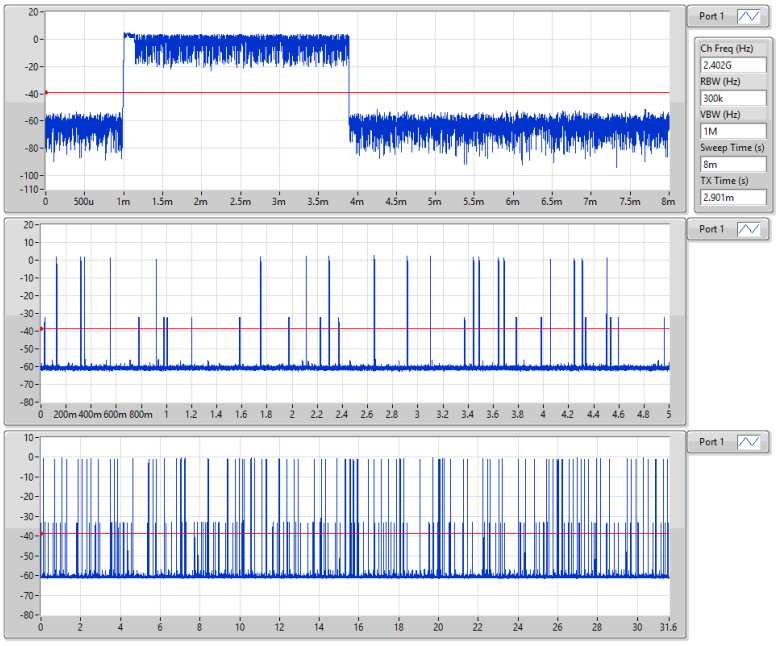
2.4-2.4835GHz_BT-BR(1Mbps) **Dwell-FS**

2402MHz



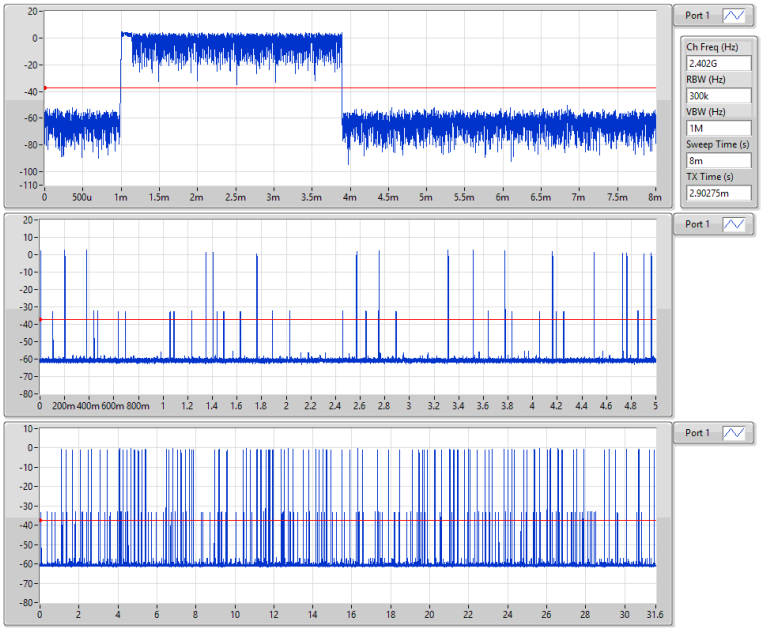
2.4-2.4835GHz_BT-EDR(2Mbps) **Dwell-FS**

2402MHz



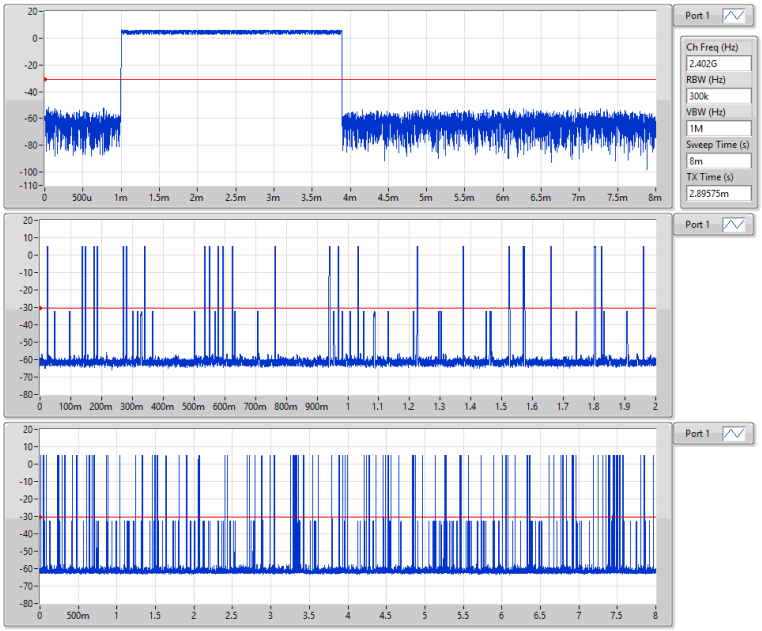
2.4-2.4835GHz_BT-EDR(3Mbps) **Dwell-FS**

2402MHz



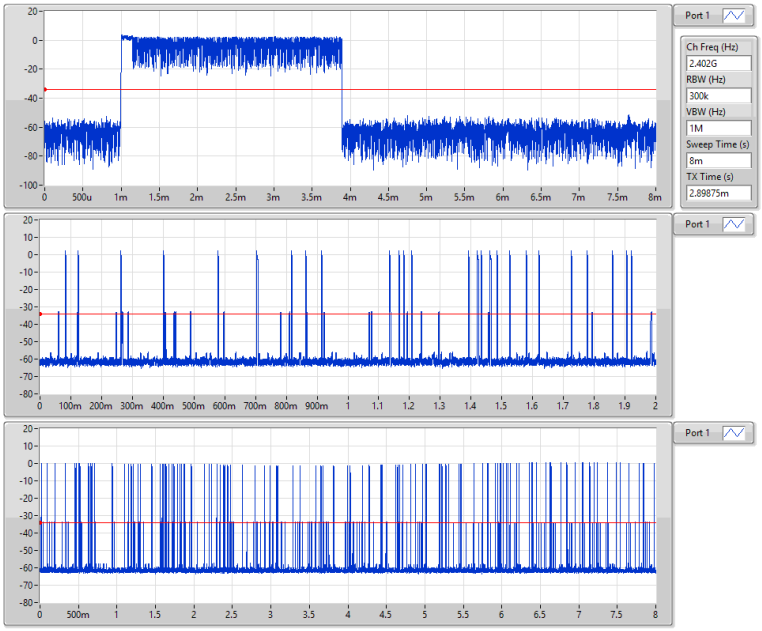
2.4-2.4835GHz_BT-BR-AFH(1Mbps) **Dwell-FS**

2402MHz



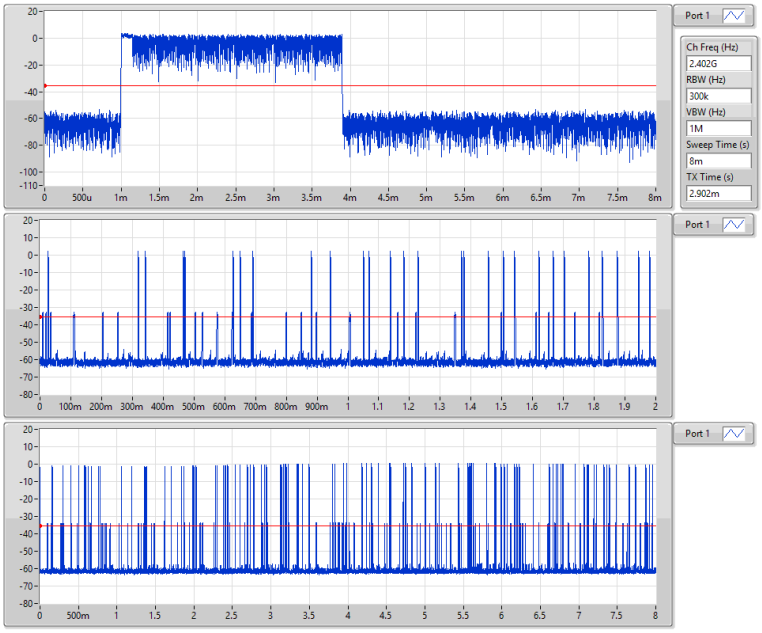
2.4-2.4835GHz_BT-EDR-AFH(2Mbps) **Dwell-FS**

2402MHz



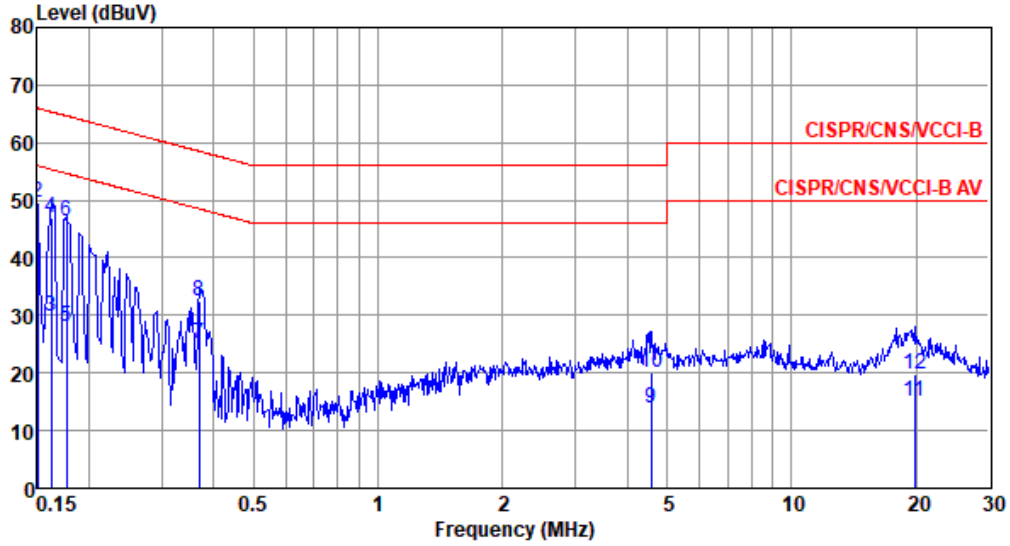
2.4-2.4835GHz_BT-EDR-AFH(3Mbps) **Dwell-FS**

2402MHz



Modulation	GFSK	**Test Freq. (MHz)**	2441
Power Phase	Line		

Test by : Joe Liao_RG Temperature: 24℃ Humidity: 64%

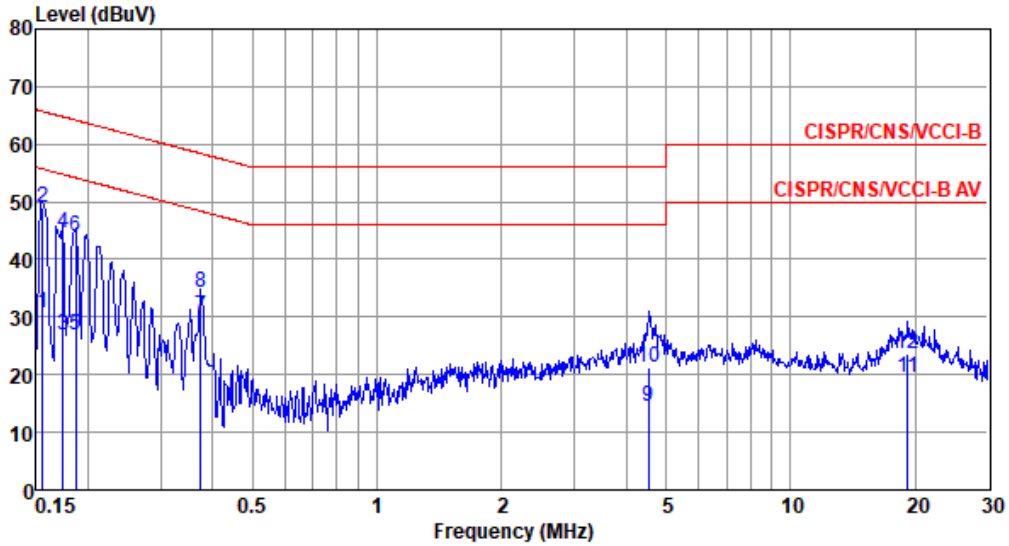


	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.150	32.36	56.00	-23.64	22.63	9.65	0.08	0.00	Average
2*	0.150	49.52	66.00	-16.48	39.79	9.65	0.08	0.00	QP
3	0.162	29.79	55.34	-25.55	20.07	9.65	0.07	0.00	Average
4	0.162	46.94	65.34	-18.40	37.22	9.65	0.07	0.00	QP
5	0.177	28.07	54.64	-26.57	18.35	9.65	0.07	0.00	Average
6	0.177	46.25	64.64	-18.39	36.53	9.65	0.07	0.00	QP
7	0.369	25.10	48.52	-23.42	15.38	9.64	0.08	0.00	Average
8	0.369	32.56	58.52	-25.96	22.84	9.64	0.08	0.00	QP
9	4.574	13.84	46.00	-32.16	3.96	9.68	0.20	0.00	Average
10	4.574	20.21	56.00	-35.79	10.33	9.68	0.20	0.00	QP
11	19.845	15.01	50.00	-34.99	4.82	9.68	0.51	0.00	Average
12	19.845	19.84	60.00	-40.16	9.65	9.68	0.51	0.00	QP

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

Modulation	GFSK	**Test Freq. (MHz)**	2441
Power Phase	Neutral		

Test by : Joe Liao_RG Temperature: 24°C Humidity: 64%



	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.156	30.56	55.69	-25.13	20.82	9.66	0.08	0.00	Average
2*	0.156	49.10	65.69	-16.59	39.36	9.66	0.08	0.00	QP
3	0.174	26.79	54.77	-27.98	17.07	9.65	0.07	0.00	Average
4	0.174	44.44	64.77	-20.33	34.72	9.65	0.07	0.00	QP
5	0.186	26.87	54.20	-27.33	17.16	9.65	0.06	0.00	Average
6	0.186	44.01	64.20	-20.19	34.30	9.65	0.06	0.00	QP
7	0.375	30.14	48.39	-18.25	20.42	9.64	0.08	0.00	Average
8	0.375	34.18	58.39	-24.21	24.46	9.64	0.08	0.00	QP
9	4.525	14.38	46.00	-31.62	4.49	9.69	0.20	0.00	Average
10	4.525	21.36	56.00	-34.64	11.47	9.69	0.20	0.00	QP
11	19.224	19.44	50.00	-30.56	9.12	9.82	0.50	0.00	Average
12	19.224	23.71	60.00	-36.29	13.39	9.82	0.50	0.00	QP

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