FCC Test Report

FCC ID	:	**SQG-BL54L15U**
Equipment	:	**Bluetooth LE + 802.15.4 + NFC module**
Model No.	:	**BL54L15μ**
Brand Name	:	**Ezurio**
Applicant	:	**Ezurio LLC**
Address	:	**W66N220 Commerce Court, Cedarburg, WI 53012, USA**
Standard	:	**47 CFR FCC Part 15.247**
Received Date	:	**Jan. 10, 2025**
Tested Date	:	**Jan. 13 ~ Jan. 15, 2025**

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**

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Release Record

Report No.	Version	Description	Issued Date
FR511001	Rev. 01	Initial issue	Feb. 14, 2025
FR511001	Rev. 02	Typing error of P4 is corrected.	Feb. 25, 2025

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	AC Power Line Conducted Emission	[dBuV]: 0.404MHz 36.37 (Margin -11.40dB) - AV	Pass
15.247(d) 15.209	Unwanted Emissions	[dBm]: 19.51644GHz -45.42 (Margin -4.22dB) - AV	Pass
15.247(b)(3)	Conducted Output Power	Max Power [dBm]: 6.83	Pass
15.247(a)(2)	6dB Bandwidth	Meet the requirement of limit	Pass
15.247(e)	Power Spectral Density	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)	**IEEE Std.**	**Ch. Freq. (MHz)**	**Channel Number**	**Data Rate**
2400-2483.5	802.15.4	2405-2480	11-26 [16]	250kbps
Note 1: RF output power specifies that Maximum Peak Conducted Output Power. Note 2: 802.15.4 uses O-QPSK modulation				

1.1.2 Antenna Details

External Antenna list for BL54L15µ RF trace pin module variant (453-00224R)

Manufacturer	Model	Part Number	Type	Connector	2400-2500 (MHz)	2400-2480 (MHz)
Ezurio	NanoBlue	EBL2400A1-10MH4L	PCB Dipole	IPEX MHF4	2 dBi	-
Ezurio	FlexPIFA	001-0022	FlexPIFA	IPEX MHF4L	-	2 dBi
Mag.Layers	EDA-8709-2G4C1-B27-CY	0600-00057	Dipole	IPEX MHF4	2.32 dBi	-
Ezurio	mFlexPIFA	EFA2400A3S-10MH4L	PIFA	IPEX MHF4L	-	2 dBi
Ezurio	i-FlexPIFATM Mini Series	EFG2401A3S-10MH4L	i-FlexPIFA	IPEX MHF4L	-	2 dBi
Ezurio	Ezurio NFC	0600-00061	Coiled Inductor	FFC/FPC Connector	-	-

Integrated Antenna BL54L15µ Chip antenna module variant (453-00223R)

Manufacturer	Model	Part Number	Type	Connector	2400-2500 (MHz)
Yaego (Pulse)	NC	ANT1608LL14R2400A	Chip Antenna	N/A	2.0 dBi
Ezurio	Ezurio NFC	0600-00061	Coiled Inductor	FFC/FPC Connector	-

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	1.8Vdc from host

1.1.4 Accessories

N/A

1.1.5 Channel List

Channel No.	Frequency (MHz)
11	2405
12	2410
13	2415
14	2420
15	2425
16	2430
17	2435
18	2440
19	2445
20	2450
21	2455
22	2460
23	2465
24	2470
25	2475
26	2480

1.1.6 Test Tool and Duty Cycle

Test Tool	Tera Term, Version: 4.84	
Mode	Duty Cycle of Test Signal (%)	Duty Factor (dB)
802.15.4	100.00%	0.00

1.1.7 Power Index of Test Tool

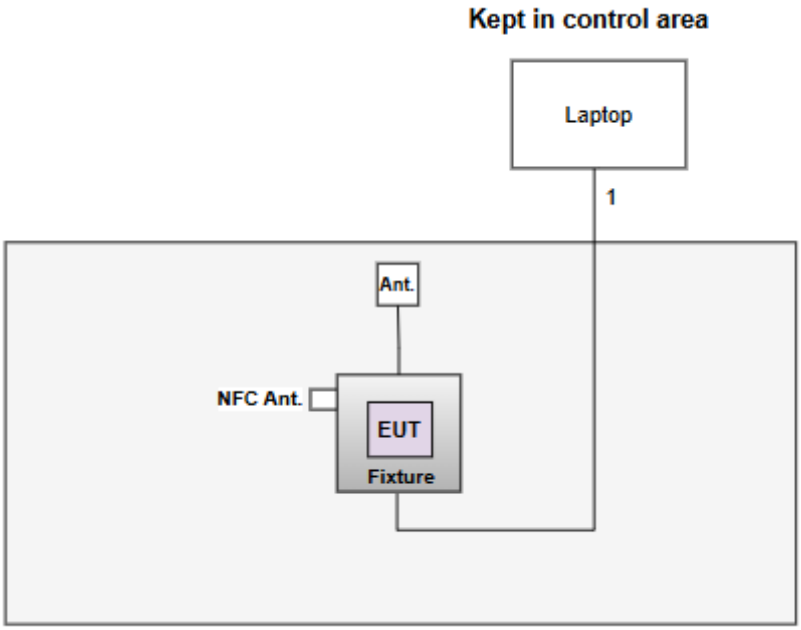
Test Frequency (MHz)	802.15.4 Power Index
2405	pos7dBm
2440	pos7dBm
2475	pos7dBm
2480	pos7dBm

1.2 Local Support Equipment List

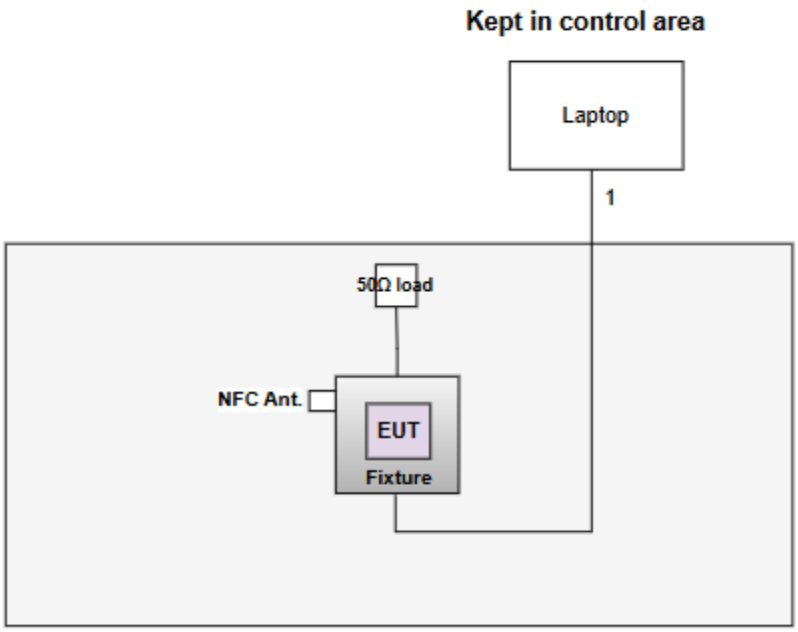
Support Equipment List					
No.	**Equipment**	**Brand**	**Model**	**FCC ID**	**Remarks**
1	Laptop	DELL	Latitude E5400	DoC	---
2	50 ohm load	Woken	WTER-18S2	---	---
3	Fixture	---	---	---	Provided by applicant.

1.3 Test Setup Chart

Test Setup Diagram (Conducted Emission)



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

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

1.4 The Equipment List

Test Item	Conducted Emission				
Test Site	Conduction room 1 / (CO01-WS)				
Tested Date	Jan. 15, 2025				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101657	Mar. 05, 2024	Mar. 04, 2025
LISN	R&S	ENV216	101579	May 09, 2024	May 08, 2025
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127-666	Mar. 05, 2024	Mar. 04, 2025
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 chamber1 / (03CH01-WS)				
Tested Date	Jan. 15, 2025				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Receiver	R&S	ESR3	101657	Mar. 05, 2024	Mar. 04, 2025
Spectrum Analyzer	R&S	FSV40	101498	Nov. 12, 2024	Nov. 11, 2025
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 05, 2024	Nov. 04, 2025
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Aug. 09, 2024	Aug. 08, 2025
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Nov. 28, 2024	Nov. 27, 2025
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 18, 2024	Nov. 17, 2025
Preamplifier	EMC	EMC02325	980225	Jun. 17, 2024	Jun. 16, 2025
Preamplifier	EMC	EMC118A45SE	980898	Jul. 05, 2024	Jul. 04, 2025
Preamplifier	EMC	EMC184045SE	980903	Jul. 30, 2024	Jul. 29, 2025
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 02, 2024	Oct. 01, 2025
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 02, 2024	Oct. 01, 2025
LF cable 11M	EMC	EMCCFD400-NW-NW-11000	200801	Oct. 02, 2024	Oct. 01, 2025
LF cable 1M	EMC	EMCCFD400-NM-NM-1000	160502	Oct. 02, 2024	Oct. 01, 2025
RF Cable	EMC	EMC104-35M-35M-8000	210920	Oct. 02, 2024	Oct. 01, 2025
RF Cable	EMC	EMC104-35M-35M-3000	210922	Oct. 02, 2024	Oct. 01, 2025
Attenuator	Pasternack	PE7005-10	10-1	Oct. 02, 2024	Oct. 01, 2025
HIGHPASS FILTER 3.1-18G	WHK	WHK3.1/18G-10SS	39	Oct. 02, 2024	Oct. 01, 2025
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	Jan. 13 ~ Jan. 15, 2025				
Instrument	**Brand**	**Model No.**	**Serial No.**	**Calibration Date**	**Calibration Until**
Spectrum Analyzer	R&S	FSV3044	101516	Jun. 17, 2024	Jun. 16, 2025
Power Meter	Anritsu	ML2495A	1241002	Nov. 26, 2024	Nov. 25, 2025
Power Sensor	Anritsu	MA2411B	1207366	Nov. 26, 2024	Nov. 25, 2025
Attenuator	Pasternack	PE7005-10	10-2	Oct. 04, 2024	Oct. 03, 2025
HIGHPASS FILTER 3.1-18G	WHK	WHK3.1/18G-10SS	39	Oct. 02, 2024	Oct. 01, 2025
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	±3.41 dB
Unwanted Emission > 1GHz	±4.59 dB

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	Test Configuration
AC Power Line Conducted Emission	O-QPSK	2440	250kbps	-
Unwanted Emissions ≤ 1GHz	O-QPSK	2440	250kbps	-
Unwanted Emissions >1GHz Conducted Output Power 6dB bandwidth Power spectral density	O-QPSK	2405 / 2440 / 2475 / 2480	250kbps	-

NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Z-plane** results were found as the worst case and were shown in this report.
2. The 50Ω terminator is connected to antenna port of EUT for radiated emission measurement.

3 Transmitter Test Results

3.1 6dB and Occupied Bandwidth

3.1.1 Limit of 6dB Bandwidth

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

3.1.2 Test Procedures

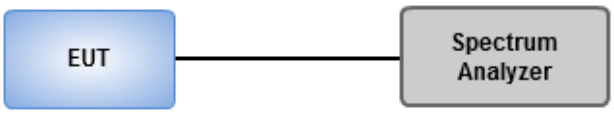
6dB Bandwidth

1. Set resolution bandwidth (RBW) = 100 kHz, Video bandwidth = 300 kHz.
2. Detector = Peak, Trace mode = max hold.
3. Sweep = auto couple, Allow the trace to stabilize.
4. 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 6dB relative to the maximum level measured in the fundamental emission.

Occupied Bandwidth

1. Set resolution bandwidth (RBW) = 1% ~ 5 % of OBW, Video bandwidth = 3 x RBW
2. Detector = Sample, Trace mode = max hold.
3 Sweep = auto couple, Allow the trace to stabilize.
4. Use the OBW measurement function of spectrum analyzer to measure the occupied bandwidth.

3.1.3 Test Setup



3.1.4 Test Results

Ambient Condition	22°C / 62-66%	**Tested By**	Roger Lu / Akun Chung

Refer to Appendix A.

3.2 Conducted Output Power

3.2.1 Limit of Conducted Output Power

Conducted power shall not exceed 1Watt.

Antenna gain <= 6dBi, no any corresponding reduction is in output power limit.

Antenna gain > 6dBi

Non Fixed, point to point operations.
The conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dB

Fixed, point to point operations
Systems operating in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point Operations, maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

3.2.2 Test Procedures

A broadband RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. 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.

3.2.3 Test Setup

3.2.4 Test Results

Ambient Condition	22°C / 62-66%	**Tested By**	Roger Lu / Akun Chung

Refer to Appendix B.

3.3 Power Spectral Density

3.3.1 Limit of Power Spectral Density

Power spectral density shall not be greater than 8 dBm in any 3 kHz band.

3.3.2 Test Procedures

Peak PSD

1. Set the RBW = 3 kHz, VBW = 10 kHz.
2. Detector = Peak, Sweep time = auto couple.
3. Trace mode = max hold, allow trace to fully stabilize.
4. Use the peak marker function to determine the maximum amplitude level.

Average PSD, duty cycle ≥ 98%

1. Set the RBW = 3 kHz, VBW = 10 kHz.
2. Detector = RMS, Sweep time = auto couple.
3. Sweep time = auto couple.
4. Employ trace averaging (RMS) mode over a minimum of 100 traces.
5. Use the peak marker function to determine the maximum amplitude level.

Average PSD, duty cycle < 98%

1 Set the RBW = 3 kHz, VBW = 10 kHz

2 Detector = RMS, Sweep time = auto couple.

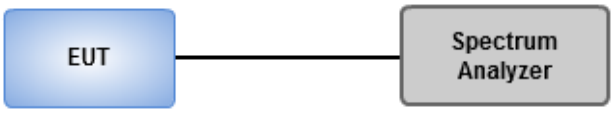
3 Sweep time = auto couple.

4 Employ trace averaging (RMS) mode over a minimum of 100 traces.

5 Use the peak marker function to determine the maximum amplitude level.

6 Add 10 log (1/x), where x is the duty cycle.

3.3.3 Test Setup



3.3.4 Test Results

Ambient Condition	22°C / 62-66%	**Tested By**	Roger Lu / Akun Chung

Refer to Appendix C.

3.4 Unwanted Emissions into Restricted Frequency Bands

3.4.1 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.

3.4.2 Test Procedures

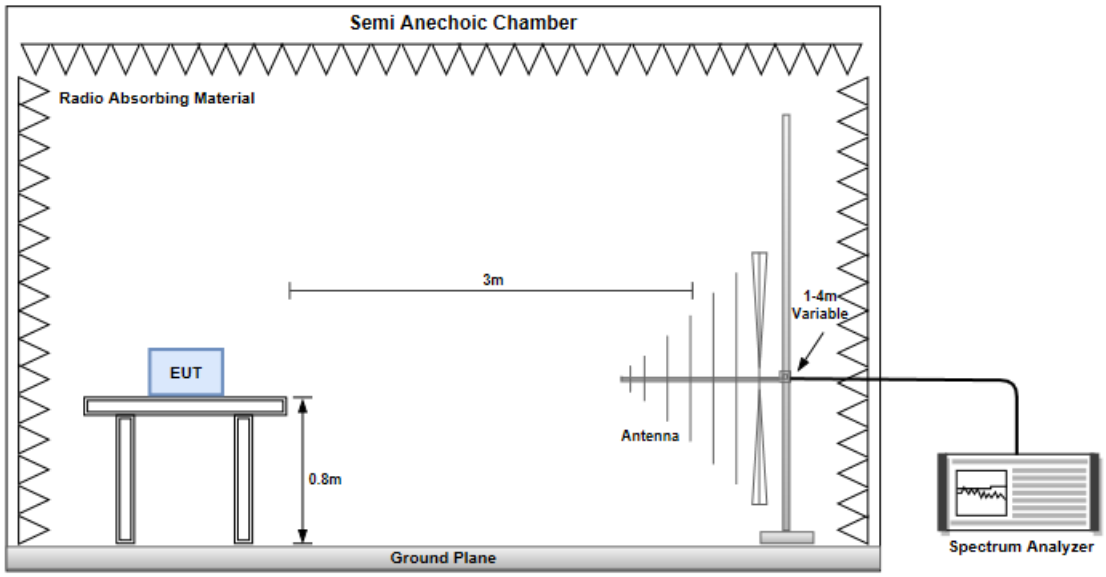
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission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

Note:

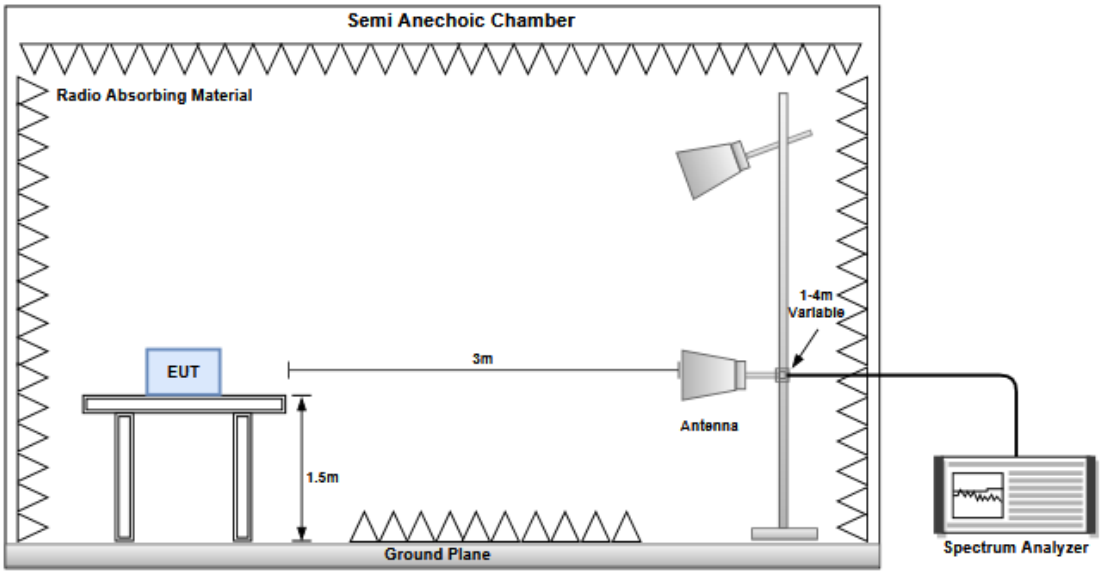
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above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

3.4.3 Test Setup

Radiated Emissions below 1 GHz



Radiated Emissions above 1 GHz



3.4.4 Test Results

Ambient Condition	21°C / 66%	Tested By	Sean Yu / Allen Lee

Refer to Appendix D.

3.5 Emissions in Non-Restricted Frequency Bands

3.5.1 Emissions in Non-Restricted Frequency Bands Limit

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.

3.5.2 Test Procedures

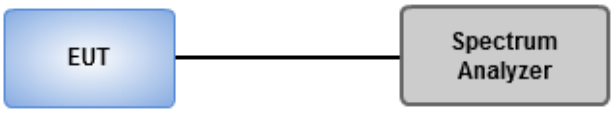
Reference level measurement

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

3.5.3 Test Setup



3.5.4 Test Results

Ambient Condition	22°C / 62-66%	**Tested By**	Roger Lu / Akun Chung

Refer to Appendix E.

3.6 AC Power Line Conducted Emissions

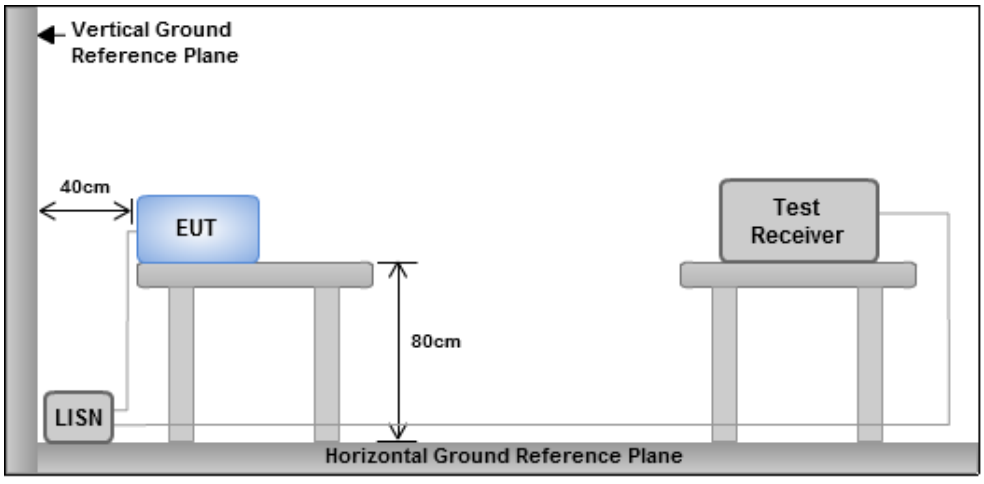
3.6.1 Limit of AC Power Line Conducted Emissions

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.		

3.6.2 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.

3.6.3 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

3.6.4 Test Results

Refer to Appendix F.

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	**Kwei Shan**	**Kwei Shan Site II**
Tel: 886-2-2601-1640	Tel: 886-3-271-8666	Tel: 886-3-271-8640
No.30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan (R.O.C.)	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.)	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	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.15.4	1.544M	2.158M	2M16D1D	1.456M	2.144M

Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

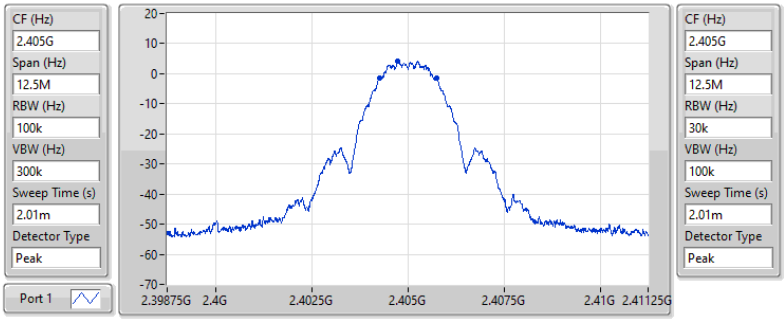
Result

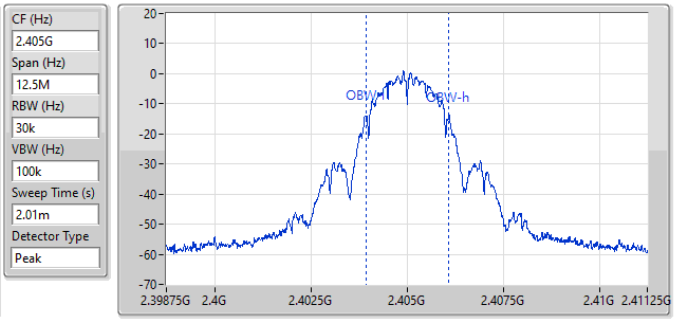
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.15.4	-	-	-	-
2405MHz	Pass	500k	1.506M	2.15M
2440MHz	Pass	500k	1.544M	2.148M
2475MHz	Pass	500k	1.525M	2.144M
2480MHz	Pass	500k	1.456M	2.158M

Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_802.15.4 **EBW-DTS**

2405MHz

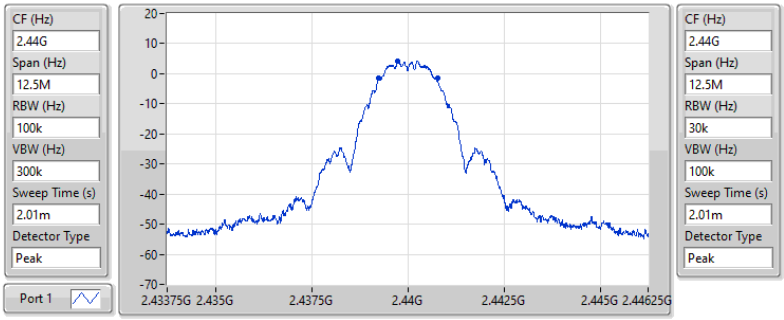


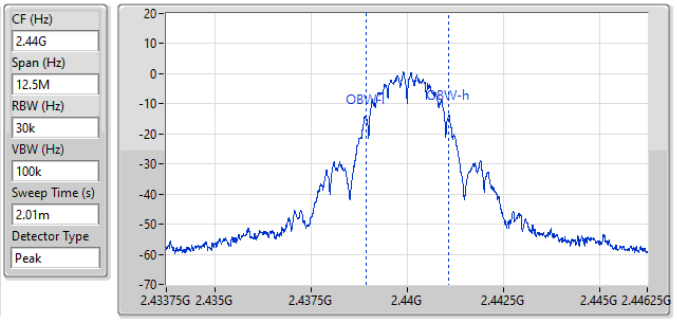


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.506M	2.404263G	2.405769G	2.15M	2.403934G	2.406083G	500k	1

2.4-2.4835GHz_802.15.4 **EBW-DTS**

2440MHz

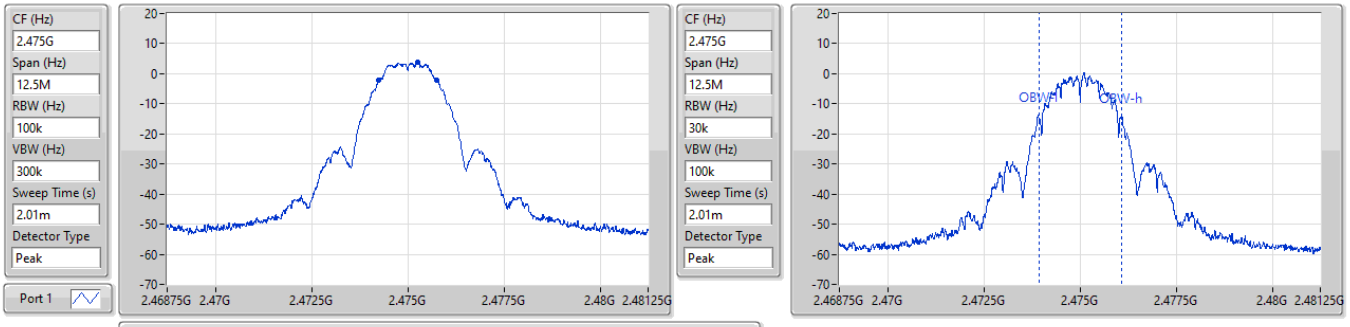




6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.544M	2.439238G	2.440781G	2.148M	2.438936G	2.441084G	500k	1

2.4-2.4835GHz_802.15.4 **EBW-DTS**

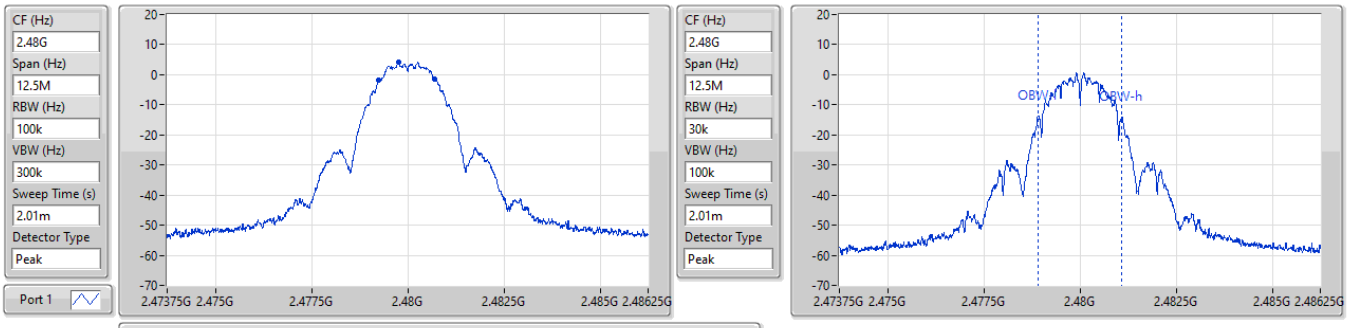
2475MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.525M	2.474238G	2.475763G	2.144M	2.47393G	2.476074G	500k	1

2.4-2.4835GHz_802.15.4 **EBW-DTS**

2480MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.456M	2.479238G	2.480694G	2.158M	2.478927G	2.481085G	500k	1

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.15.4	6.83	0.00482

Result

Mode	Result	Antenna Gain (dBi)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.15.4	-	-	-	-	-	-
2405MHz	Pass	2.32	6.82	30.00	9.14	36.00
2440MHz	Pass	2.32	6.83	30.00	9.15	36.00
2475MHz	Pass	2.32	6.81	30.00	9.13	36.00
2480MHz	Pass	2.32	6.80	30.00	9.12	36.00

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.15.4	6.72	0.00470

Result

Mode	Result	Antenna Gain (dBi)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.15.4	-	-	-	-	-	-
2405MHz	Pass	2.32	6.71	-	9.03	-
2440MHz	Pass	2.32	6.72	-	9.04	-
2475MHz	Pass	2.32	6.70	-	9.02	-
2480MHz	Pass	2.32	6.69	-	9.01	-

Note: Average power is for reference only.

Summary

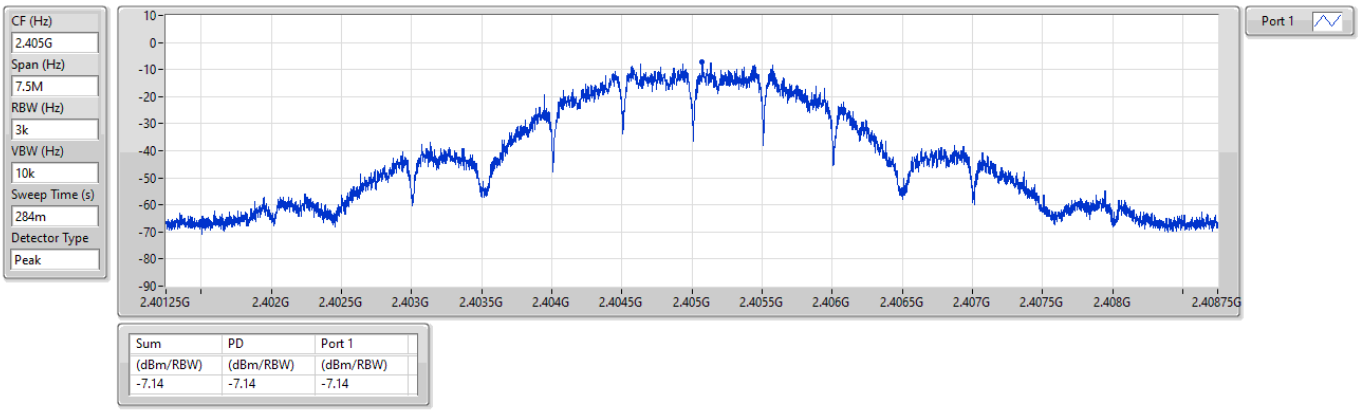
Mode	PD (dBm/3kHz)
2.4-2.4835GHz	-
802.15.4	-6.82

Result

Mode	Result	Antenna Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/3kHz)
802.15.4	-	-	-	-
2405MHz	Pass	2.32	-7.14	8.00
2440MHz	Pass	2.32	-6.88	8.00
2475MHz	Pass	2.32	-7.03	8.00
2480MHz	Pass	2.32	-6.82	8.00

2.4-2.4835GHz_802.15.4 **PSD**

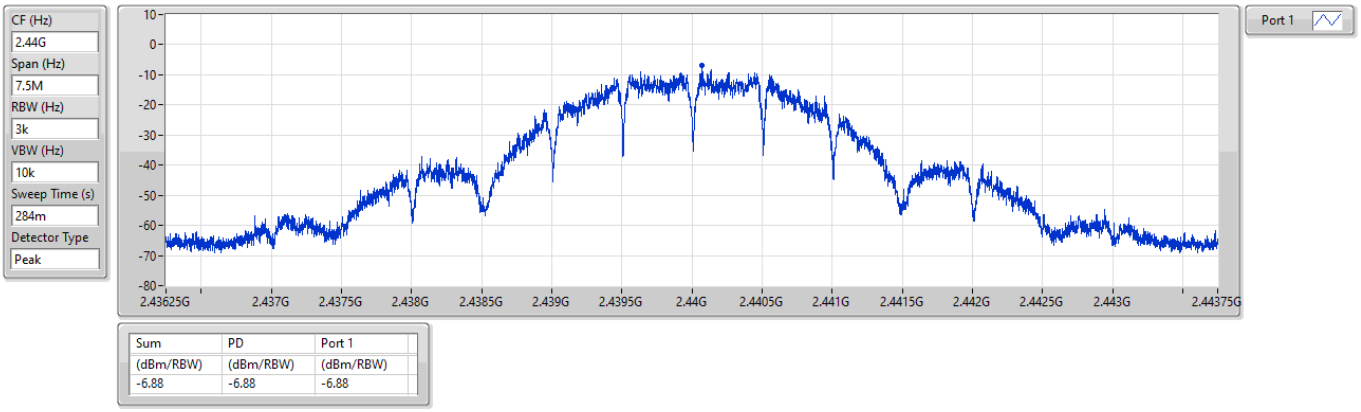
2405MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.14	-7.14	-7.14

2.4-2.4835GHz_802.15.4 **PSD**

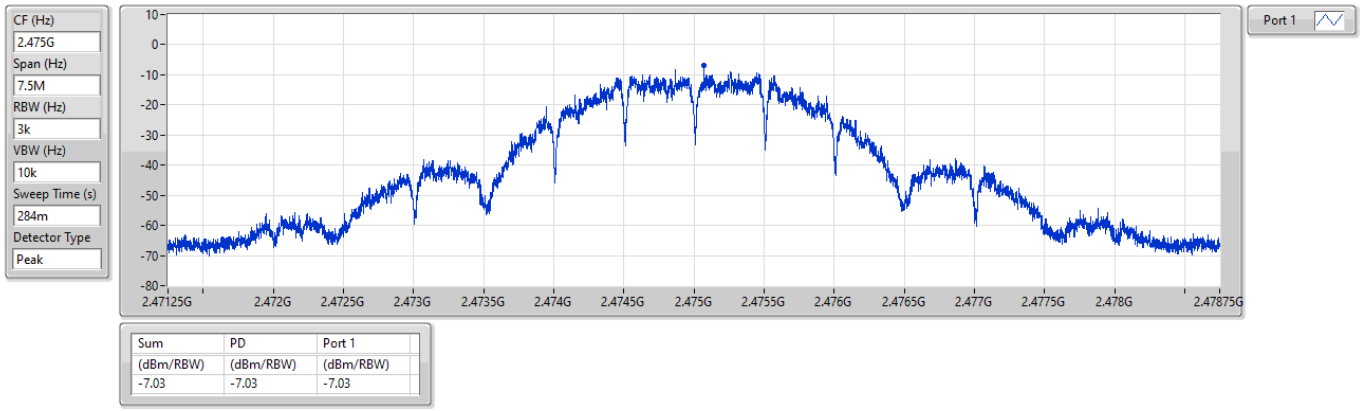
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.88	-6.88	-6.88

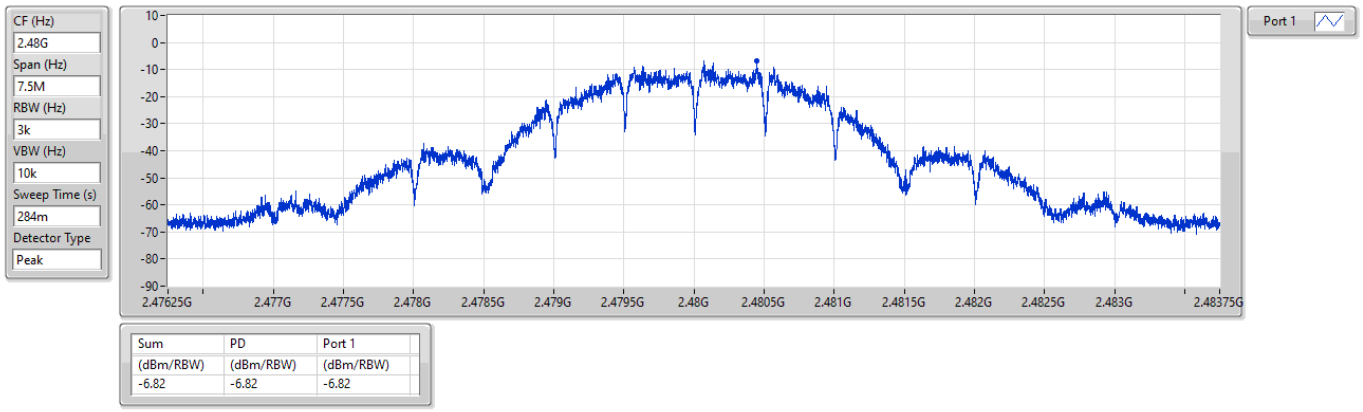
2.4-2.4835GHz_802.15.4 **PSD**

2475MHz



2.4-2.4835GHz_802.15.4 **PSD**

2480MHz



Summary

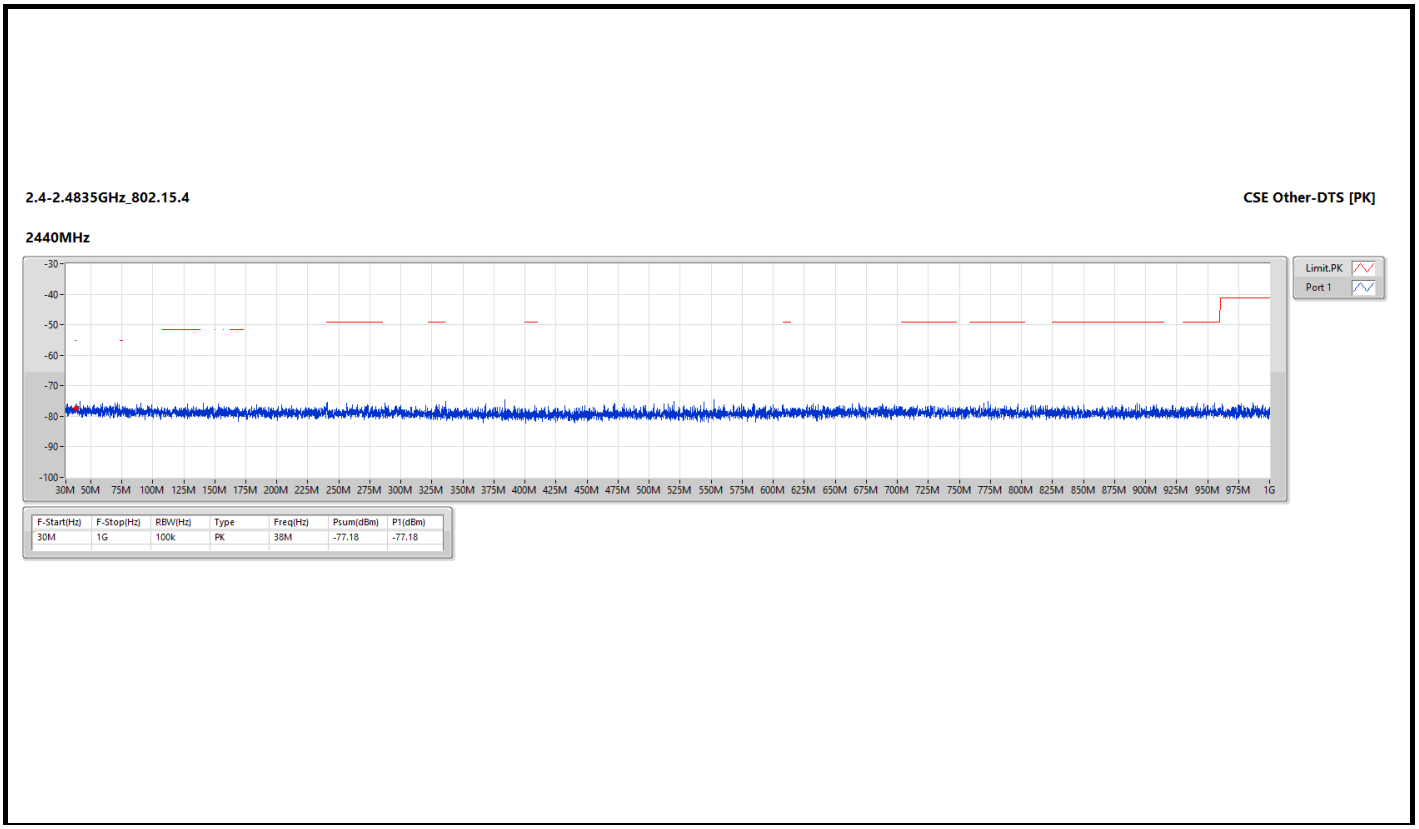
Mode	Result	F-Start (Hz)	F-Stop (Hz)	Type	Freq (Hz)	DG (dBi)	GRF (dB)	Psum (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
2.4-2.4835GHz	-	-	-	-	-	-		-	-	-	-
802.15.4	Pass	30M	1G	PK	38M	2.32	4.7	-77.18	-70.16	-55.20	-14.96

DG = Directional Gain ; PX=Port X; Psum=P1+P2+...PX

Result

Mode	Result	F-Start (Hz)	F-Stop (Hz)	Type	Freq (Hz)	DG (dBi)	GRF (dB)	Psum (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
802.15.4	-	-	-	-	-	-		-	-	-	-
2440MHz	Pass	30M	1G	PK	38M	2.32	4.7	-77.18	-70.16	-55.20	-14.96

DG = Directional Gain ; PX=Port X; Psum=P1+P2+...PX



Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	Type	Freq (Hz)	DG (dBi)	Psum (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
802.15.4	Pass	2.4835G	2.5G	AV	2.48352G	2.32	-49.15	-46.83	-41.20	-5.63

DG = Directional Gain ; PX=Port X; Psum=P1+P2+...PX

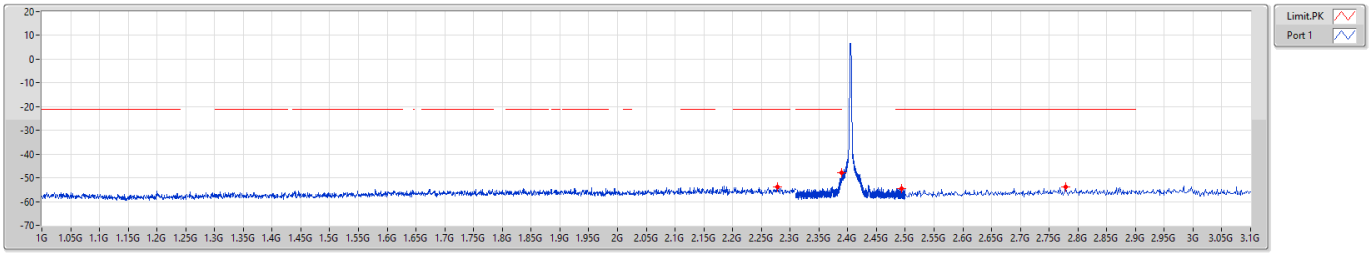
Result

Mode	Result	F-Start (Hz)	F-Stop (Hz)	Type	Freq (Hz)	DG (dBi)	Psum (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
802.15.4	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	1G	2.31G	AV	2.27709G	2.32	-63.33	-61.01	-41.20	-19.81
2405MHz	Pass	2.31G	2.39G	AV	2.39G	2.32	-58.44	-56.12	-41.20	-14.92
2405MHz	Pass	2.4835G	2.5G	AV	2.49324G	2.32	-65.60	-63.28	-41.20	-22.08
2405MHz	Pass	2.5G	3.1G	AV	2.533G	2.32	-63.35	-61.03	-41.20	-19.83
2405MHz	Pass	1G	2.31G	PK	2.27725G	2.32	-53.93	-51.61	-21.20	-30.41
2405MHz	Pass	2.31G	2.39G	PK	2.39G	2.32	-47.98	-45.66	-21.20	-24.46
2405MHz	Pass	2.4835G	2.5G	PK	2.49337G	2.32	-54.38	-52.06	-21.20	-30.86
2405MHz	Pass	2.5G	3.1G	PK	2.7784G	2.32	-53.77	-51.45	-21.20	-30.25
2440MHz	Pass	1G	2.31G	AV	2.23992G	2.32	-64.29	-61.97	-41.20	-20.77
2440MHz	Pass	2.31G	2.39G	AV	2.31204G	2.32	-64.19	-61.87	-41.20	-20.67
2440MHz	Pass	2.4835G	2.5G	AV	2.48792G	2.32	-65.04	-62.72	-41.20	-21.52
2440MHz	Pass	2.5G	3.1G	AV	2.56765G	2.32	-63.33	-61.01	-41.20	-19.81
2440MHz	Pass	1G	2.31G	PK	2.22158G	2.32	-53.24	-50.92	-21.20	-29.72
2440MHz	Pass	2.31G	2.39G	PK	2.31152G	2.32	-54.13	-51.81	-21.20	-30.61
2440MHz	Pass	2.4835G	2.5G	PK	2.48735G	2.32	-53.33	-51.01	-21.20	-29.81
2440MHz	Pass	2.5G	3.1G	PK	2.6812G	2.32	-54.35	-52.03	-21.20	-30.83
2475MHz	Pass	1G	2.31G	AV	2.21896G	2.32	-63.88	-61.56	-41.20	-20.36
2475MHz	Pass	2.31G	2.39G	AV	2.347G	2.32	-64.15	-61.83	-41.20	-20.63
2475MHz	Pass	2.4835G	2.5G	AV	2.48359G	2.32	-54.82	-52.50	-41.20	-11.30
2475MHz	Pass	2.5G	3.1G	AV	2.60335G	2.32	-63.40	-61.08	-41.20	-19.88
2475MHz	Pass	1G	2.31G	PK	2.26677G	2.32	-53.52	-51.20	-21.20	-30.00
2475MHz	Pass	2.31G	2.39G	PK	2.347G	2.32	-54.37	-52.05	-21.20	-30.85
2475MHz	Pass	2.4835G	2.5G	PK	2.48353G	2.32	-44.15	-41.83	-21.20	-20.63
2475MHz	Pass	2.5G	3.1G	PK	2.8636G	2.32	-53.66	-51.34	-21.20	-30.14
2480MHz	Pass	1G	2.31G	AV	2.15951G	2.32	-64.41	-62.09	-41.20	-20.89
2480MHz	Pass	2.31G	2.39G	AV	2.352G	2.32	-64.18	-61.86	-41.20	-20.66
2480MHz	Pass	2.4835G	2.5G	AV	2.48352G	2.32	-49.15	-46.83	-41.20	-5.63
2480MHz	Pass	2.5G	3.1G	AV	2.60815G	2.32	-63.35	-61.03	-41.20	-19.83
2480MHz	Pass	1G	2.31G	PK	2.28904G	2.32	-53.84	-51.52	-21.20	-30.32
2480MHz	Pass	2.31G	2.39G	PK	2.37576G	2.32	-54.72	-52.40	-21.20	-31.20
2480MHz	Pass	2.4835G	2.5G	PK	2.48386G	2.32	-37.96	-35.64	-21.20	-14.44
2480MHz	Pass	2.5G	3.1G	PK	2.512G	2.32	-52.81	-50.49	-21.20	-29.29

DG = Directional Gain ; PX=Port X; Psum=P1+P2+...PX

2.4-2.4835GHz_802.15.4 **CSE Bandedge-DTS [PK]**

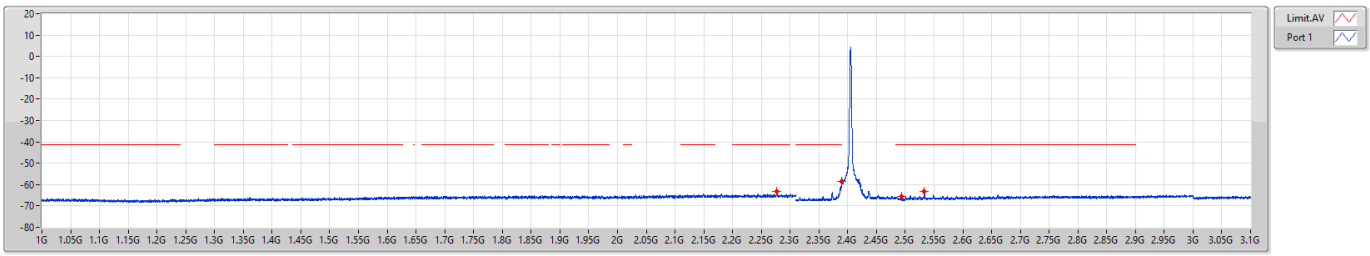
2405MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
1G	2.31G	1M	PK	2.27725G	-53.93	-53.93
2.31G	2.39G	1M	PK	2.39G	-47.98	-47.98
2.4835G	2.5G	1M	PK	2.49337G	-54.38	-54.38
2.5G	3.1G	1M	PK	2.7784G	-53.77	-53.77

2.4-2.4835GHz_802.15.4 **CSE Bandedge-DTS [AV]**

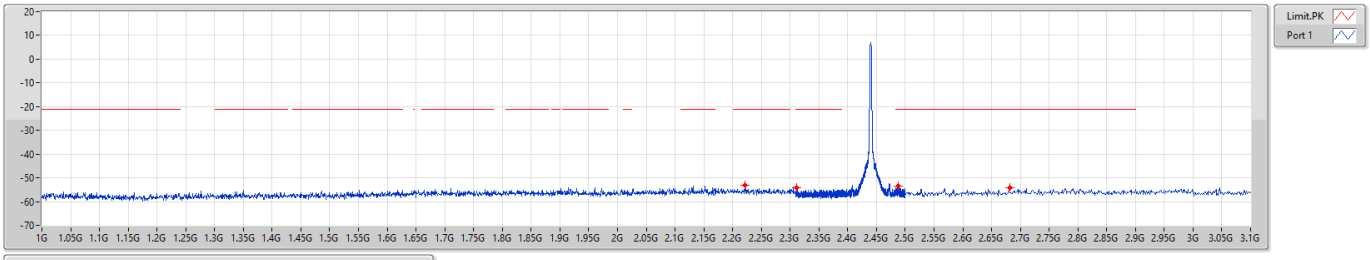
2405MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
1G	2.31G	1M	AV	2.27709G	-63.33	-63.33
2.31G	2.39G	1M	AV	2.39G	-58.44	-58.44
2.4835G	2.5G	1M	AV	2.49324G	-65.60	-65.60
2.5G	3.1G	1M	AV	2.533G	-63.35	-63.35

2.4-2.4835GHz_802.15.4 **CSE Bandedge-DTS [PK]**

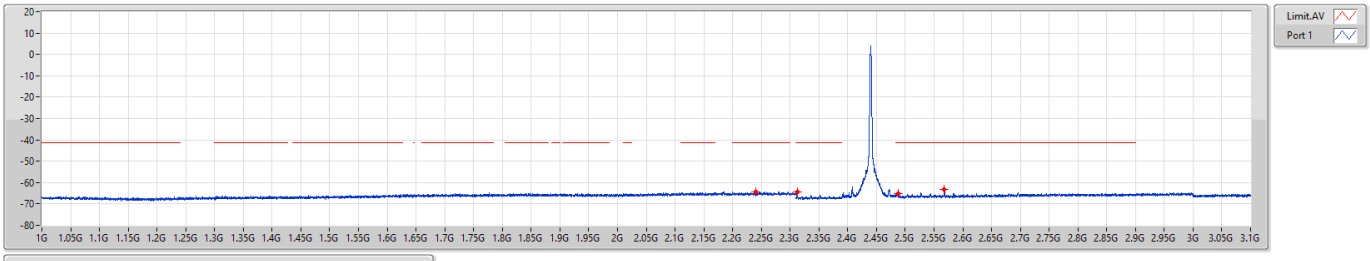
2440MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
1G	2.31G	1M	PK	2.22158G	-53.24	-53.24
2.31G	2.39G	1M	PK	2.31152G	-54.13	-54.13
2.4835G	2.5G	1M	PK	2.48735G	-53.33	-53.33
2.5G	3.1G	1M	PK	2.6812G	-54.35	-54.35

2.4-2.4835GHz_802.15.4 **CSE Bandedge-DTS [AV]**

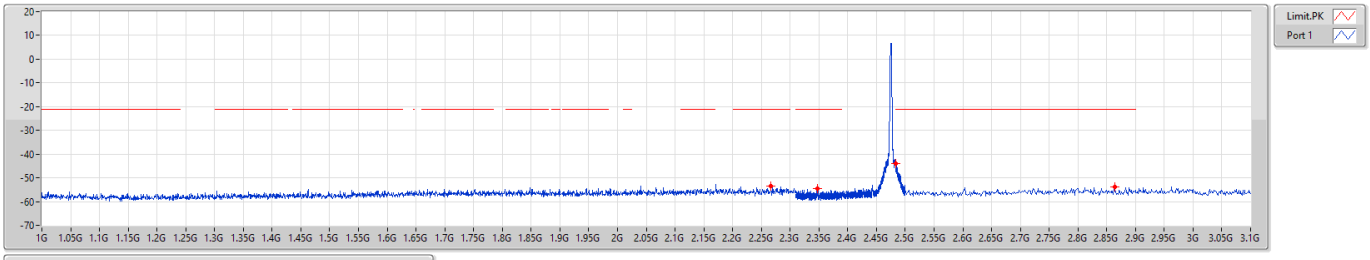
2440MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
1G	2.31G	1M	AV	2.23992G	-64.29	-64.29
2.31G	2.39G	1M	AV	2.31204G	-64.19	-64.19
2.4835G	2.5G	1M	AV	2.48792G	-65.04	-65.04
2.5G	3.1G	1M	AV	2.56765G	-63.33	-63.33

2.4-2.4835GHz_802.15.4 **CSE Bandedge-DTS [PK]**

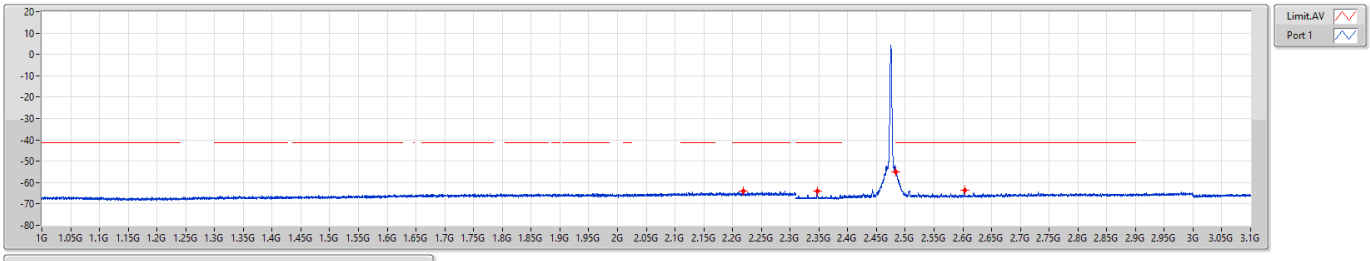
2475MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
1G	2.31G	1M	PK	2.26677G	-53.52	-53.52
2.31G	2.39G	1M	PK	2.347G	-54.37	-54.37
2.4835G	2.5G	1M	PK	2.48353G	-44.15	-44.15
2.5G	3.1G	1M	PK	2.8636G	-53.66	-53.66

2.4-2.4835GHz_802.15.4 **CSE Bandedge-DTS [AV]**

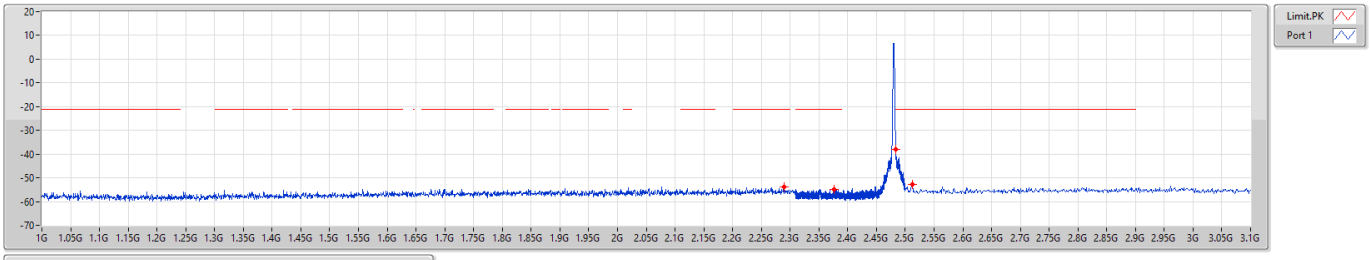
2475MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
1G	2.31G	1M	AV	2.21896G	-63.88	-63.88
2.31G	2.39G	1M	AV	2.347G	-64.15	-64.15
2.4835G	2.5G	1M	AV	2.48359G	-54.82	-54.82
2.5G	3.1G	1M	AV	2.60335G	-63.40	-63.40

2.4-2.4835GHz_802.15.4 **CSE Bandedge-DTS [PK]**

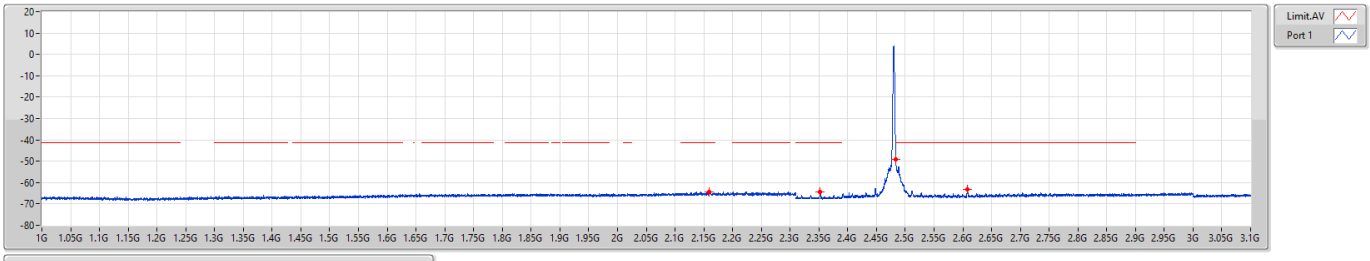
2480MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
1G	2.31G	1M	PK	2.28904G	-53.84	-53.84
2.31G	2.39G	1M	PK	2.37576G	-54.72	-54.72
2.4835G	2.5G	1M	PK	2.48386G	-37.96	-37.96
2.5G	3.1G	1M	PK	2.512G	-52.81	-52.81

2.4-2.4835GHz_802.15.4 **CSE Bandedge-DTS [AV]**

2480MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
1G	2.31G	1M	AV	2.15951G	-64.41	-64.41
2.31G	2.39G	1M	AV	2.352G	-64.18	-64.18
2.4835G	2.5G	1M	AV	2.48352G	-49.15	-49.15
2.5G	3.1G	1M	AV	2.60815G	-63.35	-63.35

Summary

Mode	Result	F-Start (Hz)	F-Stop (Hz)	Type	Freq (Hz)	DG (dBi)	Psum (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
802.15.4	**Pass**	**8G**	**25G**	**AV**	**19.51644G**	**2.32**	**-47.74**	**-45.42**	**-41.20**	**-4.22**

DG = Directional Gain ; PX=Port X; Psum=P1+P2+...PX

Result

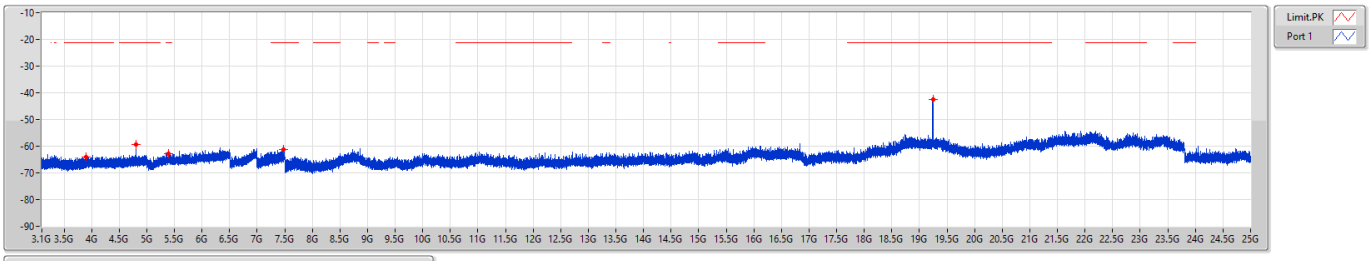
Mode	Result	F-Start (Hz)	F-Stop (Hz)	Type	Freq (Hz)	DG (dBi)	Psum (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
802.15.4	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	3.1G	4G	AV	3.9919G	2.32	-73.96	-71.64	-41.20	-30.44
2405MHz	Pass	4G	5G	AV	4.80925G	2.32	-66.62	-64.30	-41.20	-23.10
2405MHz	Pass	5G	7G	AV	5.442G	2.32	-73.21	-70.89	-41.20	-29.69
2405MHz	Pass	7G	8G	AV	7.47125G	2.32	-71.17	-68.85	-41.20	-27.65
2405MHz	Pass	8G	25G	AV	19.23594G	2.32	-49.17	-46.85	-41.20	-5.65
2405MHz	Pass	3.1G	4G	PK	3.90055G	2.32	-63.93	-61.61	-21.20	-40.41
2405MHz	Pass	4G	5G	PK	4.811G	2.32	-59.52	-57.20	-21.20	-36.00
2405MHz	Pass	4G	5G	PK	4.81125G	2.32	-59.52	-57.20	-21.20	-36.00
2405MHz	Pass	5G	7G	PK	5.4015G	2.32	-62.94	-60.62	-21.20	-39.42
2405MHz	Pass	7G	8G	PK	7.4825G	2.32	-61.35	-59.03	-21.20	-37.83
2405MHz	Pass	8G	25G	PK	19.24391G	2.32	-42.38	-40.06	-21.20	-18.86
2440MHz	Pass	3.1G	4G	AV	3.9442G	2.32	-74.16	-71.84	-41.20	-30.64
2440MHz	Pass	4G	5G	AV	4.881G	2.32	-66.29	-63.97	-41.20	-22.77
2440MHz	Pass	5G	7G	AV	5.4155G	2.32	-73.15	-70.83	-41.20	-29.63
2440MHz	Pass	7G	8G	AV	7.49675G	2.32	-71.35	-69.03	-41.20	-27.83
2440MHz	Pass	8G	25G	AV	19.51644G	2.32	-47.74	-45.42	-41.20	-4.22
2440MHz	Pass	3.1G	4G	PK	3.96738G	2.32	-62.81	-60.49	-21.20	-39.29
2440MHz	Pass	4G	5G	PK	4.87925G	2.32	-57.88	-55.56	-21.20	-34.36
2440MHz	Pass	5G	7G	PK	5.2125G	2.32	-62.30	-59.98	-21.20	-38.78
2440MHz	Pass	7G	8G	PK	7.49425G	2.32	-60.33	-58.01	-21.20	-36.81
2440MHz	Pass	8G	25G	PK	19.51644G	2.32	-40.64	-38.32	-21.20	-17.12
2475MHz	Pass	3.1G	4G	AV	3.99888G	2.32	-74.01	-71.69	-41.20	-30.49
2475MHz	Pass	4G	5G	AV	4.951G	2.32	-70.78	-68.46	-41.20	-27.26
2475MHz	Pass	5G	7G	AV	5.4435G	2.32	-73.17	-70.85	-41.20	-29.65
2475MHz	Pass	7G	8G	AV	7.483G	2.32	-71.26	-68.94	-41.20	-27.74
2475MHz	Pass	8G	25G	AV	19.80384G	2.32	-49.35	-47.03	-41.20	-5.83
2475MHz	Pass	3.1G	4G	PK	3.99415G	2.32	-63.51	-61.19	-21.20	-39.99
2475MHz	Pass	4G	5G	PK	4.951G	2.32	-61.83	-59.51	-21.20	-38.31
2475MHz	Pass	5G	7G	PK	5.441G	2.32	-62.45	-60.13	-21.20	-38.93
2475MHz	Pass	7G	8G	PK	7.38425G	2.32	-61.15	-58.83	-21.20	-37.63
2475MHz	Pass	8G	25G	PK	19.80438G	2.32	-41.96	-39.64	-21.20	-18.44
2480MHz	Pass	3.1G	4G	AV	3.94555G	2.32	-74.30	-71.98	-41.20	-30.78
2480MHz	Pass	4G	5G	AV	4.96125G	2.32	-70.99	-68.67	-41.20	-27.47
2480MHz	Pass	5G	7G	AV	5.449G	2.32	-73.14	-70.82	-41.20	-29.62

Mode	Result	F-Start (Hz)	F-Stop (Hz)	Type	Freq (Hz)	DG (dBi)	Psum (dBm)	EIRP (dBm)	Limit (dBm)	Margin (dB)
2480MHz	Pass	7G	8G	AV	7.4915G	2.32	-71.31	-68.99	-41.20	-27.79
2480MHz	Pass	8G	25G	AV	19.84422G	2.32	-50.32	-48.00	-41.20	-6.80
2480MHz	Pass	3.1G	4G	PK	3.9595G	2.32	-63.46	-61.14	-21.20	-39.94
2480MHz	Pass	4G	5G	PK	4.959G	2.32	-62.28	-59.96	-21.20	-38.76
2480MHz	Pass	5G	7G	PK	5.2275G	2.32	-62.89	-60.57	-21.20	-39.37
2480MHz	Pass	7G	8G	PK	7.48925G	2.32	-60.58	-58.26	-21.20	-37.06
2480MHz	Pass	8G	25G	PK	19.84422G	2.32	-42.92	-40.60	-21.20	-19.40

DG = Directional Gain ; PX=Port X; Psum=P1+P2+...PX

2.4-2.4835GHz_802.15.4 **CSE-DTS [PK]**

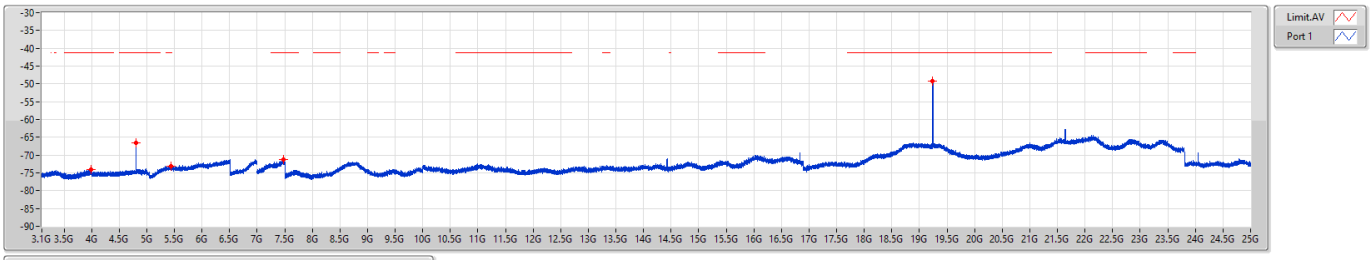
2405MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
3.1G	4G	1M	PK	3.90055G	-63.93	-63.93
4G	5G	1M	PK	4.811G	-59.52	-59.52
4G	5G	1M	PK	4.81125G	-59.52	-59.52
5G	7G	1M	PK	5.4015G	-62.94	-62.94
7G	8G	1M	PK	7.4825G	-61.35	-61.35
8G	25G	1M	PK	19.24391G	-42.38	-42.38

2.4-2.4835GHz_802.15.4 **CSE-DTS [AV]**

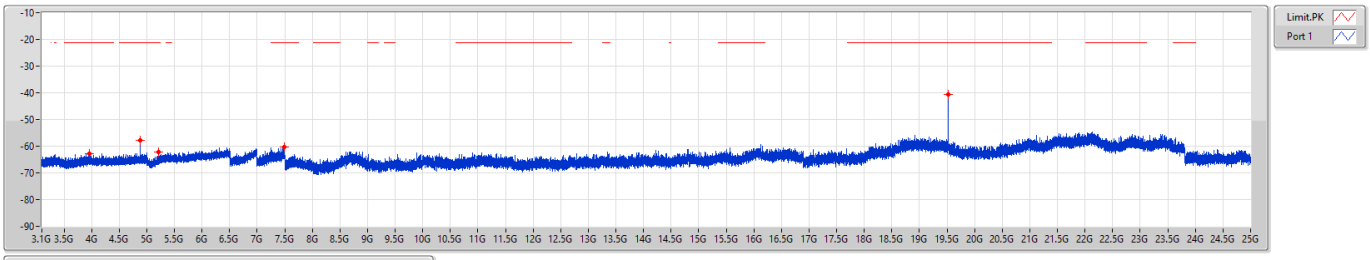
2405MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
3.1G	4G	1M	AV	3.9919G	-73.96	-73.96
4G	5G	1M	AV	4.80925G	-66.62	-66.62
5G	7G	1M	AV	5.442G	-73.21	-73.21
7G	8G	1M	AV	7.47125G	-71.17	-71.17
8G	25G	1M	AV	19.23594G	-49.17	-49.17

2.4-2.4835GHz_802.15.4 **CSE-DTS [PK]**

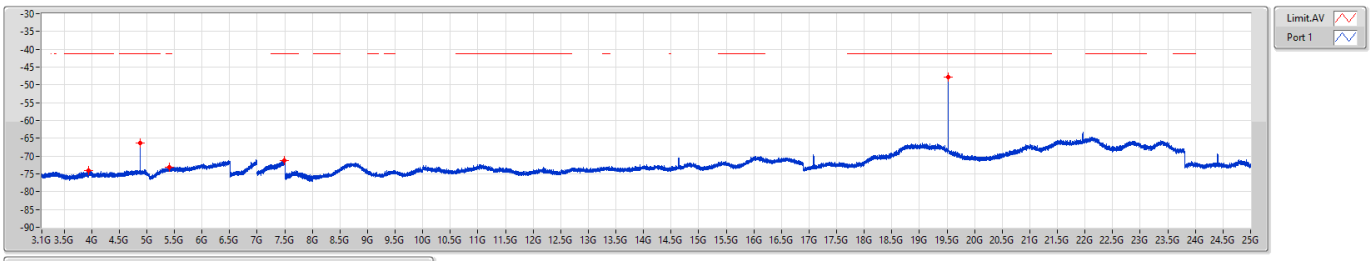
2440MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
3.1G	4G	1M	PK	3.96738G	-62.81	-62.81
4G	5G	1M	PK	4.87925G	-57.88	-57.88
5G	7G	1M	PK	5.2125G	-62.30	-62.30
7G	8G	1M	PK	7.49425G	-60.33	-60.33
8G	25G	1M	PK	19.51644G	-40.64	-40.64

2.4-2.4835GHz_802.15.4 **CSE-DTS [AV]**

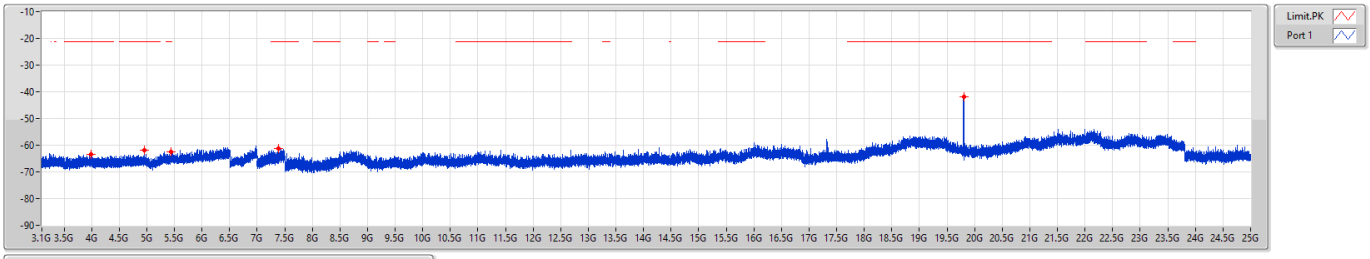
2440MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
3.1G	4G	1M	AV	3.9442G	-74.16	-74.16
4G	5G	1M	AV	4.881G	-66.29	-66.29
5G	7G	1M	AV	5.4155G	-73.15	-73.15
7G	8G	1M	AV	7.49675G	-71.35	-71.35
8G	25G	1M	AV	19.51644G	-47.74	-47.74

2.4-2.4835GHz_802.15.4 **CSE-DTS [PK]**

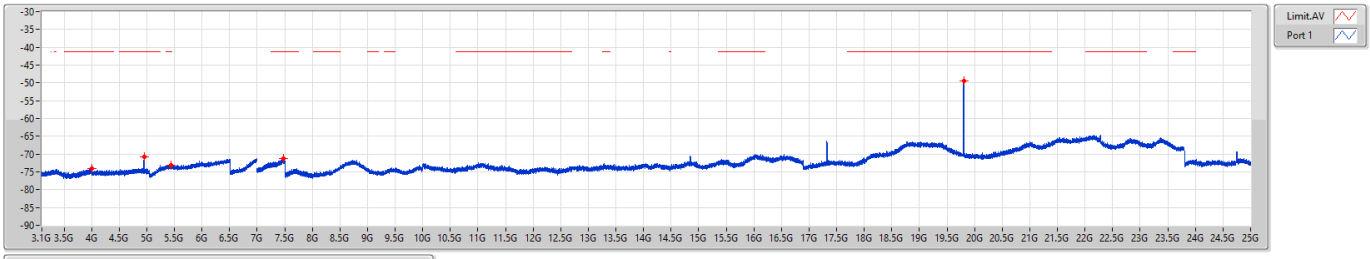
2475MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
3.1G	4G	1M	PK	3.99415G	-63.51	-63.51
4G	5G	1M	PK	4.951G	-61.83	-61.83
5G	7G	1M	PK	5.441G	-62.45	-62.45
7G	8G	1M	PK	7.38425G	-61.15	-61.15
8G	25G	1M	PK	19.80438G	-41.96	-41.96

2.4-2.4835GHz_802.15.4 **CSE-DTS [AV]**

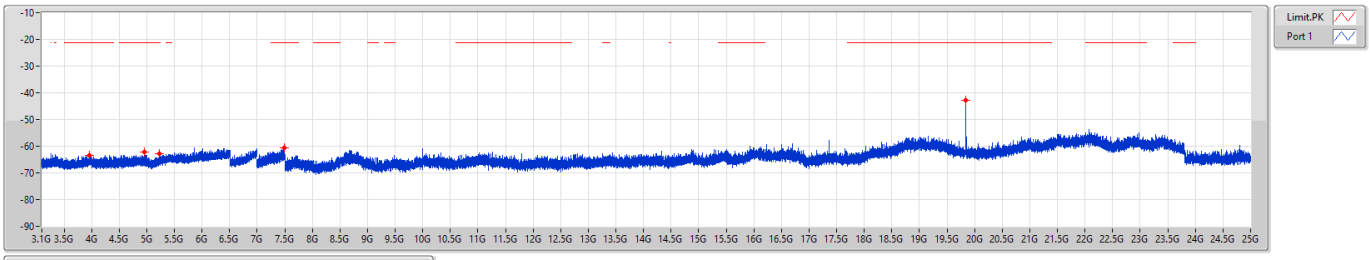
2475MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
3.1G	4G	1M	AV	3.99888G	-74.01	-74.01
4G	5G	1M	AV	4.951G	-70.78	-70.78
5G	7G	1M	AV	5.4435G	-73.17	-73.17
7G	8G	1M	AV	7.483G	-71.26	-71.26
8G	25G	1M	AV	19.80384G	-49.35	-49.35

2.4-2.4835GHz_802.15.4 **CSE-DTS [PK]**

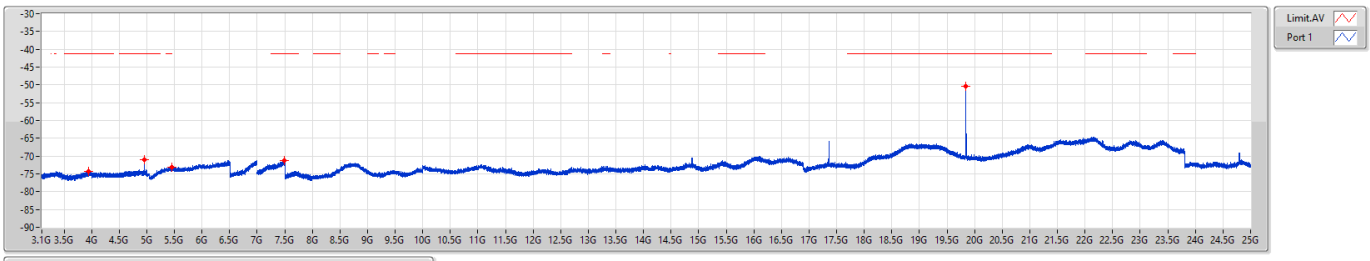
2480MHz



F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
3.1G	4G	1M	PK	3.9595G	-63.46	-63.46
4G	5G	1M	PK	4.959G	-62.28	-62.28
5G	7G	1M	PK	5.2275G	-62.89	-62.89
7G	8G	1M	PK	7.48925G	-60.58	-60.58
8G	25G	1M	PK	19.84422G	-42.92	-42.92

2.4-2.4835GHz_802.15.4 **CSE-DTS [AV]**

2480MHz

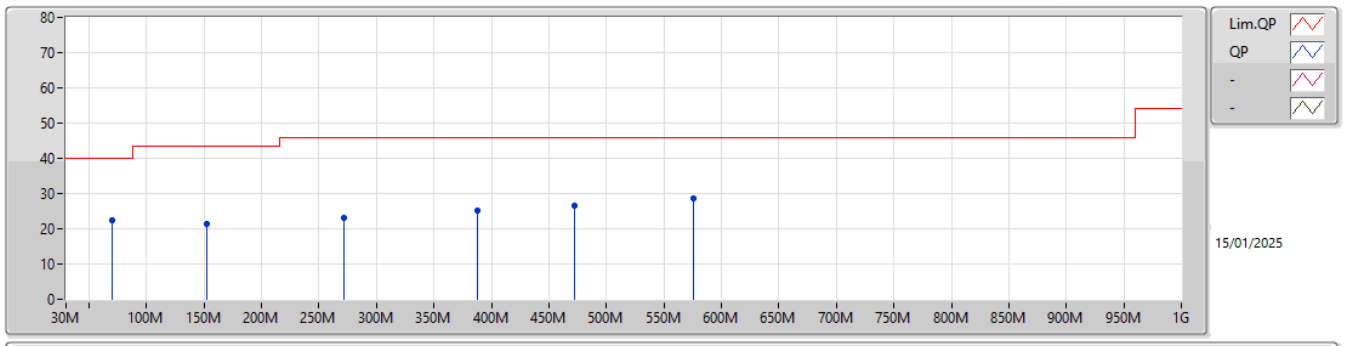


F-Start(Hz)	F-Stop(Hz)	RBW(Hz)	Type	Freq(Hz)	Psum(dBm)	P1(dBm)
3.1G	4G	1M	AV	3.94555G	-74.30	-74.30
4G	5G	1M	AV	4.96125G	-70.99	-70.99
5G	7G	1M	AV	5.449G	-73.14	-73.14
7G	8G	1M	AV	7.4915G	-71.31	-71.31
8G	25G	1M	AV	19.84422G	-50.32	-50.32

Summary

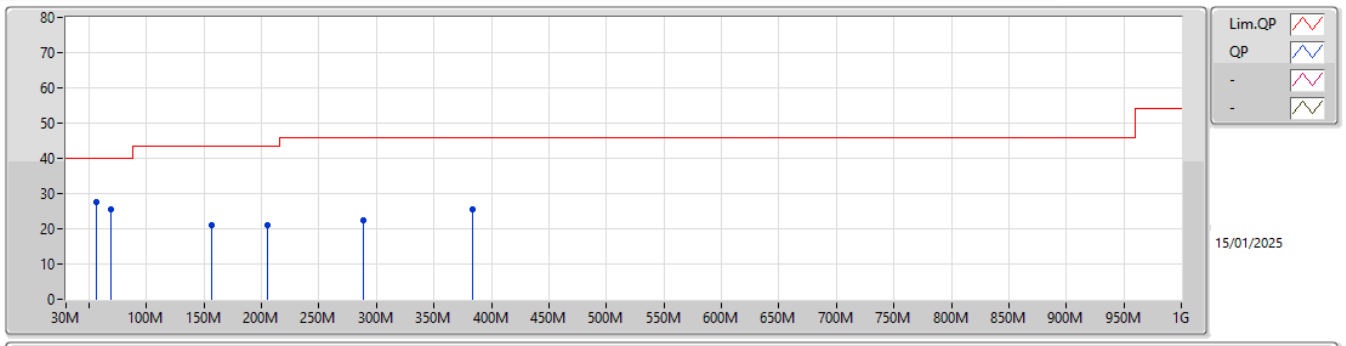
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	PK	56.9M	27.56	40.00	-12.44	Vertical

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)
PK	69.7M	22.32	40.00	-17.68	-10.97	3	Horizontal	-	-	-	33.29	16.36	0.85	28.18
PK	152.2M	21.30	43.50	-22.20	-8.66	3	Horizontal	-	-	-	29.96	18.38	1.22	28.26
PK	272M	23.05	46.00	-22.95	-8.69	3	Horizontal	-	-	-	31.74	17.88	1.67	28.24
PK	388M	25.09	46.00	-20.91	-5.74	3	Horizontal	-	-	-	30.83	20.56	1.88	28.18
PK	472.2M	26.65	46.00	-19.35	-3.84	3	Horizontal	-	-	-	30.49	22.34	2.01	28.19
PK	576.2M	28.50	46.00	-17.50	-1.62	3	Horizontal	-	-	-	30.12	24.25	2.31	28.18

Mode 1



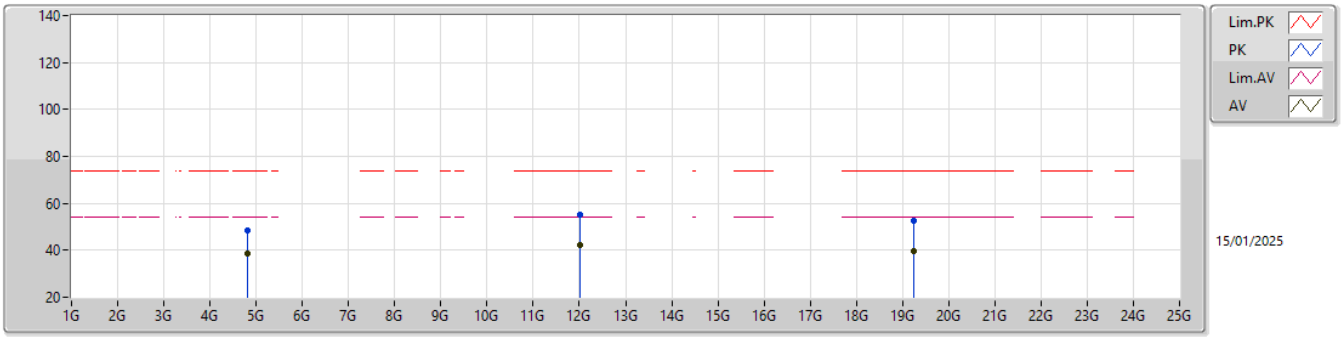
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
PK	56.9M	27.56	40.00	-12.44	-8.48	3	Vertical	-	-	-	36.04	18.90	0.77	28.15
PK	69.4M	25.57	40.00	-14.43	-10.90	3	Vertical	-	-	-	36.47	16.42	0.85	28.17
PK	157M	21.13	43.50	-22.37	-8.62	3	Vertical	-	-	-	29.75	18.40	1.24	28.26
PK	205.2M	20.96	43.50	-22.54	-11.66	3	Vertical	-	-	-	32.62	15.19	1.43	28.28
PK	288.5M	22.55	46.00	-23.45	-8.13	3	Vertical	-	-	-	30.68	18.37	1.74	28.24
PK	384M	25.36	46.00	-20.64	-5.81	3	Vertical	-	-	-	31.17	20.50	1.87	28.18

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	-	-	-	-	-	-	-	-	-	-	-
802.15.4	Pass	AV	19.8G	44.02	54.00	-9.98	3	Vertical	190	1.25	-

2.4-2.4835GHz_802.15.4

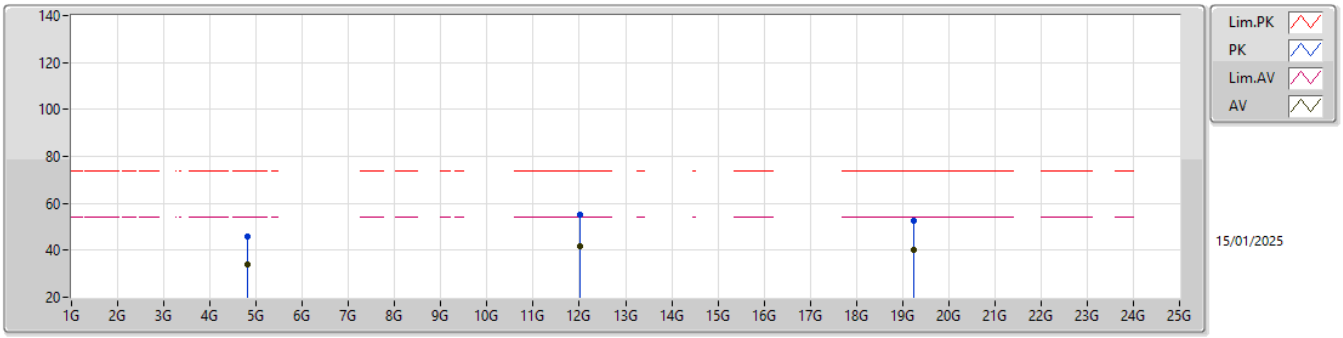
2405MHz_TX



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	4.81G	38.72	54.00	-15.28	39.15	3	Horizontal	47	2.09	-	31.40	6.69	38.52
PK	4.81G	48.59	74.00	-25.41	49.02	3	Horizontal	47	2.09	-	31.40	6.69	38.52
AV	12.025G	42.28	54.00	-11.72	35.52	3	Horizontal	108	1.00	-	39.40	10.24	42.88
PK	12.025G	55.09	74.00	-18.91	48.33	3	Horizontal	108	1.00	-	39.40	10.24	42.88
AV	19.24G	39.87	54.00	-14.13	38.13	3	Horizontal	111	1.00	-	37.82	13.30	49.38
PK	19.24G	52.53	74.00	-21.47	50.79	3	Horizontal	111	1.00	-	37.82	13.30	49.38

2.4-2.4835GHz_802.15.4

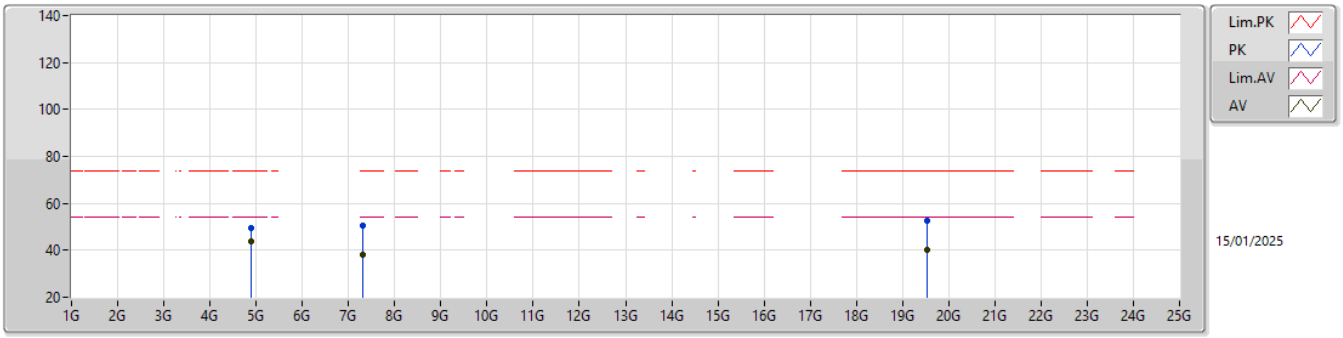
2405MHz_TX



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	4.81G	34.14	54.00	-19.86	34.57	3	Vertical	203	1.00	-	31.40	6.69	38.52
PK	4.81G	45.80	74.00	-28.20	46.23	3	Vertical	203	1.00	-	31.40	6.69	38.52
AV	12.025G	41.92	54.00	-12.08	35.16	3	Vertical	158	1.00	-	39.40	10.24	42.88
PK	12.025G	55.09	74.00	-18.91	48.33	3	Vertical	158	1.00	-	39.40	10.24	42.88
AV	19.24G	39.96	54.00	-14.04	38.22	3	Vertical	151	1.00	-	37.82	13.30	49.38
PK	19.24G	52.41	74.00	-21.59	50.67	3	Vertical	151	1.00	-	37.82	13.30	49.38

2.4-2.4835GHz_802.15.4

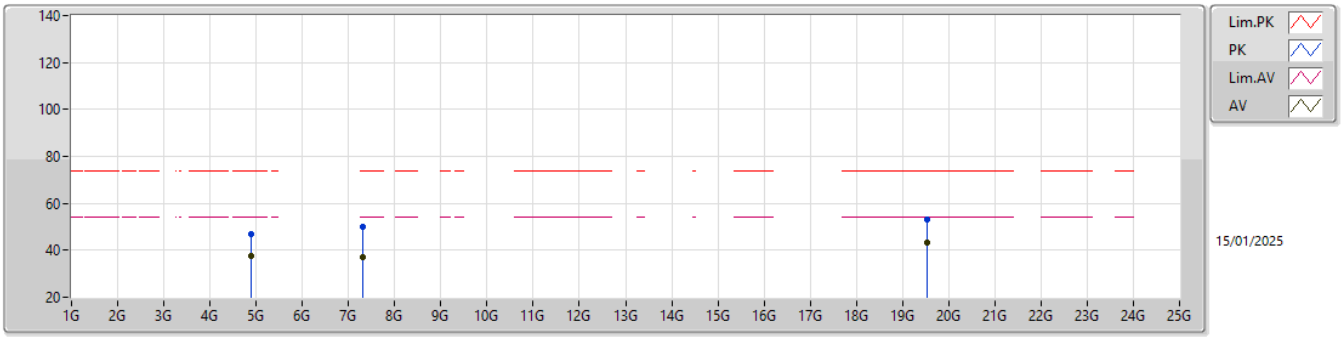
2440MHz_TX



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	4.88G	43.84	54.00	-10.16	44.24	3	Horizontal	51	1.71	-	31.40	6.77	38.57
PK	4.88G	49.55	74.00	-24.45	49.95	3	Horizontal	51	1.71	-	31.40	6.77	38.57
AV	7.32G	37.93	54.00	-16.07	32.43	3	Horizontal	165	1.00	-	36.26	8.63	39.39
PK	7.32G	50.77	74.00	-23.23	45.27	3	Horizontal	165	1.00	-	36.26	8.63	39.39
AV	19.52G	40.33	54.00	-13.67	38.60	3	Horizontal	209	1.12	-	37.60	13.45	49.32
PK	19.52G	52.76	74.00	-21.24	51.03	3	Horizontal	209	1.12	-	37.60	13.45	49.32

2.4-2.4835GHz_802.15.4

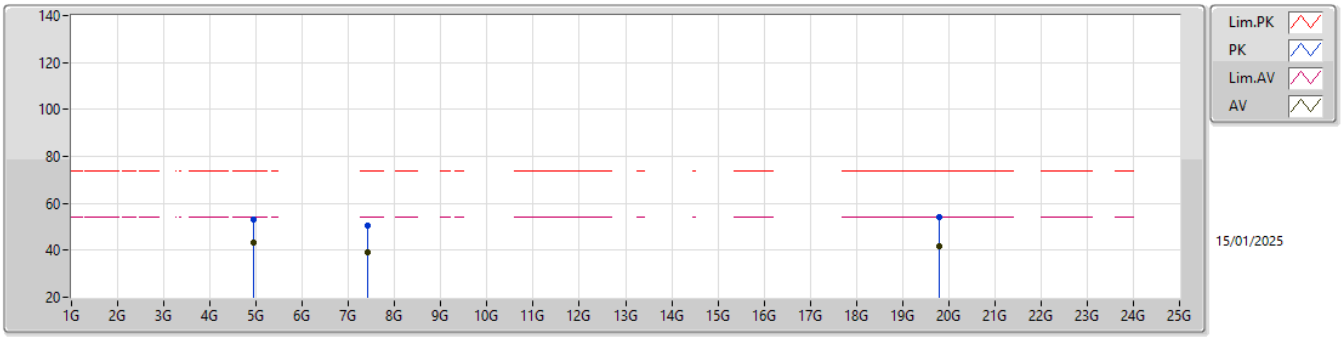
2440MHz_TX



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	4.88G	37.63	54.00	-16.37	38.03	3	Vertical	162	2.28	-	31.40	6.77	38.57
PK	4.88G	47.01	74.00	-26.99	47.41	3	Vertical	162	2.28	-	31.40	6.77	38.57
AV	7.32G	36.84	54.00	-17.16	31.34	3	Vertical	194	1.00	-	36.26	8.63	39.39
PK	7.32G	49.88	74.00	-24.12	44.38	3	Vertical	194	1.00	-	36.26	8.63	39.39
AV	19.52G	43.25	54.00	-10.75	41.52	3	Vertical	190	1.23	-	37.60	13.45	49.32
PK	19.52G	53.29	74.00	-20.71	51.56	3	Vertical	190	1.23	-	37.60	13.45	49.32

2.4-2.4835GHz_802.15.4

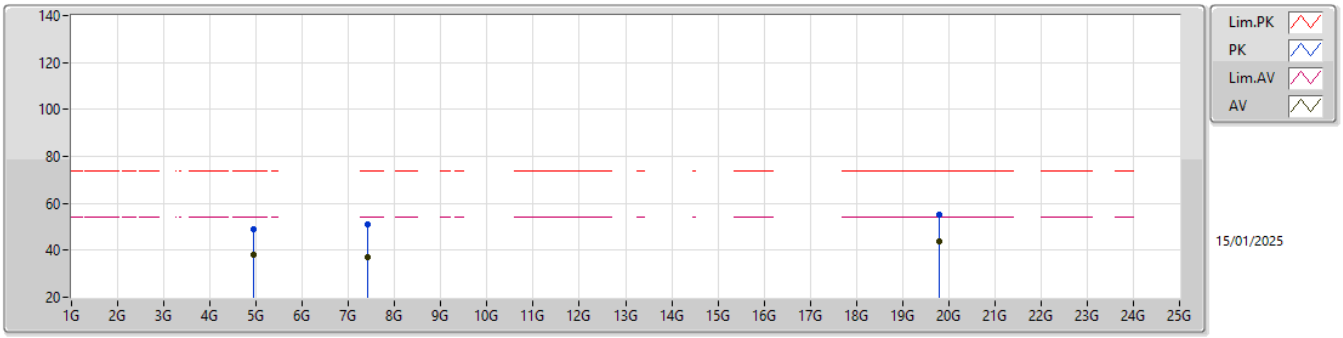
2475MHz_TX



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	4.95G	43.28	54.00	-10.72	43.65	3	Horizontal	49	1.82	-	31.40	6.85	38.62
PK	4.95G	52.95	74.00	-21.05	53.32	3	Horizontal	49	1.82	-	31.40	6.85	38.62
AV	7.425G	39.16	54.00	-14.84	33.78	3	Horizontal	312	1.59	-	36.25	8.66	39.53
PK	7.425G	50.73	74.00	-23.27	45.35	3	Horizontal	312	1.59	-	36.25	8.66	39.53
AV	19.8G	41.96	54.00	-12.04	40.05	3	Horizontal	202	1.16	-	37.60	13.49	49.18
PK	19.8G	53.88	74.00	-20.12	51.97	3	Horizontal	202	1.16	-	37.60	13.49	49.18

2.4-2.4835GHz_802.15.4

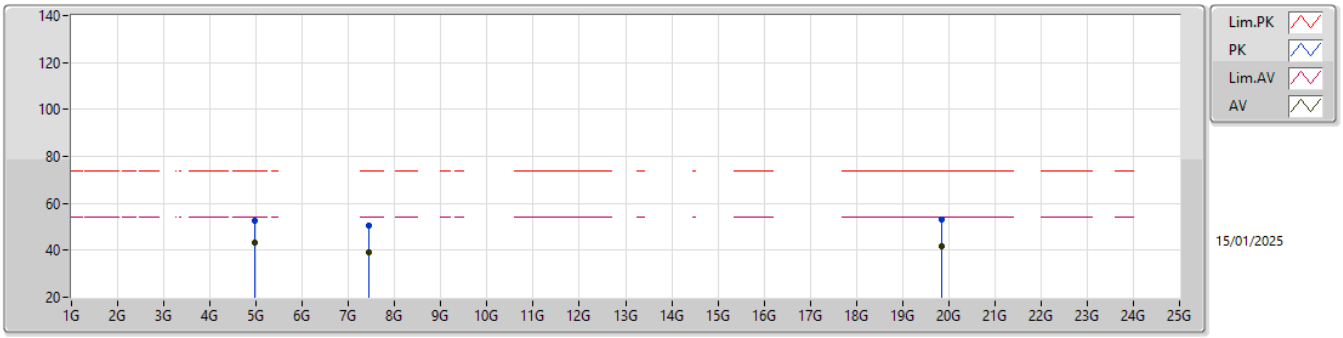
2475MHz_TX



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	4.95G	38.29	54.00	-15.71	38.66	3	Vertical	23	1.33	-	31.40	6.85	38.62
PK	4.95G	48.73	74.00	-25.27	49.10	3	Vertical	23	1.33	-	31.40	6.85	38.62
AV	7.425G	36.84	54.00	-17.16	31.46	3	Vertical	130	1.00	-	36.25	8.66	39.53
PK	7.425G	50.99	74.00	-23.01	45.61	3	Vertical	130	1.00	-	36.25	8.66	39.53
AV	19.8G	44.02	54.00	-9.98	42.11	3	Vertical	190	1.25	-	37.60	13.49	49.18
PK	19.8G	55.01	74.00	-18.99	53.10	3	Vertical	190	1.25	-	37.60	13.49	49.18

2.4-2.4835GHz_802.15.4

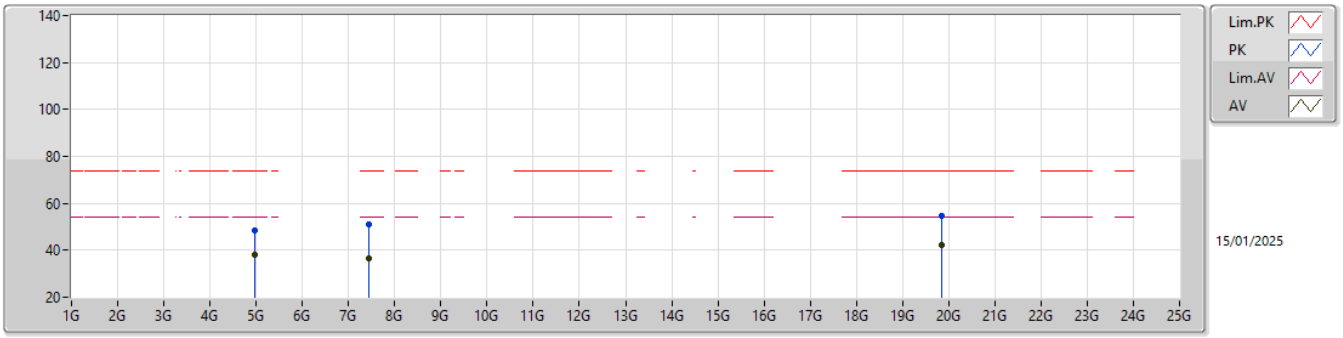
2480MHz_TX



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	4.96G	43.06	54.00	-10.94	43.38	3	Horizontal	43	1.77	-	31.44	6.86	38.62
PK	4.96G	52.52	74.00	-21.48	52.84	3	Horizontal	43	1.77	-	31.44	6.86	38.62
AV	7.44G	39.01	54.00	-14.99	33.61	3	Horizontal	318	1.54	-	36.28	8.66	39.54
PK	7.44G	50.66	74.00	-23.34	45.26	3	Horizontal	318	1.54	-	36.28	8.66	39.54
AV	19.84G	41.70	54.00	-12.30	39.84	3	Horizontal	217	1.12	-	37.52	13.50	49.16
PK	19.84G	53.07	74.00	-20.93	51.21	3	Horizontal	217	1.12	-	37.52	13.50	49.16

2.4-2.4835GHz_802.15.4

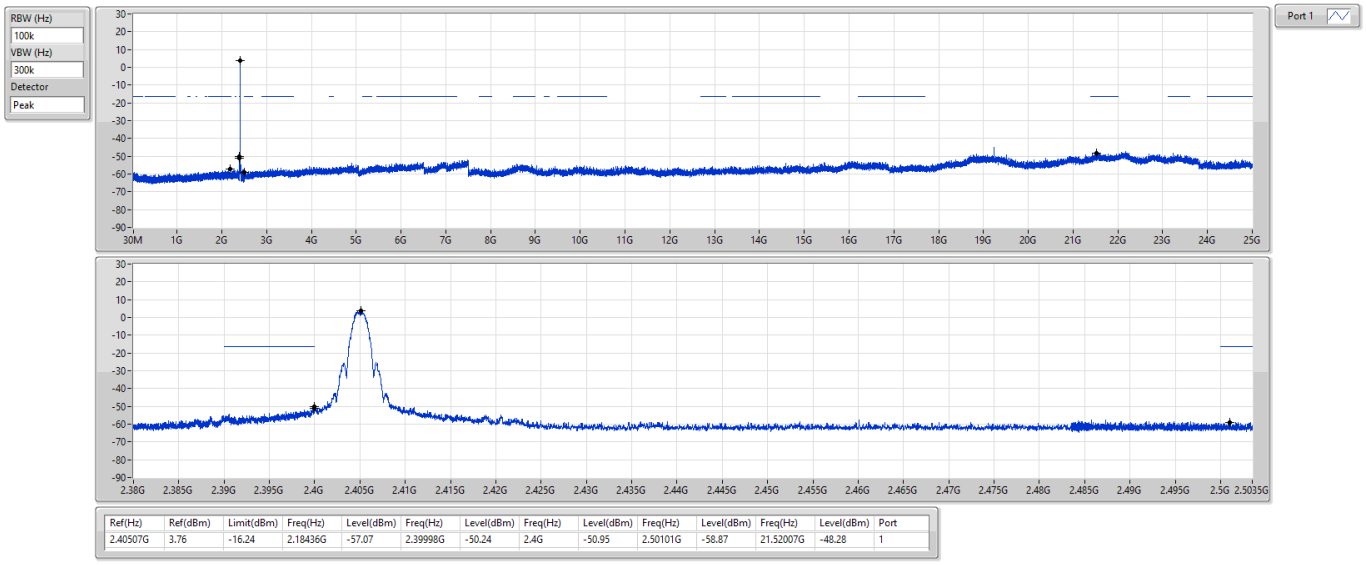
2480MHz_TX



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	4.96G	38.08	54.00	-15.92	38.40	3	Vertical	20	1.31	-	31.44	6.86	38.62
PK	4.96G	48.61	74.00	-25.39	48.93	3	Vertical	20	1.31	-	31.44	6.86	38.62
AV	7.44G	36.66	54.00	-17.34	31.26	3	Vertical	128	1.00	-	36.28	8.66	39.54
PK	7.44G	50.78	74.00	-23.22	45.38	3	Vertical	128	1.00	-	36.28	8.66	39.54
AV	19.84G	42.39	54.00	-11.61	40.53	3	Vertical	188	1.32	-	37.52	13.50	49.16
PK	19.84G	54.52	74.00	-19.48	52.66	3	Vertical	188	1.32	-	37.52	13.50	49.16

2.4-2.4835GHz_802.15.4 **CSENdB-DTS**

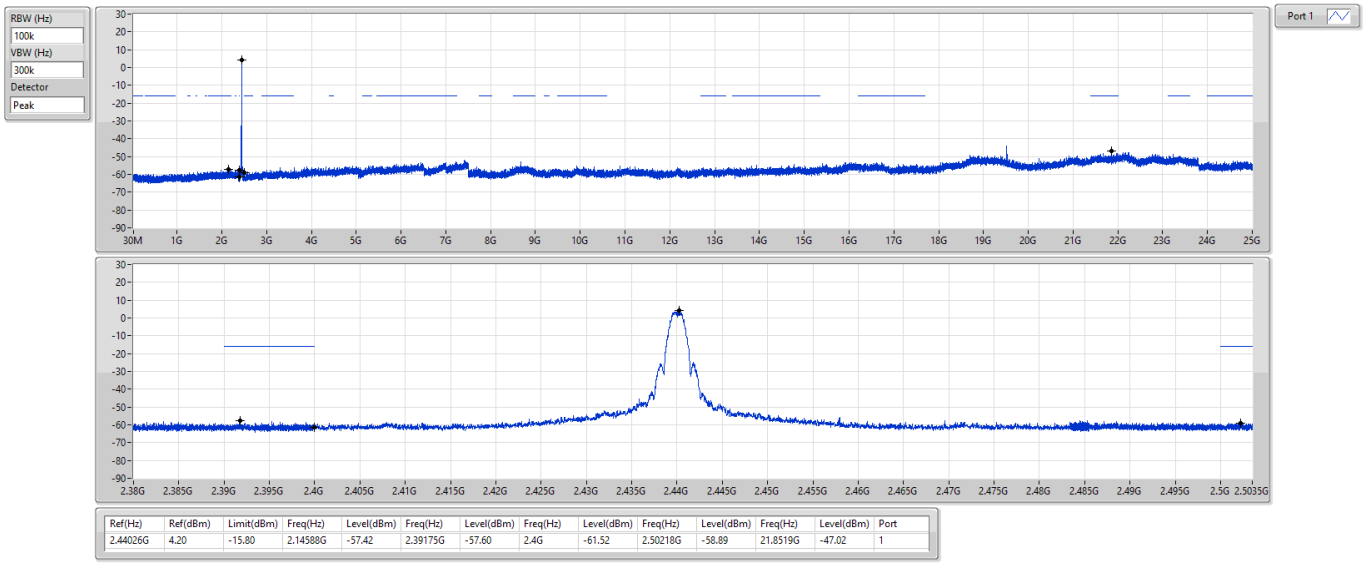
2405MHz



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
2.40507G	3.76	-16.24	2.18436G	-57.07	2.39998G	-50.24	2.4G	-50.95	2.50101G	-58.87	21.52007G	-48.28	1

2.4-2.4835GHz_802.15.4 **CSENdB-DTS**

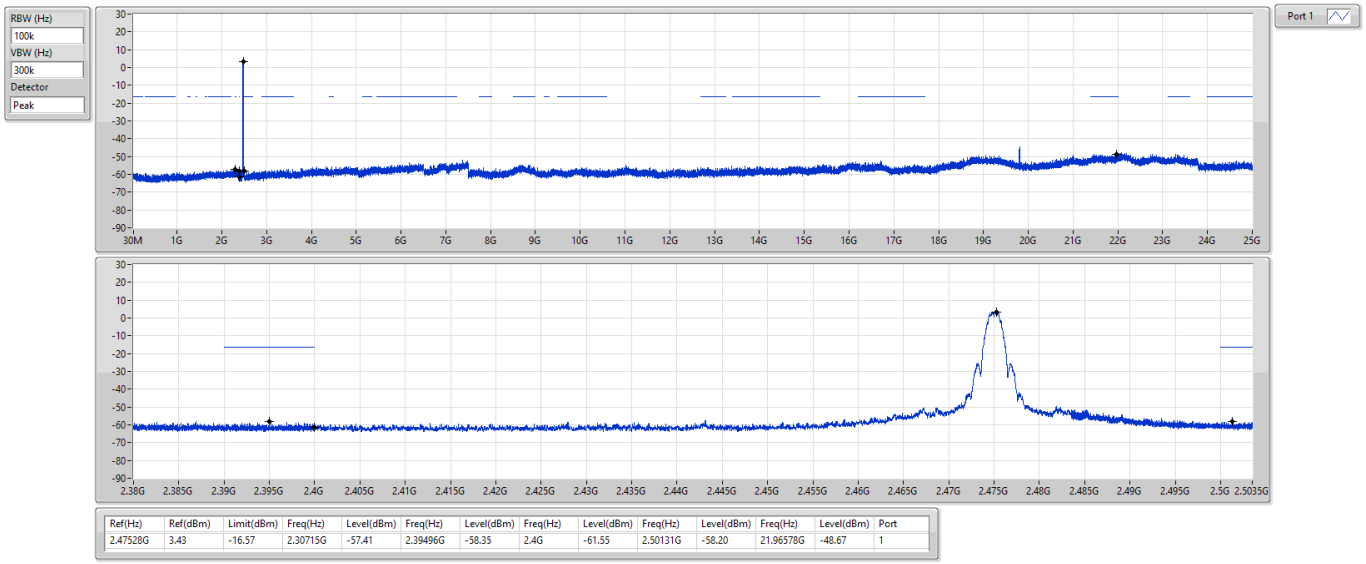
2440MHz



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
2.44026G	4.20	-15.80	2.14588G	-57.42	2.39175G	-57.60	2.4G	-61.52	2.50218G	-58.89	21.8519G	-47.02	1

2.4-2.4835GHz_802.15.4 **CSENdB-DTS**

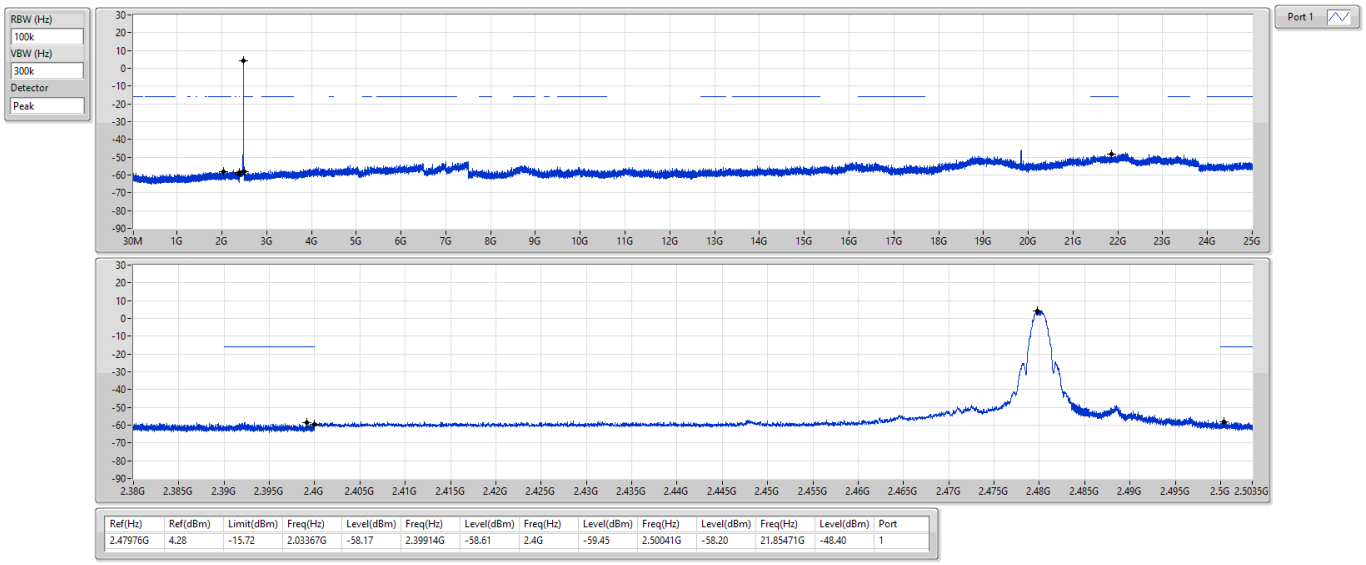
2475MHz



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
2.47528G	3.43	-16.57	2.30715G	-57.41	2.39496G	-58.35	2.4G	-61.55	2.50131G	-58.20	21.96578G	-48.67	1

2.4-2.4835GHz_802.15.4 **CSENdB-DTS**

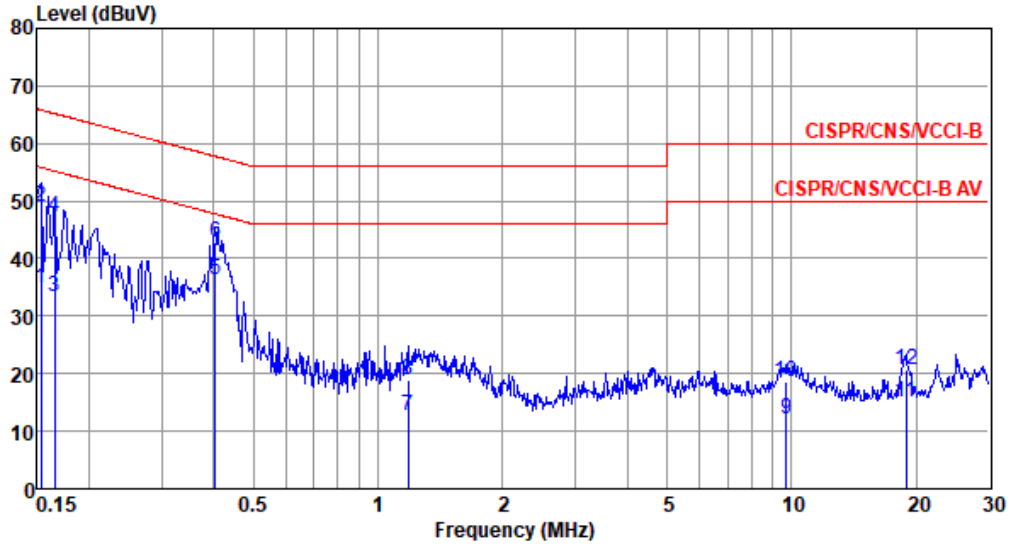
2480MHz



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
2.47976G	4.28	-15.72	2.03367G	-58.17	2.39914G	-58.61	2.4G	-59.45	2.50041G	-58.20	21.85471G	-48.40	1

Modulation Mode	O-QPSK	**Test Freq. (MHz)**	2440
Power Phase	Line		

Test by : Allen Lee Temperature: 21°C Humidity: 66%

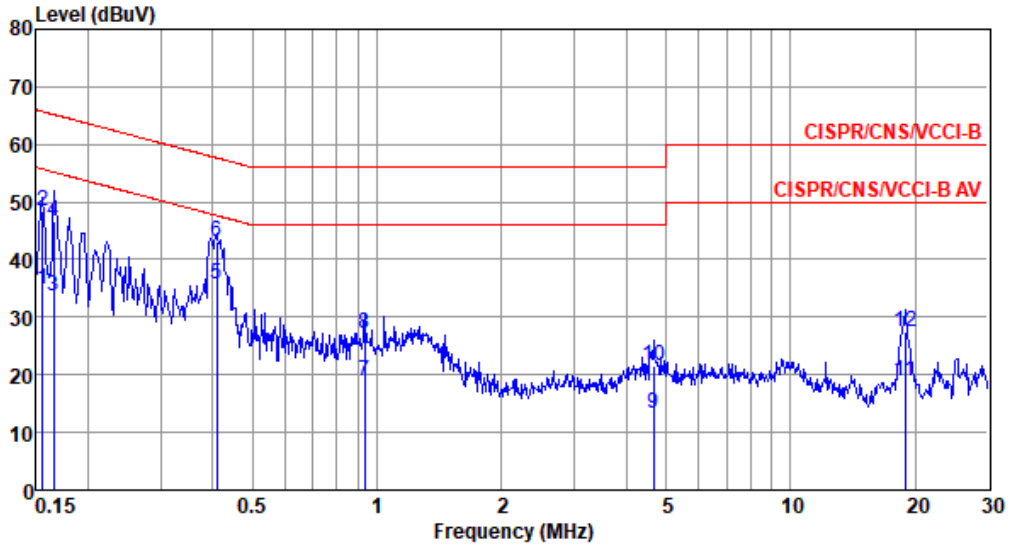


	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.153	34.70	55.82	-21.12	24.97	9.65	0.08	0.00	Average
2	0.153	49.08	65.82	-16.74	39.35	9.65	0.08	0.00	QP
3	0.165	33.49	55.21	-21.72	23.76	9.65	0.08	0.00	Average
4	0.165	47.20	65.21	-18.01	37.47	9.65	0.08	0.00	QP
5*	0.404	36.37	47.77	-11.40	26.64	9.64	0.09	0.00	Average
6	0.404	42.70	57.77	-15.07	32.97	9.64	0.09	0.00	QP
7	1.184	12.76	46.00	-33.24	2.99	9.65	0.12	0.00	Average
8	1.184	18.80	56.00	-37.20	9.03	9.65	0.12	0.00	QP
9	9.705	11.98	50.00	-38.02	1.97	9.71	0.30	0.00	Average
10	9.705	18.71	60.00	-41.29	8.70	9.71	0.30	0.00	QP
11	18.920	14.95	50.00	-35.05	4.73	9.68	0.54	0.00	Average
12	18.920	20.57	60.00	-39.43	10.35	9.68	0.54	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 Mode	O-QPSK	**Test Freq. (MHz)**	2440
Power Phase	Neutral		

Test by : Allen Lee Temperature: 21°C Humidity: 66%



	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Cable loss	Aux	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	dB	
1	0.156	34.86	55.69	-20.83	25.12	9.66	0.08	0.00	Average
2	0.156	48.28	65.69	-17.41	38.54	9.66	0.08	0.00	QP
3	0.165	33.69	55.21	-21.52	23.95	9.66	0.08	0.00	Average
4	0.165	46.55	65.21	-18.66	36.81	9.66	0.08	0.00	QP
5*	0.410	35.65	47.64	-11.99	25.92	9.64	0.09	0.00	Average
6	0.410	43.13	57.64	-14.51	33.40	9.64	0.09	0.00	QP
7	0.933	18.83	46.00	-27.17	9.08	9.65	0.10	0.00	Average
8	0.933	27.16	56.00	-28.84	17.41	9.65	0.10	0.00	QP
9	4.672	13.42	46.00	-32.58	3.50	9.69	0.23	0.00	Average
10	4.672	21.59	56.00	-34.41	11.67	9.69	0.23	0.00	QP
11	18.920	18.96	50.00	-31.04	8.60	9.82	0.54	0.00	Average
12	18.920	27.35	60.00	-32.65	16.99	9.82	0.54	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).