Testing Laboratory
3787

RADIO TEST REPORT

FCC ID	:	TLZ-XM666
Equipment	:	IEEE 802.11 a/b/g/n/ac/ax Wireless LAN 1T1R and BLE/802.15.4 Solution Family 12 x 12 LGA Module
Brand Name	:	AzureWave
Model Name	:	AW-XM646G-SUR,AW-XM646G-USB,AW-XM646F-SUR,AW-XM646F-USB,AW-XM646C-SUR,AW-XM646C-USB,AW-XM646B-SUR,AW-XM646B-USB
Applicant	:	AzureWave Technologies, Inc. 8F., No.94, Baozhong Rd. , Xindian Dist., New Taipei City , Taiwan 231
Manufacturer	:	AzureWave Technologies, Inc. 8F., No.94, Baozhong Rd. , Xindian Dist., New Taipei City , Taiwan 231
Standard	:	47 CFR FCC Part 15.247

The product was received on May 06, 2025, and testing was started from May 15, 2025 and completed on Jun. 03, 2025. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FR521124-01AB	01	Initial issue of report	Jun. 13, 2025

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	DTS Bandwidth	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the chapter "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Sam Chen
Report Producer: Vicky Huang

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std.	Ch. Frequency (MHz)	Channel Number
2400-2483.5	802.15.4	2405-2480	11-26 [16]

Band	Mode	BWch (MHz)	Nant
2.4G	Thread	3	1

Note:
- Thread uses a O-QPSK (250kbps) modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
						WLAN 2.4GHz, Bluetooth and Thread	WLAN 5GHz
1	1	ARISTOTLE	RFA-27-JP326MHF4C198	PIFA Antenna	I-PEX	3.5	5

Note 1: The above information was declared by manufacturer.

Note 2: **For 2.4GHz function:**

For IEEE 802.11 b/g/n/VHT/ax (1TX/1RX):

Only Port 1 can be used as transmitting/receiving antenna.

For 5GHz function:

For IEEE 802.11a/n/ac/ax (1TX/1RX):

Only Port 1 can be used as transmitting/receiving antenna.

For Bluetooth/Thread function (1TX/1RX):

Only Port 1 can be used as transmitting/receiving antenna.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF (dB)	T (s)	VBW (Hz)_1/T
Thread_Nss 1	1	0	40.005m	10Hz (DC>=0.98)

Note:
- DC is Duty Cycle.
- DCF is Duty Cycle Factor.

1.1.4 EUT Operational Condition

EUT Power Type	From host system			
Function	☒	Point-to-multipoint	☐	Point-to-point
Test Software Version	DutApiMimoApApp_LABTOOL_UNIFIED.exe v2.0.0.22			

Note: The above information was declared by manufacturer.

1.1.5 Table for Multiple Listing

The difference for each model is shown as below:

EUT	Model Name	WLAN 2.4G	WLAN 5G	Bluetooth	802.15.4	Interface
1	AW-XM646G-SUR	V	V	V	V	SUR
2	AW-XM646G-USB	V	V	V	V	USB
-	AW-XM646F-SUR	V	V	V	X	SUR
-	AW-XM646F-USB	V	V	V	X	USB
-	AW-XM646C-SUR	V	X	V	V	SUR
-	AW-XM646C-USB	V	X	V	V	USB
-	AW-XM646B-SUR	V	X	V	X	SUR
-	AW-XM646B-USB	V	X	V	X	USB
Description						
In addition to the differences mentioned above, there are differences in marketing strategy.						

Note 1: From the above EUT, EUT 1 and 2 were selected as representative model for the test and its data was recorded in this report.

Note 2: The above information was declared by manufacturer.

1.2 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15.247
- ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF.

- FCC KDB 558074 D01 v05r02
- FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

Testing Location Information	
Test Lab.：Sporton International Inc. Hsinchu Laboratory	
Hsinchu (TAF: 3787)	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.) TEL: 886-3-656-9065 FAX: 886-3-656-9085 Test site Designation No. TW3787 with FCC. Conformity Assessment Body Identifier (CABID) TW3787 with ISED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH03-CB	Jay Lo	21.2~22.6 / 58~61	May 15, 2025~ May 27, 2025
Radiated	03CH03-CB	Eason Chen	21.6~23.1 / 58~62	May 26, 2025~ Jun. 02, 2025
AC Conduction	CO02-CB	Tim Chen	22~23 / 22~23	May 21, 2025~ Jun. 03, 2025

1.4 Measurement Uncertainty

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

Test Date: Before May 28, 2025

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.8 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	4.1 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.0 dB	Confidence levels of 95%
Conducted Emission	3.1 dB	Confidence levels of 95%
Output Power Measurement	0.8 dB	Confidence levels of 95%
Power Density Measurement	3.1 dB	Confidence levels of 95%
Bandwidth Measurement	2.1 %	Confidence levels of 95%

Test Date: After May 27, 2025

Test Items	Uncertainty	Remark
Radiated Emission (9kHz ~ 30MHz)	3.8 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode
Thread_3MHz_Nss1_1TX
2405MHz
2440MHz
2475MHz
2480MHz

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	CTX
	The EUT was performed at EUT 1 and EUT 2, and the worst case was found as EUT 1. Thus, the measurement will follow this same test configuration.
1	EUT 1 + Thread

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains
The EUT was performed at EUT 1 and EUT 2 for Radiated emission above 1GHz test, and the worst case was found as EUT 1. Thus, the measurement will follow this same test configuration.	
1	EUT 1

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
	1. The EUT was performed at X axis, Y axis and Z axis position for Radiated emission above 1GHz test, and the worst case was found as Z axis. Thus, the measurement will follow this same test configuration. 2. The EUT was performed at EUT 1 and EUT 2, and the worst case was found as EUT 1. Thus, the measurement will follow this same test configuration.
1	EUT 1 in Z axis + Thread
Operating Mode > 1GHz	CTX
	1. The EUT was performed at X axis, Y axis and Z axis position the worst case was found as below. Thus, the measurement will follow this same test configuration. 2. The EUT 1 and EUT 2 performed the testing, and the worst case was found in EUT 1. Thus, the measurement will follow this same test configuration
1	EUT 1 in Z axis

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	Bluetooth + WLAN 2.4GHz
2	Bluetooth + WLAN 5GHz
Refer to Sporton Test Report No.: FA521124-01 for Co-location RF Exposure Evaluation.	

2.3 EUT Operation during Test

For Normal Link:

During the test, the EUT operation to normal function.

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

N/A

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	EUT Fixture	Azurewave	2460-i4	N/A
B	Thread Fixture	Azurewave	3510	N/A
C	NB 1	DELL	E6430	N/A
D	Earphone	e-Power	GT02	N/A
E	Mouse	acer	MOBVUO	N/A
F	NB 2	DELL	E6430	N/A
G	USB HUB	INTOPIC	HB-16	N/A

For RF Conducted:

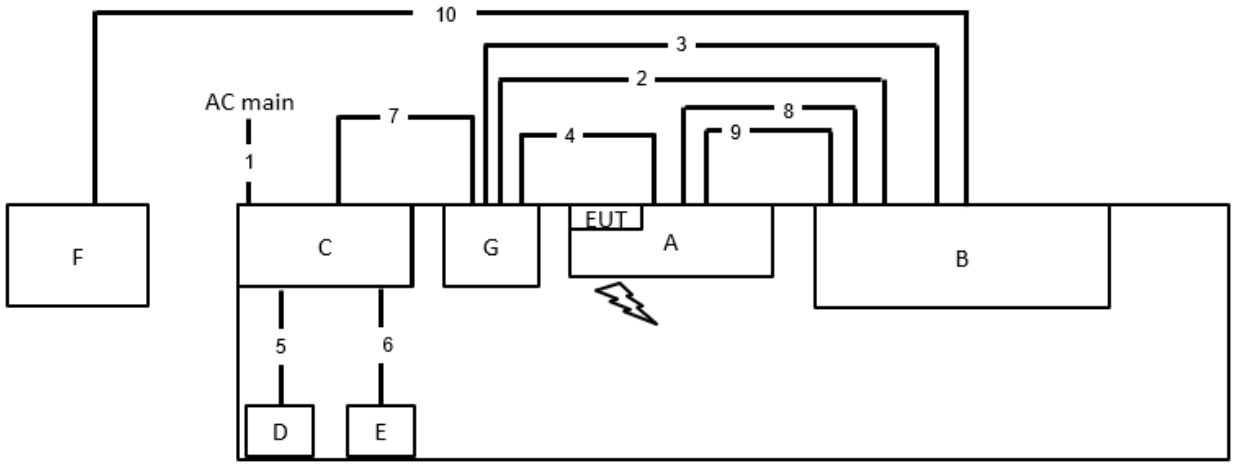
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	NB	DELL	E4300	N/A
C	Thread Fixture	AzureWave	3510	N/A
D	EUT Fixture	AzureWave	2646-i4	N/A

For Radiated:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	NB	DELL	E4300	N/A
B	Thread Fixture	AzureWave	3510	N/A
C	EUT Fixture	AzureWave	2646-i4	N/A
D	NB	DELL	E4300	N/A

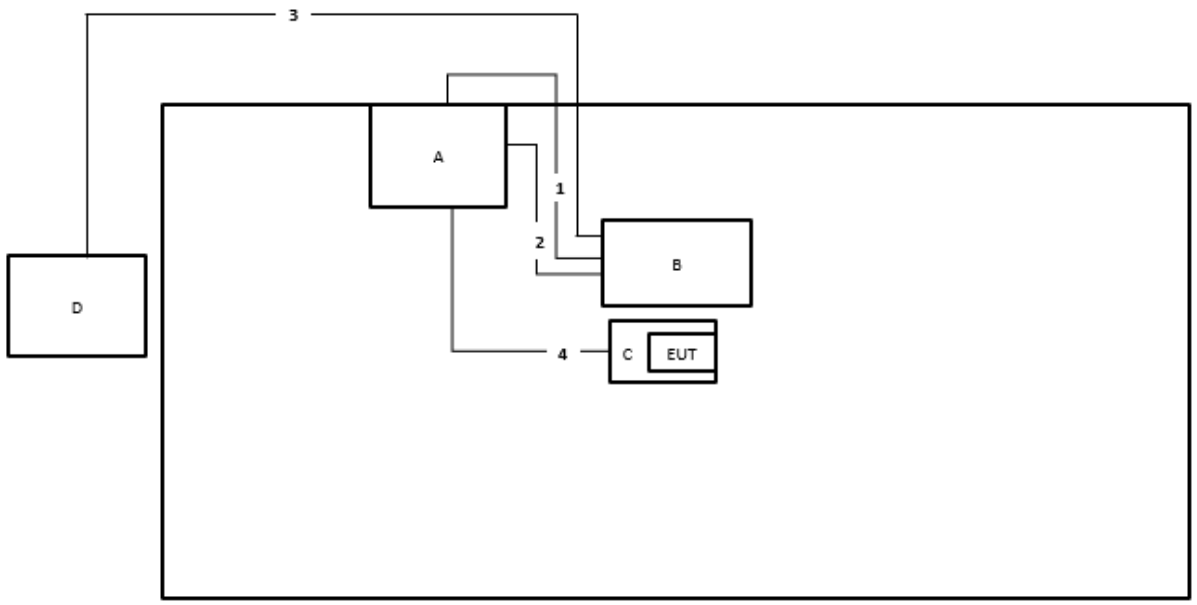
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



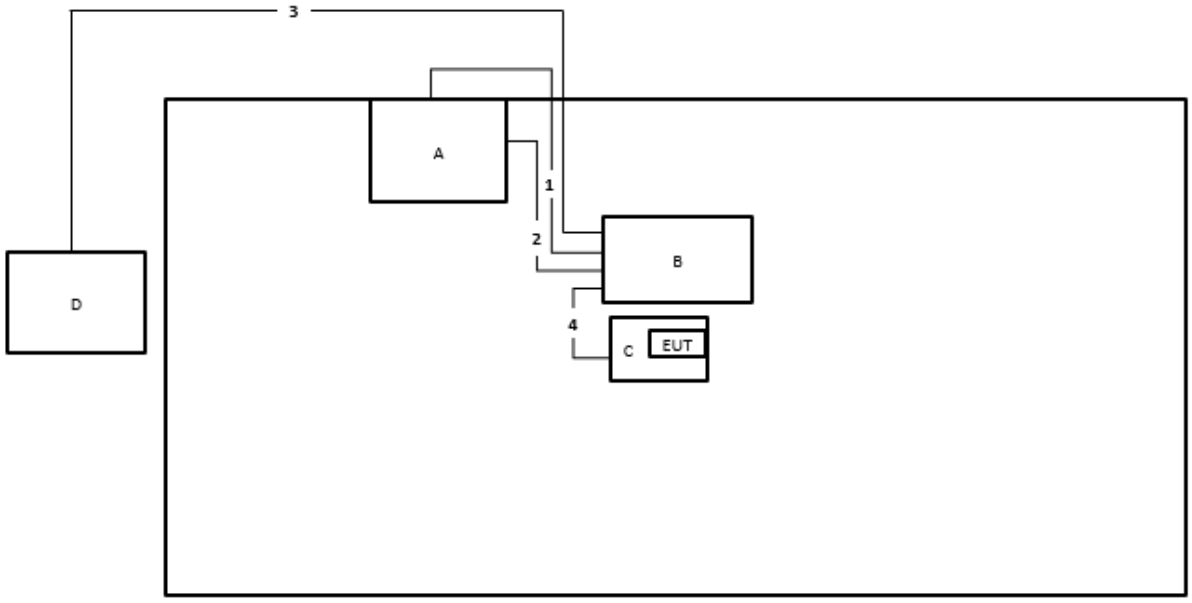
Item	Connection	Shielded	Length
1	Power cable	No	2.3m
2	Type C USB cable	Yes	1m
3	Micro USB cable	Yes	1.2m
4	Type C USB cable	Yes	1m
5	Audio cable	No	1.2m
6	USB cable	Yes	1.2m
7	USB cable	Yes	0.1m
8	Dupont cable*6	Yes	0.1m
9	Dupont cable	Yes	0.2m
10	RJ-45 cable	No	10m

Test Setup Diagram - Radiated < 1GHz Test



Item	Connection	Shielded	Length
1	Micro USB cable	Yes	1m
2	Type C USB cable	Yes	1m
3	RJ-45 cable	No	10m
4	Type C USB cable	Yes	1m

Test Setup Diagram - Radiated > 1GHz Test



Item	Connection	Shielded	Length
1	Micro USB cable	Yes	1m
2	Type C USB cable	Yes	1m
3	RJ-45 cable	No	10m
4	IPEX cable*6	Yes	0.1m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

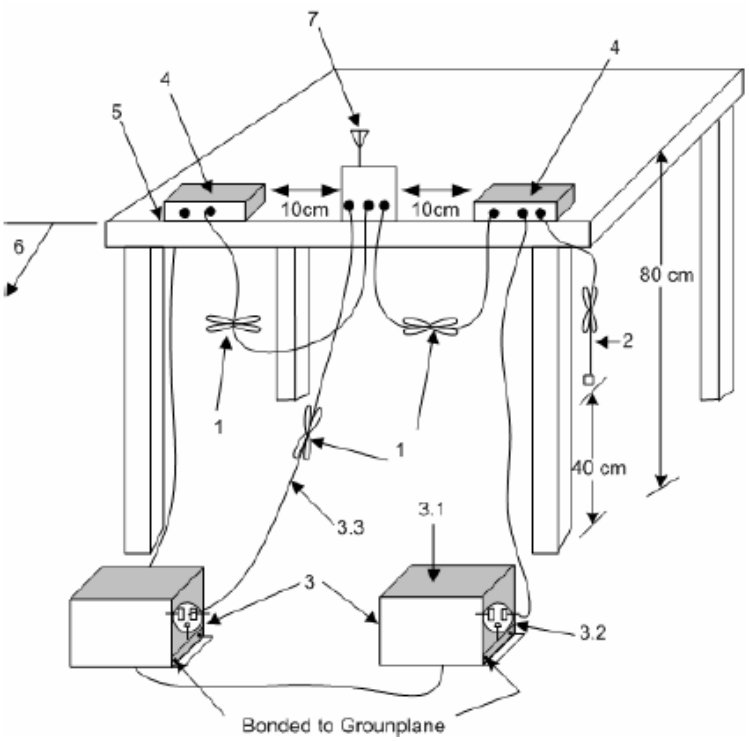
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

Test Method
☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup

AC Power-line Conducted Emissions



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.5 Measurement Results Calculation

The measured Level is calculated using:

a. Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level

b. Margin = -Limit + Level

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
▪ 6 dB bandwidth ≥ 500 kHz.

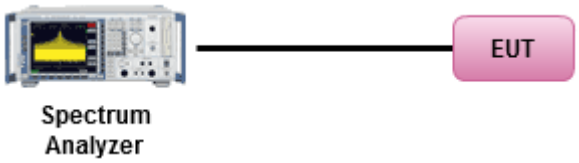
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method	
▪ For the emission bandwidth shall be measured using one of the options below:	
	☒ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement.
	☐ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement.
	☐ Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup

Emission Bandwidth


3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit		
	▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)	
	▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)$ dBm	
	▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm	
	▪ Smart antenna system (SAS):	
		- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm
		- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm
		- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3 + 8$dB dBm
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, **G_{TX}** = the maximum transmitting antenna directional gain in dBi.		

3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method	
▪ Maximum Peak Conducted Output Power	
	☐ Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method).
	☐ Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).
▪ Maximum Conducted Output Power	
	[duty cycle ≥ 98% or external video / power trigger]
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1.
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.3 Method AVGSA-1A. (alternative)
	duty cycle < 98% and average over on/off periods with duty factor
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2.
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative)
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3
	☐ Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.7 Method AVGSA-3A (alternative)
	Measurement using a power meter (PM)
	☐ Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.1 Method AVGPM (using an RF average power meter).
	☒ Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.2 Method AVGPM-G (using an gate RF average power meter).
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
▪ Power Spectral Density (PSD) ≤ 8 dBm/3kHz

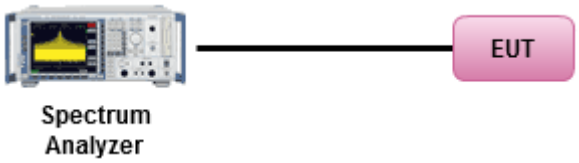
3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method			
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).			
	☒ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10 Method Max. PSD.		
▪ For conducted measurement.			
	▪ If The EUT supports multiple transmit chains using options given below:		
		☐ Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.	
		☐ Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,	
		☐ Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.	

3.4.4 Test Setup

Power Spectral Density


3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	**Limit (dBc)**
Peak output power procedure	20
Average output power procedure	30
Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level. Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.	

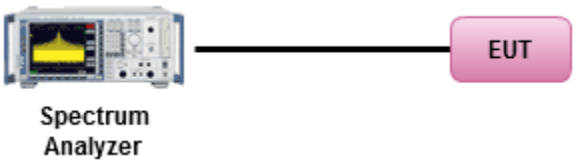
3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method
▪ Refer as FCC KDB 558074, clause 8.5 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup

Emissions in Non-restricted Frequency Bands


3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

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: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

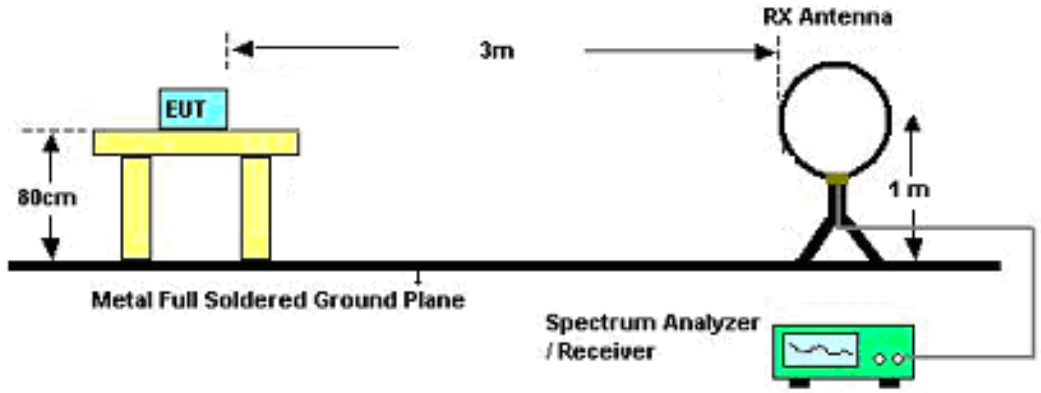
3.6.3 Test Procedures

Test Method
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
▪ For the transmitter unwanted emissions shall be measured using following options below:
▪ Refer as FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.
☐ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle ≥98%).
☐ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
☒ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW≥1/T).
☐ Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
☐ Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
☒ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
▪ For the transmitter band-edge emissions shall be measured using following options below:
▪ Refer as FCC KDB 558074 clause 8.7 & c63.10 clause 11.13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
▪ Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.
▪ Refer as FCC KDB 558074, clause 8.7 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

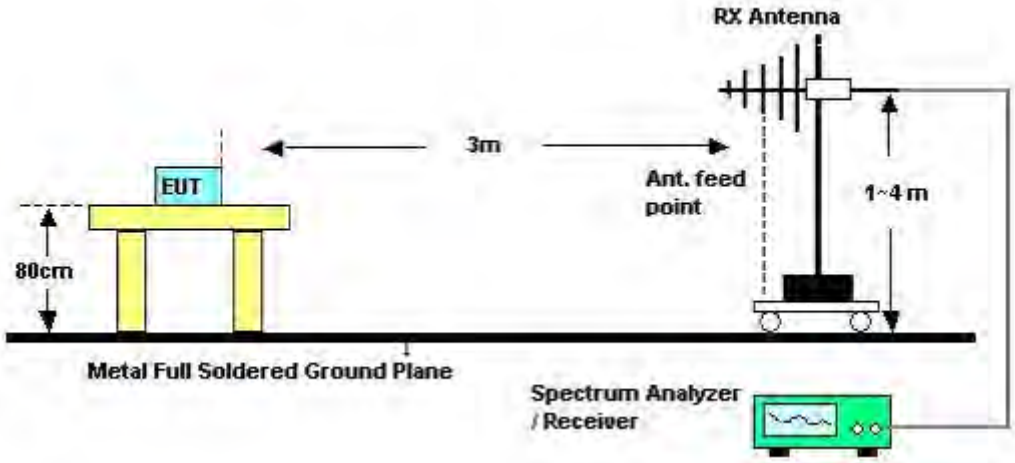
3.6.4 Test Setup

Emissions in Restricted Frequency Bands

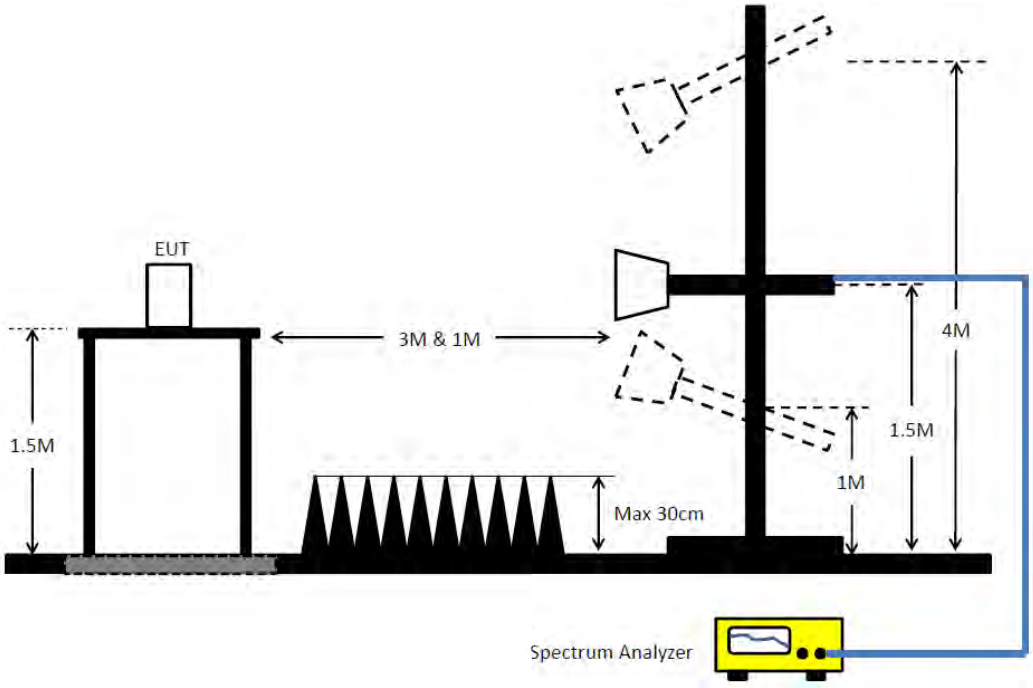
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



3.6.5 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

3.6.6 Emissions in Restricted Frequency Bands (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.
The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10th harmonic or 40 GHz, whichever is appropriate.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Apr. 29, 2025	Apr. 28, 2026	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Feb. 06, 2025	Feb. 05, 2026	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	May 14, 2025	May 13, 2026	Conduction (CO02-CB)
COND Cable	Woken	Cable	CO02	0.15MHz ~ 30MHz	Oct. 16, 2024	Oct. 15, 2025	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F-N	00378	9kHz ~ 30MHz	Oct. 16, 2024	Oct. 15, 2025	Conduction (CO02-CB)
Test Software	SPORTON	SENSE-EMI	V5.11	150kHz-30MHz	N.C.R.	N.C.R.	Conduction (CO02-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH03-CB	30 MHz ~ 1 GHz	Jan. 17, 2025	Jan. 16, 2026	Radiation (03CH03-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH03-CB	1GHz ~18GHz 3m	May 02, 2025	May 01, 2026	Radiation (03CH03-CB)
Loop Antenna	Teseq	HLA 6121	65417	9kHz - 30MHz	Oct. 17, 2024	Oct. 16, 2025	Radiation (03CH03-CB)
Bilog Antenna with 6dB Attenator	Schaffner & EMCI	CBL6112B& N-6-06	2888&AT-N0605	30MHz ~ 1GHz	Jan. 17, 2025	Jan. 16, 2026	Radiation (03CH03-CB)
Amplifier	EMCI	EMC330N	980332	30M~1GHz	May 01, 2025	Apr. 30, 2026	Radiation (03CH03-CB)
Horn Antenna	ETS·Lindgren	3115	6821	750MHz~18GHz	Feb. 20, 2025	Feb. 19, 2026	Radiation (03CH03-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Sep. 23, 2024	Sep. 22, 2025	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8449B	3008A02097	1GHz ~ 26.5GHz	Jun. 29, 2024	Jun. 28, 2025	Radiation (03CH03-CB)
Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 25, 2024	Nov. 24, 2025	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP40	100019	9kHz ~ 40GHz	Jun. 11, 2024	Jun. 10, 2025	Radiation (03CH03-CB)
EMI Test Receiver	R&S	ESR7	102172	9kHz ~ 7GHz	Oct. 21, 2024	Oct. 20, 2025	Radiation (03CH03-CB)
RF Cable-low	Woken	RG402	Low Cable-02+29	30MHz ~ 1GHz	Oct. 01, 2024	Sep. 30, 2025	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-20+29	1GHz ~ 18GHz	Oct. 01, 2024	Sep. 30, 2025	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-29	1GHz ~ 18GHz	Oct. 01, 2024	Sep. 30, 2025	Radiation (03CH03-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Apr. 30, 2025	Apr. 29, 2026	Radiation (03CH03-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Test Software	SPORTON	SENSE-EMI	V5.11.8	30MHz-40GHz	N.C.R.	N.C.R.	Radiation (03CH03-CB)
Test Software	SPORTON	SENSE-15247 _DTS	V5.11.23	2.4GHz-2.4835GHz	N.C.R.	N.C.R.	Radiation (03CH03-CB)
Spectrum analyzer	R&S	FSV40	101028	9kHz~40GHz	Jan. 02, 2025	Jan. 01, 2026	Conducted (TH03-CB)
Power Sensor	Anritsu	MA2411B	1726195	300MHz~40GHz	Sep. 06, 2024	Sep. 05, 2025	Conducted (TH03-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Sep. 06, 2024	Sep. 05, 2025	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-11	30MHz –18 GHz	Oct. 01, 2024	Sep. 30, 2025	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-12	30MHz –18 GHz	Oct. 01, 2024	Sep. 30, 2025	Conducted (TH03-CB)
RF Cable	Woken	RG402	High Cable-13	30MHz –18 GHz	Oct. 01, 2024	Sep. 30, 2025	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz –18 GHz	Oct. 01, 2024	Sep. 30, 2025	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz –18 GHz	Oct. 01, 2024	Sep. 30, 2025	Conducted (TH03-CB)
Switch	SPTCB	SP-SWI	SWI-03	1~18GHz	Oct. 02, 2024	Oct. 01, 2025	Conducted (TH03-CB)
Test Software	SPORTON	SENSE-15247 _DTS	V5.11.23	2.4GHz-2.4835GHz	N.C.R.	N.C.R.	Conducted (TH03-CB)

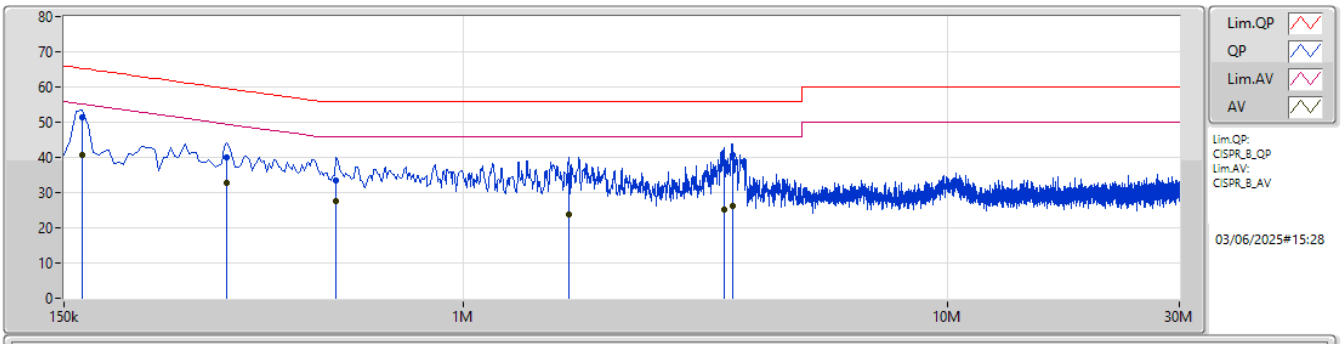
Note: Calibration Interval of instruments listed above is one year.

N.C.R. means Non-Calibration required.

Summary

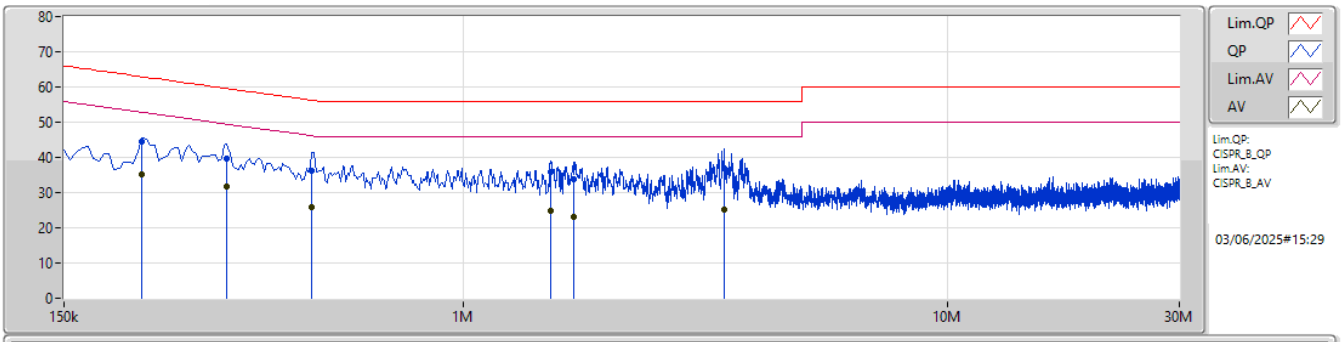
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	163.5k	51.26	65.27	-14.01	Line

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	163.5k	51.26	65.27	-14.01	10.10	Line	"Worst"	41.16	0.06	0.02	10.02
AV	163.5k	40.73	55.27	-14.54	10.10	Line	-	30.63	0.06	0.02	10.02
QP	325.5k	39.87	59.56	-19.69	10.12	Line	-	29.75	0.06	0.03	10.03
AV	325.5k	32.81	49.56	-16.75	10.12	Line	-	22.69	0.06	0.03	10.03
QP	546k	33.61	56.00	-22.39	10.12	Line	-	23.49	0.06	0.03	10.03
AV	546k	27.74	46.00	-18.26	10.12	Line	-	17.62	0.06	0.03	10.03
QP	1.649M	34.68	56.00	-21.32	10.12	Line	-	24.56	0.08	0.02	10.02
AV	1.649M	23.66	46.00	-22.34	10.12	Line	-	13.54	0.08	0.02	10.02
QP	3.444M	38.11	56.00	-17.89	10.19	Line	-	27.92	0.11	0.03	10.05
AV	3.444M	25.13	46.00	-20.87	10.19	Line	-	14.94	0.11	0.03	10.05
QP	3.588M	40.57	56.00	-15.43	10.20	Line	-	30.37	0.12	0.03	10.05
AV	3.588M	26.09	46.00	-19.91	10.20	Line	-	15.89	0.12	0.03	10.05

Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	217.5k	44.45	62.92	-18.47	10.11	Neutral	-	34.34	0.07	0.02	10.02
AV	217.5k	35.22	52.92	-17.70	10.11	Neutral	-	25.11	0.07	0.02	10.02
QP	325.5k	39.81	59.56	-19.75	10.13	Neutral	-	29.68	0.07	0.03	10.03
AV	325.5k	31.89	49.56	-17.67	10.13	Neutral	"Worst"	21.76	0.07	0.03	10.03
QP	487.5k	36.29	56.21	-19.92	10.14	Neutral	-	26.15	0.07	0.04	10.03
AV	487.5k	25.94	46.21	-20.27	10.14	Neutral	-	15.80	0.07	0.04	10.03
QP	1.518M	35.71	56.00	-20.29	10.13	Neutral	-	25.58	0.09	0.02	10.02
AV	1.518M	24.89	46.00	-21.11	10.13	Neutral	-	14.76	0.09	0.02	10.02
QP	1.694M	33.73	56.00	-22.27	10.13	Neutral	-	23.60	0.10	0.02	10.01
AV	1.694M	23.04	46.00	-22.96	10.13	Neutral	-	12.91	0.10	0.02	10.01
QP	3.453M	36.79	56.00	-19.21	10.20	Neutral	-	26.59	0.12	0.03	10.05
AV	3.453M	25.07	46.00	-20.93	10.20	Neutral	-	14.87	0.12	0.03	10.05

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
Thread_3MHz_Nss1_1TX	1.613M	2.39M	2M39G1D	1.594M	2.249M

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

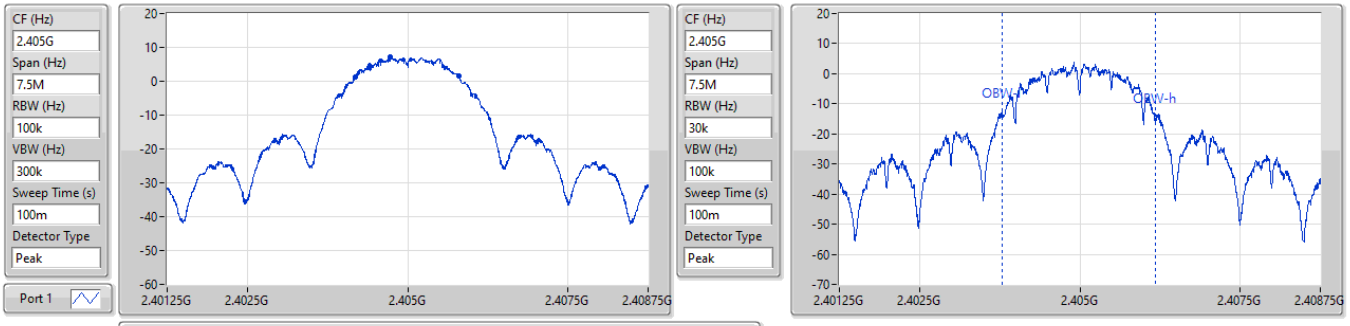
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
Thread_3MHz_Nss1_1TX	-	-	-	-
2405MHz	Pass	500k	1.613M	2.386M
2440MHz	Pass	500k	1.613M	2.39M
2475MHz	Pass	500k	1.594M	2.25M
2480MHz	Pass	500k	1.598M	2.249M

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

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX **EBW**

2405MHz

27/05/2025

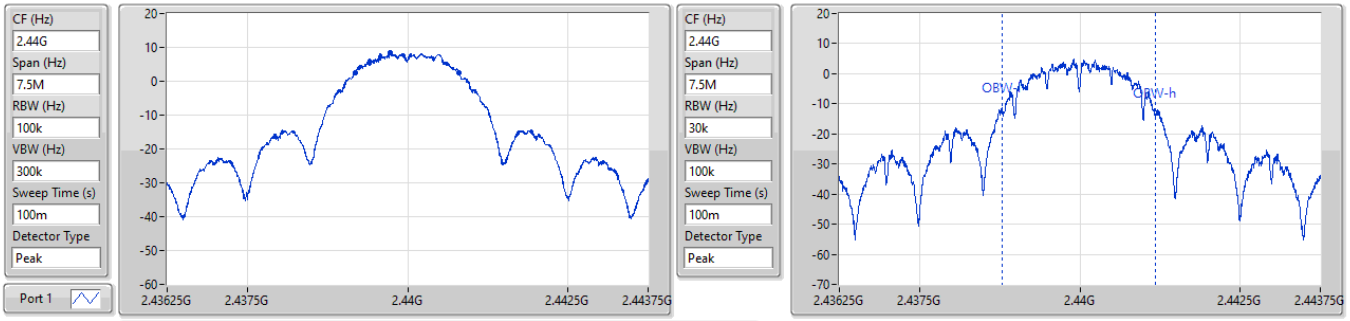


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.613M	2.404179G	2.405791G	2.386M	2.403789G	2.406175G	500k	1

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX **EBW**

2440MHz

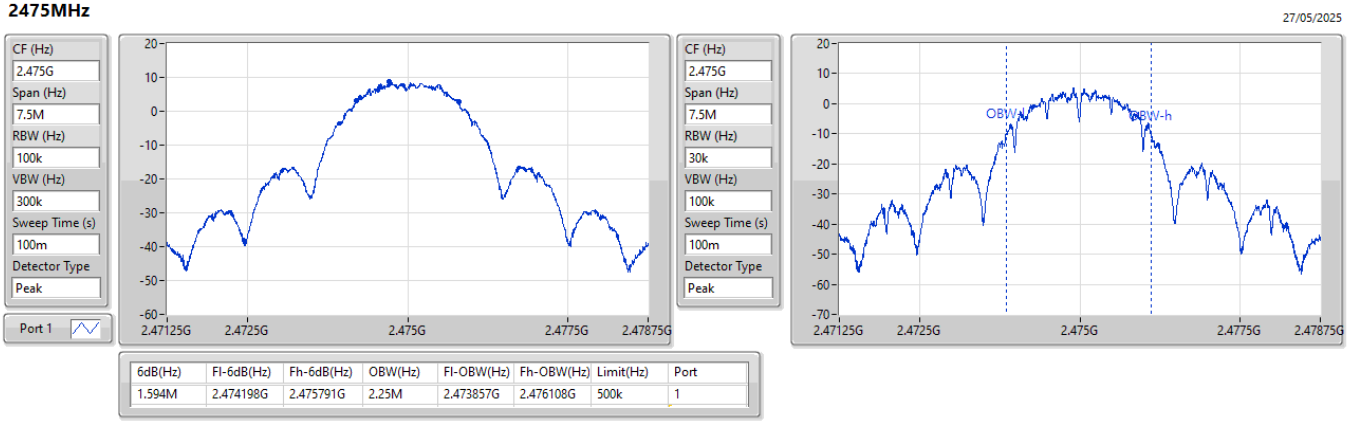
27/05/2025



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.613M	2.439186G	2.440799G	2.39M	2.438789G	2.441179G	500k	1

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX **EBW**

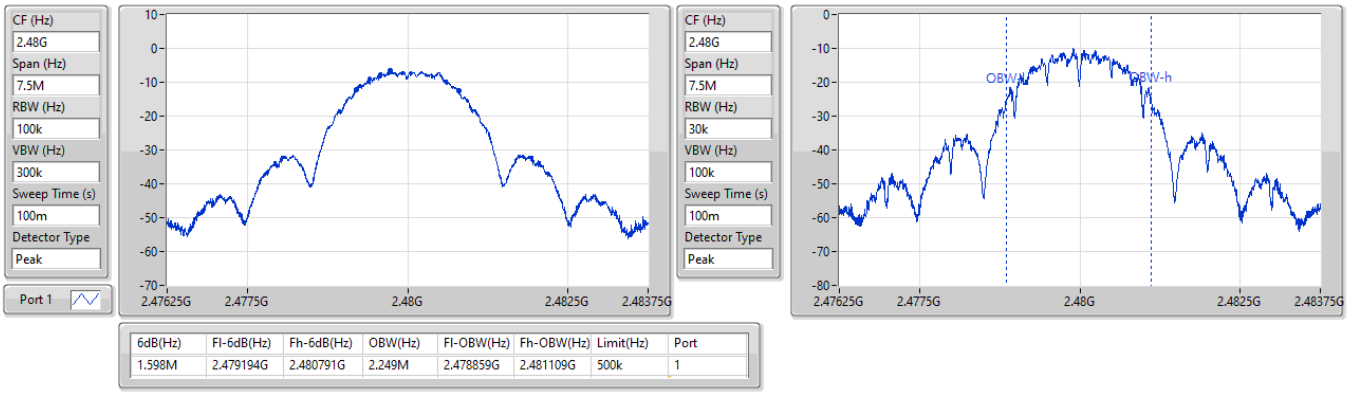
2475MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.594M	2.474198G	2.475791G	2.25M	2.473857G	2.476108G	500k	1

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX **EBW**

2480MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.598M	2.479194G	2.480791G	2.249M	2.478859G	2.481109G	500k	1

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
Thread_3MHz_Nss1_1TX	12.46	0.01762

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
Thread_3MHz_Nss1_1TX	-	-	-	-	-
2405MHz	Pass	3.50	12.19	12.19	30.00
2440MHz	Pass	3.50	12.46	12.46	30.00
2475MHz	Pass	3.50	12.42	12.42	30.00
2480MHz	Pass	3.50	-2.79	-2.79	30.00

DG = Directional Gain; Port X = Port X output power;
Inf = There's no restriction for the limit.

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
Thread_3MHz_Nss1_1TX	-3.54

RBW = 3kHz;

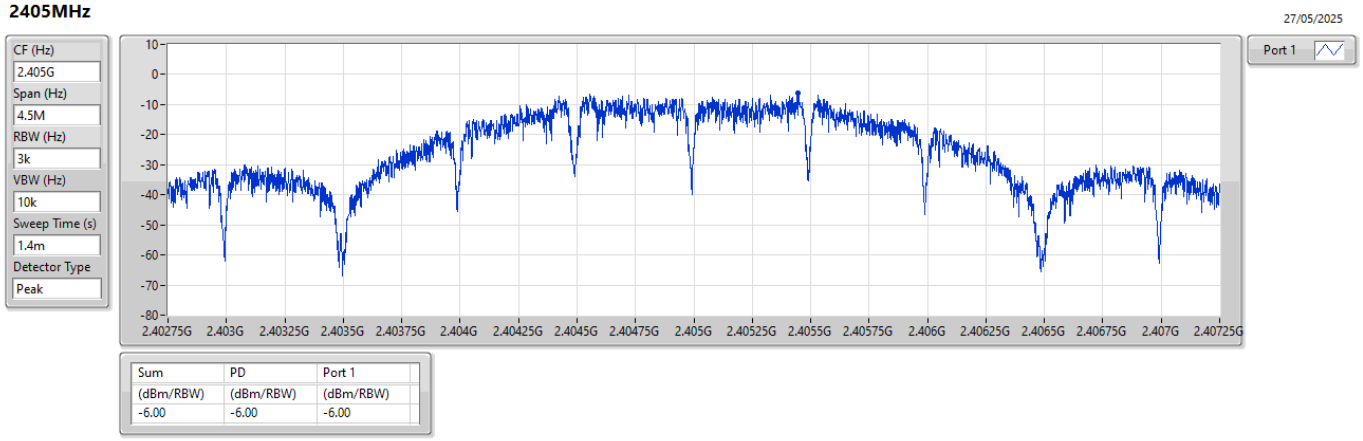
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
Thread_3MHz_Nss1_1TX	-	-	-	-	-
2405MHz	Pass	3.50	-6.00	-6.00	8.00
2440MHz	Pass	3.50	-3.54	-3.54	8.00
2475MHz	Pass	3.50	-4.17	-4.17	8.00
2480MHz	Pass	3.50	-18.62	-18.62	8.00

DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;
Inf = There's no restriction for the limit.

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX **PSD**

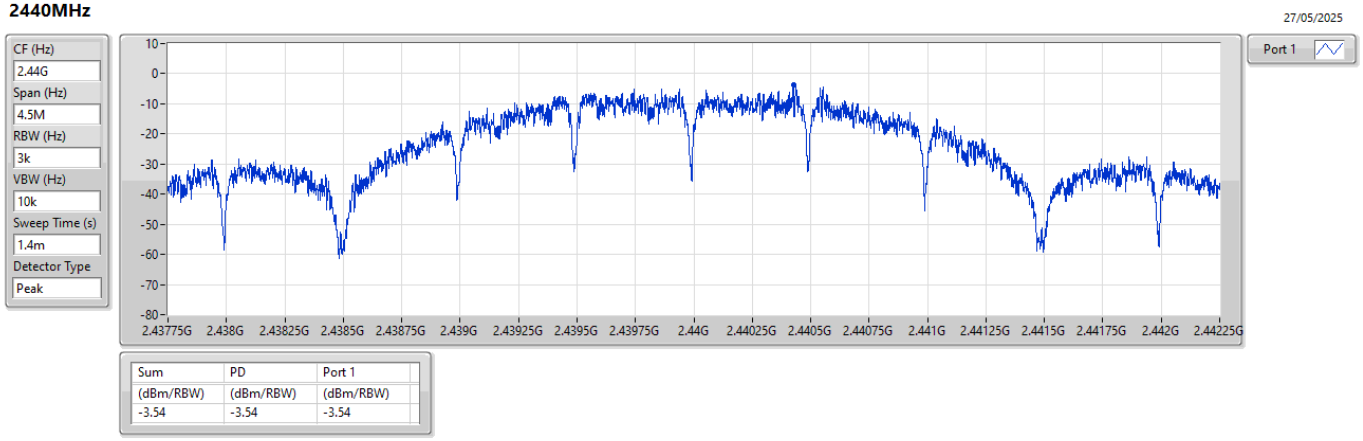
2405MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.00	-6.00	-6.00

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX **PSD**

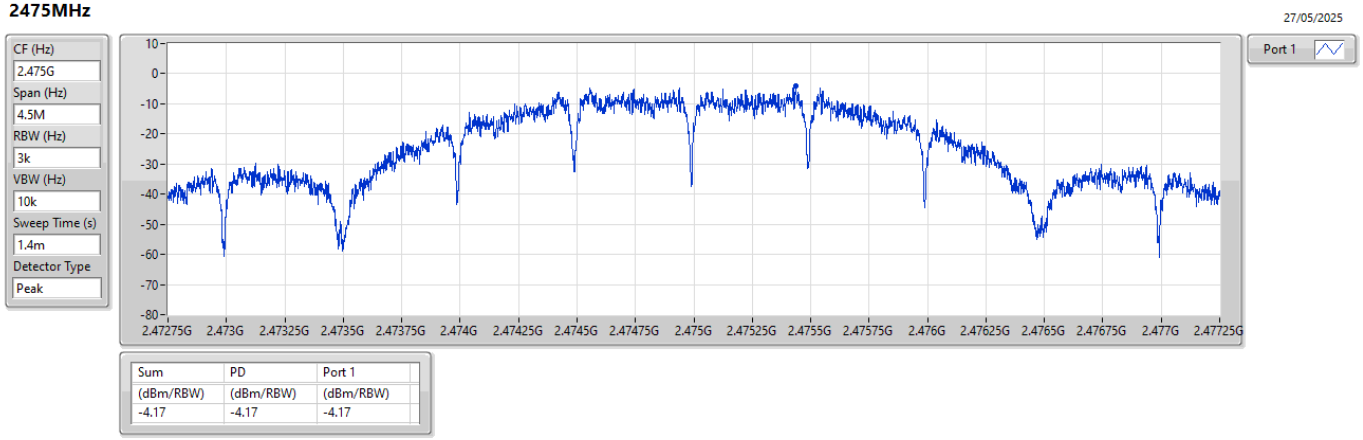
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.54	-3.54	-3.54

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX **PSD**

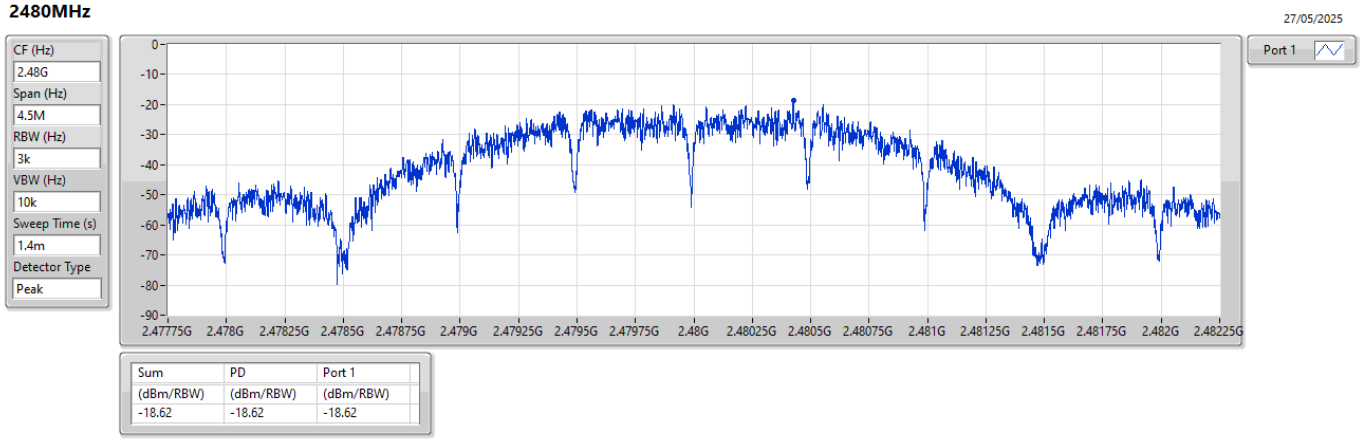
2475MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.17	-4.17	-4.17

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX **PSD**

2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-18.62	-18.62	-18.62

Summary

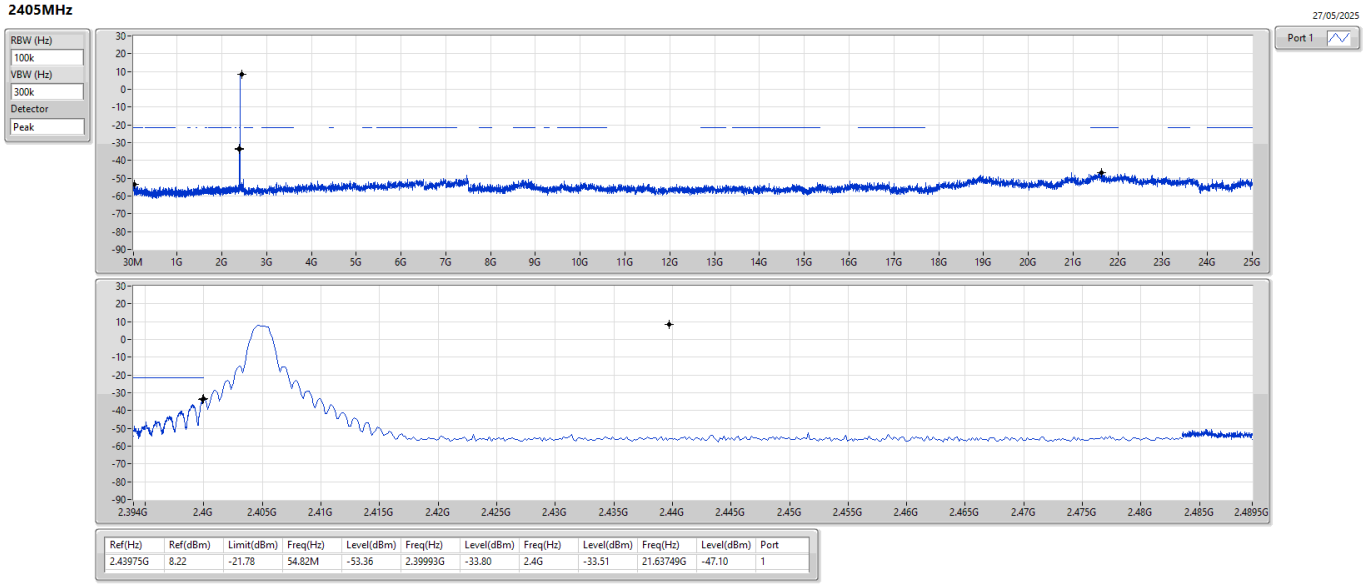
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
Thread_3MHz_Nss1_1TX	Pass	2.43975G	8.22	-21.78	54.82M	-53.36	2.39993G	-33.80	2.4G	-33.51	21.63749G	-47.10	1

Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
Thread_3MHz_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	2.43975G	8.22	-21.78	54.82M	-53.36	2.39993G	-33.80	2.4G	-33.51	21.63749G	-47.10	1
2440MHz	Pass	2.43975G	8.22	-21.78	2.1115G	-53.59	2.39731G	-51.79	2.4G	-56.36	21.60373G	-46.91	1
2475MHz	Pass	2.43975G	8.22	-21.78	1.88219G	-53.67	2.39792G	-51.31	2.4G	-56.36	21.55589G	-46.99	1
2480MHz	Pass	2.43975G	8.22	-21.78	60.73M	-53.67	2.39707G	-50.97	2.4G	-55.99	21.66282G	-46.65	1

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX CSENdB

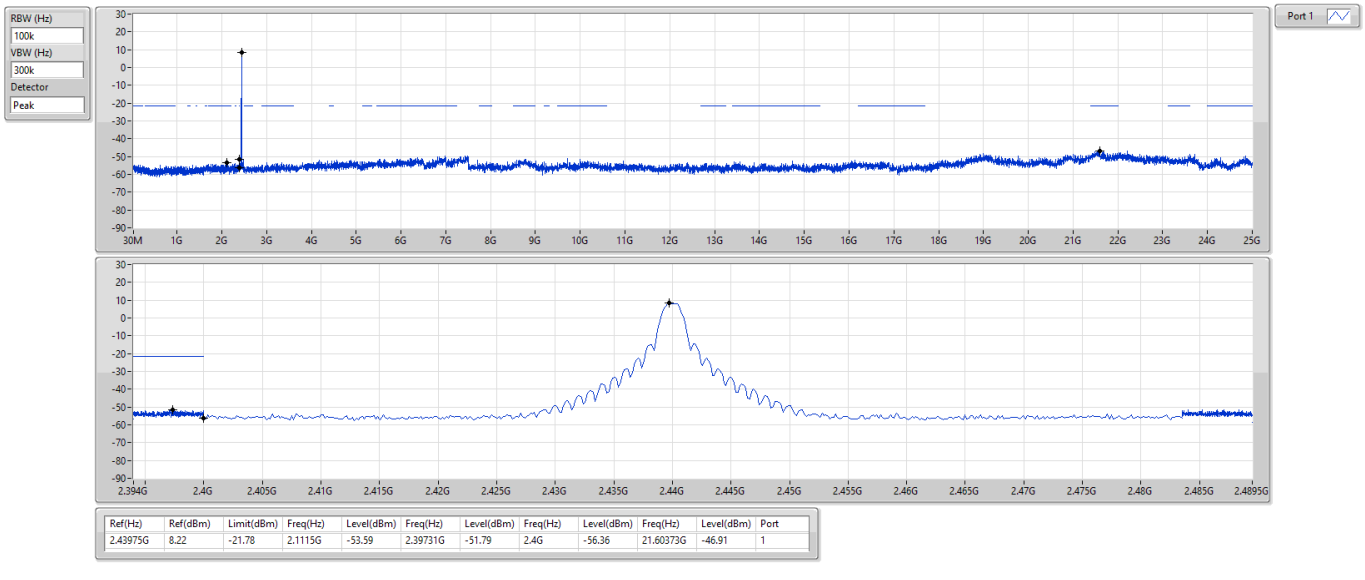
2405MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43975G	8.22	-21.78	54.82M	-53.36	2.39993G	-33.80	2.4G	-33.51	21.63749G	-47.10	1

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX CSENdB

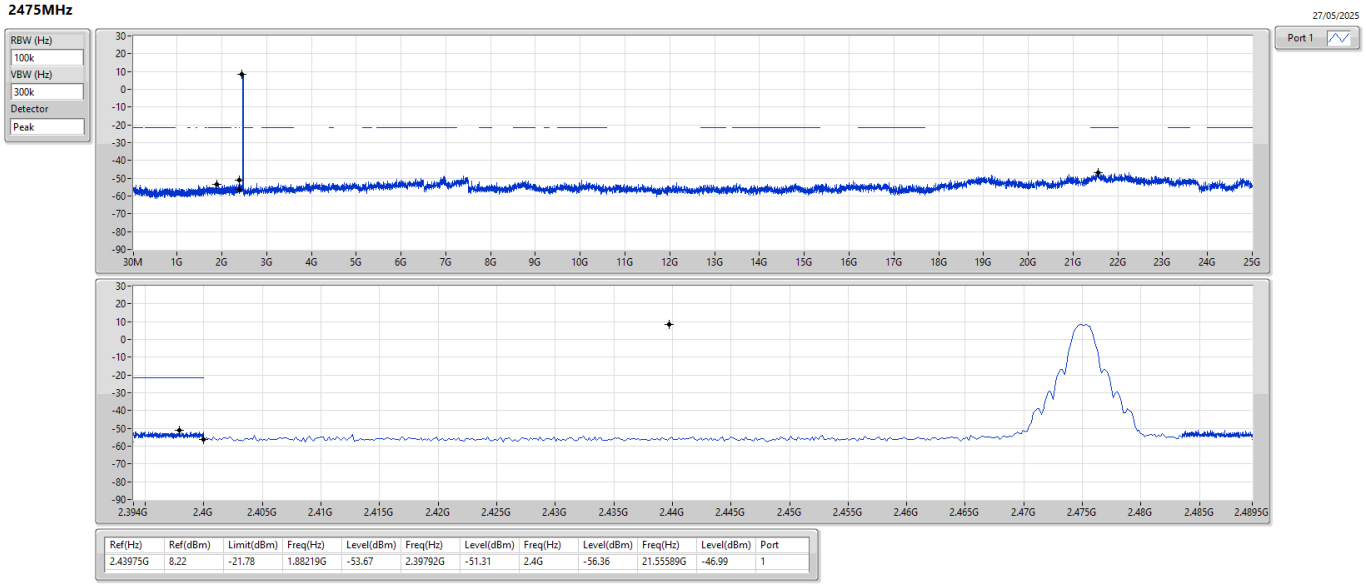
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43975G	8.22	-21.78	2.1115G	-53.59	2.39731G	-51.79	2.4G	-56.36	21.60373G	-46.91	1

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX CSENdB

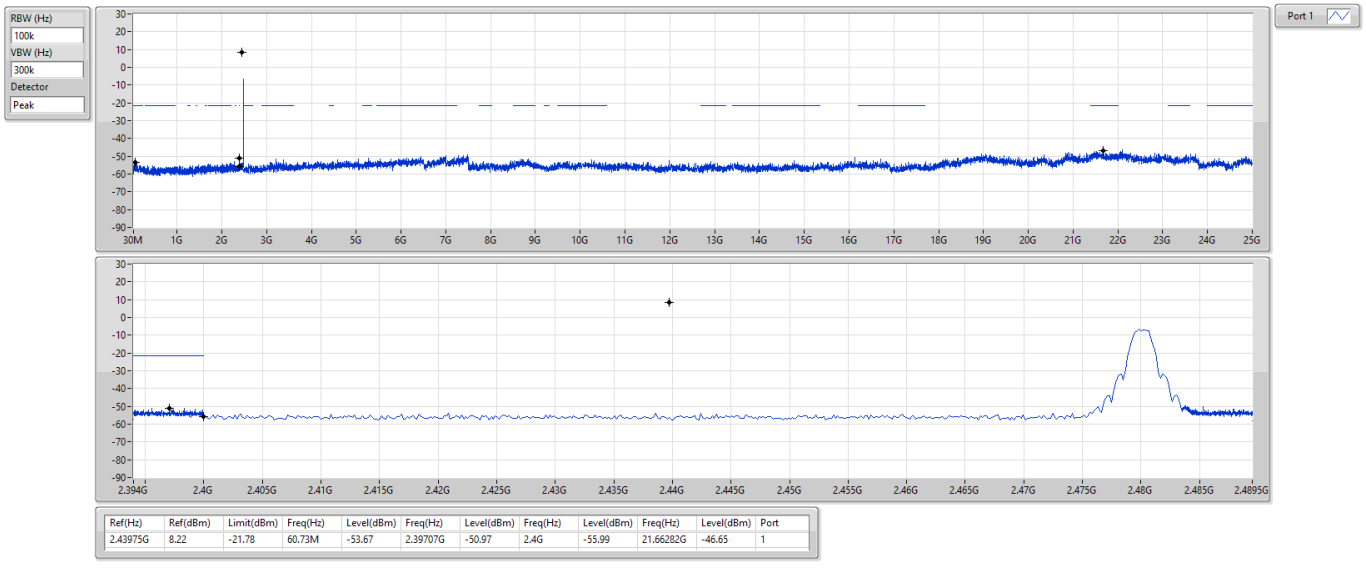
2475MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43975G	8.22	-21.78	1.88219G	-53.67	2.39792G	-51.31	2.4G	-56.36	21.55589G	-46.99	1

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX CSENdB

2480MHz

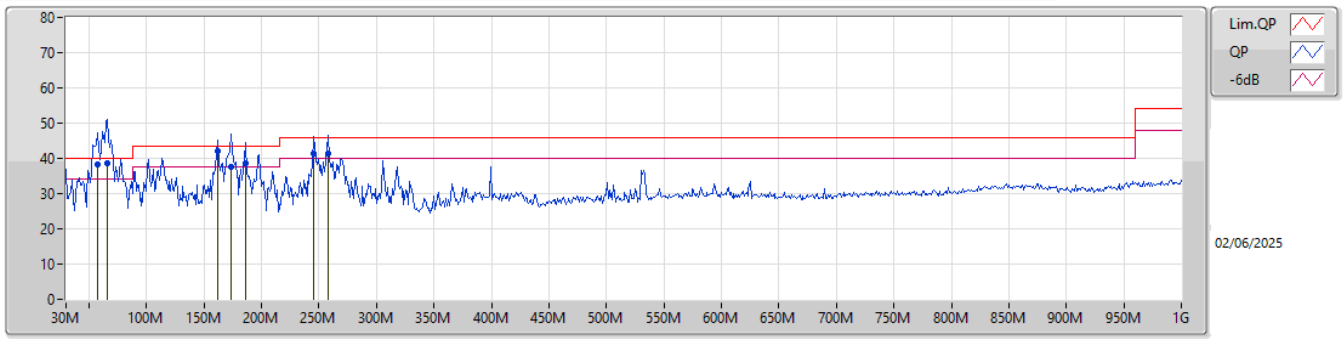


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43975G	8.22	-21.78	60.73M	-53.67	2.39707G	-50.97	2.4G	-55.99	21.66282G	-46.65	1

Summary

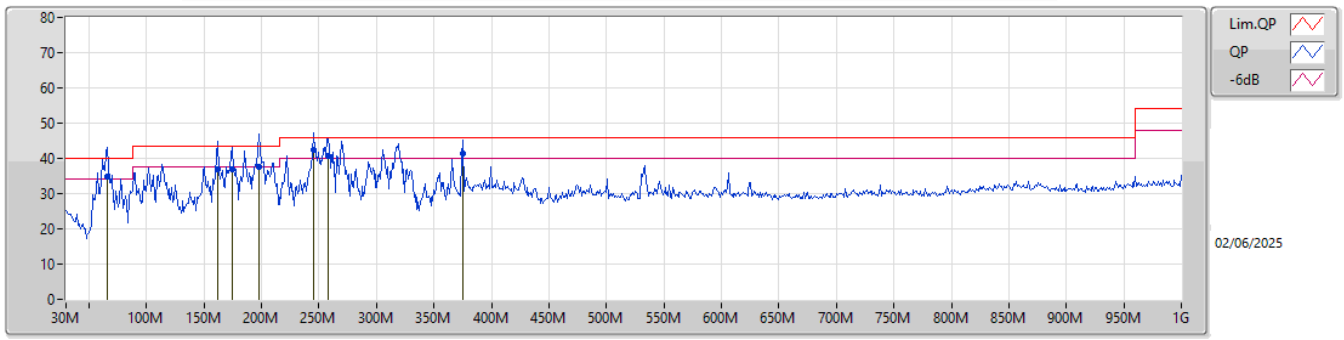
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	QP	65.89M	38.76	40.00	-1.24	Vertical

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	57.16M	38.24	40.00	-1.76	-17.80	3	Vertical	212	1.00	-	56.04	12.45	1.58	31.83
QP	65.89M	38.76	40.00	-1.24	-17.98	3	Vertical	258	1.25	"Worst"	56.74	12.24	1.64	31.86
QP	161.92M	42.12	43.50	-1.38	-13.21	3	Vertical	253	1.00	-	55.33	15.91	2.69	31.81
QP	173.56M	37.63	43.50	-5.87	-13.62	3	Vertical	310	1.25	-	51.25	15.50	2.78	31.90
QP	186.17M	38.62	43.50	-4.88	-14.07	3	Vertical	328	1.25	-	52.69	14.99	2.88	31.94
QP	245.34M	41.30	46.00	-4.70	-10.79	3	Vertical	273	1.00	-	52.09	17.78	3.35	31.92
QP	257.95M	41.41	46.00	-4.59	-9.20	3	Vertical	0	1.00	-	50.61	19.29	3.45	31.94

Mode 1



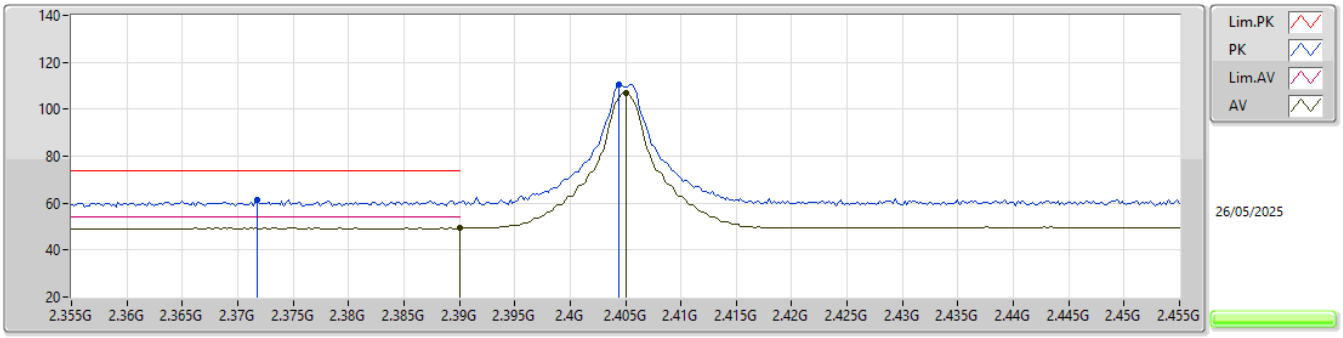
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV)	(dB/m)	(dB)	(dB)
QP	65.89M	34.95	40.00	-5.05	-17.98	3	Horizontal	124	3.00	-	52.93	12.24	1.64	31.86
QP	161.92M	36.97	43.50	-6.53	-13.21	3	Horizontal	185	1.50	-	50.18	15.91	2.69	31.81
QP	174.53M	36.92	43.50	-6.58	-13.68	3	Horizontal	169	1.00	-	50.60	15.44	2.79	31.91
QP	197.81M	37.47	43.50	-6.03	-13.83	3	Horizontal	53	2.00	-	51.30	15.12	2.96	31.91
QP	245.34M	42.40	46.00	-3.60	-10.79	3	Horizontal	156	1.25	"Worst"	53.19	17.78	3.35	31.92
QP	257.95M	40.81	46.00	-5.19	-9.20	3	Horizontal	138	1.00	-	50.01	19.29	3.45	31.94
QP	375.32M	41.25	46.00	-4.75	-6.92	3	Horizontal	175	1.50	-	48.17	20.84	4.30	32.06

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	-	-	-	-	-	-	-	-	-	-	-
Thread_3MHz_Nss1_1TX	Pass	AV	2.4835G	50.85	54.00	-3.15	3	Vertical	30	2.78	-

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2405MHz_TX

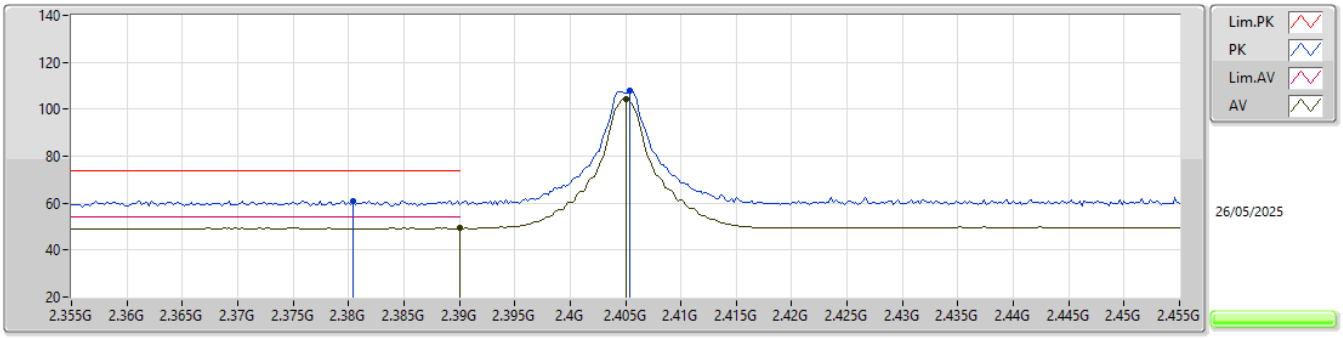


EUT Z_1TX
Setting 13
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3718G	61.43	74.00	-12.57	28.35	3	Vertical	74	2.11	-	28.30	4.78	-
AV	2.39G	49.50	54.00	-4.50	16.29	3	Vertical	74	2.11	-	28.40	4.81	-
PK	2.4044G	110.28	Inf	-Inf	77.16	3	Vertical	74	2.11	-	28.30	4.82	-
AV	2.405G	106.99	Inf	-Inf	73.86	3	Vertical	74	2.11	-	28.30	4.83	-

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2405MHz_TX

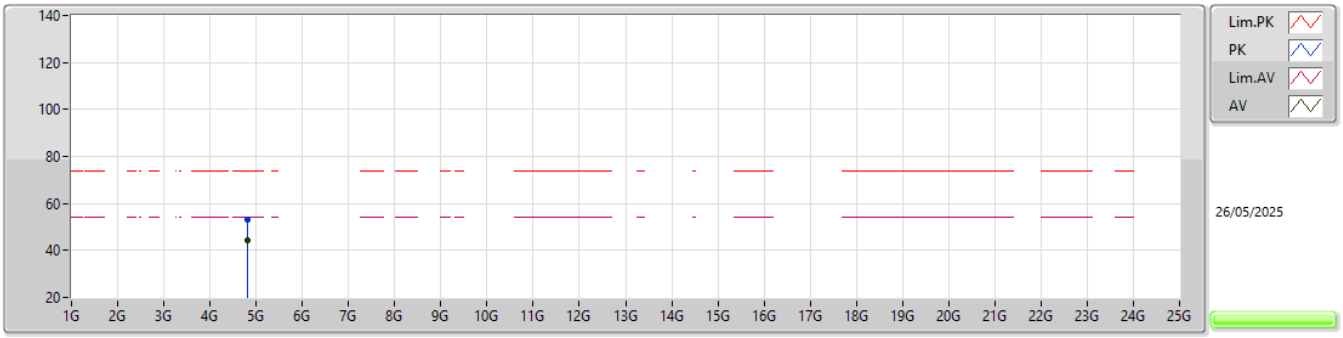


EUT Z_1TX
Setting 13
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3804G	60.92	74.00	-13.08	27.83	3	Horizontal	102	3.00	-	28.30	4.79	-
AV	2.39G	49.50	54.00	-4.50	16.29	3	Horizontal	102	3.00	-	28.40	4.81	-
PK	2.4054G	107.73	Inf	-Inf	74.60	3	Horizontal	102	3.00	-	28.30	4.83	-
AV	2.405G	104.39	Inf	-Inf	71.26	3	Horizontal	102	3.00	-	28.30	4.83	-

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2405MHz_TX

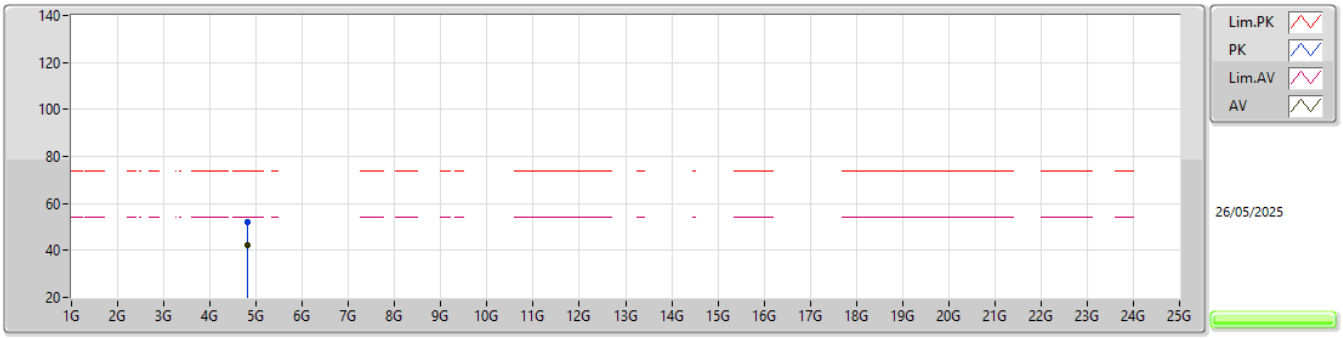


EUT Z_1TX
Setting 13
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.811G	53.24	74.00	-20.76	47.94	3	Vertical	77	2.88	-	33.42	7.21	35.33
AV	4.80892G	44.13	54.00	-9.87	38.83	3	Vertical	77	2.88	-	33.42	7.21	35.33

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2405MHz_TX

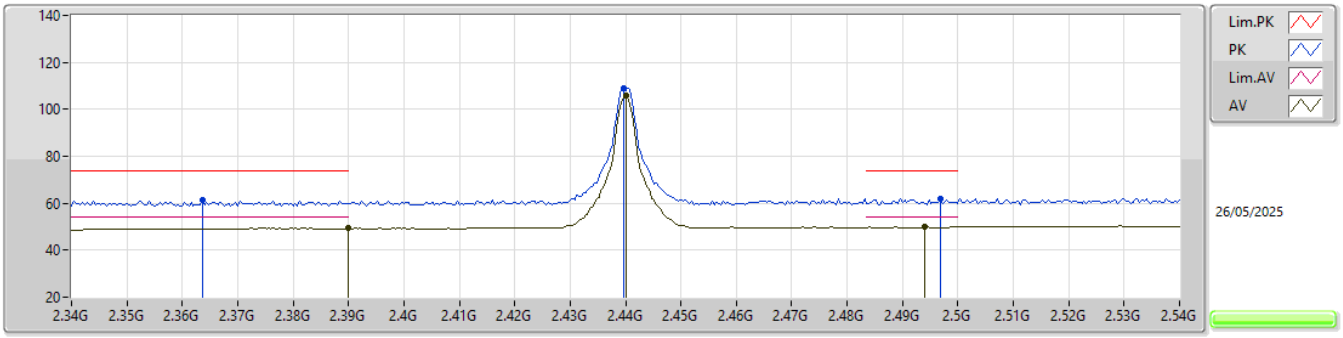


EUT Z_1TX
Setting 13
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.80884G	52.08	74.00	-21.92	46.78	3	Horizontal	274	2.32	-	33.42	7.21	35.33
AV	4.81092G	42.48	54.00	-11.52	37.18	3	Horizontal	274	2.32	-	33.42	7.21	35.33

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2440MHz_TX

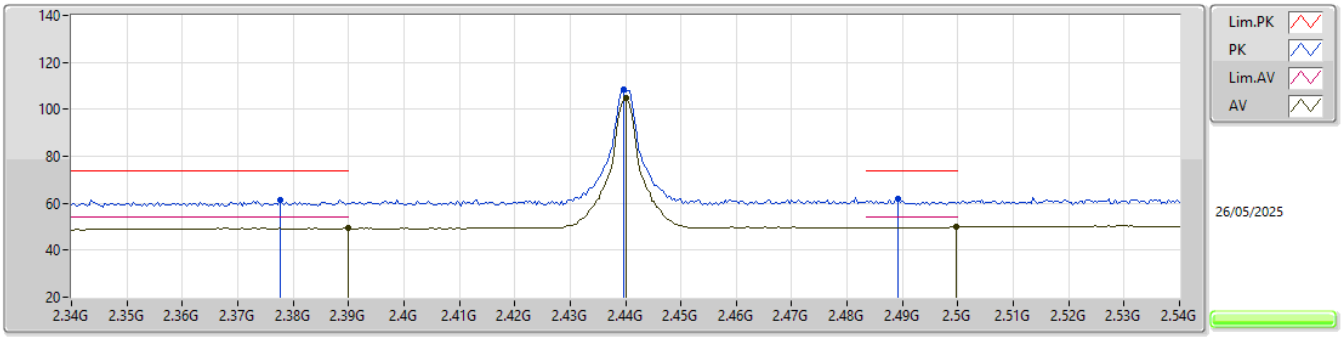


EUT Z_1TX
Setting 13
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3636G	61.38	74.00	-12.62	28.31	3	Vertical	30	2.53	-	28.30	4.77	-
AV	2.39G	49.50	54.00	-4.50	16.29	3	Vertical	30	2.53	-	28.40	4.81	-
PK	2.4396G	109.06	Inf	-Inf	75.80	3	Vertical	30	2.53	-	28.40	4.86	-
AV	2.44G	105.73	Inf	-Inf	72.47	3	Vertical	30	2.53	-	28.40	4.86	-
PK	2.4968G	62.06	74.00	-11.94	28.66	3	Vertical	30	2.53	-	28.47	4.93	-
AV	2.494G	50.01	54.00	-3.99	16.65	3	Vertical	30	2.53	-	28.44	4.92	-

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2440MHz_TX

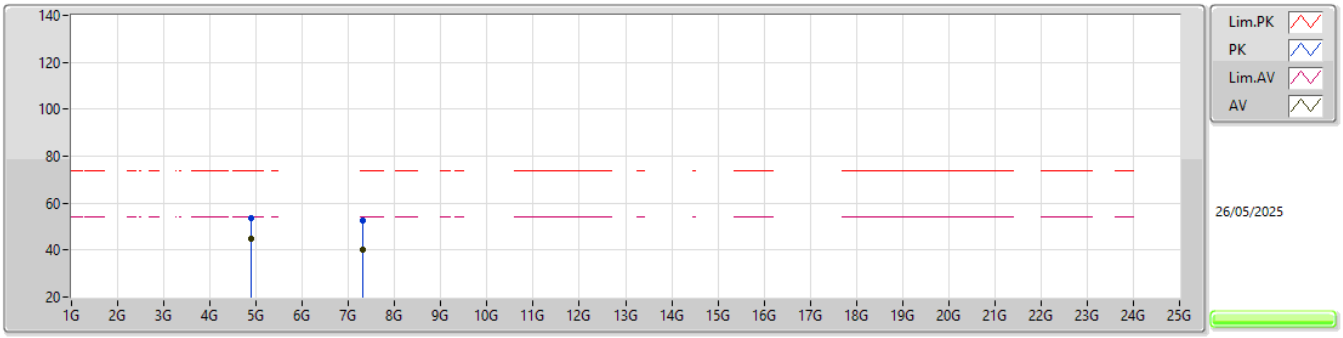


EUT Z_1TX
Setting 13
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3776G	61.55	74.00	-12.45	28.46	3	Horizontal	108	2.94	-	28.30	4.79	-
AV	2.39G	49.50	54.00	-4.50	16.29	3	Horizontal	108	2.94	-	28.40	4.81	-
PK	2.4396G	108.22	Inf	-Inf	74.96	3	Horizontal	108	2.94	-	28.40	4.86	-
AV	2.44G	104.85	Inf	-Inf	71.59	3	Horizontal	108	2.94	-	28.40	4.86	-
PK	2.4892G	61.64	74.00	-12.36	28.32	3	Horizontal	108	2.94	-	28.40	4.92	-
AV	2.4996G	49.77	54.00	-4.23	16.34	3	Horizontal	108	2.94	-	28.50	4.93	-

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2440MHz_TX

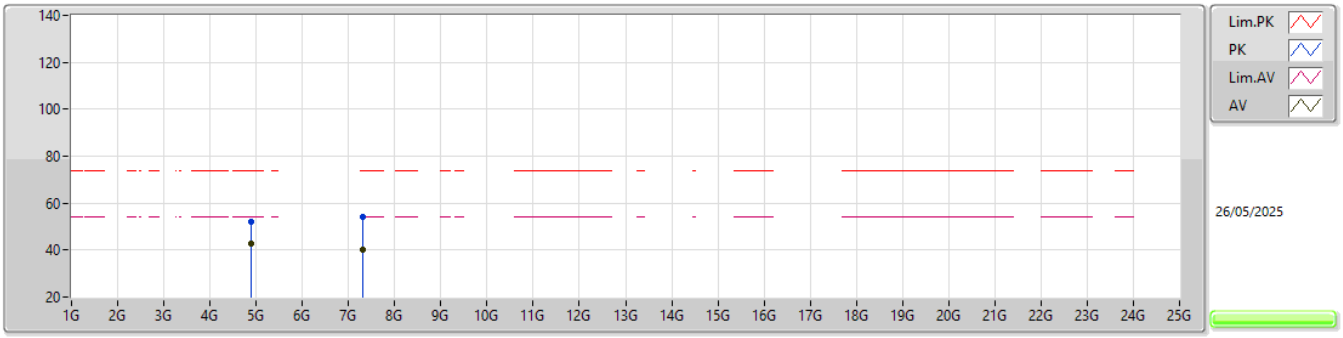


EUT Z_1TX
Setting 13
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87908G	53.43	74.00	-20.57	48.02	3	Vertical	76	2.81	-	33.56	7.18	35.33
AV	4.879G	44.67	54.00	-9.33	39.26	3	Vertical	76	2.81	-	33.56	7.18	35.33
PK	7.31236G	52.49	74.00	-21.51	42.21	3	Vertical	360	1.80	-	36.82	8.61	35.15
AV	7.31828G	40.17	54.00	-13.83	29.87	3	Vertical	360	1.80	-	36.84	8.62	35.16

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2440MHz_TX

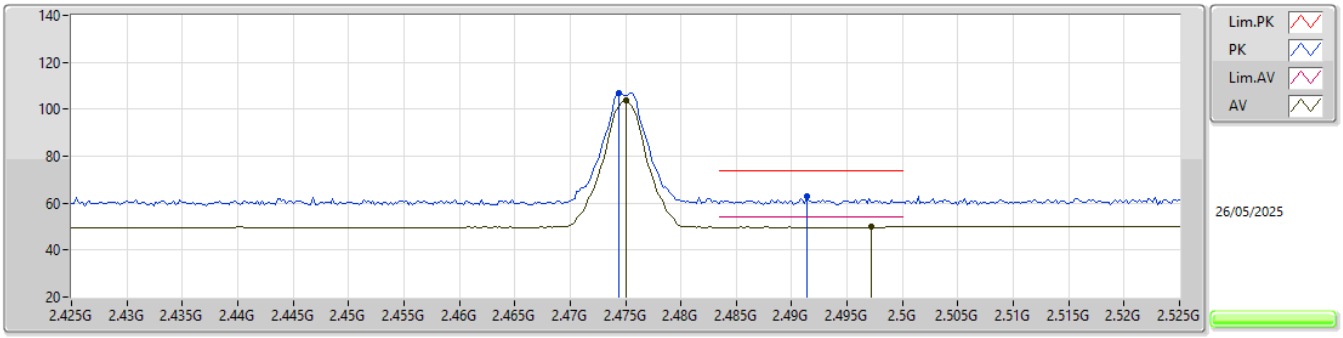


EUT Z_1TX
Setting 13
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.88112G	52.22	74.00	-21.78	46.81	3	Horizontal	273	1.26	-	33.56	7.18	35.33
AV	4.879G	42.92	54.00	-11.08	37.51	3	Horizontal	273	1.26	-	33.56	7.18	35.33
PK	7.31396G	53.96	74.00	-20.04	43.68	3	Horizontal	75	1.80	-	36.83	8.61	35.16
AV	7.3102G	40.18	54.00	-13.82	29.90	3	Horizontal	75	1.80	-	36.82	8.61	35.15

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2475MHz_TX

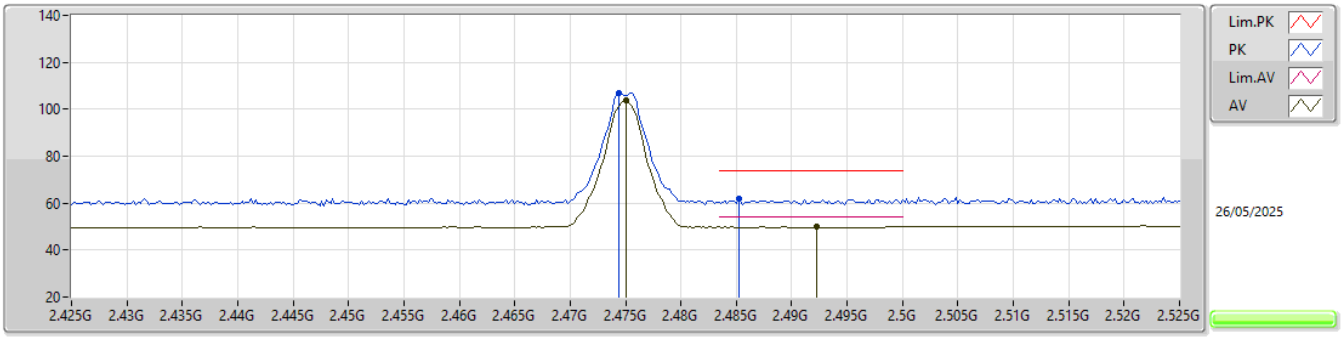


EUT Z_1TX
Setting 13
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4744G	106.83	Inf	-Inf	73.53	3	Vertical	28	2.56	-	28.40	4.90	-
AV	2.475G	103.55	Inf	-Inf	70.25	3	Vertical	28	2.56	-	28.40	4.90	-
PK	2.4914G	63.18	74.00	-10.82	29.85	3	Vertical	28	2.56	-	28.41	4.92	-
AV	2.4972G	50.06	54.00	-3.94	16.66	3	Vertical	28	2.56	-	28.47	4.93	-

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2475MHz_TX

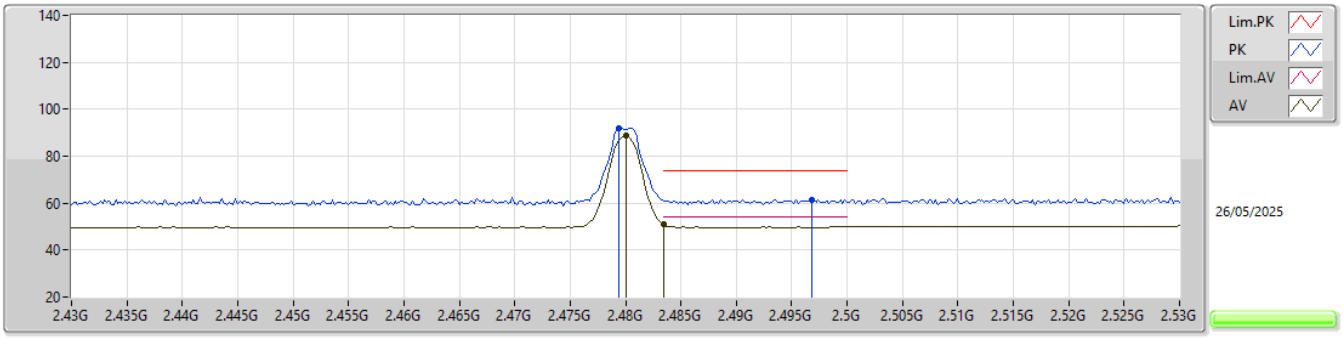


EUT Z_1TX
Setting 13
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4744G	106.80	Inf	-Inf	73.50	3	Horizontal	111	2.84	-	28.40	4.90	-
AV	2.475G	103.55	Inf	-Inf	70.25	3	Horizontal	111	2.84	-	28.40	4.90	-
PK	2.4852G	61.78	74.00	-12.22	28.47	3	Horizontal	111	2.84	-	28.40	4.91	-
AV	2.4922G	49.99	54.00	-4.01	16.65	3	Horizontal	111	2.84	-	28.42	4.92	-

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2480MHz_TX

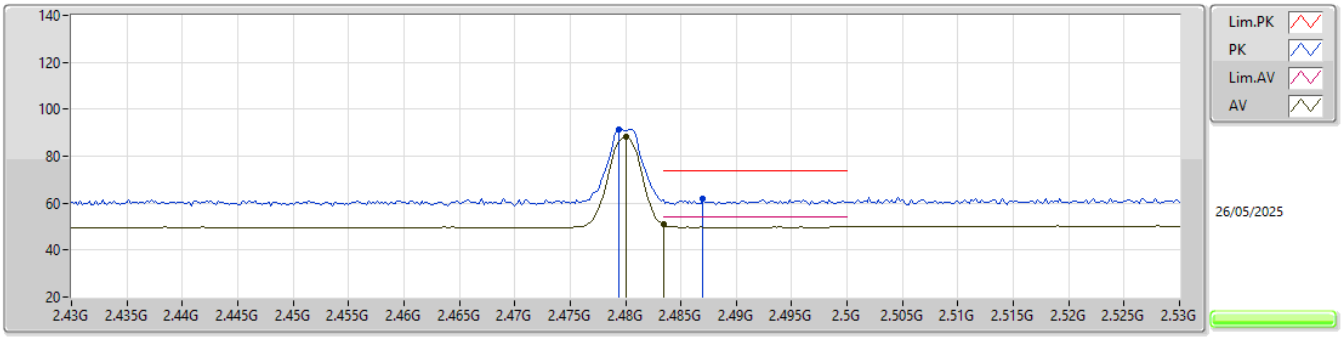


EUT Z_1TX
Setting 0
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4794G	92.10	Inf	-Inf	58.79	3	Vertical	30	2.78	-	28.40	4.91	-
AV	2.48G	88.76	Inf	-Inf	55.45	3	Vertical	30	2.78	-	28.40	4.91	-
PK	2.4968G	61.57	74.00	-12.43	28.17	3	Vertical	30	2.78	-	28.47	4.93	-
AV	2.4835G	50.85	54.00	-3.15	17.54	3	Vertical	30	2.78	-	28.40	4.91	-

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2480MHz_TX

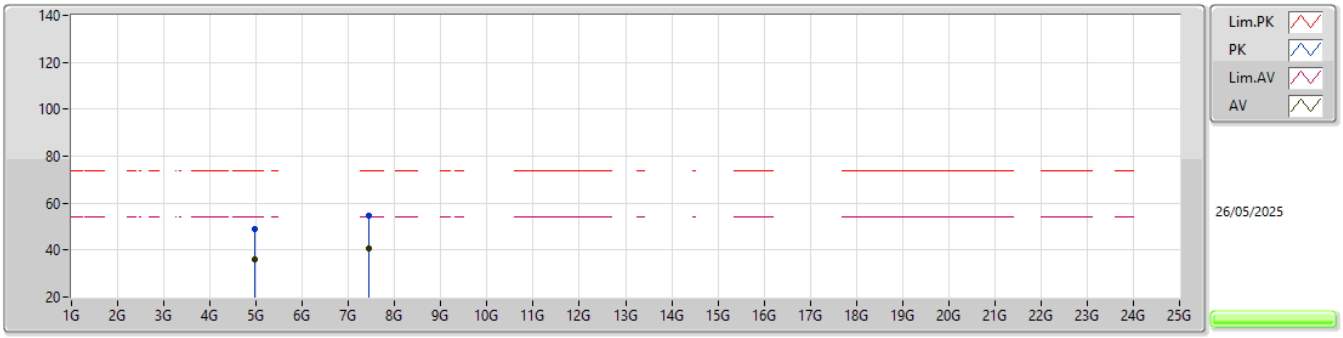


EUT Z_1TX
Setting 0
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.4794G	91.56	Inf	-Inf	58.25	3	Horizontal	113	2.82	-	28.40	4.91	-
AV	2.48G	88.17	Inf	-Inf	54.86	3	Horizontal	113	2.82	-	28.40	4.91	-
PK	2.487G	61.80	74.00	-12.20	28.48	3	Horizontal	113	2.82	-	28.40	4.92	-
AV	2.4835G	50.85	54.00	-3.15	17.54	3	Horizontal	113	2.82	-	28.40	4.91	-

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2480MHz_TX

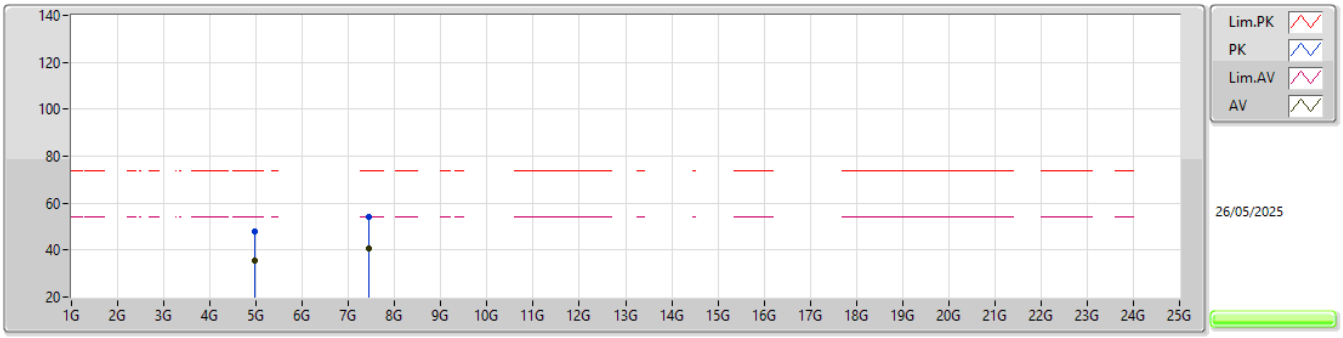


EUT Z_1TX
Setting 0
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.96372G	48.74	74.00	-25.26	43.29	3	Vertical	72	2.20	-	33.63	7.15	35.33
AV	4.96096G	35.95	54.00	-18.05	30.51	3	Vertical	72	2.20	-	33.62	7.15	35.33
PK	7.43112G	54.44	74.00	-19.56	43.89	3	Vertical	138	1.80	-	37.00	8.71	35.16
AV	7.4331G	40.73	54.00	-13.27	30.18	3	Vertical	138	1.80	-	37.00	8.71	35.16

2.4-2.4835GHz_Thread_3MHz_Nss1_1TX

2480MHz_TX



EUT Z_1TX
Setting 0
03-P-G-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.9636G	48.10	74.00	-25.90	42.65	3	Horizontal	272	2.74	-	33.63	7.15	35.33
AV	4.96078G	35.70	54.00	-18.30	30.26	3	Horizontal	272	2.74	-	33.62	7.15	35.33
PK	7.43466G	54.01	74.00	-19.99	43.45	3	Horizontal	84	1.80	-	37.00	8.72	35.16
AV	7.42968G	40.64	54.00	-13.36	30.09	3	Horizontal	84	1.80	-	37.00	8.71	35.16