FCC Radio Test Report

FCC ID	:	**TLZ-XB644NF**
Equipment	:	**IEEE 802.11 1X1 a/b/g/n/ac/ax Wireless LAN + Bluetooth 5.4 + 802.15.4 Tri-radio M.2 2230 Module**
Brand Name	:	**AzureWave**
Model Name	:	**AW-XB644NF**
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 Aug. 01, 2024, and testing was started from Aug. 28, 2024 and completed on Sep. 13, 2024. We, SPORTON INTERNATIONAL INC. Hsinhua 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. Hsinhua Laboratory, the test report shall not be reproduced except in full.

Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FR471513AT	01	Initial issue of report	Feb. 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	-

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:
None

Reviewed by: Ben Tseng

Report Producer: Julie Tseng

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
2.4-2.4835GHz	Thread	5	1

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

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Support
1	TE Connectivity	2195501-2	PCB	I-PEX	2.4G+5G+BT+Thread
2	TE Connectivity	2195505-2	PCB	I-PEX	2.4G+5G+BT+Thread
3	Inpaq	WA-P-LB-02-587	PCB	I-PEX	2.4G+5G+BT+Thread
4	Inpaq	WA-P-LB-03-129	PCB	I-PEX	2.4G+5G+BT+Thread
5	Inpaq	WA-P-LB-03-130	PCB	I-PEX	2.4G+5G+BT+Thread
6	Inpaq	WA-F-LB-03-110	PCB	I-PEX	2.4G+5G+BT+Thread
7	Inpaq	WA-F-LB-02-187	PCB	I-PEX	2.4G+5G+BT+Thread
8	Inpaq	WA-F-LA-01-015	PCB	I-PEX	2.4G+BT+Thread

Ant.	Gain (dBi)	
	2.4G	5G
1	0.47	1.88
2	0.77	0.96
3	4.43	7.52
4	6.51	3.2
5	4.91	5.84
6	-0.27	2.74
7	0.07	2.39
8	5.66	-

Note 1: The EUT has eight sets of antennas.
Note 2: EUT can match with above antennas for using. The highest gain in each set of antenna was used to perform the worst configuration and result of that was recorded as the final test result.

For 2.4GHz function:

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

Ant. 1 ~ Ant. 8 could transmit/receive.

For 5GHz function:

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

Ant. 1 ~ Ant. 7 could transmit/receive.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)

Ant. 1 ~ Ant. 8 could transmit/receive.

For Thread function:

For IEEE 802.15.4 Thread mode (1TX/1RX)

Ant. 1 ~ Ant. 8 could transmit/receive.

1.1.3 EUT Information

Operational Condition					
EUT Power Type	From DC Power supply				
EUT Function	☒	Point-to-multipoint	☐	Point-to-point	
Type of EUT					
☒	Stand-alone				
☐	Combined (EUT where the radio part is fully integrated within another device)				
	Combined Equipment - Brand Name / Model No.:	…			
☐	Plug-in radio (EUT intended for a variety of host systems)				
	Host System - Brand Name / Model No.:	…			
☐	Other:				

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF (dB)	T (s)	VBW (Hz)_1/T
Thread	1	0	n/a (DC>=0.98)	n/a (DC>=0.98)

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

1.2 Testing Applied Standards

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

- 47 CFR FCC Part 15
- ANSI C63.10-2013

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

- KDB 558074 D01 v05r02
- KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab.：Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua	**ADD:** No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
(TAF: 3785**)**	**TEL:** 886-3-327-3456		**FAX:** 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
AC Conduction	CO04-HY	Wayne Chiu	21.8~22.5°C / 53~57%	13/Sep/2024
RF Conducted	TH07-HY	Xun Hsieh	23.9~24.5°C / 57~62%	16/Oct/2024
Radiated	03CH03-HY	Daniel Lin	22.7~24.9°C / 55~59%	28/Aug/2024~13/Sep/2024
☐ Wen 33rd.St.	**ADD:** No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)			
(TAF: 3785**)**	**TEL:** 886-3-318-0787		**FAX:** 886-3-318-0287	
Test site Designation No. TW0008 with FCC.				

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 Items	**Uncertainty**	**Remark**
AC Power-line Conducted Emissions	4.53 dB	Confidence levels of 95%
Bandwidth	3 MHz	Confidence levels of 95%
Maximum Conducted Output Power	2 dB	Confidence levels of 95%
Power Spectral Density	2 dB	Confidence levels of 95%
Emissions in Non-restricted Frequency Bands	0.14 dB	Confidence levels of 95%
Emissions in Restricted Frequency Bands	4.8 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Test Software Version	Dos V6.1

Mode	Power Setting
Thread	-
2405MHz	4
2440MHz	4
2480MHz	-2

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
1	Fixture mode

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 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	Fixture mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
			
Worst Planes of EUT			V

2.3 Support Equipment

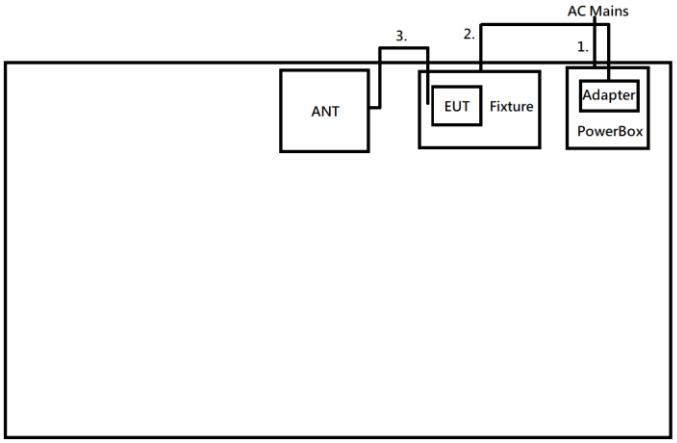
Support Equipment – AC Conduction					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Fixture	NXP	MCIMX93-BB	-	Provided by Customer
2	Adapter	Apple	A1385	-	-
3	USB to Type-B cable	Sporton	Sporton	-	-

Support Equipment – Conducted					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-
3	Fixture	NXP	MCIMX93-BB	-	Provided by Customer

Support Equipment – Radiated					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Fixture	NXP	MCIMX93-BB	-	Provided by Customer
2	USB to Type-B cable	Sporton	Sporton	-	-
3	Adapter	Apple	A1385	-	-

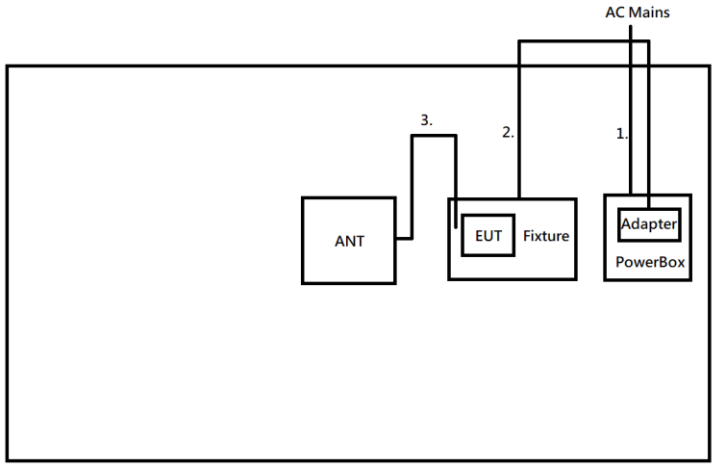
2.4 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.0	-
2	USB cable	No	0.6	-
3	ANT cable	No	0.7	-

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	USB cable	No	0.6	-
3	ANT cable	No	0.7	-

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

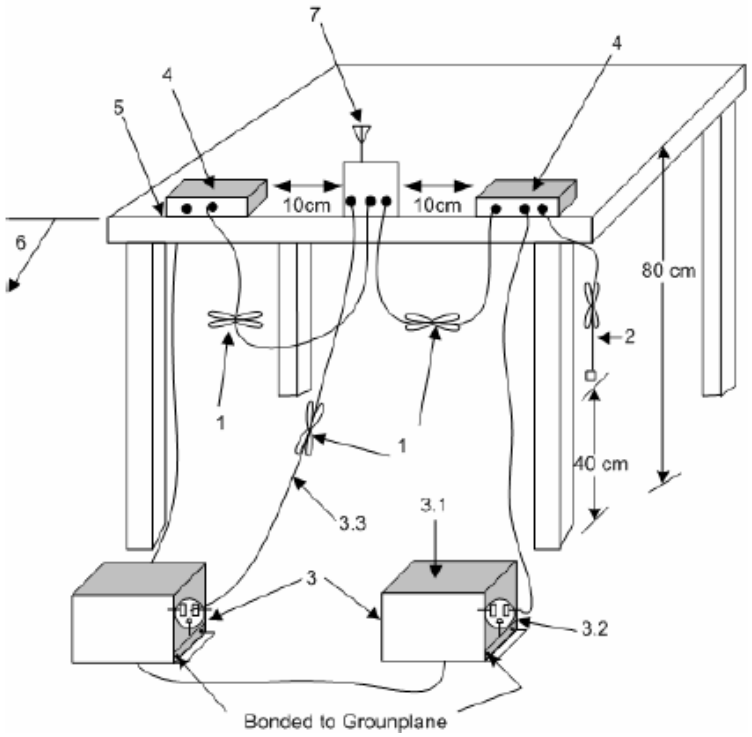
Test Method
☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) +LISN(LISN Factor) + CL(Cable Loss) + AT(Attenuator).

3.1.5 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 50Ω 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.

3.1.6 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.

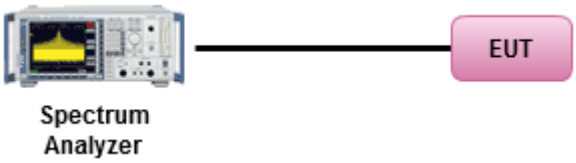
3.2.2 Measuring Instruments

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 KDB 558074, clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.
	☒ Refer as RSS-Gen, clause 6.7 for for occupied bandwidth testing.
	☐ Refer as ANSI C63.10, clause 6.9.3 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} ≤ 6 dBi, then P_{Out} ≤ 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 + 8dB dBm
e.i.r.p. Power Limit:		
▪ 2400-2483.5 MHz Band		
	▪ Point-to-multipoint systems (P2M): P_{eirp} ≤ 36 dBm (4 W)	
	▪ Point-to-point systems (P2P): P_{eirp} ≤ MAX(36, [P_{Out} + G_{TX}]) dBm	
	▪ Smart antenna system (SAS)	
		- Single beam: P_{eirp} ≤ MAX(36, P_{Out} + G_{TX}) dBm
		- Overlap beam: P_{eirp} ≤ MAX(36, P_{Out} + G_{TX}) dBm
		- Aggregate power on all beams: P_{eirp} ≤ MAX(36, [P_{Out} + G_{TX} + 8]) 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 KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
	☐ Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
	☐ Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
▪ Maximum Average Conducted Output Power	
	☐ Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
	☒ Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as 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

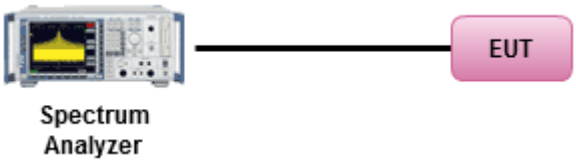
3.4.2 Measuring Instruments

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 KDB 558074, clause 8.4 (11.10 of ANSI C63.10) Max. PSD.	
▪ For conducted measurement.		
	▪ If The EUT supports multiple transmit chains using options given below:	
		▪ Measure and sum the spectra across the outputs. Refer as 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.

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 (dB)**
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 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 level.	

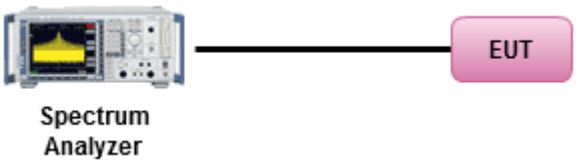
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
▪ Refer as KDB 558074, clause 8.5 (11.11 of ANSI C63.10) for non-restricted frequency 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.

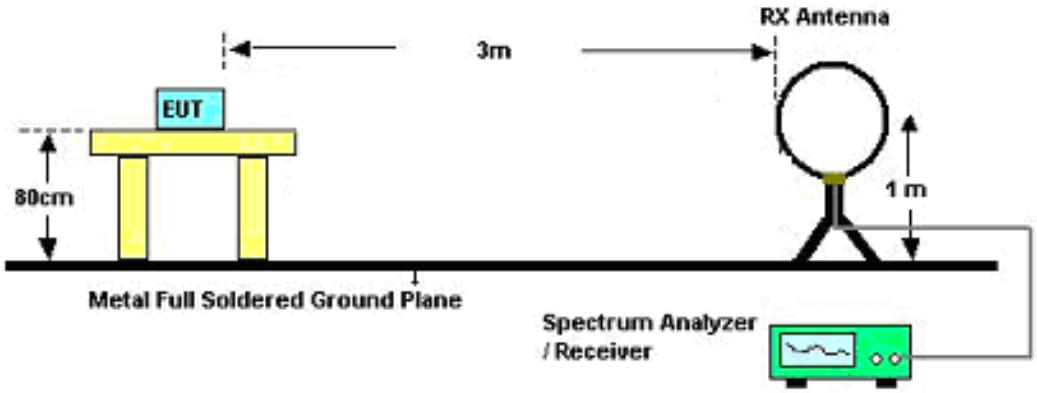
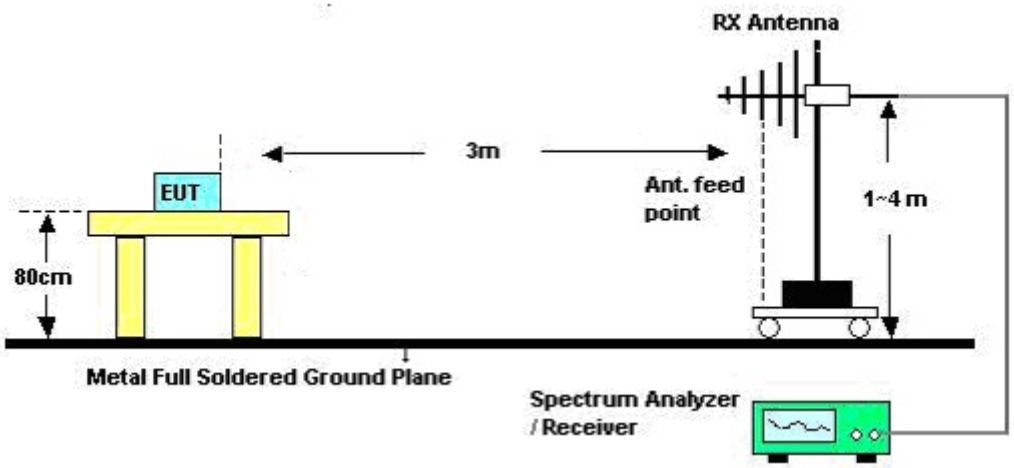
3.6.3 Test Procedures

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 KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
▪ For the transmitter band-edge emissions shall be measured using following options below:	
	▪ Refer as KDB 558074 clause 8.7.1, 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 KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
	▪ Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
▪ Use the following spectrum analyzer settings:	
	▪ Set RBW=100 kHz for f < 1 GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
	▪ Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement. For average measurement, refer as 1.1.4.
▪ KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.	
	▪ Based on FCC 15.31(f)(2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.
	▪ Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

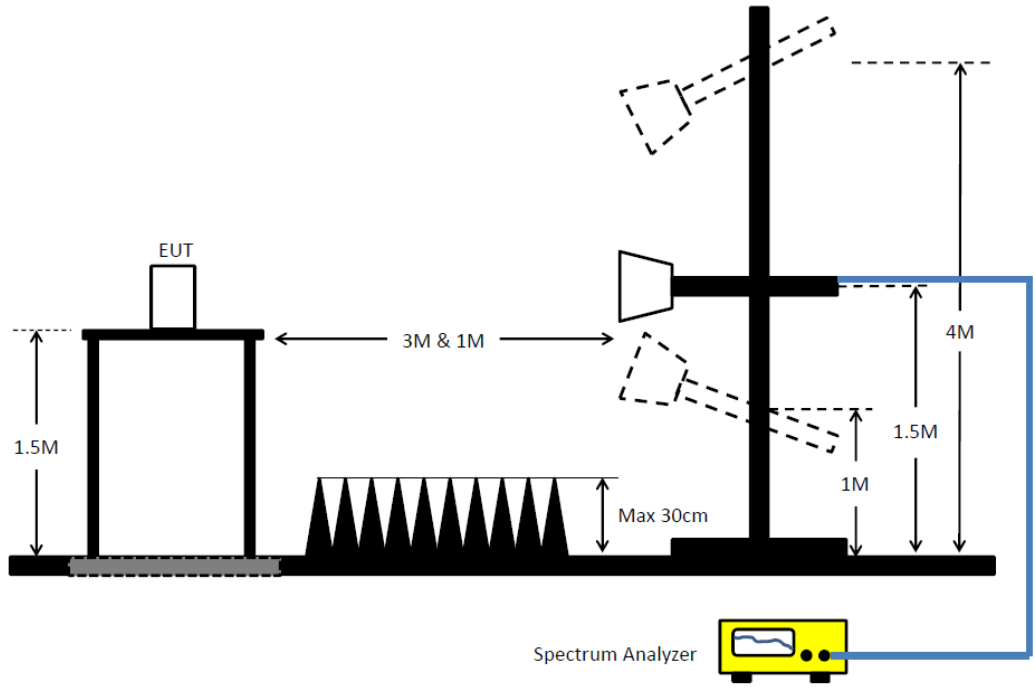
3.6.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

3.6.5 Test Setup

Emissions in Restricted Frequency Bands
9kHz ~30MHz

30MHz~1GHz


Above 1GHz



3.6.6 Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	ROHDE & SCHWARZ	ESR3	102051	9kHz ~ 3.6GHz	17/May/2024	16/May/2025
Two-Line V-Network	ROHDE & SCHWARZ	ENV 216	101274	9kHz ~ 30MHz	18/Jun/2024	17/Jun/2025
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	27/Feb/2024	26/Feb/2025
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	18/Oct/2023	17/Oct/2024
Software	Sporton	SENSE-EMI	V5.11.3	-	NCR	NCR

NCR: No Calibration Required

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101515	9kHz~40GHz	02/Feb/2024	01/Feb/2025
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	20/Oct/2023	19/Oct/2024
Power Meter	Anritsu	ML2495A	1517010	300MHz~40GHz	15/Dec/2023	14/Dec/2024
Pulse Sensor	Anritsu	MA2411B	1339407	300MHz~40GHz	15/Dec/2023	14/Dec/2024
SENSE-15247_DTS	Sporton	V5.11.18	N/A	N/A	N/A	N/A

Instrument for Radiated Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	14/Jul/2024	13/Jul/2025
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz~18GHz 3m	14/Jul/2024	13/Jul/2025
EMI Test Receiver	R&S	ESR3	102051	9kHz~3.6GHz	17/May/2024	16/May/2025
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	26/Oct/2023	25/Oct/2024
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	19/Mar/2024	18/Mar/2025
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMCI	CBL6112B / N-6-05	22237 / AT-N-0603	30MHz~1GHz	15/Oct/2023	14/Oct/2024
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02267	1GHz~18GHz	04/Oct/2023	03/Oct/2024
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170154	18GHz ~ 40GHz	04/Jun/2024	03/Jun/2025
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz~30MHz	12/Jun/2024	11/Jun/2025
RF Cable-R03m	Jye Bao	RG142	03CH03-cable-02	30MHz~1GHz	12/Jun/2024	11/Jun/2025
RF CABLE 5+8 m	HUBER+SUHNER	SUOFLEX 104	03CH03-cable-03	1GHz~40GHz	20/Feb/2024	19/Feb/2025
Amplifier	Aglient	8447D	2944A08033	100kHz~1.3GHz	13/Sep/2024	12/Sep/2025
Microwave Preamplifier	Agilent	8449B	3008A02326	1GHz~26.5GHz	25/Jul/2024	24/Jul/2025
Amplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~ 40GHz	19/Apr/2024	18/Apr/2025
SENSE-15247_DTS	Sporton	V5.11.19	N/A	N/A	N/A	N/A

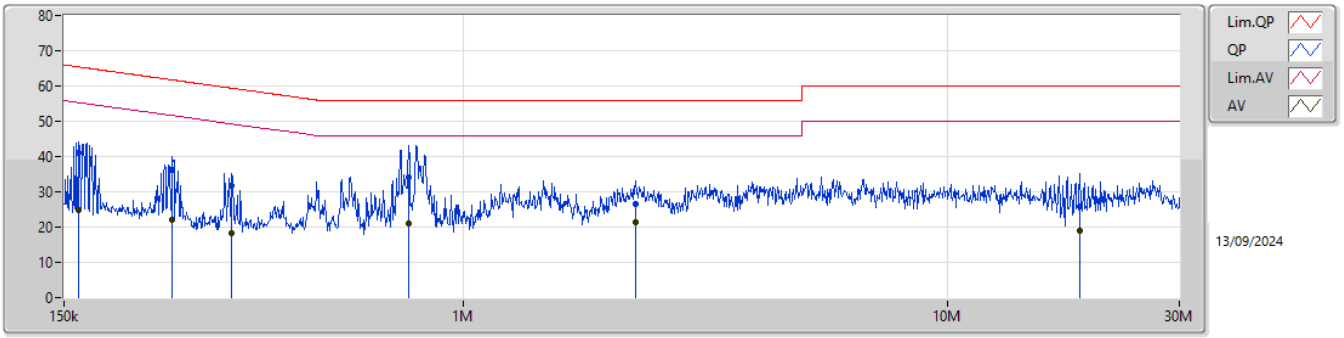
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	818.313k	28.05	46.00	-17.95	Neutral

Result

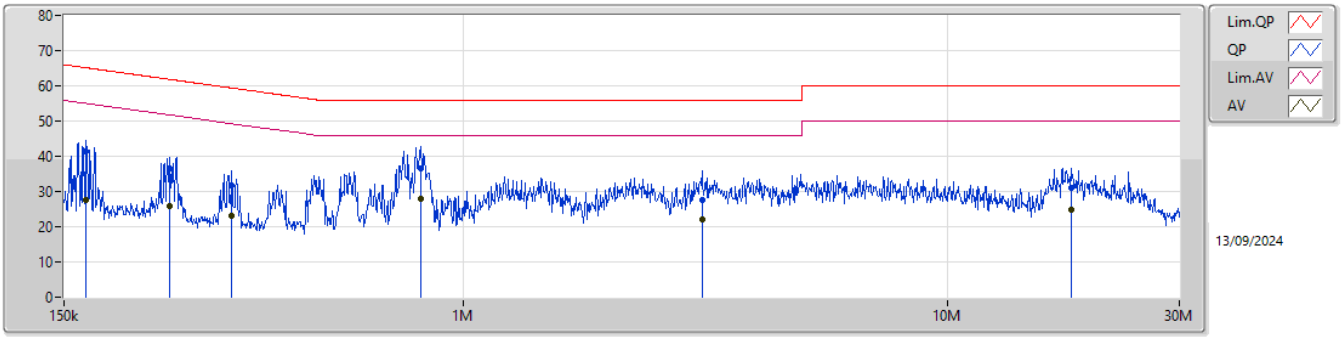
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	160.533k	40.91	65.43	-24.52	Line	-
Mode 1	Pass	AV	160.533k	24.79	55.43	-30.64	Line	-
Mode 1	Pass	QP	251.038k	36.23	61.72	-25.49	Line	-
Mode 1	Pass	AV	251.038k	22.03	51.72	-29.69	Line	-
Mode 1	Pass	QP	333.299k	31.58	59.37	-27.79	Line	-
Mode 1	Pass	AV	333.299k	18.38	49.37	-30.99	Line	-
Mode 1	Pass	QP	770.75k	34.22	56.00	-21.78	Line	-
Mode 1	Pass	AV	770.75k	21.20	46.00	-24.80	Line	-
Mode 1	Pass	QP	2.265M	26.71	56.00	-29.29	Line	-
Mode 1	Pass	AV	2.265M	21.31	46.00	-24.69	Line	-
Mode 1	Pass	QP	18.713M	25.75	60.00	-34.25	Line	-
Mode 1	Pass	AV	18.713M	18.81	50.00	-31.19	Line	-
Mode 1	Pass	QP	166.406k	41.51	65.14	-23.63	Neutral	-
Mode 1	Pass	AV	166.406k	27.42	55.14	-27.72	Neutral	-
Mode 1	Pass	QP	247.062k	36.70	61.85	-25.15	Neutral	-
Mode 1	Pass	AV	247.062k	25.94	51.85	-25.91	Neutral	-
Mode 1	Pass	QP	333.299k	31.74	59.37	-27.63	Neutral	-
Mode 1	Pass	AV	333.299k	23.17	49.37	-26.20	Neutral	-
Mode 1	Pass	QP	818.313k	36.60	56.00	-19.40	Neutral	-
Mode 1	Pass	AV	818.313k	28.05	46.00	-17.95	Neutral	-
Mode 1	Pass	QP	3.104M	27.70	56.00	-28.30	Neutral	-
Mode 1	Pass	AV	3.104M	21.91	46.00	-24.09	Neutral	-
Mode 1	Pass	QP	17.909M	31.17	60.00	-28.83	Neutral	-
Mode 1	Pass	AV	17.909M	24.75	50.00	-25.25	Neutral	-

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	160.533k	40.91	65.43	-24.52	19.47	Line	-	21.44	9.66	0.07	9.74
AV	160.533k	24.79	55.43	-30.64	19.47	Line	-	5.32	9.66	0.07	9.74
QP	251.038k	36.23	61.72	-25.49	19.46	Line	-	16.77	9.65	0.10	9.71
AV	251.038k	22.03	51.72	-29.69	19.46	Line	-	2.57	9.65	0.10	9.71
QP	333.299k	31.58	59.37	-27.79	19.50	Line	-	12.08	9.65	0.11	9.74
AV	333.299k	18.38	49.37	-30.99	19.50	Line	-	-1.12	9.65	0.11	9.74
QP	770.75k	34.22	56.00	-21.78	19.55	Line	-	14.67	9.66	0.10	9.79
AV	770.75k	21.20	46.00	-24.80	19.55	Line	-	1.65	9.66	0.10	9.79
QP	2.265M	26.71	56.00	-29.29	19.57	Line	-	7.14	9.67	0.10	9.80
AV	2.265M	21.31	46.00	-24.69	19.57	Line	-	1.74	9.67	0.10	9.80
QP	18.713M	25.75	60.00	-34.25	19.62	Line	-	6.13	9.68	0.11	9.83
AV	18.713M	18.81	50.00	-31.19	19.62	Line	-	-0.81	9.68	0.11	9.83

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	166.406k	41.51	65.14	-23.63	19.40	Neutral	-	22.11	9.60	0.07	9.73
AV	166.406k	27.42	55.14	-27.72	19.40	Neutral	-	8.02	9.60	0.07	9.73
QP	247.062k	36.70	61.85	-25.15	19.40	Neutral	-	17.30	9.60	0.10	9.70
AV	247.062k	25.94	51.85	-25.91	19.40	Neutral	-	6.54	9.60	0.10	9.70
QP	333.299k	31.74	59.37	-27.63	19.45	Neutral	-	12.29	9.60	0.11	9.74
AV	333.299k	23.17	49.37	-26.20	19.45	Neutral	-	3.72	9.60	0.11	9.74
QP	818.313k	36.60	56.00	-19.40	19.50	Neutral	-	17.10	9.61	0.10	9.79
AV	818.313k	28.05	46.00	-17.95	19.50	Neutral	-	8.55	9.61	0.10	9.79
QP	3.104M	27.70	56.00	-28.30	19.49	Neutral	-	8.21	9.62	0.08	9.79
AV	3.104M	21.91	46.00	-24.09	19.49	Neutral	-	2.42	9.62	0.08	9.79
QP	17.909M	31.17	60.00	-28.83	19.61	Neutral	-	11.56	9.67	0.11	9.83
AV	17.909M	24.75	50.00	-25.25	19.61	Neutral	-	5.14	9.67	0.11	9.83

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
Thread	1.619M	2.449M	2M45D1D	1.575M	2.274M

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

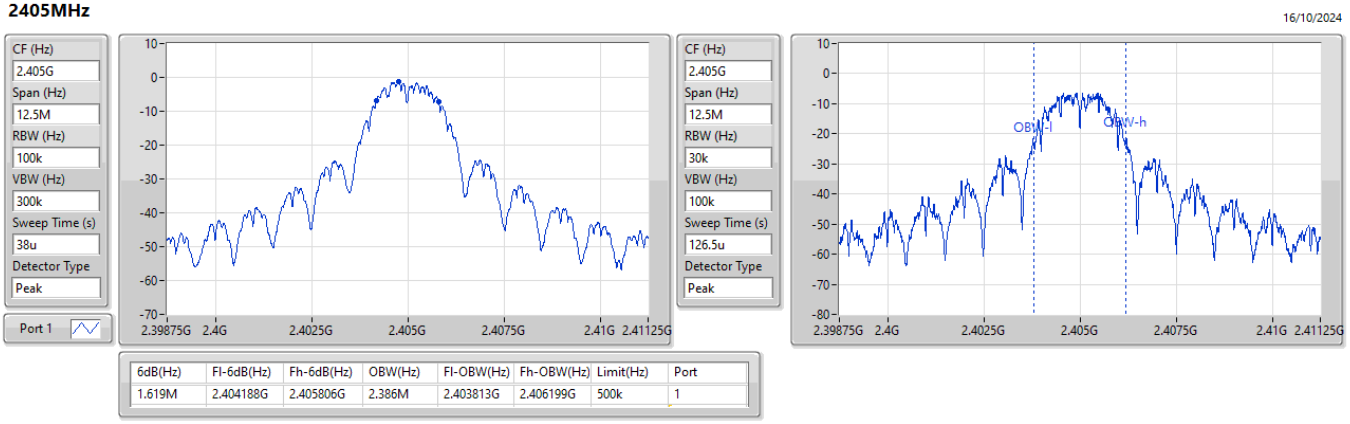
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
Thread	-	-	-	-
2405MHz	Pass	500k	1.619M	2.386M
2440MHz	Pass	500k	1.575M	2.449M
2480MHz	Pass	500k	1.6M	2.274M

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

2.4-2.4835GHz_Thread **EBW**

2405MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.619M	2.404188G	2.405806G	2.386M	2.403813G	2.406199G	500k	1

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
Thread	3.27	0.00212

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
Thread	-	-	-	-	-
2405MHz	Pass	6.51	3.20	3.20	29.49
2440MHz	Pass	6.51	3.27	3.27	29.49
2480MHz	Pass	6.51	-2.53	-2.53	29.49

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	-13.10

RBW = 3kHz;

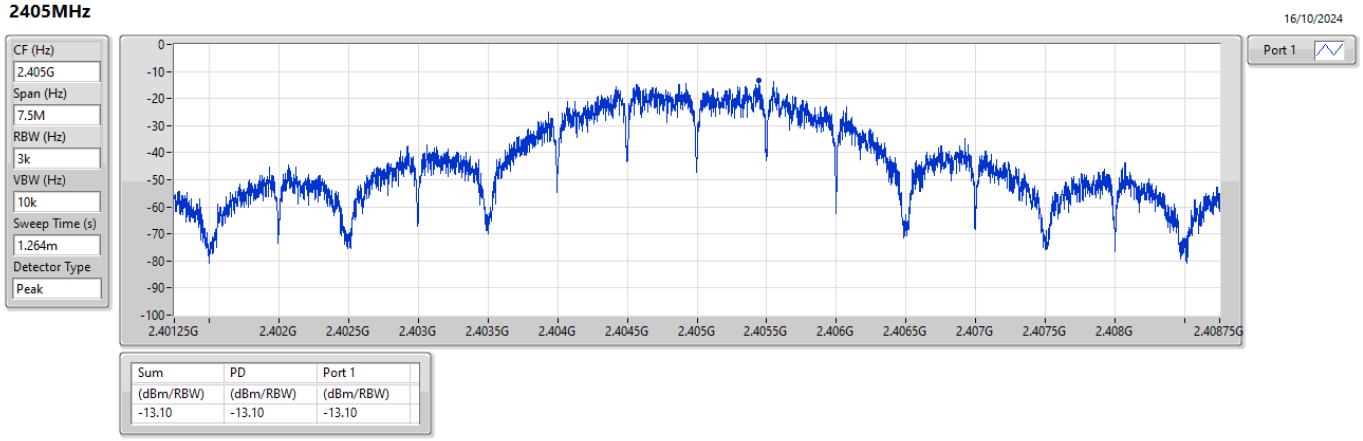
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
Thread	-	-	-	-	-
2405MHz	Pass	6.51	-13.10	-13.10	7.49
2440MHz	Pass	6.51	-13.57	-13.57	7.49
2480MHz	Pass	6.51	-18.19	-18.19	7.49

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 **PSD**

2405MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-13.10	-13.10	-13.10

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)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thread	Pass	2.43975G	-0.34	-30.34	2.17438G	-54.38	2.4G	-41.71	2.4G	-41.53	2.50062G	-52.72	24.49945G	-42.48	1

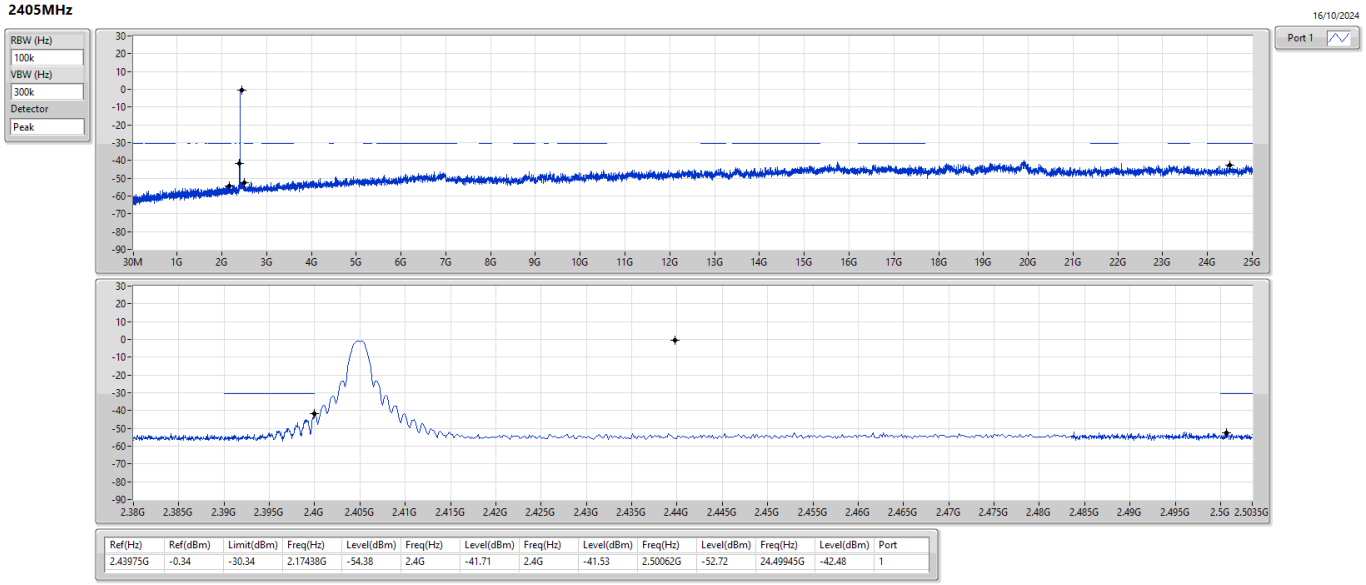
Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
Thread	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	2.43975G	-0.34	-30.34	2.17438G	-54.38	2.4G	-41.71	2.4G	-41.53	2.50062G	-52.72	24.49945G	-42.48	1
2440MHz	Pass	2.43975G	-0.34	-30.34	1.96405G	-53.78	2.39312G	-53.05	2.4G	-55.06	2.50038G	-52.90	23.2987G	-42.21	1
2480MHz	Pass	2.43975G	-0.34	-30.34	1.87828G	-54.37	2.39024G	-53.67	2.4G	-56.08	2.50346G	-52.54	14.94125G	-42.04	1

2.4-2.4835GHz_Thread

CSENdB

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
2.43975G	-0.34	-30.34	2.17438G	-54.38	2.4G	-41.71	2.4G	-41.53	2.50062G	-52.72	24.49945G	-42.48	1

Summary

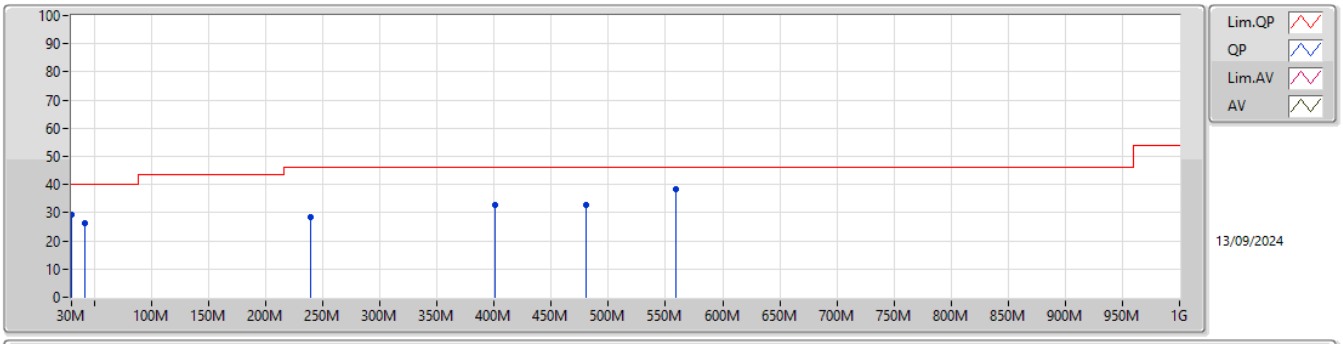
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
Thread	Pass	PK	559.62M	42.21	46.00	-3.79	3	Horizontal	0	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
Thread	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	30M	29.41	40.00	-10.59	3	Vertical	360	1.00
2440MHz	Pass	PK	41.64M	26.25	40.00	-13.75	3	Vertical	360	1.00
2440MHz	Pass	PK	239.52M	28.51	46.00	-17.49	3	Vertical	360	1.00
2440MHz	Pass	PK	400.54M	32.86	46.00	-13.14	3	Vertical	360	1.00
2440MHz	Pass	PK	480.08M	32.82	46.00	-13.18	3	Vertical	360	1.00
2440MHz	Pass	PK	559.62M	38.21	46.00	-7.79	3	Vertical	360	1.00
2440MHz	Pass	PK	161.92M	27.90	43.50	-15.60	3	Horizontal	0	1.00
2440MHz	Pass	PK	239.52M	36.19	46.00	-9.81	3	Horizontal	0	1.00
2440MHz	Pass	PK	400.54M	37.67	46.00	-8.33	3	Horizontal	0	1.00
2440MHz	Pass	PK	480.08M	35.97	46.00	-10.03	3	Horizontal	0	1.00
2440MHz	Pass	PK	559.62M	42.21	46.00	-3.79	3	Horizontal	0	1.00
2440MHz	Pass	PK	720.64M	39.75	46.00	-6.25	3	Horizontal	0	1.00

2.4-2.4835GHz_Thread

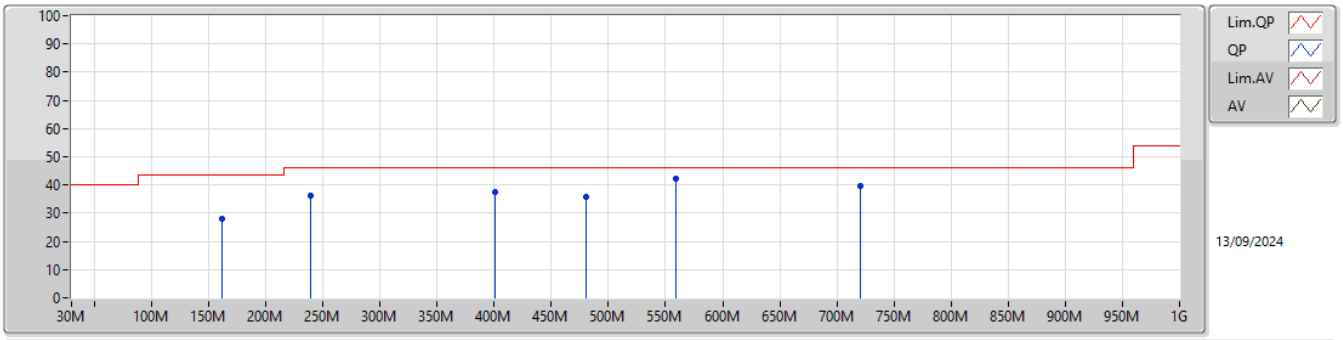
2440MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	30M	29.41	40.00	-10.59	-3.78	3	Vertical	360	1.00	33.19	23.49	0.24	27.51
PK	41.64M	26.25	40.00	-13.75	-9.89	3	Vertical	360	1.00	36.14	17.22	0.34	27.45
PK	239.52M	28.51	46.00	-17.49	-8.23	3	Vertical	360	1.00	36.74	16.42	2.13	26.78
PK	400.54M	32.86	46.00	-13.14	-3.78	3	Vertical	360	1.00	36.64	21.01	2.70	27.49
PK	480.08M	32.82	46.00	-13.18	-2.26	3	Vertical	360	1.00	35.08	22.69	3.10	28.05
PK	559.62M	38.21	46.00	-7.79	-0.42	3	Vertical	360	1.00	38.63	24.31	3.45	28.18

2.4-2.4835GHz_Thread

2440MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	161.92M	27.90	43.50	-15.60	-10.36	3	Horizontal	0	1.00	38.26	15.00	1.74	27.10
PK	239.52M	36.19	46.00	-9.81	-8.23	3	Horizontal	0	1.00	44.42	16.42	2.13	26.78
PK	400.54M	37.67	46.00	-8.33	-3.78	3	Horizontal	0	1.00	41.45	21.01	2.70	27.49
PK	480.08M	35.97	46.00	-10.03	-2.26	3	Horizontal	0	1.00	38.23	22.69	3.10	28.05
PK	559.62M	42.21	46.00	-3.79	-0.42	3	Horizontal	0	1.00	42.63	24.31	3.45	28.18
PK	720.64M	39.75	46.00	-6.25	0.41	3	Horizontal	0	1.00	39.34	24.61	3.98	28.18

Summary

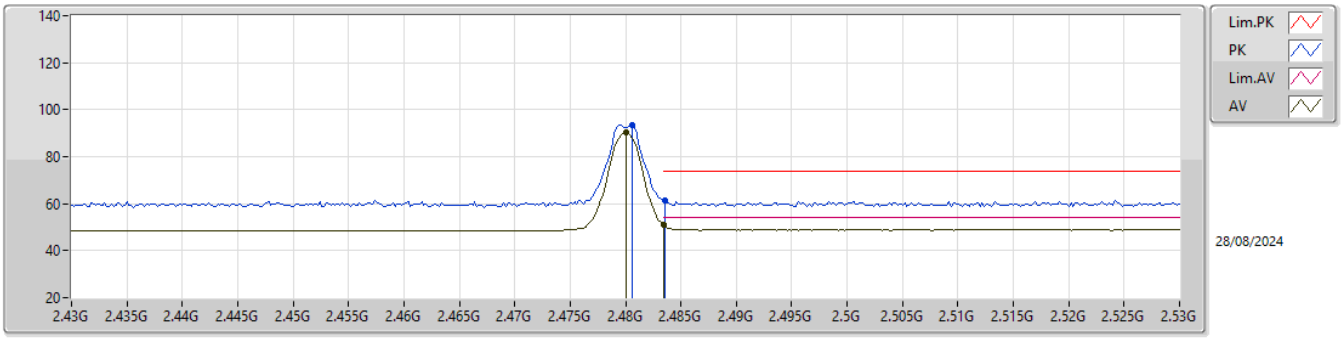
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
Thread	Pass	AV	2.4835G	52.50	54.00	-1.50	3	Horizontal	127	1.20

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
Thread	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	AV	2.39G	47.72	54.00	-6.28	3	Vertical	354	1.26
2405MHz	Pass	AV	2.405G	89.23	Inf	-Inf	3	Vertical	354	1.26
2405MHz	Pass	PK	2.3696G	60.39	74.00	-13.61	3	Vertical	354	1.26
2405MHz	Pass	PK	2.4056G	92.66	Inf	-Inf	3	Vertical	354	1.26
2405MHz	Pass	AV	2.39G	47.72	54.00	-6.28	3	Horizontal	135	1.42
2405MHz	Pass	AV	2.405G	95.72	Inf	-Inf	3	Horizontal	135	1.42
2405MHz	Pass	PK	2.37G	60.46	74.00	-13.54	3	Horizontal	135	1.42
2405MHz	Pass	PK	2.4044G	99.04	Inf	-Inf	3	Horizontal	135	1.42
2405MHz	Pass	AV	4.80771G	34.46	54.00	-19.54	3	Vertical	210	1.50
2405MHz	Pass	PK	4.80902G	47.41	74.00	-26.59	3	Vertical	210	1.50
2405MHz	Pass	AV	4.80785G	34.31	54.00	-19.69	3	Horizontal	184	2.82
2405MHz	Pass	PK	4.80843G	46.84	74.00	-27.16	3	Horizontal	184	2.82
2440MHz	Pass	AV	2.39G	47.72	54.00	-6.28	3	Vertical	152	2.67
2440MHz	Pass	AV	2.44G	95.96	Inf	-Inf	3	Vertical	152	2.67
2440MHz	Pass	AV	2.4896G	48.84	54.00	-5.16	3	Vertical	152	2.67
2440MHz	Pass	PK	2.378G	60.38	74.00	-13.62	3	Vertical	152	2.67
2440MHz	Pass	PK	2.4404G	99.28	Inf	-Inf	3	Vertical	152	2.67
2440MHz	Pass	PK	2.4944G	60.83	74.00	-13.17	3	Vertical	152	2.67
2440MHz	Pass	AV	2.39G	47.72	54.00	-6.28	3	Horizontal	124	1.01
2440MHz	Pass	AV	2.44G	96.36	Inf	-Inf	3	Horizontal	124	1.01
2440MHz	Pass	AV	2.4896G	48.84	54.00	-5.16	3	Horizontal	124	1.01
2440MHz	Pass	PK	2.3676G	59.88	74.00	-14.12	3	Horizontal	124	1.01
2440MHz	Pass	PK	2.4396G	99.67	Inf	-Inf	3	Horizontal	124	1.01
2440MHz	Pass	PK	2.4916G	60.70	74.00	-13.30	3	Horizontal	124	1.01
2440MHz	Pass	AV	4.88107G	34.83	54.00	-19.17	3	Vertical	334	2.72
2440MHz	Pass	AV	7.32135G	40.96	54.00	-13.04	3	Vertical	95	2.78
2440MHz	Pass	PK	4.87947G	47.71	74.00	-26.29	3	Vertical	334	2.72
2440MHz	Pass	PK	7.31889G	53.97	74.00	-20.03	3	Vertical	95	2.78
2440MHz	Pass	AV	4.8825G	34.68	54.00	-19.32	3	Horizontal	223	1.34
2440MHz	Pass	AV	7.32149G	40.40	54.00	-13.60	3	Horizontal	307	1.50
2440MHz	Pass	PK	4.87754G	48.30	74.00	-25.70	3	Horizontal	223	1.34
2440MHz	Pass	PK	7.31775G	53.21	74.00	-20.79	3	Horizontal	307	1.50
2480MHz	Pass	AV	2.48G	90.09	Inf	-Inf	3	Vertical	172	1.00
2480MHz	Pass	AV	2.4835G	50.95	54.00	-3.05	3	Vertical	172	1.00
2480MHz	Pass	PK	2.4806G	93.36	Inf	-Inf	3	Vertical	172	1.00
2480MHz	Pass	PK	2.4836G	61.20	74.00	-12.80	3	Vertical	172	1.00
2480MHz	Pass	AV	2.48G	92.57	Inf	-Inf	3	Horizontal	127	1.20
2480MHz	Pass	AV	2.4835G	52.50	54.00	-1.50	3	Horizontal	127	1.20
2480MHz	Pass	PK	2.4804G	95.90	Inf	-Inf	3	Horizontal	127	1.20
2480MHz	Pass	PK	2.4835G	62.46	74.00	-11.54	3	Horizontal	127	1.20
2480MHz	Pass	AV	4.95774G	35.46	54.00	-18.54	3	Vertical	162	1.07
2480MHz	Pass	AV	7.4432G	40.19	54.00	-13.81	3	Vertical	90	1.50
2480MHz	Pass	PK	4.96239G	47.91	74.00	-26.09	3	Vertical	162	1.07
2480MHz	Pass	PK	7.43883G	53.55	74.00	-20.45	3	Vertical	90	1.50
2480MHz	Pass	AV	4.95764G	35.30	54.00	-18.70	3	Horizontal	356	1.50
2480MHz	Pass	AV	7.44192G	40.12	54.00	-13.88	3	Horizontal	49	2.63
2480MHz	Pass	PK	4.95871G	47.78	74.00	-26.22	3	Horizontal	356	1.50
2480MHz	Pass	PK	7.44186G	52.70	74.00	-21.30	3	Horizontal	49	2.63

2.4-2.4835GHz_Thread

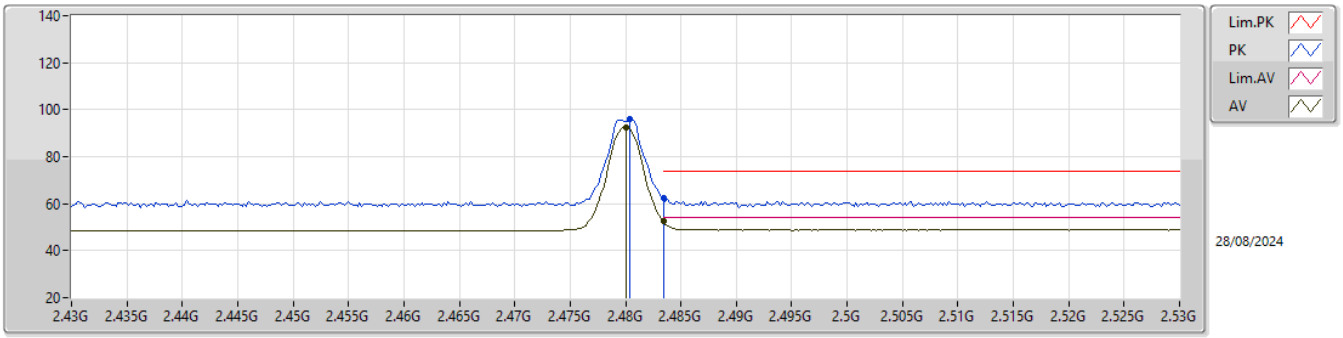
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	90.09	Inf	-Inf	33.21	3	Vertical	172	1.00	56.88	27.70	5.51	-
AV	2.4835G	50.95	54.00	-3.05	33.25	3	Vertical	172	1.00	17.70	27.74	5.51	-
PK	2.4806G	93.36	Inf	-Inf	33.22	3	Vertical	172	1.00	60.14	27.71	5.51	-
PK	2.4836G	61.20	74.00	-12.80	33.25	3	Vertical	172	1.00	27.95	27.74	5.51	-

2.4-2.4835GHz_Thread

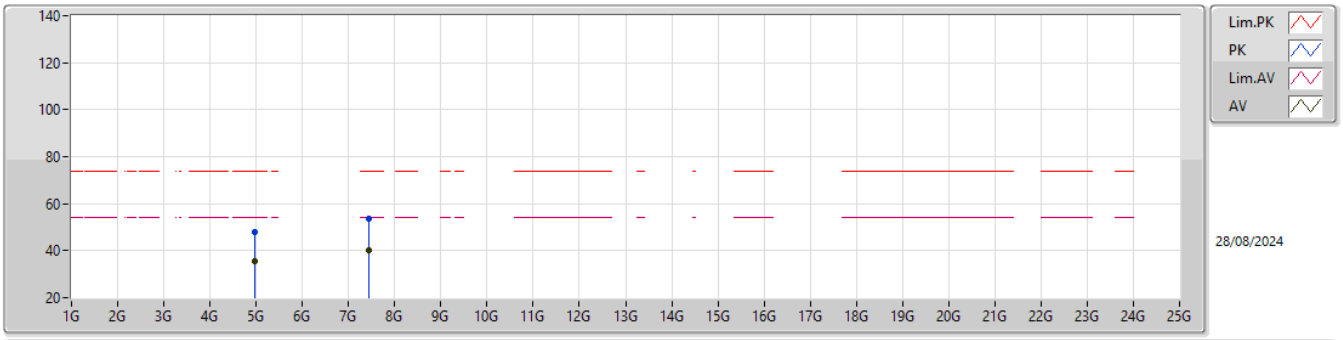
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	92.57	Inf	-Inf	33.21	3	Horizontal	127	1.20	59.36	27.70	5.51	-
AV	2.4835G	52.50	54.00	-1.50	33.25	3	Horizontal	127	1.20	19.25	27.74	5.51	-
PK	2.4804G	95.90	Inf	-Inf	33.21	3	Horizontal	127	1.20	62.69	27.70	5.51	-
PK	2.4835G	62.46	74.00	-11.54	33.25	3	Horizontal	127	1.20	29.21	27.74	5.51	-

2.4-2.4835GHz_Thread

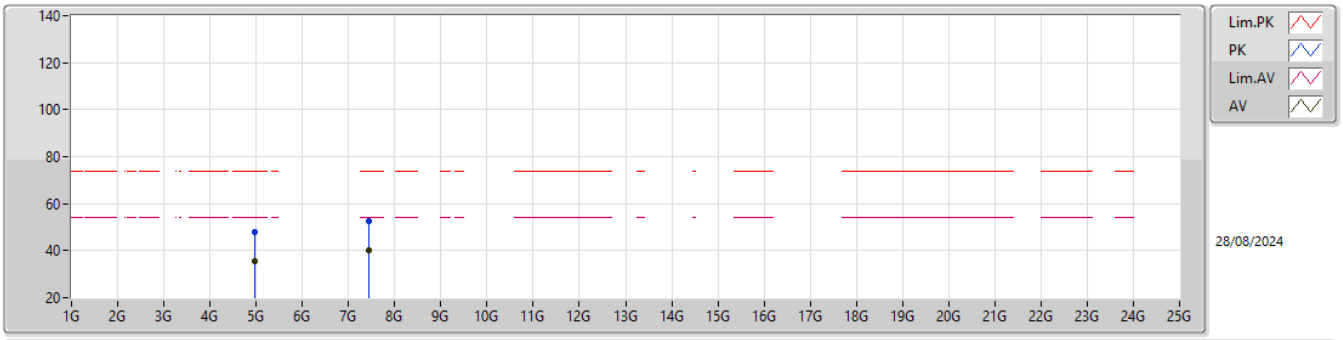
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.95774G	35.46	54.00	-18.54	6.83	3	Vertical	162	1.07	28.63	32.85	7.98	34.00
AV	7.4432G	40.19	54.00	-13.81	11.67	3	Vertical	90	1.50	28.52	36.31	9.57	34.21
PK	4.96239G	47.91	74.00	-26.09	6.85	3	Vertical	162	1.07	41.06	32.87	7.98	34.00
PK	7.43883G	53.55	74.00	-20.45	11.66	3	Vertical	90	1.50	41.89	36.32	9.56	34.22

2.4-2.4835GHz_Thread

2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.95764G	35.30	54.00	-18.70	6.83	3	Horizontal	356	1.50	28.47	32.85	7.98	34.00
AV	7.44192G	40.12	54.00	-13.88	11.68	3	Horizontal	49	2.63	28.44	36.32	9.57	34.21
PK	4.95871G	47.78	74.00	-26.22	6.83	3	Horizontal	356	1.50	40.95	32.85	7.98	34.00
PK	7.44186G	52.70	74.00	-21.30	11.68	3	Horizontal	49	2.63	41.02	36.32	9.57	34.21