FCC Radio Test Report

FCC ID	:	**2AHDGSAR5**
Equipment	:	**AVer Wireless Microphone Receiver**
Brand Name	:	**AVer**
Model Name	:	**SAR5, SARXXXXX (X can be any alphanumeric, symbol or blank for marketing purposes.)**
Applicant	:	**AVer Information Inc. 8F, No.157, Da-An Rd., Tucheng Dist., New Taipei City 23673, Taiwan**
Manufacturer	:	**AVer Information Inc. 8F, No.157, Da-An Rd., Tucheng Dist., New Taipei City 23673, Taiwan**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on May 31, 2023, and testing was started from Nov. 23, 2023 and completed on Nov. 28, 2023. 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.

Jackson Tsai

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 3

SUMMARY OF TEST RESULT 4

1 GENERAL DESCRIPTION 5

1.1 Information 5
1.2 Testing Applied Standards 7
1.3 Testing Location Information 7
1.4 Measurement Uncertainty 7

2 TEST CONFIGURATION OF EUT 8

2.1 Test Channel Mode 8
2.2 The Worst Case Measurement Configuration 8
2.3 Support Equipment 9
2.4 Test Setup Diagram 10

3 TRANSMITTER TEST RESULT 11

3.1 AC Power-line Conducted Emissions 11
3.2 DTS Bandwidth 13
3.3 Maximum Conducted Output Power 14
3.4 Power Spectral Density 16
3.5 Emissions in Non-restricted Frequency Bands 17
3.6 Emissions in Restricted Frequency Bands 18

4 TEST EQUIPMENT AND CALIBRATION DATA 22

APPENDIX A. TEST RESULTS OF AC POWER-LINE CONDUCTED EMISSIONS

APPENDIX B. TEST RESULTS OF DTS BANDWIDTH

APPENDIX C. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER

APPENDIX D. TEST RESULTS OF POWER SPECTRAL DENSITY

APPENDIX E. TEST RESULTS OF EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS

APPENDIX F. TEST RESULTS OF EMISSIONS IN RESTRICTED FREQUENCY BANDS

APPENDIX G. TEST PHOTOS

PHOTOGRAPHS OF EUT V01

History of this test report

Report No.	Version	Description	Issued Date
FR350931-01AF	01	Initial issue of report	Dec. 22, 2023

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: Barry Hsiao

Report Producer: Ann Hou

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number
2400-2483.5	GFSK	2402-2480	0-78 [79]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	SRD	1.0	1TX

Channel List					
Channel	**Freq.(MHz)**	**Channel**	**Freq.(MHz)**	**Channel**	**Freq.(MHz)**
0	2402	**27**	2429	**54**	2456
1	2403	**28**	2430	**55**	2457
2	2404	**29**	2431	**56**	2458
3	2405	**30**	2432	**57**	2459
4	2406	**31**	2433	**58**	2460
5	2407	**32**	2434	**59**	2461
6	2408	**33**	2435	**60**	2462
7	2409	**34**	2436	**61**	2463
8	2410	**35**	2437	**62**	2464
9	2411	**36**	2438	**63**	2465
10	2412	**37**	2439	**64**	2466
11	2413	**38**	2440	**65**	2467
12	2414	**39**	2441	**66**	2468
13	2415	**40**	2442	**67**	2469
14	2416	**41**	2443	**68**	2470
15	2417	**42**	2444	**69**	2471
16	2418	**43**	2445	**70**	2472
17	2419	**44**	2446	**71**	2473
18	2420	**45**	2447	**72**	2474
19	2421	**46**	2448	**73**	2475
20	2422	**47**	2449	**74**	2476
21	2423	**48**	2450	**75**	2477
22	2424	**49**	2451	**76**	2478
23	2425	**50**	2452	**77**	2479
24	2426	**51**	2453	**78**	2480
25	2427	**52**	2454	-	
26	2428	**53**	2455		

Note:
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	aver-wlmic	aver-wlmic-001-RX	PCB	N/A	3.69

For SRD function:

For SRD 2.4G mode (1TX/1RX)

Only Ant. 1 can be used as transmitting/receiving.

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From host system			
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
SRD	0.851	0.7	2.128m	1k

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

1.1.5 Table for Multiple Listing

Model Name	Description
SAR5	All the models are identical, it denotes receiver device.
SARXXXXX (X can be any alphanumeric, symbol or blank for marketing purposes.)	

Note: Model SAR5 was measured during the test.

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 (**TAF:** 3785)	**ADD:** No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
	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	Daniel Lin	21.3~22.5°C / 48~50%	23/Nov/2023
RF Conducted	TH07-HY	Xun Hsieh	23.5~24.6°C / 52~55%	28/Nov/2023
Radiated	03CH02-HY	Darren Cho	21.8~23.1°C / 50~59%	28/Nov/2023
☒ Wenhua 3rd. (**TAF:** 3785)	**ADD:** No. 58, Aly. 75, Ln. 564, Wenhua 3rd Rd., Guishan Dist. Taoyuan City 333, Taiwan (R.O.C.)			
	TEL: 886-3-327-0868			
Test site Designation No. TW0036 with FCC.				
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
Radiated (above 1G)	03CH25-HY	Simon Cheng	22.2~23.4°C / 51~57%	28/Nov/2023
☐ Wen 33rd.St. (**TAF:** 3785)	**ADD:** No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)			
	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	FCC.exe v2.24

Mode	Power Setting
SRD	-
2402MHz	Default
2440MHz	Default
2480MHz	Default

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

2.3 Support Equipment

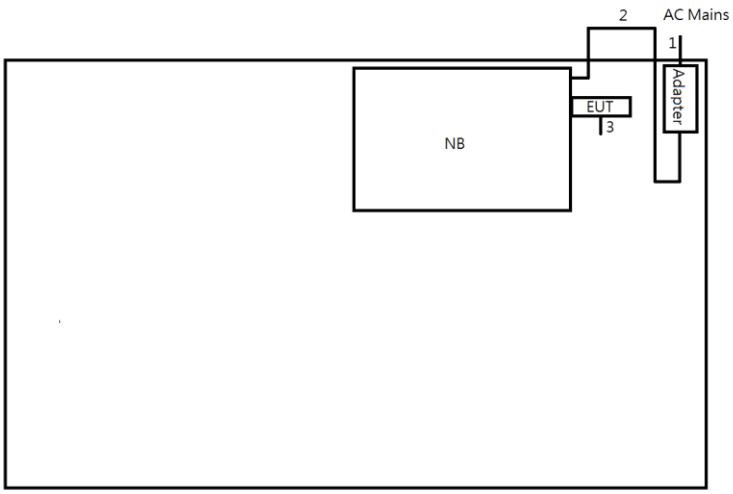
Support Equipment – AC Conduction					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	HP	HSTNN-142C	-	-
2	Adapter for NB	HP	PPP012L-E	-	-
3	AC power cable	Power sync	TPCMRN0018	-	-
4	Fixture cable	YOGADA	Fixture01	-	Provided by Customer

Support Equipment – Conducted					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-
3	Fixture Board	YOGADA	CP2102	-	Provided by Customer
4	Fixture cable	YOGADA	Fixture01	-	Provided by Customer
5	Fixture Board cable	YOGADA	Fixture02	-	Provided by Customer

Support Equipment – Radiated					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	HP	HSTNN-142C	-	-
2	Adapter for NB	HP	PPP012L-E	-	-
3	AC power cable	Power sync	TPCMRN0018	-	-
4	Fixture cable	YOGADA	Fixture01	-	Provided by Customer

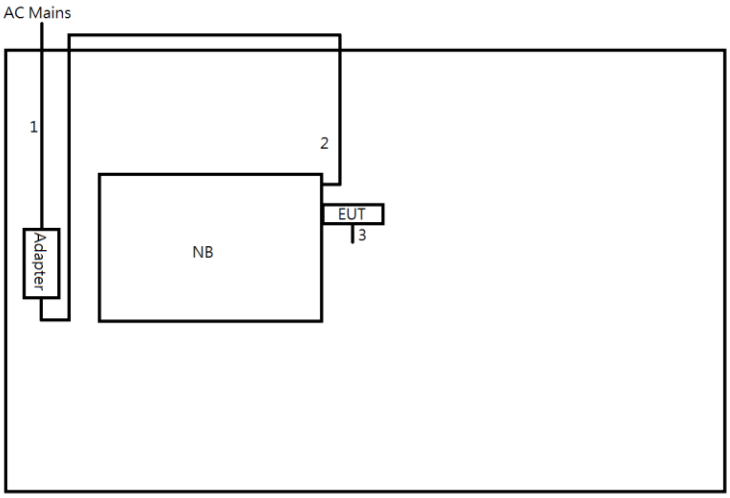
2.4 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length (m)
1	AC Power cable	No	1.8
2	DC Power cable	No	1.8
3	Test fixture cable	No	0.05

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length (m)
1	AC Power cable	No	1.8
2	DC Power cable	No	1.8
3	Test fixture cable	No	0.05

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

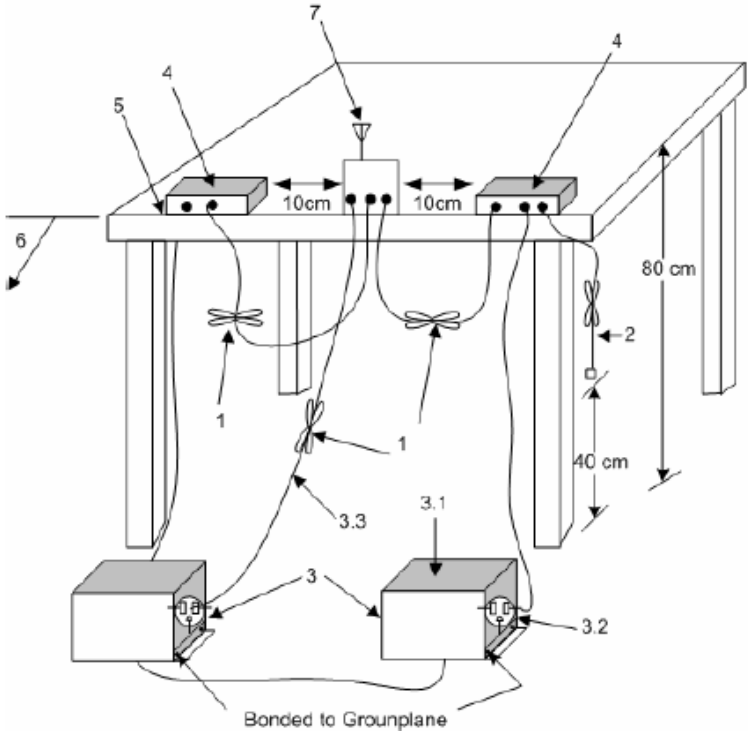
Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

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

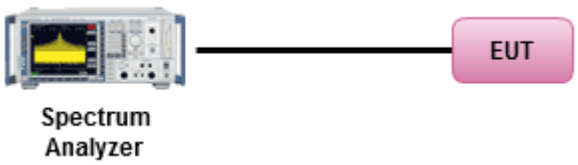
Refer a test equipment and calibration data table in this test report.

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 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 $G_{TX} \leq 6$ 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
e.i.r.p. Power Limit:		
▪ 2400-2483.5 MHz Band		
	▪ Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)	
	▪ Point-to-point systems (P2P): $P_{eirp} \leq MAX(36, [P_{Out} + G_{TX}])$ dBm	
	▪ Smart antenna system (SAS)	
		- Single beam: $P_{eirp} \leq MAX(36, P_{Out} + G_{TX})$ dBm
		- Overlap beam: $P_{eirp} \leq MAX(36, P_{Out} + G_{TX})$ dBm
		- Aggregate power on all beams: $P_{eirp} \leq MAX(36, [P_{Out} + G_{TX} + 8])$ 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

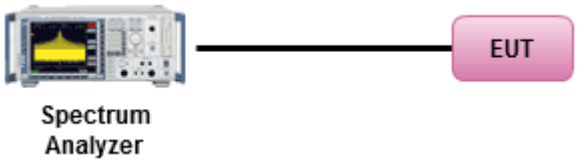
3.4.2 Measuring Instruments

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

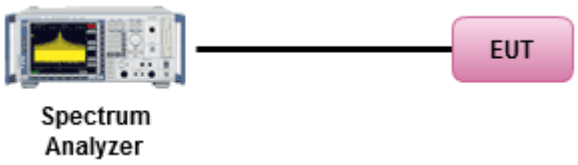
Refer a test equipment and calibration data table in this test report.

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 below30 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.
▪ 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.

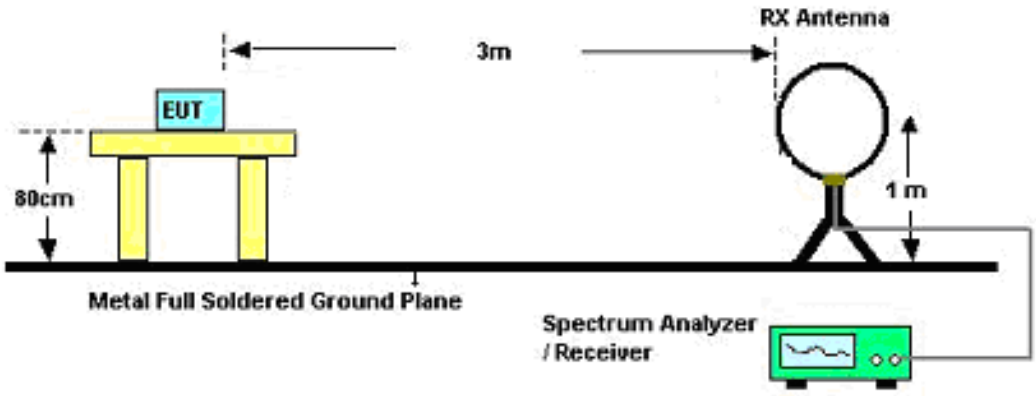
3.6.4 Measurement Results Calculation

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

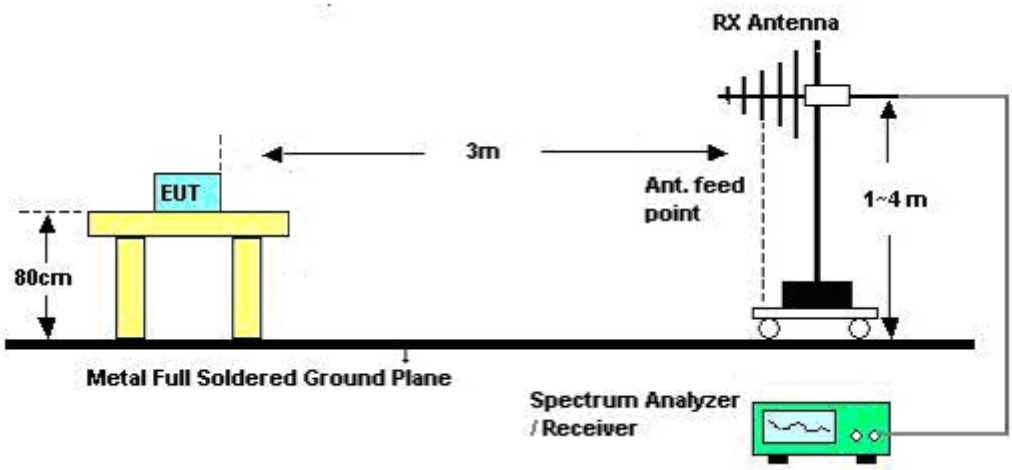
3.6.5 Test Setup

Emissions in Restricted Frequency Bands

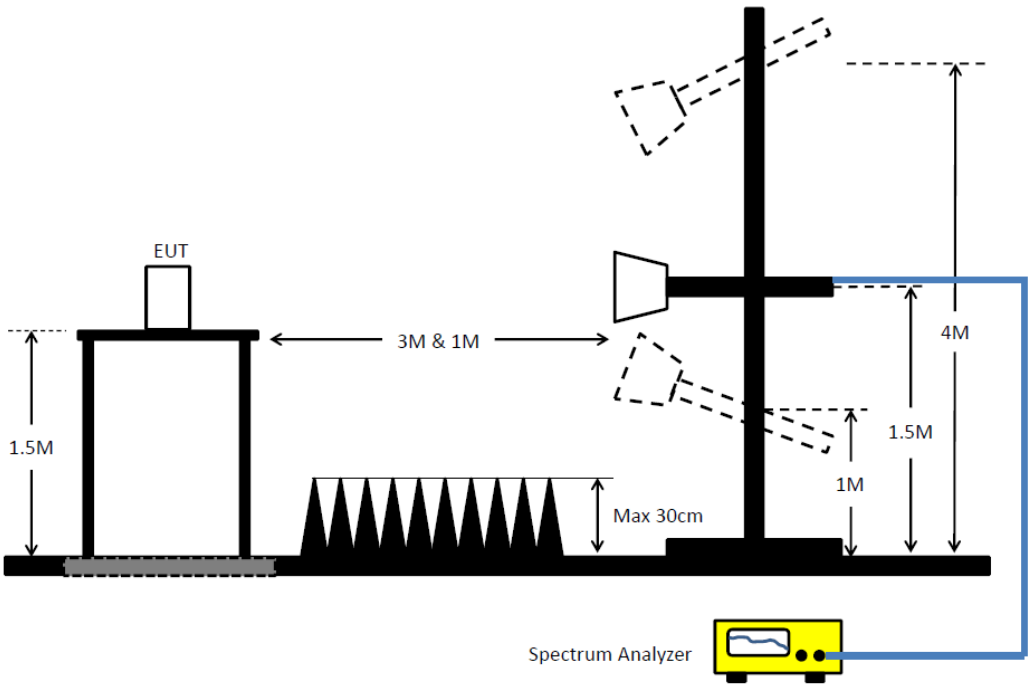
9kHz ~30MHz



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	R&S	ESR	102051	9kHz ~ 3.6GHz	16/May/2023	15/May/2024
Two-Line V-Network	R&S	ENV 216	100003	9kHz ~ 30MHz	07/Sep/2023	06/Sep/2024
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	28/Feb/2023	27/Feb/2024
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	14/Feb/2023	13/Feb/2024
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	20/Oct/2023	19/Oct/2024
Pulse Sensor	Anritsu	MA2411B	1339407	300MHz~40GHz	14/Dec/2022	13/Dec/2023
Power Meter	Anritsu	ML2495A	1517010	300MHz~40GHz	14/Dec/2022	13/Dec/2023
SENSE-15247_FS	Sporton	V5.11.12	N/A	N/A	N/A	N/A

Instrument for Radiated Test (03CH02-HY)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz~1GHz 3m	29/Jul/2023	28/Jul/2024
Signal Analyzer	R&S	FSP 40	100305	9kHz~40GHz	25/Mar/2023	24/Mar/2024
EMI Test Receiver	R&S	ESR	102052	9kHz~3.6GHz	26/May/2023	25/May/2024
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	23/Mar/2023	22/Mar/2024
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2327/2	30MHz~1GHz	27/Aug/2023	26/Aug/2024
RF Cable	MVE	400LL+SN 200207	03CH02-cable-02	9kHz~30MHz	20/Dec/2022	19/Dec/2023
RF Cable	MVE	400LL+SN 200207	03CH02-cable-02	30MHz~1GHz	20/Dec/2022	19/Dec/2023
Amplifier	Aglient	8447D	2944A11149	100kHz~1.3GHz	27/Jun/2023	26/Jun/2024
SENSE-15247-DTS	Sporton	V5.11.14	NA	NA	NA	NA

Instrument for Radiated Test (03CH25-HY)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH25-HY	1GHz~18GHz 3m	09/Aug/2023	08/Aug/2024
Signal Analyzer	ROHDE&SCHWARZ	FSV3044	101410	10Hz ~ 44 GHz	17/Nov/2023	16/Nov/2024
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02876	1GHz~18GHz	12/Jul/2023	11/Jul/2024
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170154	18GHz ~ 40GHz	01/Jun/2023	31/May/2024
RF Cable	HUBER+SUHNER	SUOFLEX 104	CB007	1GHz~40GHz	24/Apr/2023	23/Apr/2024
Preamplifier	SGH	PRAMP 118-H	20230515-3	1GHz ~18GHz	25/May/2023	24/May/2024
Microwave Premplifier	EMC INSTRUMENTS	EM18G40G	606014	18GHz ~ 40GHz	16/Mar/2023	15/Mar/2024
SENSE-15247-DTS	Sporton	V5.11.14	NA	NA	NA	NA

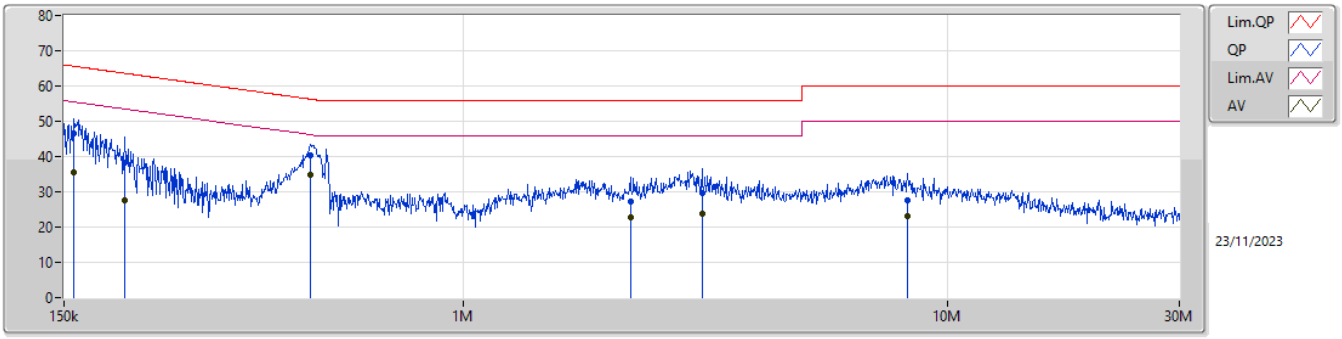
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	483.136k	34.96	46.29	-11.33	Line

Result

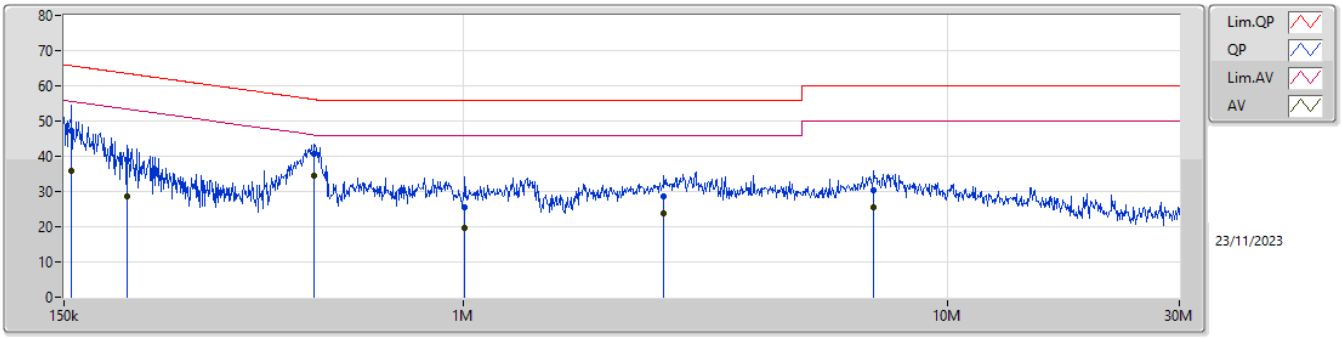
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	157.361k	46.53	65.60	-19.07	Line	-
Mode 1	Pass	AV	157.361k	35.47	55.60	-20.13	Line	-
Mode 1	Pass	QP	199.949k	38.42	63.61	-25.19	Line	-
Mode 1	Pass	AV	199.949k	27.70	53.61	-25.91	Line	-
Mode 1	Pass	QP	483.136k	40.40	56.29	-15.89	Line	-
Mode 1	Pass	AV	483.136k	34.96	46.29	-11.33	Line	-
Mode 1	Pass	QP	2.211M	27.11	56.00	-28.89	Line	-
Mode 1	Pass	AV	2.211M	22.65	46.00	-23.35	Line	-
Mode 1	Pass	QP	3.104M	29.71	56.00	-26.29	Line	-
Mode 1	Pass	AV	3.104M	23.96	46.00	-22.04	Line	-
Mode 1	Pass	QP	8.255M	27.46	60.00	-32.54	Line	-
Mode 1	Pass	AV	8.255M	22.99	50.00	-27.01	Line	-
Mode 1	Pass	QP	155.487k	47.32	65.69	-18.37	Neutral	-
Mode 1	Pass	AV	155.487k	35.76	55.69	-19.93	Neutral	-
Mode 1	Pass	QP	202.358k	39.09	63.51	-24.42	Neutral	-
Mode 1	Pass	AV	202.358k	28.59	53.51	-24.92	Neutral	-
Mode 1	Pass	QP	492.876k	40.81	56.11	-15.30	Neutral	-
Mode 1	Pass	AV	492.876k	34.50	46.11	-11.61	Neutral	-
Mode 1	Pass	QP	1.007M	25.64	56.00	-30.36	Neutral	-
Mode 1	Pass	AV	1.007M	19.58	46.00	-26.42	Neutral	-
Mode 1	Pass	QP	2.594M	28.56	56.00	-27.44	Neutral	-
Mode 1	Pass	AV	2.594M	23.76	46.00	-22.24	Neutral	-
Mode 1	Pass	QP	7.037M	30.22	60.00	-29.78	Neutral	-
Mode 1	Pass	AV	7.037M	25.41	50.00	-24.59	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	157.361k	46.53	65.60	-19.07	19.37	Line	-	27.16	9.59	0.03	9.75
AV	157.361k	35.47	55.60	-20.13	19.37	Line	-	16.10	9.59	0.03	9.75
QP	199.949k	38.42	63.61	-25.19	19.30	Line	-	19.12	9.59	0.03	9.68
AV	199.949k	27.70	53.61	-25.91	19.30	Line	-	8.40	9.59	0.03	9.68
QP	483.136k	40.40	56.29	-15.89	19.41	Line	-	20.99	9.60	0.04	9.77
AV	483.136k	34.96	46.29	-11.33	19.41	Line	-	15.55	9.60	0.04	9.77
QP	2.211M	27.11	56.00	-28.89	19.53	Line	-	7.58	9.64	0.09	9.80
AV	2.211M	22.65	46.00	-23.35	19.53	Line	-	3.12	9.64	0.09	9.80
QP	3.104M	29.71	56.00	-26.29	19.56	Line	-	10.15	9.66	0.11	9.79
AV	3.104M	23.96	46.00	-22.04	19.56	Line	-	4.40	9.66	0.11	9.79
QP	8.255M	27.46	60.00	-32.54	19.68	Line	-	7.78	9.72	0.17	9.79
AV	8.255M	22.99	50.00	-27.01	19.68	Line	-	3.31	9.72	0.17	9.79

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	155.487k	47.32	65.69	-18.37	19.38	Neutral	-	27.94	9.60	0.03	9.75
AV	155.487k	35.76	55.69	-19.93	19.38	Neutral	-	16.38	9.60	0.03	9.75
QP	202.358k	39.09	63.51	-24.42	19.31	Neutral	-	19.78	9.60	0.03	9.68
AV	202.358k	28.59	53.51	-24.92	19.31	Neutral	-	9.28	9.60	0.03	9.68
QP	492.876k	40.81	56.11	-15.30	19.41	Neutral	-	21.40	9.60	0.04	9.77
AV	492.876k	34.50	46.11	-11.61	19.41	Neutral	-	15.09	9.60	0.04	9.77
QP	1.007M	25.64	56.00	-30.36	19.46	Neutral	-	6.18	9.61	0.05	9.80
AV	1.007M	19.58	46.00	-26.42	19.46	Neutral	-	0.12	9.61	0.05	9.80
QP	2.594M	28.56	56.00	-27.44	19.53	Neutral	-	9.03	9.63	0.10	9.80
AV	2.594M	23.76	46.00	-22.24	19.53	Neutral	-	4.23	9.63	0.10	9.80
QP	7.037M	30.22	60.00	-29.78	19.63	Neutral	-	10.59	9.68	0.16	9.79
AV	7.037M	25.41	50.00	-24.59	19.63	Neutral	-	5.78	9.68	0.16	9.79

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
SRD	736.25k	1.054M	1M05F1D	651.25k	1.046M

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

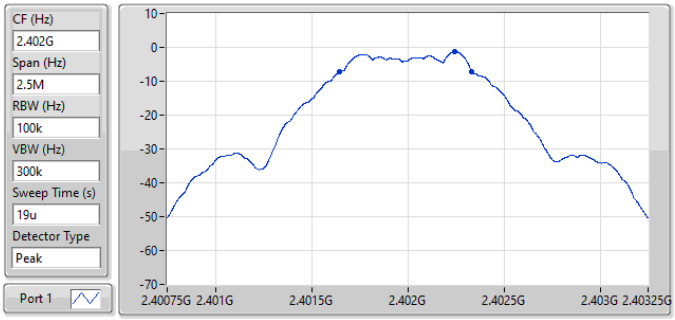
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
SRD	-	-	-	-
2402MHz	Pass	500k	688.75k	1.054M
2440MHz	Pass	500k	736.25k	1.046M
2480MHz	Pass	500k	651.25k	1.048M

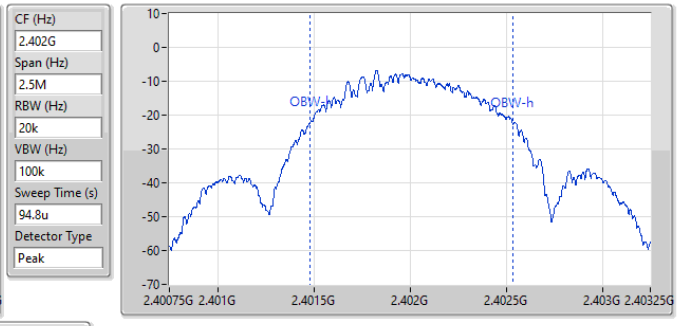
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_SRD **EBW-DTS**

2402MHz

28/11/2023



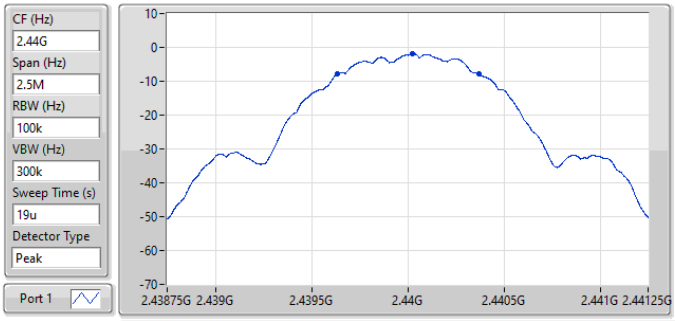


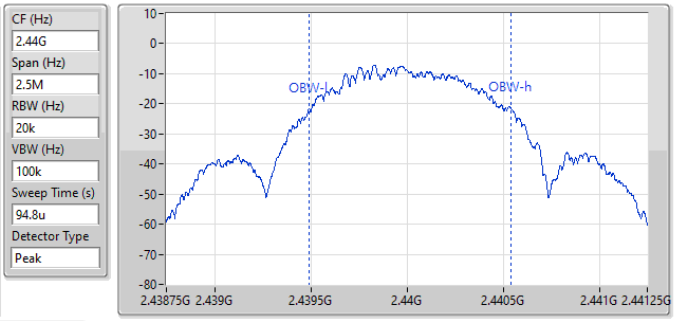
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
688.75k	2.401644G	2.402333G	1.054M	2.401483G	2.402537G	500k	1

2.4-2.4835GHz_SRD **EBW-DTS**

2440MHz

28/11/2023



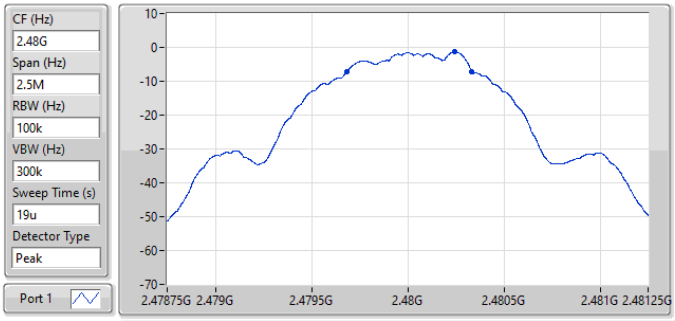


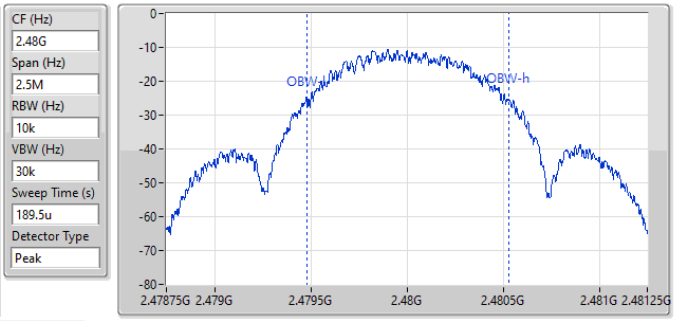
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
736.25k	2.439634G	2.44037G	1.046M	2.439494G	2.44054G	500k	1

2.4-2.4835GHz_SRD **EBW-DTS**

2480MHz

28/11/2023





6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
651.25k	2.479683G	2.480334G	1.048M	2.479483G	2.480531G	500k	1

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
SRD	-0.10	0.00098

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
SRD	-	-	-	-
2402MHz	Pass	3.69	-0.82	30.00
2440MHz	Pass	3.69	-0.34	30.00
2480MHz	Pass	3.69	-0.10	30.00

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

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
SRD	-16.08

RBW = 3kHz;

Result

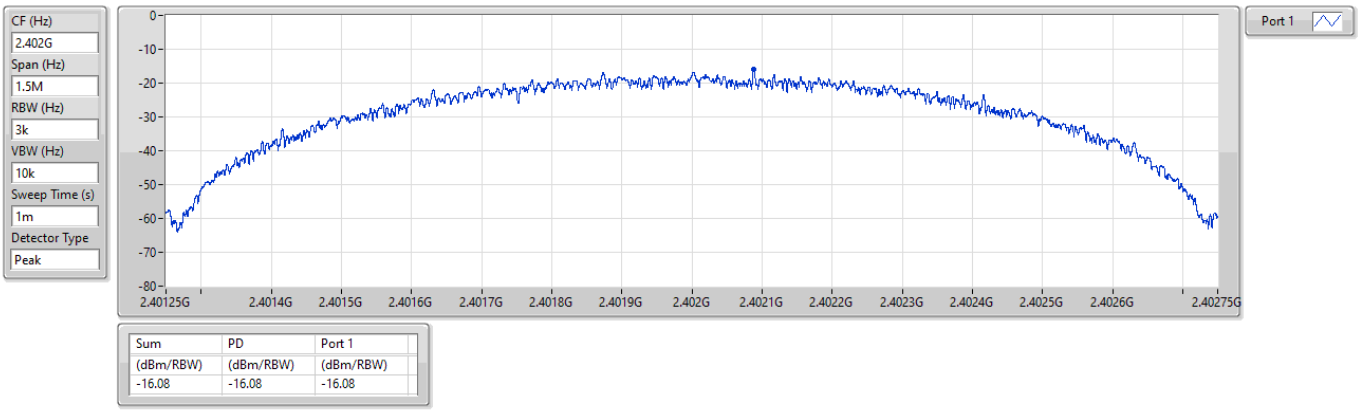
Mode	Result	DG (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
SRD	-	-	-	-
2402MHz	Pass	3.69	-16.08	8.00
2440MHz	Pass	3.69	-17.06	8.00
2480MHz	Pass	3.69	-16.20	8.00

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;

2.4-2.4835GHz_SRD **PSD**

2402MHz

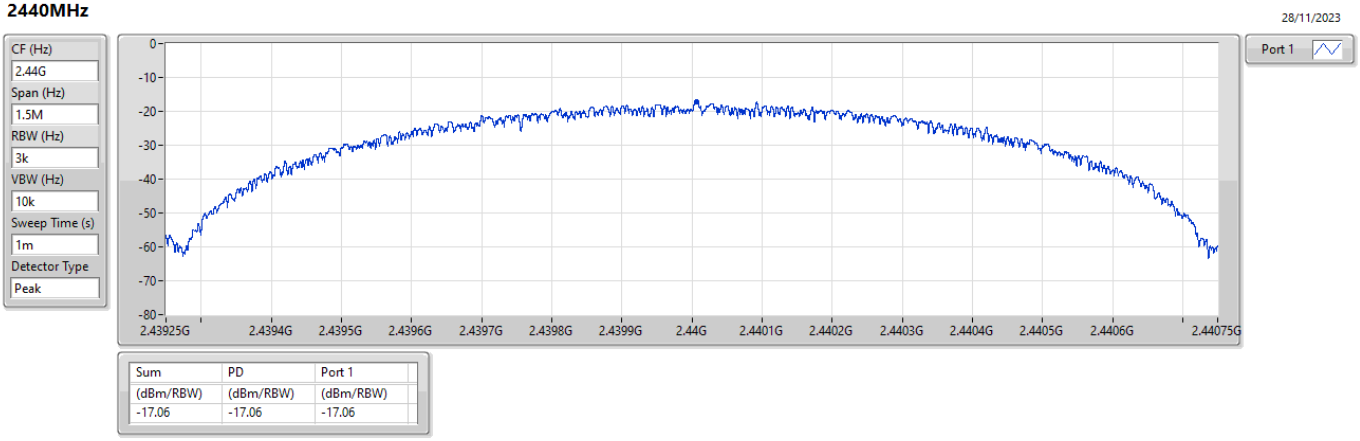
28/11/2023



2.4-2.4835GHz_SRD **PSD**

2440MHz

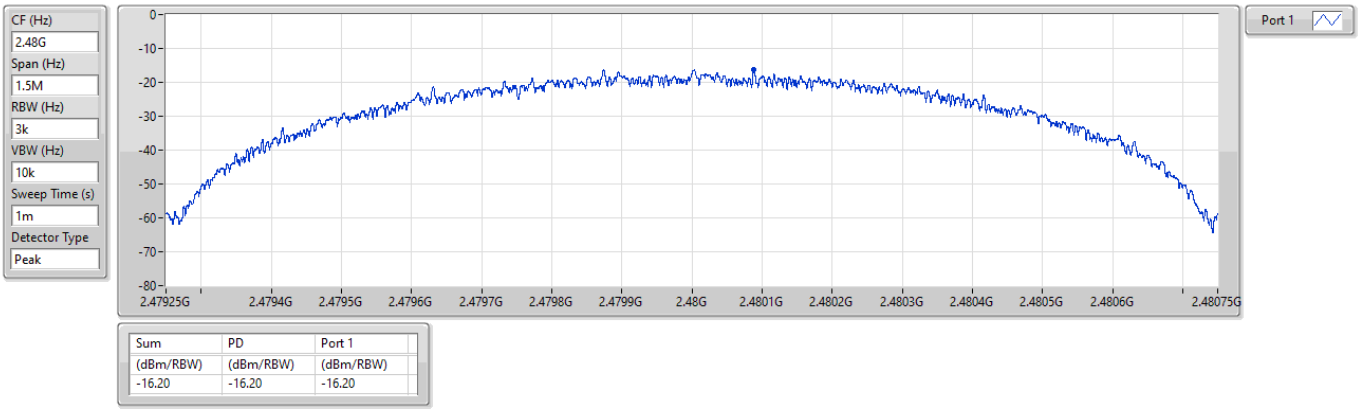
28/11/2023



2.4-2.4835GHz_SRD **PSD**

2480MHz

28/11/2023



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-16.20	-16.20	-16.20

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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SRD	Pass	2.48033G	-0.90	-30.90	2.145G	-53.95	2.3992G	-52.45	2.4G	-52.31	2.5033G	-52.32	16.6538G	-42.38	1

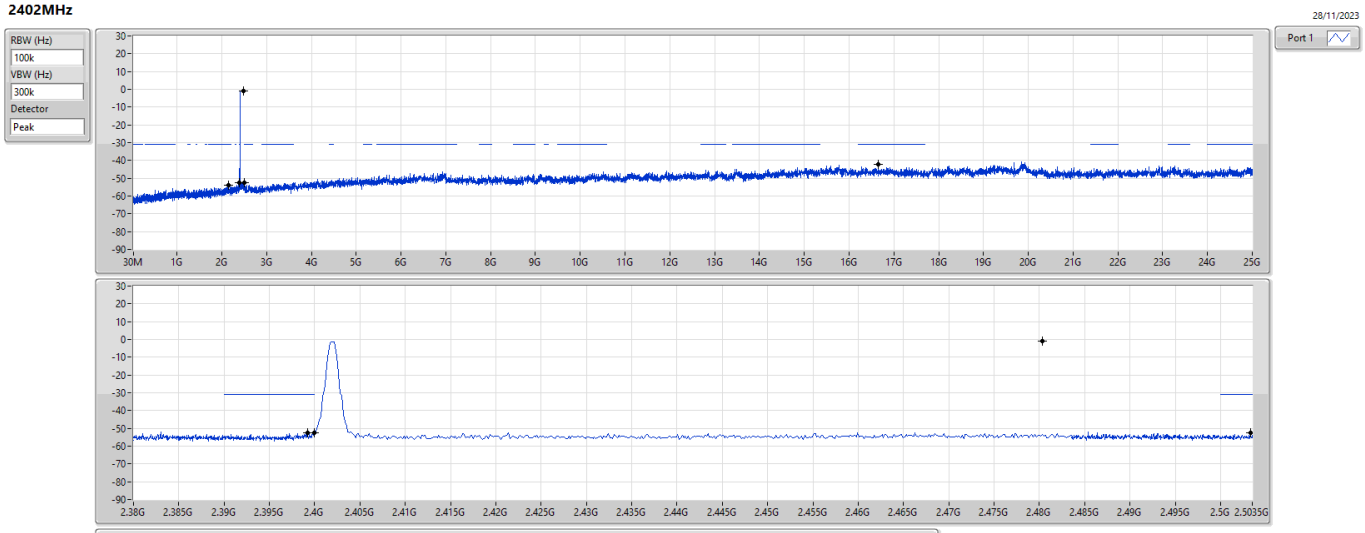
Result

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
SRD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.48033G	-0.90	-30.90	2.145G	-53.95	2.3992G	-52.45	2.4G	-52.31	2.5033G	-52.32	16.6538G	-42.38	1
2440MHz	Pass	2.48033G	-0.90	-30.90	2.12738G	-53.92	2.39016G	-52.85	2.4G	-54.90	2.5003G	-52.44	24.83971G	-42.68	1
2480MHz	Pass	2.48033G	-0.90	-30.90	2.12385G	-54.31	2.39952G	-53.26	2.4G	-54.87	2.5021G	-52.91	16.54694G	-43.29	1

2.4-2.4835GHz_SRD

CSENdB-DTS

2402MHz

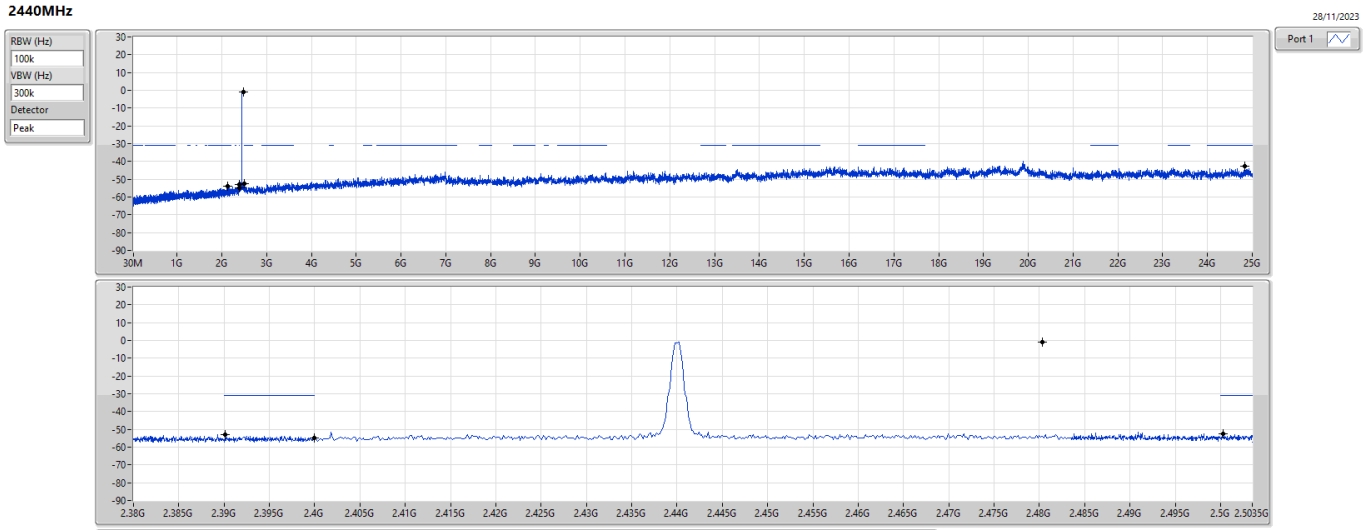


Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48033G	-0.90	-30.90	2.145G	-53.95	2.3992G	-52.45	2.4G	-52.31	2.5033G	-52.32	16.6538G	-42.38	1

2.4-2.4835GHz_SRD

CSENdB-DTS

2440MHz



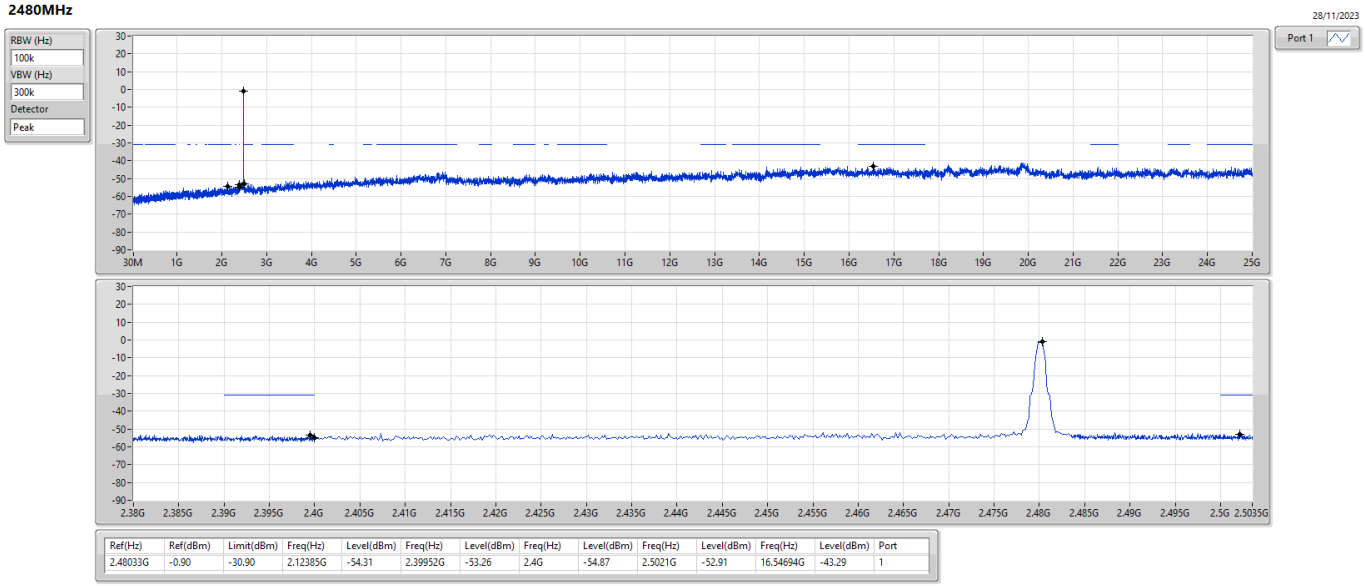
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.48033G	-0.90	-30.90	2.12738G	-53.92	2.39016G	-52.85	2.4G	-54.90	2.5003G	-52.44	24.83971G	-42.68	1

2.4-2.4835GHz_SRD

CSENdB-DTS

2480MHz

28/11/2023



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
2.48033G	-0.90	-30.90	2.12385G	-54.31	2.39952G	-53.26	2.4G	-54.87	2.5021G	-52.91	16.54694G	-43.29	1

Summary

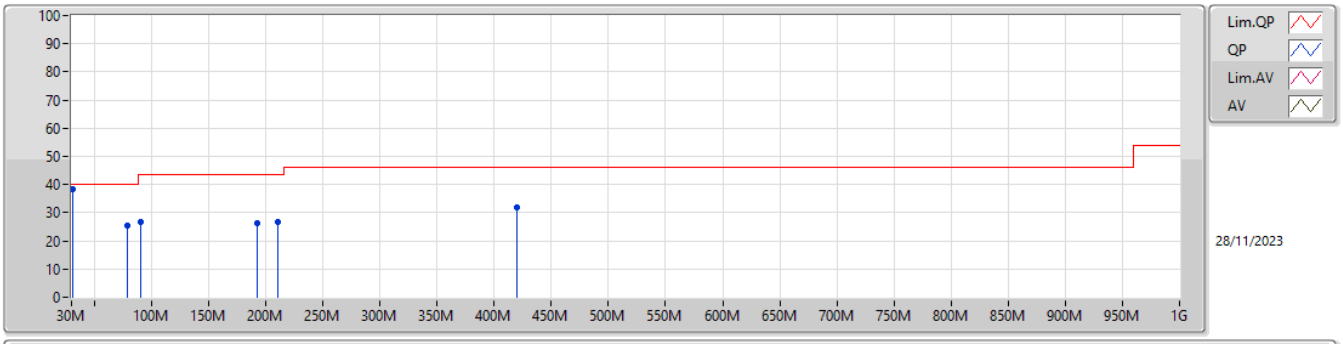
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
SRD	Pass	QP	31.12M	38.30	40.00	-1.70	3	Vertical	97	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
SRD	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	PK	78.5M	25.46	40.00	-14.54	3	Vertical	0	1.00
2402MHz	Pass	PK	90.14M	26.53	43.50	-16.97	3	Vertical	0	1.00
2402MHz	Pass	PK	192.96M	26.22	43.50	-17.28	3	Vertical	0	1.00
2402MHz	Pass	PK	210.42M	26.57	43.50	-16.93	3	Vertical	0	1.00
2402MHz	Pass	PK	419.94M	32.03	46.00	-13.97	3	Vertical	0	1.00
2402MHz	Pass	QP	31.12M	38.30	40.00	-1.70	3	Vertical	97	1.00
2402MHz	Pass	PK	33.88M	35.56	40.00	-4.44	3	Horizontal	360	1.00
2402MHz	Pass	PK	90.14M	24.54	43.50	-18.96	3	Horizontal	360	1.00
2402MHz	Pass	PK	196.84M	32.45	43.50	-11.05	3	Horizontal	360	1.00
2402MHz	Pass	PK	210.42M	31.04	43.50	-12.46	3	Horizontal	360	1.00
2402MHz	Pass	PK	328.76M	30.78	46.00	-15.22	3	Horizontal	360	1.00
2402MHz	Pass	PK	388.9M	30.99	46.00	-15.01	3	Horizontal	360	1.00

2.4-2.4835GHz_SRD

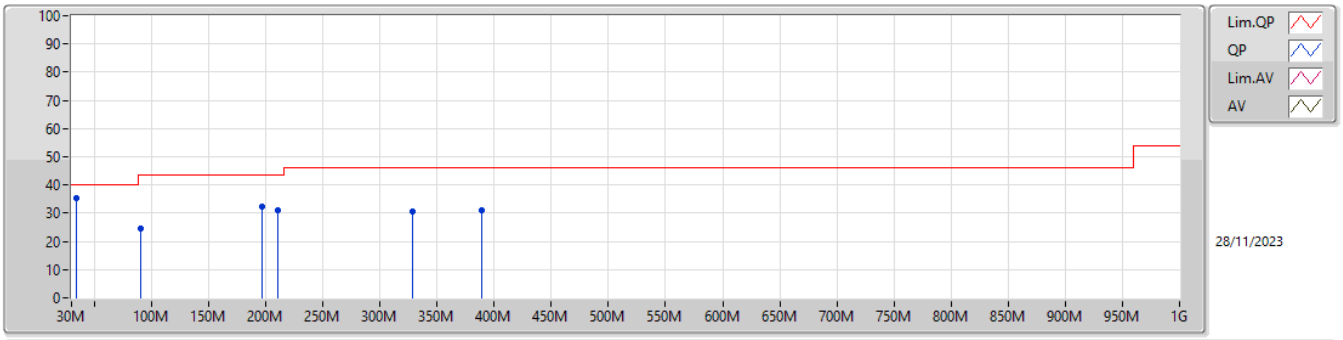
2402MHz_USB



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	78.5M	25.46	40.00	-14.54	-14.04	3	Vertical	0	1.00	39.50	11.89	1.84	27.77
PK	90.14M	26.53	43.50	-16.97	-11.69	3	Vertical	0	1.00	38.22	14.14	2.00	27.83
PK	192.96M	26.22	43.50	-17.28	-10.52	3	Vertical	0	1.00	36.74	14.29	2.70	27.51
PK	210.42M	26.57	43.50	-16.93	-10.39	3	Vertical	0	1.00	36.96	14.19	2.85	27.43
PK	419.94M	32.03	46.00	-13.97	-2.19	3	Vertical	0	1.00	34.22	21.84	4.05	28.08
QP	31.12M	38.30	40.00	-1.70	-3.77	3	Vertical	97	1.00	42.07	22.30	1.24	27.31

2.4-2.4835GHz_SRD

2402MHz_USB



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	33.88M	35.56	40.00	-4.44	-4.89	3	Horizontal	360	1.00	40.45	20.88	1.31	27.08
PK	90.14M	24.54	43.50	-18.96	-11.69	3	Horizontal	360	1.00	36.23	14.14	2.00	27.83
PK	196.84M	32.45	43.50	-11.05	-10.33	3	Horizontal	360	1.00	42.78	14.40	2.76	27.49
PK	210.42M	31.04	43.50	-12.46	-10.39	3	Horizontal	360	1.00	41.43	14.19	2.85	27.43
PK	328.76M	30.78	46.00	-15.22	-5.15	3	Horizontal	360	1.00	35.93	18.81	3.50	27.46
PK	388.9M	30.99	46.00	-15.01	-3.58	3	Horizontal	360	1.00	34.57	20.42	3.85	27.85

Summary

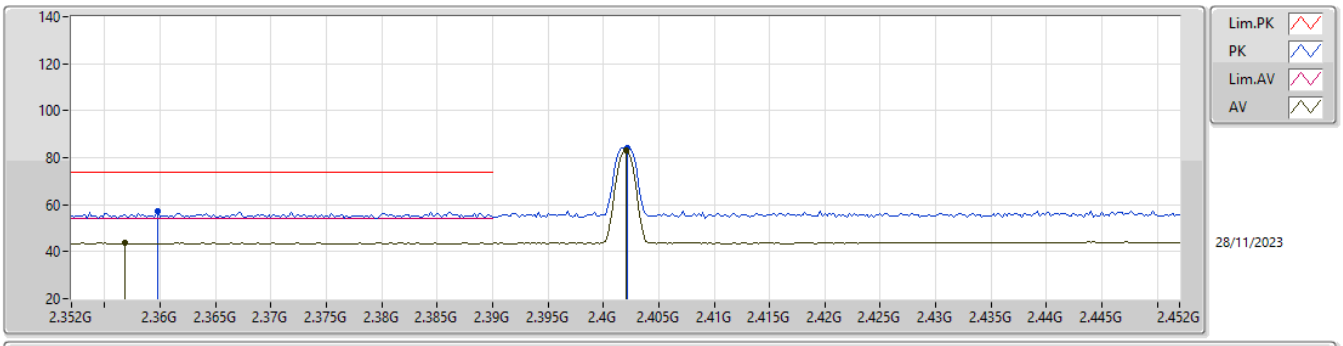
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
SRD	Pass	AV	4.80404G	52.66	54.00	-1.34	3	Horizontal	359	1.01

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
SRD	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3568G	43.87	54.00	-10.13	3	Vertical	259	2.64
2402MHz	Pass	AV	2.402G	82.93	Inf	-Inf	3	Vertical	259	2.64
2402MHz	Pass	PK	2.3598G	57.49	74.00	-16.51	3	Vertical	259	2.64
2402MHz	Pass	PK	2.4022G	84.24	Inf	-Inf	3	Vertical	259	2.64
2402MHz	Pass	AV	2.3888G	43.84	54.00	-10.16	3	Horizontal	208	1.31
2402MHz	Pass	AV	2.402G	84.74	Inf	-Inf	3	Horizontal	208	1.31
2402MHz	Pass	PK	2.3882G	57.04	74.00	-16.96	3	Horizontal	208	1.31
2402MHz	Pass	PK	2.4022G	85.99	Inf	-Inf	3	Horizontal	208	1.31
2402MHz	Pass	PK	4.80356G	54.99	74.00	-19.01	3	Vertical	281	2.96
2402MHz	Pass	AV	4.804G	49.14	54.00	-4.86	3	Vertical	281	2.96
2402MHz	Pass	PK	4.80356G	58.18	74.00	-15.82	3	Horizontal	359	1.01
2402MHz	Pass	AV	4.80404G	52.66	54.00	-1.34	3	Horizontal	359	1.01
2440MHz	Pass	AV	2.3864G	43.78	54.00	-10.22	3	Vertical	259	2.52
2440MHz	Pass	AV	2.44G	80.63	Inf	-Inf	3	Vertical	259	2.52
2440MHz	Pass	AV	2.4984G	44.60	54.00	-9.40	3	Vertical	259	2.52
2440MHz	Pass	PK	2.3552G	56.61	74.00	-17.39	3	Vertical	259	2.52
2440MHz	Pass	PK	2.44G	81.97	Inf	-Inf	3	Vertical	259	2.52
2440MHz	Pass	PK	2.4912G	56.73	74.00	-17.27	3	Vertical	259	2.52
2440MHz	Pass	AV	2.3888G	43.82	54.00	-10.18	3	Horizontal	209	1.48
2440MHz	Pass	AV	2.44G	82.76	Inf	-Inf	3	Horizontal	209	1.48
2440MHz	Pass	AV	2.4968G	44.53	54.00	-9.47	3	Horizontal	209	1.48
2440MHz	Pass	PK	2.3604G	57.15	74.00	-16.85	3	Horizontal	209	1.48
2440MHz	Pass	PK	2.44G	84.00	Inf	-Inf	3	Horizontal	209	1.48
2440MHz	Pass	PK	2.4916G	57.26	74.00	-16.74	3	Horizontal	209	1.48
2440MHz	Pass	AV	4.88G	41.93	54.00	-12.07	3	Vertical	266	1.63
2440MHz	Pass	AV	7.32003G	38.21	54.00	-15.79	3	Vertical	72	2.68
2440MHz	Pass	PK	4.87988G	49.57	74.00	-24.43	3	Vertical	266	1.63
2440MHz	Pass	PK	7.32029G	49.21	74.00	-24.79	3	Vertical	72	2.68
2440MHz	Pass	AV	4.88005G	50.56	54.00	-3.44	3	Horizontal	358	1.04
2440MHz	Pass	AV	7.32001G	36.67	54.00	-17.33	3	Horizontal	360	1.29
2440MHz	Pass	PK	4.88044G	56.21	74.00	-17.79	3	Horizontal	358	1.04
2440MHz	Pass	PK	7.31974G	48.22	74.00	-25.78	3	Horizontal	360	1.29
2480MHz	Pass	AV	2.48G	78.12	Inf	-Inf	3	Vertical	258	2.51
2480MHz	Pass	AV	2.4984G	44.65	54.00	-9.35	3	Vertical	258	2.51
2480MHz	Pass	PK	2.48G	79.51	Inf	-Inf	3	Vertical	258	2.51
2480MHz	Pass	PK	2.4842G	57.02	74.00	-16.98	3	Vertical	258	2.51
2480MHz	Pass	AV	2.48G	79.70	Inf	-Inf	3	Horizontal	210	1.43
2480MHz	Pass	AV	2.4966G	44.70	54.00	-9.30	3	Horizontal	210	1.43
2480MHz	Pass	PK	2.4798G	81.10	Inf	-Inf	3	Horizontal	210	1.43
2480MHz	Pass	PK	2.497G	57.30	74.00	-16.70	3	Horizontal	210	1.43
2480MHz	Pass	AV	4.95996G	40.01	54.00	-13.99	3	Vertical	267	1.44
2480MHz	Pass	AV	7.44007G	38.20	54.00	-15.80	3	Vertical	72	1.00
2480MHz	Pass	PK	4.95977G	48.40	74.00	-25.60	3	Vertical	267	1.44
2480MHz	Pass	PK	7.43988G	48.36	74.00	-25.64	3	Vertical	72	1.00
2480MHz	Pass	AV	4.96001G	48.92	54.00	-5.08	3	Horizontal	349	2.92
2480MHz	Pass	AV	7.44005G	37.36	54.00	-16.64	3	Horizontal	153	2.89
2480MHz	Pass	PK	4.96007G	54.79	74.00	-19.21	3	Horizontal	349	2.92
2480MHz	Pass	PK	7.43996G	48.40	74.00	-25.60	3	Horizontal	153	2.89

2.4-2.4835GHz_SRD

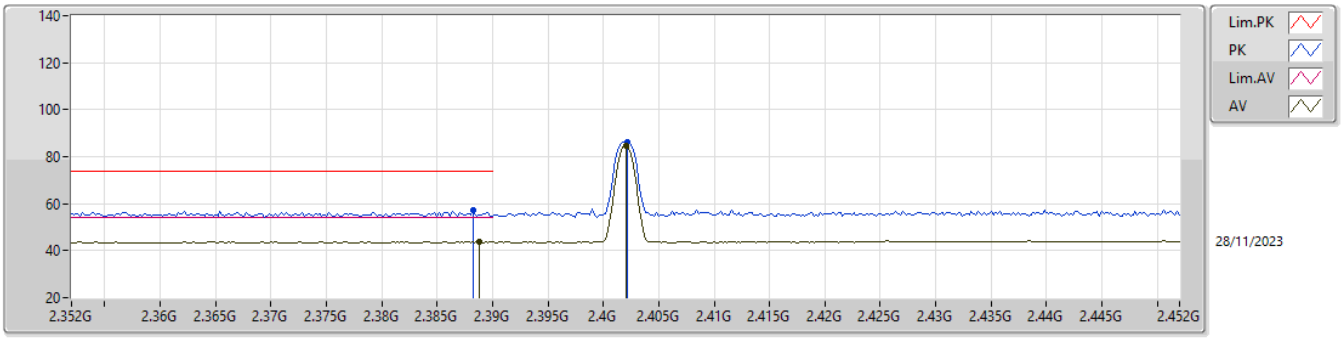
2402MHz_TX



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	2.3568G	43.87	54.00	-10.13	30.83	3	Vertical	259	2.64	13.04	27.50	3.33	-
AV	2.402G	82.93	Inf	-Inf	30.94	3	Vertical	259	2.64	51.99	27.58	3.36	-
PK	2.3598G	57.49	74.00	-16.51	30.84	3	Vertical	259	2.64	26.65	27.50	3.34	-
PK	2.4022G	84.24	Inf	-Inf	30.94	3	Vertical	259	2.64	53.30	27.58	3.36	-

2.4-2.4835GHz_SRD

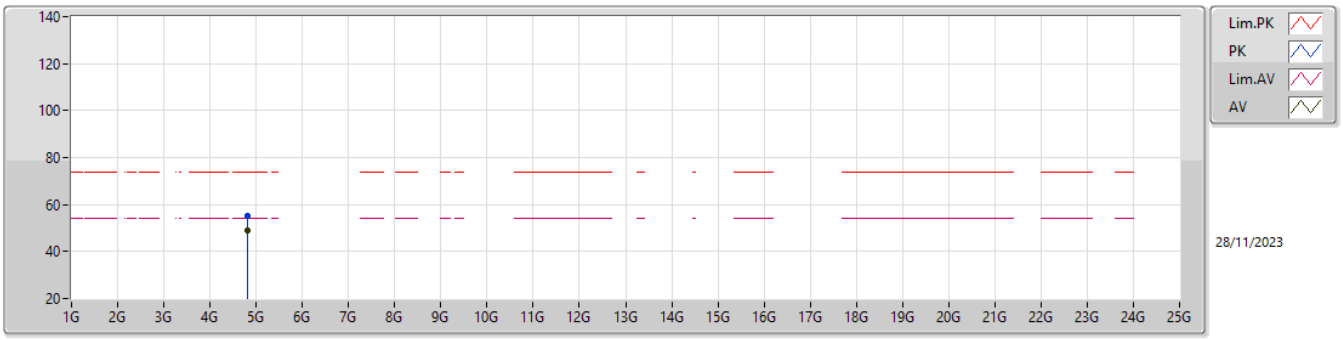
2402MHz_TX



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	2.3888G	43.84	54.00	-10.16	30.85	3	Horizontal	208	1.31	12.99	27.50	3.35	-
AV	2.402G	84.74	Inf	-Inf	30.94	3	Horizontal	208	1.31	53.80	27.58	3.36	-
PK	2.3882G	57.04	74.00	-16.96	30.85	3	Horizontal	208	1.31	26.19	27.50	3.35	-
PK	2.4022G	85.99	Inf	-Inf	30.94	3	Horizontal	208	1.31	55.05	27.58	3.36	-

2.4-2.4835GHz_SRD

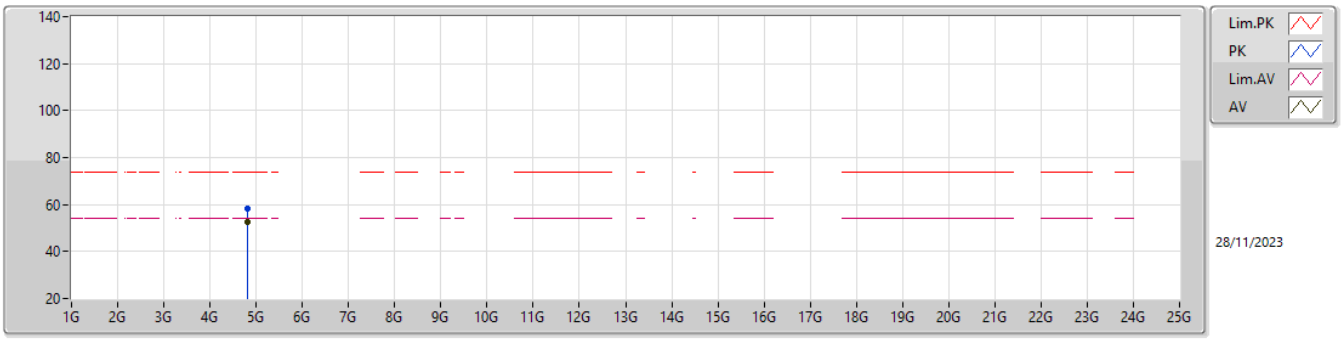
2402MHz_TX



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)
PK	4.80356G	54.99	74.00	-19.01	-6.44	3	Vertical	281	2.96	61.43	32.61	4.97	44.02
AV	4.804G	49.14	54.00	-4.86	-6.43	3	Vertical	281	2.96	55.57	32.62	4.97	44.02

2.4-2.4835GHz_SRD

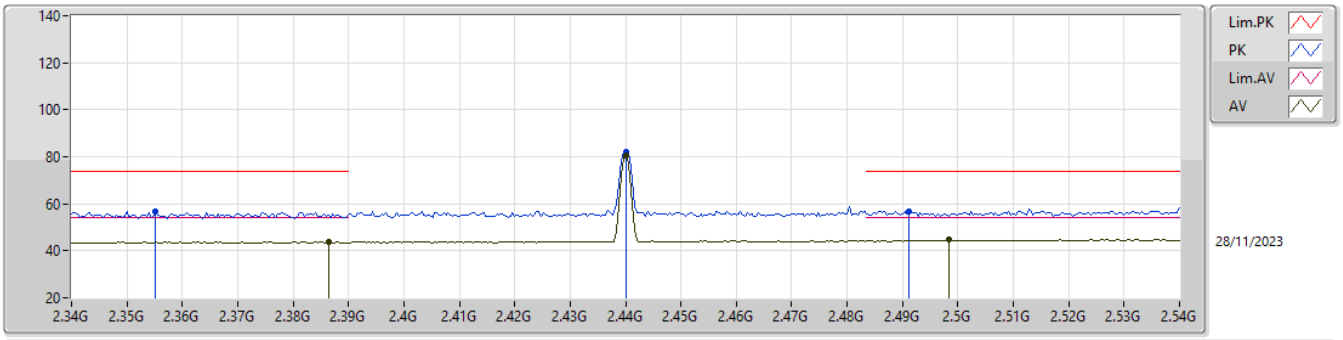
2402MHz_TX



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)
PK	4.80356G	58.18	74.00	-15.82	-6.44	3	Horizontal	359	1.01	64.62	32.61	4.97	44.02
AV	4.80404G	52.66	54.00	-1.34	-6.43	3	Horizontal	359	1.01	59.09	32.62	4.97	44.02

2.4-2.4835GHz_SRD

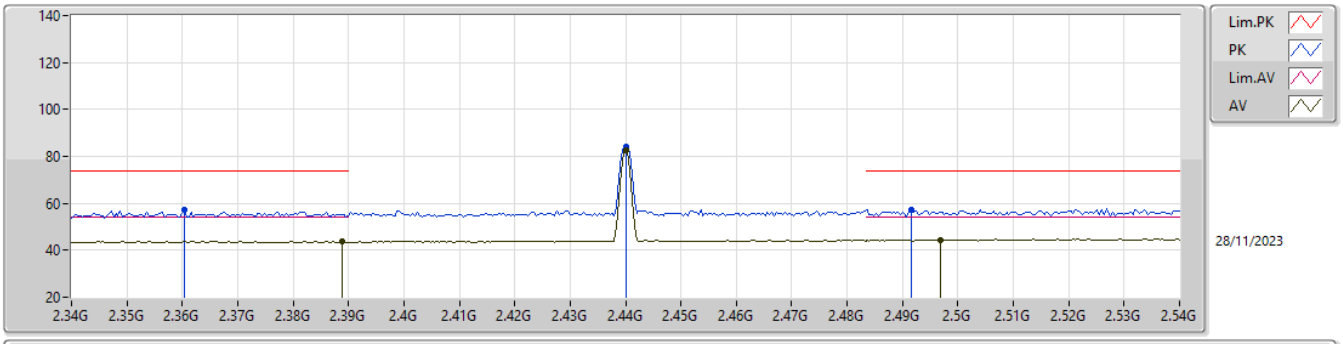
2440MHz_TX



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	2.3864G	43.78	54.00	-10.22	30.85	3	Vertical	259	2.52	12.93	27.50	3.35	-
AV	2.44G	80.63	Inf	-Inf	31.09	3	Vertical	259	2.52	49.54	27.70	3.39	-
AV	2.4984G	44.60	54.00	-9.40	31.52	3	Vertical	259	2.52	13.08	28.08	3.44	-
PK	2.3552G	56.61	74.00	-17.39	30.83	3	Vertical	259	2.52	25.78	27.50	3.33	-
PK	2.44G	81.97	Inf	-Inf	31.09	3	Vertical	259	2.52	50.88	27.70	3.39	-
PK	2.4912G	56.73	74.00	-17.27	31.45	3	Vertical	259	2.52	25.28	28.01	3.44	-

2.4-2.4835GHz_SRD

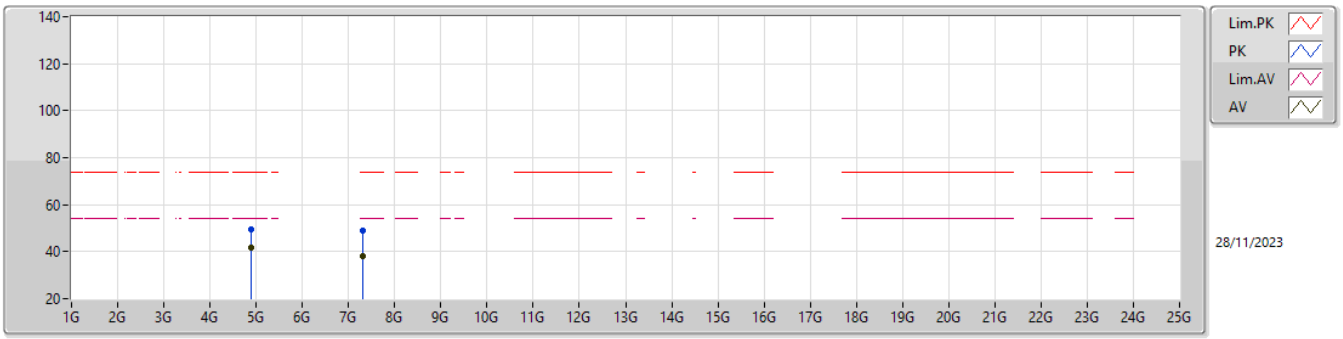
2440MHz_TX



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	2.3888G	43.82	54.00	-10.18	30.85	3	Horizontal	209	1.48	12.97	27.50	3.35	-
AV	2.44G	82.76	Inf	-Inf	31.09	3	Horizontal	209	1.48	51.67	27.70	3.39	-
AV	2.4968G	44.53	54.00	-9.47	31.51	3	Horizontal	209	1.48	13.02	28.07	3.44	-
PK	2.3604G	57.15	74.00	-16.85	30.84	3	Horizontal	209	1.48	26.31	27.50	3.34	-
PK	2.44G	84.00	Inf	-Inf	31.09	3	Horizontal	209	1.48	52.91	27.70	3.39	-
PK	2.4916G	57.26	74.00	-16.74	31.46	3	Horizontal	209	1.48	25.80	28.02	3.44	-

2.4-2.4835GHz_SRD

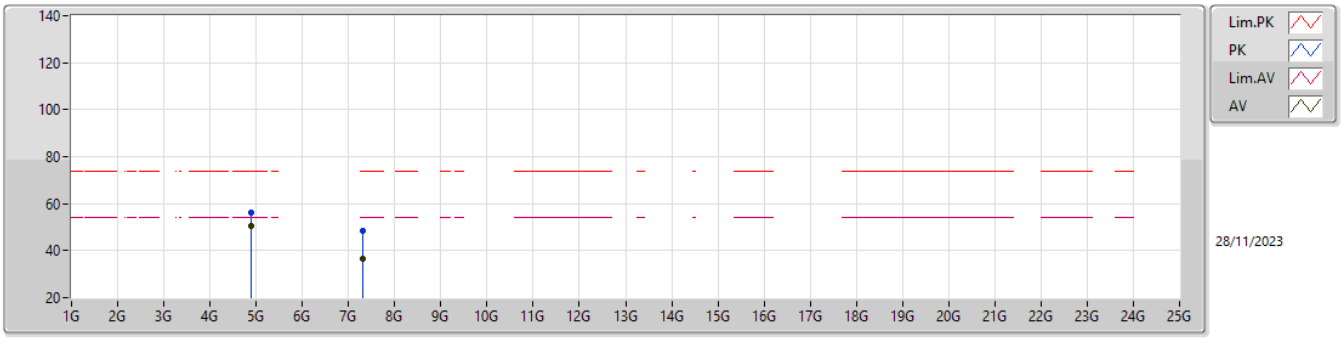
2440MHz_TX



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	4.88G	41.93	54.00	-12.07	-6.09	3	Vertical	266	1.63	48.02	32.92	5.02	44.03
AV	7.32003G	38.21	54.00	-15.79	-0.55	3	Vertical	72	2.68	38.76	37.12	6.23	43.90
PK	4.87988G	49.57	74.00	-24.43	-6.09	3	Vertical	266	1.63	55.66	32.92	5.02	44.03
PK	7.32029G	49.21	74.00	-24.79	-0.55	3	Vertical	72	2.68	49.76	37.12	6.23	43.90

2.4-2.4835GHz_SRD

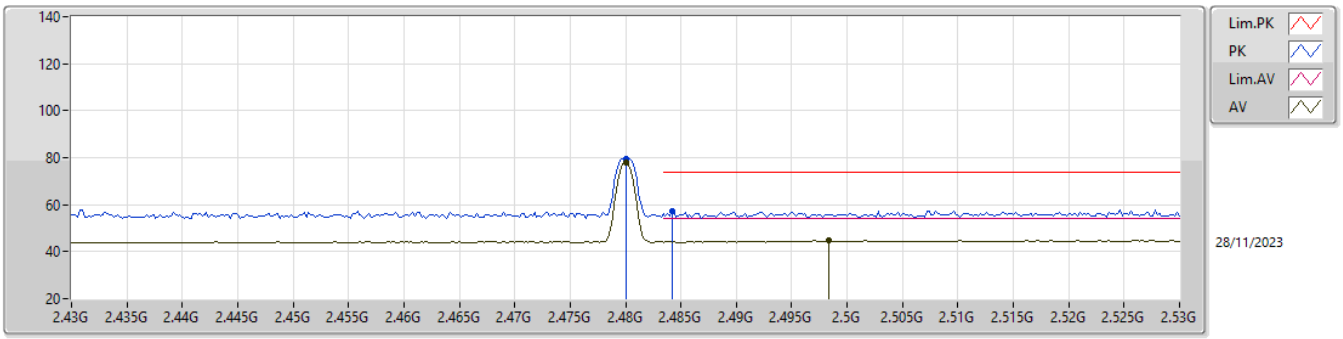
2440MHz_TX



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	4.88005G	50.56	54.00	-3.44	-6.09	3	Horizontal	358	1.04	56.65	32.92	5.02	44.03
AV	7.32001G	36.67	54.00	-17.33	-0.55	3	Horizontal	360	1.29	37.22	37.12	6.23	43.90
PK	4.88044G	56.21	74.00	-17.79	-6.09	3	Horizontal	358	1.04	62.30	32.92	5.02	44.03
PK	7.31974G	48.22	74.00	-25.78	-0.55	3	Horizontal	360	1.29	48.77	37.12	6.23	43.90

2.4-2.4835GHz_SRD

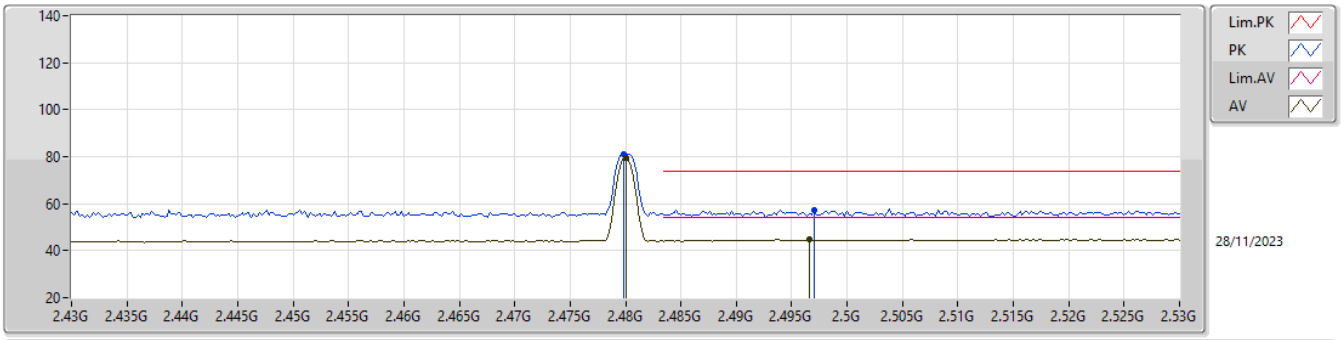
2480MHz_TX



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	78.12	Inf	-Inf	31.33	3	Vertical	258	2.51	46.79	27.90	3.43	-
AV	2.4984G	44.65	54.00	-9.35	31.52	3	Vertical	258	2.51	13.13	28.08	3.44	-
PK	2.48G	79.51	Inf	-Inf	31.33	3	Vertical	258	2.51	48.18	27.90	3.43	-
PK	2.4842G	57.02	74.00	-16.98	31.37	3	Vertical	258	2.51	25.65	27.94	3.43	-

2.4-2.4835GHz_SRD

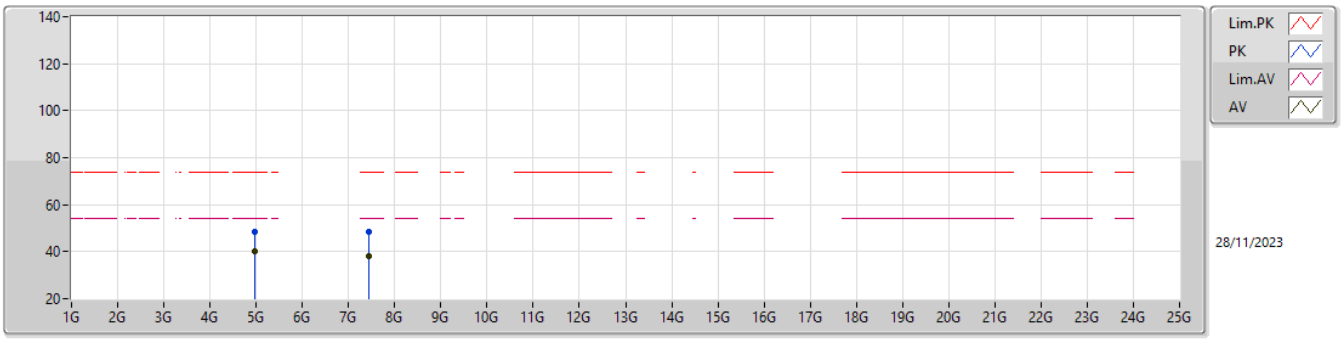
2480MHz_TX



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	79.70	Inf	-Inf	31.33	3	Horizontal	210	1.43	48.37	27.90	3.43	-
AV	2.4966G	44.70	54.00	-9.30	31.51	3	Horizontal	210	1.43	13.19	28.07	3.44	-
PK	2.4798G	81.10	Inf	-Inf	31.33	3	Horizontal	210	1.43	49.77	27.90	3.43	-
PK	2.497G	57.30	74.00	-16.70	31.51	3	Horizontal	210	1.43	25.79	28.07	3.44	-

2.4-2.4835GHz_SRD

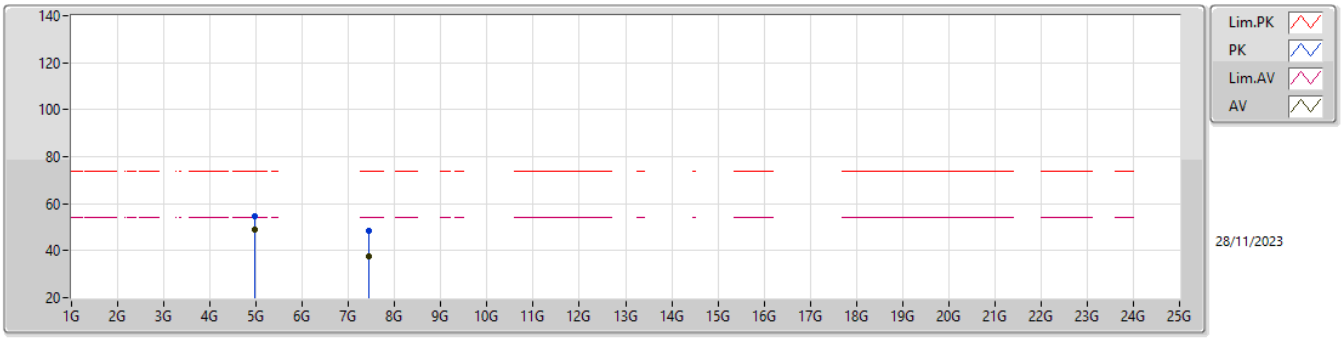
2480MHz_TX



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	4.95996G	40.01	54.00	-13.99	-5.68	3	Vertical	267	1.44	45.69	33.30	5.07	44.05
AV	7.44007G	38.20	54.00	-15.80	-0.86	3	Vertical	72	1.00	39.06	36.54	6.42	43.82
PK	4.95977G	48.40	74.00	-25.60	-5.68	3	Vertical	267	1.44	54.08	33.30	5.07	44.05
PK	7.43988G	48.36	74.00	-25.64	-0.86	3	Vertical	72	1.00	49.22	36.54	6.42	43.82

2.4-2.4835GHz_SRD

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	4.96001G	48.92	54.00	-5.08	-5.68	3	Horizontal	349	2.92	54.60	33.30	5.07	44.05
AV	7.44005G	37.36	54.00	-16.64	-0.86	3	Horizontal	153	2.89	38.22	36.54	6.42	43.82
PK	4.96007G	54.79	74.00	-19.21	-5.68	3	Horizontal	349	2.92	60.47	33.30	5.07	44.05
PK	7.43996G	48.40	74.00	-25.60	-0.86	3	Horizontal	153	2.89	49.26	36.54	6.42	43.82