FCC Radio Test Report

FCC ID	:	**2AG9J-EVGA-X20-MS01**
Equipment	:	**GAMING MOUSE**
Brand Name	:	**EVGA**
Model Name	:	**X20**
Applicant	:	**EVGA CORPORATION** **18F., NO. 176, JIAN 1ST RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN**
Manufacturer	:	**EVGA CORPORATION** **18F., NO. 176, JIAN 1ST RD., ZHONGHE DIST., NEW TAIPEI CITY 235, TAIWAN**
Standard	:	**47 CFR FCC Part 15.249**

The product was received on Jan. 14, 2021, and testing was started from Feb. 23, 2021 and completed on Mar. 11, 2021. 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.

Allen Lin

Approved by: Allen Lin

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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

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PHOTOGRAPHS OF EUT v01

HISTORY OF THIS TEST REPORT

Report No.	Version	Description	Issued Date
FR111405ZW	01	Initial issue of report	Apr. 15, 2021
FR111405ZW	02	Revised typo (This report is the latest version replacing for the report issued on Apr. 15, 2021.)	Apr. 26, 2021

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.3	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.215(c)	Emission Bandwidth	PASS	-
3.3	15.249(a)	Fundamental Emissions	PASS	-
3.4	15.249(a)/(d)	Transmitter Radiated Unwanted Emissions	PASS	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Ben Tseng

Report Producer: Debby Hung

1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information			
Frequency Range (MHz)	**Modulation**	**Ch. Frequency (MHz)**	**Channel Number**
2400-2483.5	GFSK	2402-2480	79
Note 1: Field strength performed average level at 3m.			

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	SRD(1Mbps)	1	1TX
2.4-2.4835GHz	SRD(2Mbps)	1	1TX

1.1.2 Channel List

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2402	41	2442
2	2403	42	2443
3	2404	43	2444
4	2405	44	2445
5	2406	45	2446
6	2407	46	2447
7	2408	47	2448
8	2409	48	2449
9	2410	49	2450
10	2411	50	2451
11	2412	51	2452
12	2413	52	2453
13	2414	53	2454
14	2415	54	2455
15	2416	55	2456
16	2417	56	2457
17	2418	57	2458
18	2419	58	2459
19	2420	59	2460
20	2421	60	2461
21	2422	61	2462
22	2423	62	2463

Channel	Frequency (MHz)	Channel	Frequency (MHz)
23	2424	63	2464
24	2425	64	2465
25	2426	65	2466
26	2427	66	2467
27	2428	67	2468
28	2429	68	2469
29	2430	69	2470
30	2431	70	2471
31	2432	71	2472
32	2433	72	2473
33	2434	73	2474
34	2435	74	2475
35	2436	75	2476
36	2437	76	2477
37	2438	77	2478
38	2439	78	2479
39	2440	79	2480
40	2441	-	-

1.1.3 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	ACX	AT8010-E2R9HAA	Chip Antenna	N/A	0.5

For SRD function:

For SRD mode (1TX/1RX)

Ant. 1 could transmit/receive.

For BT function:

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

Ant. 1could transmit/receive.

1.1.4 EUT Information

Operational Condition	
EUT Power Type	From Host system / Battery
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:

1.1.5 Test Signal Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
SRD(1Mbps)	0.592	2.28	176.25u	10k
SRD(2Mbps)	0.523	2.81	308.125u	10k

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 15.249
- ANSI C63.10-2013

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

- 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. TW1190 with FCC.				
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
AC Conduction	CO04-HY	Daniel Lin	21.1~23.7°C / 51~56%	03/Mar/2021
RF Conducted	TH06-HY	Johnny Yu	20.1~26.9°C / 50~60%	23/Feb/2021~11/Mar/2021
Radiated	03CH03-HY	Edward Wang	20.8~22.7°C / 54~58%	24/Feb/2021~06/Mar/2021
☐ 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
Conducted Emission (150kHz ~ 30MHz)	0.9 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	2.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.0 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 Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	120V

2.2 Test Channel Mode

Test Software Version	RF Tester V1.0.0.0

Mode	Power Setting
SRD(1Mbps)_Nss1_1TX	-
2402MHz	-4
2440MHz	-4
2480MHz	-4
SRD(2Mbps)_Nss1_1TX	-
2402MHz	-4
2440MHz	-4
2480MHz	-4

2.3 The Worst Case Modulation Configuration

Modulation Used for Conformance Testing	
Test Mode	**Field Strength (dBuV/m at 3 m)**
GFSK	91.53

2.4 Test Channel Frequencies Configuration

Test Channel Frequencies Configuration	
Test Mode	**Test Channel Frequencies (MHz)**
GFSK	2402, 2440, 2480

2.5 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
Operating Mode	CTX
1	USB Mode

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Fundamental Emissions, Radiated Unwanted Emissions
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	**Z Plane**
Worst Planes of EUT	V

2.6 Accessories

Accessories				
Battery	Brand Name	Pow-Tech	Model Name	PT803040
	Manufacturer	Guangdong Pow-Tech New Power Co.Ltd	SN	PT-0001
	Power Rating	3.7Vdc, 900mAh	Type	Li-ion, Yes
USB Cable	Brand Name	Acrox	Model Name	1CCBLW35A4200004
	Manufacturer	Shenzhen Duo Ji Xin Technolgy Co.,Ltd	SN	X20-0001
	Signal Line	1.96meter, shielded cable, w/o ferrite core		
USB Receiver	Brand Name	EVGA	Model Name	X20RX
Extension Adapter	Brand Name	EVGA	Model Name	X20Adapter

Note: Regarding to more detail and other information, please refer to user manual.

2.7 Support Equipment

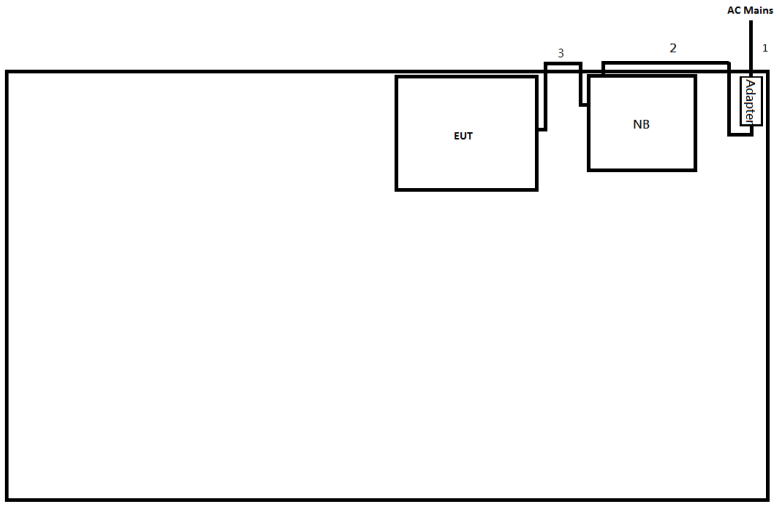
Support Equipment – AC Conduction					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	AC Power cable	Power sync	AC Power Cable	-	-
2	Notebook	HP	5220m	-	-
3	AC Adapter (for NB)	HP	PPP012H-S	-	-

Support Equipment – Conducted					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-

Support Equipment – Radiated					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	AC Power cable	Power sync	AC Power Cable	-	-
2	Notebook	HP	5220m	-	-
3	AC Adapter (for NB)	HP	PPP012H-S	-	-

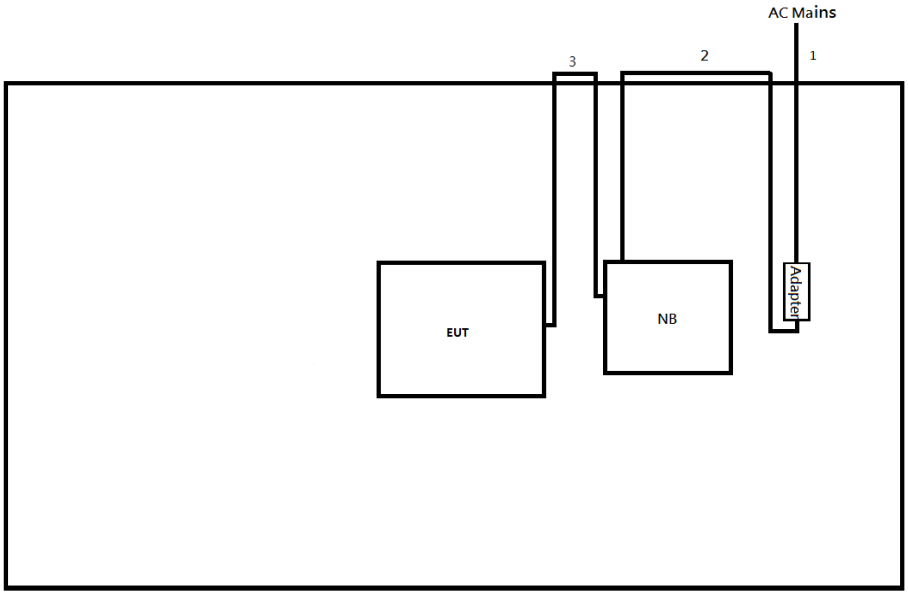
2.8 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.67	-
2	DC Power cable	No	1.80	-
3	USB Cable	Yes	1.96	-

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.67	-
2	DC Power cable	No	1.80	-
3	USB Cable	Yes	1.96	-

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

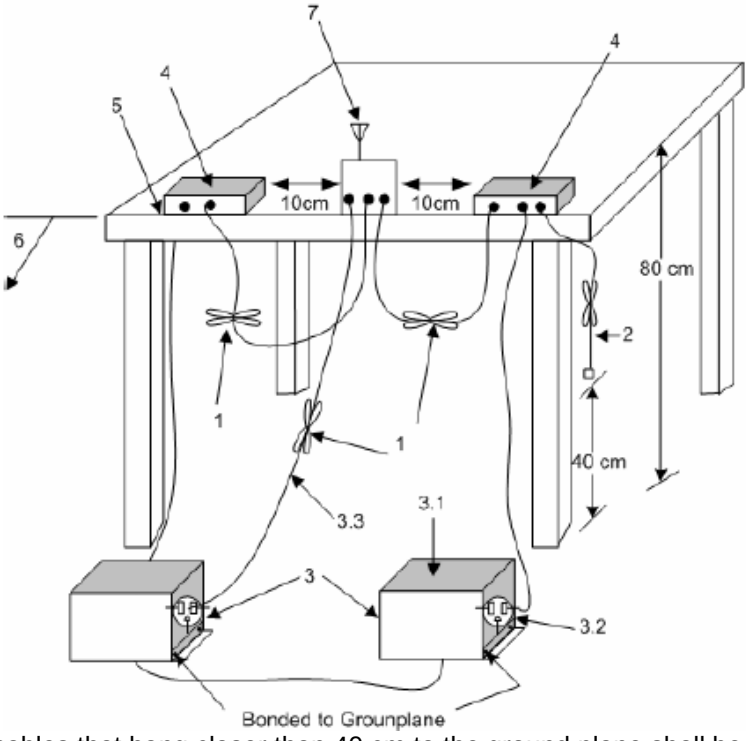
Test Method
☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

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 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit
☒ Emission bandwidth falls completely within authorized band.

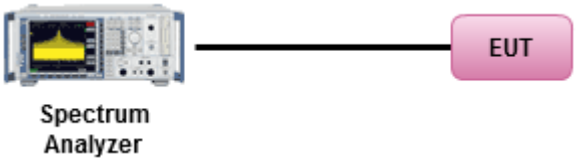
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
☒ Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.
☐ Refer as RSS-Gen, clause 6.7 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 Fundamental Emissions

3.3.1 Fundamental Emissions Limit

Fundamental Emissions E-Field Strength Limit (3m)	
☐	902-928 MHz Band: 94 dBuV/m (quasi peak)
☒	2400-2483.5 MHz Band: 94 dBuV/m (average)
☐	5725-5875 MHz Band: 94 dBuV/m (average)

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

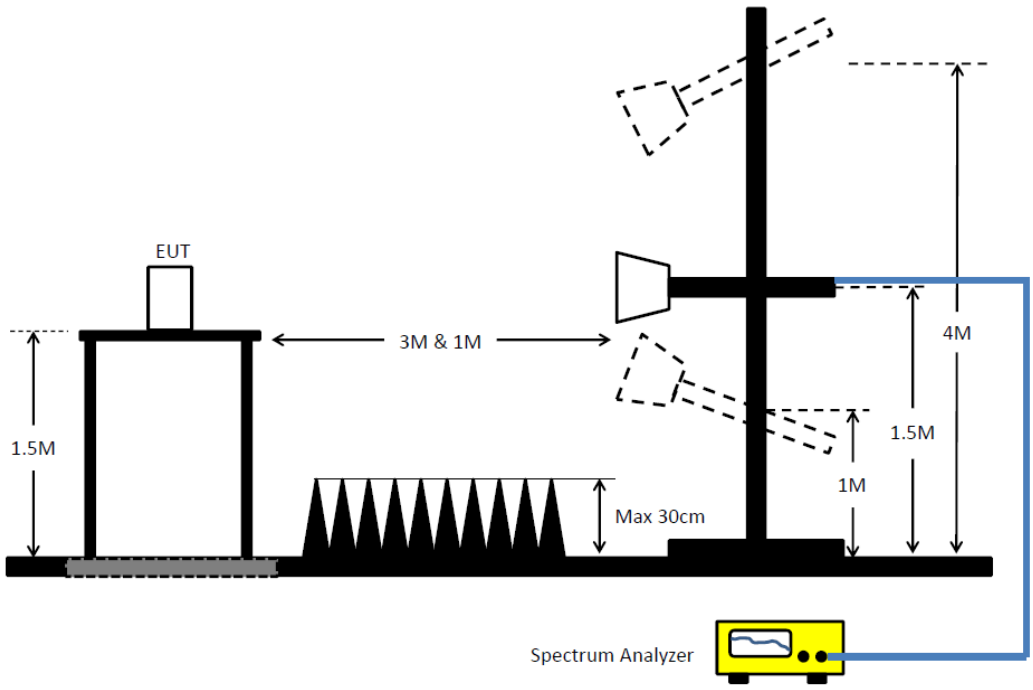
☒	The average emission levels shall be measured in [duty cycle ≥ 100 or by duty cycle correction factor].	
☒	For the transmitter emissions shall be measured using following options below:	
	☒	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW) – Duty cycle ≥ 100%.
	☐	Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a “duty cycle correction factor”, derived from 20log (dwell time/100 ms). Average emission = peak emission + 20 log (duty cycle).
	☐	Refer as ANSI C63.10, clause 4.1.4.2.1 measurement procedure quasi-peak limit.
	☒	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
☐	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.	
☒	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 3m.	

3.3.4 Measurement Results Calculation

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

3.3.5 Test Setup

Fundamental Emissions



3.3.6 Test Result of Fundamental Emissions

Refer as Appendix C

3.4 Transmitter Radiated Unwanted Emissions

3.4.1 Transmitter Radiated Unwanted Emissions Limit

Transmitter Radiated Unwanted Emissions Limit
Harmonics:
☒ 54 dBuV/m (average)
Other Unwanted Emissions:
☒ 50 dB below the level of the fundamental or Part 15.209, whichever is the lesser attenuation.

3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

	Test Method – General Information
☒	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).
☒	The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
☒	Refer as ANSI C63.10, clause 6.10.3 bandedge 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 ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW) – Duty cycle ≥ 100%.
	☐ Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a “duty cycle correction factor”, derived from 20log (dwell time/100 ms). Average emission = peak emission + 20 log (duty cycle).
	☐ Refer as ANSI C63.10, clause 4.1.4.2.1 measurement procedure quasi-peak limit.
	☒ Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
☒	For the transmitter bandedge emissions shall be measured using following options below:
	☒ Refer as ANSI C63.10, clause 6.10 for band-edge testing.
	☐ Refer as ANSI C63.10, clause 6.10.6 for marker-delta method for band-edge measurements.
☒	For radiated measurement.
	☒ Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	☒ Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	☒ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 3m.
☒	The any unwanted emissions level shall not exceed the fundamental emission level.
☒	All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

▪ 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.

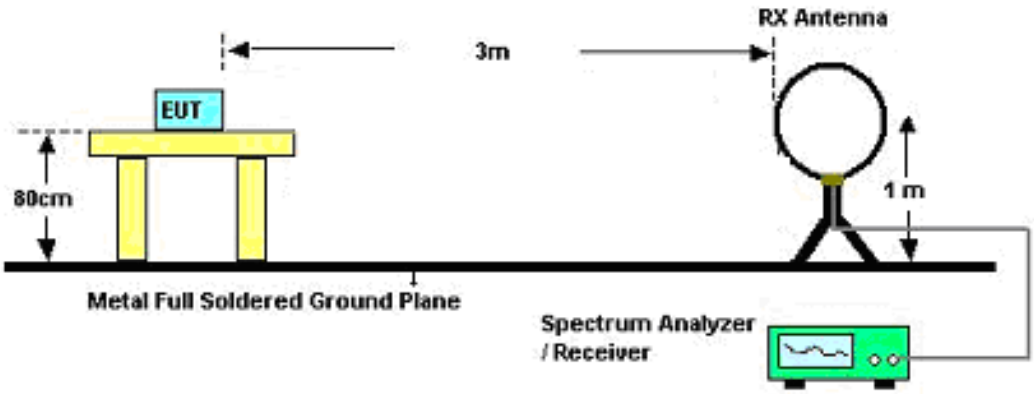
3.4.4 Measurement Results Calculation

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

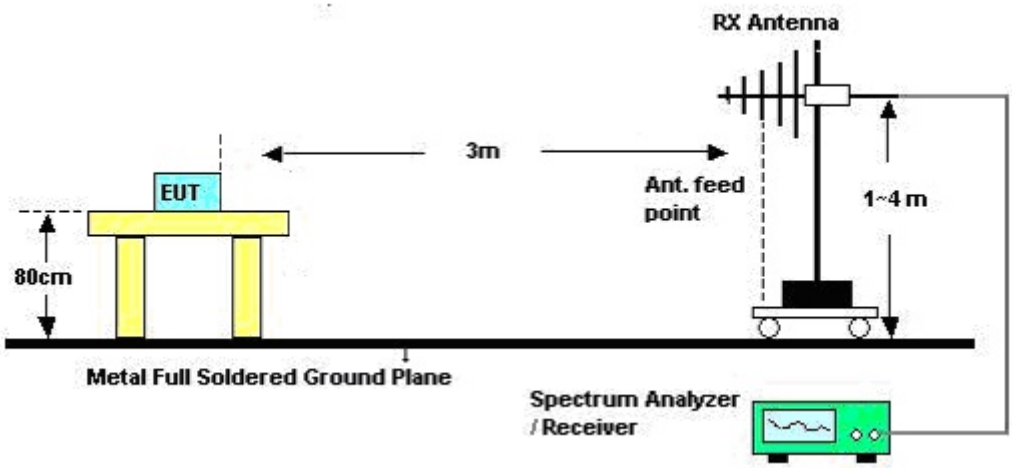
3.4.5 Test Setup

Emissions in Restricted Frequency Bands

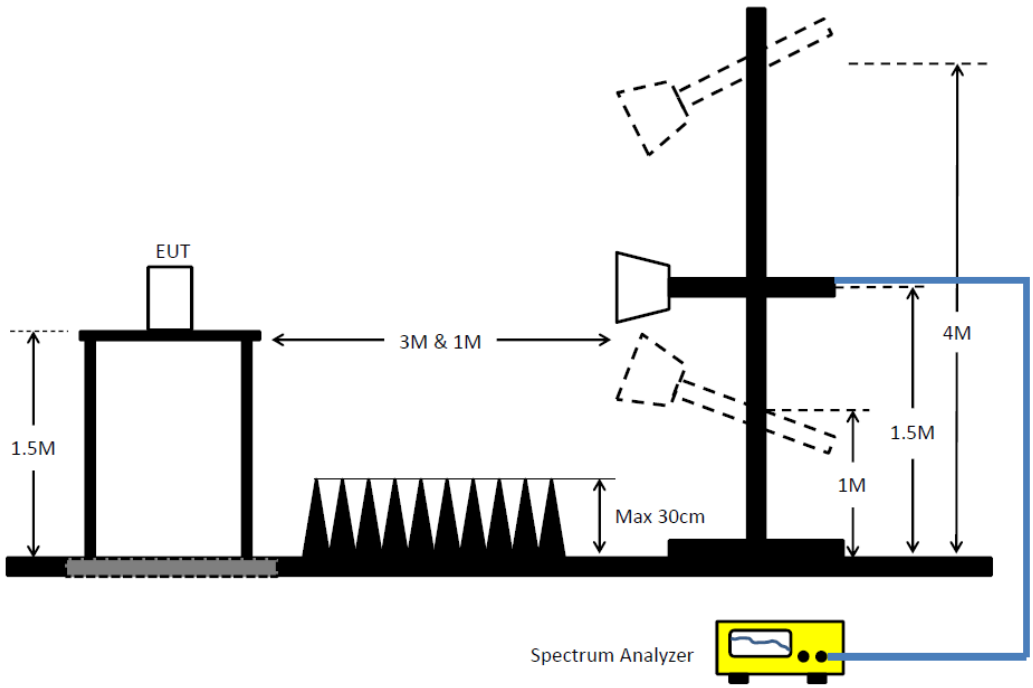
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



3.4.6 Transmitter Radiated Unwanted Emissions (Below 30MHz)

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

3.4.7 Transmitter Radiated Unwanted Emissions

Refer as Appendix C

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	ESR3	102051	9kHz ~ 3.6GHz	29/May/2020	28/May/2021
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	11/Nov/2020	10/Nov/2021
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	31/Aug/2020	30/Aug/2021
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	21/Sep/2020	20/Sep/2021

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	101029	10Hz~40GHz	19/Oct/2020	18/Oct/2021
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	20/Oct/2020	19/Oct/2021
Pulse Sensor	Anritsu	MA2411B	1027452	300MHz~40GHz	18/Mar/2020	17/Mar/2021
Power Meter	Anritsu	ML2495A	1124009	300MHz~40GHz	18/Mar/2020	17/Mar/2021

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	06/Aug/2020	05/Aug/2021
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz~18GHz 3m	04/Aug/2020	03/Aug/2021
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	19/Aug/2020	18/Aug/2021
Amplifier	HP	8447D	2944A08033	10kHz~1.3GHz	14/Apr/2020	13/Apr/2021
Microwave System Preamplifier	KEYSIGHT	83017A	MY53270196	1GHz~26.5GHz	06/Oct/2020	05/Oct/2021
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMCI	CBL6112B / N-6-05	22237 / AT-N-0603	30MHz~1GHz	25/Oct/2020	24/Oct/2021
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1531	1GHz~18GHz	26/Mar/2020	25/Mar/2021
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz~30MHz	19/Jun/2020	18/Jun/2021
RF Cable-R03m	Jye Bao	RG142	CB021	30MHz~1GHz	18/Mar/2020	17/Mar/2021
RF CABLE 5+6m	HUBER+SUHNER	SUOFLEX 104	SN MY38596/4+SN 804300/4	1GHz~40GHz	04/Aug/2020	03/Aug/2021
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	18GHz~40GHz	13/Mar/2020	12/Mar/2021
Preamplifier	MITEQ	TTA1840-35-HG	1864481	18GHz~40GHz	10/Mar/2020	09/Mar/2021
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2020	15/Mar/2021

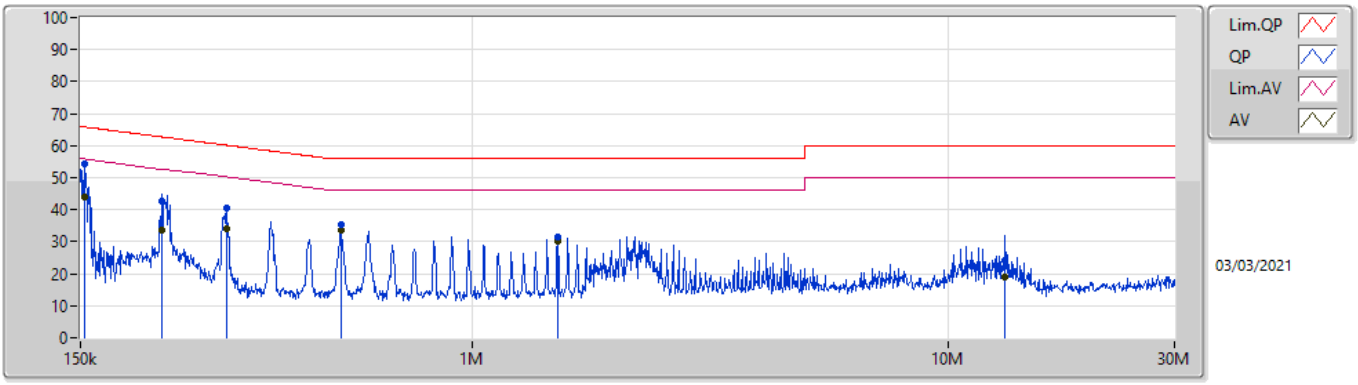
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	191.358k	55.25	63.97	-8.72	Line

Mode Configure

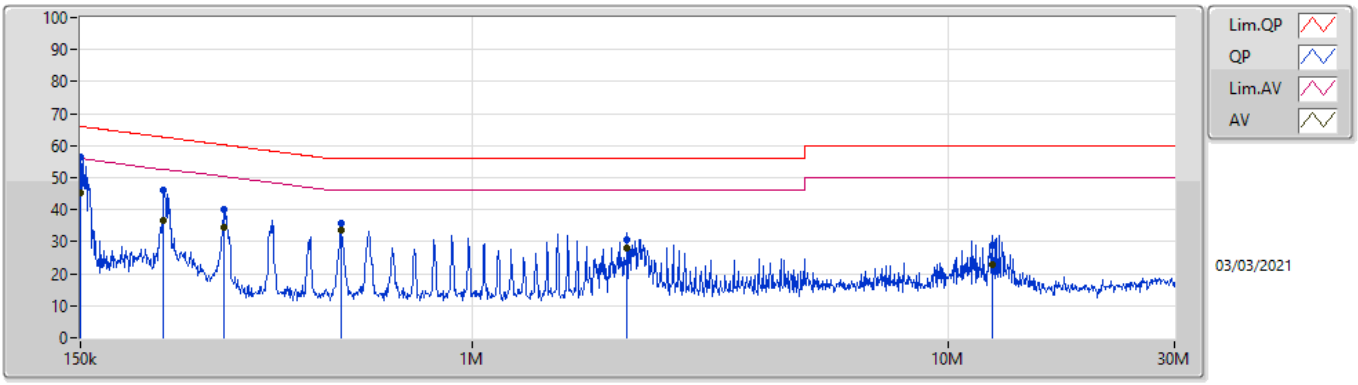
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	191.358k	55.25	63.97	-8.72	Line	-
Mode 1	Pass	AV	191.358k	41.87	53.97	-12.10	Line	-
Mode 1	Pass	QP	253.051k	48.88	61.66	-12.78	Line	-
Mode 1	Pass	AV	253.051k	35.01	51.66	-16.65	Line	-
Mode 1	Pass	QP	308.954k	40.27	60.00	-19.73	Line	-
Mode 1	Pass	AV	308.954k	27.32	50.00	-22.68	Line	-
Mode 1	Pass	QP	1.74M	25.53	56.00	-30.47	Line	-
Mode 1	Pass	AV	1.74M	18.34	46.00	-27.66	Line	-
Mode 1	Pass	QP	4.188M	26.04	56.00	-29.96	Line	-
Mode 1	Pass	AV	4.188M	19.91	46.00	-26.09	Line	-
Mode 1	Pass	QP	5.81M	25.62	60.00	-34.38	Line	-
Mode 1	Pass	AV	5.81M	21.14	50.00	-28.86	Line	-
Mode 1	Pass	QP	183.87k	55.55	64.30	-8.75	Neutral	-
Mode 1	Pass	AV	183.87k	39.78	54.30	-14.52	Neutral	-
Mode 1	Pass	QP	255.079k	48.67	61.58	-12.91	Neutral	-
Mode 1	Pass	AV	255.079k	34.58	51.58	-17.00	Neutral	-
Mode 1	Pass	QP	321.537k	38.62	59.67	-21.05	Neutral	-
Mode 1	Pass	AV	321.537k	25.29	49.67	-24.38	Neutral	-
Mode 1	Pass	QP	1.135M	27.31	56.00	-28.69	Neutral	-
Mode 1	Pass	AV	1.135M	18.03	46.00	-27.97	Neutral	-
Mode 1	Pass	QP	3.851M	26.31	56.00	-29.69	Neutral	-
Mode 1	Pass	AV	3.851M	20.98	46.00	-25.02	Neutral	-
Mode 1	Pass	QP	5.764M	24.04	60.00	-35.96	Neutral	-
Mode 1	Pass	AV	5.764M	19.44	50.00	-30.56	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	153.024k	54.28	65.83	-11.55	19.60	Line	-	34.68	9.69	0.01	9.90
AV	153.024k	44.08	55.83	-11.75	19.60	Line	-	24.48	9.69	0.01	9.90
QP	222.704k	42.66	62.71	-20.05	19.59	Line	-	23.07	9.68	0.01	9.90
AV	222.704k	33.55	52.71	-19.16	19.59	Line	-	13.96	9.68	0.01	9.90
QP	305.276k	40.45	60.09	-19.64	19.59	Line	-	20.86	9.67	0.02	9.90
AV	305.276k	33.96	50.09	-16.13	19.59	Line	-	14.37	9.67	0.02	9.90
QP	529.596k	35.44	56.00	-20.56	19.57	Line	-	15.87	9.67	0.03	9.87
AV	529.596k	33.66	46.00	-12.34	19.57	Line	-	14.09	9.67	0.03	9.87
QP	1.513M	31.45	56.00	-24.55	19.55	Line	-	11.90	9.68	0.07	9.80
AV	1.513M	30.26	46.00	-15.74	19.55	Line	-	10.71	9.68	0.07	9.80
QP	13.223M	23.95	60.00	-36.05	19.84	Line	-	4.11	9.70	0.24	9.90
AV	13.223M	19.16	50.00	-30.84	19.84	Line	-	-0.68	9.70	0.24	9.90

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	150k	56.43	66.00	-9.57	19.60	Neutral	-	36.83	9.69	0.01	9.90
AV	150k	45.36	56.00	-10.64	19.60	Neutral	-	25.76	9.69	0.01	9.90
QP	224.49k	46.24	62.65	-16.41	19.59	Neutral	-	26.65	9.68	0.01	9.90
AV	224.49k	36.55	52.65	-16.10	19.59	Neutral	-	16.96	9.68	0.01	9.90
QP	300.44k	40.27	60.23	-19.96	19.59	Neutral	-	20.68	9.67	0.02	9.90
AV	300.44k	34.42	50.23	-15.81	19.59	Neutral	-	14.83	9.67	0.02	9.90
QP	529.596k	35.66	56.00	-20.34	19.57	Neutral	-	16.09	9.67	0.03	9.87
AV	529.596k	33.52	46.00	-12.48	19.57	Neutral	-	13.95	9.67	0.03	9.87
QP	2.116M	30.40	56.00	-25.60	19.57	Neutral	-	10.83	9.68	0.08	9.81
AV	2.116M	27.97	46.00	-18.03	19.57	Neutral	-	8.40	9.68	0.08	9.81
QP	12.404M	28.79	60.00	-31.21	19.87	Neutral	-	8.92	9.74	0.23	9.90
AV	12.404M	22.96	50.00	-27.04	19.87	Neutral	-	3.09	9.74	0.23	9.90

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
SRD(1Mbps)_Nss1_1TX	1.134M	838.331k	838KF1D.	1.128M	833.333k
SRD(2Mbps)_Nss1_1TX	2.025M	1.481M	1M48F1D.	2.023M	1.461M

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

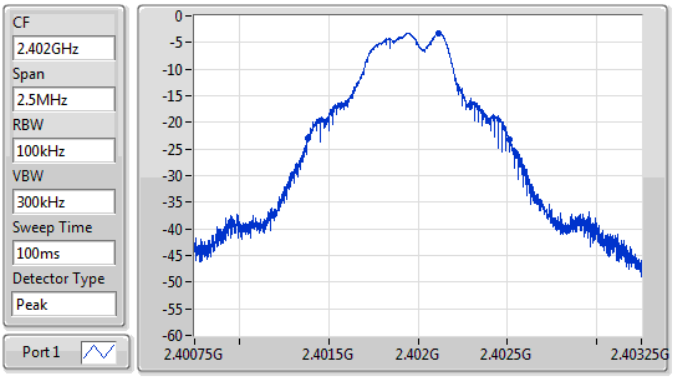
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
SRD(1Mbps)_Nss1_1TX	-	-	-	-
2402MHz	Pass	Inf	1.128M	833.333k
2440MHz	Pass	Inf	1.131M	833.333k
2480MHz	Pass	Inf	1.134M	838.331k
SRD(2Mbps)_Nss1_1TX	-	-	-	-
2402MHz	Pass	Inf	2.023M	1.461M
2440MHz	Pass	Inf	2.023M	1.471M
2480MHz	Pass	Inf	2.025M	1.481M

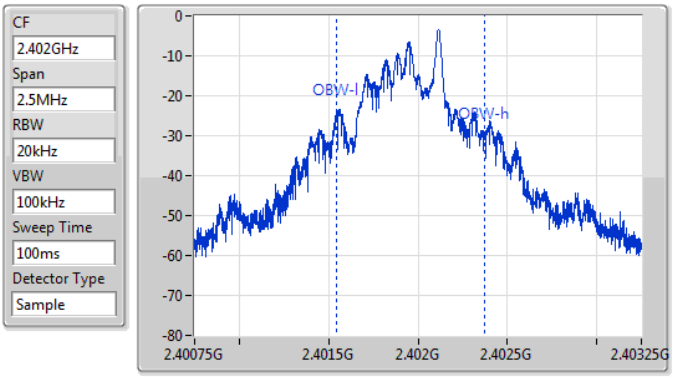
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

SRD(1Mbps)_Nss1_1TX EBW

2402MHz

08/03/2021



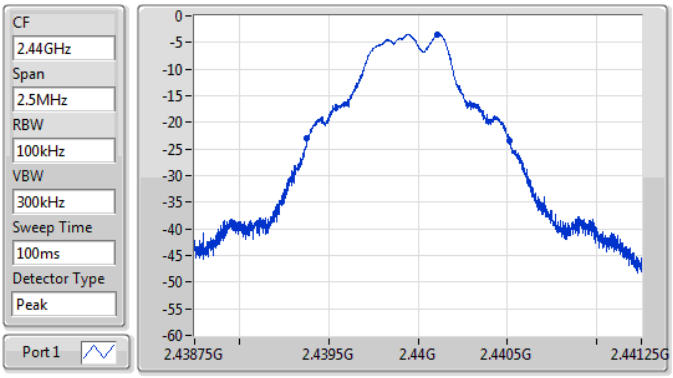


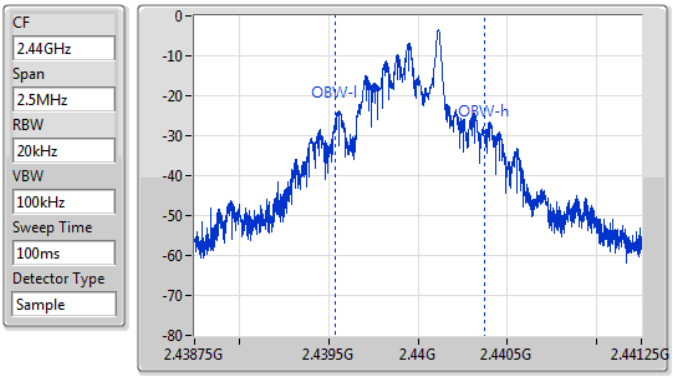
20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.128M	2.401384G	2.402511G	833.333k	2.401541G	2.402375G	Inf	1

SRD(1Mbps)_Nss1_1TX EBW

2440MHz

08/03/2021



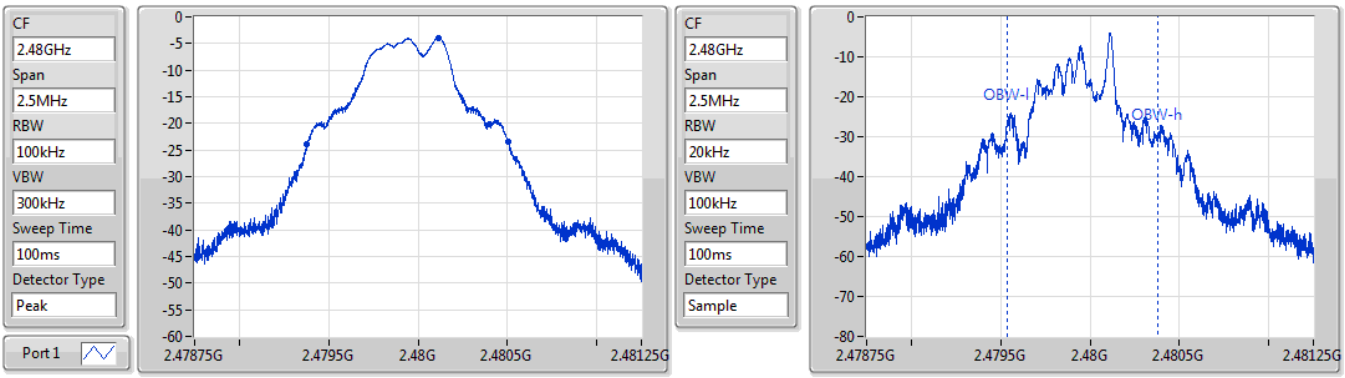


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.131M	2.439379G	2.44051G	833.333k	2.43954G	2.440374G	Inf	1

SRD(1Mbps)_Nss1_1TX EBW

2480MHz

08/03/2021

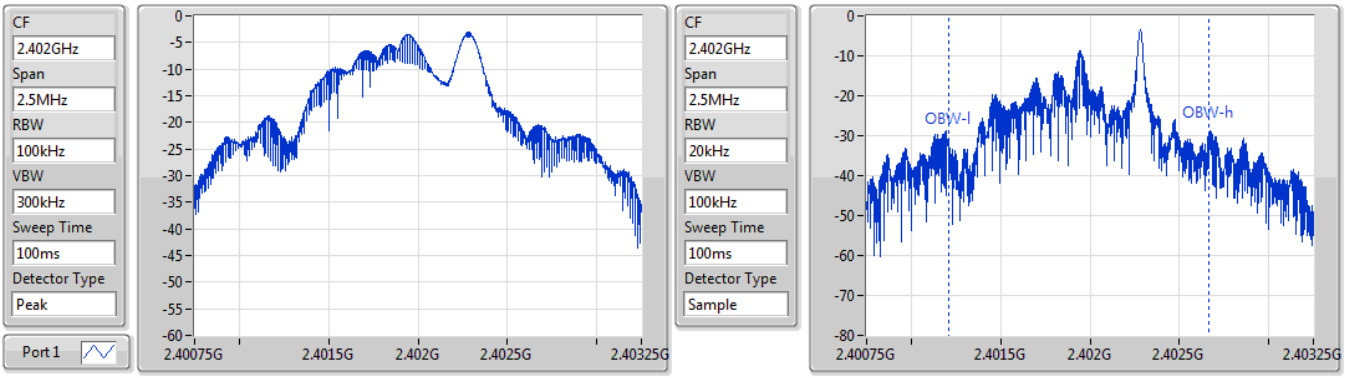


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.134M	2.479374G	2.480508G	838.331k	2.479539G	2.480377G	Inf	1

SRD(2Mbps)_Nss1_1TX EBW

2402MHz

08/03/2021

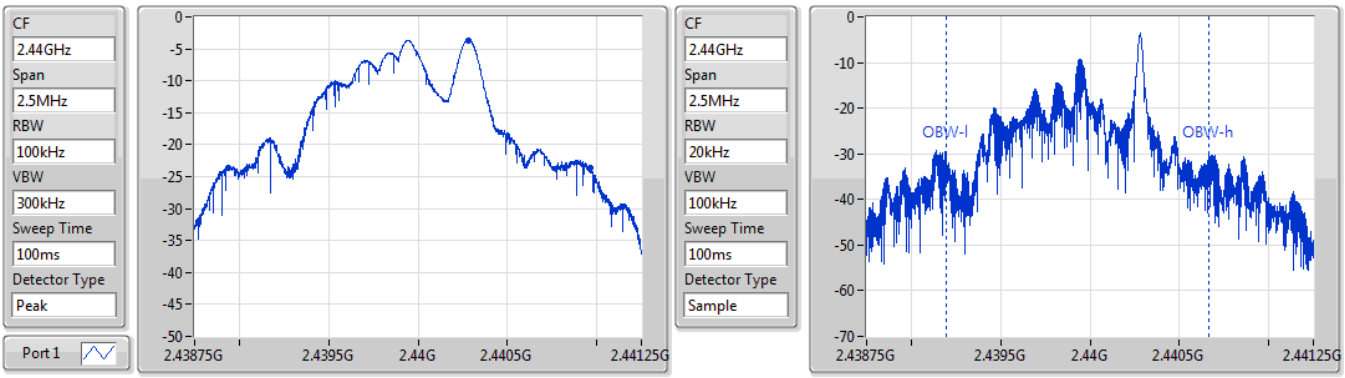


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
2.023M	2.40093G	2.402953G	1.461M	2.401207G	2.402667G	Inf	1

SRD(2Mbps)_Nss1_1TX EBW

2440MHz

08/03/2021

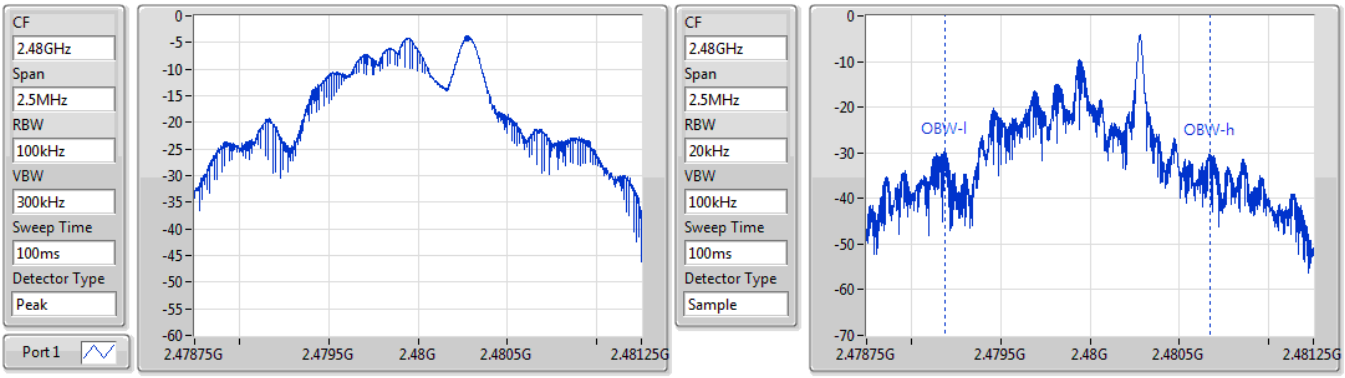


20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
2.023M	2.438939G	2.440961G	1.471M	2.439197G	2.440667G	Inf	1

SRD(2Mbps)_Nss1_1TX EBW

2480MHz

08/03/2021



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
2.025M	2.478928G	2.480953G	1.481M	2.479192G	2.480672G	Inf	1

Summary

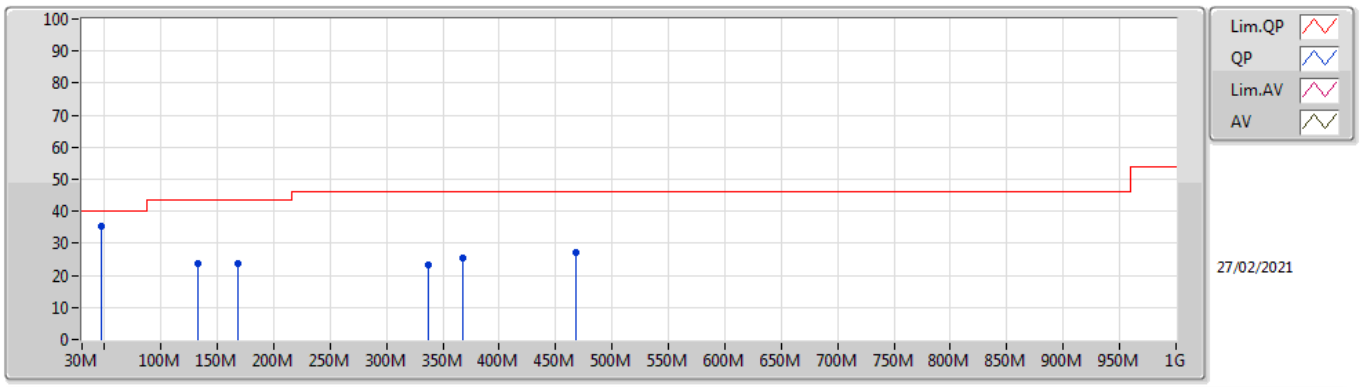
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
SRD(2Mbps)_Nss1_1TX	Pass	PK	47.46M	35.51	40.00	-4.49	3	Vertical	0	1.00	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
SRD(2Mbps)_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	47.46M	35.51	40.00	-4.49	3	Vertical	0	1.00	-
2440MHz	Pass	PK	132.82M	23.72	43.50	-19.78	3	Vertical	0	1.00	-
2440MHz	Pass	PK	167.74M	23.72	43.50	-19.78	3	Vertical	0	1.00	-
2440MHz	Pass	PK	336.52M	23.11	46.00	-22.89	3	Vertical	0	1.00	-
2440MHz	Pass	PK	367.56M	25.30	46.00	-20.70	3	Vertical	0	1.00	-
2440MHz	Pass	PK	468.44M	26.97	46.00	-19.03	3	Vertical	0	1.00	-
2440MHz	Pass	PK	47.46M	29.58	40.00	-10.42	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	132.82M	32.72	43.50	-10.78	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	167.74M	28.00	43.50	-15.50	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	336.52M	26.98	46.00	-19.02	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	450.98M	30.96	46.00	-15.04	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	520.82M	29.54	46.00	-16.46	3	Horizontal	360	1.00	-

SRD(2Mbps)_Nss1_1TX

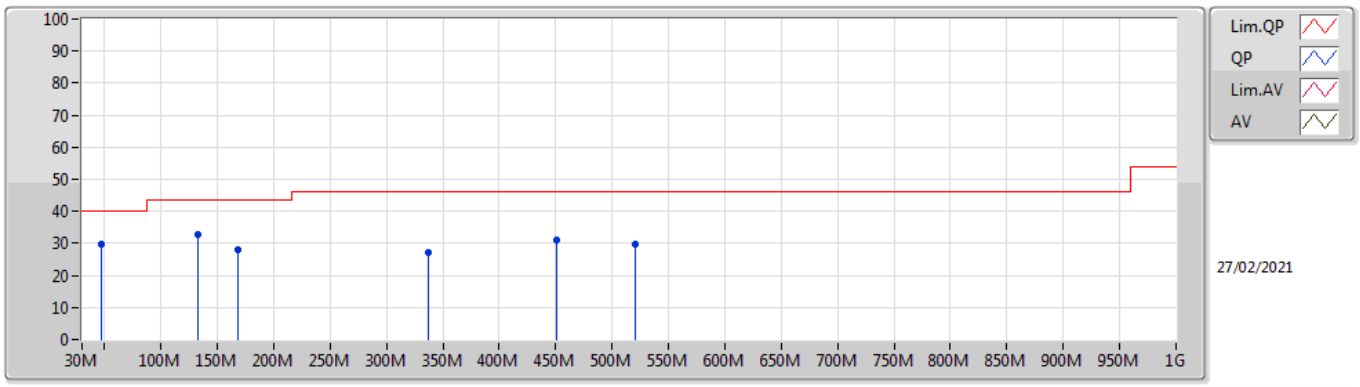
2440MHz_USB



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	47.46M	35.51	40.00	-4.49	-12.38	3	Vertical	0	1.00	-	47.89	14.09	1.05	27.52
PK	132.82M	23.72	43.50	-19.78	-8.30	3	Vertical	0	1.00	-	32.02	17.09	1.86	27.25
PK	167.74M	23.72	43.50	-19.78	-10.08	3	Vertical	0	1.00	-	33.80	14.93	2.08	27.09
PK	336.52M	23.11	46.00	-22.89	-4.69	3	Vertical	0	1.00	-	27.80	19.12	3.05	26.86
PK	367.56M	25.30	46.00	-20.70	-3.78	3	Vertical	0	1.00	-	29.08	20.10	3.17	27.05
PK	468.44M	26.97	46.00	-19.03	-1.59	3	Vertical	0	1.00	-	28.56	22.63	3.51	27.73

SRD(2Mbps)_Nss1_1TX

2440MHz_USB



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	47.46M	29.58	40.00	-10.42	-12.38	3	Horizontal	360	1.00	-	41.96	14.09	1.05	27.52
PK	132.82M	32.72	43.50	-10.78	-8.30	3	Horizontal	360	1.00	-	41.02	17.09	1.86	27.25
PK	167.74M	28.00	43.50	-15.50	-10.08	3	Horizontal	360	1.00	-	38.08	14.93	2.08	27.09
PK	336.52M	26.98	46.00	-19.02	-4.69	3	Horizontal	360	1.00	-	31.67	19.12	3.05	26.86
PK	450.98M	30.96	46.00	-15.04	-2.12	3	Horizontal	360	1.00	-	33.08	22.16	3.41	27.69
PK	520.82M	29.54	46.00	-16.46	-1.36	3	Horizontal	360	1.00	-	30.90	22.75	3.78	27.89

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
SRD(1Mbps)_Nss1_1TX	Pass	AV	7.44029G	51.57	54.00	-2.43	3	Horizontal	289	1.04	-
SRD(2Mbps)_Nss1_1TX	Pass	AV	2.4G	53.66	54.00	-0.34	3	Horizontal	156	1.50	-

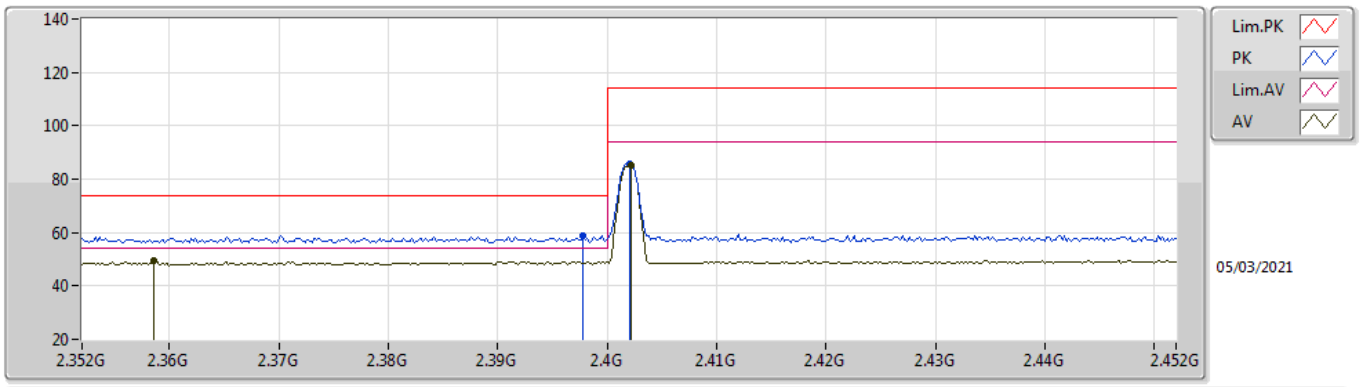
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
SRD(1Mbps)_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3586G	49.45	54.00	-4.55	3	Vertical	128	1.54	-
2402MHz	Pass	AV	2.4022G	85.36	94.00	-8.64	3	Vertical	128	1.54	-
2402MHz	Pass	PK	2.3978G	58.88	74.00	-15.12	3	Vertical	128	1.54	-
2402MHz	Pass	PK	2.402G	85.57	114.00	-28.43	3	Vertical	128	1.54	-
2402MHz	Pass	AV	2.399G	49.25	54.00	-4.75	3	Horizontal	157	1.77	-
2402MHz	Pass	AV	2.402G	90.70	94.00	-3.30	3	Horizontal	157	1.77	-
2402MHz	Pass	PK	2.4G	62.81	74.00	-11.19	3	Horizontal	157	1.77	-
2402MHz	Pass	PK	2.4018G	90.81	114.00	-23.19	3	Horizontal	157	1.77	-
2402MHz	Pass	AV	4.80387G	36.73	54.00	-17.27	3	Vertical	145	1.40	-
2402MHz	Pass	AV	7.20631G	46.29	54.00	-7.71	3	Vertical	275	1.18	-
2402MHz	Pass	PK	4.80382G	45.93	74.00	-28.07	3	Vertical	145	1.40	-
2402MHz	Pass	PK	7.2057G	53.02	74.00	-20.98	3	Vertical	275	1.18	-
2402MHz	Pass	AV	4.80433G	37.18	54.00	-16.82	3	Horizontal	160	1.27	-
2402MHz	Pass	AV	7.20638G	46.20	54.00	-7.80	3	Horizontal	148	2.43	-
2402MHz	Pass	PK	4.80256G	46.03	74.00	-27.97	3	Horizontal	160	1.27	-
2402MHz	Pass	PK	7.20635G	52.90	74.00	-21.10	3	Horizontal	148	2.43	-
2440MHz	Pass	AV	2.39G	50.01	54.00	-3.99	3	Vertical	148	1.39	-
2440MHz	Pass	AV	2.44G	89.71	94.00	-4.29	3	Vertical	148	1.39	-
2440MHz	Pass	AV	2.4896G	50.81	54.00	-3.19	3	Vertical	148	1.39	-
2440MHz	Pass	PK	2.344G	59.61	74.00	-14.39	3	Vertical	148	1.39	-
2440MHz	Pass	PK	2.44G	89.88	114.00	-24.12	3	Vertical	148	1.39	-
2440MHz	Pass	PK	2.49G	59.58	74.00	-14.42	3	Vertical	148	1.39	-
2440MHz	Pass	AV	2.3728G	50.13	54.00	-3.87	3	Horizontal	234	1.46	-
2440MHz	Pass	AV	2.44G	91.53	94.00	-2.47	3	Horizontal	234	1.46	-
2440MHz	Pass	AV	2.4892G	50.60	54.00	-3.40	3	Horizontal	234	1.46	-
2440MHz	Pass	PK	2.3992G	59.91	74.00	-14.09	3	Horizontal	234	1.46	-
2440MHz	Pass	PK	2.44G	91.66	114.00	-22.34	3	Horizontal	234	1.46	-
2440MHz	Pass	PK	2.4852G	59.74	74.00	-14.26	3	Horizontal	234	1.46	-
2440MHz	Pass	AV	4.8799G	39.49	54.00	-14.51	3	Vertical	193	1.34	-
2440MHz	Pass	AV	7.32034G	50.65	54.00	-3.35	3	Vertical	207	2.50	-
2440MHz	Pass	PK	4.88096G	47.69	74.00	-26.31	3	Vertical	193	1.34	-
2440MHz	Pass	PK	7.32011G	55.89	74.00	-18.11	3	Vertical	207	2.50	-
2440MHz	Pass	AV	4.87988G	39.42	54.00	-14.58	3	Horizontal	193	1.29	-
2440MHz	Pass	AV	7.32027G	48.38	54.00	-5.62	3	Horizontal	231	1.00	-
2440MHz	Pass	PK	4.88002G	48.10	74.00	-25.90	3	Horizontal	193	1.29	-
2440MHz	Pass	PK	7.31958G	54.63	74.00	-19.37	3	Horizontal	231	1.00	-
2480MHz	Pass	AV	2.48G	89.33	94.00	-4.67	3	Vertical	150	1.43	-
2480MHz	Pass	AV	2.4964G	50.82	54.00	-3.18	3	Vertical	150	1.43	-
2480MHz	Pass	PK	2.4802G	89.53	114.00	-24.47	3	Vertical	150	1.43	-
2480MHz	Pass	PK	2.4936G	60.92	74.00	-13.08	3	Vertical	150	1.43	-
2480MHz	Pass	AV	2.48G	91.15	94.00	-2.85	3	Horizontal	233	1.47	-
2480MHz	Pass	AV	2.498G	51.42	54.00	-2.58	3	Horizontal	233	1.47	-
2480MHz	Pass	PK	2.4802G	91.29	114.00	-22.71	3	Horizontal	233	1.47	-
2480MHz	Pass	PK	2.4888G	59.73	74.00	-14.27	3	Horizontal	233	1.47	-
2480MHz	Pass	AV	4.95999G	40.46	54.00	-13.54	3	Vertical	192	1.25	-
2480MHz	Pass	AV	7.44031G	50.62	54.00	-3.38	3	Vertical	264	1.03	-
2480MHz	Pass	PK	4.96032G	48.68	74.00	-25.32	3	Vertical	192	1.25	-
2480MHz	Pass	PK	7.44026G	56.49	74.00	-17.51	3	Vertical	264	1.03	-
2480MHz	Pass	AV	4.96028G	42.22	54.00	-11.78	3	Horizontal	172	2.85	-
2480MHz	Pass	AV	7.44029G	51.57	54.00	-2.43	3	Horizontal	289	1.04	-
2480MHz	Pass	PK	4.96011G	49.49	74.00	-24.51	3	Horizontal	172	2.85	-
2480MHz	Pass	PK	7.44036G	56.21	74.00	-17.79	3	Horizontal	289	1.04	-
SRD(2Mbps)_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.4G	50.81	54.00	-3.19	3	Vertical	127	1.24	-
2402MHz	Pass	AV	2.4022G	85.23	94.00	-8.77	3	Vertical	127	1.24	-
2402MHz	Pass	PK	2.4G	60.49	74.00	-13.51	3	Vertical	127	1.24	-
2402MHz	Pass	PK	2.4022G	85.45	114.00	-28.55	3	Vertical	127	1.24	-
2402MHz	Pass	AV	2.4G	53.66	54.00	-0.34	3	Horizontal	156	1.50	-
2402MHz	Pass	AV	2.4022G	90.35	94.00	-3.65	3	Horizontal	156	1.50	-
2402MHz	Pass	PK	2.4G	62.31	74.00	-11.69	3	Horizontal	156	1.50	-

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2402MHz	Pass	PK	2.4022G	90.49	114.00	-23.51	3	Horizontal	156	1.50	-
2402MHz	Pass	AV	4.804G	37.09	54.00	-16.91	3	Vertical	160	1.19	-
2402MHz	Pass	AV	7.20684G	46.85	54.00	-7.15	3	Vertical	277	1.12	-
2402MHz	Pass	PK	4.80464G	45.82	74.00	-28.18	3	Vertical	160	1.19	-
2402MHz	Pass	PK	7.20683G	53.27	74.00	-20.73	3	Vertical	277	1.12	-
2402MHz	Pass	AV	4.80464G	36.82	54.00	-17.18	3	Horizontal	0	1.89	-
2402MHz	Pass	AV	7.20692G	45.83	54.00	-8.17	3	Horizontal	150	2.60	-
2402MHz	Pass	PK	4.8042G	46.97	74.00	-27.03	3	Horizontal	0	1.89	-
2402MHz	Pass	PK	7.20684G	52.07	74.00	-21.93	3	Horizontal	150	2.60	-
2440MHz	Pass	AV	2.3976G	50.31	54.00	-3.69	3	Vertical	150	1.39	-
2440MHz	Pass	AV	2.44G	89.60	94.00	-4.40	3	Vertical	150	1.39	-
2440MHz	Pass	AV	2.4956G	50.38	54.00	-3.62	3	Vertical	150	1.39	-
2440MHz	Pass	PK	2.3412G	59.58	74.00	-14.42	3	Vertical	150	1.39	-
2440MHz	Pass	PK	2.44G	89.78	114.00	-24.22	3	Vertical	150	1.39	-
2440MHz	Pass	PK	2.4856G	60.04	74.00	-13.96	3	Vertical	150	1.39	-
2440MHz	Pass	AV	2.3852G	50.39	54.00	-3.61	3	Horizontal	234	1.46	-
2440MHz	Pass	AV	2.44G	91.20	94.00	-2.80	3	Horizontal	234	1.46	-
2440MHz	Pass	AV	2.496G	50.60	54.00	-3.40	3	Horizontal	234	1.46	-
2440MHz	Pass	PK	2.3404G	59.87	74.00	-14.13	3	Horizontal	234	1.46	-
2440MHz	Pass	PK	2.44G	91.34	114.00	-22.66	3	Horizontal	234	1.46	-
2440MHz	Pass	PK	2.4976G	60.10	74.00	-13.90	3	Horizontal	234	1.46	-
2440MHz	Pass	AV	4.87992G	39.45	54.00	-14.55	3	Vertical	192	1.42	-
2440MHz	Pass	AV	7.3209G	50.28	54.00	-3.72	3	Vertical	206	2.55	-
2440MHz	Pass	PK	4.8805G	47.93	74.00	-26.07	3	Vertical	192	1.42	-
2440MHz	Pass	PK	7.32066G	55.36	74.00	-18.64	3	Vertical	206	2.55	-
2440MHz	Pass	AV	4.88053G	39.63	54.00	-14.37	3	Horizontal	171	2.20	-
2440MHz	Pass	AV	7.32086G	48.47	54.00	-5.53	3	Horizontal	230	1.24	-
2440MHz	Pass	PK	4.87982G	47.18	74.00	-26.82	3	Horizontal	171	2.20	-
2440MHz	Pass	PK	7.32062G	55.01	74.00	-18.99	3	Horizontal	230	1.24	-
2480MHz	Pass	AV	2.4802G	89.38	94.00	-4.62	3	Vertical	150	1.45	-
2480MHz	Pass	AV	2.4982G	50.81	54.00	-3.19	3	Vertical	150	1.45	-
2480MHz	Pass	PK	2.4802G	89.57	114.00	-24.43	3	Vertical	150	1.45	-
2480MHz	Pass	PK	2.4866G	59.97	74.00	-14.03	3	Vertical	150	1.45	-
2480MHz	Pass	AV	2.4802G	91.08	94.00	-2.92	3	Horizontal	234	1.48	-
2480MHz	Pass	AV	2.4886G	50.81	54.00	-3.19	3	Horizontal	234	1.48	-
2480MHz	Pass	PK	2.4802G	91.25	114.00	-22.75	3	Horizontal	234	1.48	-
2480MHz	Pass	PK	2.4838G	59.95	74.00	-14.05	3	Horizontal	234	1.48	-
2480MHz	Pass	AV	4.96049G	39.92	54.00	-14.08	3	Vertical	193	1.04	-
2480MHz	Pass	AV	7.44087G	50.67	54.00	-3.33	3	Vertical	264	1.03	-
2480MHz	Pass	PK	4.95998G	48.95	74.00	-25.05	3	Vertical	193	1.04	-
2480MHz	Pass	PK	7.44071G	55.61	74.00	-18.39	3	Vertical	264	1.03	-
2480MHz	Pass	AV	4.9605G	41.66	54.00	-12.34	3	Horizontal	180	2.85	-
2480MHz	Pass	AV	7.4408G	50.69	54.00	-3.31	3	Horizontal	291	1.03	-
2480MHz	Pass	PK	4.96041G	49.49	74.00	-24.51	3	Horizontal	180	2.85	-
2480MHz	Pass	PK	7.44094G	55.96	74.00	-18.04	3	Horizontal	291	1.03	-

SRD(1Mbps)_Nss1_1TX

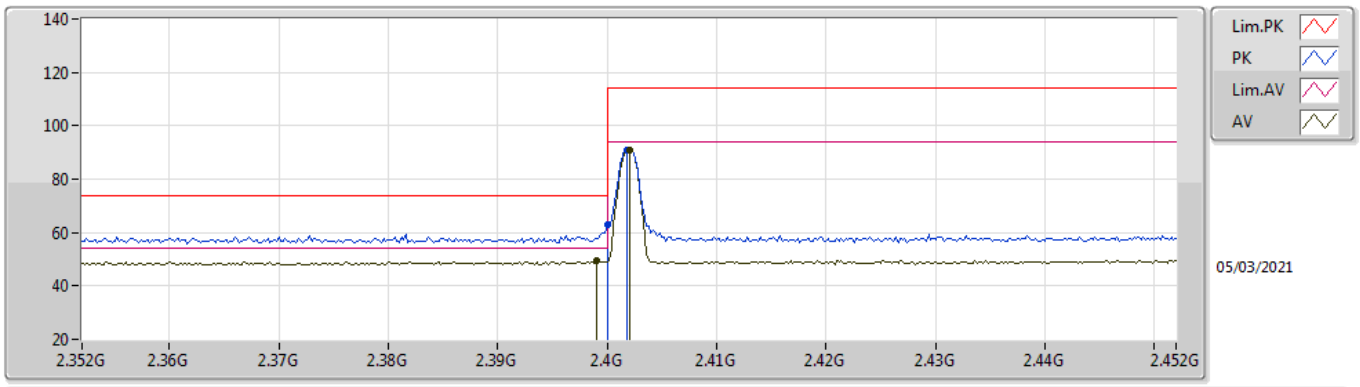
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3586G	49.45	54.00	-4.55	31.94	3	Vertical	128	1.54	-	17.51	27.68	4.26	-
AV	2.4022G	85.36	94.00	-8.64	31.90	3	Vertical	128	1.54	-	53.46	27.60	4.30	-
PK	2.3978G	58.88	74.00	-15.12	31.90	3	Vertical	128	1.54	-	26.98	27.60	4.30	-
PK	2.402G	85.57	114.00	-28.43	31.90	3	Vertical	128	1.54	-	53.67	27.60	4.30	-

SRD(1Mbps)_Nss1_1TX

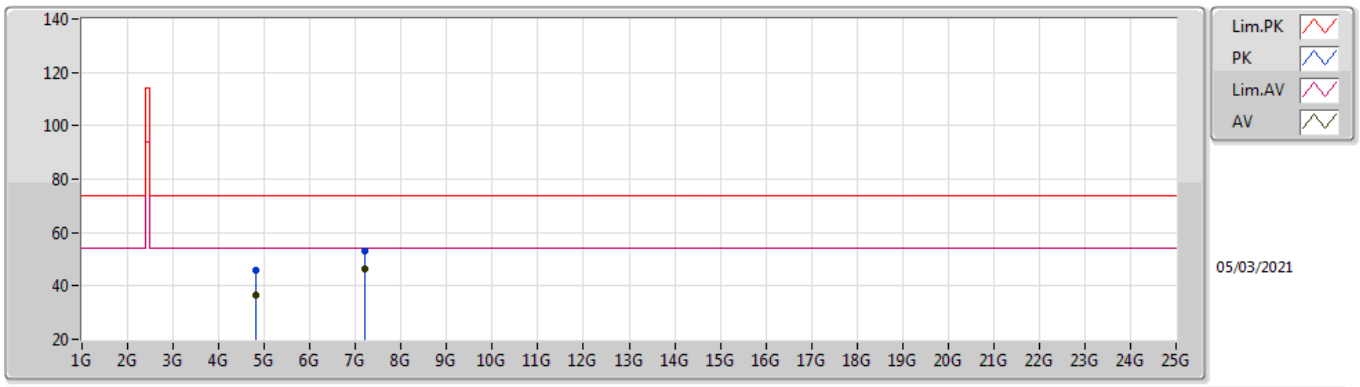
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.399G	49.25	54.00	-4.75	31.90	3	Horizontal	157	1.77	-	17.35	27.60	4.30	-
AV	2.402G	90.70	94.00	-3.30	31.90	3	Horizontal	157	1.77	-	58.80	27.60	4.30	-
PK	2.4G	62.81	74.00	-11.19	31.90	3	Horizontal	157	1.77	-	30.91	27.60	4.30	-
PK	2.4018G	90.81	114.00	-23.19	31.90	3	Horizontal	157	1.77	-	58.91	27.60	4.30	-

SRD(1Mbps)_Nss1_1TX

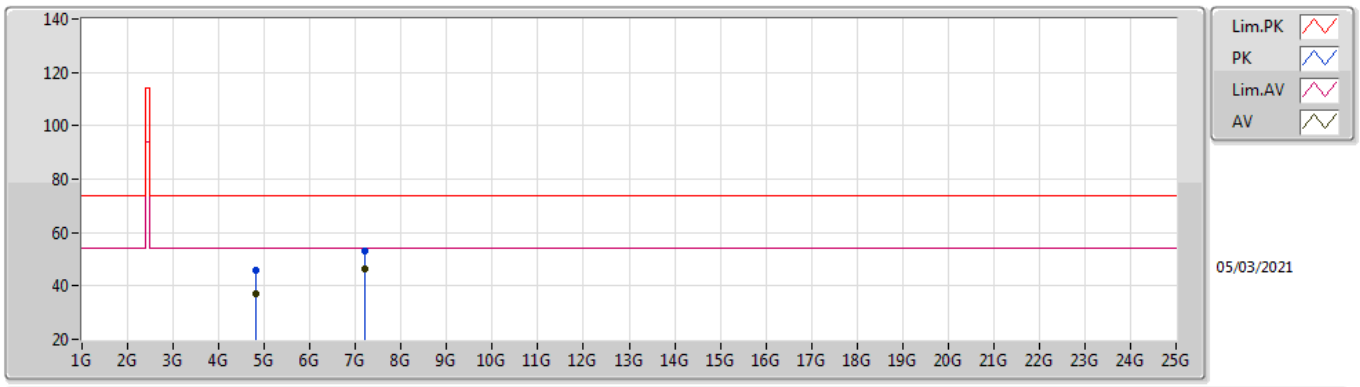
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80387G	36.73	54.00	-17.27	8.37	3	Vertical	145	1.40	-	28.36	31.10	6.50	29.23
AV	7.20631G	46.29	54.00	-7.71	13.64	3	Vertical	275	1.18	-	32.65	36.13	7.60	30.09
PK	4.80382G	45.93	74.00	-28.07	8.37	3	Vertical	145	1.40	-	37.56	31.10	6.50	29.23
PK	7.2057G	53.02	74.00	-20.98	13.63	3	Vertical	275	1.18	-	39.39	36.12	7.60	30.09

SRD(1Mbps)_Nss1_1TX

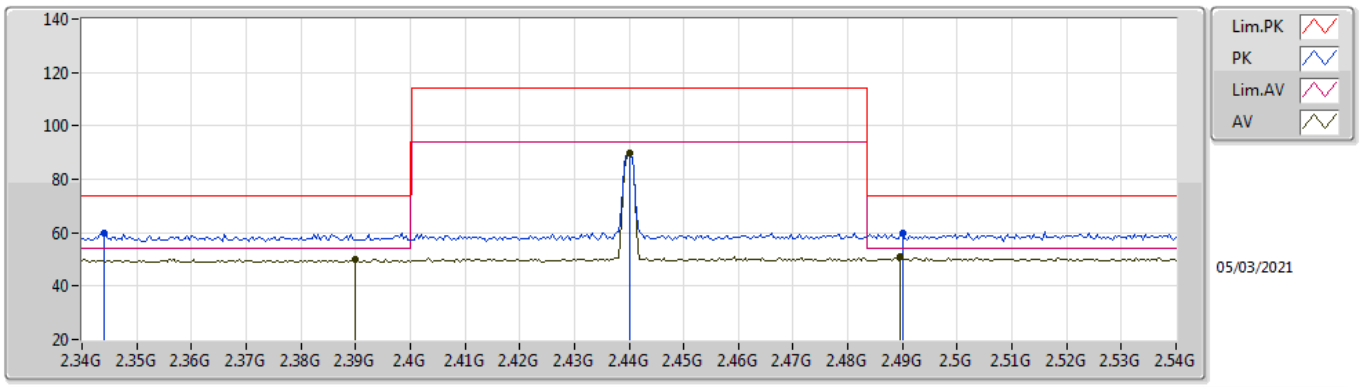
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80433G	37.18	54.00	-16.82	8.37	3	Horizontal	160	1.27	-	28.81	31.10	6.50	29.23
AV	7.20638G	46.20	54.00	-7.80	13.64	3	Horizontal	148	2.43	-	32.56	36.13	7.60	30.09
PK	4.80256G	46.03	74.00	-27.97	8.37	3	Horizontal	160	1.27	-	37.66	31.10	6.50	29.23
PK	7.20635G	52.90	74.00	-21.10	13.64	3	Horizontal	148	2.43	-	39.26	36.13	7.60	30.09

SRD(1Mbps)_Nss1_1TX

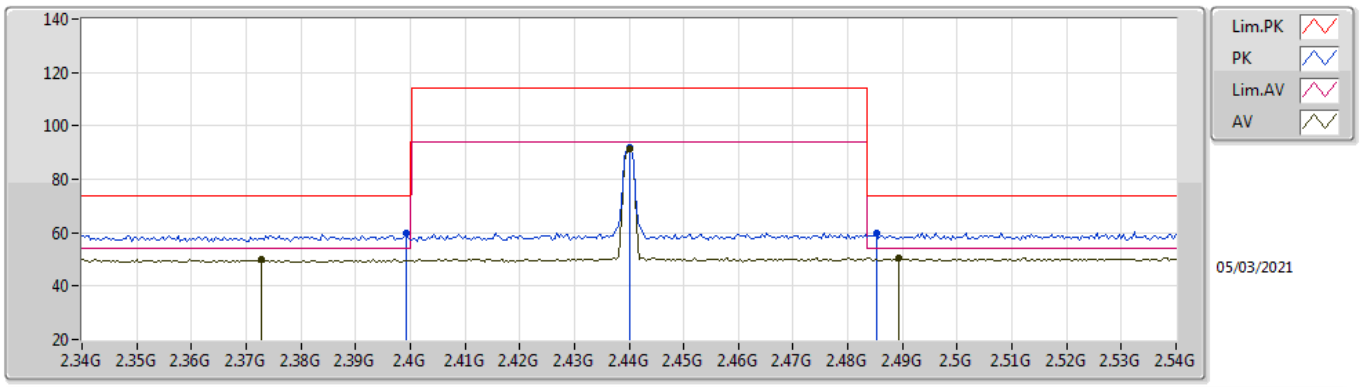
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.39G	50.01	54.00	-3.99	31.91	3	Vertical	148	1.39	-	18.10	27.62	4.29	-
AV	2.44G	89.71	94.00	-4.29	31.86	3	Vertical	148	1.39	-	57.85	27.52	4.34	-
AV	2.4896G	50.81	54.00	-3.19	31.81	3	Vertical	148	1.39	-	19.00	27.42	4.39	-
PK	2.344G	59.61	74.00	-14.39	31.96	3	Vertical	148	1.39	-	27.65	27.72	4.24	-
PK	2.44G	89.88	114.00	-24.12	31.86	3	Vertical	148	1.39	-	58.02	27.52	4.34	-
PK	2.49G	59.58	74.00	-14.42	31.81	3	Vertical	148	1.39	-	27.77	27.42	4.39	-

SRD(1Mbps)_Nss1_1TX

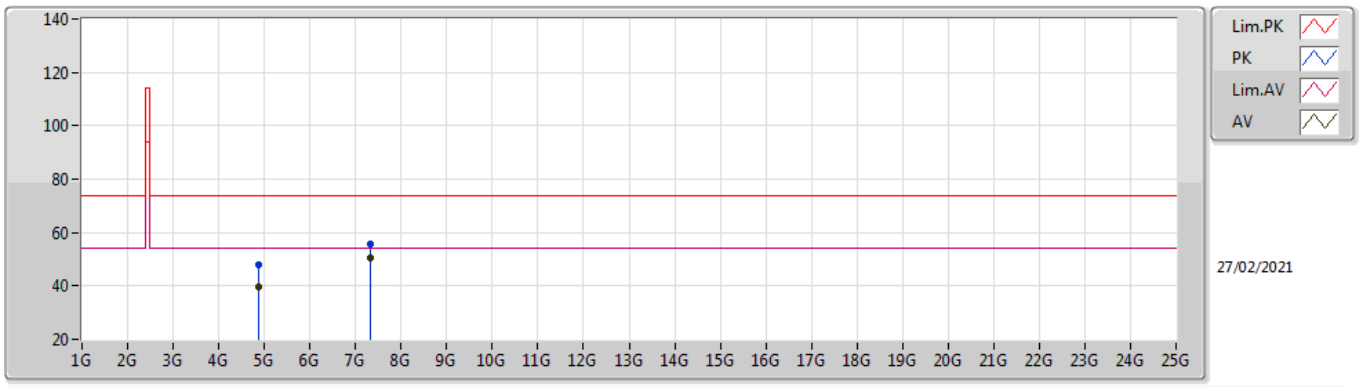
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3728G	50.13	54.00	-3.87	31.92	3	Horizontal	234	1.46	-	18.21	27.65	4.27	-
AV	2.44G	91.53	94.00	-2.47	31.86	3	Horizontal	234	1.46	-	59.67	27.52	4.34	-
AV	2.4892G	50.60	54.00	-3.40	31.81	3	Horizontal	234	1.46	-	18.79	27.42	4.39	-
PK	2.3992G	59.91	74.00	-14.09	31.90	3	Horizontal	234	1.46	-	28.01	27.60	4.30	-
PK	2.44G	91.66	114.00	-22.34	31.86	3	Horizontal	234	1.46	-	59.80	27.52	4.34	-
PK	2.4852G	59.74	74.00	-14.26	31.82	3	Horizontal	234	1.46	-	27.92	27.43	4.39	-

SRD(1Mbps)_Nss1_1TX

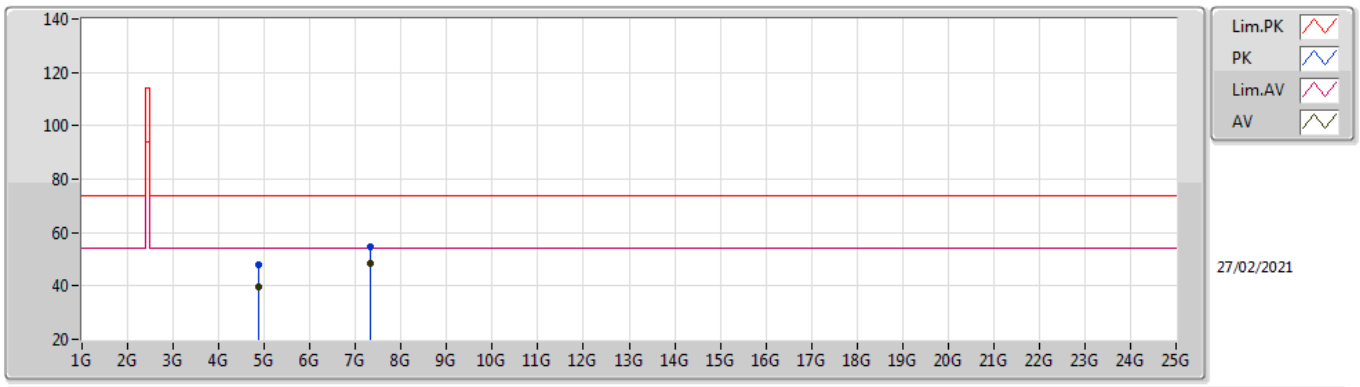
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.8799G	39.49	54.00	-14.51	8.47	3	Vertical	193	1.34	-	31.02	31.10	6.58	29.21
AV	7.32034G	50.65	54.00	-3.35	13.77	3	Vertical	207	2.50	-	36.88	36.34	7.60	30.17
PK	4.88096G	47.69	74.00	-26.31	8.47	3	Vertical	193	1.34	-	39.22	31.10	6.58	29.21
PK	7.32011G	55.89	74.00	-18.11	13.77	3	Vertical	207	2.50	-	42.12	36.34	7.60	30.17

SRD(1Mbps)_Nss1_1TX

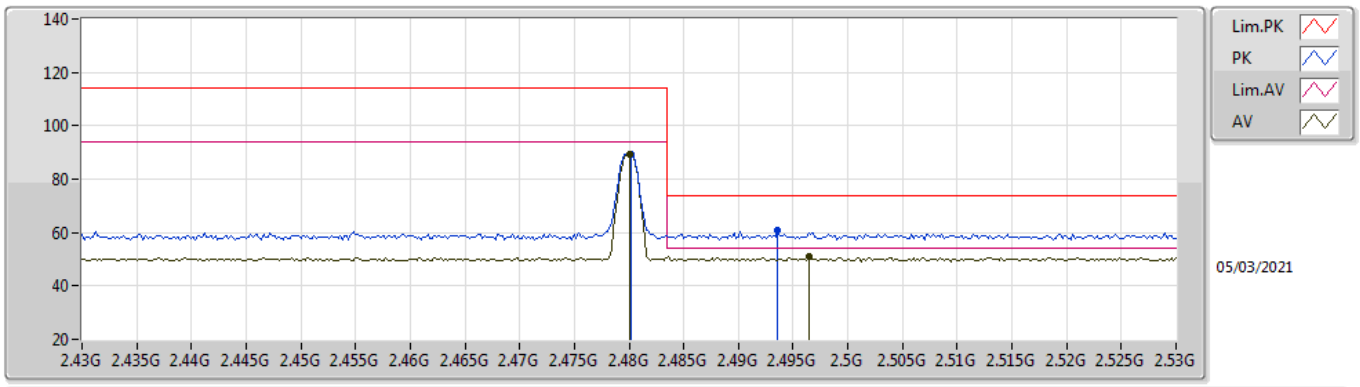
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87988G	39.42	54.00	-14.58	8.47	3	Horizontal	193	1.29	-	30.95	31.10	6.58	29.21
AV	7.32027G	48.38	54.00	-5.62	13.77	3	Horizontal	231	1.00	-	34.61	36.34	7.60	30.17
PK	4.88002G	48.10	74.00	-25.90	8.47	3	Horizontal	193	1.29	-	39.63	31.10	6.58	29.21
PK	7.31958G	54.63	74.00	-19.37	13.77	3	Horizontal	231	1.00	-	40.86	36.34	7.60	30.17

SRD(1Mbps)_Nss1_1TX

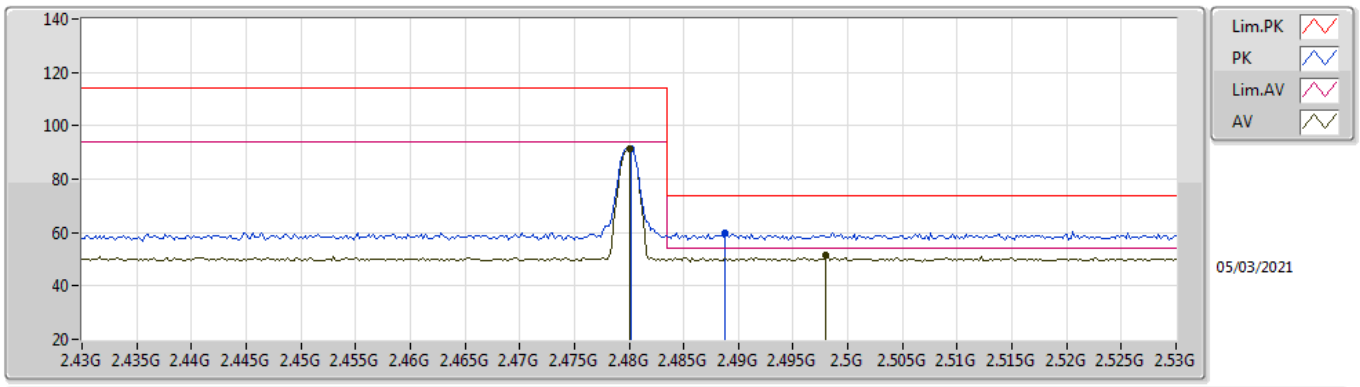
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	89.33	94.00	-4.67	31.82	3	Vertical	150	1.43	-	57.51	27.44	4.38	-
AV	2.4964G	50.82	54.00	-3.18	31.81	3	Vertical	150	1.43	-	19.01	27.41	4.40	-
PK	2.4802G	89.53	114.00	-24.47	31.82	3	Vertical	150	1.43	-	57.71	27.44	4.38	-
PK	2.4936G	60.92	74.00	-13.08	31.80	3	Vertical	150	1.43	-	29.12	27.41	4.39	-

SRD(1Mbps)_Nss1_1TX

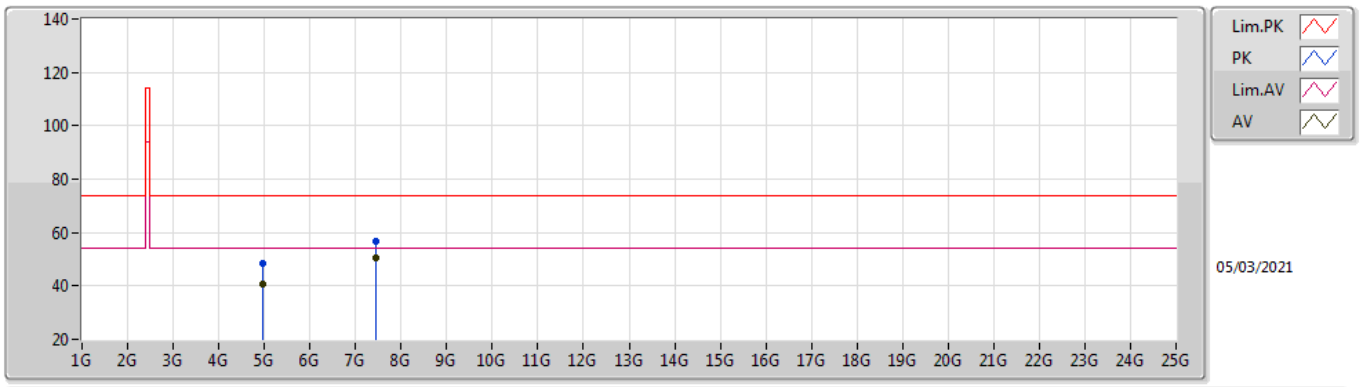
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	91.15	94.00	-2.85	31.82	3	Horizontal	233	1.47	-	59.33	27.44	4.38	-
AV	2.498G	51.42	54.00	-2.58	31.80	3	Horizontal	233	1.47	-	19.62	27.40	4.40	-
PK	2.4802G	91.29	114.00	-22.71	31.82	3	Horizontal	233	1.47	-	59.47	27.44	4.38	-
PK	2.4888G	59.73	74.00	-14.27	31.81	3	Horizontal	233	1.47	-	27.92	27.42	4.39	-

SRD(1Mbps)_Nss1_1TX

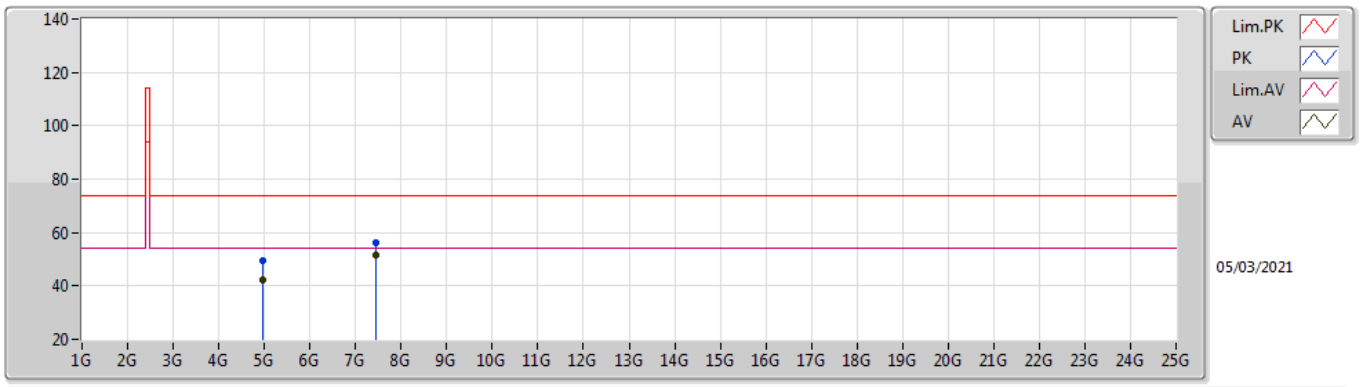
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95999G	40.46	54.00	-13.54	8.68	3	Vertical	192	1.25	-	31.78	31.20	6.66	29.18
AV	7.44031G	50.62	54.00	-3.38	13.62	3	Vertical	264	1.03	-	37.00	36.24	7.64	30.26
PK	4.96032G	48.68	74.00	-25.32	8.68	3	Vertical	192	1.25	-	40.00	31.20	6.66	29.18
PK	7.44026G	56.49	74.00	-17.51	13.62	3	Vertical	264	1.03	-	42.87	36.24	7.64	30.26

SRD(1Mbps)_Nss1_1TX

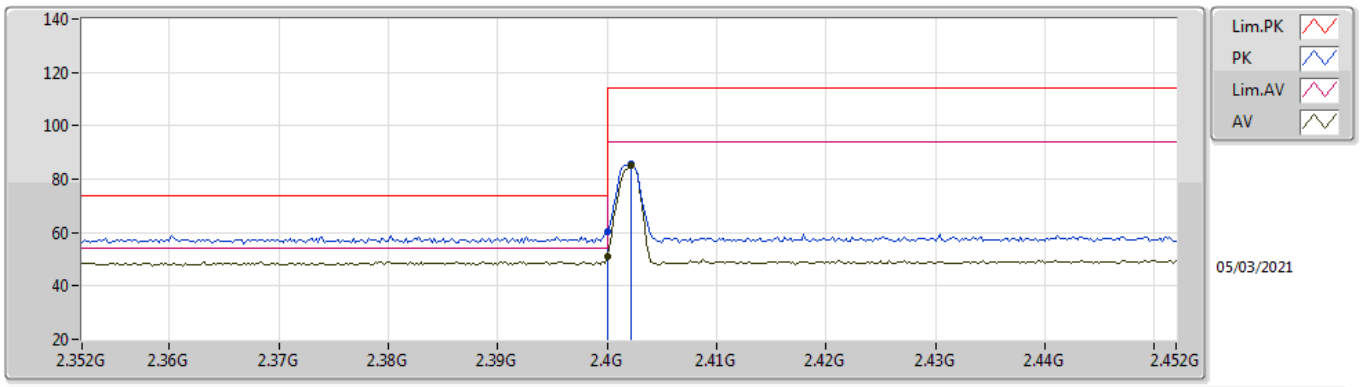
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.96028G	42.22	54.00	-11.78	8.68	3	Horizontal	172	2.85	-	33.54	31.20	6.66	29.18
AV	7.44029G	51.57	54.00	-2.43	13.62	3	Horizontal	289	1.04	-	37.95	36.24	7.64	30.26
PK	4.96011G	49.49	74.00	-24.51	8.68	3	Horizontal	172	2.85	-	40.81	31.20	6.66	29.18
PK	7.44036G	56.21	74.00	-17.79	13.62	3	Horizontal	289	1.04	-	42.59	36.24	7.64	30.26

SRD(2Mbps)_Nss1_1TX

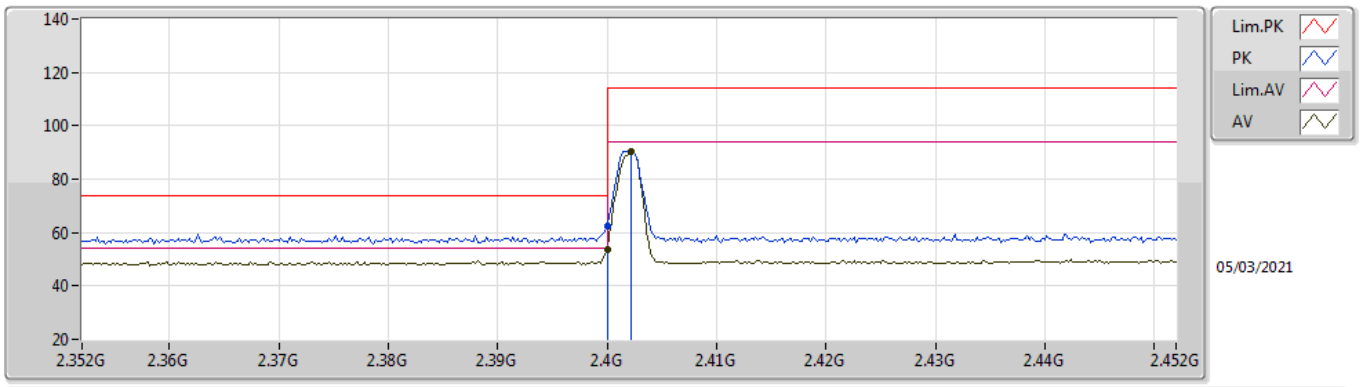
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.4G	50.81	54.00	-3.19	31.90	3	Vertical	127	1.24	-	18.91	27.60	4.30	-
AV	2.4022G	85.23	94.00	-8.77	31.90	3	Vertical	127	1.24	-	53.33	27.60	4.30	-
PK	2.4G	60.49	74.00	-13.51	31.90	3	Vertical	127	1.24	-	28.59	27.60	4.30	-
PK	2.4022G	85.45	114.00	-28.55	31.90	3	Vertical	127	1.24	-	53.55	27.60	4.30	-

SRD(2Mbps)_Nss1_1TX

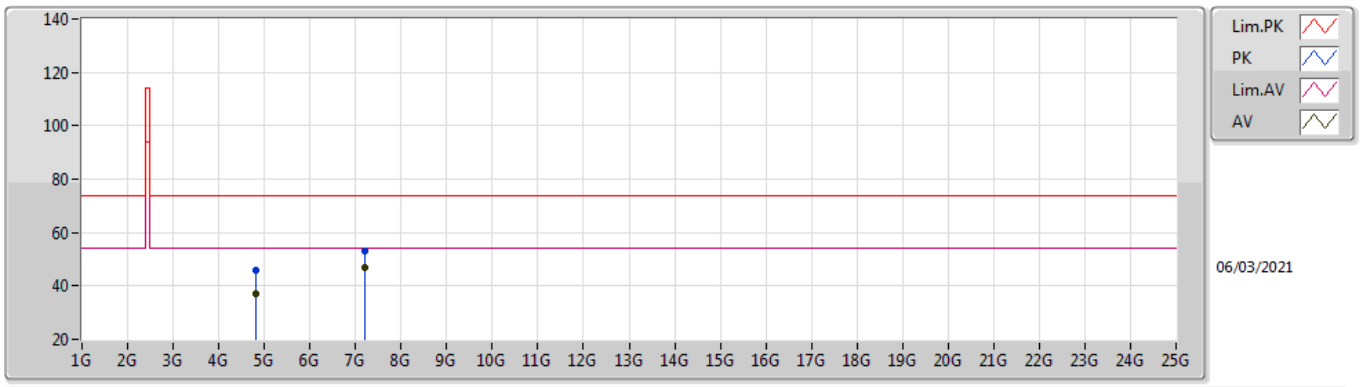
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.4G	53.66	54.00	-0.34	31.90	3	Horizontal	156	1.50	-	21.76	27.60	4.30	-
AV	2.4022G	90.35	94.00	-3.65	31.90	3	Horizontal	156	1.50	-	58.45	27.60	4.30	-
PK	2.4G	62.31	74.00	-11.69	31.90	3	Horizontal	156	1.50	-	30.41	27.60	4.30	-
PK	2.4022G	90.49	114.00	-23.51	31.90	3	Horizontal	156	1.50	-	58.59	27.60	4.30	-

SRD(2Mbps)_Nss1_1TX

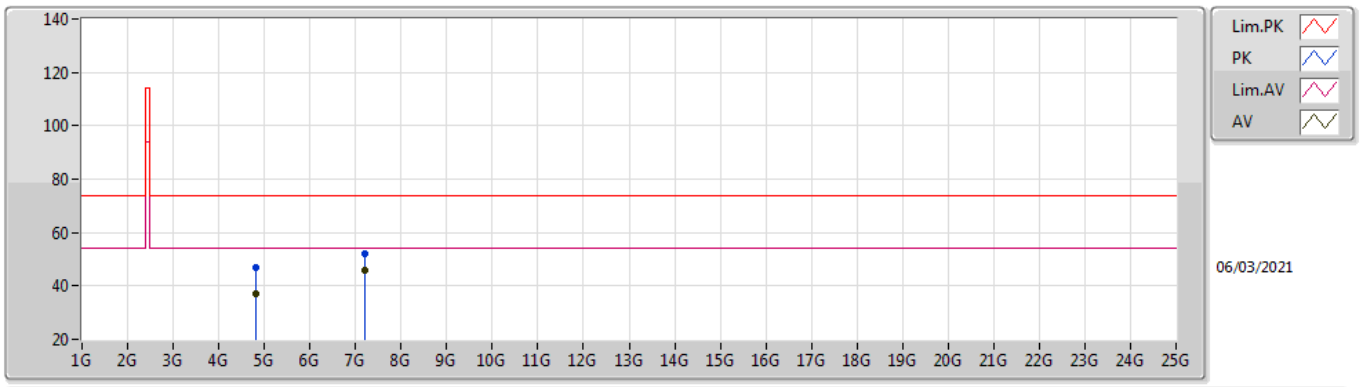
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.804G	37.09	54.00	-16.91	8.37	3	Vertical	160	1.19	-	28.72	31.10	6.50	29.23
AV	7.20684G	46.85	54.00	-7.15	13.64	3	Vertical	277	1.12	-	33.21	36.13	7.60	30.09
PK	4.80464G	45.82	74.00	-28.18	8.37	3	Vertical	160	1.19	-	37.45	31.10	6.50	29.23
PK	7.20683G	53.27	74.00	-20.73	13.64	3	Vertical	277	1.12	-	39.63	36.13	7.60	30.09

SRD(2Mbps)_Nss1_1TX

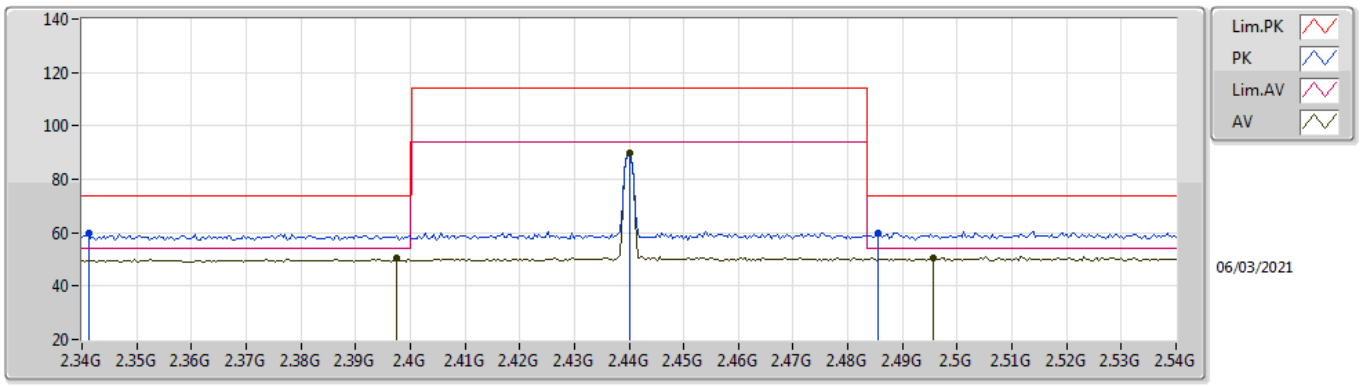
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80464G	36.82	54.00	-17.18	8.37	3	Horizontal	0	1.89	-	28.45	31.10	6.50	29.23
AV	7.20692G	45.83	54.00	-8.17	13.64	3	Horizontal	150	2.60	-	32.19	36.13	7.60	30.09
PK	4.8042G	46.97	74.00	-27.03	8.37	3	Horizontal	0	1.89	-	38.60	31.10	6.50	29.23
PK	7.20684G	52.07	74.00	-21.93	13.64	3	Horizontal	150	2.60	-	38.43	36.13	7.60	30.09

SRD(2Mbps)_Nss1_1TX

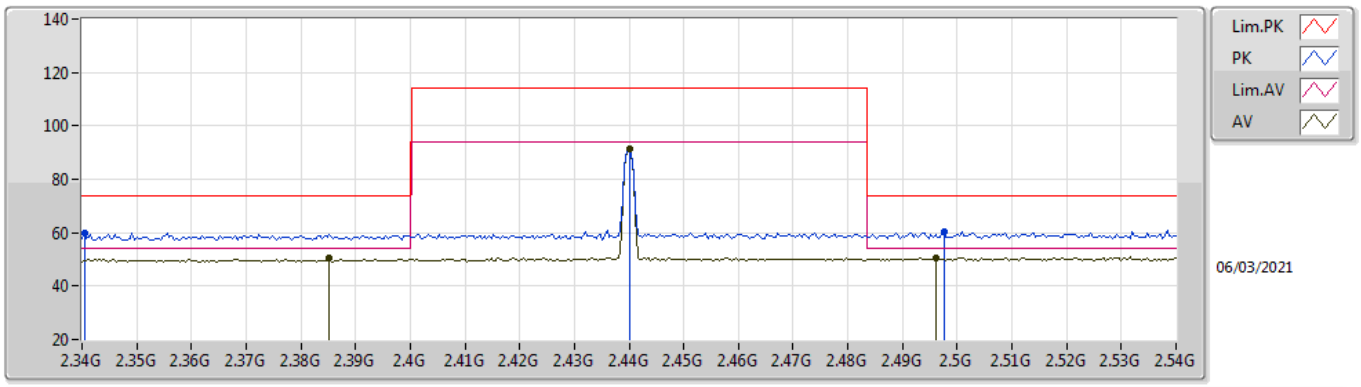
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3976G	50.31	54.00	-3.69	31.90	3	Vertical	150	1.39	-	18.41	27.60	4.30	-
AV	2.44G	89.60	94.00	-4.40	31.86	3	Vertical	150	1.39	-	57.74	27.52	4.34	-
AV	2.4956G	50.38	54.00	-3.62	31.81	3	Vertical	150	1.39	-	18.57	27.41	4.40	-
PK	2.3412G	59.58	74.00	-14.42	31.98	3	Vertical	150	1.39	-	27.60	27.74	4.24	-
PK	2.44G	89.78	114.00	-24.22	31.86	3	Vertical	150	1.39	-	57.92	27.52	4.34	-
PK	2.4856G	60.04	74.00	-13.96	31.82	3	Vertical	150	1.39	-	28.22	27.43	4.39	-

SRD(2Mbps)_Nss1_1TX

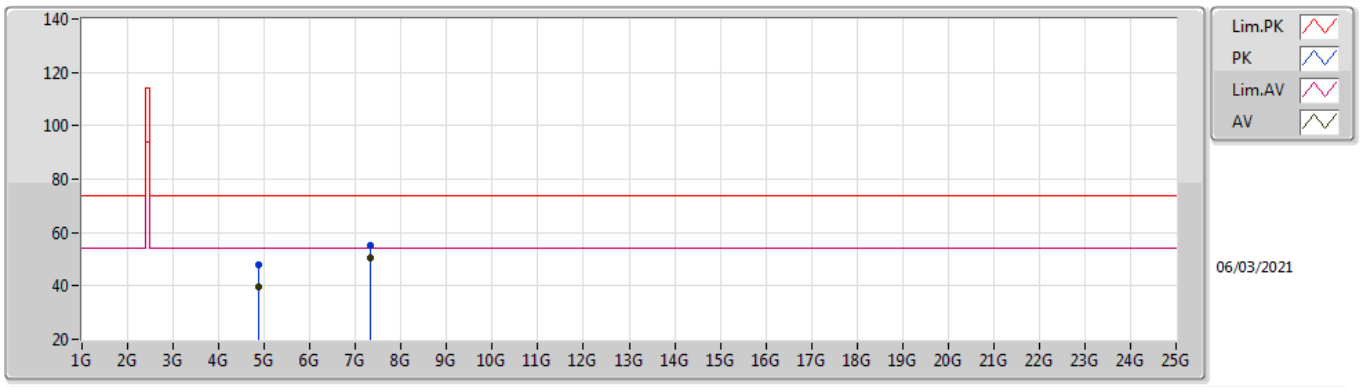
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3852G	50.39	54.00	-3.61	31.92	3	Horizontal	234	1.46	-	18.47	27.63	4.29	-
AV	2.44G	91.20	94.00	-2.80	31.86	3	Horizontal	234	1.46	-	59.34	27.52	4.34	-
AV	2.496G	50.60	54.00	-3.40	31.81	3	Horizontal	234	1.46	-	18.79	27.41	4.40	-
PK	2.3404G	59.87	74.00	-14.13	31.98	3	Horizontal	234	1.46	-	27.89	27.74	4.24	-
PK	2.44G	91.34	114.00	-22.66	31.86	3	Horizontal	234	1.46	-	59.48	27.52	4.34	-
PK	2.4976G	60.10	74.00	-13.90	31.80	3	Horizontal	234	1.46	-	28.30	27.40	4.40	-

SRD(2Mbps)_Nss1_1TX

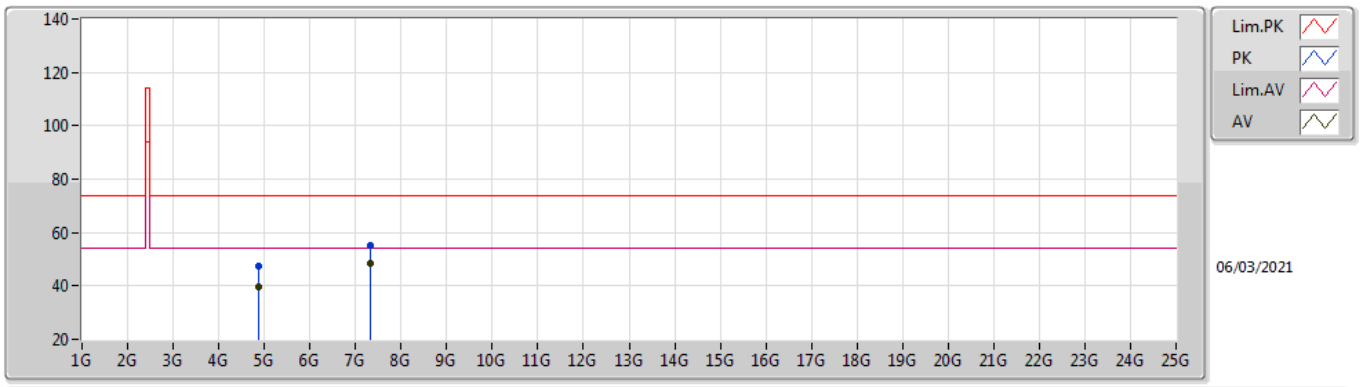
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87992G	39.45	54.00	-14.55	8.47	3	Vertical	192	1.42	-	30.98	31.10	6.58	29.21
AV	7.3209G	50.28	54.00	-3.72	13.77	3	Vertical	206	2.55	-	36.51	36.34	7.60	30.17
PK	4.8805G	47.93	74.00	-26.07	8.47	3	Vertical	192	1.42	-	39.46	31.10	6.58	29.21
PK	7.32066G	55.36	74.00	-18.64	13.77	3	Vertical	206	2.55	-	41.59	36.34	7.60	30.17

SRD(2Mbps)_Nss1_1TX

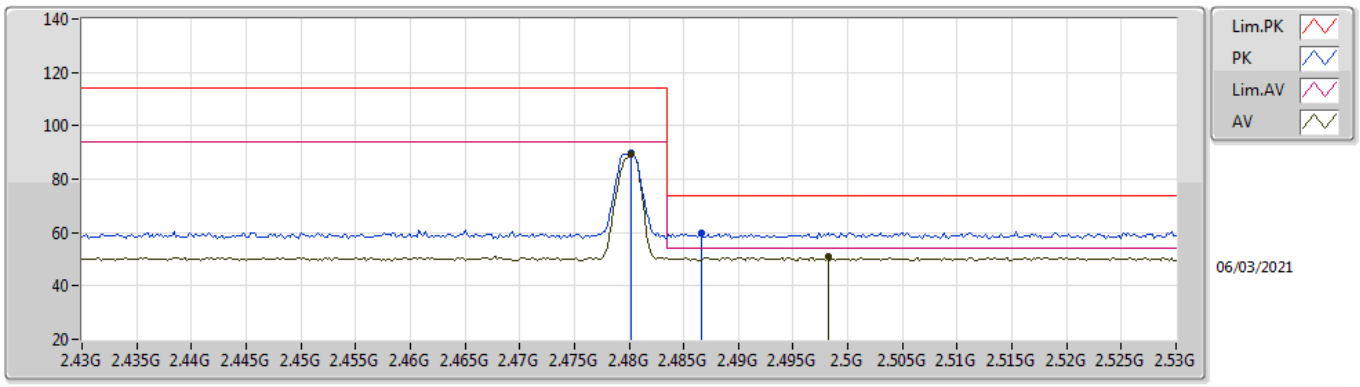
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.88053G	39.63	54.00	-14.37	8.47	3	Horizontal	171	2.20	-	31.16	31.10	6.58	29.21
AV	7.32086G	48.47	54.00	-5.53	13.77	3	Horizontal	230	1.24	-	34.70	36.34	7.60	30.17
PK	4.87982G	47.18	74.00	-26.82	8.47	3	Horizontal	171	2.20	-	38.71	31.10	6.58	29.21
PK	7.32062G	55.01	74.00	-18.99	13.77	3	Horizontal	230	1.24	-	41.24	36.34	7.60	30.17

SRD(2Mbps)_Nss1_1TX

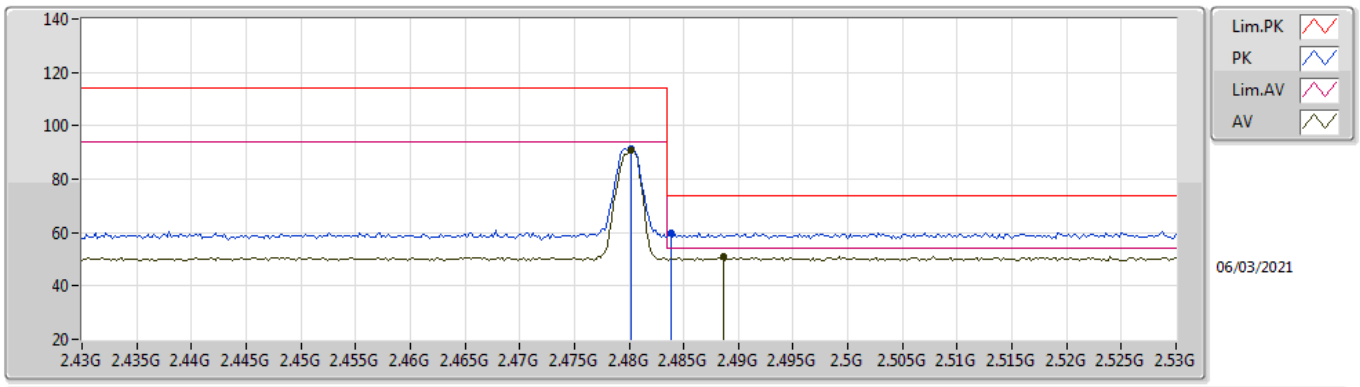
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.4802G	89.38	94.00	-4.62	31.82	3	Vertical	150	1.45	-	57.56	27.44	4.38	-
AV	2.4982G	50.81	54.00	-3.19	31.80	3	Vertical	150	1.45	-	19.01	27.40	4.40	-
PK	2.4802G	89.57	114.00	-24.43	31.82	3	Vertical	150	1.45	-	57.75	27.44	4.38	-
PK	2.4866G	59.97	74.00	-14.03	31.82	3	Vertical	150	1.45	-	28.15	27.43	4.39	-

SRD(2Mbps)_Nss1_1TX

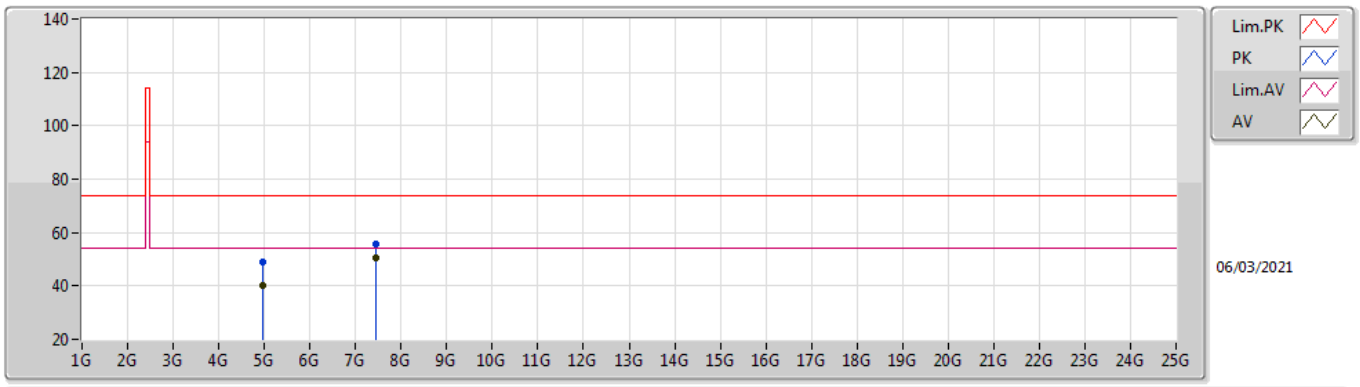
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.4802G	91.08	94.00	-2.92	31.82	3	Horizontal	234	1.48	-	59.26	27.44	4.38	-
AV	2.4886G	50.81	54.00	-3.19	31.81	3	Horizontal	234	1.48	-	19.00	27.42	4.39	-
PK	2.4802G	91.25	114.00	-22.75	31.82	3	Horizontal	234	1.48	-	59.43	27.44	4.38	-
PK	2.4838G	59.95	74.00	-14.05	31.81	3	Horizontal	234	1.48	-	28.14	27.43	4.38	-

SRD(2Mbps)_Nss1_1TX

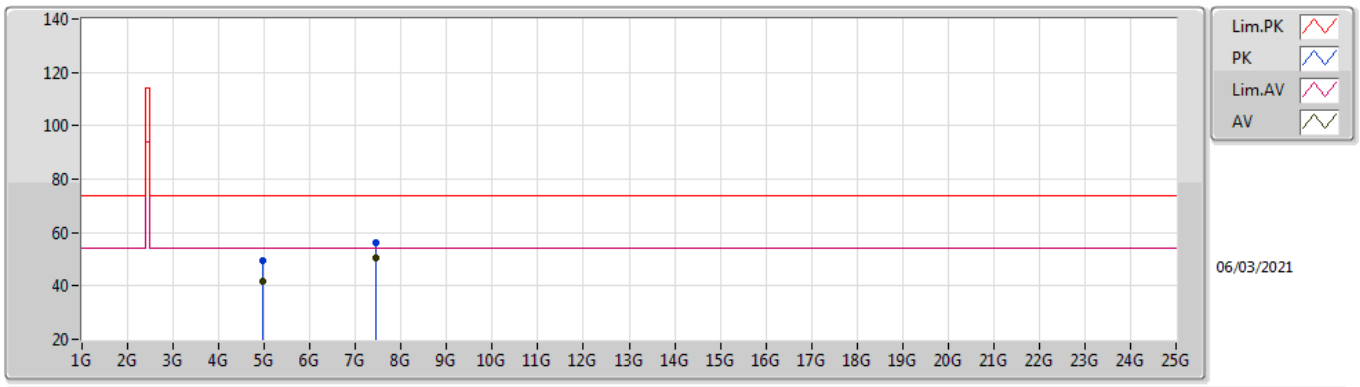
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.96049G	39.92	54.00	-14.08	8.68	3	Vertical	193	1.04	-	31.24	31.20	6.66	29.18
AV	7.44087G	50.67	54.00	-3.33	13.63	3	Vertical	264	1.03	-	37.04	36.25	7.64	30.26
PK	4.95998G	48.95	74.00	-25.05	8.68	3	Vertical	193	1.04	-	40.27	31.20	6.66	29.18
PK	7.44071G	55.61	74.00	-18.39	13.62	3	Vertical	264	1.03	-	41.99	36.24	7.64	30.26

SRD(2Mbps)_Nss1_1TX

2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.9605G	41.66	54.00	-12.34	8.68	3	Horizontal	180	2.85	-	32.98	31.20	6.66	29.18
AV	7.4408G	50.69	54.00	-3.31	13.62	3	Horizontal	291	1.03	-	37.07	36.24	7.64	30.26
PK	4.96041G	49.49	74.00	-24.51	8.68	3	Horizontal	180	2.85	-	40.81	31.20	6.66	29.18
PK	7.44094G	55.96	74.00	-18.04	13.63	3	Horizontal	291	1.03	-	42.33	36.25	7.64	30.26