FCC RADIO TEST REPORT

FCC ID	:	QXO-AP410
Equipment	:	Wireless Access Point
Brand Name	:	Extreme Networks, Inc.
Model Name	:	AP410i, AP410e
Applicant	:	Extreme Networks, Inc. 6480 Via Del Oro, San Jose, CA 95119, United States
Manufacturer	:	Extreme Networks, Inc. 6480 Via Del Oro, San Jose, CA 95119, United States
Standard	:	47 CFR FCC Part 15.247

The product was received on Aug. 20, 2019, and testing was started from Sep. 26, 2019 and completed on Nov. 05, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Cliff Chang

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FR970232AB	01	Initial issue of report	Dec. 05, 2019

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:

1. The test configuration, test mode and test software were written in this test report are declared by the manufacturer.
2. 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: Sam Chen
Report Producer: Wendy Pan

1 General Description

1.1 Information

1.1.1 RF General Information

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

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	Thread	3	1TX

Note:
- Thread uses a O-QPSK (250kbps) modulation for DSSS.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

1.1.2 Antenna Information

For Internal antenna EUT:

Ant.	Brand	Model Number (P/N)	Antenna Type	Connector	Antenna Gain (dBi)			Remark
					WLAN 2.4GHz	WLAN 5GHz	BLE/Thread	
1	SENAO	5718A0474300	PIFA	IPEX	4.56	-	-	Radio 1
2	SENAO	5718A0475300	PIFA	IPEX	4.56	-	-	Radio 1
3	SENAO	5718A0476300	PIFA	IPEX	4.47	5.02	-	Radio 3
4	SENAO	5718A0477300	PIFA	IPEX	4.47	5.02	-	Radio 3
5	SENAO	5718A0478300	PIFA	IPEX	-	5.36	-	Radio 2
6	SENAO	5718A0479300	PIFA	IPEX	-	5.36	-	Radio 2
7	SENAO	5718A0480300	PIFA	IPEX	-	5.36	-	Radio 2
8	SENAO	5718A0481300	PIFA	IPEX	-	5.36	-	Radio 2
9	SENAO	5718A0482300	PIFA	IPEX	-	-	4.37	Radio 4

Note: The above information was declared by manufacturer.

For Radio 1 and Radio 3:
For IEEE 802.11a/b/g/n/ac/ax mode (1TX, 2TX/2RX):
For 1TX
Only Port 1 can be use as transmitting antenna.
For 2TX
Port 1 and Port 2 can be use as transmitting antenna.
Port 1 and Port 2 could transmit simultaneously.
For Radio 2:
For IEEE 802.11a/n/ac/ax mode (1TX, 2TX, 4TX/4RX):
For 1TX
Only Port 1 can be use as transmitting antenna.
For 2TX
Port 1 and Port 2 can be use as transmitting antenna.
Port 1 and Port 2 could transmit simultaneously.
For 4TX
Port 1, Port 2, Port 3 and Port 4 can be use as transmitting antenna.
Port 1, Port 2, Port 3 and Port 4 could transmit simultaneously.
For 4RX
Port 1, Port 2, Port 3 and Port 4 can be used as receiving antennas.
Port 1, Port 2, Port 3 and Port 4 could receive simultaneously.
For Radio 4 (1TX/1RX):
Only Port 1 can be use as transmitting/receiving antenna.

For External antenna EUT:

Ant.	Brand	Model Number (P/N)	Antenna Type	Connector	Antenna Gain (dBi)		
					WLAN 2.4GHz	WLAN 5GHz	BLE/Thread
1	Extreme	ML-2452-APA2-01	Omni	RP SMA male	3.17	4.85	-
2	Extreme	ML-2452-APA2-02	Omni	RP SMA male	3.17	4.85	-
3	Extreme	ML-2452-HPA5-036	Omni	RP SMA male	3.9	5.7	-
4	Extreme	ML-2452-HPAG4A6-01	Omni	N male	4.0	7.3	-
5	Extreme	ML-2452-PNA5-01R	Panel	Type N-Male	4.5	5.0	-
6	Extreme	ML-2452-PTA4M4-036	Omni	Rev-Polarity SMA Male 4x	5.0	6.6	-
7	Extreme	ML-2452-HPAG5A8-01	Omni	N male	5.0	8.0	-
8	Extreme	WS-AO-DQ04360N	Omni	N male	5.5	6.0	-
9	Extreme	AI-DQ04360S	Omni	RP SMA male	5.5	6.0	-
10	Extreme	ML-2452-SEC6M4-036 / WS-AI-DQ05120	Panel	RP SMA male	6.92	7.23	-
11	Extreme	WS-AI-DE07025	Panel	RP SMA male	7.50	6.50	-
12	Extreme	ML-2452-PNA7-01R	Panel	Type N-Male	7.8	10.7	7.8
13	Extreme	WS-AI-DE10055	Panel	RP SMA male	10.5	7.5	-
14	Extreme	ML-2499-HPA8-01	Dipole	N male	-	-	8.0

Radio	EUT icon			
	Port 1	Port 2	Port 3	Port 4
1	2.4G/5G-1	2.4G/5G-2	-	-
2	2.4G/5G-1	2.4G/5G-2	5G-3	5G-4
3	2.4G/5G-5	2.4G/5G-6	-	-
4	BLE	-	-	-

Note: 1.The above information was declared by manufacturer.
2.Ant. 1~14 are the different antenna type in the antenna list. Only the highest gain antenna was selected from each different type of antenna to test and record in this report. for 2.4GHz is Ant.7, Ant.12 and Ant.13 and for 5GHz is Ant.7 and Ant.12 and for BTLE/Thread is Ant.12 and Ant.14 were selected to perform the test and recorded in this report.

For Radio 1 and Radio 3:
For IEEE 802.11a/b/g/n/ac/ax mode (1TX, 2TX/2RX):
For 1TX
Only Port 1 can be use as transmitting antenna.
For 2TX
Port 1 and Port 2 can be use as transmitting antenna.
Port 1 and Port 2 could transmit simultaneously.

For Radio 2:
For IEEE 802.11a/n/ac/ax mode (1TX, 2TX, 4TX/4RX):
For 1TX
Only Port 1 can be use as transmitting antenna.
For 2TX
Port 1 and Port 2 can be use as transmitting antenna.
Port 1 and Port 2 could transmit simultaneously.
For 4TX
Port 1, Port 2, Port 3 and Port 4 can be use as transmitting antenna.
Port 1, Port 2, Port 3 and Port 4 could transmit simultaneously.
For 4RX
Port 1, Port 2, Port 3 and Port 4 can be used as receiving antennas.
Port 1, Port 2, Port 3 and Port 4 could receive simultaneously.
For Radio 4 (1TX/1RX):
Only Port 1 can be use as transmitting/receiving antenna.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
Thread	0.898	0.47	2.665m	1k

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

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter or PoE			
Beamforming Function	☐	With beamforming	☒	Without beamforming
Function	☒	Point-to-multipoint	☐	Point-to-point
Test Software Version	Telnet			

Note: The above information was declared by manufacturer.

1.1.5 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

Model Name	EUT	Description
AP410i	EUT 1	The “i” in AP410i indicates that it comes with internal antennas and the “e” in AP410e indicates that the access point comes with external antenna connectors.
AP410e	EUT 2	

1.2 Applicable Standards

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

- 47 CFR FCC Part 15
- ANSI C63.10-2013
- FCC KDB 558074 D01 v05r02
- FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

Testing Location			
☐	HWA YA	ADD :	No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)
		TEL :	886-3-327-3456 FAX : 886-3-327-0973
☒	JHUBEI	ADD :	No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.
		TEL :	886-3-656-9065 FAX : 886-3-656-9085

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Owen Hsu	24.4~25.2°C / 61~62%	Sep. 26, 2019 ~ Oct. 30, 2019
Radiated<1GHz	03CH05-CB	Bruce Yang	23.4~24°C / 59~62%	Sep. 23, 2019 ~ Oct. 25, 2019
Radiated>1GHz	03CH04-CB	Bruce Yang	24.2~24.9°C / 52~55%	Sep. 23, 2019 ~ Oct. 25, 2019
AC Conduction	CO01-CB	Wei Li	24.3~24.9°C / 55~60%	Nov. 05, 2019

Test site Designation No. TW0006 with FCC.
Test site registered number IC 4086D with Industry Canada.

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)	2.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	5.1 dB	Confidence levels of 95%
Conducted Emission	2.4 dB	Confidence levels of 95%
Output Power Measurement	1.5 dB	Confidence levels of 95%
Power Density Measurement	2.4 dB	Confidence levels of 95%
Bandwidth Measurement	2%	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

For Internal Antenna:

Mode	PowerSetting
Thread_1TX	-
2405MHz	32
2440MHz	32
2480MHz	8

For External Antenna 12:

Mode	PowerSetting
Thread_1TX	-
2405MHz	32
2440MHz	32
2480MHz	12

For External Antenna 14:

Mode	PowerSetting
Thread_1TX	-
2405MHz	32
2440MHz	32
2480MHz	12

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
Operating Mode	CTX
1	EUT 1 (Radio 1 / WLAN 2.4GHz) + Adapter
2	EUT 1 (Radio 2 / WLAN 5GHz) + Adapter
3	EUT 1 (Radio 3 / WLAN 2.4GHz) + Adapter
4	EUT 1 (Radio 3 / WLAN 5GHz) + Adapter
5	EUT 1 (Radio 4 / BT LE) + Adapter
6	EUT 1 (Radio 4 / Thread) + Adapter
Mode 6 has been evaluated to be the worst case among Mode 1~6, thus measurement for Mode 7 will follow this same test mode.	
7	EUT 1 (Radio 4 / Thread) + PoE
8	EUT 2 (Radio 1 / WLAN 2.4GHz) + Ant.7 + Adapter
9	EUT 2 (Radio 1 / WLAN 2.4GHz) + Ant.12 + Adapter
10	EUT 2 (Radio 1 / WLAN 2.4GHz) + Ant.13 + Adapter
11	EUT 2 (Radio 2 / WLAN 5GHz) + Ant.7 + Adapter
12	EUT 2 (Radio 2 / WLAN 5GHz) + Ant.12 + Adapter
13	EUT 2 (Radio 3 / WLAN 2.4GHz) + Ant.7 + Adapter
14	EUT 2 (Radio 3 / WLAN 2.4GHz) + Ant.12 + Adapter
15	EUT 2 (Radio 3 / WLAN 2.4GHz) + Ant.13 + Adapter
16	EUT 2 (Radio 3 / WLAN 5GHz) + Ant.7 + Adapter
17	EUT 2 (Radio 3 / WLAN 5GHz) + Ant.12 + Adapter
18	EUT 2 (Radio 4 / BT LE) + Ant.14 + Adapter
19	EUT 2 (Radio 4 / BT LE) + Ant.12 + Adapter
20	EUT 2 (Radio 4 / Thread) + Ant.14 + Adapter
21	EUT 2 (Radio 4 / Thread) + Ant.12 + Adapter
Mode 20 has been evaluated to be the worst case among Mode 8~21, thus measurement for Mode 20 will follow this same test mode.	
22	EUT (Radio 4 / Thread) + Ant.14 + PoE
For operating mode 22 is the worst case and it was record in this test report.	

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
1	EUT 1
2	EUT 2 + Ant. 12
3	EUT 2 + Ant. 14

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
The EUT was performed at X axis, Y axis and Z axis position for Emissions in Restricted Frequency Bands Intentional above 1GHz test. And the worst case were found as below: **For Internal antenna:** For Radio 1 WLAN 2.4GHz: was found at Z axis For Radio 2 WLAN 5GHz: was found at Z axis For Radio 3 WLAN 2.4GHz: was found at Z axis For Radio 3 WLAN 5GHz: was found at Z axis For Radio 4 BT LE: was found at Y axis For Radio 4 Thread: was found at X axis **For External antennas:** **For Ant. 7:** For Radio 1 WLAN 2.4GHz: was found at X axis For Radio 2 WLAN 5GHz: was found at X axis For Radio 3 WLAN 2.4GHz: was found at Z axis For Radio 3 WLAN 5GHz: was found at Z axis **For Ant. 12:** For Radio 1 WLAN 2.4GHz: was found at X axis For Radio 2 WLAN 5GHz: was found at X axis For Radio 3 WLAN 2.4GHz: was found at Z axis For Radio 3 WLAN 5GHz: was found at Y axis For Radio 4 BT LE: was found at Z axis For Radio 4 Thread: was found at Z axis **For Ant. 13:** For Radio 1 WLAN 2.4GHz: was found at Z axis For Radio 3 WLAN 2.4GHz: was found at Z axis **For Ant. 14:** For Radio 4 BT LE: was found at X axis For Radio 4 Thread: was found at Z axis	
1	EUT 1 in Z axis (Radio 1 / WLAN 2.4GHz) + Adapter

2	EUT 1 in Z axis (Radio 2 / WLAN 5GHz) + Adapter
3	EUT 1 in Z axis (Radio 3 / WLAN 2.4GHz) + Adapter
4	EUT 1 in Z axis (Radio 3 / WLAN 5GHz) + Adapter
5	EUT 1 in Y axis (Radio 4 / BT LE) + Adapter
6	EUT 1 in X axis (Radio 4 / Thread) + Adapter
Mode 3 has been evaluated to be the worst case among Mode 1~6, thus measurement for Mode 7 will follow this same test mode.	
7	EUT 1 in Z axis (Radio 3 / WLAN 2.4GHz) + PoE
8	EUT 2 in X axis (Radio 1 / WLAN 2.4GHz) + Ant.7 + Adapter
9	EUT 2 in X axis (Radio 1 / WLAN 2.4GHz) + Ant.12 + Adapter
10	EUT 2 in Z axis (Radio 1 / WLAN 2.4GHz) + Ant.13 + Adapter
11	EUT 2 in X axis (Radio 2 / WLAN 5GHz) + Ant.7 + Adapter
12	EUT 2 in X axis (Radio 2 / WLAN 5GHz) + Ant.12 + Adapter
13	EUT 2 in Z axis (Radio 3 / WLAN 2.4GHz) + Ant.7 + Adapter
14	EUT 2 in Z axis (Radio 3 / WLAN 2.4GHz) + Ant.12 + Adapter
15	EUT 2 in Z axis (Radio 3 / WLAN 2.4GHz) + Ant.13 + Adapter
16	EUT 2 in Z axis (Radio 3 / WLAN 5GHz) + Ant.7 + Adapter
17	EUT 2 in Y axis (Radio 3 / WLAN 5GHz) + Ant.12 + Adapter
18	EUT 2 in X axis (Radio 4 / BT LE) + Ant.14 + Adapter
19	EUT 2 in Z axis (Radio 4 / BT LE) + Ant.12 + Adapter
20	EUT 2 in Z axis (Radio 4 / Thread) + Ant.14 + Adapter
21	EUT 2 in Z axis (Radio 4 / Thread) + Ant.12 + Adapter
Mode 13 has been evaluated to be the worst case among Mode 8~21, thus measurement for Mode 22 will follow this same test mode.	
22	EUT 2 in Z axis (Radio 3 / WLAN 2.4GHz) + Ant.7 + PoE
For operating mode 22 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
The EUT was performed at X axis, Y axis and Z axis position for Emissions in Restricted Frequency Bands Intentional test. And the worst case were found as below: **For Internal antenna:** For Radio 4 Thread: was found at X axis **For External antennas:** **For Ant. 12:** For Radio 4 Thread: was found at Z axis **For Ant. 14:** For Radio 4 Thread: was found at Z axis	
1	EUT 1 in X axis
2	EUT 2 in Z axis + Ant. 12

3	EUT 2 in Z axis + Ant. 14

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	Radio 1 + Radio 2 + Radio 3 (2.4GHz) + Radio 4 (BT LE)
2	Radio 1 + Radio 2 + Radio 3 (5GHz) + Radio 4 (BT LE)
3	Radio 1 + Radio 2 + Radio 3 (2.4GHz) + Radio 4 (Thread)
4	Radio 1 + Radio 2 + Radio 3 (5GHz) + Radio 4 (Thread)
Refer to Sporton Test Report No.: FA970232 for Co-location RF Exposure Evaluation.	

Note: 1.The Adapter and PoE is for measurement only, would not be marketed.
Adapter and PoE information as below:

Power	**Brand Holder**	**Model**
Adapter	Powertron Electronics Corp.	PA1024-120IB200
Power	**Brand**	**Model**
PoE	EnGenius	EPA5006GP

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

Wall-mounted rack

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	LAN NB	DELL	E6430	N/A
B	Flash disk3.0	Transcend	639205 7755	N/A
C	PoE	EnGenius	EPA85006GP	N/A

For Radiated (below 1GHz):

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Notebook	DELL	E4300	N/A
D	PoE	EnGenius	EPA5006GP	N/A

For Radiated (above 1GHz):

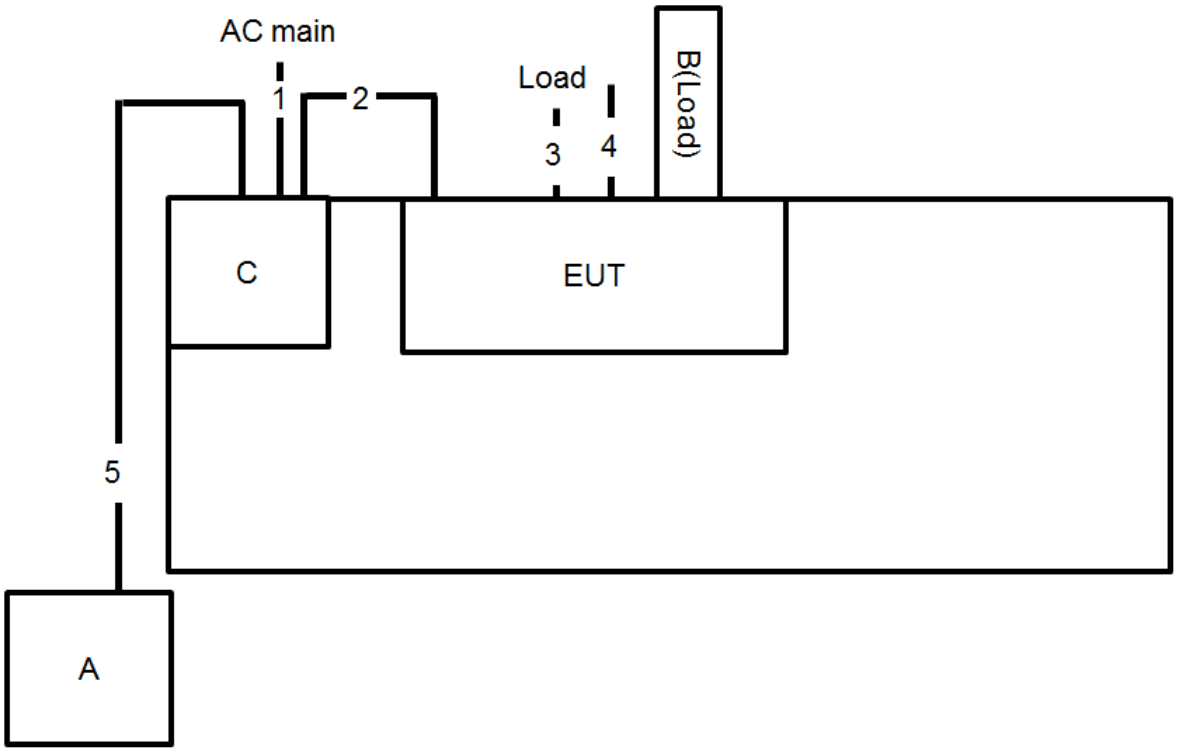
Support Equipment				
No.	**Equipment**	**Brand**	**Model Name**	**FCC ID**
A	Notebook	DELL	E4300	N/A
E	Adapter	Powertron Electronics Corp.	PA1024-120IB200	N/A

For RF Conducted:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	Notebook	DELL	E4300	N/A
B	Adapter	Powertron Electronics Corp.	PA1024-120IB200	N/A

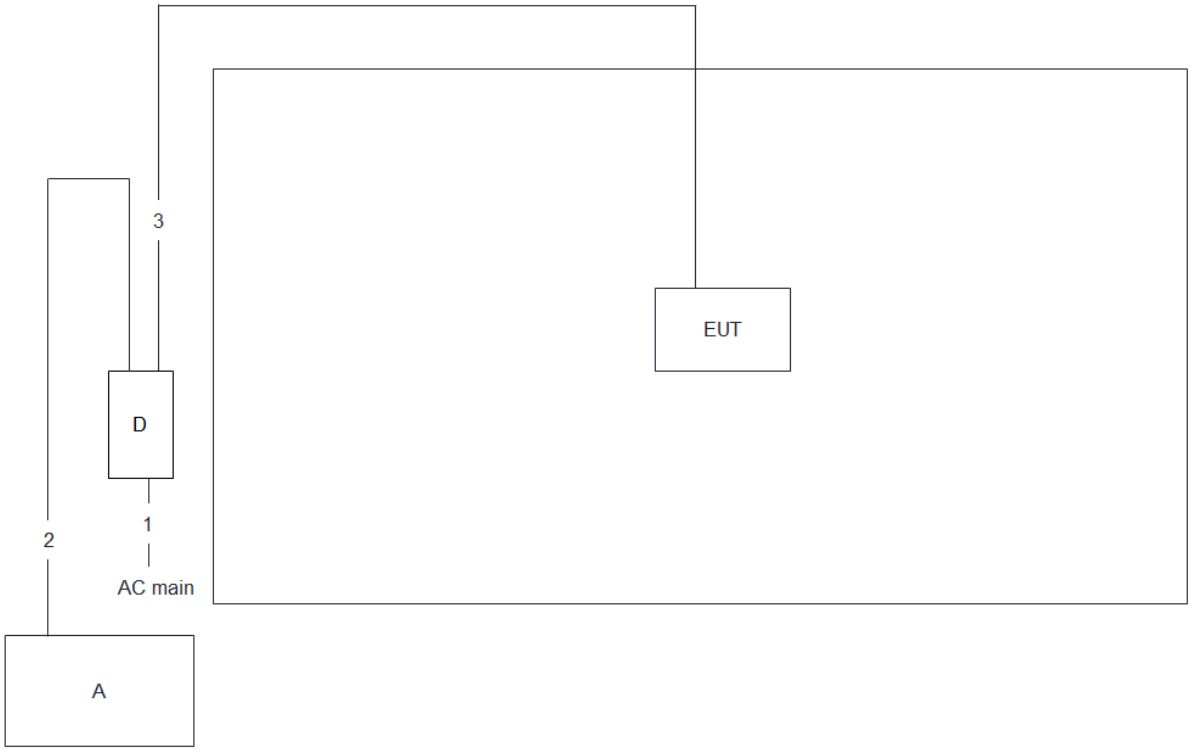
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



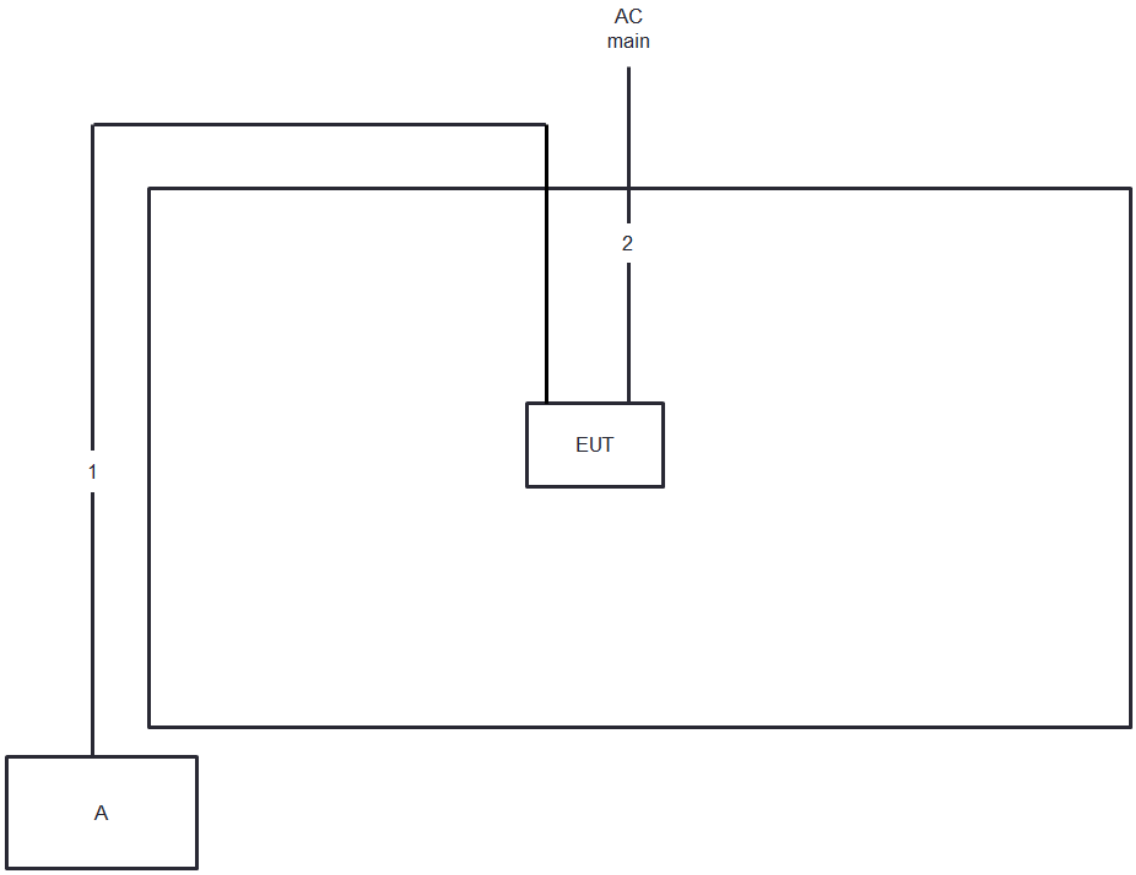
Item	Connection	Shielded	Length
1	Power cable	No	0.9m
2	RJ-45 cable	No	1.5m
3	RJ-45 cable	No	1.5m
4	Console cable	No	1.5m
5	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	0.5m
2	RJ-45 cable	No	1m
3	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	1.5m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

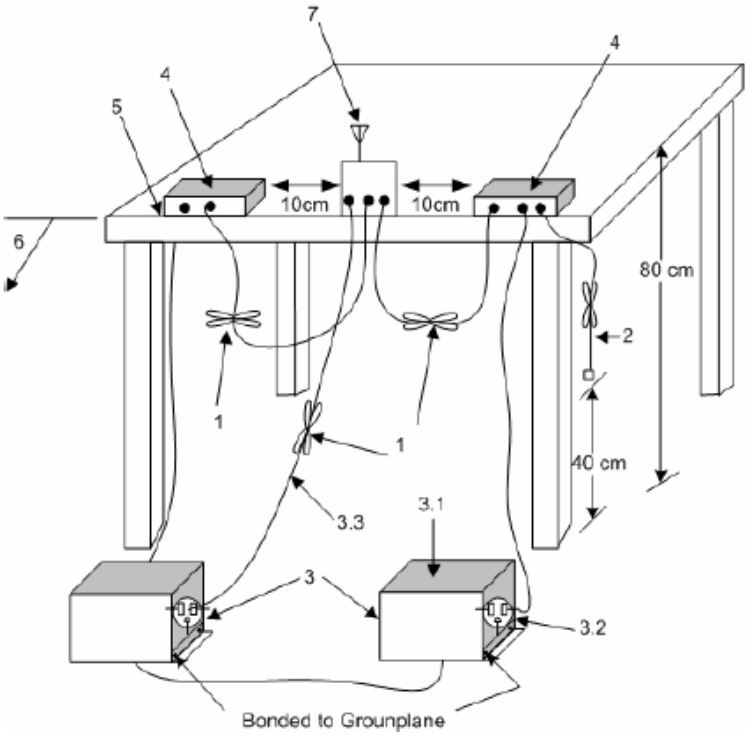
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

AC Power-line Conducted Emissions



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

3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

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

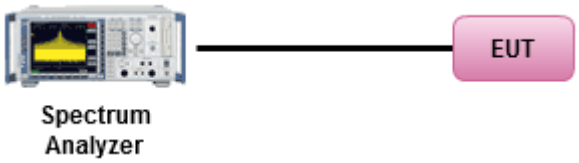
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup

Emission Bandwidth


3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

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

3.4.2 Measuring Instruments

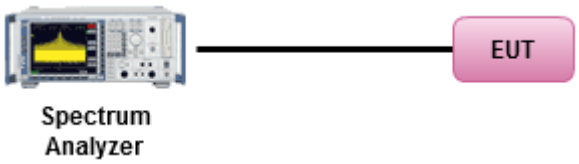
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method	
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).	
	☒ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.2 Method PKPSD.
	[duty cycle ≥ 98% or external video / power trigger]
	☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.3 Method AVGPSD-1.
	☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.5 Method AVGPSD-2.
	☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.7 Method AVGPSD-3.
	duty cycle < 98% and average over on/off periods with duty factor
	☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.4 Method AVGPSD-1A. (alternative).
	☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.6 Method AVGPSD-2A. (alternative)
	☐ Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10.8 Method AVGPSD-3A. (alternative)
▪ For conducted measurement.	
	▪ If The EUT supports multiple transmit chains using options given below:
	☒ Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
	☐ Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,

		☐ Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.

3.4.4 Test Setup

Power Spectral Density


3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

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

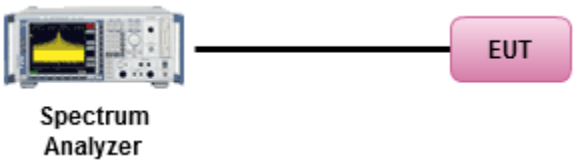
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup

Emissions in Non-restricted Frequency Bands


3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

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

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

3.6.2 Measuring Instruments

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

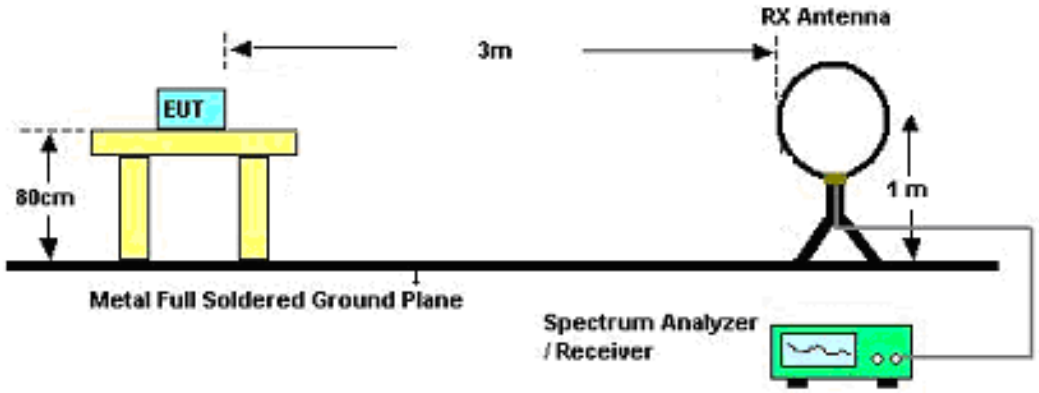
3.6.3 Test Procedures

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

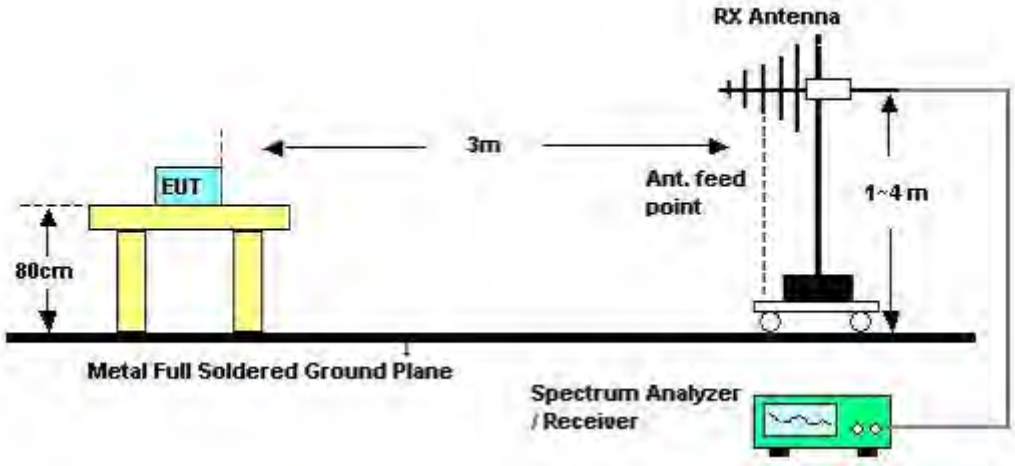
3.6.4 Test Setup

Radiated - Emissions in Restricted Frequency Bands

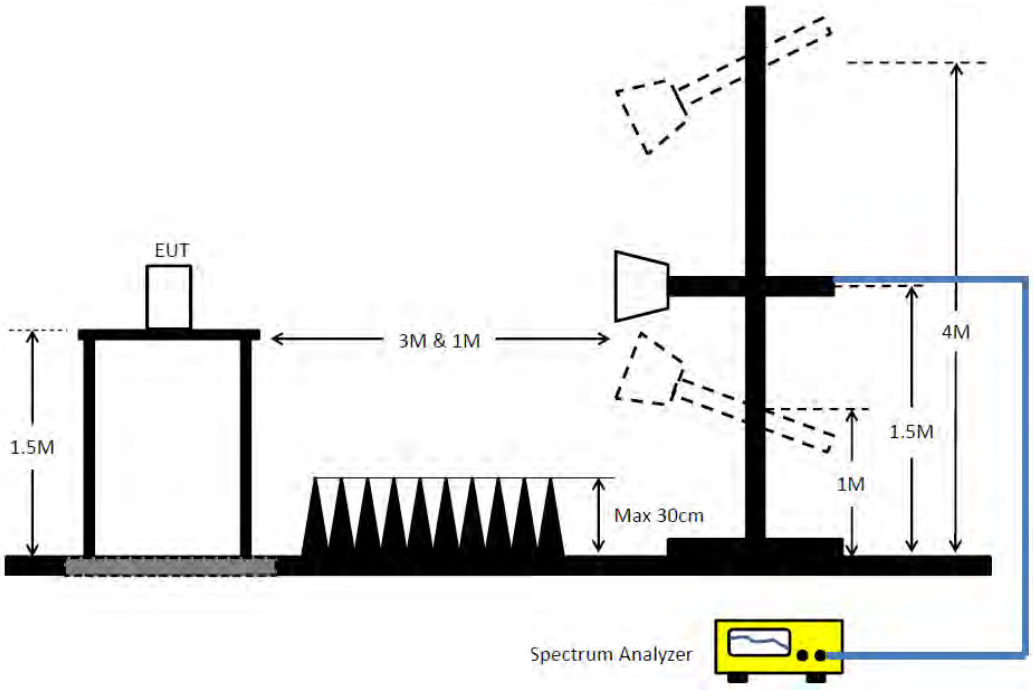
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



3.6.5 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

3.6.6 Emissions in Restricted Frequency Bands (Below 30MHz)

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

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 28, 2019	Jan. 29, 2020	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 24, 2018	Dec. 23, 2019	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Jan. 11, 2019	Jan. 10, 2020	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 21, 2019	May 20, 2020	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 29, 2019	Mar. 28, 2020	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESE & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 28, 2019	Mar. 27, 2020	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	May 01, 2019	Apr. 30, 2020	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Aug, 15, 2019	Aug, 14, 2020	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 15, 2019	May 14, 2020	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	LOW Cable-04+23	30MHz~1GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	LOW Cable-04+23	30MHz~1GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH05-CB)
Horn Antenna	ETS・Lindgren	3115	00143147	750MHz~18GHz	Oct. 26, 2018	Oct. 25, 2019	Radiation (03CH04-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 12, 2019	Jun. 11, 2020	Radiation (03CH04-CB)
Pre-Amplifier	Agilent	83017A	MY53270063	0.5GHz ~ 26.5GHz	Mar. 19, 2019	Mar. 18, 2020	Radiation (03CH04-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 2020	Radiation (03CH04-CB)
Spectrum Analyzer	R&S	FSP40	100142	9kHz~40GHz	Dec. 26, 2018	Dec. 25, 2019	Radiation (03CH04-CB
RF Cable-high	Woken	RG402	High Cable-21	1GHz - 18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21	1GHz - 18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21+22	1GHz - 18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21+22	1GHz - 18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH04-CB)

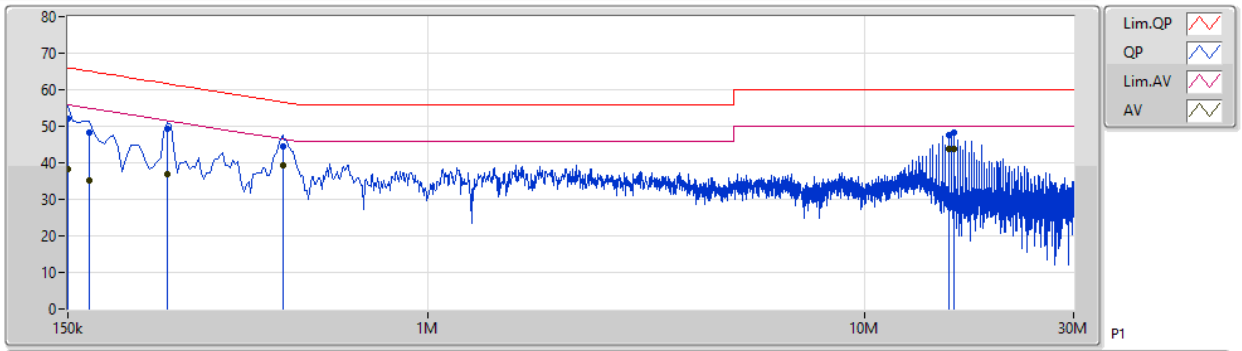
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH04-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Feb. 25, 2019	Feb. 24, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-28	1 GHz –26.5 GHz	Nov. 19, 2018	Nov. 18, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-28	1 GHz –26.5 GHz	Nov. 19, 2018	Nov. 18, 2019	Conducted (TH01-CB)
Power Sensor	Agilent	E9327A	US40442088	50MHz~18GHz	Jan. 15, 2019	Jan. 14, 2020	Conducted (TH01-CB)
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Jan. 15, 2019	Jan. 14, 2020	Conducted (TH01-CB)

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

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

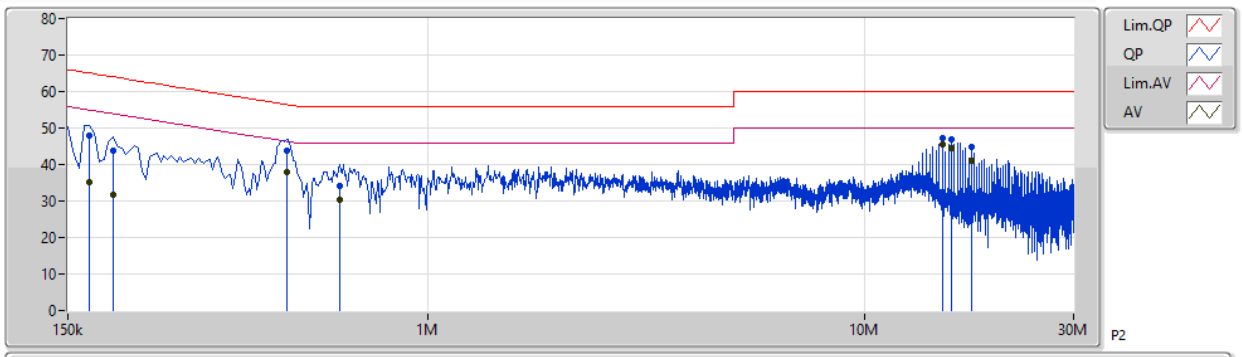
Test Mode	Mode 22	Frequency Range	0.15 MHz to 30 MHz

Line



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	AF	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	150k	52.01	66.00	-13.99	9.90	Line	-	42.11	0.05	0.06	9.79
AV	150k	38.30	56.00	-17.70	9.90	Line	-	28.40	0.05	0.06	9.79
QP	168k	48.42	65.06	-16.64	9.90	Line	-	38.52	0.05	0.06	9.79
AV	168k	35.32	55.06	-19.74	9.90	Line	-	25.42	0.05	0.06	9.79
QP	253.5k	49.45	61.64	-12.19	9.92	Line	-	39.53	0.06	0.06	9.80
AV	253.5k	36.91	51.64	-14.73	9.92	Line	-	26.99	0.06	0.06	9.80
QP	465k	44.37	56.61	-12.24	9.93	Line	-	34.44	0.06	0.06	9.81
AV	465k	39.36	46.61	-7.25	9.93	Line	-	29.43	0.06	0.06	9.81
QP	15.527M	47.51	60.00	-12.49	10.41	Line	-	37.10	0.26	0.22	9.93
AV	15.527M	43.84	50.00	-6.16	10.41	Line	-	33.43	0.26	0.22	9.93
QP	16.022M	48.34	60.00	-11.66	10.43	Line	-	37.91	0.26	0.23	9.94
AV	16.022M	43.86	50.00	-6.14	10.43	Line	"Worst"	33.43	0.26	0.23	9.94

Neutral



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	AF	CL	AT			
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)			
QP	168k	47.94	65.06	-17.12	9.89	Neutral	-	38.05	0.04	0.06	9.79			
AV	168k	35.03	55.06	-20.03	9.89	Neutral	-	25.14	0.04	0.06	9.79			
QP	190.5k	43.75	64.01	-20.26	9.89	Neutral	-	33.86	0.04	0.06	9.79			
AV	190.5k	31.69	54.01	-22.32	9.89	Neutral	-	21.80	0.04	0.06	9.79			
QP	474k	43.67	56.44	-12.77	9.92	Neutral	-	33.75	0.04	0.07	9.81			
AV	474k	37.80	46.44	-8.64	9.92	Neutral	-	27.88	0.04	0.07	9.81			
QP	627k	34.27	56.00	-21.73	9.93	Neutral	-	24.34	0.05	0.07	9.81			
AV	627k	30.40	46.00	-15.60	9.93	Neutral	-	20.47	0.05	0.07	9.81			
QP	15.032M	47.34	60.00	-12.66	10.37	Neutral	-	36.97	0.23	0.22	9.92			
AV	15.032M	45.40	50.00	-4.60	10.37	Neutral	"Worst"	35.03	0.23	0.22	9.92			
QP	15.77M	47.04	60.00	-12.96	10.39	Neutral	-	36.65	0.23	0.23	9.93			
AV	15.77M	44.49	50.00	-5.51	10.39	Neutral	-	34.10	0.23	0.23	9.93			
QP	17.493M	44.91	60.00	-15.09	10.44	Neutral	-	34.47	0.24	0.24	9.96			
AV	17.493M	41.13	50.00	-8.87	10.44	Neutral	-	30.69	0.24	0.24	9.96			

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
Thread_1TX	1.62M	2.346M	2M35G1D	1.62M	2.309M

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

Result

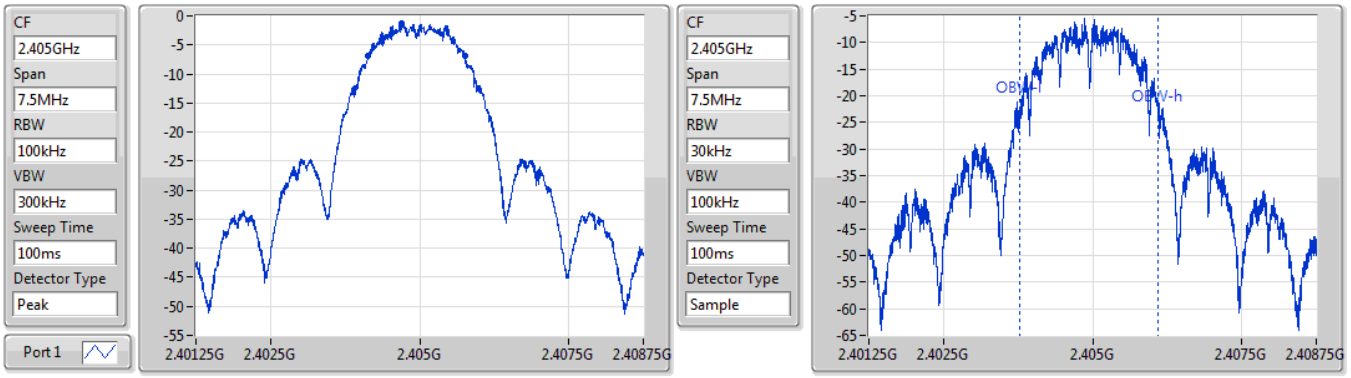
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
Thread_1TX	-	-	-	-
2405MHz	Pass	500k	1.62M	2.328M
2440MHz	Pass	500k	1.62M	2.309M
2480MHz	Pass	500k	1.62M	2.346M

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

Thread_1TX **EBW**

2405MHz

08/10/2019

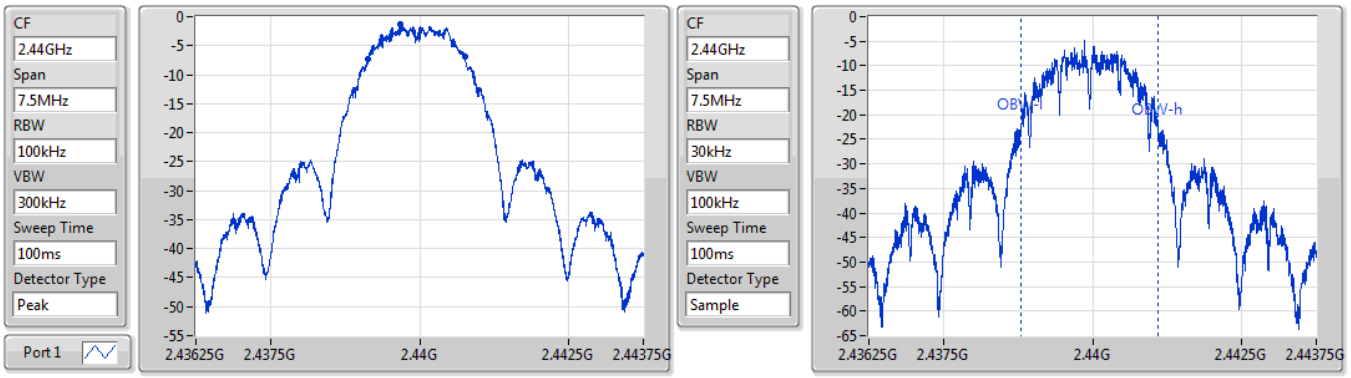


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.62M	2.404141G	2.405761G	2.328M	2.403778G	2.406106G	500k	1

Thread_1TX **EBW**

2440MHz

08/10/2019

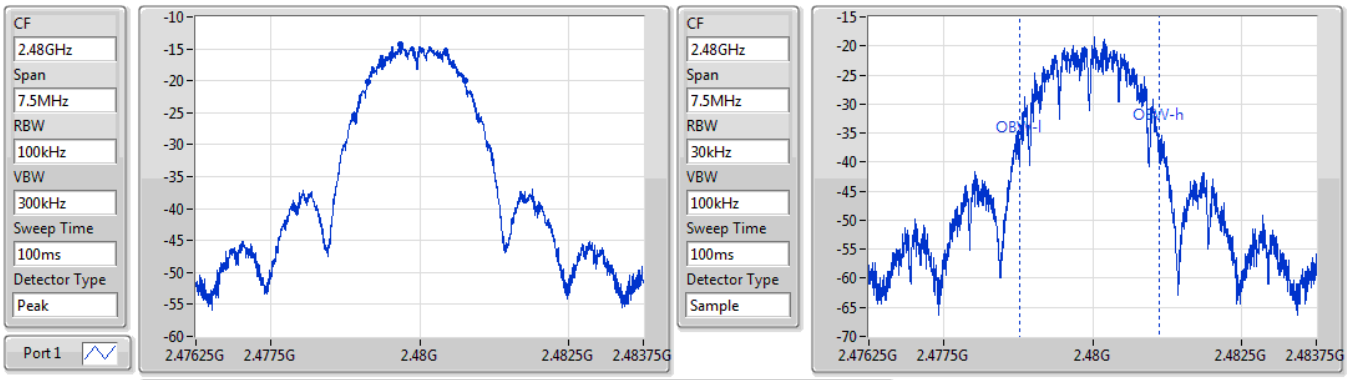


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.62M	2.439134G	2.440754G	2.309M	2.438793G	2.441102G	500k	1

Thread_1TX **EBW**

2480MHz

08/10/2019



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.62M	2.479134G	2.480754G	2.346M	2.478771G	2.481117G	500k	1

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
Thread_1TX	1.616M	2.324M	2M32G1D	1.564M	2.313M

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

Result

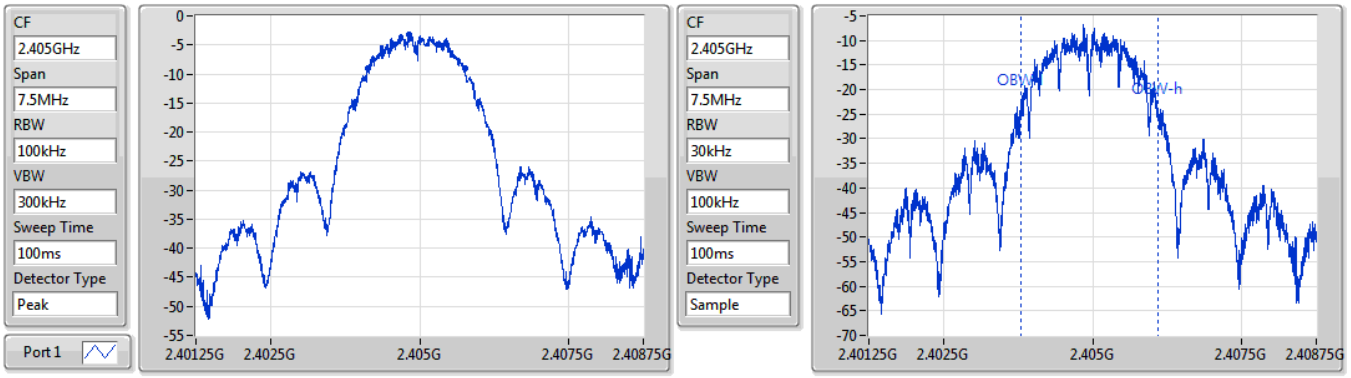
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
Thread_1TX	-	-	-	-
2405MHz	Pass	500k	1.616M	2.313M
2440MHz	Pass	500k	1.601M	2.324M
2480MHz	Pass	500k	1.564M	2.324M

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

Thread_1TX **EBW**

2405MHz

15/10/2019

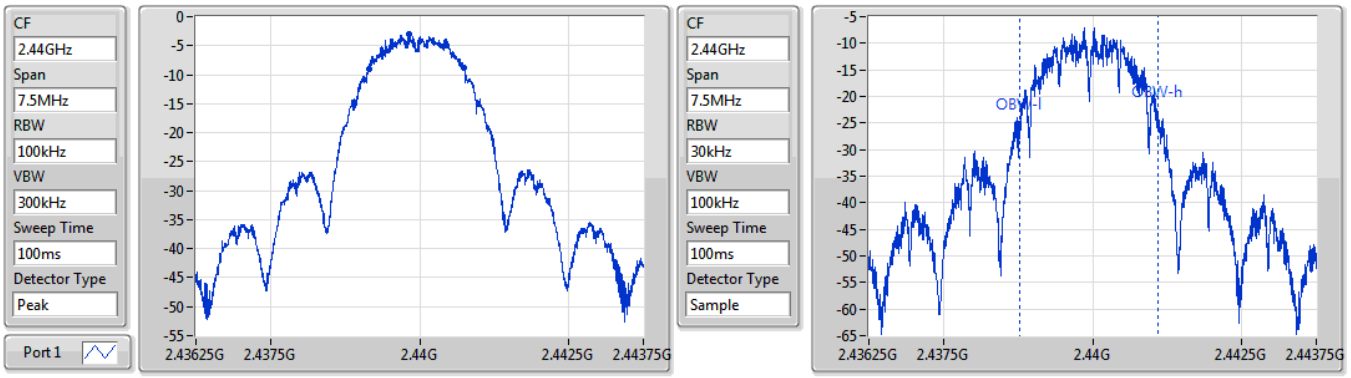


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.616M	2.404138G	2.405754G	2.313M	2.403789G	2.406102G	500k	1

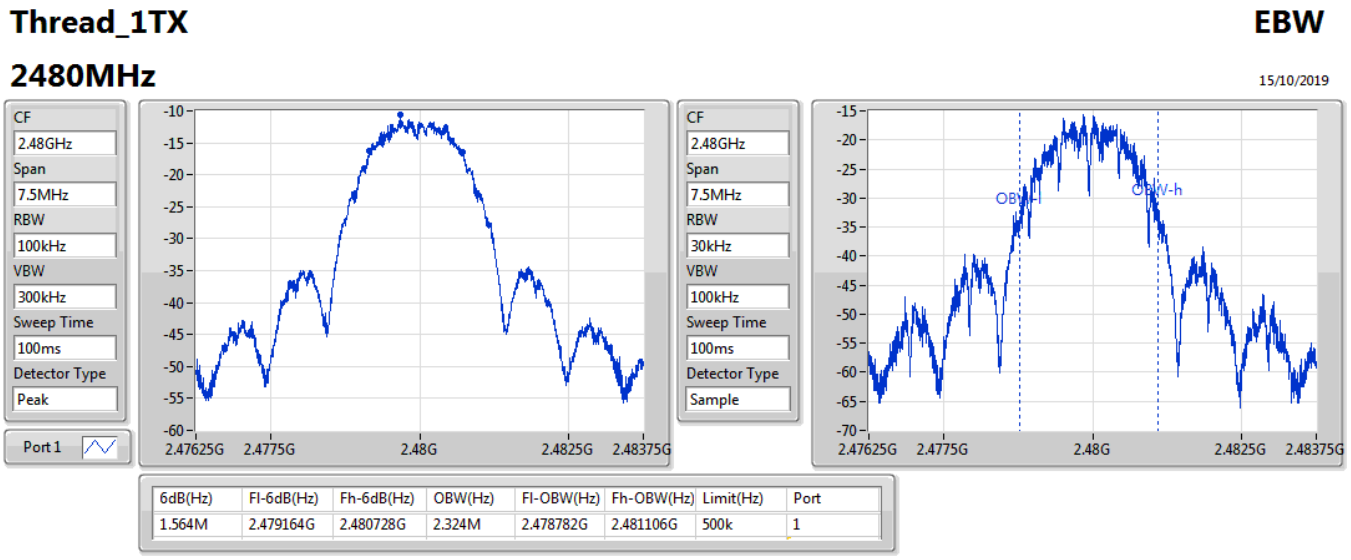
Thread_1TX **EBW**

2440MHz

15/10/2019



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.601M	2.439145G	2.440746G	2.324M	2.438778G	2.441102G	500k	1


Thread_1TX
EBW
2480MHz
15/10/2019
CF
2.48GHz
Span
7.5MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak
Port 1
-10
-15
-20
-25
-30
-35
-40
-45
-50
-55
-60
2.47625G
2.4775G
2.48G
2.4825G
2.48375G
CF
2.48GHz
Span
7.5MHz
RBW
30kHz
VBW
100kHz
Sweep Time
100ms
Detector Type
Sample
-15
-20
-25
-30
-35
-40
-45
-50
-55
-60
-65
-70
OBW-l
OBW-h
2.47625G
2.4775G
2.48G
2.4825G
2.48375G
6dB(Hz) Fl-6dB(Hz) Fh-6dB(Hz) OBW(Hz) Fl-OBW(Hz) Fh-OBW(Hz) Limit(Hz) Port
1.564M 2.479164G 2.480728G 2.324M 2.478782G 2.481106G 500k 1

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
Thread_1TX	1.616M	2.324M	2M32G1D	1.564M	2.313M

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

Result

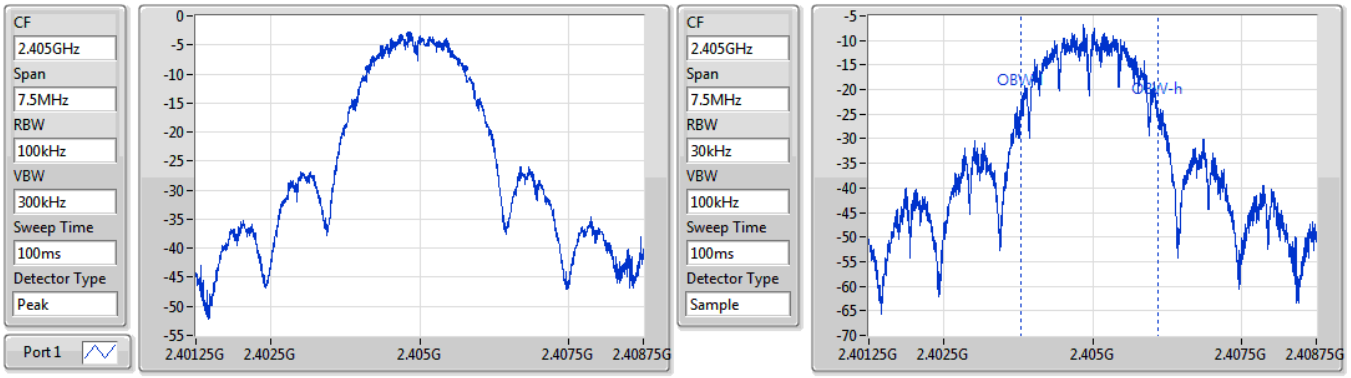
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
Thread_1TX	-	-	-	-
2405MHz	Pass	500k	1.616M	2.313M
2440MHz	Pass	500k	1.601M	2.324M
2480MHz	Pass	500k	1.564M	2.324M

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

Thread_1TX **EBW**

2405MHz

15/10/2019

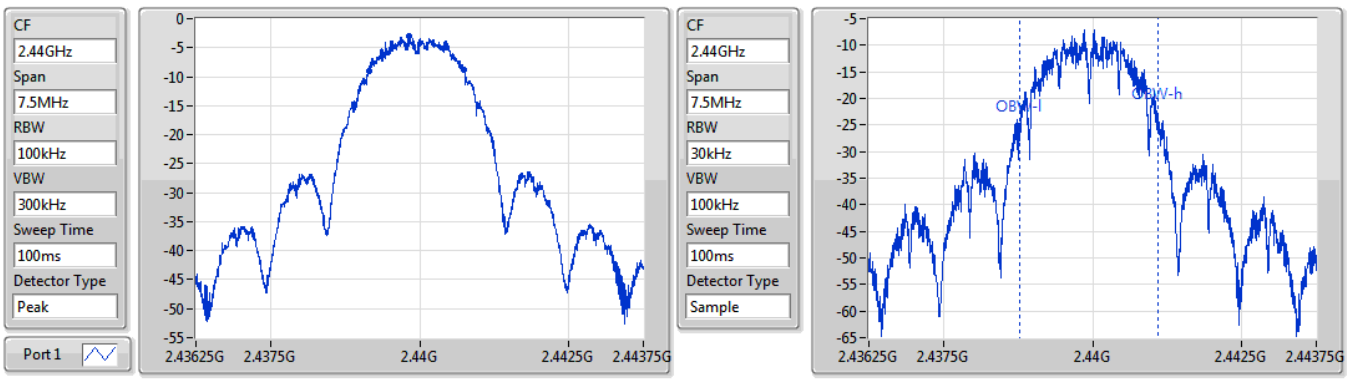


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.616M	2.404138G	2.405754G	2.313M	2.403789G	2.406102G	500k	1

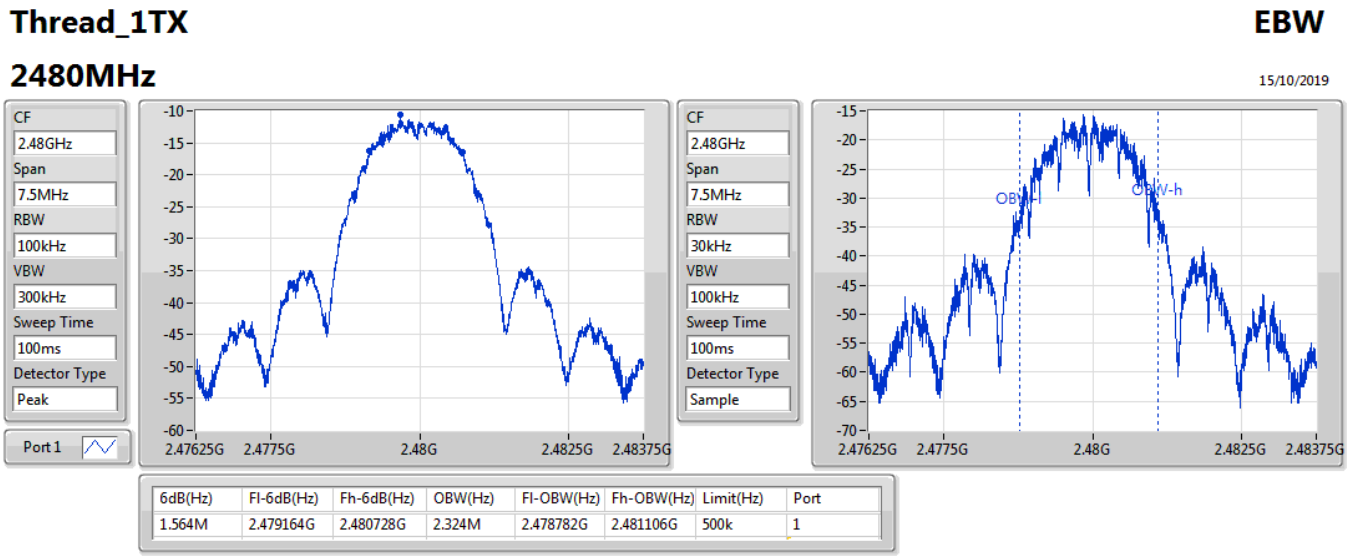
Thread_1TX **EBW**

2440MHz

15/10/2019



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.601M	2.439145G	2.440746G	2.324M	2.438778G	2.441102G	500k	1


Thread_1TX
EBW
2480MHz
15/10/2019
CF
2.48GHz
Span
7.5MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak
Port 1
-10
-15
-20
-25
-30
-35
-40
-45
-50
-55
-60
2.47625G
2.4775G
2.48G
2.4825G
2.48375G
CF
2.48GHz
Span
7.5MHz
RBW
30kHz
VBW
100kHz
Sweep Time
100ms
Detector Type
Sample
-15
-20
-25
-30
-35
-40
-45
-50
-55
-60
-65
-70
OBW-l
OBW-h
2.47625G
2.4775G
2.48G
2.4825G
2.48375G
6dB(Hz) Fl-6dB(Hz) Fh-6dB(Hz) OBW(Hz) Fl-OBW(Hz) Fh-OBW(Hz) Limit(Hz) Port
1.564M 2.479164G 2.480728G 2.324M 2.478782G 2.481106G 500k 1

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
Thread_1TX	2.27	0.00169

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
Thread_1TX	-	-	-	-
2405MHz	Pass	4.37	2.27	30.00
2440MHz	Pass	4.37	2.08	30.00
2480MHz	Pass	4.37	-10.65	30.00

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

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
Thread_1TX	0.57	0.00114

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
Thread_1TX	-	-	-	-
2405MHz	Pass	7.80	0.50	28.20
2440MHz	Pass	7.80	0.57	28.20
2480MHz	Pass	7.80	-7.69	28.20

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

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
Thread_1TX	0.57	0.00114

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
Thread_1TX	-	-	-	-
2405MHz	Pass	8.00	0.50	28.00
2440MHz	Pass	8.00	0.57	28.00
2480MHz	Pass	8.00	-7.69	28.00

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

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
Thread_1TX	-14.07

RBW=3 kHz.

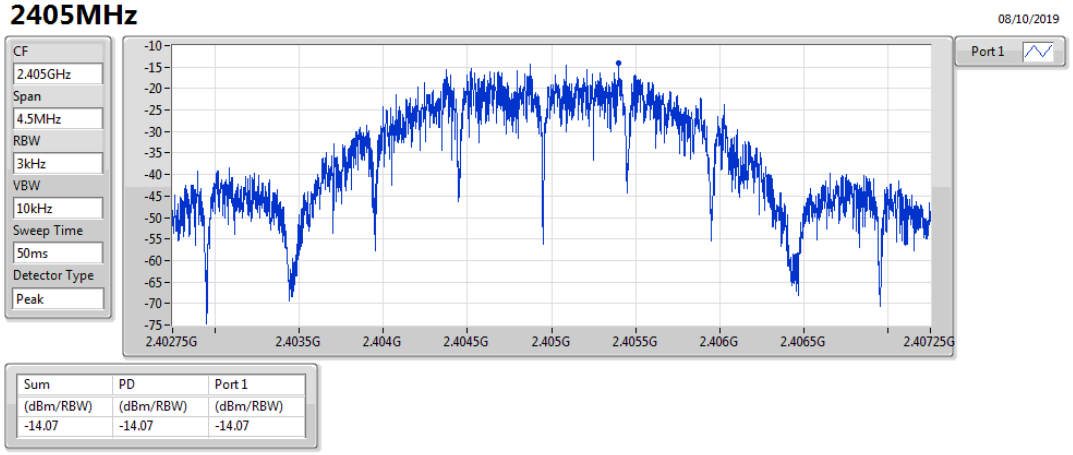
Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
Thread_1TX	-	-	-	-
2405MHz	Pass	4.37	-14.07	8.00
2440MHz	Pass	4.37	-14.39	8.00
2480MHz	Pass	4.37	-27.99	8.00

DG = Directional Gain; RBW=3 kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

Thread_1TX **PSD**

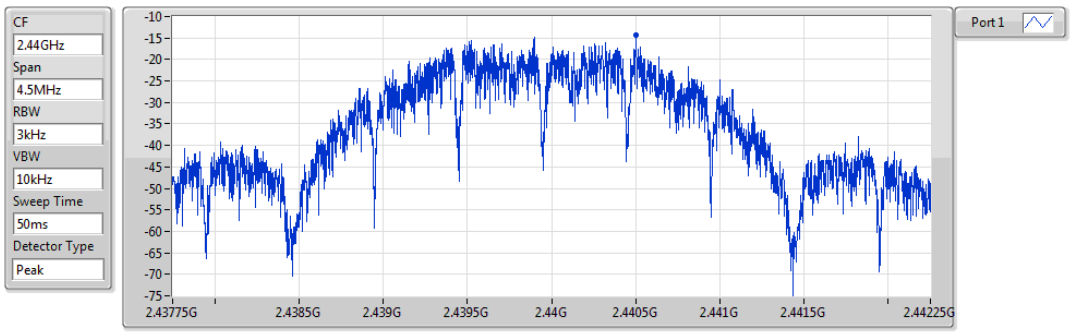
2405MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-14.07	-14.07	-14.07

Thread_1TX **PSD**

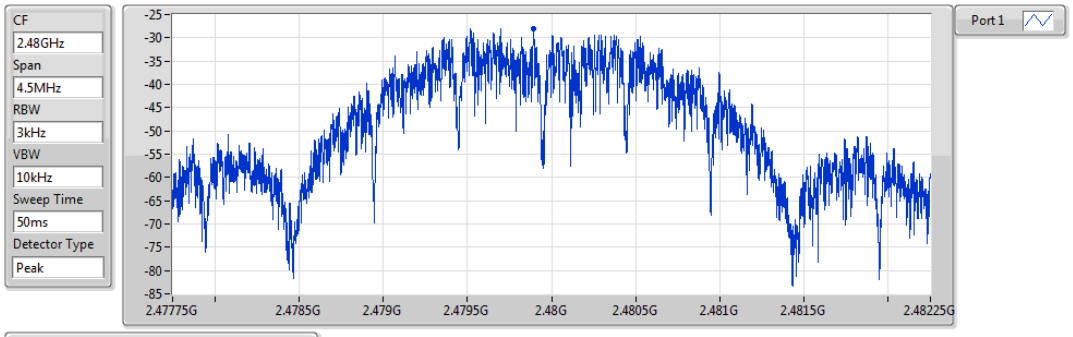
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-14.39	-14.39	-14.39

Thread_1TX **PSD**

2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-27.99	-27.99	-27.99

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
Thread_1TX	-16.44

RBW=3 kHz.

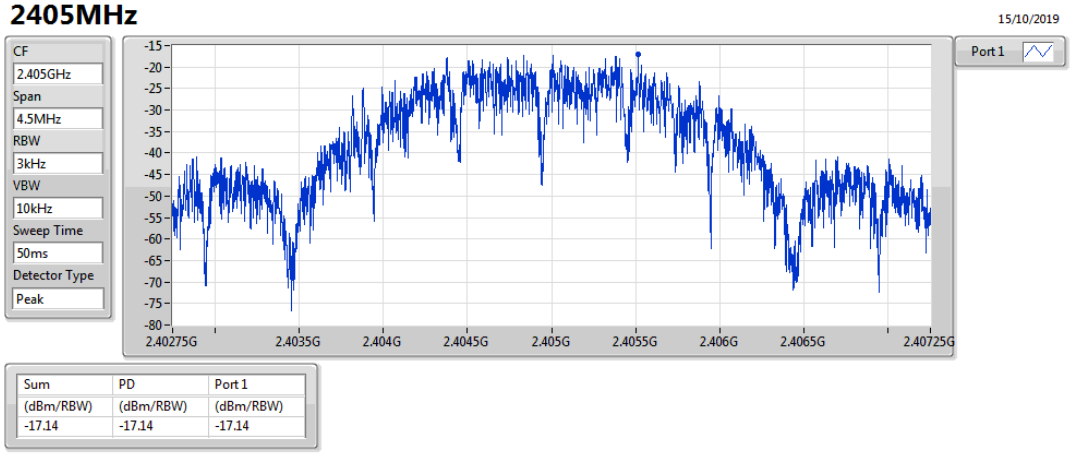
Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
Thread_1TX	-	-	-	-
2405MHz	Pass	7.80	-17.14	6.20
2440MHz	Pass	7.80	-16.44	6.20
2480MHz	Pass	7.80	-25.34	6.20

DG = Directional Gain; RBW=3 kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

Thread_1TX **PSD**

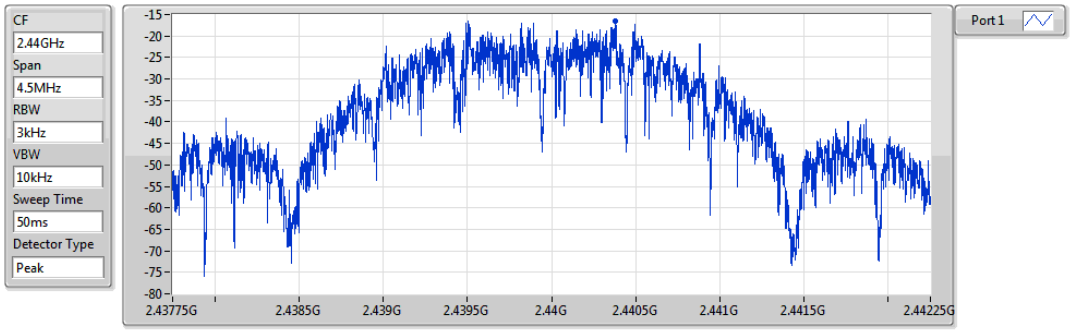
2405MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-17.14	-17.14	-17.14

Thread_1TX **PSD**

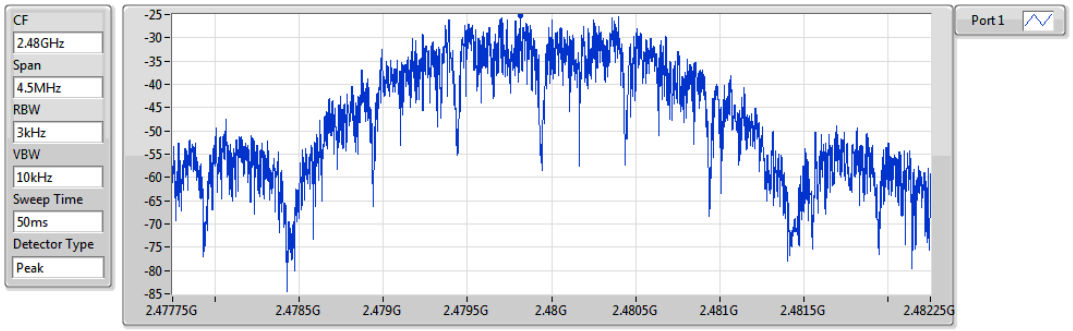
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-16.44	-16.44	-16.44

Thread_1TX **PSD**

2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-25.34	-25.34	-25.34

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
Thread_1TX	-16.44

RBW=3 kHz.

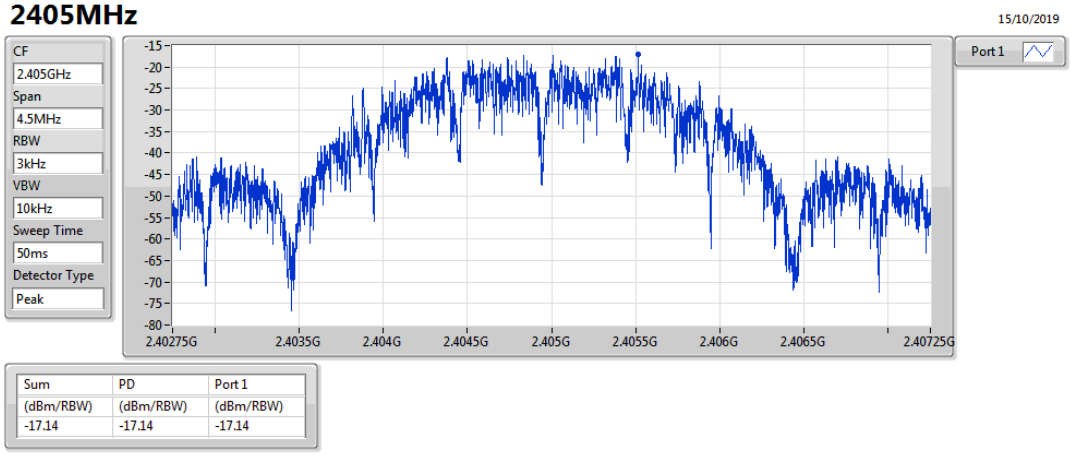
Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
Thread_1TX	-	-	-	-
2405MHz	Pass	8.00	-17.14	6.00
2440MHz	Pass	8.00	-16.44	6.00
2480MHz	Pass	8.00	-25.34	6.00

DG = Directional Gain; RBW=3 kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

Thread_1TX **PSD**

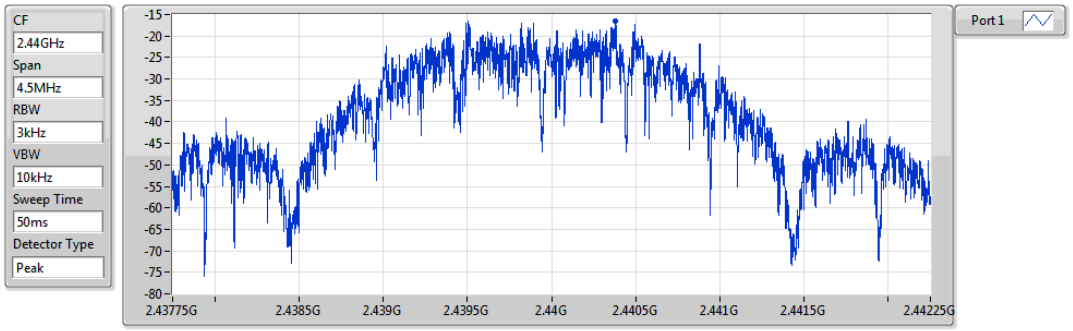
2405MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-17.14	-17.14	-17.14

Thread_1TX **PSD**

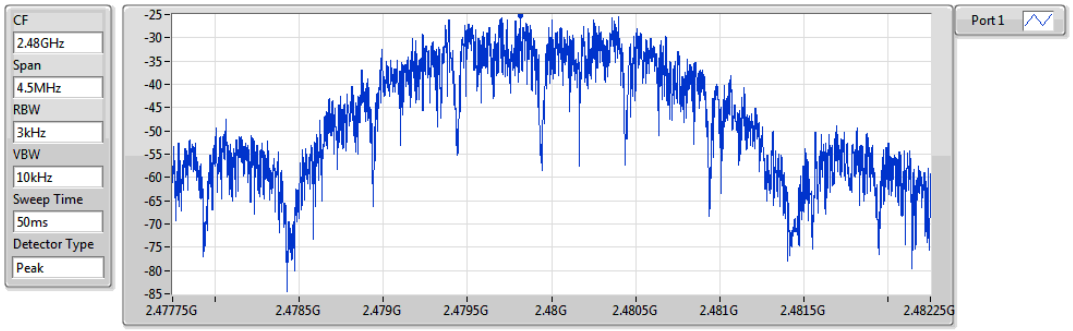
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-16.44	-16.44	-16.44

Thread_1TX **PSD**

2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-25.34	-25.34	-25.34

Summary

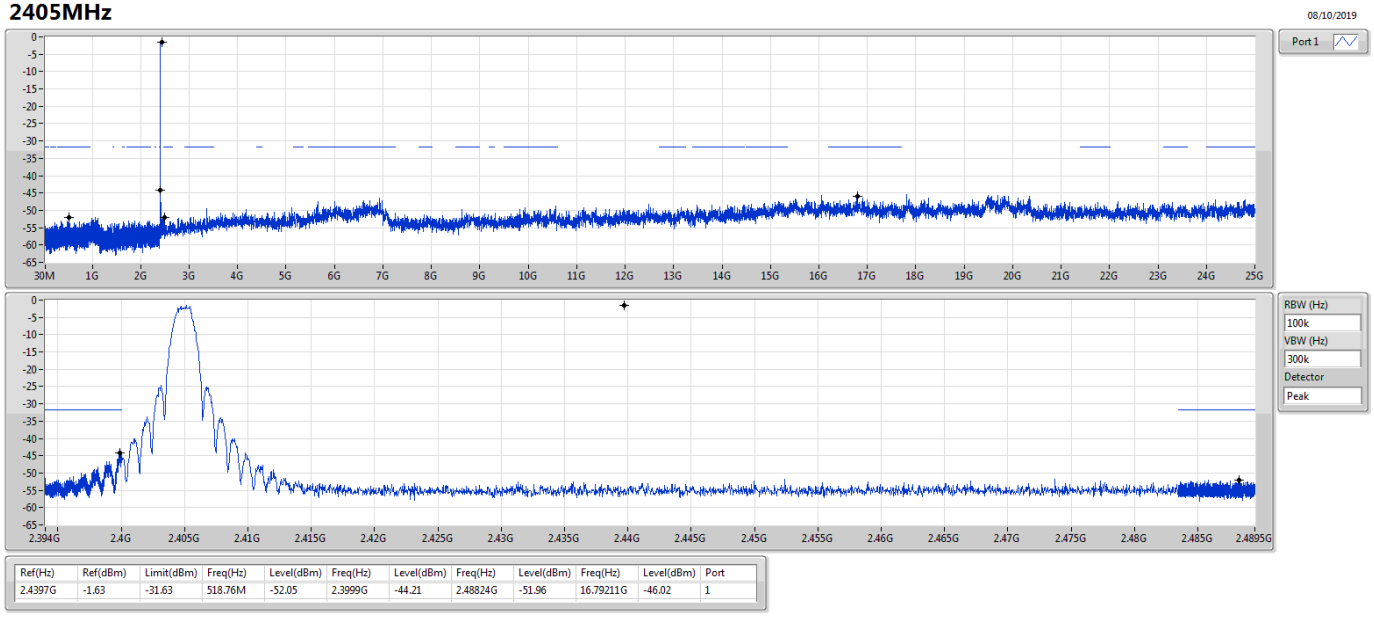
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
Thread_1TX	Pass	2.4397G	-1.63	-31.63	518.76M	-52.05	2.3999G	-44.21	2.48824G	-51.96	16.79211G	-46.02	1

Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
Thread_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	2.4397G	-1.63	-31.63	518.76M	-52.05	2.3999G	-44.21	2.48824G	-51.96	16.79211G	-46.02	1
2440MHz	Pass	2.4397G	-1.63	-31.63	912.07M	-52.70	2.39992G	-51.85	2.48706G	-51.09	16.75272G	-46.12	1
2480MHz	Pass	2.4397G	-1.63	-31.63	2.09377G	-52.41	2.39711G	-51.90	2.48389G	-49.37	15.27546G	-46.41	1

Thread_1TX **CSE NdB**

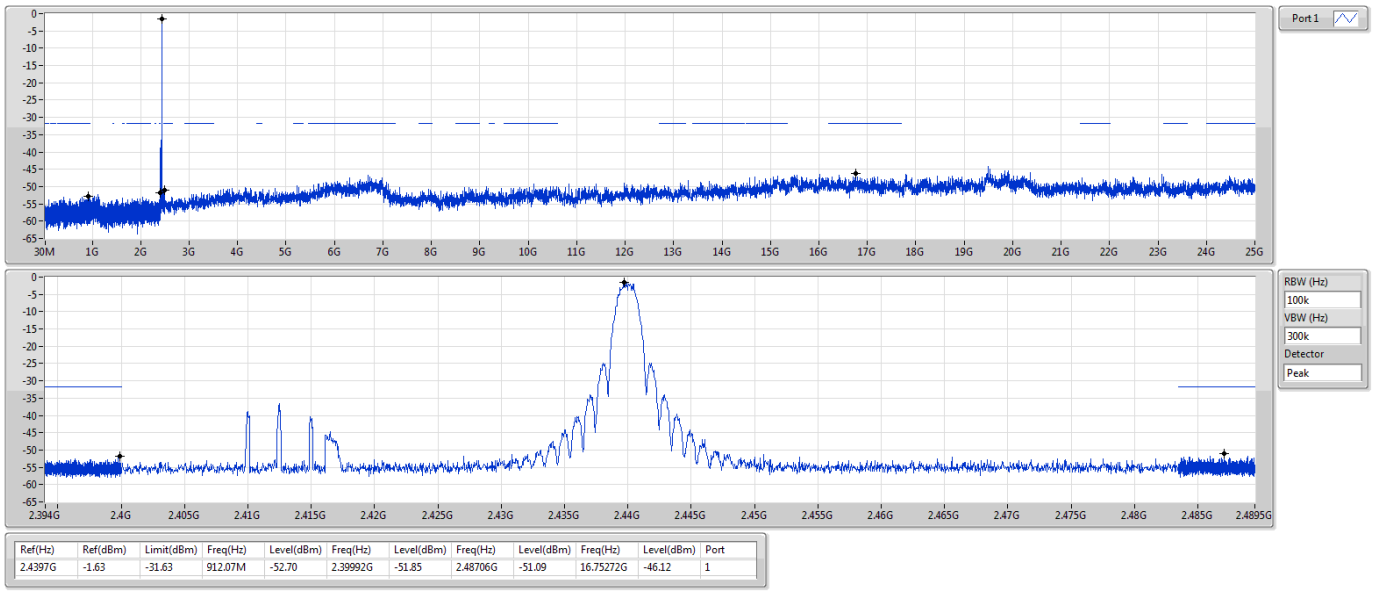
2405MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.4397G	-1.63	-31.63	518.76M	-52.05	2.3999G	-44.21	2.48824G	-51.96	16.79211G	-46.02	1

Thread_1TX **CSE NdB**

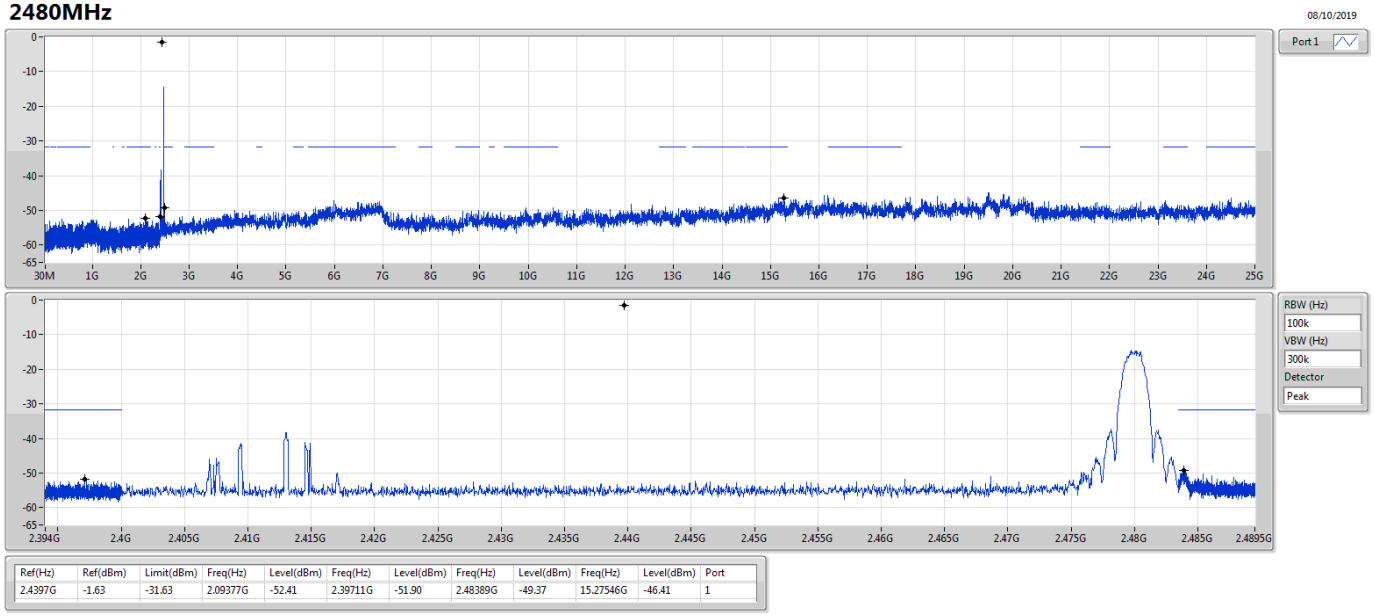
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.4397G	-1.63	-31.63	912.07M	-52.70	2.39992G	-51.85	2.48706G	-51.09	16.75272G	-46.12	1

Thread_1TX **CSE NdB**

2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.4397G	-1.63	-31.63	2.09377G	-52.41	2.39711G	-51.90	2.48389G	-49.37	15.27546G	-46.41	1

Summary

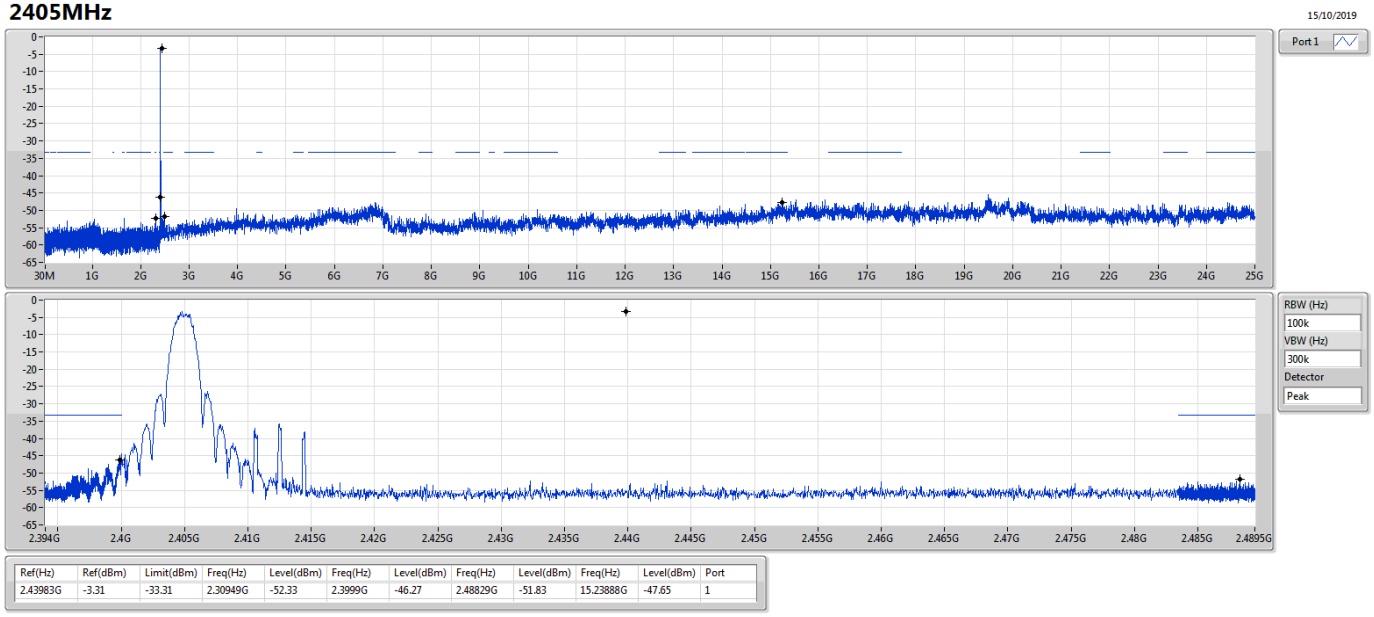
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
Thread_1TX	Pass	2.43983G	-3.31	-33.31	2.39223G	-54.05	2.39966G	-52.75	2.48512G	-52.62	16.75272G	-46.15	1

Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
Thread_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	2.43983G	-3.31	-33.31	2.30949G	-52.33	2.3999G	-46.27	2.48829G	-51.83	15.23888G	-47.65	1
2440MHz	Pass	2.43983G	-3.31	-33.31	2.39223G	-54.05	2.39966G	-52.75	2.48512G	-52.62	16.75272G	-46.15	1
2480MHz	Pass	2.43983G	-3.31	-33.31	1.97084G	-53.42	2.399G	-53.44	2.48383G	-47.35	6.8903G	-46.49	1

Thread_1TX **CSE NdB**

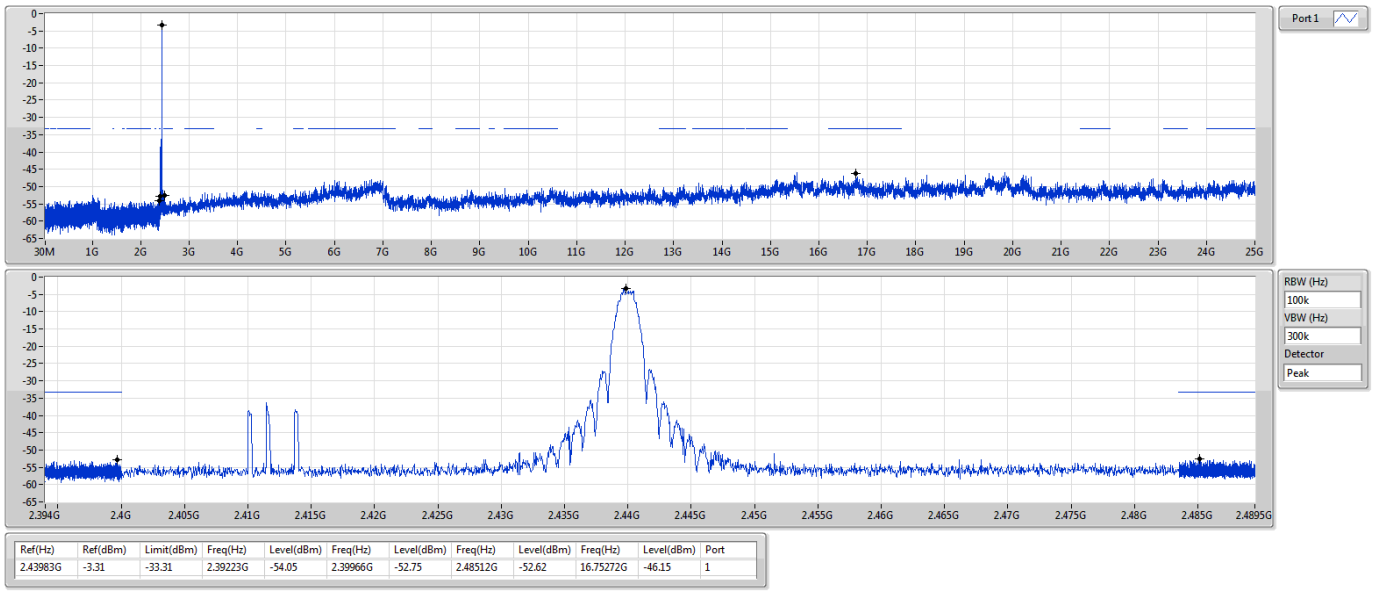
2405MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43983G	-3.31	-33.31	2.30949G	-52.33	2.3999G	-46.27	2.48829G	-51.83	15.23888G	-47.65	1

Thread_1TX **CSE NdB**

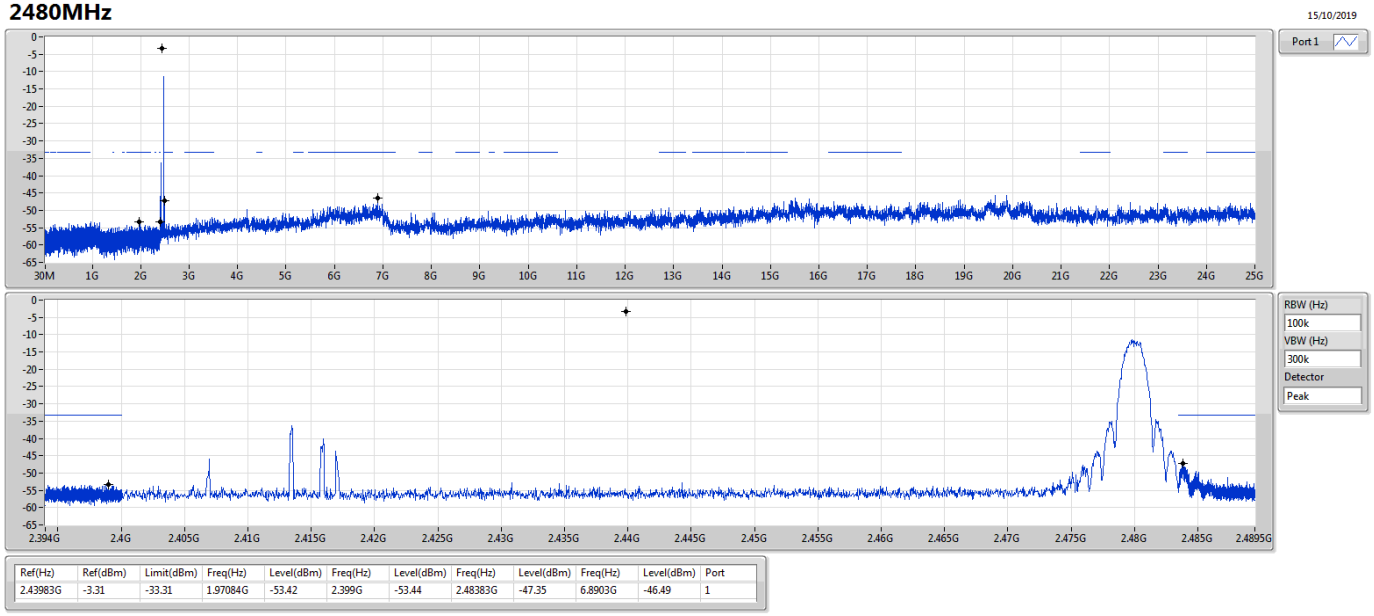
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43983G	-3.31	-33.31	2.39223G	-54.05	2.39966G	-52.75	2.48512G	-52.62	16.75272G	-46.15	1

Thread_1TX **CSE NdB**

2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43983G	-3.31	-33.31	1.97084G	-53.42	2.399G	-53.44	2.48383G	-47.35	6.8903G	-46.49	1

Summary

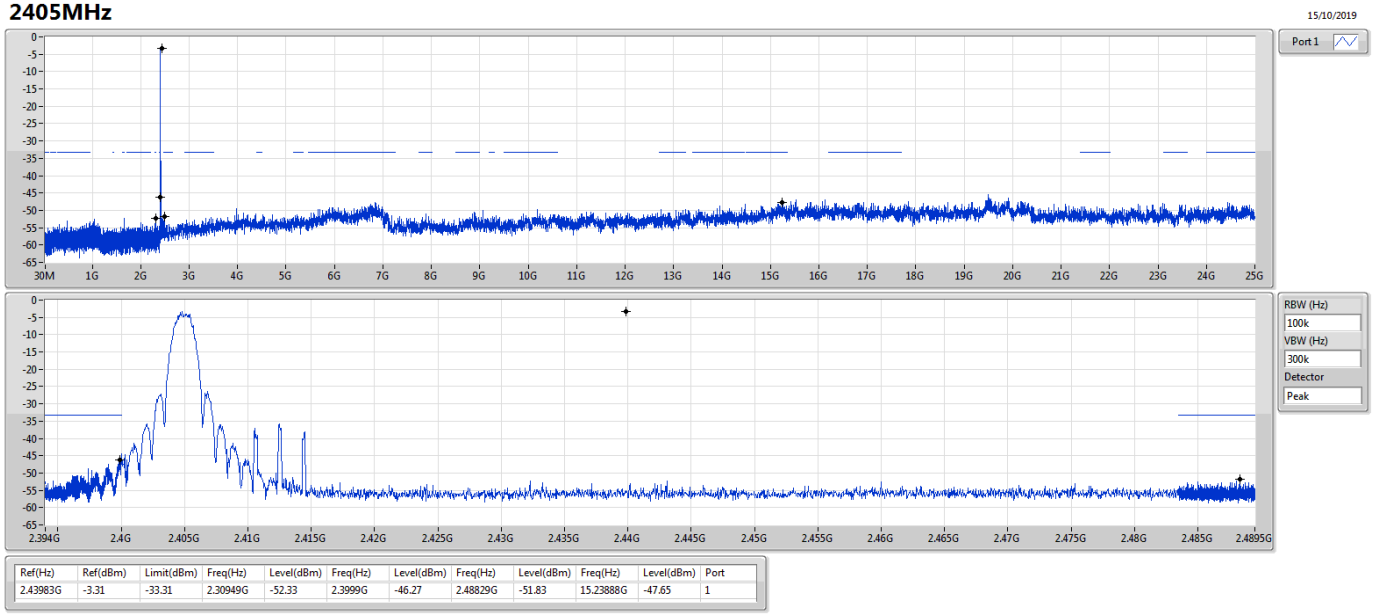
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
Thread_1TX	Pass	2.43983G	-3.31	-33.31	2.39223G	-54.05	2.39966G	-52.75	2.48512G	-52.62	16.75272G	-46.15	1

Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
Thread_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	2.43983G	-3.31	-33.31	2.30949G	-52.33	2.3999G	-46.27	2.48829G	-51.83	15.23888G	-47.65	1
2440MHz	Pass	2.43983G	-3.31	-33.31	2.39223G	-54.05	2.39966G	-52.75	2.48512G	-52.62	16.75272G	-46.15	1
2480MHz	Pass	2.43983G	-3.31	-33.31	1.97084G	-53.42	2.399G	-53.44	2.48383G	-47.35	6.8903G	-46.49	1

Thread_1TX **CSE NdB**

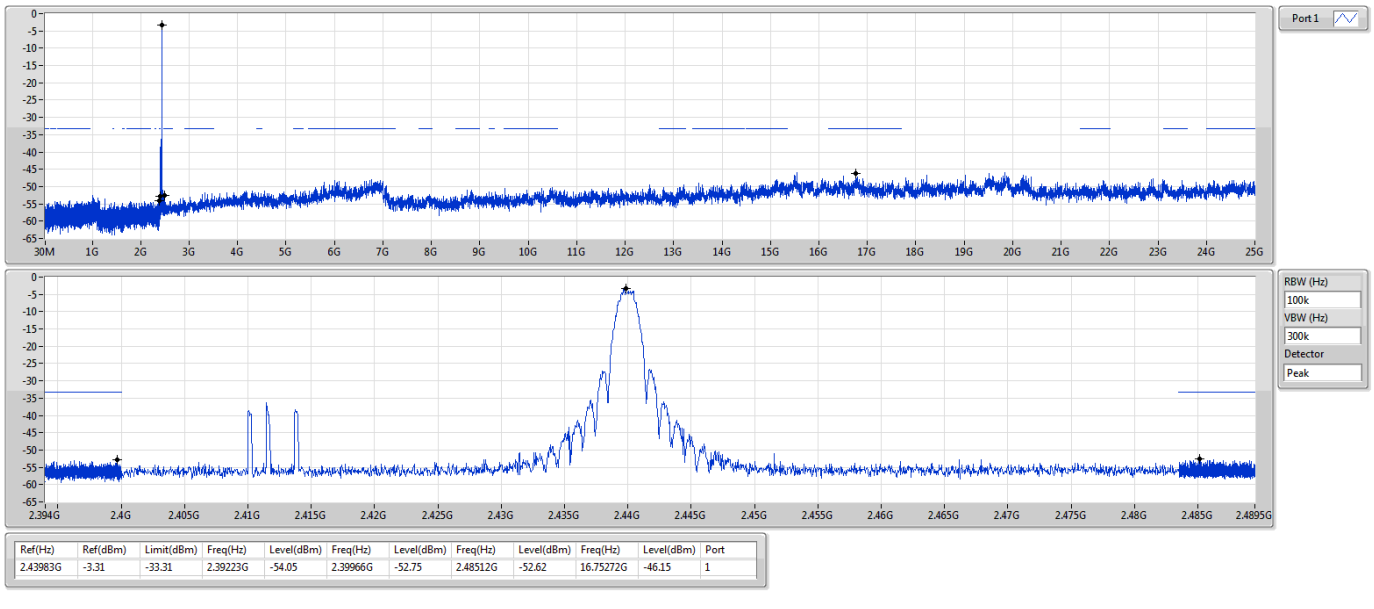
2405MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43983G	-3.31	-33.31	2.30949G	-52.33	2.3999G	-46.27	2.48829G	-51.83	15.23888G	-47.65	1

Thread_1TX **CSE NdB**

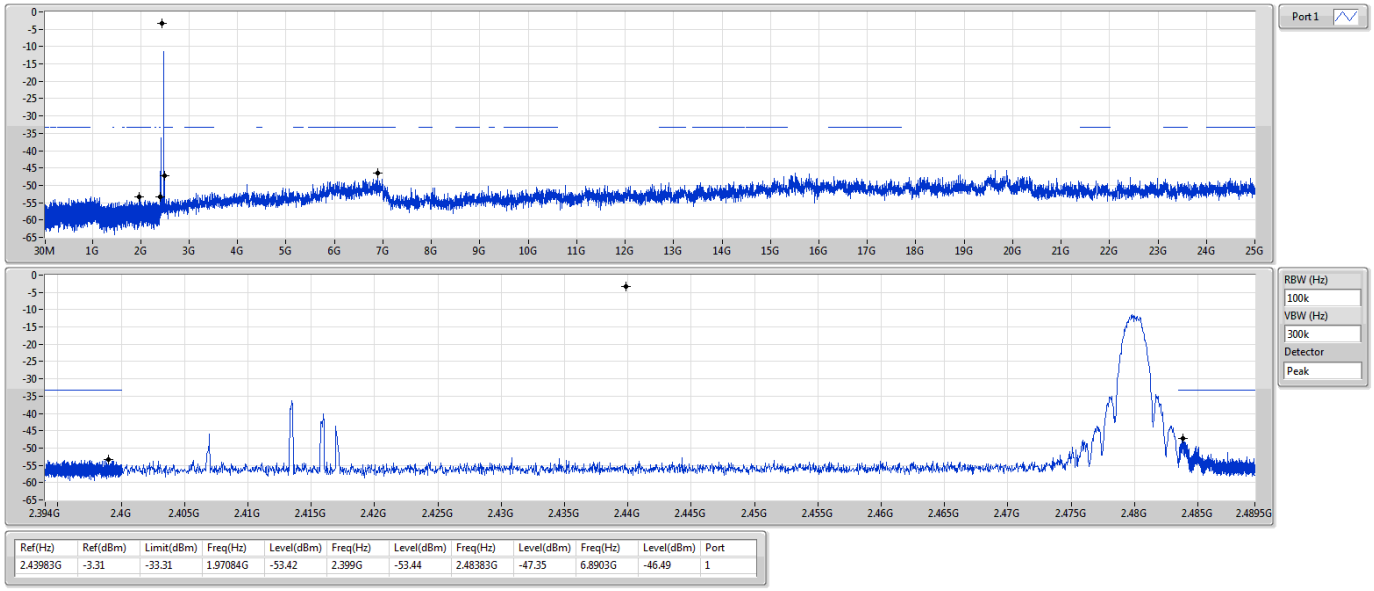
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43983G	-3.31	-33.31	2.39223G	-54.05	2.39966G	-52.75	2.48512G	-52.62	16.75272G	-46.15	1

Thread_1TX **CSE NdB**

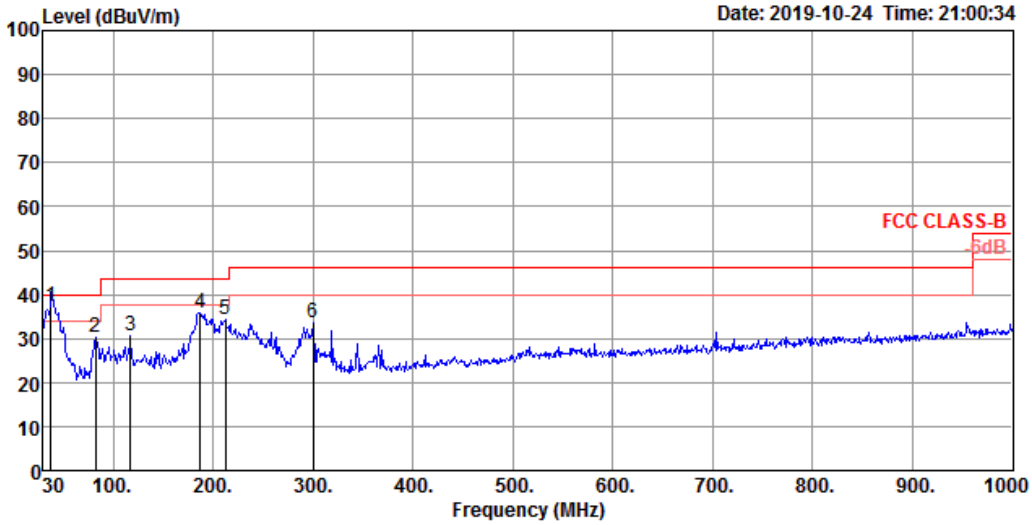
2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43983G	-3.31	-33.31	1.97084G	-53.42	2.399G	-53.44	2.48383G	-47.35	6.8903G	-46.49	1

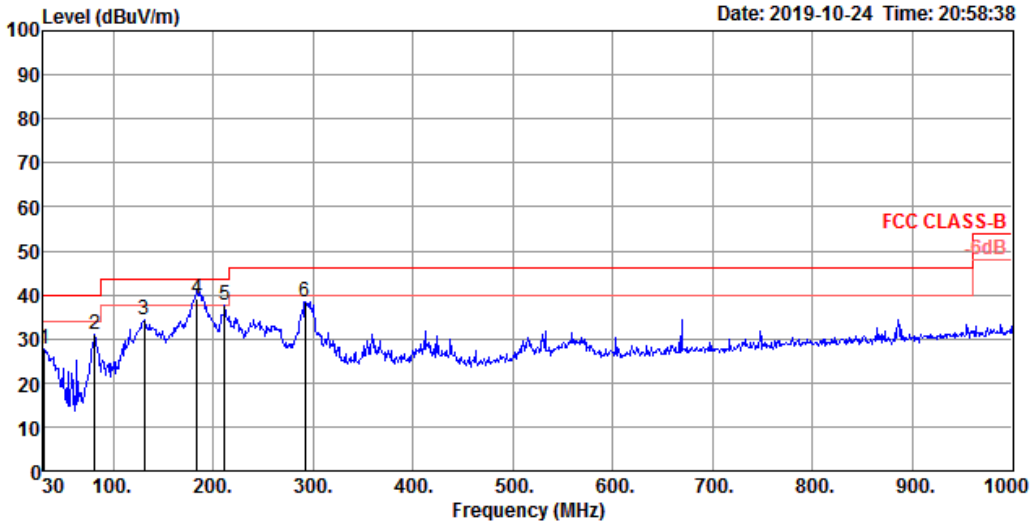
Test Mode	Mode 22	Frequency Range	30 MHz to 1,000 MHz

Vertical 30 MHz to 1,000 MHz



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	37.76	37.41	40.00	-2.59	47.05	0.80	21.06	31.50	100	1	QP	VERTICAL
2	82.38	30.15	40.00	-9.85	47.11	1.14	13.76	31.86	150	153	Peak	VERTICAL
3	117.30	30.53	43.50	-12.97	42.33	1.40	18.58	31.78	100	179	Peak	VERTICAL
4	187.14	35.81	43.50	-7.69	50.56	1.72	15.50	31.97	100	1	Peak	VERTICAL
5	212.36	34.33	43.50	-9.17	48.08	1.81	16.40	31.96	100	47	Peak	VERTICAL
6	299.66	33.50	46.00	-12.50	43.59	2.21	19.78	32.08	200	0	Peak	VERTICAL

Horizontal 30 MHz to 1,000 MHz



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	30.97	27.71	40.00	-12.29	33.47	0.69	25.11	31.56	150	246	Peak	HORIZONTAL
2	81.41	30.82	40.00	-9.18	47.94	1.15	13.59	31.86	200	101	Peak	HORIZONTAL
3	130.88	34.29	43.50	-9.21	46.34	1.47	18.43	31.95	300	168	Peak	HORIZONTAL
4	184.23	39.13	43.50	-4.37	53.89	1.72	15.50	31.98	150	17	QP	HORIZONTAL
5	211.39	37.74	43.50	-5.76	51.49	1.81	16.40	31.96	150	40	Peak	HORIZONTAL
6	291.90	38.47	46.00	-7.53	48.71	2.19	19.64	32.07	100	30	Peak	HORIZONTAL

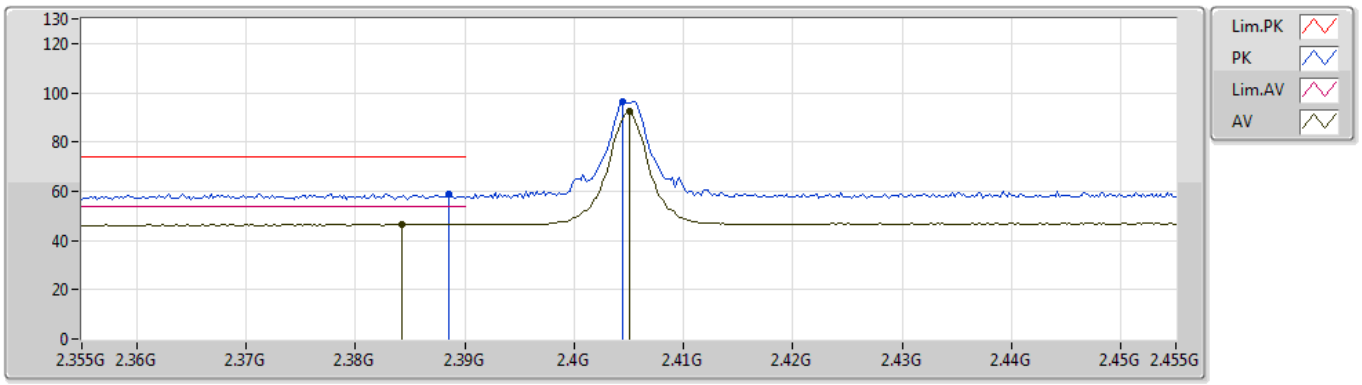
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
Thread_1TX	Pass	AV	2.4836G	53.35	54.00	-0.65	31.39	3	Horizontal	202	2.75	-

Thread_1TX

08/10/2019

2405MHz_TX



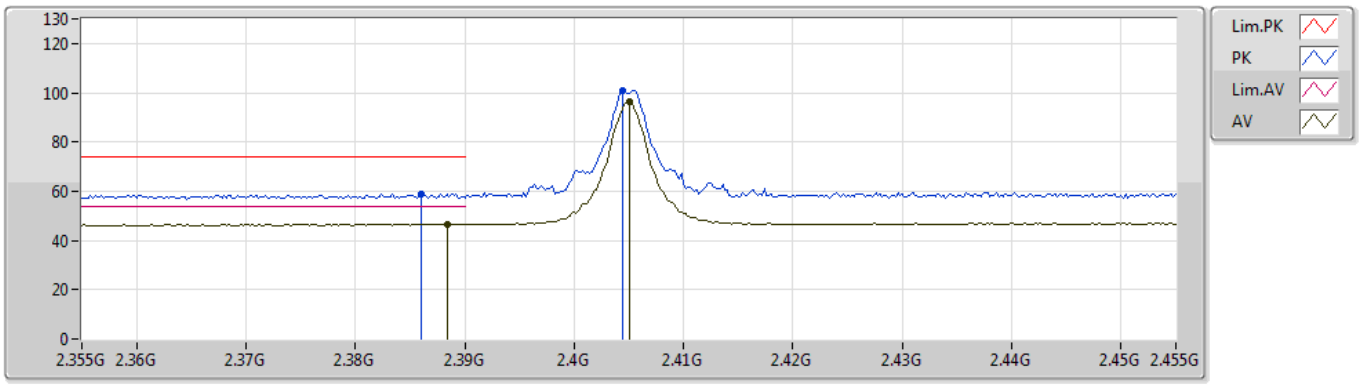
EUT X_1TX
Setting 32
02-L-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.3886G	59.09	74.00	-14.91	31.20	3	Vertical	124	2.83	-	27.89
AV	2.3842G	46.54	54.00	-7.46	31.19	3	Vertical	124	2.83	-	15.35
PK	2.4044G	96.57	Inf	-Inf	31.24	3	Vertical	124	2.83	-	65.33
AV	2.405G	92.30	Inf	-Inf	31.24	3	Vertical	124	2.83	-	61.06

Thread_1TX

08/10/2019

2405MHz_TX



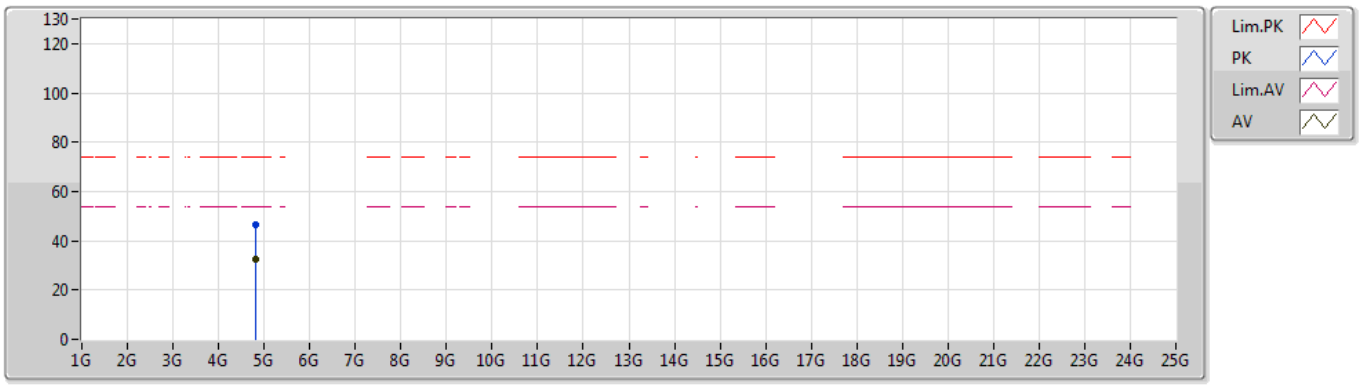
EUT X_1TX
Setting 32
02-L-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.386G	59.06	74.00	-14.94	31.19	3	Horizontal	204	1.92	-	27.87
AV	2.3884G	46.49	54.00	-7.51	31.20	3	Horizontal	204	1.92	-	15.29
PK	2.4044G	100.86	Inf	-Inf	31.24	3	Horizontal	204	1.92	-	69.62
AV	2.405G	96.51	Inf	-Inf	31.24	3	Horizontal	204	1.92	-	65.27

Thread_1TX

08/10/2019

2405MHz_TX



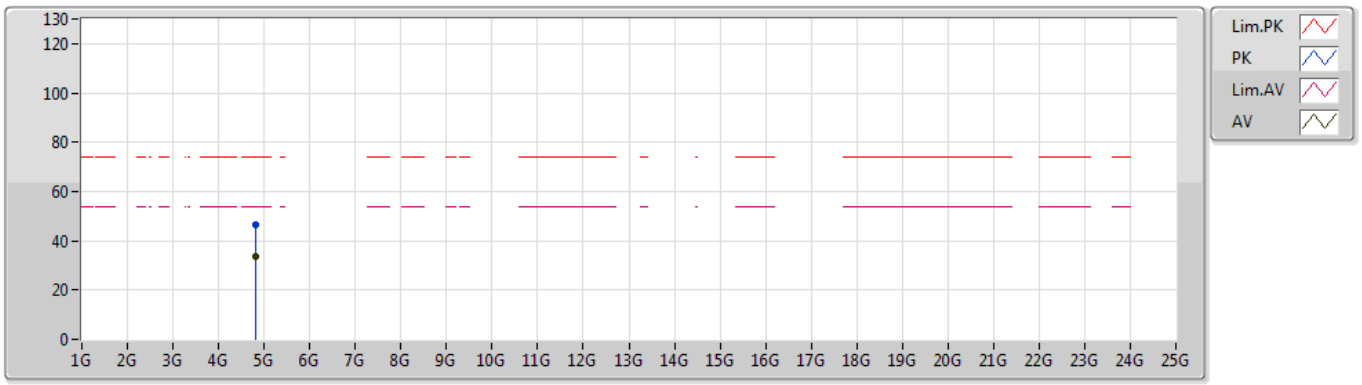
EUT X_1TX
Setting 32
02-L-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.80981G	46.40	74.00	-27.60	7.13	3	Vertical	186	2.08	-	39.27
AV	4.80893G	32.74	54.00	-21.26	7.13	3	Vertical	186	2.08	-	25.61

Thread_1TX

08/10/2019

2405MHz_TX



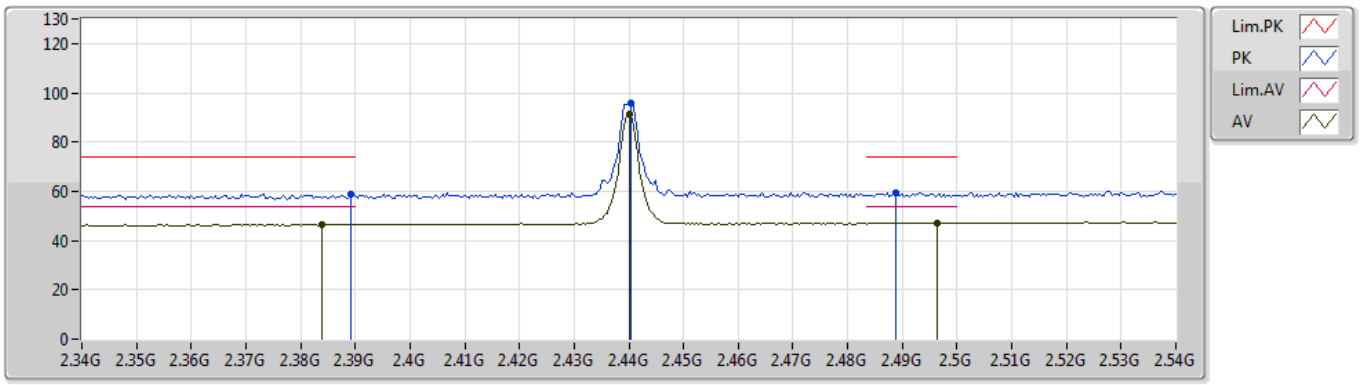
EUT X_1TX
Setting 32
02-L-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.80875G	46.31	74.00	-27.69	7.13	3	Horizontal	203	1.92	-	39.18
AV	4.80878G	33.35	54.00	-20.65	7.13	3	Horizontal	203	1.92	-	26.22

Thread_1TX

08/10/2019

2440MHz_TX



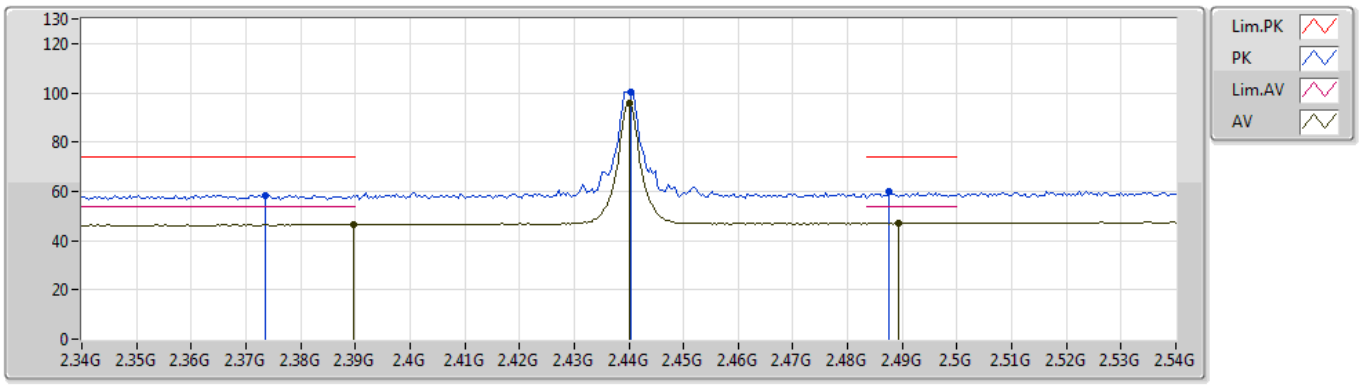
EUT X_1TX
Setting 32
02-L-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.3892G	58.84	74.00	-15.16	31.20	3	Vertical	150	2.55	-	27.64
AV	2.384G	46.59	54.00	-7.41	31.19	3	Vertical	150	2.55	-	15.40
PK	2.4404G	95.57	Inf	-Inf	31.31	3	Vertical	150	2.55	-	64.26
AV	2.44G	91.26	Inf	-Inf	31.31	3	Vertical	150	2.55	-	59.95
PK	2.4888G	59.35	74.00	-14.65	31.41	3	Vertical	150	2.55	-	27.94
AV	2.4964G	47.18	54.00	-6.82	31.42	3	Vertical	150	2.55	-	15.76

Thread_1TX

08/10/2019

2440MHz_TX



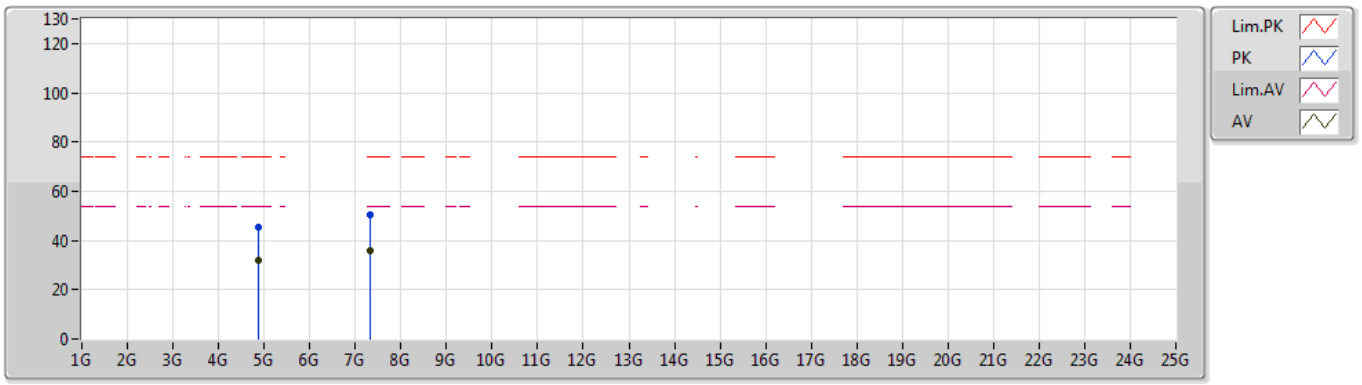
EUT X_1TX
Setting 32
02-L-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.3736G	58.52	74.00	-15.48	31.16	3	Horizontal	204	2.83	-	27.36
AV	2.3896G	46.50	54.00	-7.50	31.20	3	Horizontal	204	2.83	-	15.30
PK	2.4404G	100.23	Inf	-Inf	31.31	3	Horizontal	204	2.83	-	68.92
AV	2.44G	95.92	Inf	-Inf	31.31	3	Horizontal	204	2.83	-	64.61
PK	2.4876G	60.01	74.00	-13.99	31.41	3	Horizontal	204	2.83	-	28.60
AV	2.4892G	47.12	54.00	-6.88	31.41	3	Horizontal	204	2.83	-	15.71

Thread_1TX

08/10/2019

2440MHz_TX



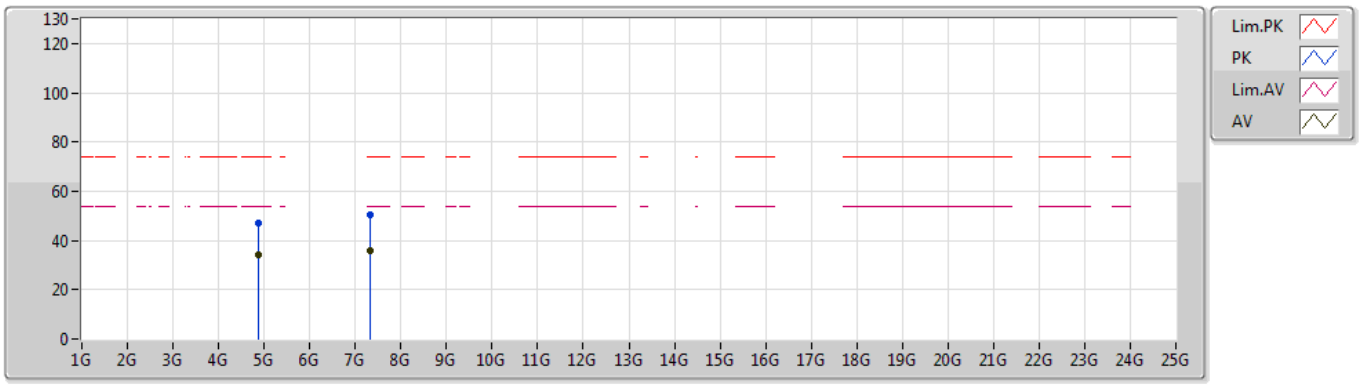
EUT X_1TX
Setting 32
02-L-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.88241G	45.21	74.00	-28.79	7.31	3	Vertical	149	1.20	-	37.90
AV	4.87757G	31.94	54.00	-22.06	7.30	3	Vertical	149	1.20	-	24.64
PK	7.31879G	50.46	74.00	-23.54	10.57	3	Vertical	10	2.06	-	39.89
AV	7.32161G	35.85	54.00	-18.15	10.59	3	Vertical	10	2.06	-	25.26

Thread_1TX

08/10/2019

2440MHz_TX



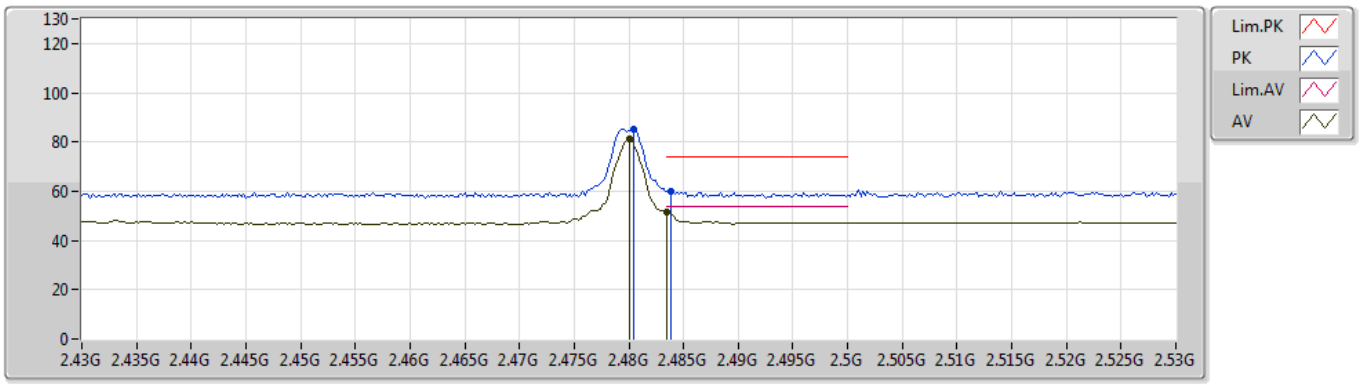
EUT X_1TX
Setting 32
02-L-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.88233G	47.07	74.00	-26.93	7.31	3	Horizontal	100	1.18	-	39.76
AV	4.88096G	34.38	54.00	-19.62	7.30	3	Horizontal	100	1.18	-	27.08
PK	7.31903G	50.44	74.00	-23.56	10.57	3	Horizontal	243	1.83	-	39.87
AV	7.31844G	36.01	54.00	-17.99	10.57	3	Horizontal	243	1.83	-	25.44

Thread_1TX

08/10/2019

2480MHz_TX



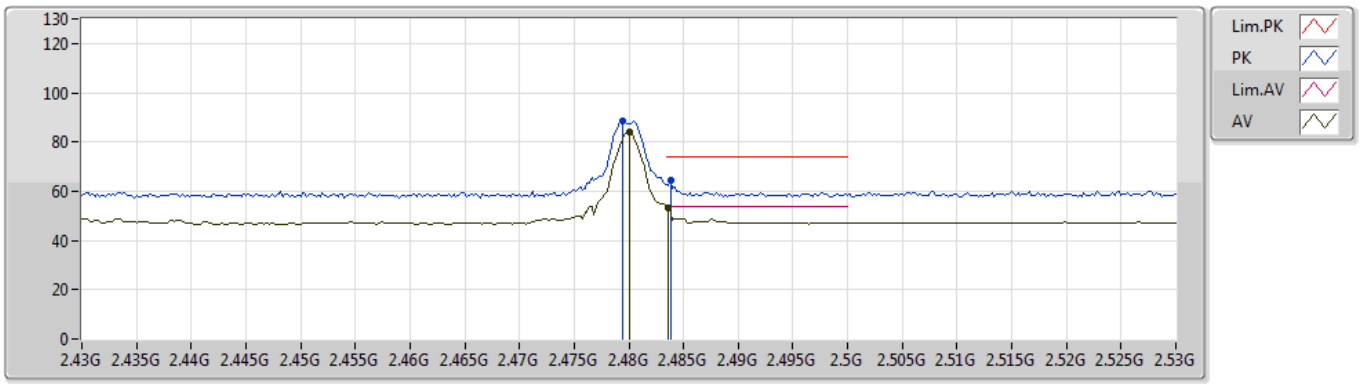
EUT X_1TX
Setting 8
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.4804G	85.35	Inf	-Inf	31.39	3	Vertical	151	3.00	-	53.96
AV	2.48G	81.11	Inf	-Inf	31.39	3	Vertical	151	3.00	-	49.72
PK	2.4838G	60.23	74.00	-13.77	31.39	3	Vertical	151	3.00	-	28.84
AV	2.4835G	51.68	54.00	-2.32	31.39	3	Vertical	151	3.00	-	20.29

Thread_1TX

08/10/2019

2480MHz_TX



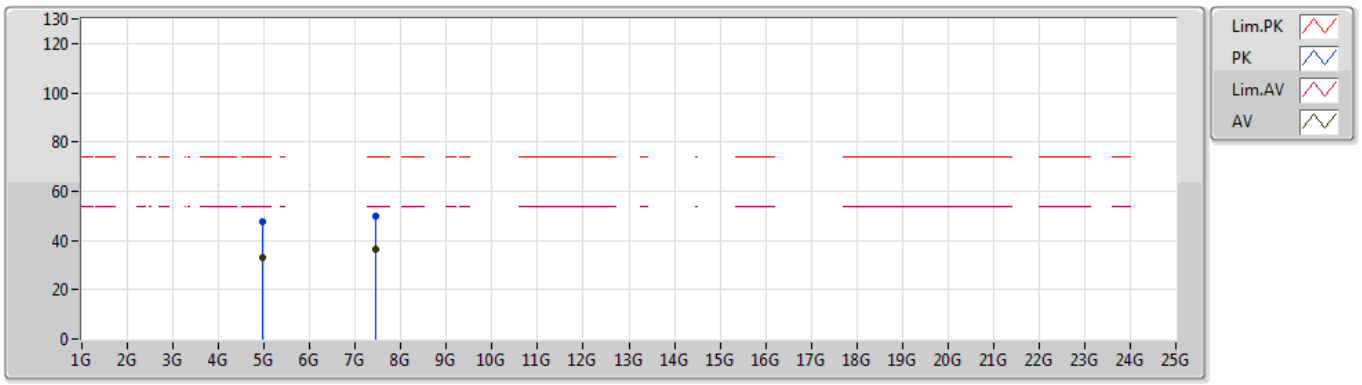
EUT X_1TX
Setting 8
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.4794G	88.38	Inf	-Inf	31.39	3	Horizontal	202	2.75	-	56.99
AV	2.48G	84.08	Inf	-Inf	31.39	3	Horizontal	202	2.75	-	52.69
PK	2.4838G	64.18	74.00	-9.82	31.39	3	Horizontal	202	2.75	-	32.79
AV	2.4836G	53.35	54.00	-0.65	31.39	3	Horizontal	202	2.75	-	21.96

Thread_1TX

08/10/2019

2480MHz_TX



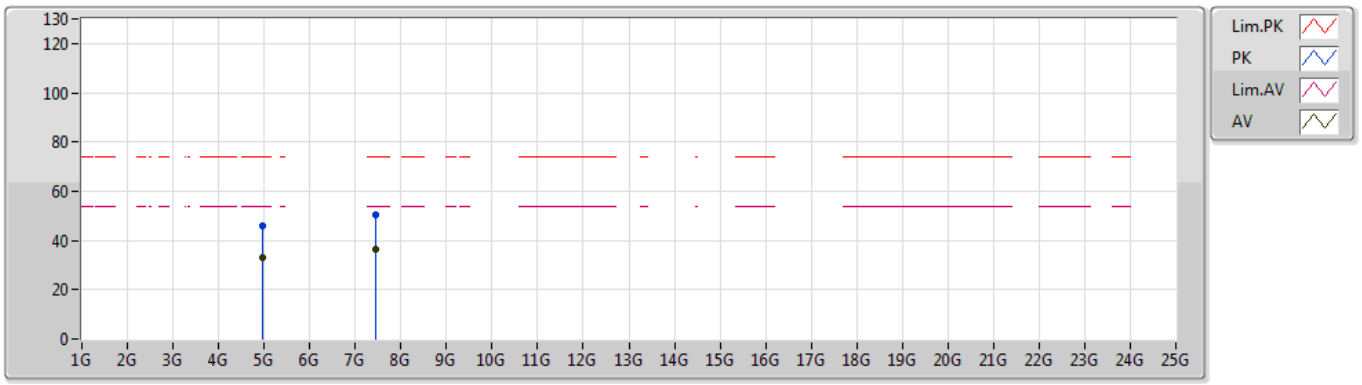
EUT X_1TX
Setting 8
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.96074G	47.57	74.00	-26.43	7.49	3	Vertical	160	1.54	-	40.08
AV	4.95927G	33.06	54.00	-20.94	7.48	3	Vertical	160	1.54	-	25.58
PK	7.44035G	50.02	74.00	-23.98	10.90	3	Vertical	355	1.82	-	39.12
AV	7.43769G	36.30	54.00	-17.70	10.89	3	Vertical	355	1.82	-	25.41

Thread_1TX

08/10/2019

2480MHz_TX



EUT X_1TX
Setting 8
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.95893G	45.99	74.00	-28.01	7.48	3	Horizontal	276	2.65	-	38.51
AV	4.95884G	32.92	54.00	-21.08	7.48	3	Horizontal	276	2.65	-	25.44
PK	7.43759G	50.43	74.00	-23.57	10.89	3	Horizontal	348	1.22	-	39.54
AV	7.43863G	36.35	54.00	-17.65	10.89	3	Horizontal	348	1.22	-	25.46

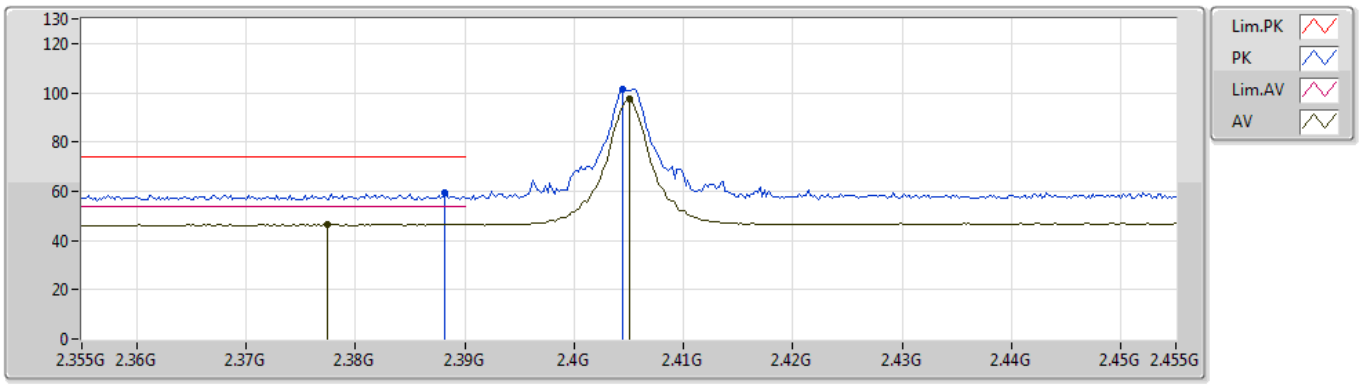
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
thread_Nss1_1TX	Pass	AV	2.4835G	53.49	54.00	-0.51	31.39	3	Vertical	0	1.05	-

thread_Nss1_1TX

07/10/2019

2405MHz_TX



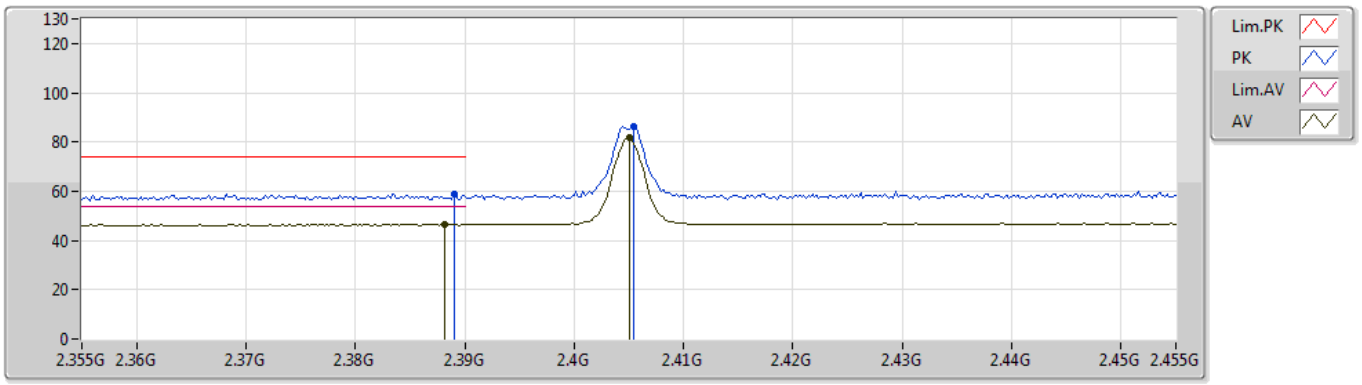
EUT Z_1TX
Setting 32
02-G-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.3882G	59.41	74.00	-14.59	31.20	3	Vertical	-2	1.41	-	28.21
AV	2.3774G	46.47	54.00	-7.53	31.17	3	Vertical	-2	1.41	-	15.30
PK	2.4044G	101.63	Inf	-Inf	31.24	3	Vertical	-2	1.41	-	70.39
AV	2.405G	97.32	Inf	-Inf	31.24	3	Vertical	-2	1.41	-	66.08

thread_Nss1_1TX

07/10/2019

2405MHz_TX



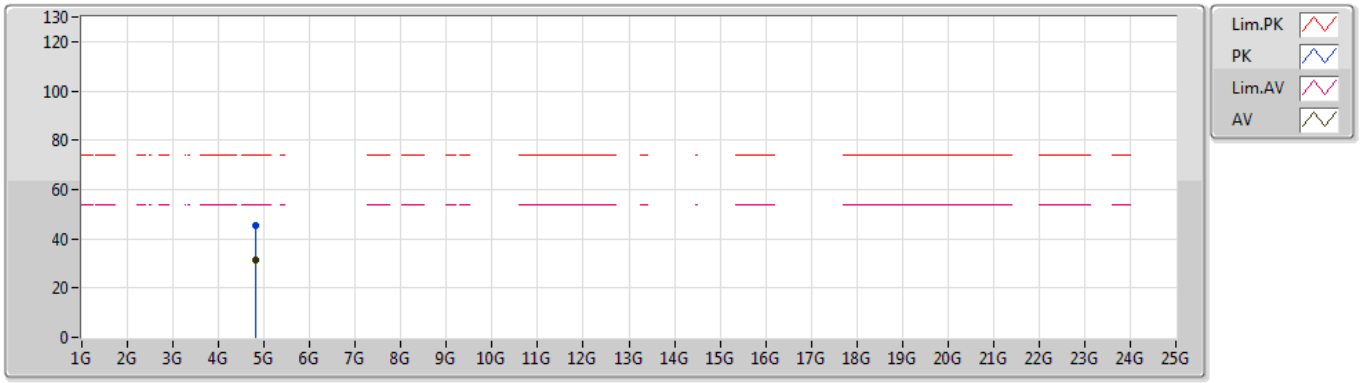
EUT Z_1TX
Setting 32
02-G-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.389G	59.09	74.00	-14.91	31.20	3	Horizontal	177	1.50	-	27.89
AV	2.3882G	46.56	54.00	-7.44	31.20	3	Horizontal	177	1.50	-	15.36
PK	2.4054G	86.13	Inf	-Inf	31.24	3	Horizontal	177	1.50	-	54.89
AV	2.405G	81.89	Inf	-Inf	31.24	3	Horizontal	177	1.50	-	50.65

thread_Nss1_1TX

07/10/2019

2405MHz_TX



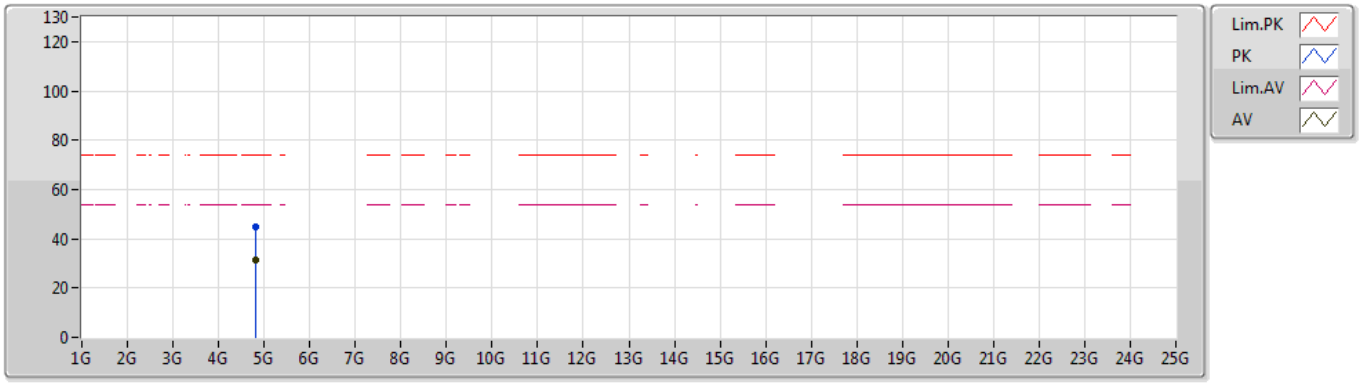
EUT Z_1TX
Setting 32
02-G-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.80656G	45.21	74.00	-28.79	7.12	3	Vertical	0	1.35	-	38.09
AV	4.81416G	31.27	54.00	-22.73	7.14	3	Vertical	0	1.35	-	24.13

thread_Nss1_1TX

07/10/2019

2405MHz_TX



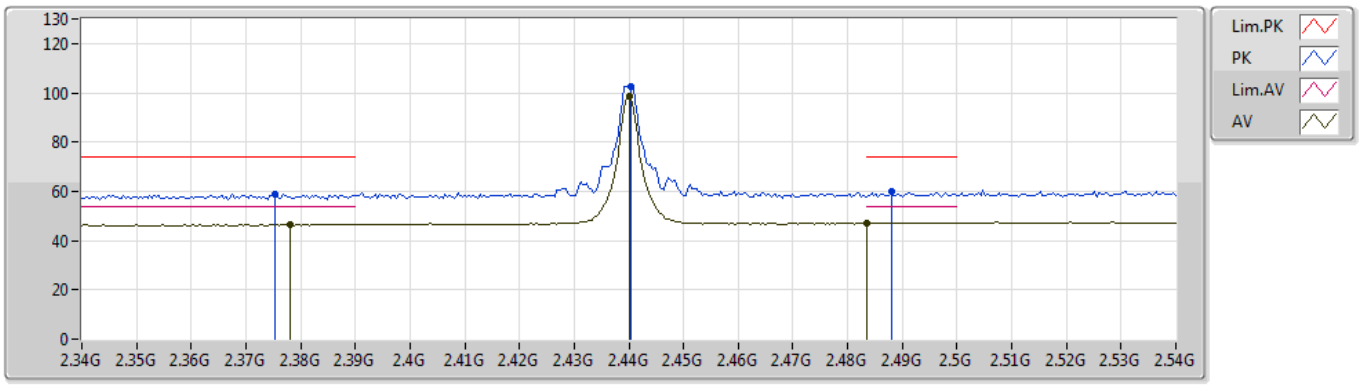
EUT Z_1TX
Setting 32
02-G-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.81306G	45.07	74.00	-28.93	7.13	3	Horizontal	50	2.08	-	37.94
AV	4.81216G	31.33	54.00	-22.67	7.13	3	Horizontal	50	2.08	-	24.20

thread_Nss1_1TX

07/10/2019

2440MHz_TX



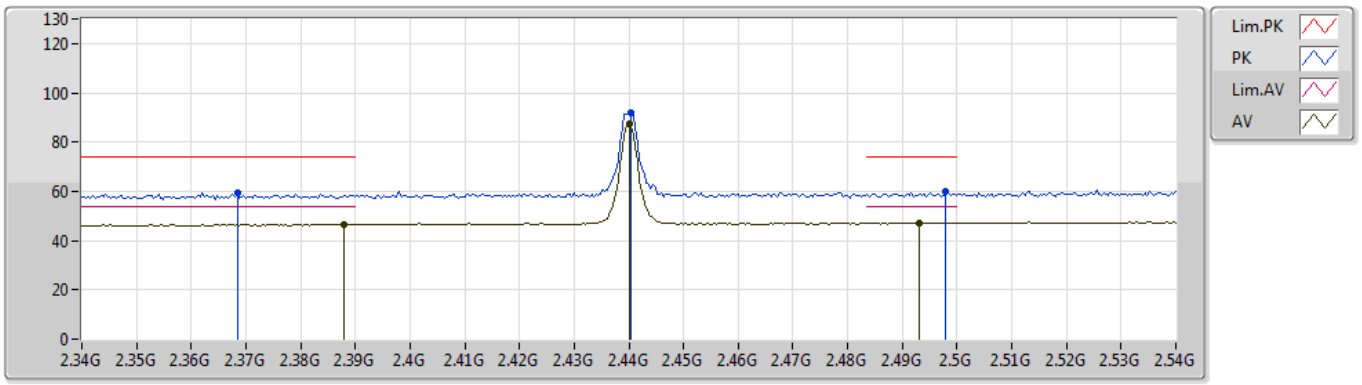
EUT Z_1TX
Setting 32
02-G-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.3752G	58.90	74.00	-15.10	31.17	3	Vertical	14	2.14	-	27.73
AV	2.378G	46.44	54.00	-7.56	31.17	3	Vertical	14	2.14	-	15.27
PK	2.4404G	102.76	Inf	-Inf	31.31	3	Vertical	14	2.14	-	71.45
AV	2.44G	98.56	Inf	-Inf	31.31	3	Vertical	14	2.14	-	67.25
PK	2.488G	59.86	74.00	-14.14	31.41	3	Vertical	14	2.14	-	28.45
AV	2.4835G	47.11	54.00	-6.89	31.39	3	Vertical	14	2.14	-	15.72

thread_Nss1_1TX

07/10/2019

2440MHz_TX



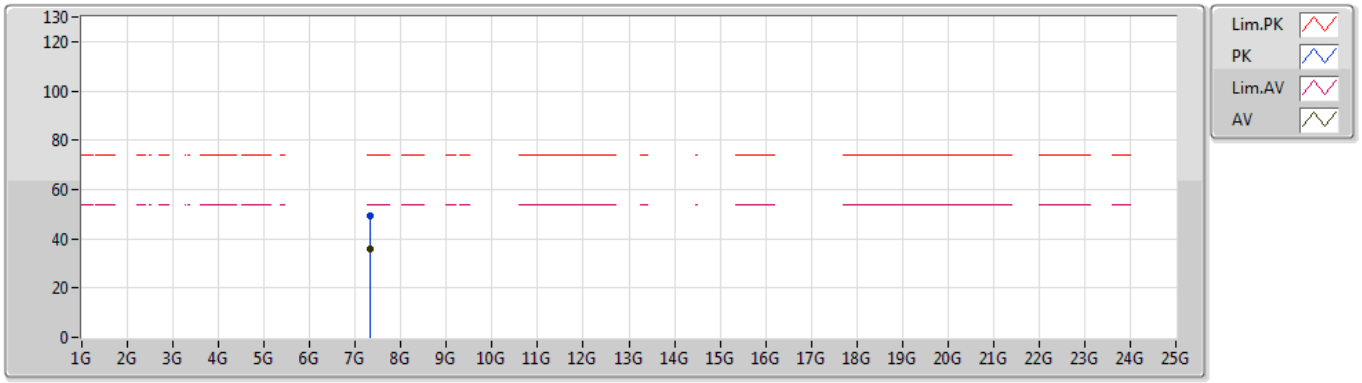
EUT Z_1TX
Setting 32
02-G-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.3684G	59.49	74.00	-14.51	31.15	3	Horizontal	208	2.98	-	28.34
AV	2.388G	46.55	54.00	-7.45	31.20	3	Horizontal	208	2.98	-	15.35
PK	2.4404G	91.79	Inf	-Inf	31.31	3	Horizontal	208	2.98	-	60.48
AV	2.44G	87.50	Inf	-Inf	31.31	3	Horizontal	208	2.98	-	56.19
PK	2.498G	59.78	74.00	-14.22	31.43	3	Horizontal	208	2.98	-	28.35
AV	2.4932G	47.21	54.00	-6.79	31.42	3	Horizontal	208	2.98	-	15.79

thread_Nss1_1TX

07/10/2019

2440MHz_TX



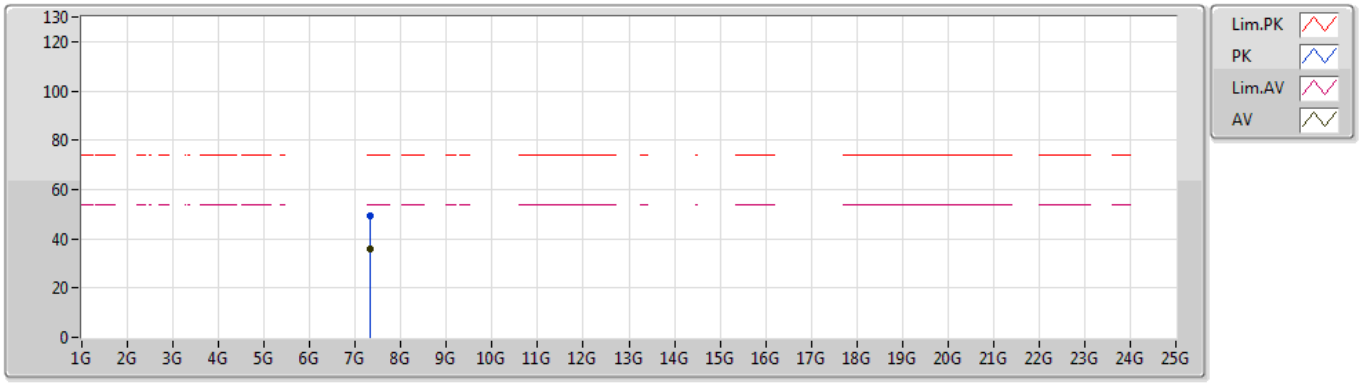
EUT Z_1TX
Setting 32
02-G-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	7.31328G	49.19	74.00	-24.81	10.56	3	Vertical	281	2.23	-	38.63
AV	7.3236G	35.79	54.00	-18.21	10.59	3	Vertical	281	2.23	-	25.20

thread_Nss1_1TX

07/10/2019

2440MHz_TX



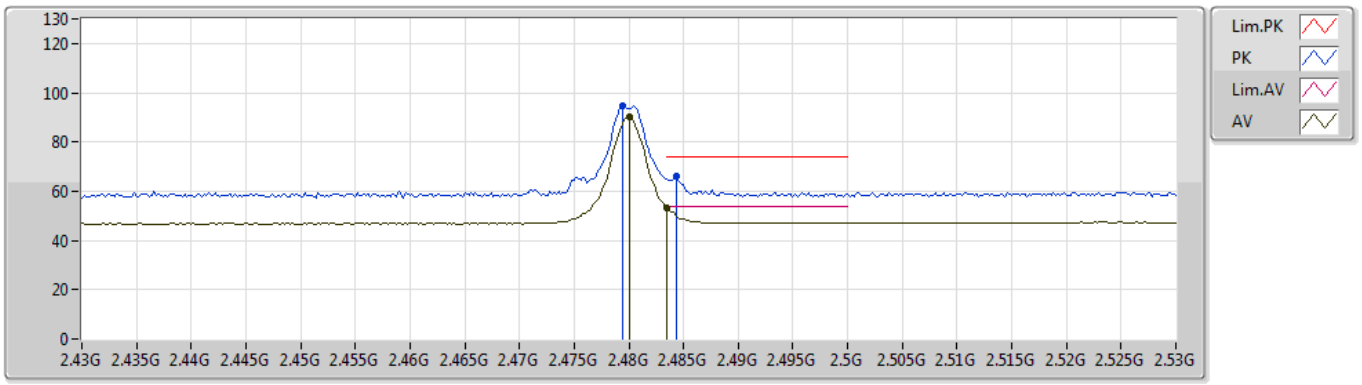
EUT Z_1TX
Setting 32
02-G-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	7.32652G	49.40	74.00	-24.60	10.59	3	Horizontal	122	1.05	-	38.81
AV	7.3292G	35.75	54.00	-18.25	10.60	3	Horizontal	122	1.05	-	25.15

thread_Nss1_1TX

07/10/2019

2480MHz_TX



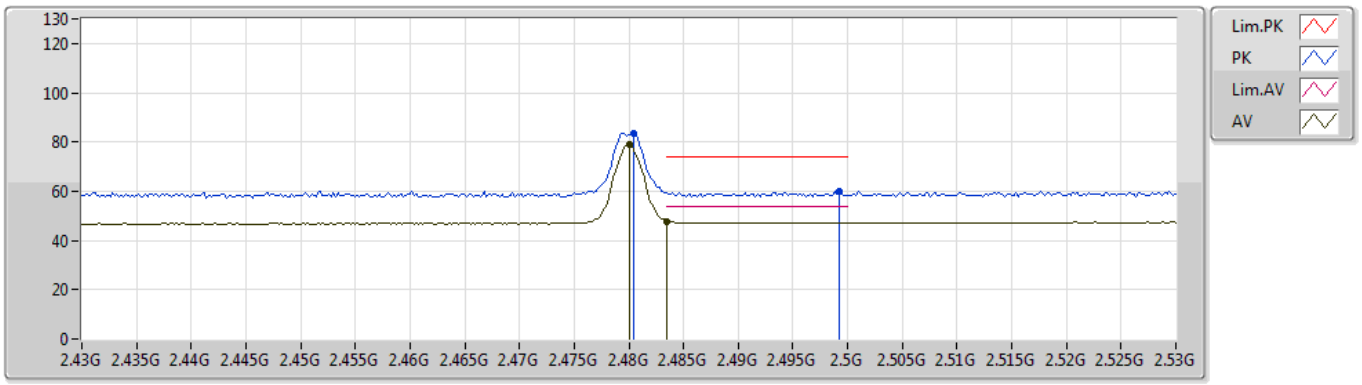
EUT Z_1TX
Setting 12
02-G-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.4794G	94.56	Inf	-Inf	31.39	3	Vertical	0	1.05	-	63.17
AV	2.48G	90.41	Inf	-Inf	31.39	3	Vertical	0	1.05	-	59.02
PK	2.4844G	66.01	74.00	-7.99	31.40	3	Vertical	0	1.05	-	34.61
AV	2.4835G	53.49	54.00	-0.51	31.39	3	Vertical	0	1.05	-	22.10

thread_Nss1_1TX

07/10/2019

2480MHz_TX



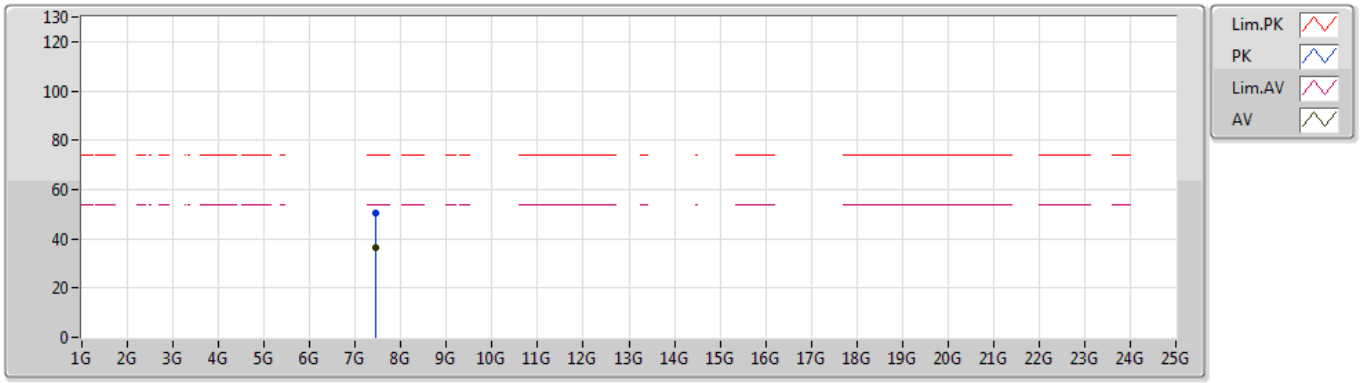
EUT Z_1TX
Setting 12
02-G-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.4804G	83.59	Inf	-Inf	31.39	3	Horizontal	204	2.92	-	52.20
AV	2.48G	79.11	Inf	-Inf	31.39	3	Horizontal	204	2.92	-	47.72
PK	2.4992G	60.20	74.00	-13.80	31.43	3	Horizontal	204	2.92	-	28.77
AV	2.4835G	47.86	54.00	-6.14	31.39	3	Horizontal	204	2.92	-	16.47

thread_Nss1_1TX

07/10/2019

2480MHz_TX



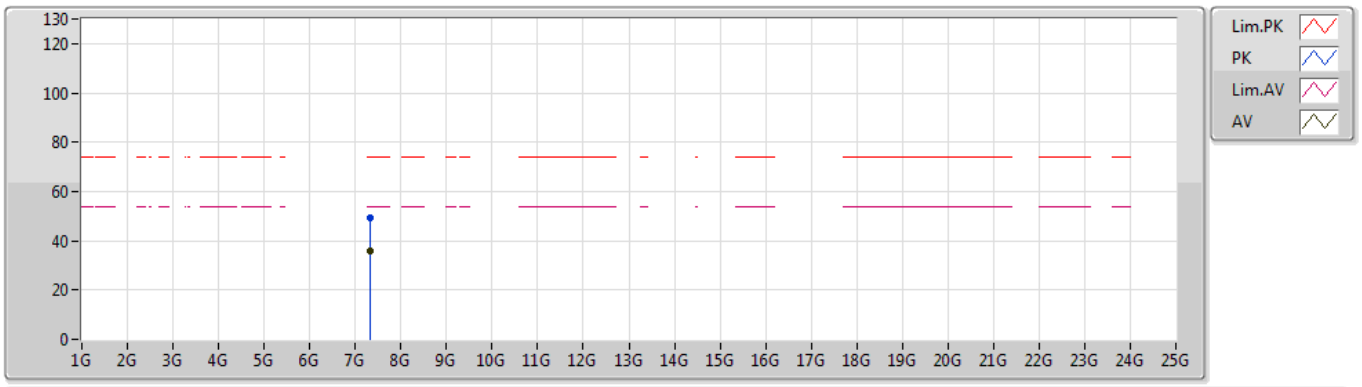
EUT Z_1TX
Setting 12
02-G-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	7.44432G	50.36	74.00	-23.64	10.91	3	Vertical	349	1.18	-	39.45
AV	7.4332G	36.18	54.00	-17.82	10.89	3	Vertical	349	1.18	-	25.29

thread_Nss1_1TX

07/10/2019

2480MHz_TX



EUT Z_1TX
Setting 12
02-G-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	7.31648G	49.57	74.00	-24.43	10.57	3	Horizontal	170	1.30	-	39.00
AV	7.3242G	35.70	54.00	-18.30	10.59	3	Horizontal	170	1.30	-	25.11

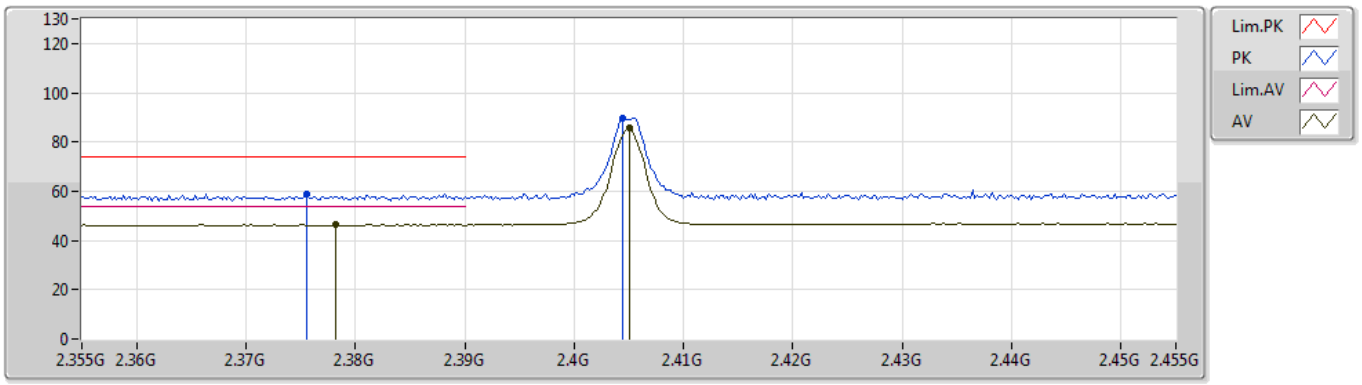
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
Thread_1TX	Pass	AV	2.4836G	53.40	54.00	-0.60	31.39	3	Horizontal	90	2.59	-

Thread_1TX

08/10/2019

2405MHz_TX



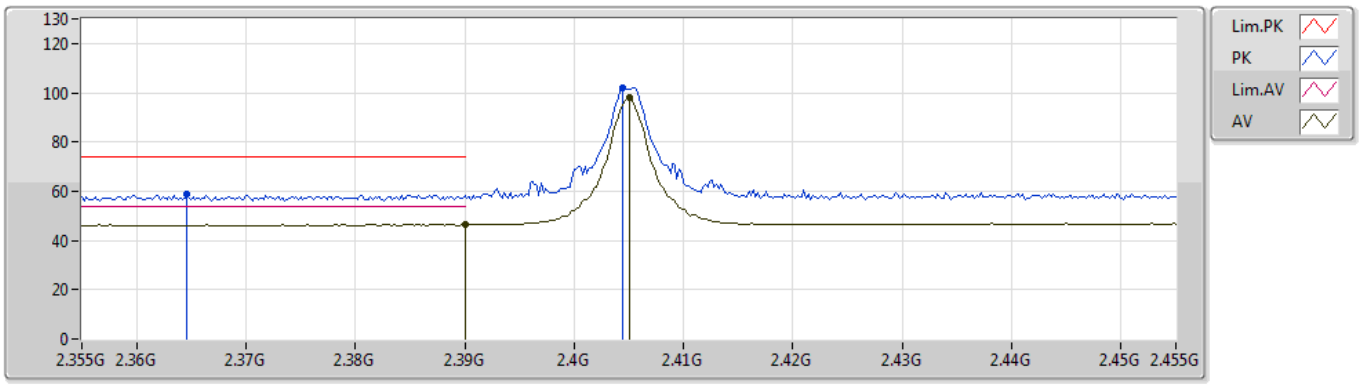
EUT Z_1TX
Setting 32
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.3756G	58.99	74.00	-15.01	31.17	3	Vertical	323	2.56	-	27.82
AV	2.3782G	46.41	54.00	-7.59	31.17	3	Vertical	323	2.56	-	15.24
PK	2.4044G	89.90	Inf	-Inf	31.24	3	Vertical	323	2.56	-	58.66
AV	2.405G	85.66	Inf	-Inf	31.24	3	Vertical	323	2.56	-	54.42

Thread_1TX

08/10/2019

2405MHz_TX



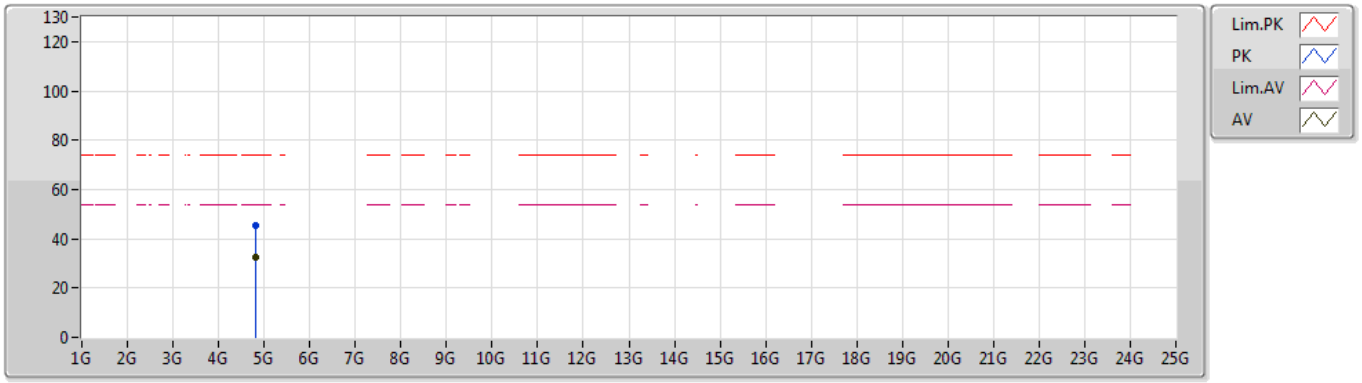
EUT Z_1TX
Setting 32
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.3646G	58.91	74.00	-15.09	31.15	3	Horizontal	262	2.75	-	27.76
AV	2.39G	46.58	54.00	-7.42	31.20	3	Horizontal	262	2.75	-	15.38
PK	2.4044G	102.04	Inf	-Inf	31.24	3	Horizontal	262	2.75	-	70.80
AV	2.405G	97.85	Inf	-Inf	31.24	3	Horizontal	262	2.75	-	66.61

Thread_1TX

08/10/2019

2405MHz_TX



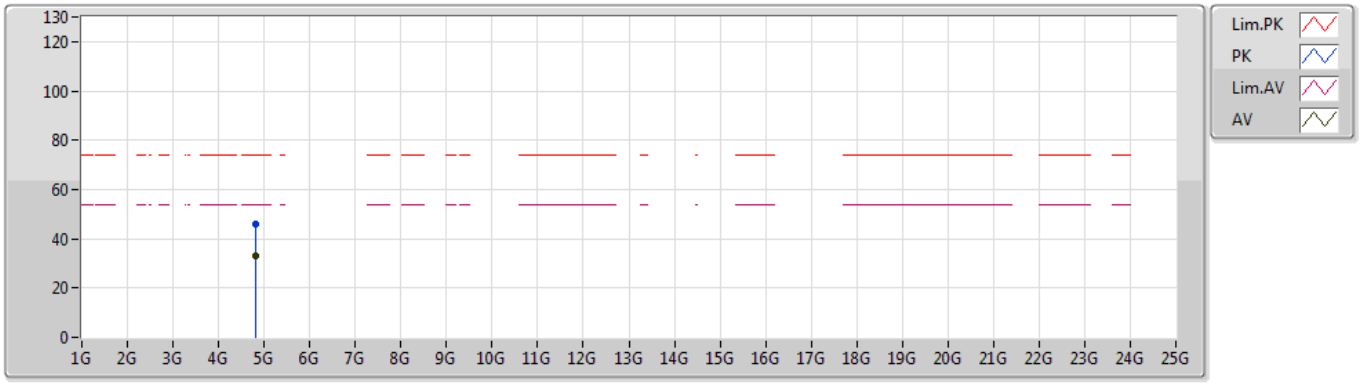
EUT Z_1TX
Setting 32
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.81228G	45.18	74.00	-28.82	7.13	3	Vertical	215	2.92	-	38.05
AV	4.80883G	32.60	54.00	-21.40	7.13	3	Vertical	215	2.92	-	25.47

Thread_1TX

08/10/2019

2405MHz_TX



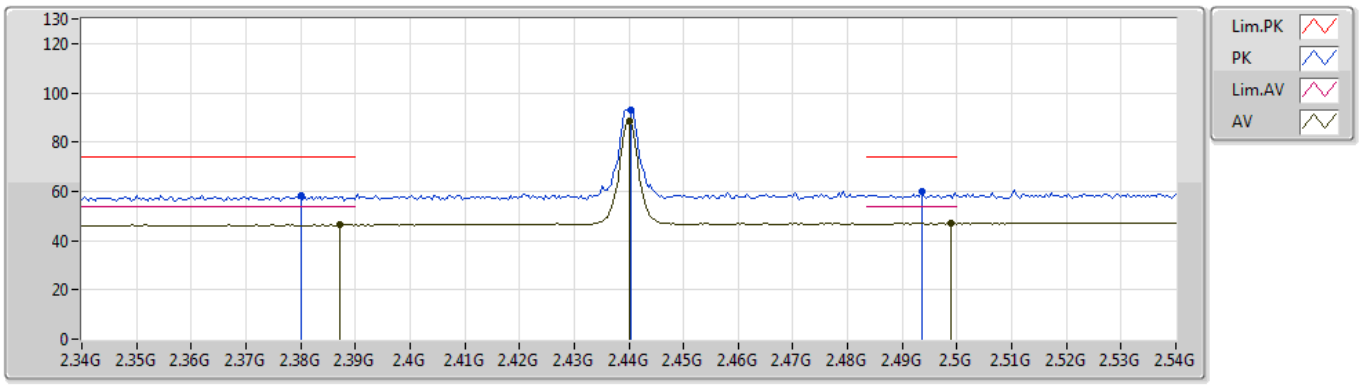
EUT Z_1TX
Setting 32
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.80789G	45.99	74.00	-28.01	7.12	3	Horizontal	306	1.13	-	38.87
AV	4.80896G	32.91	54.00	-21.09	7.13	3	Horizontal	306	1.13	-	25.78

Thread_1TX

08/10/2019

2440MHz_TX



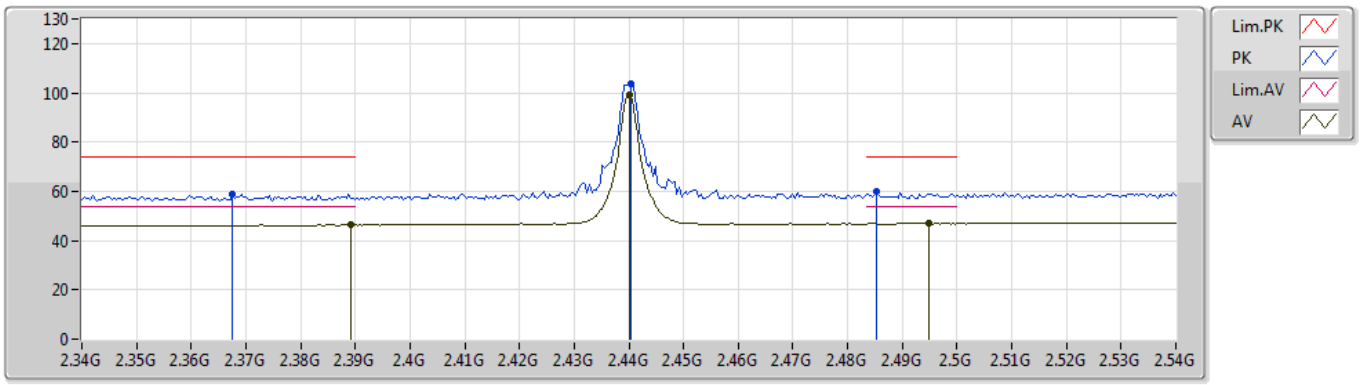
EUT Z_1TX
Setting 32
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.38G	58.44	74.00	-15.56	31.18	3	Vertical	173	2.49	-	27.26
AV	2.3872G	46.43	54.00	-7.57	31.20	3	Vertical	173	2.49	-	15.23
PK	2.4404G	92.81	Inf	-Inf	31.31	3	Vertical	173	2.49	-	61.50
AV	2.44G	88.54	Inf	-Inf	31.31	3	Vertical	173	2.49	-	57.23
PK	2.4936G	59.77	74.00	-14.23	31.42	3	Vertical	173	2.49	-	28.35
AV	2.4988G	46.96	54.00	-7.04	31.43	3	Vertical	173	2.49	-	15.53

Thread_1TX

08/10/2019

2440MHz_TX



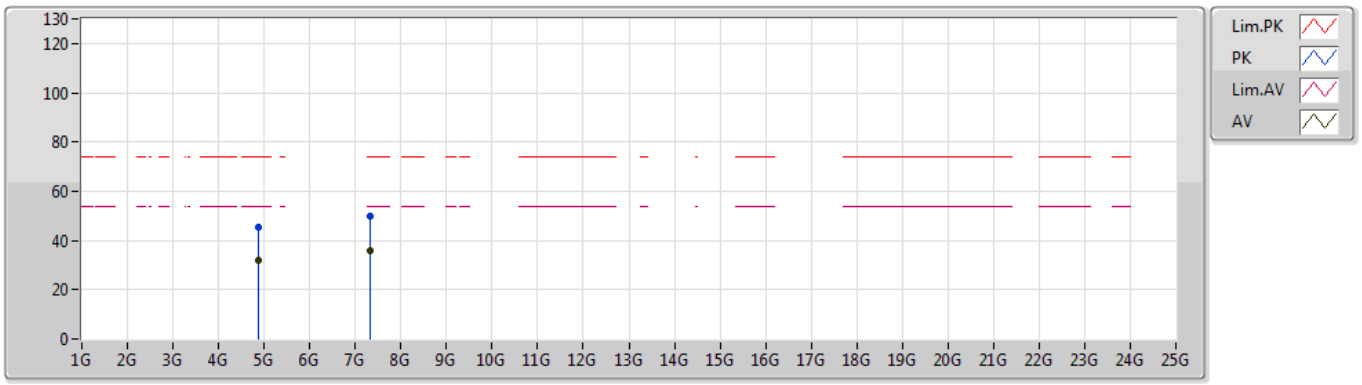
EUT Z_1TX
Setting 32
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.3676G	58.86	74.00	-15.14	31.15	3	Horizontal	87	2.66	-	27.71
AV	2.3892G	46.34	54.00	-7.66	31.20	3	Horizontal	87	2.66	-	15.14
PK	2.4404G	103.52	Inf	-Inf	31.31	3	Horizontal	87	2.66	-	72.21
AV	2.44G	99.37	Inf	-Inf	31.31	3	Horizontal	87	2.66	-	68.06
PK	2.4852G	59.76	74.00	-14.24	31.40	3	Horizontal	87	2.66	-	28.36
AV	2.4948G	47.03	54.00	-6.97	31.42	3	Horizontal	87	2.66	-	15.61

Thread_1TX

2440MHz_TX

08/10/2019



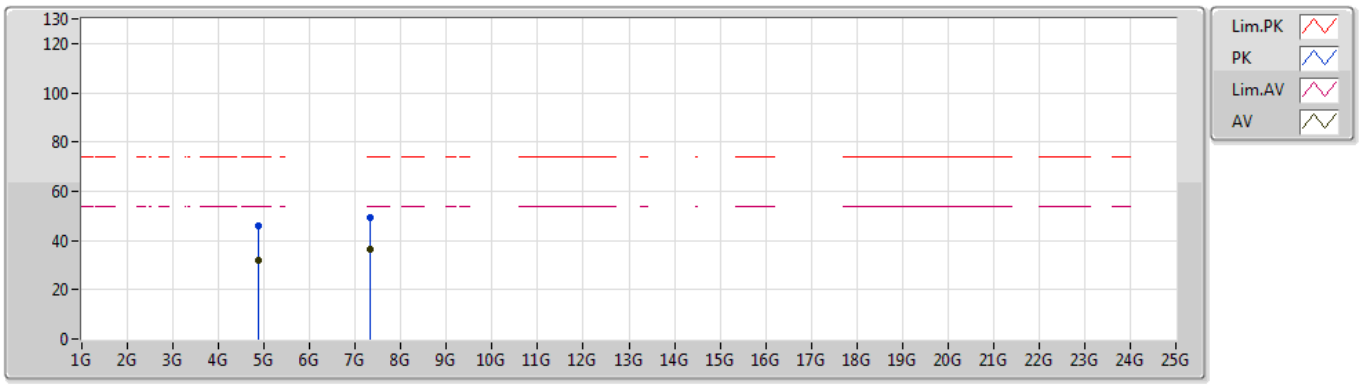
EUT Z_1TX
Setting 32
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.88088G	45.38	74.00	-28.62	7.30	3	Vertical	218	1.64	-	38.08
AV	4.8789G	31.78	54.00	-22.22	7.30	3	Vertical	218	1.64	-	24.48
PK	7.32127G	49.65	74.00	-24.35	10.59	3	Vertical	33	1.34	-	39.06
AV	7.32125G	35.78	54.00	-18.22	10.59	3	Vertical	33	1.34	-	25.19

Thread_1TX

08/10/2019

2440MHz_TX



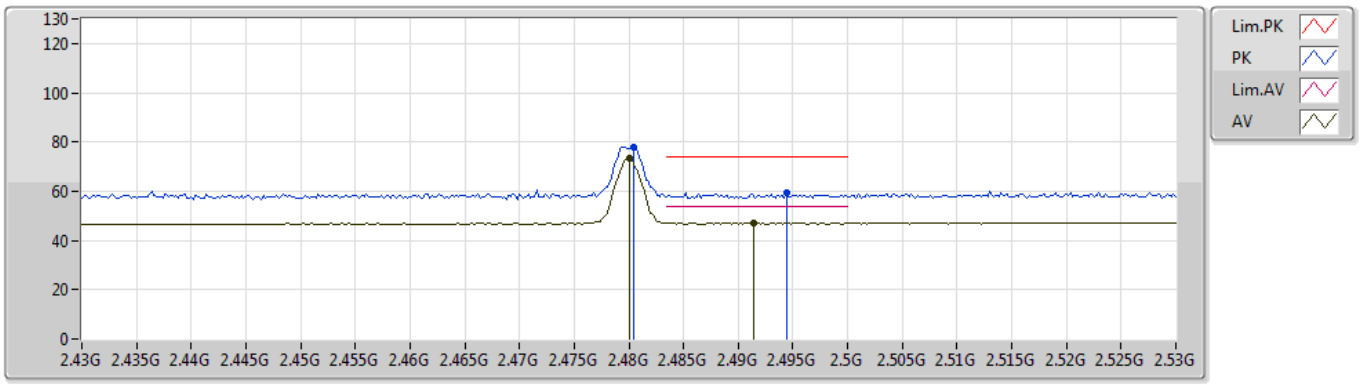
EUT Z_1TX
Setting 32
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.88094G	46.06	74.00	-27.94	7.30	3	Horizontal	198	1.32	-	38.76
AV	4.88073G	31.89	54.00	-22.11	7.30	3	Horizontal	198	1.32	-	24.59
PK	7.31838G	49.51	74.00	-24.49	10.57	3	Horizontal	334	2.69	-	38.94
AV	7.32131G	36.25	54.00	-17.75	10.59	3	Horizontal	334	2.69	-	25.66

Thread_1TX

08/10/2019

2480MHz_TX



EUT Z_1TX
Setting 12
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.4804G	78.05	Inf	-Inf	31.39	3	Vertical	274	1.48	-	46.66
AV	2.48G	73.53	Inf	-Inf	31.39	3	Vertical	274	1.48	-	42.14
PK	2.4944G	59.48	74.00	-14.52	31.42	3	Vertical	274	1.48	-	28.06
AV	2.4914G	47.03	54.00	-6.97	31.42	3	Vertical	274	1.48	-	15.61

Thread_1TX

2480MHz_TX

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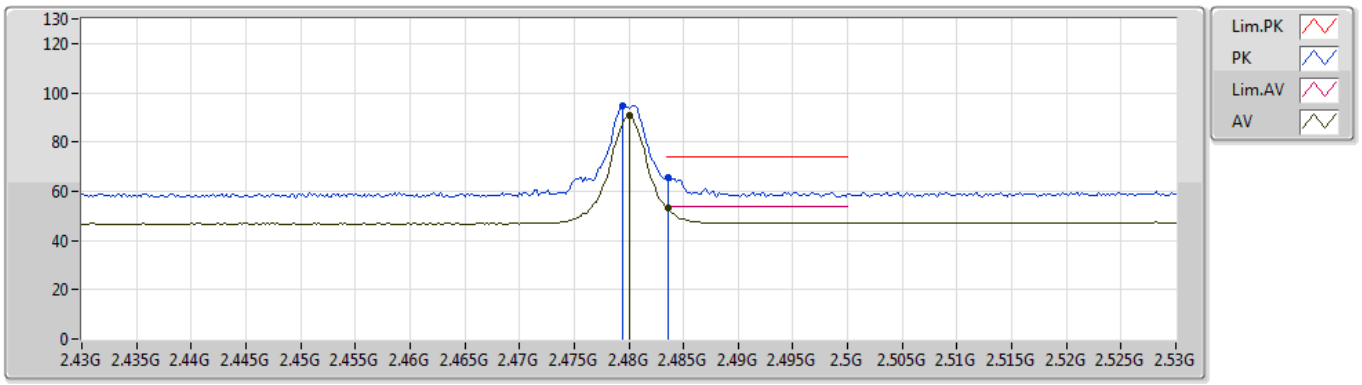

EUT Z_1TX
Setting 12
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	2.4794G	94.77	Inf	-Inf	31.39	3	Horizontal	90	2.59	-	63.38
AV	2.48G	90.59	Inf	-Inf	31.39	3	Horizontal	90	2.59	-	59.20
PK	2.4836G	65.60	74.00	-8.40	31.39	3	Horizontal	90	2.59	-	34.21
AV	2.4836G	53.40	54.00	-0.60	31.39	3	Horizontal	90	2.59	-	22.01

Thread_1TX

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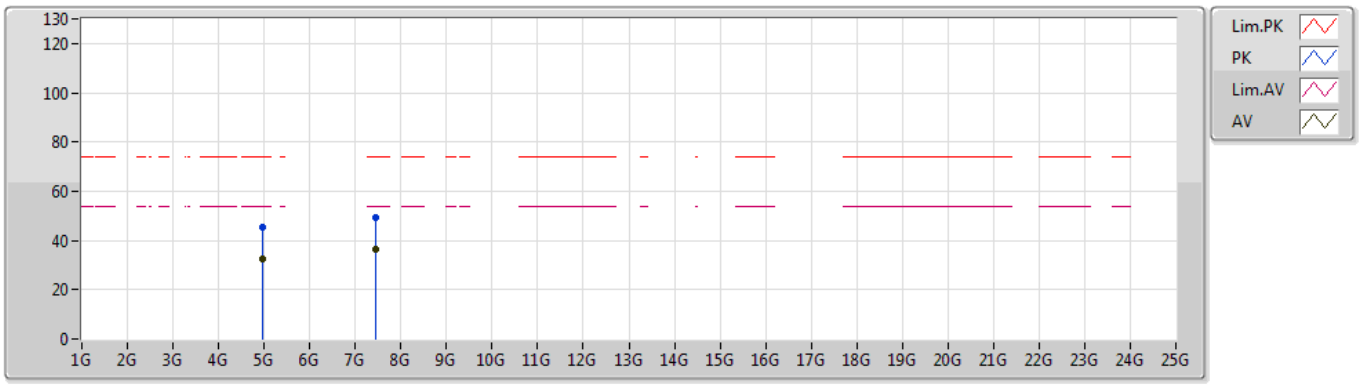
2480MHz_TX



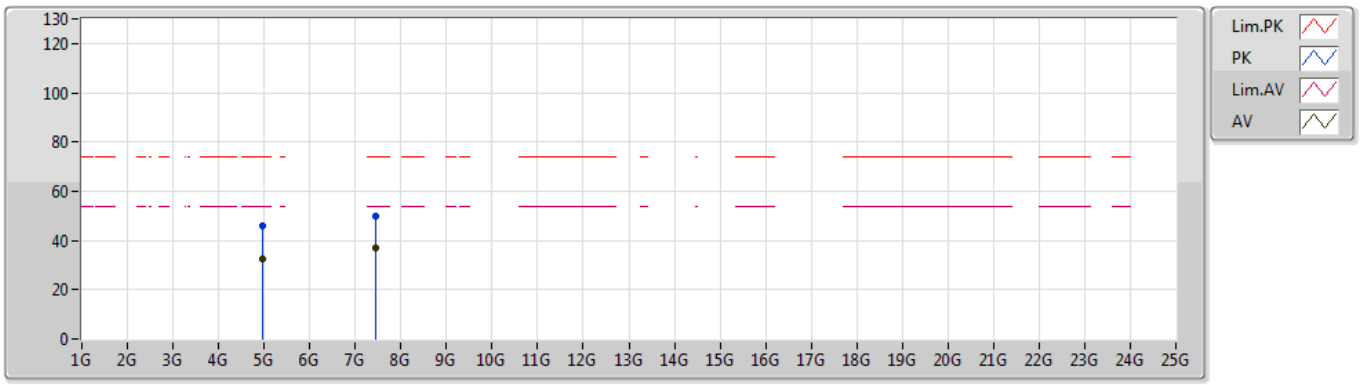
EUT Z_1TX
Setting 12
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.95618G	45.64	74.00	-28.36	7.48	3	Vertical	95	2.00	-	38.16
AV	4.95914G	32.73	54.00	-21.27	7.48	3	Vertical	95	2.00	-	25.25
PK	7.43896G	49.38	74.00	-24.62	10.90	3	Vertical	123	2.61	-	38.48
AV	7.44268G	36.24	54.00	-17.76	10.91	3	Vertical	123	2.61	-	25.33

Thread_1TX

08/10/2019

2480MHz_TX



EUT Z_1TX
Setting 12
02-W-3
FSU(100015)

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)
PK	4.95934G	46.12	74.00	-27.88	7.48	3	Horizontal	114	1.50	-	38.64
AV	4.95848G	32.44	54.00	-21.56	7.48	3	Horizontal	114	1.50	-	24.96
PK	7.44048G	49.60	74.00	-24.40	10.90	3	Horizontal	34	2.92	-	38.70
AV	7.44288G	36.87	54.00	-17.13	10.91	3	Horizontal	34	2.92	-	25.96