




FCC Test Report

FCC ID : QXO-AP310
Equipment : Wireless Access Point
Brand Name :  Extreme[®]
networks or Extreme Networks
Model Name : AP310i, AP310e
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 Oct. 18, 2019, and testing was started from Nov. 01, 2019 and completed on Jan. 02, 2020. 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: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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



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PHOTOGRAPHS OF EUT V01

Summary of Test Result

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

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and explanations:
None

Reviewed by: Jackson Tsai

Report Producer: Debby Hung

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Mode	Ch. Frequency (MHz)	Channel Spacing (MHz)	Channel Number
2400-2483.5	Thread	2405-2480	5	11-26 [16]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	Thread	5	1TX

Note:

- ◆ Thread uses a O-QPSK modulation for DSSS.
- ◆ BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

(AP310i) Internal Antenna

Ant.	Brand	Model Number (P/N)	Antenna Type	Connector	Antenna Gain (dBi)			Remark
					2.4GHz	5GHz	BLE/Thread	
1	SENAO	5718A0485300	PIFA	IPEX	4.5	5.17	-	Radio 1
2	SENAO	5718A0487300	PIFA	IPEX	4.53	5.07	-	Radio 1
3	SENAO	5718A0486300	PIFA	IPEX	-	4.81	-	Radio 2
4	SENAO	5718A0488300	PIFA	IPEX	-	4.75	-	Radio 2
5	SENAO	5718A0489300	PIFA	IPEX	-	-	4.74	Radio 3

(AP310e) External Antenna

Group	Brand	Model Number (P/N)	Antenna Type	Connector	Antenna Gain (dBi)		
					2.4GHz	5GHz	BLE/Thread
1	Extreme	ML-2452-APA2-01	Omni	Reverse SMA	3.17	4.85	-
2	Extreme	ML-2452-HPA5-036	Omni	Reverse SMA	3.9	5.7	-
3	Extreme	ML-2452-HPAG4A6-01	Omni	N-type	4	7.3	-
4	Extreme	ML-2452-PTA4M4-036	Omni	Reverse SMA	5	6.6	-
5	Extreme	ML-2452-HPAG5A8-01	Omni	N-type	5	8	-
6	Extreme	30724 WS-AO-DQ04360N	Omni	N-type	5.5	6	-
7	Extreme	AI-DQ04360S	Omni	Reverse SMA	5.5	6	-
8	Extreme	ML-2452-PNA5-01R	Panel	N-type	4.5	5	-



9	Extreme	ML-2452-SEC6M4-036, WS-AI-DQ05120 (30702)	Panel	Reverse SMA	6.92	7.23	-
10	Extreme	30705 WS-AI-DE07025	Panel	Reverse SMA	7.5	6.5	-
11	Extreme	ML-2452-PNA7-01R	Panel	N-type	7.8	10.7	7.8
12	Extreme	30707 WS-AI-DE10055	Panel	Reverse SMA	10.5	7.5	-
13	Extreme	ML-2452-APA2-02	Omni	Reverse SMA	3.17	4.85	-
14	Extreme	ML-2499-HPA8-01	Dipole	N-type	-	-	8

Note 1: Group 5, 11,12 were measured during the test for WLAN 2.4G Mode.
Note 2: Group 11,14 were measured during the test for Bluetooth/Thread Mode.
Note 3: Group 5,11 were measured during the test for WLAN 5G Mode.

For 2.4GHz function:

For IEEE 802.11 b/g/n/ax mode (1TX/1RX)
Only port 1 can be used as transmitting/receiving antenna.
For IEEE 802.11 b/g/n/ax mode (2TX/2RX)
Port 1 and port 2 could transmit/receive simultaneously.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)
Only port 1 can be used as transmitting/receiving antenna.

For Thread function:

For IEEE 802.15.4 Thread mode (1TX/1RX)
Only port 1 can be used as transmitting/receiving antenna.

For 5GHz function:

For IEEE 802.11 a/n/ac/ax mode (1TX/1RX)
Only port 1 can be used as transmitting/receiving antenna.
For IEEE 802.11 a/n/ac/ax mode (2TX/2RX)
Port 1 and port 2 could transmit/receive simultaneously.



1.1.3 EUT Information

Operational Condition	
EUT Power Type	From PoE
EUT Function	<input checked="" type="checkbox"/> Point-to-multipoint <input type="checkbox"/> Point-to-point
Type of EUT	
<input checked="" type="checkbox"/>	Stand-alone
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device)
	Combined Equipment - Brand Name / Model No.: ...
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems)
	Host System - Brand Name / Model No.: ...
<input type="checkbox"/>	Other:

1.1.4 Table for Multiple Listing

Sample Number	Model Name	Description
1	AP310i	The "i" in AP310i indicates that it comes with internal antennas and the "e" in AP310e indicates that the access point comes with external antenna connectors.
2	AP310e	

1.1.5 Mode Test Duty Cycle

Sample 1

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
Thread	0.888	0.52	2.665m	1k

Sample 2

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
Thread	0.884	0.54	2.665m	1k

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

1.2 Testing Applied Standards

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

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

1.3 Testing Location Information

Testing Location		
<input checked="" type="checkbox"/>	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
Test site Designation No. TW1190 with FCC.		
<input type="checkbox"/>	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.) TEL : 886-3-656-9065 FAX : 886-3-656-9085
Test site Designation No. TW0006 with FCC.		

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Edward Wang	20.3~23.1°C / 55.6~67.2%	26/Dec/2019~ 27/Dec/2019
RF Conducted	TH01-HY	Alan	23.1~25°C / 61~67%	01/Nov/2019~ 02/Jan/2020
Radiated	03CH02-HY	Dexter	22.3~24.6°C / 52~56%	06/Nov/2019~ 26/Dec/2019

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)	3.54 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	1.6 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.9 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%
Temperature	0.7 °C	Confidence levels of 95%
Humidity	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	CMD

Sample 1

Mode	Power Setting
Thread_Nss1_1TX	-
2405MHz	32
2440MHz	32
2480MHz	18

Sample 2_Dipole Antenna

Mode	Power Setting
Thread_Nss1_1TX	-
2405MHz	32
2440MHz	32
2480MHz	14




Sample 2_Panel 1 Antenna

Mode	Power Setting
Thread_Nss1_1TX	-
2405MHz	32
2440MHz	32
2480MHz	12

2.3 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	PoE mode (Sample 1)
2	PoE mode (Sample 2)

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
Operating Mode < 1GHz	CTX		
1	PoE mode (Sample 1)		
2	PoE mode (Sample 2_Dipole Antenna)		
3	PoE mode (Sample 2_Panel 1 Antenna)		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT	V	V	V

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Operating Mode	CTX
1	Radio 1 WLAN 2.4G+ Radio 2 WLAN 5G+ Thread
2	Radio 1 WLAN 5G+ Radio 2 WLAN 5G+ Thread
Refer to Sporton Test Report No.: FA992608 for Co-location RF Exposure Evaluation.	

2.4 Support Equipment

Support Equipment – AC Conduction				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Load	Sporton	-	-
2	USB 2.0 Flash	Transcend	D24425 2101	-
3	LAN Cable	Power Sync	UTP5-01	-
4	LAN Cable	Power Sync	CAT-6E-10	-
5	PoE	EnGenius	EPA5006GP	-
6	AC Power Cable	-	-	-
7	PoE for Beamforming	EnGenius	EPA5006GP	Remote
8	AC Power Cable	-	-	Remote
9	Notebook	DELL	PP13S	Remote
10	LAN Cable	Power Sync	CAT-6E-01	Remote
11	Adapter for NB	DELL	AA90PM111	Remote
12	AC Power Cable for NB	Power sync	PW-GPC180-3	Remote

Note: Support equipment No.5,6,7,8 were provided by customer.

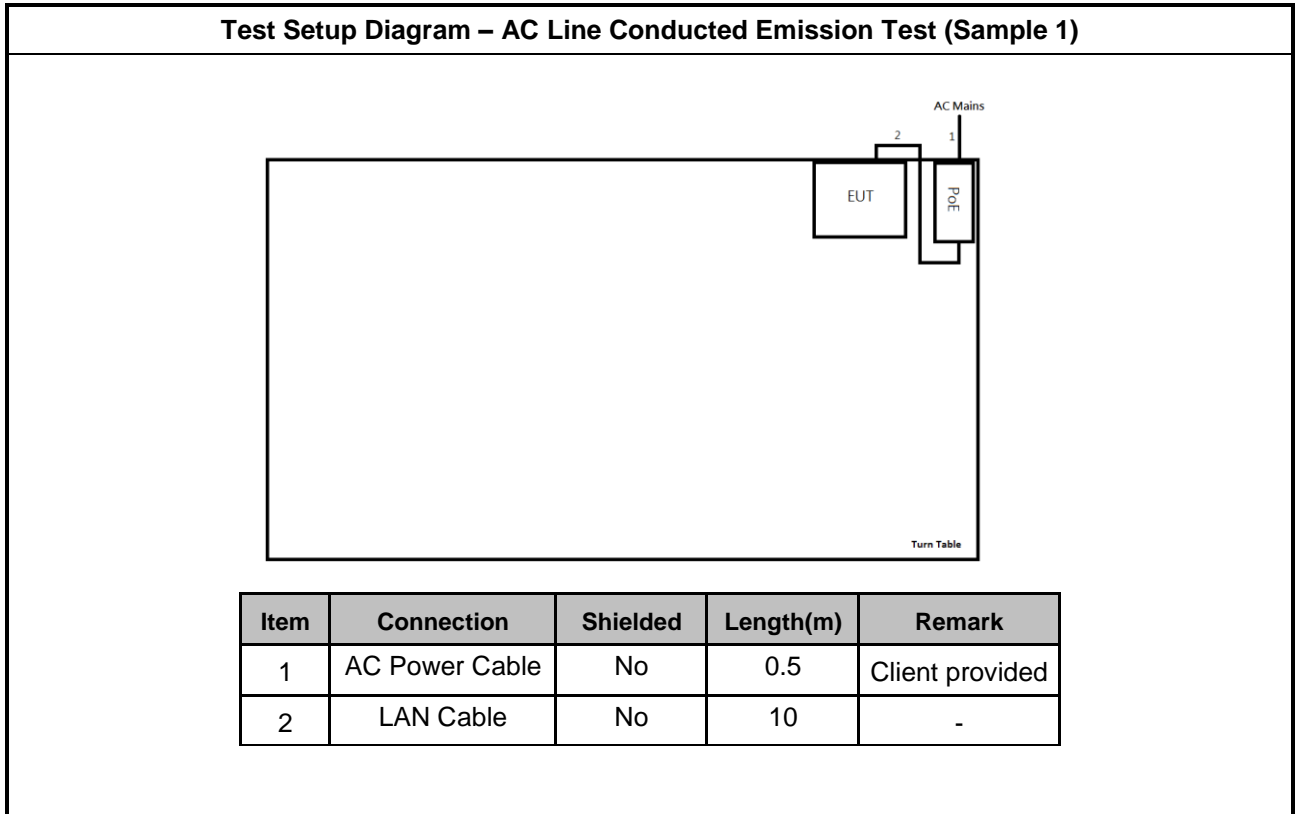
Support Equipment – RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	PP13S	R33002 / DOC
2	Adapter for NB	DELL	AA90PM111	R35737 / DOC
3	Notebook	DELL	PP13S	R33002 / DOC
4	Adapter for NB	DELL	AA90PM111	R35737 / DOC
5	PoE	EnGenius	EPA5006GP	-

Note: Support equipment No.5 was provided by customer.

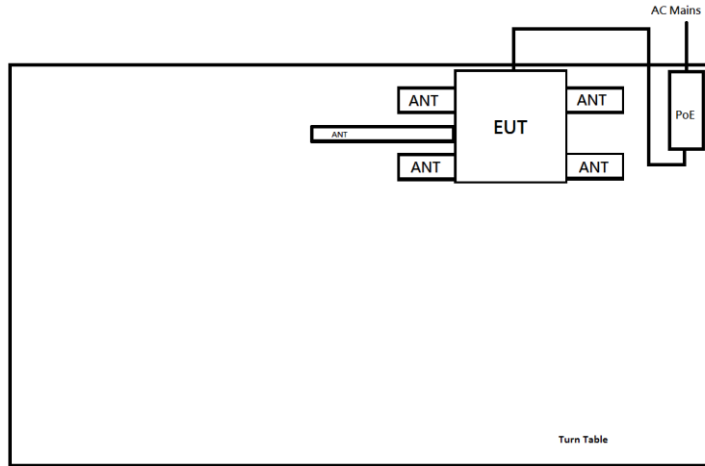
Support Equipment – Radiated Emission				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Load	Sporton	-	-
2	LAN Cable	Power Sync	CAT-6E-01	-
3	LAN Cable	Power Sync	CAT-6E-10	-
4	PoE	EnGenius	EPA5006GP	Remote
5	AC Power Cable	-	-	Remote
6	Notebook	DELL	M-S69	Remote
7	LAN Cable	Power Sync	CAT-6E-01	Remote
8	Adapter for Notebook	DELL	M-S69	Remote

Note: Support equipment No.4, 5 were provided by customer.

2.5 Test Setup Diagram

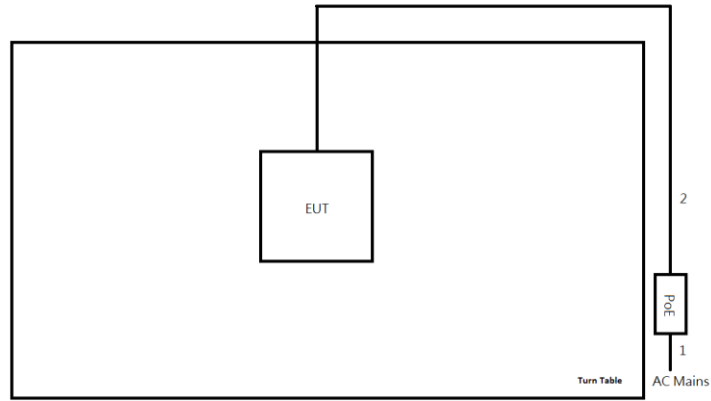


Test Setup Diagram – AC Line Conducted Emission Test (Sample 2)



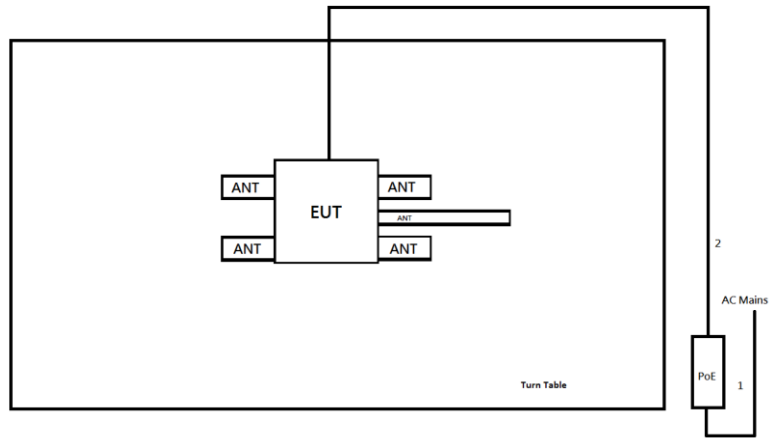
Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	0.5	Client provided
2	LAN Cable	No	10	-

Test Setup Diagram - Radiated Test (Sample 1)



Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	0.5	Client provided
2	LAN Cable	No	10	-

Test Setup Diagram - Radiated Test (Sample 2) Dipole



Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	0.5	Client provided
2	LAN Cable	No	10	-

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.

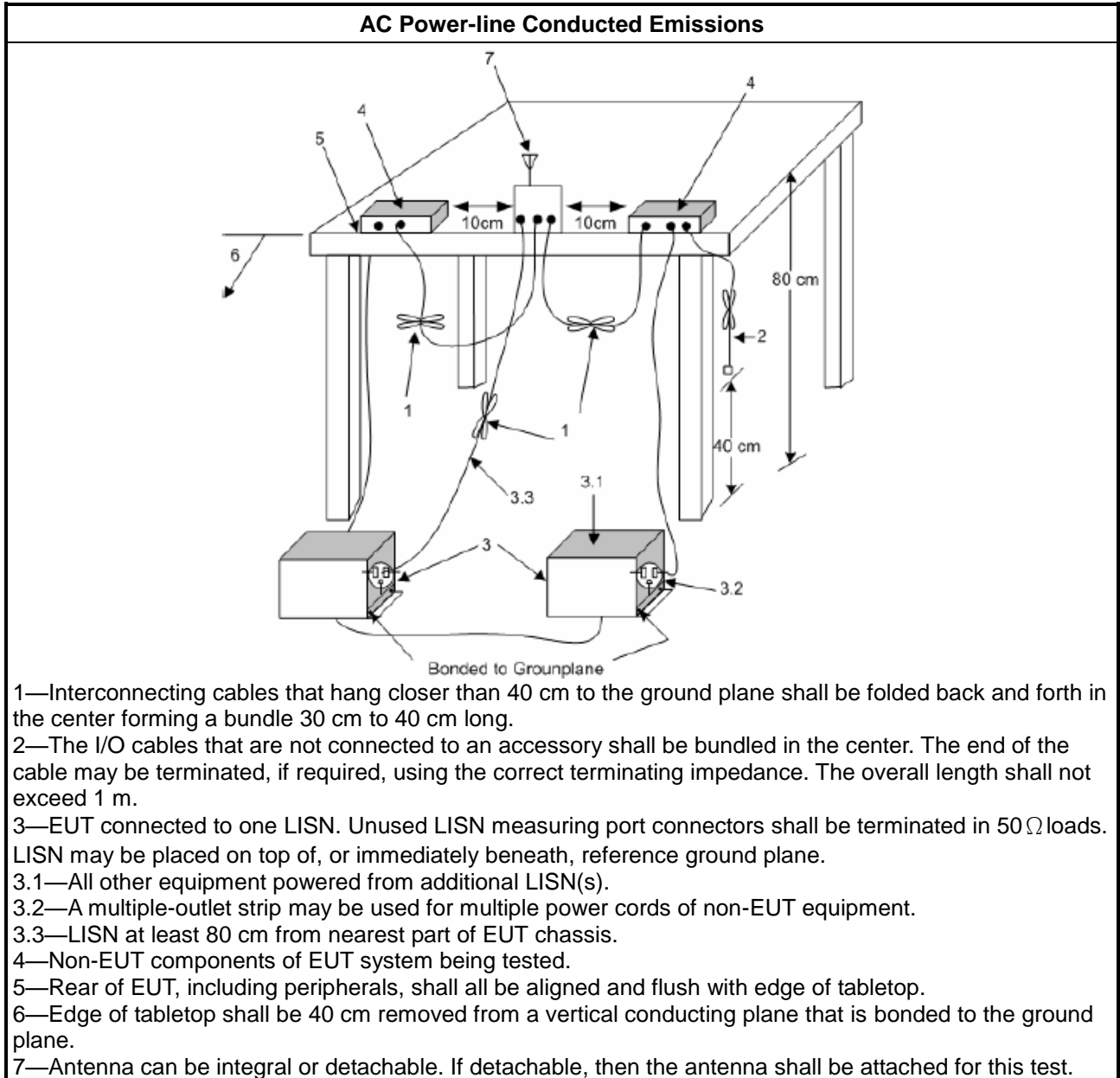
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method
<ul style="list-style-type: none"> ▪ Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

3.1.4 Test Setup



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:
<ul style="list-style-type: none"> ▪ 6 dB bandwidth \geq 500 kHz.

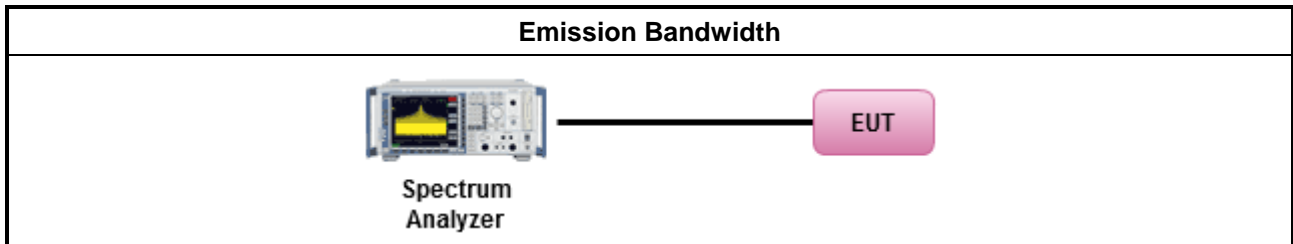
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method
<ul style="list-style-type: none"> ▪ For the emission bandwidth shall be measured using one of the options below:
<input checked="" type="checkbox"/> Refer as KDB 558074, clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.
<input type="checkbox"/> Refer as RSS-Gen, clause 6.7 for occupied bandwidth testing.
<input type="checkbox"/> Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

3.2.4 Test Setup



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	
	<ul style="list-style-type: none"> ▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm
	<ul style="list-style-type: none"> ▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> ▪ Smart antenna system (SAS):
	<ul style="list-style-type: none"> - Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB dBm
e.i.r.p. Power Limit:	
	<ul style="list-style-type: none"> ▪ 2400-2483.5 MHz Band
	<ul style="list-style-type: none"> ▪ Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)
	<ul style="list-style-type: none"> ▪ Point-to-point systems (P2P): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm
	<ul style="list-style-type: none"> ▪ Smart antenna system (SAS)
	<ul style="list-style-type: none"> - Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	<ul style="list-style-type: none"> - Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	<ul style="list-style-type: none"> - Aggregate power on all beams: $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])$ dBm
<p>P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.</p>	

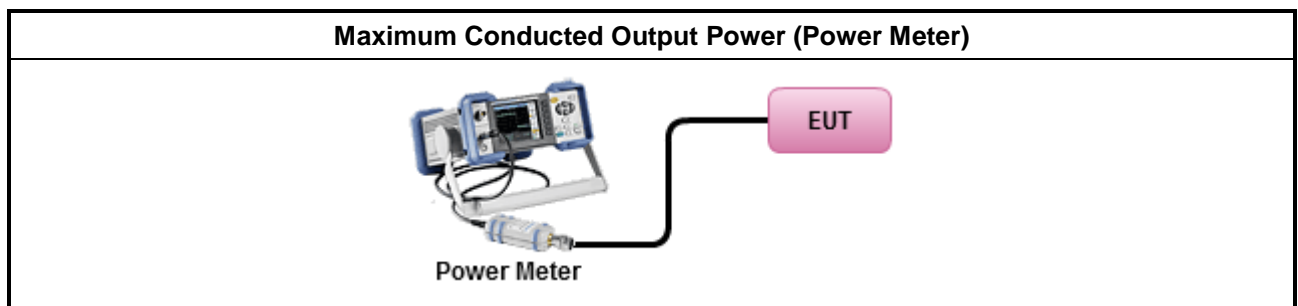
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> ▪ Maximum Peak Conducted Output Power 	
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
<ul style="list-style-type: none"> ▪ Maximum Average Conducted Output Power 	
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
<input checked="" type="checkbox"/>	Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
<ul style="list-style-type: none"> ▪ For conducted measurement. 	
<ul style="list-style-type: none"> ▪ If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them. 	
<ul style="list-style-type: none"> ▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$ 	

3.3.4 Test Setup



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
<ul style="list-style-type: none"> Power Spectral Density (PSD) ≤ 8 dBm/3kHz

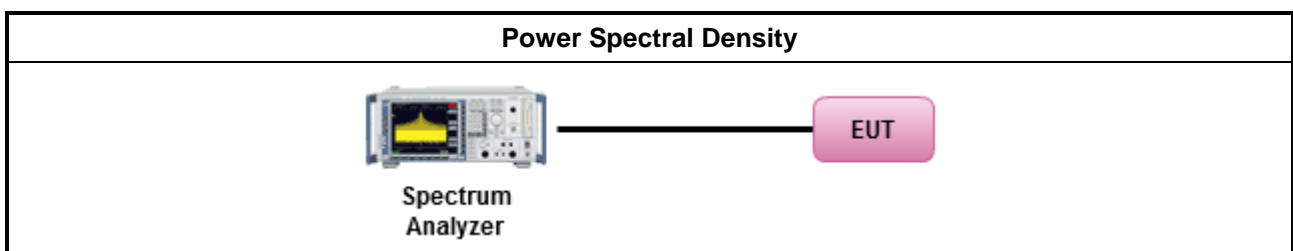
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
	<ul style="list-style-type: none"> 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).
<input checked="" type="checkbox"/>	Refer as KDB 558074, clause 8.4 (11.10 of ANSI C63.10) Method PKPSD.
	<ul style="list-style-type: none"> For conducted measurement.
	<ul style="list-style-type: none"> If The EUT supports multiple transmit chains using options given below:
	<ul style="list-style-type: none"> Measure and sum the spectra across the outputs. Refer as KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	Limit (dB)
Peak output power procedure	20
Average output power procedure	30

Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak level.

Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average level.

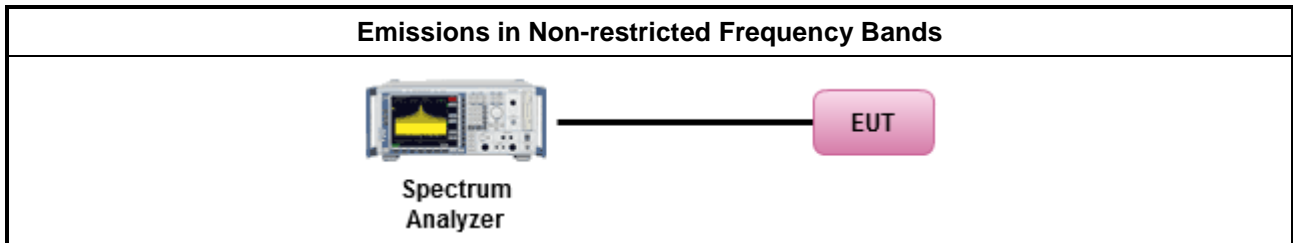
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
<ul style="list-style-type: none"> Refer as KDB 558074, clause 8.5 (11.11 of ANSI C63.10) for non-restricted frequency bands.

3.5.4 Test Setup



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.

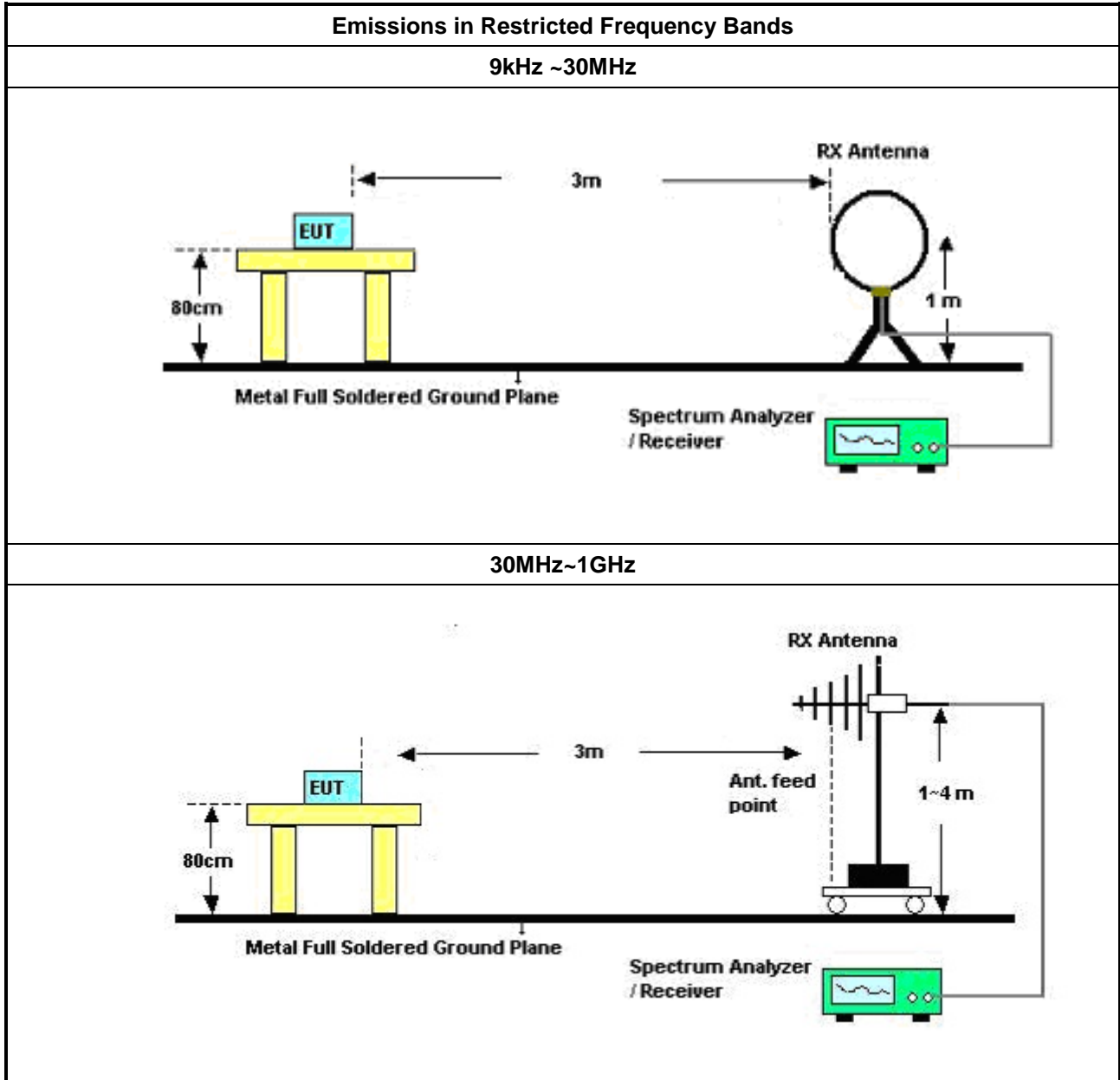
3.6.2 Measuring Instruments

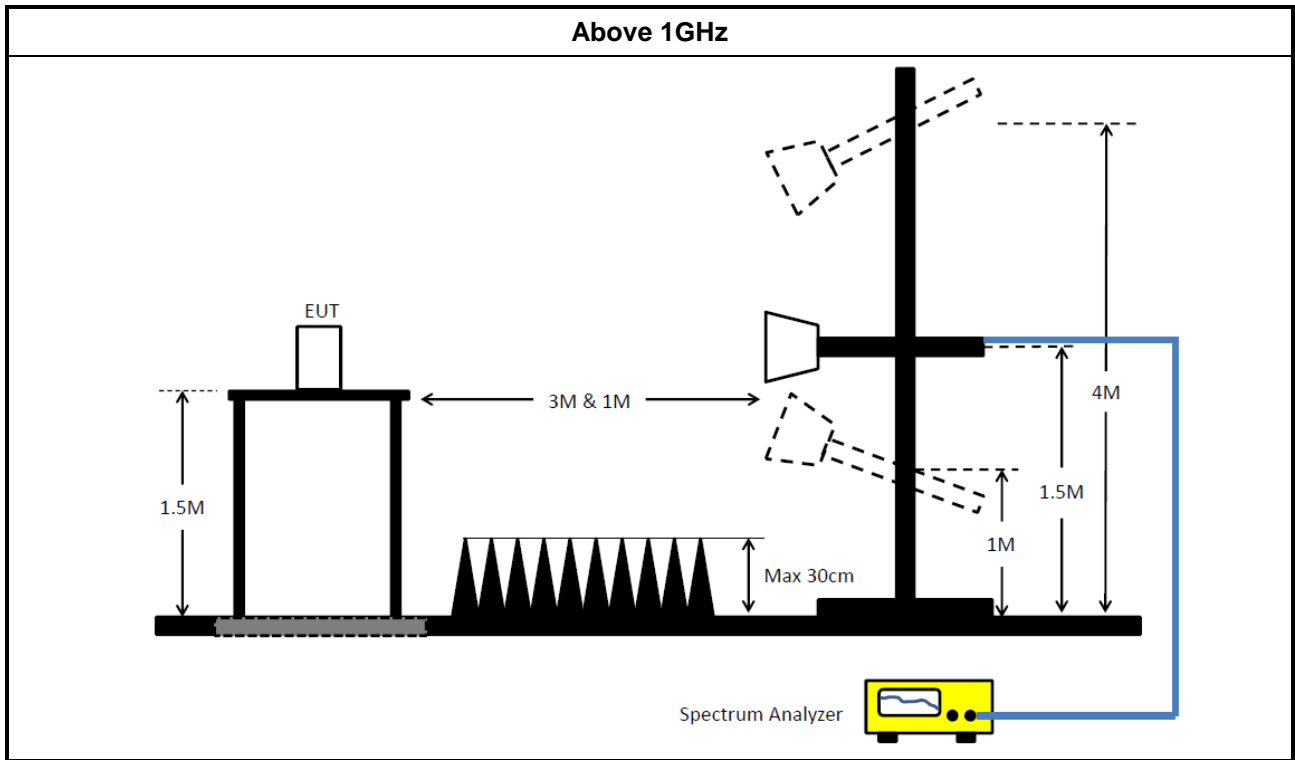
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Test Method	
	<ul style="list-style-type: none"> ▪ The average emission levels shall be measured in [duty cycle \geq 98 or duty factor].
	<ul style="list-style-type: none"> ▪ 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.
	<ul style="list-style-type: none"> ▪ For the transmitter unwanted emissions shall be measured using following options below:
	<ul style="list-style-type: none"> ▪ Refer as KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
	<ul style="list-style-type: none"> ▪ For the transmitter band-edge emissions shall be measured using following options below:
	<ul style="list-style-type: none"> ▪ Refer as KDB 558074 clause 8.7.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
	<ul style="list-style-type: none"> ▪ Refer as KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
	<ul style="list-style-type: none"> ▪ Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels.
	<ul style="list-style-type: none"> ▪ Use the following spectrum analyzer settings:
	<ul style="list-style-type: none"> ▪ Set RBW=100 kHz for $f < 1$ GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
	<ul style="list-style-type: none"> ▪ Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement. For average measurement, refer as 1.1.4.
	<ul style="list-style-type: none"> ▪ KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.
	<ul style="list-style-type: none"> ▪ 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.
	<ul style="list-style-type: none"> ▪ Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

3.6.4 Test Setup





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

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

3.6.6 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMC Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2019	08/Apr/2020
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	05/Nov/2019	04/Nov/2020
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	12/Sep/2019	11/Sep/2020
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	24/Sep/2019	23/Sep/2020

NCR : Non-Calibration Require

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	10Hz~40GHz	13/Mar/2019	12/Mar/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/2020
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	19/Feb/2019	18/Feb/2020
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	19/Feb/2019	18/Feb/2020
Cable 0.2m	HUBER	MY10710/4	RF Cable - 01	30MHz~18G	11/Jan/2019	10/Jan/2020
Cable 0.2m	HUBER	MY10711/4	RF Cable - 02	30MHz~18G	11/Jan/2019	10/Jan/2020
Cable 0.5m	HUBER	MY10714/4	RF Cable - 05	30MHz~1G	11/Jan/2019	10/Jan/2020



Instrument for Radiated Test

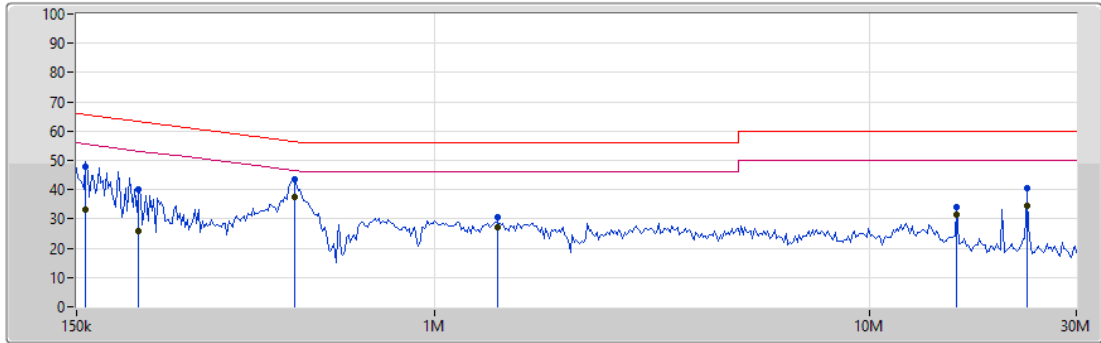
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz ~ 1GHz 3m	30/Aug/2019	29/Aug/2020
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz ~ 18GHz 3m	30/Aug/2019	29/Aug/2020
Amplifier	HP	8447D	2944A08033	10kHz ~ 1.3GHz	22/Apr/2019	21/Apr/2020
EMI Test Receiver	R&S	ESR3	102052	9kHz ~ 3.6GHz	09/Apr/2019	08/Apr/2020
Bilog Antenna & 5db Attenuator	SCHAFFNER/MTJ	CBL6112D / MTJ6102-05	2678 / 001	30MHz ~ 2GHz	06/Jul/2019	05/Jul/2020
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2723 / 2	30MHz ~ 2GHz	11/Oct/2019	10/Oct/2020
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz ~ 26.5GHz	23/Oct/2018	22/Oct/2019
Microwave System Preamplifier	KEYSIGHT	83017A	MY53270196	1GHz ~ 26.5GHz	09/Sep/2019	08/Sep/2020
Signal Analyzer	R&S	FSP40	100305	9 kHz ~ 40 GHz;-140+30dBm	10/Jun/2019	09/Jun/2020
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	22/Mar/2019	21/Mar/2020
RF CABLE 6m	HUBER+SUHNER	SUOFLEX 104	SN 805801/4	1GHz ~ 40GHz	21/Mar/2019	20/Mar/2020
RF CABLE	HUBER+SUHNER	SUOFLEX 104	802378/4	1 GHz ~ 18 GHz	04/Jul/2019	03/Jul/2020
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	15GHz ~ 40GHz	22/Mar/2019	21/Mar/2020
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1531	1GHz ~ 18GHz	09/Mar/2019	08/Mar/2020
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	15/Mar/2019	14/Mar/2020



AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	Sample 1; PoE mode; Thread 2.4G TX		

26/12/2019



Legend for graph:

- Lim.PK (Red line)
- PK (Blue line)
- Lim.AV (Pink line)
- AV (Green line)

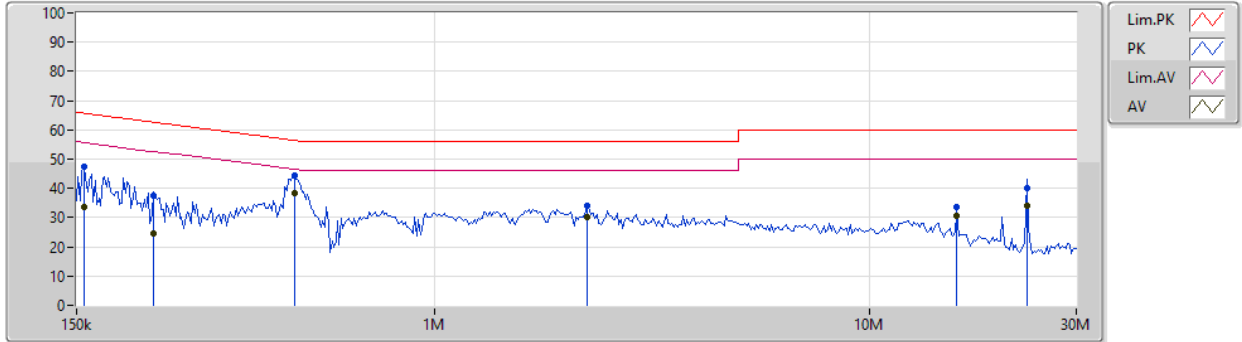
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
AV	157.652k	33.34	55.58	-22.24	19.63	Neutral	-	13.71	9.65	0.11	9.87
AV	208.304k	25.73	53.27	-27.54	19.62	Neutral	-	6.11	9.64	0.11	9.87
AV	475.741k	37.58	46.42	-8.84	19.63	Neutral	"Worst"	17.95	9.63	0.13	9.87
AV	1.393M	27.35	46.00	-18.65	19.65	Neutral	-	7.70	9.64	0.13	9.88
AV	15.952M	31.59	50.00	-18.41	19.91	Neutral	-	11.68	9.71	0.32	9.88
AV	23.052M	34.29	50.00	-15.71	19.97	Neutral	-	14.32	9.70	0.39	9.88
QP	157.652k	47.97	65.58	-17.61	19.63	Neutral	-	28.34	9.65	0.11	9.87
QP	208.304k	40.29	63.27	-22.98	19.62	Neutral	-	20.67	9.64	0.11	9.87
QP	475.741k	43.57	56.42	-12.85	19.63	Neutral	-	23.94	9.63	0.13	9.87
QP	1.393M	30.69	56.00	-25.31	19.65	Neutral	-	11.04	9.64	0.13	9.88
QP	15.952M	34.05	60.00	-25.95	19.91	Neutral	-	14.14	9.71	0.32	9.88
QP	23.052M	40.45	60.00	-19.55	19.97	Neutral	-	20.48	9.70	0.39	9.88



AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	Sample 1; PoE mode; Thread 2.4G TX		

26/12/2019

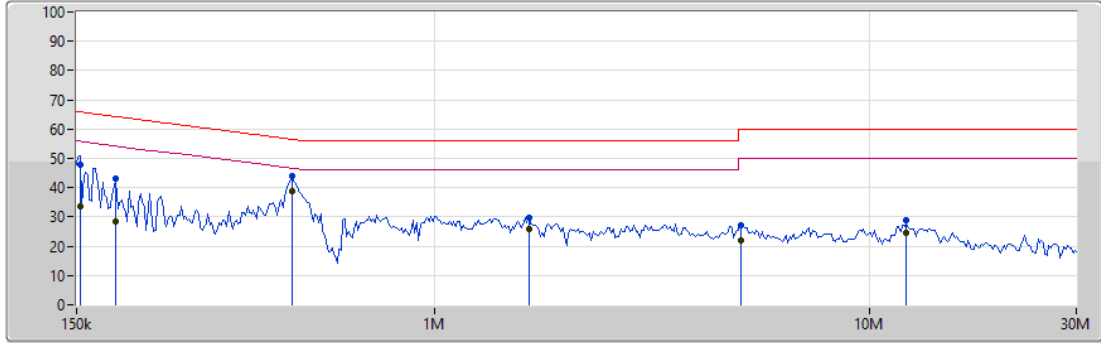


Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	156.091k	47.61	65.67	-18.06	19.64	Line	-	27.97	9.66	0.11	9.87
AV	156.091k	33.57	55.67	-22.10	19.64	Line	-	13.93	9.66	0.11	9.87
QP	225.563k	37.41	62.62	-25.21	19.64	Line	-	17.77	9.65	0.12	9.87
AV	225.563k	24.58	52.62	-28.04	19.64	Line	-	4.94	9.65	0.12	9.87
QP	475.741k	44.27	56.42	-12.15	19.64	Line	-	24.63	9.64	0.13	9.87
AV	475.741k	38.20	46.42	-8.22	19.64	Line	"Worst"	18.56	9.64	0.13	9.87
QP	2.246M	34.20	56.00	-21.80	19.68	Line	-	14.52	9.65	0.16	9.87
AV	2.246M	30.27	46.00	-15.73	19.68	Line	-	10.59	9.65	0.16	9.87
QP	15.952M	33.77	60.00	-26.23	19.86	Line	-	13.91	9.66	0.32	9.88
AV	15.952M	30.59	50.00	-19.41	19.86	Line	-	10.73	9.66	0.32	9.88
QP	23.052M	40.22	60.00	-19.78	19.86	Line	-	20.36	9.59	0.39	9.88
AV	23.052M	34.25	50.00	-15.75	19.86	Line	-	14.39	9.59	0.39	9.88

AC Power-line Conducted Emissions Result

Operating Mode	2	Power Phase	Neutral
Operating Function	Sample 2; PoE mode; Thread 2.4G TX		

27/12/2019



Legend for graph:

- Lim.PK (Red line)
- PK (Blue line)
- Lim.AV (Pink line)
- AV (Black line)

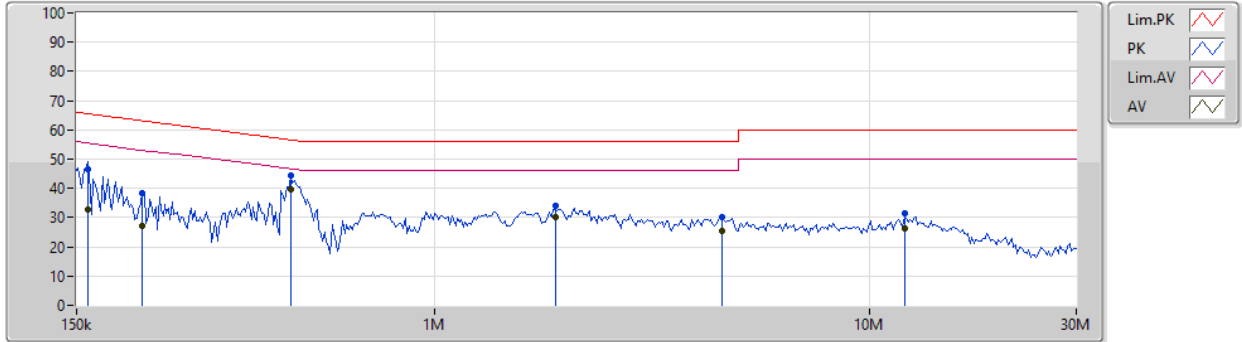
Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	153.015k	47.70	65.83	-18.13	19.63	Neutral	-	28.07	9.65	0.11	9.87
AV	153.015k	33.56	55.83	-22.27	19.63	Neutral	-	13.93	9.65	0.11	9.87
QP	184.859k	43.05	64.26	-21.21	19.62	Neutral	-	23.43	9.64	0.11	9.87
AV	184.859k	28.65	54.26	-25.61	19.62	Neutral	-	9.03	9.64	0.11	9.87
QP	471.031k	44.05	56.50	-12.45	19.63	Neutral	-	24.42	9.63	0.13	9.87
AV	471.031k	38.96	46.50	-7.54	19.63	Neutral	"Worst"	19.33	9.63	0.13	9.87
QP	1.65M	29.91	56.00	-26.09	19.65	Neutral	-	10.26	9.64	0.14	9.87
AV	1.65M	25.92	46.00	-20.08	19.65	Neutral	-	6.27	9.64	0.14	9.87
QP	5.08M	27.33	60.00	-32.67	19.75	Neutral	-	7.58	9.67	0.20	9.88
AV	5.08M	22.11	50.00	-27.89	19.75	Neutral	-	2.36	9.67	0.20	9.88
QP	12.194M	28.97	60.00	-31.03	19.88	Neutral	-	9.09	9.71	0.29	9.88
AV	12.194M	24.37	50.00	-25.63	19.88	Neutral	-	4.49	9.71	0.29	9.88



AC Power-line Conducted Emissions Result

Operating Mode	2	Power Phase	Line
Operating Function	Sample 2; PoE mode; Thread 2.4G TX		

27/12/2019



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	159.228k	46.69	65.50	-18.81	19.64	Line	-	27.05	9.66	0.11	9.87
AV	159.228k	32.72	55.50	-22.78	19.64	Line	-	13.08	9.66	0.11	9.87
QP	212.49k	38.50	63.11	-24.61	19.63	Line	-	18.87	9.65	0.11	9.87
AV	212.49k	27.08	53.11	-26.03	19.63	Line	-	7.45	9.65	0.11	9.87
QP	466.367k	44.19	56.57	-12.38	19.64	Line	-	24.55	9.64	0.13	9.87
AV	466.367k	39.84	46.57	-6.73	19.64	Line	"Worst"	20.20	9.64	0.13	9.87
QP	1.897M	34.23	56.00	-21.77	19.67	Line	-	14.56	9.65	0.15	9.87
AV	1.897M	30.14	46.00	-15.86	19.67	Line	-	10.47	9.65	0.15	9.87
QP	4.599M	30.28	56.00	-25.72	19.74	Line	-	10.54	9.66	0.20	9.88
AV	4.599M	25.37	46.00	-20.63	19.74	Line	-	5.63	9.66	0.20	9.88
QP	12.073M	31.29	60.00	-28.71	19.85	Line	-	11.44	9.68	0.29	9.88
AV	12.073M	26.46	50.00	-23.54	19.85	Line	-	6.61	9.68	0.29	9.88



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
Thread_Nss1_1TX	1.6M	2.364M	2M36D1D	1.569M	2.344M

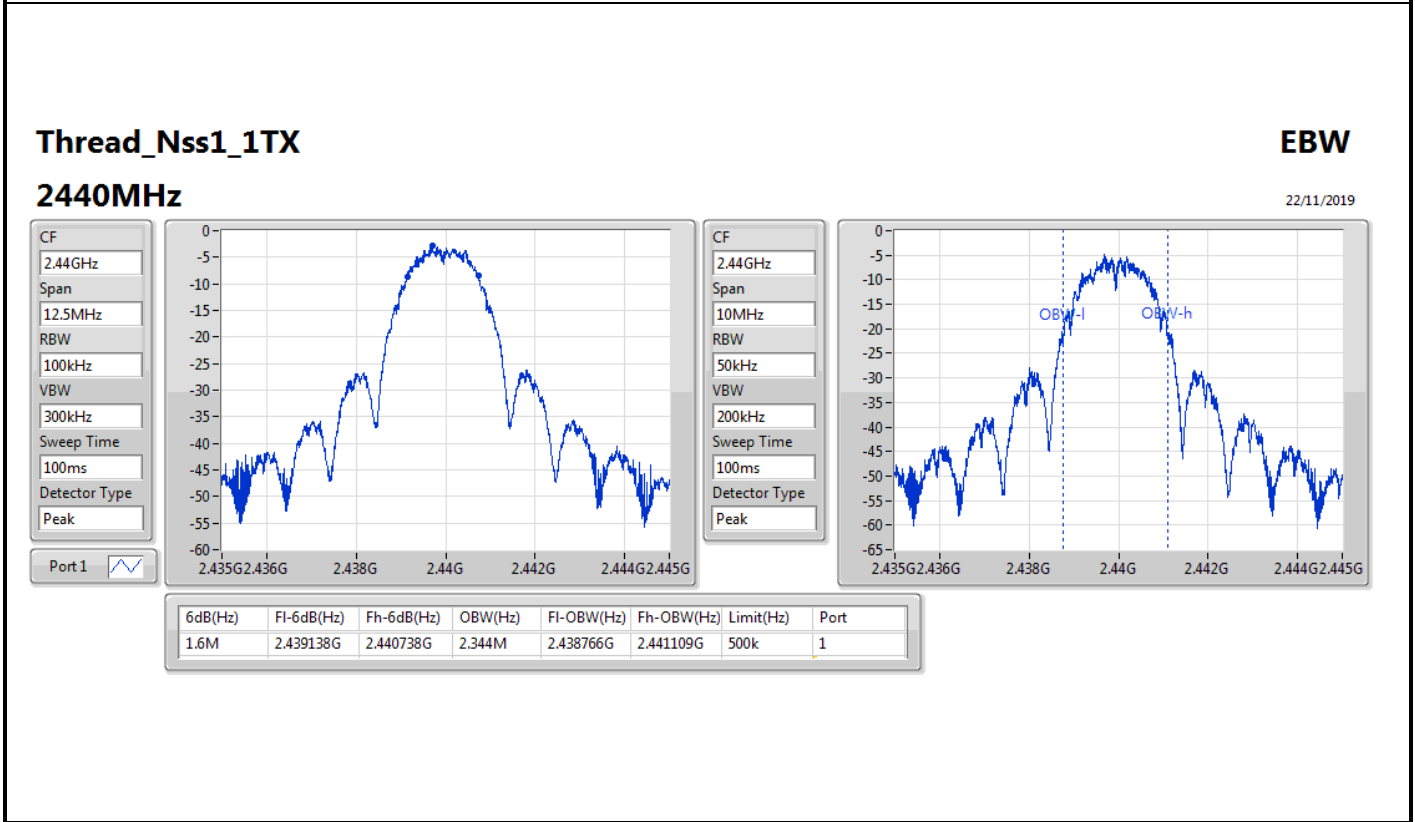
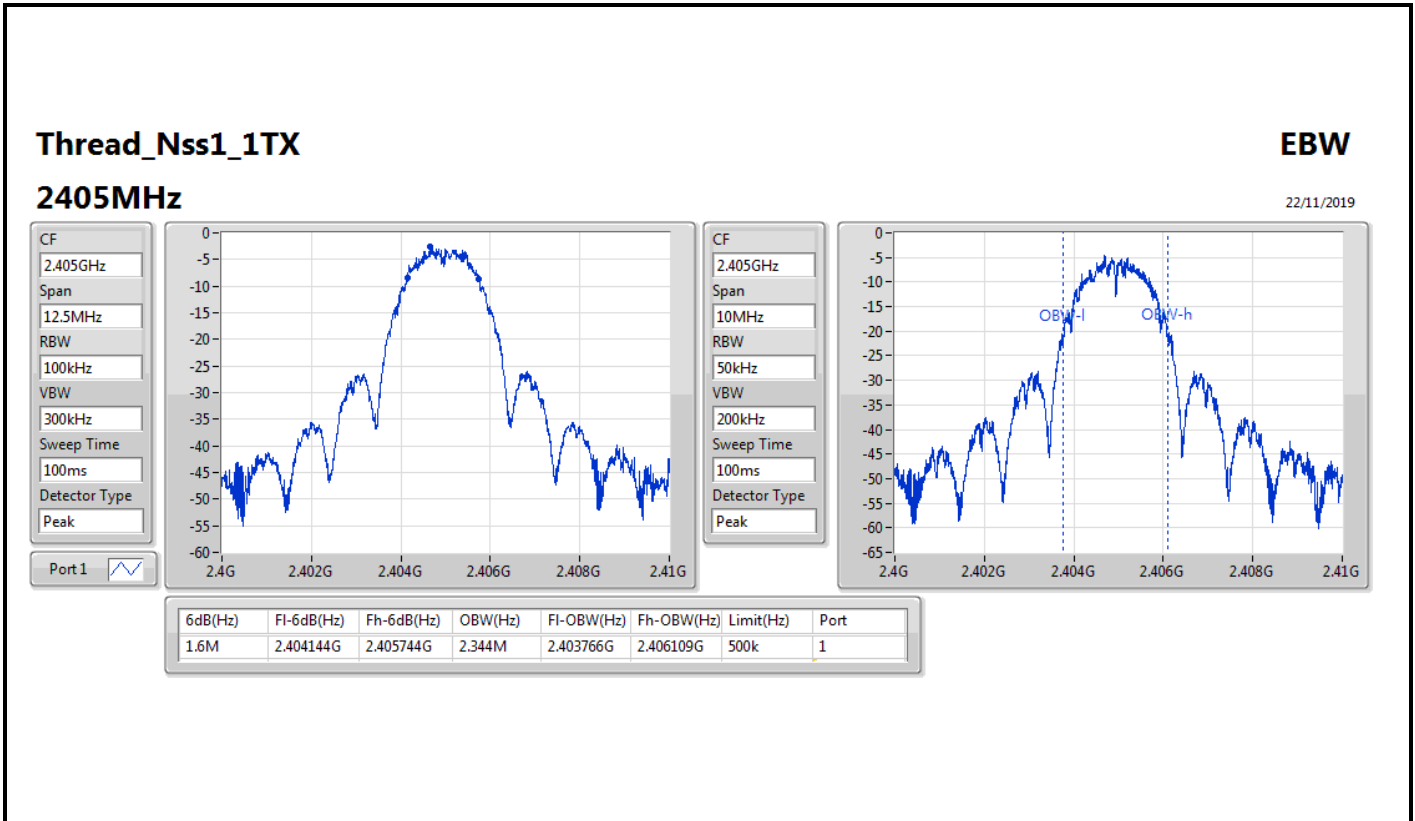
Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;



Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
Thread_Nss1_1TX	-	-	-	-
2405MHz	Pass	500k	1.6M	2.344M
2440MHz	Pass	500k	1.6M	2.344M
2480MHz	Pass	500k	1.569M	2.364M

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



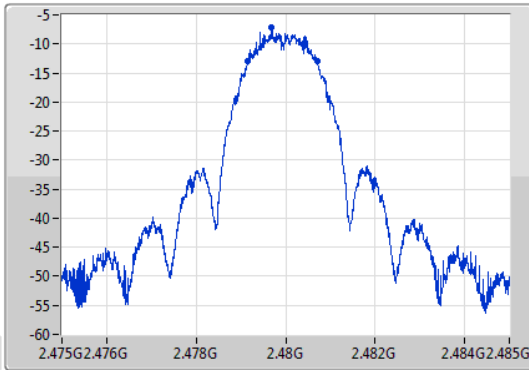
Thread_Nss1_1TX

EBW

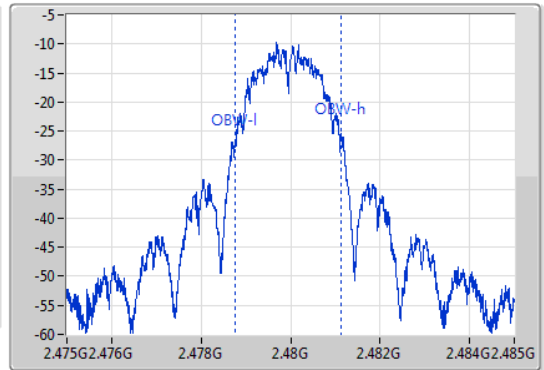
2480MHz

22/11/2019

CF
2.48GHz
Span
12.5MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.48GHz
Span
10MHz
RBW
50kHz
VBW
200kHz
Sweep Time
100ms
Detector Type
Peak



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.569M	2.47915G	2.480719G	2.364M	2.478761G	2.481124G	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_Nss1_1TX	1.606M	2.344M	2M34D1D	1.581M	2.339M

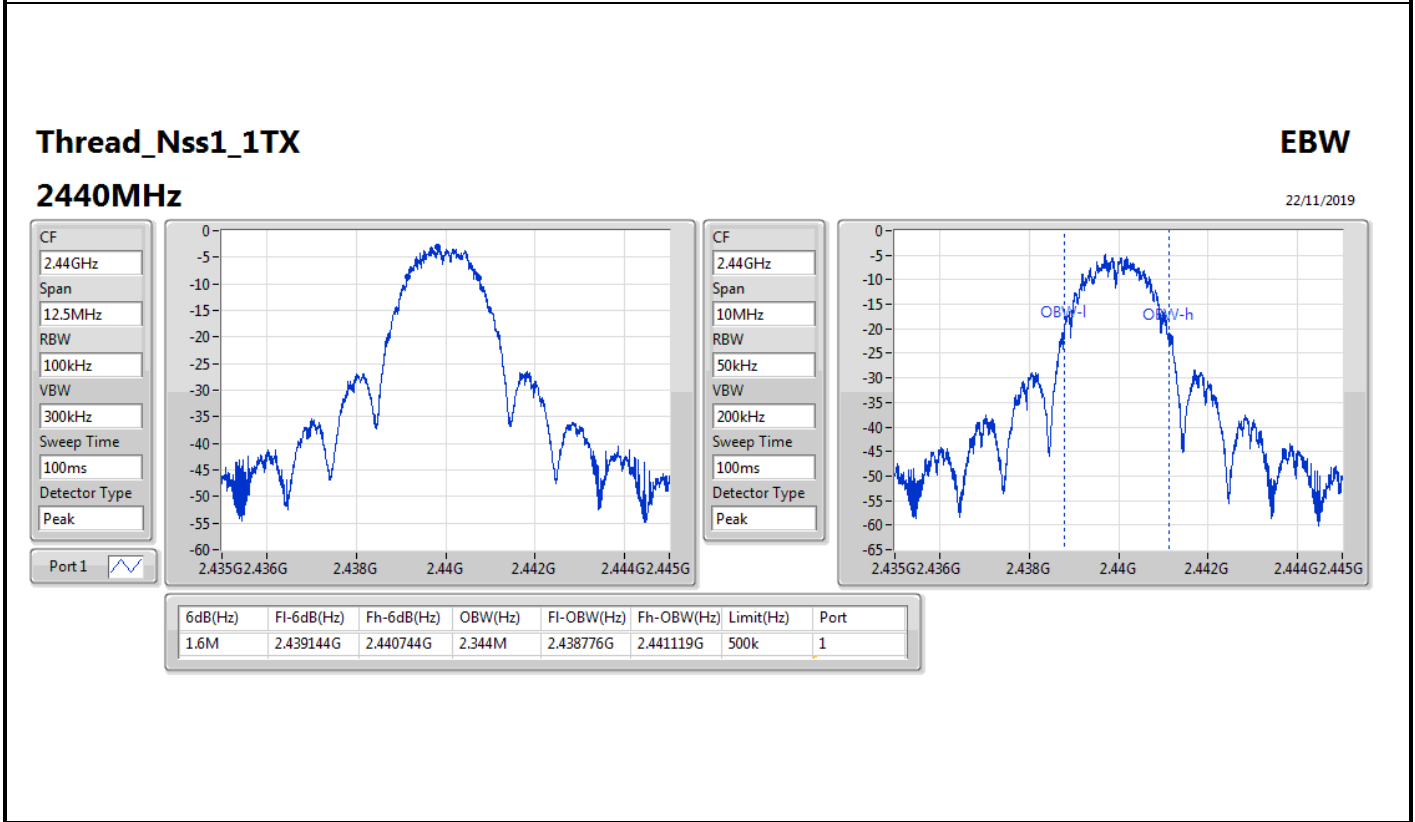
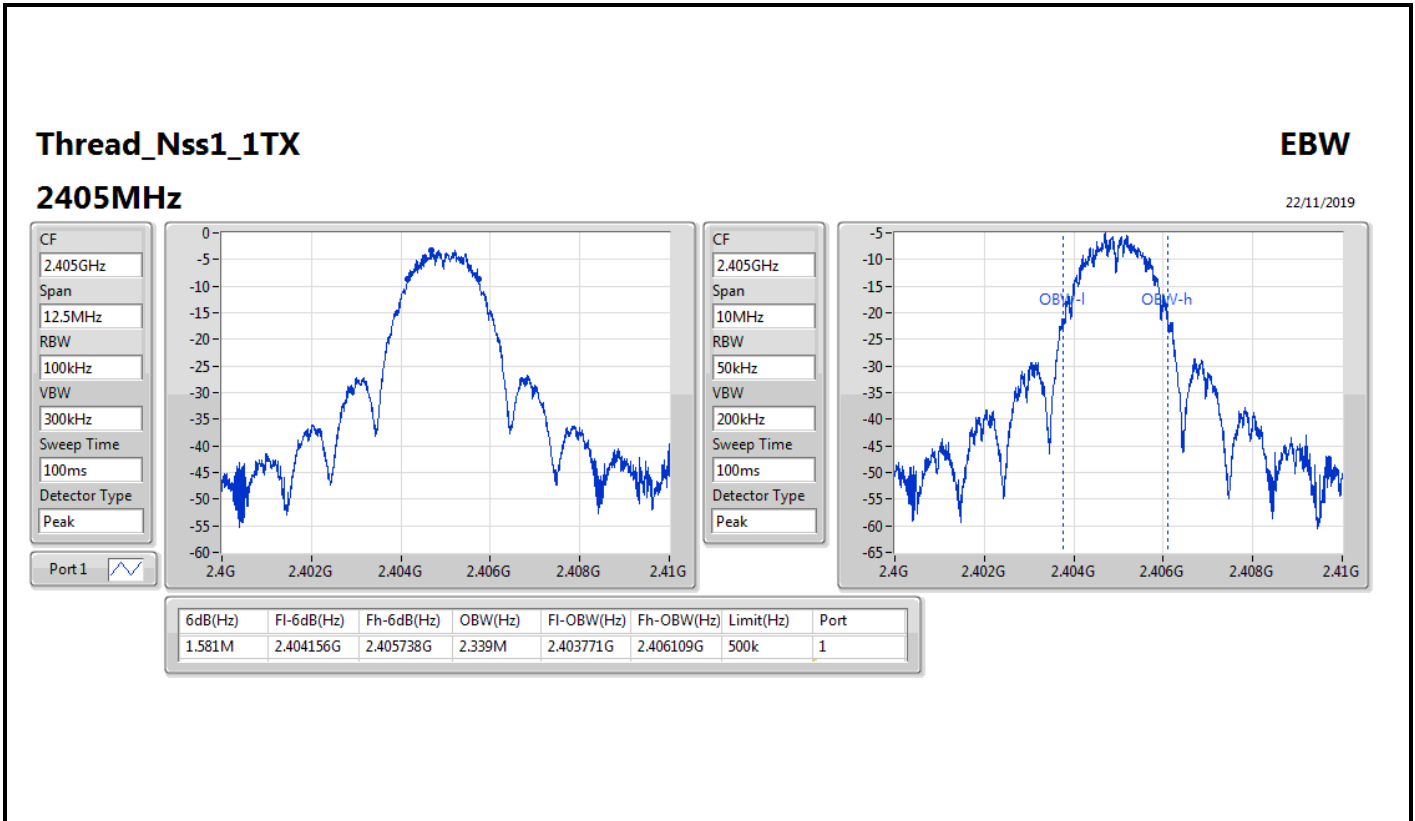
Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

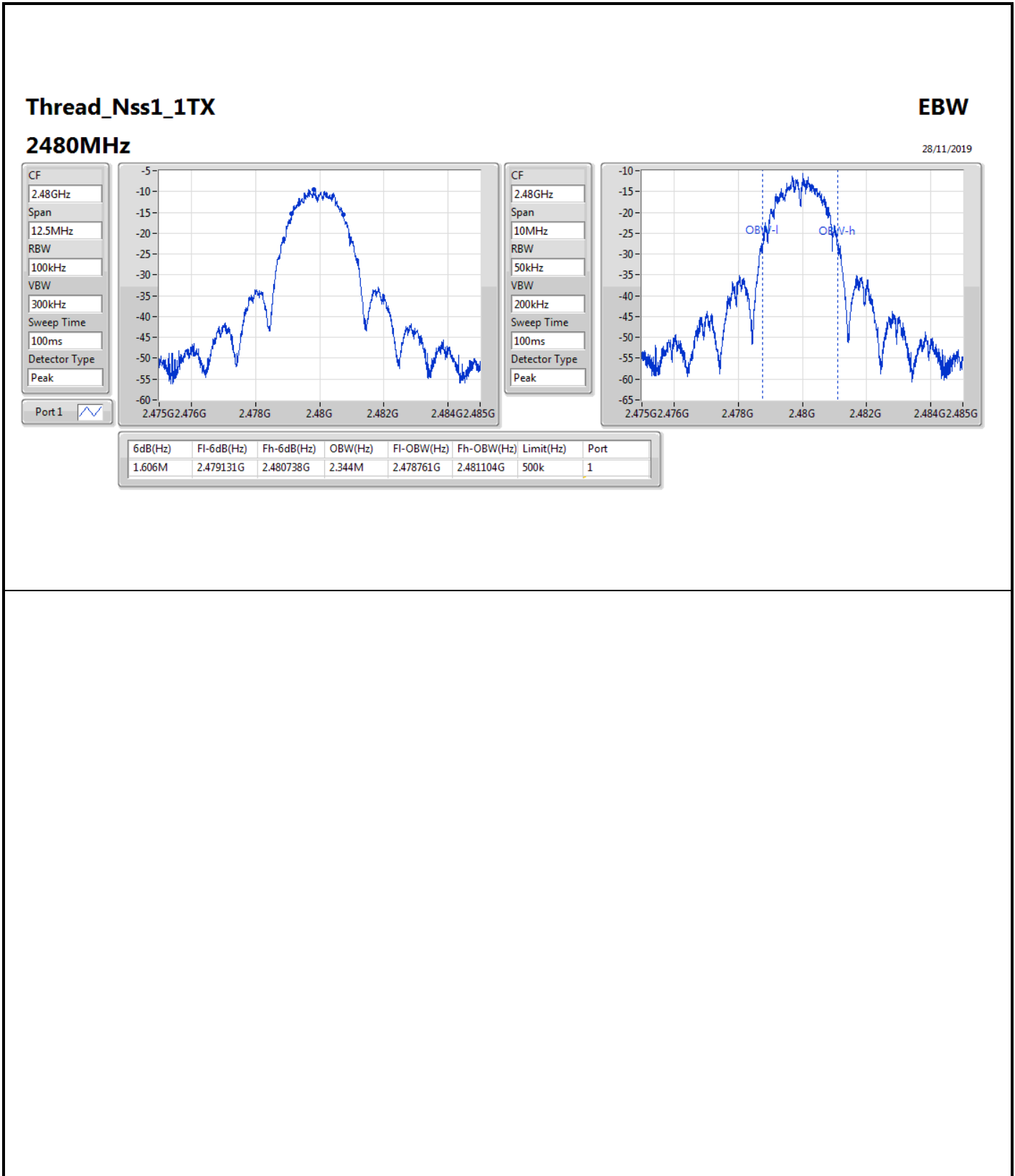


Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
Thread_Nss1_1TX	-	-	-	-
2405MHz_TnomVnom	Pass	500k	1.581M	2.339M
2440MHz_TnomVnom	Pass	500k	1.6M	2.344M
2480MHz_TnomVnom	Pass	500k	1.606M	2.344M

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







Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
Thread_Nss1_1TX	1.6M	2.344M	2M34D1D	1.581M	2.334M

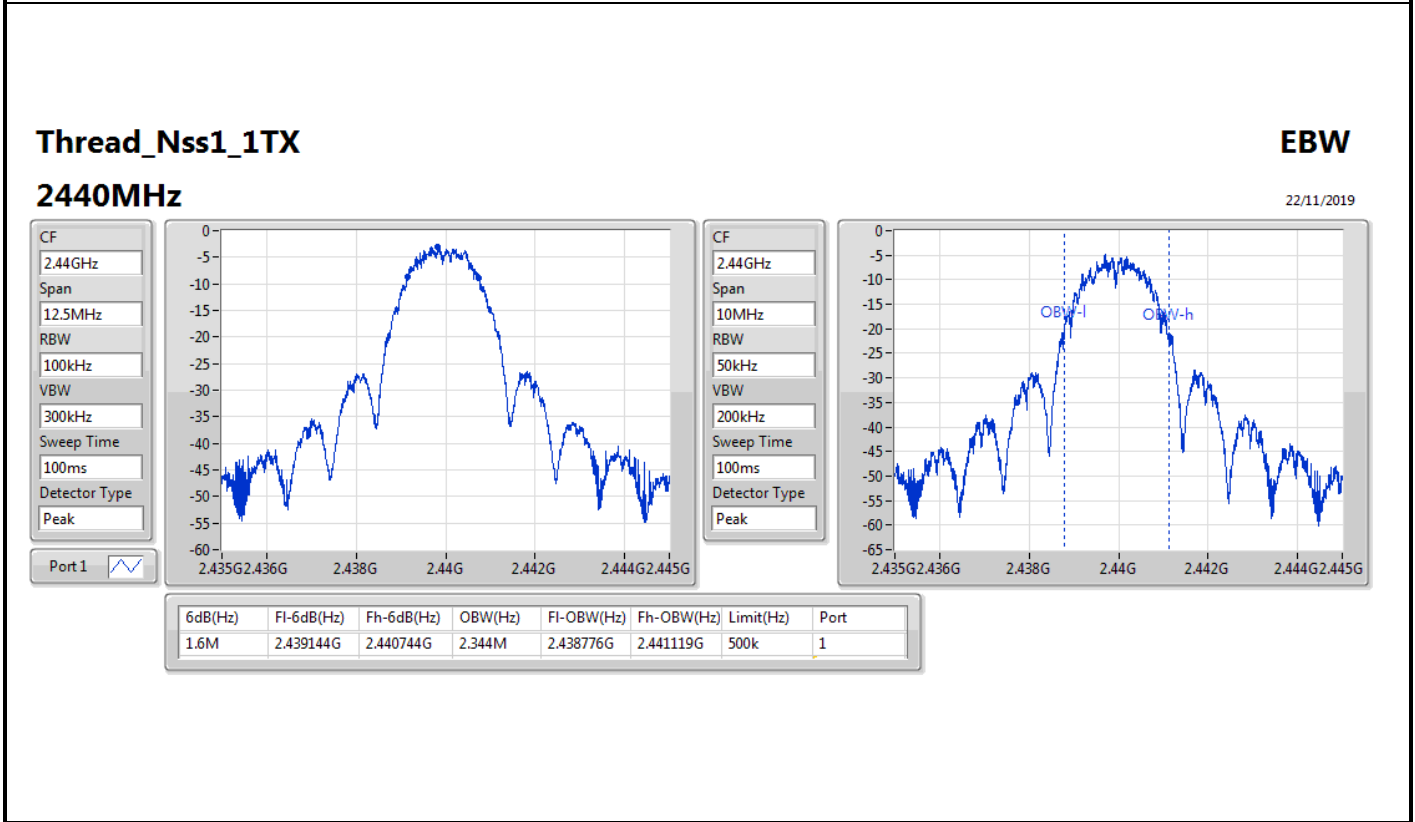
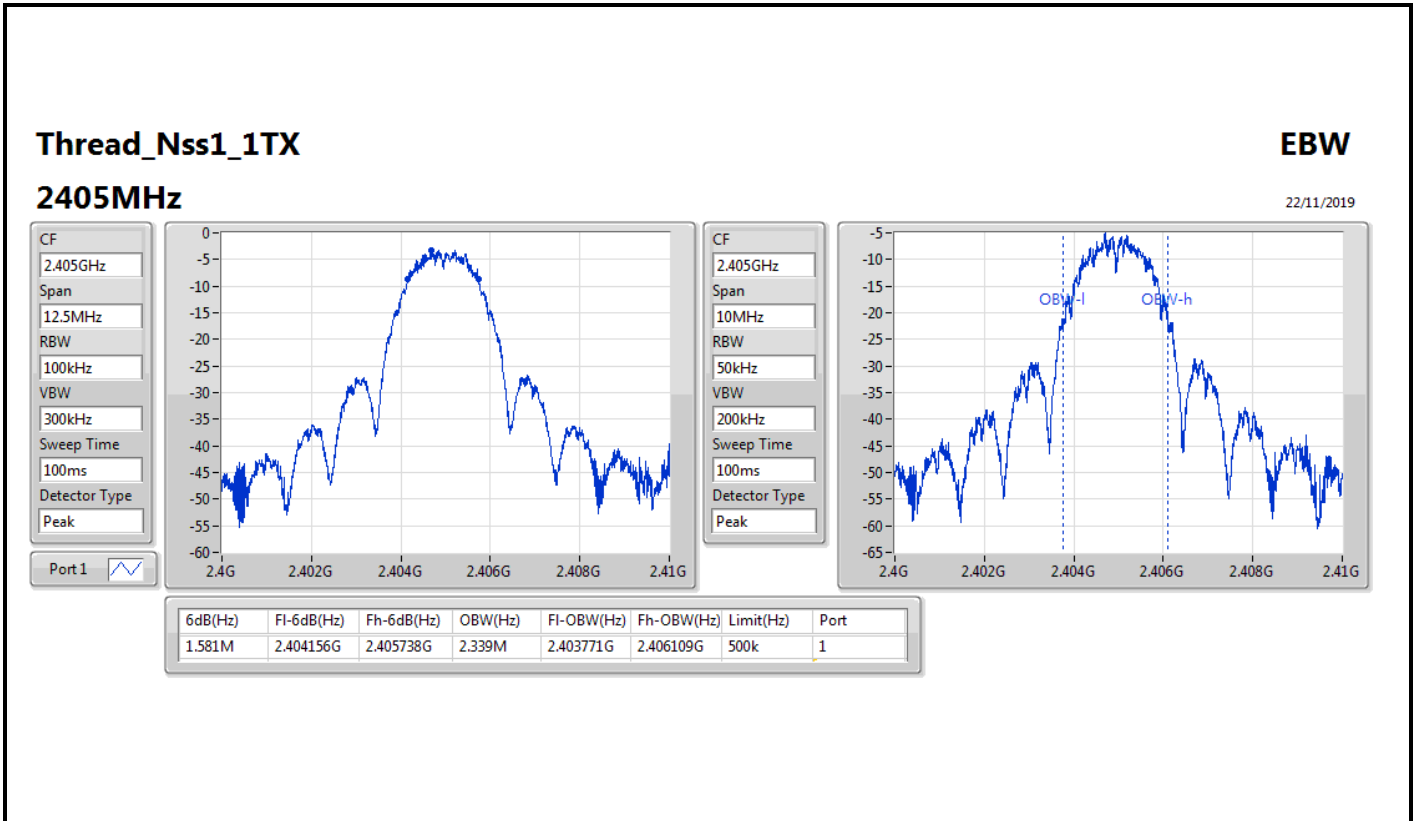
Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

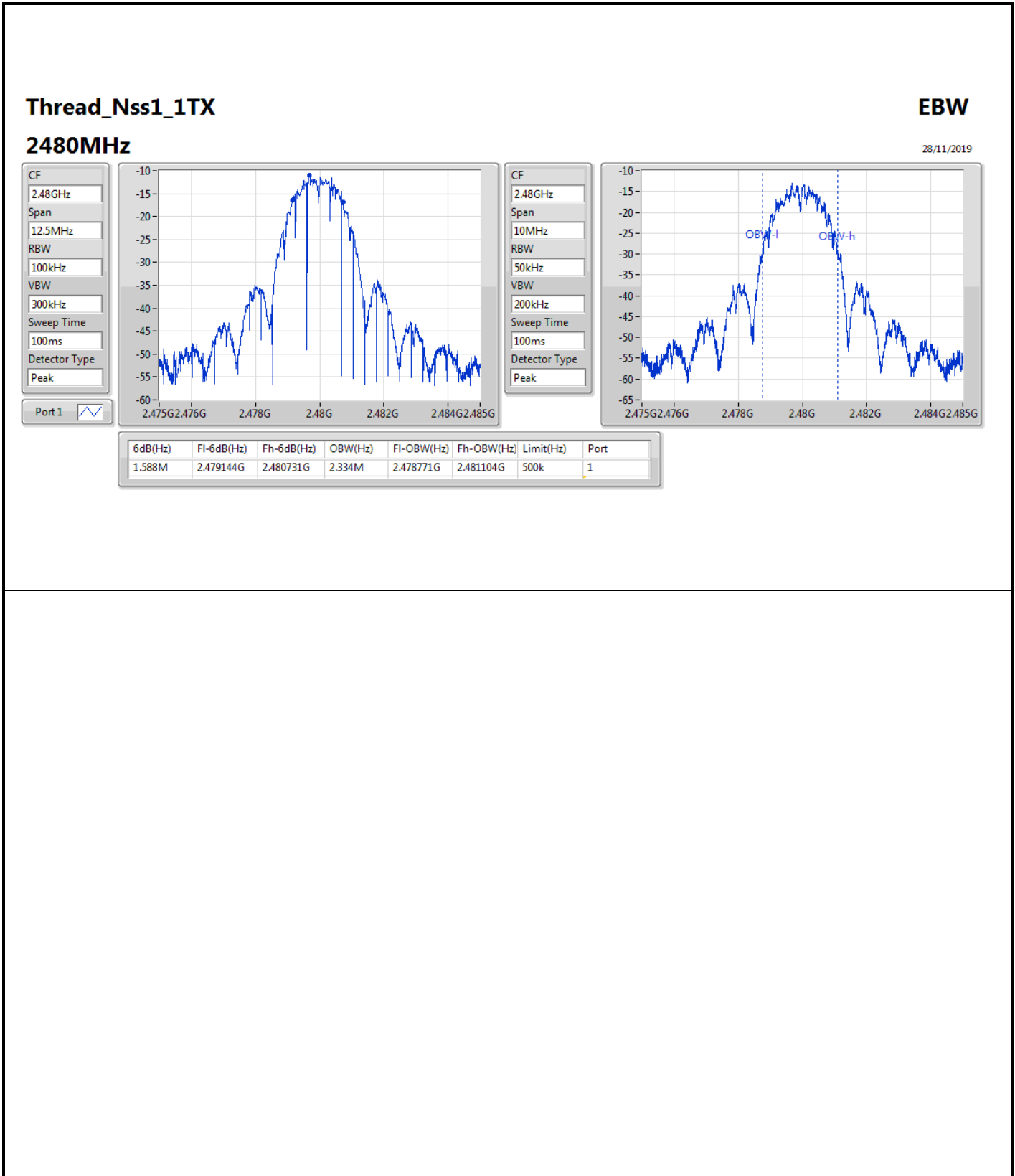


Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
Thread_Nss1_1TX	-	-	-	-
2405MHz_TnomVnom	Pass	500k	1.581M	2.339M
2440MHz_TnomVnom	Pass	500k	1.6M	2.344M
2480MHz_TnomVnom	Pass	500k	1.588M	2.334M

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







Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
Thread_Nss1_1TX	1.64	0.00146



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
Thread_Nss1_1TX	-	-	-	-	-
2405MHz_TnomVnom	Pass	4.74	1.64	1.64	30.00
2440MHz_TnomVnom	Pass	4.74	1.34	1.34	30.00
2480MHz_TnomVnom	Pass	4.74	-3.77	-3.77	30.00

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



Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
Thread_Nss1_1TX	1.25	0.00133



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
Thread_Nss1_1TX	-	-	-	-	-
2405MHz_TnomVnom	Pass	8.00	1.05	1.05	28.00
2440MHz_TnomVnom	Pass	8.00	1.25	1.25	28.00
2480MHz_TnomVnom	Pass	8.00	-5.93	-5.93	28.00

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



Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
Thread_Nss1_1TX	1.25	0.00133



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
Thread_Nss1_1TX	-	-	-	-	-
2405MHz_TnomVnom	Pass	7.80	1.05	1.05	28.20
2440MHz_TnomVnom	Pass	7.80	1.25	1.25	28.20
2480MHz_TnomVnom	Pass	7.80	-7.48	-7.48	28.20

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
Thread_Nss1_1TX	-15.84

RBW = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;

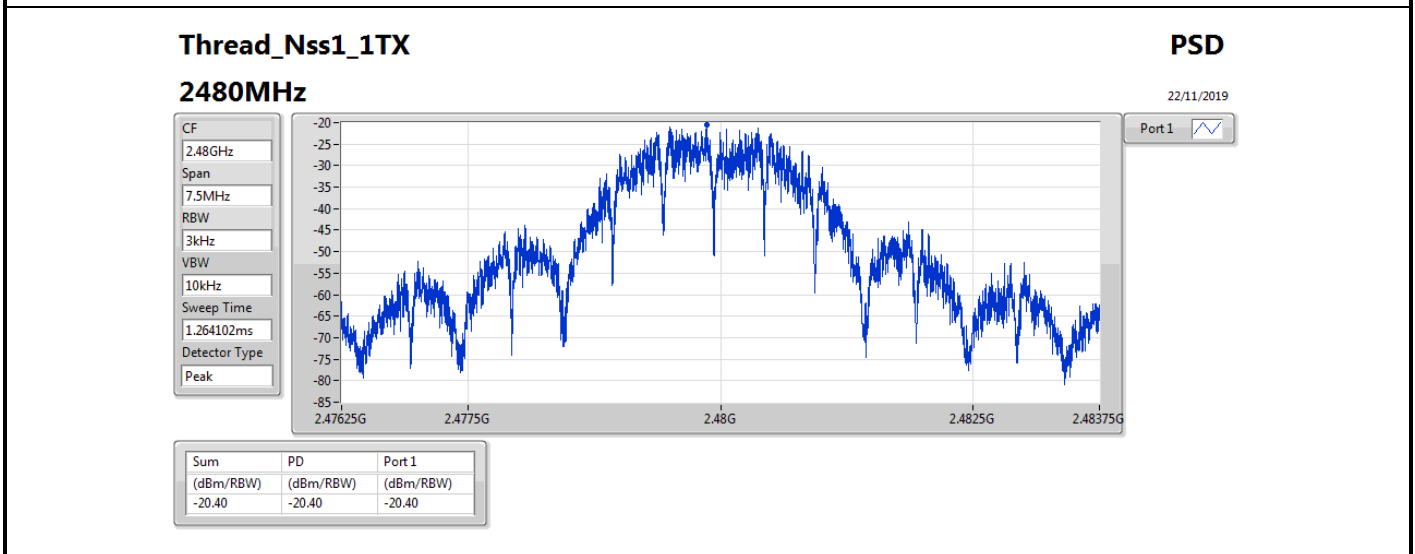
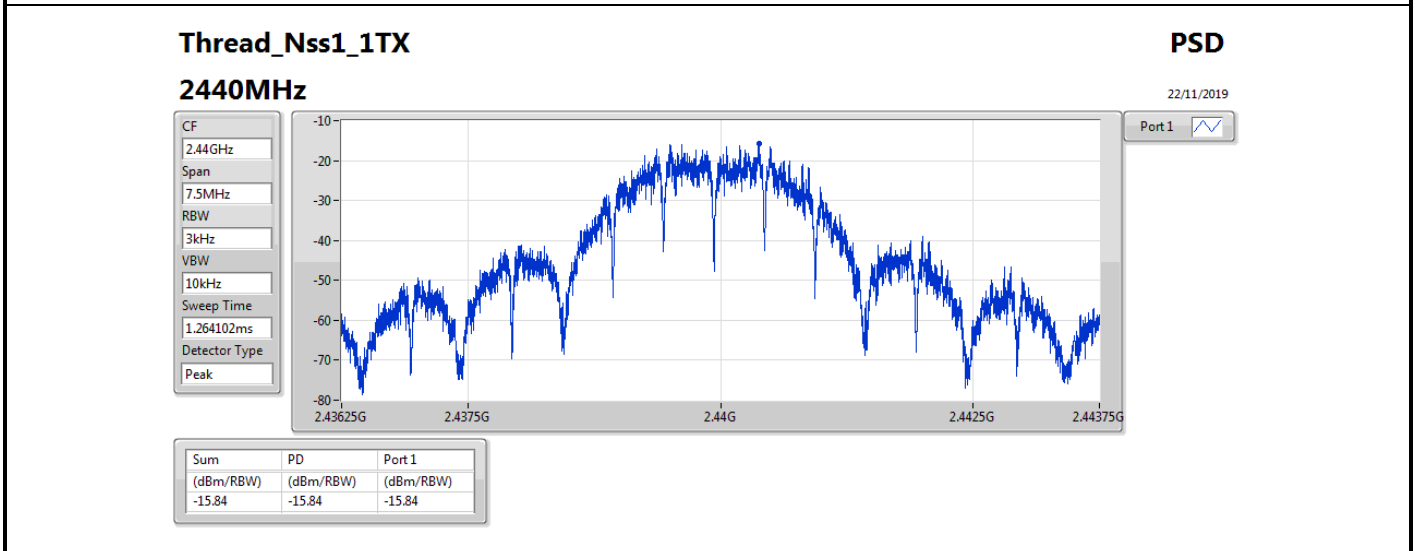
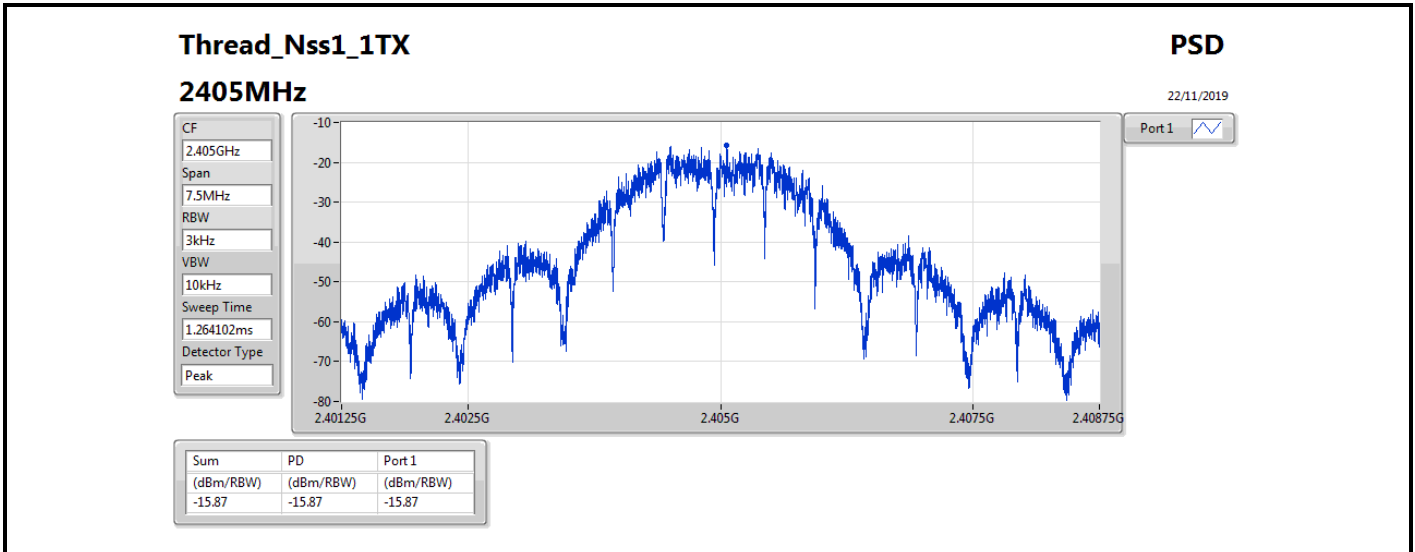


Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
Thread_Nss1_1TX	-	-	-	-	-
2405MHz_TnomVnom	Pass	4.74	-15.87	-15.87	8.00
2440MHz_TnomVnom	Pass	4.74	-15.84	-15.84	8.00
2480MHz_TnomVnom	Pass	4.74	-20.40	-20.40	8.00

DG = Directional Gain; RBW = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X power density;





Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
Thread_Nss1_1TX	-15.25

RBW = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;

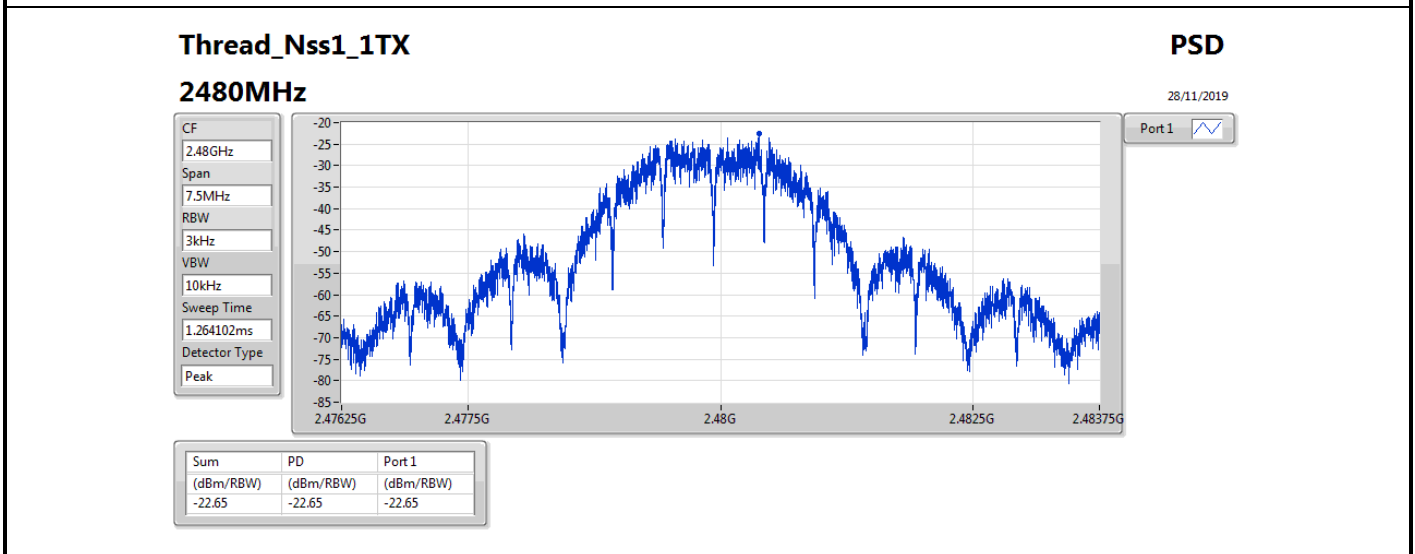
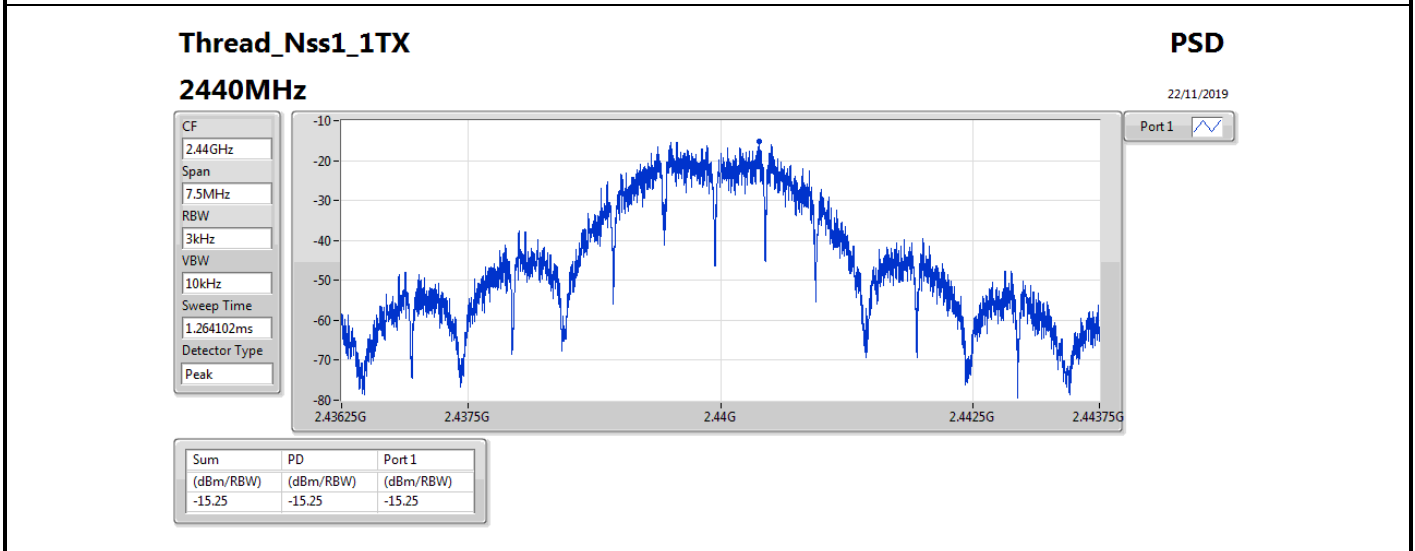
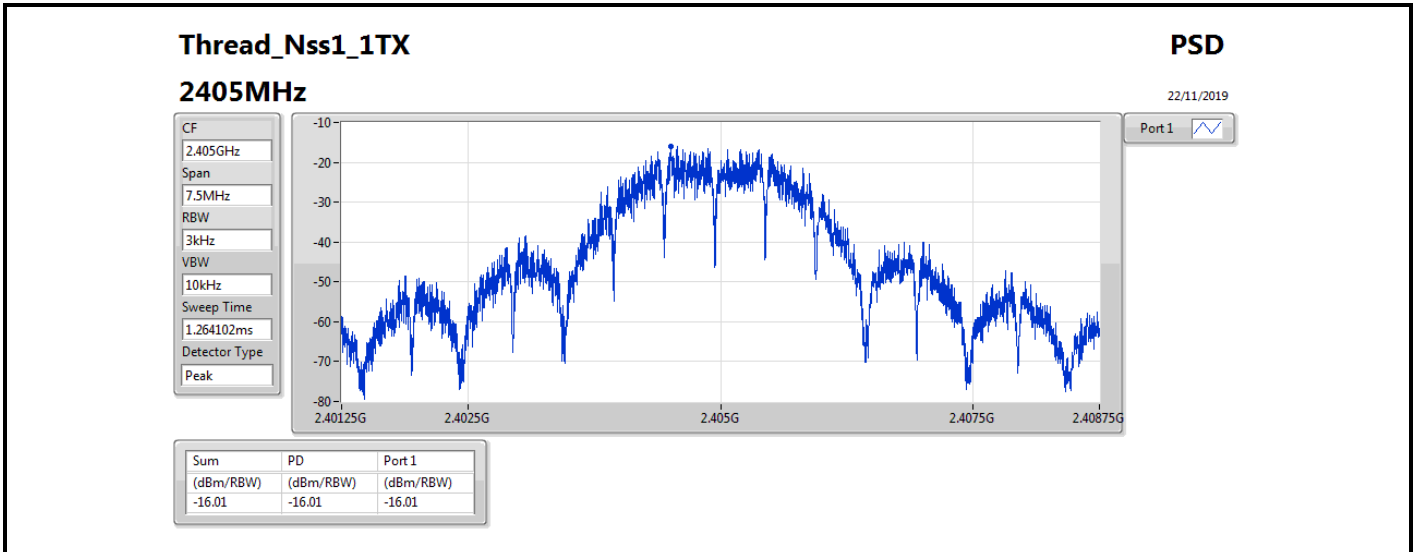


Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
Thread_Nss1_1TX	-	-	-	-	-
2405MHz_TnomVnom	Pass	8.00	-16.01	-16.01	6.00
2440MHz_TnomVnom	Pass	8.00	-15.25	-15.25	6.00
2480MHz_TnomVnom	Pass	8.00	-22.65	-22.65	6.00

DG = Directional Gain; RBW = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X power density;





Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
Thread_Nss1_1TX	-15.25

RBW = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;

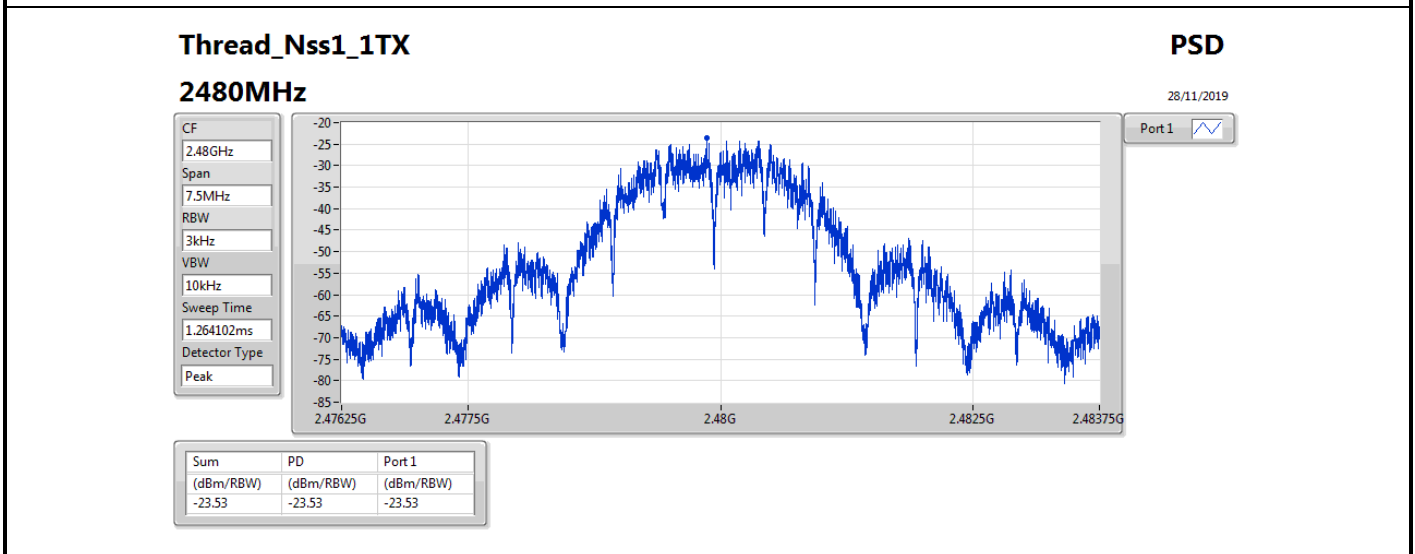
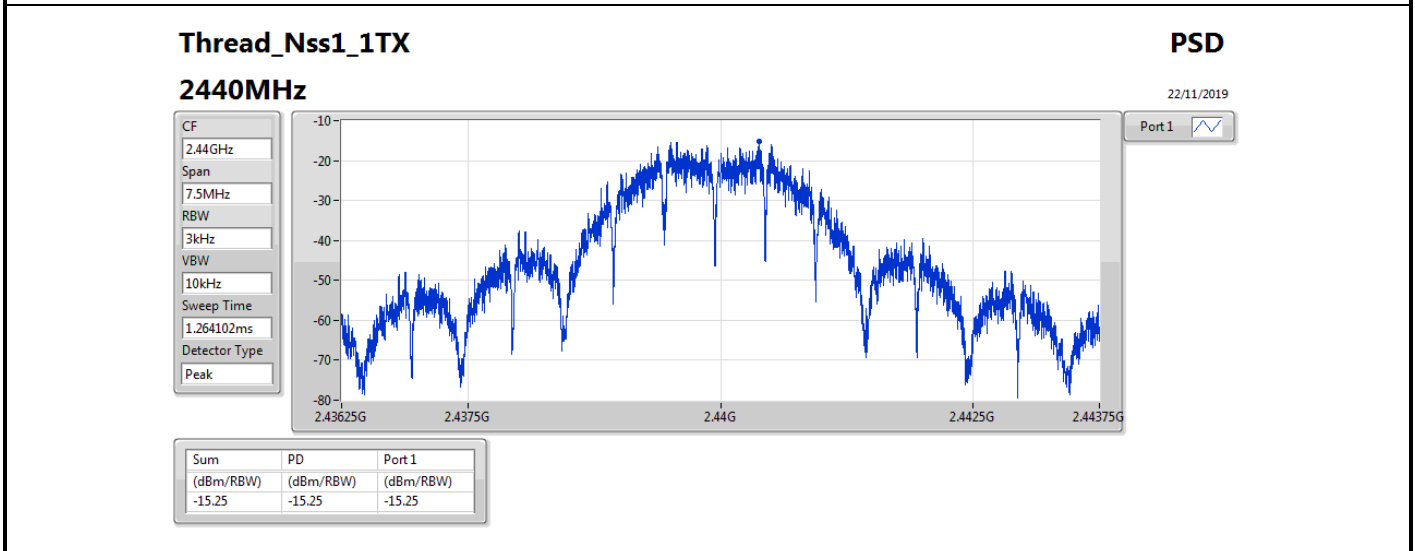
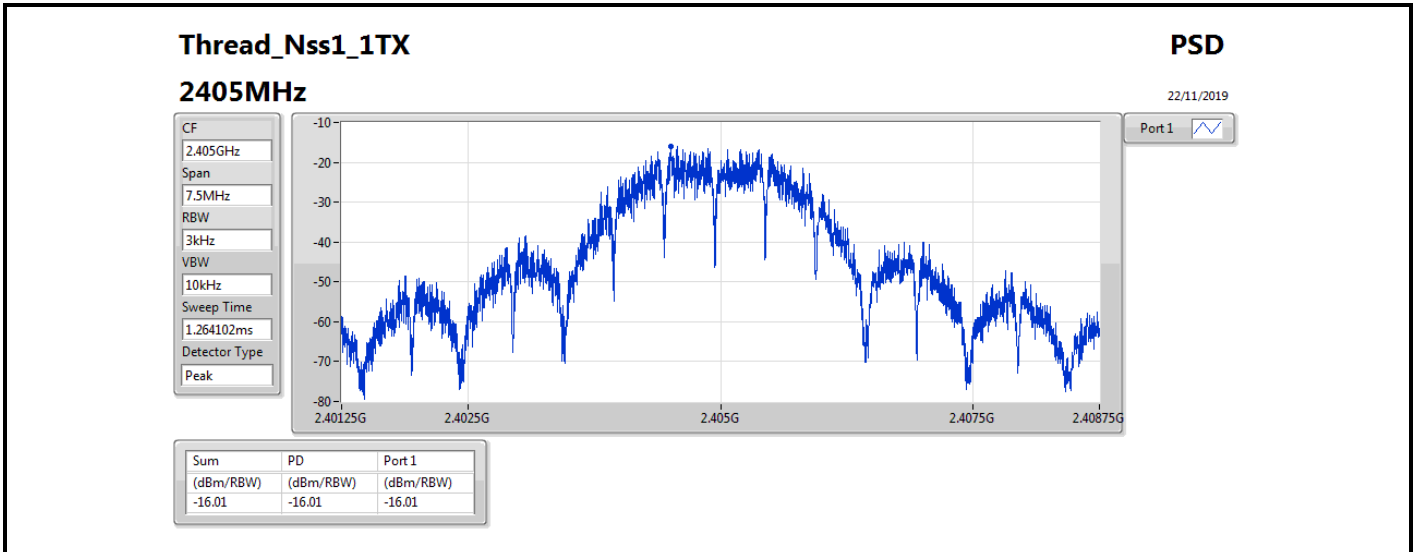


Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
Thread_Nss1_1TX	-	-	-	-	-
2405MHz_TnomVnom	Pass	7.80	-16.01	-16.01	6.20
2440MHz_TnomVnom	Pass	7.80	-15.25	-15.25	6.20
2480MHz_TnomVnom	Pass	7.80	-23.53	-23.53	6.20

DG = Directional Gain; RBW = 500 kHz for 5.725-5.85GHz band / 1MHz for other band;

PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X power density;





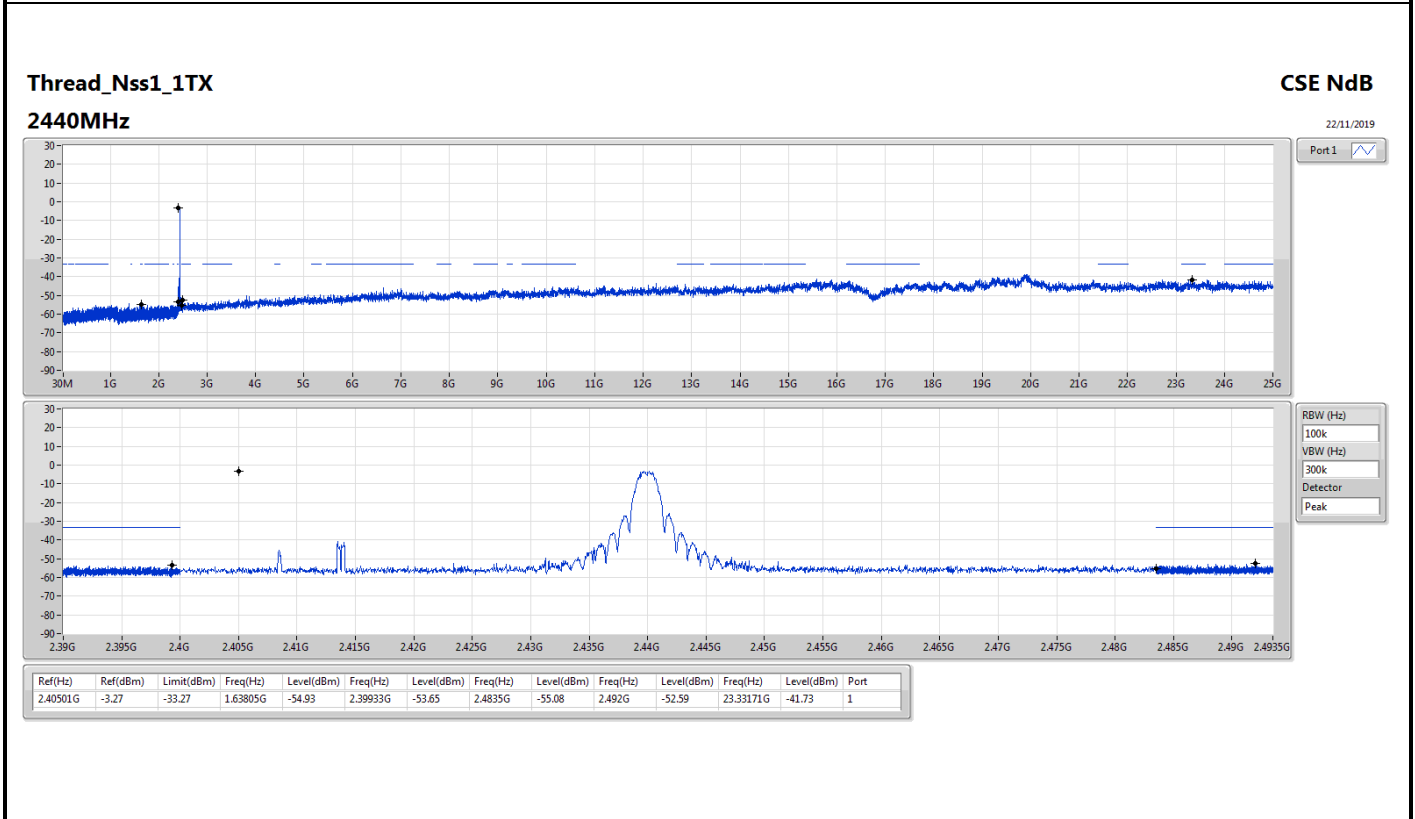
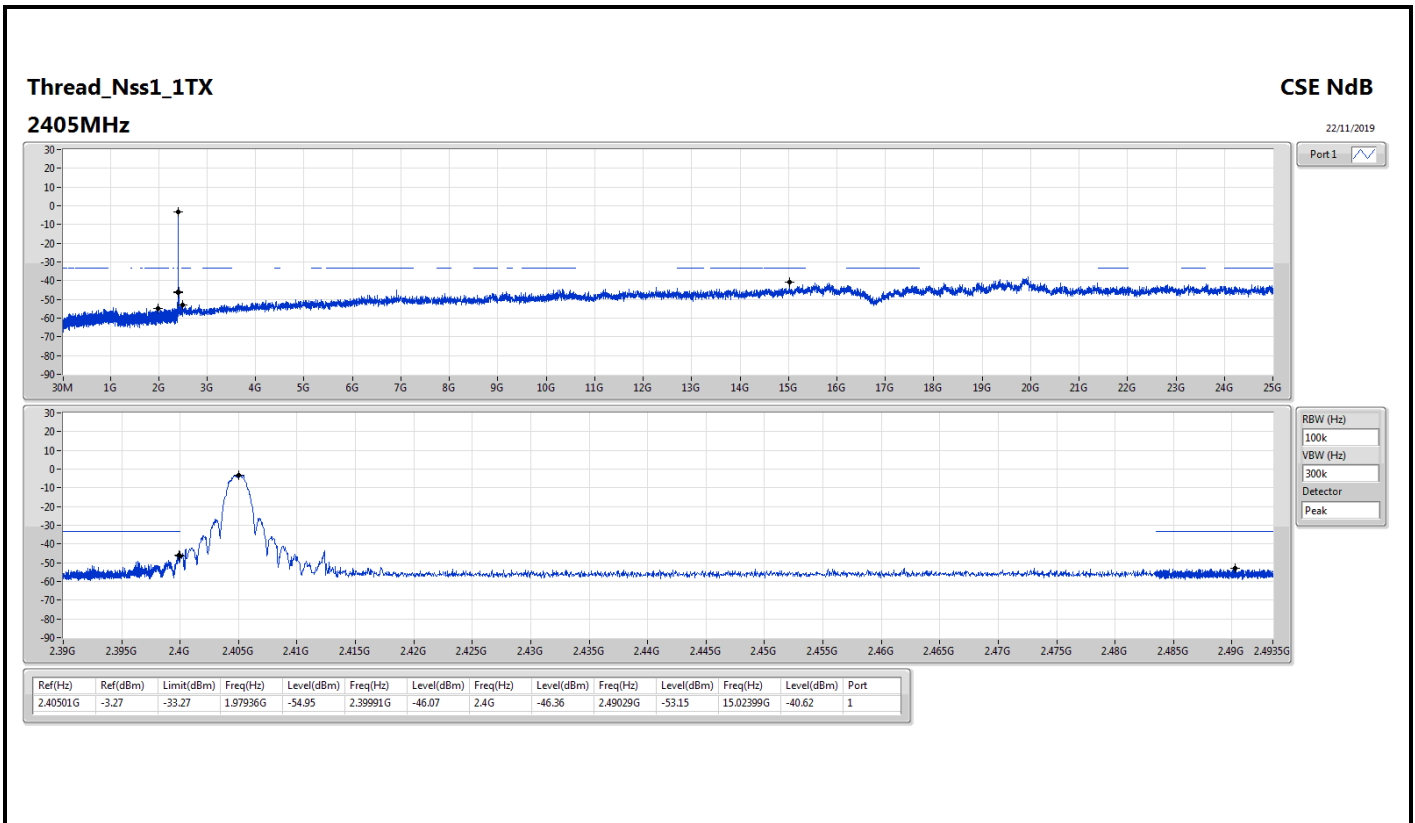
Summary

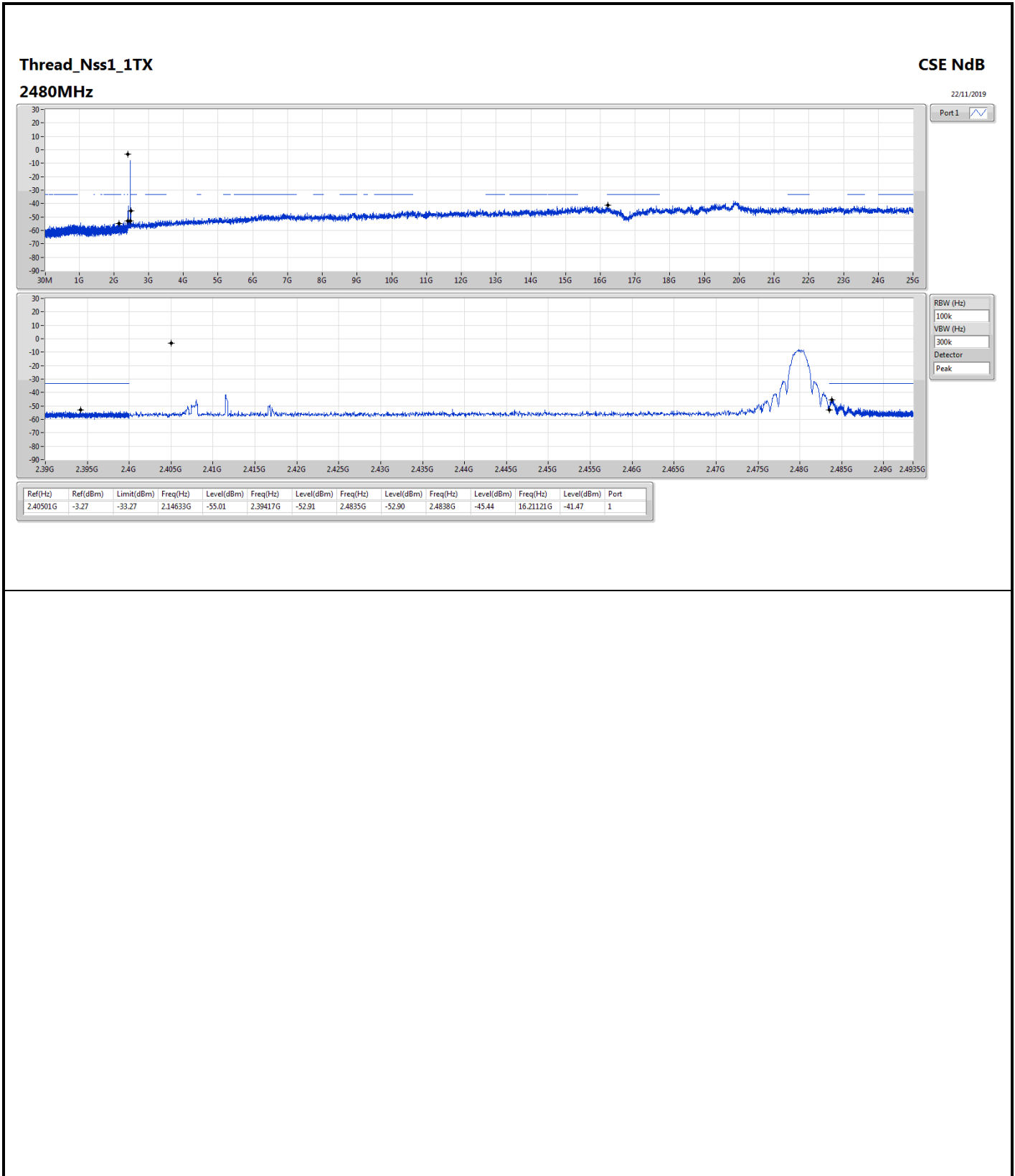
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thread_Nss1_1TX	Pass	2.40501G	-3.27	-33.27	2.14633G	-55.01	2.39417G	-52.91	2.4835G	-52.90	2.4838G	-45.44	16.21121G	-41.47	1



Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
Thread_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	2.40501G	-3.27	-33.27	1.97936G	-54.95	2.39991G	-46.07	2.4G	-46.36	2.49029G	-53.15	15.02399G	-40.62	1
2440MHz	Pass	2.40501G	-3.27	-33.27	1.63805G	-54.93	2.39933G	-53.65	2.4835G	-55.08	2.492G	-52.59	23.33171G	-41.73	1
2480MHz	Pass	2.40501G	-3.27	-33.27	2.14633G	-55.01	2.39417G	-52.91	2.4835G	-52.90	2.4838G	-45.44	16.21121G	-41.47	1







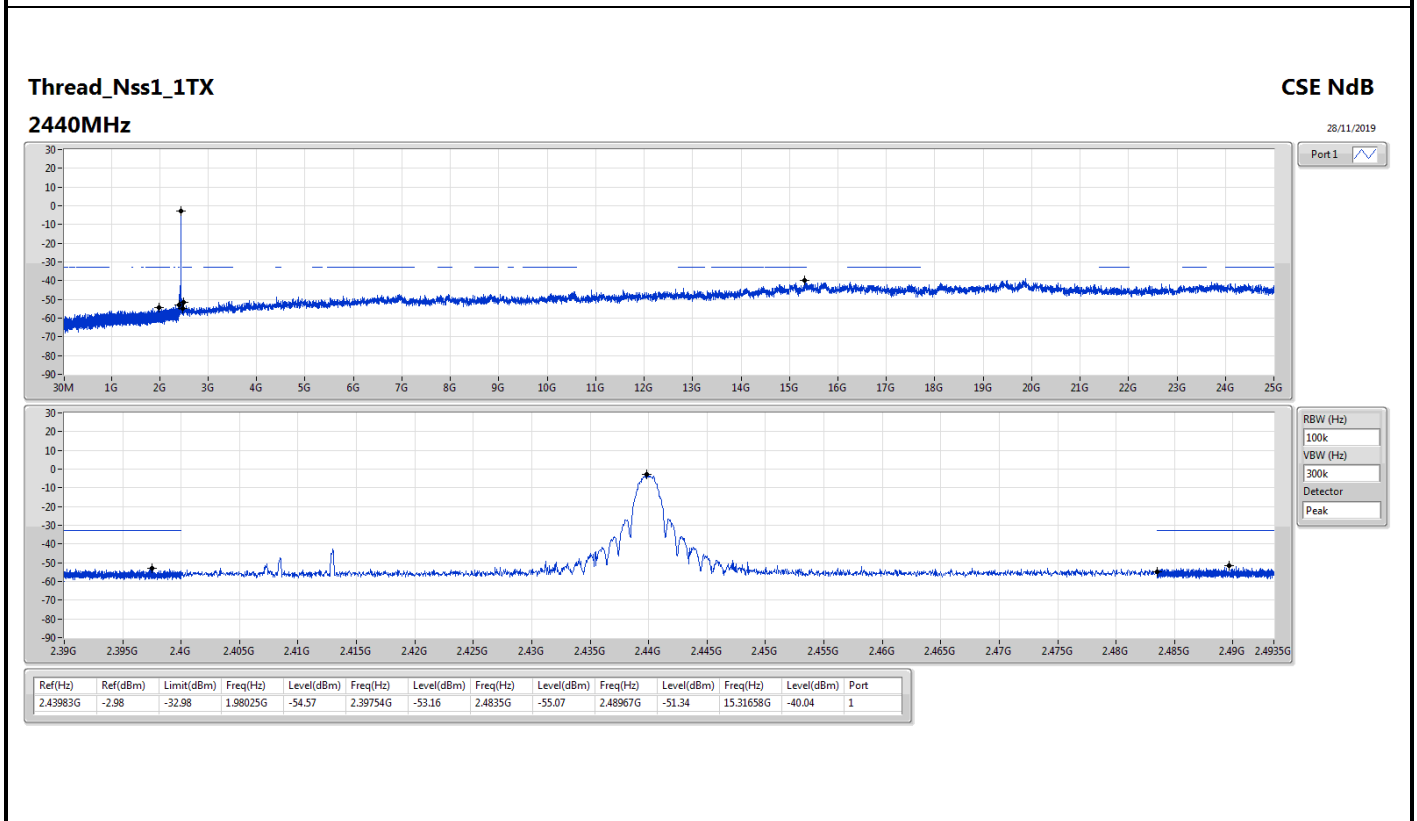
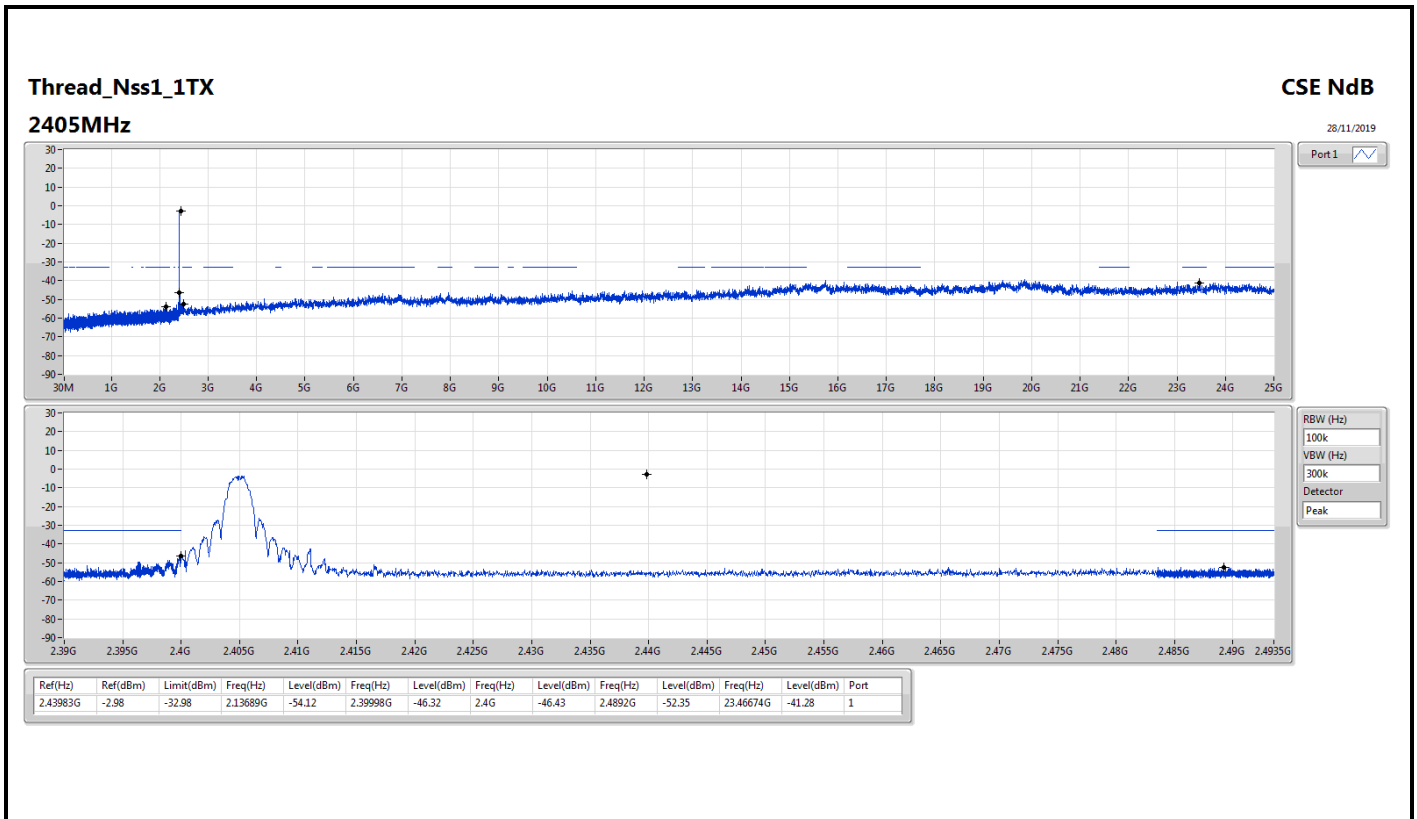
Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thread_Nss1_1TX	Pass	2.43983G	-2.98	-32.98	2.10208G	-54.42	2.39188G	-52.60	2.4835G	-50.90	2.48368G	-46.13	24.33043G	-40.06	1



Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
Thread_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz_TnomVnom	Pass	2.43983G	-2.98	-32.98	2.13689G	-54.12	2.39998G	-46.32	2.4G	-46.43	2.4892G	-52.35	23.46674G	-41.28	1
2440MHz_TnomVnom	Pass	2.43983G	-2.98	-32.98	1.98025G	-54.57	2.39754G	-53.16	2.4835G	-55.07	2.48967G	-51.34	15.31658G	-40.04	1
2480MHz_TnomVnom	Pass	2.43983G	-2.98	-32.98	2.10208G	-54.42	2.39188G	-52.60	2.4835G	-50.90	2.48368G	-46.13	24.33043G	-40.06	1

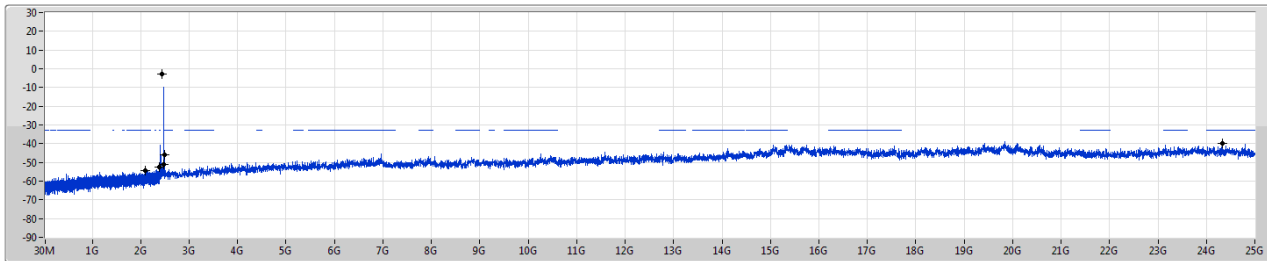


Thread_Nss1_1TX

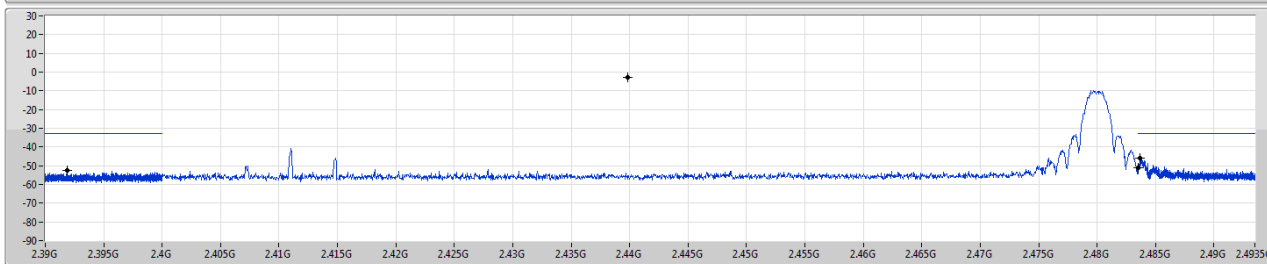
CSE NdB

2480MHz

28/11/2019



Port 1



RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43983G	-2.98	-32.98	2.10208G	-54.42	2.39188G	-52.60	2.4835G	-50.90	2.48368G	-46.13	2.433043G	-40.06	1



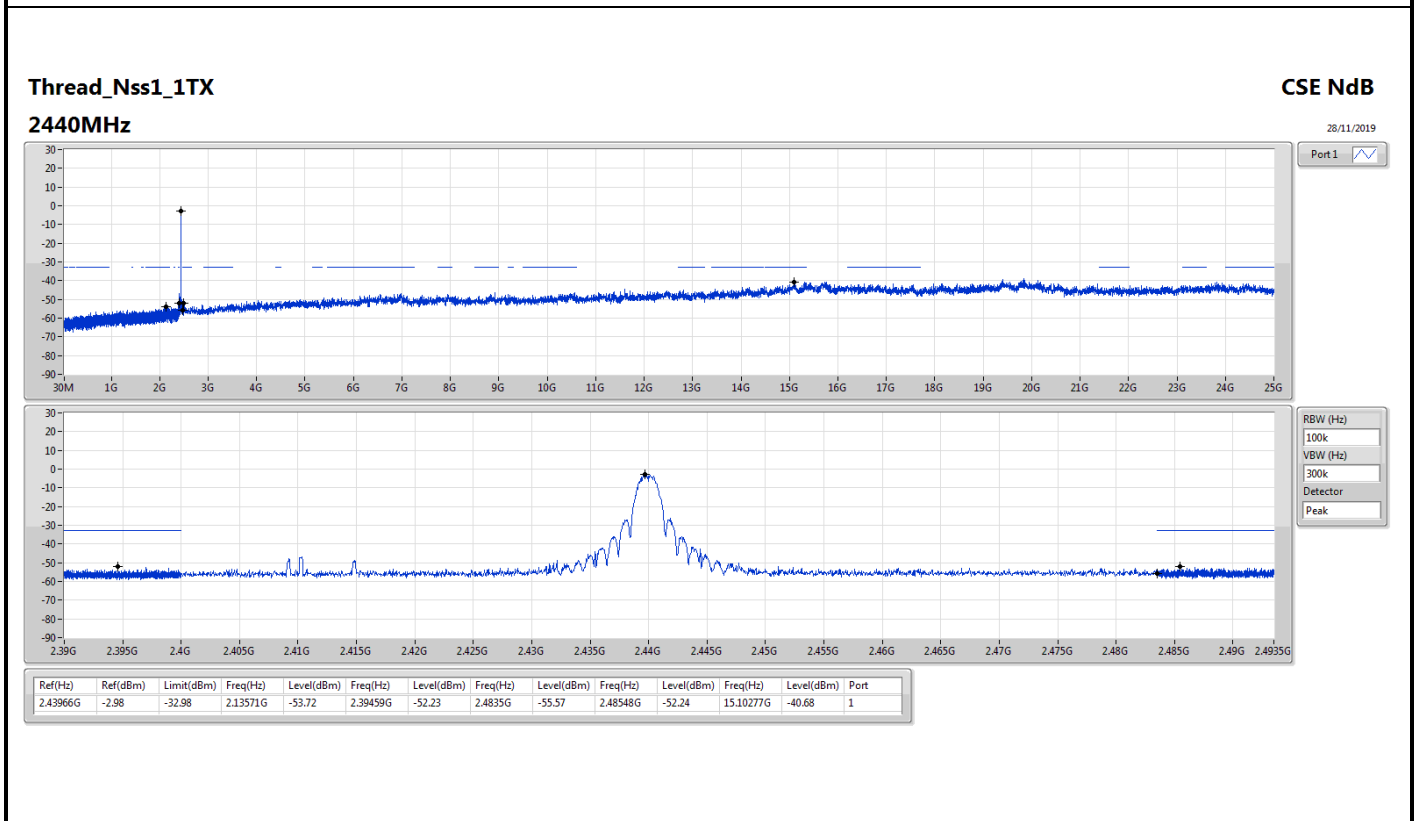
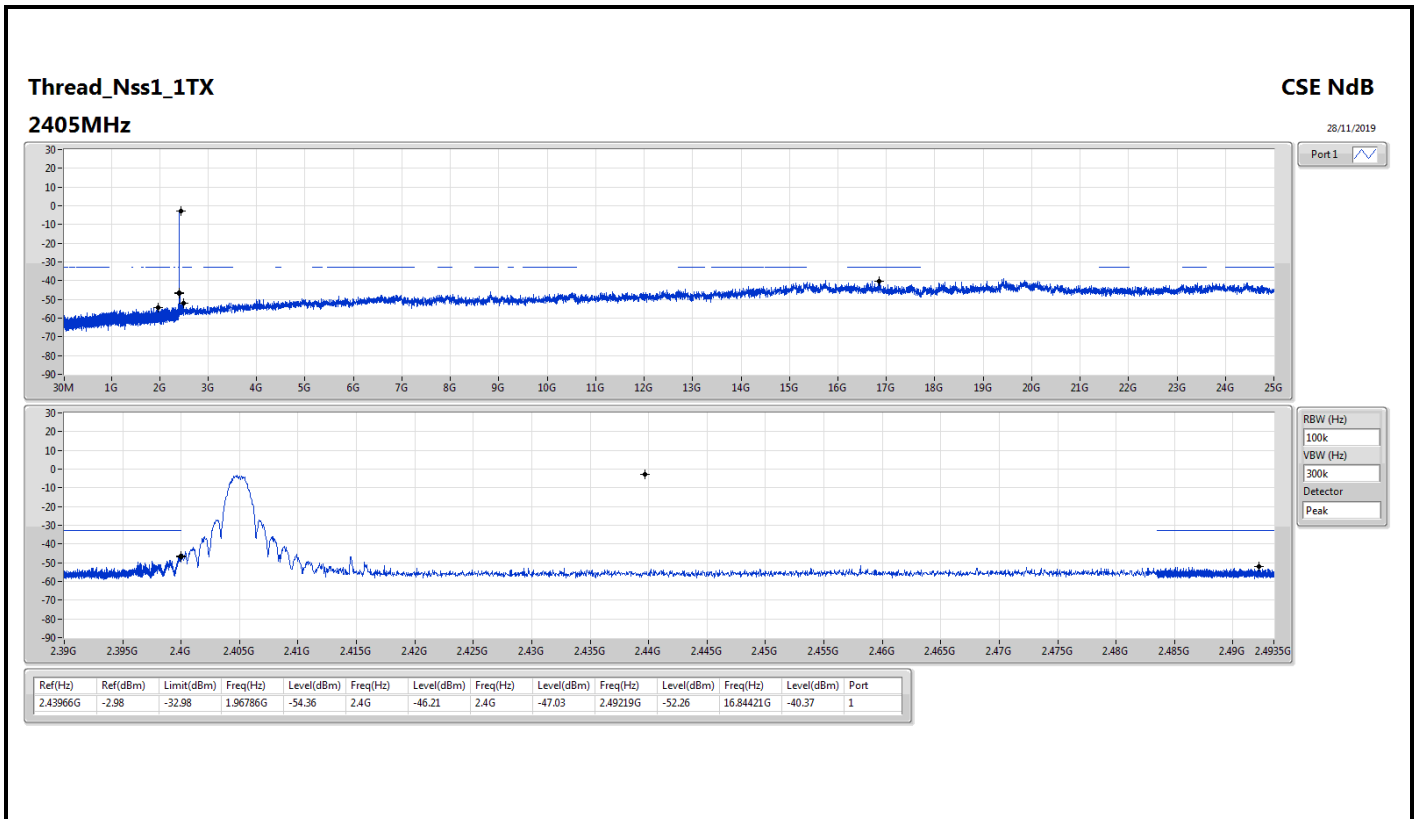
Summary

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thread_Nss1_1TX	Pass	2.43966G	-2.98	-32.98	1.96786G	-54.36	2.4G	-46.21	2.4G	-47.03	2.49219G	-52.26	16.84421G	-40.37	1



Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
Thread_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz_TnomVnom	Pass	2.43966G	-2.98	-32.98	1.96786G	-54.36	2.4G	-46.21	2.4G	-47.03	2.49219G	-52.26	16.84421G	-40.37	1
2440MHz_TnomVnom	Pass	2.43966G	-2.98	-32.98	2.13571G	-53.72	2.39459G	-52.23	2.4835G	-55.57	2.48548G	-52.24	15.10277G	-40.68	1
2480MHz_TnomVnom	Pass	2.43966G	-2.98	-32.98	2.1658G	-54.04	2.39325G	-52.83	2.4835G	-52.06	2.48381G	-46.44	15.34471G	-40.61	1





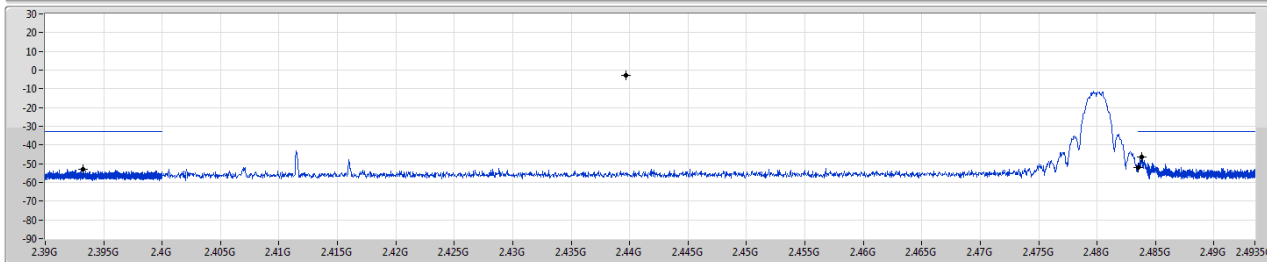
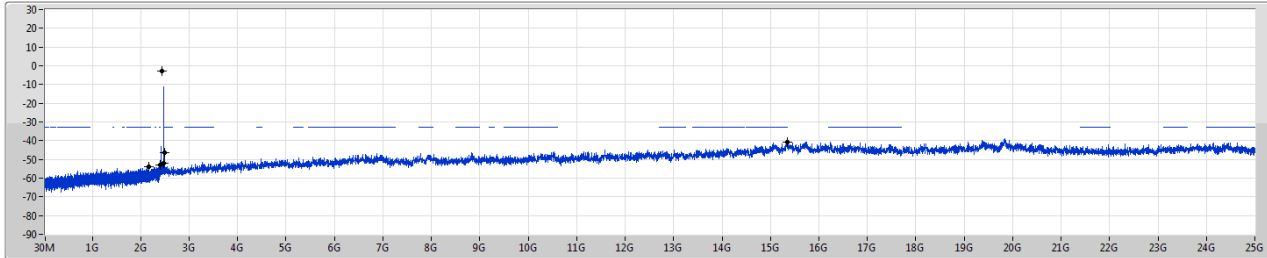
Thread_Nss1_1TX

CSE NdB

2480MHz

28/11/2019

Port1



RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak

Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.43966G	-2.98	-32.98	2.1658G	-54.04	2.39325G	-52.83	2.4835G	-52.06	2.48381G	-46.44	15.34471G	-40.61	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	-	-	-	-	-	-	-	-	-	-	-
Thread	Pass	PK	375.32M	43.23	46.00	-2.77	3	Horizontal	360	1.00	-



Result

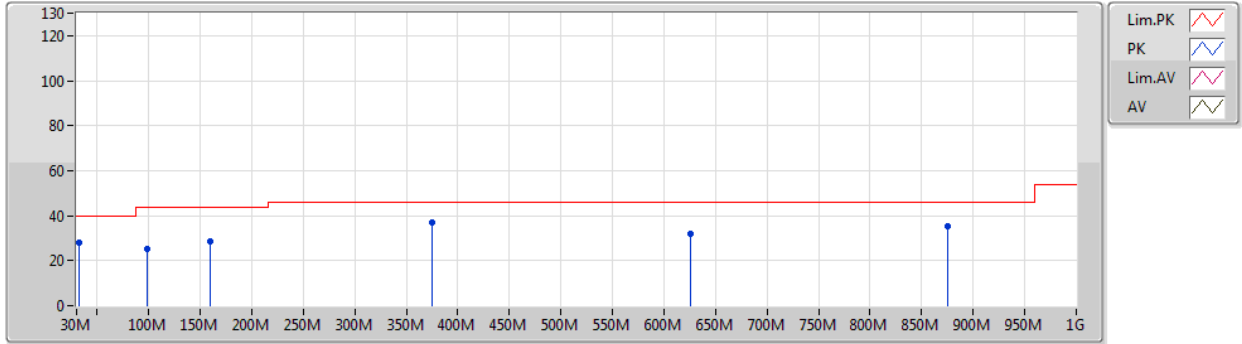
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Thread	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	31.94M	27.79	40.00	-12.21	3	Vertical	0	1.00	-
2440MHz	Pass	PK	97.9M	25.10	43.50	-18.40	3	Vertical	0	1.00	-
2440MHz	Pass	PK	159.98M	28.36	43.50	-15.14	3	Vertical	0	1.00	-
2440MHz	Pass	PK	375.32M	37.15	46.00	-8.85	3	Vertical	0	1.00	-
2440MHz	Pass	PK	625.58M	31.69	46.00	-14.31	3	Vertical	0	1.00	-
2440MHz	Pass	PK	875.84M	35.57	46.00	-10.43	3	Vertical	0	1.00	-
2440MHz	Pass	PK	31.94M	28.30	40.00	-11.70	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	97.9M	25.29	43.50	-18.21	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	239.52M	25.87	46.00	-20.13	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	375.32M	43.23	46.00	-2.77	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	625.58M	30.83	46.00	-15.17	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	875.84M	36.16	46.00	-9.84	3	Horizontal	360	1.00	-



Thread

05/12/2019

2440MHz_PoE



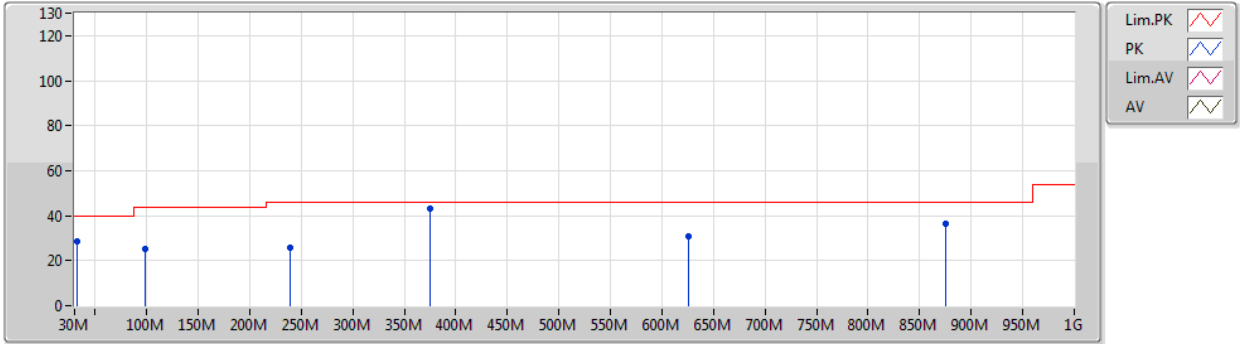
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	31.94M	27.79	40.00	-12.21	-6.38	3	Vertical	0	1.00	-	34.17	20.36	0.83	27.57
PK	97.9M	25.10	43.50	-18.40	-10.39	3	Vertical	0	1.00	-	35.49	15.49	1.50	27.38
PK	159.98M	28.36	43.50	-15.14	-10.07	3	Vertical	0	1.00	-	38.43	15.12	1.95	27.14
PK	375.32M	37.15	46.00	-8.85	-4.11	3	Vertical	0	1.00	-	41.26	19.95	3.08	27.14
PK	625.58M	31.69	46.00	-14.31	0.16	3	Vertical	0	1.00	-	31.53	24.12	4.13	28.09
PK	875.84M	35.57	46.00	-10.43	2.67	3	Vertical	0	1.00	-	32.90	25.36	4.93	27.62



Thread

05/12/2019

2440MHz_PoE



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	31.94M	28.30	40.00	-11.70	-6.38	3	Horizontal	360	1.00	-	34.68	20.36	0.83	27.57
PK	97.9M	25.29	43.50	-18.21	-10.39	3	Horizontal	360	1.00	-	35.68	15.49	1.50	27.38
PK	239.52M	25.87	46.00	-20.13	-7.95	3	Horizontal	360	1.00	-	33.82	16.40	2.43	26.78
PK	375.32M	43.23	46.00	-2.77	-4.11	3	Horizontal	360	1.00	-	47.34	19.95	3.08	27.14
PK	625.58M	30.83	46.00	-15.17	0.16	3	Horizontal	360	1.00	-	30.67	24.12	4.13	28.09
PK	875.84M	36.16	46.00	-9.84	2.67	3	Horizontal	360	1.00	-	33.49	25.36	4.93	27.62



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
Thread	Pass	AV	2.4835G	53.85	54.00	-0.15	3	Vertical	213	2.32	-



Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Thread	-	-	-	-	-	-	-	-	-	-	-
2405MHz_TX	Pass	AV	2.3564G	49.11	54.00	-4.89	3	Vertical	225	2.01	-
2405MHz_TX	Pass	AV	2.405G	96.75	Inf	-Inf	3	Vertical	225	2.01	-
2405MHz_TX	Pass	PK	2.3728G	60.44	74.00	-13.56	3	Vertical	225	2.01	-
2405MHz_TX	Pass	PK	2.4054G	98.55	Inf	-Inf	3	Vertical	225	2.01	-
2405MHz_TX	Pass	AV	2.3784G	49.09	54.00	-4.91	3	Horizontal	63	1.66	-
2405MHz_TX	Pass	AV	2.405G	89.87	Inf	-Inf	3	Horizontal	63	1.66	-
2405MHz_TX	Pass	PK	2.3718G	60.73	74.00	-13.27	3	Horizontal	63	1.66	-
2405MHz_TX	Pass	PK	2.4054G	91.70	Inf	-Inf	3	Horizontal	63	1.66	-
2405MHz_TX	Pass	AV	4.81078G	35.61	54.00	-18.39	3	Vertical	144	1.13	-
2405MHz_TX	Pass	PK	4.81096G	46.68	74.00	-27.32	3	Vertical	144	1.13	-
2405MHz_TX	Pass	AV	4.81084G	38.41	54.00	-15.59	3	Horizontal	213	2.63	-
2405MHz_TX	Pass	PK	4.81096G	48.82	74.00	-25.18	3	Horizontal	213	2.63	-
2440MHz_TX	Pass	AV	2.3564G	47.39	54.00	-6.61	3	Vertical	224	2.74	-
2440MHz_TX	Pass	AV	2.44G	94.92	Inf	-Inf	3	Vertical	224	2.74	-
2440MHz_TX	Pass	AV	2.4844G	47.70	54.00	-6.30	3	Vertical	224	2.74	-
2440MHz_TX	Pass	PK	2.3884G	59.48	74.00	-14.52	3	Vertical	224	2.74	-
2440MHz_TX	Pass	PK	2.4404G	98.24	Inf	-Inf	3	Vertical	224	2.74	-
2440MHz_TX	Pass	PK	2.4908G	59.77	74.00	-14.23	3	Vertical	224	2.74	-
2440MHz_TX	Pass	AV	2.3496G	47.46	54.00	-6.54	3	Horizontal	138	1.36	-
2440MHz_TX	Pass	AV	2.44G	88.46	Inf	-Inf	3	Horizontal	138	1.36	-
2440MHz_TX	Pass	AV	2.4835G	47.96	54.00	-6.04	3	Horizontal	138	1.36	-
2440MHz_TX	Pass	PK	2.3428G	58.98	74.00	-15.02	3	Horizontal	138	1.36	-
2440MHz_TX	Pass	PK	2.4404G	91.79	Inf	-Inf	3	Horizontal	138	1.36	-
2440MHz_TX	Pass	PK	2.4992G	58.97	74.00	-15.03	3	Horizontal	138	1.36	-
2440MHz_TX	Pass	AV	4.87868G	35.01	54.00	-18.99	3	Vertical	144	1.36	-
2440MHz_TX	Pass	AV	7.31814G	40.03	54.00	-13.97	3	Vertical	70	2.16	-
2440MHz_TX	Pass	PK	4.88042G	46.35	74.00	-27.65	3	Vertical	144	1.36	-
2440MHz_TX	Pass	PK	7.3248G	52.21	74.00	-21.79	3	Vertical	70	2.16	-
2440MHz_TX	Pass	AV	4.87892G	36.90	54.00	-17.10	3	Horizontal	210	2.56	-
2440MHz_TX	Pass	AV	7.33158G	39.72	54.00	-14.28	3	Horizontal	134	2.13	-
2440MHz_TX	Pass	PK	4.87904G	47.63	74.00	-26.37	3	Horizontal	210	2.56	-
2440MHz_TX	Pass	PK	7.32018G	52.33	74.00	-21.67	3	Horizontal	134	2.13	-
2480MHz_TX	Pass	AV	2.48G	90.13	Inf	-Inf	3	Vertical	213	2.32	-
2480MHz_TX	Pass	AV	2.4835G	53.85	54.00	-0.15	3	Vertical	213	2.32	-
2480MHz_TX	Pass	PK	2.4804G	93.44	Inf	-Inf	3	Vertical	213	2.32	-
2480MHz_TX	Pass	PK	2.4838G	64.19	74.00	-9.81	3	Vertical	213	2.32	-
2480MHz_TX	Pass	AV	2.48G	84.63	Inf	-Inf	3	Horizontal	61	1.50	-
2480MHz_TX	Pass	AV	2.4835G	50.33	54.00	-3.67	3	Horizontal	61	1.50	-
2480MHz_TX	Pass	PK	2.4804G	88.03	Inf	-Inf	3	Horizontal	61	1.50	-
2480MHz_TX	Pass	PK	2.4835G	60.50	74.00	-13.50	3	Horizontal	61	1.50	-
2480MHz_TX	Pass	AV	4.95892G	34.87	54.00	-19.13	3	Vertical	272	1.47	-
2480MHz_TX	Pass	AV	7.44798G	39.23	54.00	-14.77	3	Vertical	183	2.48	-
2480MHz_TX	Pass	PK	4.95484G	47.13	74.00	-26.87	3	Vertical	272	1.47	-
2480MHz_TX	Pass	PK	7.4271G	51.56	74.00	-22.44	3	Vertical	183	2.48	-
2480MHz_TX	Pass	AV	4.95892G	35.83	54.00	-18.17	3	Horizontal	210	2.32	-
2480MHz_TX	Pass	AV	7.4427G	39.29	54.00	-14.71	3	Horizontal	291	1.50	-

Remark :

Level (dBuV/m) = Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)



RSE TX above 1GHz_Sample 1

Appendix F.2

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2480MHz_TX	Pass	PK	4.95868G	47.51	74.00	-26.49	3	Horizontal	210	2.32	-
2480MHz_TX	Pass	PK	7.44834G	51.37	74.00	-22.63	3	Horizontal	291	1.50	-

Remark :

Level (dBuV/m) = Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

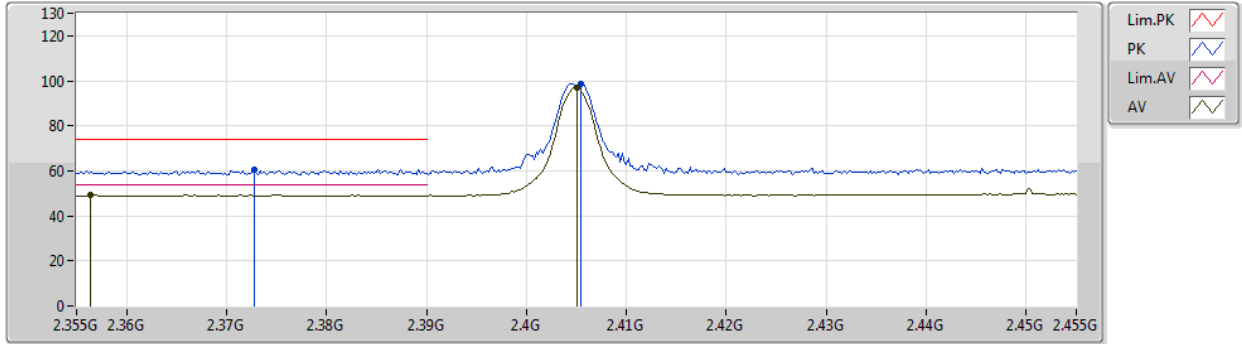
Page No. : F3 of F15

992608

Thread

15/11/2019

2405MHz_TX

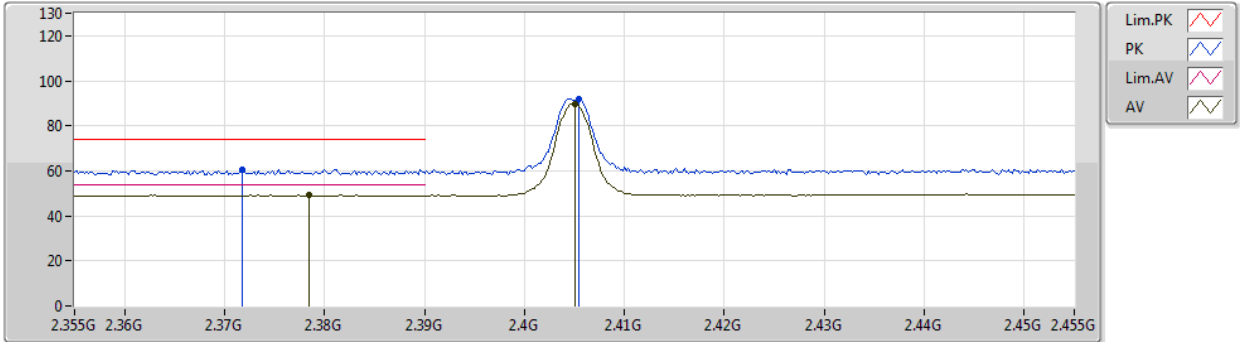


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3564G	49.11	54.00	-4.89	31.64	3	Vertical	225	2.01	-	17.47	27.67	3.97	-
AV	2.405G	96.75	Inf	-Inf	31.50	3	Vertical	225	2.01	-	65.25	27.49	4.01	-
PK	2.3728G	60.44	74.00	-13.56	31.59	3	Vertical	225	2.01	-	28.85	27.61	3.98	-
PK	2.4054G	98.55	Inf	-Inf	31.50	3	Vertical	225	2.01	-	67.05	27.49	4.01	-

Thread

15/11/2019

2405MHz_TX



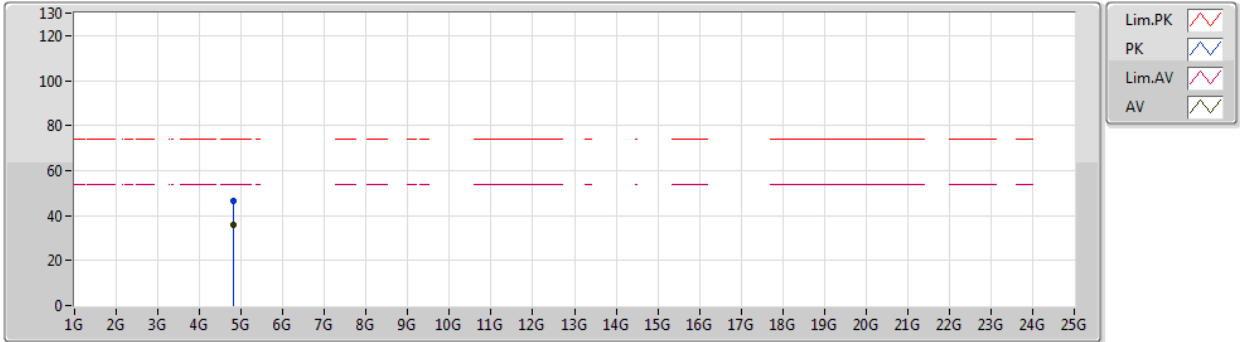
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AV	2.3784G	49.09	54.00	-4.91	31.58	3	Horizontal	63	1.66	-	17.51	27.59	3.99	-
AV	2.405G	89.87	Inf	-Inf	31.50	3	Horizontal	63	1.66	-	58.37	27.49	4.01	-
PK	2.3718G	60.73	74.00	-13.27	31.59	3	Horizontal	63	1.66	-	29.14	27.61	3.98	-
PK	2.4054G	91.70	Inf	-Inf	31.50	3	Horizontal	63	1.66	-	60.20	27.49	4.01	-



Thread

15/11/2019

2405MHz_TX



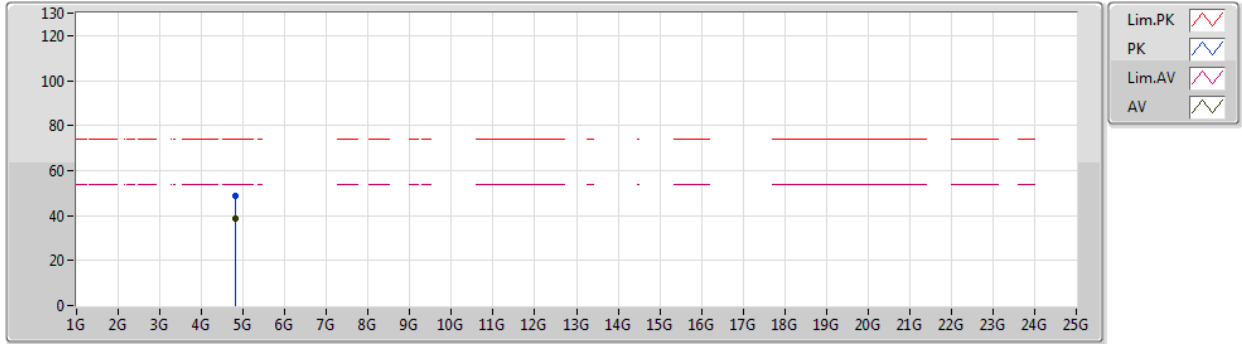
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AV	4.81078G	35.61	54.00	-18.39	7.48	3	Vertical	144	1.13	-	28.13	31.11	5.78	29.41
PK	4.81096G	46.68	74.00	-27.32	7.48	3	Vertical	144	1.13	-	39.20	31.11	5.78	29.41



Thread

15/11/2019

2405MHz_TX

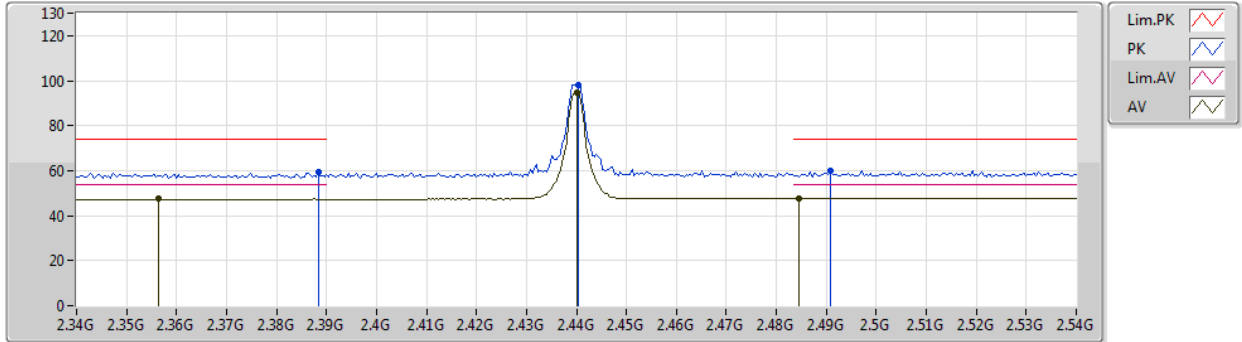


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.81084G	38.41	54.00	-15.59	7.48	3	Horizontal	213	2.63	-	30.93	31.11	5.78	29.41
PK	4.81096G	48.82	74.00	-25.18	7.48	3	Horizontal	213	2.63	-	41.34	31.11	5.78	29.41

Thread

2440MHz_TX

15/11/2019

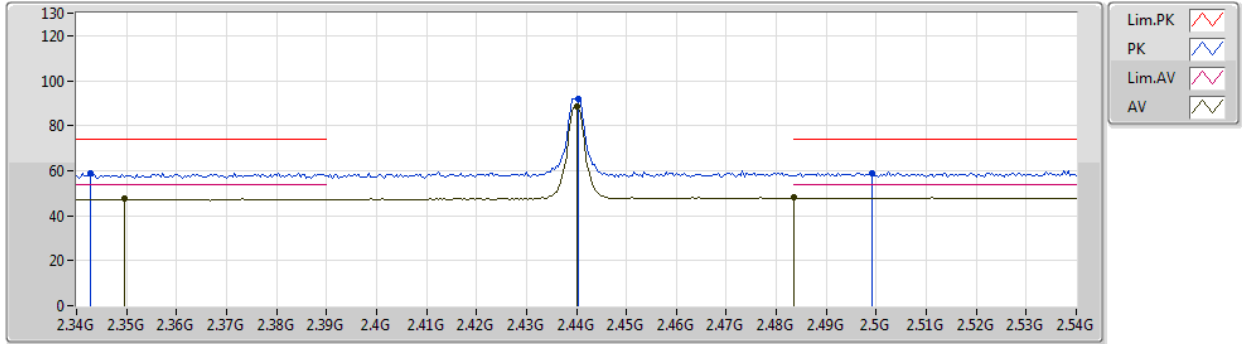


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3564G	47.39	54.00	-6.61	31.64	3	Vertical	224	2.74	-	15.75	27.67	3.97	-
AV	2.44G	94.92	Inf	-Inf	31.46	3	Vertical	224	2.74	-	63.46	27.42	4.04	-
AV	2.4844G	47.70	54.00	-6.30	31.42	3	Vertical	224	2.74	-	16.28	27.33	4.09	-
PK	2.3884G	59.48	74.00	-14.52	31.55	3	Vertical	224	2.74	-	27.93	27.55	4.00	-
PK	2.4404G	98.24	Inf	-Inf	31.46	3	Vertical	224	2.74	-	66.78	27.42	4.04	-
PK	2.4908G	59.77	74.00	-14.23	31.41	3	Vertical	224	2.74	-	28.36	27.32	4.09	-

Thread

15/11/2019

2440MHz_TX



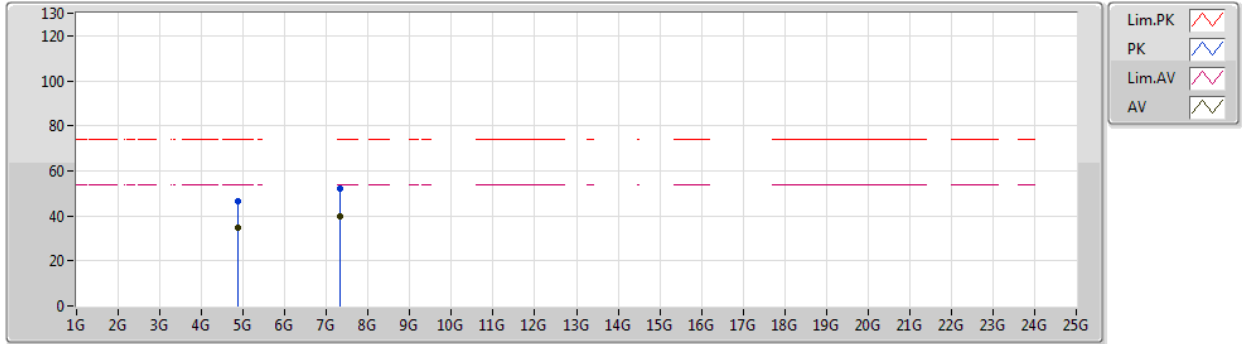
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AV	2.3496G	47.46	54.00	-6.54	31.66	3	Horizontal	138	1.36	-	15.80	27.70	3.96	-
AV	2.44G	88.46	Inf	-Inf	31.46	3	Horizontal	138	1.36	-	57.00	27.42	4.04	-
AV	2.4835G	47.96	54.00	-6.04	31.41	3	Horizontal	138	1.36	-	16.55	27.33	4.08	-
PK	2.3428G	58.98	74.00	-15.02	31.68	3	Horizontal	138	1.36	-	27.30	27.73	3.95	-
PK	2.4404G	91.79	Inf	-Inf	31.46	3	Horizontal	138	1.36	-	60.33	27.42	4.04	-
PK	2.4992G	58.97	74.00	-15.03	31.40	3	Horizontal	138	1.36	-	27.57	27.30	4.10	-



Thread

15/11/2019

2440MHz_TX



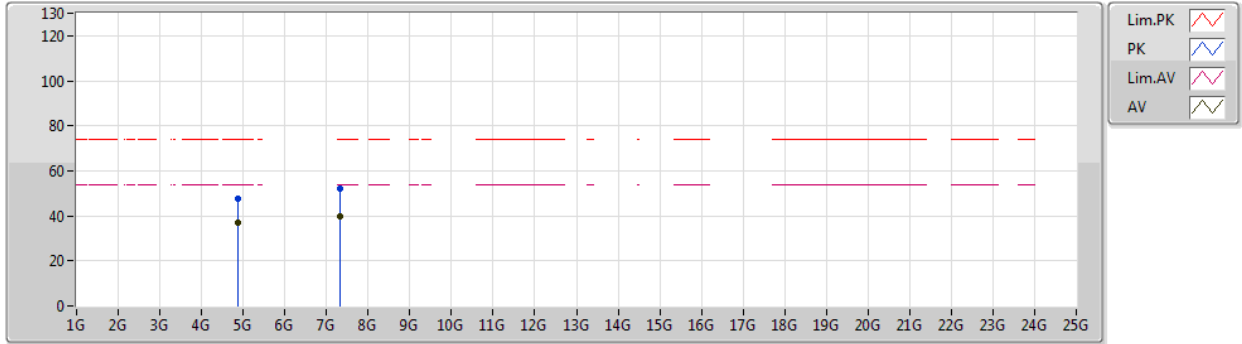
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87868G	35.01	54.00	-18.99	7.63	3	Vertical	144	1.36	-	27.38	31.18	5.83	29.38
AV	7.31814G	40.03	54.00	-13.97	13.38	3	Vertical	70	2.16	-	26.65	36.28	7.46	30.36
PK	4.88042G	46.35	74.00	-27.65	7.63	3	Vertical	144	1.36	-	38.72	31.18	5.83	29.38
PK	7.3248G	52.21	74.00	-21.79	13.36	3	Vertical	70	2.16	-	38.85	36.28	7.45	30.37



Thread

15/11/2019

2440MHz_TX

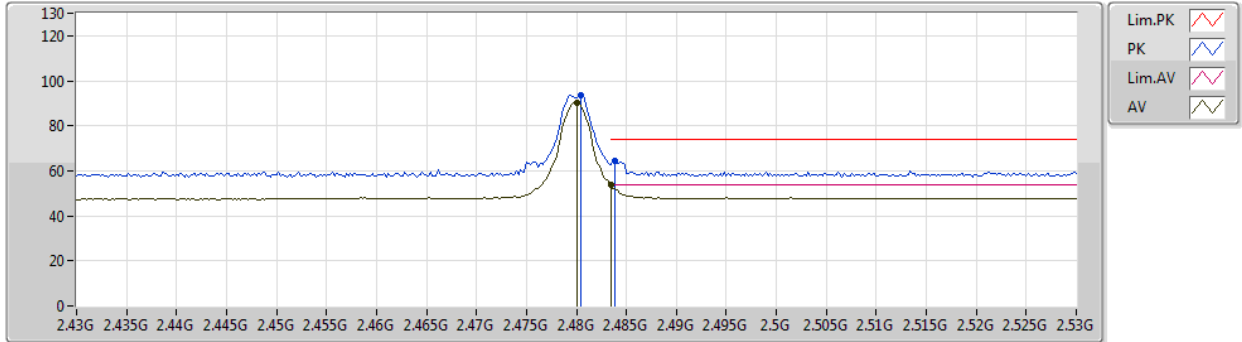


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87892G	36.90	54.00	-17.10	7.63	3	Horizontal	210	2.56	-	29.27	31.18	5.83	29.38
AV	7.33158G	39.72	54.00	-14.28	13.33	3	Horizontal	134	2.13	-	26.39	36.27	7.44	30.38
PK	4.87904G	47.63	74.00	-26.37	7.63	3	Horizontal	210	2.56	-	40.00	31.18	5.83	29.38
PK	7.32018G	52.33	74.00	-21.67	13.37	3	Horizontal	134	2.13	-	38.96	36.28	7.46	30.37

Thread

15/11/2019

2480MHz_TX



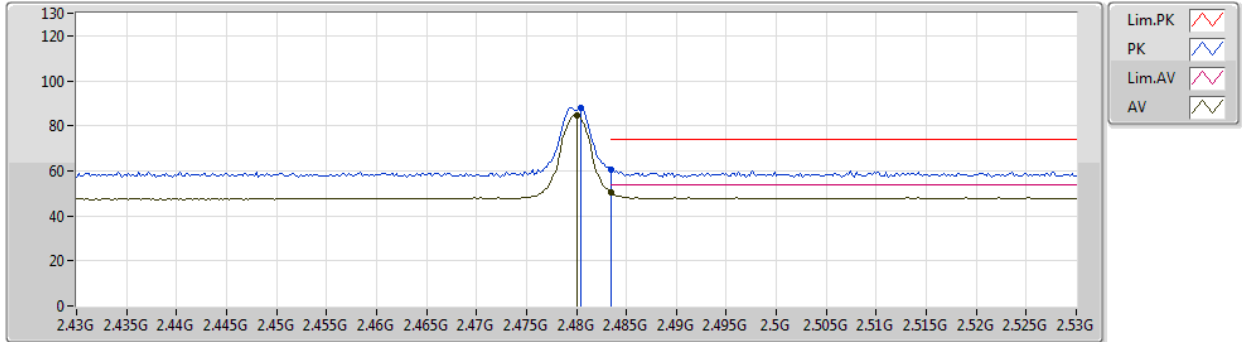
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	90.13	Inf	-Inf	31.42	3	Vertical	213	2.32	-	58.71	27.34	4.08	-
AV	2.4835G	53.85	54.00	-0.15	31.41	3	Vertical	213	2.32	-	22.44	27.33	4.08	-
PK	2.4804G	93.44	Inf	-Inf	31.42	3	Vertical	213	2.32	-	62.02	27.34	4.08	-
PK	2.4838G	64.19	74.00	-9.81	31.41	3	Vertical	213	2.32	-	32.78	27.33	4.08	-



Thread

15/11/2019

2480MHz_TX



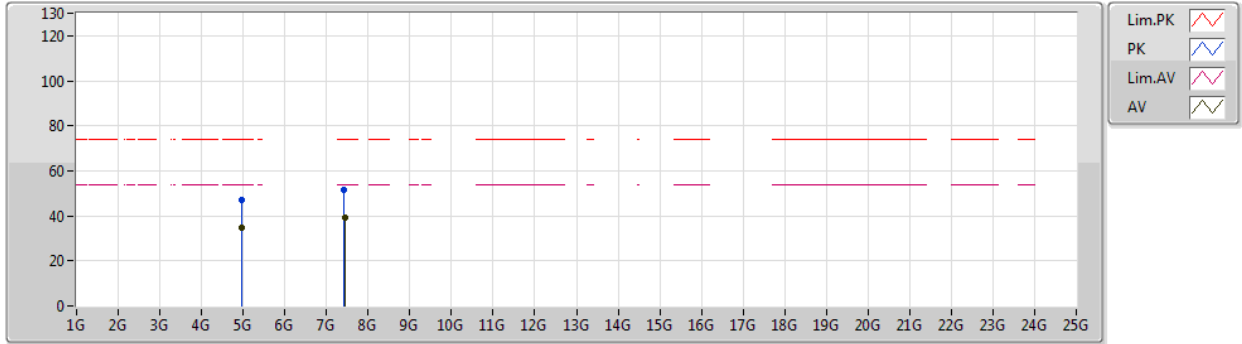
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	84.63	Inf	-Inf	31.42	3	Horizontal	61	1.50	-	53.21	27.34	4.08	-
AV	2.4835G	50.33	54.00	-3.67	31.41	3	Horizontal	61	1.50	-	18.92	27.33	4.08	-
PK	2.4804G	88.03	Inf	-Inf	31.42	3	Horizontal	61	1.50	-	56.61	27.34	4.08	-
PK	2.4835G	60.50	74.00	-13.50	31.41	3	Horizontal	61	1.50	-	29.09	27.33	4.08	-



Thread

15/11/2019

2480MHz_TX



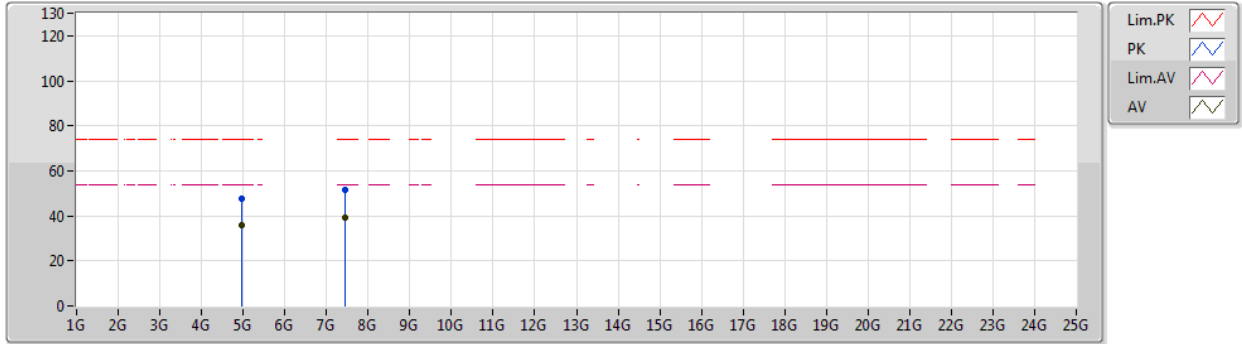
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.95892G	34.87	54.00	-19.13	7.93	3	Vertical	272	1.47	-	26.94	31.38	5.89	29.34
AV	7.44798G	39.23	54.00	-14.77	13.00	3	Vertical	183	2.48	-	26.23	36.25	7.23	30.48
PK	4.95484G	47.13	74.00	-26.87	7.91	3	Vertical	272	1.47	-	39.22	31.36	5.89	29.34
PK	7.4271G	51.56	74.00	-22.44	13.03	3	Vertical	183	2.48	-	38.53	36.23	7.26	30.46



Thread

15/11/2019

2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.95892G	35.83	54.00	-18.17	7.93	3	Horizontal	210	2.32	-	27.90	31.38	5.89	29.34
AV	7.4427G	39.29	54.00	-14.71	13.01	3	Horizontal	291	1.50	-	26.28	36.24	7.24	30.47
PK	4.95868G	47.51	74.00	-26.49	7.93	3	Horizontal	210	2.32	-	39.58	31.38	5.89	29.34
PK	7.44834G	51.37	74.00	-22.63	13.00	3	Horizontal	291	1.50	-	38.37	36.25	7.23	30.48



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
Thread_Nss1_1TX	Pass	PK	128.94M	38.55	43.50	-4.95	3	Vertical	0	1.00	-



Result

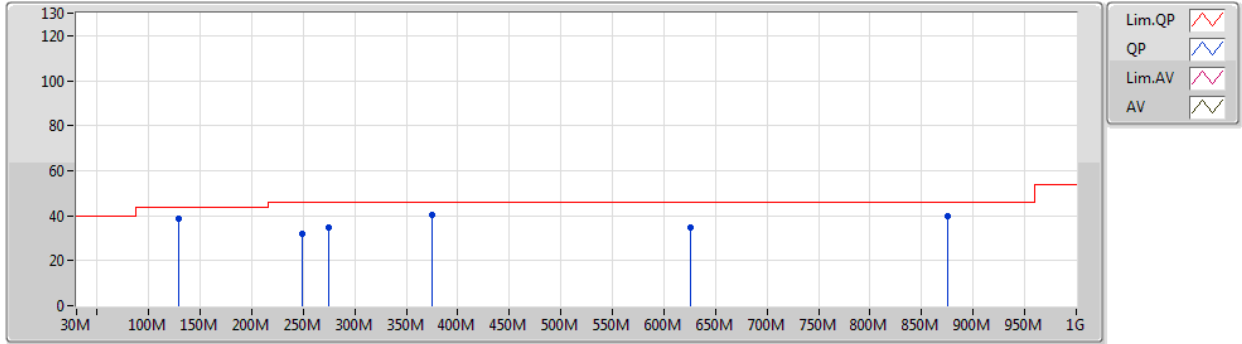
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Thread_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	128.94M	38.55	43.50	-4.95	3	Vertical	0	1.00	-
2440MHz	Pass	PK	249.22M	31.86	46.00	-14.14	3	Vertical	0	1.00	-
2440MHz	Pass	PK	274.44M	34.48	46.00	-11.52	3	Vertical	0	1.00	-
2440MHz	Pass	PK	375.32M	40.42	46.00	-5.58	3	Vertical	0	1.00	-
2440MHz	Pass	PK	625.58M	34.64	46.00	-11.36	3	Vertical	0	1.00	-
2440MHz	Pass	PK	875.84M	39.67	46.00	-6.33	3	Vertical	0	1.00	-
2440MHz	Pass	PK	127M	33.37	43.50	-10.13	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	249.22M	27.86	46.00	-18.14	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	274.44M	32.67	46.00	-13.33	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	375.32M	39.74	46.00	-6.26	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	625.58M	36.75	46.00	-9.25	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	875.84M	36.61	46.00	-9.39	3	Horizontal	360	1.00	-



Thread_Nss1_1TX

04/12/2019

2440MHz_PoE



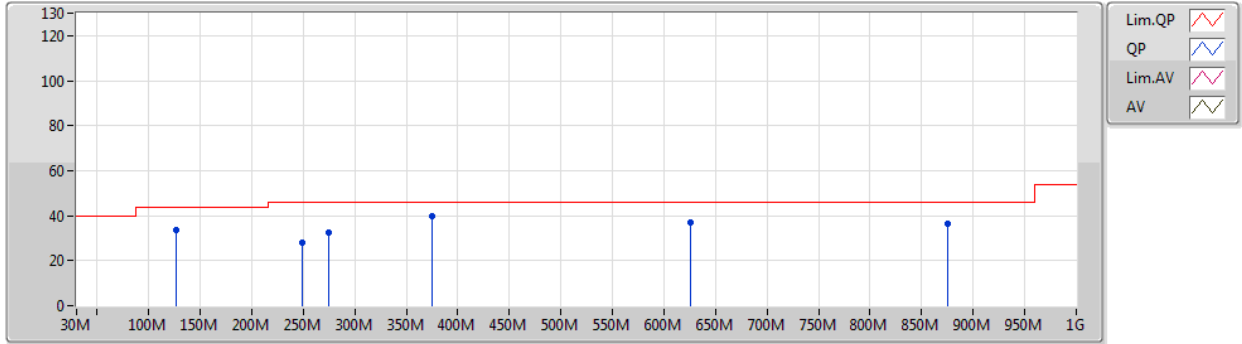
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	128.94M	38.55	43.50	-4.95	-8.56	3	Vertical	0	1.00	-	47.11	16.97	1.74	27.27
PK	249.22M	31.86	46.00	-14.14	-6.86	3	Vertical	0	1.00	-	38.72	17.40	2.48	26.74
PK	274.44M	34.48	46.00	-11.52	-6.10	3	Vertical	0	1.00	-	40.58	18.01	2.61	26.72
PK	375.32M	40.42	46.00	-5.58	-4.11	3	Vertical	0	1.00	-	44.53	19.95	3.08	27.14
PK	625.58M	34.64	46.00	-11.36	0.16	3	Vertical	0	1.00	-	34.48	24.12	4.13	28.09
PK	875.84M	39.67	46.00	-6.33	2.67	3	Vertical	0	1.00	-	37.00	25.36	4.93	27.62



Thread_Nss1_1TX

04/12/2019

2440MHz_PoE



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	127M	33.37	43.50	-10.13	-8.51	3	Horizontal	360	1.00	-	41.88	17.04	1.73	27.28
PK	249.22M	27.86	46.00	-18.14	-6.86	3	Horizontal	360	1.00	-	34.72	17.40	2.48	26.74
PK	274.44M	32.67	46.00	-13.33	-6.10	3	Horizontal	360	1.00	-	38.77	18.01	2.61	26.72
PK	375.32M	39.74	46.00	-6.26	-4.11	3	Horizontal	360	1.00	-	43.85	19.95	3.08	27.14
PK	625.58M	36.75	46.00	-9.25	0.16	3	Horizontal	360	1.00	-	36.59	24.12	4.13	28.09
PK	875.84M	36.61	46.00	-9.39	2.67	3	Horizontal	360	1.00	-	33.94	25.36	4.93	27.62



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
Thread_Nss1_1TX	Pass	AV	2.4835G	53.81	54.00	-0.19	3	Vertical	140	1.48	-



Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Thread_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
2405MHz_TX	Pass	AV	2.375G	43.88	54.00	-10.12	3	Vertical	151	1.48	-
2405MHz_TX	Pass	AV	2.405G	94.95	Inf	-Inf	3	Vertical	151	1.48	-
2405MHz_TX	Pass	PK	2.3842G	56.07	74.00	-17.93	3	Vertical	151	1.48	-
2405MHz_TX	Pass	PK	2.4054G	101.98	Inf	-Inf	3	Vertical	151	1.48	-
2405MHz_TX	Pass	AV	4.8109G	29.50	54.00	-24.50	3	Vertical	198	1.50	-
2405MHz_TX	Pass	PK	4.80346G	43.00	74.00	-31.00	3	Vertical	198	1.50	-
2405MHz_TX	Pass	AV	4.81078G	29.86	54.00	-24.14	3	Horizontal	24	1.26	-
2405MHz_TX	Pass	PK	4.82338G	41.99	74.00	-32.01	3	Horizontal	24	1.26	-
2440MHz_TX	Pass	AV	2.3748G	44.09	54.00	-9.91	3	Vertical	174	1.68	-
2440MHz_TX	Pass	AV	2.44G	95.70	Inf	-Inf	3	Vertical	174	1.68	-
2440MHz_TX	Pass	AV	2.4996G	44.07	54.00	-9.93	3	Vertical	174	1.68	-
2440MHz_TX	Pass	PK	2.3504G	55.42	74.00	-18.58	3	Vertical	174	1.68	-
2440MHz_TX	Pass	PK	2.4396G	102.76	Inf	-Inf	3	Vertical	174	1.68	-
2440MHz_TX	Pass	PK	2.4944G	55.50	74.00	-18.50	3	Vertical	174	1.68	-
2440MHz_TX	Pass	AV	4.87262G	29.43	54.00	-24.57	3	Vertical	33	1.17	-
2440MHz_TX	Pass	AV	7.32132G	35.39	54.00	-18.61	3	Vertical	237	2.43	-
2440MHz_TX	Pass	PK	4.877G	42.37	74.00	-31.63	3	Vertical	33	1.17	-
2440MHz_TX	Pass	PK	7.32138G	48.54	74.00	-25.46	3	Vertical	237	2.43	-
2440MHz_TX	Pass	AV	4.8788G	33.63	54.00	-20.37	3	Horizontal	10	1.94	-
2440MHz_TX	Pass	AV	7.31832G	38.54	54.00	-15.46	3	Horizontal	232	1.68	-
2440MHz_TX	Pass	PK	4.8794G	43.40	74.00	-30.60	3	Horizontal	10	1.94	-
2440MHz_TX	Pass	PK	7.31832G	48.25	74.00	-25.75	3	Horizontal	232	1.68	-
2480MHz_TX	Pass	AV	2.48G	90.96	Inf	-Inf	3	Vertical	140	1.48	-
2480MHz_TX	Pass	AV	2.4835G	53.81	54.00	-0.19	3	Vertical	140	1.48	-
2480MHz_TX	Pass	PK	2.4794G	95.19	Inf	-Inf	3	Vertical	140	1.48	-
2480MHz_TX	Pass	PK	2.4836G	63.10	74.00	-10.90	3	Vertical	140	1.48	-
2480MHz_TX	Pass	AV	4.94878G	29.62	54.00	-24.38	3	Vertical	340	2.49	-
2480MHz_TX	Pass	AV	7.44762G	36.07	54.00	-17.93	3	Vertical	101	2.46	-
2480MHz_TX	Pass	PK	4.96252G	43.20	74.00	-30.80	3	Vertical	340	2.49	-
2480MHz_TX	Pass	PK	7.43808G	48.86	74.00	-25.14	3	Vertical	101	2.46	-
2480MHz_TX	Pass	AV	4.97188G	29.57	54.00	-24.43	3	Horizontal	24	2.49	-
2480MHz_TX	Pass	AV	7.43784G	36.31	54.00	-17.69	3	Horizontal	252	1.06	-
2480MHz_TX	Pass	PK	4.94872G	42.33	74.00	-31.67	3	Horizontal	24	2.49	-
2480MHz_TX	Pass	PK	7.43766G	49.59	74.00	-24.41	3	Horizontal	252	1.06	-

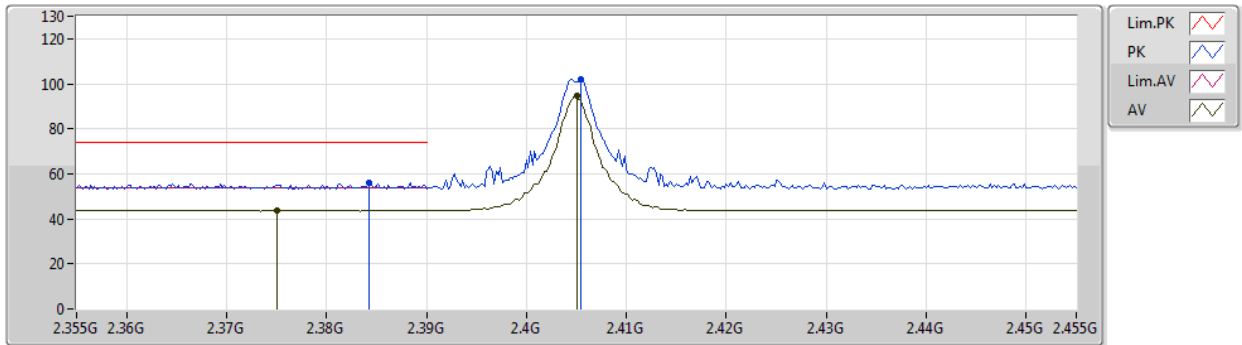
Remark :

Level (dBuV/m) = Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

Thread_Nss1_1TX

22/11/2019

2405MHz_TX



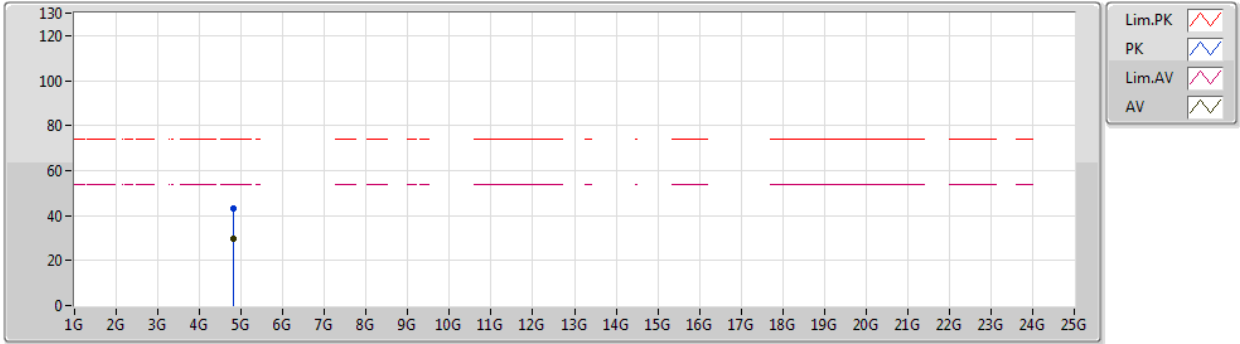
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.375G	43.88	54.00	-10.12	32.02	3	Vertical	151	1.48	-	11.86	27.32	4.70	-
AV	2.405G	94.95	Inf	-Inf	32.15	3	Vertical	151	1.48	-	62.80	27.41	4.74	-
PK	2.3842G	56.07	74.00	-17.93	32.06	3	Vertical	151	1.48	-	24.01	27.35	4.71	-
PK	2.4054G	101.98	Inf	-Inf	32.16	3	Vertical	151	1.48	-	69.82	27.42	4.74	-



Thread_Nss1_1TX

22/11/2019

2405MHz_TX

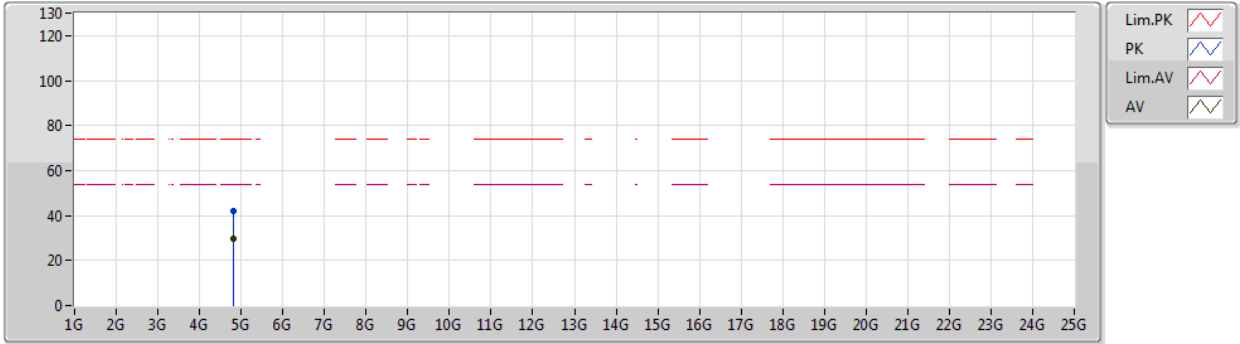


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.8109G	29.50	54.00	-24.50	4.25	3	Vertical	198	1.50	-	25.25	31.36	6.79	33.90
PK	4.80346G	43.00	74.00	-31.00	4.22	3	Vertical	198	1.50	-	38.78	31.35	6.78	33.91

Thread_Nss1_1TX

22/11/2019

2405MHz_TX

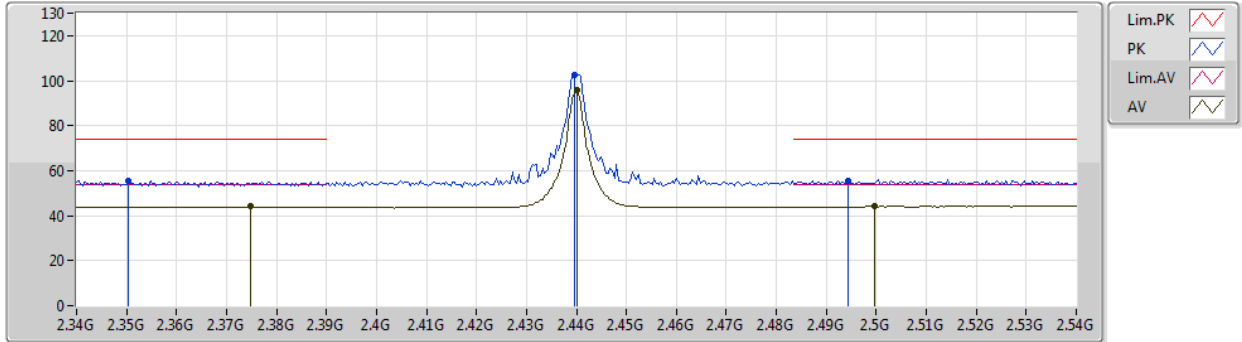


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.81078G	29.86	54.00	-24.14	4.25	3	Horizontal	24	1.26	-	25.61	31.36	6.79	33.90
PK	4.82338G	41.99	74.00	-32.01	4.27	3	Horizontal	24	1.26	-	37.72	31.38	6.79	33.90

Thread_Nss1_1TX

22/11/2019

2440MHz_TX

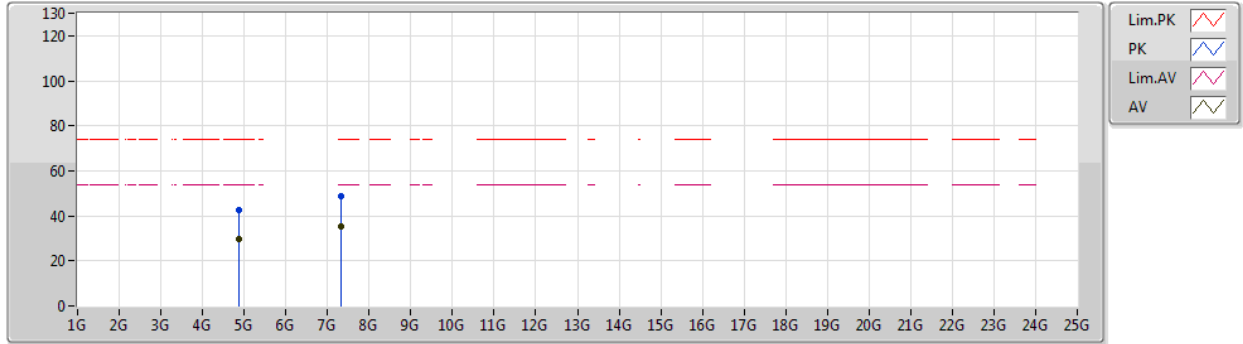


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3748G	44.09	54.00	-9.91	32.02	3	Vertical	174	1.68	-	12.07	27.32	4.70	-
AV	2.44G	95.70	Inf	-Inf	32.30	3	Vertical	174	1.68	-	63.40	27.52	4.78	-
AV	2.4996G	44.07	54.00	-9.93	32.55	3	Vertical	174	1.68	-	11.52	27.70	4.85	-
PK	2.3504G	55.42	74.00	-18.58	31.92	3	Vertical	174	1.68	-	23.50	27.25	4.67	-
PK	2.4396G	102.76	Inf	-Inf	32.30	3	Vertical	174	1.68	-	70.46	27.52	4.78	-
PK	2.4944G	55.50	74.00	-18.50	32.52	3	Vertical	174	1.68	-	22.98	27.68	4.84	-

Thread_Nss1_1TX

22/11/2019

2440MHz_TX



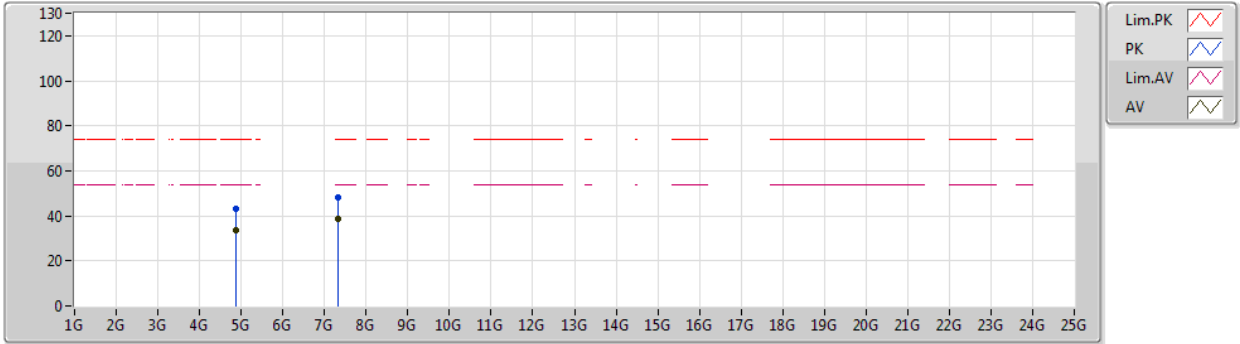
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.87262G	29.43	54.00	-24.57	4.41	3	Vertical	33	1.17	-	25.02	31.47	6.81	33.87
AV	7.32132G	35.39	54.00	-18.61	10.55	3	Vertical	237	2.43	-	24.84	36.04	8.62	34.11
PK	4.877G	42.37	74.00	-31.63	4.42	3	Vertical	33	1.17	-	37.95	31.48	6.81	33.87
PK	7.32138G	48.54	74.00	-25.46	10.55	3	Vertical	237	2.43	-	37.99	36.04	8.62	34.11



Thread_Nss1_1TX

22/11/2019

2440MHz_TX

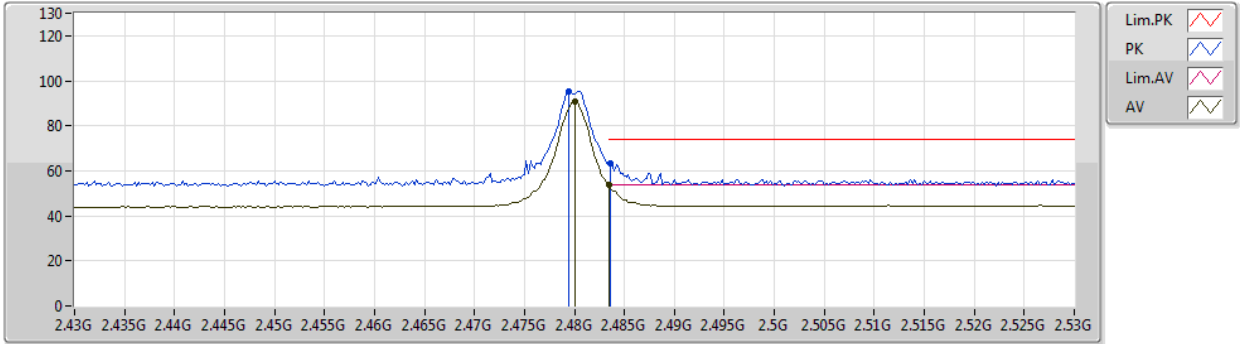


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.8788G	33.63	54.00	-20.37	4.42	3	Horizontal	10	1.94	-	29.21	31.48	6.81	33.87
AV	7.31832G	38.54	54.00	-15.46	10.54	3	Horizontal	232	1.68	-	28.00	36.03	8.62	34.11
PK	4.8794G	43.40	74.00	-30.60	4.42	3	Horizontal	10	1.94	-	38.98	31.48	6.81	33.87
PK	7.31832G	48.25	74.00	-25.75	10.54	3	Horizontal	232	1.68	-	37.71	36.03	8.62	34.11

Thread_Nss1_1TX

22/11/2019

2480MHz_TX



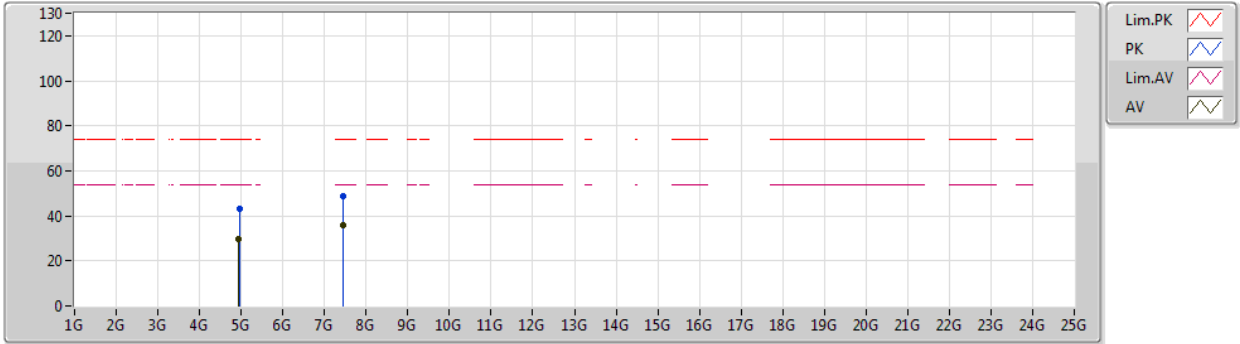
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	90.96	Inf	-Inf	32.46	3	Vertical	140	1.48	-	58.50	27.64	4.82	-
AV	2.4835G	53.81	54.00	-0.19	32.48	3	Vertical	140	1.48	-	21.33	27.65	4.83	-
PK	2.4794G	95.19	Inf	-Inf	32.46	3	Vertical	140	1.48	-	62.73	27.64	4.82	-
PK	2.4836G	63.10	74.00	-10.90	32.48	3	Vertical	140	1.48	-	30.62	27.65	4.83	-



Thread_Nss1_1TX

22/11/2019

2480MHz_TX



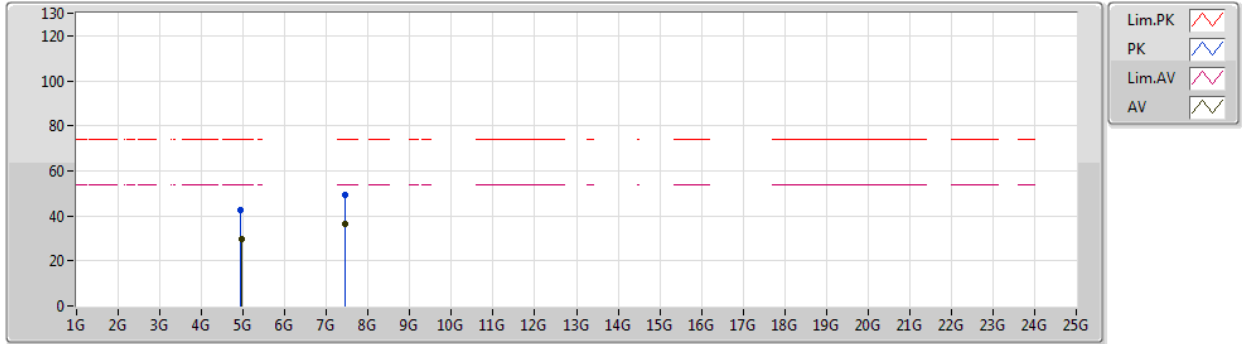
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.94878G	29.62	54.00	-24.38	4.61	3	Vertical	340	2.49	-	25.01	31.61	6.83	33.83
AV	7.44762G	36.07	54.00	-17.93	10.94	3	Vertical	101	2.46	-	25.13	36.36	8.69	34.11
PK	4.96252G	43.20	74.00	-30.80	4.65	3	Vertical	340	2.49	-	38.55	31.63	6.84	33.82
PK	7.43808G	48.86	74.00	-25.14	10.91	3	Vertical	101	2.46	-	37.95	36.34	8.68	34.11



Thread_Nss1_1TX

22/11/2019

2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.97188G	29.57	54.00	-24.43	4.67	3	Horizontal	24	2.49	-	24.90	31.65	6.84	33.82
AV	7.43784G	36.31	54.00	-17.69	10.91	3	Horizontal	252	1.06	-	25.40	36.34	8.68	34.11
PK	4.94872G	42.33	74.00	-31.67	4.61	3	Horizontal	24	2.49	-	37.72	31.61	6.83	33.83
PK	7.43766G	49.59	74.00	-24.41	10.91	3	Horizontal	252	1.06	-	38.68	36.34	8.68	34.11



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
Thread_Nss1_1TX	Pass	PK	375.32M	43.33	46.00	-2.67	3	Horizontal	360	1.00	-



Result

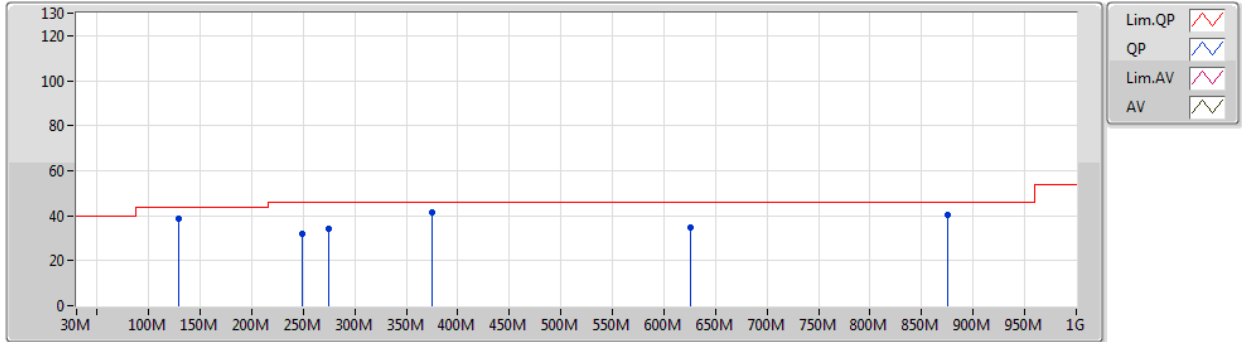
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Thread_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
2440MHz_PoE	Pass	PK	128.94M	38.51	43.50	-4.99	3	Vertical	0	1.00	-
2440MHz_PoE	Pass	PK	249.22M	32.12	46.00	-13.88	3	Vertical	0	1.00	-
2440MHz_PoE	Pass	PK	274.44M	33.97	46.00	-12.03	3	Vertical	0	1.00	-
2440MHz_PoE	Pass	PK	375.32M	41.41	46.00	-4.59	3	Vertical	0	1.00	-
2440MHz_PoE	Pass	PK	625.58M	34.56	46.00	-11.44	3	Vertical	0	1.00	-
2440MHz_PoE	Pass	PK	875.84M	40.32	46.00	-5.68	3	Vertical	0	1.00	-
2440MHz_PoE	Pass	PK	128.94M	32.23	43.50	-11.27	3	Horizontal	360	1.00	-
2440MHz_PoE	Pass	PK	237.58M	26.02	46.00	-19.98	3	Horizontal	360	1.00	-
2440MHz_PoE	Pass	PK	268.62M	27.96	46.00	-18.04	3	Horizontal	360	1.00	-
2440MHz_PoE	Pass	PK	375.32M	43.33	46.00	-2.67	3	Horizontal	360	1.00	-
2440MHz_PoE	Pass	PK	625.58M	35.99	46.00	-10.01	3	Horizontal	360	1.00	-
2440MHz_PoE	Pass	PK	734.22M	34.87	46.00	-11.13	3	Horizontal	360	1.00	-



Thread_Nss1_1TX

04/12/2019

2440MHz_PoE



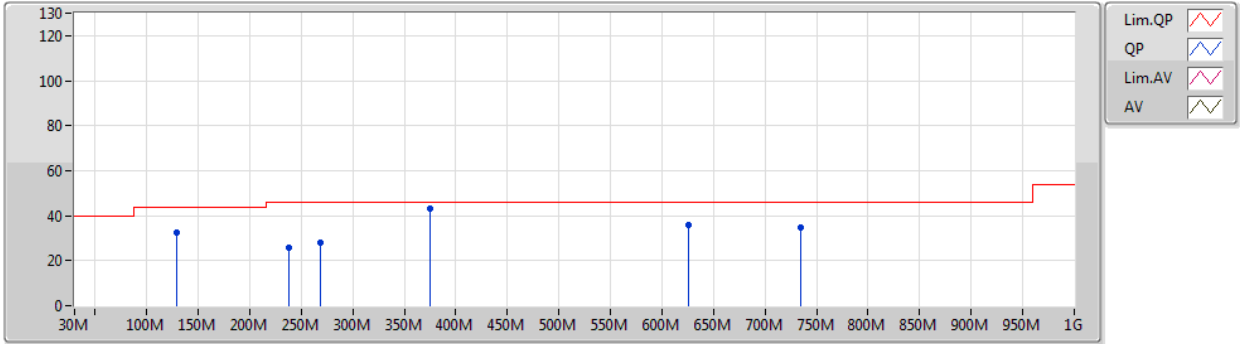
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	128.94M	38.51	43.50	-4.99	-8.56	3	Vertical	0	1.00	-	47.07	16.97	1.74	27.27
PK	249.22M	32.12	46.00	-13.88	-6.86	3	Vertical	0	1.00	-	38.98	17.40	2.48	26.74
PK	274.44M	33.97	46.00	-12.03	-6.10	3	Vertical	0	1.00	-	40.07	18.01	2.61	26.72
PK	375.32M	41.41	46.00	-4.59	-4.11	3	Vertical	0	1.00	-	45.52	19.95	3.08	27.14
PK	625.58M	34.56	46.00	-11.44	0.16	3	Vertical	0	1.00	-	34.40	24.12	4.13	28.09
PK	875.84M	40.32	46.00	-5.68	2.67	3	Vertical	0	1.00	-	37.65	25.36	4.93	27.62



Thread_Nss1_1TX

04/12/2019

2440MHz_PoE



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	128.94M	32.23	43.50	-11.27	-8.56	3	Horizontal	360	1.00	-	40.79	16.97	1.74	27.27
PK	237.58M	26.02	46.00	-19.98	-8.21	3	Horizontal	360	1.00	-	34.23	16.16	2.42	26.79
PK	268.62M	27.96	46.00	-18.04	-5.99	3	Horizontal	360	1.00	-	33.95	18.15	2.58	26.72
PK	375.32M	43.33	46.00	-2.67	-4.11	3	Horizontal	360	1.00	-	47.44	19.95	3.08	27.14
PK	625.58M	35.99	46.00	-10.01	0.16	3	Horizontal	360	1.00	-	35.83	24.12	4.13	28.09
PK	734.22M	34.87	46.00	-11.13	1.10	3	Horizontal	360	1.00	-	33.77	24.68	4.46	28.04



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
Thread_Nss1_1TX	Pass	AV	2.4835G	53.91	54.00	-0.09	3	Horizontal	346	1.72	-



Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Thread_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	AV	2.375G	44.07	54.00	-9.93	3	Vertical	17	1.07	-
2405MHz	Pass	AV	2.405G	79.53	Inf	-Inf	3	Vertical	17	1.07	-
2405MHz	Pass	PK	2.373G	55.60	74.00	-18.40	3	Vertical	17	1.07	-
2405MHz	Pass	PK	2.4054G	88.40	Inf	-Inf	3	Vertical	17	1.07	-
2405MHz	Pass	AV	2.375G	43.75	54.00	-10.25	3	Horizontal	345	1.81	-
2405MHz	Pass	AV	2.405G	91.72	Inf	-Inf	3	Horizontal	345	1.81	-
2405MHz	Pass	PK	2.3892G	57.64	74.00	-16.36	3	Horizontal	345	1.81	-
2405MHz	Pass	PK	2.4054G	102.06	Inf	-Inf	3	Horizontal	345	1.81	-
2405MHz	Pass	AV	4.81084G	30.15	54.00	-23.85	3	Vertical	0	1.00	-
2405MHz	Pass	PK	4.8109G	41.83	74.00	-32.17	3	Vertical	0	1.00	-
2405MHz	Pass	AV	4.80886G	31.12	54.00	-22.88	3	Horizontal	308	1.08	-
2405MHz	Pass	PK	4.81096G	43.62	74.00	-30.38	3	Horizontal	308	1.08	-
2440MHz	Pass	AV	2.3748G	44.66	54.00	-9.34	3	Vertical	151	1.07	-
2440MHz	Pass	AV	2.44G	85.67	Inf	-Inf	3	Vertical	151	1.07	-
2440MHz	Pass	AV	2.4864G	44.35	54.00	-9.65	3	Vertical	151	1.07	-
2440MHz	Pass	PK	2.3548G	55.33	74.00	-18.67	3	Vertical	151	1.07	-
2440MHz	Pass	PK	2.4396G	90.04	Inf	-Inf	3	Vertical	151	1.07	-
2440MHz	Pass	PK	2.4992G	55.47	74.00	-18.53	3	Vertical	151	1.07	-
2440MHz	Pass	AV	2.3748G	44.29	54.00	-9.71	3	Horizontal	345	1.75	-
2440MHz	Pass	AV	2.44G	98.05	Inf	-Inf	3	Horizontal	345	1.75	-
2440MHz	Pass	AV	2.4984G	44.53	54.00	-9.47	3	Horizontal	345	1.75	-
2440MHz	Pass	PK	2.3824G	55.41	74.00	-18.59	3	Horizontal	345	1.75	-
2440MHz	Pass	PK	2.4396G	102.44	Inf	-Inf	3	Horizontal	345	1.75	-
2440MHz	Pass	PK	2.4884G	56.09	74.00	-17.91	3	Horizontal	345	1.75	-
2440MHz	Pass	AV	4.88078G	30.55	54.00	-23.45	3	Vertical	23	1.46	-
2440MHz	Pass	AV	7.32132G	36.37	54.00	-17.63	3	Vertical	329	2.31	-
2440MHz	Pass	PK	4.88504G	42.64	74.00	-31.36	3	Vertical	23	1.46	-
2440MHz	Pass	PK	7.3215G	48.28	74.00	-25.72	3	Vertical	329	2.31	-
2440MHz	Pass	AV	4.88078G	29.77	54.00	-24.23	3	Horizontal	314	1.49	-
2440MHz	Pass	AV	7.31832G	35.52	54.00	-18.48	3	Horizontal	239	1.68	-
2440MHz	Pass	PK	4.89398G	42.26	74.00	-31.74	3	Horizontal	314	1.49	-
2440MHz	Pass	PK	7.33056G	48.74	74.00	-25.26	3	Horizontal	239	1.68	-
2480MHz	Pass	AV	2.48G	78.37	Inf	-Inf	3	Vertical	155	1.13	-
2480MHz	Pass	AV	2.4835G	45.76	54.00	-8.24	3	Vertical	155	1.13	-
2480MHz	Pass	PK	2.4804G	82.71	Inf	-Inf	3	Vertical	155	1.13	-
2480MHz	Pass	PK	2.4835G	56.40	74.00	-17.60	3	Vertical	155	1.13	-
2480MHz	Pass	AV	2.48G	90.79	Inf	-Inf	3	Horizontal	346	1.72	-
2480MHz	Pass	AV	2.4835G	53.91	54.00	-0.09	3	Horizontal	346	1.72	-
2480MHz	Pass	PK	2.4804G	95.05	Inf	-Inf	3	Horizontal	346	1.72	-
2480MHz	Pass	PK	2.4842G	65.81	74.00	-8.19	3	Horizontal	346	1.72	-
2480MHz	Pass	AV	4.95334G	29.40	54.00	-24.60	3	Vertical	85	1.38	-
2480MHz	Pass	AV	7.4406G	36.00	54.00	-18.00	3	Vertical	110	1.66	-
2480MHz	Pass	PK	4.94596G	42.55	74.00	-31.45	3	Vertical	120	1.38	-
2480MHz	Pass	PK	7.44102G	49.06	74.00	-24.94	3	Vertical	110	1.66	-
2480MHz	Pass	AV	4.9492G	29.48	54.00	-24.52	3	Horizontal	249	1.49	-
2480MHz	Pass	AV	7.45158G	36.12	54.00	-17.88	3	Horizontal	280	2.74	-
2480MHz	Pass	PK	4.95034G	43.42	74.00	-30.58	3	Horizontal	249	1.49	-

Remark :

Level (dBuV/m) = Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)



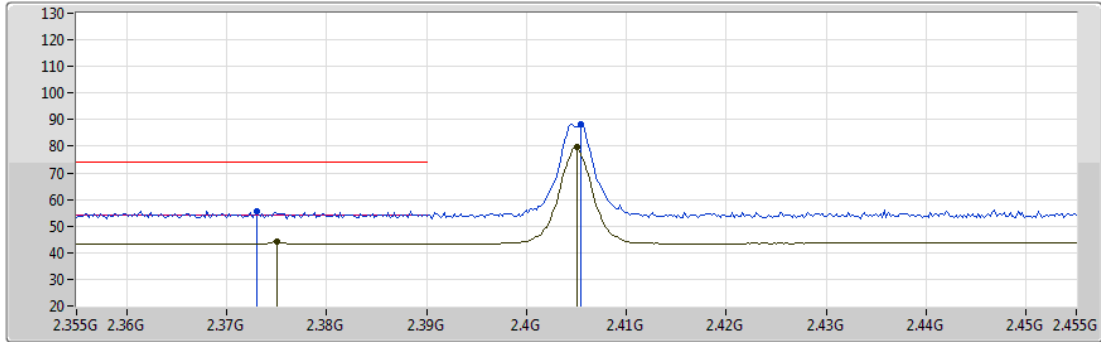
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2480MHz	Pass	PK	7.44054G	49.28	74.00	-24.72	3	Horizontal	280	2.74	-



Thread_Nss1_1TX

22/11/2019

2405MHz_TX



Lim.PK
 PK
 Lim.AV
 AV

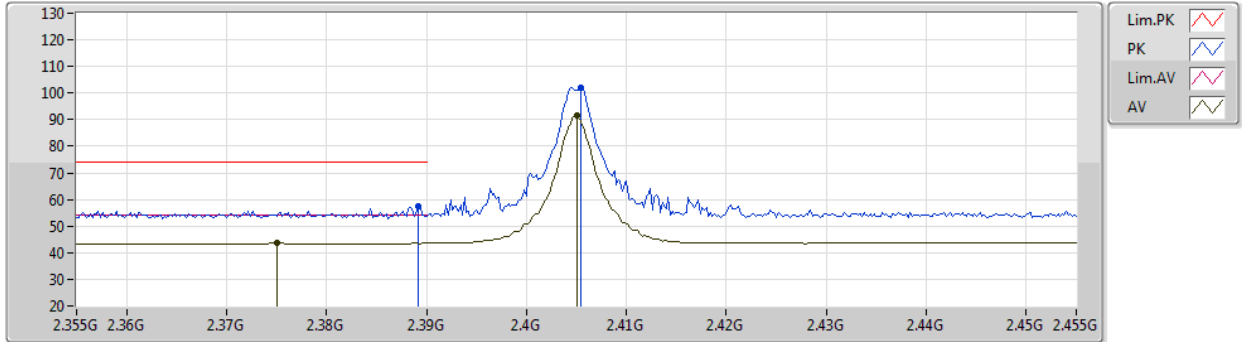
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.375G	44.07	54.00	-9.93	32.02	3	Vertical	17	1.07	-	12.05	27.32	4.70	-
AV	2.405G	79.53	Inf	-Inf	32.15	3	Vertical	17	1.07	-	47.38	27.41	4.74	-
PK	2.373G	55.60	74.00	-18.40	32.02	3	Vertical	17	1.07	-	23.58	27.32	4.70	-
PK	2.4054G	88.40	Inf	-Inf	32.16	3	Vertical	17	1.07	-	56.24	27.42	4.74	-



Thread_Nss1_1TX

22/11/2019

2405MHz_TX



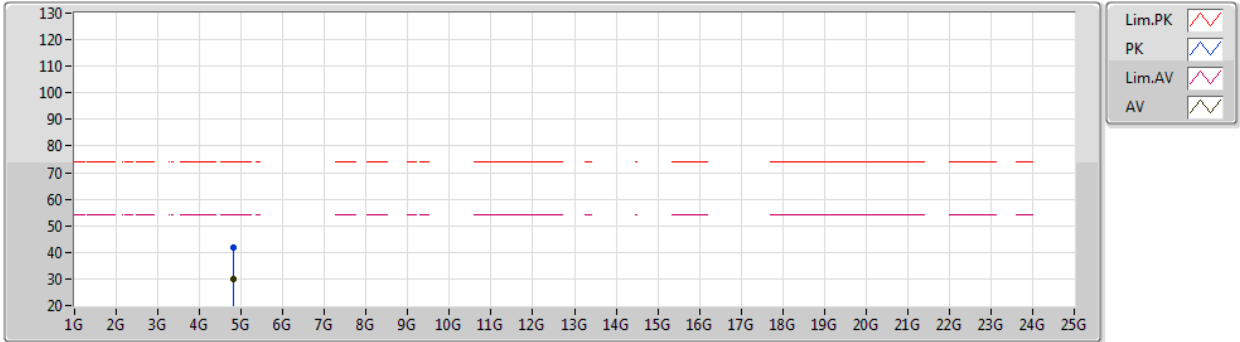
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.375G	43.75	54.00	-10.25	32.02	3	Horizontal	345	1.81	-	11.73	27.32	4.70	-
AV	2.405G	91.72	Inf	-Inf	32.15	3	Horizontal	345	1.81	-	59.57	27.41	4.74	-
PK	2.3892G	57.64	74.00	-16.36	32.09	3	Horizontal	345	1.81	-	25.55	27.37	4.72	-
PK	2.4054G	102.06	Inf	-Inf	32.16	3	Horizontal	345	1.81	-	69.90	27.42	4.74	-



Thread_Nss1_1TX

22/11/2019

2405MHz_TX



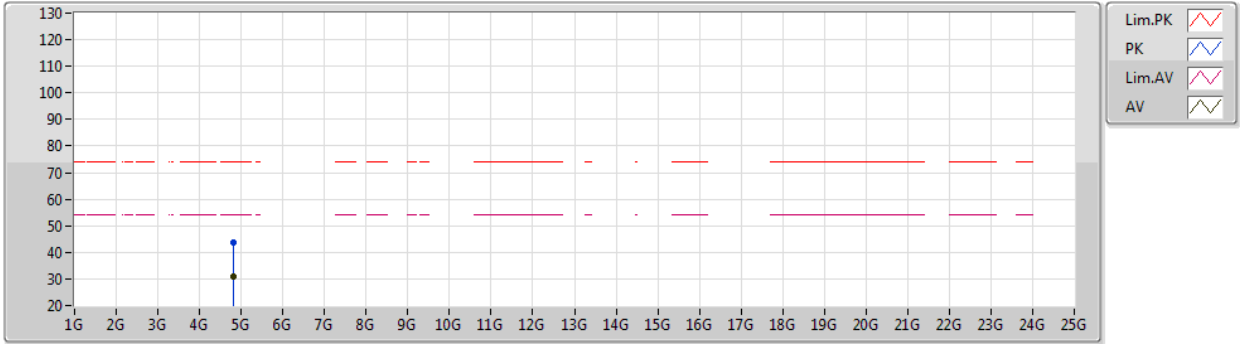
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AV	4.81084G	30.15	54.00	-23.85	4.25	3	Vertical	0	1.00	-	25.90	31.36	6.79	33.90
PK	4.8109G	41.83	74.00	-32.17	4.25	3	Vertical	0	1.00	-	37.58	31.36	6.79	33.90



Thread_Nss1_1TX

22/11/2019

2405MHz_TX

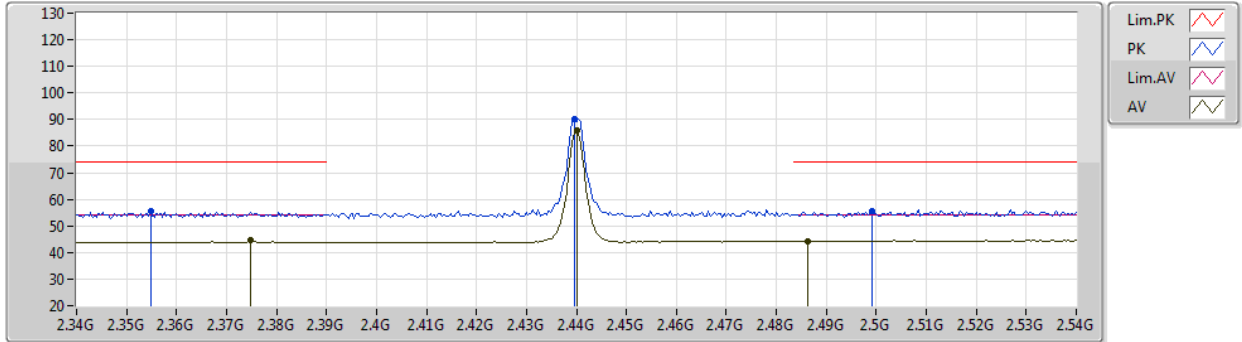


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80886G	31.12	54.00	-22.88	4.24	3	Horizontal	308	1.08	-	26.88	31.36	6.79	33.91
PK	4.81096G	43.62	74.00	-30.38	4.25	3	Horizontal	308	1.08	-	39.37	31.36	6.79	33.90

Thread_Nss1_1TX

22/11/2019

2440MHz_TX

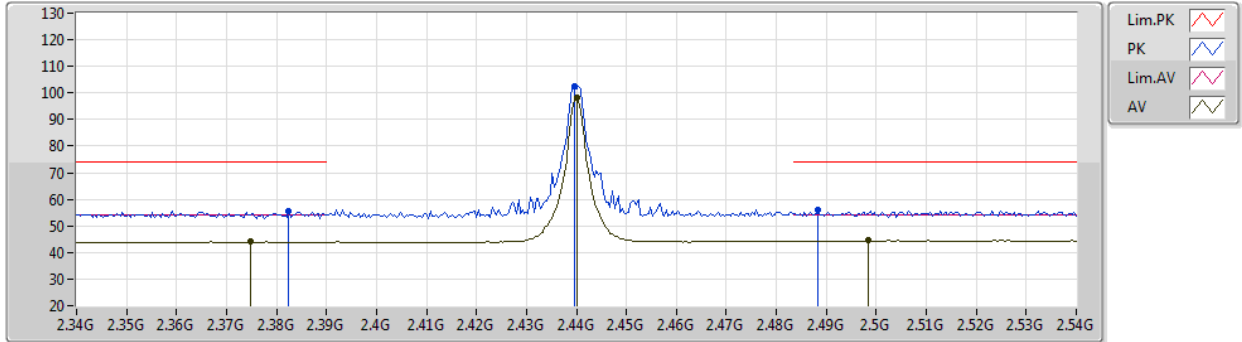


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3748G	44.66	54.00	-9.34	32.02	3	Vertical	151	1.07	-	12.64	27.32	4.70	-
AV	2.44G	85.67	Inf	-Inf	32.30	3	Vertical	151	1.07	-	53.37	27.52	4.78	-
AV	2.4864G	44.35	54.00	-9.65	32.49	3	Vertical	151	1.07	-	11.86	27.66	4.83	-
PK	2.3548G	55.33	74.00	-18.67	31.94	3	Vertical	151	1.07	-	23.39	27.26	4.68	-
PK	2.4396G	90.04	Inf	-Inf	32.30	3	Vertical	151	1.07	-	57.74	27.52	4.78	-
PK	2.4992G	55.47	74.00	-18.53	32.55	3	Vertical	151	1.07	-	22.92	27.70	4.85	-

Thread_Nss1_1TX

22/11/2019

2440MHz_TX



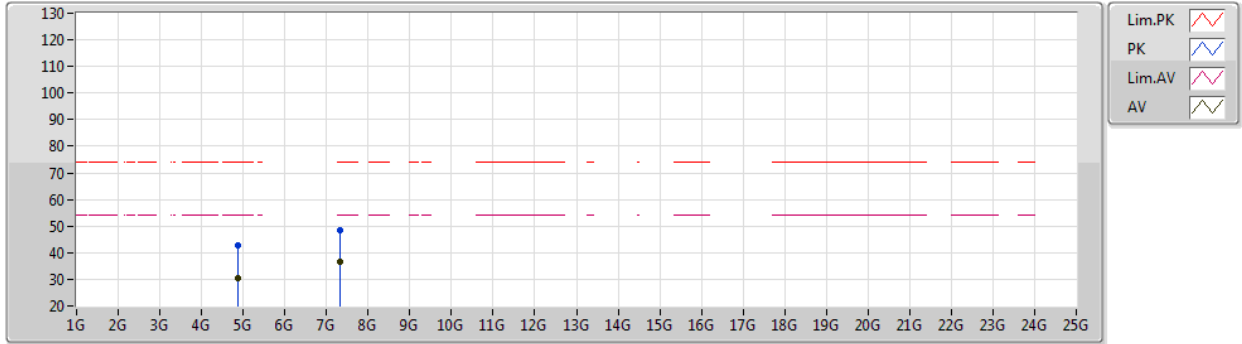
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3748G	44.29	54.00	-9.71	32.02	3	Horizontal	345	1.75	-	12.27	27.32	4.70	-
AV	2.44G	98.05	Inf	-Inf	32.30	3	Horizontal	345	1.75	-	65.75	27.52	4.78	-
AV	2.4984G	44.53	54.00	-9.47	32.55	3	Horizontal	345	1.75	-	11.98	27.70	4.85	-
PK	2.3824G	55.41	74.00	-18.59	32.06	3	Horizontal	345	1.75	-	23.35	27.35	4.71	-
PK	2.4396G	102.44	Inf	-Inf	32.30	3	Horizontal	345	1.75	-	70.14	27.52	4.78	-
PK	2.4884G	56.09	74.00	-17.91	32.50	3	Horizontal	345	1.75	-	23.59	27.67	4.83	-



Thread_Nss1_1TX

22/11/2019

2440MHz_TX



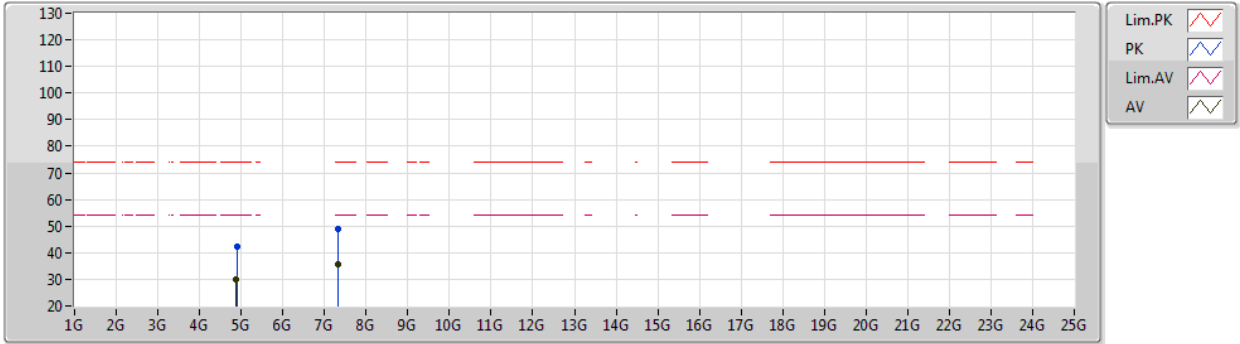
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.88078G	30.55	54.00	-23.45	4.43	3	Vertical	23	1.46	-	26.12	31.49	6.81	33.87
AV	7.32132G	36.37	54.00	-17.63	10.55	3	Vertical	329	2.31	-	25.82	36.04	8.62	34.11
PK	4.88504G	42.64	74.00	-31.36	4.43	3	Vertical	23	1.46	-	38.21	31.49	6.81	33.87
PK	7.3215G	48.28	74.00	-25.72	10.55	3	Vertical	329	2.31	-	37.73	36.04	8.62	34.11



Thread_Nss1_1TX

22/11/2019

2440MHz_TX



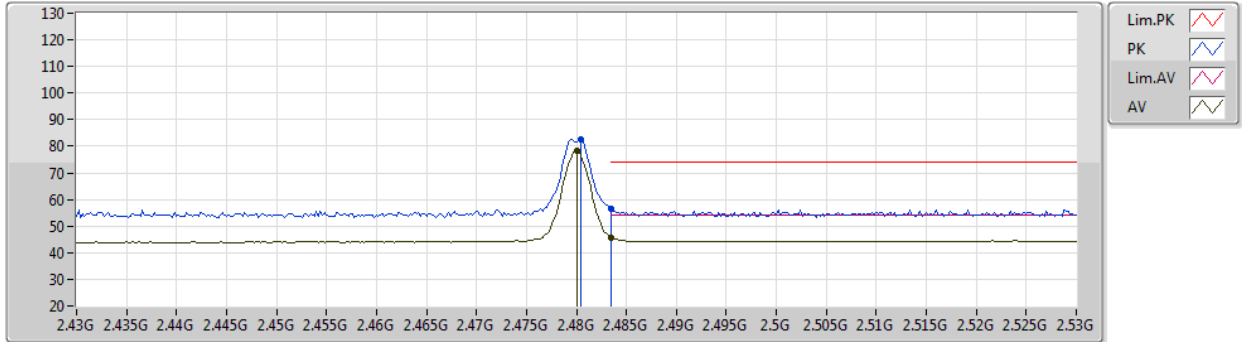
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.88078G	29.77	54.00	-24.23	4.43	3	Horizontal	314	1.49	-	25.34	31.49	6.81	33.87
AV	7.31832G	35.52	54.00	-18.48	10.54	3	Horizontal	239	1.68	-	24.98	36.03	8.62	34.11
PK	4.89398G	42.26	74.00	-31.74	4.46	3	Horizontal	314	1.49	-	37.80	31.51	6.81	33.86
PK	7.33056G	48.74	74.00	-25.26	10.57	3	Horizontal	239	1.68	-	38.17	36.06	8.62	34.11



Thread_Nss1_1TX

22/11/2019

2480MHz_TX

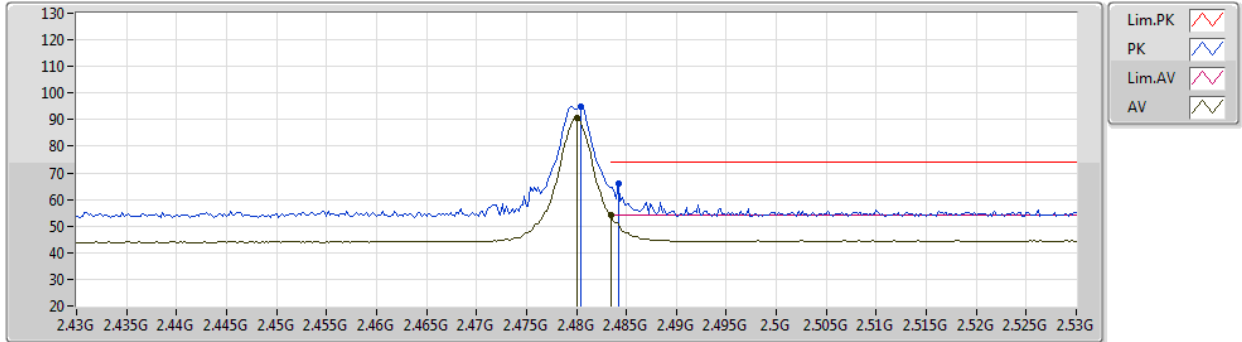


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	78.37	Inf	-Inf	32.46	3	Vertical	155	1.13	-	45.91	27.64	4.82	-
AV	2.4835G	45.76	54.00	-8.24	32.48	3	Vertical	155	1.13	-	13.28	27.65	4.83	-
PK	2.4804G	82.71	Inf	-Inf	32.46	3	Vertical	155	1.13	-	50.25	27.64	4.82	-
PK	2.4835G	56.40	74.00	-17.60	32.48	3	Vertical	155	1.13	-	23.92	27.65	4.83	-

Thread_Nss1_1TX

22/11/2019

2480MHz_TX

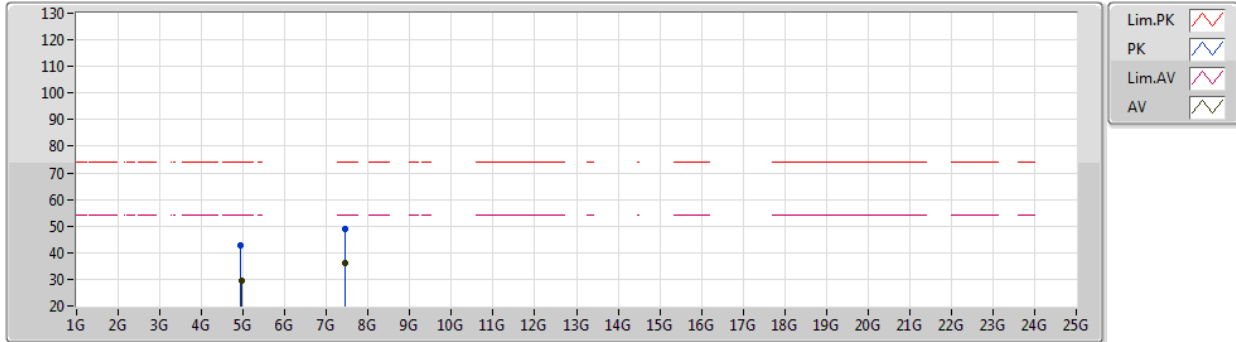


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.48G	90.79	Inf	-Inf	32.46	3	Horizontal	346	1.72	-	58.33	27.64	4.82	-
AV	2.4835G	53.91	54.00	-0.09	32.48	3	Horizontal	346	1.72	-	21.43	27.65	4.83	-
PK	2.4804G	95.05	Inf	-Inf	32.46	3	Horizontal	346	1.72	-	62.59	27.64	4.82	-
PK	2.4842G	65.81	74.00	-8.19	32.48	3	Horizontal	346	1.72	-	33.33	27.65	4.83	-

Thread_Nss1_1TX

22/11/2019

2480MHz_TX



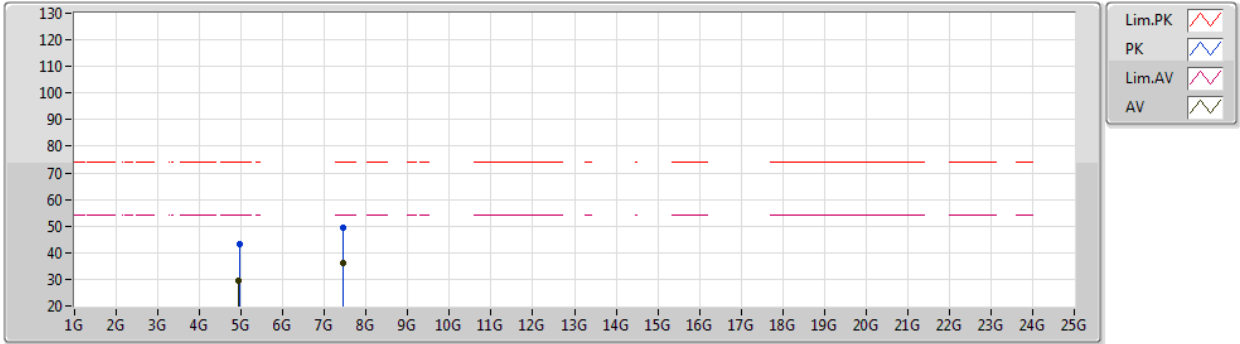
Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.95334G	29.40	54.00	-24.60	4.62	3	Vertical	85	1.38	-	24.78	31.62	6.83	33.83
AV	7.4406G	36.00	54.00	-18.00	10.92	3	Vertical	110	1.66	-	25.08	36.35	8.68	34.11
PK	4.94596G	42.55	74.00	-31.45	4.60	3	Vertical	120	1.38	-	37.95	31.60	6.83	33.83
PK	7.44102G	49.06	74.00	-24.94	10.92	3	Vertical	110	1.66	-	38.14	36.35	8.68	34.11



Thread_Nss1_1TX

22/11/2019

2480MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.9492G	29.48	54.00	-24.52	4.61	3	Horizontal	249	1.49	-	24.87	31.61	6.83	33.83
AV	7.45158G	36.12	54.00	-17.88	10.95	3	Horizontal	280	2.74	-	25.17	36.37	8.69	34.11
PK	4.95034G	43.42	74.00	-30.58	4.61	3	Horizontal	249	1.49	-	38.81	31.61	6.83	33.83
PK	7.44054G	49.28	74.00	-24.72	10.92	3	Horizontal	280	2.74	-	38.36	36.35	8.68	34.11