



FCC Radio Test Report

FCC ID : TVE-4111BBE0671
Equipment : Secured Wireless Access Point
Brand Name : FORTINET
Model Name : FortiAP U432Fxxxxxx, FAP-U432Fxxxxxx,
FORTIAP-U432Fxxxxxx
(where “x” can be “A-Z”, or “0-9”, or “-“, or
blank for software purposes or marketing
purposes only)
Applicant : Fortinet, Inc.
899 Kifer Road, Sunnyvale, CA 94086, USA
Manufacturer : Fortinet, Inc.
899 Kifer Road, Sunnyvale, CA 94086, USA
Standard : 47 CFR FCC Part 15.247

The product was received on Aug. 15, 2022, and testing was started from Nov. 20, 2022 and completed on Jan. 13, 2023. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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



Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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PHOTOGRAPHS OF EUT V01



History of this test report

Report No.	Version	Description	Issued Date
FR0D1422-04AC	01	Initial issue of report	Feb. 24, 2023



Summary of Test Result

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

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

Reviewed by: Barry Hsiao

Report Producer: Debby Hung



1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
2400-2483.5	b, g, n (HT20), VHT20, ax(HEW20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40), VHT40, ax(HEW40)	2422-2452	3-9 [7]

Non-Beamforming_Radio 1

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	4TX
2.4-2.4835GHz	802.11g	20	4TX
2.4-2.4835GHz	802.11n HT20	20	4TX
2.4-2.4835GHz	802.11n HT40	40	4TX
2.4-2.4835GHz	VHT20	20	4TX
2.4-2.4835GHz	VHT40	40	4TX
2.4-2.4835GHz	802.11ax HEW20	20	4TX
2.4-2.4835GHz	802.11ax HEW40	40	4TX

Non-Beamforming_Radio 3

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	2TX
2.4-2.4835GHz	802.11g	20	2TX
2.4-2.4835GHz	802.11n HT20	20	2TX
2.4-2.4835GHz	802.11n HT40	40	2TX
2.4-2.4835GHz	VHT20	20	2TX
2.4-2.4835GHz	VHT40	40	2TX
2.4-2.4835GHz	802.11ax HEW20	20	2TX
2.4-2.4835GHz	802.11ax HEW40	40	2TX

Beamforming_Radio 1

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11ax HEW20-BF	20	4TX
2.4-2.4835GHz	802.11ax HEW40-BF	40	4TX

Beamforming_Radio 3

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11ax HEW20-BF	20	2TX
2.4-2.4835GHz	802.11ax HEW40-BF	40	2TX



Note:

- ♦ 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- ♦ 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ HEW20, HEW40 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- ♦ BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	SENAO	5718A0619300	Dipole	N-type
2	SENAO	5718A0619300	Dipole	N-type
3	SENAO	5718A0619300	Dipole	N-type
4	SENAO	5718A0619300	Dipole	N-type
5	SENAO	5718A0620300	Dipole	N-type
6	SENAO	5718A0620300	Dipole	N-type
7	SENAO	5718A0620300	Dipole	N-type
8	SENAO	5718A0620300	Dipole	N-type
9	SENAO	5718A0619300	Dipole	N-type
10	SENAO	5718A0619300	Dipole	N-type
11	SENAO	5718A0618300	Dipole	N-type
12	Fortinet	FANT-10ACAX-1213-D-N	Directional	N-type
13	Fortinet	FANT-04ABGN-1414-P-N	Patch	N-type



Radio	Ant.	Port	Antenna Gain (dBi)				Cable Loss Gain (dBi)			
			2.4G	5G	BT	Zigbee	2.4G	5G	BT	Zigbee
1	1	1	5.5	7.2	-	-	0.6	1	-	-
	2	2	5.5	7.2	-	-	0.6	1	-	-
	3	3	5.5	7.2	-	-	0.5	0.8	-	-
	4	4	5.5	7.2	-	-	0.4	0.7	-	-
2	5	1	-	6.3	-	-	-	1	-	-
	6	2	-	6.3	-	-	-	1.1	-	-
	7	3	-	6.3	-	-	-	0.9	-	-
	8	4	-	6.3	-	-	-	0.9	-	-
3	9	1	5.5	7.2	-	-	0.6	1	-	-
	10	2	5.5	7.2	-	-	0.6	1	-	-
BT+Zigbee	11	1	-	-	4.5	4.5	-	-	0.5	0.5
1	12	1	12	13	-	-	0.6	1	-	-
1	12	2	12	13	-	-	0.6	1	-	-
1	12	3	12	13	-	-	0.5	0.8	-	-
1	12	4	12	13	-	-	0.4	0.7	-	-
2	12	1	12	13	-	-	-	1	-	-
2	12	2	12	13	-	-	-	1.1	-	-
2	12	3	12	13	-	-	-	0.9	-	-
2	12	4	12	13	-	-	-	0.9	-	-
3	12	1	12	13	-	-	0.6	1	-	-
3	12	2	12	13	-	-	0.6	1	-	-
1	13	1	14	14	-	-	0.6	1	-	-
1	13	2	14	14	-	-	0.6	1	-	-
1	13	3	14	14	-	-	0.6	1	-	-
1	13	4	14	14	-	-	0.6	1	-	-
2	13	1	14	14	-	-	0.6	1	-	-
2	13	2	14	14	-	-	0.6	1	-	-
2	13	3	14	14	-	-	0.6	1	-	-
2	13	4	14	14	-	-	0.6	1	-	-
3	13	1	14	14	-	-	0.6	1	-	-
3	13	2	14	14	-	-	0.6	1	-	-

Note 1: The EUT has thirteen antennas.



For 2.4GHz function:

Radio 1

For IEEE 802.11 b/g/n/VHT/ax mode (4TX/4RX)

Ant. 1 (port 1), Ant. 2 (port 2), Ant. 3 (port 3) and Ant. 4 (port 4) could transmit/receive simultaneously.

Ant. 12,13 could transmit/receive simultaneously.

Radio 3

For IEEE 802.11 b/g/n/VHT/ax mode (2TX/2RX)

Ant. 9 (port 1) and Ant. 10 (port 2) could transmit/receive simultaneously.

Ant. 12,13 could transmit/receive simultaneously.

For 5GHz function:

Radio 1

For IEEE 802.11 a/n/ac/ax mode (4TX/4RX)

Ant. 1 (port 1), Ant. 2 (port 2), Ant. 3 (port 3) and Ant. 4 (port 4) could transmit/receive simultaneously.

Ant. 12,13 could transmit/receive simultaneously.

Radio 2

For IEEE 802.11 a/n/ac/ax mode (4TX/4RX)

Ant. 5 (port 1), Ant. 6 (port 2), Ant. 7 (port 3) and Ant. 8 (port 4) could transmit/receive simultaneously.

Ant. 12,13 could transmit/receive simultaneously.

Radio 3

For IEEE 802.11 a/n/ac/ax mode (2TX/2RX)

Ant. 9 (port 1) and Ant. 10 (port 2) could transmit/receive simultaneously.

Ant. 12,13 could transmit/receive simultaneously.

For Bluetooth function:

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

Only Ant. 11 (port 1) could transmit/receive.

For Zigbee function:

For Zigbee mode (1TX/1RX)

Only Ant. 11 (port 1) could transmit/receive.

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	
Beamforming Function	<input checked="" type="checkbox"/> With beamforming	<input type="checkbox"/> Without beamforming	
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

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

Brand Name	Model Name	Description
FORTINET	FortiAP U432Fxxxxxx	All the models are identical, the difference model for served as marketing strategy.
	FAP-U432Fxxxxxx	
	FORTIAP-U432Fxxxxxx	

1.1.5 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR0D1422-02AC

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
Antenna 13 was added	All

1.1.6 Mode Test Duty Cycle

Non-Beamforming_Radio 1

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b_Nss1,(1Mbps)_4TX	0.957	0.19	12.418m	100
802.11g_Nss1,(6Mbps)_4TX	0.952	0.21	2.065m	1k
802.11n HT20_Nss1,(MCS0)_4TX	0.951	0.22	1.922m	1k
802.11n HT40_Nss1,(MCS0)_4TX	0.906	0.43	945u	3k
VHT20_Nss1,(MCS0)_4TX	0.986	0.06	n/a (DC>=0.98)	n/a (DC>=0.98)
VHT40_Nss1,(MCS0)_4TX	0.971	0.13	953.437u	3k
802.11ax HEW20_Nss1,(MCS0)_4TX	0.979	0.09	1.489m	1k
802.11ax HEW40_Nss1,(MCS0)_4TX	0.963	0.16	773.437u	3k

Non-Beamforming_Radio 3

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b_Nss1,(1Mbps)_2TX	0.936	0.29	12.418m	100
802.11g_Nss1,(6Mbps)_2TX	0.952	0.21	2.065m	1k
802.11n HT20_Nss1,(MCS0)_2TX	0.951	0.22	1.921m	1k
802.11n HT40_Nss1,(MCS0)_2TX	0.906	0.43	945u	3k
VHT20_Nss1,(MCS0)_2TX	0.984	0.07	1.929m	10
VHT40_Nss1,(MCS0)_2TX	0.971	0.13	953.125u	3k
802.11ax HEW20_Nss1,(MCS0)_2TX	0.98	0.09	1.488m	1k
802.11ax HEW40_Nss1,(MCS0)_2TX	0.962	0.17	773.125u	3k



Beamforming_Radio 1

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	0.937	0.28	2.931m	1k
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	0.922	0.35	4.368m	300

Beamforming_Radio 3

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	0.948	0.23	2.931m	1k
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	0.951	0.22	4.368m	300

1.2 Testing Applied Standards

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

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

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

- ◆ KDB 558074 D01 v05r02
- ◆ KDB 662911 D01 v02r01
- ◆ KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
<input checked="" type="checkbox"/>	Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)		
		TEL: 886-3-327-3456	FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Ivan Chung	21.2~22.0°C / 50~55%	13/Jan/2023
RF Conducted	TH01-HY	Johnny Yu	21.1~22.7°C / 51~59%	14/Dec/2022~05/Jan/2023
Radiated	03CH02-HY	Jack Tang	20.6~21.5°C / 58~63%	20/Nov/2022~12/Dec/2022
Radiated (Co-location)	03CH03-HY	Jack Tang	20.4~22.1°C / 49~61%	29/Dec/2022
<input type="checkbox"/>	Wen 33rd.St. (TAF: 3785)	ADD: No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)		
		TEL: 886-3-318-0787	FAX: 886-3-318-0287	
Test site Designation No. TW0008 with FCC.				

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

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



2 Test Configuration of EUT

2.1 Test Channel Mode

Test Software Version	AccessMTool_REL_3_1_0_1
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Non-Beamforming_Radio 1

Mode	Power Setting
802.11b_Nss1,(1Mbps)_4TX	-
2412MHz	68
2417MHz	67
2437MHz	68
2457MHz	67
2462MHz	68
802.11g_Nss1,(6Mbps)_4TX	-
2412MHz	59
2417MHz	62
2437MHz	66
2457MHz	60
2462MHz	47
802.11n HT20_Nss1,(MCS0)_4TX	-
2412MHz	36
2417MHz	53
2437MHz	64
2457MHz	44
2462MHz	37
802.11n HT40_Nss1,(MCS0)_4TX	-
2422MHz	9
2427MHz	39
2437MHz	41
2447MHz	35
2452MHz	9
VHT20_Nss1,(MCS0)_4TX	-
2412MHz	36
2417MHz	53
2437MHz	64
2457MHz	44



Mode	Power Setting
2462MHz	37
VHT40_Nss1,(MCS0)_4TX	-
2422MHz	9
2427MHz	39
2437MHz	41
2447MHz	35
2452MHz	9
802.11ax HEW20_Nss1,(MCS0)_4TX	-
2412MHz	36
2417MHz	53
2437MHz	64
2457MHz	44
2462MHz	37
802.11ax HEW40_Nss1,(MCS0)_4TX	-
2422MHz	9
2427MHz	39
2437MHz	41
2447MHz	35
2452MHz	9



Non-Beamforming_Radio 3

Mode	Power Setting
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	77
2417MHz	76
2437MHz	75
2457MHz	72
2462MHz	65
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	46
2417MHz	69
2437MHz	64
2457MHz	57
2462MHz	52
802.11n HT20_Nss1,(MCS0)_2TX	-
2412MHz	48
2417MHz	59
2437MHz	49
2457MHz	50
2462MHz	44
802.11n HT40_Nss1,(MCS0)_2TX	-
2422MHz	42
2427MHz	45
2437MHz	49
2447MHz	41
2452MHz	49
VHT20_Nss1,(MCS0)_2TX	-
2412MHz	48
2417MHz	59
2437MHz	49
2457MHz	50
2462MHz	44
VHT40_Nss1,(MCS0)_2TX	-
2422MHz	42
2427MHz	45
2437MHz	49



Mode	Power Setting
2447MHz	41
2452MHz	49
802.11ax HEW20_Nss1,(MCS0)_2TX	-
2412MHz	48
2417MHz	59
2437MHz	49
2457MHz	50
2462MHz	44
802.11ax HEW40_Nss1,(MCS0)_2TX	-
2422MHz	42
2427MHz	45
2437MHz	49
2447MHz	41
2452MHz	49



Test Software Version	Dos 6.1
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Beamforming_Radio 1

Mode	Power Setting
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
2412MHz	21
2417MHz	37
2437MHz	41
2457MHz	33
2462MHz	19
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
2422MHz	19
2427MHz	25
2437MHz	33
2447MHz	21
2452MHz	20


Beamforming_Radio 3

Mode	Power Setting
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
2412MHz	41
2417MHz	56
2437MHz	62
2457MHz	48
2462MHz	35
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
2422MHz	33
2427MHz	37
2437MHz	40
2447MHz	35
2452MHz	35

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	CTX
1	PoE mode

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

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



The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	CTX
1	Radio 1(2.4G)+ Radio 2(5G)+ Radio 3(2.4G)+ Bluetooth
2	Radio 1(5G)+ Radio 2(5G)+ Radio 3(2.4G)+ Bluetooth
3	Radio 1(5G)+ Radio 2(5G)+ Radio 3(5G)+ Bluetooth
4	Radio 1(2.4G)+ Radio 2(5G)+ Radio 3(5G)+ Bluetooth
5	Radio 1(2.4G)+ Radio 2(5G)+ Radio 3(2.4G)+Zigbee
6	Radio 1(5G)+ Radio 2(5G)+ Radio 3(2.4G)+Zigbee
7	Radio 1(5G)+ Radio 2(5G)+ Radio 3(5G)+Zigbee
8	Radio 1(2.4G)+ Radio 2(5G)+ Radio 3(5G)+Zigbee

Refer to Sporton Test Report No.: FA0D1422-04 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.

2.3 Accessories

Accessories				
PoE Adapter	Brand Name	Senao Inc.	Model Name	PIN060-54PR
	Power Rating	I/P: 100-240Vac, 1.5A, 50-60Hz, O/P: 54Vdc, 1.11A		
AC CORD	Brand Name	I-SHENG	Model Name	AC CORD 600mm
	Signal Line	0.5 meter, shielded cable, w/o ferrite core		
Ground Wire	Brand Name	BO YAO	Model Name	WIRE GEN AWG10 180cm
	Signal Line	1.8 meter, shielded cable, w/o ferrite core		
Bracket wall mount	Brand Name	XIERTEK	Model Name	BRACKET WALL MOUNT
Bracket pole mount	Brand Name	CUN SHENG	Model Name	BRACKET POLE MOUNT

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

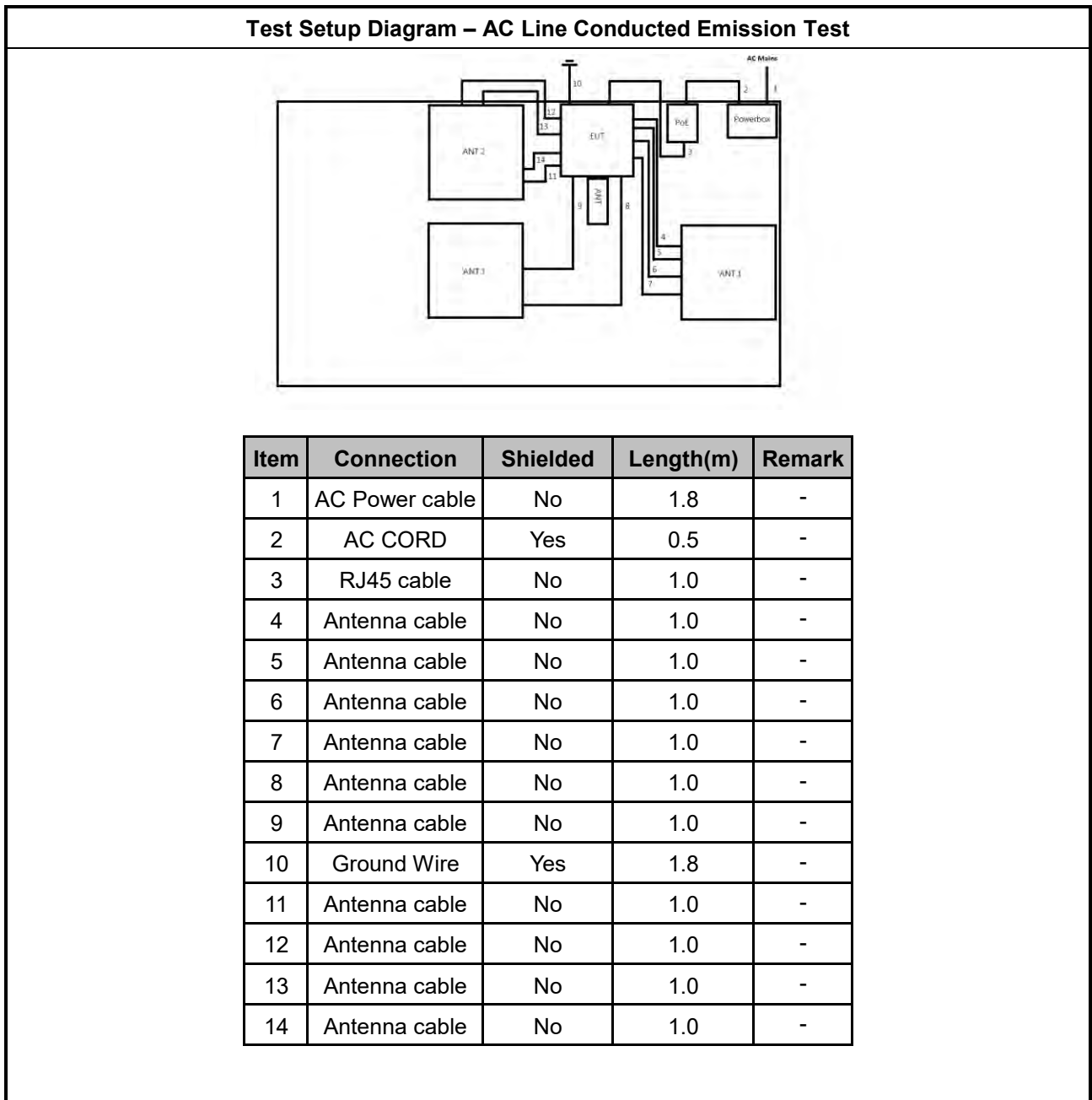
2.4 Support Equipment

Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	RJ45 Cable	Power Sync	CAT-6E-01	-	-

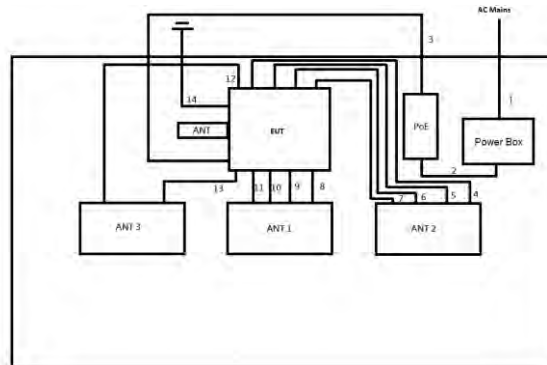
Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	RJ45 Cable	Power Sync	CAT-6E-01	-	-
2	RJ45 Cable	Power Sync	CAT-6E-10	-	-
3	Notebook	HP	5220M	-	Remote
4	Client for BF	-	-	-	Provided by Customer

2.5 Test Setup Diagram

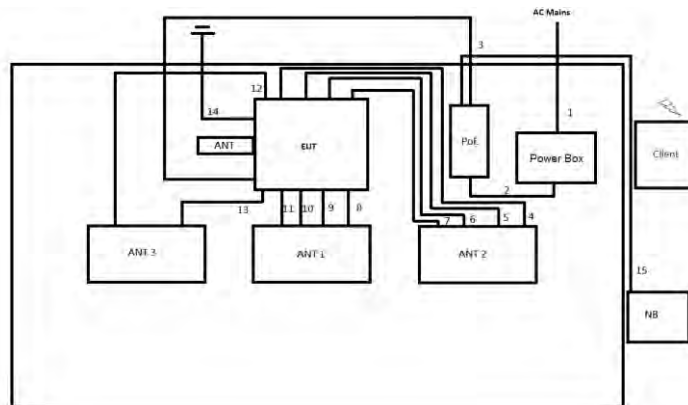


Test Setup Diagram - Radiated Test – Non-Beamforming_Radio 1



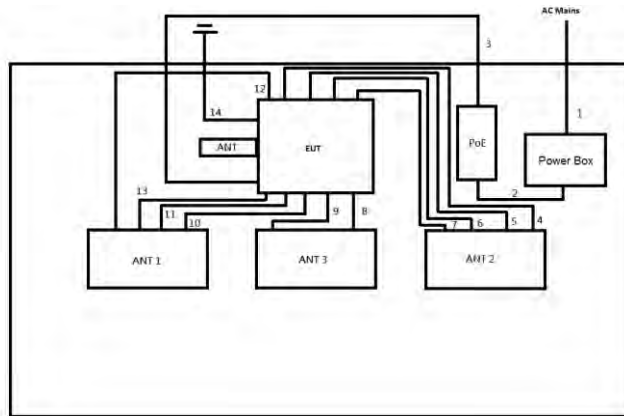
Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	AC CORD	Yes	0.5	-
3	RJ45 cable	No	1.0	-
4	Antenna cable	No	1.0	-
5	Antenna cable	No	1.0	-
6	Antenna cable	No	1.0	-
7	Antenna cable	No	1.0	-
8	Antenna cable	No	1.0	-
9	Antenna cable	No	1.0	-
10	Antenna cable	No	1.0	-
11	Antenna cable	No	1.0	-
12	Antenna cable	No	1.0	-
13	Antenna cable	No	1.0	-
14	Ground Wire	Yes	1.8	-

Test Setup Diagram - Radiated Test – Beamforming_Radio 1



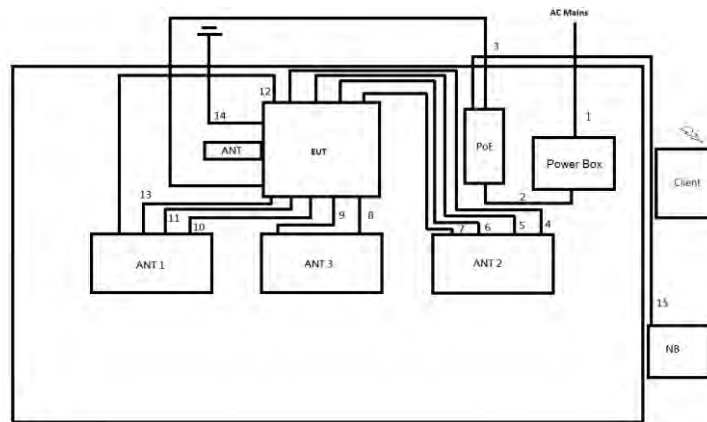
Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	AC CORD	Yes	0.5	-
3	RJ45 cable	No	1.0	-
4	Antenna cable	No	1.0	-
5	Antenna cable	No	1.0	-
6	Antenna cable	No	1.0	-
7	Antenna cable	No	1.0	-
8	Antenna cable	No	1.0	-
9	Antenna cable	No	1.0	-
10	Antenna cable	No	1.0	-
11	Antenna cable	No	1.0	-
12	Antenna cable	No	1.0	-
13	Antenna cable	No	1.0	-
14	Ground Wire	Yes	1.8	-
15	RJ45 cable	No	10.0	-

Test Setup Diagram - Radiated Test – Non-Beamforming_Radio 3



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	AC CORD	Yes	0.5	-
3	RJ45 cable	No	1.0	-
4	Antenna cable	No	1.0	-
5	Antenna cable	No	1.0	-
6	Antenna cable	No	1.0	-
7	Antenna cable	No	1.0	-
8	Antenna cable	No	1.0	-
9	Antenna cable	No	1.0	-
10	Antenna cable	No	1.0	-
11	Antenna cable	No	1.0	-
12	Antenna cable	No	1.0	-
13	Antenna cable	No	1.0	-
14	Ground Wire	Yes	1.8	-

Test Setup Diagram - Radiated Test – Beamforming_Radio 3



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	AC CORD	Yes	0.5	-
3	RJ45 cable	No	1.0	-
4	Antenna cable	No	1.0	-
5	Antenna cable	No	1.0	-
6	Antenna cable	No	1.0	-
7	Antenna cable	No	1.0	-
8	Antenna cable	No	1.0	-
9	Antenna cable	No	1.0	-
10	Antenna cable	No	1.0	-
11	Antenna cable	No	1.0	-
12	Antenna cable	No	1.0	-
13	Antenna cable	No	1.0	-
14	Ground Wire	Yes	1.8	-
15	RJ45 cable	No	10.0	-



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

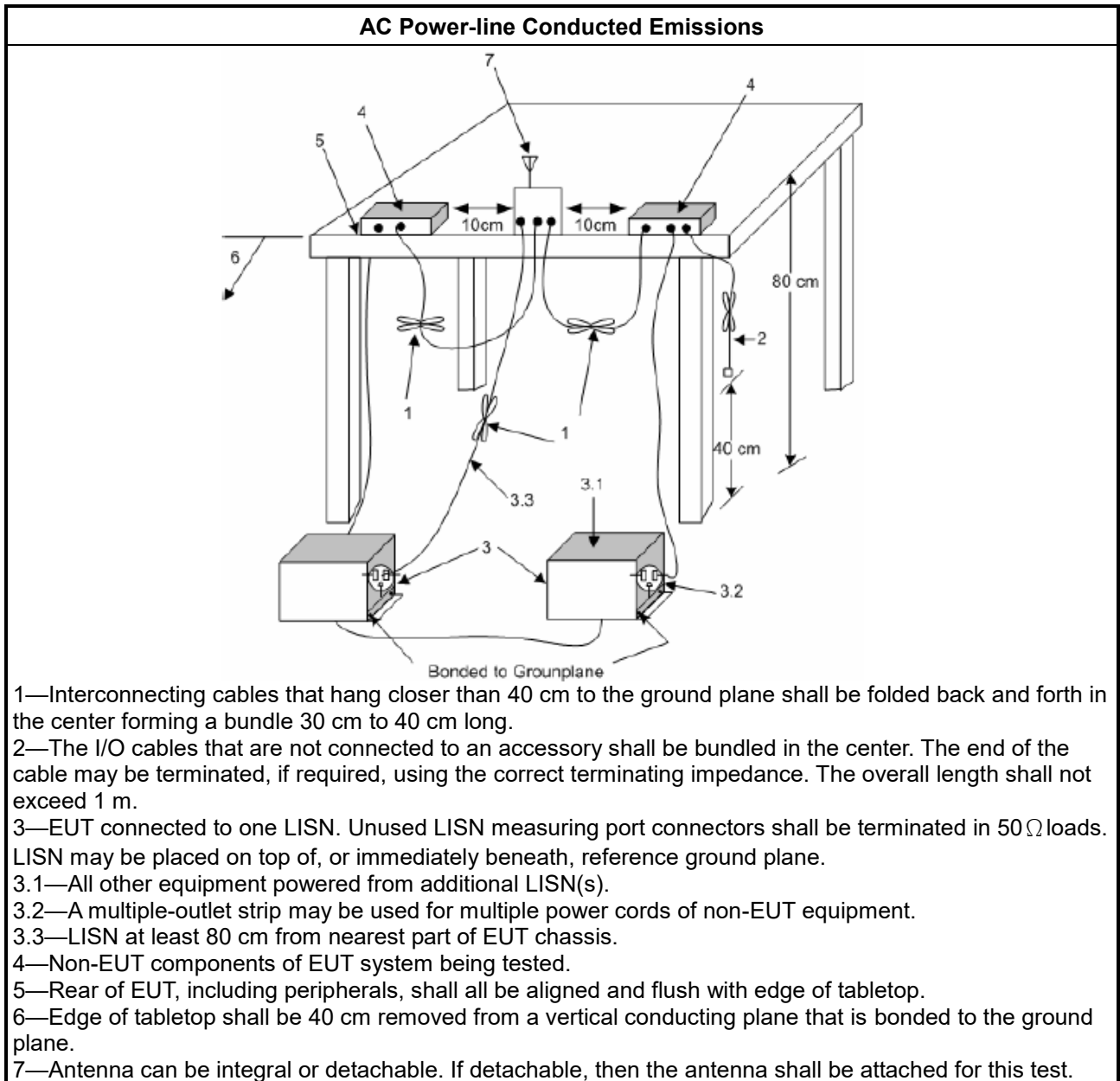
Test Method
<input checked="" type="checkbox"/> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) +LISN(LISN Factor) + CL(Cable Loss) + AT(Attenuator).

3.1.5 Test Setup



3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

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

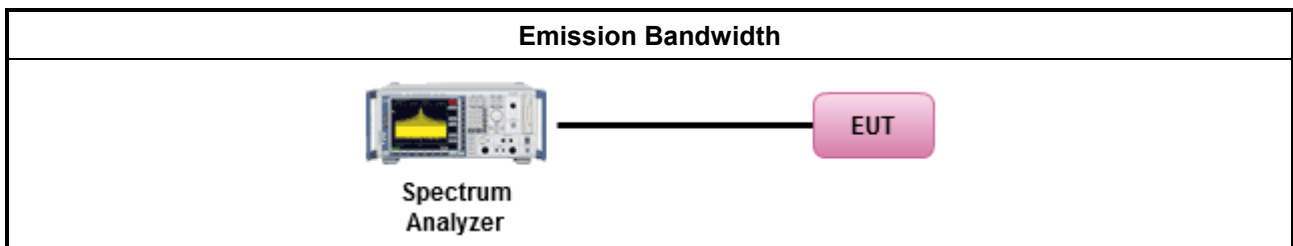
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
▪	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_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.	

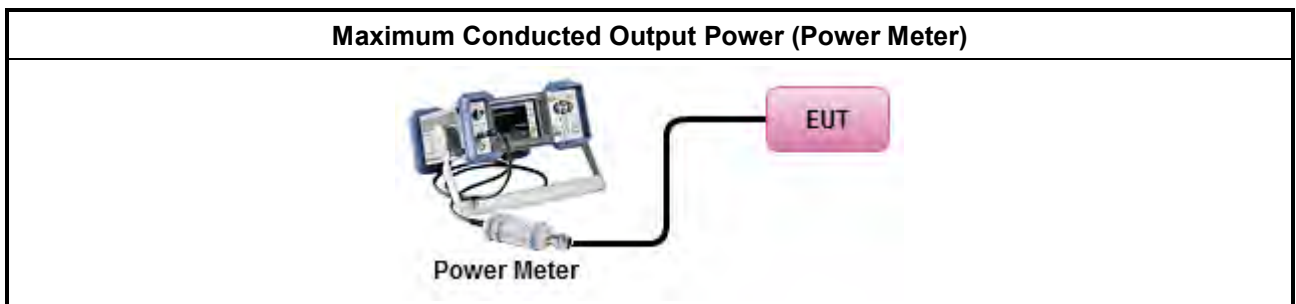
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
<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

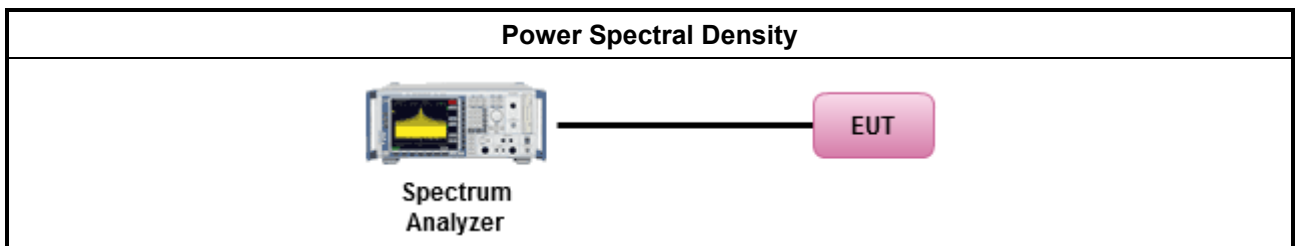
3.4.2 Measuring Instruments

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) Max. PSD.
	<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.

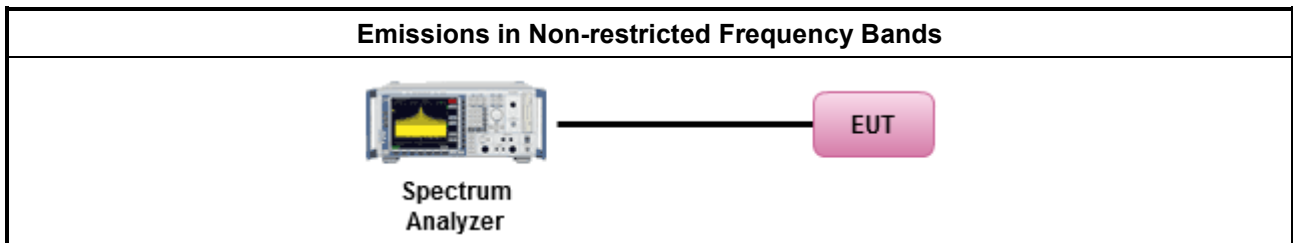
3.5.2 Measuring Instruments

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

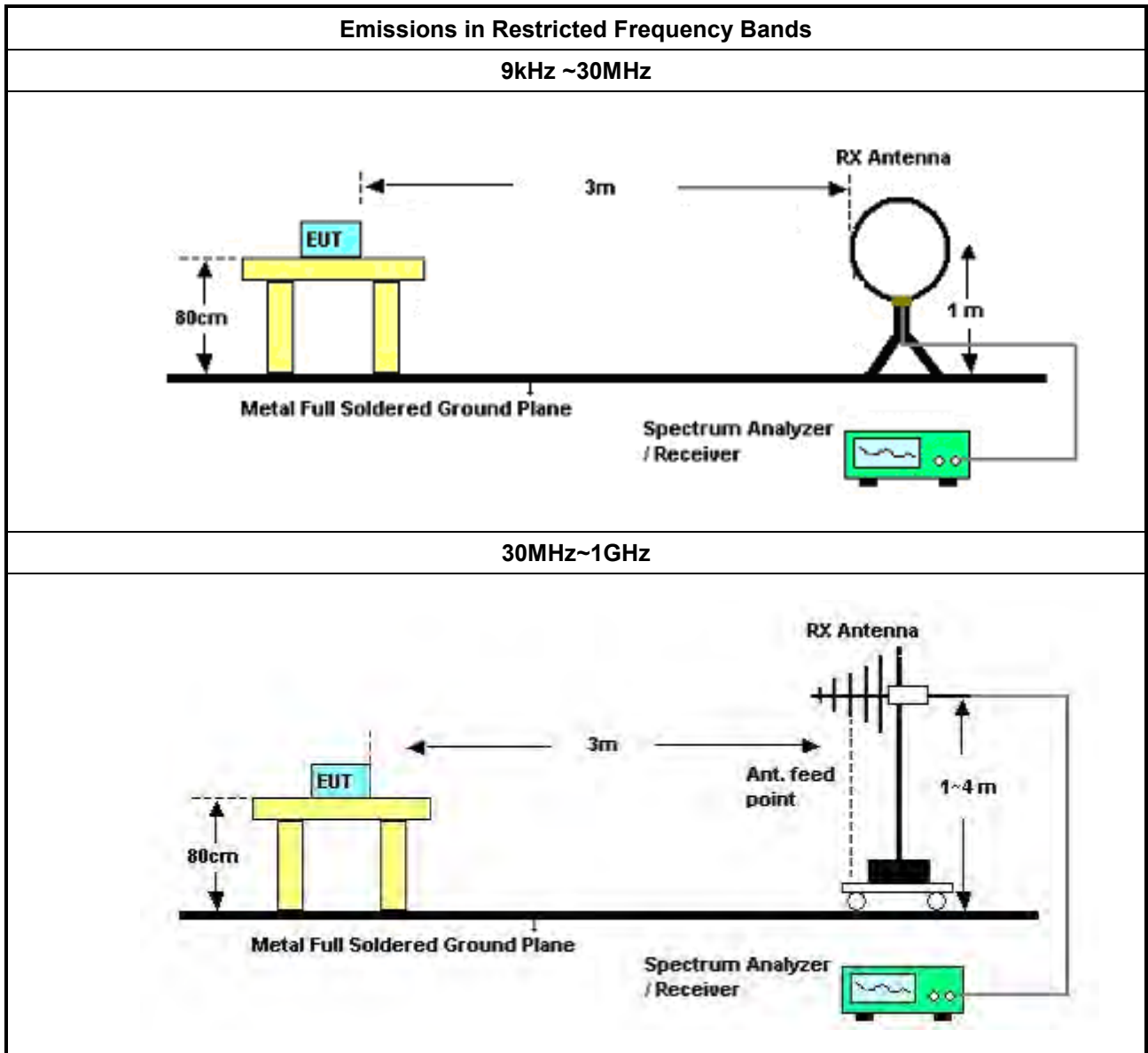
Test Method	
	<ul style="list-style-type: none"> ▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
	<ul style="list-style-type: none"> ▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel 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 ≥ 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.

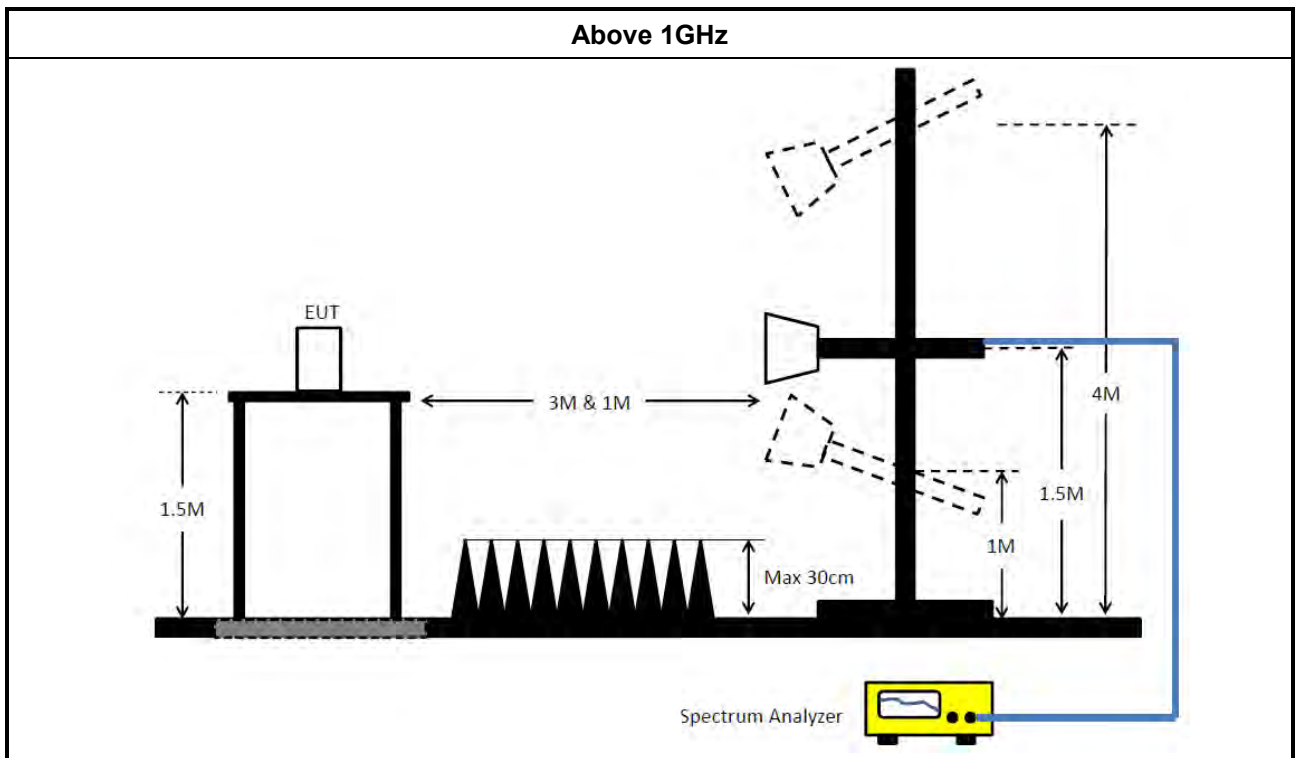
3.6.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamplifier Factor)

3.6.5 Test Setup





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

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

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR	102051	9kHz ~ 3.6GHz	13/May/2022	12/May/2023
Two-Line V-Network	R&S	ENV 216	100003	9kHz ~ 30MHz	18/Feb/2022	17/Feb/2023
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	01/Mar/2022	28/Feb/2023
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	25/Oct/2022	24/Oct/2023
Software	Sporton	SENSE-EMI	V5.10.8.7	-	NCR	NCR

NCR: No Calibration Required

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101013	10Hz~40GHz	01/Apr/2022	31/Mar/2023
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	21/Oct/2022	20/Oct/2023
Pulse Sensor	Anritsu	MA2411B	0917017	300MHz~40GHz	21/Feb/2022	20/Feb/2023
Power Meter	Anritsu	ML2495A	0949003	300MHz~40GHz	21/Feb/2022	20/Feb/2023
SENSE-15247_DTS	Sporton	V5.11.4	N/A	N/A	N/A	N/A



Instrument for Radiated Test (03CH02-HY)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz~1GHz 3m	31/Jul/2022	30/Jul/2023
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz~18GHz 3m	30/Jul/2022	29/Jul/2023
Signal Analyzer	R&S	FSP 40	100305	9kHz~40GHz	21/Mar/2022	20/Mar/2023
Amplifier	Agilent	8447D	2944A11149	100kHz~1.3GHz	28/Jun/2022	27/Jun/2023
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz~26.5GHz	02/Nov/2022	01/Nov/2023
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02268	1GHz ~18GHz	27/Sep/2022	26/Sep/2023
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2723 / 2	30MHz~1GHz	28/Aug/2022	27/Aug/2023
RF Cable	MVE	400LL	MVE-1-0802	9kHz~30MHz	04/May/2022	03/May/2023
RF Cable	MVE	400LL	MVE-1-0802	30MHz~1GHz	04/May/2022	03/May/2023
RF Cable-R03m	HUBER+SUHNER	SUCOFLEX104	805193/4+805192 /4	1GHz~40GHz	01/Apr/2022	31/Mar/2023
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	15GHz~40GHz	18/Mar/2022	17/Mar/2023
Microwave Prempplier	EMC INSTRUMENTS	EM18G40G	060604	18GHz~40GHz	08/Mar/2022	07/Mar/2023
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	18/Mar/2022	17/Mar/2023
EMI Test Receiver	R&S	ESR3	102052	9kHz~3.6GHz	02/Nov/2022	01/Nov/2023
SENSE-15247_DTS	Sporton	V5.11	N/A	N/A	N/A	N/A

Instrument for Radiated Test (03CH03-HY)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz~18GHz 3m	26/Dec/2022	25/Dec/2023
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	26/Oct/2022	25/Oct/2023
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02267	1GHz ~18GHz	27/Sep/2022	26/Sep/2023
RF CABLE 5+6m	HUBER+SUHNER	SUOFLEX 104	03CH03-cable-01	1GHz~40GHz	27/Jul/2022	26/Jul/2023
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	15GHz~40GHz	18/Mar/2022	17/Mar/2023
Microwave Prempplier	Agilent	8449B	3008A02326	1GHz~26.5GHz	14/Jul/2022	13/Jul/2023
Microwave Prempplier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~ 40GHz	08/Mar/2022	07/Mar/2023
SENSE-EMI	Sporton	v5.10.8.6	NA	NA	NA	NA



Conducted Emissions at Powerline_Non-Beamforming_Radio 1 Appendix A.1

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	2.584M	30.91	46.00	-15.09	Neutral

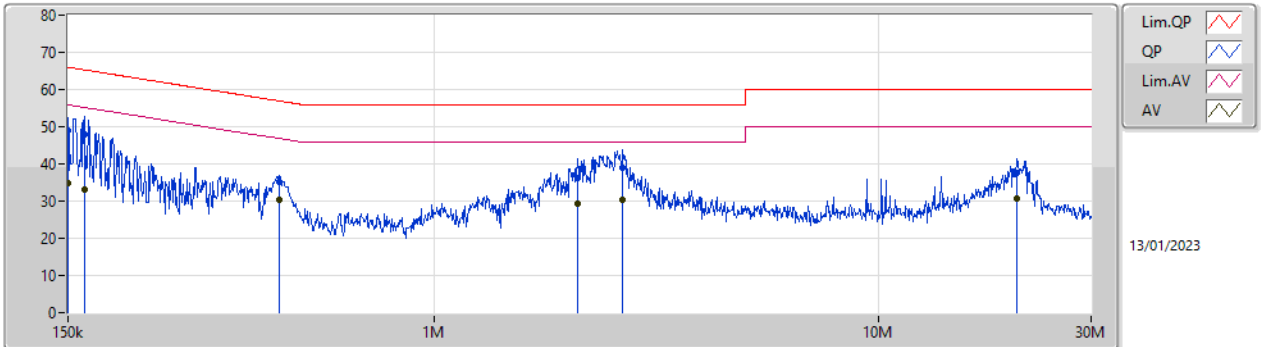


Conducted Emissions at Powerline_Non-Beamforming_Radio 1 Appendix A.1

Result

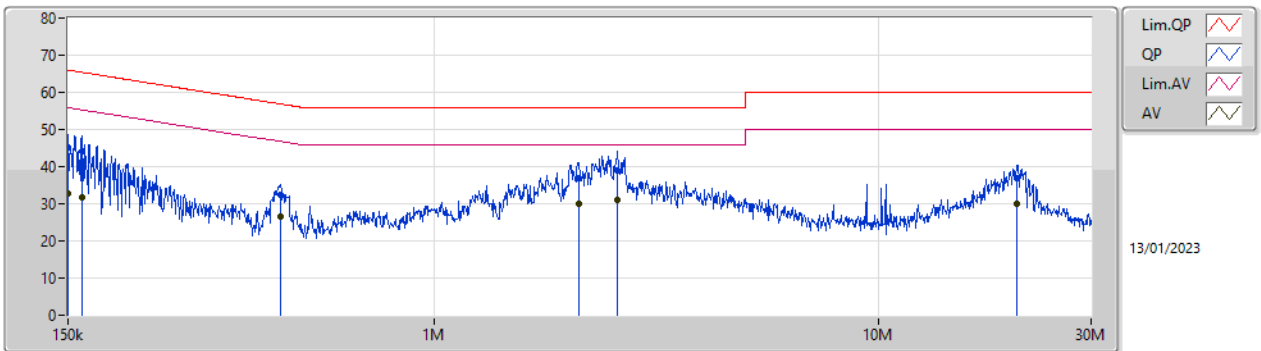
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	150k	49.10	66.00	-16.90	Line	-
Mode 1	Pass	AV	150k	34.73	56.00	-21.27	Line	-
Mode 1	Pass	QP	163.117k	48.07	65.31	-17.24	Line	-
Mode 1	Pass	AV	163.117k	33.19	55.31	-22.12	Line	-
Mode 1	Pass	QP	447.846k	35.28	56.92	-21.64	Line	-
Mode 1	Pass	AV	447.846k	30.41	46.92	-16.51	Line	-
Mode 1	Pass	QP	2.099M	36.05	56.00	-19.95	Line	-
Mode 1	Pass	AV	2.099M	29.40	46.00	-16.60	Line	-
Mode 1	Pass	QP	2.657M	39.11	56.00	-16.89	Line	-
Mode 1	Pass	AV	2.657M	30.25	46.00	-15.75	Line	-
Mode 1	Pass	QP	20.431M	37.42	60.00	-22.58	Line	-
Mode 1	Pass	AV	20.431M	30.70	50.00	-19.30	Line	-
Mode 1	Pass	QP	150k	45.33	66.00	-20.67	Neutral	-
Mode 1	Pass	AV	150k	32.87	56.00	-23.13	Neutral	-
Mode 1	Pass	QP	161.82k	44.08	65.37	-21.29	Neutral	-
Mode 1	Pass	AV	161.82k	31.58	55.37	-23.79	Neutral	-
Mode 1	Pass	QP	449.637k	32.54	56.88	-24.34	Neutral	-
Mode 1	Pass	AV	449.637k	26.64	46.88	-20.24	Neutral	-
Mode 1	Pass	QP	2.116M	36.89	56.00	-19.11	Neutral	-
Mode 1	Pass	AV	2.116M	30.16	46.00	-15.84	Neutral	-
Mode 1	Pass	QP	2.584M	39.05	56.00	-16.95	Neutral	-
Mode 1	Pass	AV	2.584M	30.91	46.00	-15.09	Neutral	-
Mode 1	Pass	QP	20.431M	36.91	60.00	-23.09	Neutral	-
Mode 1	Pass	AV	20.431M	30.09	50.00	-19.91	Neutral	-

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	150k	49.10	66.00	-16.90	19.65	Line	-	29.45	9.69	0.03	9.93
AV	150k	34.73	56.00	-21.27	19.65	Line	-	15.08	9.69	0.03	9.93
QP	163.117k	48.07	65.31	-17.24	19.65	Line	-	28.42	9.69	0.03	9.93
AV	163.117k	33.19	55.31	-22.12	19.65	Line	-	13.54	9.69	0.03	9.93
QP	447.846k	35.28	56.92	-21.64	19.68	Line	-	15.60	9.68	0.04	9.96
AV	447.846k	30.41	46.92	-16.51	19.68	Line	-	10.73	9.68	0.04	9.96
QP	2.099M	36.05	56.00	-19.95	19.72	Line	-	16.33	9.70	0.08	9.94
AV	2.099M	29.40	46.00	-16.60	19.72	Line	-	9.68	9.70	0.08	9.94
QP	2.657M	39.11	56.00	-16.89	19.74	Line	-	19.37	9.70	0.10	9.94
AV	2.657M	30.25	46.00	-15.75	19.74	Line	-	10.51	9.70	0.10	9.94
QP	20.431M	37.42	60.00	-22.58	20.03	Line	-	17.39	9.79	0.27	9.97
AV	20.431M	30.70	50.00	-19.30	20.03	Line	-	10.67	9.79	0.27	9.97

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	150k	45.33	66.00	-20.67	19.69	Neutral	-	25.64	9.73	0.03	9.93
AV	150k	32.87	56.00	-23.13	19.69	Neutral	-	13.18	9.73	0.03	9.93
QP	161.82k	44.08	65.37	-21.29	19.69	Neutral	-	24.39	9.73	0.03	9.93
AV	161.82k	31.58	55.37	-23.79	19.69	Neutral	-	11.89	9.73	0.03	9.93
QP	449.637k	32.54	56.88	-24.34	19.72	Neutral	-	12.82	9.72	0.04	9.96
AV	449.637k	26.64	46.88	-20.24	19.72	Neutral	-	6.92	9.72	0.04	9.96
QP	2.116M	36.89	56.00	-19.11	19.76	Neutral	-	17.13	9.74	0.08	9.94
AV	2.116M	30.16	46.00	-15.84	19.76	Neutral	-	10.40	9.74	0.08	9.94
QP	2.584M	39.05	56.00	-16.95	19.79	Neutral	-	19.26	9.75	0.10	9.94
AV	2.584M	30.91	46.00	-15.09	19.79	Neutral	-	11.12	9.75	0.10	9.94
QP	20.431M	36.91	60.00	-23.09	20.24	Neutral	-	16.67	10.00	0.27	9.97
AV	20.431M	30.09	50.00	-19.91	20.24	Neutral	-	9.85	10.00	0.27	9.97



Conducted Emissions at Powerline_Non-Beamforming_Radio 3 Appendix A.2

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	2.453M	30.91	46.00	-15.09	Neutral

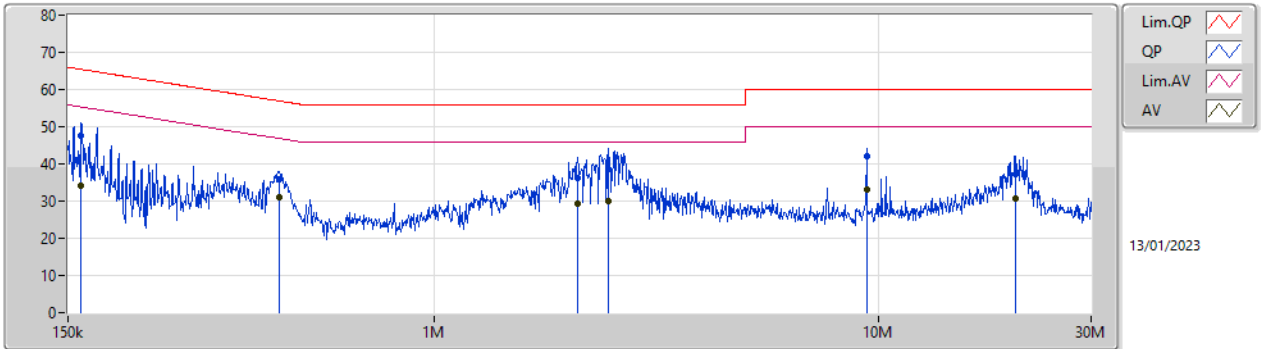


Conducted Emissions at Powerline_Non-Beamforming_Radio 3 Appendix A.2

Result

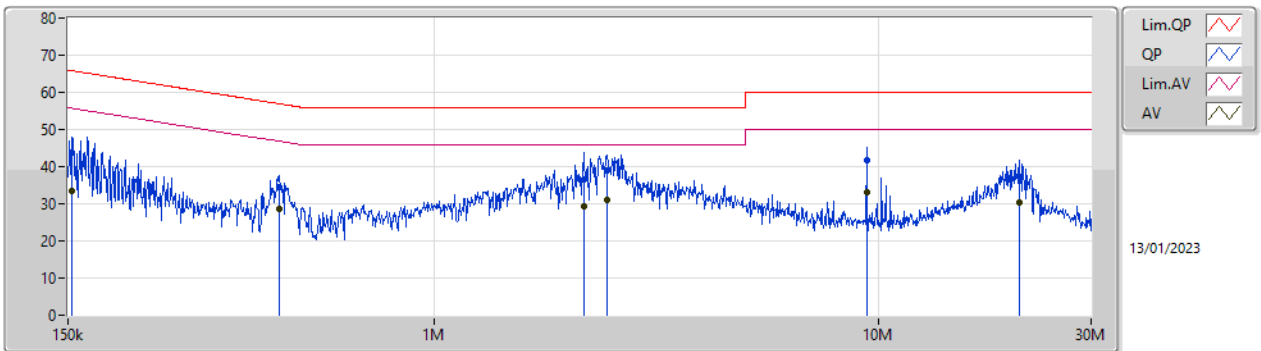
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	160.533k	47.58	65.43	-17.85	Line	-
Mode 1	Pass	AV	160.533k	34.05	55.43	-21.38	Line	-
Mode 1	Pass	QP	447.846k	35.87	56.92	-21.05	Line	-
Mode 1	Pass	AV	447.846k	30.96	46.92	-15.96	Line	-
Mode 1	Pass	QP	2.099M	36.20	56.00	-19.80	Line	-
Mode 1	Pass	AV	2.099M	29.40	46.00	-16.60	Line	-
Mode 1	Pass	QP	2.463M	38.72	56.00	-17.28	Line	-
Mode 1	Pass	AV	2.463M	30.12	46.00	-15.88	Line	-
Mode 1	Pass	QP	9.38M	42.11	60.00	-17.89	Line	-
Mode 1	Pass	AV	9.38M	33.09	50.00	-16.91	Line	-
Mode 1	Pass	QP	20.35M	37.39	60.00	-22.61	Line	-
Mode 1	Pass	AV	20.35M	30.64	50.00	-19.36	Line	-
Mode 1	Pass	QP	153.024k	43.96	65.83	-21.87	Neutral	-
Mode 1	Pass	AV	153.024k	33.53	55.83	-22.30	Neutral	-
Mode 1	Pass	QP	447.846k	34.33	56.92	-22.59	Neutral	-
Mode 1	Pass	AV	447.846k	28.68	46.92	-18.24	Neutral	-
Mode 1	Pass	QP	2.167M	36.72	56.00	-19.28	Neutral	-
Mode 1	Pass	AV	2.167M	29.17	46.00	-16.83	Neutral	-
Mode 1	Pass	QP	2.453M	38.93	56.00	-17.07	Neutral	-
Mode 1	Pass	AV	2.453M	30.91	46.00	-15.09	Neutral	-
Mode 1	Pass	QP	9.38M	41.76	60.00	-18.24	Neutral	-
Mode 1	Pass	AV	9.38M	33.13	50.00	-16.87	Neutral	-
Mode 1	Pass	QP	20.677M	37.19	60.00	-22.81	Neutral	-
Mode 1	Pass	AV	20.677M	30.20	50.00	-19.80	Neutral	-

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	160.533k	47.58	65.43	-17.85	19.65	Line	-	27.93	9.69	0.03	9.93
AV	160.533k	34.05	55.43	-21.38	19.65	Line	-	14.40	9.69	0.03	9.93
QP	447.846k	35.87	56.92	-21.05	19.68	Line	-	16.19	9.68	0.04	9.96
AV	447.846k	30.96	46.92	-15.96	19.68	Line	-	11.28	9.68	0.04	9.96
QP	2.099M	36.20	56.00	-19.80	19.72	Line	-	16.48	9.70	0.08	9.94
AV	2.099M	29.40	46.00	-16.60	19.72	Line	-	9.68	9.70	0.08	9.94
QP	2.463M	38.72	56.00	-17.28	19.73	Line	-	18.99	9.70	0.09	9.94
AV	2.463M	30.12	46.00	-15.88	19.73	Line	-	10.39	9.70	0.09	9.94
QP	9.38M	42.11	60.00	-17.89	19.94	Line	-	22.17	9.80	0.18	9.96
AV	9.38M	33.09	50.00	-16.91	19.94	Line	-	13.15	9.80	0.18	9.96
QP	20.35M	37.39	60.00	-22.61	20.03	Line	-	17.36	9.79	0.27	9.97
AV	20.35M	30.64	50.00	-19.36	20.03	Line	-	10.61	9.79	0.27	9.97

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	153.024k	43.96	65.83	-21.87	19.69	Neutral	-	24.27	9.73	0.03	9.93
AV	153.024k	33.53	55.83	-22.30	19.69	Neutral	-	13.84	9.73	0.03	9.93
QP	447.846k	34.33	56.92	-22.59	19.72	Neutral	-	14.61	9.72	0.04	9.96
AV	447.846k	28.68	46.92	-18.24	19.72	Neutral	-	8.96	9.72	0.04	9.96
QP	2.167M	36.72	56.00	-19.28	19.77	Neutral	-	16.95	9.74	0.09	9.94
AV	2.167M	29.17	46.00	-16.83	19.77	Neutral	-	9.40	9.74	0.09	9.94
QP	2.453M	38.93	56.00	-17.07	19.78	Neutral	-	19.15	9.75	0.09	9.94
AV	2.453M	30.91	46.00	-15.09	19.78	Neutral	-	11.13	9.75	0.09	9.94
QP	9.38M	41.76	60.00	-18.24	20.02	Neutral	-	21.74	9.88	0.18	9.96
AV	9.38M	33.13	50.00	-16.87	20.02	Neutral	-	13.11	9.88	0.18	9.96
QP	20.677M	37.19	60.00	-22.81	20.25	Neutral	-	16.94	10.00	0.28	9.97
AV	20.677M	30.20	50.00	-19.80	20.25	Neutral	-	9.95	10.00	0.28	9.97



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW
					(Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_4TX	7.525M	10.285M	10M3G1D	6.5M	10.21M
802.11g_Nss1,(6Mbps)_4TX	16.35M	16.844M	16M8D1D	16.3M	16.602M
802.11n HT20_Nss1,(MCS0)_4TX	17.6M	17.941M	17M9D1D	17.175M	17.716M
802.11n HT40_Nss1,(MCS0)_4TX	36.35M	36.582M	36M6D1D	35.1M	36.182M
VHT20_Nss1,(MCS0)_4TX	17.6M	17.916M	17M9D1D	17.275M	17.766M
VHT40_Nss1,(MCS0)_4TX	36.35M	36.582M	36M6D1D	35.8M	36.182M
802.11ax HEW20_Nss1,(MCS0)_4TX	19M	19.09M	19M1D1D	18.225M	18.941M
802.11ax HEW40_Nss1,(MCS0)_4TX	37.7M	37.631M	37M6D1D	36.05M	37.381M

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)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	7.525M	10.24M	7.05M	10.285M	6.55M	10.285M	6.575M	10.285M
2437MHz	Pass	500k	7.025M	10.27M	7.025M	10.24M	7M	10.27M	7.525M	10.27M
2462MHz	Pass	500k	6.5M	10.24M	7.025M	10.225M	7.025M	10.24M	7.05M	10.21M
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.325M	16.712M	16.3M	16.844M	16.325M	16.756M	16.325M	16.668M
2437MHz	Pass	500k	16.35M	16.8M	16.35M	16.8M	16.35M	16.778M	16.35M	16.734M
2462MHz	Pass	500k	16.325M	16.646M	16.325M	16.756M	16.325M	16.712M	16.325M	16.602M
802.11n HT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.55M	17.841M	17.575M	17.766M	17.575M	17.791M	17.175M	17.741M
2437MHz	Pass	500k	17.6M	17.941M	17.6M	17.741M	17.6M	17.791M	17.6M	17.816M
2462MHz	Pass	500k	17.325M	17.816M	17.575M	17.741M	17.575M	17.741M	17.6M	17.716M
802.11n HT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	35.45M	36.282M	35.8M	36.182M	36M	36.282M	35.4M	36.182M
2437MHz	Pass	500k	36.35M	36.582M	36.35M	36.232M	36.35M	36.332M	36.35M	36.382M
2452MHz	Pass	500k	35.1M	36.332M	36.35M	36.282M	36.35M	36.382M	36.35M	36.232M
VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	17.55M	17.791M	17.6M	17.816M	17.575M	17.766M	17.525M	17.866M
2437MHz	Pass	500k	17.575M	17.916M	17.575M	17.816M	17.6M	17.766M	17.6M	17.891M
2462MHz	Pass	500k	17.275M	17.766M	17.6M	17.766M	17.575M	17.766M	17.575M	17.791M
VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	35.8M	36.282M	35.8M	36.182M	36.3M	36.332M	36.25M	36.232M
2437MHz	Pass	500k	36.35M	36.582M	36.35M	36.232M	36.35M	36.432M	36.3M	36.382M
2452MHz	Pass	500k	36.35M	36.282M	36.35M	36.332M	36.35M	36.432M	36.3M	36.282M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.575M	18.966M	18.925M	19.04M	18.75M	19.015M	18.225M	19.09M
2437MHz	Pass	500k	19M	19.04M	18.95M	19.04M	18.9M	19.065M	18.925M	19.09M
2462MHz	Pass	500k	18.8M	18.941M	18.85M	19.015M	18.875M	19.04M	18.875M	19.065M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	37.2M	37.381M	36.6M	37.481M	37.25M	37.431M	36.05M	37.381M
2437MHz	Pass	500k	37.6M	37.631M	36.65M	37.481M	37.35M	37.531M	37.7M	37.581M
2452MHz	Pass	500k	37.15M	37.381M	37.6M	37.531M	37.25M	37.531M	36.25M	37.431M

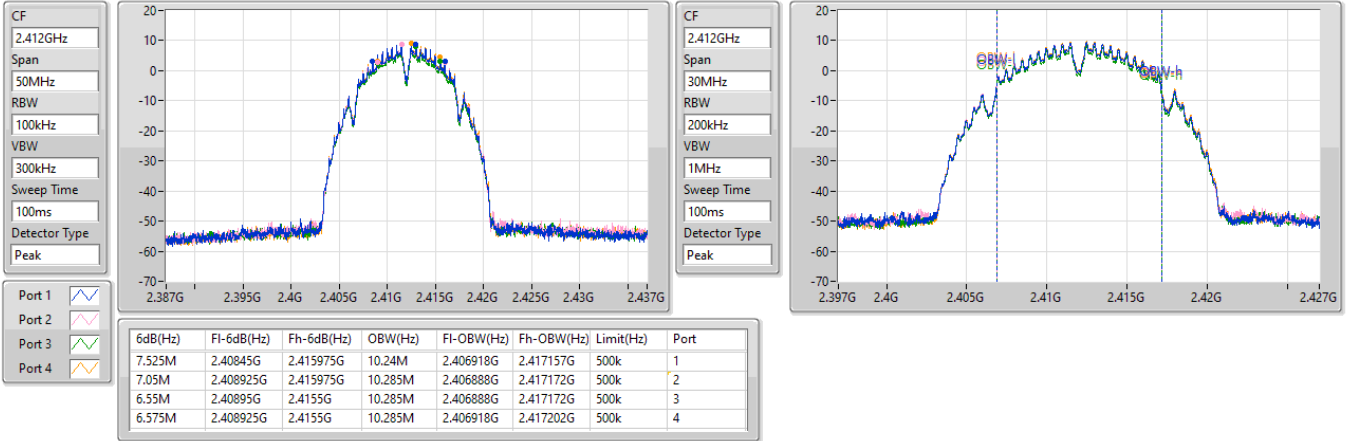
Port X-N dB = Port X 6dB down bandwidth;
 Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_4TX

EBW

2412MHz

20/12/2022

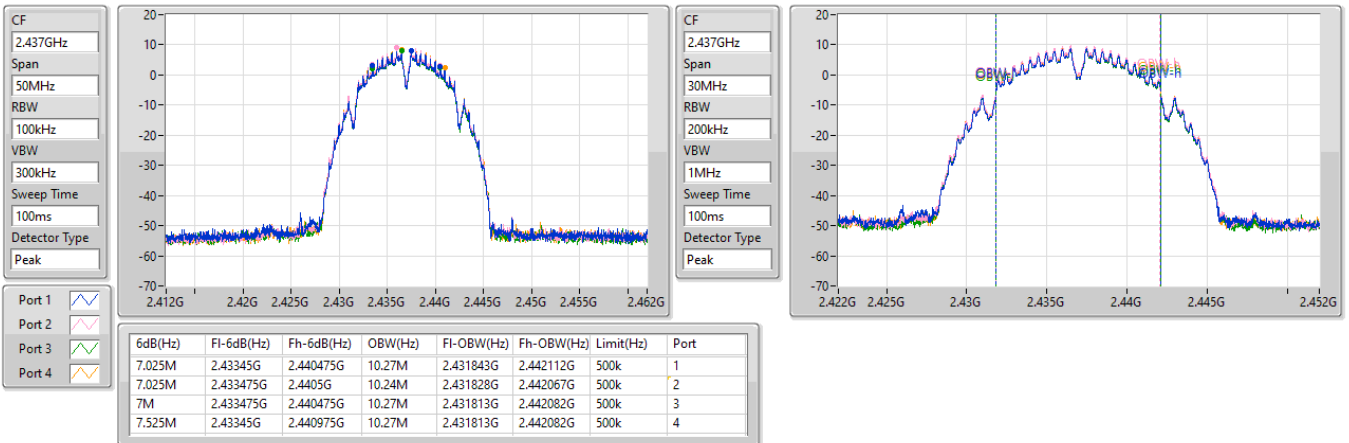


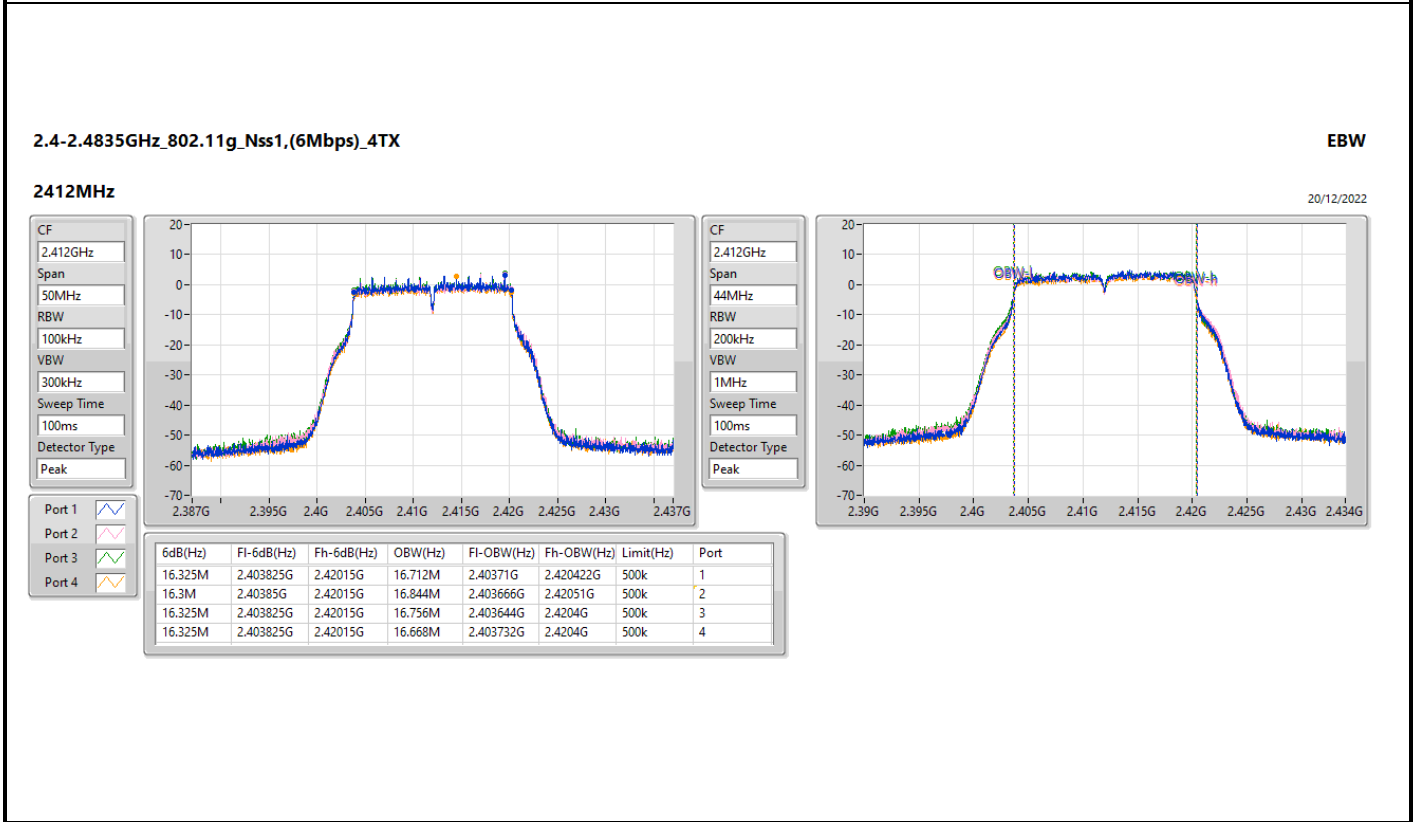
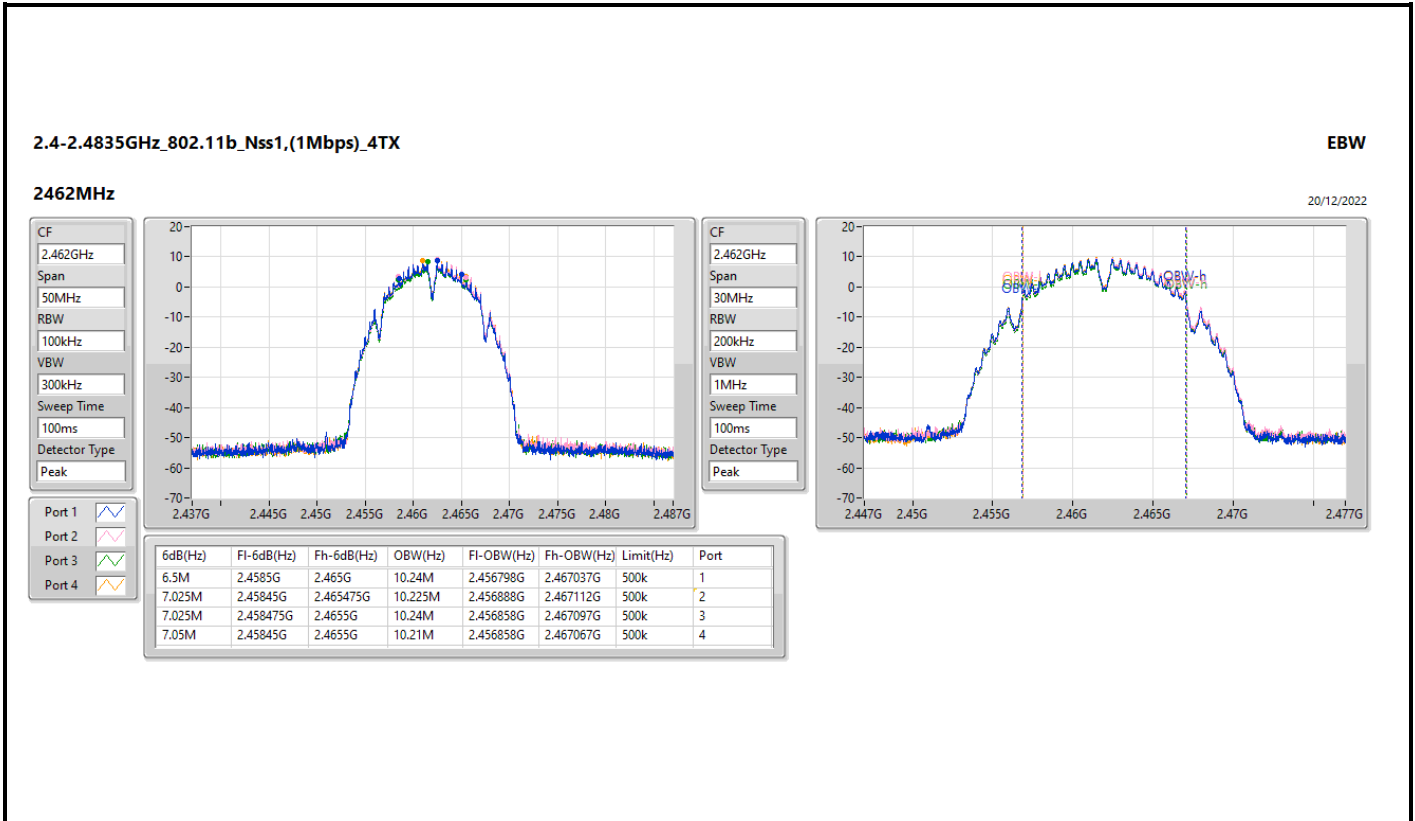
2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_4TX

EBW

2437MHz

20/12/2022



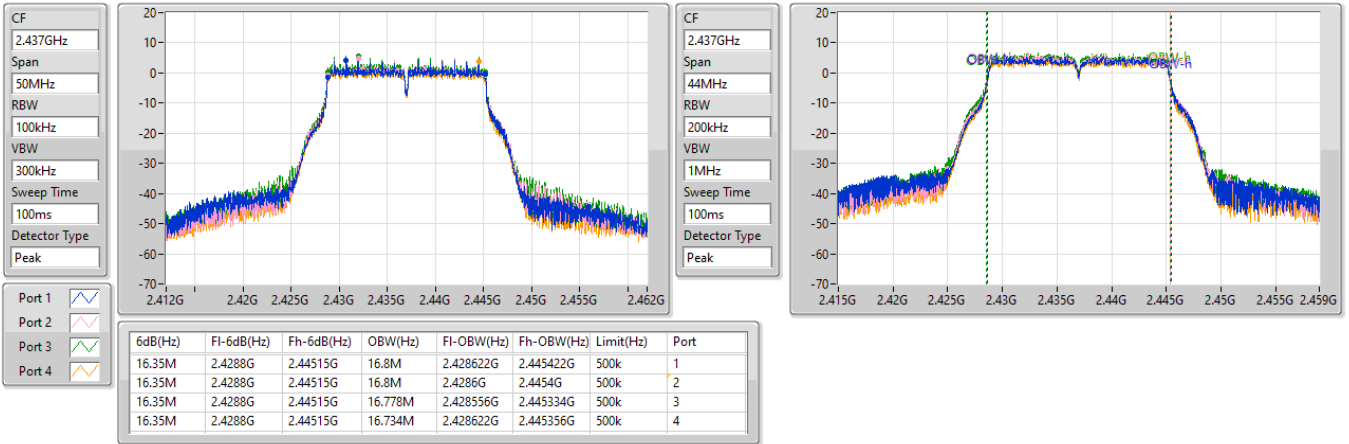


2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_4TX

EBW

2437MHz

20/12/2022

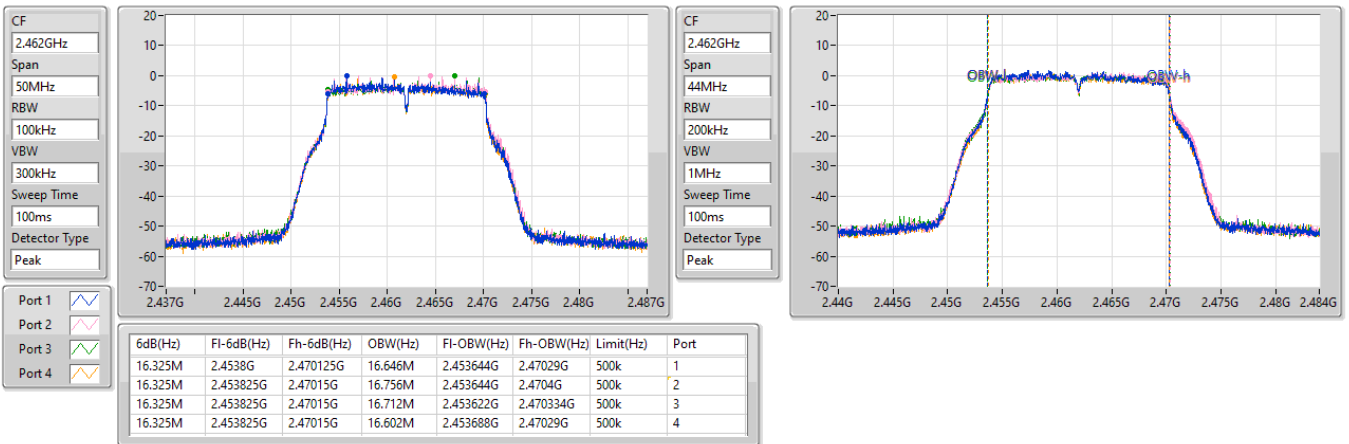


2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_4TX

EBW

2462MHz

20/12/2022



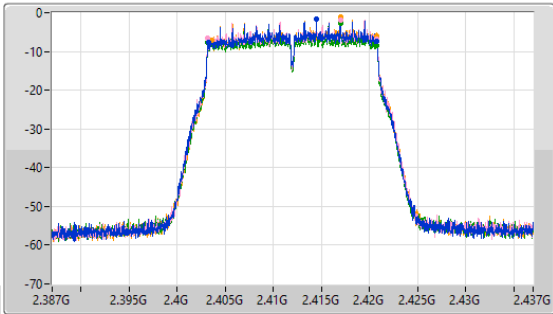
2.4-2.4835GHz_802.11n_HT20_Nss1,(MCS0)_4TX

EBW

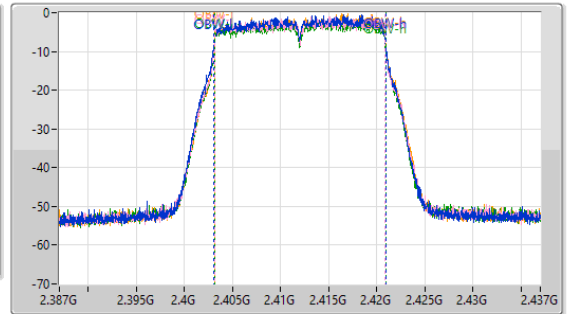
2412MHz

20/12/2022

CF
2.412GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.412GHz
Span
50MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.55M	2.403225G	2.420775G	17.841M	2.403079G	2.420921G	500k	1
17.575M	2.4032G	2.420775G	17.766M	2.403129G	2.420896G	500k	2
17.575M	2.4032G	2.420775G	17.791M	2.403129G	2.420921G	500k	3
17.175M	2.4036G	2.420775G	17.741M	2.403179G	2.420921G	500k	4

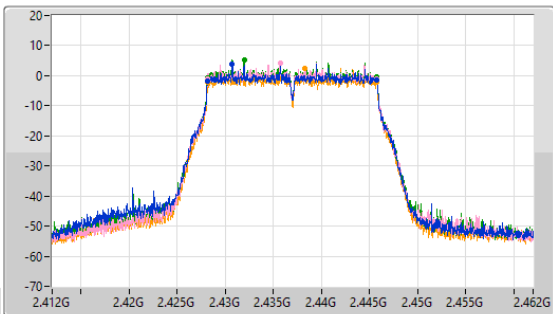
2.4-2.4835GHz_802.11n_HT20_Nss1,(MCS0)_4TX

EBW

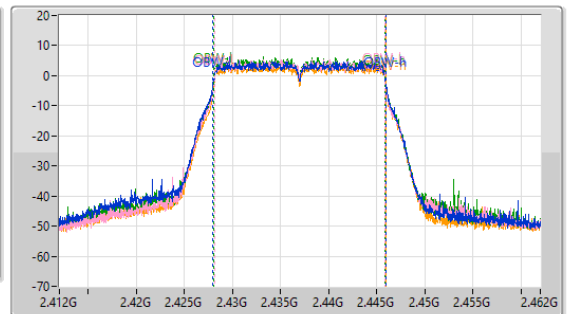
2437MHz

20/12/2022

CF
2.437GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.437GHz
Span
50MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



Port 1
Port 2
Port 3
Port 4

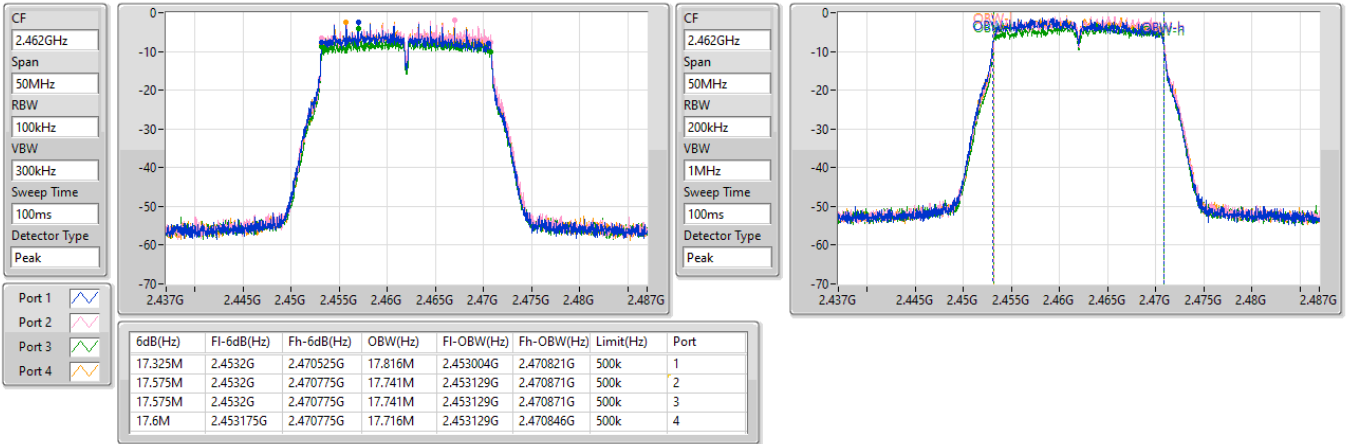
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.6M	2.428175G	2.445775G	17.941M	2.42798G	2.445921G	500k	1
17.6M	2.428175G	2.445775G	17.741M	2.428104G	2.445846G	500k	2
17.6M	2.428175G	2.445775G	17.791M	2.428079G	2.445871G	500k	3
17.6M	2.428175G	2.445775G	17.816M	2.428104G	2.445921G	500k	4

2.4-2.4835GHz_802.11n_HT20_Nss1,(MCS0)_4TX

EBW

2462MHz

20/12/2022

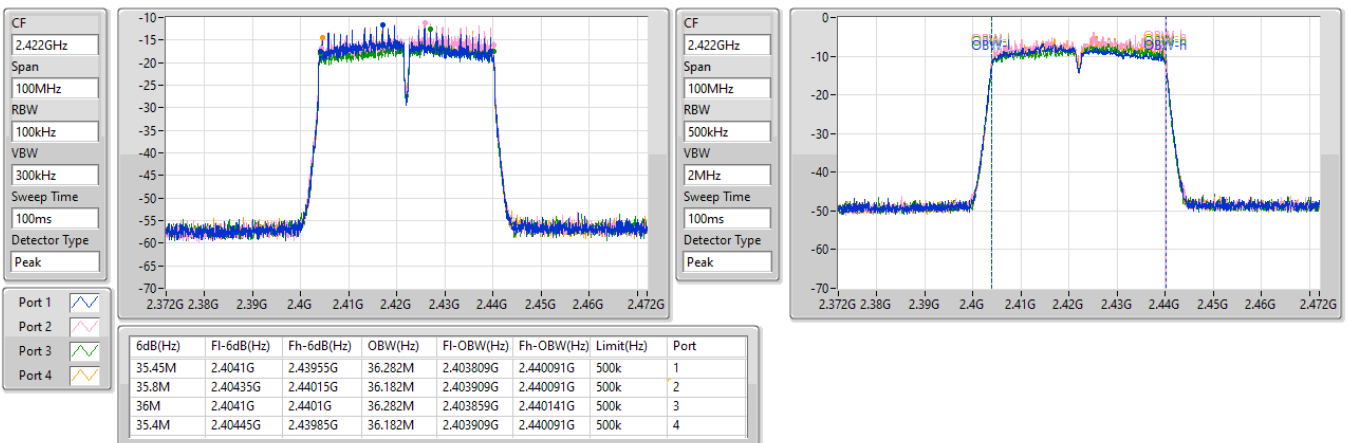


2.4-2.4835GHz_802.11n_HT40_Nss1,(MCS0)_4TX

EBW

2422MHz

20/12/2022

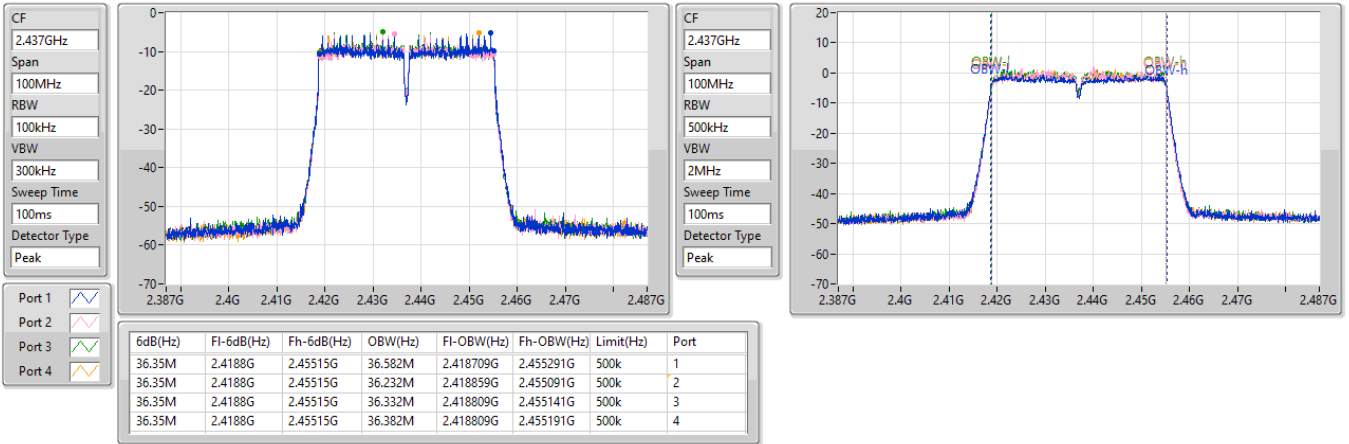


2.4-2.4835GHz_802.11n_HT40_Nss1,(MCS0)_4TX

EBW

2437MHz

20/12/2022

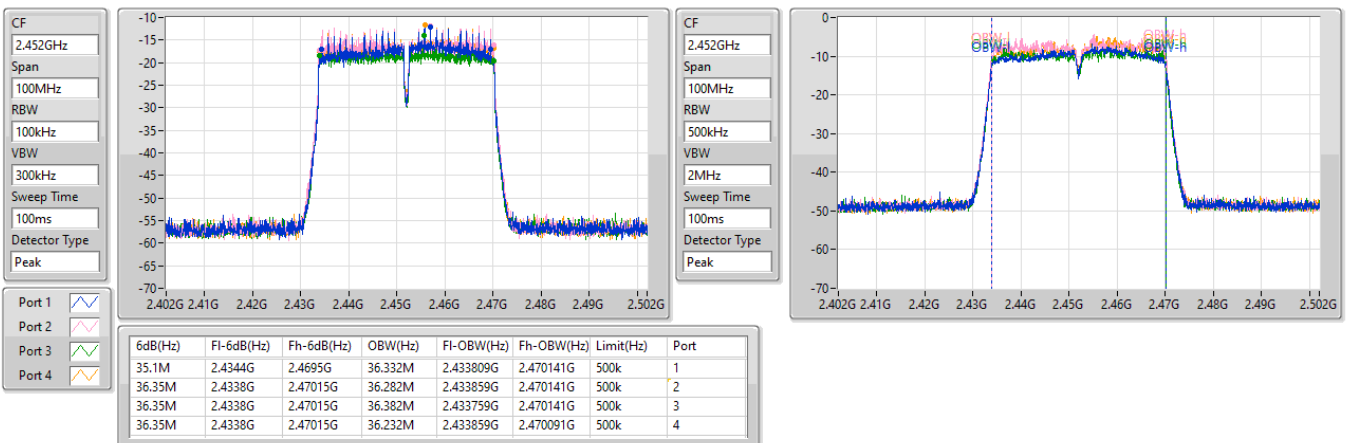


2.4-2.4835GHz_802.11n_HT40_Nss1,(MCS0)_4TX

EBW

2452MHz

20/12/2022



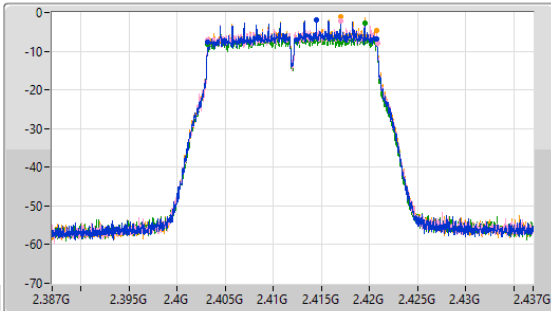
2.4-2.4835GHz_VHT20_Nss1,(MCS0)_4TX

EBW

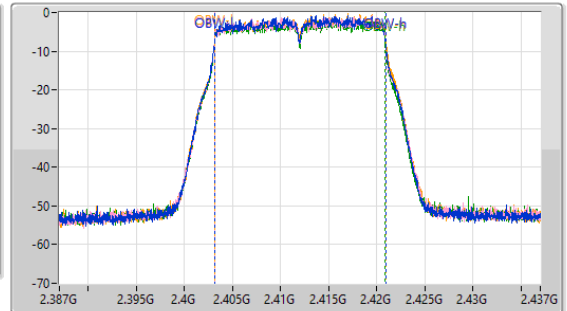
2412MHz

20/12/2022

CF: 2.412GHz
 Span: 50MHz
 RBW: 100kHz
 VBW: 300kHz
 Sweep Time: 100ms
 Detector Type: Peak



CF: 2.412GHz
 Span: 50MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



Port 1
 Port 2
 Port 3
 Port 4

6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.55M	2.4032G	2.42075G	17.791M	2.403129G	2.420921G	500k	1
17.6M	2.4032G	2.4208G	17.816M	2.403104G	2.420921G	500k	2
17.575M	2.4032G	2.420775G	17.766M	2.403129G	2.420896G	500k	3
17.525M	2.403225G	2.42075G	17.866M	2.403129G	2.420996G	500k	4

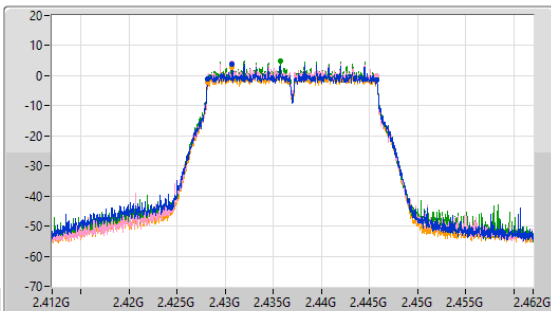
2.4-2.4835GHz_VHT20_Nss1,(MCS0)_4TX

EBW

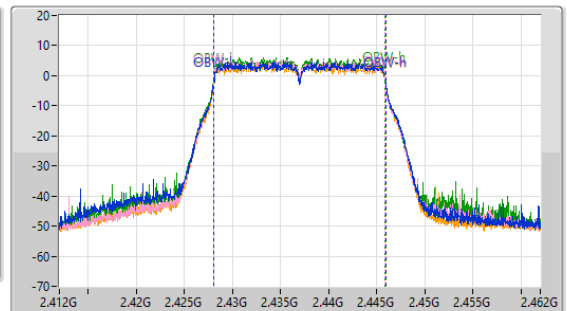
2437MHz

20/12/2022

CF: 2.437GHz
 Span: 50MHz
 RBW: 100kHz
 VBW: 300kHz
 Sweep Time: 100ms
 Detector Type: Peak



CF: 2.437GHz
 Span: 50MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



Port 1
 Port 2
 Port 3
 Port 4

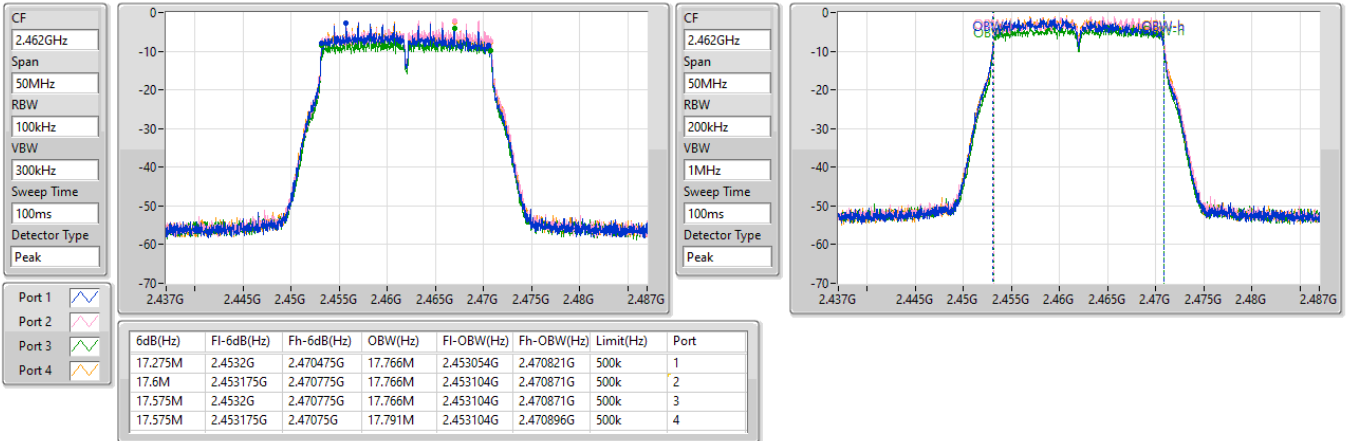
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.575M	2.4282G	2.445775G	17.916M	2.428029G	2.445946G	500k	1
17.575M	2.428175G	2.44575G	17.816M	2.428054G	2.445871G	500k	2
17.6M	2.428175G	2.445775G	17.766M	2.428079G	2.445846G	500k	3
17.6M	2.428175G	2.445775G	17.891M	2.428054G	2.445946G	500k	4

2.4-2.4835GHz_VHT20_Nss1,(MCS0)_4TX

EBW

2462MHz

20/12/2022

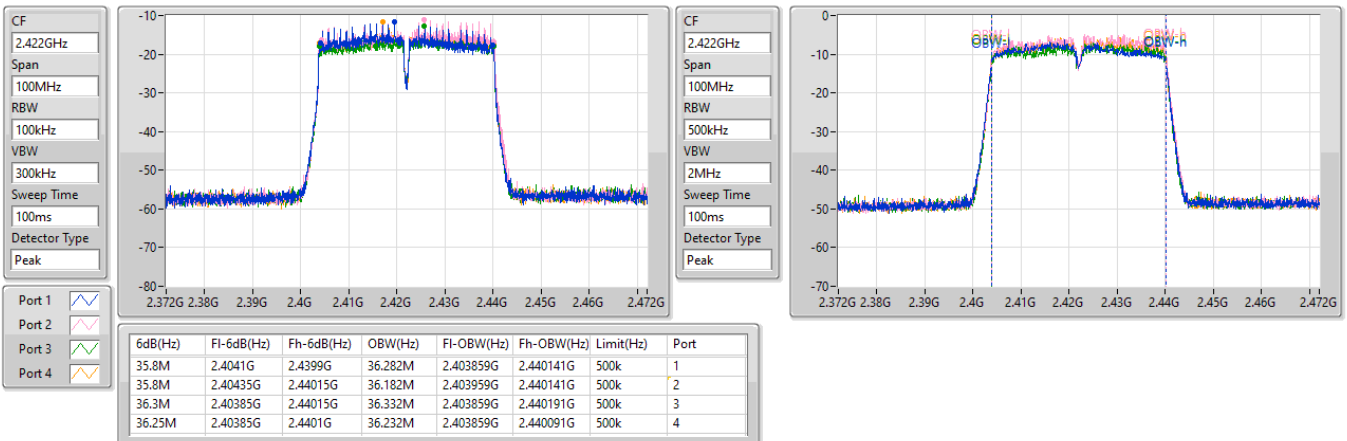


2.4-2.4835GHz_VHT40_Nss1,(MCS0)_4TX

EBW

2422MHz

20/12/2022

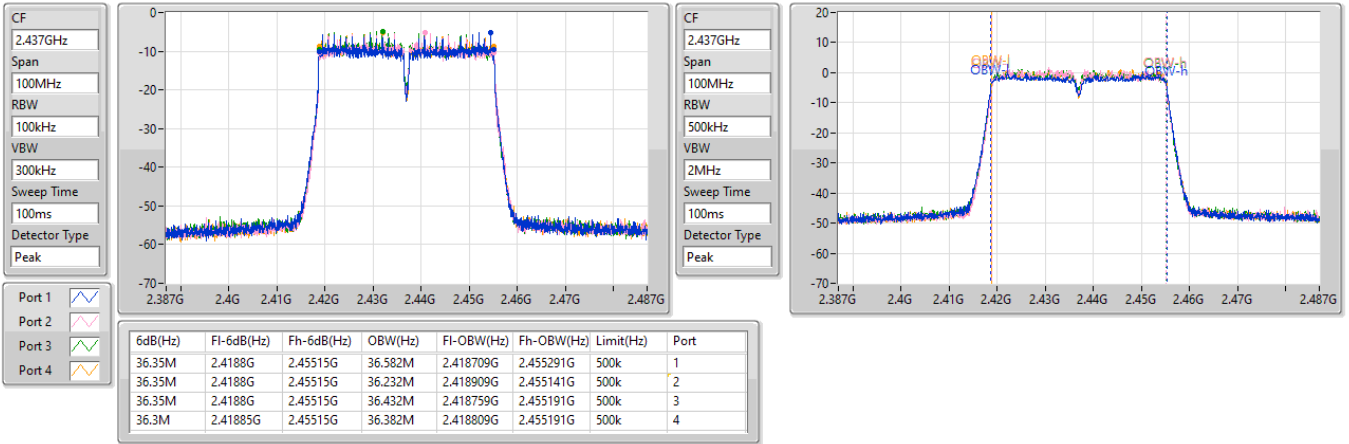


2.4-2.4835GHz_VHT40_Nss1,(MCS0)_4TX

EBW

2437MHz

20/12/2022

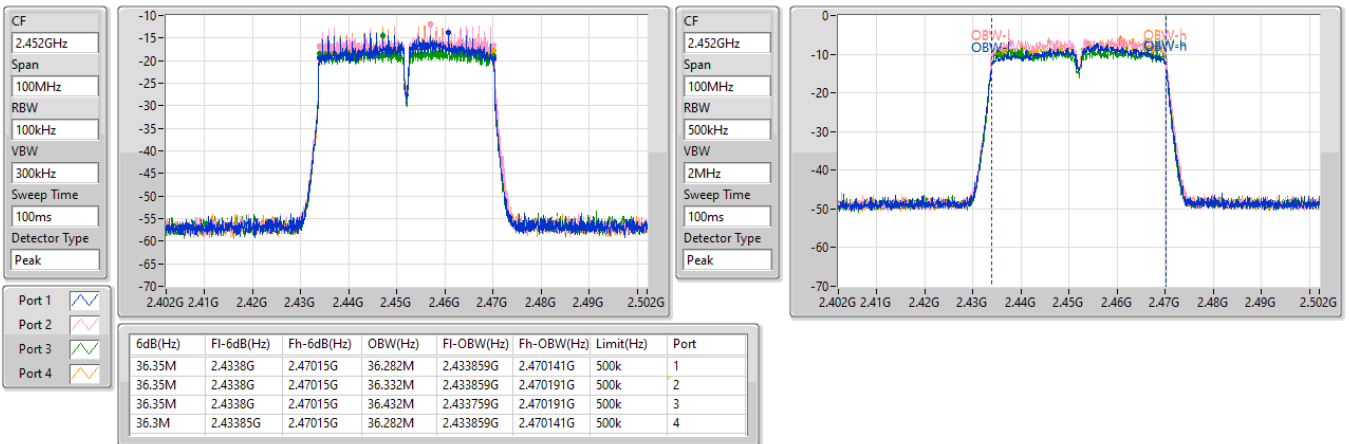


2.4-2.4835GHz_VHT40_Nss1,(MCS0)_4TX

EBW

2452MHz

20/12/2022

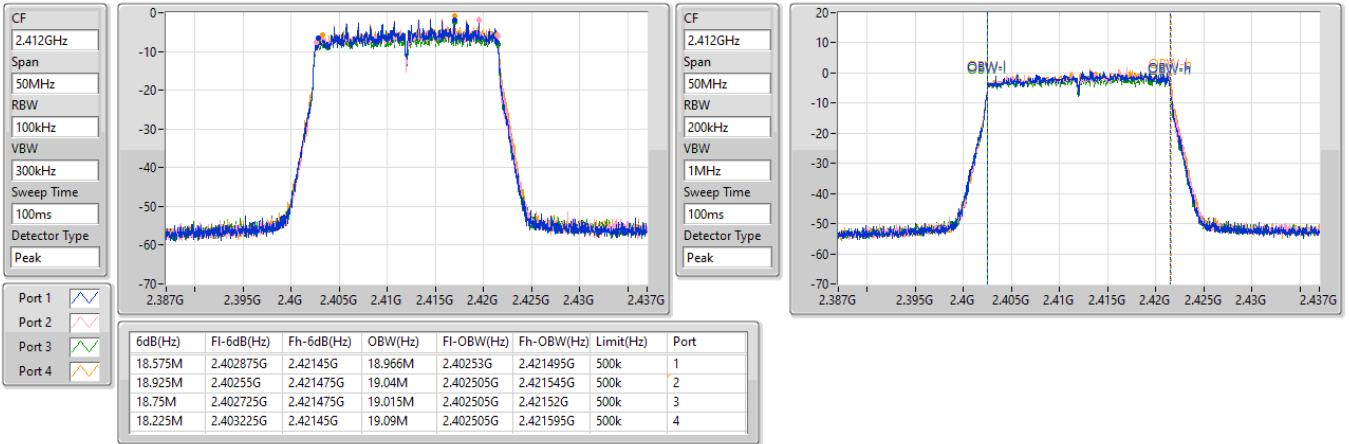


2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2412MHz

20/12/2022

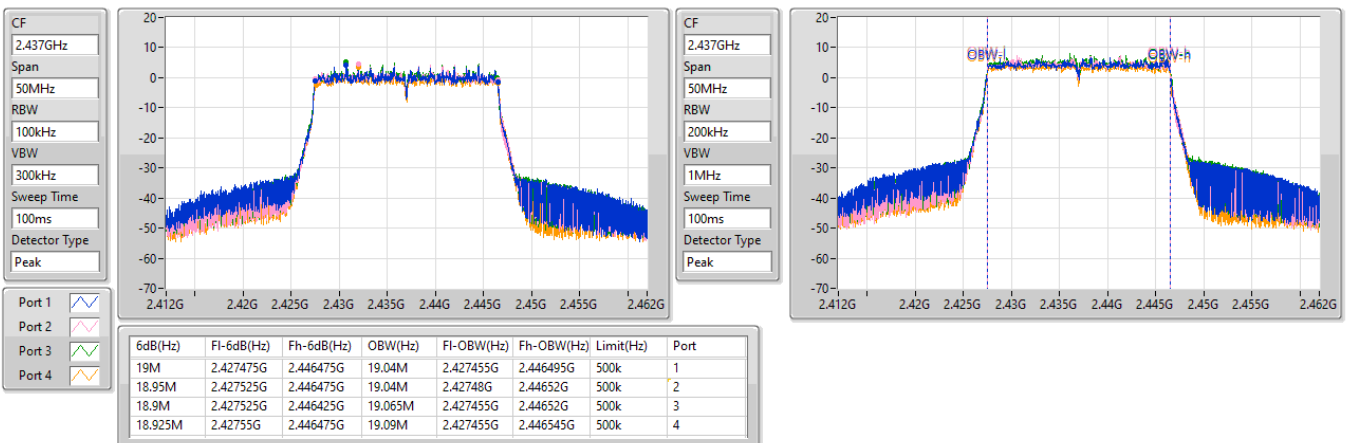


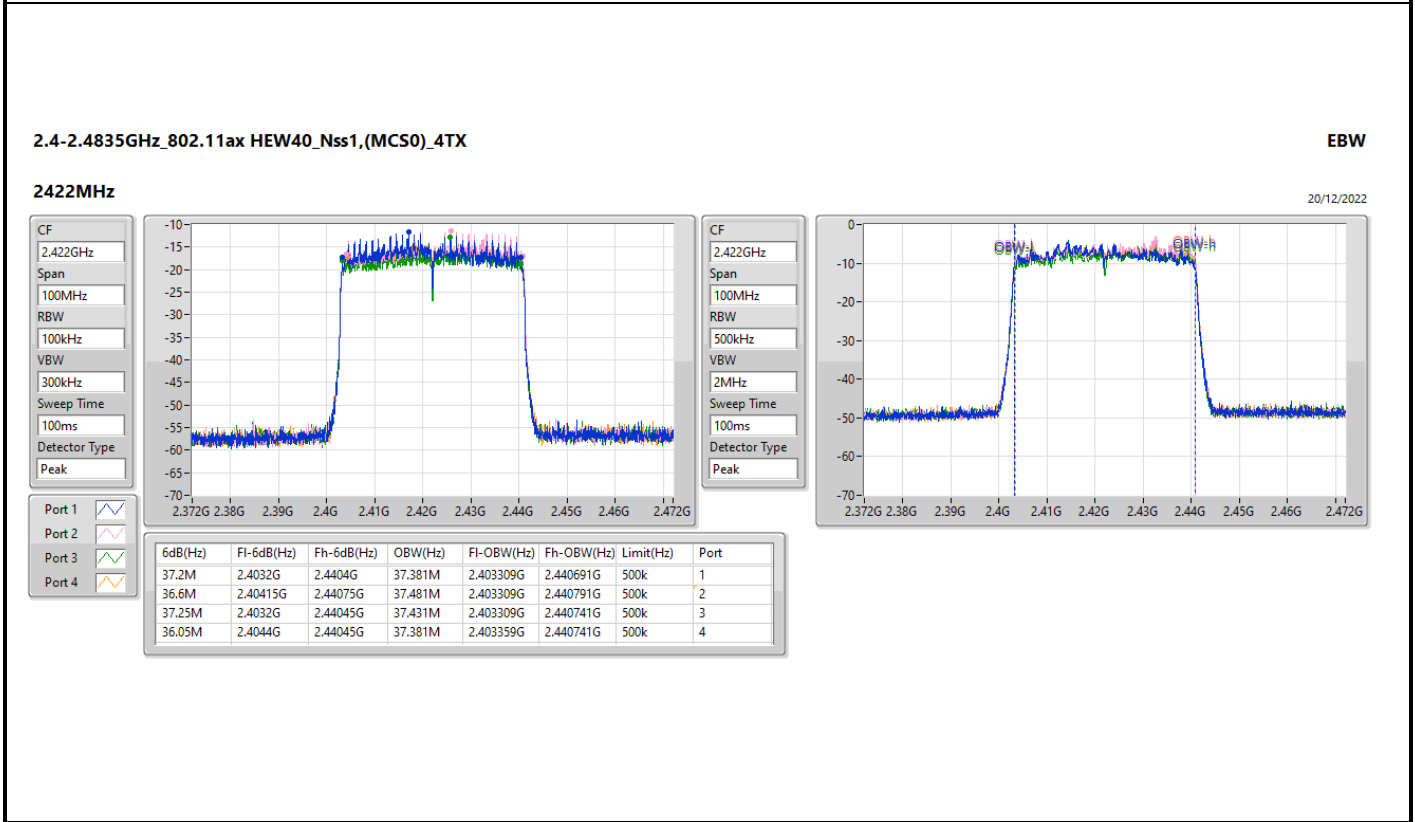
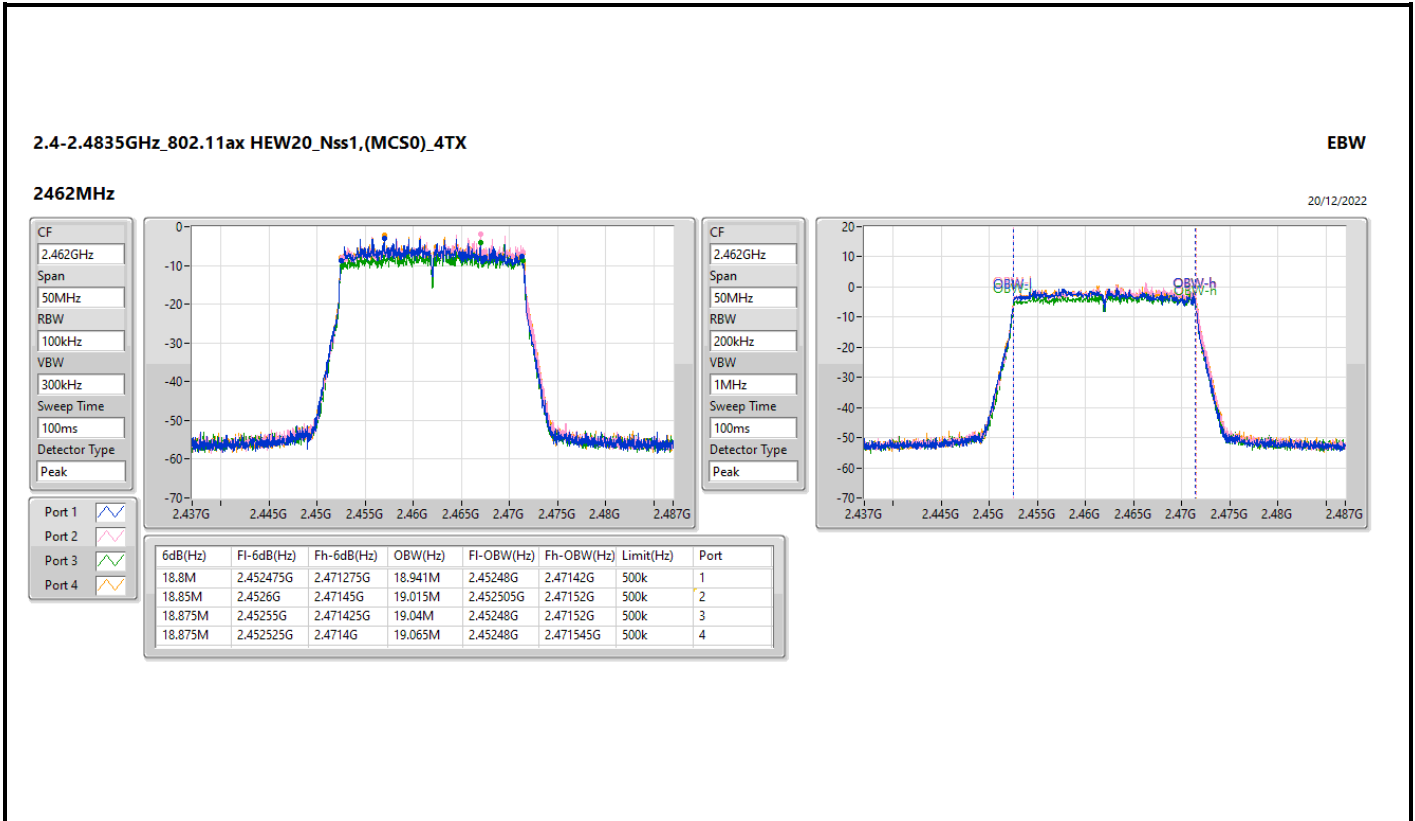
2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2437MHz

20/12/2022



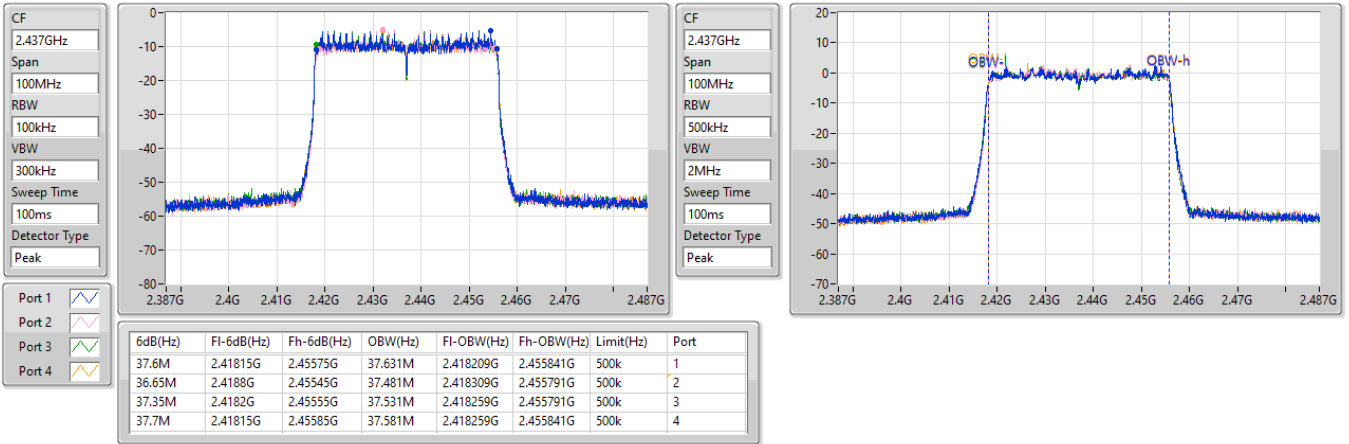


2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

2437MHz

20/12/2022

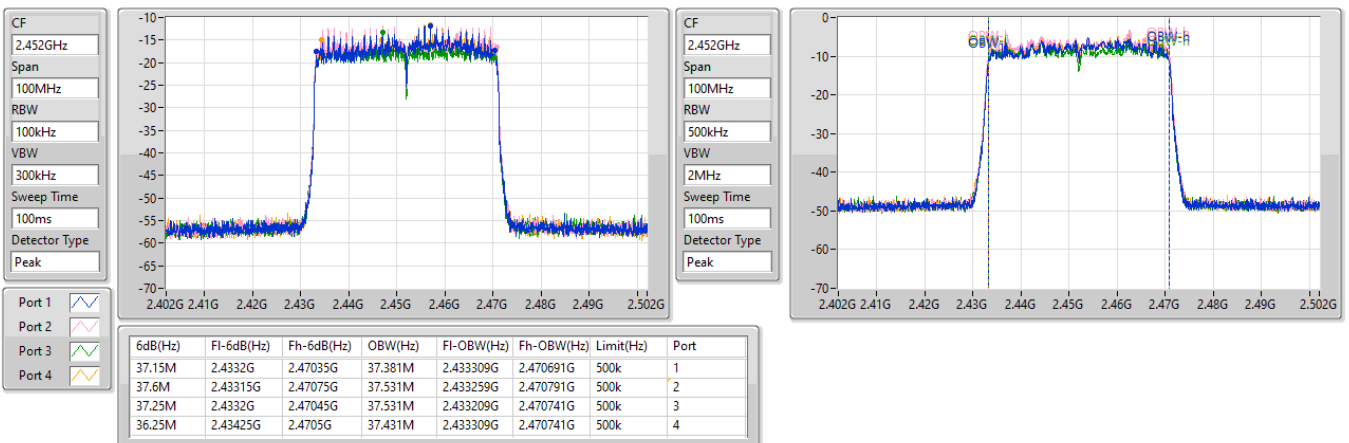


2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

2452MHz

20/12/2022





Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_2TX	7.075M	10.217M	10M2G1D	6.55M	10.159M
802.11g_Nss1,(6Mbps)_2TX	16.35M	16.609M	16M6D1D	16.3M	16.524M
802.11n HT20_Nss1,(MCS0)_2TX	17.6M	17.803M	17M8D1D	17.2M	17.68M
802.11n HT40_Nss1,(MCS0)_2TX	36.3M	36.291M	36M3D1D	35.65M	36.095M
VHT20_Nss1,(MCS0)_2TX	17.6M	17.778M	17M8D1D	17.3M	17.705M
VHT40_Nss1,(MCS0)_2TX	36.35M	36.242M	36M2D1D	35.6M	36.193M
802.11ax HEW20_Nss1,(MCS0)_2TX	19M	19.002M	19MOD1D	18.525M	18.929M
802.11ax HEW40_Nss1,(MCS0)_2TX	37.5M	37.564M	37M6D1D	36.15M	37.27M

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)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	7.075M	10.217M	7.05M	10.203M
2437MHz	Pass	500k	6.55M	10.203M	6.575M	10.203M
2462MHz	Pass	500k	6.55M	10.159M	7.025M	10.188M
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	16.3M	16.588M	16.3M	16.588M
2437MHz	Pass	500k	16.35M	16.609M	16.35M	16.588M
2462MHz	Pass	500k	16.35M	16.588M	16.35M	16.524M
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	17.2M	17.803M	17.575M	17.754M
2437MHz	Pass	500k	17.575M	17.754M	17.6M	17.729M
2462MHz	Pass	500k	17.575M	17.729M	17.575M	17.68M
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	35.65M	36.144M	35.7M	36.144M
2437MHz	Pass	500k	36.1M	36.193M	36.05M	36.193M
2452MHz	Pass	500k	36.05M	36.095M	36.3M	36.291M
VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	17.3M	17.754M	17.575M	17.778M
2437MHz	Pass	500k	17.6M	17.778M	17.6M	17.778M
2462MHz	Pass	500k	17.525M	17.754M	17.575M	17.705M
VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	35.6M	36.193M	36.35M	36.193M
2437MHz	Pass	500k	36.05M	36.242M	36.3M	36.242M
2452MHz	Pass	500k	36M	36.242M	36.35M	36.242M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	18.675M	19.002M	18.525M	18.978M
2437MHz	Pass	500k	19M	18.929M	18.875M	18.978M
2462MHz	Pass	500k	18.975M	18.954M	18.725M	18.954M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	36.6M	37.27M	36.15M	37.515M
2437MHz	Pass	500k	37.5M	37.515M	36.65M	37.515M
2452MHz	Pass	500k	37.5M	37.564M	36.65M	37.515M

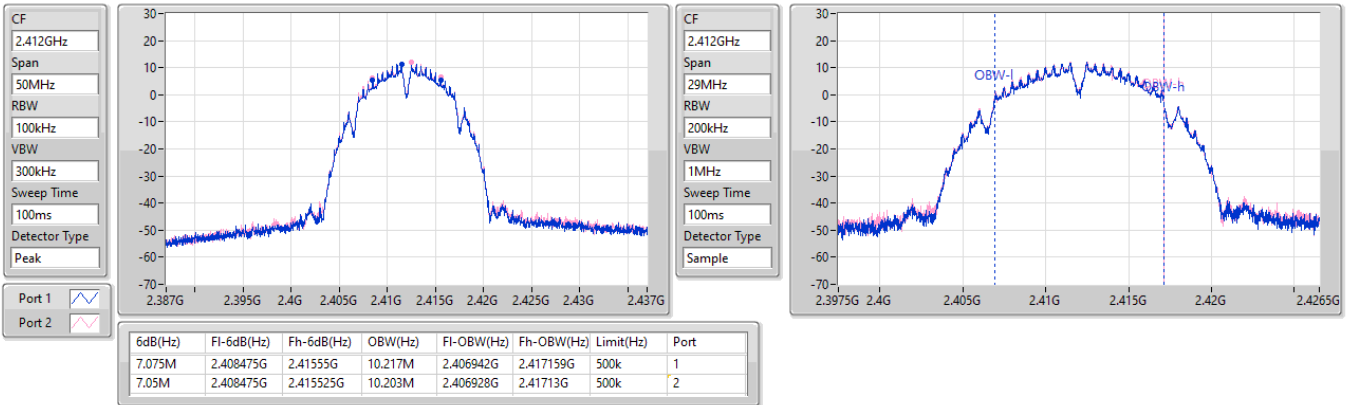
Port X-N dB = Port X 6dB down bandwidth:
 Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX

EBW

2412MHz

14/12/2022

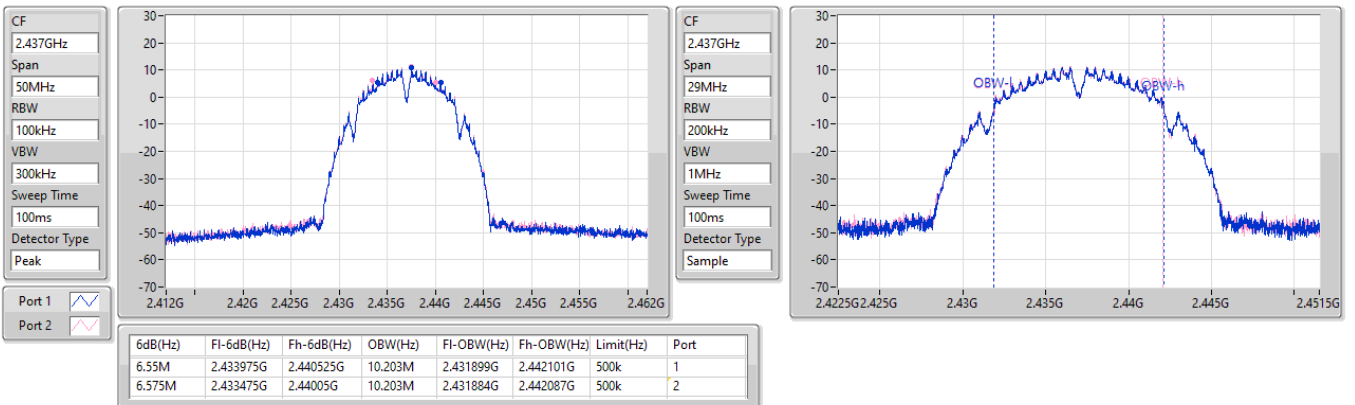


2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX

EBW

2437MHz

14/12/2022



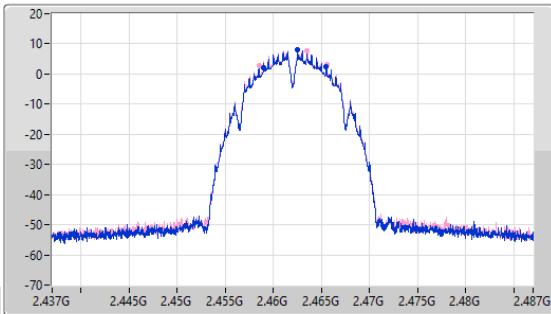
2.4-2.4835GHz_802.11b_Nss1,(1Mbps)_2TX

EBW

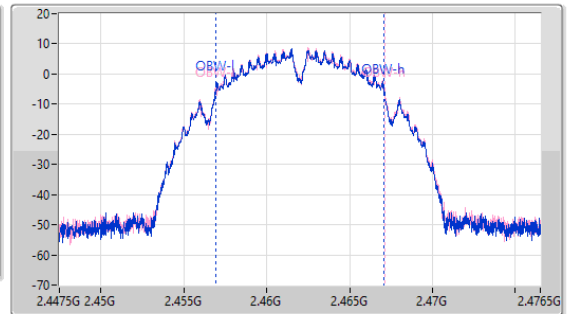
2462MHz

14/12/2022

CF: 2.462GHz
 Span: 50MHz
 RBW: 100kHz
 VBW: 300kHz
 Sweep Time: 100ms
 Detector Type: Peak



CF: 2.462GHz
 Span: 29MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Sample



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
6.55M	2.45895G	2.4655G	10.159M	2.456928G	2.467087G	500k	1
7.025M	2.4585G	2.465525G	10.188M	2.456928G	2.467116G	500k	2

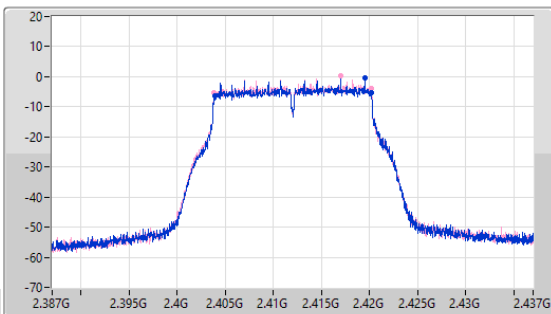
2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

EBW

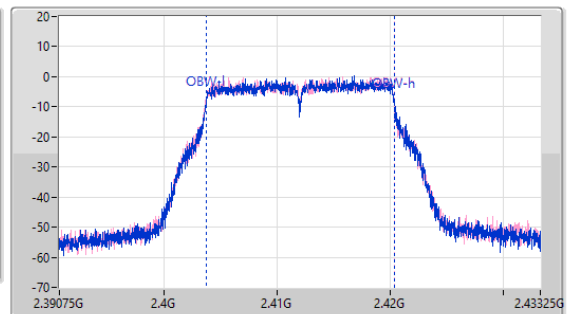
2412MHz

14/12/2022

CF: 2.412GHz
 Span: 50MHz
 RBW: 100kHz
 VBW: 300kHz
 Sweep Time: 100ms
 Detector Type: Peak



CF: 2.412GHz
 Span: 42.5MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Sample



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.3M	2.403875G	2.420175G	16.588M	2.403759G	2.420347G	500k	1
16.3M	2.40385G	2.42015G	16.588M	2.403738G	2.420326G	500k	2

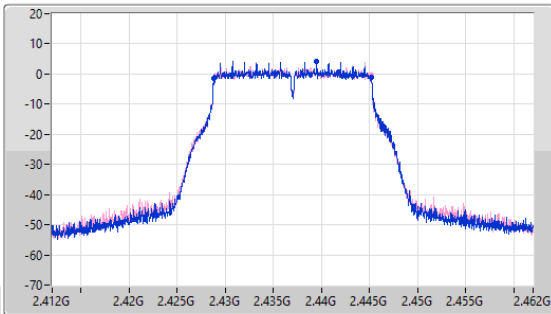
2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

EBW

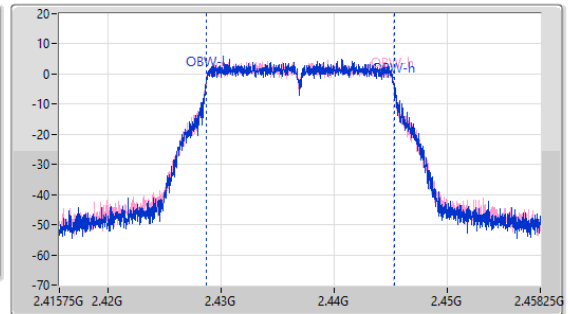
2437MHz

14/12/2022

CF: 2.437GHz
 Span: 50MHz
 RBW: 100kHz
 VBW: 300kHz
 Sweep Time: 100ms
 Detector Type: Peak



CF: 2.437GHz
 Span: 42.5MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Sample



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.35M	2.428825G	2.445175G	16.609M	2.428717G	2.445326G	500k	1
16.35M	2.428825G	2.445175G	16.588M	2.428695G	2.445283G	500k	2

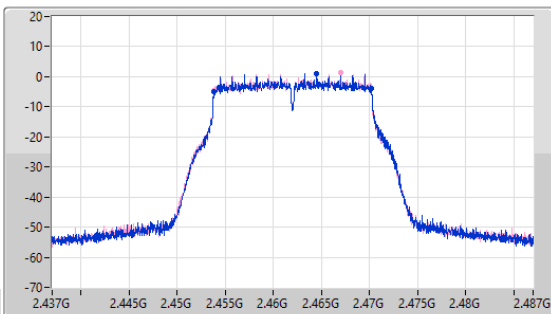
2.4-2.4835GHz_802.11g_Nss1,(6Mbps)_2TX

EBW

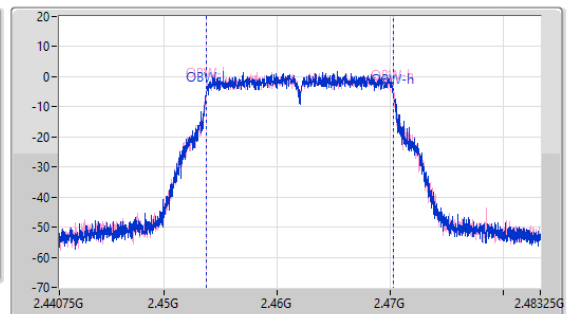
2462MHz

14/12/2022

CF: 2.462GHz
 Span: 50MHz
 RBW: 100kHz
 VBW: 300kHz
 Sweep Time: 100ms
 Detector Type: Peak



CF: 2.462GHz
 Span: 42.5MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Sample



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.35M	2.453825G	2.470175G	16.588M	2.453717G	2.470305G	500k	1
16.35M	2.453825G	2.470175G	16.524M	2.453738G	2.470262G	500k	2

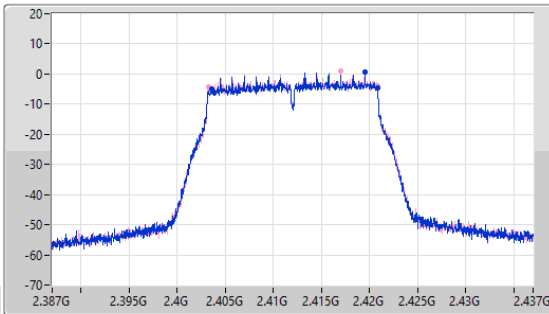
2.4-2.4835GHz_802.11n_HT20_Nss1,(MCS0)_2TX

EBW

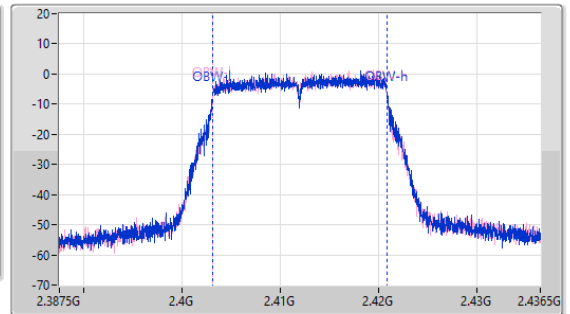
2412MHz

14/12/2022

CF
2.412GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.412GHz
Span
49MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.2M	2.40396G	2.4208G	17.803M	2.403135G	2.420938G	500k	1
17.575M	2.403225G	2.4208G	17.754M	2.40316G	2.420914G	500k	2

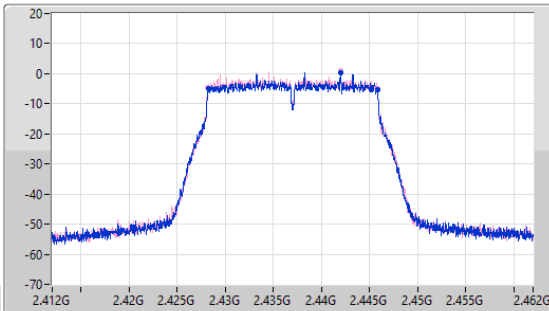
2.4-2.4835GHz_802.11n_HT20_Nss1,(MCS0)_2TX

EBW

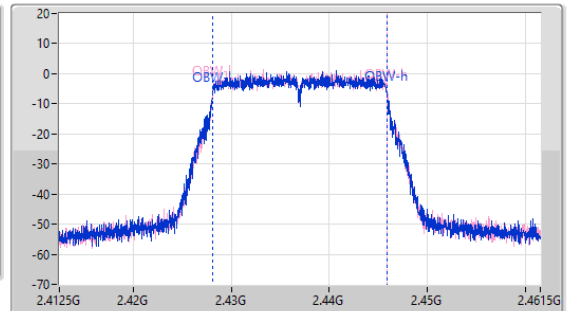
2437MHz

14/12/2022

CF
2.437GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.437GHz
Span
49MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.575M	2.428225G	2.4458G	17.754M	2.428111G	2.445865G	500k	1
17.6M	2.4282G	2.4458G	17.729M	2.428135G	2.445865G	500k	2

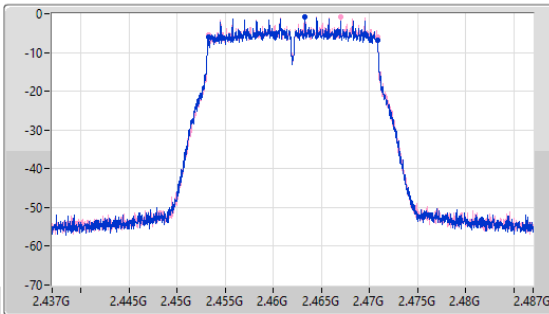
2.4-2.4835GHz_802.11n HT20_Nss1,(MCS0)_2TX

EBW

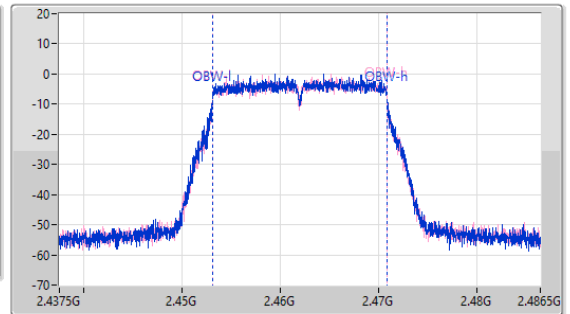
2462MHz

14/12/2022

CF
2.462GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.462GHz
Span
49MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



Port 1
Port 2

6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.575M	2.453225G	2.4708G	17.729M	2.453135G	2.470865G	500k	1
17.575M	2.453225G	2.4708G	17.68M	2.45316G	2.47084G	500k	2

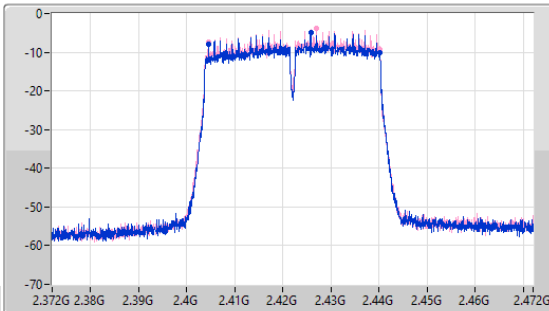
2.4-2.4835GHz_802.11n HT40_Nss1,(MCS0)_2TX

EBW

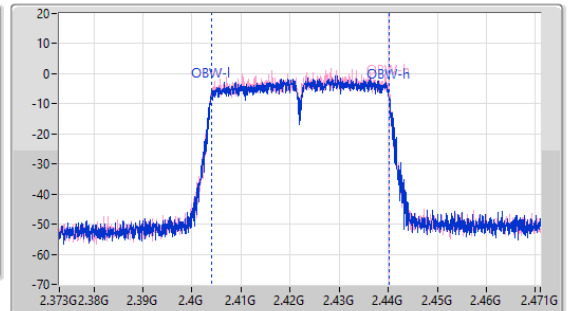
2422MHz

14/12/2022

CF
2.422GHz
Span
100MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.422GHz
Span
98MHz
RBW
500kHz
VBW
2MHz
Sweep Time
100ms
Detector Type
Sample



Port 1
Port 2

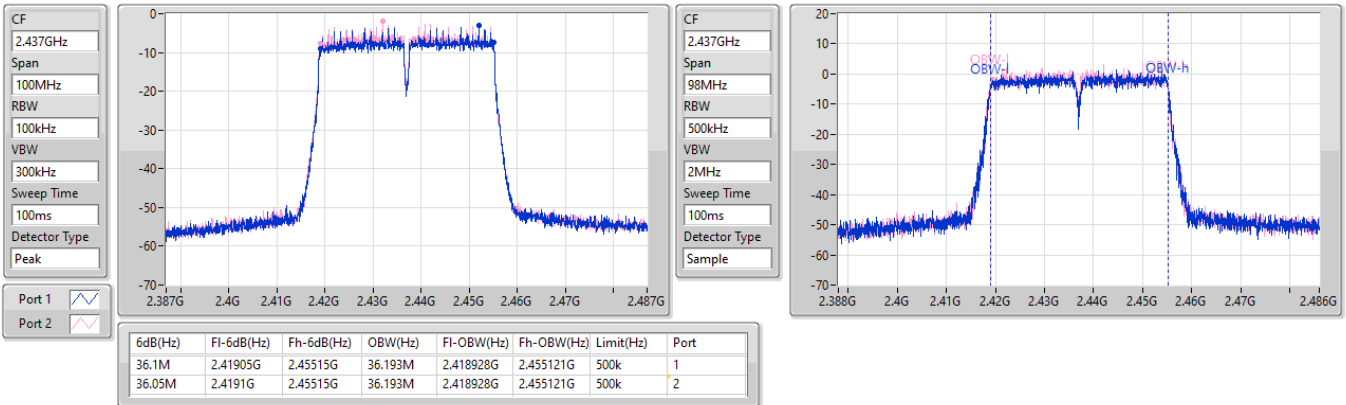
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.65M	2.4045G	2.44015G	36.144M	2.403977G	2.440121G	500k	1
35.7M	2.40445G	2.44015G	36.144M	2.403977G	2.440121G	500k	2

2.4-2.4835GHz_802.11n HT40_Nss1,(MCS0)_2TX

EBW

2437MHz

14/12/2022

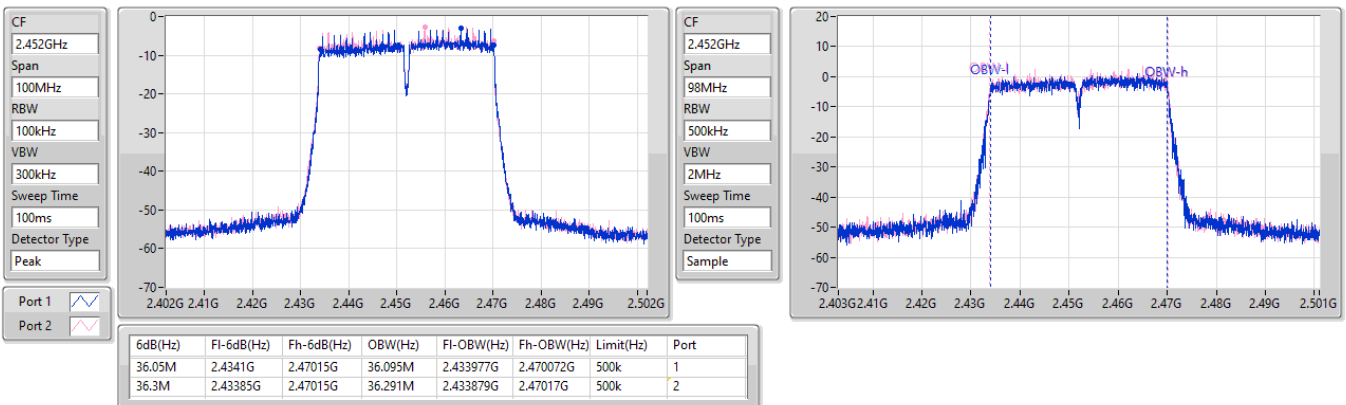


2.4-2.4835GHz_802.11n HT40_Nss1,(MCS0)_2TX

EBW

2452MHz

14/12/2022



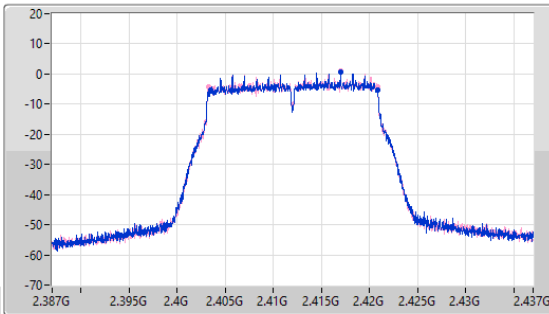
2.4-2.4835GHz_VHT20_Nss1,(MCS0)_2TX

EBW

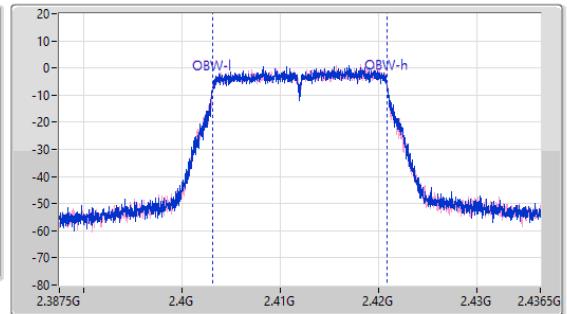
2412MHz

14/12/2022

CF
2.412GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.412GHz
Span
49MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.3M	2.4035G	2.4208G	17.754M	2.40316G	2.420914G	500k	1
17.575M	2.403225G	2.4208G	17.778M	2.403135G	2.420914G	500k	2

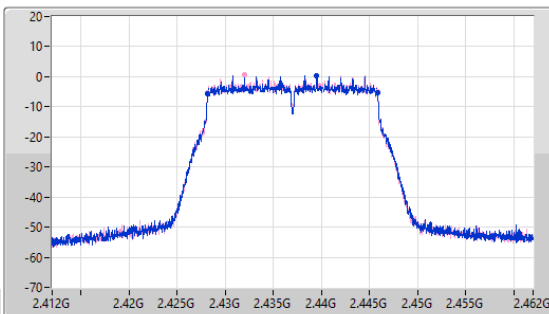
2.4-2.4835GHz_VHT20_Nss1,(MCS0)_2TX

EBW

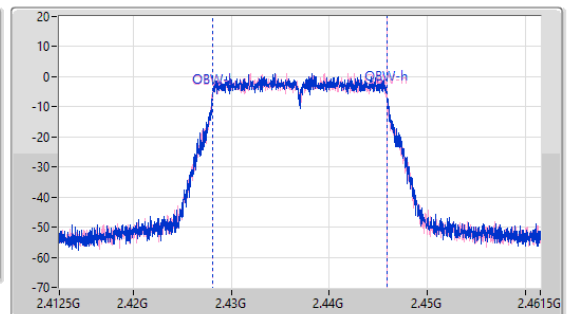
2437MHz

14/12/2022

CF
2.437GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.437GHz
Span
49MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



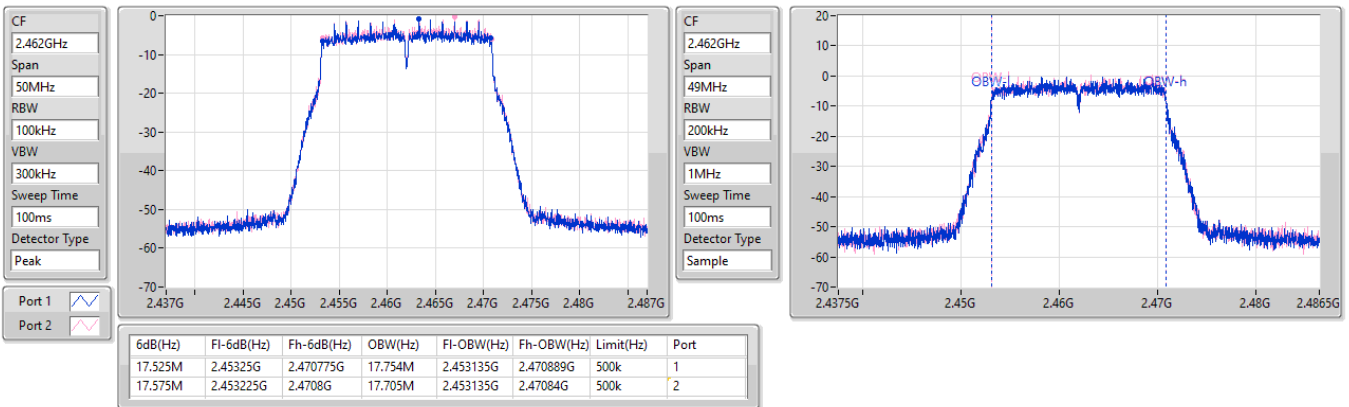
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
17.6M	2.4282G	2.4458G	17.778M	2.428111G	2.445889G	500k	1
17.6M	2.4282G	2.4458G	17.778M	2.428086G	2.445865G	500k	2

2.4-2.4835GHz_VHT20_Nss1,(MCS0)_2TX

EBW

2462MHz

14/12/2022

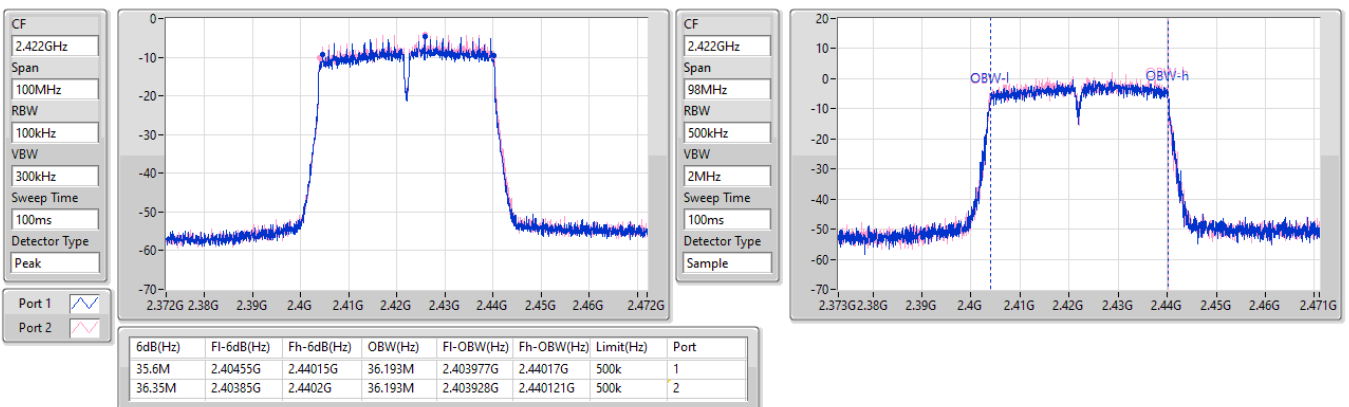


2.4-2.4835GHz_VHT40_Nss1,(MCS0)_2TX

EBW

2422MHz

14/12/2022

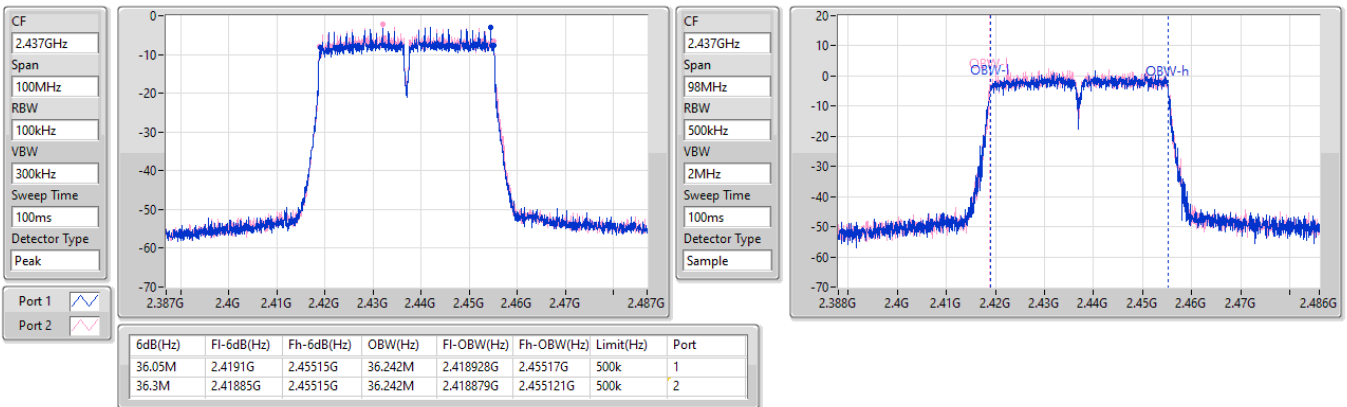


2.4-2.4835GHz_VHT40_Nss1,(MCS0)_2TX

EBW

2437MHz

14/12/2022

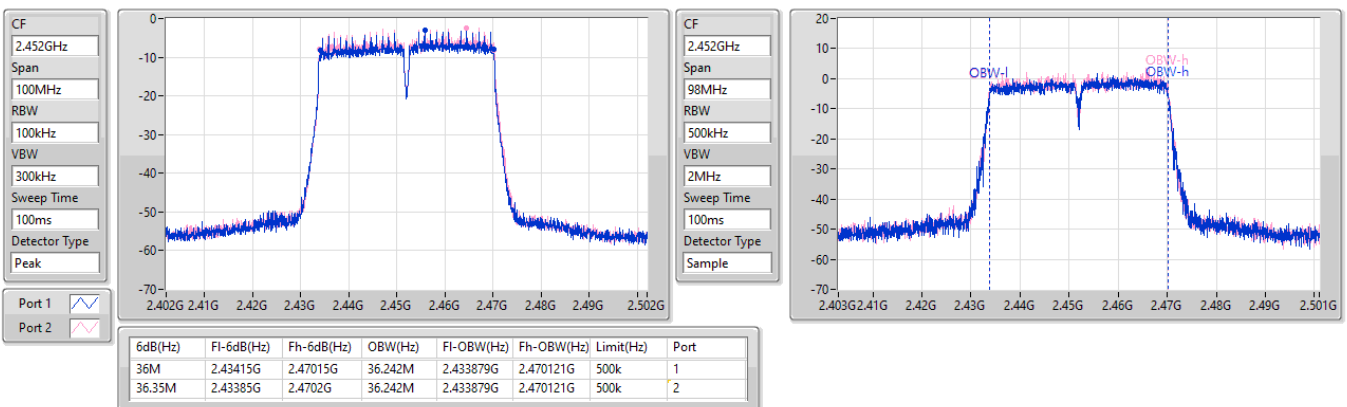


2.4-2.4835GHz_VHT40_Nss1,(MCS0)_2TX

EBW

2452MHz

14/12/2022



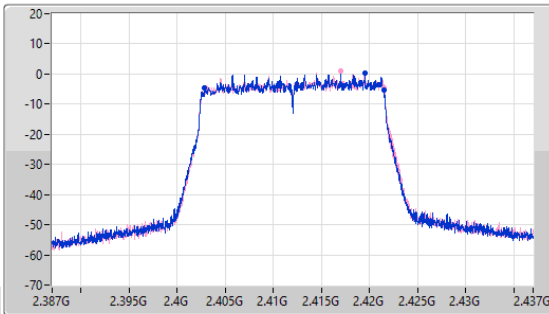
2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

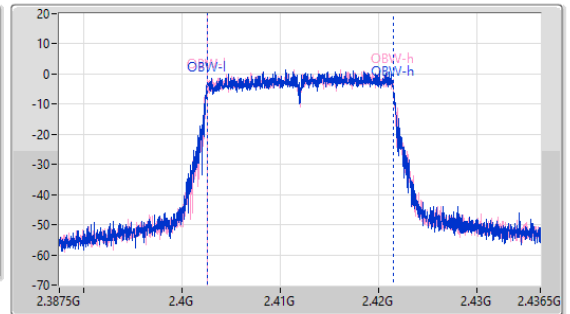
2412MHz

14/12/2022

CF
2.412GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.412GHz
Span
49MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
18.675M	2.402825G	2.4215G	19.002M	2.402523G	2.421526G	500k	1
18.525M	2.402975G	2.4215G	18.978M	2.402523G	2.421501G	500k	2

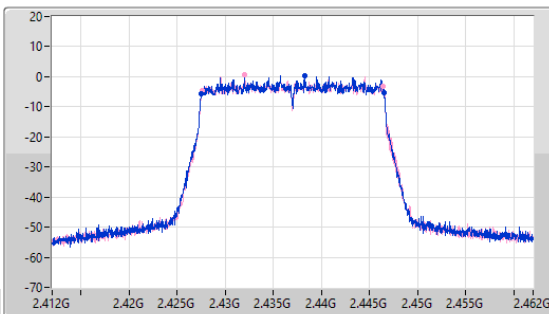
2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

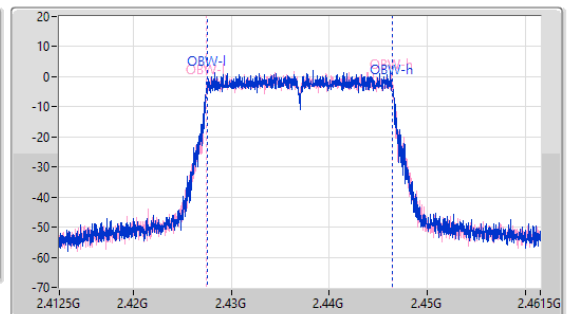
2437MHz

14/12/2022

CF
2.437GHz
Span
50MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.437GHz
Span
49MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



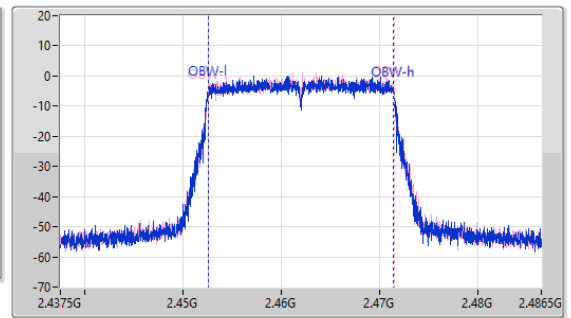
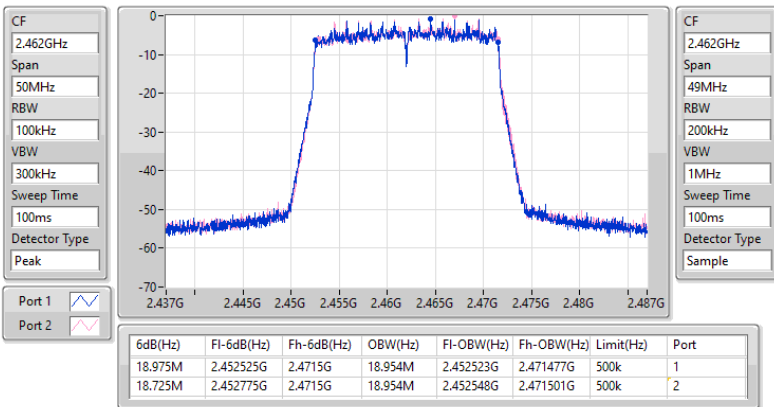
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
19M	2.4275G	2.4465G	18.929M	2.427523G	2.446452G	500k	1
18.875M	2.427575G	2.44645G	18.978M	2.427499G	2.446477G	500k	2

2.4-2.4835GHz_802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

2462MHz

14/12/2022

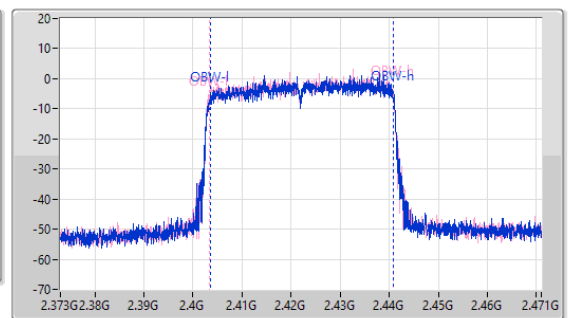
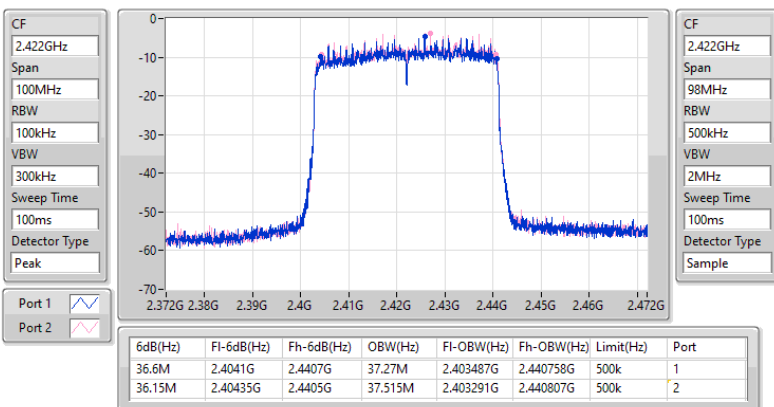


2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

2422MHz

14/12/2022



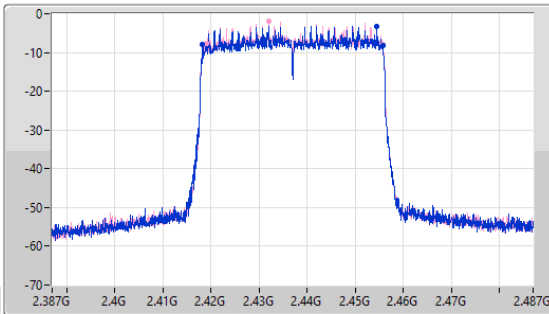
2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

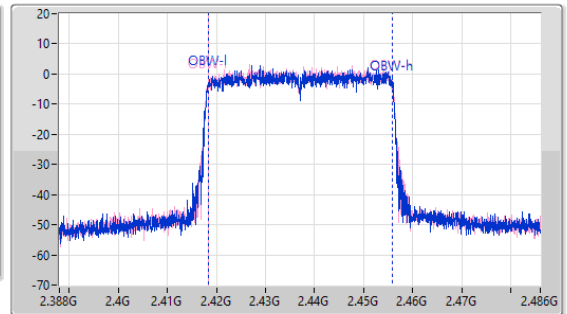
2437MHz

14/12/2022

CF
2.437GHz
Span
100MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.437GHz
Span
98MHz
RBW
500kHz
VBW
2MHz
Sweep Time
100ms
Detector Type
Sample



Port 1
Port 2

6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
37.5M	2.4182G	2.4557G	37.515M	2.418291G	2.455807G	500k	1
36.65M	2.41915G	2.4558G	37.515M	2.418291G	2.455807G	500k	2

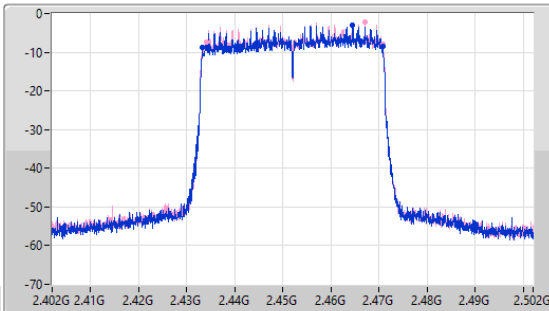
2.4-2.4835GHz_802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

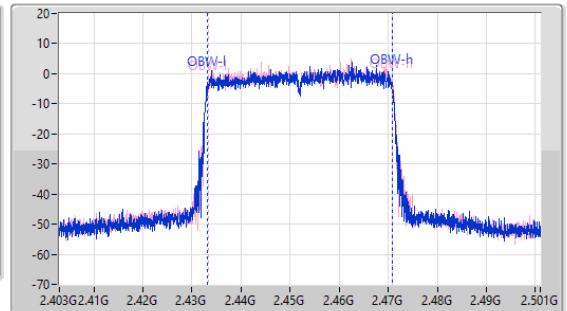
2452MHz

14/12/2022

CF
2.452GHz
Span
100MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



CF
2.452GHz
Span
98MHz
RBW
500kHz
VBW
2MHz
Sweep Time
100ms
Detector Type
Sample



Port 1
Port 2

6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
37.5M	2.4332G	2.4707G	37.564M	2.433242G	2.470807G	500k	1
36.65M	2.43415G	2.4708G	37.515M	2.433291G	2.470807G	500k	2



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	19.15M	19.051M	19M1D1D	18.6M	18.929M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	37.8M	37.662M	37M7D1D	33.85M	37.319M

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)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.9M	18.929M	19M	19.027M	18.925M	19.002M	18.6M	18.929M
2437MHz	Pass	500k	19.1M	19.051M	18.95M	18.978M	18.95M	18.978M	19.15M	19.027M
2462MHz	Pass	500k	18.8M	18.954M	19M	19.002M	18.975M	19.002M	18.9M	18.954M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2422MHz	Pass	500k	36.9M	37.466M	37.15M	37.466M	36.3M	37.417M	37.1M	37.515M
2437MHz	Pass	500k	37.7M	37.662M	33.85M	37.417M	37.45M	37.466M	37.7M	37.613M
2452MHz	Pass	500k	36.55M	37.319M	37.8M	37.613M	36.7M	37.662M	36.85M	37.466M

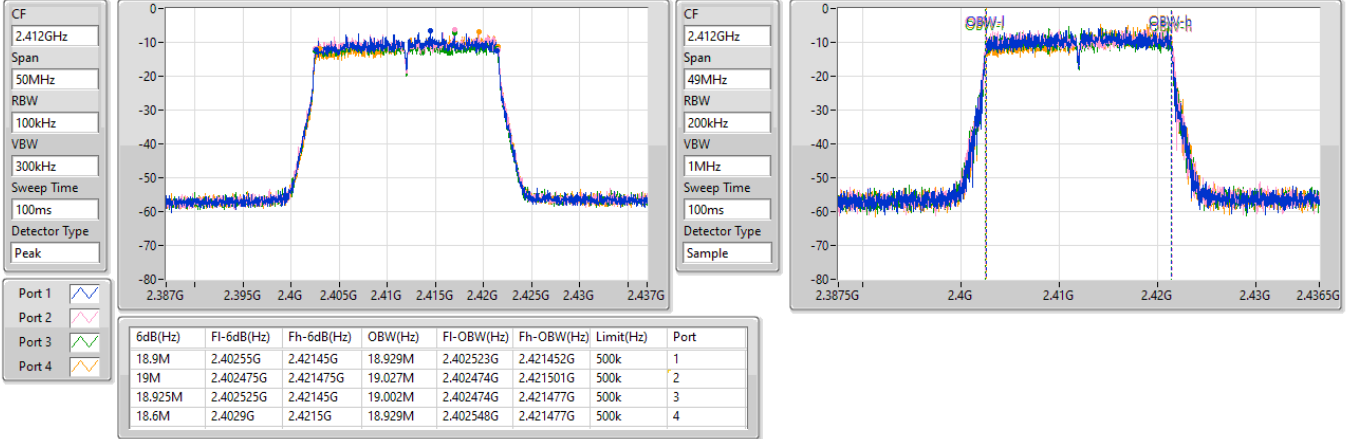
Port X-N dB = Port X 6dB down bandwidth;
 Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

2412MHz

21/12/2022

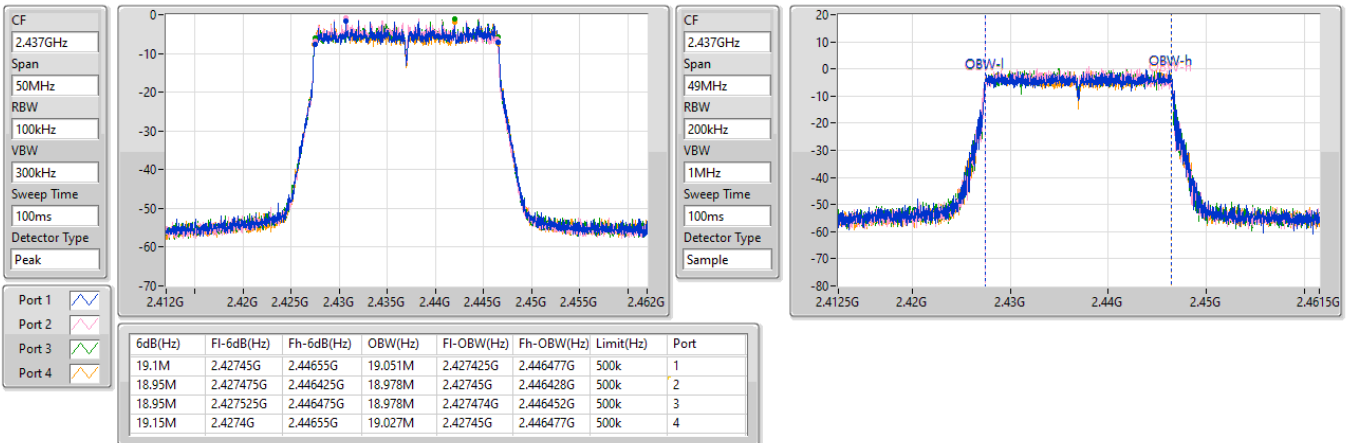


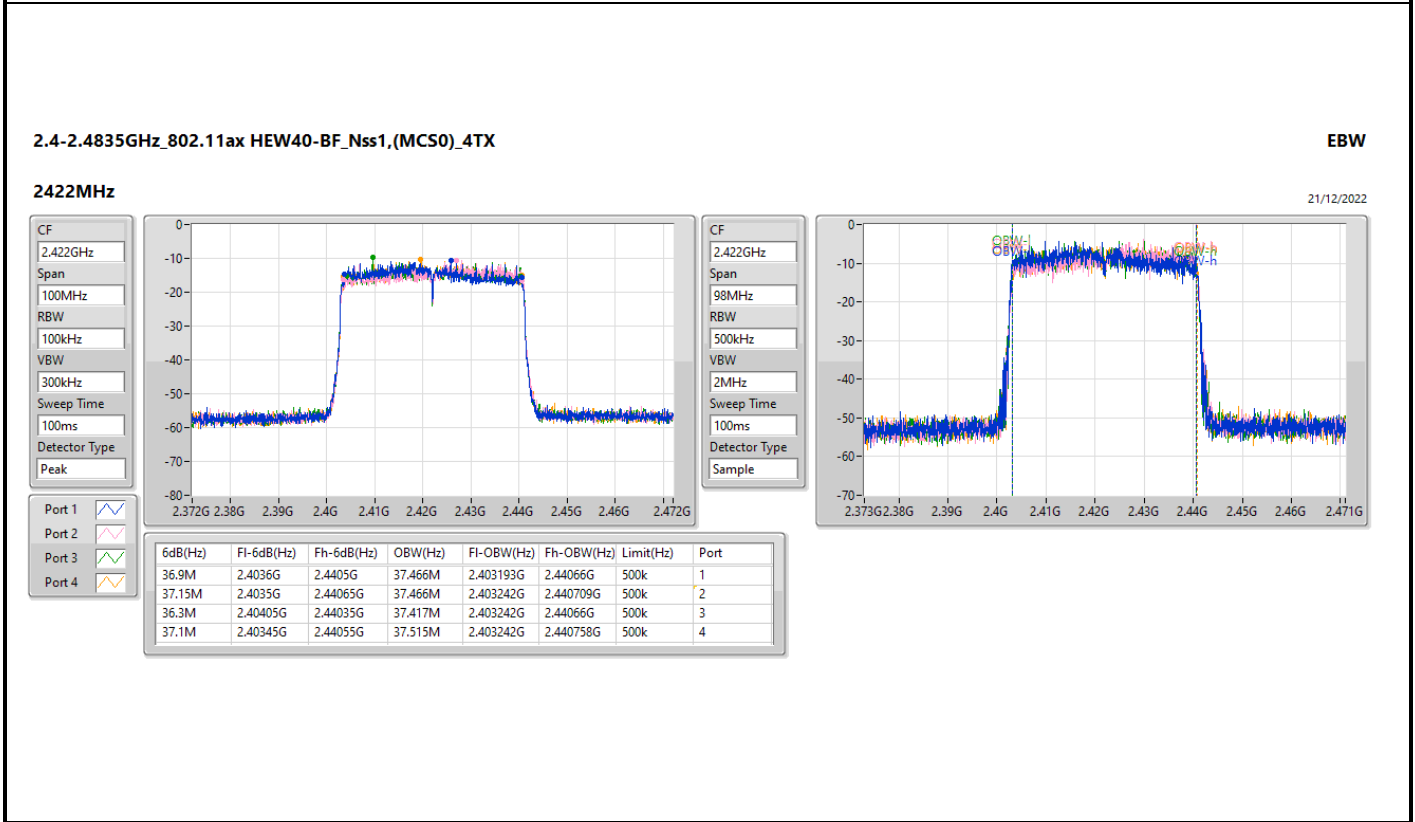
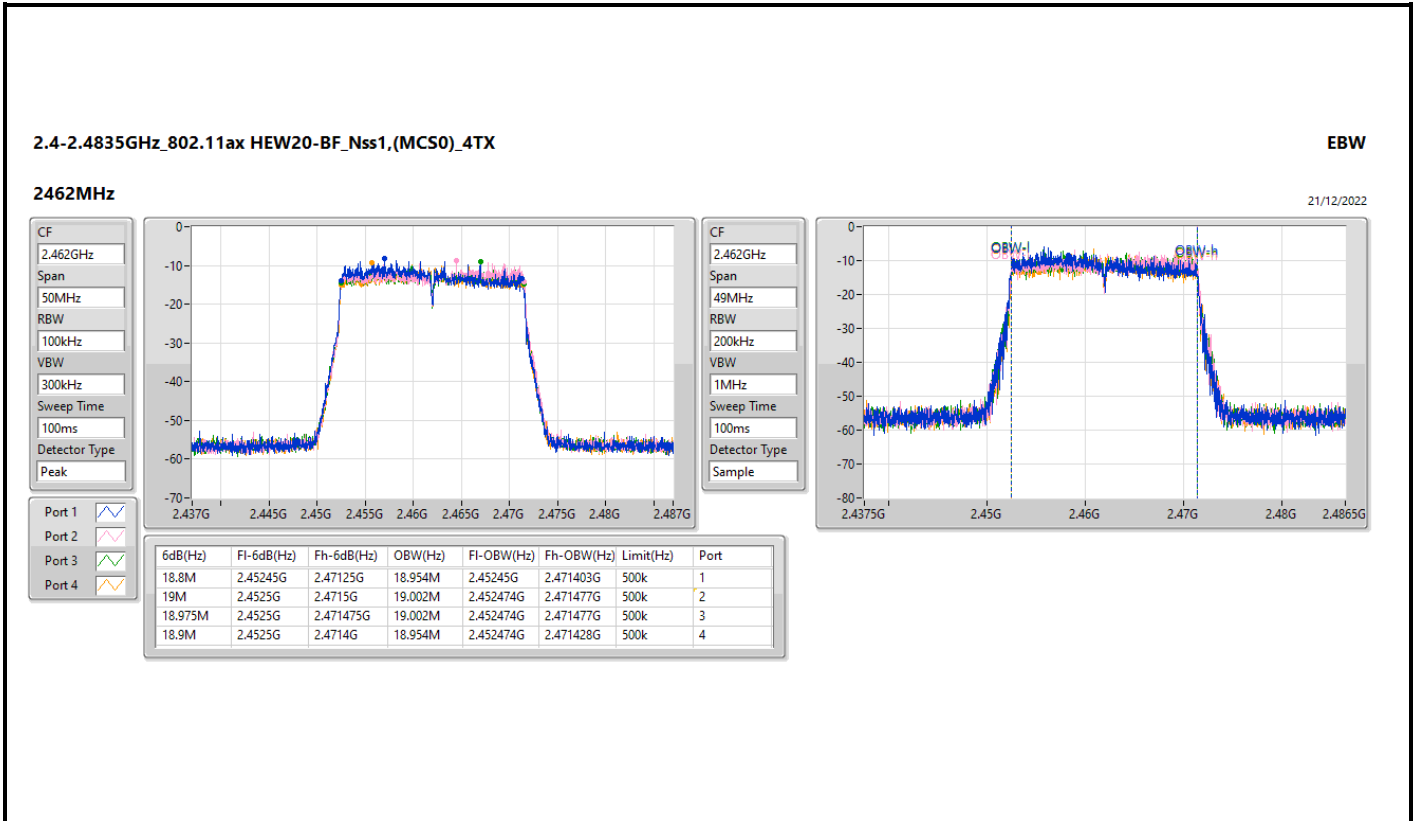
2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

2437MHz

21/12/2022



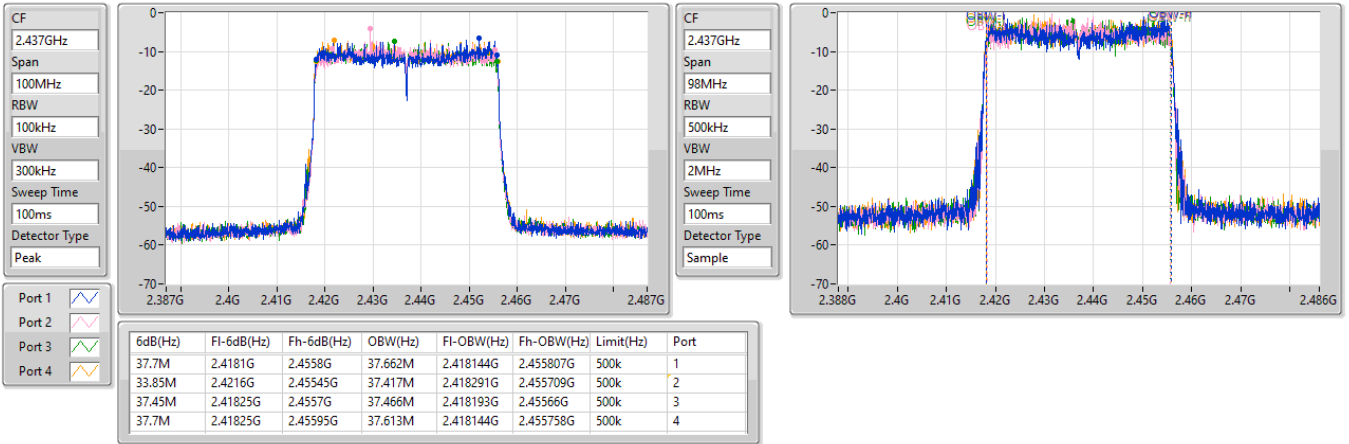


2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

2437MHz

21/12/2022

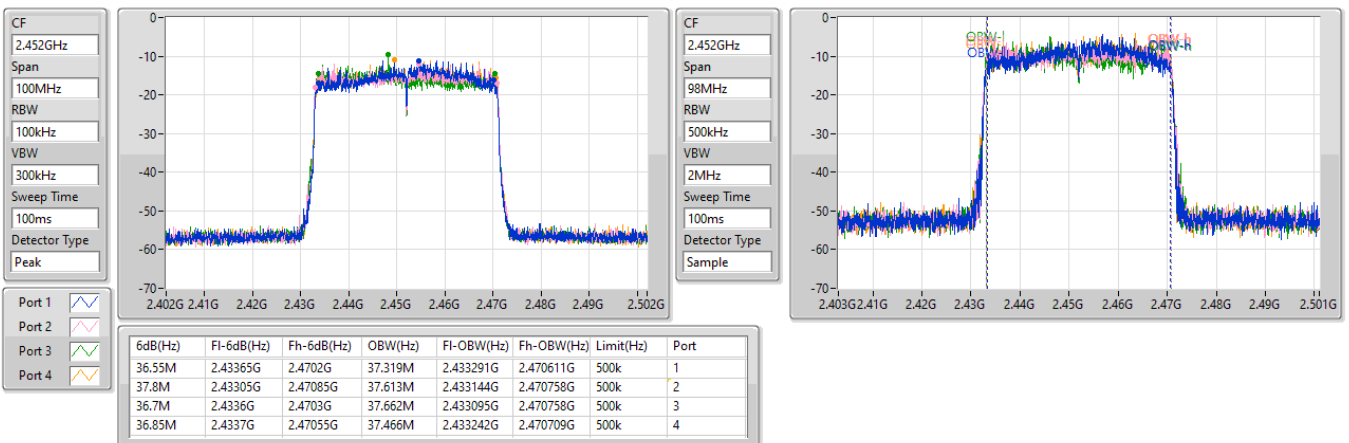


2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

2452MHz

21/12/2022





Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	19M	19.002M	19M0D1D	18.75M	18.954M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	37.75M	37.515M	37M5D1D	35.95M	37.466M

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)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	500k	18.75M	18.978M	18.9M	18.978M
2437MHz	Pass	500k	19M	19.002M	18.9M	18.978M
2462MHz	Pass	500k	18.925M	19.002M	18.9M	18.954M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	500k	36.9M	37.466M	36.65M	37.466M
2437MHz	Pass	500k	35.95M	37.466M	37.4M	37.515M
2452MHz	Pass	500k	37.75M	37.515M	37.55M	37.466M

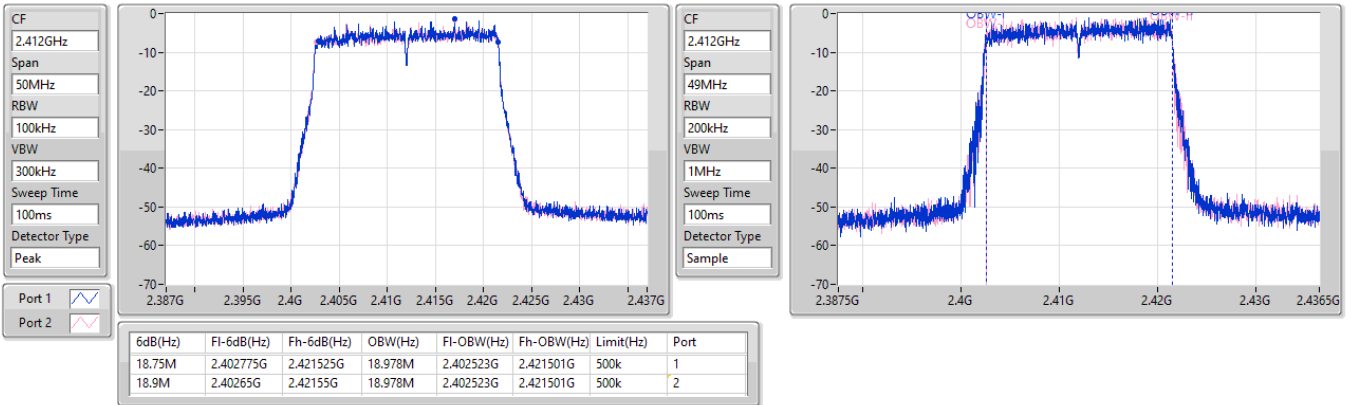
Port X-N dB = Port X 6dB down bandwidth;
 Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_2TX

EBW

2412MHz

18/12/2022

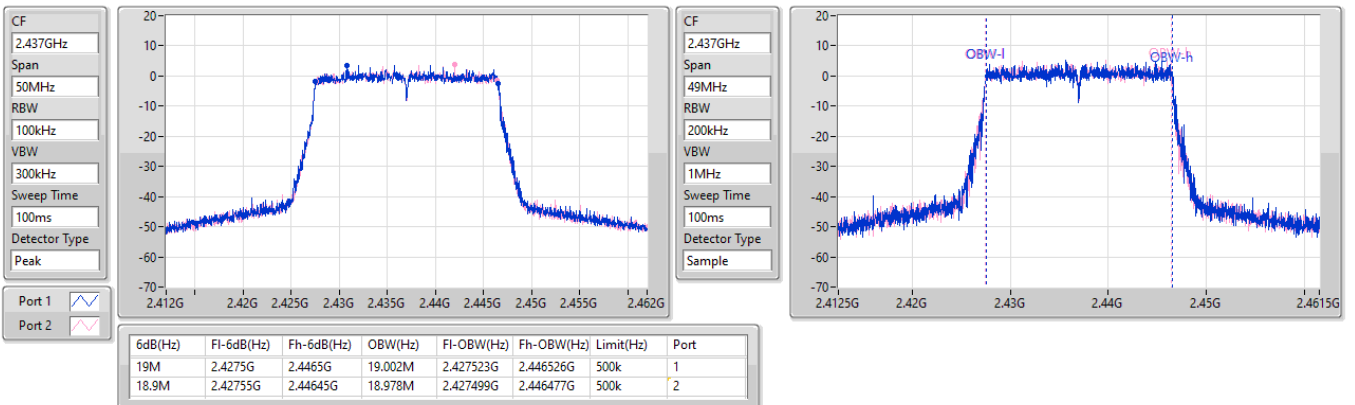


2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_2TX

EBW

2437MHz

18/12/2022

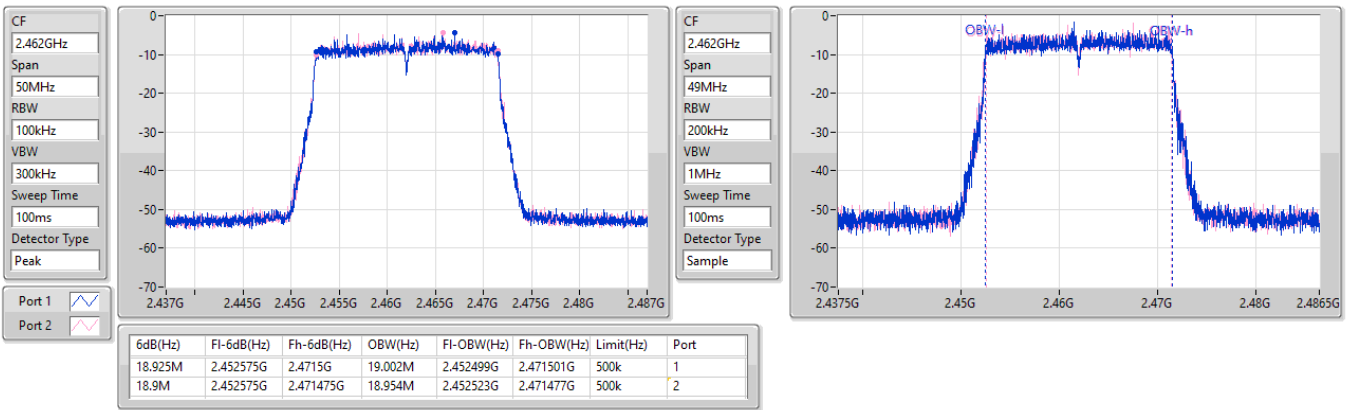


2.4-2.4835GHz_802.11ax HEW20-BF_Nss1,(MCS0)_2TX

EBW

2462MHz

18/12/2022

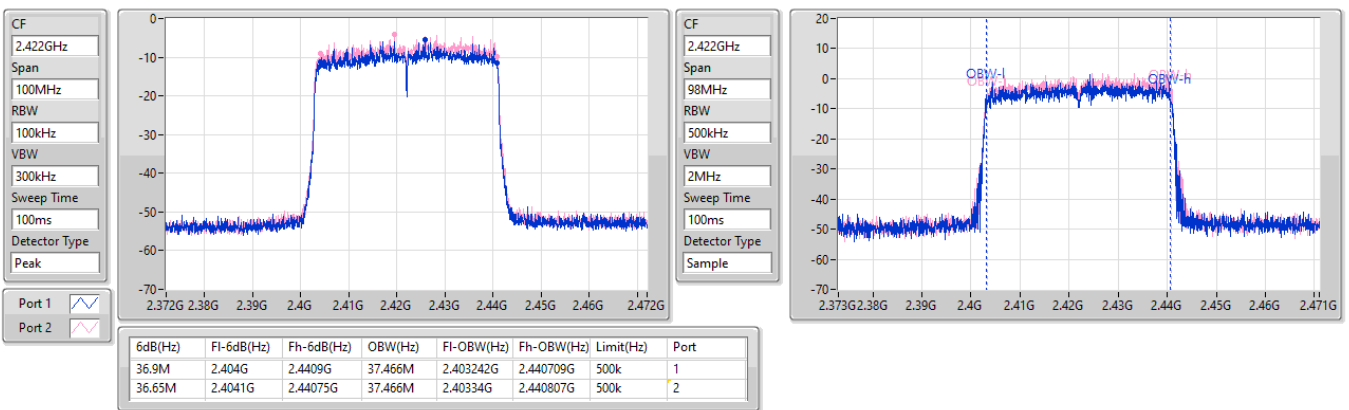


2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

2422MHz

18/12/2022

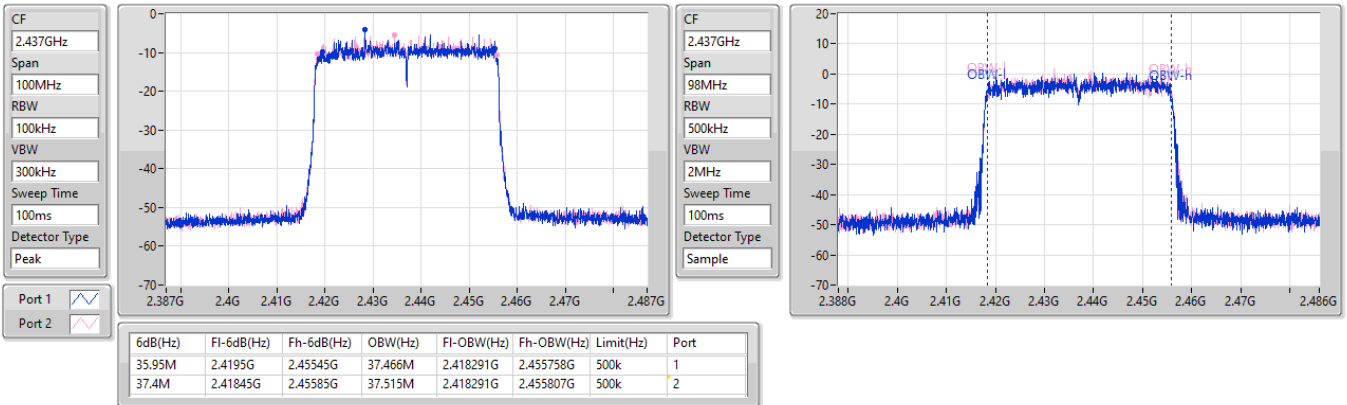


2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

2437MHz

18/12/2022

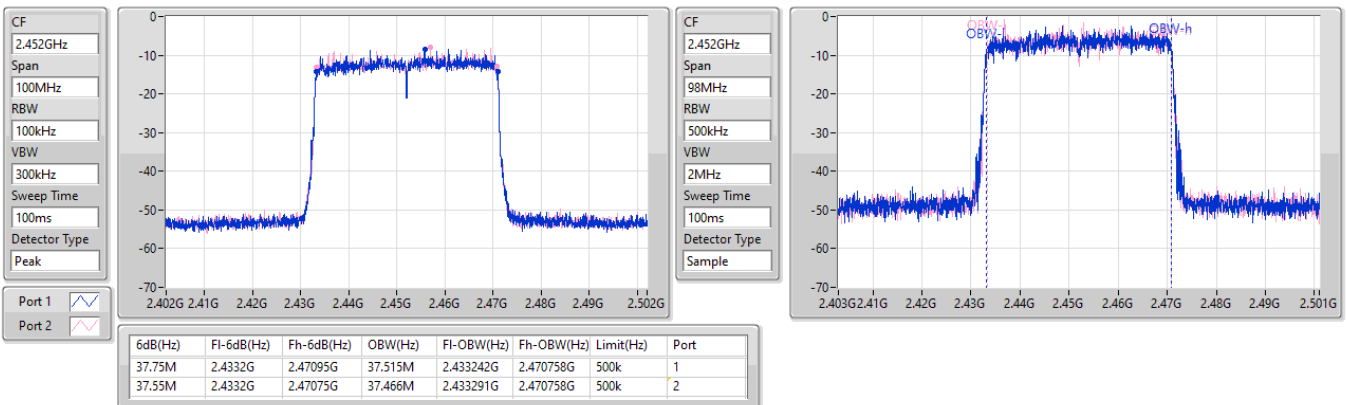


2.4-2.4835GHz_802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

2452MHz

18/12/2022





Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_4TX	22.50	0.17783
802.11g_Nss1,(6Mbps)_4TX	22.56	0.18030
802.11n HT20_Nss1,(MCS0)_4TX	21.87	0.15382
802.11n HT40_Nss1,(MCS0)_4TX	15.52	0.03565
VHT20_Nss1,(MCS0)_4TX	21.91	0.15524
VHT40_Nss1,(MCS0)_4TX	15.57	0.03606
802.11ax HEW20_Nss1,(MCS0)_4TX	22.39	0.17338
802.11ax HEW40_Nss1,(MCS0)_4TX	15.82	0.03819



Average Power_Non-Beamforming_Radio 1

Appendix C.1

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.40	16.61	16.41	15.93	16.80	22.47	22.60
2417MHz	Pass	13.40	16.51	16.49	15.49	17.03	22.44	22.60
2437MHz	Pass	13.40	15.93	16.61	15.88	16.62	22.30	22.60
2457MHz	Pass	13.40	16.45	16.28	15.51	16.88	22.33	22.60
2462MHz	Pass	13.40	16.27	16.81	15.72	17.00	22.50	22.60
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.40	15.05	14.86	15.14	14.27	20.86	22.60
2417MHz	Pass	13.40	15.76	15.90	16.32	15.12	21.82	22.60
2437MHz	Pass	13.40	16.22	16.69	17.37	15.72	22.56	22.60
2457MHz	Pass	13.40	15.13	15.14	15.37	14.80	21.14	22.60
2462MHz	Pass	13.40	11.69	11.91	11.66	11.48	17.71	22.60
802.11n HT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.40	9.14	9.12	8.34	9.39	15.04	22.60
2417MHz	Pass	13.40	13.44	13.36	13.42	12.69	19.26	22.60
2437MHz	Pass	13.40	15.56	16.07	16.73	14.79	21.87	22.60
2457MHz	Pass	13.40	10.89	11.18	10.65	10.47	16.83	22.60
2462MHz	Pass	13.40	9.31	9.24	9.47	8.67	15.20	22.60
802.11n HT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	13.40	2.08	2.69	1.57	2.27	8.19	22.60
2427MHz	Pass	13.40	9.11	9.95	8.83	10.00	15.52	22.60
2437MHz	Pass	13.40	9.19	9.27	9.26	9.24	15.26	22.60
2447MHz	Pass	13.40	8.20	9.14	7.52	8.86	14.49	22.60
2452MHz	Pass	13.40	1.44	2.38	0.46	2.15	7.69	22.60
VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.40	9.54	9.39	8.75	9.96	15.45	22.60
2417MHz	Pass	13.40	13.49	13.31	13.37	12.81	19.27	22.60
2437MHz	Pass	13.40	15.74	15.93	16.67	15.06	21.91	22.60
2457MHz	Pass	13.40	11.07	11.15	10.80	10.53	16.91	22.60
2462MHz	Pass	13.40	9.39	9.22	9.44	8.76	15.23	22.60
VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	13.40	2.02	2.81	1.44	2.32	8.20	22.60
2427MHz	Pass	13.40	9.10	9.99	8.75	10.18	15.57	22.60
2437MHz	Pass	13.40	9.07	9.13	9.58	9.39	15.32	22.60
2447MHz	Pass	13.40	8.23	9.18	7.58	8.88	14.53	22.60
2452MHz	Pass	13.40	1.38	2.42	0.65	2.12	7.72	22.60
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.40	10.04	10.06	9.29	10.41	15.99	22.60
2417MHz	Pass	13.40	13.37	13.54	13.65	12.74	19.36	22.60
2437MHz	Pass	13.40	16.16	16.46	17.10	15.64	22.39	22.60
2457MHz	Pass	13.40	11.19	11.23	10.89	10.49	16.98	22.60
2462MHz	Pass	13.40	9.18	9.67	9.46	9.21	15.41	22.60
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	13.40	2.19	2.97	1.35	2.52	8.32	22.60
2427MHz	Pass	13.40	9.31	10.22	9.33	10.23	15.82	22.60
2437MHz	Pass	13.40	9.33	9.32	9.69	9.37	15.45	22.60
2447MHz	Pass	13.40	8.56	9.53	7.97	9.15	14.86	22.60
2452MHz	Pass	13.40	1.86	2.87	1.10	2.55	8.17	22.60

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



Average Power_Non-Beamforming_Radio 3

Appendix C.2

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_2TX	22.34	0.17140
802.11g_Nss1,(6Mbps)_2TX	20.50	0.11220
802.11n HT20_Nss1,(MCS0)_2TX	18.03	0.06353
802.11n HT40_Nss1,(MCS0)_2TX	14.76	0.02992
VHT20_Nss1,(MCS0)_2TX	18.06	0.06397
VHT40_Nss1,(MCS0)_2TX	14.88	0.03076
802.11ax HEW20_Nss1,(MCS0)_2TX	18.38	0.06887
802.11ax HEW40_Nss1,(MCS0)_2TX	15.07	0.03214



Average Power_Non-Beamforming_Radio 3

Appendix C.2

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	13.40	19.29	19.36	22.34	22.60
2417MHz	Pass	13.40	19.25	19.33	22.30	22.60
2437MHz	Pass	13.40	18.59	18.93	21.77	22.60
2457MHz	Pass	13.40	17.77	18.18	20.99	22.60
2462MHz	Pass	13.40	15.86	16.42	19.16	22.60
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	13.40	11.48	11.55	14.53	22.60
2417MHz	Pass	13.40	17.46	17.52	20.50	22.60
2437MHz	Pass	13.40	16.10	16.25	19.19	22.60
2457MHz	Pass	13.40	14.35	14.40	17.39	22.60
2462MHz	Pass	13.40	12.99	13.34	16.18	22.60
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	13.40	11.90	12.19	15.06	22.60
2417MHz	Pass	13.40	14.94	15.10	18.03	22.60
2437MHz	Pass	13.40	12.26	12.35	15.32	22.60
2457MHz	Pass	13.40	12.38	12.54	15.47	22.60
2462MHz	Pass	13.40	11.00	11.12	14.07	22.60
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	13.40	9.57	10.21	12.91	22.60
2427MHz	Pass	13.40	10.50	11.07	13.80	22.60
2437MHz	Pass	13.40	11.52	11.97	14.76	22.60
2447MHz	Pass	13.40	9.42	9.70	12.57	22.60
2452MHz	Pass	13.40	11.51	11.84	14.69	22.60
VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	13.40	12.04	12.11	15.09	22.60
2417MHz	Pass	13.40	15.08	15.01	18.06	22.60
2437MHz	Pass	13.40	12.39	12.82	15.62	22.60
2457MHz	Pass	13.40	12.49	12.74	15.63	22.60
2462MHz	Pass	13.40	11.07	11.39	14.24	22.60
VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	13.40	9.79	10.26	13.04	22.60
2427MHz	Pass	13.40	10.48	11.19	13.86	22.60
2437MHz	Pass	13.40	11.62	12.11	14.88	22.60
2447MHz	Pass	13.40	9.47	9.74	12.62	22.60
2452MHz	Pass	13.40	11.50	12.12	14.83	22.60
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	13.40	12.37	12.42	15.41	22.60
2417MHz	Pass	13.40	15.38	15.36	18.38	22.60
2437MHz	Pass	13.40	12.71	12.76	15.75	22.60
2457MHz	Pass	13.40	12.96	13.16	16.07	22.60
2462MHz	Pass	13.40	11.32	11.68	14.51	22.60
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	13.40	9.99	10.58	13.31	22.60
2427MHz	Pass	13.40	10.94	11.43	14.20	22.60
2437MHz	Pass	13.40	11.73	12.37	15.07	22.60
2447MHz	Pass	13.40	9.67	10.17	12.94	22.60
2452MHz	Pass	13.40	11.79	12.23	15.03	22.60

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



Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	16.48	0.04446
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	14.04	0.02535



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.42	4.78	5.07	4.43	4.55	10.74	16.58
2417MHz	Pass	19.42	8.50	8.03	8.27	8.13	14.26	16.58
2437MHz	Pass	19.42	10.55	10.79	10.13	10.35	16.48	16.58
2457MHz	Pass	19.42	7.33	7.50	7.66	7.17	13.44	16.58
2462MHz	Pass	19.42	3.56	3.38	2.91	2.31	9.09	16.58
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	19.42	3.61	3.39	3.38	3.58	9.51	16.58
2427MHz	Pass	19.42	4.65	4.09	5.20	4.95	10.76	16.58
2437MHz	Pass	19.42	7.90	8.22	8.07	7.89	14.04	16.58
2447MHz	Pass	19.42	4.01	3.74	4.14	3.54	9.88	16.58
2452MHz	Pass	19.42	3.19	2.90	2.66	2.80	8.91	16.58

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



Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	18.78	0.07551
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	13.02	0.02004



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	16.41	9.73	10.36	13.07	19.59
2417MHz	Pass	16.41	14.37	14.63	17.51	19.59
2437MHz	Pass	16.41	15.89	15.65	18.78	19.59
2457MHz	Pass	16.41	12.06	11.34	14.73	19.59
2462MHz	Pass	16.41	7.08	7.75	10.44	19.59
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	16.41	9.01	10.82	13.02	19.59
2427MHz	Pass	16.41	7.83	6.91	10.40	19.59
2437MHz	Pass	16.41	9.52	9.47	12.51	19.59
2447MHz	Pass	16.41	7.13	7.03	10.09	19.59
2452MHz	Pass	16.41	6.79	6.64	9.73	19.59

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_4TX	-8.40
802.11g_Nss1,(6Mbps)_4TX	-8.38
802.11n HT20_Nss1,(MCS0)_4TX	-10.41
802.11n HT40_Nss1,(MCS0)_4TX	-18.43
VHT20_Nss1,(MCS0)_4TX	-9.76
VHT40_Nss1,(MCS0)_4TX	-18.06
802.11ax HEW20_Nss1,(MCS0)_4TX	-9.81
802.11ax HEW40_Nss1,(MCS0)_4TX	-18.96

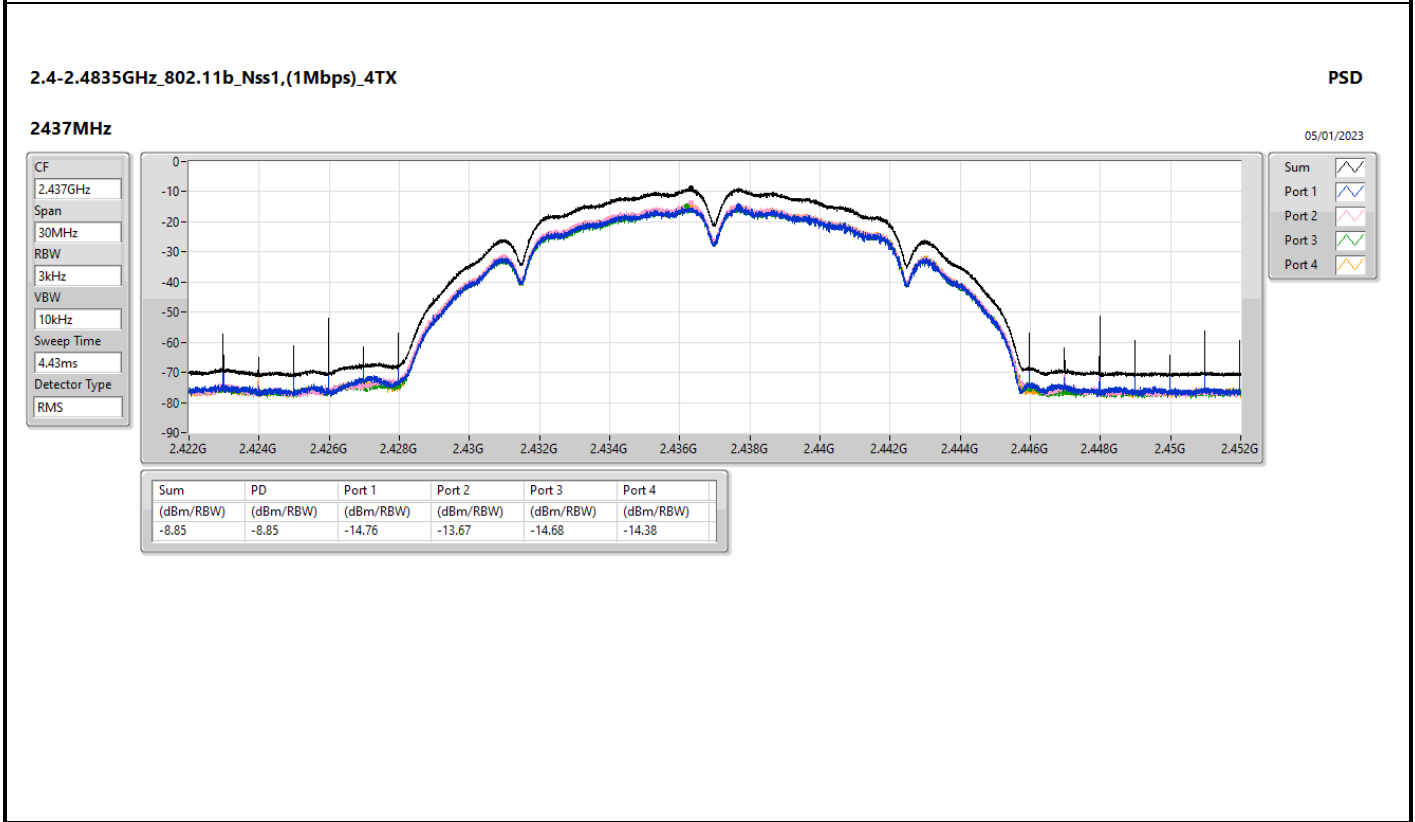
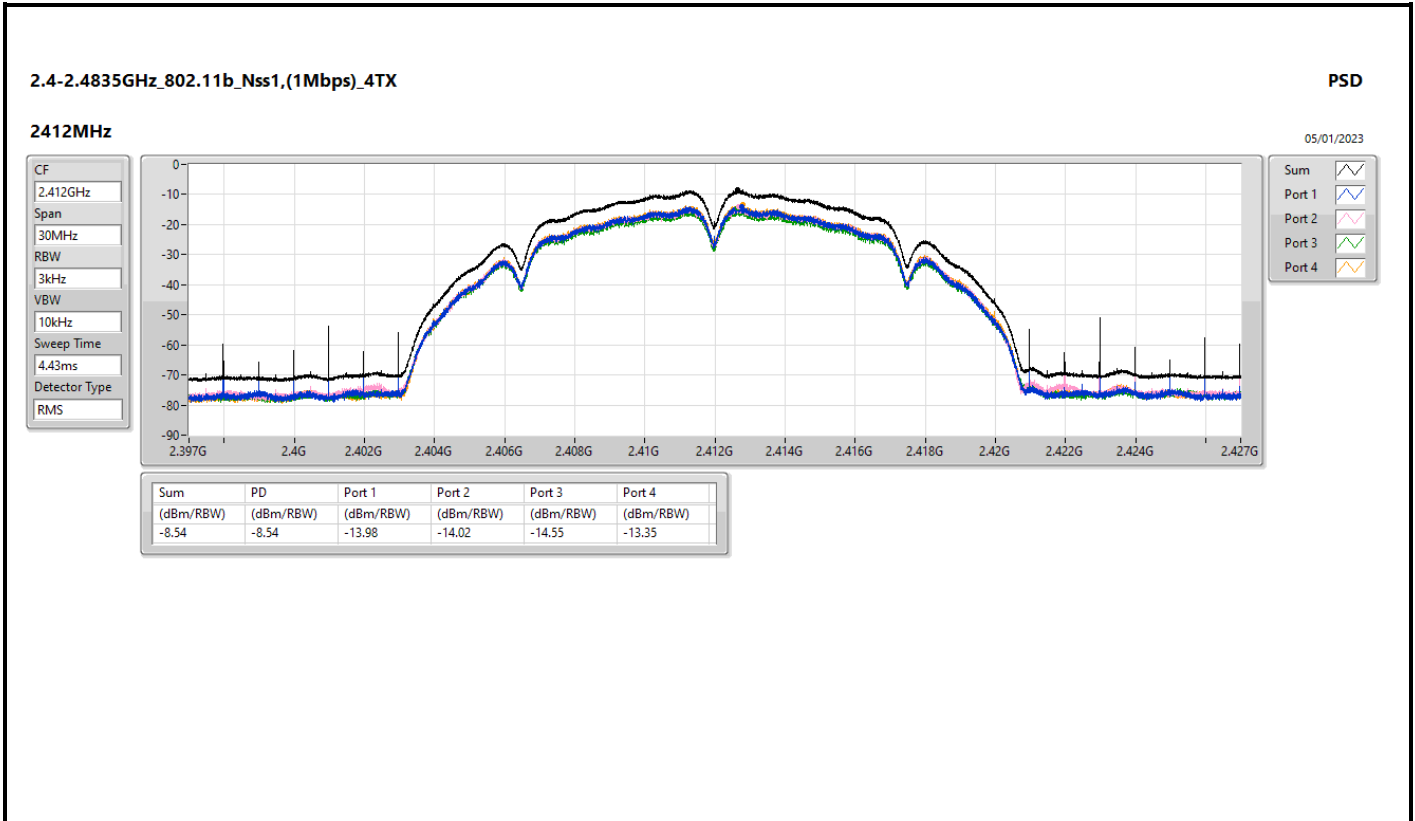
RBW = 3kHz;

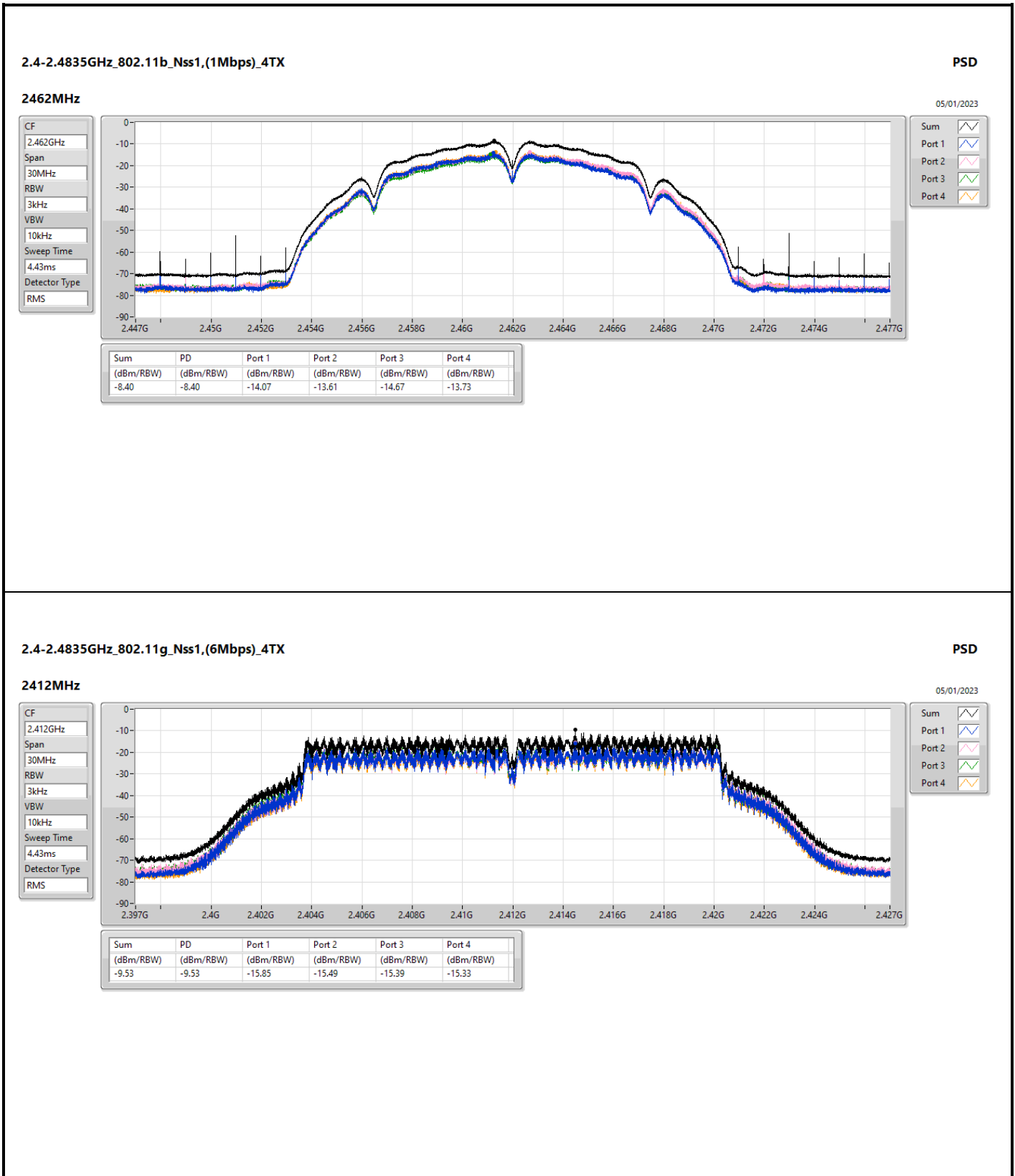


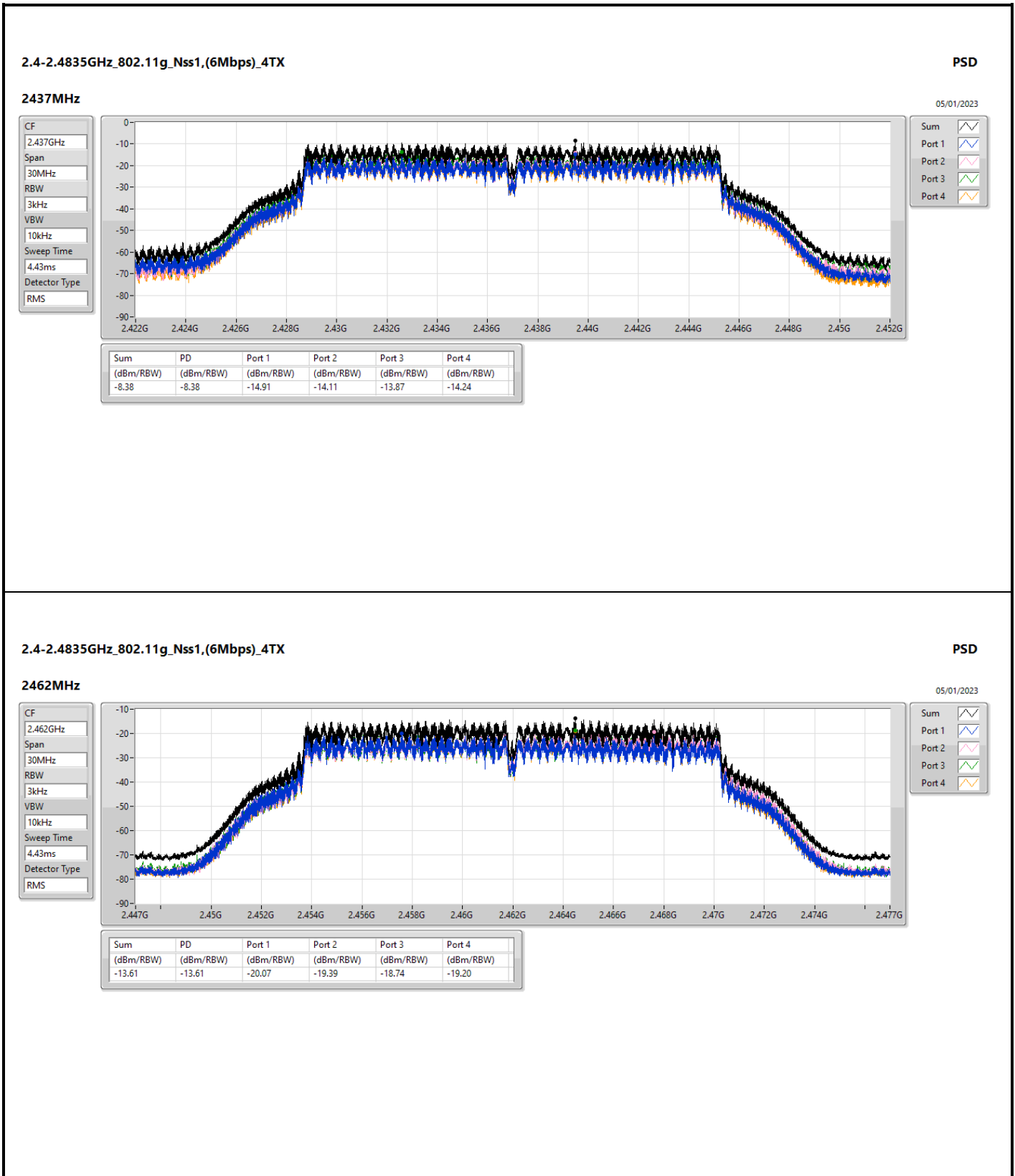
Result

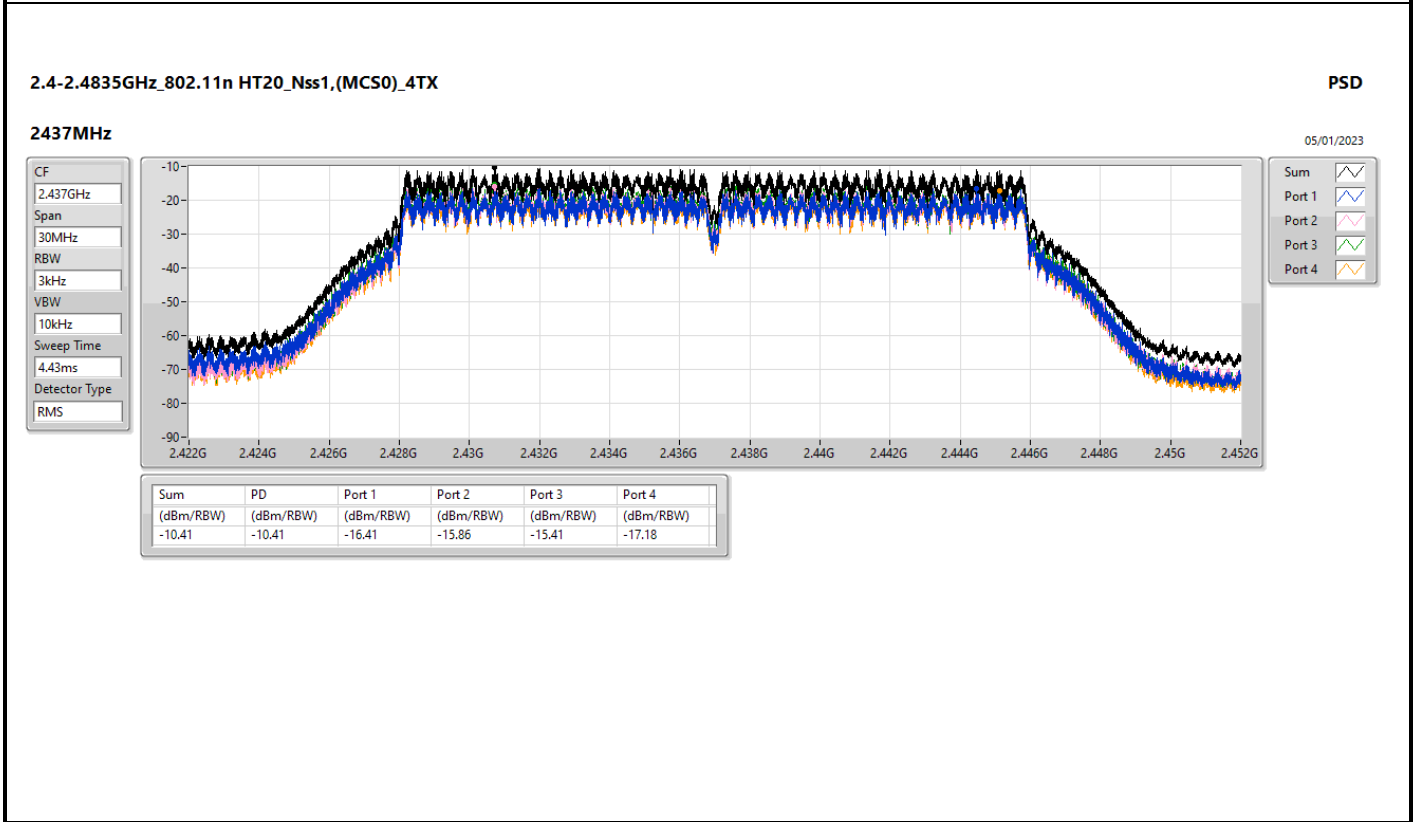
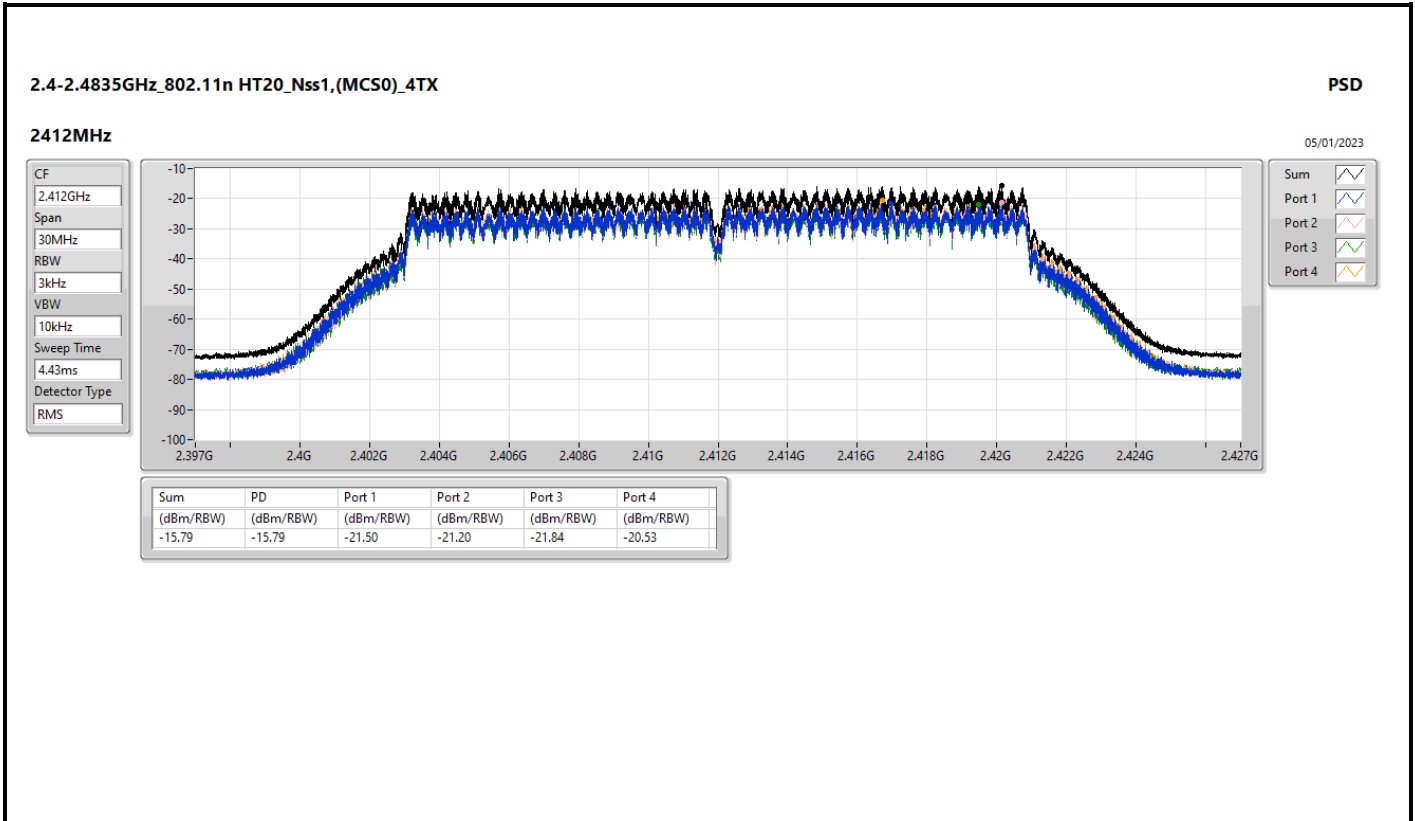
Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.42	-13.98	-14.02	-14.55	-13.35	-8.54	-5.42
2437MHz	Pass	19.42	-14.76	-13.67	-14.68	-14.38	-8.85	-5.42
2462MHz	Pass	19.42	-14.07	-13.61	-14.67	-13.73	-8.40	-5.42
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.42	-15.85	-15.49	-15.39	-15.33	-9.53	-5.42
2437MHz	Pass	19.42	-14.91	-14.11	-13.87	-14.24	-8.38	-5.42
2462MHz	Pass	19.42	-20.07	-19.39	-18.74	-19.20	-13.61	-5.42
802.11n HT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.42	-21.50	-21.20	-21.84	-20.53	-15.79	-5.42
2437MHz	Pass	19.42	-16.41	-15.86	-15.41	-17.18	-10.41	-5.42
2462MHz	Pass	19.42	-24.23	-23.78	-24.11	-24.71	-18.91	-5.42
802.11n HT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	19.42	-33.26	-33.29	-32.65	-32.22	-27.01	-5.42
2437MHz	Pass	19.42	-24.26	-23.96	-23.88	-23.78	-18.43	-5.42
2452MHz	Pass	19.42	-32.17	-33.37	-33.47	-32.43	-26.98	-5.42
VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.42	-22.88	-23.06	-23.28	-23.49	-17.29	-5.42
2437MHz	Pass	19.42	-15.70	-15.69	-15.01	-16.07	-9.76	-5.42
2462MHz	Pass	19.42	-24.13	-23.49	-23.83	-23.45	-17.78	-5.42
VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	19.42	-32.69	-31.66	-33.40	-32.58	-27.75	-5.42
2437MHz	Pass	19.42	-24.57	-23.87	-23.28	-24.39	-18.06	-5.42
2452MHz	Pass	19.42	-32.84	-31.65	-33.53	-33.09	-27.34	-5.42
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.42	-23.21	-23.31	-23.12	-24.36	-17.72	-5.42
2437MHz	Pass	19.42	-15.58	-15.54	-14.83	-16.40	-9.81	-5.42
2462MHz	Pass	19.42	-23.72	-23.96	-23.55	-23.37	-17.73	-5.42
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	19.42	-33.87	-32.58	-33.82	-33.87	-28.49	-5.42
2437MHz	Pass	19.42	-24.88	-24.74	-24.04	-24.12	-18.96	-5.42
2452MHz	Pass	19.42	-33.50	-31.85	-34.57	-33.74	-28.26	-5.42

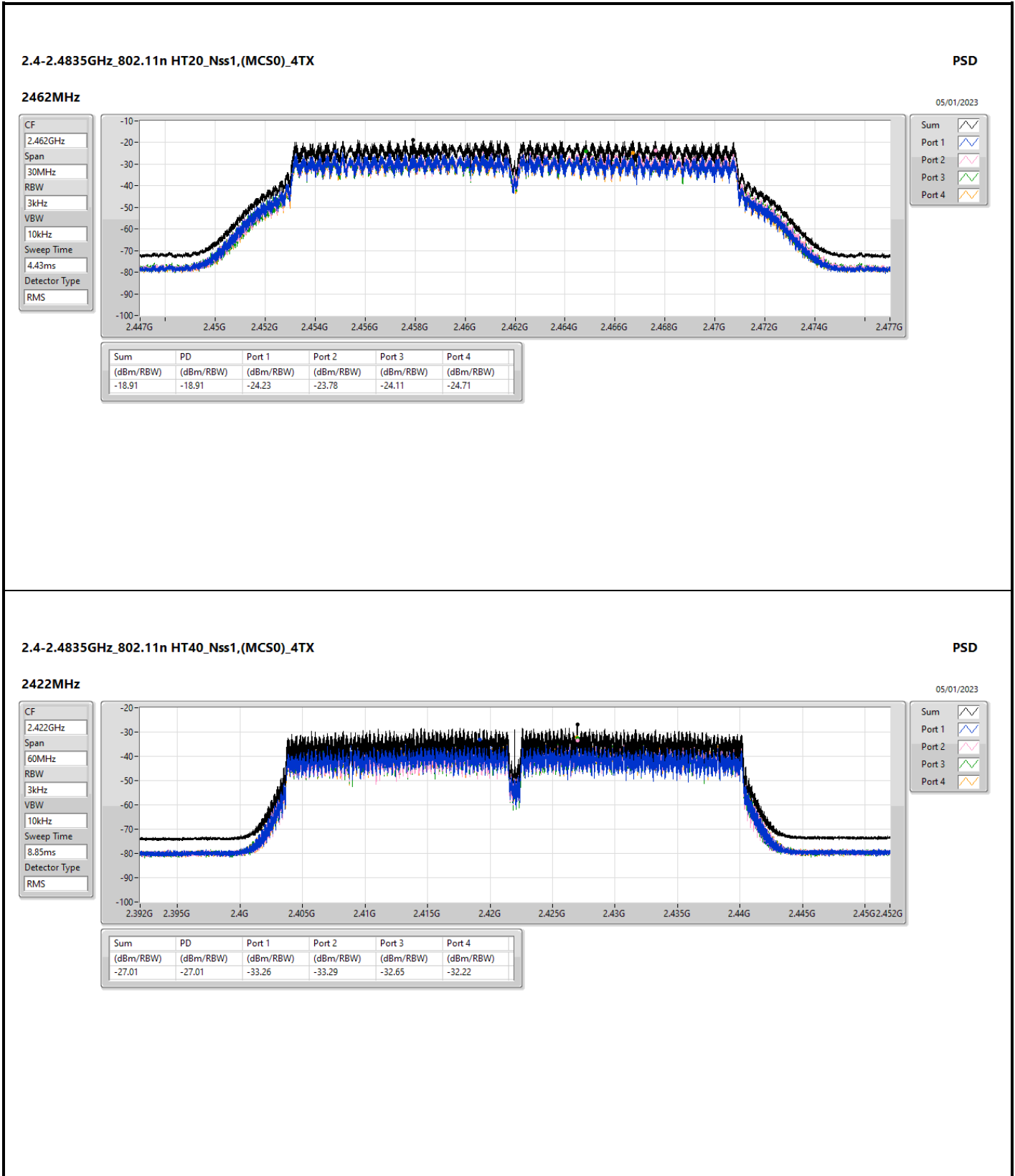
DG = Directional Gain; RBW = 3kHz;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

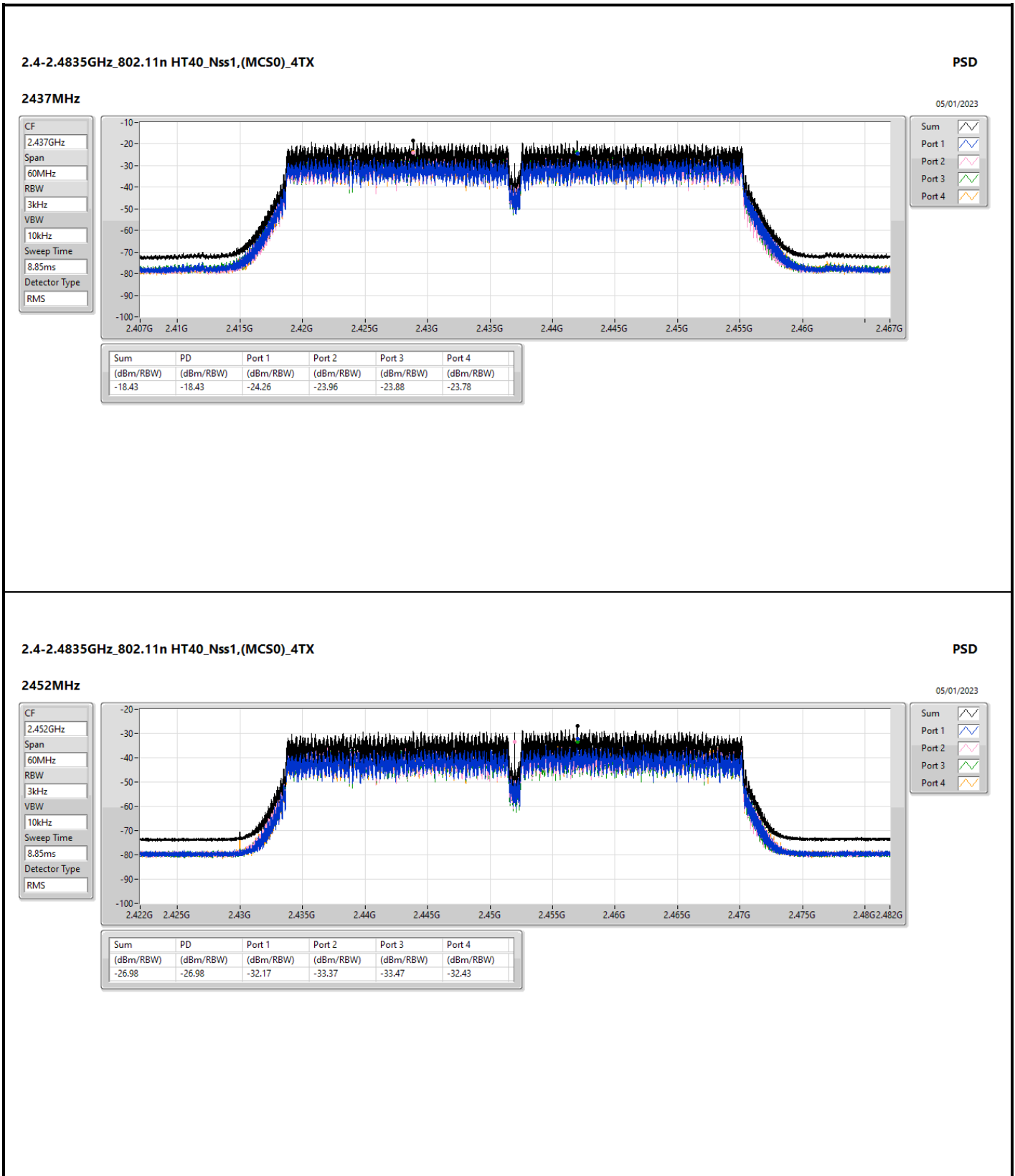


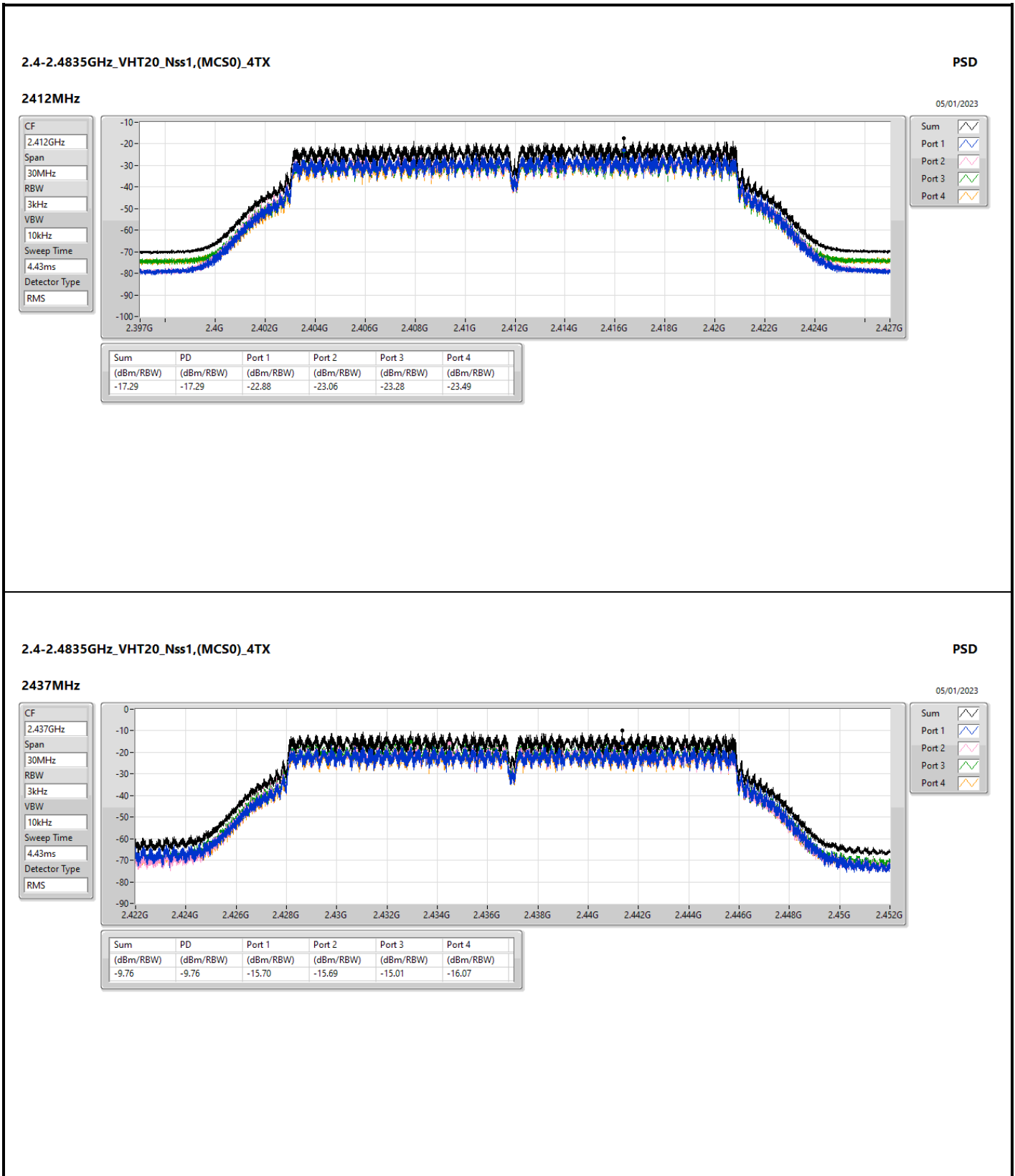


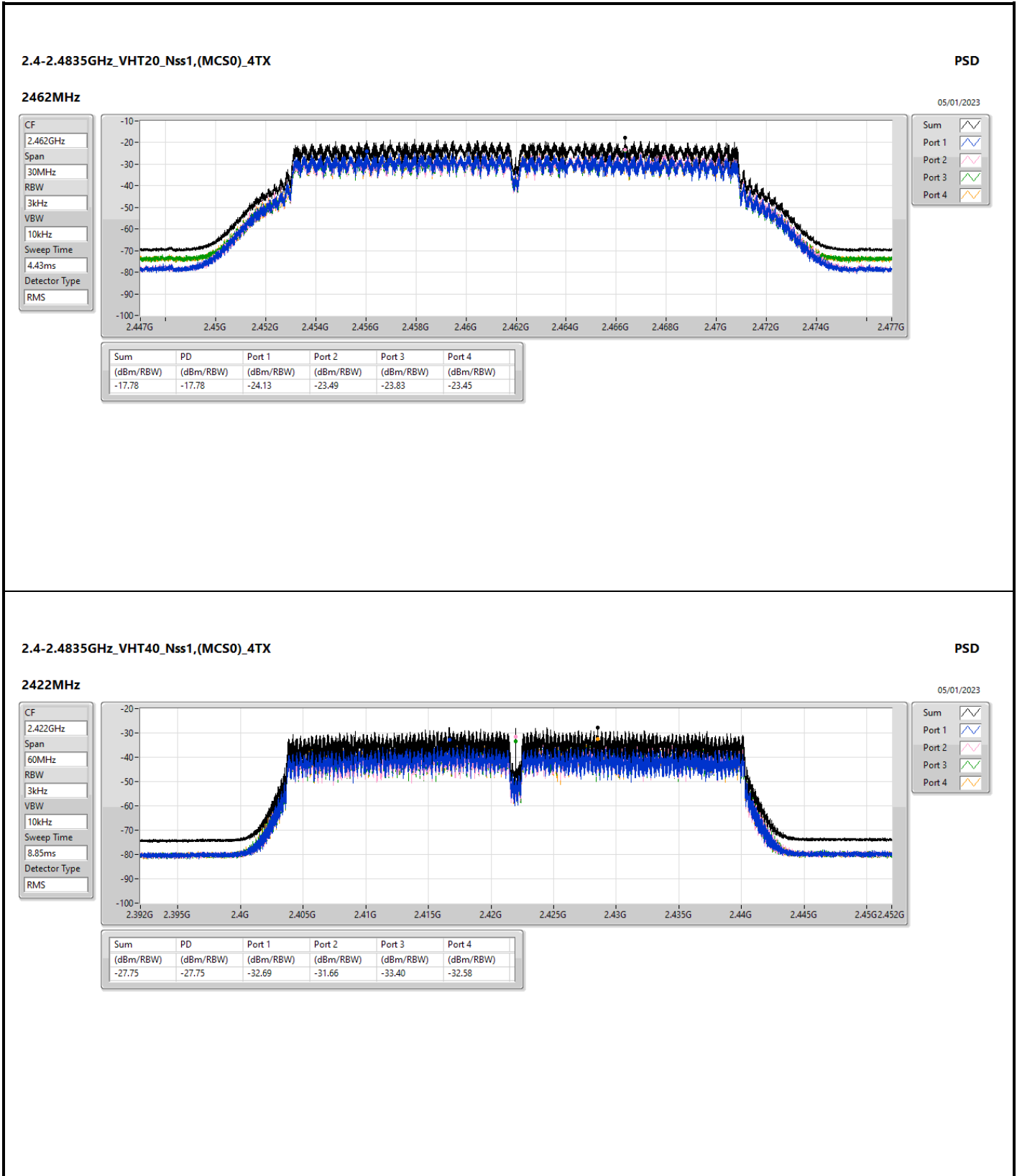


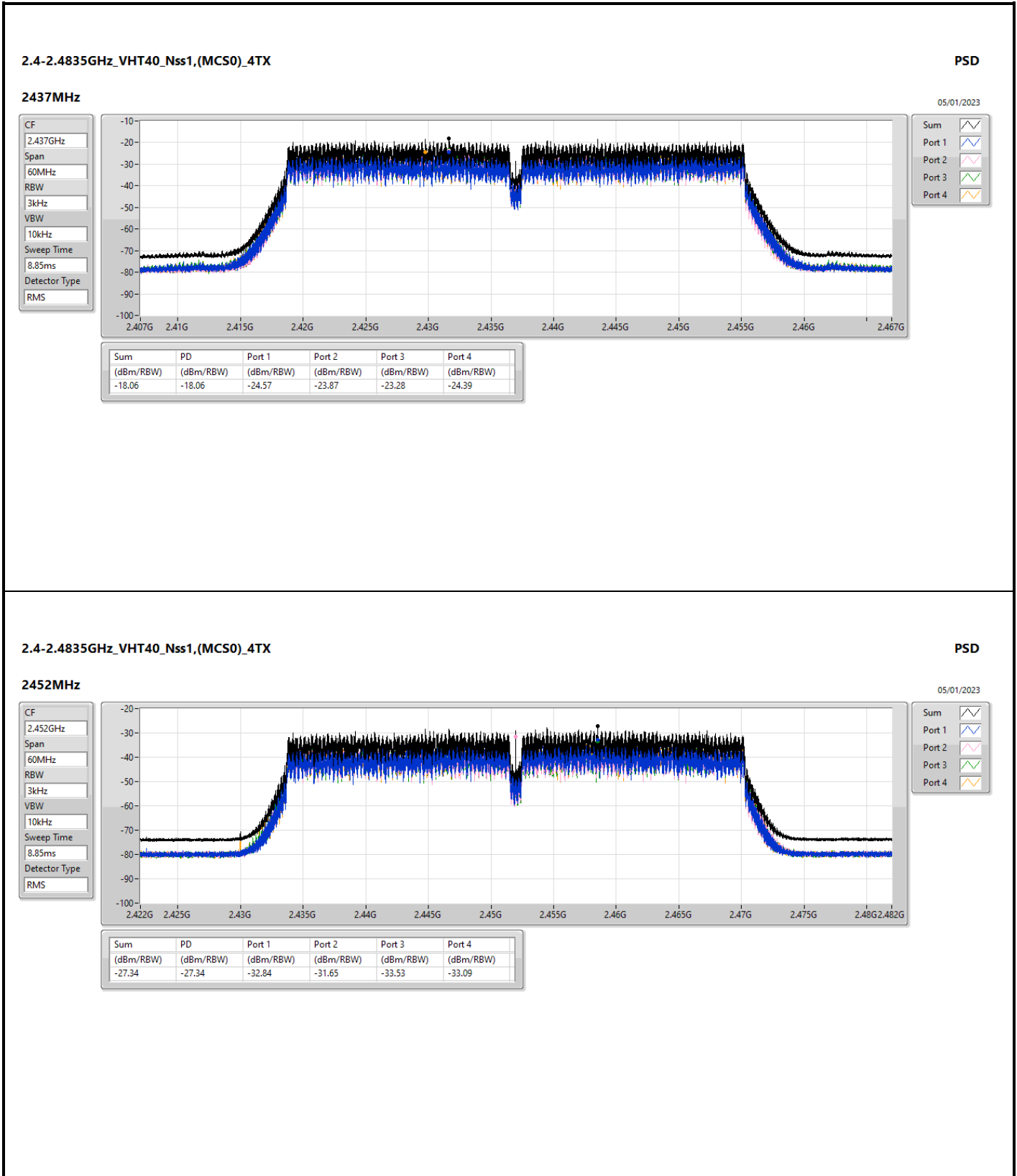


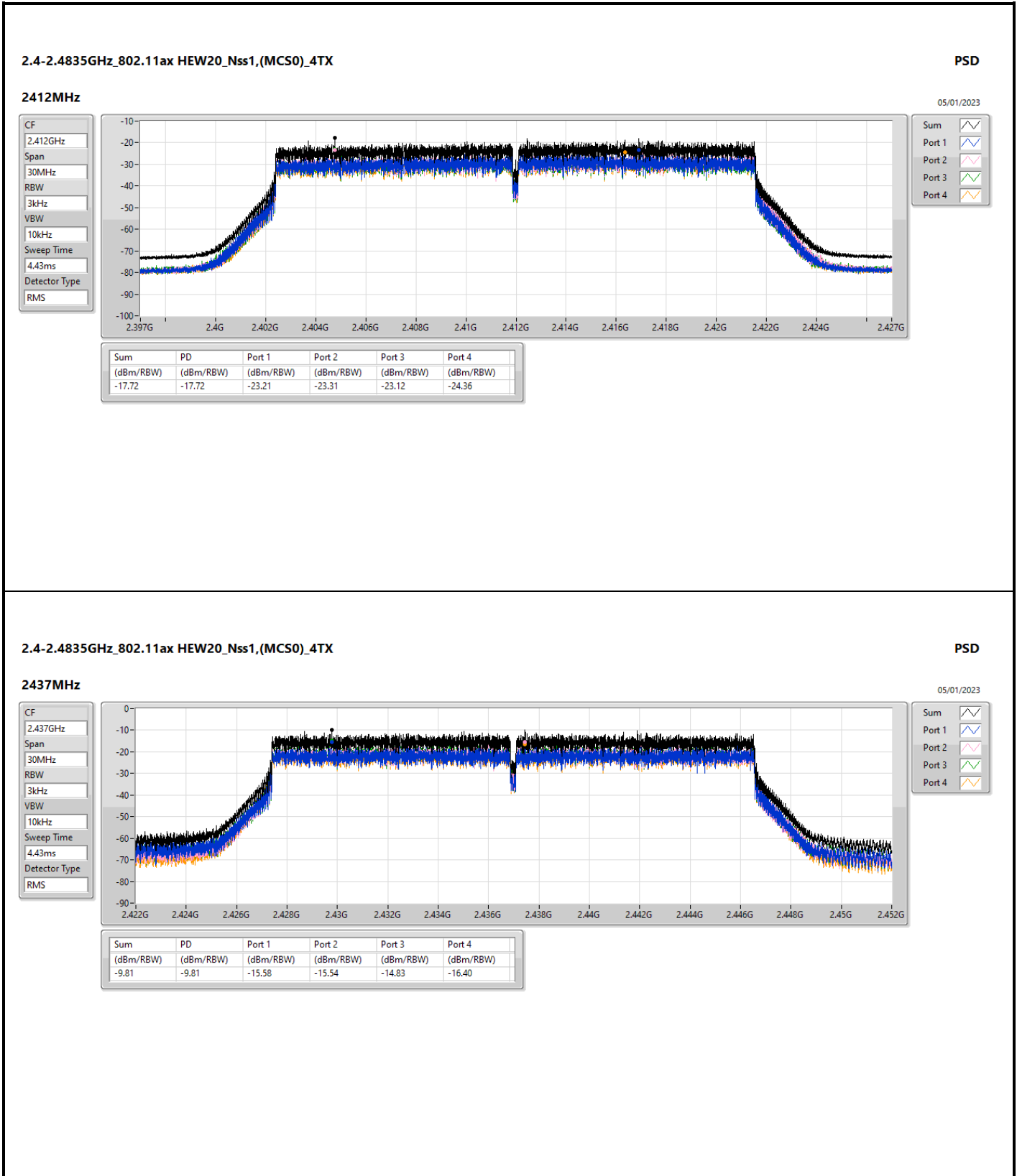


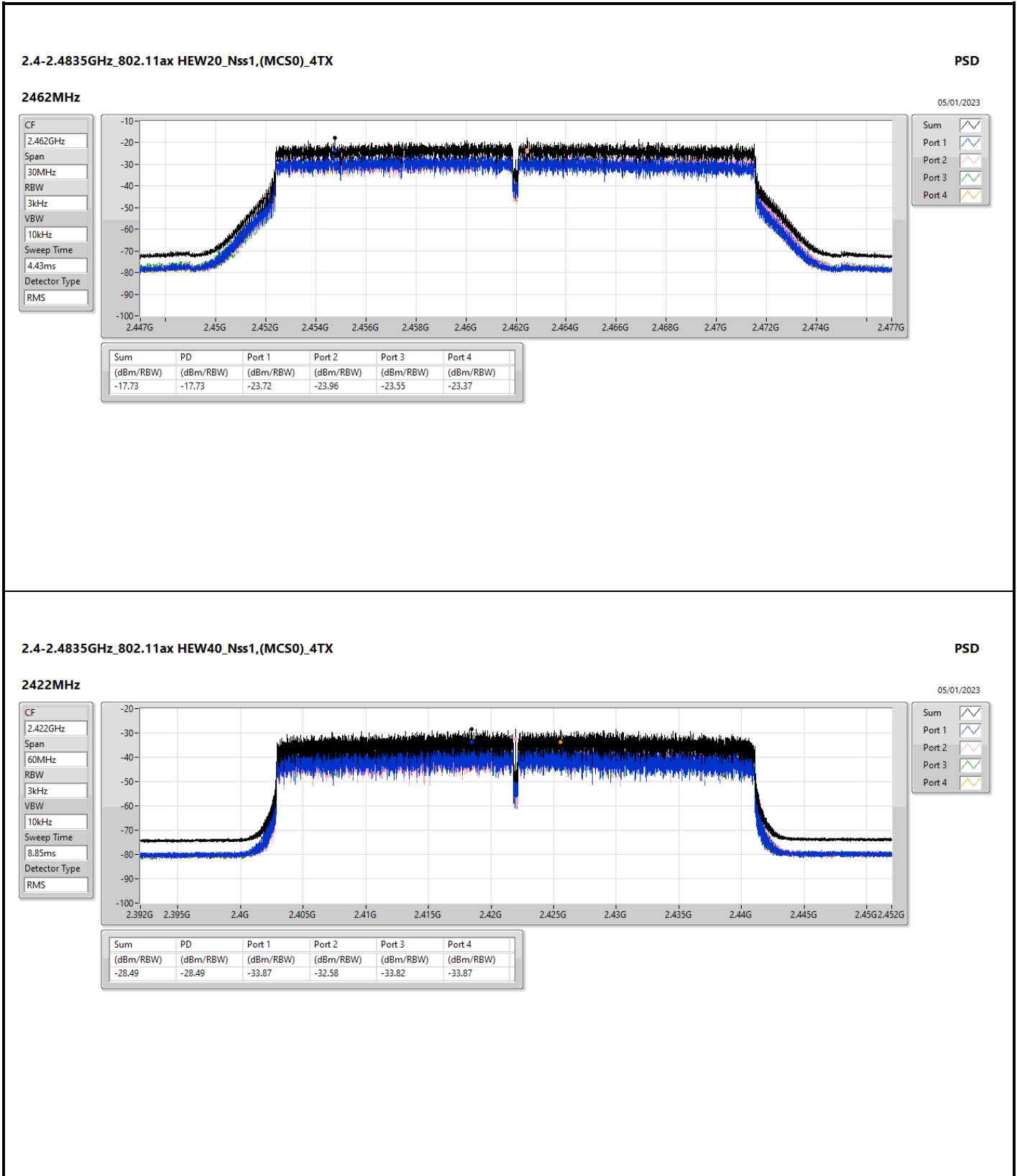


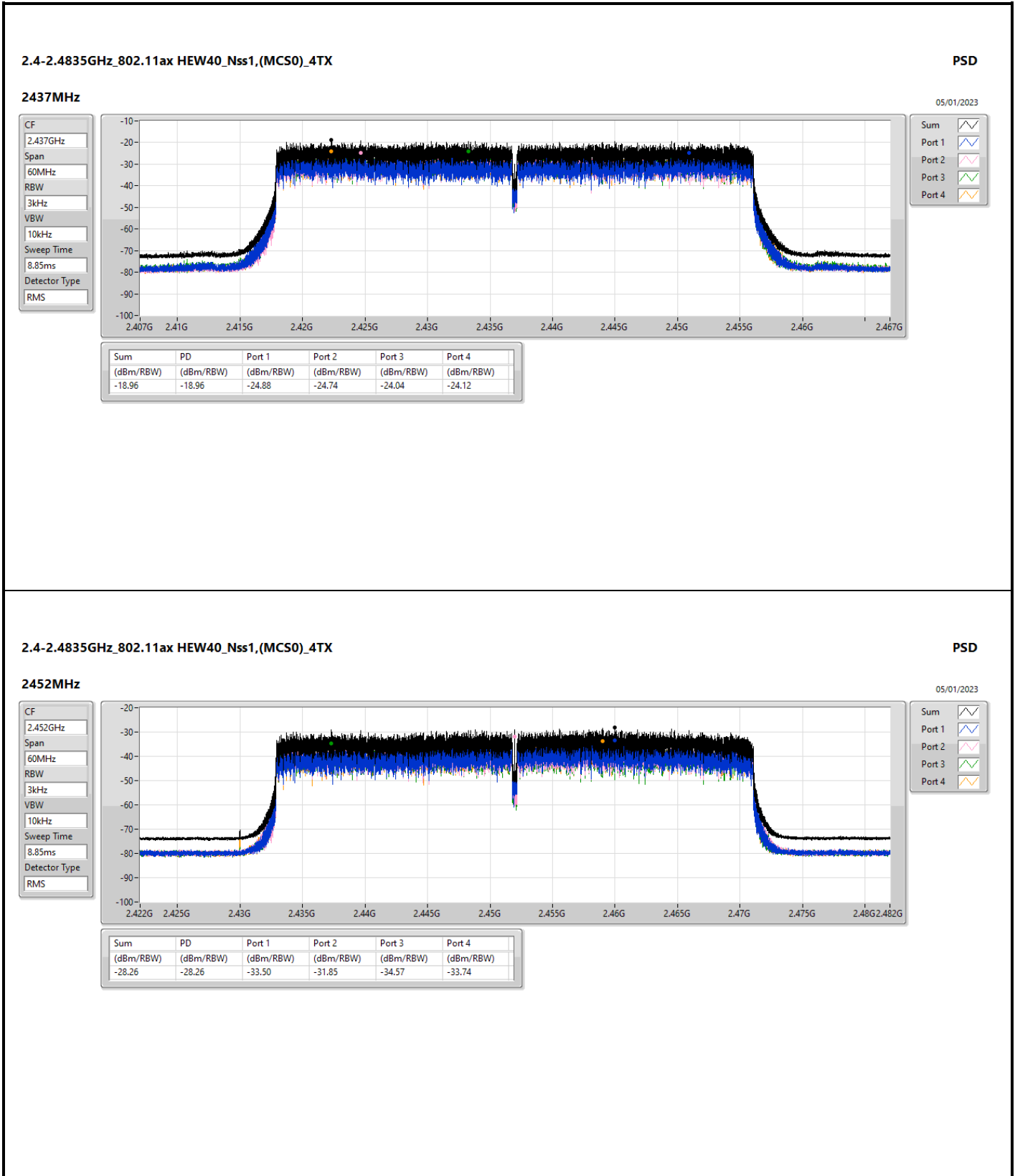














Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_2TX	-8.96
802.11g_Nss1,(6Mbps)_2TX	-11.62
802.11n HT20_Nss1,(MCS0)_2TX	-16.75
802.11n HT40_Nss1,(MCS0)_2TX	-18.78
VHT20_Nss1,(MCS0)_2TX	-15.99
VHT40_Nss1,(MCS0)_2TX	-18.66
802.11ax HEW20_Nss1,(MCS0)_2TX	-16.28
802.11ax HEW40_Nss1,(MCS0)_2TX	-19.54

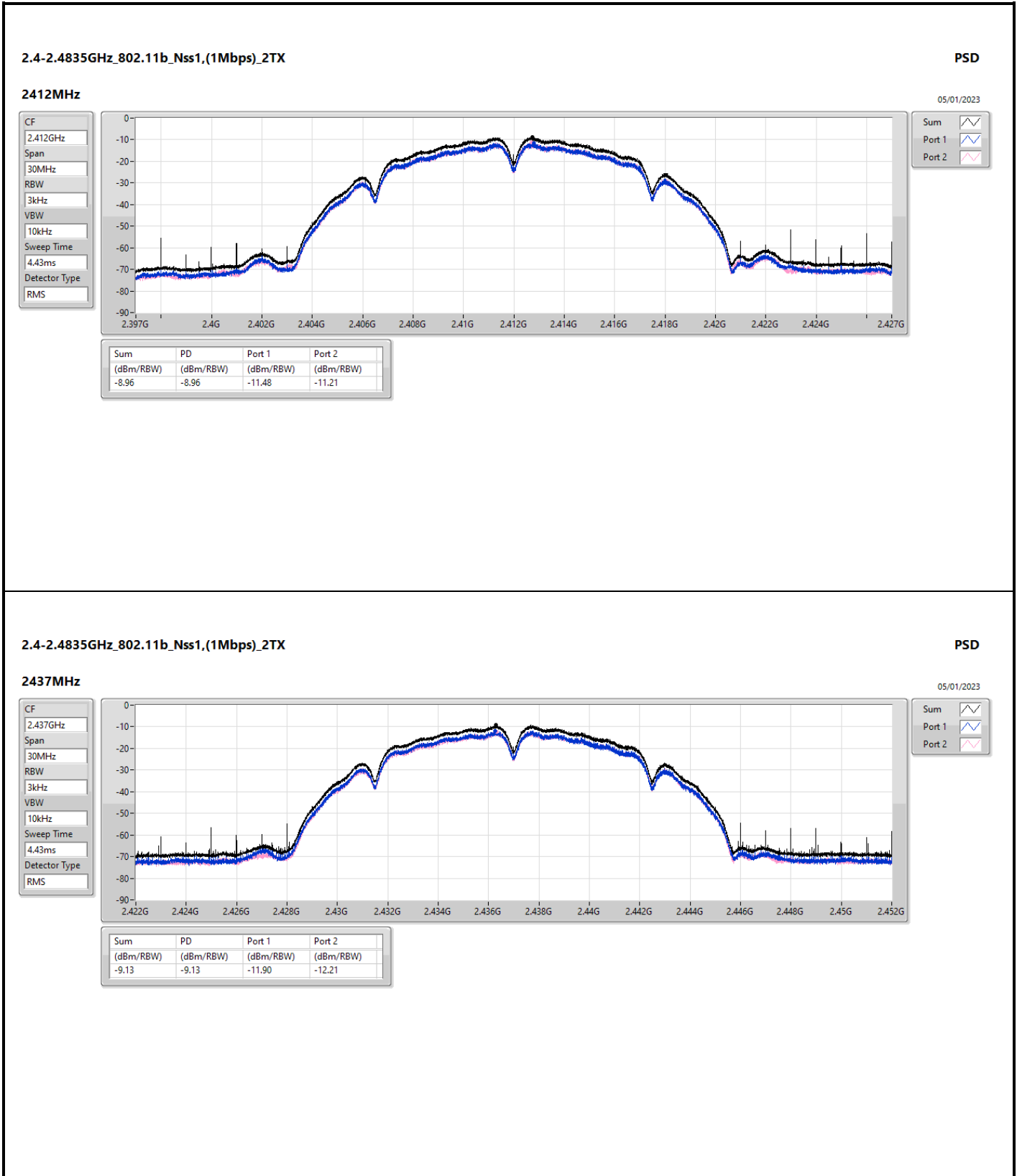
RBW = 3kHz;

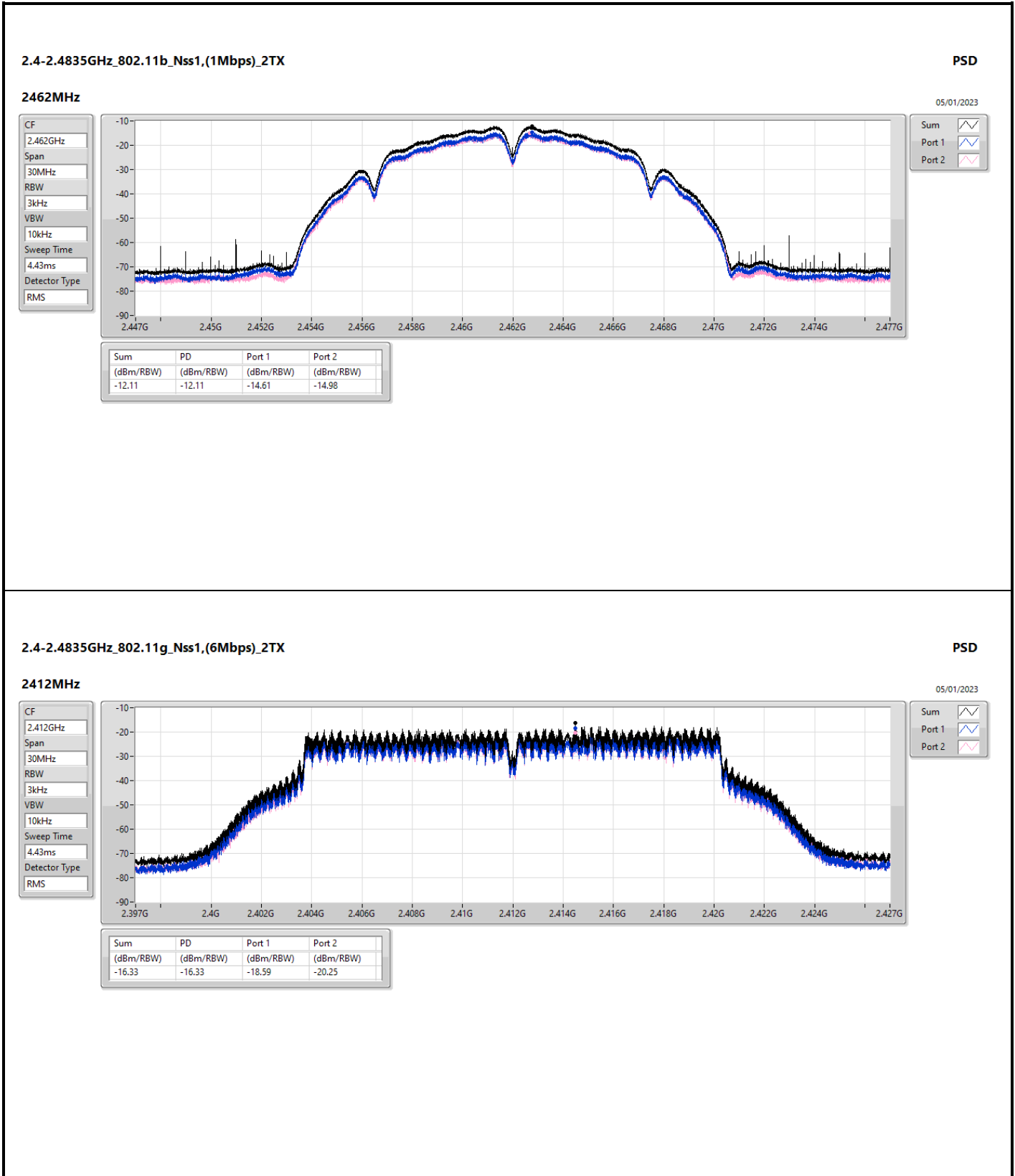


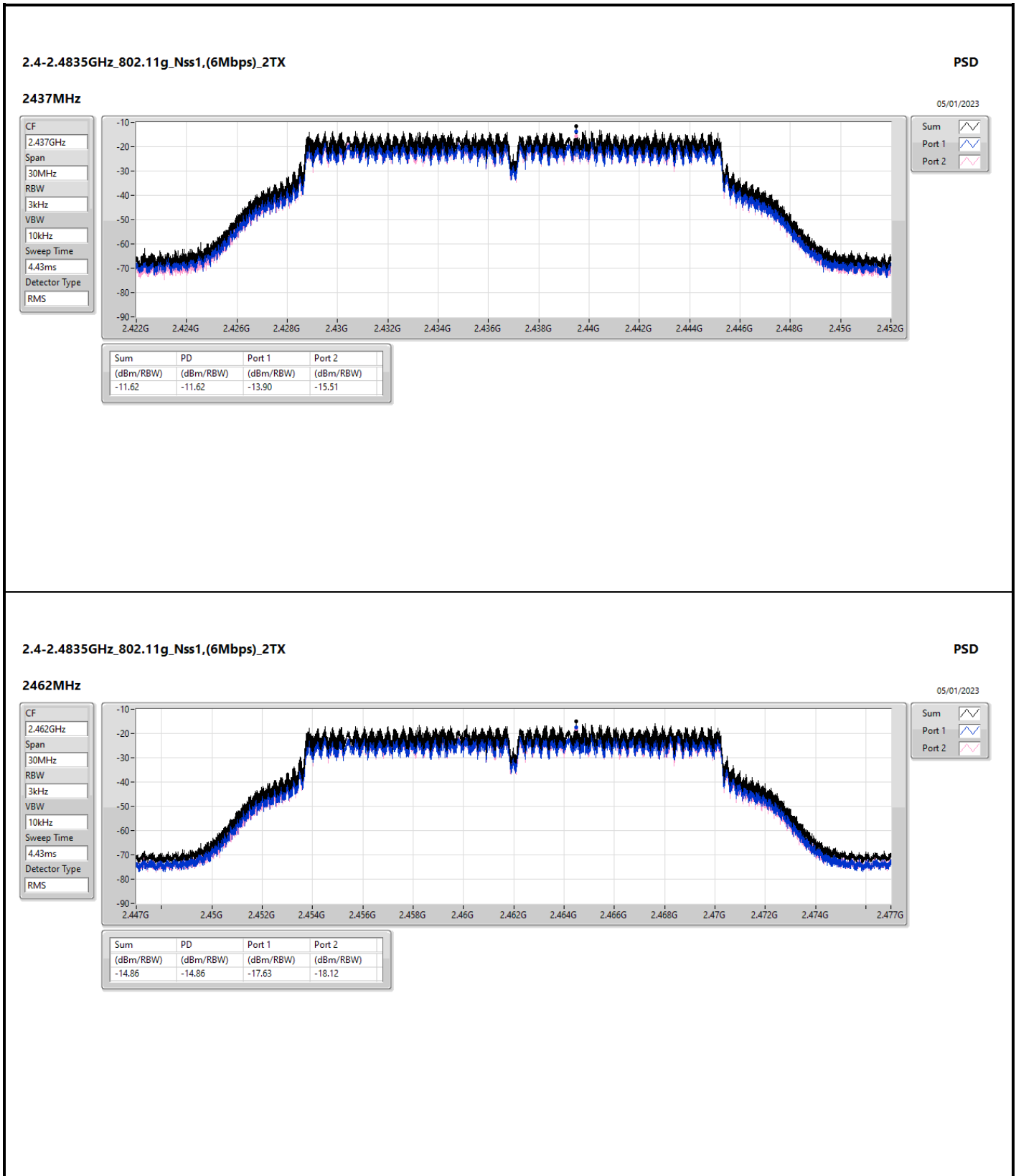
Result

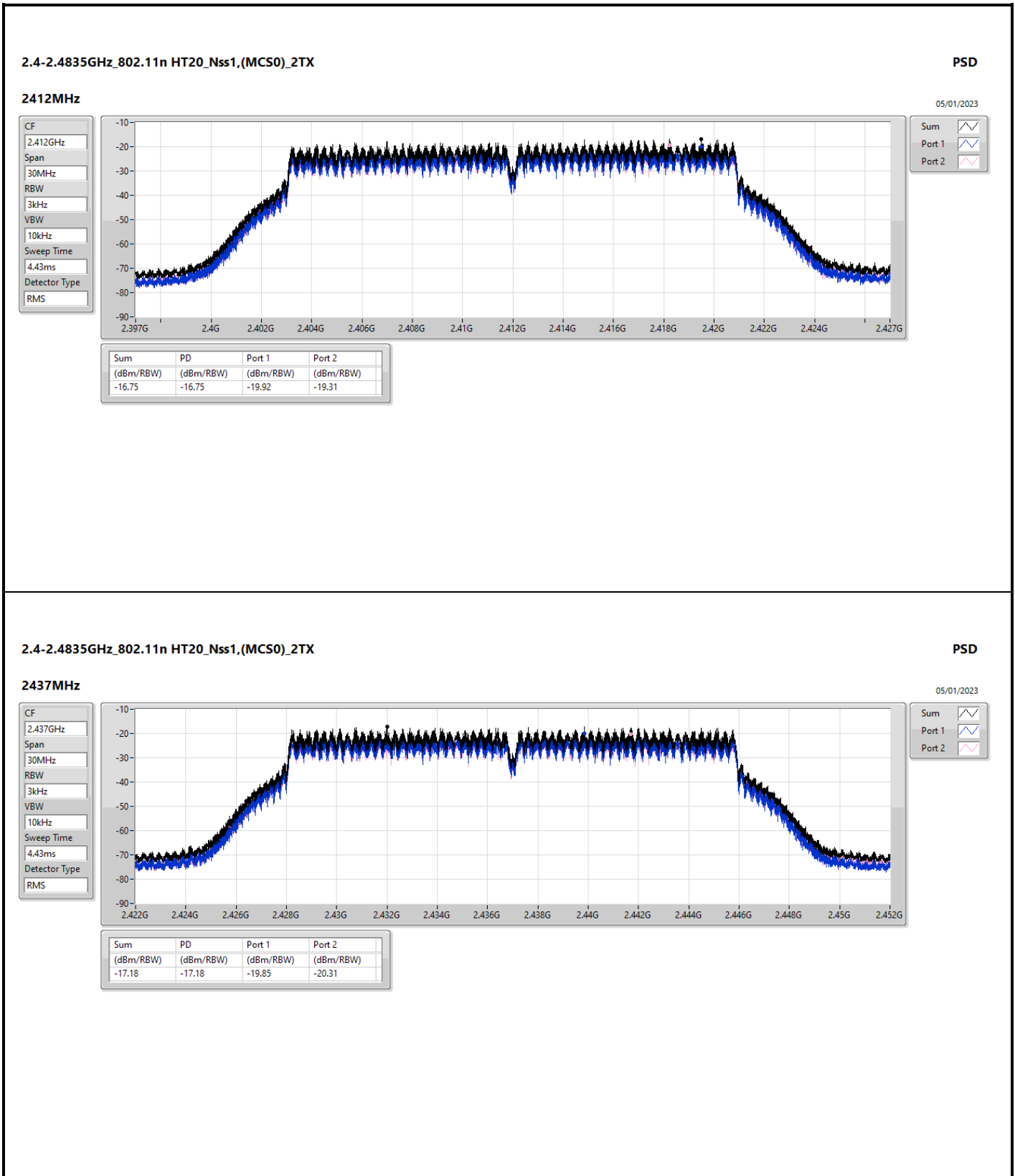
Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	16.41	-11.48	-11.21	-8.96	-2.41
2437MHz	Pass	16.41	-11.90	-12.21	-9.13	-2.41
2462MHz	Pass	16.41	-14.61	-14.98	-12.11	-2.41
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
2412MHz	Pass	16.41	-18.59	-20.25	-16.33	-2.41
2437MHz	Pass	16.41	-13.90	-15.51	-11.62	-2.41
2462MHz	Pass	16.41	-17.63	-18.12	-14.86	-2.41
802.11n HT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	16.41	-19.92	-19.31	-16.75	-2.41
2437MHz	Pass	16.41	-19.85	-20.31	-17.18	-2.41
2462MHz	Pass	16.41	-20.89	-21.17	-18.32	-2.41
802.11n HT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	16.41	-23.01	-23.44	-20.21	-2.41
2437MHz	Pass	16.41	-21.50	-21.83	-18.78	-2.41
2452MHz	Pass	16.41	-21.99	-21.64	-18.87	-2.41
VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	16.41	-18.54	-19.49	-15.99	-2.41
2437MHz	Pass	16.41	-18.84	-19.36	-16.18	-2.41
2462MHz	Pass	16.41	-20.33	-21.05	-17.83	-2.41
VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	16.41	-21.33	-21.79	-18.66	-2.41
2437MHz	Pass	16.41	-21.74	-22.38	-19.12	-2.41
2452MHz	Pass	16.41	-22.19	-22.08	-19.14	-2.41
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	16.41	-19.47	-19.30	-16.46	-2.41
2437MHz	Pass	16.41	-18.81	-19.55	-16.28	-2.41
2462MHz	Pass	16.41	-20.39	-20.90	-17.63	-2.41
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	16.41	-23.78	-24.59	-21.23	-2.41
2437MHz	Pass	16.41	-22.16	-22.95	-19.54	-2.41
2452MHz	Pass	16.41	-22.42	-22.55	-19.71	-2.41

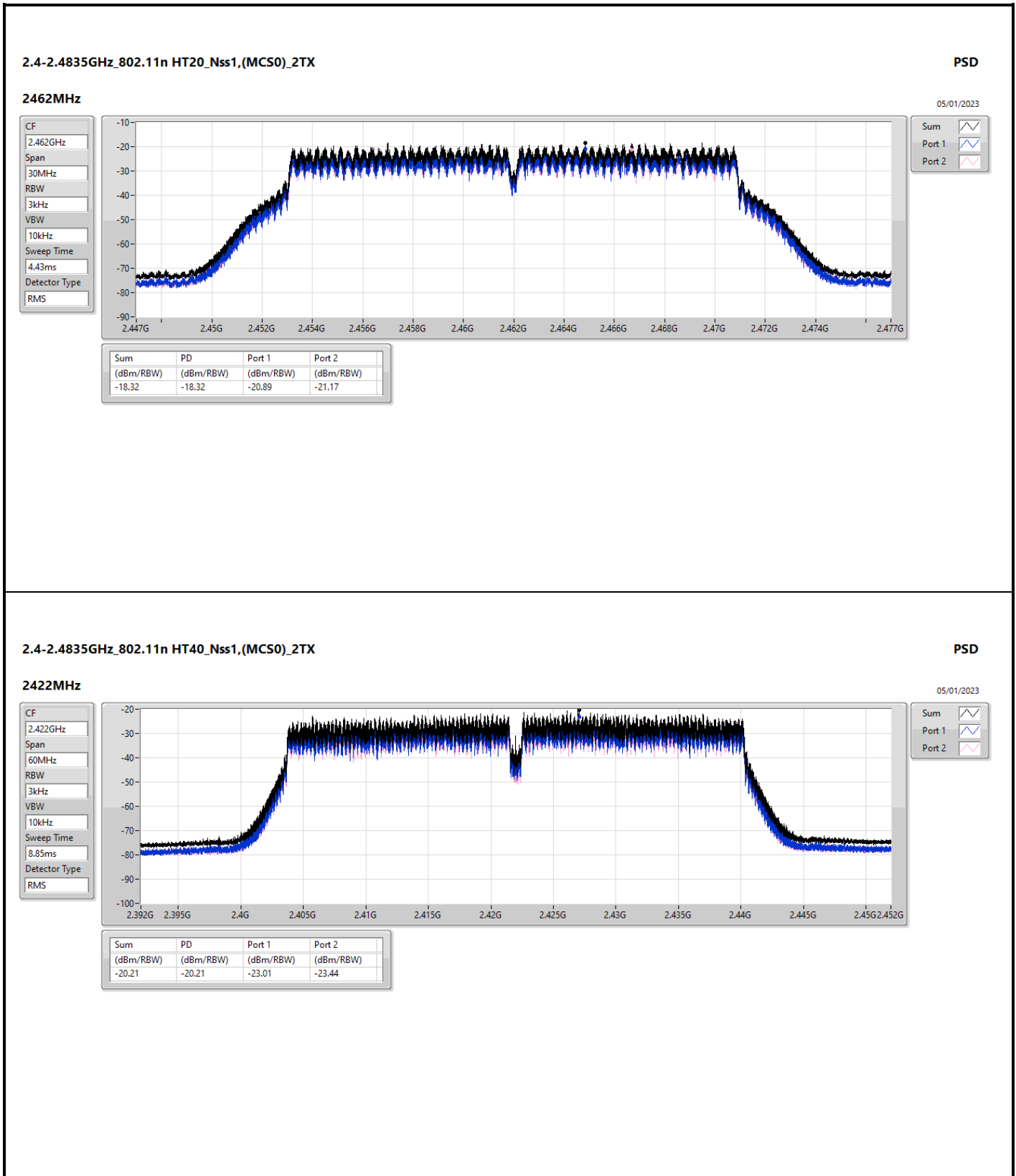
DG = Directional Gain; RBW = 3kHz;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

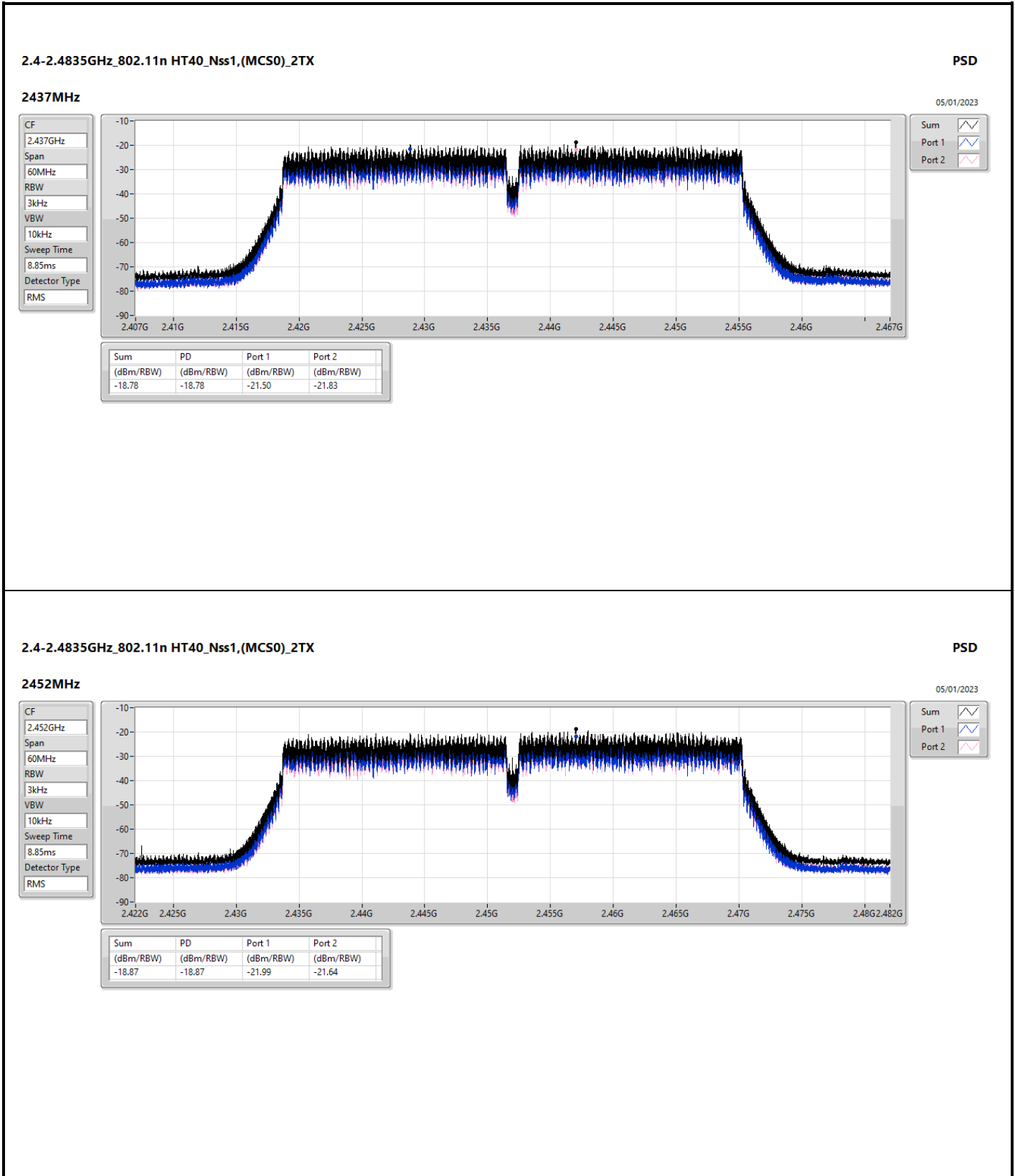


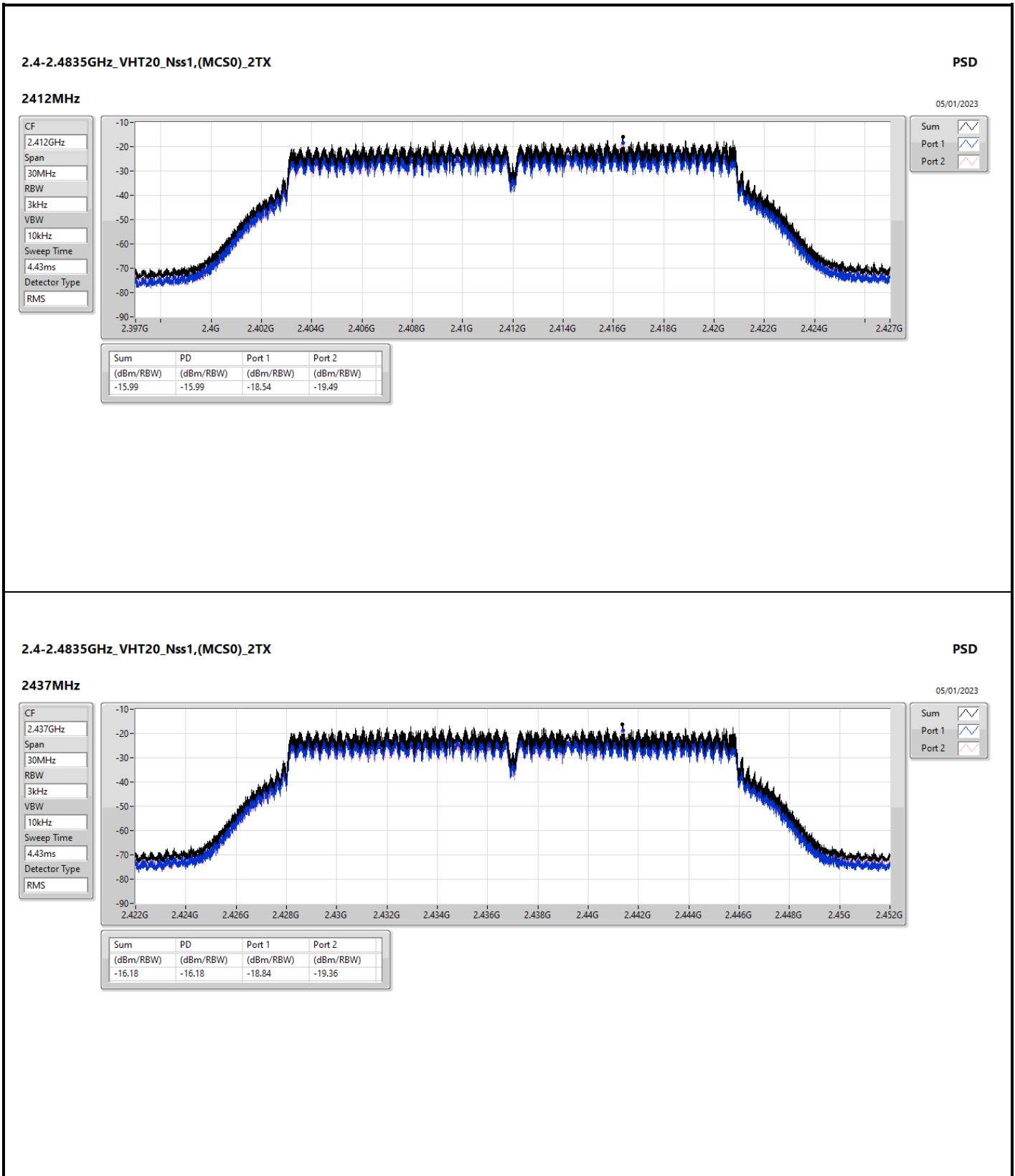


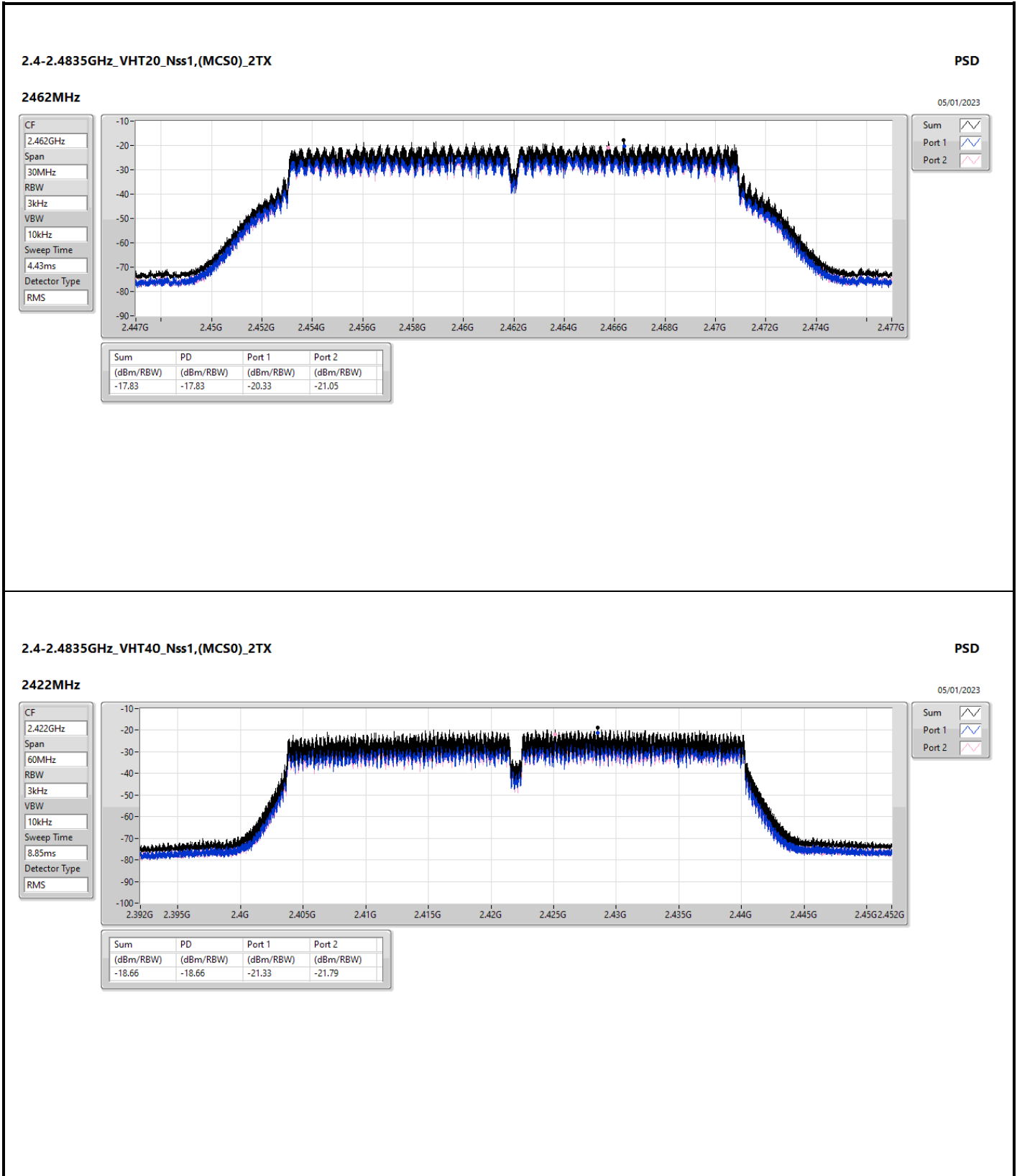


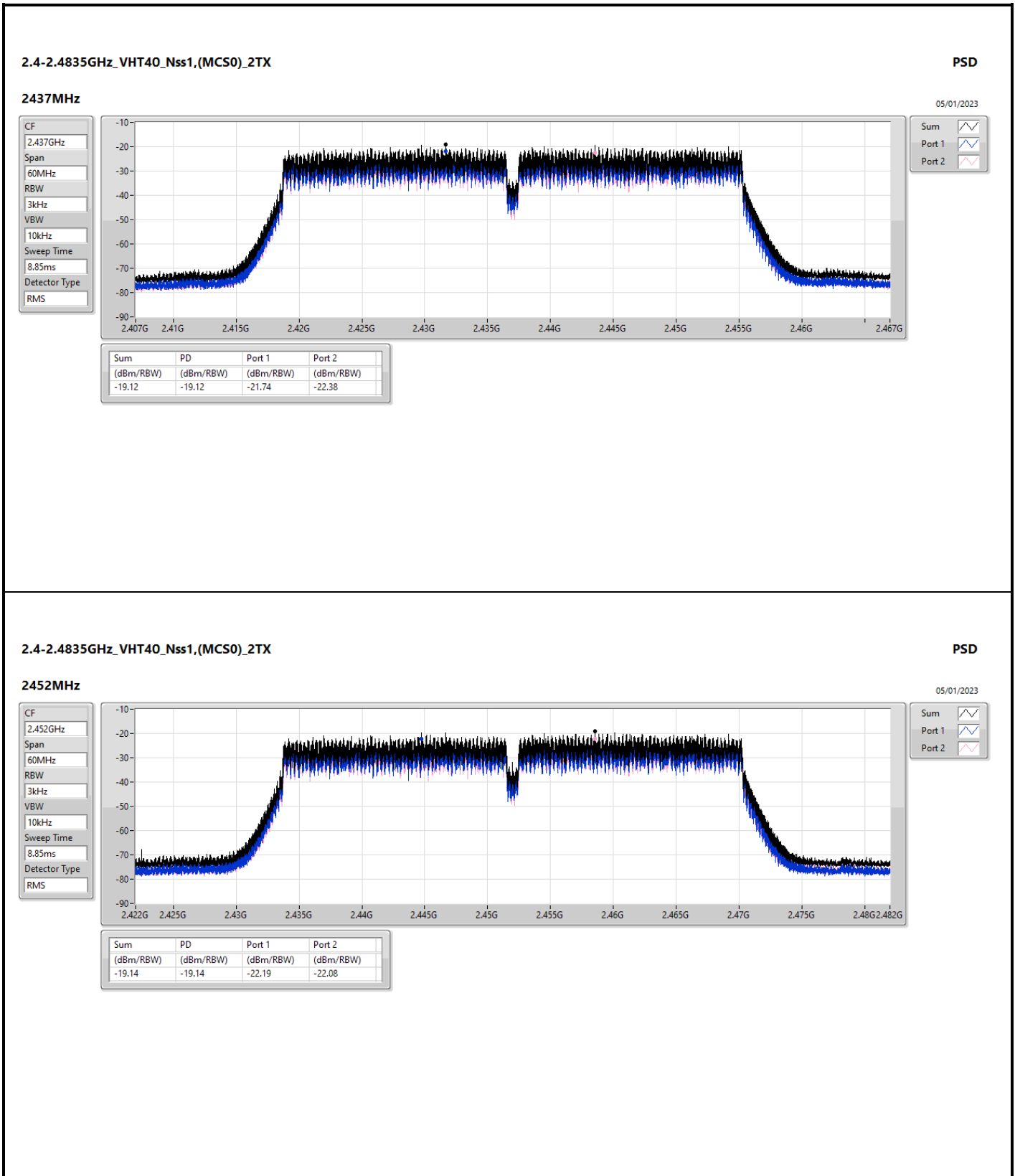


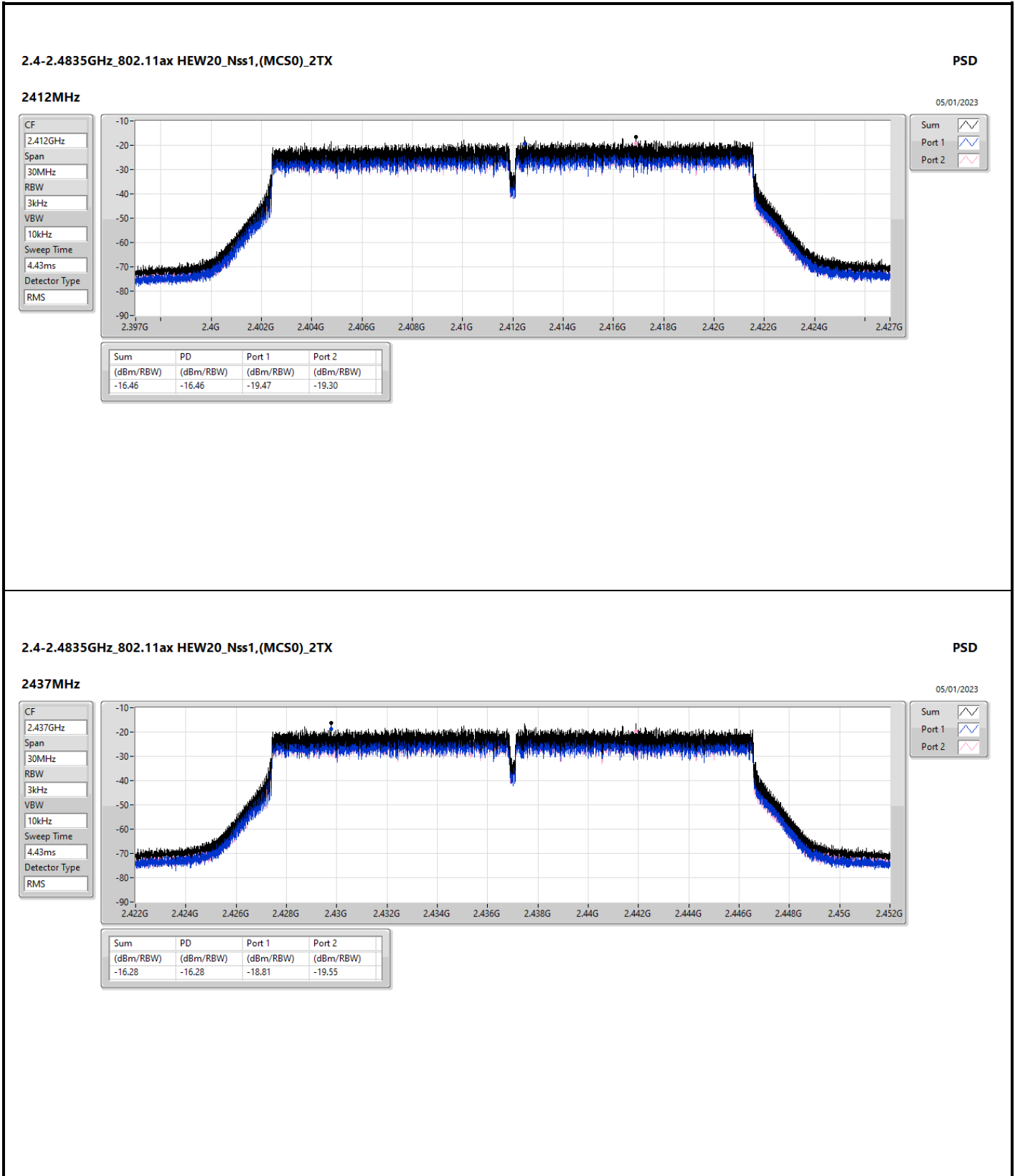


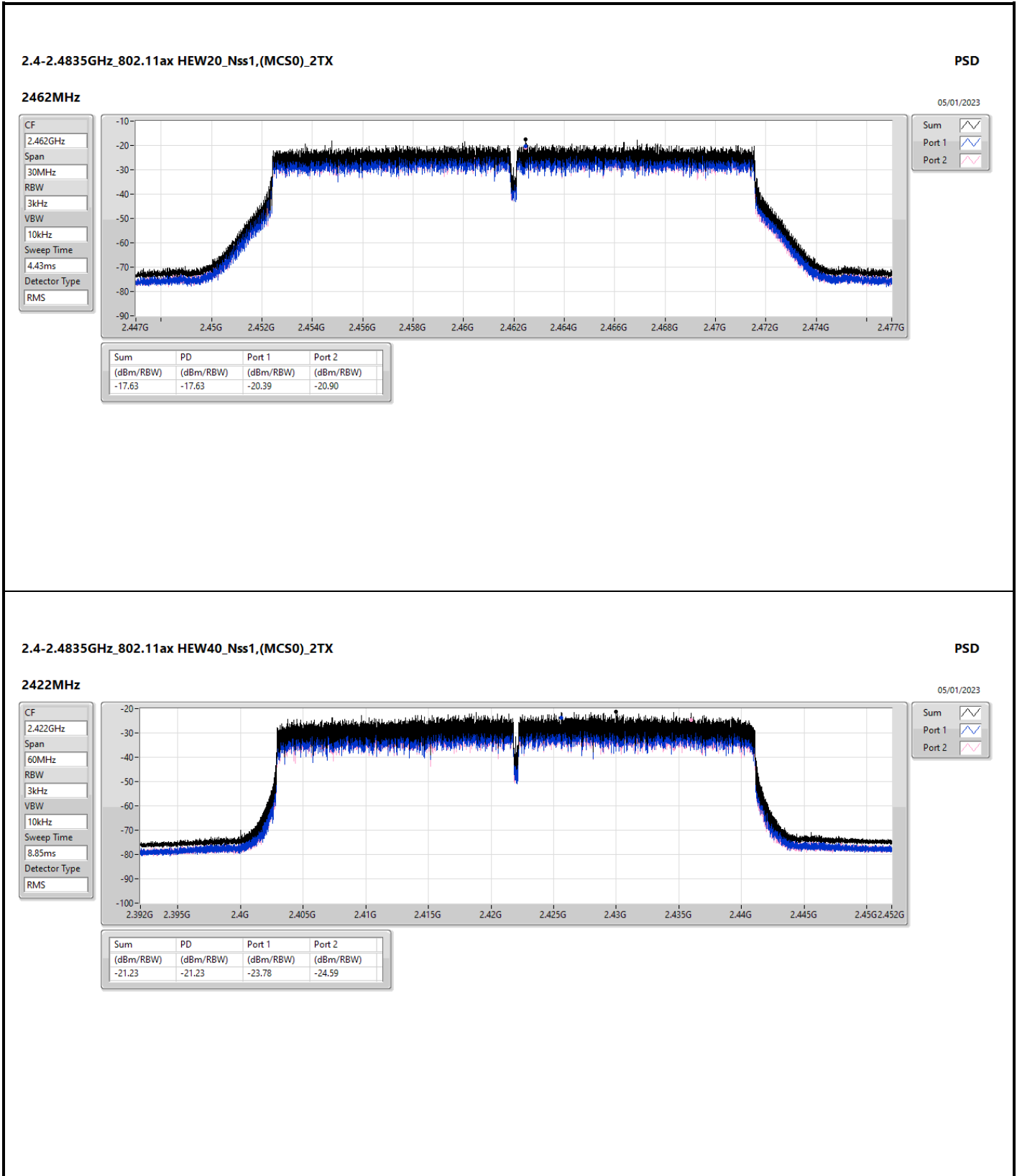


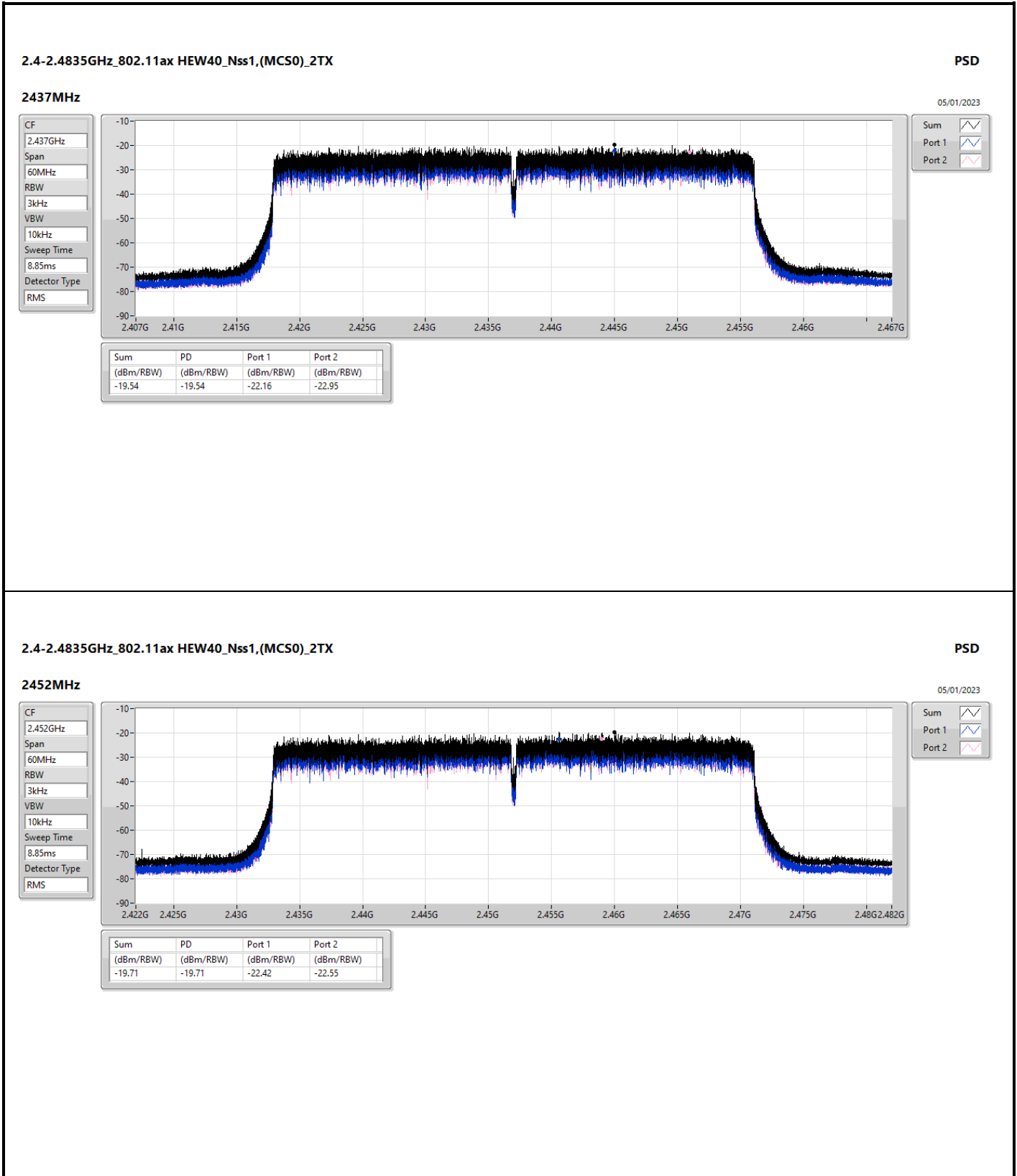














Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-8.62
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-15.75

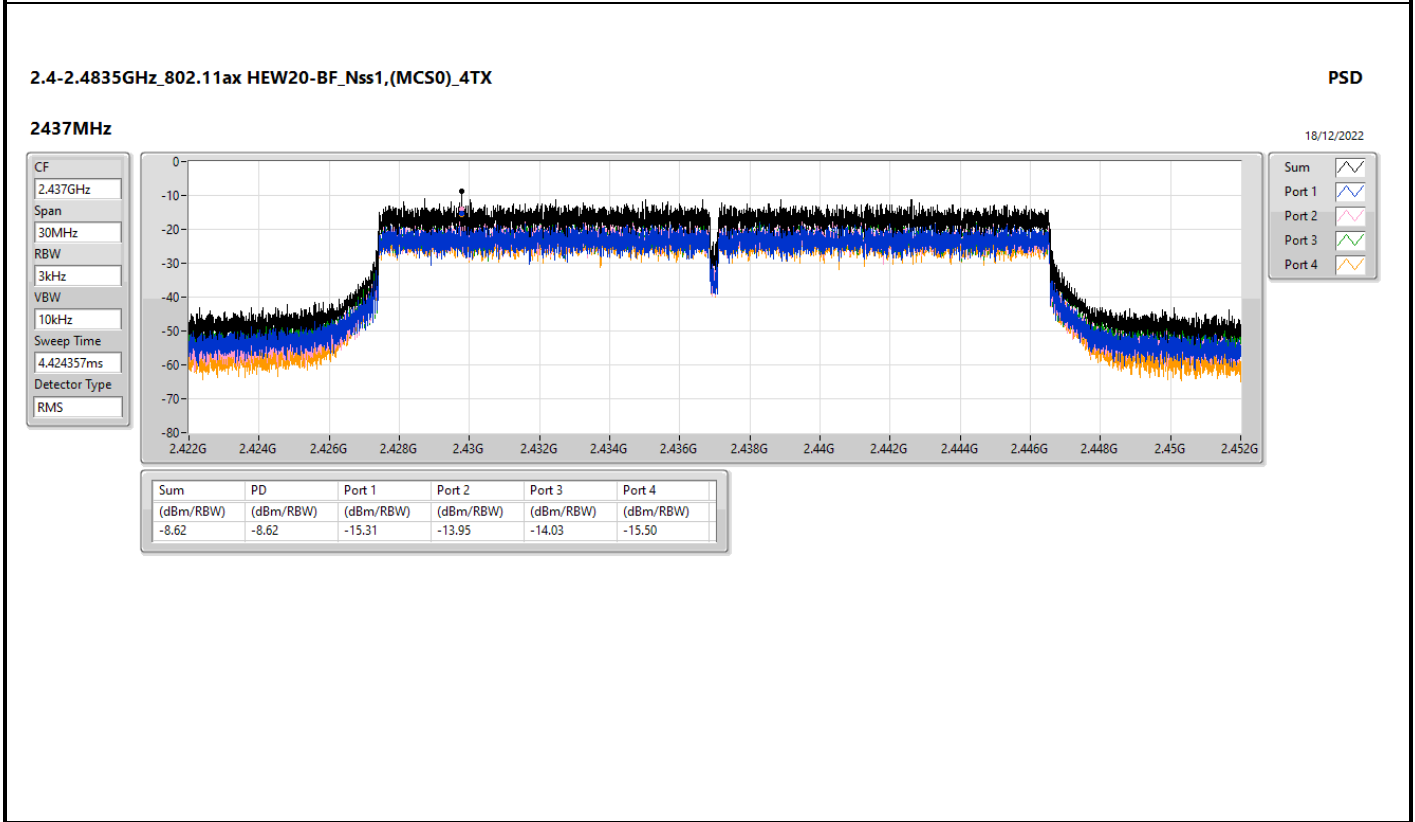
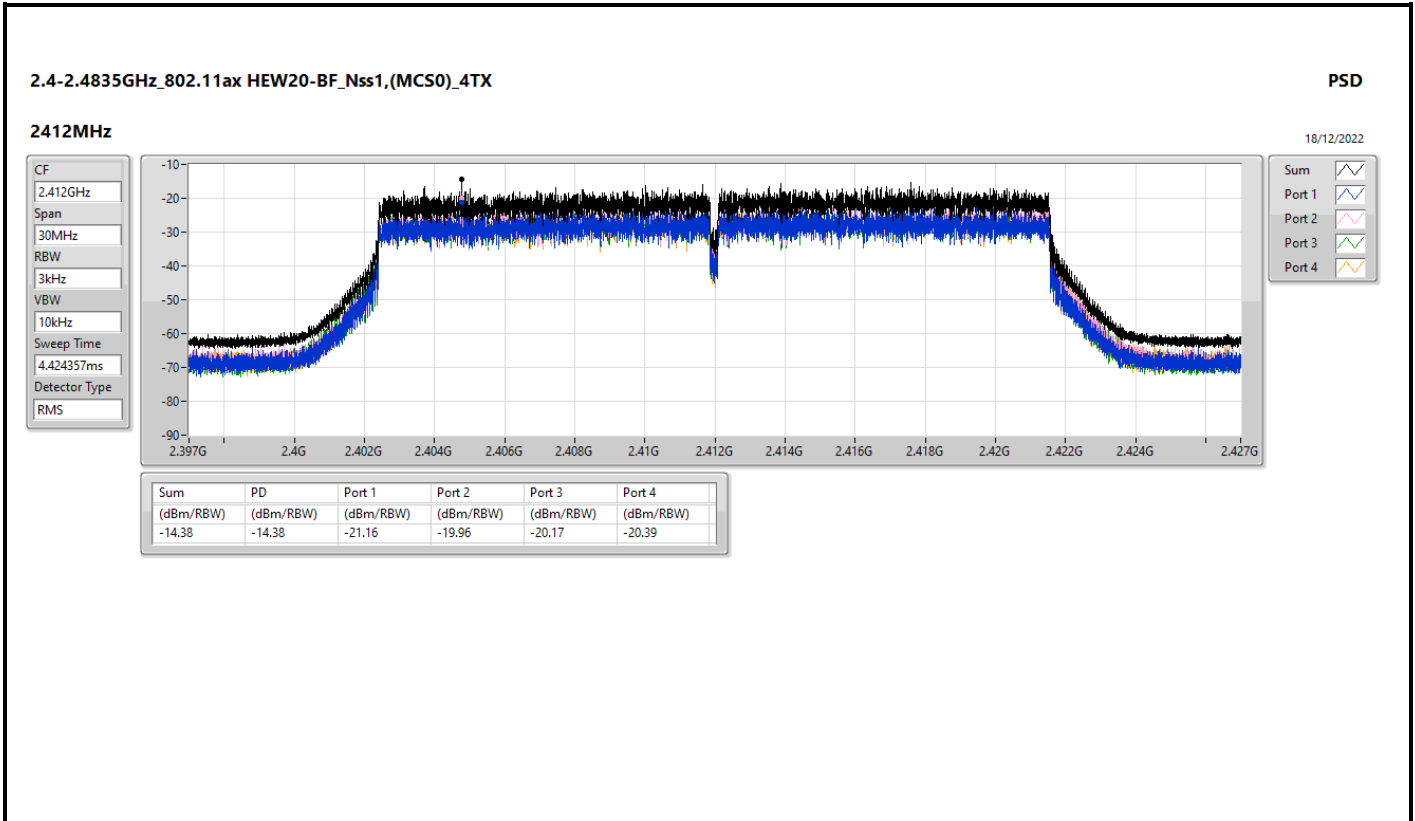
RBW = 3kHz:

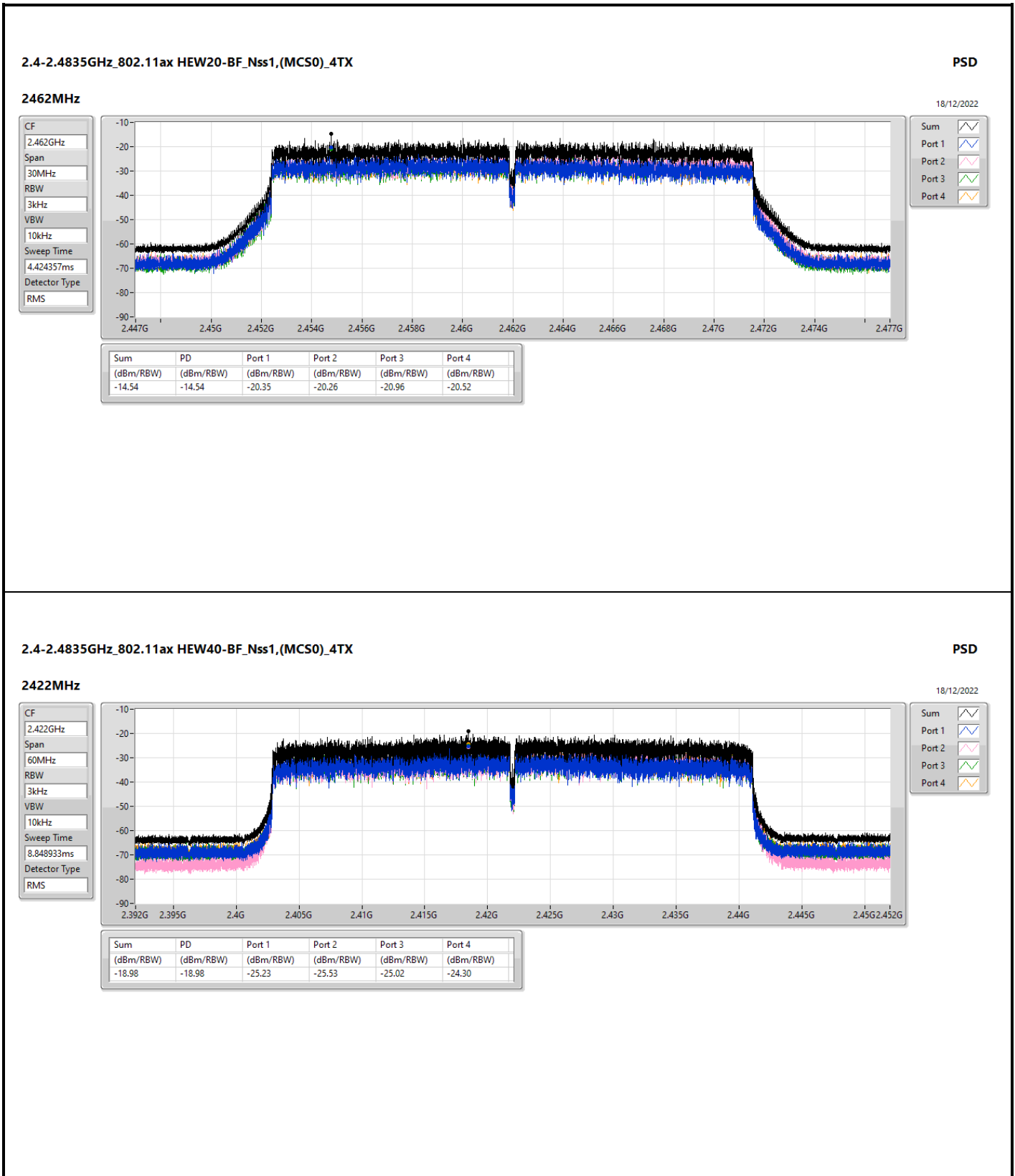


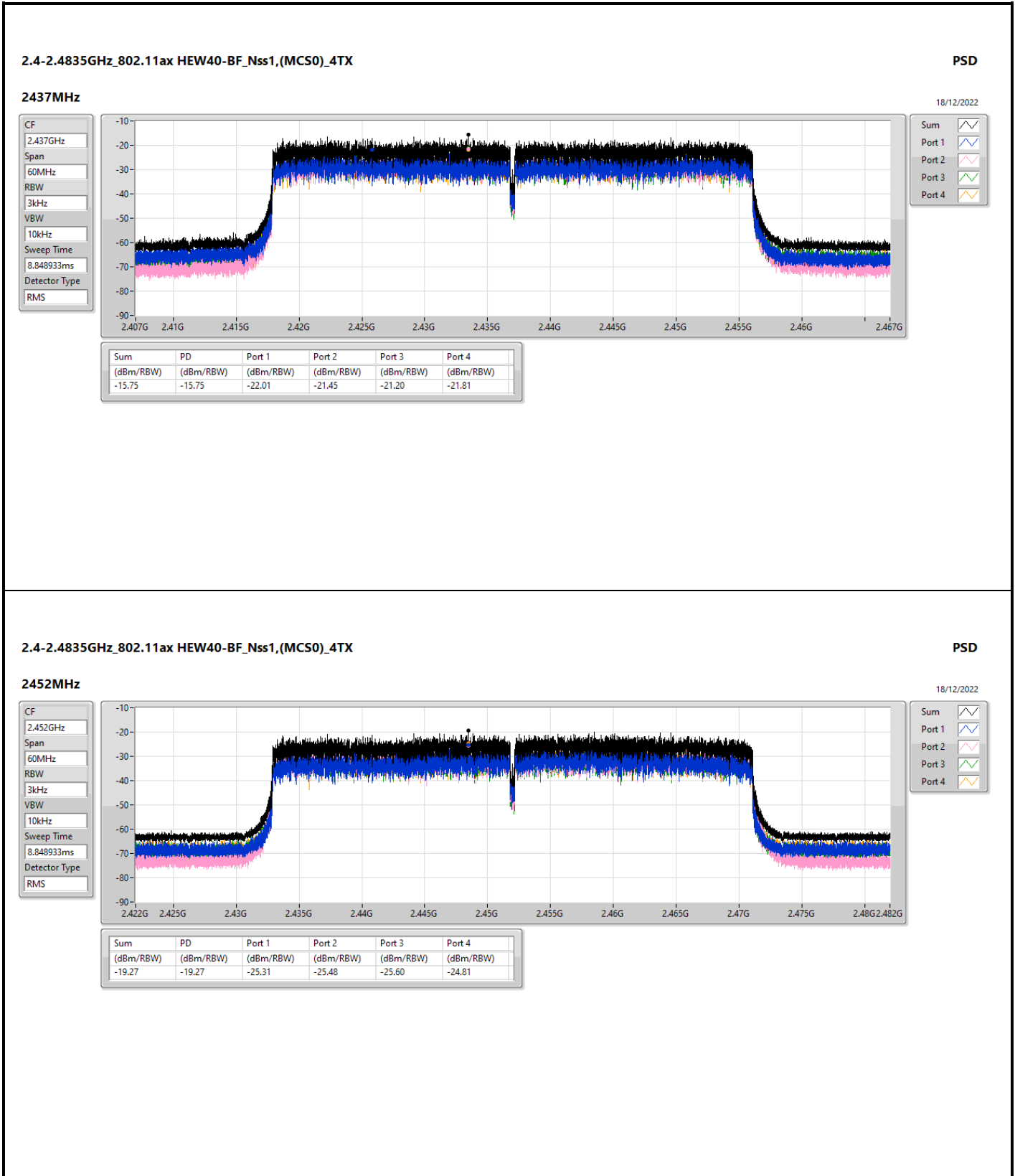
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.42	-21.16	-19.96	-20.17	-20.39	-14.38	-5.42
2437MHz	Pass	19.42	-15.31	-13.95	-14.03	-15.50	-8.62	-5.42
2462MHz	Pass	19.42	-20.35	-20.26	-20.96	-20.52	-14.54	-5.42
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2422MHz	Pass	19.42	-25.23	-25.53	-25.02	-24.30	-18.98	-5.42
2437MHz	Pass	19.42	-22.01	-21.45	-21.20	-21.81	-15.75	-5.42
2452MHz	Pass	19.42	-25.31	-25.48	-25.60	-24.81	-19.27	-5.42

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









Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-6.50
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-16.89

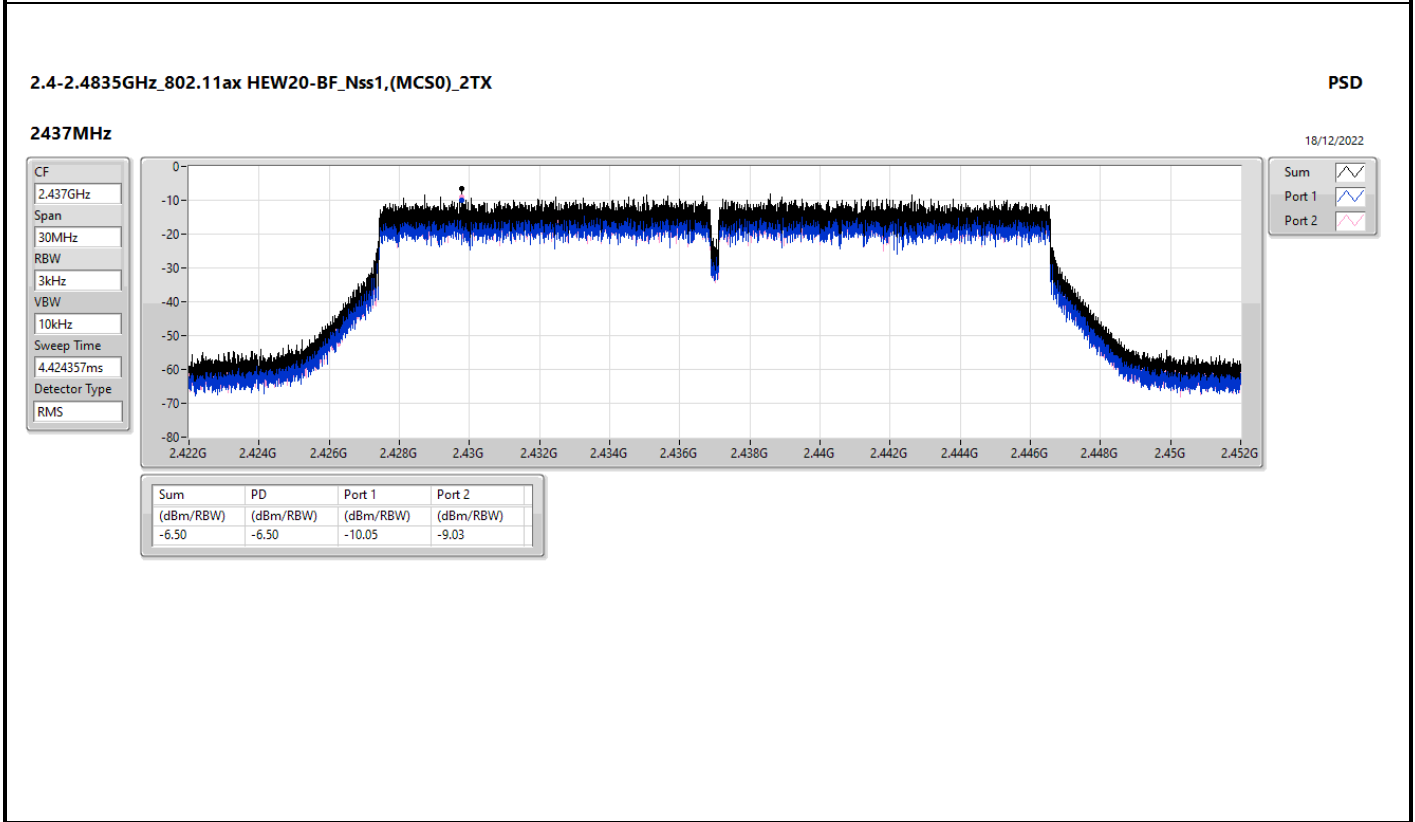
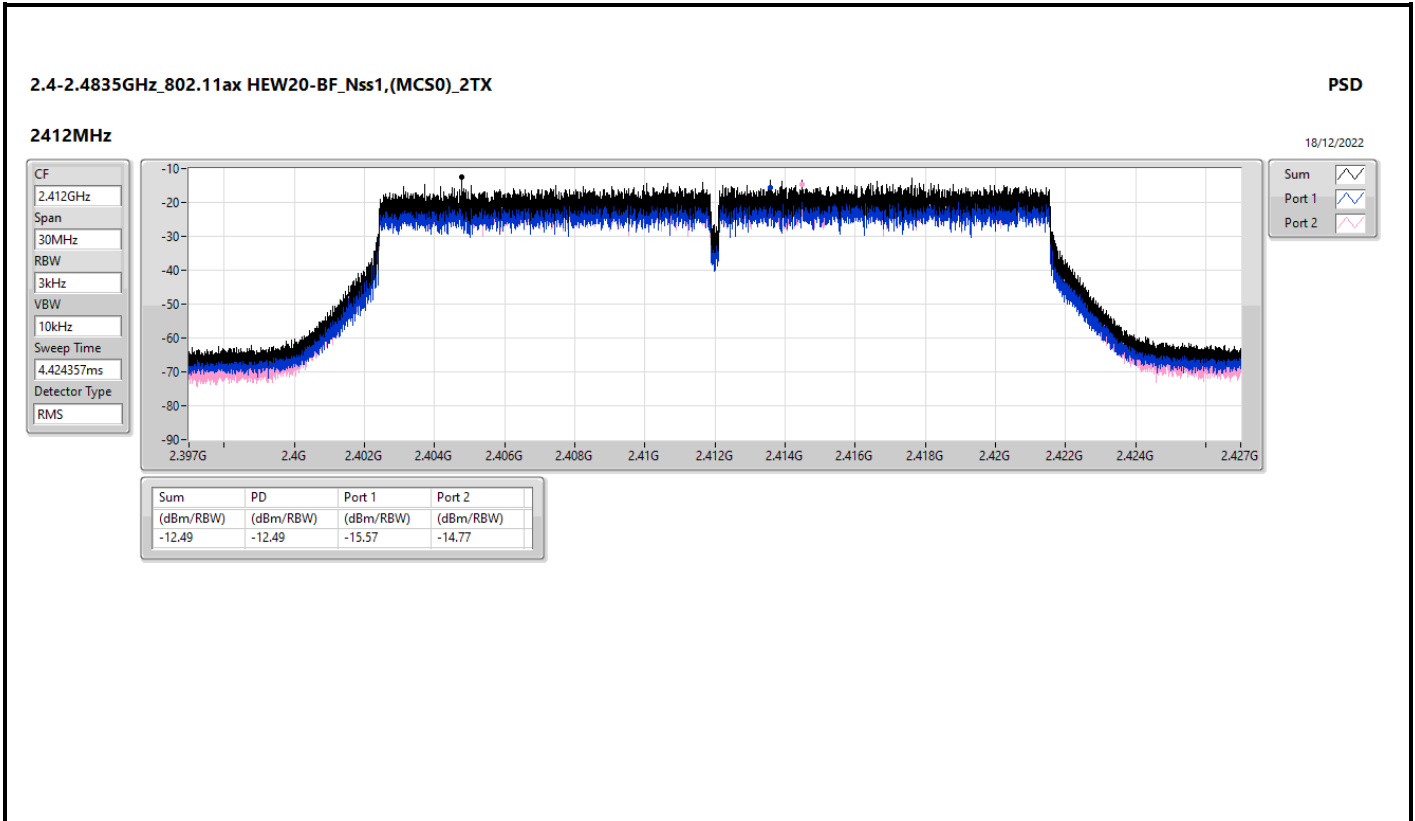
RBW = 3kHz:

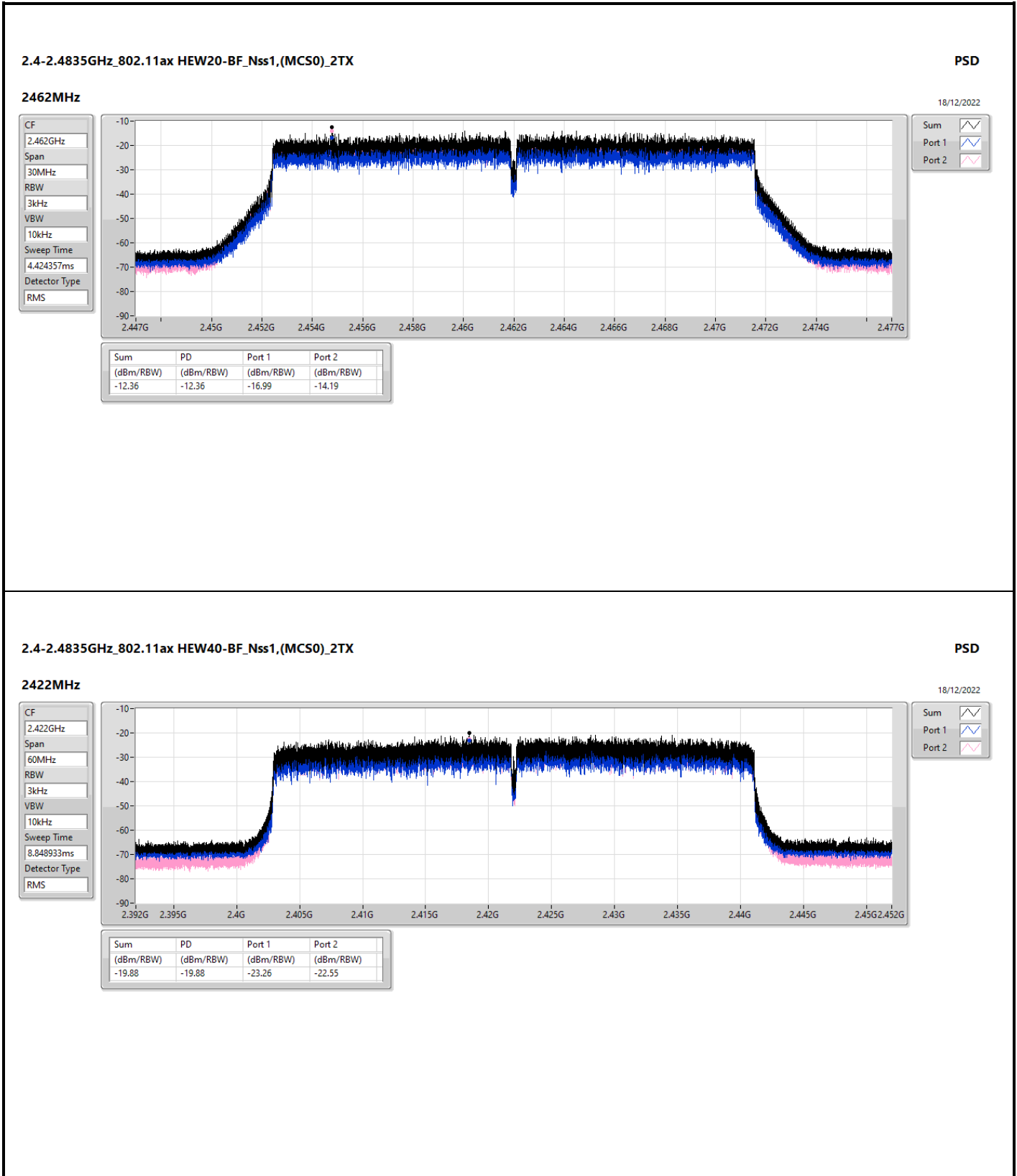


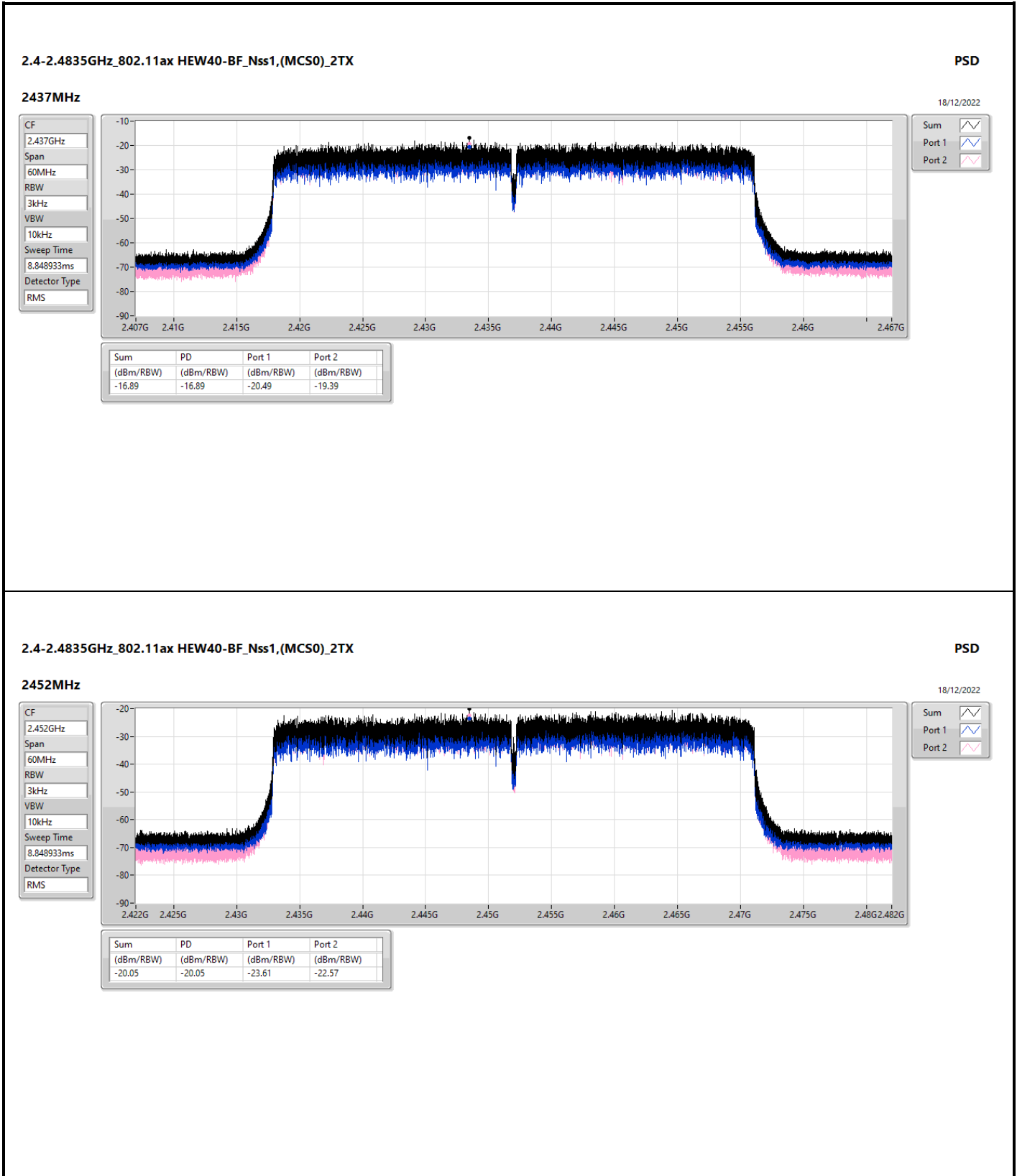
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2412MHz	Pass	16.41	-15.57	-14.77	-12.49	-2.41
2437MHz	Pass	16.41	-10.05	-9.03	-6.50	-2.41
2462MHz	Pass	16.41	-16.99	-14.19	-12.36	-2.41
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
2422MHz	Pass	16.41	-23.26	-22.55	-19.88	-2.41
2437MHz	Pass	16.41	-20.49	-19.39	-16.89	-2.41
2452MHz	Pass	16.41	-23.61	-22.57	-20.05	-2.41

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









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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
802.11b_Nss1,(1Mbps)_4TX	Pass	2.46146G	9.67	-20.33	2.11652G	-55.86	2.39704G	-50.36	2.4G	-53.48	2.51566G	-53.57	16.92251G	-42.31	4
802.11g_Nss1,(6Mbps)_4TX	Pass	2.43073G	5.50	-24.50	2.16894G	-55.04	2.39984G	-43.85	2.4G	-42.07	2.51062G	-53.59	24.50552G	-42.09	2
802.11n HT20_Nss1,(MCS0)_4TX	Pass	2.4319G	5.05	-24.95	2.16195G	-55.03	2.4G	-47.86	2.4G	-45.24	2.50846G	-54.08	24.68533G	-42.85	4
802.11n HT40_Nss1,(MCS0)_4TX	Pass	2.4319G	-4.59	-34.59	2.11963G	-55.36	2.39472G	-53.84	2.4G	-54.83	2.50494G	-53.09	23.45188G	-42.33	2
VHT20_Nss1,(MCS0)_4TX	Pass	2.43574G	4.71	-25.29	1.63188G	-55.19	2.4G	-48.11	2.4G	-45.74	2.50966G	-53.79	16.84384G	-42.25	2
VHT40_Nss1,(MCS0)_4TX	Pass	2.4319G	-4.38	-34.38	2.18604G	-55.66	2.39424G	-55.06	2.4G	-56.25	2.53134G	-53.60	24.60456G	-42.58	3
802.11ax HEW20_Nss1,(MCS0)_4TX	Pass	2.4319G	5.25	-24.75	2.0839G	-55.88	2.39992G	-47.94	2.4G	-46.74	2.52318G	-53.53	24.49147G	-42.68	4
802.11ax HEW40_Nss1,(MCS0)_4TX	Pass	2.4319G	-4.54	-34.54	2.17802G	-55.06	2.39536G	-54.67	2.4G	-56.00	2.52782G	-52.96	21.79719G	-42.74	3



CSE (NdB Down) _ Non-Beamforming_Radio 1

Appendix E.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
802.11b_Nss1,(1Mbps)_4TX															
2412MHz	Pass	2.46146G	9.67	-20.33	2.14681G	-55.26	2.39584G	-51.68	2.4G	-52.56	2.51862G	-53.95	17.22875G	-42.59	1
2412MHz	Pass	2.46146G	9.67	-20.33	2.19341G	-55.34	2.398G	-51.44	2.4G	-52.22	2.51446G	-54.08	24.54204G	-41.28	2
2412MHz	Pass	2.46146G	9.67	-20.33	2.12467G	-55.10	2.39888G	-51.09	2.4G	-52.95	2.5015G	-54.01	15.07943G	-42.86	3
2412MHz	Pass	2.46146G	9.67	-20.33	2.11652G	-55.86	2.39704G	-50.36	2.4G	-53.48	2.51566G	-53.57	16.92251G	-42.31	4
2437MHz	Pass	2.46146G	9.67	-20.33	2.17244G	-55.64	2.39688G	-53.12	2.4G	-52.54	2.5203G	-54.18	24.98595G	-42.49	1
2437MHz	Pass	2.46146G	9.67	-20.33	2.06992G	-56.04	2.39912G	-53.48	2.4G	-54.20	2.51366G	-54.33	24.49709G	-42.70	2
2437MHz	Pass	2.46146G	9.67	-20.33	2.30758G	-55.16	2.39856G	-53.05	2.4G	-53.60	2.51646G	-53.99	24.55328G	-42.47	3
2437MHz	Pass	2.46146G	9.67	-20.33	2.16195G	-55.83	2.3908G	-53.15	2.4G	-56.00	2.51878G	-54.03	17.6249G	-42.58	4
2462MHz	Pass	2.46146G	9.67	-20.33	2.18875G	-54.86	2.39992G	-53.31	2.4G	-55.52	2.51822G	-53.87	17.61366G	-42.33	1
2462MHz	Pass	2.46146G	9.67	-20.33	2.30641G	-54.01	2.39504G	-53.94	2.4G	-55.92	2.5047G	-53.68	21.92634G	-42.55	2
2462MHz	Pass	2.46146G	9.67	-20.33	1.84507G	-55.06	2.3936G	-53.97	2.4G	-55.56	2.50542G	-54.32	24.19085G	-41.82	3
2462MHz	Pass	2.46146G	9.67	-20.33	2.12001G	-55.57	2.39848G	-53.69	2.4G	-56.34	2.5095G	-53.87	16.50107G	-42.54	4
802.11g_Nss1,(6Mbps)_4TX															
2412MHz	Pass	2.43073G	5.50	-24.50	2.17244G	-55.72	2.39992G	-45.11	2.4G	-44.00	2.50766G	-53.37	24.50271G	-41.98	1
2412MHz	Pass	2.43073G	5.50	-24.50	2.16894G	-55.04	2.39984G	-43.85	2.4G	-42.07	2.51062G	-53.59	24.50552G	-42.09	2
2412MHz	Pass	2.43073G	5.50	-24.50	1.92313G	-55.77	2.4G	-43.01	2.4G	-42.24	2.50494G	-54.54	24.87919G	-42.32	3
2412MHz	Pass	2.43073G	5.50	-24.50	2.1072G	-55.60	2.4G	-44.61	2.4G	-43.26	2.51718G	-53.81	17.49285G	-42.44	4
2437MHz	Pass	2.43073G	5.50	-24.50	2.18409G	-56.16	2.39032G	-53.11	2.4G	-53.77	2.5031G	-53.52	24.50271G	-41.94	1
2437MHz	Pass	2.43073G	5.50	-24.50	1.95458G	-55.92	2.39904G	-52.96	2.4G	-53.96	2.5207G	-54.38	24.4999G	-42.12	2
2437MHz	Pass	2.43073G	5.50	-24.50	2.1969G	-55.63	2.39808G	-51.34	2.4G	-52.88	2.5131G	-53.99	24.24423G	-42.86	3
2437MHz	Pass	2.43073G	5.50	-24.50	2.14215G	-55.27	2.39888G	-52.43	2.4G	-54.57	2.52134G	-53.35	24.19085G	-42.49	4
2462MHz	Pass	2.43073G	5.50	-24.50	1.89633G	-55.88	2.39712G	-54.12	2.4G	-55.72	2.50982G	-54.06	21.96848G	-42.27	1
2462MHz	Pass	2.43073G	5.50	-24.50	2.30525G	-55.91	2.39216G	-54.62	2.4G	-54.69	2.50686G	-53.60	16.34655G	-42.23	2
2462MHz	Pass	2.43073G	5.50	-24.50	2.10137G	-55.23	2.39576G	-54.06	2.4G	-55.66	2.51022G	-53.75	24.92414G	-42.43	3
2462MHz	Pass	2.43073G	5.50	-24.50	2.13865G	-55.39	2.39872G	-53.42	2.4G	-55.37	2.52006G	-53.94	24.45214G	-42.14	4
802.11n_HT20_Nss1,(MCS0)_4TX															
2412MHz	Pass	2.4319G	5.05	-24.95	2.09322G	-54.50	2.4G	-48.41	2.4G	-47.02	2.52038G	-53.43	24.5308G	-42.43	1
2412MHz	Pass	2.4319G	5.05	-24.95	2.06642G	-55.57	2.4G	-48.43	2.4G	-46.13	2.51886G	-53.27	21.60605G	-42.65	2
2412MHz	Pass	2.4319G	5.05	-24.95	1.97089G	-55.12	2.39984G	-48.05	2.4G	-46.33	2.51526G	-53.40	24.12623G	-41.36	3
2412MHz	Pass	2.4319G	5.05	-24.95	2.16195G	-55.03	2.4G	-47.86	2.4G	-45.24	2.50846G	-54.08	24.68533G	-42.85	4
2437MHz	Pass	2.4319G	5.05	-24.95	1.94876G	-55.87	2.39656G	-51.60	2.4G	-54.14	2.51662G	-53.73	24.37347G	-42.55	1
2437MHz	Pass	2.4319G	5.05	-24.95	2.00235G	-55.96	2.39512G	-52.92	2.4G	-55.37	2.50094G	-54.25	16.92813G	-42.60	2
2437MHz	Pass	2.4319G	5.05	-24.95	1.94992G	-54.87	2.39624G	-52.05	2.4G	-54.17	2.50774G	-52.99	24.53923G	-41.96	3
2437MHz	Pass	2.4319G	5.05	-24.95	2.16778G	-54.11	2.39944G	-52.85	2.4G	-54.15	2.50158G	-53.77	21.87858G	-42.66	4
2462MHz	Pass	2.4319G	5.05	-24.95	2.11768G	-56.06	2.39336G	-53.72	2.4G	-56.85	2.50054G	-53.28	15.05134G	-41.87	1
2462MHz	Pass	2.4319G	5.05	-24.95	2.0839G	-55.28	2.39072G	-54.18	2.4G	-55.01	2.5039G	-54.31	24.74995G	-42.58	2
2462MHz	Pass	2.4319G	5.05	-24.95	2.30991G	-53.89	2.39056G	-54.63	2.4G	-55.85	2.5055G	-54.32	24.73309G	-42.74	3
2462MHz	Pass	2.4319G	5.05	-24.95	2.10487G	-56.02	2.39432G	-54.10	2.4G	-55.12	2.5063G	-53.70	16.87755G	-42.33	4
802.11n_HT40_Nss1,(MCS0)_4TX															
2422MHz	Pass	2.4319G	-4.59	-34.59	2.14024G	-55.32	2.39568G	-54.99	2.4G	-55.52	2.51666G	-53.84	16.79946G	-42.65	1
2422MHz	Pass	2.4319G	-4.59	-34.59	2.11963G	-55.36	2.39472G	-53.84	2.4G	-54.83	2.50494G	-53.09	23.45188G	-42.33	2
2422MHz	Pass	2.4319G	-4.59	-34.59	2.07497G	-55.42	2.39424G	-53.76	2.4G	-54.77	2.52606G	-53.79	17.41646G	-42.62	3
2422MHz	Pass	2.4319G	-4.59	-34.59	2.09215G	-55.71	2.3992G	-54.70	2.4G	-55.71	2.55374G	-54.33	16.7041G	-42.16	4
2437MHz	Pass	2.4319G	-4.59	-34.59	1.90322G	-56.20	2.39648G	-54.05	2.4G	-55.08	2.51134G	-53.75	21.85889G	-42.60	1
2437MHz	Pass	2.4319G	-4.59	-34.59	2.17917G	-55.82	2.3976G	-54.42	2.4G	-56.34	2.53134G	-53.54	24.21753G	-42.06	2
2437MHz	Pass	2.4319G	-4.59	-34.59	1.94902G	-55.63	2.39312G	-54.46	2.4G	-55.65	2.5075G	-54.19	24.56249G	-42.24	3
2437MHz	Pass	2.4319G	-4.59	-34.59	2.09787G	-55.97	2.4G	-54.45	2.4G	-54.95	2.50158G	-53.46	17.2538G	-42.78	4
2452MHz	Pass	2.4319G	-4.59	-34.59	2.15169G	-54.85	2.39088G	-54.13	2.4G	-54.01	2.51102G	-53.98	24.52322G	-41.17	1
2452MHz	Pass	2.4319G	-4.59	-34.59	2.10589G	-55.45	2.39328G	-54.78	2.4G	-56.51	2.51374G	-53.76	17.64363G	-41.59	2
2452MHz	Pass	2.4319G	-4.59	-34.59	1.96047G	-55.33	2.39616G	-54.95	2.4G	-55.30	2.5275G	-53.99	24.51201G	-42.13	3
2452MHz	Pass	2.4319G	-4.59	-34.59	2.10818G	-54.91	2.3904G	-55.54	2.4G	-55.60	2.5595G	-53.65	24.51481G	-42.32	4
VHT20_Nss1,(MCS0)_4TX															
2412MHz	Pass	2.43574G	4.71	-25.29	1.94177G	-55.41	2.4G	-48.92	2.4G	-46.48	2.5059G	-53.83	24.10375G	-42.31	1
2412MHz	Pass	2.43574G	4.71	-25.29	1.63188G	-55.19	2.4G	-48.11	2.4G	-45.74	2.50966G	-53.79	16.84384G	-42.25	2
2412MHz	Pass	2.43574G	4.71	-25.29	2.30059G	-55.40	2.4G	-48.37	2.4G	-46.61	2.50206G	-53.99	24.14308G	-41.72	3
2412MHz	Pass	2.43574G	4.71	-25.29	1.97788G	-55.23	2.4G	-48.09	2.4G	-45.84	2.50302G	-53.98	24.21332G	-41.92	4
2437MHz	Pass	2.43574G	4.71	-25.29	2.08972G	-55.10	2.39504G	-53.32	2.4G	-54.20	2.51126G	-53.95	24.85109G	-42.85	1
2437MHz	Pass	2.43574G	4.71	-25.29	2.17477G	-55.48	2.3992G	-52.72	2.4G	-54.94	2.5167G	-54.14	17.12199G	-42.40	2
2437MHz	Pass	2.43574G	4.71	-25.29	2.16661G	-55.54	2.39712G	-51.58	2.4G	-53.78	2.5203G	-53.95	24.53642G	-41.94	3
2437MHz	Pass	2.43574G	4.71	-25.29	1.83925G	-56.07	2.39392G	-53.01	2.4G	-55.55	2.51222G	-52.95	17.04332G	-42.13	4



CSE (NdB Down) _ Non-Beamforming_Radio 1

Appendix E.1

Table with columns: 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. Rows include various frequency bands like 2462MHz, VHT40, 802.11ax HEW20, and 802.11ax HEW40.

