



RADIO TEST REPORT

FCC ID : LDKIW9167EH
Equipment : Cisco Catalyst IW9167E Heavy Duty Access Point
Brand Name : CISCO
Model Name : IW9167EH-B
Applicant : Cisco Systems Inc
125 West Tasman Drive San Jose California United States 95134-1706
Manufacturer : Cisco Systems Inc
125 West Tasman Drive San Jose California United States 95134-1706
Standard : 47 CFR FCC Part 15.247

The product was received on Aug. 11, 2022, and testing was started from Aug. 17, 2022 and completed on Dec. 15, 2022. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory

No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 Information.....	5
1.2 Applicable Standards	14
1.3 Testing Location Information	14
1.4 Measurement Uncertainty	14
2 Test Configuration of EUT	16
2.1 Test Channel Mode	16
2.2 The Worst Case Measurement Configuration	21
2.3 EUT Operation during Test	24
2.4 Accessories	24
2.5 Support Equipment.....	24
2.6 Test Setup Diagram	25
3 Transmitter Test Result	28
3.1 AC Power-line Conducted Emissions	28
3.2 DTS Bandwidth.....	30
3.3 Maximum Conducted Output Power	31
3.4 Power Spectral Density	34
3.5 Emissions in Non-restricted Frequency Bands	36
3.6 Emissions in Restricted Frequency Bands.....	37
4 Test Equipment and Calibration Data	42
Appendix A. Test Results of AC Power-line Conducted Emissions	
Appendix B. Test Results of DTS Bandwidth	
Appendix C. Test Results of Maximum Conducted Output Power	
Appendix D. Test Results of Power Spectral Density	
Appendix E. Test Results of Emissions in Non-restricted Frequency Bands	
Appendix F. Test Results of Emissions in Restricted Frequency Bands	
Appendix G. Test Results of Radiated Emission Co-location	
Appendix H. Test Photos	
Photographs of EUT v01	



TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A10_10 Ver1.3



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:

1. The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
2. The measurement uncertainty please refer to report "Measurement Uncertainty".

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Viola Huang



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]

For Iron Radio 1

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	1, 2, 4
2.4-2.4835GHz	802.11g	20	1, 2, 4
2.4-2.4835GHz	802.11n HT20	20	1, 2, 4
2.4-2.4835GHz	802.11n HT20-BF	20	2, 4
2.4-2.4835GHz	VHT20	20	1, 2, 4
2.4-2.4835GHz	VHT20-BF	20	2, 4
2.4-2.4835GHz	802.11ax HEW20	20	1, 2, 4
2.4-2.4835GHz	802.11ax HEW20-BF	20	2, 4

For Scanning radio 3

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	11b	20	1
2.4-2.4835GHz	11g	20	1
2.4-2.4835GHz	802.11n HT20	20	1
2.4-2.4835GHz	VHT20	20	1
2.4-2.4835GHz	802.11ax HEW20	20	1

Note:

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



1.1.2 Antenna Information

Set.	CISCO's Brand Name	CISCO's Model Name	Antenna Type	Connector	Gain (dBi)
	Manufacturer's Brand Name	Manufacturer's Model Name			
1	CISCO	AIR-ANT2480V-N=	Dipole	N Male	Note 1
	CUSHCRAFT	S2406BFCNM			
2	CISCO	AIR-ANT2413P2M-N=	Panel	N Male	
	PCTEL	07-1193-01			
3	CISCO	IW-ANT-OMM-53-N=	Monopole	N Female	
	MP Antenna	08-ANT-0985			
4	CISCO	AIR-ANT5180V-N=	Dipole	N Male	
	Laird TECHNOLOGES	S4905WBCFNM			
5	CISCO	IW-ANT-PNL-59-N=	Panel	SMA Female	
	HUBER+SUHNER	1356.17.0076			
6	CISCO	IW-ANT-H90-510-N=	Horn	N Female	
	RF ELEMENTS	HG3-CC-S90			
7	CISCO	AIR-ANT5114P2M-N=	Panel	N Male	
	PCTEL	07-1192-01			
8	CISCO	IW-ANT-SKD-513-Q=	Patch	QMA Female	
	PCTEL	74-133202-01			
9	CISCO	IW-ANT-SKS-514-Q=	Patch	QMA Female	
	PCTEL	74-133201-01			
10	CISCO	FLMESH-HW-ANT-28	Panel	N Female	
	HUBER+SUHNER	1356.17.0023			
11	CISCO	AIR-ANT2547V-N=	Dipole	N Male	
	Laird TECHNOLOGES	OC24527-CS1			
12	CISCO	AIR-ANT2547VG-N=	Dipole	N Male	
	Laird TECHNOLOGES	OC24528-CS3			
13	CISCO	AIR-ANT2547VG-NS=	Dipole	N Male	
	Laird Connectivity	OC24528-CS4			
14	CISCO	AIR-ANT2568VG-N=	Dipole	N Male	
	Laird Connectivity	OCX24529-CS1			
15	CISCO	AIR-ANT2568VG-NS=	Dipole	N Male	
	Laird Connectivity	OCX24529-CS2			
16	CISCO	AIR-ANT2588P4M-NS=	Patch	N Female	
	Laird Connectivity	PDM24499-CS1			
17	CISCO	AIR-ANT2513P4M-N=	Patch	N Female	
	Laird Connectivity	PDM245115H-CS1			
18	CISCO	AIR-ANT2513P4M-NS=	Patch	N Female	
	Laird Connectivity	PDM245115H-CS2			
19	CISCO	IW-ANT-OMV-2567-N	Dipole	N Male	
	TE connectivity	OCX24688-CS1			
20	CISCO	IW-ANT-OMH-2567-N	Dipole	N Male	
	TE connectivity	OCX24688H-CS1			
21	CISCO	ANT-GNSS-OUT-TNC=	Patch	TNC Male	
	Pulse	W4053T4572			



Set.	Port						
	WLAN 2.4GHz (Radio 1)	4.9GHz / 5GHz (Radio 1)	4.9GHz / 5GHz (Radio 2)	WLAN 2.4GHz (Scanning Radio 3)	WLAN 5GHz (Scanning Radio 3)	BT (Radio 4)	GPS (Radio 5)
1	-	-	-	-	-	-	-
2	1	-	-	1	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-
	4	-	-	-	-	1	-
3	-	4	1	-	2	-	-
	-	3	2	-	1	-	-
	-	2	3	-	-	-	-
	-	1	4	-	-	-	-
4	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-
9	-	4	1	-	-	-	-
	-	3	2	-	-	-	-
	-	2	3	-	-	-	-
	-	1	4	-	-	-	-
10	-	4	1	-	2	-	-
	-	3	2	-	1	-	-
	-	2	3	-	-	-	-
	-	1	4	-	-	-	-
11	1	-	-	1	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-
	4	-	-	-	-	1	-
12	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-
21	-	-	-	-	-	-	1



Note 1:

Set.	Antenna Gain (dBi)				Cable loss (dB)				Net Gain (dBi)			
	WLAN 2.4GHz (Radio 1) (Scanning Radio 3) BT (Radio 4)	5GHz (Radio 1) (Radio 2) (Scanning Radio 3)	GPS (Radio 5)		WLAN 2.4GHz (Radio 1) (Scanning Radio 3) BT (Radio 4)	5GHz (Radio 1) (Radio 2) (Scanning Radio 3)	GPS (Radio 5)		WLAN 2.4GHz (Radio 1) (Scanning Radio 3) BT (Radio 4)	5GHz (Radio 1) (Radio 2) (Scanning Radio 3)	GPS (Radio 5)	
	2.4G / Bluetooth	UNII 1~3	4.9G	-	2.4G / Bluetooth	UNII 1~3	4.9G	-	2.4G / Bluetooth	UNII 1~3	4.9G	-
1	8	-	-	-	-	-	-	-	8	-	-	-
2	13	-	-	-	-	-	-	-	13	-	-	-
3	-	3	3	-	-	-	-	-	-	3	3	-
4	-	8	7	-	-	-	-	-	-	8	7	-
5	-	9	-	-	-	0.97	-	-	-	8.03	-	-
6	-	10	-	-	-	0.97	-	-	-	9.03	-	-
7	-	13	-	-	-	-	-	-	-	13	-	-
8	-	13	13	-	-	0.97	0.97	-	-	12.09	12.09	-
9	-	14	14	-	-	0.97	0.97	-	-	13.03	13.03	-
10	-	19.5	-	-	-	0.97	-	-	-	18.53	-	-
11	4	7	-	-	-	-	-	-	4	7	-	-
12	4	7	-	-	-	-	-	-	4	7	-	-
13	4	7	-	-	-	-	-	-	4	7	-	-
14	6	8	-	-	-	-	-	-	6	8	-	-
15	6	8	-	-	-	-	-	-	6	8	-	-
16	Vertical: 9.1 Horizontal: 7.1	Vertical: 9.6 Horizontal: 7.8	-	-	0.62	0.97	-	-	Vertical: 8.48 Horizontal: 6.48	Vertical: 8.63 Horizontal: 6.83	-	-
17	13	13	-	-	0.62	0.97	-	-	12.38	12.03	-	-
18	13	13	-	-	0.62	0.97	-	-	12.38	12.03	-	-
19	4	7	7	-	-	-	-	-	4	7	7	-
20	4	7	7	-	-	-	-	-	4	7	7	-
21	-	-	-	2.5	-	-	-	-	-	-	-	2.5



Set.	Point-to-Multipoint	Point-to-Point
1	Yes	No
2	Yes	Yes
3	Yes	No
4	Yes	No
5	Yes	Yes
6	Yes	Yes
7	Yes	Yes
8	Yes	Yes
9	Yes	Yes
10	Yes	Yes
11	Yes	No
12	Yes	No
13	Yes	No
14	Yes	No
15	Yes	No
16	Yes	No
17	Yes	Yes
18	Yes	Yes
19	Yes	No
20	Yes	No
21	-	-

Note 2: The above information was declared by manufacturer.

Note 3: There are 21 set antennas in the antenna table list.

The lowest and highest antenna gain was selected for the test and recorded in this report.

The antennas were selected as below:

For WLAN 2.4GHz/BT: Set 2, 11.

For WLAN 5GHz: Set 3, 10.

For 4.9GHz: Set 3, 9.

Note 4: Directional gain information.

Type	Maximum Output Power	Power Spectral Density
Non-BF	Directional gain = Max.gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4	$Directional\ Gain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} \mathcal{E}_{j,k} \right\}^2}{N_{ANT}} \right]$
BF	$Directional\ Gain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} \mathcal{E}_{j,k} \right\}^2}{N_{ANT}} \right]$	$Directional\ Gain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} \mathcal{E}_{j,k} \right\}^2}{N_{ANT}} \right]$

Ex.

Directional Gain (NSS1) formula :

$$Directional\ Gain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left\{ \sum_{k=1}^{N_{ANT}} \mathcal{E}_{j,k} \right\}^2}{N_{ANT}} \right]$$

$$NSS1(g1,1) = 10^{G1/20} ; NSS1(g1,2) = 10^{G2/20} ; NSS1(g1,3) = 10^{G3/20} ; NSS1(g1,4) = 10^{G4/20}$$

$$g_{j,k} = (NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) + NSS1(g1,4))^2$$

$$DG = 10 \log[(NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) + NSS1(g1,4))^2 / N_{ANT}] \Rightarrow 10$$

$$\log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20})^2 / N_{ANT}]$$

Where ;

$$2.4G \ G1 = 4 \text{ dBi}; G2 = 4 \text{ dBi}; G3 = 4 \text{ dBi}; G4 = 4 \text{ dBi};$$

$$2TDG = 7.01 \text{ dBi} \quad 4TDG = 10.02 \text{ dBi}$$

$$2.4G \ G1 = 13 \text{ dBi}; G2 = 13 \text{ dBi}; G3 = 13 \text{ dBi}; G4 = 13 \text{ dBi};$$

$$2TDG = 16.01 \text{ dBi} \quad 4TDG = 19.02 \text{ dBi}$$

$$5G \ G1 = 3 \text{ dBi}; G2 = 3 \text{ dBi}; G3 = 3 \text{ dBi}; G4 = 3 \text{ dBi};$$

$$2TDG = 6.01 \text{ dBi} \quad 4TDG = 9.02 \text{ dBi}$$

$$5G \ G1 = 18.53 \text{ dBi}; G2 = 18.53 \text{ dBi}; G3 = 18.53 \text{ dBi}; G4 = 18.53 \text{ dBi};$$

$$2TDG = 18.53 \text{ dBi} \quad 4TDG = 21.54 \text{ dBi}$$

$$4.9G \ G1 = 3 \text{ dBi}; G2 = 3 \text{ dBi}; G3 = 3 \text{ dBi}; G4 = 3 \text{ dBi};$$

$$2TDG = 6.01 \text{ dBi} \quad 4TDG = 9.02 \text{ dBi}$$

$$4.9G \ G1 = 13.03 \text{ dBi}; G2 = 13.03 \text{ dBi}; G3 = 13.03 \text{ dBi}; G4 = 13.03 \text{ dBi};$$

$$2TDG = 16.04 \text{ dBi} \quad 4TDG = 19.05 \text{ dBi}$$

For Iron Radio 1

For 2.4GHz:

For IEEE 802.11b/g/n/VHT/ax mode (1TX, 2TX, 4TX/4RX):

1TX

Only Port 1 can be use as transmitting antenna.

2TX

Port 1, Port 2 can be use as transmitting antenna.

Port 1, Port 2 could transmitting simultaneously.

4TX

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit simultaneously.

4RX

Port 1, Port 2, Port 3, Port 4 can be used as receiving antennas.

Port 1, Port 2, Port 3, Port 4 could receive simultaneously.

**For Iron 5GHz UNII 1~UNII 3 and 4.9GHz:****For IEEE 802.11a/n/ac/ax mode (1TX, 2TX, 4TX/4RX):****1TX**

Only Port 1 can be use as transmitting antenna.

2TX

Port 1, Port 2 can be use as transmitting antenna.

Port 1, Port 2 could transmitting simultaneously.

4TX

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit simultaneously.

4RX

Port 1, Port 2, Port 3, Port 4 can be used as receiving antennas.

Port 1, Port 2, Port 3, Port 4 could receive simultaneously.

For Pine Radio 2**For 5GHz UNII 1~UNII 3 and 4.9GHz:****For IEEE 802.11a/n/ac/ax mode (1TX, 2TX, 4TX/4RX):****1TX**

Only Port 1 can be use as transmitting antenna.

2TX

Port 1, Port 2 can be use as transmitting antenna.

Port 1, Port 2 could transmitting simultaneously.

4TX

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit simultaneously.

4RX

Port 1, Port 2, Port 3, Port 4 can be used as receiving antennas.

Port 1, Port 2, Port 3, Port 4 could receive simultaneously.

For Scanning Radio 3**For 2.4GHz:****For IEEE 802.11b/g/n/VHT/ax mode (1TX/1RX):**

Only Port 1 can be used as transmitting/receiving antenna.

For 5GHz UNII 1~UNII 3:**For IEEE 802.11a/n/ac/ax mode (1TX/1RX):**

The EUT supports the antenna with TX and RX diversity functions.

Both port 1 and port 2 support transmit and receive functions, but only one of them will be used at one time.

The port 1 generated the worst case, so it was selected to test and record in the report.

For Radio 4**Bluetooth (1TX/1RX):**

Only Port 1 can be used as transmitting/receiving antenna.

For Radio 5**GPS (1RX):**

Only Port 1 can be used as receiving antenna.



1.1.3 Mode Test Duty Cycle

For Iron Radio 1 antenna set 2 and antenna set 11

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b_Nss1,(1Mbps)_1TX	0.628	2.02	665u	3k
802.11g_Nss1,(6Mbps)_1TX	0.961	0.17	1.977m	1k
802.11ax HEW20_Nss1,(MCS0)_1TX	0.95	0.22	5.446m	300
802.11b_Nss1,(1Mbps)_2TX	0.631	2	665u	3k
802.11g_Nss1,(6Mbps)_2TX	0.939	0.27	1.977m	1k
802.11ax HEW20_Nss1,(MCS0)_2TX	0.947	0.24	5.446m	300
802.11b_Nss1,(1Mbps)_4TX	0.625	2.04	665u	3k
802.11g_Nss1,(6Mbps)_4TX	0.961	0.17	1.977m	1k
802.11ax HEW20_Nss1,(MCS0)_4TX	0.938	0.28	5.446m	300

For Scanning radio 3 antenna set 2 and antenna set 11

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b_Nss1,(1Mbps)_1TX	0.598	2.23	665u	3k
802.11g_Nss1,(6Mbps)_1TX	0.964	0.16	1.977m	1k
802.11ax HEW20_Nss1,(MCS0)_1TX	0.924	0.34	5.446m	300

Note:

- ♦ DC is Duty Cycle.
- ♦ DCF is Duty Cycle Factor.

1.1.4 EUT Operational Condition

EUT Power Type	From PoE / Power adapter / DC 48V			
Beamforming Function	☒	With beamforming	☐	Without beamforming
	The product has beamforming function for 11n/VHT/11ax in Iron radio 1 2.4GHz, 11n/11ac/11ax in Iron radio 1 5GHz and Pine radio 2 5GHz.			
Function	☒	Point-to-multipoint	☒	Point-to-point
Support RU	☒	Full RU	☐	Partial RU
Test Software Version	QSPR (Version 5.0-00201)			
Supported Software Product IDs	IW9167EH-B - Industrial Wireless 9167 AP IW9167EH-B-AP - Wi-Fi mode IW9167EH-B-URWB - URWB mode IW9167EH-B-WGB - WGB mode IW9167EH-ROW - Industrial Wireless 9167 AP IW9167EH-ROW-AP - Wi-Fi mode IW9167EH-ROW-URWB - URWB mode IW9167EH-ROW-WGB - WGB mode			

Note: The above information was declared by manufacturer.

**1.1.5 Table for EUT support function**

Function	Support Band
AP	2.4GHz, 5GHz, 4.9GHz
P2P/P2MP	2.4GHz, 5GHz, 4.9GHz

Note1: For above table list, only AP mode was tested and recorded in this test.

Note2: The above information was declared by manufacturer.

1.1.6 Table for Radio function

Radio (R)	WLAN 2.4GHz	5GHz UNII 1~UNII 3	4.9 GHz	Scanning radio (WLAN 2.4GHz / 5GHz UNII 1~UNII 3)	Bluetooth	GPS
R1 (Iron Radio)	V (AP: 20) (P2P/P2MP: 20)	V (AP: 20/40/80) (P2P/P2MP: 20/40/80)	V	-	-	-
R2 (Pine Radio)	-	V (AP: 20/40/80/160) (P2P/P2MP: 20/40/80/160)	V	-	-	-
R3 (Scanning Radio)	-	-	-	V (AP: 20/40/80/160) (P2P/P2MP: 20/40/80/160)	-	-
R4	-	-	-	-	V	-
R5	-	-	-	-	-	V

Note: The above information was declared by manufacturer.



1.2 Applicable Standards

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

- ♦ 47 CFR FCC Part 15.247
- ♦ ANSI C63.10-2013

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

- ♦ FCC KDB 558074 D01 v05r02
- ♦ FCC KDB 662911 D01 v02r01
- ♦ FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

Testing Location Information	
Test Lab. : Sporton International Inc. Hsinchu Laboratory	
Hsinchu (TAF: 3787)	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.) TEL: 886-3-656-9065 FAX: 886-3-656-9085 Test site Designation No. TW3787 with FCC. Conformity Assessment Body Identifier (CABID) TW3787 with ISED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted (For other item tests)	TH02-CB	Jay Lo	22.5~23.8 / 55~61	Aug. 17, 2022~Nov. 29, 2022
Radiated below 1GHz (For cabinet test)	10CH01-CB	Ryan Huang	22~23 / 53~55	Nov. 02, 2022~Dec. 15, 2022
Radiated above 1GHz (For cabinet test)	03CH01-CB	Chris Lee	23.1~24.3 / 57~60	Sep. 26, 2022~Oct. 15, 2022
	03CH06-CB		22.6~23.9 / 55~59	
AC Conduction	CO01-CB	Tim Chen	23~24 / 56~57	Nov. 03, 2022~Dec. 14, 2022

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))

For 10CH01-CB

For Before Nov. 04, 2022

Test Items	Uncertainty	Remark
Radiated Emission (9kHz ~ 30MHz)	5.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.9 dB	Confidence levels of 95%

For After Nov. 03, 2022

Test Items	Uncertainty	Remark
Radiated Emission (9kHz ~ 30MHz)	5.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.4 dB	Confidence levels of 95%

**For other Test Site No.**

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	5.2 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.7 dB	Confidence levels of 95%
Conducted Emission	3.2 dB	Confidence levels of 95%
Output Power Measurement	0.8 dB	Confidence levels of 95%
Power Density Measurement	3.2 dB	Confidence levels of 95%
Bandwidth Measurement	2.0 %	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

For Radio 1

For Antenna Set 11

Mode	Power Setting
802.11b_Nss1,(1Mbps)_1TX	-
2412MHz	24
2437MHz	24
2462MHz	24
802.11g_Nss1,(6Mbps)_1TX	-
2412MHz	23
2437MHz	24
2462MHz	24
802.11ax HEW20_Nss1,(MCS0)_1TX	-
2412MHz	23
2437MHz	24
2462MHz	24
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	24
2437MHz	24
2462MHz	22
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	19.5
2417MHz	21.5
2437MHz	24
2457MHz	19.5
2462MHz	17
802.11ax HEW20_Nss1,(MCS0)_2TX	-
2412MHz	18.5
2417MHz	21
2437MHz	24
2457MHz	18.5
2462MHz	14
802.11b_Nss1,(1Mbps)_4TX	-
2412MHz	19
2437MHz	19
2462MHz	17
802.11g_Nss1,(6Mbps)_4TX	-
2412MHz	15.5



Mode	Power Setting
2437MHz	17
2457MHz	15
2462MHz	12
802.11ax HEW20_Nss1,(MCS0)_4TX	-
2412MHz	14
2417MHz	16
2437MHz	18
2457MHz	13.5
2462MHz	9.5
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
2412MHz	18.5
2417MHz	21
2437MHz	24
2457MHz	18.5
2462MHz	14
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
2412MHz	14
2417MHz	16
2437MHz	18
2457MHz	13.5
2462MHz	9.5

**For Antenna Set 2**

Mode	Power Setting
802.11b_Nss1,(1Mbps)_1TX	-
2412MHz	24
2437MHz	24
2462MHz	23
802.11g_Nss1,(6Mbps)_1TX	-
2412MHz	21.5
2417MHz	21.5
2437MHz	24
2457MHz	22
2462MHz	21
802.11ax HEW20_Nss1,(MCS0)_1TX	-
2412MHz	19.5
2417MHz	21
2437MHz	24
2457MHz	19.5
2462MHz	18
802.11b_Nss1,(1Mbps)_2TX	-
2412MHz	16.5
2417MHz	16.5
2437MHz	19.5
2462MHz	19
802.11g_Nss1,(6Mbps)_2TX	-
2412MHz	15.5
2417MHz	16
2437MHz	19
2457MHz	16
2462MHz	13
802.11ax HEW20_Nss1,(MCS0)_2TX	-
2412MHz	14.5
2417MHz	16
2437MHz	18
2457MHz	14.5
2462MHz	10.5
802.11b_Nss1,(1Mbps)_4TX	-
2412MHz	12
2437MHz	14
2462MHz	14
802.11g_Nss1,(6Mbps)_4TX	-
2412MHz	10



Mode	Power Setting
2437MHz	11
2457MHz	9.5
2462MHz	8
802.11ax HEW20_Nss1,(MCS0)_4TX	-
2412MHz	9
2437MHz	10
2462MHz	9.5
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
2412MHz	14.5
2417MHz	16
2437MHz	18
2457MHz	14.5
2462MHz	10.5
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
2412MHz	9
2437MHz	10
2462MHz	9.5

For Scanning radio 3**For Antenna Set 11**

Mode	Power Setting
802.11b_Nss1,(1Mbps)_1TX	-
2412MHz	22
2437MHz	22
2462MHz	22
802.11g_Nss1,(6Mbps)_1TX	-
2412MHz	17.5
2417MHz	19
2437MHz	22
2457MHz	19.5
2462MHz	18.5
802.11ax HEW20_Nss1,(MCS0)_1TX	-
2412MHz	13
2417MHz	18
2437MHz	22
2457MHz	18.5
2462MHz	16.5

**For Antenna Set 2**

Mode	Power Setting
802.11b_Nss1,(1Mbps)_1TX	-
2412MHz	18.5
2417MHz	19.5
2437MHz	22
2457MHz	18.5
2462MHz	18
802.11g_Nss1,(6Mbps)_1TX	-
2412MHz	10.5
2417MHz	16
2437MHz	21
2457MHz	15.5
2462MHz	12.5
802.11ax HEW20_Nss1,(MCS0)_1TX	-
2412MHz	7
2417MHz	13
2437MHz	20
2457MHz	14
2462MHz	10.5

Note:

- ♦ Evaluated HEW20 mode only, due to similar modulation. The power setting of HT20/VHT20 mode are the same or lower than HEW20.
- ♦ The EUT supports beamforming and CDD modes, and the CDD mode is the worst case. Therefore, all test items are evaluated in the report. The beamforming mode only evaluates the output power.

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	EUT + Iron R1 : 2.4GHz + adapter
2	EUT + Iron R1 : 2.4GHz + PoE
Mode 1 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3~7 will follow this same test mode.	
3	EUT + Iron R1 : 5GHz + adapter
4	EUT + Pine R2 : 5GHz + adapter
5	EUT + Scanning R3 : 2.4GHz + adapter
6	EUT + Scanning R3 : 5GHz + adapter
7	EUT + R4 : Bluetooth + adapter
8	EUT + Iron R1 : 2.4GHz + Ethernet cable + DC 48V
9	EUT + Iron R1 : 2.4GHz + Ethernet cable + PoE
Mode 8 has been evaluated to be the worst case among Mode 8~9, thus measurement for Mode 10~14 will follow this same test mode.	
10	EUT + Iron R1 : 5GHz + Ethernet cable + DC 48V
11	EUT + Pine R2 : 5GHz + Ethernet cable + DC 48V
12	EUT + Scanning R3 : 2.4GHz + Ethernet cable + DC 48V
13	EUT + Scanning R3 : 5GHz + Ethernet cable + DC 48V
14	EUT + R4 : Bluetooth + Ethernet cable + DC 48V
For operating mode 6 is the worst case and it was record in this test report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands Emissions in Restricted Frequency Bands above 1GHz
Test Condition	Conducted measurement at transmit chains
1	Iron R1 : 2.4GHz
2	Scanning R3 : 2.4GHz

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands below 1GHz
Test Condition	Conducted measurement at transmit chains
1	Iron R1 : 2.4GHz
2	Iron R1 : 5GHz
3	Pine R2 : 5GHz
4	Scanning R3 : 2.4GHz
5	Scanning R3 : 5GHz
6	R4 : Bluetooth
For operating mode 3 is the worst case and it was record in this test report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement
Operating Mode < 1GHz	CTX (Cabinet)
	The EUT was performed at the X axis, Y axis, and Z axis position for Emissions in Restricted Frequency Bands above 1GHz test, and the worst case axis was found and listed below. So the measurement will follow this same test configuration.
1	EUT in Y axis + Iron R1 : 2.4GHz + adapter
2	EUT in Y axis + Iron R1 : 2.4GHz + PoE
Mode 2 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3~7 will follow this same test mode.	
3	EUT in Y axis + Iron R1 : 5GHz + PoE
4	EUT in Y axis + Pine R2 : 5GHz + PoE
5	EUT in Y axis + Scanning R3 : 2.4GHz + PoE
6	EUT in Z axis + Scanning R3 : 5GHz + PoE
7	EUT in Y axis + R4 : Bluetooth + PoE
8	EUT in Y axis + Iron R1 : 2.4GHz + Ethernet cable + DC 48V
9	EUT in Y axis + Iron R1 : 2.4GHz + Ethernet cable + PoE
Mode 9 has been evaluated to be the worst case among Mode 8~9, thus measurement for Mode 10~14 will follow this same test mode.	
10	EUT in Y axis + Iron R1 : 5GHz + Ethernet cable + PoE
11	EUT in Y axis + Pine R2 : 5GHz + Ethernet cable + PoE
12	EUT in Y axis + Scanning R3 : 2.4GHz + Ethernet cable + PoE
13	EUT in Z axis + Scanning R3 : 5GHz + Ethernet cable + PoE



14	EUT in Y axis + R4 : Bluetooth + Ethernet cable + PoE
For operating mode 5 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX (Cabinet)
	The EUT was performed at the X axis, Y axis, and Z axis position, and the worst case axis was found and listed below. So the measurement will follow this same test configuration.
1	EUT in Y axis + Iron R1 : 2.4GHz
2	EUT in Y axis + Scanning R3 : 2.4GHz

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Conducted Emission Co-location
Test Condition	Conducted measurement at transmit chains
Operating Mode	CTX
1	Iron R1 (2.4GHz) + Iron R1 (5GHz) + Scanning R3 (2.4GHz) + R4 (Bluetooth)
2	Iron R1 (2.4GHz) + Iron R1 (5GHz) + Scanning R3 (5GHz port 2) + R4 (Bluetooth)
3	Pine R2 (5GHz) + Scanning R3 (5GHz port 1)
Refer to Appendix G for Radiated Emission Co-location.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	Iron R1 (2.4GHz) + Iron R1 (4.9GHz / 5GHz) + Pine R2 (4.9GHz / 5GHz) + Scanning R3 (2.4GHz) + R4 (Bluetooth)
2	Iron R1 (2.4GHz) + Iron R1 (4.9GHz / 5GHz) + Pine R2 (4.9GHz / 5GHz) + Scanning R3 (5GHz port 2) + R4 (Bluetooth)
3	Iron R1 (2.4GHz) + Iron R1 (4.9GHz / 5GHz) + Pine R2 (4.9GHz / 5GHz) + Scanning R3 (5GHz port 1) + R4 (Bluetooth)
Refer to Sporton Test Report No.: FA281101 for Co-location RF Exposure Evaluation.	

Note: The Adapter and PoE are for measurement only, would not be marketed.

Adapter and PoE information as below:

Power	Brand	Model
Adapter	LITEON	PA-1600-1C
PoE	CISCO	POE075U-1BT-C



2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

Accessories
Sealing collar*3
Wall-mounted rack*2
Grounding wire*1, Non shielded, 0.8m
DC cable*1, Non shielded, 2.6m
DC cable connect*1
Ethernet cable*2, Shielded, 3m
Ethernet cable connect*2

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E6430	N/A
B	Adapter	LITEON	PA-1600-1C	N/A

For Radiated (below 1GHz):

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PoE	PHIHONG	POE075U-1BT-C	N/A
B	LAN NB	DELL	E6430	N/A

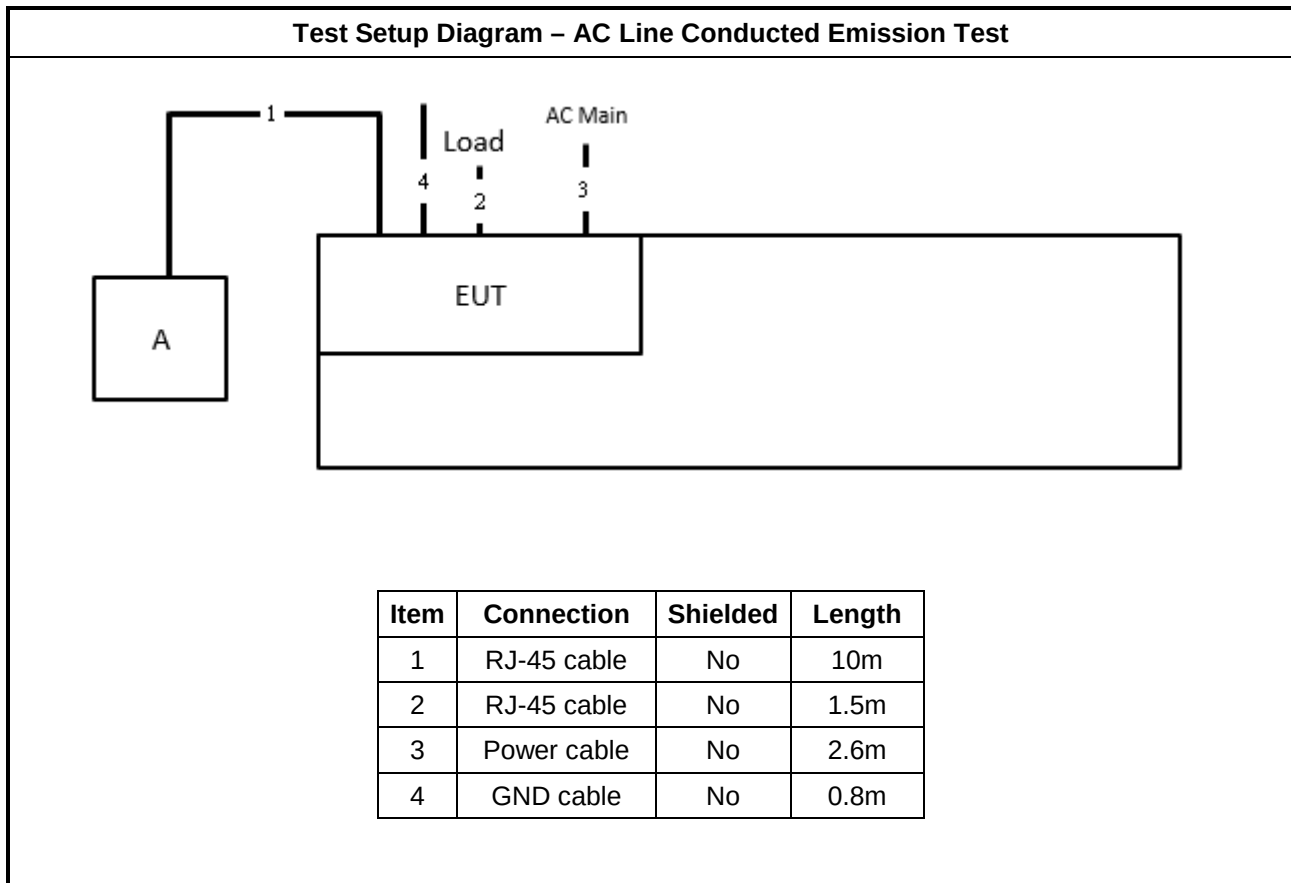
For Radiated (above 1GHz):

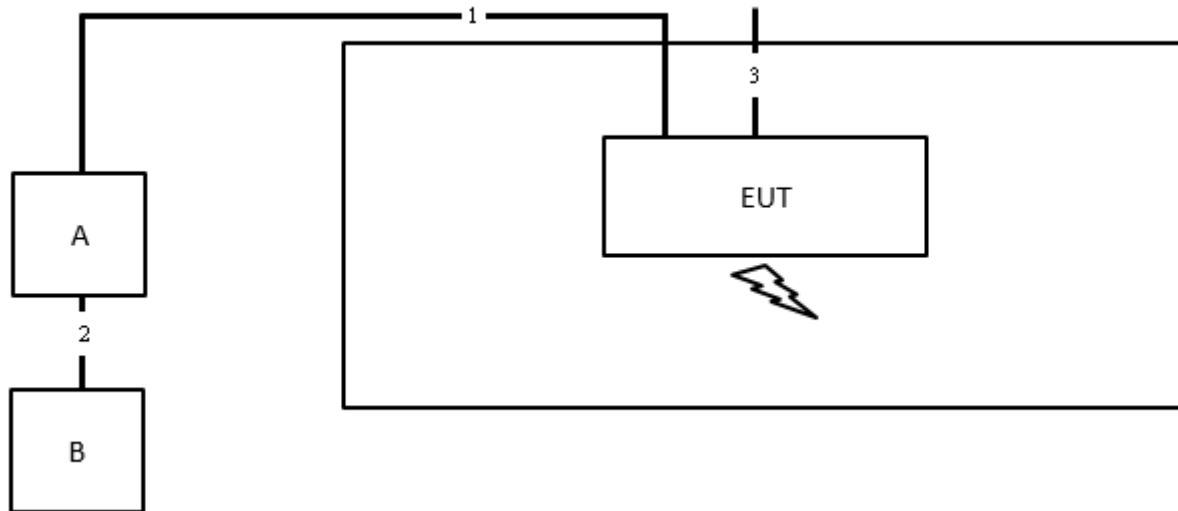
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	Adapter	LITEON	PA-1600-1C	N/A

For RF Conducted:

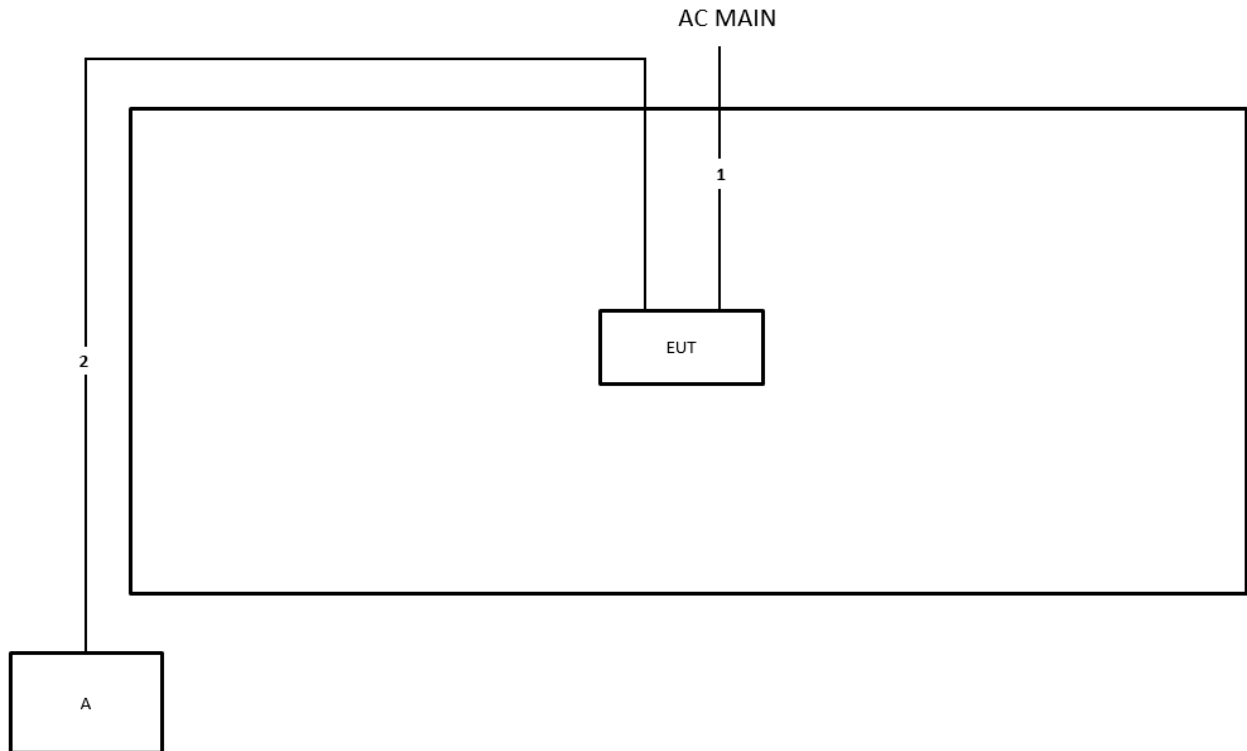
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	Adapter	LITEON	PA-1600-1C	N/A

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test < 1GHz


Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	RJ-45 cable	No	3m
3	GND cable	No	0.8m

Test Setup Diagram - Radiated Test > 1GHz


Item	Connection	Shielded	Length
1	Power cable	No	2.6m
2	RJ-45 cable	No	10m



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

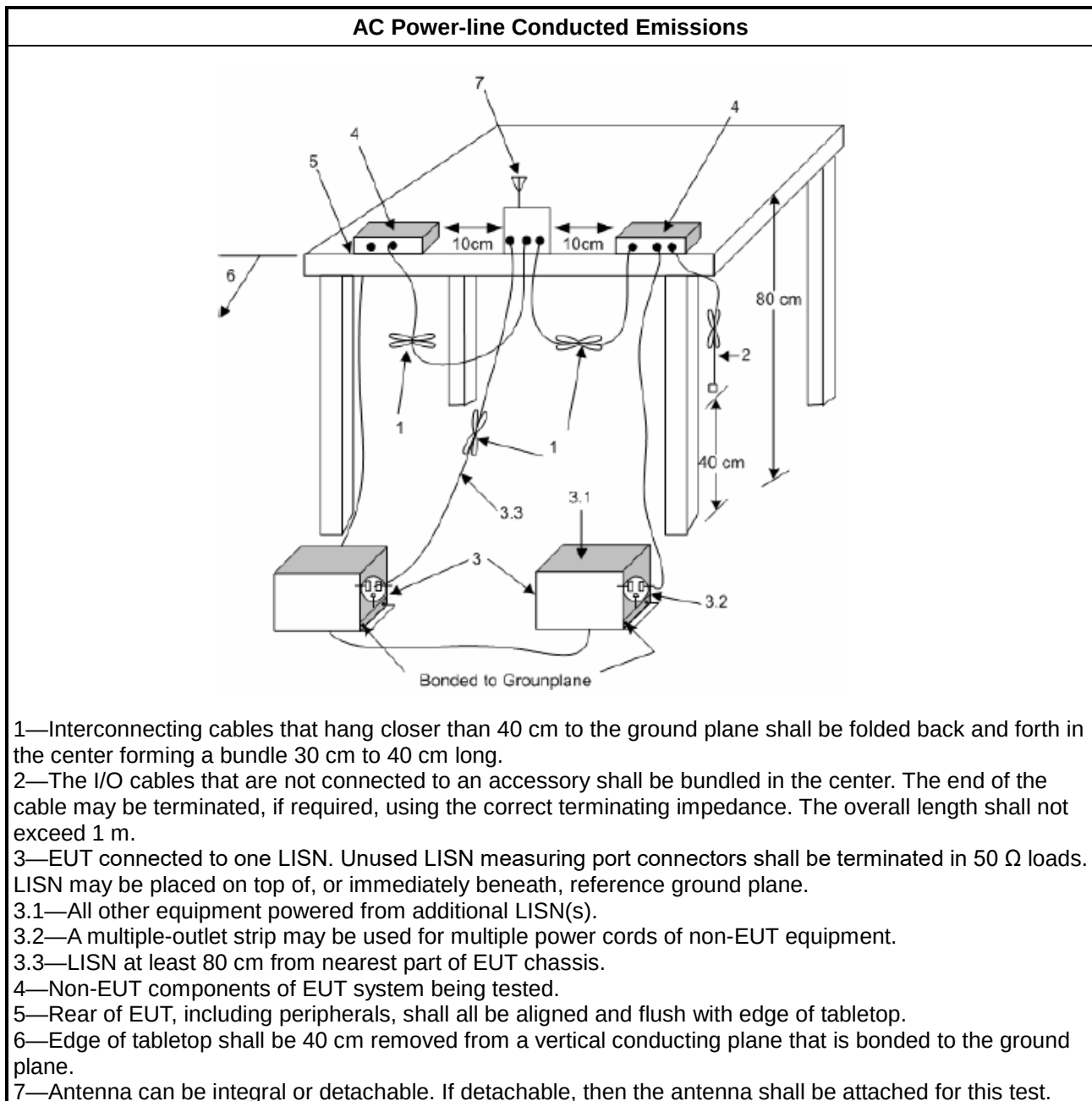
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



3.1.5 Measurement Results Calculation

The measured Level is calculated using:

- a. Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level
- b. Margin = -Limit + Level

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.

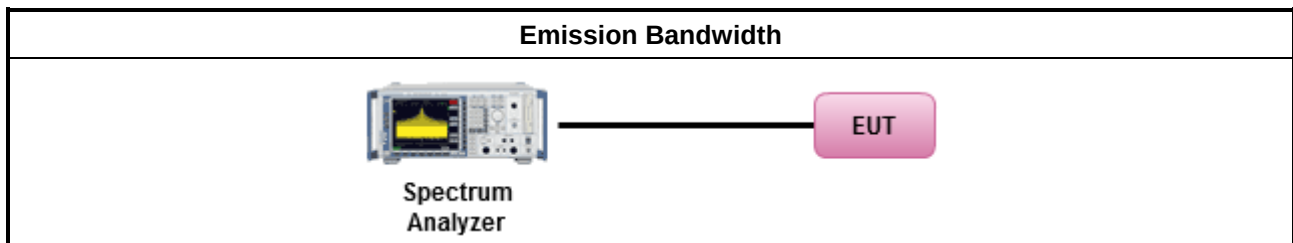
3.2.2 Measuring Instruments

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:
☒ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement.
☐ Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement.
☐ Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

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

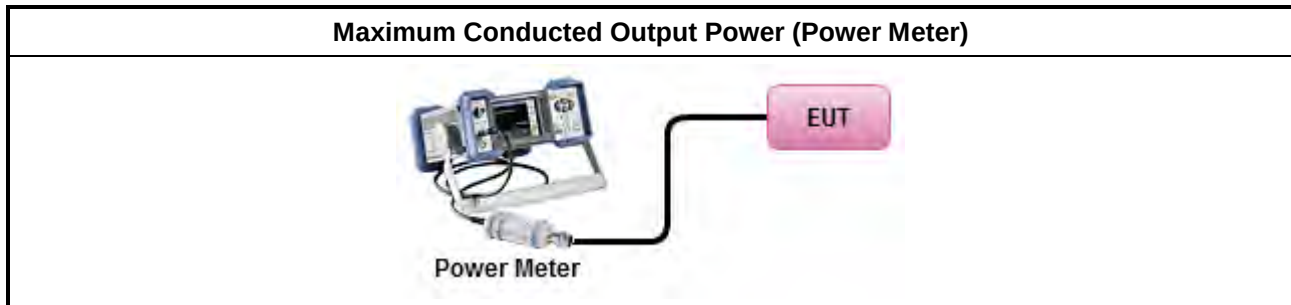
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
Maximum Peak Conducted Output Power	
☐	Refer as FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method).
☐	Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).
Maximum Conducted Output Power	
[duty cycle ≥ 98% or external video / power trigger]	
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1.
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.3 Method AVGSA-1A. (alternative)
duty cycle < 98% and average over on/off periods with duty factor	
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2.
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative)
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.7 Method AVGSA-3A (alternative)
Measurement using a power meter (PM)	
☐	Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.1 Method AVGPM (using an RF average power meter).
☒	Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.2 Method AVGPM-G (using an gate RF average power meter).
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.	
If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (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
▪ Power Spectral Density (PSD) ≤ 8 dBm/3kHz

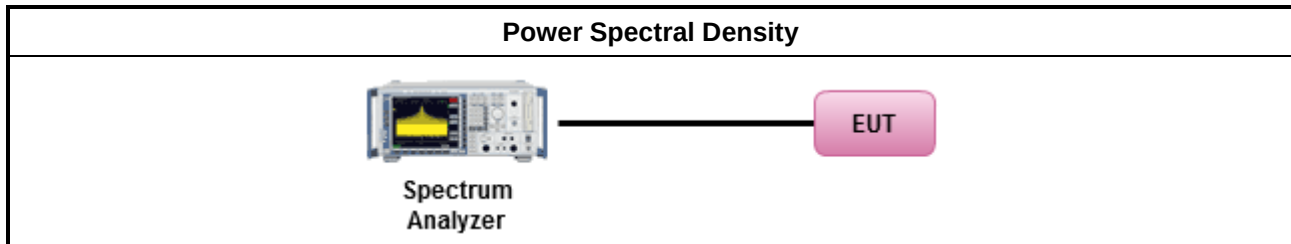
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).	
☒	Refer as FCC KDB 558074, clause 8.4 & C63.10 clause 11.10 Method Max. PSD.
▪ For conducted measurement.	
▪ If The EUT supports multiple transmit chains using options given below:	
☒	Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
☐	Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
☐	Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

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

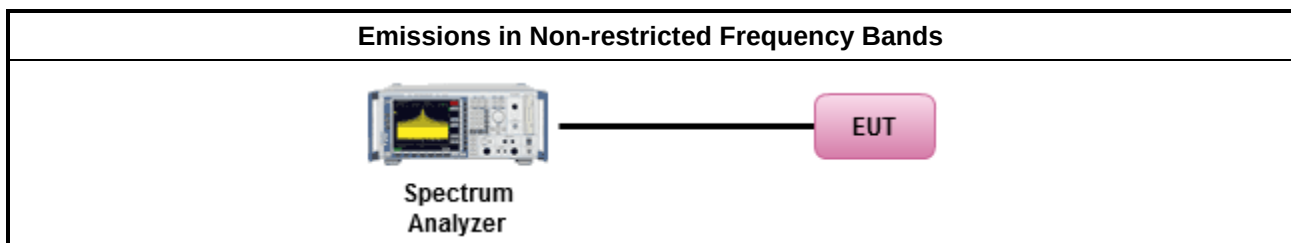
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

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

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

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

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

3.6.2 Measuring Instruments

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



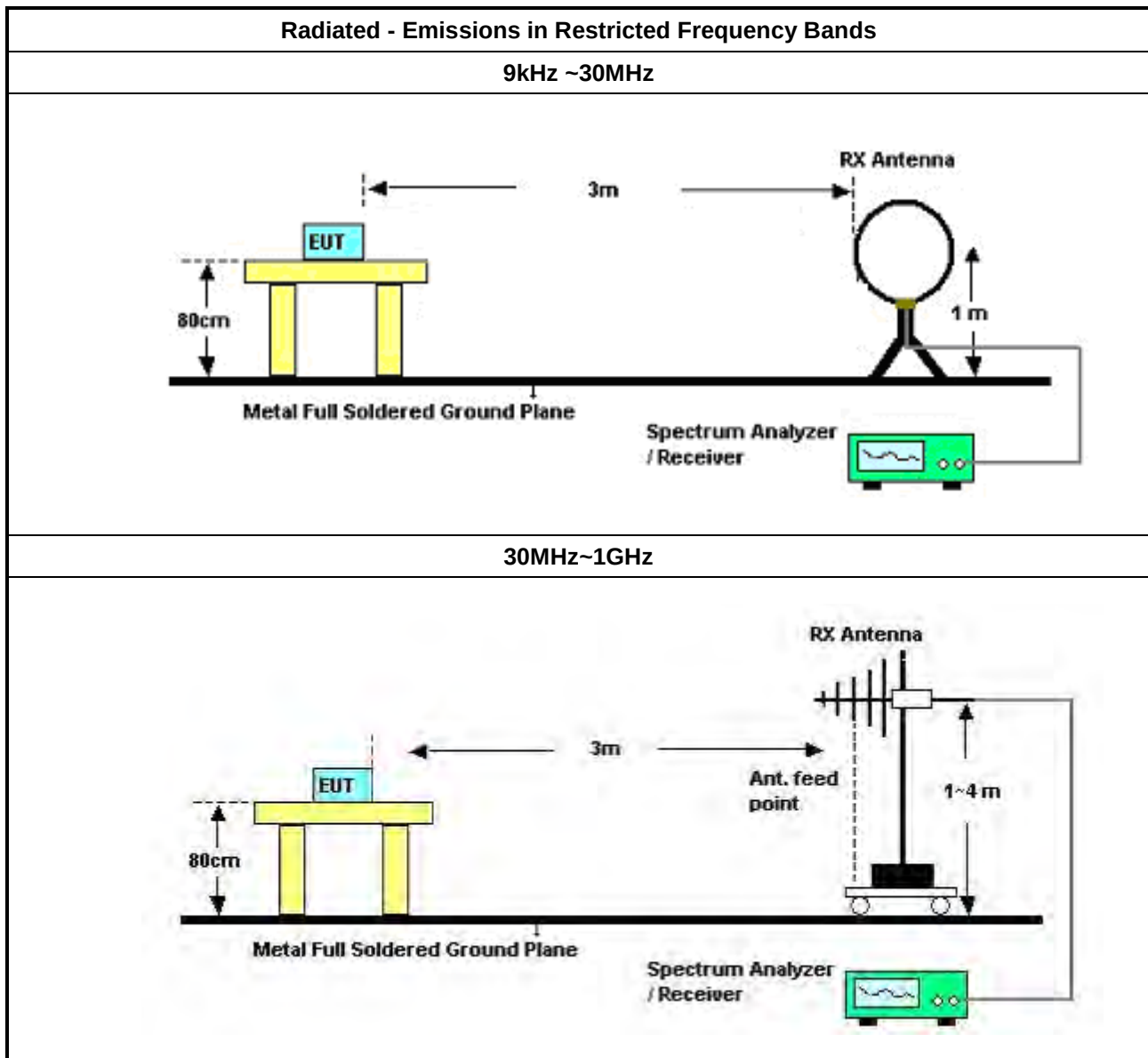
3.6.3 Test Procedures

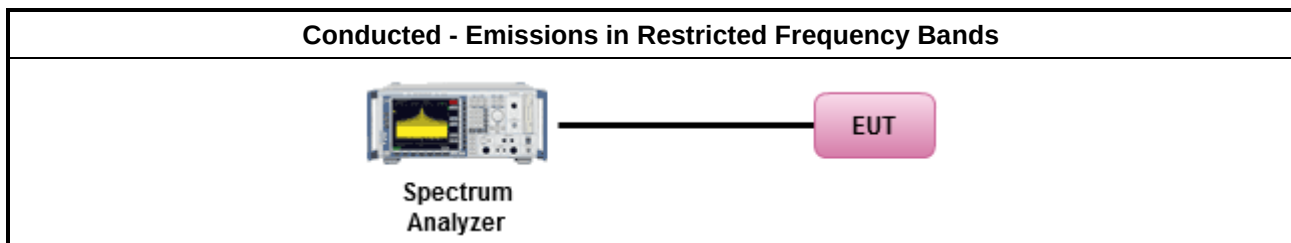
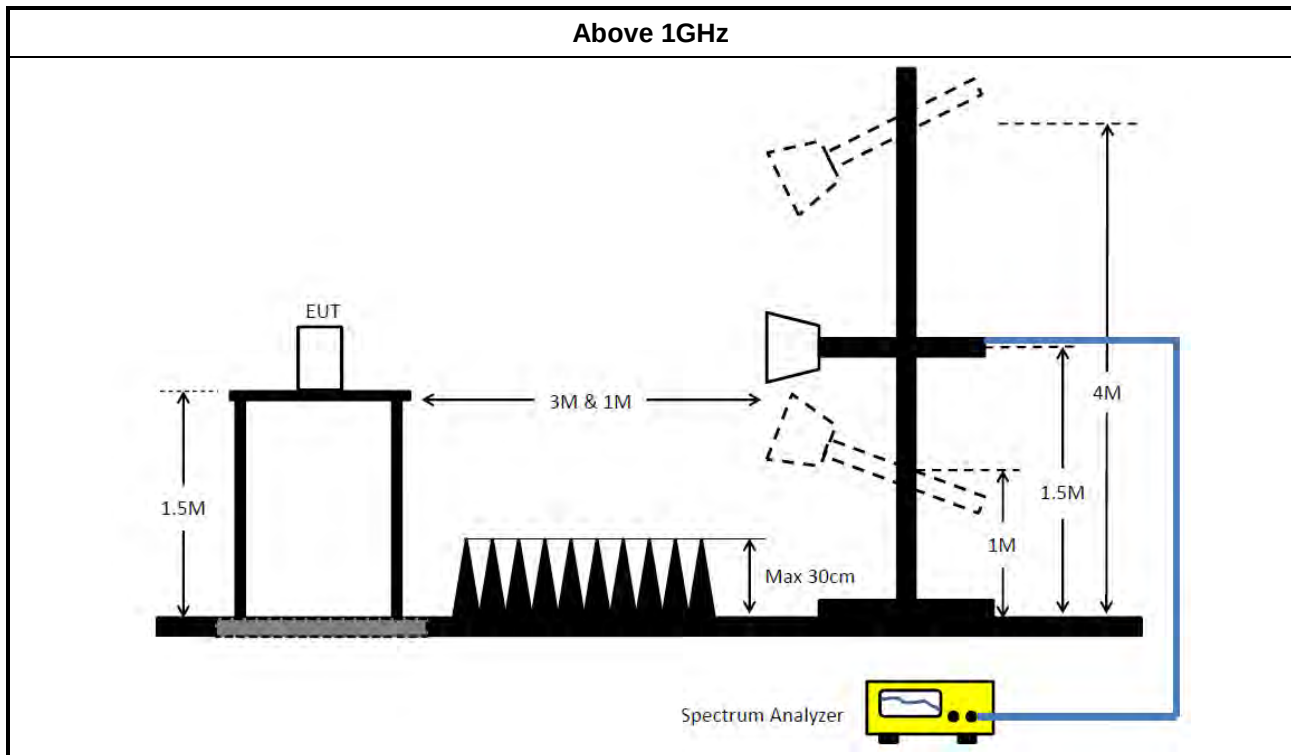
Test Method	
The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].	
Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
For the transmitter unwanted emissions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



Test Method	
	▪ For conducted and cabinet radiation measurement, refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.2.
	▪ For conducted unwanted emissions into non-restricted bands (relative emission limits). Devices with multiple transmit chains: Refer as FCC KDB 662911, when testing out-of-band and spurious emissions against relative emission limits, tests may be performed on each output individually without summing or adding 10 log(N) if the measurements are made relative to the in-band emissions on the individual outputs.
	▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
	▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

3.6.4 Test Setup





3.6.5 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

3.6.6 Emissions in Restricted Frequency Bands (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.

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

The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10th harmonic or 40 GHz, whichever is appropriate.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Feb. 22, 2022	Feb. 21, 2023	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-1 6-2	04083	150kHz ~ 100MHz	Feb. 09, 2022	Feb. 08, 2023	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Apr. 12, 2022	Apr. 11, 2023	Conduction (CO01-CB)
Pulse Limiter	Rohde& Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Feb. 10, 2022	Feb. 09, 2023	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 18, 2022	May 17, 2023	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	May 14, 2022	May 13, 2023	Radiation (10CH01-CB)
10m Semi Anechoic Chamber NSA	TDK	SAC-10M	10CH01-CB	30MHz~1GHz 10m,3m	Jan. 27, 2022	Jan. 26, 2023	Radiation (10CH01-CB)
Amplifier	Agilent	8447D	2944A10783	9kHz ~ 1.3GHz	Mar. 11, 2022	Mar. 10, 2023	Radiation (10CH01-CB)
Amplifier	Agilent	8447D	2944A10784	9kHz ~ 1.3GHz	Mar. 11, 2022	Mar. 10, 2023	Radiation (10CH01-CB)
Low Cable	Woken	SUCOFLEX 104	low cable-01	25MHz ~ 1GHz	Oct. 18, 2022	Oct. 17, 2023	Radiation (10CH01-CB)
Low Cable	Woken	SUCOFLEX 104	low cable-02	25MHz ~ 1GHz	Oct. 18, 2022	Oct. 17, 2023	Radiation (10CH01-CB)
Biconical Antenna	Schwarzbeck	VHBB 9124	324	30MHz ~ 200MHz	Jun. 11, 2022	Jun. 10, 2023	Radiation (10CH01-CB)
Log Antenna	Schwarzbeck	VUSLP 9111	247	200MHz ~ 1GHz	Jun. 11, 2022	Jun. 10, 2023	Radiation (10CH01-CB)
EMI Test Receiver	Rohde& Schwarz	ESCI	100186	9kHz ~ 3GHz	Jul. 11, 2022	Jul. 10, 2023	Radiation (10CH01-CB)
Spectrum Analyzer	Rohde& Schwarz	FSV30	101026	9kHz ~ 30GHz	Apr. 22, 2022	Apr. 21, 2023	Radiation (10CH01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (10CH01-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH01-CB	1GHz ~18GHz 3m	May 06, 2022	May 05, 2023	Radiation (03CH01-CB)
Horn Antenna	ETS-LINDGR EN	3115	00075790	750MHz ~ 18GHz	Nov. 06, 2021	Nov. 05, 2022	Radiation (03CH01-CB)
Horn Antenna	SCHWARZB EAK	BBHA9170	BBHA9170252	15GHz ~ 40GHz	Aug. 22, 2022	Aug. 21, 2023	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02121	1GHz ~ 26.5GHz	May 19, 2022	May 18, 2023	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 20, 2022	Jul. 19, 2023	Radiation (03CH01-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	May 06, 2022	May 05, 2023	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16	1 GHz ~ 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16	1 GHz ~ 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16+17	1 GHz ~ 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16+17	1 GHz ~ 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Radiation (03CH01-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH01-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH01-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH01-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH01-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH06-CB	1GHz ~18GHz 3m	Oct. 01, 2021	Sep. 30, 2022	Radiation (03CH06-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH06-CB	1GHz ~18GHz 3m	Sep. 30, 2022	Sep. 29, 2023	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1292	1GHz~18GHz	Aug. 09, 2022	Aug. 08, 2023	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170252	15GHz ~ 40GHz	Aug. 22, 2022	Aug. 21, 2023	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	83017A	MY53270064	0.5GHz ~ 26.5GHz	Aug 02, 2022	Aug 01, 2023	Radiation (03CH06-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 20, 2022	Jul. 19, 2023	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Dec. 24, 2021	Dec. 23, 2022	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-67	1GHz~18GHz	Feb. 24, 2022	Feb. 23, 2023	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-05+67	1GHz~18GHz	Feb. 24, 2022	Feb. 23, 2023	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH06-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Aug. 15, 2022	Aug. 14, 2023	Conducted (TH02-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Oct. 25, 2021	Oct. 24, 2022	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Oct. 17, 2022	Oct. 16, 2023	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Oct. 25, 2021	Oct. 24, 2022	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Oct. 17, 2022	Oct. 16, 2023	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-03	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-03	1 GHz – 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH02-CB)
Switch	SPTCB	SP-SWI	SWI-02	1 GHz – 26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH02-CB)

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

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



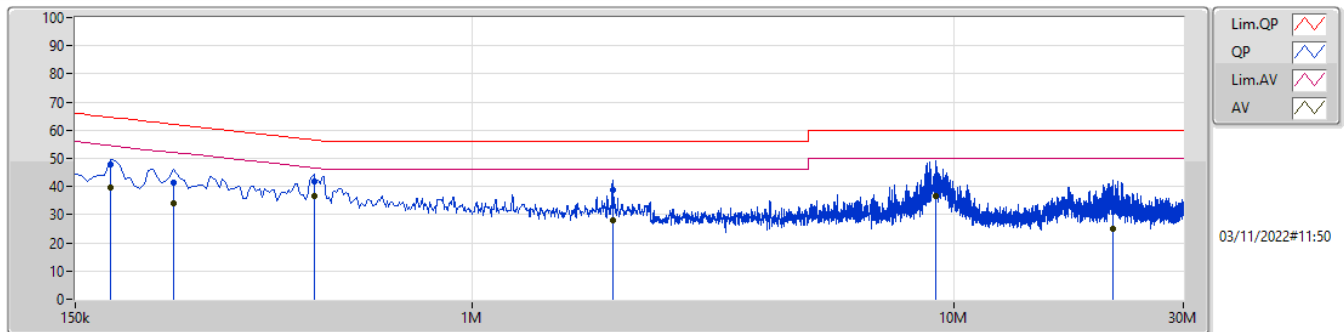
Conducted Emissions at Powerline

Appendix A

Summary

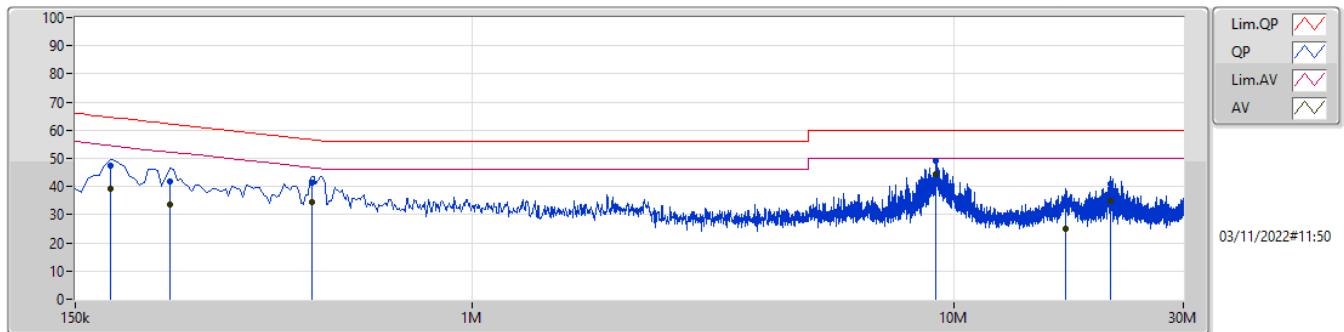
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 6	Pass	AV	9.173M	44.20	50.00	-5.80	Neutral

Mode 6



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	177k	47.82	64.62	-16.80	9.99	Line	-	37.83	0.06	0.04	9.89						
AV	177k	39.50	54.62	-15.12	9.99	Line	-	29.51	0.06	0.04	9.89						
QP	240k	41.52	62.10	-20.58	10.00	Line	-	31.52	0.06	0.05	9.89						
AV	240k	33.90	52.10	-18.20	10.00	Line	-	23.90	0.06	0.05	9.89						
QP	469.5k	41.70	56.52	-14.82	10.01	Line	-	31.69	0.06	0.06	9.89						
AV	469.5k	36.64	46.52	-9.88	10.01	Line	-	26.63	0.06	0.06	9.89						
QP	1.959M	38.81	56.00	-17.19	10.07	Line	-	28.74	0.09	0.09	9.89						
AV	1.959M	27.98	46.00	-18.02	10.07	Line	-	17.91	0.09	0.09	9.89						
QP	9.173M	41.36	60.00	-18.64	10.27	Line	-	31.09	0.21	0.15	9.91						
AV	9.173M	36.54	50.00	-13.46	10.27	Line	"Worst"	26.27	0.21	0.15	9.91						
QP	21.404M	32.35	60.00	-27.65	10.52	Line	-	21.83	0.32	0.24	9.96						
AV	21.404M	24.96	50.00	-25.04	10.52	Line	-	14.44	0.32	0.24	9.96						

Mode 6



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)						
QP	177k	47.34	64.62	-17.28	10.00	Neutral	-	37.34	0.07	0.04	9.89						
AV	177k	39.38	54.62	-15.24	10.00	Neutral	-	29.38	0.07	0.04	9.89						
QP	235.5k	41.85	62.25	-20.40	10.00	Neutral	-	31.85	0.07	0.04	9.89						
AV	235.5k	33.54	52.25	-18.71	10.00	Neutral	-	23.54	0.07	0.04	9.89						
QP	465k	41.40	56.61	-15.21	10.02	Neutral	-	31.38	0.07	0.06	9.89						
AV	465k	34.58	46.61	-12.03	10.02	Neutral	-	24.56	0.07	0.06	9.89						
QP	9.173M	48.93	60.00	-11.07	10.29	Neutral	-	38.64	0.23	0.15	9.91						
AV	9.173M	44.20	50.00	-5.80	10.29	Neutral	"Worst"	33.91	0.23	0.15	9.91						
QP	17.115M	33.38	60.00	-26.62	10.43	Neutral	-	22.95	0.29	0.19	9.95						
AV	17.115M	24.87	50.00	-25.13	10.43	Neutral	-	14.44	0.29	0.19	9.95						
QP	21.161M	41.16	60.00	-18.84	10.50	Neutral	-	30.66	0.30	0.24	9.96						
AV	21.161M	34.98	50.00	-15.02	10.50	Neutral	-	24.48	0.30	0.24	9.96						

**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
802.11b_Nss1,(1Mbps)_1TX	8.05M	12.887M	12M9G1D	7.55M	12.87M
802.11g_Nss1,(6Mbps)_1TX	16.325M	16.448M	16M5D1D	16.3M	16.431M
802.11ax HEW20_Nss1,(MCS0)_1TX	18.825M	18.945M	19MOD1D	18.7M	18.908M
802.11b_Nss1,(1Mbps)_2TX	8.025M	13.045M	13M0G1D	7.05M	12.858M
802.11g_Nss1,(6Mbps)_2TX	16.325M	16.697M	16M7D1D	16.3M	16.431M
802.11ax HEW20_Nss1,(MCS0)_2TX	18.95M	19.082M	19M1D1D	18.425M	18.866M
802.11b_Nss1,(1Mbps)_4TX	8.05M	13.001M	13M0G1D	7.05M	12.869M
802.11g_Nss1,(6Mbps)_4TX	16.35M	16.487M	16M5D1D	16.3M	16.404M
802.11ax HEW20_Nss1,(MCS0)_4TX	18.925M	18.987M	19MOD1D	18.525M	18.855M

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)_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	8.05M	12.887M						
2437MHz	Pass	500k	7.55M	12.886M						
2462MHz	Pass	500k	8.025M	12.87M						
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.325M	16.431M						
2437MHz	Pass	500k	16.3M	16.448M						
2462MHz	Pass	500k	16.3M	16.442M						
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.7M	18.945M						
2437MHz	Pass	500k	18.825M	18.942M						
2462MHz	Pass	500k	18.825M	18.908M						
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	7.575M	12.858M	7.05M	13.045M				
2437MHz	Pass	500k	8M	12.903M	8.025M	13M				
2462MHz	Pass	500k	8.025M	12.873M	7.075M	12.995M				
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.3M	16.451M	16.3M	16.441M				
2437MHz	Pass	500k	16.3M	16.45M	16.3M	16.697M				
2462MHz	Pass	500k	16.3M	16.469M	16.325M	16.431M				
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.9M	18.866M	18.625M	18.935M				
2437MHz	Pass	500k	18.575M	18.898M	18.825M	19.082M				
2462MHz	Pass	500k	18.425M	18.877M	18.95M	18.934M				
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	8.025M	12.903M	8.025M	12.966M	7.05M	12.909M	8M	12.878M
2437MHz	Pass	500k	8.025M	12.916M	8.025M	12.975M	7.525M	12.939M	7.05M	12.869M
2462MHz	Pass	500k	8.05M	12.9M	8.05M	13.001M	8.025M	13M	8.05M	12.927M
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.325M	16.467M	16.325M	16.441M	16.3M	16.442M	16.3M	16.406M
2437MHz	Pass	500k	16.325M	16.483M	16.3M	16.459M	16.325M	16.408M	16.3M	16.433M
2462MHz	Pass	500k	16.35M	16.487M	16.325M	16.432M	16.35M	16.404M	16.3M	16.435M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.85M	18.887M	18.9M	18.987M	18.8M	18.916M	18.775M	18.936M
2437MHz	Pass	500k	18.525M	18.87M	18.925M	18.925M	18.9M	18.933M	18.75M	18.916M
2462MHz	Pass	500k	18.75M	18.855M	18.875M	18.925M	18.875M	18.937M	18.925M	18.901M

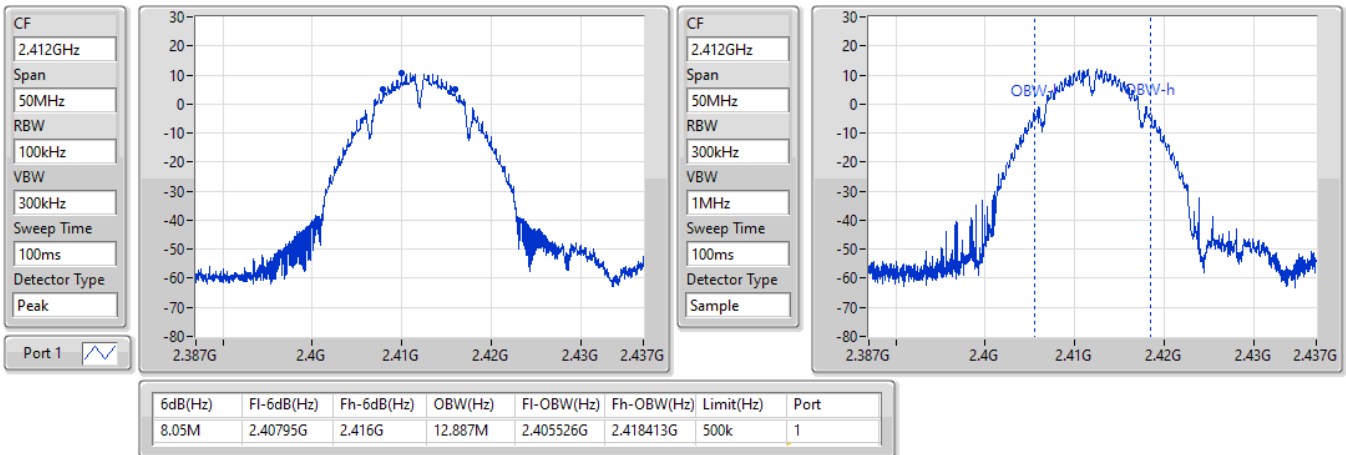
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

802.11b_Nss1,(1Mbps)_1TX

2412MHz

EBW

17/08/2022

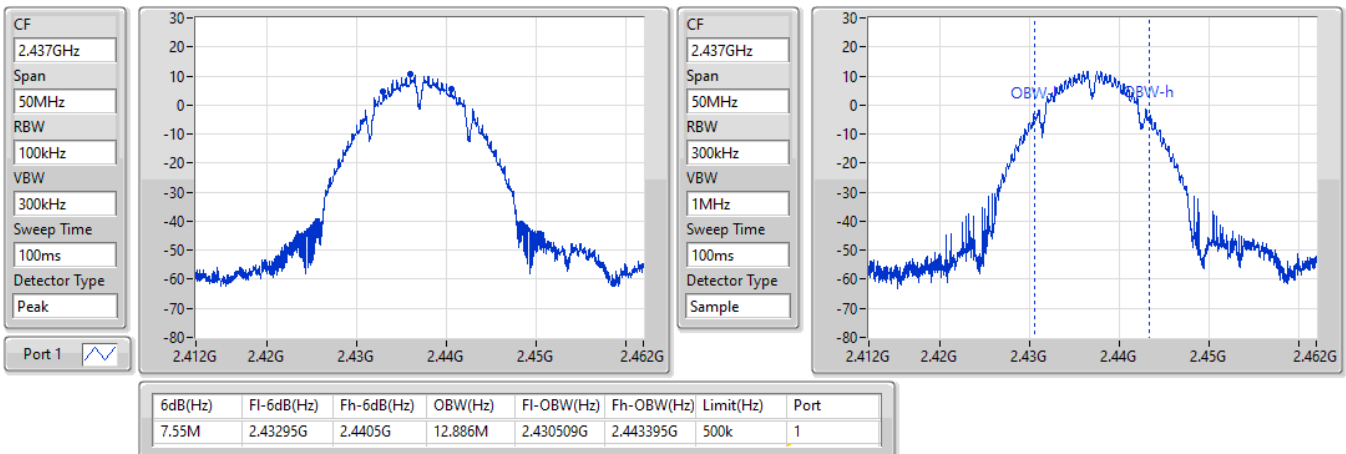


802.11b_Nss1,(1Mbps)_1TX

2437MHz

EBW

17/08/2022

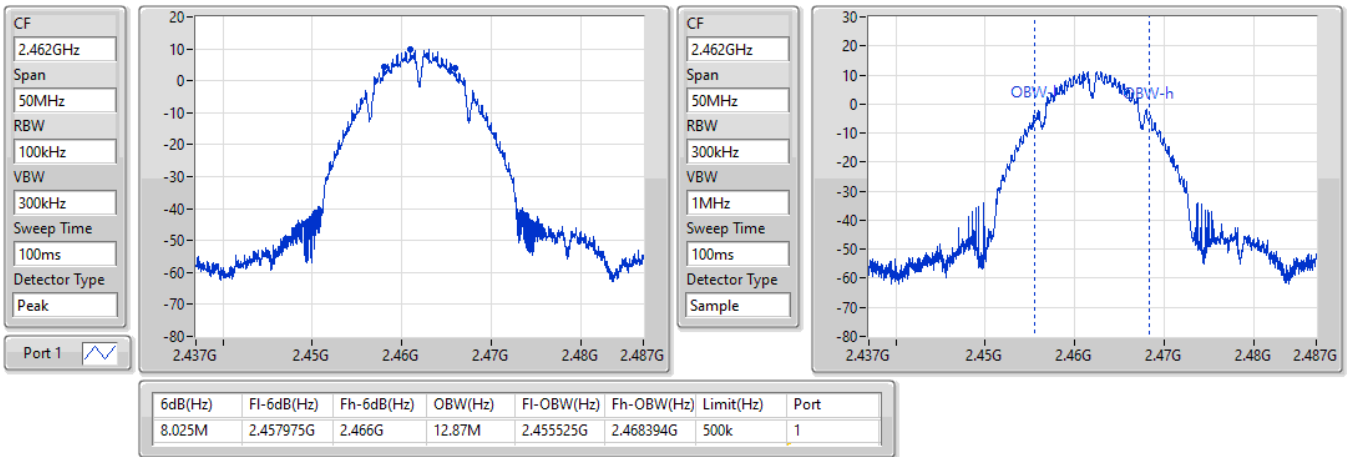


802.11b_Nss1,(1Mbps)_1TX

EBW

2462MHz

17/08/2022

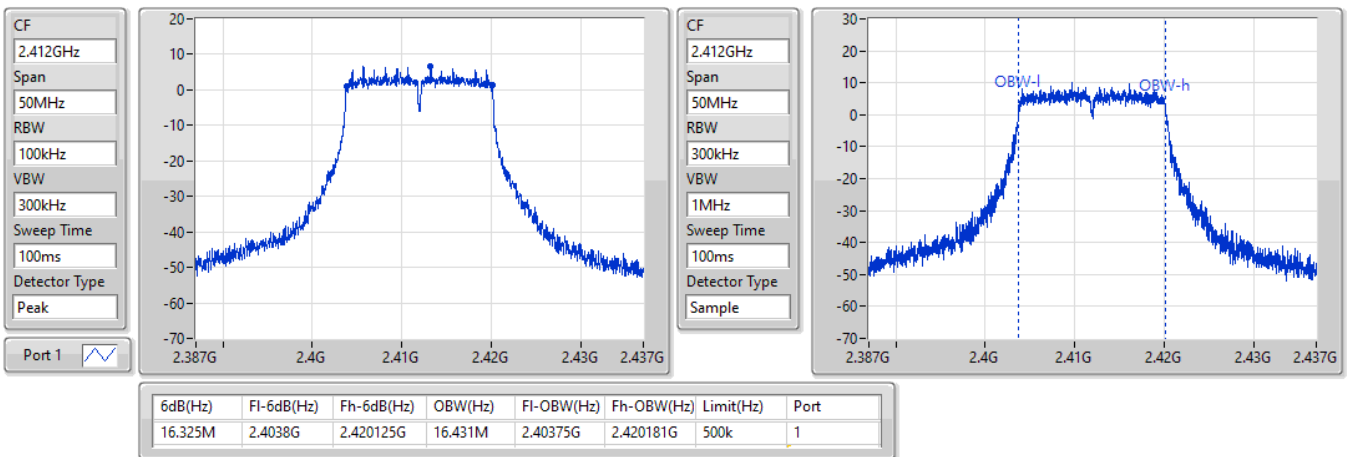


802.11g_Nss1,(6Mbps)_1TX

EBW

2412MHz

18/08/2022

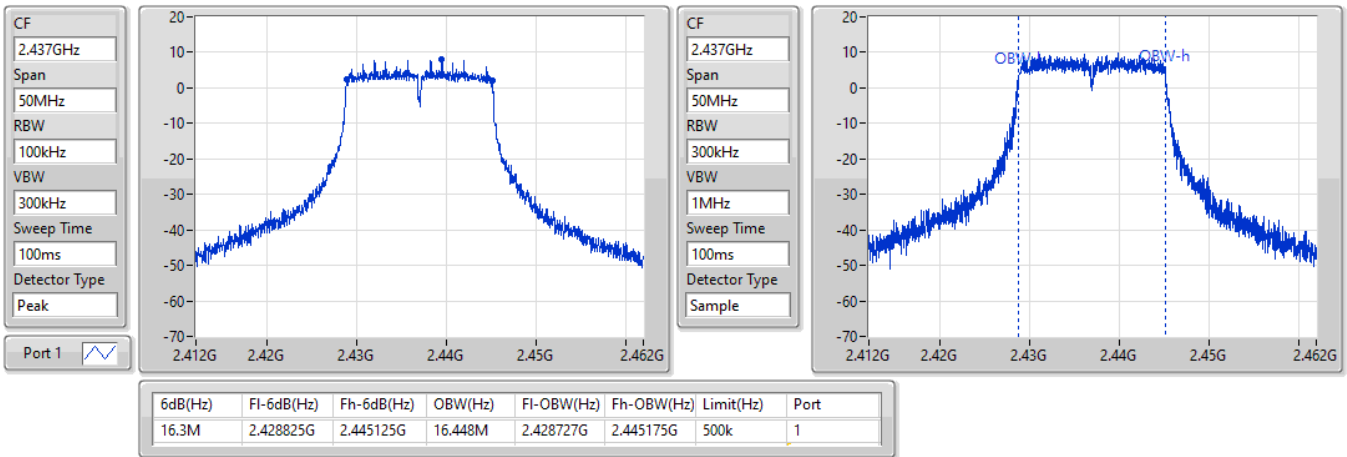


802.11g_Nss1,(6Mbps)_1TX

EBW

2437MHz

17/08/2022

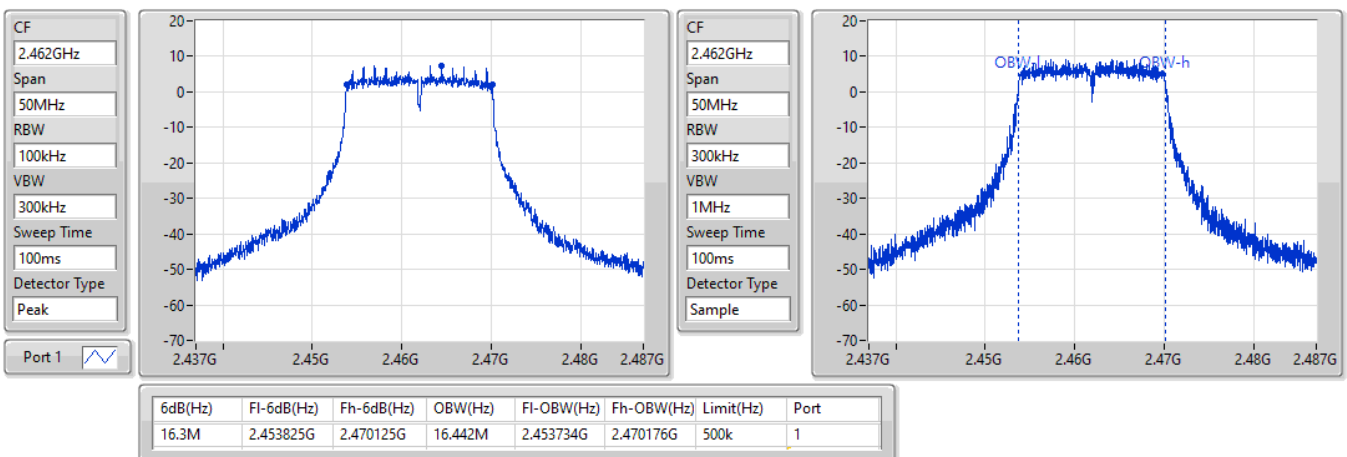


802.11g_Nss1,(6Mbps)_1TX

EBW

2462MHz

17/08/2022

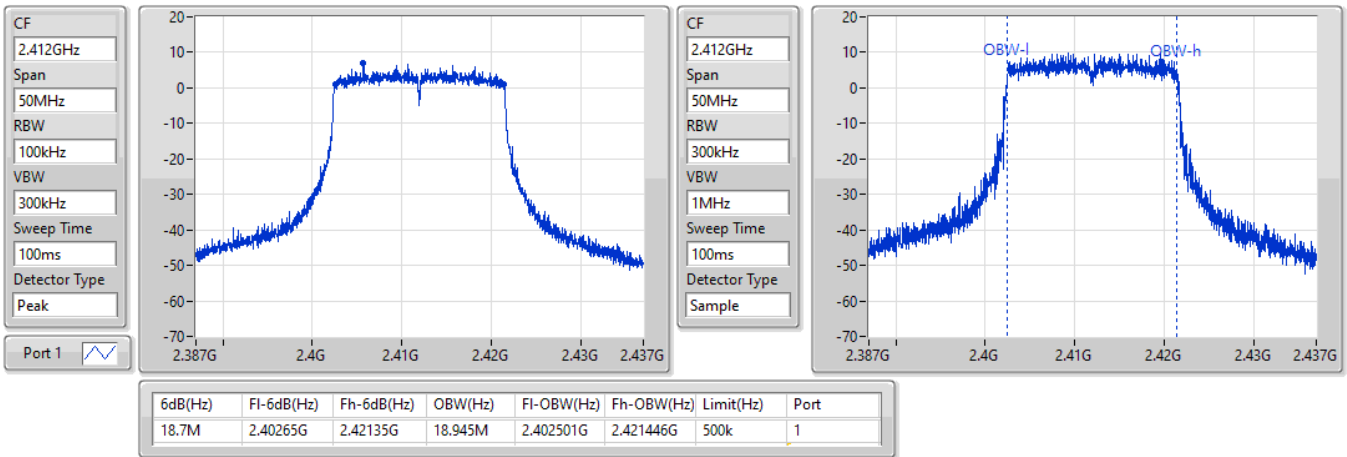


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2412MHz

17/08/2022

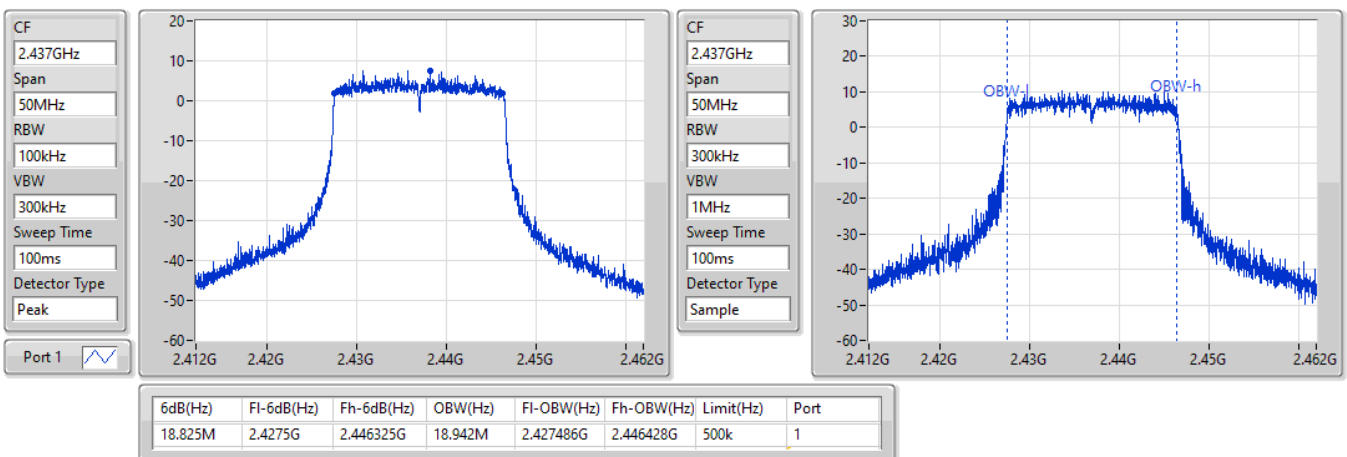


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2437MHz

17/08/2022

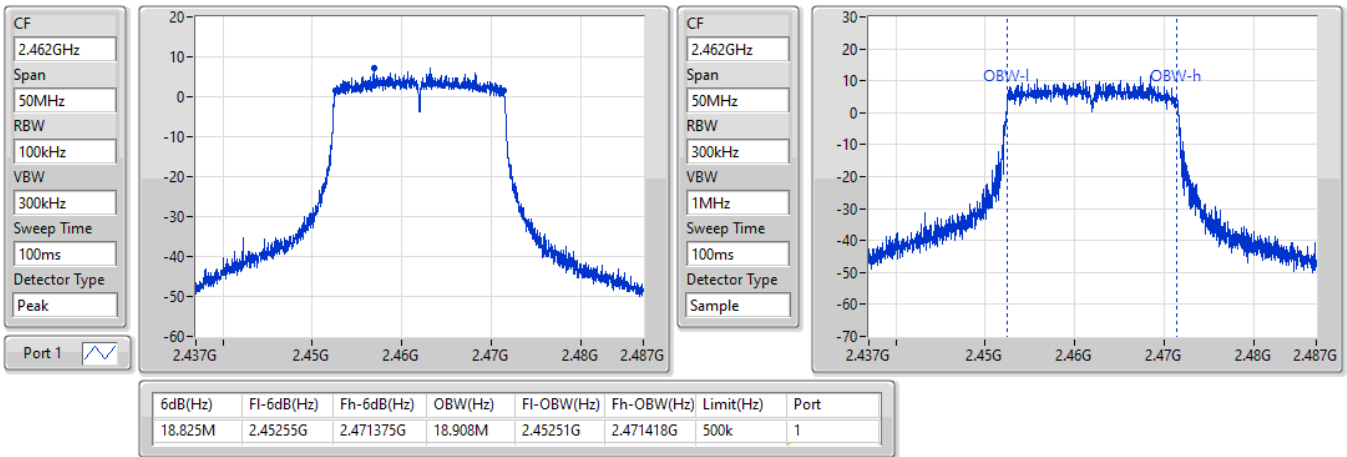


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2462MHz

17/08/2022

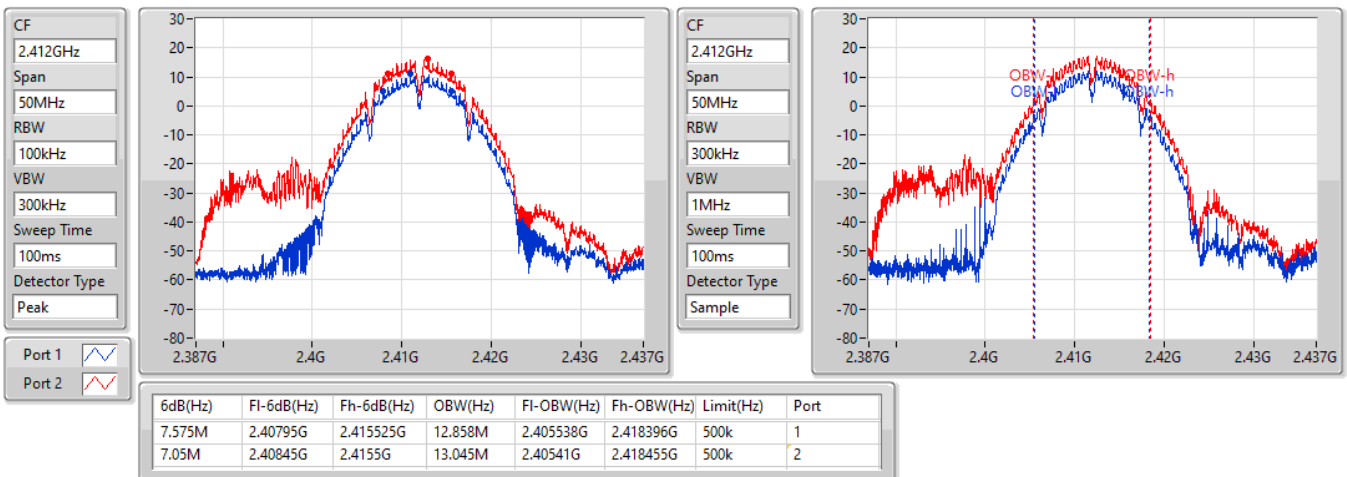


802.11b_Nss1,(1Mbps)_2TX

EBW

2412MHz

17/08/2022

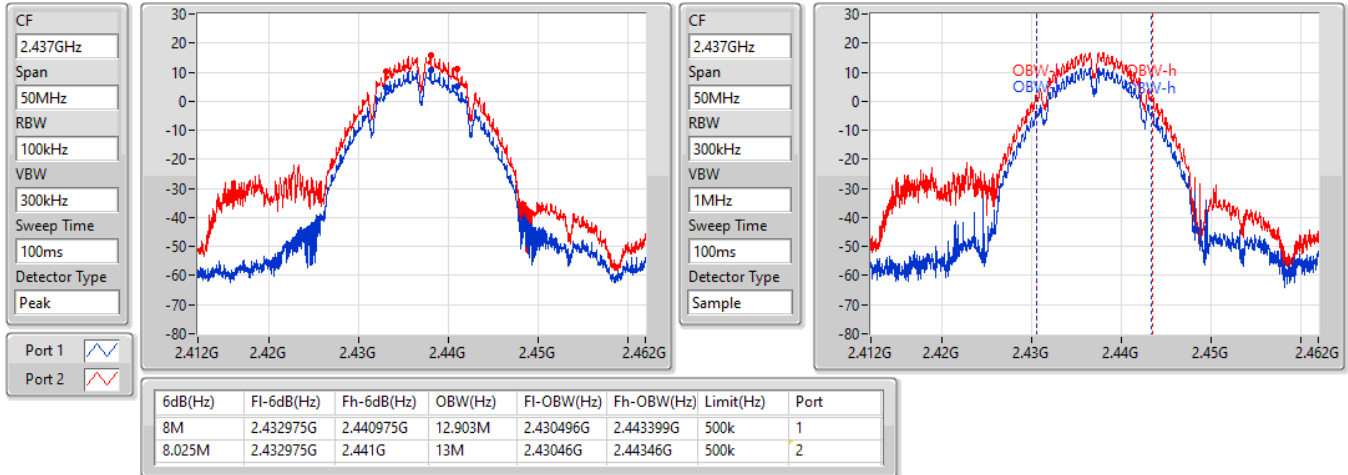


802.11b_Nss1,(1Mbps)_2TX

EBW

2437MHz

17/08/2022

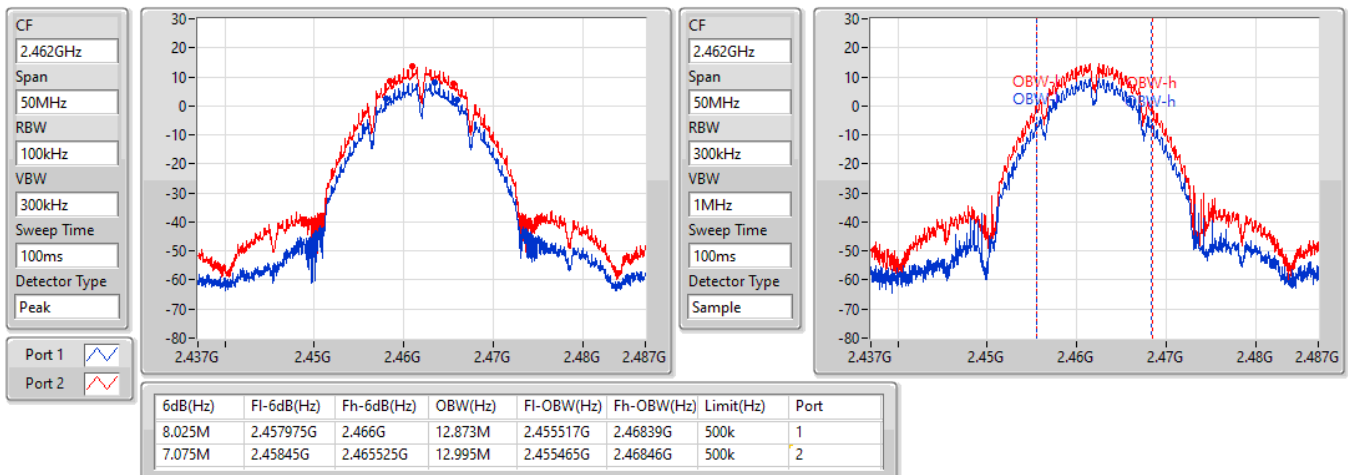


802.11b_Nss1,(1Mbps)_2TX

EBW

2462MHz

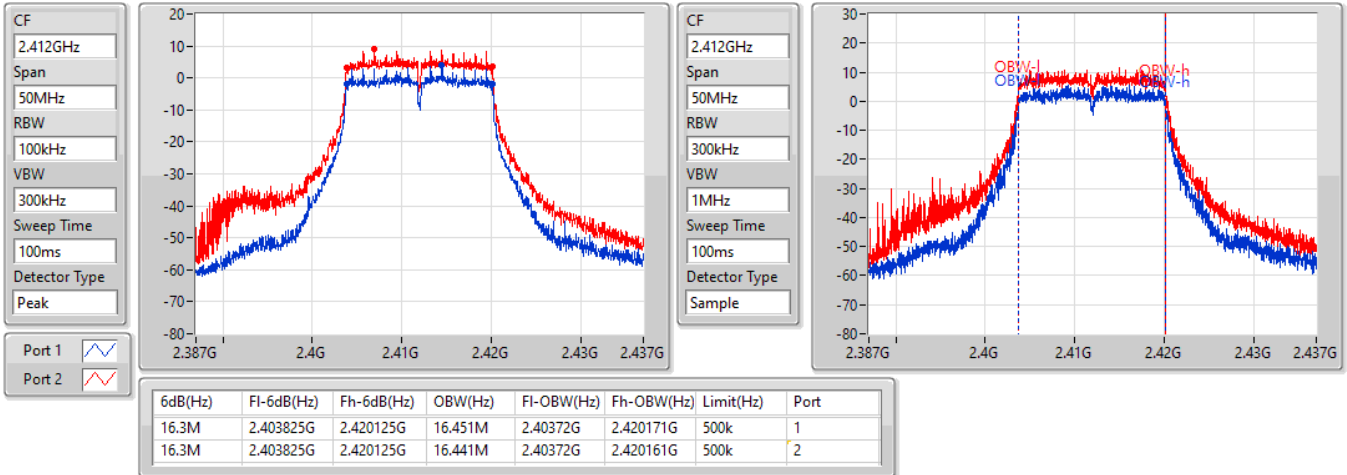
18/08/2022



802.11g_Nss1,(6Mbps)_2TX

2412MHz

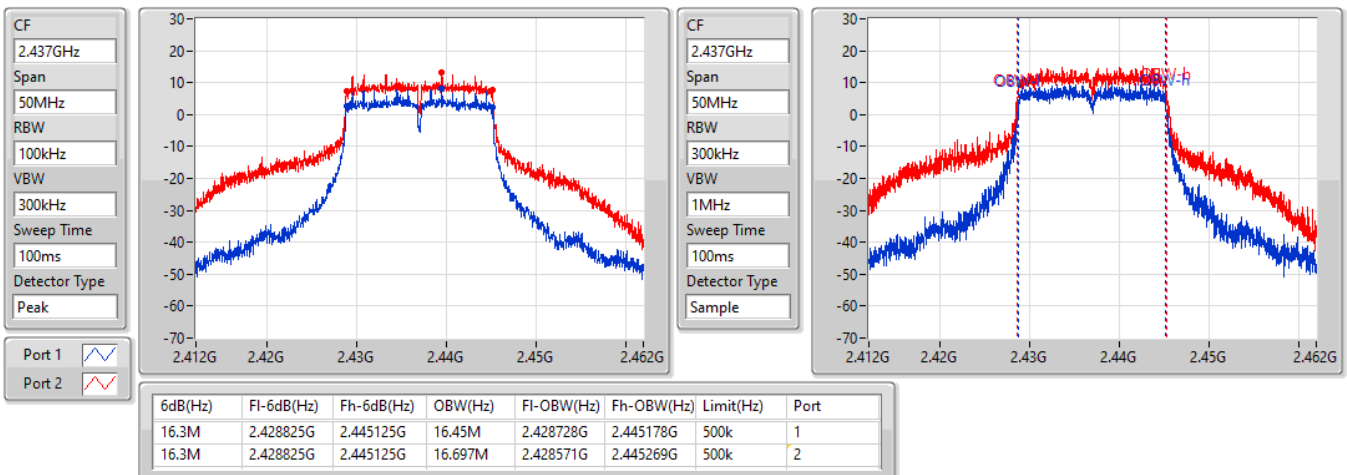
18/08/2022



802.11g_Nss1,(6Mbps)_2TX

2437MHz

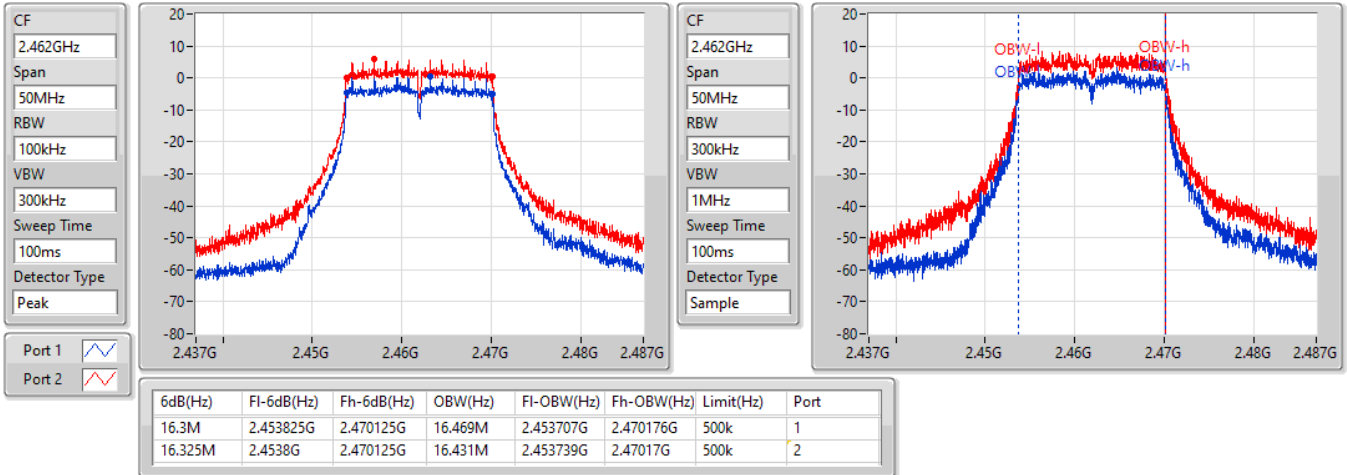
17/08/2022



802.11g_Nss1,(6Mbps)_2TX

2462MHz

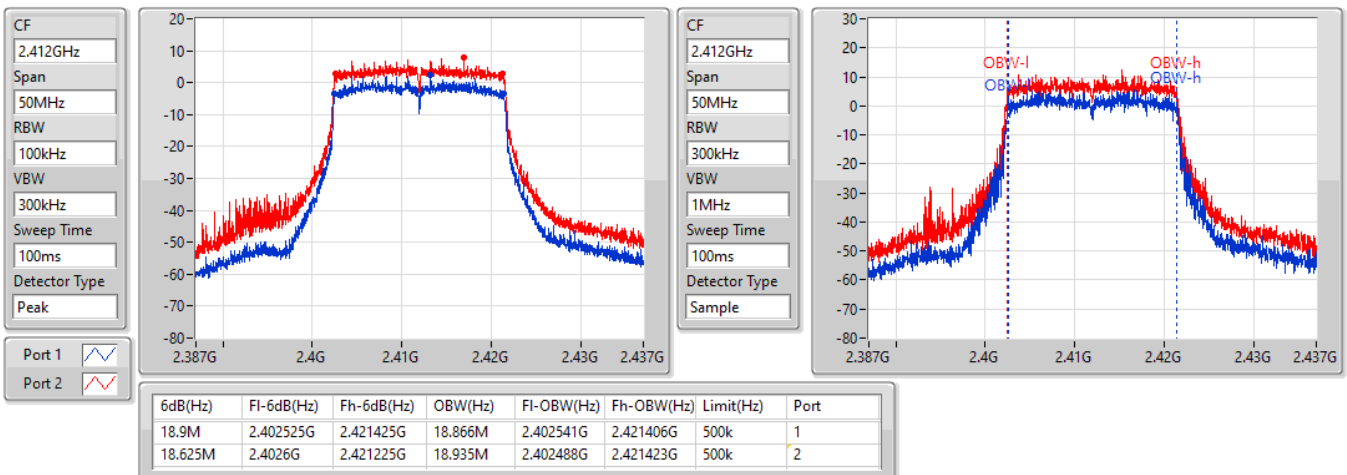
17/08/2022



802.11ax HEW20_Nss1,(MCS0)_2TX

2412MHz

17/08/2022

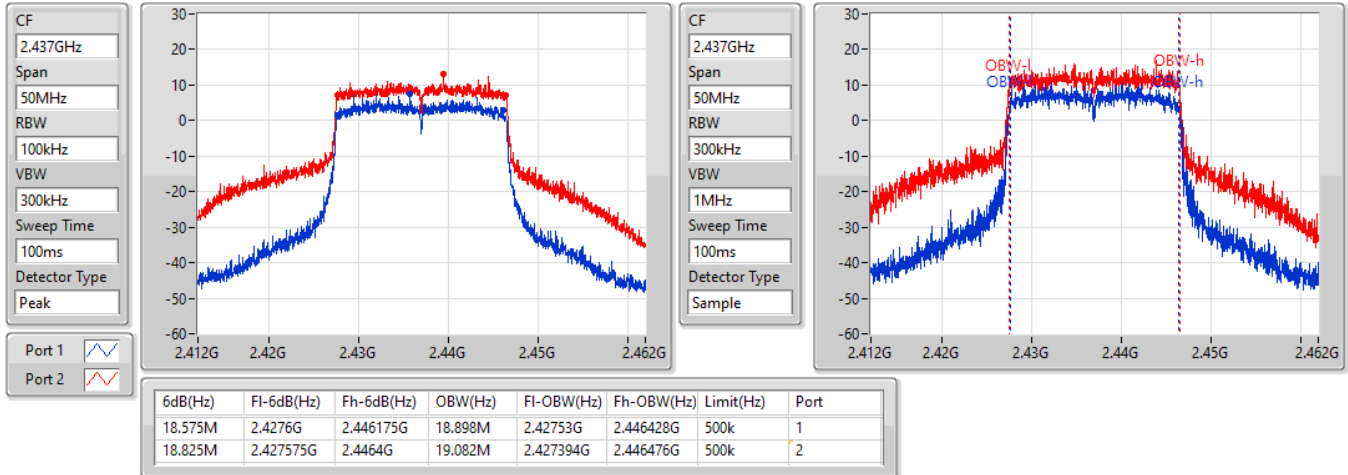


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

2437MHz

17/08/2022

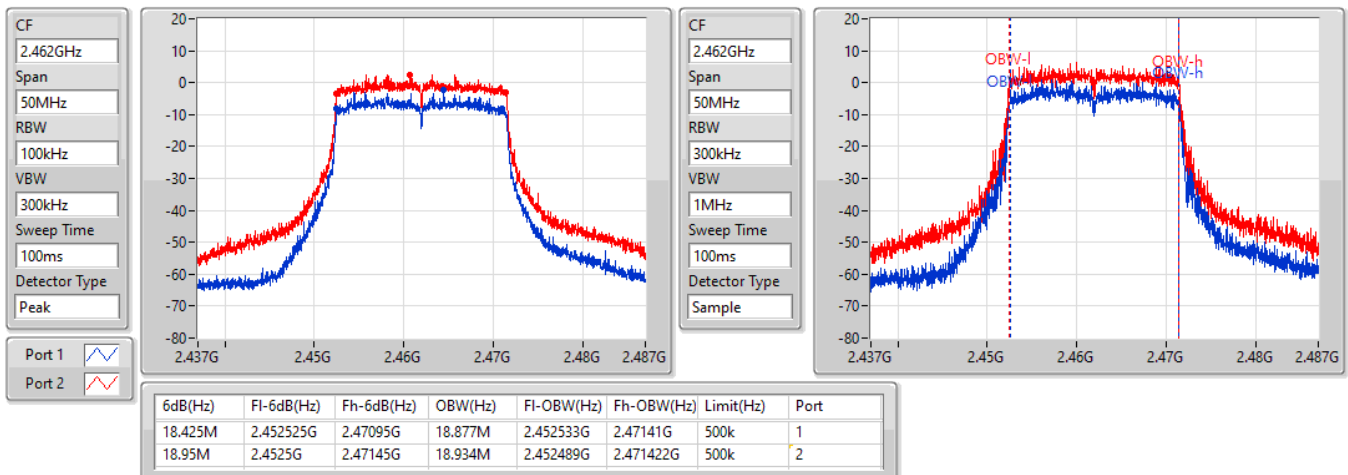


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

2462MHz

17/08/2022

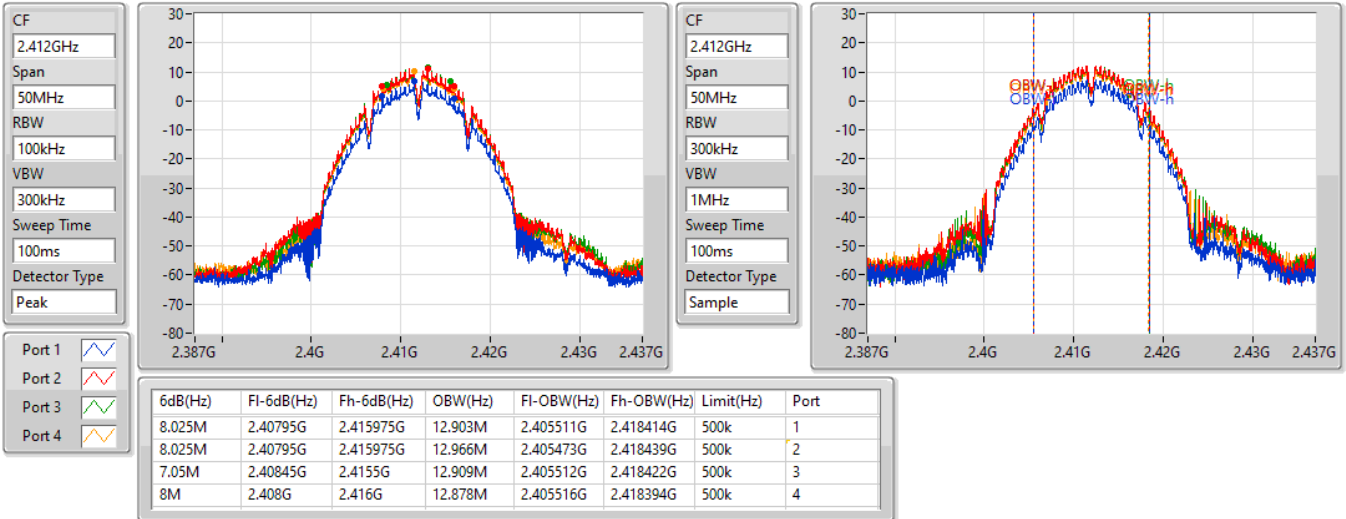


802.11b_Nss1,(1Mbps)_4TX

EBW

2412MHz

17/08/2022

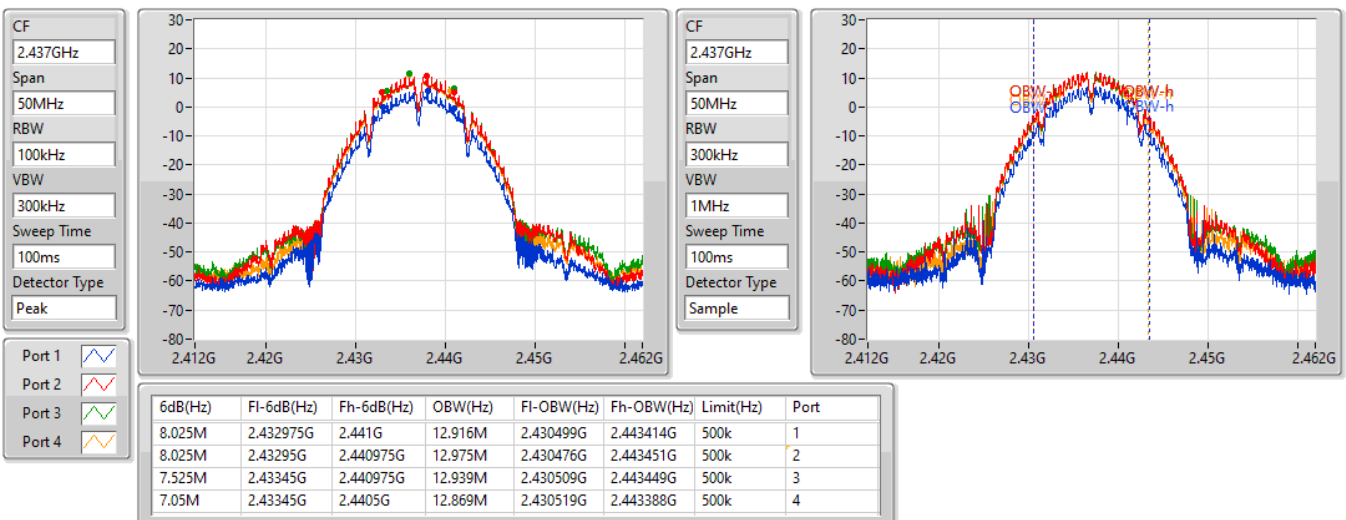


802.11b_Nss1,(1Mbps)_4TX

EBW

2437MHz

17/08/2022

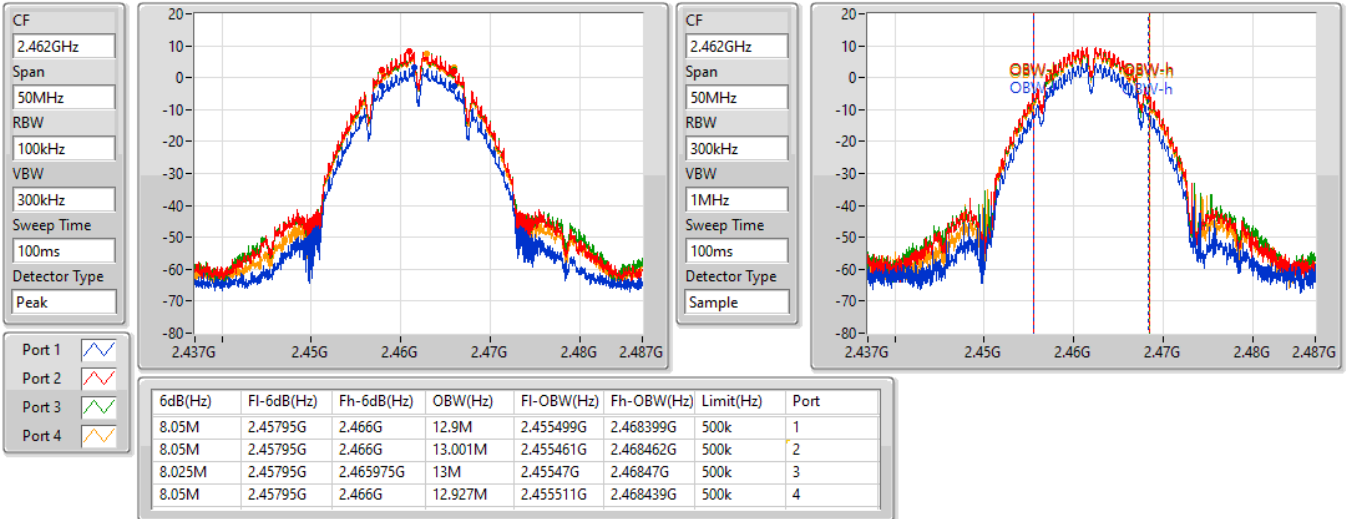


802.11b_Nss1,(1Mbps)_4TX

EBW

2462MHz

18/08/2022

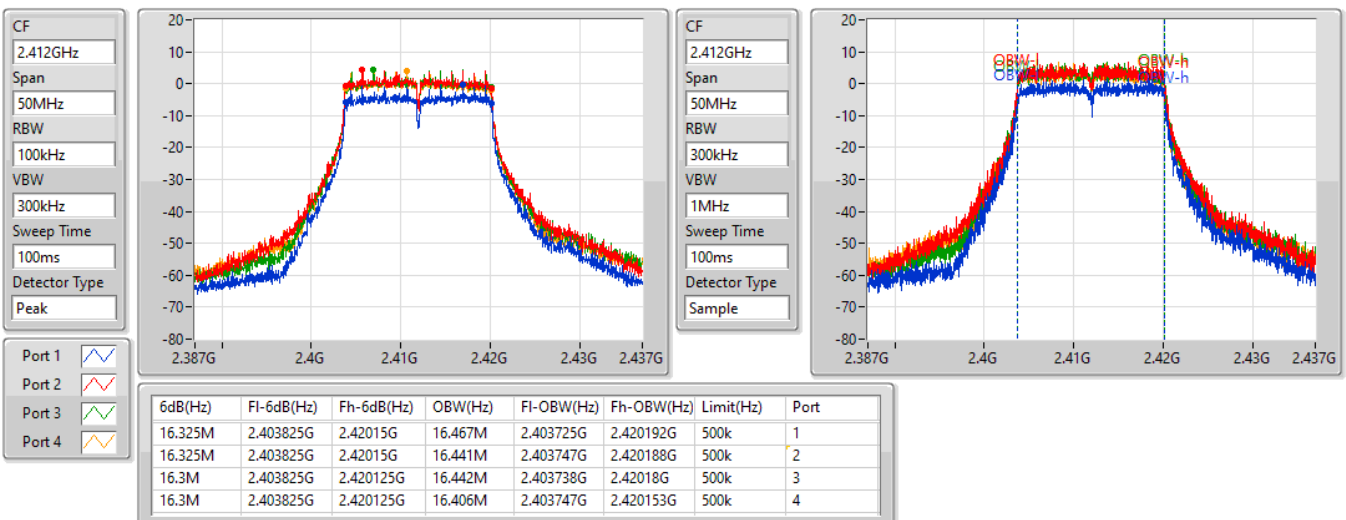


802.11g_Nss1,(6Mbps)_4TX

EBW

2412MHz

17/08/2022

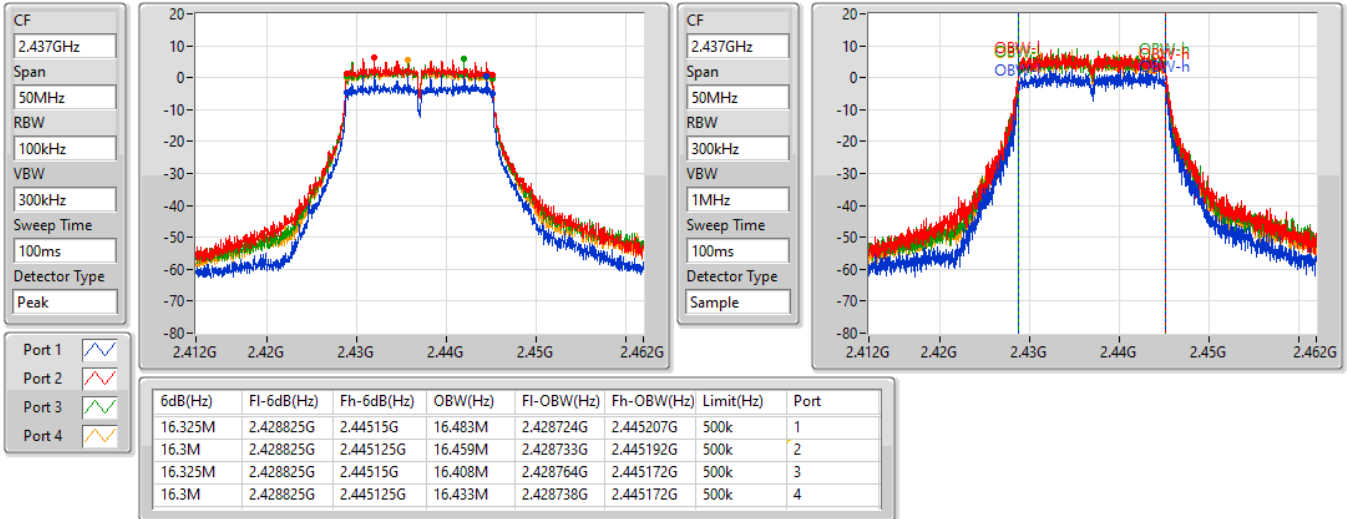


802.11g_Nss1,(6Mbps)_4TX

EBW

2437MHz

17/08/2022

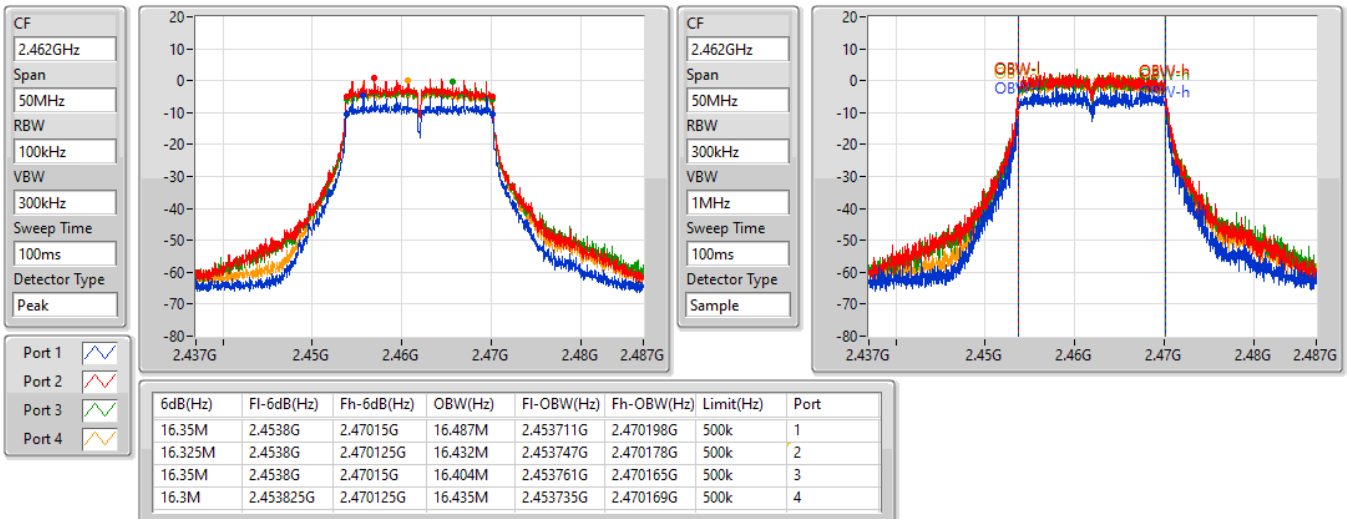


802.11g_Nss1,(6Mbps)_4TX

EBW

2462MHz

17/08/2022

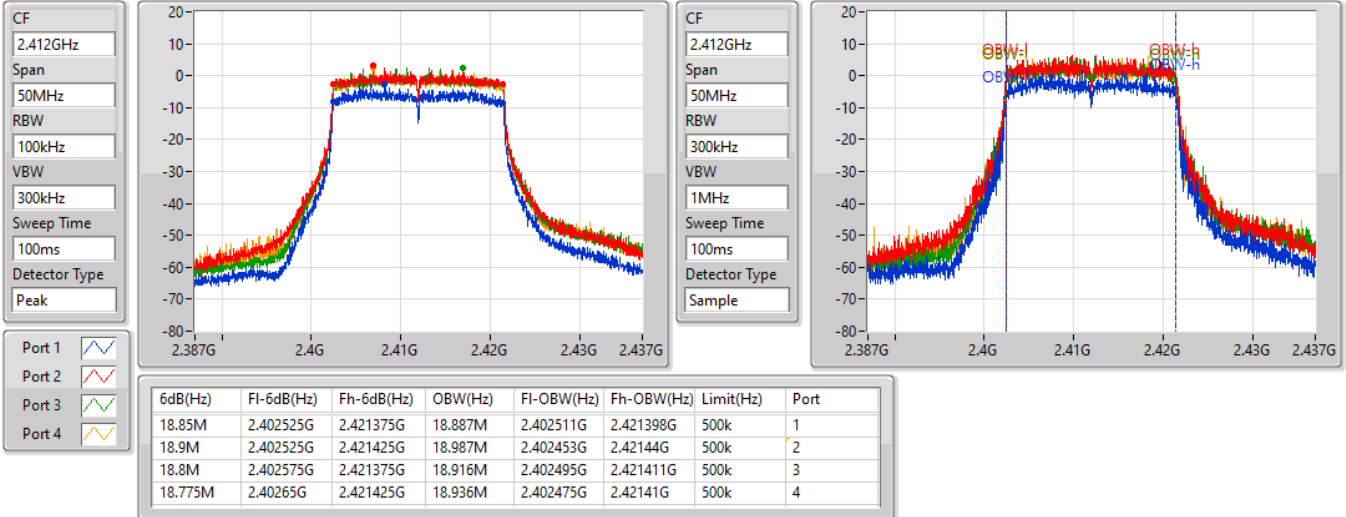


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2412MHz

18/08/2022

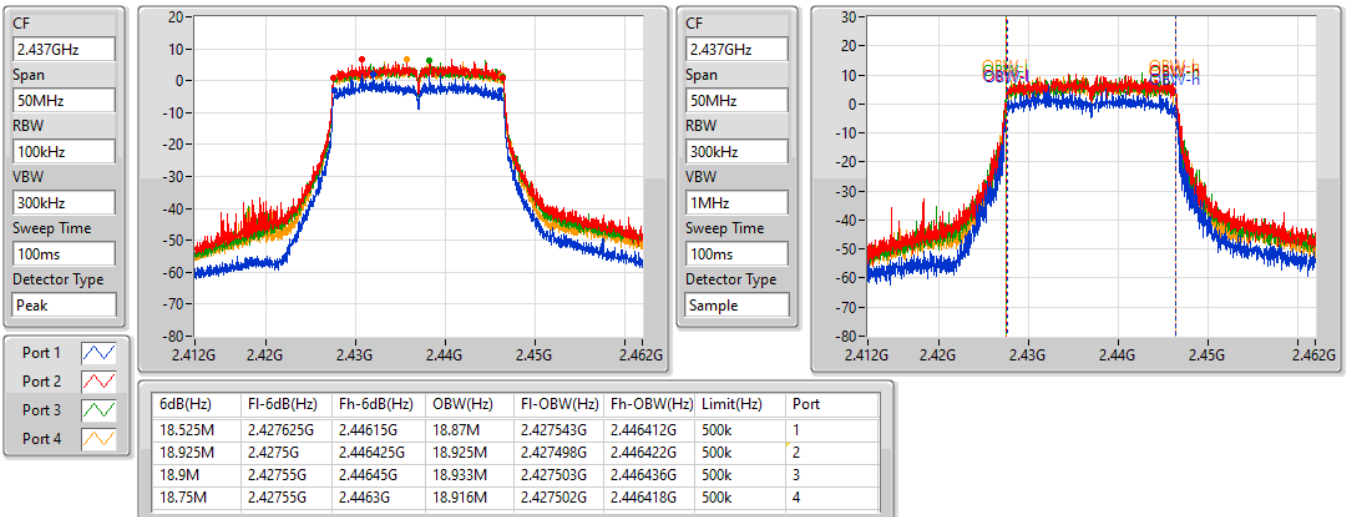


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2437MHz

17/08/2022

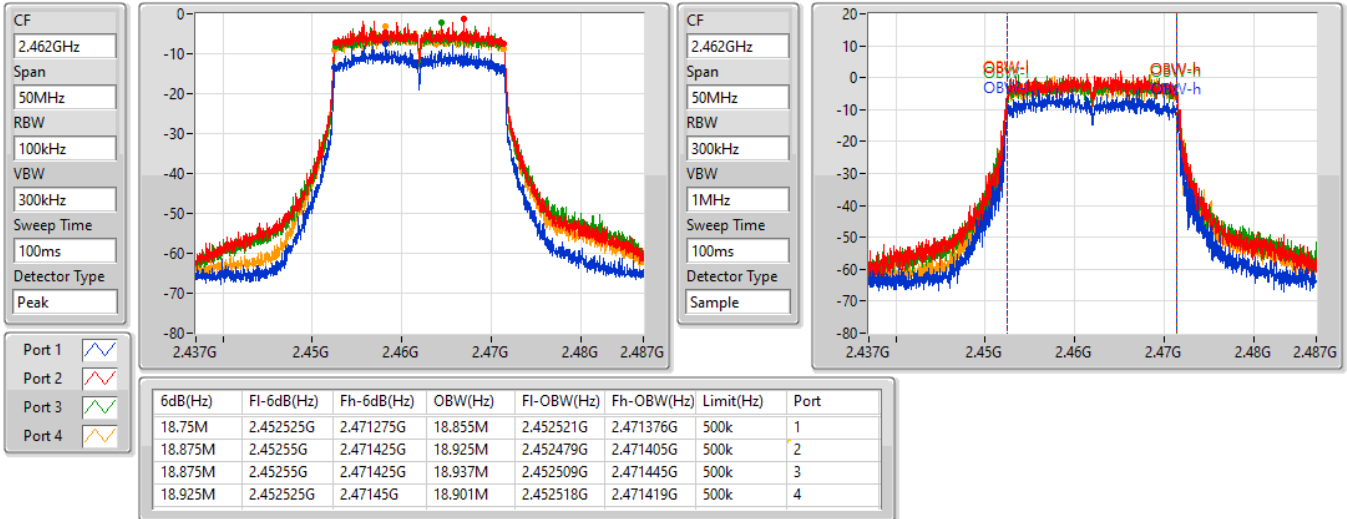


802.11ax HEW20_Nss1,(MCS0)_4TX

2462MHz

EBW

18/08/2022





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)_1TX	8M	12.9M	12M9G1D	7.55M	12.866M
802.11g_Nss1,(6Mbps)_1TX	16.325M	16.424M	16M5D1D	16.3M	16.409M
802.11ax HEW20_Nss1,(MCS0)_1TX	18.875M	18.916M	19M0D1D	18.825M	18.909M
802.11b_Nss1,(1Mbps)_2TX	8.025M	12.937M	13M0G1D	7.05M	12.82M
802.11g_Nss1,(6Mbps)_2TX	16.325M	16.472M	16M5D1D	15.8M	16.393M
802.11ax HEW20_Nss1,(MCS0)_2TX	18.95M	18.985M	19M0D1D	18.7M	18.9M
802.11b_Nss1,(1Mbps)_4TX	8.05M	12.938M	13M0G1D	7.05M	12.869M
802.11g_Nss1,(6Mbps)_4TX	16.35M	16.493M	16M5D1D	16.3M	16.405M
802.11ax HEW20_Nss1,(MCS0)_4TX	18.975M	18.972M	19M0D1D	18.575M	18.919M

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)_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	7.55M	12.866M						
2437MHz	Pass	500k	8M	12.9M						
2462MHz	Pass	500k	7.975M	12.876M						
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.3M	16.41M						
2437MHz	Pass	500k	16.3M	16.424M						
2462MHz	Pass	500k	16.325M	16.409M						
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.875M	18.914M						
2437MHz	Pass	500k	18.825M	18.916M						
2462MHz	Pass	500k	18.875M	18.909M						
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	7.55M	12.937M	8.025M	12.842M				
2437MHz	Pass	500k	7.05M	12.934M	7.05M	12.82M				
2462MHz	Pass	500k	7.525M	12.919M	8M	12.849M				
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.3M	16.472M	16.3M	16.424M				
2437MHz	Pass	500k	16.275M	16.406M	16.325M	16.435M				
2462MHz	Pass	500k	15.8M	16.393M	16.325M	16.456M				
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.825M	18.9M	18.8M	18.954M				
2437MHz	Pass	500k	18.95M	18.962M	18.75M	18.94M				
2462MHz	Pass	500k	18.875M	18.985M	18.7M	18.948M				
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	8M	12.935M	7.525M	12.881M	7.95M	12.923M	8.05M	12.869M
2437MHz	Pass	500k	7.05M	12.938M	7.5M	12.877M	8.05M	12.932M	8M	12.888M
2462MHz	Pass	500k	7.55M	12.934M	7.05M	12.887M	7.525M	12.929M	7.575M	12.936M
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	16.3M	16.493M	16.3M	16.405M	16.3M	16.417M	16.325M	16.444M
2437MHz	Pass	500k	16.325M	16.472M	16.3M	16.441M	16.3M	16.466M	16.325M	16.421M
2462MHz	Pass	500k	16.35M	16.489M	16.3M	16.444M	16.3M	16.452M	16.325M	16.463M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
2412MHz	Pass	500k	18.575M	18.923M	18.925M	18.926M	18.9M	18.932M	18.875M	18.958M
2437MHz	Pass	500k	18.975M	18.955M	18.875M	18.963M	18.875M	18.948M	18.8M	18.94M
2462MHz	Pass	500k	18.6M	18.919M	18.95M	18.972M	18.725M	18.922M	18.85M	18.963M

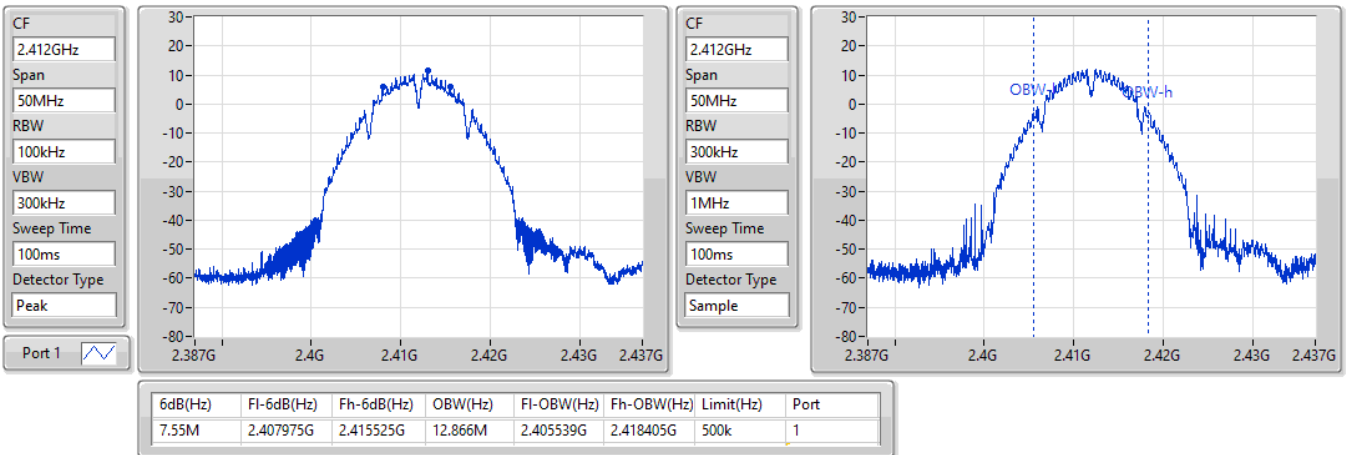
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

802.11b_Nss1,(1Mbps)_1TX

2412MHz

EBW

20/08/2022

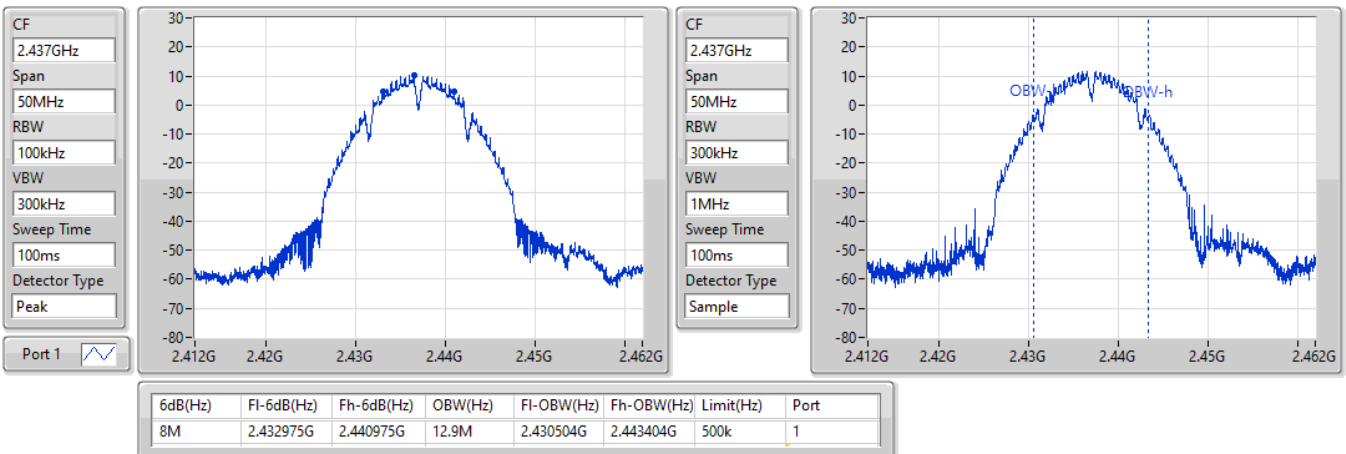


802.11b_Nss1,(1Mbps)_1TX

2437MHz

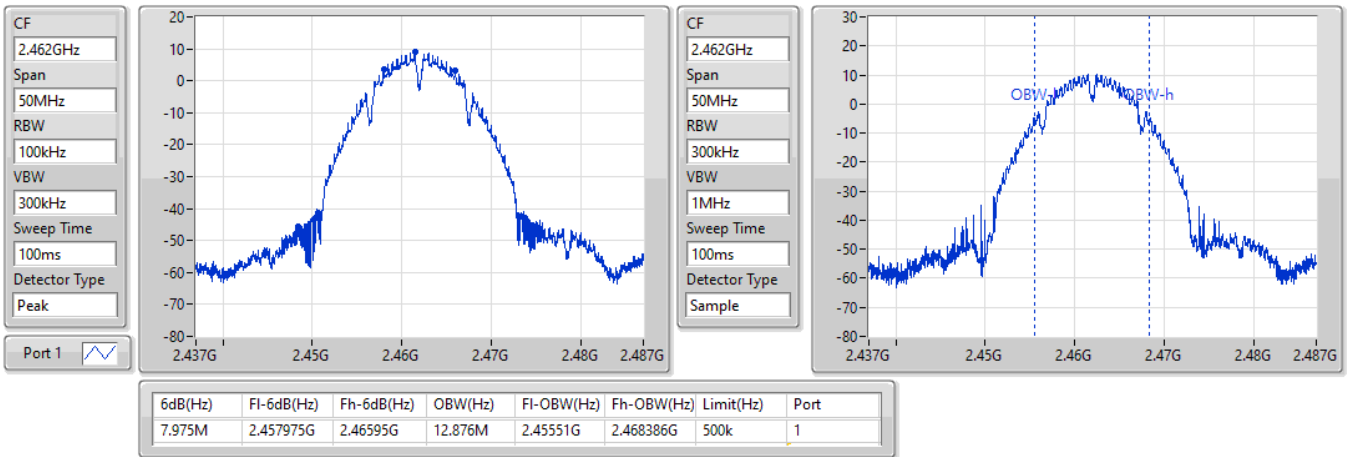
EBW

20/08/2022

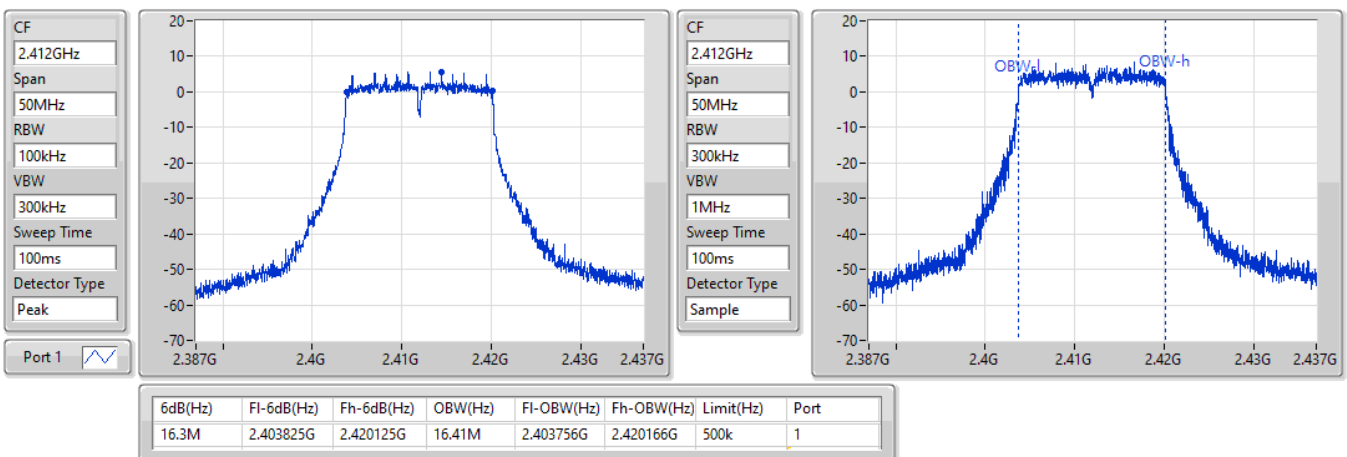


802.11b_Nss1,(1Mbps)_1TX
EBW
2462MHz

20/08/2022


802.11g_Nss1,(6Mbps)_1TX
EBW
2412MHz

06/09/2022

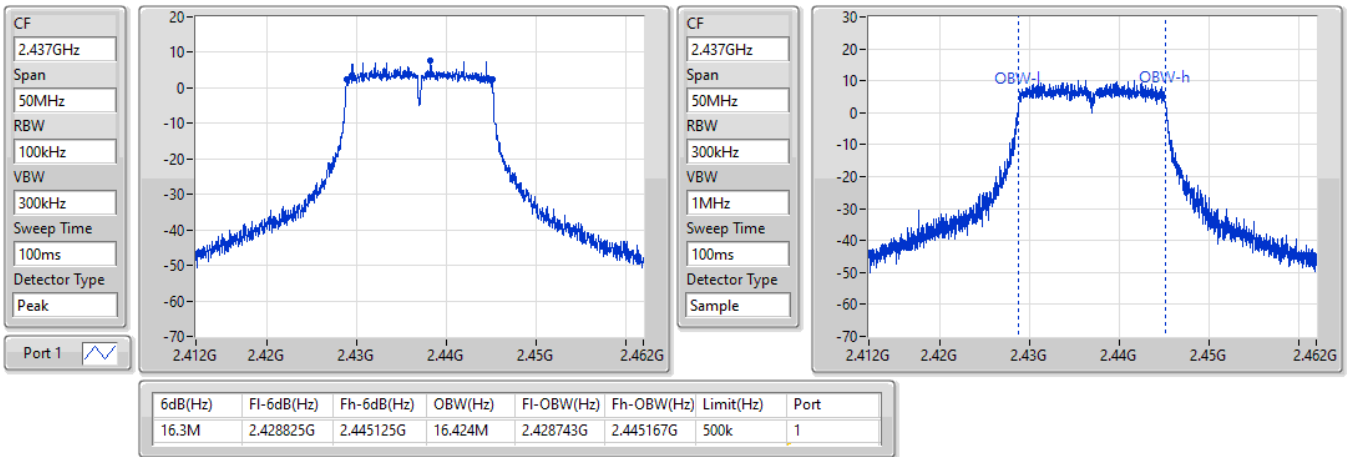


802.11g_Nss1,(6Mbps)_1TX

EBW

2437MHz

20/08/2022

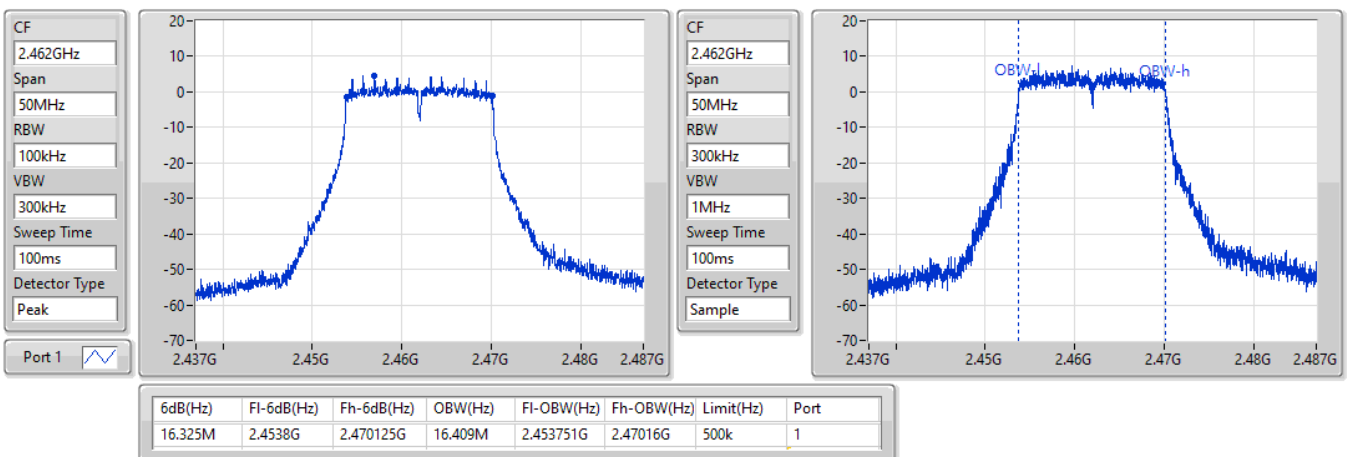


802.11g_Nss1,(6Mbps)_1TX

EBW

2462MHz

06/09/2022

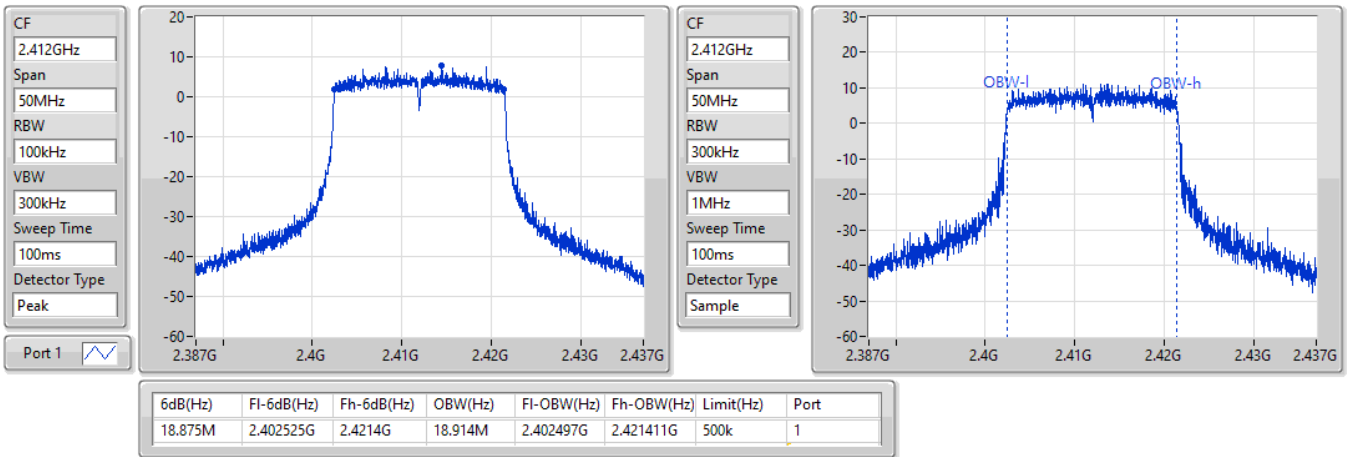


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2412MHz

20/08/2022

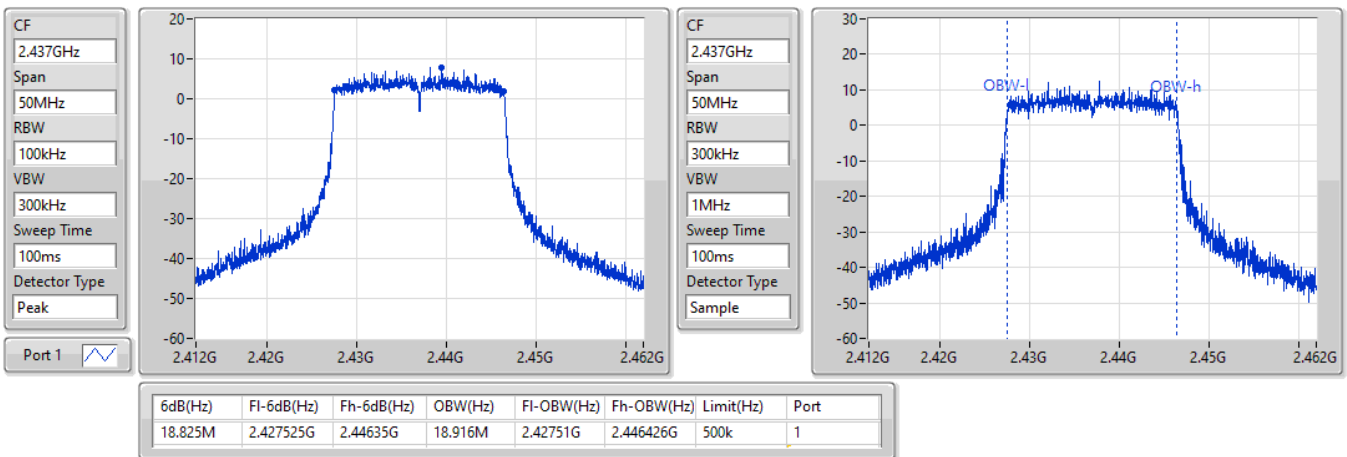


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2437MHz

20/08/2022

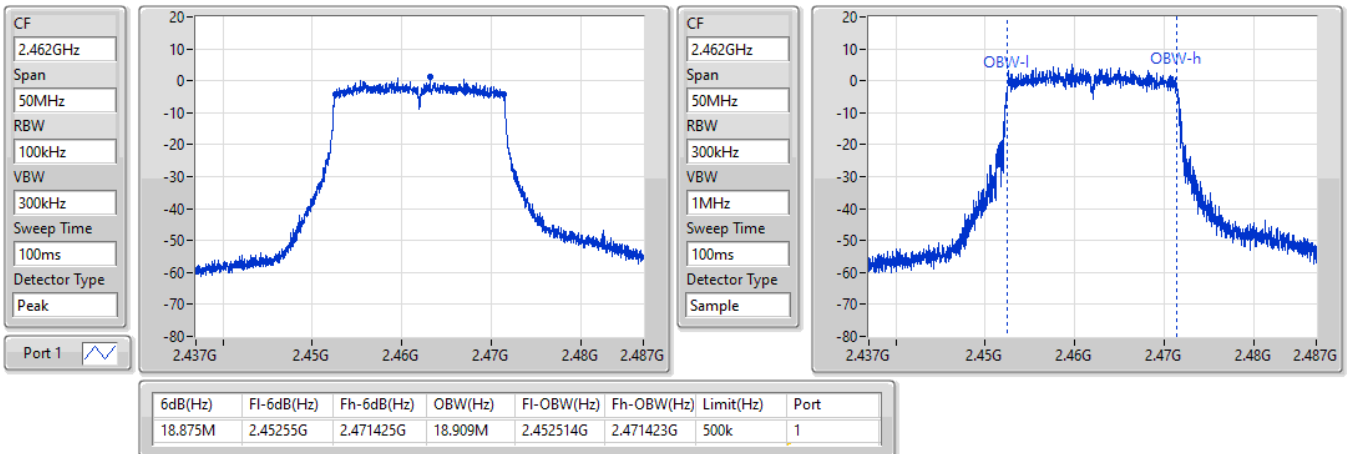


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2462MHz

06/09/2022

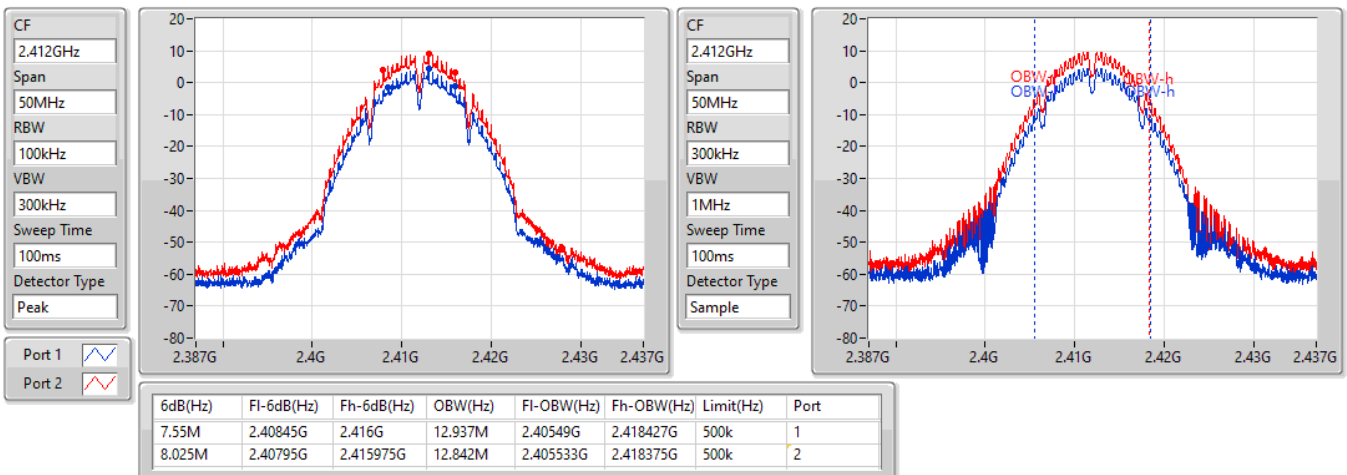


802.11b_Nss1,(1Mbps)_2TX

EBW

2412MHz

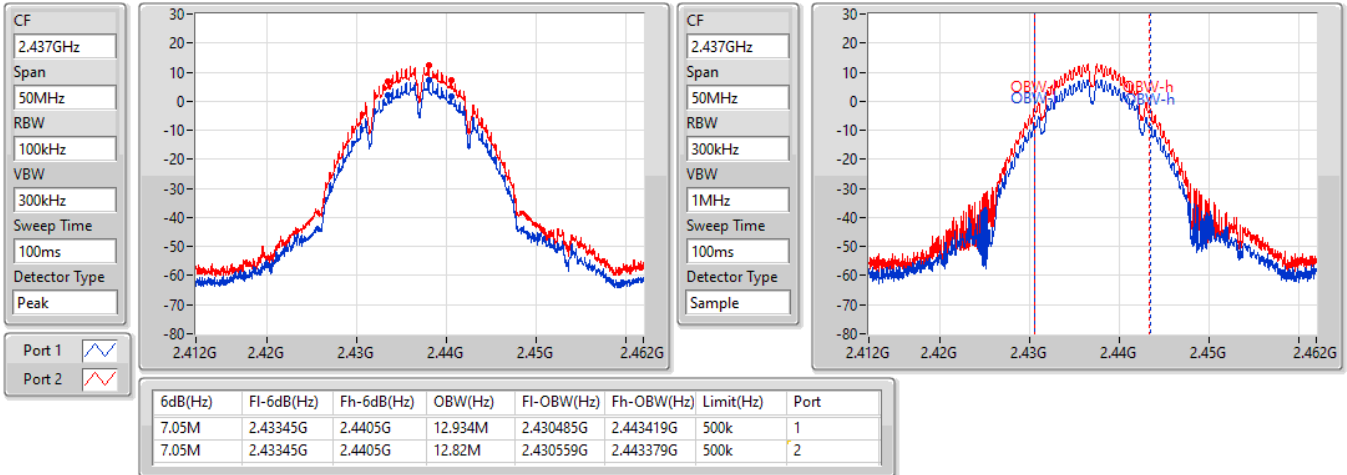
06/09/2022



802.11b_Nss1,(1Mbps)_2TX

2437MHz

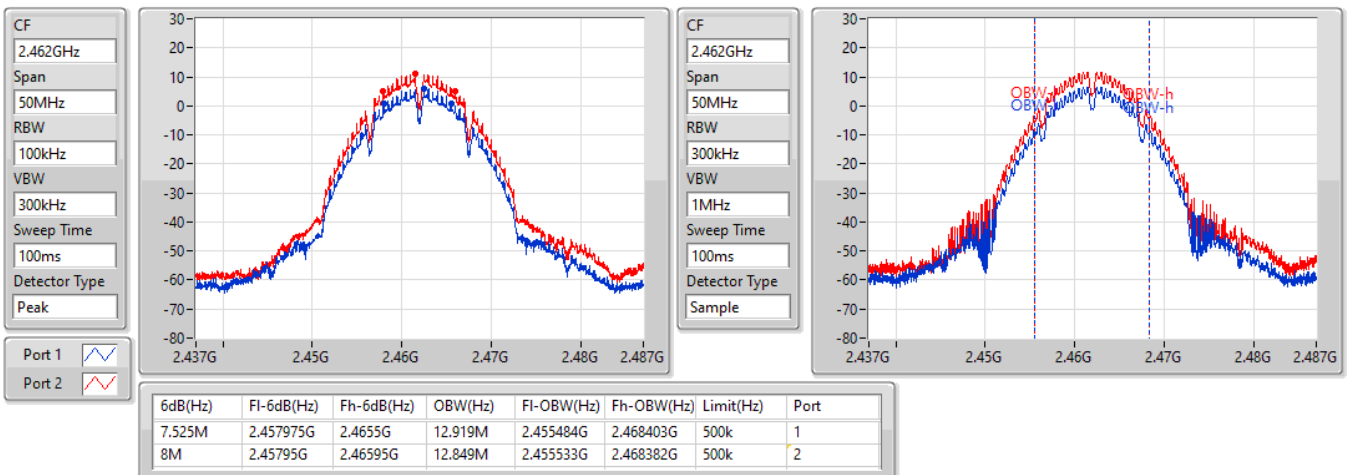
06/09/2022



802.11b_Nss1,(1Mbps)_2TX

2462MHz

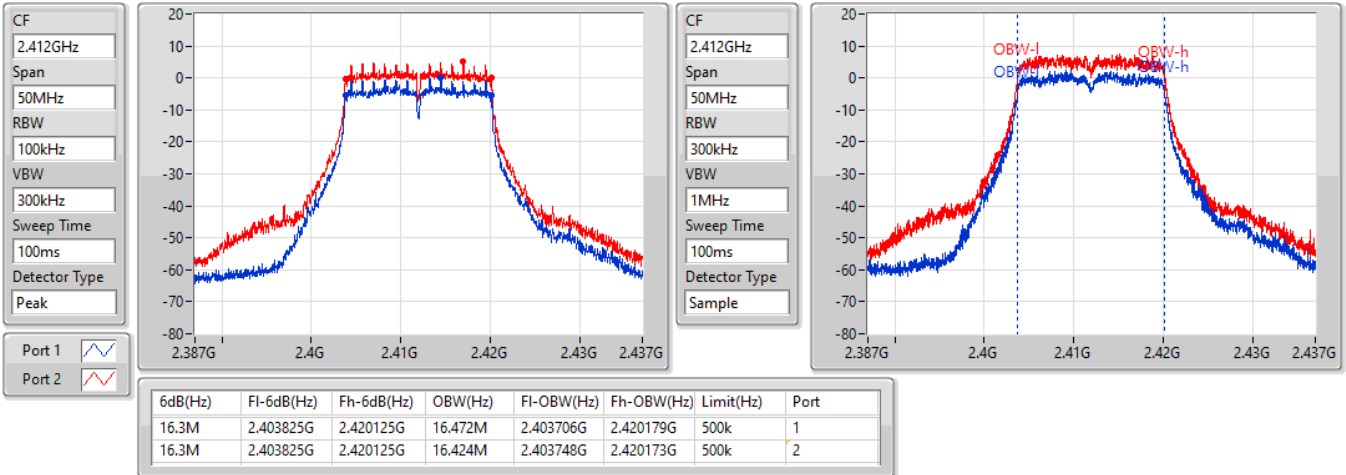
06/09/2022



802.11g_Nss1,(6Mbps)_2TX

2412MHz

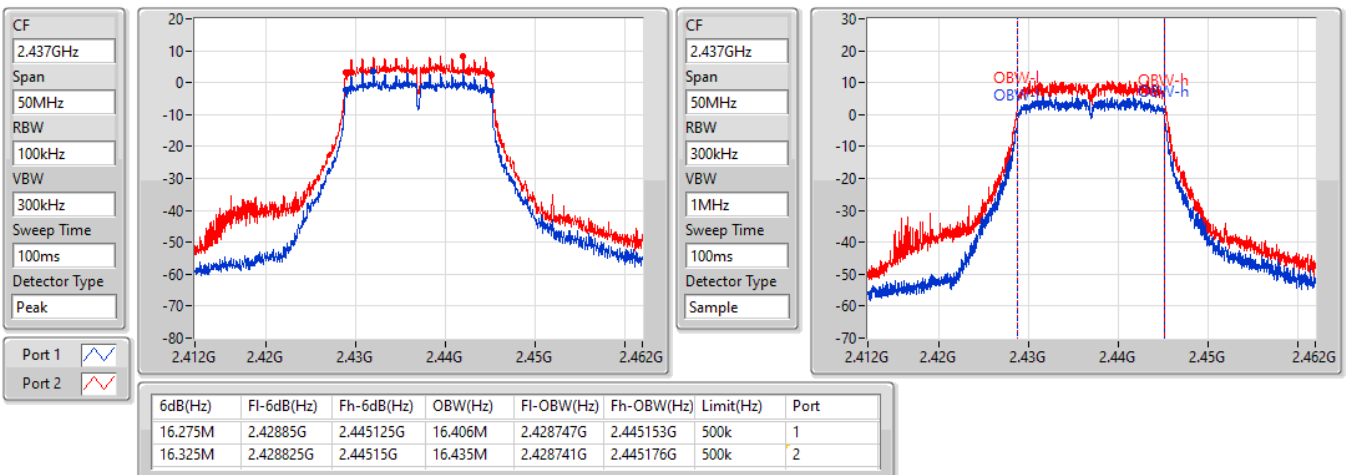
06/09/2022



802.11g_Nss1,(6Mbps)_2TX

2437MHz

06/09/2022

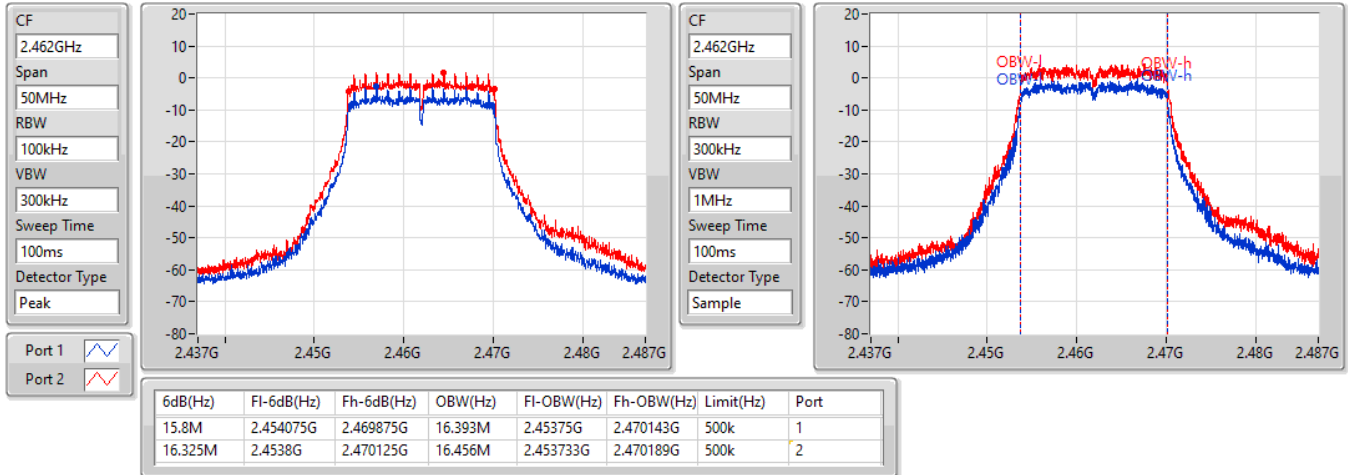


802.11g_Nss1,(6Mbps)_2TX

EBW

2462MHz

06/09/2022

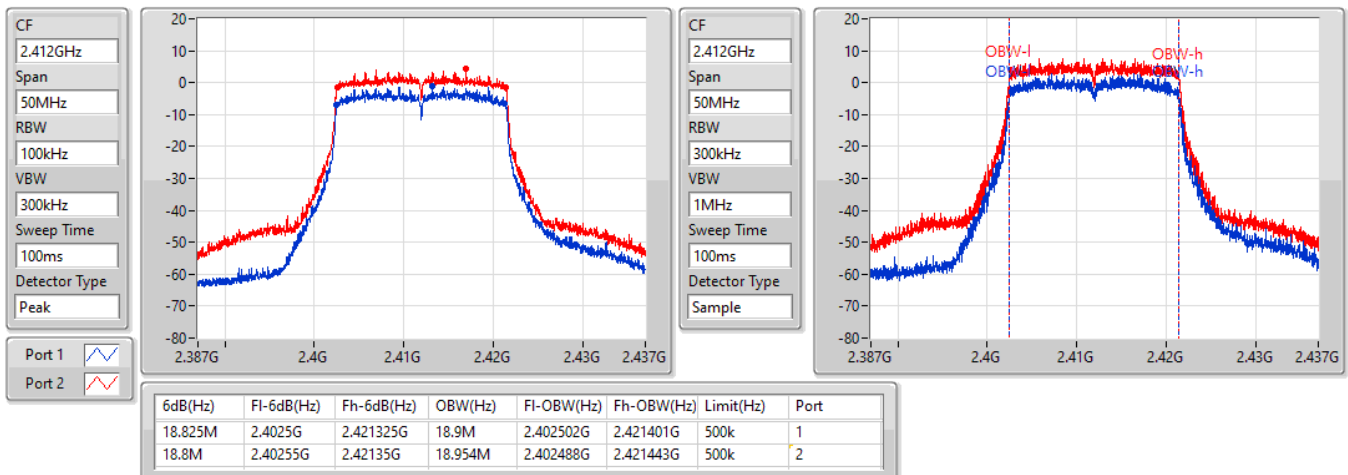


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

2412MHz

06/09/2022

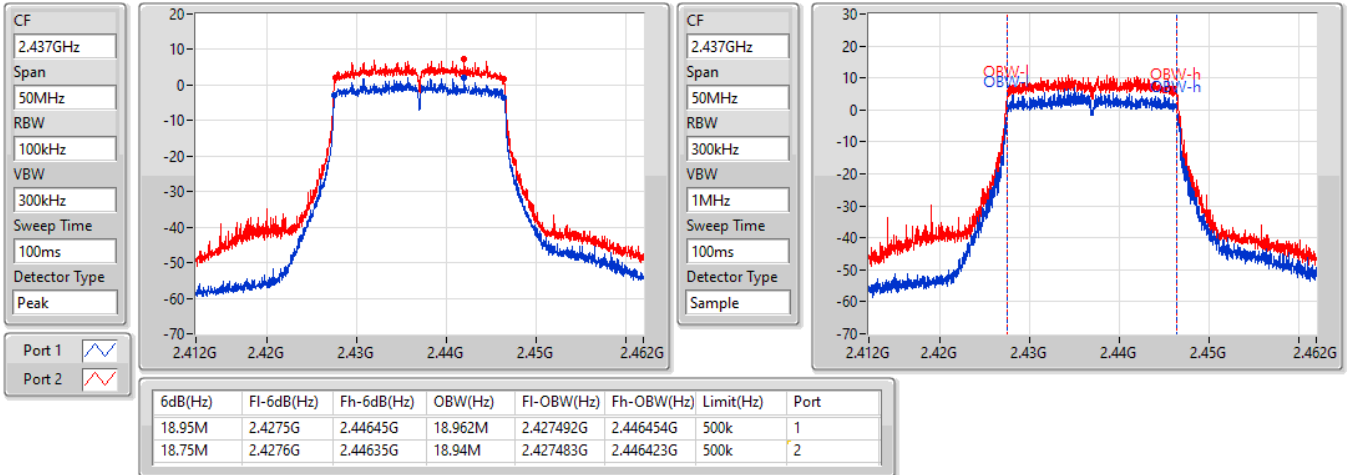


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

2437MHz

06/09/2022

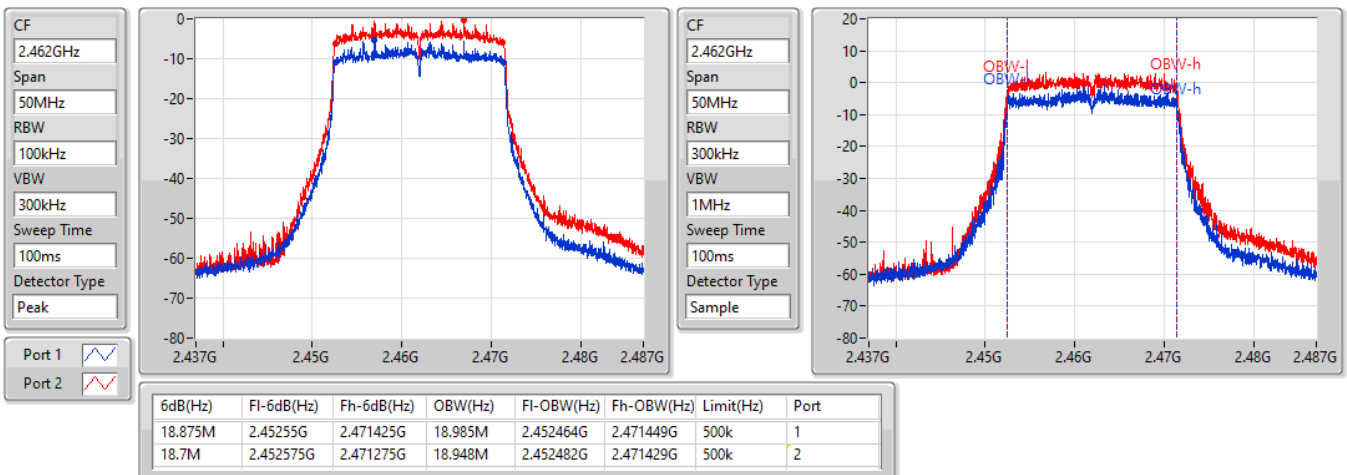


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

2462MHz

06/09/2022

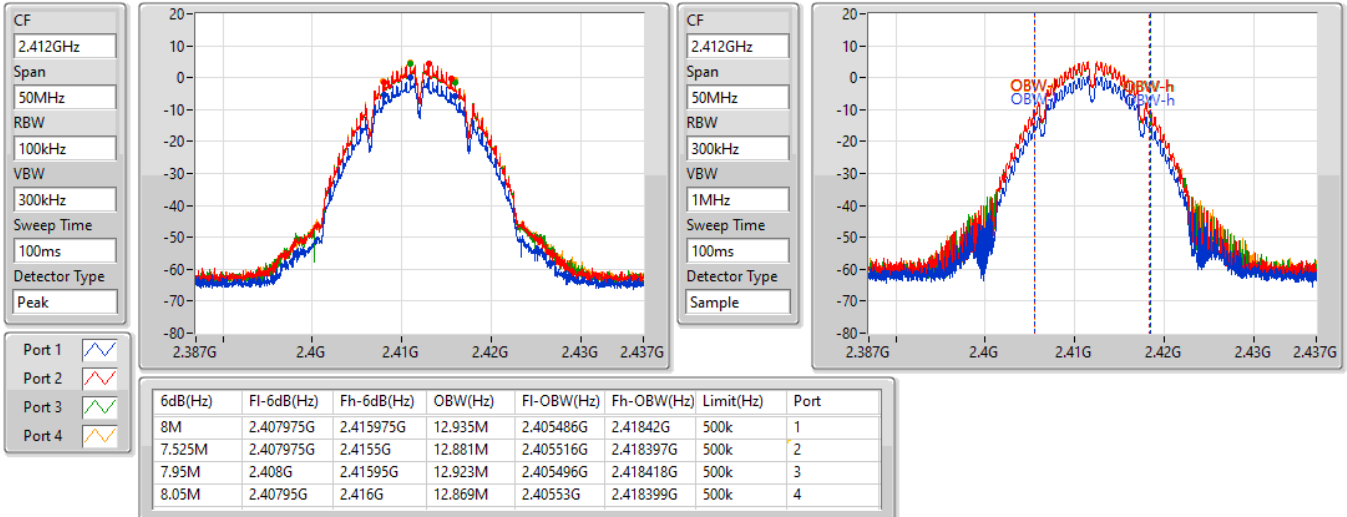


802.11b_Nss1,(1Mbps)_4TX

EBW

2412MHz

06/09/2022

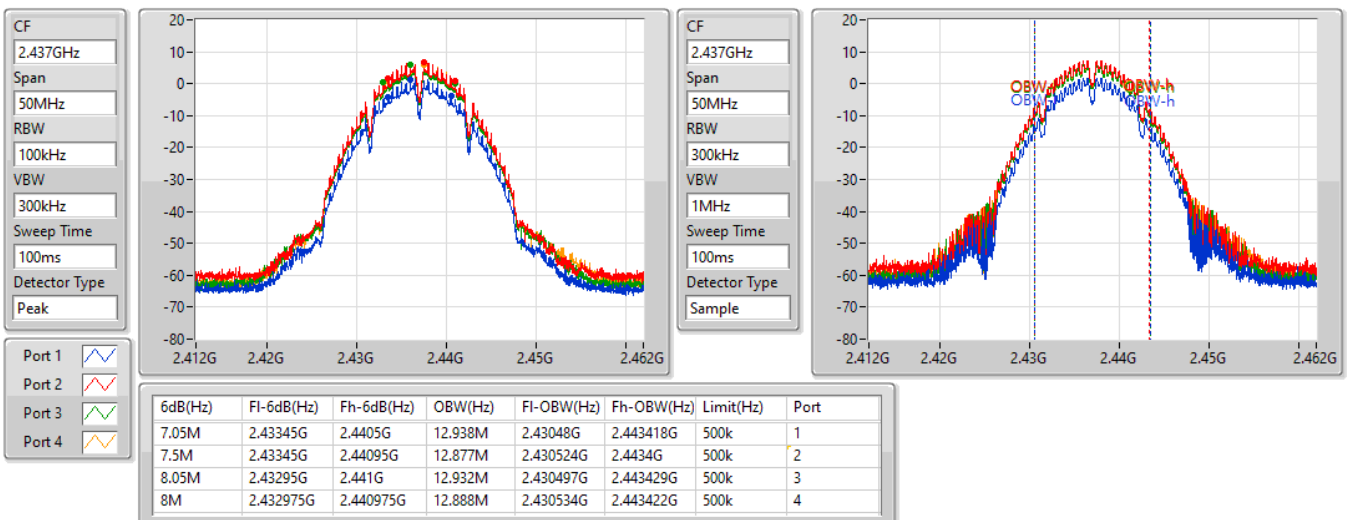


802.11b_Nss1,(1Mbps)_4TX

EBW

2437MHz

06/09/2022

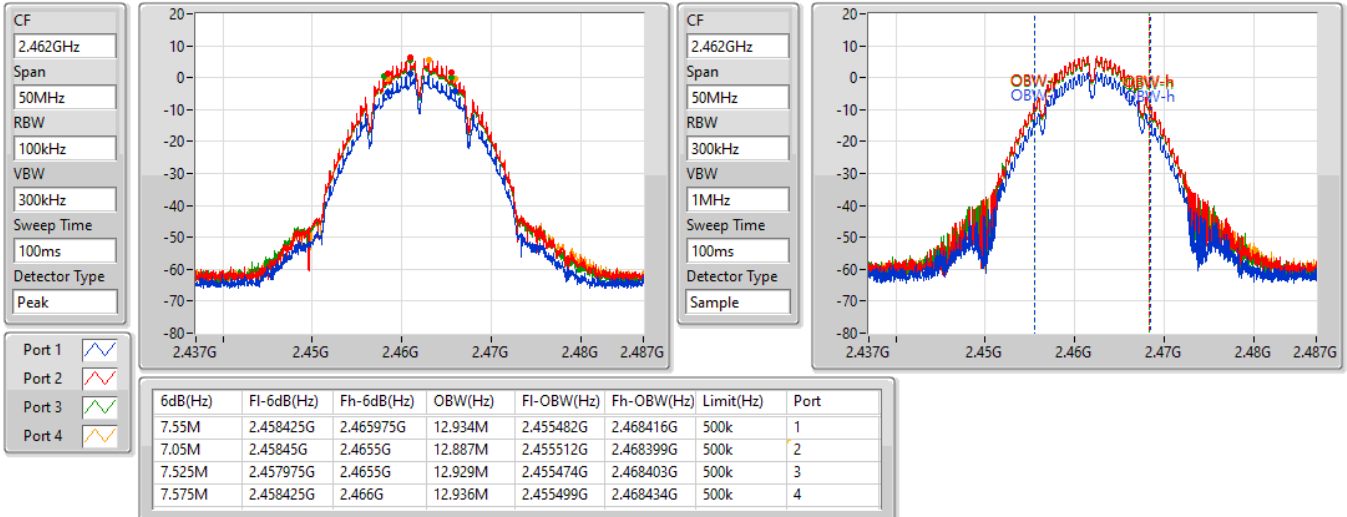


802.11b_Nss1,(1Mbps)_4TX

EBW

2462MHz

06/09/2022

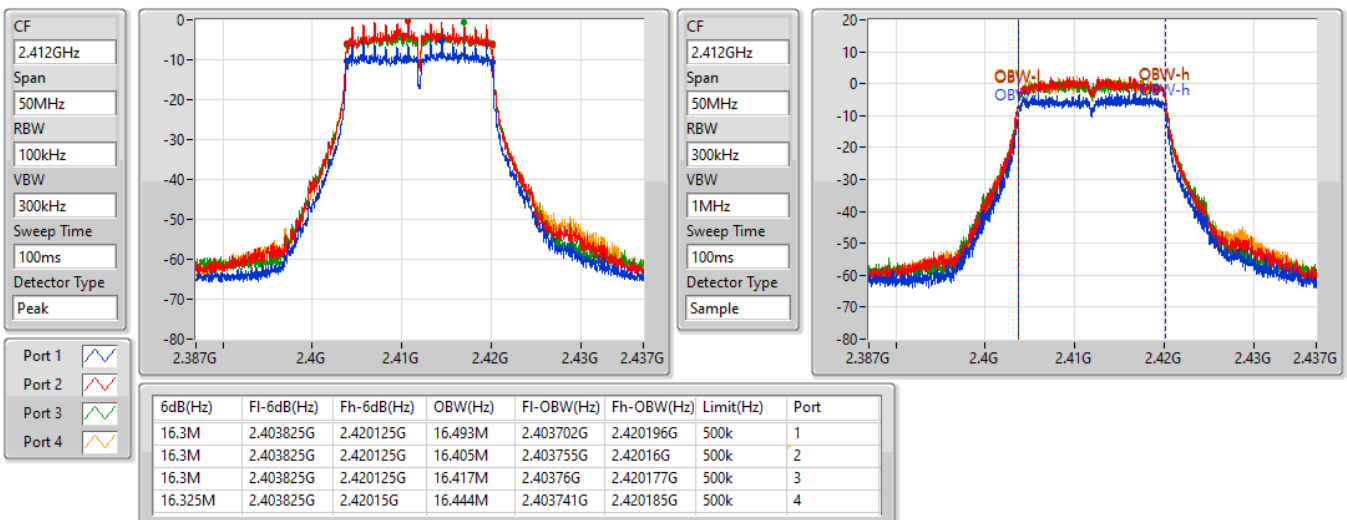


802.11g_Nss1,(6Mbps)_4TX

EBW

2412MHz

06/09/2022

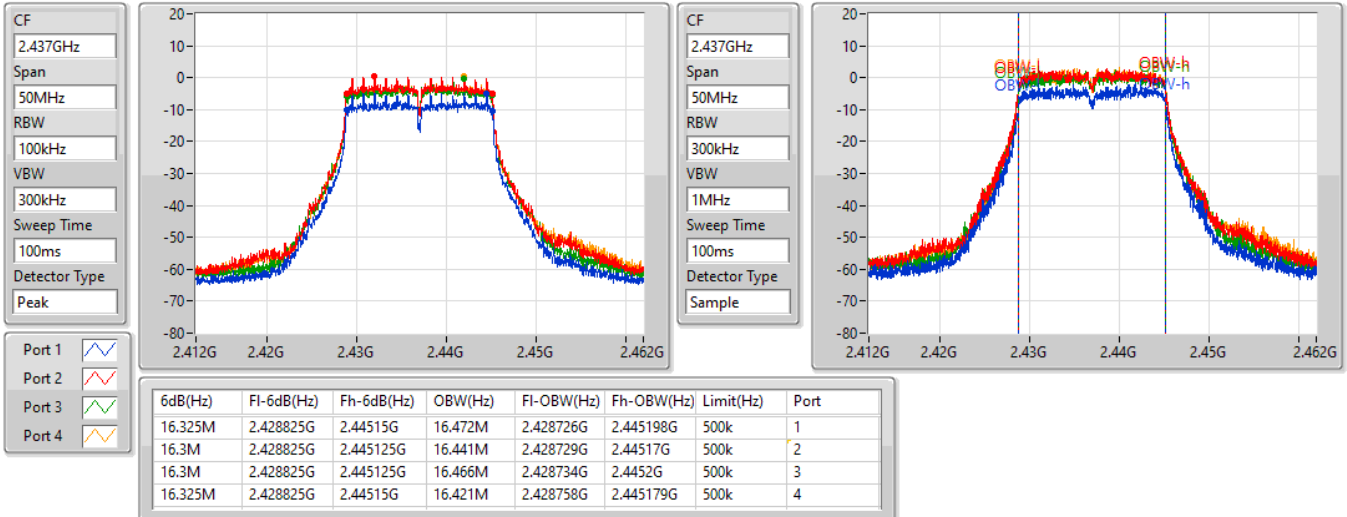


802.11g_Nss1,(6Mbps)_4TX

EBW

2437MHz

06/09/2022

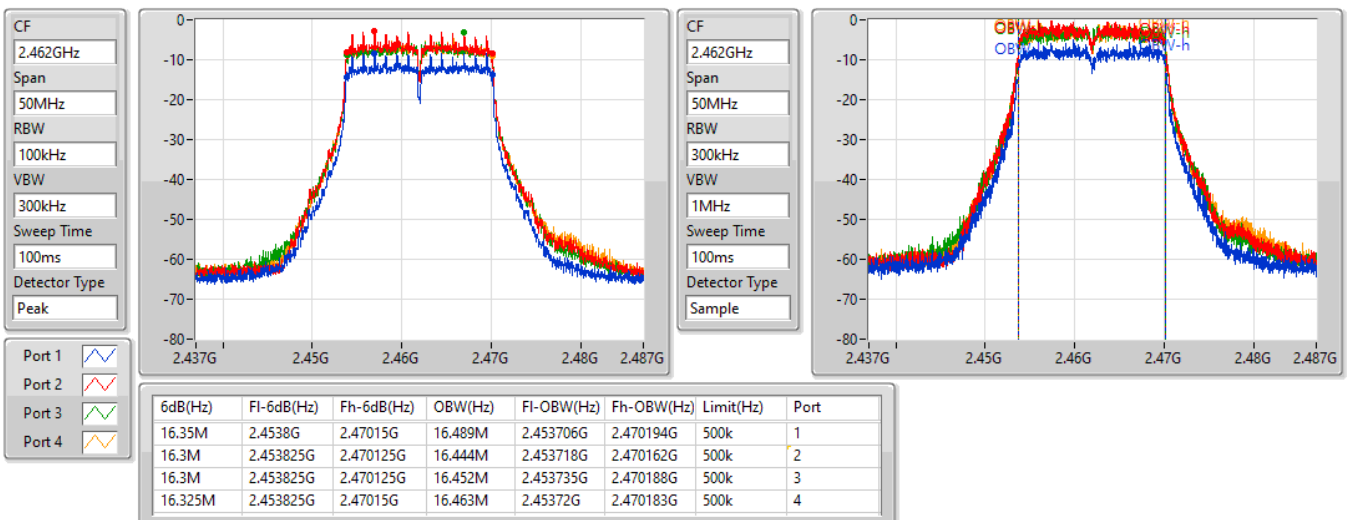


802.11g_Nss1,(6Mbps)_4TX

EBW

2462MHz

06/09/2022

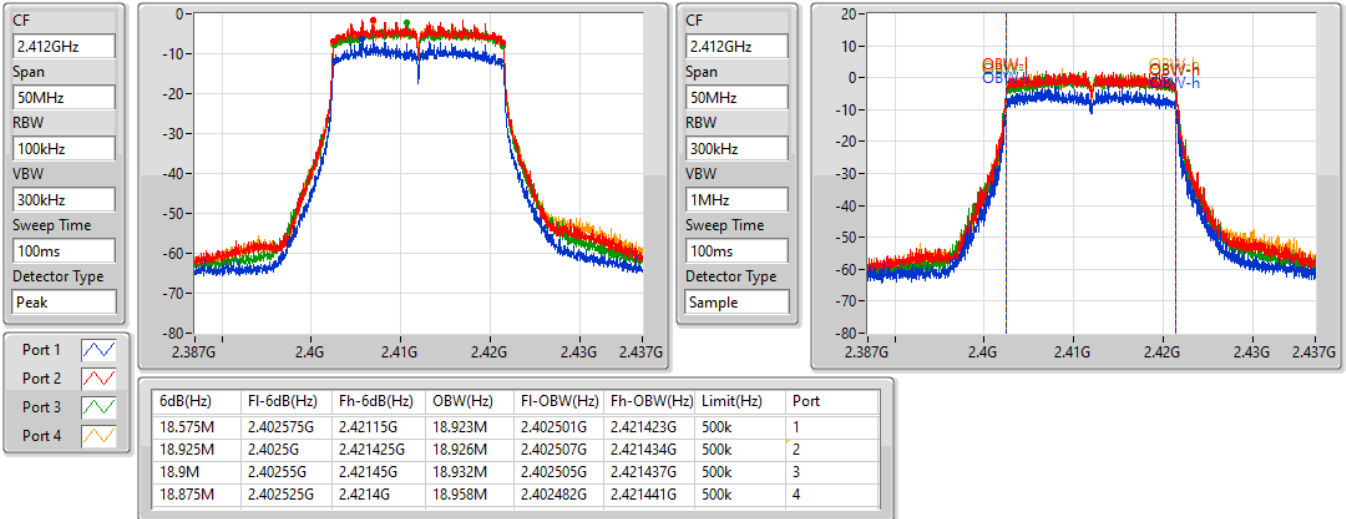


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2412MHz

06/09/2022

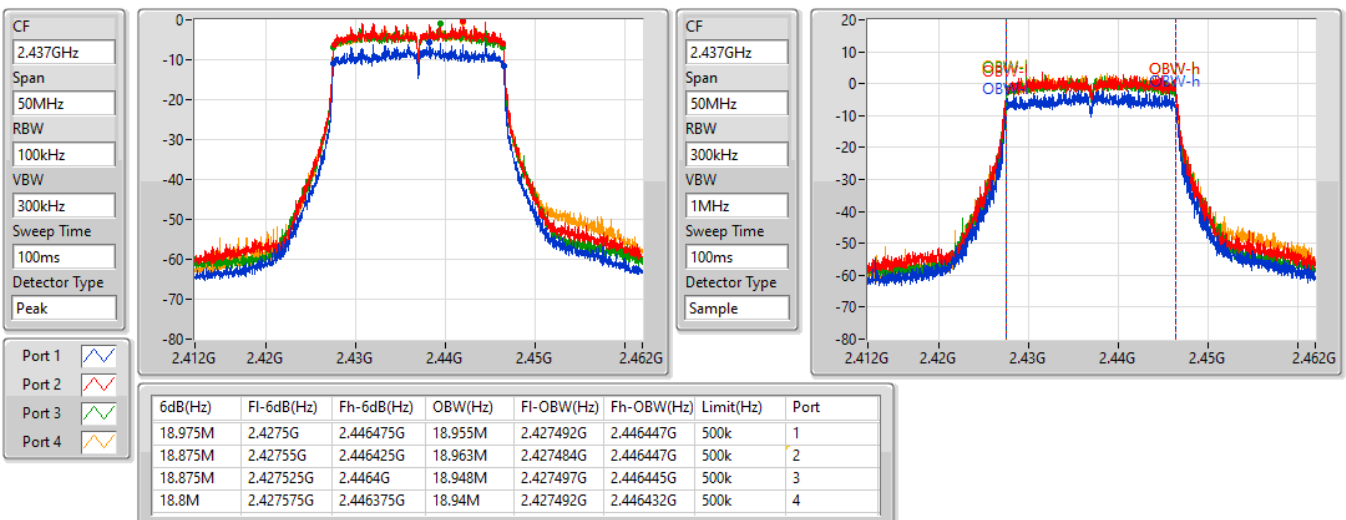


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2437MHz

06/09/2022

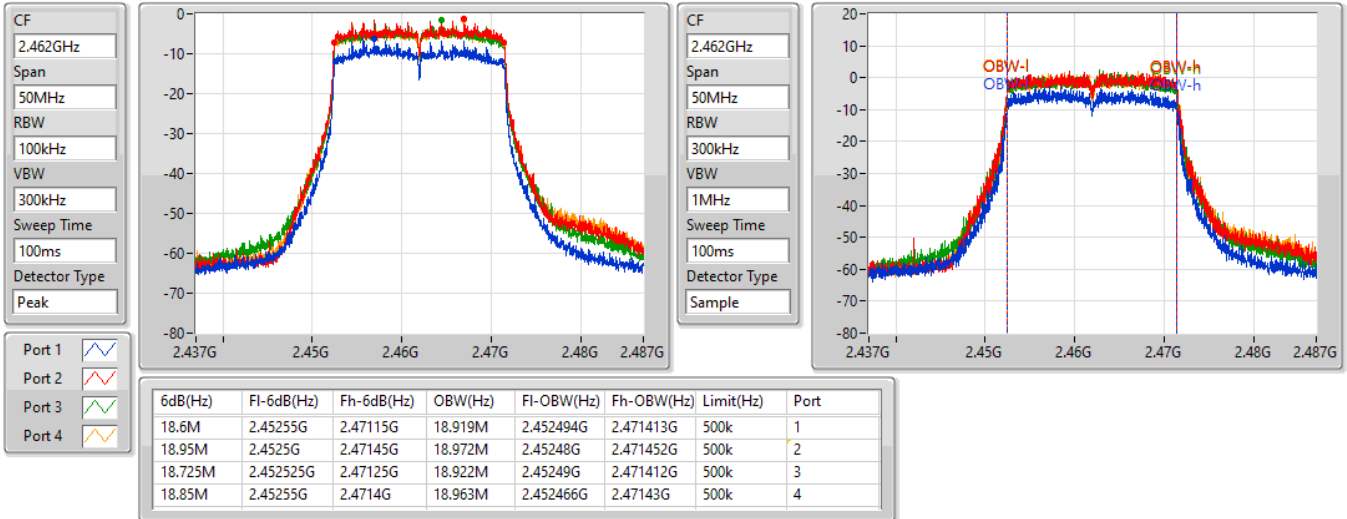


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

2462MHz

06/09/2022





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)_1TX	8.05M	13.027M	13M0G1D	8M	12.968M
802.11g_Nss1,(6Mbps)_1TX	16.325M	16.755M	16M8D1D	16.325M	16.598M
802.11ax HEW20_Nss1,(MCS0)_1TX	19.05M	19.185M	19M2D1D	19M	19.057M

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)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	8.05M	12.968M
2437MHz	Pass	500k	8.05M	13.027M
2462MHz	Pass	500k	8M	12.982M
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	16.325M	16.598M
2437MHz	Pass	500k	16.325M	16.755M
2462MHz	Pass	500k	16.325M	16.639M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	19M	19.057M
2437MHz	Pass	500k	19.025M	19.185M
2462MHz	Pass	500k	19.05M	19.099M

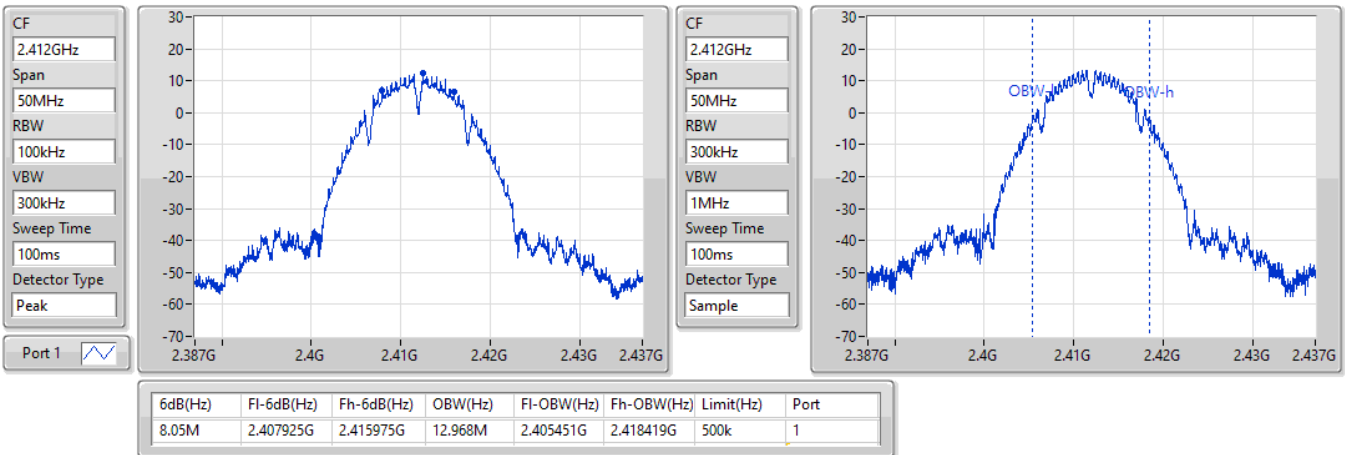
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

802.11b_Nss1,(1Mbps)_1TX

2412MHz

EBW

18/08/2022

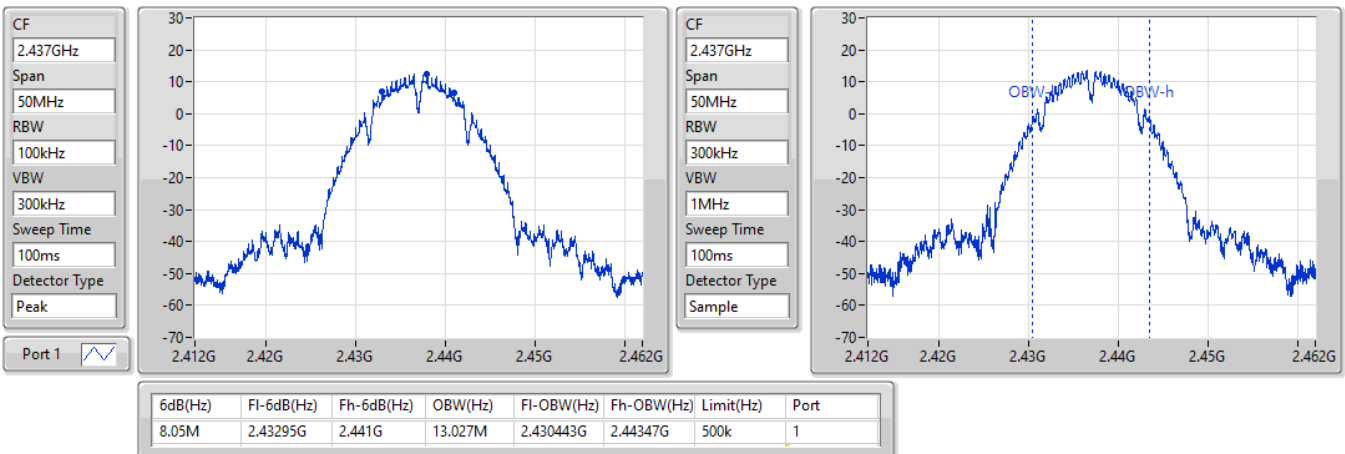


802.11b_Nss1,(1Mbps)_1TX

2437MHz

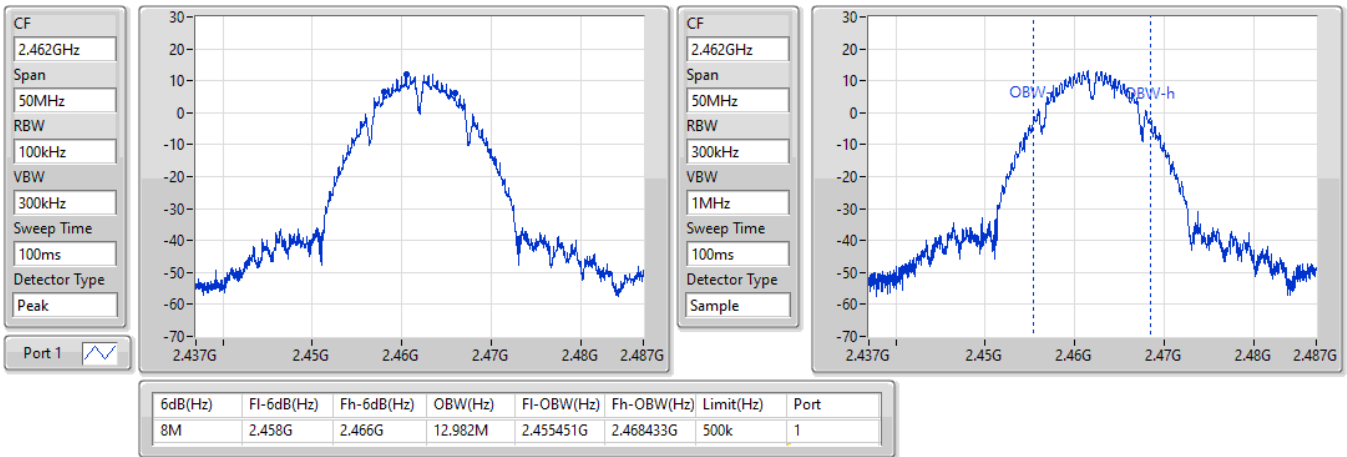
EBW

18/08/2022

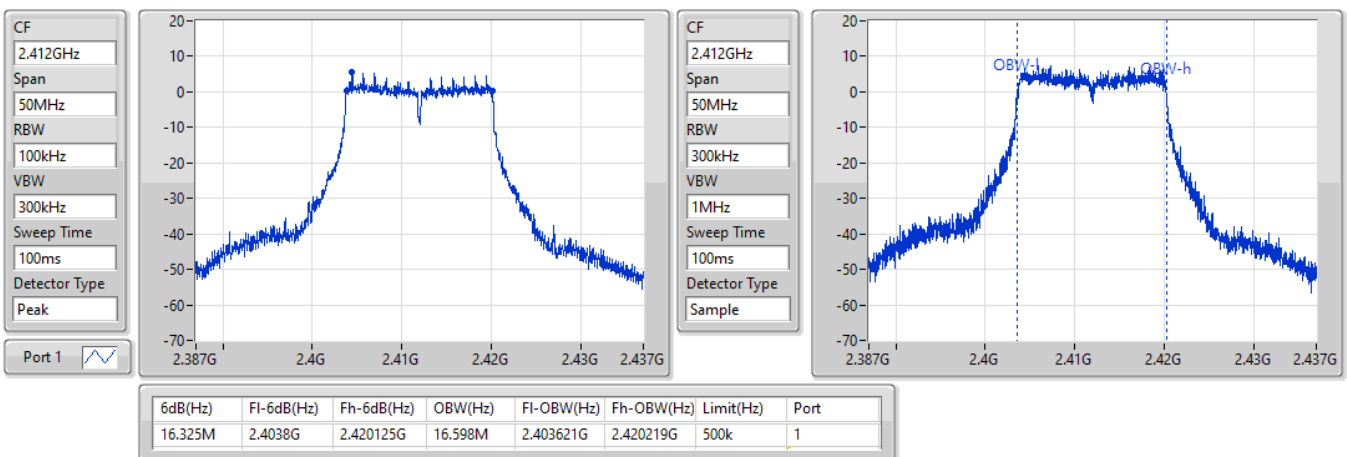


802.11b_Nss1,(1Mbps)_1TX
EBW
2462MHz

18/08/2022


802.11g_Nss1,(6Mbps)_1TX
EBW
2412MHz

18/08/2022

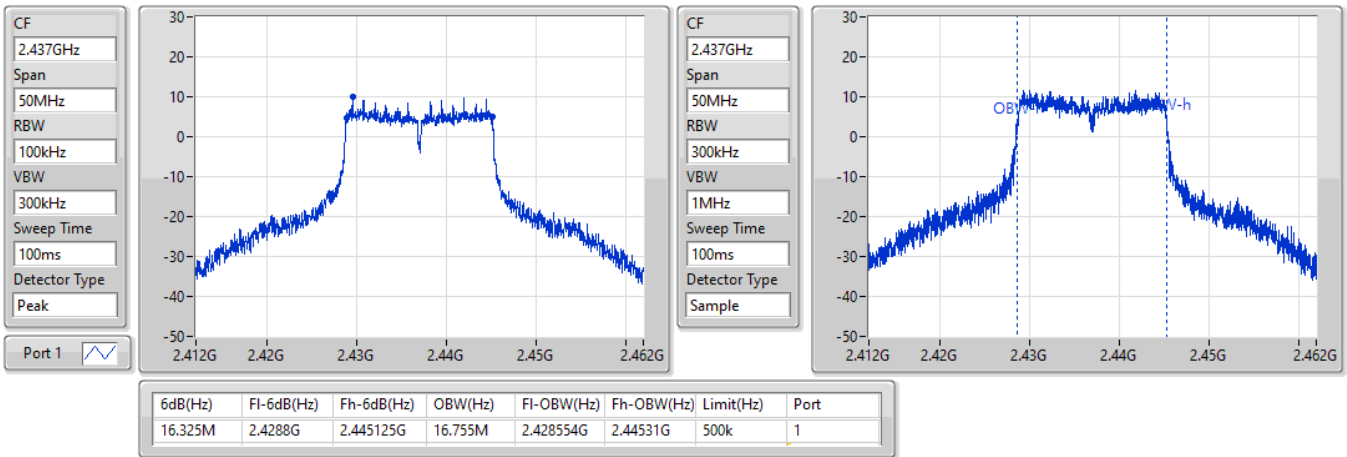


802.11g_Nss1,(6Mbps)_1TX

EBW

2437MHz

18/08/2022

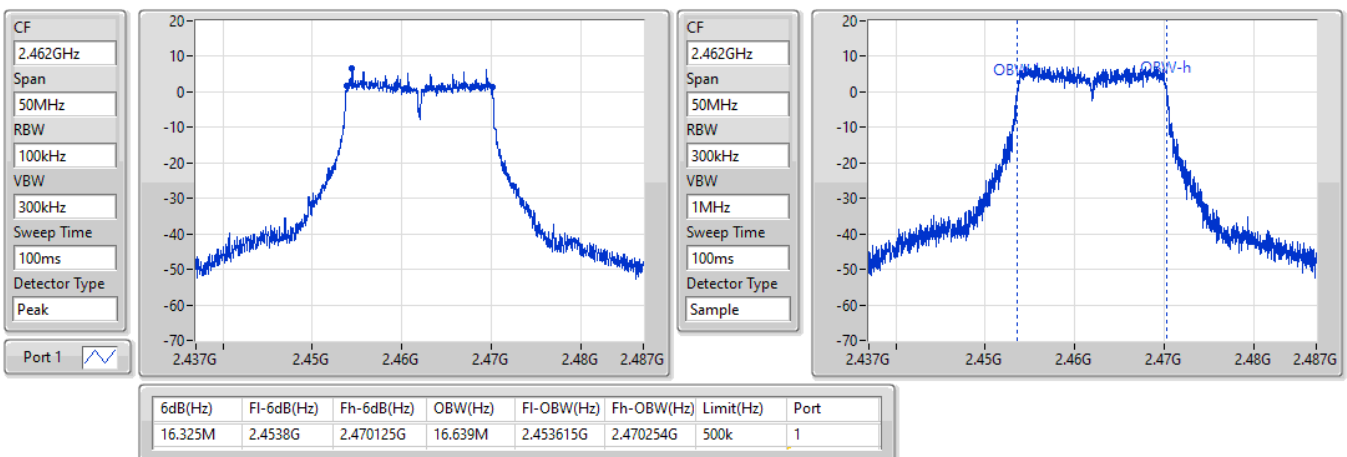


802.11g_Nss1,(6Mbps)_1TX

EBW

2462MHz

18/08/2022

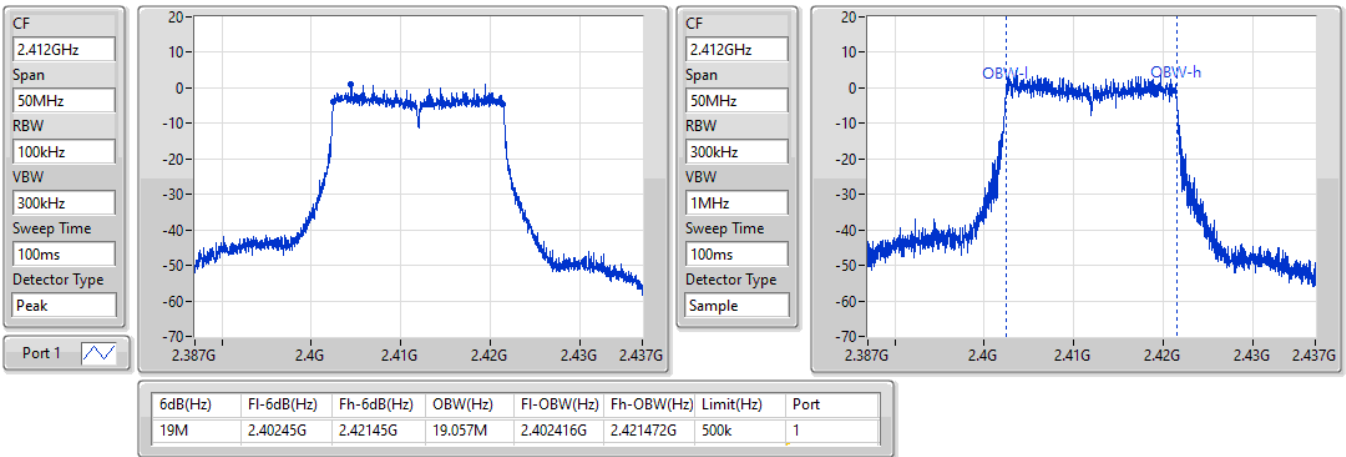


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2412MHz

18/08/2022

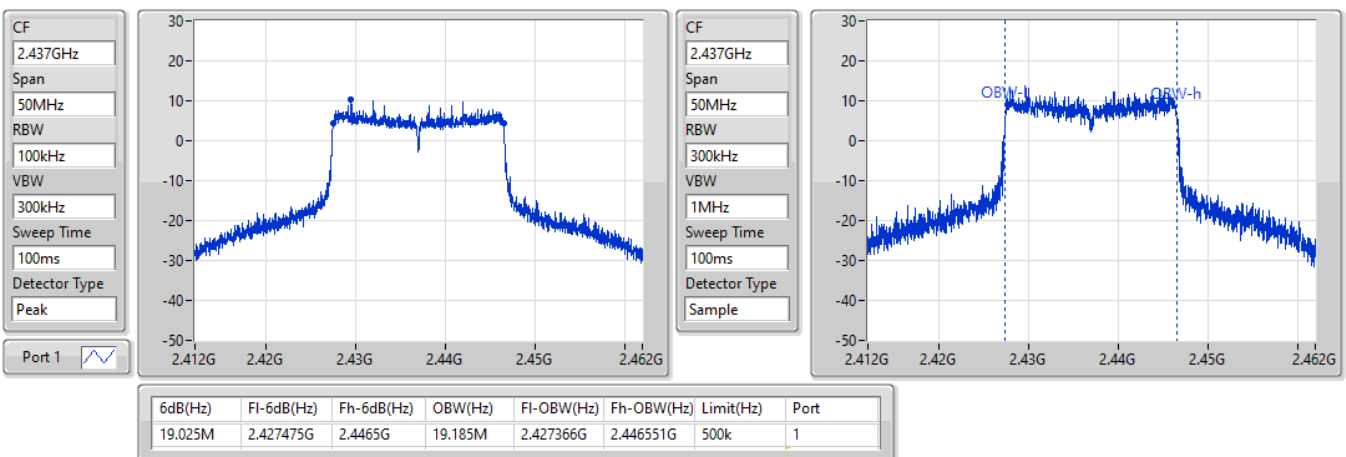


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2437MHz

18/08/2022

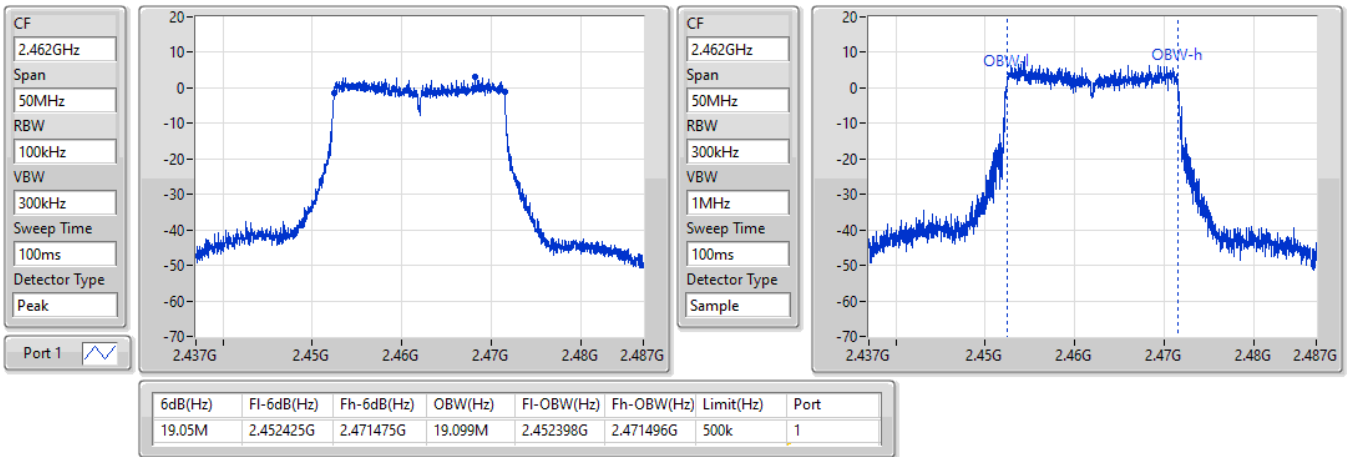


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2462MHz

18/08/2022





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)_1TX	8.05M	13.078M	13M1G1D	7.525M	12.867M
802.11g_Nss1,(6Mbps)_1TX	16.35M	16.679M	16M7D1D	16.325M	16.612M
802.11ax HEW20_Nss1,(MCS0)_1TX	19.075M	19.103M	19M2D1D	19.025M	19.058M

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

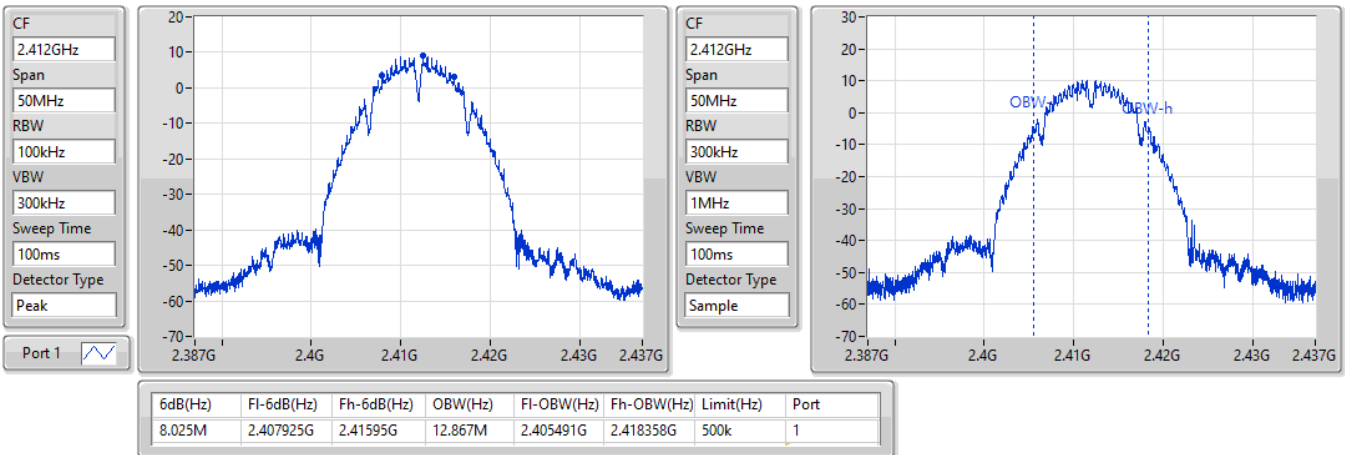
**Result**

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	8.025M	12.867M
2437MHz	Pass	500k	7.525M	13.078M
2462MHz	Pass	500k	8.05M	13.006M
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-
2412MHz	Pass	500k	16.325M	16.612M
2437MHz	Pass	500k	16.35M	16.679M
2462MHz	Pass	500k	16.325M	16.625M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
2412MHz	Pass	500k	19.025M	19.058M
2437MHz	Pass	500k	19.05M	19.086M
2462MHz	Pass	500k	19.075M	19.103M

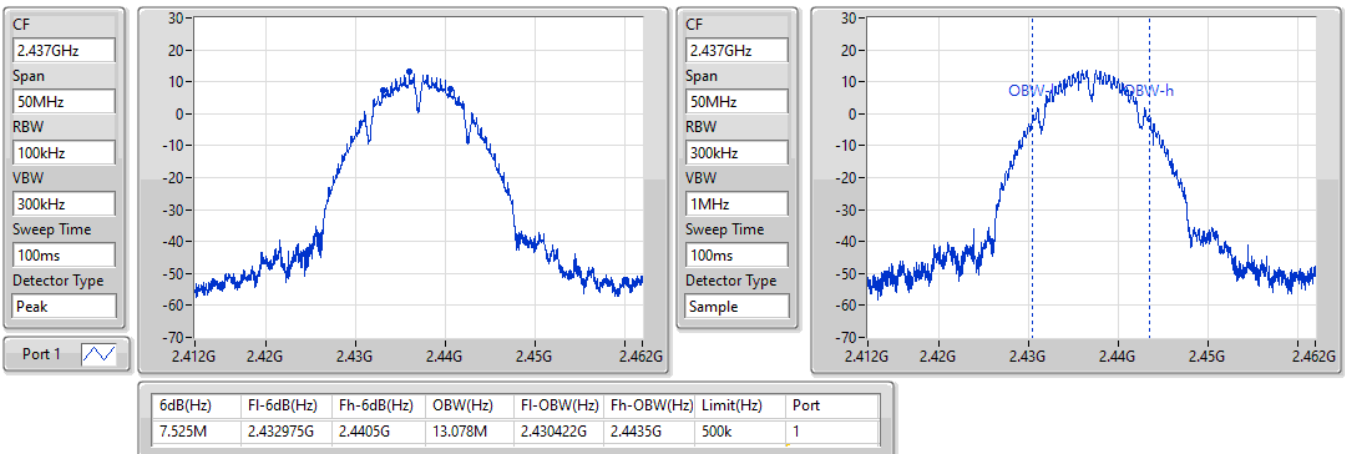
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

802.11b_Nss1,(1Mbps)_1TX
EBW
2412MHz

26/08/2022


802.11b_Nss1,(1Mbps)_1TX
EBW
2437MHz

06/09/2022

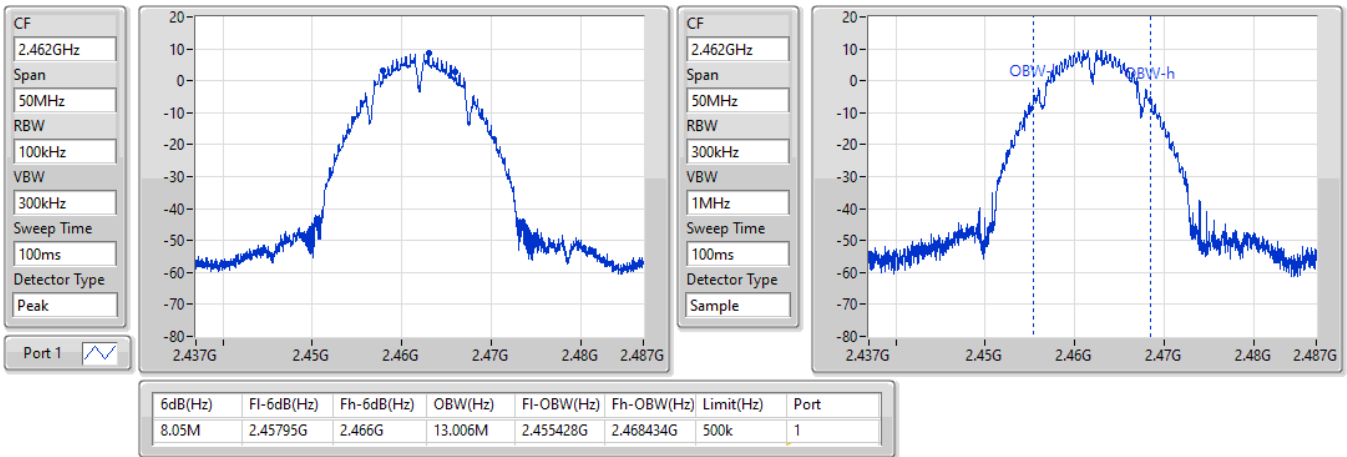


802.11b_Nss1,(1Mbps)_1TX

EBW

2462MHz

06/09/2022

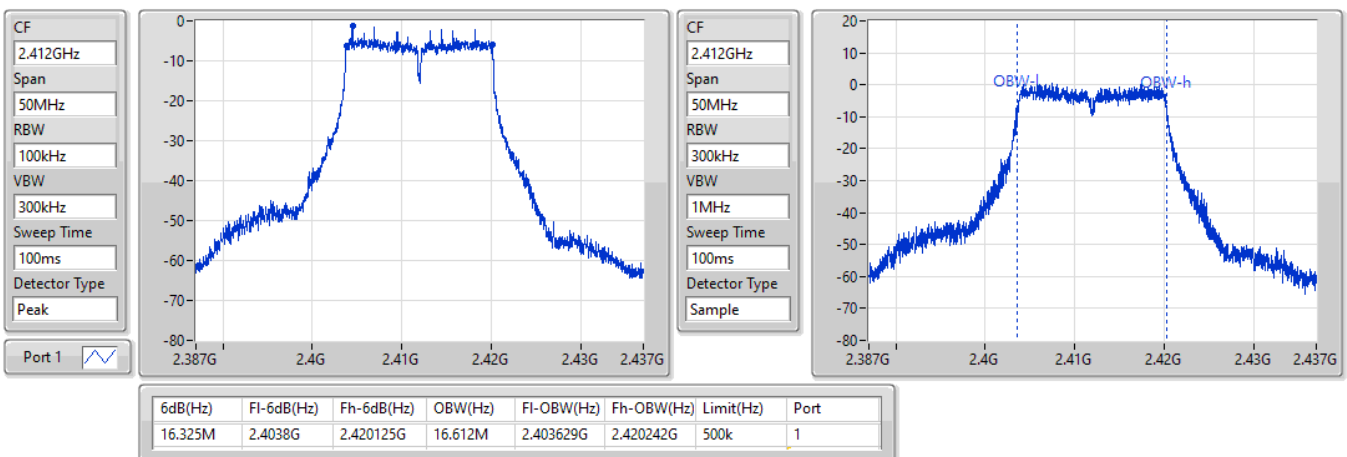


802.11g_Nss1,(6Mbps)_1TX

EBW

2412MHz

26/08/2022

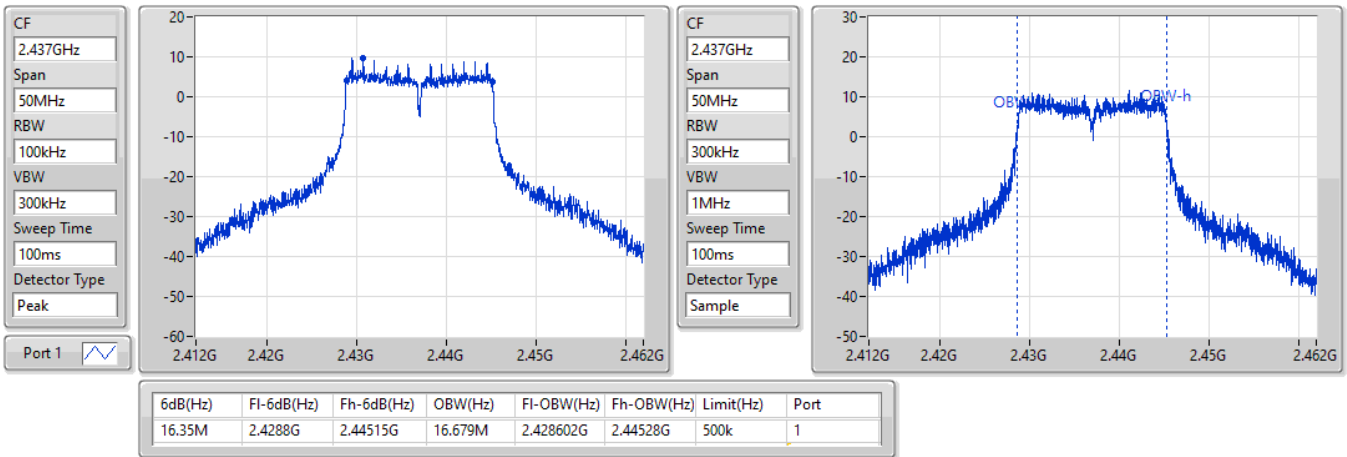


802.11g_Nss1,(6Mbps)_1TX

EBW

2437MHz

06/09/2022

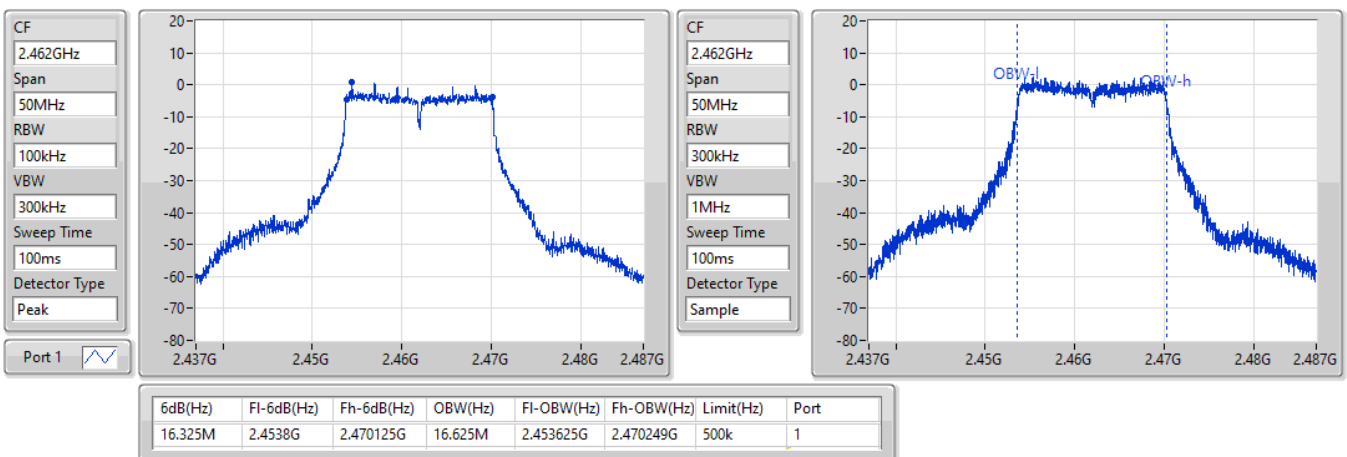


802.11g_Nss1,(6Mbps)_1TX

EBW

2462MHz

26/08/2022

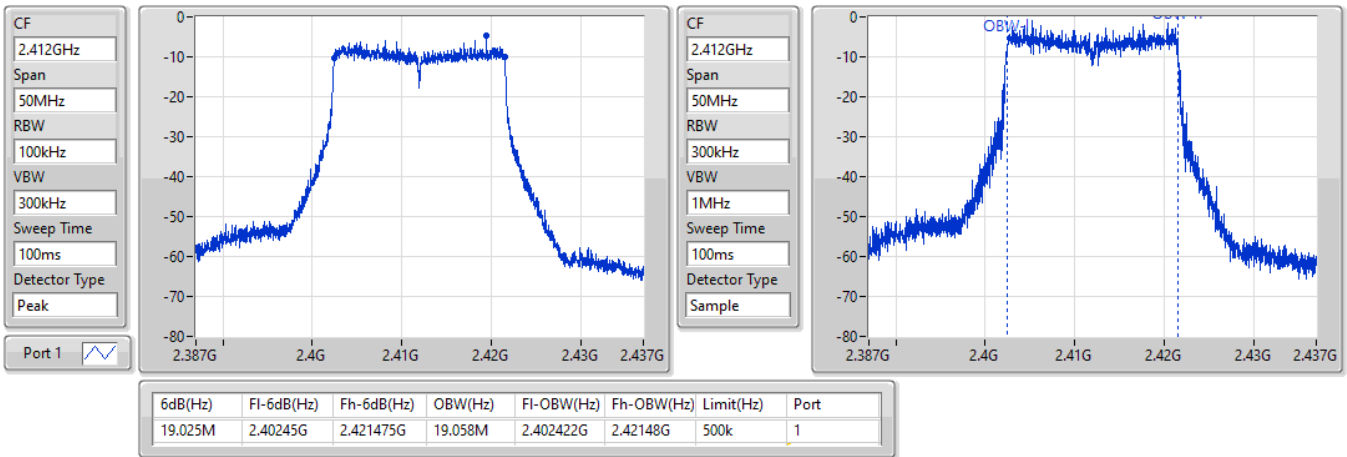


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2412MHz

26/08/2022

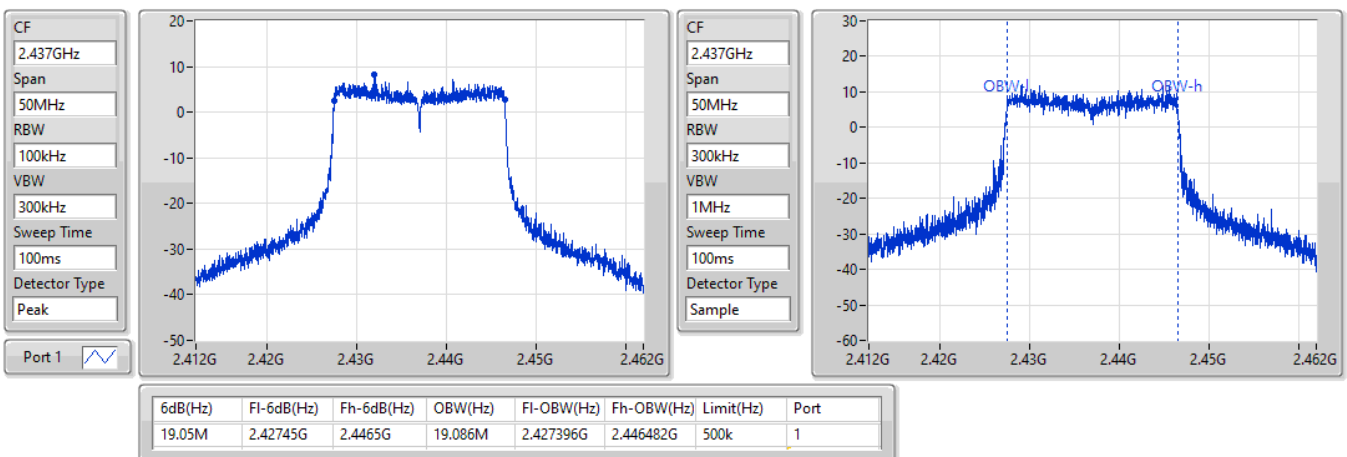


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2437MHz

06/09/2022

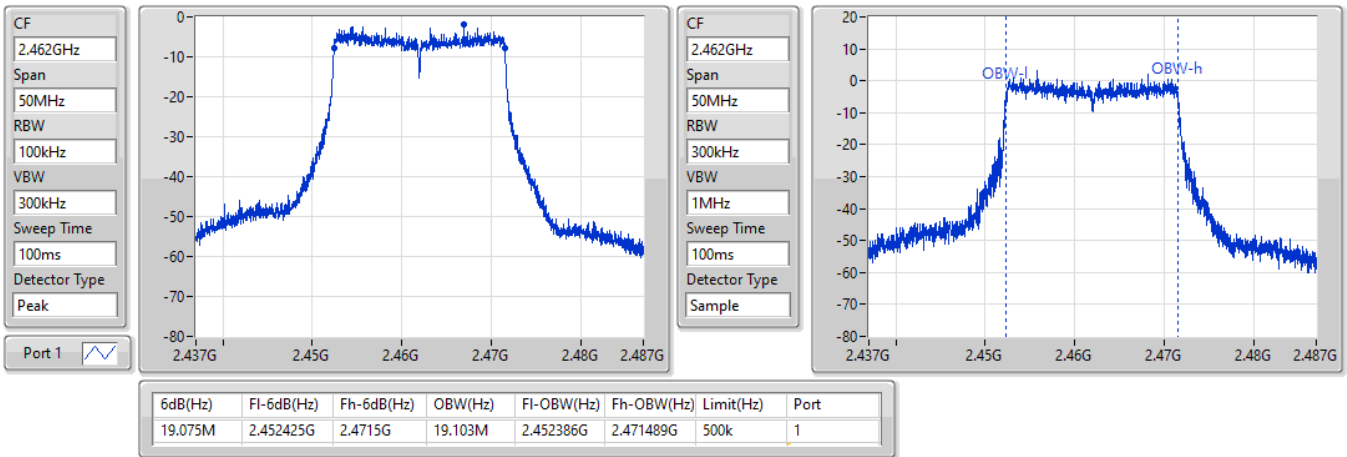


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

2462MHz

26/08/2022





Average Power_Iron R1_Antenna set 11_
Non beamforming mode_P to M

Appendix C.1

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	19.06	0.08054
802.11g_Nss1,(6Mbps)_1TX	19.11	0.08147
802.11ax HEW20_Nss1,(MCS0)_1TX	19.25	0.08414
802.11b_Nss1,(1Mbps)_2TX	25.49	0.35400
802.11g_Nss1,(6Mbps)_2TX	25.42	0.34834
802.11ax HEW20_Nss1,(MCS0)_2TX	25.58	0.36141
802.11b_Nss1,(1Mbps)_4TX	24.31	0.26977
802.11g_Nss1,(6Mbps)_4TX	22.15	0.16406
802.11ax HEW20_Nss1,(MCS0)_4TX	23.44	0.22080



Average Power_Iron R1_Antenna set 11
Non beamforming mode_P to M

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)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	19.06				19.06	30.00
2437MHz	Pass	4.00	18.62				18.62	30.00
2462MHz	Pass	4.00	18.27				18.27	30.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	18.47				18.47	30.00
2437MHz	Pass	4.00	19.11				19.11	30.00
2462MHz	Pass	4.00	18.63				18.63	30.00
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	18.52				18.52	30.00
2437MHz	Pass	4.00	19.25				19.25	30.00
2462MHz	Pass	4.00	18.72				18.72	30.00
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	19.16	24.34			25.49	30.00
2437MHz	Pass	4.00	18.85	24.06			25.20	30.00
2462MHz	Pass	4.00	16.42	21.78			22.89	30.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	14.86	20.15			21.28	30.00
2417MHz	Pass	4.00	16.89	21.99			23.16	30.00
2437MHz	Pass	4.00	18.94	24.31			25.42	30.00
2457MHz	Pass	4.00	13.89	19.56			20.60	30.00
2462MHz	Pass	4.00	11.64	17.07			18.16	30.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	13.95	19.29			20.40	30.00
2417MHz	Pass	4.00	16.44	21.66			22.80	30.00
2437MHz	Pass	4.00	19.23	24.43			25.58	30.00
2457MHz	Pass	4.00	13.36	18.74			19.85	30.00
2462MHz	Pass	4.00	8.88	14.33			15.42	30.00
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	14.27	19.36	19.21	18.64	24.31	30.00
2437MHz	Pass	4.00	13.85	18.98	19.00	18.64	24.08	30.00
2462MHz	Pass	4.00	11.57	16.83	16.36	15.98	21.63	30.00
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	10.84	15.88	15.76	15.39	20.90	30.00
2437MHz	Pass	4.00	11.95	17.23	16.96	16.63	22.15	30.00
2457MHz	Pass	4.00	9.56	15.24	14.57	14.34	19.92	30.00
2462MHz	Pass	4.00	6.75	12.11	11.54	11.29	16.88	30.00
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	9.73	14.82	14.60	13.51	19.59	30.00
2417MHz	Pass	4.00	11.51	16.59	16.44	15.93	21.55	30.00
2437MHz	Pass	4.00	13.11	18.58	18.23	17.90	23.44	30.00
2457MHz	Pass	4.00	8.41	14.06	13.39	12.97	18.69	30.00
2462MHz	Pass	4.00	4.19	10.03	9.47	8.54	14.58	30.00

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



**Average Power_Iron R1_Antenna set 11_
Beamforming mode_P to M**

Appendix C.2

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	25.58	0.36141
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	23.44	0.22080



**Average Power_Iron R1_Antenna set 11_
Beamforming mode_P to M**

Appendix C.2

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)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	7.01	13.95	19.29			20.40	28.99
2417MHz	Pass	7.01	16.44	21.66			22.80	28.99
2437MHz	Pass	7.01	19.23	24.43			25.58	28.99
2457MHz	Pass	7.01	13.36	18.74			19.85	28.99
2462MHz	Pass	7.01	8.88	14.33			15.42	28.99
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	10.02	9.73	14.82	14.60	13.51	19.59	25.98
2417MHz	Pass	10.02	11.51	16.59	16.44	15.93	21.55	25.98
2437MHz	Pass	10.02	13.11	18.58	18.23	17.90	23.44	25.98
2457MHz	Pass	10.02	8.41	14.06	13.39	12.97	18.69	25.98
2462MHz	Pass	10.02	4.19	10.03	9.47	8.54	14.58	25.98

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



Average Power_Iron R1_Antenna set 2_
Non beamforming mode_P to M

Appendix C.3

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	19.52	0.08954
802.11g_Nss1,(6Mbps)_1TX	19.21	0.08337
802.11ax HEW20_Nss1,(MCS0)_1TX	19.34	0.08590
802.11b_Nss1,(1Mbps)_2TX	20.84	0.12134
802.11g_Nss1,(6Mbps)_2TX	20.36	0.10864
802.11ax HEW20_Nss1,(MCS0)_2TX	19.49	0.08892
802.11b_Nss1,(1Mbps)_4TX	19.14	0.08204
802.11g_Nss1,(6Mbps)_4TX	16.27	0.04236
802.11ax HEW20_Nss1,(MCS0)_4TX	15.61	0.03639



Average Power_Iron R1_Antenna set 2_
Non beamforming mode_P to M

Appendix C.3

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)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	19.25				19.25	23.00
2417MHz	Pass	13.00	19.24				19.24	23.00
2437MHz	Pass	13.00	19.52				19.52	23.00
2457MHz	Pass	13.00	18.84				18.84	23.00
2462MHz	Pass	13.00	17.76				17.76	23.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	16.96				16.96	23.00
2417MHz	Pass	13.00	17.07				17.07	23.00
2437MHz	Pass	13.00	19.21				19.21	23.00
2457MHz	Pass	13.00	16.77				16.77	23.00
2462MHz	Pass	13.00	15.68				15.68	23.00
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	14.95				14.95	23.00
2417MHz	Pass	13.00	16.64				16.64	23.00
2437MHz	Pass	13.00	19.34				19.34	23.00
2457MHz	Pass	13.00	14.48				14.48	23.00
2462MHz	Pass	13.00	13.00				13.00	23.00
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	11.79	16.74			17.95	23.00
2417MHz	Pass	13.00	11.59	16.75			17.91	23.00
2437MHz	Pass	13.00	14.46	19.70			20.84	23.00
2457MHz	Pass	13.00	13.66	18.73			19.91	23.00
2462MHz	Pass	13.00	13.56	18.81			19.94	23.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	10.75	15.89			17.05	23.00
2417MHz	Pass	13.00	11.26	16.39			17.55	23.00
2437MHz	Pass	13.00	14.10	19.19			20.36	23.00
2457MHz	Pass	13.00	10.78	15.90			17.06	23.00
2462MHz	Pass	13.00	7.93	12.67			13.93	23.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	10.04	15.02			16.22	23.00
2417MHz	Pass	13.00	11.42	16.53			17.70	23.00
2437MHz	Pass	13.00	13.30	18.29			19.49	23.00
2457MHz	Pass	13.00	9.33	14.67			15.78	23.00
2462MHz	Pass	13.00	5.57	10.66			11.83	23.00
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	7.72	12.38	11.69	12.46	17.45	23.00
2417MHz	Pass	13.00	7.93	12.67	11.89	12.80	17.72	23.00
2437MHz	Pass	13.00	8.92	14.29	13.22	13.75	19.00	23.00
2457MHz	Pass	13.00	9.13	14.33	13.36	13.99	19.14	23.00
2462MHz	Pass	13.00	8.56	13.75	13.10	13.05	18.54	23.00
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	5.54	10.68	10.07	10.41	15.61	23.00
2417MHz	Pass	13.00	5.64	10.90	10.28	10.49	15.78	23.00
2437MHz	Pass	13.00	6.20	11.38	10.60	11.12	16.27	23.00
2457MHz	Pass	13.00	4.48	9.66	9.18	9.03	14.52	23.00
2462MHz	Pass	13.00	2.63	8.03	7.46	7.84	12.98	23.00
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	4.54	9.78	9.16	9.54	14.71	23.00
2417MHz	Pass	13.00	5.21	10.54	9.80	10.27	15.42	23.00
2437MHz	Pass	13.00	5.54	10.56	10.12	10.46	15.61	23.00
2457MHz	Pass	13.00	4.45	10.23	9.31	9.52	14.89	23.00
2462MHz	Pass	13.00	4.43	9.66	9.25	9.29	14.61	23.00

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



**Average Power_Iron R1_Antenna set 2_Beamforming mode_
P to M**

Appendix C.4

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	19.49	0.08892
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	15.61	0.03639



**Average Power_Iron R1_Antenna set 2_Beamforming mode_
P to M**

Appendix C.4

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)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	16.01	10.04	15.02			16.22	19.99
2417MHz	Pass	16.01	11.42	16.53			17.70	19.99
2437MHz	Pass	16.01	13.30	18.29			19.49	19.99
2457MHz	Pass	16.01	9.33	14.67			15.78	19.99
2462MHz	Pass	16.01	5.57	10.66			11.83	19.99
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.02	4.54	9.78	9.16	9.54	14.71	16.98
2437MHz	Pass	19.02	5.54	10.56	10.12	10.46	15.61	16.98
2462MHz	Pass	19.02	4.43	9.66	9.25	9.29	14.61	16.98

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



**Average Power_Iron R1_Antenna set 2_
Non beamforming mode_P to P**

Appendix C.5

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	19.52	0.08954
802.11b_Nss1,(1Mbps)_2TX	20.84	0.12134
802.11b_Nss1,(1Mbps)_4TX	19.14	0.08204
802.11g_Nss1,(6Mbps)_1TX	19.21	0.08337
802.11g_Nss1,(6Mbps)_2TX	20.36	0.10864
802.11g_Nss1,(6Mbps)_4TX	16.27	0.04236
802.11ax HEW20_Nss1,(MCS0)_1TX	19.34	0.08590
802.11ax HEW20_Nss1,(MCS0)_2TX	19.49	0.08892
802.11ax HEW20_Nss1,(MCS0)_4TX	15.61	0.03639



Average Power_Iron R1_Antenna set 2_
Non beamforming mode_P to P

Appendix C.5

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)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	19.25				19.25	28.00
2417MHz	Pass	13.00	19.24				19.24	28.00
2437MHz	Pass	13.00	19.52				19.52	28.00
2457MHz	Pass	13.00	18.84				18.84	28.00
2462MHz	Pass	13.00	17.76				17.76	28.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	16.96				16.96	28.00
2417MHz	Pass	13.00	17.07				17.07	28.00
2437MHz	Pass	13.00	19.21				19.21	28.00
2457MHz	Pass	13.00	16.77				16.77	28.00
2462MHz	Pass	13.00	15.68				15.68	28.00
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	14.95				14.95	28.00
2417MHz	Pass	13.00	16.64				16.64	28.00
2437MHz	Pass	13.00	19.34				19.34	28.00
2457MHz	Pass	13.00	14.48				14.48	28.00
2462MHz	Pass	13.00	13.00				13.00	28.00
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	11.79	16.74			17.95	28.00
2417MHz	Pass	13.00	11.59	16.75			17.91	28.00
2437MHz	Pass	13.00	14.46	19.70			20.84	28.00
2457MHz	Pass	13.00	13.66	18.73			19.91	28.00
2462MHz	Pass	13.00	13.56	18.81			19.94	28.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	10.75	15.89			17.05	28.00
2417MHz	Pass	13.00	11.26	16.39			17.55	28.00
2437MHz	Pass	13.00	14.10	19.19			20.36	28.00
2457MHz	Pass	13.00	10.78	15.90			17.06	28.00
2462MHz	Pass	13.00	7.93	12.67			13.93	28.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	10.04	15.02			16.22	28.00
2417MHz	Pass	13.00	11.42	16.53			17.70	28.00
2437MHz	Pass	13.00	13.30	18.29			19.49	28.00
2457MHz	Pass	13.00	9.33	14.67			15.78	28.00
2462MHz	Pass	13.00	5.57	10.66			11.83	28.00
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	7.72	12.38	11.69	12.46	17.45	28.00
2417MHz	Pass	13.00	7.93	12.67	11.89	12.80	17.72	28.00
2437MHz	Pass	13.00	8.92	14.29	13.22	13.75	19.00	28.00
2457MHz	Pass	13.00	9.13	14.33	13.36	13.99	19.14	28.00
2462MHz	Pass	13.00	8.56	13.75	13.10	13.05	18.54	28.00
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	5.54	10.68	10.07	10.41	15.61	28.00
2417MHz	Pass	13.00	5.64	10.90	10.28	10.49	15.78	28.00
2437MHz	Pass	13.00	6.20	11.38	10.60	11.12	16.27	28.00
2457MHz	Pass	13.00	4.48	9.66	9.18	9.03	14.52	28.00
2462MHz	Pass	13.00	2.63	8.03	7.46	7.84	12.98	28.00
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	4.54	9.78	9.16	9.54	14.71	28.00
2417MHz	Pass	13.00	5.21	10.54	9.80	10.27	15.42	28.00
2437MHz	Pass	13.00	5.54	10.56	10.12	10.46	15.61	28.00
2457MHz	Pass	13.00	4.45	10.23	9.31	9.52	14.89	28.00
2462MHz	Pass	13.00	4.43	9.66	9.25	9.29	14.61	28.00

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



Average Power_Iron R1_Antenna set 2_Beamforming mode
_P to P

Appendix C.6

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	19.49	0.08892
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	15.61	0.03639



Average Power_Iron R1_Antenna set 2_Beamforming mode
_P to P

Appendix C.6

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)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	16.01	10.04	15.02			16.22	27.00
2417MHz	Pass	16.01	11.42	16.53			17.70	27.00
2437MHz	Pass	16.01	13.30	18.29			19.49	27.00
2457MHz	Pass	16.01	9.33	14.67			15.78	27.00
2462MHz	Pass	16.01	5.57	10.66			11.83	27.00
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.02	4.54	9.78	9.16	9.54	14.71	26.00
2437MHz	Pass	19.02	5.54	10.56	10.12	10.46	15.61	26.00
2462MHz	Pass	19.02	4.43	9.66	9.25	9.29	14.61	26.00

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



Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	20.78	0.11967
802.11g_Nss1,(6Mbps)_1TX	20.77	0.11940
802.11ax HEW20_Nss1,(MCS0)_1TX	21.16	0.13062

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	4.00	20.56	20.56	30.00
2437MHz	Pass	4.00	20.78	20.78	30.00
2462MHz	Pass	4.00	20.36	20.36	30.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	4.00	16.35	16.35	30.00
2417MHz	Pass	4.00	17.78	17.78	30.00
2437MHz	Pass	4.00	20.77	20.77	30.00
2457MHz	Pass	4.00	18.29	18.29	30.00
2462MHz	Pass	4.00	17.18	17.18	30.00
802.11ax_HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	4.00	12.42	12.42	30.00
2417MHz	Pass	4.00	17.29	17.29	30.00
2437MHz	Pass	4.00	21.16	21.16	30.00
2457MHz	Pass	4.00	17.67	17.67	30.00
2462MHz	Pass	4.00	15.63	15.63	30.00

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



Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	20.93	0.12388
802.11g_Nss1,(6Mbps)_1TX	20.06	0.10139
802.11ax HEW20_Nss1,(MCS0)_1TX	19.55	0.09016

**Result**

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	13.00	17.48	17.48	23.00
2417MHz	Pass	13.00	18.52	18.52	23.00
2437MHz	Pass	13.00	20.93	20.93	23.00
2457MHz	Pass	13.00	17.29	17.29	23.00
2462MHz	Pass	13.00	16.89	16.89	23.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	13.00	9.54	9.54	23.00
2417MHz	Pass	13.00	14.97	14.97	23.00
2437MHz	Pass	13.00	20.06	20.06	23.00
2457MHz	Pass	13.00	14.46	14.46	23.00
2462MHz	Pass	13.00	11.35	11.35	23.00
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	13.00	6.32	6.32	23.00
2417MHz	Pass	13.00	12.44	12.44	23.00
2437MHz	Pass	13.00	19.55	19.55	23.00
2457MHz	Pass	13.00	13.40	13.40	23.00
2462MHz	Pass	13.00	9.71	9.71	23.00

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



Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
802.11b_Nss1,(1Mbps)_1TX	20.93	0.12388
802.11g_Nss1,(6Mbps)_1TX	20.06	0.10139
802.11ax HEW20_Nss1,(MCS0)_1TX	19.55	0.09016

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	13.00	17.48	17.48	28.00
2417MHz	Pass	13.00	18.52	18.52	28.00
2437MHz	Pass	13.00	20.93	20.93	28.00
2457MHz	Pass	13.00	17.29	17.29	28.00
2462MHz	Pass	13.00	16.89	16.89	28.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	13.00	9.54	9.54	28.00
2417MHz	Pass	13.00	14.97	14.97	28.00
2437MHz	Pass	13.00	20.06	20.06	28.00
2457MHz	Pass	13.00	14.46	14.46	28.00
2462MHz	Pass	13.00	11.35	11.35	28.00
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	13.00	6.32	6.32	28.00
2417MHz	Pass	13.00	12.44	12.44	28.00
2437MHz	Pass	13.00	19.55	19.55	28.00
2457MHz	Pass	13.00	13.40	13.40	28.00
2462MHz	Pass	13.00	9.71	9.71	28.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_1TX	-3.07
802.11g_Nss1,(6Mbps)_1TX	-8.37
802.11ax HEW20_Nss1,(MCS0)_1TX	-7.96
802.11b_Nss1,(1Mbps)_2TX	2.95
802.11g_Nss1,(6Mbps)_2TX	-3.36
802.11ax HEW20_Nss1,(MCS0)_2TX	-2.99
802.11b_Nss1,(1Mbps)_4TX	0.95
802.11g_Nss1,(6Mbps)_4TX	-6.67
802.11ax HEW20_Nss1,(MCS0)_4TX	-6.13

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)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	-5.01				-5.01	8.00
2437MHz	Pass	4.00	-4.09				-4.09	8.00
2462MHz	Pass	4.00	-3.07				-3.07	8.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	-9.53				-9.53	8.00
2437MHz	Pass	4.00	-8.98				-8.98	8.00
2462MHz	Pass	4.00	-8.37				-8.37	8.00
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	4.00	-9.34				-9.34	8.00
2437MHz	Pass	4.00	-7.96				-7.96	8.00
2462MHz	Pass	4.00	-8.14				-8.14	8.00
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	7.01	-4.40	2.28			2.95	6.99
2437MHz	Pass	7.01	-5.33	0.89			1.82	6.99
2462MHz	Pass	7.01	-7.04	-3.19			-2.30	6.99
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	7.01	-12.78	-7.25			-6.70	6.99
2437MHz	Pass	7.01	-8.92	-3.86			-3.36	6.99
2462MHz	Pass	7.01	-15.77	-11.62			-10.97	6.99
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	7.01	-13.54	-8.24			-7.72	6.99
2437MHz	Pass	7.01	-8.00	-3.52			-2.99	6.99
2462MHz	Pass	7.01	-17.87	-12.90			-12.72	6.99
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	10.02	-9.67	-3.66	-3.91	-4.50	0.95	3.98
2437MHz	Pass	10.02	-7.68	-4.00	-4.49	-5.07	0.62	3.98
2462MHz	Pass	10.02	-12.18	-6.44	-6.79	-6.74	-2.56	3.98
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	10.02	-17.19	-11.81	-12.03	-10.65	-7.65	3.98
2437MHz	Pass	10.02	-15.52	-11.32	-11.63	-10.75	-6.67	3.98
2462MHz	Pass	10.02	-22.15	-15.82	-15.83	-16.30	-11.60	3.98
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	10.02	-18.13	-12.75	-13.18	-13.15	-9.76	3.98
2437MHz	Pass	10.02	-14.49	-8.91	-8.80	-9.52	-6.13	3.98
2462MHz	Pass	10.02	-23.81	-17.54	-17.86	-17.34	-14.55	3.98

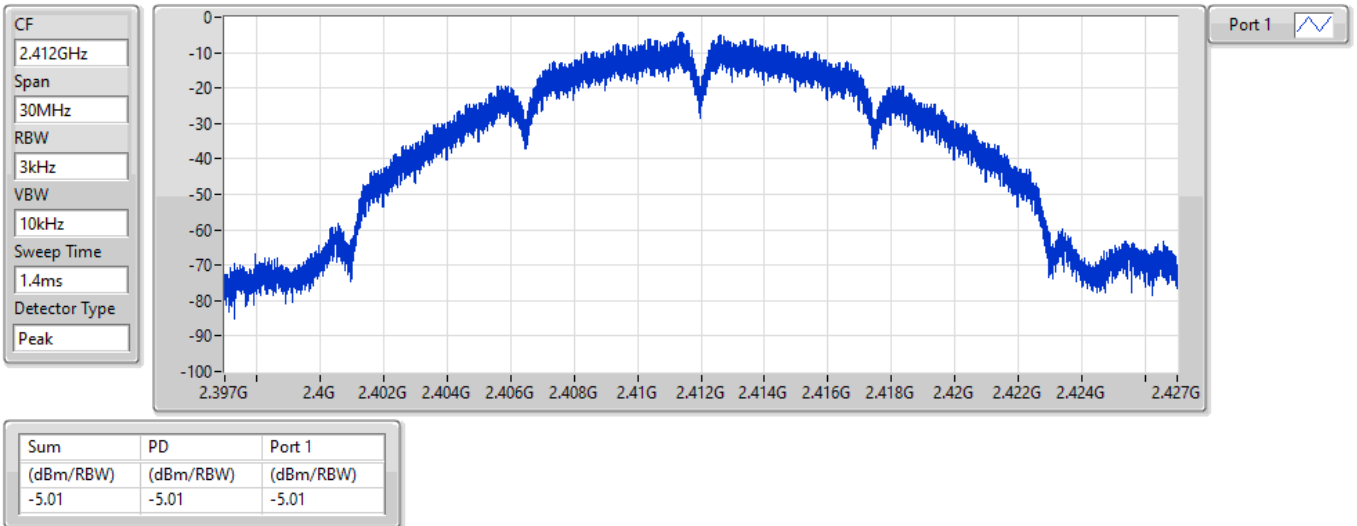
DG = Directional Gain; RBW = 3kHz;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

802.11b_Nss1,(1Mbps)_1TX

PSD

2412MHz

17/08/2022

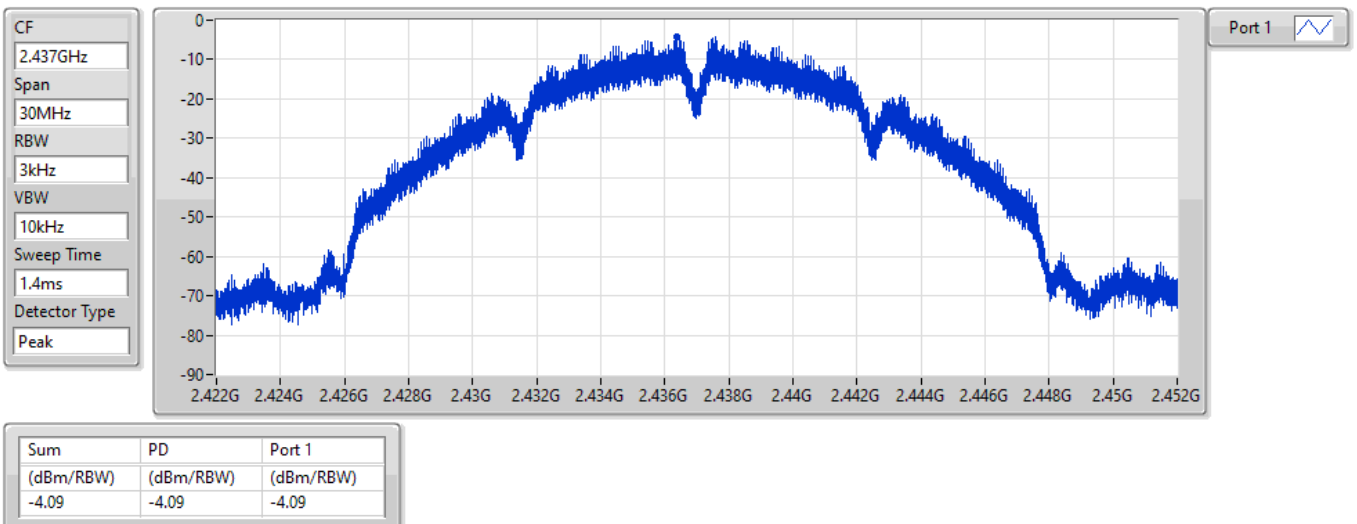


802.11b_Nss1,(1Mbps)_1TX

PSD

2437MHz

17/08/2022

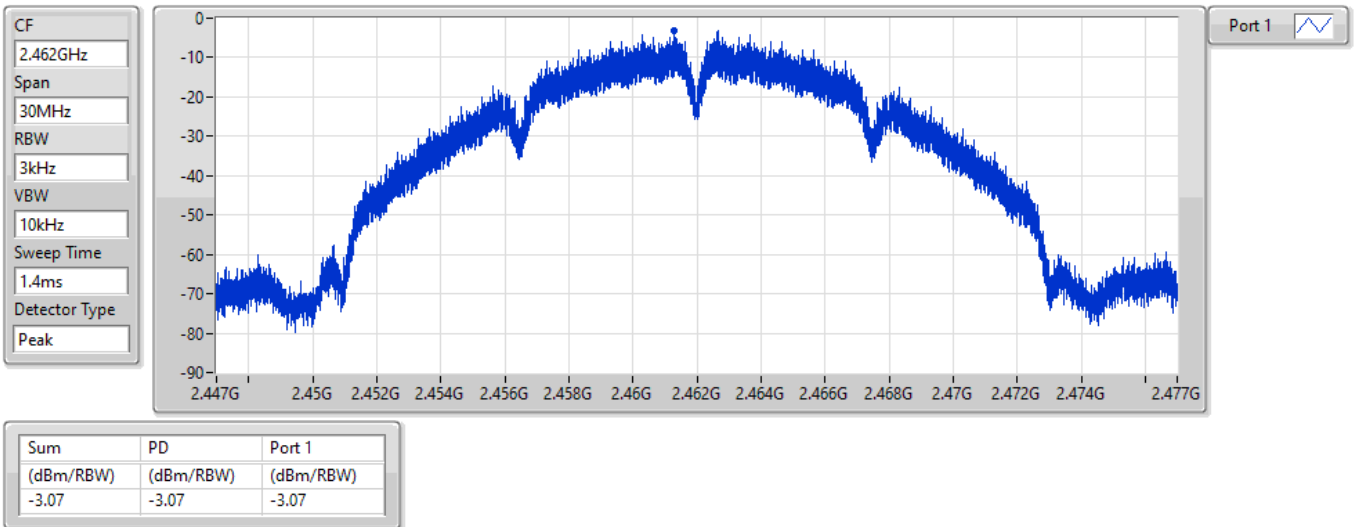


802.11b_Nss1,(1Mbps)_1TX

PSD

2462MHz

17/08/2022

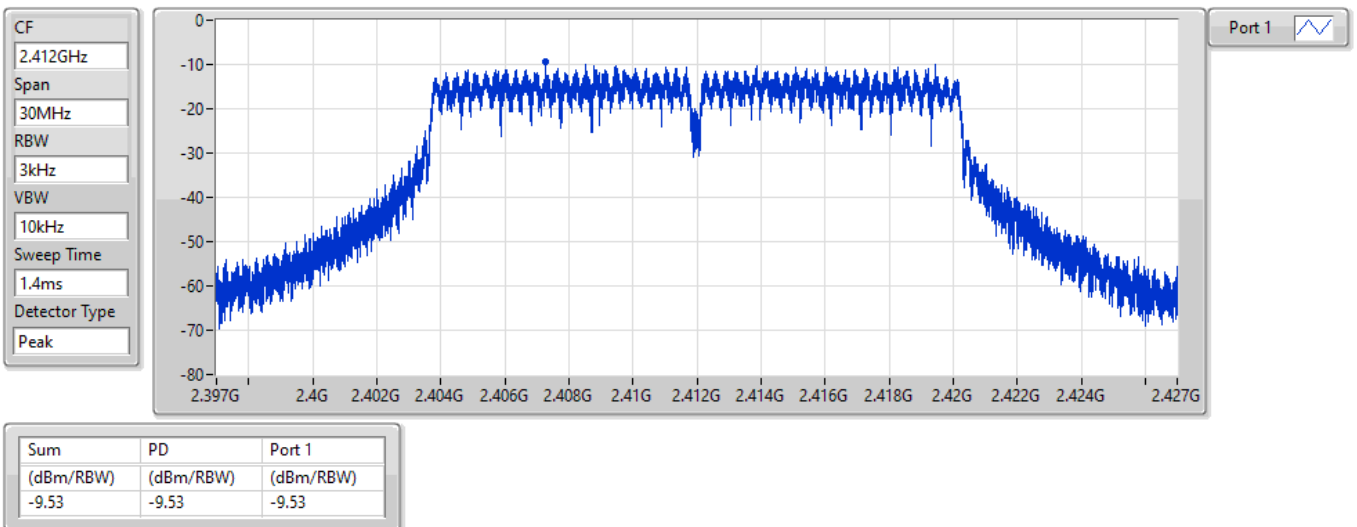


802.11g_Nss1,(6Mbps)_1TX

PSD

2412MHz

18/08/2022

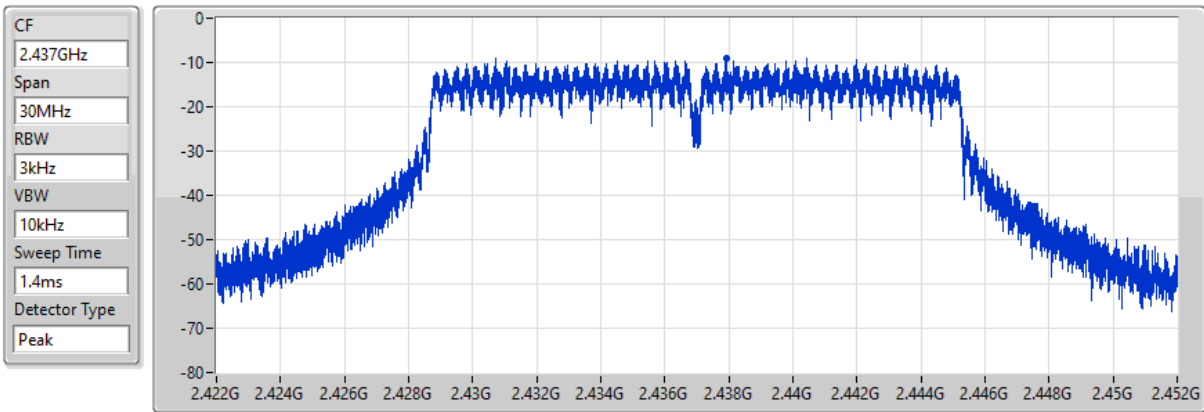


802.11g_Nss1,(6Mbps)_1TX

PSD

2437MHz

17/08/2022



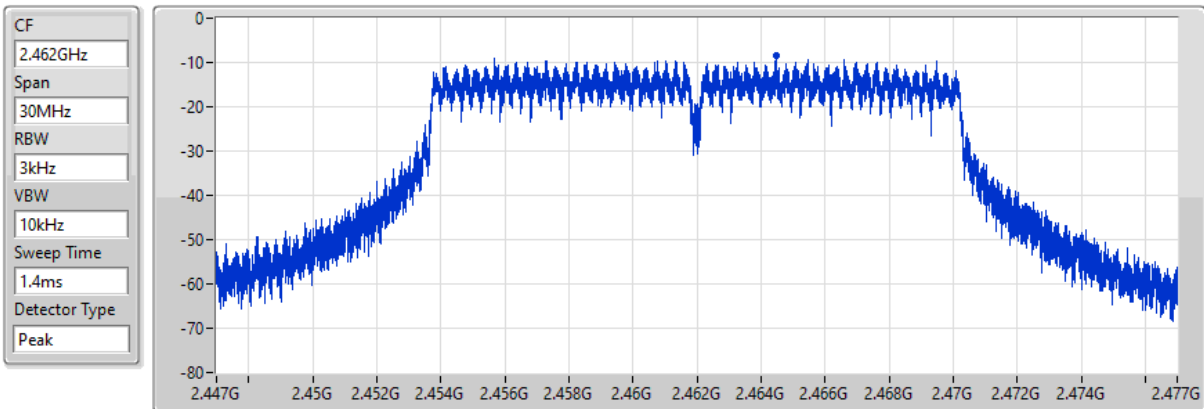
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-8.98	-8.98	-8.98

802.11g_Nss1,(6Mbps)_1TX

PSD

2462MHz

17/08/2022



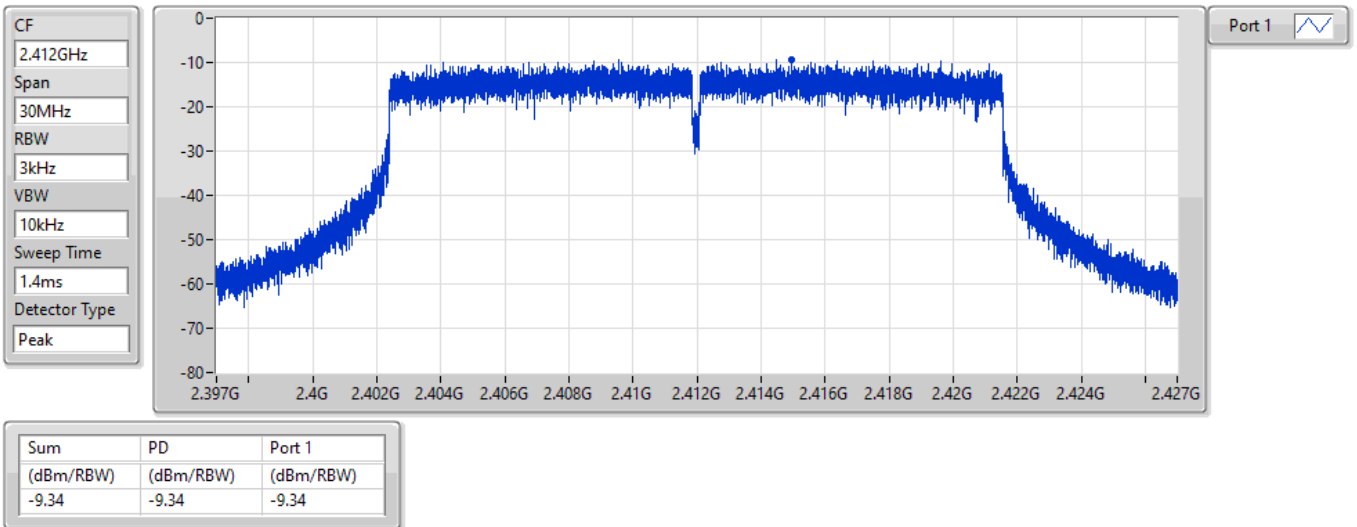
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-8.37	-8.37	-8.37

802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2412MHz

17/08/2022

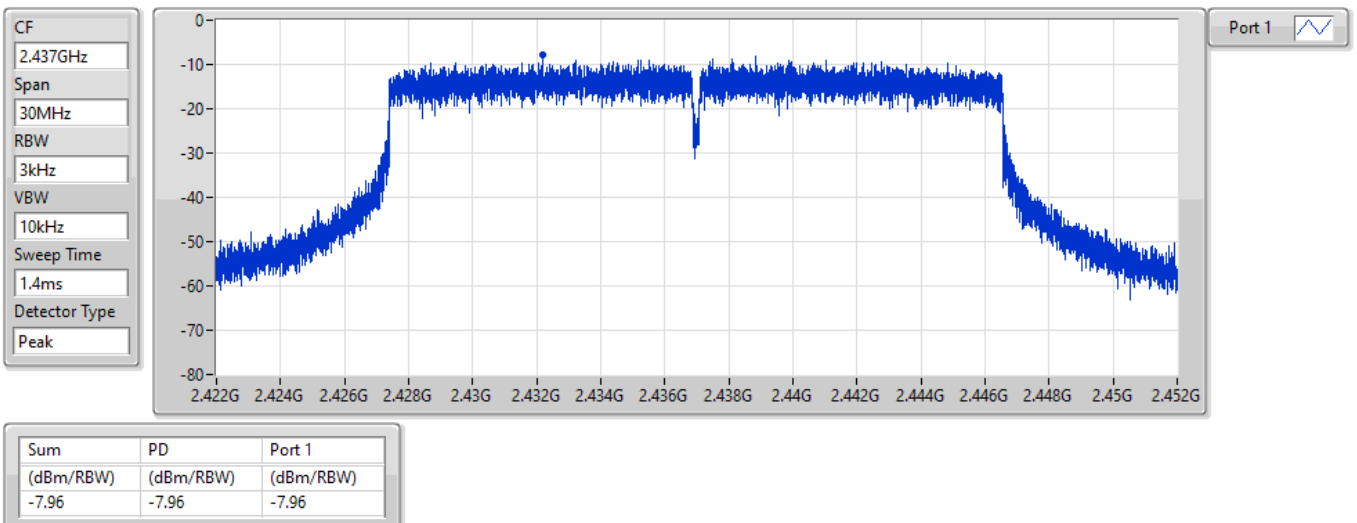


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2437MHz

17/08/2022

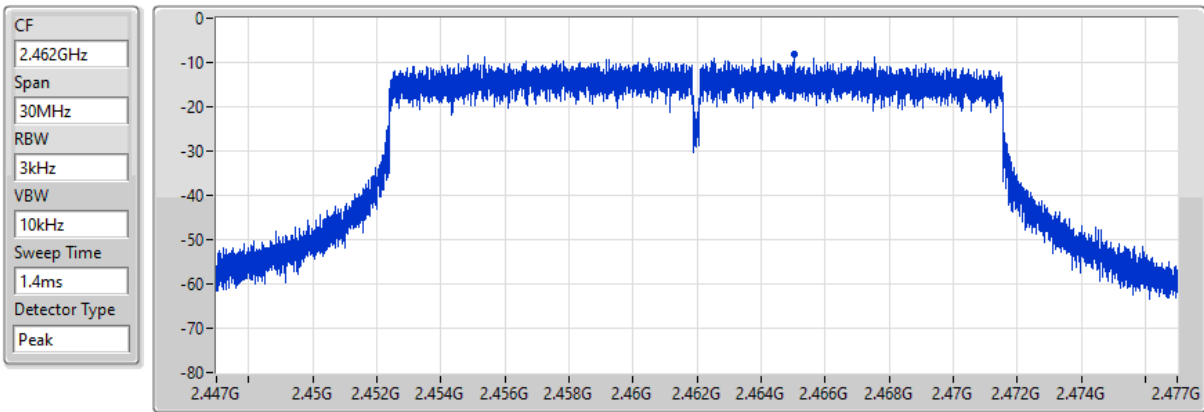


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2462MHz

17/08/2022



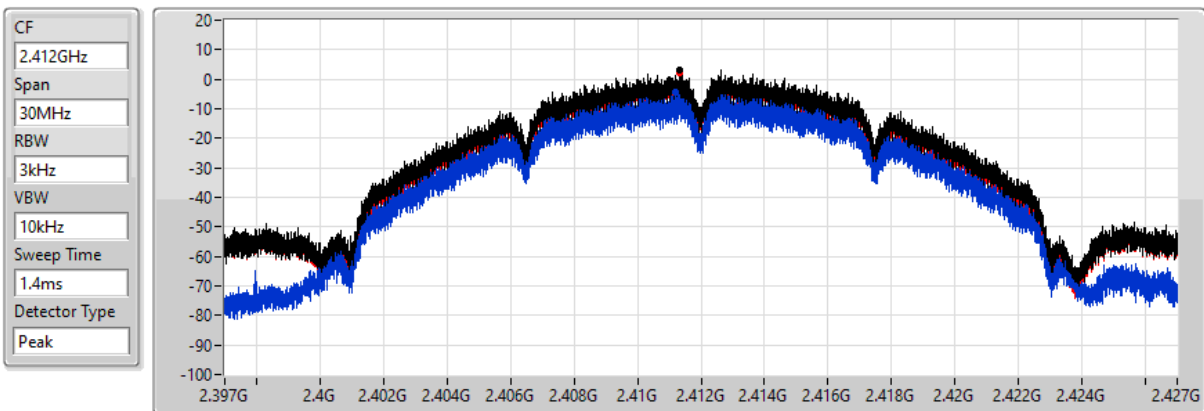
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.14	-8.14	-8.14

802.11b_Nss1,(1Mbps)_2TX

PSD

2412MHz

17/08/2022



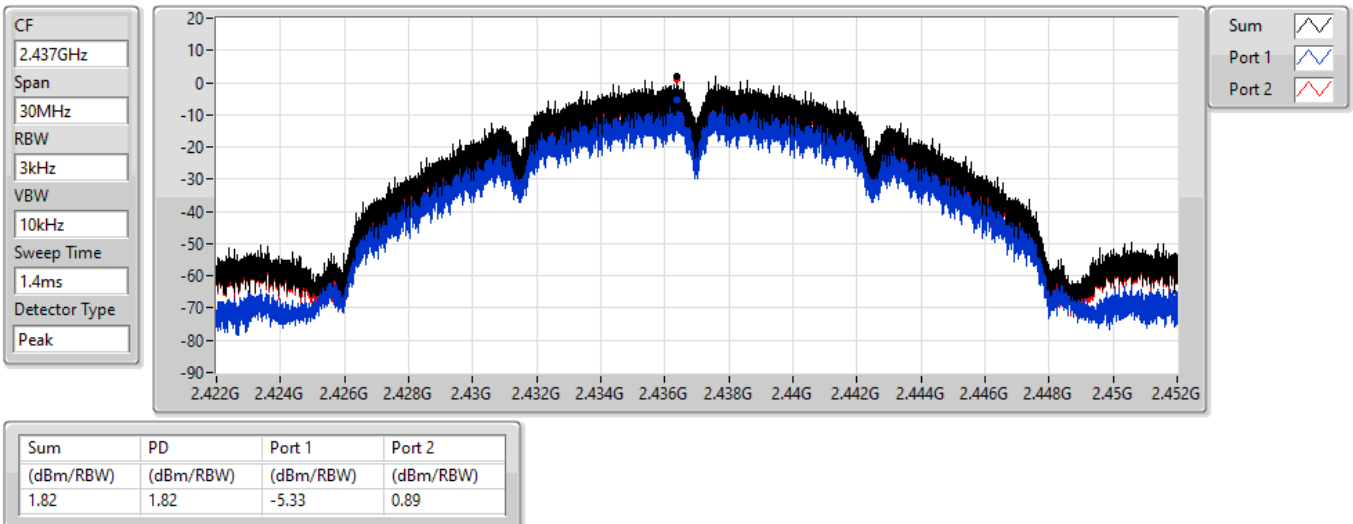
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.95	2.95	-4.40	2.28

802.11b_Nss1,(1Mbps)_2TX

2437MHz

PSD

17/08/2022

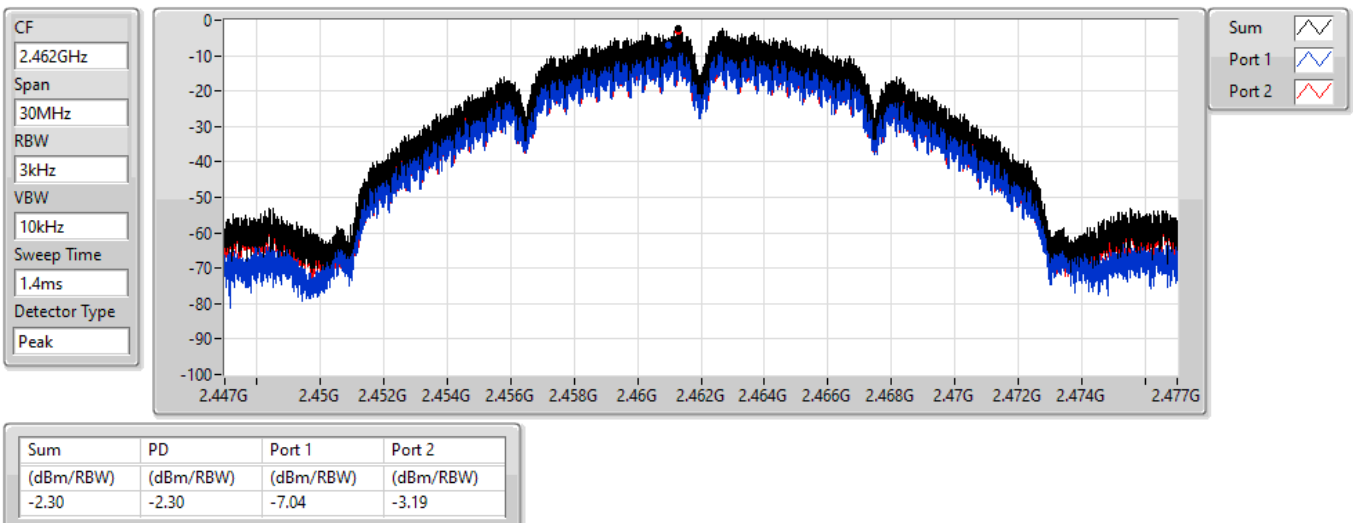


802.11b_Nss1,(1Mbps)_2TX

2462MHz

PSD

18/08/2022

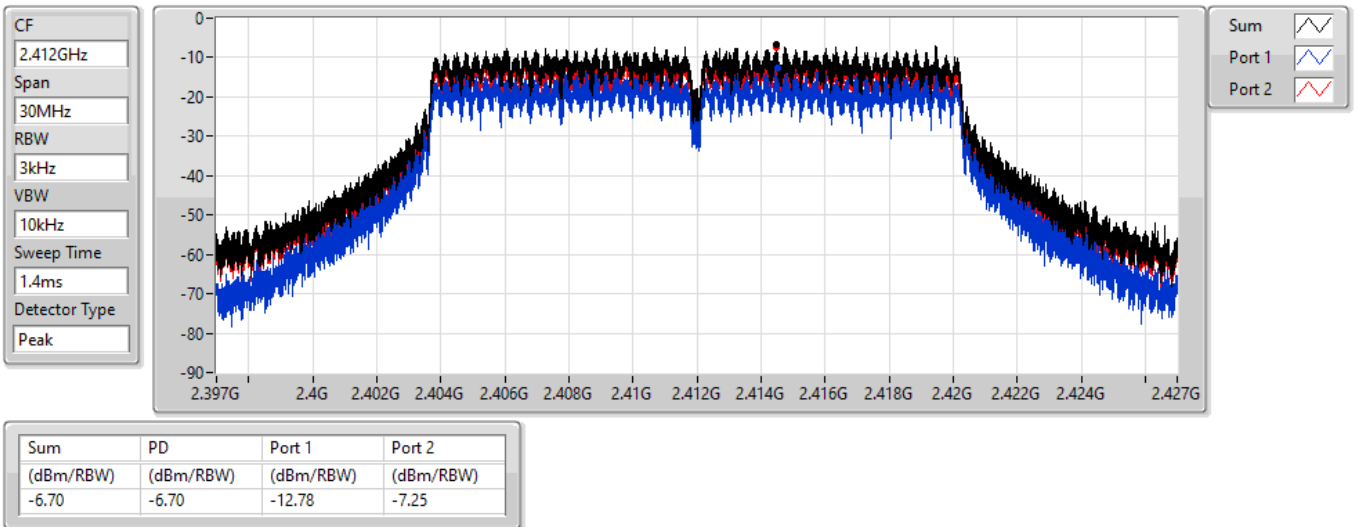


802.11g_Nss1,(6Mbps)_2TX

2412MHz

PSD

18/08/2022

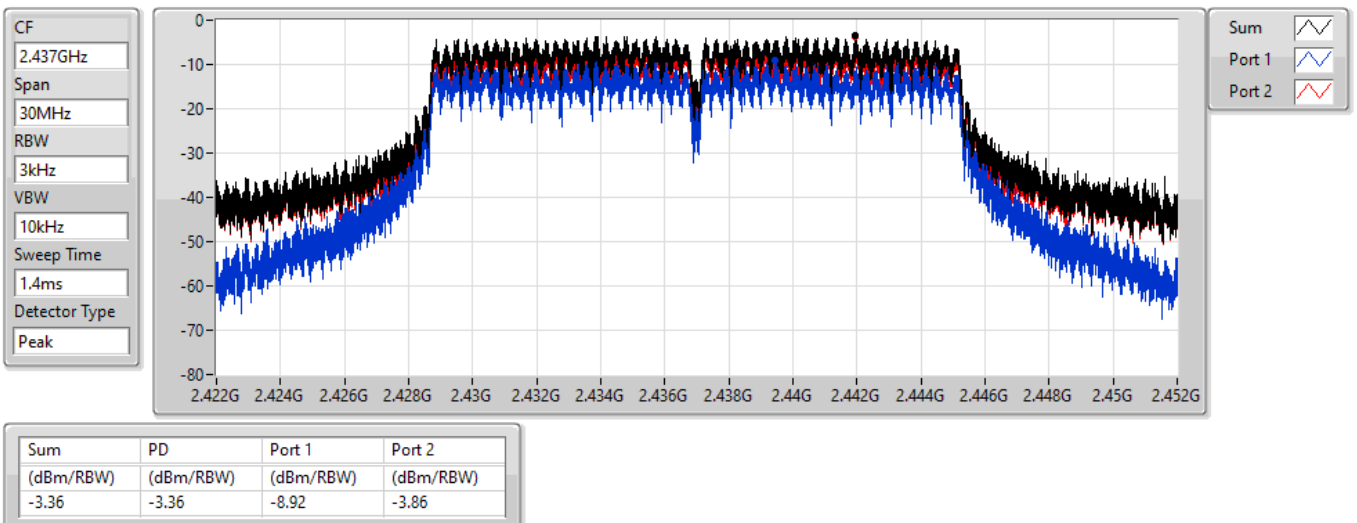


802.11g_Nss1,(6Mbps)_2TX

2437MHz

PSD

17/08/2022

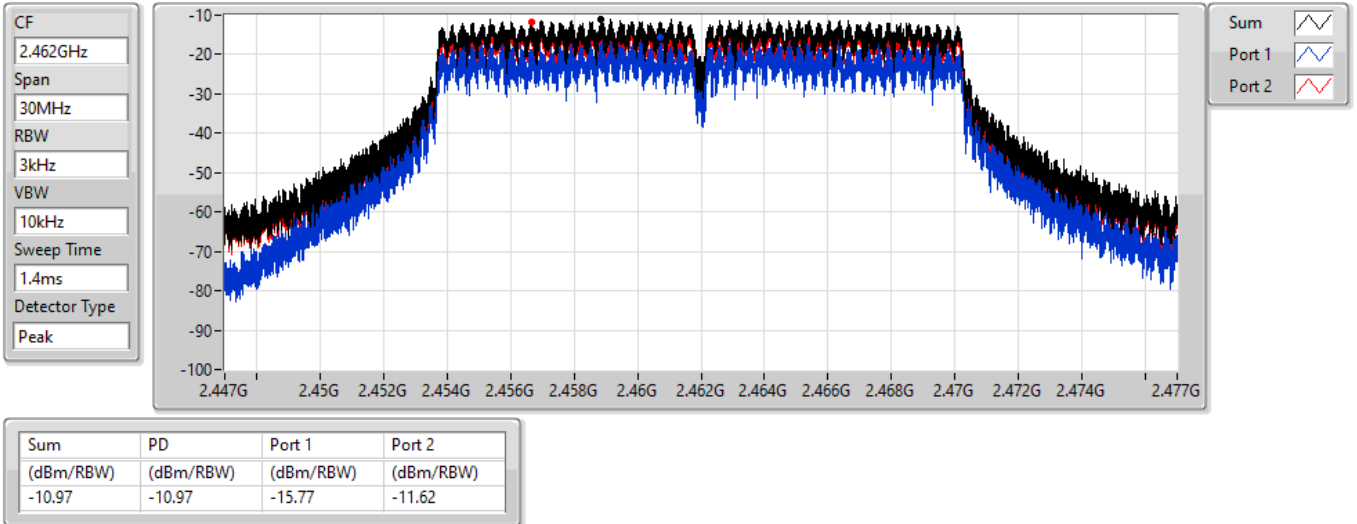


802.11g_Nss1,(6Mbps)_2TX

2462MHz

PSD

17/08/2022

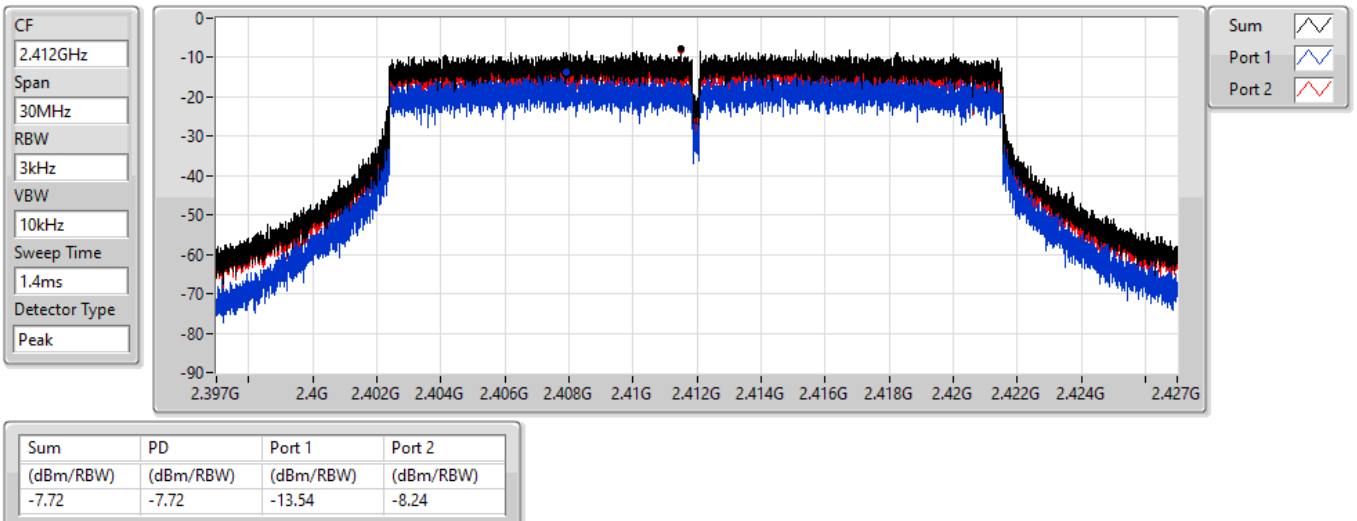


802.11ax HEW20_Nss1,(MCS0)_2TX

2412MHz

PSD

17/08/2022

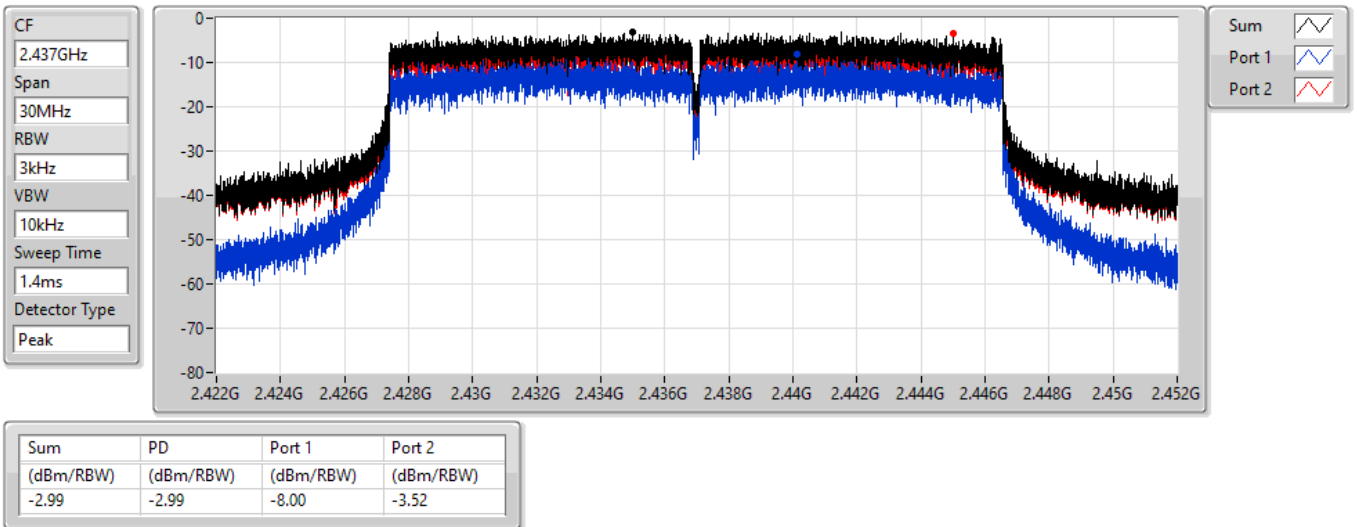


802.11ax HEW20_Nss1,(MCS0)_2TX

2437MHz

PSD

17/08/2022

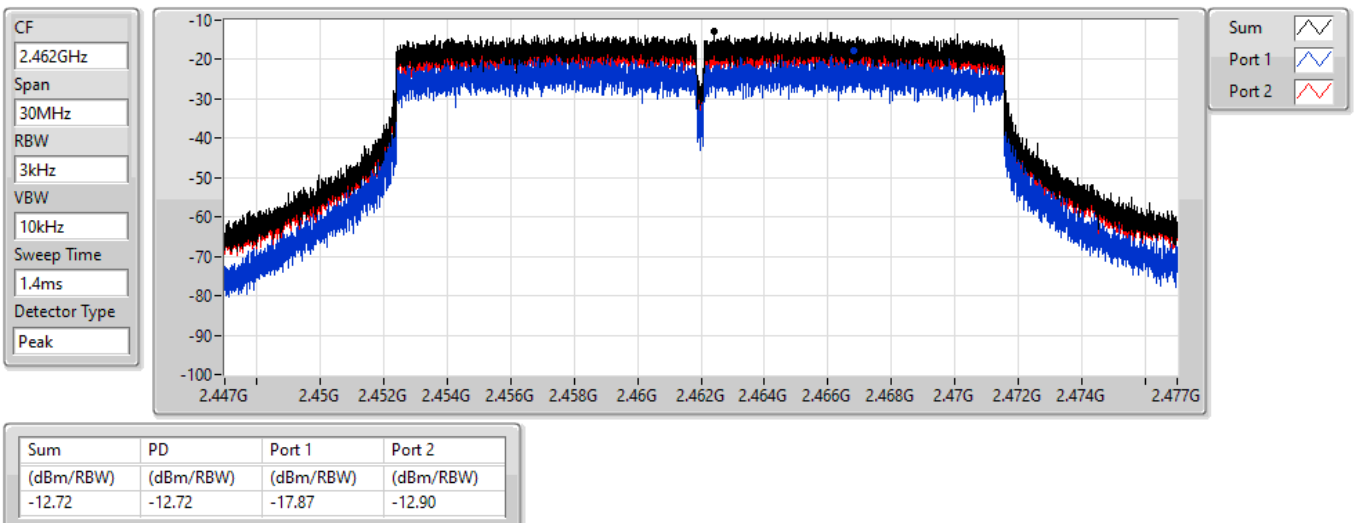


802.11ax HEW20_Nss1,(MCS0)_2TX

2462MHz

PSD

17/08/2022

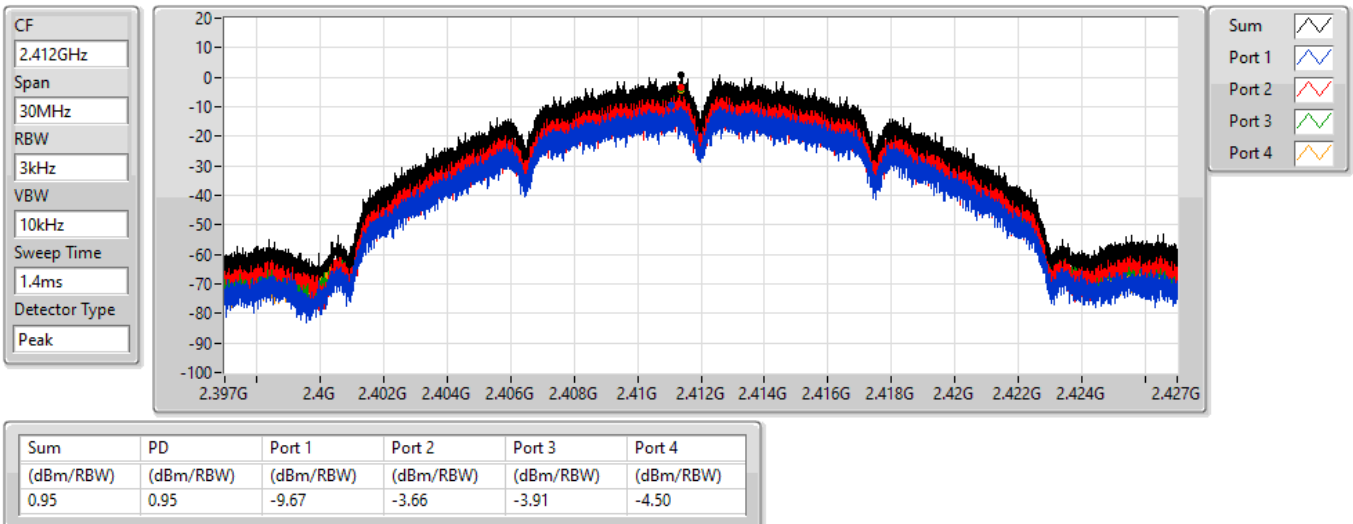


802.11b_Nss1,(1Mbps)_4TX

PSD

2412MHz

17/08/2022

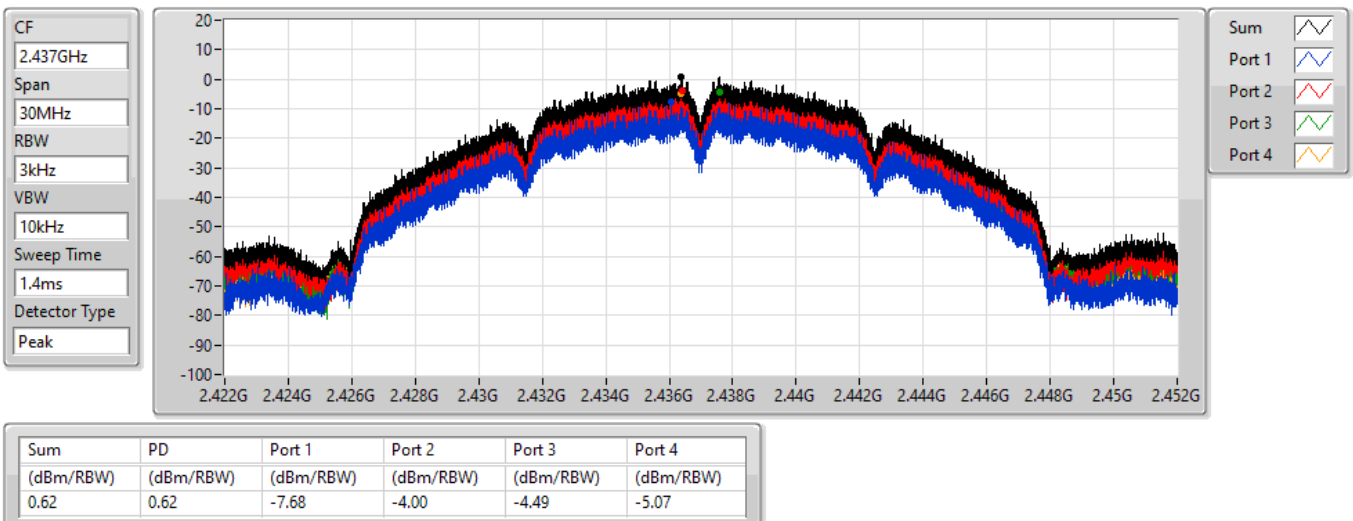


802.11b_Nss1,(1Mbps)_4TX

PSD

2437MHz

17/08/2022

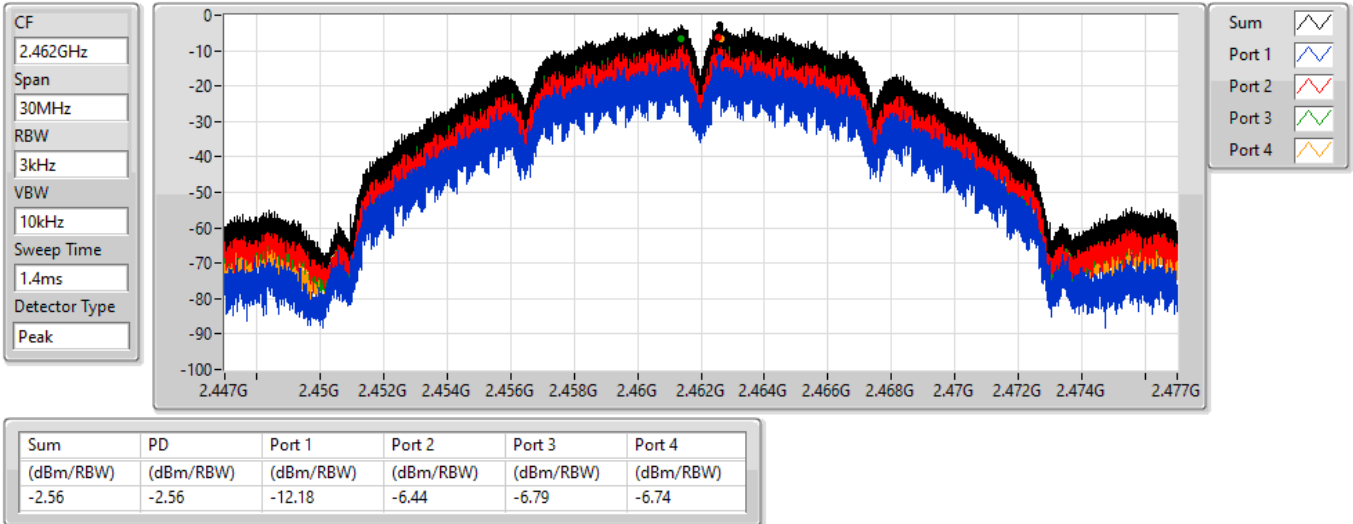


802.11b_Nss1,(1Mbps)_4TX

2462MHz

PSD

18/08/2022

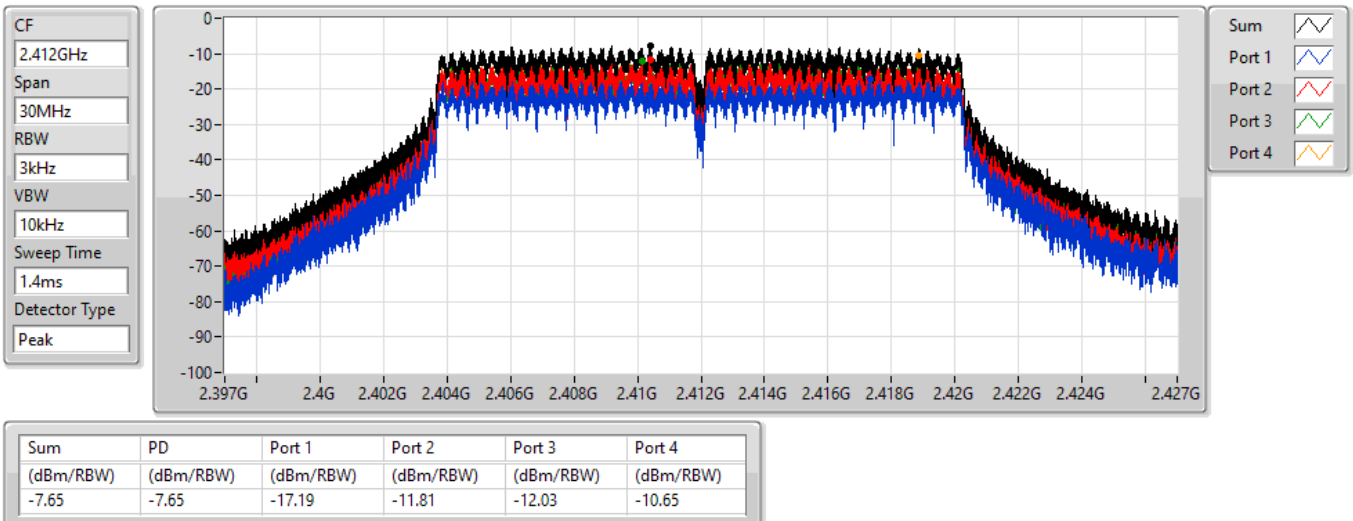


802.11g_Nss1,(6Mbps)_4TX

2412MHz

PSD

17/08/2022

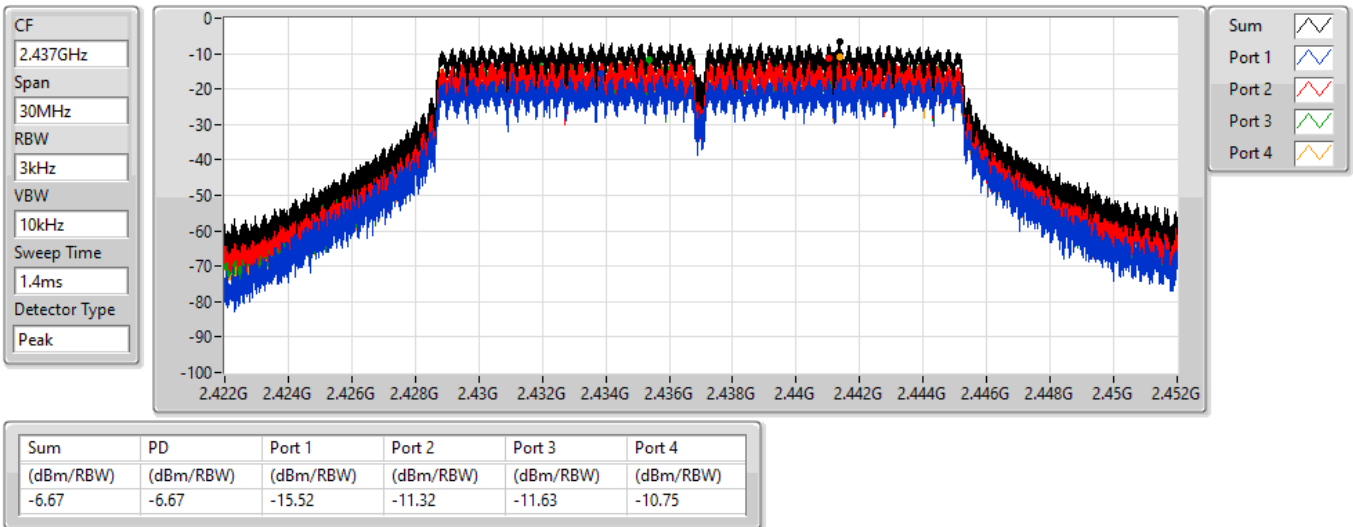


802.11g_Nss1,(6Mbps)_4TX

2437MHz

PSD

17/08/2022

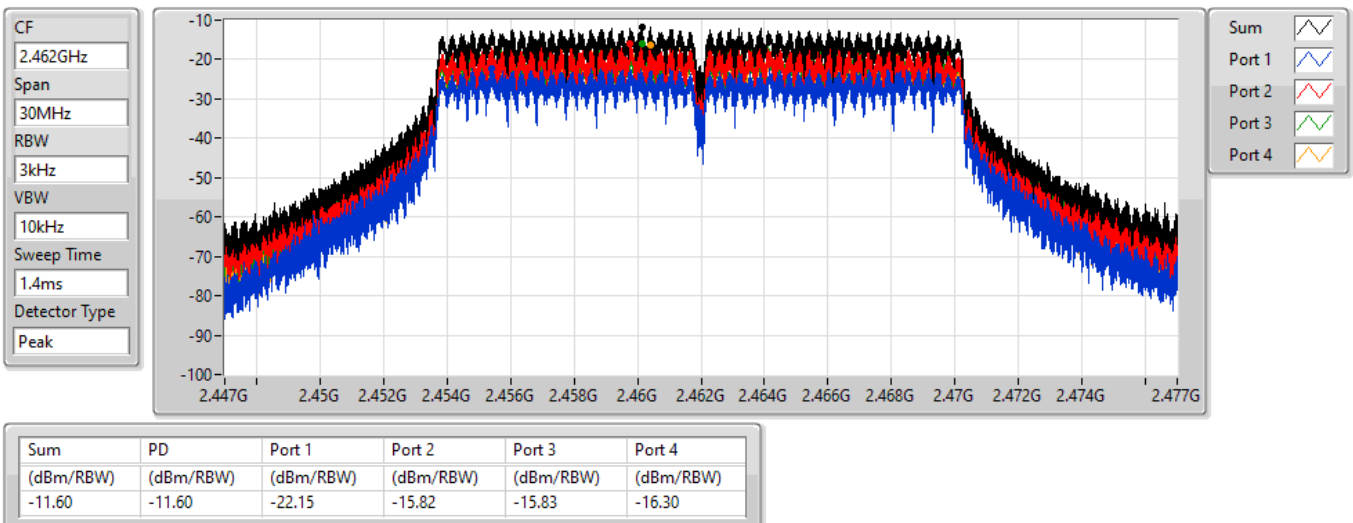


802.11g_Nss1,(6Mbps)_4TX

2462MHz

PSD

17/08/2022

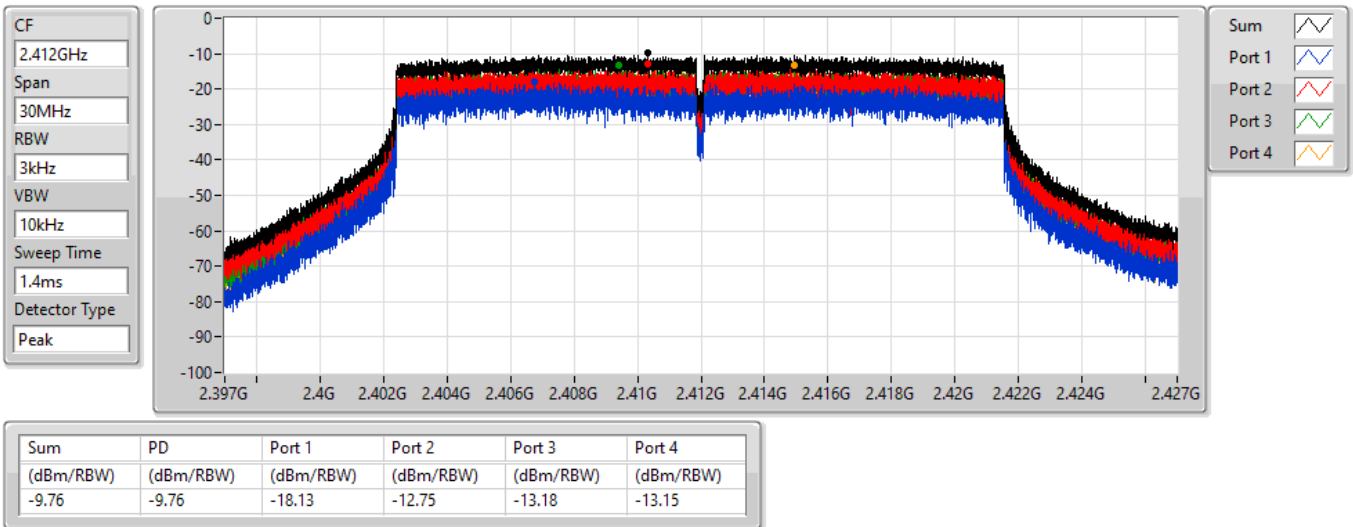


802.11ax HEW20_Nss1,(MCS0)_4TX

2412MHz

PSD

18/08/2022

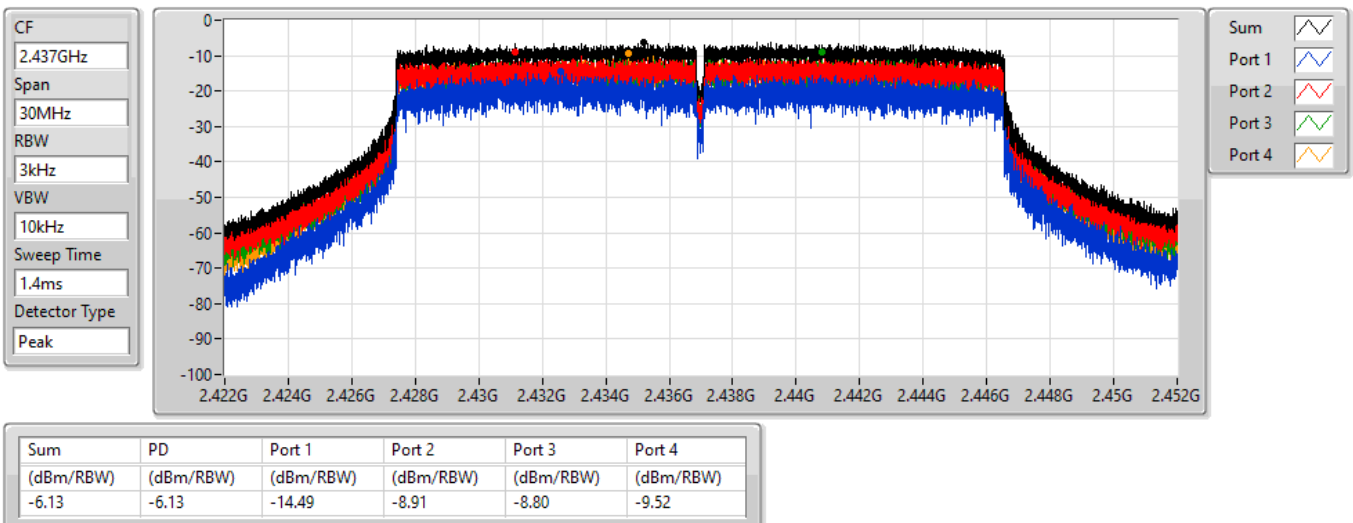


802.11ax HEW20_Nss1,(MCS0)_4TX

2437MHz

PSD

17/08/2022

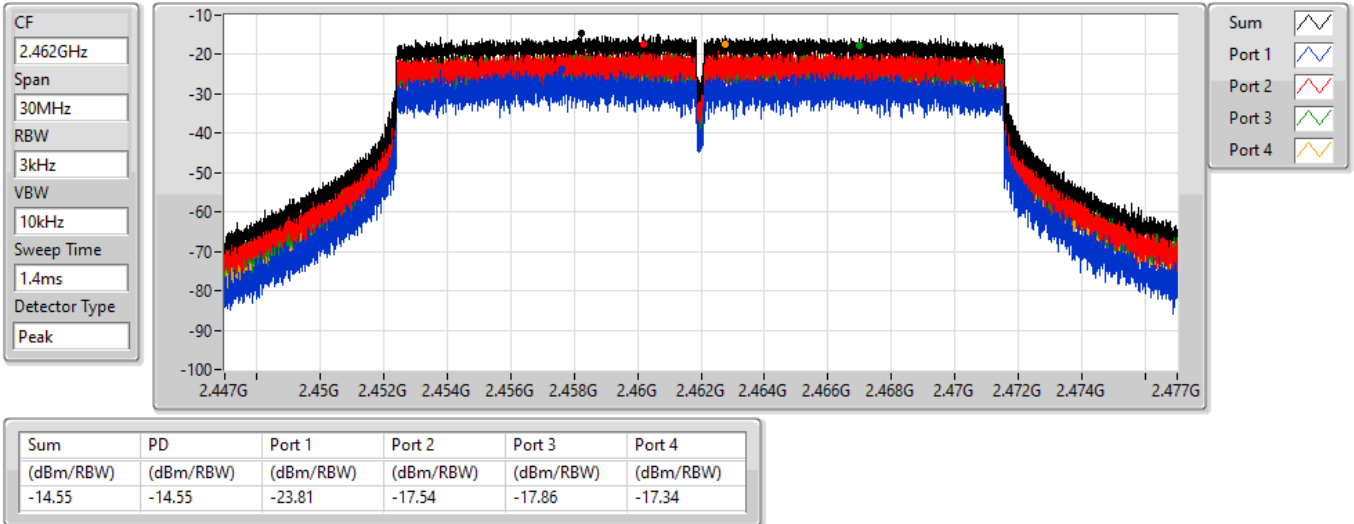


802.11ax HEW20_Nss1,(MCS0)_4TX

2462MHz

PSD

18/08/2022





Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_1TX	-3.86
802.11g_Nss1,(6Mbps)_1TX	-8.57
802.11ax HEW20_Nss1,(MCS0)_1TX	-8.67
802.11b_Nss1,(1Mbps)_2TX	-2.45
802.11g_Nss1,(6Mbps)_2TX	-8.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-8.35
802.11b_Nss1,(1Mbps)_4TX	-5.18
802.11g_Nss1,(6Mbps)_4TX	-12.25
802.11ax HEW20_Nss1,(MCS0)_4TX	-13.52

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)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	-3.86				-3.86	1.00
2437MHz	Pass	13.00	-4.91				-4.91	1.00
2462MHz	Pass	13.00	-5.57				-5.57	1.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	-10.21				-10.21	1.00
2437MHz	Pass	13.00	-8.57				-8.57	1.00
2462MHz	Pass	13.00	-12.96				-12.96	1.00
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	-12.43				-12.43	1.00
2437MHz	Pass	13.00	-8.67				-8.67	1.00
2462MHz	Pass	13.00	-13.97				-13.97	1.00
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	16.01	-11.42	-5.57			-5.00	-2.01
2437MHz	Pass	16.01	-7.87	-3.52			-2.45	-2.01
2462MHz	Pass	16.01	-14.35	-7.89			-7.01	-2.01
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	16.01	-17.58	-12.24			-11.44	-2.01
2437MHz	Pass	16.01	-14.11	-8.83			-8.00	-2.01
2462MHz	Pass	16.01	-19.31	-15.23			-14.42	-2.01
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	16.01	-17.08	-12.66			-11.83	-2.01
2437MHz	Pass	16.01	-13.47	-8.80			-8.35	-2.01
2462MHz	Pass	16.01	-21.29	-16.82			-15.96	-2.01
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.02	-15.12	-12.25	-11.49	-10.78	-6.27	-5.02
2437MHz	Pass	19.02	-14.62	-9.09	-10.59	-8.95	-5.18	-5.02
2462MHz	Pass	19.02	-14.53	-9.87	-9.73	-9.83	-5.44	-5.02
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.02	-21.75	-16.87	-17.02	-17.57	-13.36	-5.02
2437MHz	Pass	19.02	-20.07	-16.86	-16.85	-15.29	-12.25	-5.02
2462MHz	Pass	19.02	-25.24	-19.87	-19.49	-20.46	-15.59	-5.02
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.02	-23.05	-17.78	-18.40	-18.15	-14.44	-5.02
2437MHz	Pass	19.02	-20.95	-16.56	-16.39	-17.01	-13.52	-5.02
2462MHz	Pass	19.02	-22.06	-17.71	-17.68	-17.73	-14.61	-5.02

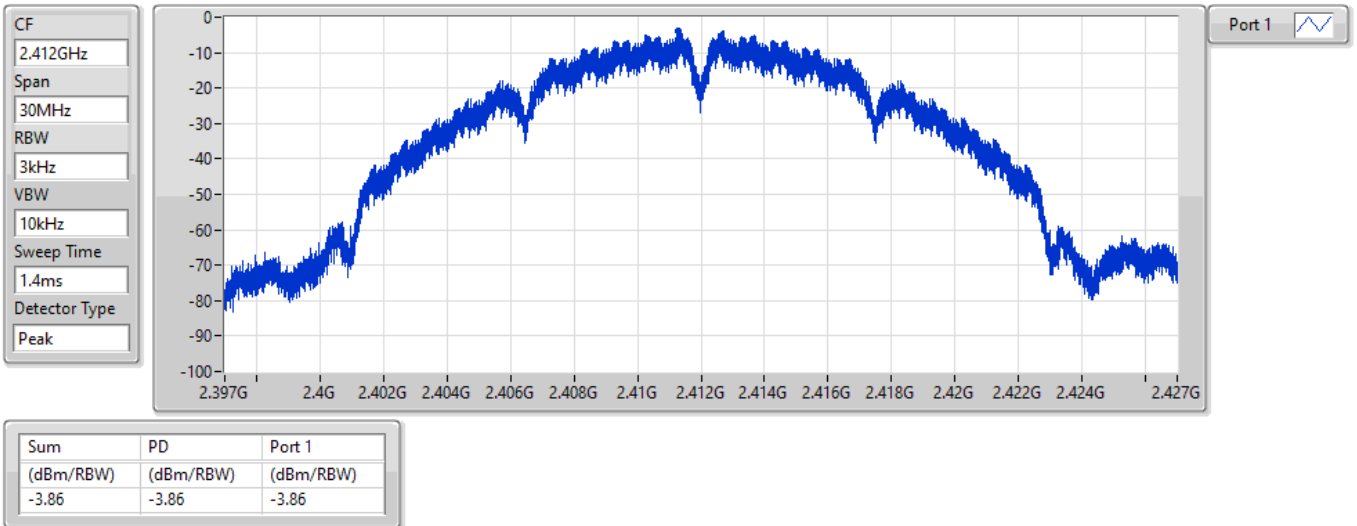
DG = Directional Gain; RBW = 3kHz;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

802.11b_Nss1,(1Mbps)_1TX

PSD

2412MHz

20/08/2022

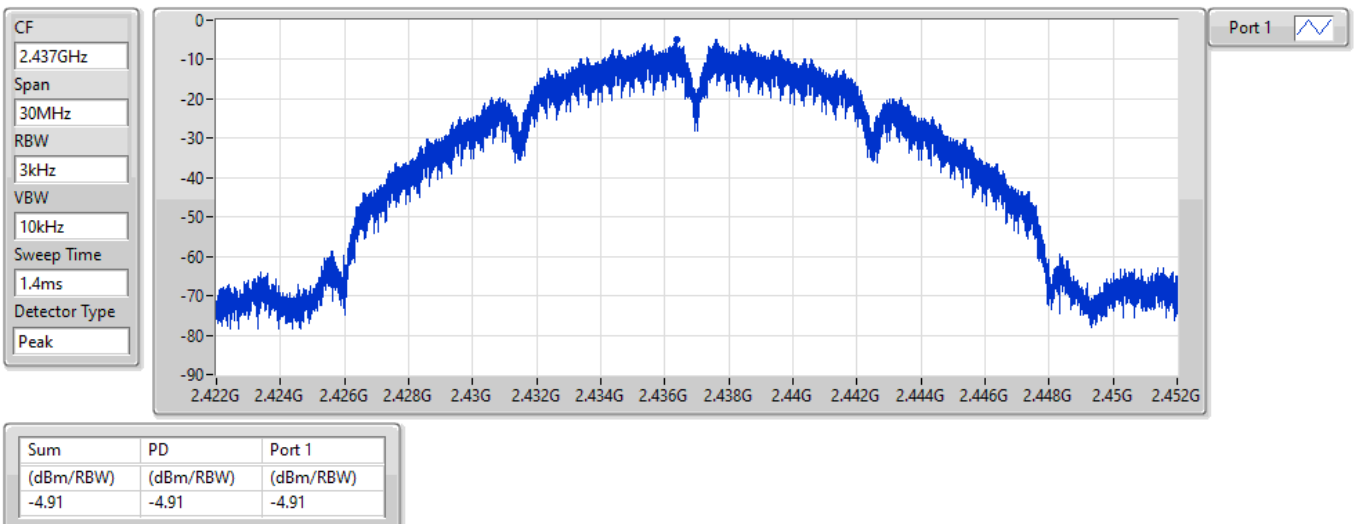


802.11b_Nss1,(1Mbps)_1TX

PSD

2437MHz

20/08/2022

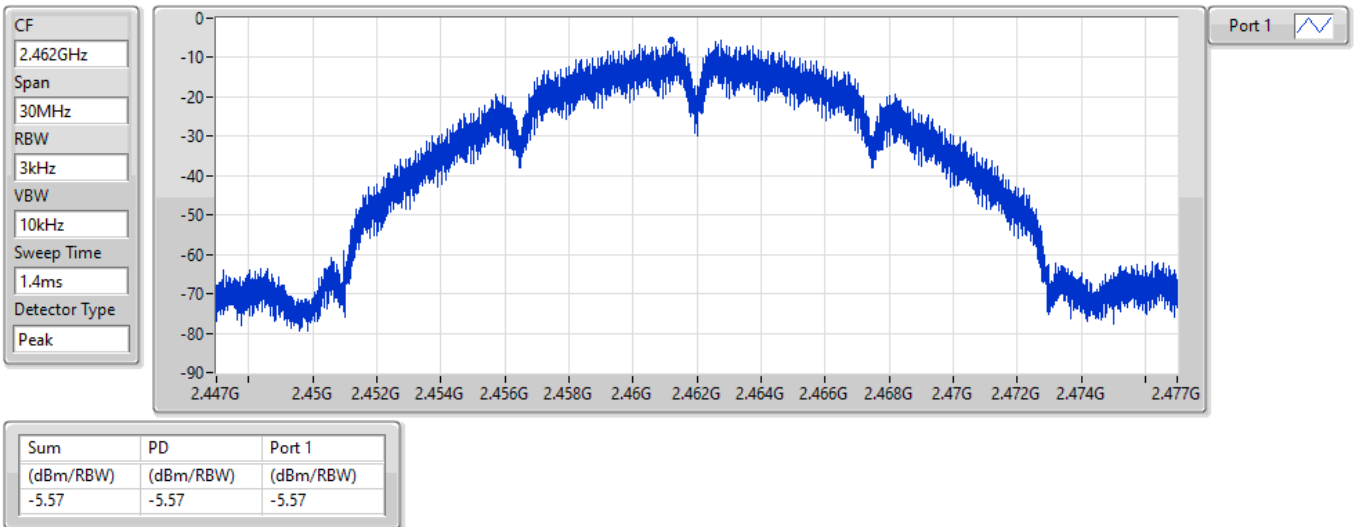


802.11b_Nss1,(1Mbps)_1TX

PSD

2462MHz

20/08/2022

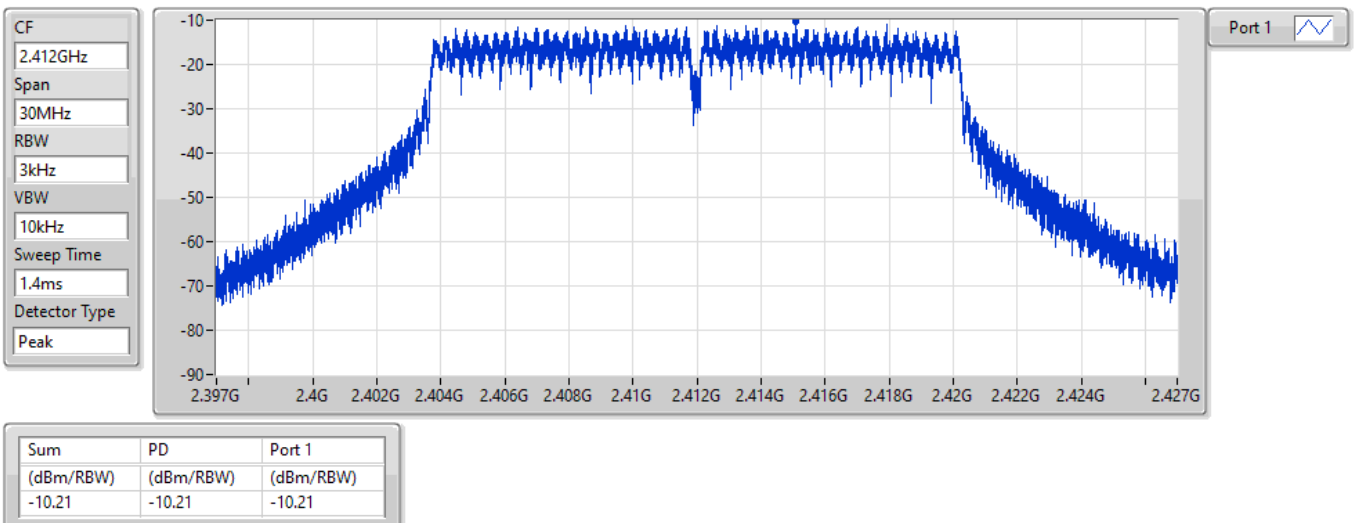


802.11g_Nss1,(6Mbps)_1TX

PSD

2412MHz

06/09/2022

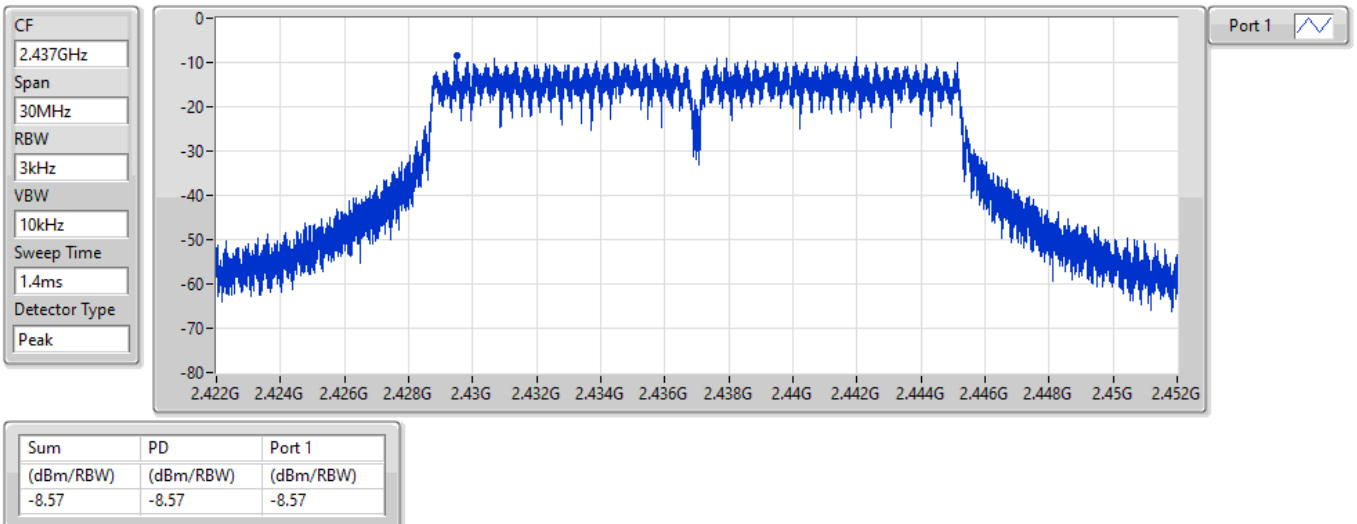


802.11g_Nss1,(6Mbps)_1TX

PSD

2437MHz

20/08/2022

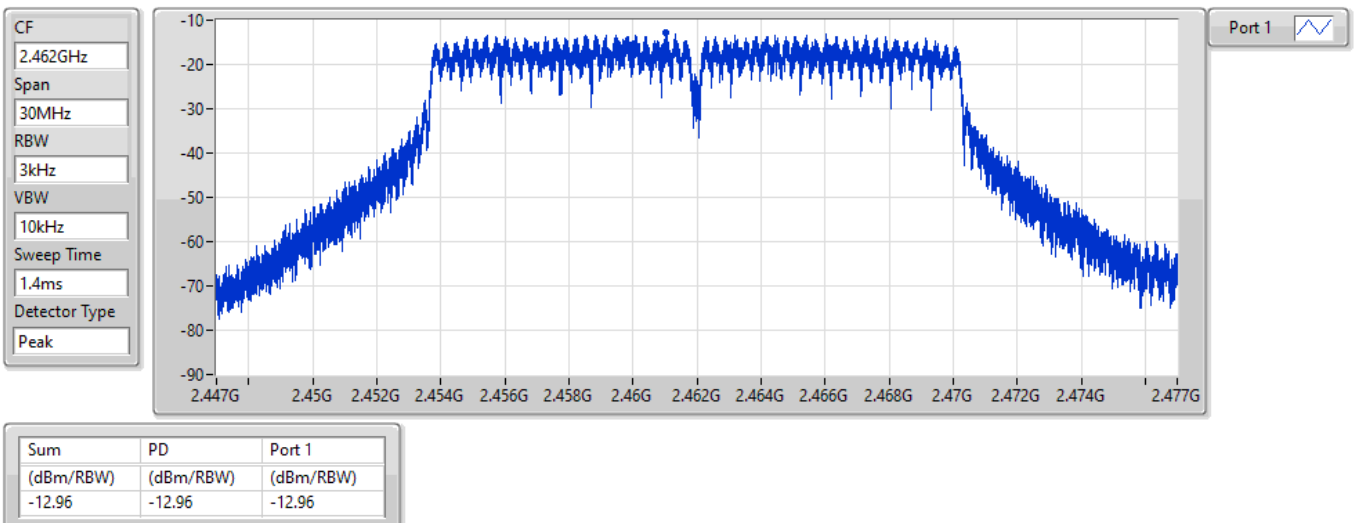


802.11g_Nss1,(6Mbps)_1TX

PSD

2462MHz

06/09/2022

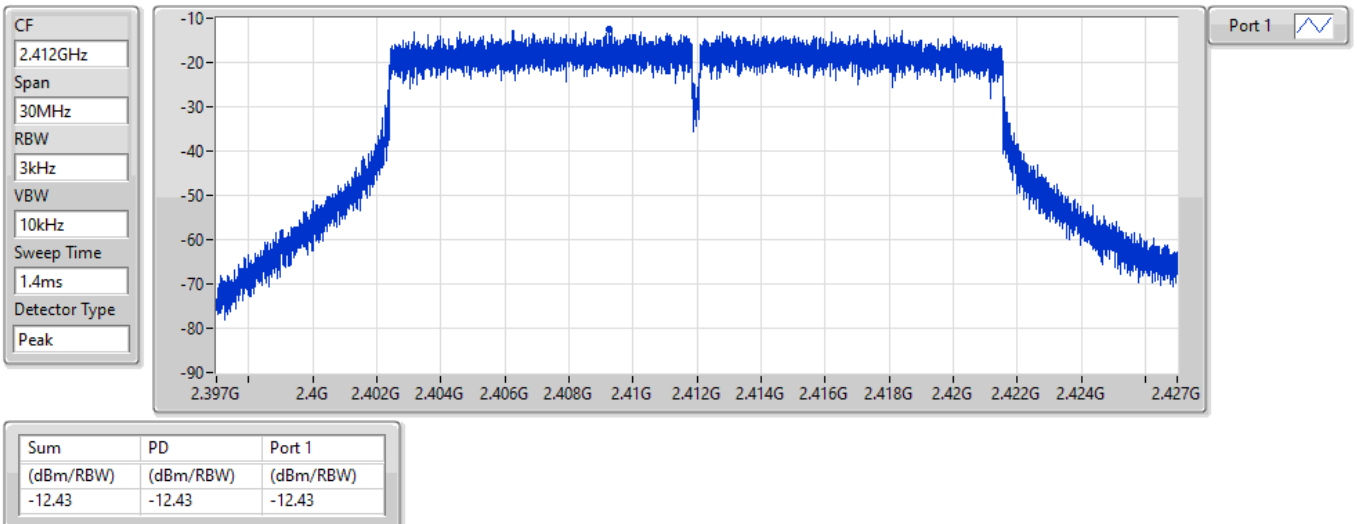


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2412MHz

06/09/2022

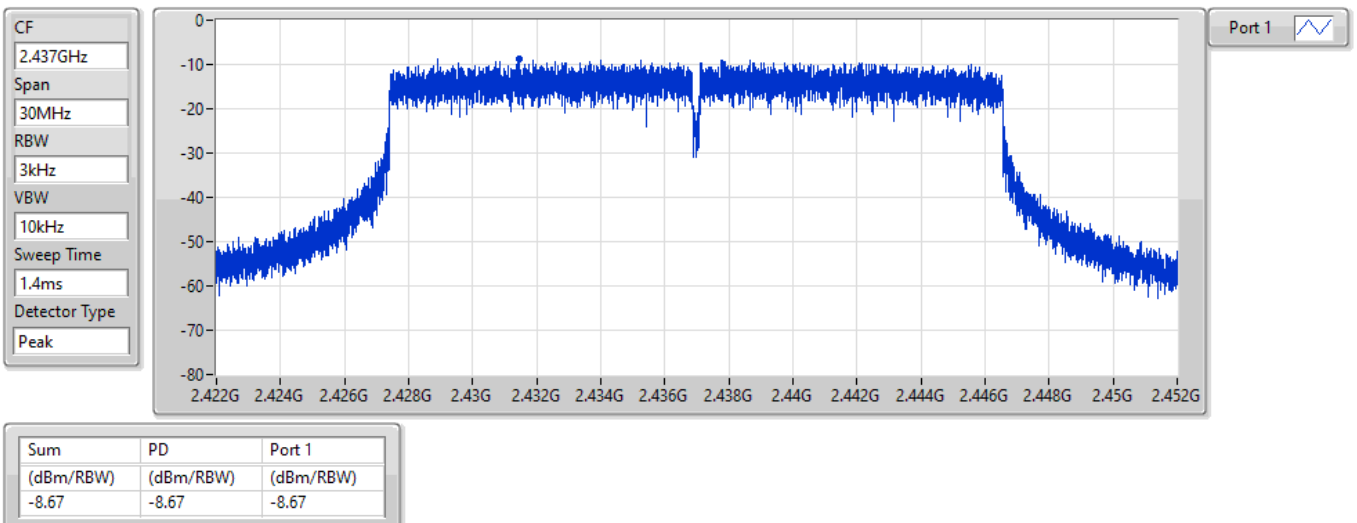


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2437MHz

20/08/2022

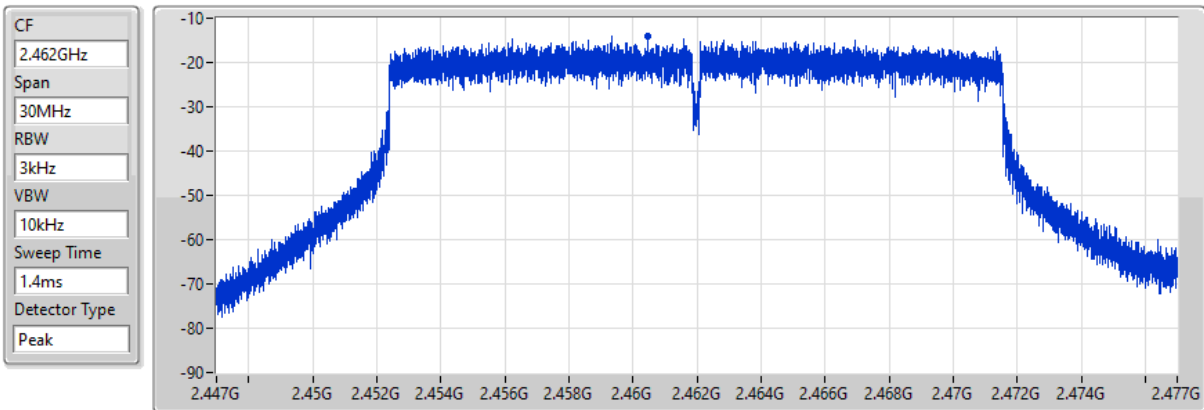


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2462MHz

06/09/2022



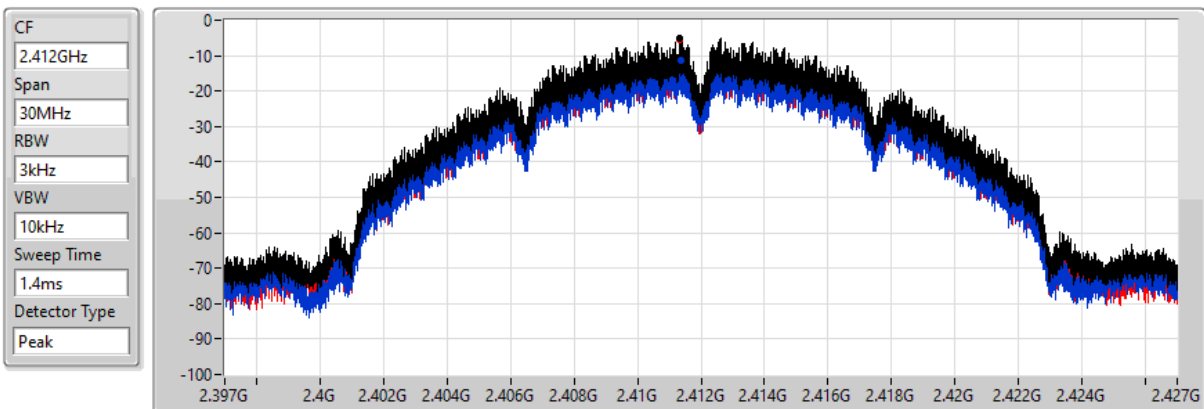
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-13.97	-13.97	-13.97

802.11b_Nss1,(1Mbps)_2TX

PSD

2412MHz

06/09/2022



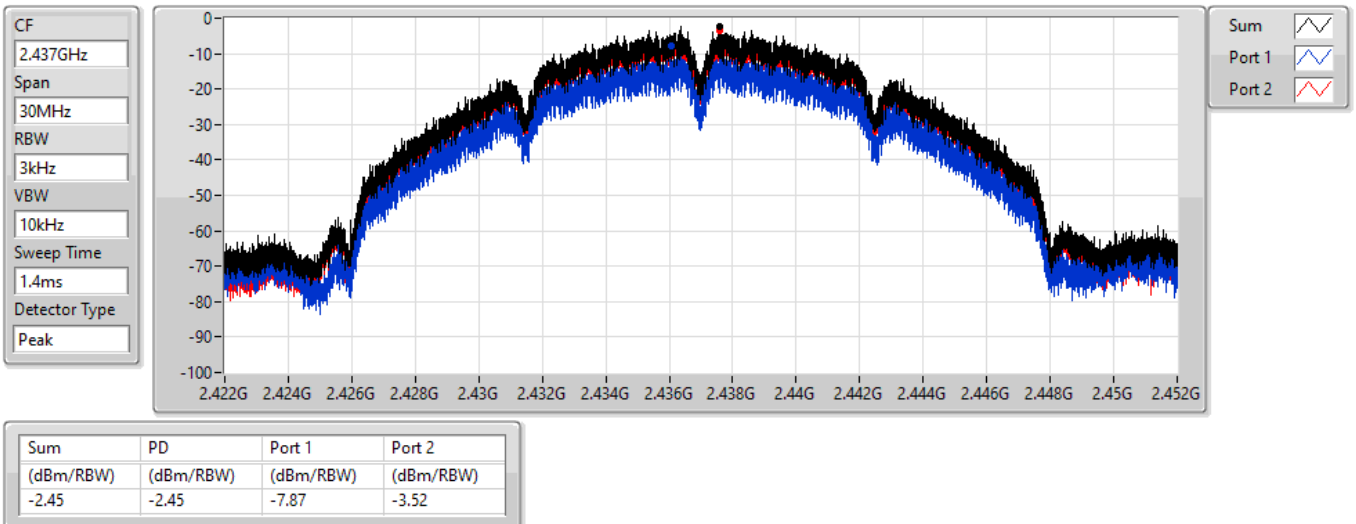
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-5.00	-5.00	-11.42	-5.57

802.11b_Nss1,(1Mbps)_2TX

2437MHz

PSD

06/09/2022

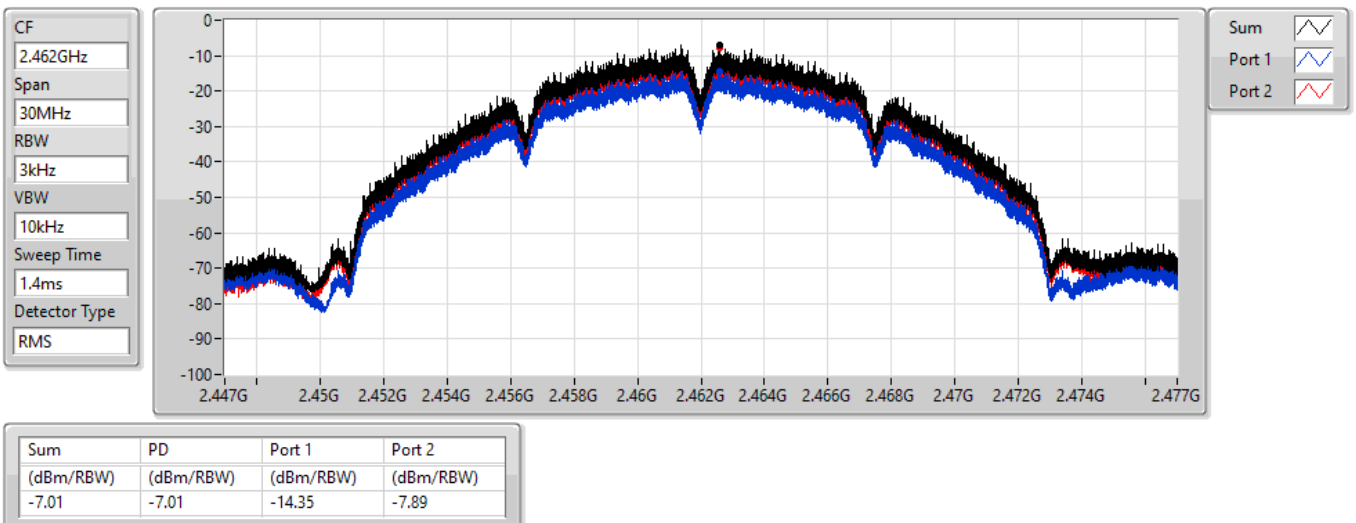


802.11b_Nss1,(1Mbps)_2TX

2462MHz

PSD

06/09/2022

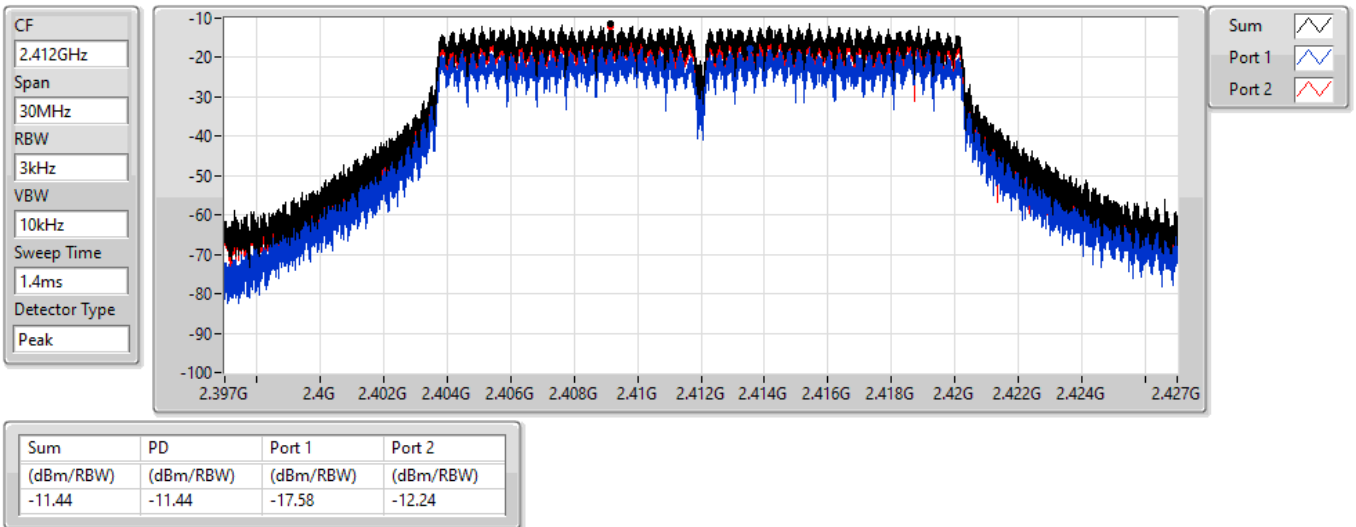


802.11g_Nss1,(6Mbps)_2TX

2412MHz

PSD

06/09/2022

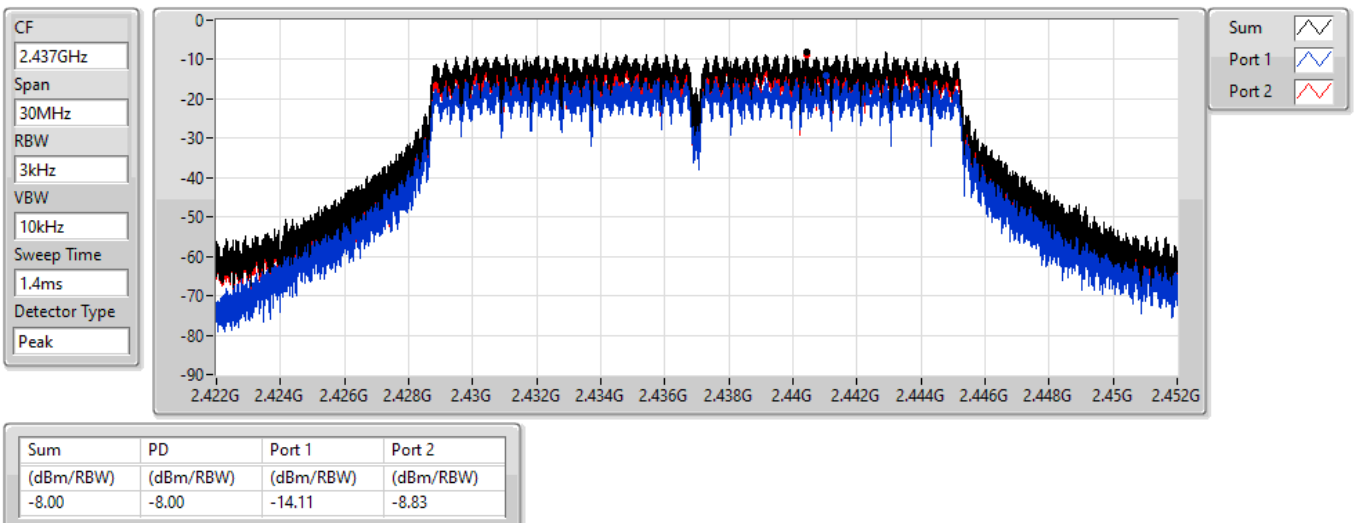


802.11g_Nss1,(6Mbps)_2TX

2437MHz

PSD

06/09/2022

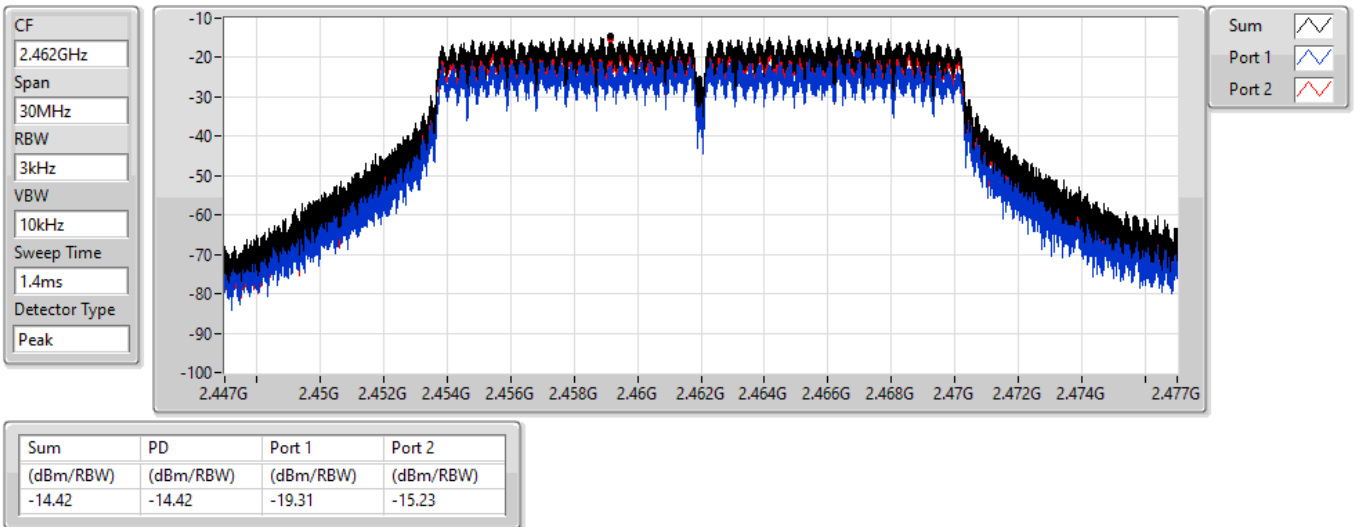


802.11g_Nss1,(6Mbps)_2TX

2462MHz

PSD

06/09/2022

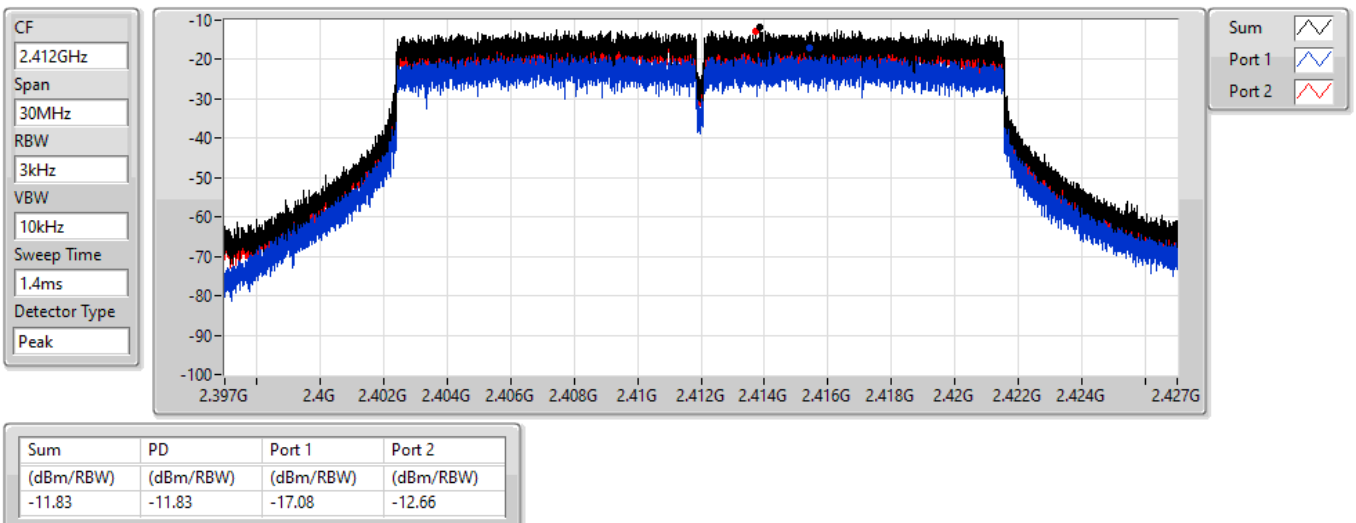


802.11ax HEW20_Nss1,(MCS0)_2TX

2412MHz

PSD

06/09/2022

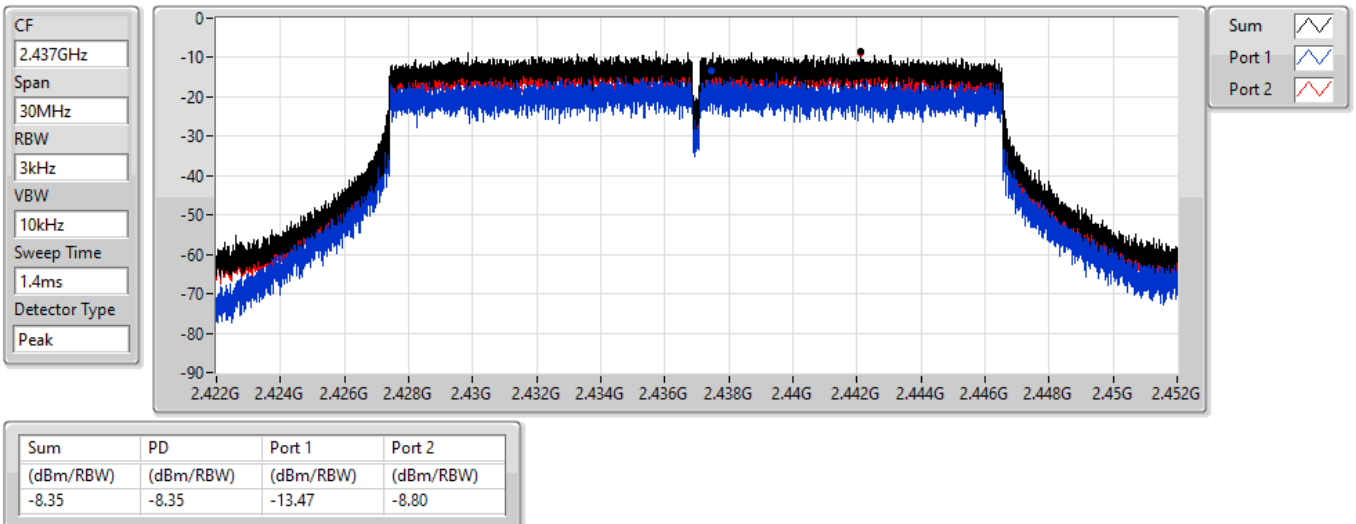


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

2437MHz

06/09/2022

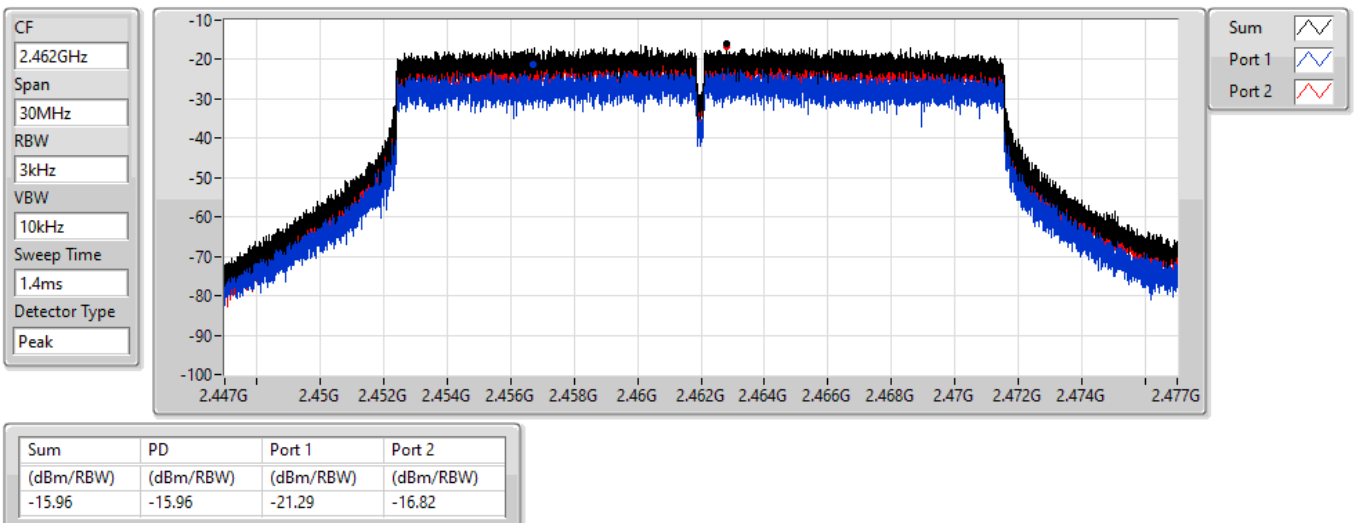


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

2462MHz

06/09/2022

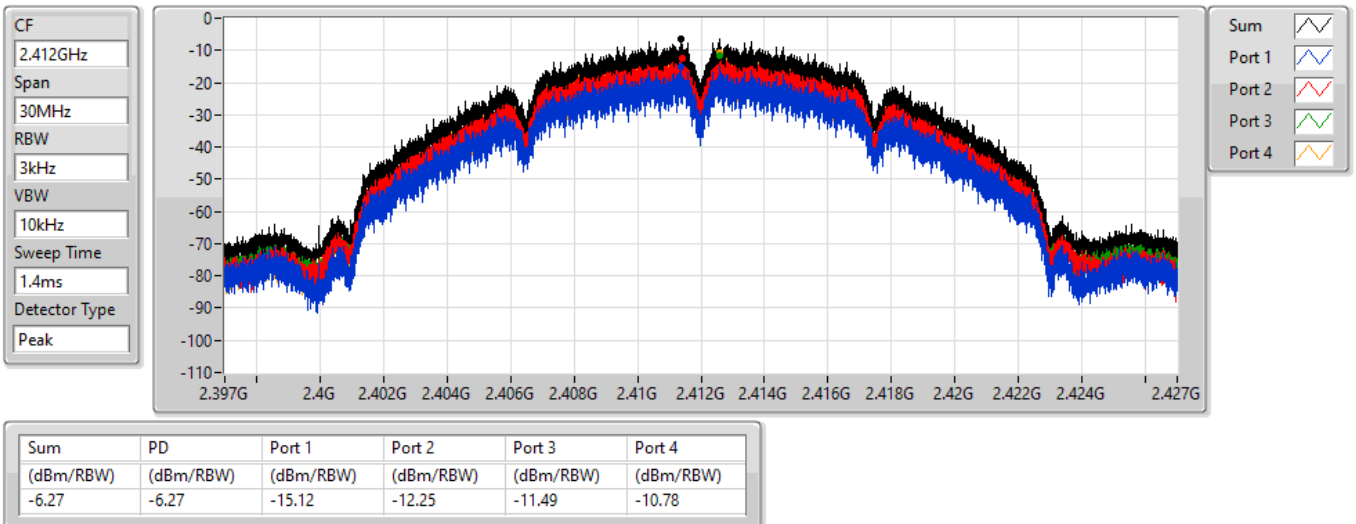


802.11b_Nss1,(1Mbps)_4TX

2412MHz

PSD

06/09/2022

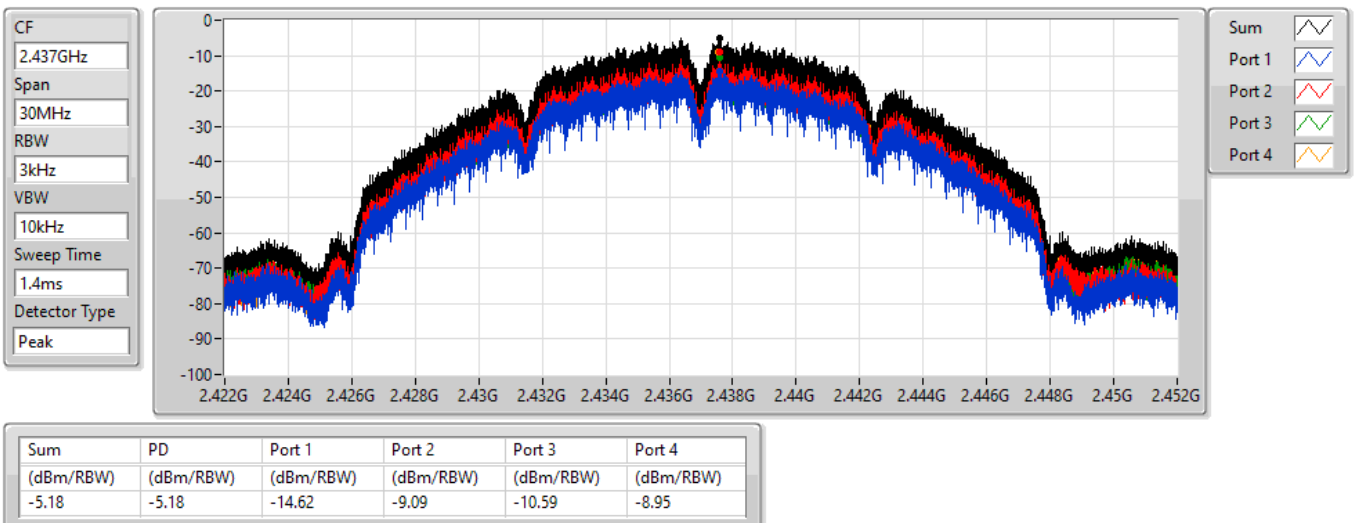


802.11b_Nss1,(1Mbps)_4TX

2437MHz

PSD

06/09/2022

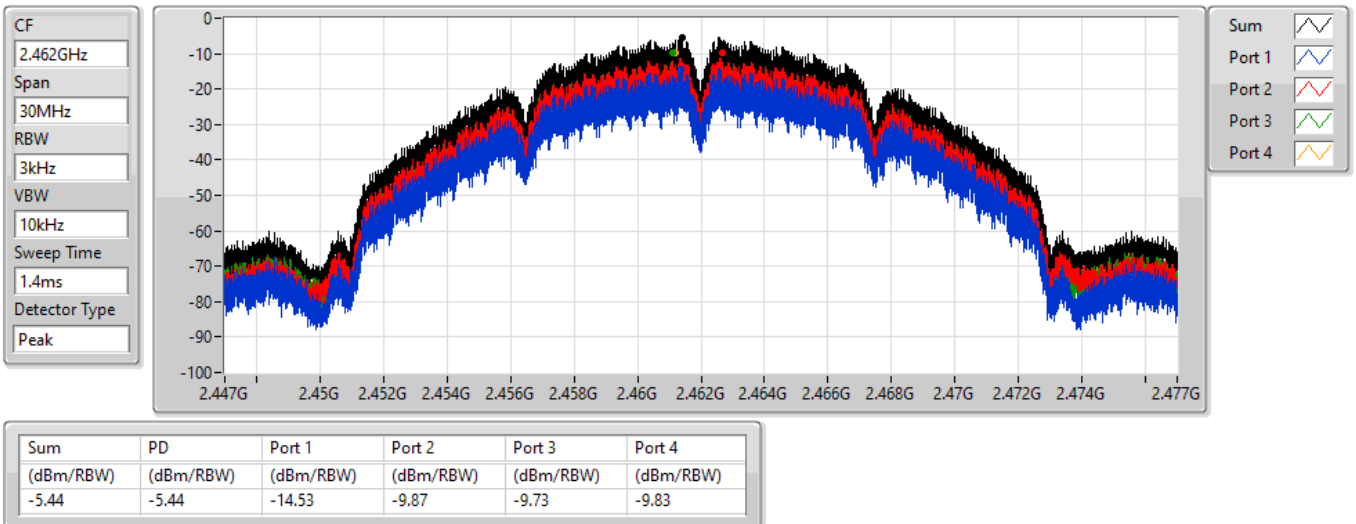


802.11b_Nss1,(1Mbps)_4TX

2462MHz

PSD

06/09/2022

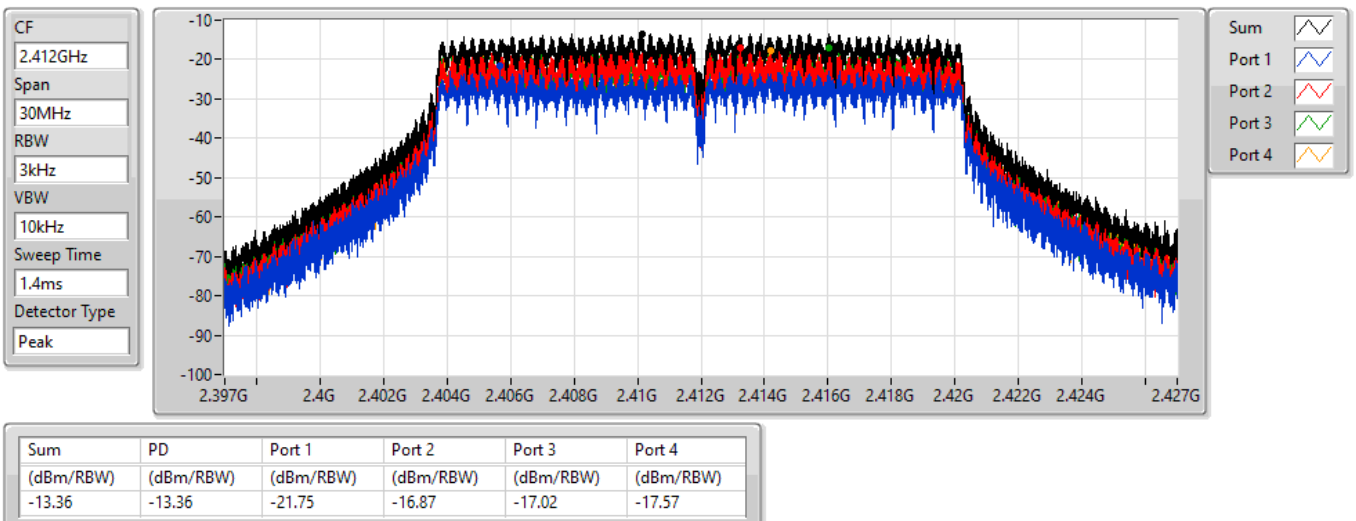


802.11g_Nss1,(6Mbps)_4TX

2412MHz

PSD

06/09/2022

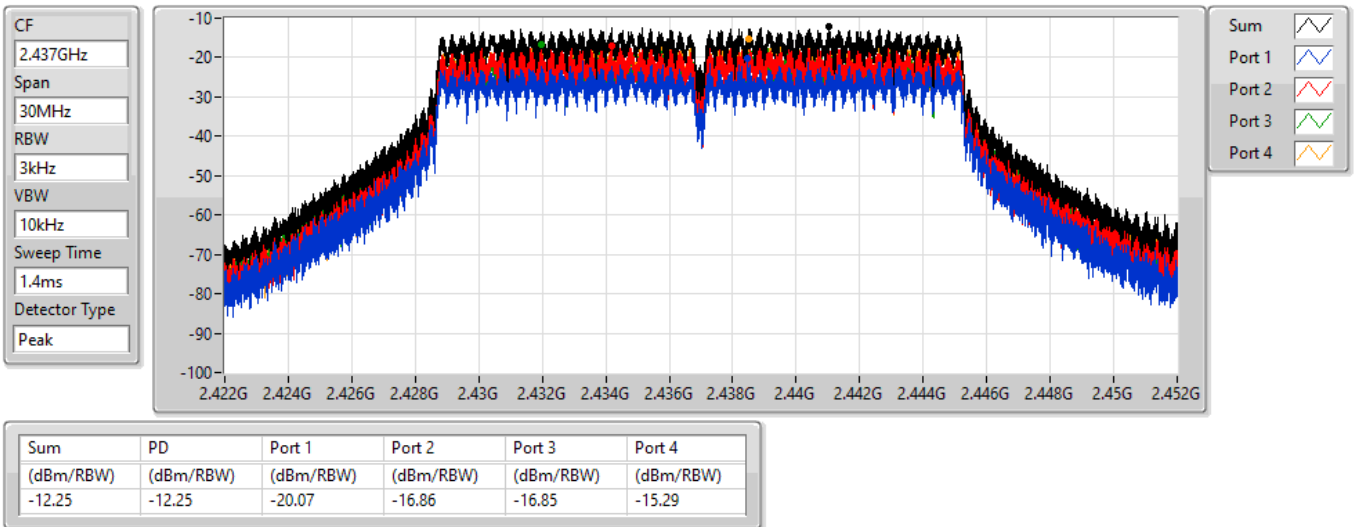


802.11g_Nss1,(6Mbps)_4TX

2437MHz

PSD

06/09/2022

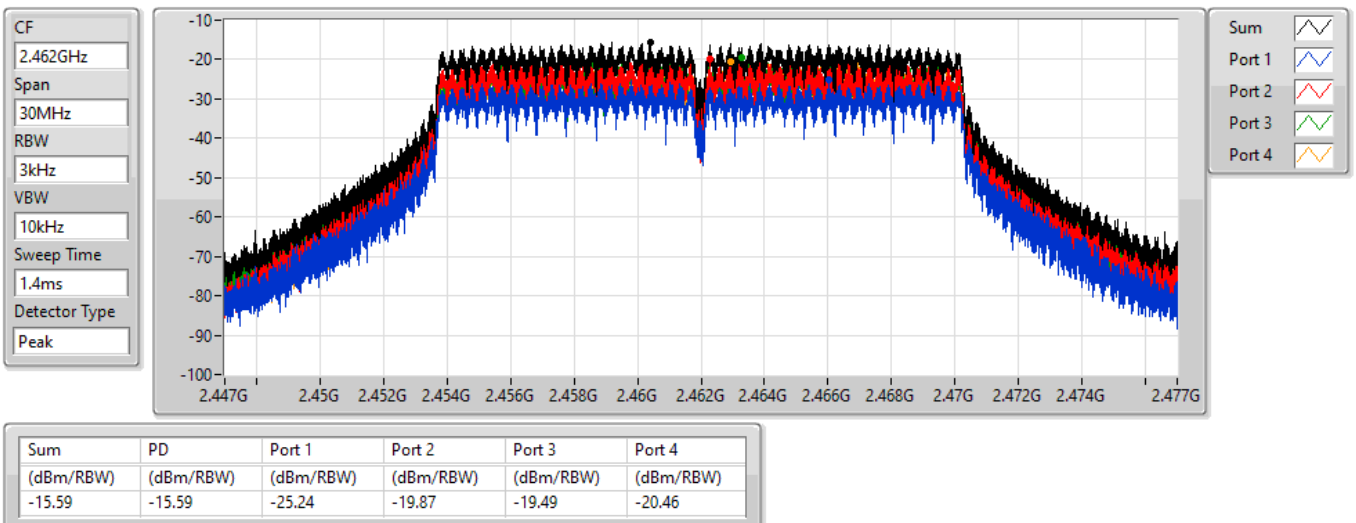


802.11g_Nss1,(6Mbps)_4TX

2462MHz

PSD

06/09/2022

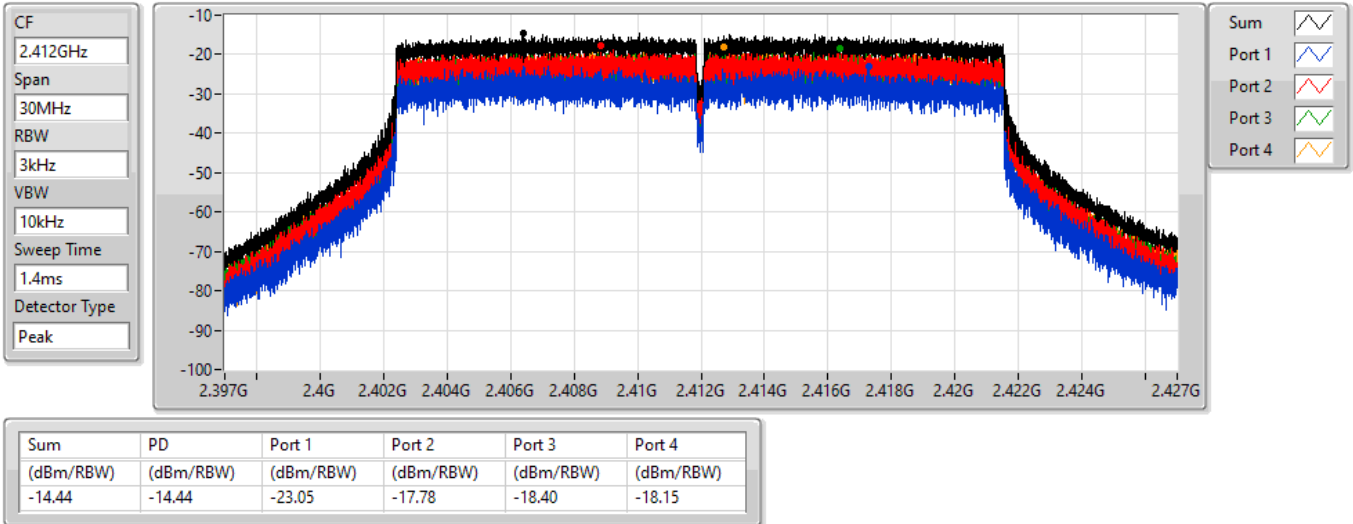


802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

2412MHz

06/09/2022

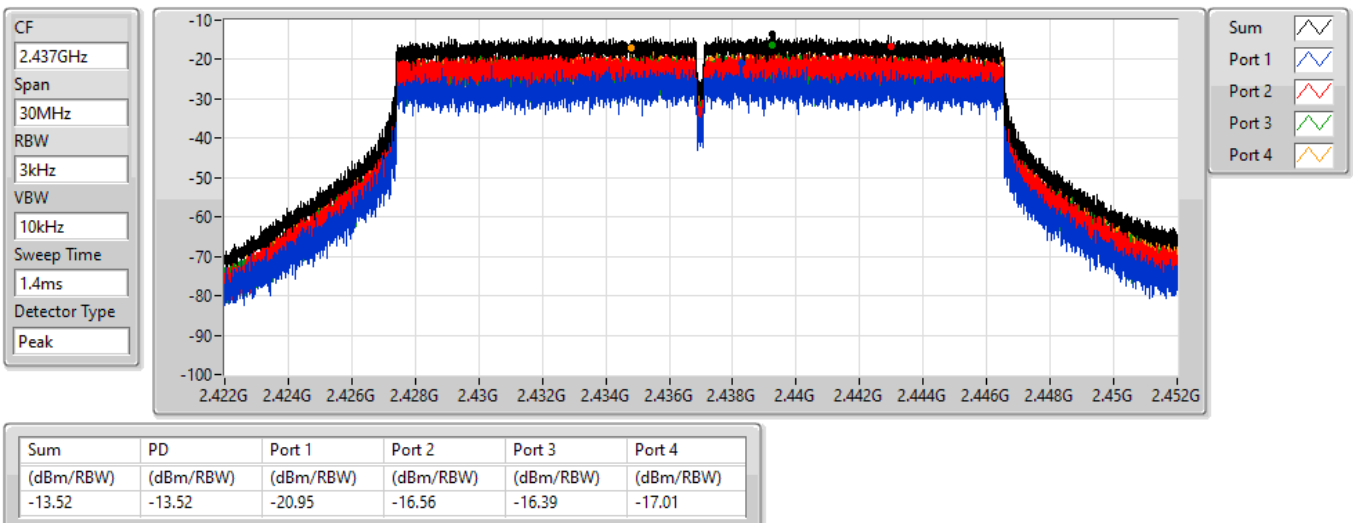


802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

2437MHz

06/09/2022

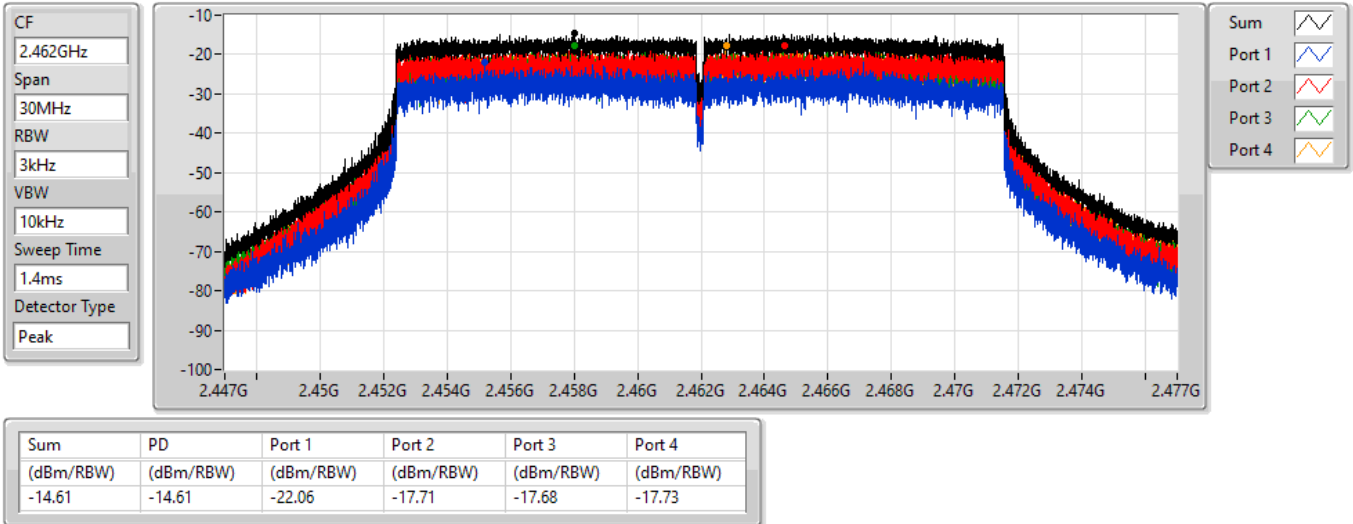


802.11ax HEW20_Nss1,(MCS0)_4TX

2462MHz

PSD

06/09/2022





Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_1TX	-3.86
802.11b_Nss1,(1Mbps)_2TX	-2.45
802.11b_Nss1,(1Mbps)_4TX	-5.18
802.11g_Nss1,(6Mbps)_1TX	-8.57
802.11g_Nss1,(6Mbps)_2TX	-8.00
802.11g_Nss1,(6Mbps)_4TX	-12.25
802.11ax HEW20_Nss1,(MCS0)_1TX	-8.67
802.11ax HEW20_Nss1,(MCS0)_2TX	-8.35
802.11ax HEW20_Nss1,(MCS0)_4TX	-13.52

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)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	-3.86				-3.86	6.00
2437MHz	Pass	13.00	-4.91				-4.91	6.00
2462MHz	Pass	13.00	-5.57				-5.57	6.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	-10.21				-10.21	6.00
2437MHz	Pass	13.00	-8.57				-8.57	6.00
2462MHz	Pass	13.00	-12.96				-12.96	6.00
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-
2412MHz	Pass	13.00	-12.43				-12.43	6.00
2437MHz	Pass	13.00	-8.67				-8.67	6.00
2462MHz	Pass	13.00	-13.97				-13.97	6.00
802.11b_Nss1,(1Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	16.01	-11.42	-5.57			-5.00	5.00
2437MHz	Pass	16.01	-7.87	-3.52			-2.45	5.00
2462MHz	Pass	16.01	-14.35	-7.89			-7.01	5.00
802.11g_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	16.01	-17.58	-12.24			-11.44	5.00
2437MHz	Pass	16.01	-14.11	-8.83			-8.00	5.00
2462MHz	Pass	16.01	-19.31	-15.23			-14.42	5.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
2412MHz	Pass	16.01	-17.08	-12.66			-11.83	5.00
2437MHz	Pass	16.01	-13.47	-8.80			-8.35	5.00
2462MHz	Pass	16.01	-21.29	-16.82			-15.96	5.00
802.11b_Nss1,(1Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.02	-15.12	-12.25	-11.49	-10.78	-6.27	4.00
2437MHz	Pass	19.02	-14.62	-9.09	-10.59	-8.95	-5.18	4.00
2462MHz	Pass	19.02	-14.53	-9.87	-9.73	-9.83	-5.44	4.00
802.11g_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.02	-21.75	-16.87	-17.02	-17.57	-13.36	4.00
2437MHz	Pass	19.02	-20.07	-16.86	-16.85	-15.29	-12.25	4.00
2462MHz	Pass	19.02	-25.24	-19.87	-19.49	-20.46	-15.59	4.00
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
2412MHz	Pass	19.02	-23.05	-17.78	-18.40	-18.15	-14.44	4.00
2437MHz	Pass	19.02	-20.95	-16.56	-16.39	-17.01	-13.52	4.00
2462MHz	Pass	19.02	-22.06	-17.71	-17.68	-17.73	-14.61	4.00

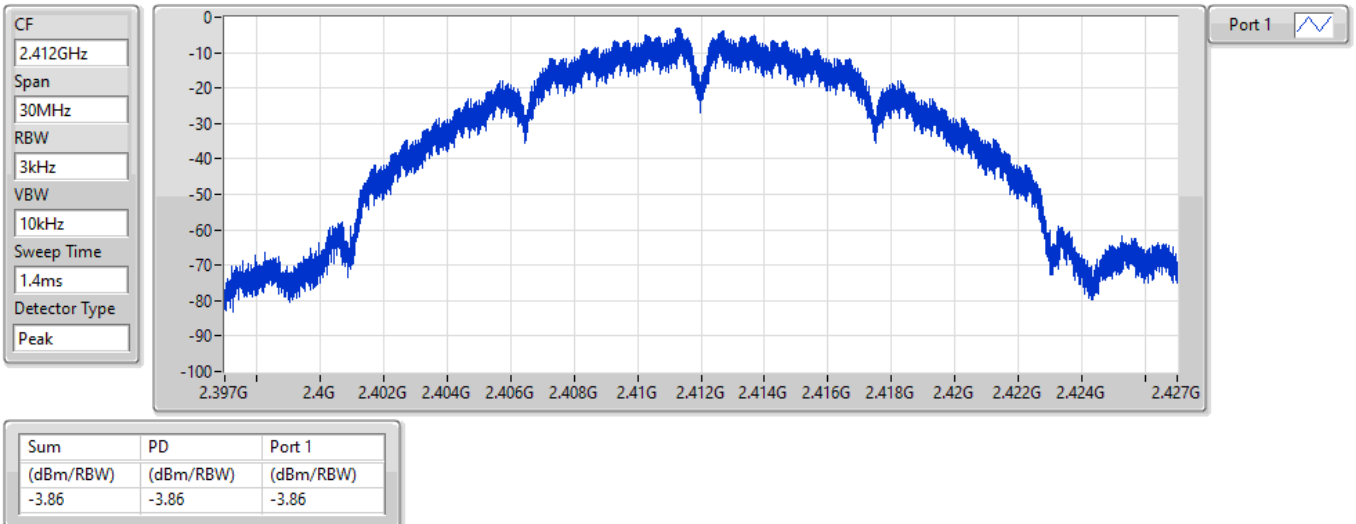
DG = Directional Gain; RBW = 3kHz;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

802.11b_Nss1,(1Mbps)_1TX

PSD

2412MHz

20/08/2022

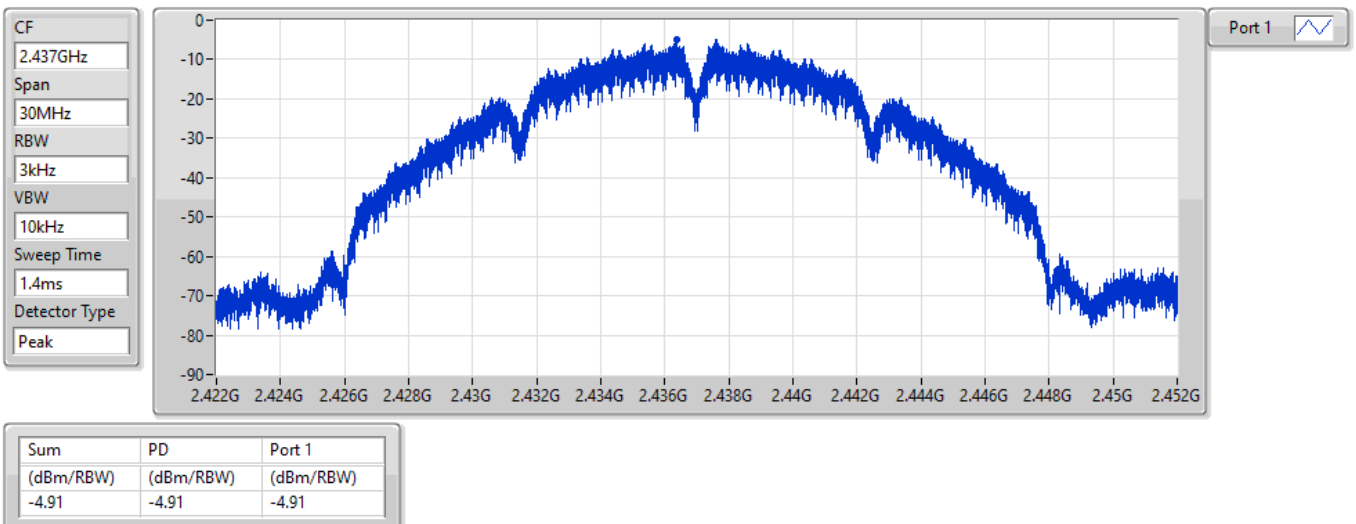


802.11b_Nss1,(1Mbps)_1TX

PSD

2437MHz

20/08/2022

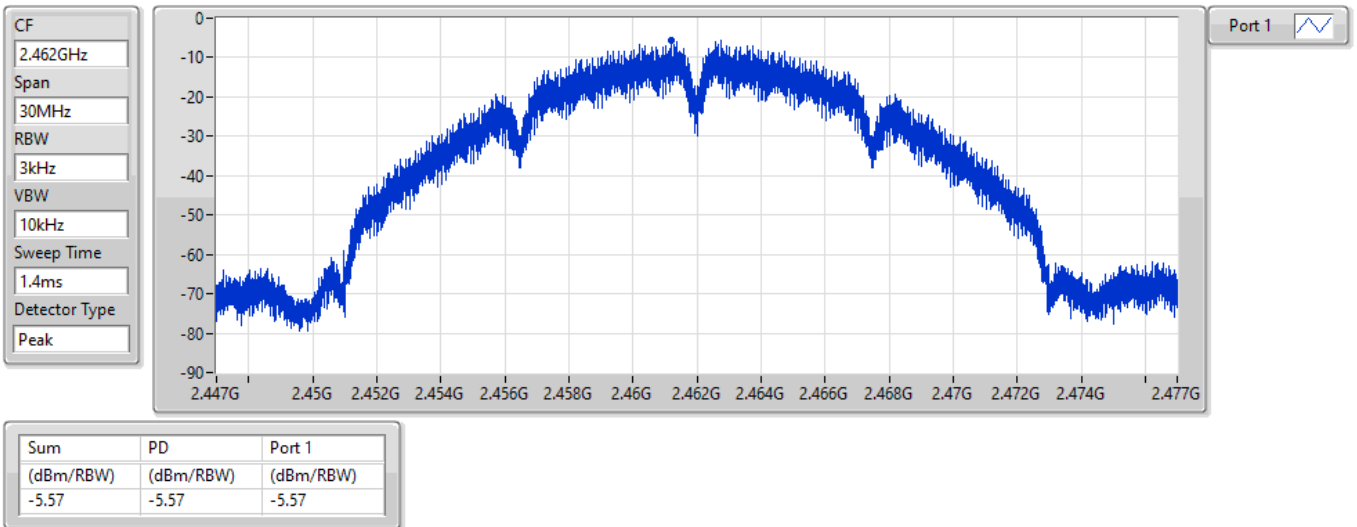


802.11b_Nss1,(1Mbps)_1TX

PSD

2462MHz

20/08/2022

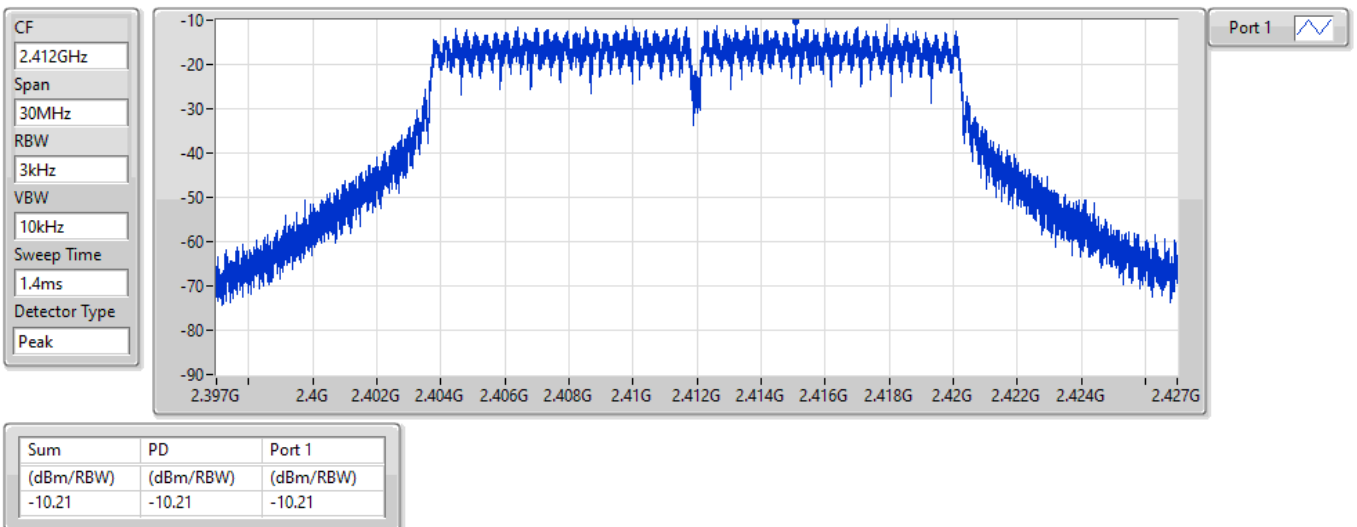


802.11g_Nss1,(6Mbps)_1TX

PSD

2412MHz

06/09/2022

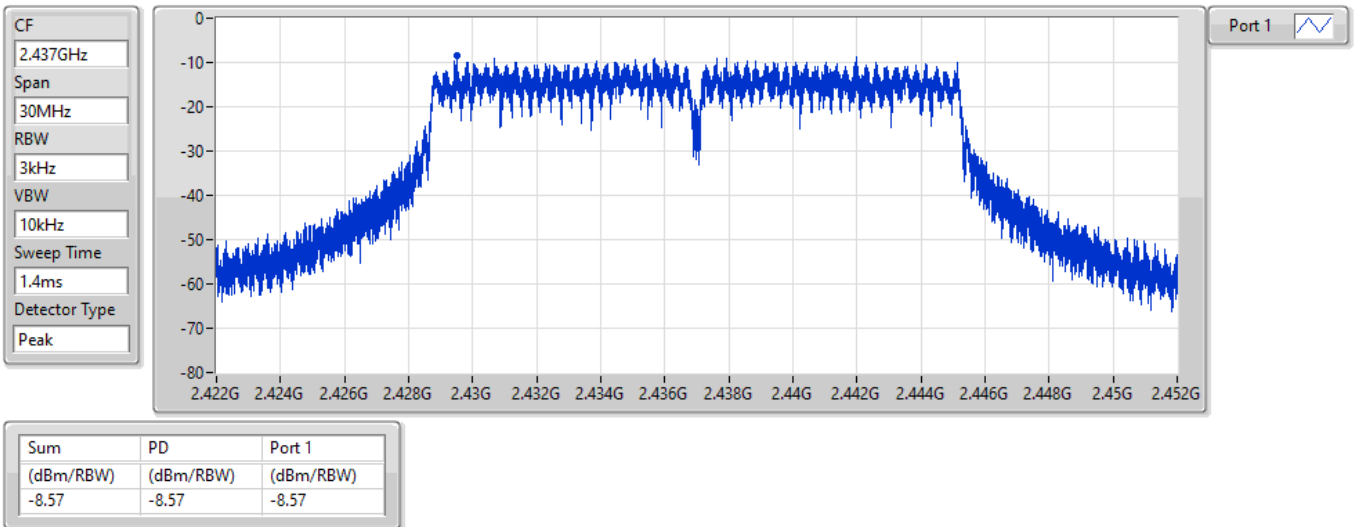


802.11g_Nss1,(6Mbps)_1TX

PSD

2437MHz

20/08/2022

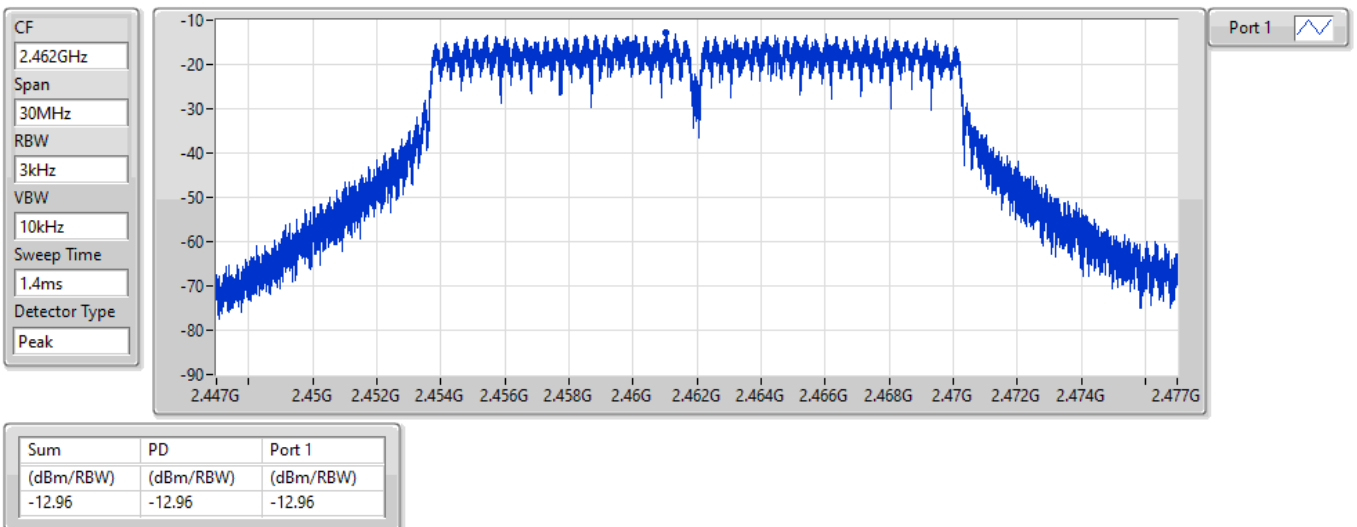


802.11g_Nss1,(6Mbps)_1TX

PSD

2462MHz

06/09/2022

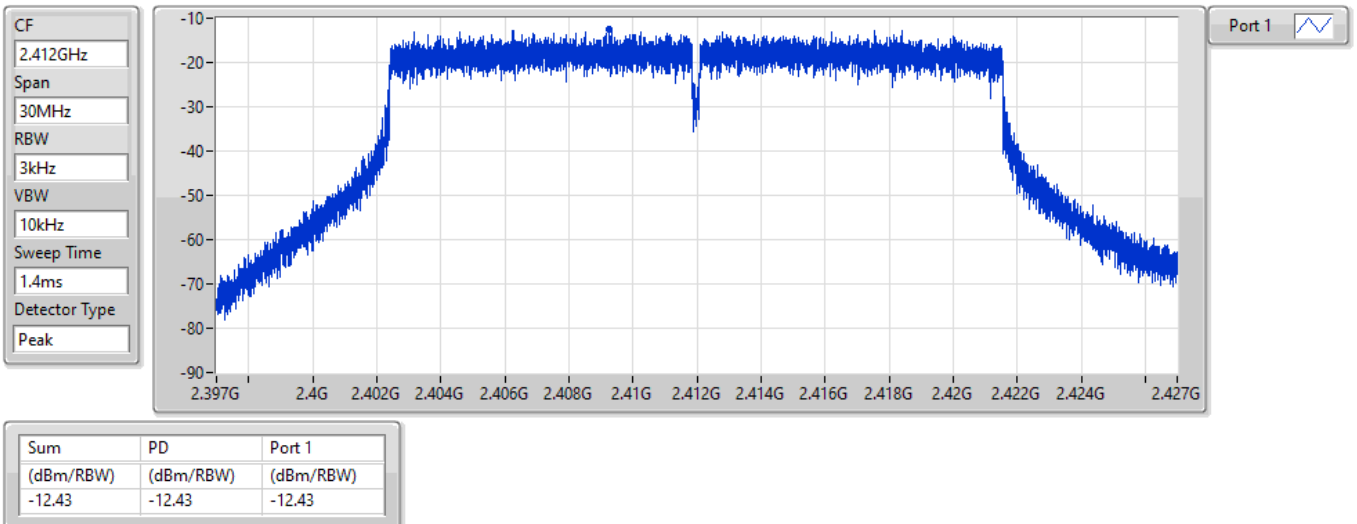


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2412MHz

06/09/2022

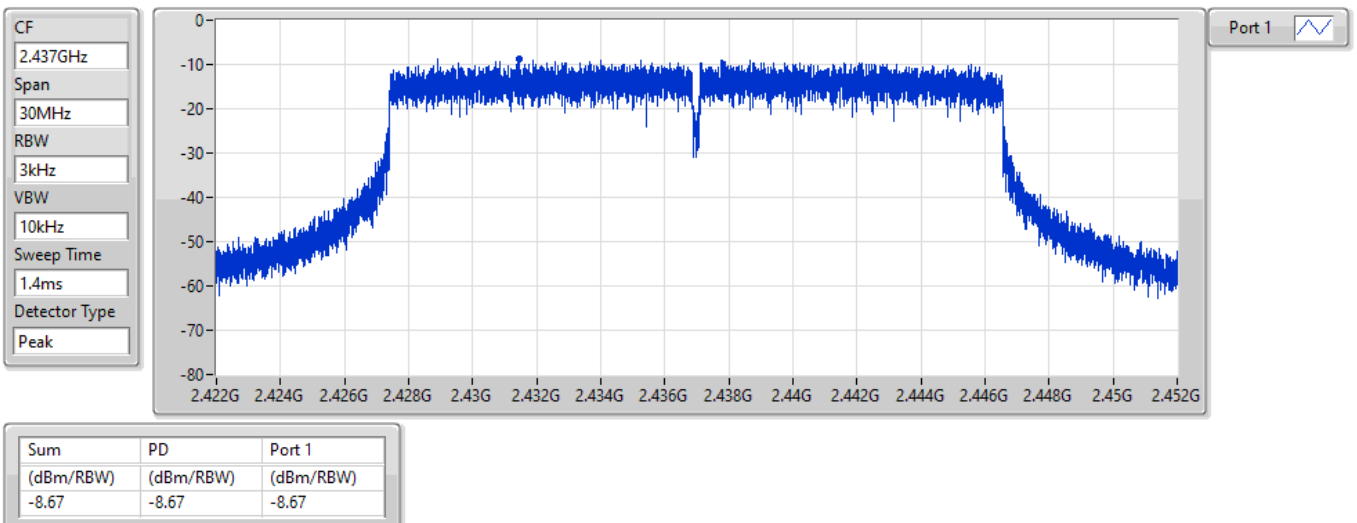


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2437MHz

20/08/2022

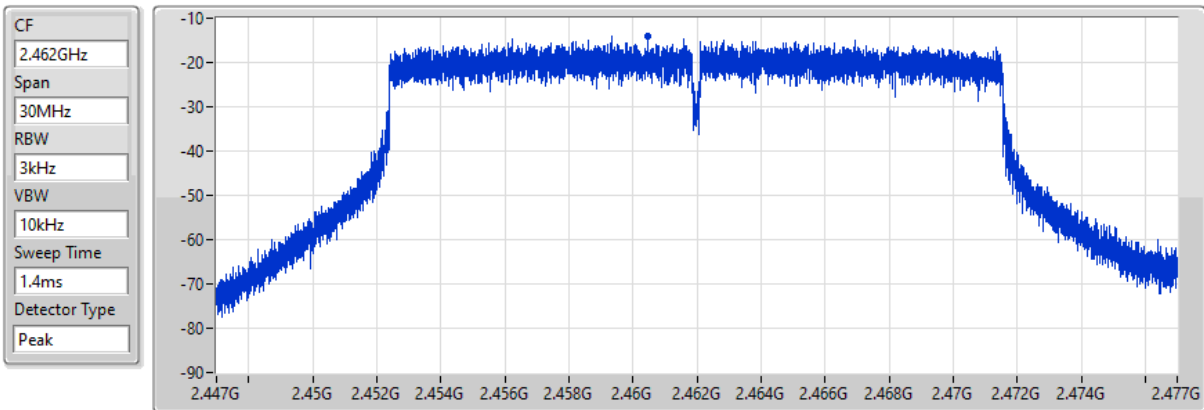


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2462MHz

06/09/2022



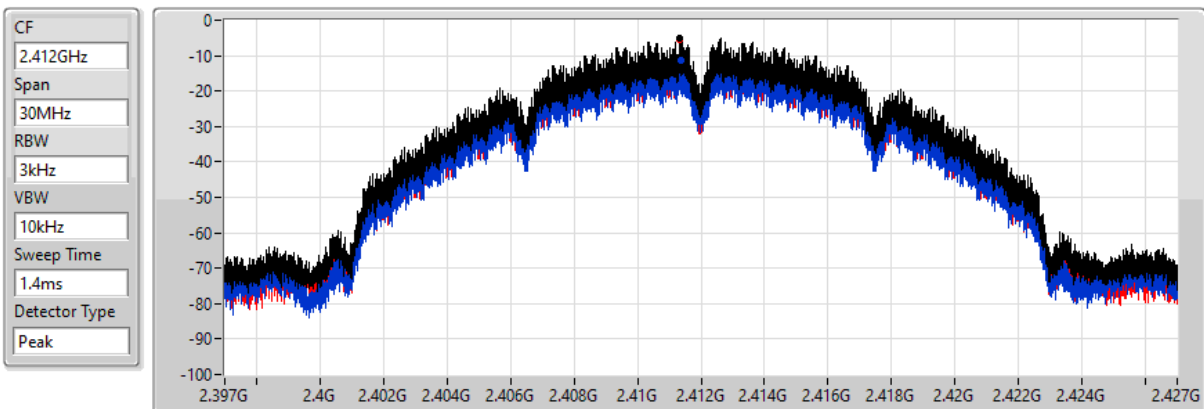
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-13.97	-13.97	-13.97

802.11b_Nss1,(1Mbps)_2TX

PSD

2412MHz

06/09/2022



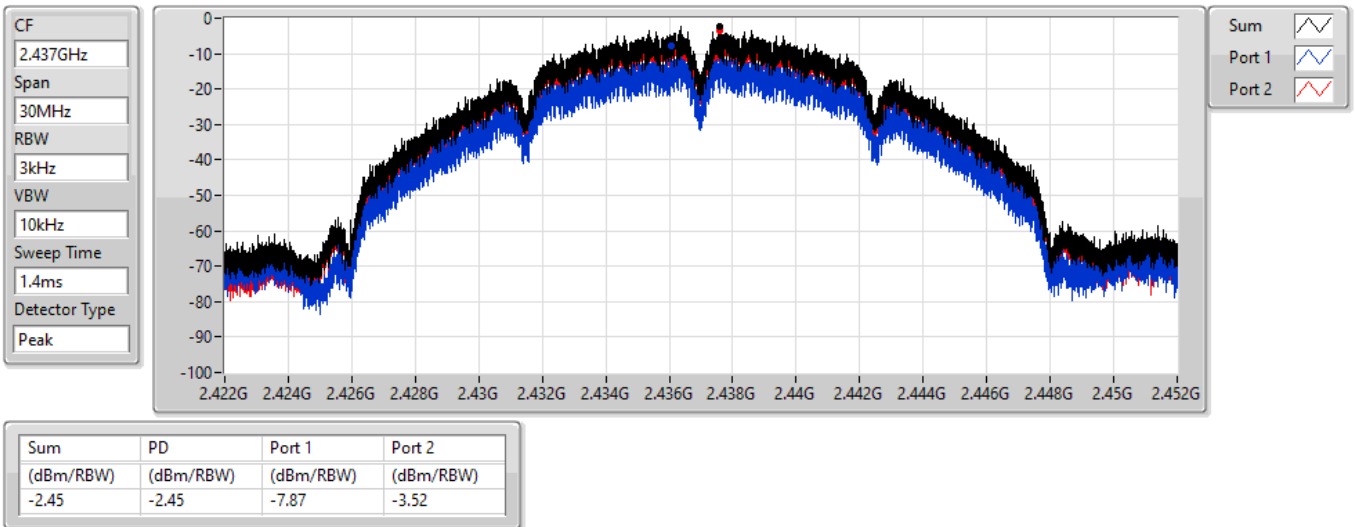
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-5.00	-5.00	-11.42	-5.57

802.11b_Nss1,(1Mbps)_2TX

2437MHz

PSD

06/09/2022

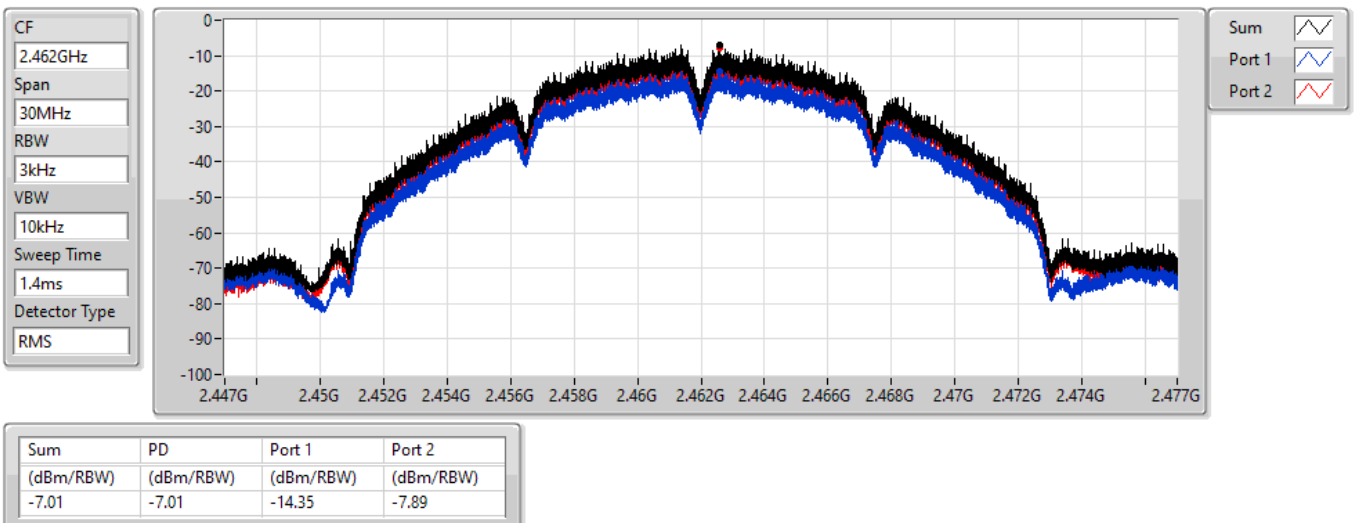


802.11b_Nss1,(1Mbps)_2TX

2462MHz

PSD

06/09/2022

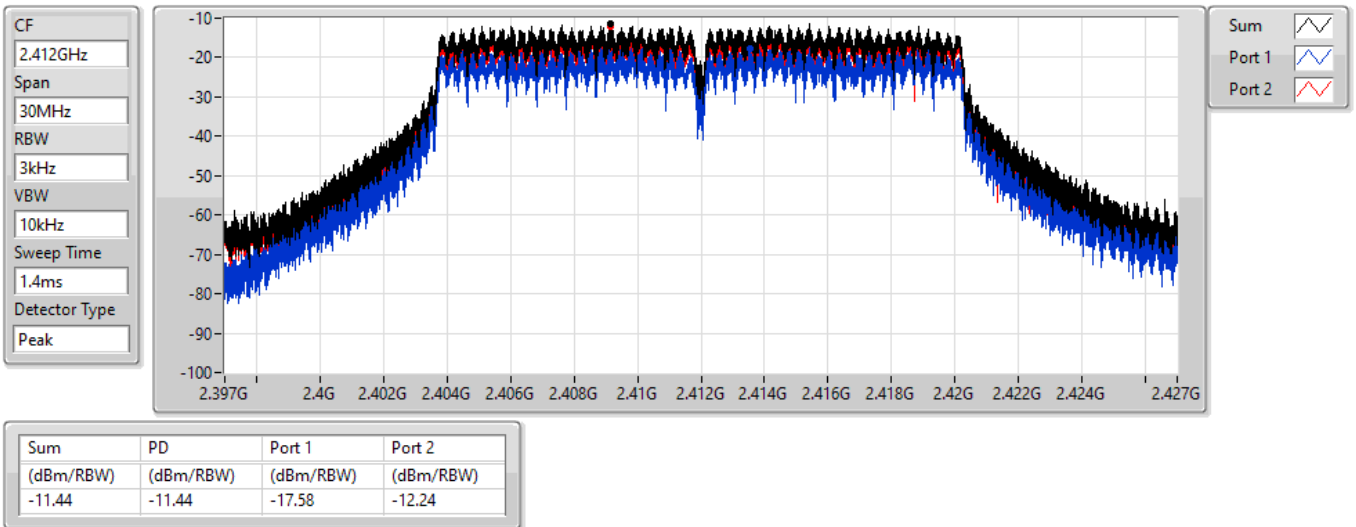


802.11g_Nss1,(6Mbps)_2TX

2412MHz

PSD

06/09/2022

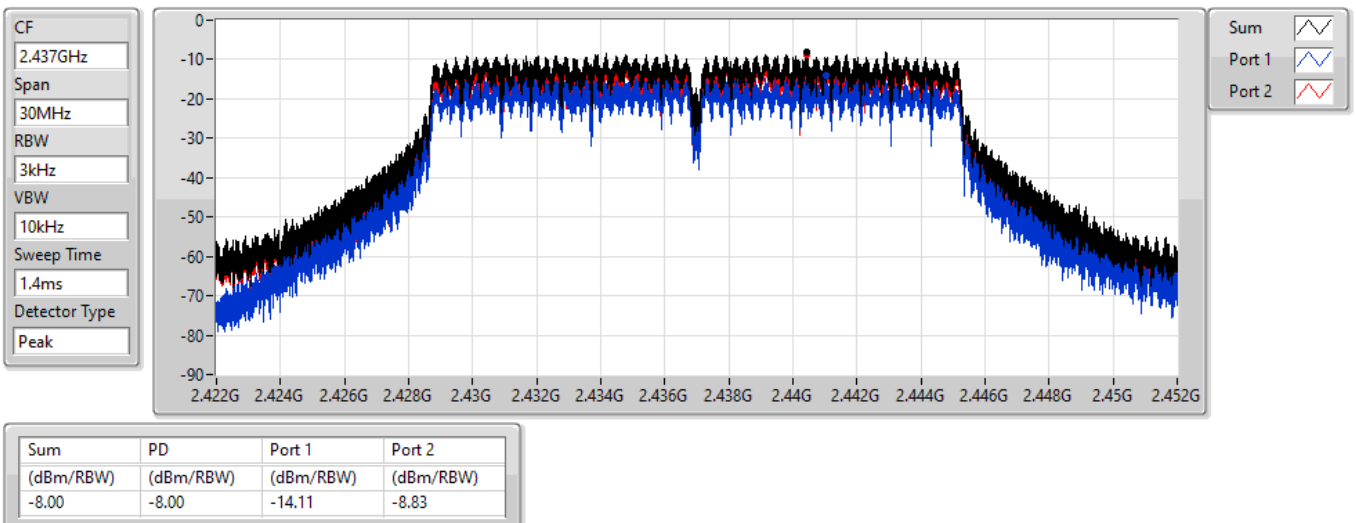


802.11g_Nss1,(6Mbps)_2TX

2437MHz

PSD

06/09/2022

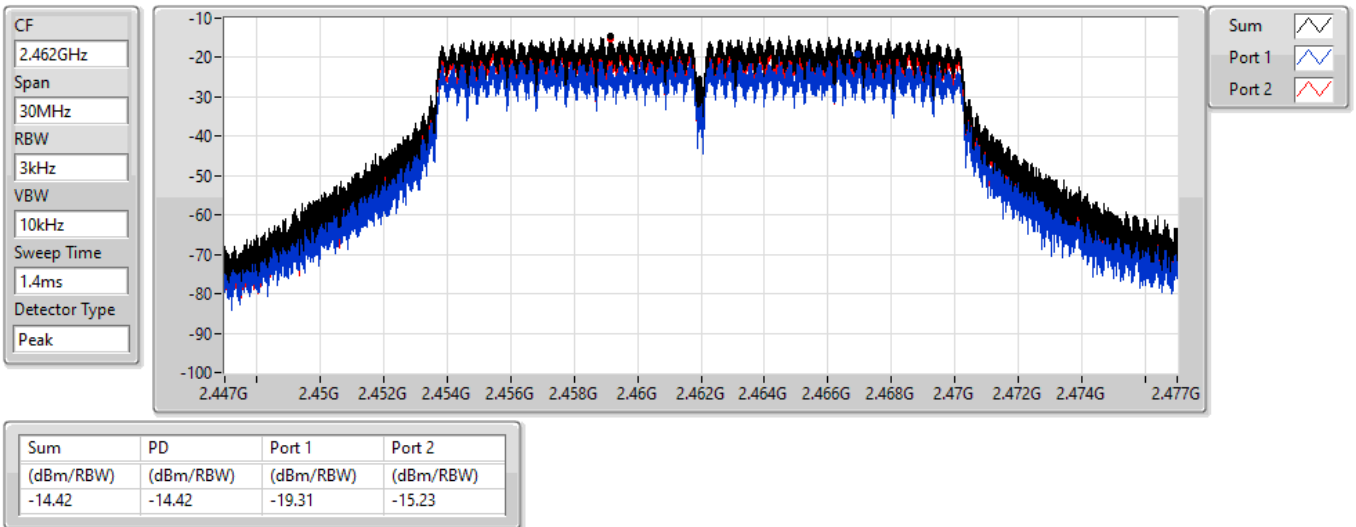


802.11g_Nss1,(6Mbps)_2TX

2462MHz

PSD

06/09/2022

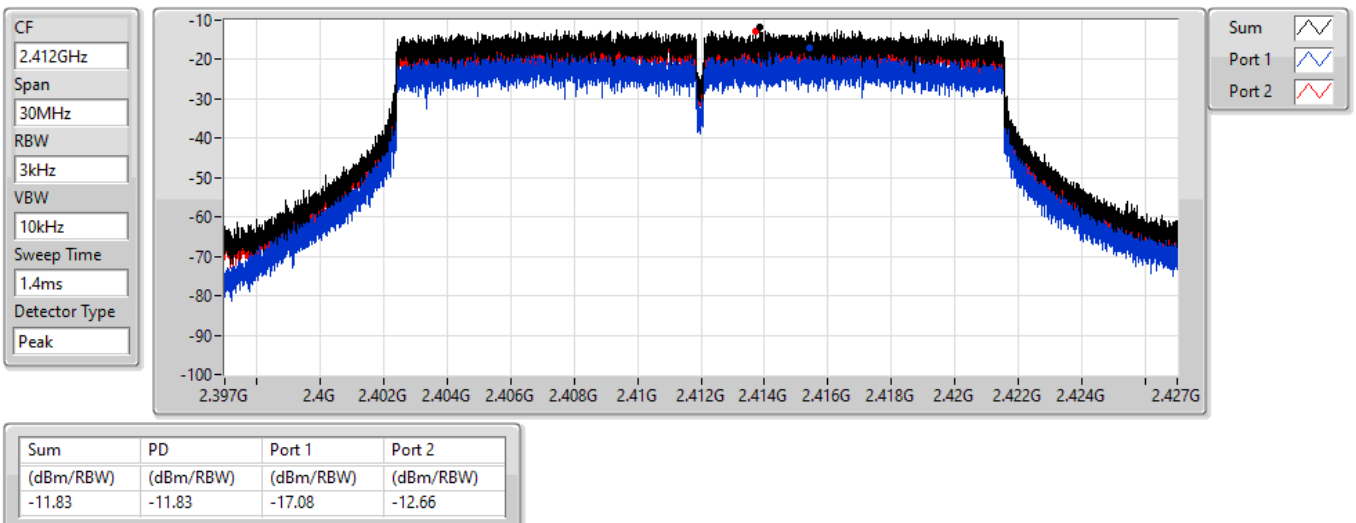


802.11ax HEW20_Nss1,(MCS0)_2TX

2412MHz

PSD

06/09/2022

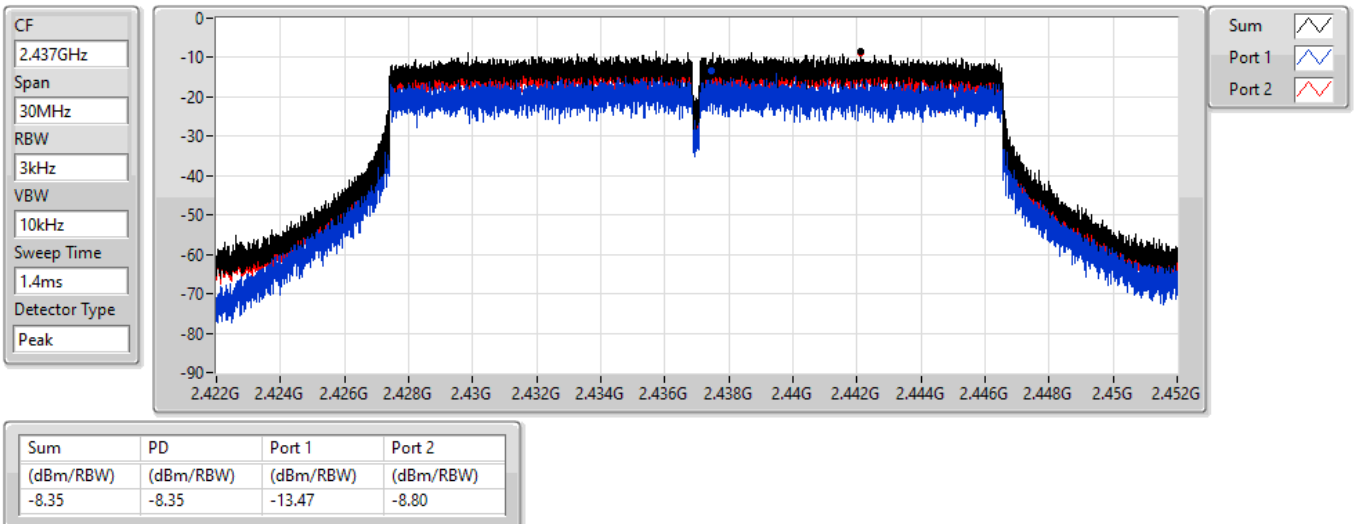


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

2437MHz

06/09/2022

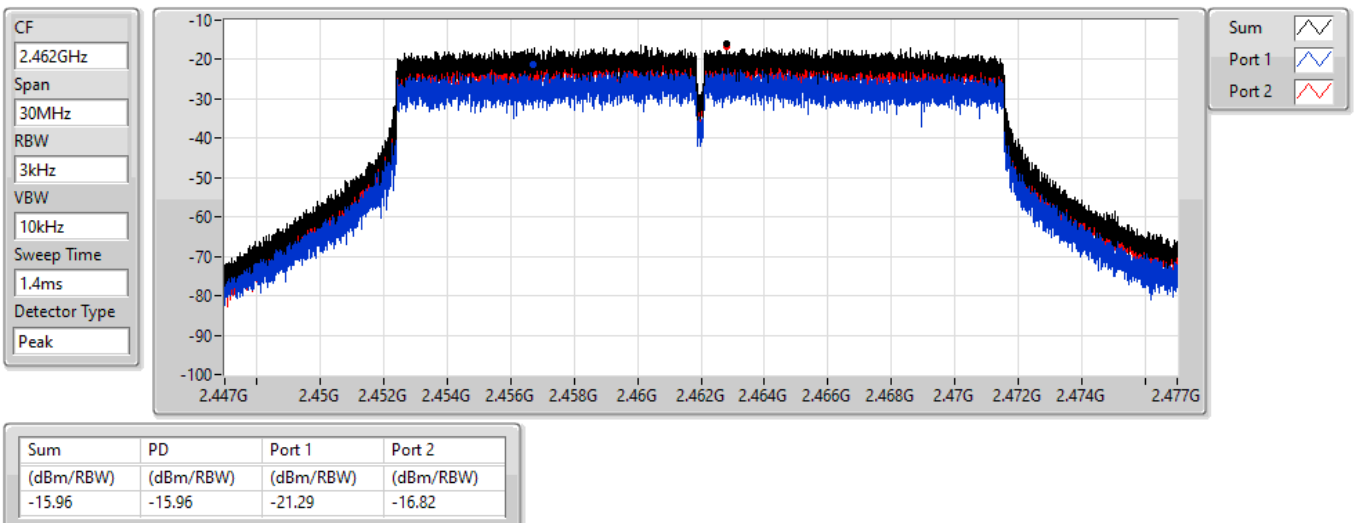


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

2462MHz

06/09/2022

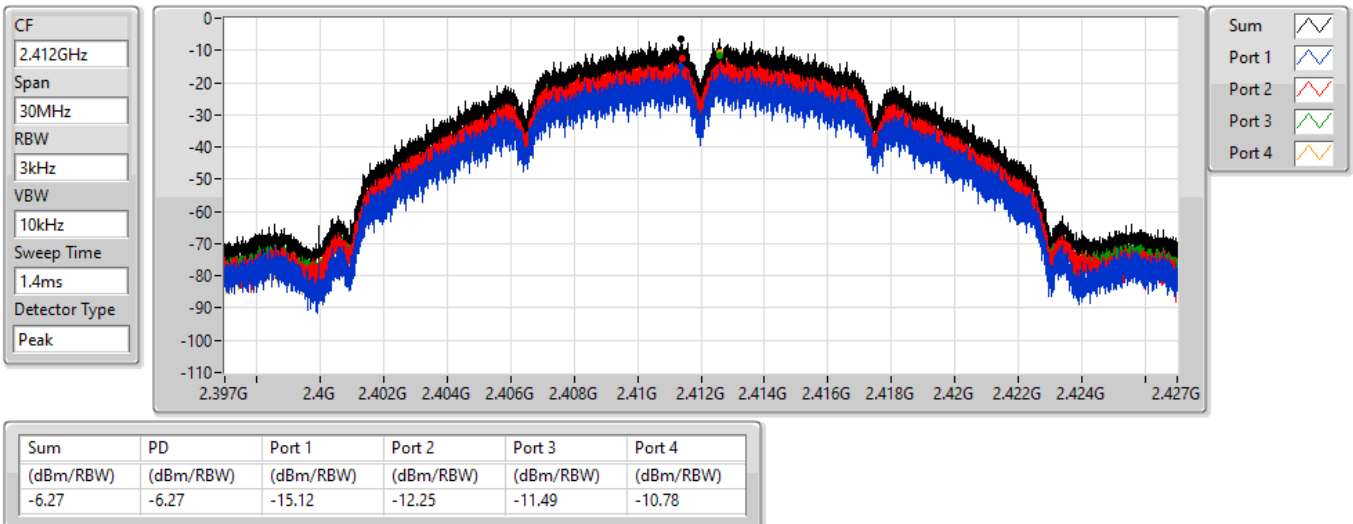


802.11b_Nss1,(1Mbps)_4TX

PSD

2412MHz

06/09/2022

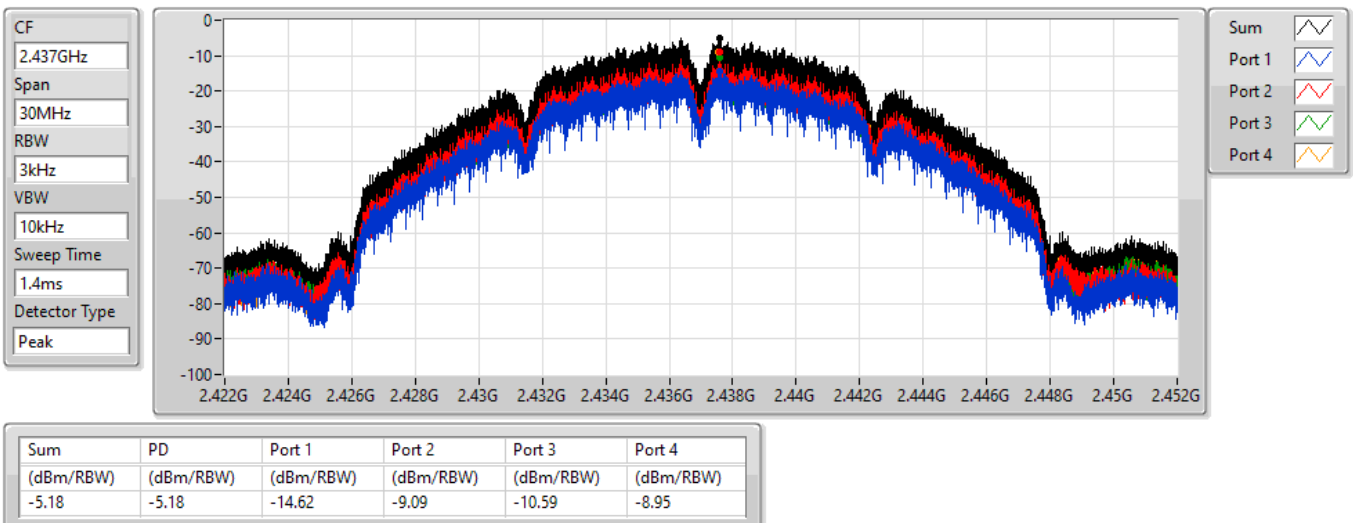


802.11b_Nss1,(1Mbps)_4TX

PSD

2437MHz

06/09/2022

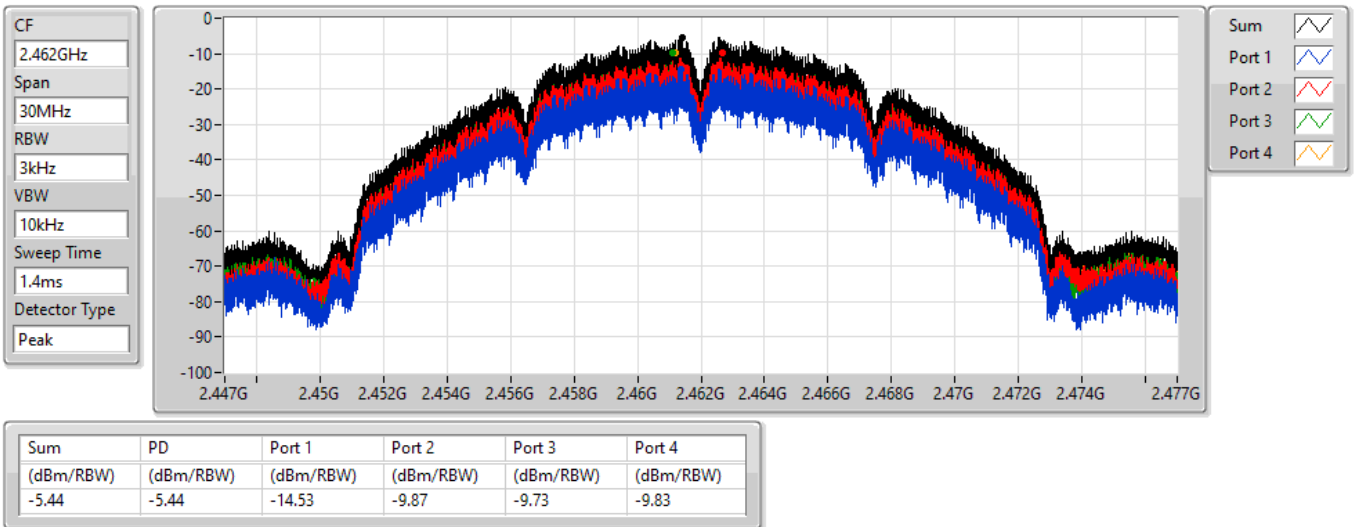


802.11b_Nss1,(1Mbps)_4TX

2462MHz

PSD

06/09/2022

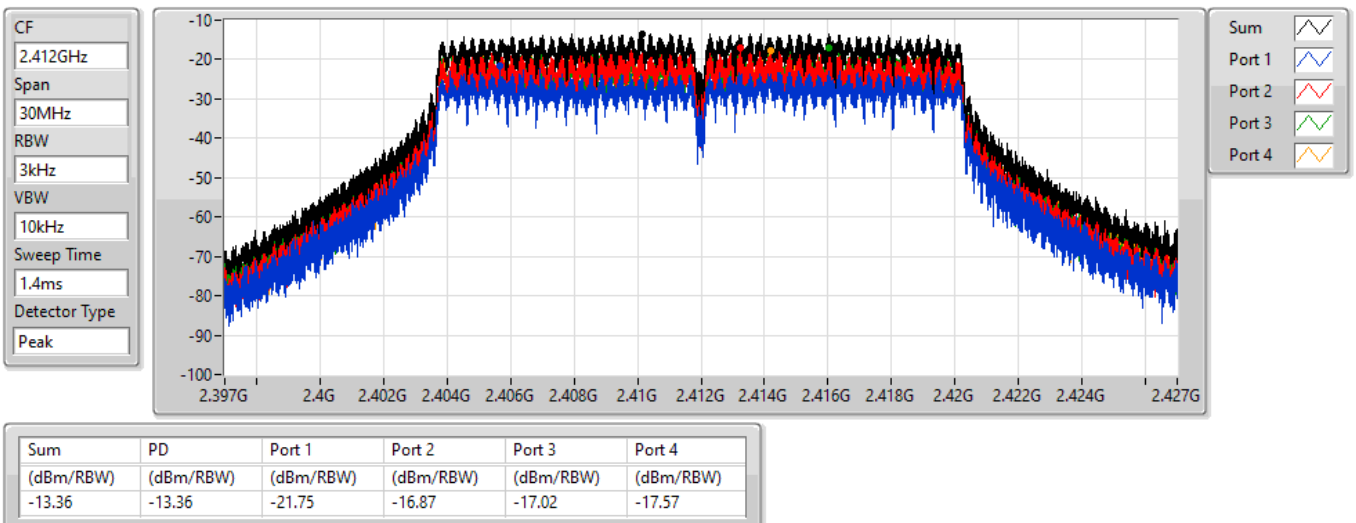


802.11g_Nss1,(6Mbps)_4TX

2412MHz

PSD

06/09/2022

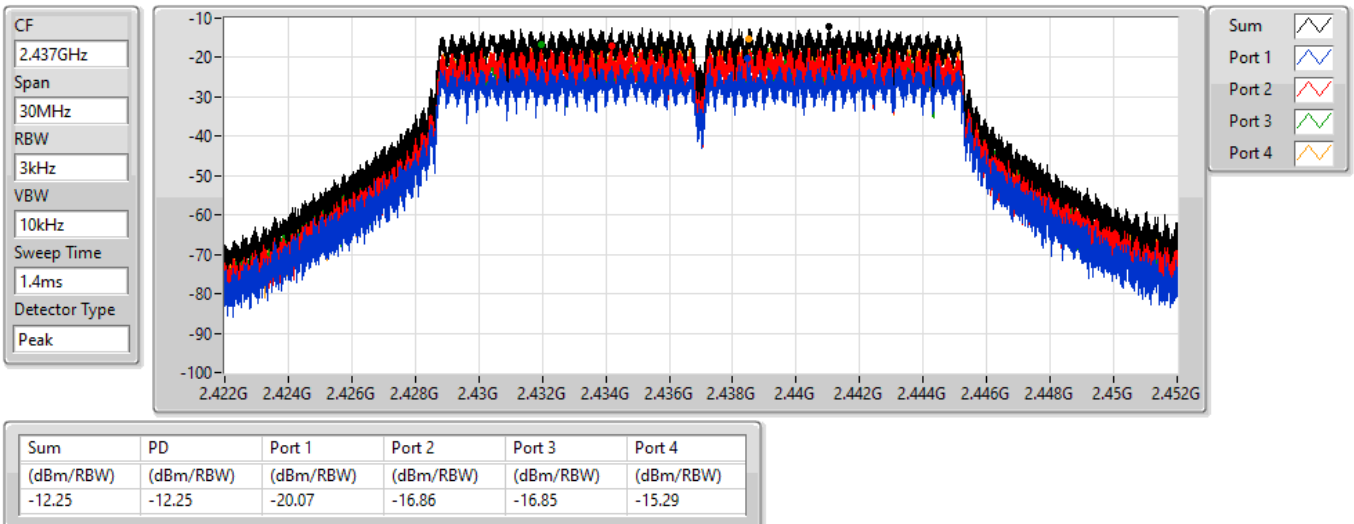


802.11g_Nss1,(6Mbps)_4TX

2437MHz

PSD

06/09/2022

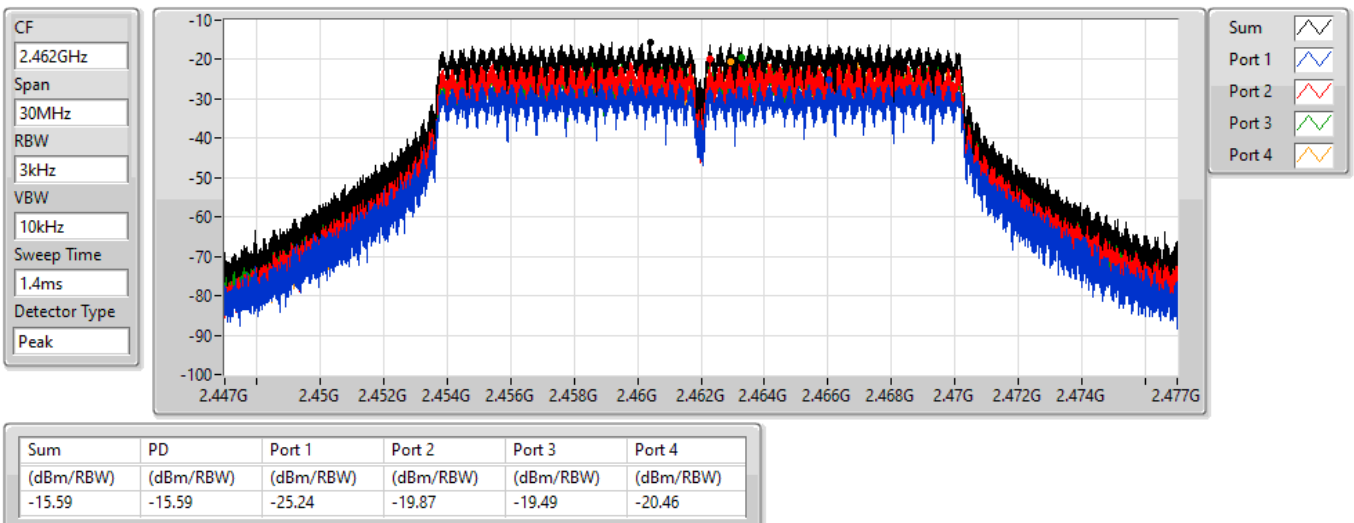


802.11g_Nss1,(6Mbps)_4TX

2462MHz

PSD

06/09/2022

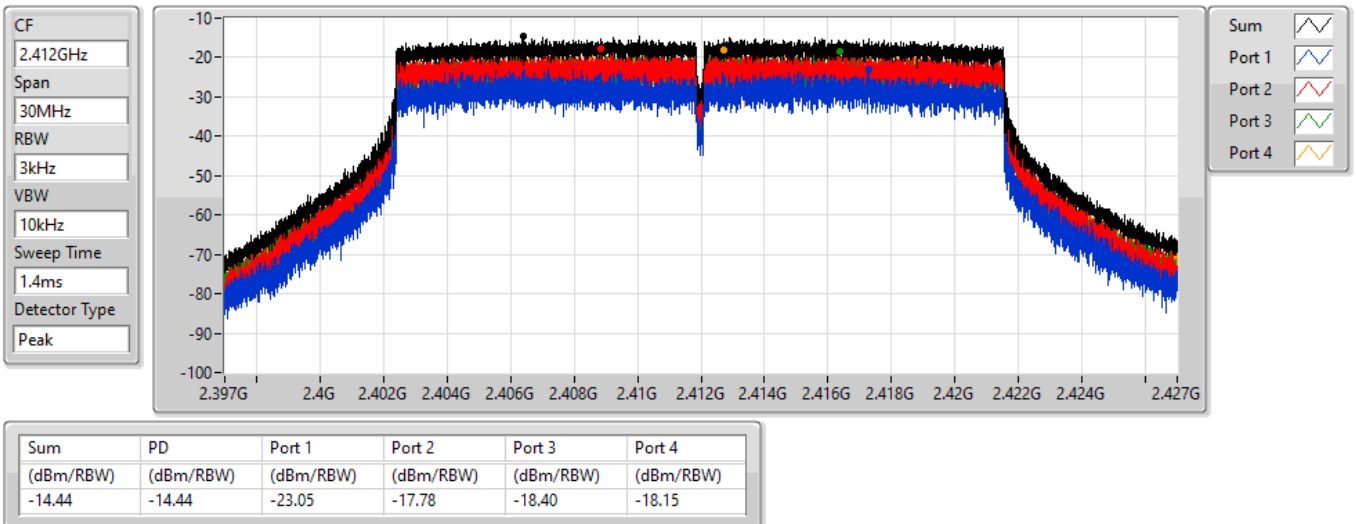


802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

2412MHz

06/09/2022

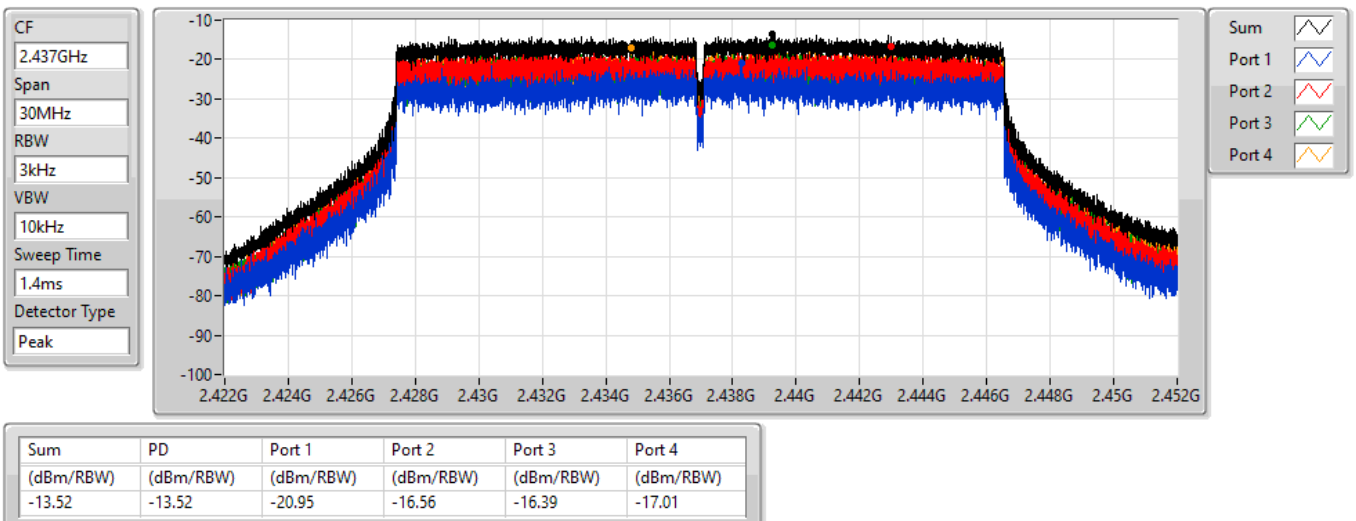


802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

2437MHz

06/09/2022

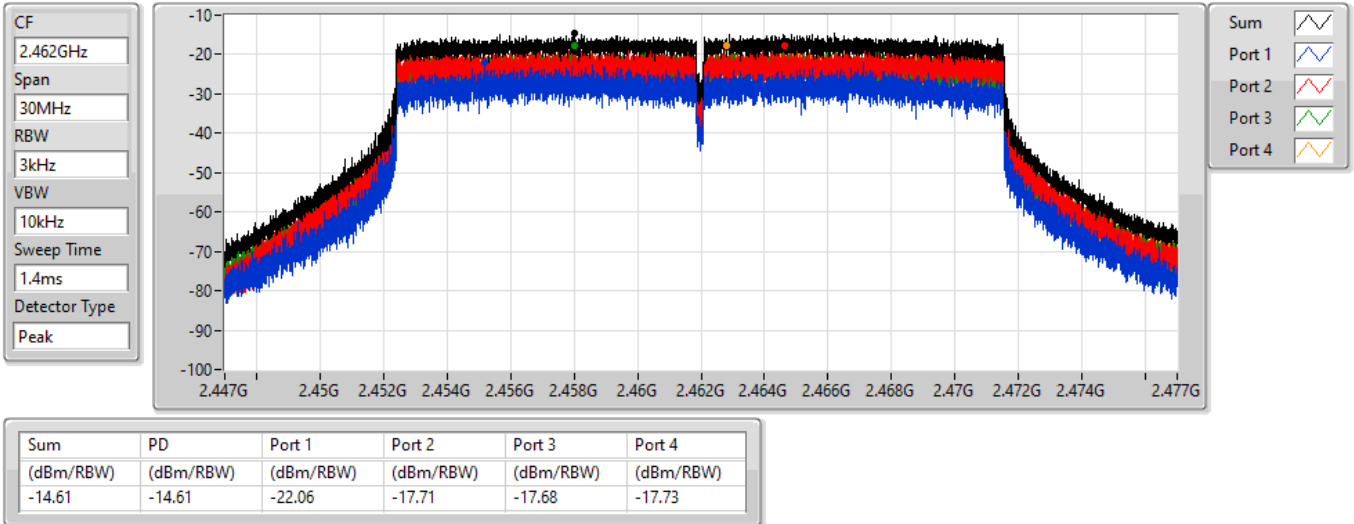


802.11ax HEW20_Nss1,(MCS0)_4TX

2462MHz

PSD

06/09/2022





Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_1TX	-1.88
802.11g_Nss1,(6Mbps)_1TX	-7.32
802.11ax HEW20_Nss1,(MCS0)_1TX	-5.93

RBW = 3kHz;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	4.00	-2.27	-2.27	8.00
2437MHz	Pass	4.00	-1.88	-1.88	8.00
2462MHz	Pass	4.00	-2.82	-2.82	8.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	4.00	-10.54	-10.54	8.00
2437MHz	Pass	4.00	-7.32	-7.32	8.00
2462MHz	Pass	4.00	-11.03	-11.03	8.00
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	4.00	-14.97	-14.97	8.00
2437MHz	Pass	4.00	-5.93	-5.93	8.00
2462MHz	Pass	4.00	-12.44	-12.44	8.00

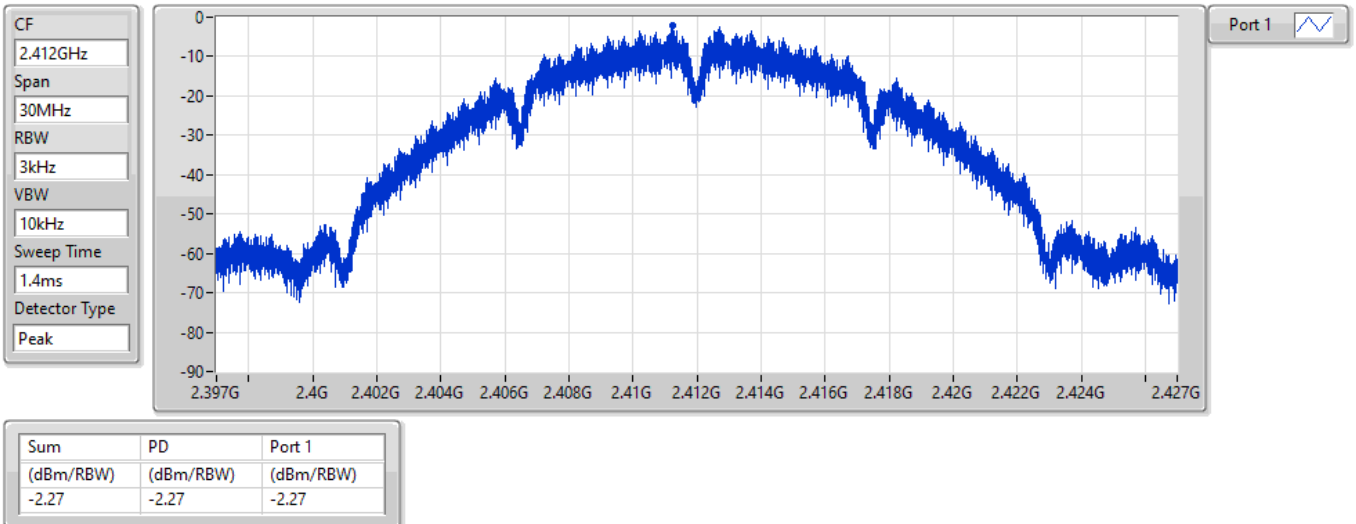
DG = Directional Gain; RBW = 3kHz;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

802.11b_Nss1,(1Mbps)_1TX

PSD

2412MHz

18/08/2022

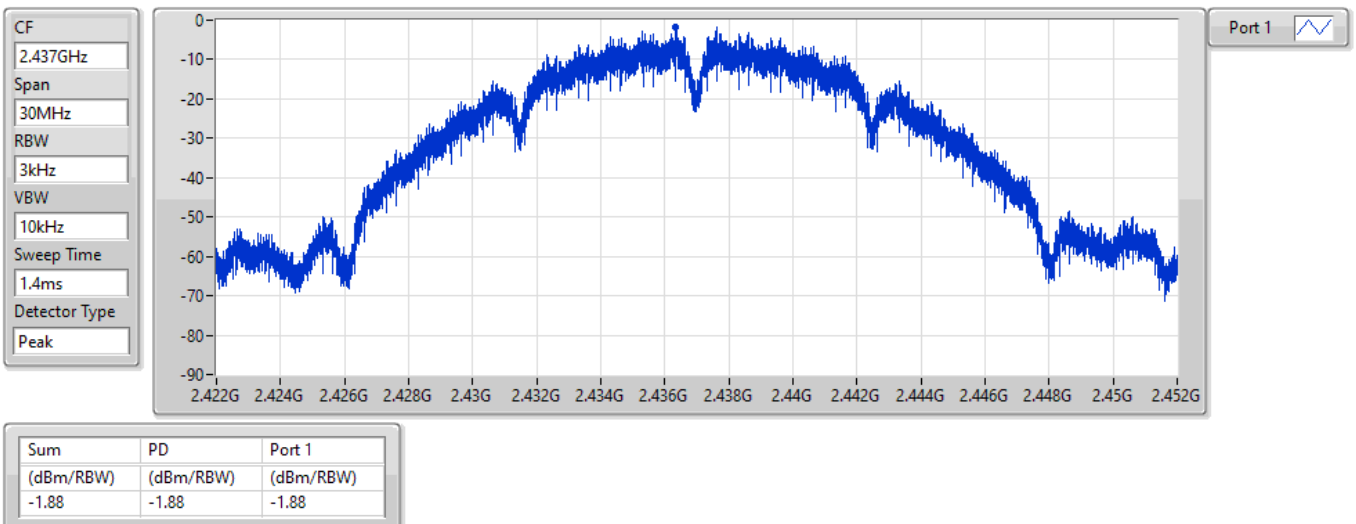


802.11b_Nss1,(1Mbps)_1TX

PSD

2437MHz

18/08/2022

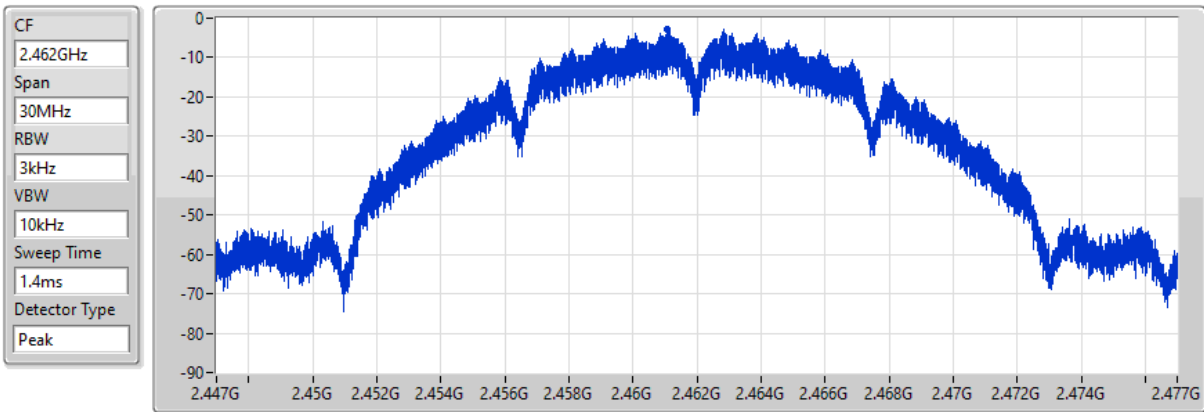


802.11b_Nss1,(1Mbps)_1TX

PSD

2462MHz

18/08/2022



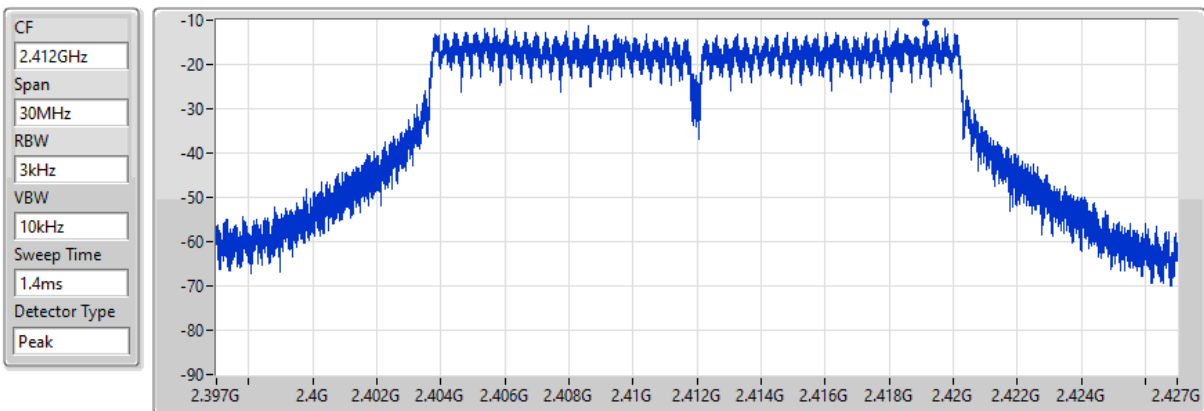
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.82	-2.82	-2.82

802.11g_Nss1,(6Mbps)_1TX

PSD

2412MHz

18/08/2022



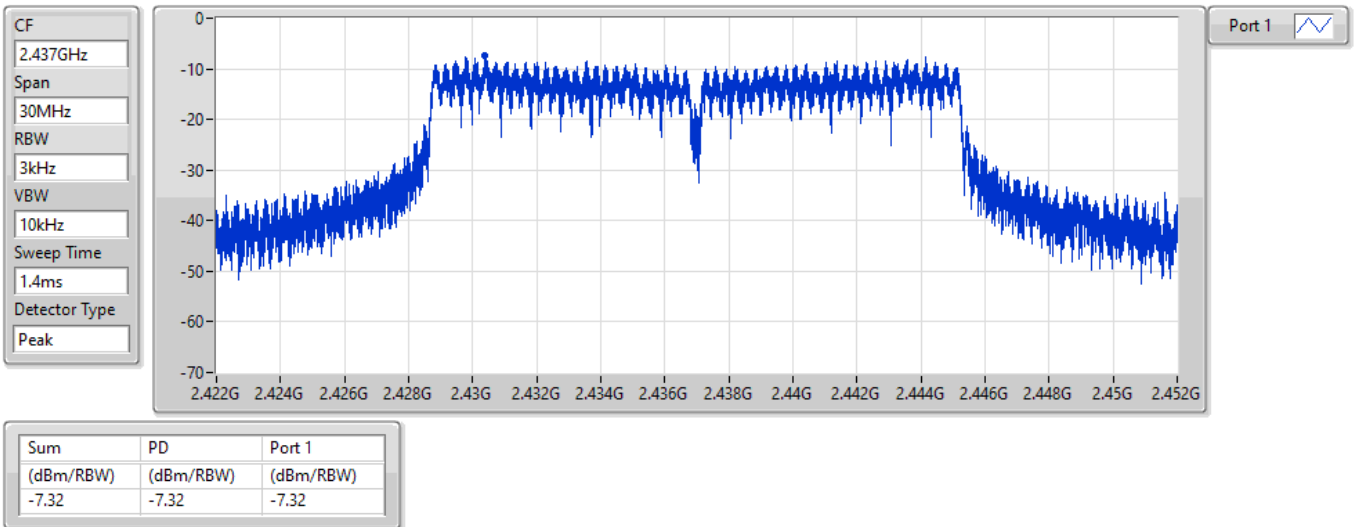
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.54	-10.54	-10.54

802.11g_Nss1,(6Mbps)_1TX

PSD

2437MHz

18/08/2022

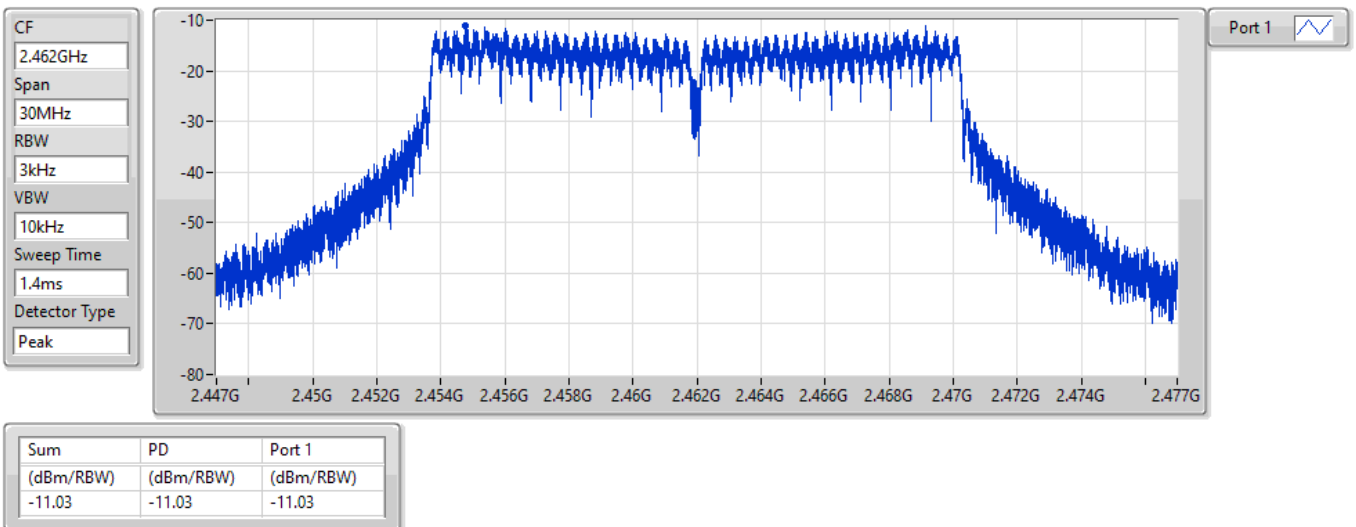


802.11g_Nss1,(6Mbps)_1TX

PSD

2462MHz

18/08/2022

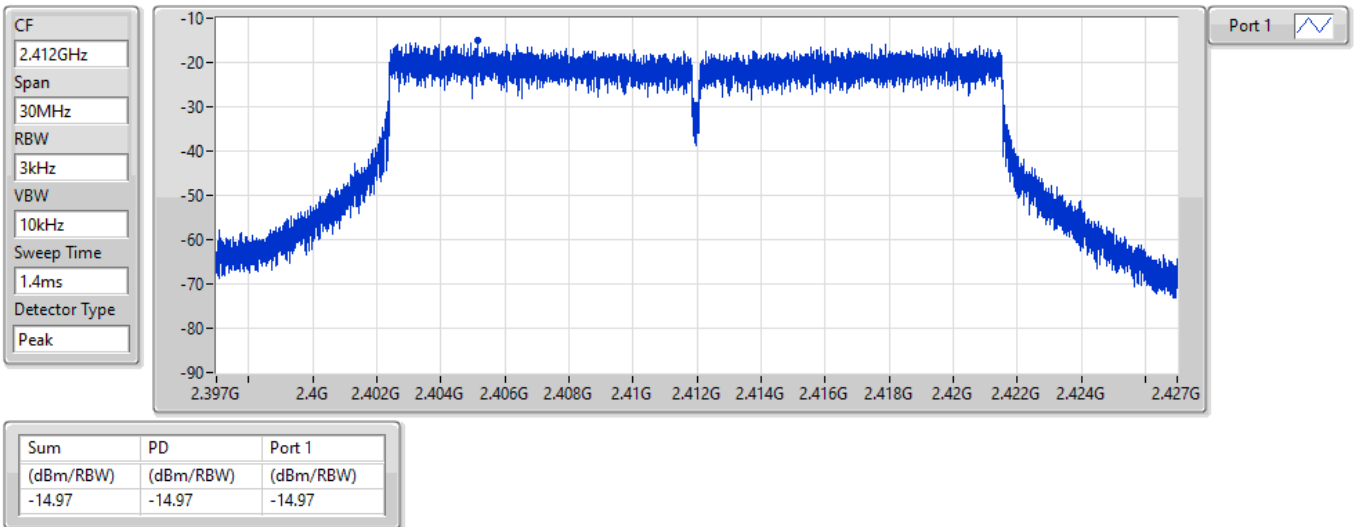


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2412MHz

18/08/2022

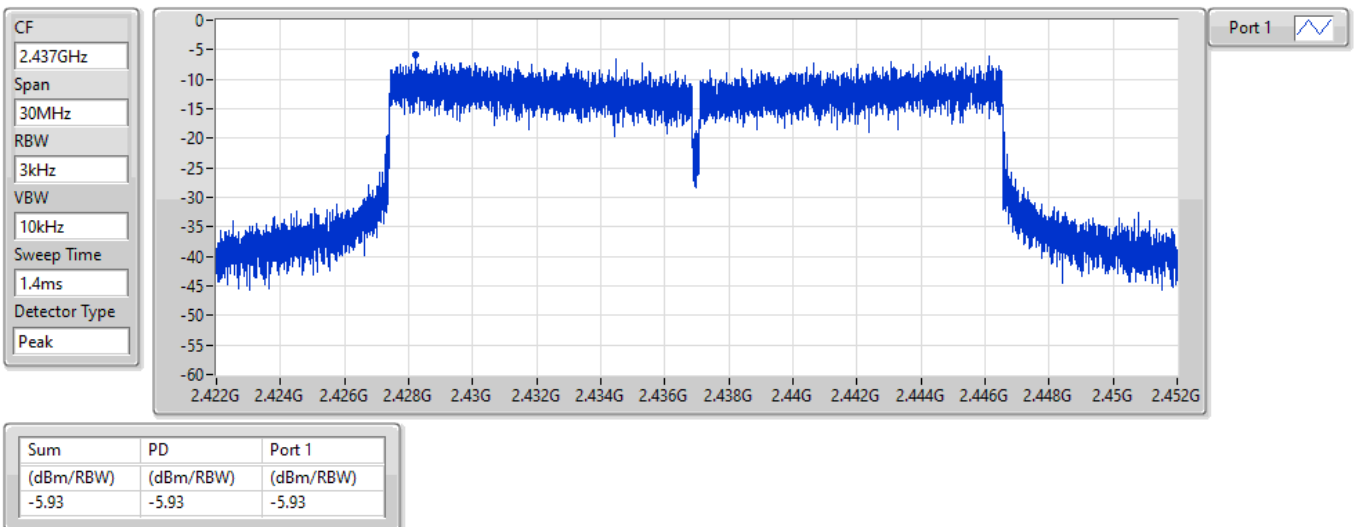


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2437MHz

18/08/2022

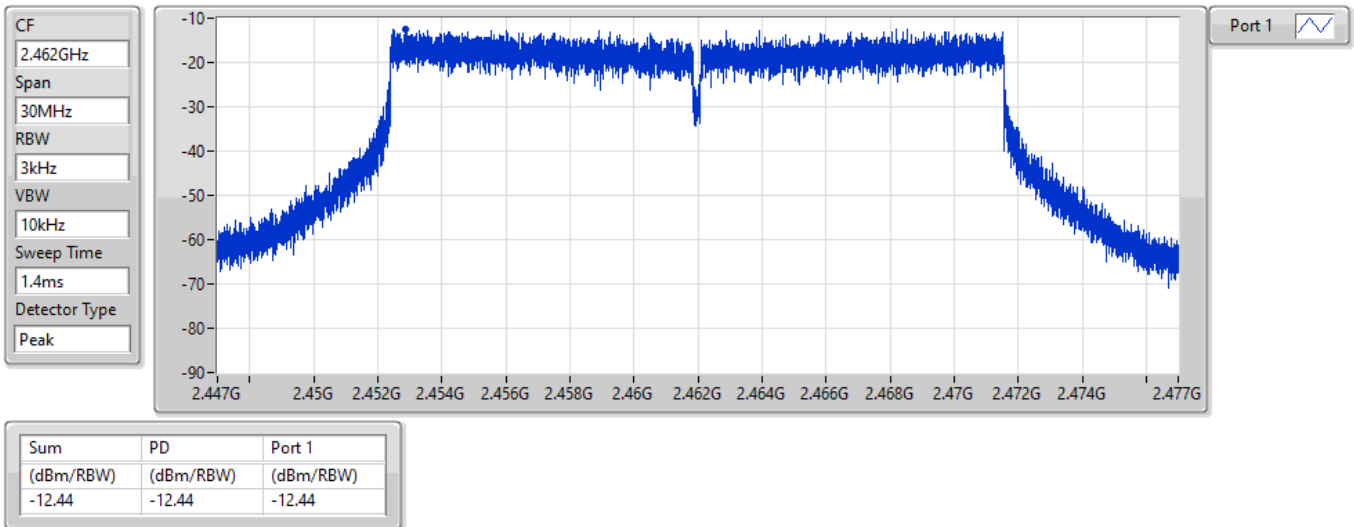


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2462MHz

18/08/2022





Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_1TX	-2.43
802.11g_Nss1,(6Mbps)_1TX	-6.51
802.11ax HEW20_Nss1,(MCS0)_1TX	-7.01

RBW = 3kHz;



Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	13.00	-6.13	-6.13	1.00
2437MHz	Pass	13.00	-2.43	-2.43	1.00
2462MHz	Pass	13.00	-6.84	-6.84	1.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	13.00	-16.49	-16.49	1.00
2437MHz	Pass	13.00	-6.51	-6.51	1.00
2462MHz	Pass	13.00	-16.64	-16.64	1.00
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	13.00	-20.89	-20.89	1.00
2437MHz	Pass	13.00	-7.01	-7.01	1.00
2462MHz	Pass	13.00	-17.67	-17.67	1.00

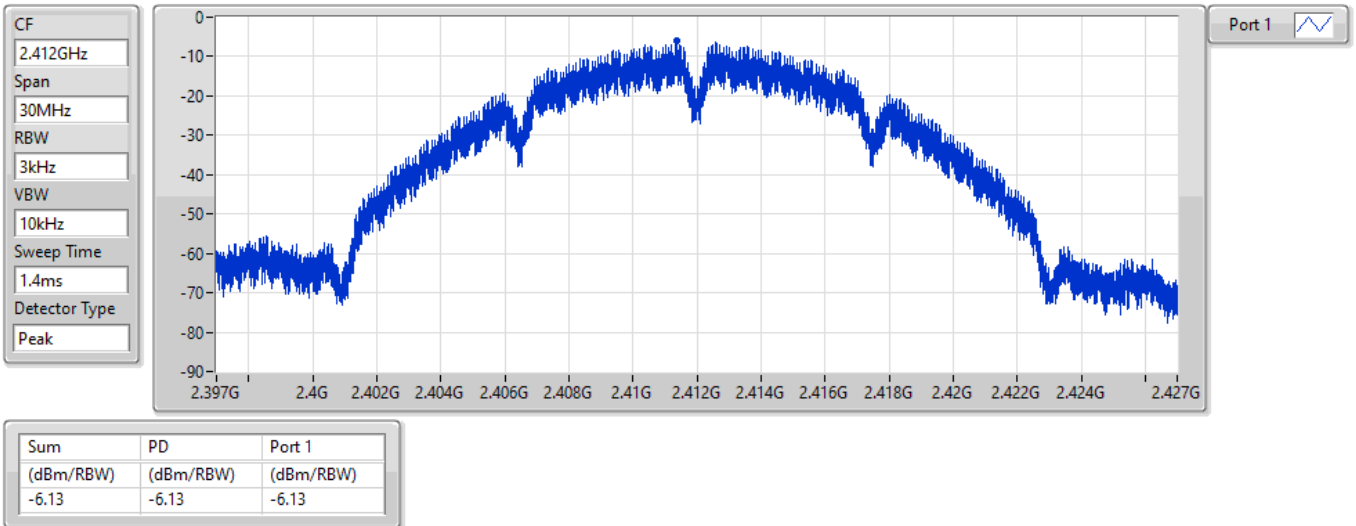
DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

802.11b_Nss1,(1Mbps)_1TX

PSD

2412MHz

26/08/2022

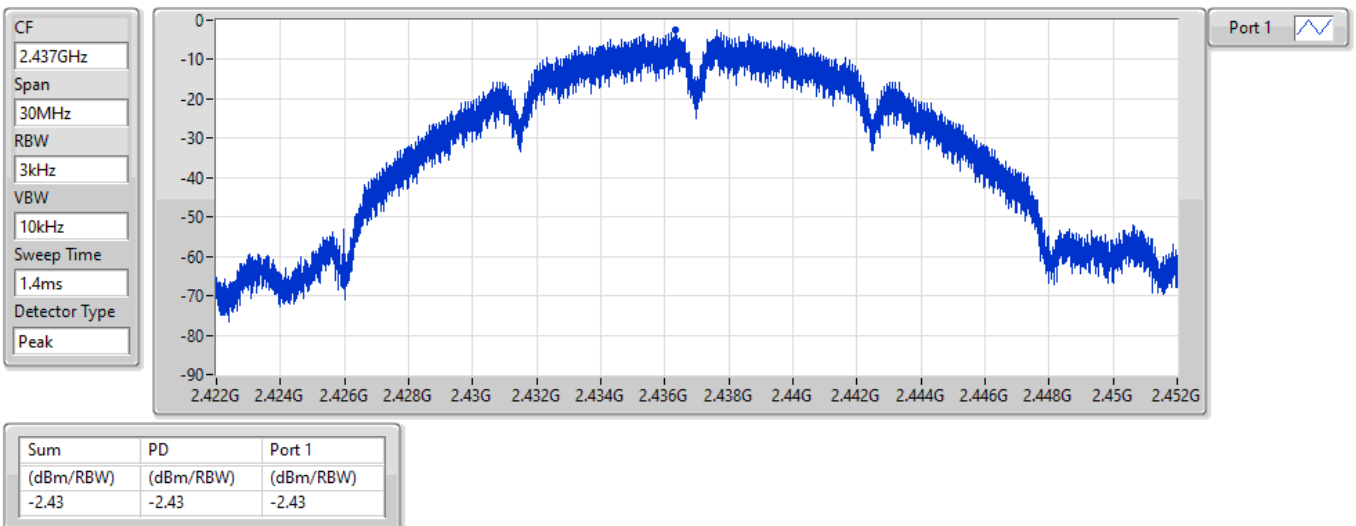


802.11b_Nss1,(1Mbps)_1TX

PSD

2437MHz

06/09/2022



802.11b_Nss1,(1Mbps)_1TX

PSD

2462MHz

06/09/2022

CF
2.462GHz

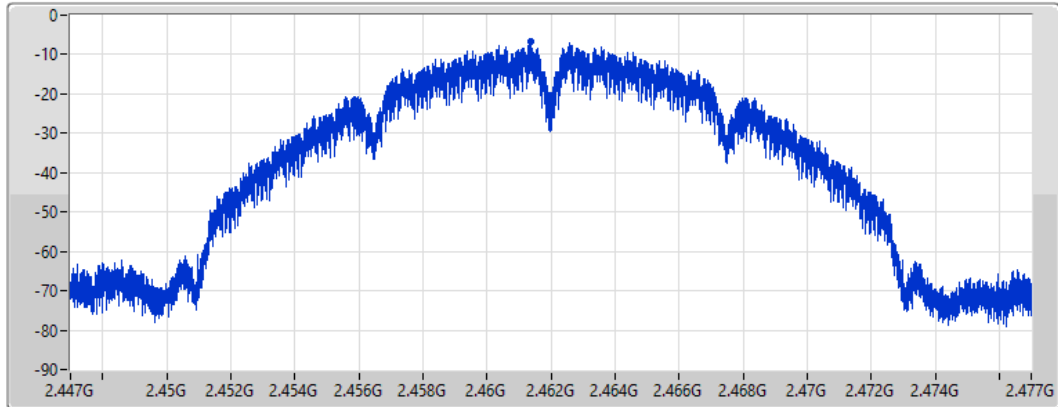
Span
30MHz

RBW
3kHz

VBW
10kHz

Sweep Time
1.4ms

Detector Type
Peak



Port 1

Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.84	-6.84	-6.84

802.11g_Nss1,(6Mbps)_1TX

PSD

2412MHz

26/08/2022

CF
2.412GHz

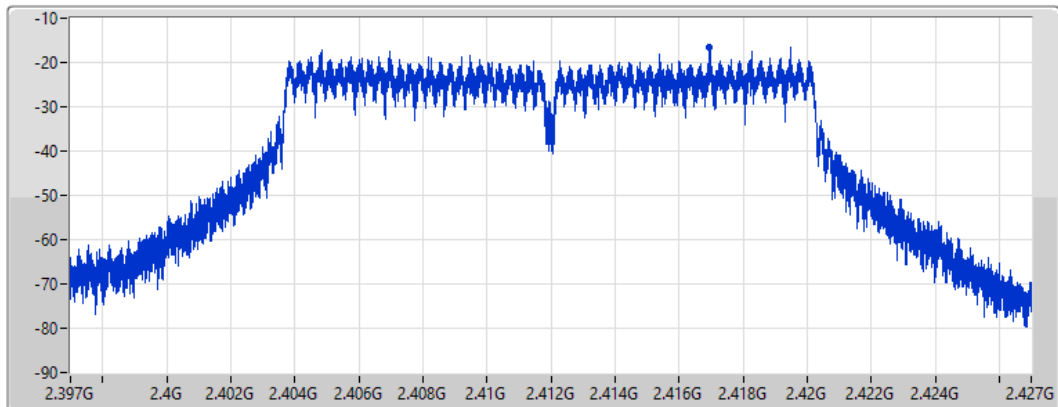
Span
30MHz

RBW
3kHz

VBW
10kHz

Sweep Time
1.4ms

Detector Type
Peak



Port 1

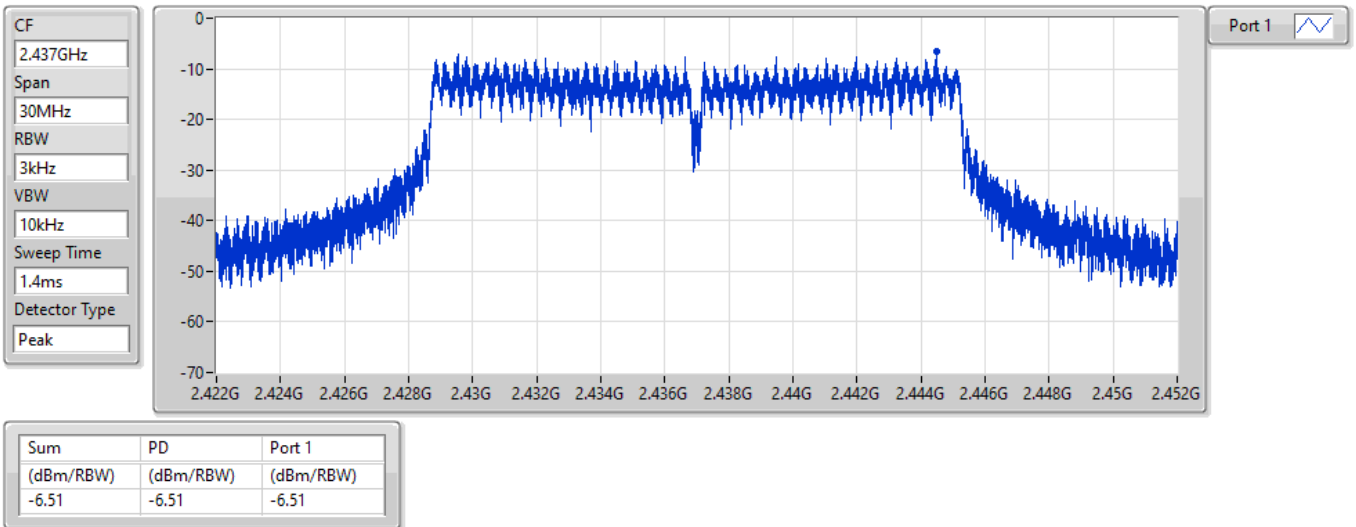
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-16.49	-16.49	-16.49

802.11g_Nss1,(6Mbps)_1TX

PSD

2437MHz

06/09/2022

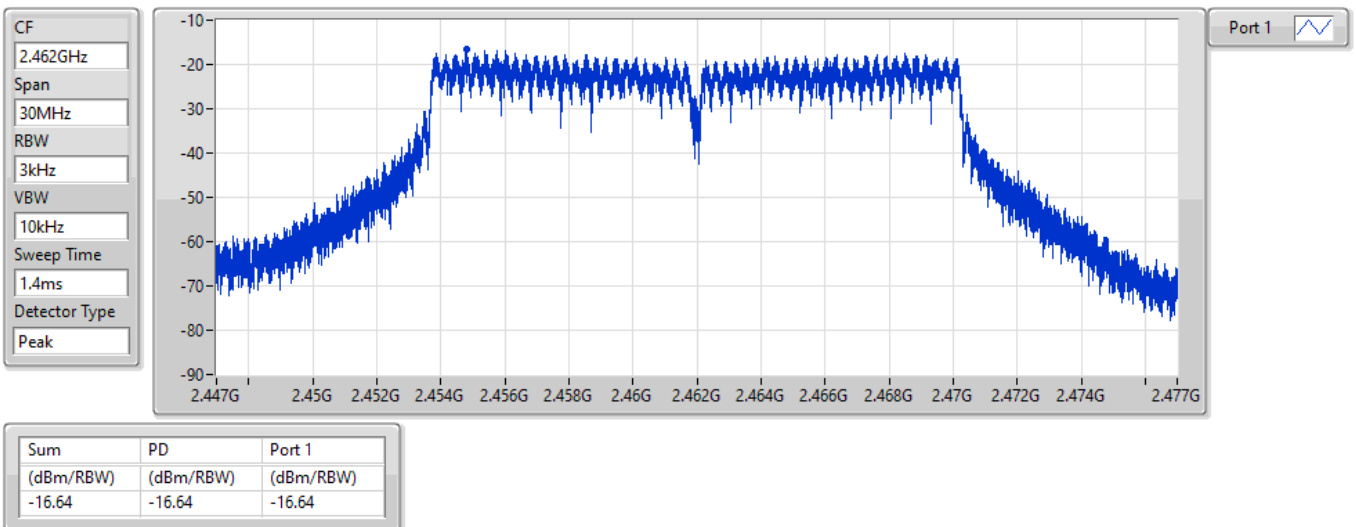


802.11g_Nss1,(6Mbps)_1TX

PSD

2462MHz

26/08/2022

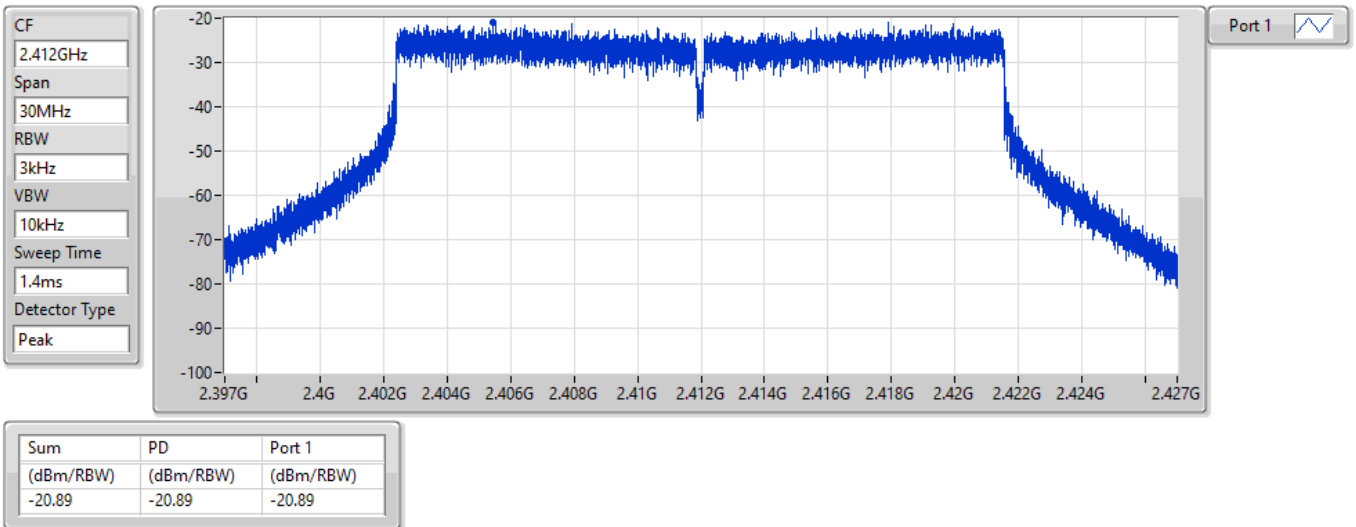


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2412MHz

26/08/2022

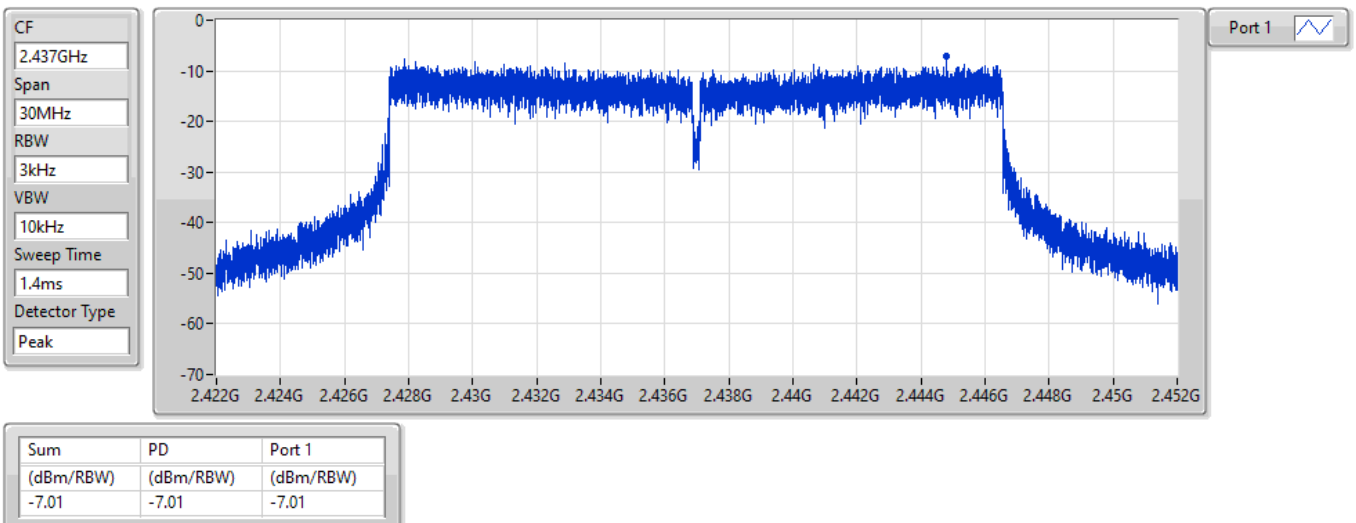


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2437MHz

06/09/2022

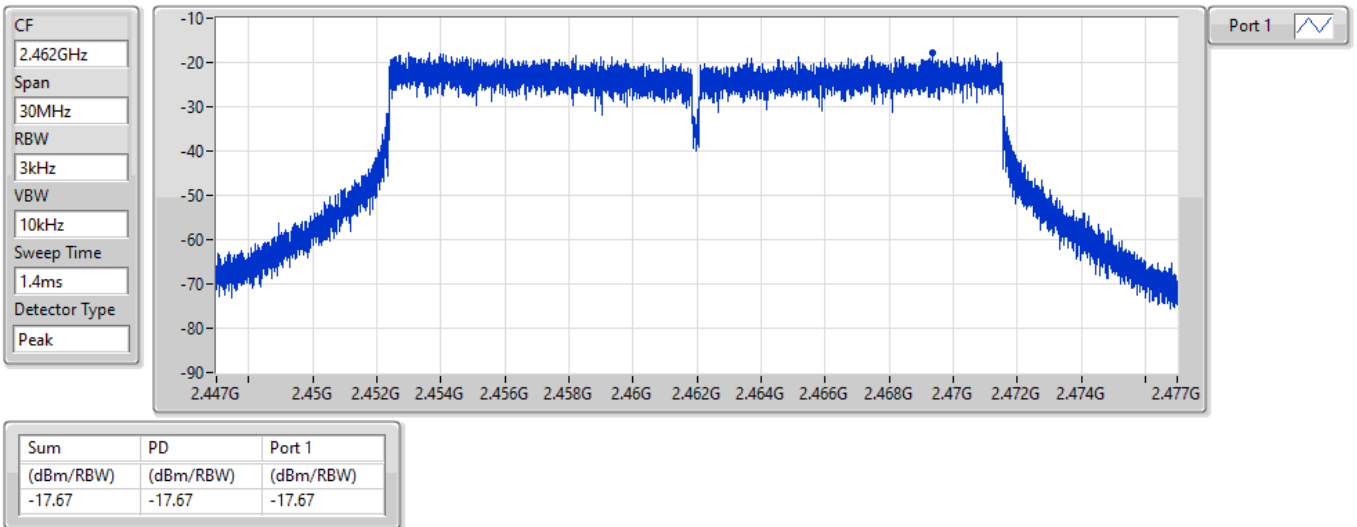


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2462MHz

26/08/2022





Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
802.11b_Nss1,(1Mbps)_1TX	-2.43
802.11g_Nss1,(6Mbps)_1TX	-6.51
802.11ax HEW20_Nss1,(MCS0)_1TX	-7.01

RBW = 3kHz;

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11b_Nss1,(1Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	13.00	-6.13	-6.13	6.00
2417MHz	Pass	13.00	-5.14	-5.14	6.00
2437MHz	Pass	13.00	-2.43	-2.43	6.00
2457MHz	Pass	13.00	-5.58	-5.58	6.00
2462MHz	Pass	13.00	-6.84	-6.84	6.00
802.11g_Nss1,(6Mbps)_1TX	-	-	-	-	-
2412MHz	Pass	13.00	-16.49	-16.49	6.00
2417MHz	Pass	13.00	-11.92	-11.92	6.00
2437MHz	Pass	13.00	-6.51	-6.51	6.00
2457MHz	Pass	13.00	-11.67	-11.67	6.00
2462MHz	Pass	13.00	-16.64	-16.64	6.00
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-
2412MHz	Pass	13.00	-20.89	-20.89	6.00
2417MHz	Pass	13.00	-15.25	-15.25	6.00
2437MHz	Pass	13.00	-7.01	-7.01	6.00
2457MHz	Pass	13.00	-14.03	-14.03	6.00
2462MHz	Pass	13.00	-17.67	-17.67	6.00

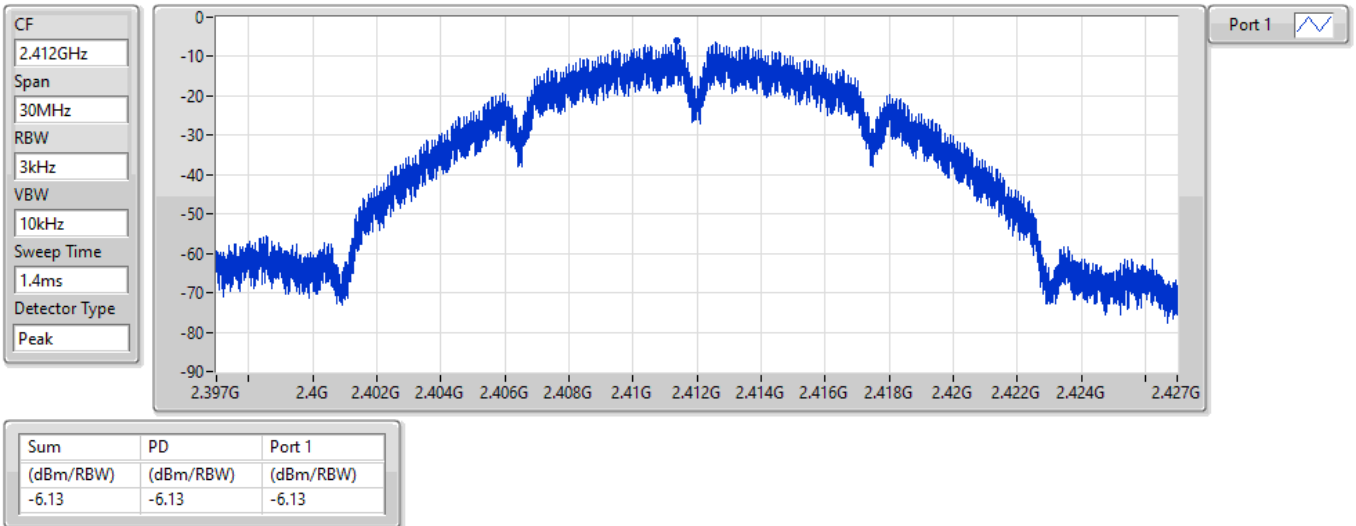
DG = Directional Gain; RBW = 3kHz;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

802.11b_Nss1,(1Mbps)_1TX

PSD

2412MHz

26/08/2022

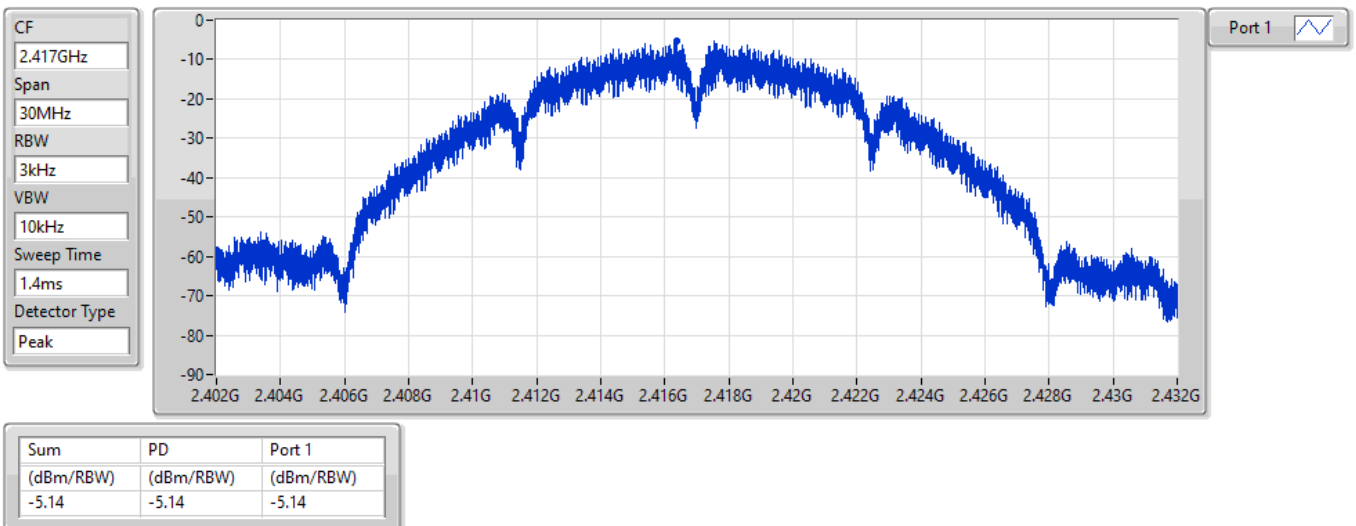


802.11b_Nss1,(1Mbps)_1TX

PSD

2417MHz

26/08/2022

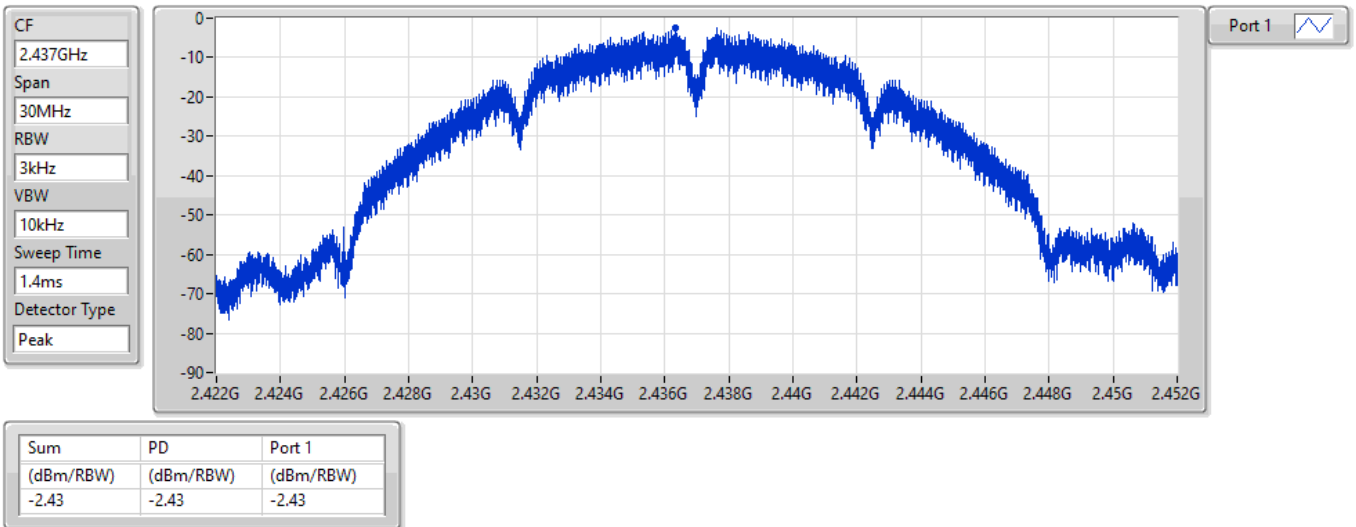


802.11b_Nss1,(1Mbps)_1TX

PSD

2437MHz

06/09/2022

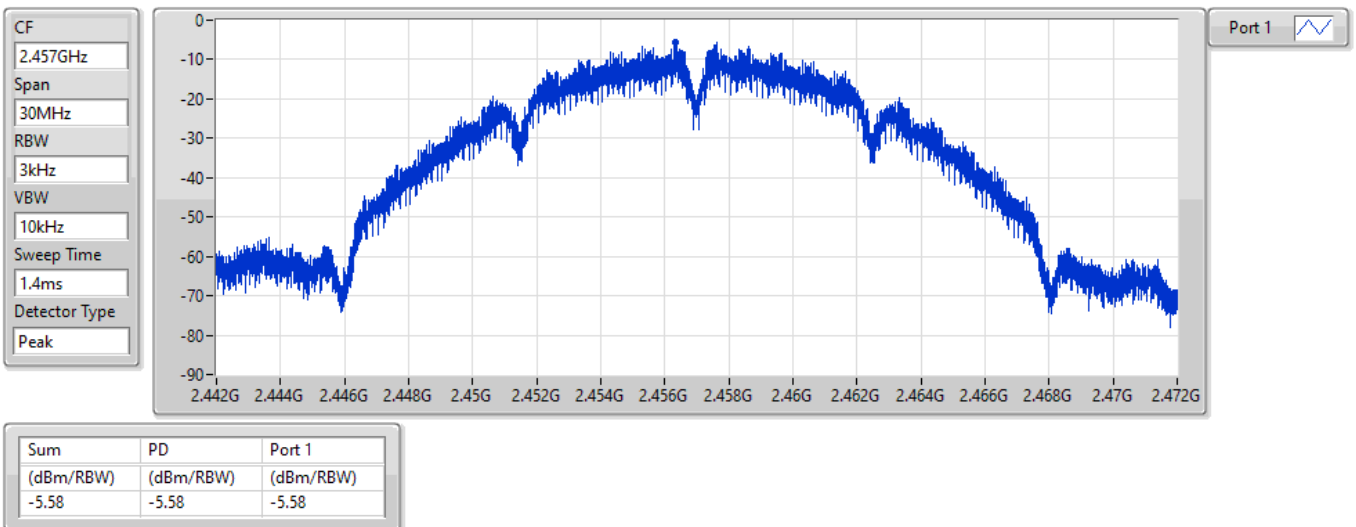


802.11b_Nss1,(1Mbps)_1TX

PSD

2457MHz

26/08/2022



802.11b_Nss1,(1Mbps)_1TX

PSD

2462MHz

06/09/2022

CF
2.462GHz

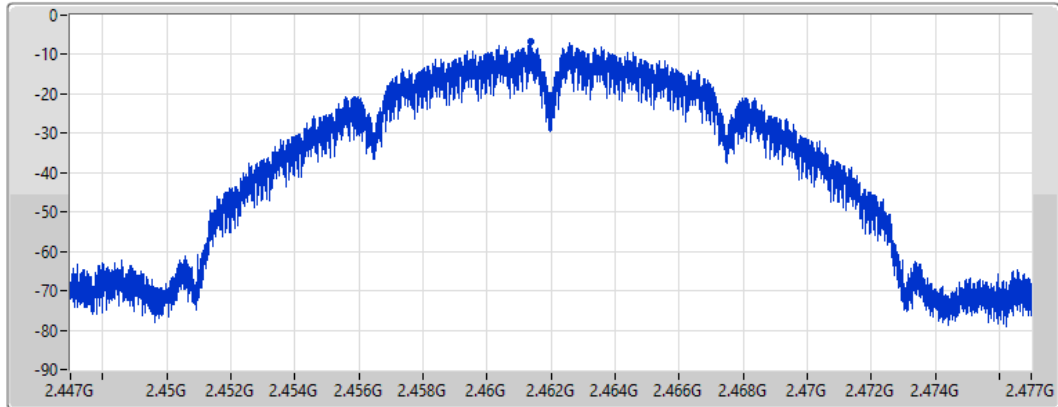
Span
30MHz

RBW
3kHz

VBW
10kHz

Sweep Time
1.4ms

Detector Type
Peak



Port 1

Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-6.84	-6.84	-6.84

802.11g_Nss1,(6Mbps)_1TX

PSD

2412MHz

26/08/2022

CF
2.412GHz

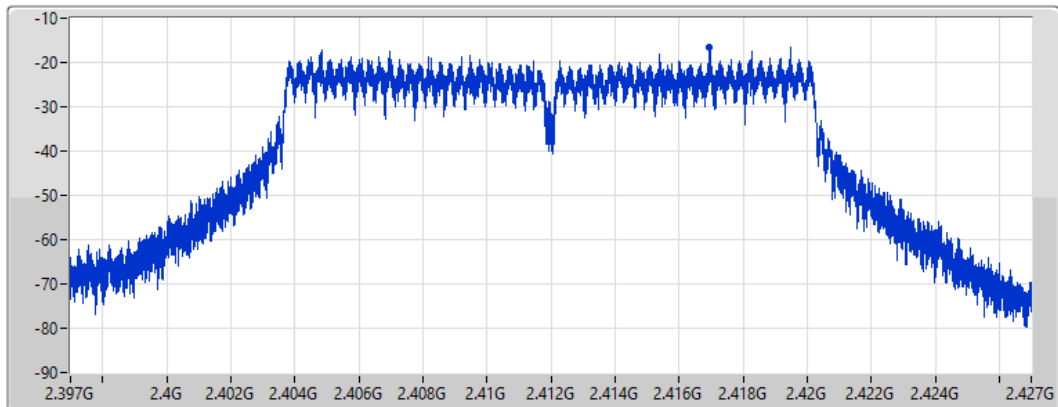
Span
30MHz

RBW
3kHz

VBW
10kHz

Sweep Time
1.4ms

Detector Type
Peak



Port 1

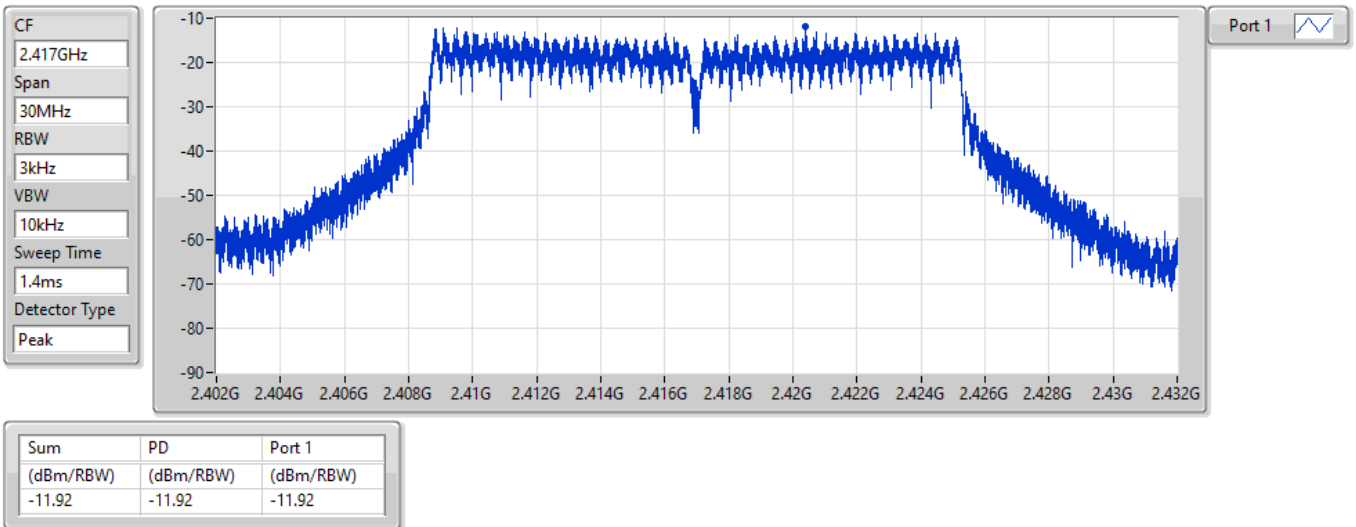
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-16.49	-16.49	-16.49

802.11g_Nss1,(6Mbps)_1TX

PSD

2417MHz

26/08/2022

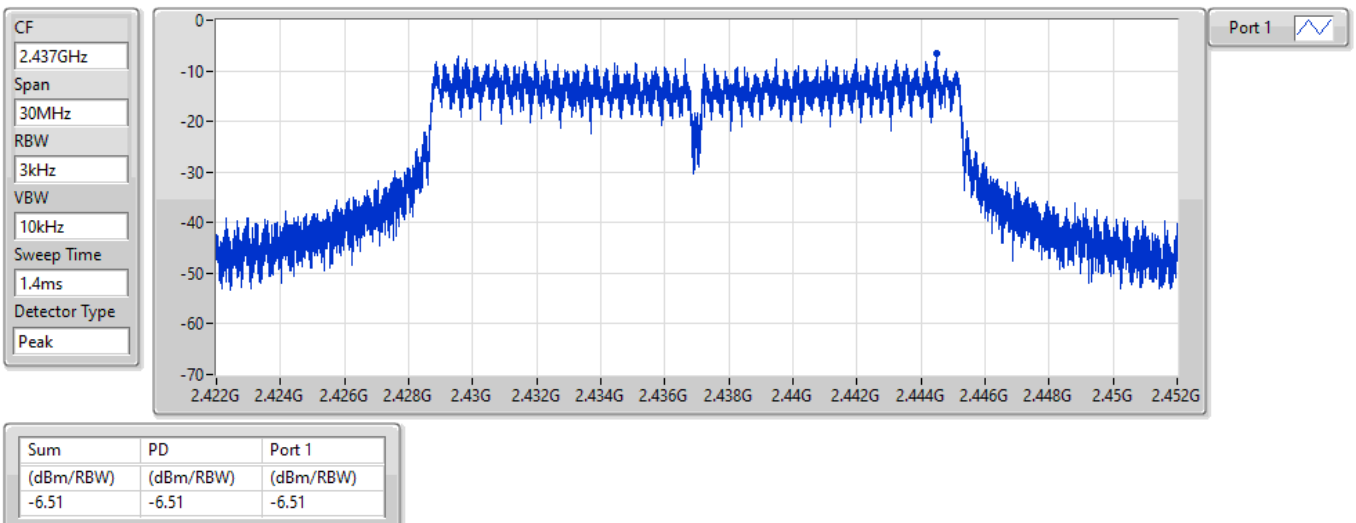


802.11g_Nss1,(6Mbps)_1TX

PSD

2437MHz

06/09/2022

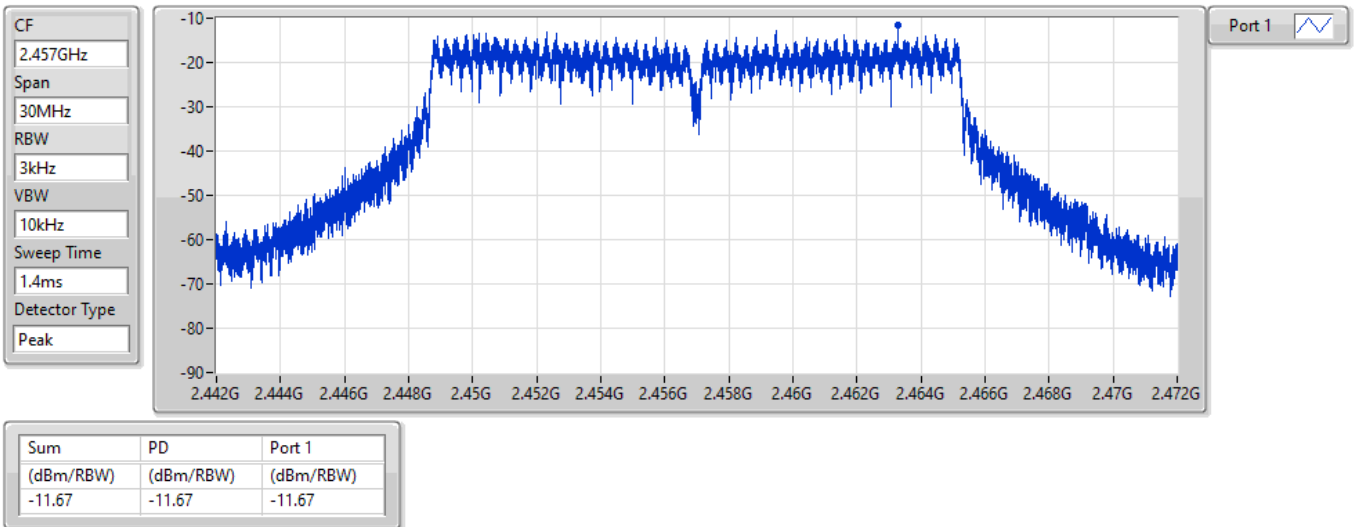


802.11g_Nss1,(6Mbps)_1TX

PSD

2457MHz

26/08/2022

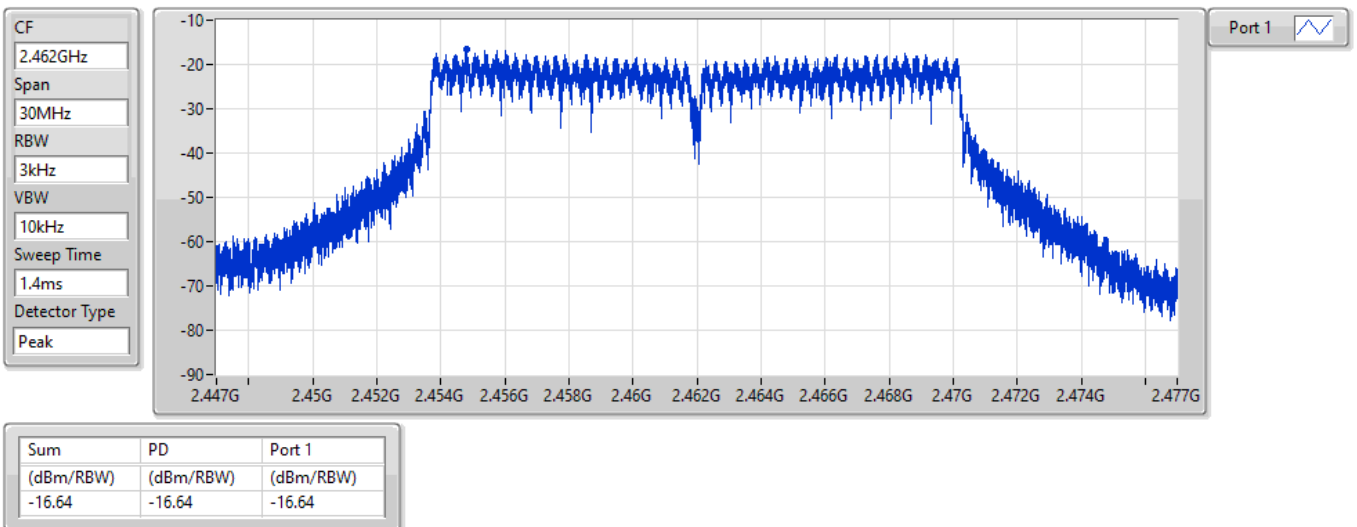


802.11g_Nss1,(6Mbps)_1TX

PSD

2462MHz

26/08/2022

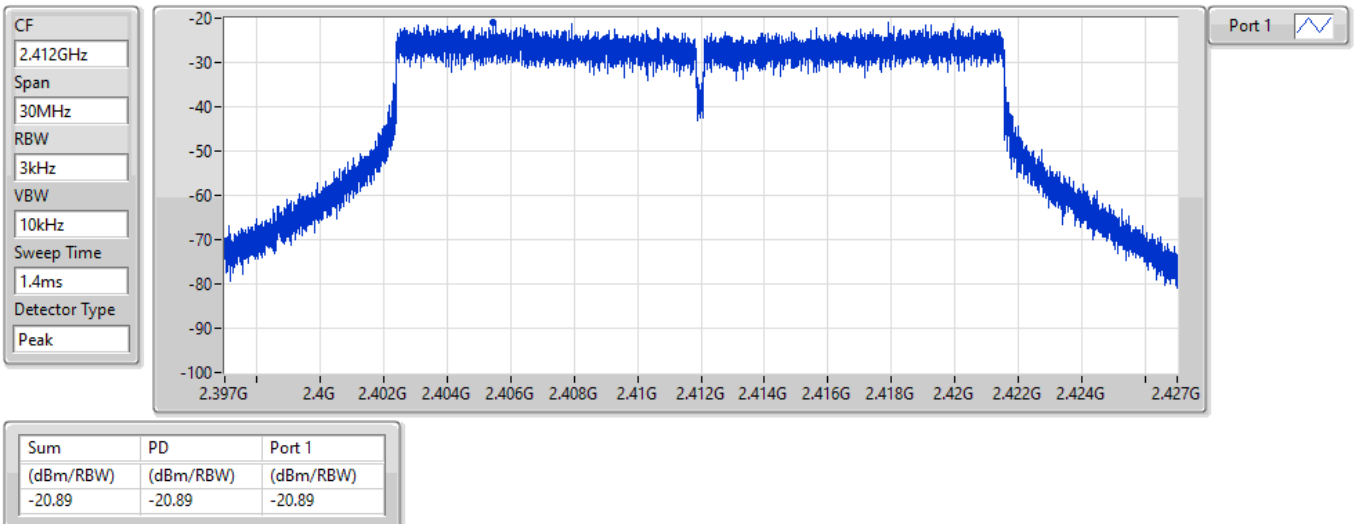


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2412MHz

26/08/2022

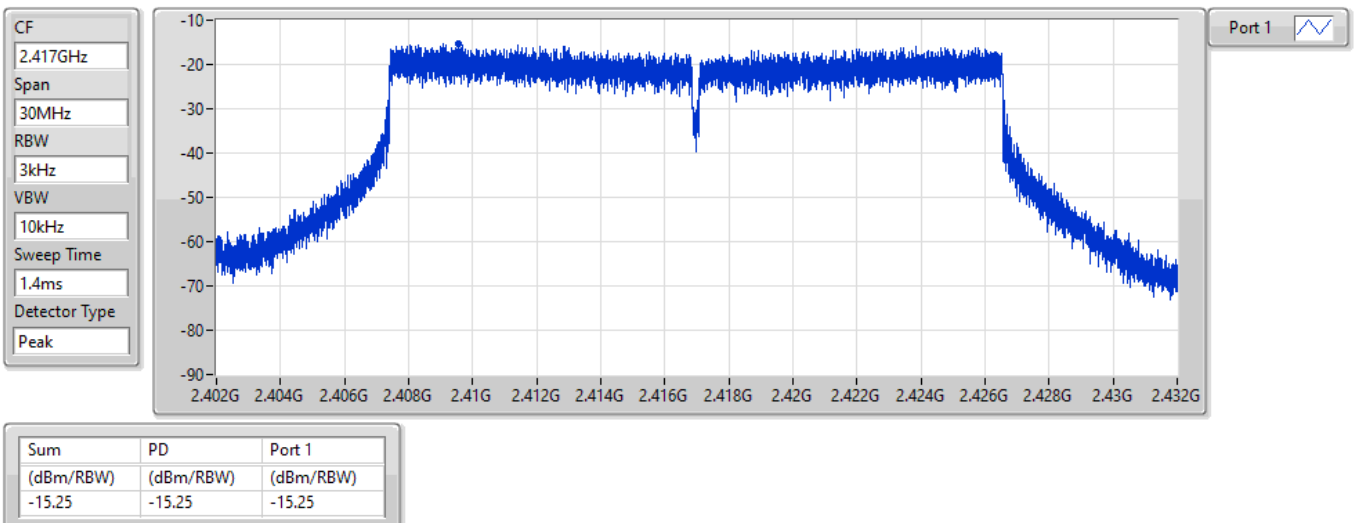


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2417MHz

26/08/2022

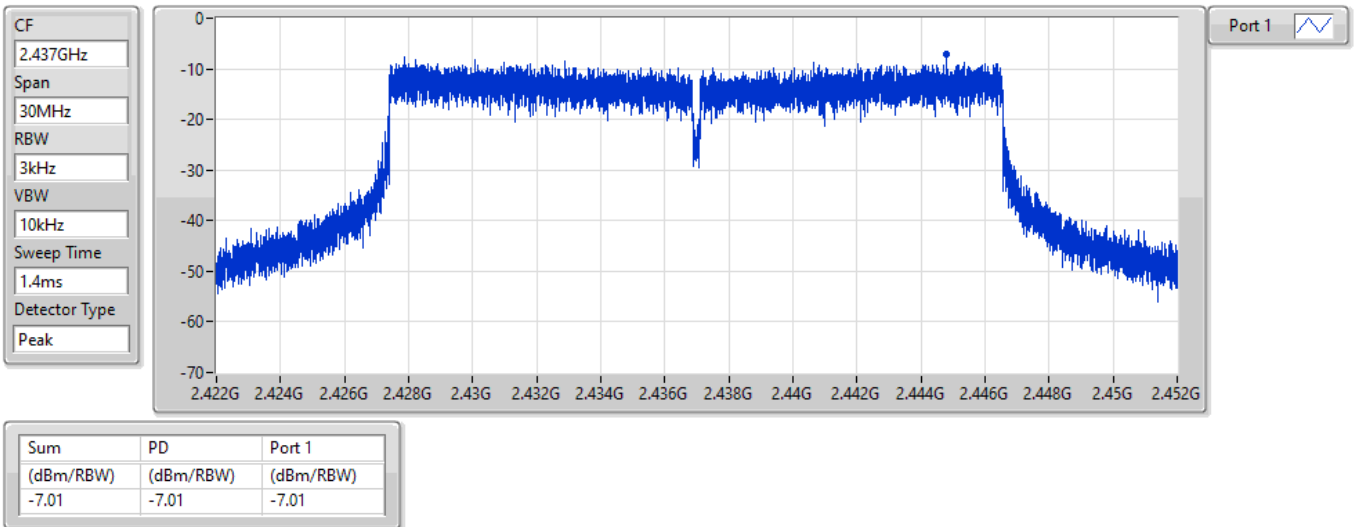


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2437MHz

06/09/2022

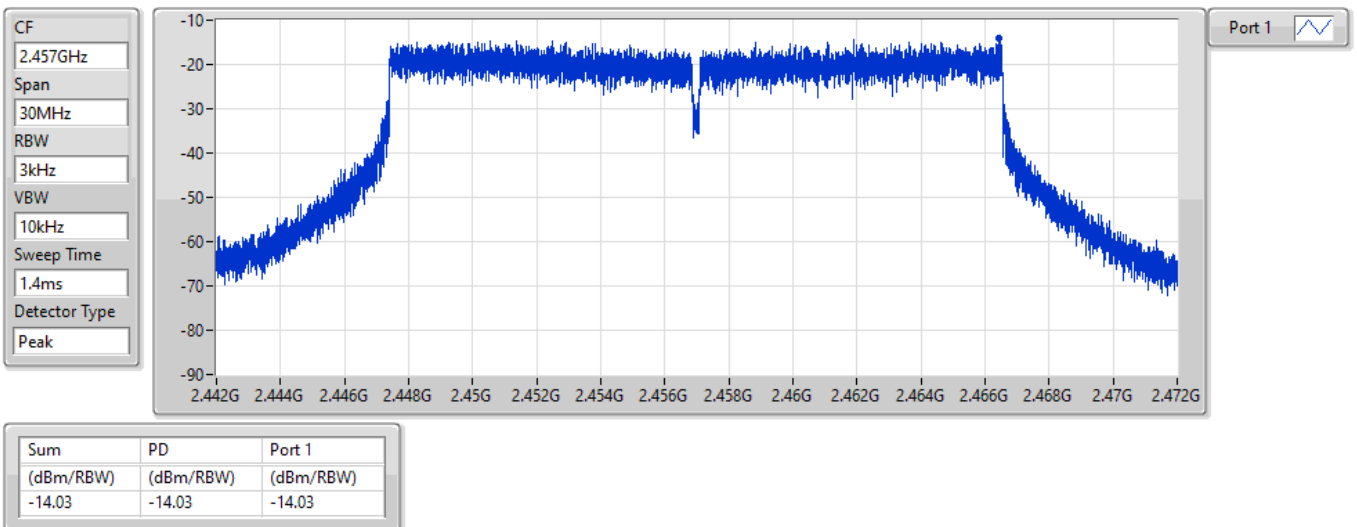


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2457MHz

26/08/2022

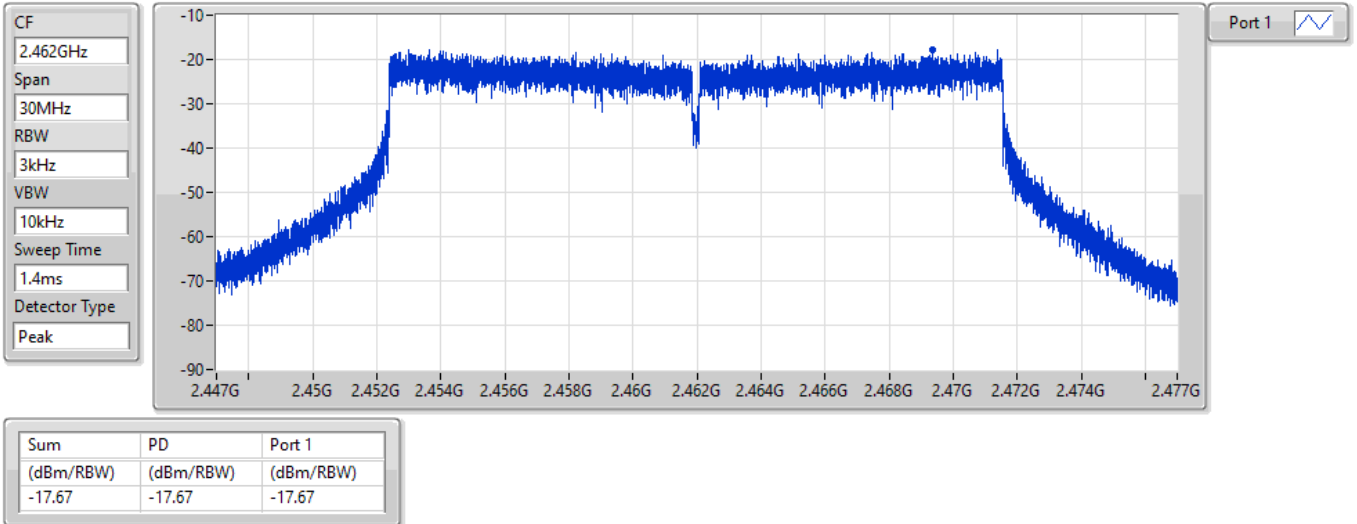


802.11ax HEW20_Nss1,(MCS0)_1TX

PSD

2462MHz

26/08/2022



**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)_1TX	Pass	2.41286G	10.44	-19.56	2.30948G	-54.05	2.39992G	-40.77	2.4G	-39.56	2.5179G	-52.39	2.56514G	-56.23	1
802.11g_Nss1,(6Mbps)_1TX	Pass	2.43941G	7.88	-22.12	2.30393G	-53.46	2.39968G	-32.08	2.4G	-31.98	2.5123G	-51.26	2.57064G	-55.91	1
802.11ax HEW20_Nss1,(MCS0)_1TX	Pass	2.44192G	7.34	-22.66	2.18642G	-53.06	2.39984G	-29.07	2.4G	-30.35	2.50462G	-50.95	21.92634G	-48.88	1
802.11b_Nss1,(1Mbps)_2TX	Pass	2.41136G	16.83	-13.17	2.12234G	-53.69	2.39848G	-34.78	2.4G	-35.01	2.50558G	-51.80	7.23514G	-47.16	2
802.11g_Nss1,(6Mbps)_2TX	Pass	2.44192G	13.43	-16.57	2.11885G	-54.40	2.39968G	-30.85	2.4G	-30.33	2.50126G	-51.56	21.60605G	-48.87	2
802.11ax HEW20_Nss1,(MCS0)_2TX	Pass	2.43574G	12.83	-17.17	2.30991G	-53.20	2.4G	-31.91	2.4G	-30.70	2.51758G	-51.66	21.84486G	-48.89	2
802.11b_Nss1,(1Mbps)_4TX	Pass	2.41086G	11.60	-18.40	2.07924G	-54.62	2.39992G	-42.01	2.4G	-40.22	2.5047G	-52.08	23.15693G	-48.37	4
802.11g_Nss1,(6Mbps)_4TX	Pass	2.45578G	12.79	-17.21	2.30408G	-53.49	2.39984G	-34.88	2.4G	-34.82	2.5087G	-51.53	21.7381G	-49.24	2
802.11ax HEW20_Nss1,(MCS0)_4TX	Pass	2.44192G	7.17	-22.83	1.63654G	-54.15	2.4G	-33.87	2.4G	-33.55	2.5123G	-51.03	21.72405G	-48.81	2