



RADIO TEST REPORT

FCC ID : QXO-AP5050
Equipment : Access Point
Brand Name : Extreme Networks
Model Name : AP5050D
Applicant : Extreme Networks, Inc.
2121 RDU Center Drive Morrisville North Carolina
United States 27560
Manufacturer : Extreme Networks, Inc.
2121 RDU Center Drive Morrisville North Carolina
United States 27560
Standard : 47 CFR FCC Part 15.407

The product was received on May 16, 2022, and testing was started from May 30, 2022 and completed on Sep. 09, 2023. 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 variant 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

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History of this test report

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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	15.407(a)	Emission Bandwidth	PASS	-
3.3	15.407(a)	Maximum Equivalent Isotropically Radiated Power (E.I.R.P.)	PASS	-
3.4	15.407(a)	Peak Power Spectral Density (E.I.R.P.)	PASS	-
3.5	15.407(b)	Unwanted Emissions	PASS	-
-	15.407(d)	Contention-Based Protocol	N/A	Standard Power AP w/o test

Note: Reference to Sporton Project No.: 251735

Conformity Assessment Condition:

1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturee who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. The measurement uncertainty please refer to each test result in the chapter "Measurement Uncertainty".

Disclaimer:

1. The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.
2. The test configuration, test mode and test software were written in this test report are declared by the manufacturer.

Reviewed by: Sam Chen**Report Producer: Vicky 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
5925-6425	ax (HEW20)	5955-6415	1-93 [24]
6525-6875		6535-6855	117-181 [17]
5925-6425	ax (HEW40)	5965-6405	3-91 [12]
6525-6875		6565-6845	123-179 [8]
5925-6425	ax (HEW80)	5985-6385	7-87 [6]
6525-6875		6625-6785	135-167 [3]
5925-6425	ax (HEW160)	6025-6345	15-79 [3]
6525-6875		6665	143 [1]

For Radio 5

Band	Mode	BWch (MHz)	Nant
5925-6425 / 6525-6875 MHz	802.11ax HEW20	20	1, 2, 4
5925-6425 / 6525-6875 MHz	802.11ax HEW20-BF	20	2, 4
5925-6425 / 6525-6875 MHz	802.11ax HEW40	40	1, 2, 4
5925-6425 / 6525-6875 MHz	802.11ax HEW40-BF	40	2, 4
5925-6425 / 6525-6875 MHz	802.11ax HEW80	80	1, 2, 4
5925-6425 / 6525-6875 MHz	802.11ax HEW80-BF	80	2, 4
5925-6425 / 6525-6875 MHz	802.11ax HEW160	160	1, 2, 4
5925-6425 / 6525-6875 MHz	802.11ax HEW160-BF	160	2, 4

For Scanning radio 1

Band	Mode	BWch (MHz)	Nant
5925-6425 / 6525-6875 MHz	802.11ax HEW20	20	2
5925-6425 / 6525-6875 MHz	802.11ax HEW40	40	2
5925-6425 / 6525-6875 MHz	802.11ax HEW80	80	2
5925-6425 / 6525-6875 MHz	802.11ax HEW160	160	2

Note:

- ♦ HEW20, HEW40, HEW80 and HEW160 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- ♦ BWch is the nominal channel bandwidth.

**1.1.2 Antenna Information**

Set	Ant.	Port							Brand Name	Model Name	Antenna Type	Connector	Gain (dBi)
		WLAN 2.4GHz (Radio 1) (Scanning Radio 1)	WLAN 5GHz (Radio 2)	WLAN 5GHz (Scanning Radio 1)	WLAN 6GHz (Radio 5)	WLAN 6GHz (Scanning Radio 1)	BT / IEEE802.15.4 (Radio 3)	GPS (Radio 4)					
1	1	1	-	-	-	-	-	-	WNC	95XEAJ15.G62	Patch	I-PEX	Note 1
	2	2	-	-	-	-	-	-	WNC	95XEAJ15.G62	Patch	I-PEX	
	3	3	-	-	-	-	-	-	WNC	95XEAJ15.G63	Patch	I-PEX	
	4	4	-	-	-	-	-	-	WNC	95XEAJ15.G63	Patch	I-PEX	
2	5	1	-	-	-	-	-	-	WNC	95XEAJ15.G64	Patch	I-PEX	
		2	-	-	-	-	-	-	WNC	95XEAJ15.G64	Patch	I-PEX	
	6	3	-	-	-	-	-	-	WNC	95XEAJ15.G65	Patch	I-PEX	
		4	-	-	-	-	-	-	WNC	95XEAJ15.G65	Patch	I-PEX	
3	7	-	1	-	-	-	-	-	WNC	95XEAJ15.G70	Patch	I-PEX	
	8	-	2	-	-	-	-	-	WNC	95XEAJ15.G70	Patch	I-PEX	
	9	-	3	-	-	-	-	-	WNC	95XEAJ15.G71	Patch	I-PEX	
	10	-	4	-	-	-	-	-	WNC	95XEAJ15.G71	Patch	I-PEX	
4	11	-	1	-	-	-	-	-	WNC	95XEAJ15.G67	Patch	I-PEX	
		-	2	-	-	-	-	-	WNC	95XEAJ15.G67	Patch	I-PEX	
	12	-	3	-	-	-	-	-	WNC	95XEAJ15.G68	Patch	I-PEX	
		-	4	-	-	-	-	-	WNC	95XEAJ15.G68	Patch	I-PEX	
5	13	-	-	1	-	-	-	-	WNC	95XEAJ15.G69	Patch	I-PEX	
		-	-	2	-	-	-	-	WNC	95XEAJ15.G69	Patch	I-PEX	
6	14	-	-	-	1	-	-	-	WNC	95XEAJ15.G72	Patch	I-PEX	
	15	-	-	-	2	-	-	-	WNC	95XEAJ15.G72	Patch	I-PEX	
	16	-	-	-	3	-	-	-	WNC	95XEAJ15.G73	Patch	I-PEX	
	17	-	-	-	4	-	-	-	WNC	95XEAJ15.G73	Patch	I-PEX	
7	18	-	-	-	1	-	-	-	WNC	95XEAJ15.G61	Patch	I-PEX	
		-	-	-	2	-	-	-	WNC	95XEAJ15.G61	Patch	I-PEX	
	19	-	-	-	3	-	-	-	WNC	95XEAJ15.G66	Patch	I-PEX	
		-	-	-	4	-	-	-	WNC	95XEAJ15.G66	Patch	I-PEX	
8	20	-	-	-	-	1	-	-	WNC	95XEAJ15.GA8	Patch	I-PEX	
		-	-	-	-	2	-	-	WNC	95XEAJ15.GA8	Patch	I-PEX	
9	21	-	-	-	-	-	1	-	WNC	95XEAJ15.G74	PCB	I-PEX	
10	22	-	-	-	-	-	-	1	WNC	95XEAJ15.G75	PCB	I-PEX	



Note 1:

Set	Ant.	Port	Antenna Gain (dBi)						Cable loss (dB)			Net Gain (dBi)		
			WLAN 2.4GHz (Radio 1)			WLAN 2.4GHz (Scanning Radio 1)			WLAN 2.4GHz (Radio 1) (Scanning Radio 1)			WLAN 2.4GHz (Radio 1) (Scanning Radio 1)		
			2412MHz	2442MHz	2472MHz	2412MHz	2442MHz	2472MHz	2412MHz	2442MHz	2472MHz	2412MHz	2442MHz	2472MHz
1	1	1	8.8	8.8	8.8	-	-	-	2.6	2.6	2.6	6.2	6.2	6.2
	2	2	8.8	8.8	8.8	-	-	-	3.0	3.0	3.0	5.8	5.8	5.8
	3	3	8.8	8.8	8.8	-	-	-	3.1	3.2	3.2	5.7	5.7	5.7
	4	4	8.8	8.8	8.8	-	-	-	4.3	4.3	4.4	4.5	4.5	4.4
2	5	1	6.2	6.2	6.2	6.2	6.2	6.2	2.6	2.6	2.6	3.6	3.6	3.6
		2	6.2	6.2	6.2	6.2	6.2	6.2	3.0	3.0	3.0	3.2	3.2	3.2
	6	3	6.2	6.2	6.2	6.2	6.2	6.2	4.0	4.0	4.0	2.2	2.2	2.2
		4	6.2	6.2	6.2	6.2	6.2	6.2	4.3	4.3	4.4	1.9	1.9	1.8

Set	Ant.	Port	Antenna Gain (dBi)								Cable loss (dB)								Net Gain (dBi)							
			WLAN 5GHz (Radio 2)				WLAN 5GHz (Scanning Radio 1)				WLAN 5GHz (Radio 2)				WLAN 5GHz (Scanning Radio 1)				WLAN 5GHz (Radio 2)				WLAN 5GHz (Scanning Radio 1)			
			UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 1	UNII 2A	UNII 2C	UNII 3
3	7	1	7.5	8.0	8.1	8.0	-	-	-	-	4.7	4.7	5.1	5.7	-	-	-	-	2.8	3.3	3.0	2.3	-	-	-	-
	8	2	7.5	8.0	8.1	8.0	-	-	-	-	4.3	4.3	5.2	4.7	-	-	-	-	3.2	3.7	2.9	3.3	-	-	-	-
	9	3	7.5	8.0	8.1	8.0	-	-	-	-	4.7	4.7	5.0	4.9	-	-	-	-	2.8	3.3	3.1	3.1	-	-	-	-
	10	4	7.5	8.0	8.1	8.0	-	-	-	-	4.7	4.7	5.6	5.4	-	-	-	-	2.8	3.3	2.5	2.6	-	-	-	-
4	11	1	5.8	6.2	6.3	6.7	-	-	-	-	4.6	4.6	5.6	6.2	-	-	-	-	1.2	1.6	0.7	0.5	-	-	-	-
		2	5.8	6.2	6.3	6.7	-	-	-	-	5.8	5.8	6.2	6.4	-	-	-	-	0	0.4	0.1	0.3	-	-	-	-
	12	3	5.8	6.2	6.3	6.7	-	-	-	-	4.8	4.8	4.9	5.0	-	-	-	-	1.0	1.4	1.4	1.7	-	-	-	-
		4	5.8	6.2	6.3	6.7	-	-	-	-	4.7	4.7	5.5	5.4	-	-	-	-	1.1	1.5	0.8	1.3	-	-	-	-
5	13	1	-	-	-	-	5.8	6.2	6.3	6.7	-	-	-	-	3.9	3.9	3.7	3.5	-	-	-	-	1.9	2.3	2.6	3.2
		2	-	-	-	-	5.8	6.2	6.3	6.7	-	-	-	-	5.0	5.0	3.9	3.9	-	-	-	-	0.8	1.2	2.4	2.8



Set	Ant.	Port	Antenna Gain (dBi)				Cable loss (dB)				Net Gain (dBi)			
			WLAN 6GHz (Radio 5)		WLAN 6GHz (Scanning Radio 1)		WLAN 6GHz (Radio 5)		WLAN 6GHz (Scanning Radio 1)		WLAN 6GHz (Radio 5)		WLAN 6GHz (Scanning Radio 1)	
			UNII 5	UNII 7	UNII 5	UNII 7	UNII 5	UNII 7	UNII 5	UNII 7	UNII 5	UNII 7	UNII 5	UNII 7
6	14	1	6.5	7.8	-	-	2.1	2.3	-	-	4.4	5.5	-	-
	15	2	6.5	7.8	-	-	3.1	2.9	-	-	3.4	4.9	-	-
	16	3	6.5	7.8	-	-	3.1	3.4	-	-	3.4	4.4	-	-
	17	4	6.5	7.8	-	-	3	3.3	-	-	3.5	4.5	-	-
7	18	1	4.9	5.5	-	-	2	2.4	-	-	2.9	3.1	-	-
		2	4.9	5.5	-	-	3.2	3	-	-	1.7	2.5	-	-
	19	3	4.9	5.5	-	-	3.1	3.4	-	-	1.8	2.1	-	-
		4	4.9	5.5	-	-	3.1	3.2	-	-	1.8	2.3	-	-
8	20	1	-	-	4.9	5.5	-	-	3.7	4.5	-	-	1.2	1
		2	-	-	4.9	5.5	-	-	4.1	5.1	-	-	0.8	0.4

Set	Ant.	Antenna Gain (dBi)	
		BT / IEEE802.15.4 (Radio 3)	GPS (Radio 4)
9	21	2.7	-
10	22	-	3

Note 2: The EUT has ten sets of antennas.

Note 3:

The antenna set 1, set 3, set 6 are used for 3dB Beam width (azimuth/elevation)-Narrow Beam: 30/70 degree.

The antenna set 2, set 4, set 7 are used for 3dB Beam width (azimuth/elevation)-Wide Beam: 70/70 degree.

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	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$
BF	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$

Ex.

Directional Gain (NSS1) formula :

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$$

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

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

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

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

Where ;

$$G1 = 10 ; G2 = 10 ; G3 = 10 ; G4 = 10 ;$$

Set 1, Set 3 and Set 6 antenna narrow band 30 degree

$$2.4G \ G1 = 6.2 \text{ dBi}; G2 = 5.8 \text{ dBi}; G3 = 5.7 \text{ dBi}; G4 = 4.5 \text{ dBi}$$

$$2.4G \ 2T1S \ DG = 9.01 \text{ dBi}; 2T2S \ DG = 6 \text{ dBi}; 4T1S \ DG = 11.55 \text{ dBi}; 4T4S \ DG = 5.55 \text{ dBi}$$

$$5G \ \text{Band1} \ G1 = 2.8 \text{ dBi}; G2 = 3.2 \text{ dBi}; G3 = 2.8 \text{ dBi}; G4 = 2.8 \text{ dBi}$$

$$5G \ \text{Band1} \ 2T1S \ DG = 6.01 \text{ dBi}; 2T2S \ DG = 3 \text{ dBi}; 4T1S \ DG = 8.92 \text{ dBi}; 4T4S \ DG = 2.90 \text{ dBi}$$

$$5G \ \text{Band2} \ G1 = 3.3 \text{ dBi}; G2 = 3.7 \text{ dBi}; G3 = 3.3 \text{ dBi}; G4 = 3.3$$

$$5G \ \text{Band2} \ 2T1S \ DG = 6.46 \text{ dBi}; 2T2S \ DG = 3.46 \text{ dBi}; 4T1S \ DG = 9.30 \text{ dBi}; 4T4S \ DG = 3.28 \text{ dBi}$$

$$5G \ \text{Band3} \ G1 = 3 \text{ dBi}; G2 = 2.9 \text{ dBi}; G3 = 3.1 \text{ dBi}; G4 = 2.5$$

$$5G \ \text{Band3} \ 2T1S \ DG = 6.06 \text{ dBi}; 2T2S \ DG = 3.06 \text{ dBi}; 4T1S \ DG = 9.10 \text{ dBi}; 4T4S \ DG = 3.08 \text{ dBi}$$

$$5G \ \text{Band4} \ G1 = 2.3 \text{ dBi}; G2 = 3.3 \text{ dBi}; G3 = 3.1 \text{ dBi}; G4 = 2.6$$

$$5G \ \text{Band4} \ 2T1S \ DG = 5.82 \text{ dBi}; 2T2S \ DG = 2.83 \text{ dBi}; 4T1S \ DG = 8.85 \text{ dBi}; 4T4S \ DG = 2.84 \text{ dBi}$$

$$6G \ \text{UNII-5} \ G1 = 4.4 \text{ dBi}; G2 = 3.4 \text{ dBi}; G3 = 3.4 \text{ dBi}; G4 = 3.5 \text{ dBi}$$

$$4T1S \ DG = 9.71 \text{ dBi}; 2T2S \ DG = 4.4 \text{ dBi}; 4T4S \ DG = 4.4 \text{ dBi}$$

$$6G \ \text{UNII-7} \ G1 = 5.5 \text{ dBi}; G2 = 4.9 \text{ dBi}; G3 = 4.4 \text{ dBi}; G4 = 4.5 \text{ dBi}$$

$$4T1S \ DG = 10.86 \text{ dBi}; 2T2S \ DG = 5.5 \text{ dBi}; 4T4S \ DG = 5.5 \text{ dBi}$$



Set 2, Set 4 and Set 7 antenna wide band 70 degree

2.4G G1 = 3.6 dBi; G2 = 3.2 dBi; G3 = 2.2 dBi; G4 = 1.9 dBi

2.4G 2T1S DG= 9.01 dBi; 2T2S DG= 6 dBi; 4T1S DG= 11.55 dBi; 4T4S DG= 5.55 dBi

5G Band1 G1 = 1.2 dBi; G2 = 0 dBi; G3 = 1 dBi; G4 = 1.1 dBi

5G Band1 2T1S DG= 3.63 dBi; 2T2S DG= 0.64 dBi; 4T1S DG= 6.86 dBi; 4T4S DG= 0.85 dBi

5G Band2 G1 = 1.6 dBi; G2 = 0.4 dBi; G3 = 1.4 dBi; G4 = 1.5 dBi

5G Band2 2T1S DG= 4.03 dBi; 2T2S DG= 1.04 dBi; 4T1S DG= 7.26 dBi; 4T4S DG= 1.25 dBi

5G Band3 G1 = 0.7 dBi; G2 = 0.1 dBi; G3 = 1.4 dBi; G4 = 0.8 dBi

5G Band3 2T1S DG= 3.42 dBi; 2T2S DG= 0.41 dBi; 4T1S DG= 6.78 dBi; 4T4S DG= 0.77 dBi

5G Band4 G1 = 0.5 dBi; G2 = 0.3 dBi; G3 = 1.7 dBi; G4 = 1.3 dBi

5G Band4 2T1S DG= 3.41 dBi; 2T2S DG= 0.40 dBi; 4T1S DG= 6.99 dBi; 4T4S DG= 0.99 dBi

6G UNII-5 G1= 2.9 dBi ; G2= 1.7 dBi ; G3= 1.8 dBi ; G4= 1.8 dBi

4T1S DG= 8.08dBi ;2T2S DG= 2.9dBi ;4T4S DG= 2.9dBi

6G UNII-7 G1= 3.1 dBi ; G2= 2.5 dBi ; G3= 2.1 dBi ; G4= 2.3 dBi

4T1S DG= 8.53dBi ;2T2S DG= 3.1dBi ;4T4S DG= 3.1dBi

Set 5 and Set 8 antenna scanning radio

5G Band1 G1 = 1.9 dBi; G2 = 0.8 dBi

5G Band1 2T1S DG= 4.38 dBi; 2T2S DG= 1.38 dBi

5G Band2 G1 = 2.3 dBi; G2 = 1.2 dBi

5G Band2 2T1S DG= 4.78 dBi; 2T2S DG= 1.78 dBi

5G Band3 G1 = 2.6 dBi; G2 = 2.4 dBi

5G Band3 2T1S DG= 5.51 dBi; 2T2S DG= 2.50 dBi

5G Band4 G1 = 3.2 dBi; G2 = 2.8 dBi

5G Band4 2T1S DG= 6.01 dBi; 2T2S DG= 3.00 dBi

6G UNII-5 G1= 1.2 dBi ; G2= 0.8 dBi ;

2T2S DG= 1.2dBi

6G UNII-7 G1= 1 dBi ; G2= 0.4 dBi ;

2T2S DG= 1dBi

**For 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 Scanning Radio 1**For 2.4GHz:****For IEEE 802.11b/g/n/VHT/ax mode (4TX/4RX):**

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

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

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

Port 1, Port 2 can be used as transmitting/receiving antenna.

Port 1, Port 2 could transmit/receive simultaneously.

For 6GHz UNII 5, 7:**For IEEE 802.11ax mode (2TX/2RX):**

Port 1, Port 2 can be used as transmitting/receiving antenna.

Port 1, Port 2 could transmit/receive simultaneously.

For Radio 2**For 5GHz UNII 1~3:****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 Radio 3**Bluetooth / IEEE802.15.4 (1TX):**

Only Port 1 can be used as transmitting antenna.

For Radio 4**GPS (1RX):**

Only Port 1 can be used as receiving antenna.



For Radio 5

For 6GHz UNII 5, 7:

For IEEE 802.11ax 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.

**1.1.3 Mode Test Duty Cycle****For Scanning Radio 1****For Set 8 antenna with wide beam 70 degree**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ax HEW20	0.968	0.14	788.75u	3k
802.11ax HEW40	0.942	0.26	435u	3k
802.11ax HEW80	0.9	0.46	245u	10k
802.11ax HEW160	0.853	0.69	162.188u	10k

For Radio 5**For Set 6 antenna with narrow beam 30 degree**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ax HEW20	1,(M0)	0	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW40	1,(M0)	0	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW80	1,(M0)	0	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW160	1,(M0)	0	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)

For Set 7 antenna with wide beam 70 degree

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ax HEW20	1,(M0)	0	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW40	1,(M0)	0	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW80	1,(M0)	0	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW160	1,(M0)	0	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)

Note:

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

**1.1.4 EUT Operational Condition**

EUT Power Type	From PoE			
Beamforming Function	☒	With beamforming	☐	Without beamforming
	The product has beamforming function for 11n/VHT/11ax in radio 1 2.4GHz, 11n/11ac/11ax in radio 2 5GHz and 11ax in Radio 5 6GHz.			
Device Type	☐	Indoor Access Point	☐	Subordinate
	☐	Indoor Client	☒	Standard Power Access Point
	☐	Dual Client	☐	Standard Client
	☐	Fixed Client		
Condition of EUT	☐	Indoor	☒	Outdoor
Channel Puncturing Function	☐	Supported	☒	Unsupported
Support RU	☒	Full RU	☐	Partial RU
Test Software Version	Mtool (v3.2.1.5)			

Note: The above information was declared by manufacturer.

1.1.5 Table for EUT support function

Function
AP
Bridge
Mesh

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	6GHz	Scanning radio (WLAN 2.4GHz 4TX / 5GHz 2TX / 6GHz 2TX)	Bluetooth / IEEE802.15.4	GPS
R1	V (AP, Bridge, Mesh)	-	-	V (AP, Bridge, Mesh for 2.4GHz, AP for 5GHz UNII 1~3, AP for 6GHz UNII 5, 7)	-	-
R2	-	V (AP for UNII 1~3 / Bridge, Mesh for UNII 1, 3)	-	-	-	-
R3	-	-	-	-	V	-
R4	-	-	-	-	-	V
R5	-	-	V (AP for UNII 5, 7)	-	-	-

Note: The above information was declared by manufacturer.

**1.1.7 Table for Permissive Change**

This product is an extension of original one reported under Sporton project number: 251735-01

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

Modifications	Performance Checking
Adding 6GHz function (UNII 5, UNII 7) for the device.	It was performed for all tests.



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 15.407
- ♦ ANSI C63.10-2013
- ♦ FCC KDB 789033 D02 v02r01

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

- ♦ FCC KDB 987594 D02 v02r01
- ♦ FCC KDB 662911 D01 v02r01
- ♦ FCC KDB 412172 D01 v01r01
- ♦ FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

Testing Location Information	
Test Lab. : Sporton International Inc. Hsinchu Laboratory	
Hsinchu	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)
(TAF: 3787)	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	TH02-CB	KJ Chang	24.2-25.1 / 51-66	Sep. 01, 2023~ Sep. 05, 2023
Radiated below 1GHz	10CH01-CB	Joe Chu	22~23 / 57~58	May 30, 2022~ Sep. 12, 2022
Radiated above 1GHz	03CH01-CB	Eason Chen	22.8~23 / 58~61	May 05, 2023~ Sep. 09, 2023
	03CH04-CB	Eason Chen	23-24 / 56-59	May 05, 2023~ Sep. 09, 2023
AC Conduction	CO01-CB	Allen Chung	23~24 / 56~57	May 30, 2022

Note:

The tested sample of the all test items (excepting AC Power-line Conducted Emissions and Unwanted Emissions below 1GHz) was received on May 05, 2023.



1.4 Measurement Uncertainty

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

Test Date: After Mar. 10, 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%

Test Date: Before Nov. 04, 2022

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%

Test Date: Before Jun 01, 2023

Test Items	Uncertainty	Remark
Radiated Emission (1GHz ~ 18GHz)	5.2 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.7 dB	Confidence levels of 95%

Test Date: After May 31, 2023

Test Items	Uncertainty	Remark
Radiated Emission (1GHz ~ 18GHz)	4.1 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%
Conducted Emission	3.1 dB	Confidence levels of 95%
Output Power Measurement	0.8 dB	Confidence levels of 95%
Power Density Measurement	3.1 dB	Confidence levels of 95%
Bandwidth Measurement	2.2%	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

For Scanning Radio 1

For Set 8 antenna with wide beam 70 degree

Mode	Power Setting
802.11ax HEW20_Nss2,(MCS0)_2TX	-
5955MHz	67
6195MHz	65
6415MHz	68
6535MHz	65
6695MHz	67
6855MHz	68
802.11ax HEW40_Nss2,(MCS0)_2TX	-
5965MHz	66
6205MHz	65
6405MHz	69
6565MHz	65
6685MHz	65
6845MHz	66
802.11ax HEW80_Nss2,(MCS0)_2TX	-
5985MHz	68
6225MHz	67
6385MHz	68
6625MHz	66
6705MHz	66
6785MHz	66
802.11ax HEW160_Nss2,(MCS0)_2TX	-
6025MHz	68
6185MHz	66
6345MHz	68
6665MHz	67



For Radio 5
For Set 6 antenna with narrow beam 30 degree
For Non-beamforming mode

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5955MHz	94
6195MHz	95
6415MHz	97
6535MHz	94
6695MHz	96
6855MHz	94
802.11ax HEW40_Nss1,(MCS0)_1TX	-
5965MHz	87
6205MHz	102
6405MHz	98
6565MHz	98
6685MHz	100
6845MHz	94
802.11ax HEW80_Nss1,(MCS0)_1TX	-
5985MHz	86
6225MHz	100
6385MHz	98
6625MHz	96
6705MHz	96
6785MHz	98
802.11ax HEW160_Nss1,(MCS0)_1TX	-
6025MHz	82
6185MHz	99
6345MHz	96
6665MHz	96
802.11ax HEW20_Nss2,(MCS0)_2TX	-
5955MHz	91
6195MHz	89
6415MHz	90
6535MHz	90
6695MHz	88
6855MHz	88
802.11ax HEW40_Nss2,(MCS0)_2TX	-
5965MHz	83
6205MHz	89
6405MHz	91



Mode	Power Setting
6565MHz	88
6685MHz	88
6845MHz	85
802.11ax HEW80_Nss2,(MCS0)_2TX	-
5985MHz	83
6225MHz	91
6385MHz	92
6625MHz	88
6705MHz	88
6785MHz	89
802.11ax HEW160_Nss2,(MCS0)_2TX	-
6025MHz	81
6185MHz	91
6345MHz	92
6665MHz	90
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5955MHz	77
6195MHz	76
6415MHz	76
6535MHz	72
6695MHz	73
6855MHz	72
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5965MHz	76
6205MHz	72
6405MHz	78
6565MHz	74
6685MHz	75
6845MHz	74
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5985MHz	77
6225MHz	76
6385MHz	78
6625MHz	73
6705MHz	74
6785MHz	77
802.11ax HEW160_Nss1,(MCS0)_4TX	-
6025MHz	77
6185MHz	77



Mode	Power Setting
6345MHz	78
6665MHz	77
802.11ax HEW20_Nss4,(MCS0)_4TX	-
5955MHz	77
6195MHz	76
6415MHz	77
6535MHz	76
6695MHz	76
6855MHz	75
802.11ax HEW40_Nss4,(MCS0)_4TX	-
5965MHz	77
6205MHz	73
6405MHz	79
6565MHz	75
6685MHz	76
6845MHz	75
802.11ax HEW80_Nss4,(MCS0)_4TX	-
5985MHz	78
6225MHz	78
6385MHz	79
6625MHz	75
6705MHz	75
6785MHz	78
802.11ax HEW160_Nss4,(MCS0)_4TX	-
6025MHz	79
6185MHz	78
6345MHz	80
6665MHz	78

**For Beamforming mode**

Mode	Power Setting
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5955MHz	53
6195MHz	53
6415MHz	52
6535MHz	51
6695MHz	51
6855MHz	51
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5965MHz	52
6205MHz	52
6405MHz	54
6565MHz	51
6685MHz	52
6845MHz	51
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5985MHz	53
6225MHz	52
6385MHz	53
6625MHz	50
6705MHz	50
6785MHz	53
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-
6025MHz	53
6185MHz	52
6345MHz	53
6665MHz	52



**For Set 7 antenna with wide beam 70 degree
For Non-beamforming mode**

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5955MHz	73
6195MHz	72
6415MHz	73
6535MHz	73
6695MHz	71
6855MHz	70
802.11ax HEW40_Nss1,(MCS0)_1TX	-
5965MHz	75
6205MHz	76
6405MHz	76
6565MHz	71
6685MHz	75
6845MHz	68
802.11ax HEW80_Nss1,(MCS0)_1TX	-
5985MHz	72
6225MHz	74
6385MHz	74
6625MHz	72
6705MHz	71
6785MHz	72
802.11ax HEW160_Nss1,(MCS0)_1TX	-
6025MHz	73
6185MHz	72
6345MHz	78
6665MHz	73
802.11ax HEW20_Nss2,(MCS0)_2TX	-
5955MHz	63
6195MHz	61
6415MHz	62
6535MHz	62
6695MHz	62
6855MHz	61
802.11ax HEW40_Nss2,(MCS0)_2TX	-
5965MHz	64
6205MHz	63
6405MHz	64
6565MHz	61



Mode	Power Setting
6685MHz	61
6845MHz	59
802.11ax HEW80_Nss2,(MCS0)_2TX	-
5985MHz	64
6225MHz	64
6385MHz	64
6625MHz	62
6705MHz	62
6785MHz	62
802.11ax HEW160_Nss2,(MCS0)_2TX	-
6025MHz	63
6185MHz	63
6345MHz	66
6665MHz	63
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5955MHz	50
6195MHz	49
6415MHz	49
6535MHz	48
6695MHz	49
6855MHz	48
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5965MHz	50
6205MHz	49
6405MHz	51
6565MHz	48
6685MHz	49
6845MHz	48
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5985MHz	50
6225MHz	50
6385MHz	50
6625MHz	46
6705MHz	47
6785MHz	50
802.11ax HEW160_Nss1,(MCS0)_4TX	-
6025MHz	51
6185MHz	50
6345MHz	52



Mode	Power Setting
6665MHz	50
802.11ax HEW20_Nss4,(MCS0)_4TX	-
5955MHz	50
6195MHz	49
6415MHz	49
6535MHz	48
6695MHz	49
6855MHz	48
802.11ax HEW40_Nss4,(MCS0)_4TX	-
5965MHz	51
6205MHz	52
6405MHz	53
6565MHz	50
6685MHz	51
6845MHz	48
802.11ax HEW80_Nss4,(MCS0)_4TX	-
5985MHz	51
6225MHz	50
6385MHz	51
6625MHz	47
6705MHz	48
6785MHz	51
802.11ax HEW160_Nss4,(MCS0)_4TX	-
6025MHz	51
6185MHz	50
6345MHz	51
6665MHz	50

**For Beamforming mode**

Mode	Power Setting
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5955MHz	25
6195MHz	25
6415MHz	25
6535MHz	23
6695MHz	23
6855MHz	24
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5965MHz	25
6205MHz	25
6405MHz	26
6565MHz	23
6685MHz	25
6845MHz	23
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5985MHz	25
6225MHz	25
6385MHz	25
6625MHz	23
6705MHz	22
6785MHz	25
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-
6025MHz	23
6185MHz	23
6345MHz	25
6665MHz	23

Note:

- ♦ 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	Normal Link(WLAN, GPS), CTX(Bluetooth, IEEE802.15.4)
1	EUT_R1 (2.4GHz+Set 1)+R2 (5GHz+Set 3)+R5 (6GHz+Set 6)+R3 (BT)+R4 (GPS)+PoE
2	EUT_R1 (2.4GHz+Set 1)+R2 (5GHz+Set 3)+R5 (6GHz+Set 6)+R3 (802.15.4)+R4 (GPS)+PoE
Mode 1 has been evaluated to be the worst case between Mode 1~2, thus measurement for Mode 3~4 will follow this same test mode.	
3	EUT_Scanning R1 (5GHz+Set 5)+R2 (5GHz+Set 3)+R5 (6GHz+Set 6)+R3 (BT)+R4 (GPS)+PoE
4	EUT_Scanning R1 (6GHz+Set 8)+R2 (5GHz+Set 3)+R5 (6GHz+Set 6)+R3 (BT)+R4 (GPS)+PoE
5	EUT_R1 (2.4GHz+Set 2)+R2 (5GHz+Set 4)+R5 (6GHz+Set 7)+R3 (BT)+R4 (GPS)+PoE
6	EUT_R1 (2.4GHz+Set 2)+R2 (5GHz+Set 4)+R5 (6GHz+Set 7)+R3 (802.15.4)+R4 (GPS)+PoE
Mode 5 has been evaluated to be the worst case between Mode 5~6, thus measurement for Mode 7~8 will follow this same test mode.	
7	EUT_Scanning R1 (5GHz+Set 5)+R2 (5GHz+Set 4)+R5 (6GHz+Set 7)+R3 (BT)+R4 (GPS)+PoE
8	EUT_Scanning R1 (6GHz+Set 8)+R2 (5GHz+Set 4)+R5 (6GHz+Set 7)+R3 (BT)+R4 (GPS)+PoE
For operating mode 5 is the worst case and it was record in this test report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Maximum Equivalent Isotopically Radiated Power (E.I.R.P.) Peak Power Spectral Density (E.I.R.P.)
Test Condition	Conducted measurement at transmit chains
1	Refer to note 1 for detail operating mode



The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link(WLAN, GPS), CTX(Bluetooth, IEEE802.15.4) The EUT was performed at X axis, Y axis and Z axis position, and the worst case was found at Y axis. So the measurement will follow this same test configuration.
1	EUT in Y axis_R1 (2.4GHz+Set 1)+R2 (5GHz+Set 3)+R5 (6GHz+Set 6)+R3 (BT)+R4 (GPS)+PoE
2	EUT in Y axis_R1 (2.4GHz+Set 1)+R2 (5GHz+Set 3)+R5 (6GHz+Set 6)+R3 (802.15.4)+R4 (GPS)+PoE
3	EUT in Y axis_Scanning R1 (5GHz+Set 5)+R2 (5GHz+Set 3)+R5 (6GHz+Set 6)+R3 (BT)+R4 (GPS)+PoE
4	EUT in Y axis_Scanning R1 (5GHz+Set 5)+R2 (5GHz+Set 3)+R5 (6GHz+Set 6)+R3 (802.15.4)+R4 (GPS)+PoE
5	EUT in Y axis_Scanning R1 (6GHz+Set 8)+R2 (5GHz+Set 3)+R5 (6GHz+Set 6)+R3 (BT)+R4 (GPS)+PoE
6	EUT in Y axis_Scanning R1 (6GHz+Set 8)+R2 (5GHz+Set 3)+R5 (6GHz+Set 6)+R3 (802.15.4)+R4 (GPS)+PoE
7	EUT in Y axis_R1 (2.4GHz+Set 2)+R2 (5GHz+Set 4)+R5 (6GHz+Set 7)+R3 (BT)+R4 (GPS)+PoE
8	EUT in Y axis_R1 (2.4GHz+Set 2)+R2 (5GHz+Set 4)+R5 (6GHz+Set 7)+R3 (802.15.4)+R4 (GPS)+PoE
9	EUT in Y axis_Scanning R1: (5GHz + Set 5)+R2 (5GHz+Set 4)+R5 (6GHz+Set 7)+R3 (BT)+R4 (GPS)+PoE
10	EUT in Y axis_Scanning R1: (5GHz + Set 5)+R2 (5GHz+Set 4)+R5 (6GHz+Set 7)+R3 (802.15.4)+R4 (GPS)+PoE
11	EUT in Y axis_Scanning R1: (6GHz + Set 8)+R2 (5GHz+Set 4)+R5 (6GHz+Set 7)+R3 (BT)+R4 (GPS)+PoE
12	EUT in Y axis_Scanning R1: (6GHz + Set 8)+R2 (5GHz+Set 4)+R5 (6GHz+Set 7)+R3 (802.15.4)+R4 (GPS)+PoE
For operating mode 1 is the worst case and it was record in this test report.	



Operating Mode > 1GHz	CTX
	1. After evaluating, the worst case was found at Y axis. So the measurement will follow this same test configuration. 2. Refer to note 1 for detail operating mode
1	EUT in Y axis_Set 8 antenna with 70 degree_Scanning R1_2T2S
2	EUT in Y axis_Set 6 antenna with 30 degree_R5_1T1S, 2T2S, 4T1S, 4T4S
3	EUT in Y axis_Set 7 antenna with 70 degree_R5_1T1S, 2T2S, 4T1S, 4T4S

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission MASK
Test Condition	Conducted measurement at transmit chains
1	Refer to note 1 for detail operating mode

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	R1 (2.4GHz + Set 1) + R2 (5GHz + Set 3) + R3 (BT) + R5 (6GHz + Set 6)
2	R1 (2.4GHz + Set 1) + R2 (5GHz + Set 3) + R3 (IEEE802.15.4) + R5 (6GHz + Set 6)
3	Scanning R1 (5GHz + Set 5) + R2 (5GHz + Set 3) + R3 (BT) + R5 (6GHz + Set 6)
4	Scanning R1 (5GHz + Set 5) + R2 (5GHz + Set 3) + R3 (IEEE802.15.4) + R5 (6GHz + Set 6)
5	Scanning R1 (6GHz + Set 8) + R2 (5GHz + Set 3) + R3 (BT) + R5 (6GHz + Set 6)
6	Scanning R1 (6GHz + Set 8) + R2 (5GHz + Set 3) + R3 (IEEE802.15.4) + R5 (6GHz + Set 6)
Refer to Sporton Test Report No.: FA251735-13 for Co-location RF Exposure Evaluation.	

Note 1: Test Mode

Test Mode						
Test Item	802.11ax HEW20/40/80/160					
	1T1S	2T1S	2T2S	4T1S	4T4S	TXBF 4T1S
Emission Bandwidth	V	Note2	V	V	V	-
Maximum Equivalent Isotropically Radiated Power (E.I.R.P.)	V	Note2	V	V	V	V
Peak Power Spectral Density (E.I.R.P.)	V	Note2	V	V	V	-
Radiated Emission	V	Note2	V	V	V	-
Band Edge Emission	V	Note2	V	V	V	-
Emission MASK	V	Note2	V	V	V	-

Note 2: 802.11ax HEW20/40/80/160 2T1S CDD mode was covered by 802.11ax HEW20/40/80/160 2T2S, due to $2T1S = \min(2T2S, (2T2S - (10 \cdot \log(2/1) - 2T2S \text{ (worst case of PSD/BE/Harmonic) MARGIN})))$.



Note 3: The PoE is for measurement only, would not be marketed.

This information as below:

Power	Brand	Model
PoE	Microsemi	PD-9501-10GC/AC

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.

2.4 Accessories

Accessories
Bracket*1
Sealing Collar*2

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PoE	Microsemi	PD-9501-10GC/AC	N/A
B	PD Load	JUNIPER	RXRB-MIB	N/A
C	5G LAN PC	DELL	T3400	N/A
D	2.5G LAN NB	DELL	E6430	N/A
E	WiFi (R2) 5G NB	DELL	E6430	N/A
F	WiFi (R1) 2.4G / 5G / 6E SCAN NB	DELL	E6430	N/A
G	GPS Simulator	WELNAVIGATE	GS-100	N/A
H	WiFi (R5) 6E NB	DELL	E6430	N/A

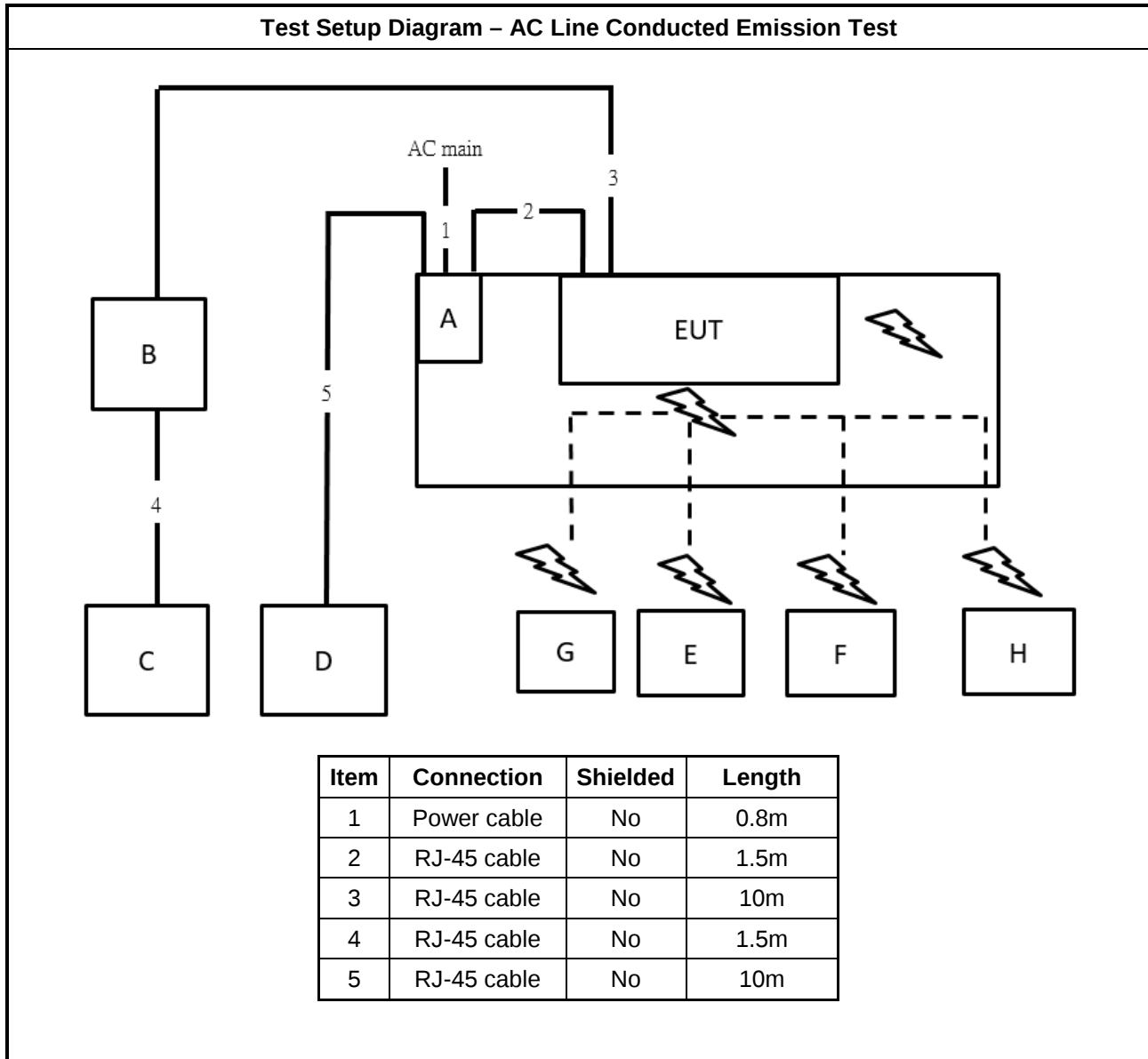
**For Radiated (below 1GHz):**

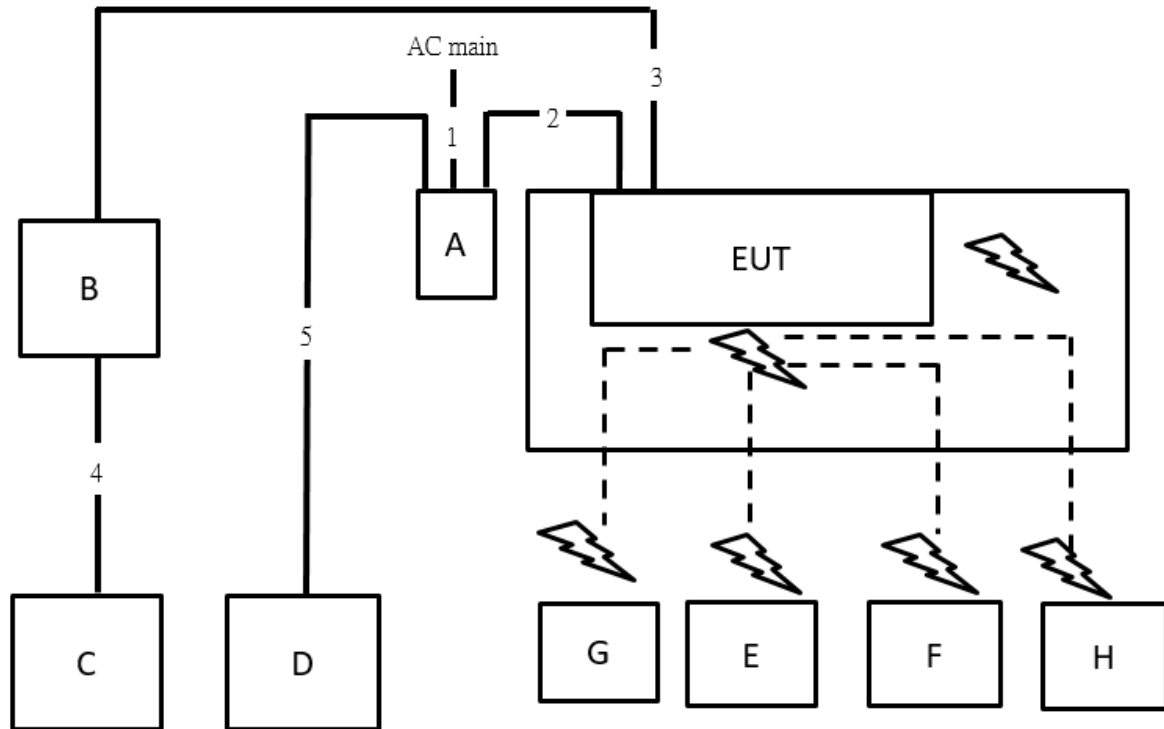
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PoE	Microsemi	PD-9501-10GC/AC	N/A
B	PD Load	JUNIPER	RXRB-MIB	N/A
C	5G LAN PC	DELL	T3400	N/A
D	2.5G LAN NB	DELL	E6430	N/A
E	WiFi (R5) 6G NB	DELL	E6430	N/A
F	WiFi (R2) 5G NB	DELL	E6430	N/A
G	WiFi (R1) 2.4G / 5G / 6G SCAN NB	DELL	E6430	N/A
H	GPS Simulator	WELNAVIGATE	GS-100	N/A

For Radiated (above 1GHz) and RF Conducted:

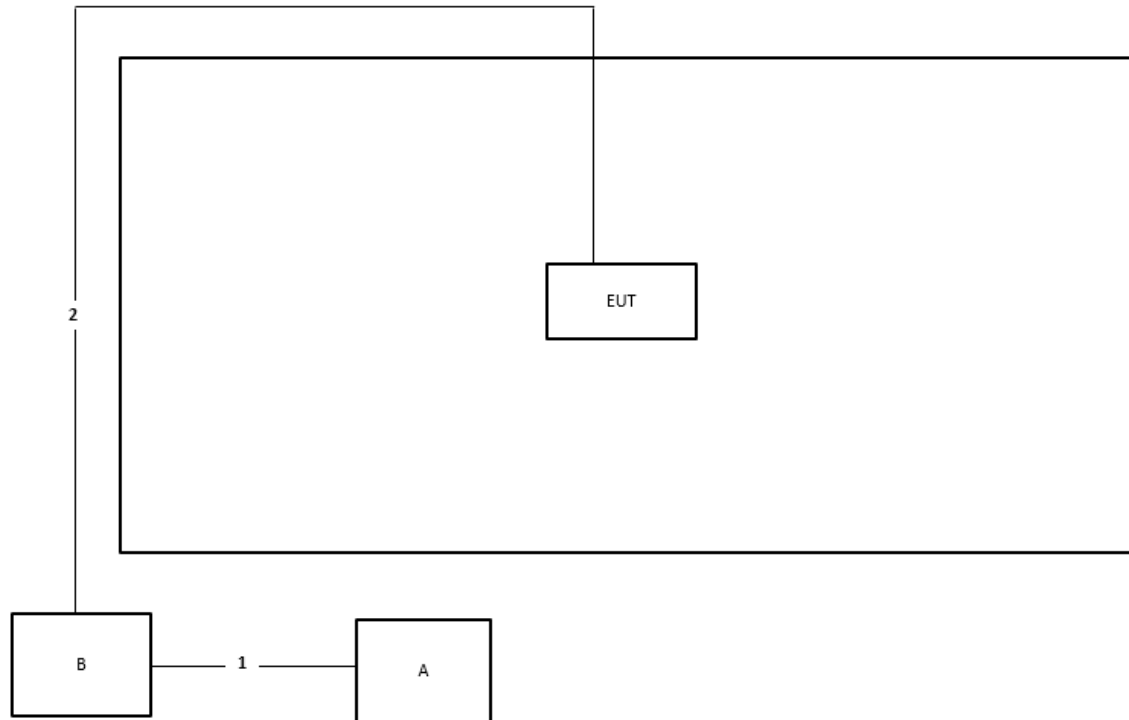
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A
B	PoE	Microsemi	PD-9501-10GC/AC	N/A

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test < 1GHz


Item	Connection	Shielded	Length
1	Power cable	No	0.8m
2	RJ-45 cable	No	1.5m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	1.5m
5	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test > 1GHz


Item	Connection	Shielded	Length
1	RJ-45 cable	No	1.5m
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.

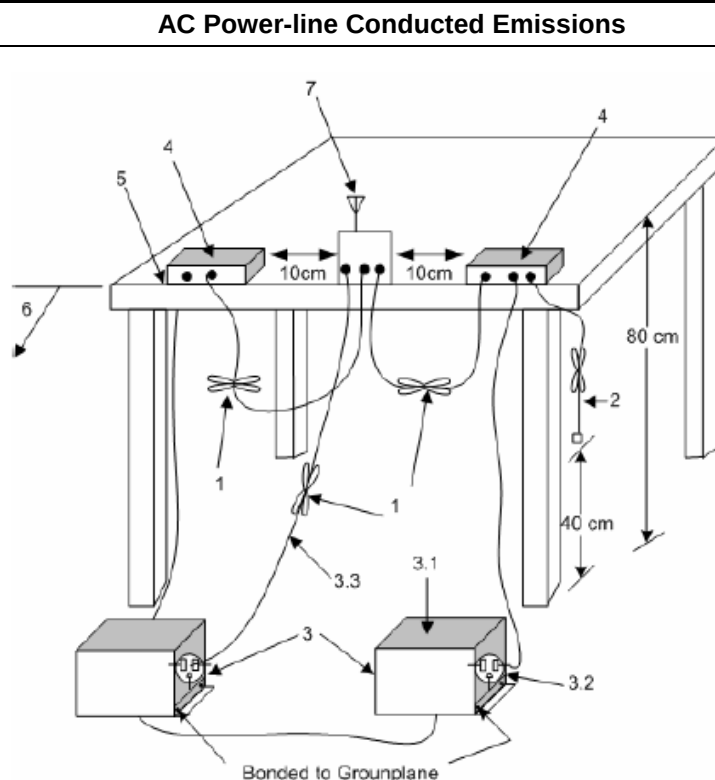
3.1.2 Measuring Instruments

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



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

3.1.5 Measurement Results Calculation

The measured Level is calculated using:

- Corrected Reading (dBUV) = LISN Factor + Cable Loss + Read Level = Level
- Margin = - Limit + (Read Level + LISN Factor + Cable Loss)

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
☒	For the 5925-6425 GHz band, N/A
☐	For the 6425-6525 GHz band, N/A
☒	For the 6525-6875 GHz band, N/A
☐	For the 6875-7125 GHz band, N/A
RLAN Devices	
☐	For the 5925-6425 GHz band, N/A
☐	For the 6425-6525 GHz band, N/A
☐	For the 6525-6875 GHz band, N/A
☐	For the 6875-7125 GHz band, N/A

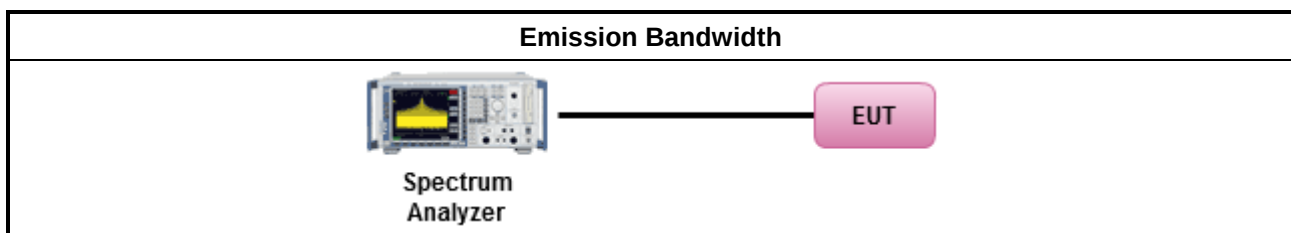
3.2.2 Measuring Instruments

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:	
☒	According to FCC KDB 987594 D02 clause II.C, measurement procedure shall refer to FCC KDB 789033 D02, clause C for EBW and clause D for OBW measurement.
☐	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
☐	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B



3.3 Maximum Equivalent Isotopically Radiated Power (E.I.R.P.)

3.3.1 Maximum Equivalent Isotopically Radiated Power (E.I.R.P.) Limit

Maximum Equivalent Isotopically Radiated Power (E.I.R.P.) Limit	
UNII Devices	
☒ For the 5.925 ~ 6.425 GHz band:	
	▪ For standard power access point and fixed client device : e.i.r.p < 36 dBm. For outdoor devices, the maximum e.i.r.p. at any elevation angle above 30 degrees not exceed 125 mW (21 dBm).
	▪ For indoor access point : e.i.r.p < 30 dBm.
	▪ For subordinate device control of an indoor access point : e.i.r.p < 30 dBm.
	▪ For client device control of a standard power access point : e.i.r.p < 30 dBm.
	▪ For client device control of an indoor access point : e.i.r.p < 24 dBm.
☐ For the 6.425 ~ 6.525 GHz band:	
	▪ For indoor access point : e.i.r.p < 30 dBm.
	▪ For client device control of an indoor access point : e.i.r.p < 24 dBm.
☒ For the 6.525 ~ 6.875 GHz band:	
	▪ For standard power access point and fixed client device : e.i.r.p < 36 dBm. For outdoor devices, the maximum e.i.r.p. at any elevation angle above 30 degrees not exceed 125 mW (21 dBm).
	▪ For indoor access point : e.i.r.p < 30 dBm.
	▪ For subordinate device control of an indoor access point : e.i.r.p < 30 dBm.
	▪ For client device control of a standard power access point : e.i.r.p < 30 dBm.
	▪ For client device control of an indoor access point : e.i.r.p < 24 dBm.
☐ For the 6.875 ~ 7.125 GHz band:	
	▪ For indoor access point : e.i.r.p < 30 dBm.
	▪ For client device control of an indoor access point : e.i.r.p < 24 dBm.
RLAN Devices	
☐ For the 5.925 ~ 7.125 GHz band:	
	▪ For low-power indoor access-points & indoor subordinate devices < 30 dBm .
	▪ For low-power client devices < 24 dBm.
☐ For the 5.925 ~ 6.875 GHz band:	
	▪ For standard-power access points & fixed client devices < 36 dBm. For outdoor devices, the maximum e.i.r.p. at any elevation angle above 30 degrees not exceed 125 mW (21 dBm).
	▪ For standard client devices < 30 dBm.

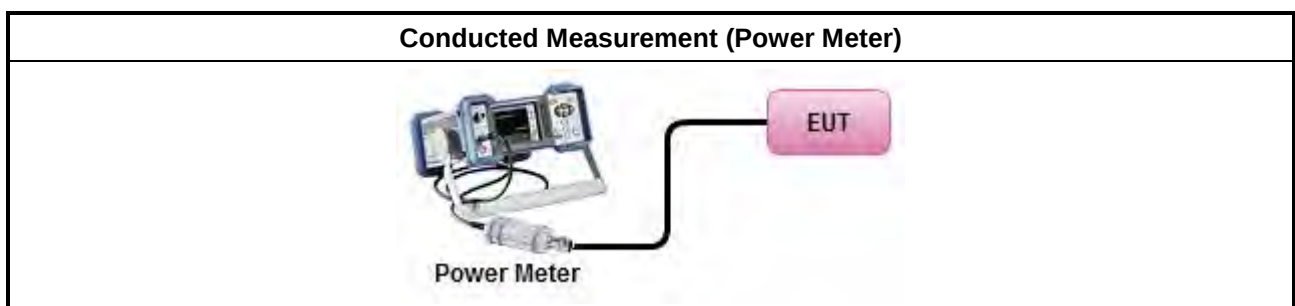
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
According to FCC KDB 987594 D02 clause II.E, the test measurement procedure shall refer to KDB 789033.	
Average over on/off periods with duty factor	
☐	Refer as FCC KDB 789033 D02, clause E Method SA-2 (spectral trace averaging). Spectrum analyzer setting: RBW/VBW : 1/3MHz ; Detector : RMS ; Trace mode : Average ; Sweep Count 100.
☐	Refer as FCC KDB 789033 D02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
Wideband RF power meter and average over on/off periods with duty factor	
☒	Refer as FCC KDB 789033 D02, clause E Method PM-G (using an 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]) $EIRP_{total} = P_{total} + DG$	
☐ For radiated measurement.	
Refer as FCC KDB 789033 D02 clause II A.1.F "Antenna-port Conducted versus Radiated Testing"	
Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.	
Refer as FCC KDB 412172 D01 clause 2.2 for EIRP calculation.	

3.3.4 Test Setup



3.3.5 Test Result of Maximum Equivalent Isotopically Radiated Power (E.I.R.P)

Refer as Appendix C



3.4 Peak Power Spectral Density (E.I.R.P.)

3.4.1 Peak Power Spectral Density (E.I.R.P.) Limit

Peak Power Spectral Density (E.I.R.P.) Limit	
UNII Devices	
☒ For the 5.925 ~ 6.425 GHz band:	
	■ For standard power access point and fixed client device : e.i.r.p PSD < 23 dBm/MHz.
	■ For indoor access point : e.i.r.p PSD < 5 dBm/MHz.
	■ For subordinate device control of an indoor access point : e.i.r.p PSD < 5 dBm/MHz.
	■ For client device control of a standard power access point : e.i.r.p PSD < 17 dBm/MHz.
	■ For client device control of an indoor access point : e.i.r.p PSD < -1 dBm/MHz.
☐ For the 6.425 ~ 6.525 GHz band:	
	■ For indoor access point : e.i.r.p PSD < 5 dBm/MHz.
	■ For client device control of an indoor access point : e.i.r.p PSD < -1 dBm/MHz.
☒ For the 6.525 ~ 6.875 GHz band:	
	■ For standard power access point and fixed client device : e.i.r.p PSD < 23 dBm/MHz.
	■ For indoor access point : e.i.r.p PSD < 5 dBm/MHz.
	■ For subordinate device control of an indoor access point : e.i.r.p PSD < 5 dBm/MHz.
	■ For client device control of a standard power access point : e.i.r.p PSD < 17 dBm/MHz.
	■ For client device control of an indoor access point : e.i.r.p PSD < -1 dBm/MHz.
☐ For the 6.875 ~ 7.125 GHz band:	
	■ For indoor access point : e.i.r.p PSD < 5 dBm/MHz.
	■ For client device control of an indoor access point : e.i.r.p PSD < -1 dBm/MHz.
RLAN Devices	
☐ For the 5.925 ~ 7.125 GHz band:	
	■ For low-power indoor access-points & indoor subordinate devices < 5 dBm / MHz.
	■ For low-power client devices < -1 dBm / MHz.
☐ For the 5.925 ~ 6.875 GHz band:	
	■ For standard-power access points & fixed client devices < 23 dBm / MHz.
	■ For standard client devices < 17 dBm / MHz.

3.4.2 Measuring Instruments

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

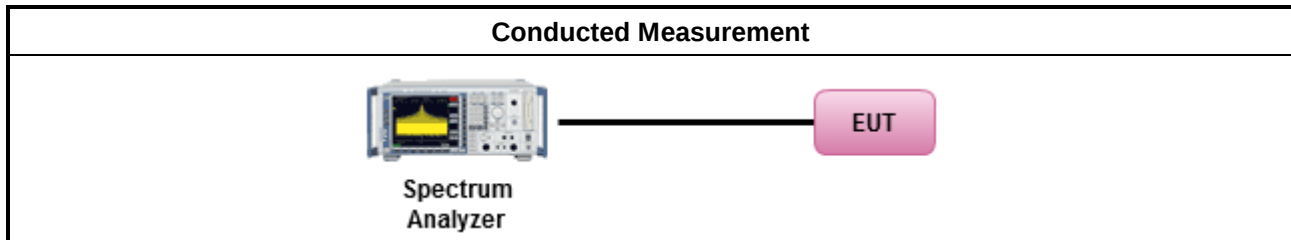


3.4.3 Test Procedures

Test Method	
According to FCC KDB 987594 D02 clause II.F, the measurement procedure shall refer to KDB 789033. Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:	
☐	Refer as FCC KDB 789033 D02, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth
[duty cycle ≥ 98% or external video / power trigger]	
☒	Refer as FCC KDB 789033 D02, clause E Method SA-1 (spectral trace averaging).
☐	Refer as FCC KDB 789033 D02, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
duty cycle < 98% and average over on/off periods with duty factor	
☒	Refer as FCC KDB 789033 D02, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033 D02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
☒	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.
If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$	
☐	For radiated measurement.
Refer as FCC KDB 789033 D02 clause II A.1.F "Antenna-port Conducted versus Radiated Testing"	
Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.	

Test Method	
	Refer as FCC KDB 412172 D01 clause 2.2 for EIRP calculation.

3.4.4 Test Setup



3.4.5 Test Result of Peak Power Spectral Density (E.I.R.P.)

Refer as Appendix D



3.5 Unwanted Emissions

3.5.1 Transmitter Unwanted Emissions Limit

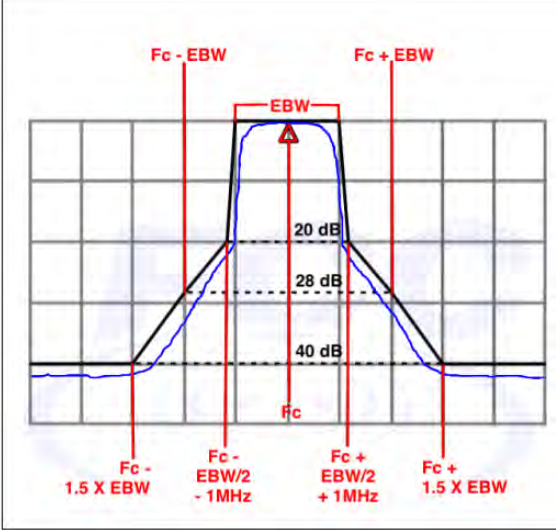
Unwanted emissions below 1 GHz and restricted band emissions above 1GHz limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
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($20 \times \log(\text{standard distance}/\text{test distance}) = 20\log(3/1) = 9.54\text{dB}$).
EX. Above 18GHz emission limit calculation (3m to 1m) = $54\text{dBuV/m at 3m} + 9.54\text{dB} = 63.54\text{dBuV/m at 1m}$.

Un-restricted band emissions above 1GHz Limit	
Frequency	Limit
Any outside the 5.945 – 7.125 GHz emission	e.i.r.p. -27 dBm [68.2 dBuV/m@3m] Note 1: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m($20 \times \log(\text{standard distance}/\text{test distance}) = 20\log(3/1) = 9.54\text{dB}$). EX. Above 18GHz emission limit calculation (3m to 1m) = $68.2\text{dBuV/m at 3m} + 9.54\text{dB} = 77.74\text{dBuV/m at 1m}$. Note 2:-27 dBm EIRP OOBE is measured RMS which is a deviation from the current 15E rules for 5 GHz bands. In addition, 15.35(b) applies where the peak emissions must be limited to no more than 20 dB above the average limit.

Frequency	Emission MASK Limit
5.945 – 7.125 GHz	Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB. 



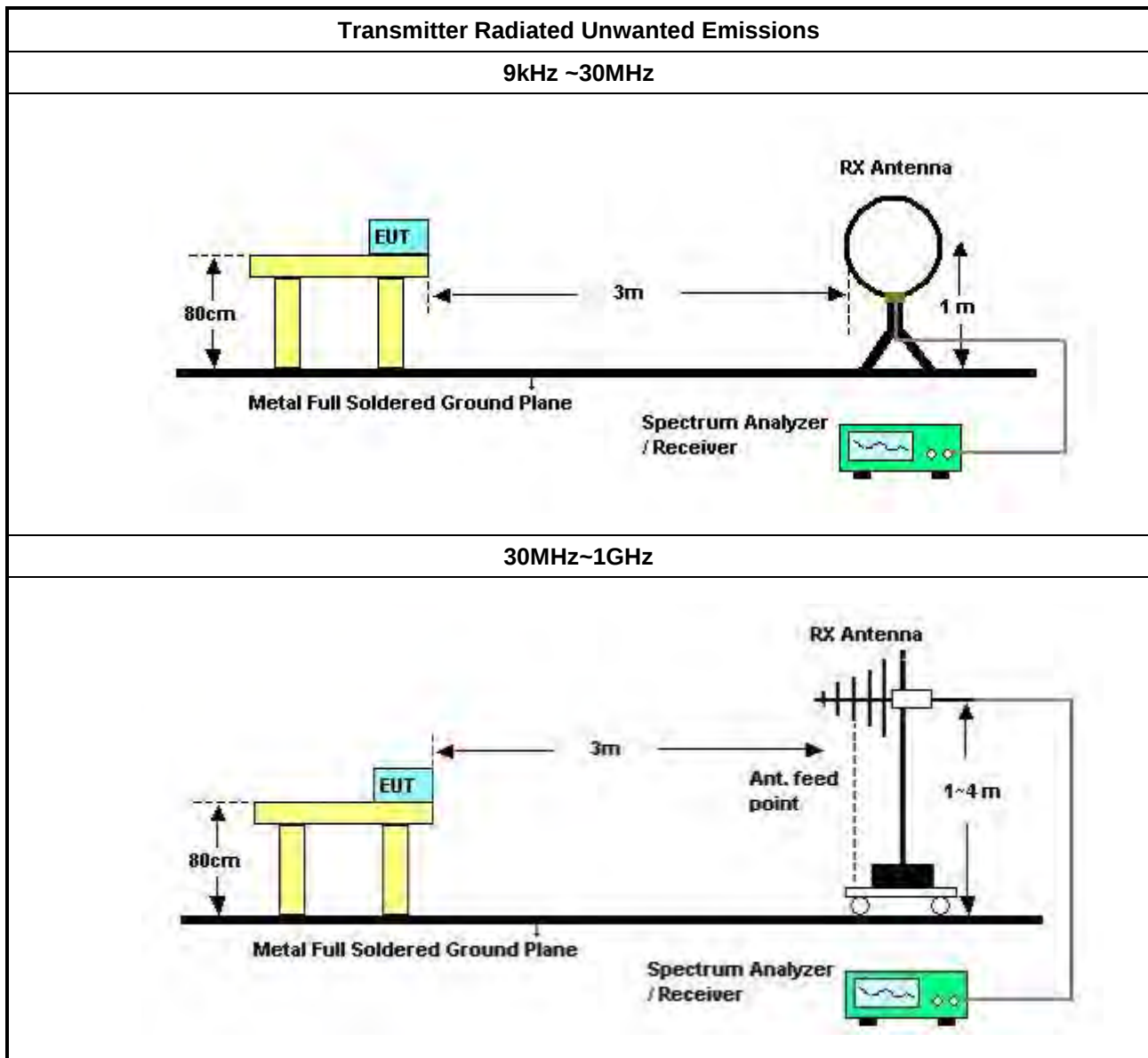
3.5.2 Measuring Instruments

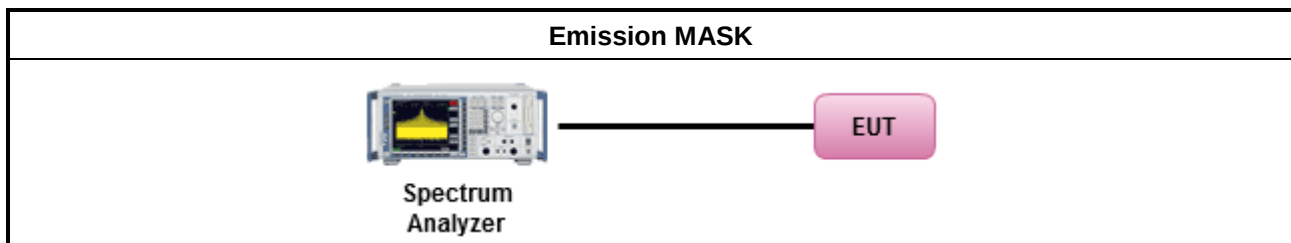
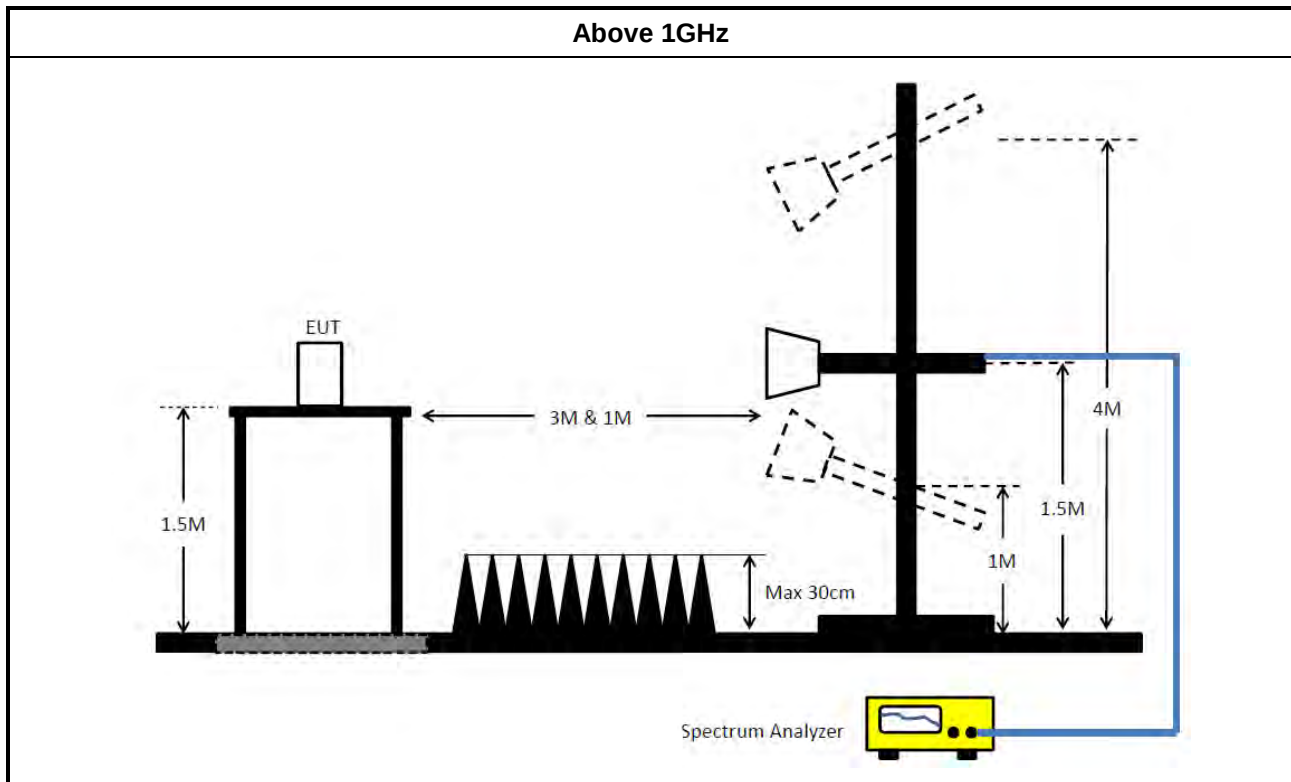
Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method	
According to FCC KDB 987594 D02 II.G. the unwanted emission measurement procedure shall refer to KDB 789300(except emission MASK). 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. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).	
The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].	
For the transmitter unwanted emissions shall be measured using following options below:	
	Refer as FCC KDB 789033 D02, clause G)2) for unwanted emissions into non-restricted bands.
	Refer as FCC KDB 789033 D02, clause G)1) for unwanted emissions into restricted bands.
	☒ Refer as FCC KDB 789033 D02, G)6) Method AD (Trace Averaging). (For unrestricted band measurement)
	☐ Refer as FCC KDB 789033 D02, G)6) Method VB (Reduced VBW).
	☒ Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.(For restricted band average measurement)
	☐ Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
	☒ Refer as FCC KDB 789033 D02, clause G)5) measurement procedure peak limit.
	☐ Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
Refer as FCC KDB 789033 D02, clause G)3)d)ii) for Band edge Integration measurements.	
For emission MASK shall be measured using following options below:	
	☒ Refer as FCC KDB 987594 D02, J) In-Band Emissions
For radiated measurement.	
	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
The any unwanted emissions level shall not exceed the fundamental emission level.	
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.	

3.5.4 Test Setup





3.5.5 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

3.5.6 Transmitter Unwanted Emissions (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.

3.5.7 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E



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-50-16-2	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. 19, 2021	Oct. 18, 2022	Radiation (10CH01-CB)
Low Cable	Woken	SUCOFLEX 104	low cable-02	25MHz ~ 1GHz	Oct. 19, 2021	Oct. 18, 2022	Radiation (10CH01-CB)
EMI Test Receiver	Rohde& Schwarz	ESCI	100186	9kHz ~ 3GHz	Jul. 12, 2021	Jul. 11, 2022	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)
Bilog Antenna with 6dB Attenuator	Chase & EMCI	CBL6111A &N-6-06	1543 &AT-N0609	30MHz ~ 1GHz	Jul. 01, 2021	Jun. 30, 2022	Radiation (10CH01-CB)
Bilog Antenna with 6dB Attenuator	Chase & EMCI	CBL6111A &N-6-06	1543 &AT-N0609	30MHz ~ 1GHz	Jun. 25, 2022	Jun. 24, 2023	Radiation (10CH01-CB)
Amplifier	EM	EM101	060703	10MHz ~ 1GHz	Oct. 20, 2021	Oct. 19, 2022	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 05, 2023	May 04, 2024	Radiation (03CH01-CB)
Horn Antenna	ETS-LINDGRE N	3115	00075790	750MHz ~ 18GHz	Nov. 04, 2022	Nov. 03, 2023	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 22, 2022	Aug. 21, 2023	Radiation (03CH01-CB)
Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 28, 2023	Jun. 27, 2024	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02121	1GHz ~ 26.5GHz	May 19, 2022	May 18, 2023	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02121	1GHz ~ 26.5GHz	May 18, 2023	May 17, 2024	Radiation (03CH01-CB)
Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 16, 2022	Nov. 15, 2023	Radiation (03CH01-CB)
Signal Analyzer	R&S	FSV3044	101437	10kHz ~ 44GHz	Nov. 29, 2022	Nov. 29, 2023	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. 03, 2022	Oct. 02, 2023	Radiation (03CH01-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Dec. 07, 2022	Dec. 06, 2023	Radiation (03CH01-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 07, 2022	Dec. 06, 2023	Radiation (03CH01-CB)
High Cable	Woken	WCA0929M	40G#6	1GHz ~ 40 GHz	Dec. 07, 2022	Dec. 06, 2023	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	03CH04-CB	1GHz ~18GHz 3m	Feb. 23, 2023	Feb. 22, 2024	Radiation (03CH04-CB)
Horn Antenna	ETS-Lindgren	3115	00143147	750MHz~ 18GHz	Oct. 12, 2022	Oct. 11, 2023	Radiation (03CH04-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 22, 2022	Aug. 21, 2023	Radiation (03CH04-CB)
Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 28, 2023	Jun. 27, 2024	Radiation (03CH04-CB)
Pre-Amplifier	Agilent	83017A	MY53270063	0.5GHz ~ 26.5GHz	Jul. 01, 2022	Jun. 30, 2023	Radiation (03CH04-CB)
Pre-Amplifier	Agilent	83017A	MY53270063	0.5GHz ~ 26.5GHz	Jun. 30, 2023	Jun. 29, 2024	Radiation (03CH04-CB)



Pre-Amplifier	SGH	SGH184	20221107-3	18GHz ~ 40GHz	Nov. 16, 2022	Nov. 15, 2023	Radiation (03CH04-CB)
Spectrum Analyzer	R&S	FSP40	100142	9kHz~40GHz	Mar. 21, 2023	Mar. 20, 2024	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21	1GHz - 18GHz	Oct. 03, 2022	Oct. 02, 2023	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21+67	1GHz - 18GHz	Oct. 03, 2022	Oct. 02, 2023	Radiation (03CH04-CB)
High Cable	Woken	WCA0929M	40G#5+6	1GHz ~ 40 GHz	Dec. 07, 2022	Dec. 06, 2023	Radiation (03CH04-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 07, 2022	Dec. 06, 2023	Radiation (03CH04-CB)
High Cable	Woken	WCA0929M	40G#6	1GHz ~ 40 GHz	Dec. 07, 2022	Dec. 06, 2023	Radiation (03CH04-CB)
Band Rejector	MTJ	6G Band Rejector	CB6G-BRJ-01	1GHz ~ 7.4GHz	Oct. 04, 2022	Oct. 03, 2023	Radiation (03CH04-CB)
Band Rejector	MTJ	6G Band Rejector	CB6G-BRJ-02	1GHz ~ 8GHz	Oct. 04, 2022	Oct. 03, 2023	Radiation (03CH04-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH04-CB)
Signal Analyzer	R&S	FSV40	101904	9kHz ~ 40GHz	Apr. 21, 2023	Apr. 20, 2024	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. 17, 2022	Oct. 16, 2023	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. 03, 2022	Oct. 02, 2023	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. 03, 2022	Oct. 02, 2023	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH02-CB)
Band Rejector	MTJ	6G Band Rejector	CB6G-BRJ-01	1GHz ~ 7.4GHz	Oct. 04, 2022	Oct. 03, 2023	Conducted (TH02-CB)
Band Rejector	MTJ	6G Band Rejector	CB6G-BRJ-02	1GHz ~ 8GHz	Oct. 04, 2022	Oct. 03, 2023	Conducted (TH02-CB)
Switch	SPTCB	SP-SWI	SWI-02	1 GHz – 26.5 GHz	Oct. 04, 2022	Oct. 03, 2023	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.
NCR means Non-Calibration required.



Conducted Emissions at Powerline

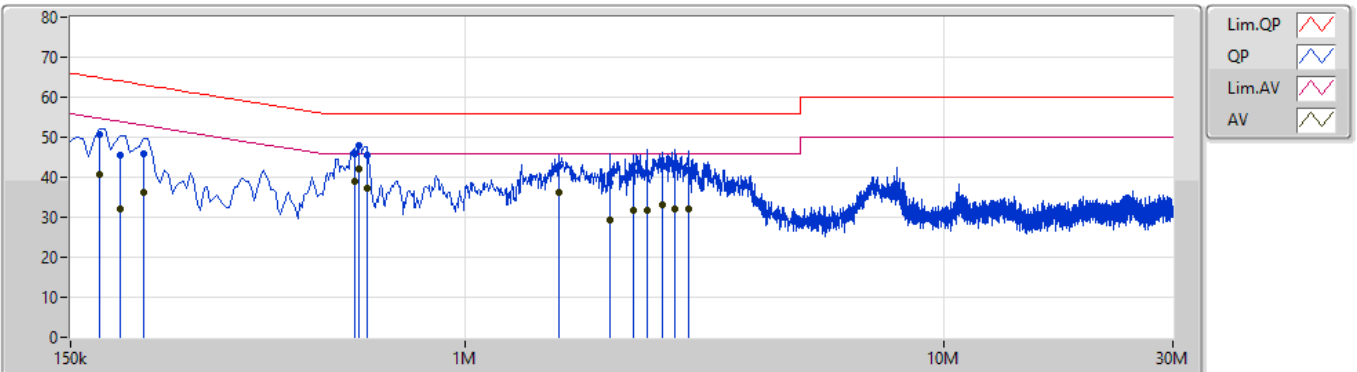
Appendix A

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 5	Pass	AV	600k	41.92	46.00	-4.08	Line

Mode 5

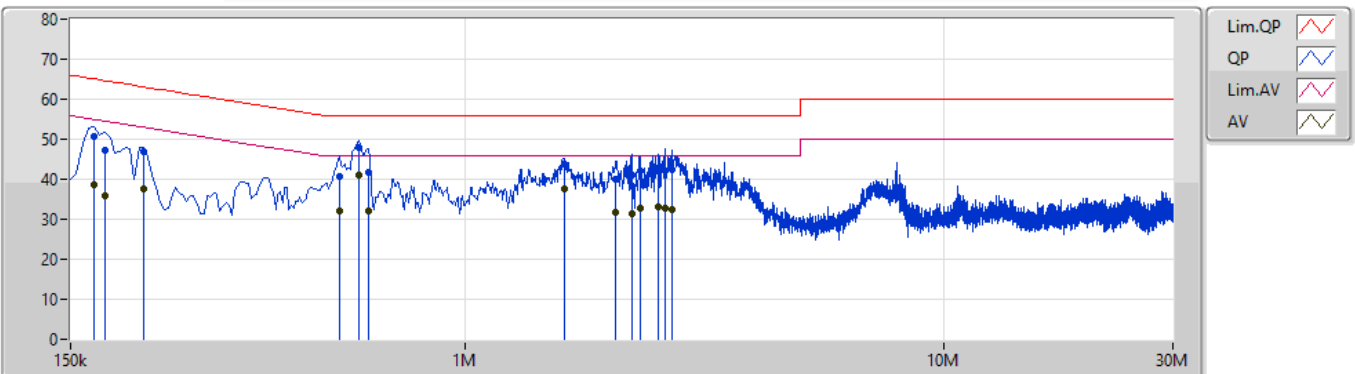
30/05/2022



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	172.5k	50.66	64.83	-14.17	9.99	Line	-	40.67	0.06	0.04	9.89			
AV	172.5k	40.65	54.83	-14.18	9.99	Line	-	30.66	0.06	0.04	9.89			
QP	190.5k	45.51	64.01	-18.50	9.99	Line	-	35.52	0.06	0.04	9.89			
AV	190.5k	32.07	54.01	-21.94	9.99	Line	-	22.08	0.06	0.04	9.89			
QP	213k	45.96	63.09	-17.13	9.99	Line	-	35.97	0.06	0.04	9.89			
AV	213k	36.37	53.09	-16.72	9.99	Line	-	26.38	0.06	0.04	9.89			
QP	586.5k	45.96	56.00	-10.04	10.00	Line	-	35.96	0.06	0.05	9.89			
AV	586.5k	39.04	46.00	-6.96	10.00	Line	-	29.04	0.06	0.05	9.89			
QP	600k	48.10	56.00	-7.90	10.00	Line	-	38.10	0.06	0.05	9.89			
AV	600k	41.92	46.00	-4.08	10.00	Line	"Worst"	31.92	0.06	0.05	9.89			
QP	622.5k	45.52	56.00	-10.48	10.00	Line	-	35.52	0.06	0.05	9.89			
AV	622.5k	37.09	46.00	-8.91	10.00	Line	-	27.09	0.06	0.05	9.89			
QP	1.568M	42.87	56.00	-13.13	10.04	Line	-	32.83	0.08	0.07	9.89			
AV	1.568M	36.11	46.00	-9.89	10.04	Line	-	26.07	0.08	0.07	9.89			
QP	2.009M	38.68	56.00	-17.32	10.07	Line	-	28.61	0.09	0.09	9.89			
AV	2.009M	29.36	46.00	-16.64	10.07	Line	-	19.29	0.09	0.09	9.89			
QP	2.243M	41.48	56.00	-14.52	10.07	Line	-	31.41	0.09	0.09	9.89			
AV	2.243M	31.66	46.00	-14.34	10.07	Line	-	21.59	0.09	0.09	9.89			
QP	2.396M	41.08	56.00	-14.92	10.08	Line	-	31.00	0.10	0.09	9.89			
AV	2.396M	31.86	46.00	-14.14	10.08	Line	-	21.78	0.10	0.09	9.89			
QP	2.585M	42.76	56.00	-13.24	10.08	Line	-	32.68	0.10	0.09	9.89			
AV	2.585M	33.21	46.00	-12.79	10.08	Line	-	23.13	0.10	0.09	9.89			
QP	2.733M	42.40	56.00	-13.60	10.08	Line	-	32.32	0.10	0.09	9.89			
AV	2.733M	32.11	46.00	-13.89	10.08	Line	-	22.03	0.10	0.09	9.89			
QP	2.922M	41.57	56.00	-14.43	10.10	Line	-	31.47	0.11	0.10	9.89			
AV	2.922M	32.06	46.00	-13.94	10.10	Line	-	21.96	0.11	0.10	9.89			

Mode 5

30/05/2022



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	168k	50.68	65.06	-14.38	10.00	Neutral	-	40.68	0.07	0.04	9.89			
AV	168k	38.68	55.06	-16.38	10.00	Neutral	-	28.68	0.07	0.04	9.89			
QP	177k	47.37	64.62	-17.25	10.00	Neutral	-	37.37	0.07	0.04	9.89			
AV	177k	35.78	54.62	-18.84	10.00	Neutral	-	25.78	0.07	0.04	9.89			
QP	213k	46.84	63.09	-16.25	10.00	Neutral	-	36.84	0.07	0.04	9.89			
AV	213k	37.75	53.09	-15.34	10.00	Neutral	-	27.75	0.07	0.04	9.89			
QP	546k	40.57	56.00	-15.43	10.01	Neutral	-	30.56	0.07	0.05	9.89			
AV	546k	32.05	46.00	-13.95	10.01	Neutral	-	22.04	0.07	0.05	9.89			
QP	600k	47.79	56.00	-8.21	10.01	Neutral	-	37.78	0.07	0.05	9.89			
AV	600k	41.19	46.00	-4.81	10.01	Neutral	"Worst"	31.18	0.07	0.05	9.89			
QP	627k	41.85	56.00	-14.15	10.01	Neutral	-	31.84	0.07	0.05	9.89			
AV	627k	32.08	46.00	-13.92	10.01	Neutral	-	22.07	0.07	0.05	9.89			
QP	1.608M	43.94	56.00	-12.06	10.05	Neutral	-	33.89	0.09	0.07	9.89			
AV	1.608M	37.50	46.00	-8.50	10.05	Neutral	-	27.45	0.09	0.07	9.89			
QP	2.063M	40.17	56.00	-15.83	10.08	Neutral	-	30.09	0.10	0.09	9.89			
AV	2.063M	31.71	46.00	-14.29	10.08	Neutral	-	21.63	0.10	0.09	9.89			
QP	2.225M	40.98	56.00	-15.02	10.08	Neutral	-	30.90	0.10	0.09	9.89			
AV	2.225M	31.23	46.00	-14.77	10.08	Neutral	-	21.15	0.10	0.09	9.89			
QP	2.315M	42.01	56.00	-13.99	10.09	Neutral	-	31.92	0.11	0.09	9.89			
AV	2.315M	32.86	46.00	-13.14	10.09	Neutral	-	22.77	0.11	0.09	9.89			
QP	2.531M	42.59	56.00	-13.41	10.09	Neutral	-	32.50	0.11	0.09	9.89			
AV	2.531M	33.11	46.00	-12.89	10.09	Neutral	-	23.02	0.11	0.09	9.89			
QP	2.612M	42.04	56.00	-13.96	10.09	Neutral	-	31.95	0.11	0.09	9.89			
AV	2.612M	32.80	46.00	-13.20	10.09	Neutral	-	22.71	0.11	0.09	9.89			
QP	2.702M	42.36	56.00	-13.64	10.09	Neutral	-	32.27	0.11	0.09	9.89			
AV	2.702M	32.55	46.00	-13.45	10.09	Neutral	-	22.46	0.11	0.09	9.89			

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.925-6.425GHz	-	-	-	-	-
802.11ax HEW20_Nss2,(MCS0)_2TX	22.825M	19.14M	19M1D1D	21.12M	18.991M
802.11ax HEW40_Nss2,(MCS0)_2TX	42.35M	37.831M	37M8D1D	40.26M	37.731M
802.11ax HEW80_Nss2,(MCS0)_2TX	84.26M	77.361M	77M4D1D	80.74M	77.161M
802.11ax HEW160_Nss2,(MCS0)_2TX	166.32M	156.522M	157MD1D	163.24M	156.122M
6.525-6.875GHz	-	-	-	-	-
802.11ax HEW20_Nss2,(MCS0)_2TX	23.265M	19.09M	19M1D1D	21.45M	19.015M
802.11ax HEW40_Nss2,(MCS0)_2TX	42.24M	37.831M	37M8D1D	40.59M	37.681M
802.11ax HEW80_Nss2,(MCS0)_2TX	83.82M	77.361M	77M4D1D	80.52M	77.161M
802.11ax HEW160_Nss2,(MCS0)_2TX	166.32M	156.722M	157MD1D	164.56M	156.522M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
 Max-OBW = Maximum 99% occupied bandwidth;
 Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
 Min-OBW = Minimum 99% occupied bandwidth

Result

Mode	Result	Limit (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5955MHz	Pass	Inf	21.67M	19.065M	21.505M	19.14M
6195MHz	Pass	Inf	22.825M	19.04M	21.12M	19.015M
6415MHz	Pass	Inf	21.67M	19.04M	21.175M	18.991M
6535MHz	Pass	Inf	22M	19.04M	21.67M	19.065M
6695MHz	Pass	Inf	21.89M	19.065M	21.45M	19.015M
6855MHz	Pass	Inf	23.265M	19.09M	21.45M	19.04M
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5965MHz	Pass	Inf	40.26M	37.831M	42.35M	37.831M
6205MHz	Pass	Inf	40.37M	37.781M	41.58M	37.781M
6405MHz	Pass	Inf	41.36M	37.781M	41.36M	37.731M
6565MHz	Pass	Inf	40.59M	37.831M	41.25M	37.781M
6685MHz	Pass	Inf	40.81M	37.681M	42.24M	37.781M
6845MHz	Pass	Inf	41.91M	37.781M	41.25M	37.781M
802.11ax HEW80_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5985MHz	Pass	Inf	82.06M	77.361M	84.26M	77.361M
6225MHz	Pass	Inf	82.94M	77.161M	80.96M	77.261M
6385MHz	Pass	Inf	82.5M	77.261M	80.74M	77.361M
6625MHz	Pass	Inf	80.96M	77.361M	81.4M	77.361M
6705MHz	Pass	Inf	82.5M	77.261M	80.52M	77.261M
6785MHz	Pass	Inf	83.82M	77.161M	82.06M	77.361M
802.11ax HEW160_Nss2,(MCS0)_2TX	-	-	-	-	-	-
6025MHz	Pass	Inf	166.32M	156.522M	163.68M	156.322M
6185MHz	Pass	Inf	163.24M	156.322M	164.12M	156.322M
6345MHz	Pass	Inf	163.24M	156.322M	163.68M	156.122M
6665MHz	Pass	Inf	166.32M	156.722M	164.56M	156.522M

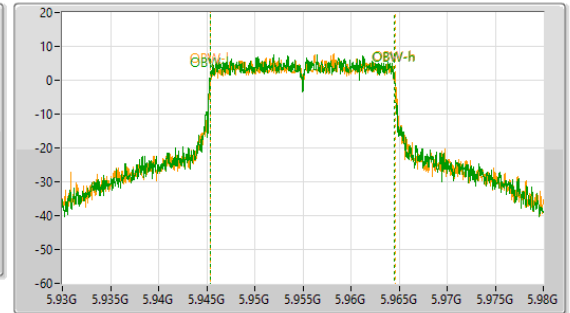
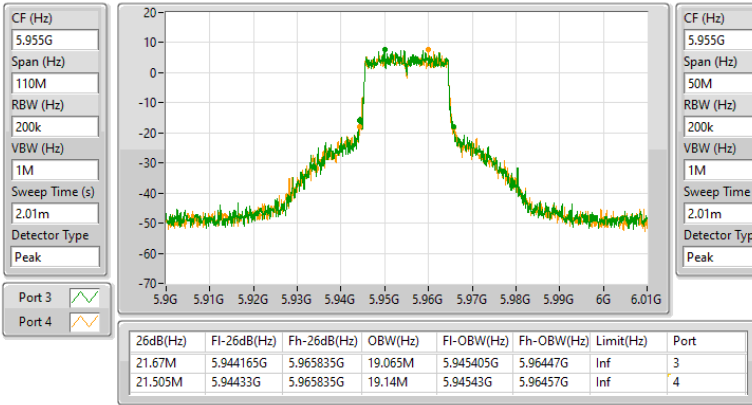
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

5.925-6.425GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

5955MHz

02/09/2023

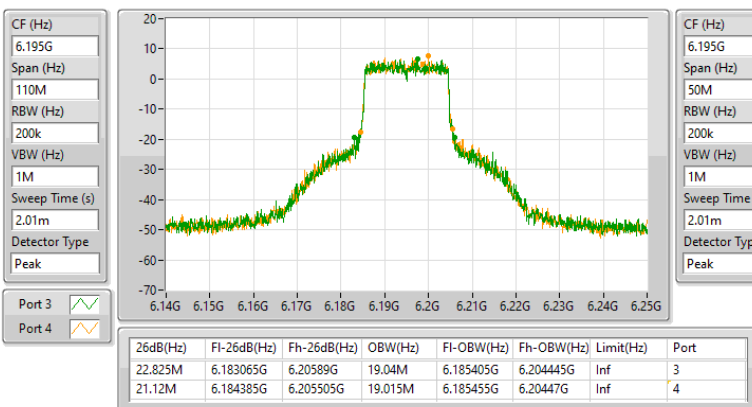


5.925-6.425GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

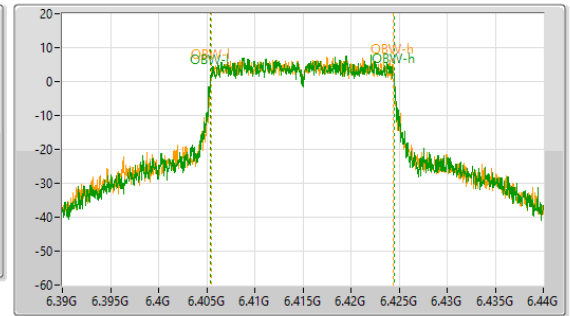
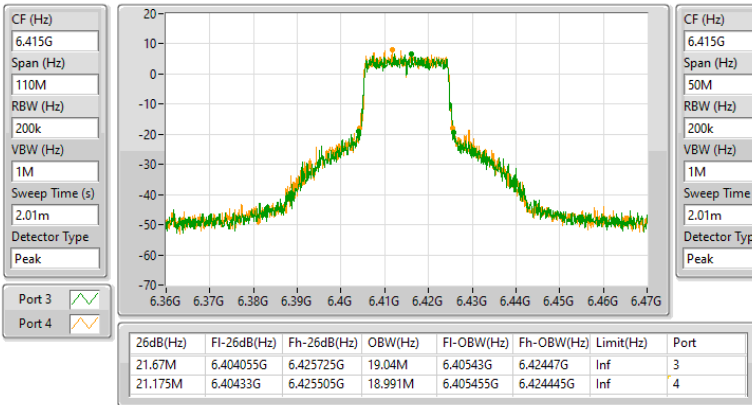
6195MHz

01/09/2023

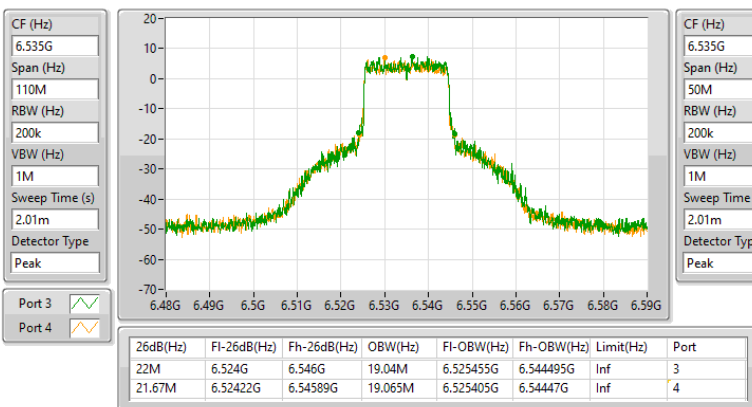


5.925-6.425GHz_802.11ax HEW20_Nss2,(MCS0)_2TX
EBW
6415MHz

01/09/2023

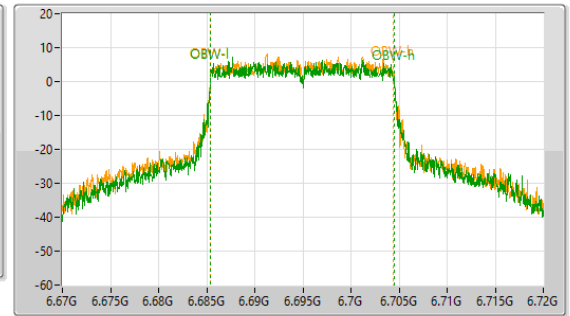
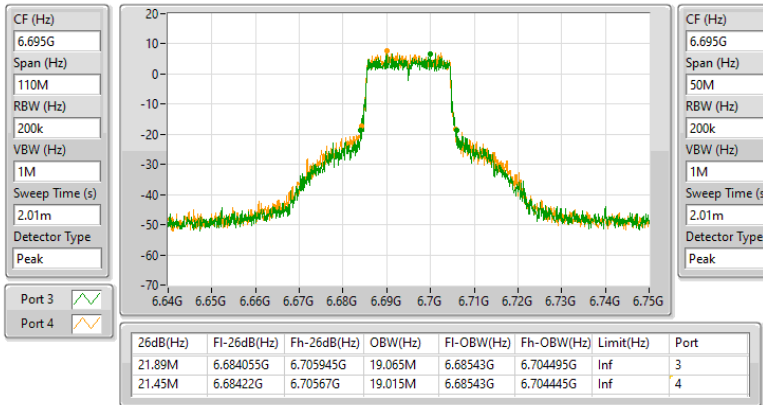

6.525-6.875GHz_802.11ax HEW20_Nss2,(MCS0)_2TX
EBW
6535MHz

01/09/2023

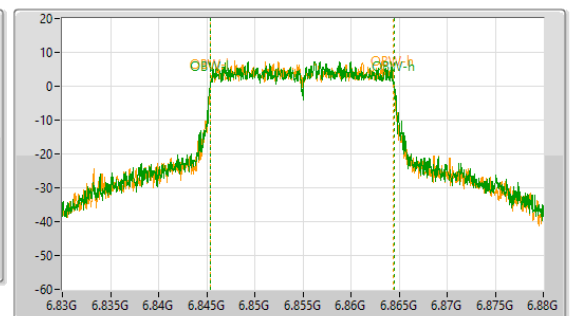
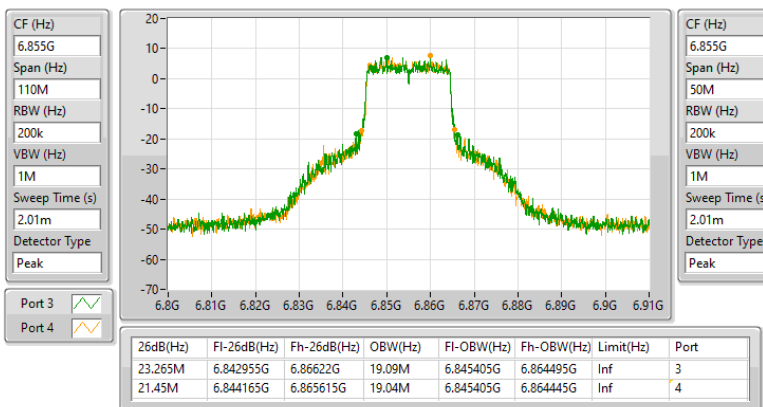


6.525-6.875GHz_802.11ax HEW20_Nss2,(MCS0)_2TX
EBW
6695MHz

01/09/2023


6.525-6.875GHz_802.11ax HEW20_Nss2,(MCS0)_2TX
EBW
6855MHz

01/09/2023

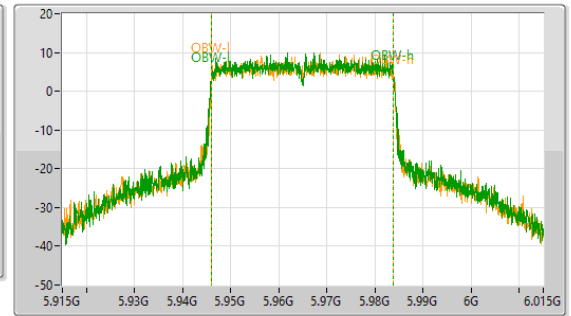
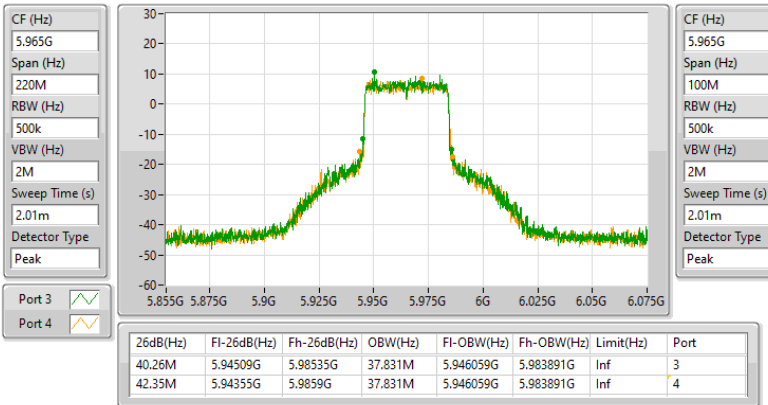


5.925-6.425GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

5965MHz

01/09/2023

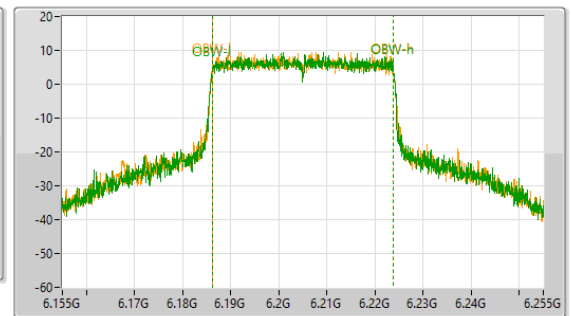
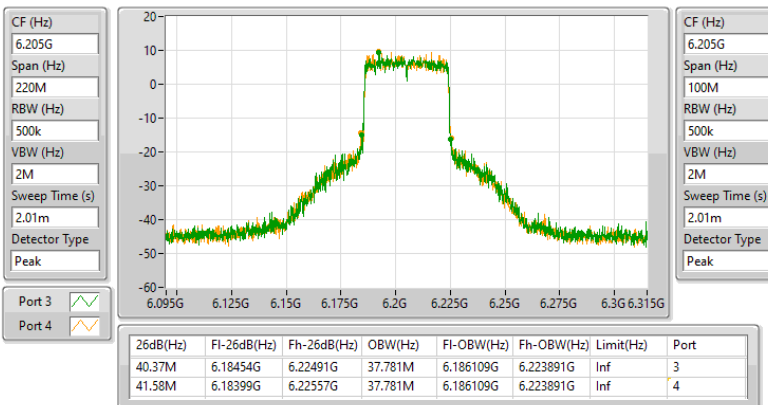


5.925-6.425GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6205MHz

01/09/2023

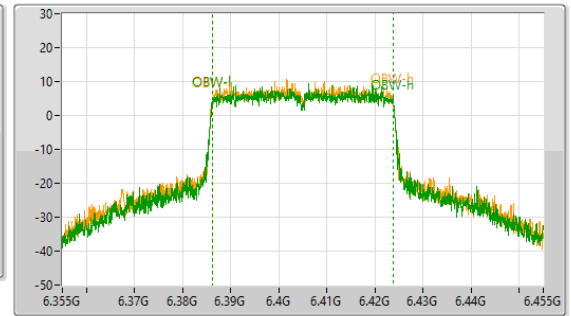
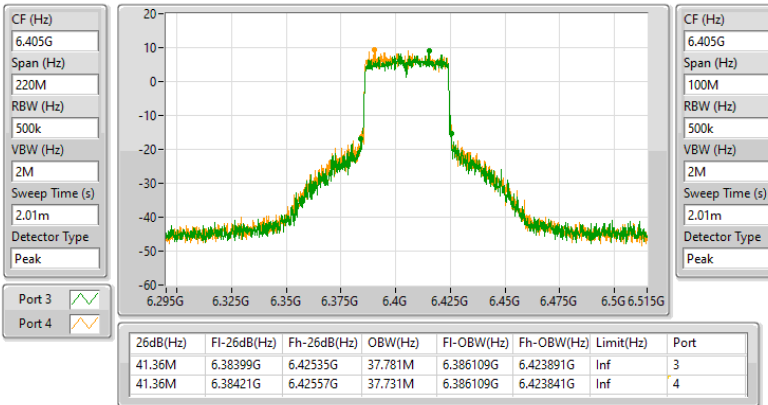


5.925-6.425GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6405MHz

01/09/2023

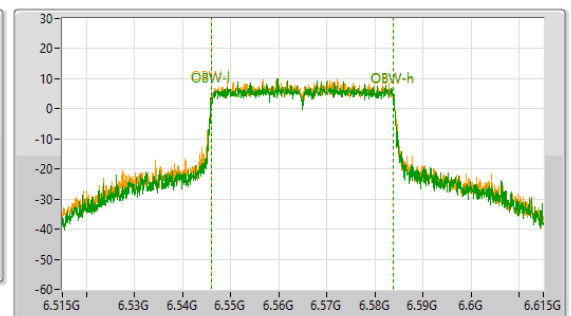
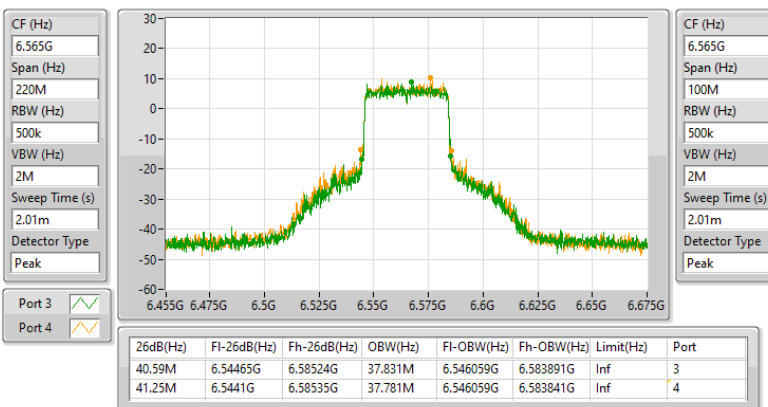


6.525-6.875GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6565MHz

01/09/2023

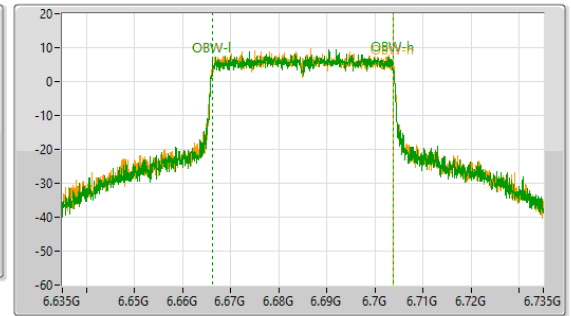
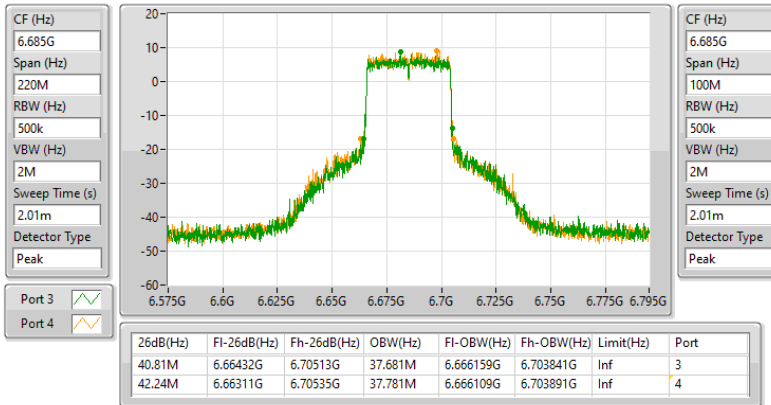


6.525-6.875GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6685MHz

01/09/2023

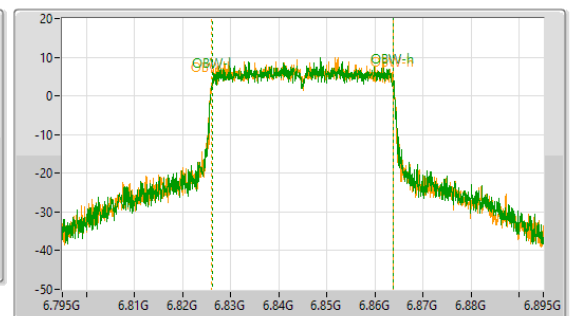
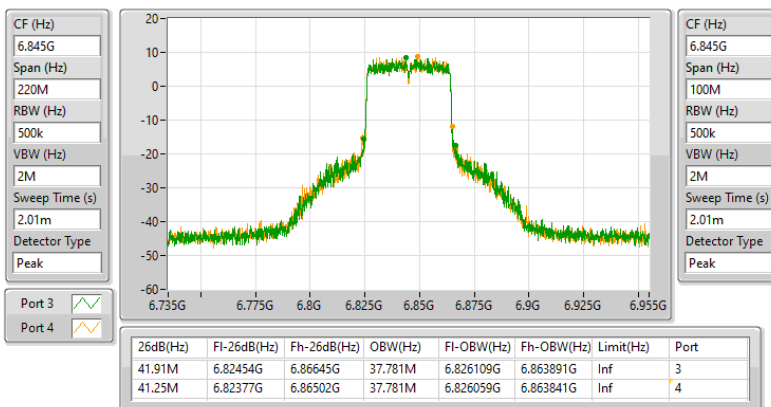


6.525-6.875GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6845MHz

01/09/2023

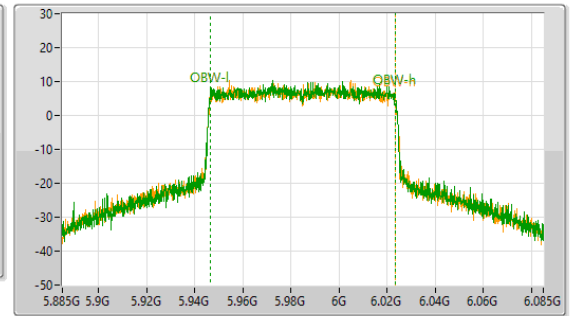
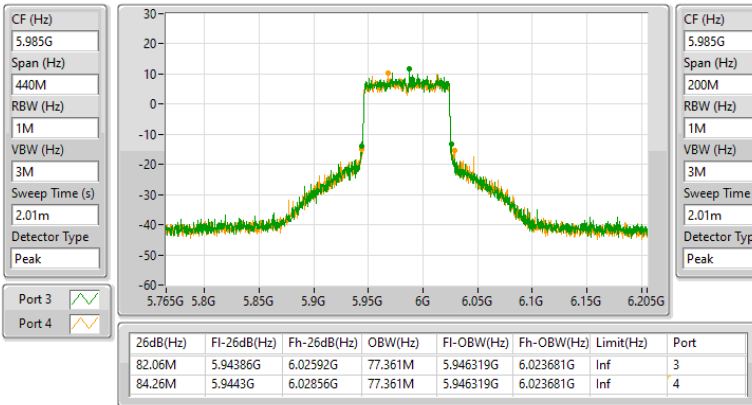


5.925-6.425GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

5985MHz

01/09/2023

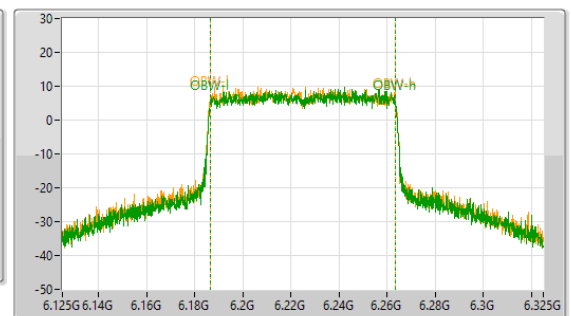
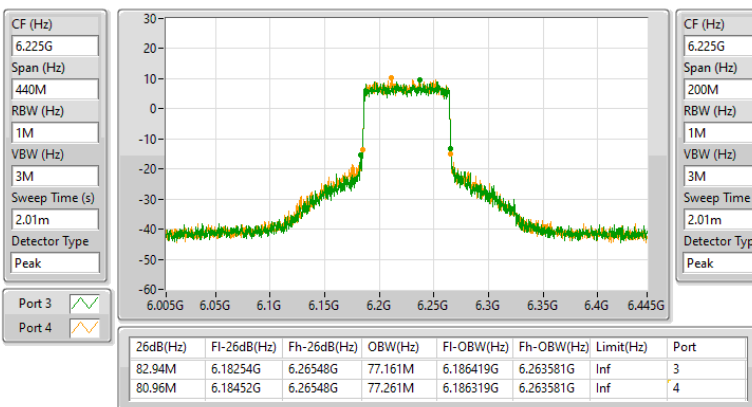


5.925-6.425GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6225MHz

01/09/2023

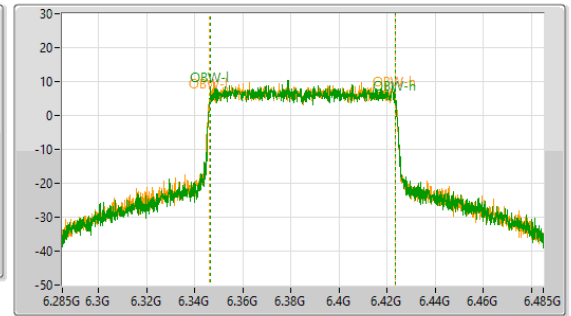
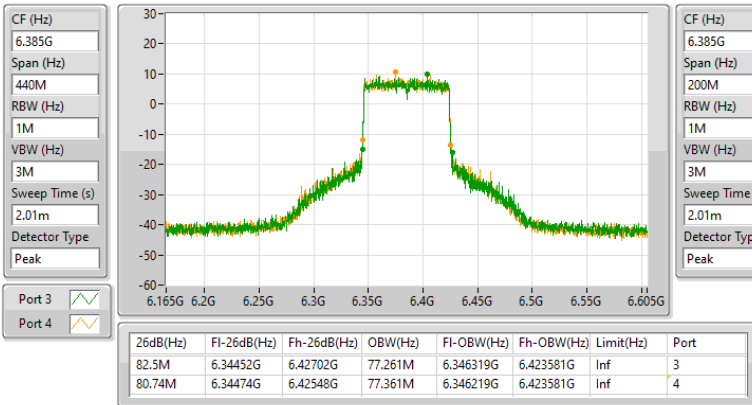


5.925-6.425GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6385MHz

01/09/2023

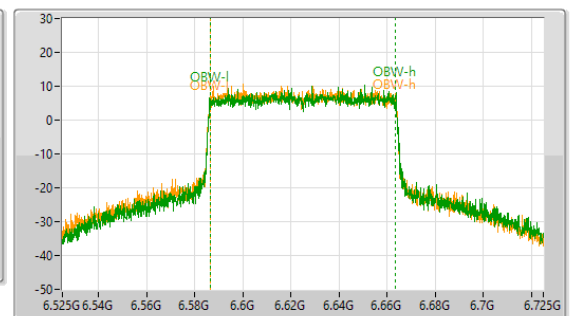
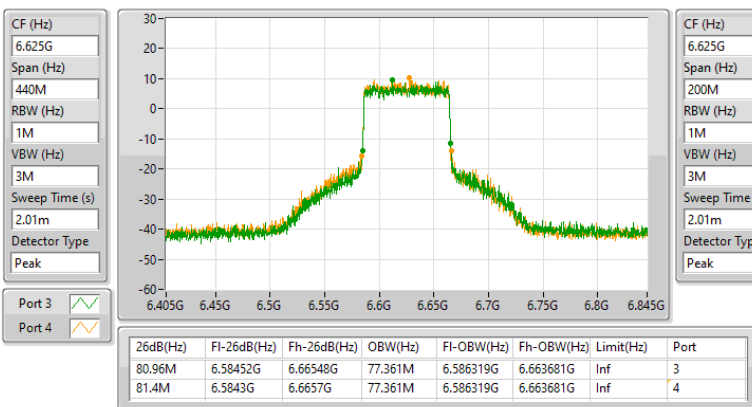


6.525-6.875GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6625MHz

01/09/2023

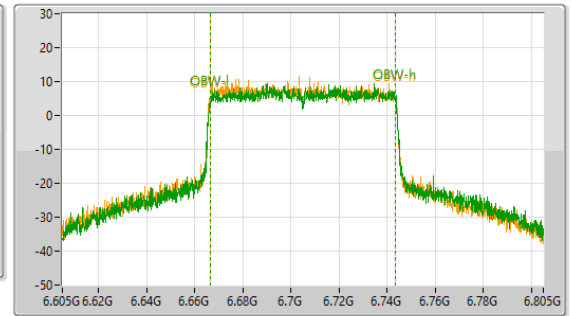
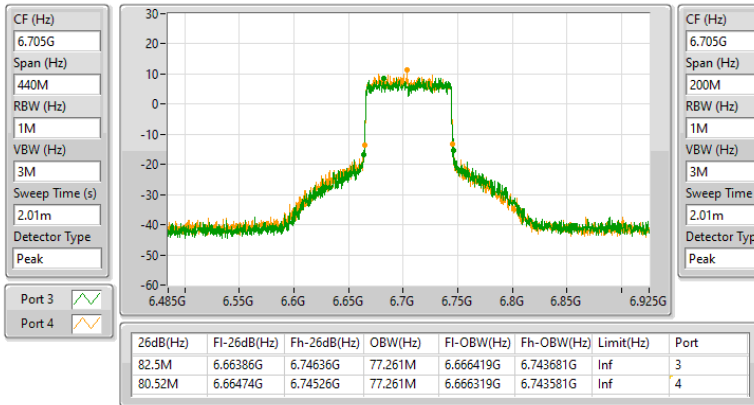


6.525-6.875GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6705MHz

01/09/2023

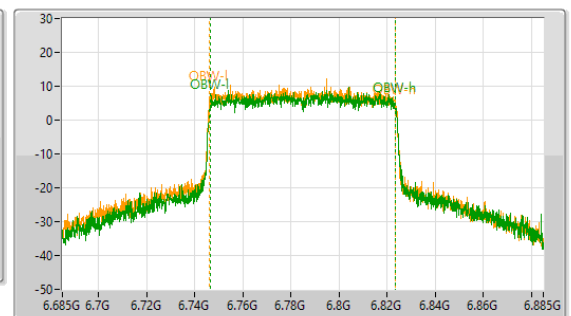
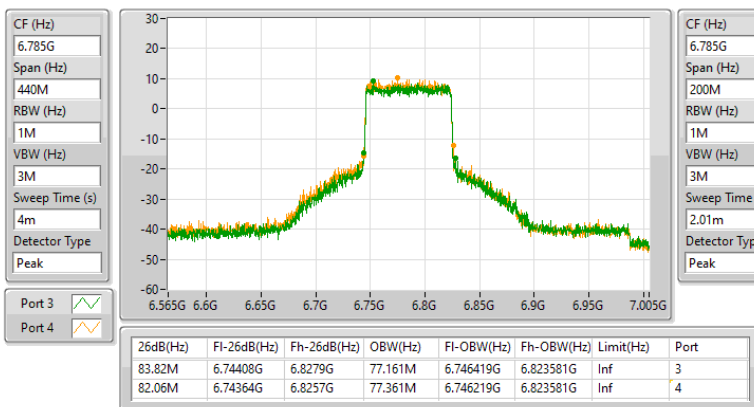


6.525-6.875GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6785MHz

01/09/2023

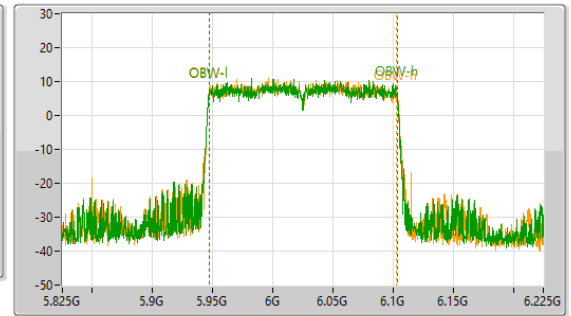
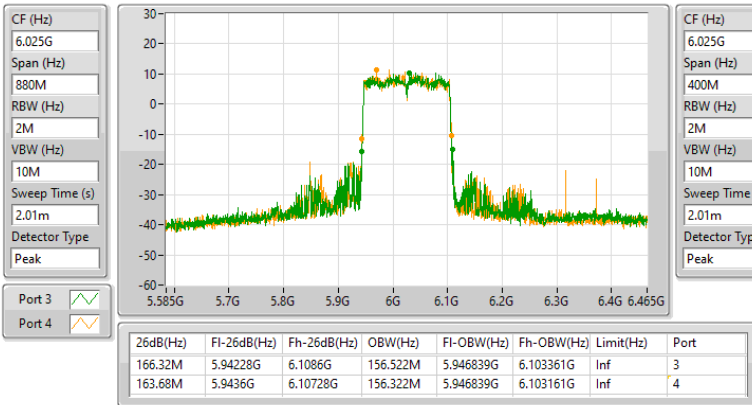


5.925-6.425GHz_802.11ax HEW160_Nss2,(MCS0)_2TX

EBW

6025MHz

01/09/2023

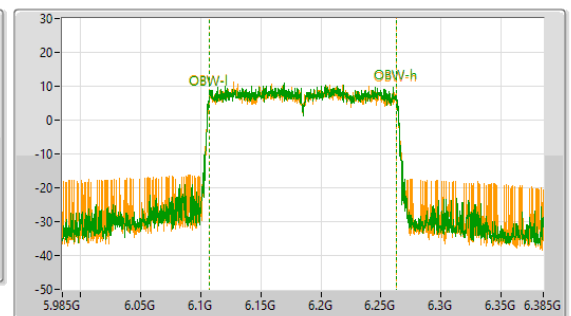
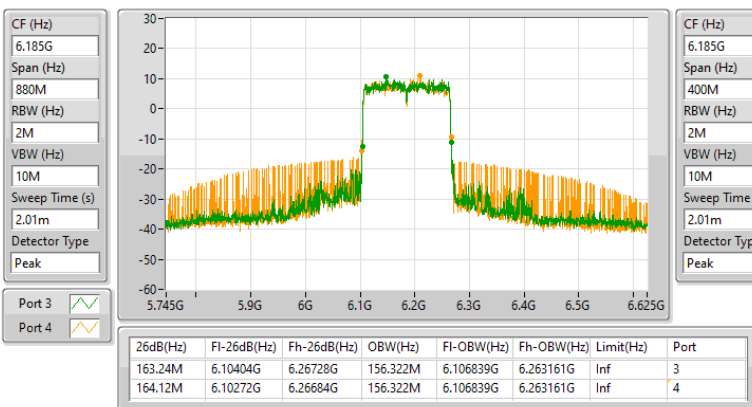


5.925-6.425GHz_802.11ax HEW160_Nss2,(MCS0)_2TX

EBW

6185MHz

01/09/2023

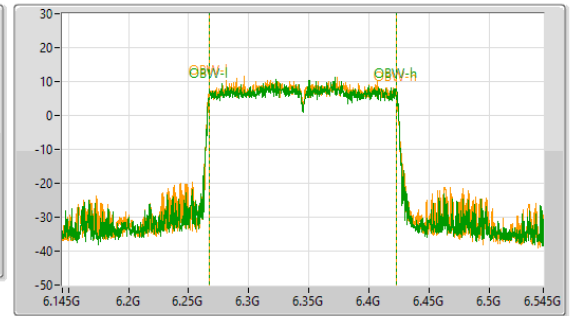
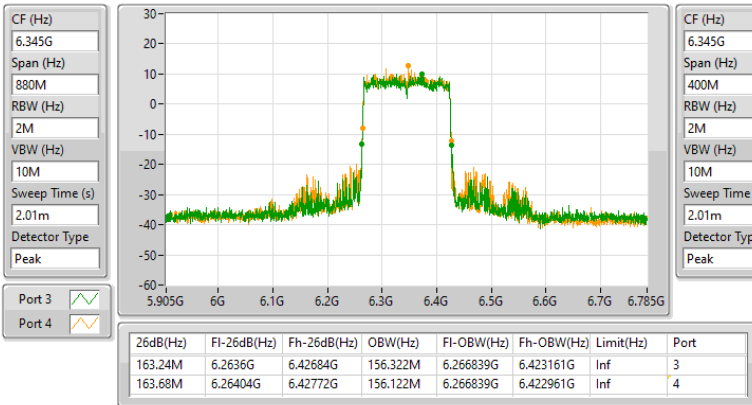


5.925-6.425GHz_802.11ax HEW160_Nss2,(MCS0)_2TX

EBW

6345MHz

01/09/2023

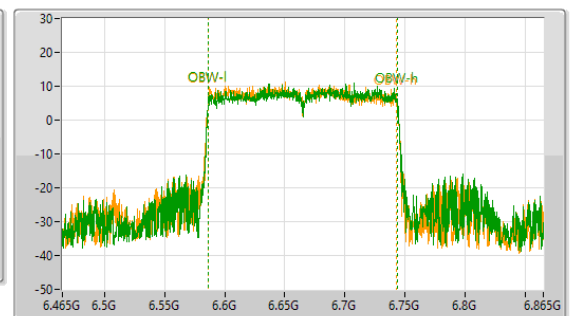
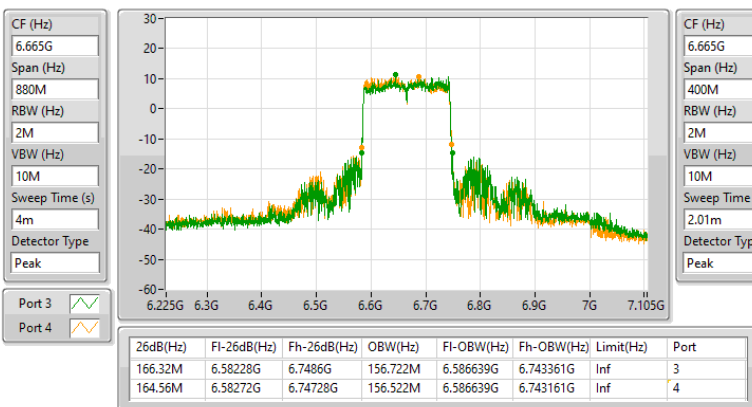


6.525-6.875GHz_802.11ax HEW160_Nss2,(MCS0)_2TX

EBW

6665MHz

01/09/2023



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.925-6.425GHz	-	-	-	-	-
802.11ax HEW20_Nss1,(MCS0)_1TX	47.575M	24.788M	24M8D1D	42.9M	19.615M
802.11ax HEW20_Nss2,(MCS0)_2TX	37.51M	19.315M	19M3D1D	26.95M	19.115M
802.11ax HEW20_Nss1,(MCS0)_4TX	23.76M	19.115M	19M1D1D	21.23M	19.015M
802.11ax HEW20_Nss4,(MCS0)_4TX	21.835M	19.115M	19M1D1D	21.065M	18.966M
802.11ax HEW40_Nss1,(MCS0)_1TX	100.54M	65.367M	65M4D1D	53.35M	37.942M
802.11ax HEW40_Nss2,(MCS0)_2TX	64.79M	38.081M	38M1D1D	42.46M	37.798M
802.11ax HEW40_Nss1,(MCS0)_4TX	45.98M	37.831M	37M8D1D	40.04M	37.731M
802.11ax HEW40_Nss4,(MCS0)_4TX	41.14M	37.881M	37M9D1D	39.27M	37.681M
802.11ax HEW80_Nss1,(MCS0)_1TX	183.7M	114.143M	114MD1D	111.98M	77.791M
802.11ax HEW80_Nss2,(MCS0)_2TX	123.86M	77.761M	77M8D1D	80.74M	77.459M
802.11ax HEW80_Nss1,(MCS0)_4TX	88.44M	77.561M	77M6D1D	80.74M	77.261M
802.11ax HEW80_Nss4,(MCS0)_4TX	83.38M	77.561M	77M6D1D	80.96M	77.161M
802.11ax HEW160_Nss1,(MCS0)_1TX	412.72M	274.463M	274MD1D	275M	157.615M
802.11ax HEW160_Nss2,(MCS0)_2TX	348.48M	205.897M	206MD1D	270.6M	157.269M
802.11ax HEW160_Nss1,(MCS0)_4TX	267.96M	157.321M	157MD1D	162.8M	156.322M
802.11ax HEW160_Nss4,(MCS0)_4TX	265.76M	157.121M	157MD1D	162.8M	156.522M
6.525-6.875GHz	-	-	-	-	-
802.11ax HEW20_Nss1,(MCS0)_1TX	46.805M	23.713M	23M7D1D	40.205M	19.615M
802.11ax HEW20_Nss2,(MCS0)_2TX	34.1M	19.24M	19M2D1D	26.455M	19.115M
802.11ax HEW20_Nss1,(MCS0)_4TX	22.055M	19.165M	19M2D1D	21.175M	19.04M
802.11ax HEW20_Nss4,(MCS0)_4TX	23.98M	19.09M	19M1D1D	20.625M	19.015M
802.11ax HEW40_Nss1,(MCS0)_1TX	104.17M	69.365M	69M4D1D	96.69M	55.122M
802.11ax HEW40_Nss2,(MCS0)_2TX	78.98M	38.331M	38M3D1D	44M	37.931M
802.11ax HEW40_Nss1,(MCS0)_4TX	45.65M	37.981M	38M0D1D	40.04M	37.681M
802.11ax HEW40_Nss4,(MCS0)_4TX	41.91M	37.831M	37M8D1D	40.15M	37.731M
802.11ax HEW80_Nss1,(MCS0)_1TX	214.5M	122.239M	122MD1D	197.34M	110.145M
802.11ax HEW80_Nss2,(MCS0)_2TX	150.7M	78.061M	78M1D1D	121.88M	77.761M
802.11ax HEW80_Nss1,(MCS0)_4TX	85.14M	77.461M	77M5D1D	80.74M	77.161M
802.11ax HEW80_Nss4,(MCS0)_4TX	83.82M	77.561M	77M6D1D	80.96M	77.261M
802.11ax HEW160_Nss1,(MCS0)_1TX	424.6M	264.868M	265MD1D	424.6M	264.868M
802.11ax HEW160_Nss2,(MCS0)_2TX	360.8M	212.094M	212MD1D	353.32M	204.098M
802.11ax HEW160_Nss1,(MCS0)_4TX	302.28M	157.121M	157MD1D	266.2M	156.522M
802.11ax HEW160_Nss4,(MCS0)_4TX	268.4M	157.121M	157MD1D	199.76M	156.722M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
 Max-OBW = Maximum 99% occupied bandwidth;
 Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
 Min-OBW = Minimum 99% occupied bandwidth



EBW_Set 6 antenna with 30 degree_R5_1T1S, 2T2S, 4T1S, 4T4S Appendix B.2

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-
5955MHz	Pass	Inf	43.395M	21.814M						
6195MHz	Pass	Inf	47.575M	24.788M						
6415MHz	Pass	Inf	42.9M	19.615M						
6535MHz	Pass	Inf	40.205M	19.615M						
6695MHz	Pass	Inf	42.24M	22.214M						
6855MHz	Pass	Inf	46.805M	23.713M						
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-
5965MHz	Pass	Inf	53.35M	37.942M						
6205MHz	Pass	Inf	100.54M	65.367M						
6405MHz	Pass	Inf	76.34M	39.13M						
6565MHz	Pass	Inf	104.17M	69.365M						
6685MHz	Pass	Inf	103.62M	66.617M						
6845MHz	Pass	Inf	96.69M	55.122M						
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-
5985MHz	Pass	Inf	111.98M	77.791M						
6225MHz	Pass	Inf	183.7M	114.143M						
6385MHz	Pass	Inf	180.4M	79.06M						
6625MHz	Pass	Inf	201.52M	122.239M						
6705MHz	Pass	Inf	197.34M	110.145M						
6785MHz	Pass	Inf	214.5M	117.441M						
802.11ax HEW160_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-
6025MHz	Pass	Inf	275M	157.615M						
6185MHz	Pass	Inf	412.72M	274.463M						
6345MHz	Pass	Inf	315.48M	158.721M						
6665MHz	Pass	Inf	424.6M	264.868M						
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5955MHz	Pass	Inf	37.51M	19.315M	33.495M	19.215M				
6195MHz	Pass	Inf	37.015M	19.24M	30.69M	19.14M				
6415MHz	Pass	Inf	34.76M	19.115M	26.95M	19.14M				
6535MHz	Pass	Inf	34.1M	19.24M	29.425M	19.14M				
6695MHz	Pass	Inf	30.635M	19.115M	29.535M	19.115M				
6855MHz	Pass	Inf	32.78M	19.165M	26.455M	19.165M				
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5965MHz	Pass	Inf	42.46M	37.798M	42.46M	37.805M				
6205MHz	Pass	Inf	57.09M	38.081M	64.79M	38.031M				
6405MHz	Pass	Inf	43.78M	37.881M	59.73M	37.881M				
6565MHz	Pass	Inf	76.89M	38.331M	44M	37.931M				
6685MHz	Pass	Inf	69.96M	38.081M	78.32M	38.131M				
6845MHz	Pass	Inf	78.98M	38.131M	64.9M	37.981M				
802.11ax HEW80_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5985MHz	Pass	Inf	90.86M	77.46M	80.74M	77.459M				
6225MHz	Pass	Inf	123.86M	77.761M	82.06M	77.561M				
6385MHz	Pass	Inf	108.02M	77.661M	102.08M	77.661M				
6625MHz	Pass	Inf	150.7M	78.061M	121.88M	77.861M				
6705MHz	Pass	Inf	136.84M	77.761M	131.12M	78.061M				
6785MHz	Pass	Inf	142.56M	77.961M	131.78M	77.861M				
802.11ax HEW160_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
6025MHz	Pass	Inf	277.64M	157.859M	270.6M	157.269M				
6185MHz	Pass	Inf	348.48M	205.897M	336.6M	185.307M				
6345MHz	Pass	Inf	313.28M	157.921M	315.92M	158.721M				
6665MHz	Pass	Inf	360.8M	212.094M	353.32M	204.098M				
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5955MHz	Pass	Inf	21.505M	19.015M	21.56M	19.09M	21.725M	19.04M	21.67M	19.065M
6195MHz	Pass	Inf	21.615M	19.115M	21.23M	19.04M	23.76M	19.115M	21.725M	19.04M



EBW_Set 6 antenna with 30 degree_R5_1T1S, 2T2S, 4T1S, 4T4S Appendix B.2

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)
6415MHz	Pass	Inf	21.725M	19.015M	21.45M	19.04M	21.615M	19.065M	21.285M	19.065M
6535MHz	Pass	Inf	21.45M	19.04M	21.67M	19.165M	21.615M	19.065M	21.505M	19.09M
6695MHz	Pass	Inf	21.835M	19.04M	21.615M	19.04M	22.055M	19.04M	21.945M	19.04M
6855MHz	Pass	Inf	21.78M	19.065M	21.175M	19.04M	21.615M	19.09M	21.395M	19.065M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5965MHz	Pass	Inf	40.04M	37.781M	41.03M	37.781M	42.02M	37.831M	40.04M	37.831M
6205MHz	Pass	Inf	41.36M	37.731M	41.25M	37.781M	44.22M	37.781M	40.37M	37.731M
6405MHz	Pass	Inf	43.01M	37.731M	41.03M	37.731M	45.98M	37.781M	40.7M	37.731M
6565MHz	Pass	Inf	45.65M	37.981M	41.47M	37.831M	41.03M	37.681M	41.25M	37.731M
6685MHz	Pass	Inf	40.26M	37.831M	40.7M	37.831M	40.48M	37.831M	41.14M	37.781M
6845MHz	Pass	Inf	40.04M	37.881M	40.48M	37.731M	40.15M	37.681M	42.79M	37.781M
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5985MHz	Pass	Inf	88.44M	77.361M	82.94M	77.561M	81.18M	77.461M	81.18M	77.361M
6225MHz	Pass	Inf	80.74M	77.361M	82.28M	77.361M	80.74M	77.361M	81.62M	77.261M
6385MHz	Pass	Inf	81.4M	77.261M	81.4M	77.261M	81.4M	77.361M	80.74M	77.361M
6625MHz	Pass	Inf	81.4M	77.461M	81.4M	77.261M	80.96M	77.261M	80.74M	77.361M
6705MHz	Pass	Inf	81.18M	77.161M	80.74M	77.261M	80.96M	77.361M	83.38M	77.361M
6785MHz	Pass	Inf	83.38M	77.361M	80.96M	77.261M	85.14M	77.161M	80.96M	77.261M
802.11ax HEW160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
6025MHz	Pass	Inf	267.96M	156.922M	231.44M	157.121M	240.68M	157.321M	227.92M	156.722M
6185MHz	Pass	Inf	261.36M	157.121M	233.64M	156.922M	263.12M	156.922M	266.64M	156.922M
6345MHz	Pass	Inf	162.8M	156.322M	162.8M	156.322M	243.76M	156.522M	164.12M	156.522M
6665MHz	Pass	Inf	302.28M	157.121M	268.4M	157.121M	269.28M	156.922M	266.2M	156.522M
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5955MHz	Pass	Inf	21.23M	19.015M	21.395M	18.991M	21.23M	19.065M	21.12M	19.065M
6195MHz	Pass	Inf	21.23M	19.065M	21.12M	18.966M	21.12M	18.991M	21.34M	19.09M
6415MHz	Pass	Inf	21.615M	19.015M	21.175M	19.09M	21.835M	19.065M	21.065M	19.115M
6535MHz	Pass	Inf	21.34M	19.065M	21.45M	19.015M	21.56M	19.04M	23.98M	19.04M
6695MHz	Pass	Inf	21.505M	19.04M	21.065M	19.04M	20.625M	19.04M	21.23M	19.09M
6855MHz	Pass	Inf	21.285M	19.015M	21.23M	19.04M	21.12M	19.065M	21.505M	19.04M
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5965MHz	Pass	Inf	39.6M	37.731M	39.93M	37.681M	41.03M	37.831M	41.03M	37.781M
6205MHz	Pass	Inf	40.48M	37.831M	40.15M	37.831M	41.14M	37.781M	40.92M	37.731M
6405MHz	Pass	Inf	40.04M	37.681M	41.14M	37.731M	40.92M	37.881M	39.27M	37.681M
6565MHz	Pass	Inf	40.48M	37.781M	40.26M	37.731M	41.36M	37.731M	41.91M	37.781M
6685MHz	Pass	Inf	40.37M	37.781M	41.14M	37.781M	40.59M	37.781M	40.81M	37.731M
6845MHz	Pass	Inf	40.81M	37.781M	40.15M	37.731M	41.03M	37.781M	40.81M	37.831M
802.11ax HEW80_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5985MHz	Pass	Inf	80.96M	77.261M	80.96M	77.561M	81.4M	77.261M	81.84M	77.361M
6225MHz	Pass	Inf	83.38M	77.361M	80.96M	77.161M	81.18M	77.261M	80.96M	77.261M
6385MHz	Pass	Inf	82.28M	77.161M	81.84M	77.261M	83.38M	77.261M	81.4M	77.361M
6625MHz	Pass	Inf	81.84M	77.261M	82.94M	77.261M	82.28M	77.261M	82.28M	77.561M
6705MHz	Pass	Inf	82.28M	77.461M	81.18M	77.361M	82.06M	77.261M	82.5M	77.261M
6785MHz	Pass	Inf	83.82M	77.361M	80.96M	77.261M	82.28M	77.261M	83.16M	77.361M
802.11ax HEW160_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
6025MHz	Pass	Inf	263.56M	156.922M	265.76M	157.121M	251.68M	157.121M	253M	156.922M
6185MHz	Pass	Inf	257.4M	156.722M	199.32M	156.722M	198M	157.121M	249.48M	156.722M
6345MHz	Pass	Inf	164.12M	156.522M	162.8M	156.522M	199.76M	156.522M	163.24M	156.522M
6665MHz	Pass	Inf	268.4M	157.121M	263.56M	156.722M	249.48M	156.922M	199.76M	156.722M

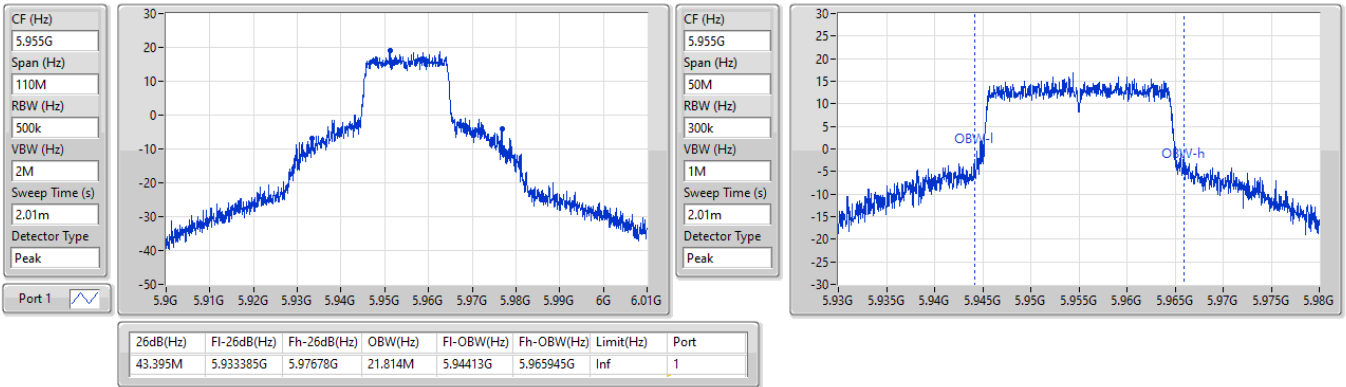
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

5.925-6.425GHz_802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5955MHz

01/09/2023

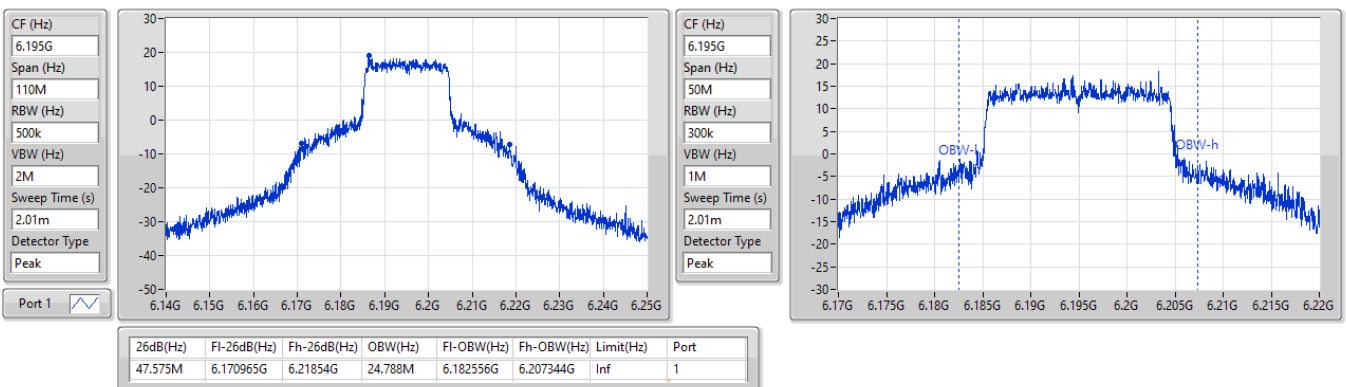


5.925-6.425GHz_802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

6195MHz

01/09/2023

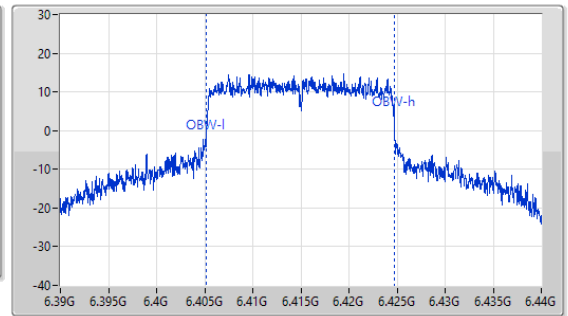
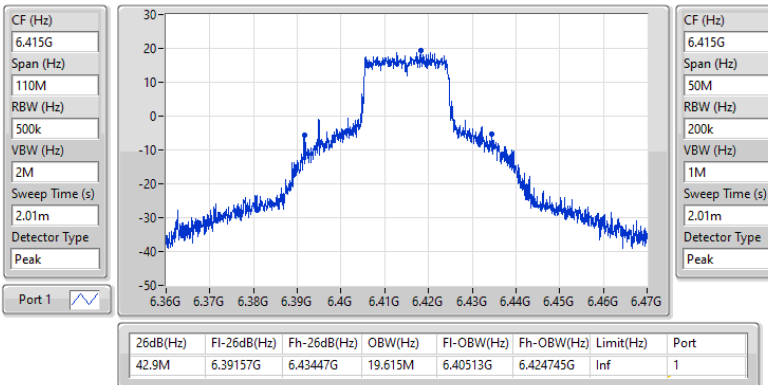


5.925-6.425GHz_802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

6415MHz

01/09/2023

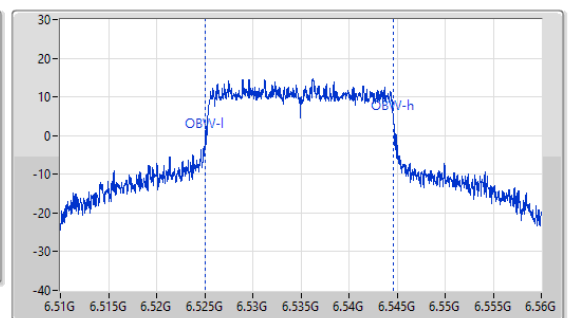
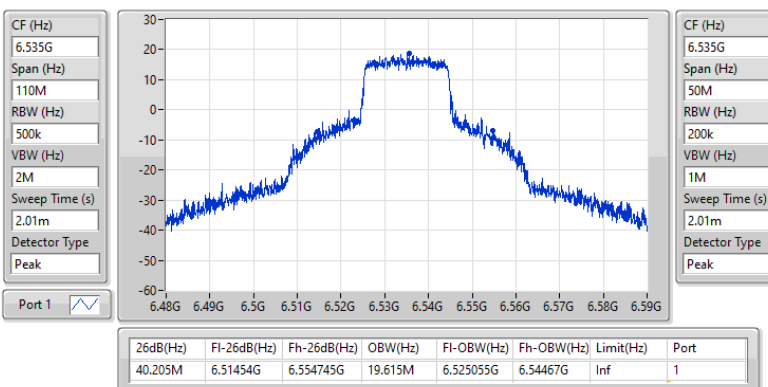


6.525-6.875GHz_802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

6535MHz

01/09/2023

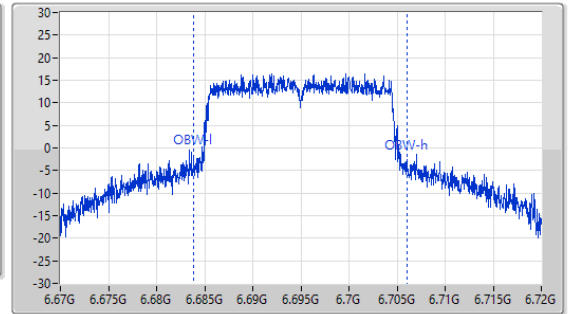
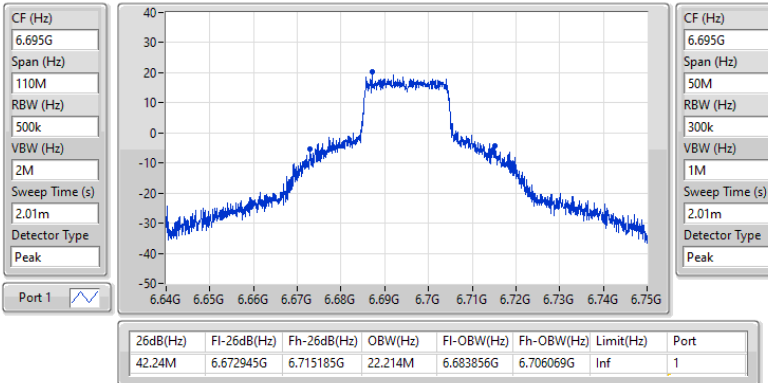


6.525-6.875GHz_802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

6695MHz

01/09/2023

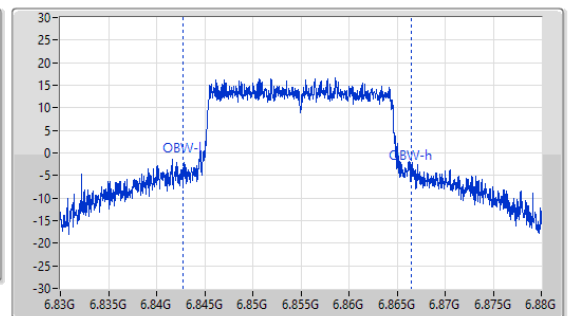
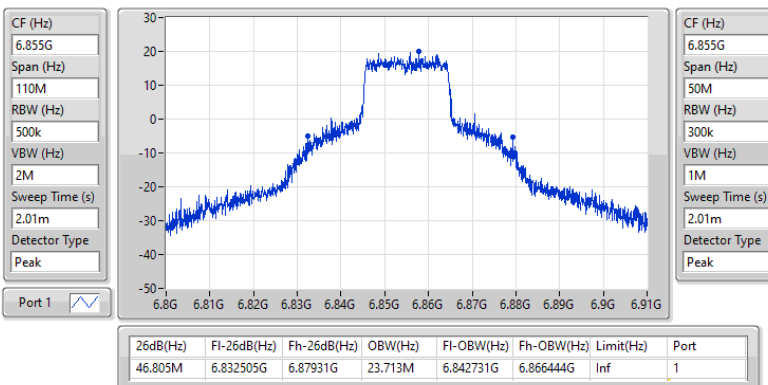


6.525-6.875GHz_802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

6855MHz

01/09/2023

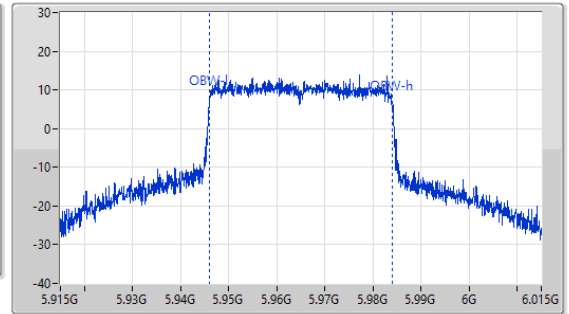
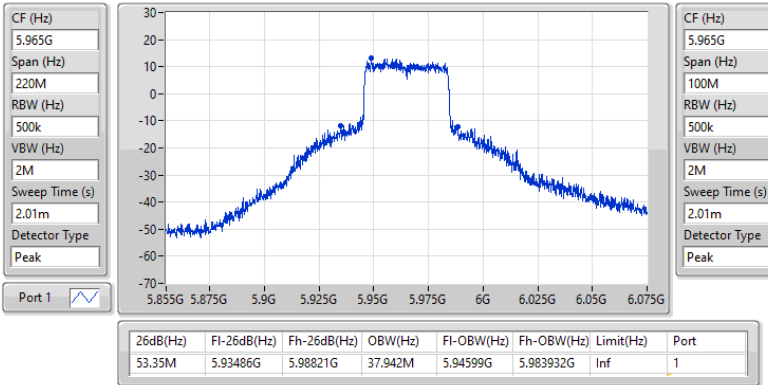


5.925-6.425GHz_802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

5965MHz

05/09/2023

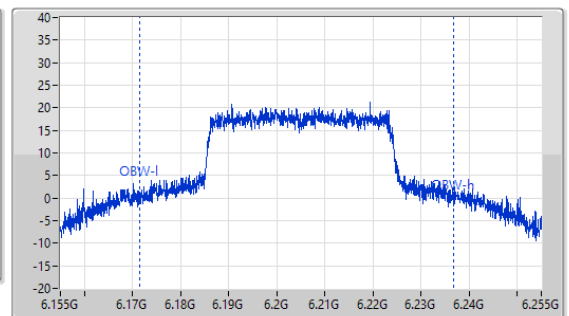
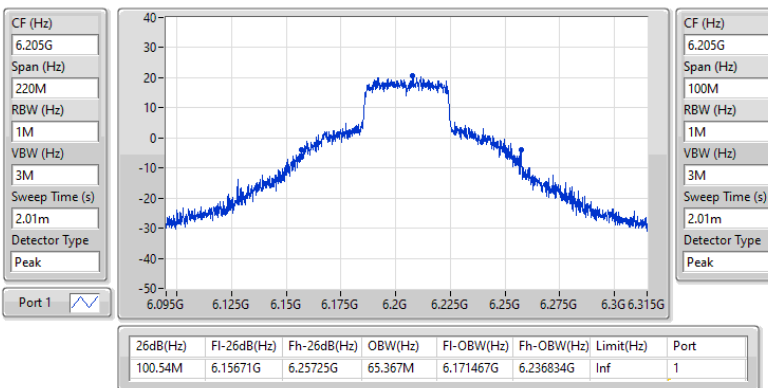


5.925-6.425GHz_802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

6205MHz

01/09/2023

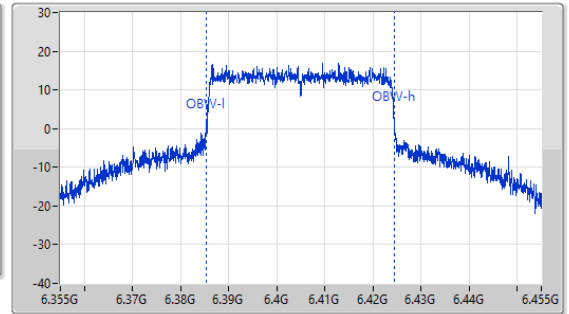
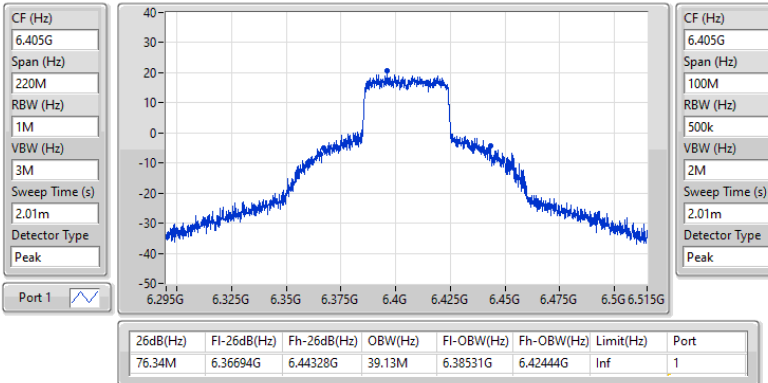


5.925-6.425GHz_802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

6405MHz

01/09/2023

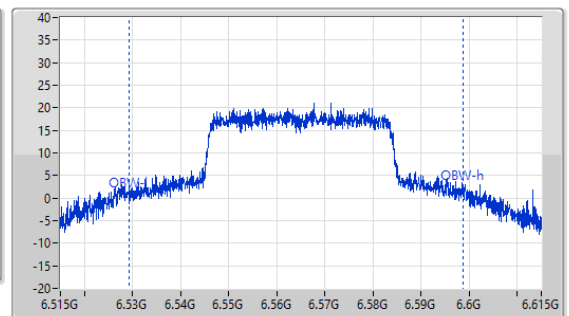
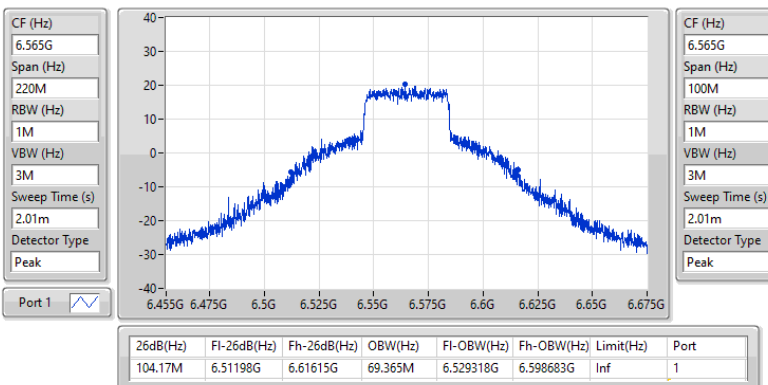


6.525-6.875GHz_802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

6565MHz

01/09/2023

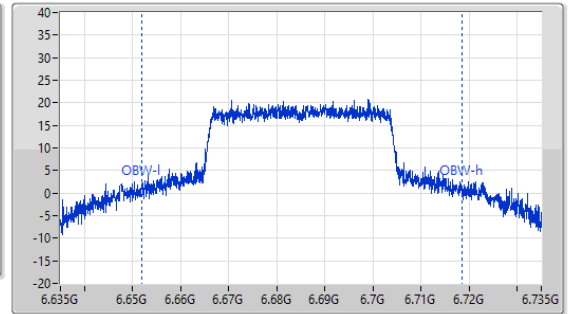
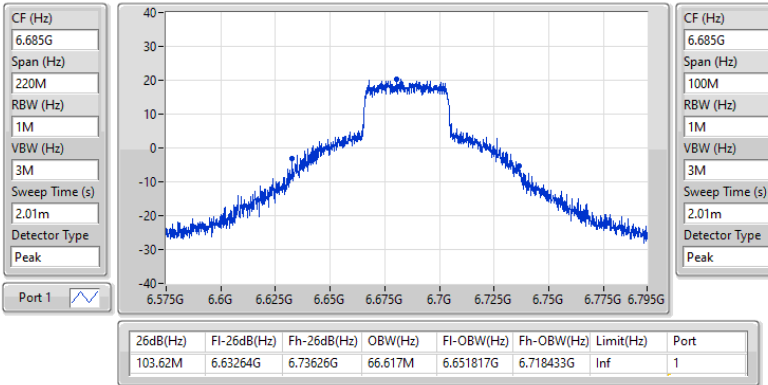


6.525-6.875GHz_802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

6685MHz

01/09/2023

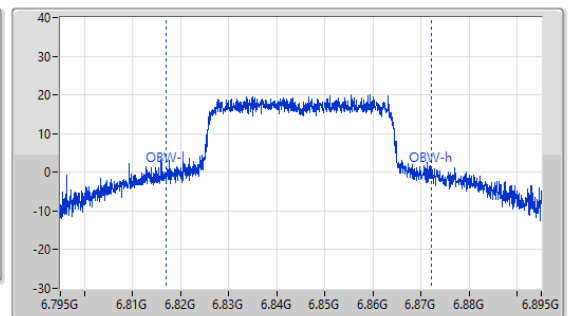
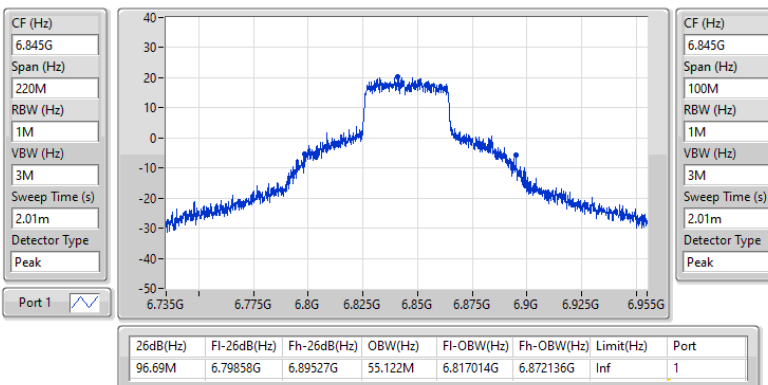


6.525-6.875GHz_802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

6845MHz

01/09/2023

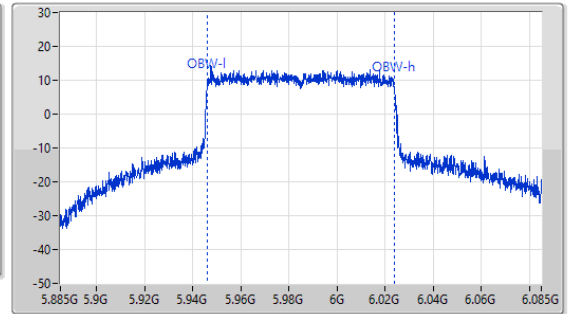
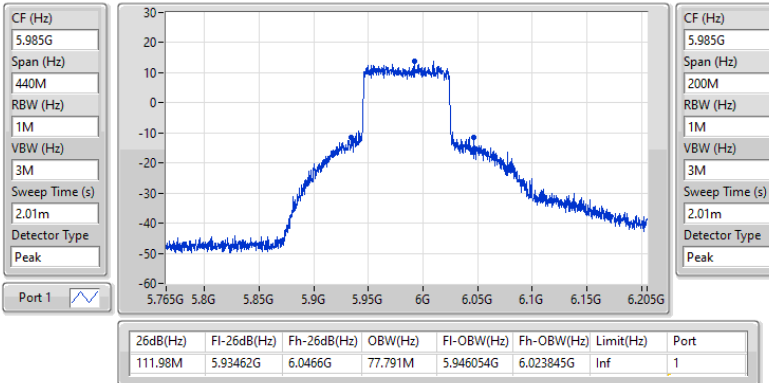


5.925-6.425GHz_802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

5985MHz

05/09/2023

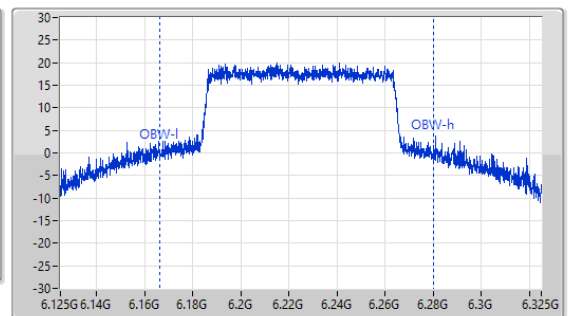
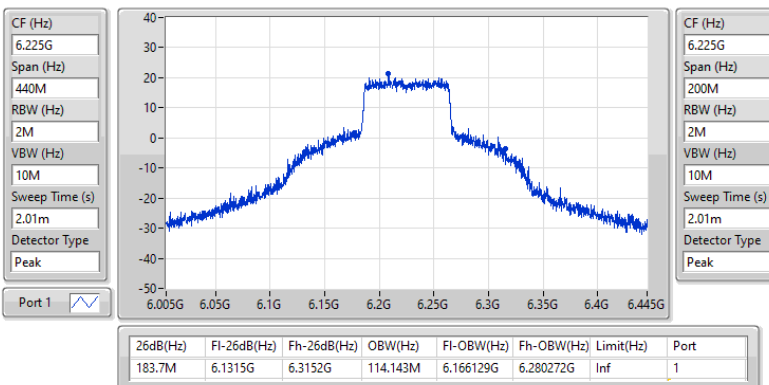


5.925-6.425GHz_802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

6225MHz

01/09/2023

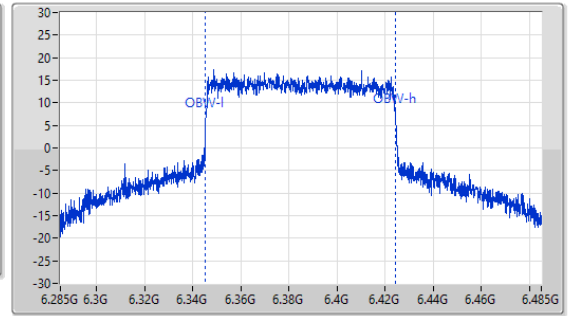
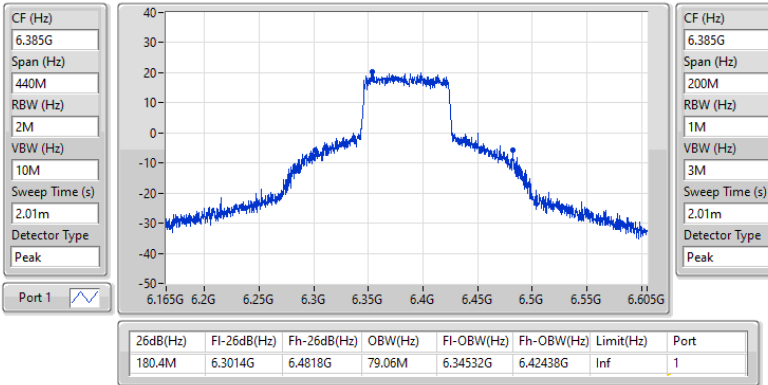


5.925-6.425GHz_802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

6385MHz

01/09/2023

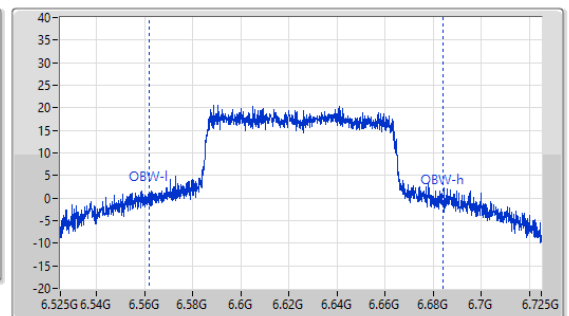
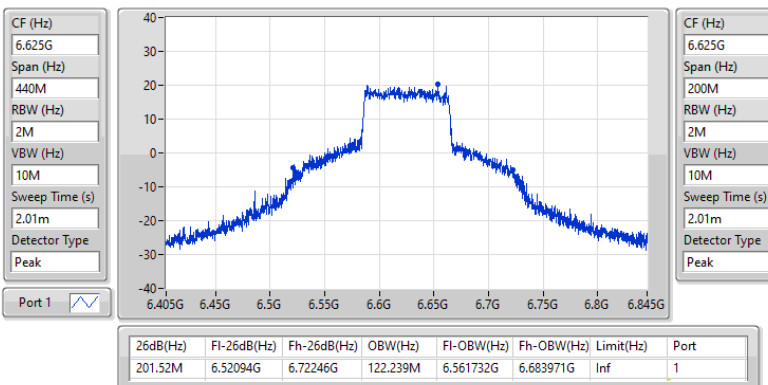


6.525-6.875GHz_802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

6625MHz

01/09/2023

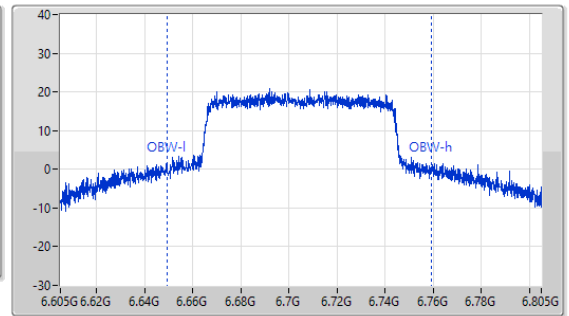
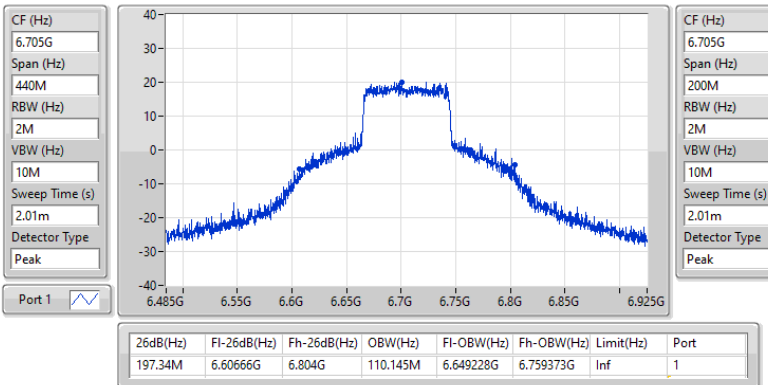


6.525-6.875GHz_802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

6705MHz

01/09/2023

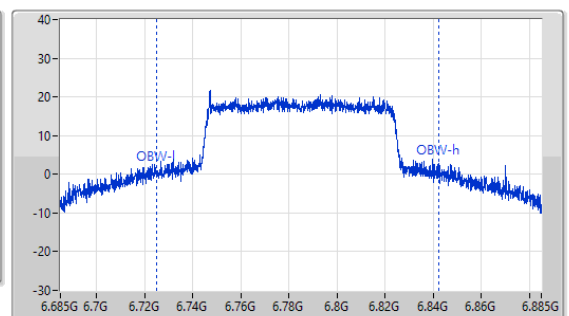
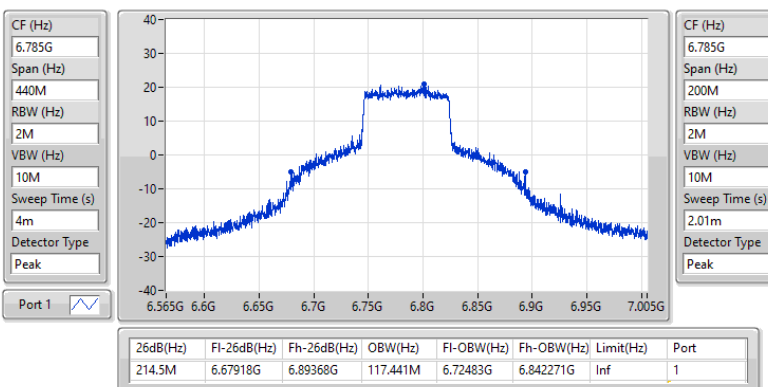


6.525-6.875GHz_802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

6785MHz

01/09/2023

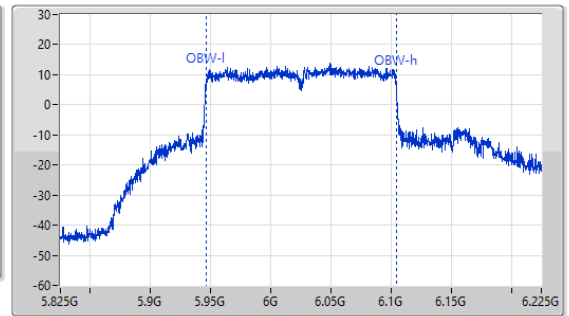
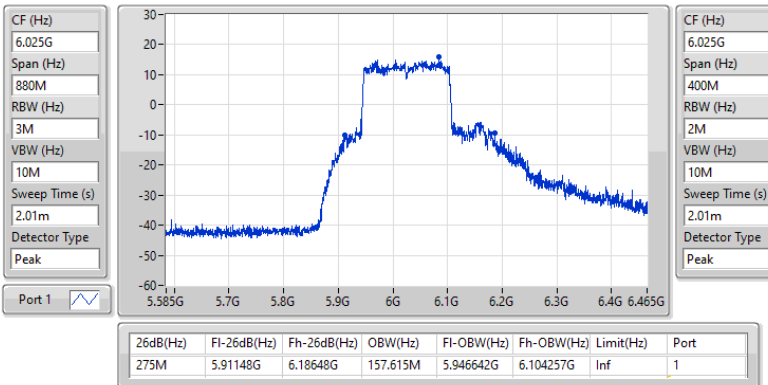


5.925-6.425GHz_802.11ax HEW160_Nss1,(MCS0)_1TX

EBW

6025MHz

05/09/2023

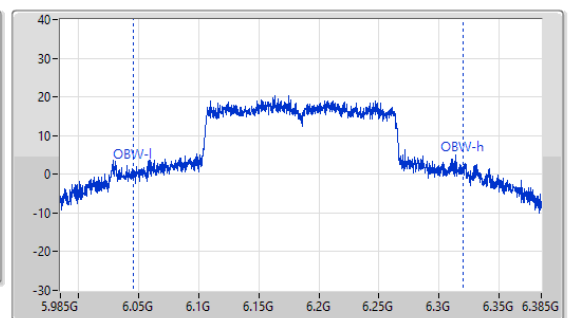
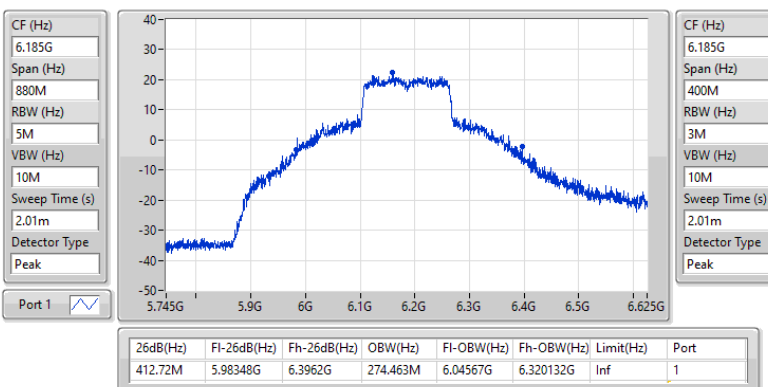


5.925-6.425GHz_802.11ax HEW160_Nss1,(MCS0)_1TX

EBW

6185MHz

01/09/2023

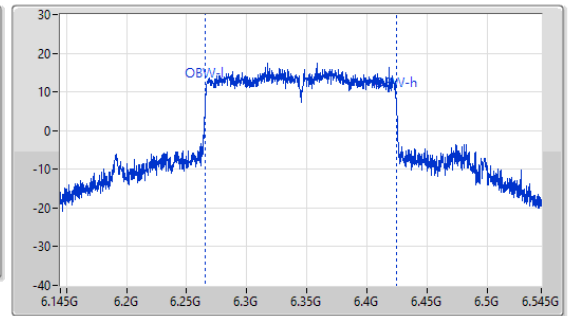
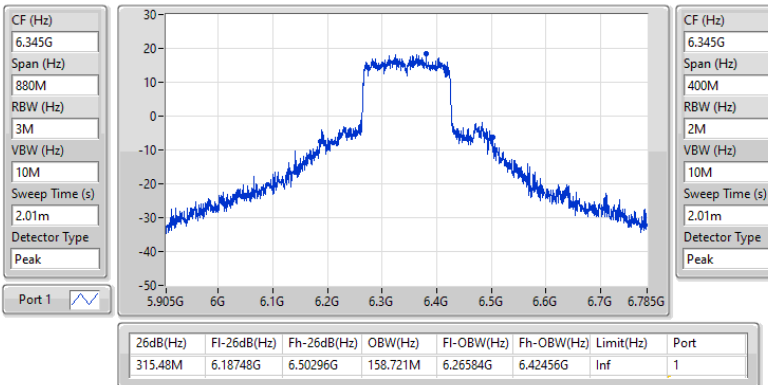


5.925-6.425GHz_802.11ax HEW160_Nss1,(MCS0)_1TX

EBW

6345MHz

01/09/2023

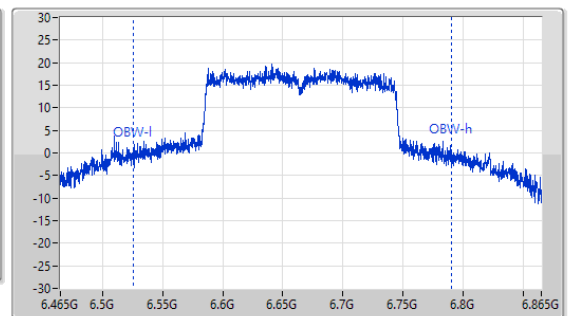
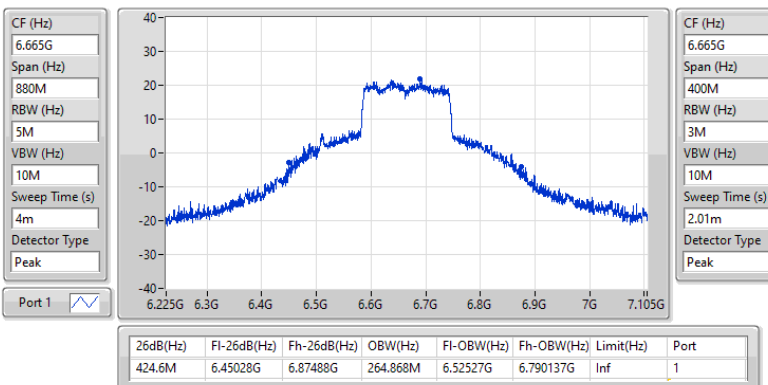


6.525-6.875GHz_802.11ax HEW160_Nss1,(MCS0)_1TX

EBW

6665MHz

01/09/2023

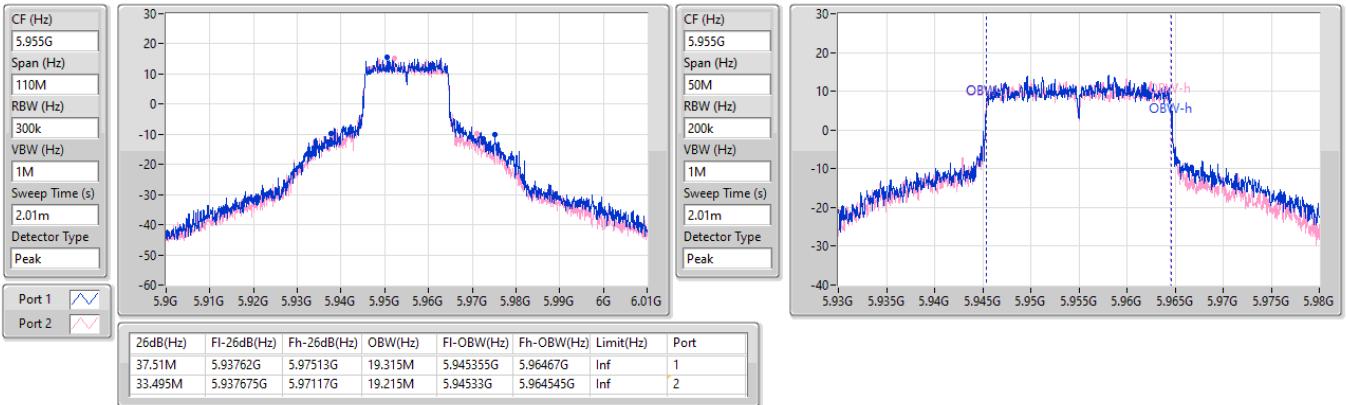


5.925-6.425GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

5955MHz

01/09/2023

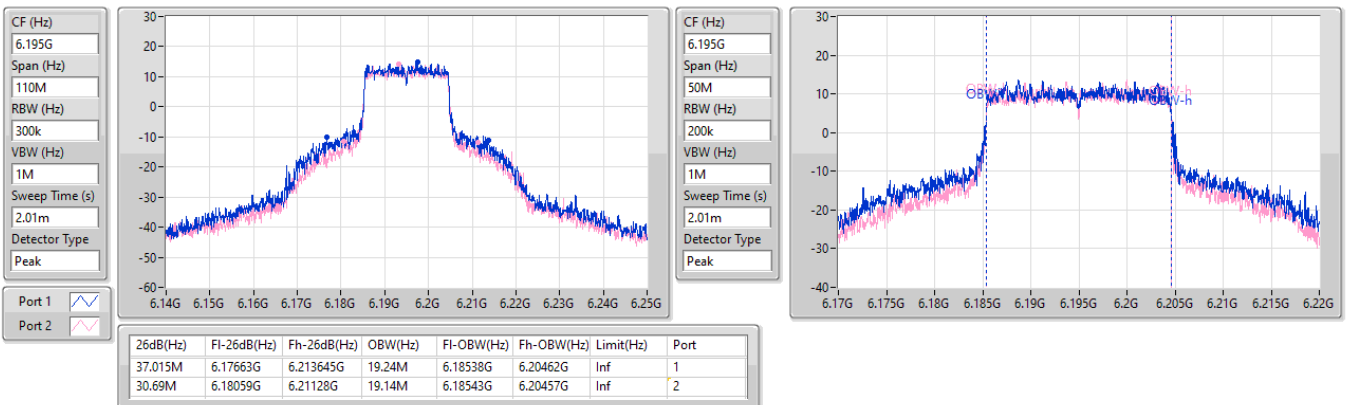


5.925-6.425GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

6195MHz

01/09/2023

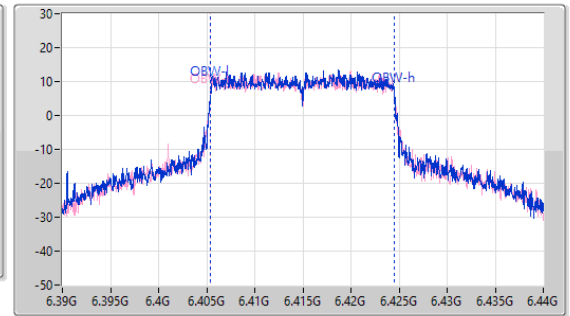
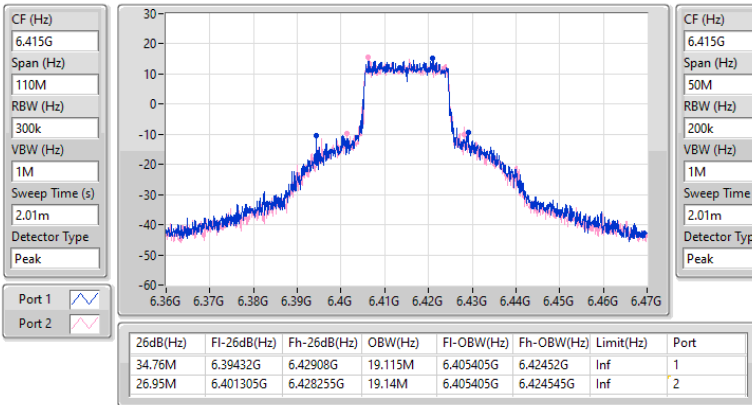


5.925-6.425GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

6415MHz

01/09/2023

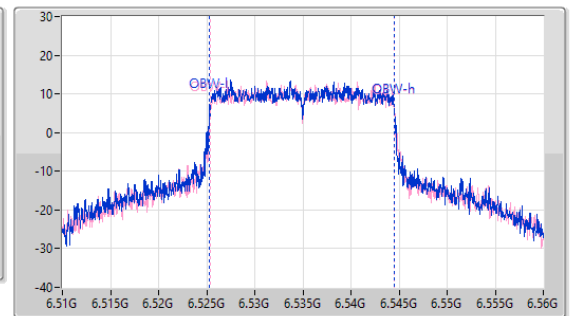
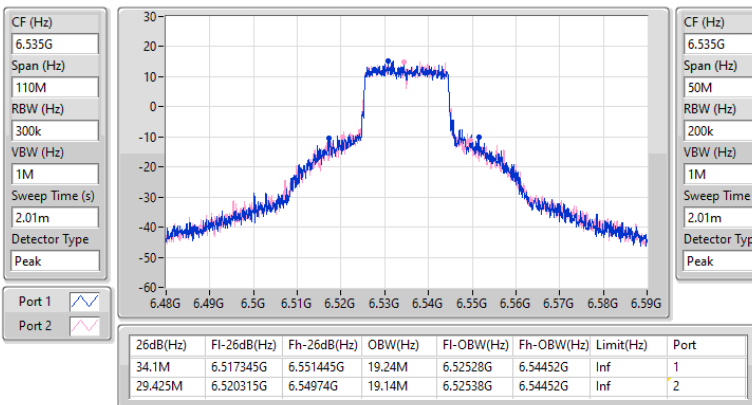


6.525-6.875GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

6535MHz

01/09/2023

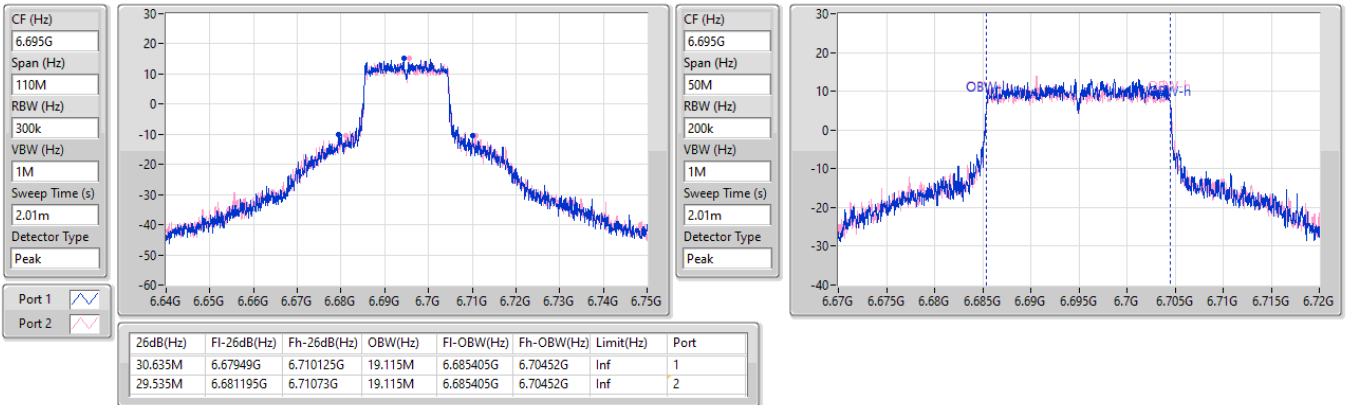


6.525-6.875GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

6695MHz

01/09/2023

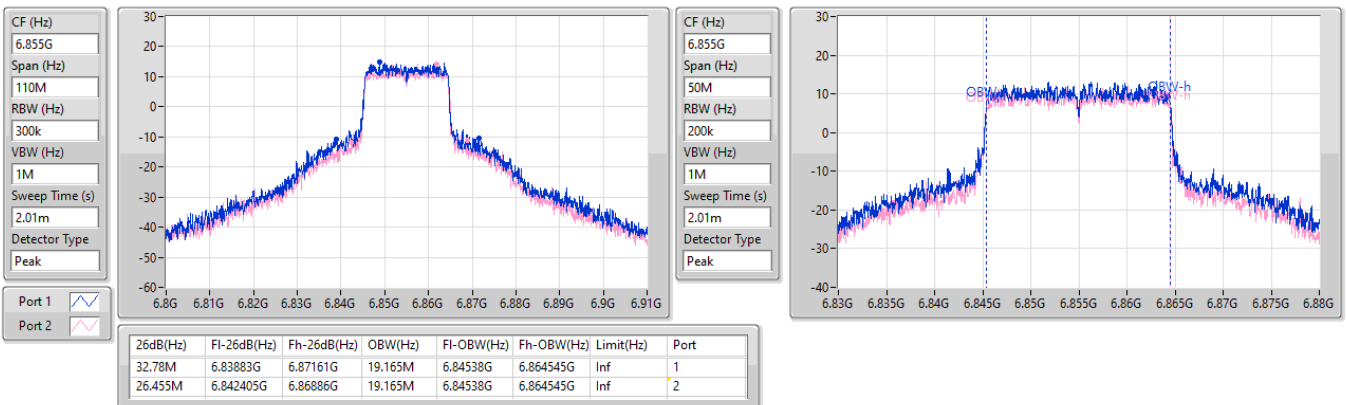


6.525-6.875GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

6855MHz

01/09/2023

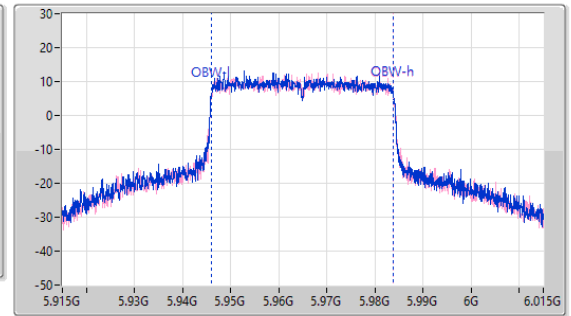
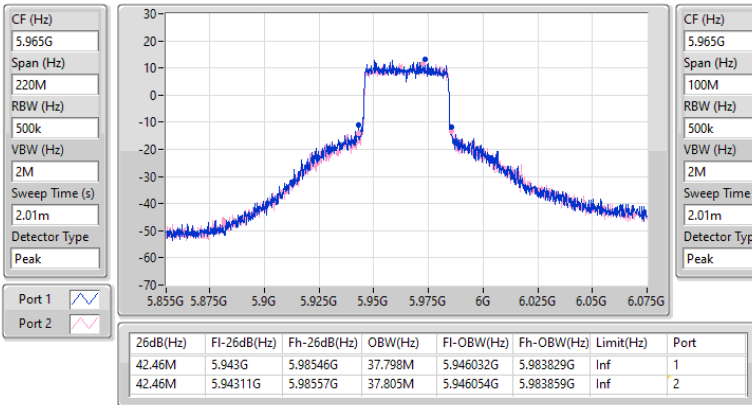


5.925-6.425GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

5965MHz

05/09/2023

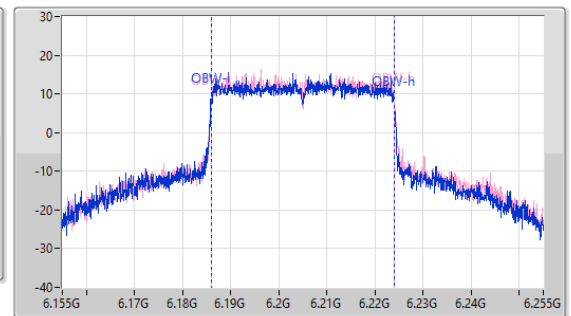
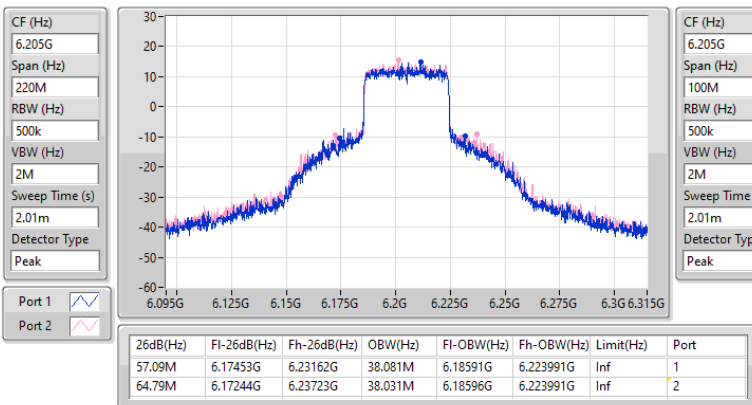


5.925-6.425GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6205MHz

01/09/2023

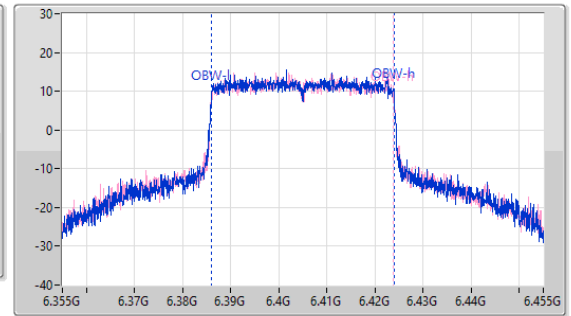
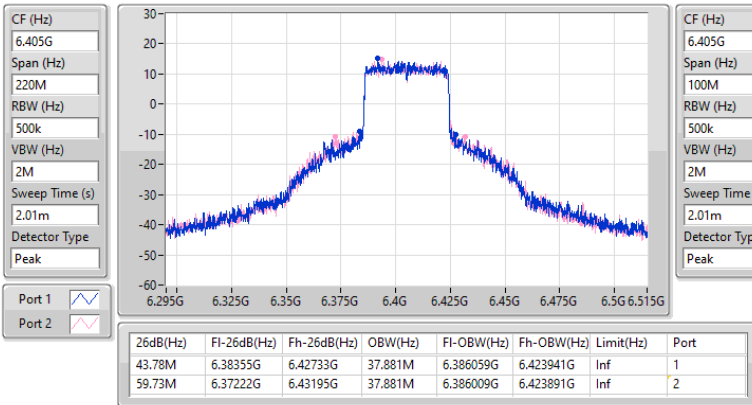


5.925-6.425GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6405MHz

01/09/2023

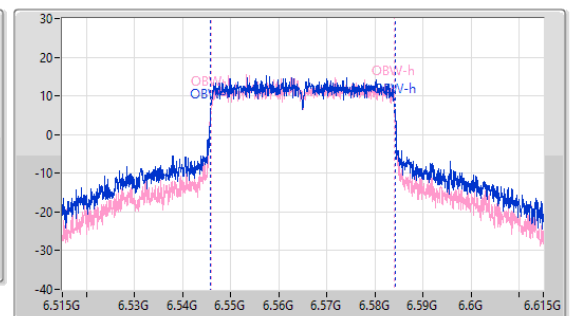
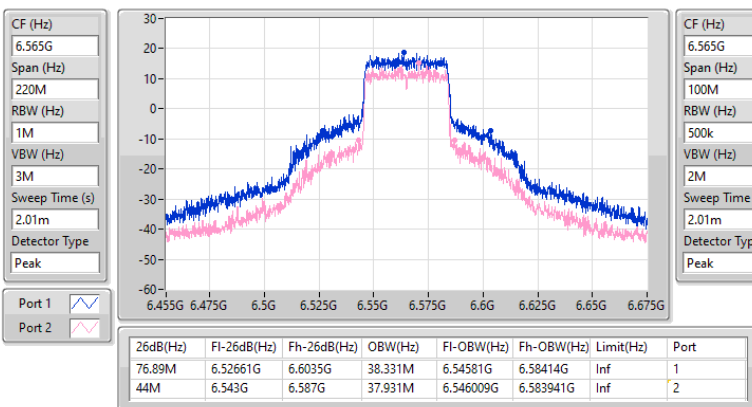


6.525-6.875GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6565MHz

01/09/2023

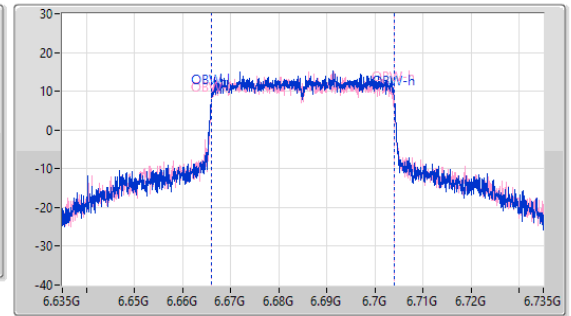
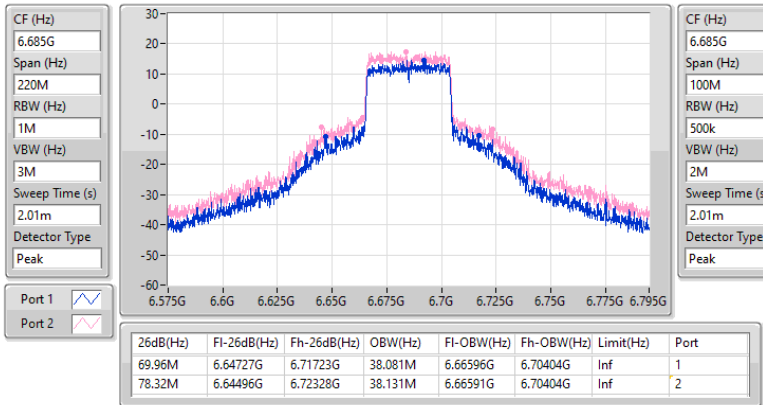


6.525-6.875GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6685MHz

01/09/2023

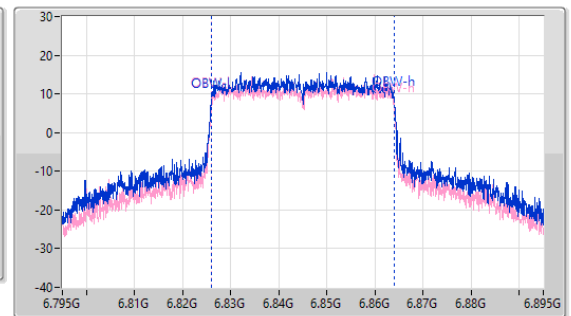
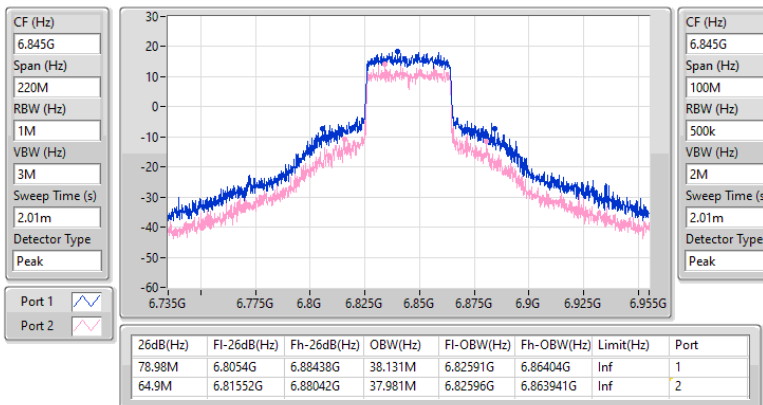


6.525-6.875GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6845MHz

01/09/2023

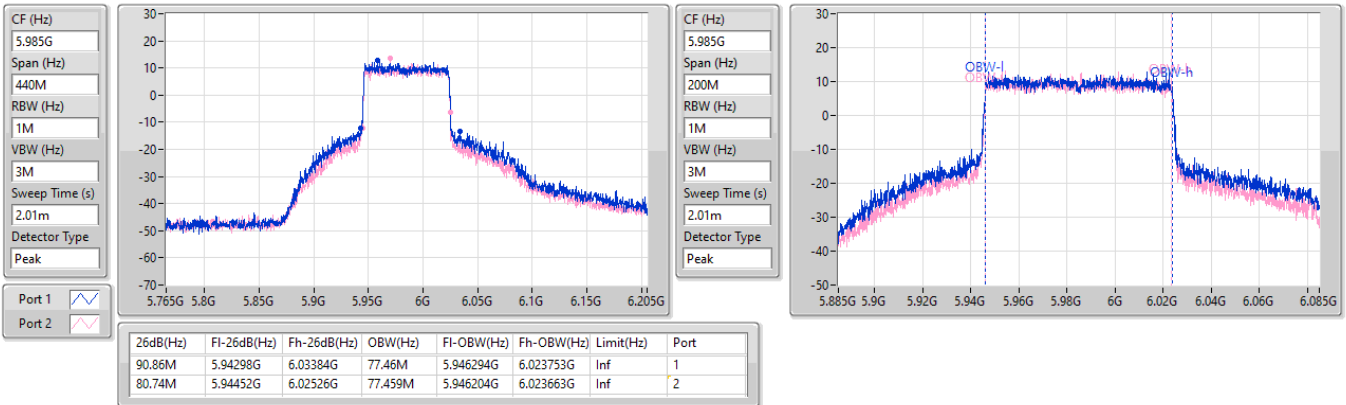


5.925-6.425GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

5985MHz

05/09/2023

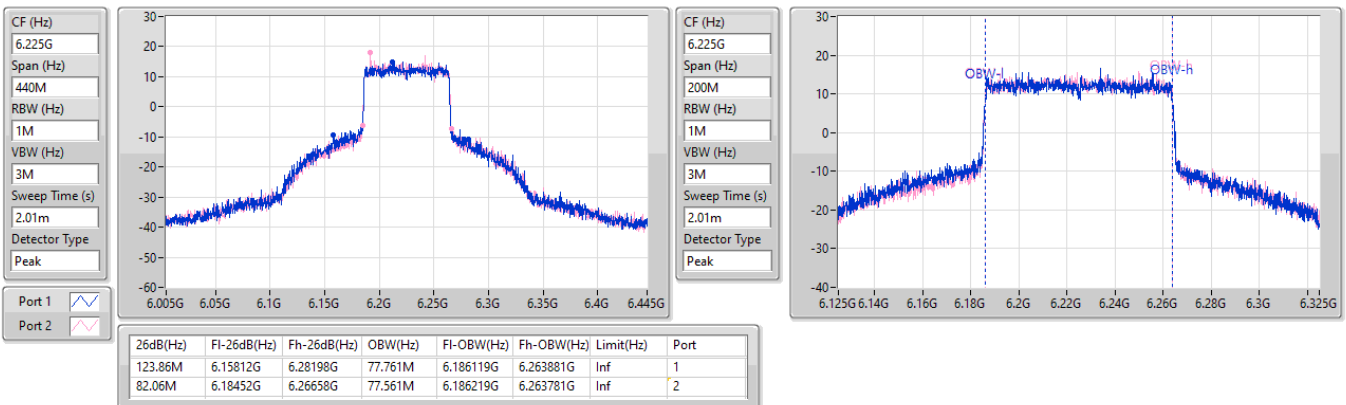


5.925-6.425GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6225MHz

01/09/2023

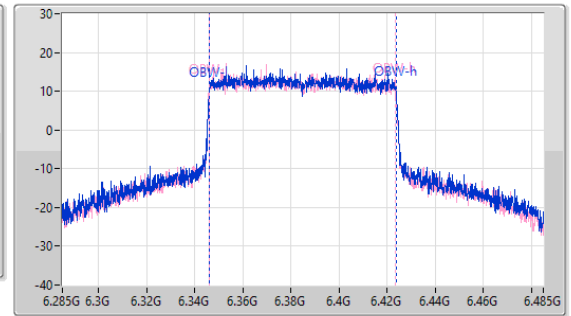
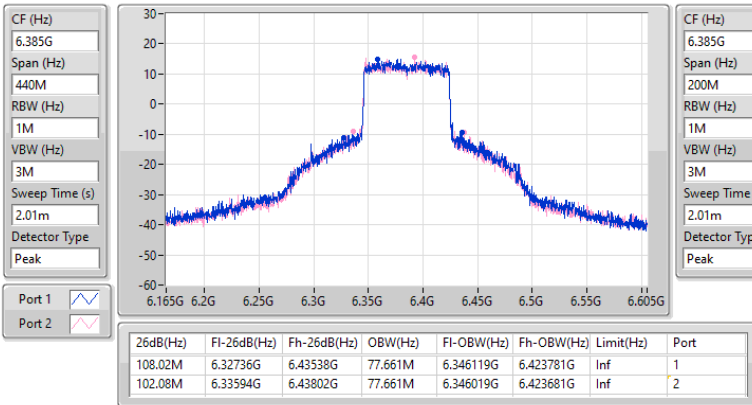


5.925-6.425GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6385MHz

01/09/2023

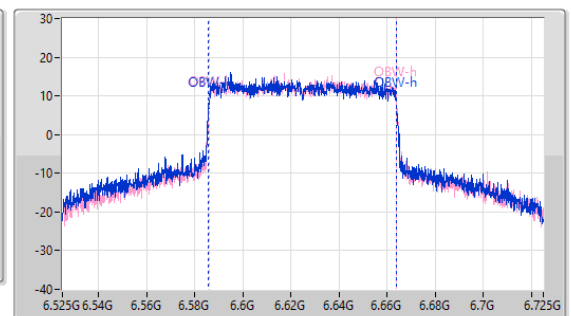
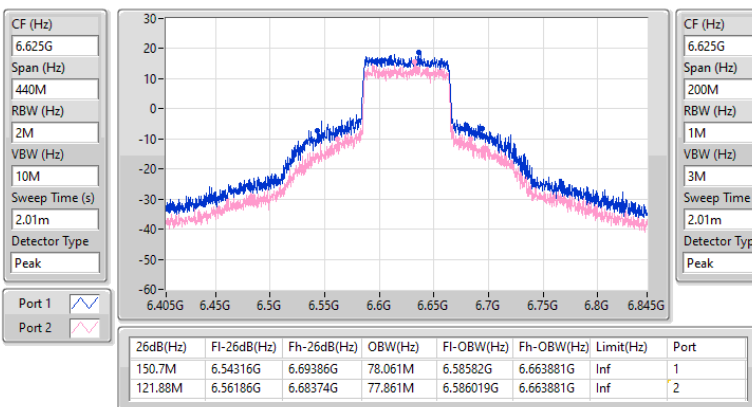


6.525-6.875GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6625MHz

01/09/2023

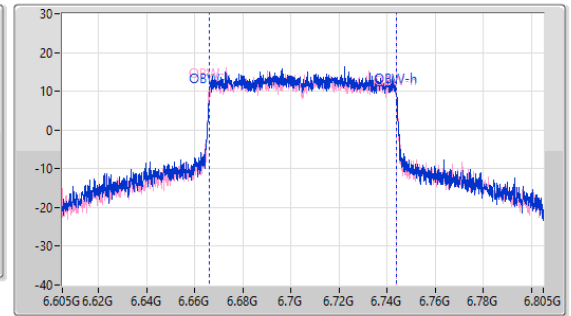
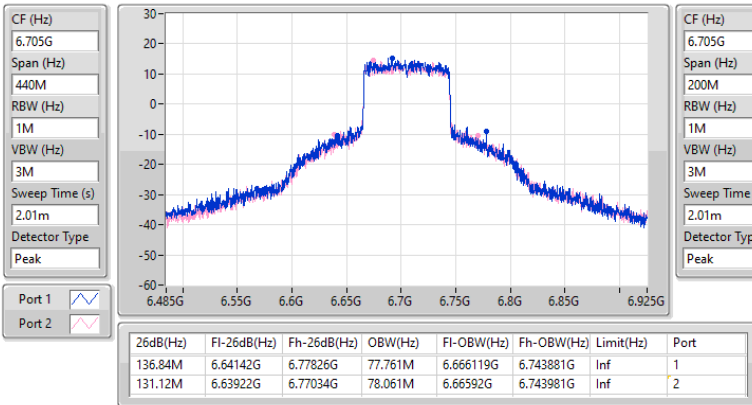


6.525-6.875GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6705MHz

01/09/2023

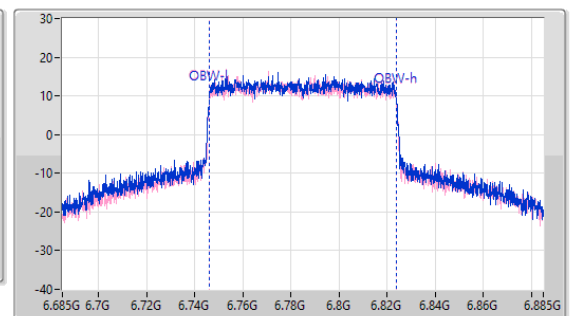
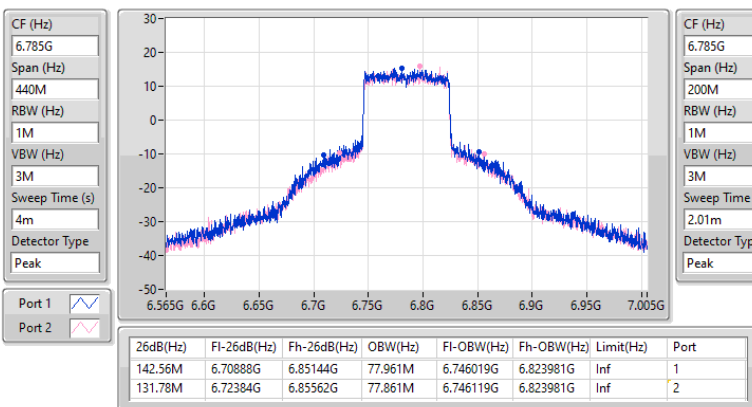


6.525-6.875GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6785MHz

01/09/2023

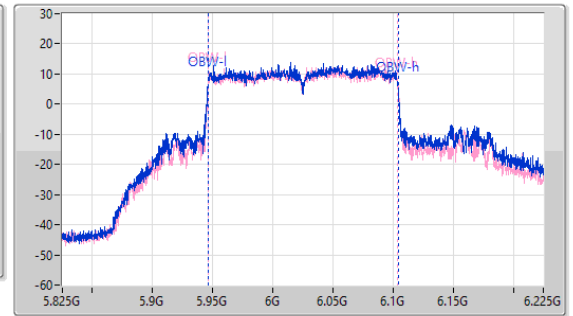
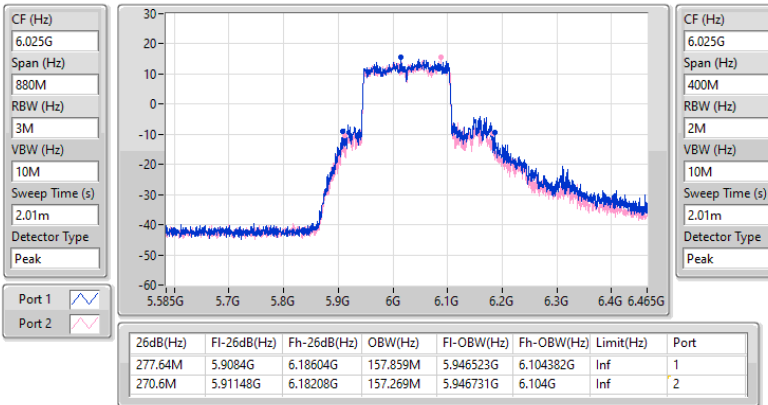


5.925-6.425GHz_802.11ax_HEW160_Nss2,(MCS0)_2TX

EBW

6025MHz

05/09/2023

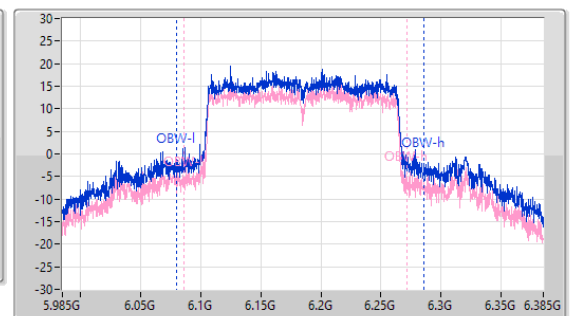
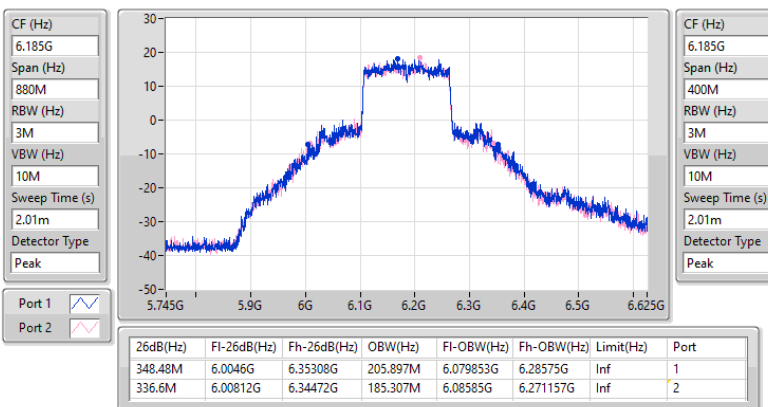


5.925-6.425GHz_802.11ax_HEW160_Nss2,(MCS0)_2TX

EBW

6185MHz

01/09/2023

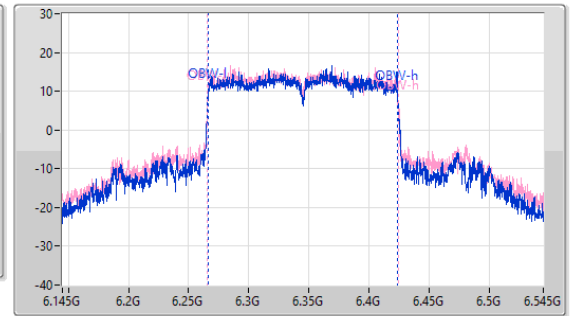
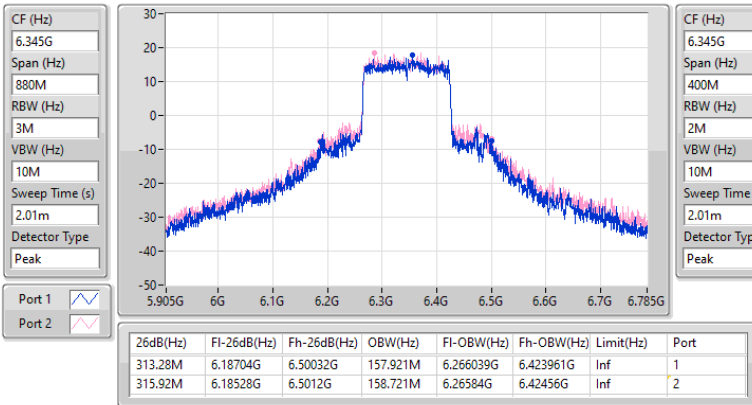


5.925-6.425GHz_802.11ax HEW160_Nss2,(MCS0)_2TX

EBW

6345MHz

01/09/2023

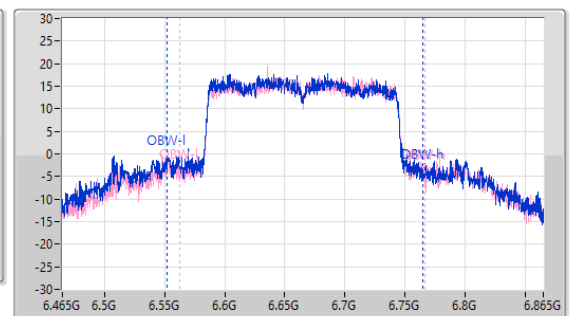
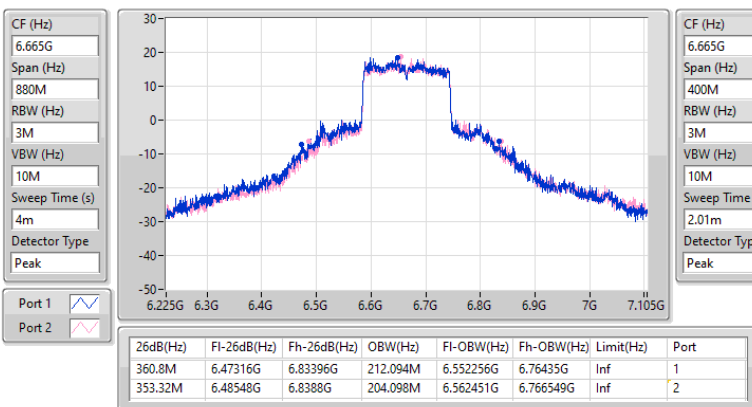


6.525-6.875GHz_802.11ax HEW160_Nss2,(MCS0)_2TX

EBW

6665MHz

01/09/2023

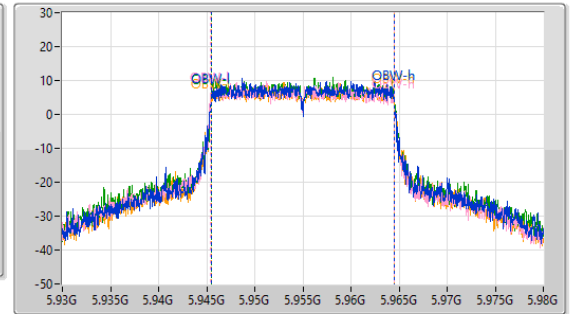
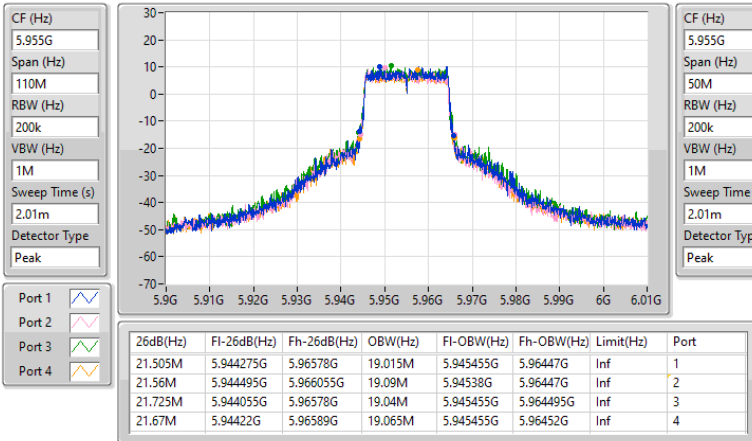


5.925-6.425GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

5955MHz

01/09/2023

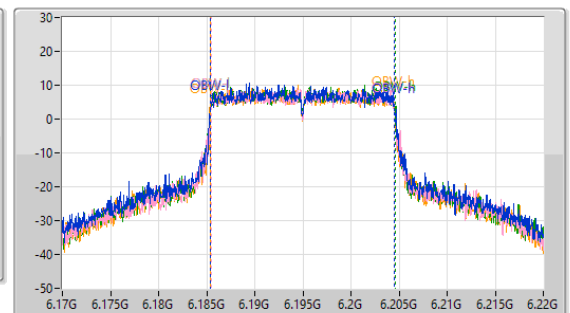
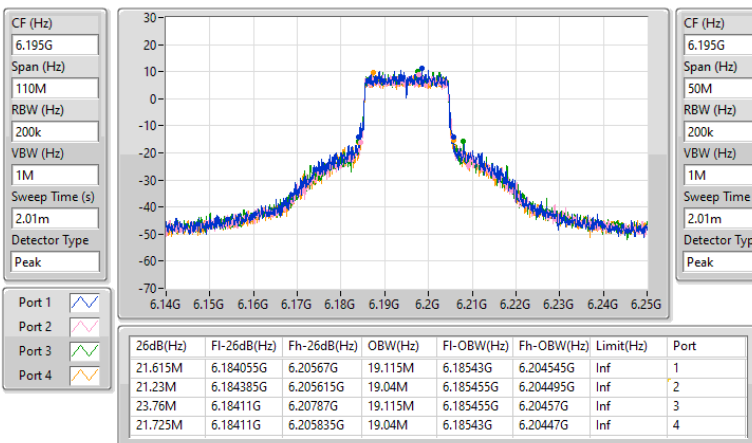


5.925-6.425GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

6195MHz

01/09/2023

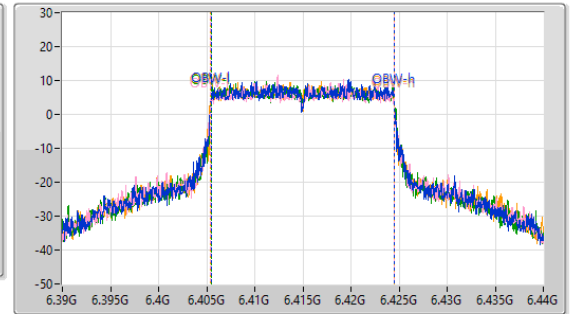
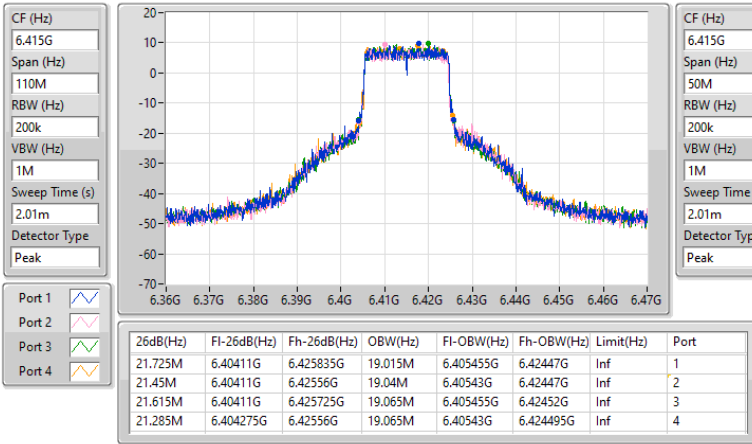


5.925-6.425GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

6415MHz

01/09/2023

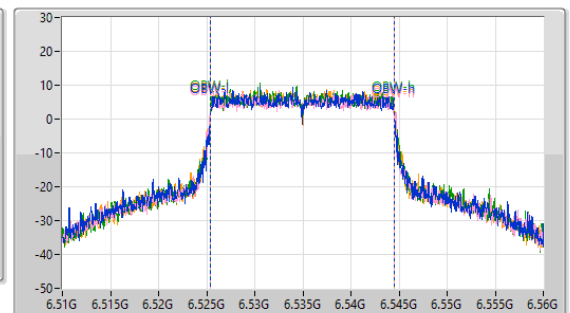
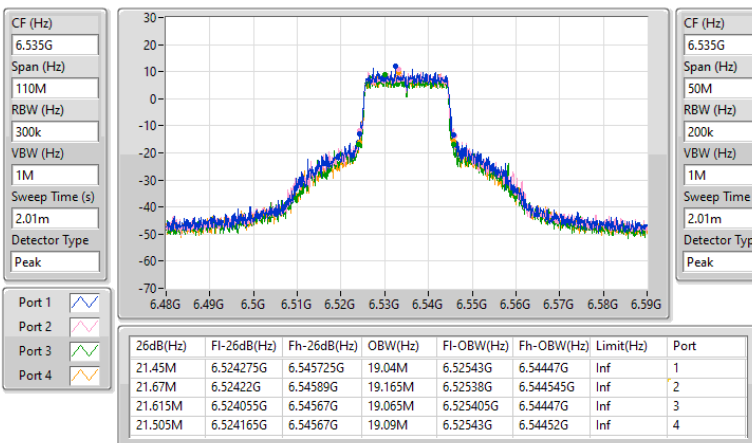


6.525-6.875GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

6535MHz

01/09/2023

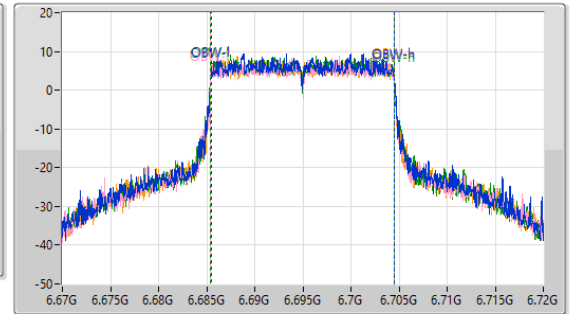
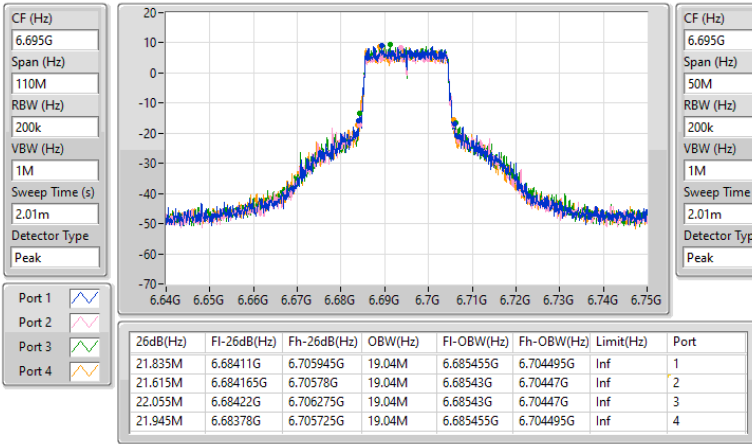


6.525-6.875GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

6695MHz

01/09/2023

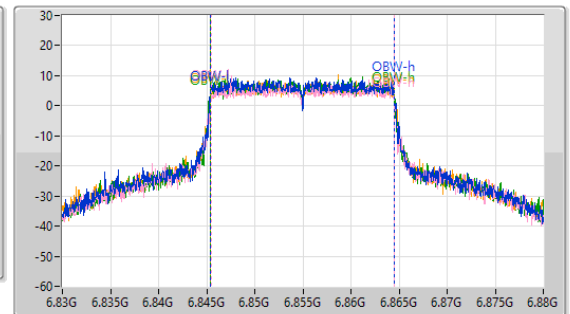
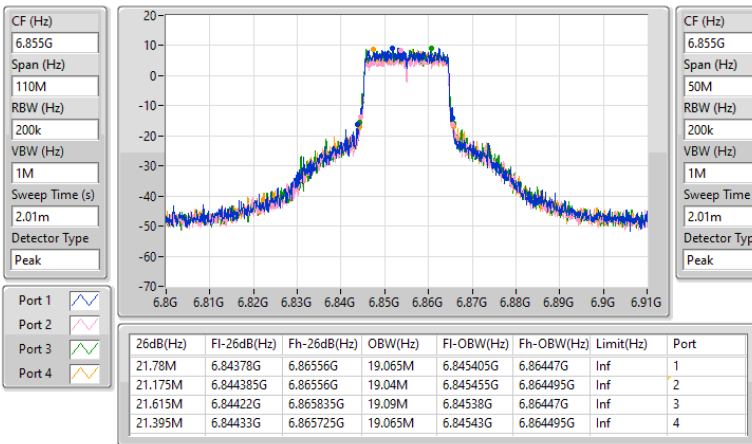


6.525-6.875GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

6855MHz

01/09/2023

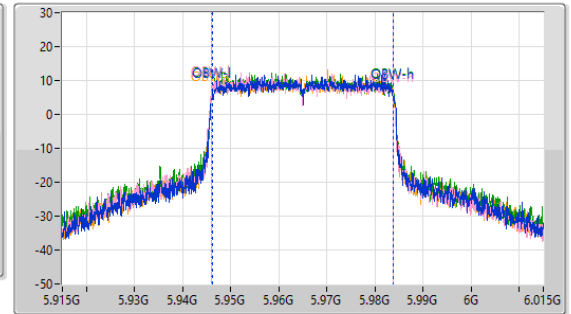
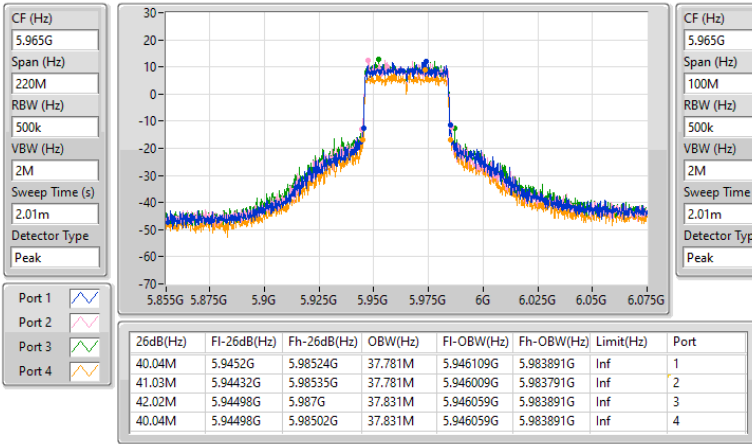


5.925-6.425GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

5965MHz

01/09/2023

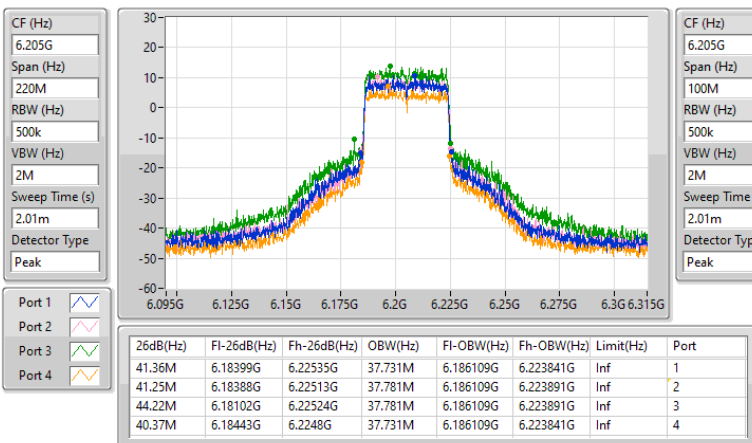


5.925-6.425GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

6205MHz

01/09/2023

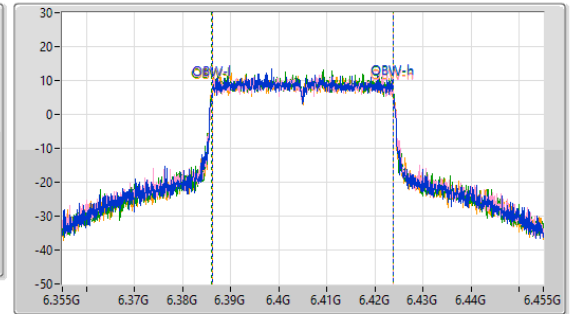
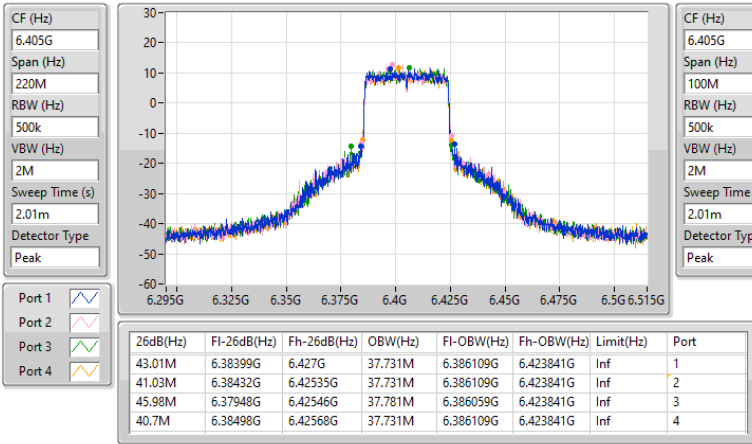


5.925-6.425GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

6405MHz

01/09/2023

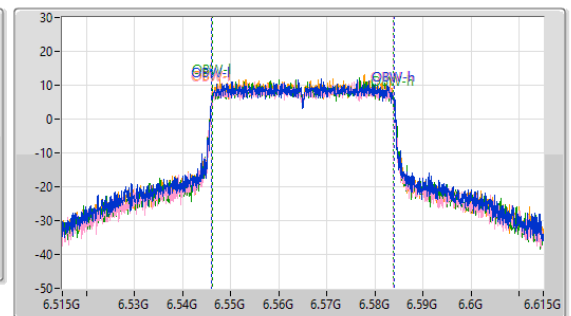
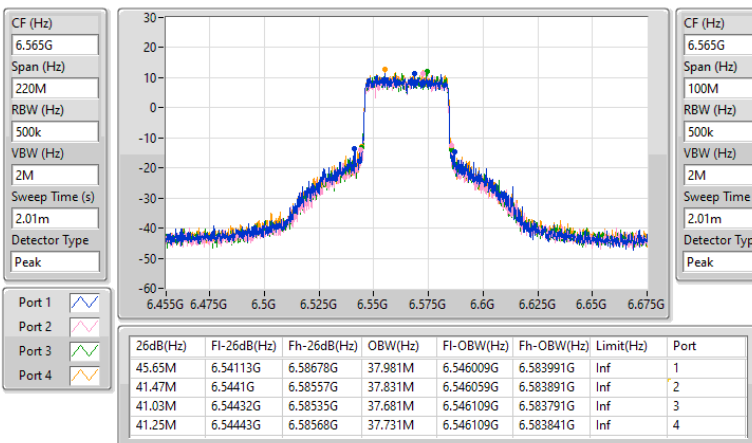


6.525-6.875GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

6565MHz

01/09/2023

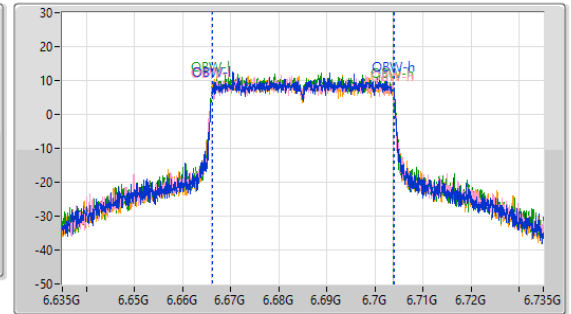
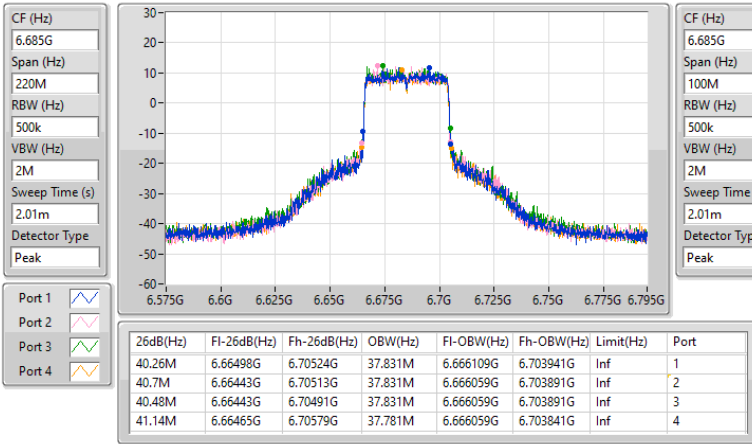


6.525-6.875GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

6685MHz

01/09/2023

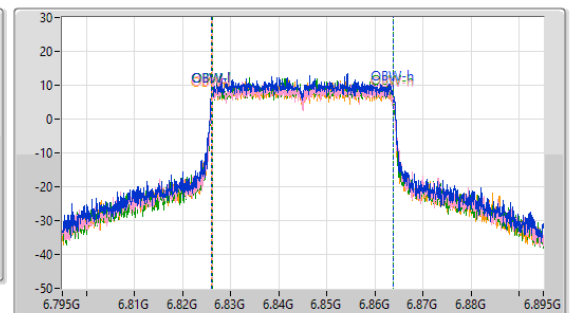
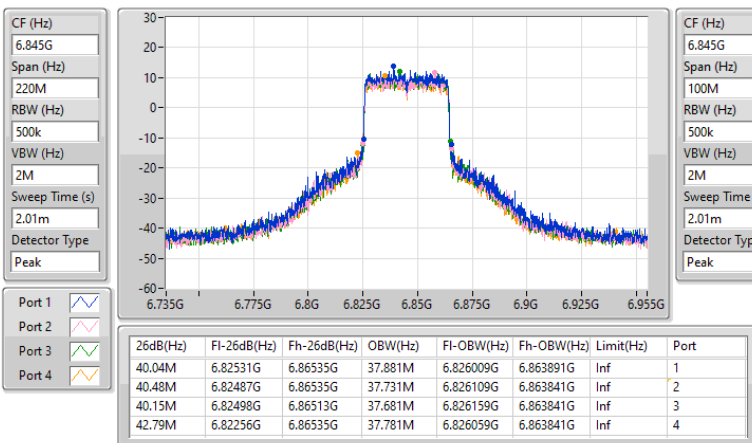


6.525-6.875GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

6845MHz

01/09/2023

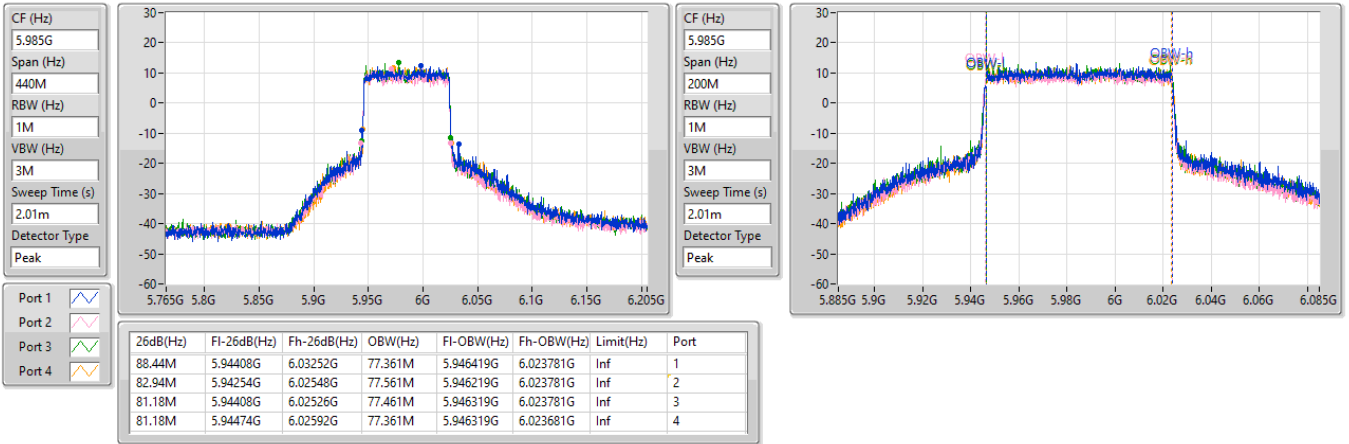


5.925-6.425GHz_802.11ax HEW80_Nss1,(MCS0)_4TX

EBW

5985MHz

01/09/2023

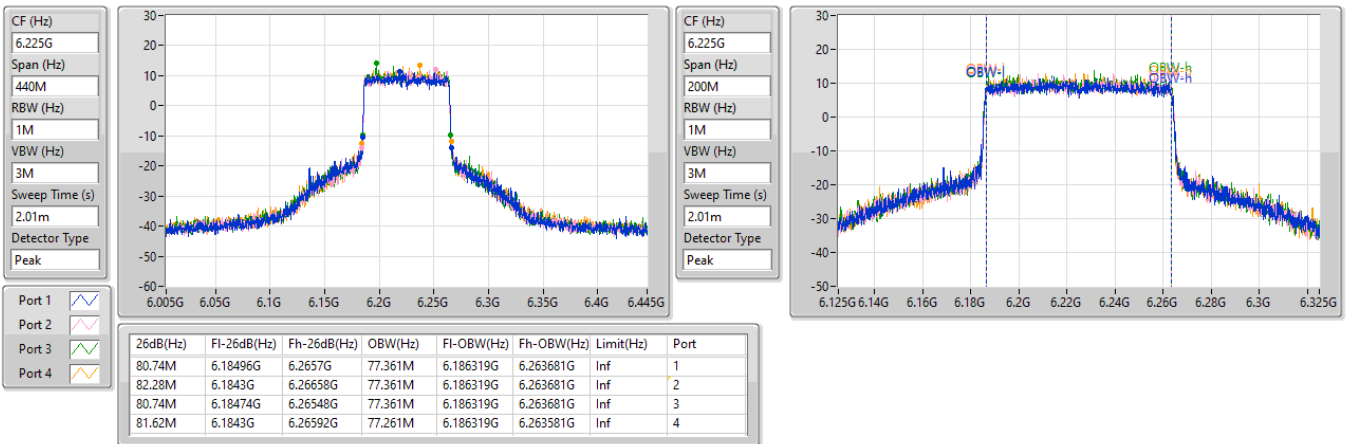


5.925-6.425GHz_802.11ax HEW80_Nss1,(MCS0)_4TX

EBW

6225MHz

01/09/2023

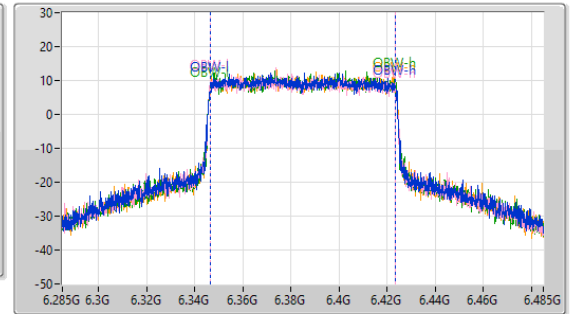
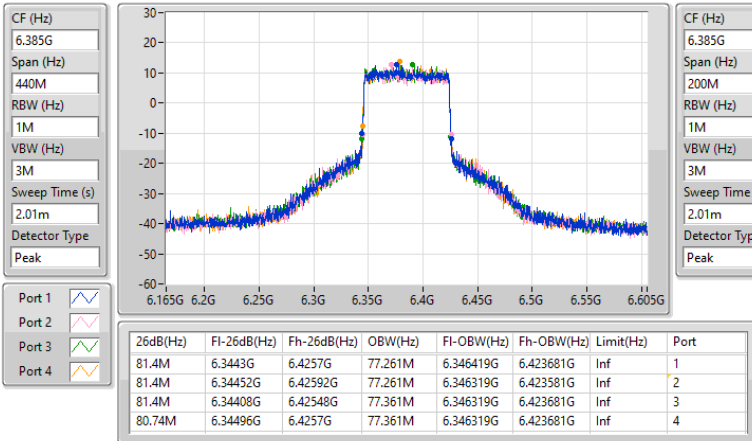


5.925-6.425GHz_802.11ax HEW80_Nss1,(MCS0)_4TX

EBW

6385MHz

01/09/2023

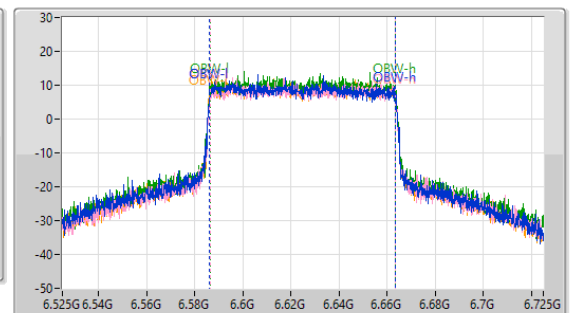
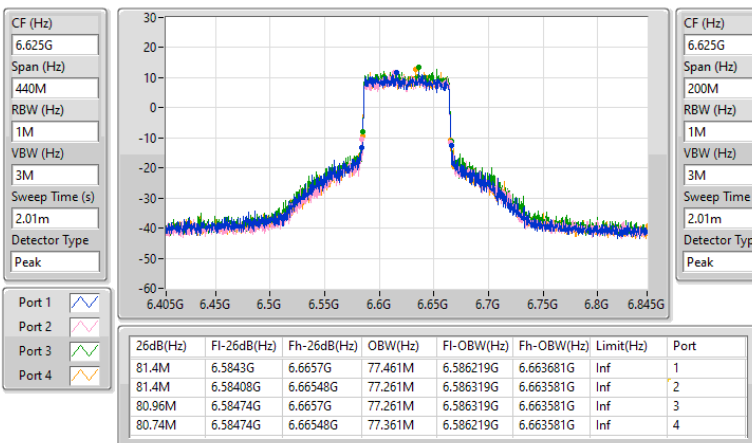


6.525-6.875GHz_802.11ax HEW80_Nss1,(MCS0)_4TX

EBW

6625MHz

01/09/2023

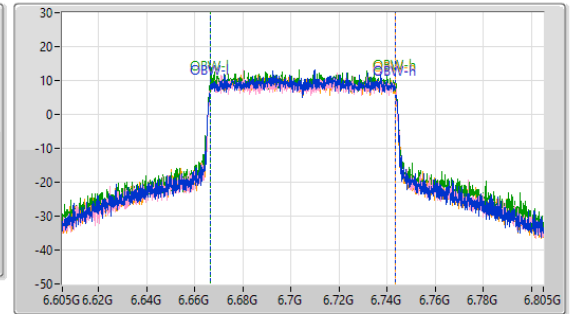
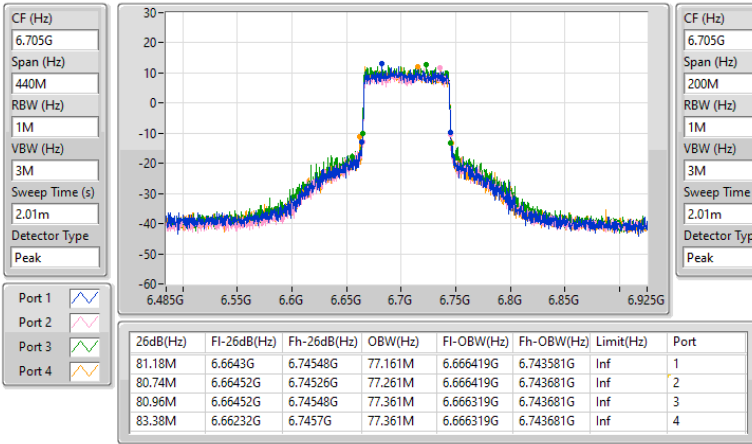


6.525-6.875GHz_802.11ax HEW80_Nss1,(MCS0)_4TX

EBW

6705MHz

01/09/2023

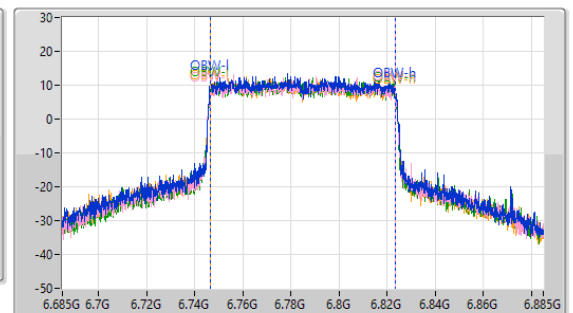
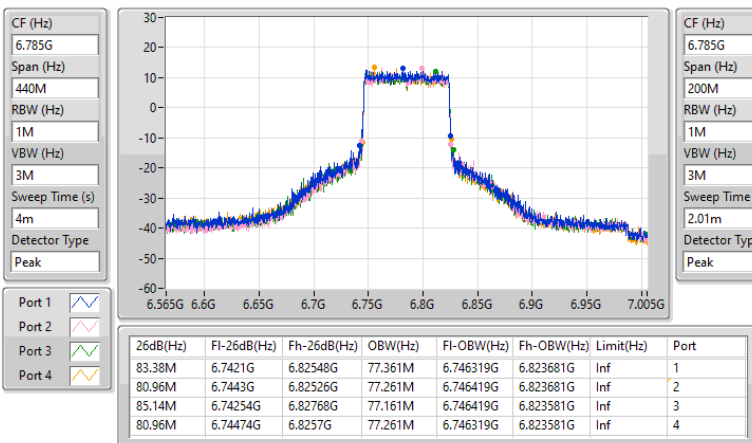


6.525-6.875GHz_802.11ax HEW80_Nss1,(MCS0)_4TX

EBW

6785MHz

01/09/2023

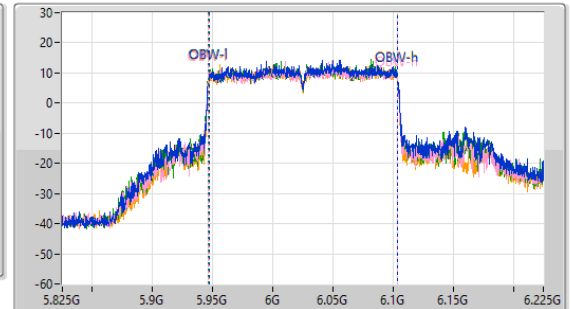
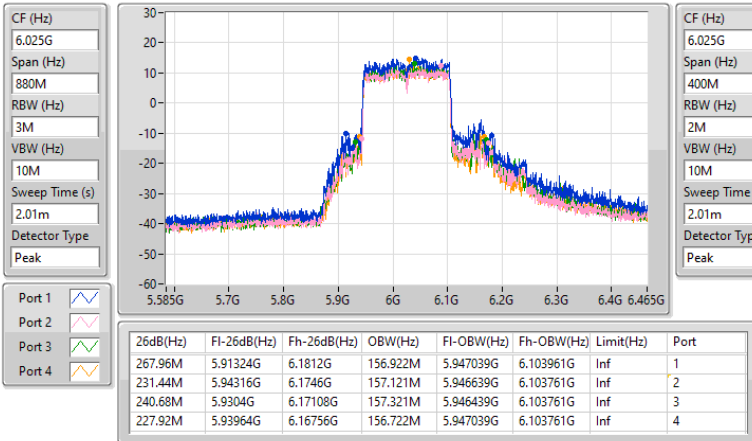


5.925-6.425GHz_802.11ax HEW160_Nss1,(MCS0)_4TX

EBW

6025MHz

01/09/2023

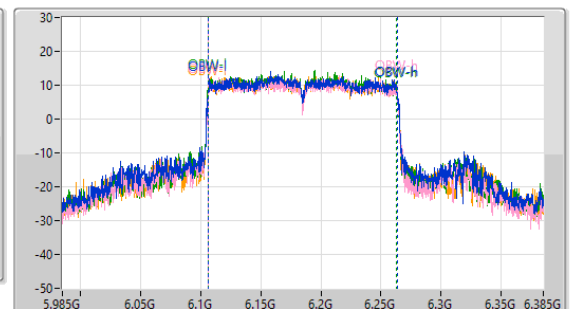
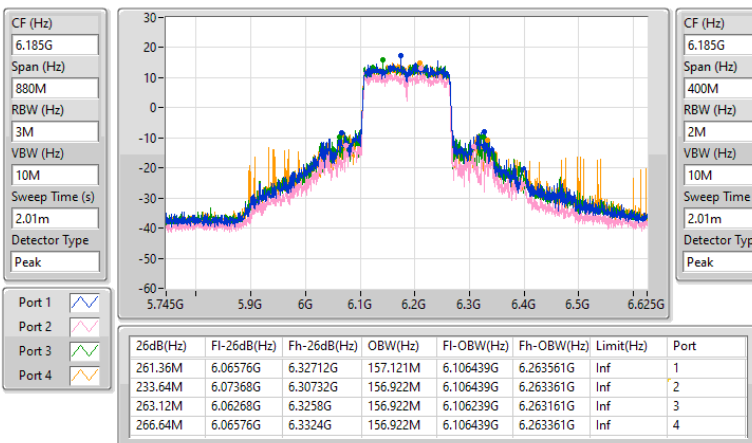


5.925-6.425GHz_802.11ax HEW160_Nss1,(MCS0)_4TX

EBW

6185MHz

01/09/2023

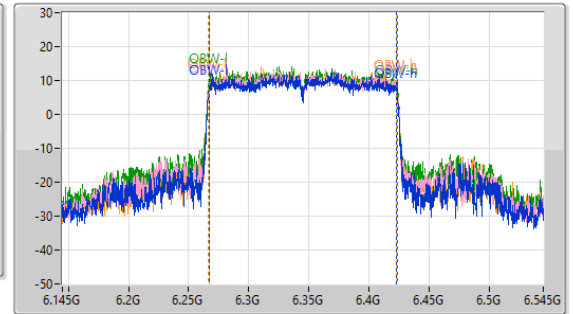
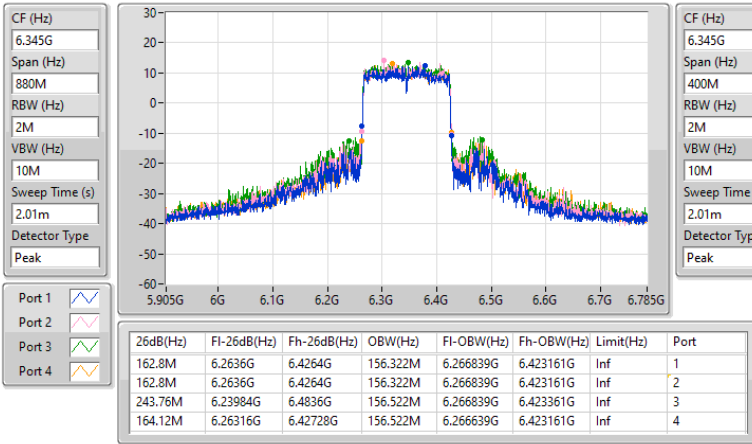


5.925-6.425GHz_802.11ax HEW160_Nss1,(MCS0)_4TX

EBW

6345MHz

01/09/2023

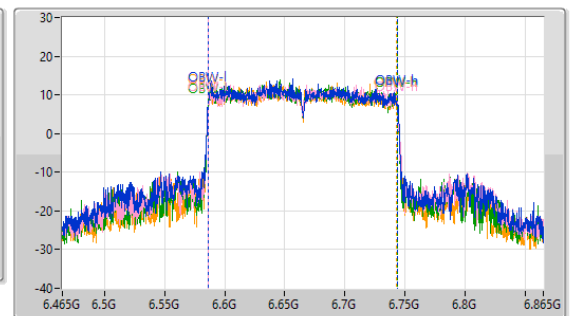
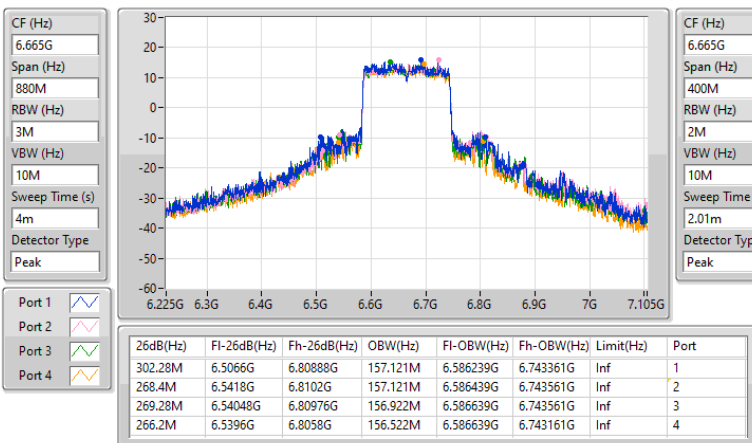


6.525-6.875GHz_802.11ax HEW160_Nss1,(MCS0)_4TX

EBW

6665MHz

01/09/2023

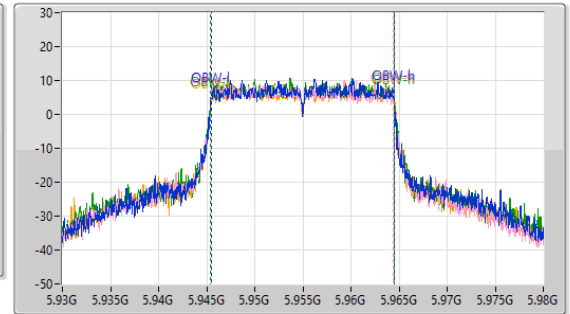
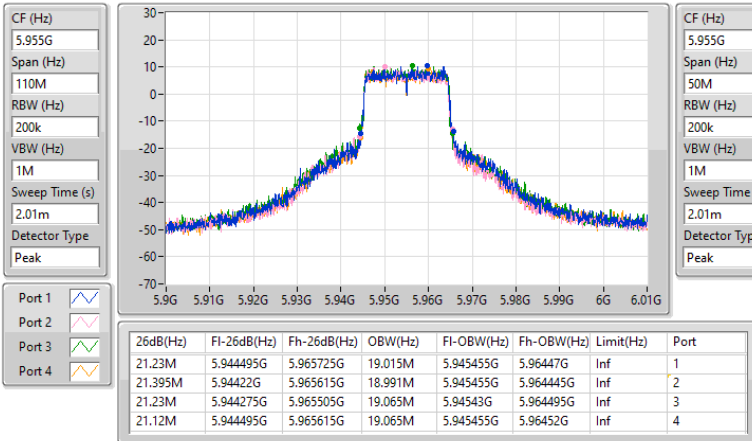


5.925-6.425GHz_802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

5955MHz

01/09/2023

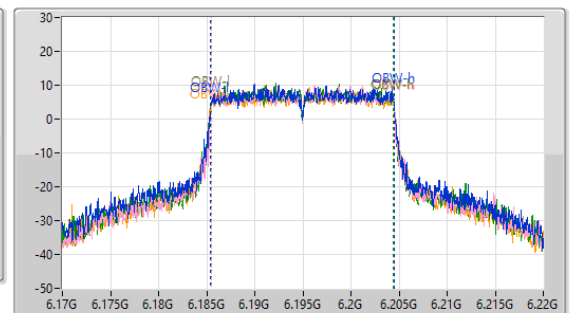
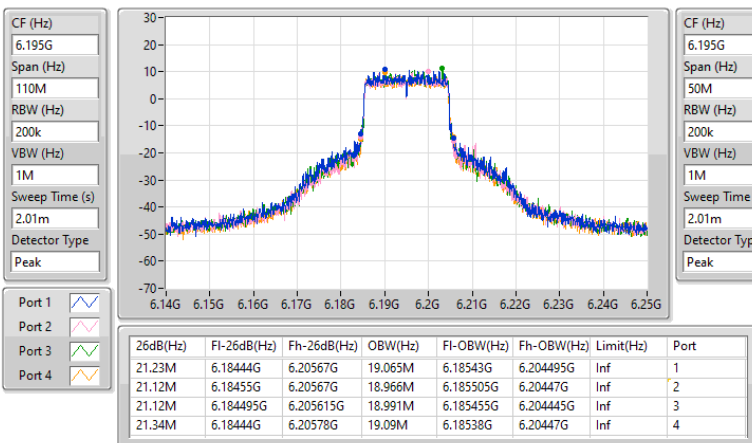


5.925-6.425GHz_802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

6195MHz

01/09/2023

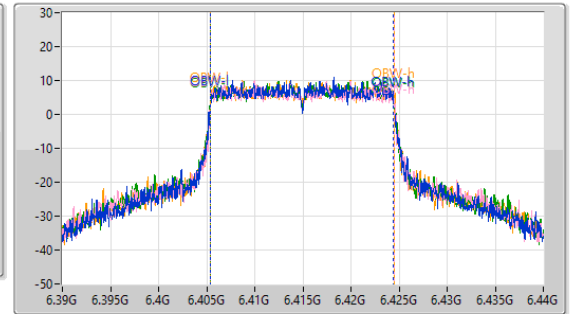
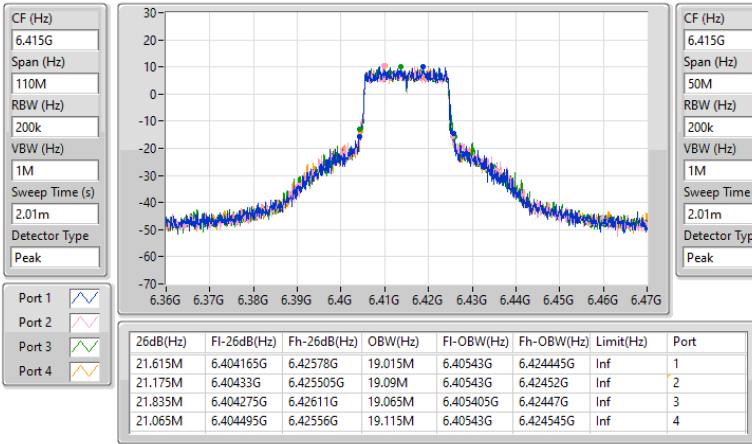


5.925-6.425GHz_802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

6415MHz

01/09/2023

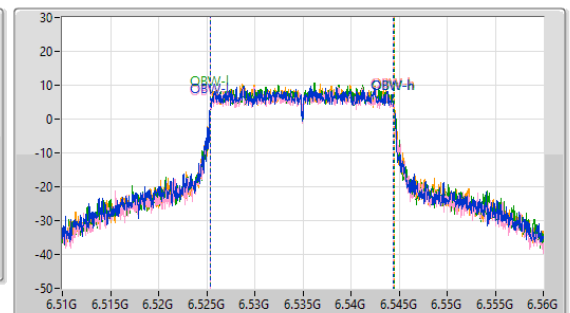
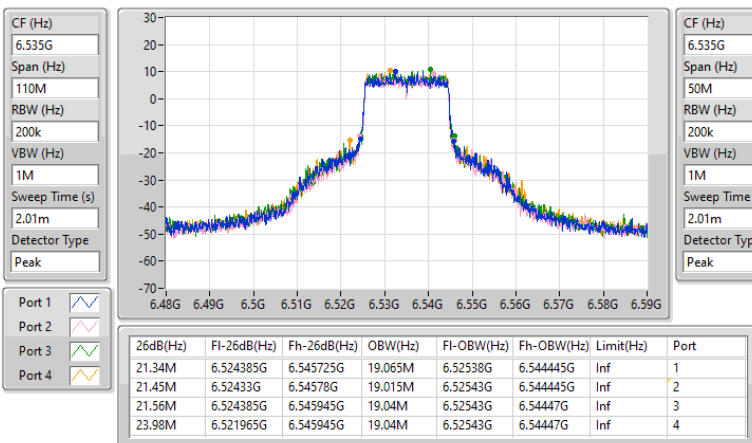


6.525-6.875GHz_802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

6535MHz

01/09/2023

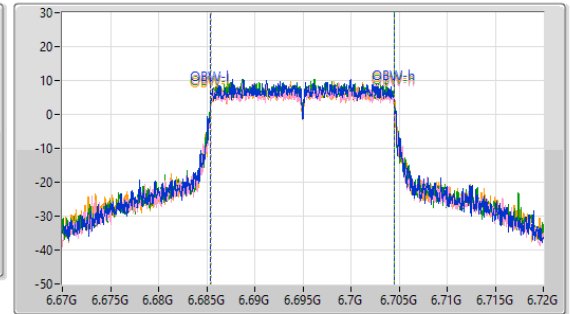
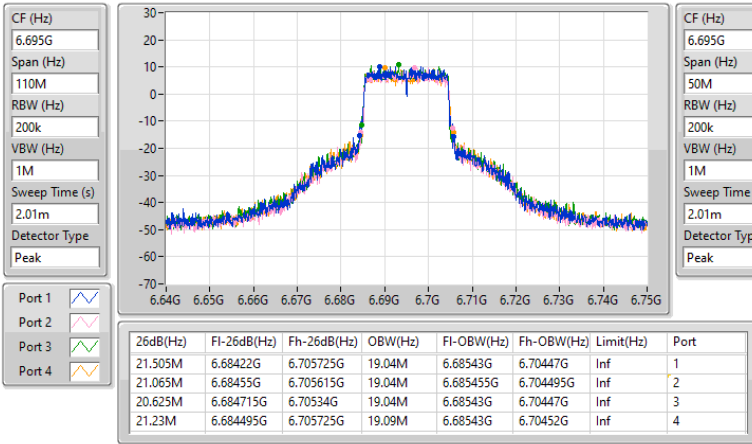


6.525-6.875GHz_802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

6695MHz

01/09/2023

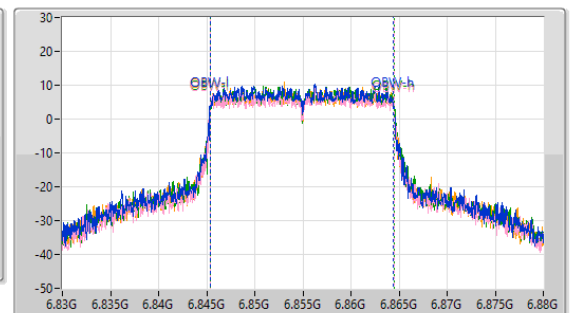
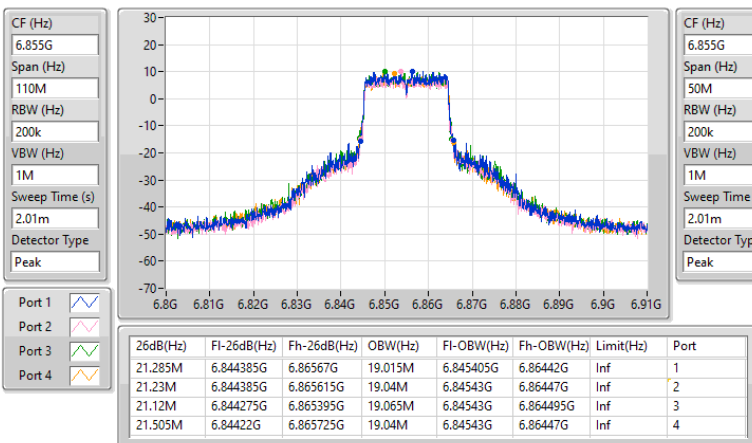


6.525-6.875GHz_802.11ax HEW20_Nss4,(MCS0)_4TX

EBW

6855MHz

01/09/2023

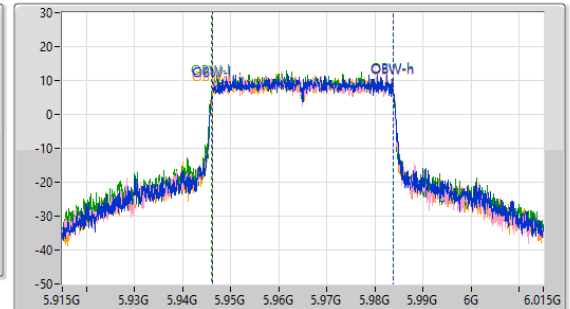
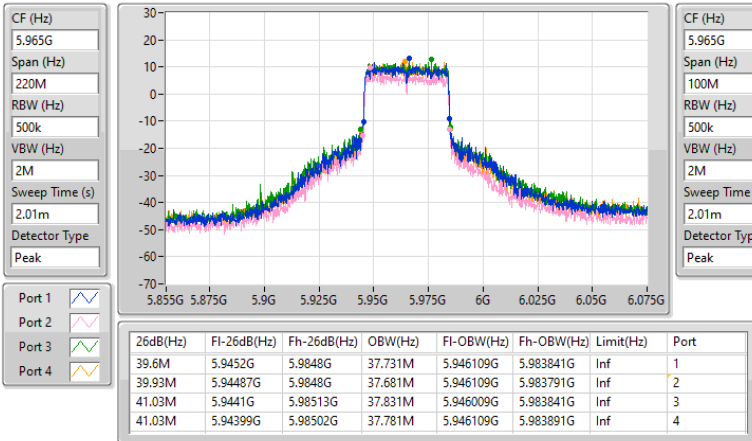


5.925-6.425GHz_802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

5965MHz

01/09/2023

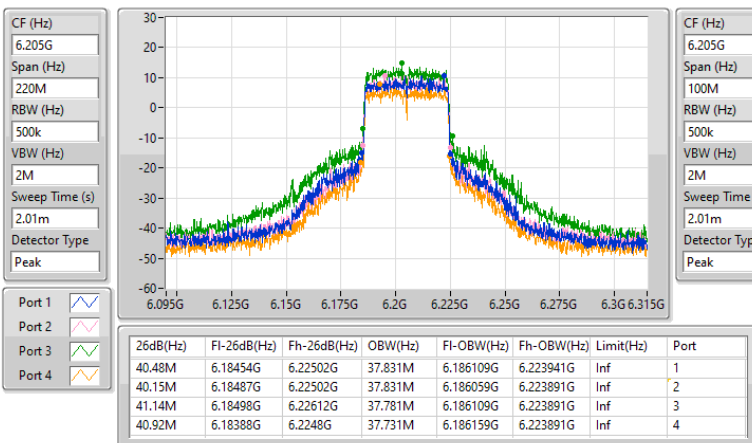


5.925-6.425GHz_802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

6205MHz

01/09/2023

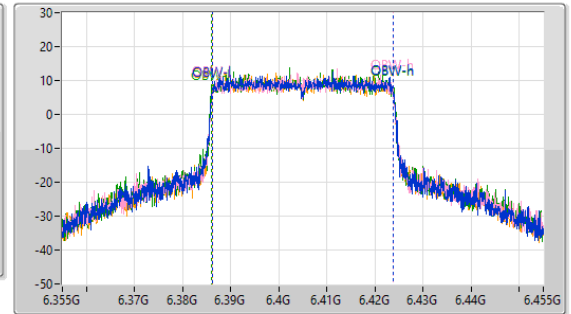
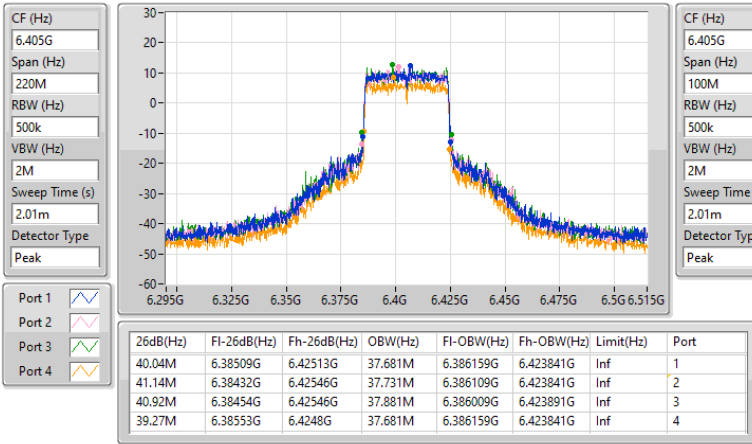


5.925-6.425GHz_802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

6405MHz

01/09/2023

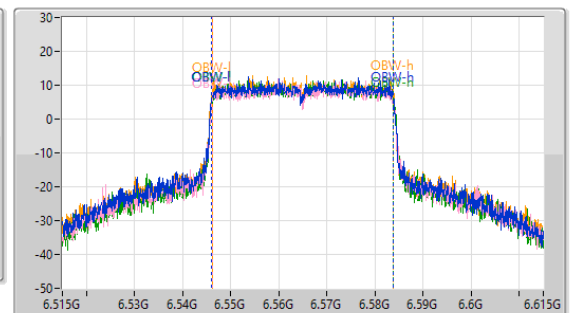
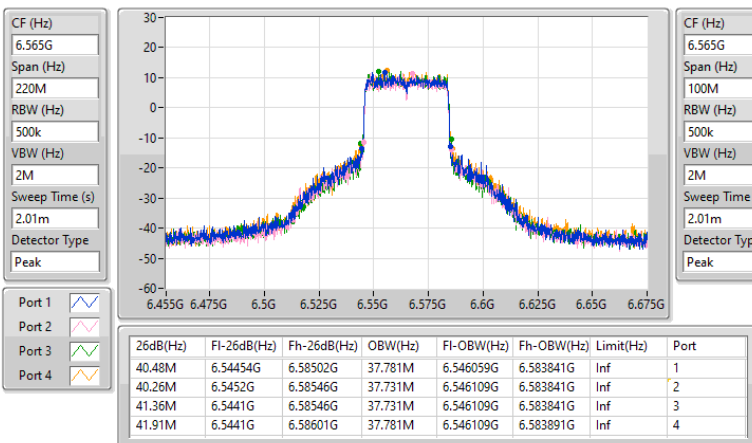


6.525-6.875GHz_802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

6565MHz

01/09/2023

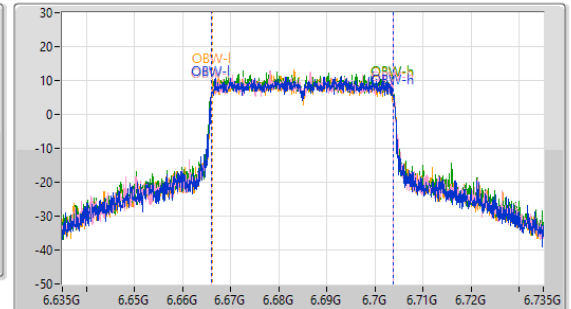
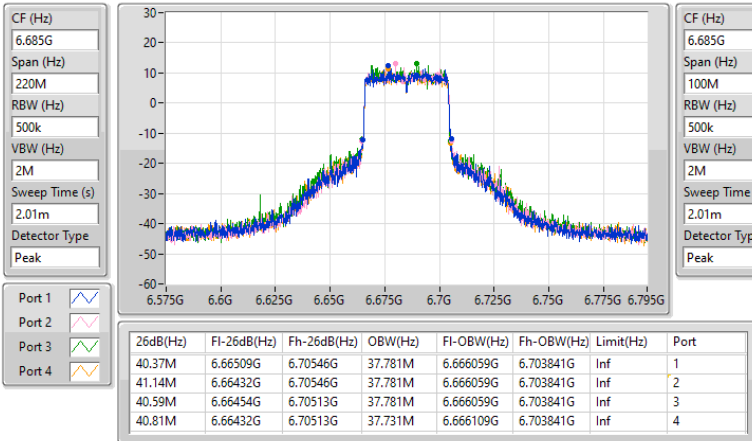


6.525-6.875GHz_802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

6685MHz

01/09/2023

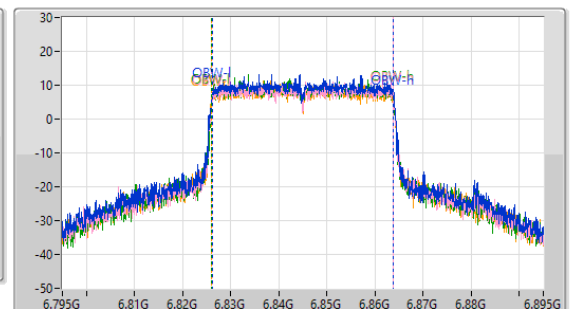
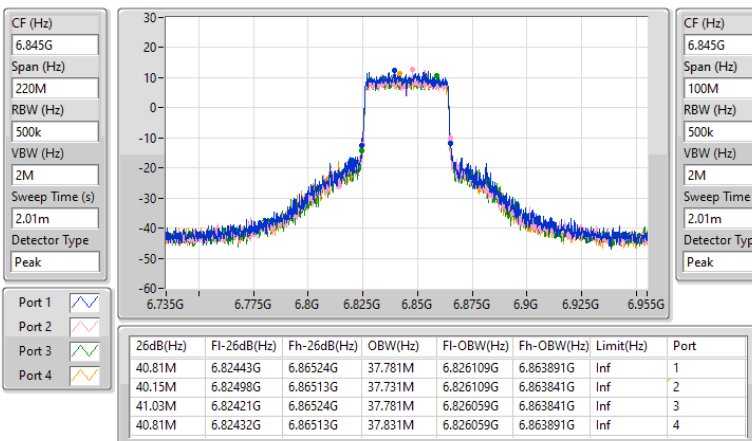


6.525-6.875GHz_802.11ax HEW40_Nss4,(MCS0)_4TX

EBW

6845MHz

01/09/2023

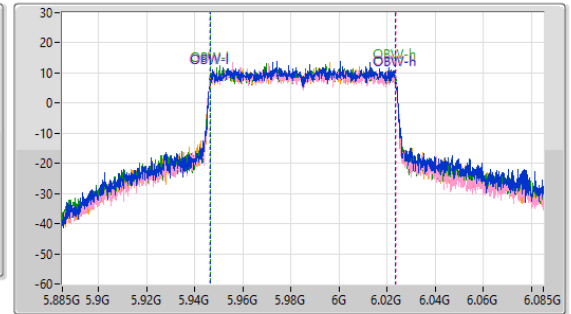
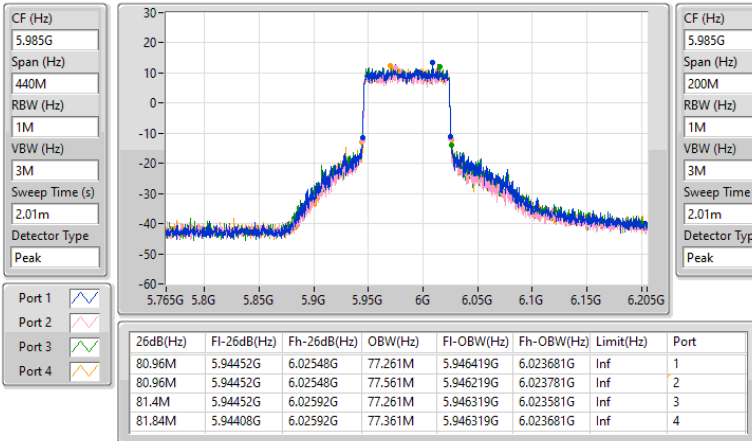


5.925-6.425GHz_802.11ax HEW80_Nss4,(MCS0)_4TX

EBW

5985MHz

01/09/2023

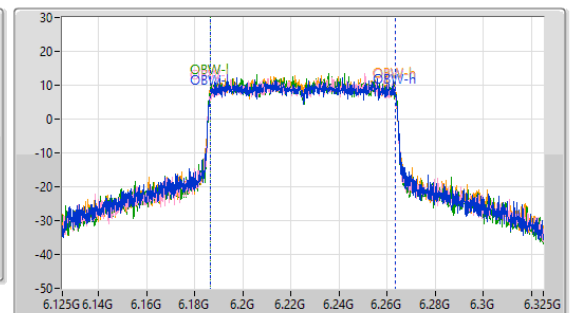
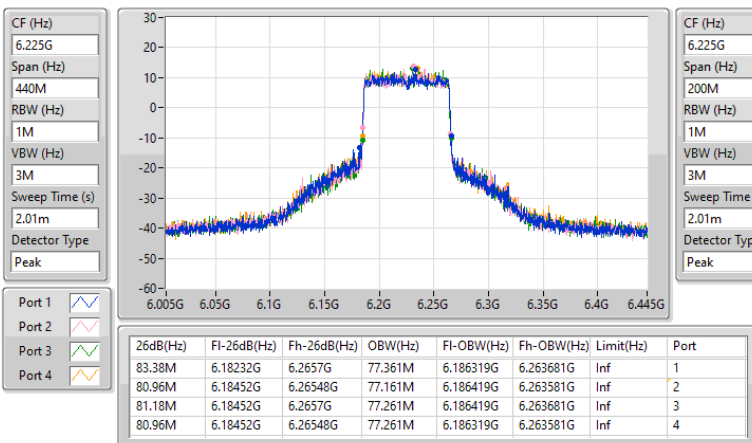


5.925-6.425GHz_802.11ax HEW80_Nss4,(MCS0)_4TX

EBW

6225MHz

01/09/2023

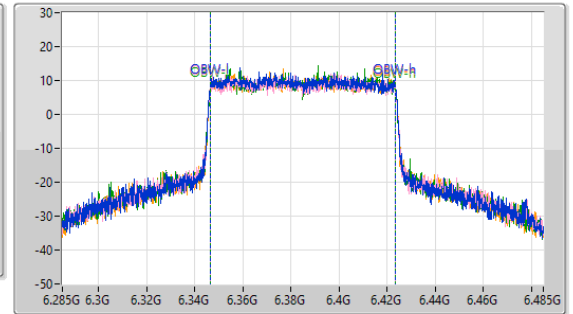
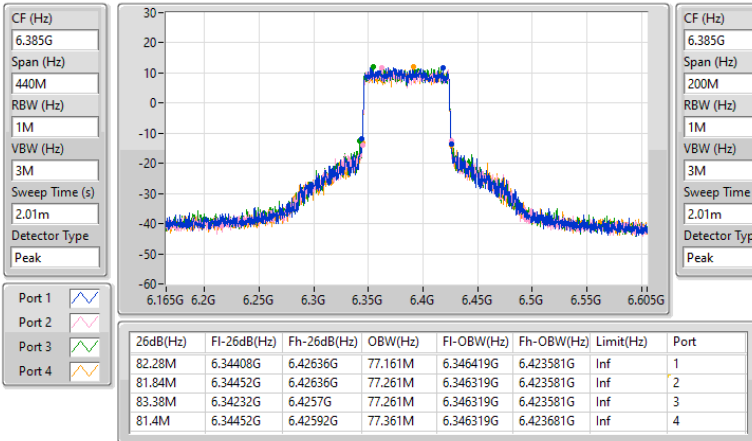


5.925-6.425GHz_802.11ax HEW80_Nss4,(MCS0)_4TX

EBW

6385MHz

01/09/2023

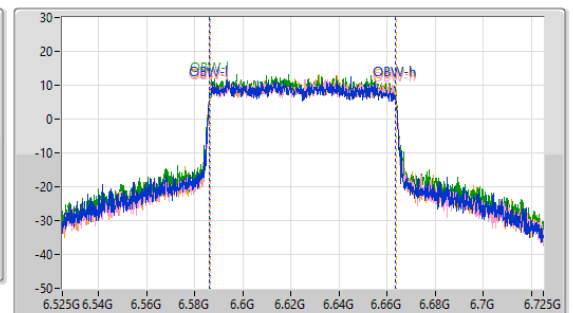
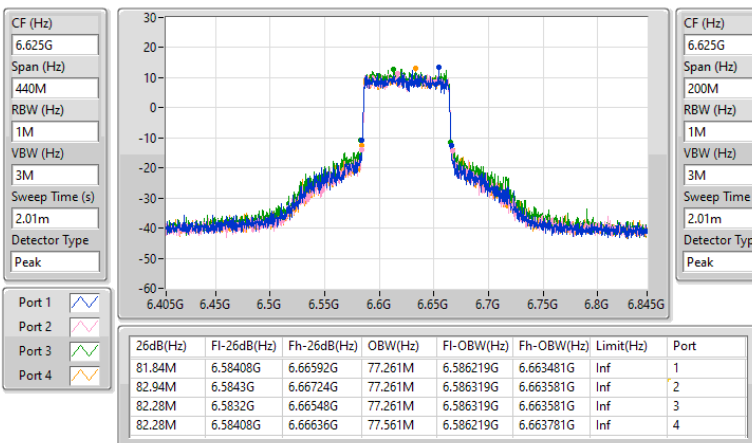


6.525-6.875GHz_802.11ax HEW80_Nss4,(MCS0)_4TX

EBW

6625MHz

01/09/2023

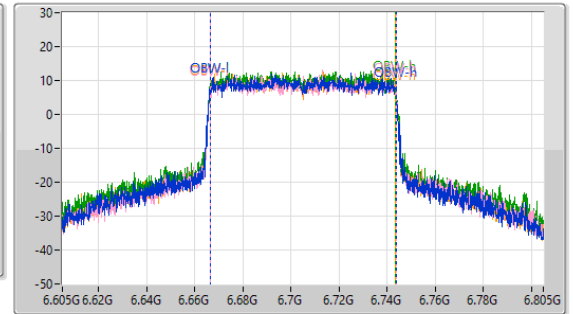
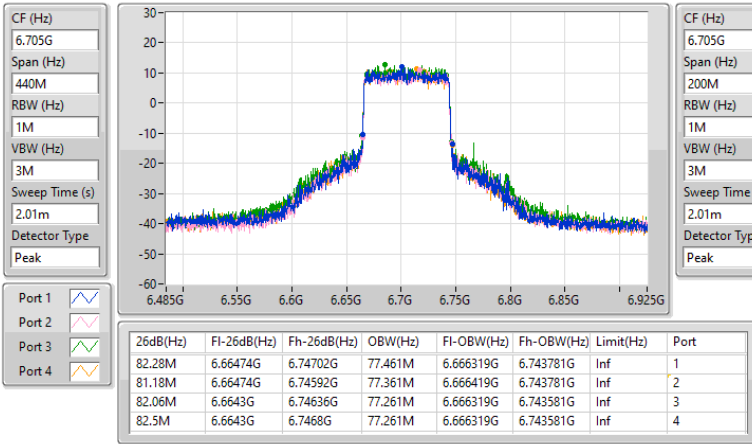


6.525-6.875GHz_802.11ax HEW80_Nss4,(MCS0)_4TX

EBW

6705MHz

01/09/2023

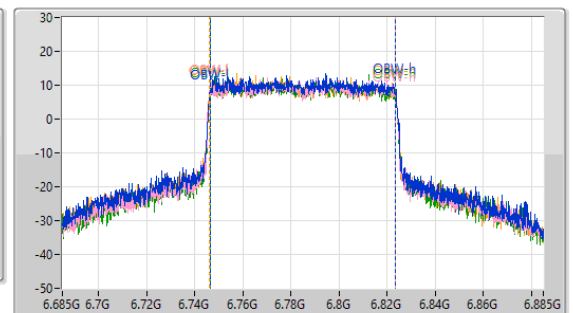
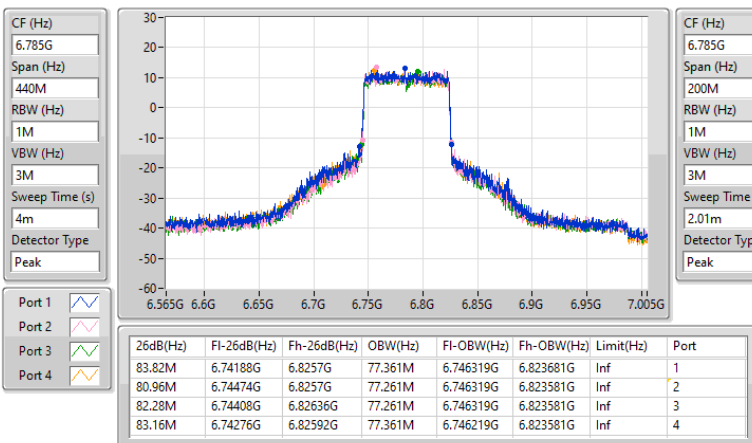


6.525-6.875GHz_802.11ax HEW80_Nss4,(MCS0)_4TX

EBW

6785MHz

01/09/2023

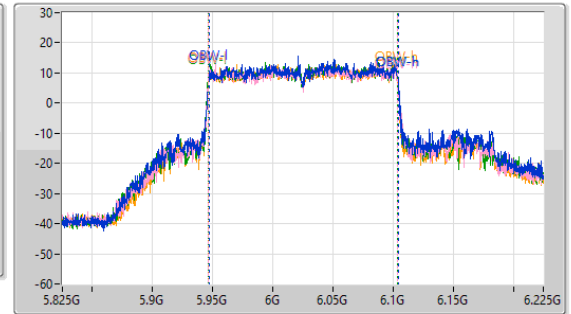
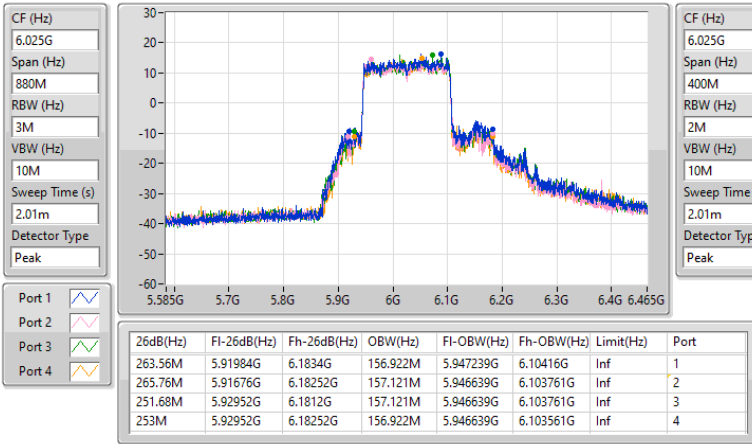


5.925-6.425GHz_802.11ax HEW160_Nss4,(MCS0)_4TX

EBW

6025MHz

01/09/2023

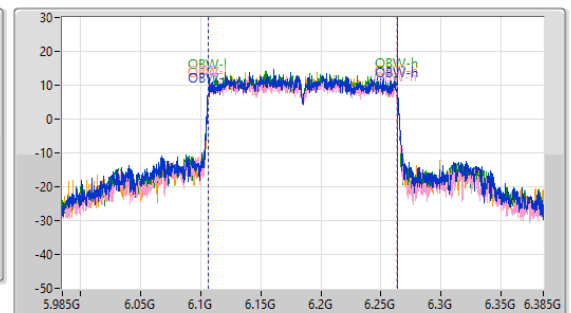
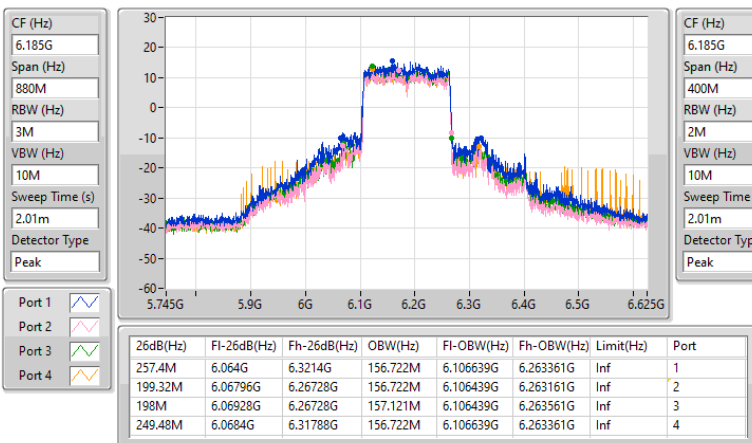


5.925-6.425GHz_802.11ax HEW160_Nss4,(MCS0)_4TX

EBW

6185MHz

01/09/2023

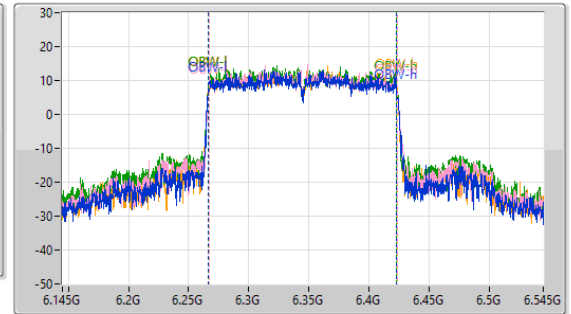
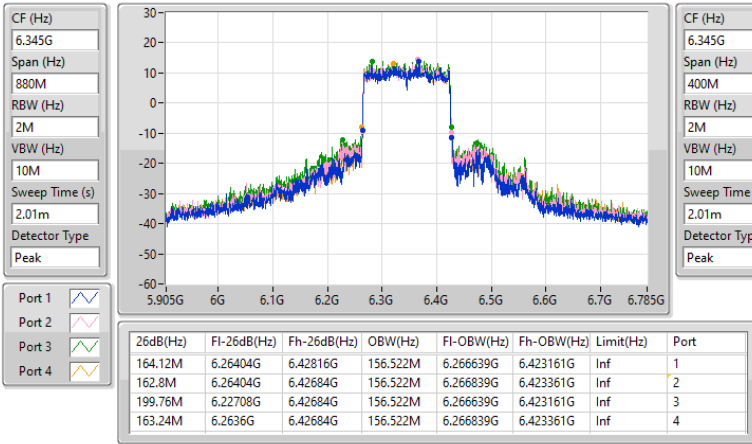


5.925-6.425GHz_802.11ax HEW160_Nss4,(MCS0)_4TX

EBW

6345MHz

01/09/2023

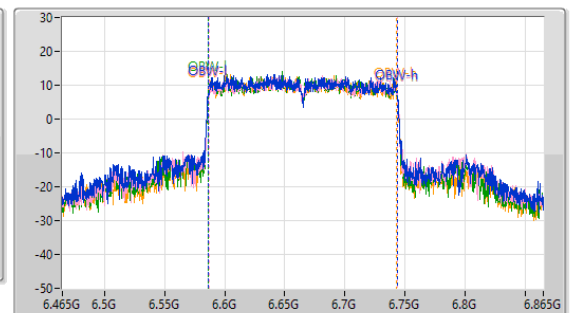
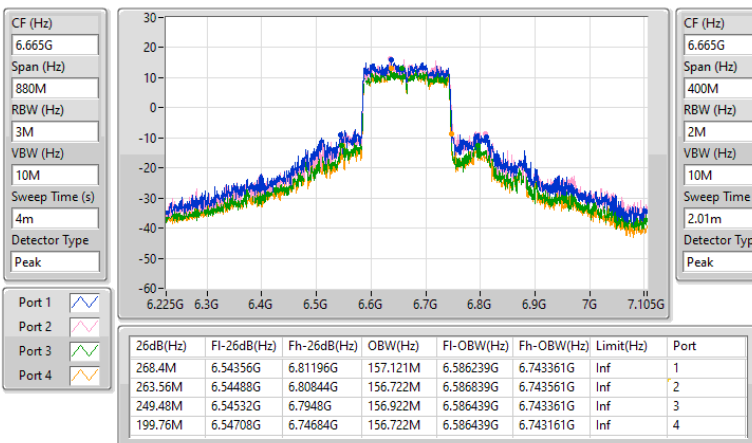


6.525-6.875GHz_802.11ax HEW160_Nss4,(MCS0)_4TX

EBW

6665MHz

01/09/2023



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.925-6.425GHz	-	-	-	-	-
802.11ax HEW20_Nss1,(MCS0)_1TX	22.275M	19.065M	19M1D1D	21.175M	19.015M
802.11ax HEW20_Nss2,(MCS0)_2TX	22.99M	19.115M	19M1D1D	21.01M	19.04M
802.11ax HEW20_Nss1,(MCS0)_4TX	22.935M	19.115M	19M1D1D	21.065M	19.015M
802.11ax HEW20_Nss4,(MCS0)_4TX	24.915M	19.14M	19M1D1D	21.23M	19.015M
802.11ax HEW40_Nss1,(MCS0)_1TX	41.36M	37.831M	37M8D1D	40.04M	37.681M
802.11ax HEW40_Nss2,(MCS0)_2TX	45.21M	37.881M	37M9D1D	40.15M	37.731M
802.11ax HEW40_Nss1,(MCS0)_4TX	46.09M	37.881M	37M9D1D	40.04M	37.731M
802.11ax HEW40_Nss4,(MCS0)_4TX	44.22M	37.881M	37M9D1D	40.15M	37.681M
802.11ax HEW80_Nss1,(MCS0)_1TX	82.72M	77.461M	77M5D1D	80.74M	77.261M
802.11ax HEW80_Nss2,(MCS0)_2TX	83.82M	77.361M	77M4D1D	81.18M	77.261M
802.11ax HEW80_Nss1,(MCS0)_4TX	89.98M	77.561M	77M6D1D	80.96M	77.261M
802.11ax HEW80_Nss4,(MCS0)_4TX	84.48M	77.461M	77M5D1D	80.74M	77.161M
802.11ax HEW160_Nss1,(MCS0)_1TX	224.84M	156.522M	157MD1D	163.24M	156.522M
802.11ax HEW160_Nss2,(MCS0)_2TX	165.44M	156.722M	157MD1D	162.8M	156.322M
802.11ax HEW160_Nss1,(MCS0)_4TX	185.24M	156.722M	157MD1D	162.36M	156.122M
802.11ax HEW160_Nss4,(MCS0)_4TX	196.24M	156.922M	157MD1D	162.8M	155.922M
6.525-6.875GHz	-	-	-	-	-
802.11ax HEW20_Nss1,(MCS0)_1TX	21.395M	19.09M	19M1D1D	21.01M	19.015M
802.11ax HEW20_Nss2,(MCS0)_2TX	24.035M	19.09M	19M1D1D	21.395M	19.015M
802.11ax HEW20_Nss1,(MCS0)_4TX	22.77M	19.115M	19M1D1D	21.395M	19.015M
802.11ax HEW20_Nss4,(MCS0)_4TX	24.42M	19.14M	19M1D1D	21.34M	19.04M
802.11ax HEW40_Nss1,(MCS0)_1TX	40.92M	37.931M	37M9D1D	40.48M	37.681M
802.11ax HEW40_Nss2,(MCS0)_2TX	43.67M	37.831M	37M8D1D	40.15M	37.731M
802.11ax HEW40_Nss1,(MCS0)_4TX	42.57M	37.831M	37M8D1D	40.37M	37.731M
802.11ax HEW40_Nss4,(MCS0)_4TX	42.68M	37.931M	37M9D1D	40.15M	37.731M
802.11ax HEW80_Nss1,(MCS0)_1TX	83.38M	77.261M	77M3D1D	81.84M	77.161M
802.11ax HEW80_Nss2,(MCS0)_2TX	83.6M	77.461M	77M5D1D	81.18M	77.261M
802.11ax HEW80_Nss1,(MCS0)_4TX	85.58M	77.561M	77M6D1D	80.96M	77.161M
802.11ax HEW80_Nss4,(MCS0)_4TX	83.82M	77.561M	77M6D1D	80.74M	77.161M
802.11ax HEW160_Nss1,(MCS0)_1TX	163.24M	156.722M	157MD1D	163.24M	156.722M
802.11ax HEW160_Nss2,(MCS0)_2TX	163.68M	156.322M	156MD1D	163.68M	156.322M
802.11ax HEW160_Nss1,(MCS0)_4TX	164.12M	156.322M	156MD1D	163.24M	155.922M
802.11ax HEW160_Nss4,(MCS0)_4TX	165.88M	156.322M	156MD1D	163.68M	156.122M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
 Max-OBW = Maximum 99% occupied bandwidth;
 Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
 Min-OBW = Minimum 99% occupied bandwidth



EBW_Set 7 antenna with 70 degree_R5_1T1S, 2T2S, 4T1S, 4T4S Appendix B.3

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-
5955MHz	Pass	Inf	21.175M	19.015M						
6195MHz	Pass	Inf	22.275M	19.065M						
6415MHz	Pass	Inf	21.945M	19.04M						
6535MHz	Pass	Inf	21.395M	19.015M						
6695MHz	Pass	Inf	21.01M	19.09M						
6855MHz	Pass	Inf	21.285M	19.04M						
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-
5965MHz	Pass	Inf	40.26M	37.831M						
6205MHz	Pass	Inf	40.04M	37.681M						
6405MHz	Pass	Inf	41.36M	37.781M						
6565MHz	Pass	Inf	40.48M	37.931M						
6685MHz	Pass	Inf	40.92M	37.681M						
6845MHz	Pass	Inf	40.81M	37.731M						
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-
5985MHz	Pass	Inf	80.74M	77.261M						
6225MHz	Pass	Inf	82.72M	77.461M						
6385MHz	Pass	Inf	82.5M	77.361M						
6625MHz	Pass	Inf	83.38M	77.261M						
6705MHz	Pass	Inf	82.06M	77.161M						
6785MHz	Pass	Inf	81.84M	77.261M						
802.11ax HEW160_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-
6025MHz	Pass	Inf	224.84M	156.522M						
6185MHz	Pass	Inf	163.24M	156.522M						
6345MHz	Pass	Inf	164.12M	156.522M						
6665MHz	Pass	Inf	163.24M	156.722M						
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5955MHz	Pass	Inf	21.34M	19.065M	21.285M	19.09M				
6195MHz	Pass	Inf	21.395M	19.04M	21.01M	19.115M				
6415MHz	Pass	Inf	22.99M	19.065M	21.395M	19.065M				
6535MHz	Pass	Inf	21.505M	19.015M	24.035M	19.015M				
6695MHz	Pass	Inf	21.505M	19.04M	21.45M	19.04M				
6855MHz	Pass	Inf	21.395M	19.09M	21.505M	19.04M				
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5965MHz	Pass	Inf	40.15M	37.731M	41.8M	37.781M				
6205MHz	Pass	Inf	42.02M	37.781M	40.37M	37.731M				
6405MHz	Pass	Inf	42.13M	37.881M	45.21M	37.731M				
6565MHz	Pass	Inf	40.48M	37.781M	43.67M	37.781M				
6685MHz	Pass	Inf	40.59M	37.831M	40.92M	37.731M				
6845MHz	Pass	Inf	40.15M	37.781M	41.03M	37.781M				
802.11ax HEW80_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5985MHz	Pass	Inf	81.18M	77.261M	82.94M	77.361M				
6225MHz	Pass	Inf	83.38M	77.361M	83.38M	77.361M				
6385MHz	Pass	Inf	82.72M	77.361M	83.82M	77.261M				
6625MHz	Pass	Inf	83.6M	77.461M	81.84M	77.361M				
6705MHz	Pass	Inf	81.84M	77.361M	81.18M	77.361M				
6785MHz	Pass	Inf	82.72M	77.461M	82.5M	77.261M				
802.11ax HEW160_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
6025MHz	Pass	Inf	165M	156.722M	165.44M	156.722M				
6185MHz	Pass	Inf	164.12M	156.522M	163.68M	156.722M				
6345MHz	Pass	Inf	162.8M	156.322M	163.24M	156.522M				
6665MHz	Pass	Inf	163.68M	156.322M	163.68M	156.322M				
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5955MHz	Pass	Inf	21.23M	19.04M	21.45M	19.065M	21.56M	19.065M	22.055M	19.09M
6195MHz	Pass	Inf	21.835M	19.04M	22.055M	19.015M	21.615M	19.015M	21.56M	19.065M



EBW_Set 7 antenna with 70 degree_R5_1T1S, 2T2S, 4T1S, 4T4S Appendix B.3

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)
6415MHz	Pass	Inf	22.385M	19.04M	22.715M	19.115M	21.065M	19.065M	22.935M	19.065M
6535MHz	Pass	Inf	22.22M	19.09M	22.385M	19.065M	21.945M	19.04M	22.22M	19.04M
6695MHz	Pass	Inf	21.56M	19.065M	22.165M	19.015M	22.66M	19.04M	22.77M	19.04M
6855MHz	Pass	Inf	21.78M	19.04M	21.78M	19.09M	21.395M	19.115M	21.67M	19.065M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5965MHz	Pass	Inf	41.8M	37.731M	40.7M	37.881M	41.8M	37.781M	41.14M	37.831M
6205MHz	Pass	Inf	40.92M	37.731M	40.04M	37.731M	41.36M	37.831M	46.09M	37.731M
6405MHz	Pass	Inf	40.59M	37.781M	40.92M	37.781M	40.59M	37.731M	41.58M	37.781M
6565MHz	Pass	Inf	42.57M	37.781M	40.37M	37.781M	40.7M	37.731M	40.37M	37.831M
6685MHz	Pass	Inf	40.48M	37.781M	42.57M	37.781M	41.03M	37.731M	41.36M	37.781M
6845MHz	Pass	Inf	40.7M	37.831M	40.7M	37.781M	41.69M	37.781M	40.37M	37.831M
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5985MHz	Pass	Inf	85.14M	77.261M	82.5M	77.561M	81.84M	77.461M	83.16M	77.361M
6225MHz	Pass	Inf	89.98M	77.461M	86.9M	77.461M	83.6M	77.361M	84.92M	77.361M
6385MHz	Pass	Inf	80.96M	77.361M	82.28M	77.361M	81.84M	77.361M	84.92M	77.261M
6625MHz	Pass	Inf	82.06M	77.261M	82.28M	77.561M	81.84M	77.161M	82.28M	77.561M
6705MHz	Pass	Inf	81.84M	77.361M	82.72M	77.361M	80.96M	77.561M	81.84M	77.161M
6785MHz	Pass	Inf	82.06M	77.361M	82.06M	77.361M	85.58M	77.361M	82.06M	77.361M
802.11ax HEW160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
6025MHz	Pass	Inf	163.68M	156.322M	164.12M	156.722M	162.8M	156.722M	162.36M	156.522M
6185MHz	Pass	Inf	163.24M	156.322M	163.68M	156.122M	162.8M	156.322M	185.24M	156.322M
6345MHz	Pass	Inf	164.12M	156.122M	164.56M	156.122M	163.68M	156.122M	162.36M	156.122M
6665MHz	Pass	Inf	163.68M	156.322M	164.12M	155.922M	163.24M	156.322M	163.68M	156.122M
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5955MHz	Pass	Inf	24.31M	19.115M	21.56M	19.04M	21.89M	19.09M	22.715M	19.015M
6195MHz	Pass	Inf	23.32M	19.115M	21.505M	19.04M	21.23M	19.09M	21.505M	19.015M
6415MHz	Pass	Inf	21.395M	19.04M	24.915M	19.14M	23.485M	19.04M	21.67M	19.015M
6535MHz	Pass	Inf	21.615M	19.115M	21.615M	19.04M	23.485M	19.04M	21.45M	19.065M
6695MHz	Pass	Inf	24.42M	19.04M	21.45M	19.065M	21.395M	19.14M	21.34M	19.04M
6855MHz	Pass	Inf	21.78M	19.04M	21.78M	19.115M	21.725M	19.04M	22.165M	19.115M
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5965MHz	Pass	Inf	40.92M	37.681M	40.59M	37.781M	41.58M	37.881M	43.89M	37.831M
6205MHz	Pass	Inf	42.24M	37.731M	40.48M	37.831M	40.48M	37.731M	40.7M	37.881M
6405MHz	Pass	Inf	40.26M	37.831M	41.47M	37.831M	40.15M	37.731M	44.22M	37.781M
6565MHz	Pass	Inf	42.68M	37.831M	40.7M	37.831M	41.03M	37.731M	40.92M	37.831M
6685MHz	Pass	Inf	40.15M	37.781M	41.14M	37.781M	41.91M	37.931M	40.59M	37.781M
6845MHz	Pass	Inf	40.7M	37.831M	40.37M	37.881M	40.48M	37.781M	40.37M	37.781M
802.11ax HEW80_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5985MHz	Pass	Inf	81.84M	77.461M	84.48M	77.461M	82.06M	77.261M	81.18M	77.361M
6225MHz	Pass	Inf	81.84M	77.361M	82.5M	77.261M	82.5M	77.461M	82.72M	77.361M
6385MHz	Pass	Inf	82.06M	77.261M	80.74M	77.161M	83.16M	77.261M	81.4M	77.261M
6625MHz	Pass	Inf	81.62M	77.361M	82.94M	77.461M	81.84M	77.361M	81.84M	77.261M
6705MHz	Pass	Inf	82.06M	77.261M	81.62M	77.361M	82.06M	77.161M	81.62M	77.361M
6785MHz	Pass	Inf	80.96M	77.461M	82.06M	77.161M	80.74M	77.261M	83.82M	77.561M
802.11ax HEW160_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
6025MHz	Pass	Inf	165M	156.922M	166.32M	156.522M	165.44M	156.522M	163.68M	156.322M
6185MHz	Pass	Inf	164.12M	156.322M	165.88M	156.522M	162.8M	156.322M	196.24M	156.322M
6345MHz	Pass	Inf	164.56M	155.922M	165.44M	156.522M	164.12M	156.122M	165M	155.922M
6665MHz	Pass	Inf	165.88M	156.122M	164.56M	156.322M	163.68M	156.122M	164.56M	156.122M

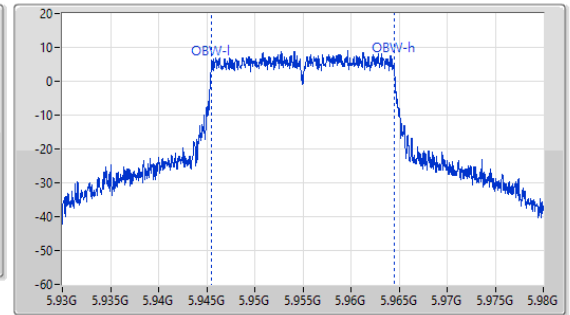
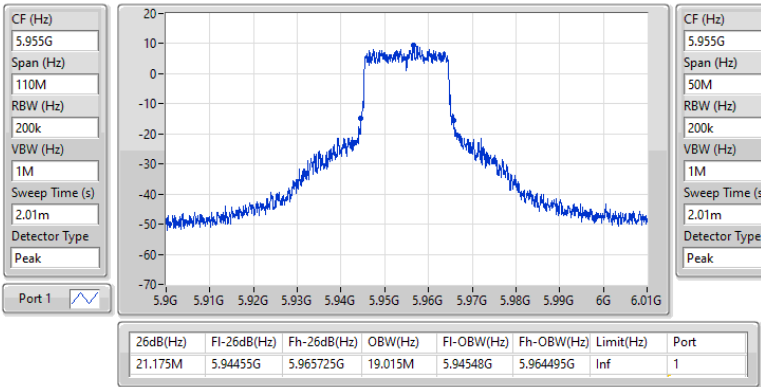
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

5.925-6.425GHz_802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5955MHz

02/09/2023

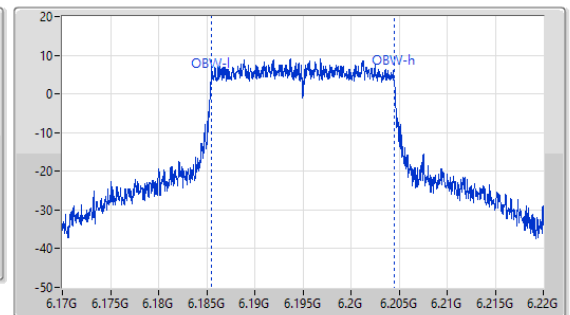
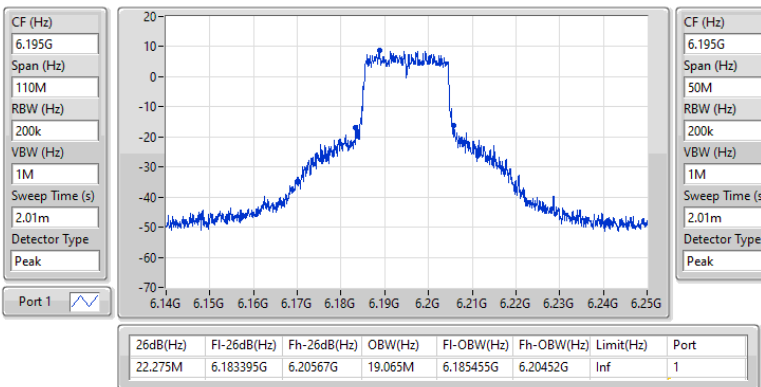


5.925-6.425GHz_802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

6195MHz

02/09/2023

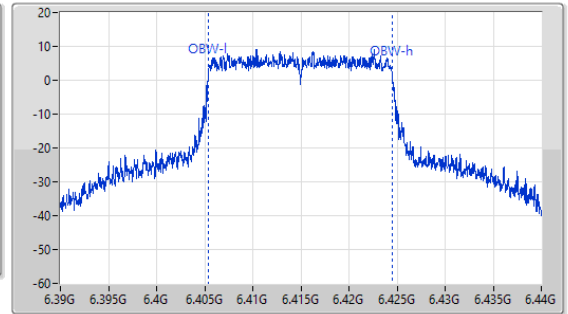
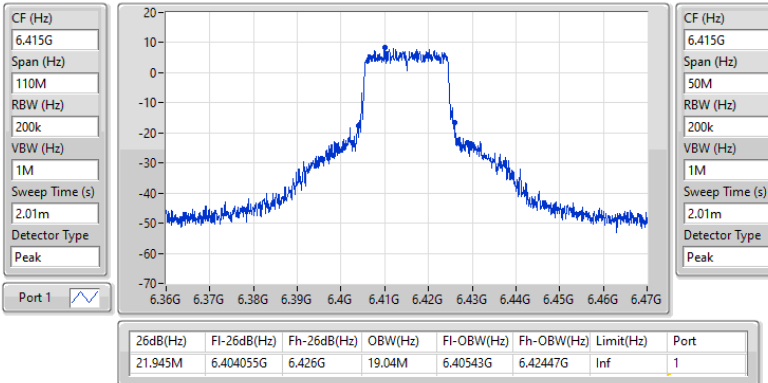


5.925-6.425GHz_802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

6415MHz

02/09/2023

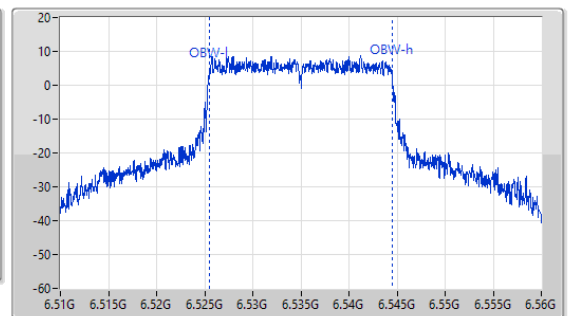
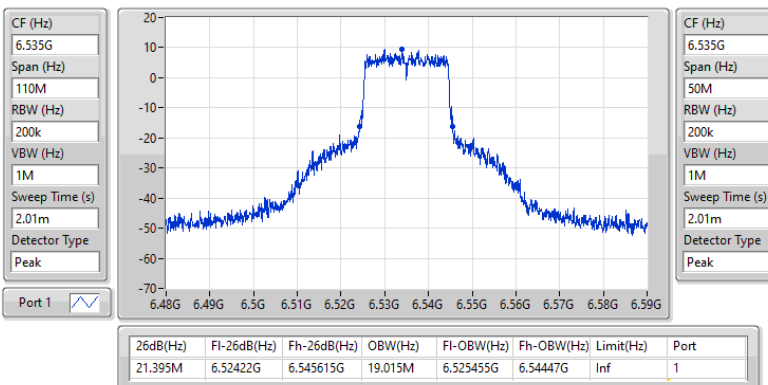


6.525-6.875GHz_802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

6535MHz

02/09/2023

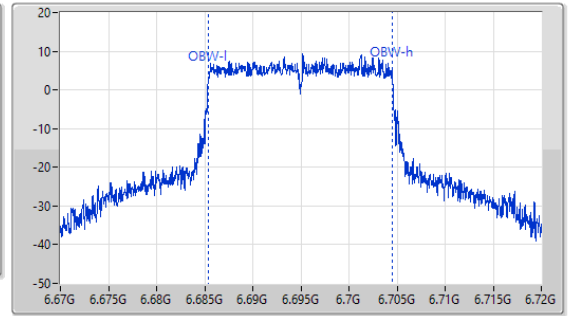
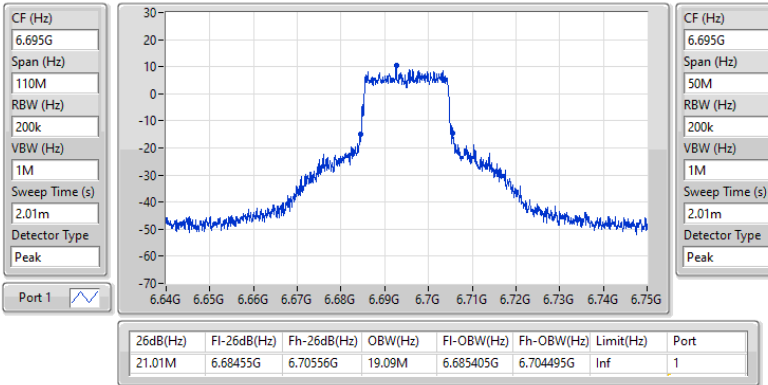


6.525-6.875GHz_802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

6695MHz

02/09/2023

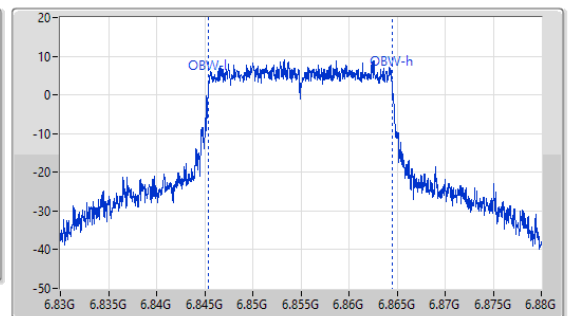
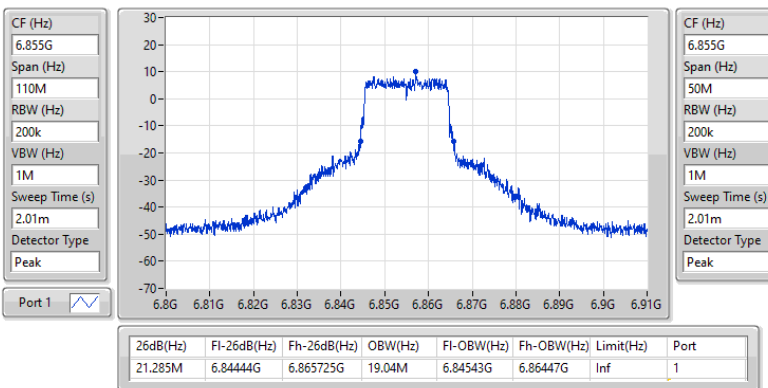


6.525-6.875GHz_802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

6855MHz

02/09/2023

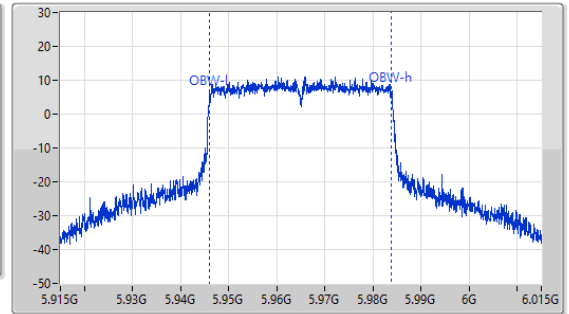
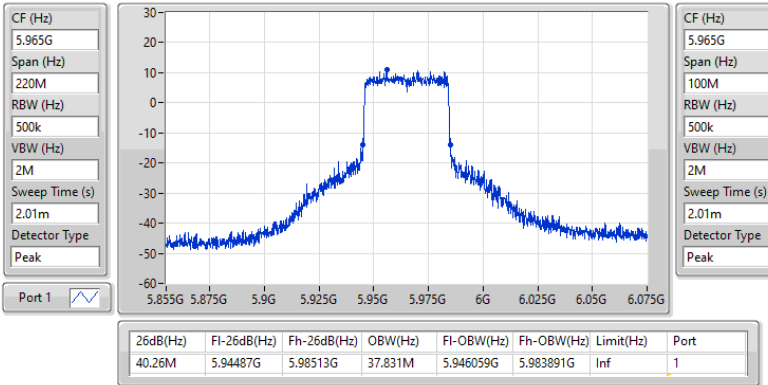


5.925-6.425GHz_802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

5965MHz

02/09/2023

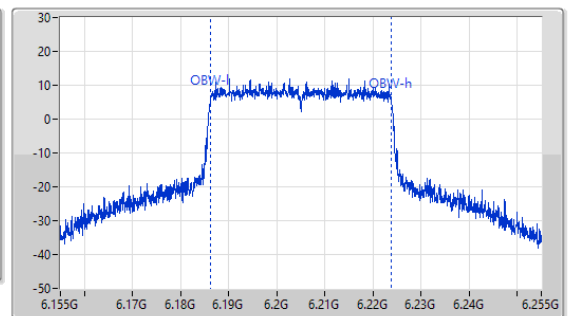
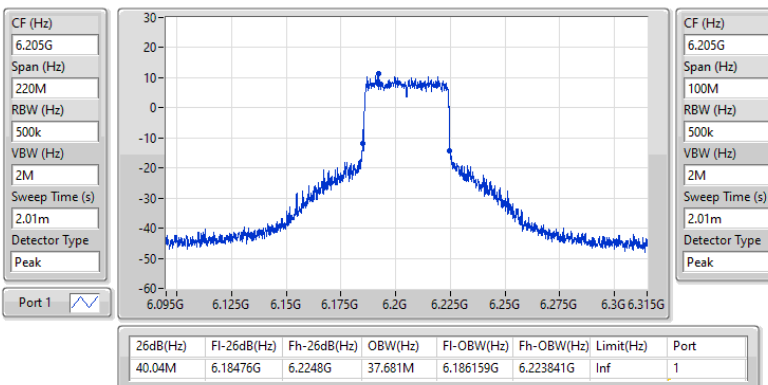


5.925-6.425GHz_802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

6205MHz

02/09/2023

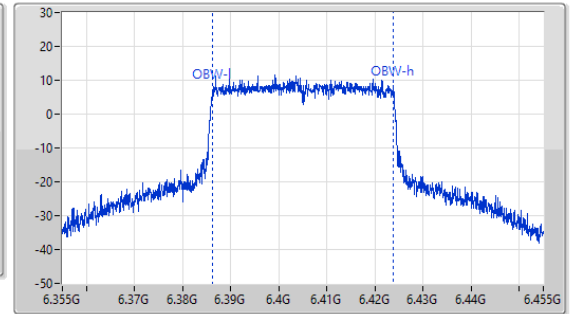
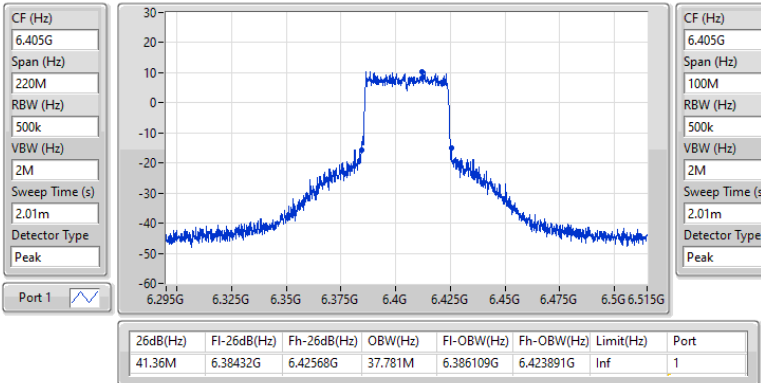


5.925-6.425GHz_802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

6405MHz

02/09/2023

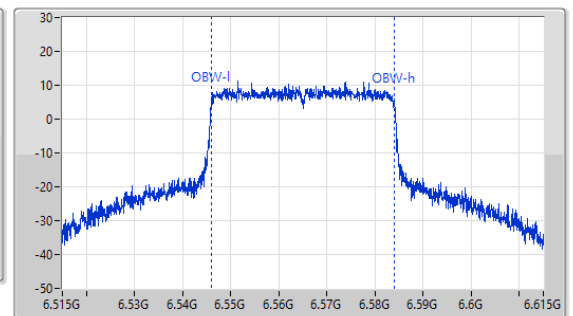
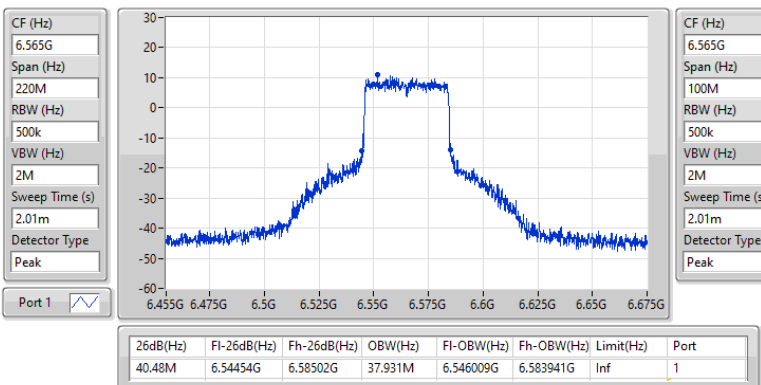


6.525-6.875GHz_802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

6565MHz

02/09/2023

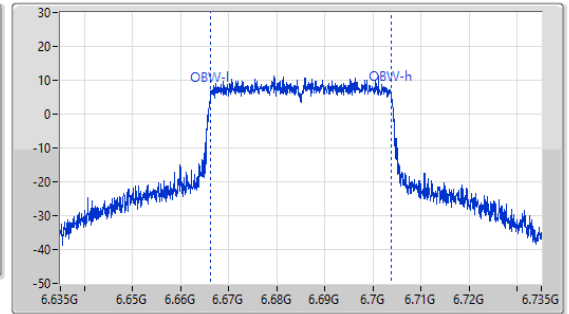
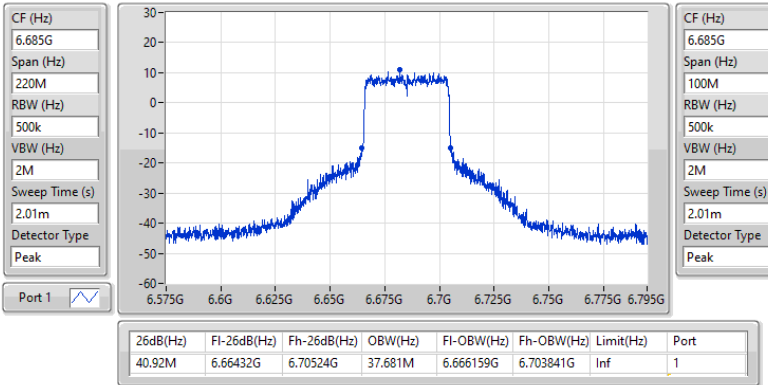


6.525-6.875GHz_802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

6685MHz

02/09/2023

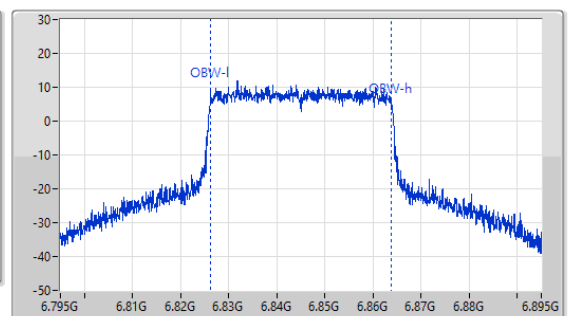
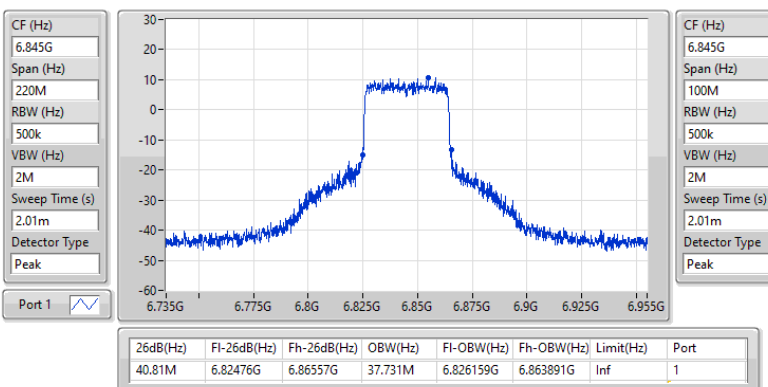


6.525-6.875GHz_802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

6845MHz

02/09/2023

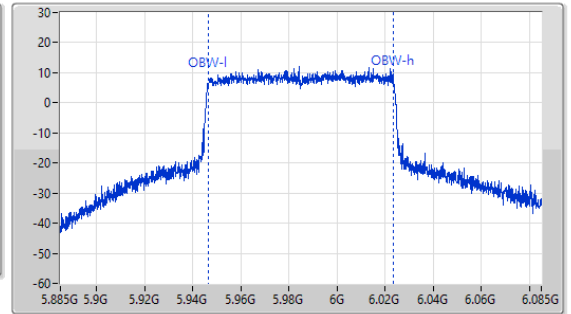
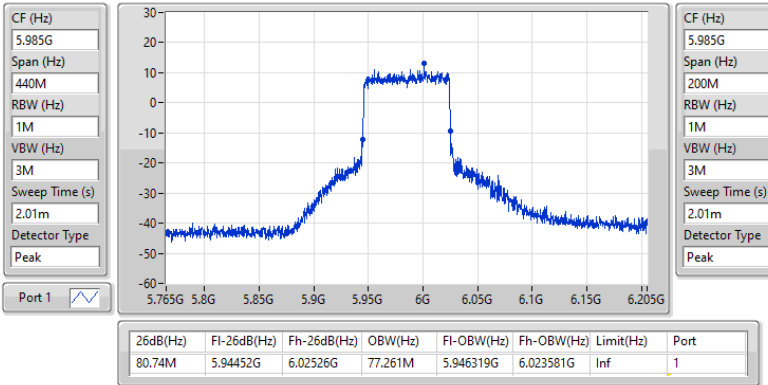


5.925-6.425GHz_802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

5985MHz

02/09/2023

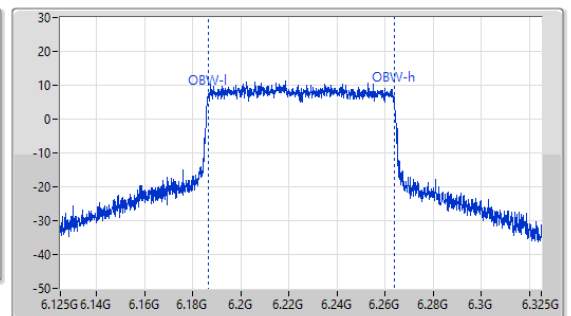
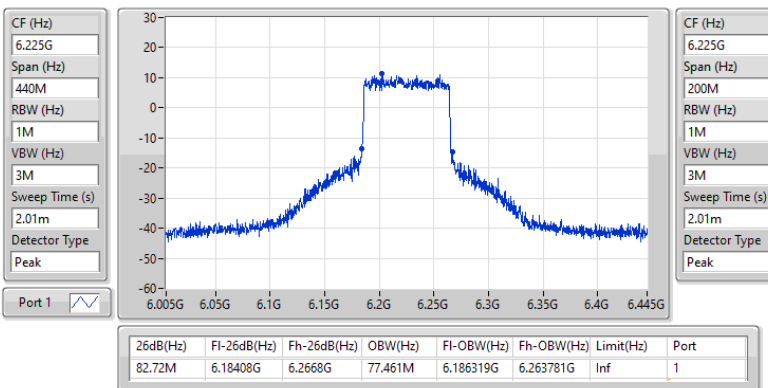


5.925-6.425GHz_802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

6225MHz

02/09/2023

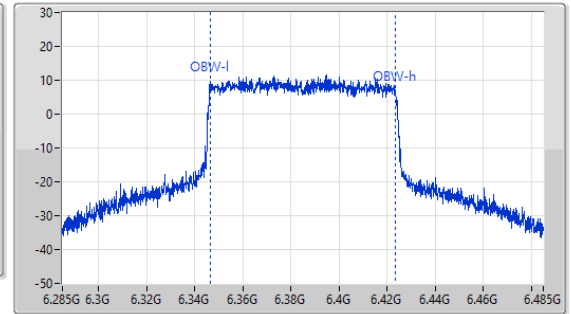
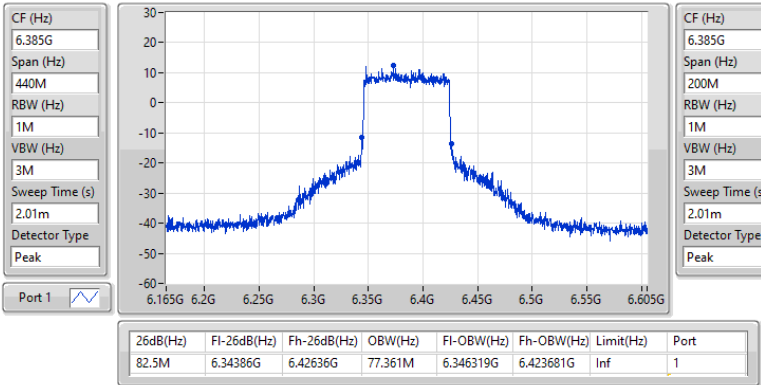


5.925-6.425GHz_802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

6385MHz

02/09/2023

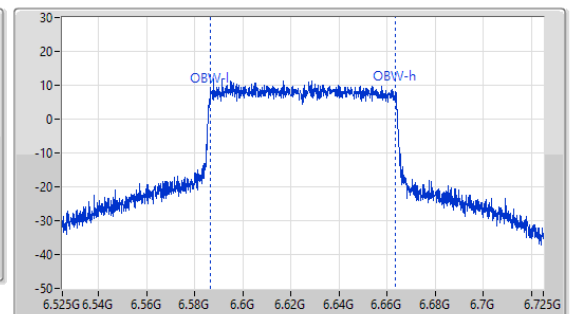
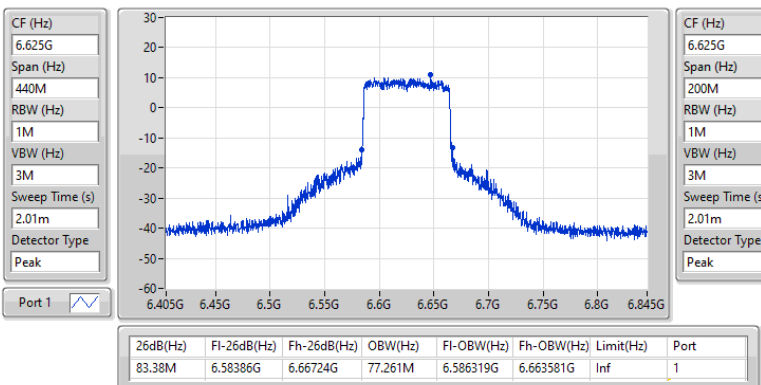


6.525-6.875GHz_802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

6625MHz

02/09/2023

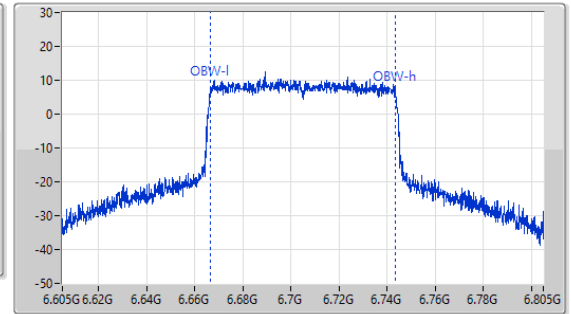
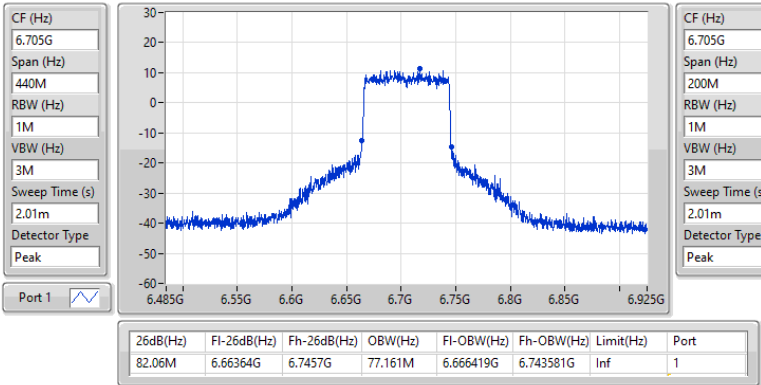


6.525-6.875GHz_802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

6705MHz

02/09/2023

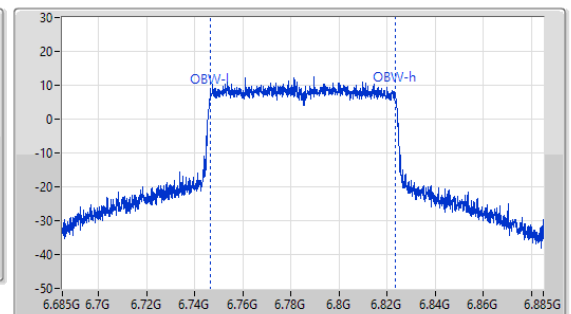
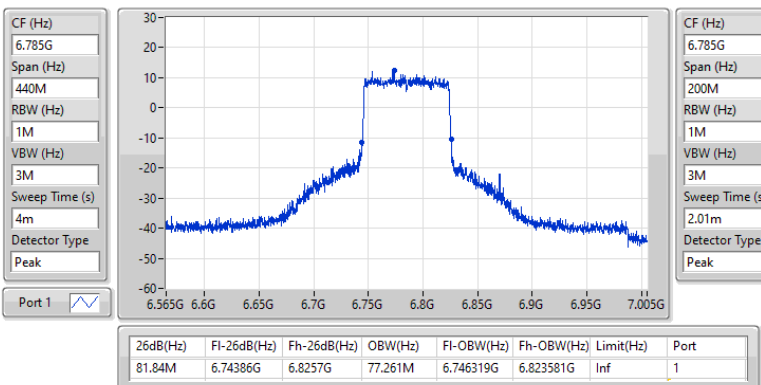


6.525-6.875GHz_802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

6785MHz

02/09/2023

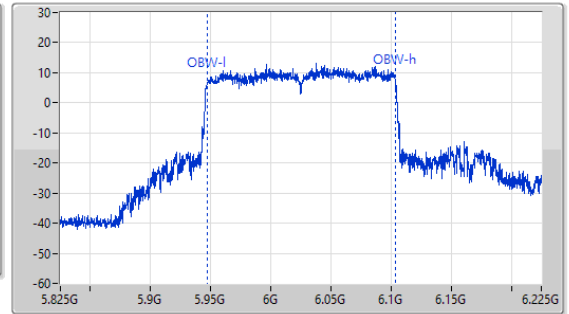
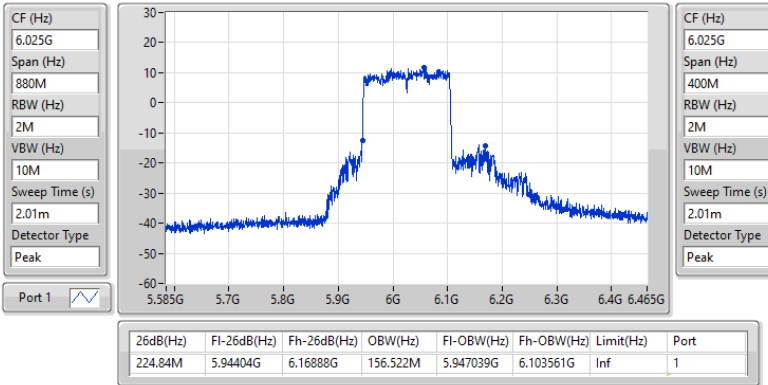


5.925-6.425GHz_802.11ax HEW160_Nss1,(MCS0)_1TX

EBW

6025MHz

02/09/2023

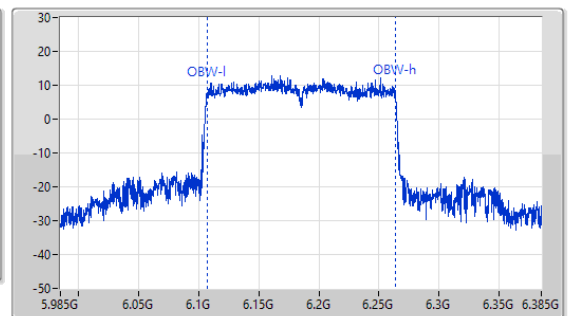
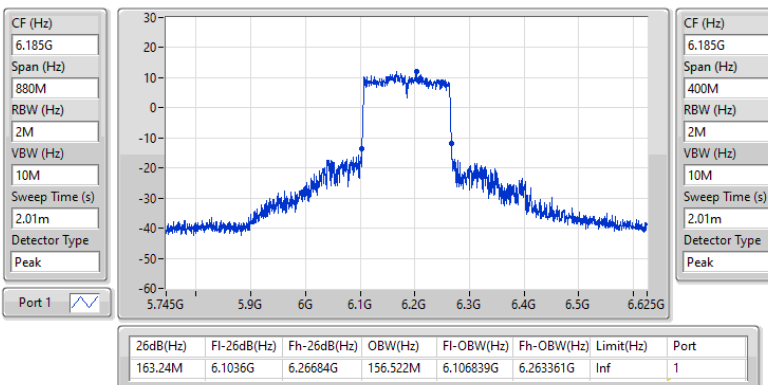


5.925-6.425GHz_802.11ax HEW160_Nss1,(MCS0)_1TX

EBW

6185MHz

02/09/2023

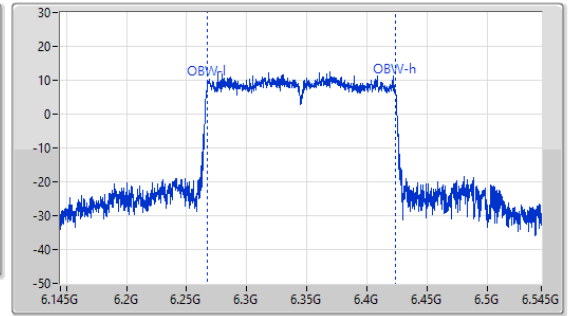
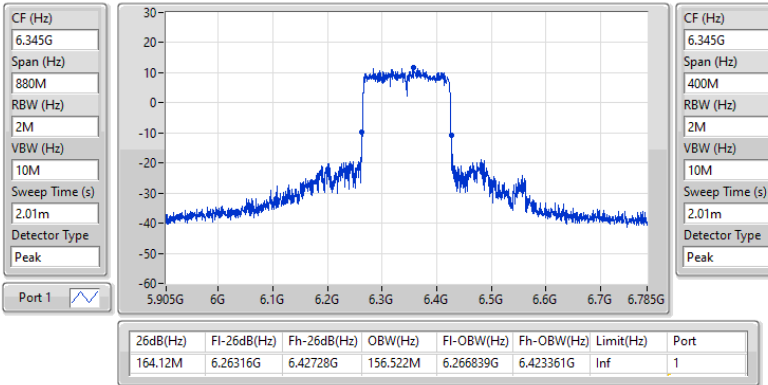


5.925-6.425GHz_802.11ax HEW160_Nss1,(MCS0)_1TX

EBW

6345MHz

02/09/2023

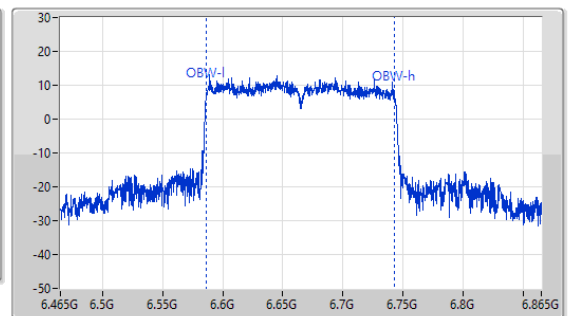
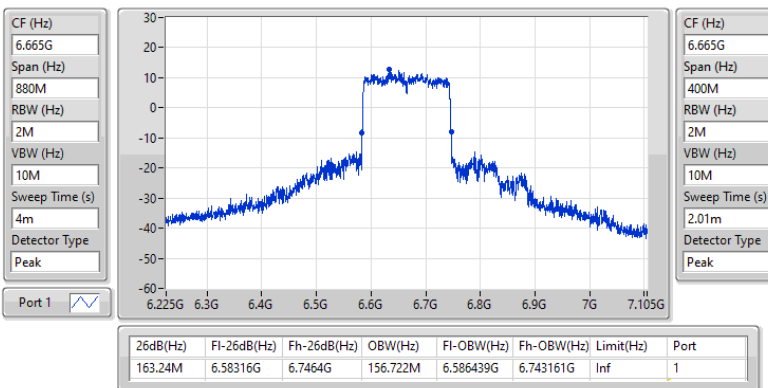


6.525-6.875GHz_802.11ax HEW160_Nss1,(MCS0)_1TX

EBW

6665MHz

02/09/2023

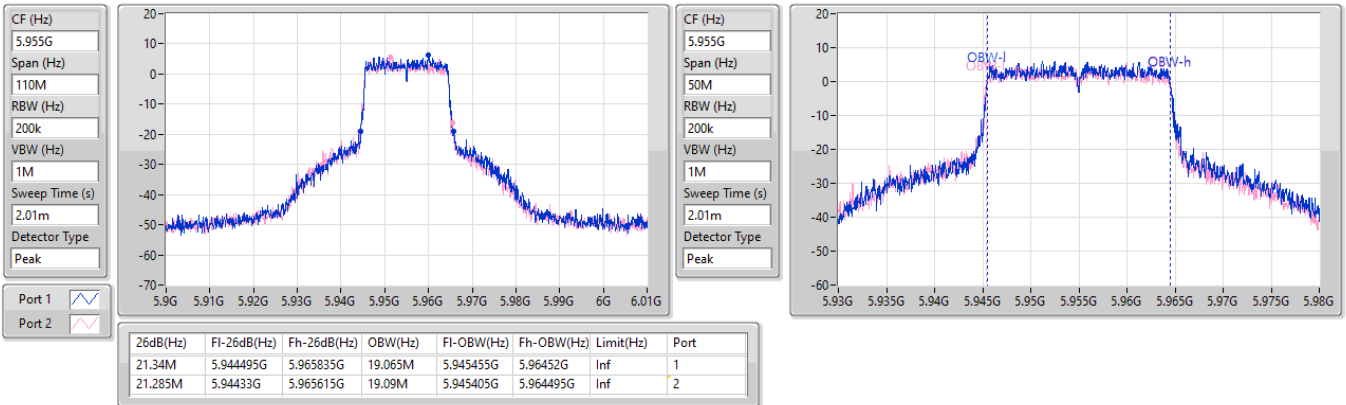


5.925-6.425GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

5955MHz

02/09/2023

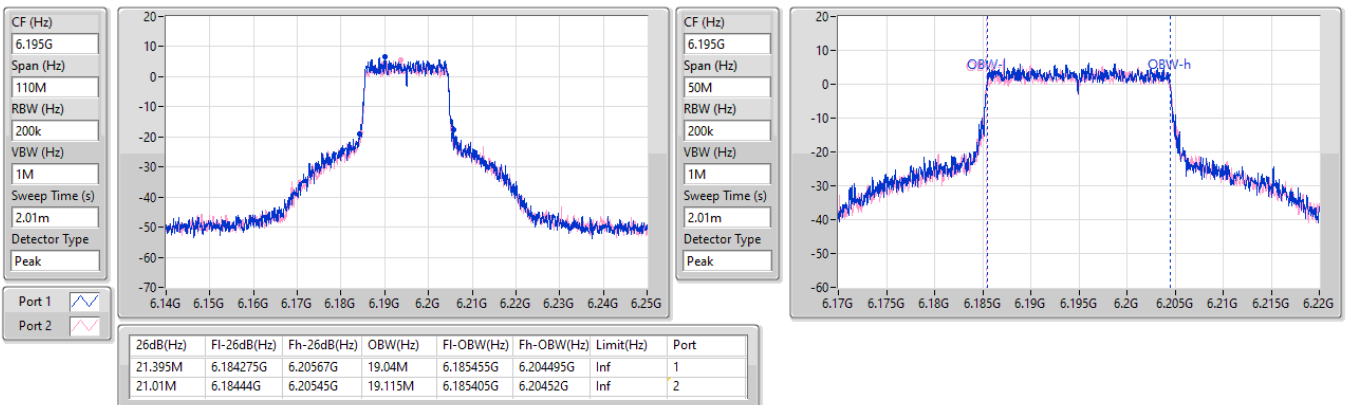


5.925-6.425GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

6195MHz

02/09/2023

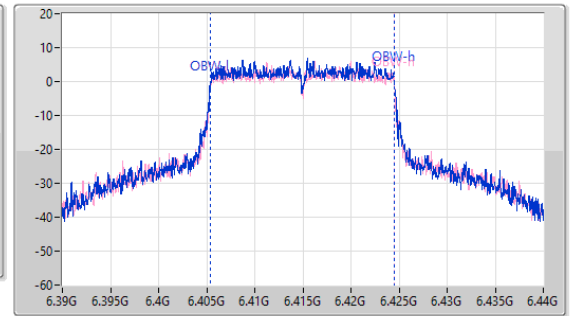
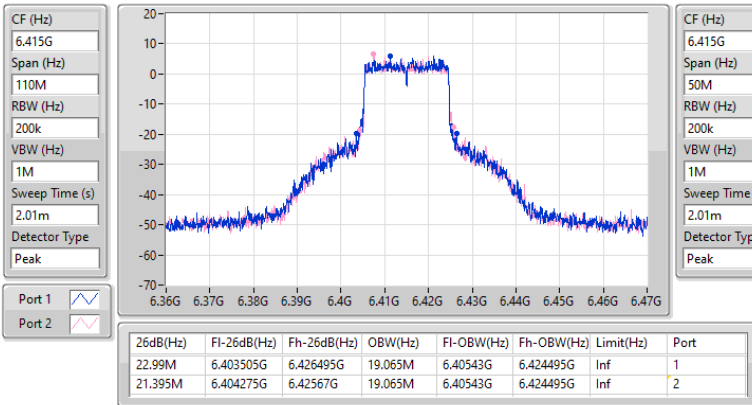


5.925-6.425GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

6415MHz

02/09/2023

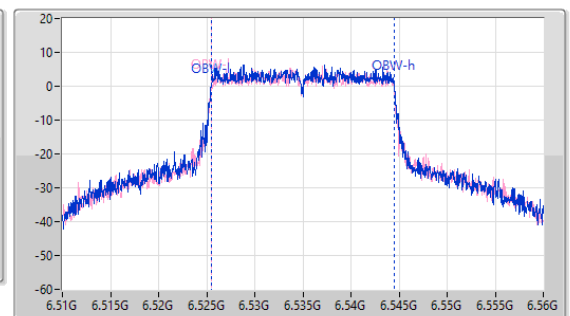
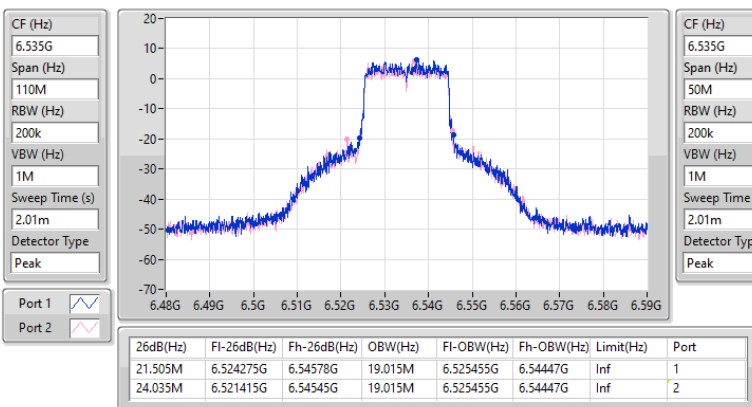


6.525-6.875GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

6535MHz

02/09/2023

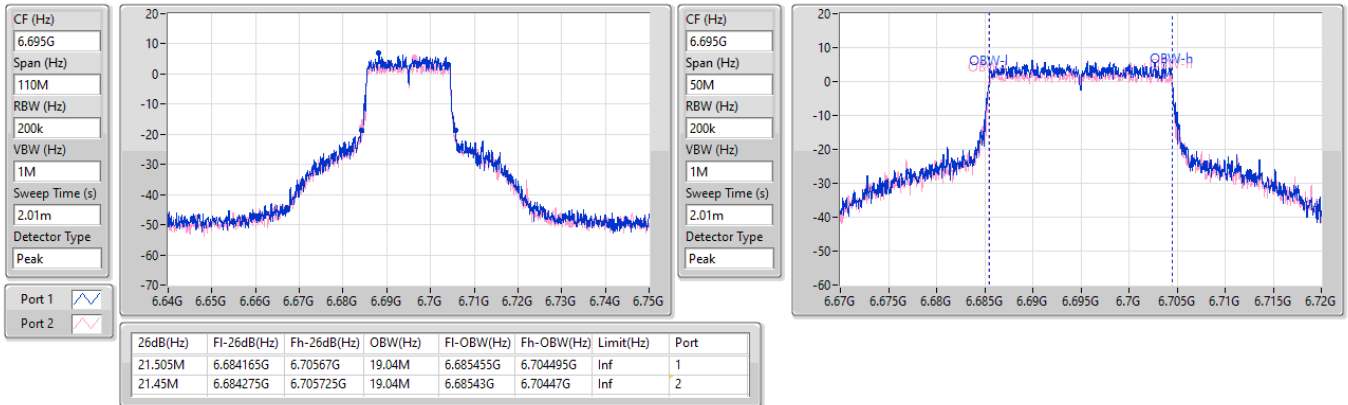


6.525-6.875GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

6695MHz

02/09/2023

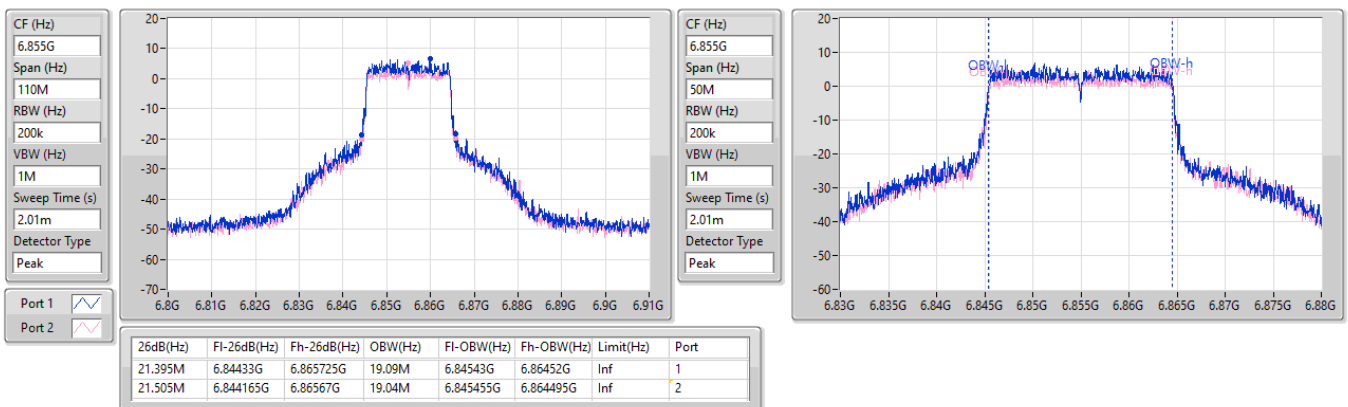


6.525-6.875GHz_802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

6855MHz

02/09/2023

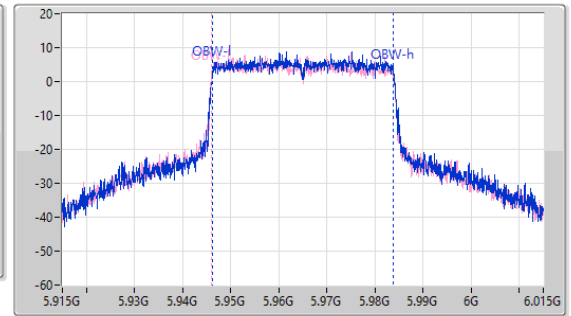
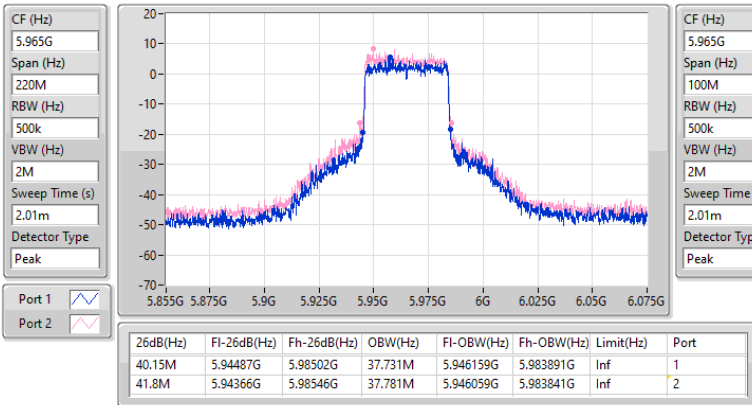


5.925-6.425GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

5965MHz

02/09/2023

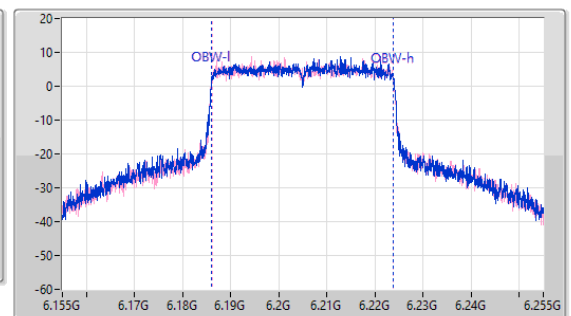
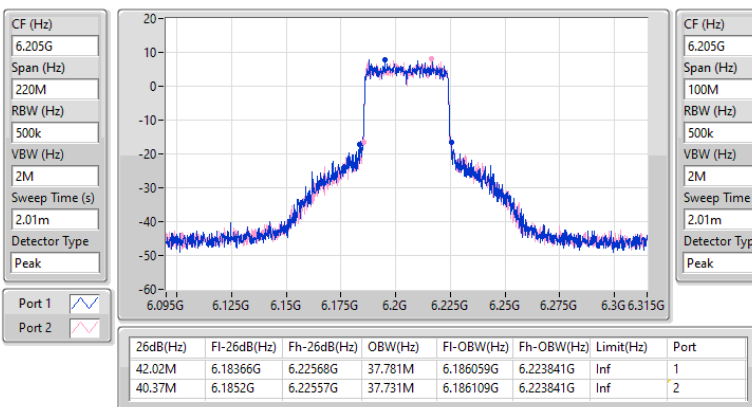


5.925-6.425GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6205MHz

02/09/2023

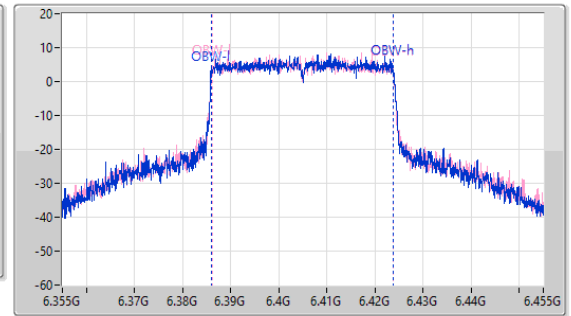
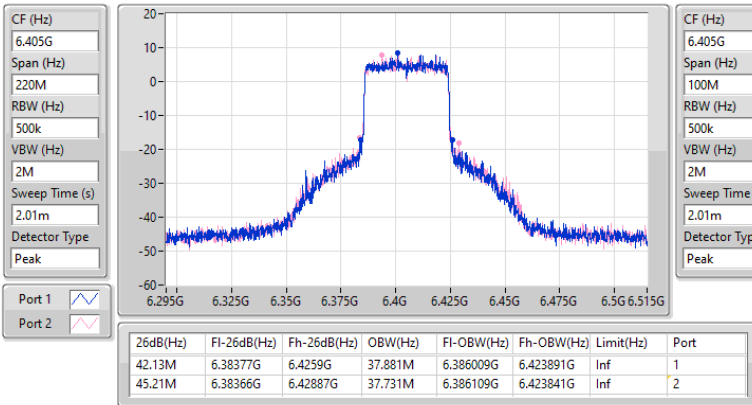


5.925-6.425GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6405MHz

02/09/2023

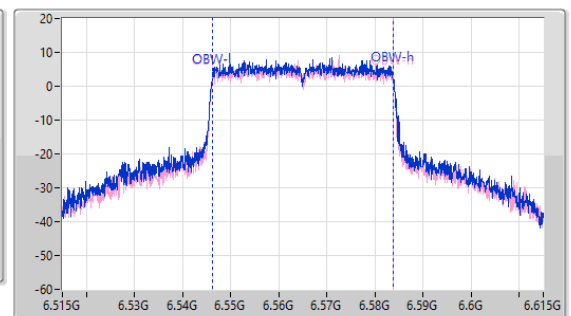
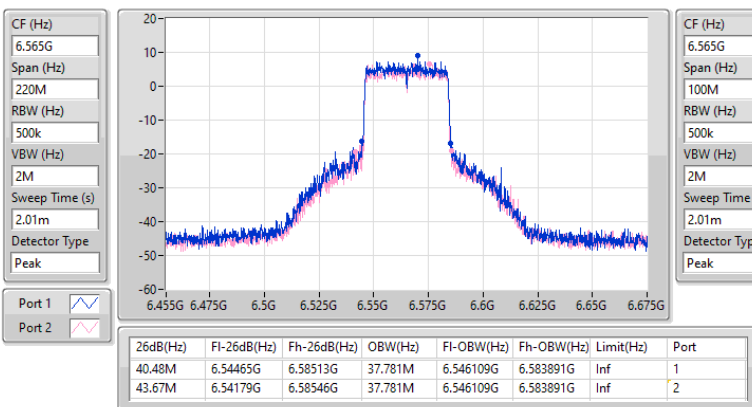


6.525-6.875GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6565MHz

02/09/2023

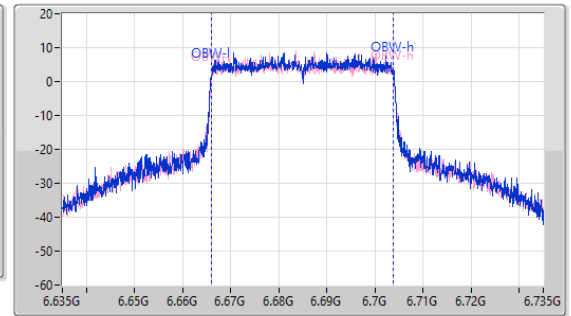
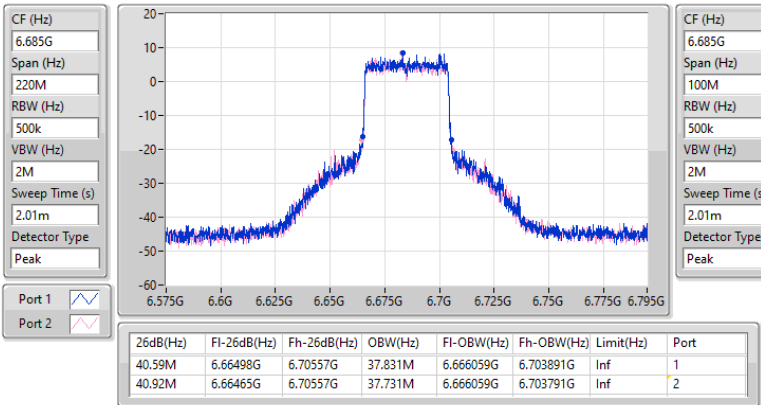


6.525-6.875GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6685MHz

02/09/2023

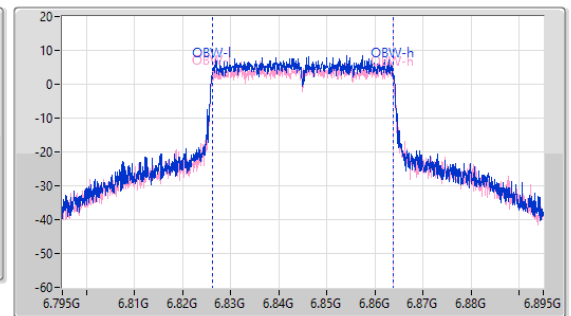
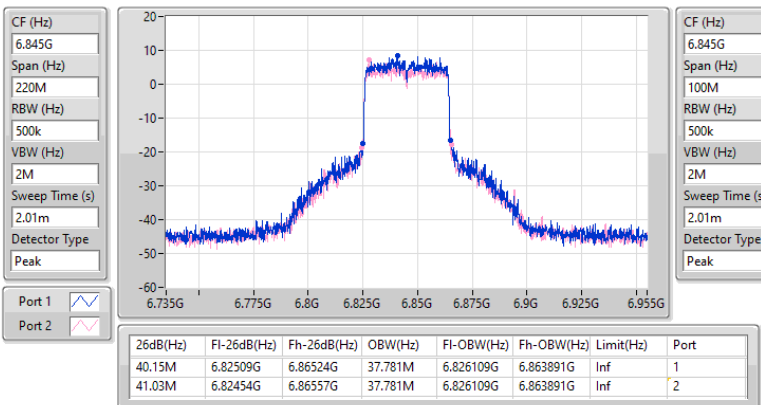


6.525-6.875GHz_802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

6845MHz

02/09/2023

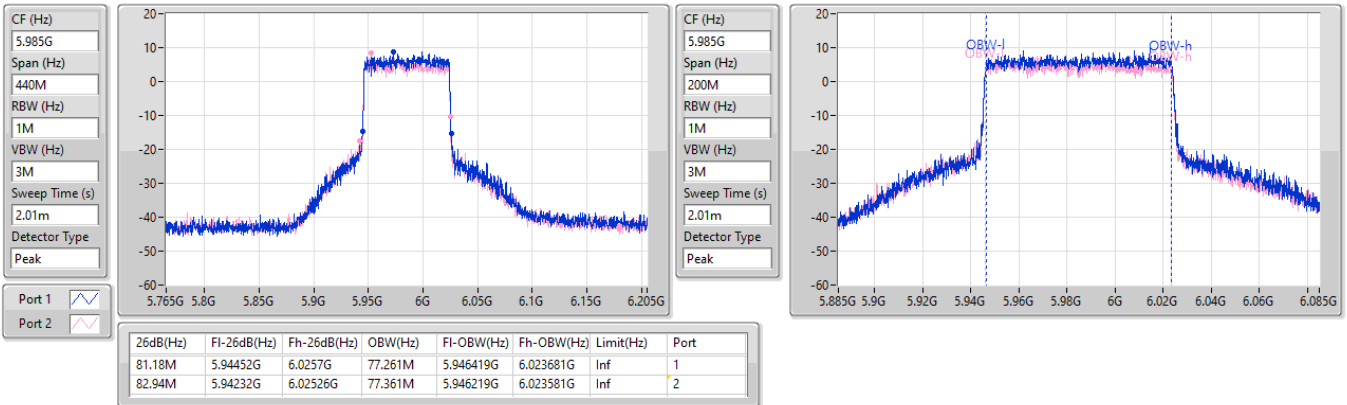


5.925-6.425GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

5985MHz

02/09/2023

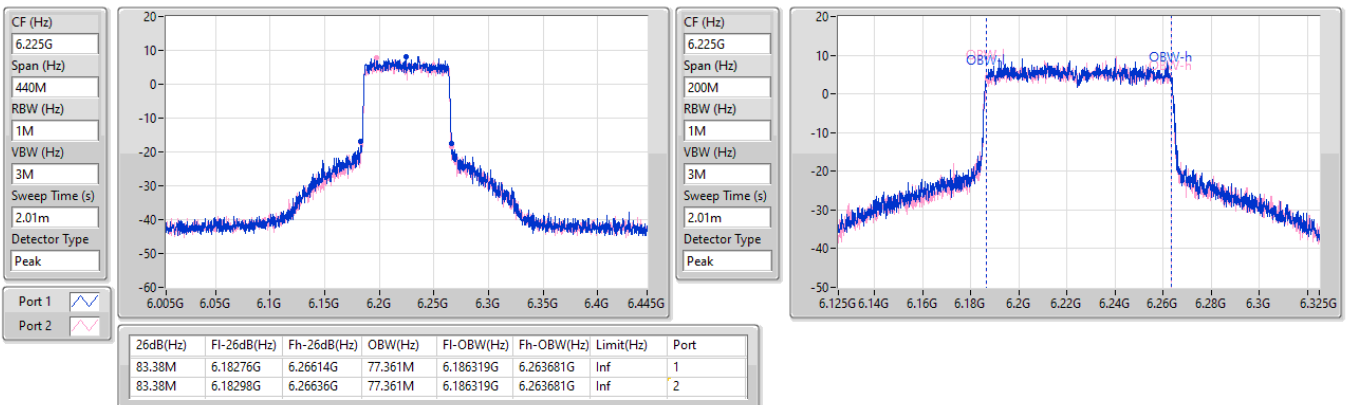


5.925-6.425GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6225MHz

02/09/2023

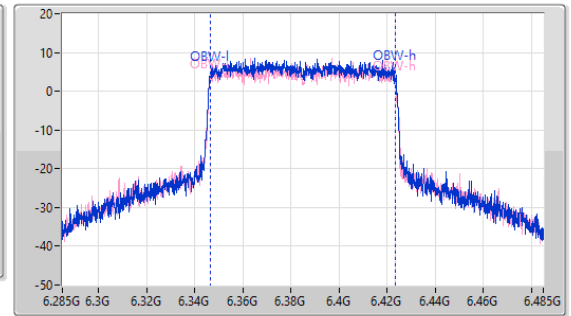
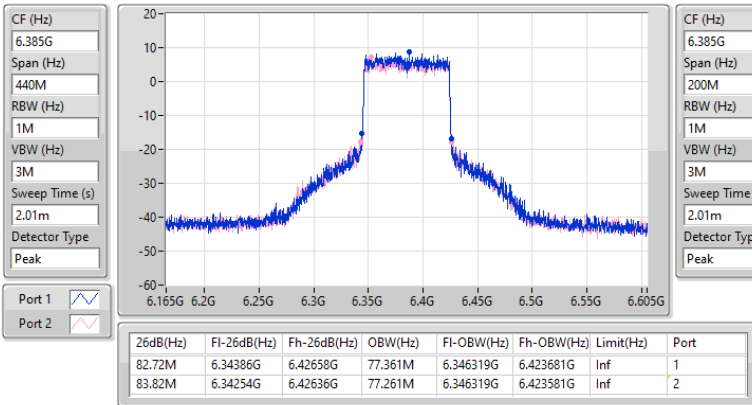


5.925-6.425GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6385MHz

02/09/2023

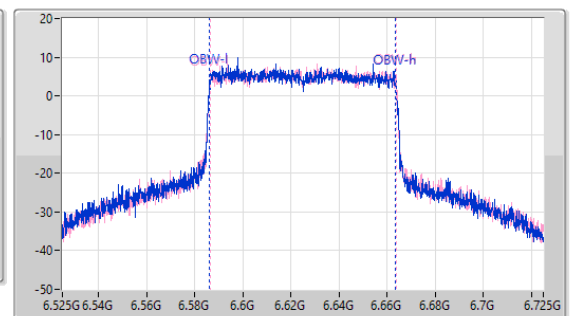
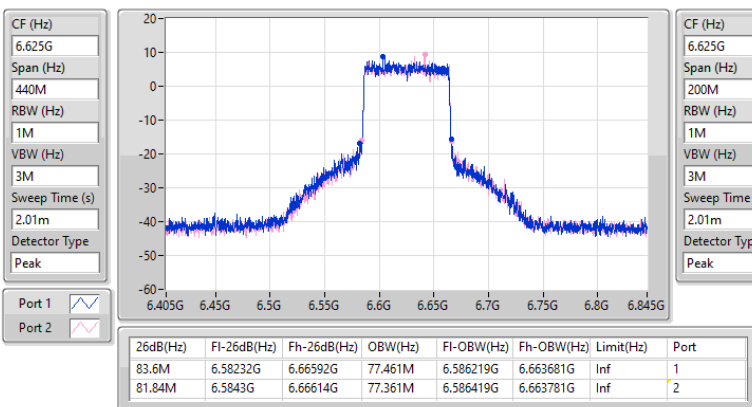


6.525-6.875GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6625MHz

02/09/2023

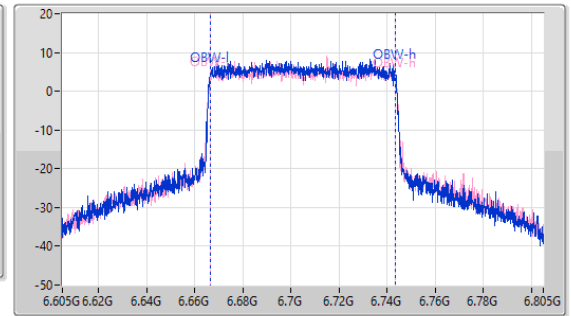
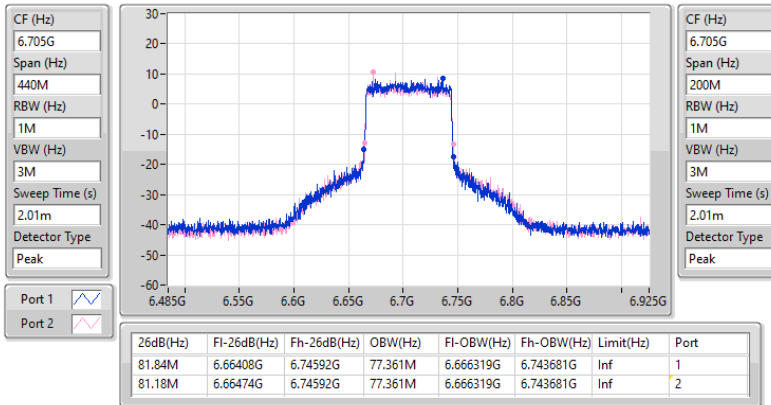


6.525-6.875GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6705MHz

02/09/2023

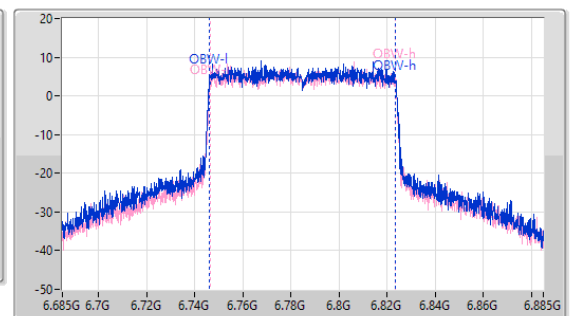
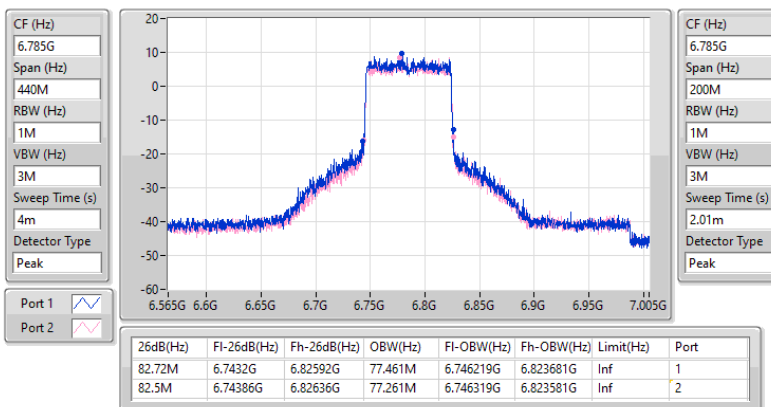


6.525-6.875GHz_802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

6785MHz

02/09/2023

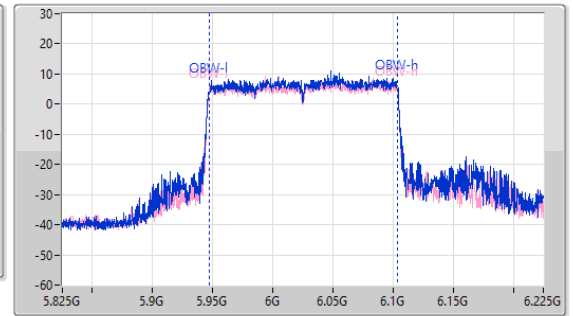
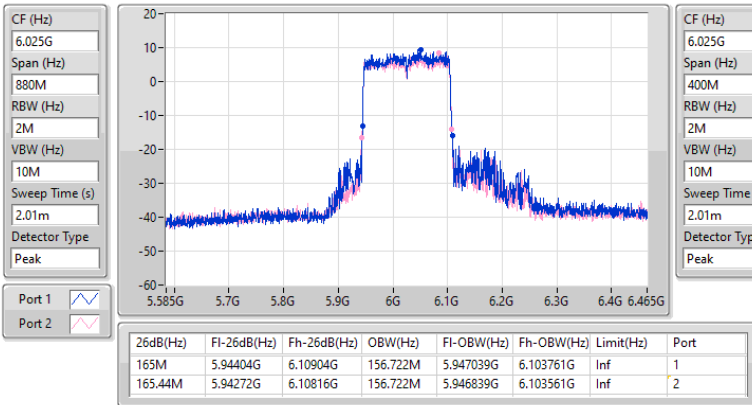


5.925-6.425GHz_802.11ax_HEW160_Nss2,(MCS0)_2TX

EBW

6025MHz

02/09/2023

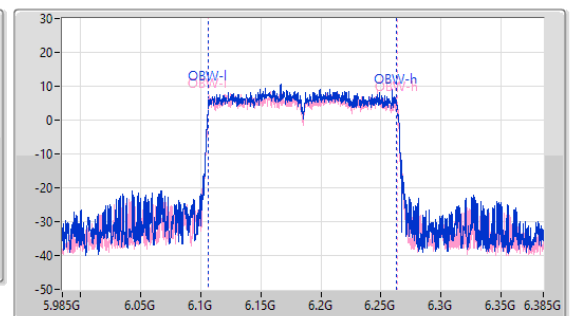
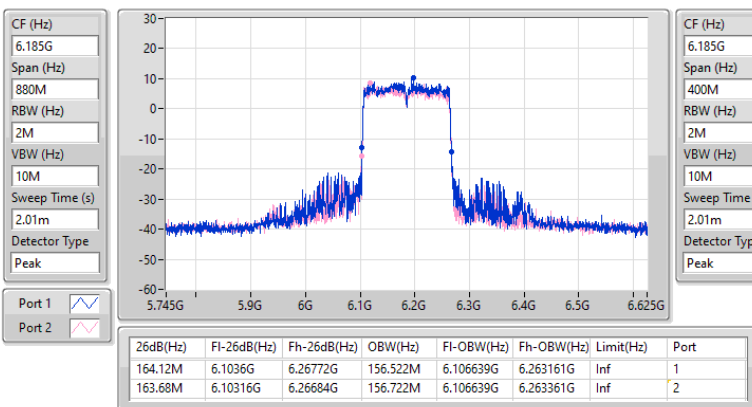


5.925-6.425GHz_802.11ax_HEW160_Nss2,(MCS0)_2TX

EBW

6185MHz

02/09/2023

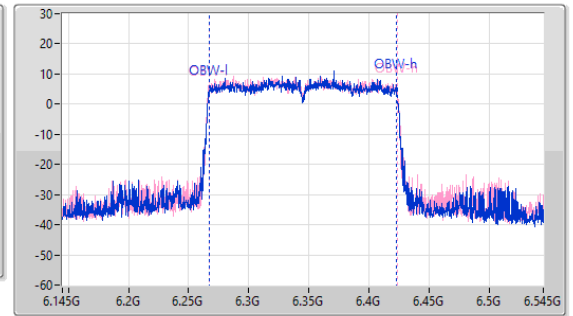
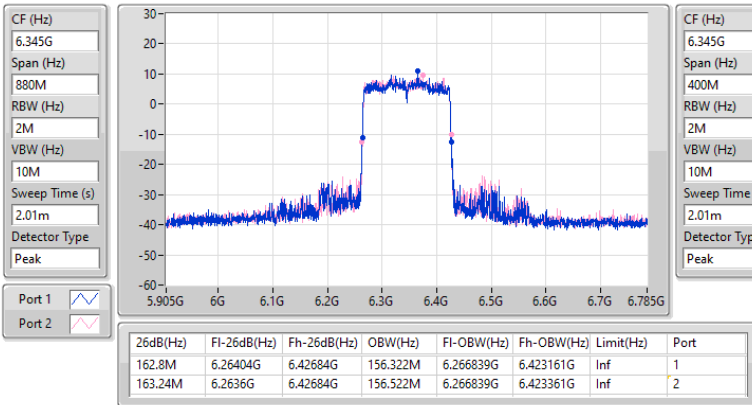


5.925-6.425GHz_802.11ax HEW160_Nss2,(MCS0)_2TX

EBW

6345MHz

02/09/2023

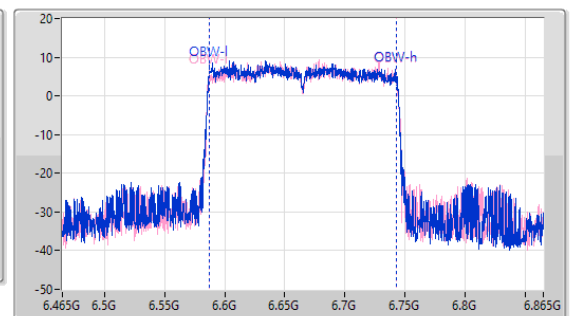
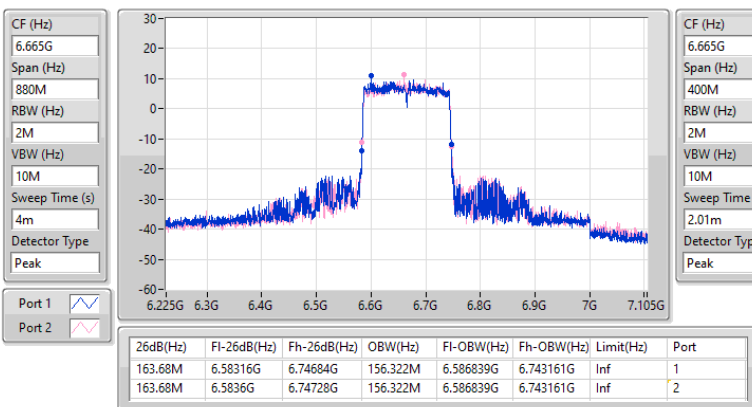


6.525-6.875GHz_802.11ax HEW160_Nss2,(MCS0)_2TX

EBW

6665MHz

02/09/2023

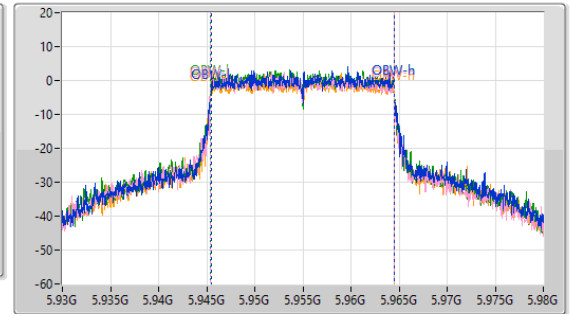
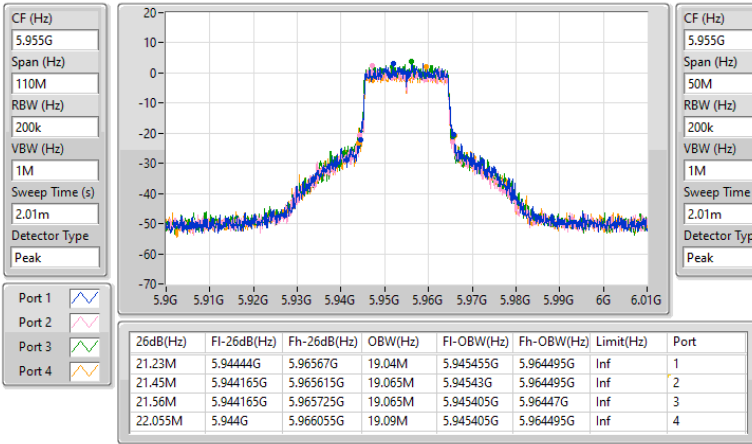


5.925-6.425GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

5955MHz

02/09/2023

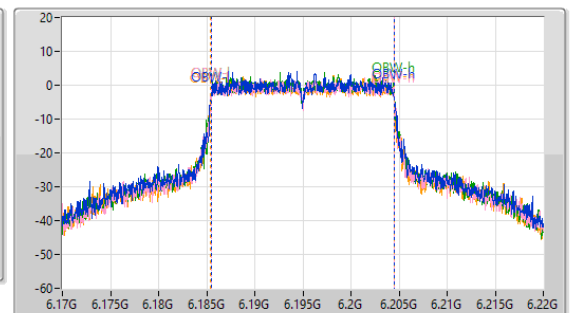
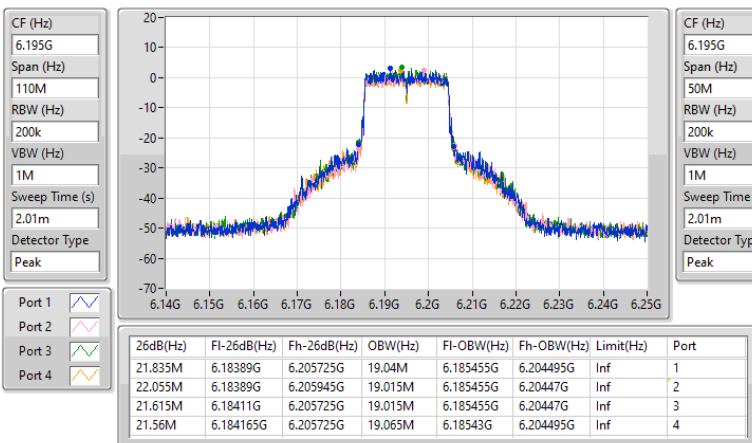


5.925-6.425GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

6195MHz

02/09/2023

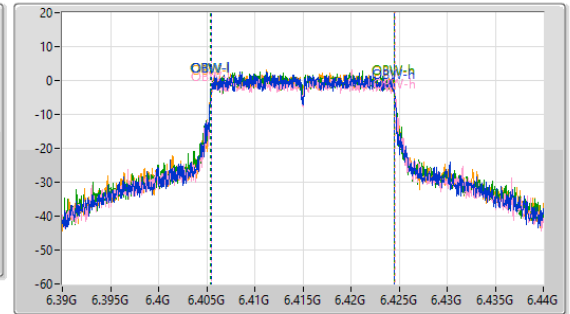
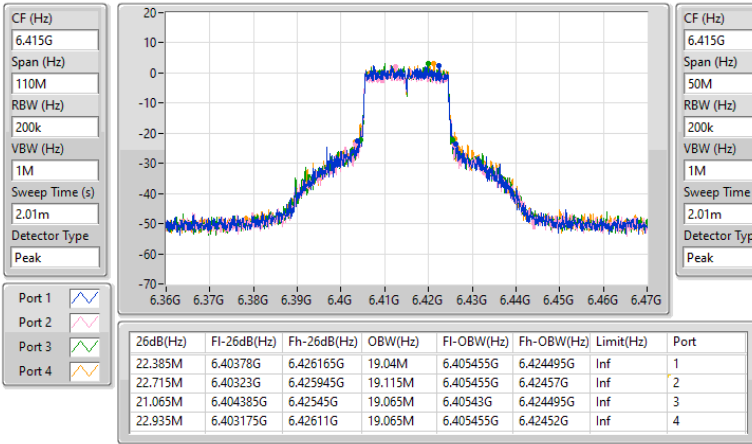


5.925-6.425GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

6415MHz

02/09/2023

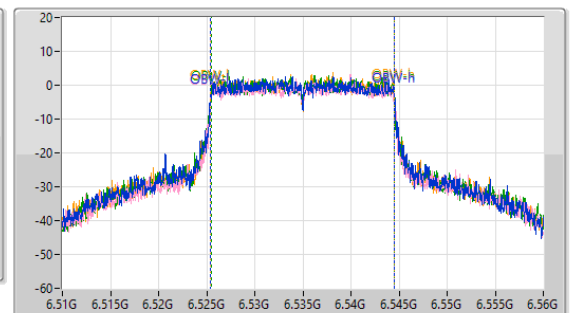
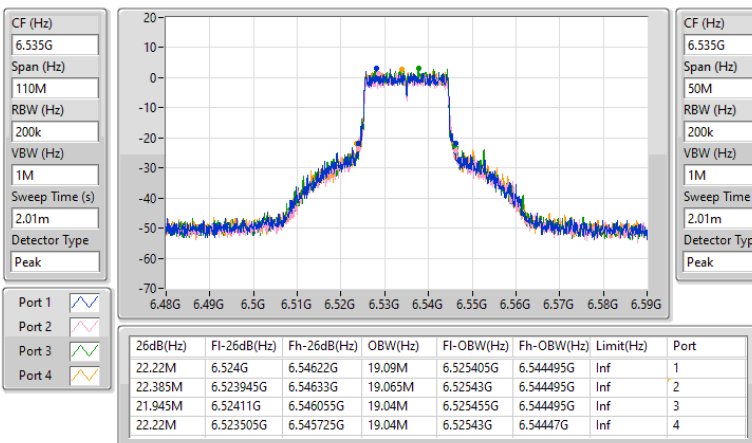


6.525-6.875GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

6535MHz

02/09/2023

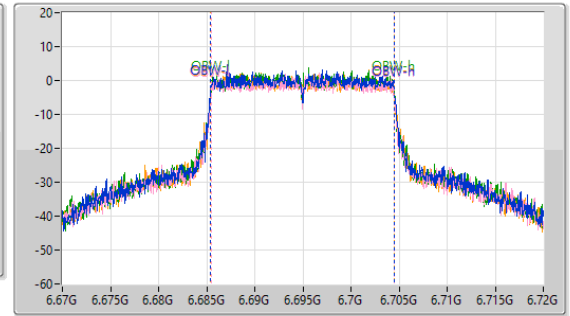
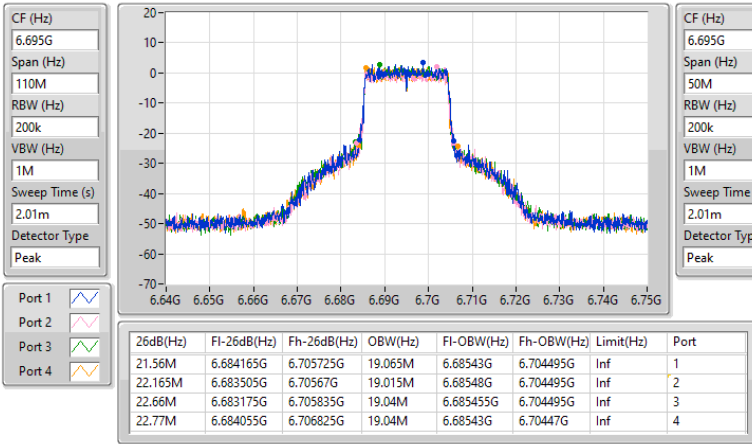


6.525-6.875GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

6695MHz

02/09/2023

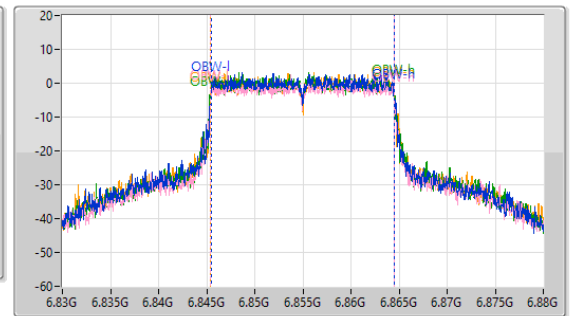
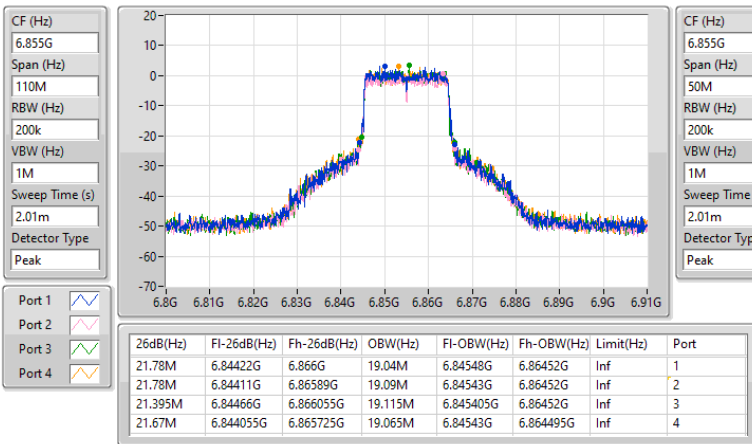


6.525-6.875GHz_802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

6855MHz

02/09/2023

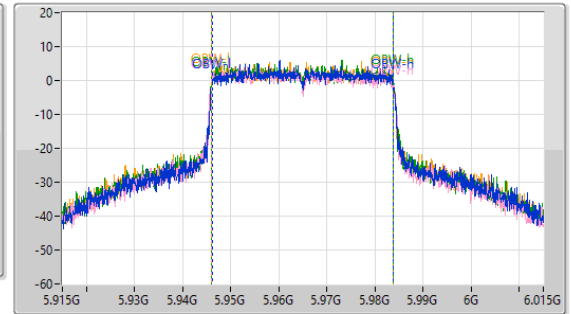
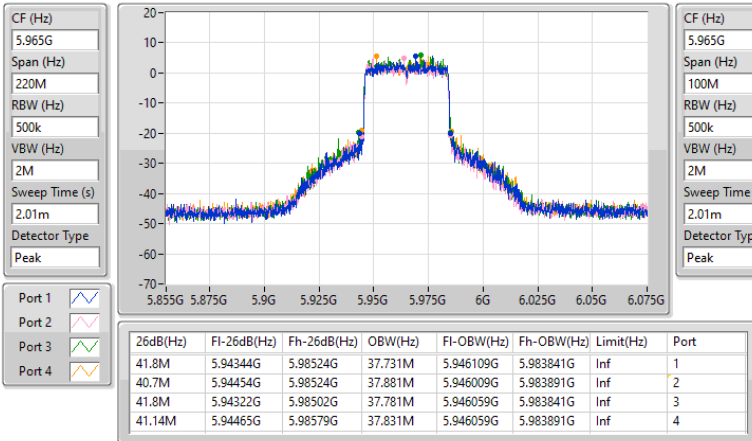


5.925-6.425GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

5965MHz

02/09/2023

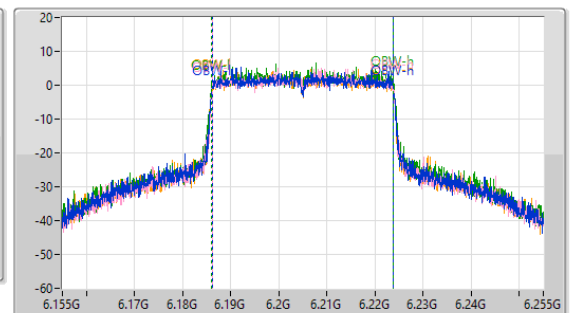
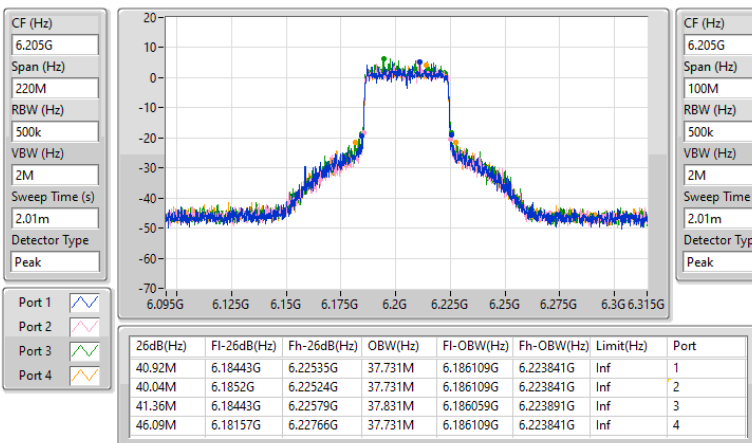


5.925-6.425GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

6205MHz

02/09/2023

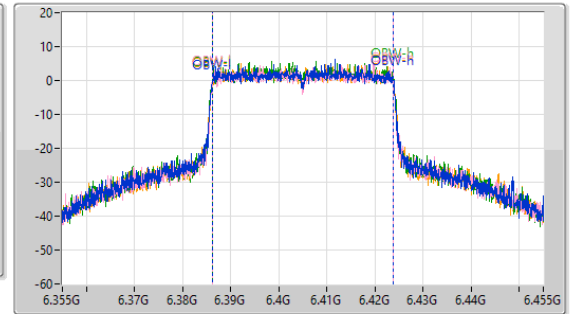
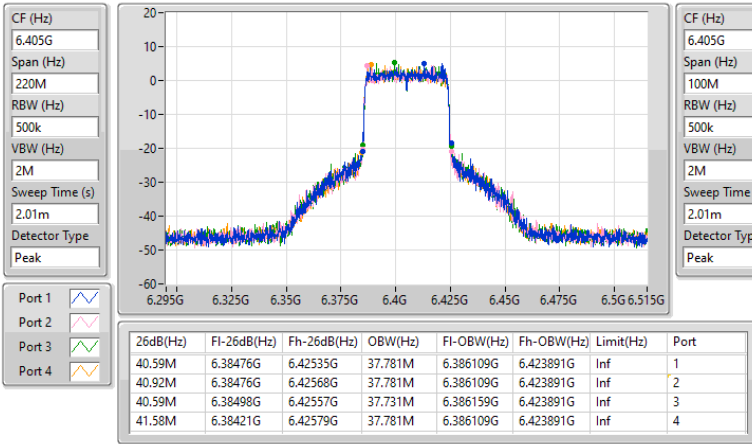


5.925-6.425GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

6405MHz

02/09/2023

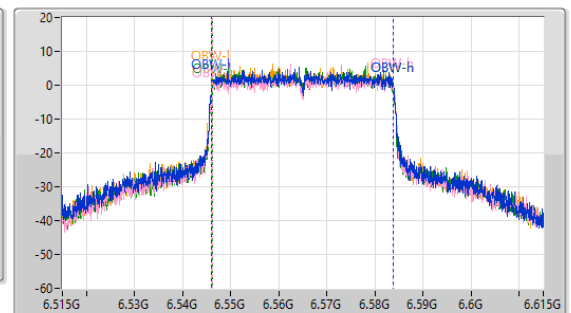
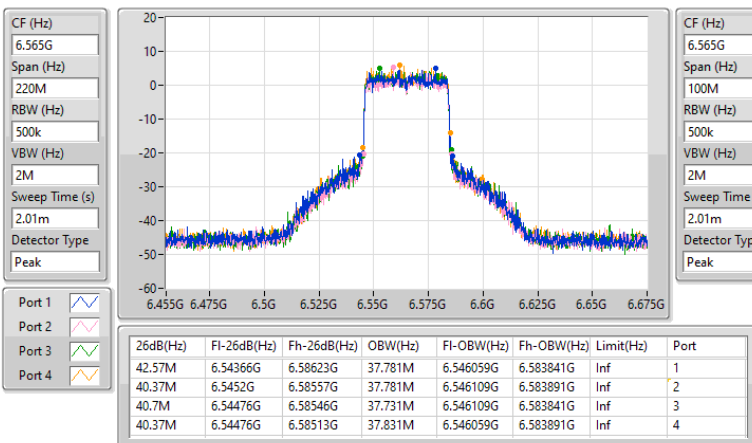


6.525-6.875GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

6565MHz

02/09/2023

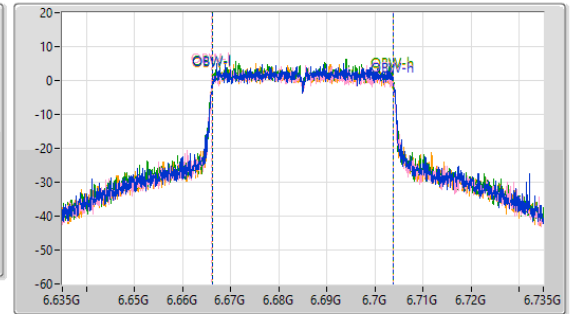
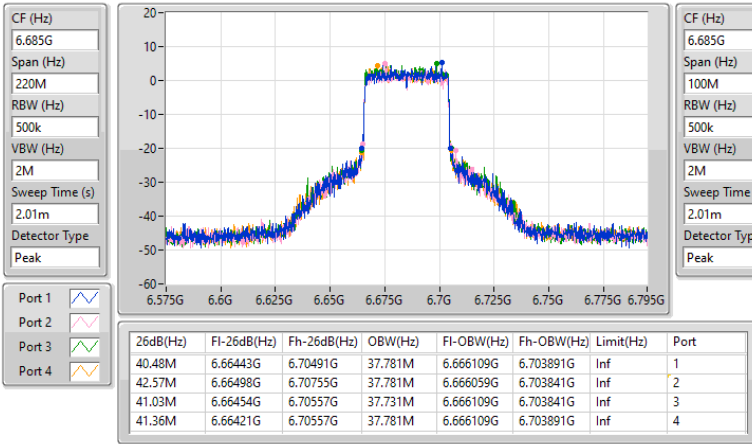


6.525-6.875GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

6685MHz

02/09/2023

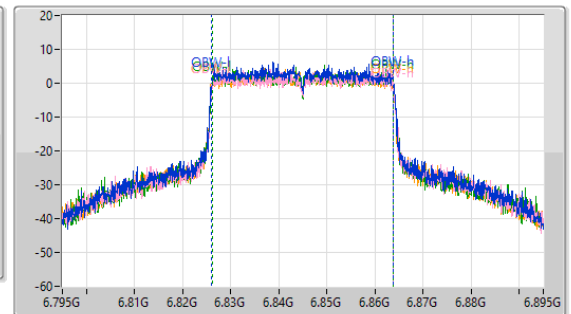
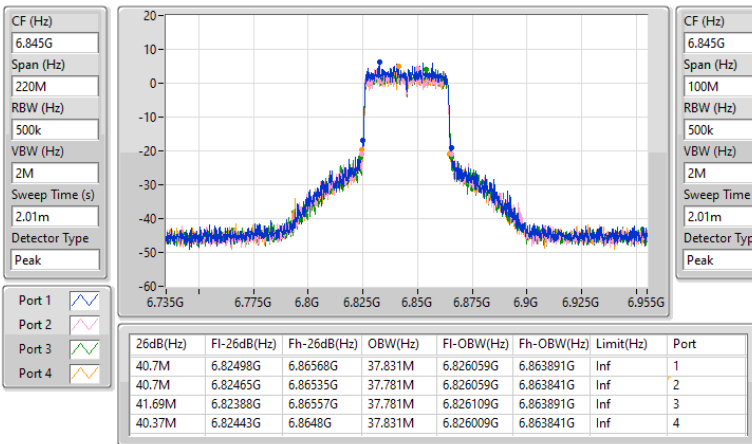


6.525-6.875GHz_802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

6845MHz

02/09/2023

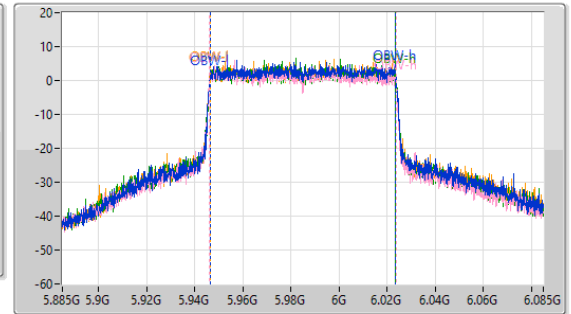
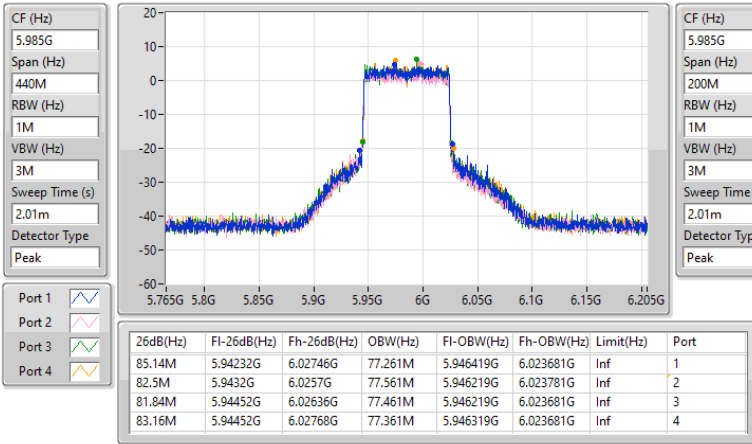


5.925-6.425GHz_802.11ax HEW80_Nss1,(MCS0)_4TX

EBW

5985MHz

02/09/2023

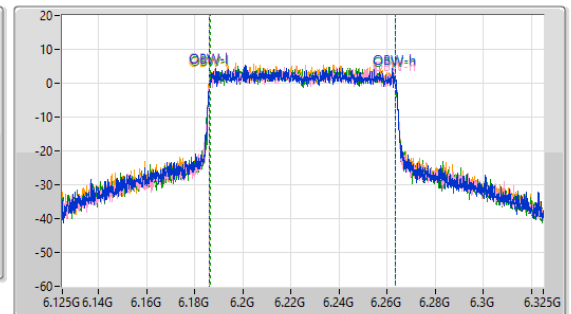
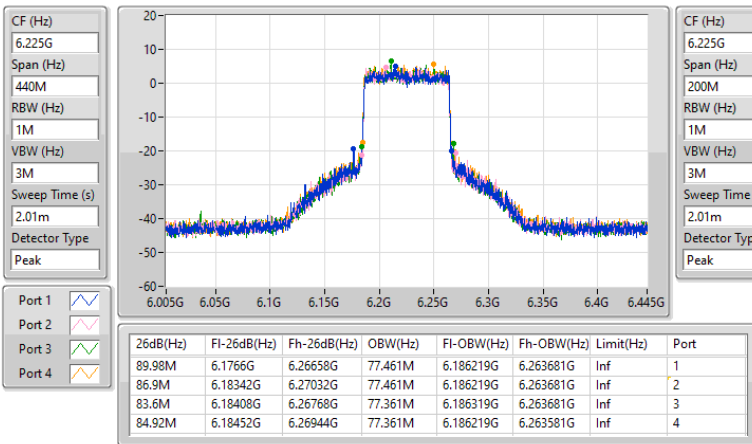


5.925-6.425GHz_802.11ax HEW80_Nss1,(MCS0)_4TX

EBW

6225MHz

02/09/2023

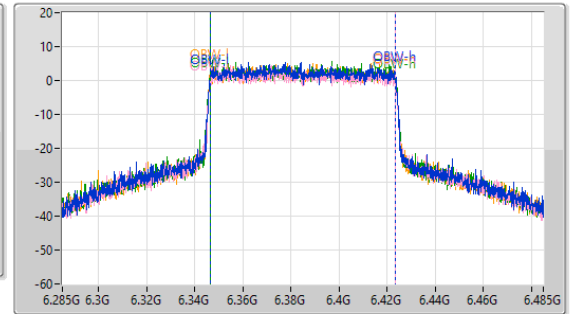
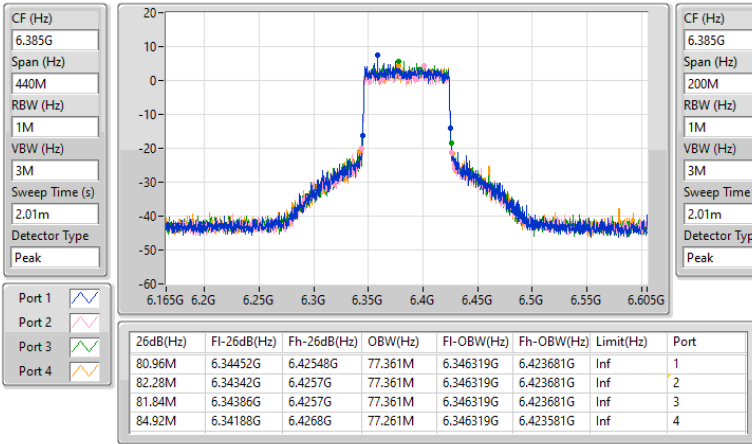


5.925-6.425GHz_802.11ax HEW80_Nss1,(MCS0)_4TX

EBW

6385MHz

02/09/2023

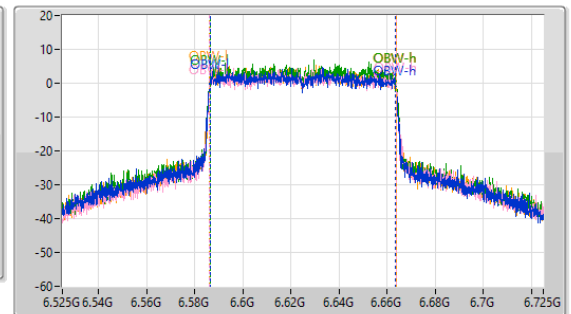
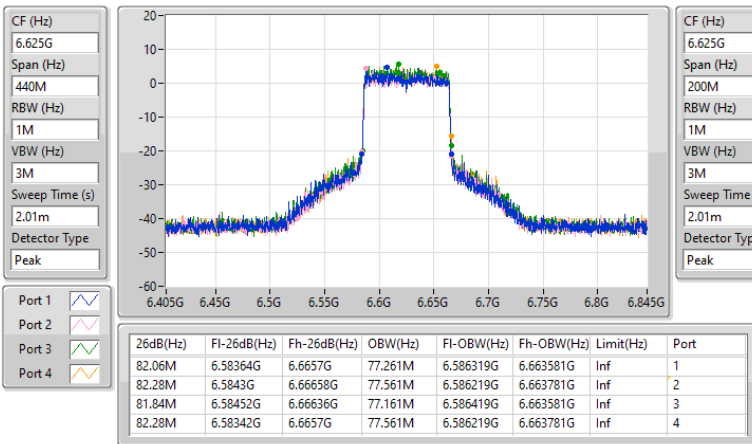


6.525-6.875GHz_802.11ax HEW80_Nss1,(MCS0)_4TX

EBW

6625MHz

02/09/2023

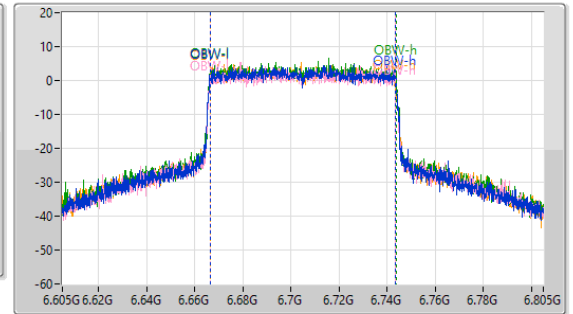
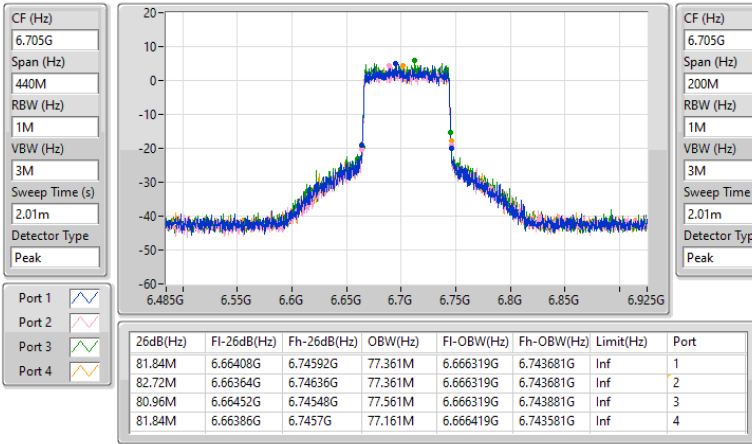


6.525-6.875GHz_802.11ax HEW80_Nss1,(MCS0)_4TX

EBW

6705MHz

02/09/2023

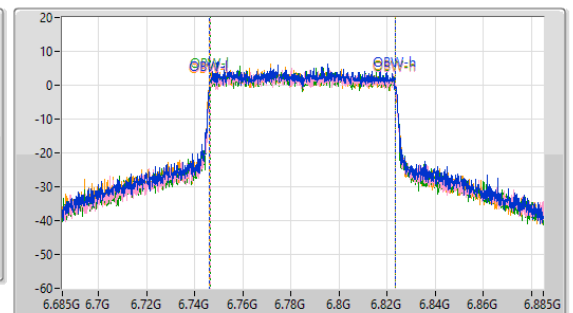
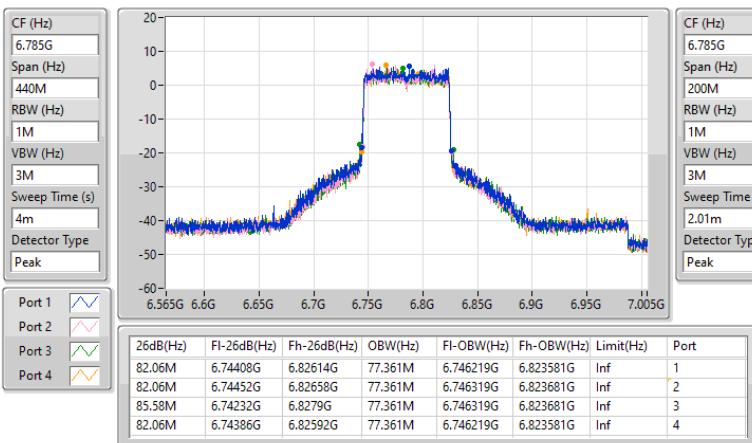


6.525-6.875GHz_802.11ax HEW80_Nss1,(MCS0)_4TX

EBW

6785MHz

02/09/2023

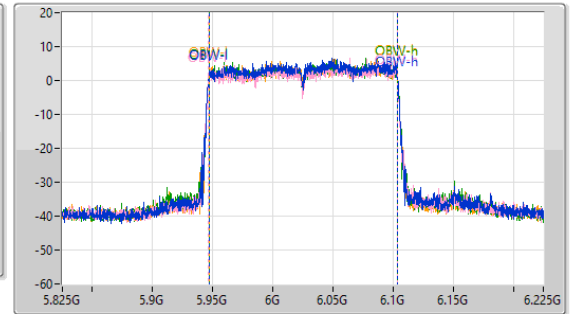
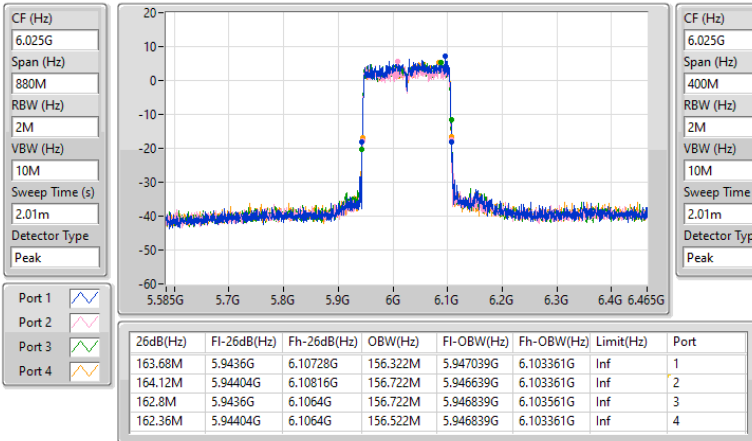


5.925-6.425GHz_802.11ax HEW160_Nss1,(MCS0)_4TX

EBW

6025MHz

02/09/2023

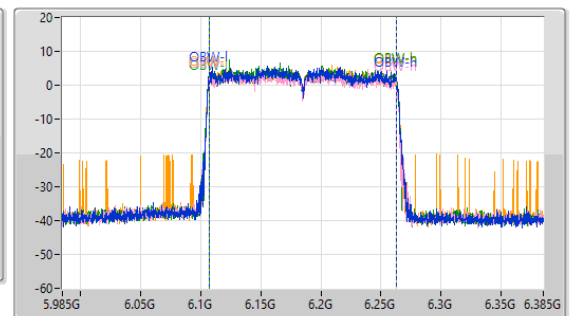
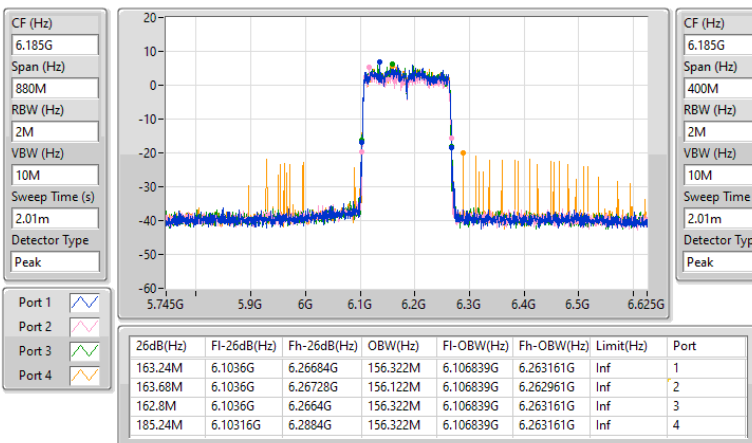


5.925-6.425GHz_802.11ax HEW160_Nss1,(MCS0)_4TX

EBW

6185MHz

02/09/2023

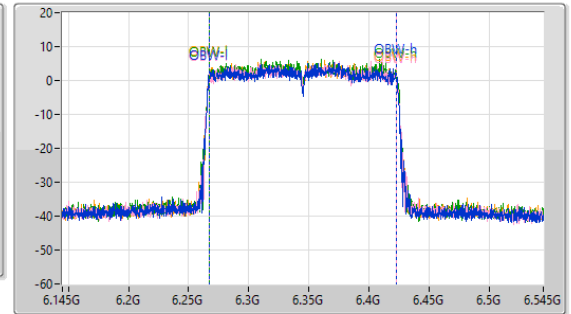
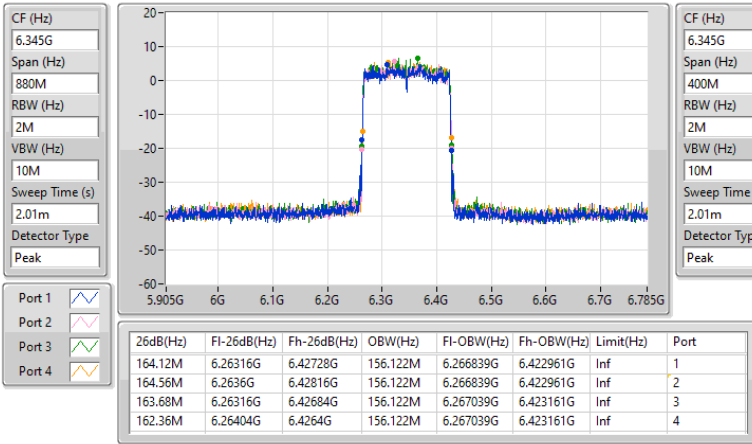


5.925-6.425GHz_802.11ax HEW160_Nss1,(MCS0)_4TX

EBW

6345MHz

02/09/2023



6.525-6.875GHz_802.11ax HEW160_Nss1,(MCS0)_4TX

EBW

6665MHz

02/09/2023

