



RADIO TEST REPORT

FCC ID : RSL-TQ6702EGEN2
Equipment : IEEE802.11ax dual-radio 5G/2.4GHz 8x8+4x4 wireless AP
Brand Name : Allied Telesis
Model Name : AT-TQ6702e GEN2
Applicant : Allied Telesis K.K.
2nd. TOC Bldg.7-21-11 Nishi-Gotanda,
Shinagawa-ku Tokyo 1410031 Japan
Manufacturer : Allied Telesis K.K.
2nd. TOC Bldg.7-21-11 Nishi-Gotanda,
Shinagawa-ku Tokyo 1410031 Japan
Standard : 47 CFR FCC Part 15.407

The product was received on Aug. 30, 2022, and testing was started from Oct. 08, 2022 and completed on Nov. 03, 2022. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this 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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TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A12_1 Ver1.4



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.3	15.203	Antenna Requirement	PASS	-
3.1	15.407(a)	Emission Bandwidth	PASS	-
3.2	15.407(a)	Maximum Output Power	PASS	-
3.3	15.407(a)	Power Spectral Density	PASS	-
3.4	15.407(b)	Unwanted Emissions	PASS	-

Declaration of Conformity:

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

Comments and Explanations:

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

Reviewed by: Sam Chen

Report Producer: Wendy Pan



1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5250-5350	a, n (HT20), ac (VHT20), ax (HEW20)	5260-5320	52-64 [4]
5470-5725		5500-5720	100-144 [12]
5250-5350	n (HT40), ac (VHT40), ax (HEW40)	5270-5310	54-62 [2]
5470-5725		5510-5710	102-142 [6]
5150-5250	ac (VHT80), ax (HEW80)	5210	42 [1]
5250-5350		5290	58 [1]
5470-5725		5530-5690	106-138 [3]

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11ac VHT80	80	8TX
5.15-5.25GHz	802.11ac VHT80-BF	80	8TX
5.15-5.25GHz	802.11ax HEW80	80	8TX
5.15-5.25GHz	802.11ax HEW80-BF	80	8TX
5.25-5.35GHz	802.11a	20	8TX
5.25-5.35GHz	802.11n HT20	20	8TX
5.25-5.35GHz	802.11n HT20-BF	20	8TX
5.25-5.35GHz	802.11ac VHT20	20	8TX
5.25-5.35GHz	802.11ac VHT20-BF	20	8TX
5.25-5.35GHz	802.11ax HEW20	20	8TX
5.25-5.35GHz	802.11ax HEW20-BF	20	8TX
5.25-5.35GHz	802.11n HT40	40	8TX
5.25-5.35GHz	802.11n HT40-BF	40	8TX
5.25-5.35GHz	802.11ac VHT40	40	8TX
5.25-5.35GHz	802.11ac VHT40-BF	40	8TX
5.25-5.35GHz	802.11ax HEW40	40	8TX
5.25-5.35GHz	802.11ax HEW40-BF	40	8TX
5.25-5.35GHz	802.11ac VHT80	80	8TX
5.25-5.35GHz	802.11ac VHT80-BF	80	8TX
5.25-5.35GHz	802.11ax HEW80	80	8TX
5.25-5.35GHz	802.11ax HEW80-BF	80	8TX
5.47-5.725GHz	802.11a	20	8TX

Band	Mode	BWch (MHz)	Nant
5.47-5.725GHz	802.11n HT20	20	8TX
5.47-5.725GHz	802.11n HT20-BF	20	8TX
5.47-5.725GHz	802.11ac VHT20	20	8TX
5.47-5.725GHz	802.11ac VHT20-BF	20	8TX
5.47-5.725GHz	802.11ax HEW20	20	8TX
5.47-5.725GHz	802.11ax HEW20-BF	20	8TX
5.47-5.725GHz	802.11n HT40	40	8TX
5.47-5.725GHz	802.11n HT40-BF	40	8TX
5.47-5.725GHz	802.11ac VHT40	40	8TX
5.47-5.725GHz	802.11ac VHT40-BF	40	8TX
5.47-5.725GHz	802.11ax HEW40	40	8TX
5.47-5.725GHz	802.11ax HEW40-BF	40	8TX
5.47-5.725GHz	802.11ac VHT80	80	8TX
5.47-5.725GHz	802.11ac VHT80-BF	80	8TX
5.47-5.725GHz	802.11ax HEW80	80	8TX
5.47-5.725GHz	802.11ax HEW80-BF	80	8TX

Note:

- ♦ 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40, VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ HEW20, HEW40, HEW80 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- ♦ BWch is the nominal channel bandwidth.

1.1.2 Table for 80+80 MHz Mode

Type	Channel No.	Frequency
1	42+58	5210+5290 MHz
2	106+122	5530+5610 MHz



1.1.3 Antenna Information

Set	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	1~8	WHAYU	C478-690079-A	Dipole	N-Type	Note 1
	1~8	WHAYU	C478-690080-A	Dipole	N-Type	
2	1~8	Angeei	EXD24140D01	Patch	N-Type	

Note1:

Set	Port	Antenna Gain (dBi)					Internal loss+ Surge protector					Net Gain (dBi)				
		WLAN 2.4GHz	WLAN 5GHz				WLAN 2.4GHz	WLAN 5GHz				WLAN 2.4GH	WLAN 5GHz			
			UNII 1	UNII 2A	UNII 2C	UNII 3		UNII 1	UNII 2A	UNII 2C	UNII 3		UNII 1	UNII 2A	UNII 2C	UNII 3
1 (Dual Band)	1	3.5	6	5.8	5.5	5.5	0.58	0.69	0.79	0.9	0.8	2.92	5.31	5.01	4.6	4.7
	2	3.5	6	5.8	5.5	5.5	1.09	1.53	1.7	1.6	1.64	2.41	4.47	4.1	3.9	3.86
	3	3.5	6	5.8	5.5	5.5	0.93	1.35	1.37	1.3	1.24	2.57	4.65	4.43	4.2	4.26
	4	3.5	6	5.8	5.5	5.5	0.62	0.75	0.71	0.49	0.59	2.88	5.25	5.09	5.01	4.91
	5	-	6	5.8	5.5	5.5	-	0.75	0.79	0.84	0.66	-	5.25	5.01	4.66	4.84
	6	-	6	5.8	5.5	5.5	-	1.3	1.35	1.28	1.27	-	4.7	4.45	4.22	4.23
	7	-	6	5.8	5.5	5.5	-	1.05	1.21	1.07	1.01	-	4.95	4.59	4.43	4.49
	8	-	6	5.8	5.5	5.5	-	1.28	1.49	1.44	1.28	-	4.72	4.31	4.06	4.22

Set	Port	Antenna Gain (dBi)				Internal loss+ Surge protector				Net Gain (dBi)			
		WLAN 5GHz				WLAN 5GHz				WLAN 5GHz			
		UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 1	UNII 2A	UNII 2C	UNII 3	UNII 1	UNII 2A	UNII 2C	UNII 3
1 (Single Band)	1	6.91	6.72	6.34	7.08	0.69	0.79	0.9	0.8	6.22	5.93	5.44	6.28
	2	6.91	6.72	6.34	7.08	1.53	1.7	1.6	1.64	5.38	5.02	4.74	5.44
	3	6.91	6.72	6.34	7.08	1.35	1.37	1.3	1.24	5.56	5.35	5.04	5.84
	4	6.91	6.72	6.34	7.08	0.75	0.71	0.49	0.59	6.16	6.01	5.85	6.49
	5	6.91	6.72	6.34	7.08	0.75	0.79	0.84	0.66	6.16	5.93	5.5	6.42
	6	6.91	6.72	6.34	7.08	1.3	1.35	1.28	1.27	5.61	5.37	5.06	5.81
	7	6.91	6.72	6.34	7.08	1.05	1.21	1.07	1.01	5.86	5.51	5.27	6.07
	8	6.91	6.72	6.34	7.08	1.28	1.49	1.44	1.28	5.63	5.23	4.9	5.8



Set	Port	Antenna Gain (dBi)		2M N-type cable loss		Internal loss+ Surge protector				Net Gain (dBi)					
		WLAN 2.4GHz	WLAN 5GHz	WLAN 2.4GHz	WLAN 5GHz	WLAN 2.4GHz	WLAN 5GHz				WLAN 2.4GHz	WLAN 5GHz			
							UNII 1	UNII 2A	UNII 2C	UNII 3		UNII 1	UNII 2A	UNII 2C	UNII 3
2 (2M N-type cable)	1	13	16	0.75	1.23	0.58	0.69	0.79	0.9	0.8	11.67	14.08	13.98	13.87	13.97
	2	13	16	0.75	1.23	1.09	1.53	1.7	1.6	1.64	11.16	13.24	13.07	13.17	13.13
	3	13	16	0.75	1.23	0.93	1.35	1.37	1.3	1.24	11.32	13.42	13.4	13.47	13.53
	4	13	16	0.75	1.23	0.62	0.75	0.71	0.49	0.59	11.63	14.02	14.06	14.28	14.18
	5	-	16	-	1.23	-	0.75	0.79	0.84	0.66	-	14.02	13.98	13.93	14.11
	6	-	16	-	1.23	-	1.3	1.35	1.28	1.27	-	13.47	13.42	13.49	13.5
	7	-	16	-	1.23	-	1.05	1.21	1.07	1.01	-	13.72	13.56	13.7	13.76
	8	-	16	-	1.23	-	1.28	1.49	1.44	1.28	-	13.49	13.28	13.33	13.49

Set	Port	Antenna Gain (dBi)		2M N-type cable loss		10M N-type cable loss		Internal loss+ Surge protector				Net Gain (dBi)					
		WLAN 2.4GHz	WLAN 5GHz	WLAN 2.4GHz	WLAN 5GHz	WLAN 2.4GHz	WLAN 5GHz	WLAN 2.4GHz	WLAN 5GHz				WLAN 2.4GHz	WLAN 5GHz			
									UNII 1	UNII 2A	UNII 2C	UNII 3		UNII 1	UNII 2A	UNII 2C	UNII 3
2 (2M + 10M N-type cable)	1	13	16	0.75	1.23	3.77	6.16	0.58	0.69	0.79	0.9	0.8	7.9	7.92	7.82	7.71	7.81
	2	13	16	0.75	1.23	3.77	6.16	1.09	1.53	1.7	1.6	1.64	7.39	7.08	6.91	7.01	6.97
	3	13	16	0.75	1.23	3.77	6.16	0.93	1.35	1.37	1.3	1.24	7.55	7.26	7.24	7.31	7.37
	4	13	16	0.75	1.23	3.77	6.16	0.62	0.75	0.71	0.49	0.59	7.86	7.86	7.9	8.12	8.02
	5	-	16	-	1.23	3.77	6.16	-	0.75	0.79	0.84	0.66		7.86	7.82	7.77	7.95
	6	-	16	-	1.23	3.77	6.16	-	1.3	1.35	1.28	1.27		7.31	7.26	7.33	7.34
	7	-	16	-	1.23	3.77	6.16	-	1.05	1.21	1.07	1.01		7.56	7.4	7.54	7.6
	8	-	16	-	1.23	3.77	6.16	-	1.28	1.49	1.44	1.28		7.33	7.12	7.17	7.33

Note2: The above information was declared by manufacturer.

For conducted and radiated above 1GHz, The EUT has two types of antenna. Only the highest gain antenna was selected from each different types of antenna to test and record in this report.

Set 1: Dual Band antenna was selected for WLAN 2.4GHz and Single Band antenna was selected for WLAN 5GHz to perform the test.

Set 2: 2M N-type cable was selected to perform the test.

Polarization of antenna set 2:

2.4GHz: 2*Horizontal, 2*Vertical. so array gain only adds 10log (2).

5GHz: 4*Horizontal, 4*Vertical. so array gain only adds 10log (4).

For WLAN 2.4GHz function:

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

Port 1 ~ Port 4 can be used as transmitting/receiving antenna.

Port 1 ~ Port 4 could transmit/receive simultaneously.

For WLAN 5GHz function:

For IEEE 802.11a/n/ac/ax mode (8TX/8RX):

Port 1 ~ Port 8 can be used as transmitting/receiving antenna.

Port 1 ~ Port 8 could transmit/receive simultaneously.

Note3:

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 $N_{ANT} \leq 4$ Array Gain = $5 \log(N_{ANT}/N_{SS})$ dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ant}} \left[\sum_{k=1}^{N_{ss}} \xi_{j,k} \right]^2}{N_{ANT}} \right]$
BF	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ant}} \left[\sum_{k=1}^{N_{ss}} \xi_{j,k} \right]^2}{N_{ANT}} \right]$	$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ant}} \left[\sum_{k=1}^{N_{ss}} \xi_{j,k} \right]^2}{N_{ANT}} \right]$

Ex.

Directional Gain (NSS1) formula :

$$DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ant}} \left[\sum_{k=1}^{N_{ss}} \xi_{j,k} \right]^2}{N_{ANT}} \right]$$

Directional gain For PSD and TXBF Power

$$NSS1(g1,2) = 10^{G1/20} ; NSS1(g1,2) = 10^{G2/20} ;$$

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

$$NSS1(g1,5) = 10^{G5/20} ; NSS1(g1,6) = 10^{G6/20} ;$$

$$NSS1(g1,7) = 10^{G7/20} ; NSS1(g1,8) = 10^{G8/20} \quad g_{j,k} = (NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) +$$

$$NSS1(g1,4) + NSS1(g1,5) + NSS1(g1,6) + NSS1(g1,7) + NSS1(g1,8))^2$$

$$DG = 10 \log [(NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) + NSS1(g1,4) + (NSS1(g,5) + NSS1(g1,6) +$$

$$NSS1(g1,7) + NSS1(g1,8))^2 / N_{ANT}] \Rightarrow 10 \log [(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20} + 10^{G5/20} +$$

$$10^{G6/20} + 10^{G7/20} + 10^{G8/20})^2 / N_{ANT}]$$

Directional gain For nonTXBF 20Mhz Power

$$NSS1(g1,2) = 10^{G1/20} ; NSS1(g1,2) = 10^{G2/20} ;$$

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

$$NSS1(g1,5) = 10^{G5/20} ; NSS1(g1,6) = 10^{G6/20} ;$$

$$NSS1(g1,7) = 10^{G7/20} ; NSS1(g1,8) = 10^{G8/20} \quad g_{j,k} = (NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) +$$

$$NSS1(g1,4) + NSS1(g1,5) + NSS1(g1,6) + NSS1(g1,7) + NSS1(g1,8))^2$$

$$DG = 10 \log [(NSS1(g1,1) + NSS1(g1,2) + NSS1(g1,3) + NSS1(g1,4) + (NSS1(g,5) + NSS1(g1,6) +$$

$$NSS1(g1,7) + NSS1(g1,8))^2 / N_{ANT}] \Rightarrow 5 \log [(10^{G1/20} + 10^{G2/20} + 10^{G3/20} + 10^{G4/20} + 10^{G5/20} +$$

$$10^{G6/20} + 10^{G7/20} + 10^{G8/20})^2 / N_{ANT}]$$



Where ;

Dipole

2.4G G1= 2.92 dBi ;

2.4G G2= 2.41 dBi ;

2.4G G3= 2.57 dBi ;

2.4G G4= 2.88 dBi ;

DG= 8.72 dBi

5G UNII1 G1= 6.22 dBi ;

5G UNII1 G2= 5.38 dBi ;

5G UNII1 G3= 5.56 dBi ;

5G UNII1 G4= 6.16 dBi ;

5G UNII1 G5= 6.16 dBi ;

5G UNII1 G6= 5.61 dBi ;

5G UNII1 G7= 5.86 dBi ;

5G UNII1 G8= 5.63 dBi ;

DG=14.86 dBi

5G UNII2A G1= 5.93 dBi ;

5G UNII2A G2= 5.02 dBi ;

5G UNII2A G3= 5.35 dBi ;

5G UNII2A G4= 6.01 dBi ;

5G UNII2A G5= 5.93 dBi ;

5G UNII2A G6= 5.37 dBi ;

5G UNII2A G7= 5.51 dBi ;

5G UNII2A G8= 5.23 dBi ;

DG=14.58 dBi

5G UNII2C G1= 5.44 dBi ;

5G UNII2C G2= 4.74 dBi ;

5G UNII2C G3= 5.04 dBi ;

5G UNII2C G4= 5.85 dBi ;

5G UNII2C G5= 5.5 dBi ;

5G UNII2C G6= .06 dBi ;

5G UNII2C G7= 5.27 dBi ;

5G UNII2C G8= 4.9 dBi ;

DG=14.26 dB

5G UNII4 G1= 6.28 dBi ;

5G UNII3 G2= 5.44 dBi ;

5G UNII3 G3= 5.84 dBi ;

5G UNII3 G4= 6.49 dBi ;

5G UNII3 G5= 6.42 dBi ;

5G UNII3 G6= 5.81 dBi ;

5G UNII3 G7= 6.07 dBi ;

5G UNII3 G8= 5.8 dBi ;

DG=15.06 dBi

**Patch Cross-Polarized Antenna**

2.4G G1= 11.67 dBi ;

2.4G G2= 11.16 dBi ;

2.4G G3= 11.23 dBi ;

2.4G G4= 11.63 dBi ;

DG=14.46 dBi

5G UNII1 G1= 14.08 dBi ;

5G UNII1 G2= 13.24 dBi ;

5G UNII1 G3= 13.42 dBi ;

5G UNII1 G4= 14.02 dBi ;

5G UNII1 G5= 14.02 dBi ;

5G UNII1 G6= 13.47 dBi ;

5G UNII1 G7= 13.72 dBi ;

5G UNII1 G8= 13.49 dBi ;

DG= 19.71 dBi

5G UNII2A G1= 13.98 dBi ;

5G UNII2A G2= 13.07 dBi ;

5G UNII2A G3= 13.4 dBi ;

5G UNII2A G4= 14.06 dBi ;

5G UNII2A G5= 13.98 dBi ;

5G UNII2A G6= 13.42 dBi ;

5G UNII2A G7= 13.56 dBi ;

5G UNII2A G8= 13.28 dBi ;

DG= 19.62 dBi

5G UNII2C G1= 13.87 dBi ;

5G UNII2C G2= 13.17 dBi ;

5G UNII2C G3= 13.47 dBi ;

5G UNII2C G4= 14.28 dBi ;

5G UNII2C G5= 13.93 dBi ;

5G UNII2C G6= 13.49 dBi ;

5G UNII2C G7= 13.7 dBi ;

5G UNII2C G8= 13.33 dBi ;

DG= 19.68 dBi

5G UNII3 G1= 13.97 dBi ;

5G UNII3 G2= 13.13 dBi ;

5G UNII3 G3= 13.53 dBi ;

5G UNII3 G4= 14.18 dBi ;

5G UNII3 G5= 14.11 dBi ;

5G UNII3 G6= 13.5 dBi ;

5G UNII3 G7= 13.76 dBi ;

5G UNII3 G8= 13.49 dBi ;

DG= 19.71 dBi



1.1.4 Mode Test Duty Cycle

For Antenna Set 1 (Dipole)

For UNII 2A and 2C (include Straddle Channel)

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.95	0.22	1.433m	1k
802.11ax HEW20	0.952	0.21	5.448m	300
802.11ax HEW20-BF	0.952	0.21	5.448m	300
802.11ax HEW40	0.939	0.27	5.448m	300
802.11ax HEW40-BF	0.939	0.27	5.448m	300
802.11ax HEW80	0.933	0.3	5.448m	300
802.11ax HEW80-BF	0.933	0.3	5.448m	300

For 80+80

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ax HEW80+80	0.935	0.29	5.445m	300
802.11ax HEW80+80-BF	0.935	0.29	5.445m	300

For Antenna Set 2 (Patch)

For UNII 2A and 2C (include Straddle Channel)

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.95	0.22	1.433m	1k
802.11ax HEW20	0.952	0.21	5.448m	300
802.11ax HEW20-BF	0.934	0.3	5.445m	300
802.11ax HEW40	0.939	0.27	5.448m	300
802.11ax HEW40-BF	0.925	0.34	5.445m	300
802.11ax HEW80	0.933	0.3	5.448m	300
802.11ax HEW80-BF	0.923	0.35	5.445m	300

For 80+80

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ax HEW80+80	0.94	0.27	5.446m	300
802.11ax HEW80+80-BF	0.935	0.29	5.445m	300

Note:

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

**1.1.5 EUT Operational Condition**

EUT Power Type	From PoE			
Beamforming Function	☒	With beamforming	☐	Without beamforming
	The product has beamforming function for n/VHT/ax in 2.4GHz and n/ac/ax in 5GHz.			
Function	☒	Outdoor P2M	☒	Indoor P2M
	☐	Fixed P2P	☐	Client
	☒	Point-to-multipoint	☐	Point-to-point
Channel Puncturing Function	☐	Supported	☒	Unsupported
Support RU	☒	Full RU	☐	Partial RU
Weather Band	☒	With 5600~5650MHz	☐	Without 5600~5650MHz
TPC Function	☒	With TPC	☐	Without TPC
Test Software Version	QLibDemo-MSVC10_TX power[QCA TxPower Support WIFI 6E] 80+80 QSPR V5.0-00197			

Note: The above information was declared by manufacturer.

1.1.6 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR281719AB

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

Modifications	Performance Checking
1. Adding the UNII 2A and UNII 2C (5250~5350MHz and 5470~5725MHz) for this device. 2. Adding the 80+80MHz mode.	1. Emission Bandwidth 2. Maximum Output Power 3. Power Spectral Density 4. Unwanted Emissions <Above 1GHz>



1.2 Applicable Standards

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

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013
- ♦ FCC KDB 789033 D02 v02r01

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

- ♦ 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 ISCED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH03-CB	Owen Hsu	23.4~24.5 / 52~58	Oct. 12, 2022~ Nov. 03, 2022
Radiated>1GHz	03CH01-CB	Gordon Hung	22.5~23.3 / 63~69	Oct. 08, 2022~ Oct. 19, 2022
	03CH04-CB		21.9~22.7 / 64~66	
	03CH06-CB		21.3~22.5 / 58~62	

1.4 Measurement Uncertainty

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

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



2 Test Configuration of EUT

2.1 Test Channel Mode

For Antenna Set 1 (Dipole)

For UNII 2A and 2C (include Straddle Channel) indoor + outdoor

Mode	Power Setting
802.11a_Nss1,(6Mbps)_8TX	-
5260MHz	6.5
5300MHz	6.5
5320MHz	6.5
5500MHz	6
5580MHz	6
5700MHz	6.5
5720MHz Straddle 5.47-5.725GHz	6.5
5720MHz Straddle 5.725-5.85GHz	6.5
802.11ax HEW20_Nss1,(MCS0)_8TX	-
5260MHz	6.5
5300MHz	6.5
5320MHz	6.5
5500MHz	7
5580MHz	6.5
5700MHz	7
5720MHz Straddle 5.47-5.725GHz	6.5
5720MHz Straddle 5.725-5.85GHz	6.5
802.11ax HEW20-BF_Nss1,(MCS0)_8TX	-
5260MHz	6
5300MHz	6.5
5320MHz	6
5500MHz	6
5580MHz	6
5700MHz	6.5
5720MHz Straddle 5.47-5.725GHz	6.5
5720MHz Straddle 5.725-5.85GHz	6.5
802.11ax HEW40_Nss1,(MCS0)_8TX	-
5270MHz	9.5
5310MHz	9.5
5510MHz	9.5
5550MHz	9.5
5670MHz	9.5
5710MHz Straddle 5.47-5.725GHz	9.5



Mode	Power Setting
5710MHz Straddle 5.725-5.85GHz	9.5
802.11ax HEW40-BF_Nss1,(MCS0)_8TX	-
5270MHz	6
5310MHz	6
5510MHz	6
5550MHz	6.5
5670MHz	6.5
5710MHz Straddle 5.47-5.725GHz	7.5
5710MHz Straddle 5.725-5.85GHz	7.5
802.11ax HEW80_Nss1,(MCS0)_8TX	-
5290MHz	12.5
5530MHz	12
5610MHz	12
5690MHz Straddle 5.47-5.725GHz	12.5
5690MHz Straddle 5.725-5.85GHz	12.5
802.11ax HEW80-BF_Nss1,(MCS0)_8TX	-
5290MHz	6
5530MHz	6.5
5610MHz	6.5
5690MHz Straddle 5.47-5.725GHz	7.5
5690MHz Straddle 5.725-5.85GHz	7.5

**For 80+80 UNII 1, 2A Indoor / UNII 2C Indoor/Outdoor**

Mode	Power Setting
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-
#5210MHz,5290MHz	11
5210MHz,#5290MHz	11
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	-
#5210MHz,5290MHz	11
5210MHz,#5290MHz	11
802.11ax HEW80+80_Nss2,(MCS0)_8TX	-
#5530MHz,#5610MHz	13
802.11ax HEW80+80-BF_Nss2,(MCS0)_8TX	-
#5530MHz,#5610MHz	9

For 80+80 UNII 1, 2A Outdoor

Mode	Power Setting
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-
#5210MHz,5290MHz	11
5210MHz,#5290MHz	11
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	-
#5210MHz,5290MHz	11
5210MHz,#5290MHz	11

**For Antenna Set 2 (Patch)****For UNII 2A and 2C (include Straddle Channel) indoor + outdoor**

Mode	Power Setting
802.11a_Nss1,(6Mbps)_8TX	-
5260MHz	0
5300MHz	0
5320MHz	0.5
5500MHz	-0.5
5580MHz	-1.5
5700MHz	-0.5
5720MHz Straddle 5.47-5.725GHz	0
5720MHz Straddle 5.725-5.85GHz	0
802.11ax HEW20_Nss1,(MCS0)_8TX	-
5260MHz	0.5
5300MHz	0.5
5320MHz	0.5
5500MHz	0.5
5580MHz	0
5700MHz	0.5
5720MHz Straddle 5.47-5.725GHz	0.5
5720MHz Straddle 5.725-5.85GHz	0.5
802.11ax HEW20-BF_Nss1,(MCS0)_8TX	-
5260MHz	0.5
5300MHz	0.5
5320MHz	0.5
5500MHz	0.5
5580MHz	0
5700MHz	0.5
5720MHz Straddle 5.47-5.725GHz	0.5
5720MHz Straddle 5.725-5.85GHz	0.5
802.11ax HEW40_Nss1,(MCS0)_8TX	-
5270MHz	3
5310MHz	3
5510MHz	2.5
5550MHz	2.5
5670MHz	2
5710MHz Straddle 5.47-5.725GHz	2.5
5710MHz Straddle 5.725-5.85GHz	2.5
802.11ax HEW40-BF_Nss1,(MCS0)_8TX	-
5270MHz	1
5310MHz	1



Mode	Power Setting
5510MHz	0
5550MHz	0.5
5670MHz	0
5710MHz Straddle 5.47-5.725GHz	-0.5
5710MHz Straddle 5.725-5.85GHz	-0.5
802.11ax HEW80_Nss1,(MCS0)_8TX	-
5290MHz	6.5
5530MHz	6
5610MHz	6
5690MHz Straddle 5.47-5.725GHz	5.5
5690MHz Straddle 5.725-5.85GHz	5.5
802.11ax HEW80-BF_Nss1,(MCS0)_8TX	-
5290MHz	1
5530MHz	1
5610MHz	0.5
5690MHz Straddle 5.47-5.725GHz	0
5690MHz Straddle 5.725-5.85GHz	0

For 80+80 UNII 1, 2A Indoor / UNII 2C Indoor/Outdoor

Mode	Power Setting
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-
#5210MHz,5290MHz	7
5210MHz,#5290MHz	7
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	-
#5210MHz,5290MHz	7
5210MHz,#5290MHz	7
802.11ax HEW80+80_Nss2,(MCS0)_8TX	-
#5530MHz,#5610MHz	6.5
802.11ax HEW80+80-BF_Nss2,(MCS0)_8TX	-
#5530MHz,#5610MHz	4.5

**For 80+80 UNII 1, 2A Outdoor**

Mode	Power Setting
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-
#5210MHz,5290MHz	7
5210MHz,#5290MHz	7
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	-
#5210MHz,5290MHz	7
5210MHz,#5290MHz	7

- Note: 1. Evaluated HEW20/HEW40/HEW80 mode only, due to similar modulation. The power setting of HT20/HT40/VHT20/VHT40/VHT80 mode are the same or lower than HEW20/HEW40/HEW80.
2. The EUT supports non-beamforming and beamforming modes, after evaluating, the non-beamforming mode has been selected to execute all tests. The beamforming mode evaluates the output power only.

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Maximum Output Power Power Spectral Density
Test Condition	Conducted measurement at transmit chains
1	EUT + Antenna Set 1 (Single Band Ant.) + PoE
2	EUT + Antenna Set 2 + antenna cable 1 + PoE

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	CTX
After evaluating, the worst axis was found as below. So the measurement will follow this same test configuration.	
1	EUT in Y axis + Antenna Set 1 (Single Band Ant.) bandedge + PoE 2 EUT in Z axis + Antenna Set 1 (Single Band Ant.) Harmonic + PoE
2	EUT in Z axis + Antenna Set 2 + antenna cable 1 + PoE

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	EUT + Antenna Set 1 (4*Dual Band+4*Single Band Ant.) + PoE
2	EUT + Antenna Set 2 + antenna cable 1+ PoE
Refer to Sporton Test Report No.: FA281719-01 for Co-location RF Exposure Evaluation.	

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

PoE information as below:

Power	Brand	Model
PoE	DELTA	ADH-45AR B



2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

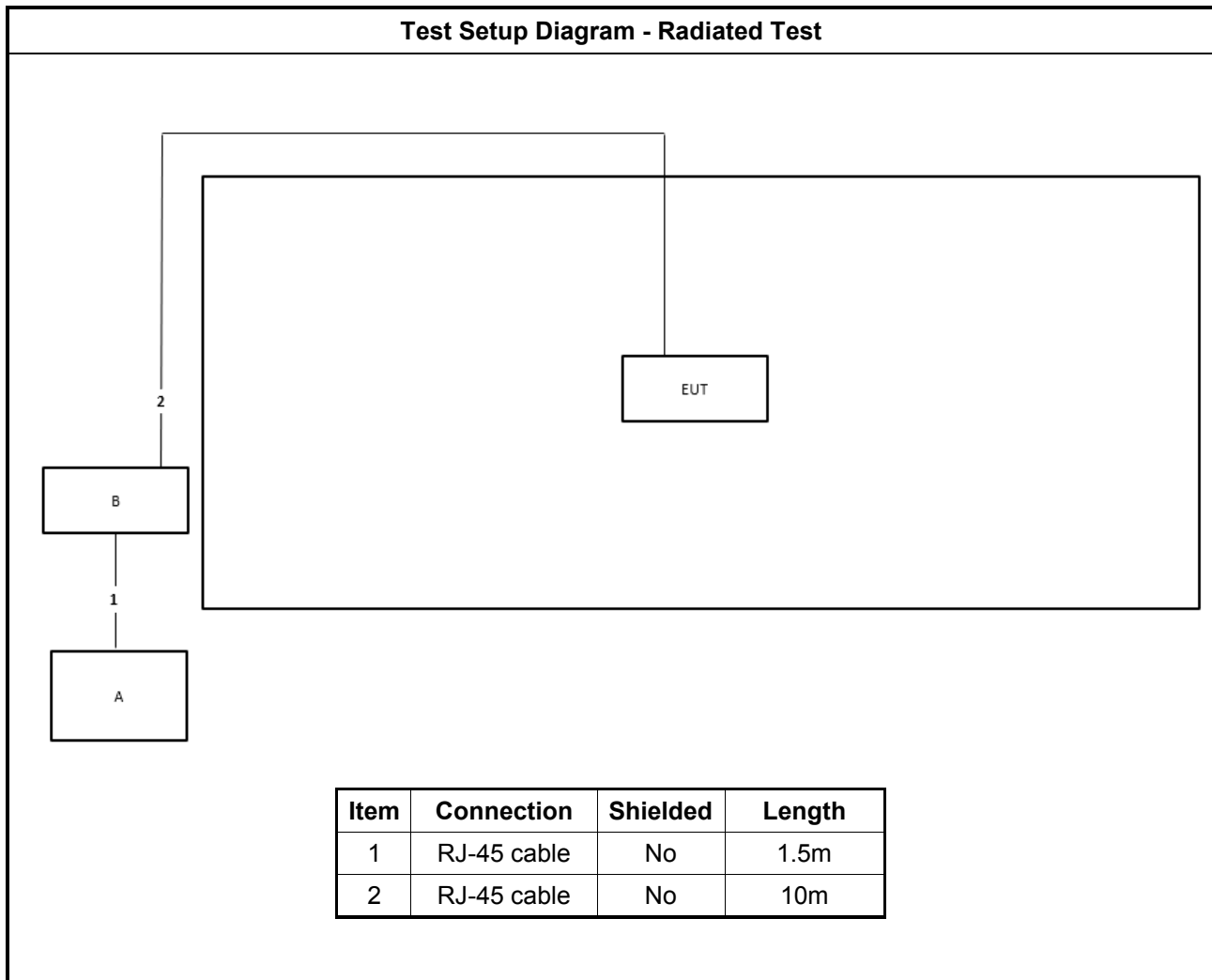
Accessories
N type antenna cable1*8: shielded, 2m (for set 2 antenna use only)
N type extension antenna cable 2*8: shielded, 10m (for set 2 antenna and must be used with N type antenna cable1 only).
External surge protectors*8
Sealing Collar*1
Ground cable*1: shielded, 1.75m
Mounting Base*1
Pole-mount bracket*1

2.5 Support Equipment

For Radiated and RF Conducted:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	PoE	DELTA	ADH-45AR B	N/A

2.6 Test Setup Diagram



3 Transmitter Test Result

3.1 Emission Bandwidth

3.1.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band, N/A
☒	For the 5.25-5.35 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☒	For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☒	For the 5.725-5.85 GHz band, 26 dB emission bandwidth ,N/A. 6 dB emission bandwidth ≥ 500kHz.
LE-LAN Devices	
☐	For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
☐	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.725-5.85 GHz band, 6 dB emission bandwidth ≥ 500kHz.

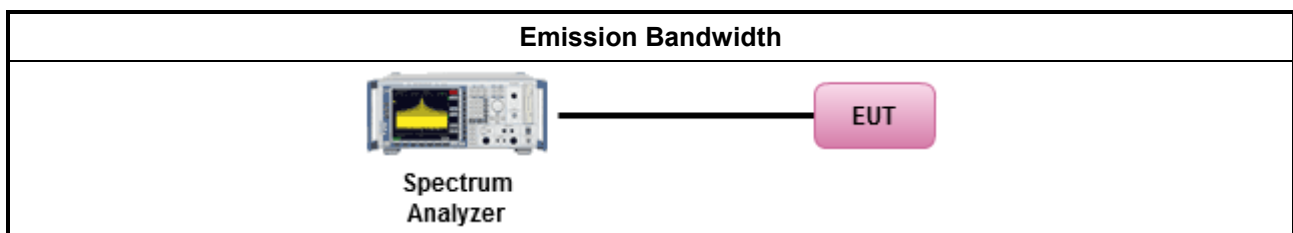
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method	
For the emission bandwidth shall be measured using one of the options below:	
☒	Refer as 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.

3.1.4 Test Setup





3.1.5 Test Result of Emission Bandwidth

Refer as Appendix A



3.2 Maximum Output Power

3.2.1 Limit

Maximum Output Power Limit	
UNII Devices	
☒ For the 5.15-5.25 GHz band:	
☐	- Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees ≤ 125mW [21dBm] - Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ - Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 23$ dBi, then $P_{Out} = 30 - (G_{TX} - 23)$. - Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
☒ For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.	
☒ For the 5.47-5.725 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.	
☒ For the 5.725-5.85 GHz band:	
☐	- Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
LE-LAN Devices	
☐ For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.	
☐ For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
☐ For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
☐ For the 5.725-5.85 GHz band:	
☐	- Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
P_{Out} = maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.	



3.2.2 Measuring Instruments

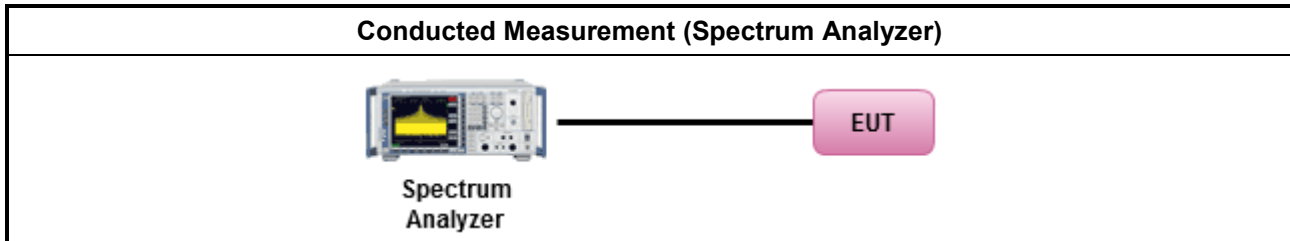
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

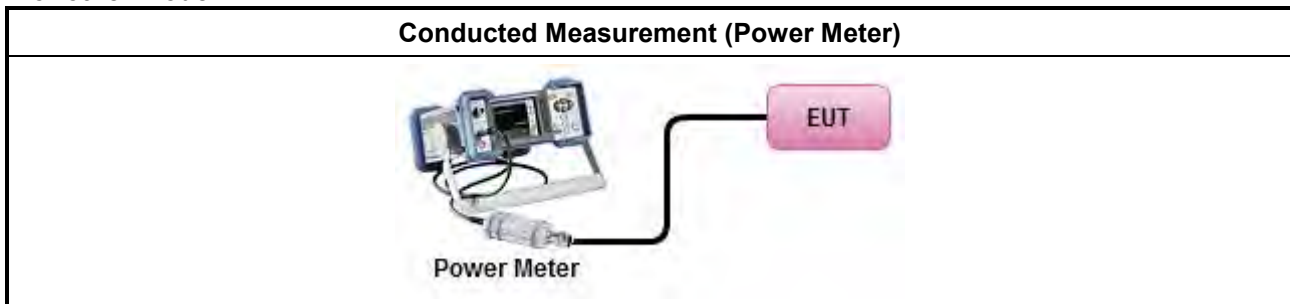
Test Method	
	Average over on/off periods with duty factor
☒	Refer as FCC KDB 789033 D02, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033 D02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty 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.

3.2.4 Test Setup

For straddle channel mode:



For other mode:



3.2.5 Test Result of Maximum Output Power

Refer as Appendix B



3.3 Power Spectral Density

3.3.1 Limit

Peak Power Spectral Density Limit	
UNII Devices	
☒ For the 5.15-5.25 GHz band:	
	- Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. - Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. - Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$. - Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.
☒ For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
☒ For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
☒ For the 5.725-5.85 GHz band:	
	- Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
LE-LAN Devices	
☐ For the 5.15-5.25 GHz band, the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz.	
☐ For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz.	
	e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below: -13 dBW/MHz for $0^\circ \leq \theta < 8^\circ$; -13 - 0.716 ($\theta$-8) dBW/MHz for $8^\circ \leq \theta < 40^\circ$ -35.9 - 1.22 (θ-40) dBW/MHz for $40^\circ \leq \theta \leq 45^\circ$; -42 dBW/MHz for $\theta > 45^\circ$
☐ For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz.	
☐ For the 5.725-5.85 GHz band:	
	- Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz G_{TX} = the maximum transmitting antenna directional gain in dBi.	

3.3.2 Measuring Instruments

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

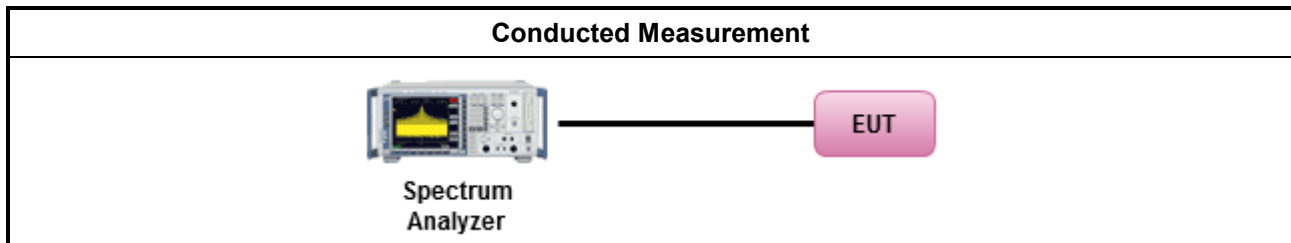


3.3.3 Test Procedures

Test Method	
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.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Refer as Appendix C



3.4 Unwanted Emissions

3.4.1 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.

Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
☒ 5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
☒ 5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
☒ 5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
☒ 5.725 - 5.85 GHz	all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
Note 1: 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).	

3.4.2 Measuring Instruments

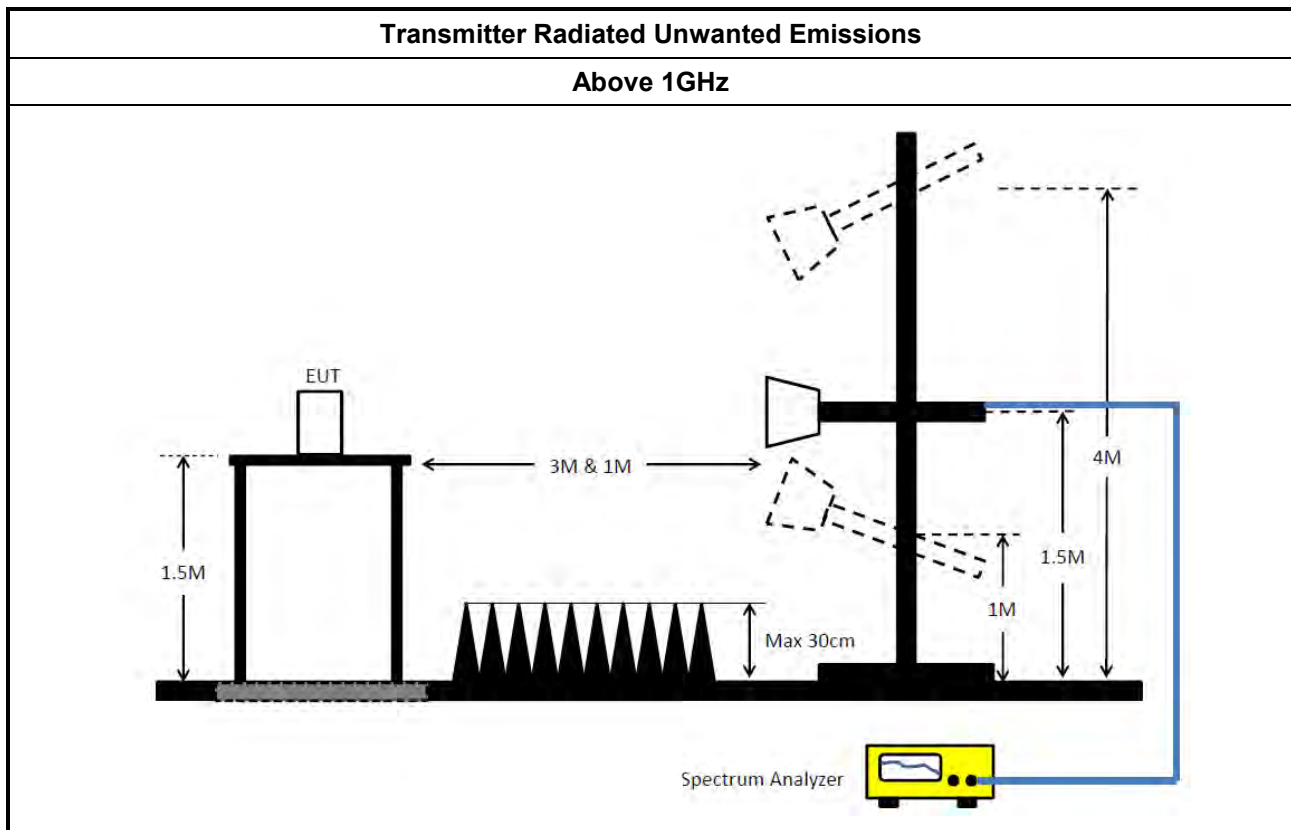
Refer a test equipment and calibration data table in this test report.



3.4.3 Test Procedures

Test Method	
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).
	☒ 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.
	☐ 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.
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.	

3.4.4 Test Setup



3.4.5 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.

3.4.6 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.

3.4.7 Test Result of Transmitter Unwanted Emissions

Refer as Appendix D



4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH01-CB	1GHz ~18GHz 3m	May 06, 2022	May 05, 2023	Radiation (03CH01-CB)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1370	1GHz~18GHz	Jun. 23, 2022	Jun. 22, 2023	Radiation (03CH01-CB)
Horn Antenna	ETS-LINDGREN	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)
Pre-Amplifier	Agilent	8449B	3008A02121	1GHz ~ 26.5GHz	May 19, 2022	May 18, 2023	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 20, 2022	Jul. 19, 2023	Radiation (03CH01-CB)
Pre-Amplifier	EM	EM18G40GA	060874	18GHz ~ 40GHz	Aug. 23 2022	Aug. 22 2023	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	May 06, 2022	May 05, 2023	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16	1 GHz ~ 18 GHz	Oct. 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+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH01-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH01-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH01-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH01-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH04-CB	1GHz ~18GHz 3m	Feb. 24, 2022	Feb. 23, 2023	Radiation (03CH04-CB)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1370	1GHz~18GHz	Jun. 23, 2022	Jun. 22, 2023	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)
Pre-Amplifier	Agilent	83017A	MY53270063	0.5GHz ~ 26.5GHz	Jul. 01, 2022	Jun. 30, 2023	Radiation (03CH04-CB)
Pre-Amplifier	EM	EM18G40GA	060874	18GHz ~ 40GHz	Aug. 23 2022	Aug. 22 2023	Radiation (03CH04-CB)
Spectrum Analyzer	R&S	FSP40	100142	9kHz~40GHz	Mar. 28, 2022	Mar. 27, 2023	Radiation (03CH04-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
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+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH04-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH04-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH04-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH04-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH06-CB	1GHz ~18GHz 3m	Sep. 30, 2022	Sep. 29, 2023	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1292	1GHz~18GHz	Aug. 09, 2022	Aug. 08, 2023	Radiation (03CH06-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 22, 2022	Aug. 21, 2023	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	83017A	MY53270064	0.5GHz ~ 26.5GHz	Aug 02, 2022	Aug 01, 2023	Radiation (03CH06-CB)
Pre-Amplifier	EM	EM18G40GA	060874	18GHz ~ 40GHz	Aug. 23 2022	Aug. 22 2023	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Dec. 24, 2021	Dec. 23, 2022	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-67	1GHz~18GHz	Oct. 03, 2022	Oct. 02, 2023	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-05+67	1GHz~18GHz	Oct. 03, 2022	Oct. 02, 2023	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH06-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH06-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSV40	101028	9kHz~40GHz	Jan. 07, 2022	Jan. 06, 2023	Conducted (TH03-CB)
Power Sensor	Anritsu	MA2411B	1531344	300MHz~40GHz	Jul. 31, 2022	Jul. 30, 2023	Conducted (TH03-CB)
Power Meter	Anritsu	ML2495A	1728002	300MHz~40GHz	Jul. 31, 2022	Jul. 30, 2023	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-11	1 GHz –18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-12	1 GHz –18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH03-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-13	1 GHz –18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz –18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz –18 GHz	Oct. 03, 2022	Oct. 02, 2023	Conducted (TH03-CB)
Switch	SPTCB	SP-SWI	SWI-03	1 GHz –26.5 GHz	Oct. 04, 2022	Oct. 03, 2023	Conducted (TH03-CB)

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

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

For UNII 2A and 2C (include Straddle Channel) indoor + outdoor

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_8TX	19.92M	16.552M	16M6D1D	18.78M	16.312M
802.11ax HEW20_Nss1,(MCS0)_8TX	21.96M	19.1M	19M1D1D	20.52M	18.621M
802.11ax HEW40_Nss1,(MCS0)_8TX	41.1M	38.381M	38M4D1D	40.44M	37.661M
802.11ax HEW80_Nss1,(MCS0)_8TX	82.2M	77.961M	78M0D1D	81.72M	77.121M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_8TX	19.92M	16.582M	16M6D1D	14.16M	13.043M
802.11ax HEW20_Nss1,(MCS0)_8TX	21.93M	19.16M	19M2D1D	15.21M	14.348M
802.11ax HEW40_Nss1,(MCS0)_8TX	41.28M	38.141M	38M1D1D	35M	33.548M
802.11ax HEW80_Nss1,(MCS0)_8TX	82.68M	77.481M	77M5D1D	75.675M	72.639M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_8TX	3.2M	3.798M	3M80D1D	2.54M	3.498M
802.11ax HEW20_Nss1,(MCS0)_8TX	4.58M	4.678M	4M68D1D	4.2M	4.618M
802.11ax HEW40_Nss1,(MCS0)_8TX	4.16M	4.418M	4M42D1D	3.98M	4.178M
802.11ax HEW80_Nss1,(MCS0)_8TX	4.16M	4.718M	4M72D1D	3.66M	4.258M

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



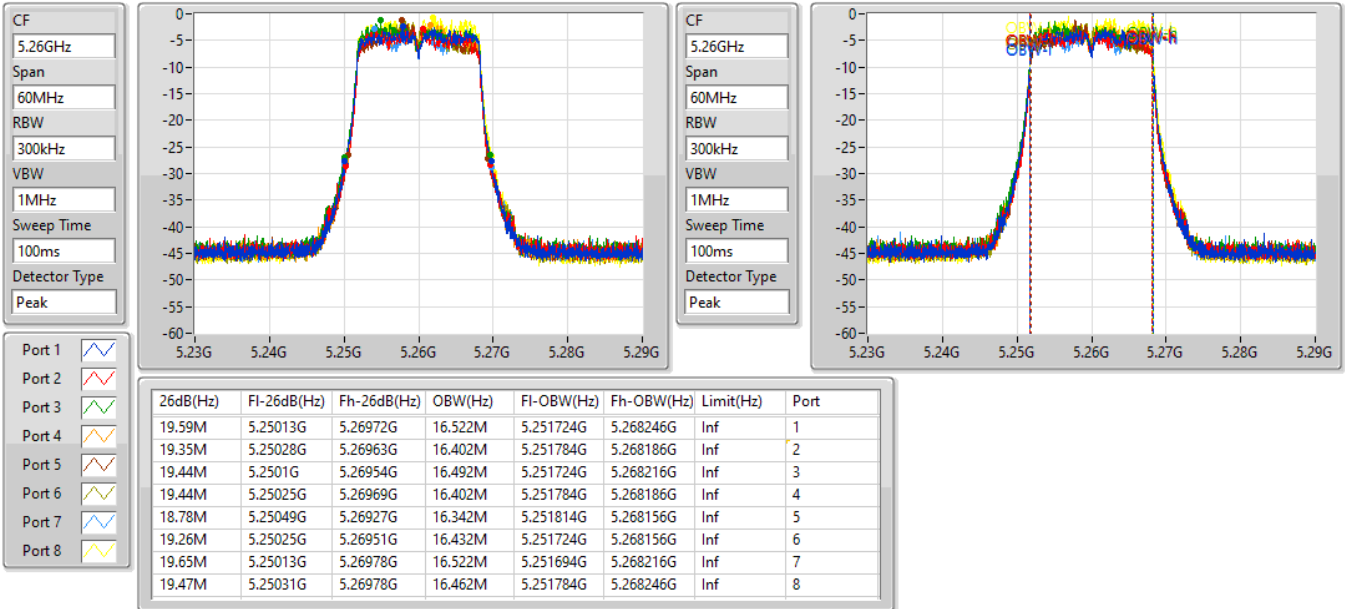
Result

Mode	Result	Limit	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)	Port 5-N dB (Hz)	Port 5-OBW (Hz)	Port 6-N dB (Hz)	Port 6-OBW (Hz)	Port 7-N dB (Hz)	Port 7-OBW (Hz)	Port 8-N dB (Hz)	Port 8-OBW (Hz)
802.11a_Nss1,(6Mbps)_8TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	19.59M	16.522M	19.35M	16.402M	19.44M	16.492M	19.44M	16.402M	18.78M	16.342M	19.26M	16.432M	19.65M	16.522M	19.47M	16.462M
5300MHz	Pass	Inf	19.17M	16.492M	18.87M	16.312M	19.26M	16.402M	19.5M	16.432M	19.62M	16.522M	19.65M	16.522M	19.44M	16.522M	19.47M	16.462M
5320MHz	Pass	Inf	19.35M	16.372M	19.08M	16.432M	19.35M	16.402M	19.47M	16.432M	19.92M	16.552M	19.11M	16.462M	18.96M	16.312M	19.38M	16.462M
5500MHz	Pass	Inf	19.32M	16.492M	19.53M	16.492M	19.35M	16.402M	19.92M	16.522M	18.93M	16.402M	18.84M	16.252M	19.71M	16.522M	19.41M	16.462M
5580MHz	Pass	Inf	19.38M	16.312M	19.26M	16.342M	19.23M	16.372M	19.41M	16.462M	19.77M	16.582M	18.66M	16.252M	18.96M	16.372M	19.47M	16.432M
5700MHz	Pass	Inf	19.41M	16.492M	19.35M	16.462M	19.5M	16.492M	19.5M	16.492M	18.93M	16.312M	18.9M	16.282M	19.14M	16.492M	19.41M	16.402M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	14.775M	13.298M	14.715M	13.283M	14.52M	13.133M	14.655M	13.193M	14.535M	13.208M	14.16M	13.043M	14.595M	13.313M	14.67M	13.223M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	2.54M	3.678M	3.16M	3.798M	3.14M	3.498M	3.14M	3.518M	3.16M	3.618M	2.88M	3.538M	2.9M	3.538M	3.2M	3.738M
802.11ax HEW20_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.45M	19.01M	20.52M	18.621M	21.93M	19.1M	21.27M	18.951M	21.96M	18.981M	21.3M	19.01M	20.76M	18.771M	20.88M	18.891M
5300MHz	Pass	Inf	21.15M	18.951M	20.67M	18.681M	21.57M	19.07M	21.51M	18.921M	20.91M	18.831M	21.27M	18.981M	21.27M	19.01M	21.45M	18.921M
5320MHz	Pass	Inf	21.3M	18.951M	20.82M	18.771M	21M	18.831M	20.94M	18.921M	21.48M	19.04M	21M	18.831M	20.7M	18.741M	21.39M	18.891M
5500MHz	Pass	Inf	21.15M	18.981M	21.93M	19.04M	21.66M	19.04M	21.54M	18.981M	21M	18.891M	21.33M	19.16M	21.3M	19.04M	21.21M	18.951M
5580MHz	Pass	Inf	21.39M	19.04M	21.84M	19.07M	21.45M	19.07M	21.15M	18.981M	20.61M	18.711M	21.39M	19.13M	21M	18.801M	21.39M	18.951M
5700MHz	Pass	Inf	21.21M	18.921M	21M	19.01M	21.09M	18.801M	21.15M	18.921M	21.27M	19.01M	20.79M	18.861M	21.42M	18.921M	21.06M	18.891M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.375M	14.408M	15.21M	14.393M	16.05M	14.483M	15.495M	14.438M	15.255M	14.348M	15.63M	14.483M	15.42M	14.453M	15.555M	14.468M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	4.5M	4.638M	4.44M	4.618M	4.48M	4.638M	4.2M	4.638M	4.34M	4.638M	4.58M	4.678M	4.46M	4.638M	4.5M	4.658M
802.11ax HEW40_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	40.68M	37.721M	40.98M	38.381M	40.92M	38.141M	40.92M	37.961M	40.8M	37.661M	40.44M	38.021M	40.68M	37.781M	40.98M	37.901M
5310MHz	Pass	Inf	40.68M	37.901M	41.1M	38.321M	40.86M	37.961M	40.86M	37.961M	40.8M	37.781M	40.8M	38.021M	40.44M	37.781M	40.62M	37.961M
5510MHz	Pass	Inf	40.62M	37.721M	40.44M	37.661M	41.22M	38.021M	41.28M	38.021M	40.98M	38.081M	40.26M	37.361M	40.5M	37.661M	40.74M	38.021M
5550MHz	Pass	Inf	40.5M	37.781M	40.44M	37.481M	40.74M	38.141M	40.86M	37.961M	40.68M	38.021M	40.26M	37.481M	40.62M	37.601M	40.92M	37.901M
5670MHz	Pass	Inf	40.74M	37.841M	40.32M	37.841M	41.04M	37.841M	41.16M	37.901M	40.5M	37.781M	41.04M	38.021M	40.62M	37.781M	40.8M	37.901M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.105M	33.653M	35.7M	33.898M	35.49M	33.863M	35.35M	33.758M	35M	33.548M	35.385M	33.793M	35.735M	33.793M	35.875M	33.898M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	4M	4.218M	4.16M	4.418M	4.06M	4.178M	4.04M	4.198M	3.98M	4.178M	4.14M	4.298M	4.1M	4.218M	4.02M	4.258M
802.11ax HEW80_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	81.84M	77.241M	82.2M	77.961M	81.72M	77.241M	82.2M	77.361M	81.96M	77.241M	82.2M	77.241M	81.96M	77.121M	81.72M	77.361M
5530MHz	Pass	Inf	81.96M	77.121M	81.96M	76.762M	82.56M	77.361M	82.68M	77.361M	82.32M	77.361M	80.76M	75.922M	81.6M	76.762M	82.08M	77.481M
5610MHz	Pass	Inf	81.72M	77.241M	81.48M	76.762M	82.08M	77.121M	82.32M	77.361M	81.96M	77.481M	81.24M	76.642M	81.72M	76.762M	81.84M	77.361M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.675M	72.639M	75.9M	72.864M	76.125M	73.463M	76.5M	73.313M	75.825M	73.163M	76.05M	73.238M	75.9M	73.313M	76.275M	73.313M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	4.12M	4.298M	4.16M	4.718M	3.66M	4.318M	3.98M	4.318M	3.88M	4.258M	4.1M	4.418M	4.14M	4.538M	4.06M	4.458M

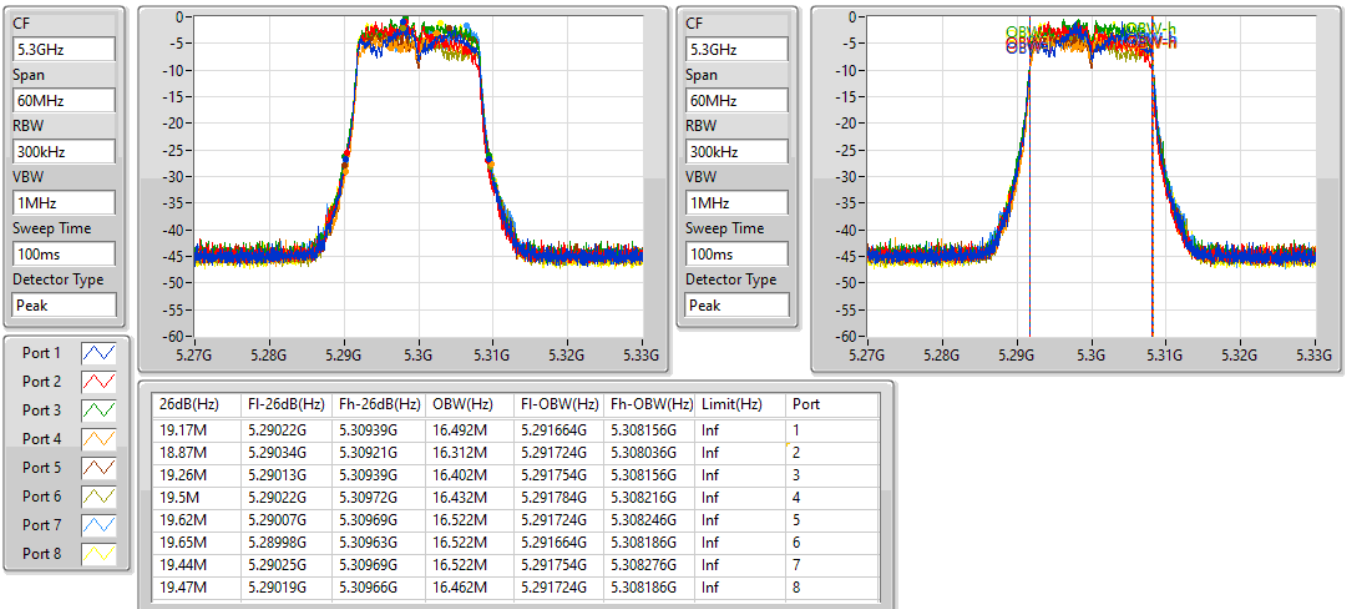
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

802.11a_Nss1,(6Mbps)_8TX
EBW
5260MHz

13/10/2022

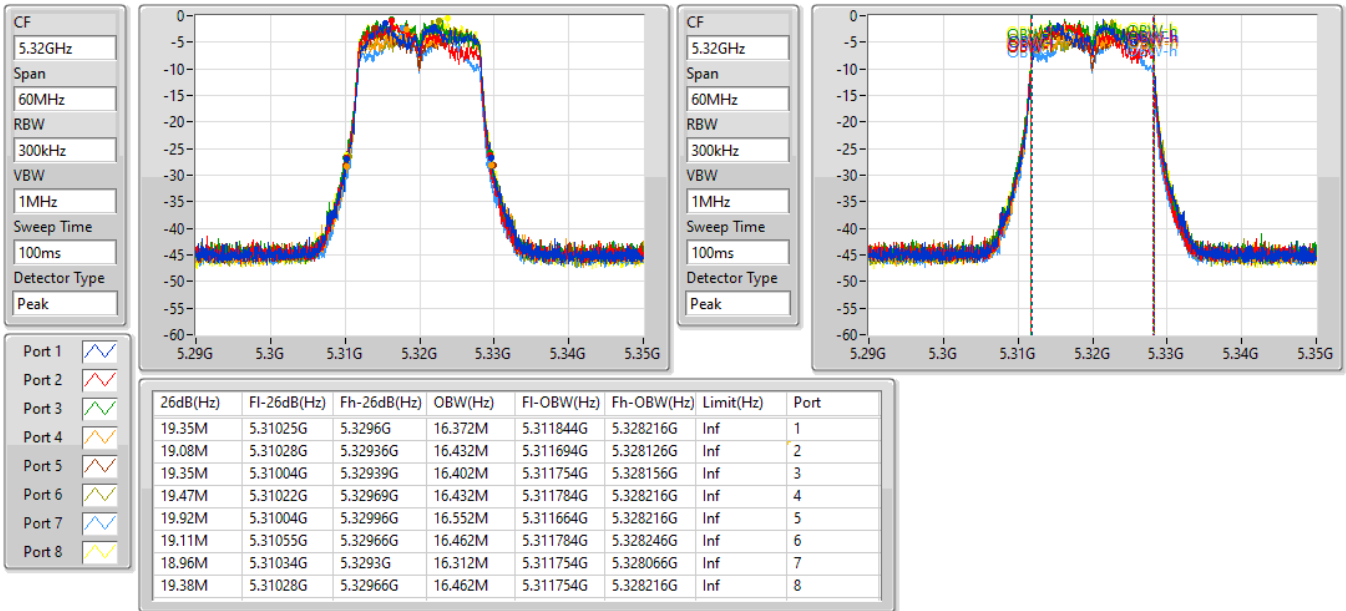

802.11a_Nss1,(6Mbps)_8TX
EBW
5300MHz

13/10/2022

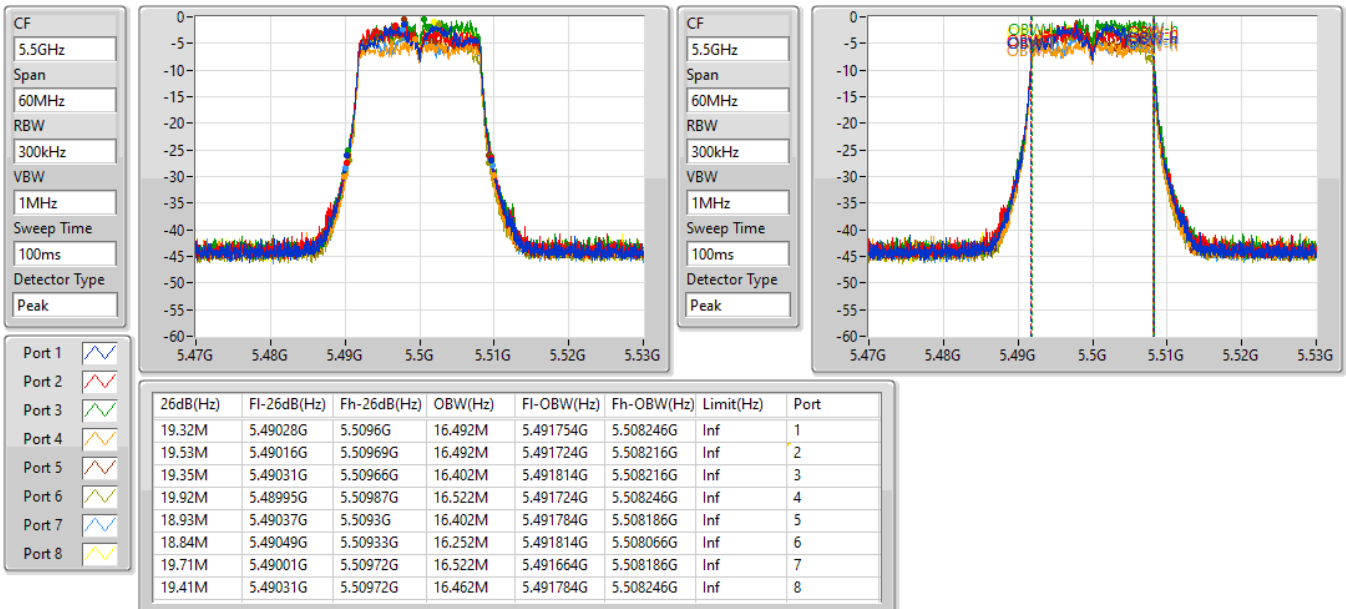


802.11a_Nss1,(6Mbps)_8TX
EBW
5320MHz

13/10/2022

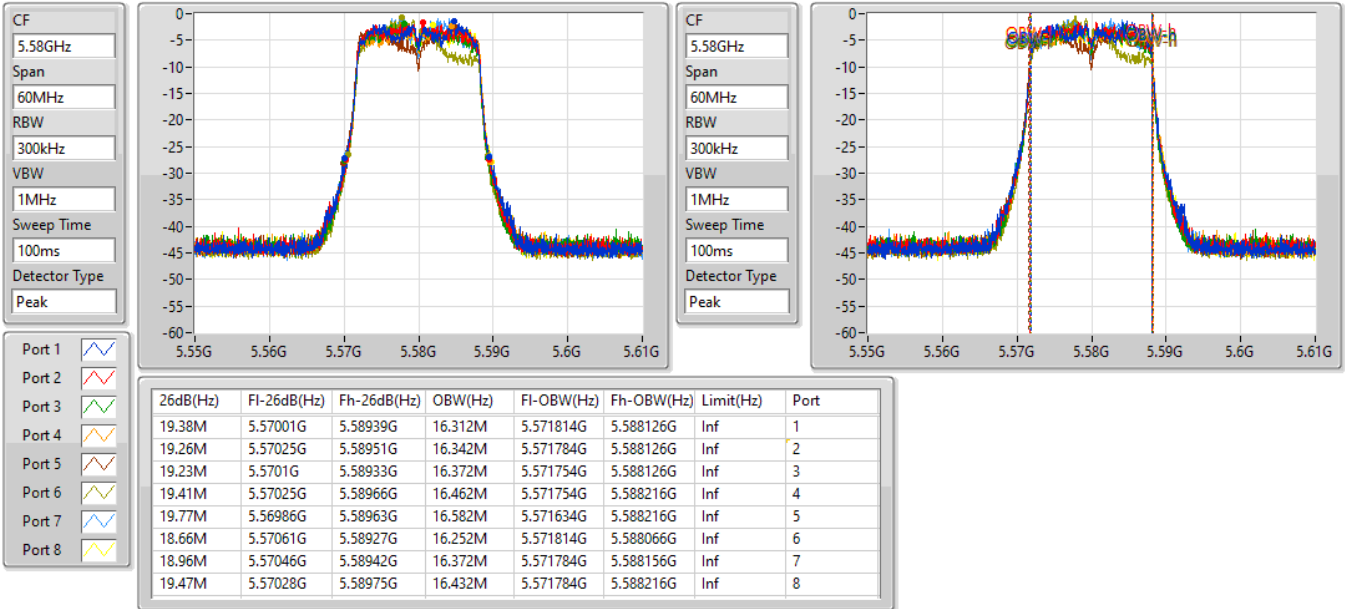

802.11a_Nss1,(6Mbps)_8TX
EBW
5500MHz

13/10/2022

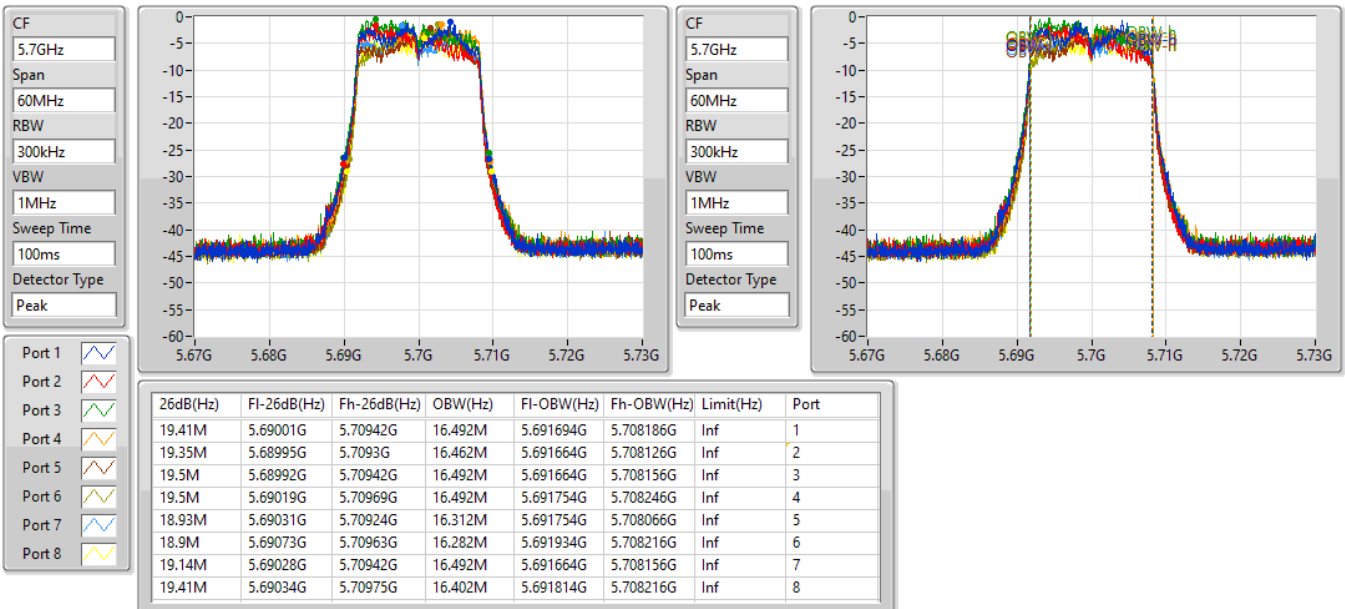


802.11a_Nss1,(6Mbps)_8TX
EBW
5580MHz

13/10/2022

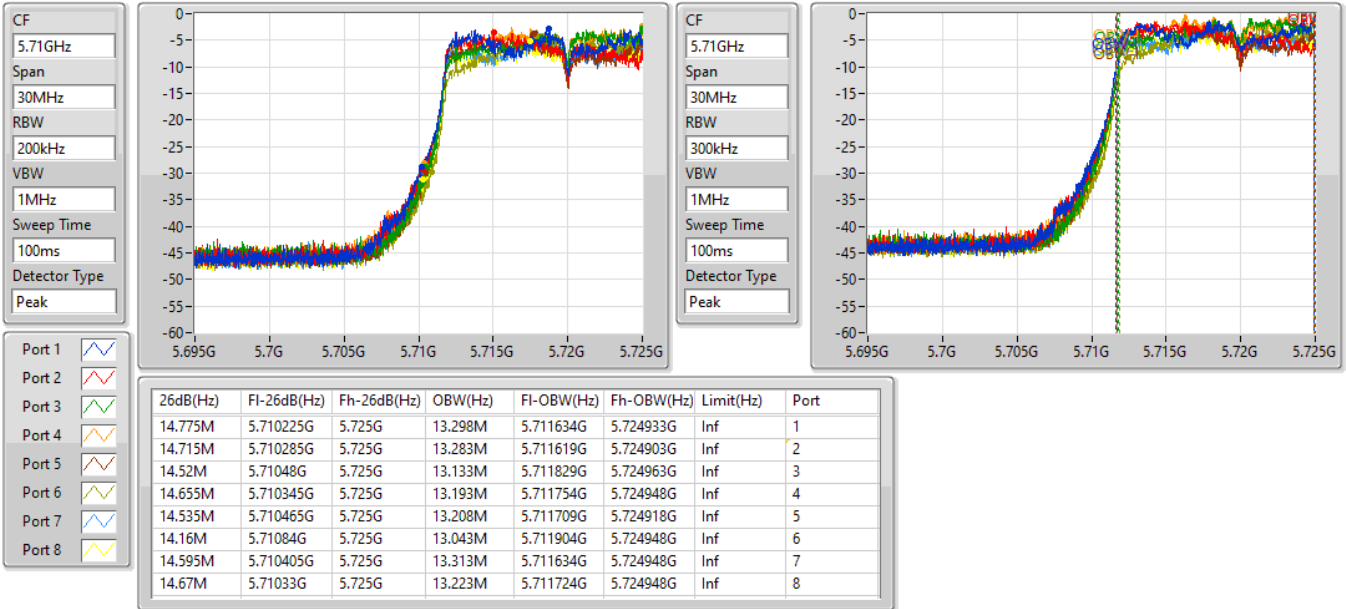

802.11a_Nss1,(6Mbps)_8TX
EBW
5700MHz

13/10/2022

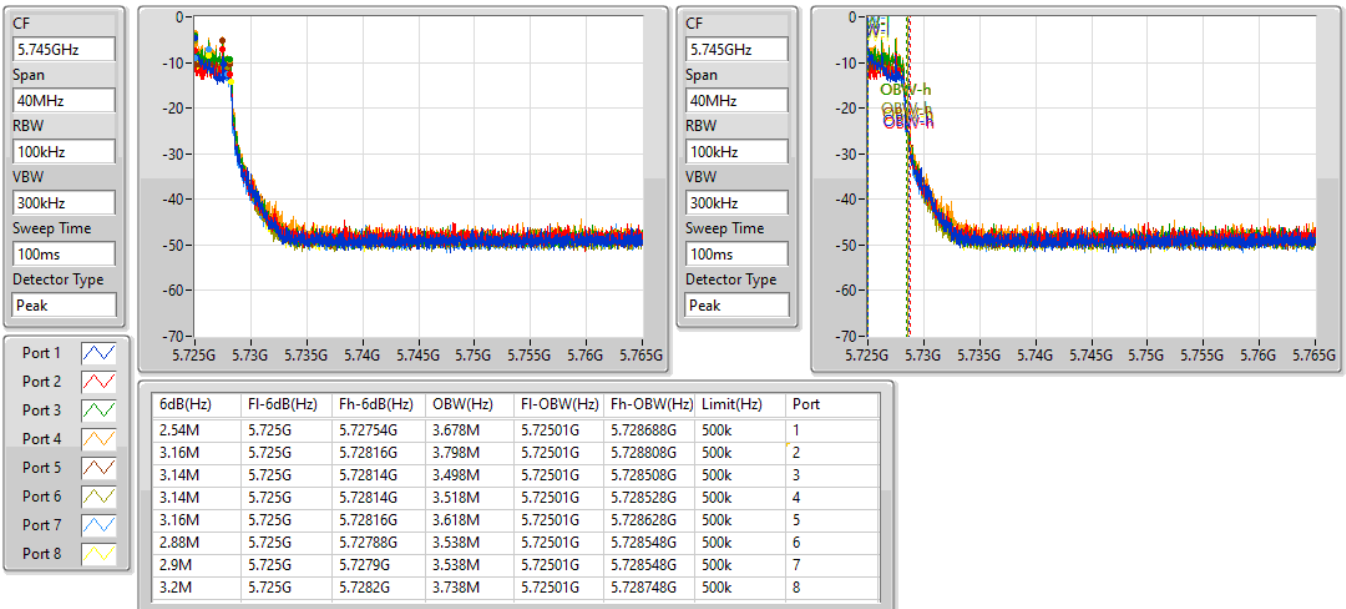


802.11a_Nss1,(6Mbps)_8TX
EBW
5720MHz Straddle 5.47-5.725GHz

13/10/2022

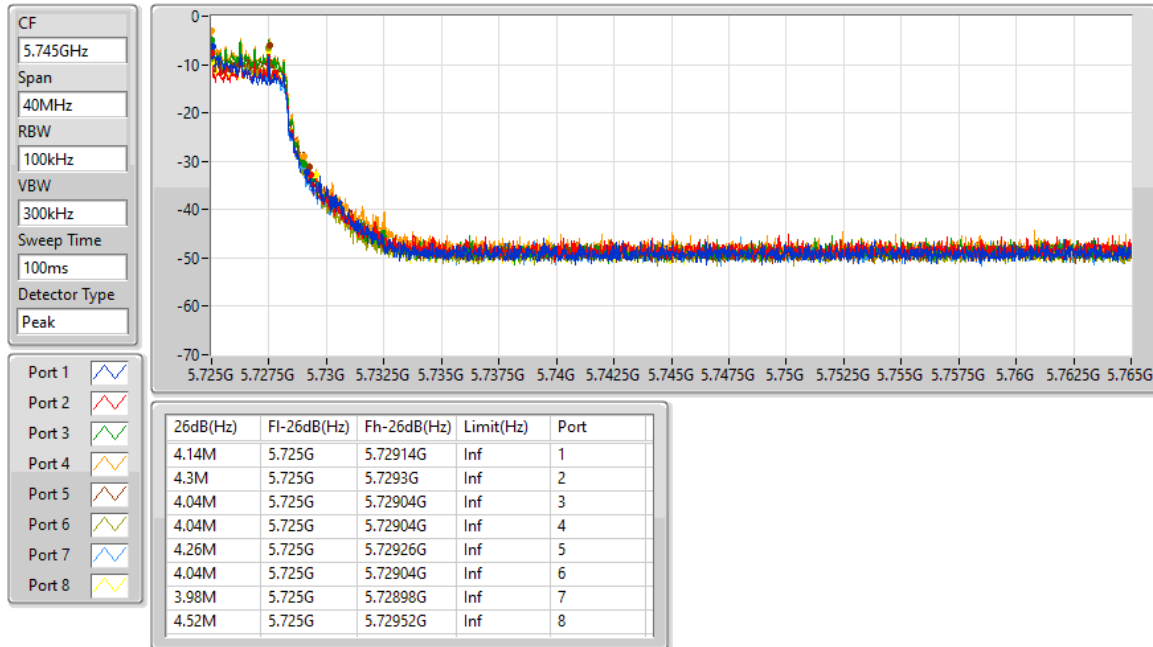

802.11a_Nss1,(6Mbps)_8TX
EBW
5720MHz Straddle 5.725-5.85GHz

13/10/2022

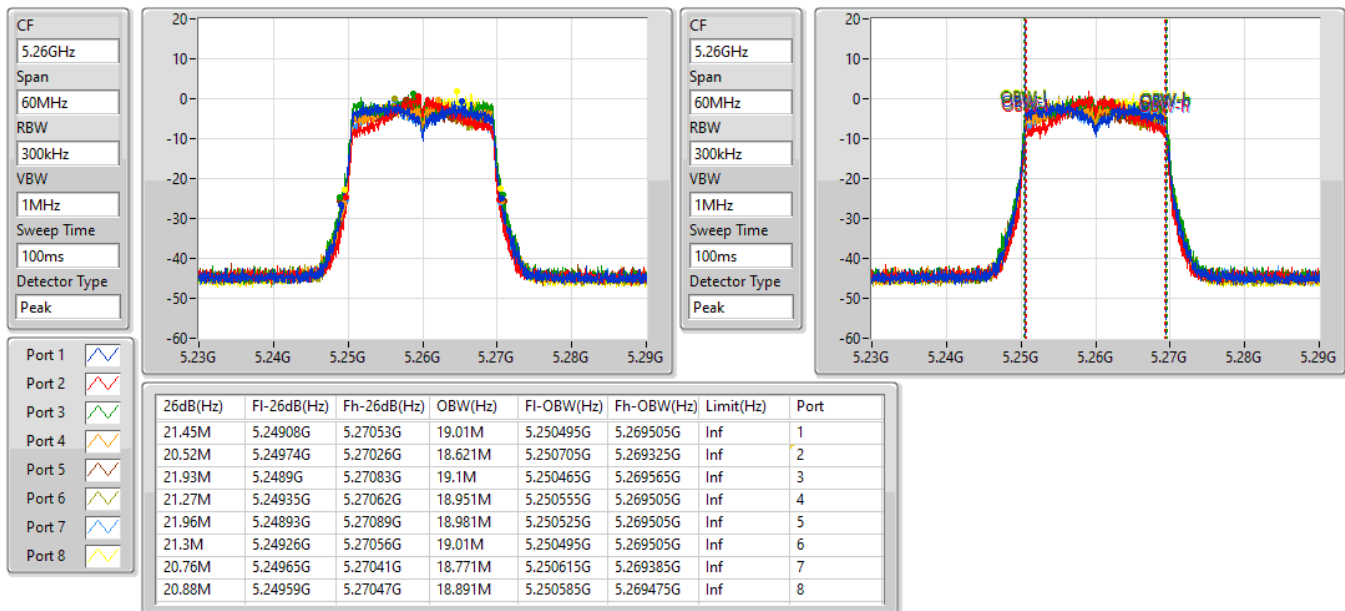


802.11a_Nss1,(6Mbps)_8TX
EBW
5720MHz Straddle 5.725-5.85GHz

13/10/2022

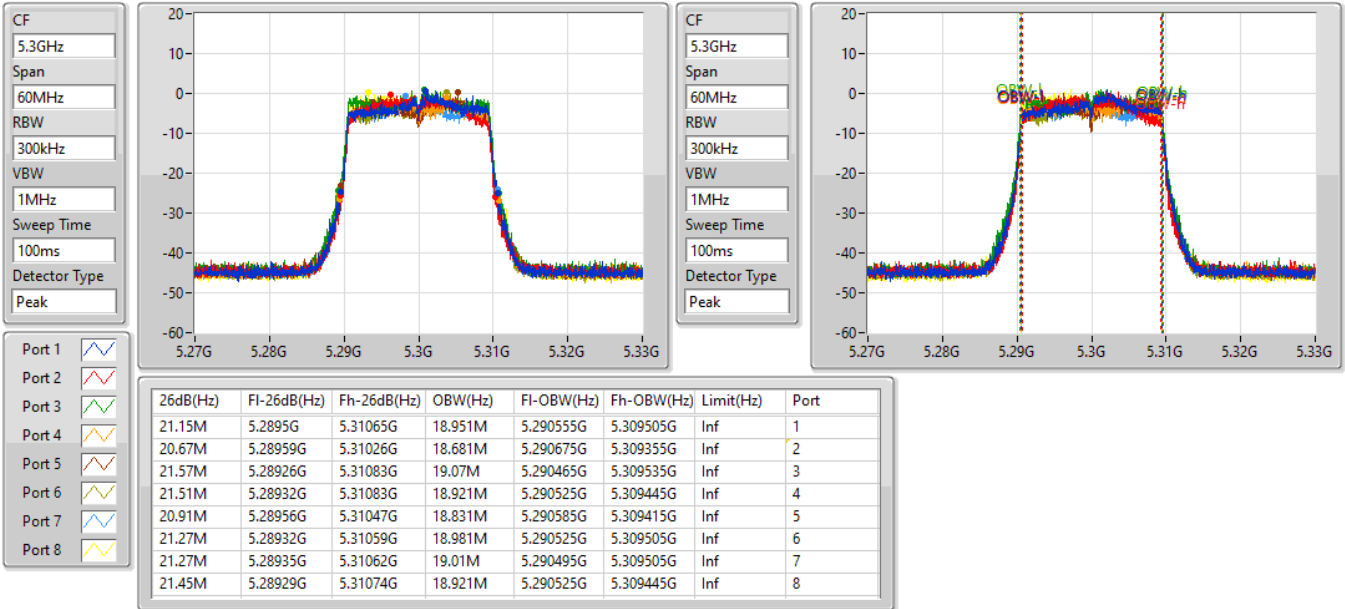

802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5260MHz

13/10/2022

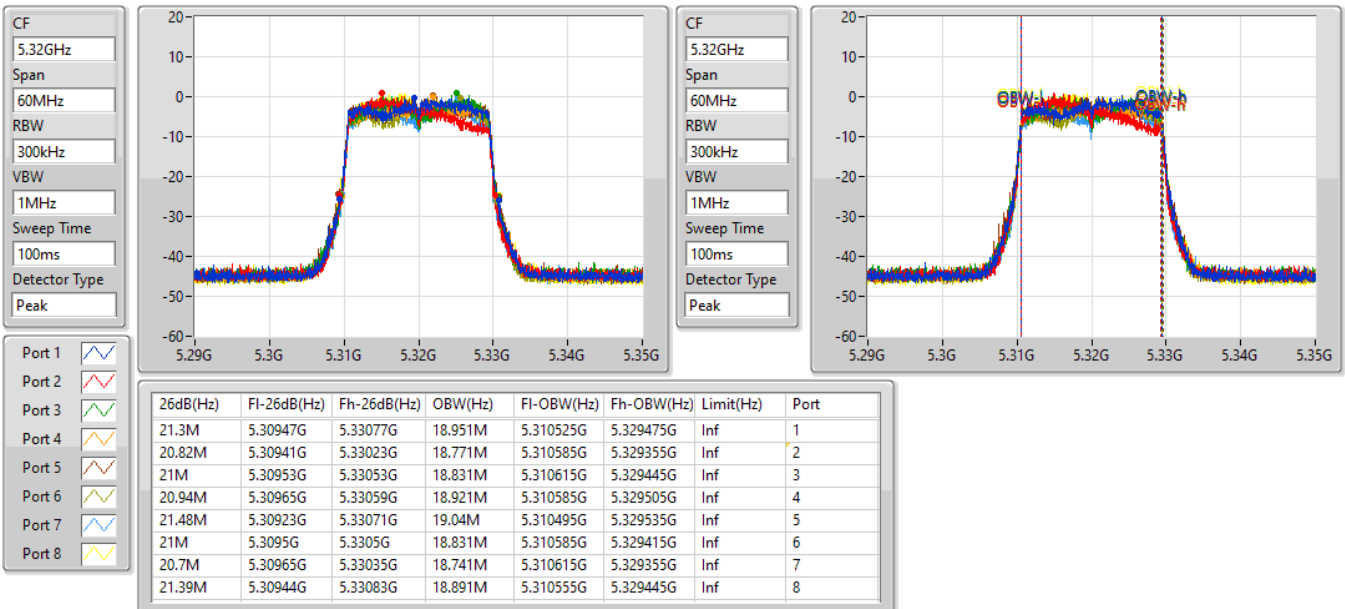


802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5300MHz

13/10/2022

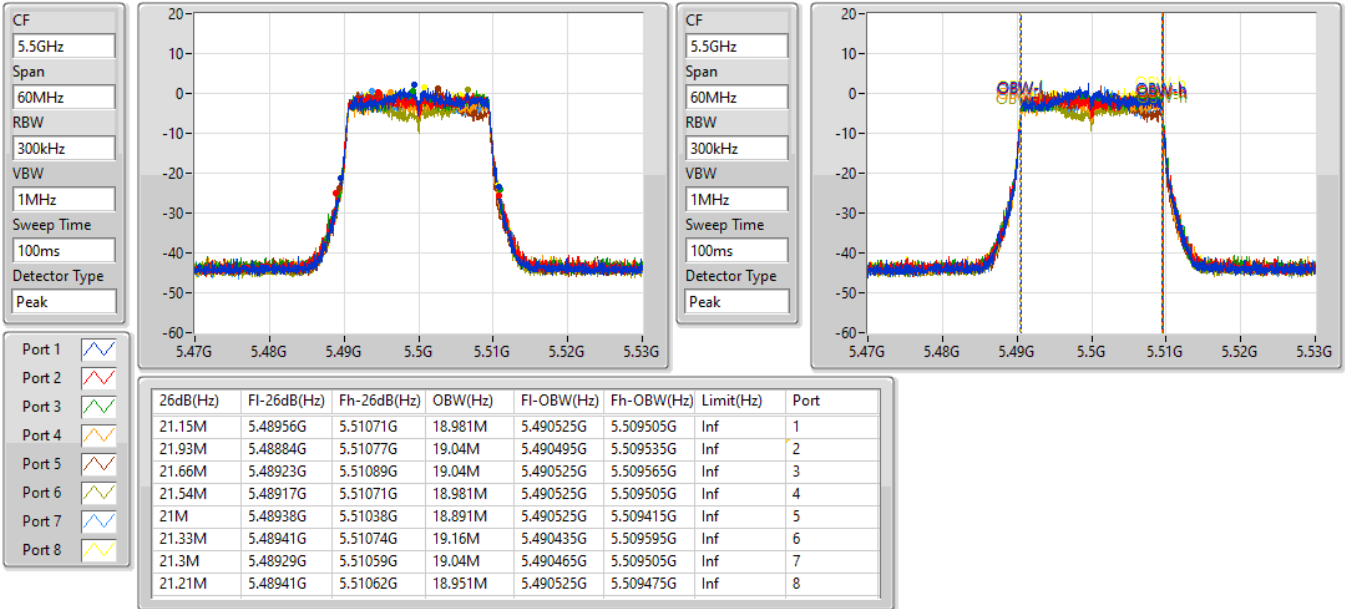

802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5320MHz

13/10/2022

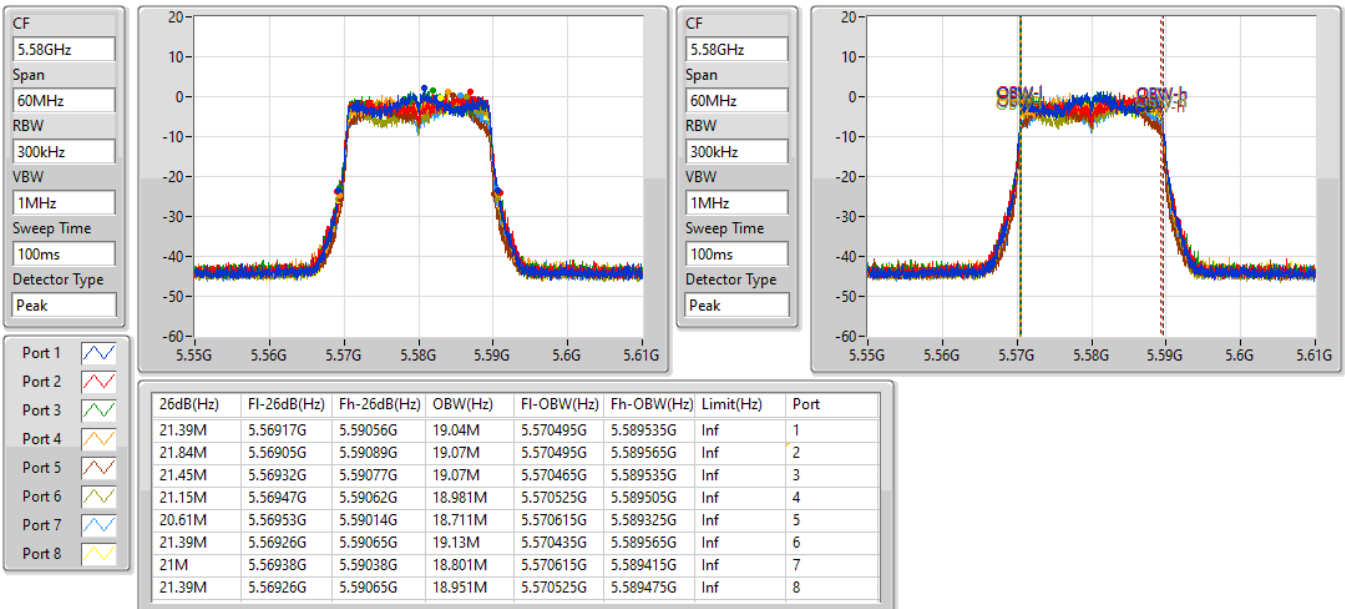


802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5500MHz

13/10/2022

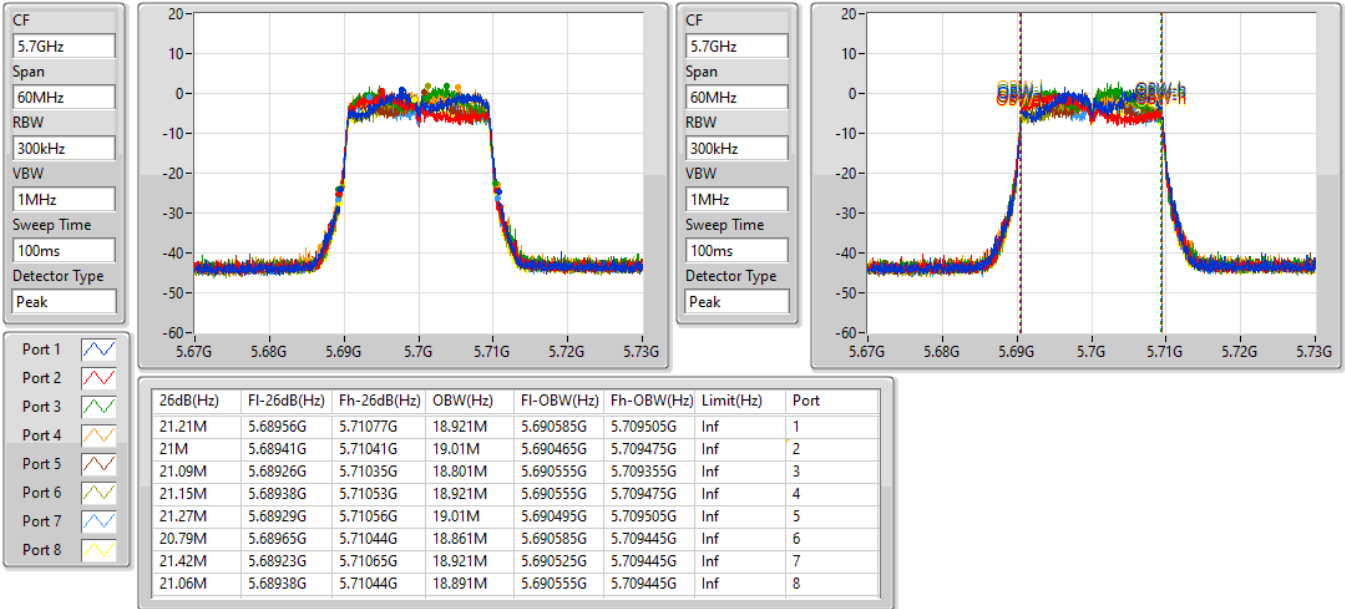

802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5580MHz

13/10/2022

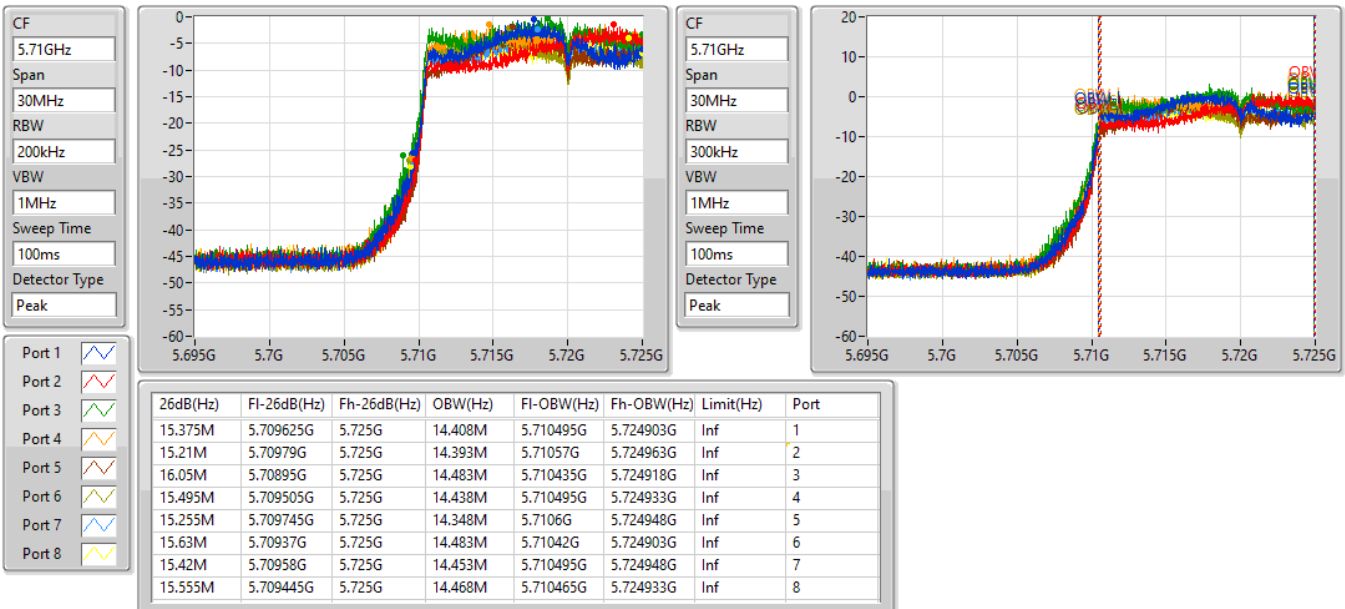


802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5700MHz

13/10/2022

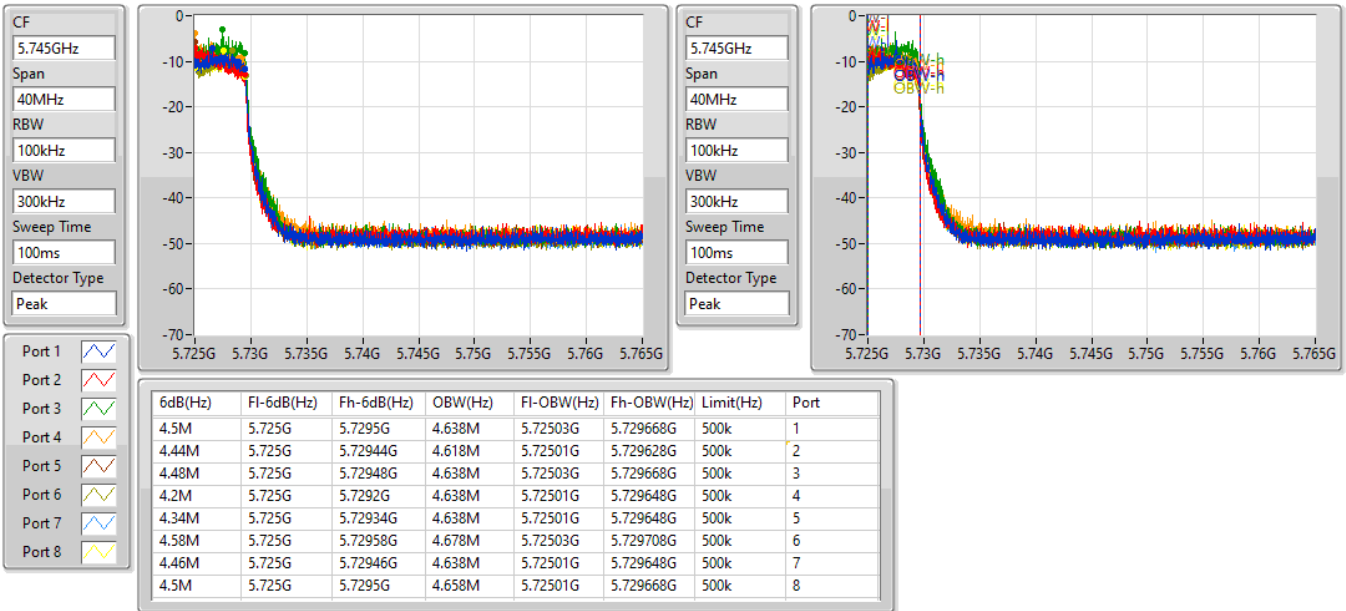

802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5720MHz Straddle 5.47-5.725GHz

13/10/2022

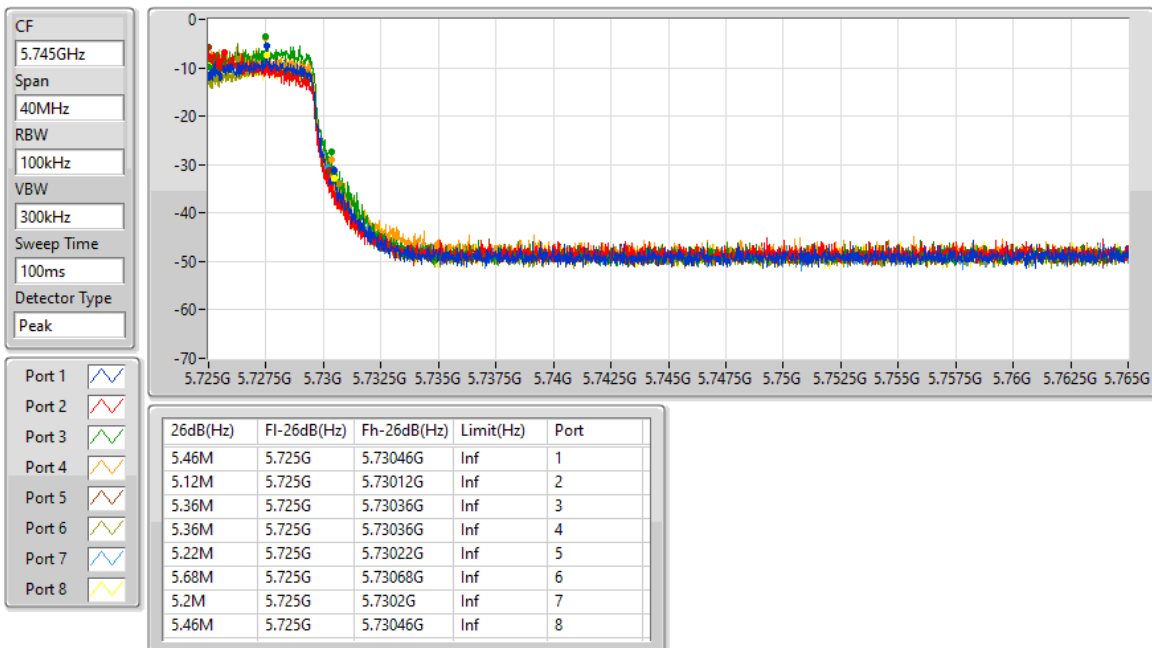


802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5720MHz Straddle 5.725-5.85GHz

13/10/2022


802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5720MHz Straddle 5.725-5.85GHz

13/10/2022

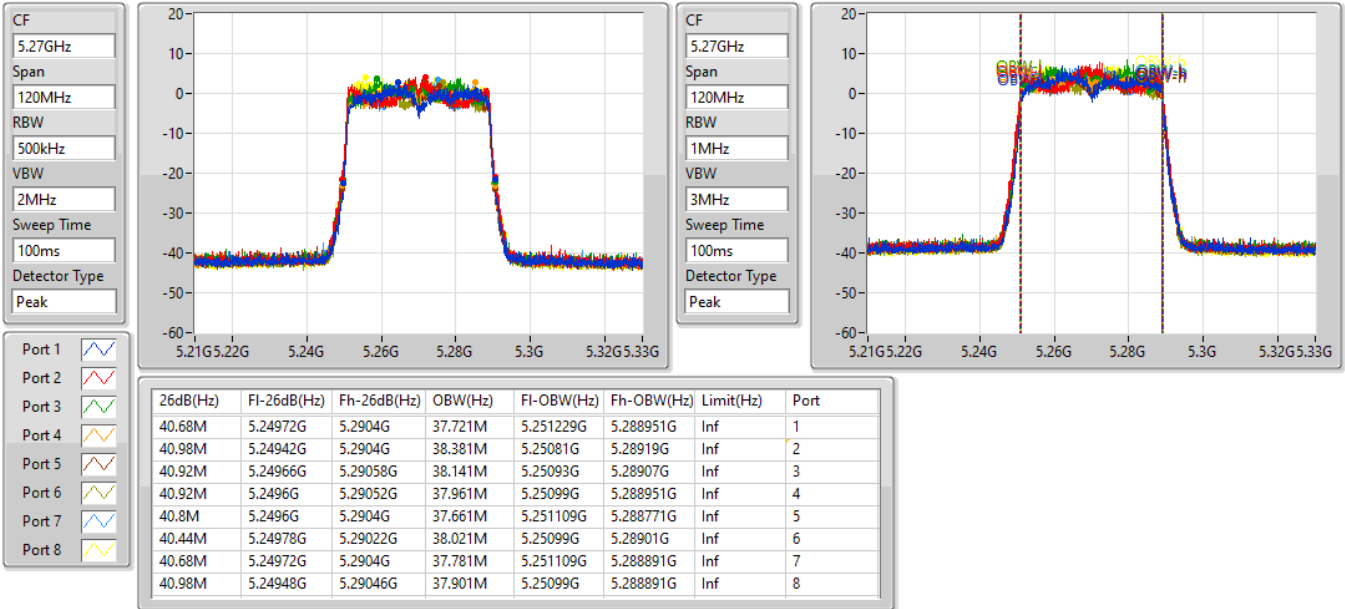


802.11ax HEW40_Nss1,(MCS0)_8TX

EBW

5270MHz

13/10/2022

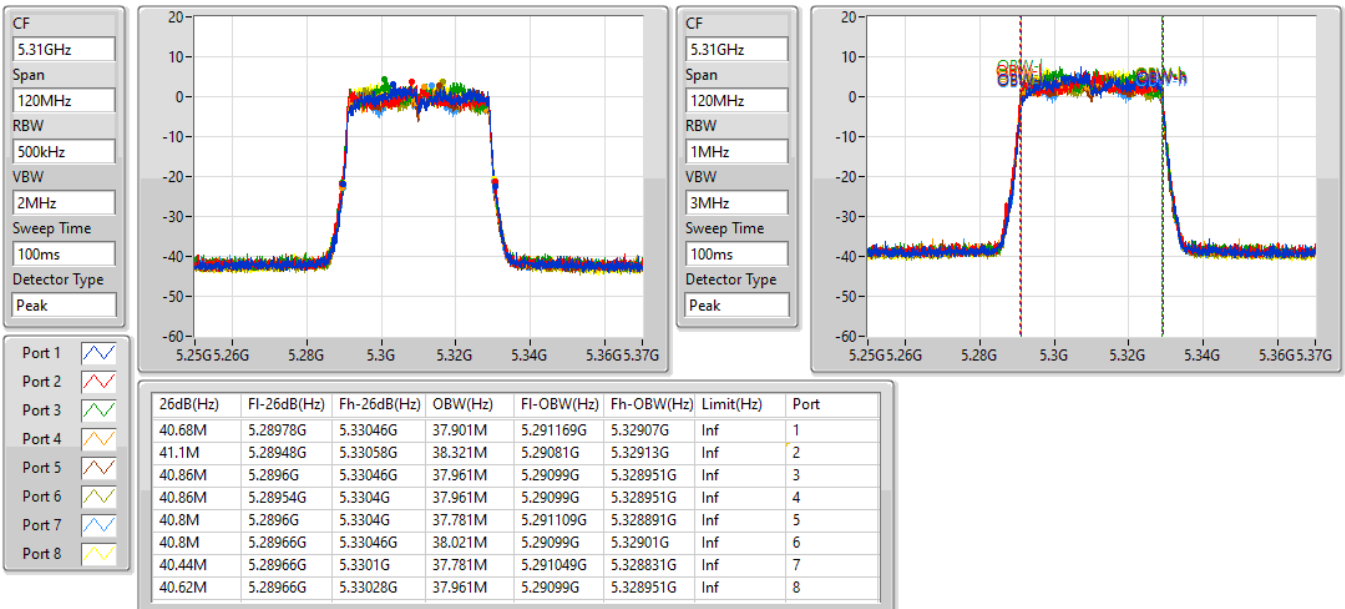


802.11ax HEW40_Nss1,(MCS0)_8TX

EBW

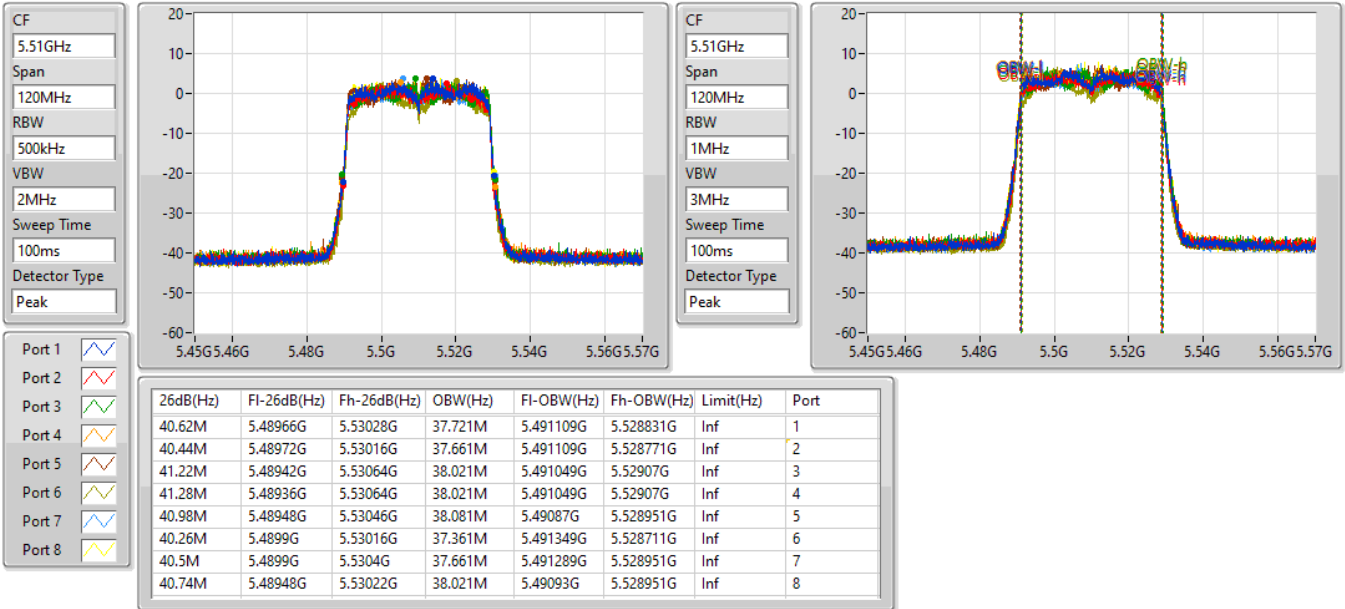
5310MHz

13/10/2022

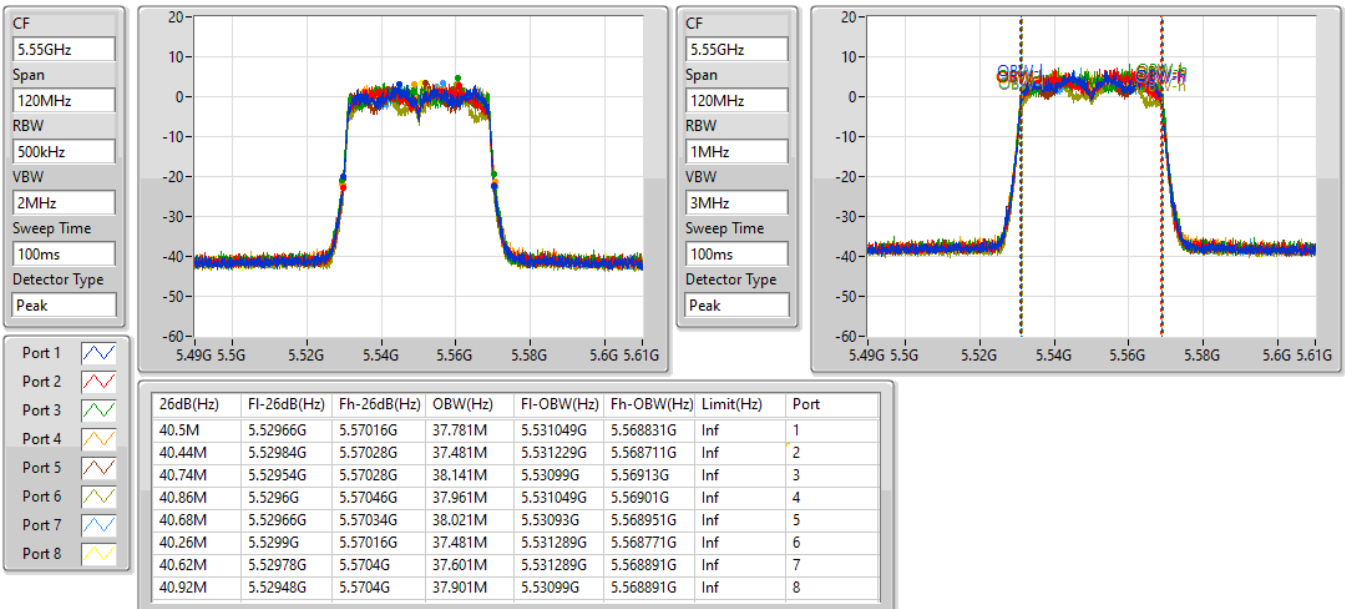


802.11ax HEW40_Nss1,(MCS0)_8TX
EBW
5510MHz

13/10/2022

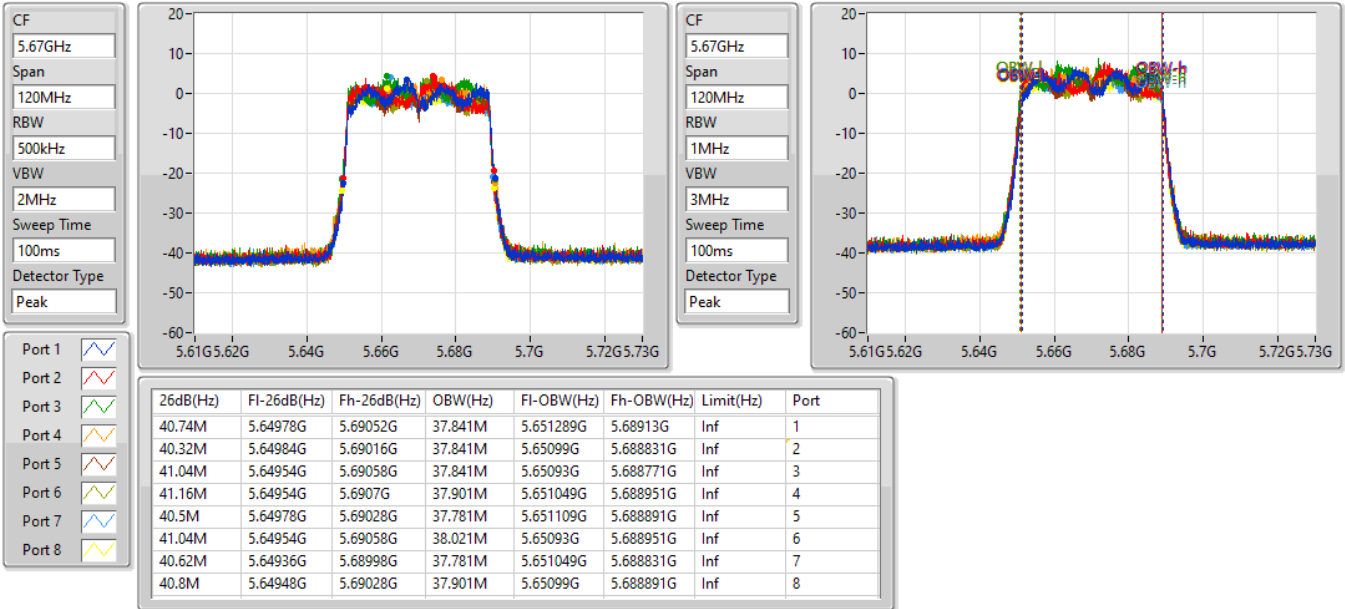

802.11ax HEW40_Nss1,(MCS0)_8TX
EBW
5550MHz

13/10/2022

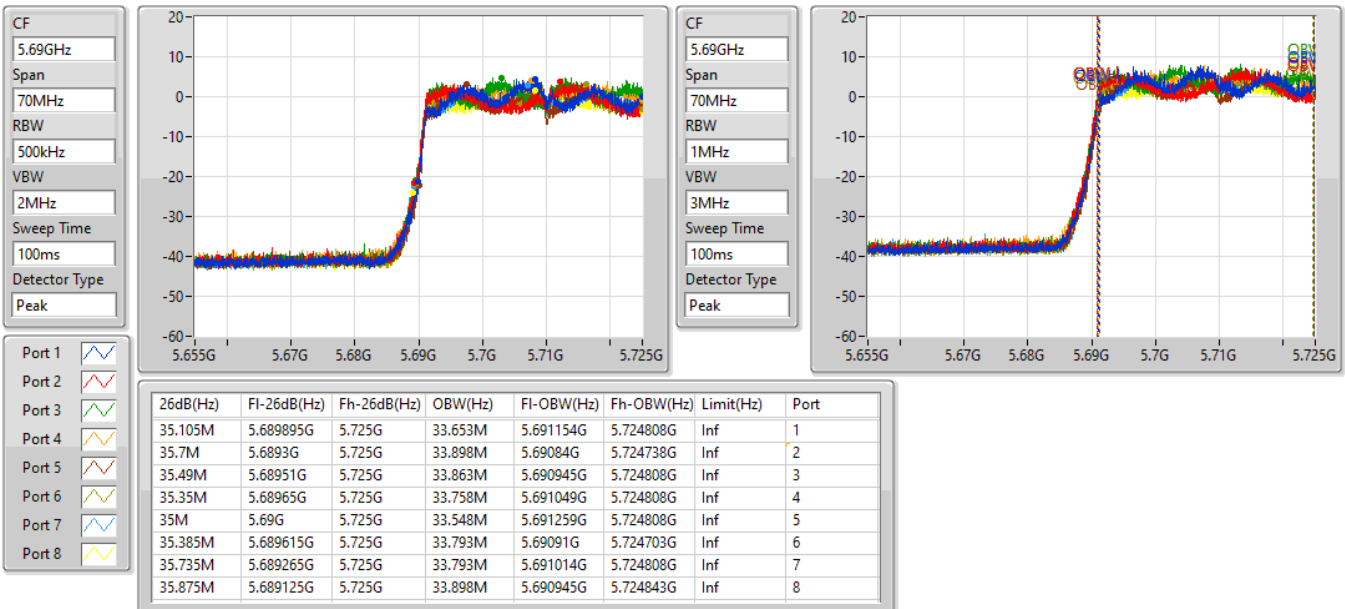


802.11ax HEW40_Nss1,(MCS0)_8TX
EBW
5670MHz

13/10/2022

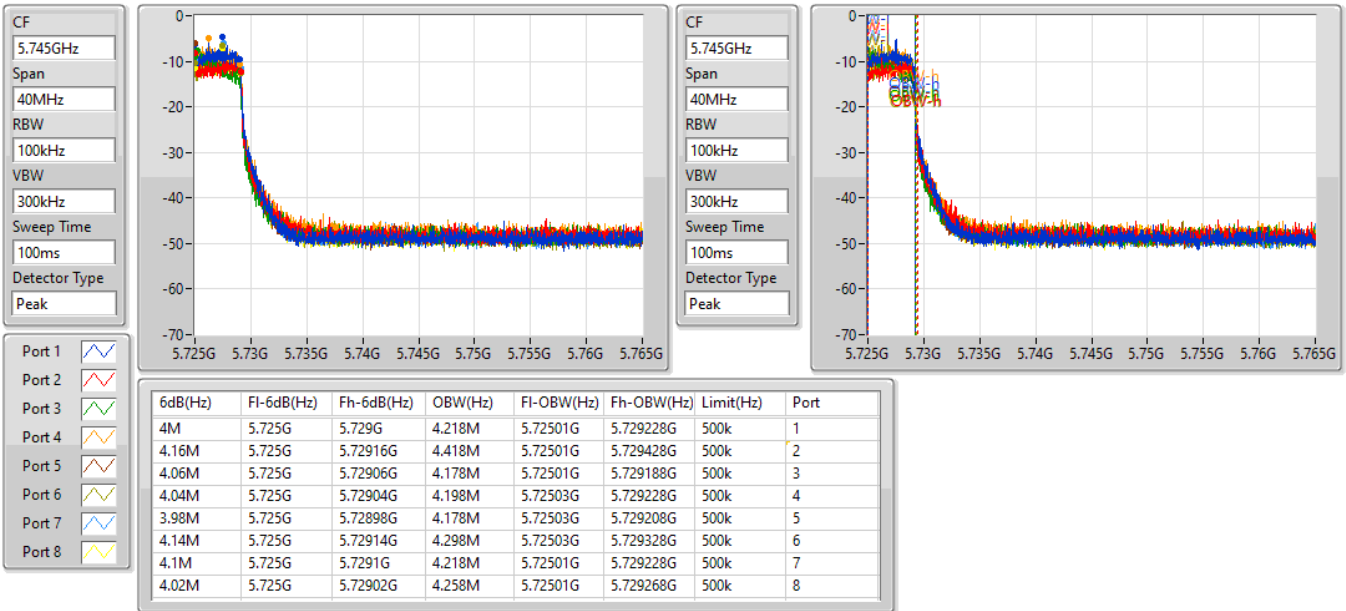

802.11ax HEW40_Nss1,(MCS0)_8TX
EBW
5710MHz Straddle 5.47-5.725GHz

13/10/2022

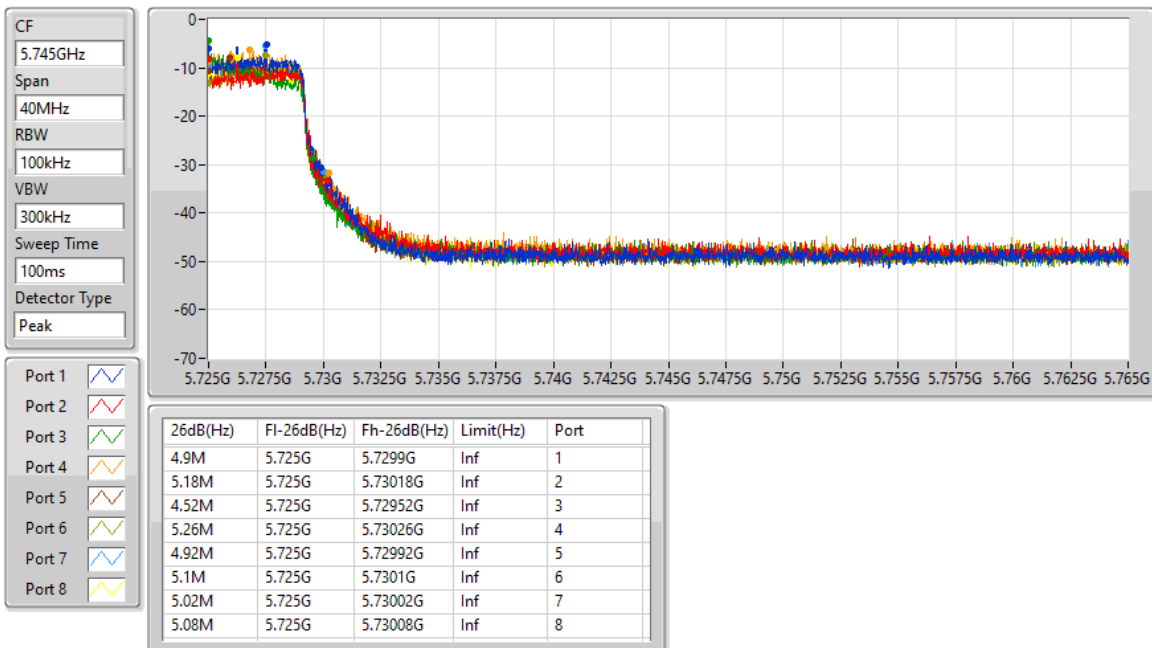


802.11ax HEW40_Nss1,(MCS0)_8TX
EBW
5710MHz Straddle 5.725-5.85GHz

13/10/2022


802.11ax HEW40_Nss1,(MCS0)_8TX
EBW
5710MHz Straddle 5.725-5.85GHz

13/10/2022

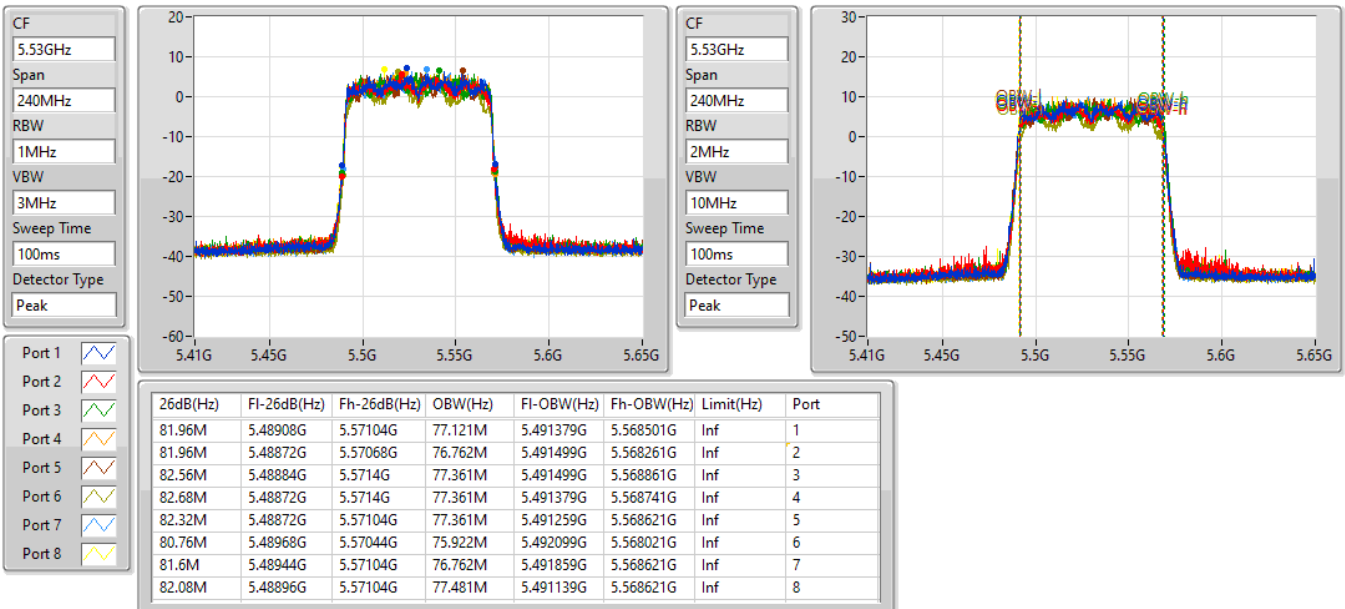


802.11ax HEW80_Nss1,(MCS0)_8TX
EBW
5290MHz

13/10/2022

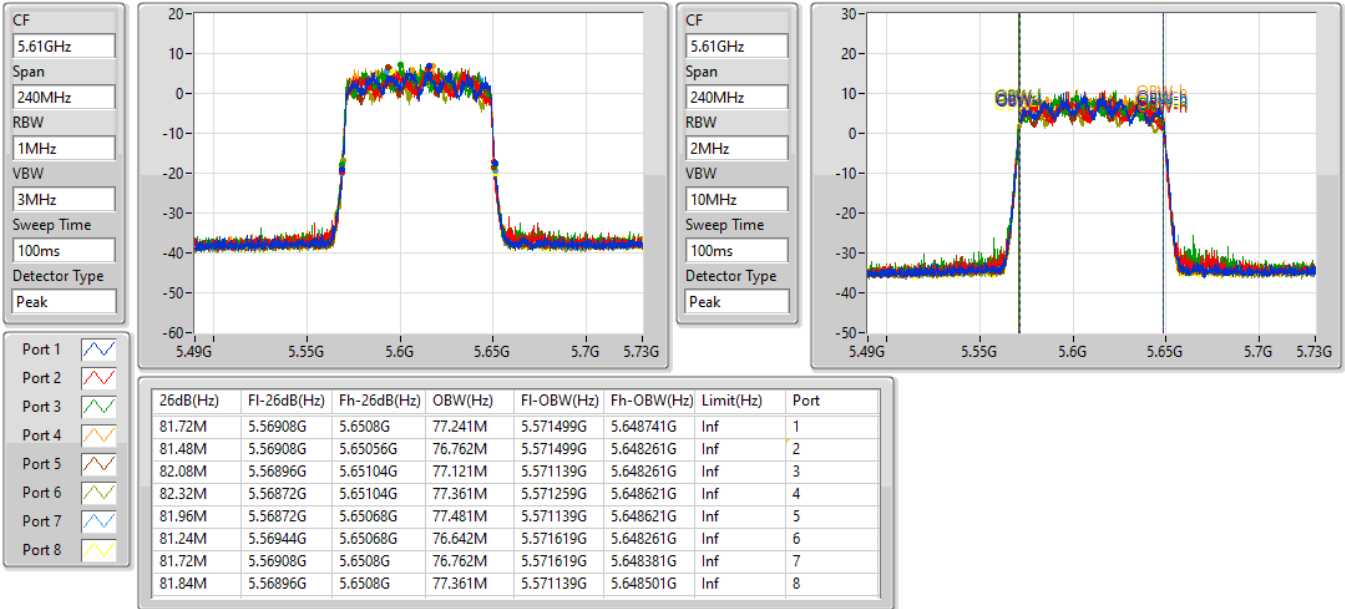

802.11ax HEW80_Nss1,(MCS0)_8TX
EBW
5530MHz

13/10/2022

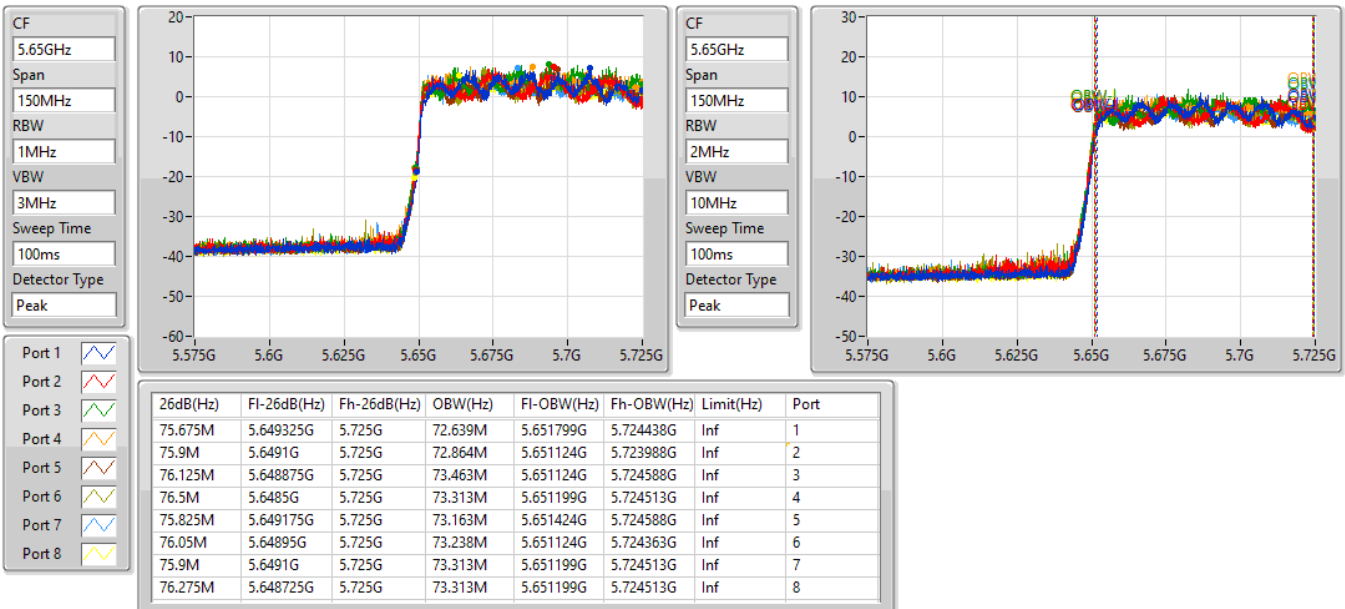


802.11ax HEW80_Nss1,(MCS0)_8TX
EBW
5610MHz

13/10/2022

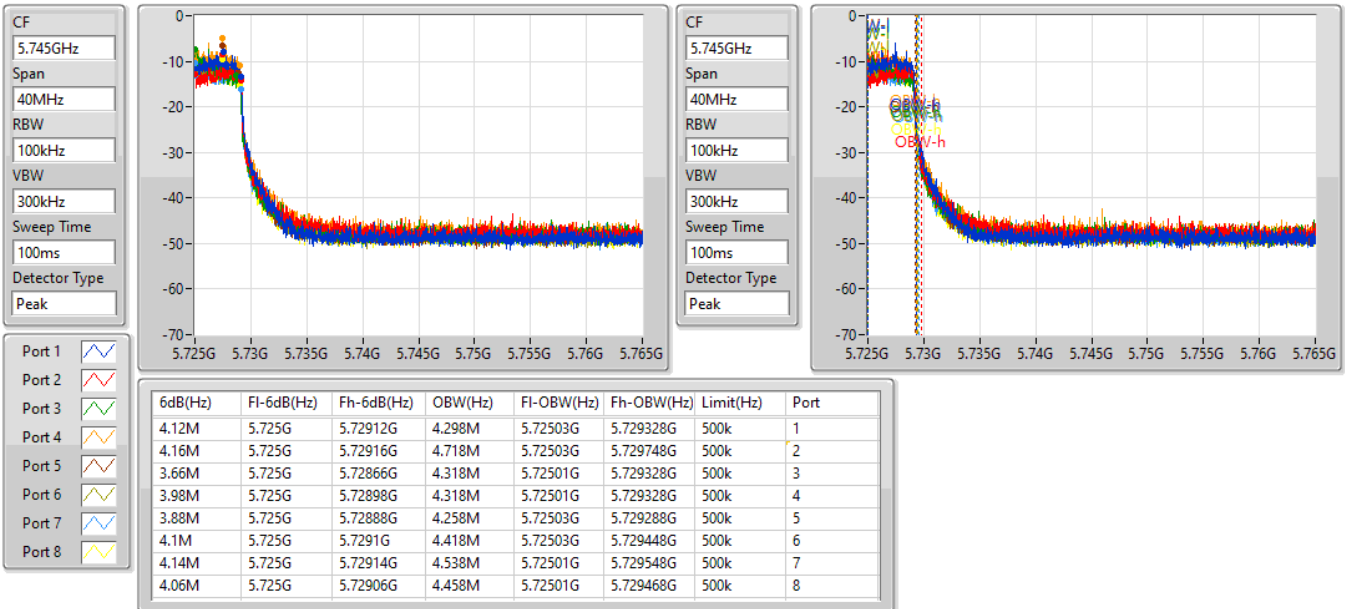

802.11ax HEW80_Nss1,(MCS0)_8TX
EBW
5690MHz Straddle 5.47-5.725GHz

13/10/2022

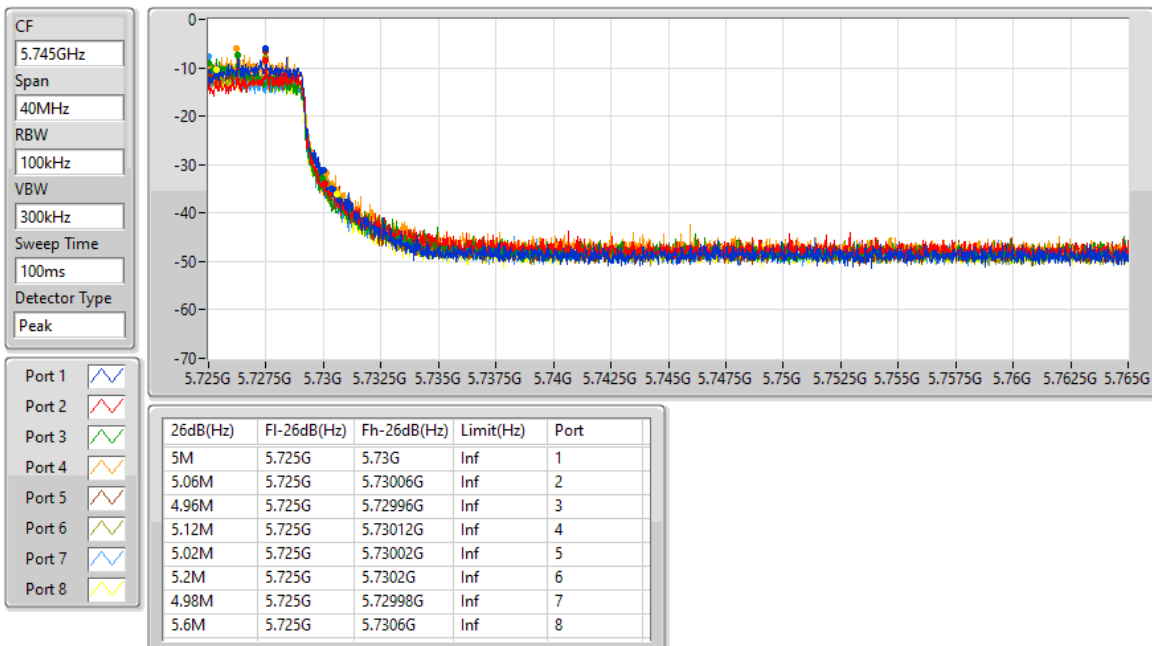


802.11ax HEW80_Nss1,(MCS0)_8TX
EBW
5690MHz Straddle 5.725-5.85GHz

13/10/2022


802.11ax HEW80_Nss1,(MCS0)_8TX
EBW
5690MHz Straddle 5.725-5.85GHz

13/10/2022



For UNII 2A and 2C (include Straddle Channel) indoor + outdoor

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_8TX	20.13M	16.49M	16M5D1D	18.93M	16.312M
802.11ax HEW20_Nss1,(MCS0)_8TX	21.9M	19.1M	19M1D1D	20.79M	18.836M
802.11ax HEW40_Nss1,(MCS0)_8TX	41.34M	38.142M	38M1D1D	40.5M	37.613M
802.11ax HEW80_Nss1,(MCS0)_8TX	82.32M	77.695M	77M7D1D	81.72M	76.872M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_8TX	20.07M	16.516M	16M5D1D	14.625M	13.133M
802.11ax HEW20_Nss1,(MCS0)_8TX	21.72M	19.1M	19M1D1D	15.465M	14.378M
802.11ax HEW40_Nss1,(MCS0)_8TX	41.16M	37.848M	37M8D1D	35.07M	33.583M
802.11ax HEW80_Nss1,(MCS0)_8TX	82.68M	77.342M	77M3D1D	75.6M	72.789M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_8TX	3.14M	20.17M	20M2D1D	2.74M	4.658M
802.11ax HEW20_Nss1,(MCS0)_8TX	4.5M	17.631M	17M6D1D	4.42M	4.638M
802.11ax HEW40_Nss1,(MCS0)_8TX	4.12M	15.412M	15M4D1D	3.96M	4.618M
802.11ax HEW80_Nss1,(MCS0)_8TX	4.14M	24.068M	24M1D1D	3.9M	11.214M

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_Mode 2 / Antenna Set 2 (Patch)

Appendix A.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)	Port 5-N dB (Hz)	Port 5-OBW (Hz)	Port 6-N dB (Hz)	Port 6-OBW (Hz)	Port 7-N dB (Hz)	Port 7-OBW (Hz)	Port 8-N dB (Hz)	Port 8-OBW (Hz)
802.11a_Nss1,(6Mbps)_8TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	19.35M	16.414M	19.59M	16.337M	20.13M	16.49M	19.74M	16.439M	19.8M	16.439M	19.35M	16.388M	19.41M	16.363M	19.23M	16.414M
5300MHz	Pass	Inf	19.56M	16.363M	19.5M	16.49M	19.05M	16.312M	19.59M	16.414M	18.93M	16.312M	19.47M	16.439M	20.01M	16.439M	19.56M	16.388M
5320MHz	Pass	Inf	19.71M	16.439M	20.07M	16.414M	19.74M	16.439M	19.53M	16.414M	20.07M	16.439M	19.83M	16.49M	19.92M	16.465M	19.47M	16.439M
5500MHz	Pass	Inf	19.59M	16.337M	19.29M	16.312M	19.77M	16.414M	19.26M	16.363M	18.93M	16.337M	19.05M	16.261M	19.2M	16.337M	19.5M	16.388M
5580MHz	Pass	Inf	19.59M	16.261M	19.14M	16.312M	19.17M	16.337M	19.65M	16.414M	18.75M	16.261M	19.14M	16.337M	19.17M	16.337M	19.5M	16.388M
5700MHz	Pass	Inf	19.17M	16.388M	19.74M	16.388M	19.77M	16.49M	19.68M	16.363M	19.47M	16.439M	20.07M	16.516M	19.56M	16.414M	19.74M	16.388M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.12M	13.283M	15.165M	13.283M	15.225M	13.328M	15.18M	13.253M	14.76M	13.208M	14.625M	13.163M	14.775M	13.133M	14.7M	13.223M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	2.74M	13.133M	3.12M	20.17M	3.12M	15.892M	3.14M	6.637M	3.12M	4.658M	2.82M	8.696M	3.14M	5.457M	3.14M	4.838M
802.11ax HEW20_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.78M	19.1M	21.81M	19.071M	21.57M	18.983M	21.57M	18.954M	21.24M	18.836M	21.18M	18.954M	21.18M	18.865M	21.09M	18.924M
5300MHz	Pass	Inf	21.54M	19.012M	21.48M	19.012M	21.18M	18.983M	21.33M	18.924M	21.9M	19.071M	21M	18.954M	21.57M	19.012M	21.39M	18.924M
5320MHz	Pass	Inf	21.21M	18.954M	21.24M	18.954M	21.45M	19.012M	21.6M	18.924M	20.79M	18.865M	21.51M	18.924M	21.24M	18.983M	21.27M	18.924M
5500MHz	Pass	Inf	21.06M	18.836M	21.24M	18.807M	21M	18.954M	21.63M	18.954M	21.39M	18.924M	21.66M	19.1M	21.18M	18.895M	20.94M	18.895M
5580MHz	Pass	Inf	21.3M	19.042M	21.72M	19.071M	21.27M	18.865M	21.24M	18.924M	21.18M	18.895M	20.55M	18.807M	20.97M	18.748M	21.18M	18.924M
5700MHz	Pass	Inf	20.82M	18.924M	20.91M	18.895M	21.42M	18.983M	21.6M	18.983M	21M	18.895M	21.06M	18.777M	21.51M	18.983M	21.21M	18.924M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.81M	14.453M	15.72M	14.498M	15.75M	14.483M	15.78M	14.438M	15.465M	14.378M	15.735M	14.498M	15.51M	14.468M	15.81M	14.483M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	4.44M	17.631M	4.48M	5.677M	4.5M	4.898M	4.42M	4.878M	4.44M	4.638M	4.46M	4.918M	4.44M	4.678M	4.42M	4.778M
802.11ax HEW40_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	40.86M	37.613M	41.16M	38.142M	40.86M	37.848M	41.04M	37.848M	40.5M	37.731M	40.5M	37.907M	40.56M	37.731M	40.86M	37.79M
5310MHz	Pass	Inf	40.74M	37.672M	40.74M	37.966M	40.62M	37.79M	41.04M	37.731M	40.74M	37.731M	40.62M	37.79M	41.34M	37.848M	41.22M	37.79M
5510MHz	Pass	Inf	40.86M	37.613M	40.44M	37.496M	40.92M	37.79M	40.68M	37.848M	40.68M	37.848M	40.14M	37.496M	40.8M	37.554M	41.16M	37.848M
5550MHz	Pass	Inf	40.74M	37.613M	40.62M	37.554M	40.56M	37.848M	40.5M	37.79M	40.8M	37.79M	40.5M	37.437M	40.32M	37.496M	40.86M	37.79M
5670MHz	Pass	Inf	40.68M	37.613M	40.56M	37.79M	40.5M	37.672M	40.74M	37.79M	40.5M	37.613M	40.8M	37.79M	40.74M	37.672M	40.98M	37.79M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.07M	33.688M	35.945M	33.758M	35.28M	33.758M	35.7M	33.723M	35.14M	33.583M	36.12M	33.723M	35.35M	33.688M	35.84M	33.793M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	4.02M	4.658M	4.08M	15.412M	4.04M	13.733M	4.04M	6.397M	3.96M	4.618M	4.12M	6.077M	4.04M	4.678M	4.06M	5.817M
802.11ax HEW80_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	81.84M	76.99M	82.32M	77.695M	82.08M	77.225M	82.32M	77.225M	81.96M	76.99M	81.96M	77.342M	81.72M	76.872M	81.96M	76.872M
5530MHz	Pass	Inf	81.96M	76.99M	81.6M	76.637M	82.68M	77.342M	81.84M	77.225M	82.32M	77.342M	81.36M	76.284M	82.44M	76.754M	82.32M	77.225M
5610MHz	Pass	Inf	82.08M	76.872M	82.08M	76.754M	82.44M	77.107M	82.2M	77.225M	81.96M	77.225M	81.84M	76.872M	81.36M	76.872M	81.72M	77.107M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.6M	72.789M	76.125M	72.939M	76.275M	73.238M	76.35M	73.238M	75.9M	73.013M	76.35M	73.088M	75.975M	73.238M	76.35M	73.238M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	4.06M	11.214M	4.14M	24.068M	3.9M	19.31M	4.06M	12.494M	4M	15.192M	4.1M	19.61M	4.04M	14.873M	4.06M	19.23M

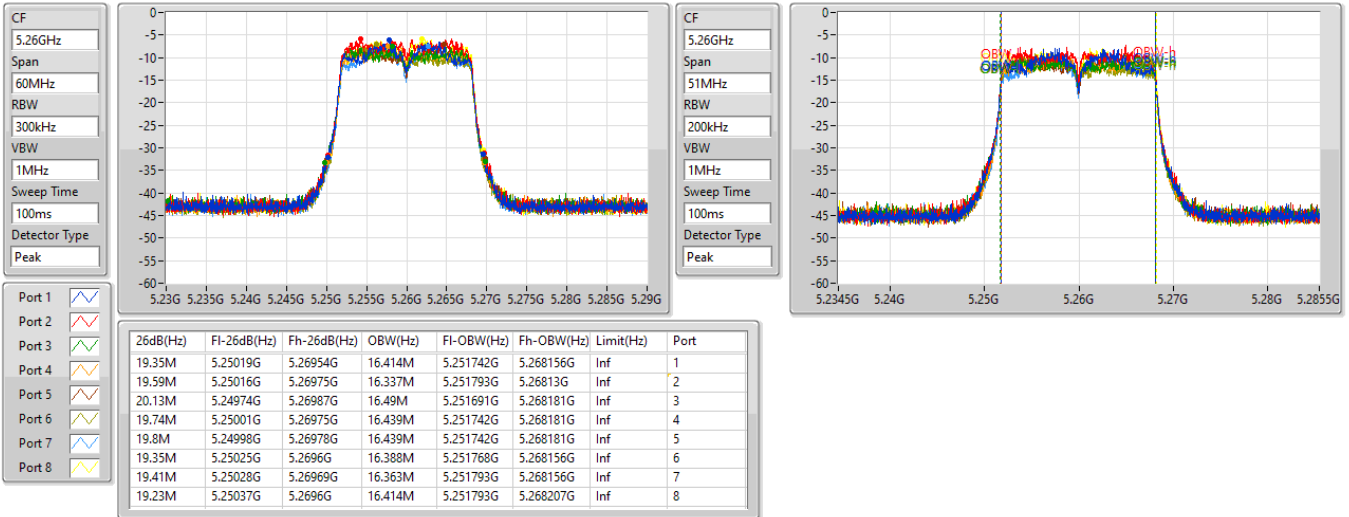
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

5.25-5.35GHz_802.11a_Nss1,(6Mbps)_8TX

EBW

5260MHz

20/10/2022

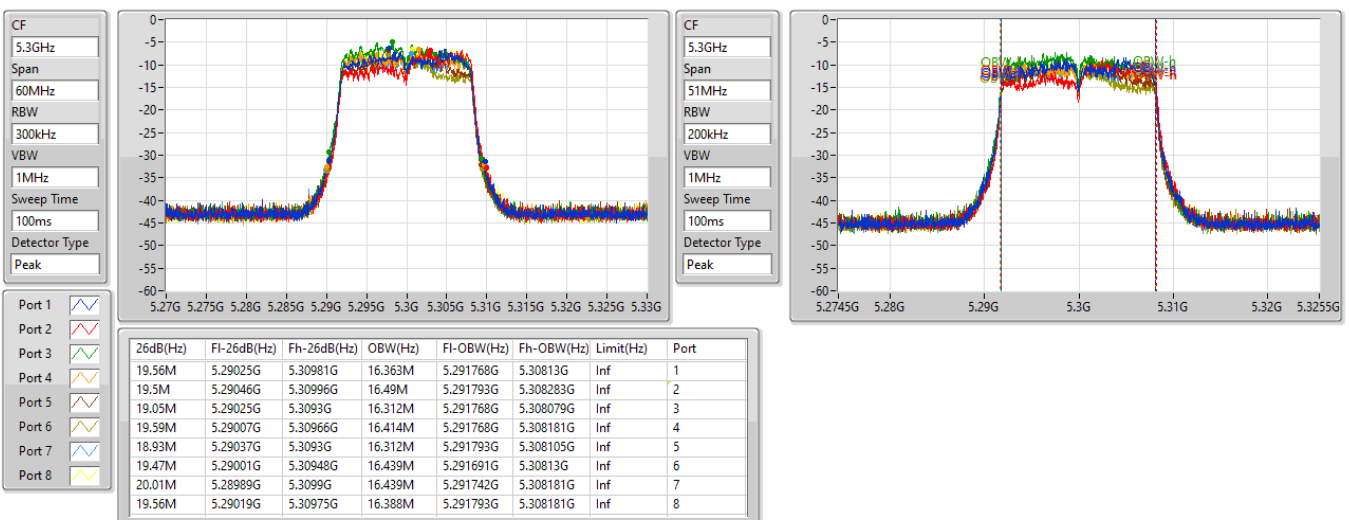


5.25-5.35GHz_802.11a_Nss1,(6Mbps)_8TX

EBW

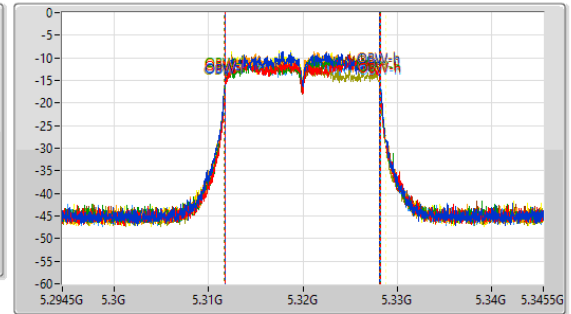
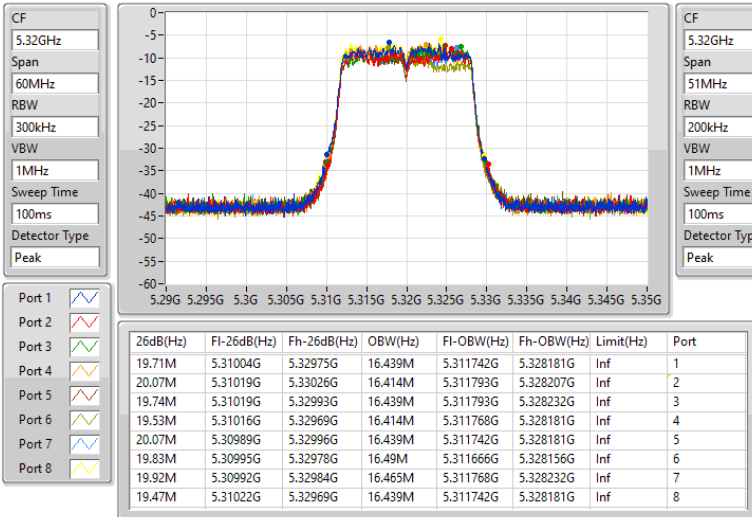
5300MHz

20/10/2022

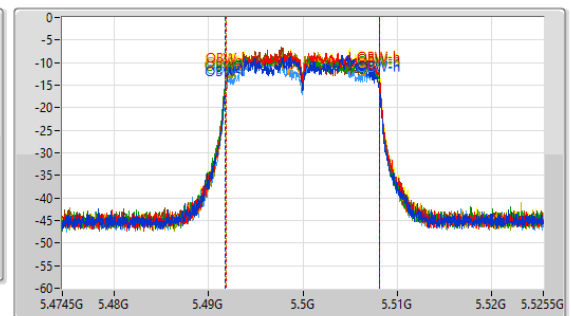
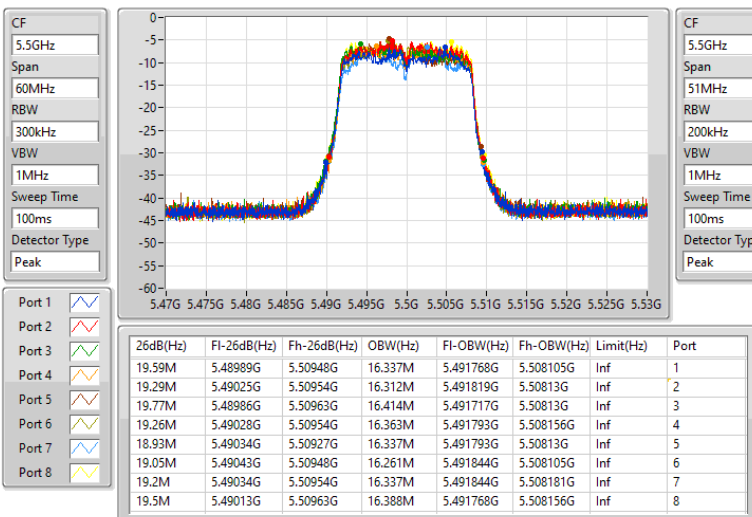


5.25-5.35GHz_802.11a_Nss1,(6Mbps)_8TX
EBW
5320MHz

20/10/2022

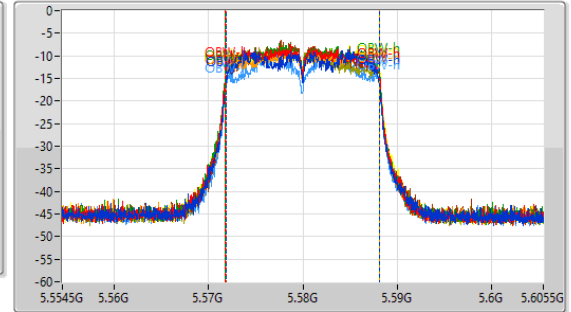
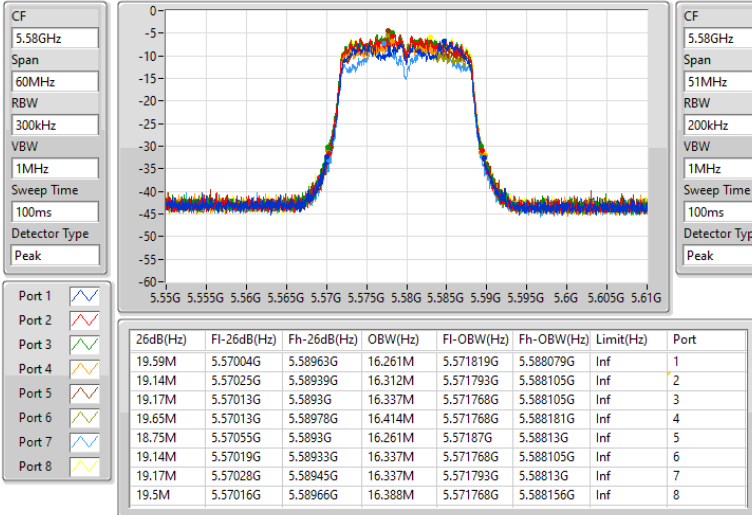

5.47-5.725GHz_802.11a_Nss1,(6Mbps)_8TX
EBW
5500MHz

20/10/2022

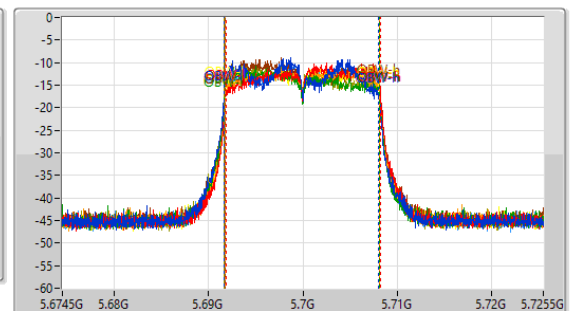
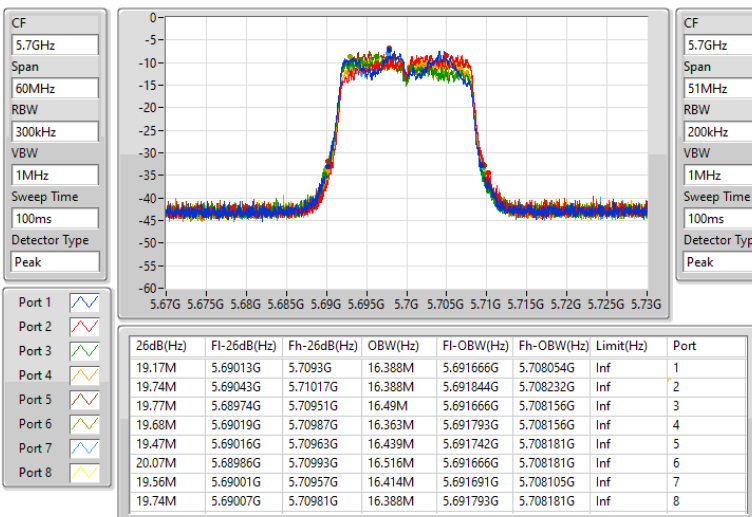


5.47-5.725GHz_802.11a_Nss1,(6Mbps)_8TX
EBW
5580MHz

20/10/2022

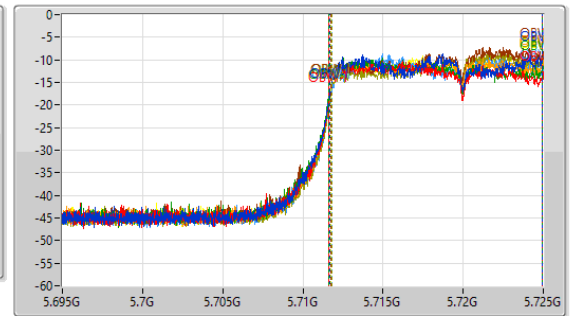
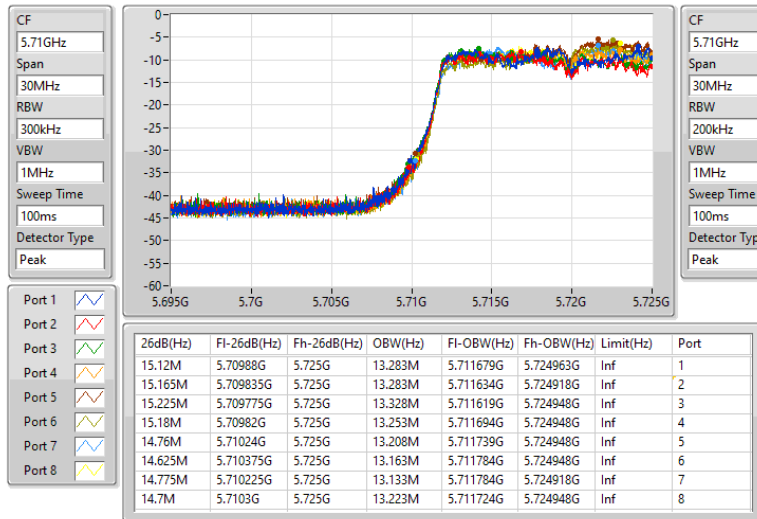

5.47-5.725GHz_802.11a_Nss1,(6Mbps)_8TX
EBW
5700MHz

20/10/2022

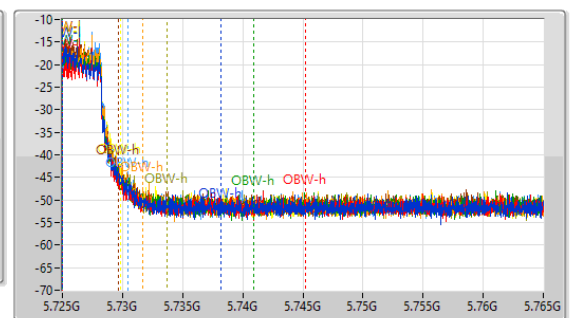
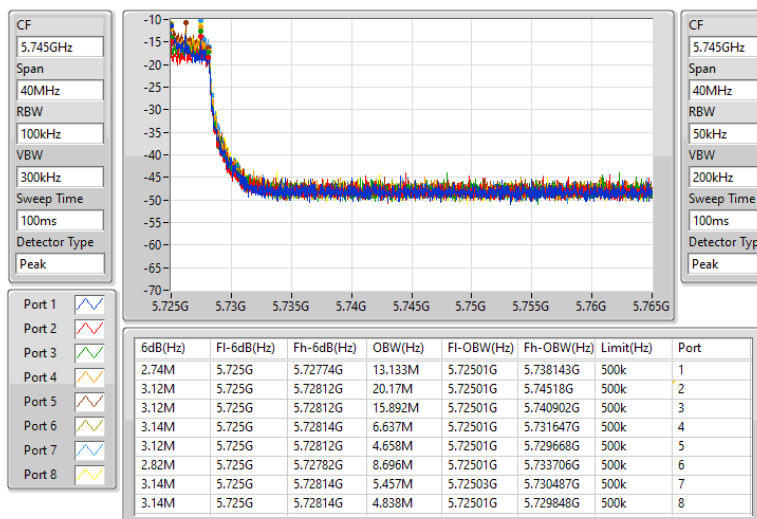


5.47-5.725GHz_802.11a_Nss1,(6Mbps)_8TX
EBW
5720MHz Straddle 5.47-5.725GHz

20/10/2022

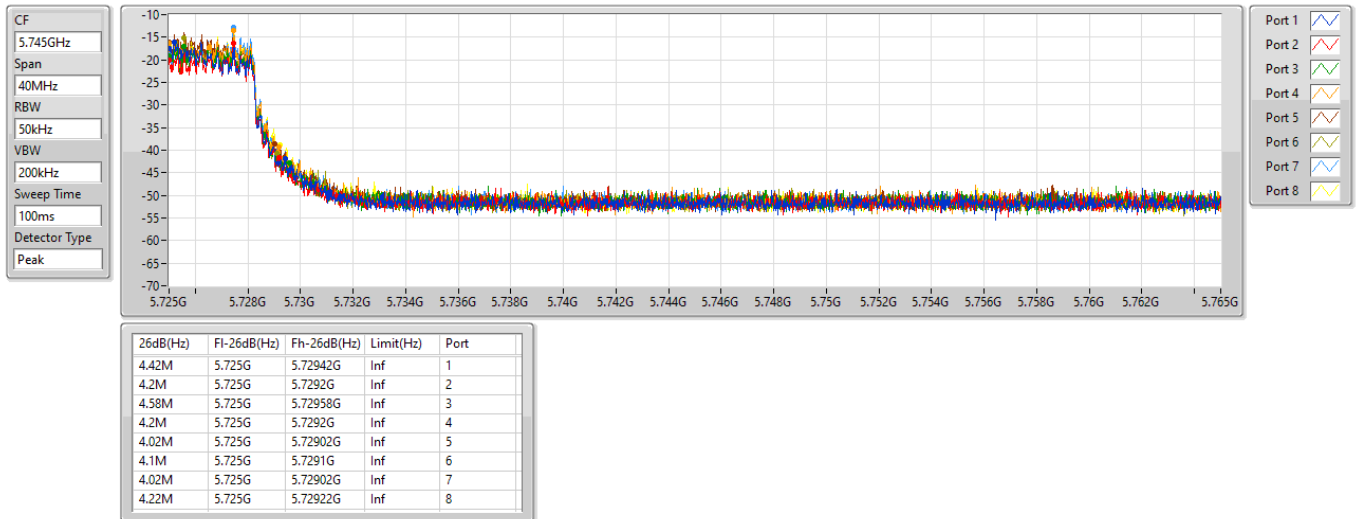

5.725-5.85GHz_802.11a_Nss1,(6Mbps)_8TX
EBW
5720MHz Straddle 5.725-5.85GHz

20/10/2022

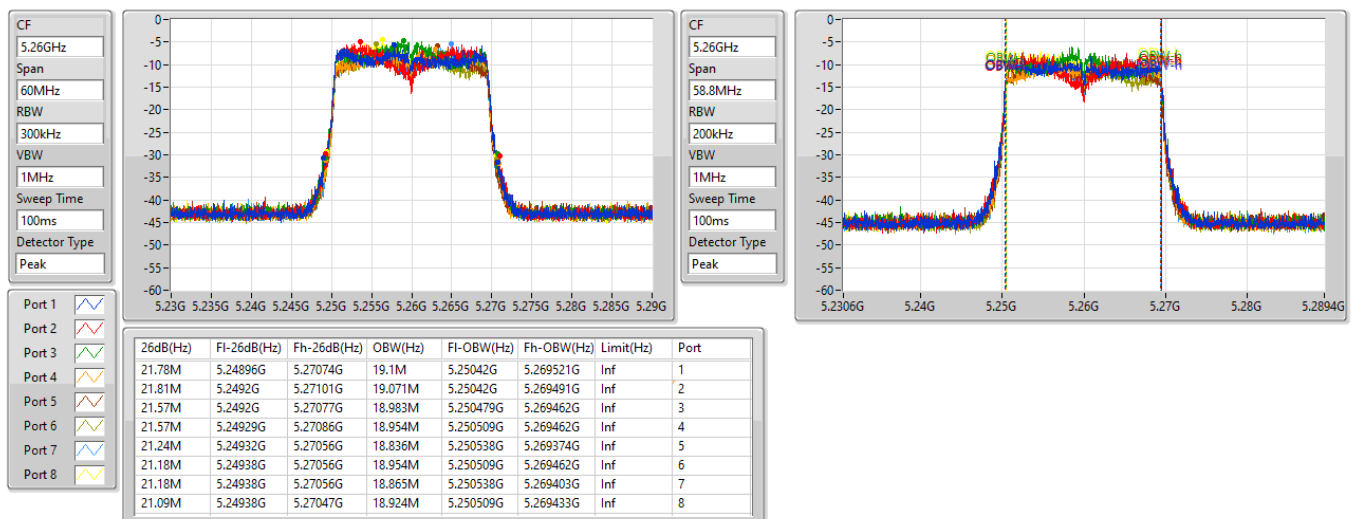


5.725-5.85GHz_802.11a_Nss1,(6Mbps)_8TX
EBW
5720MHz Straddle 5.725-5.85GHz

20/10/2022

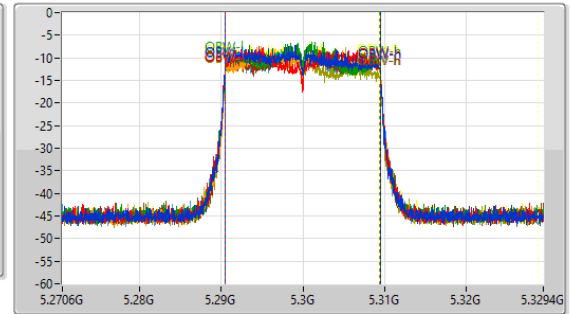
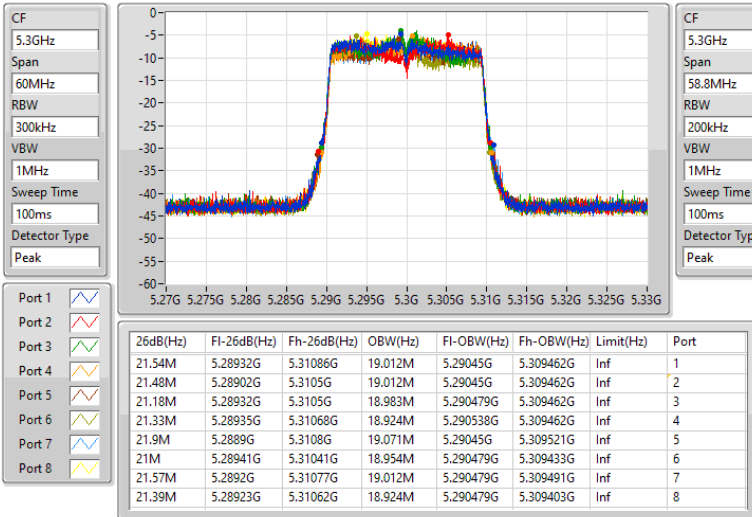

5.25-5.35GHz_802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5260MHz

20/10/2022

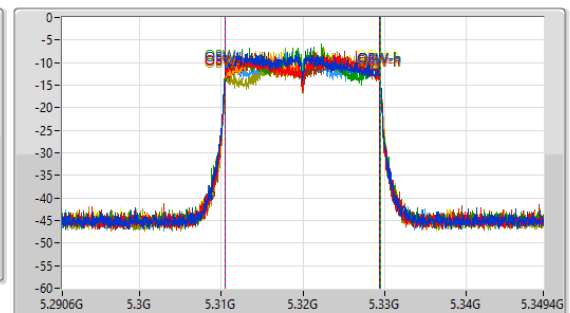
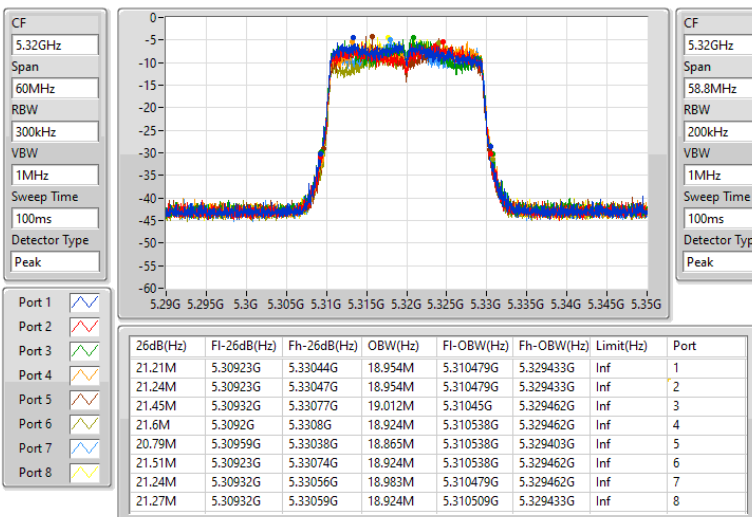


5.25-5.35GHz_802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5300MHz

20/10/2022

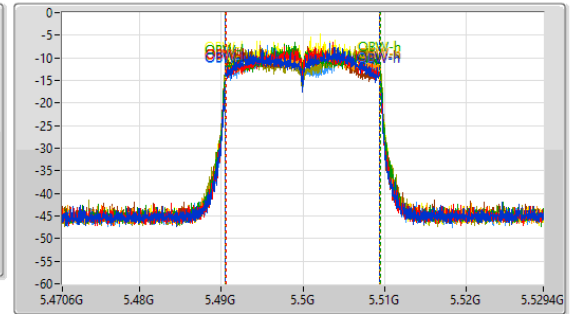
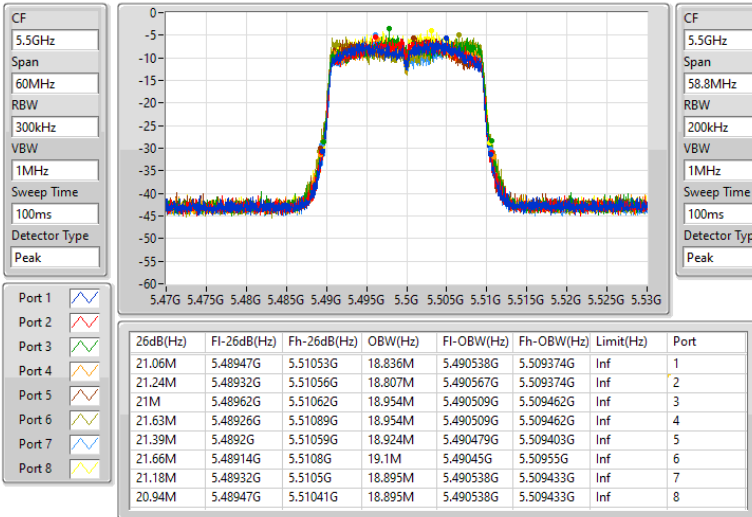

5.25-5.35GHz_802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5320MHz

20/10/2022

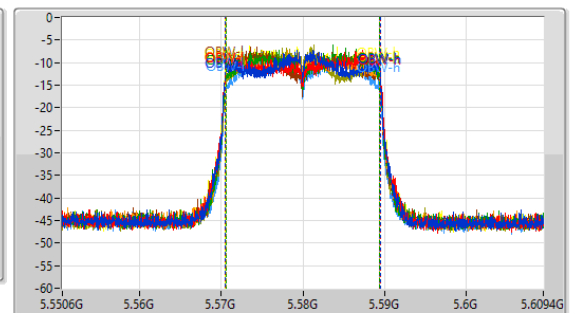
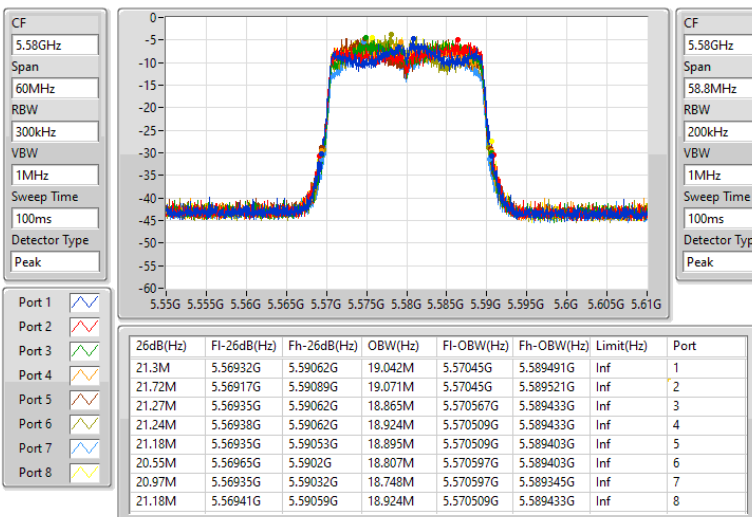


5.47-5.725GHz_802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5500MHz

20/10/2022

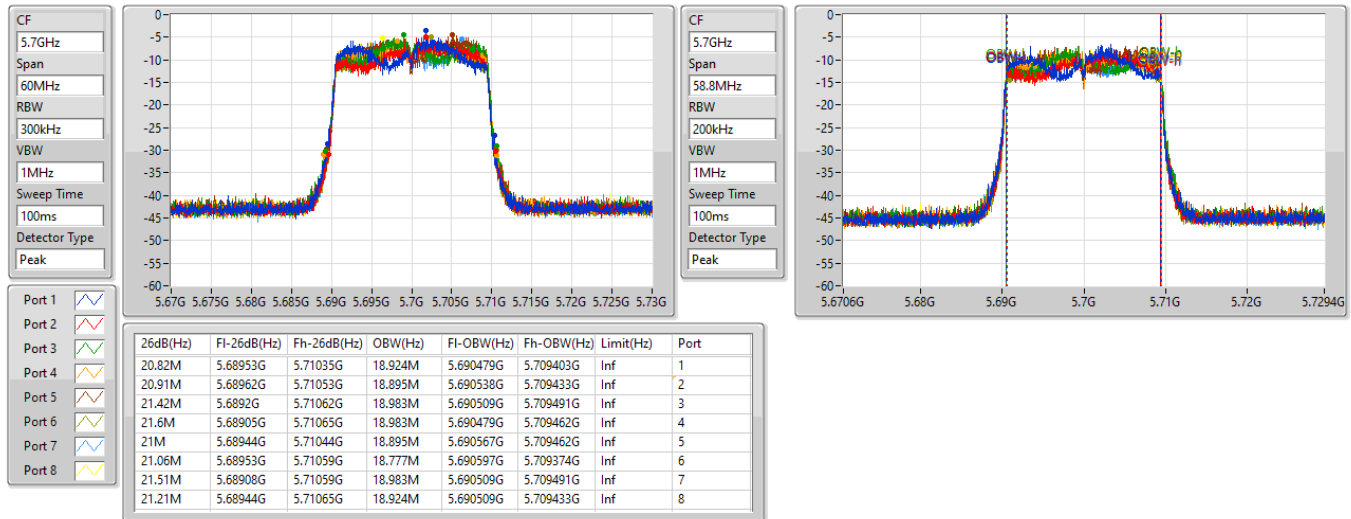

5.47-5.725GHz_802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5580MHz

20/10/2022

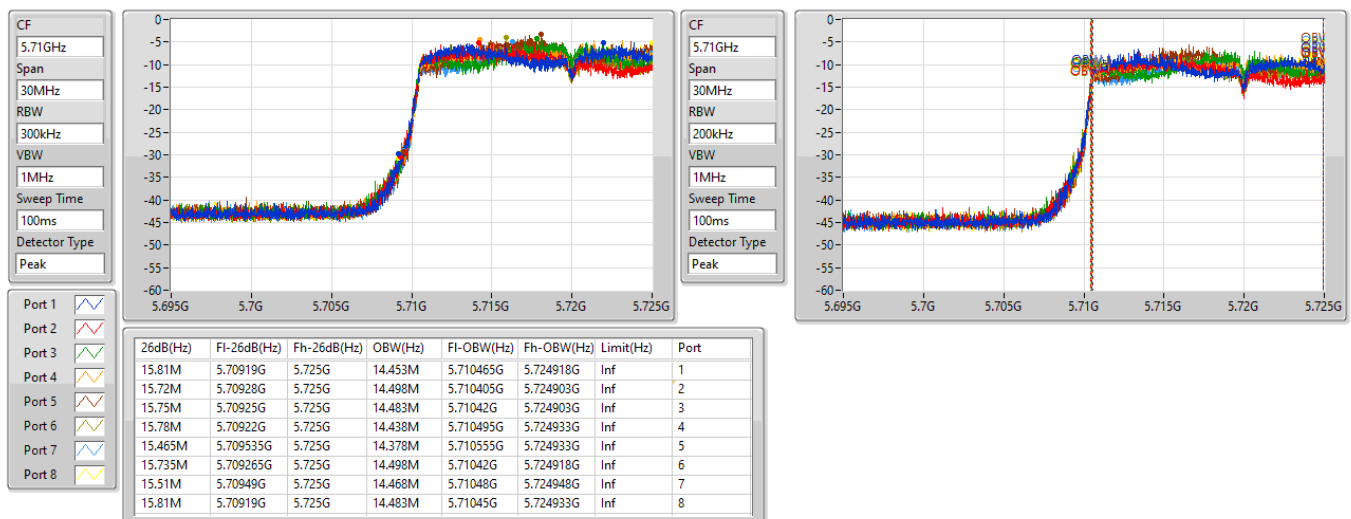


5.47-5.725GHz_802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5700MHz

20/10/2022


5.47-5.725GHz_802.11ax HEW20_Nss1,(MCS0)_8TX
EBW
5720MHz Straddle 5.47-5.725GHz

20/10/2022

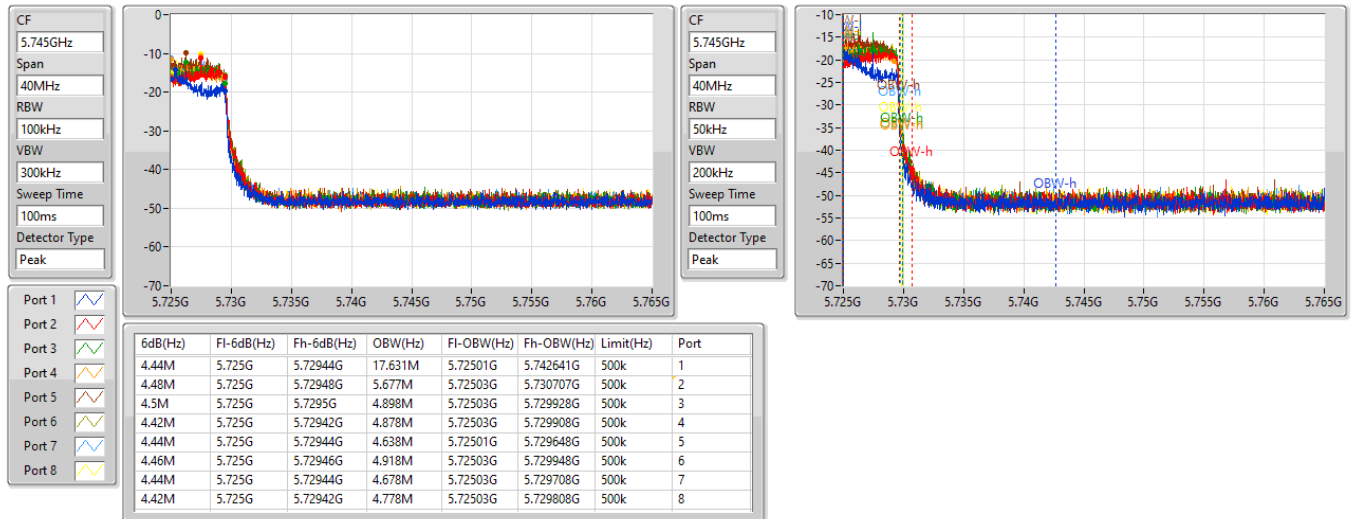


5.725-5.85GHz_802.11ax HEW20_Nss1,(MCS0)_8TX

EBW

5720MHz Straddle 5.725-5.85GHz

20/10/2022

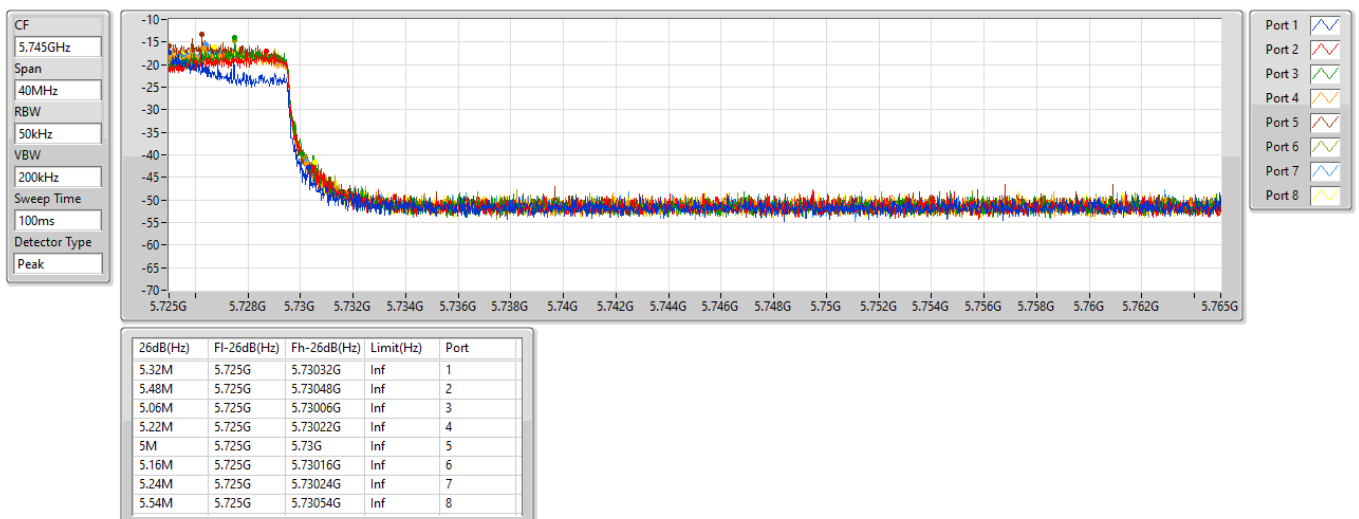


5.725-5.85GHz_802.11ax HEW20_Nss1,(MCS0)_8TX

EBW

5720MHz Straddle 5.725-5.85GHz

20/10/2022

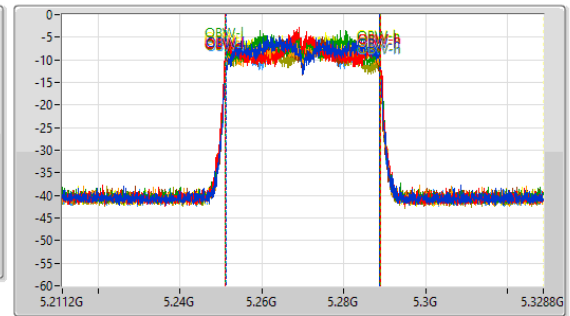
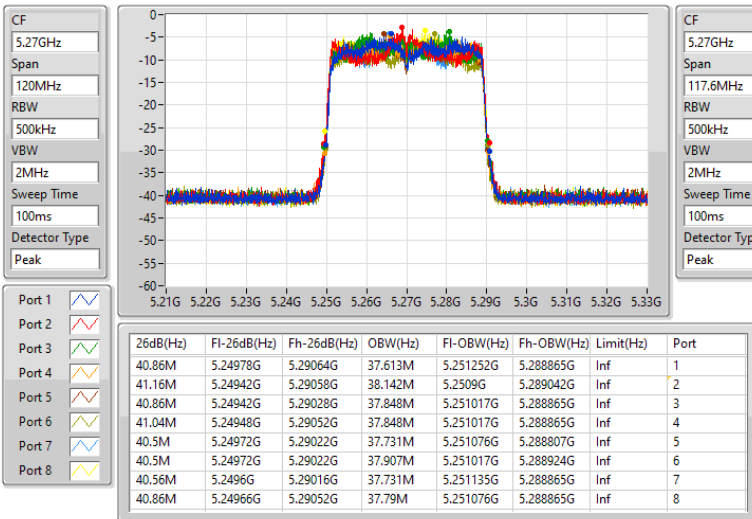


5.25-5.35GHz_802.11ax HEW40_Nss1,(MCS0)_8TX

EBW

5270MHz

20/10/2022

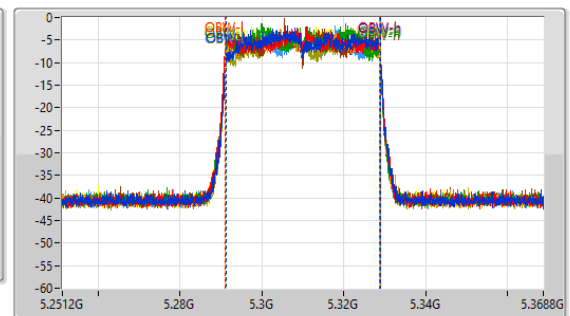
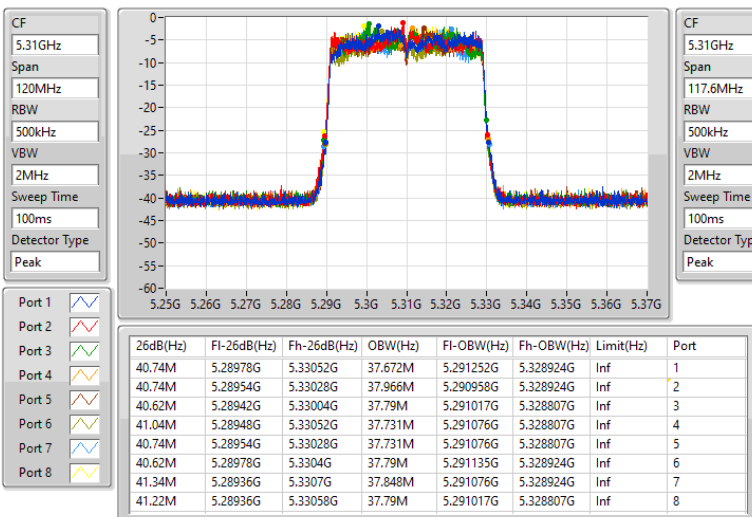


5.25-5.35GHz_802.11ax HEW40_Nss1,(MCS0)_8TX

EBW

5310MHz

20/10/2022

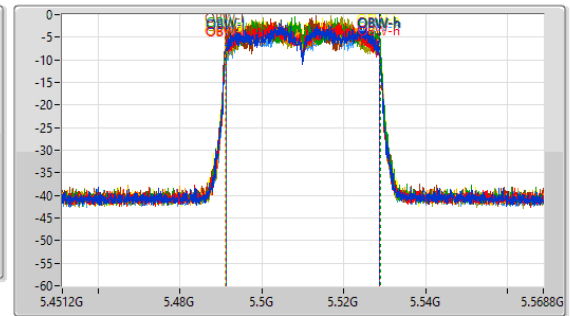
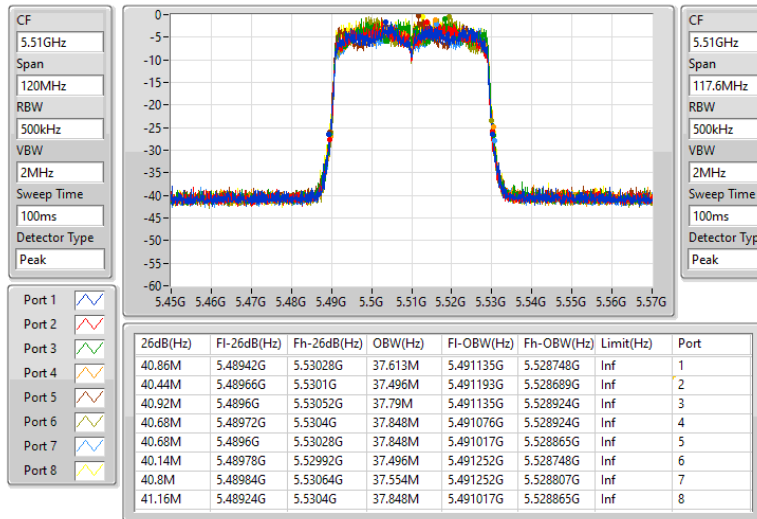


5.47-5.725GHz_802.11ax HEW40_Nss1,(MCS0)_8TX

EBW

5510MHz

20/10/2022

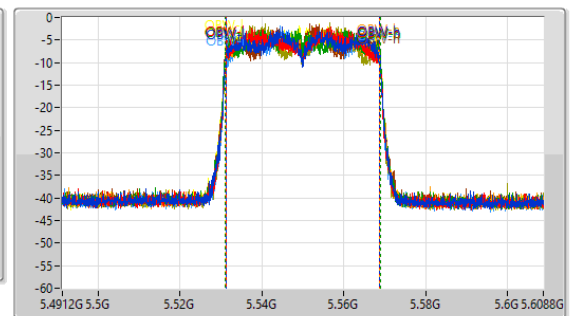
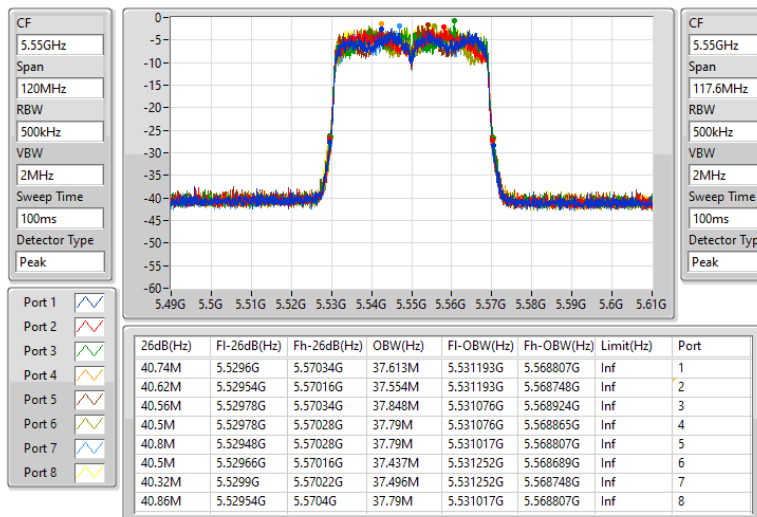


5.47-5.725GHz_802.11ax HEW40_Nss1,(MCS0)_8TX

EBW

5550MHz

20/10/2022

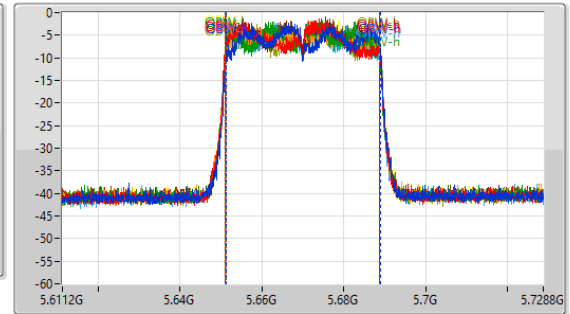
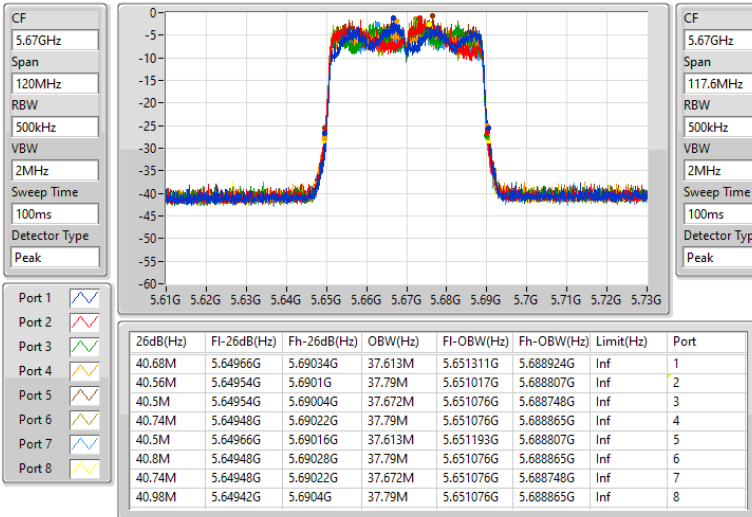


5.47-5.725GHz_802.11ax HEW40_Nss1,(MCS0)_8TX

EBW

5670MHz

20/10/2022

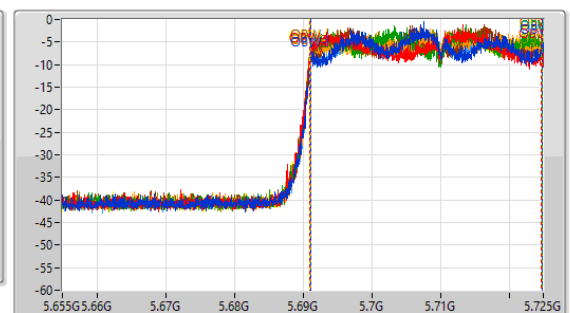
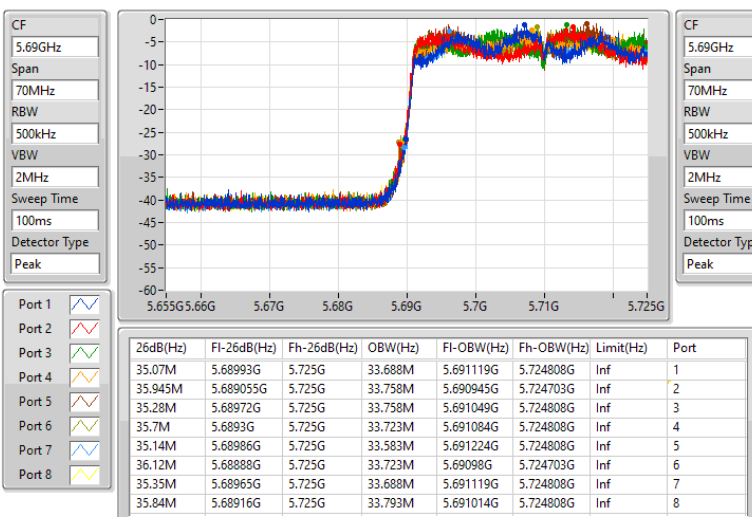


5.47-5.725GHz_802.11ax HEW40_Nss1,(MCS0)_8TX

EBW

5710MHz Straddle 5.47-5.725GHz

20/10/2022

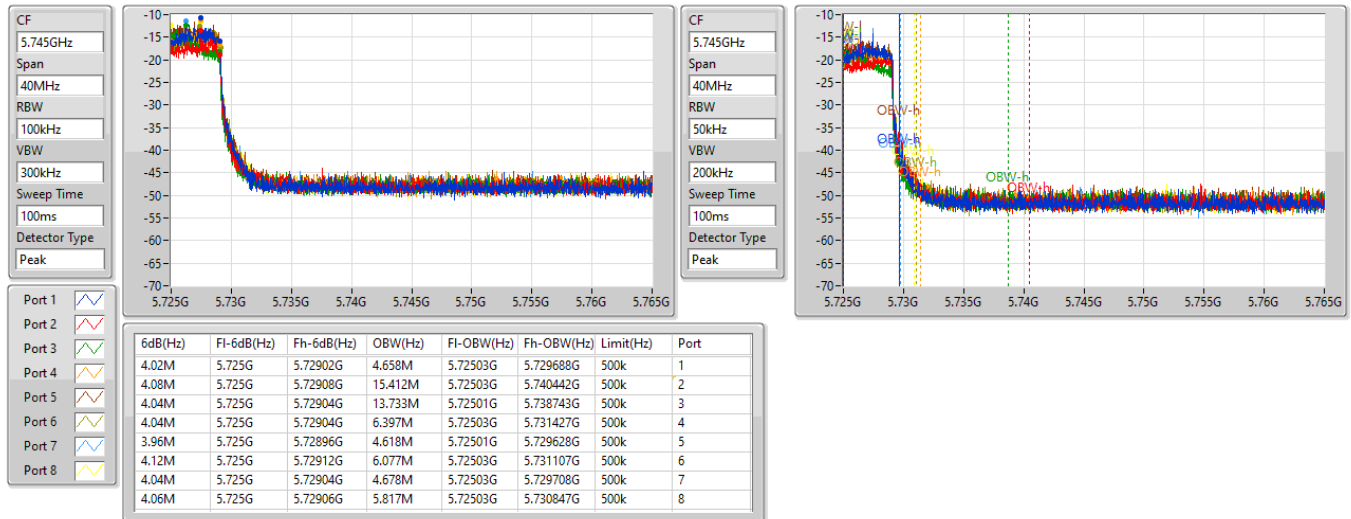


5.725-5.85GHz_802.11ax HEW40_Nss1,(MCS0)_8TX

EBW

5710MHz Straddle 5.725-5.85GHz

20/10/2022

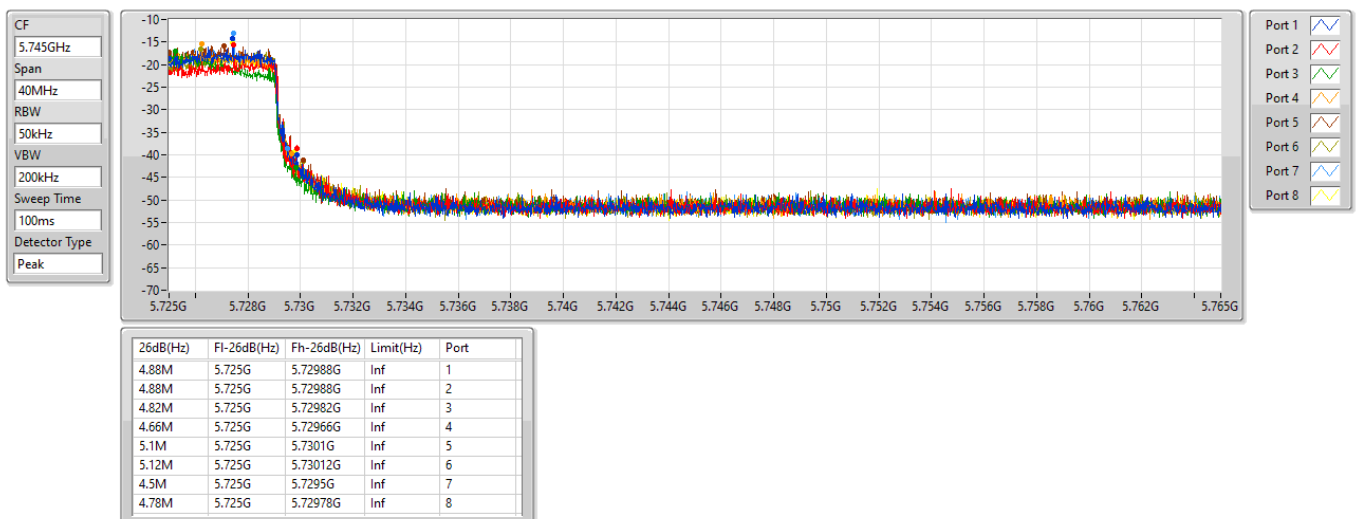


5.725-5.85GHz_802.11ax HEW40_Nss1,(MCS0)_8TX

EBW

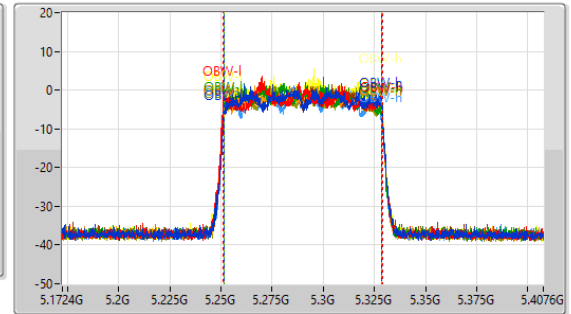
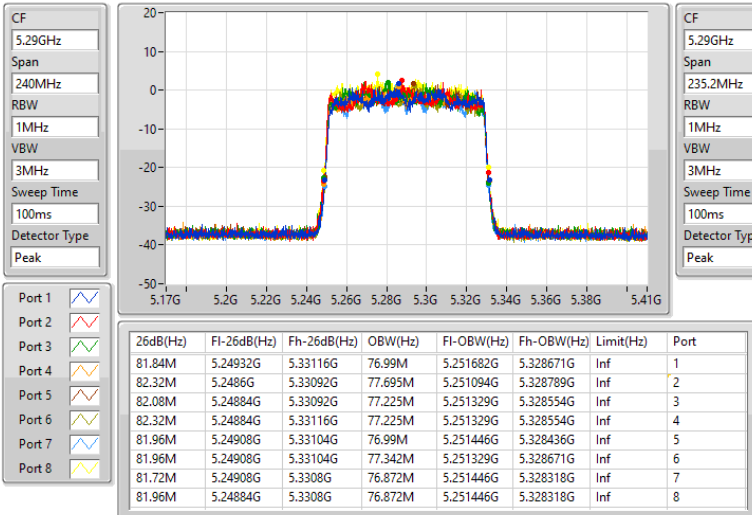
5710MHz Straddle 5.725-5.85GHz

20/10/2022

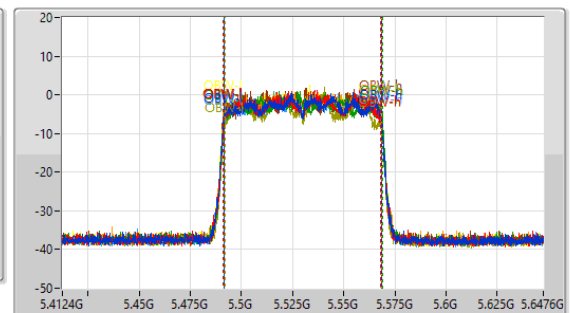
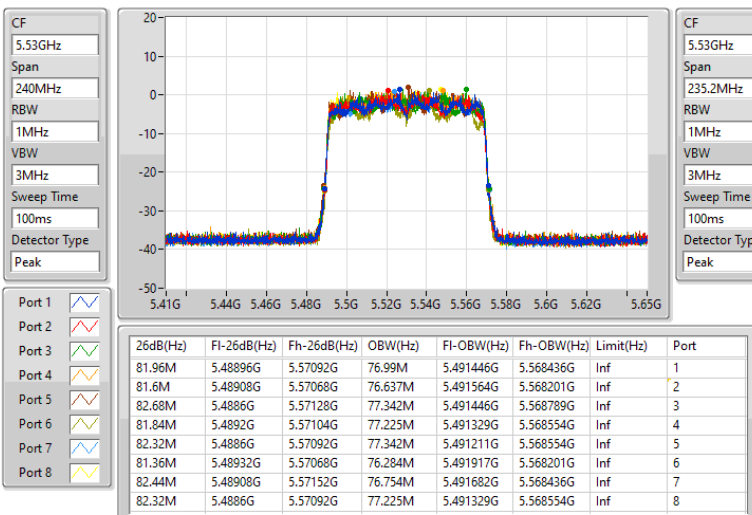


5.25-5.35GHz_802.11ax HEW80_Nss1,(MCS0)_8TX
EBW
5290MHz

20/10/2022

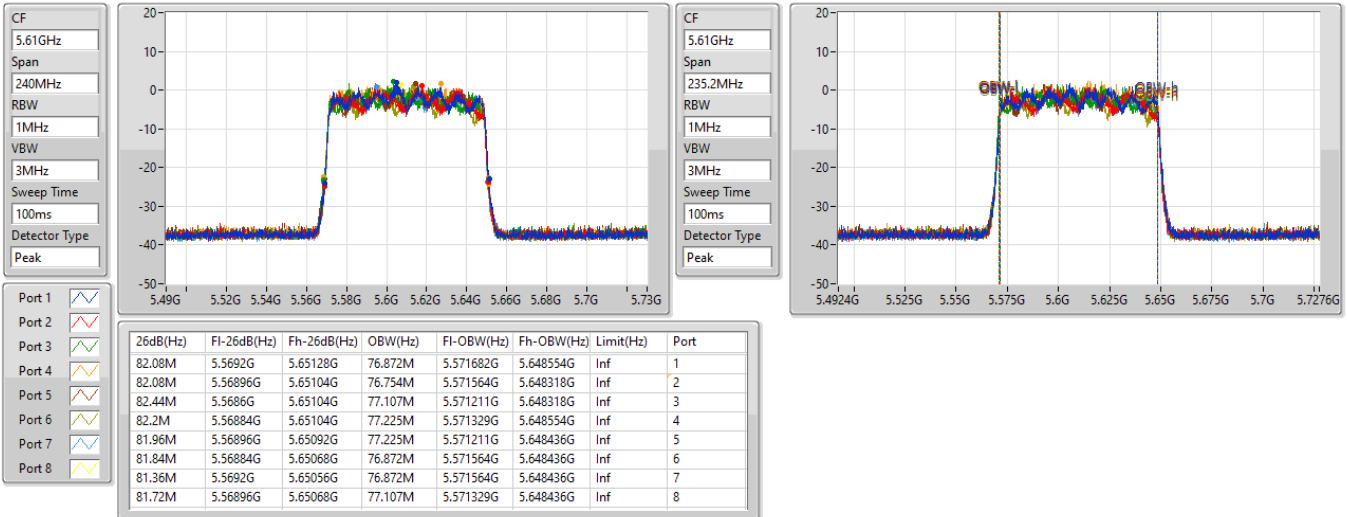

5.47-5.725GHz_802.11ax HEW80_Nss1,(MCS0)_8TX
EBW
5530MHz

20/10/2022

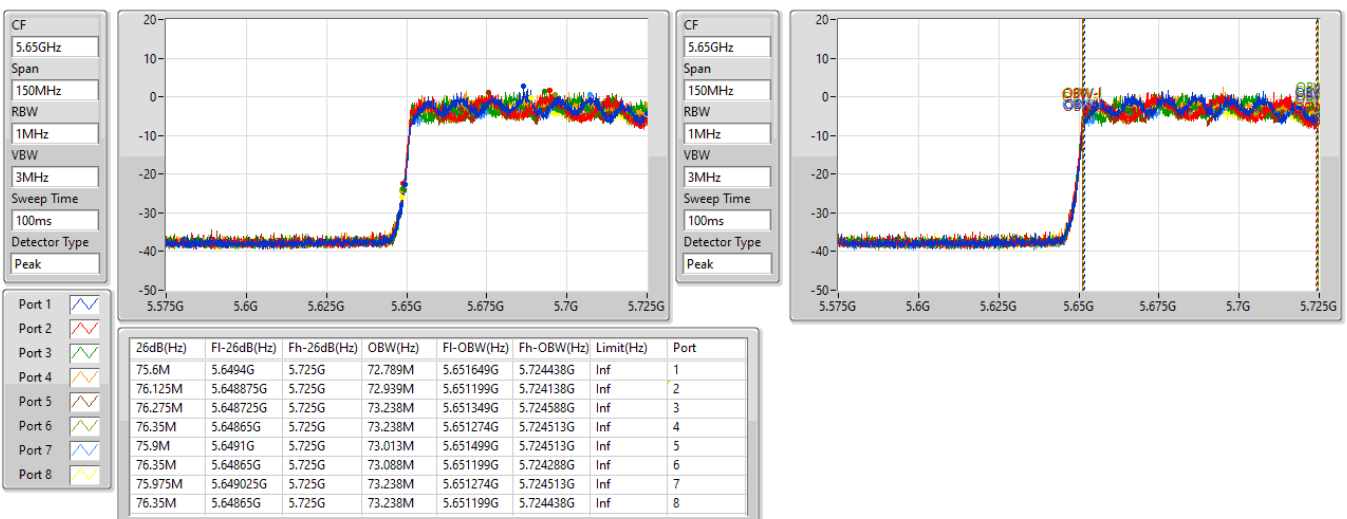


5.47-5.725GHz_802.11ax HEW80_Nss1,(MCS0)_8TX
EBW
5610MHz

20/10/2022

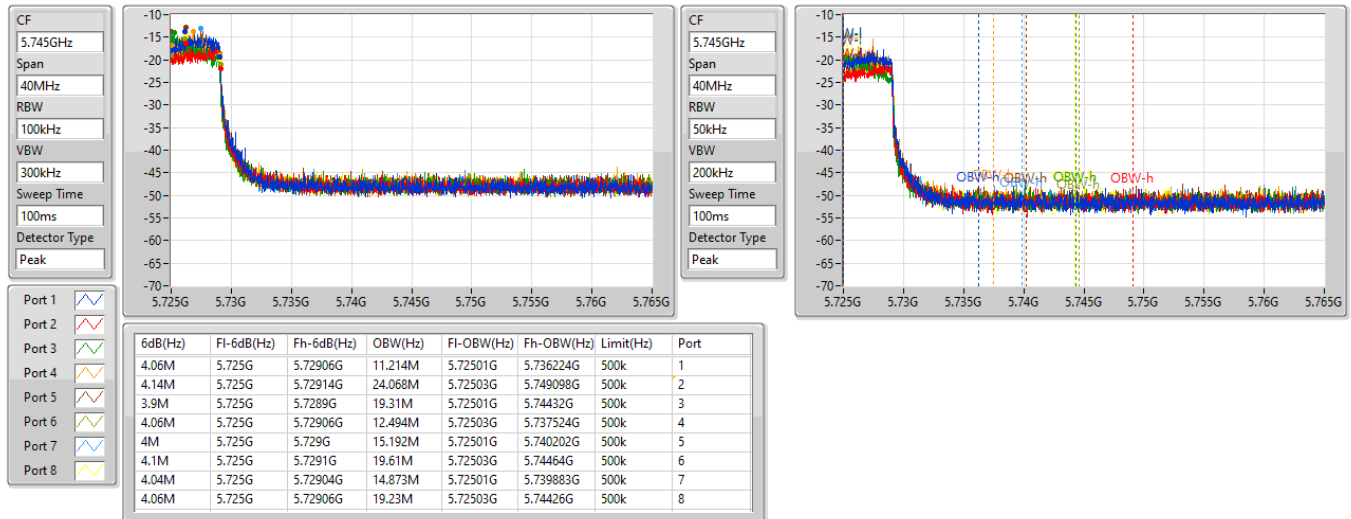

5.47-5.725GHz_802.11ax HEW80_Nss1,(MCS0)_8TX
EBW
5690MHz Straddle 5.47-5.725GHz

20/10/2022

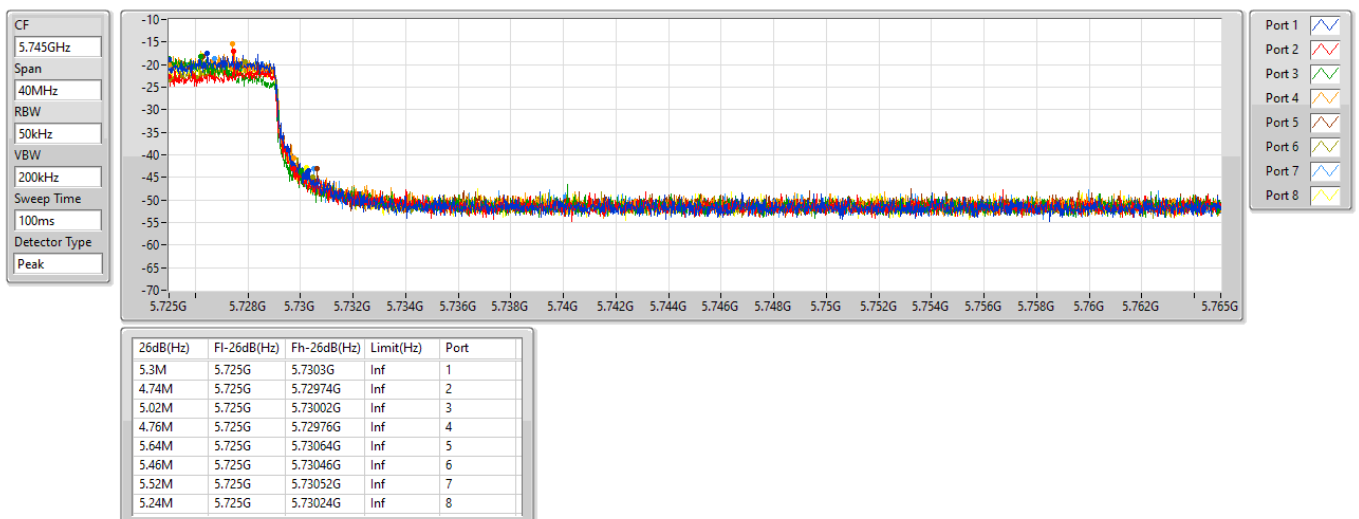


5.725-5.85GHz_802.11ax HEW80_Nss1,(MCS0)_8TX
EBW
5690MHz Straddle 5.725-5.85GHz

20/10/2022


5.725-5.85GHz_802.11ax HEW80_Nss1,(MCS0)_8TX
EBW
5690MHz Straddle 5.725-5.85GHz

20/10/2022





For 80+80 UNII 1, 2A Indoor / UNII 2C Indoor/Outdoor

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	82.56M	77.841M	77M8D1D	81.72M	77.361M
5.25-5.35GHz	-	-	-	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	81.96M	77.121M	77M1D1D	81.72M	77.001M
5.47-5.725GHz	-	-	-	-	-
802.11ax HEW80+80_Nss2,(MCS0)_8TX	82.92M	77.721M	77M7D1D	81.36M	76.642M

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 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)	Port 5-N dB (Hz)	Port 5-OBW (Hz)	Port 6-N dB (Hz)	Port 6-OBW (Hz)	Port 7-N dB (Hz)	Port 7-OBW (Hz)	Port 8-N dB (Hz)	Port 8-OBW (Hz)
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
#5210MHz,5290MHz	Pass	Inf	82.2M	77.361M	82.44M	77.841M	81.72M	77.481M	82.56M	77.361M								
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5210MHz,#5290MHz	Pass	Inf									81.96M	77.121M	81.72M	77.001M	81.72M	77.001M	81.96M	77.121M
802.11ax HEW80+80_Nss2,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
#5530MHz,#5610MHz	Pass	Inf	82.32M	77.121M	81.36M	76.642M	82.92M	77.721M	82.32M	77.481M	82.68M	77.601M	81.6M	77.481M	82.2M	77.361M	82.08M	77.241M

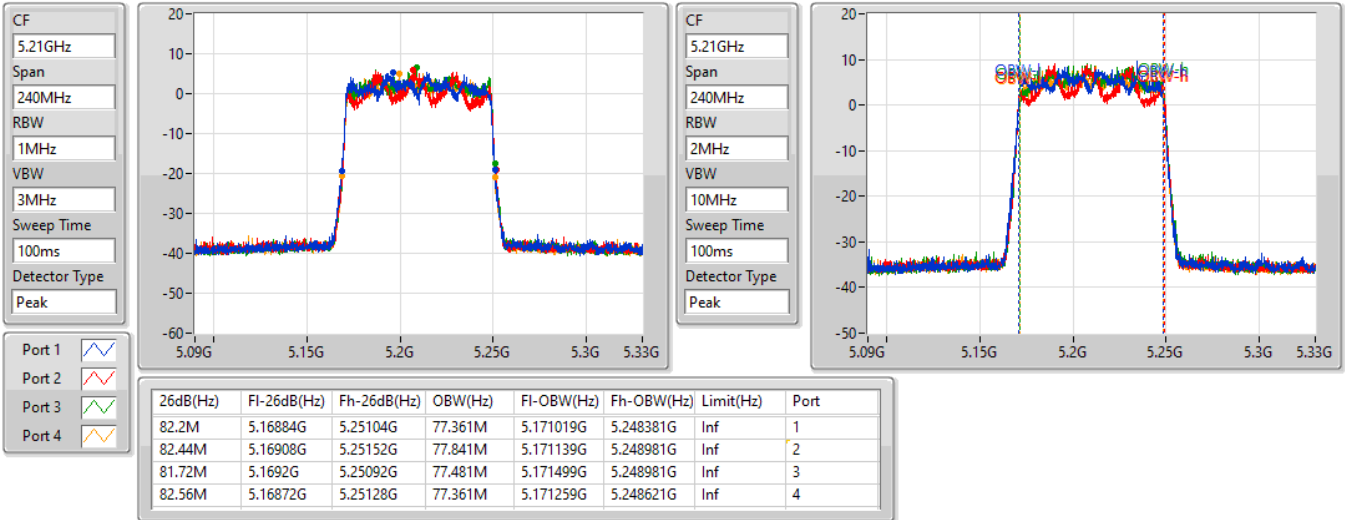
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

802.11ax HEW80+80_Nss1,(MCS0)_4TX

EBW

#5210MHz,5290MHz

13/10/2022

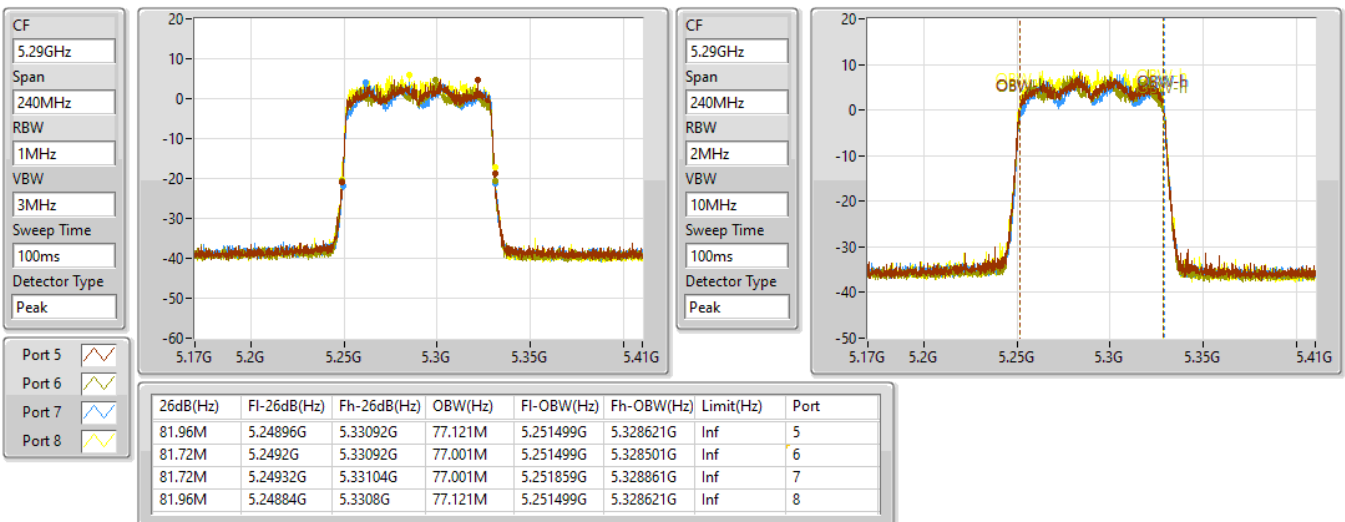


802.11ax HEW80+80_Nss1,(MCS0)_4TX

EBW

5210MHz,#5290MHz

13/10/2022

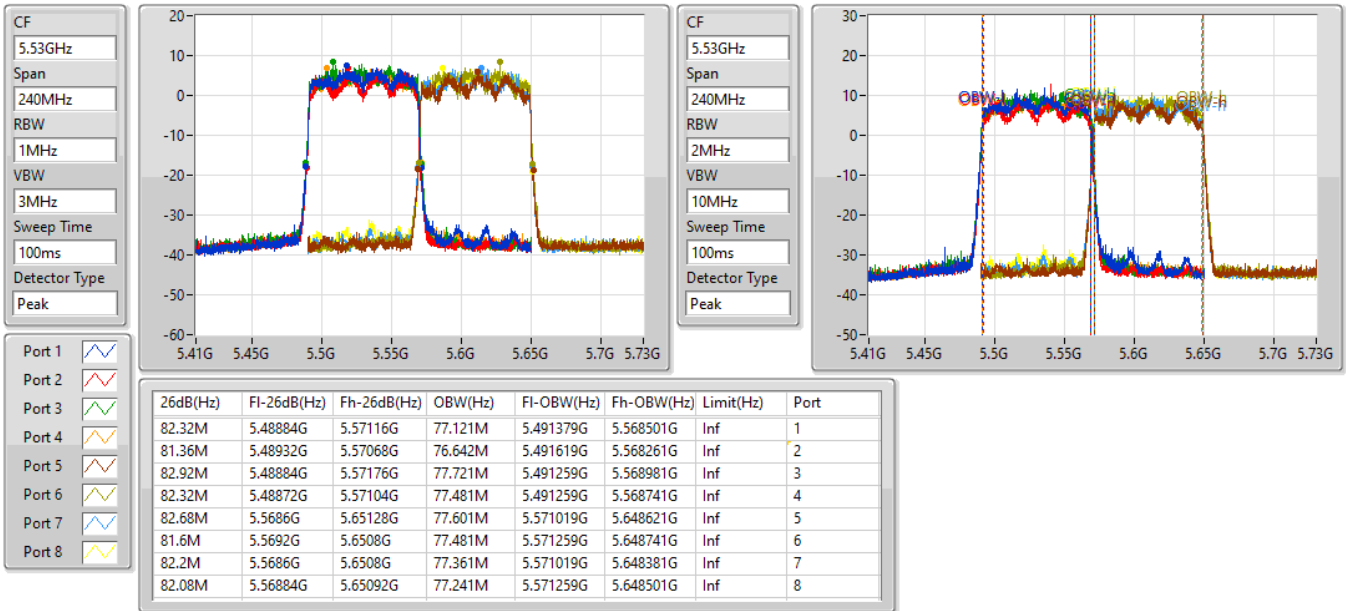


802.11ax HEW80+80_Nss2,(MCS0)_8TX

EBW

#5530MHz,#5610MHz

13/10/2022





For 80+80 UNII 1, 2A Outdoor

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	82.56M	77.841M	77M8D1D	81.72M	77.361M
5.25-5.35GHz	-	-	-	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	81.96M	77.121M	77M1D1D	81.72M	77.001M

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

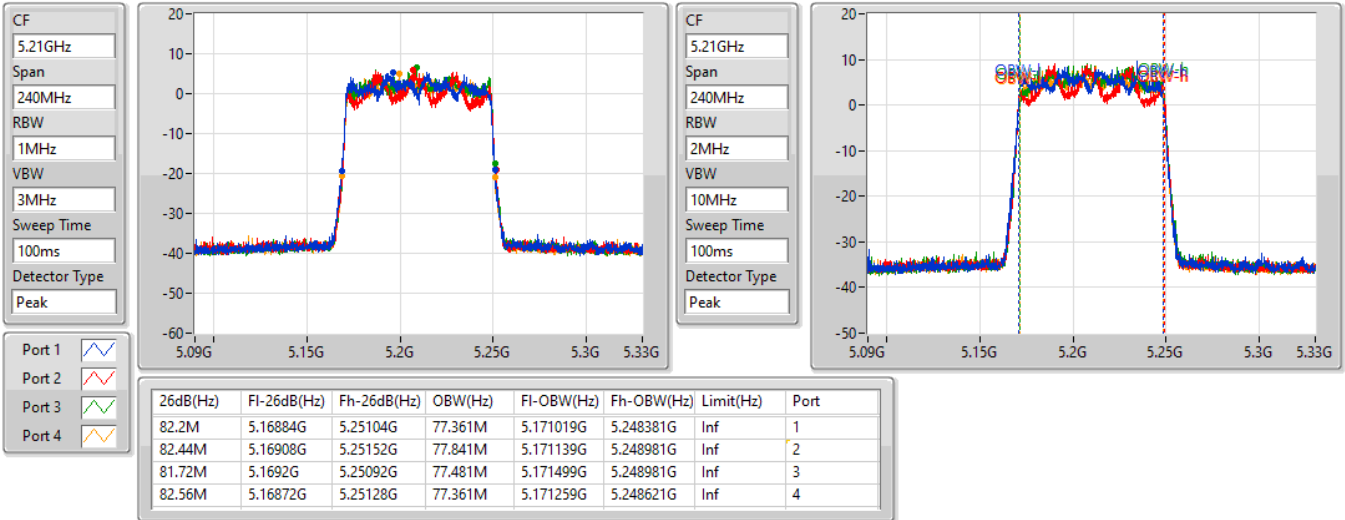
Result

Mode	Result	Limit	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)	Port 5-N dB (Hz)	Port 5-OBW (Hz)	Port 6-N dB (Hz)	Port 6-OBW (Hz)	Port 7-N dB (Hz)	Port 7-OBW (Hz)	Port 8-N dB (Hz)	Port 8-OBW (Hz)
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
#5210MHz,5290MHz	Pass	Inf	82.2M	77.361M	82.44M	77.841M	81.72M	77.481M	82.56M	77.361M								
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5210MHz,#5290MHz	Pass	Inf									81.96M	77.121M	81.72M	77.001M	81.72M	77.001M	81.96M	77.121M

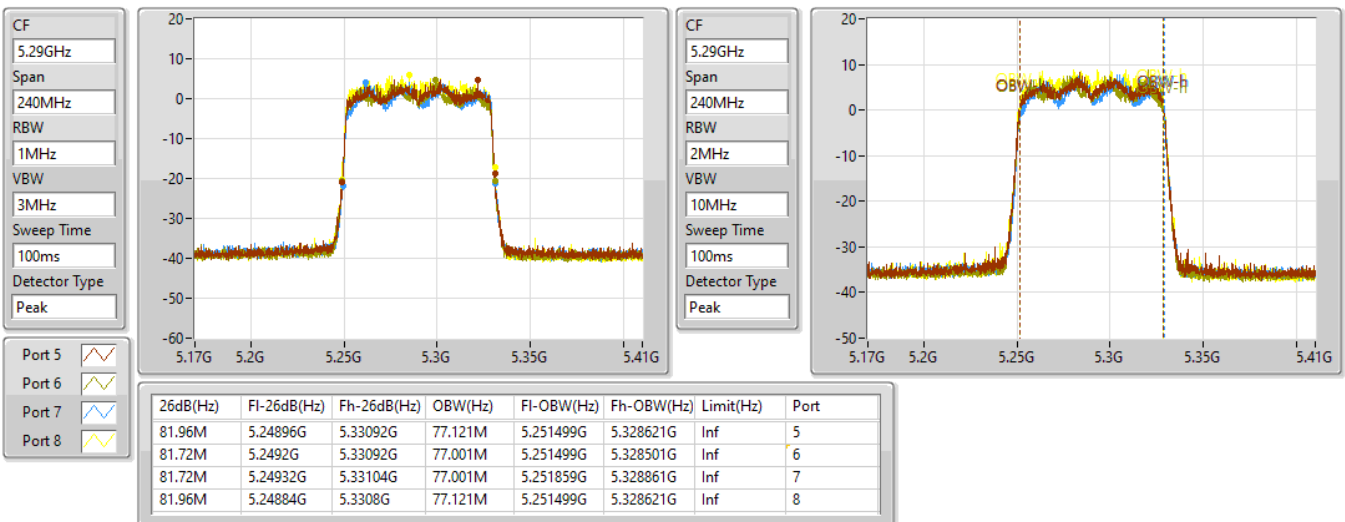
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

802.11ax HEW80+80_Nss1,(MCS0)_4TX
EBW
#5210MHz,5290MHz

13/10/2022


802.11ax HEW80+80_Nss1,(MCS0)_4TX
EBW
5210MHz,#5290MHz

13/10/2022





For 80+80 UNII 1, 2A Indoor / UNII 2C Indoor/Outdoor

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	82.56M	77.695M	77M7D1D	81.84M	77.225M
5.25-5.35GHz	-	-	-	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	82.08M	77.225M	77M2D1D	81.36M	76.754M
5.47-5.725GHz	-	-	-	-	-
802.11ax HEW80+80_Nss2,(MCS0)_8TX	82.8M	77.46M	77M5D1D	81.48M	76.637M

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

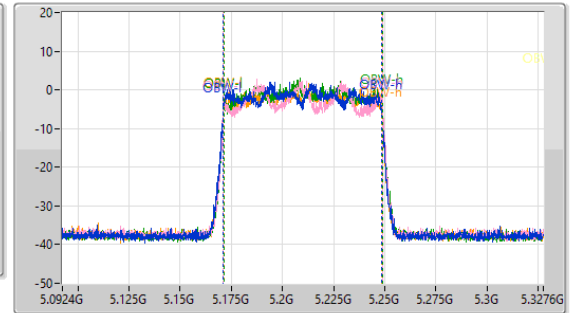
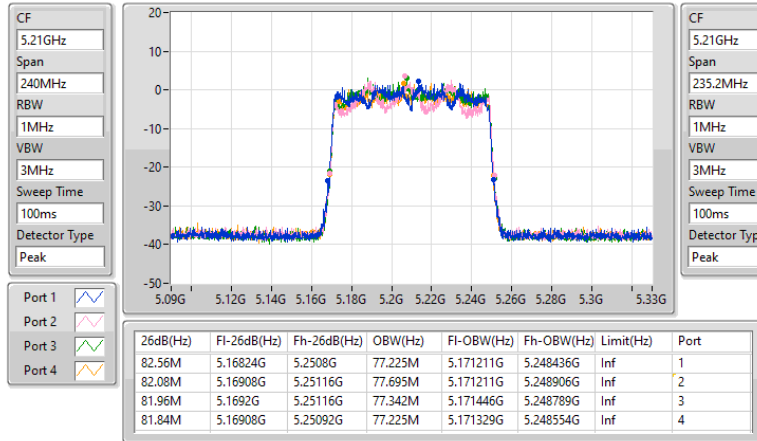
Result

Mode	Result	Limit	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)	Port 5-N dB (Hz)	Port 5-OBW (Hz)	Port 6-N dB (Hz)	Port 6-OBW (Hz)	Port 7-N dB (Hz)	Port 7-OBW (Hz)	Port 8-N dB (Hz)	Port 8-OBW (Hz)
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
#5210MHz,5290MHz	Pass	Inf	82.56M	77.225M	82.08M	77.695M	81.96M	77.342M	81.84M	77.225M								
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5210MHz,#5290MHz	Pass	Inf									82.08M	76.872M	81.72M	76.754M	81.6M	76.872M	81.36M	77.225M
802.11ax HEW80+80_Nss2,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
#5530MHz,#5610MHz	Pass	Inf	81.84M	76.99M	81.48M	76.637M	82.32M	77.342M	82.44M	77.225M	82.32M	77.46M	82.2M	77.342M	82.08M	77.107M	82.8M	77.225M

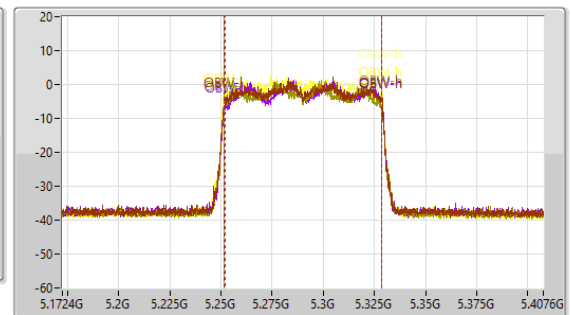
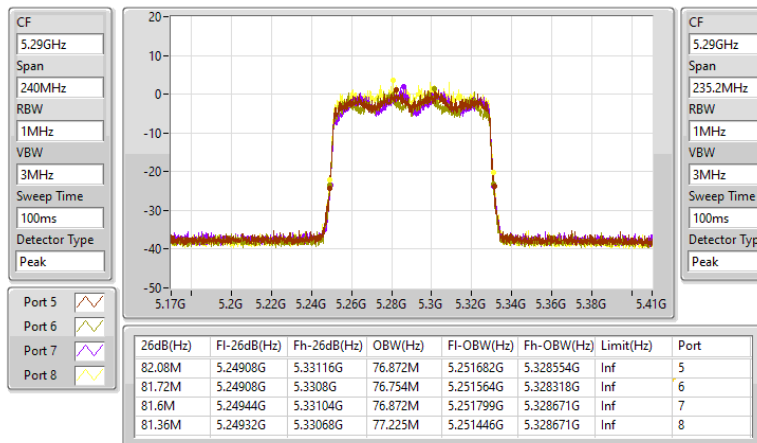
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

**5.15-5.25GHz_802.11ax HEW80+80_Nss1,(MCS0)_4TX
#5210MHz,5290MHz**
EBW

20/10/2022


**5.25-5.35GHz_802.11ax HEW80+80_Nss1,(MCS0)_4TX
5210MHz,#5290MHz**
EBW

20/10/2022

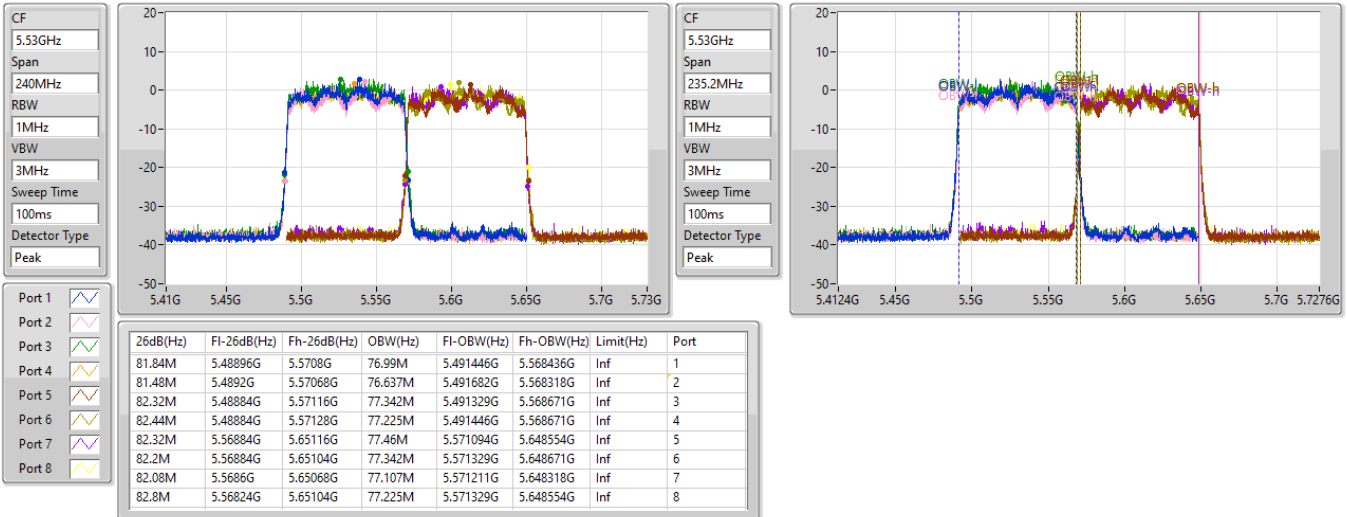


5.47-5.725GHz_802.11ax HEW80+80_Nss2,(MCS0)_8TX

#5530MHz,#5610MHz

EBW

20/10/2022





For 80+80 UNII 1, 2A Outdoor
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	82.56M	77.695M	77M7D1D	81.84M	77.225M
5.25-5.35GHz	-	-	-	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	82.08M	77.225M	77M2D1D	81.36M	76.754M

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

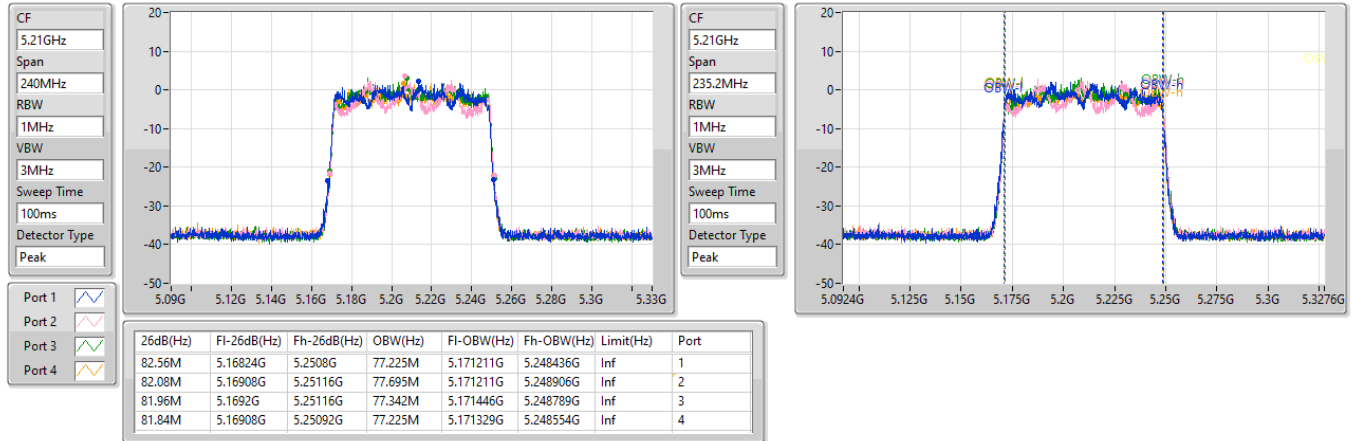
Result

Mode	Result	Limit	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)	Port 5-N dB (Hz)	Port 5-OBW (Hz)	Port 6-N dB (Hz)	Port 6-OBW (Hz)	Port 7-N dB (Hz)	Port 7-OBW (Hz)	Port 8-N dB (Hz)	Port 8-OBW (Hz)
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
#5210MHz,5290MHz	Pass	Inf	82.56M	77.225M	82.08M	77.695M	81.96M	77.342M	81.84M	77.225M								
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5210MHz,#5290MHz	Pass	Inf									82.08M	76.872M	81.72M	76.754M	81.6M	76.872M	81.36M	77.225M

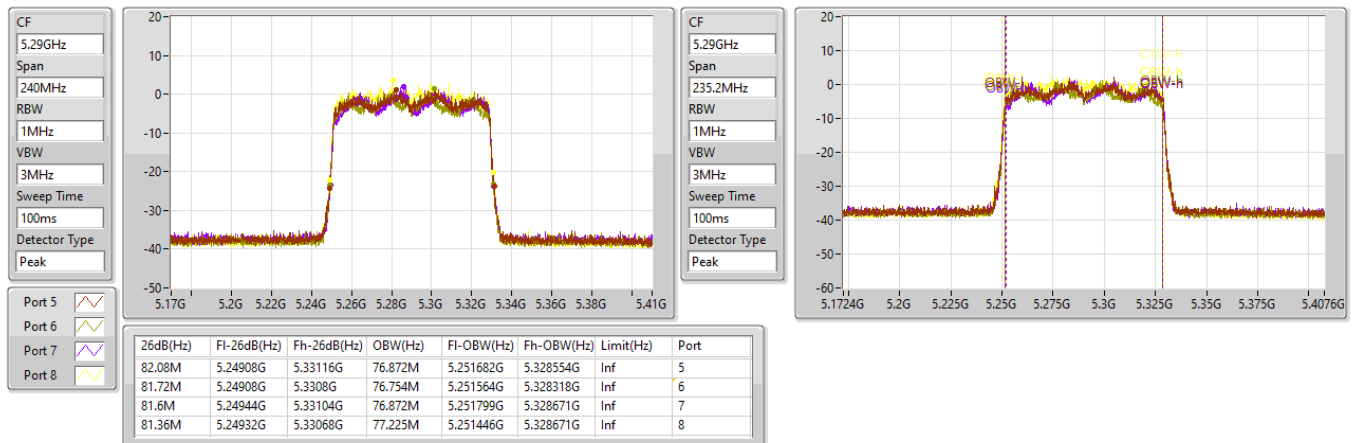
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

**5.15-5.25GHz_802.11ax HEW80+80_Nss1,(MCS0)_4TX
#5210MHz,5290MHz**
EBW

20/10/2022


**5.25-5.35GHz_802.11ax HEW80+80_Nss1,(MCS0)_4TX
5210MHz,#5290MHz**
EBW

20/10/2022



For UNII 2A and 2C (include Straddle Channel) indoor + outdoor

Summary

Mode	Total Power (dBm)	Total Power (W)
5.25-5.35GHz	-	-
802.11a_Nss1,(6Mbps)_8TX	15.43	0.03491
802.11ax HEW20_Nss1,(MCS0)_8TX	15.50	0.03548
802.11ax HEW40_Nss1,(MCS0)_8TX	18.83	0.07638
802.11ax HEW80_Nss1,(MCS0)_8TX	21.73	0.14894
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_8TX	15.47	0.03524
802.11ax HEW20_Nss1,(MCS0)_8TX	16.68	0.04656
802.11ax HEW40_Nss1,(MCS0)_8TX	19.12	0.08166
802.11ax HEW80_Nss1,(MCS0)_8TX	21.36	0.13677
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_8TX	7.72	0.00592
802.11ax HEW20_Nss1,(MCS0)_8TX	9.34	0.00859
802.11ax HEW40_Nss1,(MCS0)_8TX	8.32	0.00679
802.11ax HEW80_Nss1,(MCS0)_8TX	6.98	0.00499

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Port 5 (dBm)	Port 6 (dBm)	Port 7 (dBm)	Port 8 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11a_Nss1,(6Mbps)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	9.01	5.99	5.48	6.24	5.97	5.89	6.02	5.65	7.42	15.15	20.73
5300MHz	Pass	9.01	6.17	6.64	7.30	5.37	6.12	5.46	6.16	7.35	15.41	20.75
5320MHz	Pass	9.01	6.65	6.15	7.47	5.63	5.98	6.30	5.28	7.26	15.43	20.77
5500MHz	Pass	8.85	6.72	6.68	7.06	5.07	6.47	6.26	5.53	7.04	15.43	20.90
5580MHz	Pass	8.85	6.81	6.65	6.22	5.80	5.88	5.83	6.83	6.25	15.33	20.86
5700MHz	Pass	8.85	7.09	6.19	7.51	7.18	5.71	6.17	5.61	5.53	15.47	20.91
5720MHz Straddle 5.47-5.725GHz	Pass	8.85	5.56	5.13	5.84	6.60	4.30	4.38	4.00	3.75	14.08	19.66
5720MHz Straddle 5.725-5.85GHz	Pass	9.49	-2.27	-2.94	0.03	0.55	-0.90	-1.60	-2.16	-2.55	7.72	26.51
802.11ax HEW20_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	9.01	6.03	6.14	7.59	6.54	6.12	5.94	5.63	7.36	15.50	20.97
5300MHz	Pass	9.01	6.39	6.43	7.25	5.69	6.08	5.88	5.77	7.11	15.39	20.97
5320MHz	Pass	9.01	6.81	6.06	6.73	6.04	6.66	5.67	5.62	7.61	15.48	20.97
5500MHz	Pass	8.85	8.25	7.75	7.74	7.04	7.70	6.62	7.39	8.45	16.68	21.13
5580MHz	Pass	8.85	7.75	7.86	8.02	7.44	6.06	6.03	6.05	6.42	16.06	21.13
5700MHz	Pass	8.85	7.71	6.50	8.03	8.14	6.75	7.17	6.15	6.19	16.18	21.13
5720MHz Straddle 5.47-5.725GHz	Pass	8.85	5.29	4.64	6.94	6.40	4.19	4.11	4.29	3.80	14.13	19.97
5720MHz Straddle 5.725-5.85GHz	Pass	9.49	-0.27	-0.18	2.18	1.48	-0.22	-0.84	0.14	-0.83	9.34	26.51
802.11ax HEW40_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	6.01	9.24	9.87	10.56	9.35	9.09	9.19	9.58	11.08	18.83	23.97
5310MHz	Pass	6.01	9.83	9.52	10.33	9.27	9.23	9.36	9.03	10.80	18.74	23.97
5510MHz	Pass	5.85	10.39	9.66	10.03	10.12	10.42	9.13	10.04	10.73	19.12	23.98
5550MHz	Pass	5.85	9.84	9.85	10.38	10.47	9.61	8.89	9.72	10.04	18.90	23.98
5670MHz	Pass	5.85	9.92	10.15	11.04	10.82	9.22	9.54	9.58	9.07	19.00	23.98
5710MHz Straddle 5.47-5.725GHz	Pass	5.85	9.15	8.78	10.16	10.24	8.21	8.44	8.53	7.56	18.00	23.98
5710MHz Straddle 5.725-5.85GHz	Pass	6.49	0.36	-2.23	-1.47	1.03	-0.67	-1.42	-0.46	-1.84	8.32	29.51
802.11ax HEW80_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	6.01	12.30	12.85	13.46	12.36	11.97	12.21	12.14	13.87	21.73	23.97
5530MHz	Pass	5.85	12.48	12.09	12.45	12.70	12.41	11.22	12.50	12.59	21.36	23.98
5610MHz	Pass	5.85	12.32	12.10	12.84	13.53	11.82	11.55	11.88	11.59	21.28	23.98
5690MHz Straddle 5.47-5.725GHz	Pass	5.85	12.00	11.80	13.06	13.25	11.26	11.52	11.64	10.82	21.02	23.98
5690MHz Straddle 5.725-5.85GHz	Pass	6.49	-1.02	-3.42	-2.19	0.03	-1.44	-2.58	-3.60	-3.67	6.98	29.51

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

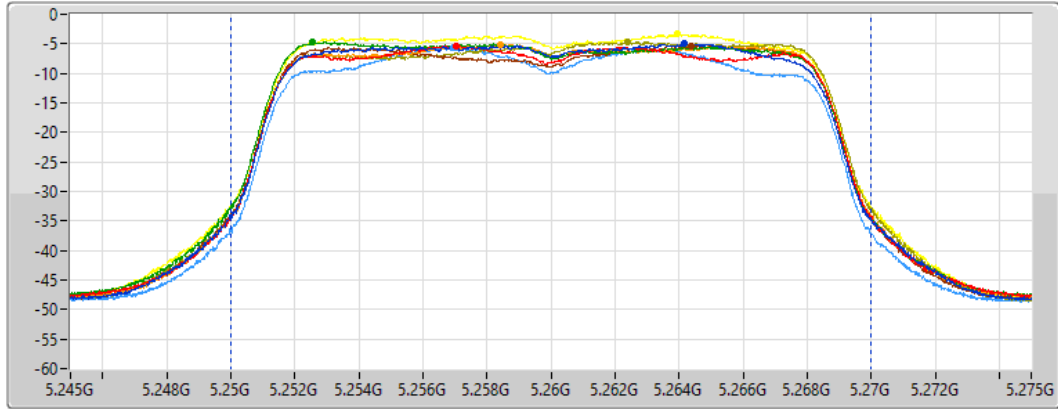
802.11a_Nss1,(6Mbps)_8TX

AV Power

5260MHz_TnomVnom

13/10/2022

CF
5.26GHz
Span
30MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS
CP BW
20MHz



Port 1
Port 2
Port 3
Port 4
Port 5
Port 6
Port 7
Port 8

Sum= Total Power
PX=Port X

Sum(dBm)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)	P5(dBm)	P6(dBm)	P7(dBm)	P8(dBm)
14.84	5.81	5.22	6.10	5.72	5.36	5.98	4.18	7.43

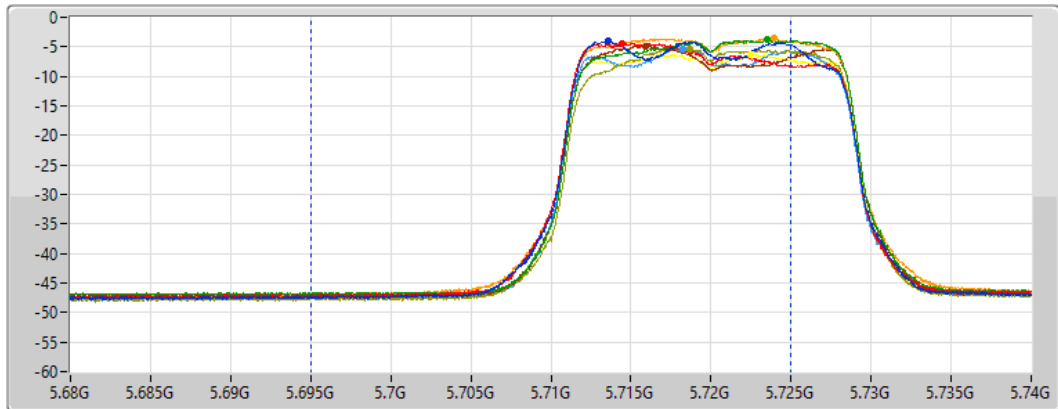
802.11a_Nss1,(6Mbps)_8TX

AV Power

5720MHz Straddle 5.47-5.725GHz_TnomVnom

13/10/2022

CF
5.71GHz
Span
60MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS
CP BW
30MHz



Port 1
Port 2
Port 3
Port 4
Port 5
Port 6
Port 7
Port 8

Sum= Total Power
PX=Port X

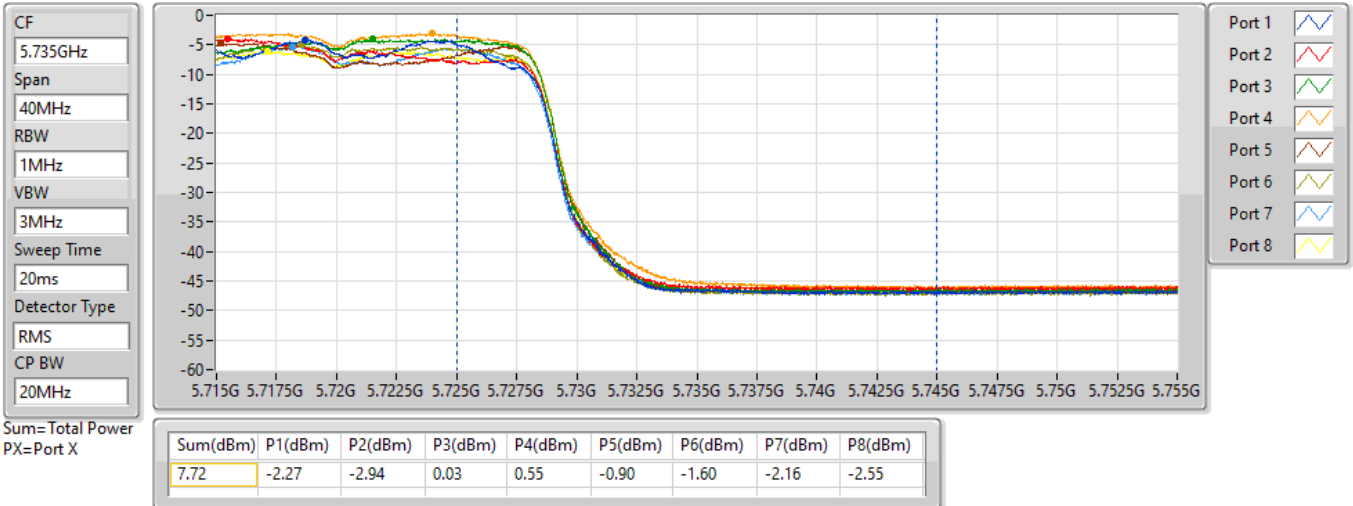
Sum(dBm)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)	P5(dBm)	P6(dBm)	P7(dBm)	P8(dBm)
14.08	5.56	5.13	5.84	6.60	4.30	4.38	4.00	3.75

802.11a_Nss1,(6Mbps)_8TX

AV Power

5720MHz Straddle 5.725-5.85GHz_TnomVnom

13/10/2022

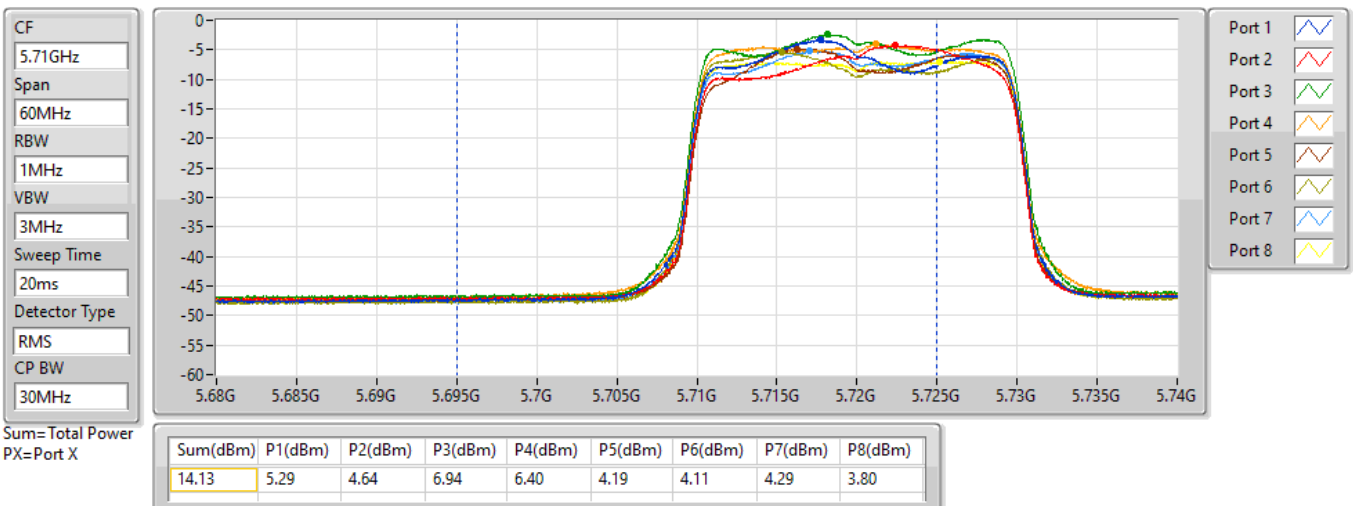


802.11ax HEW20_Nss1,(MCS0)_8TX

AV Power

5720MHz Straddle 5.47-5.725GHz_TnomVnom

13/10/2022



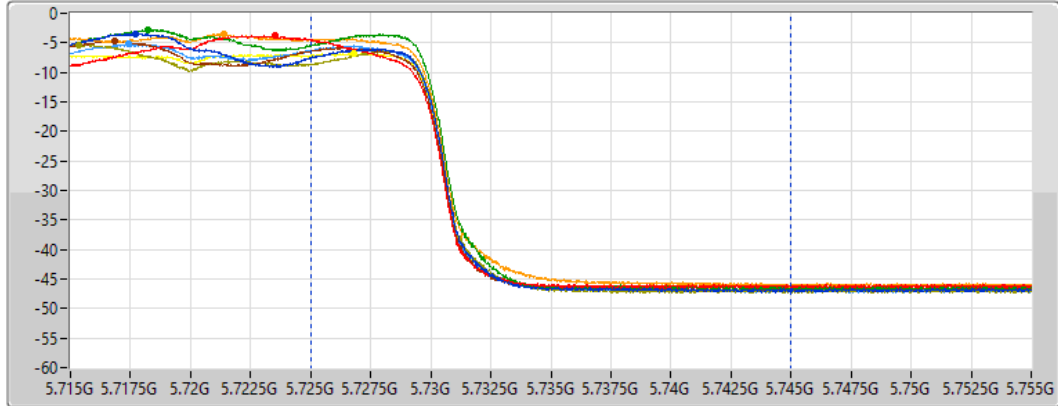
802.11ax HEW20_Nss1,(MCS0)_8TX

AV Power

5720MHz Straddle 5.725-5.85GHz_TnomVnom

13/10/2022

CF
5.735GHz
Span
40MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS
CP BW
20MHz



Port 1
Port 2
Port 3
Port 4
Port 5
Port 6
Port 7
Port 8

Sum= Total Power
PX=Port X

Sum(dBm)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)	P5(dBm)	P6(dBm)	P7(dBm)	P8(dBm)
9.34	-0.27	-0.18	2.18	1.48	-0.22	-0.84	0.14	-0.83

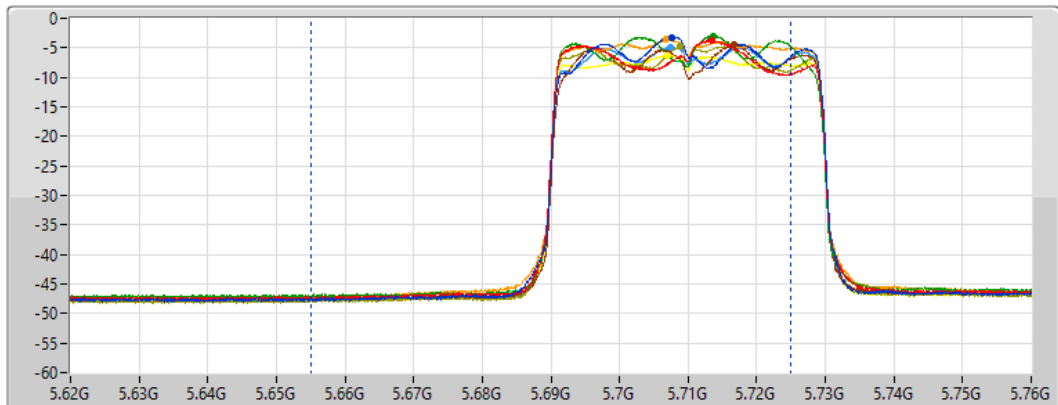
802.11ax HEW40_Nss1,(MCS0)_8TX

AV Power

5710MHz Straddle 5.47-5.725GHz_TnomVnom

13/10/2022

CF
5.69GHz
Span
140MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS
CP BW
70MHz



Port 1
Port 2
Port 3
Port 4
Port 5
Port 6
Port 7
Port 8

Sum= Total Power
PX=Port X

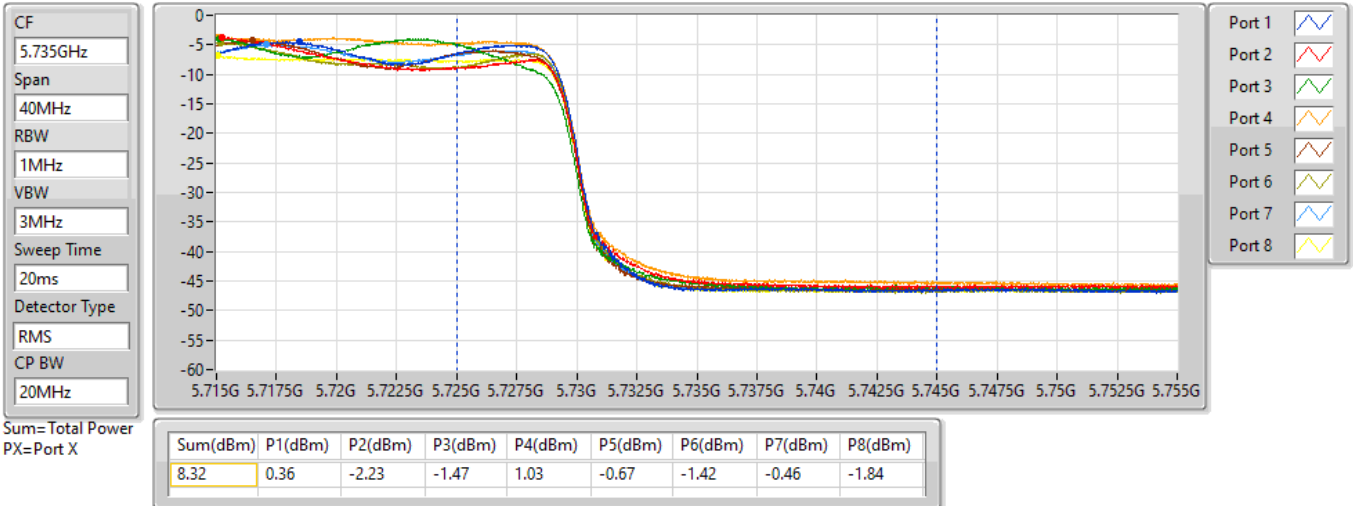
Sum(dBm)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)	P5(dBm)	P6(dBm)	P7(dBm)	P8(dBm)
18.00	9.15	8.78	10.16	10.24	8.21	8.44	8.53	7.56

802.11ax HEW40_Nss1,(MCS0)_8TX

AV Power

5710MHz Straddle 5.725-5.85GHz_TnomVnom

13/10/2022

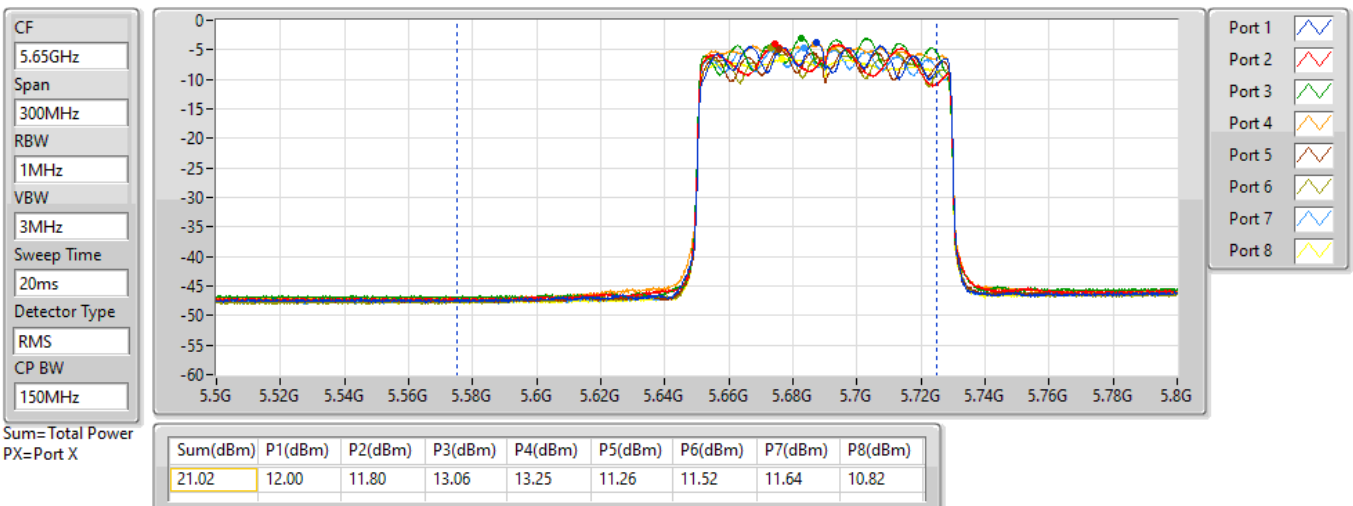


802.11ax HEW80_Nss1,(MCS0)_8TX

AV Power

5690MHz Straddle 5.47-5.725GHz_TnomVnom

13/10/2022

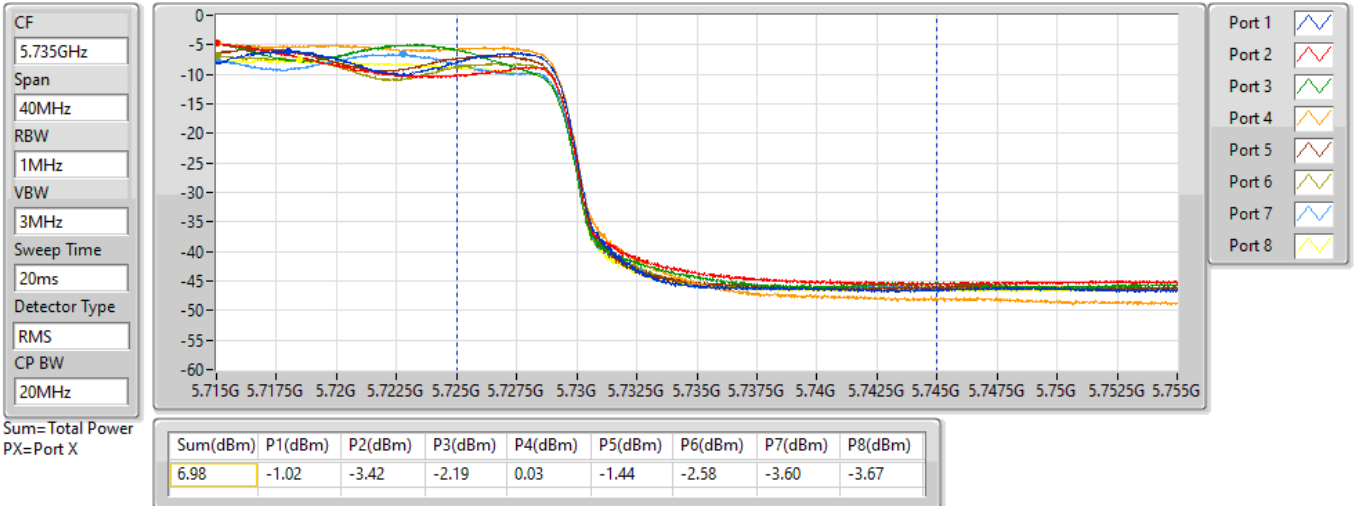


802.11ax HEW80_Nss1,(MCS0)_8TX

AV Power

5690MHz Straddle 5.725-5.85GHz_TnomVnom

13/10/2022





Average Power_Mode 1 / Antenna Set 1 (Dipole)

Appendix B.2

For UNII 2A and 2C (include Straddle Channel) indoor + outdoor

Summary

Mode	Total Power (dBm)	Total Power (W)
5.25-5.35GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_8TX	15.39	0.03459
802.11ax HEW40-BF_Nss1,(MCS0)_8TX	15.07	0.03214
802.11ax HEW80-BF_Nss1,(MCS0)_8TX	15.03	0.03184
5.47-5.725GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_8TX	15.62	0.03648
802.11ax HEW40-BF_Nss1,(MCS0)_8TX	15.65	0.03673
802.11ax HEW80-BF_Nss1,(MCS0)_8TX	15.63	0.03656
5.725-5.85GHz	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_8TX	9.34	0.00859
802.11ax HEW40-BF_Nss1,(MCS0)_8TX	6.05	0.00403
802.11ax HEW80-BF_Nss1,(MCS0)_8TX	0.71	0.00118

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Port 5 (dBm)	Port 6 (dBm)	Port 7 (dBm)	Port 8 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	14.58	5.53	5.89	6.33	5.88	5.24	5.63	5.61	7.14	14.97	15.40
5300MHz	Pass	14.58	6.39	6.43	7.25	5.69	6.08	5.88	5.77	7.11	15.39	15.40
5320MHz	Pass	14.58	6.28	5.32	6.30	5.34	5.74	5.55	5.53	7.02	14.95	15.40
5500MHz	Pass	14.26	6.65	6.14	7.17	6.18	6.30	6.77	6.17	6.76	15.56	15.72
5580MHz	Pass	14.26	6.50	6.30	7.62	7.05	5.64	5.86	6.88	6.49	15.62	15.72
5700MHz	Pass	14.26	7.16	6.23	7.37	7.32	5.57	5.81	6.13	5.51	15.48	15.72
5720MHz Straddle 5.47-5.725GHz	Pass	14.26	5.29	4.64	6.94	6.40	4.19	4.11	4.29	3.80	14.13	14.56
5720MHz Straddle 5.725-5.85GHz	Pass	15.06	-0.27	-0.18	2.18	1.48	-0.22	-0.84	0.14	-0.83	9.34	20.94
802.11ax HEW40-BF_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	14.58	5.38	5.97	6.70	6.09	5.41	5.63	5.78	7.07	15.07	15.40
5310MHz	Pass	14.58	5.98	5.86	6.41	5.36	5.45	5.99	5.13	6.81	14.94	15.40
5510MHz	Pass	14.26	6.75	5.92	6.46	6.48	6.29	5.54	6.32	7.06	15.41	15.72
5550MHz	Pass	14.26	6.44	6.58	6.93	7.21	6.27	5.67	6.95	6.76	15.65	15.72
5670MHz	Pass	14.26	6.63	6.66	7.36	7.39	5.74	6.24	6.24	5.56	15.55	15.72
5710MHz Straddle 5.47-5.725GHz	Pass	14.26	6.74	5.91	7.10	7.38	6.29	6.07	6.29	6.41	15.58	15.72
5710MHz Straddle 5.725-5.85GHz	Pass	15.06	-2.20	-4.08	-3.23	-2.41	-2.64	-3.81	-2.69	-3.16	6.05	20.94
802.11ax HEW80-BF_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	14.58	5.52	6.16	6.56	5.66	5.51	5.69	5.46	7.13	15.03	15.40
5530MHz	Pass	14.26	6.61	6.45	6.66	6.99	6.36	5.74	6.67	6.87	15.59	15.72
5610MHz	Pass	14.26	7.12	6.25	7.14	7.72	5.94	5.78	6.40	6.02	15.63	15.72
5690MHz Straddle 5.47-5.725GHz	Pass	14.26	7.01	6.19	7.06	7.40	5.92	5.93	6.14	5.83	15.51	15.72
5690MHz Straddle 5.725-5.85GHz	Pass	15.06	-8.21	-8.88	-7.66	-8.45	-7.31	-8.20	-9.10	-9.12	0.71	20.94

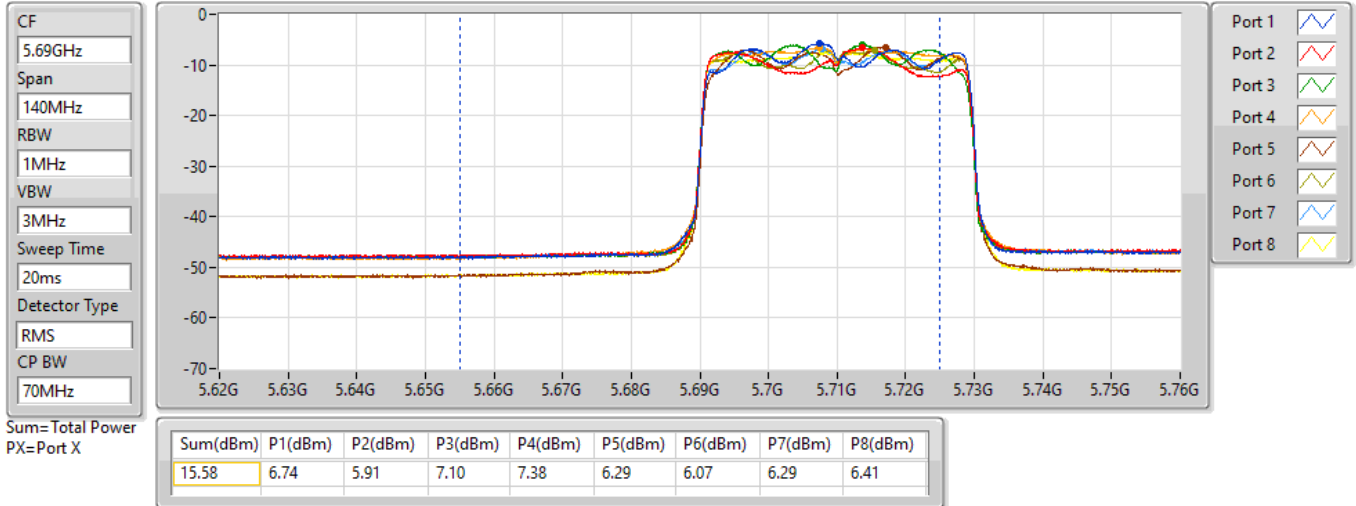
DG = Directional Gain; Port X = Port X output power

802.11ax HEW40-BF_Nss1,(MCS0)_8TX

AV Power

5710MHz Straddle 5.47-5.725GHz_TnomVnom

13/10/2022

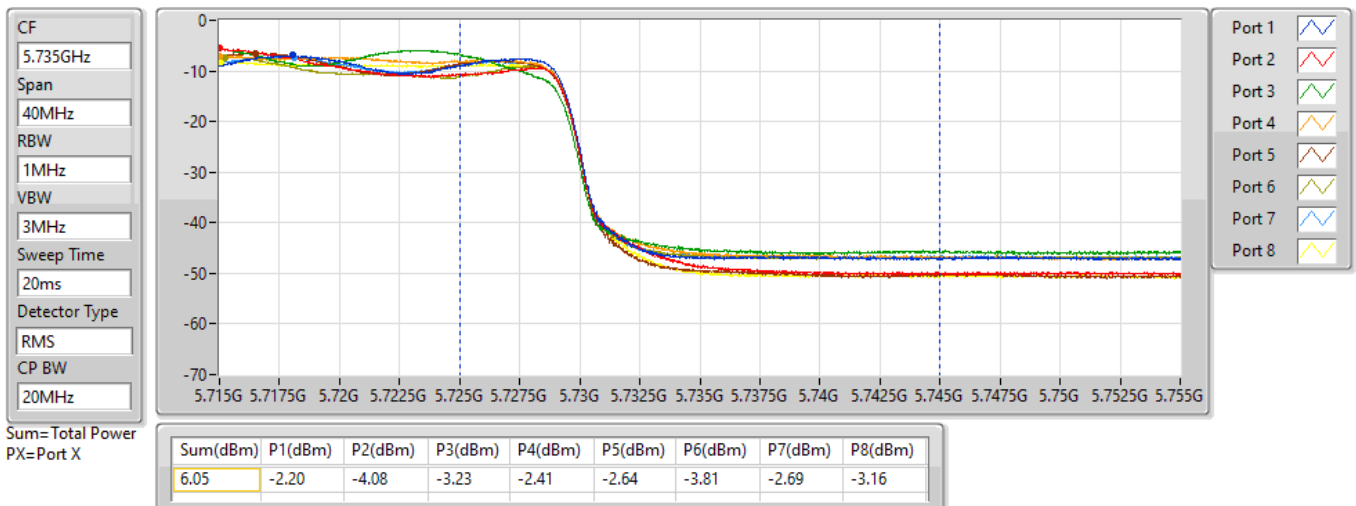


802.11ax HEW40-BF_Nss1,(MCS0)_8TX

AV Power

5710MHz Straddle 5.725-5.85GHz_TnomVnom

13/10/2022



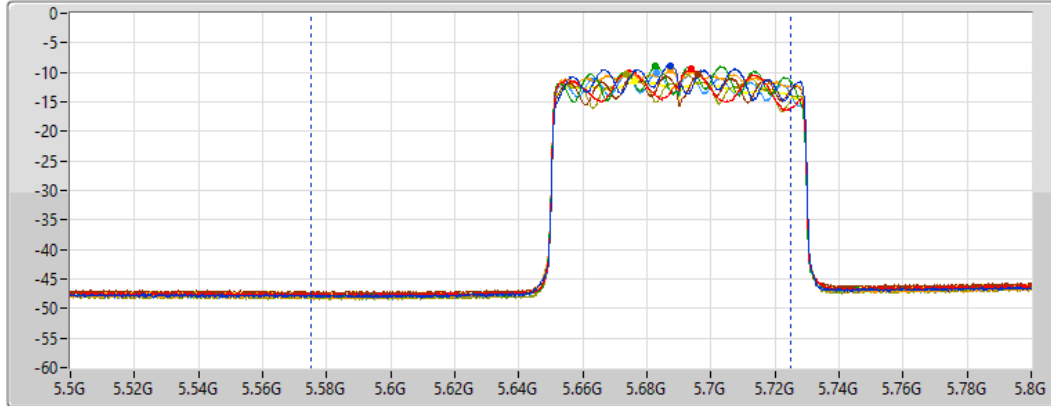
802.11ax HEW80-BF_Nss1,(MCS0)_8TX

AV Power

5690MHz Straddle 5.47-5.725GHz_TnomVnom

13/10/2022

CF
5.65GHz
Span
300MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS
CP BW
150MHz



- Port 1
- Port 2
- Port 3
- Port 4
- Port 5
- Port 6
- Port 7
- Port 8

Sum= Total Power
PX=Port X

Sum(dBm)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)	P5(dBm)	P6(dBm)	P7(dBm)	P8(dBm)
15.51	7.01	6.19	7.06	7.40	5.92	5.93	6.14	5.83

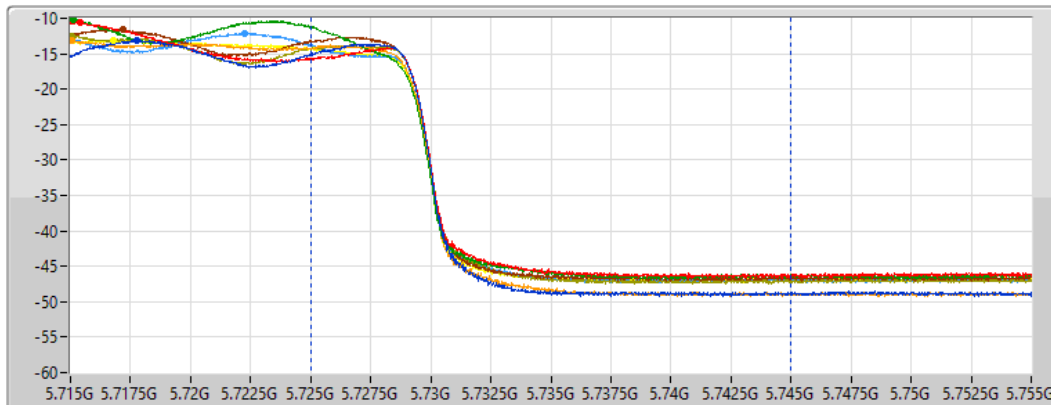
802.11ax HEW80-BF_Nss1,(MCS0)_8TX

AV Power

5690MHz Straddle 5.725-5.85GHz_TnomVnom

13/10/2022

CF
5.735GHz
Span
40MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS
CP BW
20MHz



- Port 1
- Port 2
- Port 3
- Port 4
- Port 5
- Port 6
- Port 7
- Port 8

Sum= Total Power
PX=Port X

Sum(dBm)	P1(dBm)	P2(dBm)	P3(dBm)	P4(dBm)	P5(dBm)	P6(dBm)	P7(dBm)	P8(dBm)
0.71	-8.21	-8.88	-7.66	-8.45	-7.31	-8.20	-9.10	-9.12

For UNII 2A and 2C (include Straddle Channel) indoor + outdoor

Summary

Mode	Total Power (dBm)	Total Power (W)
5.25-5.35GHz	-	-
802.11a_Nss1,(6Mbps)_8TX	9.44	0.00879
802.11ax HEW20_Nss1,(MCS0)_8TX	9.55	0.00902
802.11ax HEW40_Nss1,(MCS0)_8TX	12.24	0.01675
802.11ax HEW80_Nss1,(MCS0)_8TX	15.61	0.03639
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_8TX	9.16	0.00824
802.11ax HEW20_Nss1,(MCS0)_8TX	9.85	0.00966
802.11ax HEW40_Nss1,(MCS0)_8TX	12.78	0.01897
802.11ax HEW80_Nss1,(MCS0)_8TX	15.23	0.03334
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_8TX	2.07	0.00161
802.11ax HEW20_Nss1,(MCS0)_8TX	4.06	0.00255
802.11ax HEW40_Nss1,(MCS0)_8TX	3.16	0.00207
802.11ax HEW80_Nss1,(MCS0)_8TX	1.39	0.00138

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Port 5 (dBm)	Port 6 (dBm)	Port 7 (dBm)	Port 8 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11a_Nss1,(6Mbps)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	17.06	0.41	1.61	-0.21	-0.49	-0.01	-0.48	-0.72	0.83	9.21	12.78
5300MHz	Pass	17.06	0.40	-0.56	1.84	0.31	-0.71	-1.18	-0.04	0.77	9.23	12.71
5320MHz	Pass	17.06	1.00	-0.17	0.22	0.43	0.63	-0.38	0.21	1.12	9.44	12.83
5500MHz	Pass	17.28	-0.55	0.59	0.09	-0.16	0.24	0.27	-0.88	1.13	9.16	12.49
5580MHz	Pass	17.28	-1.13	0.03	0.30	-1.00	-0.38	-0.83	-1.83	-0.03	8.47	12.45
5700MHz	Pass	17.28	0.07	-0.24	-1.09	-0.77	0.74	-0.79	-0.51	-0.26	8.71	12.55
5720MHz Straddle 5.47-5.725GHz	Pass	17.28	-0.20	-1.22	-0.68	-0.32	1.06	-0.06	-0.28	0.13	8.88	11.37
5720MHz Straddle 5.725-5.85GHz	Pass	17.18	-7.84	-9.28	-8.03	-6.63	-5.56	-6.96	-6.39	-6.14	2.07	18.82
802.11ax HEW20_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	17.06	0.47	0.86	1.43	0.06	0.07	-0.32	0.09	1.18	9.55	12.92
5300MHz	Pass	17.06	0.52	0.40	0.63	0.45	-0.21	-0.59	-0.01	1.09	9.34	12.92
5320MHz	Pass	17.06	0.71	0.22	0.54	0.71	0.03	-0.88	0.04	0.89	9.34	12.92
5500MHz	Pass	17.28	0.35	0.62	1.12	0.54	0.63	0.79	0.21	2.00	9.85	12.70
5580MHz	Pass	17.28	-0.08	0.17	0.61	0.25	0.25	0.50	-0.62	1.13	9.33	12.70
5700MHz	Pass	17.28	-0.06	-0.15	0.48	0.33	0.88	-0.06	-0.19	0.30	9.24	12.70
5720MHz Straddle 5.47-5.725GHz	Pass	17.28	0.17	-0.66	0.01	0.25	0.90	-0.36	-0.57	0.06	9.03	11.61
5720MHz Straddle 5.725-5.85GHz	Pass	17.18	-8.18	-5.87	-4.92	-4.98	-3.44	-4.92	-4.32	-4.56	4.06	18.82
802.11ax HEW40_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	14.06	3.39	3.34	3.78	3.11	3.02	2.18	2.66	3.94	12.24	15.92
5310MHz	Pass	14.06	3.36	3.24	3.60	3.00	3.07	2.33	2.64	3.97	12.21	15.92
5510MHz	Pass	14.28	2.85	3.14	3.49	2.80	3.34	3.49	2.74	4.26	12.32	15.70
5550MHz	Pass	14.28	3.17	3.30	3.42	2.92	3.33	3.25	2.98	4.07	12.35	15.70
5670MHz	Pass	14.28	2.74	2.78	2.80	2.51	3.55	2.85	2.44	3.18	11.90	15.70
5710MHz Straddle 5.47-5.725GHz	Pass	14.28	3.64	3.45	4.08	3.82	4.41	3.72	3.24	3.55	12.78	15.70
5710MHz Straddle 5.725-5.85GHz	Pass	14.18	-5.47	-7.77	-7.07	-5.87	-4.57	-5.87	-5.20	-5.93	3.16	21.82
802.11ax HEW80_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	14.06	6.33	6.49	6.74	6.19	6.25	6.08	5.61	8.33	15.61	15.92
5530MHz	Pass	14.28	5.79	5.79	6.10	6.36	6.62	5.18	5.96	6.59	15.10	15.70
5610MHz	Pass	14.28	6.16	5.82	6.01	7.18	6.21	5.46	5.35	5.61	15.04	15.70
5690MHz Straddle 5.47-5.725GHz	Pass	14.28	6.66	6.13	6.61	7.10	6.01	5.70	5.72	5.41	15.23	15.70
5690MHz Straddle 5.725-5.85GHz	Pass	14.18	-6.90	-9.34	-8.27	-6.71	-6.94	-8.20	-7.13	-8.28	1.39	21.82

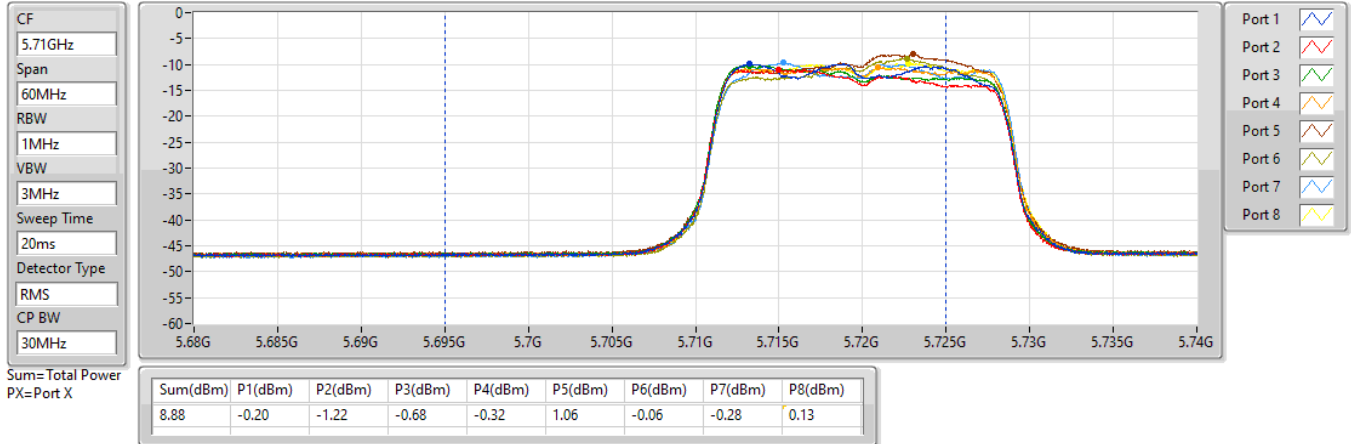
DG = Directional Gain; Port X = Port X output power

5.47-5.725GHz_802.11a_Nss1,(6Mbps)_8TX

AV Power

5720MHz Straddle 5.47-5.725GHz_TnomVnom

20/10/2022

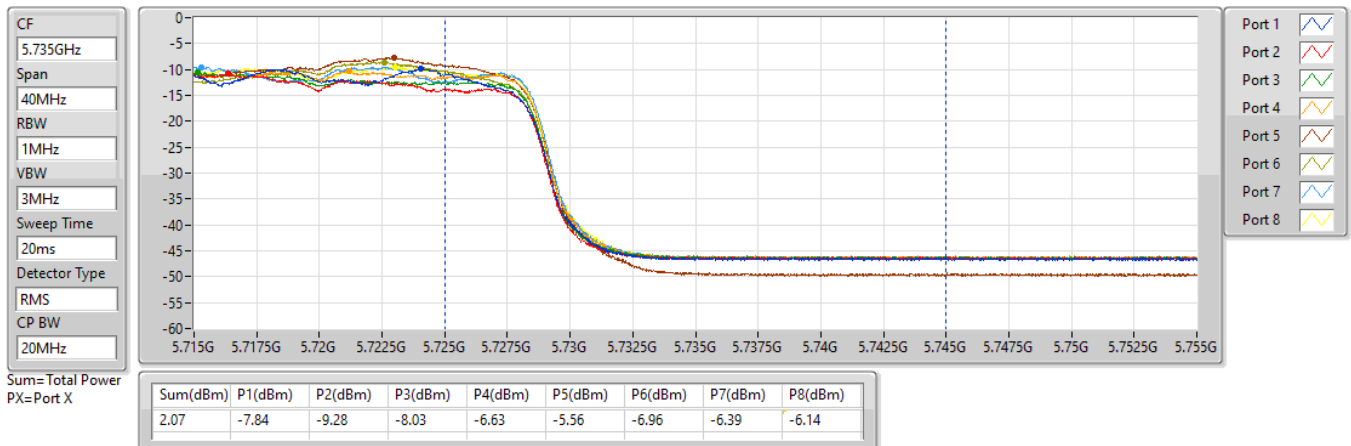


5.725-5.85GHz_802.11a_Nss1,(6Mbps)_8TX

AV Power

5720MHz Straddle 5.725-5.85GHz_TnomVnom

20/10/2022

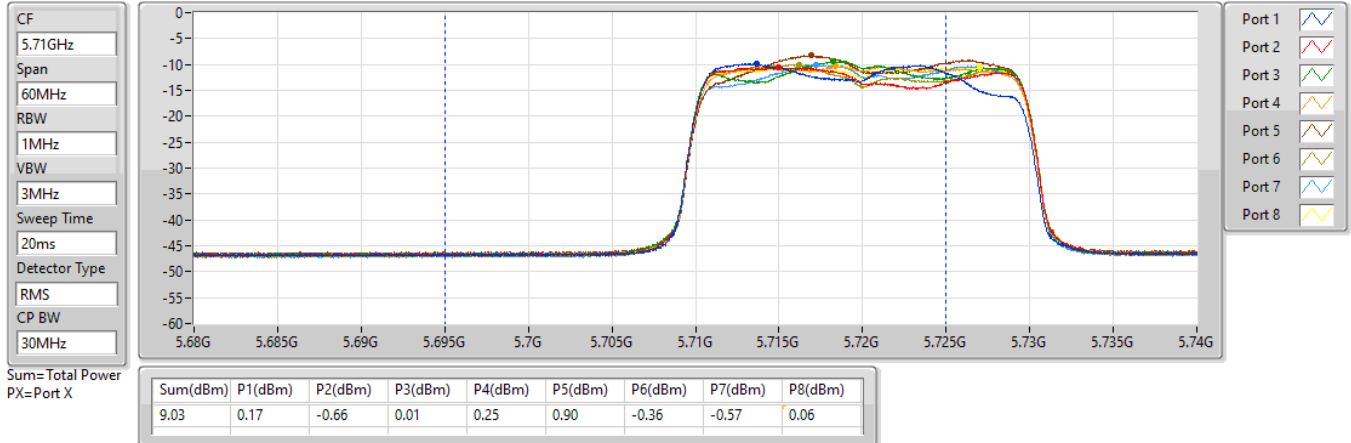


5.47-5.725GHz_802.11ax HEW20_Nss1,(MCS0)_8TX

AV Power

5720MHz Straddle 5.47-5.725GHz_TnomVnom

20/10/2022

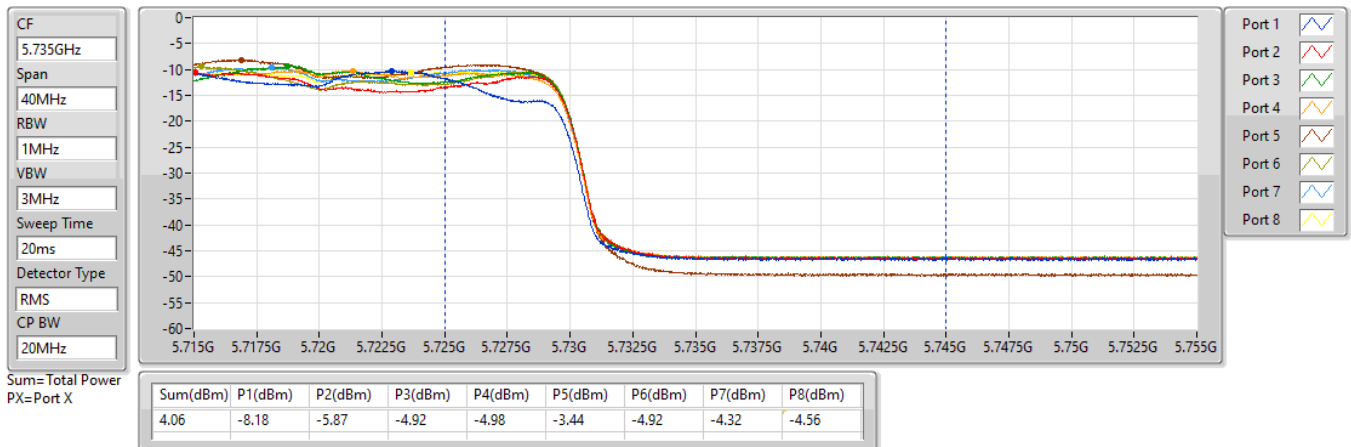


5.725-5.85GHz_802.11ax HEW20_Nss1,(MCS0)_8TX

AV Power

5720MHz Straddle 5.725-5.85GHz_TnomVnom

20/10/2022

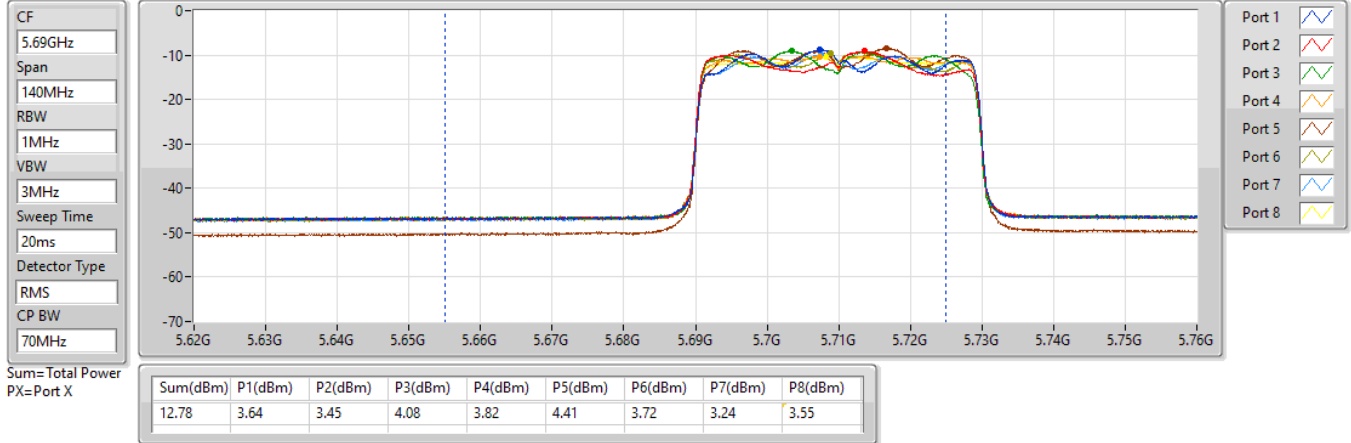


5.47-5.725GHz_802.11ax HEW40_Nss1,(MCS0)_8TX

AV Power

5710MHz Straddle 5.47-5.725GHz_TnomVnom

20/10/2022

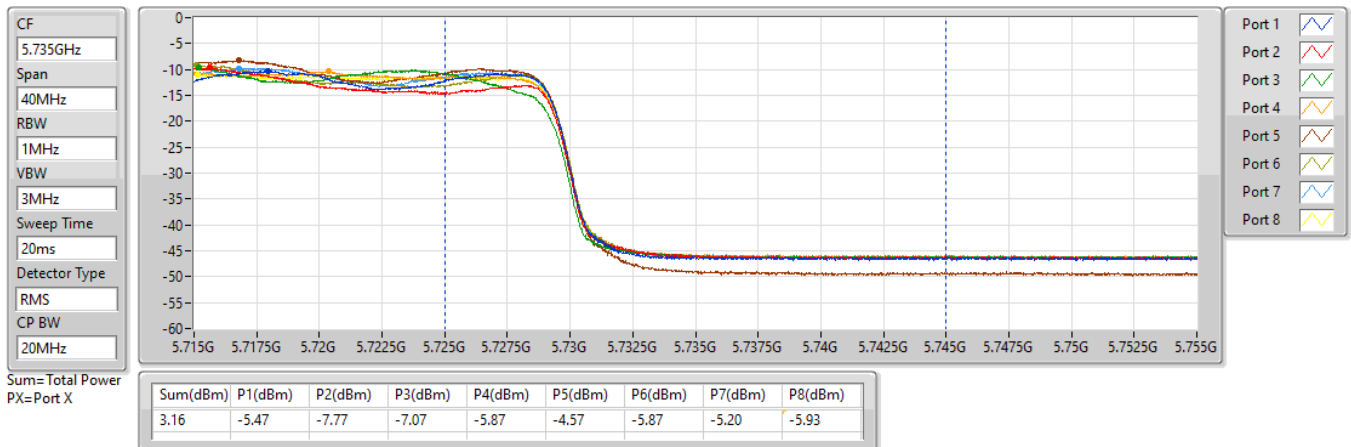


5.725-5.85GHz_802.11ax HEW40_Nss1,(MCS0)_8TX

AV Power

5710MHz Straddle 5.725-5.85GHz_TnomVnom

20/10/2022

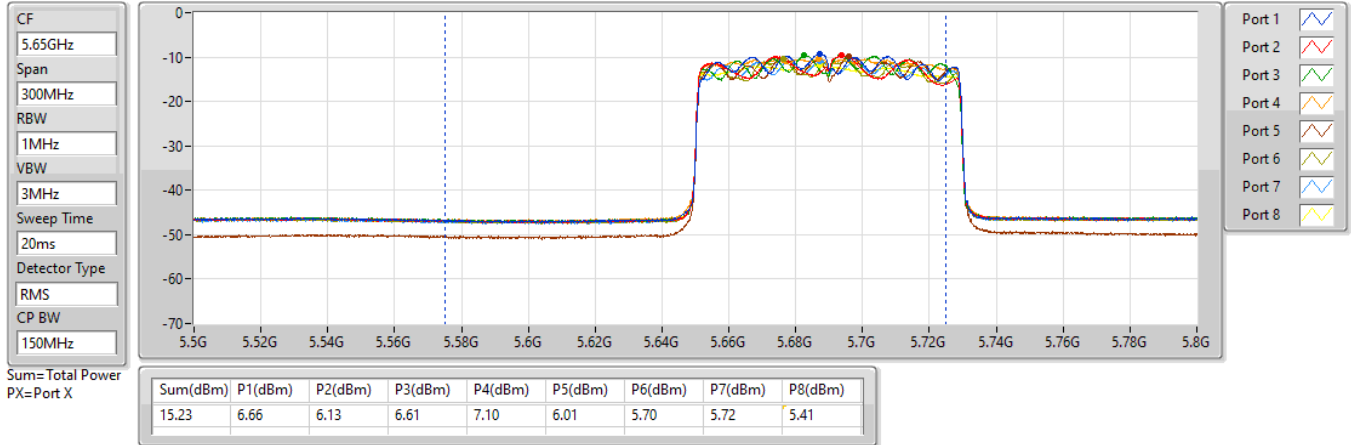


5.47-5.725GHz_802.11ax HEW80_Nss1,(MCS0)_8TX

AV Power

5690MHz Straddle 5.47-5.725GHz_TnomVnom

20/10/2022

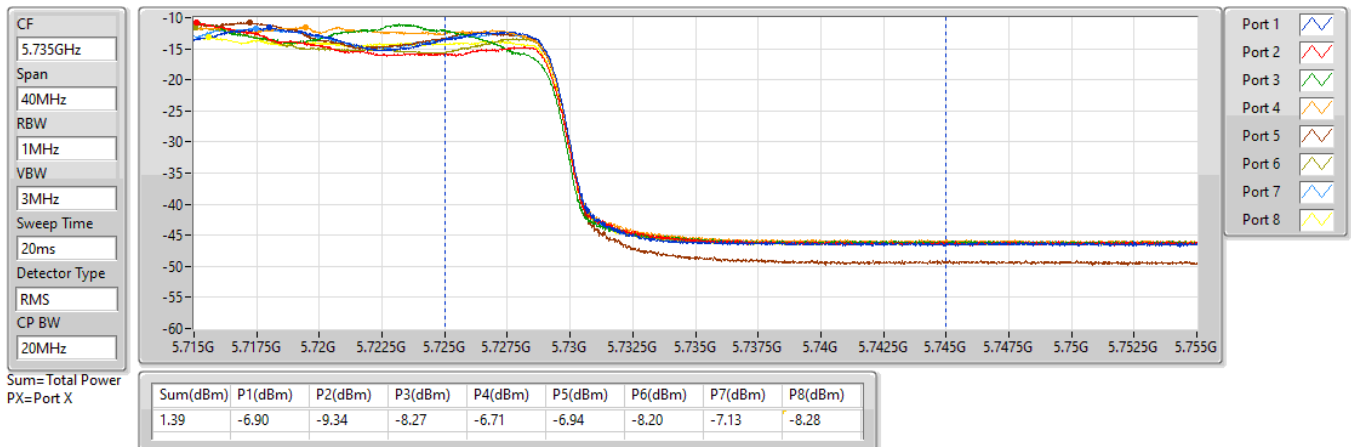


5.725-5.85GHz_802.11ax HEW80_Nss1,(MCS0)_8TX

AV Power

5690MHz Straddle 5.725-5.85GHz_TnomVnom

20/10/2022



For UNII 2A and 2C (include Straddle Channel) indoor + outdoor

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.25-5.35GHz	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_8TX	9.55	0.00902	29.17	0.82604
802.11ax HEW40-BF_Nss1,(MCS0)_8TX	10.30	0.01072	29.92	0.98175
802.11ax HEW80-BF_Nss1,(MCS0)_8TX	10.07	0.01016	29.69	0.93111
5.47-5.725GHz	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_8TX	9.85	0.00966	29.53	0.89743
802.11ax HEW40-BF_Nss1,(MCS0)_8TX	10.26	0.01062	29.94	0.98628
802.11ax HEW80-BF_Nss1,(MCS0)_8TX	10.29	0.01069	29.97	0.99312
5.725-5.85GHz	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_8TX	4.06	0.00255	23.80	0.23988
802.11ax HEW40-BF_Nss1,(MCS0)_8TX	0.15	0.00104	19.89	0.09750
802.11ax HEW80-BF_Nss1,(MCS0)_8TX	-3.49	0.00045	16.25	0.04217



Average Power_Mode 2 / Antenna Set 2 (Patch)

Appendix B.4

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Port 5 (dBm)	Port 6 (dBm)	Port 7 (dBm)	Port 8 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	19.62	0.47	0.86	1.43	0.06	0.07	-0.32	0.09	1.18	9.55	10.36	29.17	30.00
5300MHz	Pass	19.62	0.52	0.40	0.63	0.45	-0.21	-0.59	-0.01	1.09	9.34	10.36	28.96	30.00
5320MHz	Pass	19.62	0.71	0.22	0.54	0.71	0.03	-0.88	0.04	0.89	9.34	10.36	28.96	30.00
5500MHz	Pass	19.68	0.35	0.62	1.12	0.54	0.63	0.79	0.21	2.00	9.85	10.30	29.53	30.00
5580MHz	Pass	19.68	-0.08	0.17	0.61	0.25	0.25	0.50	-0.62	1.13	9.33	10.30	29.01	30.00
5700MHz	Pass	19.68	-0.06	-0.15	0.48	0.33	0.88	-0.06	-0.19	0.30	9.24	10.30	28.92	30.00
5720MHz Straddle 5.47-5.725GHz	Pass	19.68	0.17	-0.66	0.01	0.25	0.90	-0.36	-0.57	0.06	9.03	10.30	28.71	30.00
5720MHz Straddle 5.725-5.85GHz	Pass	19.74	-8.18	-5.87	-4.92	-4.98	-3.44	-4.92	-4.32	-4.56	4.06	16.26	23.80	36.00
802.11ax HEW40-BF_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	19.62	1.48	1.36	2.01	0.87	1.03	0.37	0.75	2.00	10.30	10.36	29.92	30.00
5310MHz	Pass	19.62	1.44	1.32	1.68	1.17	0.86	0.33	0.67	1.95	10.24	10.36	29.86	30.00
5510MHz	Pass	19.68	0.40	0.74	0.98	0.32	0.91	0.88	0.24	1.77	9.84	10.30	29.52	30.00
5550MHz	Pass	19.68	0.71	1.13	1.39	0.96	1.35	1.14	0.77	2.19	10.26	10.30	29.94	30.00
5670MHz	Pass	19.68	0.76	0.73	0.58	0.50	1.57	0.88	0.43	1.16	9.87	10.30	29.55	30.00
5710MHz Straddle 5.47-5.725GHz	Pass	19.68	0.53	0.47	0.93	0.91	1.52	0.64	0.13	0.58	9.76	10.30	29.44	30.00
5710MHz Straddle 5.725-5.85GHz	Pass	19.74	-8.59	-10.70	-10.03	-8.99	-7.47	-8.99	-8.34	-8.73	0.15	16.26	19.89	36.00
802.11ax HEW80-BF_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	19.62	1.30	1.16	1.58	0.93	0.78	0.07	0.45	1.78	10.07	10.36	29.69	30.00
5530MHz	Pass	19.68	0.38	1.25	1.47	1.00	1.51	1.33	0.85	2.07	10.29	10.30	29.97	30.00
5610MHz	Pass	19.68	1.07	0.91	1.02	0.89	1.41	1.29	0.91	2.05	10.24	10.30	29.92	30.00
5690MHz Straddle 5.47-5.725GHz	Pass	19.68	1.09	0.83	1.12	1.12	1.74	0.95	1.12	1.41	10.21	10.30	29.89	30.00
5690MHz Straddle 5.725-5.85GHz	Pass	19.74	-12.37	-14.46	-13.60	-12.78	-11.19	-12.75	-11.63	-12.22	-3.49	16.26	16.25	36.00

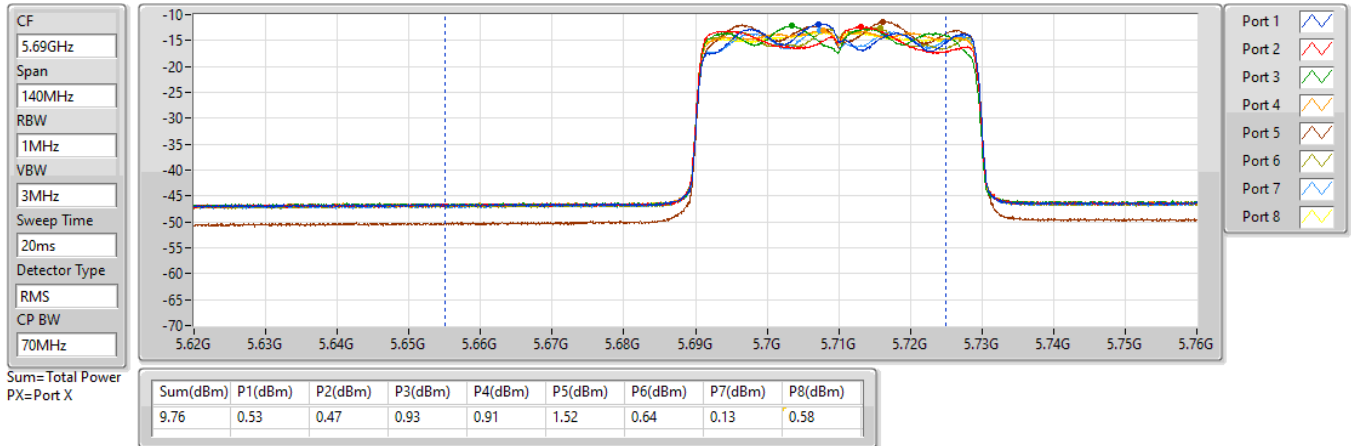
DG = Directional Gain; Port X = Port X output power

5.47-5.725GHz_802.11ax HEW40-BF_Nss1,(MCS0)_8TX

AV Power

5710MHz Straddle 5.47-5.725GHz_TnomVnom

20/10/2022

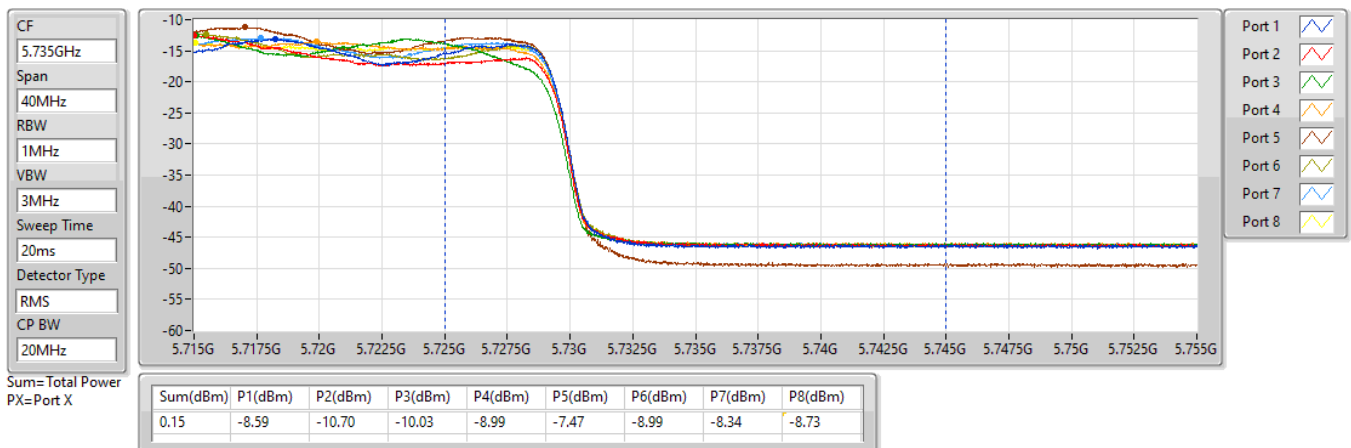


5.725-5.85GHz_802.11ax HEW40-BF_Nss1,(MCS0)_8TX

AV Power

5710MHz Straddle 5.725-5.85GHz_TnomVnom

20/10/2022

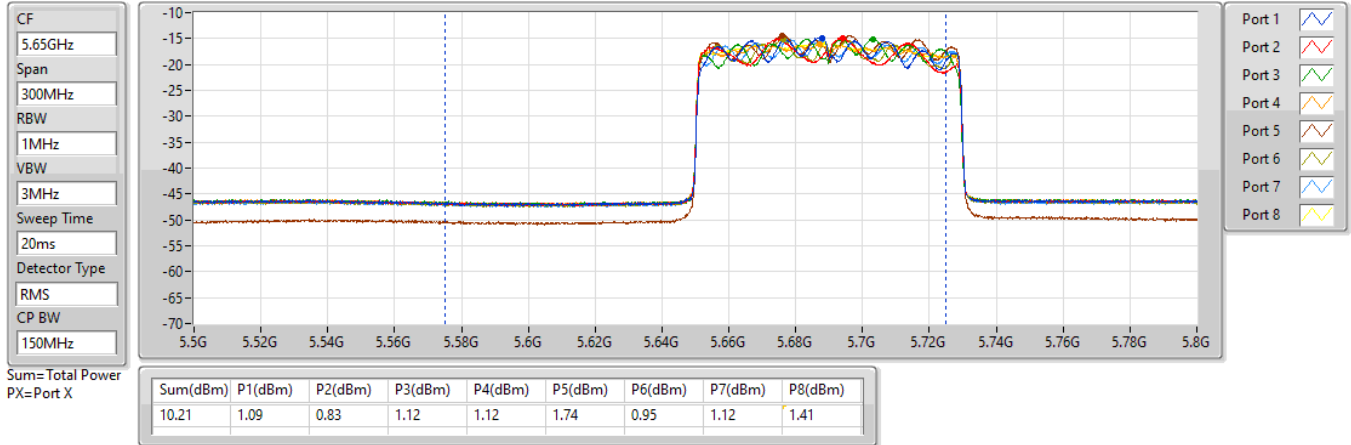


5.47-5.725GHz_802.11ax HEW80-BF_Nss1,(MCS0)_8TX

AV Power

5690MHz Straddle 5.47-5.725GHz_TnomVnom

20/10/2022

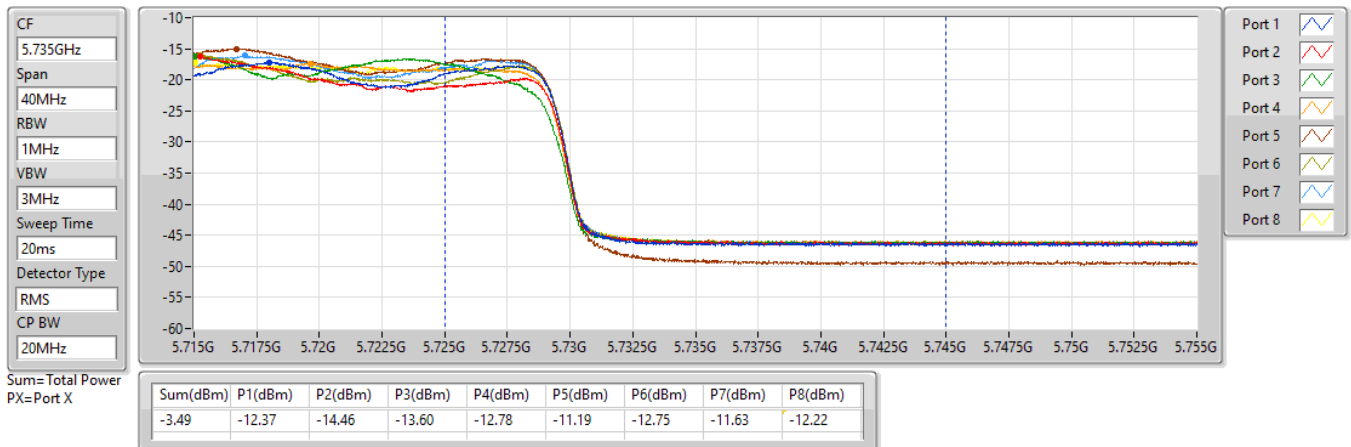


5.725-5.85GHz_802.11ax HEW80-BF_Nss1,(MCS0)_8TX

AV Power

5690MHz Straddle 5.725-5.85GHz_TnomVnom

20/10/2022





Average Power_Mode 1 / Antenna Set 1 (Dipole)

Appendix B.5

For 80+80 UNII 1, 2A Indoor / UNII 2C Indoor/Outdoor

Summary

Mode	Total Power (dBm)	Total Power (W)
5.15-5.25GHz	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	17.46	0.05572
5.25-5.35GHz	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	17.06	0.05082
5.47-5.725GHz	-	-
802.11ax HEW80+80_Nss2,(MCS0)_8TX	22.22	0.16672



Average Power_Mode 1 / Antenna Set 1 (Dipole)

Appendix B.5

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Port 5 (dBm)	Port 6 (dBm)	Port 7 (dBm)	Port 8 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-
#5210MHz,5290MHz	Pass	6.22	11.50	10.96	12.05	11.17					17.46	29.78
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-
5210MHz,#5290MHz	Pass	5.93	-	-	-	-	10.93	10.67	10.43	11.98	17.06	23.98
802.11ax HEW80+80_Nss2,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
#5530MHz,#5610MHz	Pass	5.85	13.86	12.52	13.90	13.37	12.27	13.28	12.90	13.16	22.22	23.98

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

For 80+80 UNII 1, 2A Indoor / UNII 2C Indoor/Outdoor

Summary

Mode	Total Power (dBm)	Total Power (W)
5.15-5.25GHz	-	-
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	17.46	0.05572
5.25-5.35GHz	-	-
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	17.06	0.05082
5.47-5.725GHz	-	-
802.11ax HEW80+80-BF_Nss2,(MCS0)_8TX	18.29	0.06745



Average Power_Mode 1 / Antenna Set 1 (Dipole)

Appendix B.6

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Port 5 (dBm)	Port 6 (dBm)	Port 7 (dBm)	Port 8 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-
#5210MHz,5290MHz	Pass	11.86	11.50	10.96	12.05	11.17					17.46	24.14
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-
5210MHz,#5290MHz	Pass	11.53	-	-	-	-	10.93	10.67	10.43	11.98	17.06	18.45
802.11ax HEW80+80-BF_Nss2,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
#5530MHz,#5610MHz	Pass	11.26	9.72	8.51	10.03	9.23	8.57	9.18	8.84	9.71	18.29	18.72

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



Average Power_Mode 1 / Antenna Set 1 (Dipole)

Appendix B.7

For 80+80 UNII 1, 2A Outdoor

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP / Elevation angle higher than 30° EIRP (dBm)	EIRP / Elevation angle higher than 30° EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	17.46	0.05572	23.68/13.89	0.23335/0.02449
5.25-5.35GHz	-	-	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	17.06	0.05082	22.99	0.19907



Average Power_Mode 1 / Antenna Set 1 (Dipole)

Appendix B.7

Result

Mode	Result	DG	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8	Total Power	Power Limit	EIRP / Elevation angle higher than 30° EIRP (dBm)	EIRP Limit / Elevation angle higher than 30° EIRP Limit (dBm)
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)		
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
#5210MHz,5290MHz	Pass	6.22	11.50	10.96	12.05	11.17					17.46	29.78	23.68/13.89	36.00/21.00
5210MHz,#5290MHz	Pass	5.93	-	-	-	-	10.93	10.67	10.43	11.98	17.06	23.98	22.99	30.00

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



Average Power_Mode 1 / Antenna Set 1 (Dipole)

Appendix B.8

For 80+80 UNII 1, 2A Outdoor

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP / Elevation angle higher than 30° EIRP (dBm)	EIRP / Elevation angle higher than 30° EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	17.39	0.05483	29.25/19.46	0.84140/0.08831
5.25-5.35GHz	-	-	-	-
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	17.06	0.05082	28.59	0.72277



Average Power_Mode 1 / Antenna Set 1 (Dipole)

Appendix B.8

Result

Mode	Result	DG	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8	Total Power	Power Limit	EIRP / Elevation angle higher than 30° EIRP (dBm)	EIRP Limit / Elevation angle higher than 30° EIRP Limit (dBm)
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
#5210MHz,5290MHz	Pass	11.86	11.20	10.96	12.05	11.17					17.39	24.14	29.25/19.46	36.00/21.00
5210MHz,#5290MHz	Pass	11.53	-	-	-	-	10.93	10.67	10.43	11.98	17.06	18.45	28.59	30.00

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



Average Power_Mode 2 / Antenna Set 2 (Patch)

Appendix B.9

For 80+80 UNII 1, 2A Indoor / UNII 2C Indoor/Outdoor

Summary

Mode	Total Power (dBm)	Total Power (W)
5.15-5.25GHz	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	12.88	0.01941
5.25-5.35GHz	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	12.67	0.01849
5.47-5.725GHz	-	-
802.11ax HEW80+80_Nss2,(MCS0)_8TX	15.24	0.03342



Average Power_Mode 2 / Antenna Set 2 (Patch)

Appendix B.9

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Port 5 (dBm)	Port 6 (dBm)	Port 7 (dBm)	Port 8 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-
#5210MHz,#5290MHz	Pass	14.08	7.18	6.44	7.31	6.45					12.88	21.92
5210MHz,#5290MHz	Pass	14.06	-	-	-	-	6.57	5.78	6.11	7.84	12.67	15.92
802.11ax HEW80+80_Nss2,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
#5530MHz,#5610MHz	Pass	14.28	6.56	5.78	7.20	6.37	5.41	5.93	5.75	6.41	15.24	15.70

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



Average Power_Mode 2 / Antenna Set 2 (Patch)

Appendix B.10

For 80+80 UNII 1, 2A Indoor / UNII 2C Indoor/Outdoor

Summary

Mode	Total Power (dBm)	Total Power (W)
5.15-5.25GHz	-	-
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	12.88	0.01941
5.25-5.35GHz	-	-
5.47-5.725GHz	-	-
802.11ax HEW80+80-BF_Nss2,(MCS0)_8TX	13.26	0.02118



Average Power_Mode 2 / Antenna Set 2 (Patch)

Appendix B.10

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Port 5 (dBm)	Port 6 (dBm)	Port 7 (dBm)	Port 8 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-
#5210MHz,5290MHz	Pass	16.72	7.18	6.44	7.31	6.45					12.88	19.28
5210MHz,#5290MHz	Pass	16.57	-	-	-	-	6.57	5.78	6.11	7.84	12.67	13.41
802.11ax HEW80+80-BF_Nss2,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
#5530MHz,#5610MHz	Pass	16.68	4.52	3.36	5.39	4.23	3.69	4.13	3.55	4.60	13.26	13.30

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



Average Power_Mode 2 / Antenna Set 2 (Patch)

Appendix B.11

For 80+80 UNII 1, 2A Outdoor

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP / Elevation angle higher than 30° EIRP (dBm)	EIRP / Elevation angle higher than 30° EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ax HEW80+80_Nss1,(MCS0)_4TX	12.88	0.01941	26.96/17.36	0.49659/0.05445
802.11ax HEW80+80_Nss1,(MCS0)_4TX	12.67	0.01849	26.73	0.47098



Average Power_Mode 2 / Antenna Set 2 (Patch)

Appendix B.11

Result

Mode	Result	DG	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8	Total Power	Power Limit	EIRP / Elevation angle higher than 30° EIRP (dBm)	EIRP Limit / Elevation angle higher than 30° EIRP Limit (dBm)
802.11ax HEW80+80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
#5210MHz,5290MHz	Pass	14.08	7.18	6.44	7.31	6.45					12.88	21.92	26.96/17.36	36.00/21.00
5210MHz,#5290MHz	Pass	14.06	-	-	-	-	6.57	5.78	6.11	7.84	12.67	15.92	26.73	30.00

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



Average Power_Mode 2 / Antenna Set 2 (Patch)

Appendix B.12

For 80+80 UNII 1, 2A Outdoor

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP / Elevation angle higher than 30° EIRP (dBm)	EIRP / Elevation angle higher than 30° EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	12.88	0.01941	29.60/18.05	0.91201/0.06383
5.25-5.35GHz	-	-	-	-
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	12.67	0.01849	29.24	0.83946



Average Power_Mode 2 / Antenna Set 2 (Patch)

Appendix B.12

Result

Mode	Result	DG	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8	Total Power	Power Limit	EIRP / Elevation angle higher than 30° EIRP (dBm)	EIRP Limit / Elevation angle higher than 30° EIRP Limit (dBm)
802.11ax HEW80+80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-	-	-	-	-
#5210MHz,5290MHz	Pass	16.72	7.18	6.44	7.31	6.45					12.88	19.28	29.60/18.05	36.00/21.00
5210MHz,#5290MHz	Pass	16.57	-	-	-	-	6.57	5.78	6.11	7.84	12.67	13.41	29.24	30.00

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



For UNII 2A and 2C (include Straddle Channel) indoor + outdoor

Summary

Mode	PD (dBm/RBW)
5.25-5.35GHz	-
802.11a_Nss1,(6Mbps)_8TX	2.38
802.11ax HEW20_Nss1,(MCS0)_8TX	2.17
802.11ax HEW40_Nss1,(MCS0)_8TX	2.31
802.11ax HEW80_Nss1,(MCS0)_8TX	2.32
5.47-5.725GHz	-
802.11a_Nss1,(6Mbps)_8TX	2.46
802.11ax HEW20_Nss1,(MCS0)_8TX	2.62
802.11ax HEW40_Nss1,(MCS0)_8TX	2.73
802.11ax HEW80_Nss1,(MCS0)_8TX	2.49
5.725-5.85GHz	-
802.11a_Nss1,(6Mbps)_8TX	0.51
802.11ax HEW20_Nss1,(MCS0)_8TX	0.38
802.11ax HEW40_Nss1,(MCS0)_8TX	-0.34
802.11ax HEW80_Nss1,(MCS0)_8TX	-1.56

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



PSD_Mode 1 / Antenna Set 1 (Dipole)

Appendix C.1

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	Port 5 (dBm/RBW)	Port 6 (dBm/RBW)	Port 7 (dBm/RBW)	Port 8 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	14.58	-7.02	-7.12	-6.03	-6.54	-6.23	-6.06	-6.96	-5.41	2.07	2.42
5300MHz	Pass	14.58	-5.61	-5.45	-4.93	-7.37	-6.38	-6.58	-6.23	-5.26	2.38	2.42
5320MHz	Pass	14.58	-5.26	-5.38	-5.38	-7.06	-6.50	-5.55	-6.64	-5.31	2.31	2.42
5500MHz	Pass	14.26	-5.31	-6.16	-4.98	-8.43	-5.55	-6.24	-6.70	-5.74	2.46	2.74
5580MHz	Pass	14.26	-5.47	-5.92	-6.30	-6.80	-6.73	-5.00	-5.22	-6.71	2.32	2.74
5700MHz	Pass	14.26	-5.33	-6.31	-4.73	-6.14	-6.12	-5.96	-6.56	-8.45	2.17	2.74
5720MHz Straddle 5.47-5.725GHz	Pass	14.26	-5.58	-5.87	-5.37	-5.01	-6.20	-6.84	-6.86	-7.78	2.39	2.74
5720MHz Straddle 5.725-5.85GHz	Pass	15.06	-7.74	-10.41	-7.07	-6.45	-8.27	-8.51	-8.66	-10.14	0.51	20.94
802.11ax HEW20_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	14.58	-7.04	-5.15	-5.14	-6.74	-6.66	-6.47	-7.02	-5.58	2.17	2.42
5300MHz	Pass	14.58	-5.91	-6.33	-5.30	-7.36	-6.94	-6.29	-6.40	-6.30	2.07	2.42
5320MHz	Pass	14.58	-6.54	-7.64	-5.45	-7.18	-6.33	-6.78	-6.25	-6.17	2.00	2.42
5500MHz	Pass	14.26	-4.32	-6.04	-5.12	-6.24	-5.23	-5.73	-5.54	-5.28	2.62	2.74
5580MHz	Pass	14.26	-4.65	-5.17	-4.58	-5.97	-6.08	-6.65	-6.72	-6.84	2.47	2.74
5700MHz	Pass	14.26	-5.10	-5.60	-4.11	-5.43	-5.50	-5.04	-6.82	-8.23	2.50	2.74
5720MHz Straddle 5.47-5.725GHz	Pass	14.26	-4.86	-5.71	-4.03	-5.43	-6.27	-6.88	-6.61	-8.58	2.49	2.74
5720MHz Straddle 5.725-5.85GHz	Pass	15.06	-8.93	-7.46	-6.50	-7.29	-8.77	-9.35	-8.41	-9.85	0.38	20.94
802.11ax HEW40_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	14.58	-6.52	-4.23	-4.89	-6.51	-6.64	-5.74	-5.76	-4.64	2.31	2.42
5310MHz	Pass	14.58	-5.94	-5.31	-4.89	-6.78	-6.42	-5.65	-6.08	-5.14	2.06	2.42
5510MHz	Pass	14.26	-5.60	-6.61	-5.47	-6.05	-5.05	-5.68	-5.60	-5.32	2.42	2.74
5550MHz	Pass	14.26	-5.85	-5.80	-5.31	-5.83	-5.58	-6.25	-5.95	-6.10	2.46	2.74
5670MHz	Pass	14.26	-5.29	-4.99	-4.41	-5.54	-6.10	-5.68	-6.15	-8.11	2.73	2.74
5710MHz Straddle 5.47-5.725GHz	Pass	14.26	-4.64	-5.31	-4.37	-5.18	-5.85	-6.04	-6.15	-7.90	2.44	2.74
5710MHz Straddle 5.725-5.85GHz	Pass	15.06	-7.91	-10.35	-8.06	-7.39	-9.08	-9.37	-8.71	-10.41	-0.34	20.94
802.11ax HEW80_Nss1,(MCS0)_8TX	-	-	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	14.58	-6.24	-4.60	-4.59	-6.57	-6.35	-5.50	-6.25	-4.69	2.32	2.42
5530MHz	Pass	14.26	-5.85	-6.60	-6.01	-6.29	-5.78	-6.03	-6.08	-6.39	1.92	2.74
5610MHz	Pass	14.26	-5.68	-6.15	-5.06	-5.44	-5.82	-6.51	-6.58	-7.40	2.39	2.74
5690MHz Straddle 5.47-5.725GHz	Pass	14.26	-5.40	-5.25	-4.55	-5.62	-6.40	-5.99	-6.25	-7.96	2.49	2.74
5690MHz Straddle 5.725-5.85GHz	Pass	15.06	-9.39	-11.28	-8.88	-8.47	-9.73	-11.24	-11.33	-11.80	-1.56	20.94

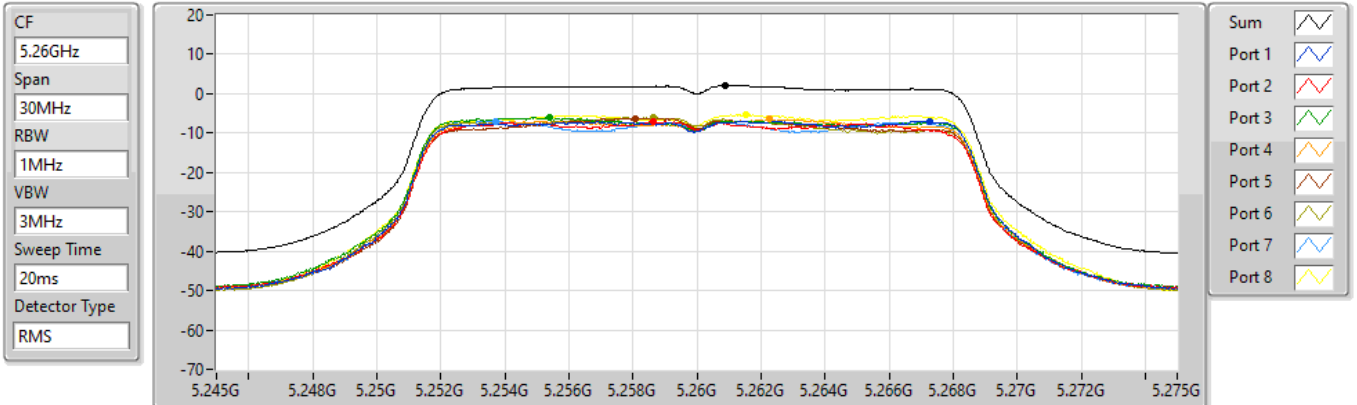
DG = Directional Gain; RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
 PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

802.11a_Nss1,(6Mbps)_8TX

PSD

5260MHz

13/10/2022



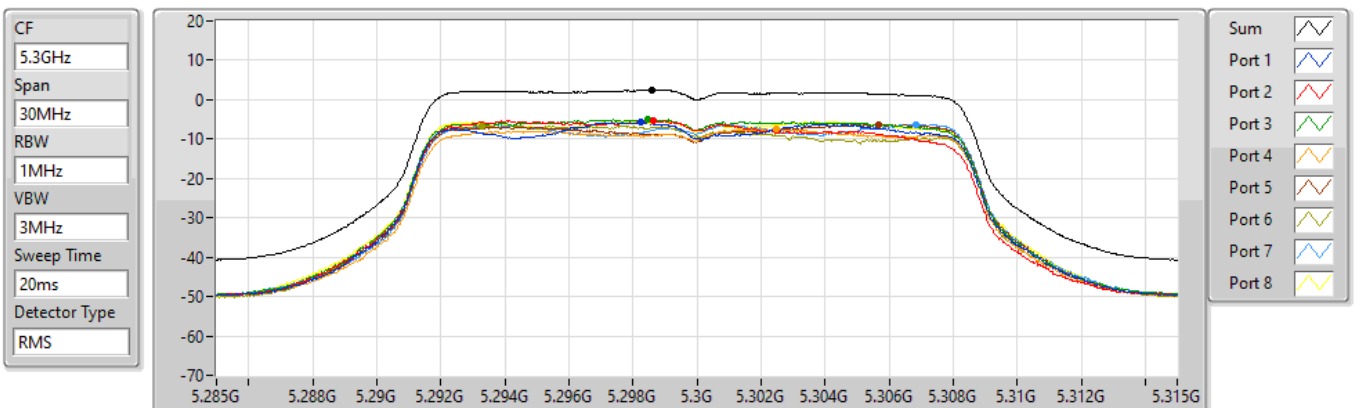
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(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.07	2.07	-7.02	-7.12	-6.03	-6.54	-6.23	-6.06	-6.96	-5.41

802.11a_Nss1,(6Mbps)_8TX

PSD

5300MHz

13/10/2022



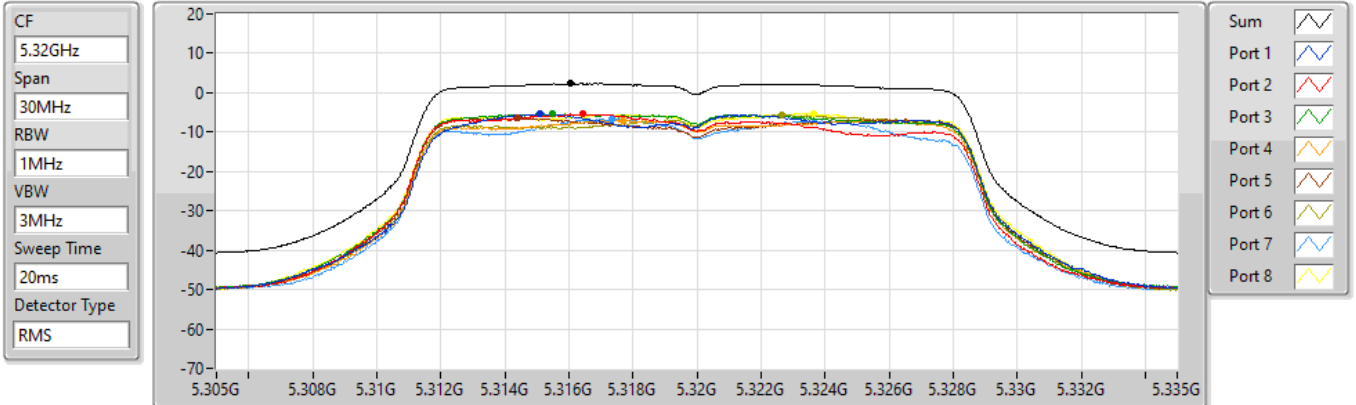
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(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.38	2.38	-5.61	-5.45	-4.93	-7.37	-6.38	-6.58	-6.23	-5.26

802.11a_Nss1,(6Mbps)_8TX

5320MHz

PSD

13/10/2022



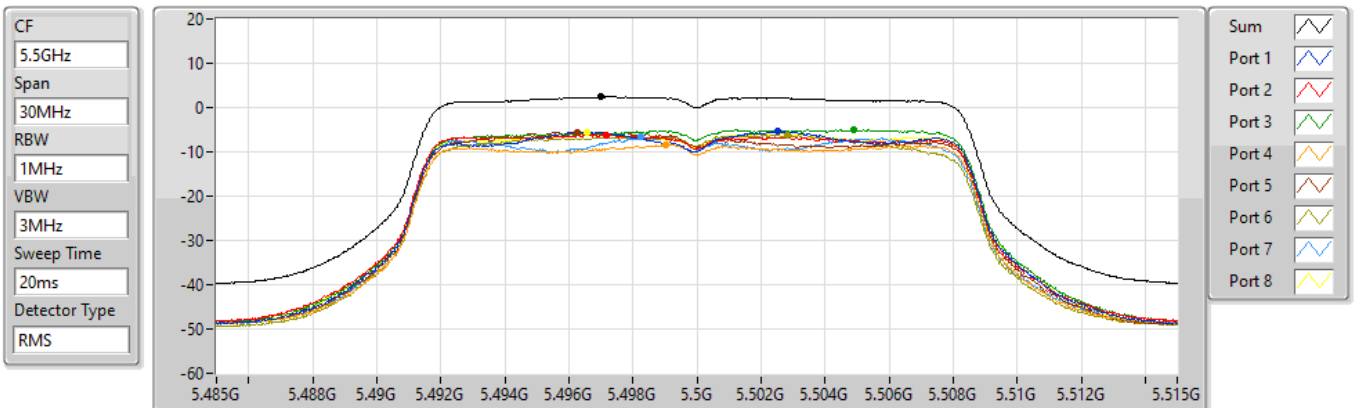
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(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.31	2.31	-5.26	-5.38	-5.38	-7.06	-6.50	-5.55	-6.64	-5.31

802.11a_Nss1,(6Mbps)_8TX

5500MHz

PSD

13/10/2022



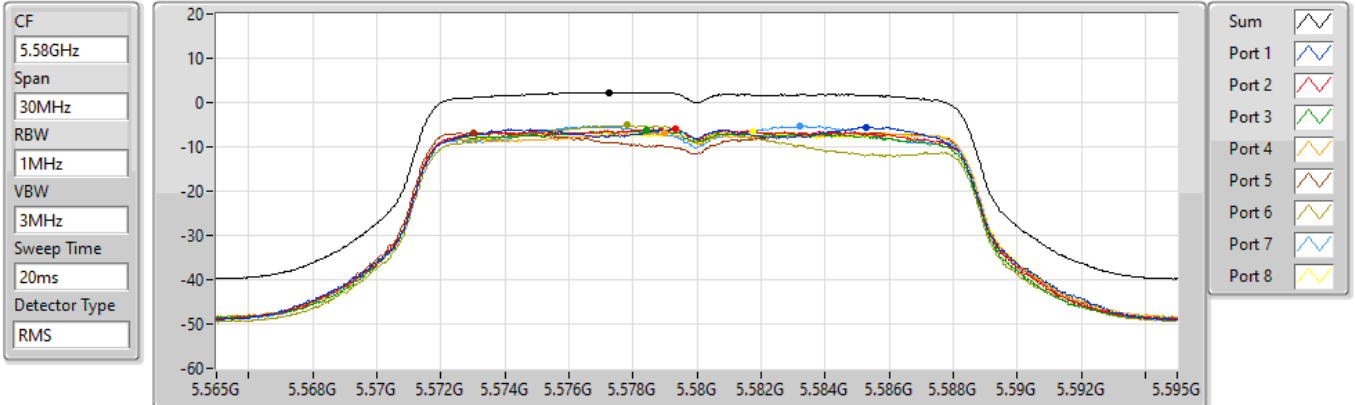
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(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.46	2.46	-5.31	-6.16	-4.98	-8.43	-5.55	-6.24	-6.70	-5.74

802.11a_Nss1,(6Mbps)_8TX

PSD

5580MHz

13/10/2022



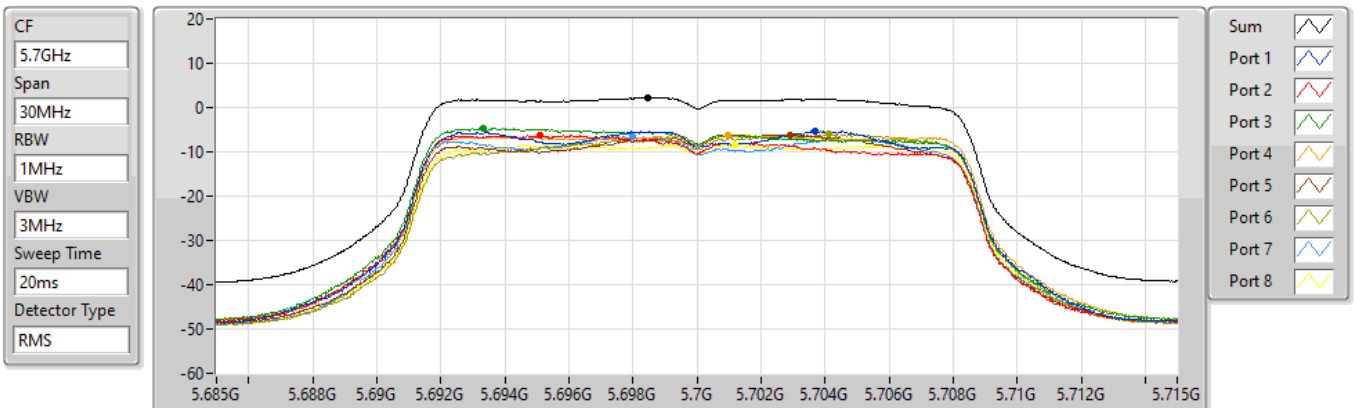
Sum	PD	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.32	2.32	-5.47	-5.92	-6.30	-6.80	-6.73	-5.00	-5.22	-6.71

802.11a_Nss1,(6Mbps)_8TX

PSD

5700MHz

13/10/2022



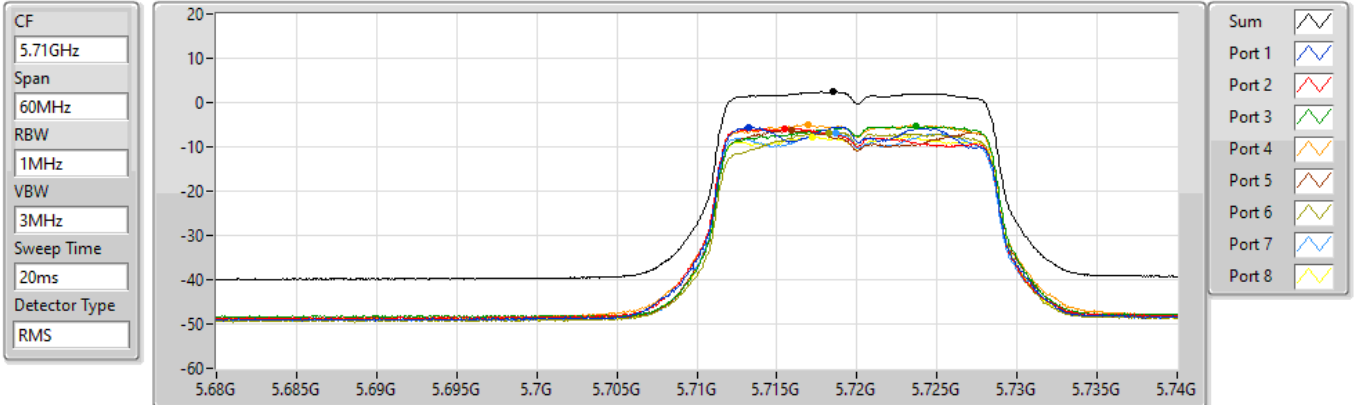
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(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.17	2.17	-5.33	-6.31	-4.73	-6.14	-6.12	-5.96	-6.56	-8.45

802.11a_Nss1,(6Mbps)_8TX

5720MHz Straddle 5.47-5.725GHz

PSD

13/10/2022



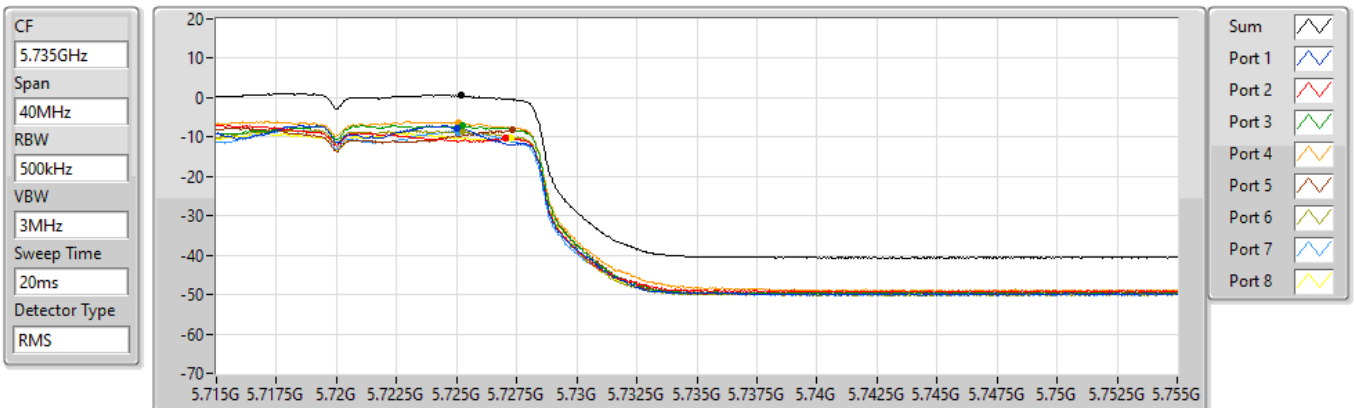
Sum	PD	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.39	2.39	-5.58	-5.87	-5.37	-5.01	-6.20	-6.84	-6.86	-7.78

802.11a_Nss1,(6Mbps)_8TX

5720MHz Straddle 5.725-5.85GHz

PSD

13/10/2022



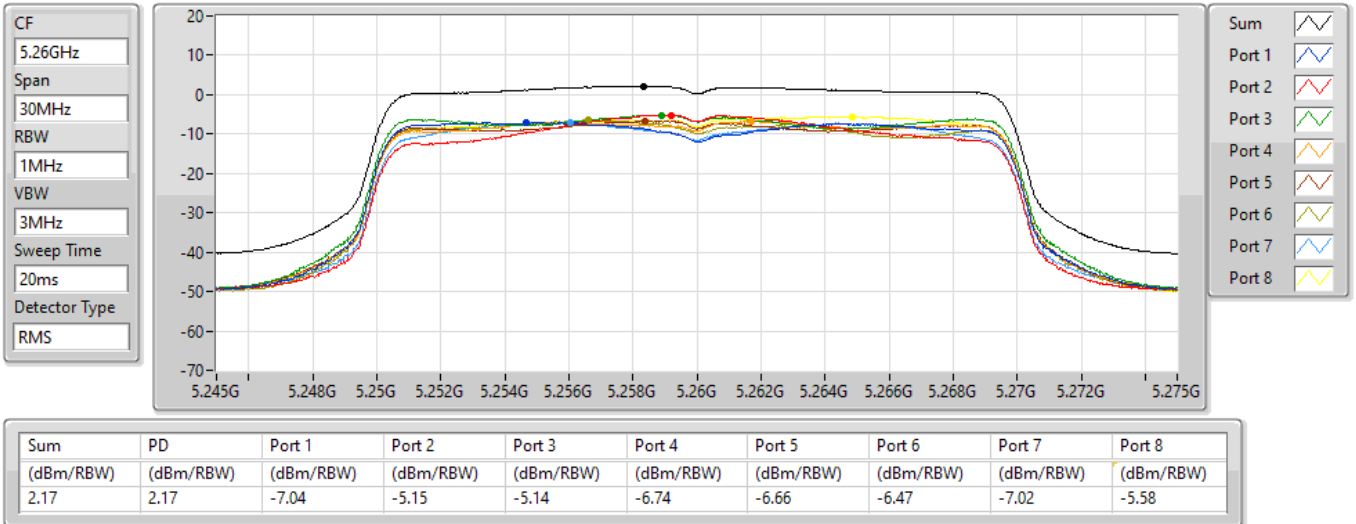
Sum	PD	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.51	0.51	-7.74	-10.41	-7.07	-6.45	-8.27	-8.51	-8.66	-10.14

802.11ax HEW20_Nss1,(MCS0)_8TX

5260MHz

PSD

13/10/2022

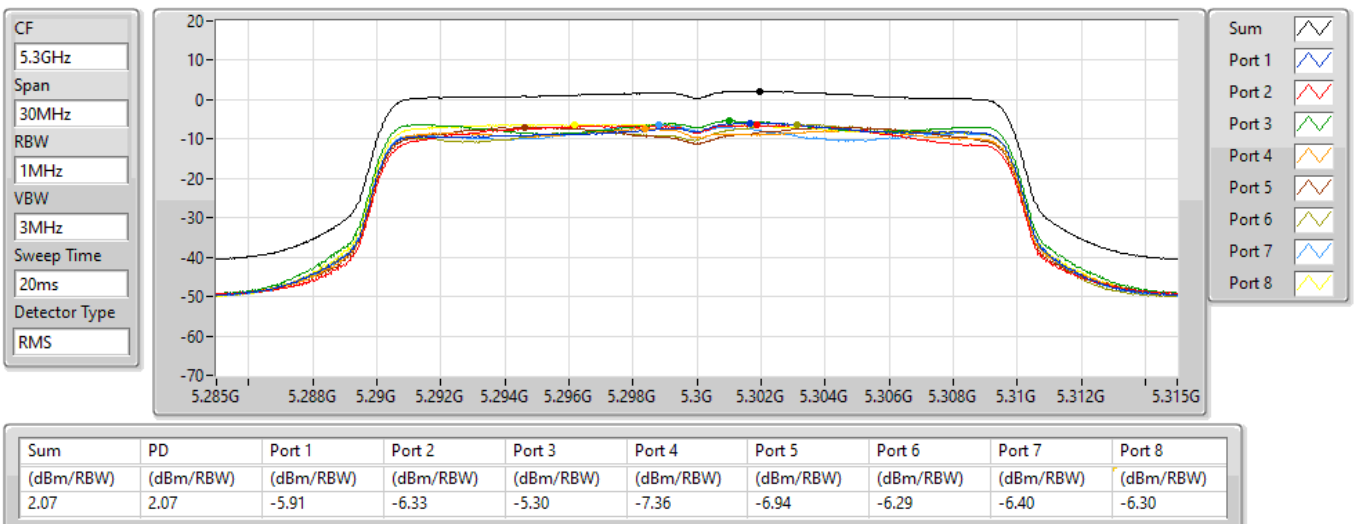


802.11ax HEW20_Nss1,(MCS0)_8TX

5300MHz

PSD

13/10/2022

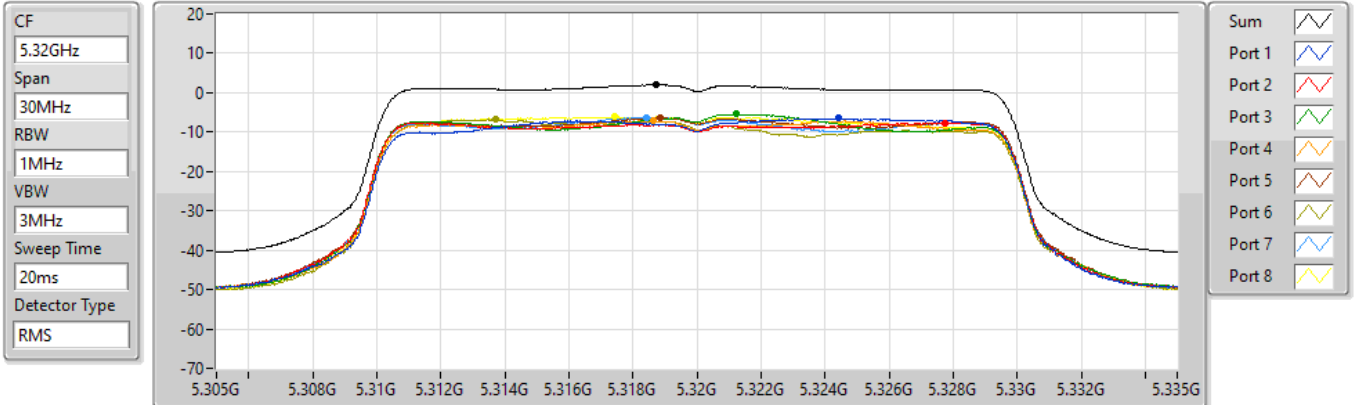


802.11ax HEW20_Nss1,(MCS0)_8TX

PSD

5320MHz

13/10/2022



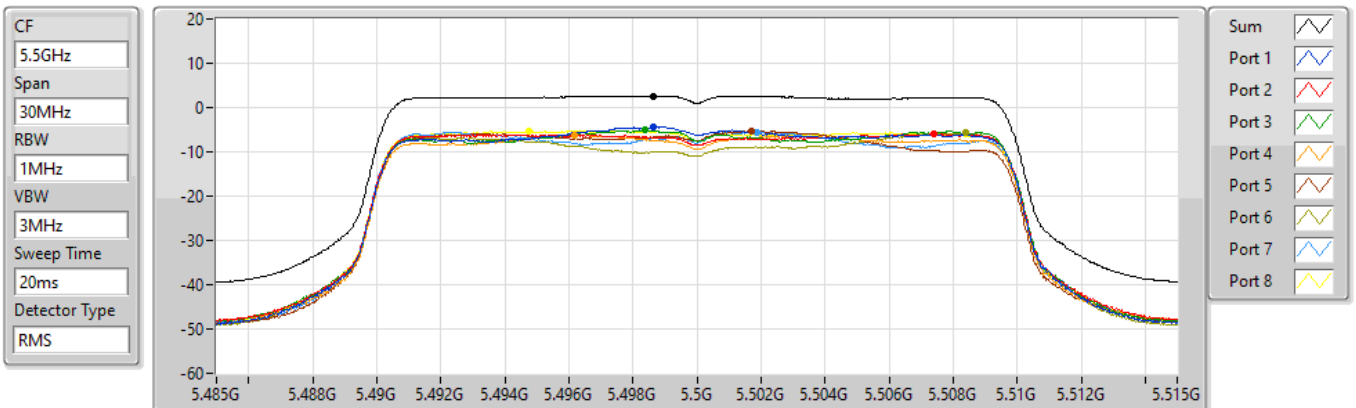
Sum	PD	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
2.00	2.00	-6.54	-7.64	-5.45	-7.18	-6.33	-6.78	-6.25	-6.17

802.11ax HEW20_Nss1,(MCS0)_8TX

PSD

5500MHz

13/10/2022



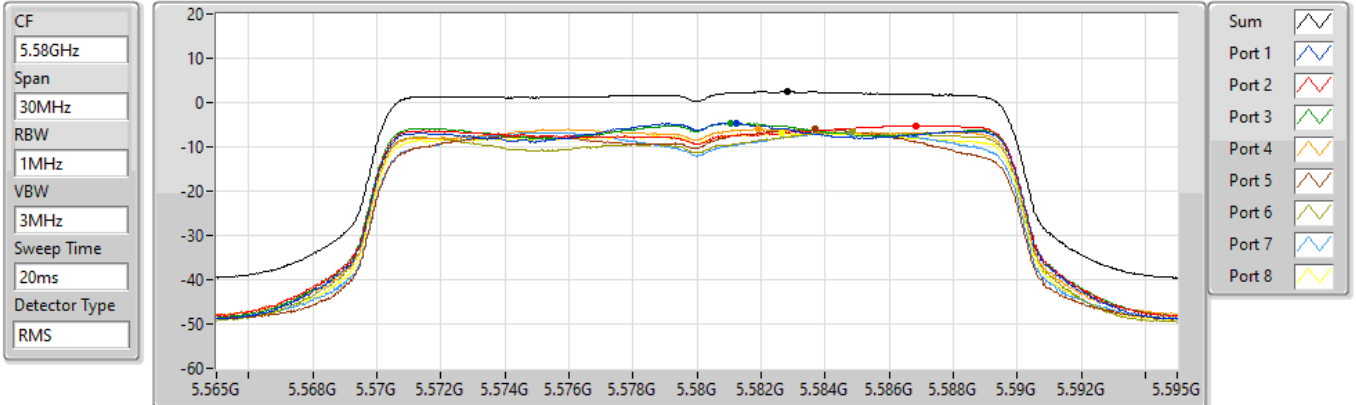
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(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
2.62	2.62	-4.32	-6.04	-5.12	-6.24	-5.23	-5.73	-5.54	-5.28

802.11ax HEW20_Nss1,(MCS0)_8TX

5580MHz

PSD

13/10/2022



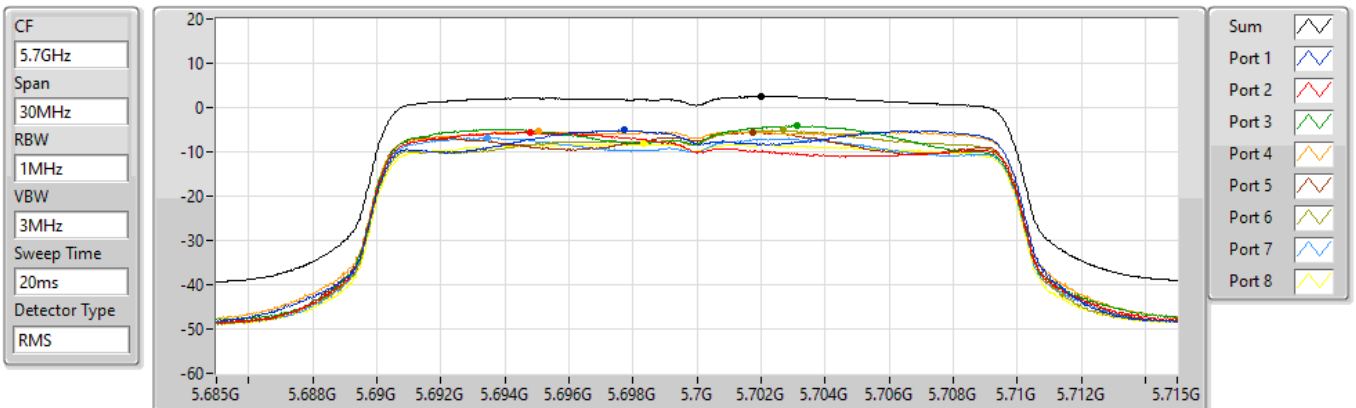
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(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
2.47	2.47	-4.65	-5.17	-4.58	-5.97	-6.08	-6.65	-6.72	-6.84

802.11ax HEW20_Nss1,(MCS0)_8TX

5700MHz

PSD

13/10/2022



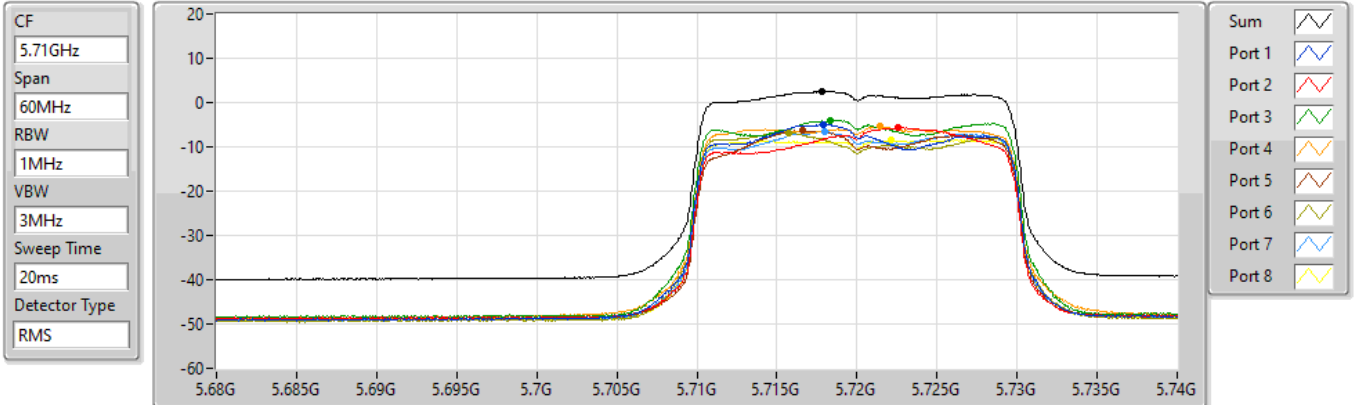
Sum	PD	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
2.50	2.50	-5.10	-5.60	-4.11	-5.43	-5.50	-5.04	-6.82	-8.23

802.11ax HEW20_Nss1,(MCS0)_8TX

5720MHz Straddle 5.47-5.725GHz

PSD

13/10/2022



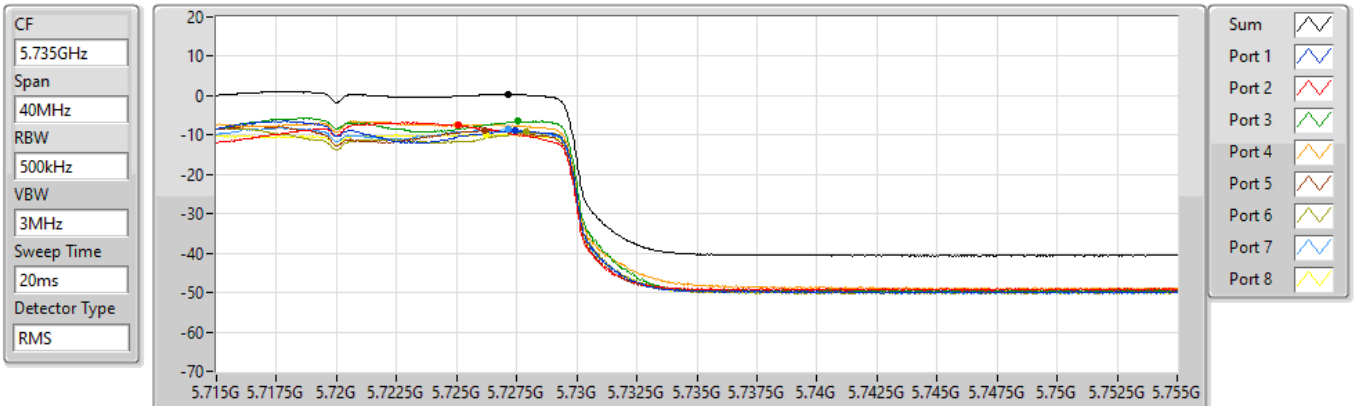
Sum	PD	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.49	2.49	-4.86	-5.71	-4.03	-5.43	-6.27	-6.88	-6.61	-8.58

802.11ax HEW20_Nss1,(MCS0)_8TX

5720MHz Straddle 5.725-5.85GHz

PSD

13/10/2022



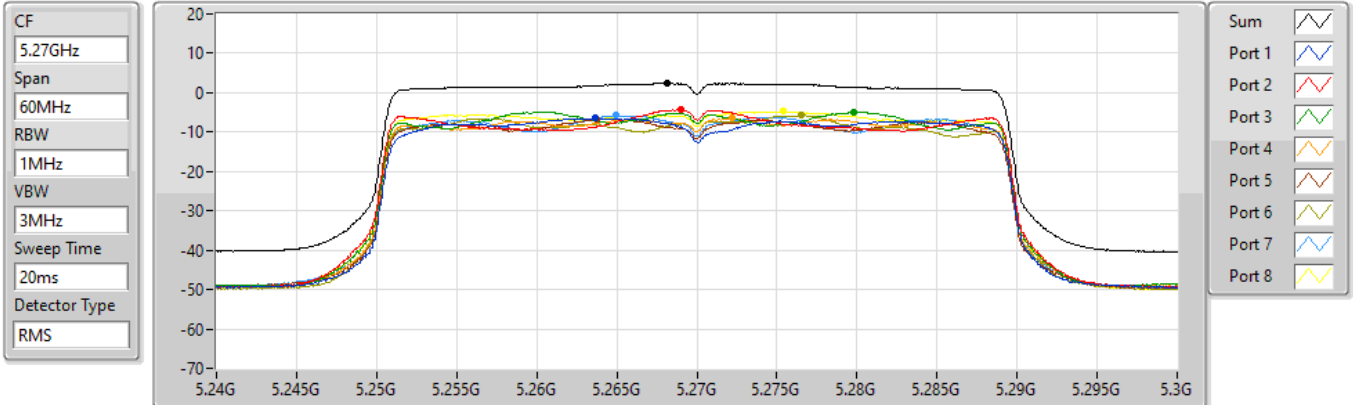
Sum	PD	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.38	0.38	-8.93	-7.46	-6.50	-7.29	-8.77	-9.35	-8.41	-9.85

802.11ax HEW40_Nss1,(MCS0)_8TX

PSD

5270MHz

13/10/2022



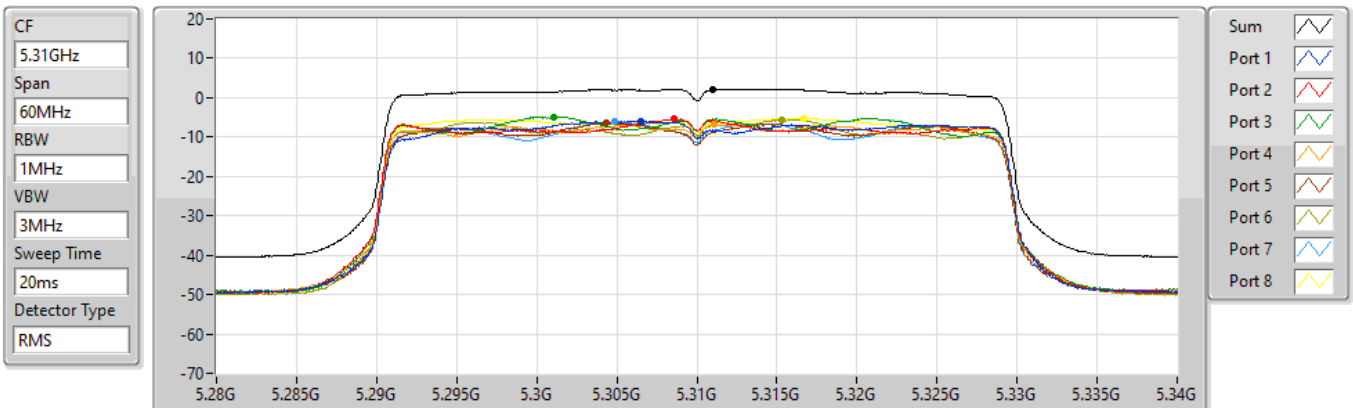
Sum	PD	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
2.31	2.31	-6.52	-4.23	-4.89	-6.51	-6.64	-5.74	-5.76	-4.64

802.11ax HEW40_Nss1,(MCS0)_8TX

PSD

5310MHz

13/10/2022



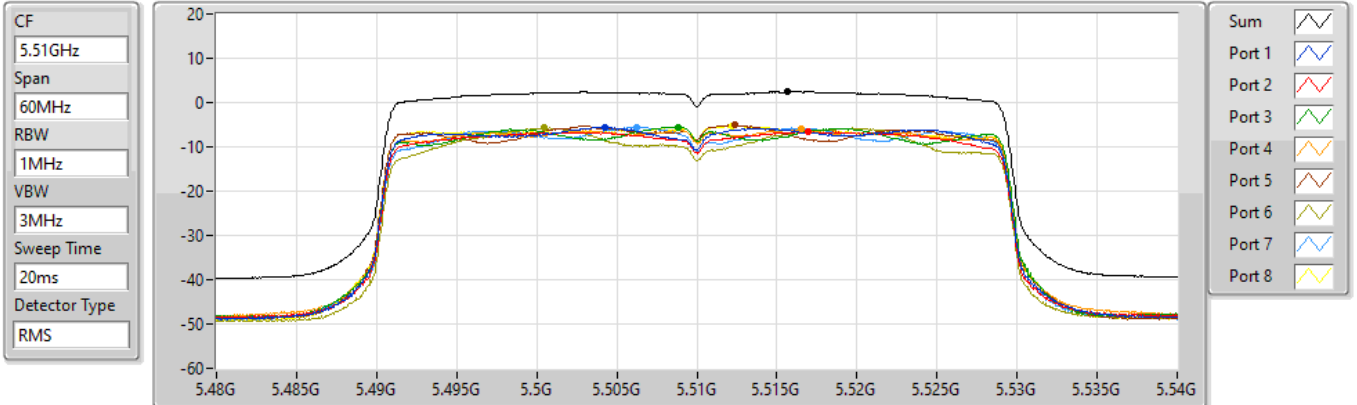
Sum	PD	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
2.06	2.06	-5.94	-5.31	-4.89	-6.78	-6.42	-5.65	-6.08	-5.14

802.11ax HEW40_Nss1,(MCS0)_8TX

PSD

5510MHz

13/10/2022

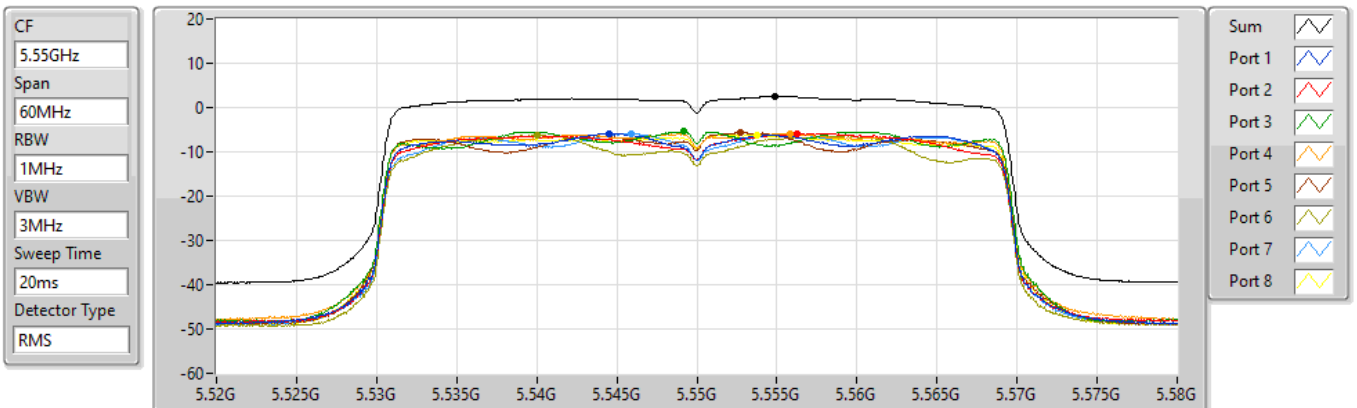


802.11ax HEW40_Nss1,(MCS0)_8TX

PSD

5550MHz

13/10/2022

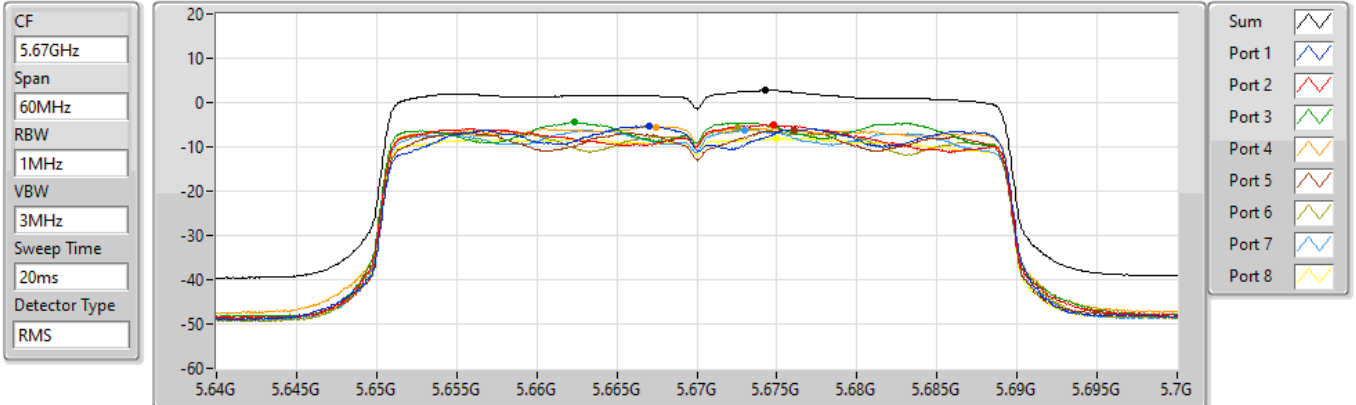


802.11ax HEW40_Nss1,(MCS0)_8TX

5670MHz

PSD

13/10/2022



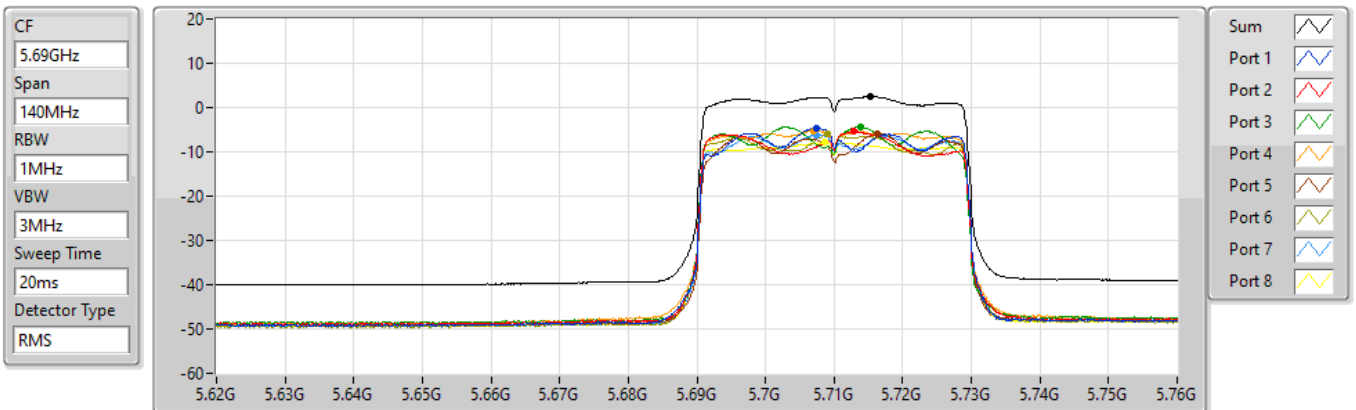
Sum	PD	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
2.73	2.73	-5.29	-4.99	-4.41	-5.54	-6.10	-5.68	-6.15	-8.11

802.11ax HEW40_Nss1,(MCS0)_8TX

5710MHz Straddle 5.47-5.725GHz

PSD

13/10/2022



Sum	PD	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
2.44	2.44	-4.64	-5.31	-4.37	-5.18	-5.85	-6.04	-6.15	-7.90