



FCC RADIO TEST REPORT

FCC ID : UIDW21
Equipment : Wireless Router
Brand Name : ARRIS
Model Name : W21
Applicant : ARRIS
3871 Lakefield Drive Suite 300, Suwanee, Georgia,
30024 United States
Manufacturer : ARRIS
3871 Lakefield Drive Suite 300, Suwanee, Georgia,
30024 United States
Standard : 47 CFR FCC Part 15.407

The product was received on Sep. 14, 2019, and testing was started from Sep. 14, 2019 and completed on Feb. 26, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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


Approved by: Cliff Chang

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A12_1 Ver1.0



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.407(a)	Emission Bandwidth	PASS	-
3.2	15.407(a)	Maximum Conducted Output Power	PASS	-
3.3	15.407(a)	Peak Power Spectral Density	PASS	-
3.4	15.407(b)	Unwanted Emissions	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

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: Cindy Peng



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]
5725-5850		5745-5825	149-165 [5]
5250-5350	n (HT40), ac (VHT40), ax (HEW40)	5270-5310	54-62 [2]
5470-5725		5510-5710	102-142 [6]
5725-5850		5755-5795	151-159 [2]
5250-5350	ac (VHT80), ax (HEW80)	5290	58 [1]
5470-5725		5530-5690	106-138 [3]
5725-5850		5775	155 [1]
5470-5725	ac (VHT160), ax (HEW160)	5570	114 [1]

Band	Mode	BWch (MHz)	Nant
5.25-5.35GHz	802.11a	20	2TX
5.25-5.35GHz	802.11n HT20	20	2TX
5.25-5.35GHz	802.11ac VHT20	20	2TX
5.25-5.35GHz	802.11ax HEW20	20	2TX
5.25-5.35GHz	802.11n HT40	40	2TX
5.25-5.35GHz	802.11ac VHT40	40	2TX
5.25-5.35GHz	802.11ax HEW40	40	2TX
5.25-5.35GHz	802.11ac VHT80	80	2TX
5.25-5.35GHz	802.11ax HEW80	80	2TX
5.47-5.725GHz	802.11a	20	4TX
5.47-5.725GHz	802.11n HT20	20	4TX
5.47-5.725GHz	802.11n HT20-BF	20	4TX
5.47-5.725GHz	802.11ac VHT20	20	4TX
5.47-5.725GHz	802.11ac VHT20-BF	20	4TX
5.47-5.725GHz	802.11ax HEW20	20	4TX
5.47-5.725GHz	802.11ax HEW20-BF	20	4TX
5.47-5.725GHz	802.11n HT40	40	4TX
5.47-5.725GHz	802.11n HT40-BF	40	4TX
5.47-5.725GHz	802.11ac VHT40	40	4TX



Band	Mode	BWch (MHz)	Nant
5.47-5.725GHz	802.11ac VHT40-BF	40	4TX
5.47-5.725GHz	802.11ax HEW40	40	4TX
5.47-5.725GHz	802.11ax HEW40-BF	40	4TX
5.47-5.725GHz	802.11ac VHT80	80	4TX
5.47-5.725GHz	802.11ac VHT80-BF	80	4TX
5.47-5.725GHz	802.11ax HEW80	80	4TX
5.47-5.725GHz	802.11ax HEW80-BF	80	4TX
5.47-5.725GHz	802.11ac VHT160	160	4TX
5.47-5.725GHz	802.11ac VHT160-BF	160	4TX
5.47-5.725GHz	802.11ax HEW160	160	4TX
5.47-5.725GHz	802.11ax HEW160-BF	160	4TX
5.725-5.85GHz	802.11a	20	4TX
5.725-5.85GHz	802.11n HT20	20	4TX
5.725-5.85GHz	802.11n HT20-BF	20	4TX
5.725-5.85GHz	802.11ac VHT20	20	4TX
5.725-5.85GHz	802.11ac VHT20-BF	20	4TX
5.725-5.85GHz	802.11ax HEW20	20	4TX
5.725-5.85GHz	802.11ax HEW20-BF	20	4TX
5.725-5.85GHz	802.11n HT40	40	4TX
5.725-5.85GHz	802.11n HT40-BF	40	4TX
5.725-5.85GHz	802.11ac VHT40	40	4TX
5.725-5.85GHz	802.11ac VHT40-BF	40	4TX
5.725-5.85GHz	802.11ax HEW40	40	4TX
5.725-5.85GHz	802.11ax HEW40-BF	40	4TX
5.725-5.85GHz	802.11ac VHT80	80	4TX
5.725-5.85GHz	802.11ac VHT80-BF	80	4TX
5.725-5.85GHz	802.11ax HEW80	80	4TX
5.725-5.85GHz	802.11ax HEW80-BF	80	4TX

Note:

- ♦ 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40 and VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation for 5GHz band 2, 4
- ♦ VHT20, VHT40, VHT80 and VHT160 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation for 5GHz band 3.
- ♦ HEW20, HEW40 and HEW80 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation for 5GHz band 2, 4.
- ♦ HEW20, HEW40, HEW80 and HEW160 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation for 5GHz band 3.
- ♦ BWch is the nominal channel bandwidth.
- ♦ Nss-Min is the minimum number of spatial streams.
- ♦ Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.



1.1.2 Antenna Information

Set	2.4GHz Port	5GHz Band 1~2 Port	5GHz Band 3~4 Port	Brand Name	Model Name	Type	Connector	Gain (dBi)
1	1	-	-	WHAYU	C1335-510379-A	PCB	I-PEX	Note 1
2	2	-	-	WHAYU	C1335-510382-A	PCB	I-PEX	
3	-	1	-	WHAYU	C1335-510380-A	PCB	I-PEX	
4	-	2	-	WHAYU	C1335-510383-A	PCB	I-PEX	
5	-	-	4	WHAYU	C1335-510381-A	PCB	I-PEX	
6	-	-	3	WHAYU	C1335-510384-A	PCB	I-PEX	
7	-	-	2	WHAYU	C1335-510385-A	PCB	I-PEX	
8	-	-	1	WHAYU	C1335-510386-A	PCB	I-PEX	

Note1:

Set	Antenn Gain (dBi)		
	2.4GHz	5GHz Band 1~2	5GHz Band 3~4
1	3.81	-	-
2	3.59	-	-
3	-	4.80	-
4	-	4.03	-
5	-	-	5.28
6	-	-	3.47
7	-	-	4.74
8	-	-	4.21

Set	Directional Gain (dBi)		
	2.4GHz	5GHz Band 1~2	5GHz Band 3~4
1	4.73	-	-
2	4.73	-	-
3	-	6.04	-
4	-	6.04	-
5	-	-	7.95
6	-	-	7.95
7	-	-	7.95
8	-	-	7.95

Note2: The above information was declared by manufacturer.

Note3: The EUT has eight set antennas.

The EUT has two radios, Radio 1 supports WLAN 2.4GHz (802.11b/g/n/ac/ax mode) and WLAN 5GHz band 1~2 (802.11a/n/ac/ax mode), Radio 2 supports WLAN 5GHz band 3~4 (802.11a/n/ac/ax mode).

For Radio 1 (2.4GHz and 5GHz band 1~2)**For 2TX/2RX:**

Port 1 and Port 2 can be use as transmitting/receiving antenna

Port 1 and Port 2 could receive simultaneously.

For Radio 2 (5GHz band 3~4)**For 4TX/4RX:**

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

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

**1.1.3 Mode Test Duty Cycle**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.953	0.21	2.068m	1k
802.11ac VHT20	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT20-BF	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.973	0.12	953.8u	3k
802.11ac VHT40-BF	0.969	0.14	953.75u	3k
802.11ac VHT80	0.943	0.25	462.333u	3k
802.11ac VHT80-BF	0.943	0.25	460.625u	3k
802.11ac VHT160	0.9	0.46	254.6u	10k
802.11ac VHT160-BF	0.899	0.46	252.5u	10k
802.11ax HEW20	0.981	0.08	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW20-BF	0.982	0.08	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW40	0.964	0.16	773.75u	3k
802.11ax HEW40-BF	0.961	0.17	773.75u	3k
802.11ax HEW80	0.929	0.32	402.5u	3k
802.11ax HEW80-BF	0.931	0.31	401.875u	3k
802.11ax HEW160	0.887	0.52	234.333u	10k
802.11ax HEW160-BF	0.885	0.53	232.5u	10k

Note:

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

1.1.4 EUT Operational Condition

EUT Power Type	From power adapter			
Beamforming Function	☒	With beamforming	☐	Without beamforming
	The product has beamforming function for 802.11n/ac/ax in 5GHz band 3 and band 4 (5470-5725MHz and 5725-5850MHz)			
Weather Band	☒	With 5600~5650MHz	☐	Without 5600~5650MHz
Function	☐	Outdoor P2M	☒	Indoor P2M
	☐	Fixed P2P	☐	Client
TPC Function	☒	With TPC	☐	Without TPC
Test Software Version	For non-beamforming function: MTool V3.1.0.1			
	For beamforming function: Telnet			

Note: The above information was declared by manufacturer.

**1.1.5 Table for Radio Information**

Radio	Bandwidth	Support Function
1	2.4GHz and 5GHz Band 1~2	Master (AP Router and Extender)
2	5GHz Band 3~4	Master (Extender) and Client without radar detection (Client and Bridge)

1.1.6 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR932906AB

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

Modifications	Performance Checking
1. Adding the 5GHz band 2 and band 3 (5250~5350 MHz and 5470~5725 MHz), the detail please refer to the section 1.1.5. 2. Adding the 802.11ac 160MHz and 802.11ax 160MHz mode for 5GHz band 3 (5570MHz). 3. Adding the beamforming function for 802.11n/ac/ax in 5GHz band 3 and band 4 (5470~5725MHz and 5725~5850MHz).	1. Emission Bandwidth. 2. Maximum Conducted Output Power. 3. Peak Power Spectral Density. 4. Unwanted Emissions Above 1GHz.
4. Changing the shielded case of Radio 2.	1. Maximum Conducted Output Power. 2. Unwanted Emissions Above 1GHz. Above test items testing 802.11ax HEW20 5745 MHz only and it is max power channel of original test report.



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
- ♦ FCC KDB 662911 D01 v02r01
- ♦ FCC KDB 412172 D01 v01r01

1.3 Testing Location Information

Testing Location		
☐	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973
☒	JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 886-3-656-9065 FAX : 886-3-656-9085

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Ekko Hsieh	24.8~25.5°C / 64~66%	Sep. 18, 2019~Feb. 25, 2020
Radiated	03CH05-CB	Justin Lin	24.4~25.7°C / 58~63%	Sep. 14, 2019~Jan. 15, 2020 / Feb. 26, 2020

Test site Designation No. TW0006 with FCC

Test site registered number IC 4086D with Industry Canada.

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 (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	5.1 dB	Confidence levels of 95%
Conducted Emission	2.4 dB	Confidence levels of 95%
Output Power Measurement	1.5 dB	Confidence levels of 95%
Power Density Measurement	2.4 dB	Confidence levels of 95%
Bandwidth Measurement	2%	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

For non-beamforming function:

Mode	Power Setting
802.11a_Nss1,(6Mbps)_2TX	-
5260MHz	80
5300MHz	80
5320MHz	82
802.11a_Nss1,(6Mbps)_4TX	-
5500MHz	62
5580MHz	59
5700MHz	55
5720MHz Straddle 5.47-5.725GHz	56
5720MHz Straddle 5.725-5.85GHz	56
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5260MHz	80
5300MHz	80
5320MHz	82
802.11ac VHT20_Nss1,(MCS0)_4TX	-
5500MHz	65
5580MHz	62
5700MHz	59
5720MHz Straddle 5.47-5.725GHz	60
5720MHz Straddle 5.725-5.85GHz	60
802.11ac VHT40_Nss1,(MCS0)_2TX	-
5270MHz	81
5310MHz	78
802.11ac VHT40_Nss1,(MCS0)_4TX	-
5510MHz	70
5550MHz	71
5670MHz	69
5710MHz Straddle 5.47-5.725GHz	71
5710MHz Straddle 5.725-5.85GHz	71
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5290MHz	80
802.11ac VHT80_Nss1,(MCS0)_4TX	-



Mode	Power Setting
5530MHz	69
5610MHz	70
5690MHz Straddle 5.47-5.725GHz	71
5690MHz Straddle 5.725-5.85GHz	71
802.11ac VHT160_Nss1,(MCS0)_4TX	-
5570MHz	60
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5260MHz	79
5300MHz	79
5320MHz	80
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5500MHz	64
5580MHz	61
5700MHz	58
5745MHz	98
5720MHz Straddle 5.47-5.725GHz	59
5720MHz Straddle 5.725-5.85GHz	59
802.11ax HEW40_Nss1,(MCS0)_2TX	-
5270MHz	80
5310MHz	78
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5510MHz	70
5550MHz	70
5670MHz	69
5710MHz Straddle 5.47-5.725GHz	70
5710MHz Straddle 5.725-5.85GHz	70
802.11ax HEW80_Nss1,(MCS0)_2TX	-
5290MHz	80
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5530MHz	69
5610MHz	69
5690MHz Straddle 5.47-5.725GHz	70
5690MHz Straddle 5.725-5.85GHz	70
802.11ax HEW160_Nss1,(MCS0)_4TX	-
5570MHz	60



For beamforming function:

Mode	Power Setting
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
5500MHz	63
5580MHz	62
5700MHz	62
5720MHz Straddle 5.47-5.725GHz	62
5720MHz Straddle 5.725-5.85GHz	62
5745MHz	87
5785MHz	87
5825MHz	88
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
5510MHz	64
5550MHz	64
5670MHz	64
5710MHz Straddle 5.47-5.725GHz	65
5710MHz Straddle 5.725-5.85GHz	65
5755MHz	88
5795MHz	88
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-
5530MHz	64
5610MHz	65
5690MHz Straddle 5.47-5.725GHz	64
5690MHz Straddle 5.725-5.85GHz	64
5775MHz	86
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-
5570MHz	65
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5500MHz	63
5580MHz	62
5700MHz	62
5720MHz Straddle 5.47-5.725GHz	62
5720MHz Straddle 5.725-5.85GHz	62
5745MHz	87
5785MHz	87
5825MHz	88
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5510MHz	64



Mode	Power Setting
5550MHz	64
5670MHz	64
5710MHz Straddle 5.47-5.725GHz	65
5710MHz Straddle 5.725-5.85GHz	65
5755MHz	88
5795MHz	88
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5530MHz	64
5610MHz	65
5690MHz Straddle 5.47-5.725GHz	64
5690MHz Straddle 5.725-5.85GHz	64
5775MHz	86
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-
5570MHz	65

Note:

- ♦ VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.
- ♦ There are two modes of EUT for 802.11n/ac/ax in 5GHz band 3 and band 4. One is beamforming function, and the other is non-beamforming function. Both modes have been tested and recorded in this test report.



2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Maximum Conducted Output Power Peak Power Spectral Density
Test Condition	Conducted measurement at transmit chains

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz band 1~2 + WLAN 5GHz band 3~4
Refer to Sporton Test Report No.: FA932906-01 for Co-location RF Exposure Evaluation.	

Note: The EUT can only use Y axis position.

2.3 EUT Operation during Test

For non-beamforming function:

The EUT was programmed to be in continuously transmitting mode.

For beamforming function:

During the test, the following programs under WIN 7 were executed.

The program was executed as follows:

1. During the test, the EUT operation to normal function.
2. Executed command fixed test channel under Telnet.
3. Executed "Lantest.exe" to link with the remote workstation to transmit and receive packet by Client device and transmit duty cycle no less than 98%.



2.4 Accessories

Accessories					
No.	Equipment Name	Brand Name	Model Name	P/N	Rating
1	Adapter	APD	WB-30C12FU	AREP05649	INPUT: 100-240V~, 50-60Hz, 0.9A Max. OUTPUT: 12V, 2.5A

2.5 Support Equipment

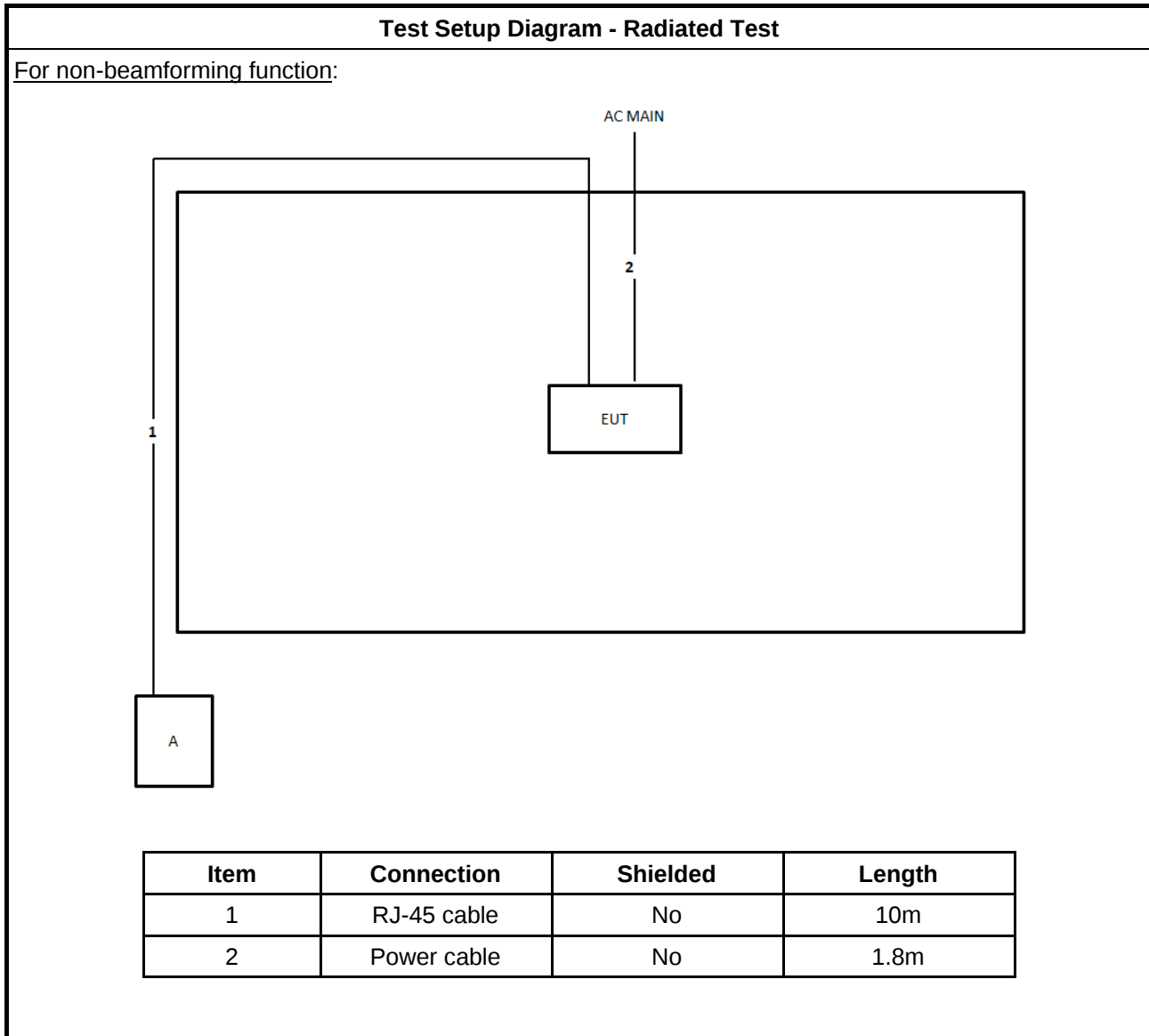
For non-beamforming function:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A

For beamforming function:

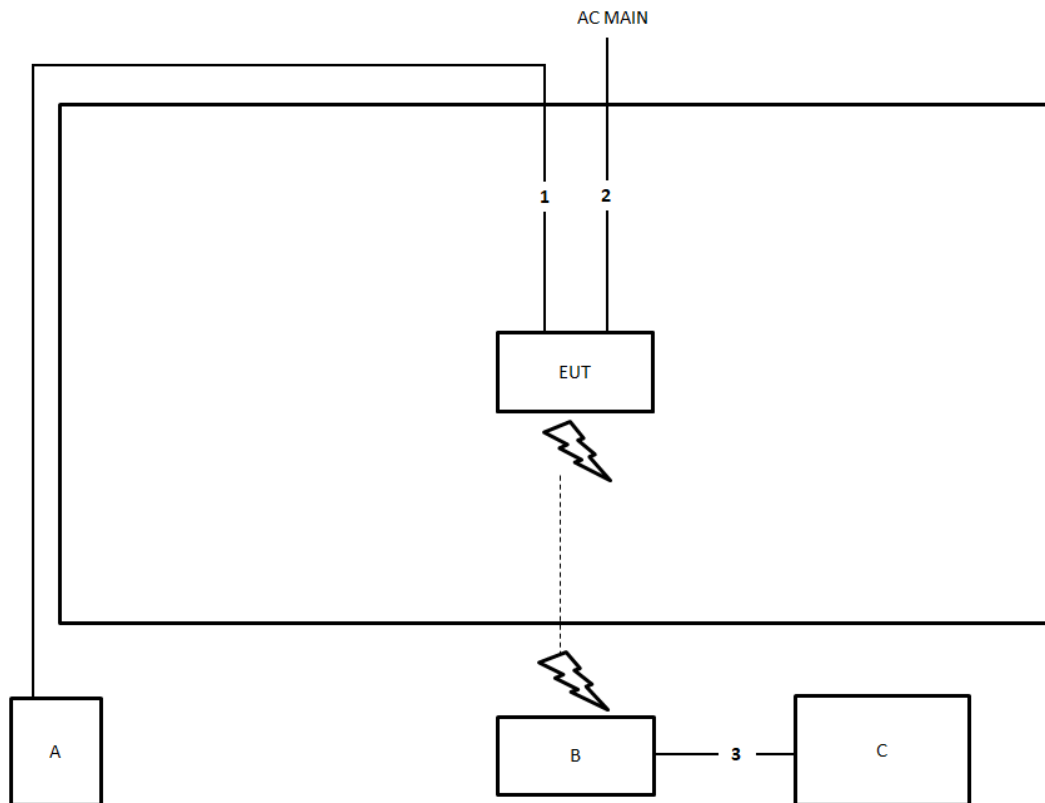
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	Wireless Router (Client device)	ARRIS	W21	UIDW21
C	Notebook	DELL	E4300	N/A

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test

For beamforming function:



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	1.8m
3	RJ-45 cable	No	1.5m

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, 6 dB emission bandwidth $\geq$ 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 $\geq$ 500kHz.

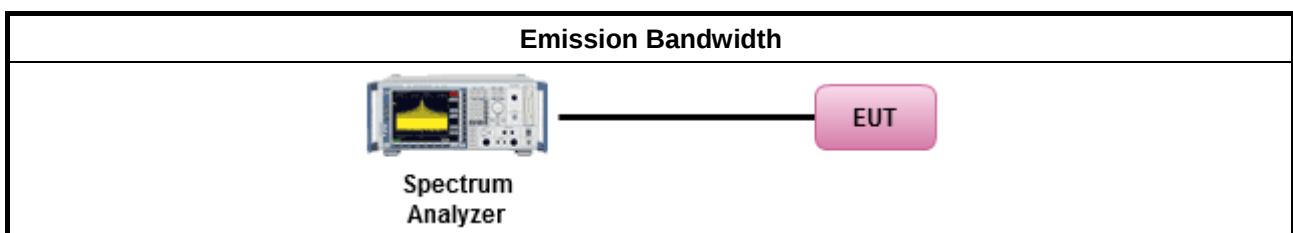
3.1.2 Measuring Instruments

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, 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 Conducted Output Power

3.2.1 Maximum Conducted Output Power Limit

Maximum Conducted 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

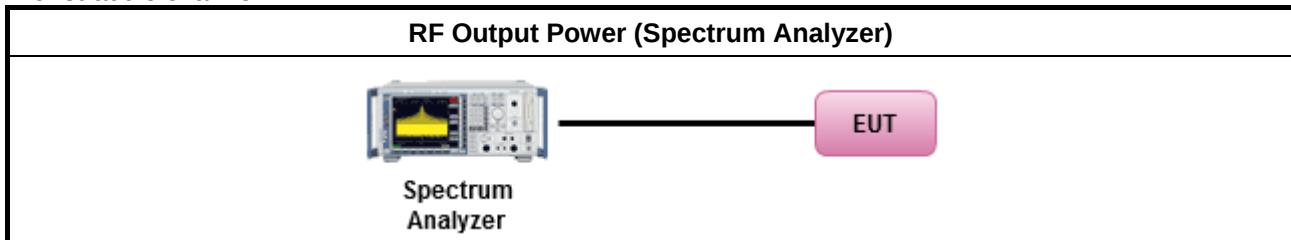
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

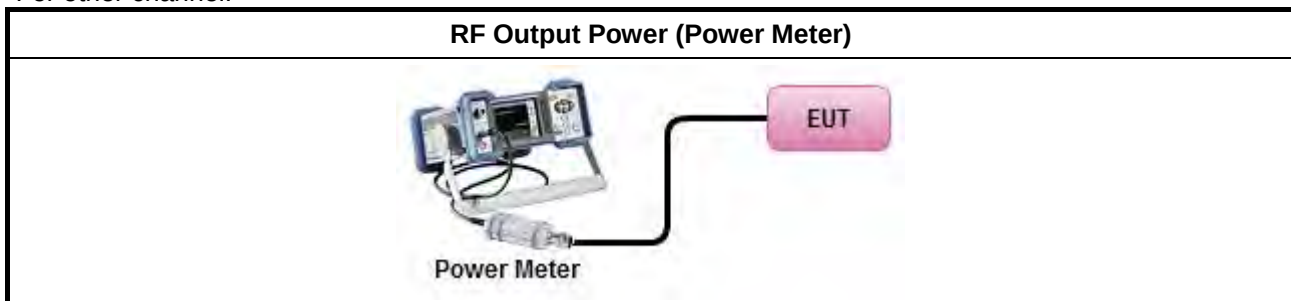
Test Method	
Maximum Conducted Output Power	
	Average over on/off periods with duty factor
☒	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
☒	Refer as FCC KDB 789033, 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]) $EIRP_{total} = P_{total} + DG$	

3.2.4 Test Setup

For straddle channel:



For other channel:



3.2.5 Test Result of Maximum Conducted Output Power

Refer as Appendix B



3.3 Peak Power Spectral Density

3.3.1 Peak Power Spectral Density 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 (θ-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

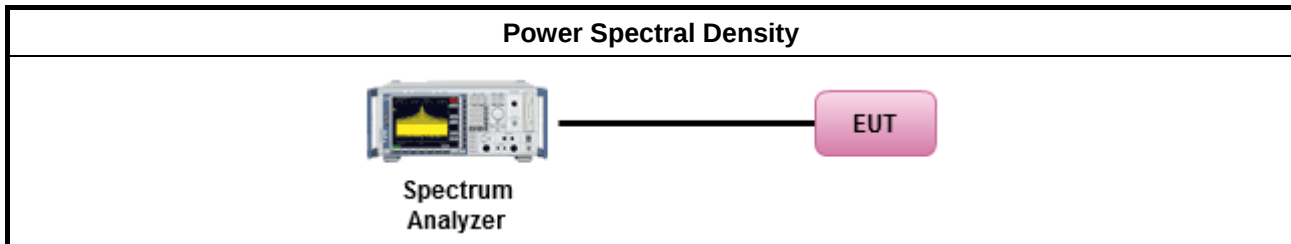
Refer a test equipment and calibration data table in this test report.



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, F5) 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, clause E Method SA-1 (spectral trace averaging).
☐	Refer as FCC KDB 789033, 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, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033, 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]) $EIRP_{total} = PPSD_{total} + DG$

3.3.4 Test Setup



3.3.5 Test Result of Peak 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).

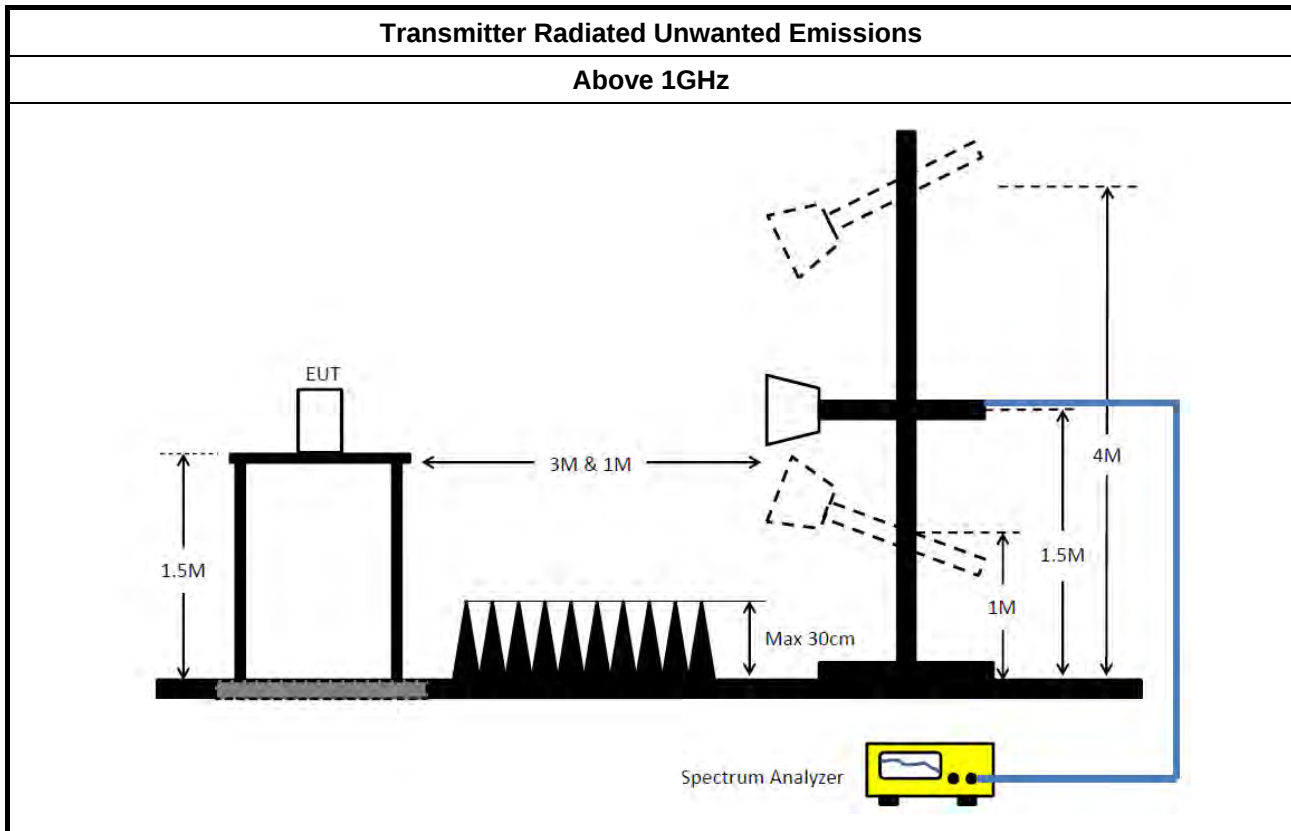
3.4.2 Measuring Instruments

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 ≥ 98 or duty factor].	
For the transmitter unwanted emissions shall be measured using following options below:	
	Refer as FCC KDB 789033, clause G)2) for unwanted emissions into non-restricted bands.
	Refer as FCC KDB 789033, clause G)1) for unwanted emissions into restricted bands.
	☐ Refer as FCC KDB 789033, G)6) Method AD (Trace Averaging).
	☒ Refer as FCC KDB 789033, 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, 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 + Cable Loss + Read Level - Preamp Factor = Level.

3.4.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix D



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Jul. 02, 2019	Jul. 01, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-28	1 GHz – 26.5 GHz	Nov. 19, 2018	Nov. 18, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-28	1 GHz – 26.5 GHz	Nov. 18, 2019	Nov. 17, 2020	Conducted (TH01-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Sep. 11, 2019	Sep. 10, 2020	Conducted (TH01-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Sep. 11, 2019	Sep. 10, 2020	Conducted (TH01-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1291	1GHz~18GHz	Oct. 12, 2018	Oct. 11, 2019	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1291	1GHz~18GHz	Oct. 05, 2019	Oct. 04, 2020	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 12, 2019	Jun. 11, 2020	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	May 01, 2019	Apr. 30, 2020	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz – 26.5GHz	Apr. 16, 2019	Apr. 15, 2020	Radiation (03CH05-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 2020	Radiation (03CH05-CB)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Aug. 15, 2019	Aug. 14, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04	1GHz~18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-28	1GHz~18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+23	1GHz~18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+28	1GHz~18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH05-CB)

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

For non-beamforming function:

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)_2TX	21.81M	16.614M	16M6D1D	21.36M	16.551M
802.11ac VHT20_Nss1,(MCS0)_2TX	21.81M	17.759M	17M8D1D	21.6M	17.726M
802.11ac VHT40_Nss1,(MCS0)_2TX	40.32M	36.309M	36M3D1D	39.78M	36.169M
802.11ac VHT80_Nss1,(MCS0)_2TX	81.96M	75.886M	75M9D1D	81.24M	75.765M
802.11ax HEW20_Nss1,(MCS0)_2TX	21.72M	19.01M	19M0D1D	21.45M	18.948M
802.11ax HEW40_Nss1,(MCS0)_2TX	40.02M	37.552M	37M6D1D	39.66M	37.456M
802.11ax HEW80_Nss1,(MCS0)_2TX	81.96M	77.214M	77M2D1D	81.24M	76.846M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	21.72M	16.7M	16M7D1D	13.86M	10.831M
802.11ac VHT20_Nss1,(MCS0)_4TX	21.66M	17.797M	17M8D1D	15.33M	13.87M
802.11ac VHT40_Nss1,(MCS0)_4TX	40.14M	36.361M	36M4D1D	34.65M	32.812M
802.11ac VHT80_Nss1,(MCS0)_4TX	81.6M	75.931M	75M9D1D	75.3M	72.144M
802.11ac VHT160_Nss1,(MCS0)_4TX	163.92M	154.3M	154MD1D	162.72M	153.318M
802.11ax HEW20_Nss1,(MCS0)_4TX	21.69M	19.016M	19M0D1D	15.465M	14.399M
802.11ax HEW40_Nss1,(MCS0)_4TX	40.08M	37.615M	37M6D1D	34.86M	33.003M
802.11ax HEW80_Nss1,(MCS0)_4TX	82.08M	77.24M	77M2D1D	75.375M	72.545M
802.11ax HEW160_Nss1,(MCS0)_4TX	164.64M	155.212M	155MD1D	162.72M	154.571M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	3.22M	3.927M	3M93D1D	2.84M	3.583M
802.11ac VHT20_Nss1,(MCS0)_4TX	3.84M	4.291M	4M29D1D	3.48M	4.153M
802.11ac VHT40_Nss1,(MCS0)_4TX	3.2M	3.667M	3M67D1D	3.12M	3.453M
802.11ac VHT80_Nss1,(MCS0)_4TX	3.22M	3.684M	3M68D1D	2.34M	3.506M
802.11ax HEW20_Nss1,(MCS0)_4TX	4.5M	4.526M	4M53D1D	4.14M	4.472M
802.11ax HEW40_Nss1,(MCS0)_4TX	3.84M	4.028M	4M03D1D	2.74M	3.982M
802.11ax HEW80_Nss1,(MCS0)_4TX	3.78M	4.045M	4M05D1D	2.72M	4.014M

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)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.45M	16.559M	21.66M	16.551M				
5300MHz	Pass	Inf	21.63M	16.586M	21.78M	16.571M				
5320MHz	Pass	Inf	21.36M	16.614M	21.81M	16.573M				
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5500MHz	Pass	Inf	21.3M	16.546M	21.72M	16.615M	21.54M	16.602M	21.39M	16.632M
5580MHz	Pass	Inf	20.79M	16.448M	21.6M	16.7M	21.57M	16.574M	21.45M	16.558M
5700MHz	Pass	Inf	21.12M	16.36M	21.54M	16.534M	20.61M	15.671M	21.27M	16.505M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.465M	13.464M	15.645M	13.23M	13.86M	10.831M	15.66M	13.288M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	2.84M	3.583M	3.16M	3.927M	3.1M	3.645M	3.22M	3.875M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.72M	17.739M	21.78M	17.759M				
5300MHz	Pass	Inf	21.75M	17.75M	21.6M	17.726M				
5320MHz	Pass	Inf	21.78M	17.748M	21.81M	17.759M				
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5500MHz	Pass	Inf	21.54M	17.779M	21.42M	17.759M	21.42M	17.704M	21.66M	17.797M
5580MHz	Pass	Inf	21.51M	17.697M	21.45M	17.757M	21.36M	17.667M	21.6M	17.787M
5700MHz	Pass	Inf	21.48M	17.757M	21.36M	17.754M	21.24M	17.592M	21.54M	17.735M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.57M	14.013M	15.72M	13.896M	15.33M	13.87M	15.75M	13.878M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.48M	4.291M	3.84M	4.24M	3.68M	4.153M	3.74M	4.287M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	40.2M	36.251M	39.84M	36.242M				
5310MHz	Pass	Inf	40.32M	36.309M	39.78M	36.169M				
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5510MHz	Pass	Inf	40.02M	36.109M	39.96M	36.315M	39.9M	36.355M	39.6M	36.333M
5550MHz	Pass	Inf	39.72M	36.084M	39.72M	36.253M	40.14M	36.361M	39.78M	36.233M
5670MHz	Pass	Inf	40.14M	36.329M	39.84M	36.275M	39.78M	36.344M	39.72M	36.294M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	34.93M	32.812M	34.965M	33.039M	34.65M	32.814M	34.86M	33.011M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.16M	3.538M	3.12M	3.453M	3.2M	3.667M	3.12M	3.478M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	81.96M	75.765M	81.24M	75.886M				
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5530MHz	Pass	Inf	81.6M	75.695M	81.24M	75.416M	81.48M	75.841M	81.48M	75.753M
5610MHz	Pass	Inf	81.12M	75.894M	80.88M	75.725M	81.36M	75.931M	81.48M	75.585M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.3M	72.144M	75.6M	72.444M	75.45M	72.492M	75.975M	72.444M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	2.34M	3.654M	3.1M	3.507M	3.22M	3.684M	3.12M	3.506M
802.11ac VHT160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5570MHz	Pass	Inf	163.92M	154.162M	162.72M	153.318M	163.92M	154.158M	162.96M	154.3M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.57M	18.986M	21.72M	18.948M				
5300MHz	Pass	Inf	21.51M	18.953M	21.6M	18.998M				
5320MHz	Pass	Inf	21.45M	18.984M	21.51M	19.01M				
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5500MHz	Pass	Inf	21.54M	19.016M	21.45M	18.976M	21.6M	18.957M	21.36M	18.971M

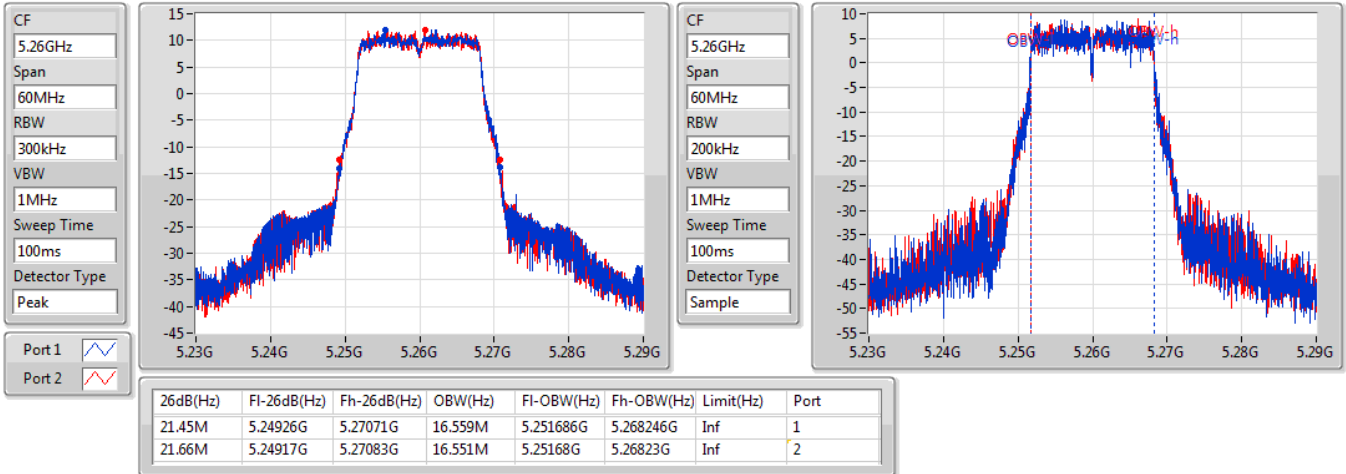
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
5580MHz	Pass	Inf	21.48M	18.937M	21.51M	18.869M	21.6M	18.947M	21.69M	18.967M
5700MHz	Pass	Inf	21.36M	18.9M	21.6M	18.987M	21.18M	18.888M	21.66M	18.942M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.465M	14.399M	15.69M	14.511M	15.6M	14.55M	15.705M	14.483M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	4.42M	4.513M	4.46M	4.526M	4.14M	4.472M	4.5M	4.521M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	40.02M	37.552M	39.84M	37.456M				
5310MHz	Pass	Inf	39.66M	37.516M	39.84M	37.534M				
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5510MHz	Pass	Inf	39.72M	37.525M	39.9M	37.615M	39.96M	37.507M	40.02M	37.592M
5550MHz	Pass	Inf	39.42M	37.552M	39.9M	37.558M	39.84M	37.518M	39.96M	37.563M
5670MHz	Pass	Inf	39.78M	37.481M	39.72M	37.442M	39.6M	37.043M	40.08M	37.599M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	34.86M	33.712M	34.93M	33.755M	34.86M	33.003M	35.14M	33.582M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	2.74M	3.992M	3.46M	4.028M	3.7M	3.982M	3.84M	4.027M
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	81.96M	76.846M	81.24M	77.214M				
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5530MHz	Pass	Inf	81.24M	76.813M	81.12M	76.959M	82.08M	77.002M	81.84M	77.24M
5610MHz	Pass	Inf	81.36M	76.768M	81.72M	77.095M	81.48M	77.019M	81.6M	76.956M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.75M	73.055M	75.825M	73.353M	75.375M	72.545M	75.825M	73.099M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	2.72M	4.041M	3.76M	4.045M	3.78M	4.014M	3.76M	4.043M
802.11ax HEW160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5570MHz	Pass	Inf	164.16M	155.165M	162.72M	154.571M	164.64M	154.877M	164.4M	155.212M

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

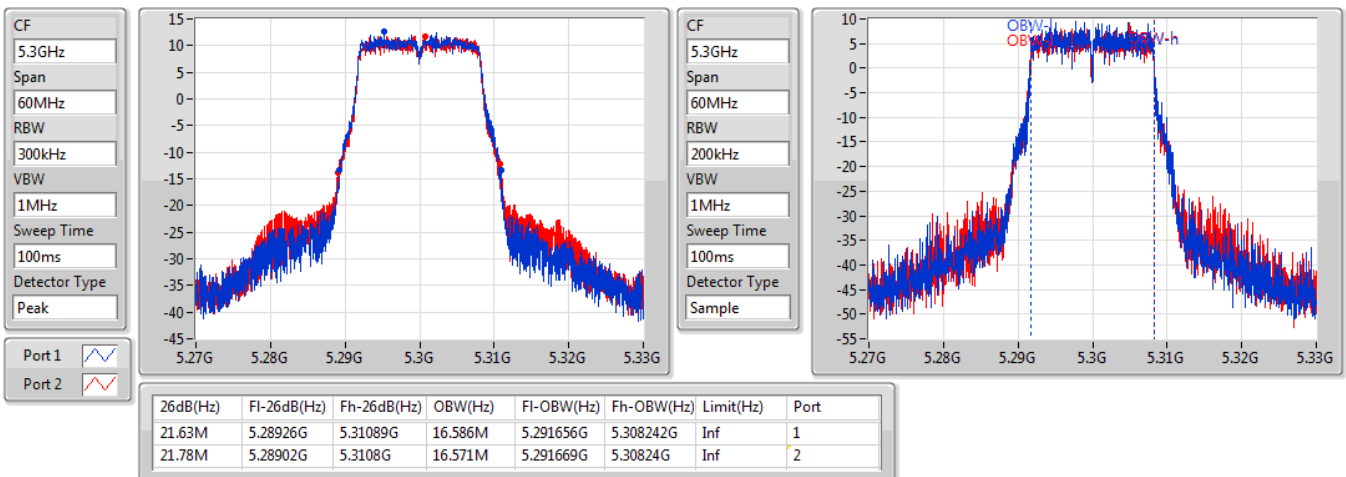
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX
EBW
5260MHz

18/09/2019

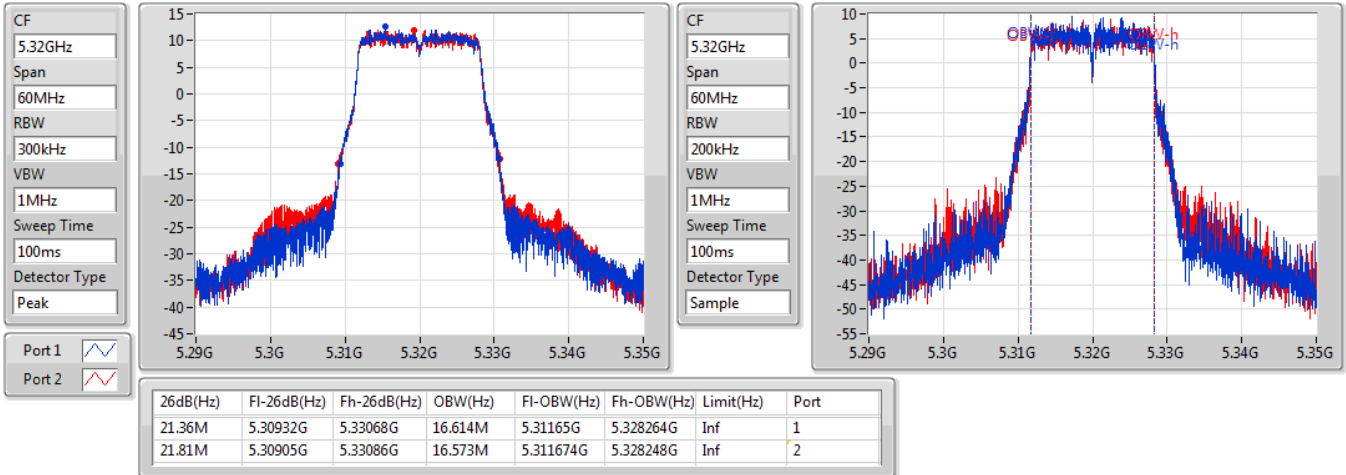

802.11a_Nss1,(6Mbps)_2TX
EBW
5300MHz

18/09/2019

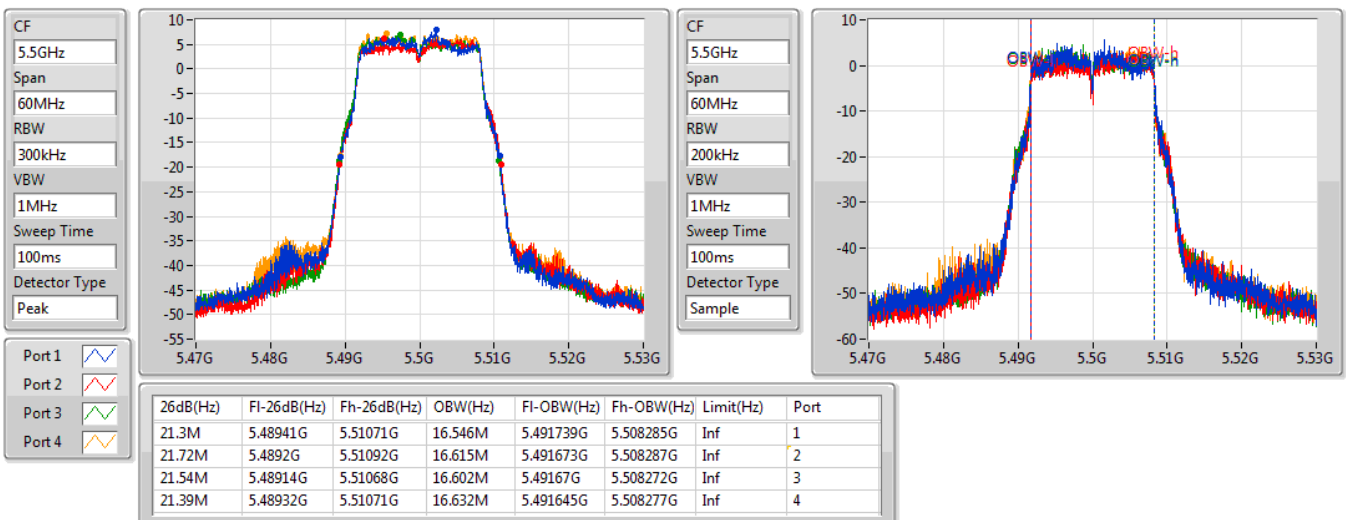


802.11a_Nss1,(6Mbps)_2TX
EBW
5320MHz

18/09/2019

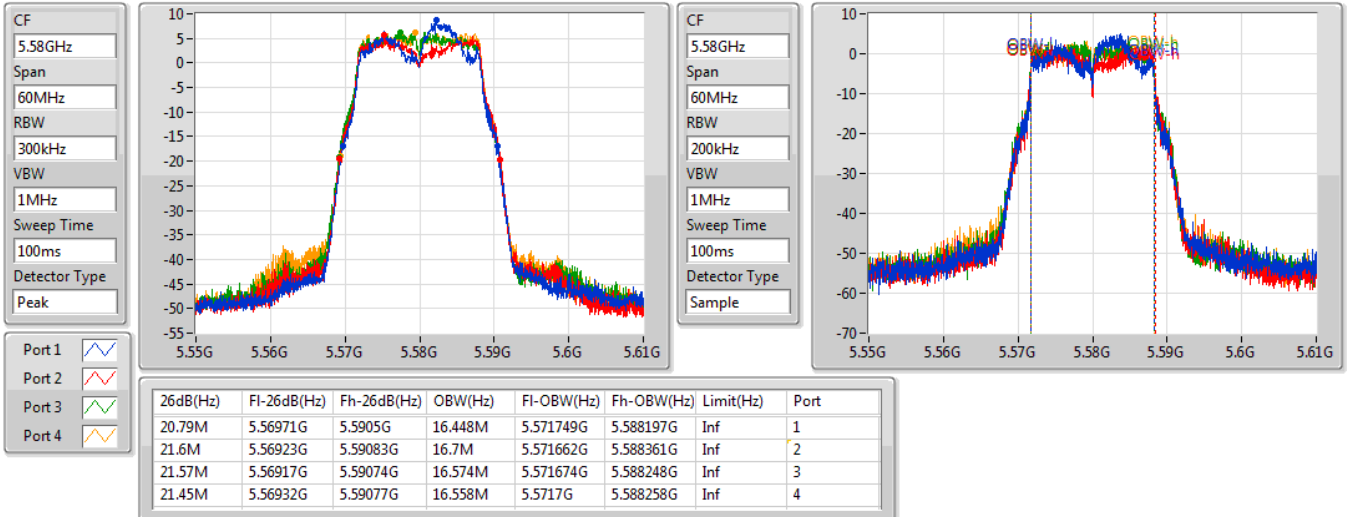

802.11a_Nss1,(6Mbps)_4TX
EBW
5500MHz

18/09/2019

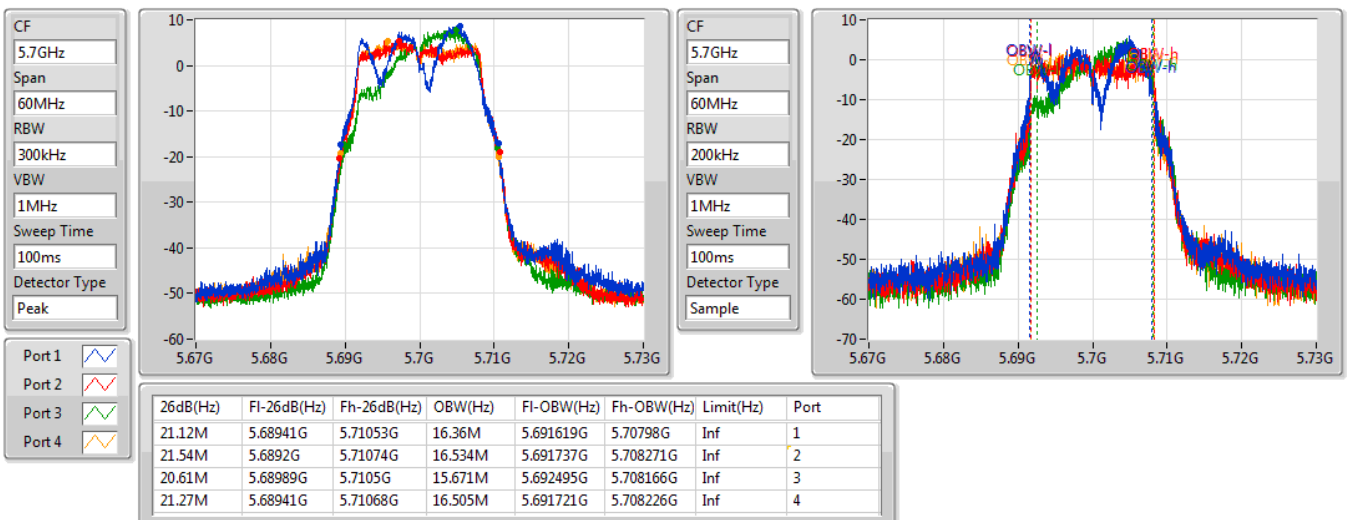


802.11a_Nss1,(6Mbps)_4TX
EBW
5580MHz

18/09/2019

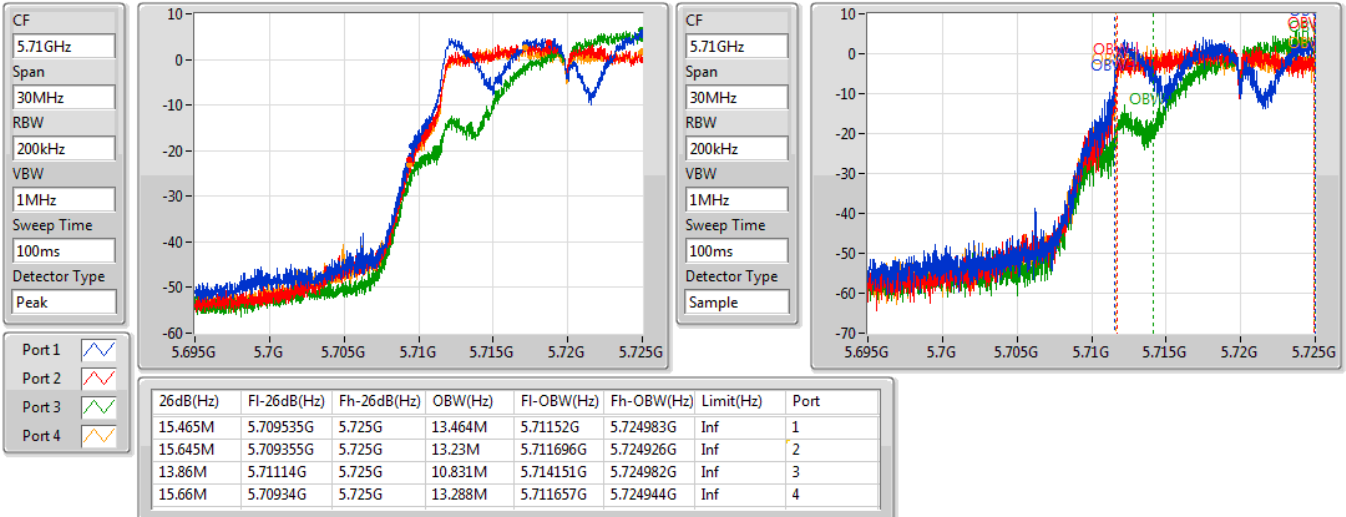

802.11a_Nss1,(6Mbps)_4TX
EBW
5700MHz

18/09/2019

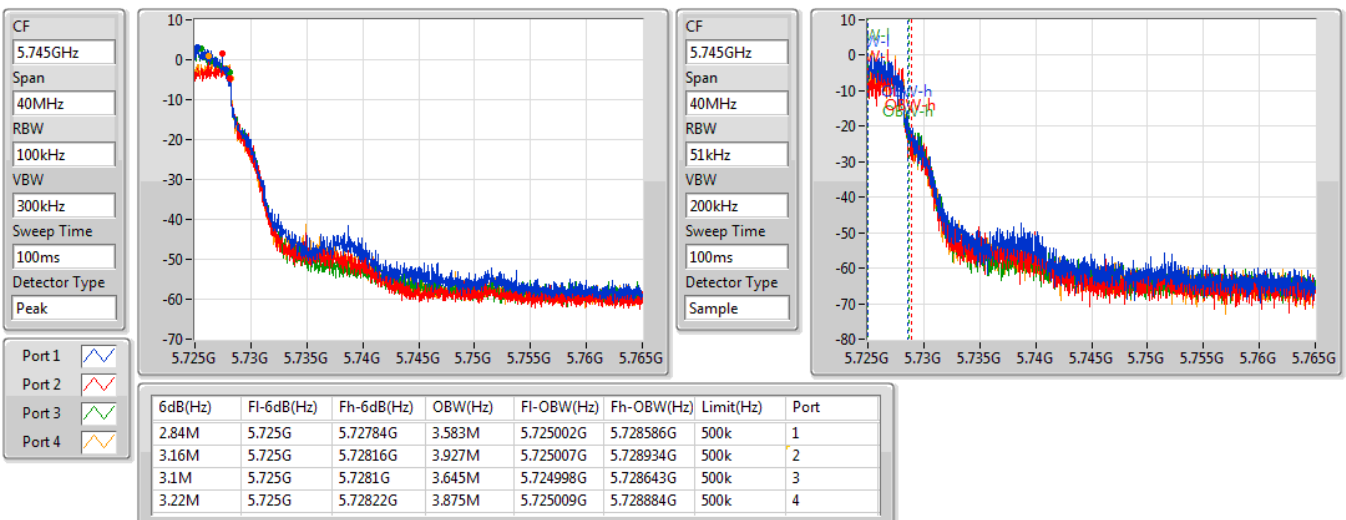


802.11a_Nss1,(6Mbps)_4TX
EBW
5720MHz Straddle 5.47-5.725GHz

18/09/2019

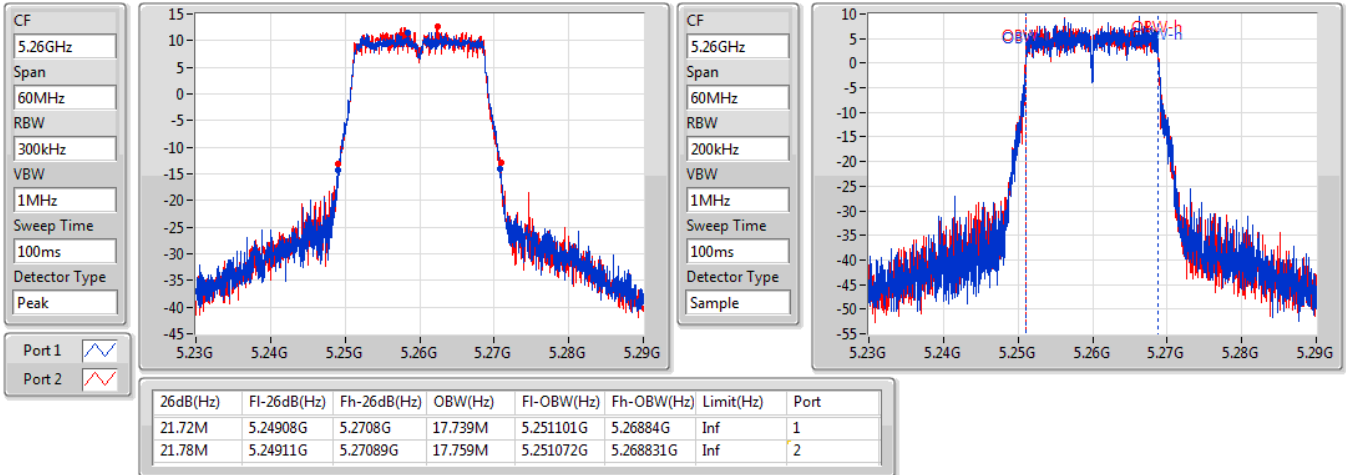

802.11a_Nss1,(6Mbps)_4TX
EBW
5720MHz Straddle 5.725-5.85GHz

18/09/2019

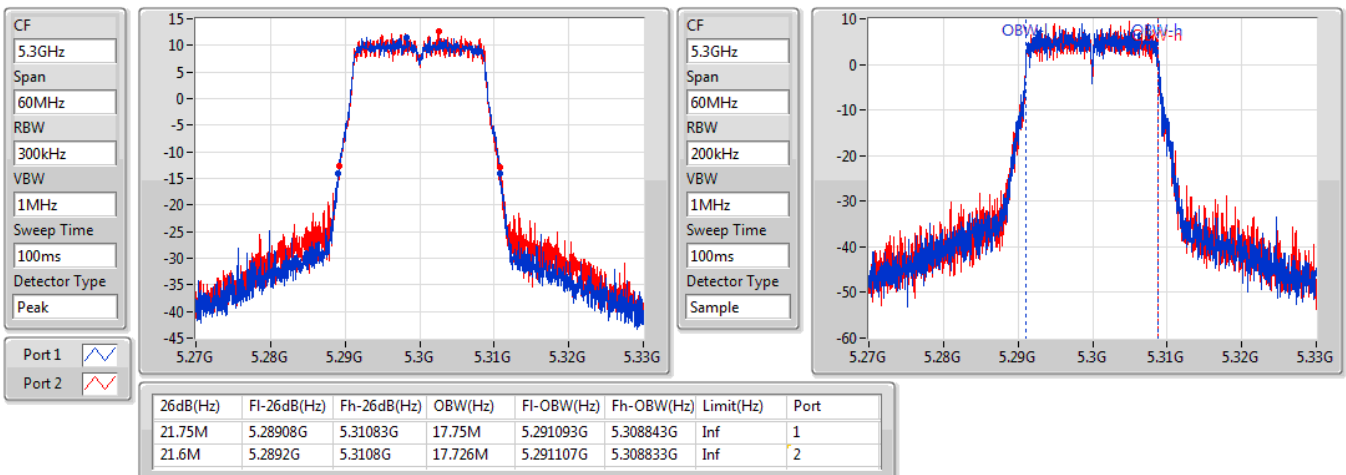


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5260MHz

18/09/2019

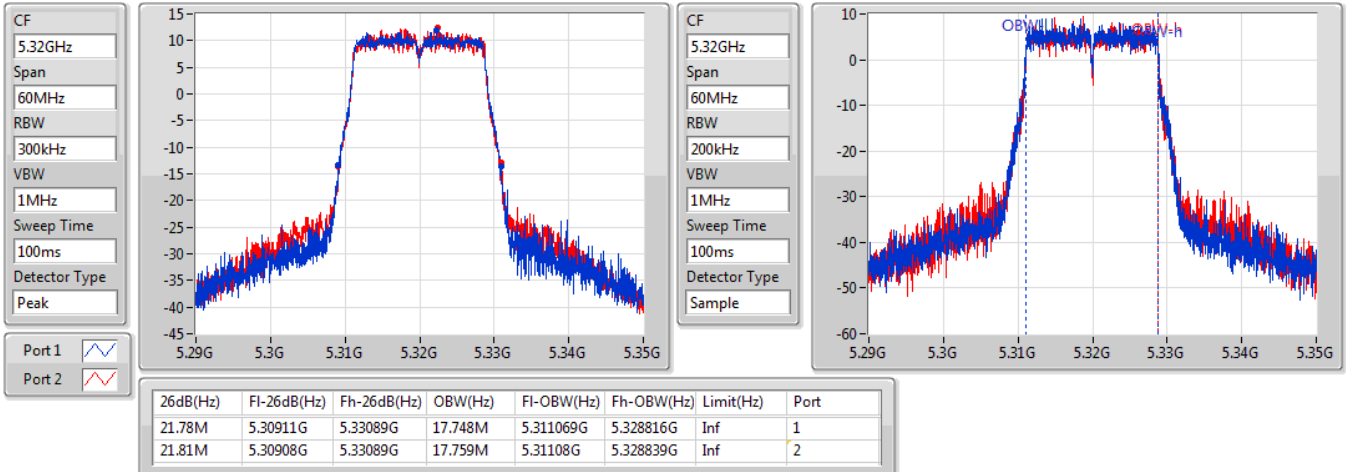

802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5300MHz

18/09/2019

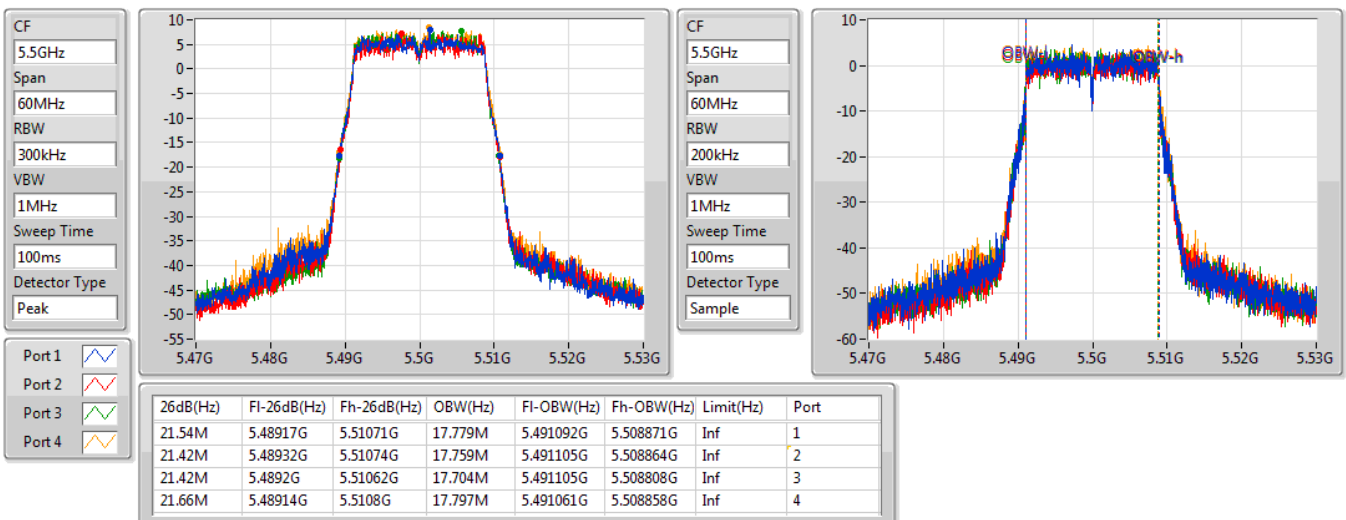


802.11ac VHT20_Nss1,(MCS0)_2TX
EBW
5320MHz

18/09/2019

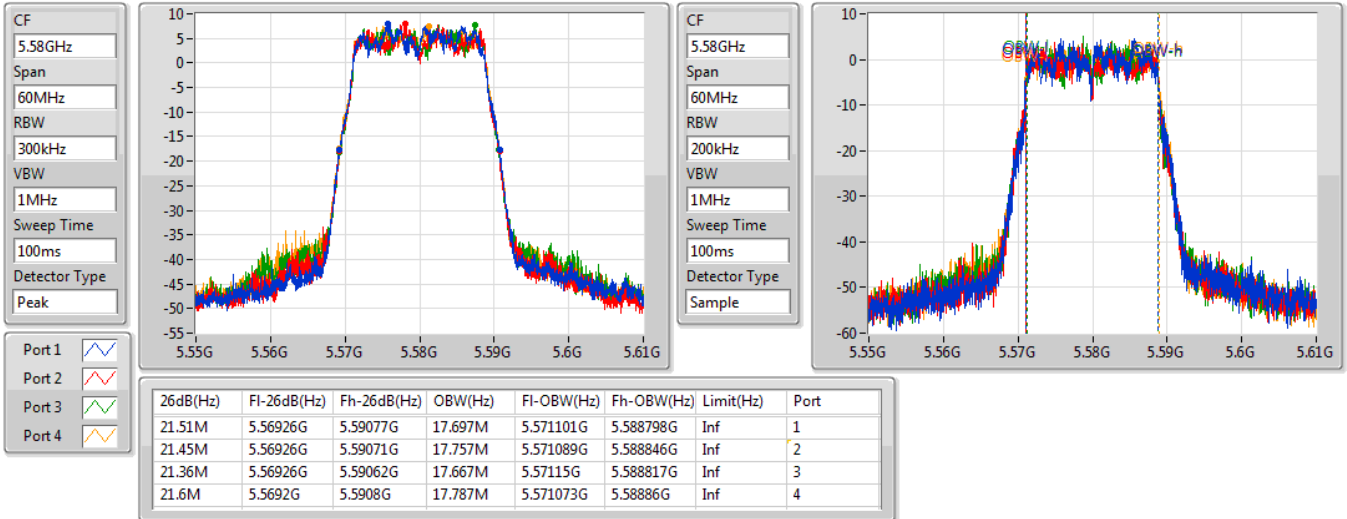

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5500MHz

18/09/2019

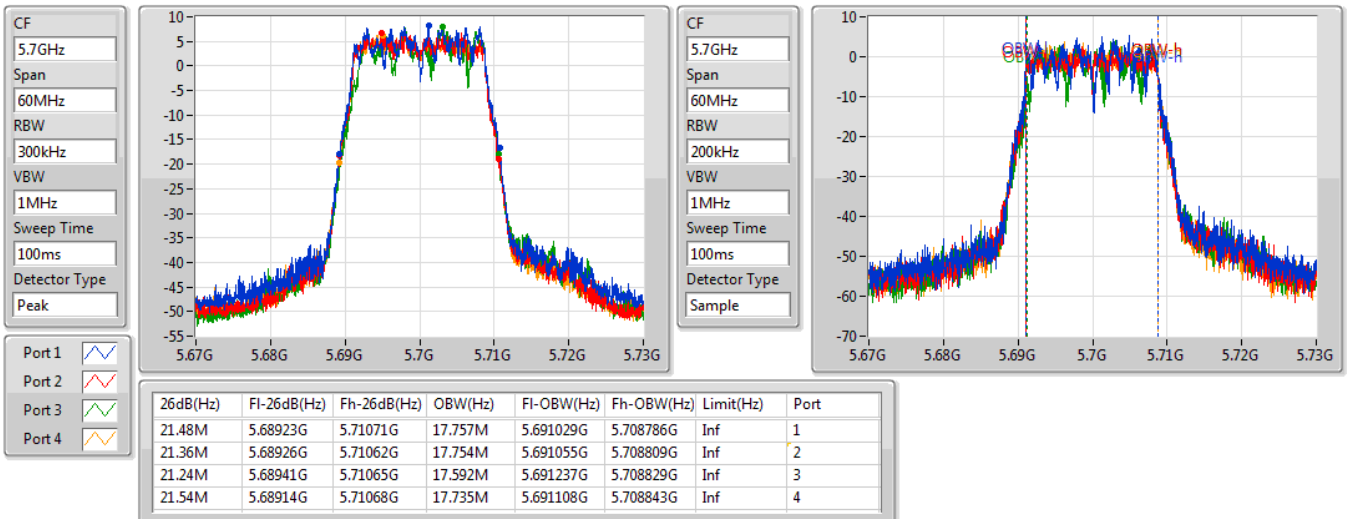


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5580MHz

18/09/2019

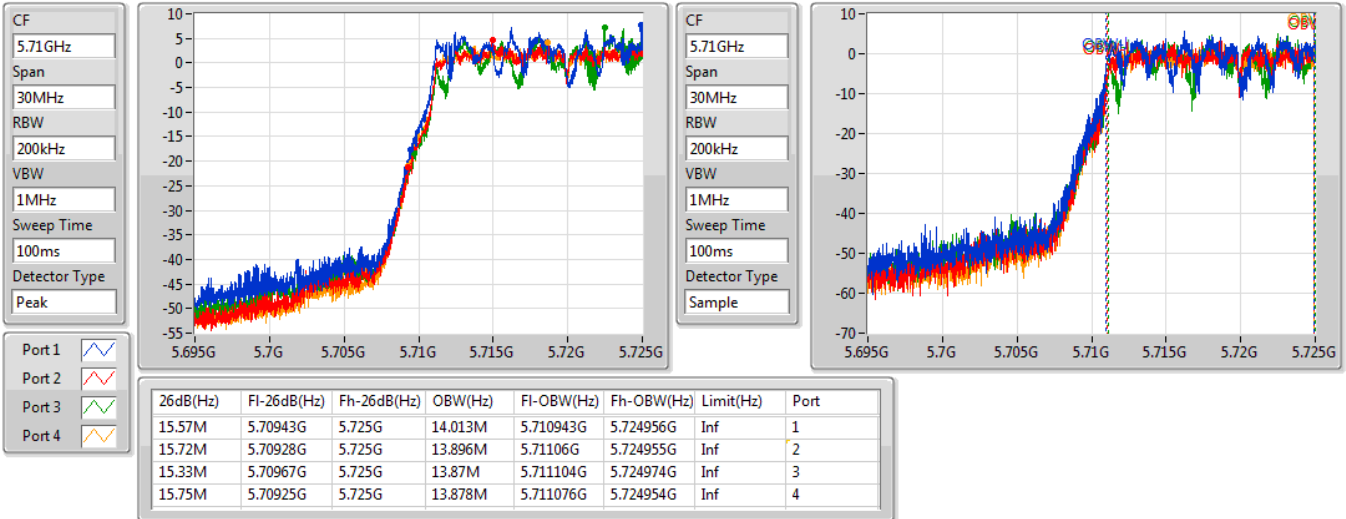

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5700MHz

18/09/2019

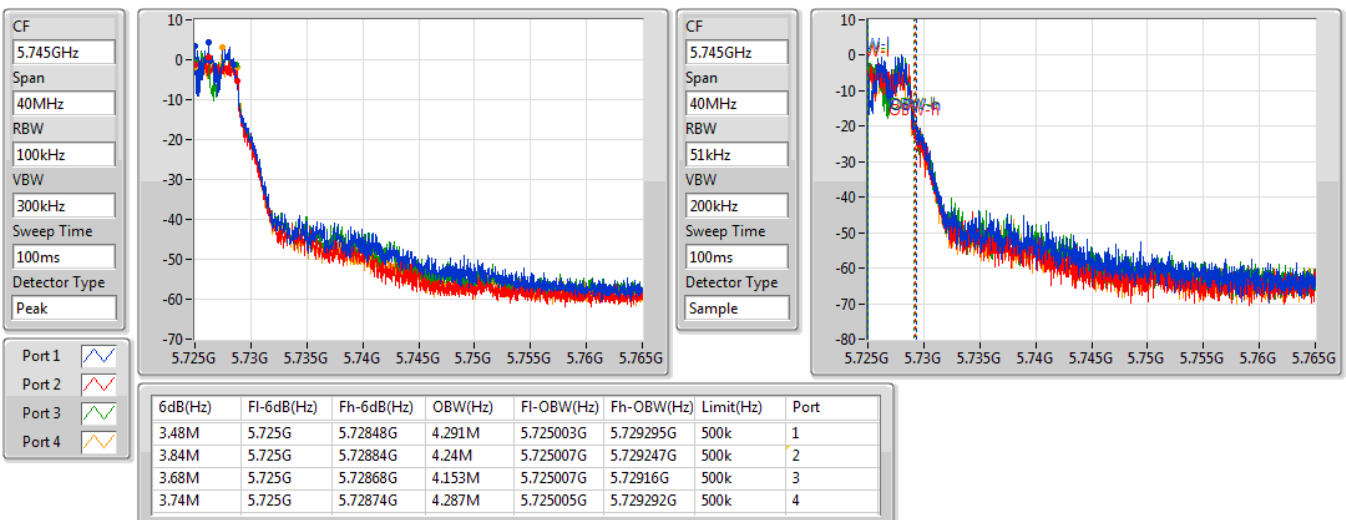


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.47-5.725GHz

18/09/2019

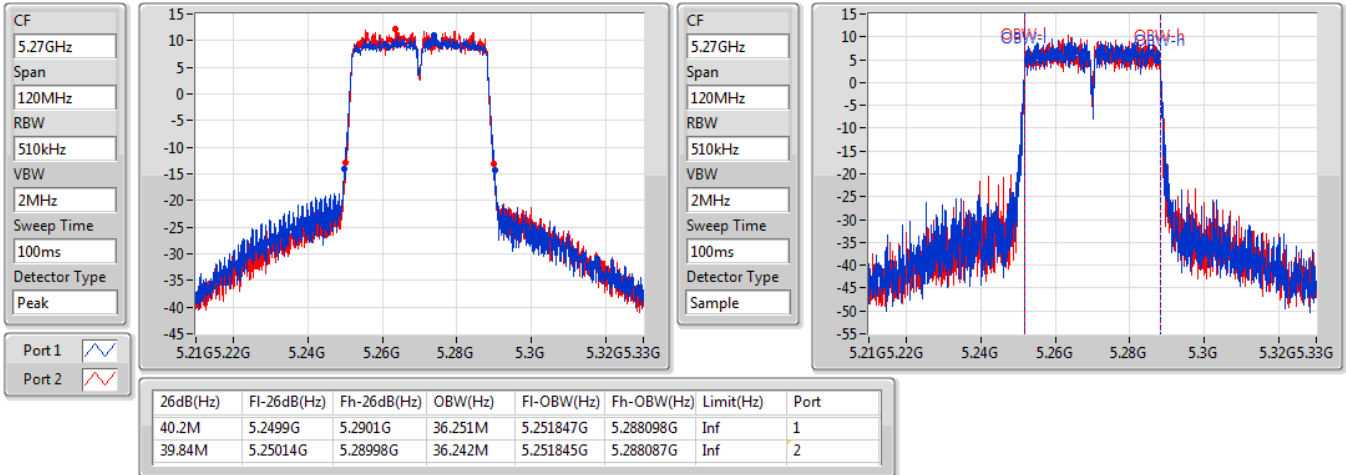

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.725-5.85GHz

18/09/2019

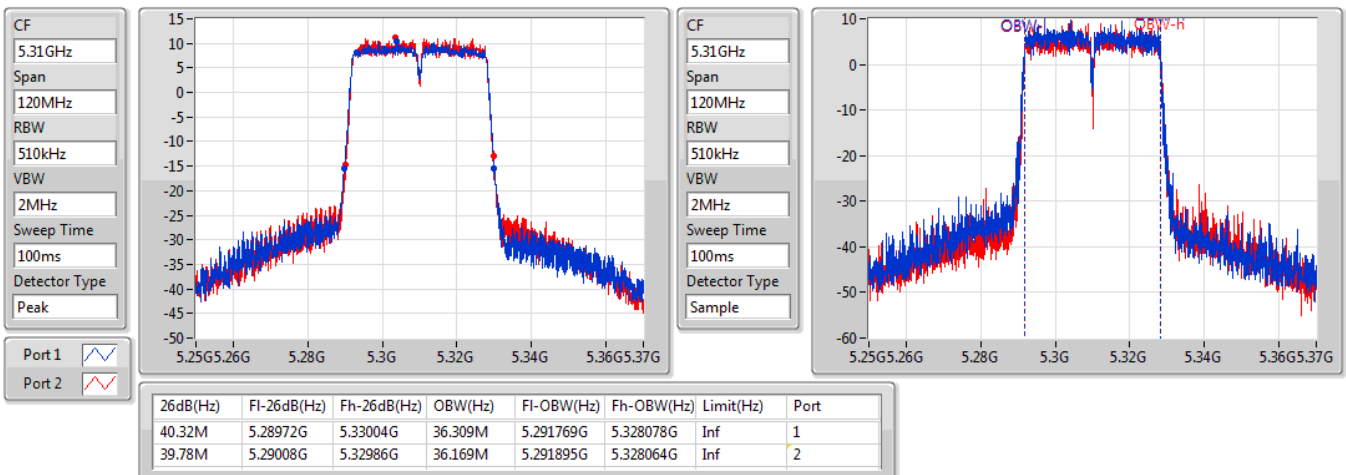


802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
5270MHz

18/09/2019

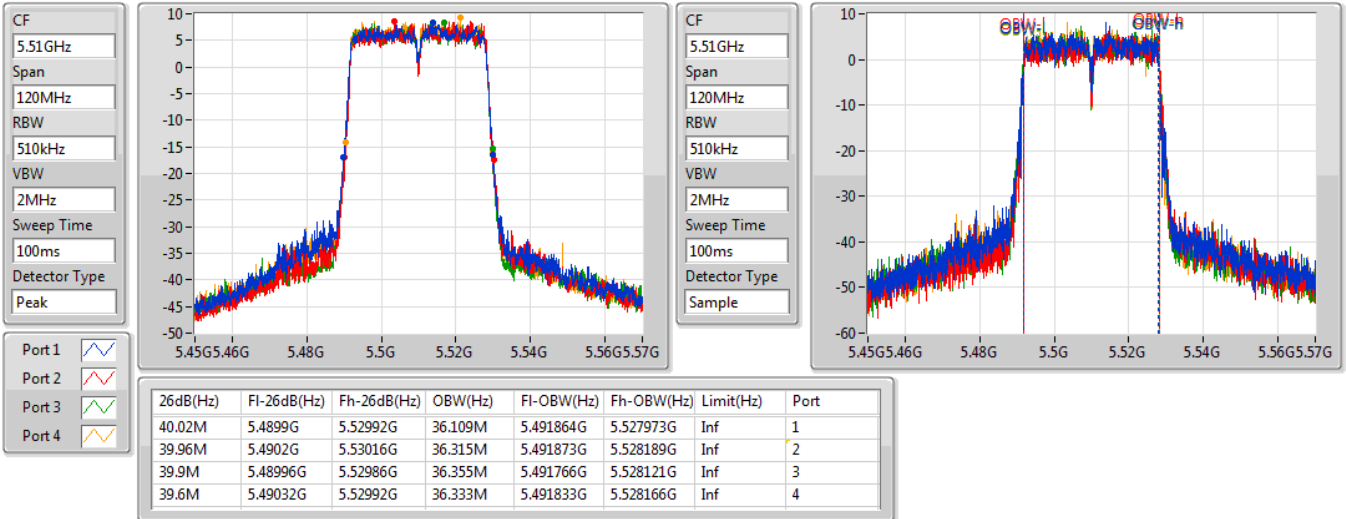

802.11ac VHT40_Nss1,(MCS0)_2TX
EBW
5310MHz

18/09/2019

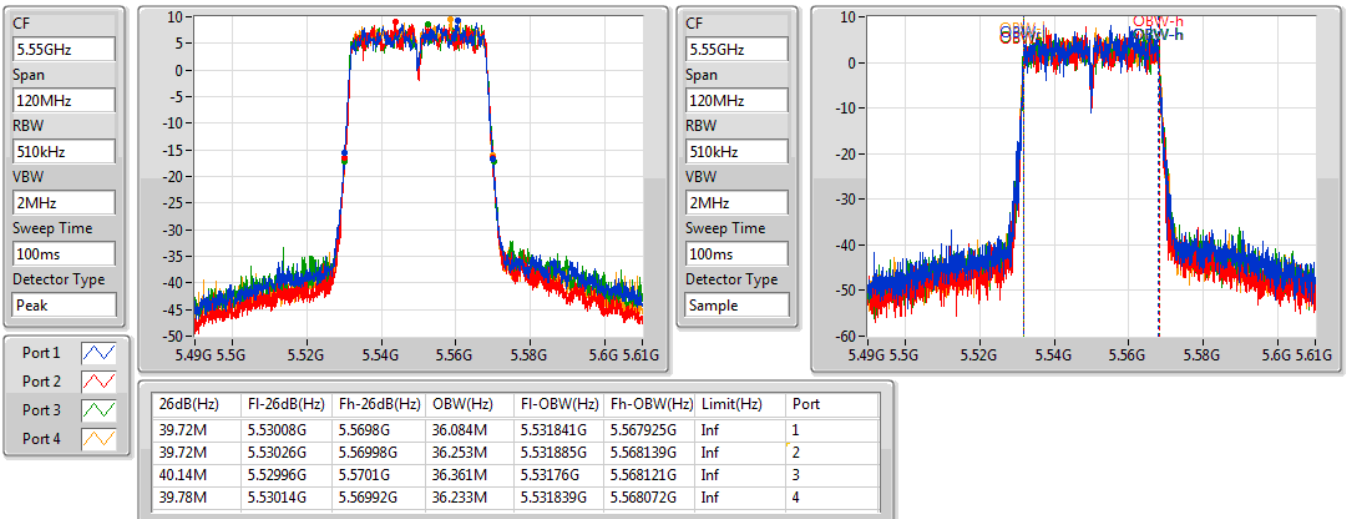


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5510MHz

18/09/2019

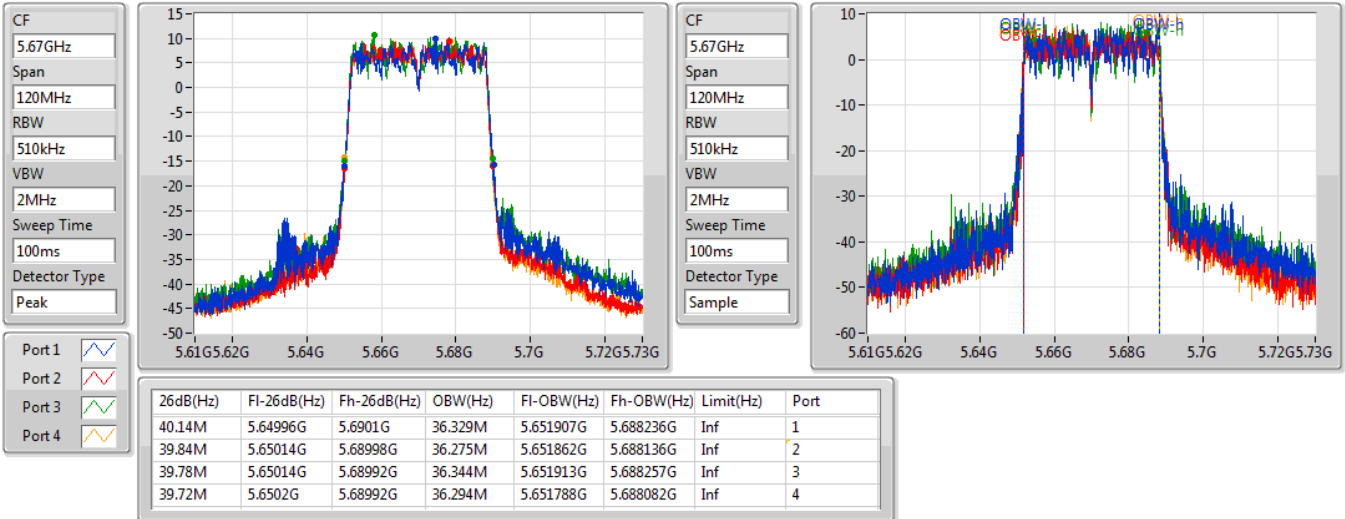

802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5550MHz

18/09/2019

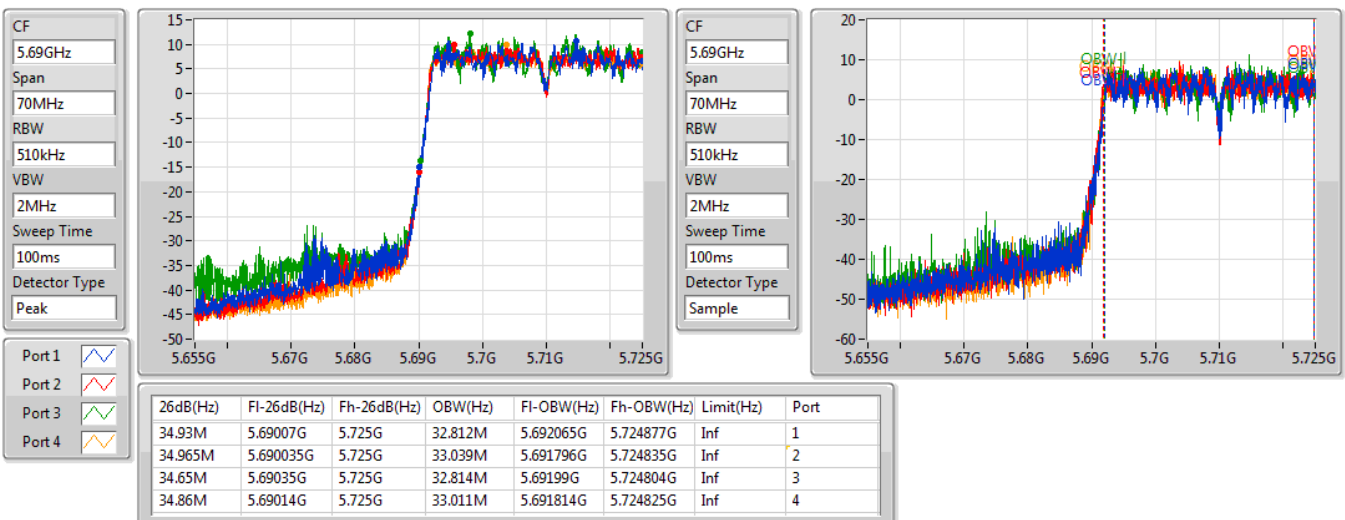


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5670MHz

18/09/2019

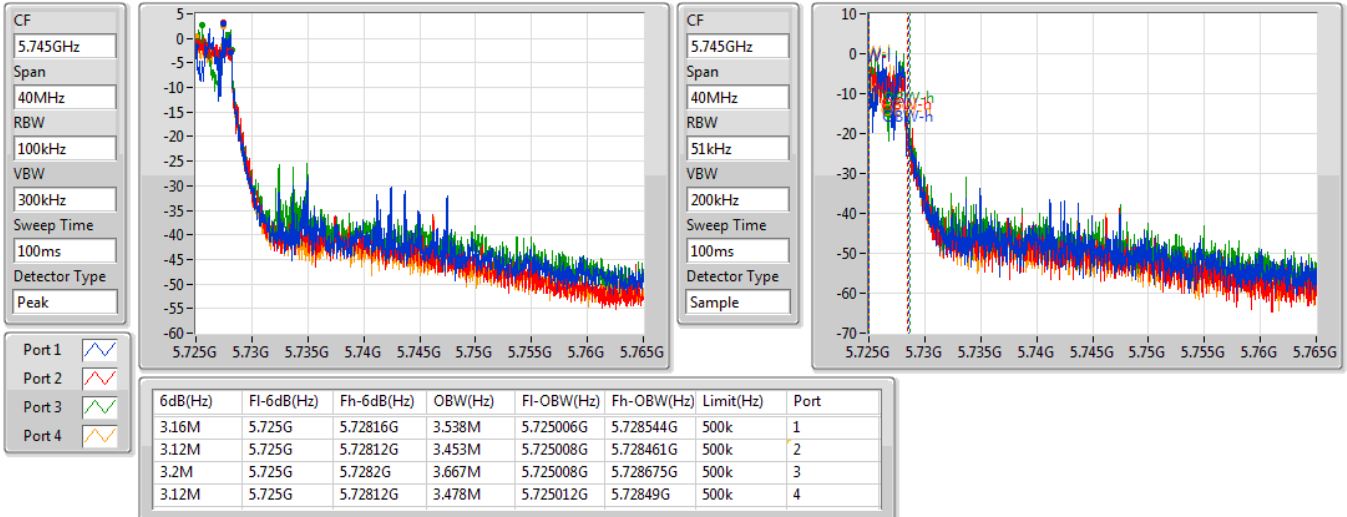

802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.47-5.725GHz

18/09/2019

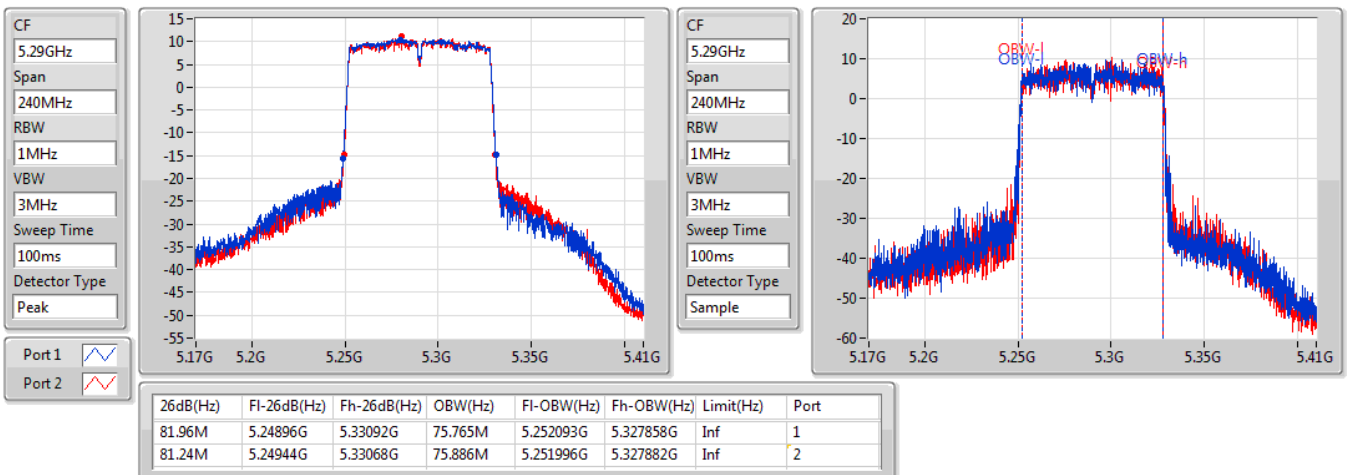


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.725-5.85GHz

18/09/2019

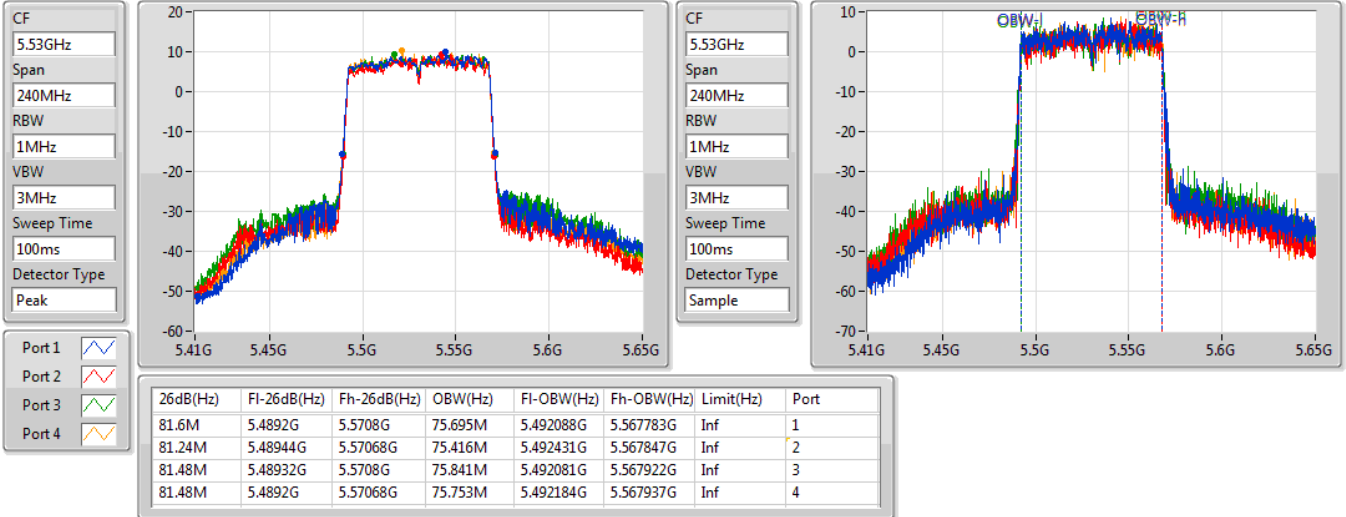

802.11ac VHT80_Nss1,(MCS0)_2TX
EBW
5290MHz

18/09/2019

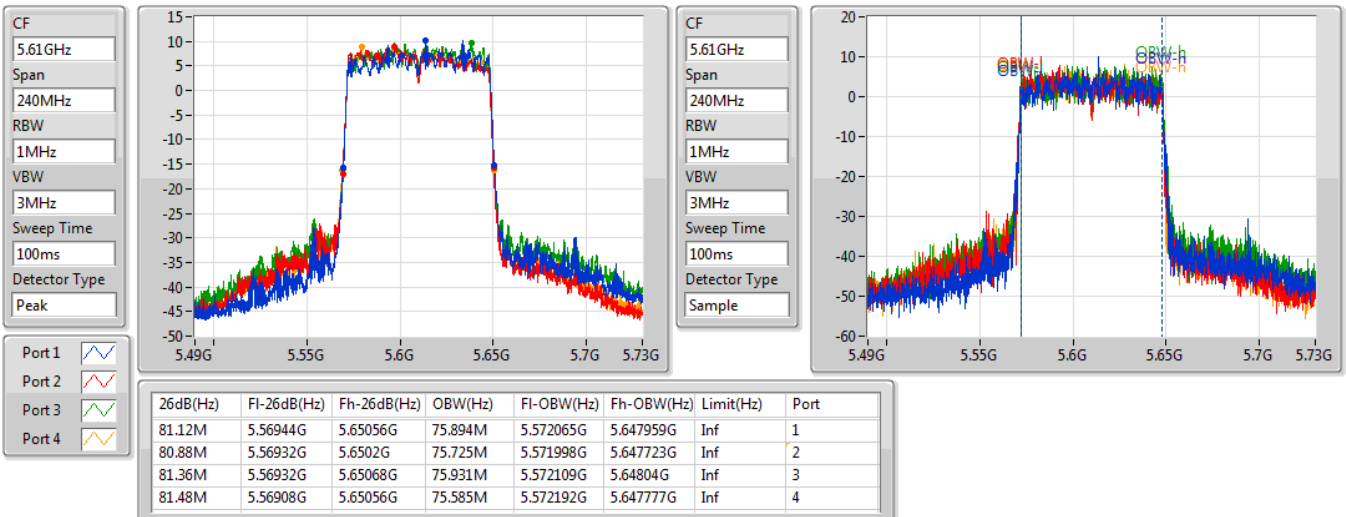


802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5530MHz

18/09/2019

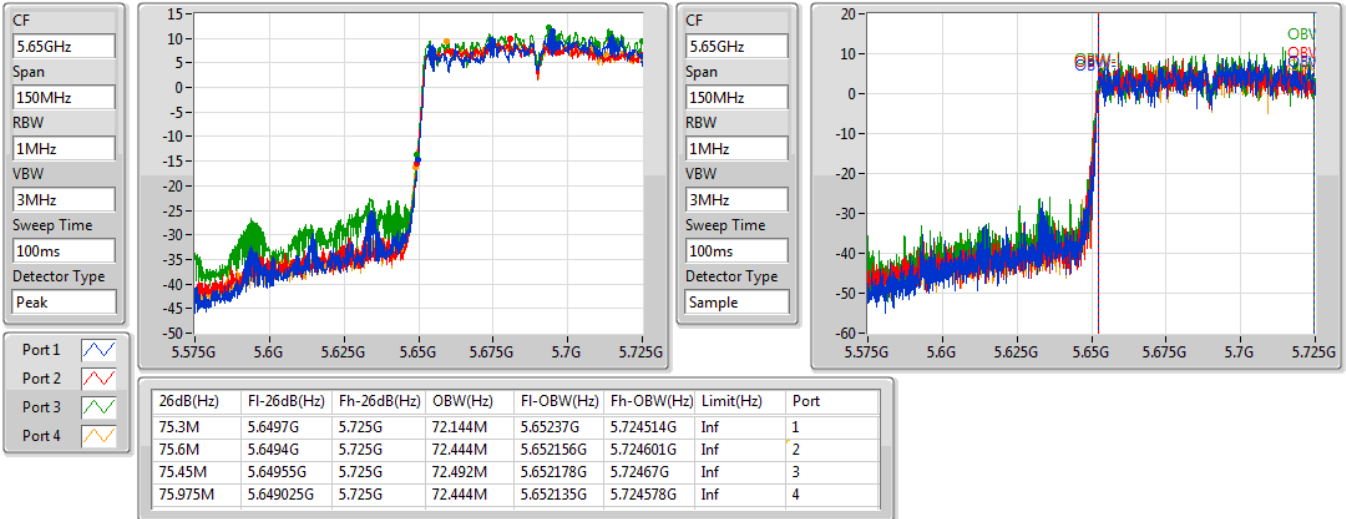

802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5610MHz

18/09/2019

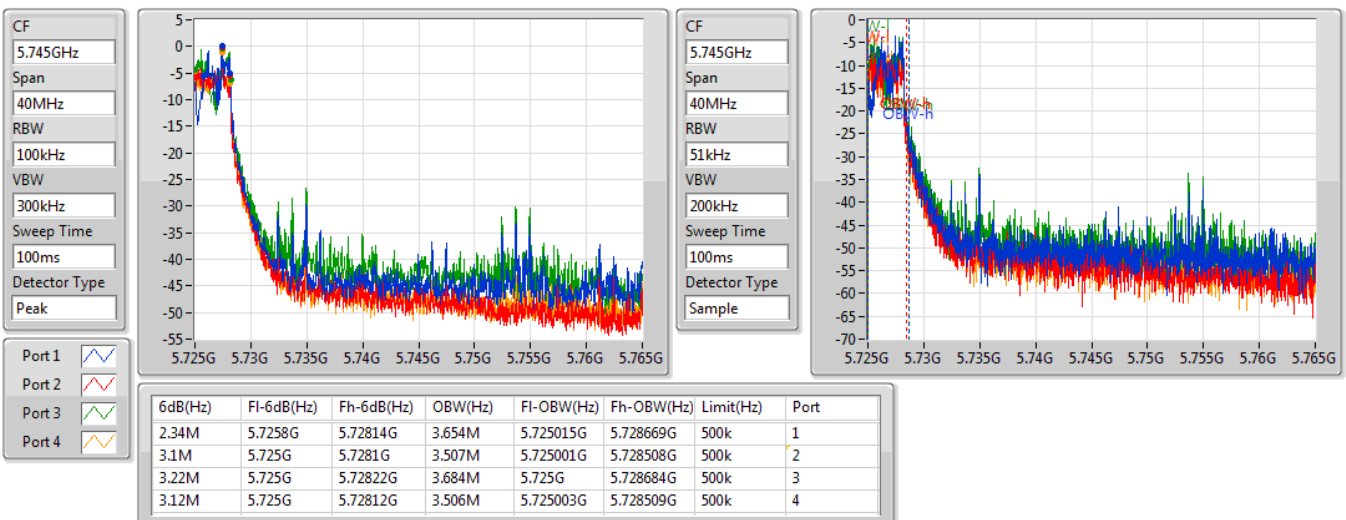


802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.47-5.725GHz

18/09/2019

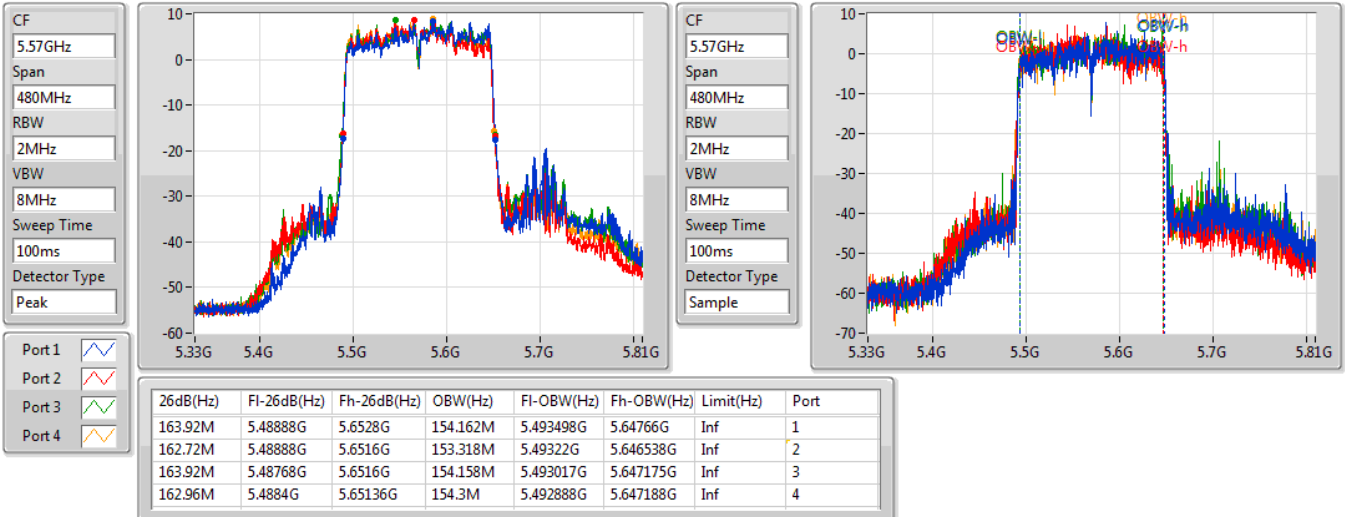

802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.725-5.85GHz

18/09/2019

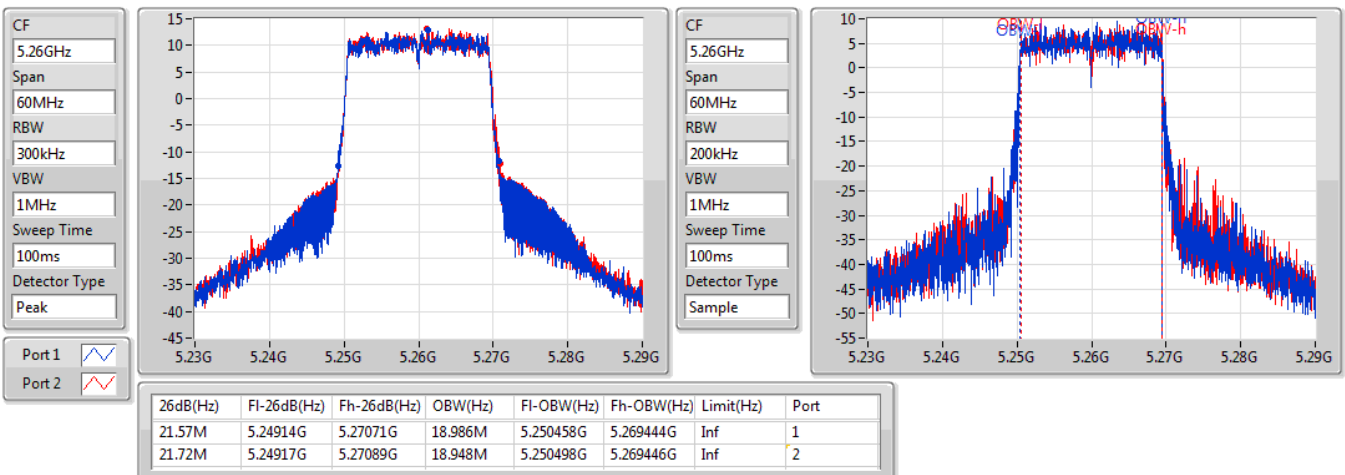


802.11ac VHT160_Nss1,(MCS0)_4TX
EBW
5570MHz

18/09/2019

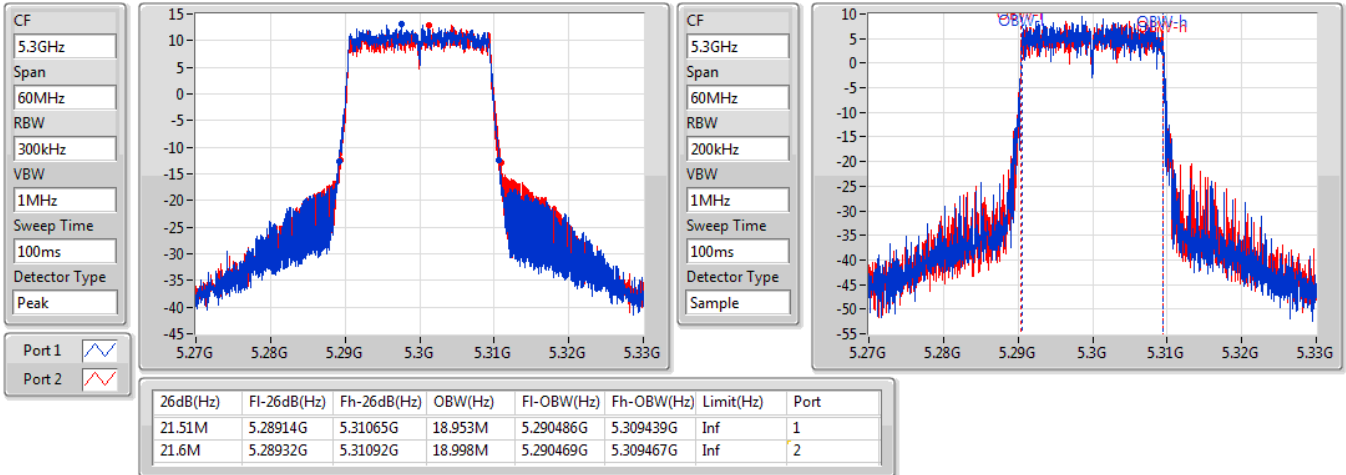

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5260MHz

18/09/2019

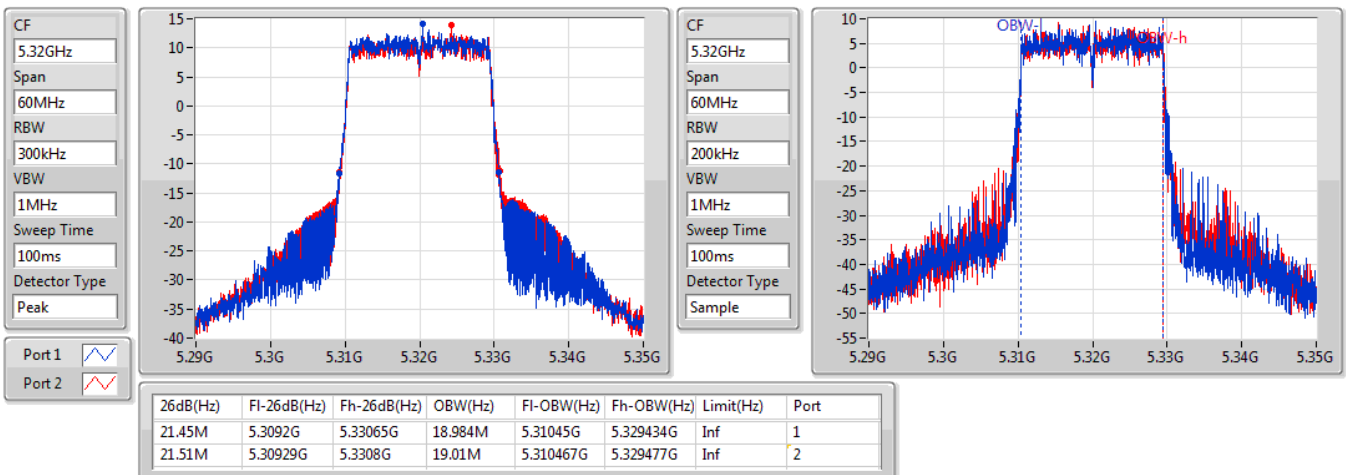


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5300MHz

18/09/2019

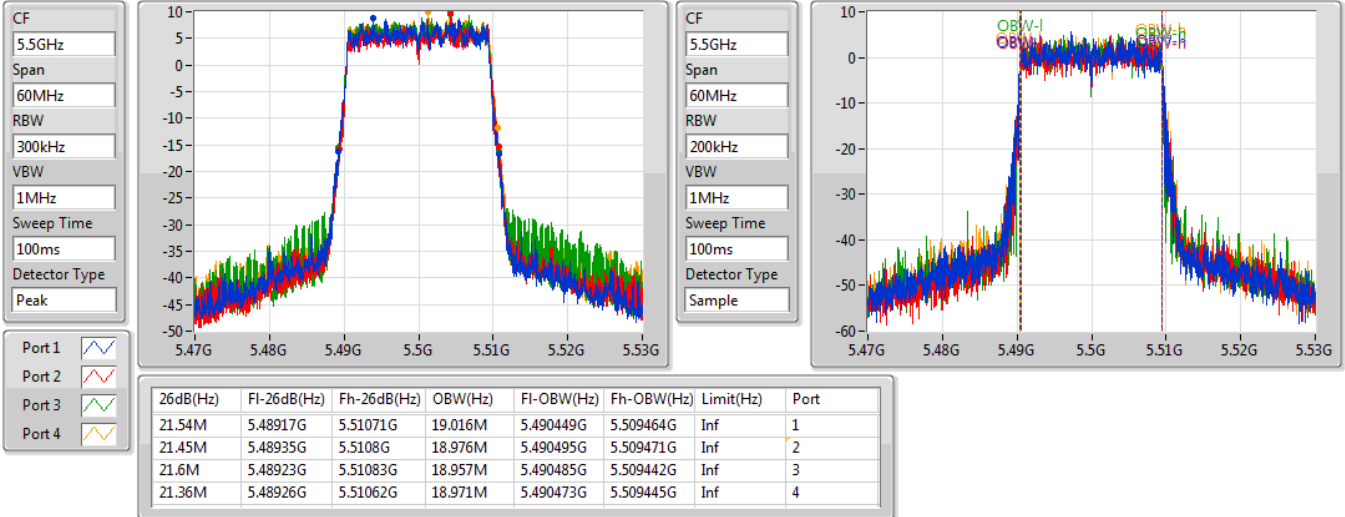

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5320MHz

18/09/2019

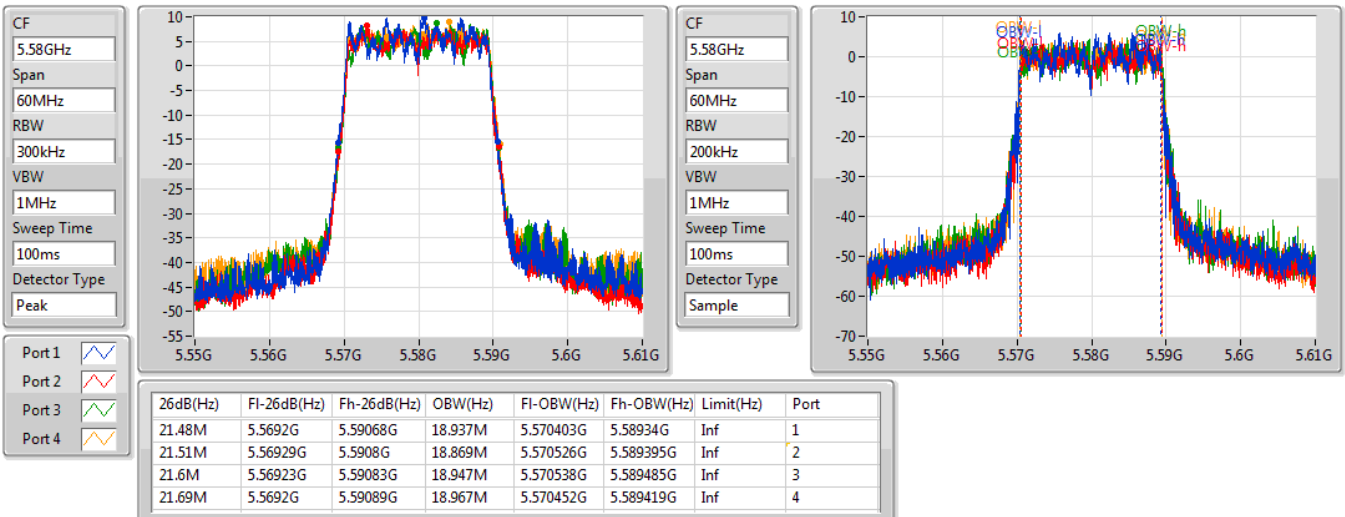


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5500MHz

18/09/2019

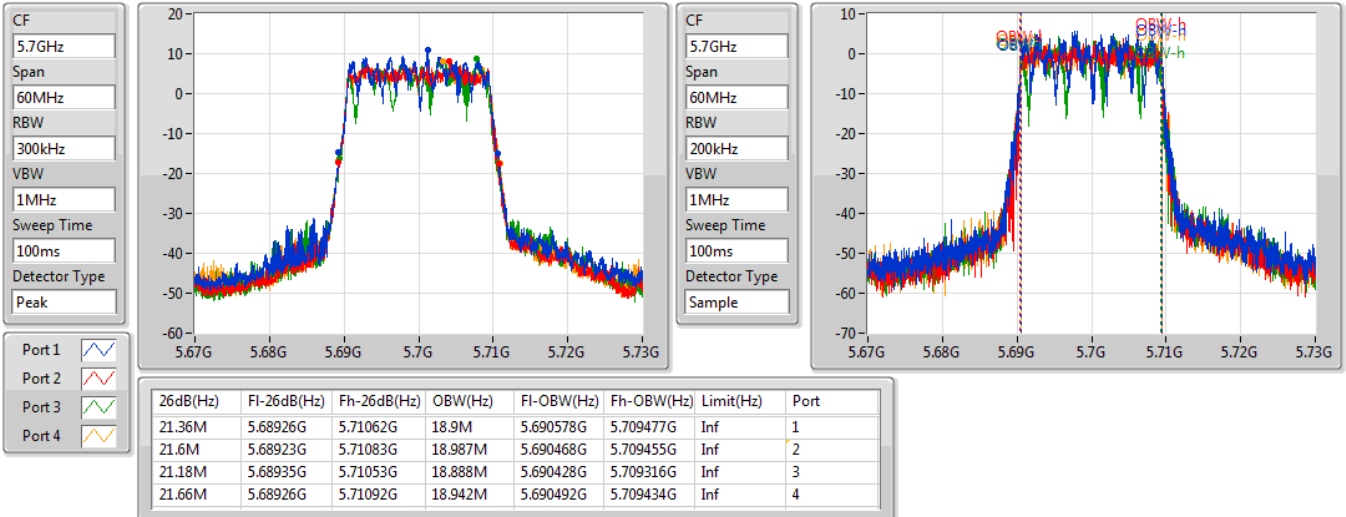

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5580MHz

18/09/2019

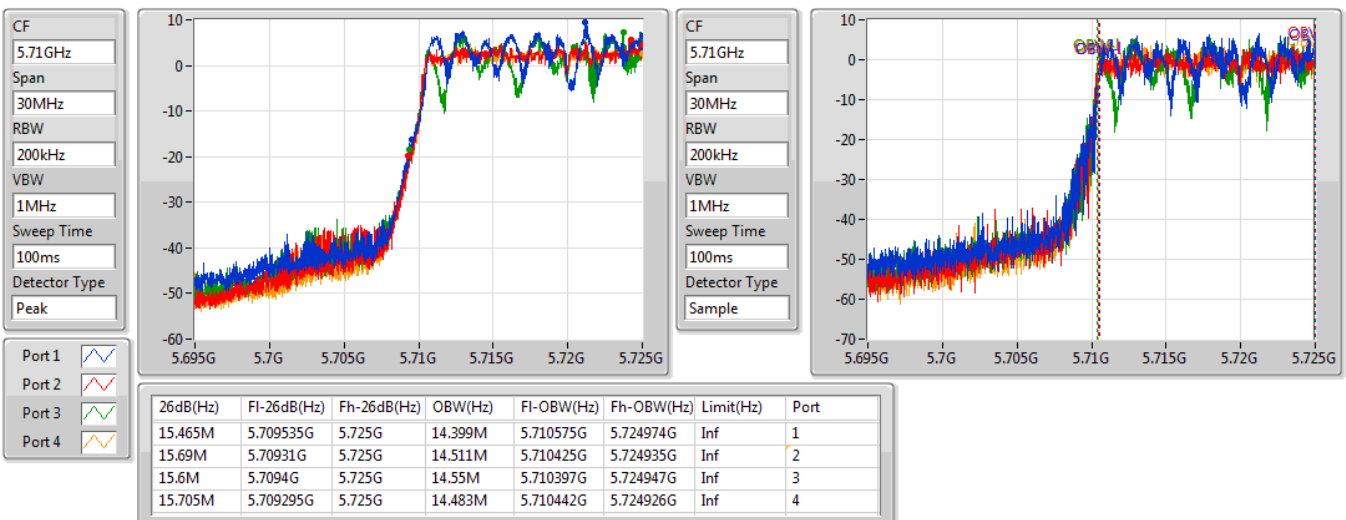


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5700MHz

18/09/2019

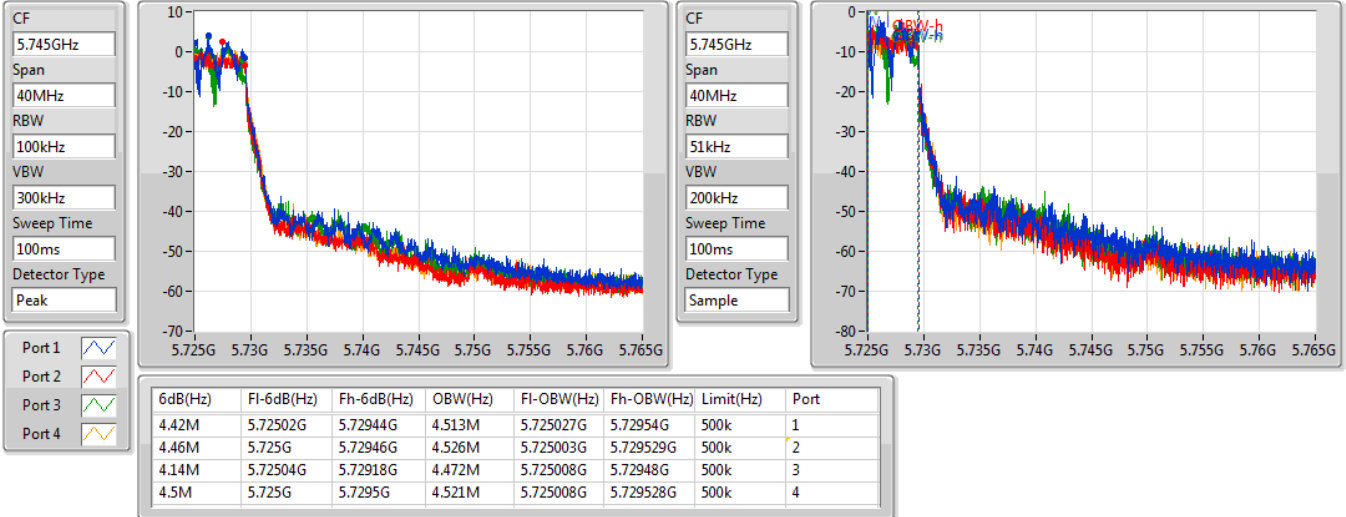

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.47-5.725GHz

18/09/2019

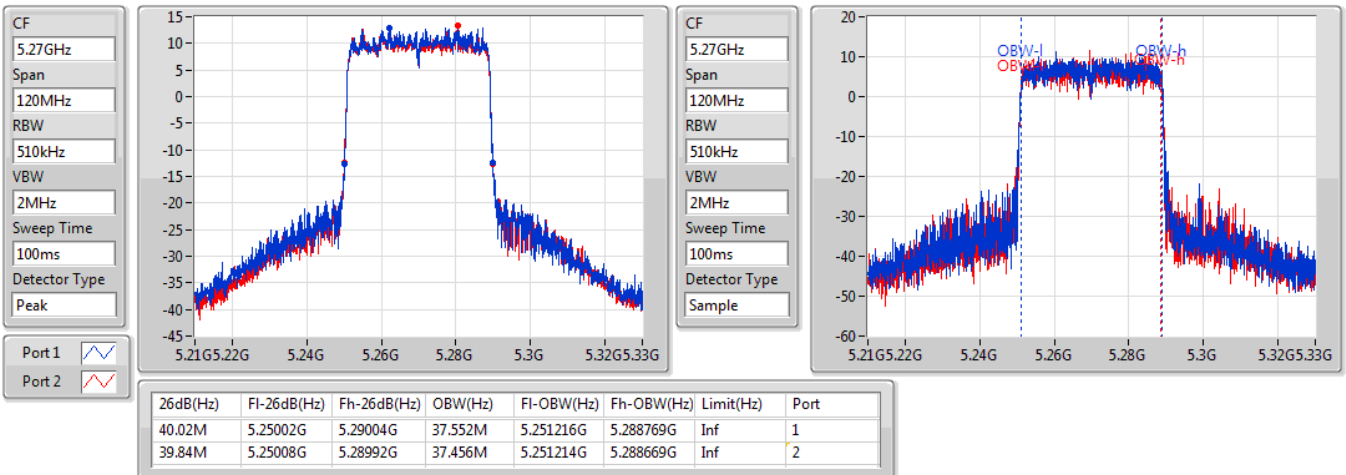


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.725-5.85GHz

18/09/2019

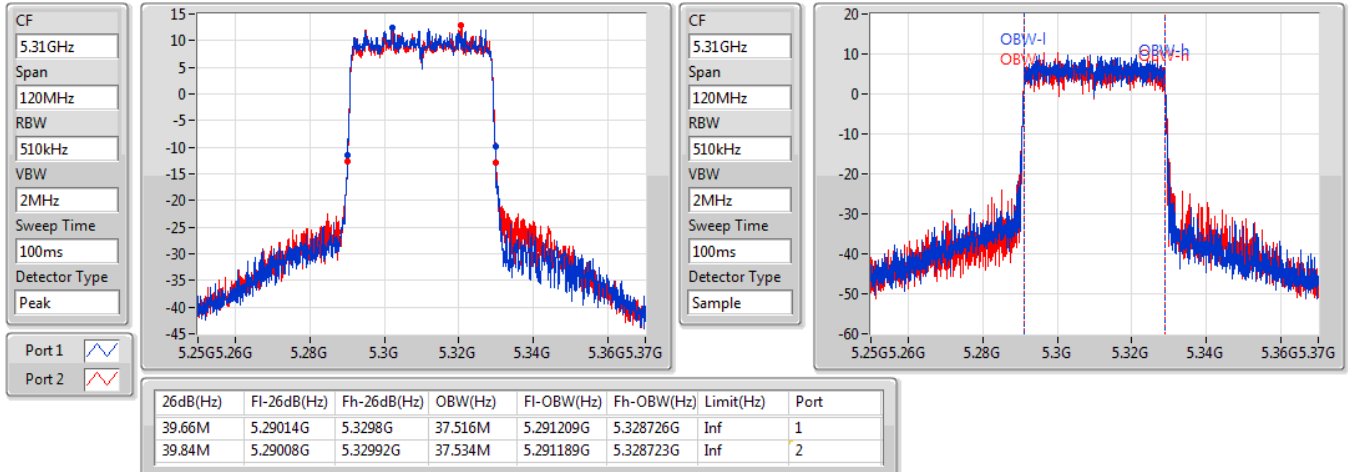

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5270MHz

18/09/2019

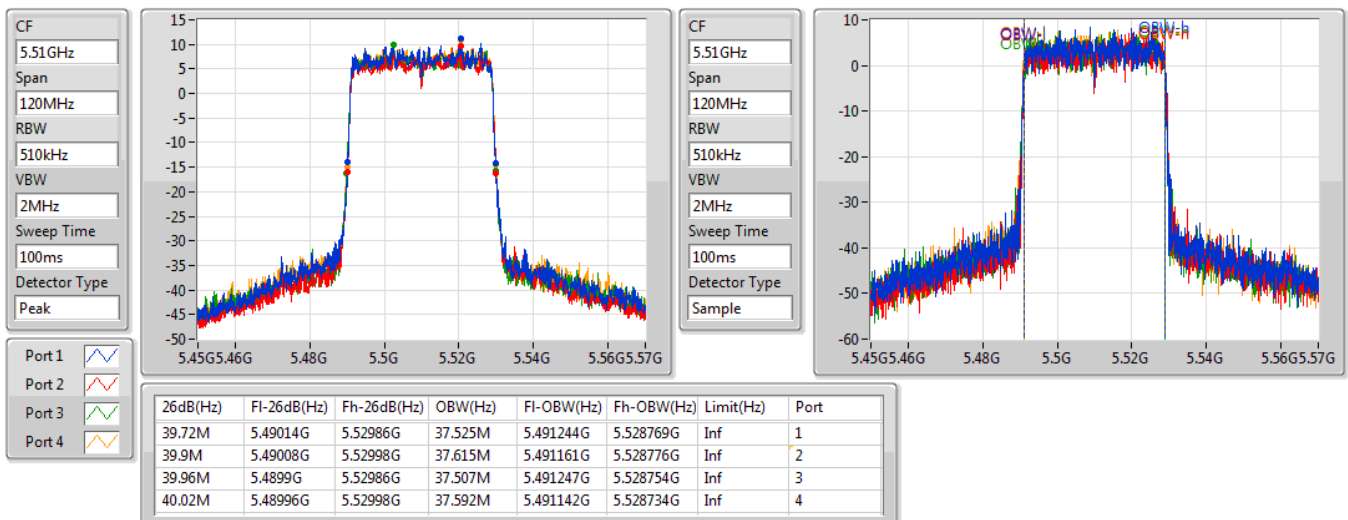


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5310MHz

18/09/2019

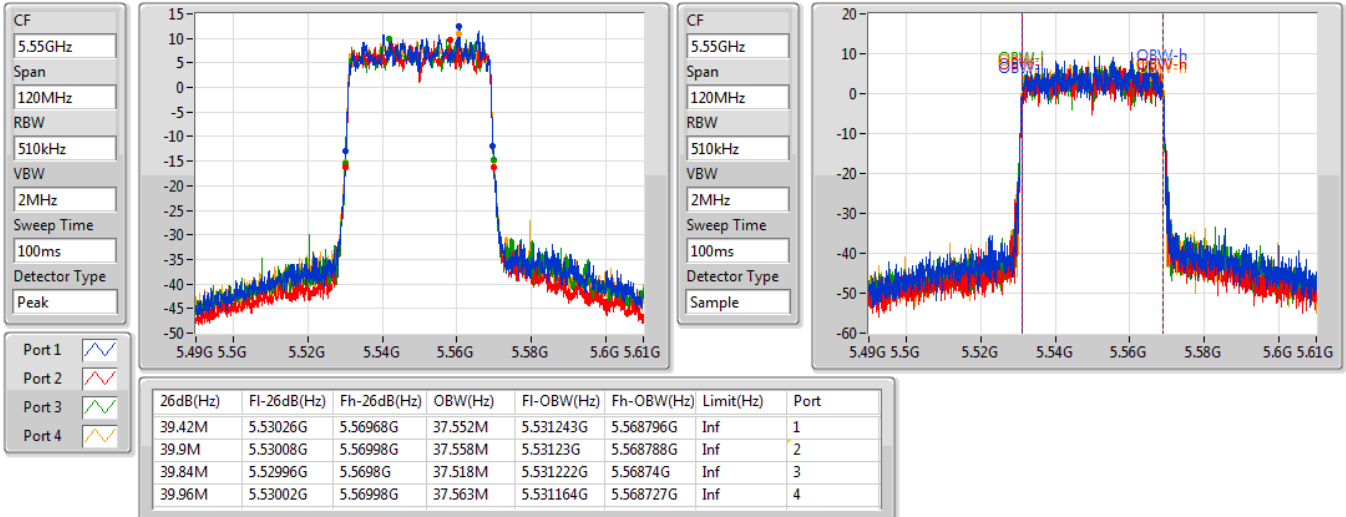

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5510MHz

18/09/2019

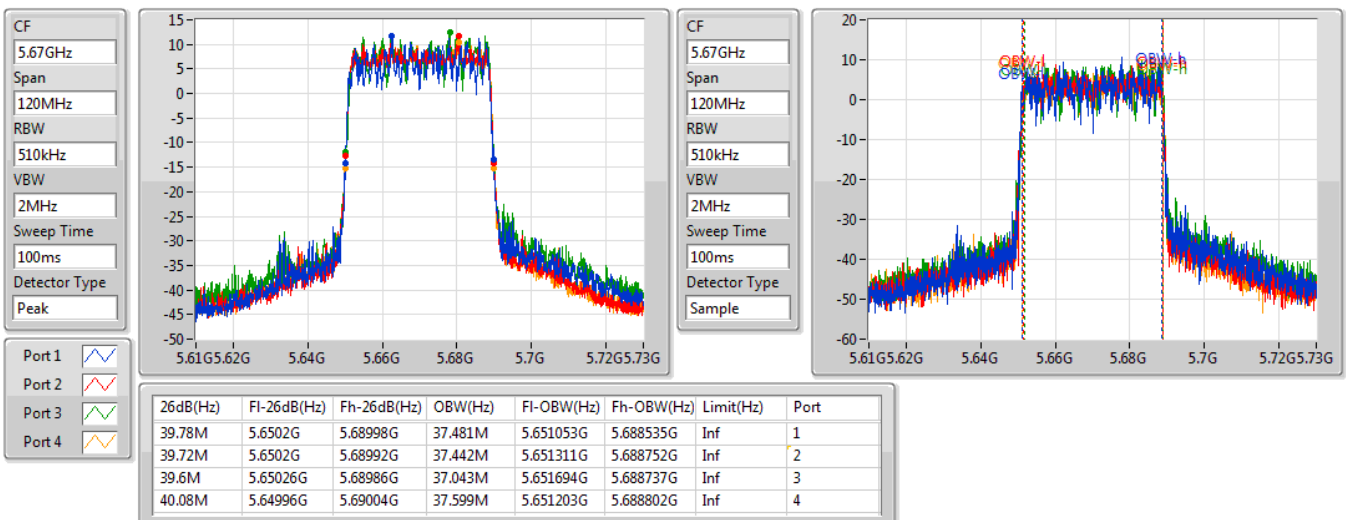


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5550MHz

18/09/2019

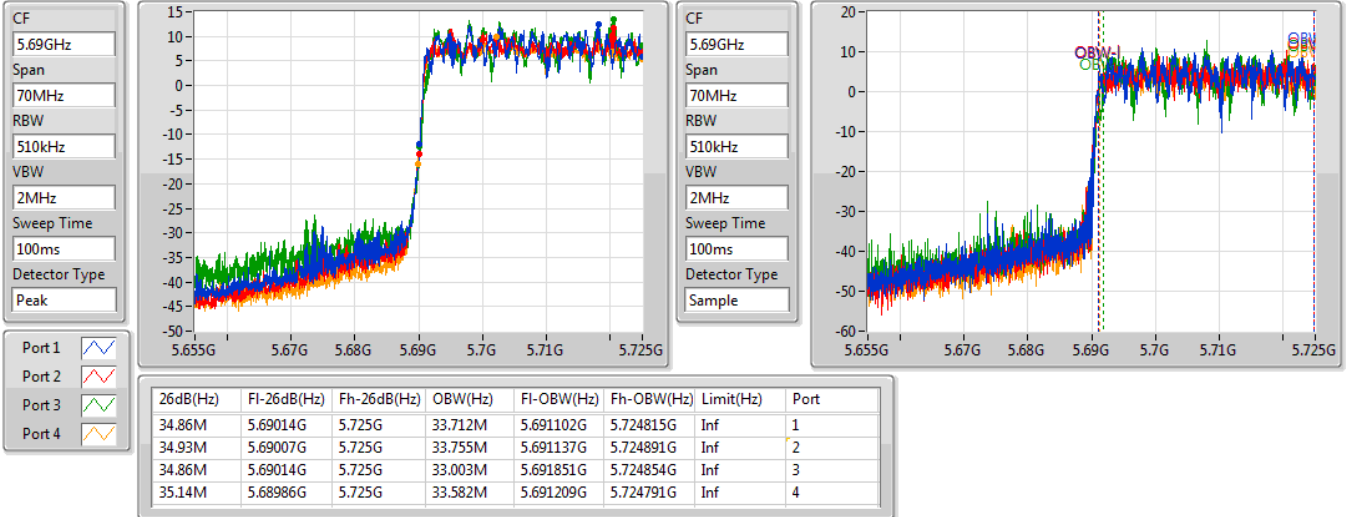

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5670MHz

18/09/2019

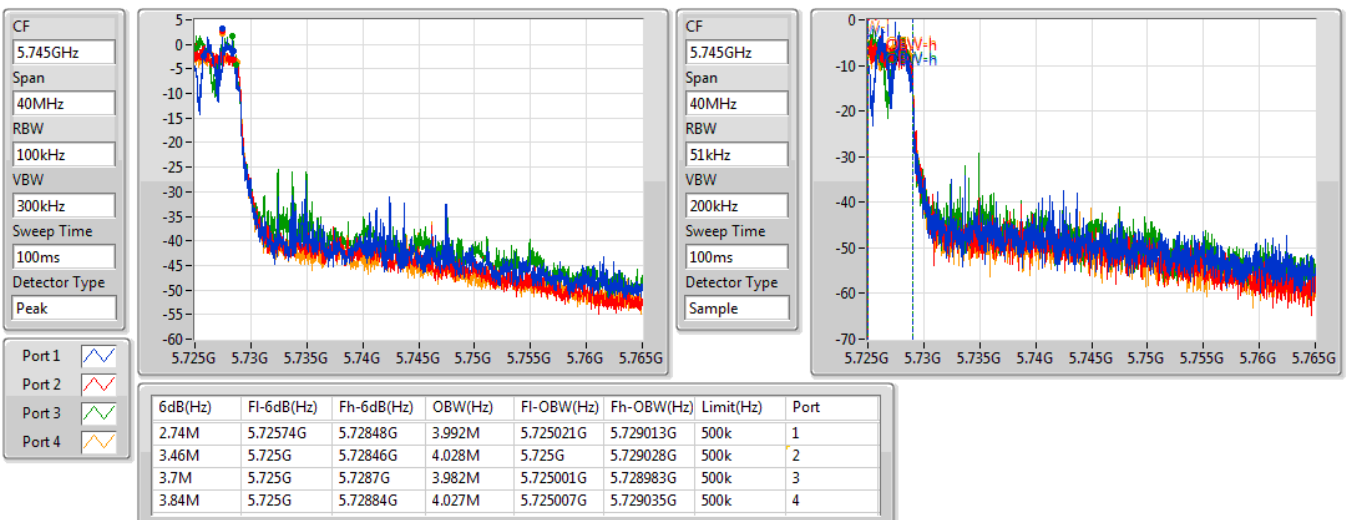


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.47-5.725GHz

18/09/2019

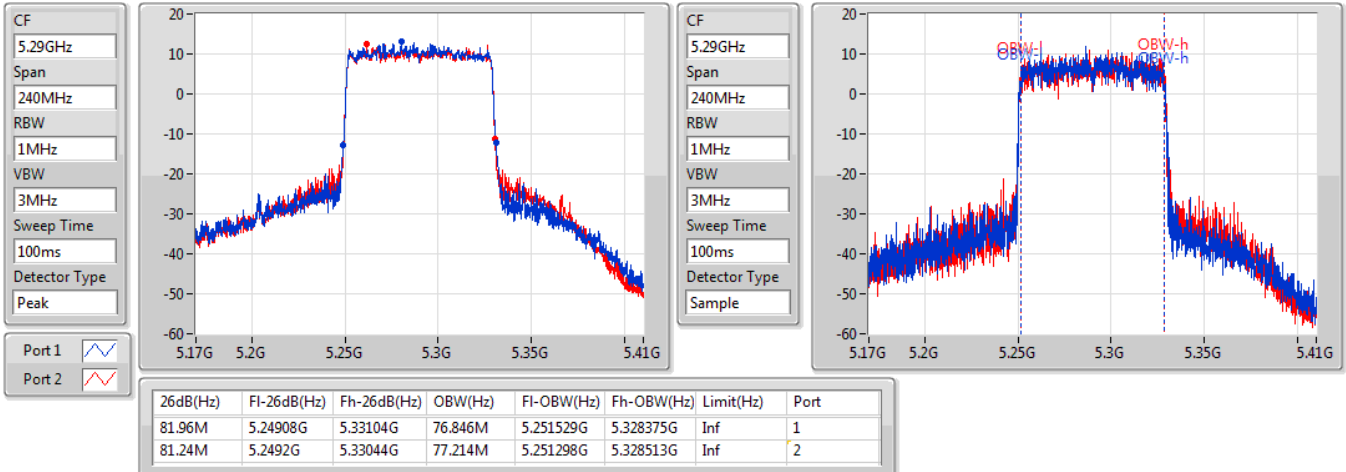

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.725-5.85GHz

18/09/2019

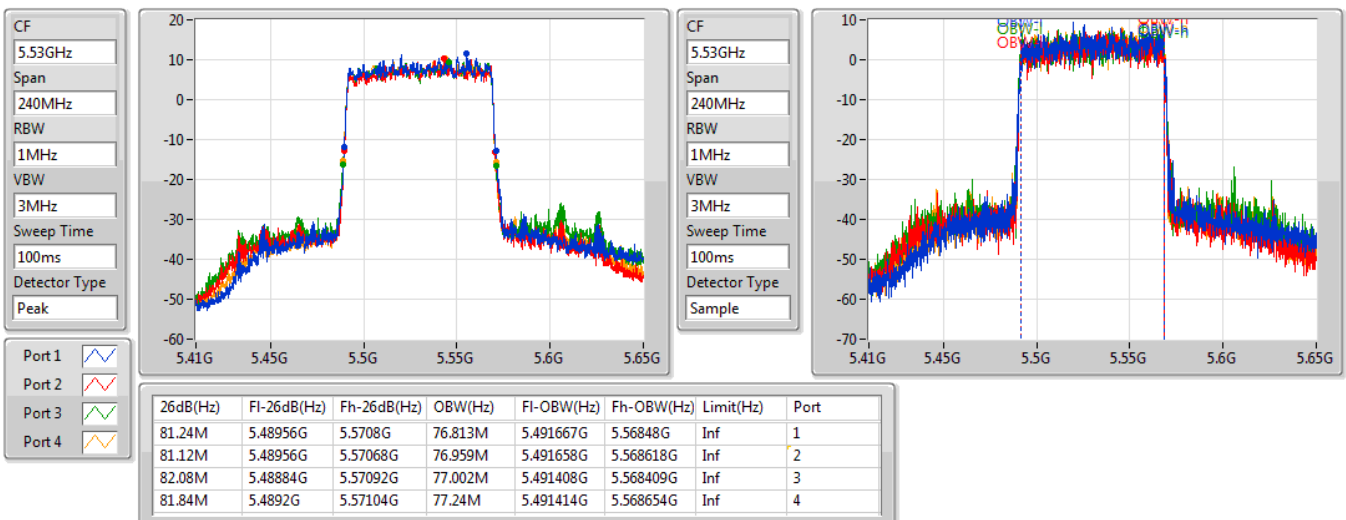


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5290MHz

18/09/2019

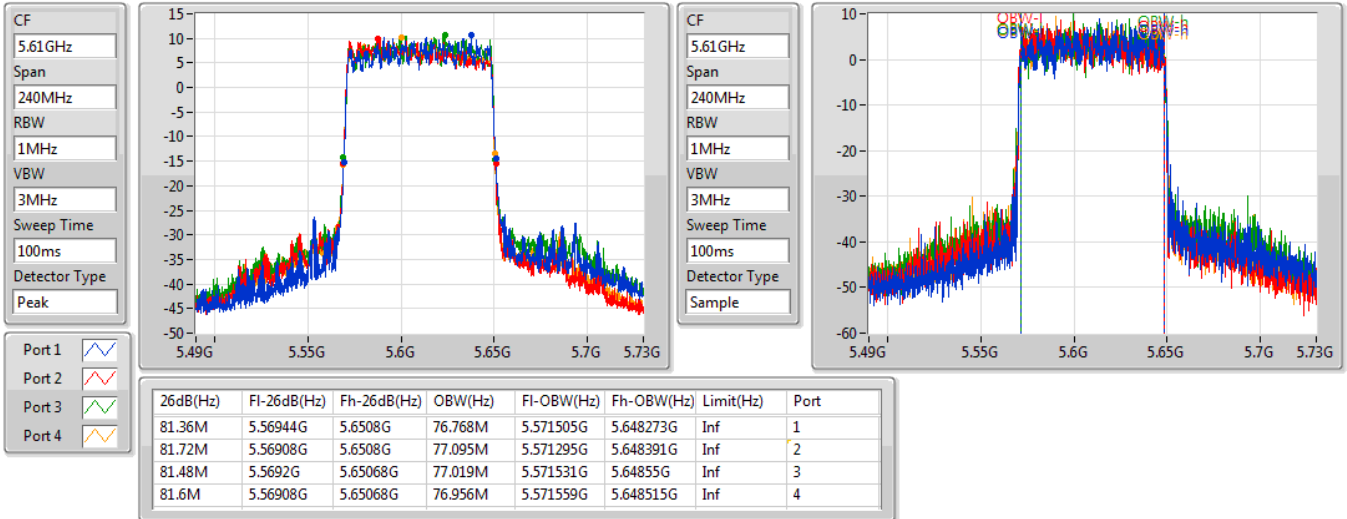

802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5530MHz

18/09/2019

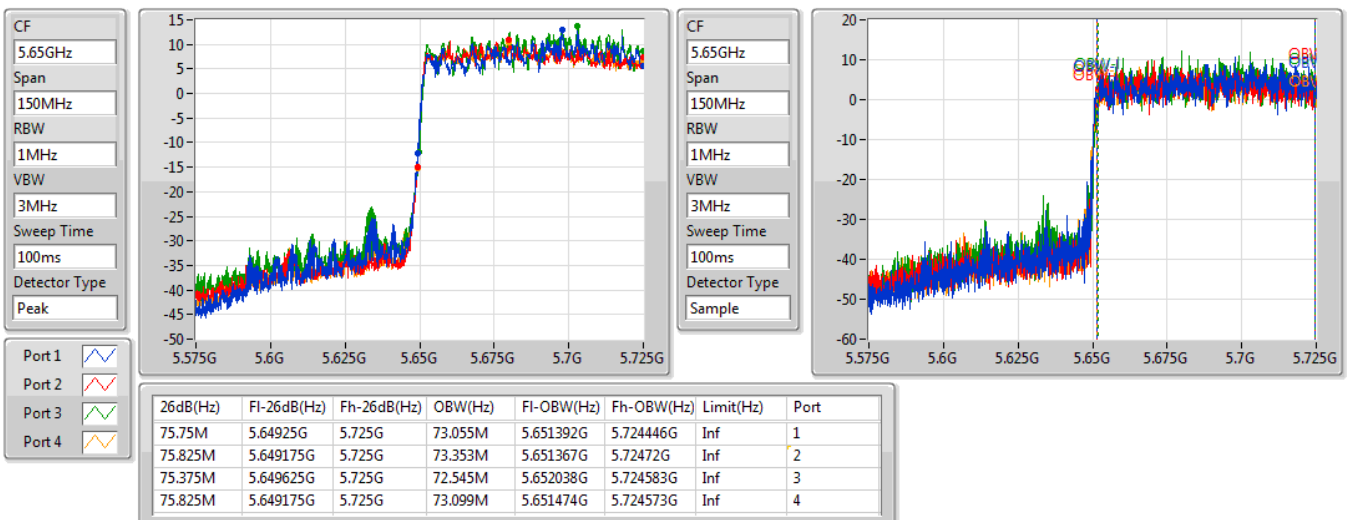


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5610MHz

18/09/2019

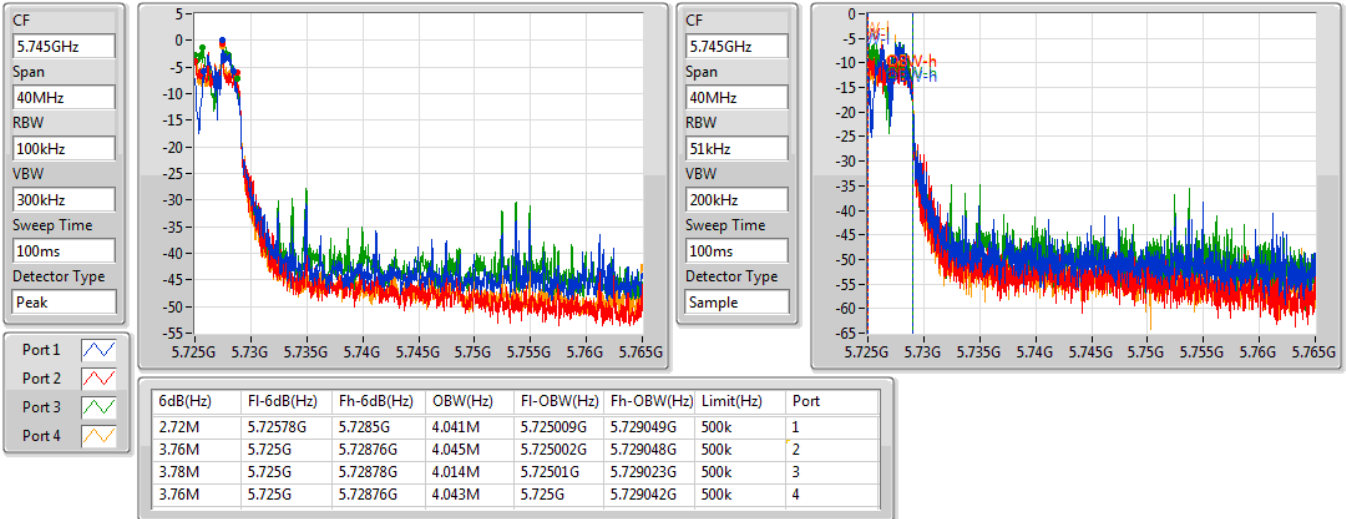

802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.47-5.725GHz

18/09/2019

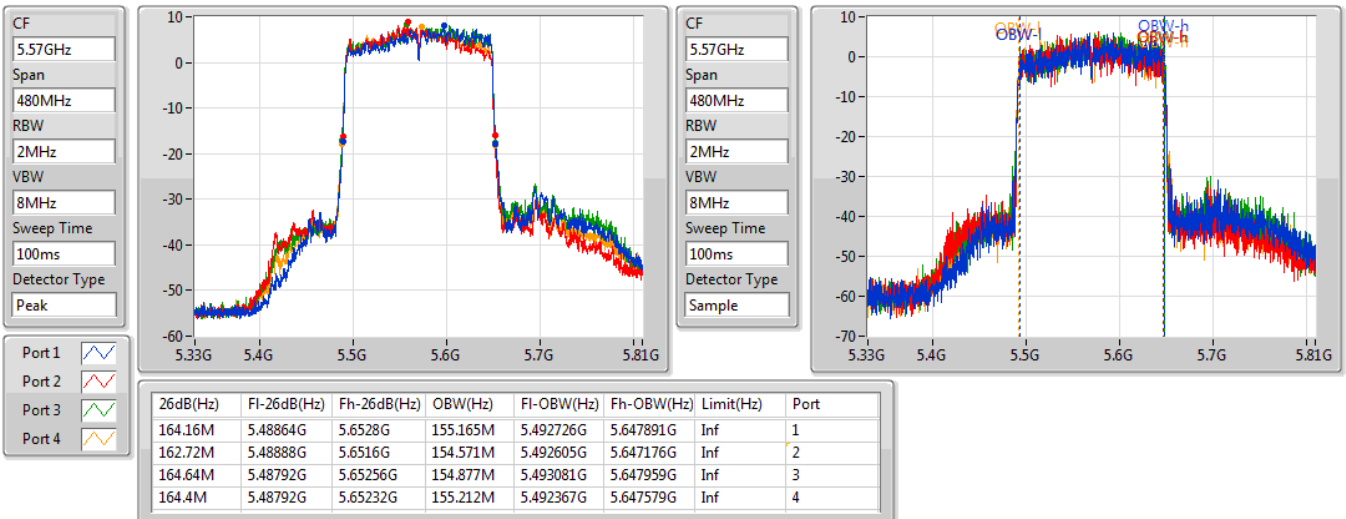


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.725-5.85GHz

18/09/2019


802.11ax HEW160_Nss1,(MCS0)_4TX
EBW
5570MHz

18/09/2019



For beamforming function:

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.47-5.725GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	21.57M	17.901M	17M9D1D	15.54M	13.853M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	40.32M	36.522M	36M5D1D	34.875M	33.021M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	82.44M	76.162M	76M2D1D	75.64M	72.504M
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	164.88M	154.723M	155MD1D	163.44M	154.243M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	21.63M	19.16M	19M2D1D	15.628M	14.395M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	40.14M	37.601M	37M6D1D	34.95M	33.358M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	82.32M	77.361M	77M4D1D	75.795M	72.814M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	165.12M	155.682M	156MD1D	163.68M	155.202M
5.725-5.85GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	17.61M	17.931M	17M9D1D	3.72M	4.438M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	36.36M	36.402M	36M4D1D	2.34M	3.883M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	76.32M	75.922M	75M9D1D	2.025M	5.517M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	18.99M	19.19M	19M2D1D	4.38M	4.663M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	37.62M	37.661M	37M7D1D	3.495M	4.078M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	76.92M	77.121M	77M1D1D	3.495M	4.693M

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)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5500MHz	Pass	Inf	21.42M	17.871M	21.54M	17.841M	21.57M	17.811M	21.51M	17.871M
5580MHz	Pass	Inf	21.18M	17.811M	21.57M	17.811M	21.3M	17.781M	21.51M	17.871M
5700MHz	Pass	Inf	21.36M	17.901M	21.3M	17.811M	21.18M	17.721M	21.54M	17.901M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.68M	13.958M	15.75M	13.958M	15.54M	13.853M	15.908M	13.958M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.72M	4.543M	3.765M	4.528M	3.735M	4.438M	3.78M	4.558M
5745MHz	Pass	500k	17.55M	17.931M	17.58M	17.781M	16.32M	17.751M	17.58M	17.901M
5785MHz	Pass	500k	17.55M	17.901M	17.55M	17.781M	17.55M	17.871M	17.55M	17.901M
5825MHz	Pass	500k	17.28M	17.901M	17.55M	17.811M	17.61M	17.901M	17.61M	17.901M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5510MHz	Pass	Inf	40.32M	36.462M	39.9M	36.342M	40.08M	36.462M	39.72M	36.282M
5550MHz	Pass	Inf	40.2M	36.462M	40.02M	36.342M	40.02M	36.462M	39.78M	36.342M
5670MHz	Pass	Inf	40.26M	36.522M	39.96M	36.342M	39.84M	36.522M	39.66M	36.402M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.063M	33.058M	34.95M	33.021M	34.988M	33.133M	34.875M	33.058M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	2.34M	3.928M	3.105M	3.988M	3.21M	3.883M	3.12M	3.958M
5755MHz	Pass	500k	35.46M	36.342M	36.3M	36.222M	35.76M	36.402M	36.36M	36.402M
5795MHz	Pass	500k	35.64M	36.282M	36.24M	36.342M	35.76M	36.342M	36.36M	36.402M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5530MHz	Pass	Inf	82.44M	75.802M	81.72M	75.922M	81.6M	75.802M	81.48M	75.562M
5610MHz	Pass	Inf	81.96M	76.162M	81.36M	75.682M	81.72M	75.922M	81.6M	75.682M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.873M	72.504M	75.873M	72.581M	75.64M	72.581M	76.338M	72.504M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	2.025M	7.166M	3.105M	8.936M	3.135M	5.517M	3.12M	9.76M
5775MHz	Pass	500k	74.64M	75.202M	75.96M	75.802M	71.28M	75.442M	76.32M	75.922M
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5570MHz	Pass	Inf	164.88M	154.723M	164.16M	154.243M	164.16M	154.483M	163.44M	154.243M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5500MHz	Pass	Inf	21.42M	19.01M	21.45M	19.04M	21.54M	19.07M	21.51M	19.1M
5580MHz	Pass	Inf	21.48M	19.07M	21.42M	19.01M	21.45M	19.01M	21.45M	19.16M
5700MHz	Pass	Inf	21.18M	18.981M	21.51M	19.1M	21.33M	19.01M	21.63M	19.1M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.628M	14.395M	15.715M	14.535M	15.698M	14.588M	15.75M	14.535M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	4.425M	4.678M	4.545M	4.723M	4.38M	4.663M	4.5M	4.813M
5745MHz	Pass	500k	18.27M	18.921M	18.96M	19.16M	18.45M	19.13M	18.96M	19.1M
5785MHz	Pass	500k	18.06M	19.01M	18.99M	19.16M	18.18M	19.07M	18.87M	19.13M
5825MHz	Pass	500k	18.75M	19.1M	18.96M	19.19M	18.69M	19.1M	18.9M	19.13M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5510MHz	Pass	Inf	40.02M	37.541M	39.84M	37.541M	39.84M	37.541M	40.08M	37.481M
5550MHz	Pass	Inf	39.9M	37.481M	39.84M	37.481M	40.02M	37.601M	40.02M	37.601M
5670MHz	Pass	Inf	39.9M	37.601M	39.96M	37.481M	39.9M	37.241M	40.14M	37.541M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	34.988M	33.621M	34.95M	33.658M	35.063M	33.358M	35.138M	33.508M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.495M	4.093M	3.72M	4.108M	3.795M	4.078M	3.825M	4.138M
5755MHz	Pass	500k	37.56M	37.541M	36.66M	37.541M	36.12M	37.481M	37.62M	37.601M
5795MHz	Pass	500k	37.5M	37.541M	36.9M	37.601M	33.78M	37.661M	37.2M	37.541M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5530MHz	Pass	Inf	81.84M	77.121M	82.32M	77.361M	82.32M	77.121M	81.96M	77.121M

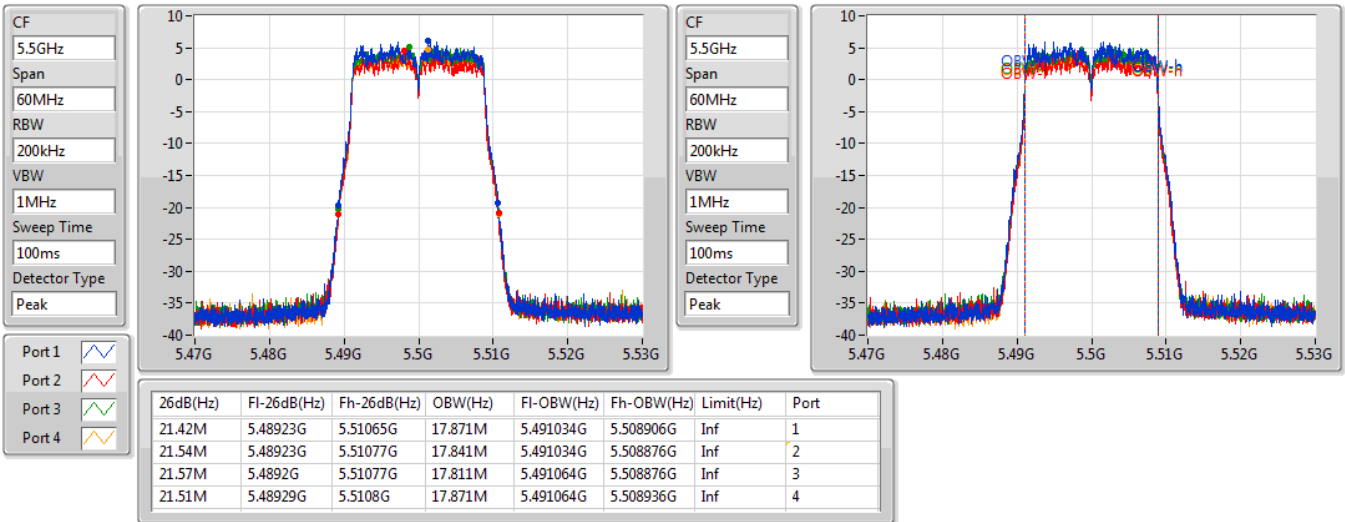
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
5610MHz	Pass	Inf	81.84M	76.882M	81.6M	76.882M	82.2M	77.121M	81.84M	77.241M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.95M	72.969M	75.95M	73.201M	75.95M	72.814M	75.795M	73.201M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.495M	5.427M	3.525M	6.252M	3.75M	4.693M	3.69M	5.352M
5775MHz	Pass	500k	72.48M	76.882M	76.32M	77.121M	70.32M	76.762M	76.92M	77.121M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5570MHz	Pass	Inf	164.4M	155.442M	163.68M	155.202M	165.12M	155.682M	164.16M	155.442M

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

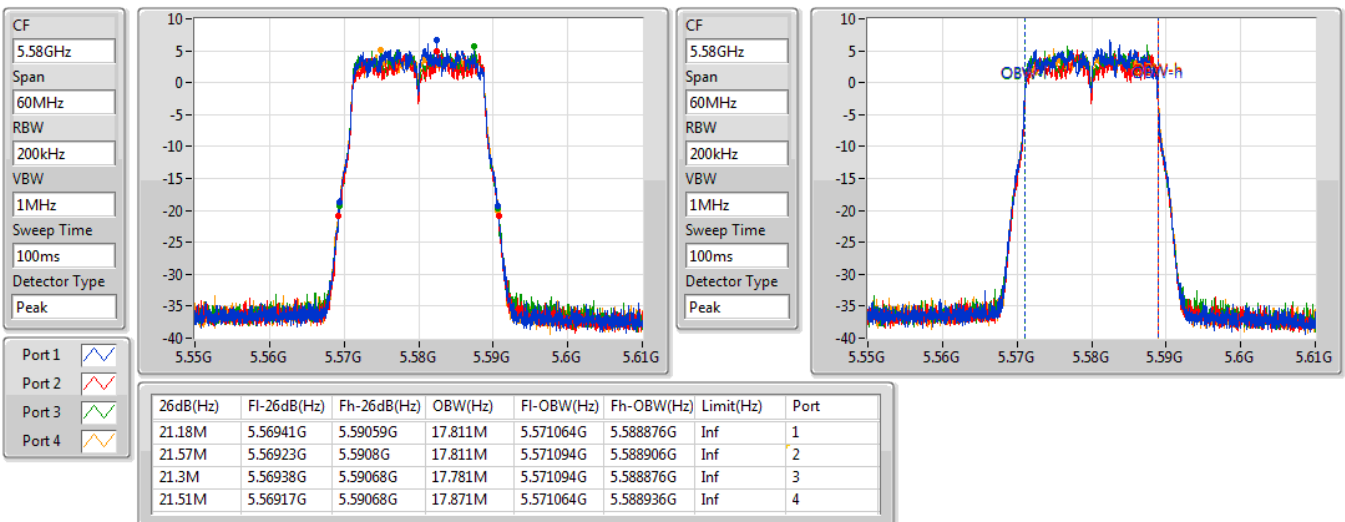
Port X-OBW = Port X 99% occupied bandwidth;

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5500MHz

01/02/2020

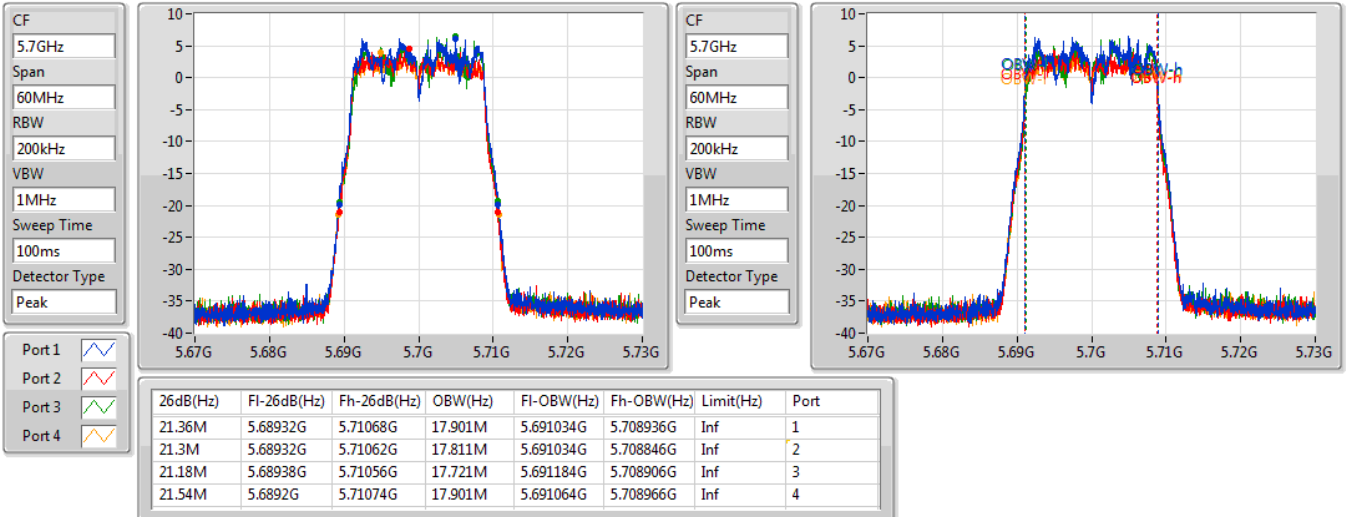

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5580MHz

01/02/2020

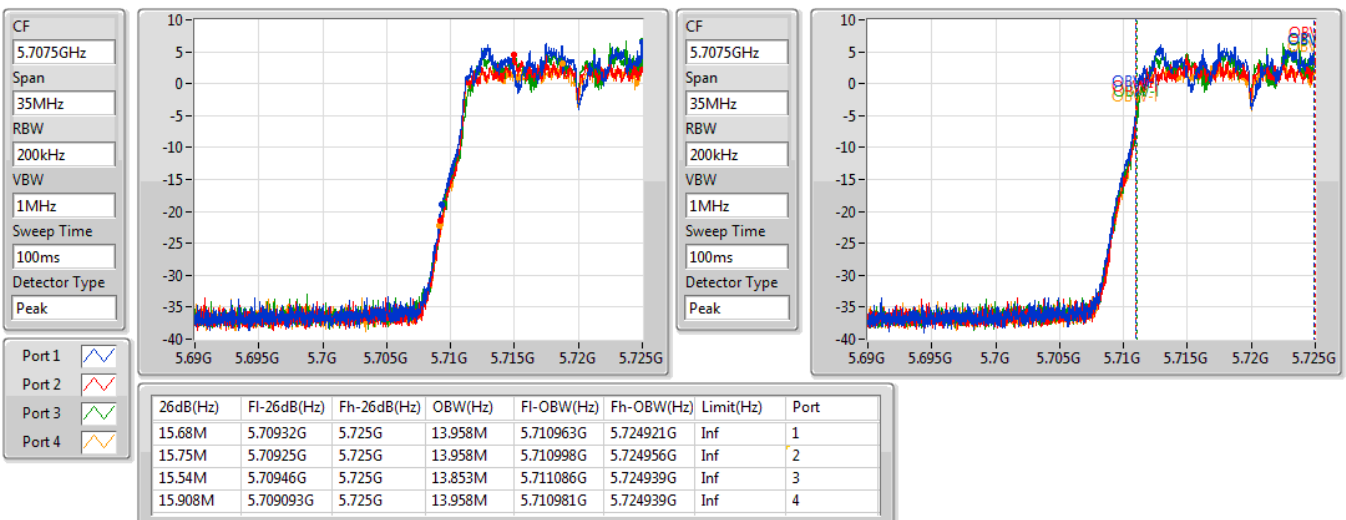


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5700MHz

01/02/2020

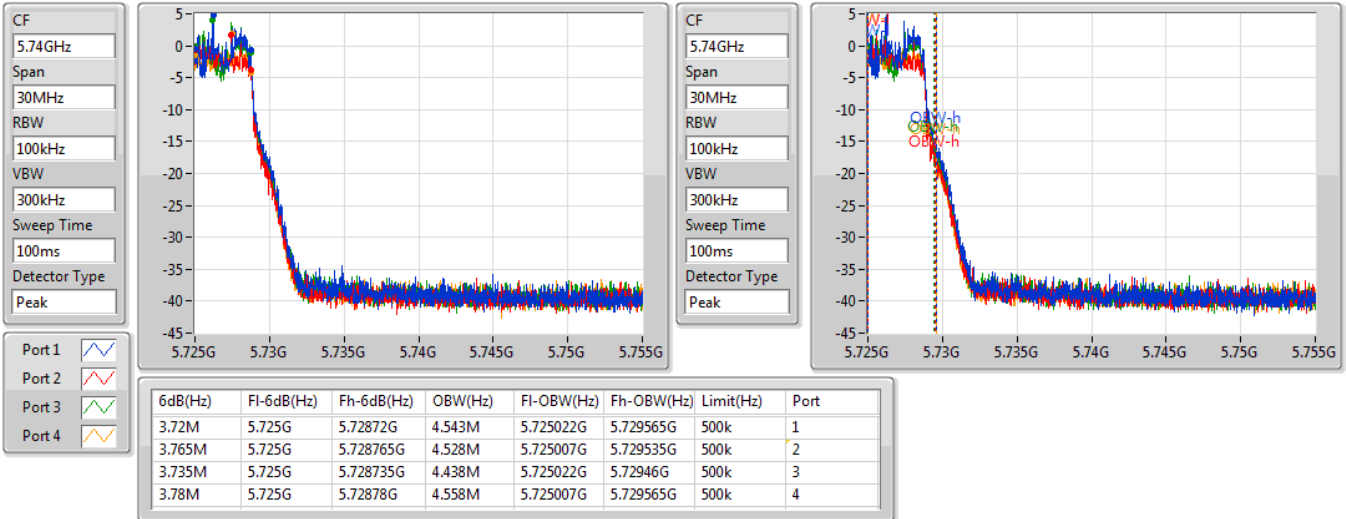

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.47-5.725GHz

01/02/2020

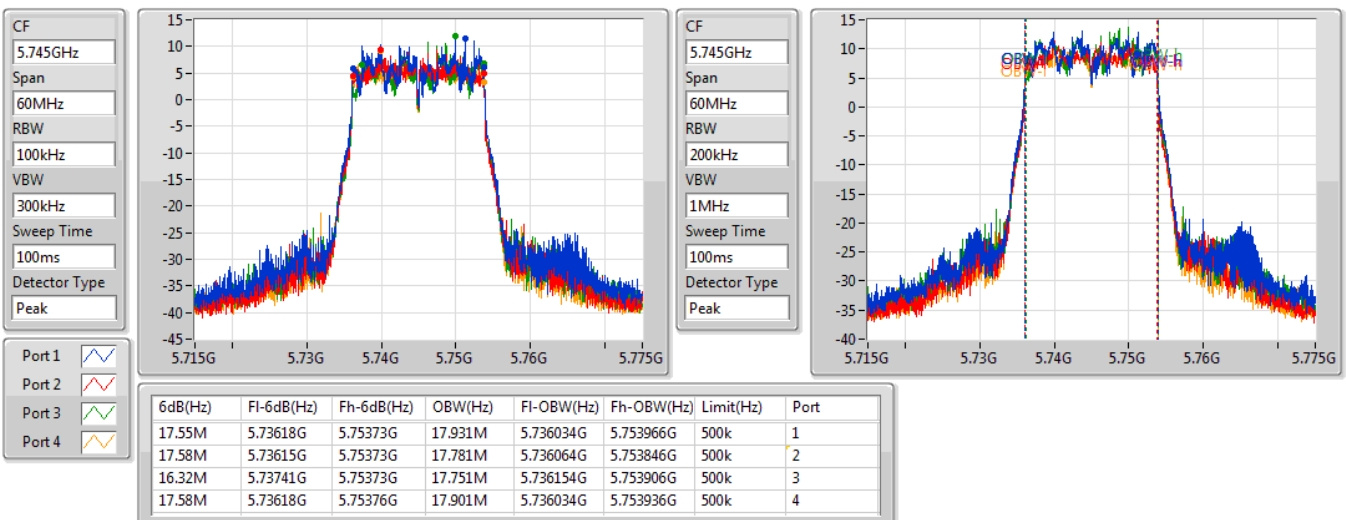


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.725-5.85GHz

01/02/2020

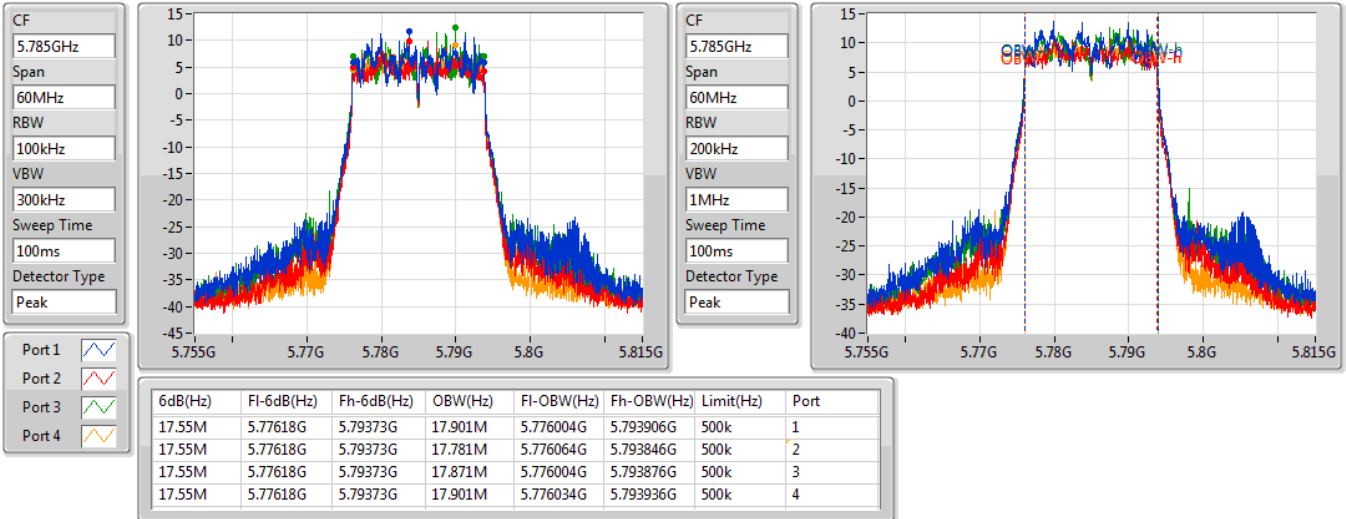

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5745MHz

01/02/2020

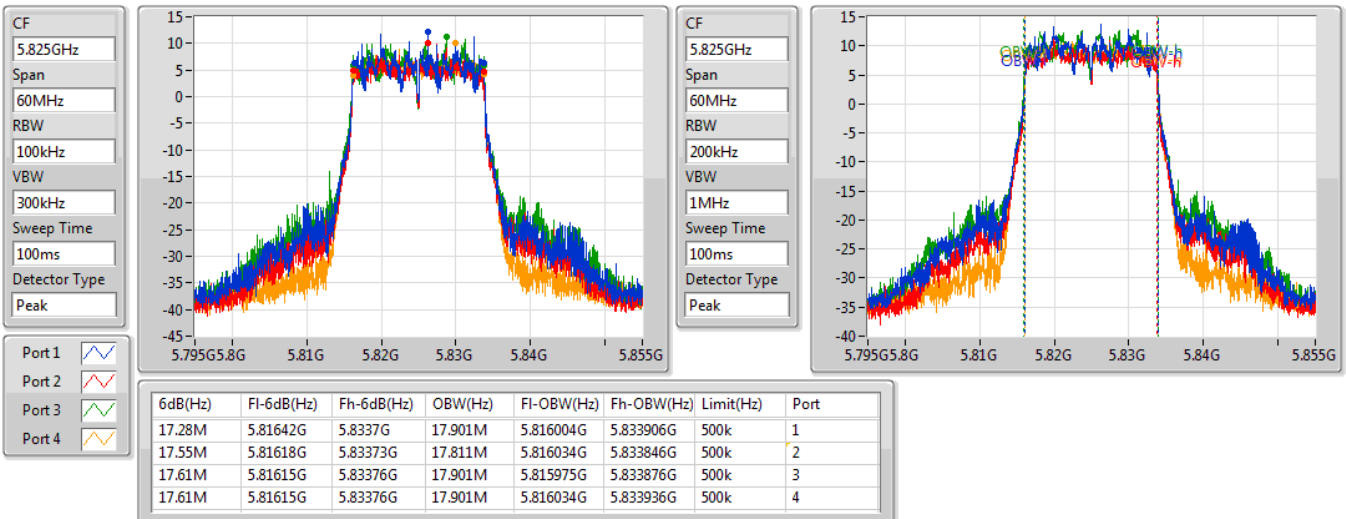


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5785MHz

01/02/2020

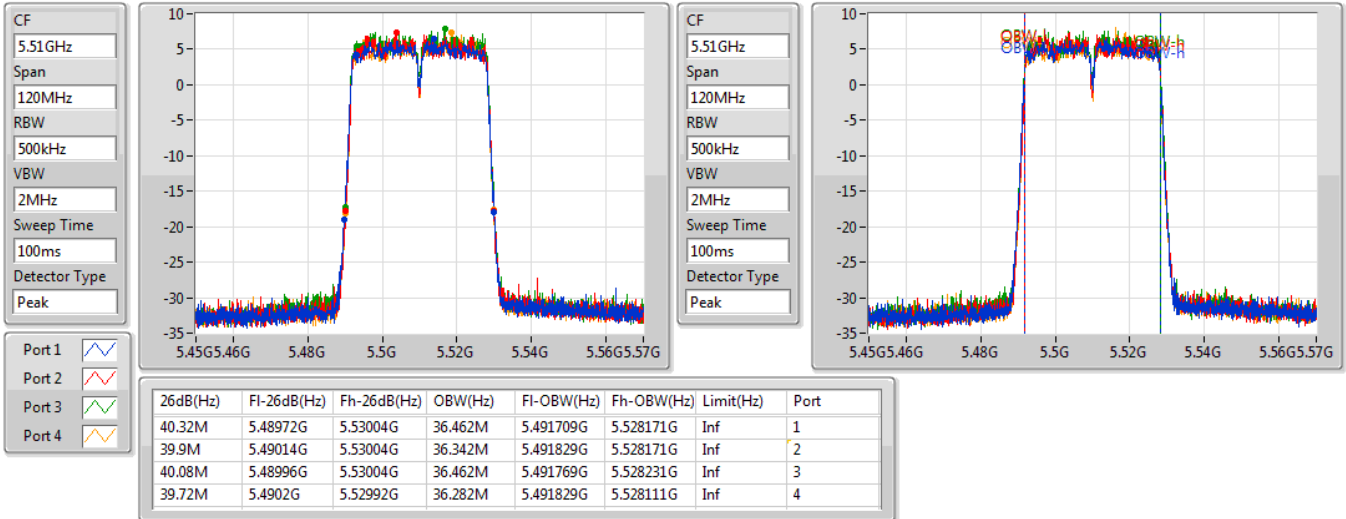

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5825MHz

01/02/2020

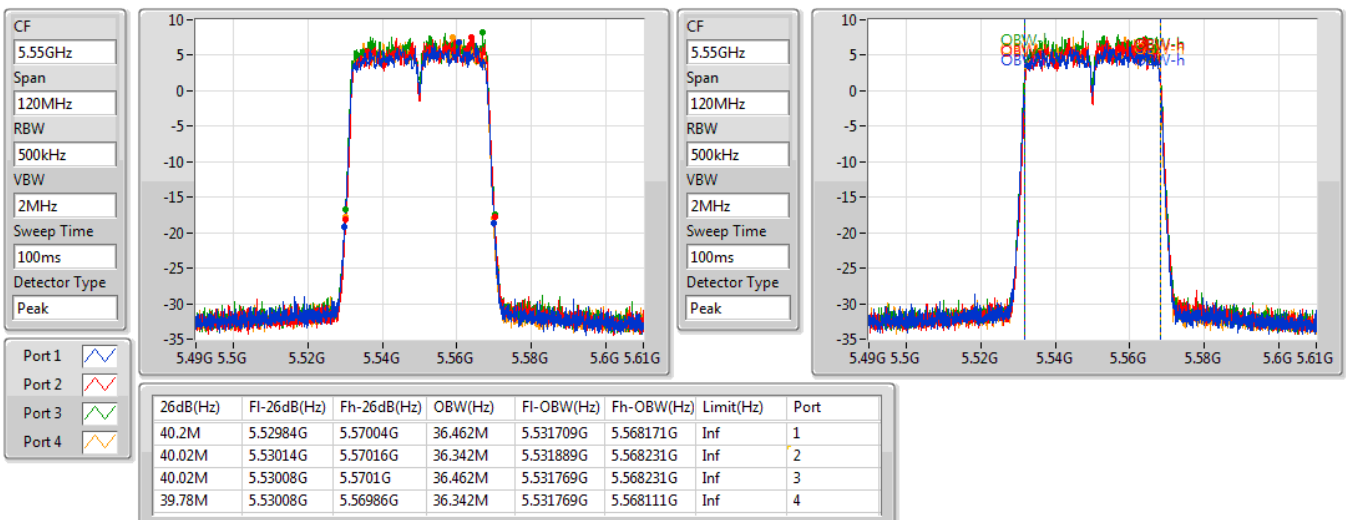


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5510MHz

01/02/2020

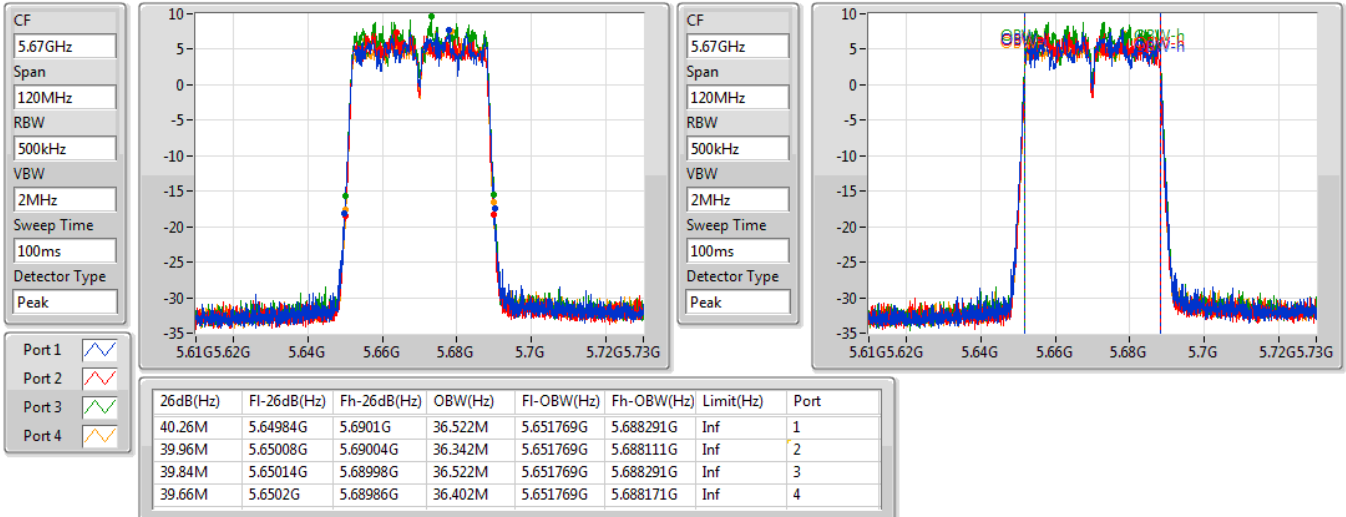

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5550MHz

01/02/2020

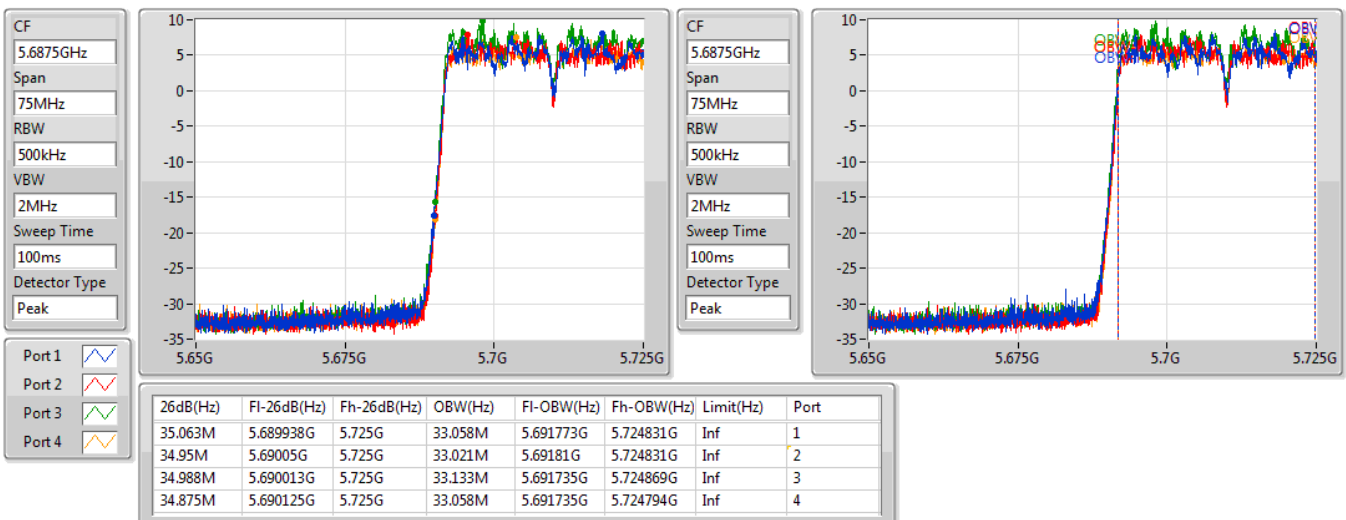


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5670MHz

01/02/2020

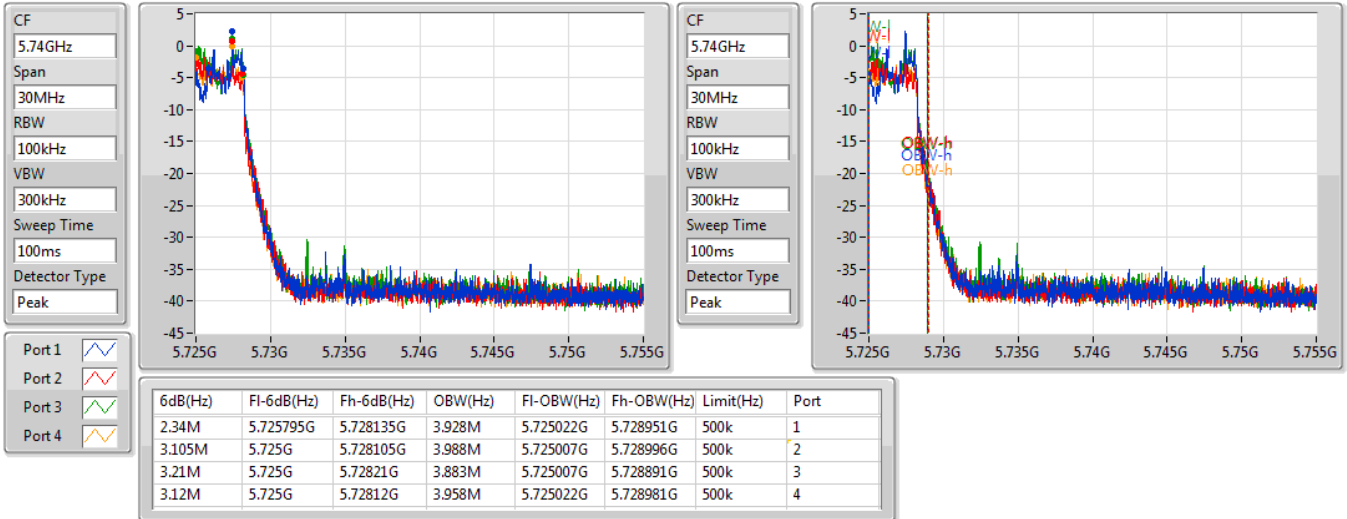

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.47-5.725GHz

01/02/2020

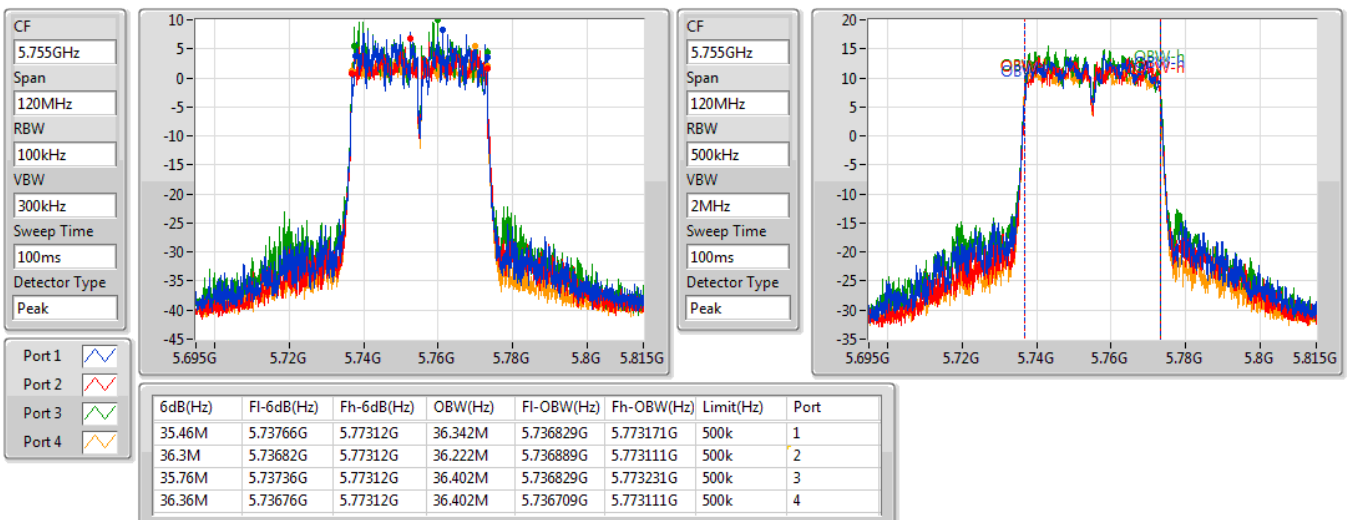


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.725-5.85GHz

01/02/2020

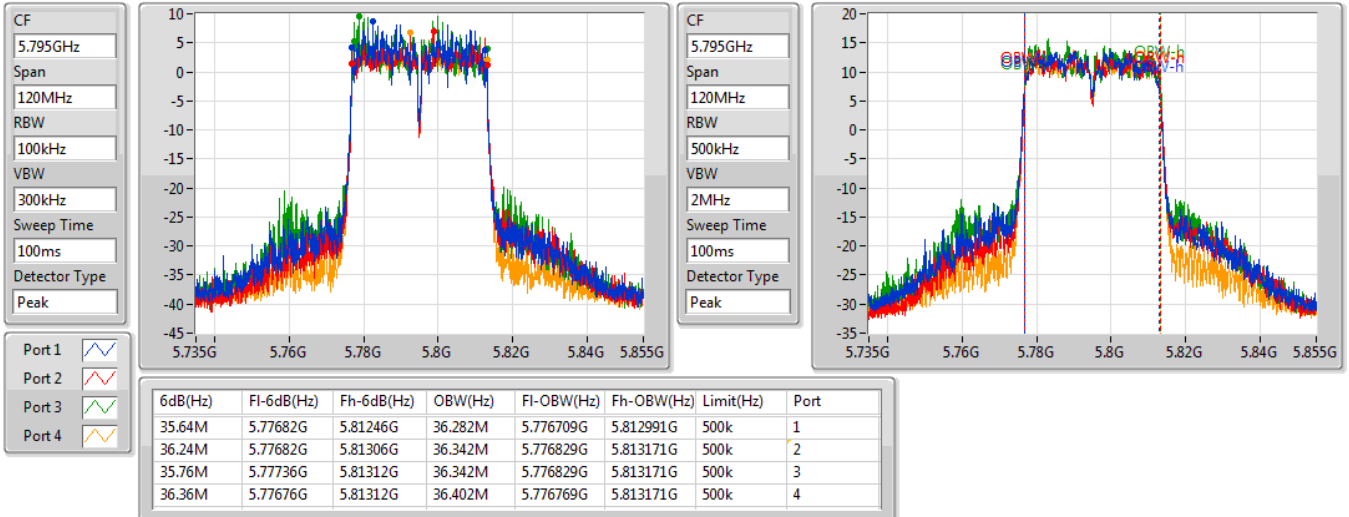

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5755MHz

01/02/2020

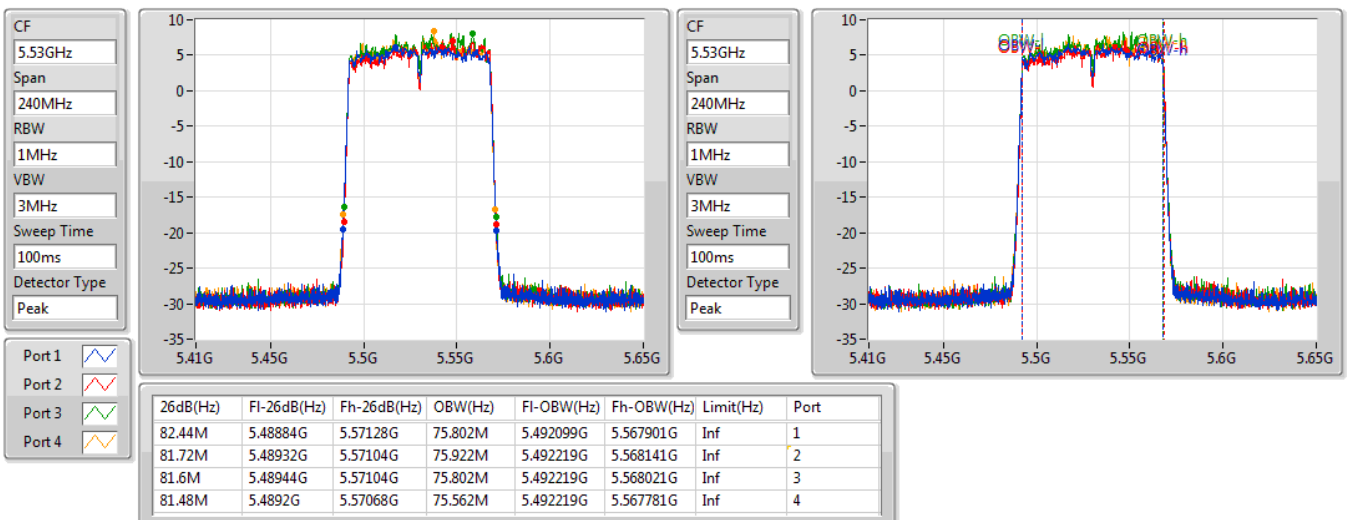


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5795MHz

01/02/2020

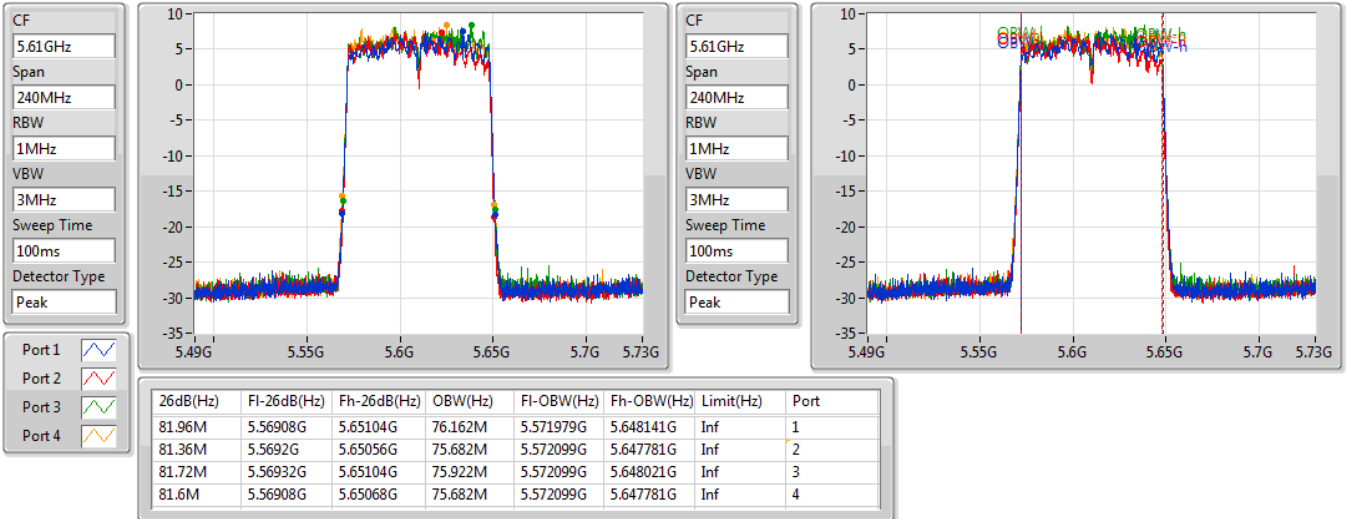

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5530MHz

01/02/2020

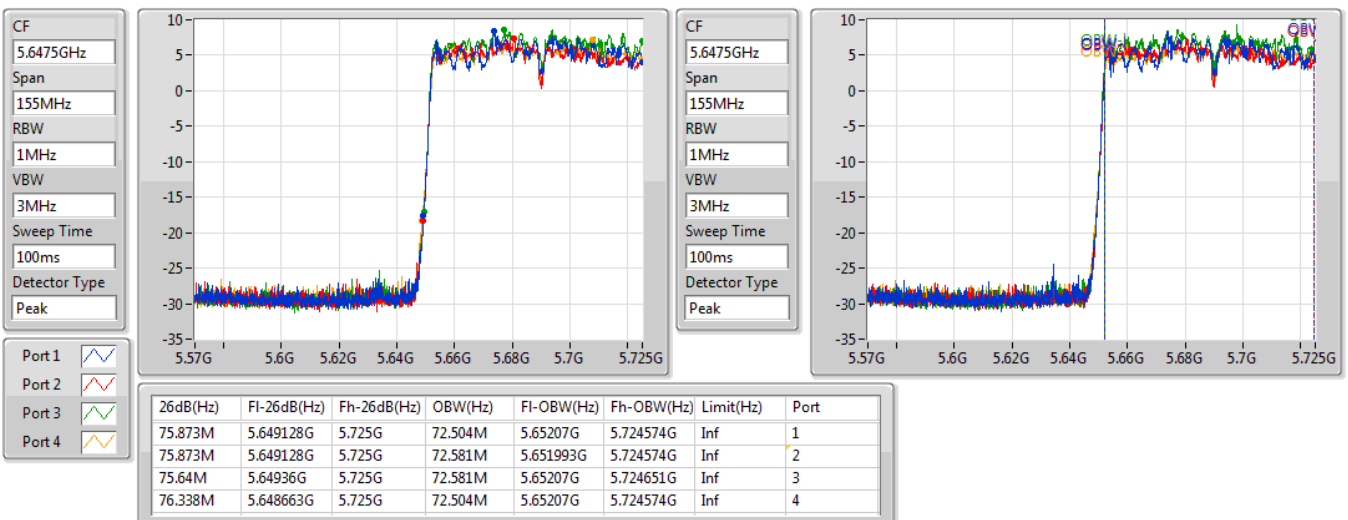


802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5610MHz

01/02/2020

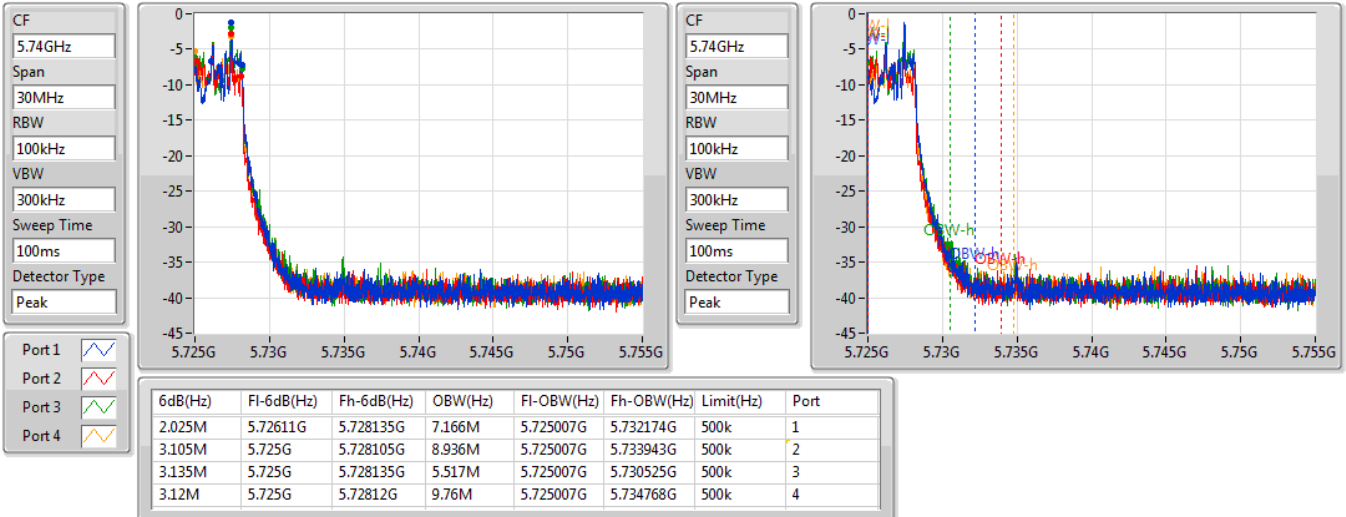

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.47-5.725GHz

01/02/2020

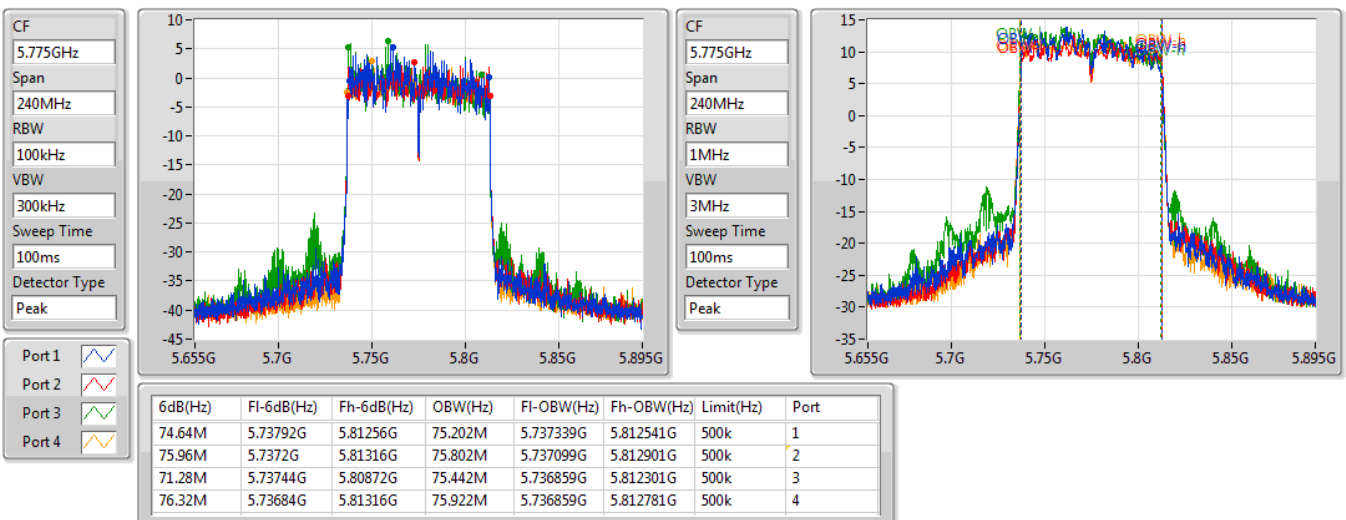


802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.725-5.85GHz

01/02/2020

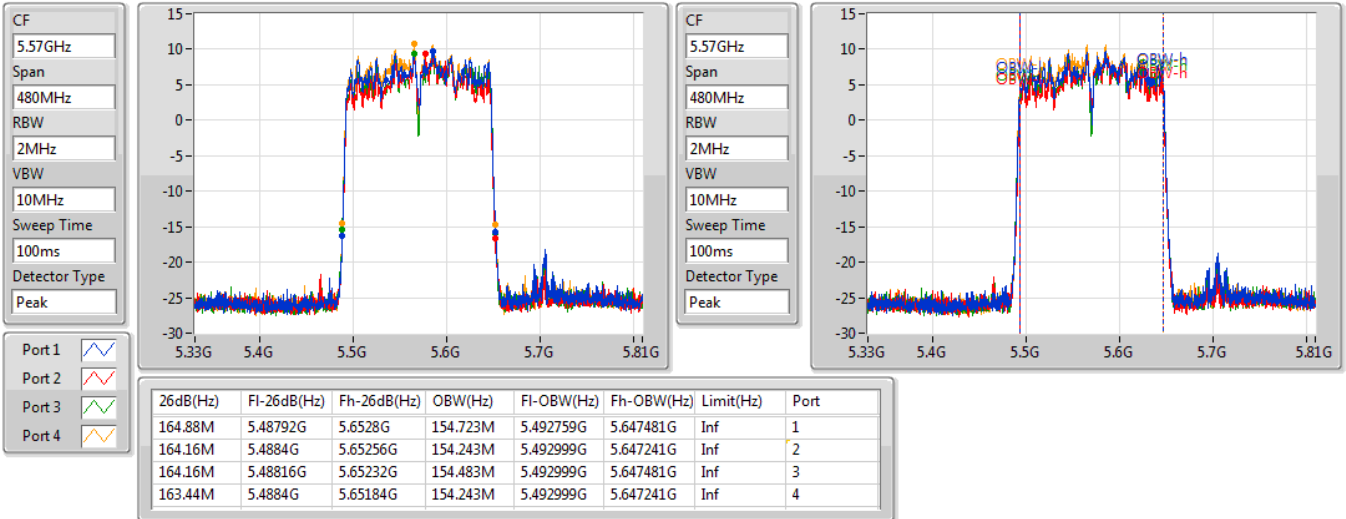

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5775MHz

03/02/2020

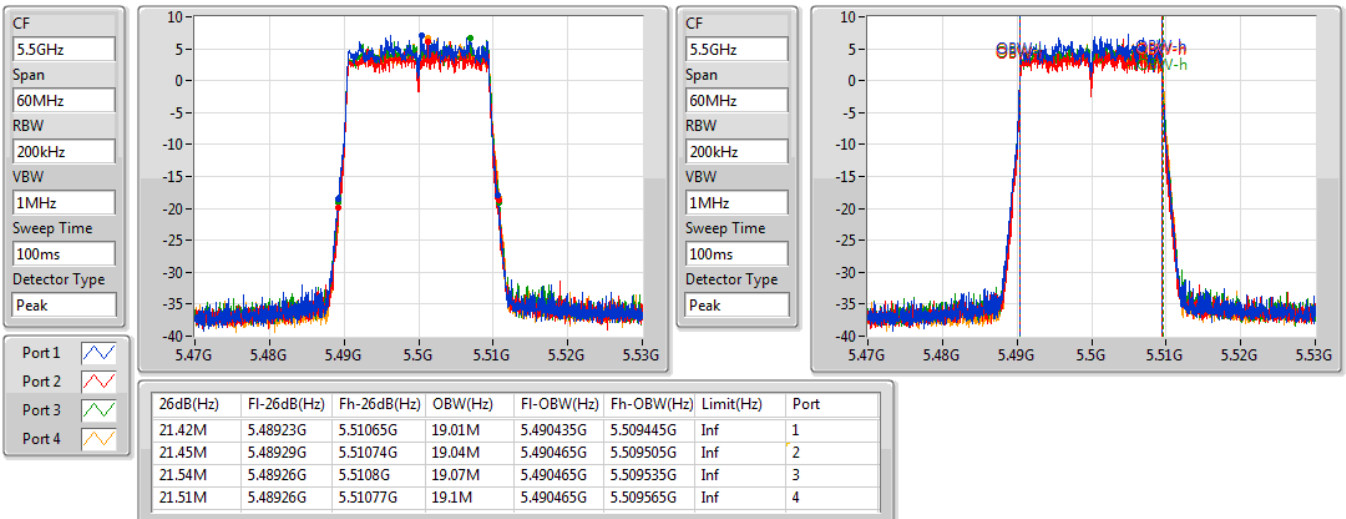


802.11ac VHT160-BF_Nss1,(MCS0)_4TX
EBW
5570MHz

01/02/2020

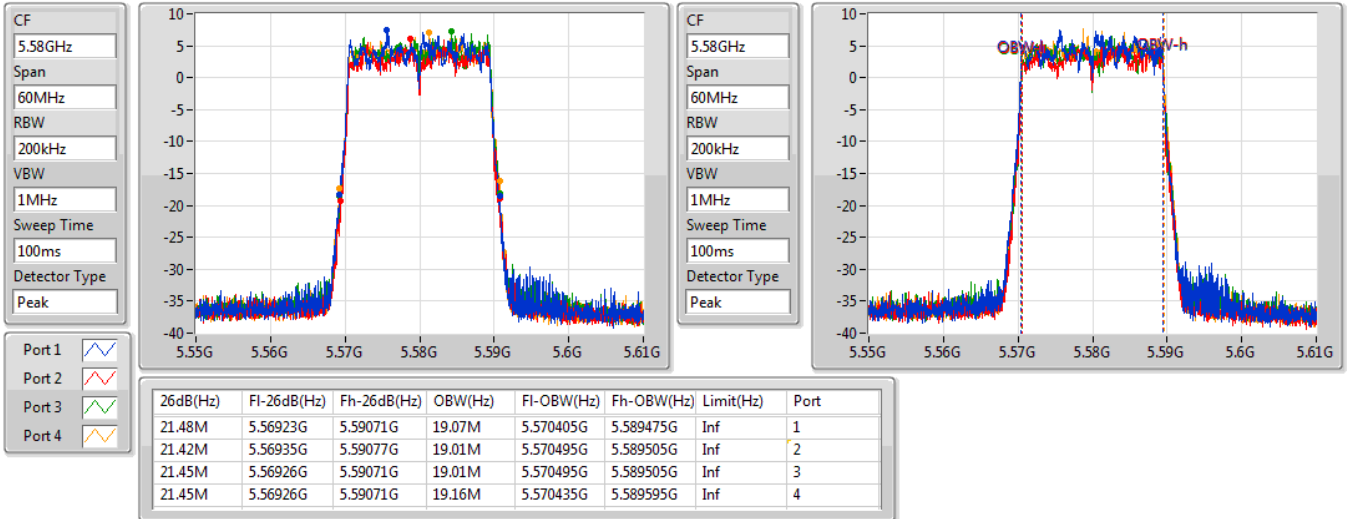

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5500MHz

01/02/2020

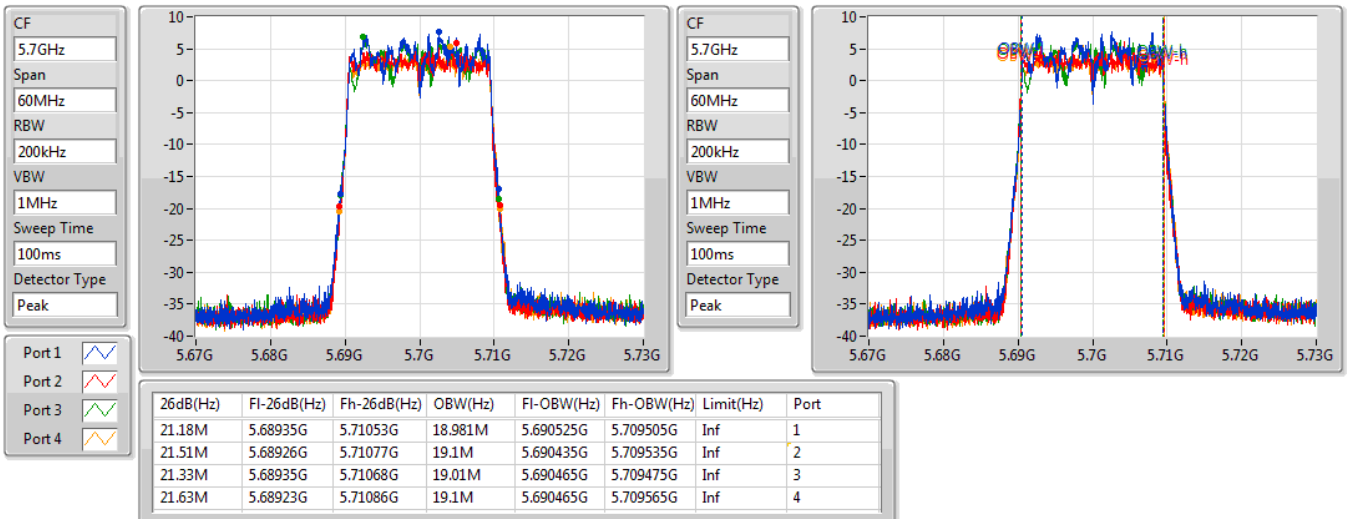


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5580MHz

01/02/2020

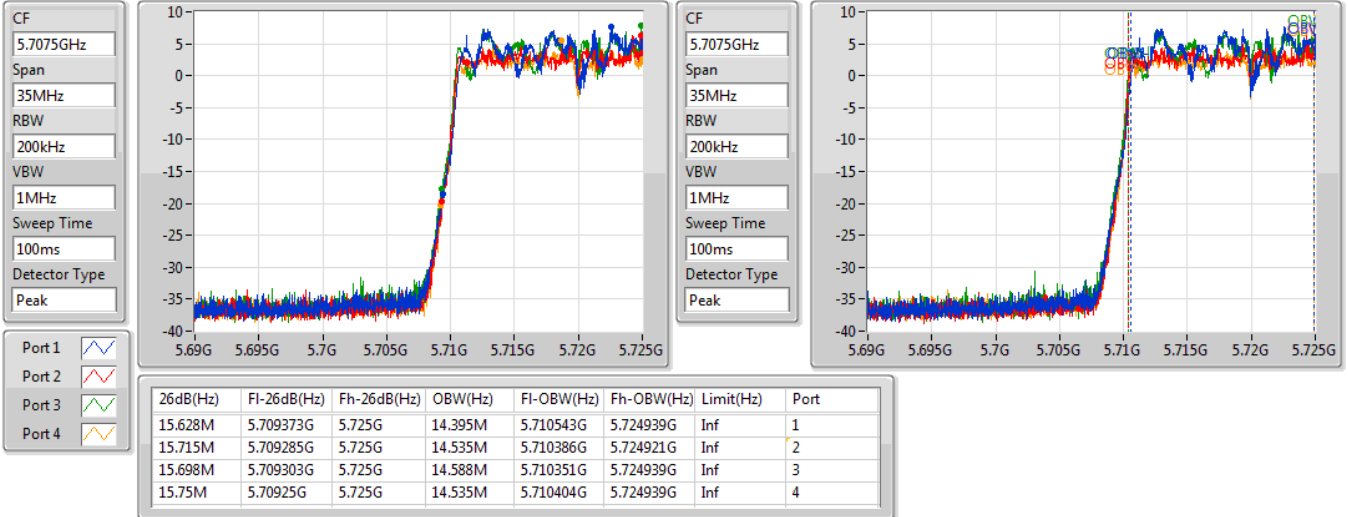

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5700MHz

01/02/2020

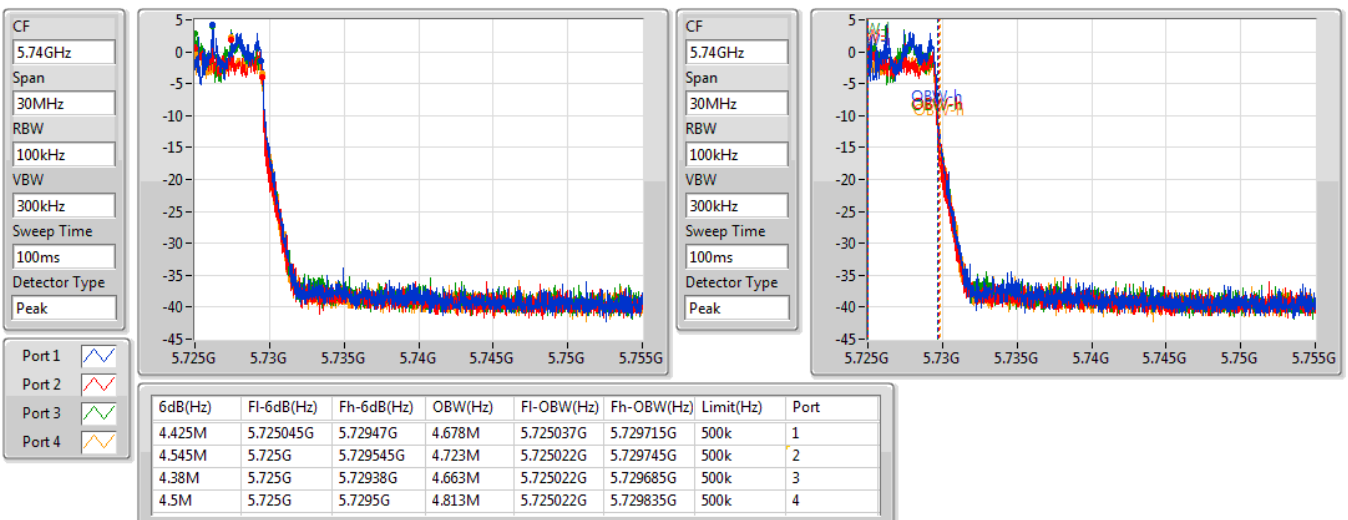


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.47-5.725GHz

01/02/2020

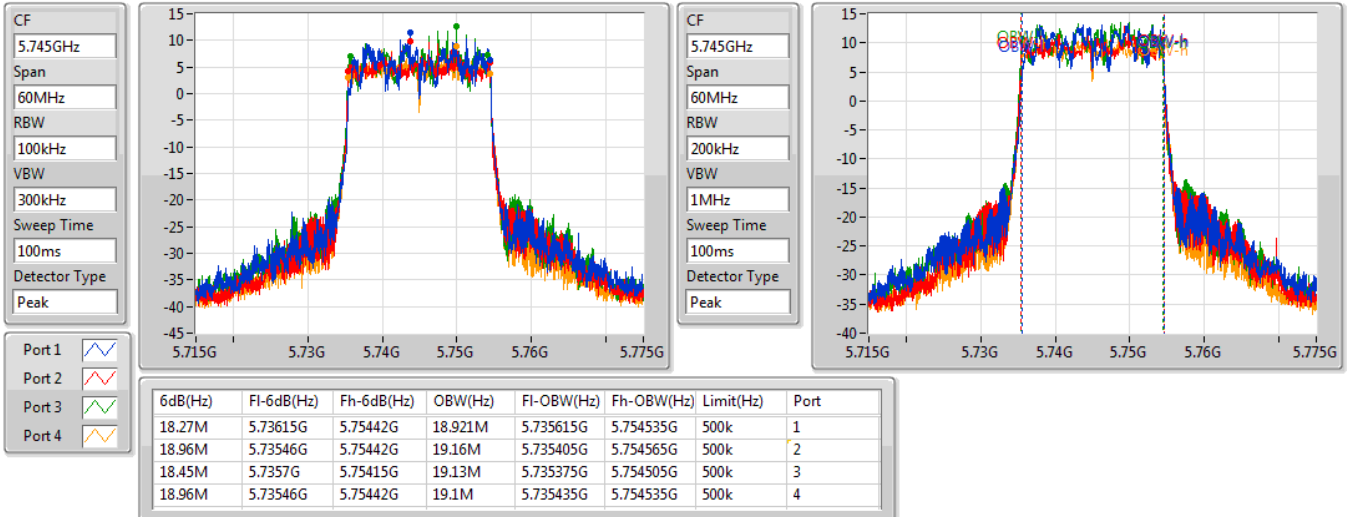

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.725-5.85GHz

01/02/2020

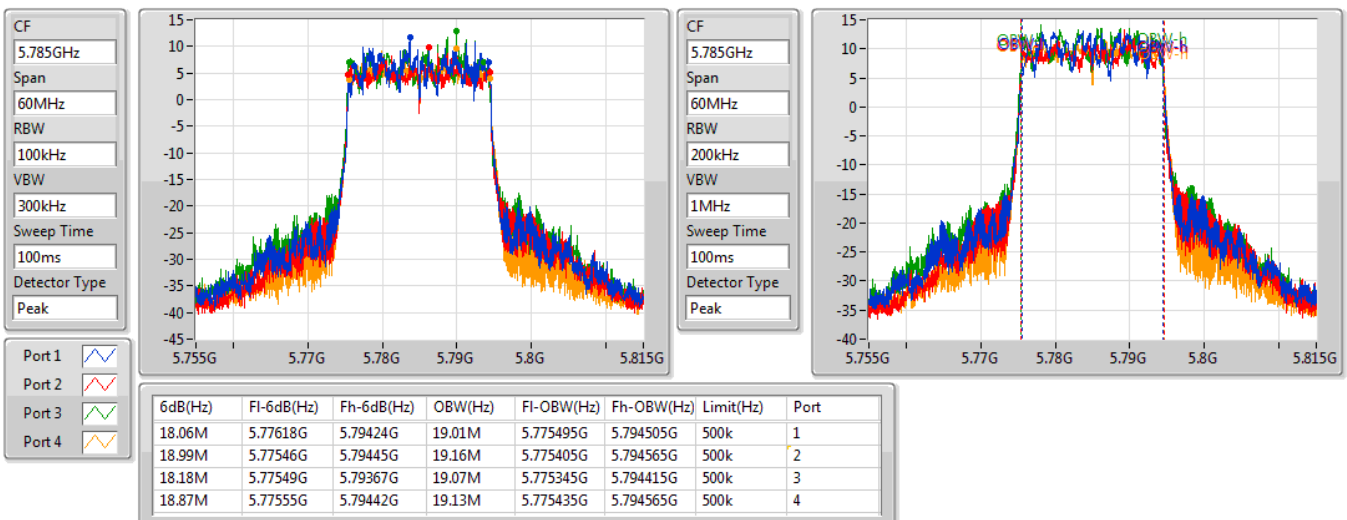


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5745MHz

01/02/2020

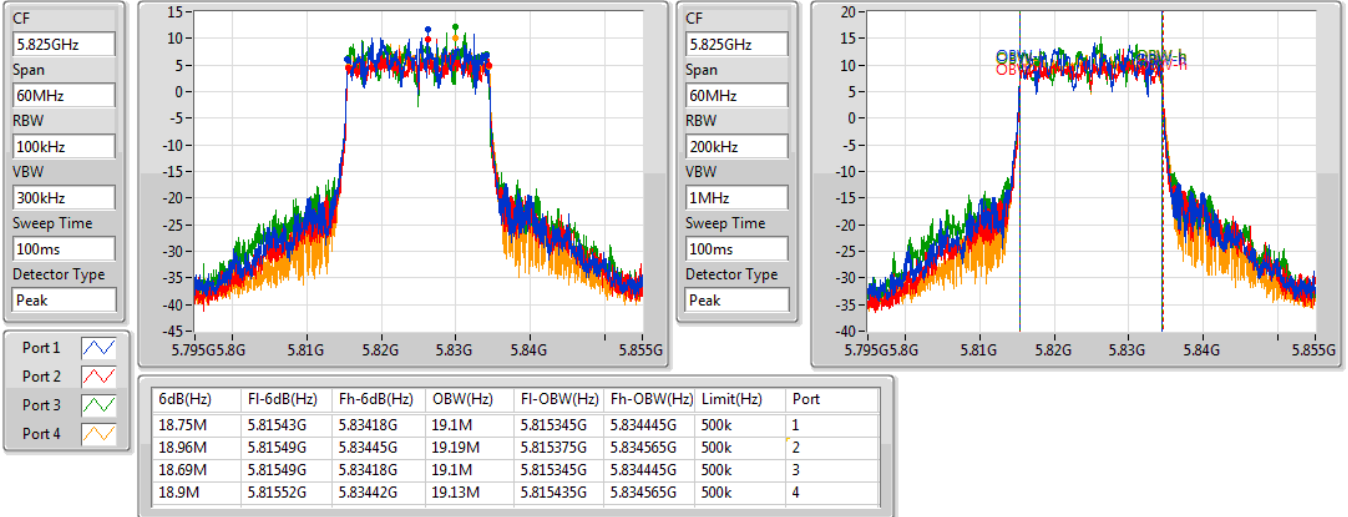

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5785MHz

01/02/2020

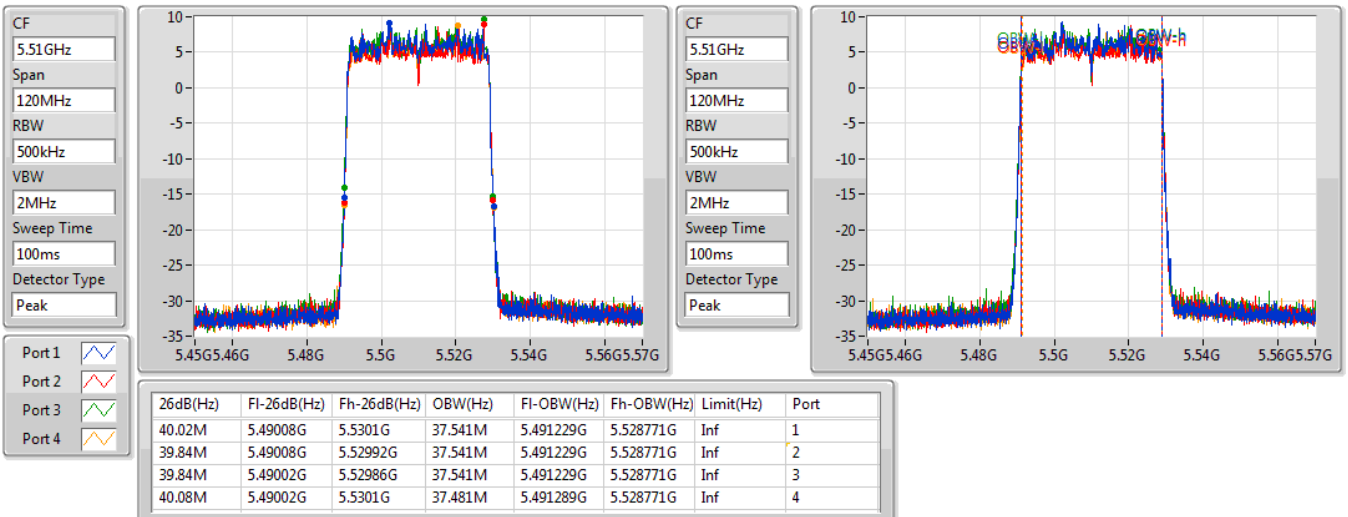


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5825MHz

01/02/2020


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5510MHz

01/02/2020

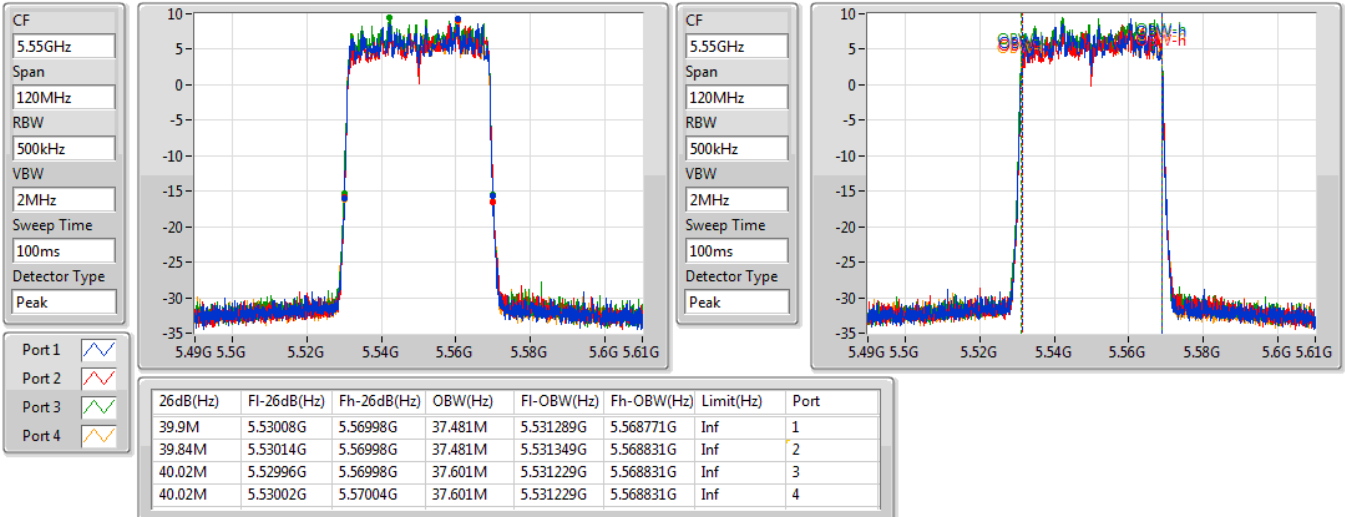


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5550MHz

01/02/2020

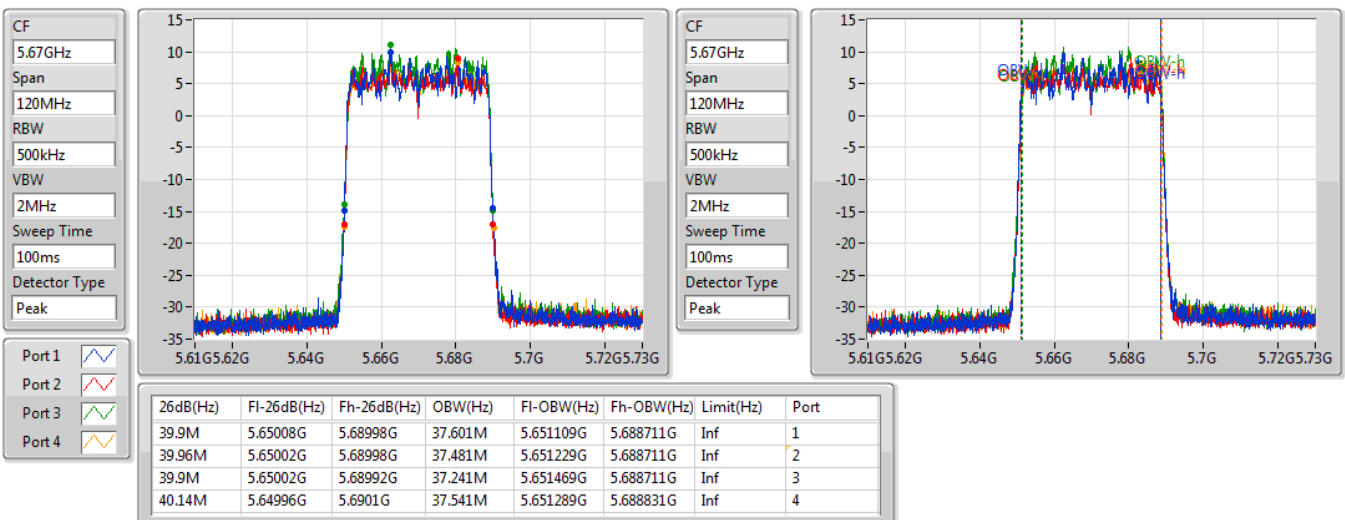


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

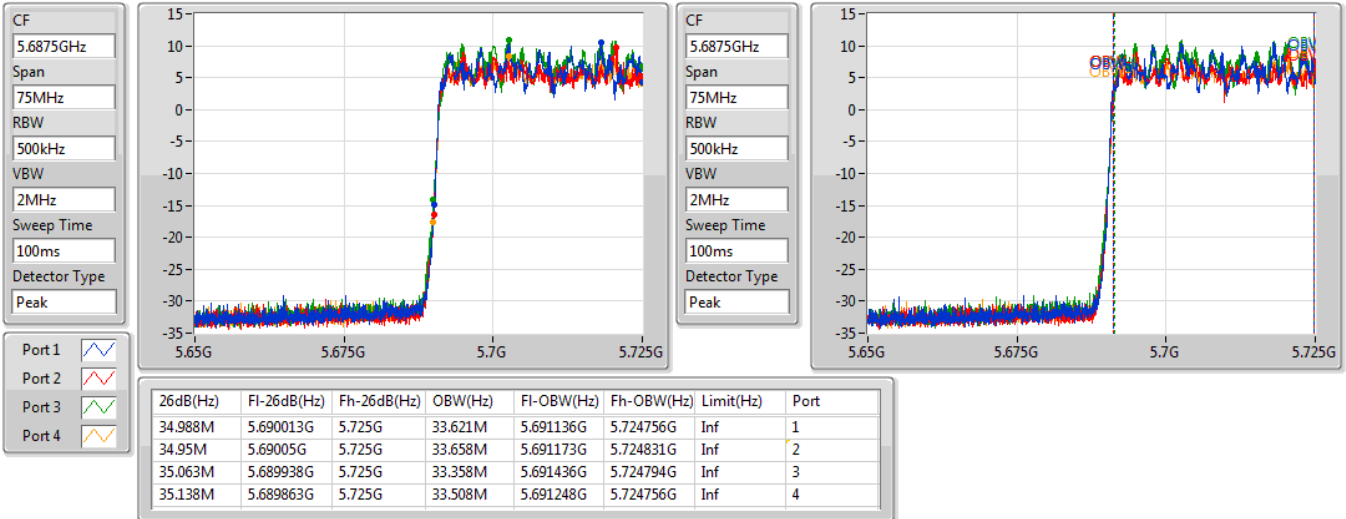
5670MHz

01/02/2020

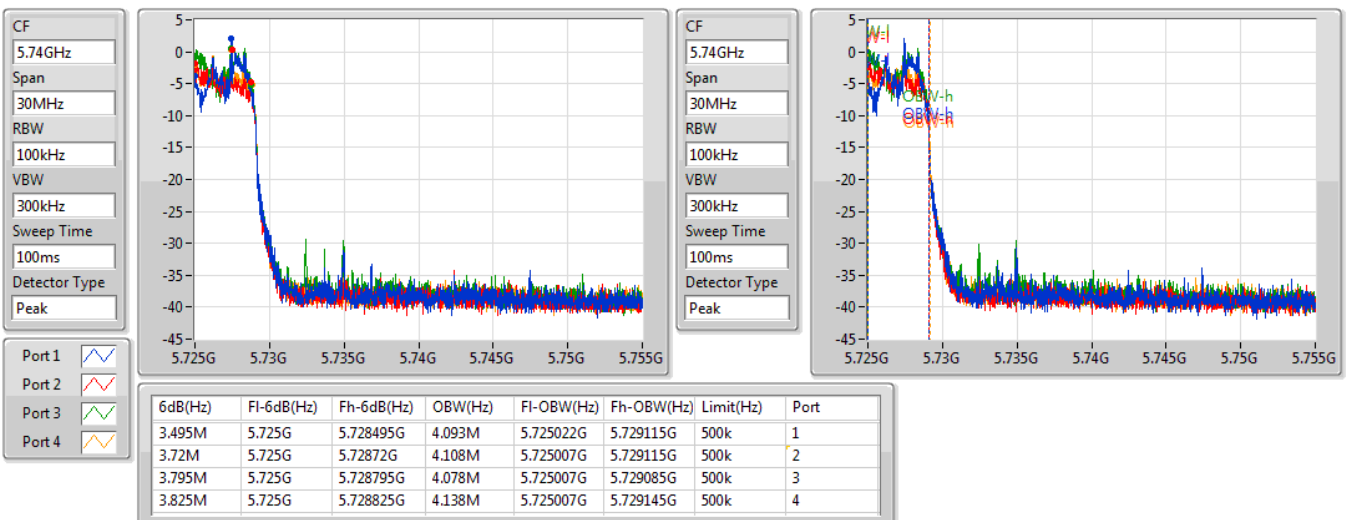


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.47-5.725GHz

01/02/2020

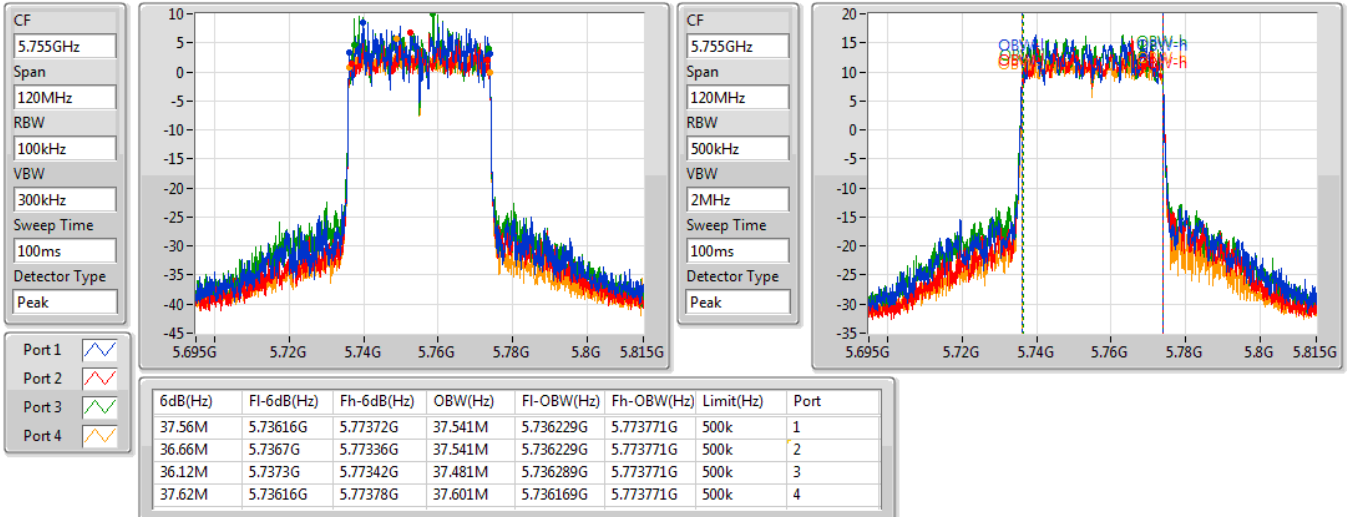

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.725-5.85GHz

01/02/2020

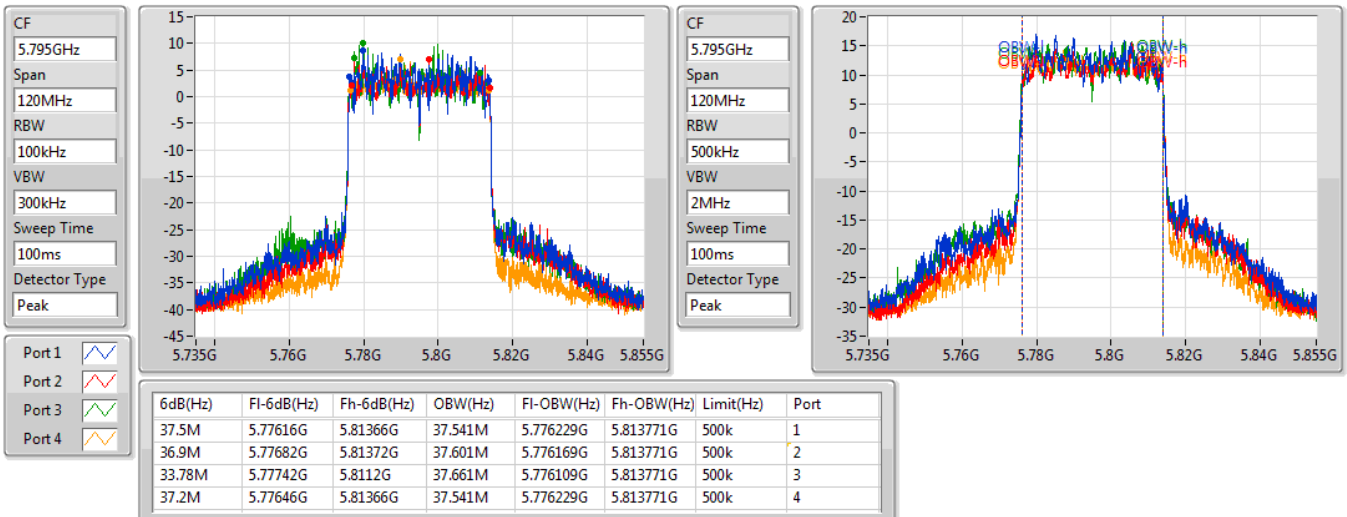


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5755MHz

01/02/2020

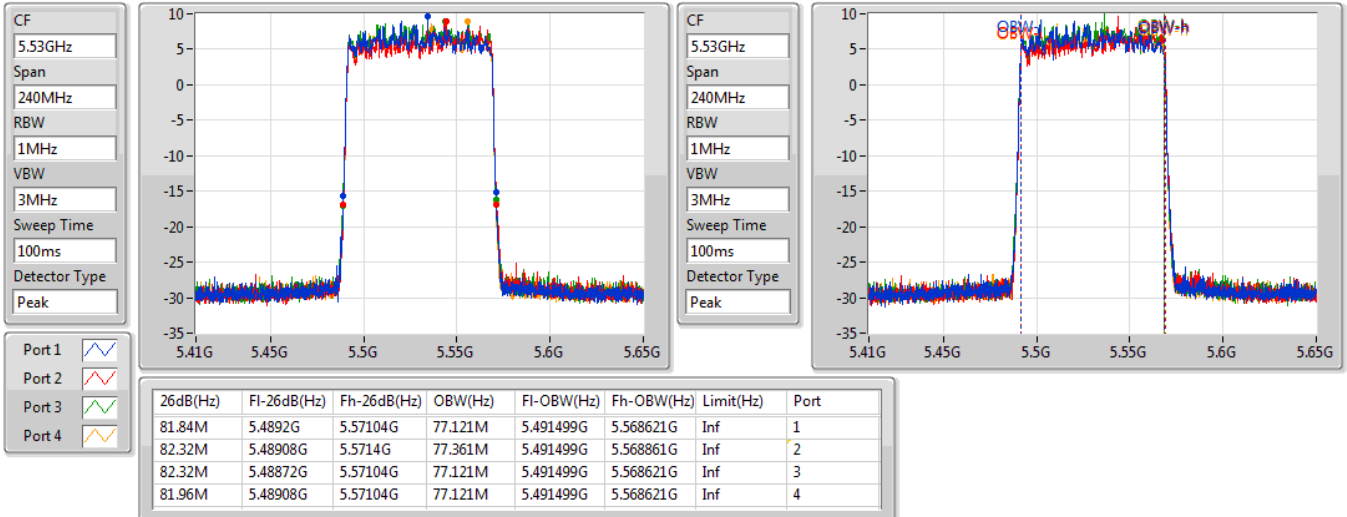

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5795MHz

01/02/2020

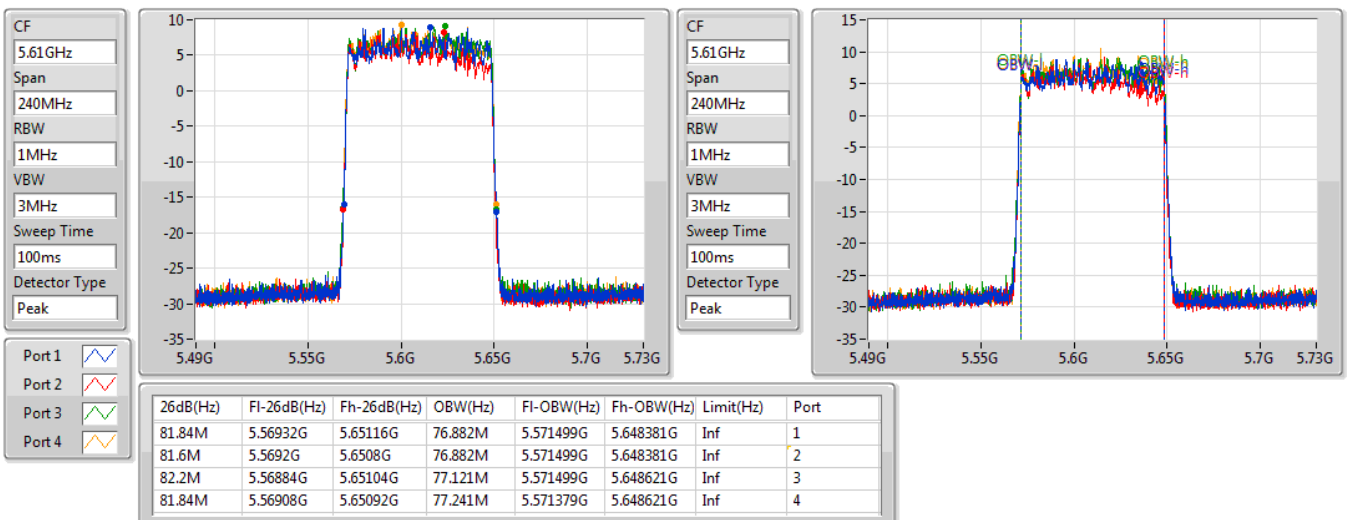


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5530MHz

01/02/2020

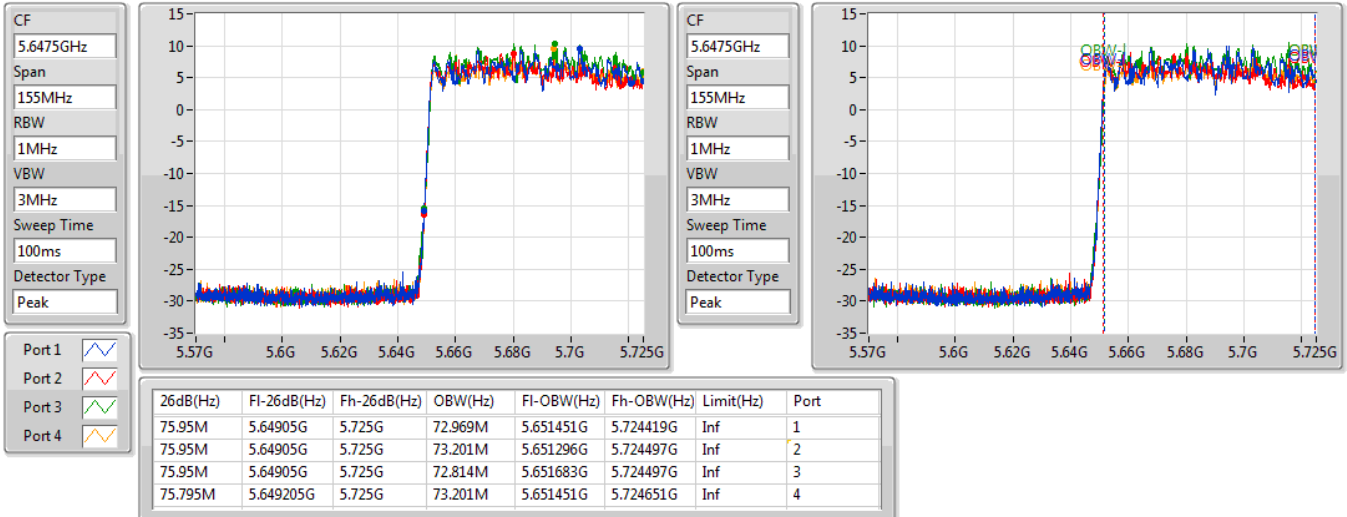

802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5610MHz

01/02/2020

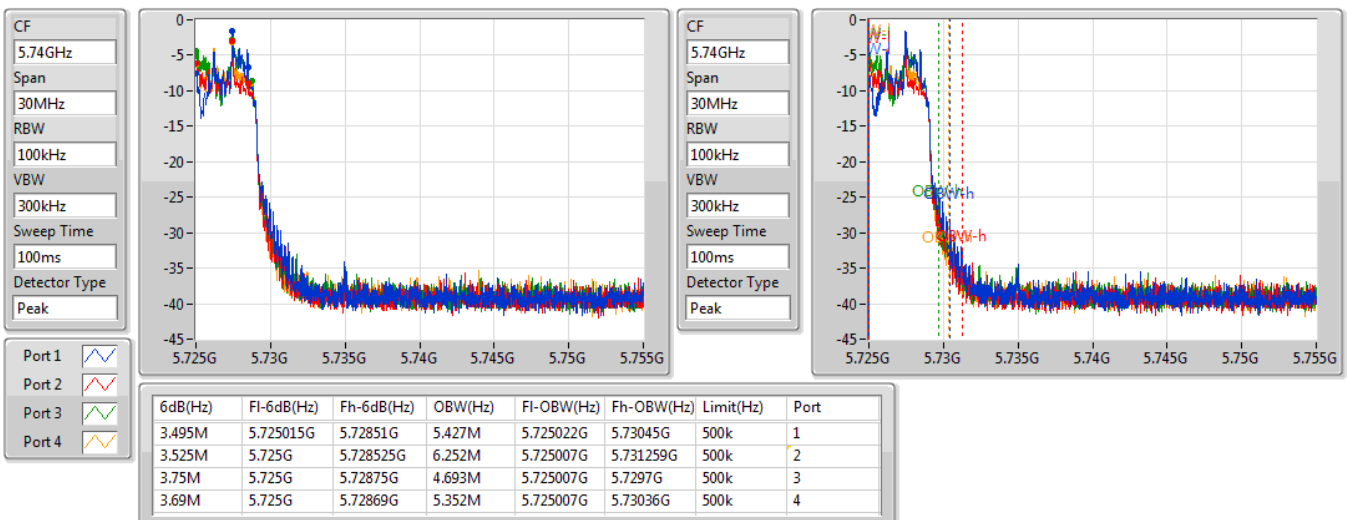


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.47-5.725GHz

01/02/2020

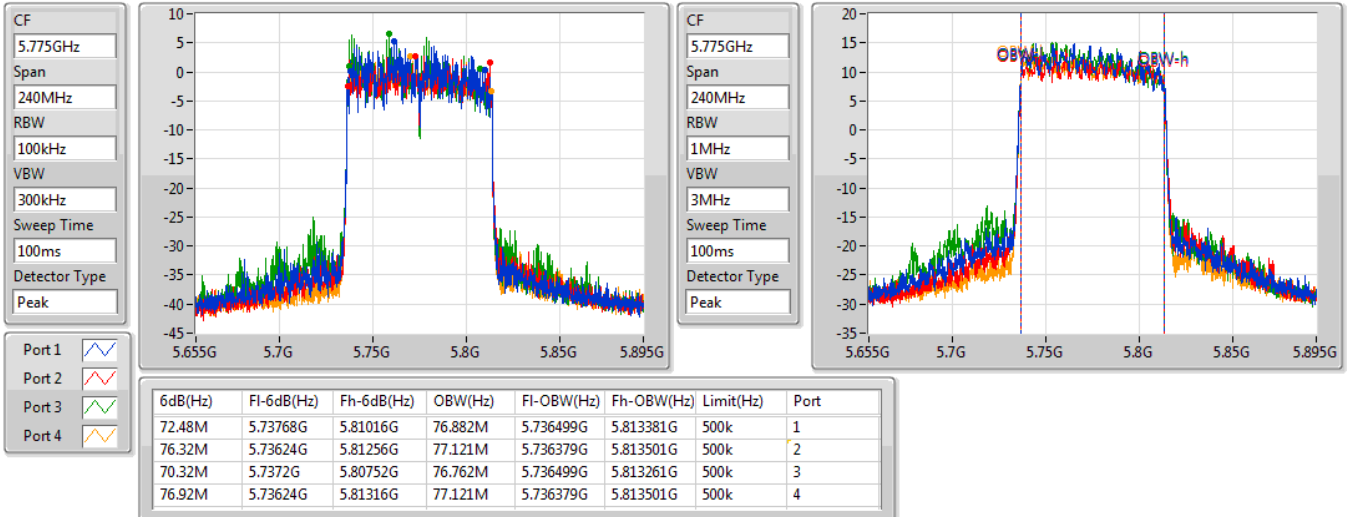

802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.725-5.85GHz

01/02/2020

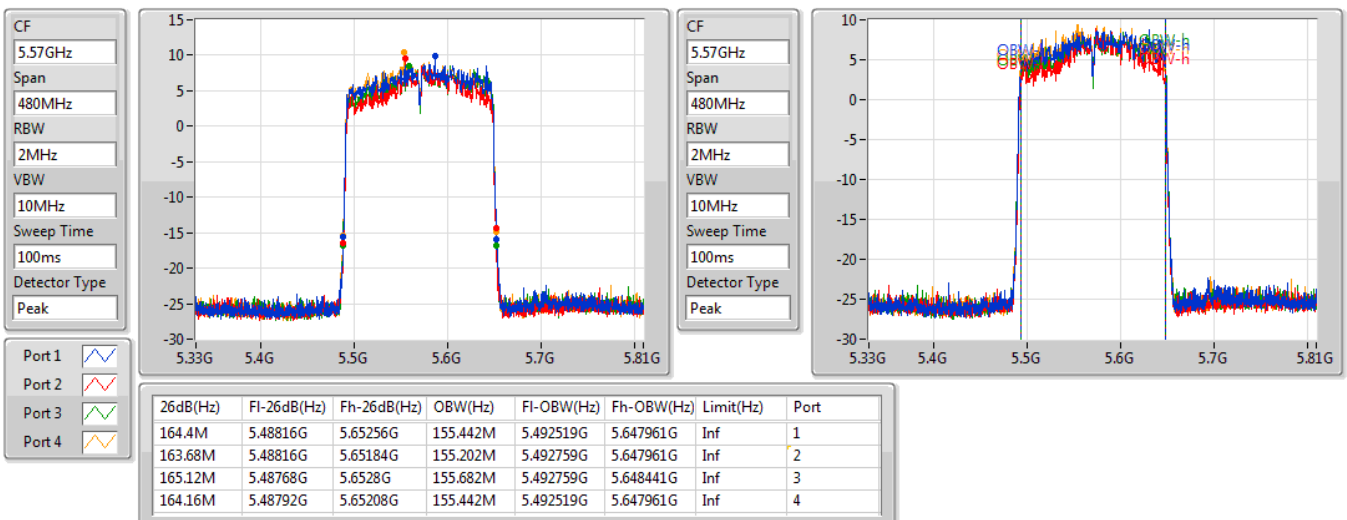


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5775MHz

03/02/2020


802.11ax HEW160-BF_Nss1,(MCS0)_4TX
EBW
5570MHz

01/02/2020





Average Power Result

Appendix B.1

For non-beamforming function:

For 802.11ax HEW20 5745 MHz:

Summary

Mode	Total Power (dBm)	Total Power (W)
5.725-5.85GHz	-	-
802.11ax HEW20_Nss1,(MCS0)_4TX	29.99	0.99770



Average Power Result

Appendix B.1

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5745MHz	Pass	5.28	24.36	23.88	23.85	23.75	29.99	30.00

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



Average Power Result

Appendix B.1

For other channel: Summary

Mode	Total Power (dBm)	Total Power (W)
5.25-5.35GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	23.96	0.24889
802.11ac VHT20_Nss1,(MCS0)_2TX	23.95	0.24831
802.11ac VHT40_Nss1,(MCS0)_2TX	23.88	0.24434
802.11ac VHT80_Nss1,(MCS0)_2TX	23.44	0.22080
802.11ax HEW20_Nss1,(MCS0)_2TX	23.88	0.24434
802.11ax HEW40_Nss1,(MCS0)_2TX	23.82	0.24099
802.11ax HEW80_Nss1,(MCS0)_2TX	23.69	0.23388
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	21.95	0.15668
802.11ac VHT20_Nss1,(MCS0)_4TX	22.72	0.18707
802.11ac VHT40_Nss1,(MCS0)_4TX	23.93	0.24717
802.11ac VHT80_Nss1,(MCS0)_4TX	23.85	0.24266
802.11ac VHT160_Nss1,(MCS0)_4TX	21.19	0.13152
802.11ax HEW20_Nss1,(MCS0)_4TX	22.82	0.19143
802.11ax HEW40_Nss1,(MCS0)_4TX	23.94	0.24774
802.11ax HEW80_Nss1,(MCS0)_4TX	23.95	0.24831
802.11ax HEW160_Nss1,(MCS0)_4TX	21.43	0.13900
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	14.08	0.02559
802.11ac VHT20_Nss1,(MCS0)_4TX	14.22	0.02642
802.11ac VHT40_Nss1,(MCS0)_4TX	12.90	0.01950
802.11ac VHT80_Nss1,(MCS0)_4TX	9.56	0.00904
802.11ax HEW20_Nss1,(MCS0)_4TX	14.67	0.02931
802.11ax HEW40_Nss1,(MCS0)_4TX	13.52	0.02249
802.11ax HEW80_Nss1,(MCS0)_4TX	10.26	0.01062

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5260MHz	Pass	4.80	20.86	20.92			23.90	23.98
5300MHz	Pass	4.80	20.96	20.64			23.81	23.98
5320MHz	Pass	4.80	21.04	20.85			23.96	23.98
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
5500MHz	Pass	5.28	16.03	15.25	16.07	16.28	21.95	23.98
5580MHz	Pass	5.28	15.78	14.86	15.84	15.70	21.58	23.98
5700MHz	Pass	5.28	15.22	14.15	14.64	14.16	20.59	23.98
5720MHz Straddle 5.47-5.725GHz	Pass	5.28	13.18	12.79	12.86	12.48	18.86	22.42
5720MHz Straddle 5.725-5.85GHz	Pass	5.28	9.24	6.28	9.03	6.96	14.08	30.00
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5260MHz	Pass	4.80	20.94	20.93			23.95	23.98
5300MHz	Pass	4.80	21.07	20.72			23.91	23.98
5320MHz	Pass	4.80	21.00	20.72			23.87	23.98
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5500MHz	Pass	5.28	16.67	16.15	16.98	16.93	22.72	23.98
5580MHz	Pass	5.28	16.54	15.60	16.15	16.40	22.21	23.98
5700MHz	Pass	5.28	16.10	15.33	14.99	15.08	21.42	23.98
5720MHz Straddle 5.47-5.725GHz	Pass	5.28	14.62	13.57	13.63	13.45	19.86	22.86
5720MHz Straddle 5.725-5.85GHz	Pass	5.28	8.69	7.68	8.48	7.86	14.22	30.00
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5270MHz	Pass	4.80	21.07	20.65			23.88	23.98
5310MHz	Pass	4.80	20.29	19.69			23.01	23.98
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5510MHz	Pass	5.28	18.02	17.14	17.63	18.13	23.77	23.98
5550MHz	Pass	5.28	18.28	17.49	17.54	18.19	23.91	23.98
5670MHz	Pass	5.28	17.58	17.74	18.43	17.82	23.93	23.98
5710MHz Straddle 5.47-5.725GHz	Pass	5.28	17.35	17.34	18.09	17.26	23.54	23.98
5710MHz Straddle 5.725-5.85GHz	Pass	5.28	6.51	6.75	7.59	6.59	12.90	30.00
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5290MHz	Pass	4.80	20.56	20.29			23.44	23.98
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5530MHz	Pass	5.28	18.12	17.36	17.60	17.94	23.79	23.98
5610MHz	Pass	5.28	17.57	17.47	18.31	17.76	23.81	23.98
5690MHz Straddle 5.47-5.725GHz	Pass	5.28	17.74	17.34	18.77	17.32	23.85	23.98
5690MHz Straddle 5.725-5.85GHz	Pass	5.28	3.66	2.78	4.64	2.81	9.56	30.00
802.11ac VHT160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5570MHz	Pass	5.28	15.02	14.99	15.41	15.26	21.19	23.98
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5260MHz	Pass	4.80	20.81	20.92			23.88	23.98
5300MHz	Pass	4.80	20.93	20.80			23.88	23.98
5320MHz	Pass	4.80	20.98	20.61			23.81	23.98
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5500MHz	Pass	5.28	16.78	16.11	17.03	17.20	22.82	23.98



Average Power Result

Appendix B.1

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
5580MHz	Pass	5.28	16.49	15.70	16.26	16.88	22.37	23.98
5700MHz	Pass	5.28	16.06	15.23	15.09	15.36	21.47	23.98
5720MHz Straddle 5.47-5.725GHz	Pass	5.28	14.93	13.62	13.55	13.47	19.96	22.89
5720MHz Straddle 5.725-5.85GHz	Pass	5.28	9.26	8.41	8.51	8.36	14.67	30.00
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5270MHz	Pass	4.80	21.10	20.49			23.82	23.98
5310MHz	Pass	4.80	20.37	20.01			23.20	23.98
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5510MHz	Pass	5.28	18.28	17.29	17.81	18.21	23.94	23.98
5550MHz	Pass	5.28	18.29	17.11	17.58	18.17	23.83	23.98
5670MHz	Pass	5.28	17.71	17.69	18.37	17.89	23.94	23.98
5710MHz Straddle 5.47-5.725GHz	Pass	5.28	17.63	17.18	18.03	17.00	23.50	23.98
5710MHz Straddle 5.725-5.85GHz	Pass	5.28	7.18	7.34	8.17	7.23	13.52	30.00
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5290MHz	Pass	4.80	20.85	20.51			23.69	23.98
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5530MHz	Pass	5.28	18.19	17.41	17.79	18.29	23.95	23.98
5610MHz	Pass	5.28	17.53	17.45	18.33	17.78	23.81	23.98
5690MHz Straddle 5.47-5.725GHz	Pass	5.28	17.69	17.29	18.75	17.24	23.81	23.98
5690MHz Straddle 5.725-5.85GHz	Pass	5.28	4.24	3.35	5.38	3.70	10.26	30.00
802.11ax HEW160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5570MHz	Pass	5.28	15.27	15.32	15.70	15.35	21.43	23.98

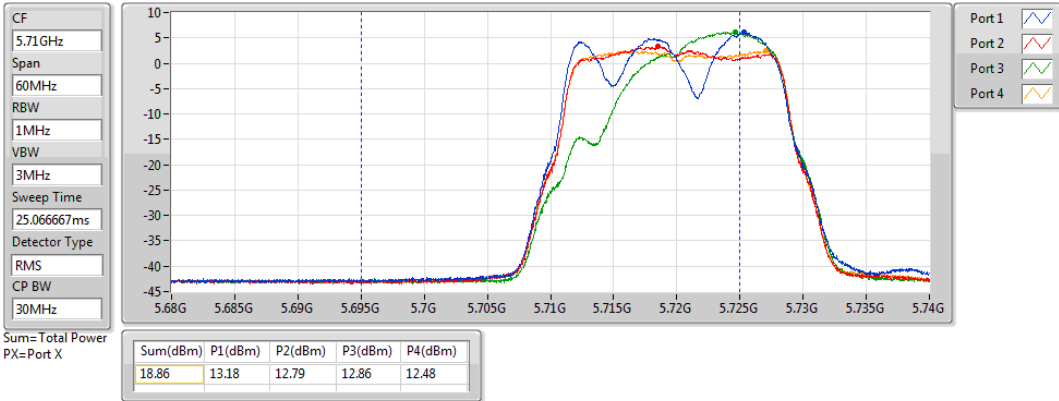
DG = Directional Gain; Port X = Port X output power

802.11a_Nss1,(6Mbps)_4TX

AV Power

5720MHz Straddle 5.47-5.725GHz

18/09/2019

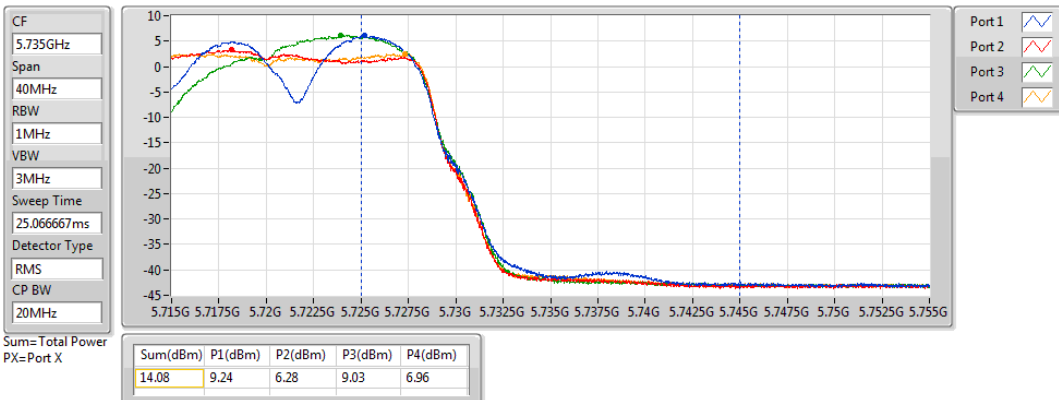


802.11a_Nss1,(6Mbps)_4TX

AV Power

5720MHz Straddle 5.725-5.85GHz

18/09/2019

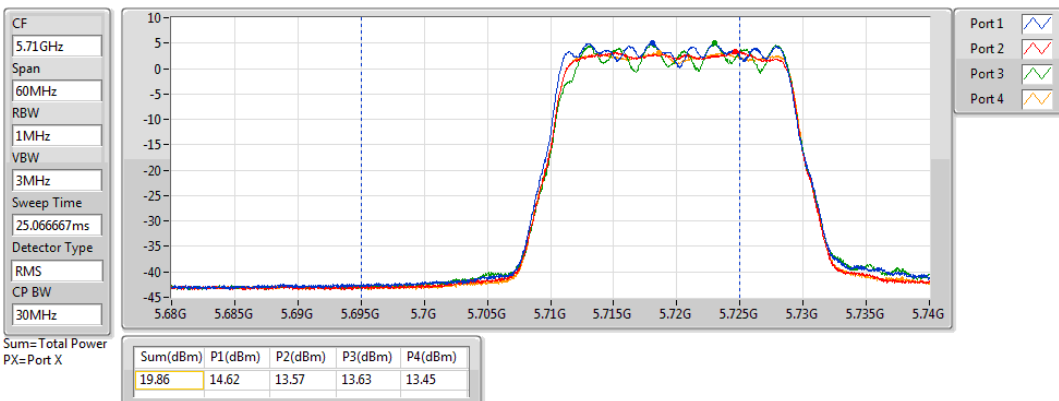


802.11ac VHT20_Nss1,(MCS0)_4TX

AV Power

5720MHz Straddle 5.47-5.725GHz

18/09/2019

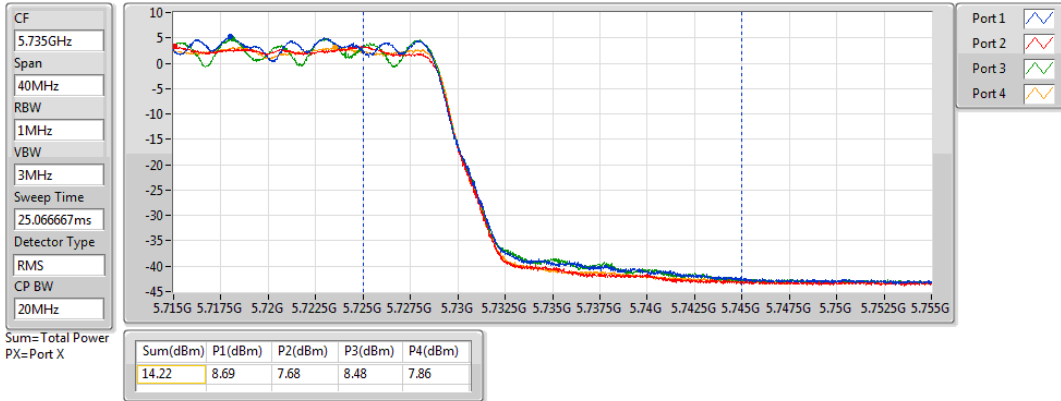


802.11ac VHT20_Nss1,(MCS0)_4TX

AV Power

5720MHz Straddle 5.725-5.85GHz

18/09/2019

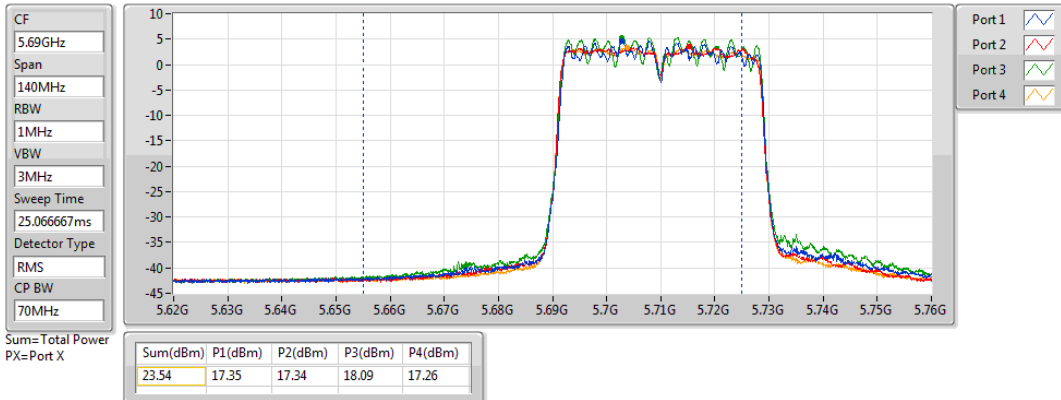


802.11ac VHT40_Nss1,(MCS0)_4TX

AV Power

5710MHz Straddle 5.47-5.725GHz

18/09/2019

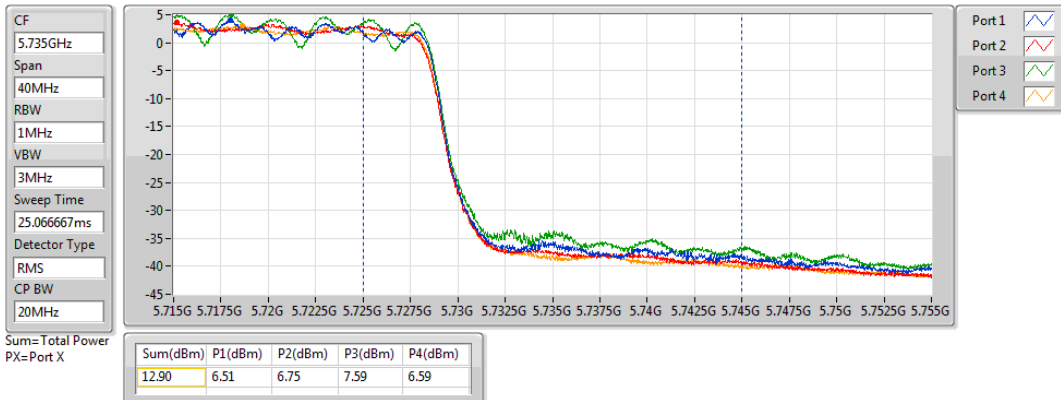


802.11ac VHT40_Nss1,(MCS0)_4TX

AV Power

5710MHz Straddle 5.725-5.85GHz

18/09/2019

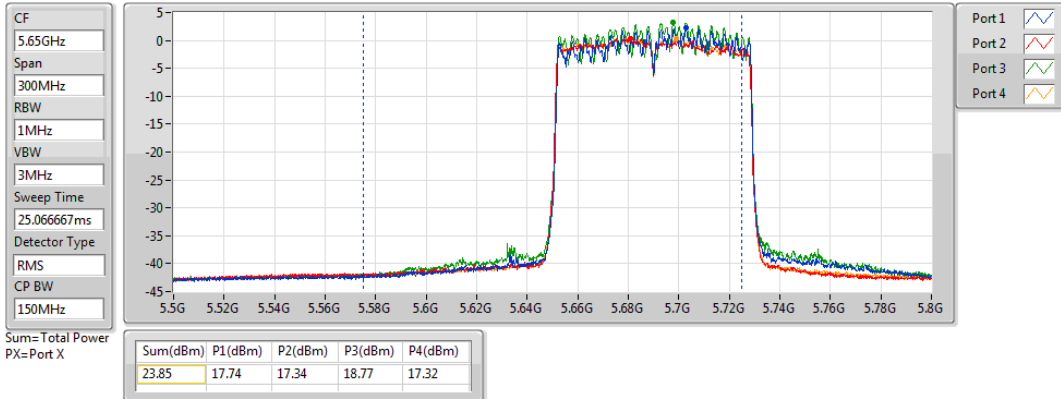


802.11ac VHT80_Nss1,(MCS0)_4TX

AV Power

5690MHz Straddle 5.47-5.725GHz

18/09/2019

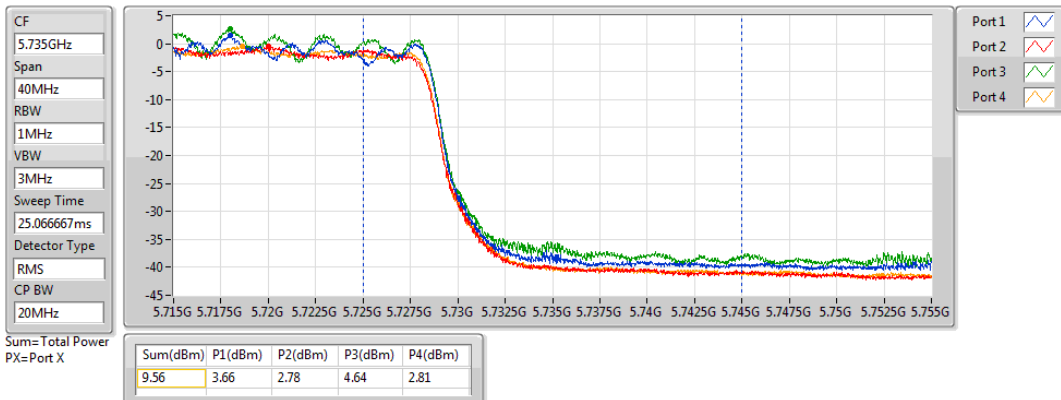


802.11ac VHT80_Nss1,(MCS0)_4TX

AV Power

5690MHz Straddle 5.725-5.85GHz

18/09/2019

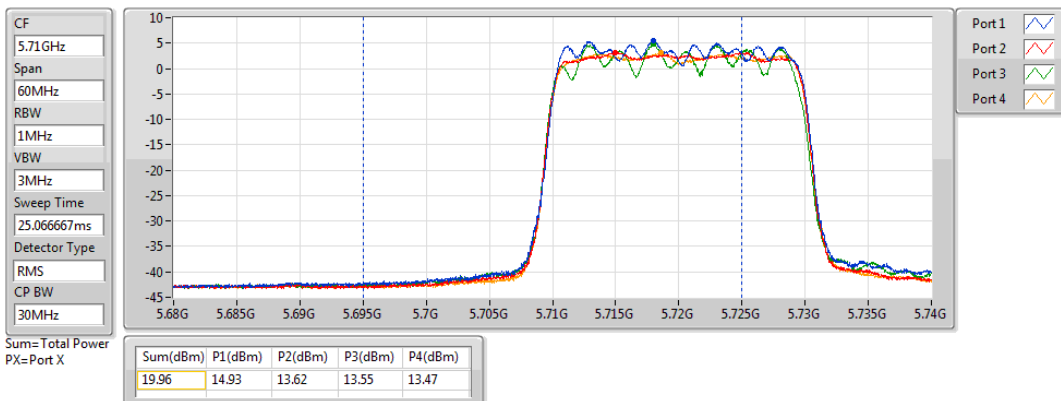


802.11ax HEW20_Nss1,(MCS0)_4TX

AV Power

5720MHz Straddle 5.47-5.725GHz

18/09/2019

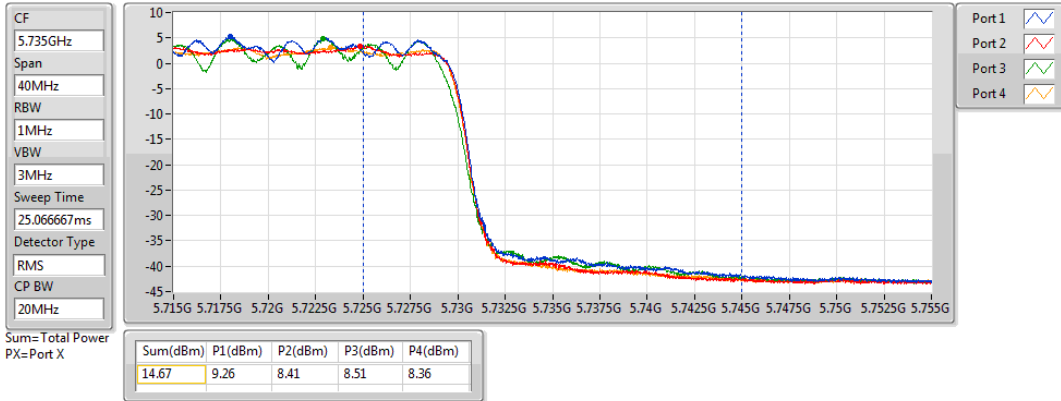


802.11ax HEW20_Nss1,(MCS0)_4TX

AV Power

5720MHz Straddle 5.725-5.85GHz

18/09/2019

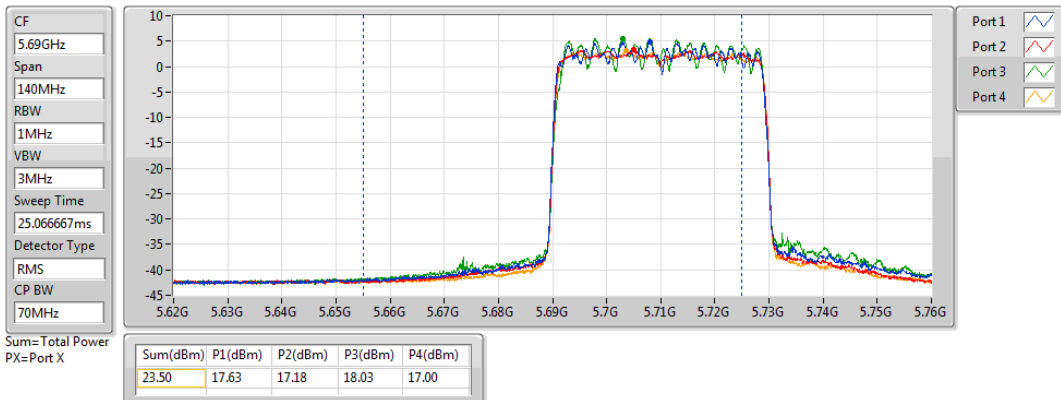


802.11ax HEW40_Nss1,(MCS0)_4TX

AV Power

5710MHz Straddle 5.47-5.725GHz

18/09/2019

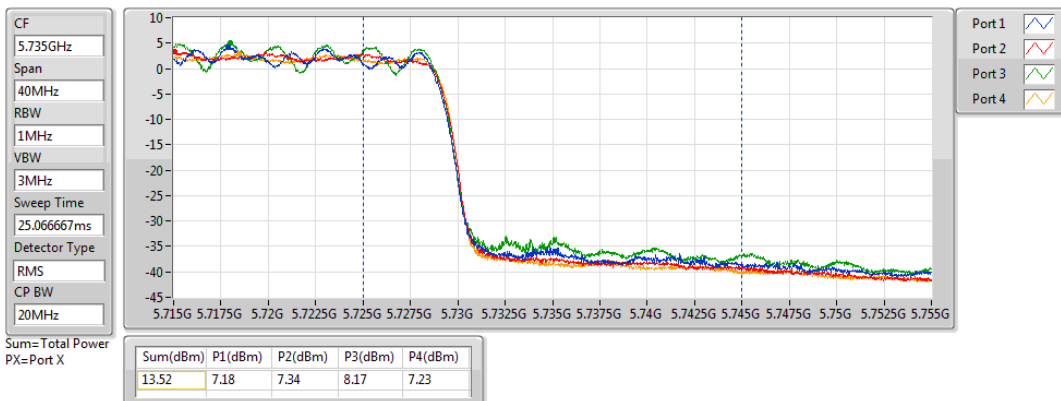


802.11ax HEW40_Nss1,(MCS0)_4TX

AV Power

5710MHz Straddle 5.725-5.85GHz

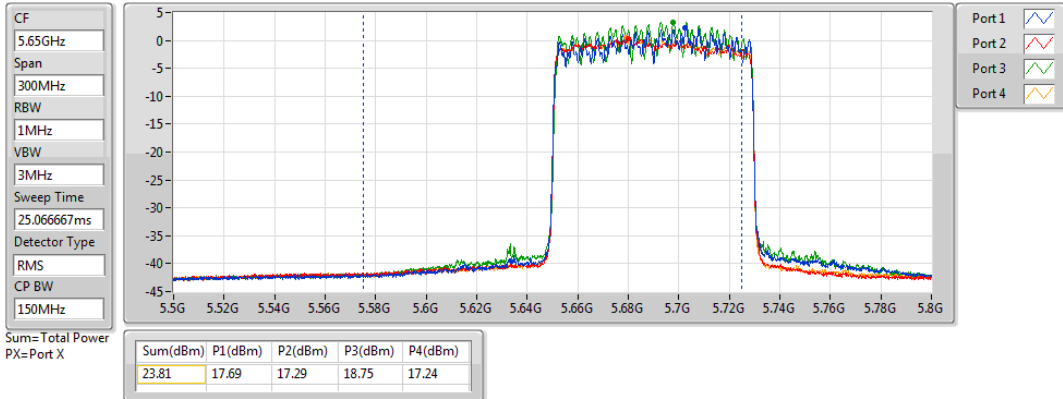
18/09/2019



802.11ax HEW80_Nss1,(MCS0)_4TX

AV Power

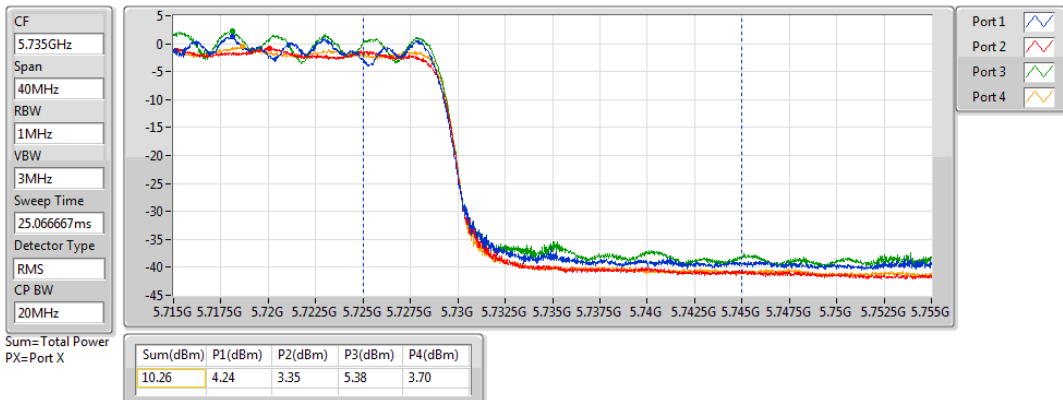
5690MHz Straddle 5.47-5.725GHz



802.11ax HEW80_Nss1,(MCS0)_4TX

AV Power

5690MHz Straddle 5.725-5.85GHz





Average Power Result

Appendix B.2

For beamforming function:

Summary

Mode	Total Power (dBm)	Total Power (W)
5.47-5.725GHz	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	21.72	0.14859
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	21.80	0.15136
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	21.75	0.14962
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	21.70	0.14791
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	21.98	0.15776
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	22.00	0.15849
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	21.97	0.15740
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	22.01	0.15885
5.725-5.85GHz	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	27.69	0.58749
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	27.71	0.59020
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	27.15	0.51880
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	27.89	0.61518
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	27.96	0.62517
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	27.31	0.53827



Average Power Result

Appendix B.2

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5500MHz	Pass	7.95	16.24	15.14	15.82	15.51	21.72	22.03
5580MHz	Pass	7.95	15.85	15.12	15.65	15.78	21.63	22.03
5700MHz	Pass	7.95	15.63	14.60	15.37	14.53	21.08	22.03
5720MHz Straddle 5.47-5.725GHz	Pass	7.95	14.85	13.60	14.32	13.18	20.06	20.96
5720MHz Straddle 5.725-5.85GHz	Pass	7.95	9.03	7.81	8.82	7.62	14.38	28.05
5745MHz	Pass	7.95	21.97	21.25	22.14	21.02	27.64	28.05
5785MHz	Pass	7.95	22.17	21.14	22.09	21.18	27.69	28.05
5825MHz	Pass	7.95	21.70	21.03	22.16	21.40	27.61	28.05
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5510MHz	Pass	7.95	15.80	15.11	16.07	15.24	21.59	22.03
5550MHz	Pass	7.95	15.62	15.15	16.19	15.39	21.63	22.03
5670MHz	Pass	7.95	15.52	15.12	16.47	15.24	21.64	22.03
5710MHz Straddle 5.47-5.725GHz	Pass	7.95	15.84	15.09	16.83	15.10	21.80	22.03
5710MHz Straddle 5.725-5.85GHz	Pass	7.95	5.08	4.53	6.21	4.58	11.18	28.05
5755MHz	Pass	7.95	22.01	21.12	22.35	21.05	27.69	28.05
5795MHz	Pass	7.95	22.20	21.14	22.03	21.29	27.71	28.05
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5530MHz	Pass	7.95	15.43	15.15	15.94	15.49	21.53	22.03
5610MHz	Pass	7.95	15.45	15.17	16.08	16.14	21.75	22.03
5690MHz Straddle 5.47-5.725GHz	Pass	7.95	15.64	15.18	16.52	15.26	21.70	22.03
5690MHz Straddle 5.725-5.85GHz	Pass	7.95	0.82	0.25	1.88	0.94	7.03	28.05
5775MHz	Pass	7.95	21.38	20.60	21.73	20.72	27.15	28.05
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5570MHz	Pass	7.95	15.96	15.12	15.25	16.28	21.70	22.03
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5500MHz	Pass	7.95	16.46	15.30	16.25	15.72	21.98	22.03
5580MHz	Pass	7.95	16.20	15.24	15.90	15.88	21.84	22.03
5700MHz	Pass	7.95	15.65	14.93	15.62	14.73	21.27	22.03
5720MHz Straddle 5.47-5.725GHz	Pass	7.95	14.99	13.81	15.06	13.37	20.39	20.99
5720MHz Straddle 5.725-5.85GHz	Pass	7.95	9.70	8.44	9.60	8.26	15.07	28.05
5745MHz	Pass	7.95	22.36	21.39	22.42	21.15	27.89	28.05
5785MHz	Pass	7.95	22.09	21.17	22.54	21.43	27.86	28.05
5825MHz	Pass	7.95	21.87	21.18	22.47	21.71	27.85	28.05
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5510MHz	Pass	7.95	16.12	15.34	16.31	15.52	21.86	22.03
5550MHz	Pass	7.95	15.80	15.37	16.46	15.49	21.82	22.03
5670MHz	Pass	7.95	15.91	15.32	16.75	15.55	21.94	22.03
5710MHz Straddle 5.47-5.725GHz	Pass	7.95	15.96	15.17	17.08	15.45	22.00	22.03
5710MHz Straddle 5.725-5.85GHz	Pass	7.95	5.83	5.16	7.08	5.58	11.99	28.05
5755MHz	Pass	7.95	22.39	21.37	22.63	21.21	27.96	28.05
5795MHz	Pass	7.95	22.31	21.22	22.26	21.40	27.85	28.05
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5530MHz	Pass	7.95	15.73	15.59	16.15	15.67	21.81	22.03



Average Power Result

Appendix B.2

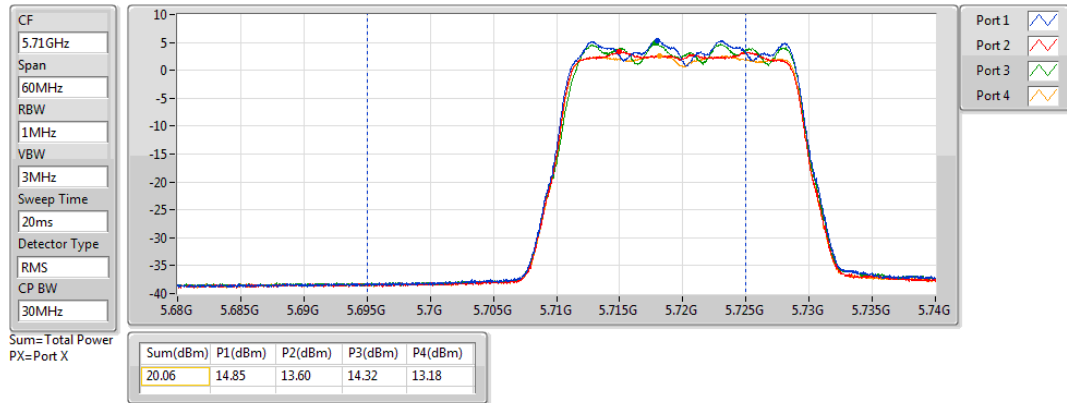
Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)
5610MHz	Pass	7.95	15.56	15.37	16.22	16.36	21.92	22.03
5690MHz Straddle 5.47-5.725GHz	Pass	7.95	15.82	15.49	16.90	15.42	21.97	22.03
5690MHz Straddle 5.725-5.85GHz	Pass	7.95	1.99	1.29	2.87	1.98	8.09	28.05
5775MHz	Pass	7.95	21.54	20.81	21.87	20.86	27.31	28.05
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5570MHz	Pass	7.95	16.24	15.35	15.78	16.49	22.01	22.03

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

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

AV Power

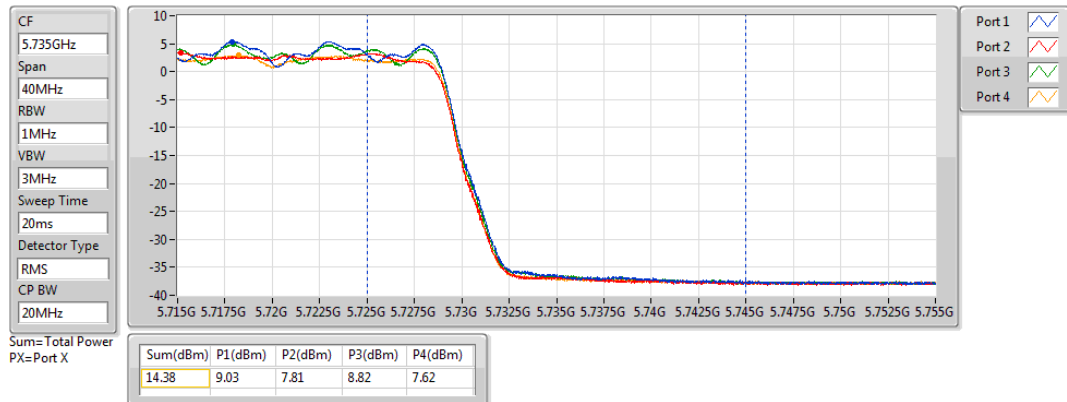
5720MHz Straddle 5.47-5.725GHz



802.11ac VHT20-BF_Nss1,(MCS0)_4TX

AV Power

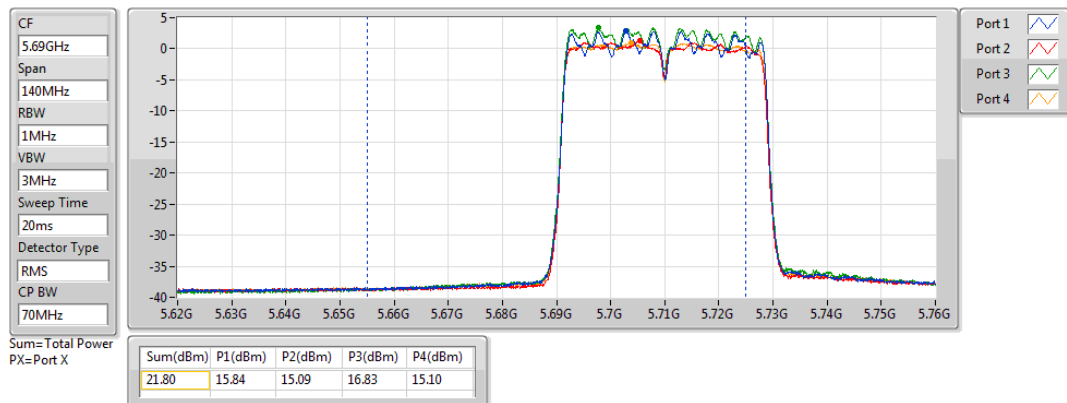
5720MHz Straddle 5.725-5.85GHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

AV Power

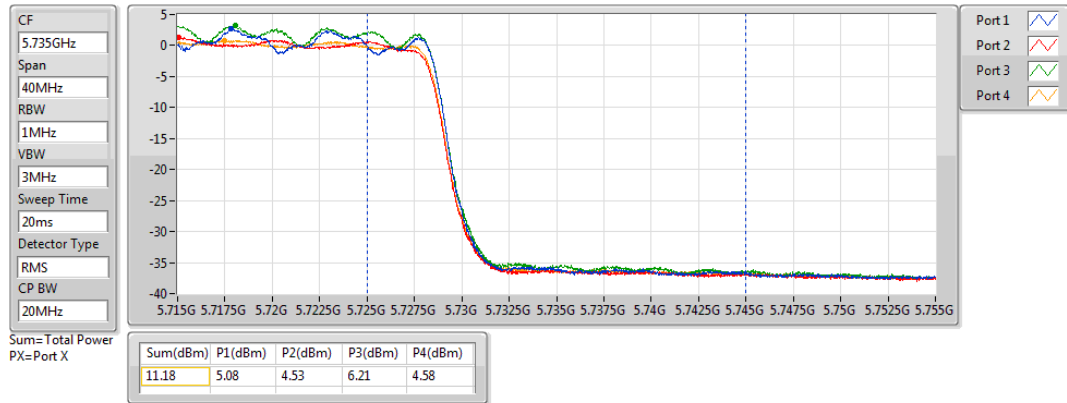
5710MHz Straddle 5.47-5.725GHz



802.11ac VHT40-BF_Nss1,(MCS0)_4TX

AV Power

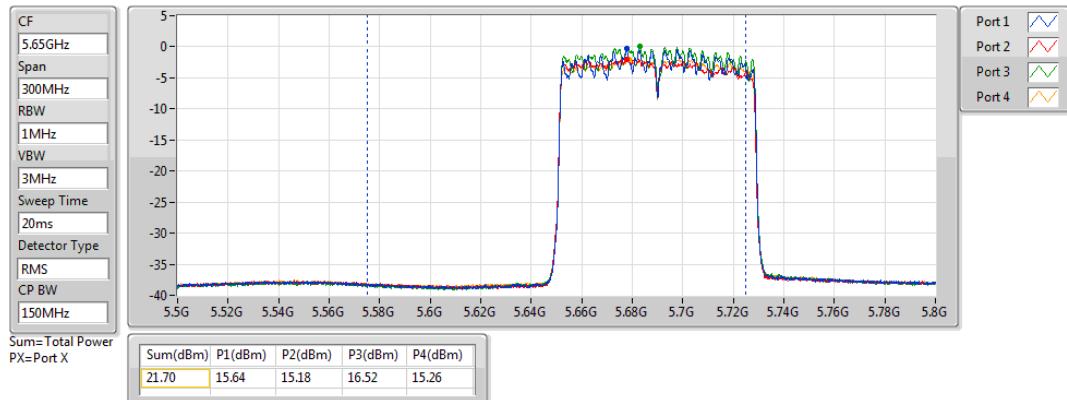
5710MHz Straddle 5.725-5.85GHz



802.11ac VHT80-BF_Nss1,(MCS0)_4TX

AV Power

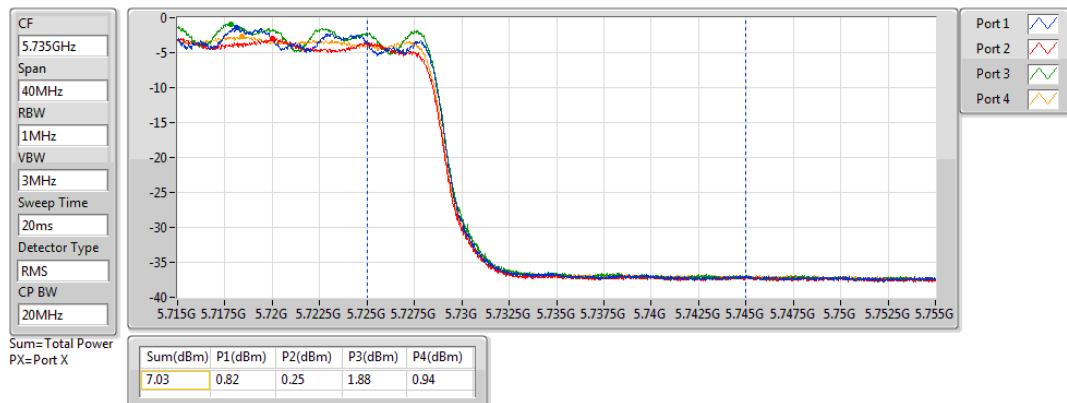
5690MHz Straddle 5.47-5.725GHz



802.11ac VHT80-BF_Nss1,(MCS0)_4TX

AV Power

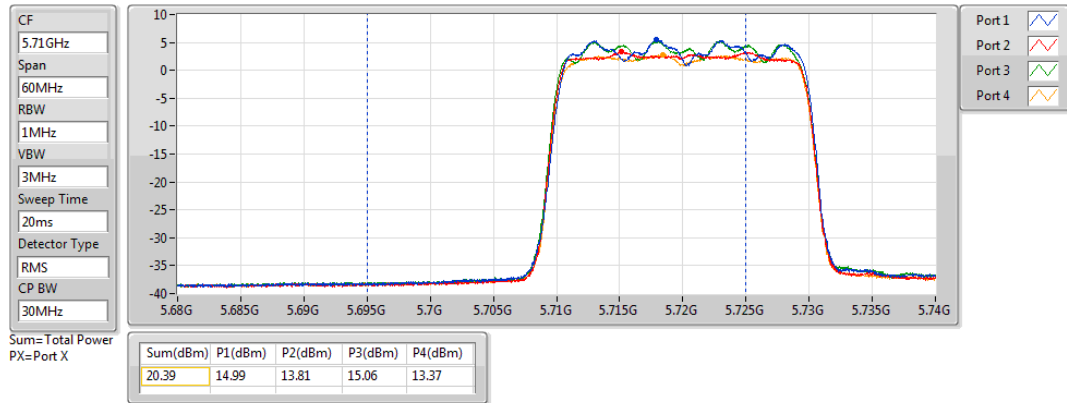
5690MHz Straddle 5.725-5.85GHz



802.11ax HEW20-BF_Nss1,(MCS0)_4TX

AV Power

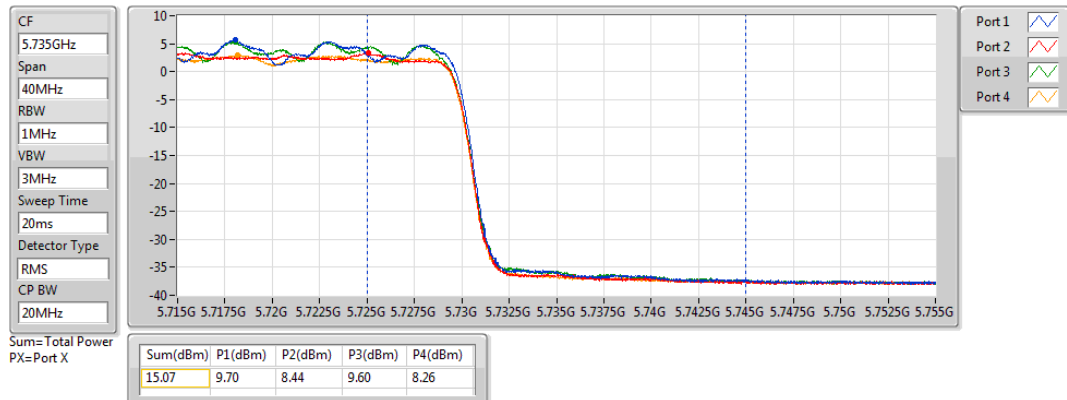
5720MHz Straddle 5.47-5.725GHz



802.11ax HEW20-BF_Nss1,(MCS0)_4TX

AV Power

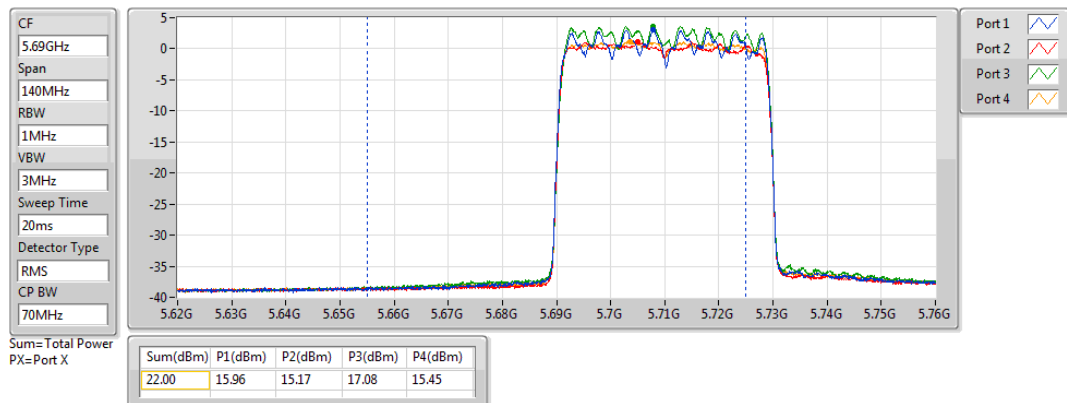
5720MHz Straddle 5.725-5.85GHz



802.11ax HEW40-BF_Nss1,(MCS0)_4TX

AV Power

5710MHz Straddle 5.47-5.725GHz

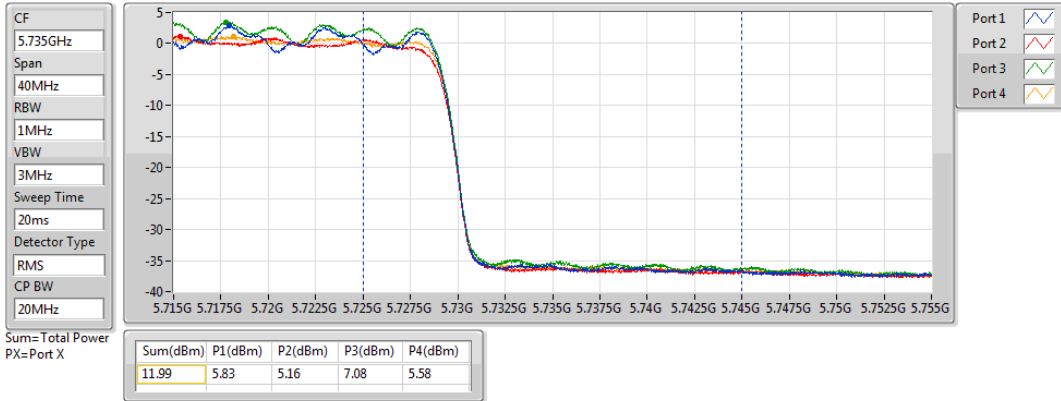


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

AV Power

5710MHz Straddle 5.725-5.85GHz

01/02/2020

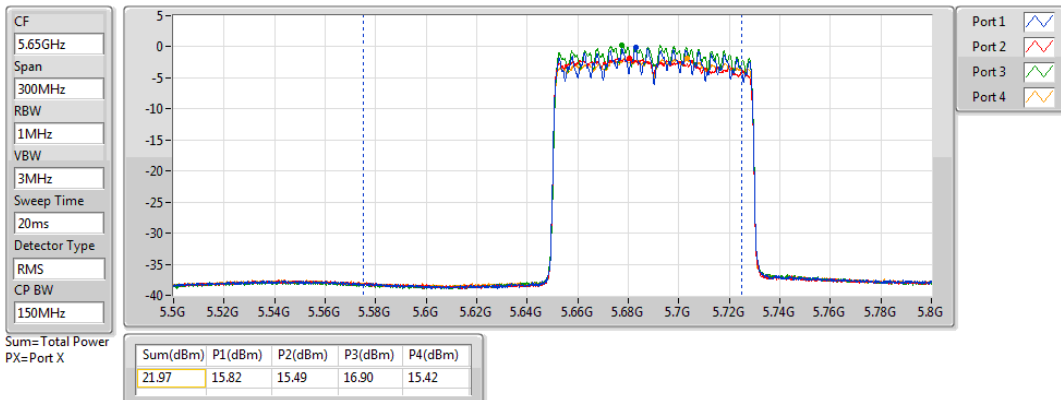


802.11ax HEW80-BF_Nss1,(MCS0)_4TX

AV Power

5690MHz Straddle 5.47-5.725GHz

01/02/2020

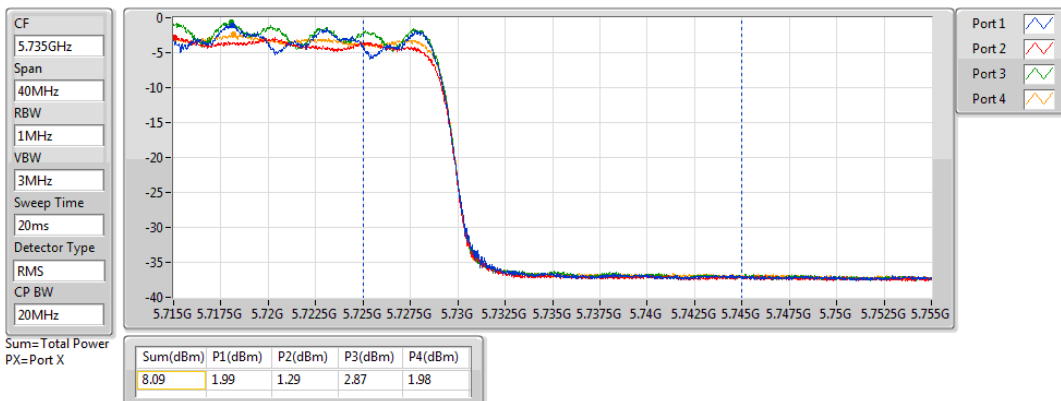


802.11ax HEW80-BF_Nss1,(MCS0)_4TX

AV Power

5690MHz Straddle 5.725-5.85GHz

01/02/2020

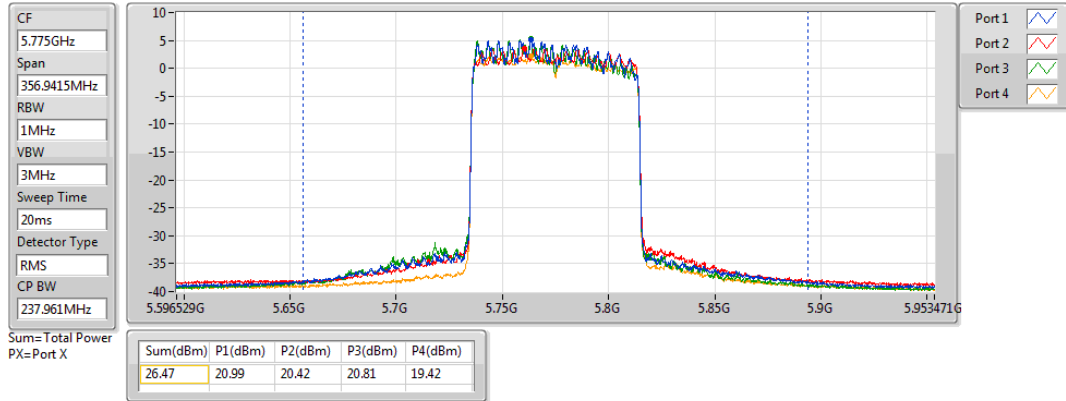


802.11ax HEW80-BF_Nss1,(MCS0)_4TX

AV Power

5775MHz

03/02/2020



For non-beamforming function:

Summary

Mode	PD (dBm/RBW)
5.25-5.35GHz	-
802.11a_Nss1,(6Mbps)_2TX	10.92
802.11ac VHT20_Nss1,(MCS0)_2TX	10.47
802.11ac VHT40_Nss1,(MCS0)_2TX	7.29
802.11ac VHT80_Nss1,(MCS0)_2TX	4.19
802.11ax HEW20_Nss1,(MCS0)_2TX	10.09
802.11ax HEW40_Nss1,(MCS0)_2TX	7.21
802.11ax HEW80_Nss1,(MCS0)_2TX	4.34
5.47-5.725GHz	-
802.11a_Nss1,(6Mbps)_4TX	9.03
802.11ac VHT20_Nss1,(MCS0)_4TX	9.03
802.11ac VHT40_Nss1,(MCS0)_4TX	8.94
802.11ac VHT80_Nss1,(MCS0)_4TX	6.46
802.11ac VHT160_Nss1,(MCS0)_4TX	-0.07
802.11ax HEW20_Nss1,(MCS0)_4TX	8.97
802.11ax HEW40_Nss1,(MCS0)_4TX	8.95
802.11ax HEW80_Nss1,(MCS0)_4TX	6.36
802.11ax HEW160_Nss1,(MCS0)_4TX	-0.00
5.725-5.85GHz	-
802.11a_Nss1,(6Mbps)_4TX	7.41
802.11ac VHT20_Nss1,(MCS0)_4TX	7.03
802.11ac VHT40_Nss1,(MCS0)_4TX	6.08
802.11ac VHT80_Nss1,(MCS0)_4TX	3.19
802.11ax HEW20_Nss1,(MCS0)_4TX	7.05
802.11ax HEW40_Nss1,(MCS0)_4TX	6.26
802.11ax HEW80_Nss1,(MCS0)_4TX	3.17

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

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5260MHz	Pass	6.04	7.71	7.80			10.74	10.96
5300MHz	Pass	6.04	7.91	7.52			10.64	10.96
5320MHz	Pass	6.04	8.18	7.77			10.92	10.96
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-
5500MHz	Pass	7.95	3.86	2.55	3.54	3.05	8.87	9.05
5580MHz	Pass	7.95	5.36	2.27	2.80	2.58	8.84	9.05
5700MHz	Pass	7.95	5.25	1.77	4.45	1.43	9.03	9.05
5720MHz Straddle 5.47-5.725GHz	Pass	7.95	4.80	2.03	4.97	1.08	9.01	9.05
5720MHz Straddle 5.725-5.85GHz	Pass	7.95	3.20	-1.14	3.07	-0.42	7.41	28.05
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5260MHz	Pass	6.04	7.41	7.68			10.47	10.96
5300MHz	Pass	6.04	7.70	7.39			10.46	10.96
5320MHz	Pass	6.04	7.60	7.34			10.40	10.96
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5500MHz	Pass	7.95	3.33	2.82	3.43	3.62	9.03	9.05
5580MHz	Pass	7.95	4.47	3.03	3.48	2.93	8.99	9.05
5700MHz	Pass	7.95	4.30	1.96	3.77	1.92	8.87	9.05
5720MHz Straddle 5.47-5.725GHz	Pass	7.95	4.31	1.98	3.98	1.80	8.93	9.05
5720MHz Straddle 5.725-5.85GHz	Pass	7.95	2.43	0.46	2.19	-0.13	7.03	28.05
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5270MHz	Pass	6.04	4.56	4.20			7.29	10.96
5310MHz	Pass	6.04	4.02	3.28			6.60	10.96
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5510MHz	Pass	7.95	2.39	1.17	1.30	1.73	7.20	9.05
5550MHz	Pass	7.95	3.44	1.73	1.92	1.90	7.50	9.05
5670MHz	Pass	7.95	3.16	1.38	3.65	1.63	8.43	9.05
5710MHz Straddle 5.47-5.725GHz	Pass	7.95	3.74	2.20	4.48	2.37	8.94	9.05
5710MHz Straddle 5.725-5.85GHz	Pass	7.95	0.73	0.02	1.71	-0.63	6.08	28.05
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5290MHz	Pass	6.04	1.51	1.11			4.19	10.96
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5530MHz	Pass	7.95	0.07	-1.24	-0.90	-1.47	4.43	9.05
5610MHz	Pass	7.95	0.01	-0.90	0.11	-1.34	4.97	9.05
5690MHz Straddle 5.47-5.725GHz	Pass	7.95	1.54	-0.88	2.37	-0.91	6.46	9.05
5690MHz Straddle 5.725-5.85GHz	Pass	7.95	-1.76	-3.75	-1.00	-4.16	3.19	28.05
802.11ac VHT160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5570MHz	Pass	7.95	-5.18	-5.75	-5.36	-6.16	-0.07	9.05
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5260MHz	Pass	6.04	7.05	7.09			10.02	10.96
5300MHz	Pass	6.04	7.25	7.06			10.09	10.96
5320MHz	Pass	6.04	7.29	6.95			10.07	10.96
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5500MHz	Pass	7.95	3.41	2.65	3.35	3.38	8.89	9.05

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
5580MHz	Pass	7.95	4.48	2.62	3.54	3.00	8.97	9.05
5700MHz	Pass	7.95	4.33	1.73	3.91	2.00	8.90	9.05
5720MHz Straddle 5.47-5.725GHz	Pass	7.95	4.59	1.96	3.75	1.82	8.97	9.05
5720MHz Straddle 5.725-5.85GHz	Pass	7.95	2.58	0.58	2.07	-0.10	7.05	28.05
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5270MHz	Pass	6.04	4.58	3.99			7.21	10.96
5310MHz	Pass	6.04	3.97	3.42			6.62	10.96
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5510MHz	Pass	7.95	2.35	1.07	1.19	1.54	7.02	9.05
5550MHz	Pass	7.95	3.20	1.45	1.73	1.56	7.29	9.05
5670MHz	Pass	7.95	3.34	1.47	3.89	1.60	8.49	9.05
5710MHz Straddle 5.47-5.725GHz	Pass	7.95	4.21	2.07	4.44	1.88	8.95	9.05
5710MHz Straddle 5.725-5.85GHz	Pass	7.95	1.14	0.16	1.64	-0.81	6.26	28.05
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5290MHz	Pass	6.04	1.75	1.24			4.34	10.96
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5530MHz	Pass	7.95	0.53	-0.76	-0.76	-0.99	4.78	9.05
5610MHz	Pass	7.95	0.06	-1.09	0.02	-1.05	4.83	9.05
5690MHz Straddle 5.47-5.725GHz	Pass	7.95	1.73	-1.16	2.45	-0.71	6.36	9.05
5690MHz Straddle 5.725-5.85GHz	Pass	7.95	-1.49	-4.17	-1.30	-4.26	3.17	28.05
802.11ax HEW160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5570MHz	Pass	7.95	-4.81	-5.35	-4.93	-6.06	-0.00	9.05

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

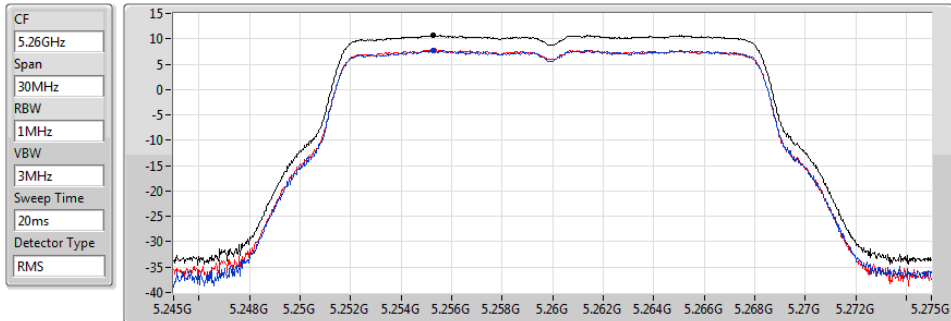
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

802.11a_Nss1,(6Mbps)_2TX

PSD

5260MHz

18/09/2019



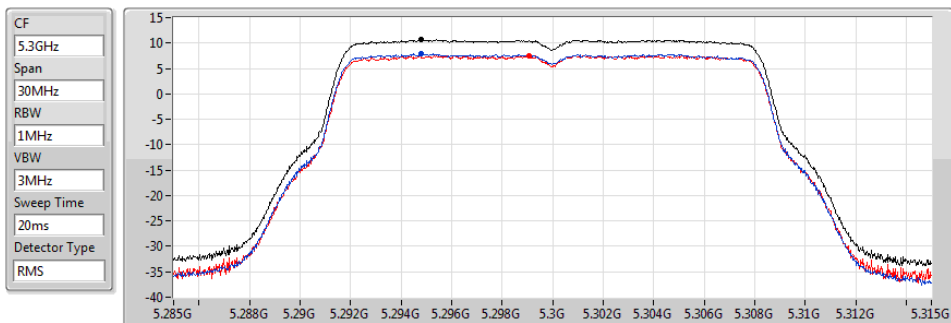
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
10.74	10.74	7.71	7.80

802.11a_Nss1,(6Mbps)_2TX

PSD

5300MHz

18/09/2019



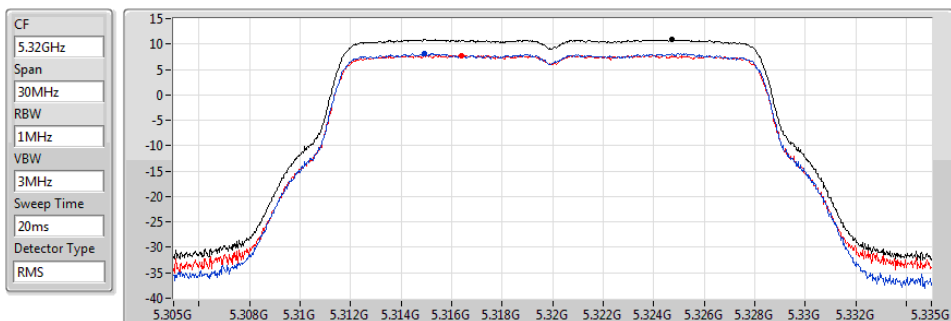
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
10.64	10.64	7.91	7.52

802.11a_Nss1,(6Mbps)_2TX

PSD

5320MHz

18/09/2019



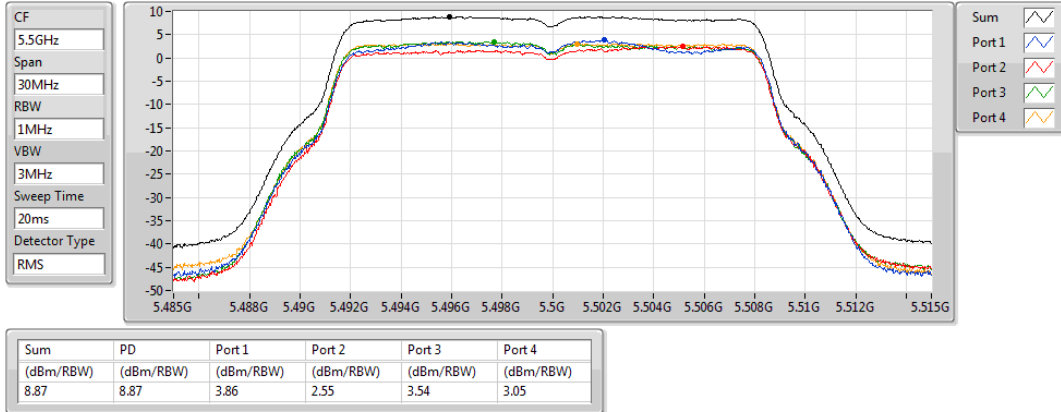
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
10.92	10.92	8.18	7.77

802.11a_Nss1,(6Mbps)_4TX

PSD

5500MHz

18/09/2019

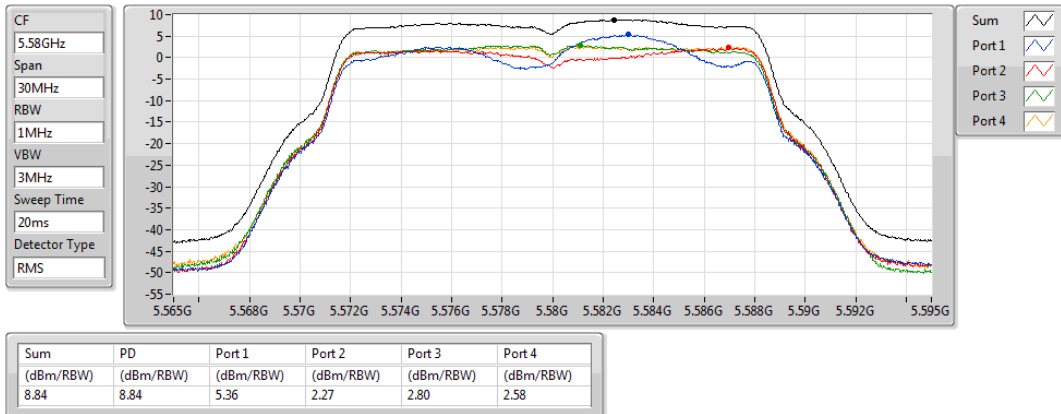


802.11a_Nss1,(6Mbps)_4TX

PSD

5580MHz

18/09/2019

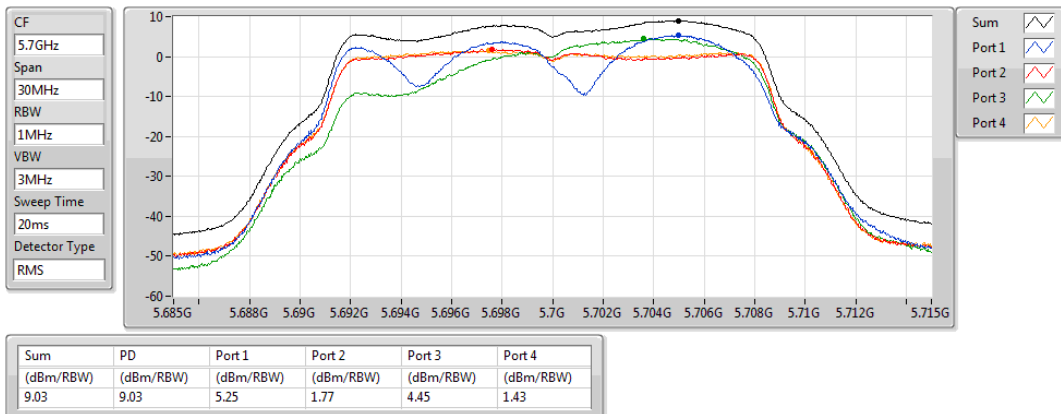


802.11a_Nss1,(6Mbps)_4TX

PSD

5700MHz

18/09/2019

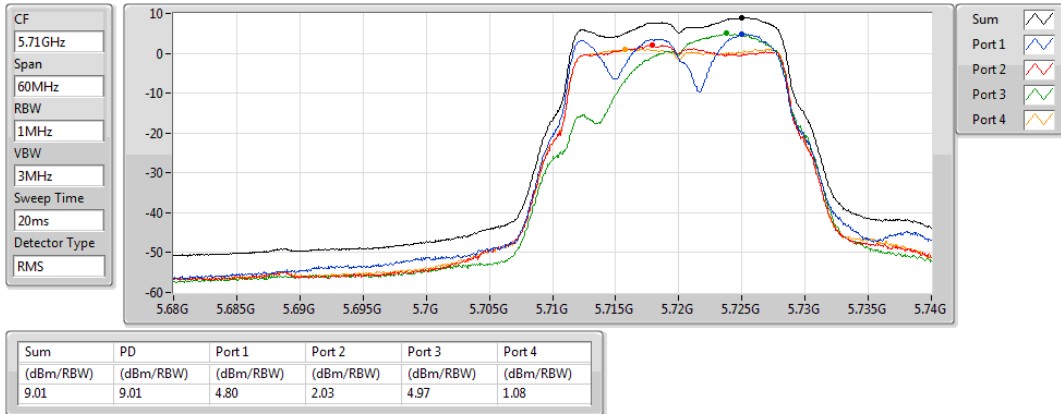


802.11a_Nss1,(6Mbps)_4TX

5720MHz Straddle 5.47-5.725GHz

PSD

18/09/2019

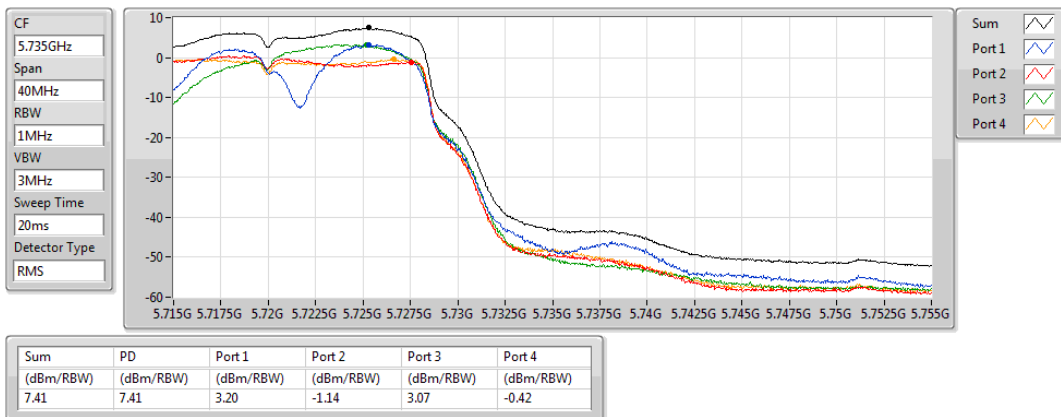


802.11a_Nss1,(6Mbps)_4TX

5720MHz Straddle 5.725-5.85GHz

PSD

18/09/2019

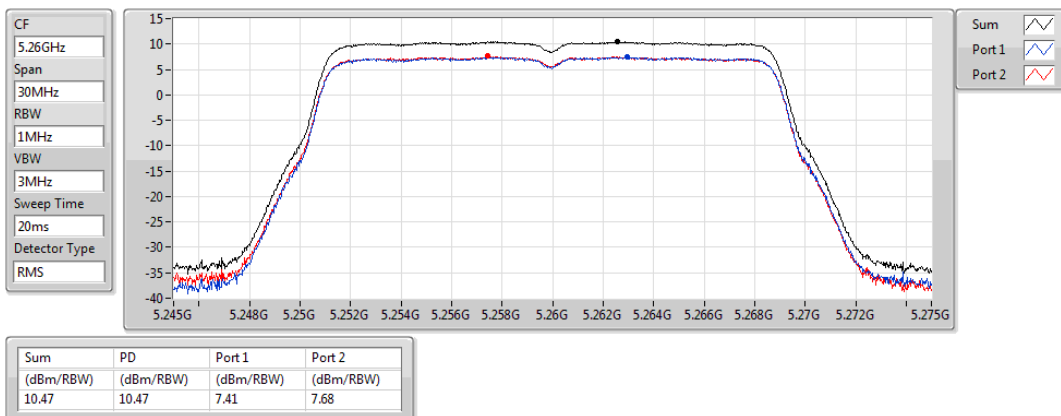


802.11ac VHT20_Nss1,(MCS0)_2TX

5260MHz

PSD

18/09/2019

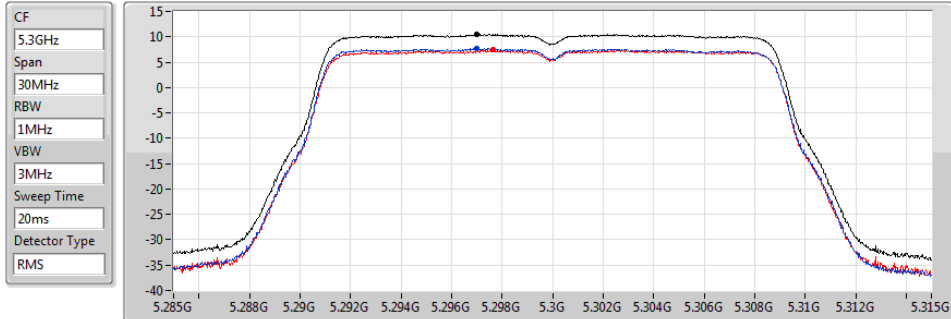


802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5300MHz

18/09/2019



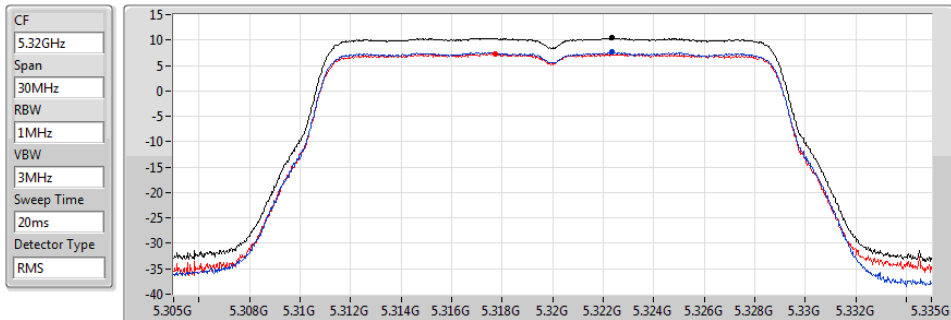
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
10.46	10.46	7.70	7.39

802.11ac VHT20_Nss1,(MCS0)_2TX

PSD

5320MHz

18/09/2019



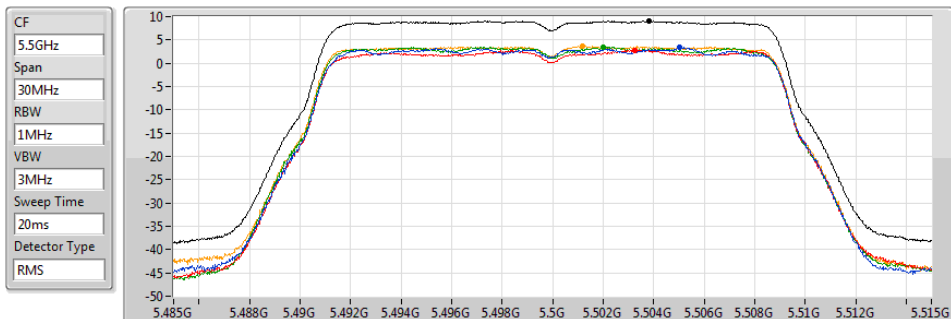
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
10.40	10.40	7.60	7.34

802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

5500MHz

18/09/2019



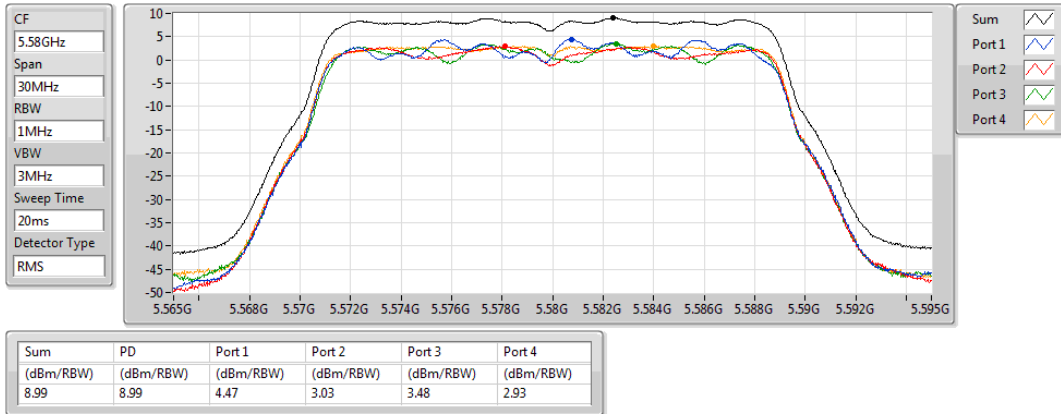
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
9.03	9.03	3.33	2.82	3.43	3.62

802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

5580MHz

18/09/2019

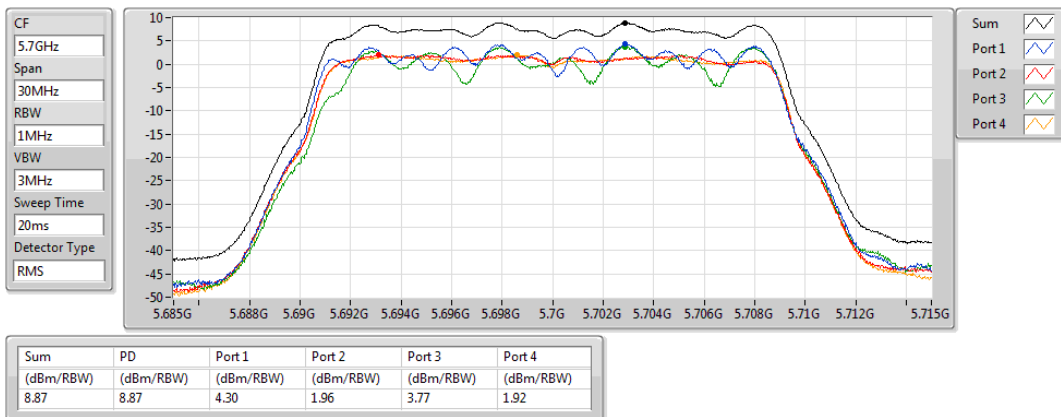


802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

5700MHz

18/09/2019

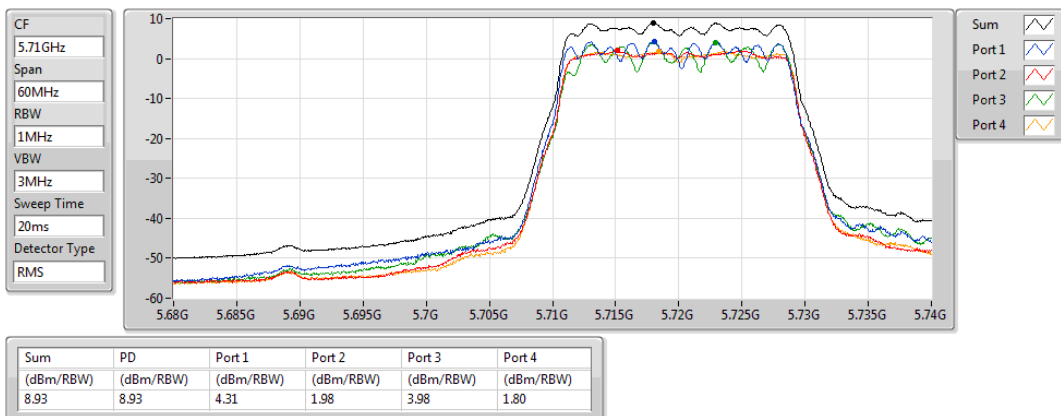


802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

5720MHz Straddle 5.47-5.725GHz

18/09/2019

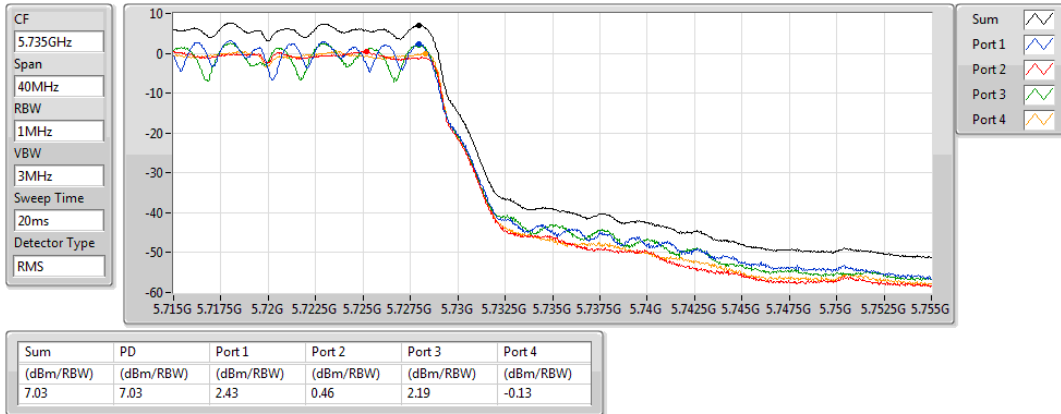


802.11ac VHT20_Nss1,(MCS0)_4TX

5720MHz Straddle 5.725-5.85GHz

PSD

18/09/2019

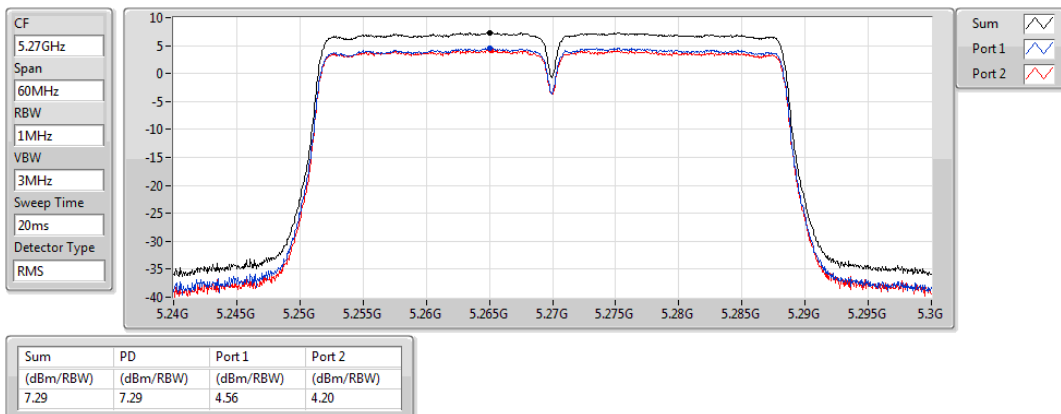


802.11ac VHT40_Nss1,(MCS0)_2TX

5270MHz

PSD

18/09/2019

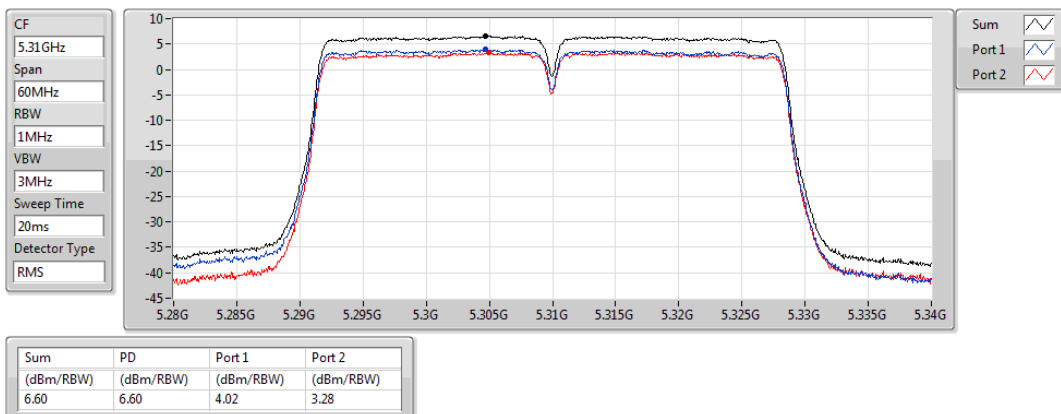


802.11ac VHT40_Nss1,(MCS0)_2TX

5310MHz

PSD

18/09/2019

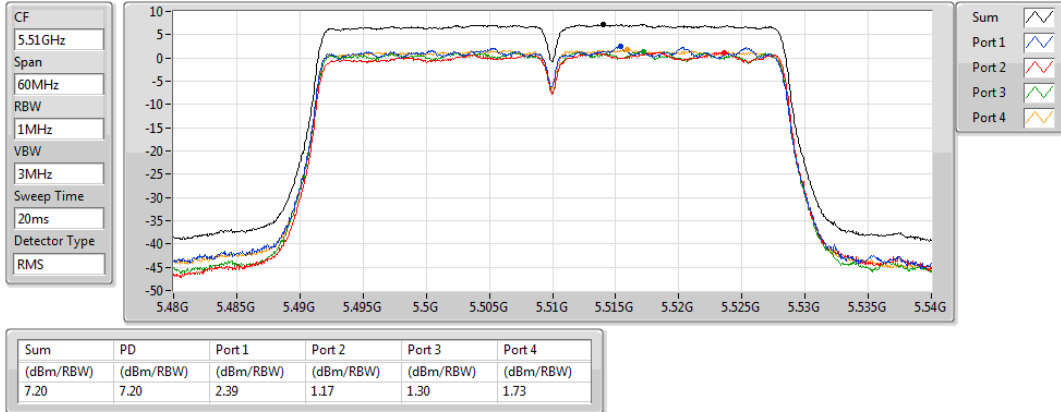


802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

5510MHz

18/09/2019

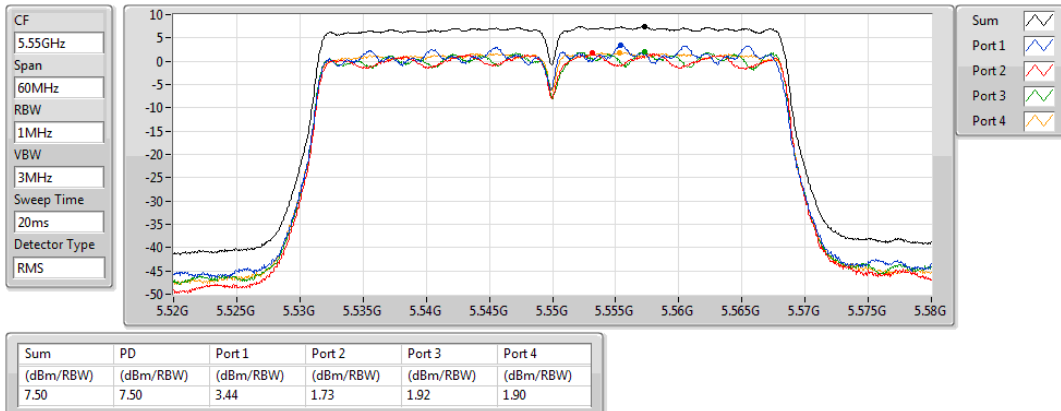


802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

5550MHz

18/09/2019

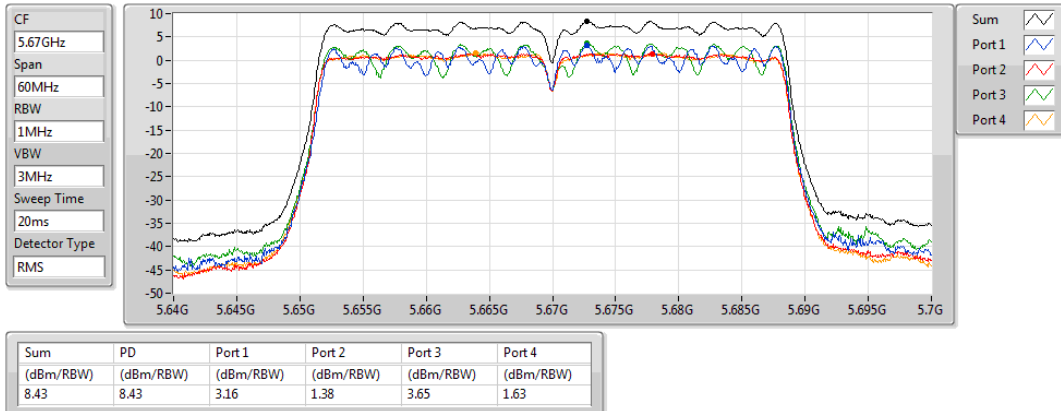


802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

5670MHz

18/09/2019

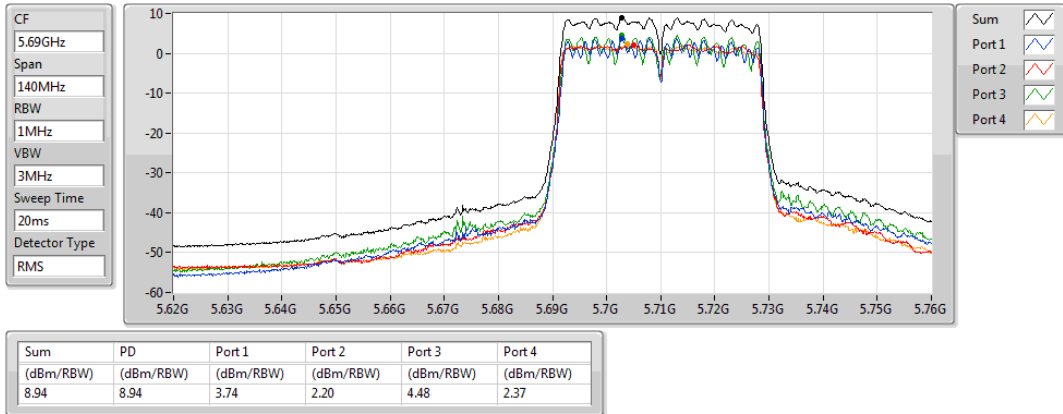


802.11ac VHT40_Nss1,(MCS0)_4TX

5710MHz Straddle 5.47-5.725GHz

PSD

18/09/2019

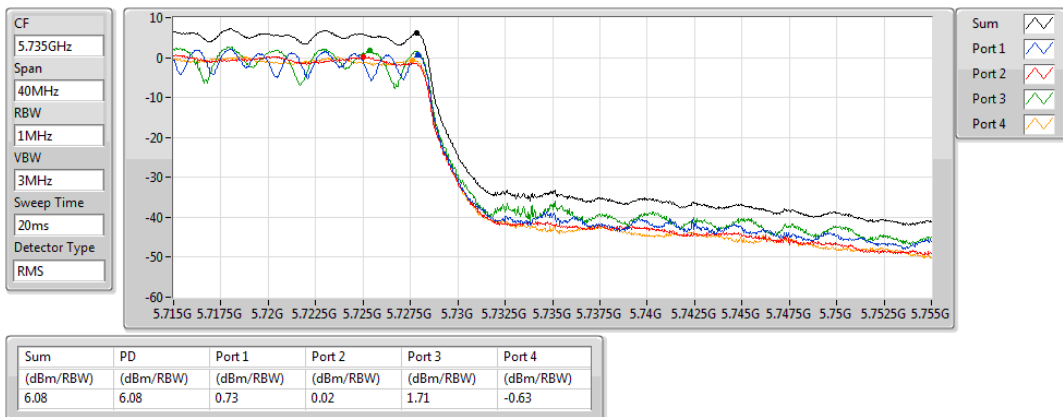


802.11ac VHT40_Nss1,(MCS0)_4TX

5710MHz Straddle 5.725-5.85GHz

PSD

18/09/2019

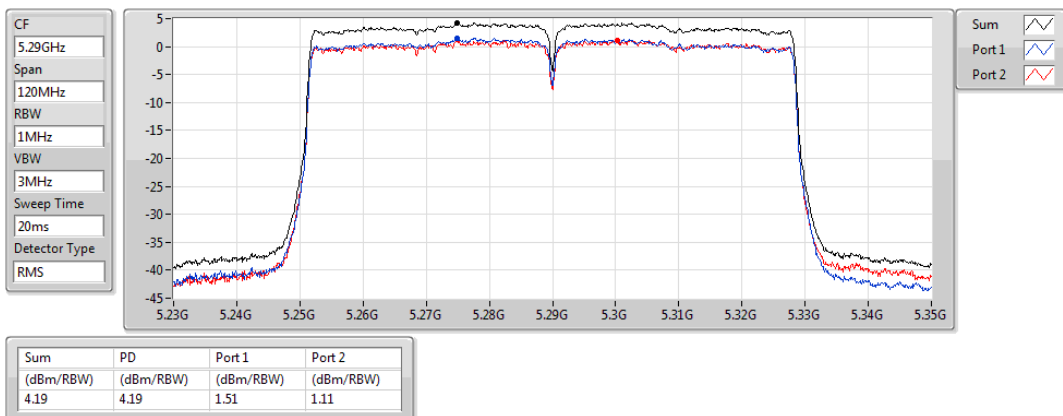


802.11ac VHT80_Nss1,(MCS0)_2TX

5290MHz

PSD

18/09/2019

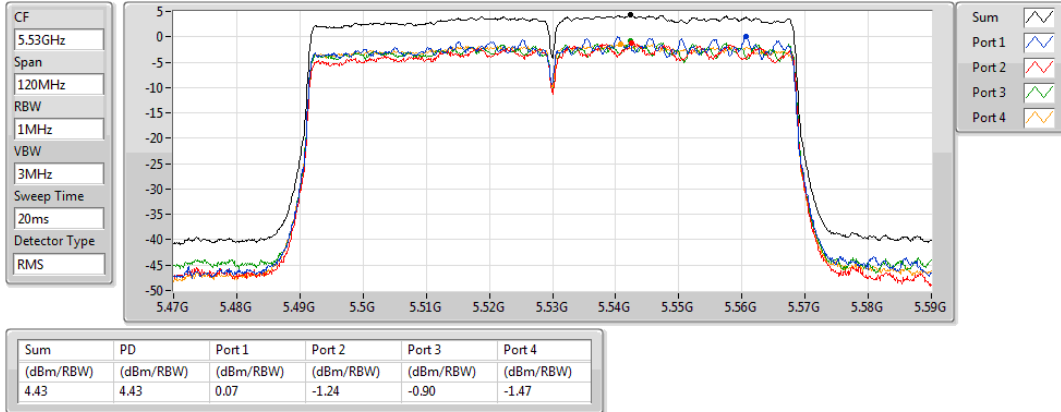


802.11ac VHT80_Nss1,(MCS0)_4TX

PSD

5530MHz

18/09/2019

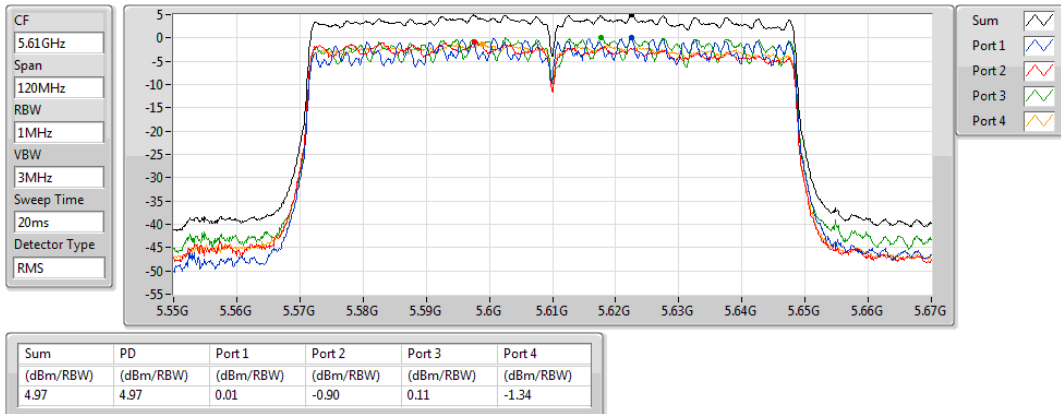


802.11ac VHT80_Nss1,(MCS0)_4TX

PSD

5610MHz

18/09/2019

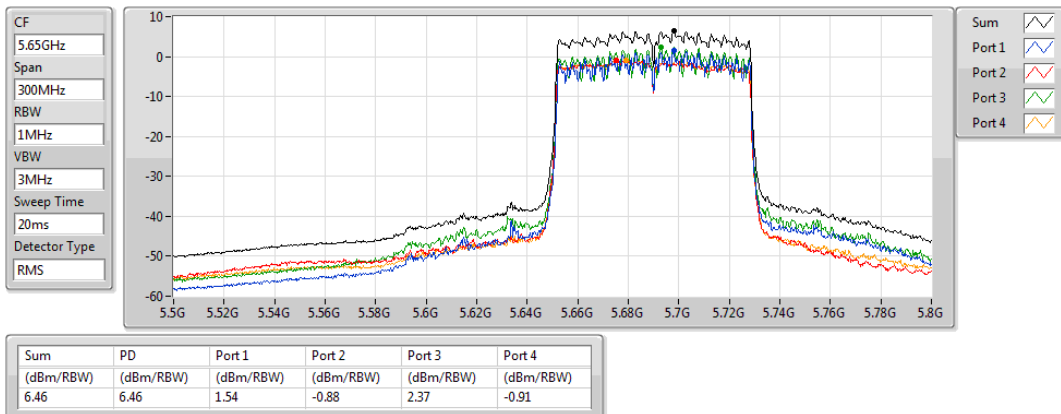


802.11ac VHT80_Nss1,(MCS0)_4TX

PSD

5690MHz Straddle 5.47-5.725GHz

18/09/2019

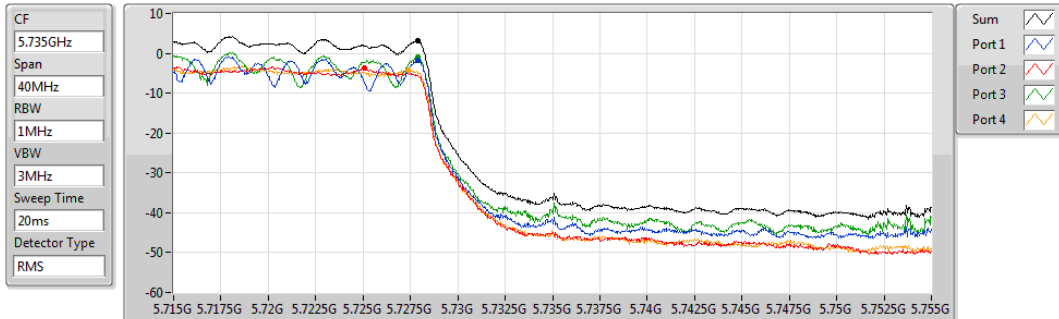


802.11ac VHT80_Nss1,(MCS0)_4TX

5690MHz Straddle 5.725-5.85GHz

PSD

18/09/2019



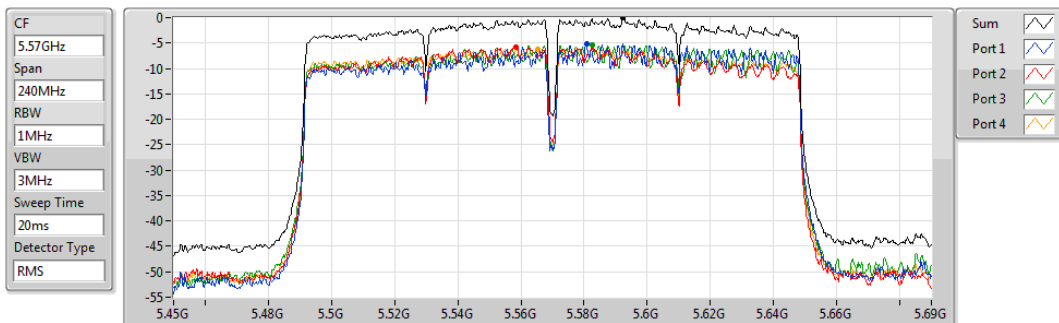
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
3.19	3.19	-1.76	-3.75	-1.00	-4.16

802.11ac VHT160_Nss1,(MCS0)_4TX

5570MHz

PSD

18/09/2019



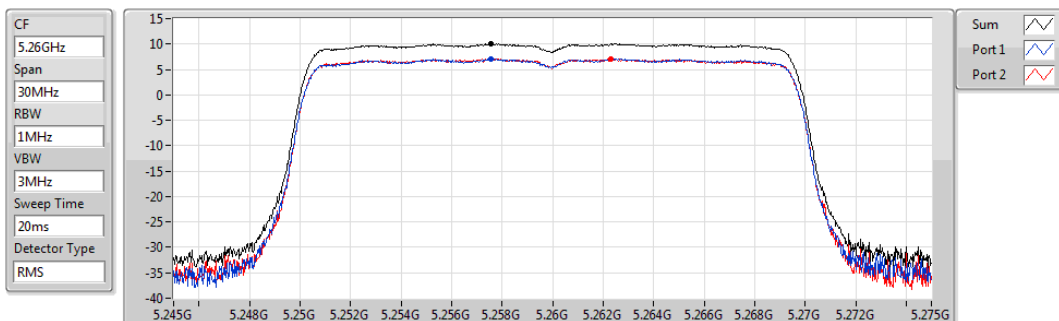
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-0.07	-0.07	-5.18	-5.75	-5.36	-6.16

802.11ax HEW20_Nss1,(MCS0)_2TX

5260MHz

PSD

18/09/2019



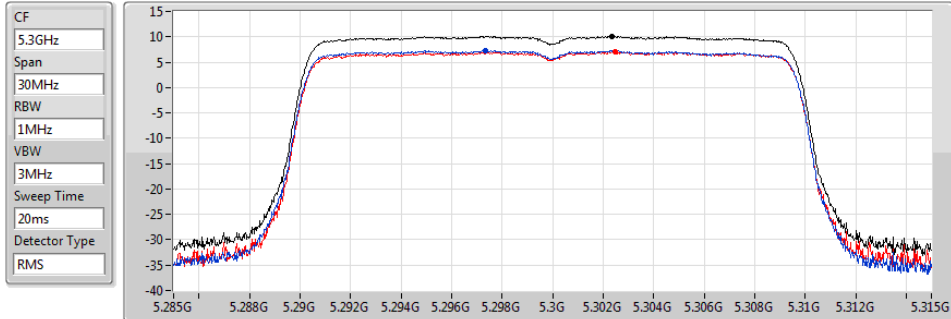
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
10.02	10.02	7.05	7.09

802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5300MHz

18/09/2019



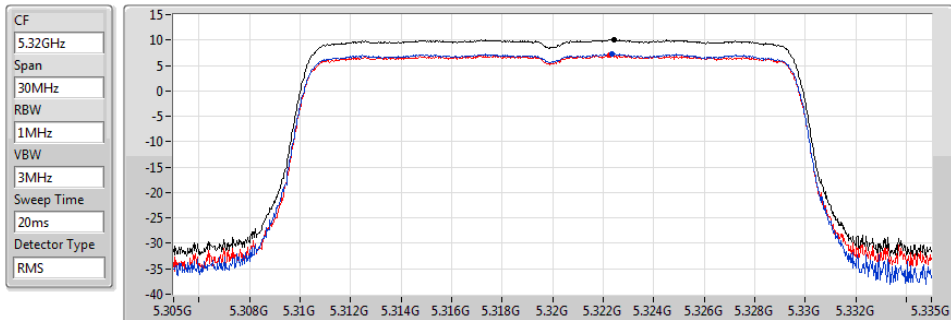
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
10.09	10.09	7.25	7.06

802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5320MHz

18/09/2019



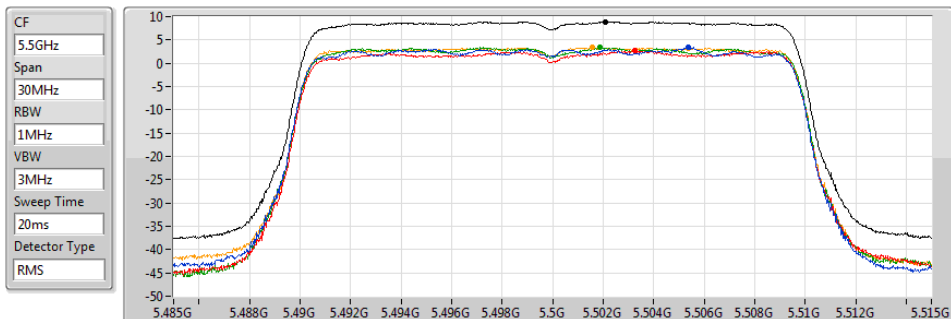
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
10.07	10.07	7.29	6.95

802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

5500MHz

18/09/2019



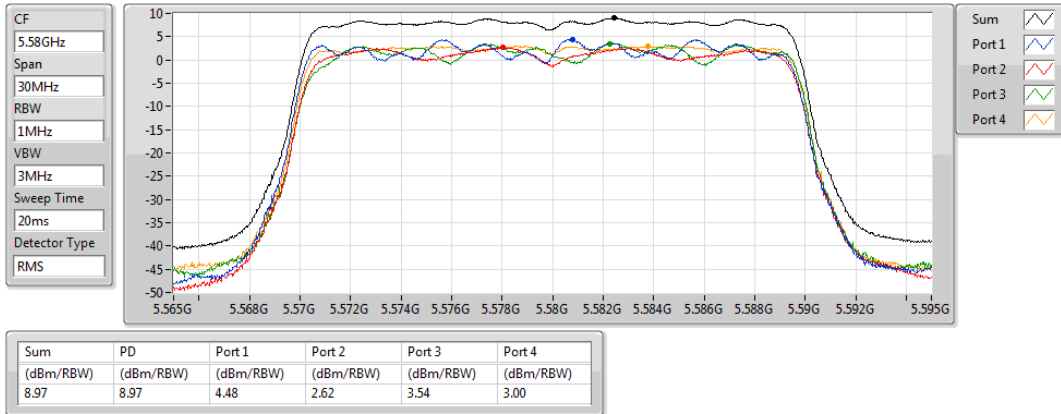
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
8.89	8.89	3.41	2.65	3.35	3.38

802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

5580MHz

18/09/2019

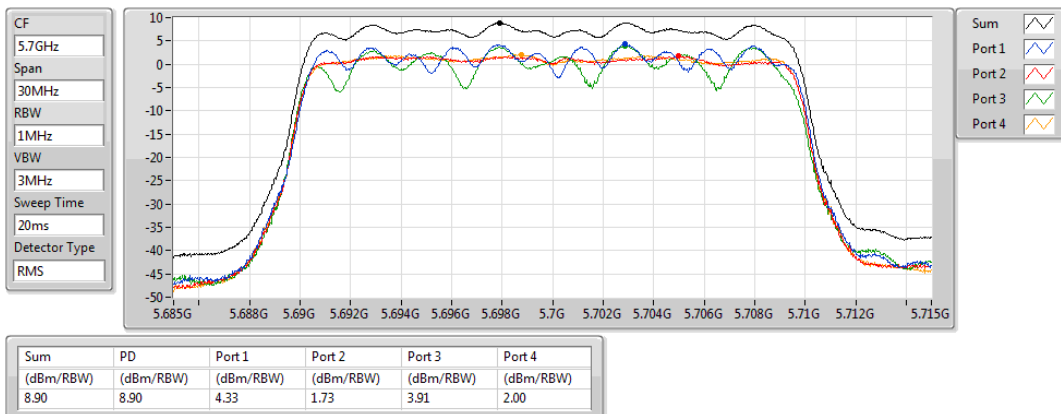


802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

5700MHz

18/09/2019

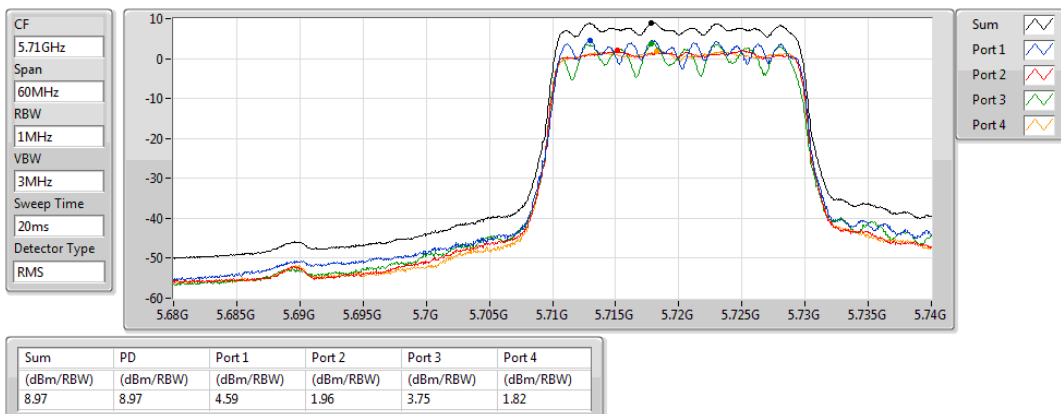


802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

5720MHz Straddle 5.47-5.725GHz

18/09/2019

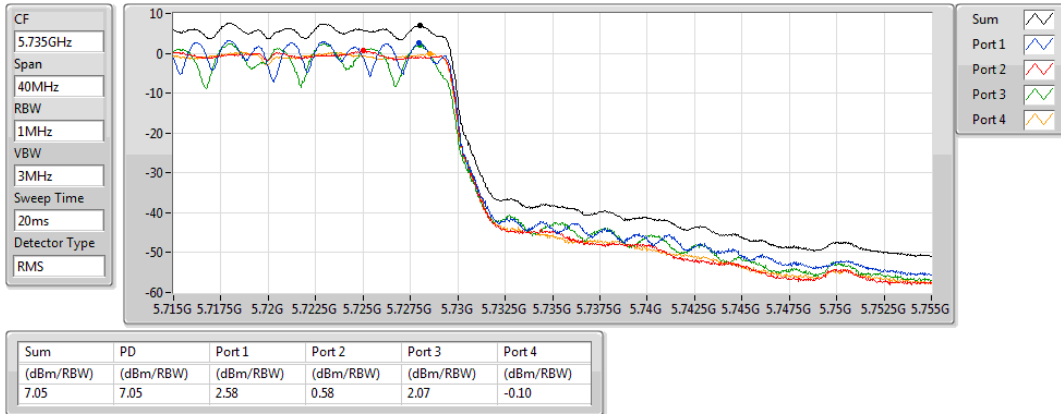


802.11ax HEW20_Nss1,(MCS0)_4TX

5720MHz Straddle 5.725-5.85GHz

PSD

18/09/2019

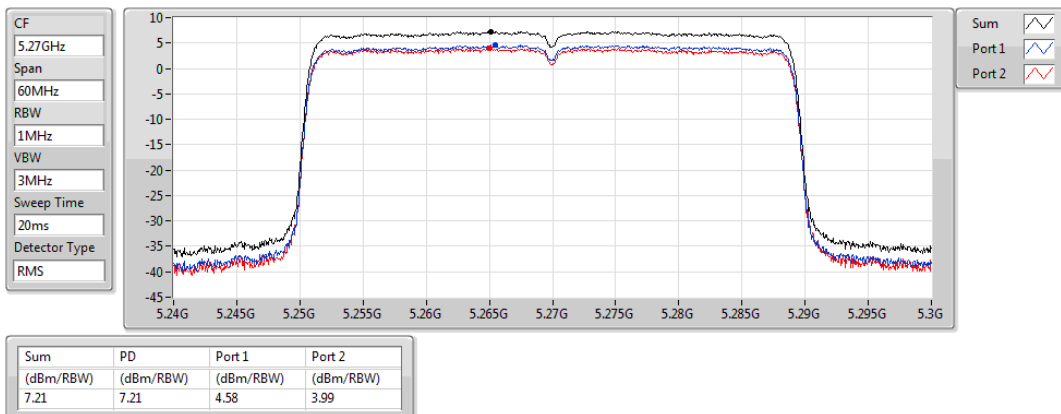


802.11ax HEW40_Nss1,(MCS0)_2TX

5270MHz

PSD

18/09/2019

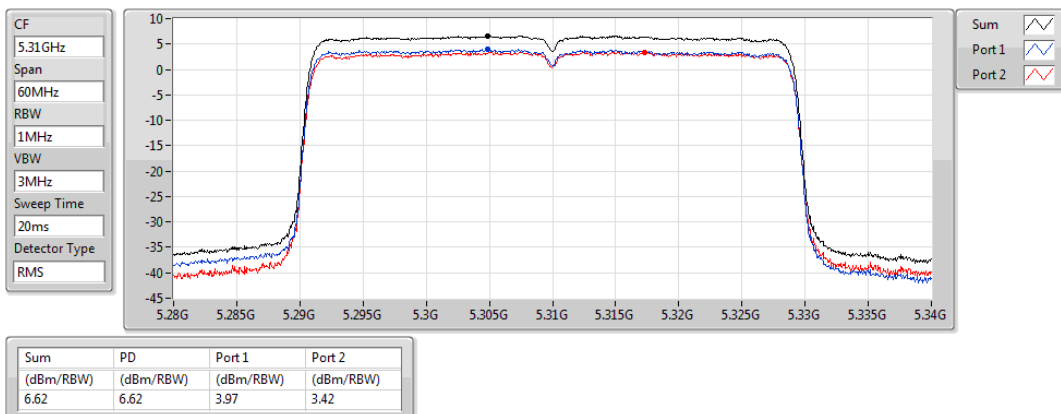


802.11ax HEW40_Nss1,(MCS0)_2TX

5310MHz

PSD

18/09/2019

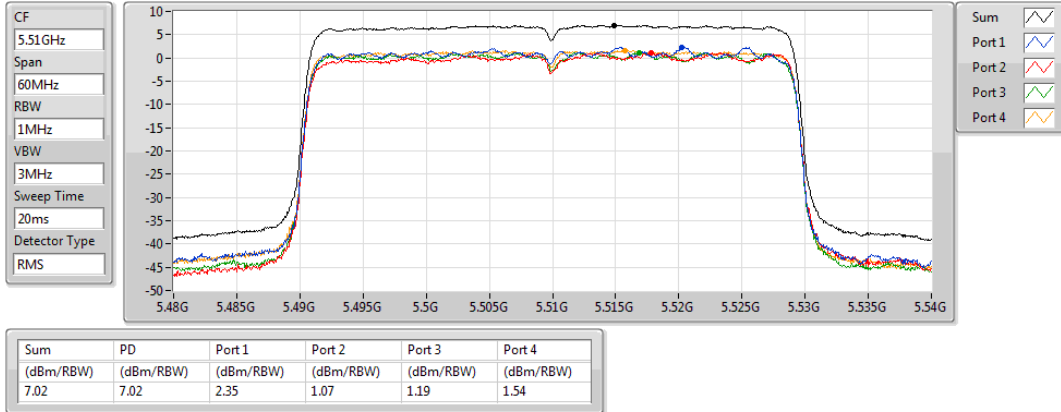


802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

5510MHz

18/09/2019

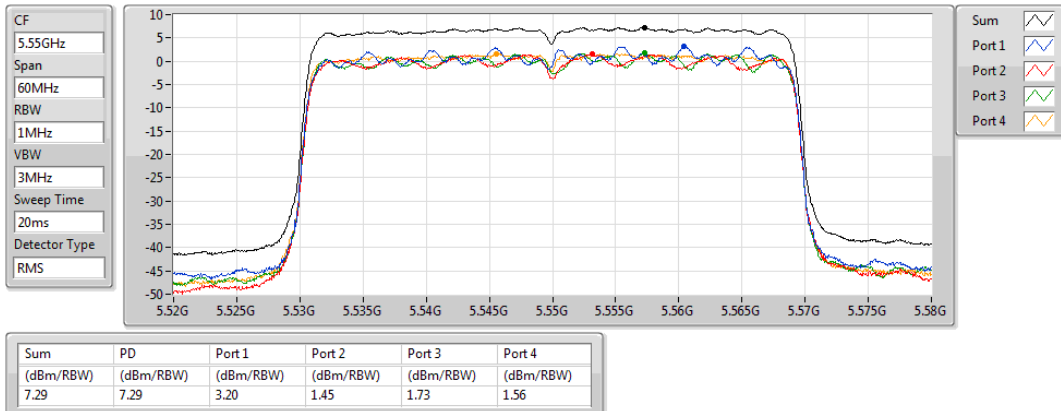


802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

5550MHz

18/09/2019

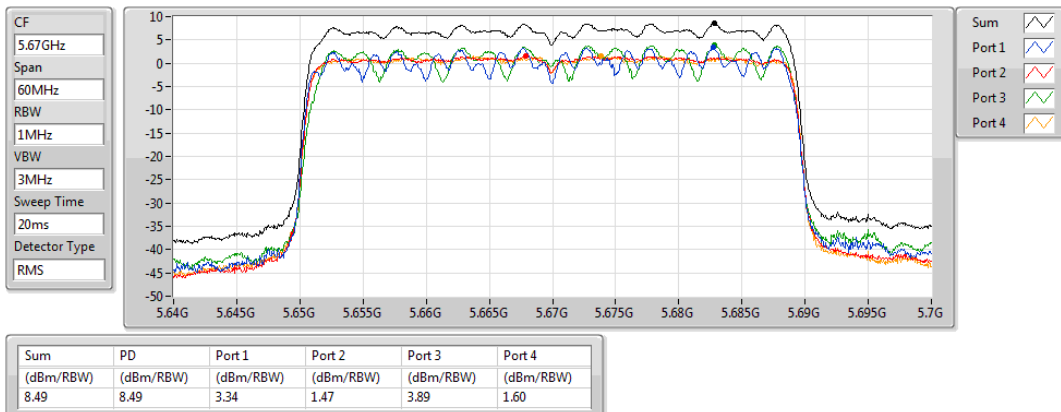


802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

5670MHz

18/09/2019

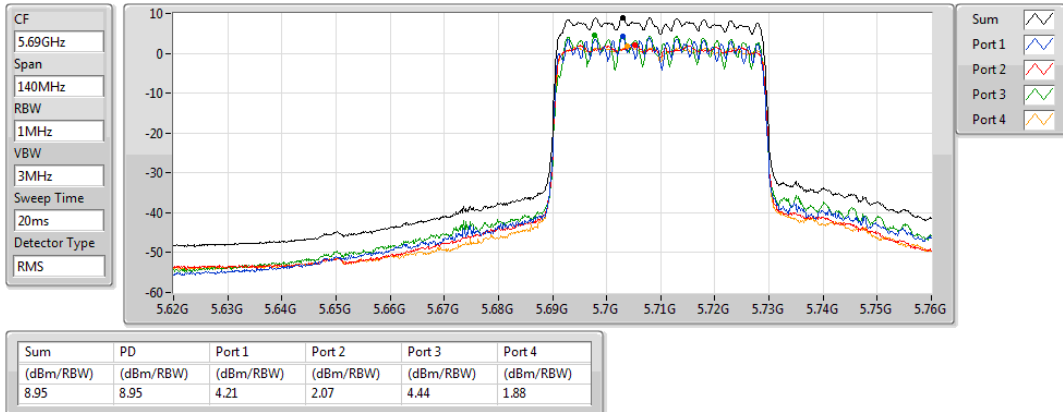


802.11ax HEW40_Nss1,(MCS0)_4TX

5710MHz Straddle 5.47-5.725GHz

PSD

18/09/2019

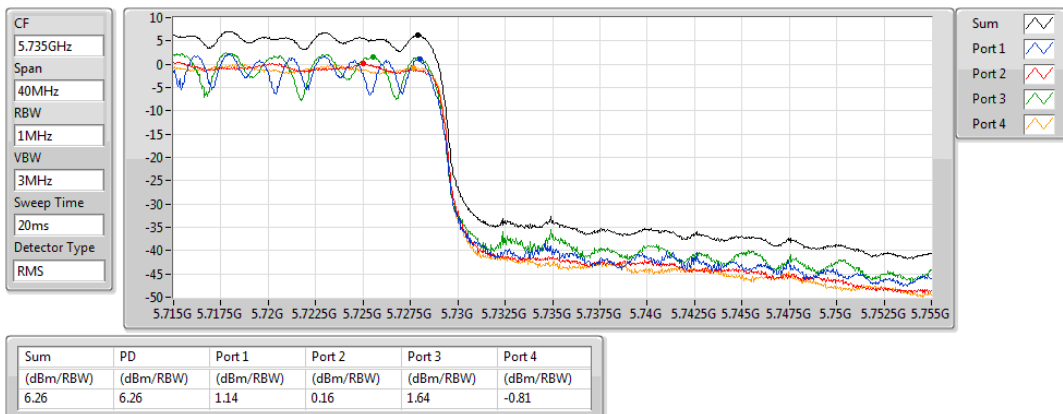


802.11ax HEW40_Nss1,(MCS0)_4TX

5710MHz Straddle 5.725-5.85GHz

PSD

18/09/2019

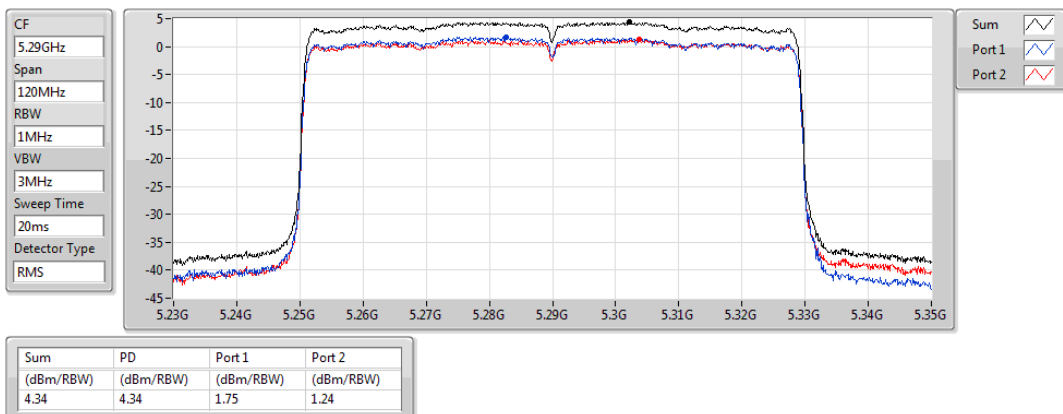


802.11ax HEW80_Nss1,(MCS0)_2TX

5290MHz

PSD

18/09/2019

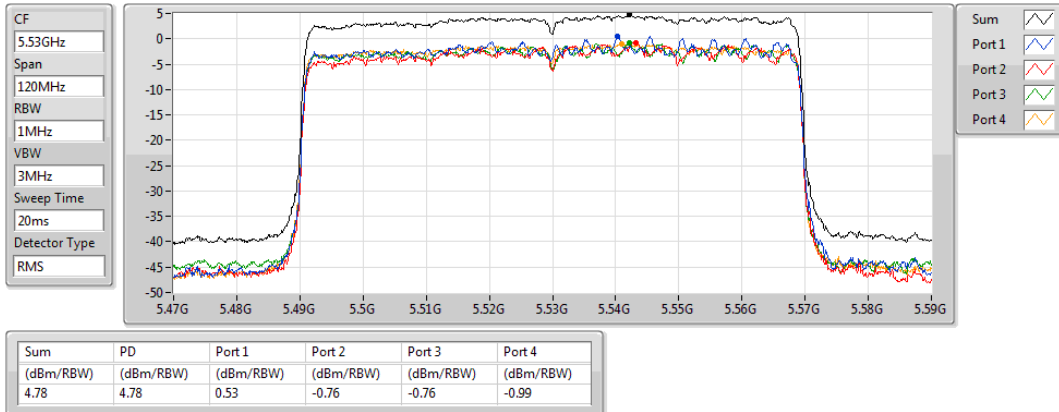


802.11ax HEW80_Nss1,(MCS0)_4TX

PSD

5530MHz

18/09/2019

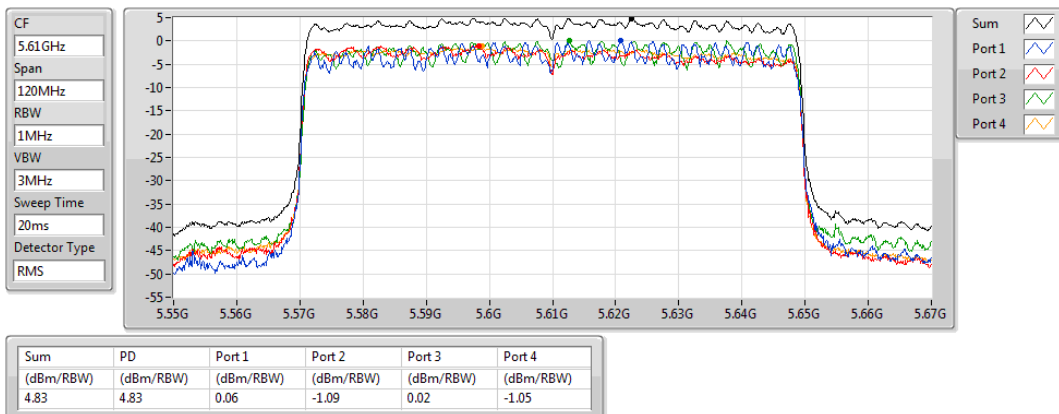


802.11ax HEW80_Nss1,(MCS0)_4TX

PSD

5610MHz

18/09/2019

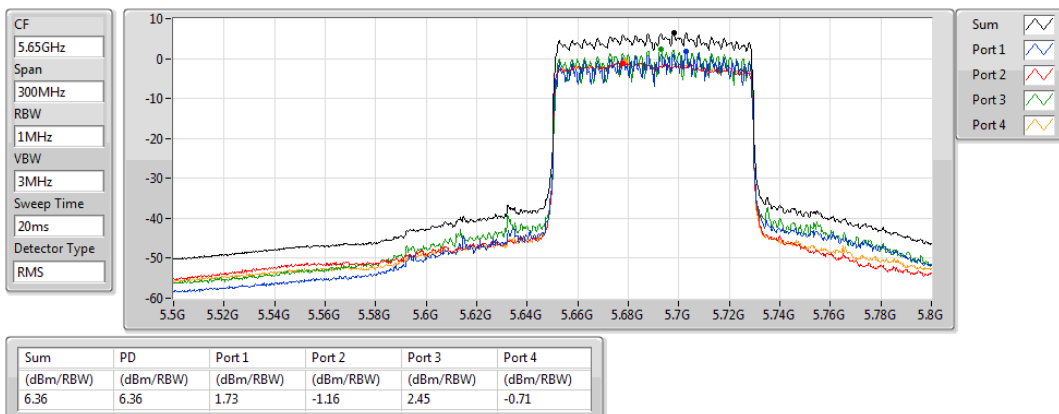


802.11ax HEW80_Nss1,(MCS0)_4TX

PSD

5690MHz Straddle 5.47-5.725GHz

18/09/2019

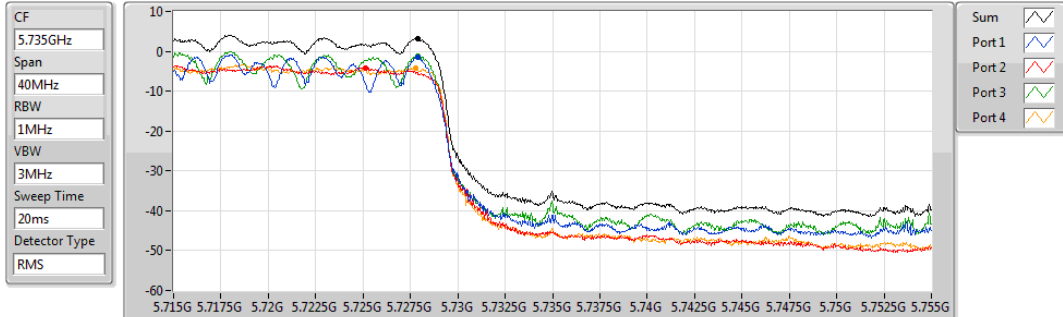


802.11ax HEW80_Nss1,(MCS0)_4TX

PSD

5690MHz Straddle 5.725-5.85GHz

18/09/2019



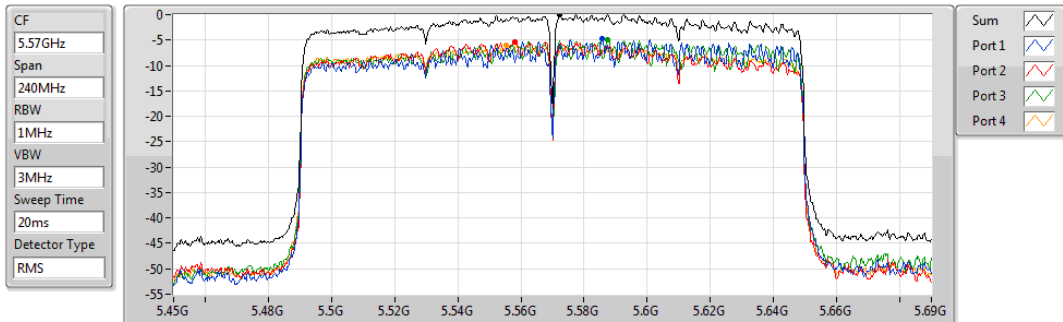
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.17	3.17	-1.49	-4.17	-1.30	-4.26

802.11ax HEW160_Nss1,(MCS0)_4TX

PSD

5570MHz

18/09/2019



Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.00	-0.00	-4.81	-5.35	-4.93	-6.06

For beamforming function:

Summary

Mode	PD (dBm/RBW)
5.47-5.725GHz	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	8.95
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	6.72
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	3.55
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	0.32
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	9.02
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	6.90
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	3.74
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	0.63
5.725-5.85GHz	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	13.73
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	10.93
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	7.28
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	13.66
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	11.02
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	7.53

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

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5500MHz	Pass	7.95	3.69	2.06	2.85	2.36	8.61	9.05
5580MHz	Pass	7.95	3.69	2.75	3.35	2.70	8.65	9.05
5700MHz	Pass	7.95	4.21	2.10	3.82	1.66	8.95	9.05
5720MHz Straddle 5.47-5.725GHz	Pass	7.95	4.29	2.03	3.46	1.18	8.71	9.05
5720MHz Straddle 5.725-5.85GHz	Pass	7.95	2.55	0.40	1.61	-0.68	6.83	28.05
5745MHz	Pass	7.95	9.01	7.48	9.04	6.32	13.66	28.05
5785MHz	Pass	7.95	9.43	7.43	8.96	6.73	13.73	28.05
5825MHz	Pass	7.95	9.57	6.85	9.59	7.23	13.68	28.05
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5510MHz	Pass	7.95	0.32	-0.98	0.20	-0.62	5.60	9.05
5550MHz	Pass	7.95	0.17	-0.06	0.86	-0.45	5.74	9.05
5670MHz	Pass	7.95	1.24	-0.52	1.67	-0.57	6.46	9.05
5710MHz Straddle 5.47-5.725GHz	Pass	7.95	1.87	-0.22	2.11	-0.49	6.72	9.05
5710MHz Straddle 5.725-5.85GHz	Pass	7.95	-0.59	-2.25	-0.32	-2.97	4.23	28.05
5755MHz	Pass	7.95	6.41	4.49	6.49	3.46	10.81	28.05
5795MHz	Pass	7.95	6.90	4.43	6.54	4.07	10.93	28.05
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5530MHz	Pass	7.95	-2.86	-2.76	-2.32	-3.02	2.79	9.05
5610MHz	Pass	7.95	-2.07	-2.83	-1.83	-2.46	3.32	9.05
5690MHz Straddle 5.47-5.725GHz	Pass	7.95	-1.49	-3.47	-1.31	-3.43	3.55	9.05
5690MHz Straddle 5.725-5.85GHz	Pass	7.95	-5.19	-6.38	-4.27	-6.05	0.10	28.05
5775MHz	Pass	7.95	2.81	0.92	2.84	0.17	7.28	28.05
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5570MHz	Pass	7.95	-4.66	-5.35	-5.57	-4.97	0.32	9.05
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5500MHz	Pass	7.95	3.53	1.80	2.71	2.15	8.53	9.05
5580MHz	Pass	7.95	3.74	2.59	3.50	2.68	8.70	9.05
5700MHz	Pass	7.95	4.43	1.94	4.00	1.51	9.02	9.05
5720MHz Straddle 5.47-5.725GHz	Pass	7.95	4.51	1.88	3.98	1.33	8.89	9.05
5720MHz Straddle 5.725-5.85GHz	Pass	7.95	2.48	0.36	2.07	-0.65	6.94	28.05
5745MHz	Pass	7.95	9.05	7.13	9.03	6.30	13.62	28.05
5785MHz	Pass	7.95	9.23	7.27	9.04	6.74	13.66	28.05
5825MHz	Pass	7.95	9.44	6.71	9.35	7.15	13.54	28.05
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5510MHz	Pass	7.95	0.24	-1.00	0.33	-0.66	5.66	9.05
5550MHz	Pass	7.95	0.49	0.02	0.99	-0.47	5.88	9.05
5670MHz	Pass	7.95	1.37	-0.50	1.90	-0.52	6.58	9.05
5710MHz Straddle 5.47-5.725GHz	Pass	7.95	1.92	-0.25	2.40	-0.30	6.90	9.05
5710MHz Straddle 5.725-5.85GHz	Pass	7.95	-0.32	-2.20	-0.01	-2.72	4.54	28.05
5755MHz	Pass	7.95	6.65	4.77	6.58	3.56	10.99	28.05
5795MHz	Pass	7.95	6.97	4.59	6.35	4.03	11.02	28.05
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5530MHz	Pass	7.95	-2.83	-2.70	-2.02	-2.97	3.14	9.05

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
5610MHz	Pass	7.95	-1.80	-2.74	-1.71	-2.29	3.31	9.05
5690MHz Straddle 5.47-5.725GHz	Pass	7.95	-1.48	-3.19	-1.05	-3.20	3.74	9.05
5690MHz Straddle 5.725-5.85GHz	Pass	7.95	-4.29	-6.48	-4.14	-6.08	0.65	28.05
5775MHz	Pass	7.95	2.81	0.93	3.01	0.31	7.53	28.05
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-
5570MHz	Pass	7.95	-4.72	-5.04	-5.07	-4.86	0.63	9.05

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

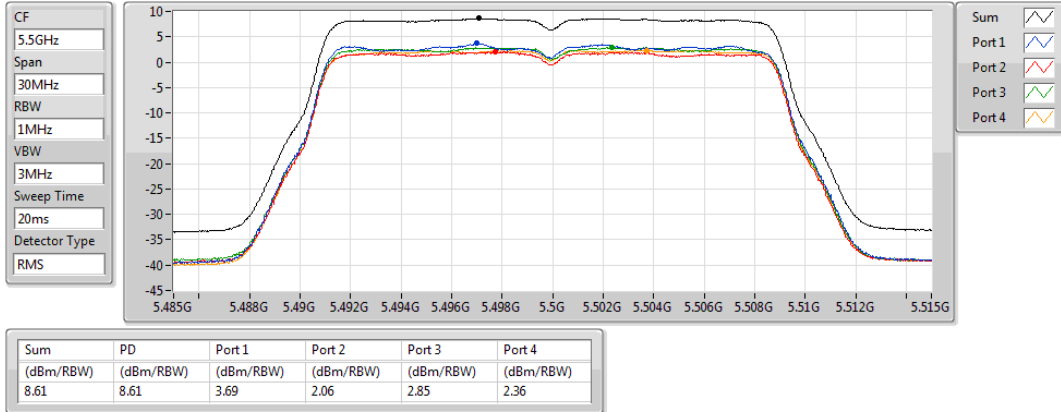
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

5500MHz

01/02/2020

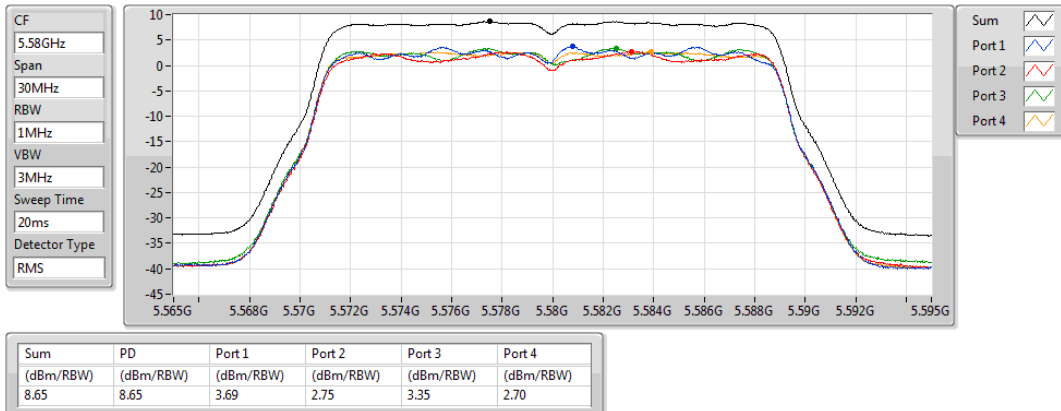


802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

5580MHz

01/02/2020

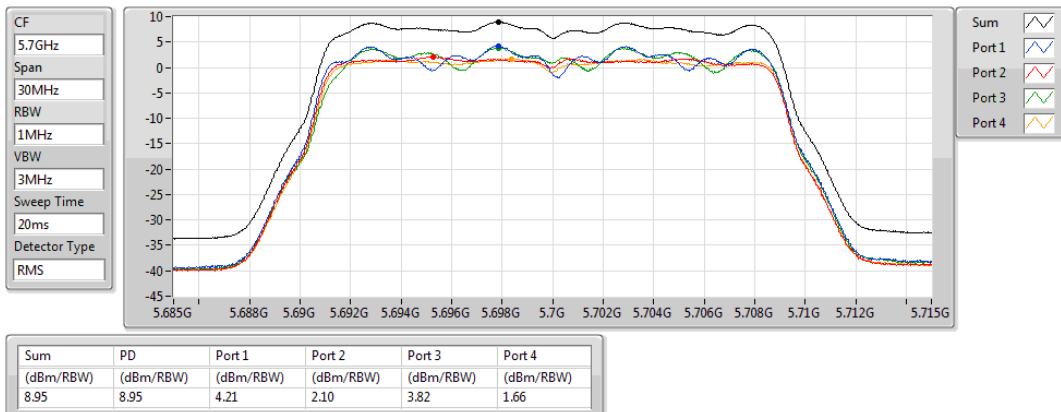


802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

5700MHz

01/02/2020

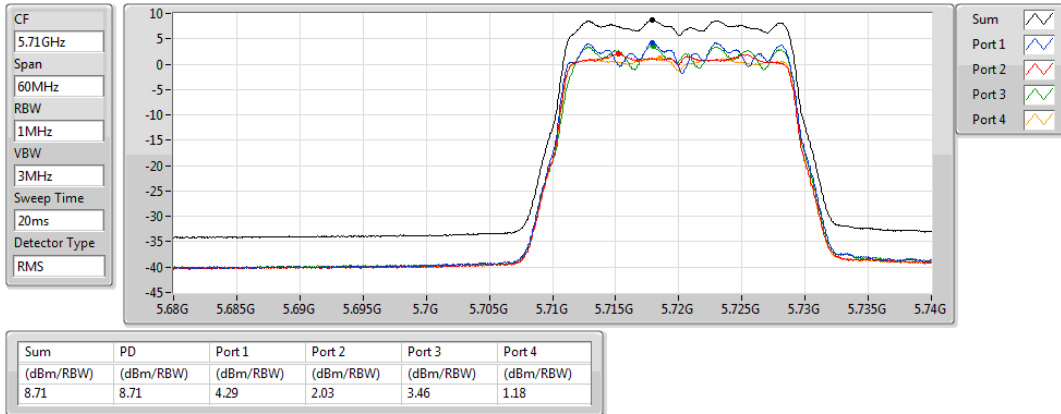


802.11ac VHT20-BF_Nss1,(MCS0)_4TX

5720MHz Straddle 5.47-5.725GHz

PSD

01/02/2020

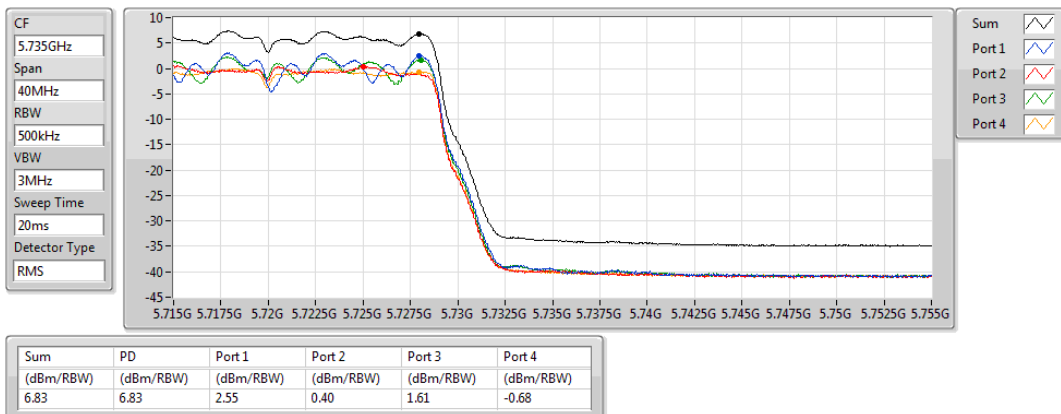


802.11ac VHT20-BF_Nss1,(MCS0)_4TX

5720MHz Straddle 5.725-5.85GHz

PSD

01/02/2020

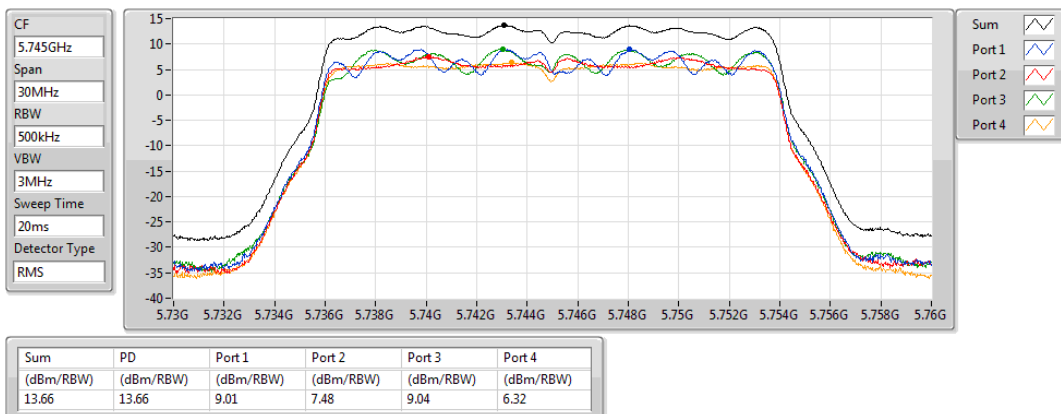


802.11ac VHT20-BF_Nss1,(MCS0)_4TX

5745MHz

PSD

01/02/2020

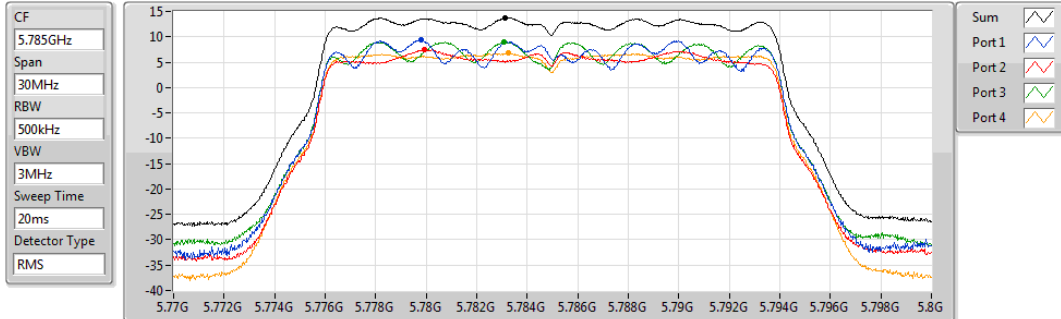


802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

5785MHz

01/02/2020



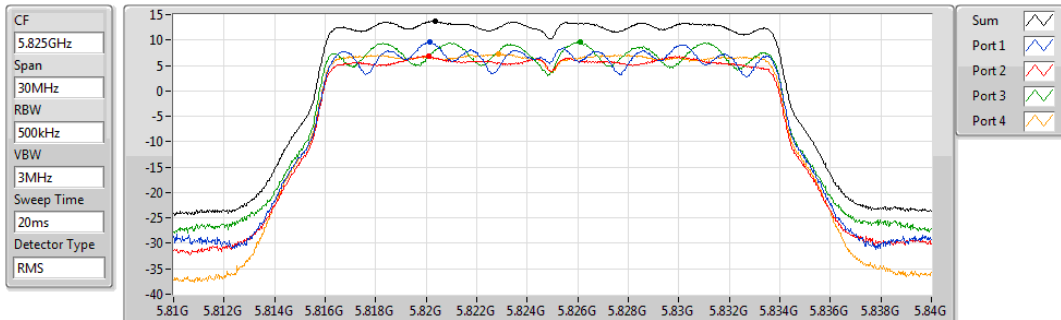
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.73	13.73	9.43	7.43	8.96	6.73

802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

5825MHz

01/02/2020



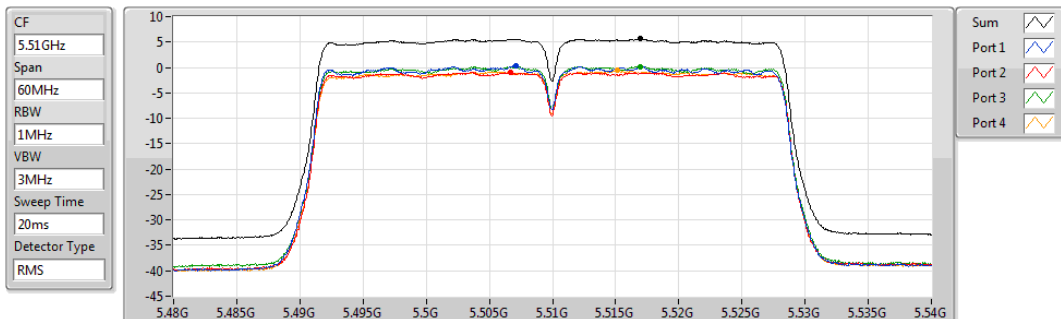
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
13.68	13.68	9.57	6.85	9.59	7.23

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

5510MHz

01/02/2020



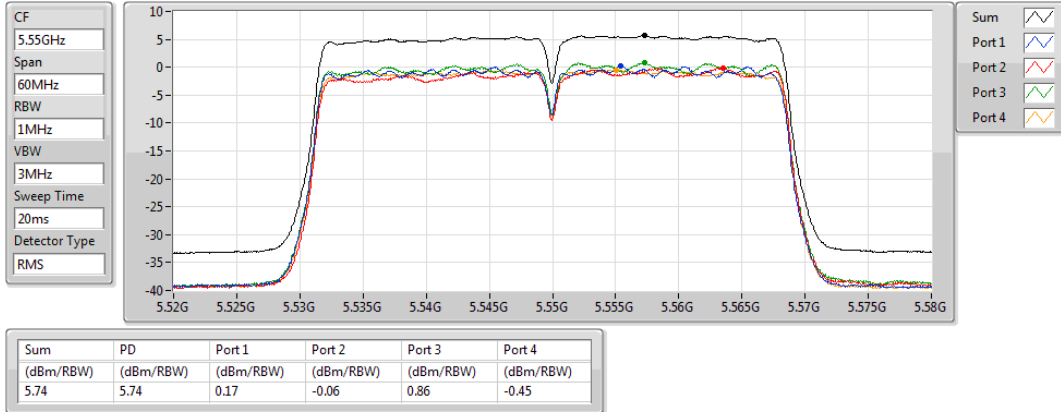
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.60	5.60	0.32	-0.98	0.20	-0.62

802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

5550MHz

01/02/2020

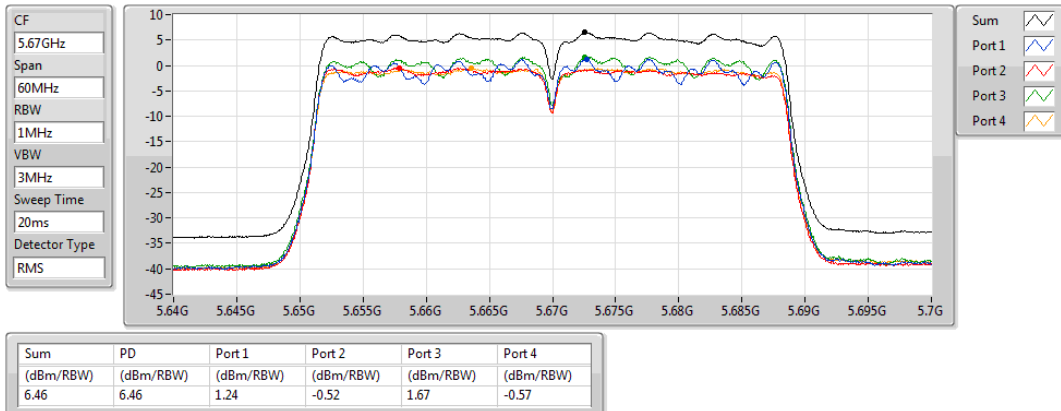


802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

5670MHz

01/02/2020

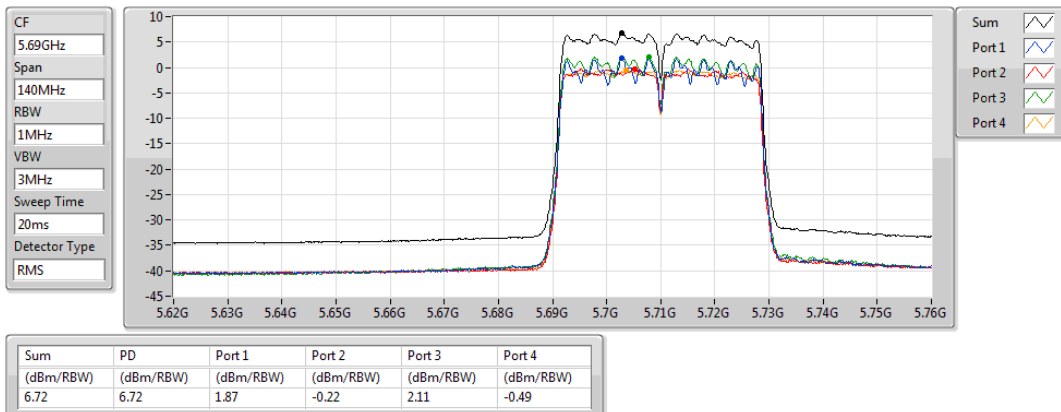


802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

5710MHz Straddle 5.47-5.725GHz

01/02/2020

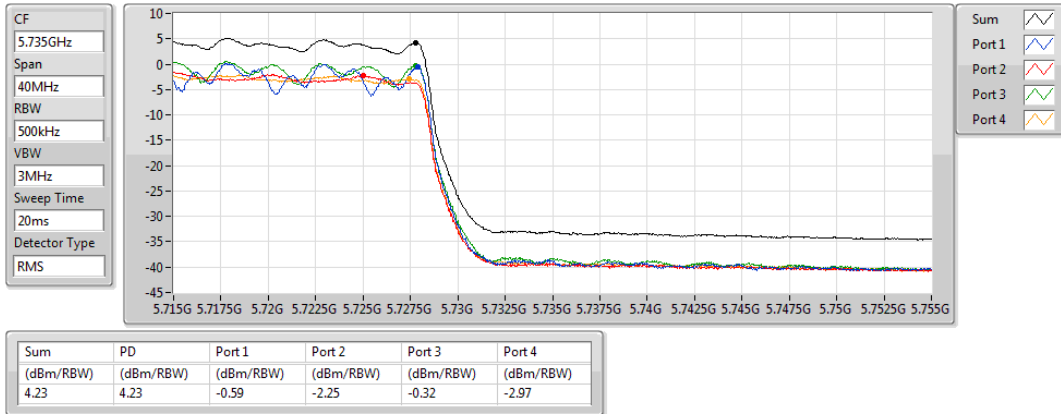


802.11ac VHT40-BF_Nss1,(MCS0)_4TX

5710MHz Straddle 5.725-5.85GHz

PSD

01/02/2020

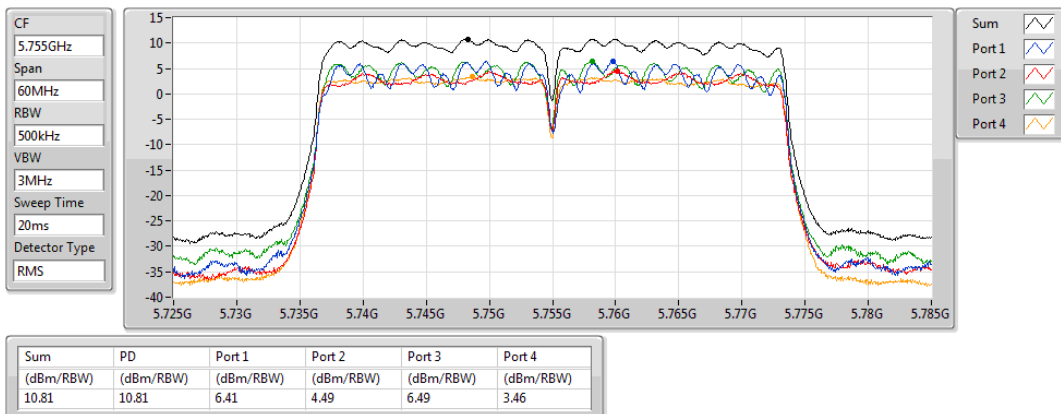


802.11ac VHT40-BF_Nss1,(MCS0)_4TX

5755MHz

PSD

01/02/2020

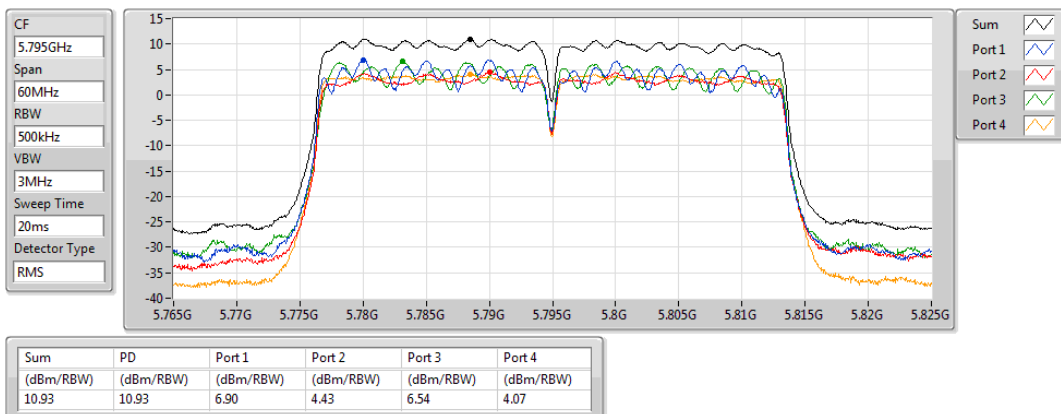


802.11ac VHT40-BF_Nss1,(MCS0)_4TX

5795MHz

PSD

01/02/2020

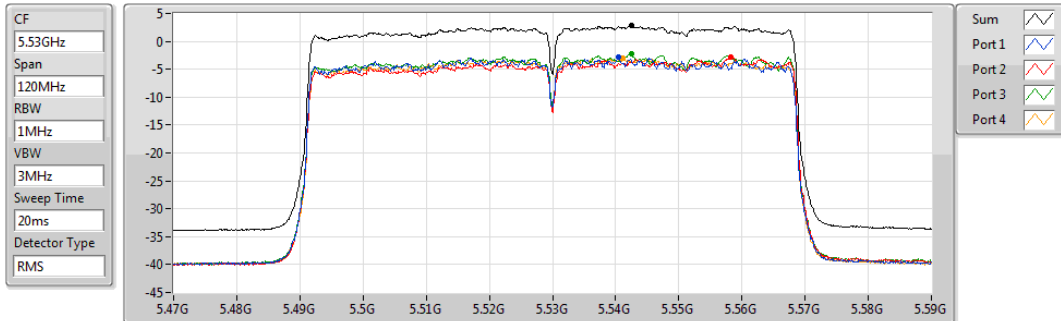


802.11ac VHT80-BF_Nss1,(MCS0)_4TX

PSD

5530MHz

01/02/2020



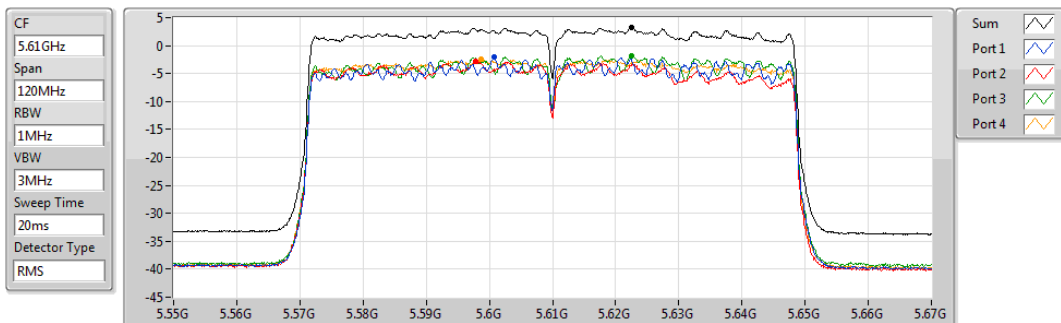
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
2.79	2.79	-2.86	-2.76	-2.32	-3.02

802.11ac VHT80-BF_Nss1,(MCS0)_4TX

PSD

5610MHz

01/02/2020



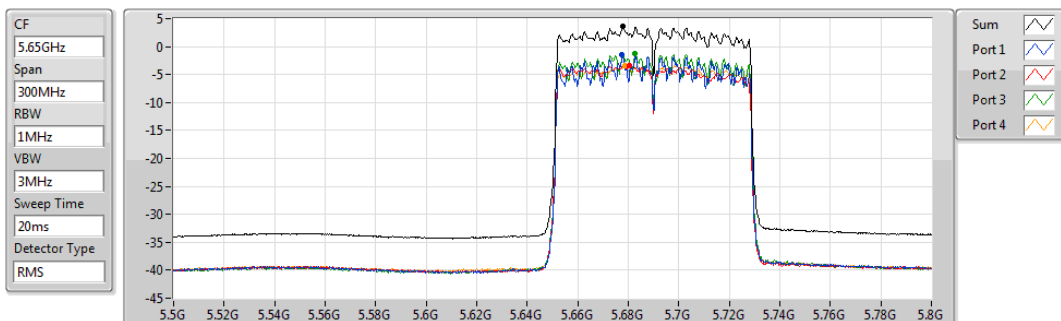
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
3.32	3.32	-2.07	-2.83	-1.83	-2.46

802.11ac VHT80-BF_Nss1,(MCS0)_4TX

PSD

5690MHz Straddle 5.47-5.725GHz

01/02/2020



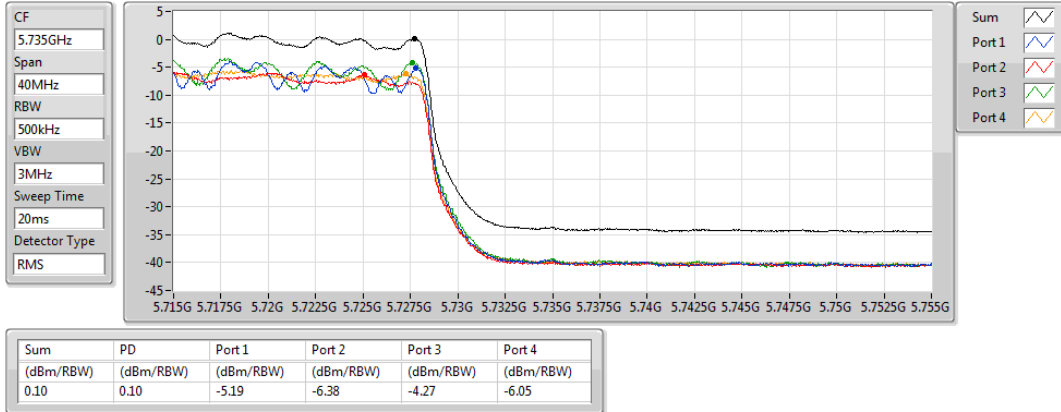
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
3.55	3.55	-1.49	-3.47	-1.31	-3.43

802.11ac VHT80-BF_Nss1,(MCS0)_4TX

PSD

5690MHz Straddle 5.725-5.85GHz

01/02/2020

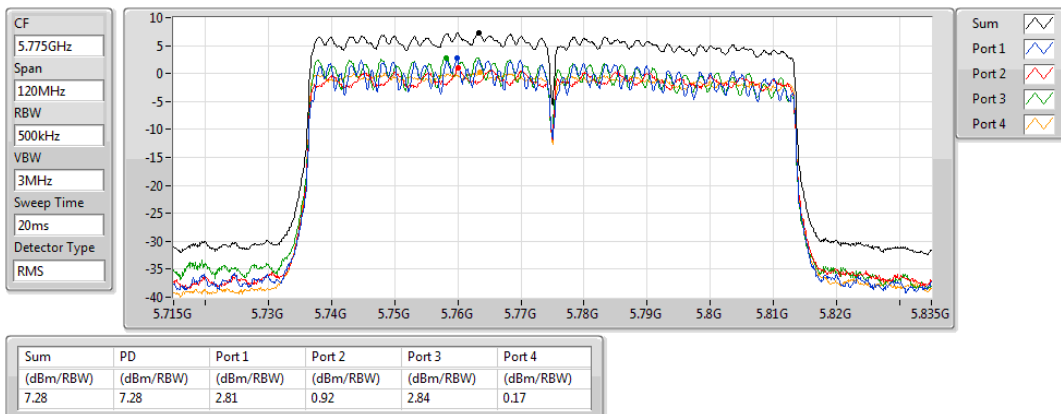


802.11ac VHT80-BF_Nss1,(MCS0)_4TX

PSD

5775MHz

03/02/2020

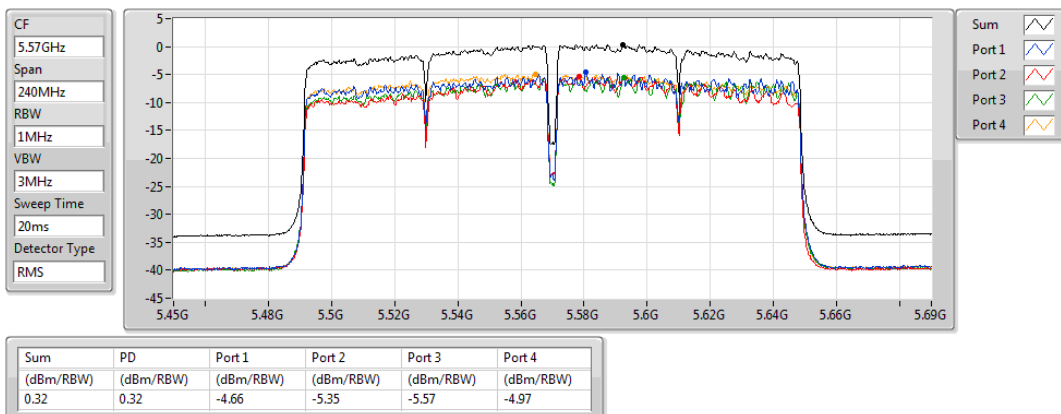


802.11ac VHT160-BF_Nss1,(MCS0)_4TX

PSD

5570MHz

01/02/2020

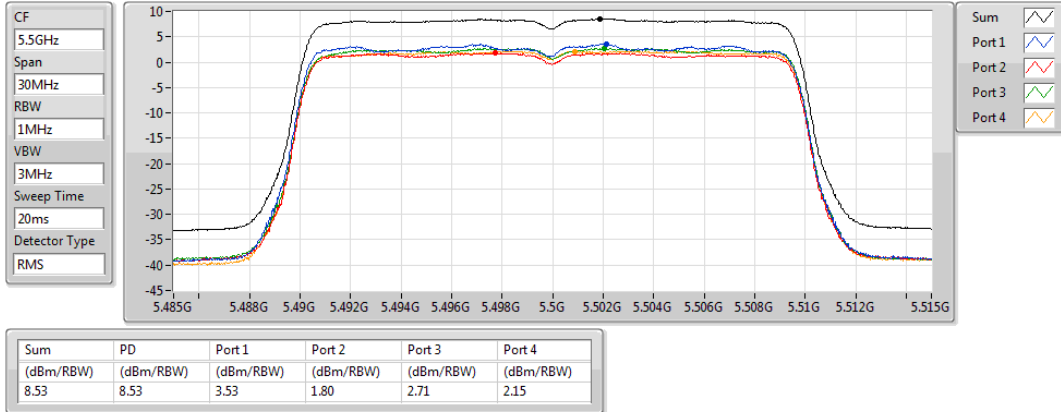


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5500MHz

01/02/2020

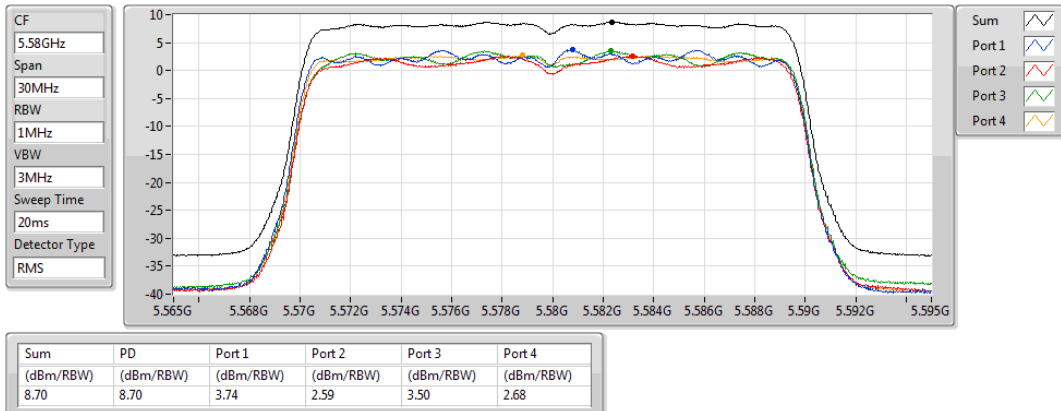


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5580MHz

01/02/2020



802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5700MHz

01/02/2020

