



FCC RADIO TEST REPORT

FCC ID : UDX-60093010
Equipment : 4x4 Wi-Fi 6 Access Point with External Antennas
Brand Name : CISCO
Model Name : MR46E-HW
Applicant : Cisco Systems
170 West Tasman Drive, San Jose, CA 95134 USA
Manufacturer : Cisco Systems
170 West Tasman Drive, San Jose, CA 95134 USA
Standard : 47 CFR FCC Part 15.407

The product was received on Jun. 20, 2019, and testing was started from Jul. 03, 2019 and completed on Sep. 23, 2019. 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 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
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Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 Information.....	5
1.2 Applicable Standards	12
1.3 Testing Location Information	12
1.4 Measurement Uncertainty	12
2 Test Configuration of EUT	13
2.1 Test Channel Mode	13
2.2 The Worst Case Measurement Configuration.....	33
2.3 EUT Operation during Test	37
2.4 Accessories	37
2.5 Support Equipment.....	38
2.6 Test Setup Diagram	39
3 Transmitter Test Result	43
3.1 AC Power-line Conducted Emissions	43
3.2 Emission Bandwidth	45
3.3 Maximum Conducted Output Power	46
3.4 Peak Power Spectral Density.....	48
3.5 Unwanted Emissions.....	51
4 Test Equipment and Calibration Data	55
Appendix A. Test Results of AC Power-line Conducted Emissions	
Appendix B. Test Results of Emission Bandwidth	
Appendix C. Test Results of Maximum Conducted Output Power	
Appendix D. Test Results of Peak Power Spectral Density	
Appendix E. Test Results of Unwanted Emissions	
Appendix F. Test Results of Radiated Emission Co-location	
Appendix G. Test Photos	
Photographs of EUT v01	



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	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.407(a)	Emission Bandwidth	PASS	-
3.3	15.407(a)	Maximum Conducted Output Power	PASS	-
3.4	15.407(a)	Peak Power Spectral Density	PASS	-
3.5	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: Wendy Pan



1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	a, n (HT20), ac (VHT20), ax (HEW20)	5180-5240	36-48 [4]
5725-5850		5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40), ax (HEW40)	5190-5230	38-46 [2]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80), ax (HEW80)	5210	42 [1]
5725-5850		5775	155 [1]

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11a	20	1, 2, 4TX
5.15-5.25GHz	802.11n HT20	20	1, 2, 4TX
5.15-5.25GHz	802.11n HT20-BF	20	1, 2, 4TX
5.15-5.25GHz	802.11ac VHT20	20	1, 2, 4TX
5.15-5.25GHz	802.11ac VHT20-BF	20	1, 2, 4TX
5.15-5.25GHz	802.11ax HEW20	20	1, 2, 4TX
5.15-5.25GHz	802.11ax HEW20-BF	20	1, 2, 4TX
5.15-5.25GHz	802.11n HT40	40	1, 2, 4TX
5.15-5.25GHz	802.11n HT40-BF	40	1, 2, 4TX
5.15-5.25GHz	802.11ac VHT40	40	1, 2, 4TX
5.15-5.25GHz	802.11ac VHT40-BF	40	1, 2, 4TX
5.15-5.25GHz	802.11ax HEW40	40	1, 2, 4TX
5.15-5.25GHz	802.11ax HEW40-BF	40	1, 2, 4TX
5.15-5.25GHz	802.11ac VHT80	80	1, 2, 4TX
5.15-5.25GHz	802.11ac VHT80-BF	80	1, 2, 4TX
5.15-5.25GHz	802.11ax HEW80	80	1, 2, 4TX
5.15-5.25GHz	802.11ax HEW80-BF	80	1, 2, 4TX
5.725-5.85GHz	802.11a	20	1, 2, 4TX
5.725-5.85GHz	802.11n HT20	20	1, 2, 4TX
5.725-5.85GHz	802.11n HT20-BF	20	1, 2, 4TX
5.725-5.85GHz	802.11ac VHT20	20	1, 2, 4TX



Band	Mode	BWch (MHz)	Nant
5.725-5.85GHz	802.11ac VHT20-BF	20	1, 2, 4TX
5.725-5.85GHz	802.11ax HEW20	20	1, 2, 4TX
5.725-5.85GHz	802.11ax HEW20-BF	20	1, 2, 4TX
5.725-5.85GHz	802.11n HT40	40	1, 2, 4TX
5.725-5.85GHz	802.11n HT40-BF	40	1, 2, 4TX
5.725-5.85GHz	802.11ac VHT40	40	1, 2, 4TX
5.725-5.85GHz	802.11ac VHT40-BF	40	1, 2, 4TX
5.725-5.85GHz	802.11ax HEW40	40	1, 2, 4TX
5.725-5.85GHz	802.11ax HEW40-BF	40	1, 2, 4TX
5.725-5.85GHz	802.11ac VHT80	80	1, 2, 4TX
5.725-5.85GHz	802.11ac VHT80-BF	80	1, 2, 4TX
5.725-5.85GHz	802.11ax HEW80	80	1, 2, 4TX
5.725-5.85GHz	802.11ax HEW80-BF	80	1, 2, 4TX

Note:

- ♦ 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40, VHT80 and VHT160 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ HEW20, HEW40, HEW80 and HEW160 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- ♦ 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	Brand	Official Model Number	Antenna Type	Connector	Gain (dBi)
1	Cisco	MA-ANT-3-A6	Dipole antenna	RP-TNC	Note 1
2	Cisco	MA-ANT-3-B6	Dipole antenna	RP-TNC	
3	Cisco	MA-ANT-3-C6	Omni antenna	RP-TNC	
4	Cisco	MA-ANT-3-D6	Omni-directional antenna	RP-TNC	
5	Cisco	MA-ANT-3-E6	Wide patch antenna	RP-TNC	
6	Cisco	MA-ANT-3-F6	Narrow patch antenna	RP-TNC	

Note1:

Radio 1 (2.4GHz)												
Set	Antenna Gain (dBi)				Cable Loss (dB)				True Gain (dBi)			
	Port 1	Port 2	Port 3	Port 4	Port 1	Port 2	Port 3	Port 4	Port 1	Port 2	Port 3	Port 4
1	3.80	3.80	3.80	3.80	1.01	0.41	0.41	1.00	2.79	3.39	3.39	2.80
2	3.00	3.00	3.00	3.00	1.01	0.41	0.41	1.00	1.99	2.59	2.59	2.00
3	4.90	4.90	4.90	4.90	1.01	0.41	0.41	1.00	3.89	4.49	4.49	3.90
4	2.90	2.90	2.90	2.90	1.01	0.41	0.41	1.00	1.89	2.49	2.49	1.90
5	7.00	7.00	7.00	7.00	1.01	0.41	0.41	1.00	5.99	6.59	6.59	6.00
6	11.20	11.20	11.20	11.20	1.01	0.41	0.41	1.00	10.19	10.79	10.79	10.20

Radio 2 (5GHz)												
Set	Antenna Gain (dBi)				Cable Loss (dB)				True Gain (dBi)			
	Port 1	Port 2	Port 3	Port 4	Port 1	Port 2	Port 3	Port 4	Port 1	Port 2	Port 3	Port 4
1	5.5	5.5	5.5	5.5	1.53	0.66	0.61	1.54	3.97	4.84	4.89	3.96
2	5.7	5.7	5.7	5.7	1.53	0.66	0.61	1.54	4.17	5.04	5.09	4.16
3	4.9	4.9	4.9	4.9	1.53	0.66	0.61	1.54	3.37	4.24	4.29	3.36
4	3.7	3.7	3.7	3.7	1.53	0.66	0.61	1.54	2.17	3.04	3.09	2.16
5	6.3	6.3	6.3	6.3	1.53	0.66	0.61	1.54	4.77	5.64	5.69	4.76
6	10.8	10.8	10.8	10.8	1.53	0.66	0.61	1.54	9.27	10.14	10.19	9.26



Radio 3 (2.4GHz + 5GHz)						
Set	Antenna Gain (dBi)		Cable Loss (dB)		True Gain (dBi)	
	Port 1		Port 1		Port 1	
	2.4GHz	5GHz	2.4GHz	5GHz	2.4GHz	5GHz
1	3.80	5.50	0.68	1.09	3.12	4.41
2	3.00	5.70	0.68	1.09	2.32	4.61
3	4.90	4.90	0.68	1.09	4.22	3.81
4	2.90	3.70	0.68	1.09	2.22	2.61
5	7.00	6.30	0.68	1.09	6.32	5.21
6	11.20	10.80	0.68	1.09	10.52	9.71

Radio 4 (Bluetooth)			
Set	Antenna Gain (dBi)	Cable Loss (dB)	True Gain (dBi)
	Port 1	Port 1	Port 1
1	3.80	0.56	3.24
2	3.00	0.56	2.44
3	4.90	0.56	4.34
4	2.90	0.56	2.34
5	7.00	0.56	6.44
6	11.20	0.56	10.64

2TX Correlated Composite Gain(dBi) for Radio 1 and Radio 2						
Set	Antenn Gain (dBi)		Cable Loss (dB)		True Gain (dBi)	
	2.4GHz	5GHz	2.4GHz	5GHz	2.4GHz	5GHz
1	4.00	3.30	0.41	0.66	3.59	2.64
3	2.97	4.43	0.41	0.66	2.56	3.77
4	5.29	4.85	0.41	0.66	4.88	4.19
5	11.03	10.04	0.41	0.66	10.62	9.38
6	14.28	14.08	0.41	0.66	13.87	13.42
Set	2TX Directional gain (dBi) for Radio 2					
2	8.05					

4TX Correlated Composite Gain(dBi) for Radio 1 and Radio 2						
Set	Antenn Gain (dBi)		Cable Loss (dB)		True Gain (dBi)	
	2.4GHz	5GHz	2.4GHz	5GHz	2.4GHz	5GHz
1	7.80	7.90	0.41	0.61	7.39	7.29
3	7.50	8.30	0.41	0.61	7.09	7.69
4	7.24	7.94	0.41	0.61	6.83	7.33
5	13.59	12.31	0.41	0.61	13.18	11.70
6	17.17	17.06	0.41	0.61	16.76	16.45
Set	4TX Directional gain (dBi) for Radio 2					
2	11.11					

Note2: The above information was declared by manufacturer.

Note3: The EUT has six set antennas.

The EUT has four radios, Radio 1 supports WLAN 2.4GHz (802.11b/g/n/ax mode), Radio 2 supports WLAN 5GHz (802.11a/n/ac/ax mode), Radio 3 supports WLAN 2.4GHz + 5GHz (scanning radio) and Radio 4 supports Bluetooth function.

Set 1 and Set 2 antennas are the same type antennas, only the higher gain antennas Set 1 for 2.4GHz, Set 2 for 5GHz were tested.

<For Radio 1 (2.4GHz Functions) and Radio 2 (5GHz Functions)>

For 1TX/4RX:

Only Port 1 can be use as transmitting antenna

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

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

For 2TX/4RX:

Only Port 1 and Port 2 can be use as transmitting antenna

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

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

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.

<For Radio 3 / 2.4GHz + 5GHz Functions>

Only Port 1 can be used as receiving antennas.

<For Radio 4 / Bluetooth Functions>

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

1.1.3 Mode Test Duty Cycle

For Set 2, 5 and 6 antennas:

For 1T1S Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.925	0.34	1.435m	1k
802.11ax HEW20	0.949	0.23	5.453m	300
802.11ax HEW40	0.958	0.19	5.456m	300
802.11ax HEW80	0.959	0.18	5.456m	300

For 2T1S Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.925	0.34	1.435m	1k
802.11ax HEW20	0.957	0.19	5.456m	300
802.11ax HEW20-BF	0.973	0.12	1.766m	1k
802.11ax HEW40	0.959	0.18	5.456m	300
802.11ax HEW40-BF	0.978	0.1	1.766m	1k
802.11ax HEW80	0.959	0.18	5.456m	300
802.11ax HEW80-BF	0.922	0.35	1.69m	1k

For 4T1S Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.925	0.34	1.435m	1k
802.11ax HEW20	0.95	0.22	5.455m	300
802.11ax HEW20-BF	0.859	0.66	1.768m	1k
802.11ax HEW40	0.961	0.17	5.455m	300
802.11ax HEW40-BF	0.925	0.34	1.81m	1k
802.11ax HEW80	0.954	0.2	5.453m	300
802.11ax HEW80-BF	0.921	0.36	1.693m	1k

For Set 3 and 4 antennas:

For 1T1S Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.925	0.34	1.435m	1k
802.11ax HEW20	0.951	0.22	5.455m	300
802.11ax HEW40	0.963	0.16	5.455m	300
802.11ax HEW80	0.95	0.22	5.455m	300

**For 2T1S Mode:**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.925	0.34	1.435m	1k
802.11ax HEW20	0.953	0.21	5.455m	300
802.11ax HEW20-BF	0.974	0.11	1.766m	1k
802.11ax HEW40	0.952	0.21	5.455m	300
802.11ax HEW40-BF	0.975	0.11	1.766m	1k
802.11ax HEW80	0.966	0.15	5.455m	300
802.11ax HEW80-BF	0.975	0.11	1.69m	1k

For 4T1S Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.924	0.34	1.435m	1k
802.11ax HEW20	0.95	0.22	5.455m	300
802.11ax HEW20-BF	0.979	0.09	1.766m	1k
802.11ax HEW40	0.949	0.23	5.455m	300
802.11ax HEW40-BF	0.956	0.2	1.765m	1k
802.11ax HEW80	0.95	0.22	5.455m	300
802.11ax HEW80-BF	0.963	0.16	1.69m	1k

Note:

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

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter or PoE			
Beamforming Function	☒	With beamforming	☐	Without beamforming
	For 802.11n/ax in 2.4GHz and 802.11n/ac/ax in 5GHz.			
Function	☐	Outdoor P2M	☒	Indoor P2M
	☐	Fixed P2P	☐	Client
Test Software Version	For Non-beamforming: QSPR (v5.0-00186) For beamforming: Telnet (6.1.7601)			

Note: The above information was declared by manufacturer.

1.1.5 Table for DDR information

EUT No.	Brand Name	Model No.	Main source	Second source
1	Hynix	H5AN8G6NAFR-UHC	V	-
2	Micron	MT40A512M16LY-075:E	-	V



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
- ♦ FCC KDB 414788 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	TH03-CB	Serway Li	24.6~25°C / 65~69%	Jul. 18, 2019 ~ Aug. 13, 2019
Radiated<1GHz	03CH05-CB	KJ Chang	22~24°C / 50~60%	Jul. 06, 2019 ~ Sep. 23, 2019
Radiated>1GHz	03CH01-CB	Eason Chen	27.1~28.3°C / 62~66%	Jul. 03, 2019 ~ Jul. 30, 2019
AC Conduction	CO01-CB	Peter Wu	23.3~24°C / 63~64%	Jul. 09, 2019 ~Jul. 10, 2019

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
Conducted Emission (150kHz ~ 30MHz)	2.0 dB	Confidence levels of 95%
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 Set 2 antennas / 1TX:

For Conducted measurement and Band Edge Emission test:

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_1TX	-
5180MHz	24.5
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5180MHz	24.5
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_1TX	-
5190MHz	22.5
5230MHz	26.5
5755MHz	26
5795MHz	26.5
802.11ax HEW80_Nss1,(MCS0)_1TX	-
5210MHz	22.5
5775MHz	24

**For Set 2 antennas / 2TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_2TX	-
5180MHz	23.5
5200MHz	23.5
5240MHz	23
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5180MHz	24.5
5200MHz	24
5240MHz	24
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_2TX	-
5190MHz	22.5
5230MHz	26
5755MHz	25.5
5795MHz	26
802.11ax HEW80_Nss1,(MCS0)_2TX	-
5210MHz	22
5775MHz	23
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
5180MHz	25
5200MHz	25
5240MHz	25
5745MHz	25
5785MHz	25
5825MHz	25
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
5190MHz	25
5230MHz	25
5755MHz	25
5795MHz	25
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-
5210MHz	25
5775MHz	25

**For Set 2 antennas / 4TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_4TX	-
5180MHz	16.5
5200MHz	16.5
5240MHz	16.5
5745MHz	23
5785MHz	23
5825MHz	23
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5180MHz	17.5
5200MHz	17.5
5240MHz	17.5
5745MHz	23
5785MHz	23
5825MHz	23
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5190MHz	20.5
5230MHz	20.5
5755MHz	23
5795MHz	23
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5210MHz	20
5775MHz	21.5
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5180MHz	23
5200MHz	23
5240MHz	23
5745MHz	24
5785MHz	24
5825MHz	24
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5190MHz	23
5230MHz	23
5755MHz	24
5795MHz	23
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5210MHz	23
5775MHz	24

**For Radiated Emission:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_4TX	-
5180MHz	27
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5180MHz	27
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5190MHz	27
5230MHz	27
5755MHz	27
5795MHz	27
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5210MHz	27
5775MHz	27
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5180MHz	28
5200MHz	28
5240MHz	28
5745MHz	28
5785MHz	28
5825MHz	28
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5190MHz	28
5230MHz	28
5755MHz	28
5795MHz	28
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5210MHz	28
5775MHz	28

**For Set 3 antennas / 1TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_1TX	-
5180MHz	25
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5180MHz	25.5
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_1TX	-
5190MHz	23
5230MHz	27
5755MHz	26.5
5795MHz	27
802.11ax HEW80_Nss1,(MCS0)_1TX	-
5210MHz	23
5775MHz	24.5

**For Set 3 antennas / 2TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_2TX	-
5180MHz	24.5
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5180MHz	23.5
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_2TX	-
5190MHz	22.5
5230MHz	26
5755MHz	26
5795MHz	26.5
802.11ax HEW80_Nss1,(MCS0)_2TX	-
5210MHz	21.5
5775MHz	24
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
5180MHz	25
5200MHz	25
5240MHz	25
5745MHz	25
5785MHz	25
5825MHz	25
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
5190MHz	25
5230MHz	25
5755MHz	25
5795MHz	25
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-
5210MHz	25
5775MHz	25

**For Set 3 antennas / 4TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_4TX	-
5180MHz	21.5
5200MHz	21.5
5240MHz	21.5
5745MHz	23.5
5785MHz	23.5
5825MHz	23.5
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5180MHz	22
5200MHz	22
5240MHz	22
5745MHz	23.5
5785MHz	23.5
5825MHz	23.5
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5190MHz	22.5
5230MHz	23
5755MHz	23
5795MHz	23
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5210MHz	21
5775MHz	22
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5180MHz	27
5200MHz	27
5240MHz	27
5745MHz	28
5785MHz	28
5825MHz	28
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5190MHz	27
5230MHz	27
5755MHz	27
5795MHz	27
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5210MHz	27
5775MHz	27

**For Radiated Emission:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_4TX	-
5180MHz	27
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5180MHz	27
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5190MHz	27
5230MHz	27
5755MHz	27
5795MHz	27
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5210MHz	27
5775MHz	27
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5180MHz	28
5200MHz	28
5240MHz	28
5745MHz	28
5785MHz	28
5825MHz	28
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5190MHz	28
5230MHz	28
5755MHz	28
5795MHz	28
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5210MHz	28
5775MHz	28

**For Set 4 antennas / 1TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_1TX	-
5180MHz	26
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5180MHz	26
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_1TX	-
5190MHz	23.5
5230MHz	27
5755MHz	26.5
5795MHz	27
802.11ax HEW80_Nss1,(MCS0)_1TX	-
5210MHz	23
5775MHz	24.5

**For Set 4 antennas / 2TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_2TX	-
5180MHz	24
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5180MHz	24
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_2TX	-
5190MHz	23
5230MHz	26
5755MHz	26
5795MHz	26.5
802.11ax HEW80_Nss1,(MCS0)_2TX	-
5210MHz	22
5775MHz	24
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
5180MHz	25
5200MHz	25
5240MHz	25
5745MHz	25
5785MHz	25
5825MHz	25
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
5190MHz	25
5230MHz	25
5755MHz	25
5795MHz	25
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-
5210MHz	24
5775MHz	25

**For Set 4 antennas / 4TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_4TX	-
5180MHz	22
5200MHz	22
5240MHz	22
5745MHz	23.5
5785MHz	23.5
5825MHz	23.5
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5180MHz	22.5
5200MHz	22.5
5240MHz	22.5
5745MHz	23.5
5785MHz	23.5
5825MHz	23.5
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5190MHz	21.5
5230MHz	23
5755MHz	23
5795MHz	23
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5210MHz	21.5
5775MHz	23
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5180MHz	27
5200MHz	27
5240MHz	27
5745MHz	28
5785MHz	28
5825MHz	28
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5190MHz	27
5230MHz	27
5755MHz	28
5795MHz	28
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5210MHz	27
5775MHz	28

**For Radiated Emission:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_4TX	-
5180MHz	27
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5180MHz	27
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5190MHz	27
5230MHz	27
5755MHz	27
5795MHz	27
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5210MHz	27
5775MHz	27
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5180MHz	28
5200MHz	28
5240MHz	28
5745MHz	28
5785MHz	28
5825MHz	28
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5190MHz	28
5230MHz	28
5755MHz	28
5795MHz	28
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5210MHz	28
5775MHz	28

**For Set 5 antennas / 1TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_1TX	-
5180MHz	24.5
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5180MHz	24.5
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_1TX	-
5190MHz	22.5
5230MHz	26.5
5755MHz	26
5795MHz	27
802.11ax HEW80_Nss1,(MCS0)_1TX	-
5210MHz	22
5775MHz	24

**For Set 5 antennas / 2TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_2TX	-
5180MHz	22.5
5200MHz	22.5
5240MHz	22
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5180MHz	23.5
5200MHz	23.5
5240MHz	23
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_2TX	-
5190MHz	22
5230MHz	26
5755MHz	26
5795MHz	26
802.11ax HEW80_Nss1,(MCS0)_2TX	-
5210MHz	21.5
5775MHz	23
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
5180MHz	25
5200MHz	25
5240MHz	25
5745MHz	25
5785MHz	25
5825MHz	25
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
5190MHz	25
5230MHz	25
5755MHz	25
5795MHz	25
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-
5210MHz	25
5775MHz	25

**For Set 5 antennas / 4TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_4TX	-
5180MHz	16
5200MHz	16
5240MHz	16
5745MHz	23
5785MHz	23
5825MHz	23
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5180MHz	17
5200MHz	17
5240MHz	17
5745MHz	23
5785MHz	23
5825MHz	23
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5190MHz	20
5230MHz	20
5755MHz	23
5795MHz	23
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5210MHz	19.5
5775MHz	21.5
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5180MHz	23
5200MHz	23
5240MHz	23
5745MHz	23
5785MHz	23
5825MHz	24
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5190MHz	23
5230MHz	23
5755MHz	23
5795MHz	23
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5210MHz	23
5775MHz	23

**For Radiated Emission:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_4TX	-
5180MHz	27
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5180MHz	27
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5190MHz	27
5230MHz	27
5755MHz	27
5795MHz	27
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5210MHz	27
5775MHz	27
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5180MHz	28
5200MHz	28
5240MHz	28
5745MHz	28
5785MHz	28
5825MHz	28
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5190MHz	28
5230MHz	28
5755MHz	28
5795MHz	28
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5210MHz	28
5775MHz	28

**For Set 6 antennas / 1TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_1TX	-
5180MHz	24
5200MHz	26
5240MHz	26
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5180MHz	24
5200MHz	25.5
5240MHz	25.5
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_1TX	-
5190MHz	22
5230MHz	25
5755MHz	25.5
5795MHz	26
802.11ax HEW80_Nss1,(MCS0)_1TX	-
5210MHz	22
5775MHz	24

**For Set 6 antennas / 2TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_2TX	-
5180MHz	18.5
5200MHz	18.5
5240MHz	18
5745MHz	22
5785MHz	22
5825MHz	21.5
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5180MHz	19.5
5200MHz	19
5240MHz	19
5745MHz	22
5785MHz	22
5825MHz	22
802.11ax HEW40_Nss1,(MCS0)_2TX	-
5190MHz	21
5230MHz	22
5755MHz	21.5
5795MHz	21.5
802.11ax HEW80_Nss1,(MCS0)_2TX	-
5210MHz	20
5775MHz	22
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
5180MHz	22
5200MHz	22
5240MHz	22
5745MHz	22
5785MHz	22
5825MHz	22
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
5190MHz	21
5230MHz	21
5755MHz	22
5795MHz	22
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-
5210MHz	21
5775MHz	21

**For Set 6 antennas / 4TX:****For Conducted measurement and Band Edge Emission test:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_4TX	-
5180MHz	12
5200MHz	12
5240MHz	12
5745MHz	18.5
5785MHz	18.5
5825MHz	18.5
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5180MHz	12.5
5200MHz	12.5
5240MHz	12.5
5745MHz	18.5
5785MHz	18.5
5825MHz	18.5
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5190MHz	15.5
5230MHz	15.5
5755MHz	18.5
5795MHz	18.5
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5210MHz	16.5
5775MHz	18.5
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5180MHz	18
5200MHz	18
5240MHz	18
5745MHz	18
5785MHz	18
5825MHz	19
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5190MHz	18
5230MHz	18
5755MHz	18
5795MHz	19
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5210MHz	18
5775MHz	18

**For Radiated Emission:**

Mode	PowerSetting
802.11a_Nss1,(6Mbps)_4TX	-
5180MHz	27
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5180MHz	27
5200MHz	27
5240MHz	27
5745MHz	27
5785MHz	27
5825MHz	27
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5190MHz	27
5230MHz	27
5755MHz	27
5795MHz	27
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5210MHz	27
5775MHz	27
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5180MHz	30
5200MHz	30
5240MHz	30
5745MHz	30
5785MHz	30
5825MHz	30
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5190MHz	30
5230MHz	30
5755MHz	30
5795MHz	30
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5210MHz	30
5775MHz	30



2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	Normal Link
1	EUT 1 (Radio 1 + Radio 2 + Radio 3: 2.4GHz + Radio 4) + Adapter 1 + Set 6
2	EUT 1 (Radio 1 + Radio 2 + Radio 3: 2.4GHz + Radio 4) + Adapter 2 + Set 6
For operating mode 1 is the worst case and it was record in this test report.	

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



The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link
1	EUT 1 in Z axis (Radio 1 + Radio 2 + Radio 3: 2.4GHz + Radio 4) + Adapter 1 + Set 6
2	EUT 1 in X axis (Radio 1 + Radio 2 + Radio 3: 2.4GHz + Radio 4) + Adapter 1 + Set 6
Mode 2 has been evaluated to be the worst case between Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	EUT 1 in X axis (Radio 1 + Radio 2 + Radio 3: 5GHz + Radio 4) + Adapter 1 + Set 6
Mode 2 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4~6 will follow this same test mode.	
4	EUT 1 in X axis (Radio 1 + Radio 2 + Radio 3: 2.4GHz + Radio 4) + Adapter 2 + Set 6
5	EUT 1 in X axis (Radio 1 + Radio 2 + Radio 3: 2.4GHz + Radio 4) + PoE 1 + Set 6
6	EUT 1 in X axis (Radio 1 + Radio 2 + Radio 3: 2.4GHz + Radio 4) + PoE 2 + Set 6
7	EUT 1 in X axis (Radio 1 + Radio 2 + Radio 3: 2.4GHz + Radio 4) + PoE 3 + Set 6
Mode 5 has been evaluated to be the worst case between Mode 1~7, thus measurement for Mode 8 will follow this same test mode.	
8	EUT 2 in X axis (Radio 1 + Radio 2 + Radio 3: 2.4GHz + Radio 4) + PoE 1 + Set 6
For operating mode 5 was the worst case and it was record in this test report.	



Operating Mode > 1GHz	CTX
The EUT 1 was performed at X axis and Z axis, the worst case was found as below. So the measurement will follow this same test configuration. The antenna 3, 4 were performed at Y axis and Z axis, the worst case were found as below. So the measurement will follow this same test configuration. Antenna Set 2: For Radiated Emission: EUT in Z axis For Band Edge Emission: EUT in Z axis Antenna Set 3: For Radiated Emission: EUT in X axis + Antenna in Y axis For Band Edge Emission: EUT in X axis + Antenna in Y axis Antenna Set 4: For Radiated Emission: EUT in Z axis + Antenna in Z axis For Band Edge Emission: EUT in Z axis + Antenna in Z axis Antenna Set 5: For Radiated Emission: EUT in Z axis For Band Edge Emission: EUT in Z axis Antenna Set 6: For Radiated Emission: EUT in Z axis For Band Edge Emission: EUT in Z axis	
Test Mode	Refer to note

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	EUT 1: Radio 1 (WLAN 2.4GHz) + Radio 2 (WLAN 5GHz)
Refer to Appendix F for Radiated Emission Co-location.	



The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	EUT 1: Radio 1 (WLAN 2.4GHz) + Radio 2 (WLAN 5GHz) + Radio 4 (Bluetooth)
Refer to Sporton Test Report No.: FA960317 for Co-location RF Exposure Evaluation.	

Note1: For AC power-line conducted emissions and Unwanted Emissions <1GHz, the higher gain antennas "Set 6 (Narrow patch antenna)" only was tested and recorded in the report.

Note2: The PoE below are for measurement only, would not be marketed.

PoE information as below:

Power	Brand	Model
PoE 1	CISCO	MA-INJ-5
PoE 2	CISCO	MA-INJ-4
PoE 3	PHIHONG	POEA30U-1ATE

Note3: Test Mode:

Test Mode								
Test Item	802.11a			802.11ax HEW20/40/80				
	1T1S	2T1S	4T1S	CDD 1T1S	CDD 2T1S	CDD 4T1S	TxBF 2T1S	TxBF 4T1S
Maximum Conducted Output Power	V	V	V	V	V	V	V	V
Emission Bandwidth	V	V	V	V	V	V	V	V
Peak Power Spectral Density	V	V	V	V	V	V	V	V
Radiated Emission	Cover by 4T1S Max setting	Cover by 4T1S Max setting	V	Cover by CDD 4T1S Max setting	Cover by CDD 4T1S Max setting	V	Cover by CDD 4T1S Max setting	V
Band Edge Emission	V	V	V	V	V	V	V	V

Note4: 802.11ax modulation and bandwidth are similar for 802.11n mode for 20MHz / 40MHz and 802.11ac mode for 20/40/80MHz, therefore investigated worst case to representative mode in test report.



2.3 EUT Operation during Test

For CTX Mode:

non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

beamforming mode:

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 (6.1.7601).
3. Executed "Lantest.exe" to link with the remote workstation to transmit and receive packet by RX Device and transmit duty cycle no less than 98%.

For Normal Link:

During the test, the EUT operation to normal function.

2.4 Accessories

Accessories				
Equipment Name	Brand Name	Model Name	P/N	Rating
Adapter 1	CISCO	KSAS0361200250HU	-	Input: 100-240V, 50/60Hz, 1.0A Output: 12V, 2.5A
Adapter 2	CISCO	MA-PWR-30W-US	640-39010-A	Input: 100-240V, 50-60Hz, 0.8A Max. Output: 12V, 2.5A 30W
Other				
Wall-mounted rack*1				



2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
B	2.5G LAN PC	DELL	T3400	N/A
C	2.4G NB	DELL	E6430	N/A
D	5G NB	DELL	E6430	N/A
E	Scan Radio (2.4G or 5G) NB	DELL	E6430	N/A

For Radiated (below 1GHz):

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	2.5G LAN PC	DELL	OPTIPLEX 380	N/A
B	2.4G NB	DELL	E4300	N/A
C	5G NB	DELL	E4300	N/A
D	Scan Radio (2.4G or 5G) NB	DELL	E4300	N/A
E	PoE 1	CISCO	MA-INJ-5	N/A

For Radiated (above 1GHz) and RF Conducted:

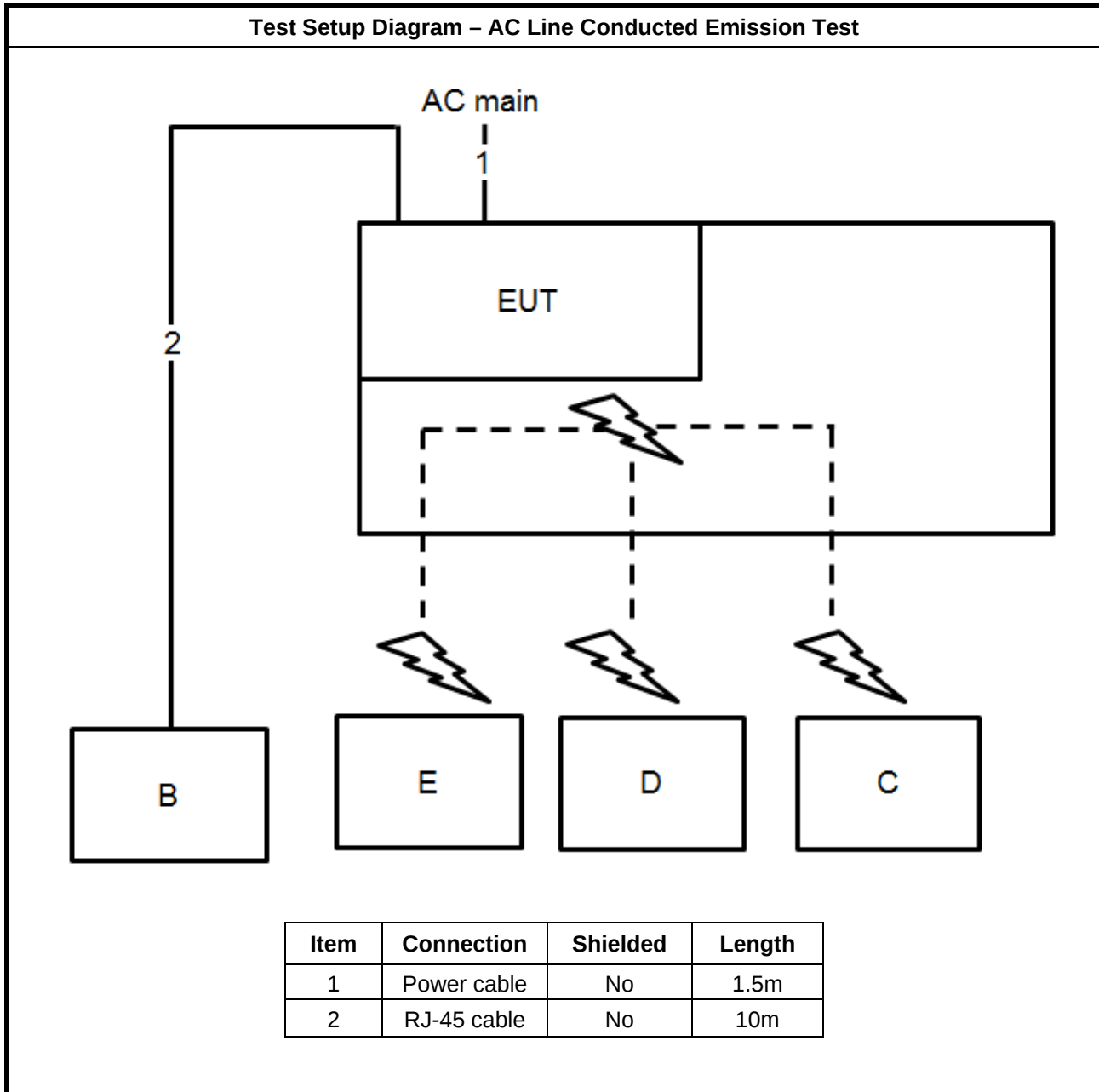
<For Non-beamforming mode>

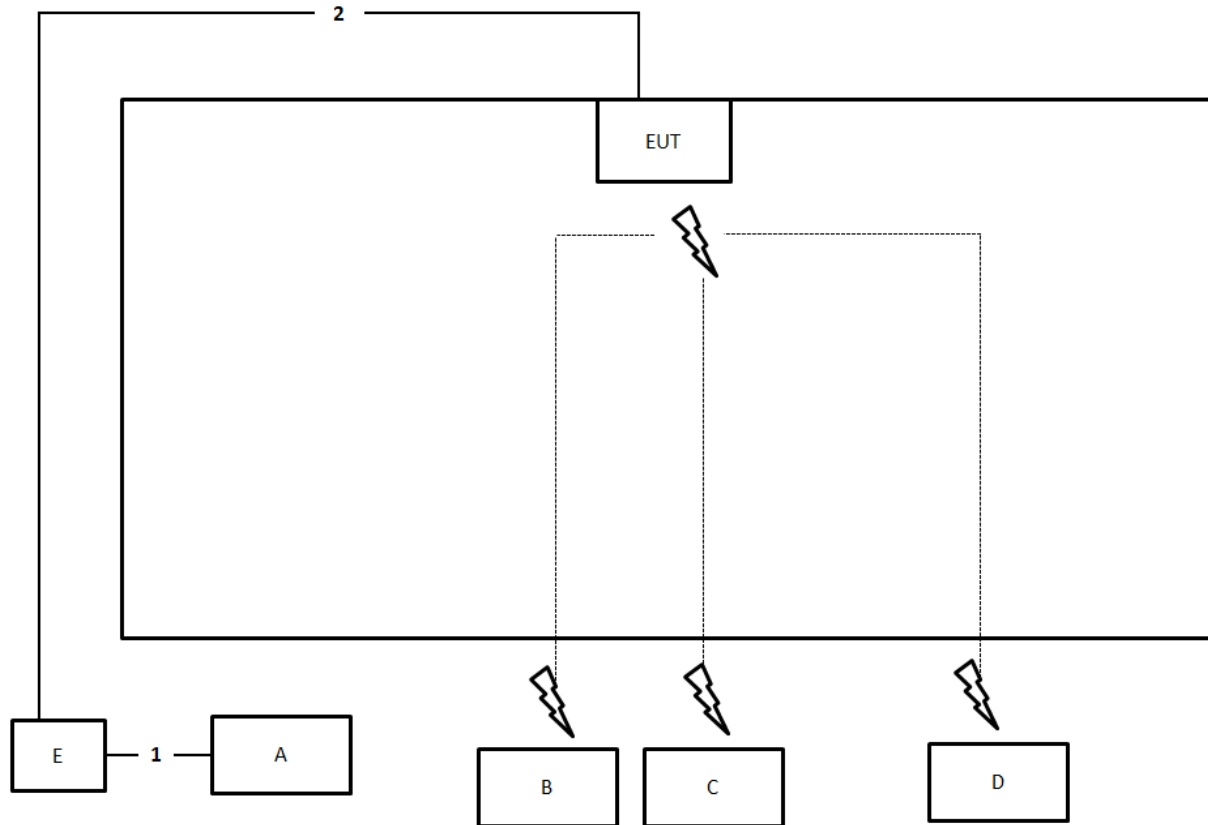
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A

<For Beamforming mode>

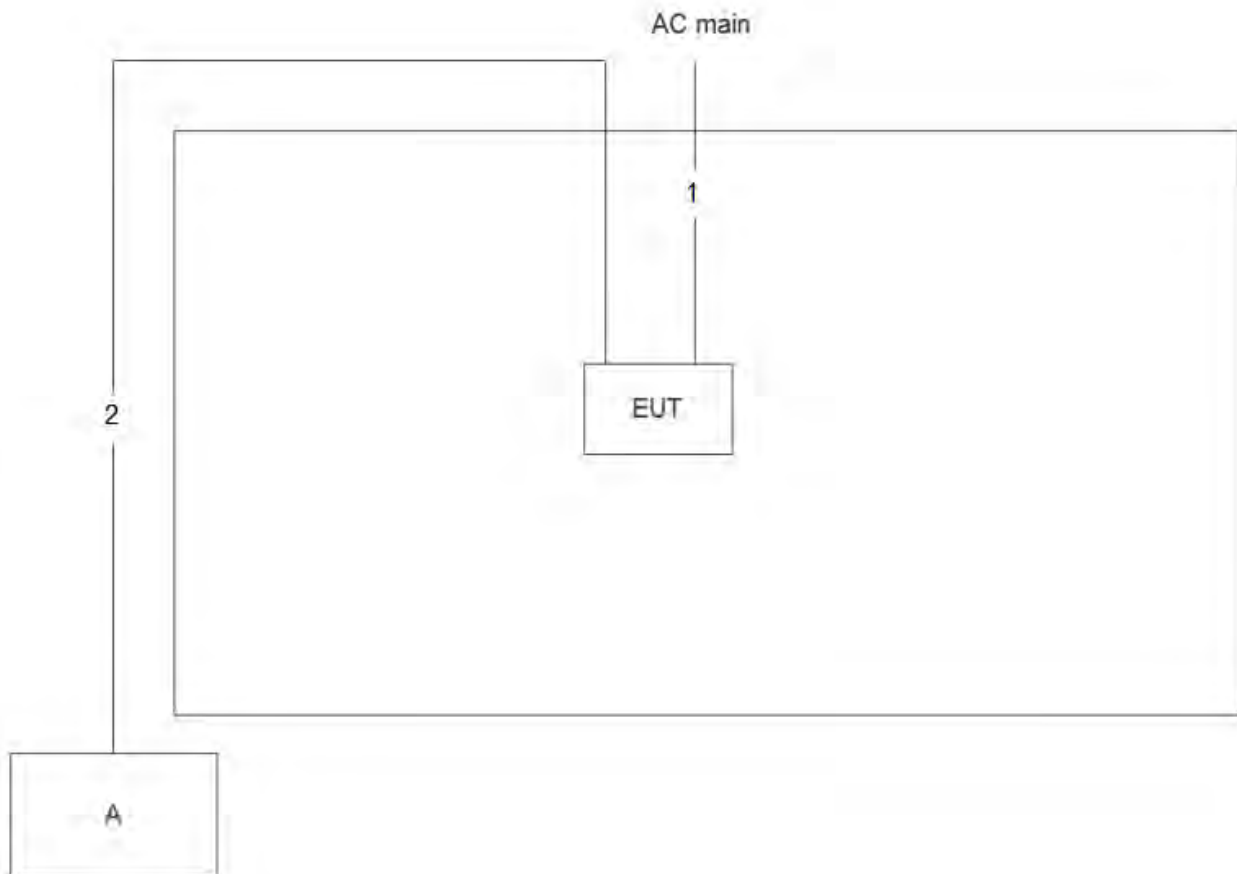
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	Notebook	DELL	E4300	N/A
C	RX Device	CISCO	MR46E-HW	UDX-60093010

2.6 Test Setup Diagram

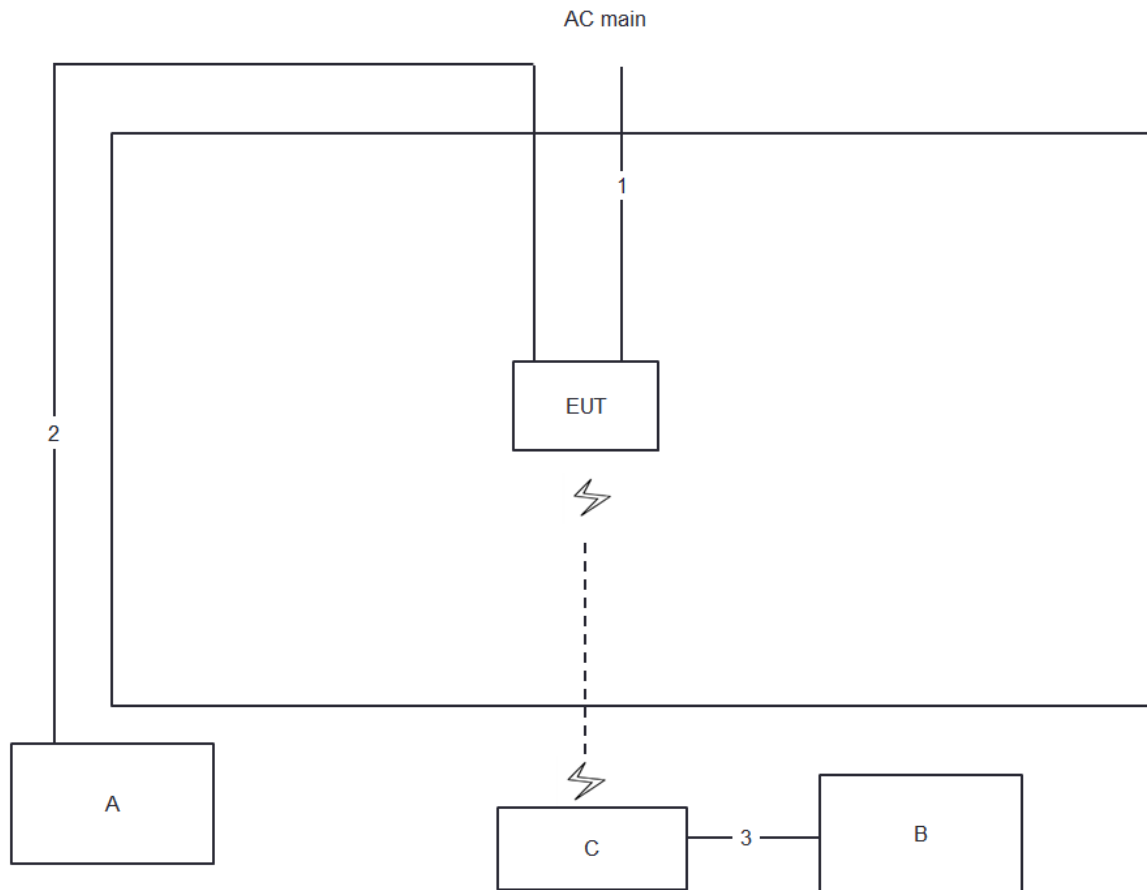


Test Setup Diagram - Radiated Test < 1GHz


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

Test Setup Diagram - Radiated Test > 1GHz / Non-beamforming mode


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

Test Setup Diagram - Radiated Test > 1GHz / Beamforming mode


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



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

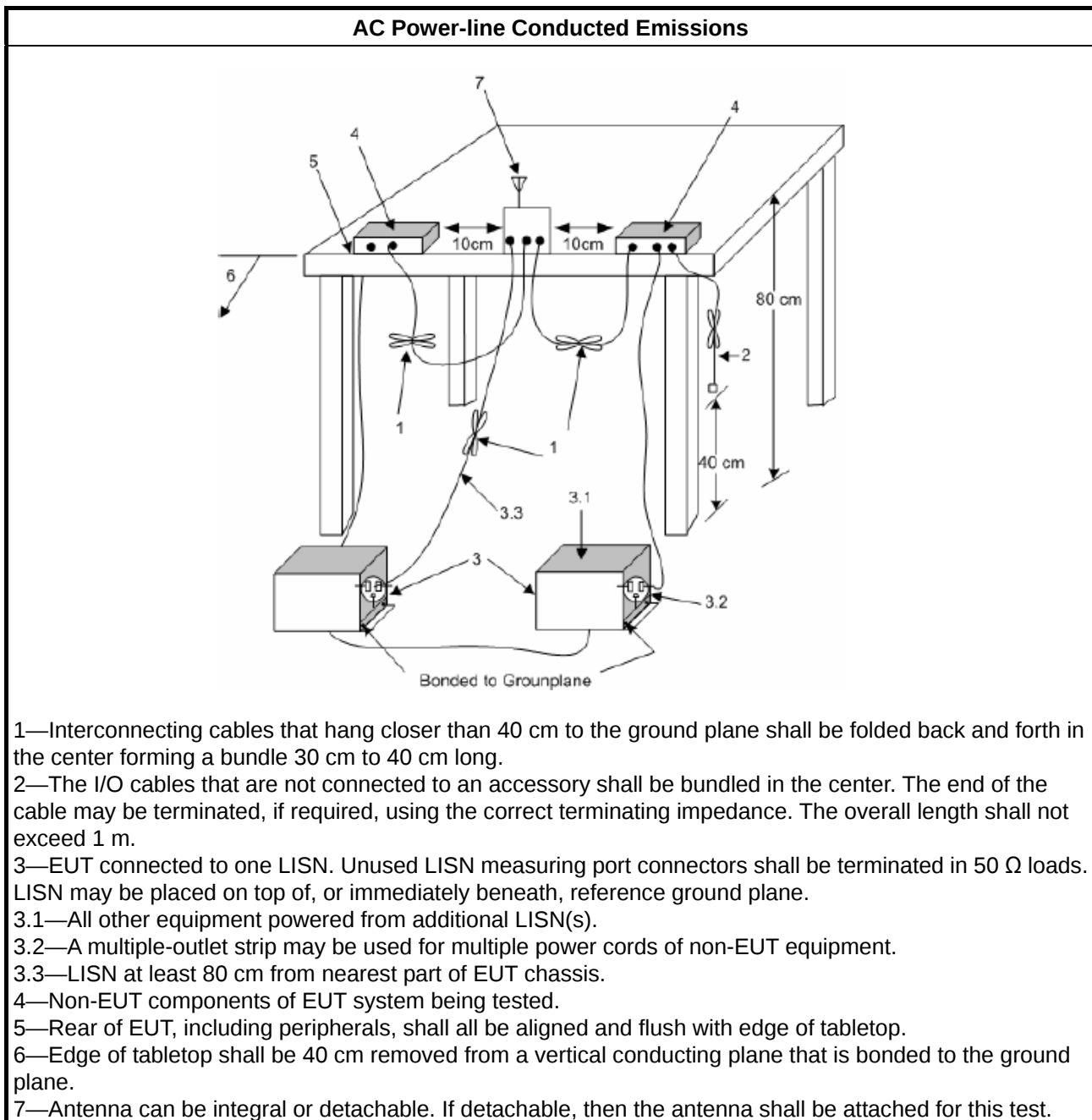
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



3.1.5 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
☒	For the 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 $11 \text{ dBm} + 10 \log B$, 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 $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in MHz.
☒	For the 5.725-5.85 GHz band, 6 dB emission bandwidth $\geq 500\text{kHz}$.
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 $\geq 500\text{kHz}$.

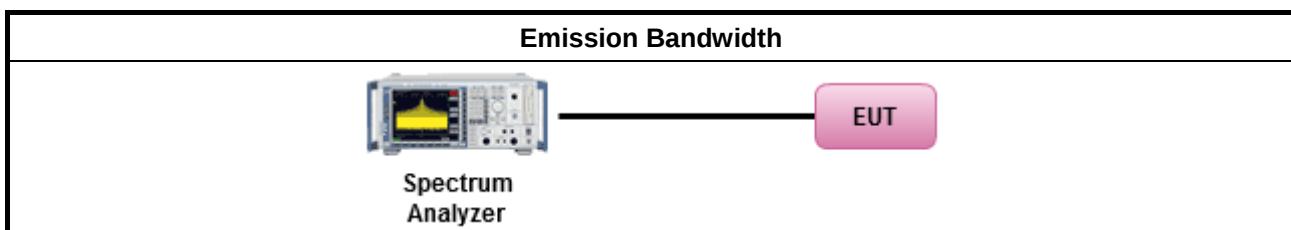
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
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.	

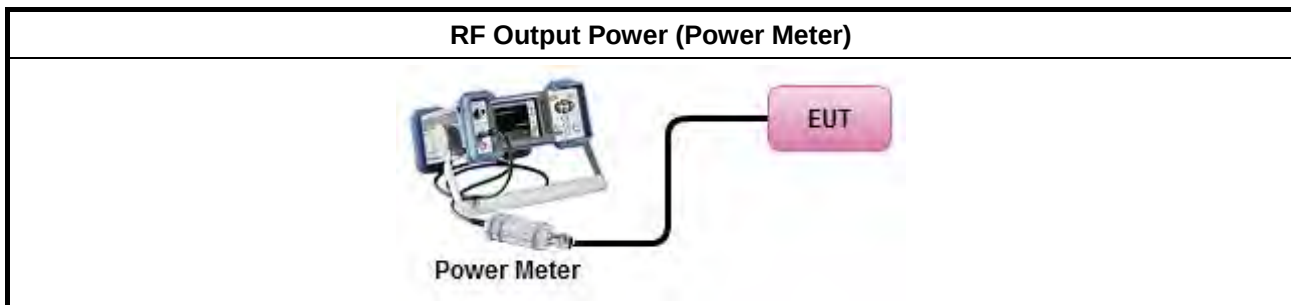
3.3.2 Measuring Instruments

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

3.3.3 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]) $EIRP_{total} = P_{total} + DG$	

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C



3.4 Peak Power Spectral Density

3.4.1 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 $0^\circ \leq \theta < 8^\circ$; $-13 - 0.716(\theta - 8)$ dBW/MHz for $8^\circ \leq \theta < 40^\circ$ $-35.9 - 1.22(\theta - 40)$ 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 the 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.	

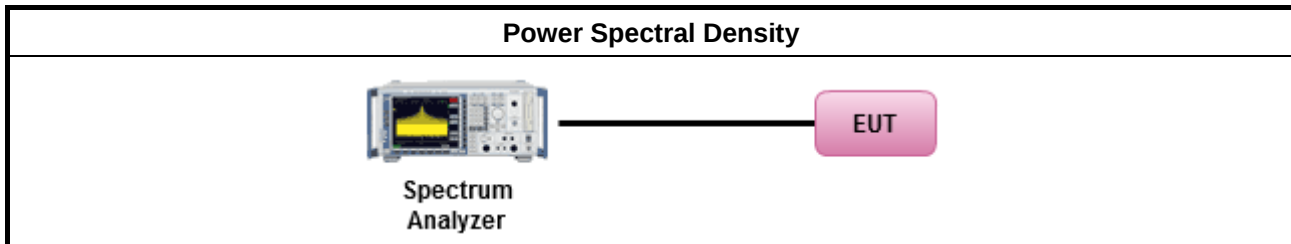
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
Peak power spectral density procedures that the same method as used to determine the conducted output power 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]) $EIRP_{total} = PPSD_{total} + DG$	

3.4.4 Test Setup



3.4.5 Test Result of Peak Power Spectral Density

Refer as Appendix D



3.5 Unwanted Emissions

3.5.1 Transmitter Unwanted Emissions Limit

Unwanted emissions below 1 GHz and restricted band emissions above 1GHz limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

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

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

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

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).

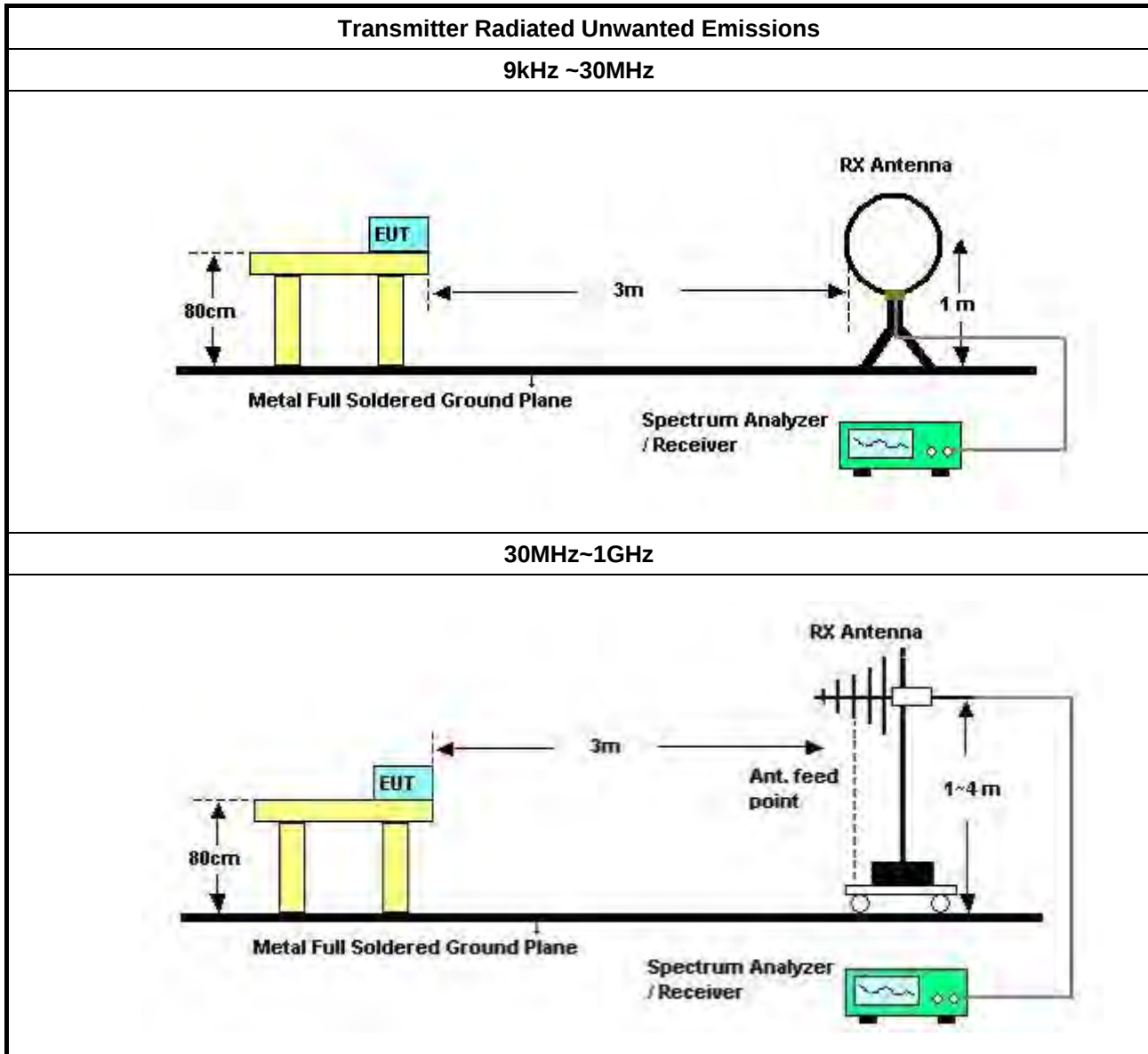
3.5.2 Measuring Instruments

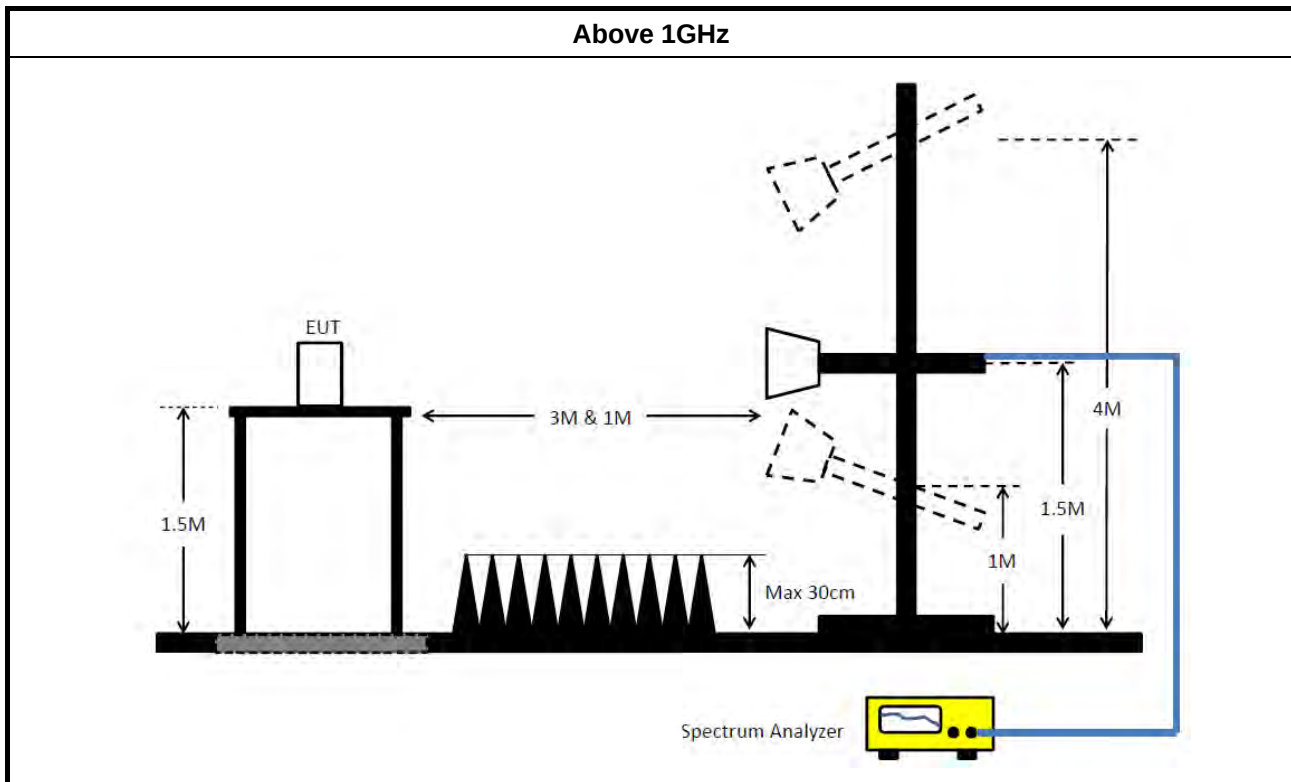
Refer a test equipment and calibration data table in this test report.

3.5.3 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.	

3.5.4 Test Setup





3.5.5 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

3.5.6 Transmitter Unwanted Emissions (Below 30MHz)

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

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

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

3.5.7 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 28, 2019	Jan. 29, 2020	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz~100MHz	Dec. 24, 2018	Dec. 23, 2019	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Jan. 11, 2019	Jan. 10, 2020	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Bilog Antenna with 6dB Attenuator	TESE & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 28, 2019	Mar. 27, 2020	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 29, 2019	Mar. 28, 2020	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	May 02, 2019	May 01, 2020	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Jan. 31, 2019	Jan. 30, 2020	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 15, 2019	May 14, 2020	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	LOW Cable-04+23	30MHz~1GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH05-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 13, 2018	Nov. 12, 2019	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 27, 2019	Jun. 26, 2020	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 08, 2019	Jan. 07, 2020	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 2020	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Jan. 31, 2019	Jan. 30, 2020	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-16+17	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	101028	9kHz~40GHz	Oct. 30, 2018	Oct. 29, 2019	Conducted (TH03-CB)



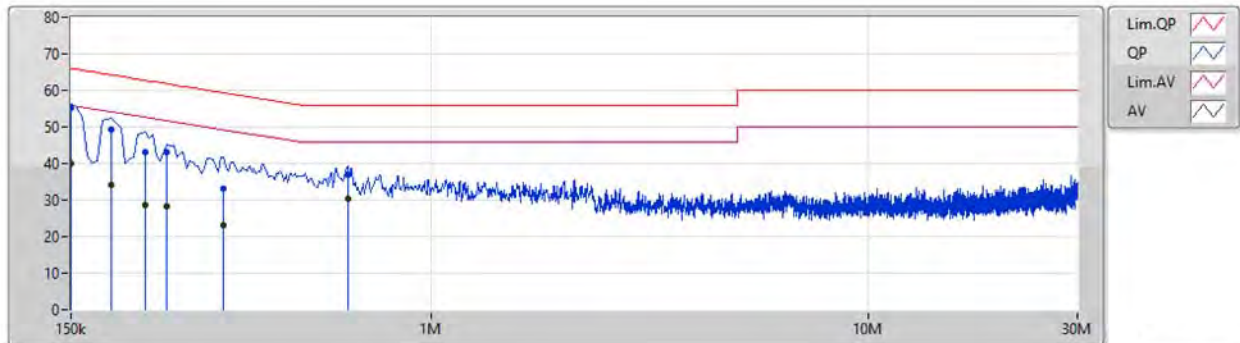
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-11	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-12	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-13	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz – 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH03-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Sep. 03, 2018	Sep. 02, 2019	Conducted (TH03-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Sep. 03, 2018	Sep. 02, 2019	Conducted (TH03-CB)

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

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

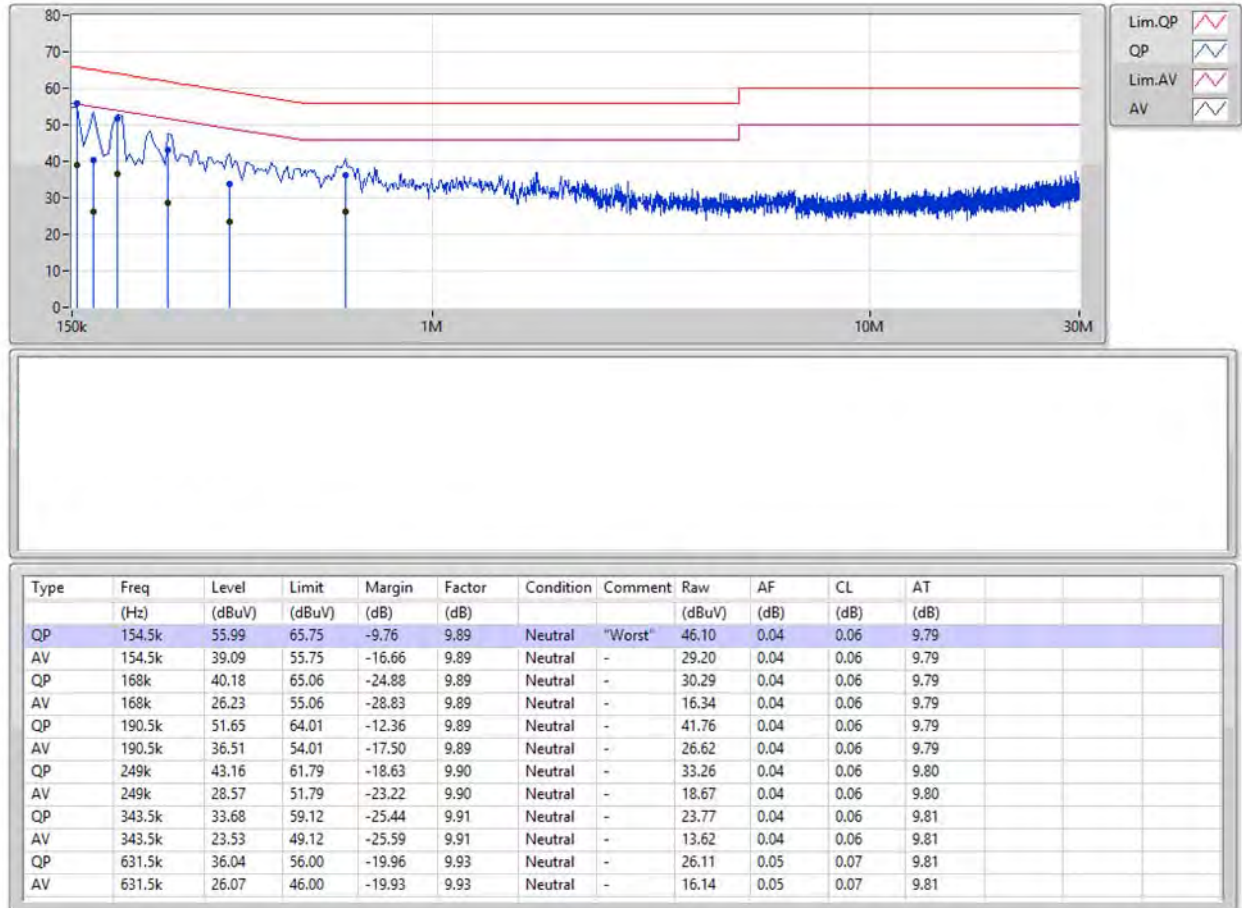
Test Mode	Mode 1	Frequency Range	0.15 MHz to 30 MHz
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Line



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)			
QP	150k	55.22	66.00	-10.78	9.90	Line	"Worst"	45.32	0.05	0.06	9.79			
AV	150k	39.85	56.00	-16.15	9.90	Line	-	29.95	0.05	0.06	9.79			
QP	186k	49.28	64.20	-14.92	9.91	Line	-	39.37	0.06	0.06	9.79			
AV	186k	34.16	54.20	-20.04	9.91	Line	-	24.25	0.06	0.06	9.79			
QP	222k	43.27	62.75	-19.48	9.91	Line	-	33.36	0.06	0.06	9.79			
AV	222k	28.51	52.75	-24.24	9.91	Line	-	18.60	0.06	0.06	9.79			
QP	249k	43.26	61.79	-18.53	9.92	Line	-	33.34	0.06	0.06	9.80			
AV	249k	28.37	51.79	-23.42	9.92	Line	-	18.45	0.06	0.06	9.80			
QP	334.5k	33.06	59.35	-26.29	9.92	Line	-	23.14	0.06	0.06	9.80			
AV	334.5k	23.02	49.35	-26.33	9.92	Line	-	13.10	0.06	0.06	9.80			
QP	645k	37.06	56.00	-18.94	9.97	Line	-	27.09	0.07	0.08	9.82			
AV	645k	30.35	46.00	-15.65	9.97	Line	-	20.38	0.07	0.08	9.82			

Neutral



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	39.99M	20.72M	20M7D1D	22.38M	16.522M
802.11ax HEW20_Nss1,(MCS0)_1TX	38.67M	19.85M	19M8D1D	23.01M	18.951M
802.11ax HEW40_Nss1,(MCS0)_1TX	72.3M	38.141M	38M1D1D	40.98M	37.781M
802.11ax HEW80_Nss1,(MCS0)_1TX	82.68M	77.001M	77M0D1D	82.68M	77.001M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	15.66M	17.871M	17M9D1D	15.36M	17.661M
802.11ax HEW20_Nss1,(MCS0)_1TX	18.48M	19.19M	19M2D1D	17.97M	19.13M
802.11ax HEW40_Nss1,(MCS0)_1TX	38.1M	50.435M	50M4D1D	36.96M	40M
802.11ax HEW80_Nss1,(MCS0)_1TX	75.36M	77.121M	77M1D1D	75.36M	77.121M

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

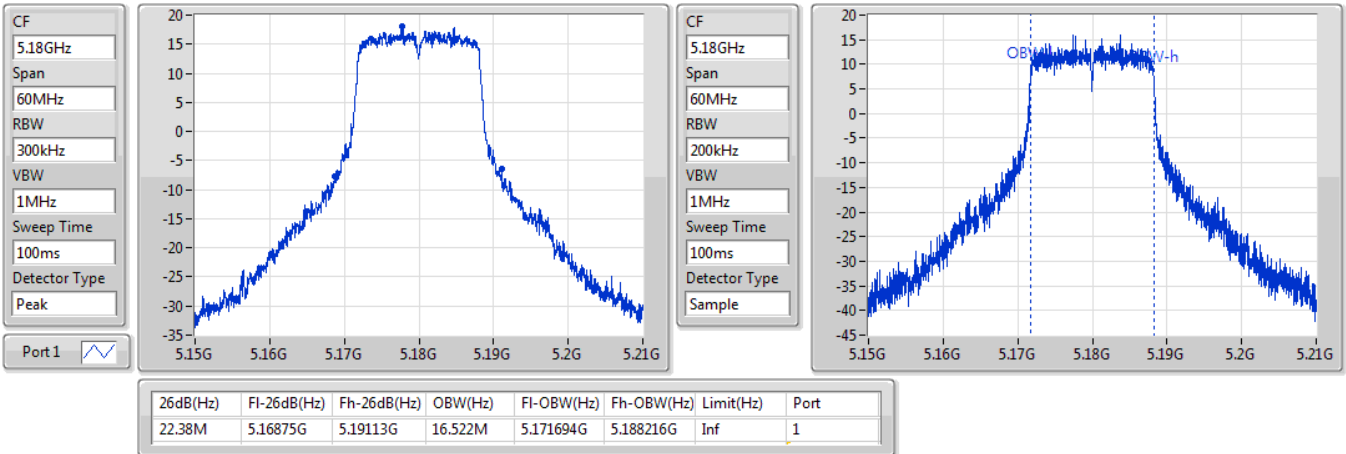
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-
5180MHz	Pass	Inf	22.38M	16.522M
5200MHz	Pass	Inf	39.99M	20.72M
5240MHz	Pass	Inf	38.94M	19.76M
5745MHz	Pass	500k	15.42M	17.871M
5785MHz	Pass	500k	15.36M	17.841M
5825MHz	Pass	500k	15.66M	17.661M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
5180MHz	Pass	Inf	23.01M	18.951M
5200MHz	Pass	Inf	38.67M	19.85M
5240MHz	Pass	Inf	38.25M	19.55M
5745MHz	Pass	500k	18.24M	19.19M
5785MHz	Pass	500k	17.97M	19.13M
5825MHz	Pass	500k	18.48M	19.16M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
5190MHz	Pass	Inf	40.98M	37.781M
5230MHz	Pass	Inf	72.3M	38.141M
5755MHz	Pass	500k	36.96M	40M
5795MHz	Pass	500k	38.1M	50.435M
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-	-	-
5210MHz	Pass	Inf	82.68M	77.001M
5775MHz	Pass	500k	75.36M	77.121M

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

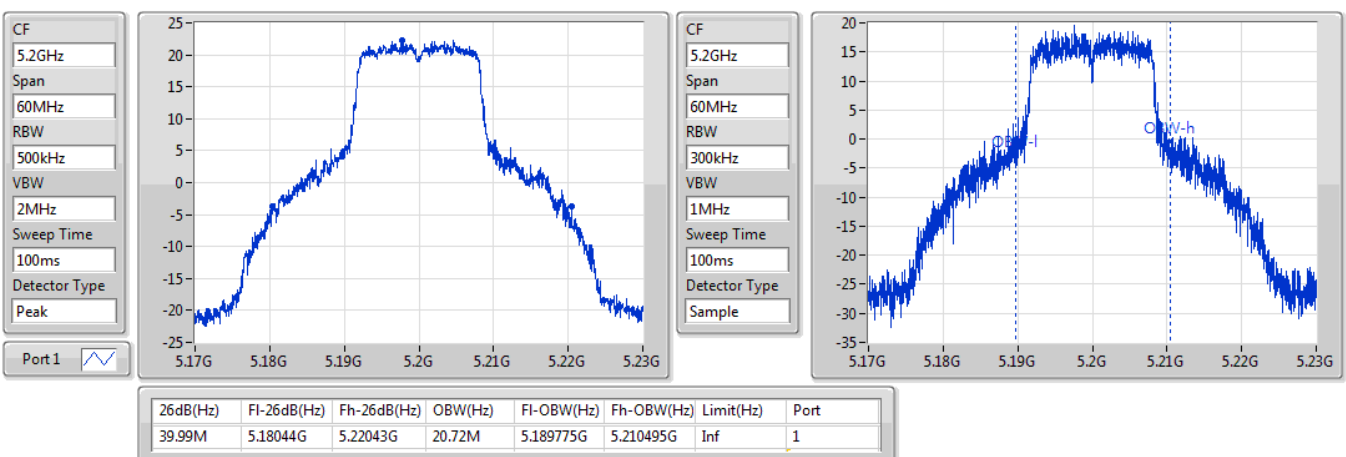
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_1TX
EBW
5180MHz

08/07/2019

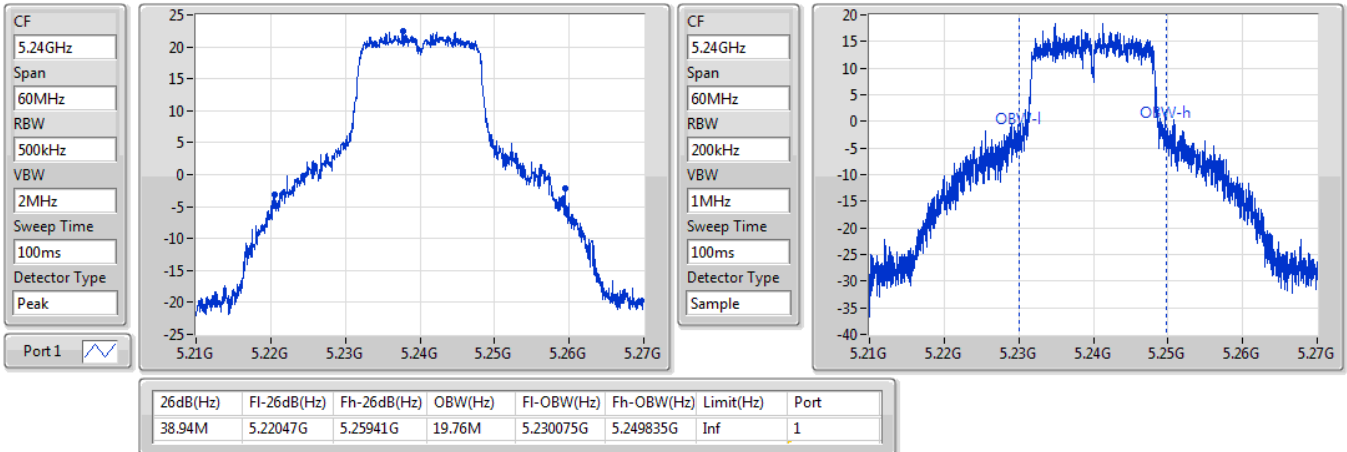

802.11a_Nss1,(6Mbps)_1TX
EBW
5200MHz

08/07/2019

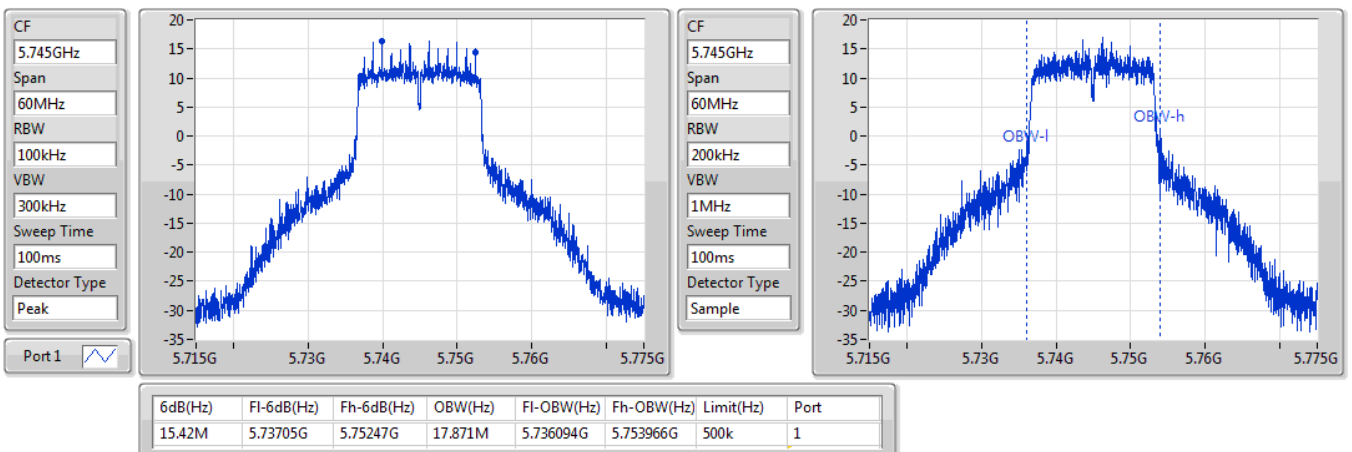


802.11a_Nss1,(6Mbps)_1TX
EBW
5240MHz

08/07/2019

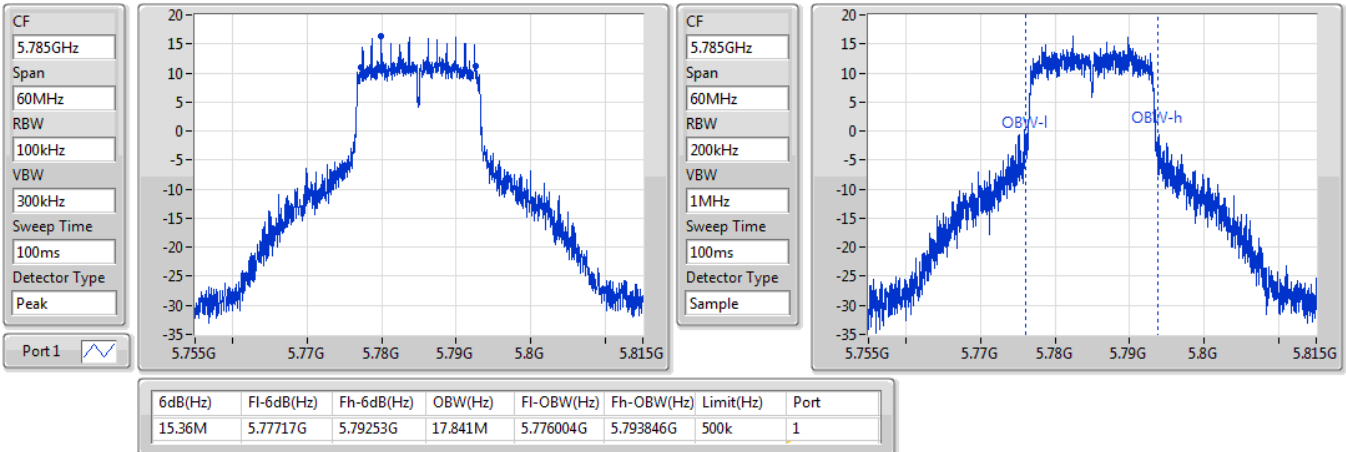

802.11a_Nss1,(6Mbps)_1TX
EBW
5745MHz

08/07/2019

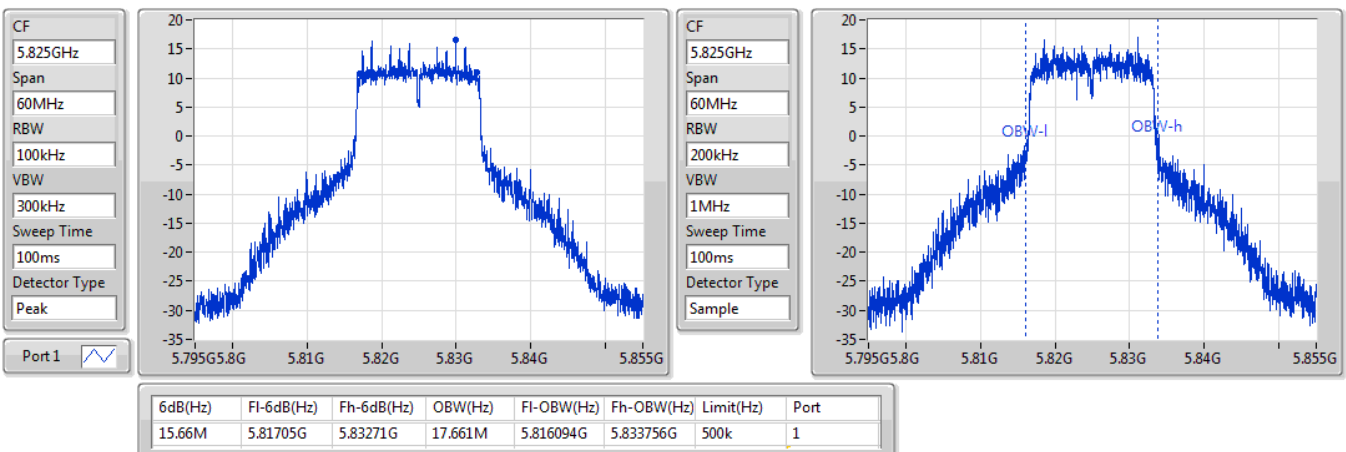


802.11a_Nss1,(6Mbps)_1TX
EBW
5785MHz

08/07/2019

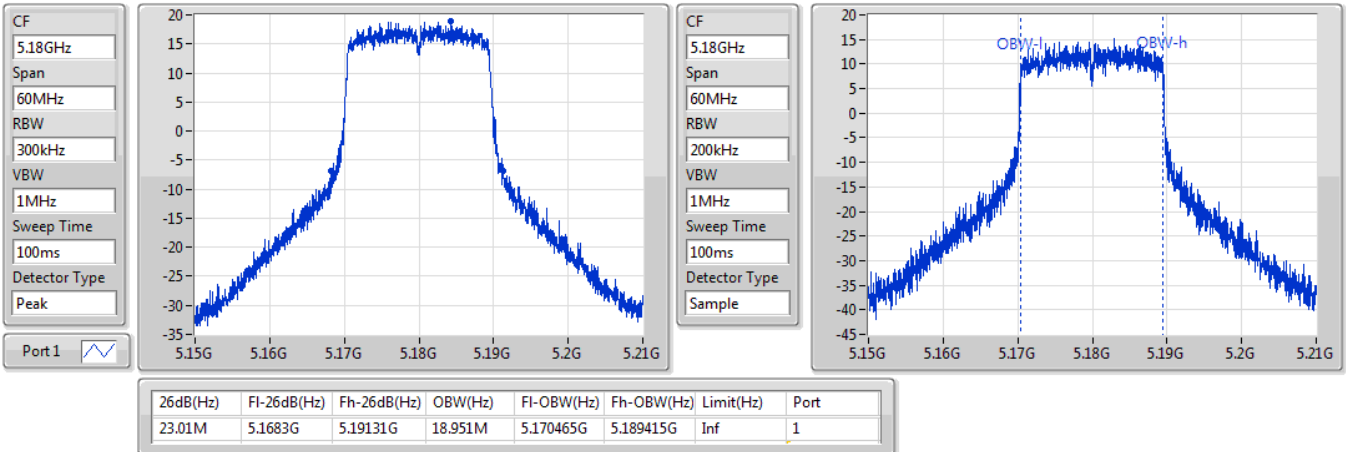

802.11a_Nss1,(6Mbps)_1TX
EBW
5825MHz

08/07/2019

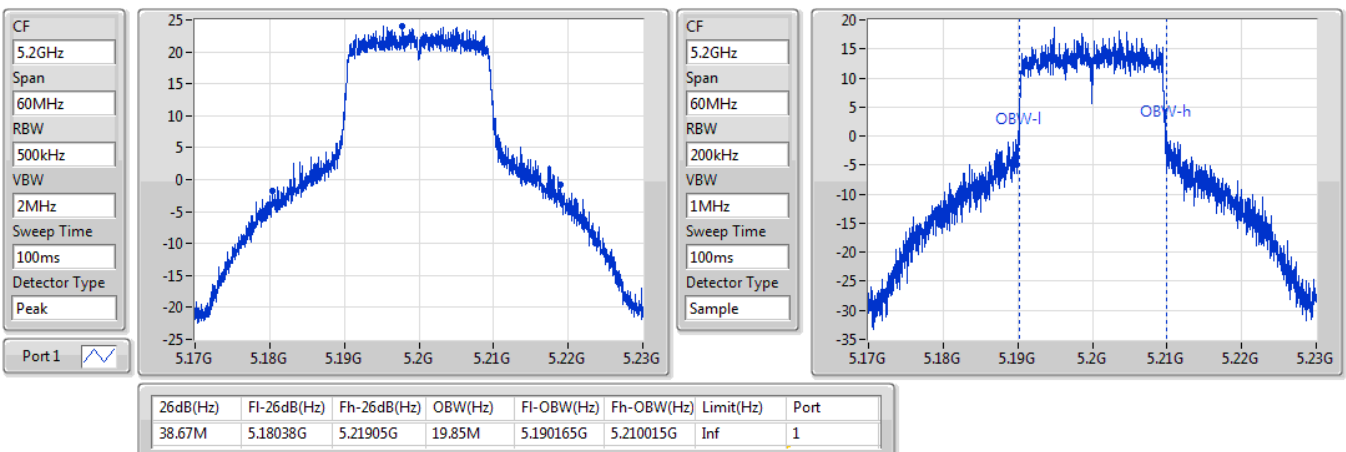


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5180MHz

08/07/2019


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5200MHz

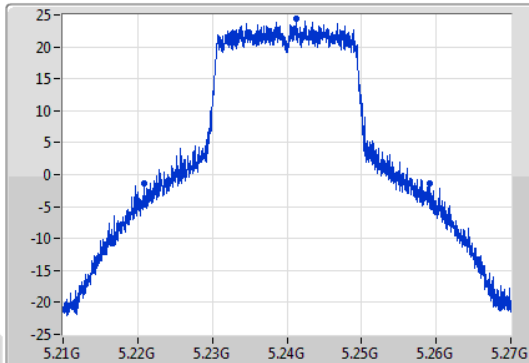
08/07/2019



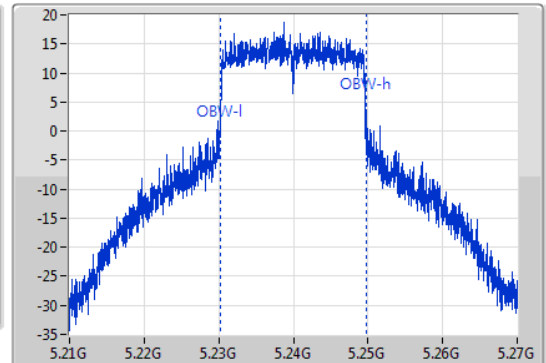
802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5240MHz

08/07/2019

CF
5.24GHz
Span
60MHz
RBW
500kHz
VBW
2MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.24GHz
Span
60MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample

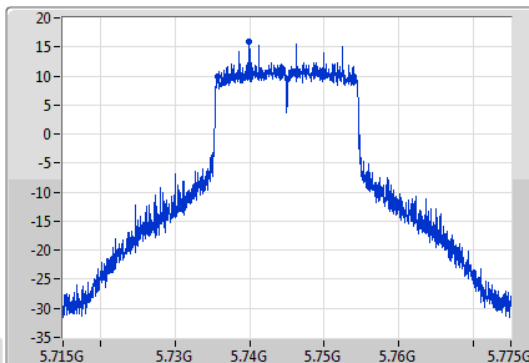


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
38.25M	5.22089G	5.25914G	19.55M	5.230165G	5.249715G	Inf	1

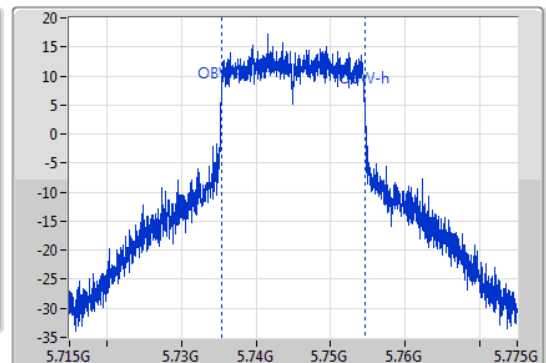
802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5745MHz

08/07/2019

CF
5.745GHz
Span
60MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



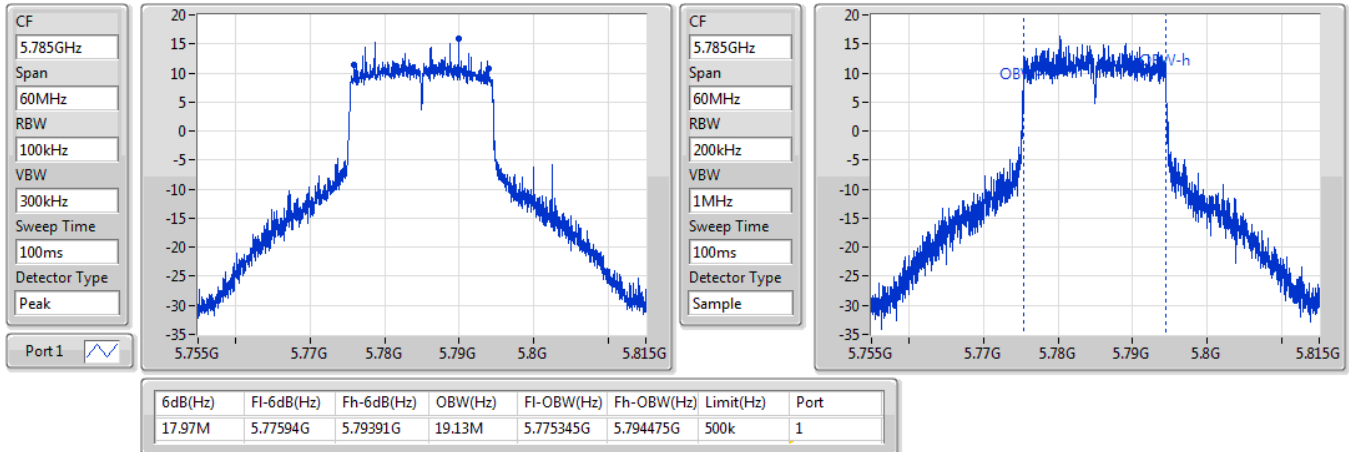
CF
5.745GHz
Span
60MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



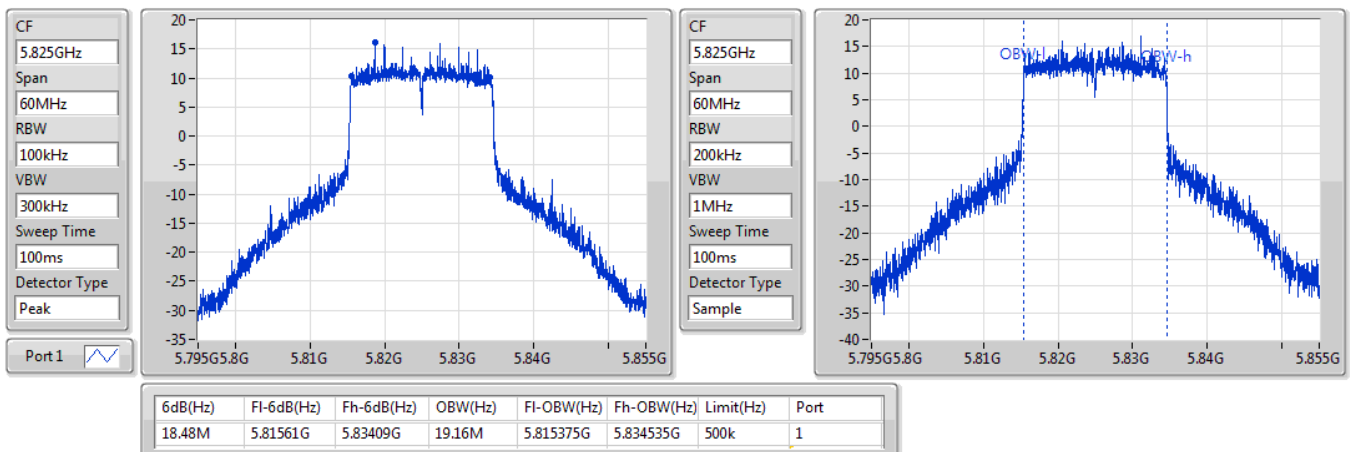
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
18.24M	5.73576G	5.754G	19.19M	5.735345G	5.754535G	500k	1

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5785MHz

08/07/2019

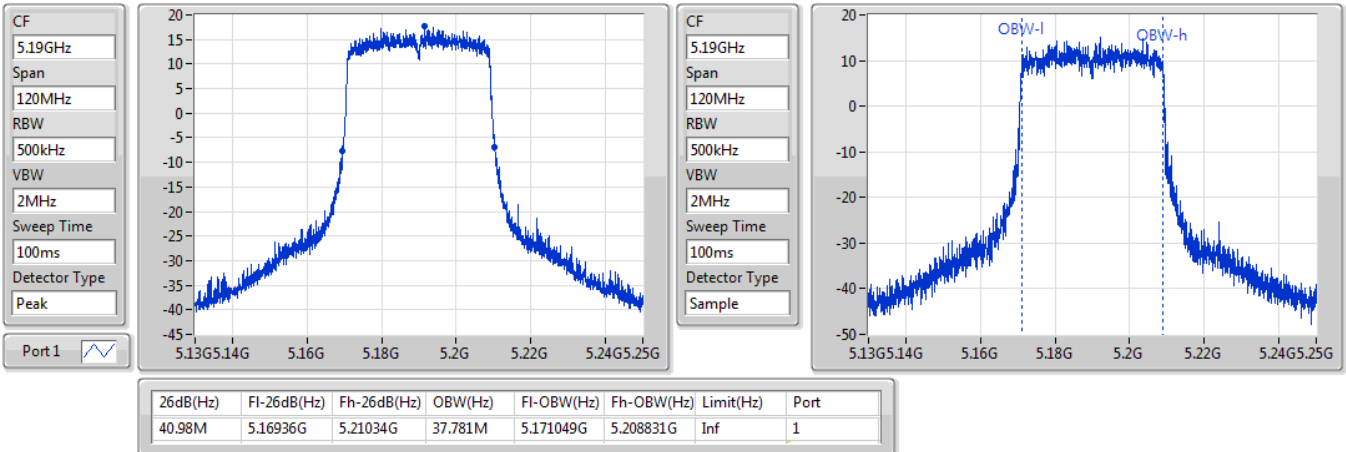

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5825MHz

08/07/2019

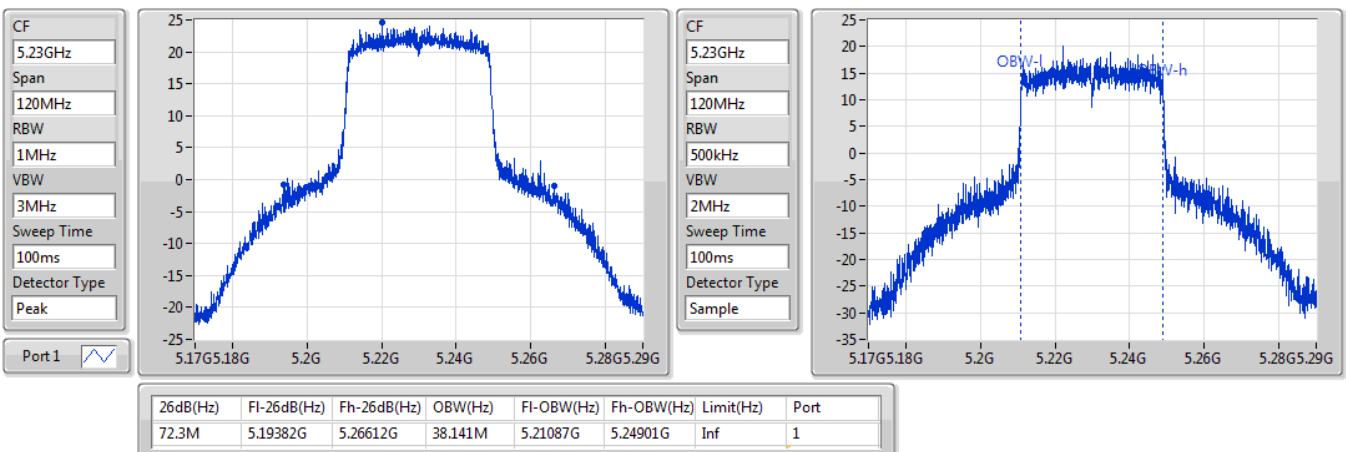


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5190MHz

08/07/2019

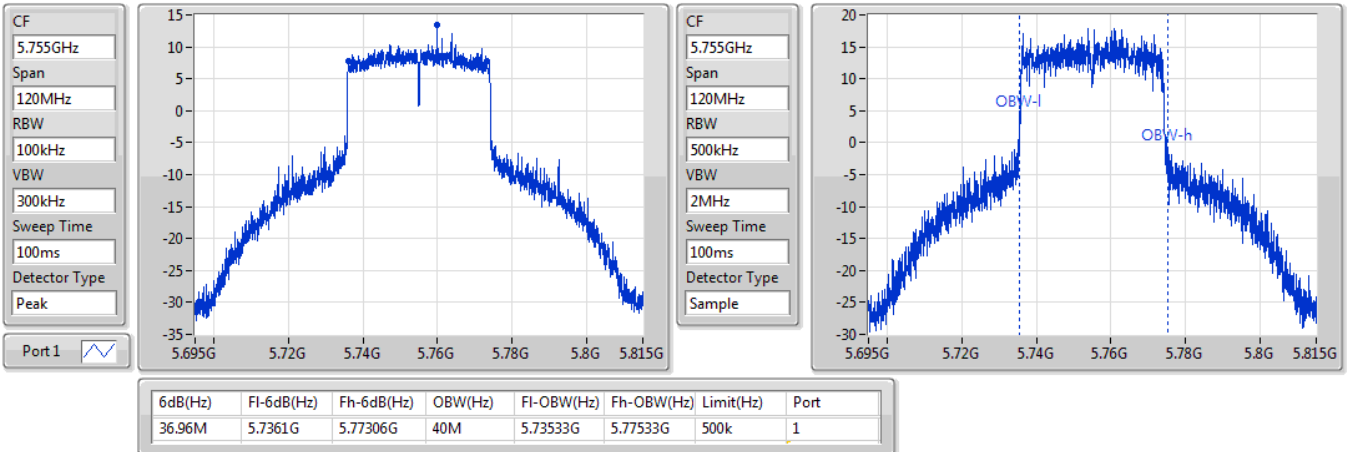

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5230MHz

08/07/2019

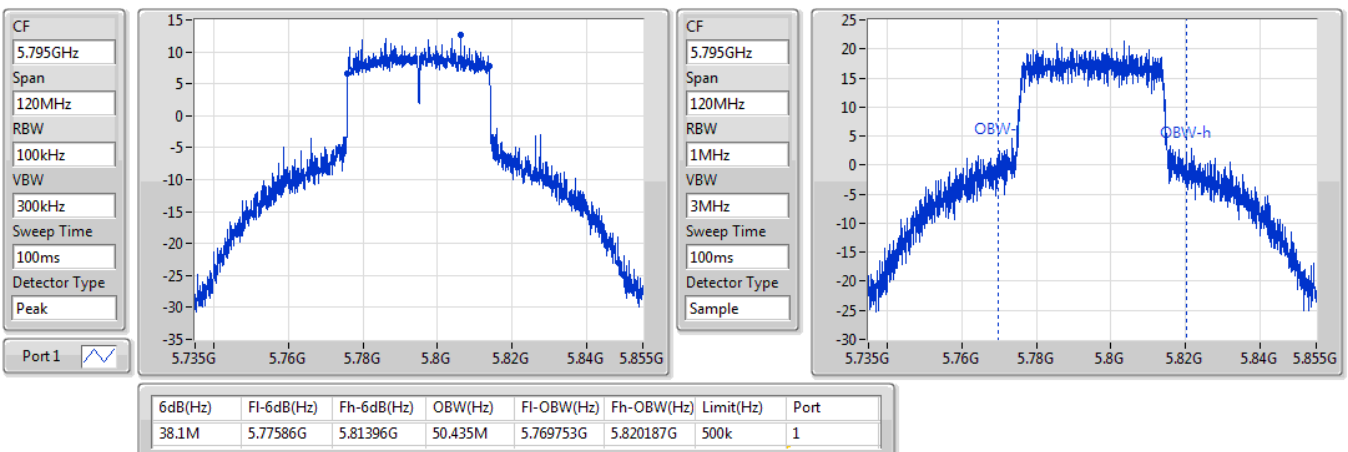


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5755MHz

08/07/2019


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5795MHz

08/07/2019

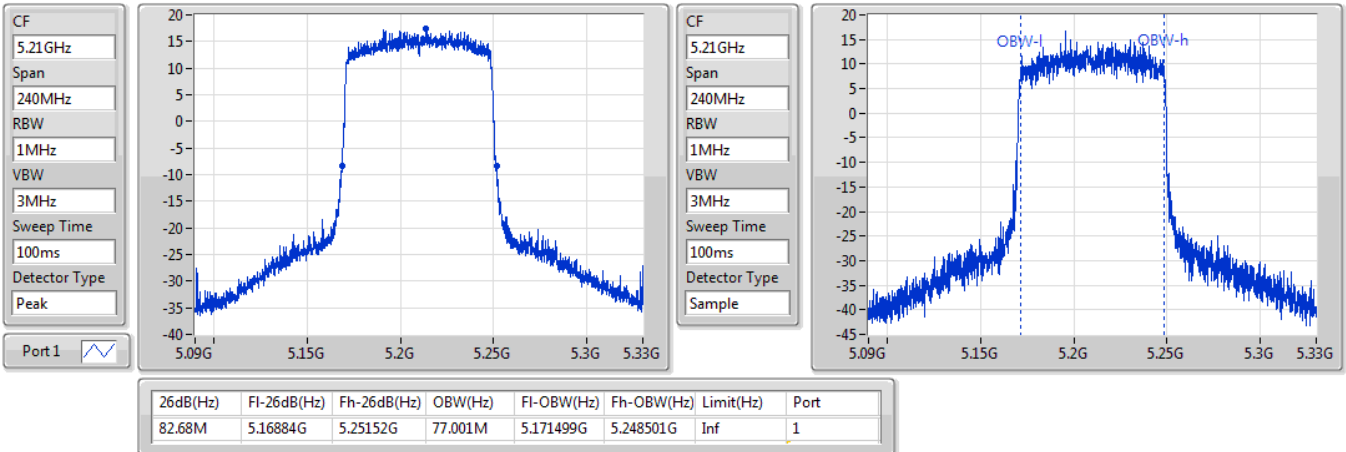


802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

5210MHz

08/07/2019

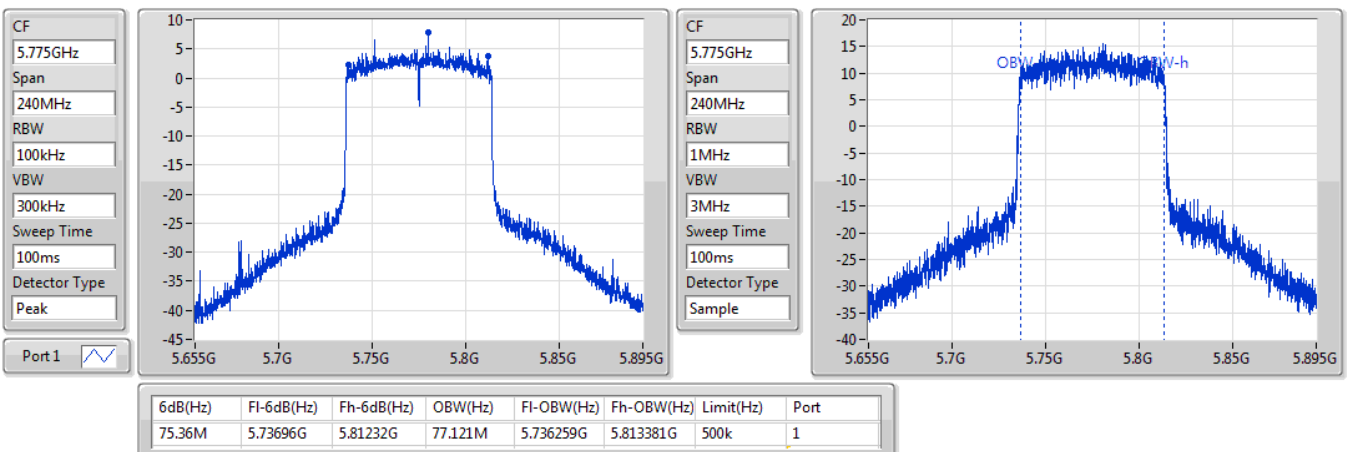


802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

5775MHz

08/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	21.45M	16.432M	16M4D1D	20.55M	16.372M
802.11ax HEW20_Nss1,(MCS0)_2TX	23.31M	18.981M	19M0D1D	21.75M	18.921M
802.11ax HEW40_Nss1,(MCS0)_2TX	55.8M	37.961M	38M0D1D	41.1M	37.601M
802.11ax HEW80_Nss1,(MCS0)_2TX	82.56M	77.121M	77M1D1D	82.2M	76.882M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	16.32M	19.82M	19M8D1D	15.15M	16.522M
802.11ax HEW20_Nss1,(MCS0)_2TX	18.81M	19.37M	19M4D1D	17.52M	18.951M
802.11ax HEW40_Nss1,(MCS0)_2TX	38.04M	44.378M	44M4D1D	36.72M	38.261M
802.11ax HEW80_Nss1,(MCS0)_2TX	74.88M	77.241M	77M2D1D	69.36M	77.121M

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

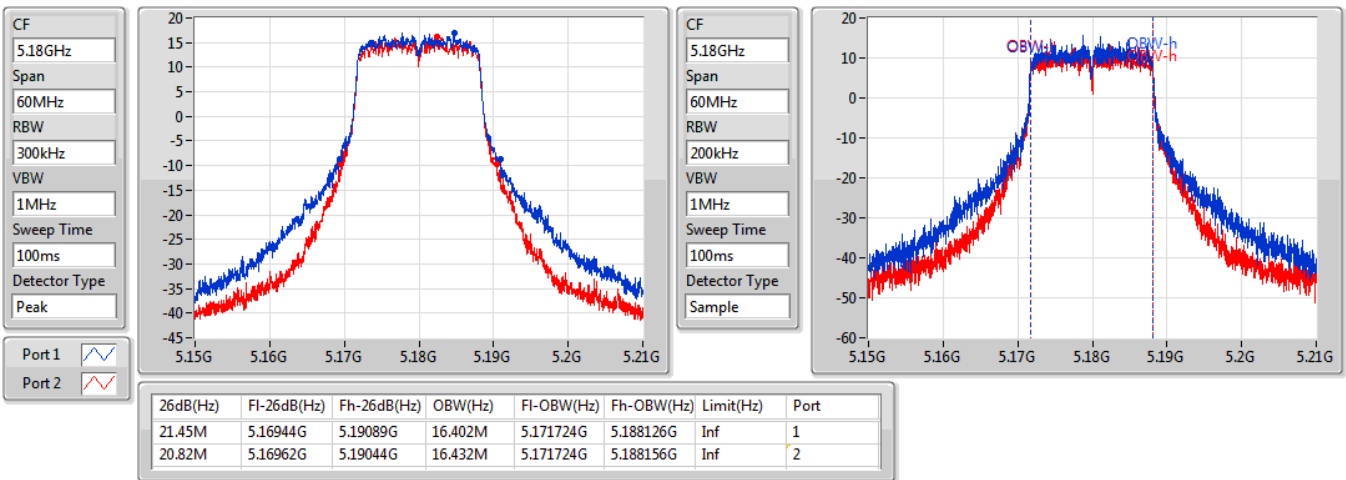
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.45M	16.402M	20.82M	16.432M
5200MHz	Pass	Inf	20.88M	16.432M	20.76M	16.432M
5240MHz	Pass	Inf	20.73M	16.372M	20.55M	16.432M
5745MHz	Pass	500k	15.6M	19.52M	16.29M	16.582M
5785MHz	Pass	500k	16.32M	19.82M	15.48M	16.522M
5825MHz	Pass	500k	15.15M	19.28M	15.42M	16.582M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	23.19M	18.951M	21.78M	18.921M
5200MHz	Pass	Inf	23.31M	18.981M	21.75M	18.921M
5240MHz	Pass	Inf	22.74M	18.921M	22.02M	18.951M
5745MHz	Pass	500k	18.57M	19.28M	17.61M	18.951M
5785MHz	Pass	500k	17.97M	19.37M	17.52M	18.951M
5825MHz	Pass	500k	18.81M	19.31M	17.97M	18.981M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	41.1M	37.601M	41.28M	37.721M
5230MHz	Pass	Inf	55.8M	37.961M	45M	37.841M
5755MHz	Pass	500k	36.72M	38.621M	38.04M	38.261M
5795MHz	Pass	500k	37.92M	44.378M	37.56M	39.4M
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	82.56M	77.121M	82.2M	76.882M
5775MHz	Pass	500k	74.88M	77.121M	69.36M	77.241M

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

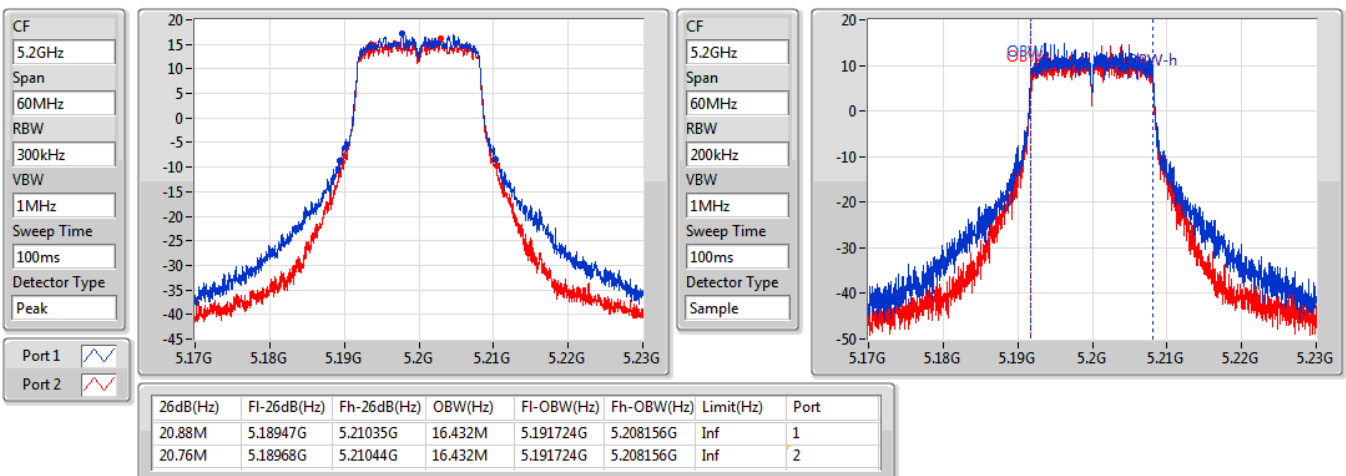
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX
EBW
5180MHz

09/07/2019

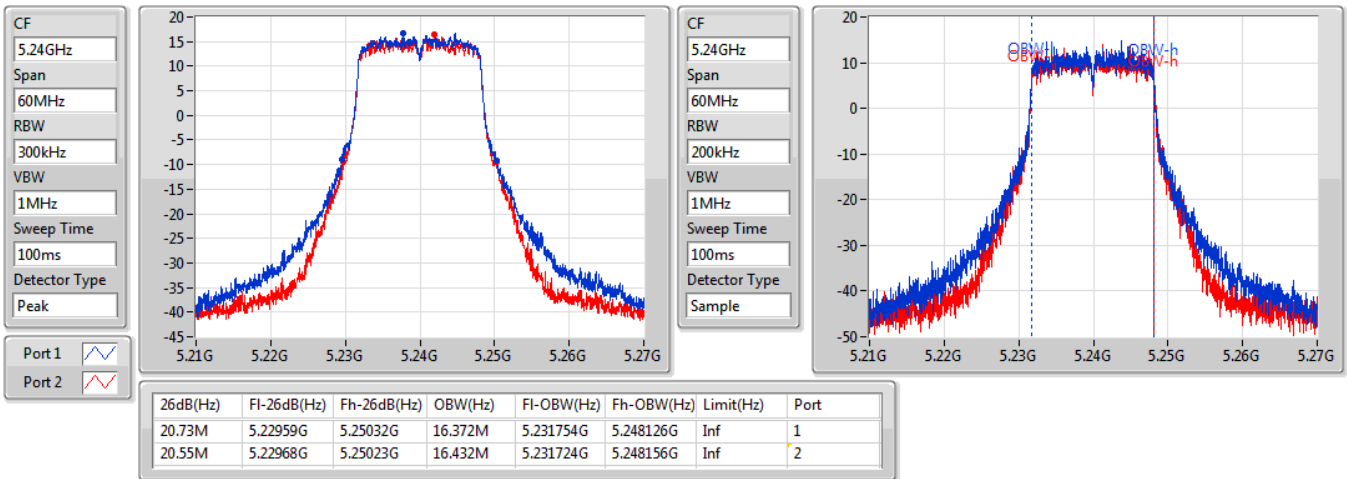

802.11a_Nss1,(6Mbps)_2TX
EBW
5200MHz

09/07/2019

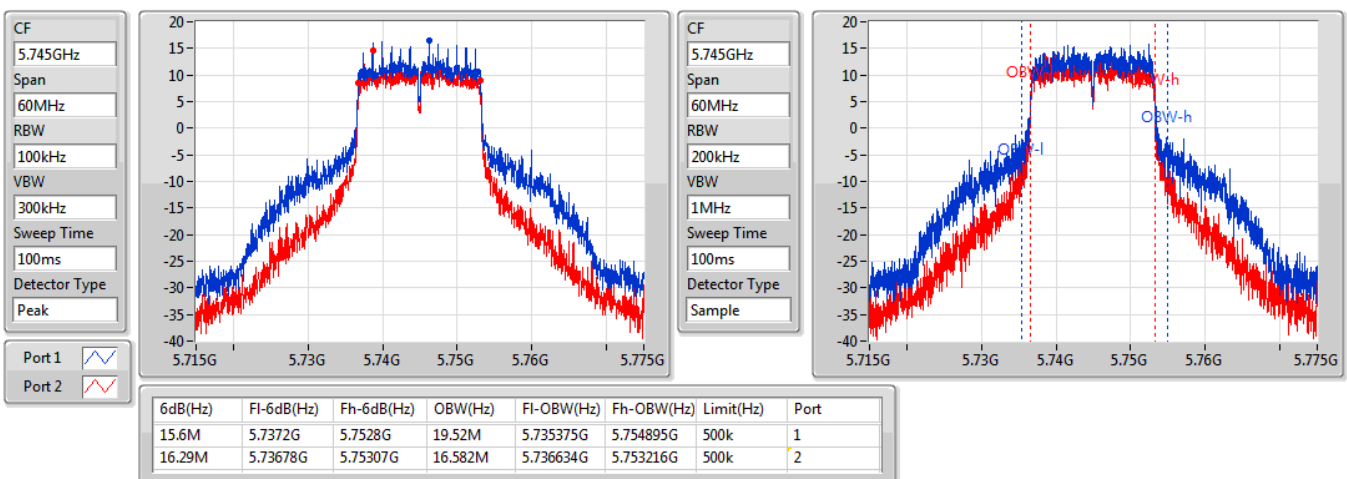


802.11a_Nss1,(6Mbps)_2TX
EBW
5240MHz

09/07/2019


802.11a_Nss1,(6Mbps)_2TX
EBW
5745MHz

09/07/2019

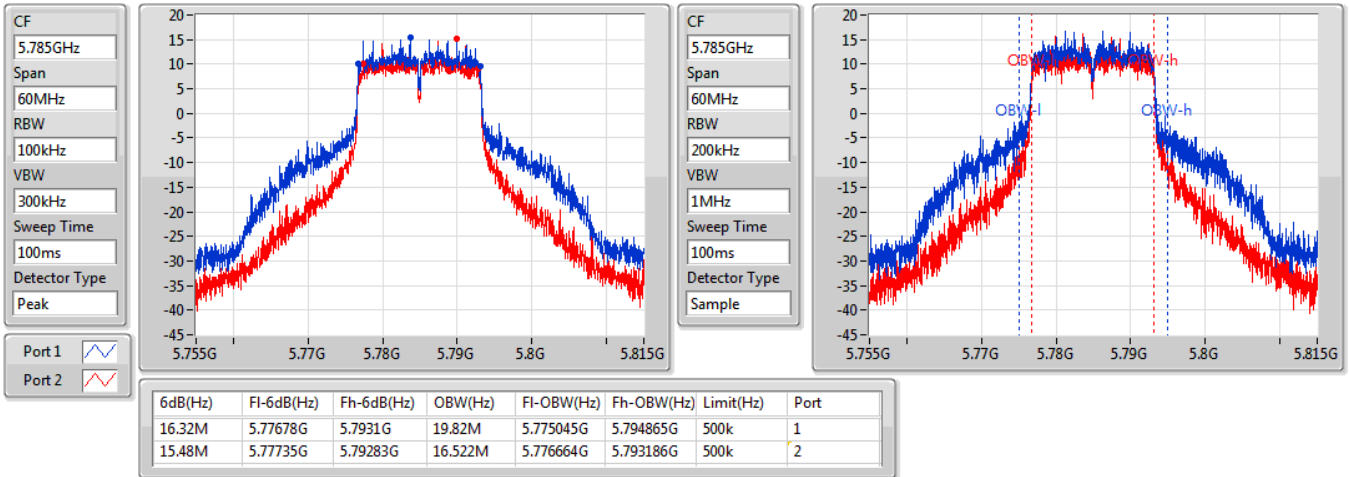


802.11a_Nss1,(6Mbps)_2TX

EBW

5785MHz

09/07/2019

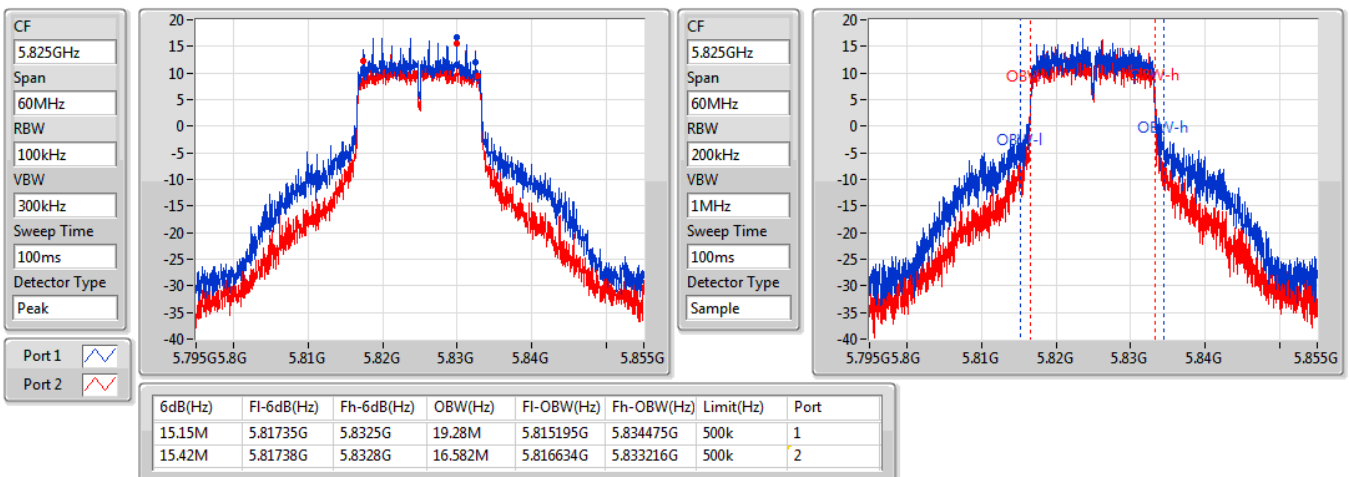


802.11a_Nss1,(6Mbps)_2TX

EBW

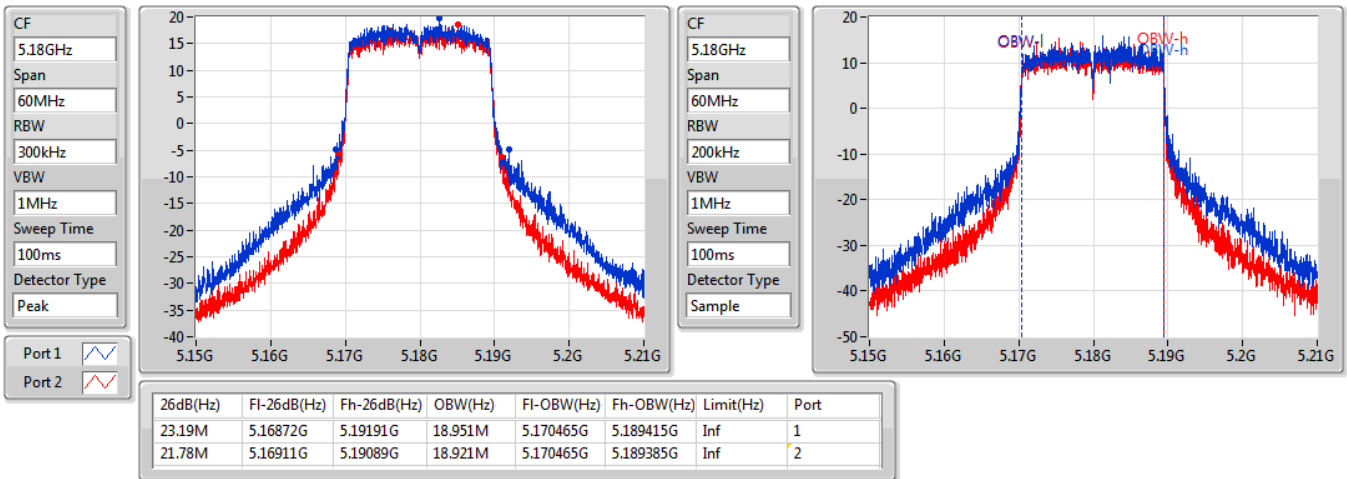
5825MHz

09/07/2019

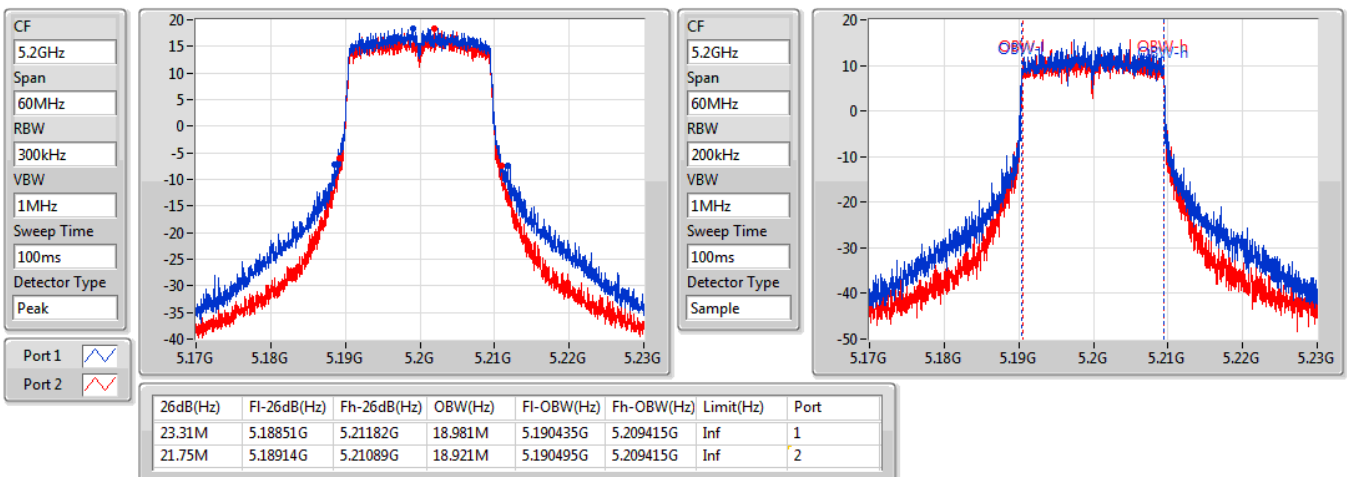


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5180MHz

09/07/2019


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5200MHz

09/07/2019

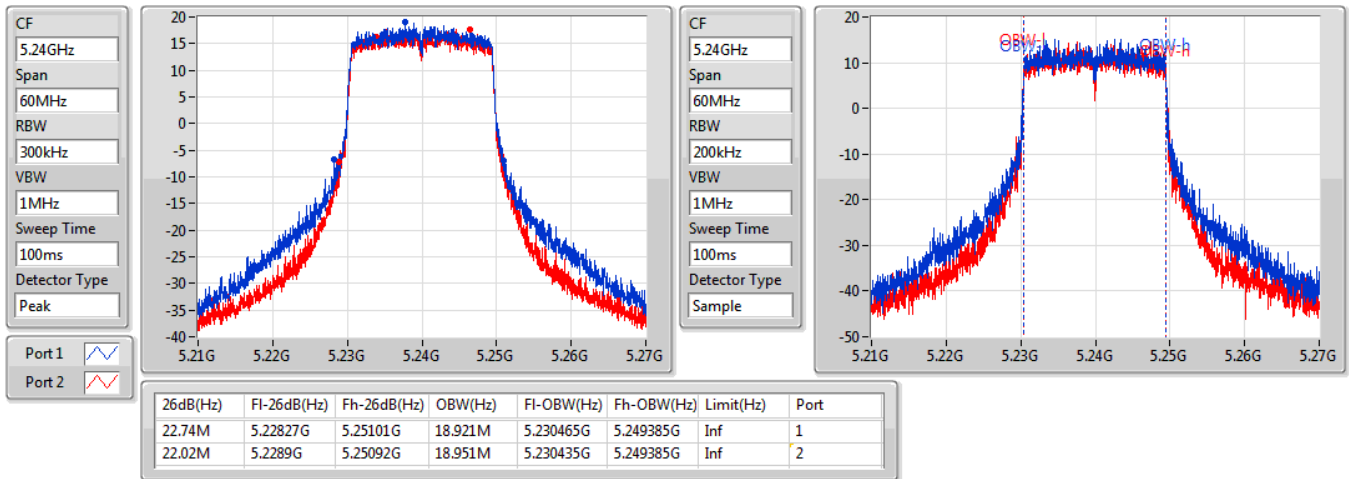


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5240MHz

09/07/2019

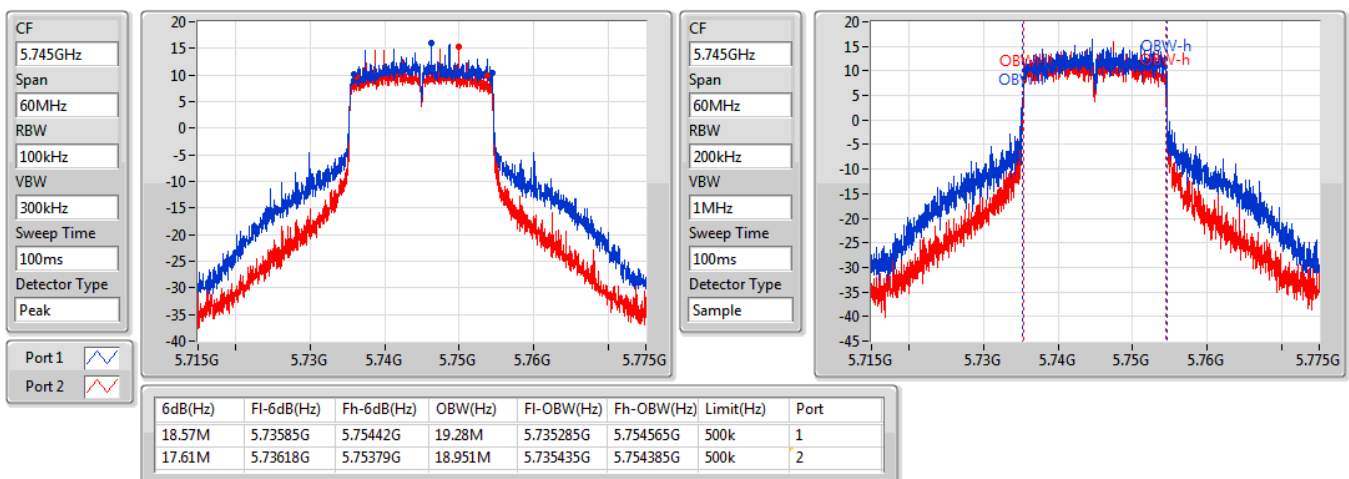


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

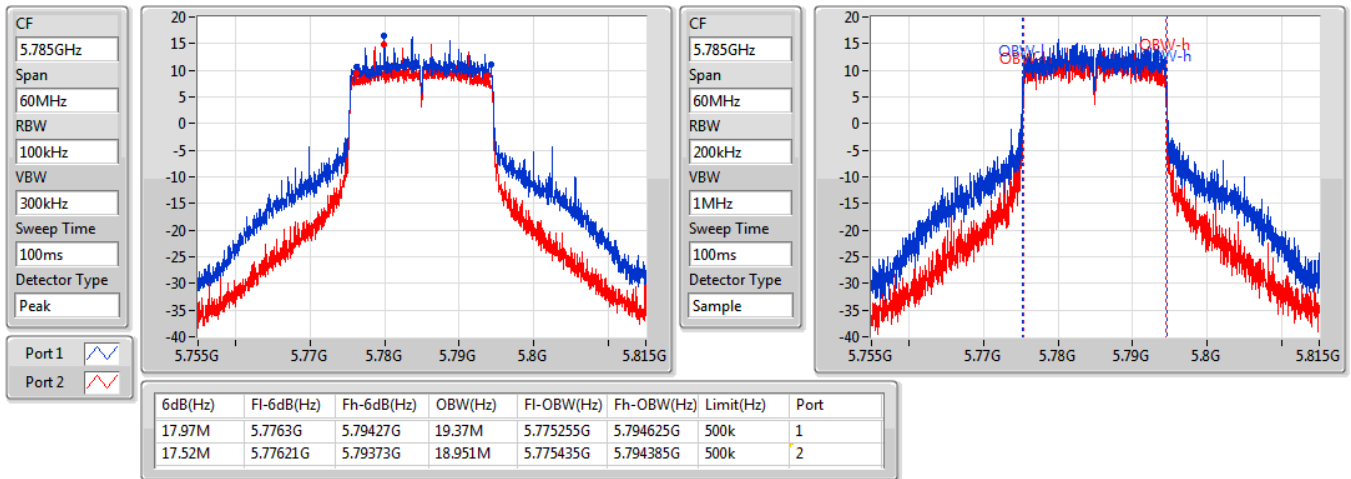
5745MHz

09/07/2019

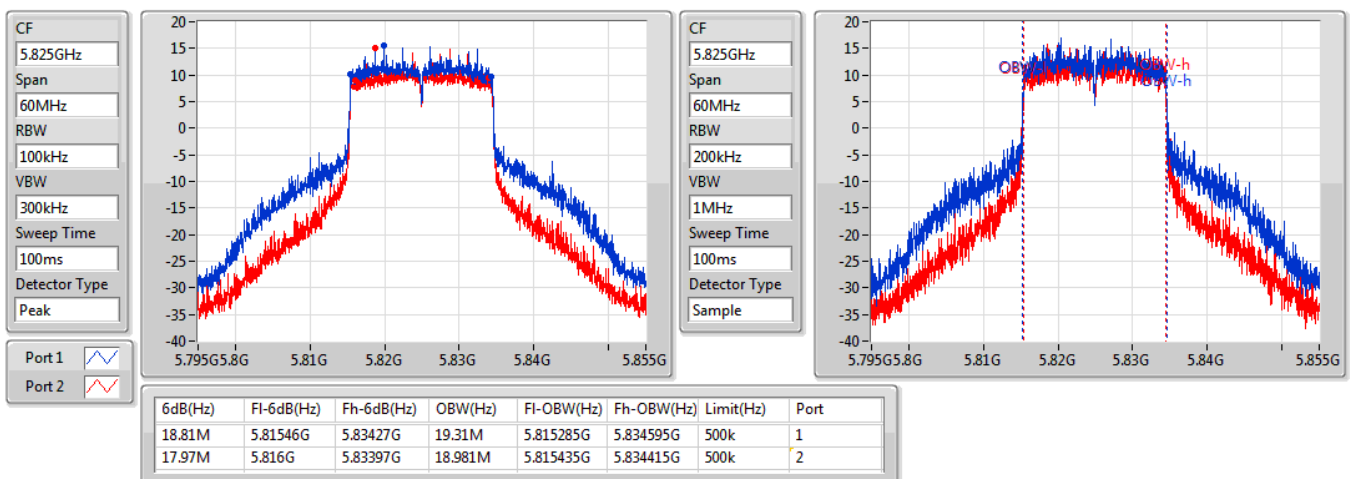


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5785MHz

09/07/2019


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5825MHz

09/07/2019

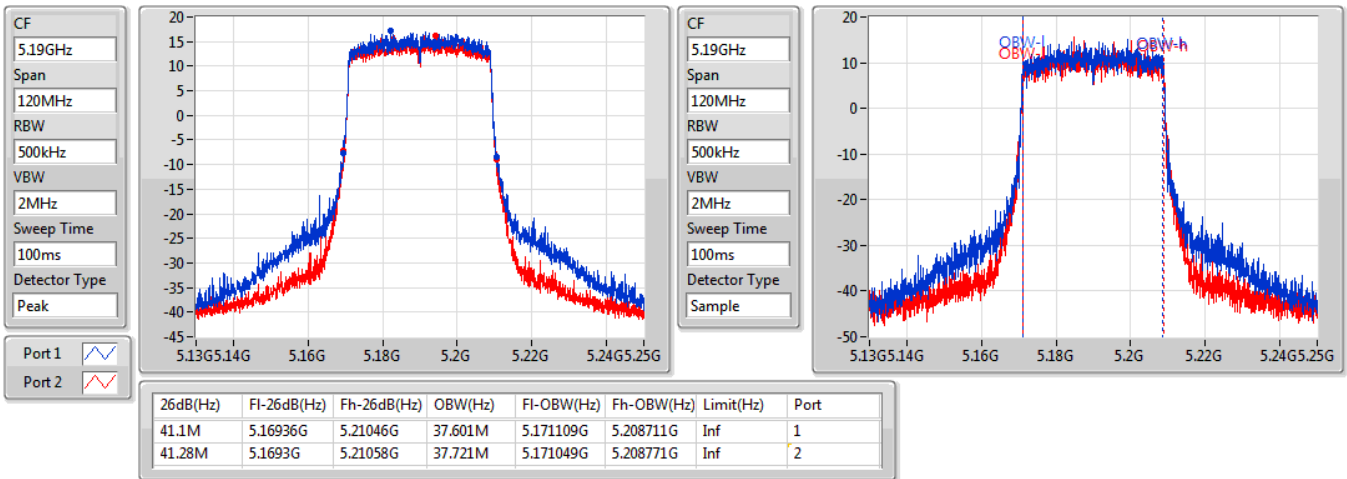


802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

5190MHz

09/07/2019

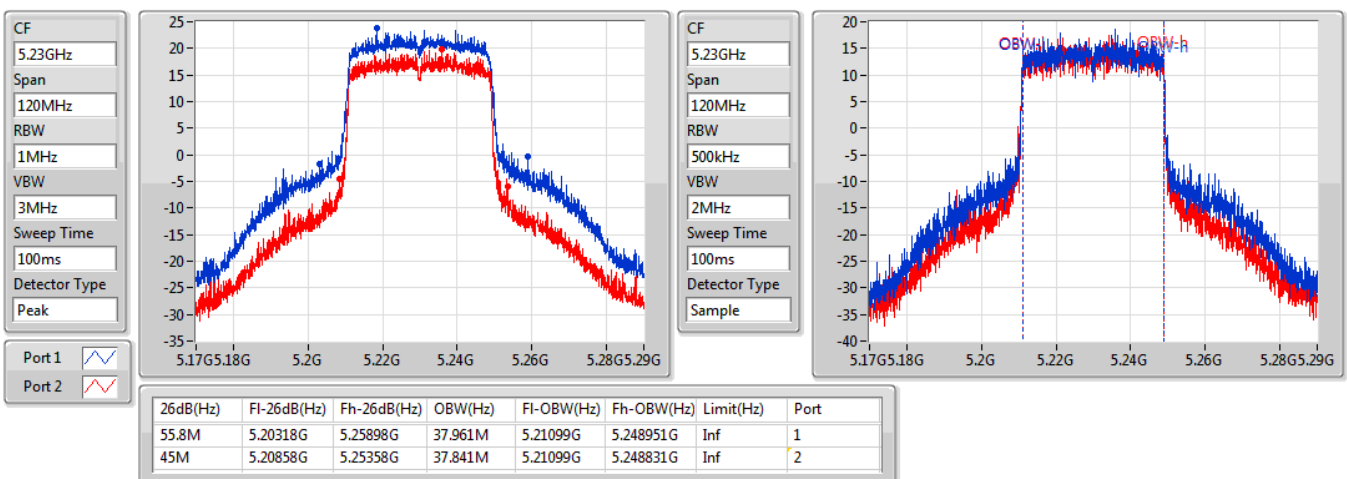


802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

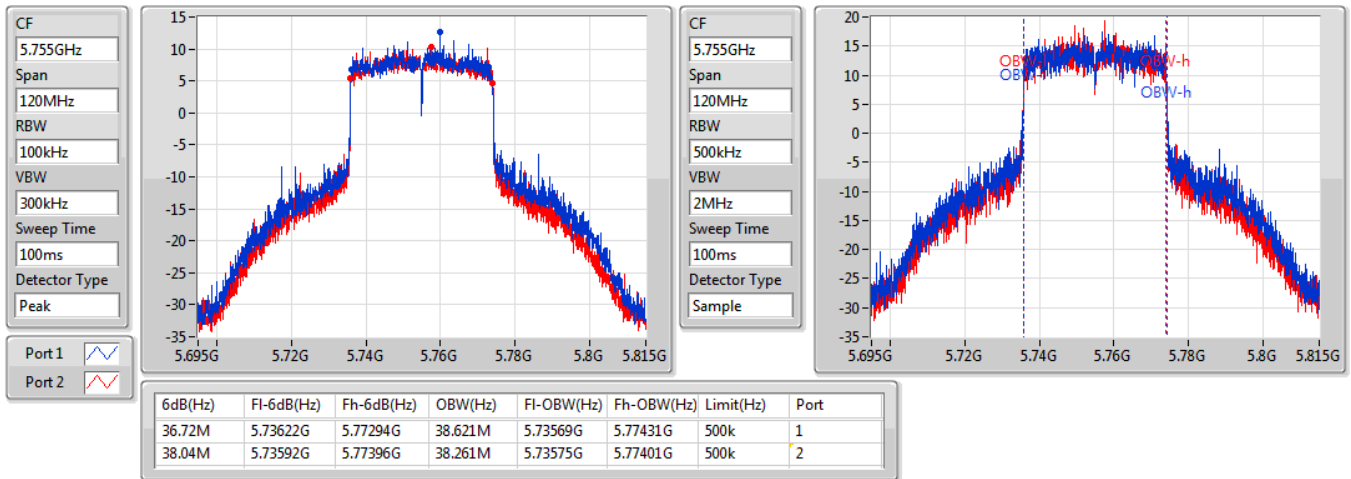
5230MHz

09/07/2019

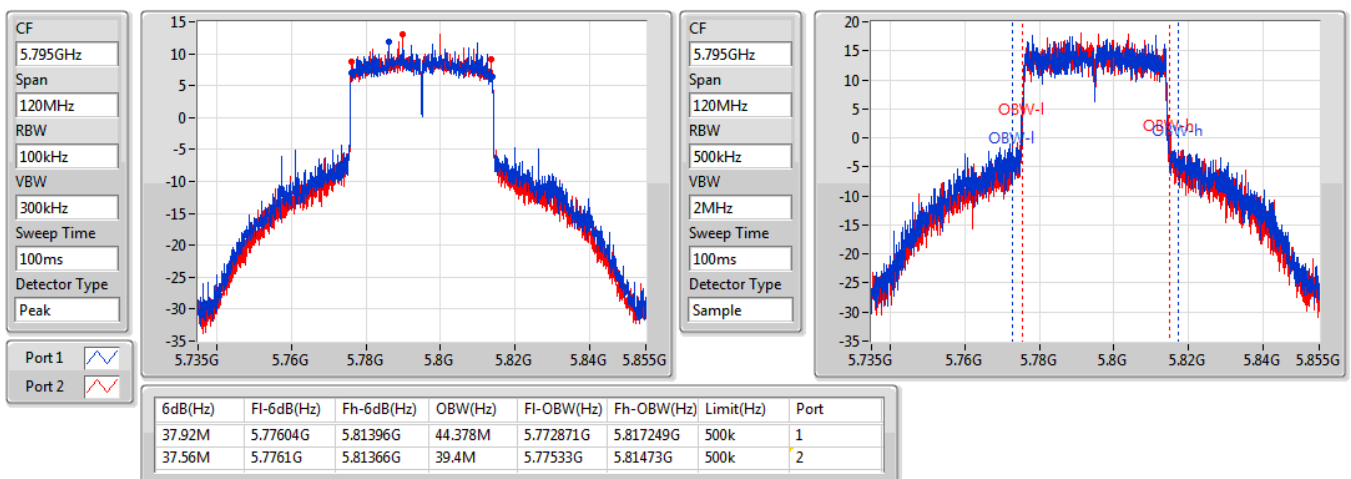


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5755MHz

09/07/2019

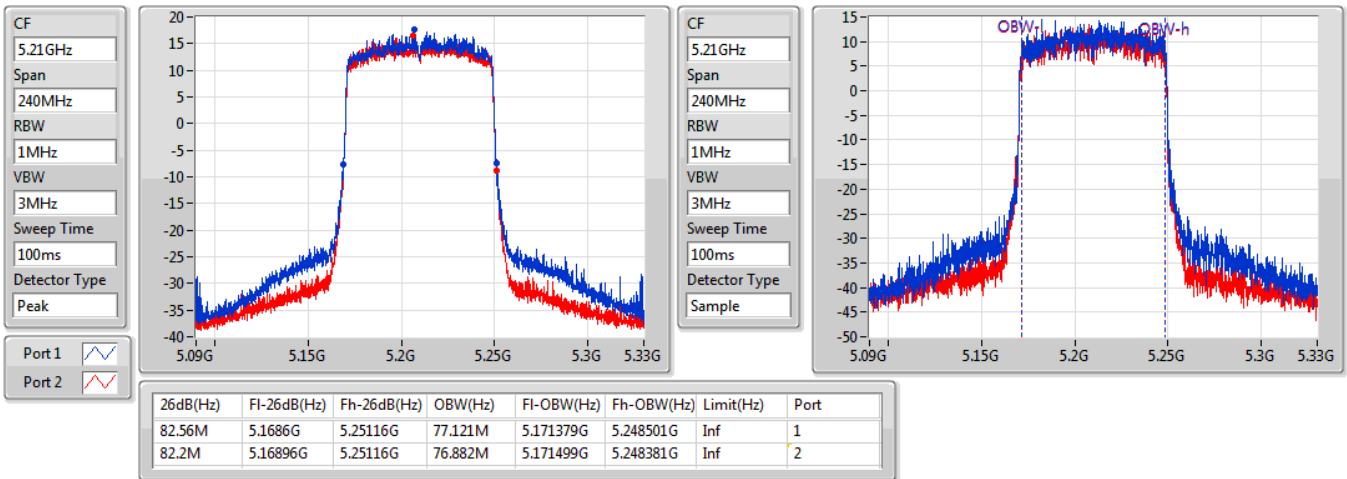

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5795MHz

09/07/2019

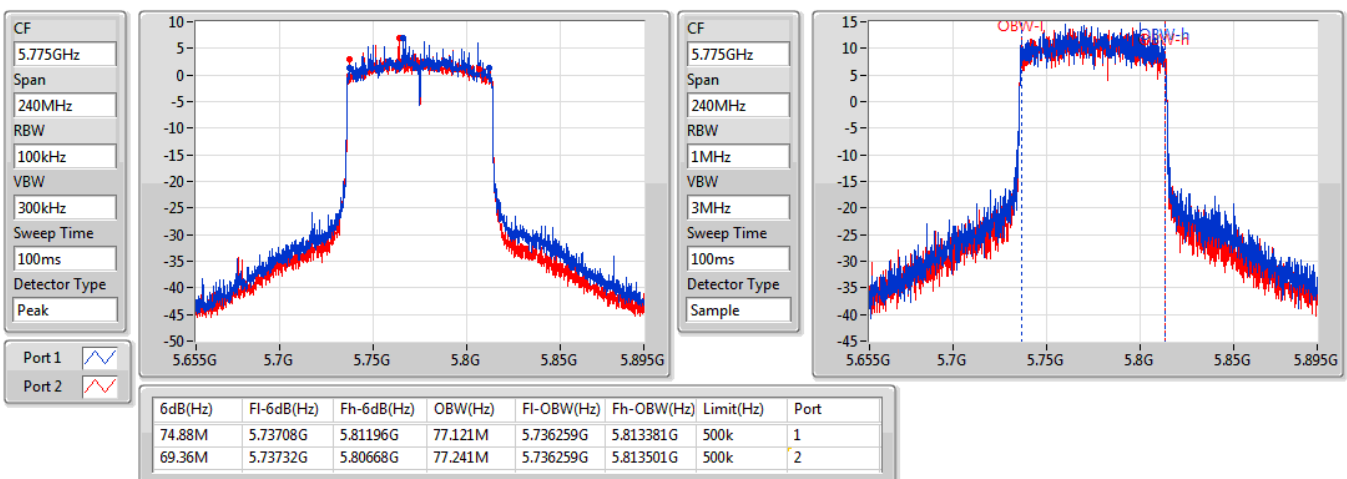


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5210MHz

09/07/2019


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5775MHz

09/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	21.84M	18.921M	18M9D1D	21.27M	18.861M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	41.16M	37.721M	37M7D1D	40.32M	37.661M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	81.72M	77.04M	77M0D1D	81.24M	76.68M
5.725-5.85GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	18.15M	18.921M	18M9D1D	17.04M	18.891M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	37.5M	37.721M	37M7D1D	36.24M	37.661M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	76.44M	78.12M	78M1D1D	58.56M	77.64M

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

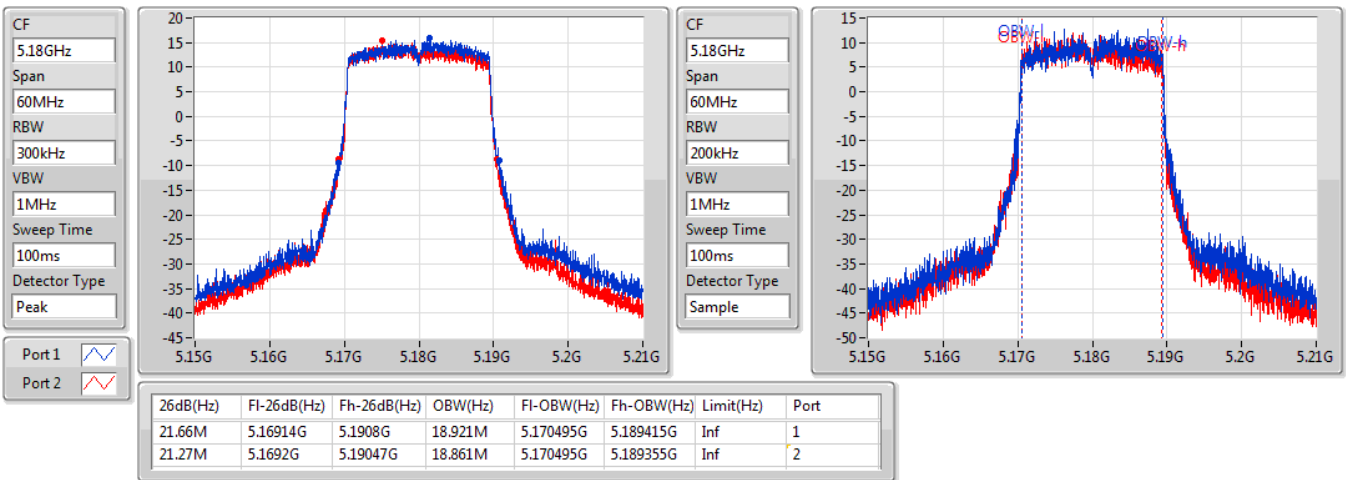
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.66M	18.921M	21.27M	18.861M
5200MHz	Pass	Inf	21.42M	18.891M	21.84M	18.921M
5240MHz	Pass	Inf	21.66M	18.891M	21.81M	18.891M
5745MHz	Pass	500k	17.7M	18.891M	17.49M	18.891M
5785MHz	Pass	500k	17.64M	18.921M	17.91M	18.891M
5825MHz	Pass	500k	17.04M	18.891M	18.15M	18.921M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	40.32M	37.661M	40.68M	37.721M
5230MHz	Pass	Inf	41.16M	37.661M	40.62M	37.721M
5755MHz	Pass	500k	36.42M	37.721M	37.5M	37.661M
5795MHz	Pass	500k	36.24M	37.661M	36.36M	37.661M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	81.72M	77.04M	81.24M	76.68M
5775MHz	Pass	500k	58.56M	77.64M	76.44M	78.12M

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

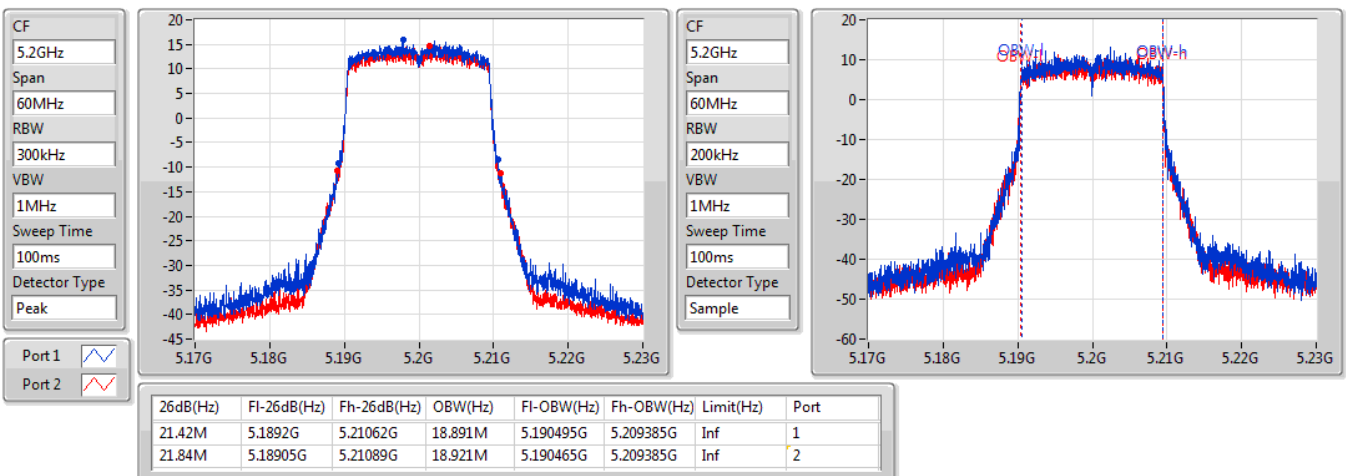
Port X-OBW = Port X 99% occupied bandwidth;

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5180MHz

10/07/2019

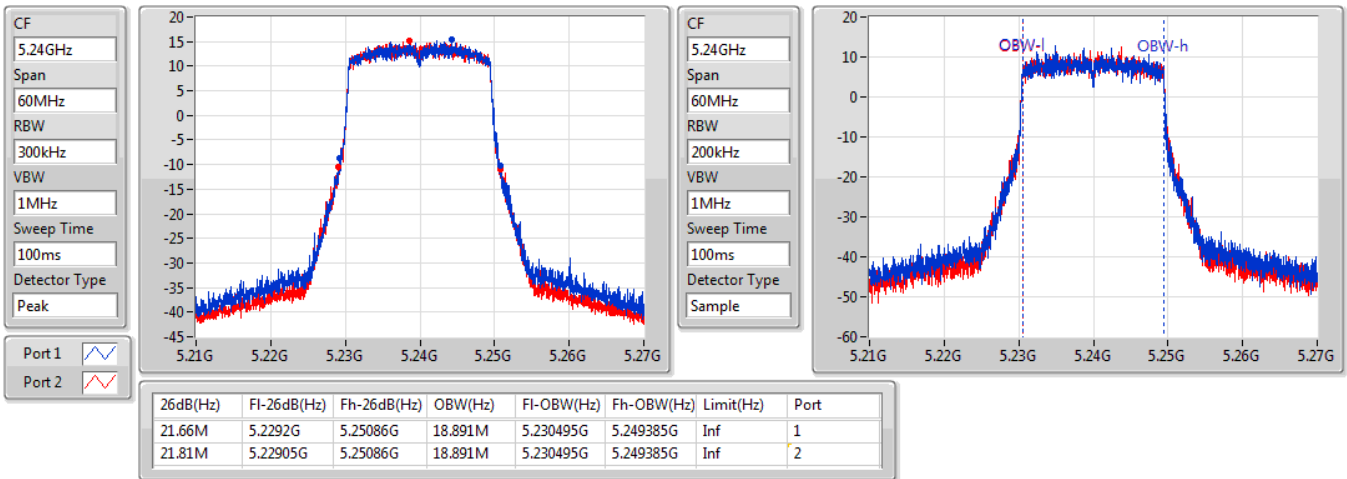

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5200MHz

10/07/2019

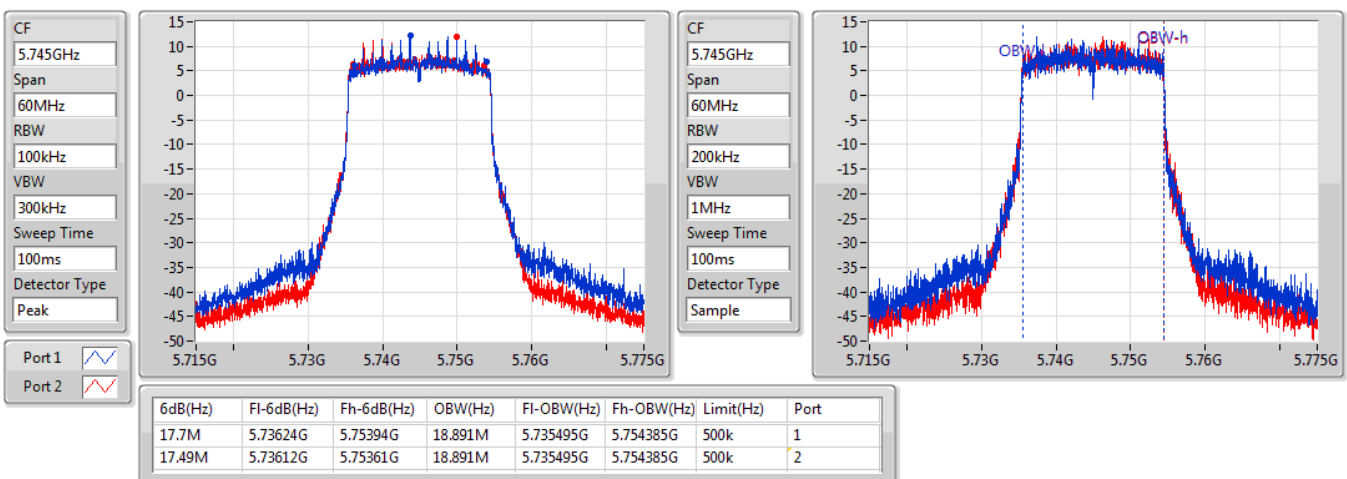


802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5240MHz

10/07/2019

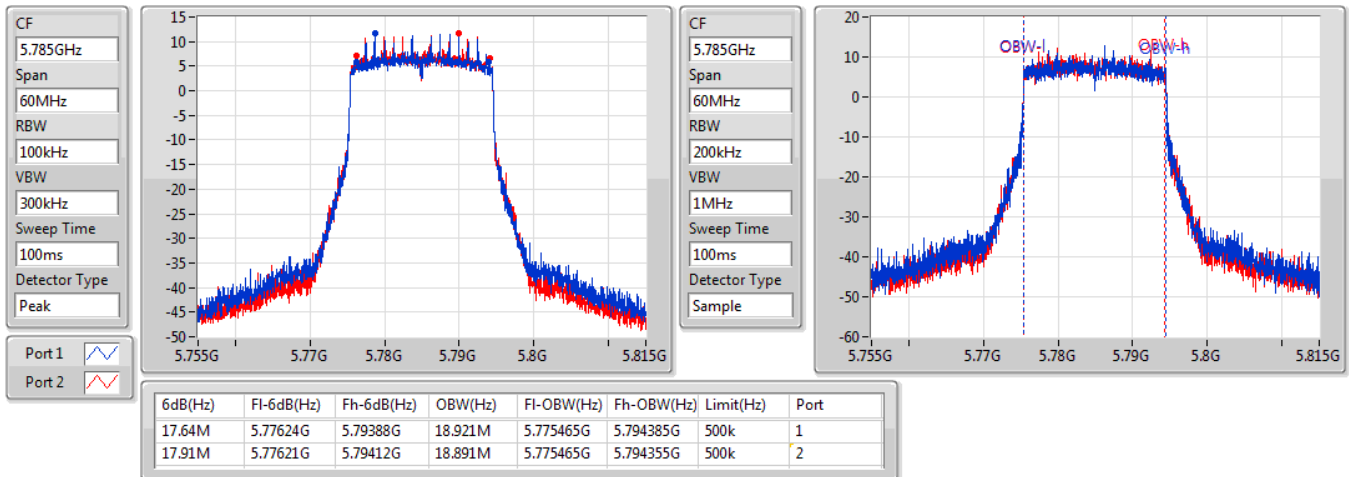

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5745MHz

10/07/2019

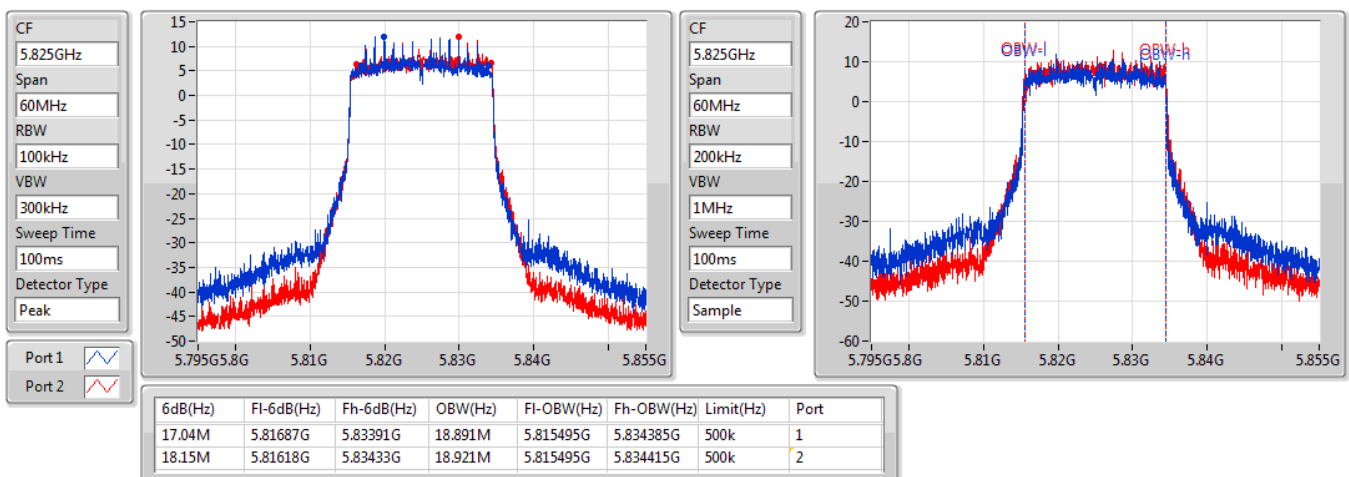


802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5785MHz

10/07/2019


802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5825MHz

10/07/2019

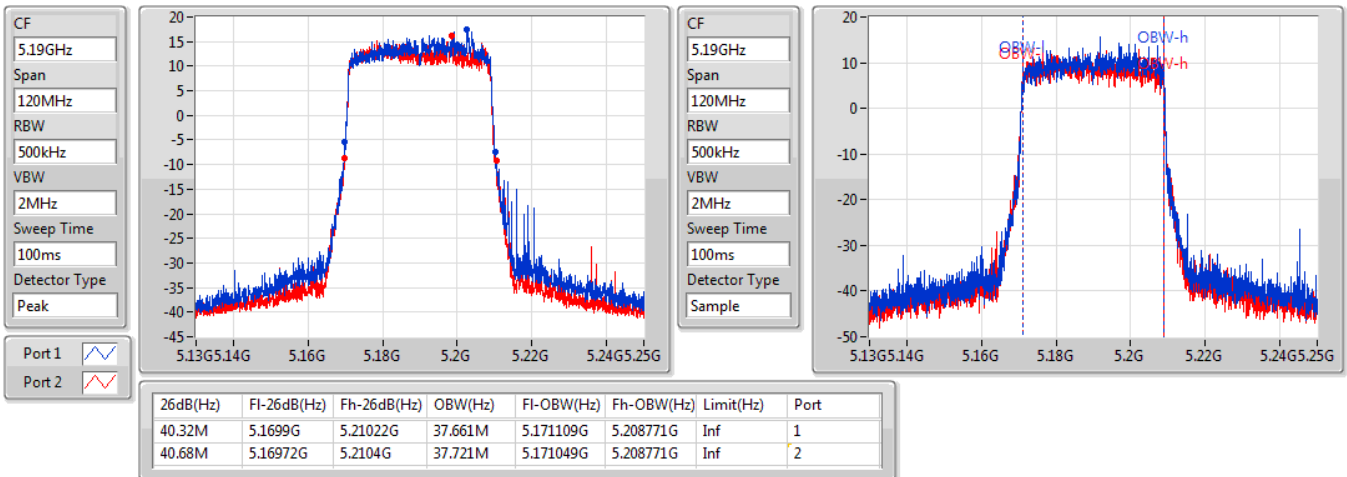


802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

5190MHz

10/07/2019

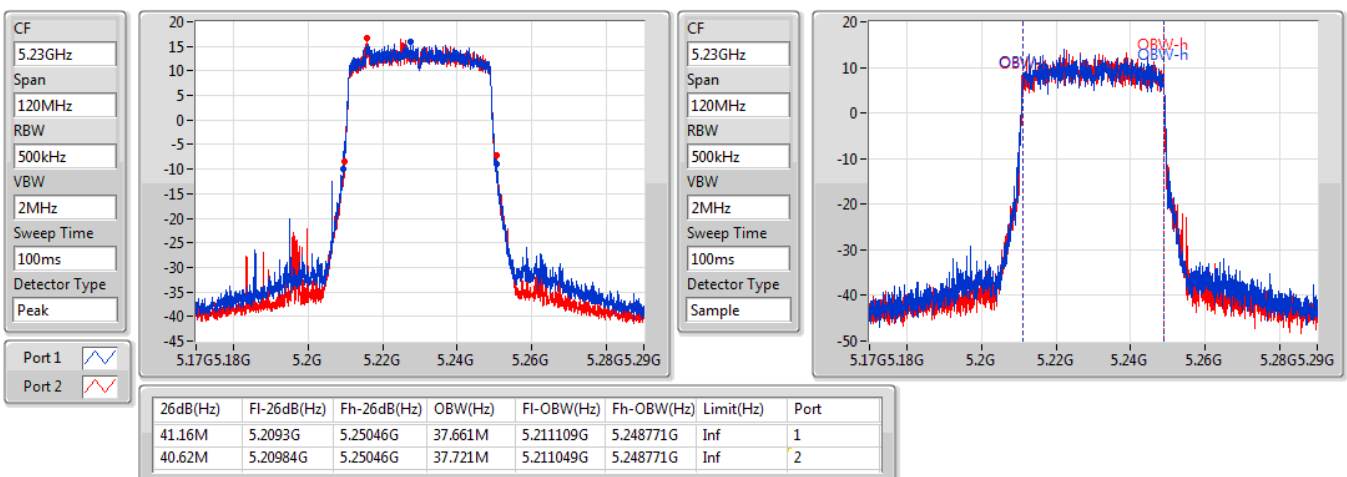


802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

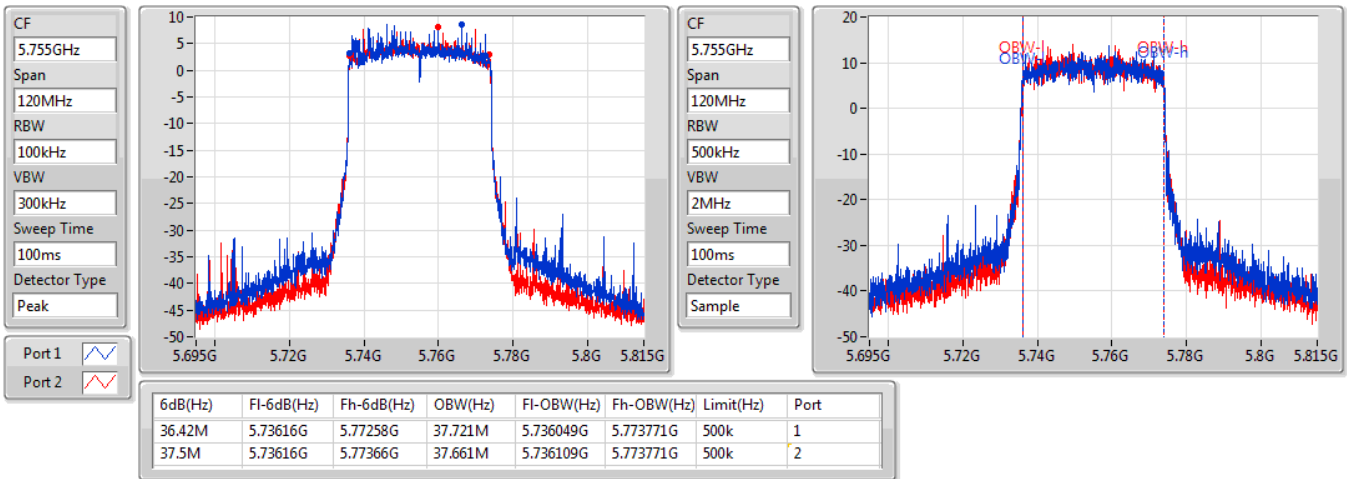
5230MHz

10/07/2019

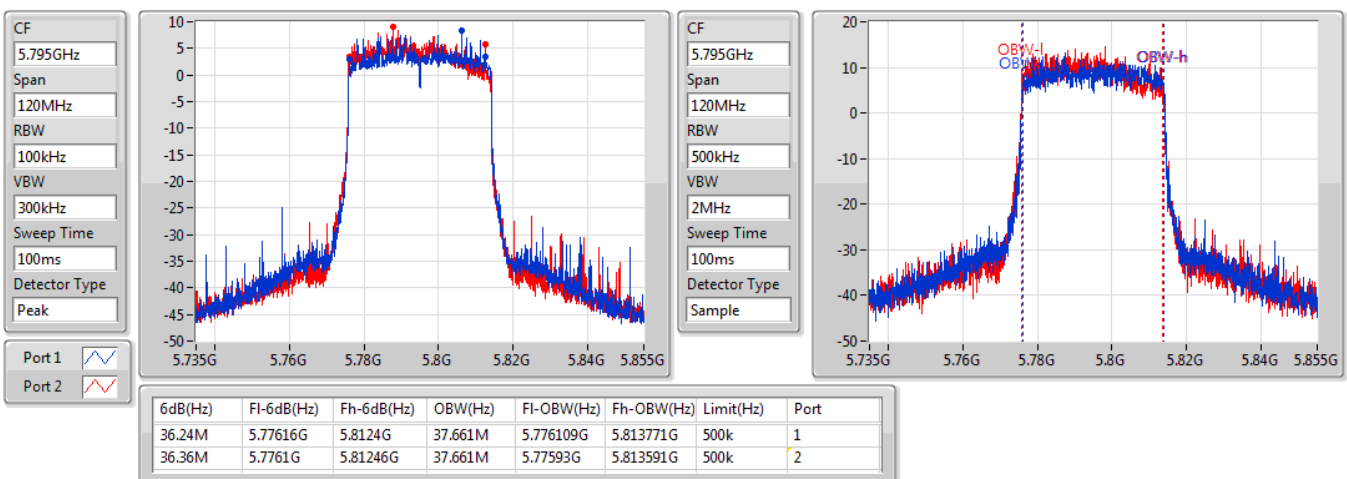


802.11ax HEW40-BF_Nss1,(MCS0)_2TX
EBW
5755MHz

10/07/2019

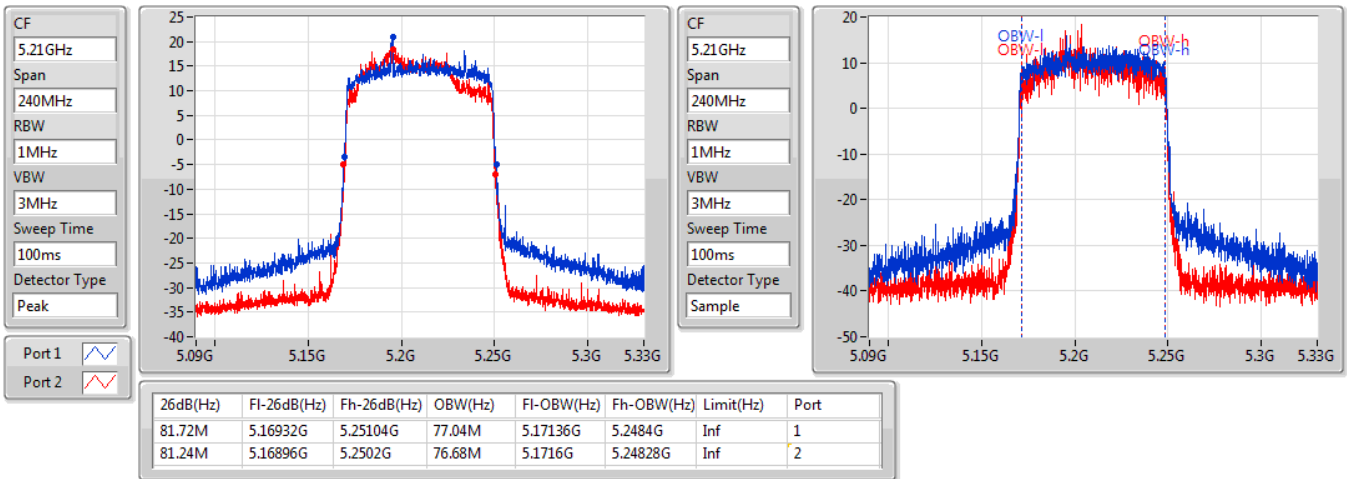

802.11ax HEW40-BF_Nss1,(MCS0)_2TX
EBW
5795MHz

10/07/2019

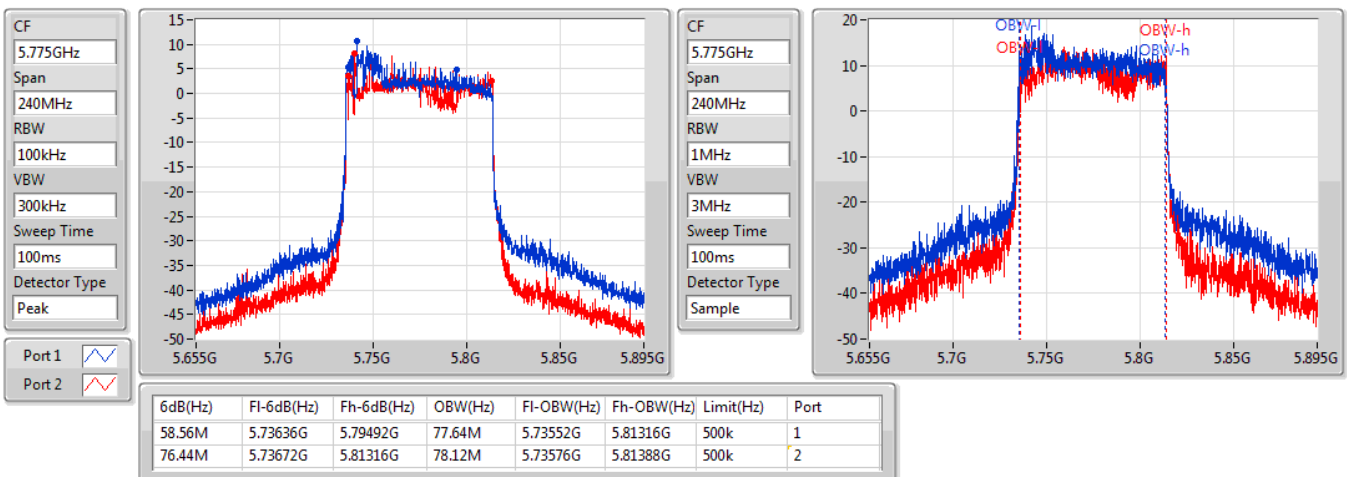


802.11ax HEW80-BF_Nss1,(MCS0)_2TX
EBW
5210MHz

17/07/2019


802.11ax HEW80-BF_Nss1,(MCS0)_2TX
EBW
5775MHz

17/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	20.88M	16.462M	16M5D1D	20.46M	16.342M
802.11ax HEW20_Nss1,(MCS0)_4TX	22.08M	18.921M	18M9D1D	21.57M	18.891M
802.11ax HEW40_Nss1,(MCS0)_4TX	41.46M	37.721M	37M7D1D	40.92M	37.601M
802.11ax HEW80_Nss1,(MCS0)_4TX	82.68M	77.121M	77M1D1D	82.08M	76.882M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	15.9M	16.492M	16M5D1D	15.3M	16.342M
802.11ax HEW20_Nss1,(MCS0)_4TX	18.63M	19.01M	19M0D1D	17.43M	18.861M
802.11ax HEW40_Nss1,(MCS0)_4TX	37.74M	37.901M	37M9D1D	36.18M	37.661M
802.11ax HEW80_Nss1,(MCS0)_4TX	77.04M	77.241M	77M2D1D	71.4M	76.882M

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

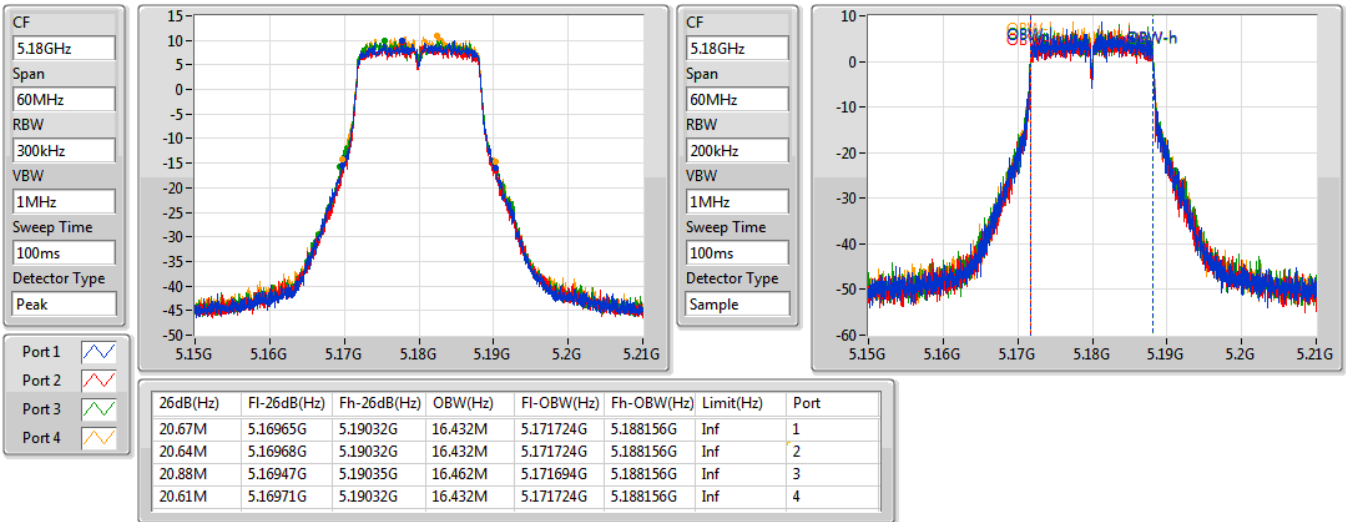
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	20.67M	16.432M	20.64M	16.432M	20.88M	16.462M	20.61M	16.432M
5200MHz	Pass	Inf	20.46M	16.342M	20.64M	16.402M	20.85M	16.402M	20.52M	16.402M
5240MHz	Pass	Inf	20.64M	16.402M	20.49M	16.342M	20.61M	16.432M	20.58M	16.402M
5745MHz	Pass	500k	15.78M	16.462M	15.87M	16.432M	15.78M	16.432M	15.3M	16.432M
5785MHz	Pass	500k	15.3M	16.342M	15.63M	16.432M	15.9M	16.462M	15.42M	16.462M
5825MHz	Pass	500k	15.3M	16.372M	15.42M	16.402M	15.3M	16.342M	15.75M	16.492M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.93M	18.921M	21.78M	18.921M	21.84M	18.891M	21.99M	18.921M
5200MHz	Pass	Inf	21.9M	18.921M	21.57M	18.921M	22.08M	18.921M	22.02M	18.921M
5240MHz	Pass	Inf	22.02M	18.921M	21.57M	18.921M	21.87M	18.921M	21.78M	18.921M
5745MHz	Pass	500k	18.24M	18.951M	18.06M	18.921M	18.63M	18.951M	17.46M	18.921M
5785MHz	Pass	500k	17.43M	18.861M	17.97M	18.921M	18.6M	19.01M	17.94M	18.951M
5825MHz	Pass	500k	17.58M	18.891M	18M	18.921M	18M	18.921M	18.33M	18.921M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	41.4M	37.721M	40.92M	37.721M	40.92M	37.601M	41.22M	37.661M
5230MHz	Pass	Inf	41.4M	37.721M	41.34M	37.721M	40.98M	37.661M	41.46M	37.721M
5755MHz	Pass	500k	37.62M	37.721M	37.74M	37.661M	37.68M	37.721M	37.68M	37.901M
5795MHz	Pass	500k	36.18M	37.661M	36.42M	37.661M	37.56M	37.721M	36.96M	37.901M
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	82.32M	76.882M	82.68M	76.882M	82.08M	77.001M	82.2M	77.121M
5775MHz	Pass	500k	73.32M	76.882M	71.4M	77.001M	76.92M	77.001M	77.04M	77.241M

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

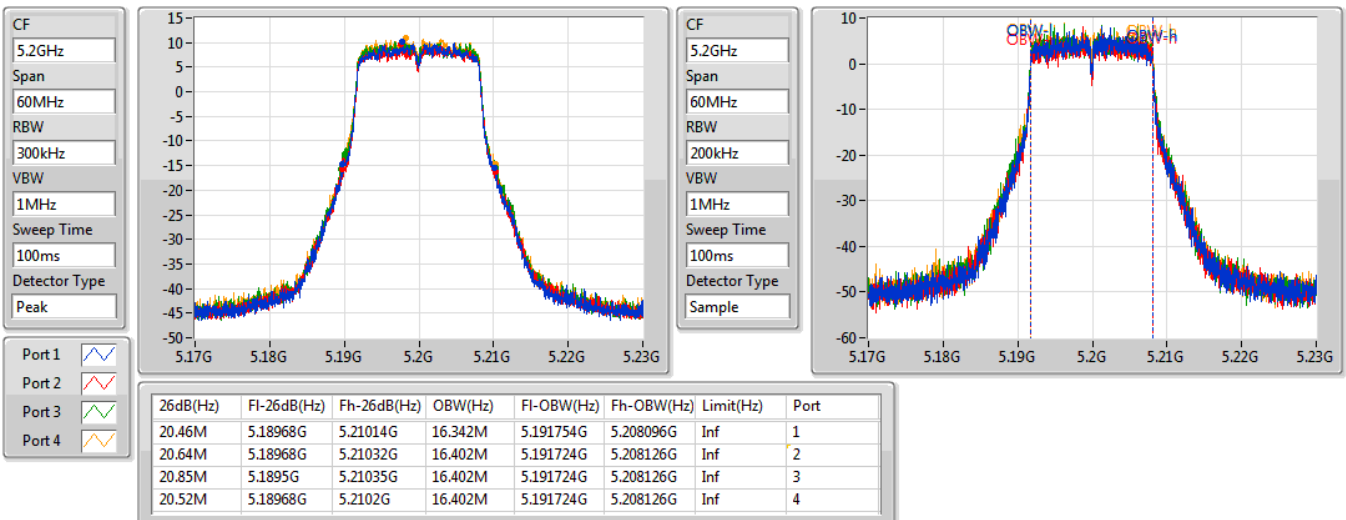
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_4TX
EBW
5180MHz

09/07/2019

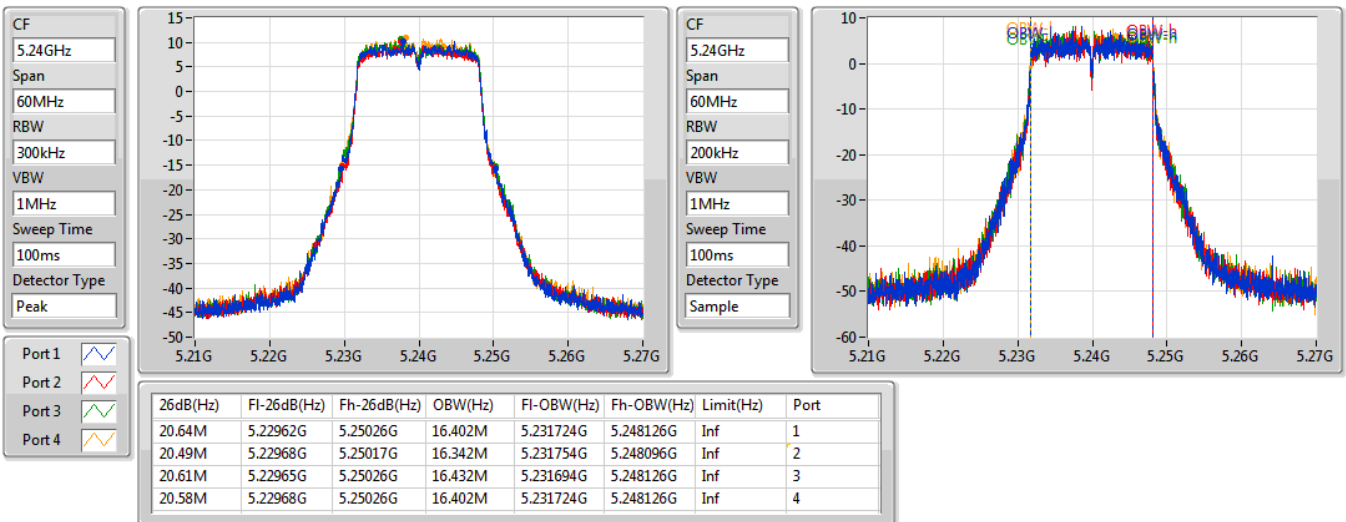

802.11a_Nss1,(6Mbps)_4TX
EBW
5200MHz

09/07/2019

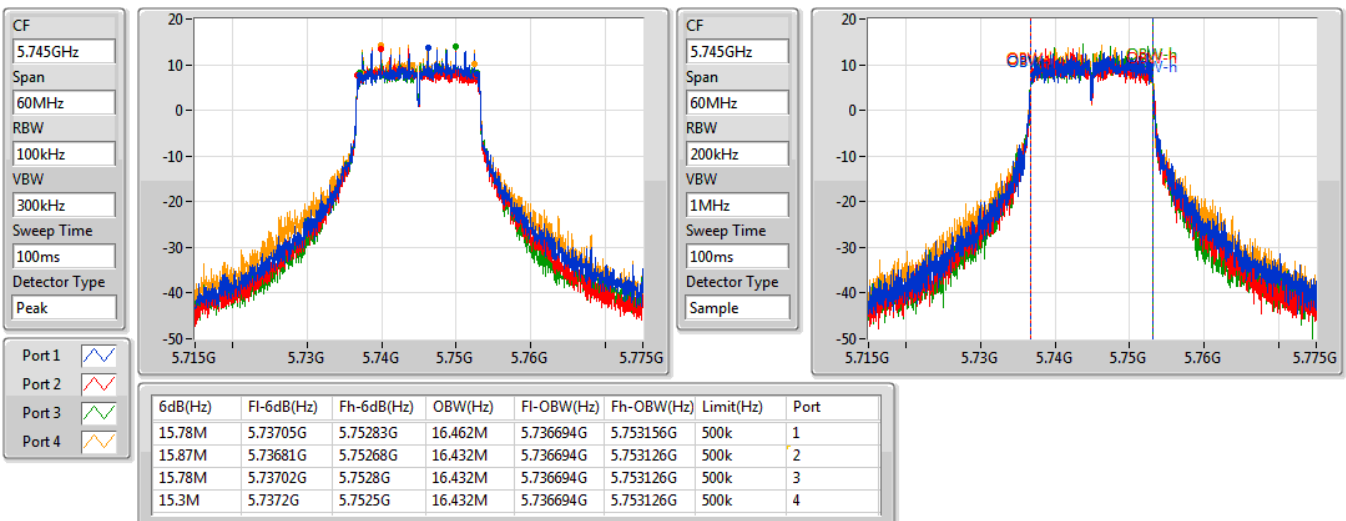


802.11a_Nss1,(6Mbps)_4TX
EBW
5240MHz

09/07/2019

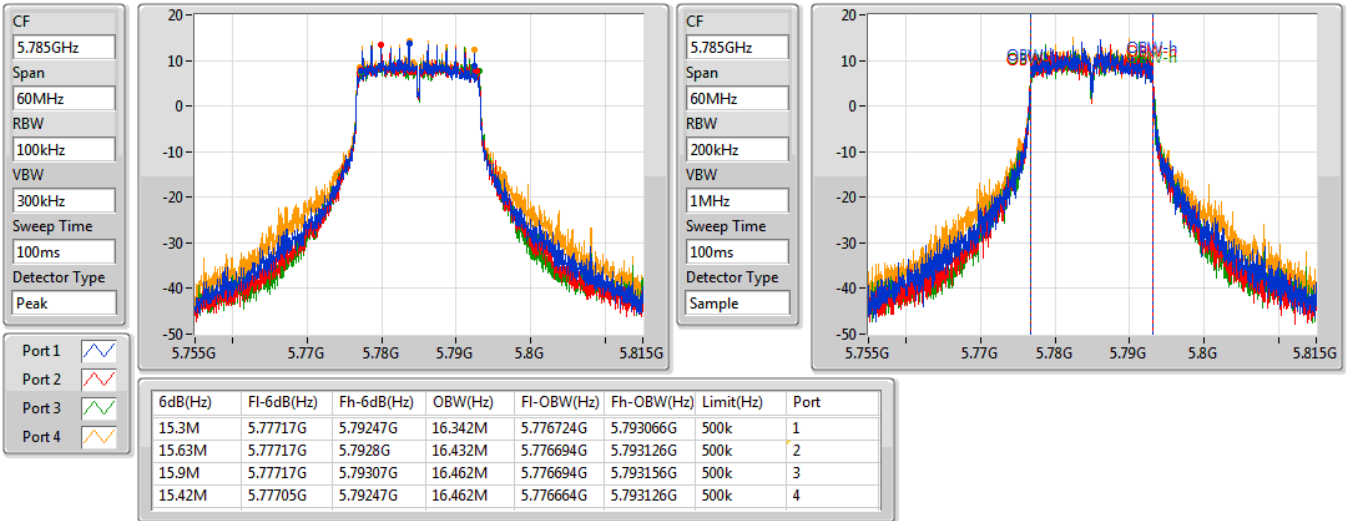

802.11a_Nss1,(6Mbps)_4TX
EBW
5745MHz

09/07/2019

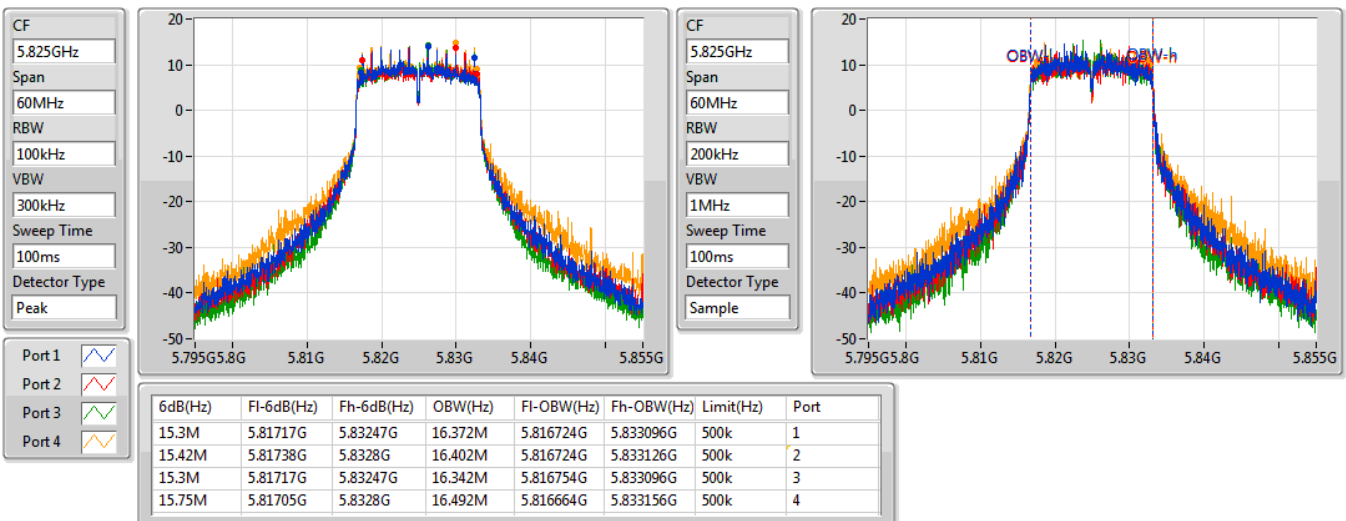


802.11a_Nss1,(6Mbps)_4TX
EBW
5785MHz

09/07/2019


802.11a_Nss1,(6Mbps)_4TX
EBW
5825MHz

09/07/2019

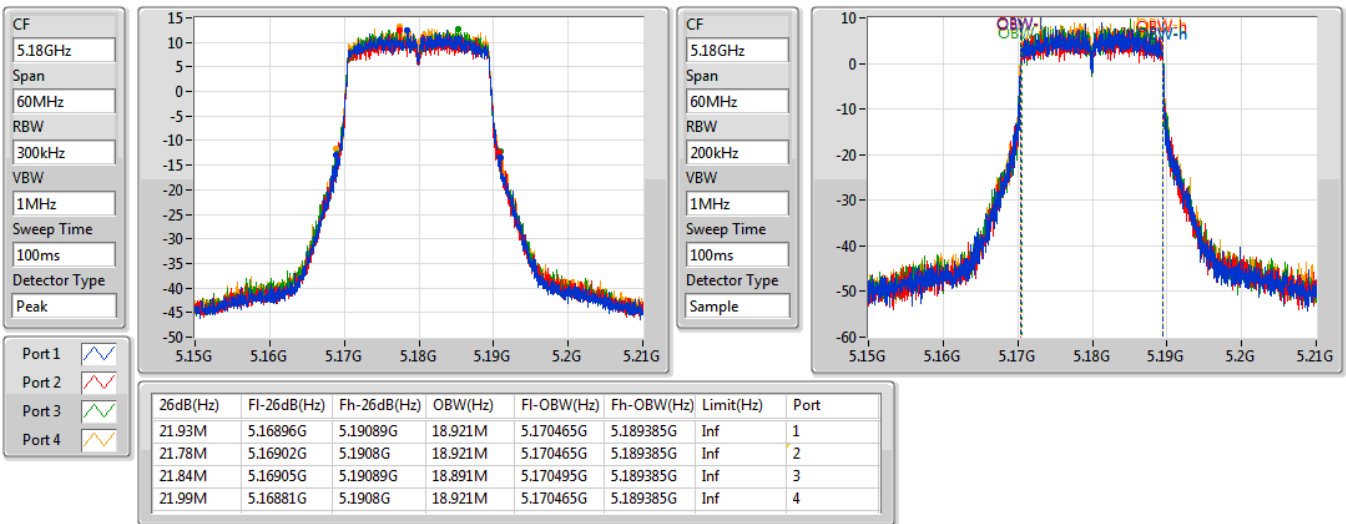


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

5180MHz

09/07/2019

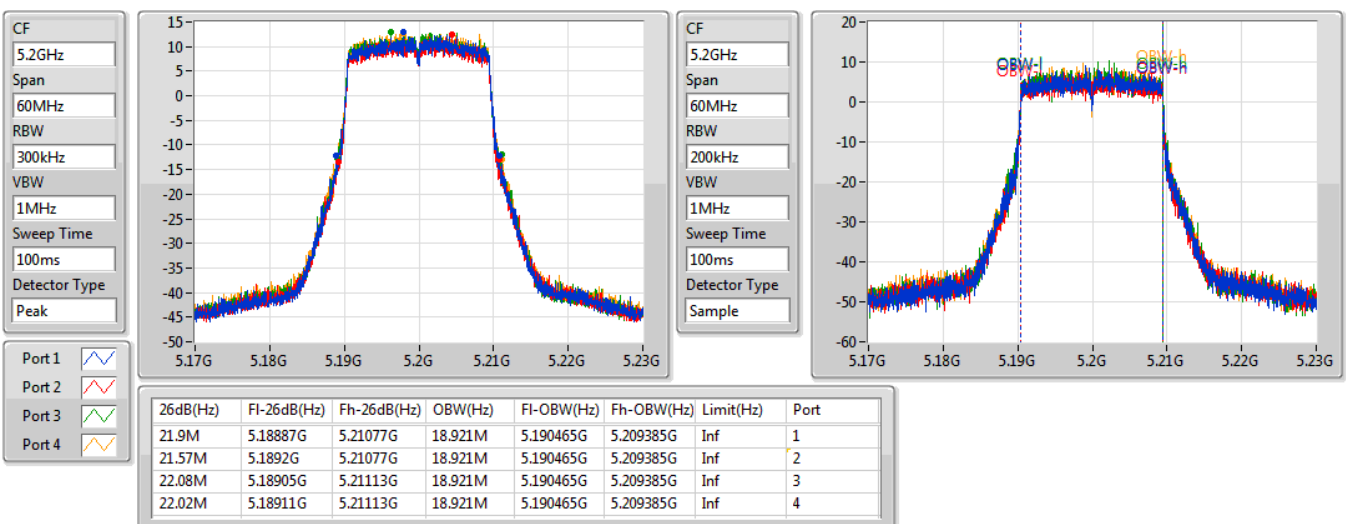


802.11ax HEW20_Nss1,(MCS0)_4TX

EBW

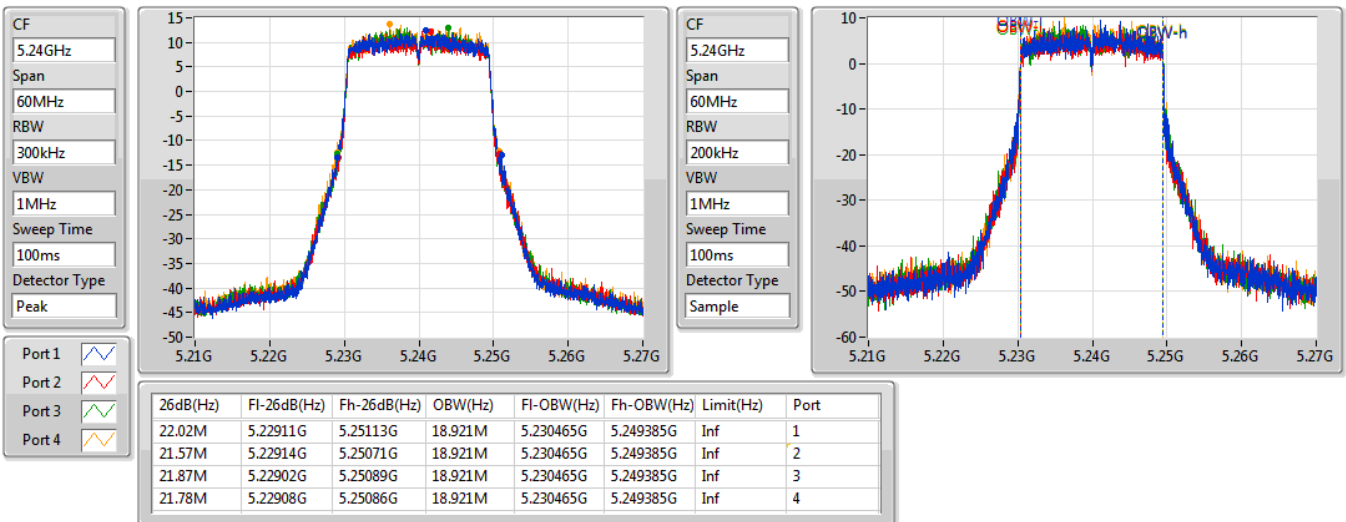
5200MHz

09/07/2019

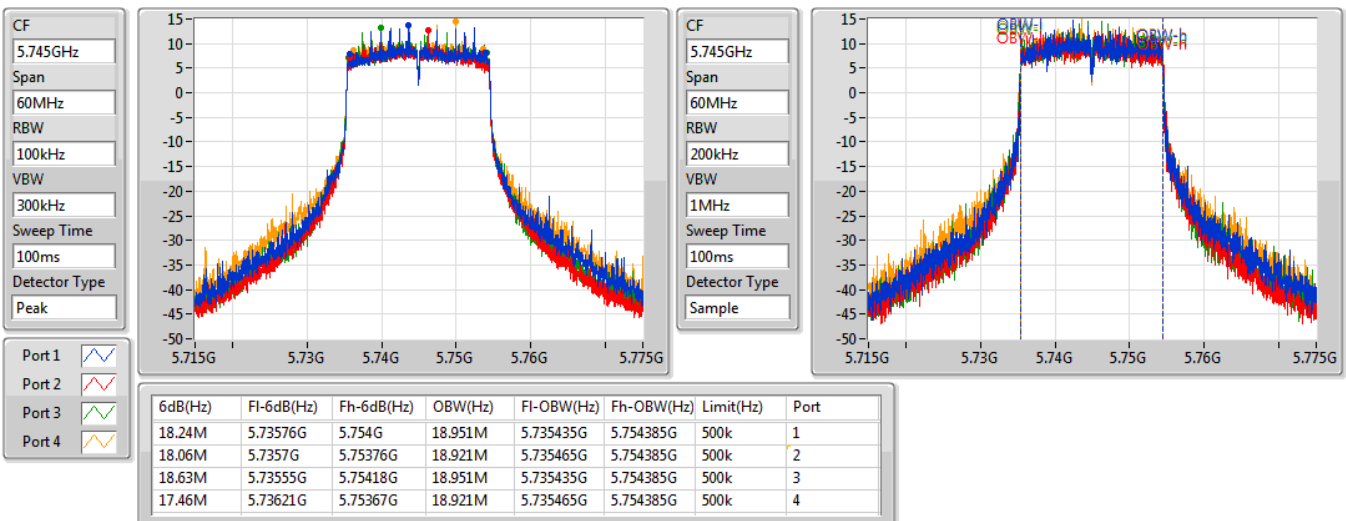


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5240MHz

09/07/2019

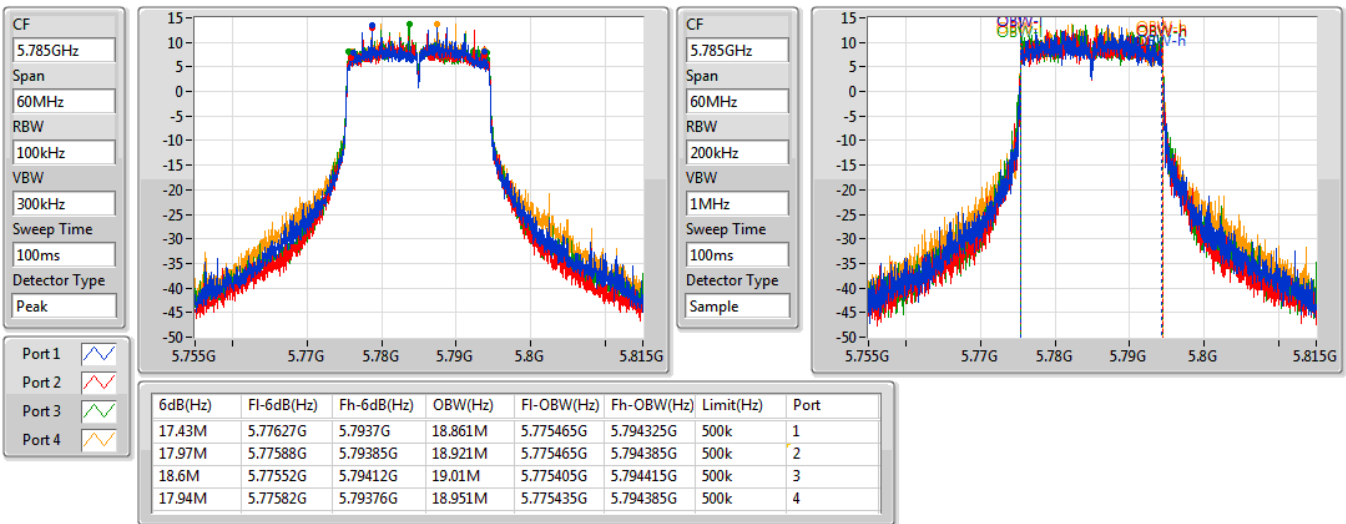

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5745MHz

09/07/2019

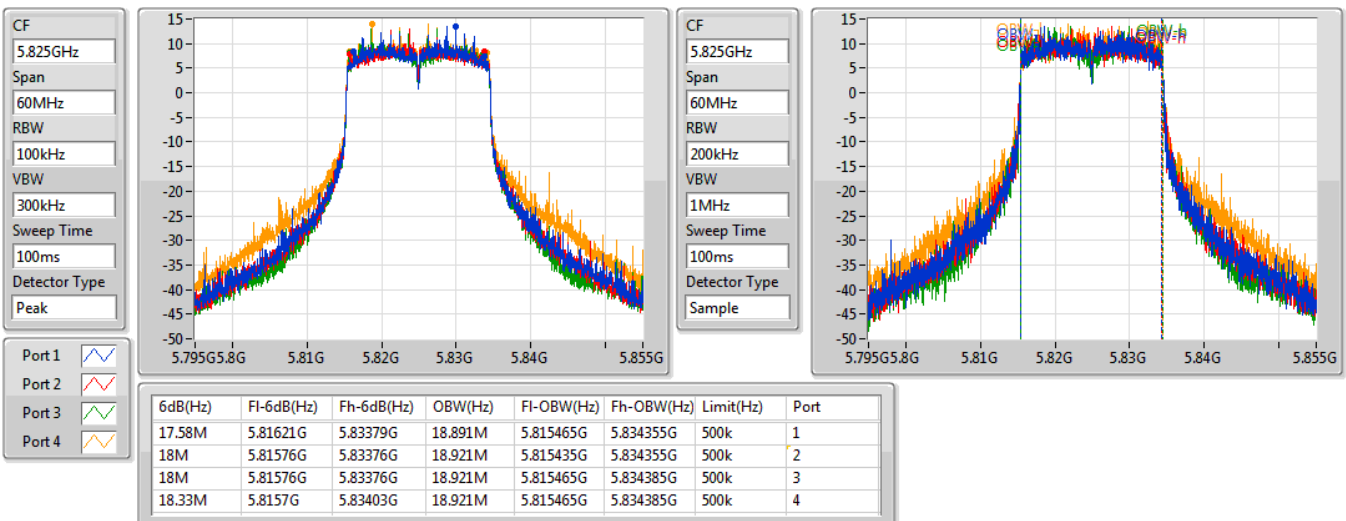


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5785MHz

09/07/2019


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5825MHz

09/07/2019

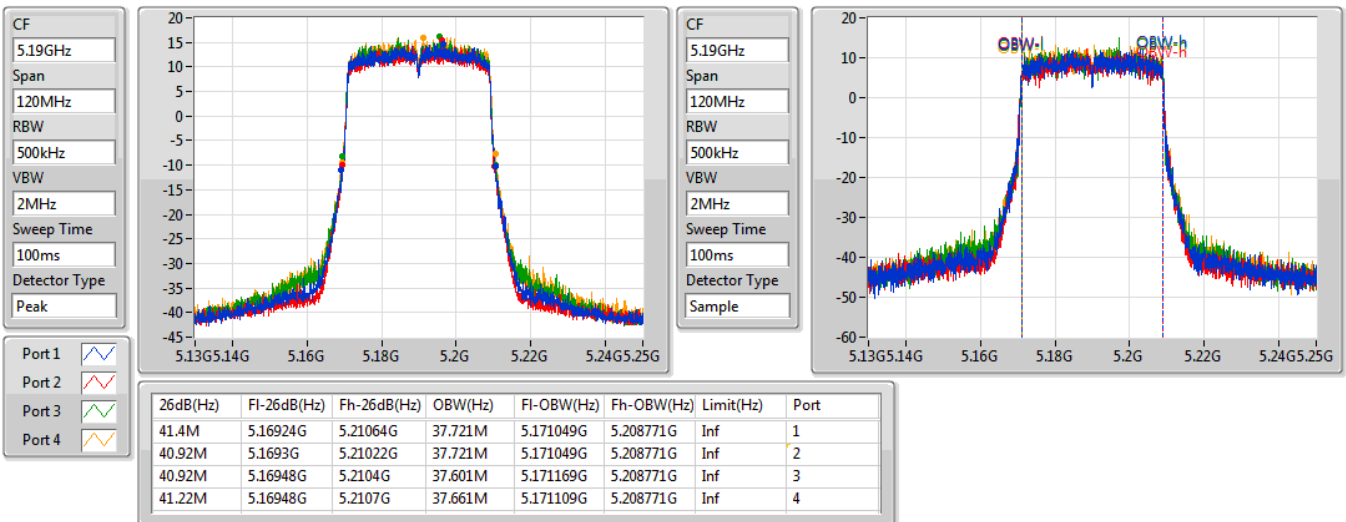


802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

5190MHz

09/07/2019

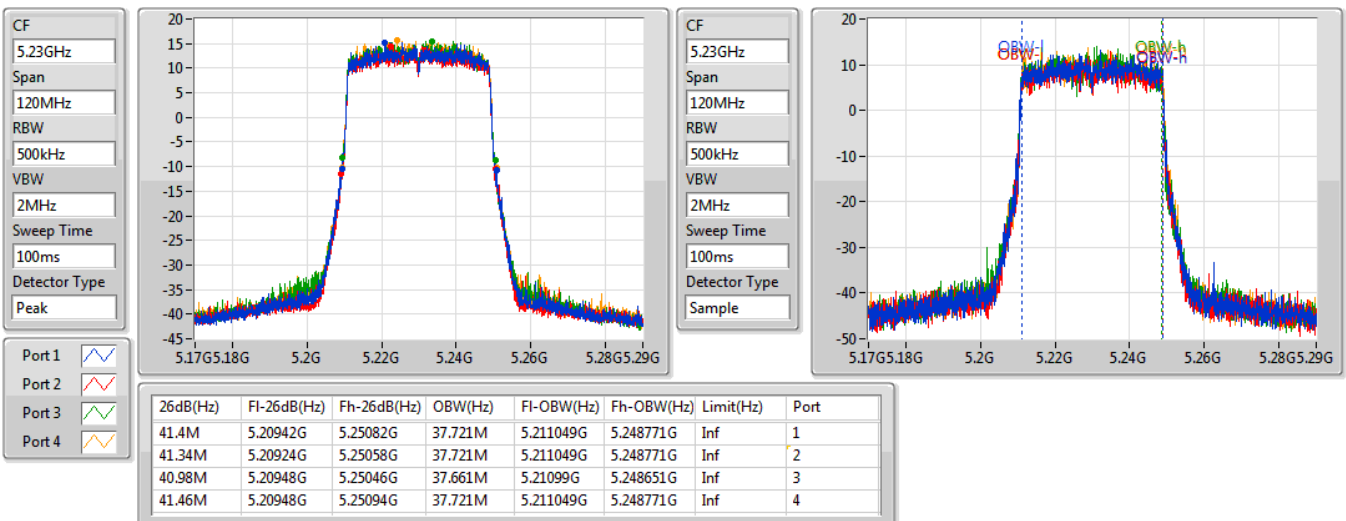


802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

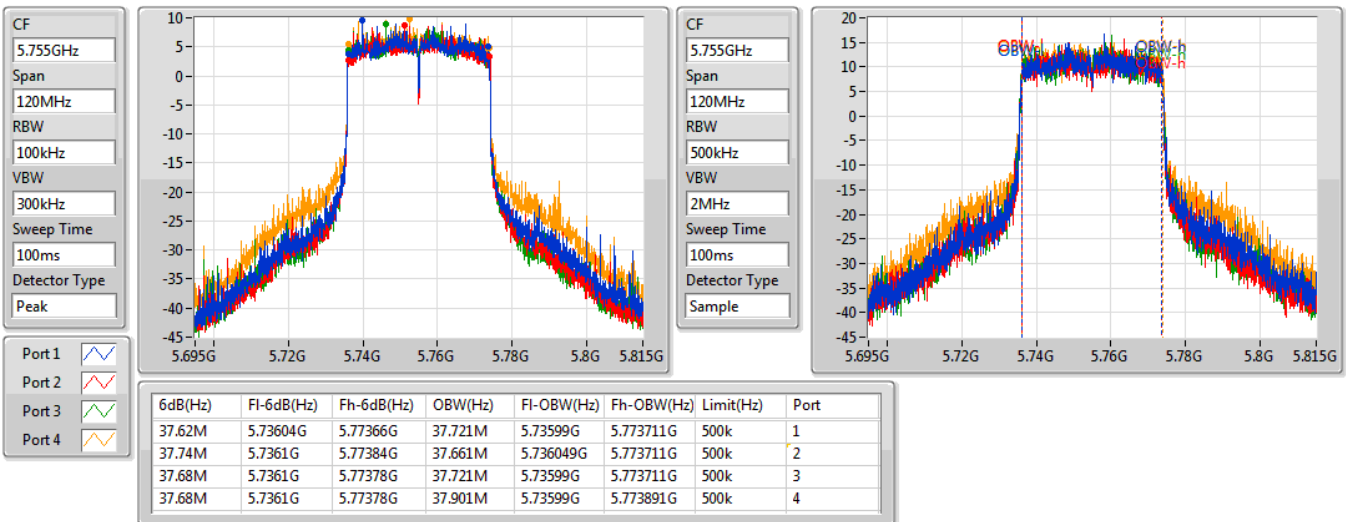
5230MHz

09/07/2019

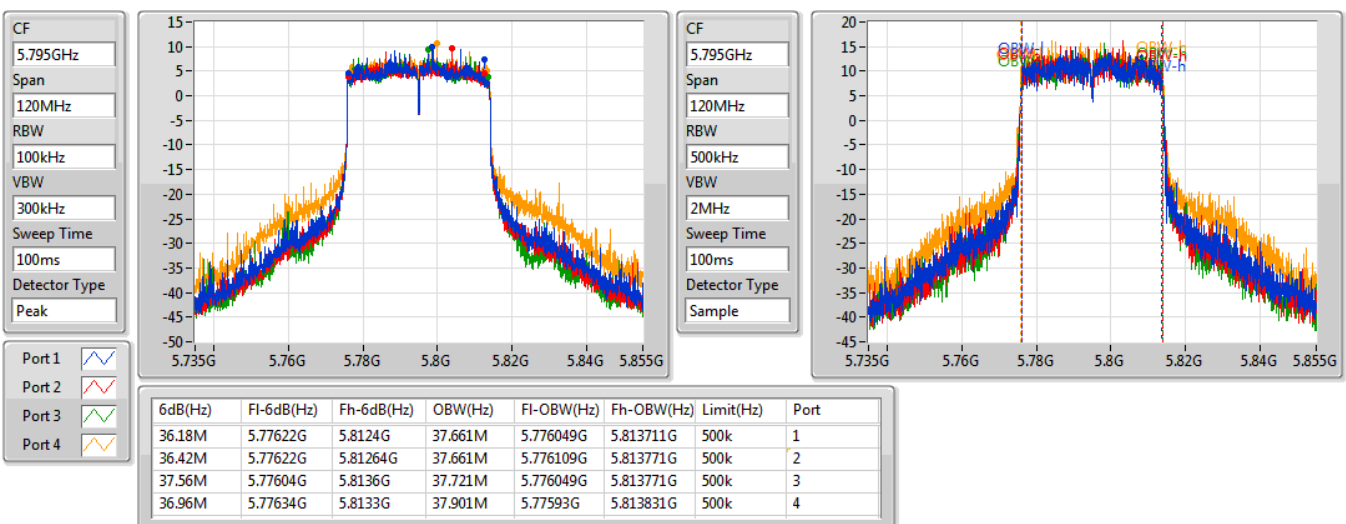


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5755MHz

09/07/2019

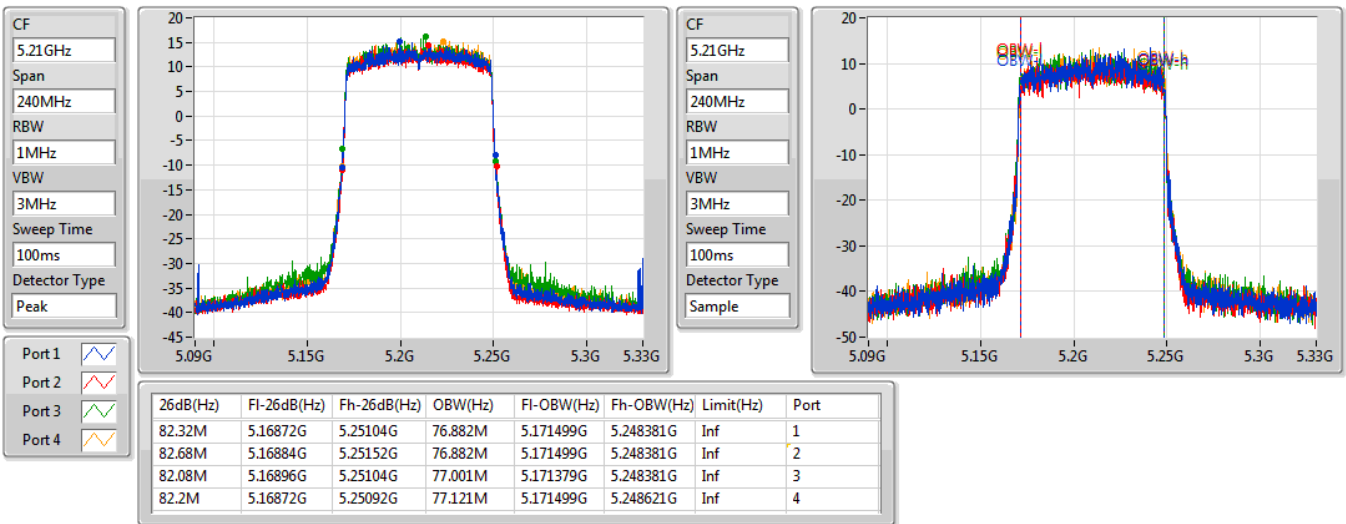

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5795MHz

09/07/2019

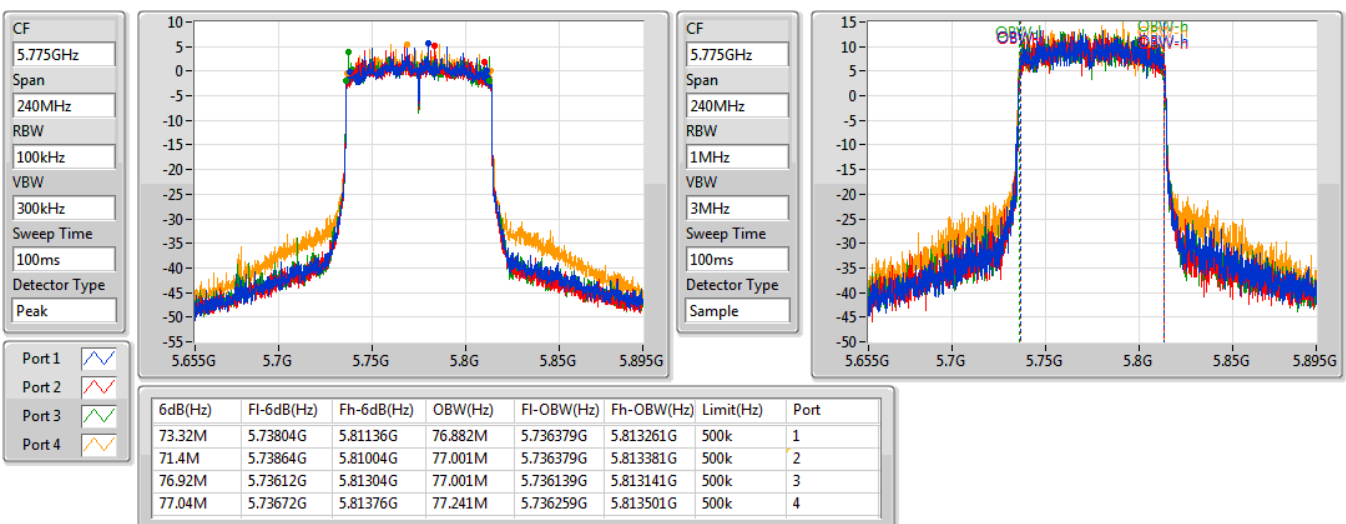


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5210MHz

09/07/2019


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5775MHz

09/07/2019



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	22.2M	18.921M	18M9D1D	21.18M	18.831M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	41.34M	37.961M	38M0D1D	40.62M	37.541M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	81.24M	77.241M	77M2D1D	80.52M	76.882M
5.725-5.85GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	18.48M	18.921M	18M9D1D	17.25M	18.861M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	37.8M	37.781M	37M8D1D	28.74M	37.541M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	71.88M	77.361M	77M4D1D	62.88M	76.522M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Max-OBW = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Min-OBW = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	22.2M	18.891M	21.81M	18.891M	21.21M	18.861M	21.45M	18.831M
5200MHz	Pass	Inf	21.81M	18.861M	21.18M	18.861M	21.75M	18.891M	22.11M	18.921M
5240MHz	Pass	Inf	21.96M	18.861M	21.54M	18.921M	21.72M	18.921M	21.93M	18.861M
5745MHz	Pass	500k	18.48M	18.921M	17.91M	18.861M	18.36M	18.921M	18M	18.861M
5785MHz	Pass	500k	17.85M	18.861M	17.58M	18.891M	17.58M	18.861M	18.36M	18.891M
5825MHz	Pass	500k	17.25M	18.891M	17.94M	18.891M	17.76M	18.921M	18M	18.891M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	41.22M	37.721M	40.62M	37.541M	41.22M	37.661M	40.68M	37.601M
5230MHz	Pass	Inf	40.62M	37.661M	41.34M	37.961M	40.98M	37.721M	41.22M	37.661M
5755MHz	Pass	500k	37.62M	37.661M	33.78M	37.661M	37.8M	37.781M	37.14M	37.721M
5795MHz	Pass	500k	28.74M	37.661M	35.04M	37.541M	36.3M	37.781M	35.22M	37.721M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	80.76M	77.001M	81.24M	77.241M	80.52M	76.882M	81M	77.001M
5775MHz	Pass	500k	68.76M	77.001M	71.88M	76.522M	62.88M	77.001M	68.88M	77.361M

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

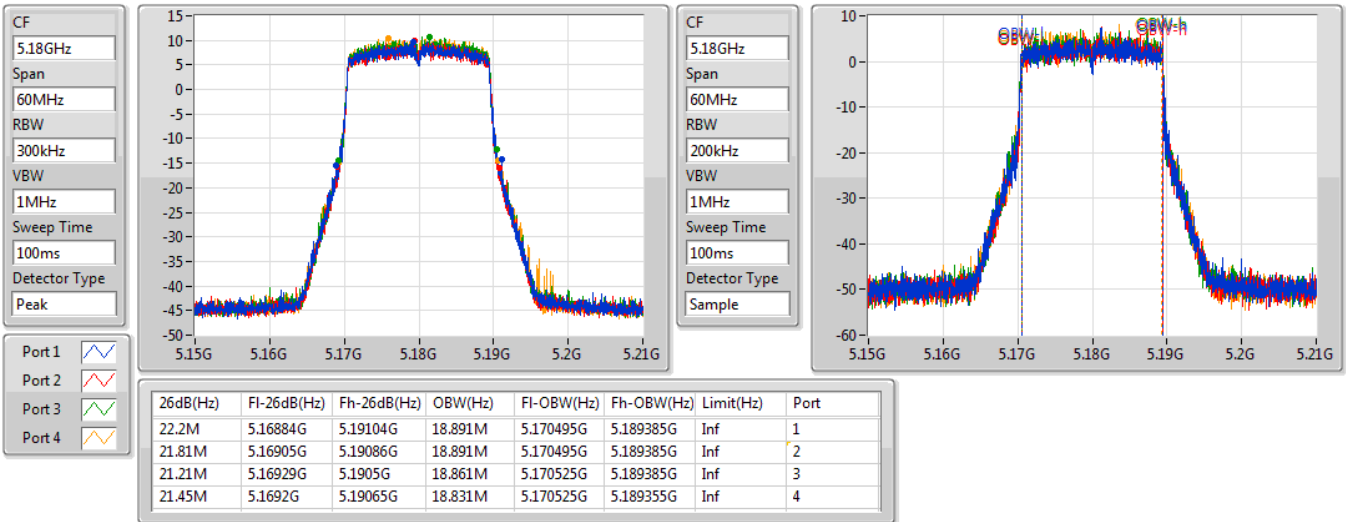
Port X-OBW = Port X 99% occupied bandwidth;

802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

5180MHz

22/07/2019

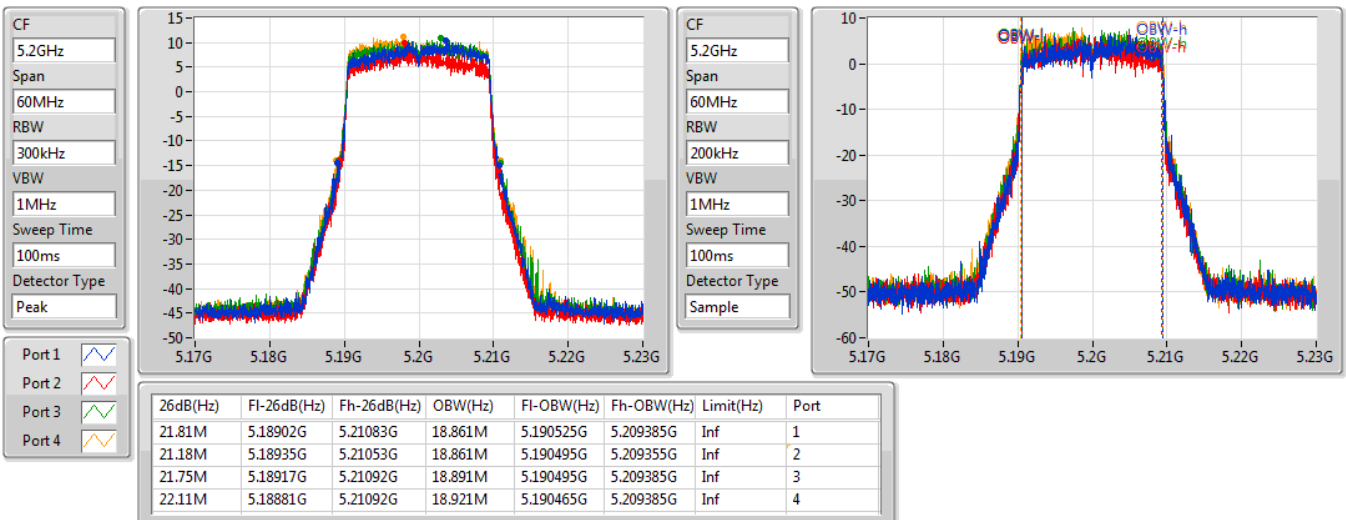


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

EBW

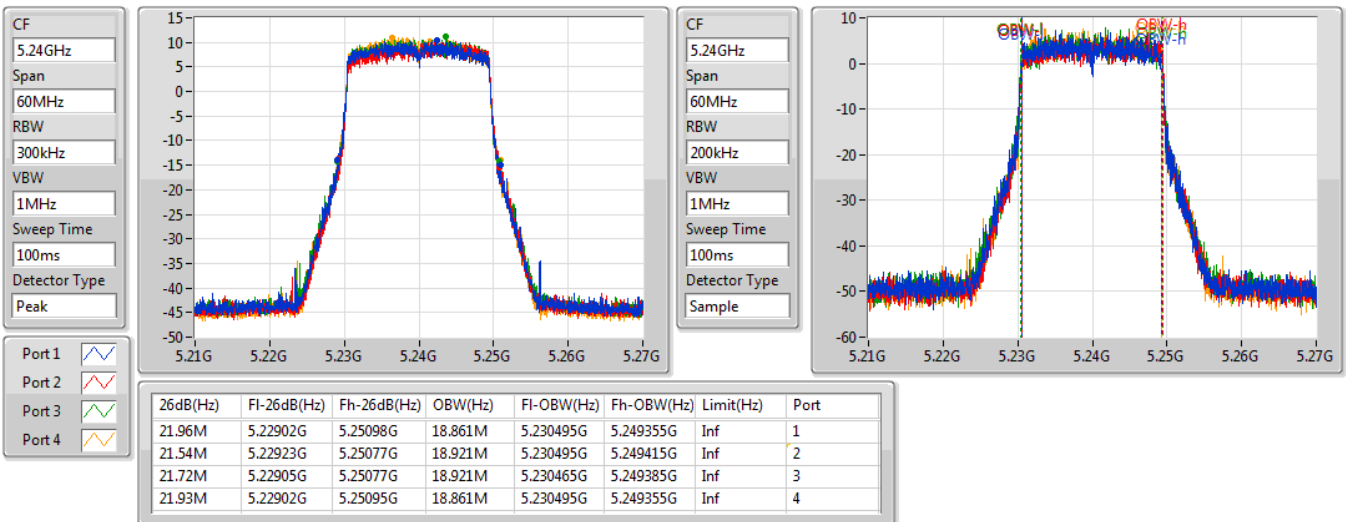
5200MHz

22/07/2019

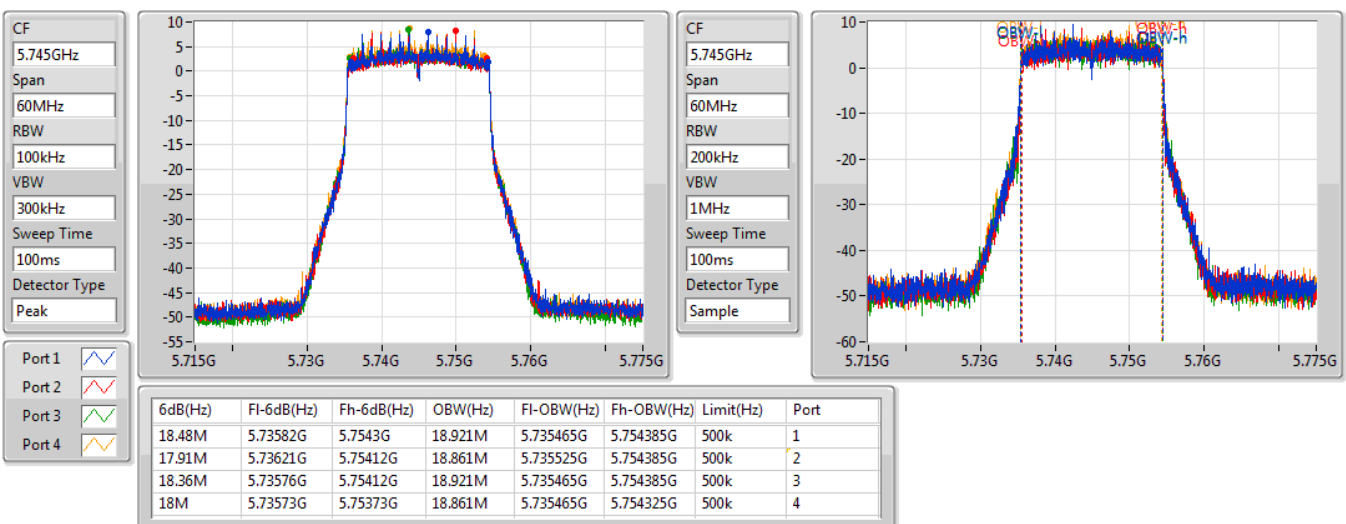


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5240MHz

22/07/2019

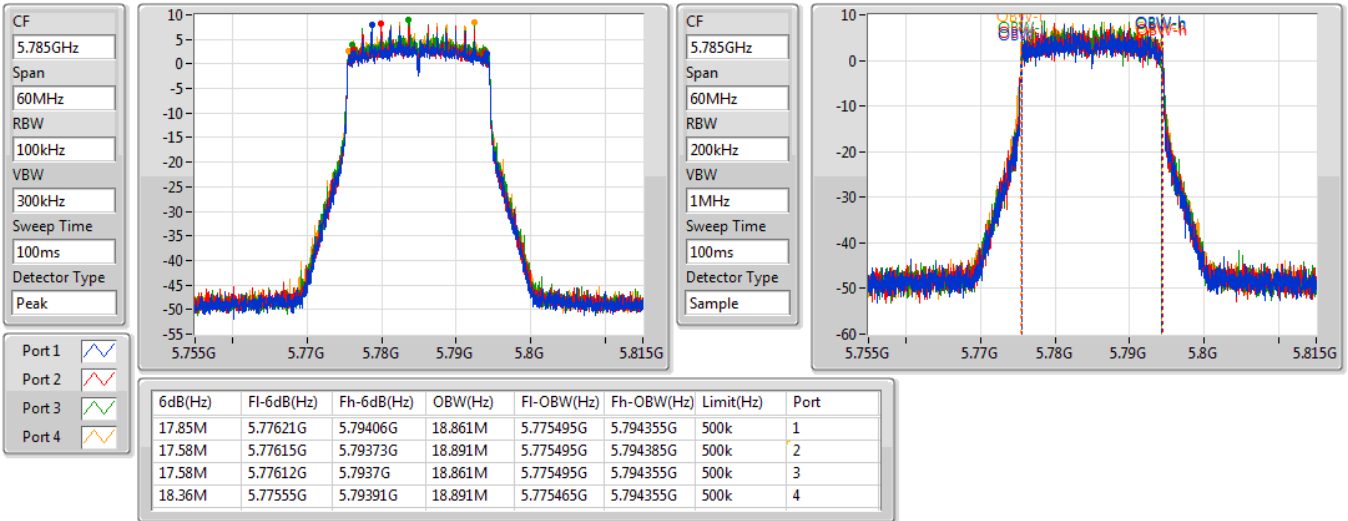

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5745MHz

22/07/2019

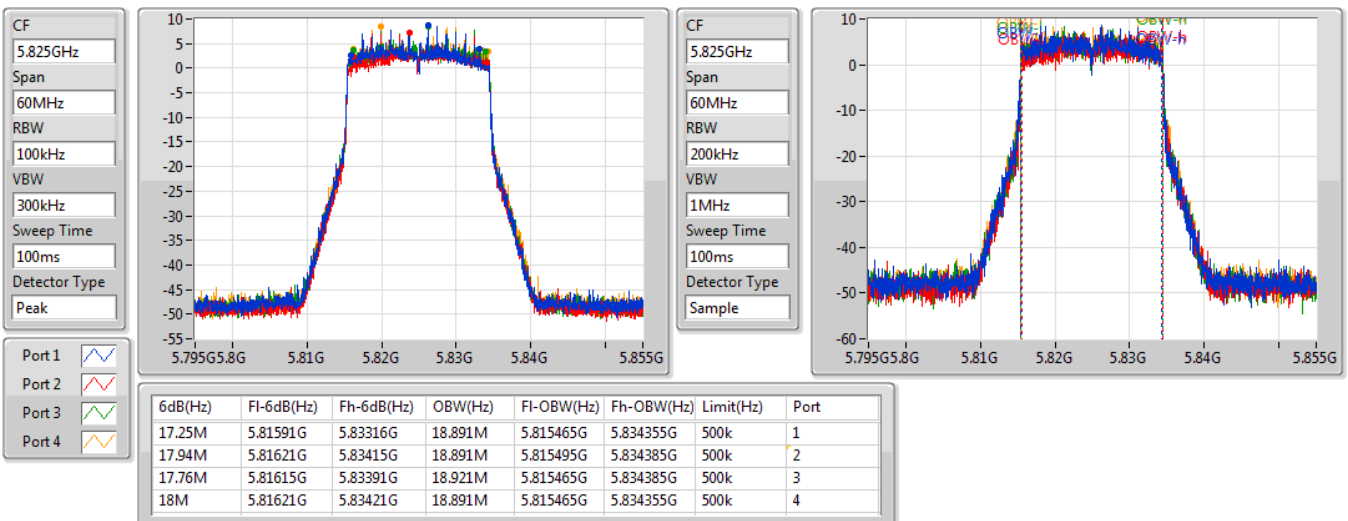


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5785MHz

22/07/2019


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

22/07/2019

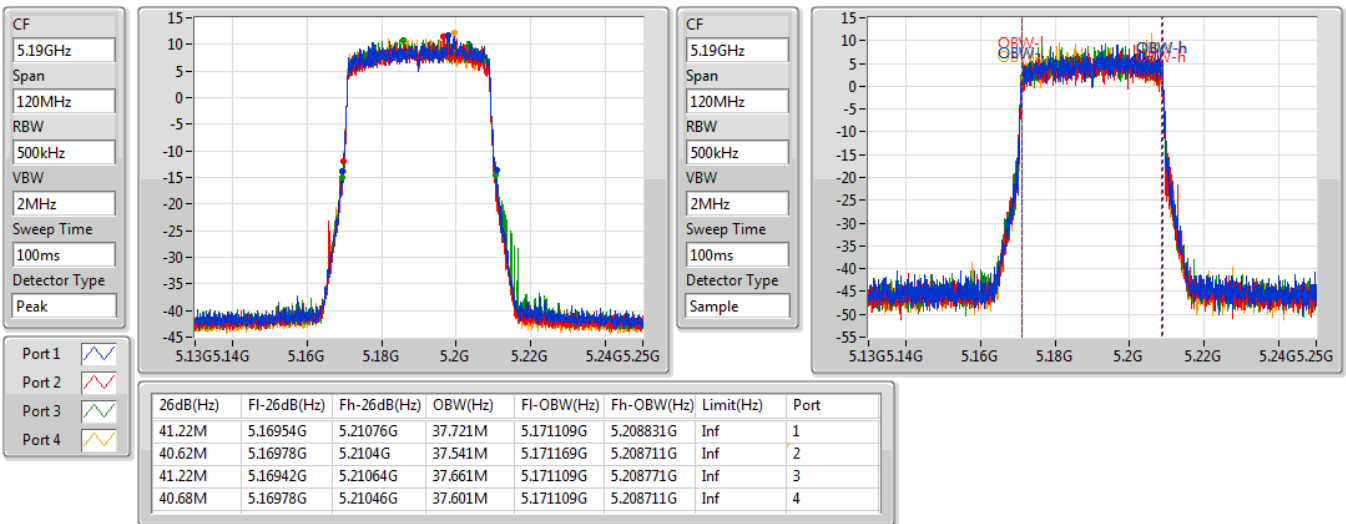


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

5190MHz

22/07/2019

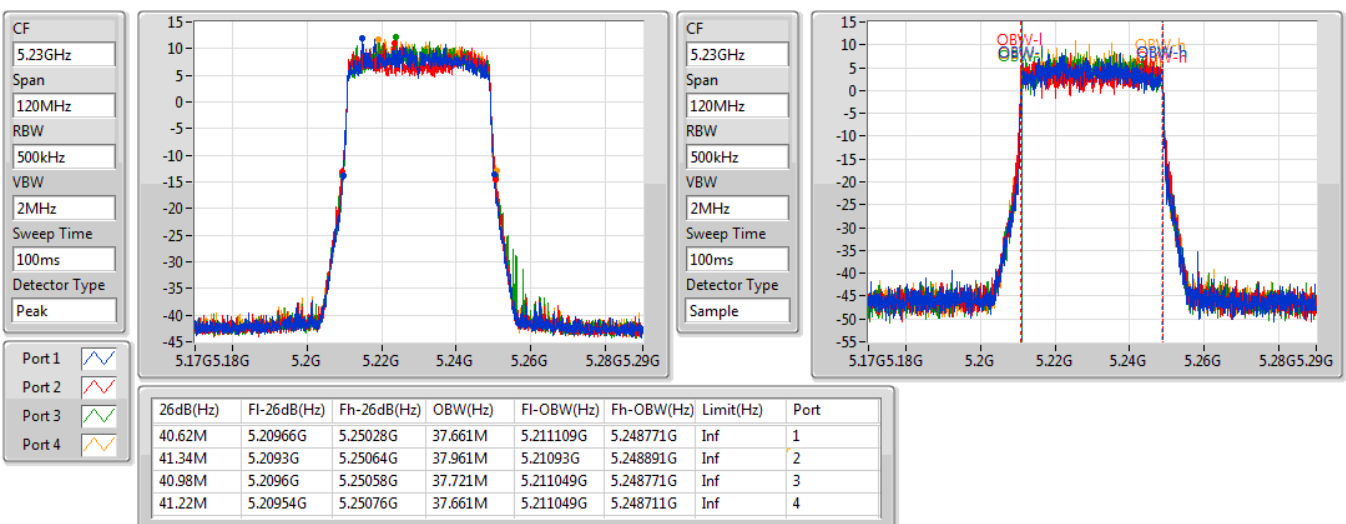


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

EBW

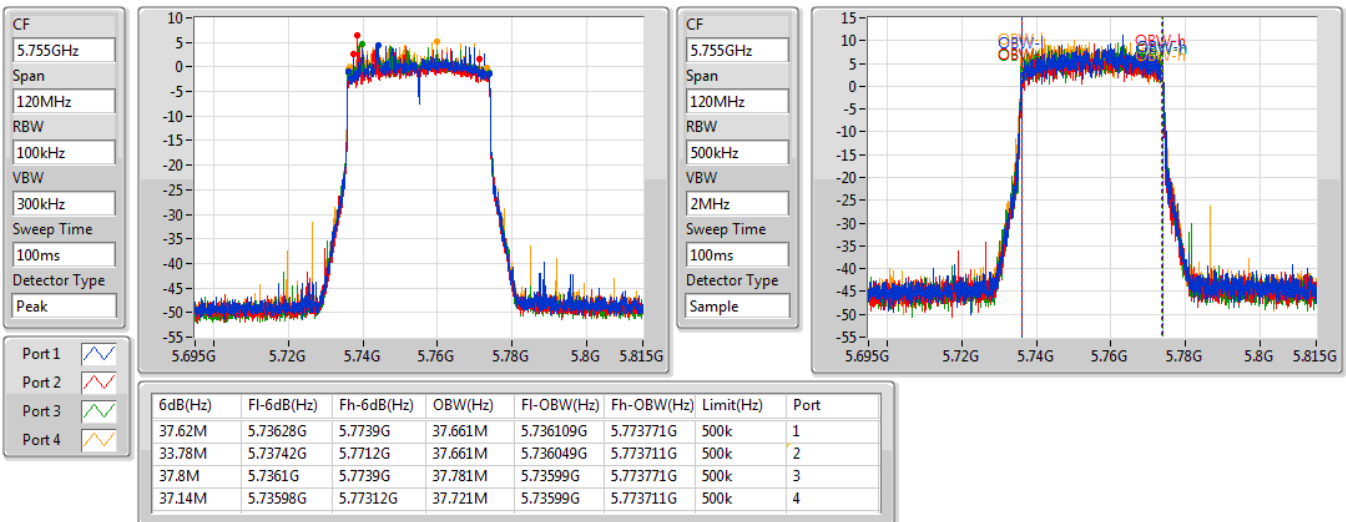
5230MHz

22/07/2019

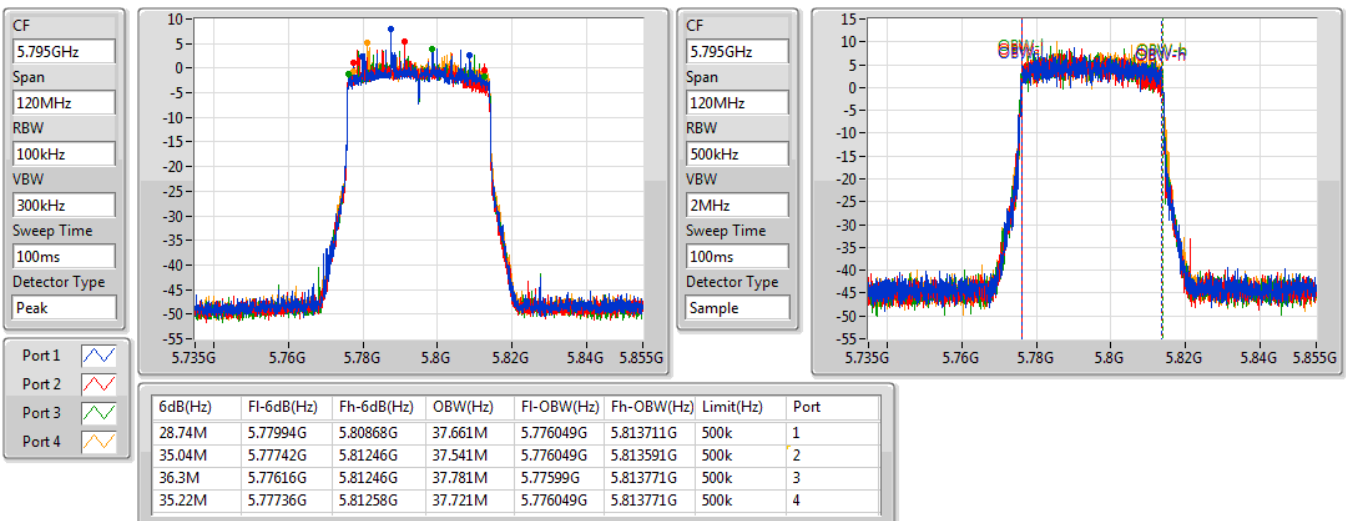


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5755MHz

22/07/2019

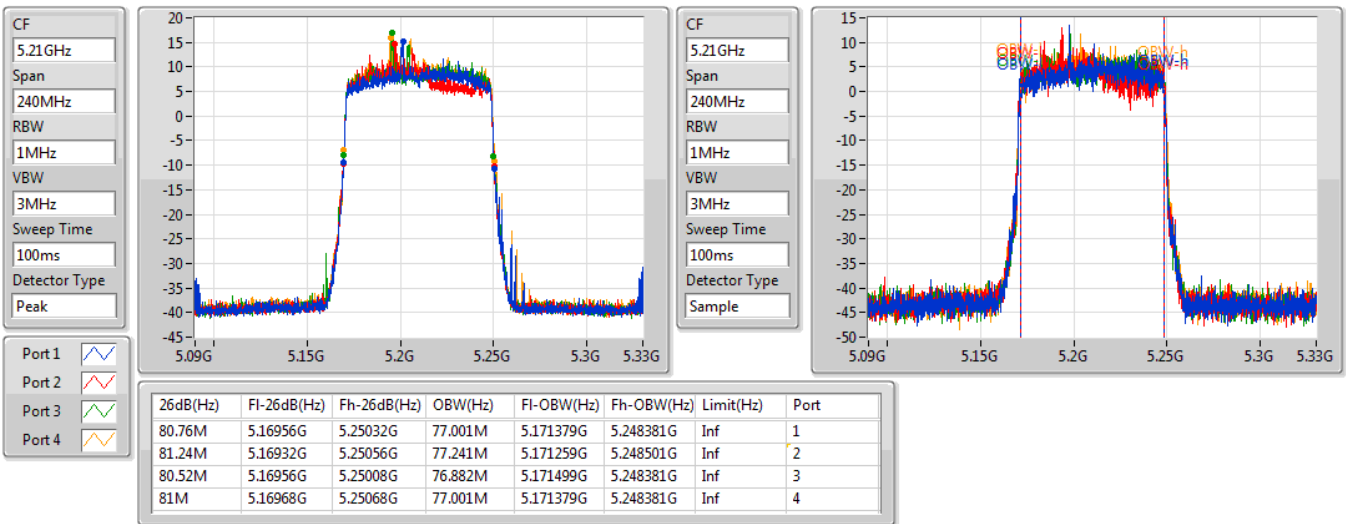

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5795MHz

22/07/2019

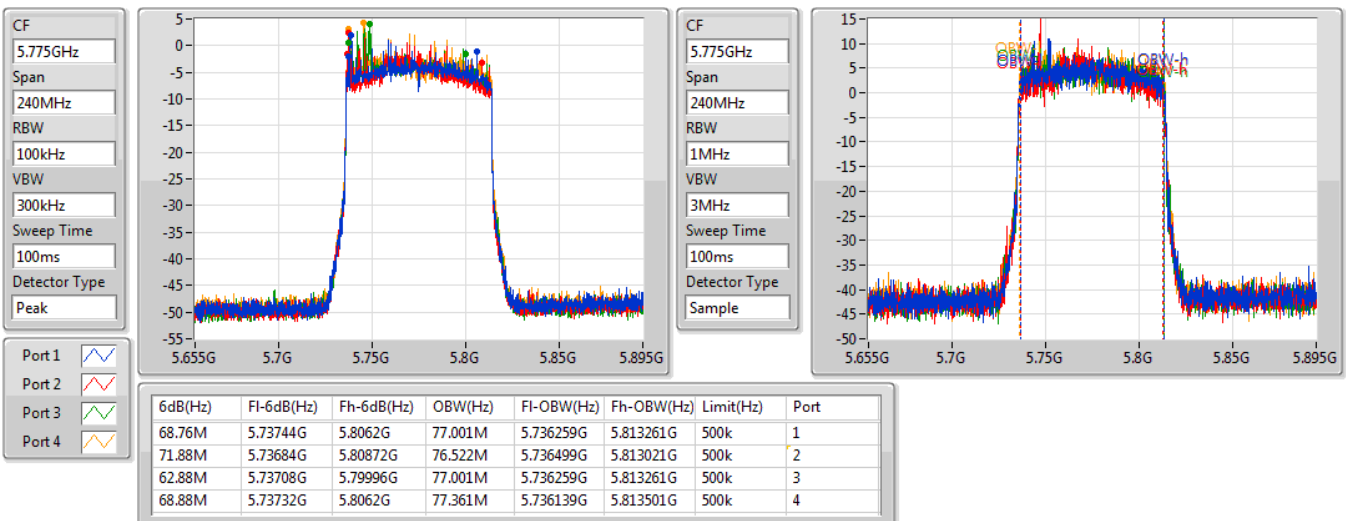


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5210MHz

22/07/2019


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

22/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	36.72M	19.16M	19M2D1D	22.17M	16.462M
802.11ax HEW20_Nss1,(MCS0)_1TX	34.44M	19.16M	19M2D1D	23.16M	18.951M
802.11ax HEW40_Nss1,(MCS0)_1TX	75.24M	38.261M	38M3D1D	41.58M	37.661M
802.11ax HEW80_Nss1,(MCS0)_1TX	82.2M	77.121M	77M1D1D	82.2M	77.121M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	16.29M	17.751M	17M8D1D	15.75M	16.972M
802.11ax HEW20_Nss1,(MCS0)_1TX	18.3M	19.16M	19M2D1D	18M	19.13M
802.11ax HEW40_Nss1,(MCS0)_1TX	37.98M	54.753M	54M8D1D	37.8M	47.976M
802.11ax HEW80_Nss1,(MCS0)_1TX	71.64M	77.481M	77M5D1D	71.64M	77.481M

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

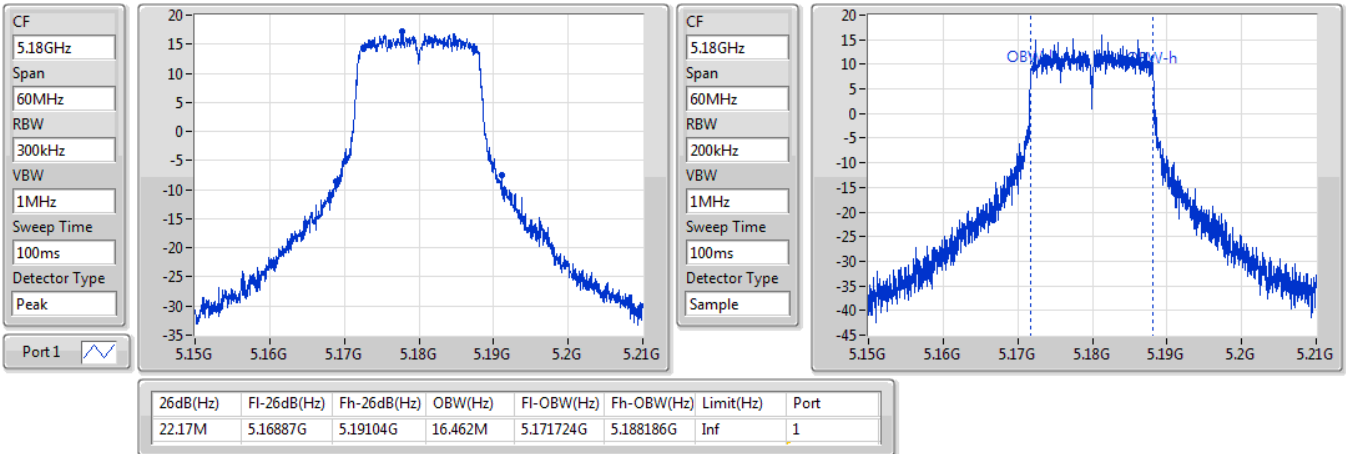
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-
5180MHz	Pass	Inf	22.17M	16.462M
5200MHz	Pass	Inf	34.44M	17.571M
5240MHz	Pass	Inf	36.72M	19.16M
5745MHz	Pass	500k	16.29M	17.751M
5785MHz	Pass	500k	15.99M	16.972M
5825MHz	Pass	500k	15.75M	17.031M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
5180MHz	Pass	Inf	23.16M	18.951M
5200MHz	Pass	Inf	33.54M	19.13M
5240MHz	Pass	Inf	34.44M	19.16M
5745MHz	Pass	500k	18.21M	19.16M
5785MHz	Pass	500k	18M	19.13M
5825MHz	Pass	500k	18.3M	19.13M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
5190MHz	Pass	Inf	41.58M	37.661M
5230MHz	Pass	Inf	75.24M	38.261M
5755MHz	Pass	500k	37.98M	47.976M
5795MHz	Pass	500k	37.8M	54.753M
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-	-	-
5210MHz	Pass	Inf	82.2M	77.121M
5775MHz	Pass	500k	71.64M	77.481M

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

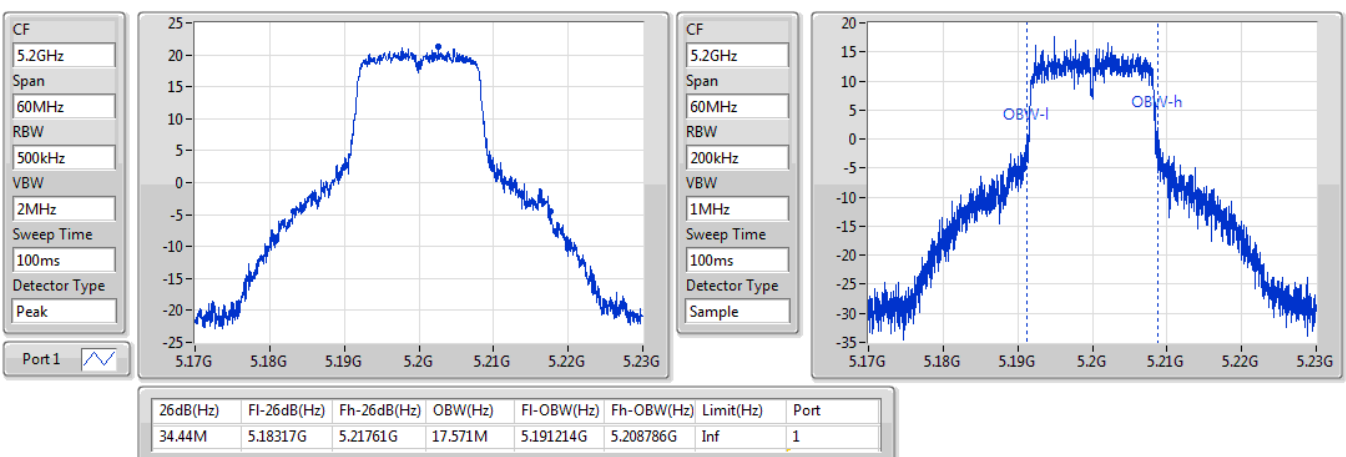
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_1TX
EBW
5180MHz

20/07/2019

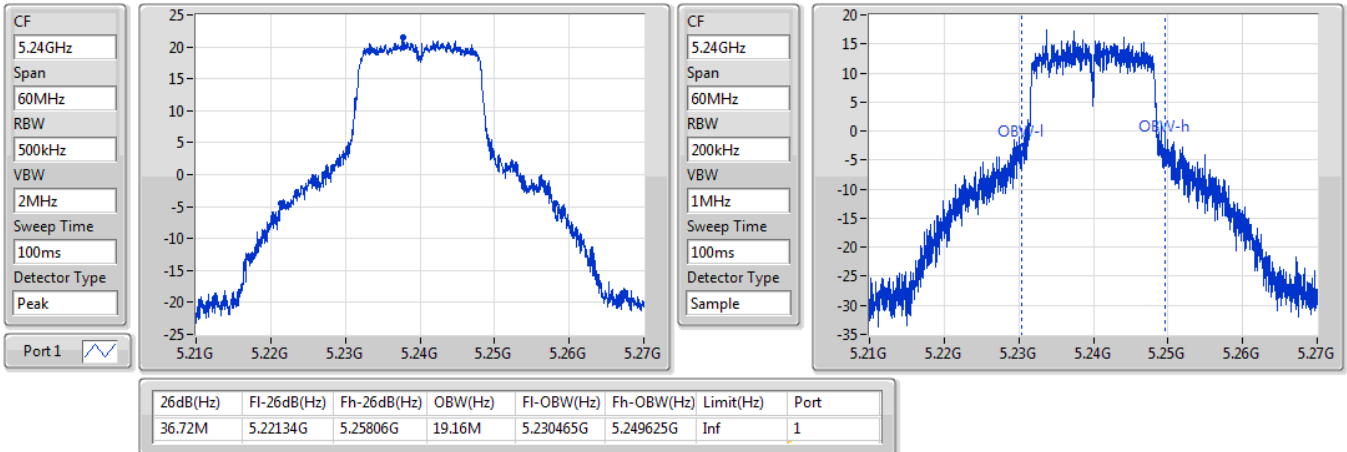

802.11a_Nss1,(6Mbps)_1TX
EBW
5200MHz

20/07/2019

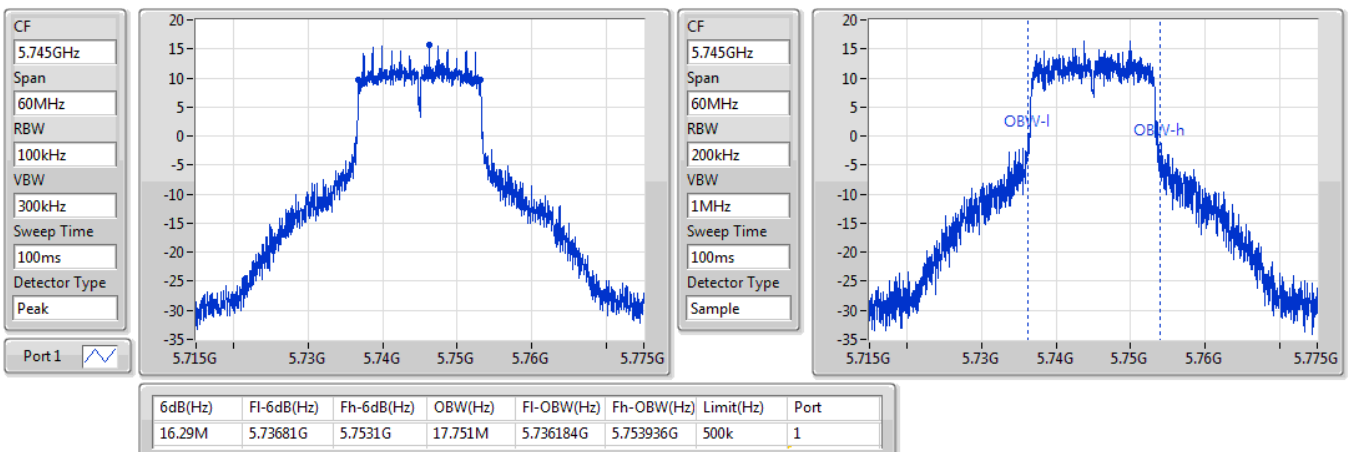


802.11a_Nss1,(6Mbps)_1TX
EBW
5240MHz

20/07/2019

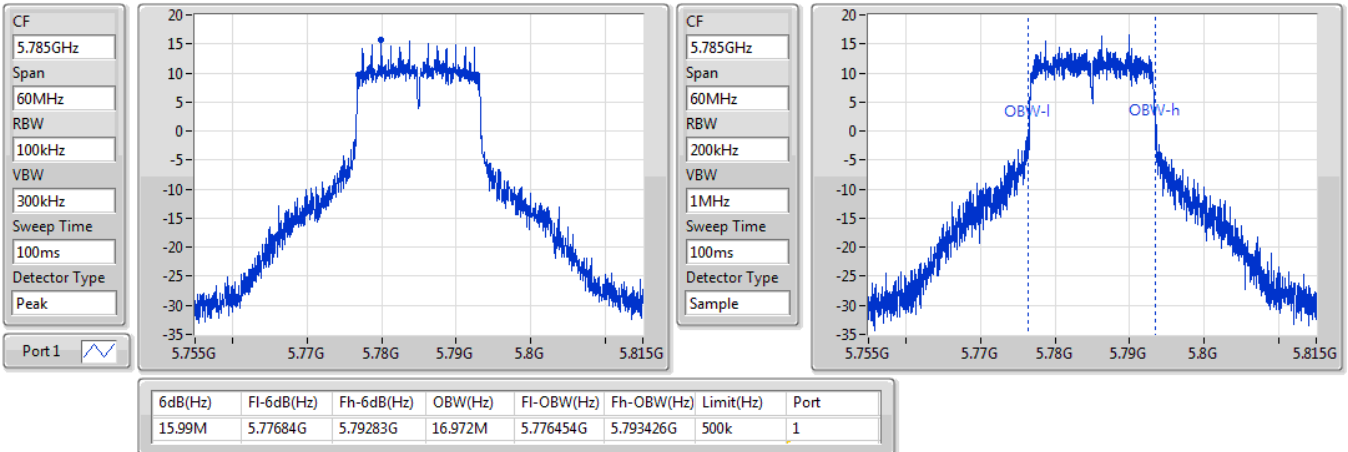

802.11a_Nss1,(6Mbps)_1TX
EBW
5745MHz

20/07/2019

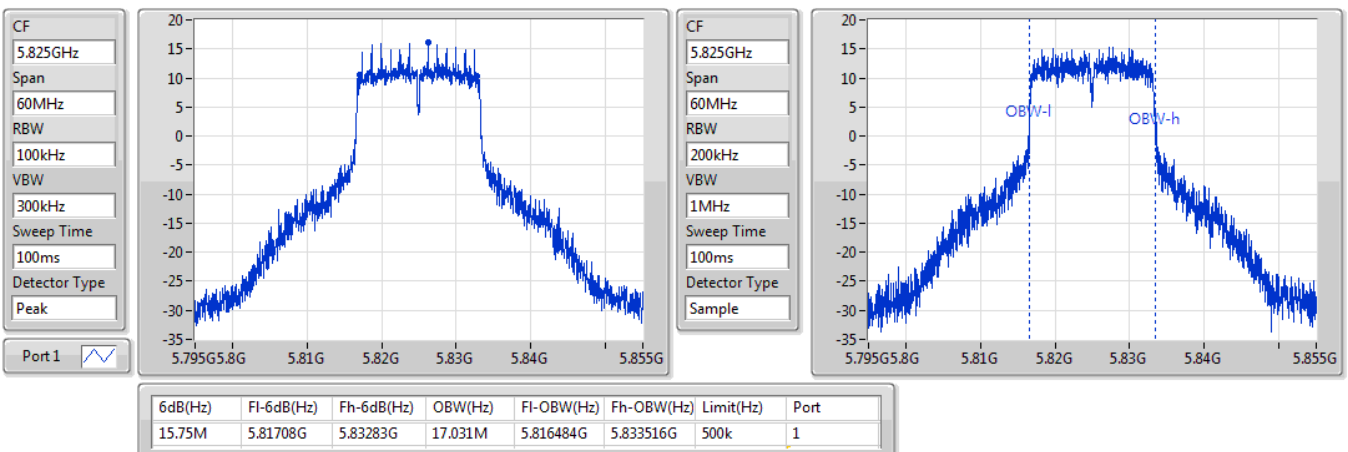


802.11a_Nss1,(6Mbps)_1TX
EBW
5785MHz

20/07/2019

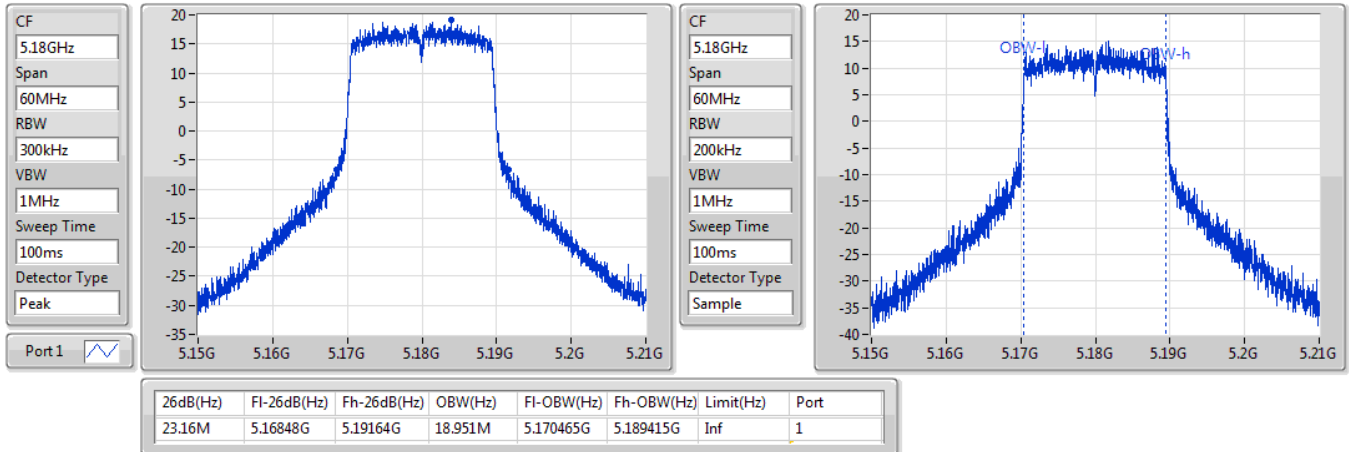

802.11a_Nss1,(6Mbps)_1TX
EBW
5825MHz

20/07/2019

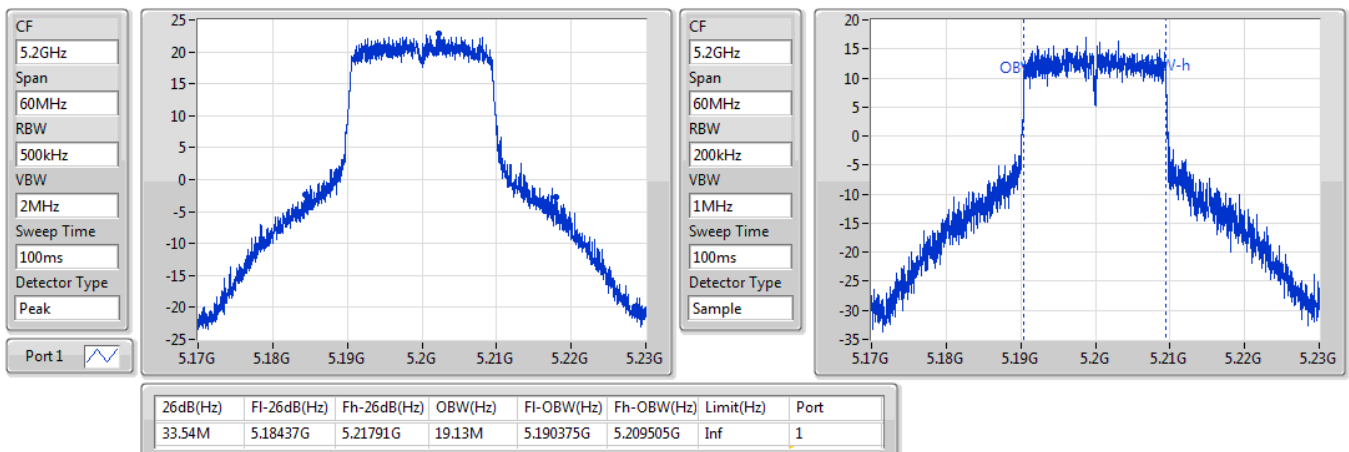


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5180MHz

20/07/2019

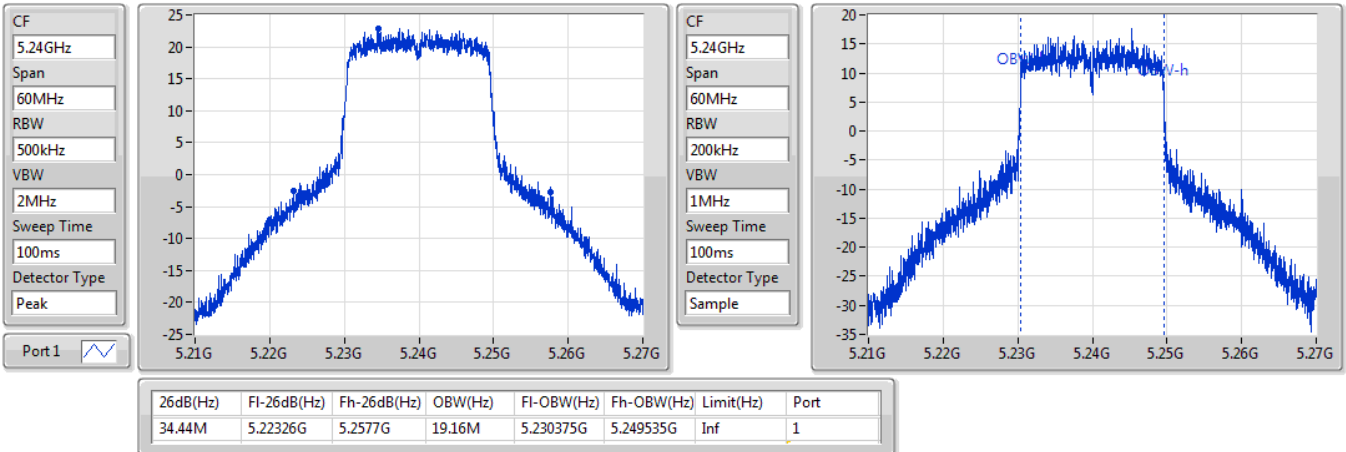

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5200MHz

20/07/2019

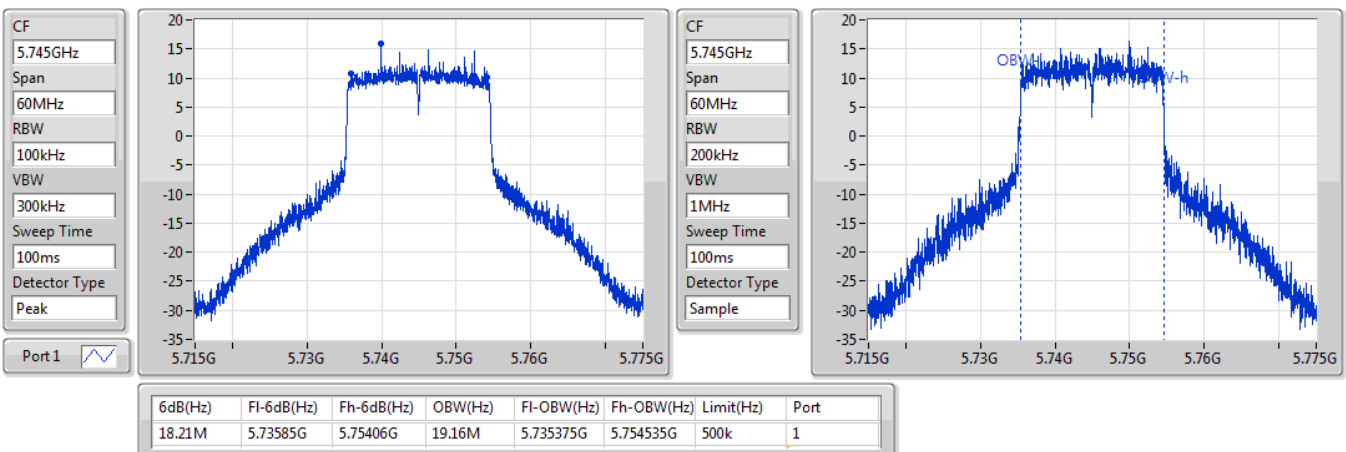


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5240MHz

20/07/2019

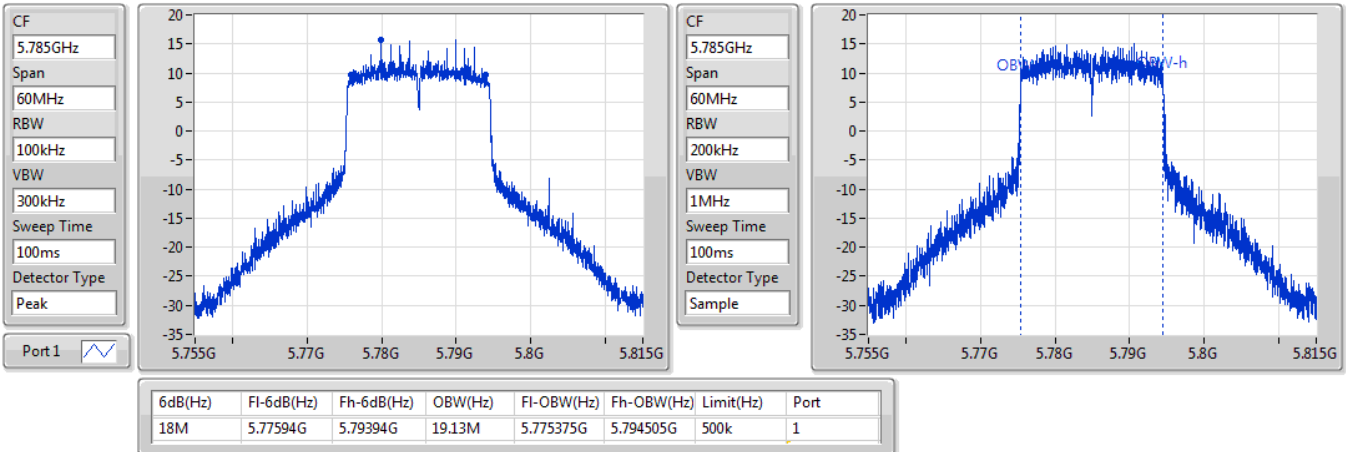

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5745MHz

20/07/2019

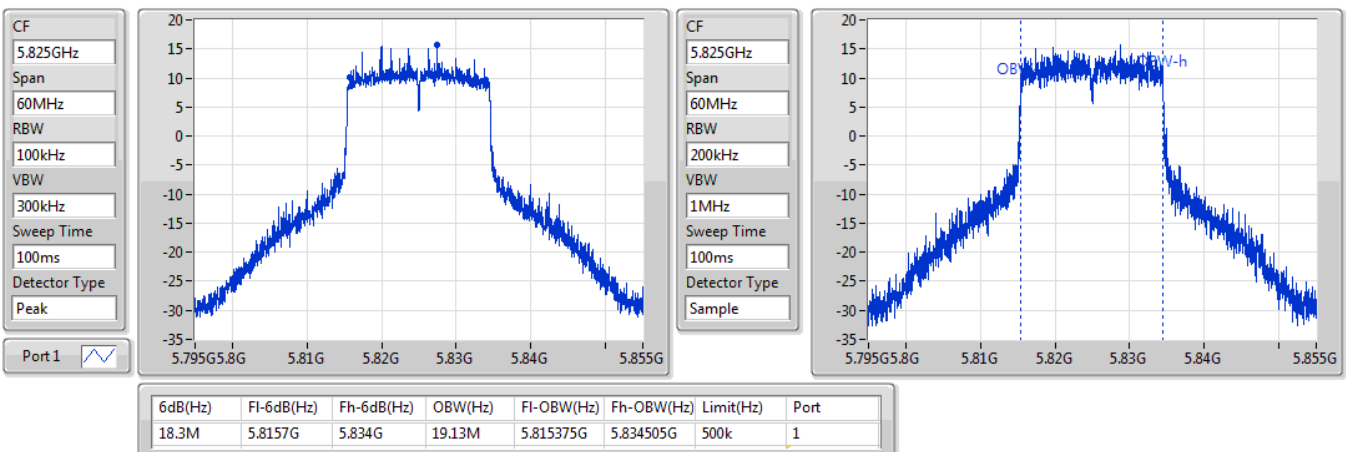


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5785MHz

20/07/2019


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5825MHz

20/07/2019

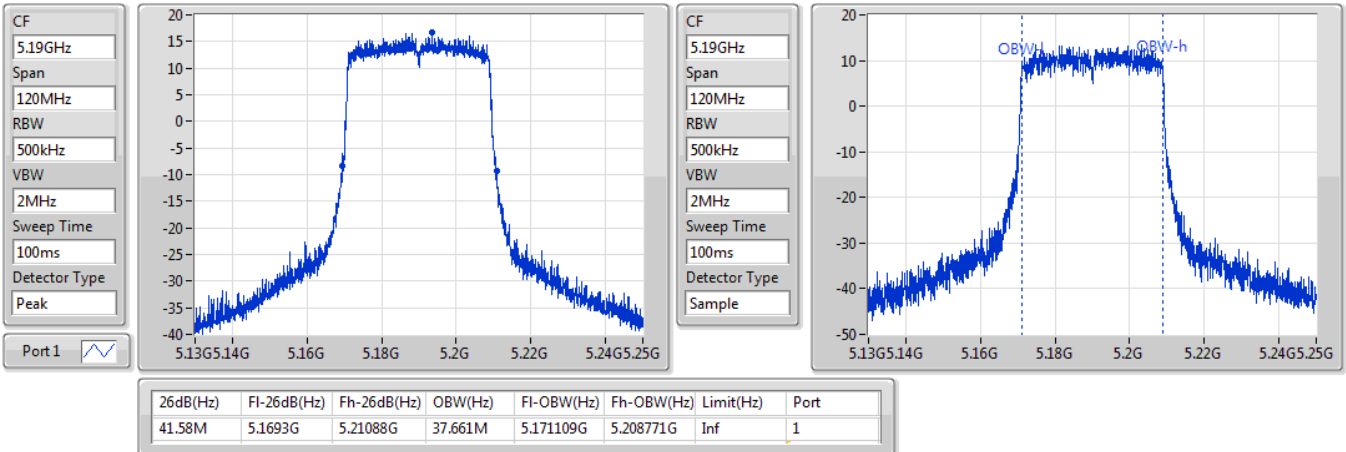


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

5190MHz

20/07/2019

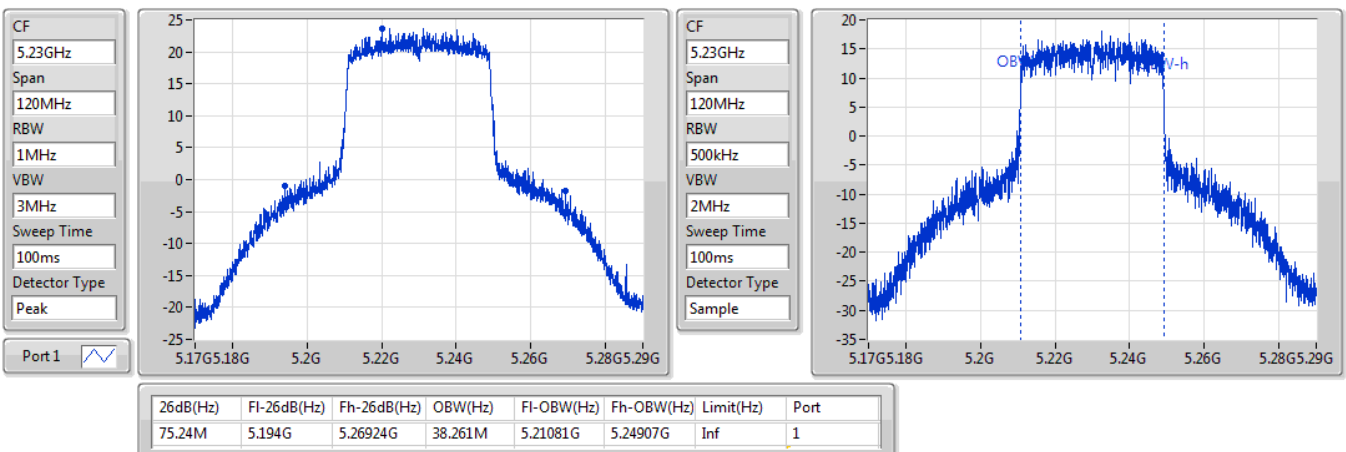


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

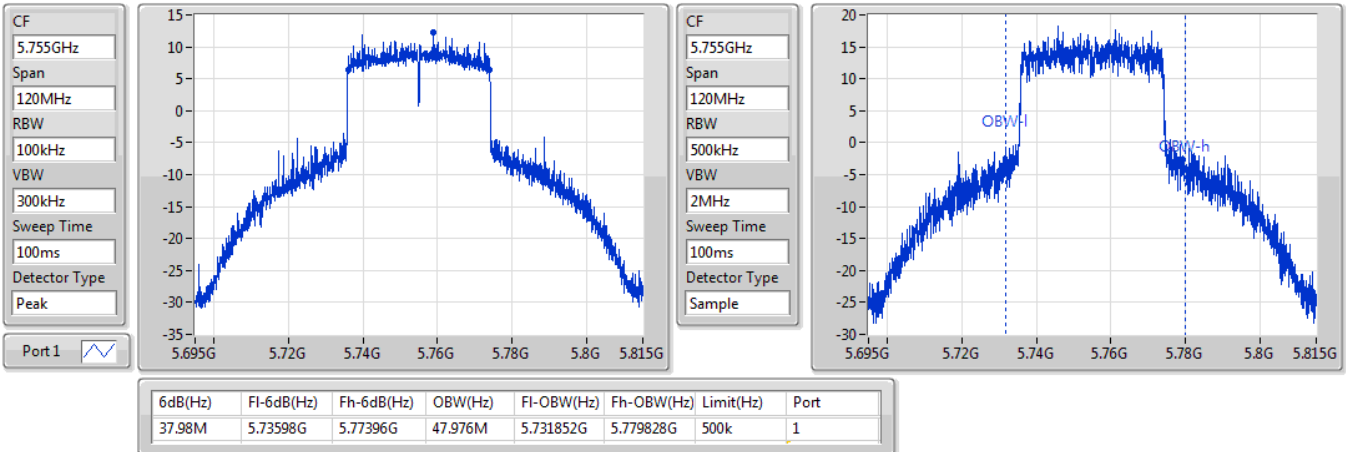
5230MHz

20/07/2019

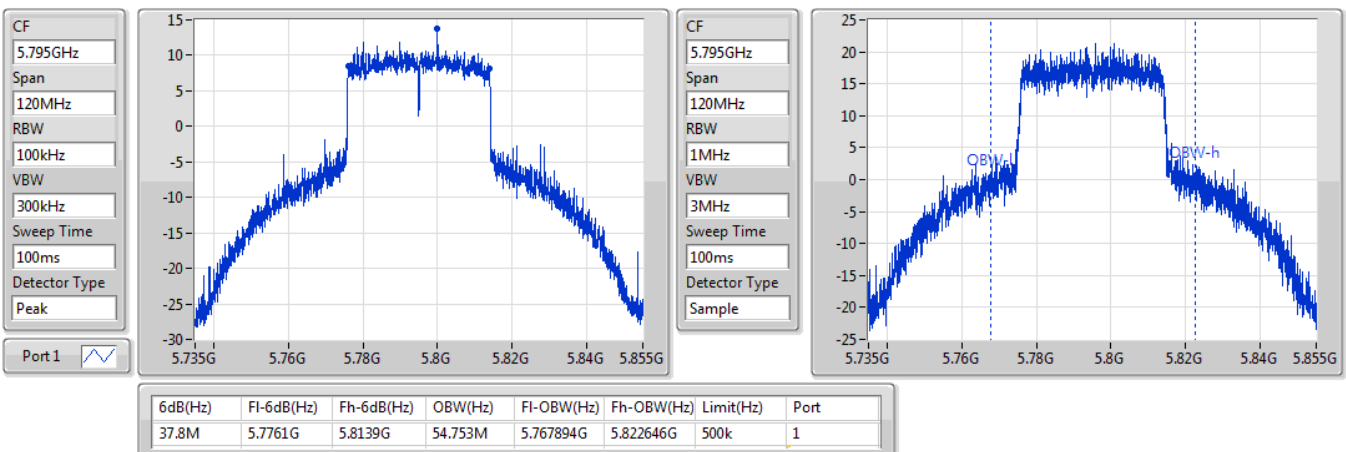


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5755MHz

20/07/2019

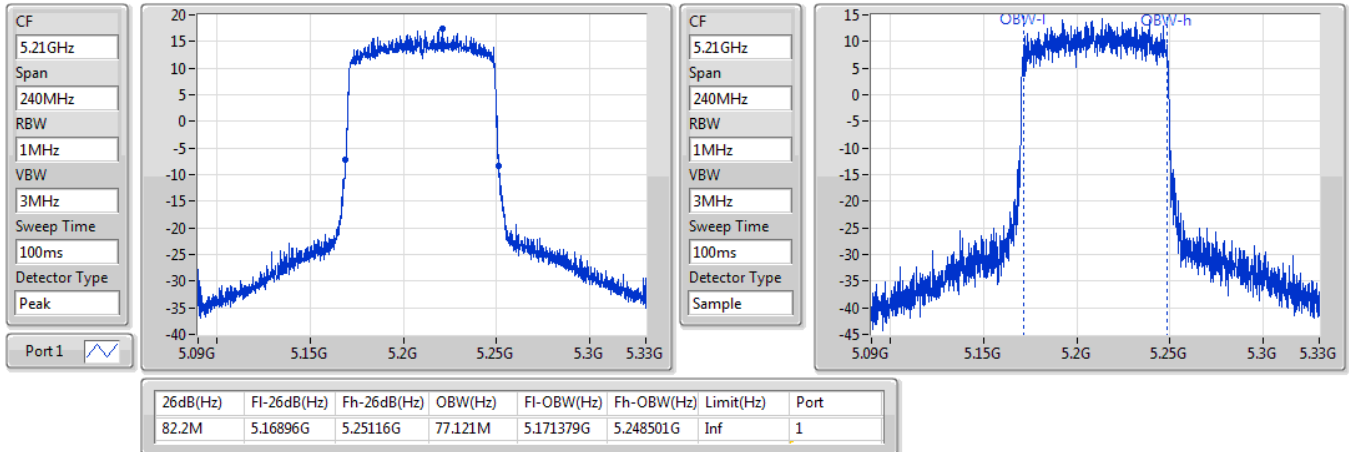

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5795MHz

20/07/2019

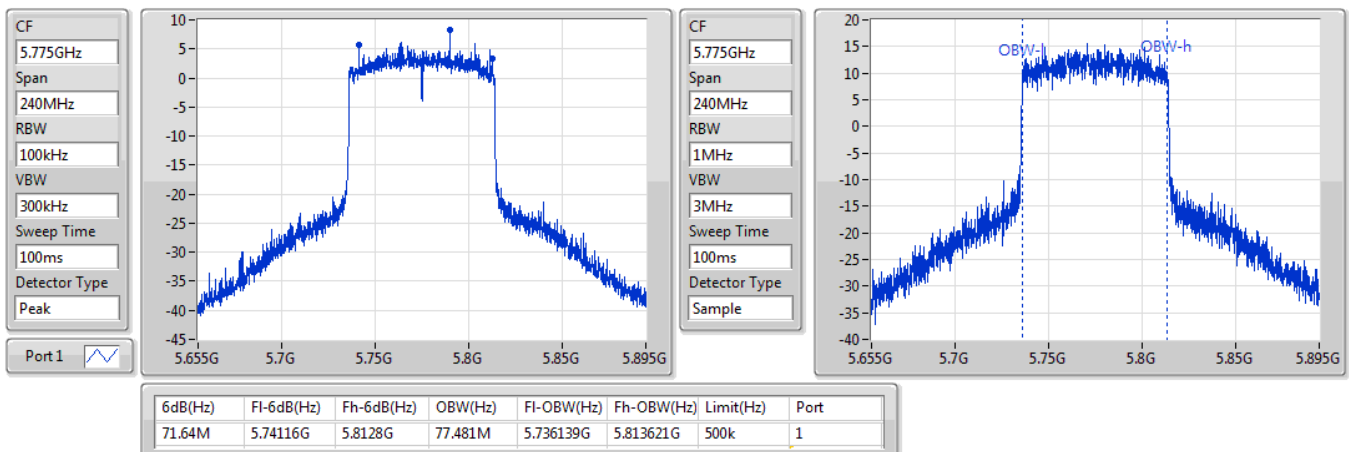


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5210MHz

20/07/2019


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5775MHz

20/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	37.77M	19.67M	19M7D1D	21.09M	16.432M
802.11ax HEW20_Nss1,(MCS0)_2TX	38.28M	19.28M	19M3D1D	21.87M	18.891M
802.11ax HEW40_Nss1,(MCS0)_2TX	65.76M	37.901M	37M9D1D	40.92M	37.661M
802.11ax HEW80_Nss1,(MCS0)_2TX	82.08M	77.121M	77M1D1D	81.96M	77.001M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	16.29M	18.591M	18M6D1D	15.06M	16.462M
802.11ax HEW20_Nss1,(MCS0)_2TX	18.39M	19.25M	19M2D1D	17.07M	18.921M
802.11ax HEW40_Nss1,(MCS0)_2TX	38.1M	49.715M	49M7D1D	37.5M	38.561M
802.11ax HEW80_Nss1,(MCS0)_2TX	77.28M	77.361M	77M4D1D	73.92M	77.241M

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

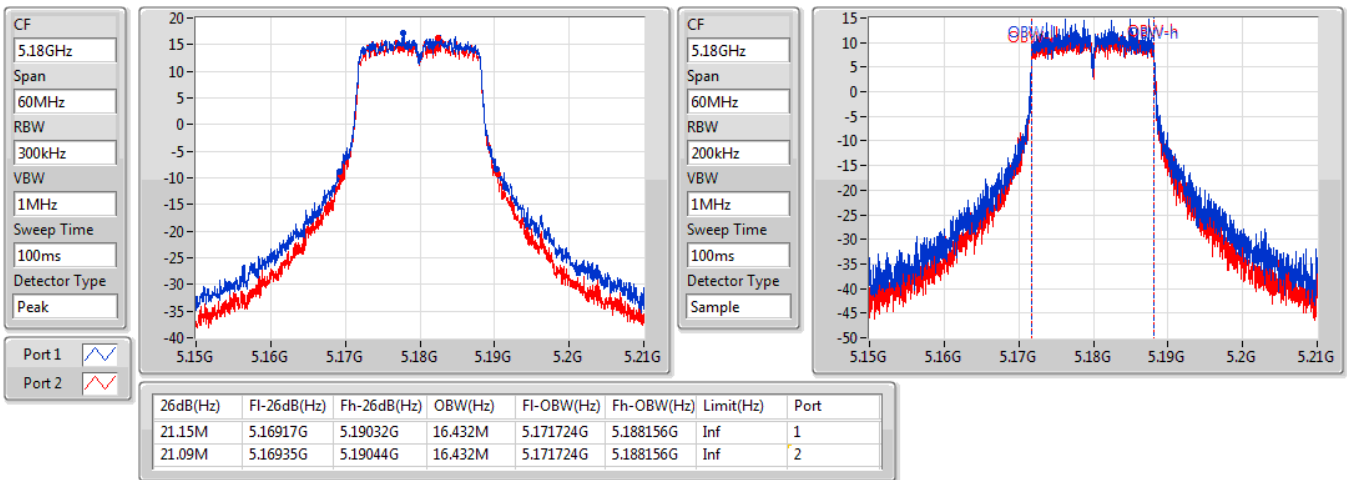
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.15M	16.432M	21.09M	16.432M
5200MHz	Pass	Inf	37.77M	19.67M	24.54M	16.522M
5240MHz	Pass	Inf	36.12M	19.07M	24.15M	16.492M
5745MHz	Pass	500k	16.29M	18.591M	15.6M	16.492M
5785MHz	Pass	500k	15.99M	17.301M	15.06M	16.462M
5825MHz	Pass	500k	15.3M	17.031M	15.42M	16.492M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.87M	18.891M	22.11M	18.891M
5200MHz	Pass	Inf	38.28M	19.28M	23.22M	18.891M
5240MHz	Pass	Inf	35.04M	19.25M	22.65M	18.981M
5745MHz	Pass	500k	18M	19.25M	17.94M	18.981M
5785MHz	Pass	500k	17.07M	19.1M	18.27M	18.921M
5825MHz	Pass	500k	18.39M	19.1M	17.43M	18.951M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	40.92M	37.721M	41.34M	37.661M
5230MHz	Pass	Inf	65.76M	37.901M	50.82M	37.841M
5755MHz	Pass	500k	37.5M	43.178M	38.1M	38.561M
5795MHz	Pass	500k	37.92M	49.715M	37.92M	44.678M
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	81.96M	77.001M	82.08M	77.121M
5775MHz	Pass	500k	73.92M	77.241M	77.28M	77.361M

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

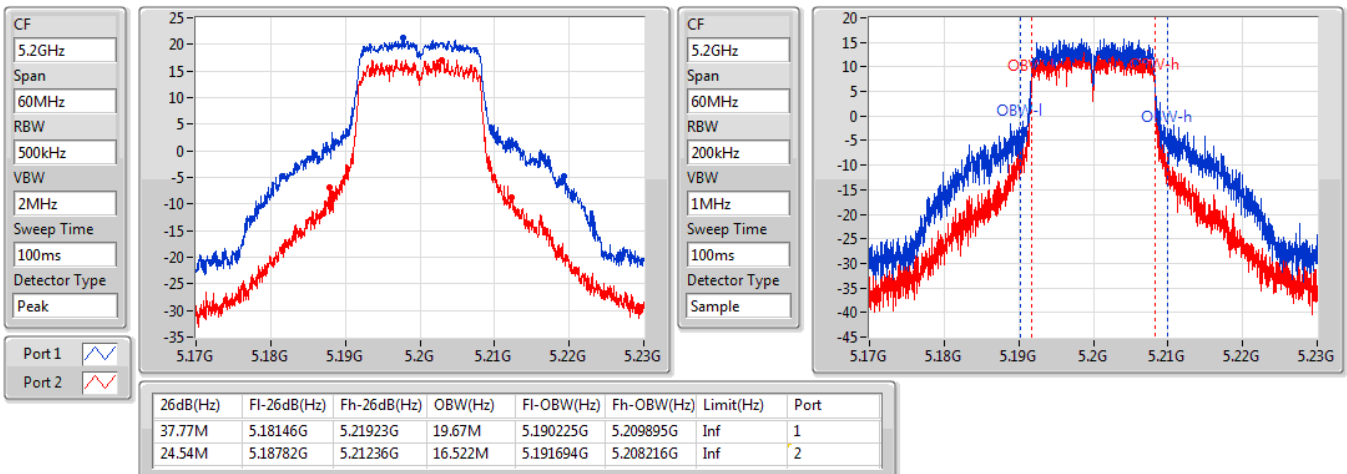
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX
EBW
5180MHz

20/07/2019

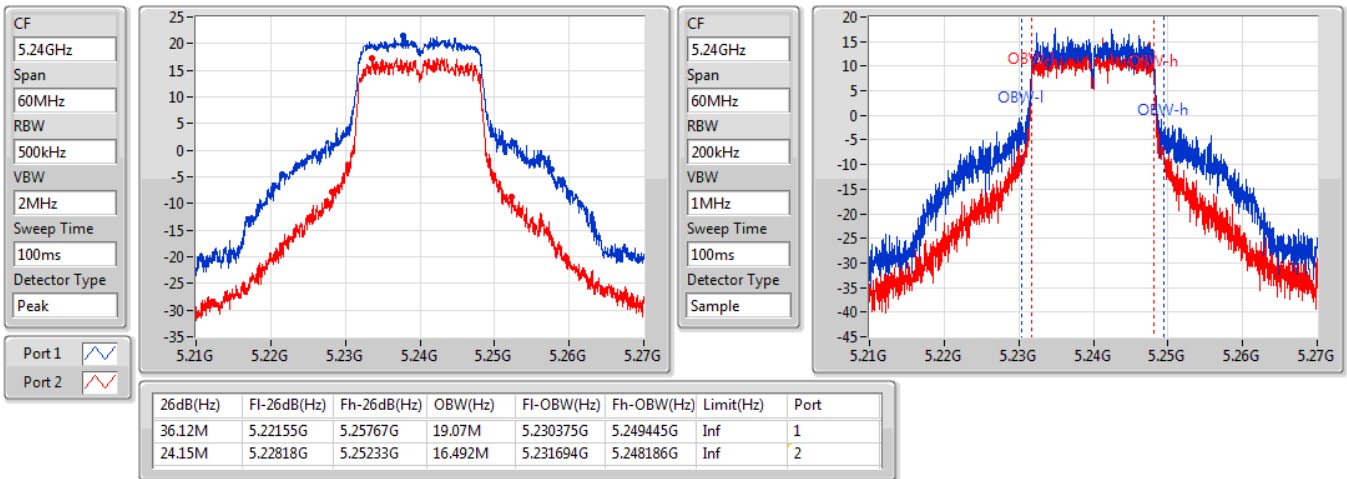

802.11a_Nss1,(6Mbps)_2TX
EBW
5200MHz

20/07/2019

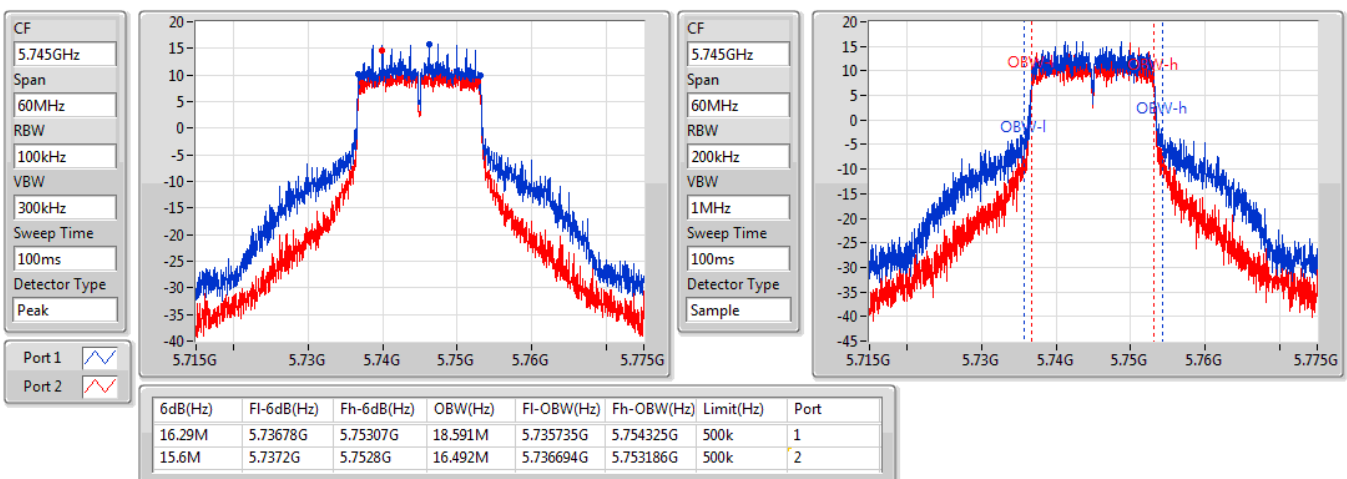


802.11a_Nss1,(6Mbps)_2TX
EBW
5240MHz

20/07/2019

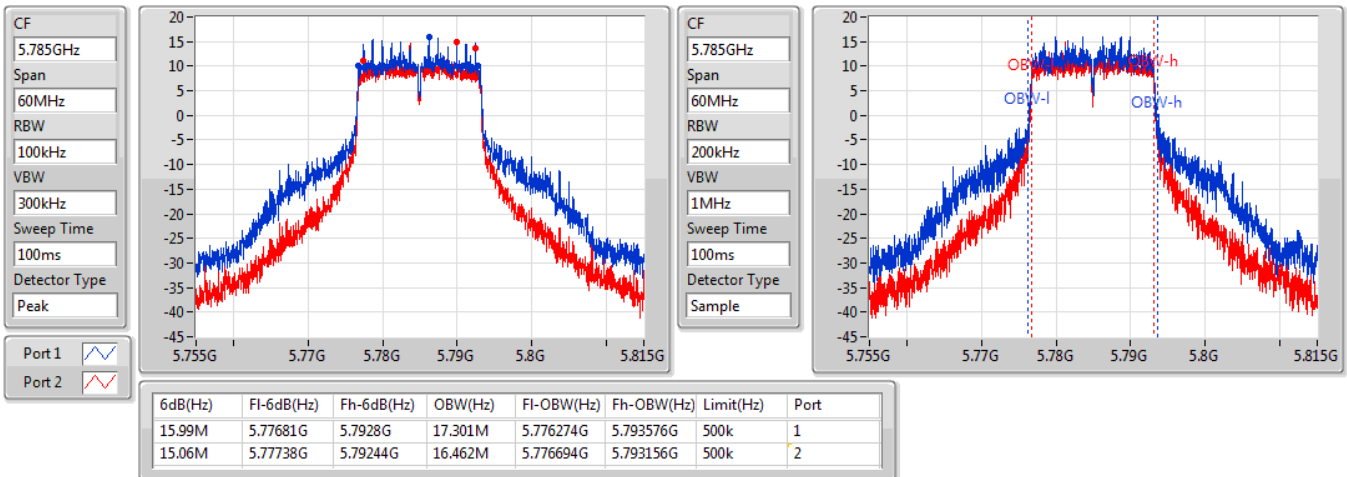

802.11a_Nss1,(6Mbps)_2TX
EBW
5745MHz

20/07/2019

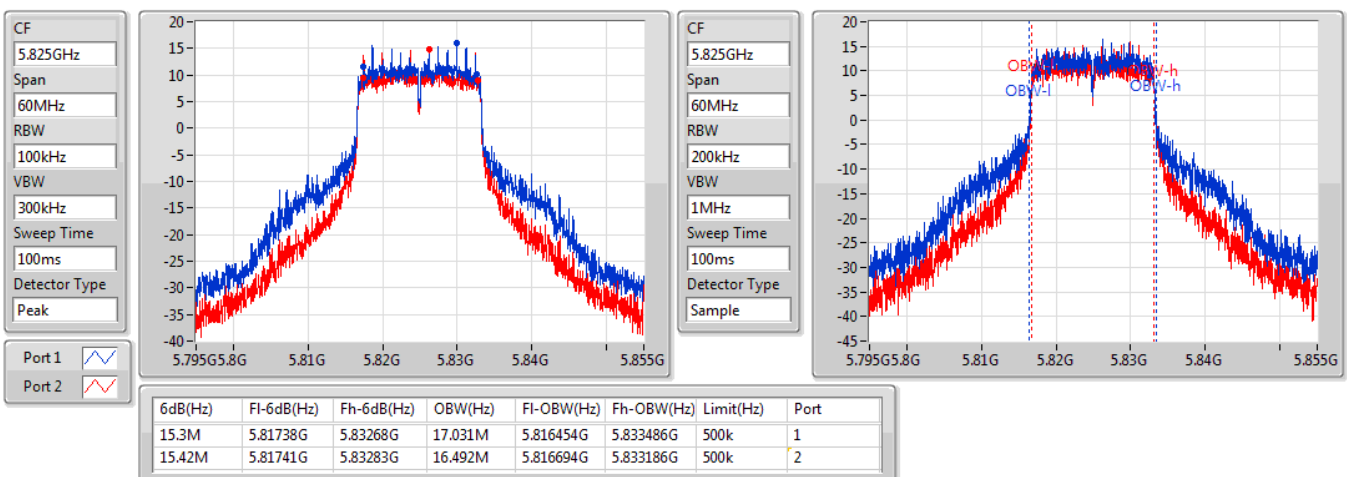


802.11a_Nss1,(6Mbps)_2TX
EBW
5785MHz

20/07/2019

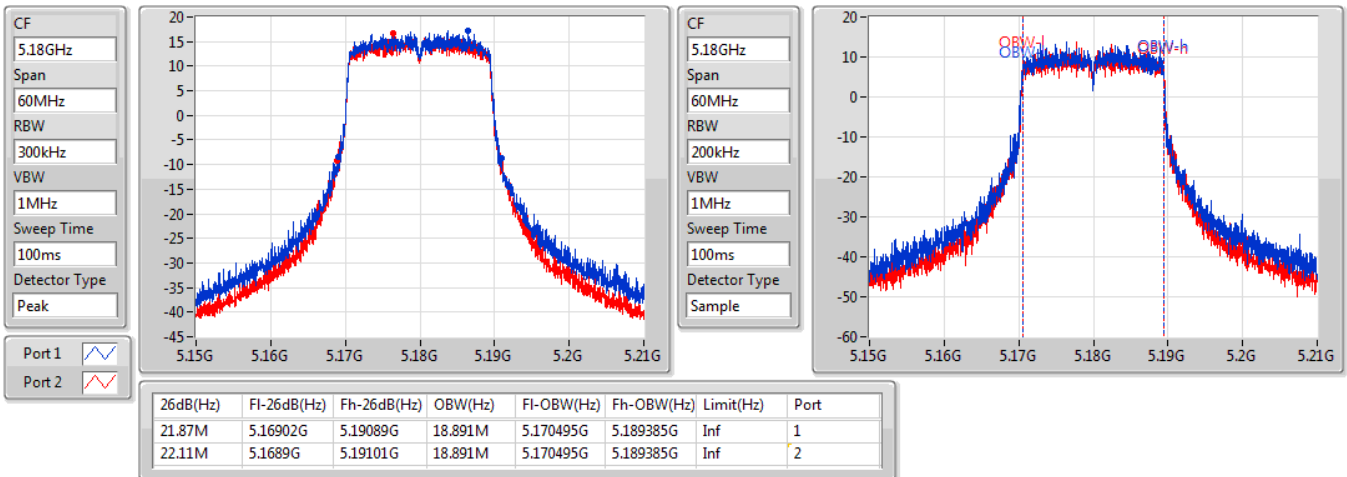

802.11a_Nss1,(6Mbps)_2TX
EBW
5825MHz

20/07/2019

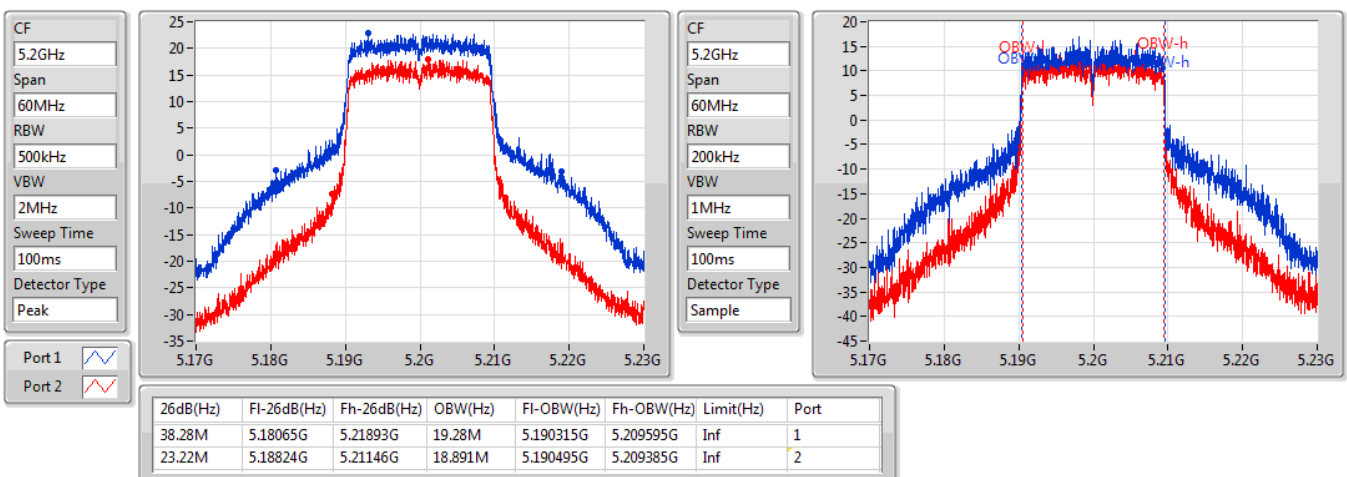


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5180MHz

20/07/2019

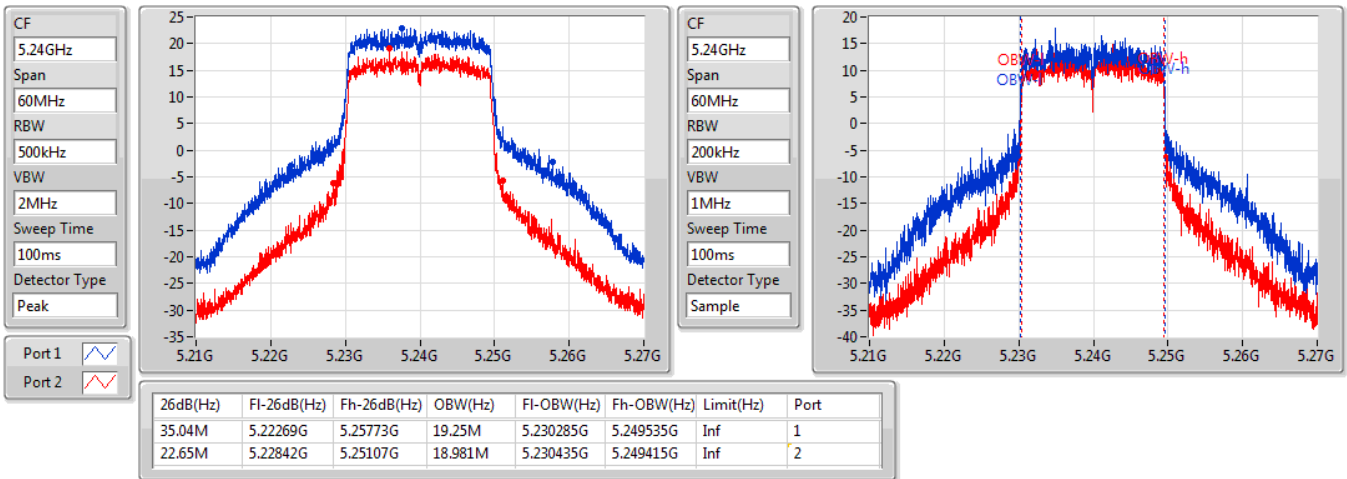

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5200MHz

20/07/2019

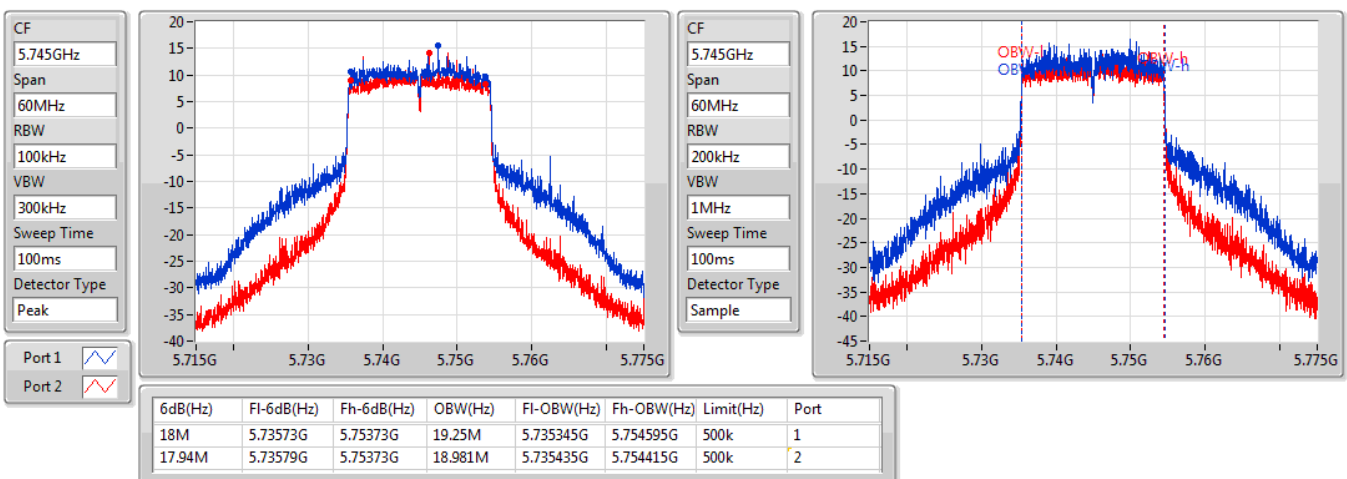


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5240MHz

20/07/2019

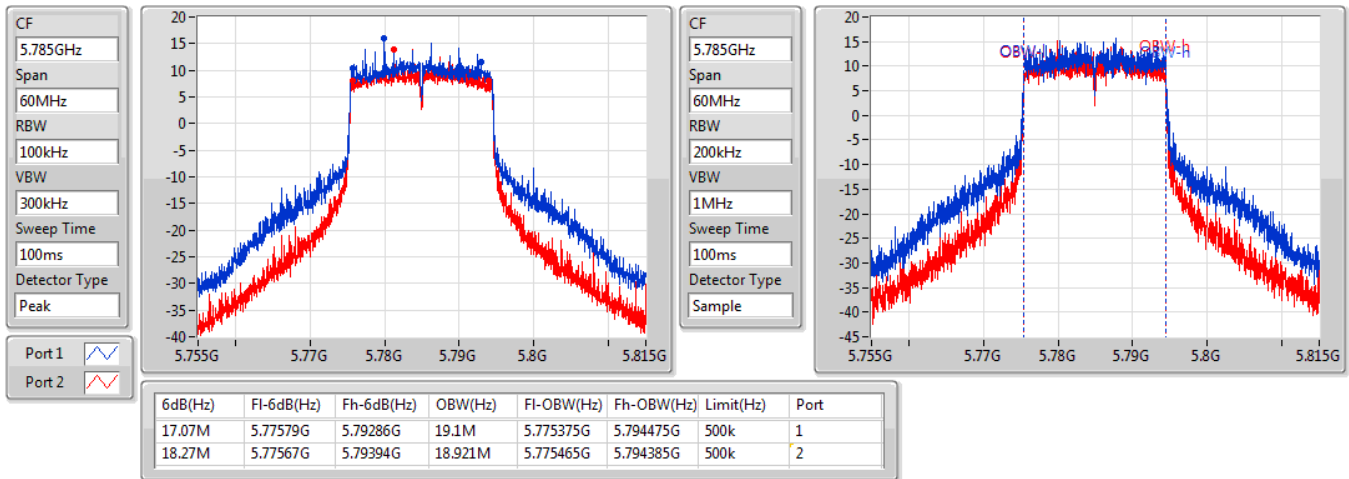

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5745MHz

20/07/2019

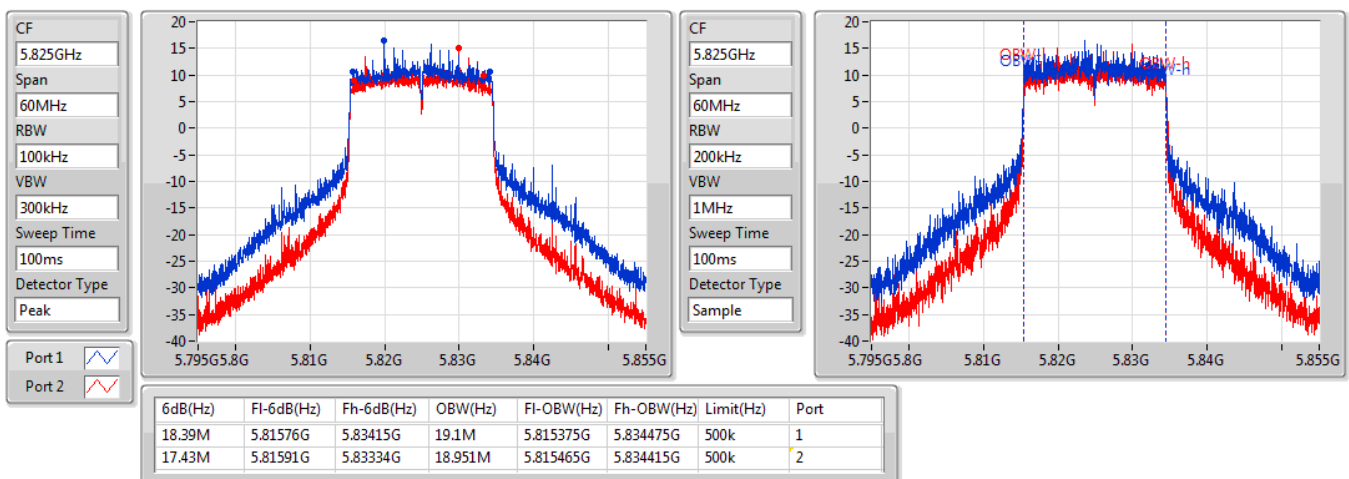


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5785MHz

20/07/2019

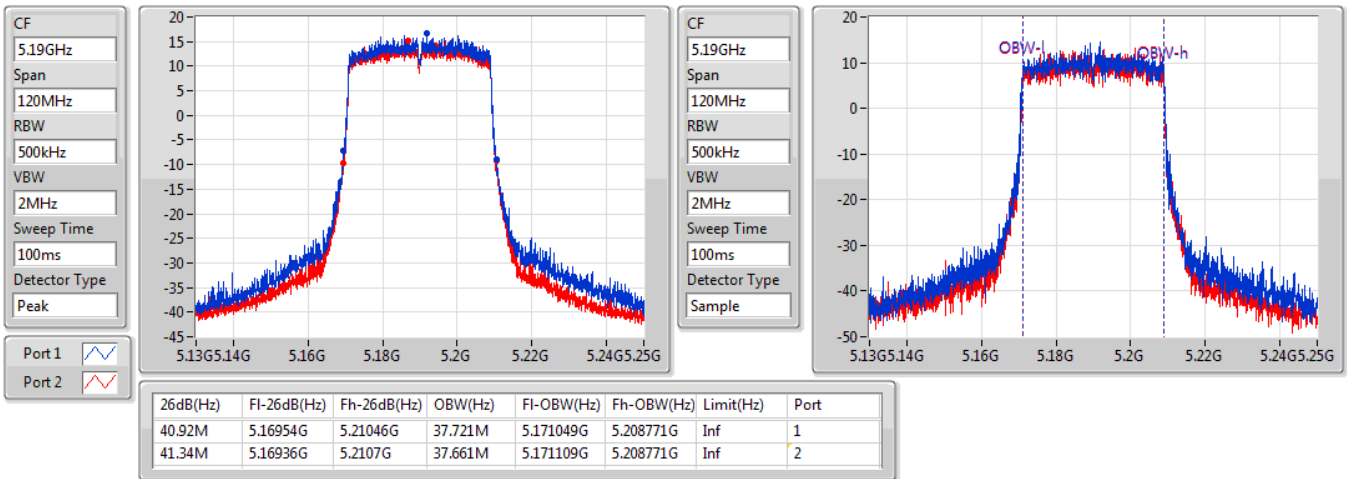

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5825MHz

20/07/2019

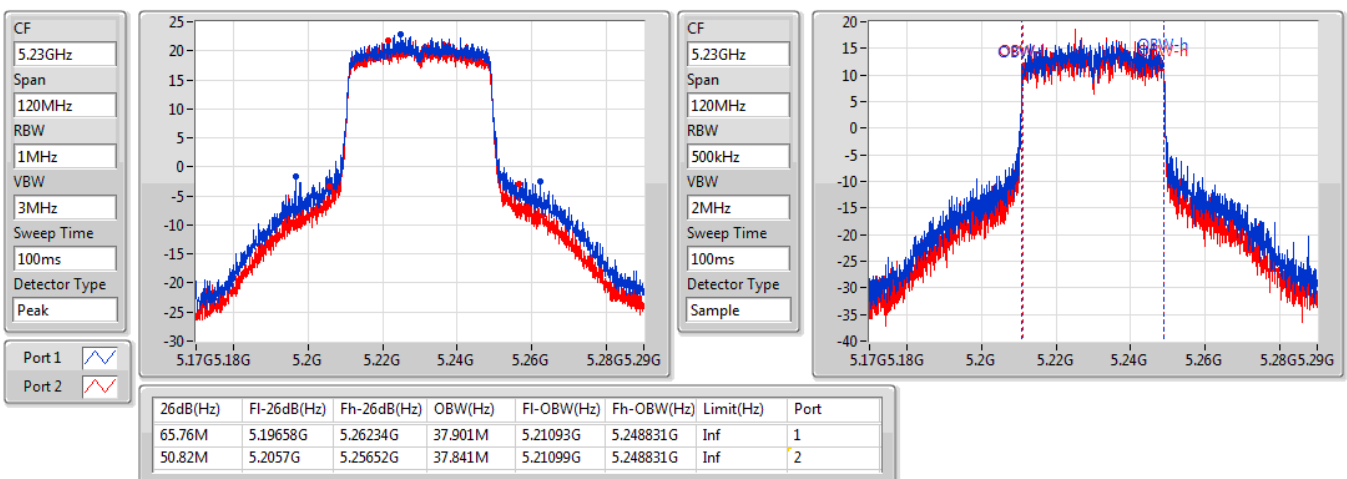


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5190MHz

20/07/2019

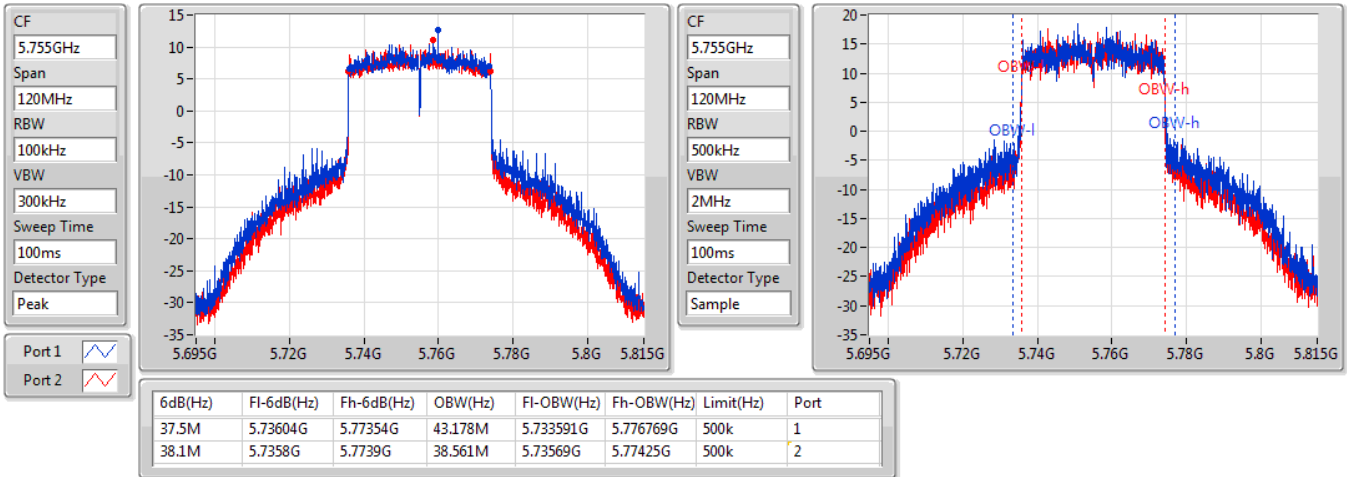

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5230MHz

20/07/2019

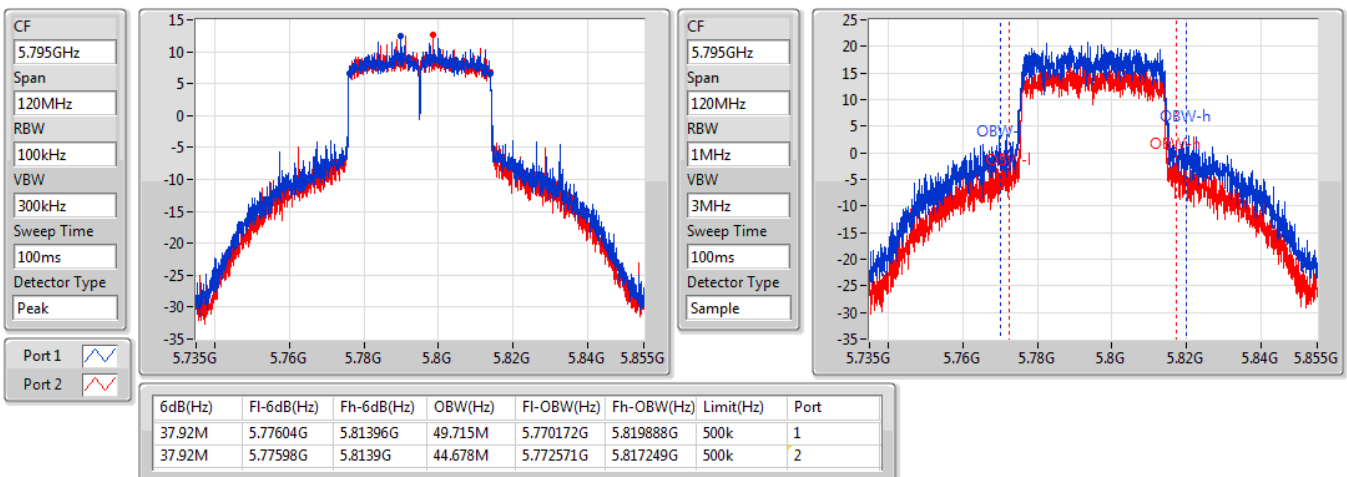


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5755MHz

20/07/2019

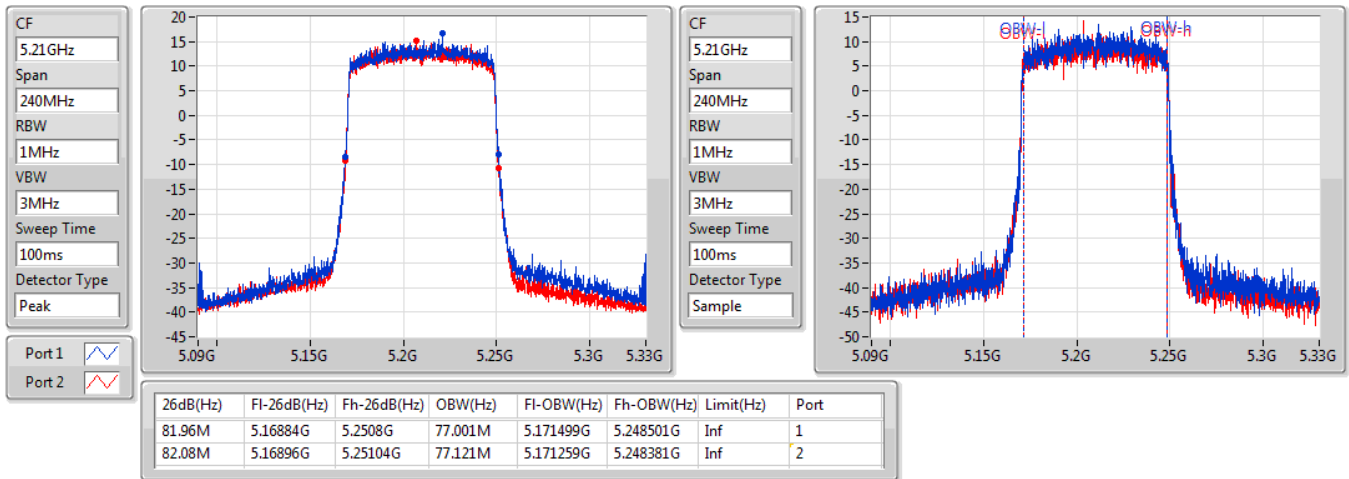

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5795MHz

20/07/2019

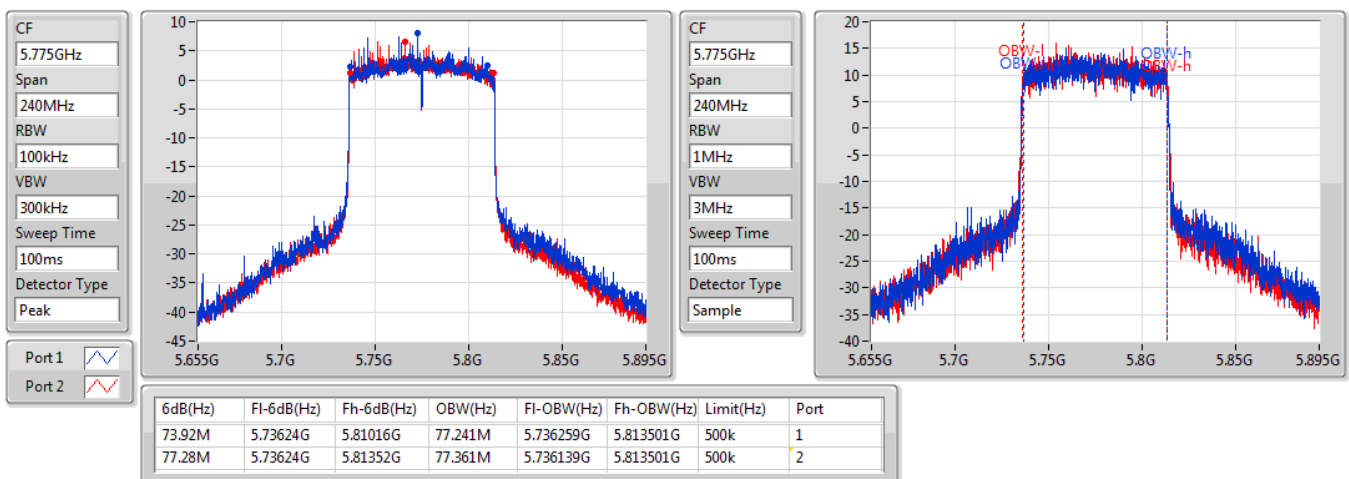


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5210MHz

20/07/2019


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5775MHz

20/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	21.96M	18.951M	19M0D1D	21.3M	18.831M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	41.04M	37.721M	37M7D1D	40.44M	37.601M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	81.12M	77.121M	77M1D1D	81M	76.882M
5.725-5.85GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	18.33M	18.921M	18M9D1D	15.36M	18.861M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	37.2M	37.661M	37M7D1D	31.32M	37.601M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	72.48M	77.241M	77M2D1D	68.88M	76.522M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Max-OBW = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Min-OBW = Minimum 99% occupied bandwidth;

Result

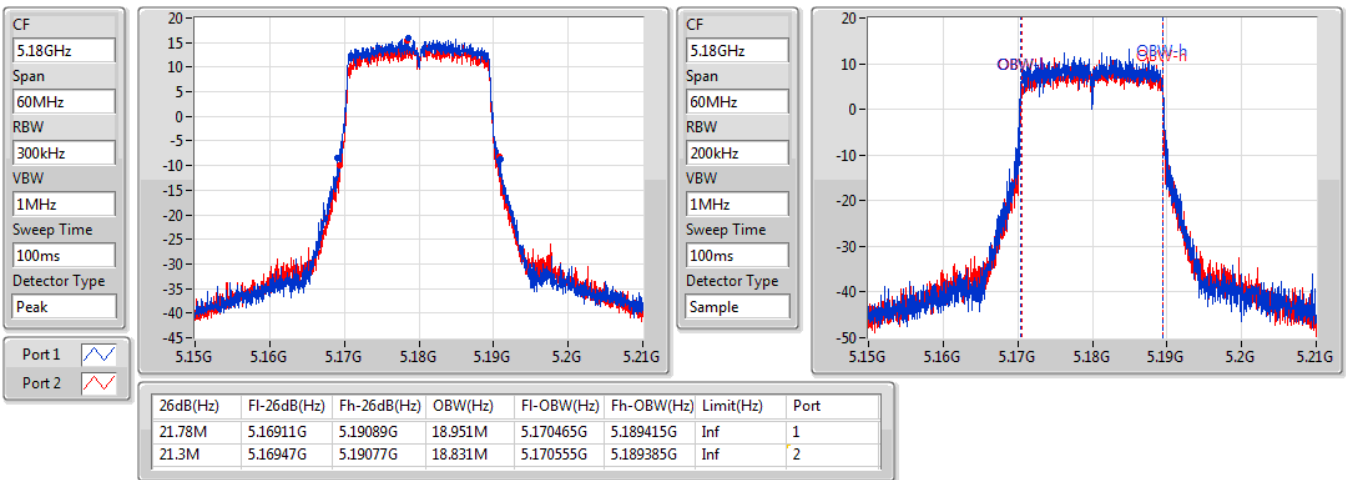
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.78M	18.951M	21.3M	18.831M
5200MHz	Pass	Inf	21.96M	18.891M	21.36M	18.891M
5240MHz	Pass	Inf	21.69M	18.891M	21.66M	18.921M
5745MHz	Pass	500k	18.12M	18.891M	18.12M	18.891M
5785MHz	Pass	500k	18.21M	18.861M	18.12M	18.861M
5825MHz	Pass	500k	15.36M	18.921M	18.33M	18.921M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	41.04M	37.601M	40.62M	37.601M
5230MHz	Pass	Inf	40.44M	37.661M	40.5M	37.721M
5755MHz	Pass	500k	35.4M	37.661M	37.08M	37.661M
5795MHz	Pass	500k	37.2M	37.661M	31.32M	37.601M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	81.12M	76.882M	81M	77.121M
5775MHz	Pass	500k	72.48M	77.241M	68.88M	76.522M

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

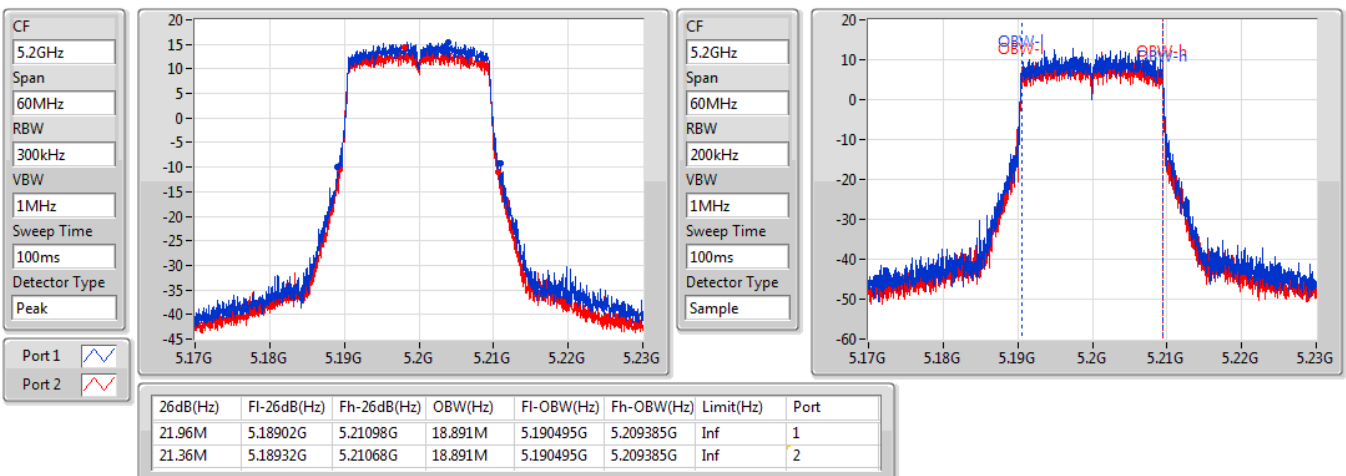
Port X-OBW = Port X 99% occupied bandwidth;

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5180MHz

22/07/2019

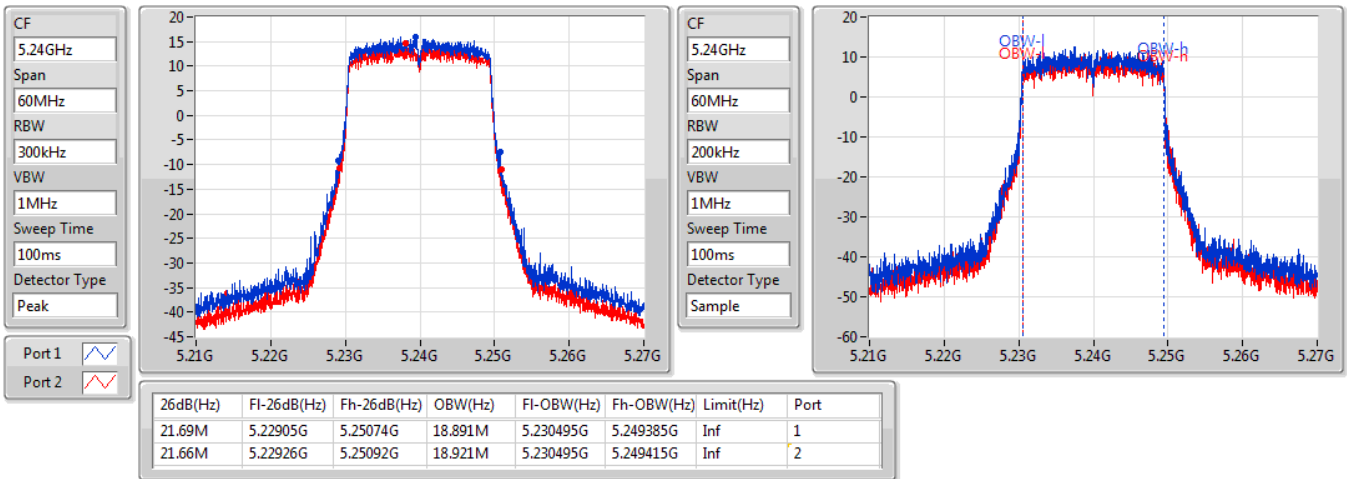

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5200MHz

22/07/2019

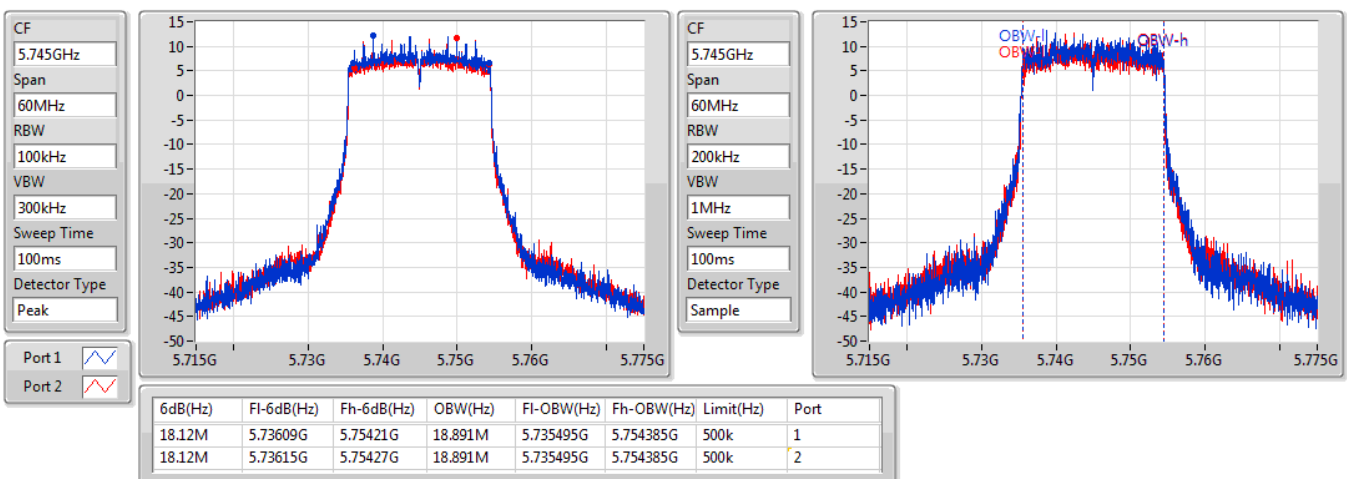


802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5240MHz

22/07/2019

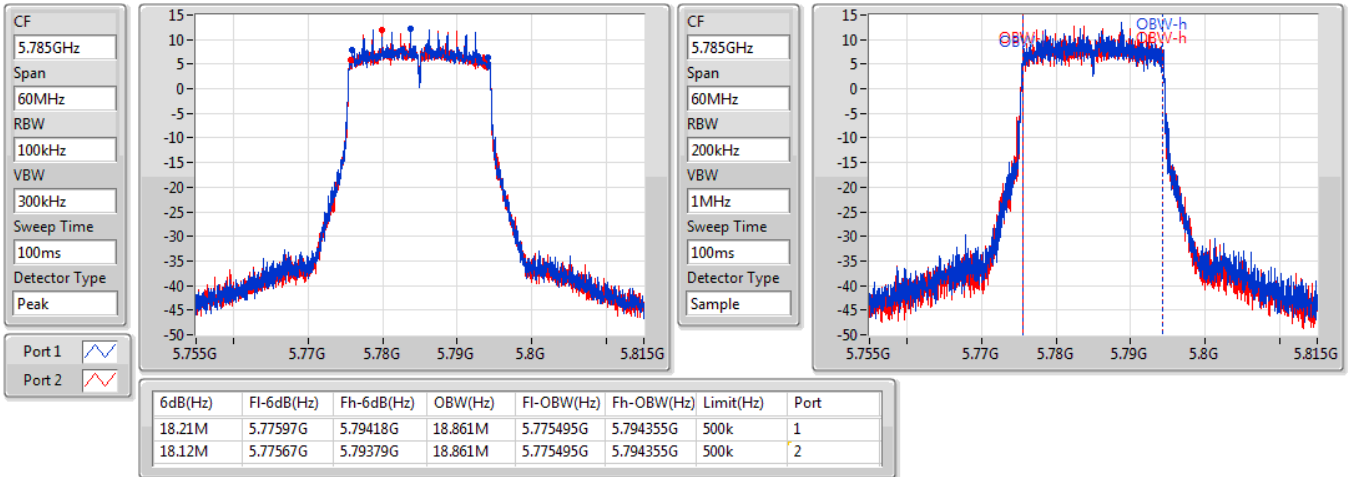

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5745MHz

22/07/2019

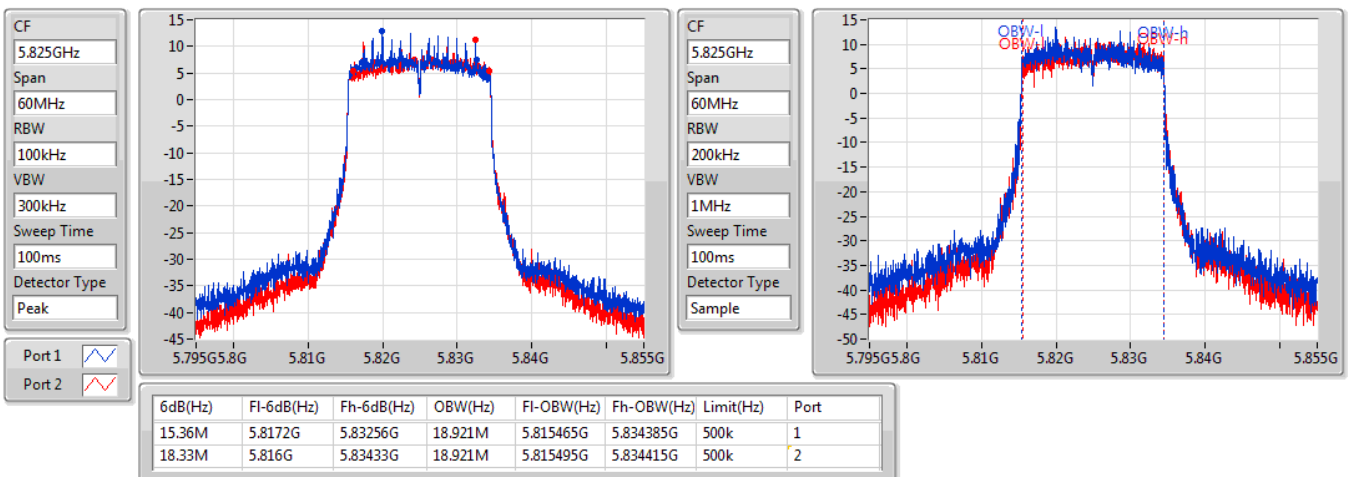


802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5785MHz

22/07/2019

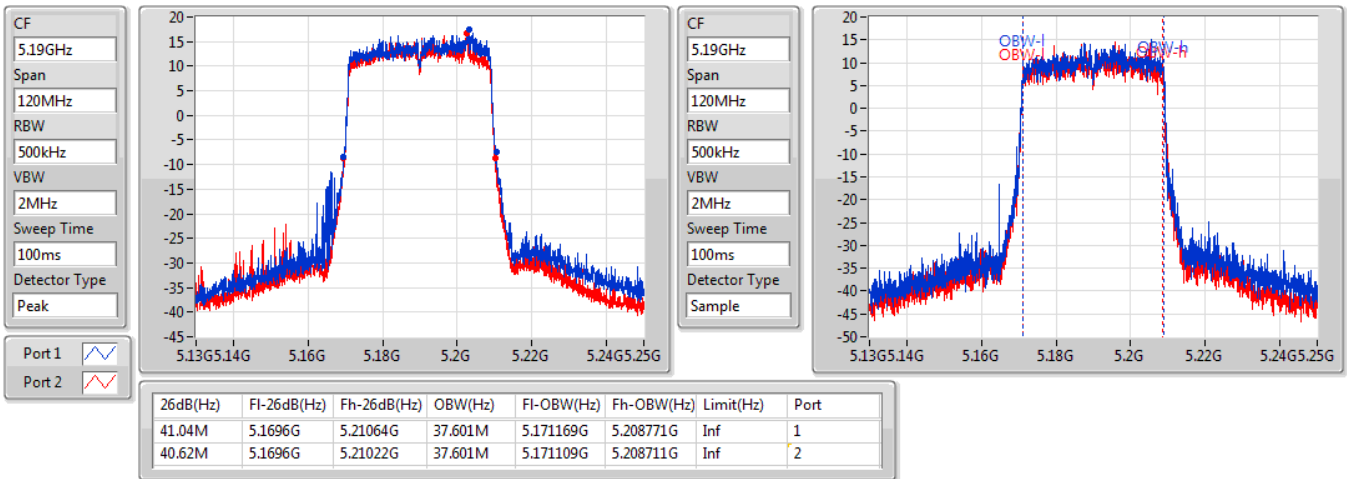

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5825MHz

22/07/2019

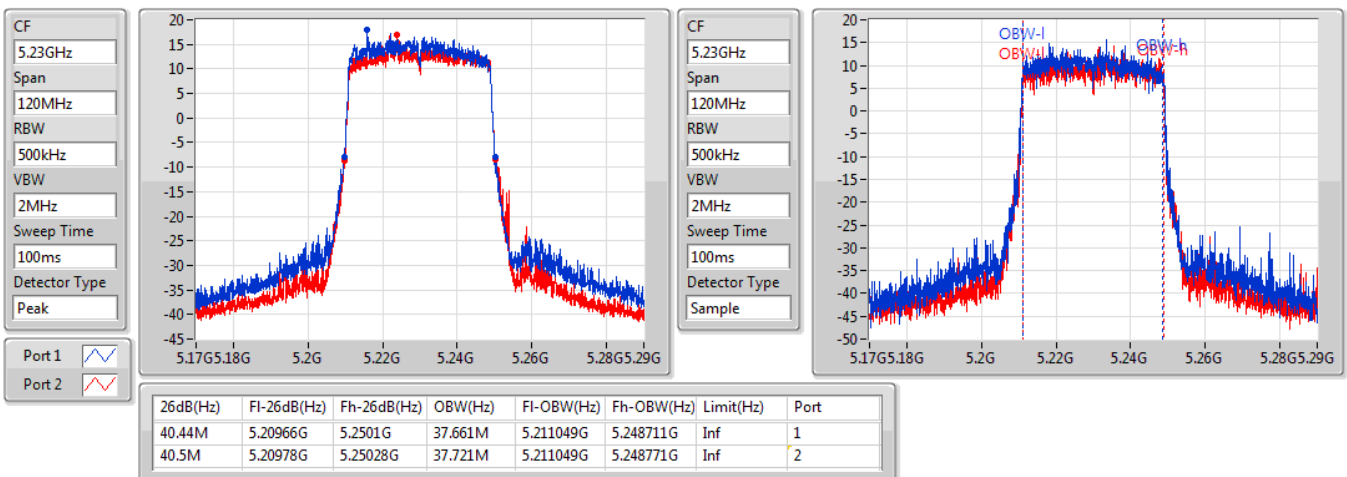


802.11ax HEW40-BF_Nss1,(MCS0)_2TX
EBW
5190MHz

22/07/2019


802.11ax HEW40-BF_Nss1,(MCS0)_2TX
EBW
5230MHz

22/07/2019

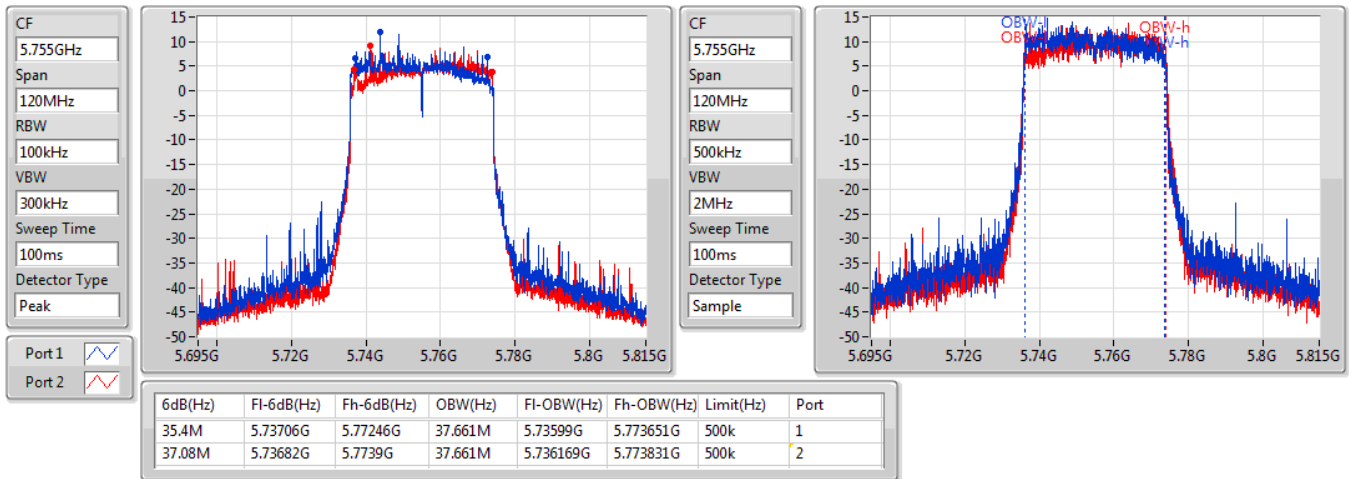


802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

5755MHz

22/07/2019

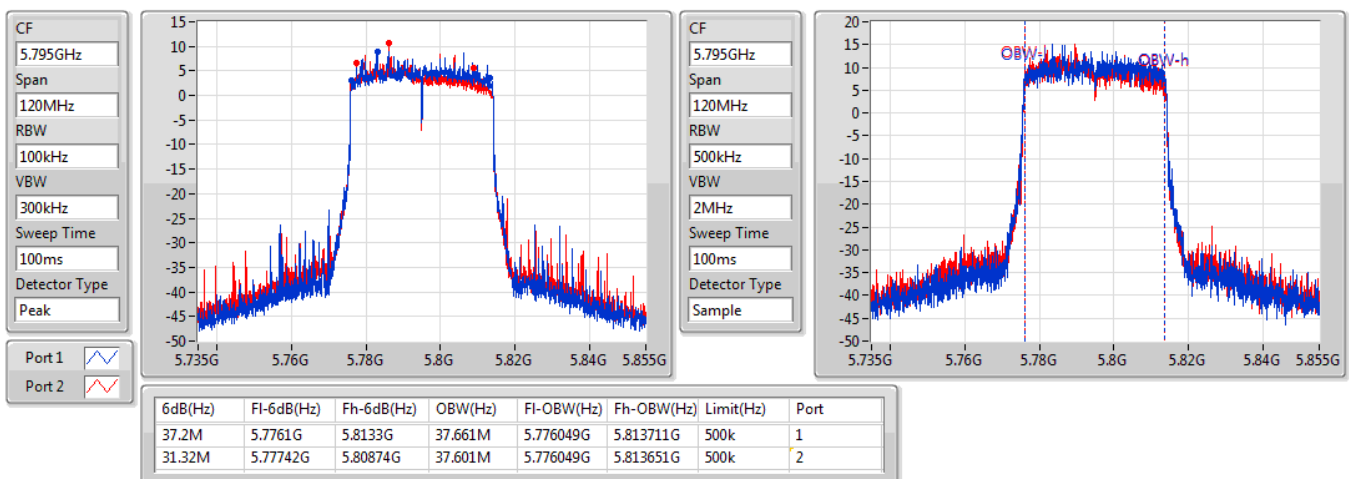


802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

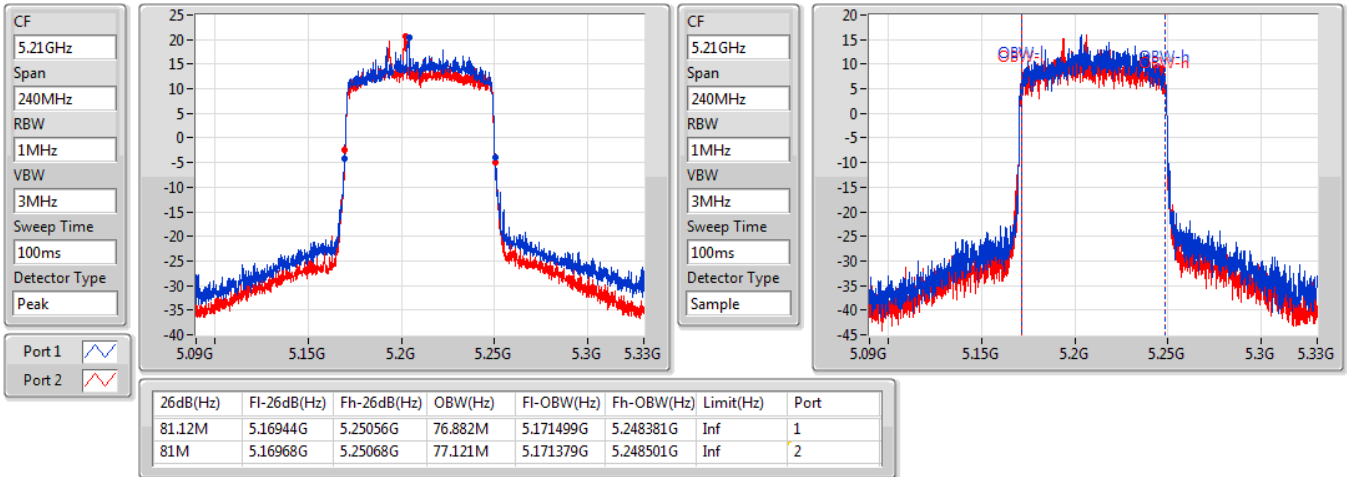
5795MHz

22/07/2019

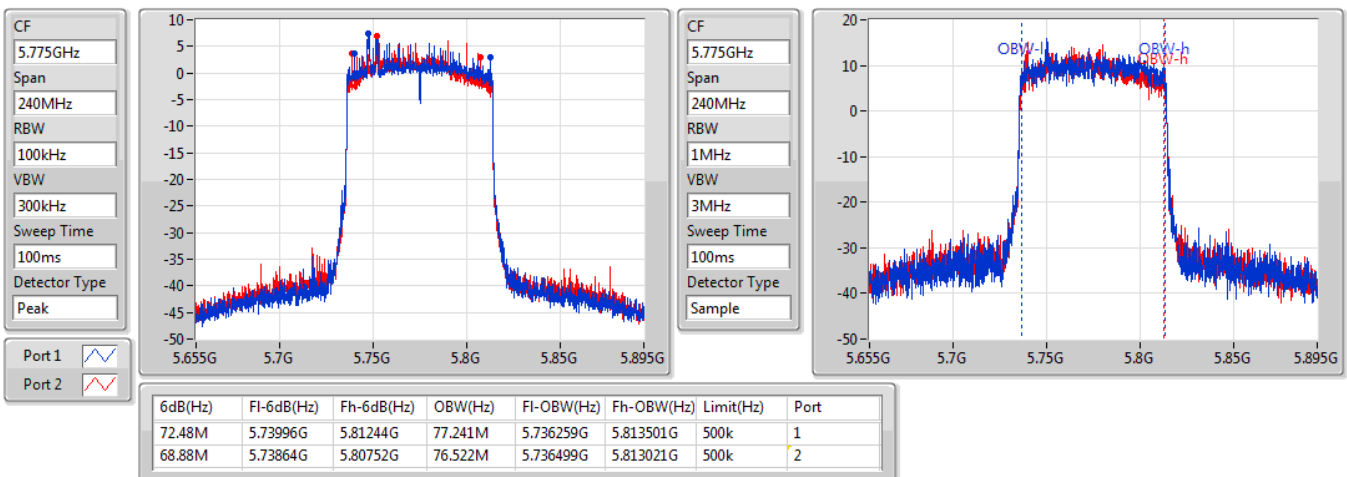


802.11ax HEW80-BF_Nss1,(MCS0)_2TX
EBW
5210MHz

22/07/2019


802.11ax HEW80-BF_Nss1,(MCS0)_2TX
EBW
5775MHz

22/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	20.88M	16.432M	16M4D1D	19.77M	16.372M
802.11ax HEW20_Nss1,(MCS0)_4TX	22.47M	18.951M	19M0D1D	21.27M	18.861M
802.11ax HEW40_Nss1,(MCS0)_4TX	41.46M	37.781M	37M8D1D	41.1M	37.661M
802.11ax HEW80_Nss1,(MCS0)_4TX	82.56M	77.241M	77M2D1D	81.96M	77.121M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	16.29M	16.492M	16M5D1D	15.09M	16.342M
802.11ax HEW20_Nss1,(MCS0)_4TX	18.66M	19.01M	19M0D1D	16.41M	18.891M
802.11ax HEW40_Nss1,(MCS0)_4TX	37.86M	37.781M	37M8D1D	36.36M	37.721M
802.11ax HEW80_Nss1,(MCS0)_4TX	76.92M	77.361M	77M4D1D	69M	77.001M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Max-OBW = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Min-OBW = Minimum 99% occupied bandwidth;

Result

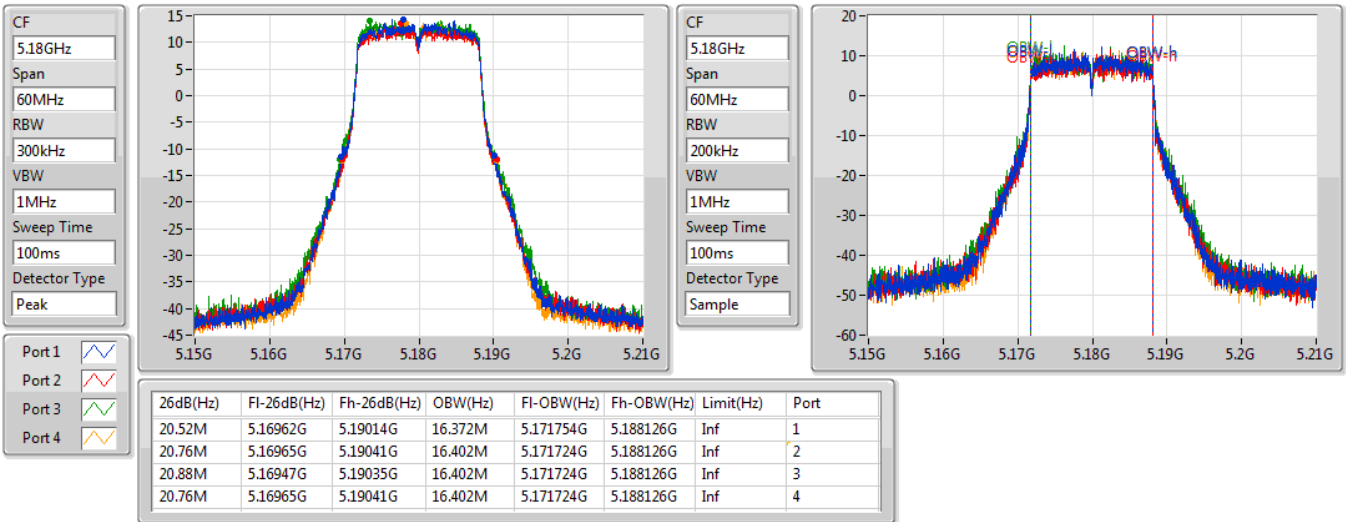
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	20.52M	16.372M	20.76M	16.402M	20.88M	16.402M	20.76M	16.402M
5200MHz	Pass	Inf	20.7M	16.402M	20.52M	16.402M	20.64M	16.402M	20.52M	16.432M
5240MHz	Pass	Inf	20.49M	16.402M	20.58M	16.432M	20.64M	16.402M	19.77M	16.402M
5745MHz	Pass	500k	15.3M	16.432M	16.02M	16.492M	15.42M	16.462M	16.23M	16.432M
5785MHz	Pass	500k	16.26M	16.462M	15.99M	16.432M	15.12M	16.372M	15.63M	16.402M
5825MHz	Pass	500k	16.26M	16.492M	15.3M	16.402M	15.09M	16.342M	16.29M	16.462M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	22.47M	18.951M	21.45M	18.921M	21.99M	18.891M	21.75M	18.951M
5200MHz	Pass	Inf	21.81M	18.891M	21.75M	18.951M	21.96M	18.861M	21.87M	18.921M
5240MHz	Pass	Inf	21.27M	18.921M	21.84M	18.891M	22.05M	18.861M	21.78M	18.921M
5745MHz	Pass	500k	17.28M	18.921M	18.54M	18.951M	16.41M	18.891M	18.66M	18.981M
5785MHz	Pass	500k	16.77M	18.891M	17.13M	18.951M	17.49M	18.921M	18.09M	18.981M
5825MHz	Pass	500k	18.42M	19.01M	17.01M	18.951M	18.63M	18.981M	18.57M	18.921M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	41.4M	37.781M	41.4M	37.781M	41.1M	37.721M	41.46M	37.661M
5230MHz	Pass	Inf	41.1M	37.721M	41.16M	37.721M	41.1M	37.661M	41.34M	37.661M
5755MHz	Pass	500k	37.44M	37.721M	36.36M	37.781M	37.56M	37.721M	37.14M	37.781M
5795MHz	Pass	500k	37.86M	37.721M	37.2M	37.721M	36.72M	37.781M	37.56M	37.721M
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	82.32M	77.121M	82.56M	77.241M	82.32M	77.121M	81.96M	77.121M
5775MHz	Pass	500k	74.04M	77.001M	69M	77.121M	76.92M	77.001M	75.84M	77.361M

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

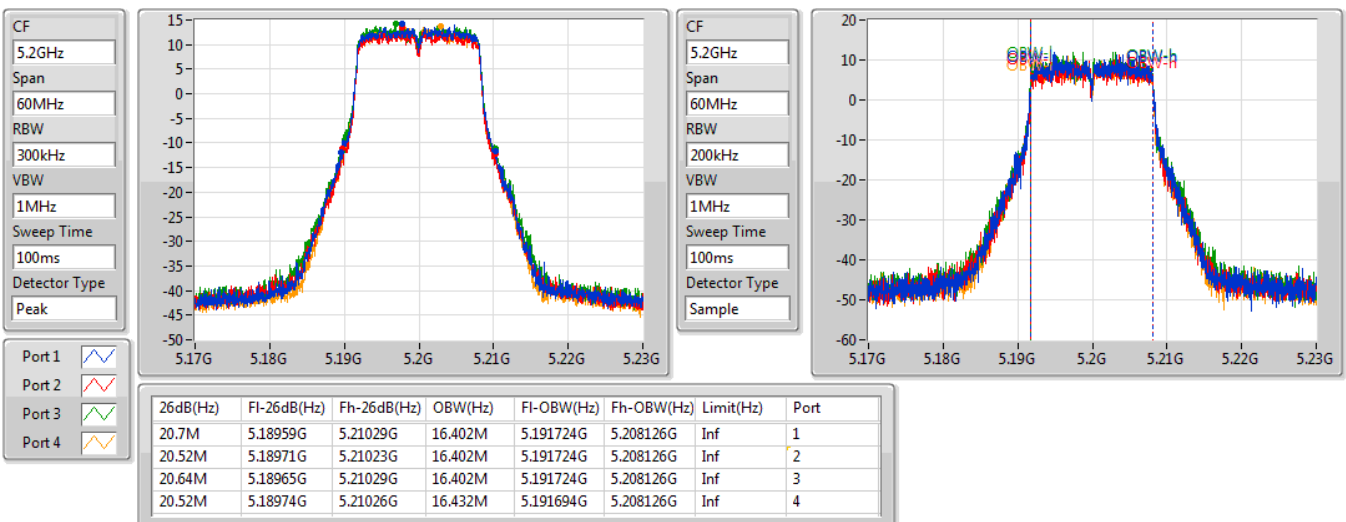
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_4TX
EBW
5180MHz

20/07/2019

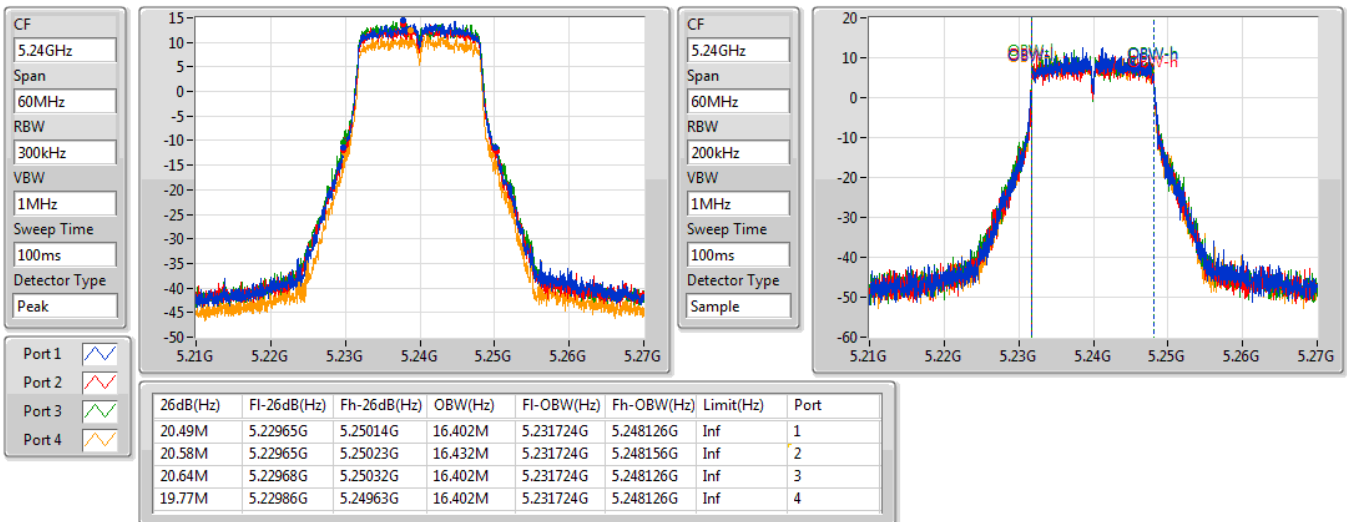

802.11a_Nss1,(6Mbps)_4TX
EBW
5200MHz

20/07/2019

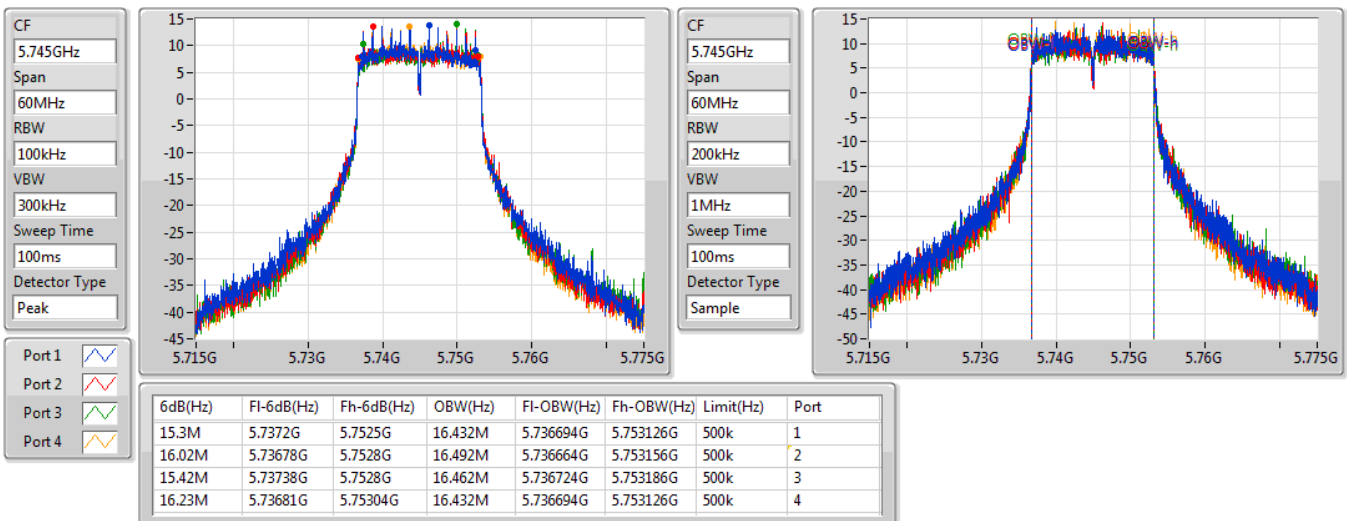


802.11a_Nss1,(6Mbps)_4TX
EBW
5240MHz

20/07/2019

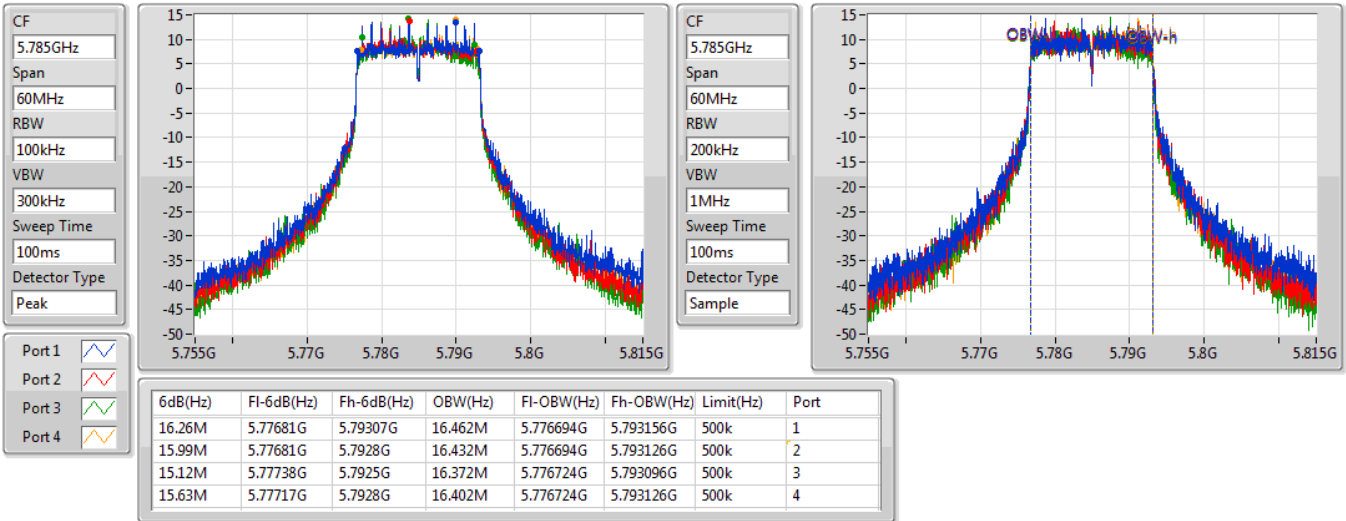

802.11a_Nss1,(6Mbps)_4TX
EBW
5745MHz

20/07/2019

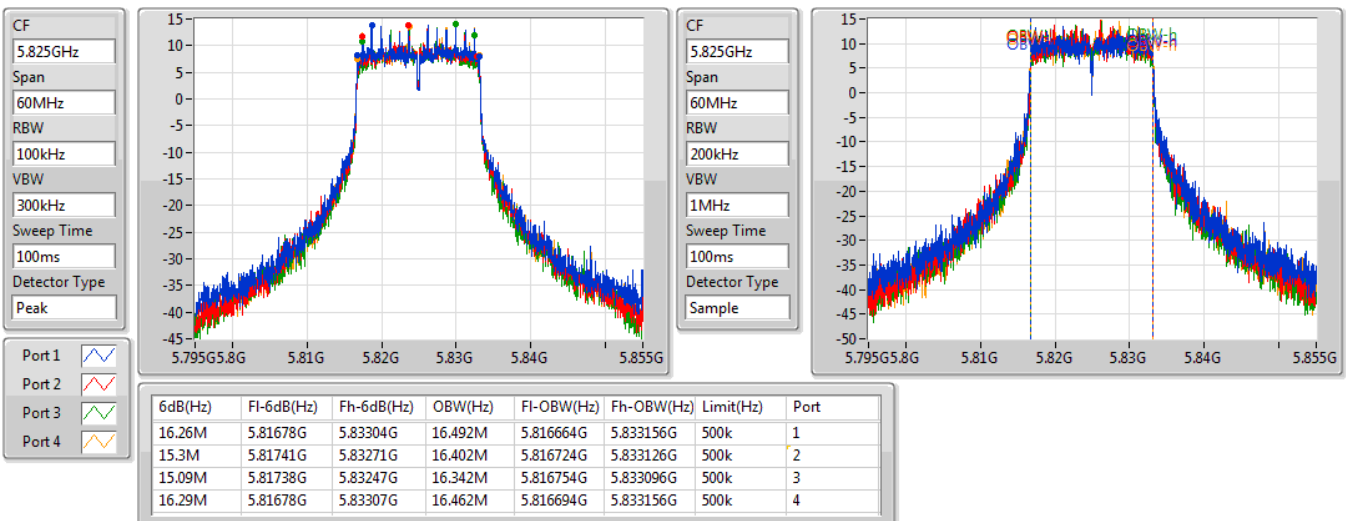


802.11a_Nss1,(6Mbps)_4TX
EBW
5785MHz

20/07/2019

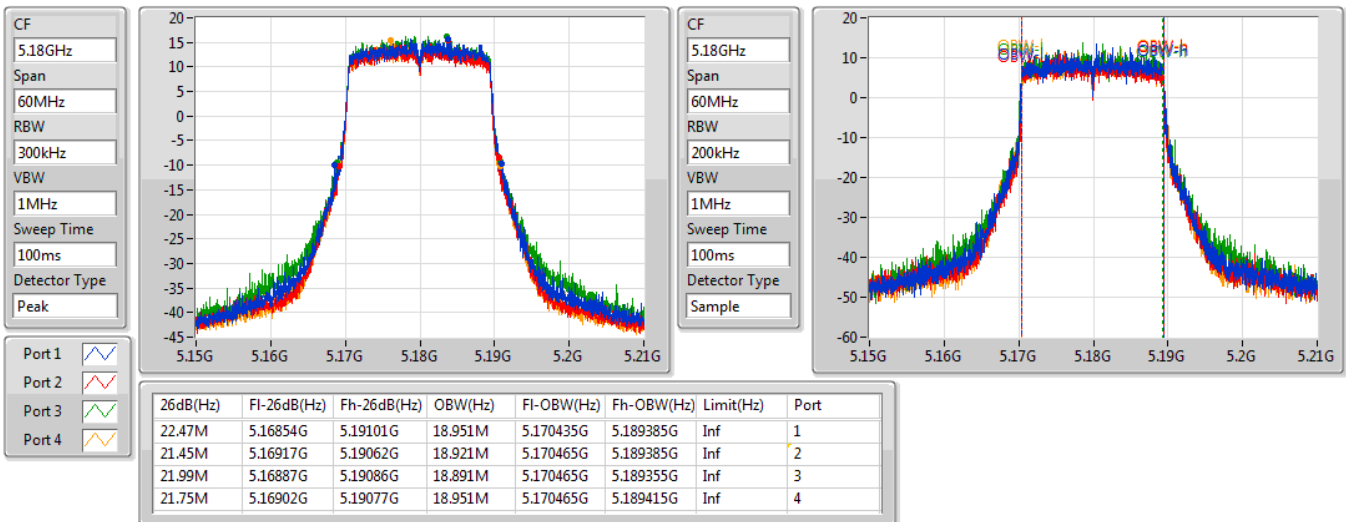

802.11a_Nss1,(6Mbps)_4TX
EBW
5825MHz

20/07/2019

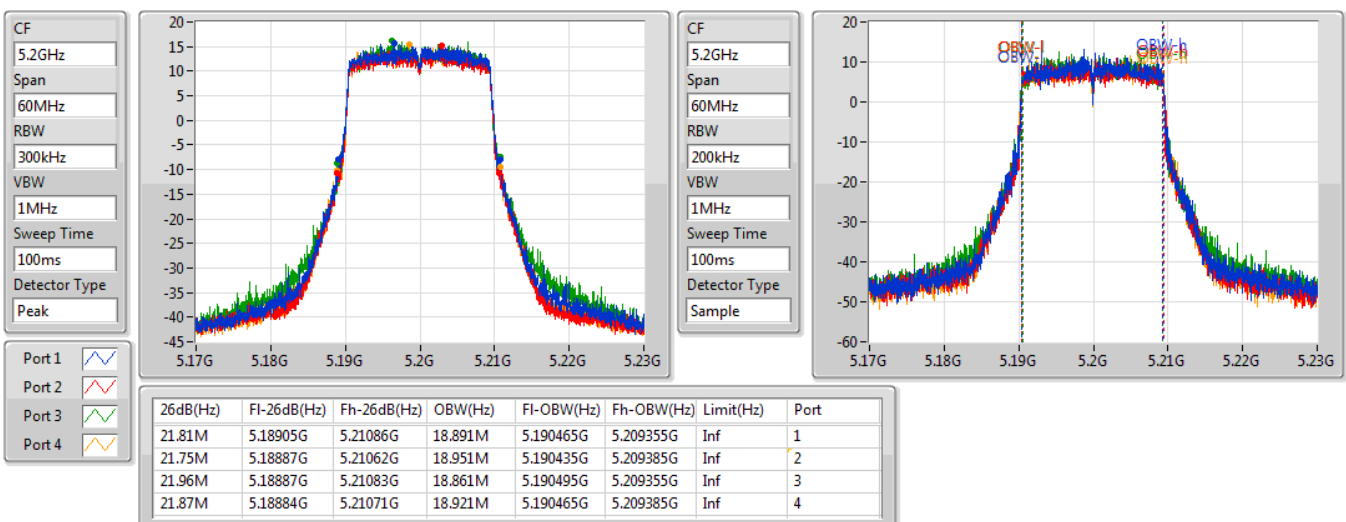


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5180MHz

20/07/2019

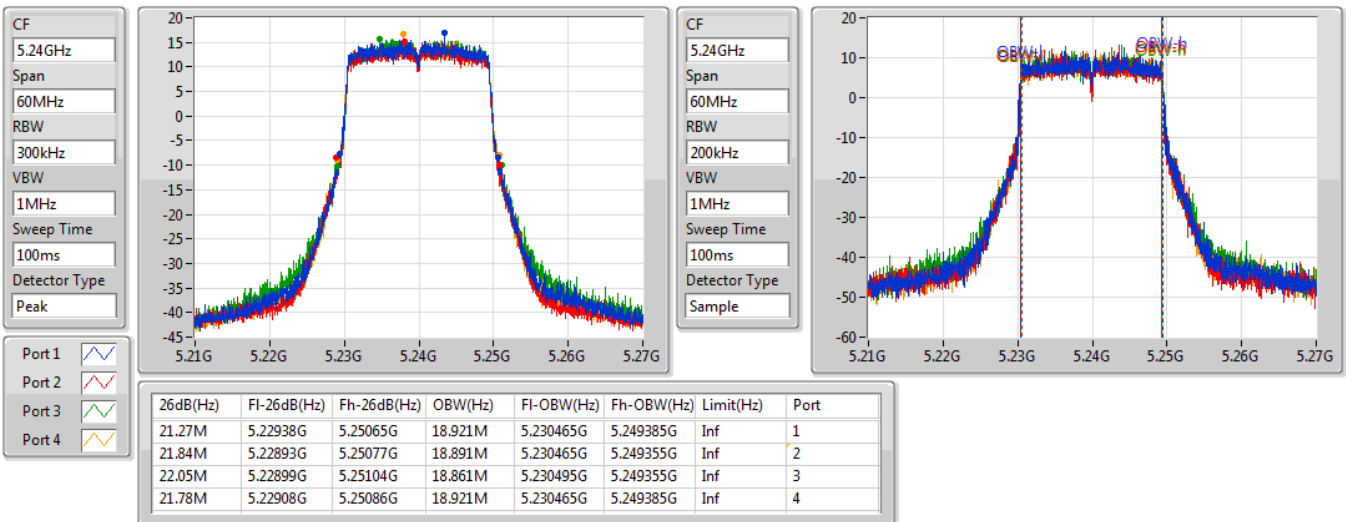

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5200MHz

20/07/2019

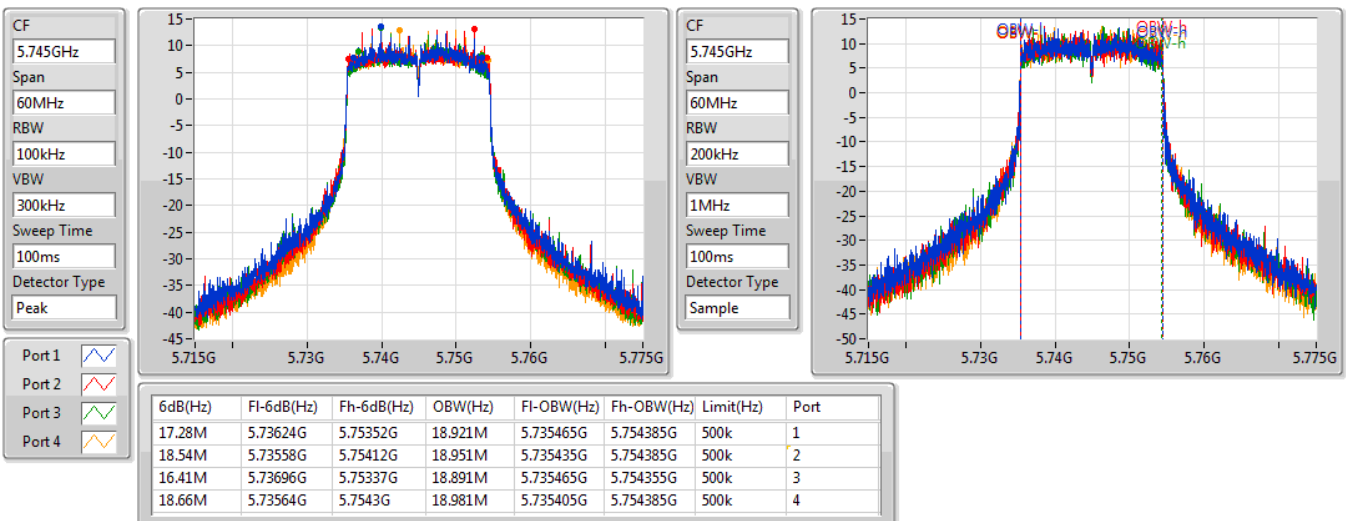


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5240MHz

20/07/2019

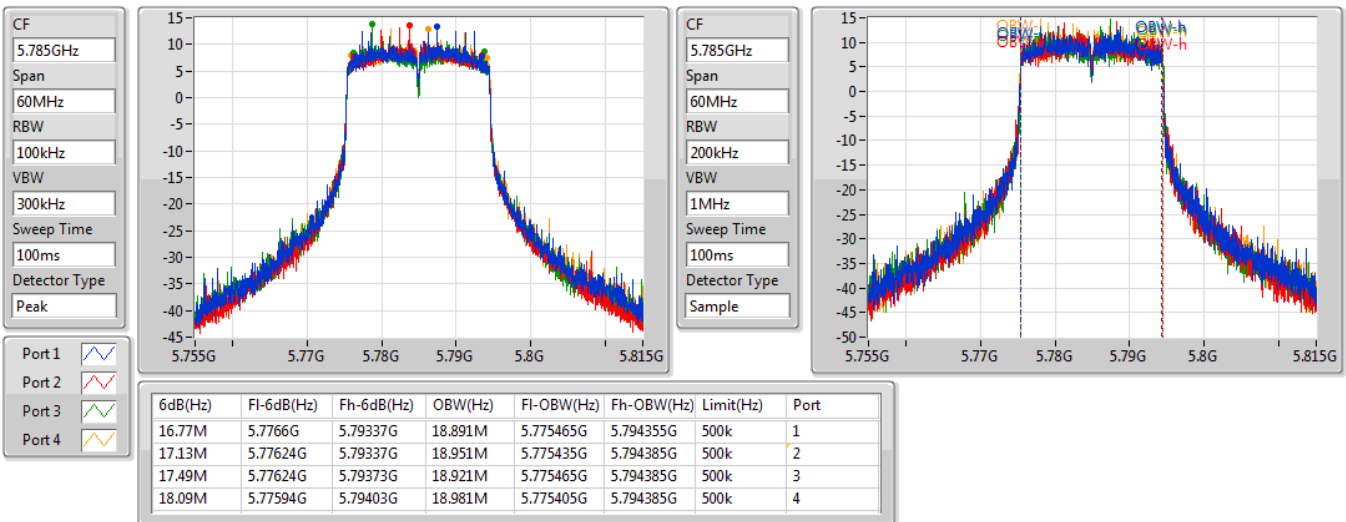

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5745MHz

20/07/2019

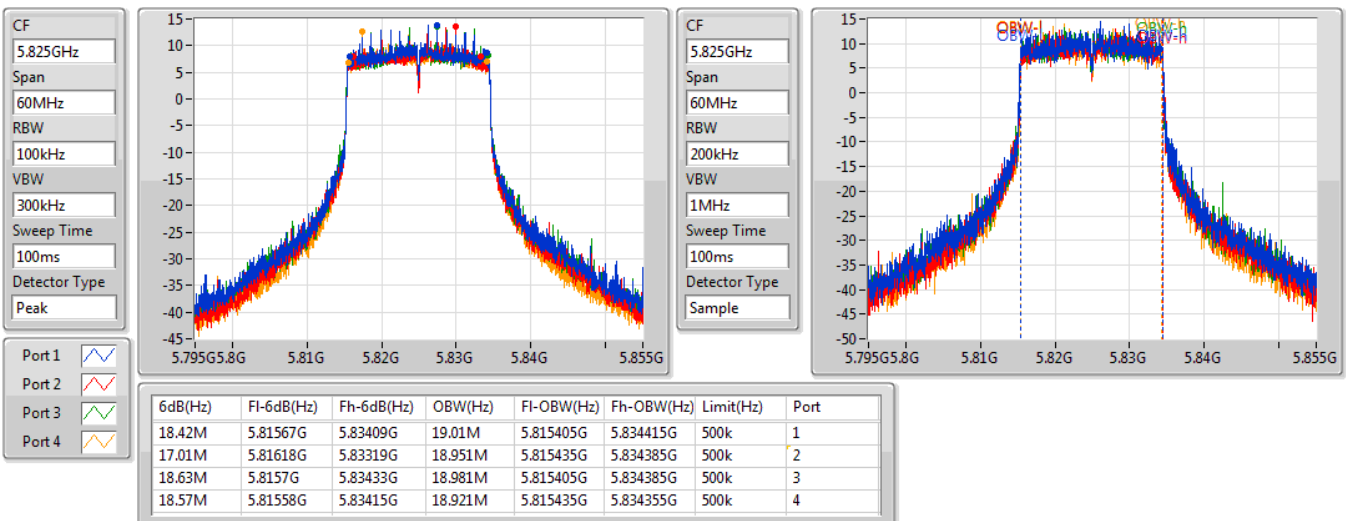


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5785MHz

20/07/2019

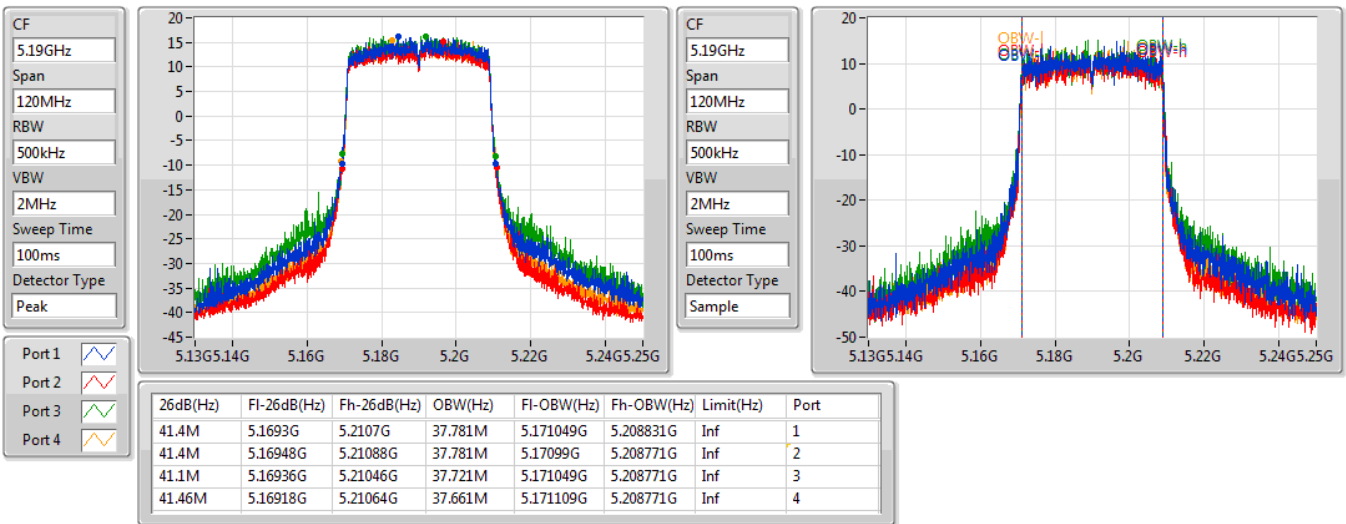

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5825MHz

20/07/2019

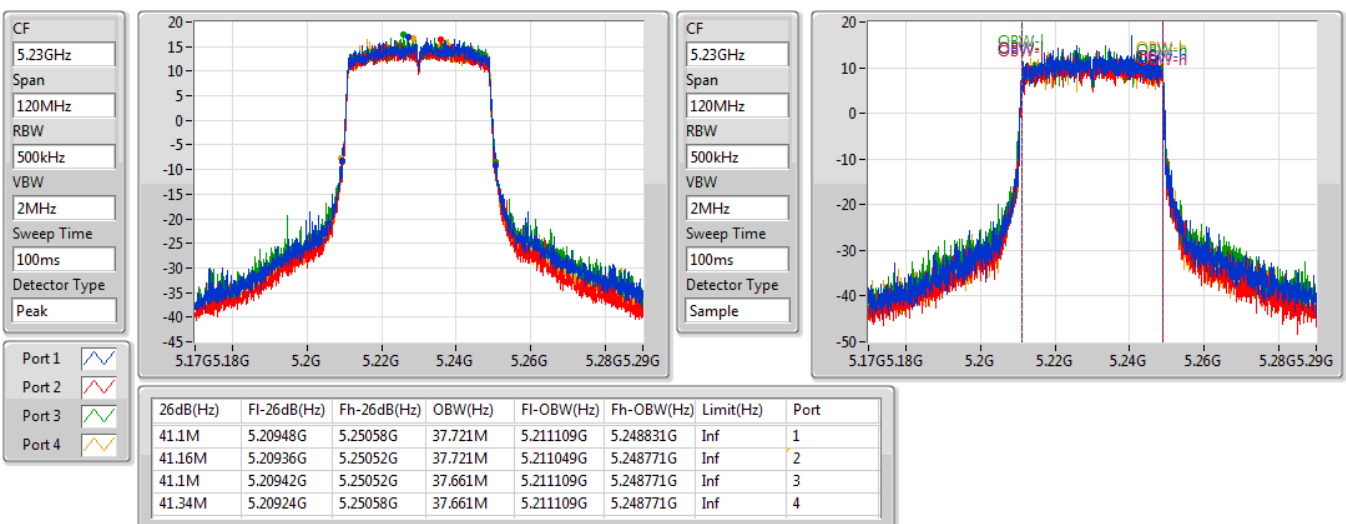


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5190MHz

20/07/2019


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5230MHz

20/07/2019

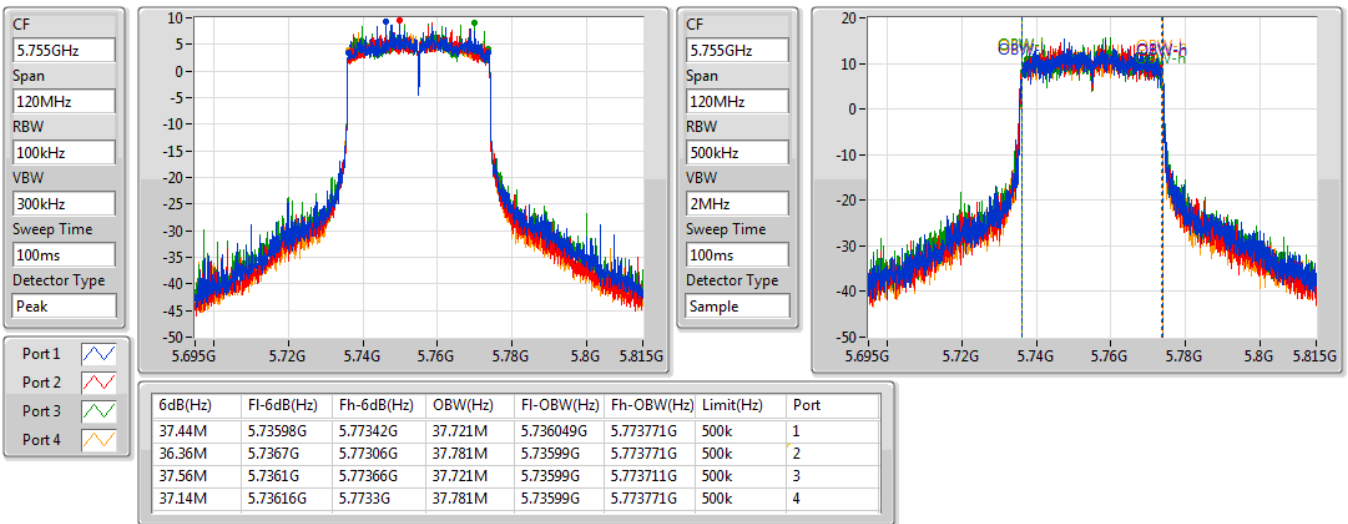


802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

5755MHz

20/07/2019

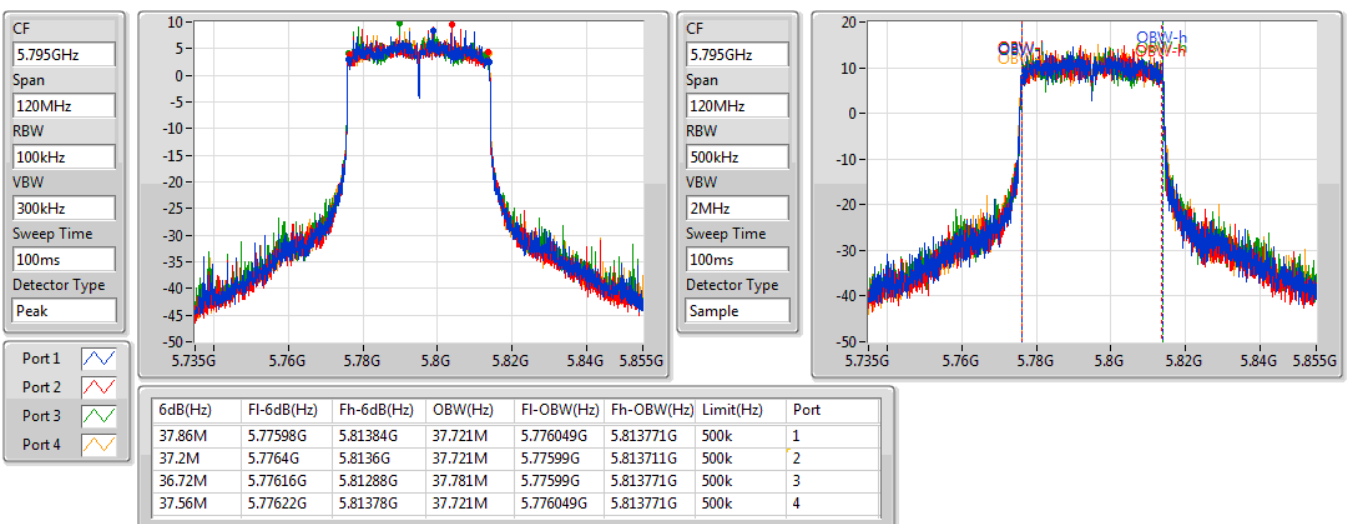


802.11ax HEW40_Nss1,(MCS0)_4TX

EBW

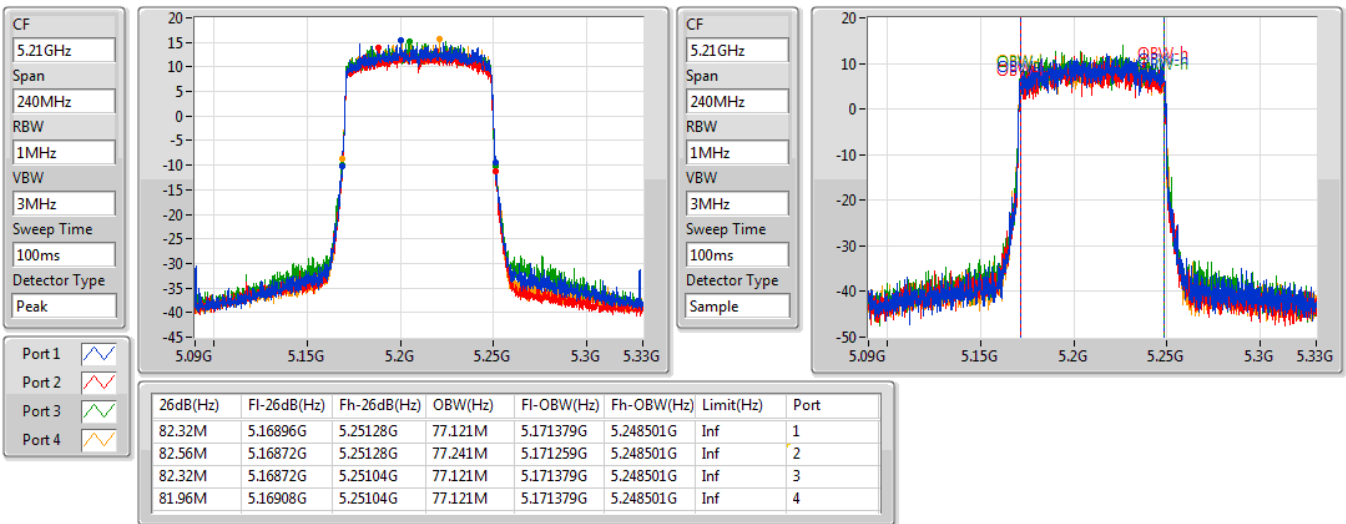
5795MHz

20/07/2019

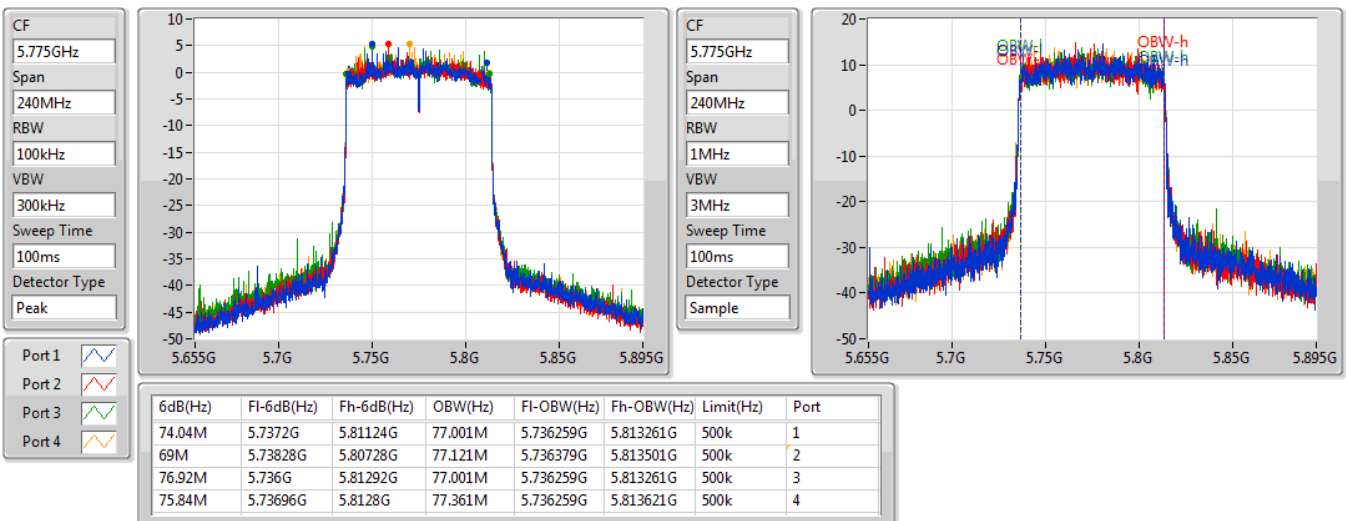


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5210MHz

20/07/2019


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5775MHz

20/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	22.47M	19.01M	19M0D1D	21.3M	18.741M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	41.76M	38.021M	38M0D1D	40.2M	37.421M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	81.36M	77.481M	77M5D1D	80.52M	76.522M
5.725-5.85GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	18.72M	18.951M	19M0D1D	16.47M	18.801M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	37.5M	37.781M	37M8D1D	29.94M	37.601M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	71.28M	77.241M	77M2D1D	66.96M	76.882M

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

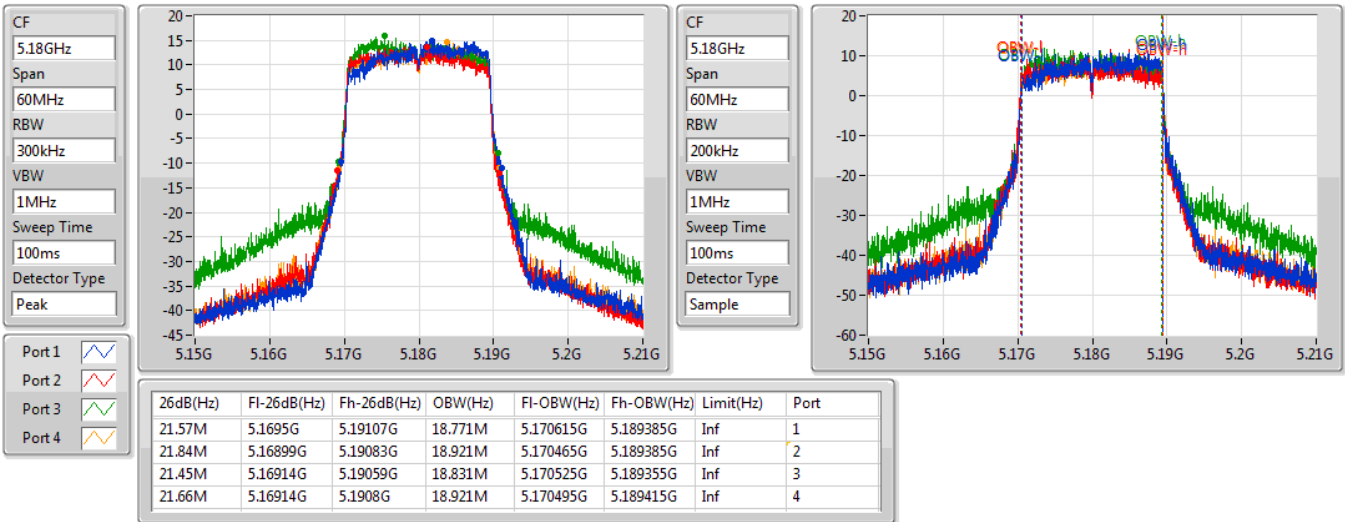
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.57M	18.771M	21.84M	18.921M	21.45M	18.831M	21.66M	18.921M
5200MHz	Pass	Inf	21.3M	18.741M	22.47M	18.981M	21.57M	18.921M	21.51M	18.891M
5240MHz	Pass	Inf	21.78M	18.981M	21.84M	18.861M	21.84M	19.01M	21.63M	18.891M
5745MHz	Pass	500k	18.48M	18.951M	17.97M	18.891M	18.3M	18.951M	18.09M	18.801M
5785MHz	Pass	500k	17.25M	18.921M	17.79M	18.921M	18.24M	18.891M	17.97M	18.831M
5825MHz	Pass	500k	18.72M	18.921M	16.89M	18.831M	16.47M	18.861M	18.21M	18.891M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.56M	37.421M	40.68M	37.661M	41.64M	37.841M	40.44M	37.541M
5230MHz	Pass	Inf	41.04M	37.961M	40.86M	37.481M	40.2M	37.661M	41.76M	38.021M
5755MHz	Pass	500k	37.5M	37.721M	37.38M	37.781M	34.92M	37.781M	34.98M	37.601M
5795MHz	Pass	500k	36.66M	37.661M	34.14M	37.661M	29.94M	37.721M	33.78M	37.661M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	80.52M	76.522M	81.36M	77.481M	80.64M	77.121M	81.24M	77.241M
5775MHz	Pass	500k	66.96M	76.882M	68.16M	76.882M	69.48M	77.241M	71.28M	77.121M

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

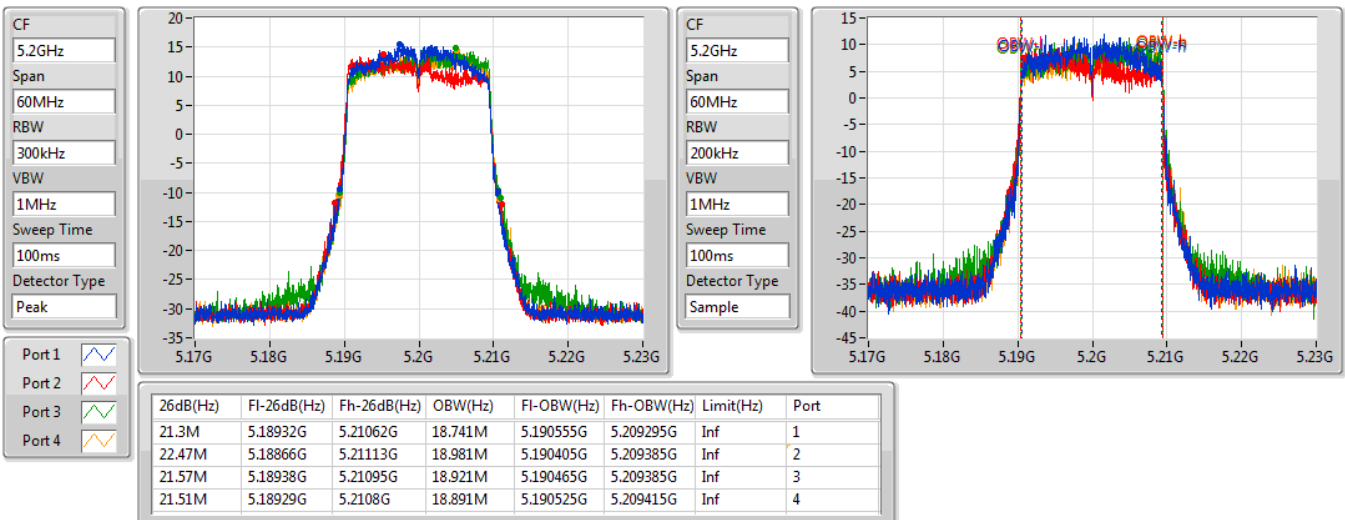
Port X-OBW = Port X 99% occupied bandwidth;

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5180MHz

20/07/2019

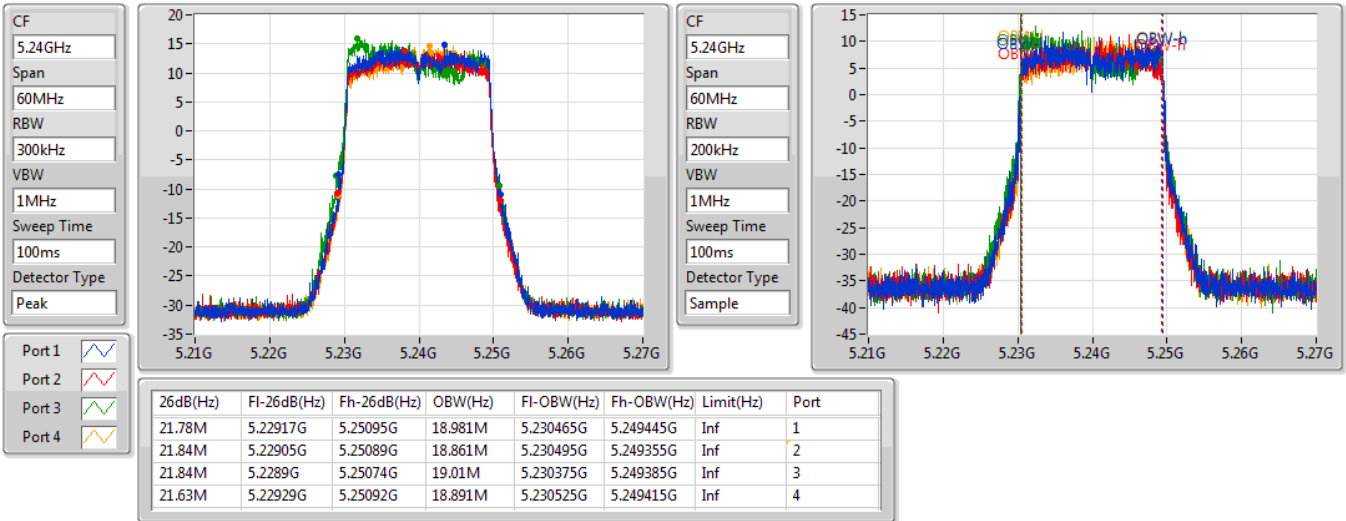

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5200MHz

20/07/2019

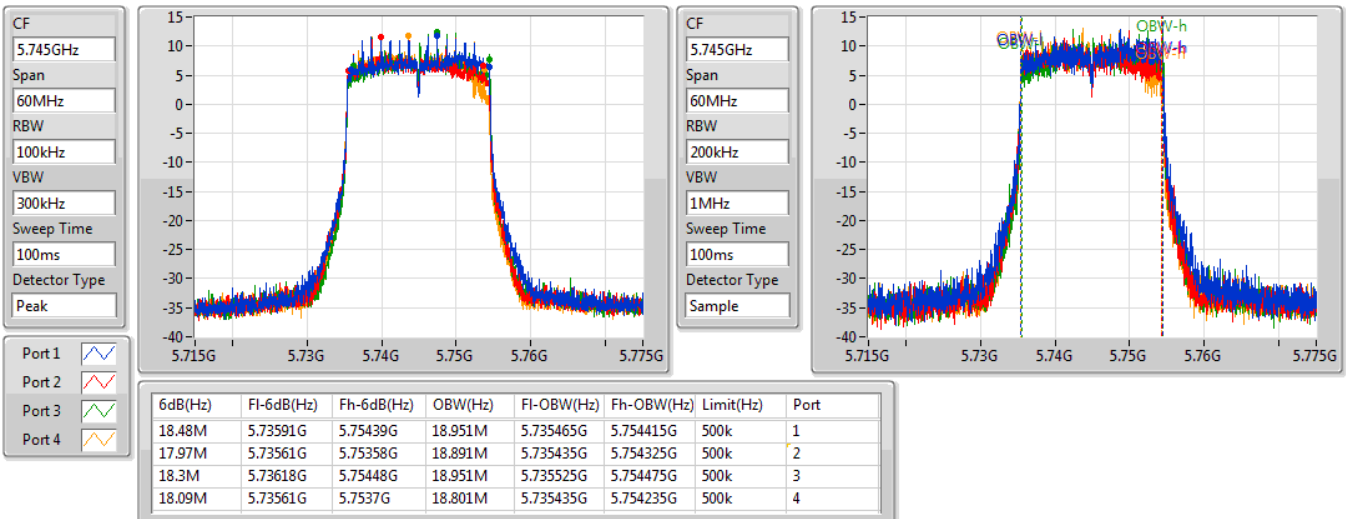


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5240MHz

20/07/2019

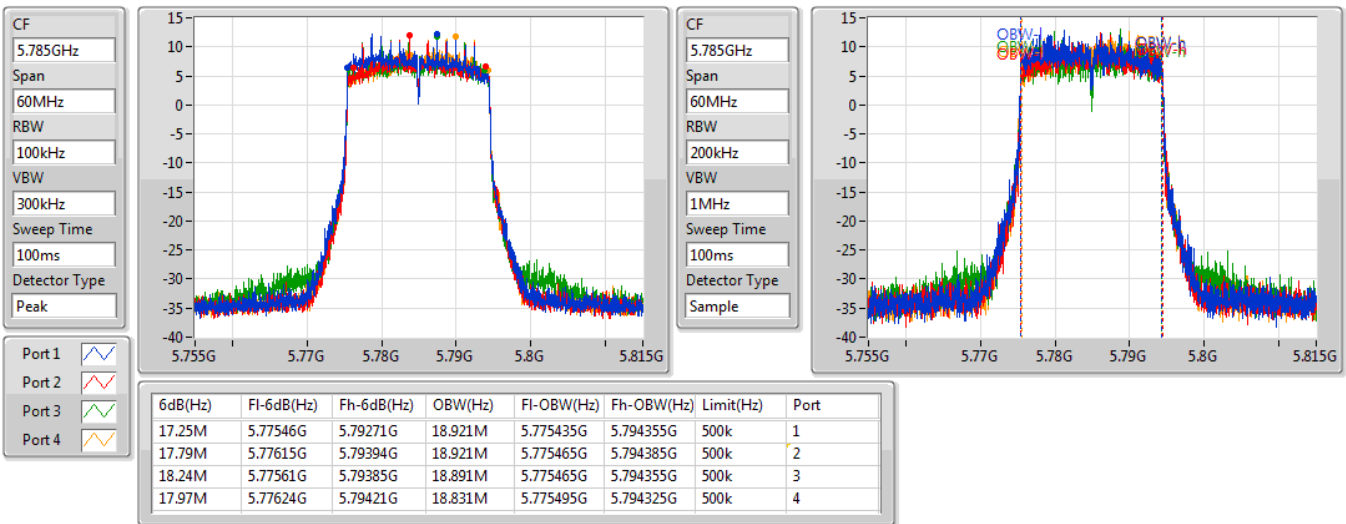

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5745MHz

20/07/2019

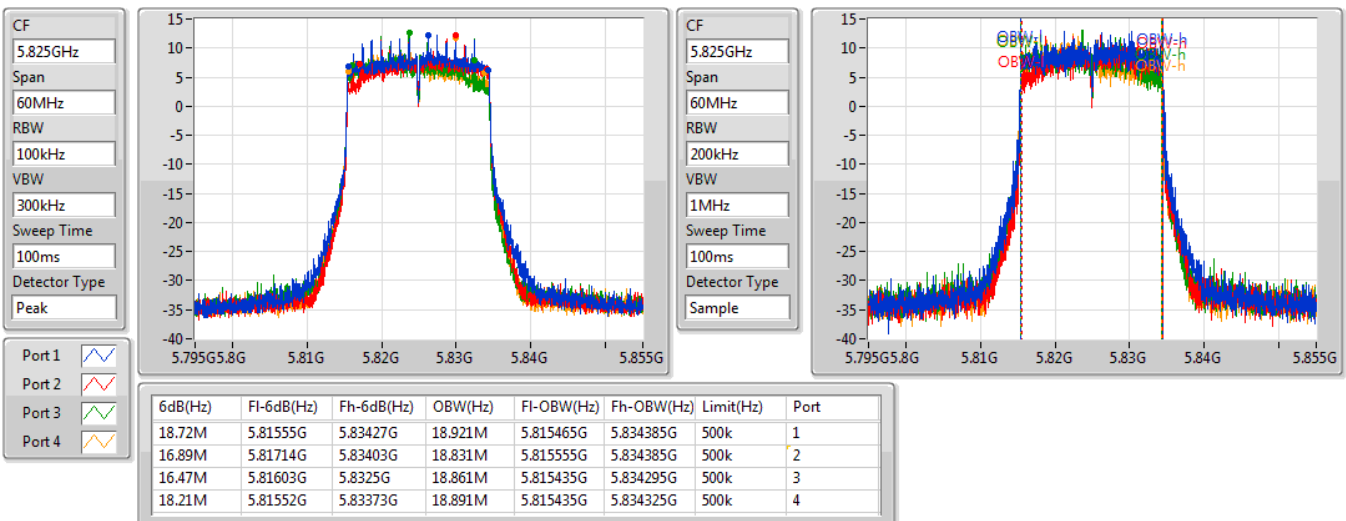


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5785MHz

20/07/2019

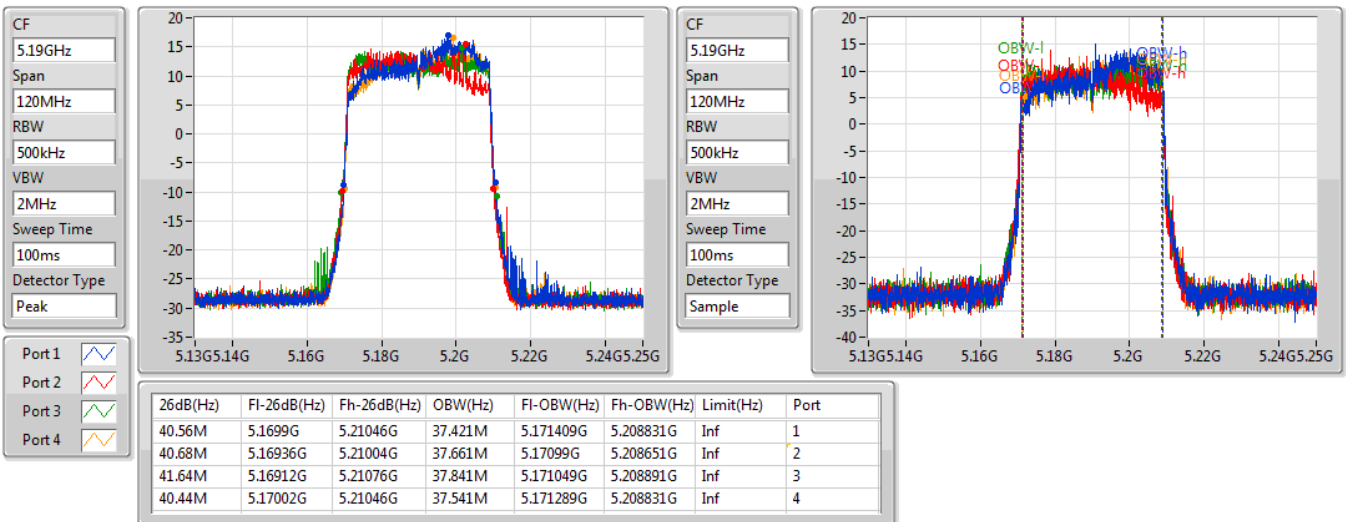

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5825MHz

20/07/2019

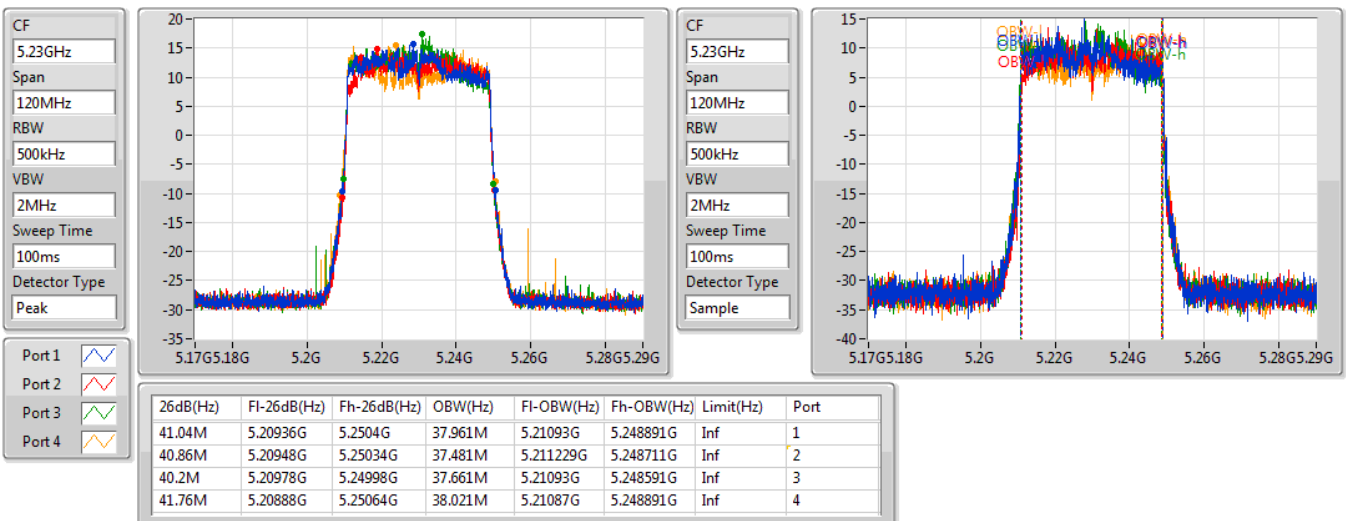


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5190MHz

20/07/2019

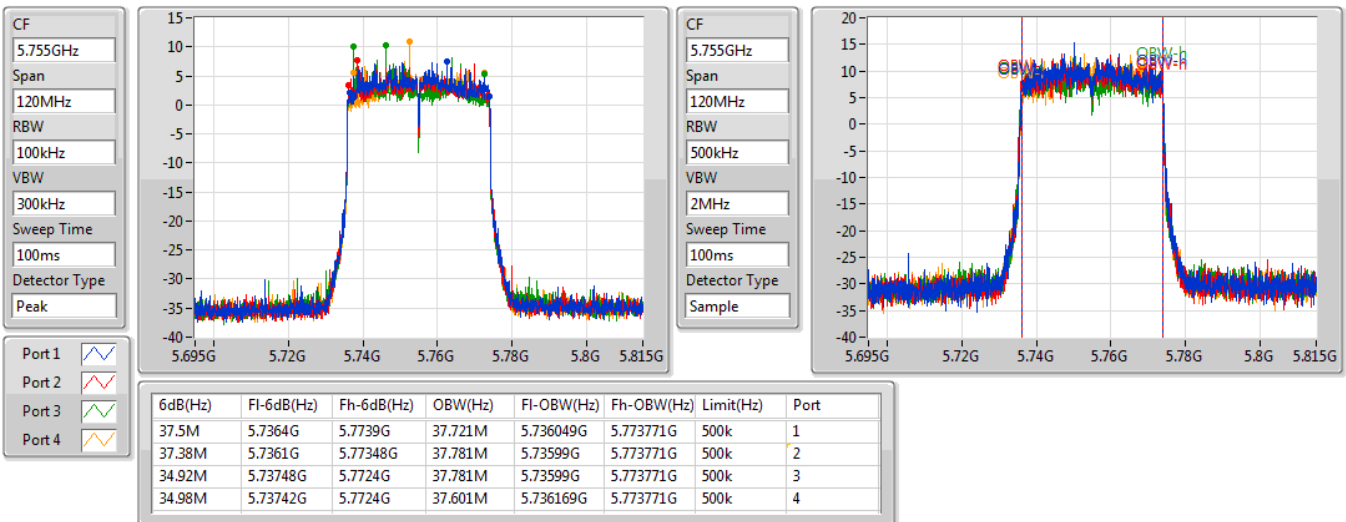

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5230MHz

20/07/2019

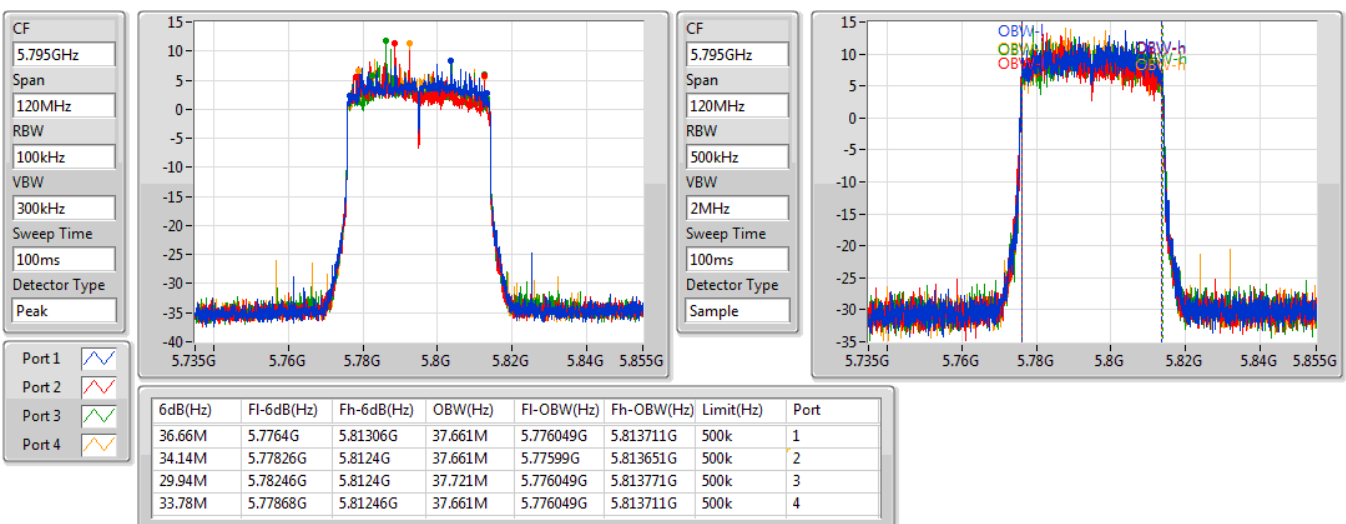


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5755MHz

20/07/2019

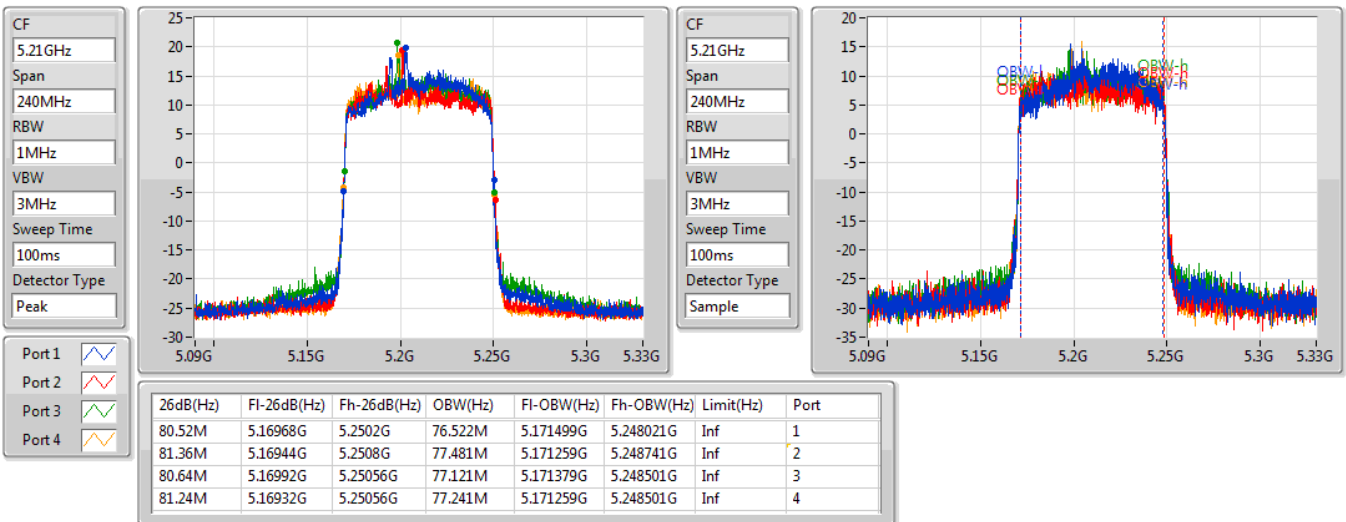

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5795MHz

20/07/2019

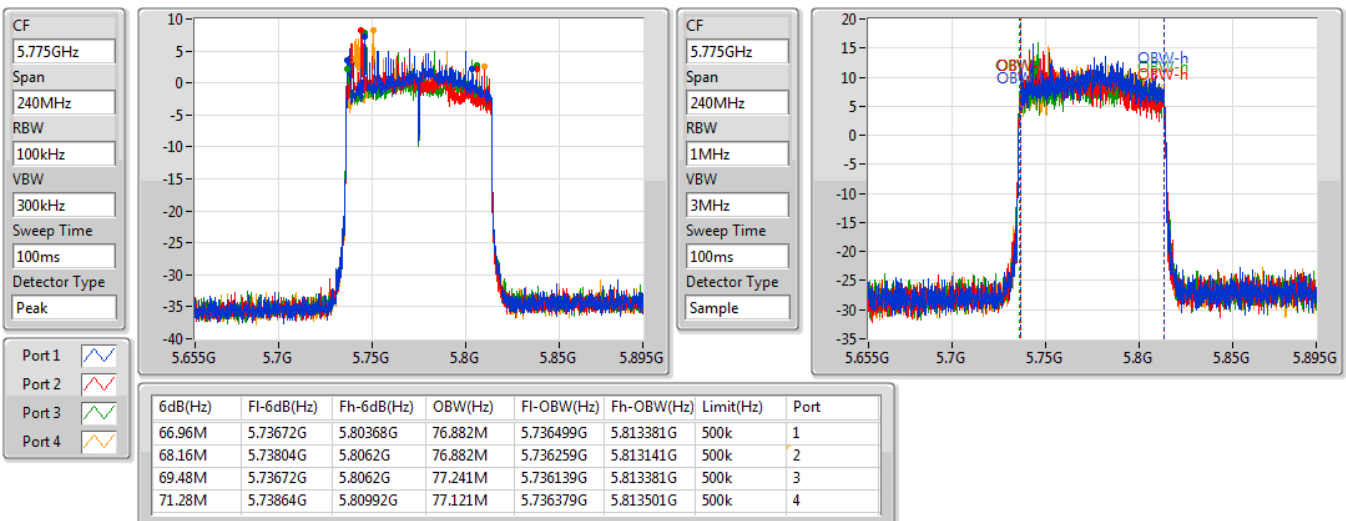


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5210MHz

20/07/2019


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

20/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	36.72M	19.16M	19M2D1D	25.89M	16.582M
802.11ax HEW20_Nss1,(MCS0)_1TX	34.44M	19.16M	19M2D1D	27.66M	19.01M
802.11ax HEW40_Nss1,(MCS0)_1TX	75.24M	38.261M	38M3D1D	41.16M	37.781M
802.11ax HEW80_Nss1,(MCS0)_1TX	82.2M	77.121M	77M1D1D	82.2M	77.121M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	16.29M	17.751M	17M8D1D	15.75M	16.972M
802.11ax HEW20_Nss1,(MCS0)_1TX	18.3M	19.16M	19M2D1D	18M	19.13M
802.11ax HEW40_Nss1,(MCS0)_1TX	37.98M	54.753M	54M8D1D	37.8M	47.976M
802.11ax HEW80_Nss1,(MCS0)_1TX	71.64M	77.481M	77M5D1D	71.64M	77.481M

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

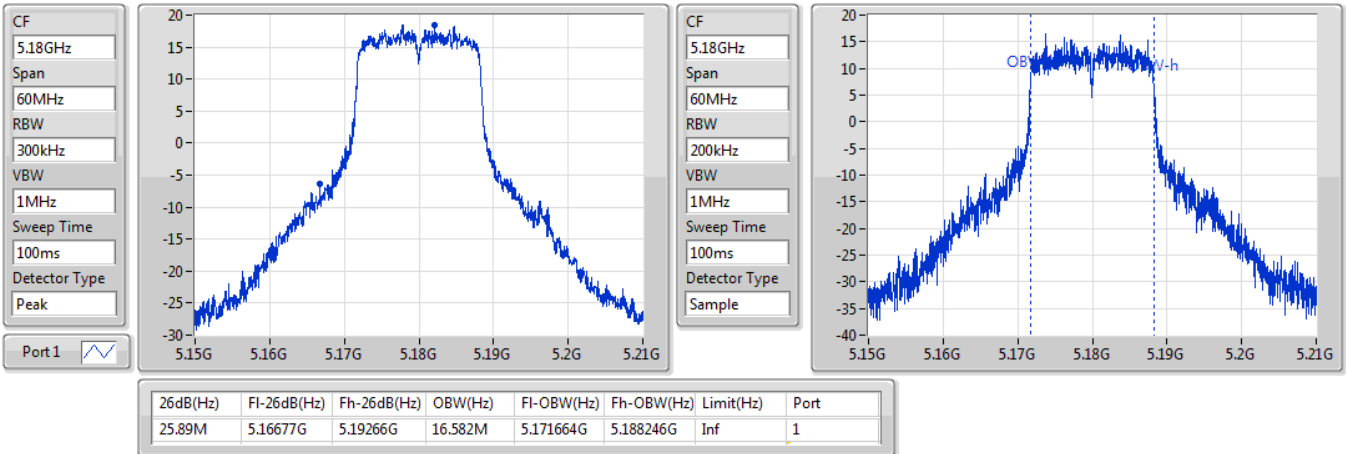
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-
5180MHz	Pass	Inf	25.89M	16.582M
5200MHz	Pass	Inf	34.44M	17.571M
5240MHz	Pass	Inf	36.72M	19.16M
5745MHz	Pass	500k	16.29M	17.751M
5785MHz	Pass	500k	15.99M	16.972M
5825MHz	Pass	500k	15.75M	17.031M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
5180MHz	Pass	Inf	27.66M	19.01M
5200MHz	Pass	Inf	33.54M	19.13M
5240MHz	Pass	Inf	34.44M	19.16M
5745MHz	Pass	500k	18.21M	19.16M
5785MHz	Pass	500k	18M	19.13M
5825MHz	Pass	500k	18.3M	19.13M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
5190MHz	Pass	Inf	41.16M	37.781M
5230MHz	Pass	Inf	75.24M	38.261M
5755MHz	Pass	500k	37.98M	47.976M
5795MHz	Pass	500k	37.8M	54.753M
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-	-	-
5210MHz	Pass	Inf	82.2M	77.121M
5775MHz	Pass	500k	71.64M	77.481M

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

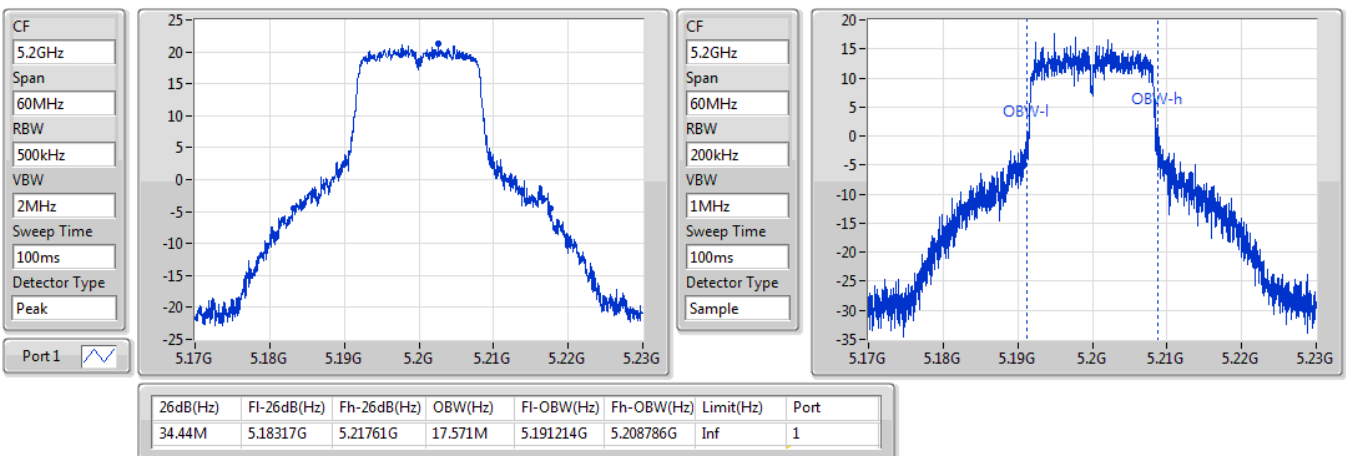
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_1TX
EBW
5180MHz

20/07/2019

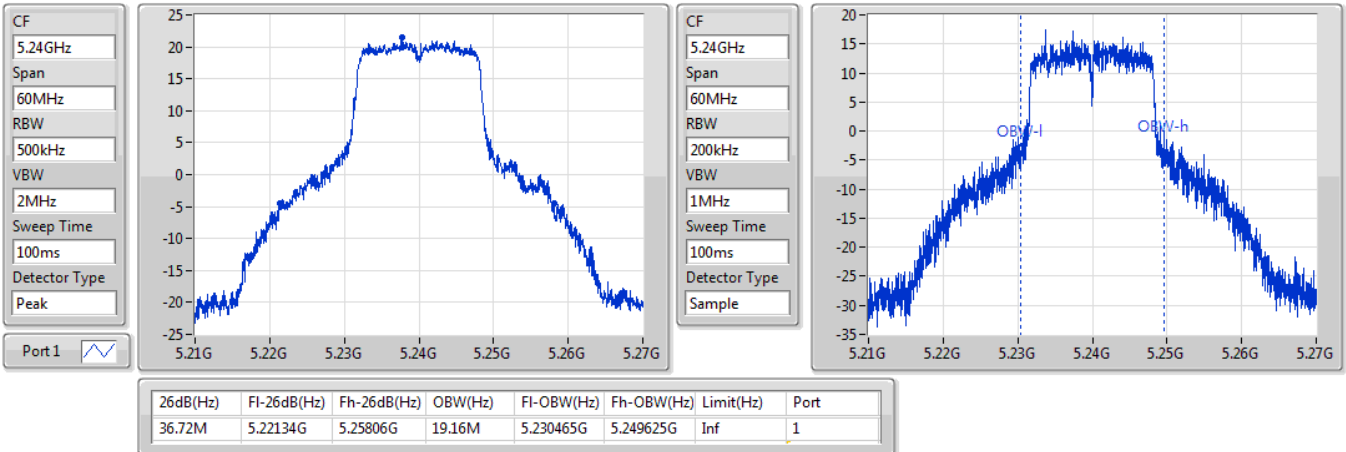

802.11a_Nss1,(6Mbps)_1TX
EBW
5200MHz

20/07/2019

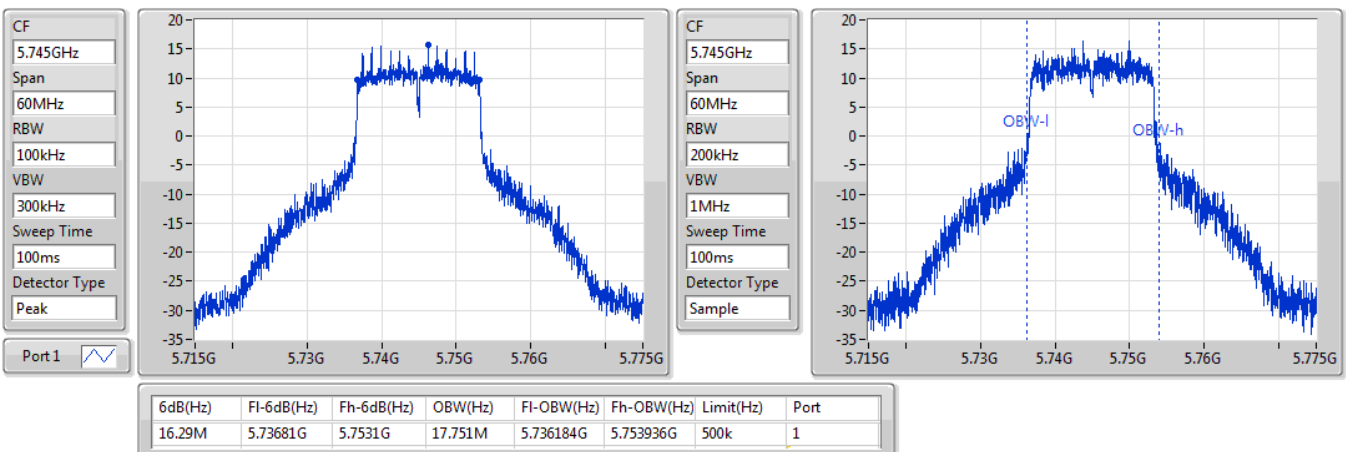


802.11a_Nss1,(6Mbps)_1TX
EBW
5240MHz

20/07/2019

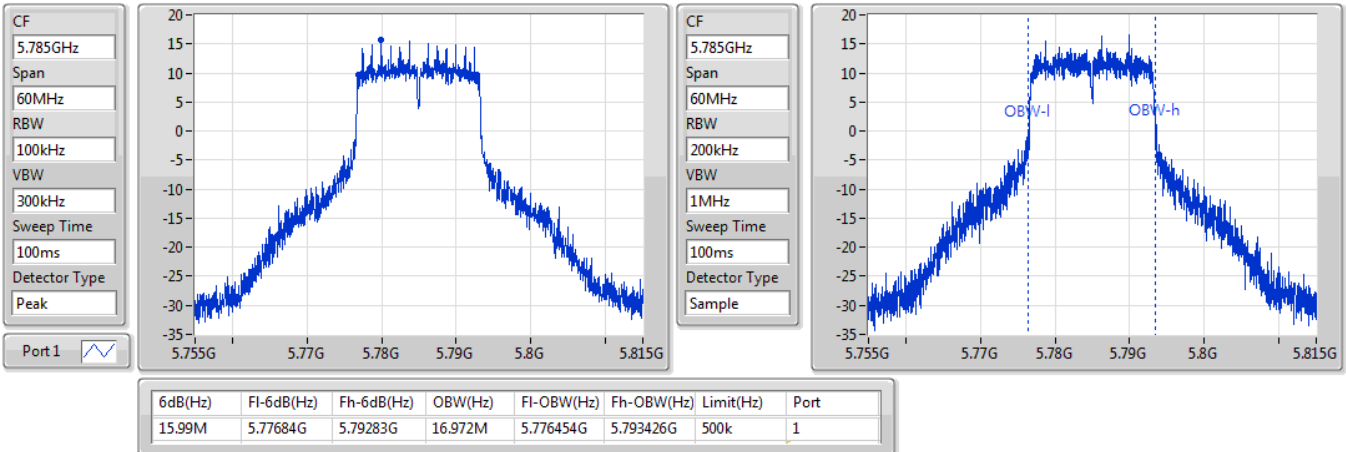

802.11a_Nss1,(6Mbps)_1TX
EBW
5745MHz

20/07/2019

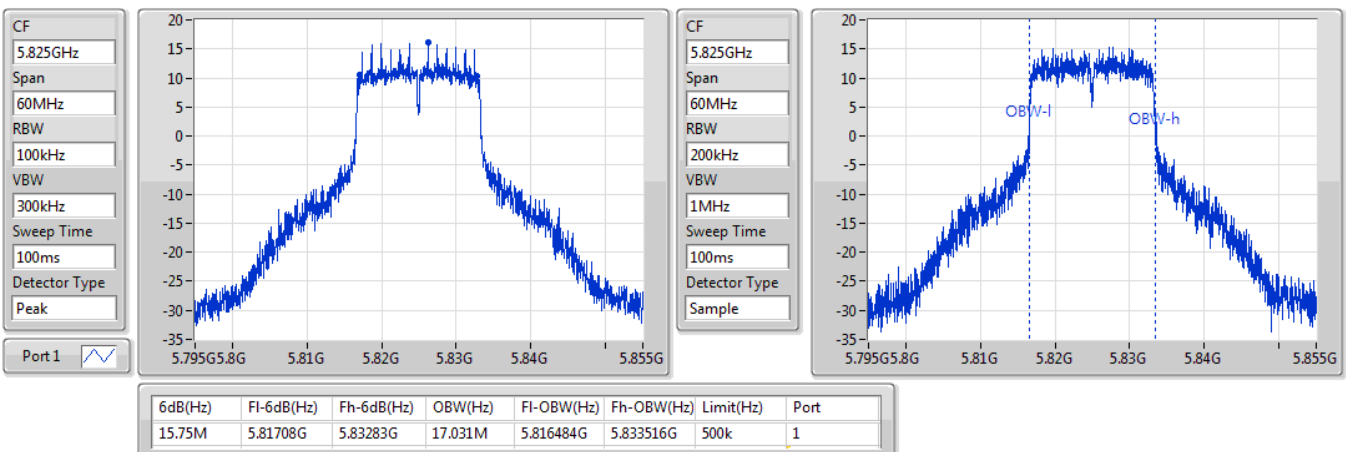


802.11a_Nss1,(6Mbps)_1TX
EBW
5785MHz

20/07/2019

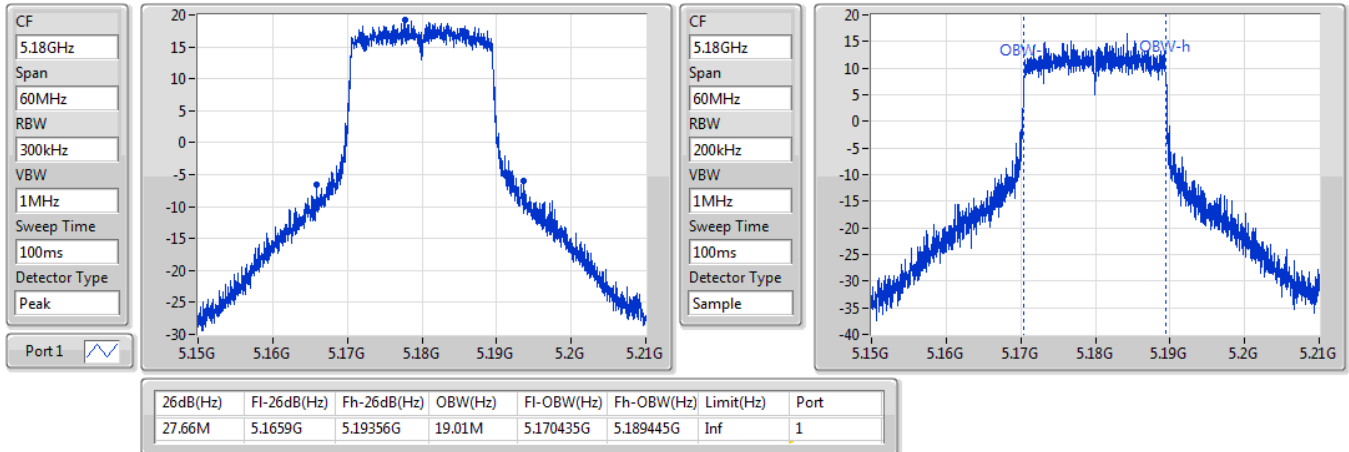

802.11a_Nss1,(6Mbps)_1TX
EBW
5825MHz

20/07/2019

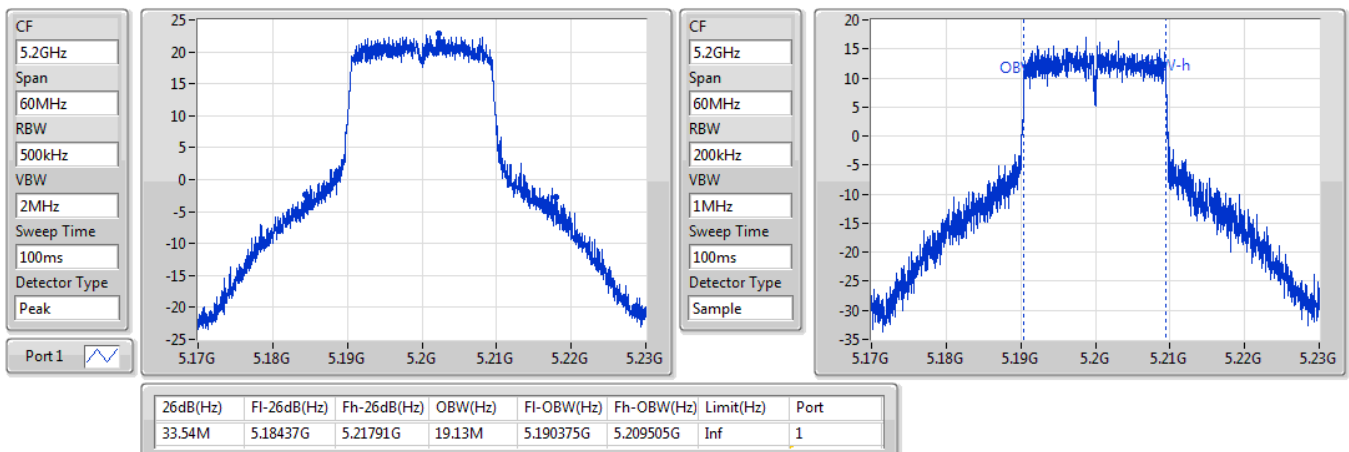


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5180MHz

20/07/2019

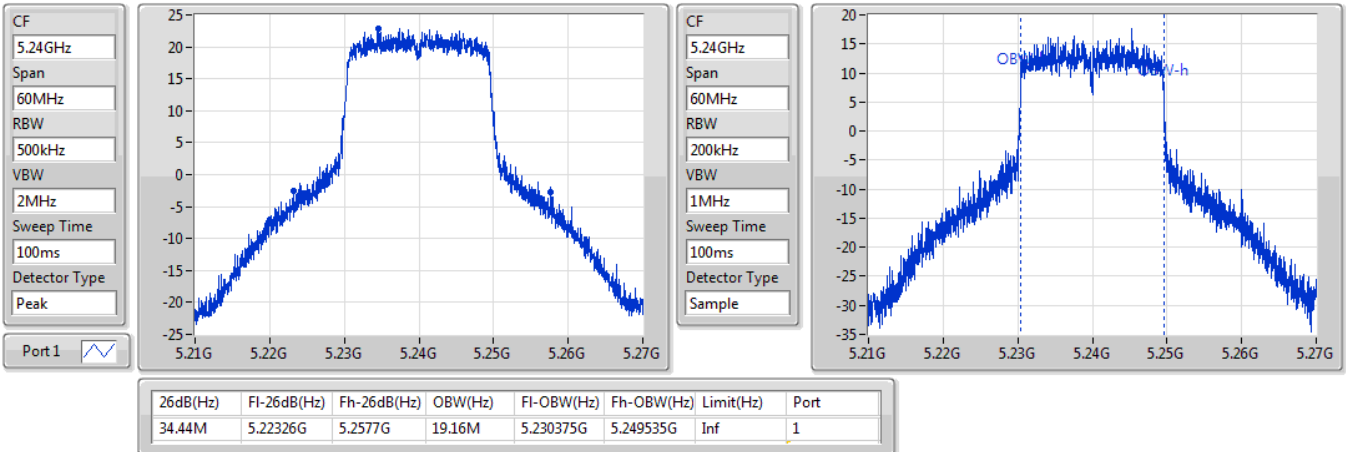

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5200MHz

20/07/2019

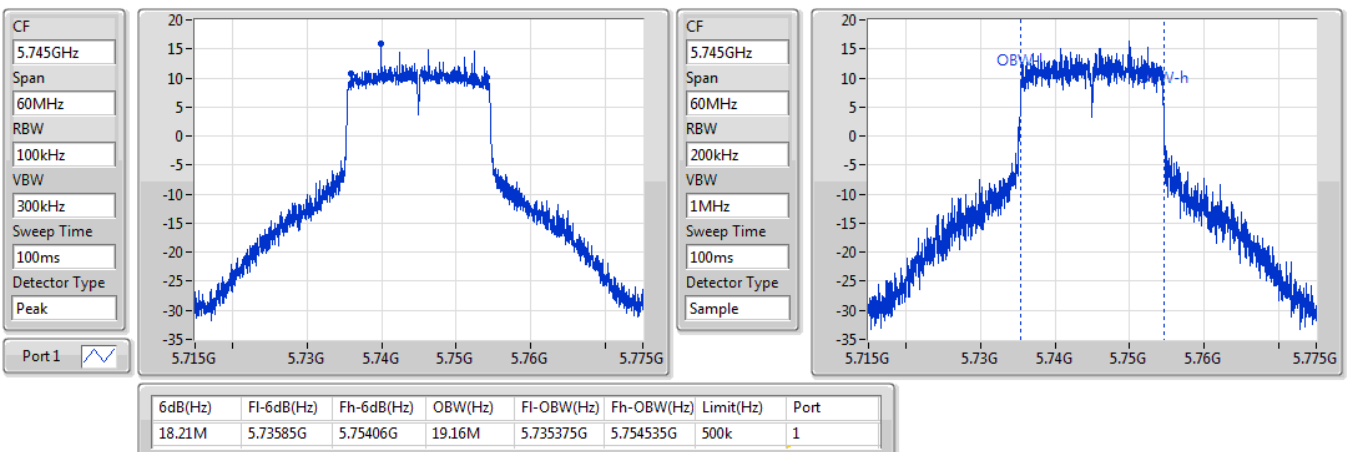


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5240MHz

20/07/2019

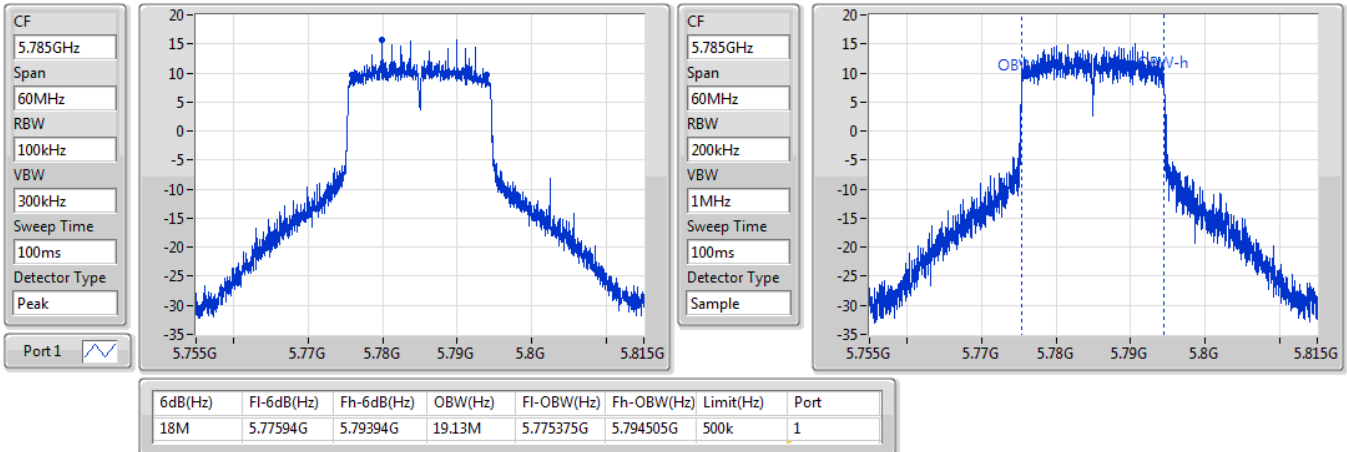

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5745MHz

20/07/2019

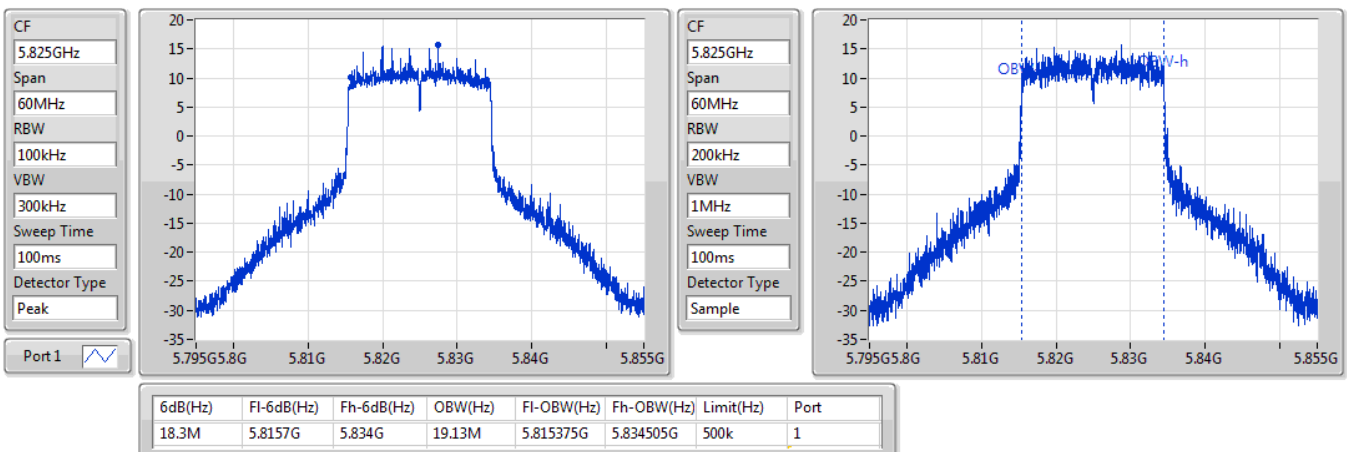


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5785MHz

20/07/2019

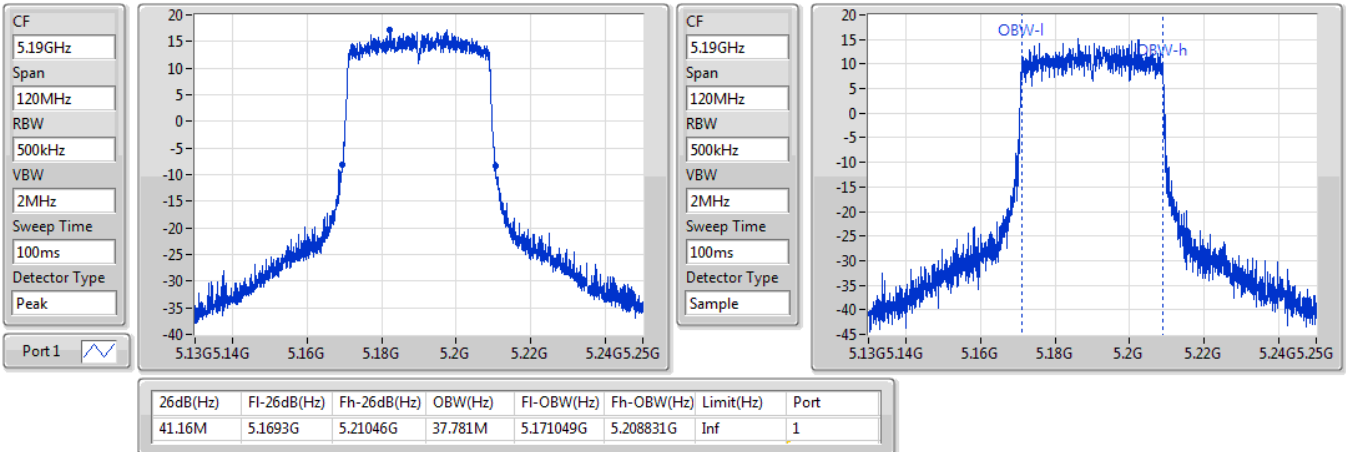

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5825MHz

20/07/2019

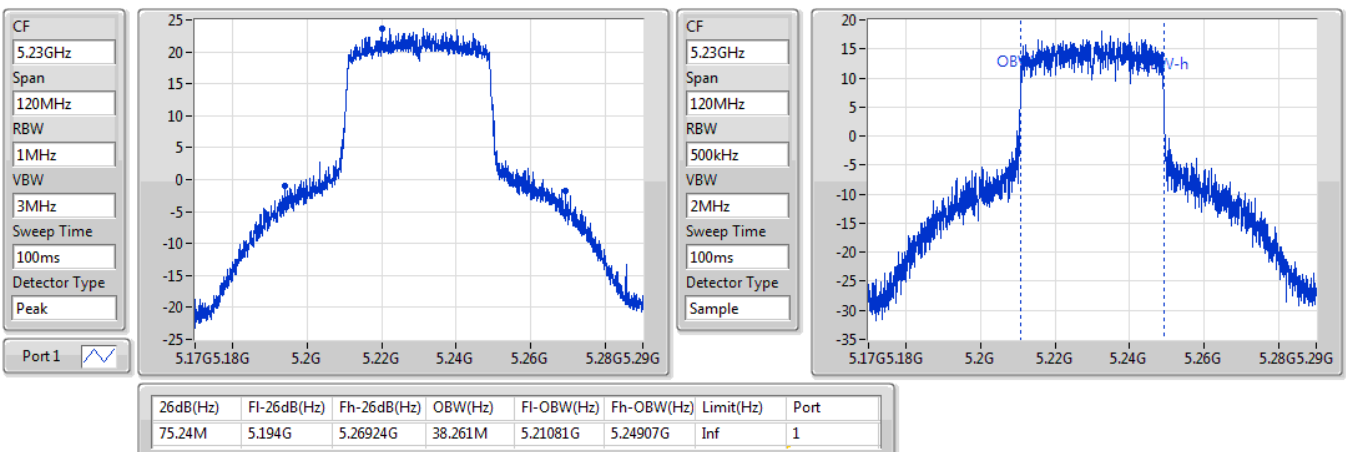


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5190MHz

20/07/2019

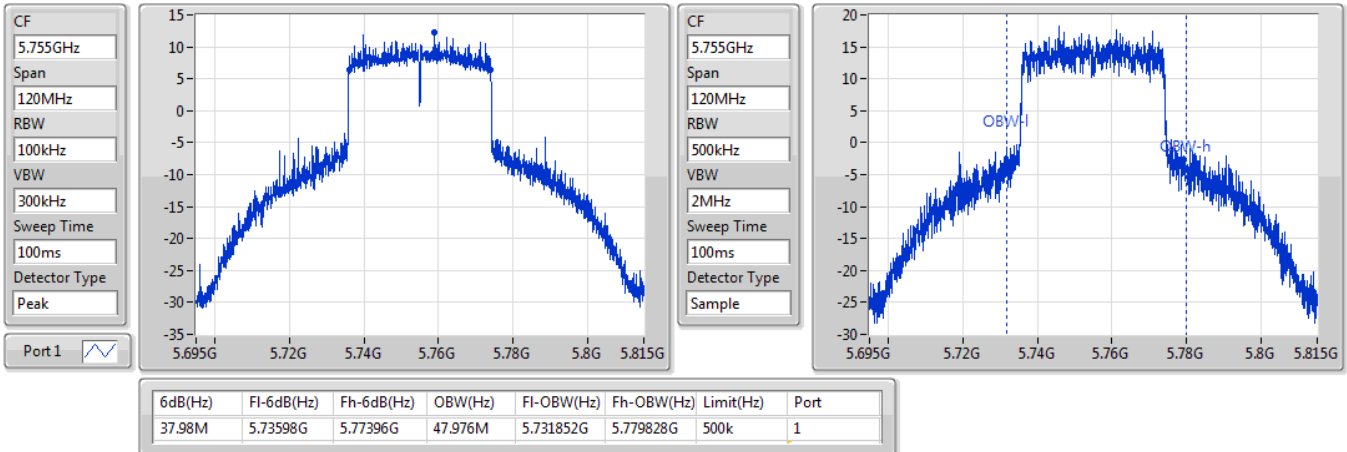

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5230MHz

20/07/2019

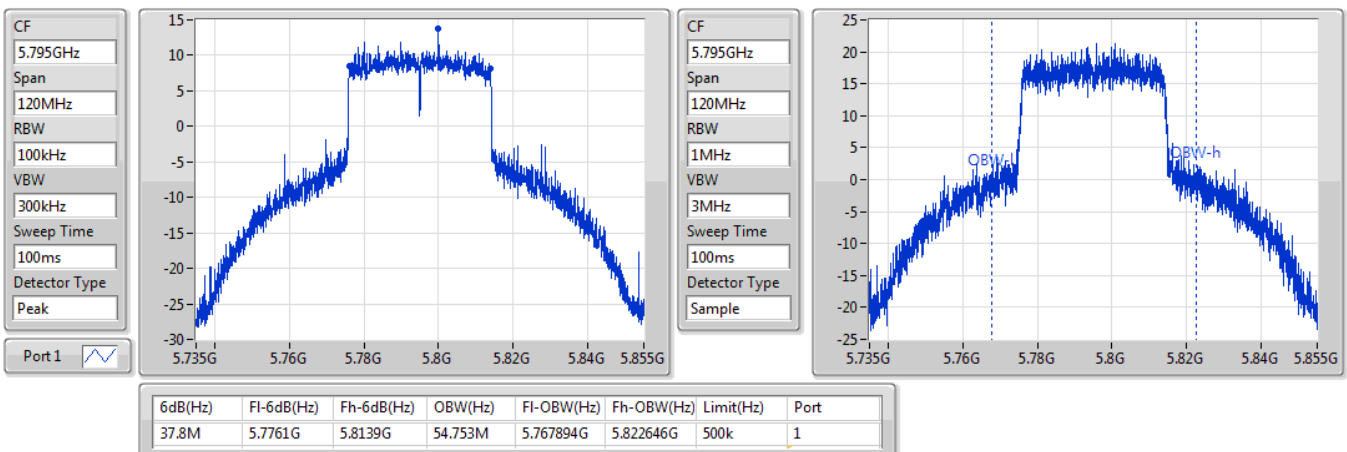


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5755MHz

20/07/2019

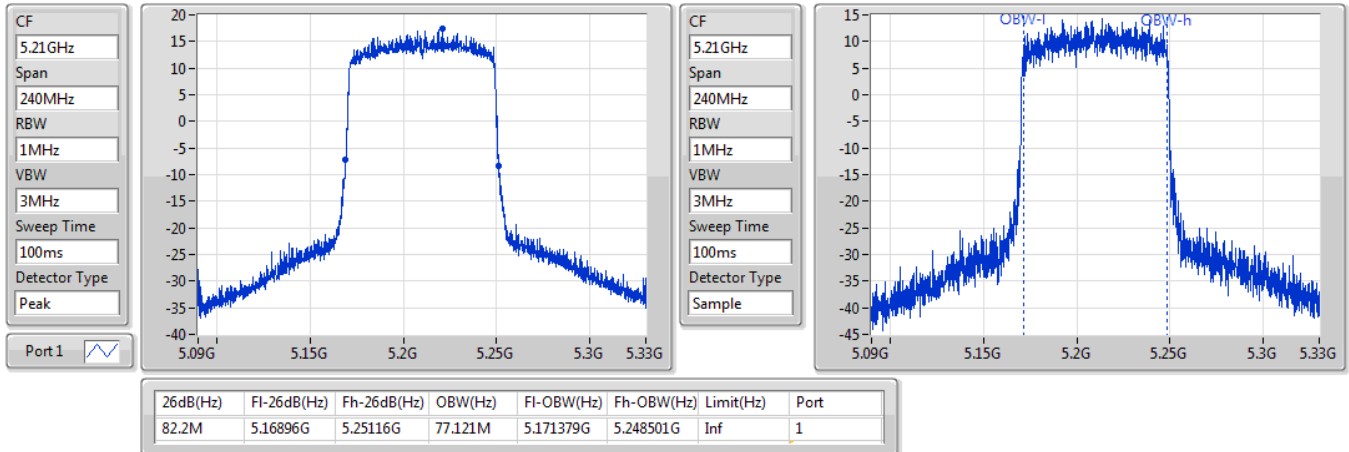

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5795MHz

20/07/2019

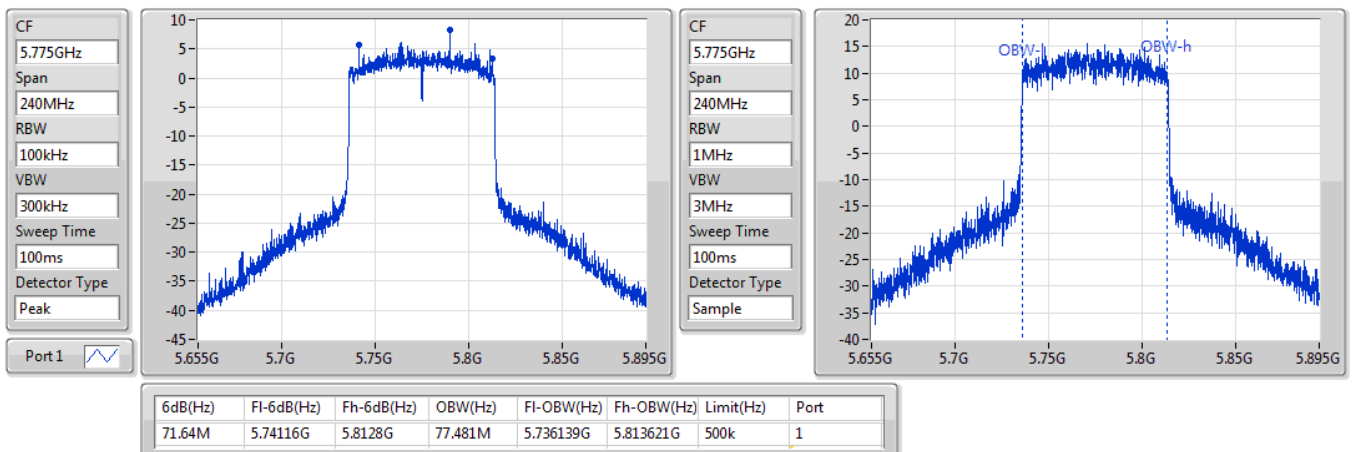


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5210MHz

20/07/2019


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5775MHz

20/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	37.77M	19.67M	19M7D1D	20.82M	16.402M
802.11ax HEW20_Nss1,(MCS0)_2TX	38.28M	19.28M	19M3D1D	21.75M	18.891M
802.11ax HEW40_Nss1,(MCS0)_2TX	65.76M	37.901M	37M9D1D	41.28M	37.661M
802.11ax HEW80_Nss1,(MCS0)_2TX	83.04M	77.001M	77M0D1D	82.8M	76.882M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	16.29M	18.591M	18M6D1D	15.06M	16.462M
802.11ax HEW20_Nss1,(MCS0)_2TX	18.39M	19.25M	19M2D1D	17.07M	18.921M
802.11ax HEW40_Nss1,(MCS0)_2TX	38.1M	49.715M	49M7D1D	37.5M	38.561M
802.11ax HEW80_Nss1,(MCS0)_2TX	77.28M	77.361M	77M4D1D	73.92M	77.241M

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

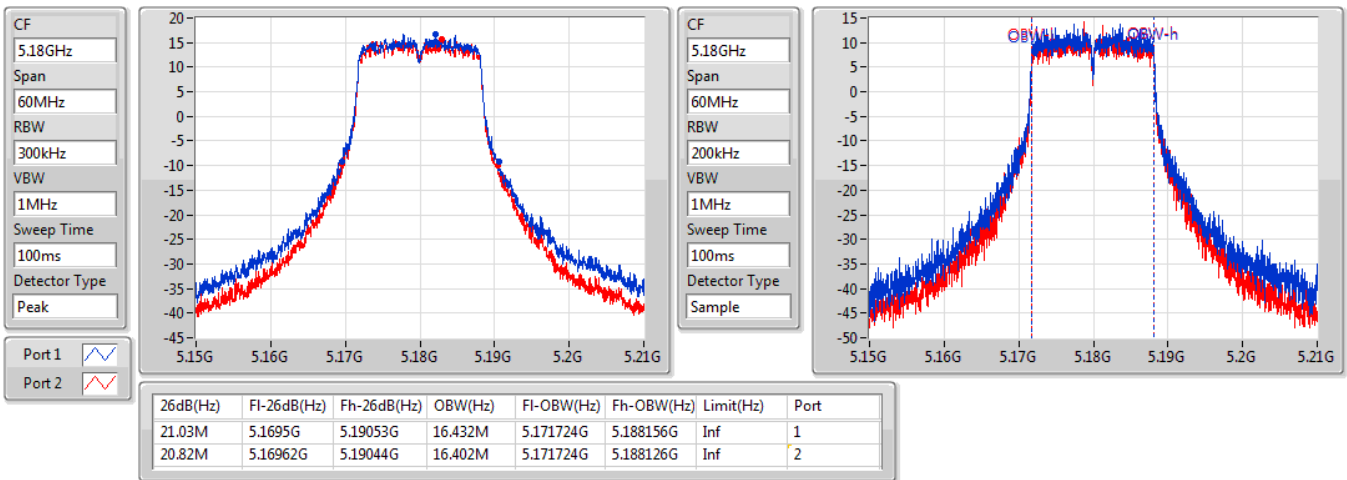
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.03M	16.432M	20.82M	16.402M
5200MHz	Pass	Inf	37.77M	19.67M	24.54M	16.522M
5240MHz	Pass	Inf	36.12M	19.07M	24.15M	16.492M
5745MHz	Pass	500k	16.29M	18.591M	15.6M	16.492M
5785MHz	Pass	500k	15.99M	17.301M	15.06M	16.462M
5825MHz	Pass	500k	15.3M	17.031M	15.42M	16.492M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.75M	18.891M	22.14M	18.951M
5200MHz	Pass	Inf	38.28M	19.28M	23.22M	18.891M
5240MHz	Pass	Inf	35.04M	19.25M	22.65M	18.981M
5745MHz	Pass	500k	18M	19.25M	17.94M	18.981M
5785MHz	Pass	500k	17.07M	19.1M	18.27M	18.921M
5825MHz	Pass	500k	18.39M	19.1M	17.43M	18.951M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	41.52M	37.661M	41.28M	37.721M
5230MHz	Pass	Inf	65.76M	37.901M	50.82M	37.841M
5755MHz	Pass	500k	37.5M	43.178M	38.1M	38.561M
5795MHz	Pass	500k	37.92M	49.715M	37.92M	44.678M
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	83.04M	76.882M	82.8M	77.001M
5775MHz	Pass	500k	73.92M	77.241M	77.28M	77.361M

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

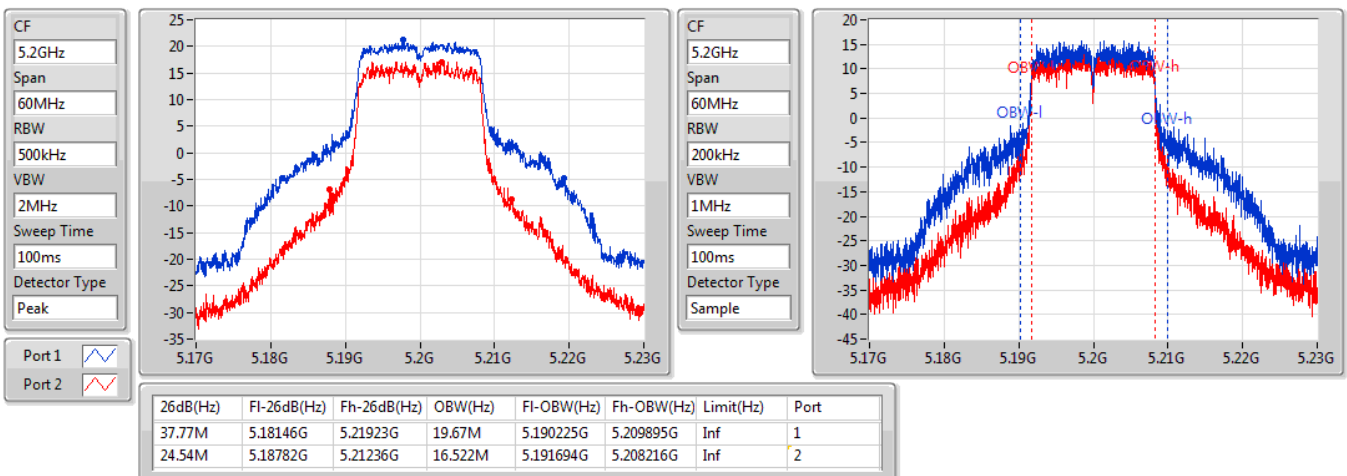
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX
EBW
5180MHz

20/07/2019

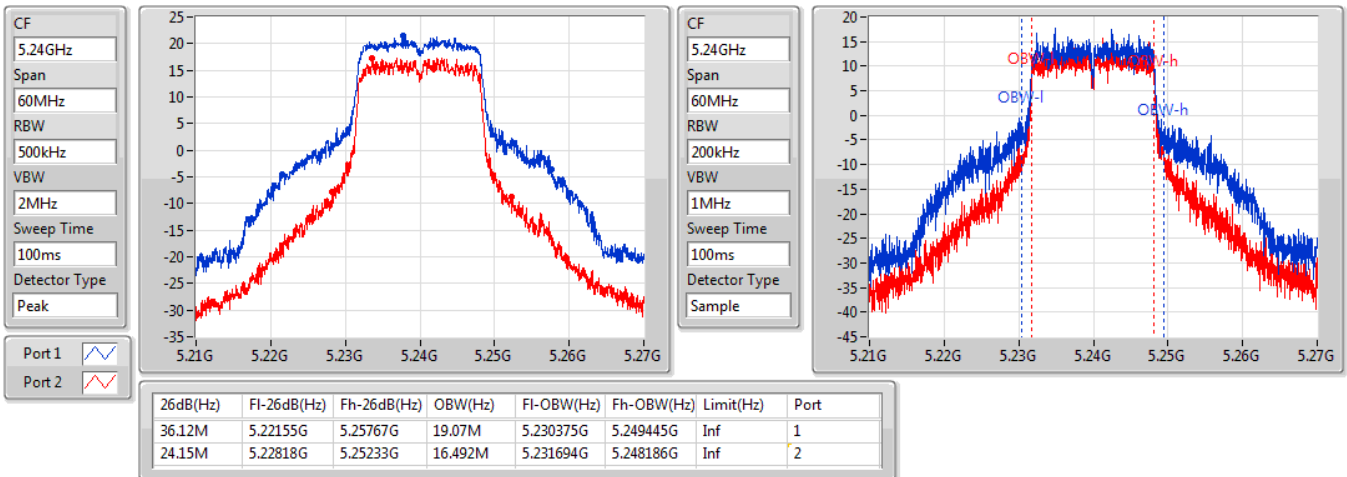

802.11a_Nss1,(6Mbps)_2TX
EBW
5200MHz

20/07/2019

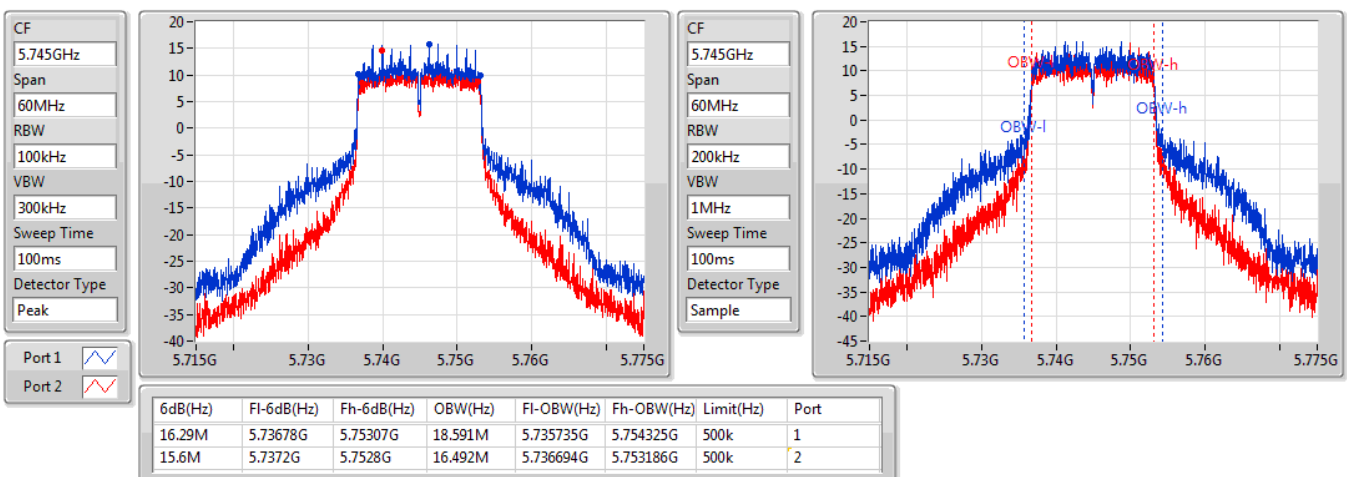


802.11a_Nss1,(6Mbps)_2TX
EBW
5240MHz

20/07/2019

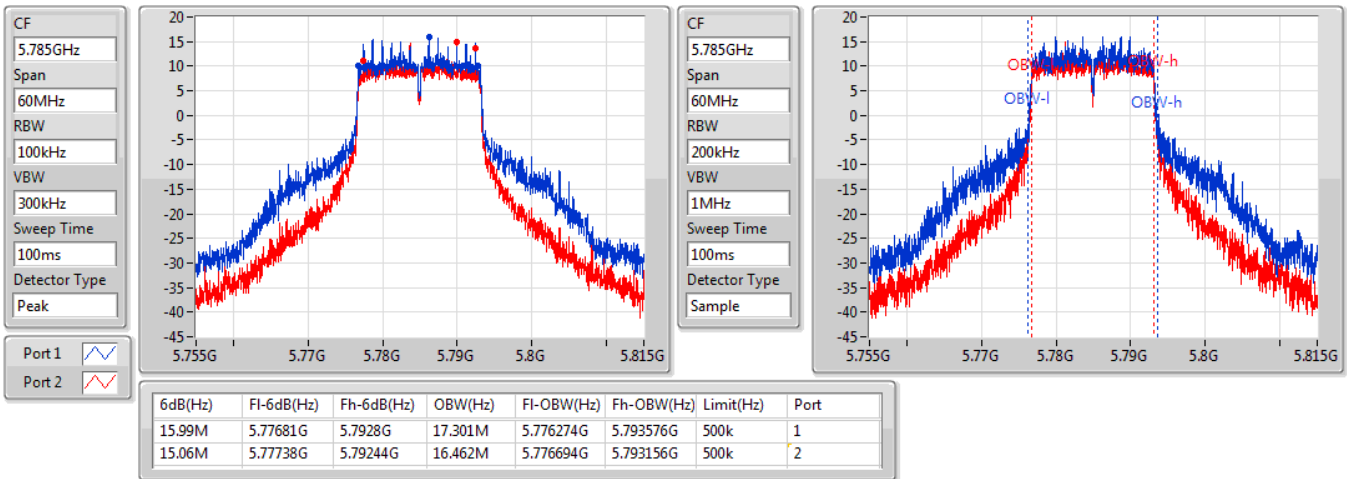

802.11a_Nss1,(6Mbps)_2TX
EBW
5745MHz

20/07/2019

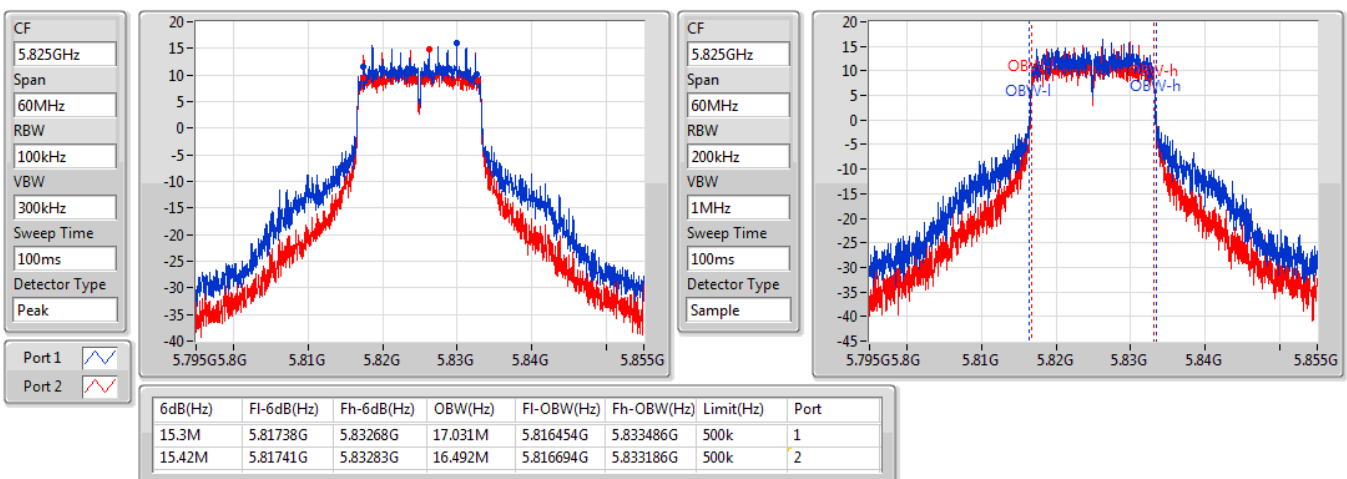


802.11a_Nss1,(6Mbps)_2TX
EBW
5785MHz

20/07/2019


802.11a_Nss1,(6Mbps)_2TX
EBW
5825MHz

20/07/2019

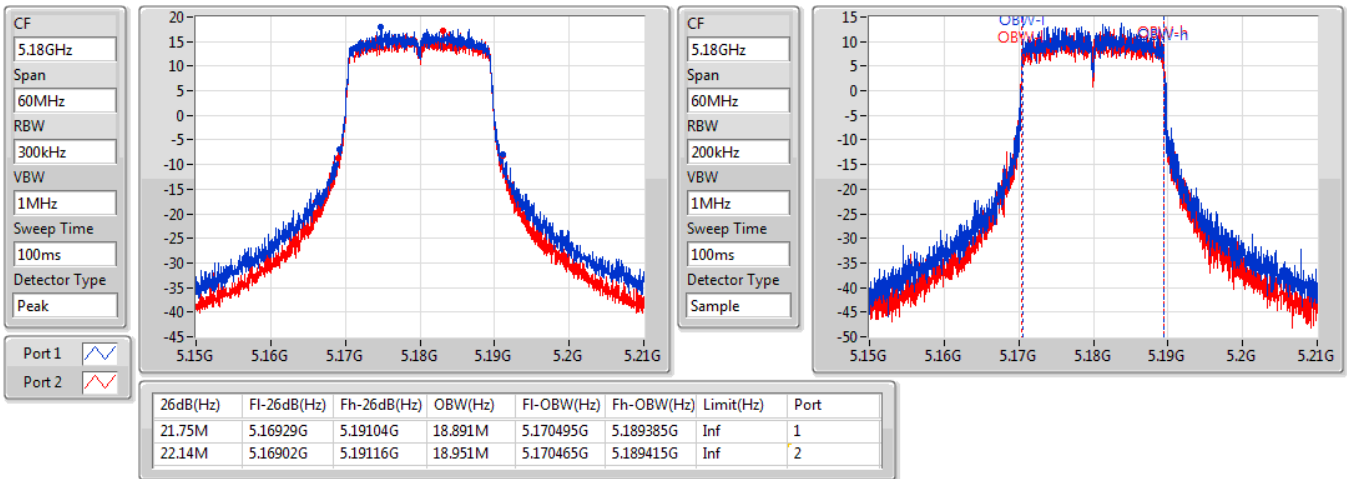


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5180MHz

20/07/2019

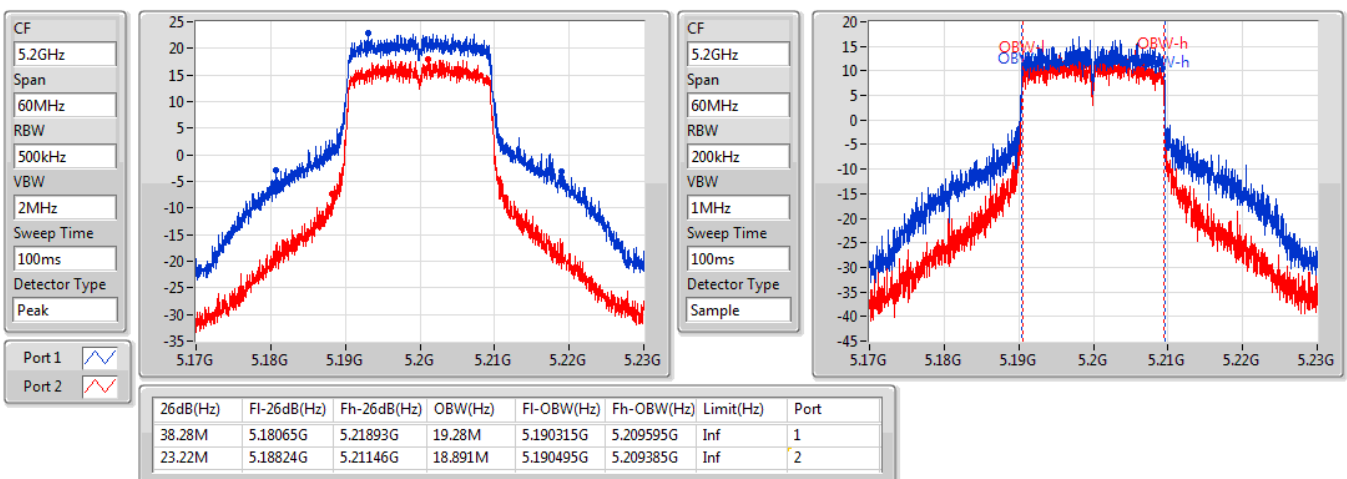


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

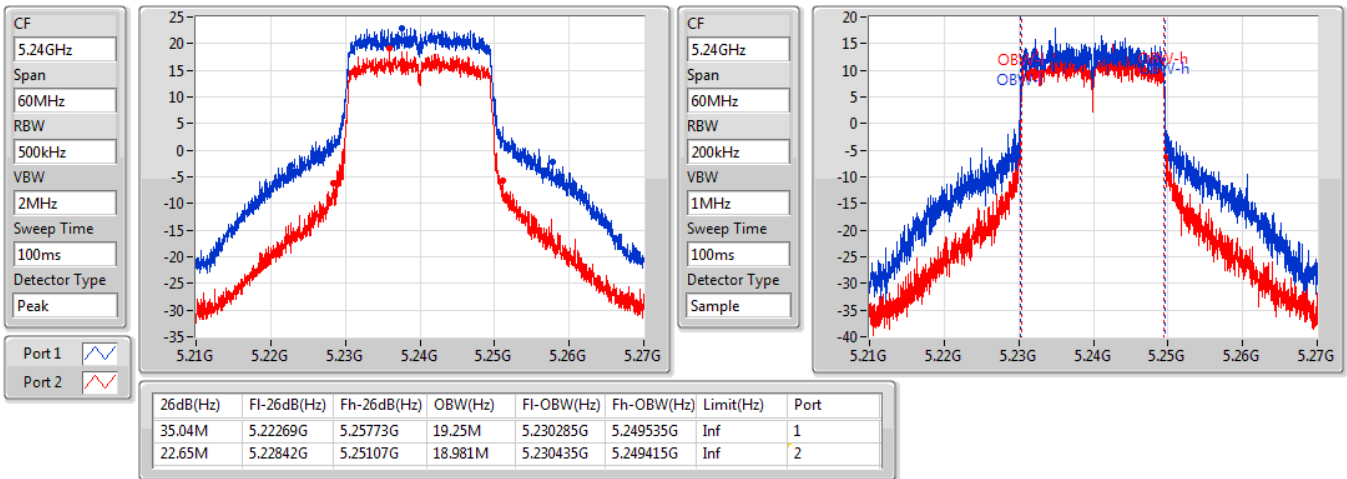
5200MHz

20/07/2019

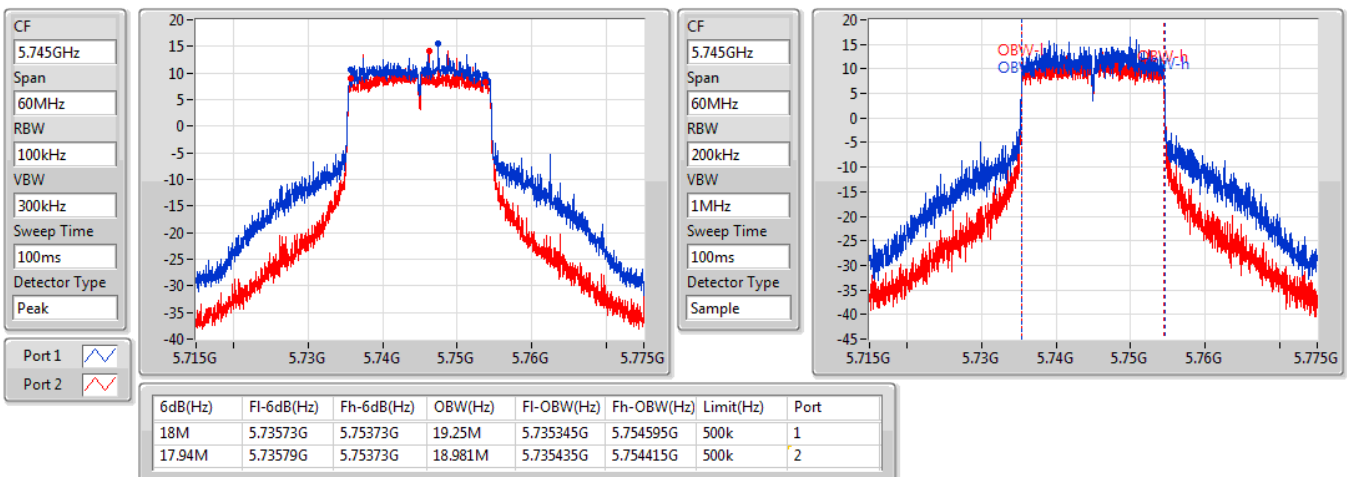


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5240MHz

20/07/2019

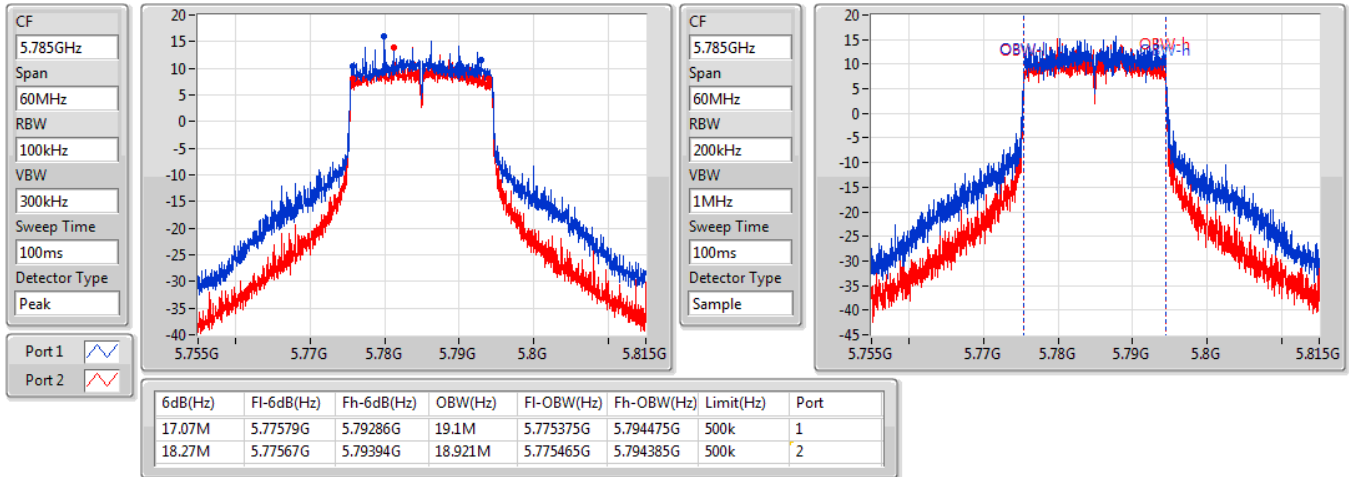

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5745MHz

20/07/2019

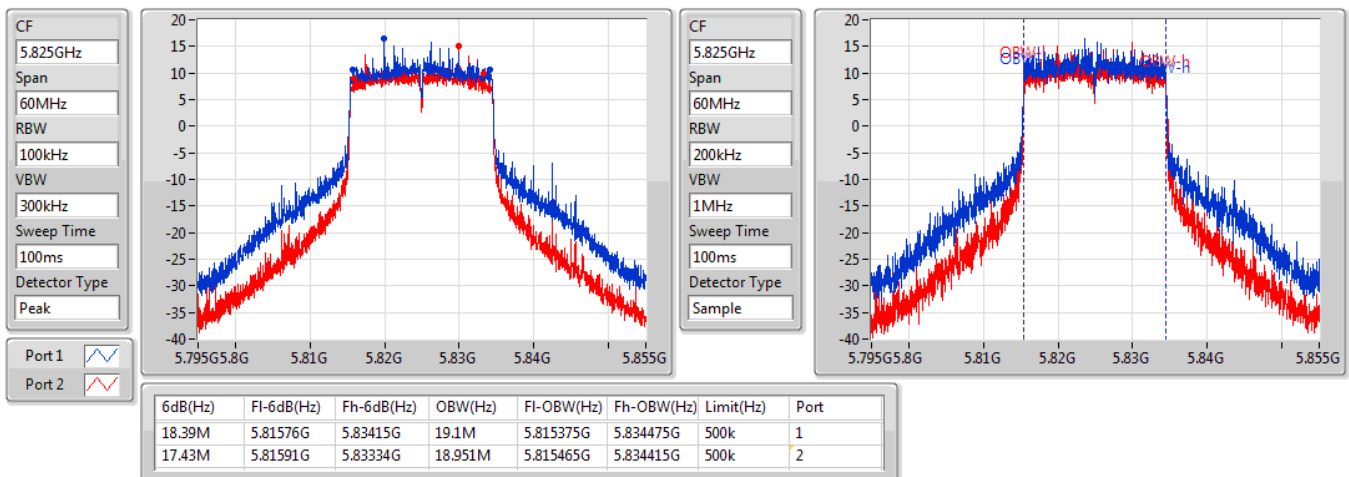


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5785MHz

20/07/2019

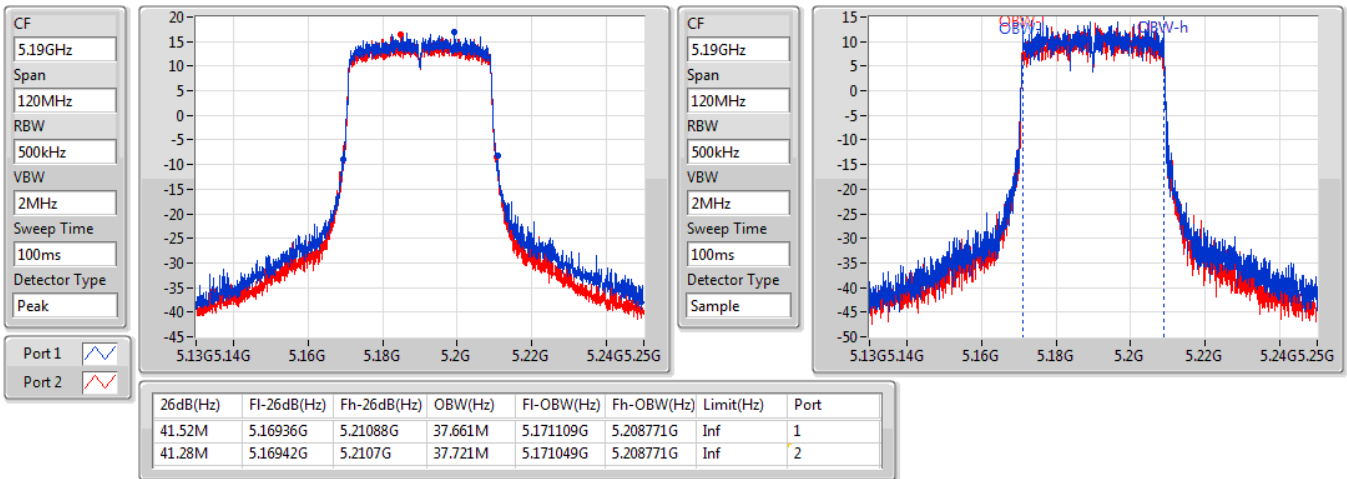

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5825MHz

20/07/2019

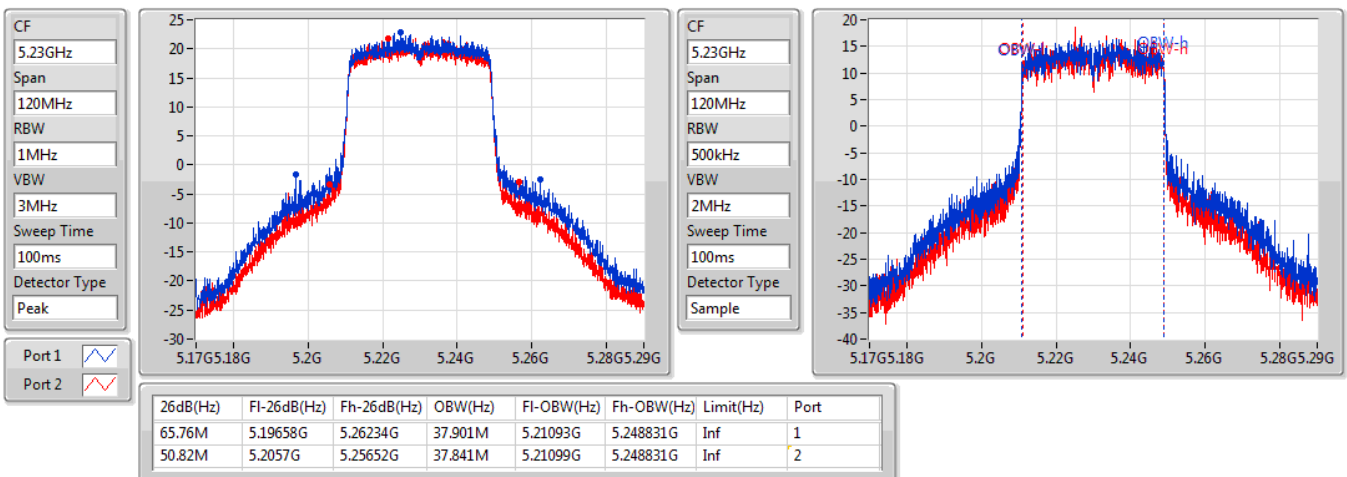


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5190MHz

20/07/2019

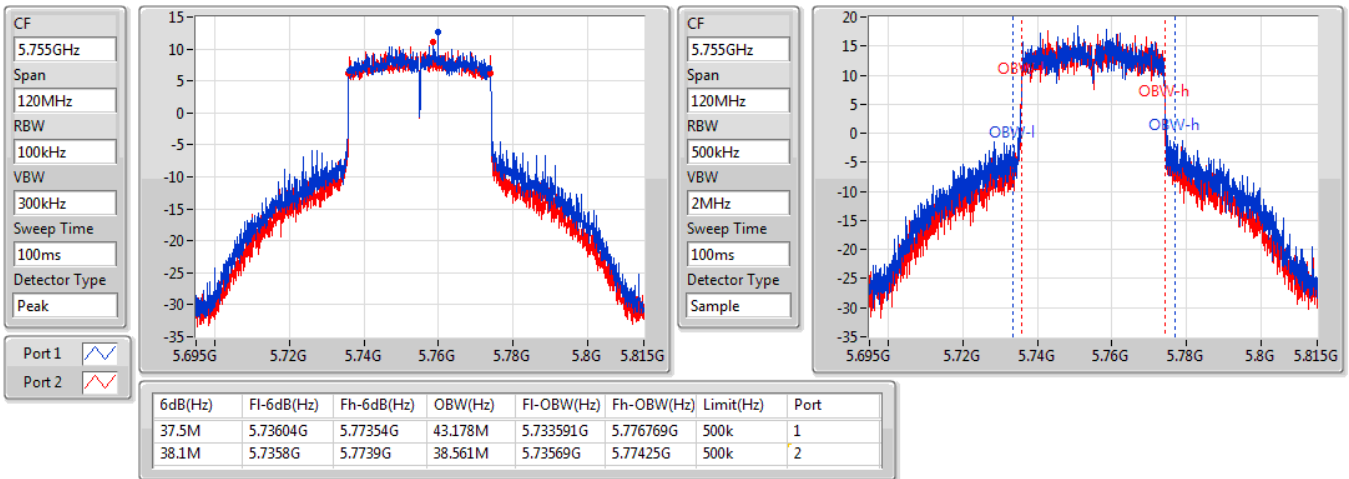

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5230MHz

20/07/2019

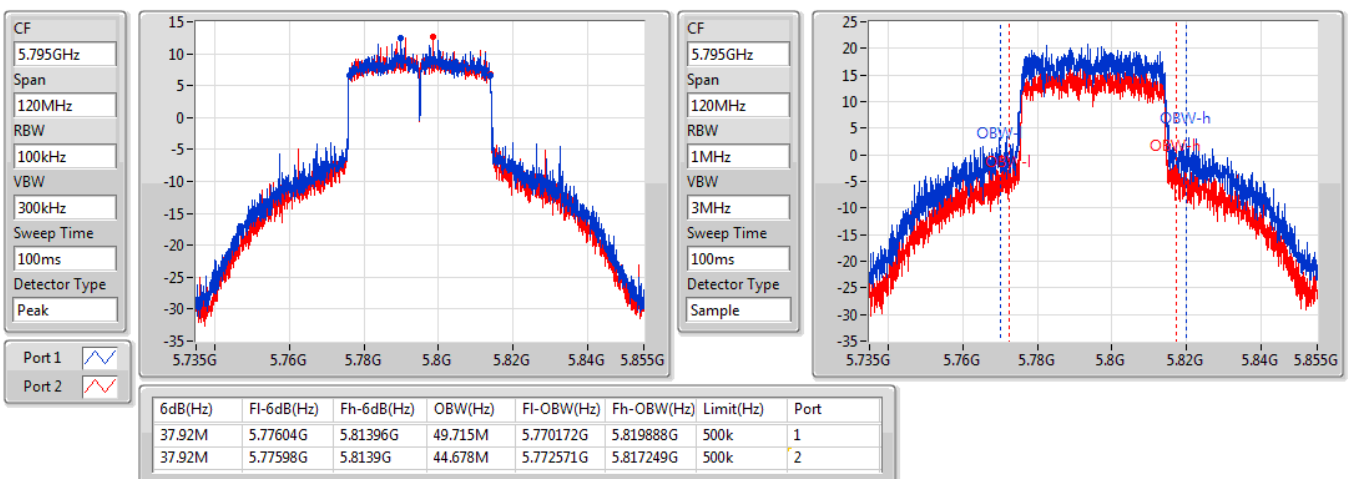


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5755MHz

20/07/2019

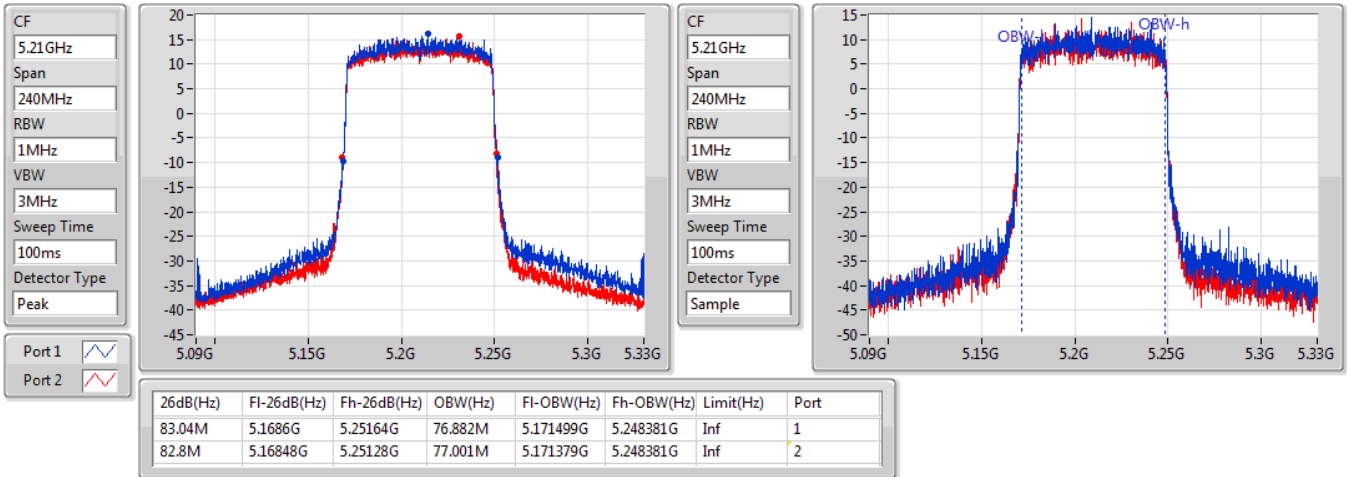

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5795MHz

20/07/2019

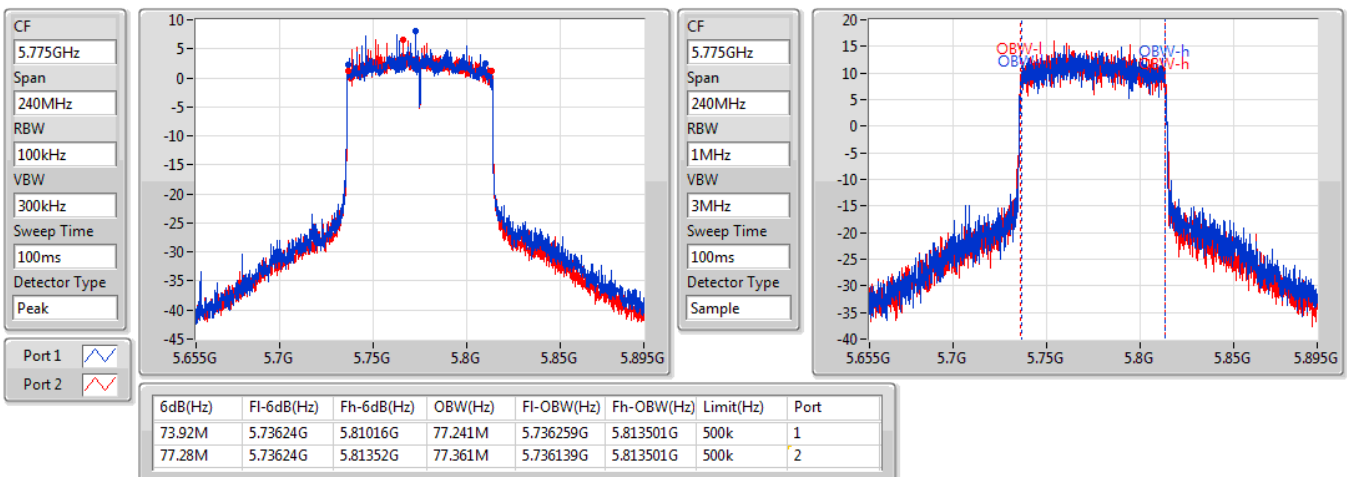


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5210MHz

20/07/2019


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5775MHz

20/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	21.96M	18.951M	19M0D1D	21.3M	18.831M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	41.04M	37.721M	37M7D1D	40.44M	37.601M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	81.12M	76.882M	76M9D1D	80.88M	76.522M
5.725-5.85GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	18.33M	18.921M	18M9D1D	15.36M	18.861M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	37.2M	37.661M	37M7D1D	31.32M	37.601M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	72.48M	77.241M	77M2D1D	68.88M	76.522M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Max-OBW = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;

Min-OBW = Minimum 99% occupied bandwidth;

Result

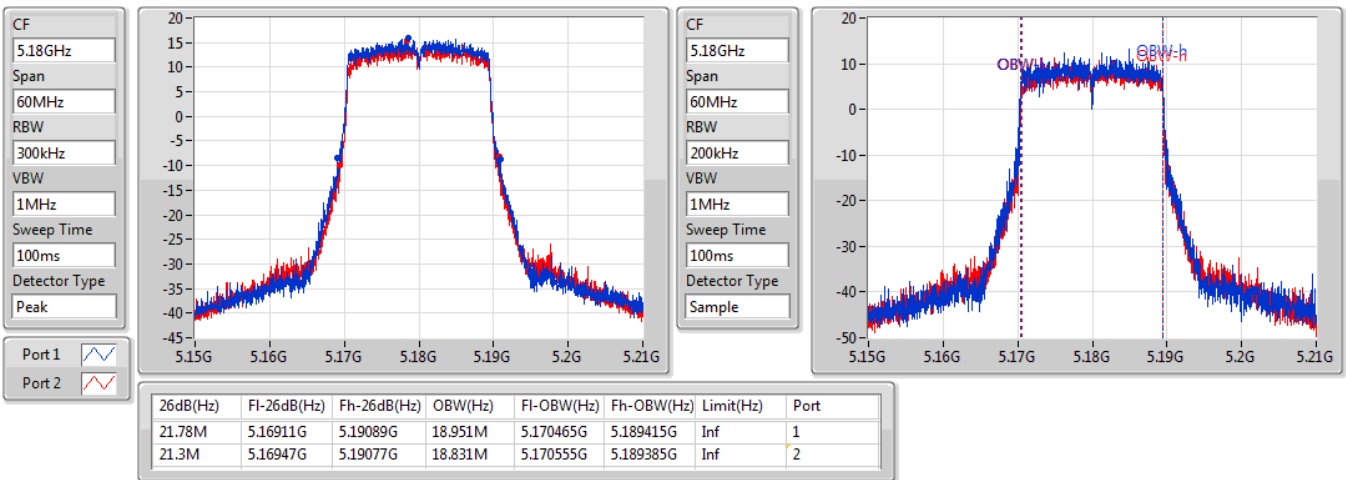
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.78M	18.951M	21.3M	18.831M
5200MHz	Pass	Inf	21.96M	18.891M	21.36M	18.891M
5240MHz	Pass	Inf	21.69M	18.891M	21.66M	18.921M
5745MHz	Pass	500k	18.12M	18.891M	18.12M	18.891M
5785MHz	Pass	500k	18.21M	18.861M	18.12M	18.861M
5825MHz	Pass	500k	15.36M	18.921M	18.33M	18.921M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	41.04M	37.601M	40.62M	37.601M
5230MHz	Pass	Inf	40.44M	37.661M	40.5M	37.721M
5755MHz	Pass	500k	35.4M	37.661M	37.08M	37.661M
5795MHz	Pass	500k	37.2M	37.661M	31.32M	37.601M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	80.88M	76.882M	81.12M	76.522M
5775MHz	Pass	500k	72.48M	77.241M	68.88M	76.522M

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

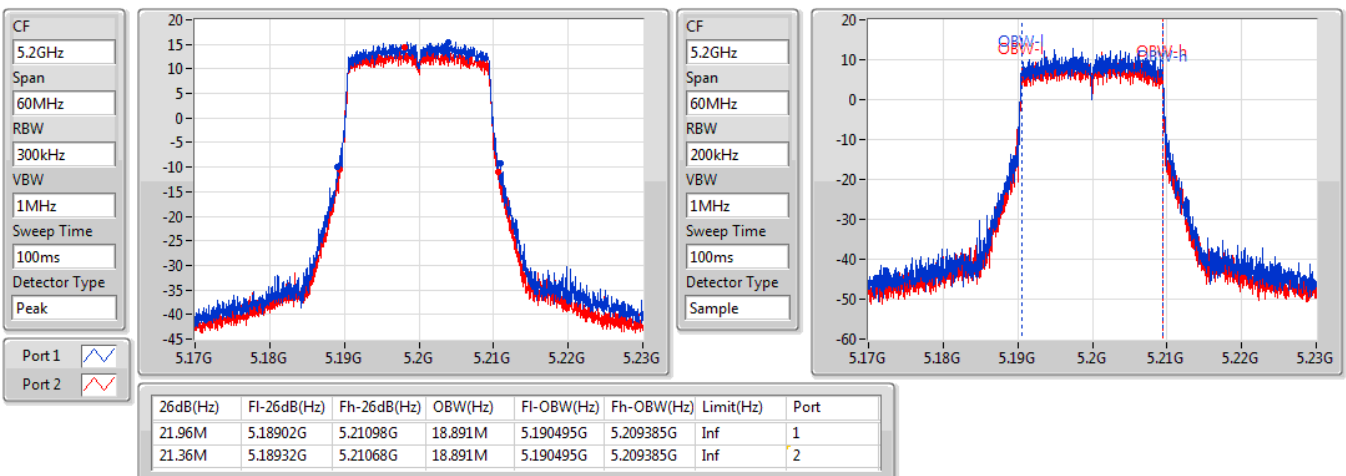
Port X-OBW = Port X 99% occupied bandwidth;

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5180MHz

22/07/2019

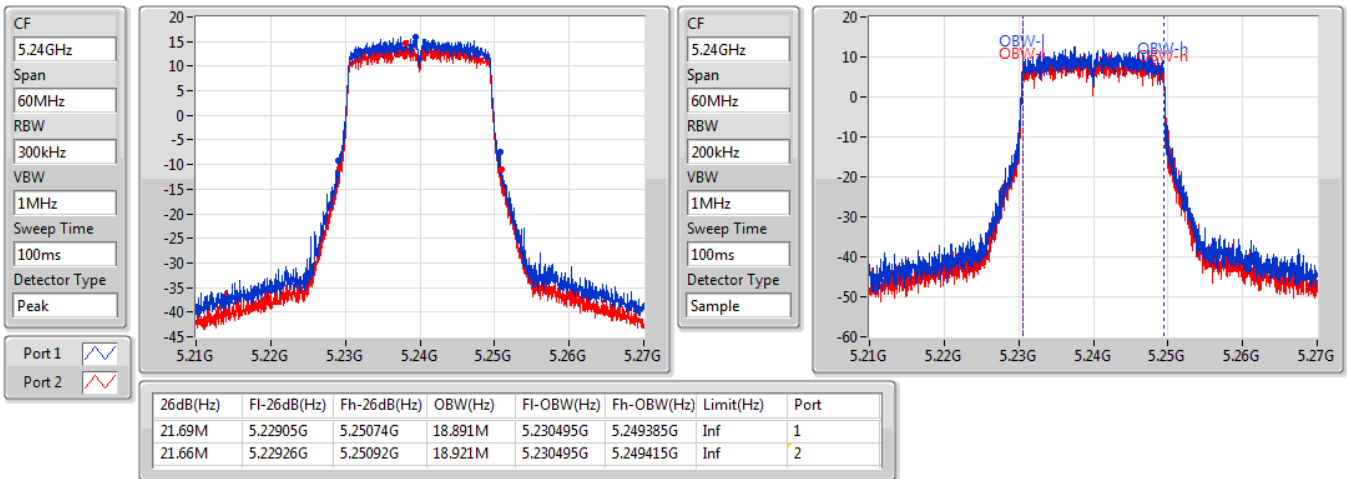

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5200MHz

22/07/2019

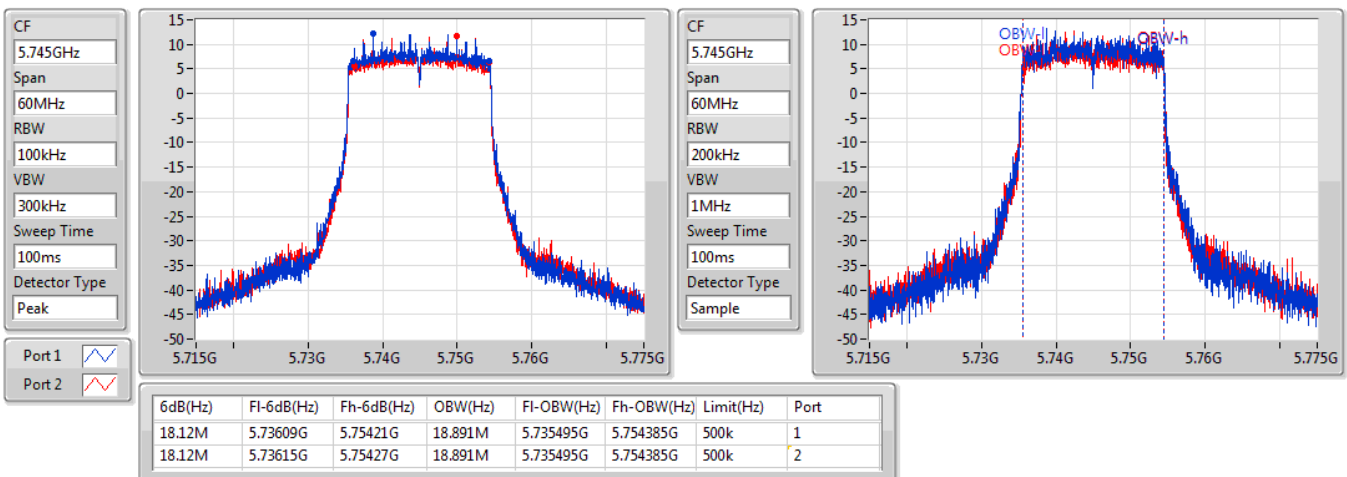


802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5240MHz

22/07/2019

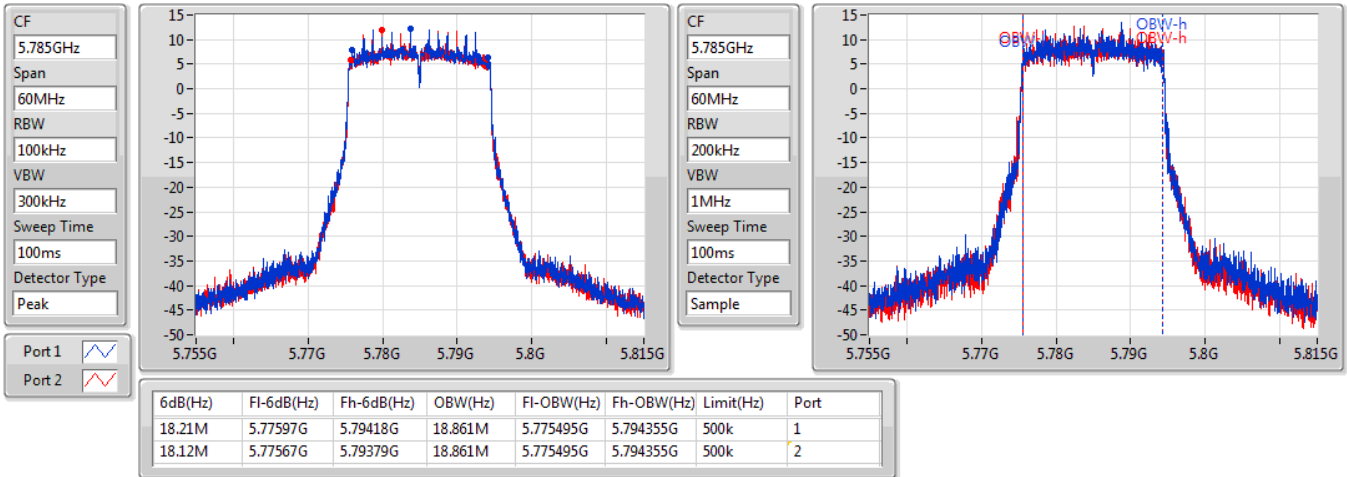

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5745MHz

22/07/2019

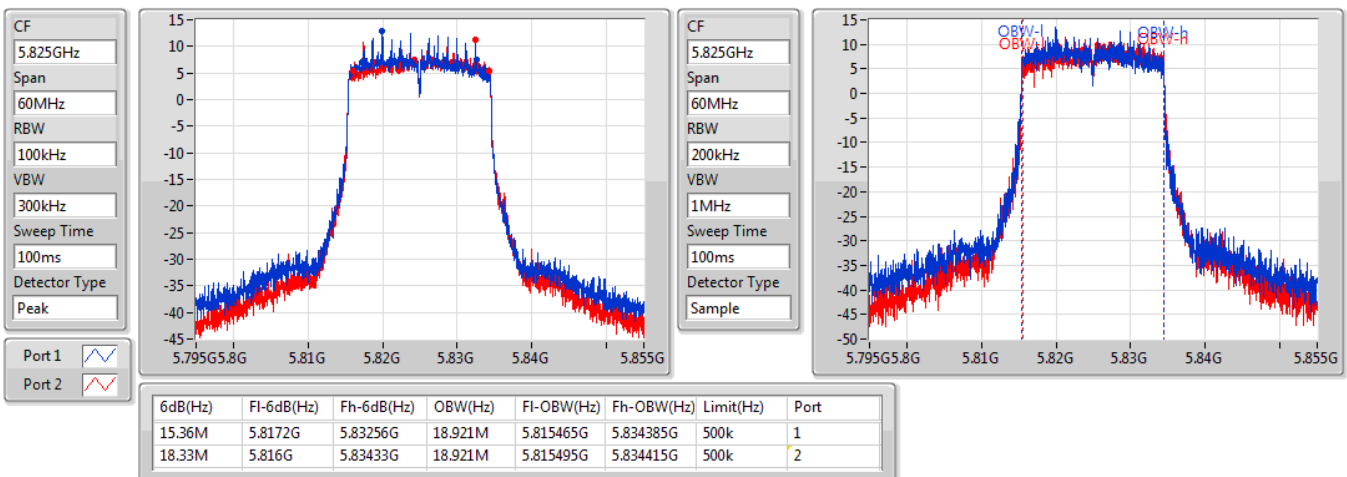


802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5785MHz

22/07/2019

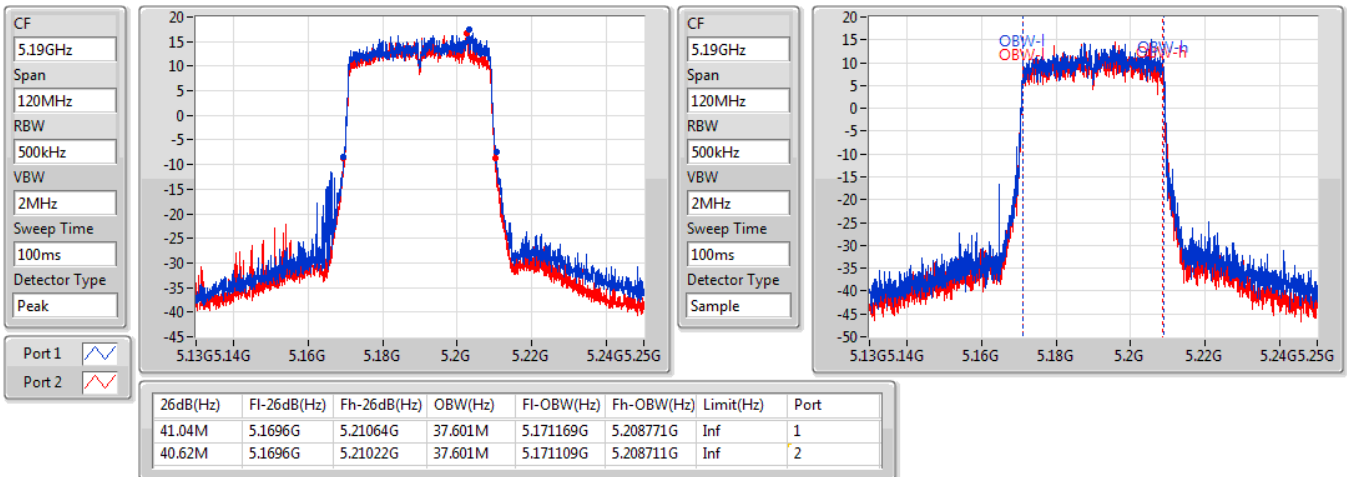

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5825MHz

22/07/2019

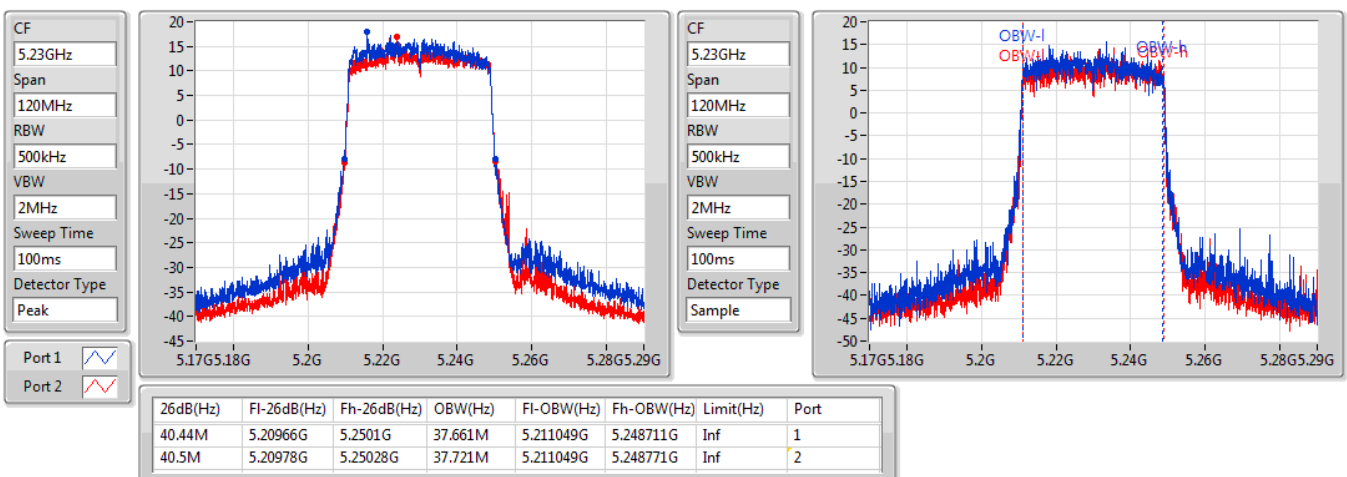


802.11ax HEW40-BF_Nss1,(MCS0)_2TX
EBW
5190MHz

22/07/2019


802.11ax HEW40-BF_Nss1,(MCS0)_2TX
EBW
5230MHz

22/07/2019

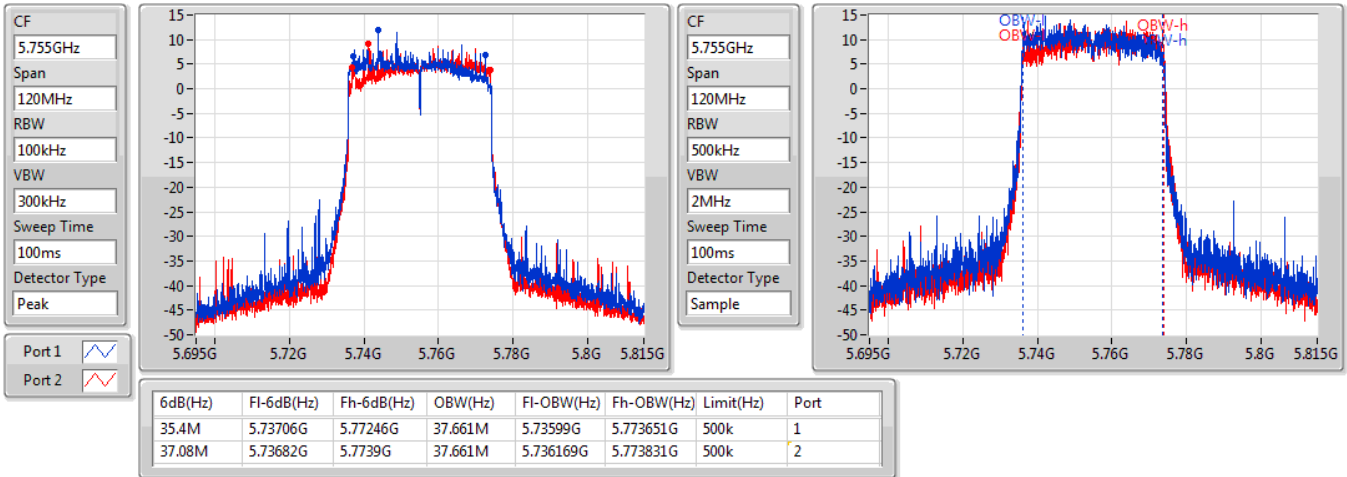


802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

5755MHz

22/07/2019

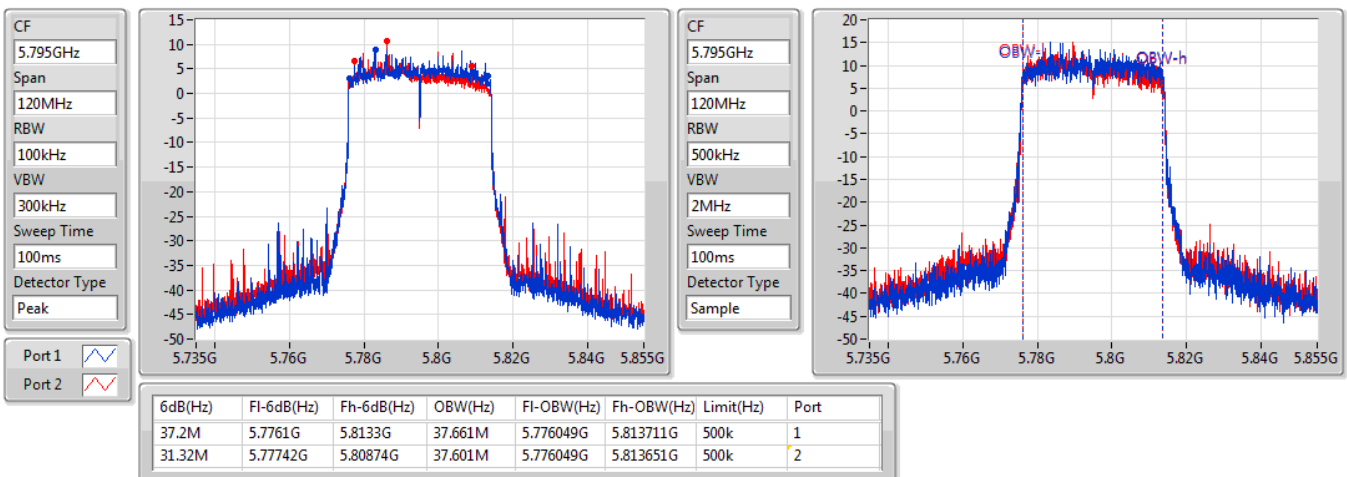


802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

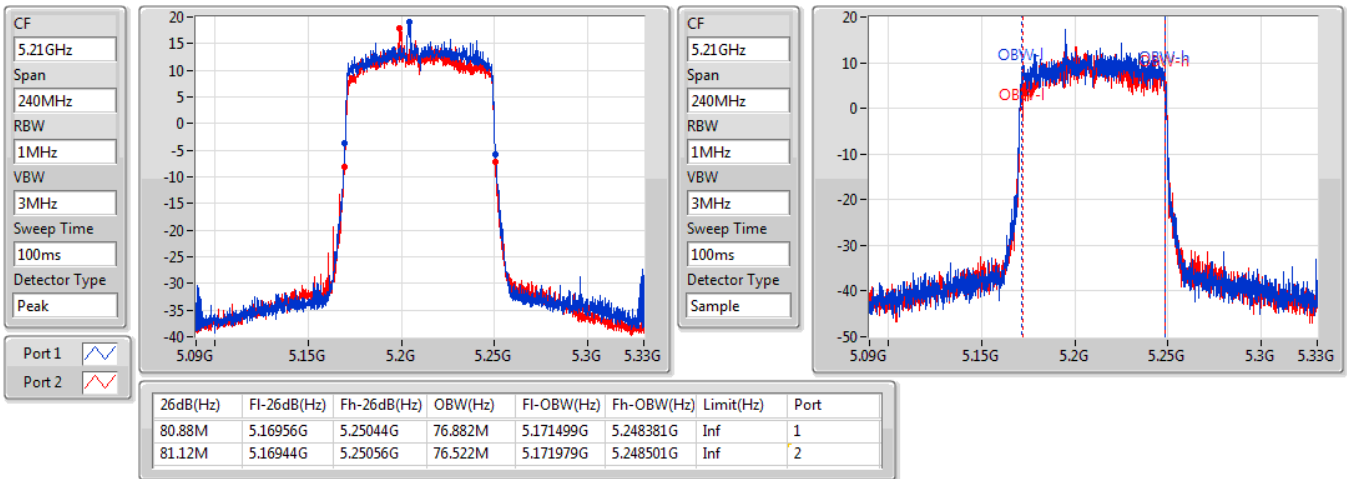
5795MHz

22/07/2019

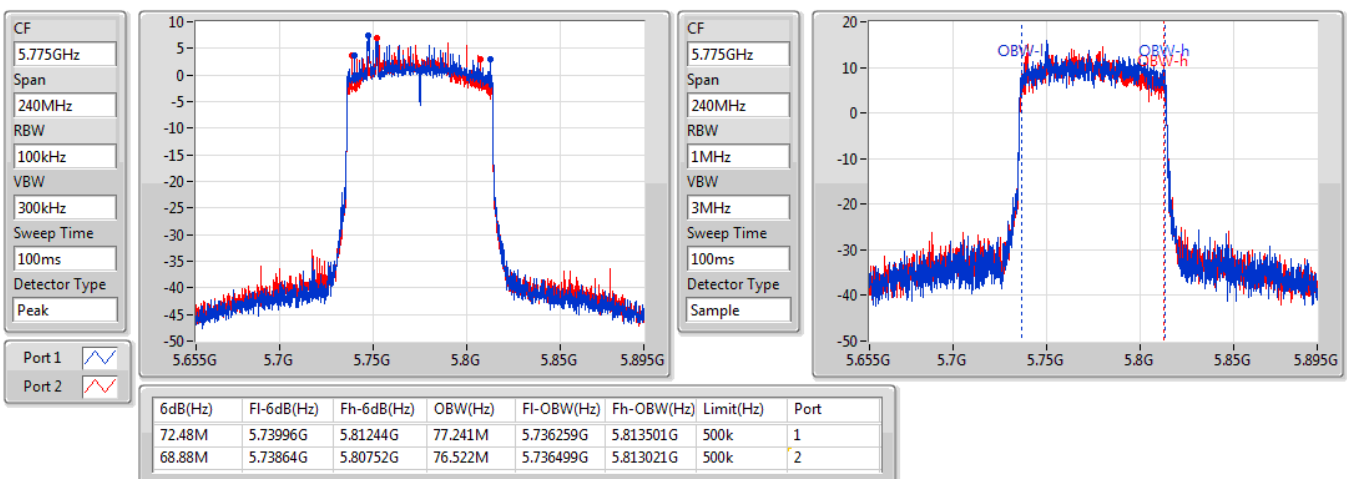


802.11ax HEW80-BF_Nss1,(MCS0)_2TX
EBW
5210MHz

22/07/2019


802.11ax HEW80-BF_Nss1,(MCS0)_2TX
EBW
5775MHz

22/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	20.88M	16.462M	16M5D1D	19.92M	16.342M
802.11ax HEW20_Nss1,(MCS0)_4TX	22.05M	18.921M	18M9D1D	21.36M	18.861M
802.11ax HEW40_Nss1,(MCS0)_4TX	41.4M	37.781M	37M8D1D	40.92M	37.661M
802.11ax HEW80_Nss1,(MCS0)_4TX	82.92M	77.241M	77M2D1D	82.08M	76.882M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	16.29M	16.492M	16M5D1D	15.09M	16.342M
802.11ax HEW20_Nss1,(MCS0)_4TX	18.66M	19.01M	19M0D1D	16.41M	18.891M
802.11ax HEW40_Nss1,(MCS0)_4TX	37.86M	37.781M	37M8D1D	36.36M	37.721M
802.11ax HEW80_Nss1,(MCS0)_4TX	77.16M	77.241M	77M2D1D	71.28M	76.882M

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

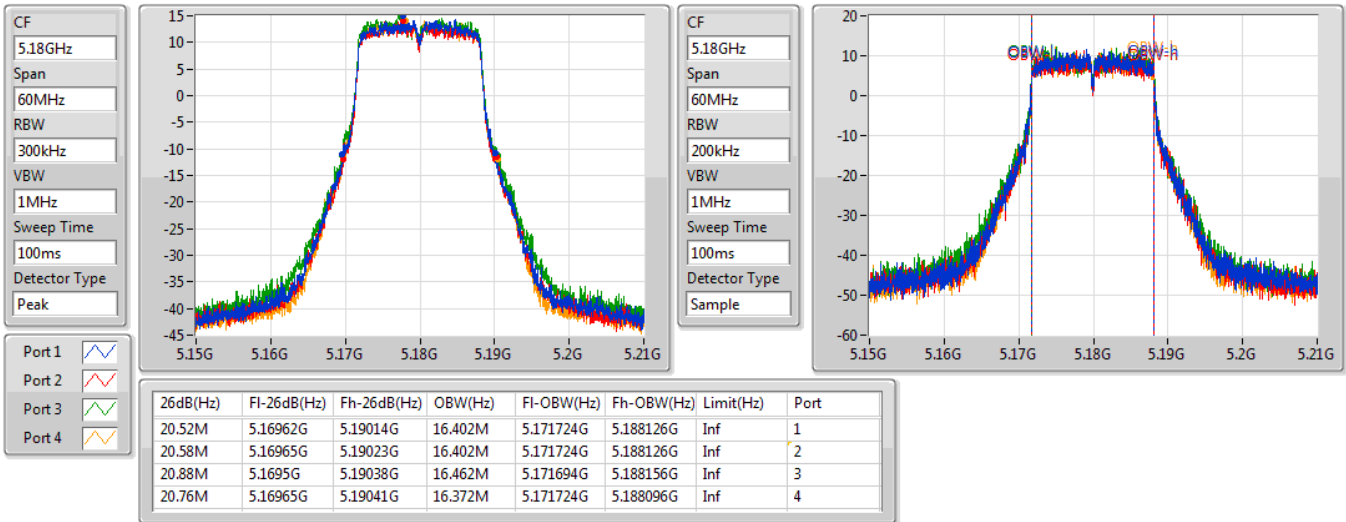
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	20.52M	16.402M	20.58M	16.402M	20.88M	16.462M	20.76M	16.372M
5200MHz	Pass	Inf	19.98M	16.342M	20.64M	16.402M	19.92M	16.402M	20.67M	16.402M
5240MHz	Pass	Inf	20.61M	16.402M	20.64M	16.402M	20.85M	16.432M	20.49M	16.372M
5745MHz	Pass	500k	15.3M	16.432M	16.02M	16.492M	15.42M	16.462M	16.23M	16.432M
5785MHz	Pass	500k	16.26M	16.462M	15.99M	16.432M	15.12M	16.372M	15.63M	16.402M
5825MHz	Pass	500k	16.26M	16.492M	15.3M	16.402M	15.09M	16.342M	16.29M	16.462M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.66M	18.921M	22.05M	18.921M	21.36M	18.861M	21.75M	18.921M
5200MHz	Pass	Inf	21.72M	18.921M	21.75M	18.921M	22.05M	18.921M	21.75M	18.891M
5240MHz	Pass	Inf	21.9M	18.921M	21.69M	18.921M	21.39M	18.891M	21.87M	18.921M
5745MHz	Pass	500k	17.28M	18.921M	18.54M	18.951M	16.41M	18.891M	18.66M	18.981M
5785MHz	Pass	500k	16.77M	18.891M	17.13M	18.951M	17.49M	18.921M	18.09M	18.981M
5825MHz	Pass	500k	18.42M	19.01M	17.01M	18.951M	18.63M	18.981M	18.57M	18.921M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.92M	37.661M	41.4M	37.781M	41.28M	37.721M	40.92M	37.661M
5230MHz	Pass	Inf	41.1M	37.721M	41.16M	37.721M	41.1M	37.661M	41.34M	37.661M
5755MHz	Pass	500k	37.44M	37.721M	36.36M	37.781M	37.56M	37.721M	37.14M	37.781M
5795MHz	Pass	500k	37.86M	37.721M	37.2M	37.721M	36.72M	37.781M	37.56M	37.721M
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	82.08M	76.882M	82.56M	77.001M	82.92M	77.241M	82.44M	77.001M
5775MHz	Pass	500k	77.16M	77.121M	71.28M	77.241M	74.04M	76.882M	75.96M	77.001M

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

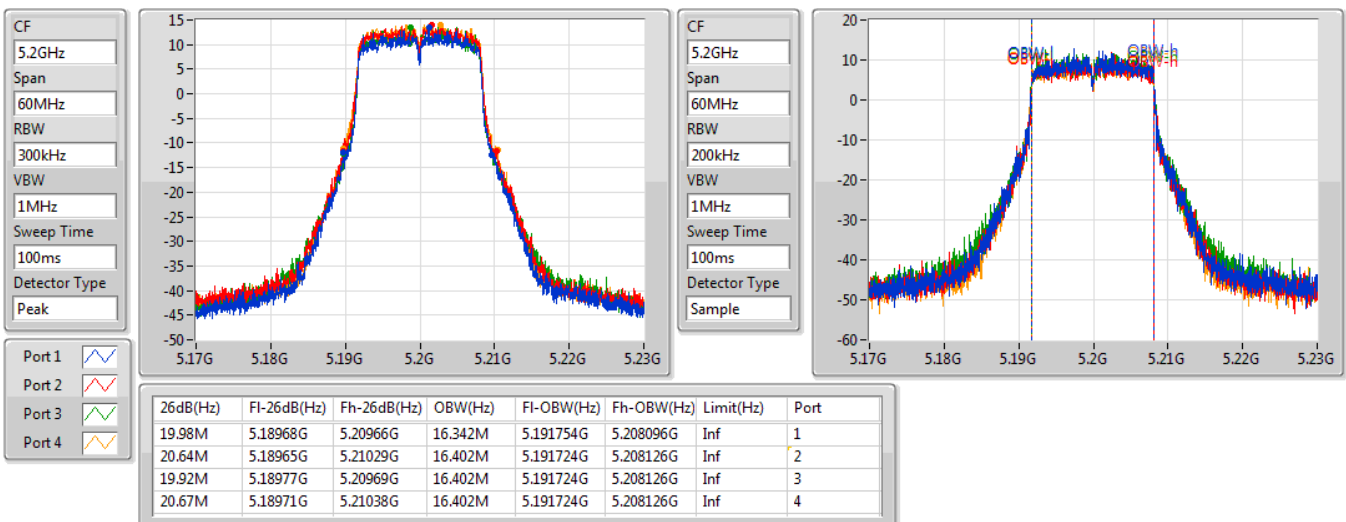
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_4TX
EBW
5180MHz

20/07/2019

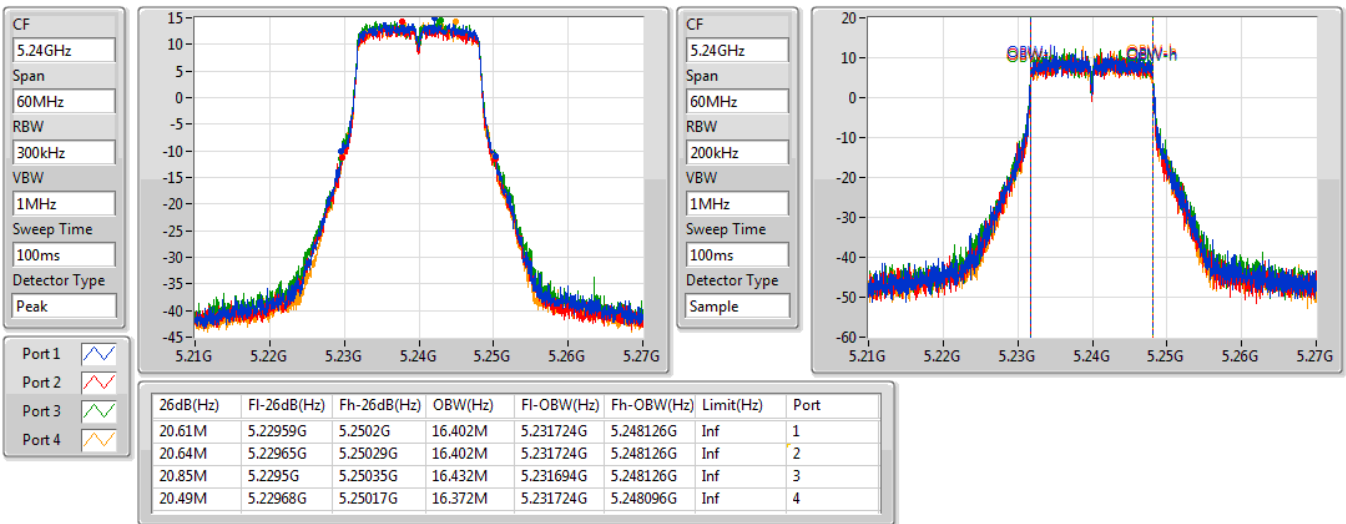

802.11a_Nss1,(6Mbps)_4TX
EBW
5200MHz

20/07/2019

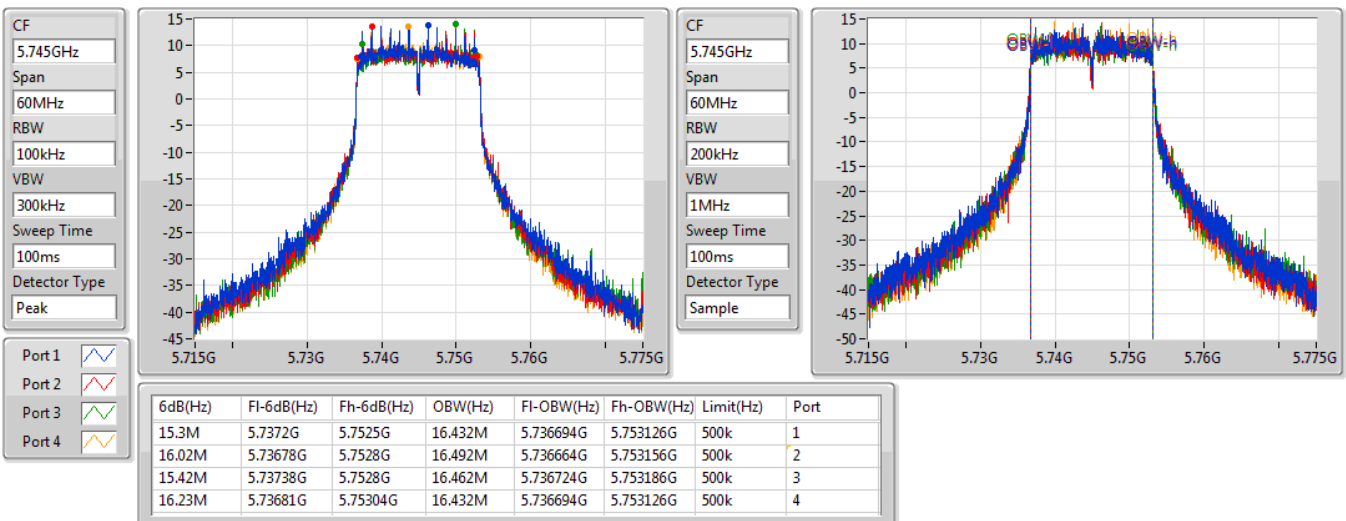


802.11a_Nss1,(6Mbps)_4TX
EBW
5240MHz

20/07/2019

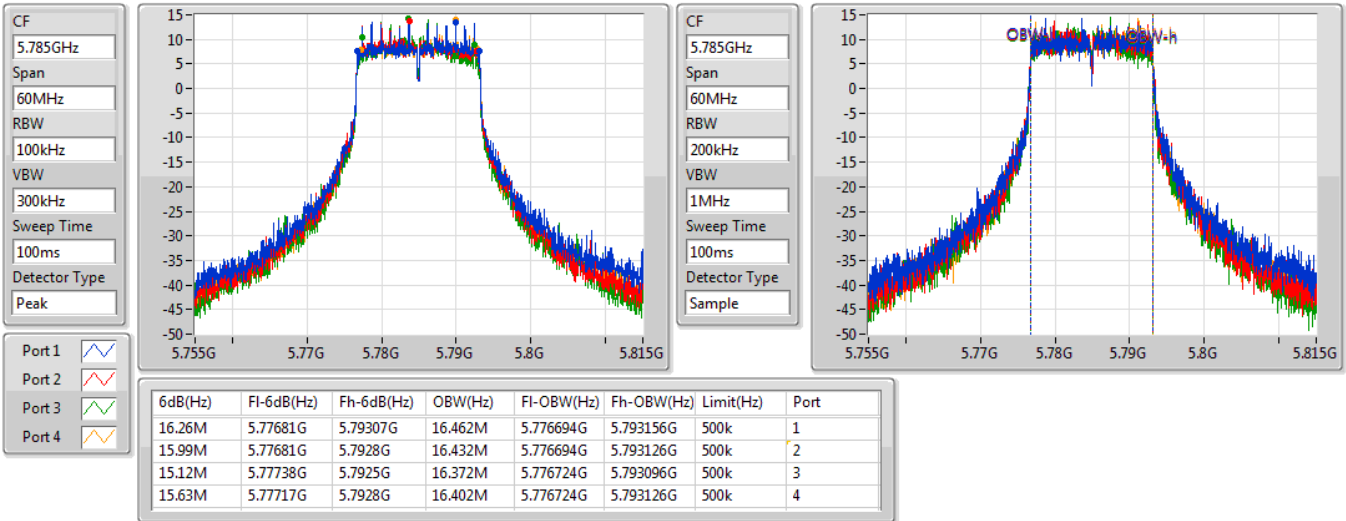

802.11a_Nss1,(6Mbps)_4TX
EBW
5745MHz

20/07/2019

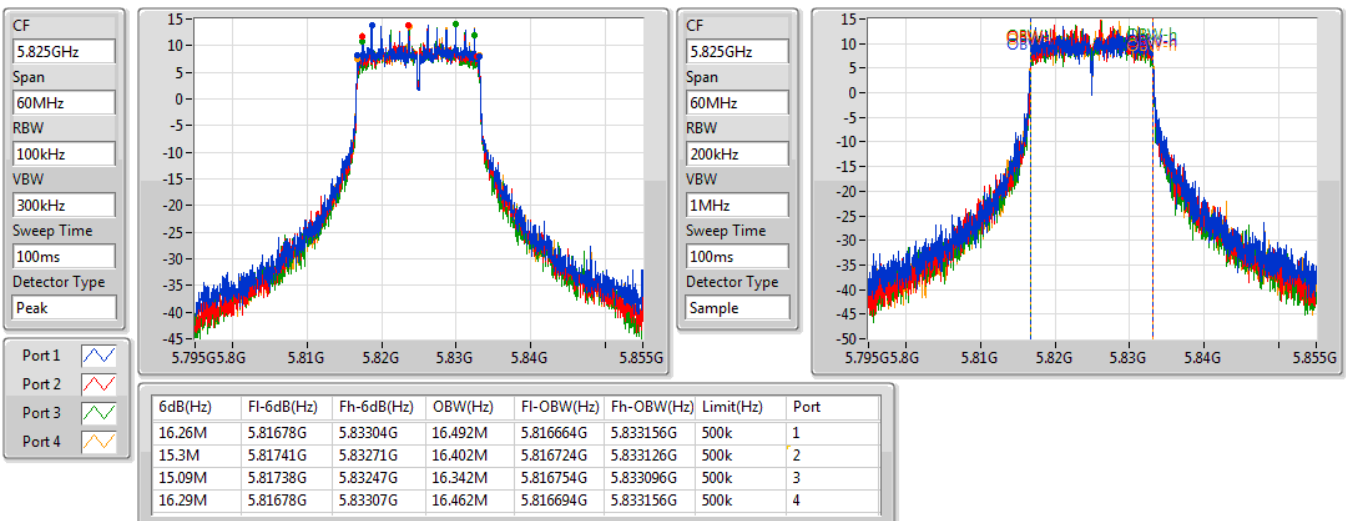


802.11a_Nss1,(6Mbps)_4TX
EBW
5785MHz

20/07/2019

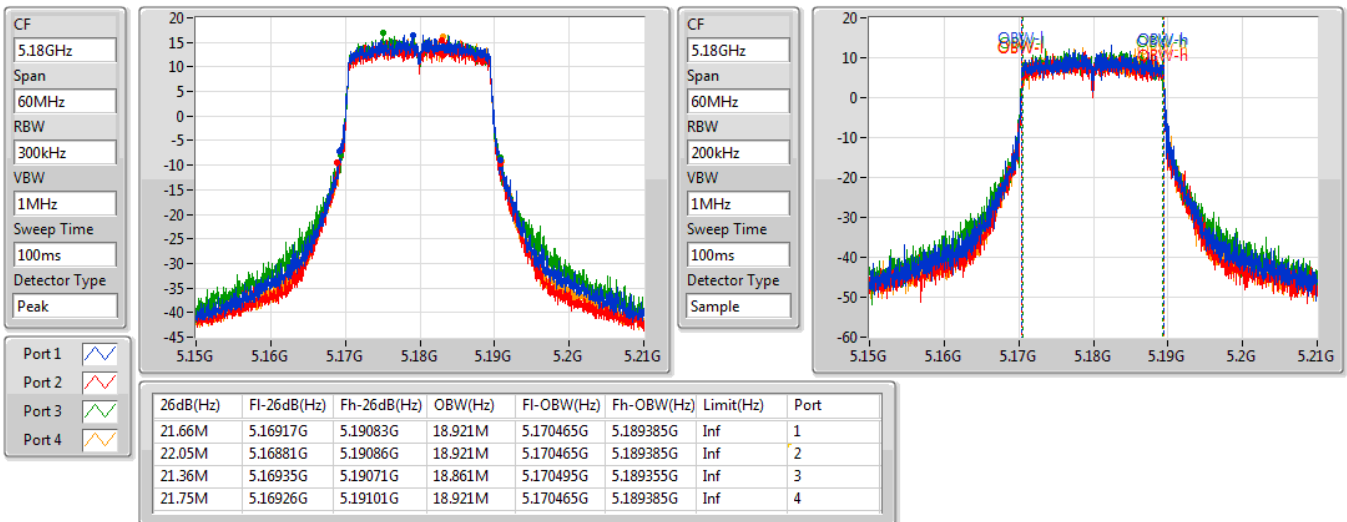

802.11a_Nss1,(6Mbps)_4TX
EBW
5825MHz

20/07/2019

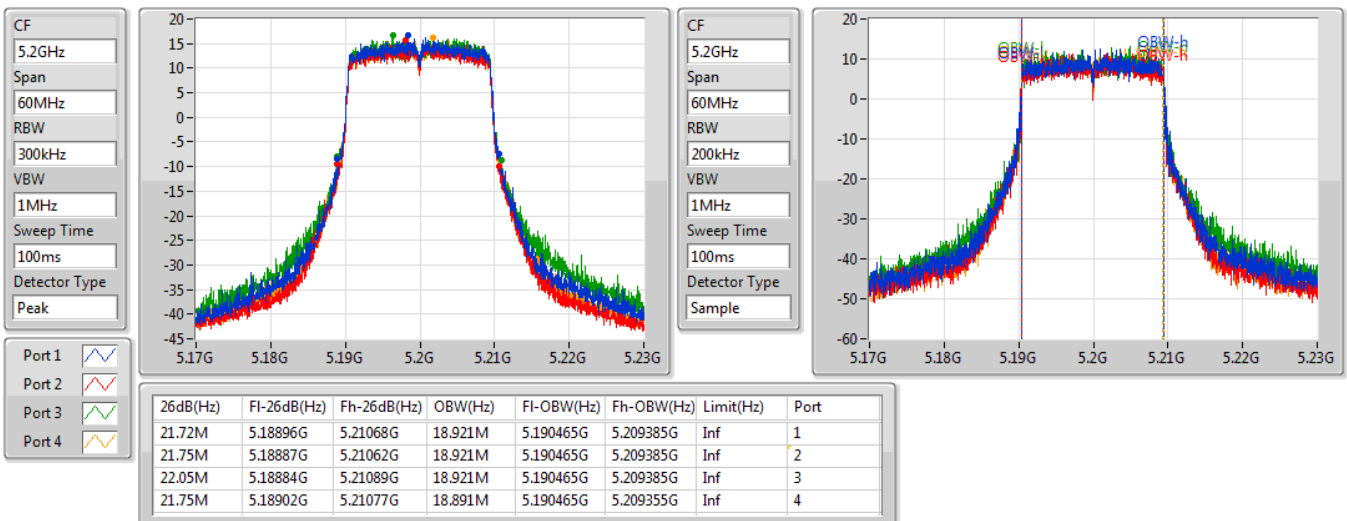


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5180MHz

20/07/2019

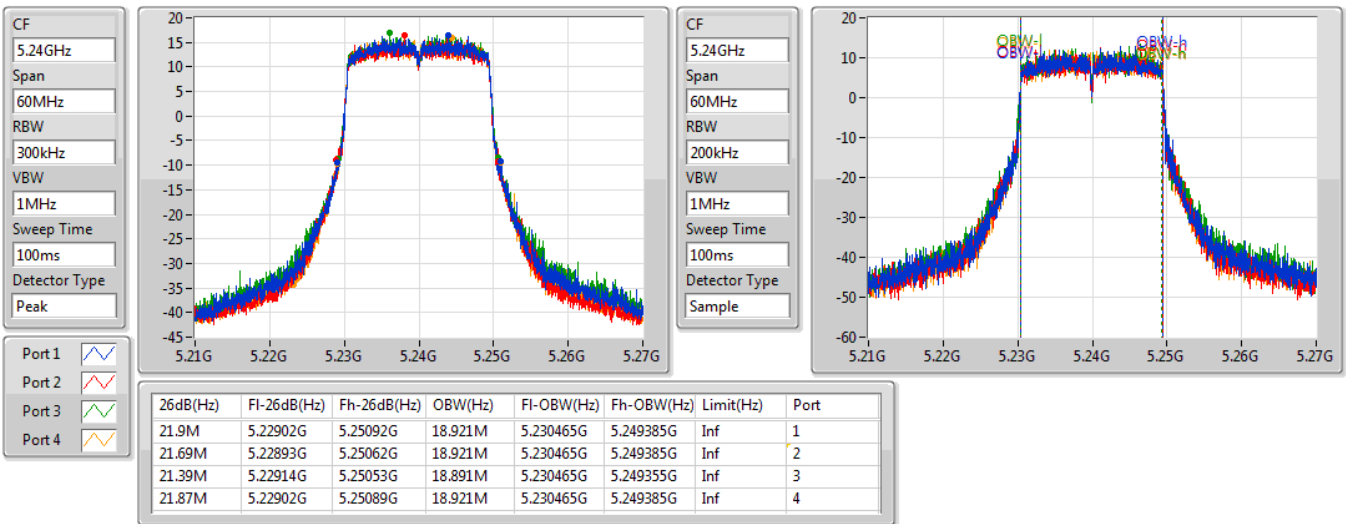

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5200MHz

20/07/2019

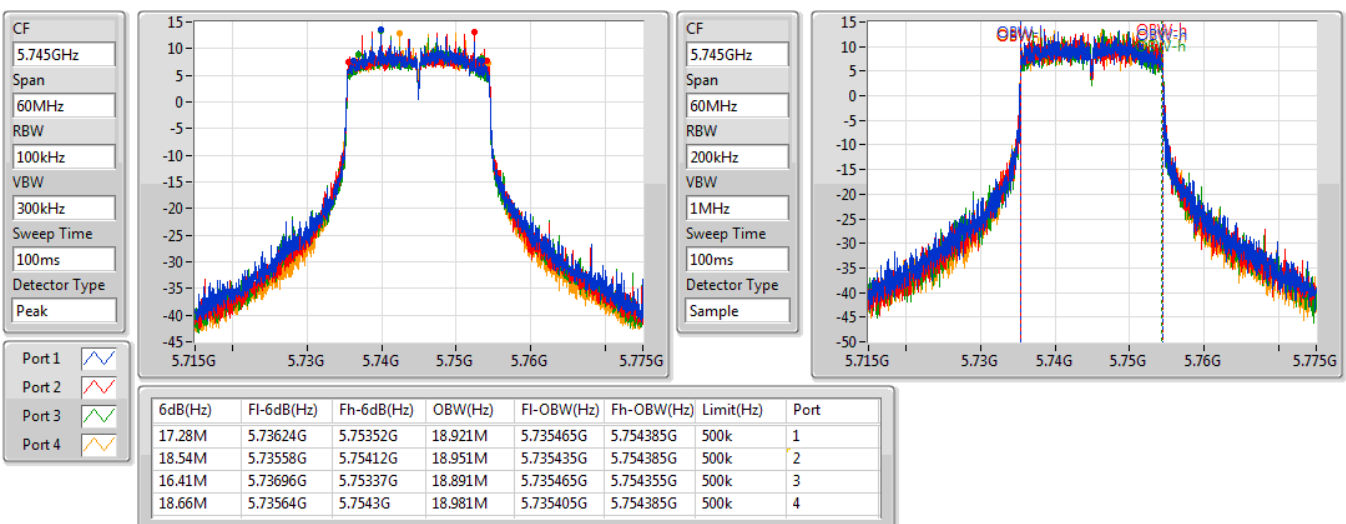


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5240MHz

20/07/2019

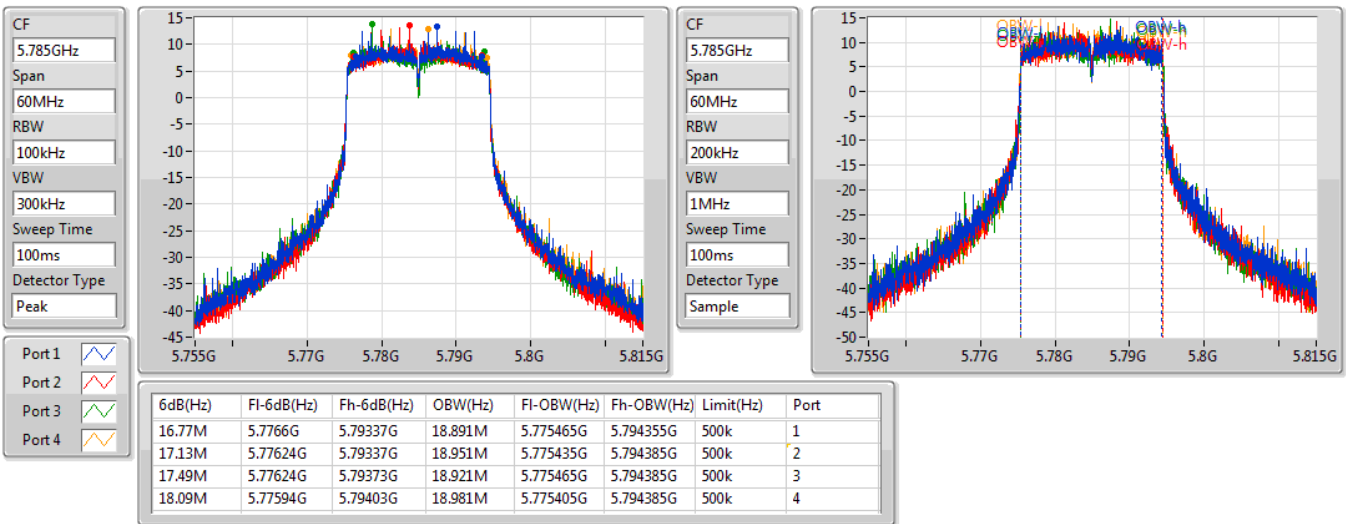

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5745MHz

20/07/2019

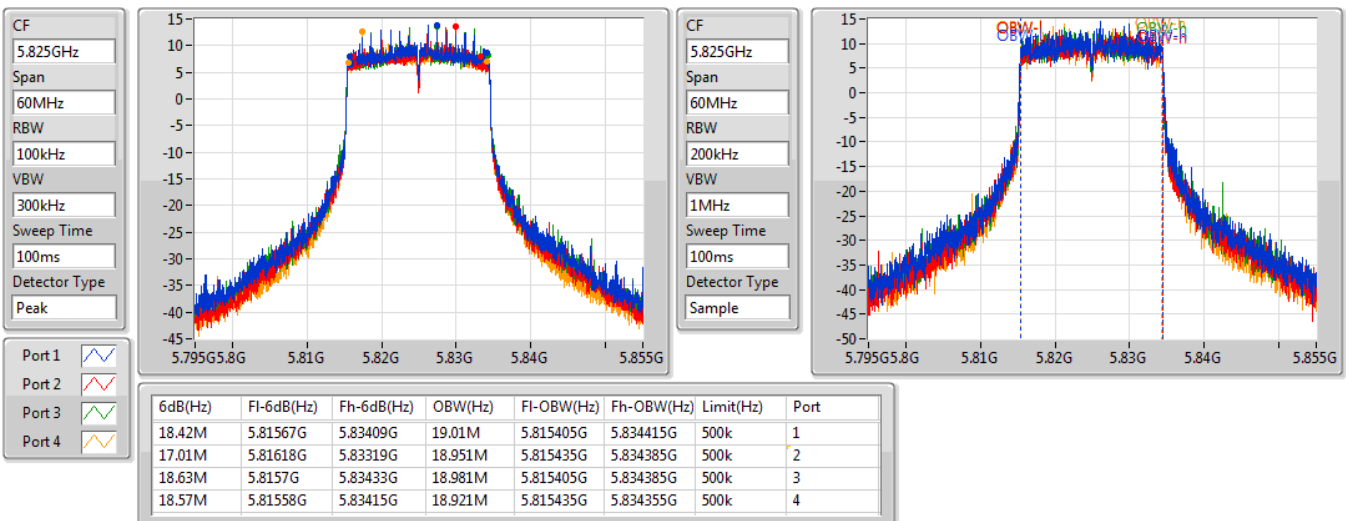


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5785MHz

20/07/2019

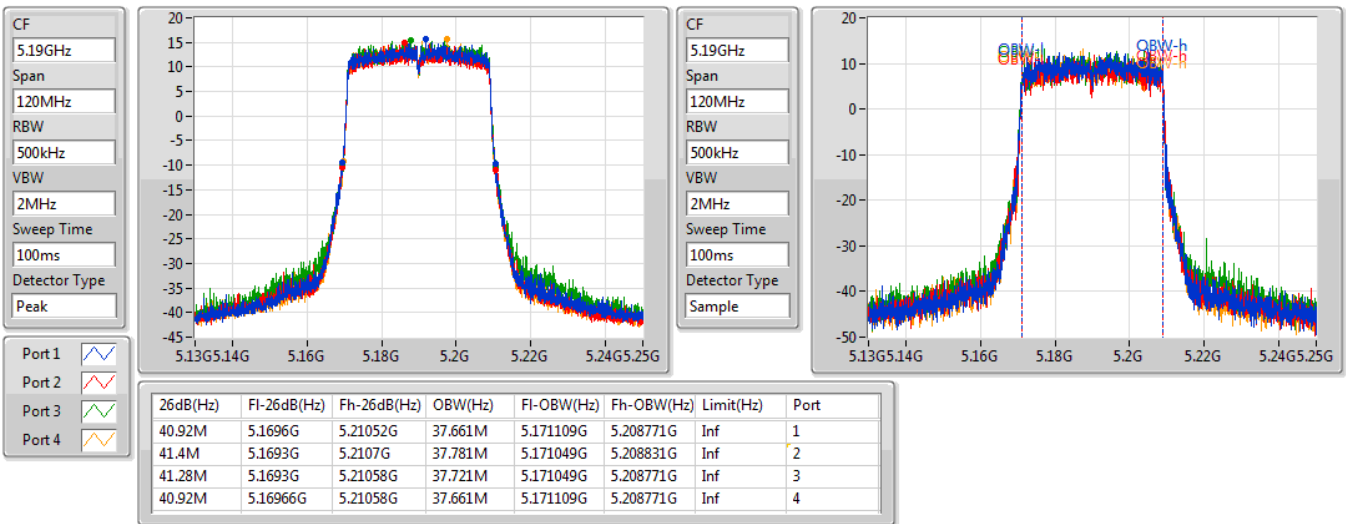

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5825MHz

20/07/2019

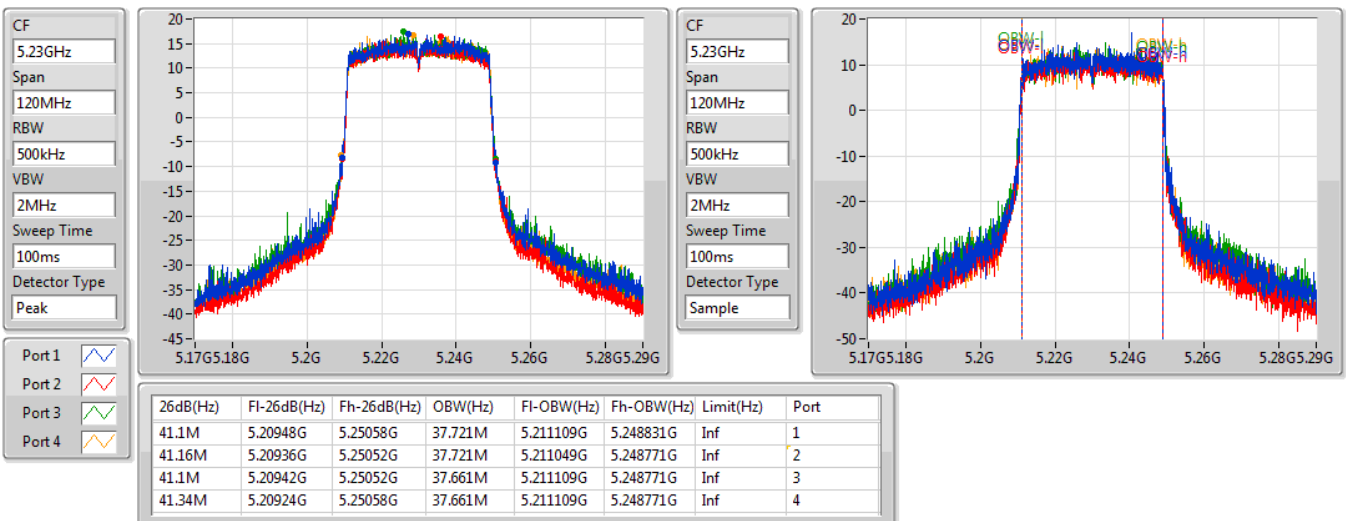


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5190MHz

20/07/2019

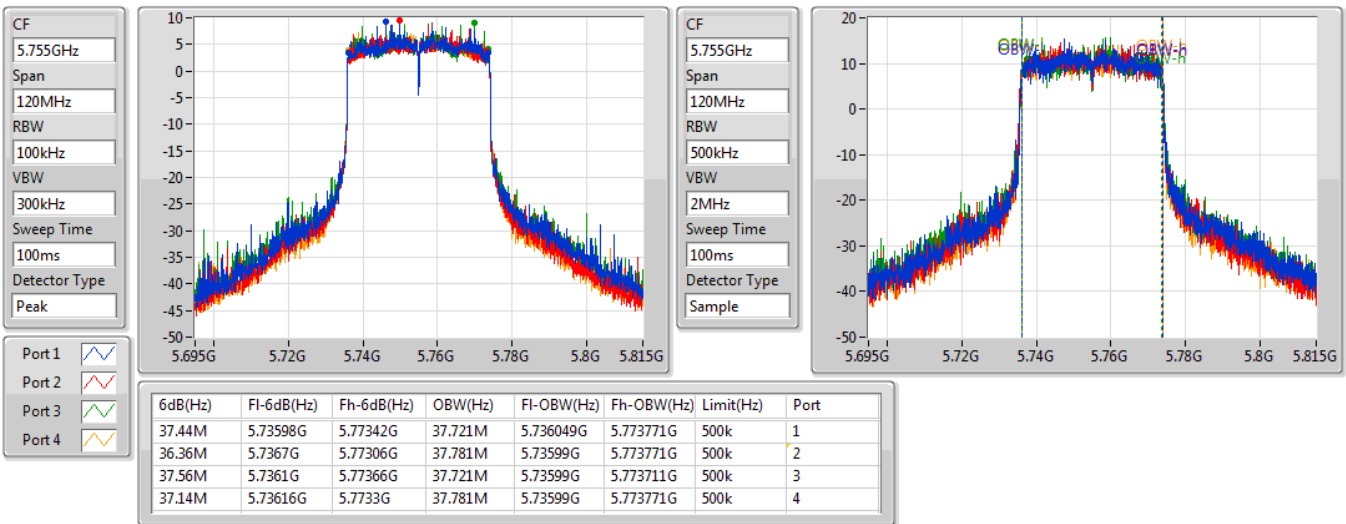

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5230MHz

20/07/2019

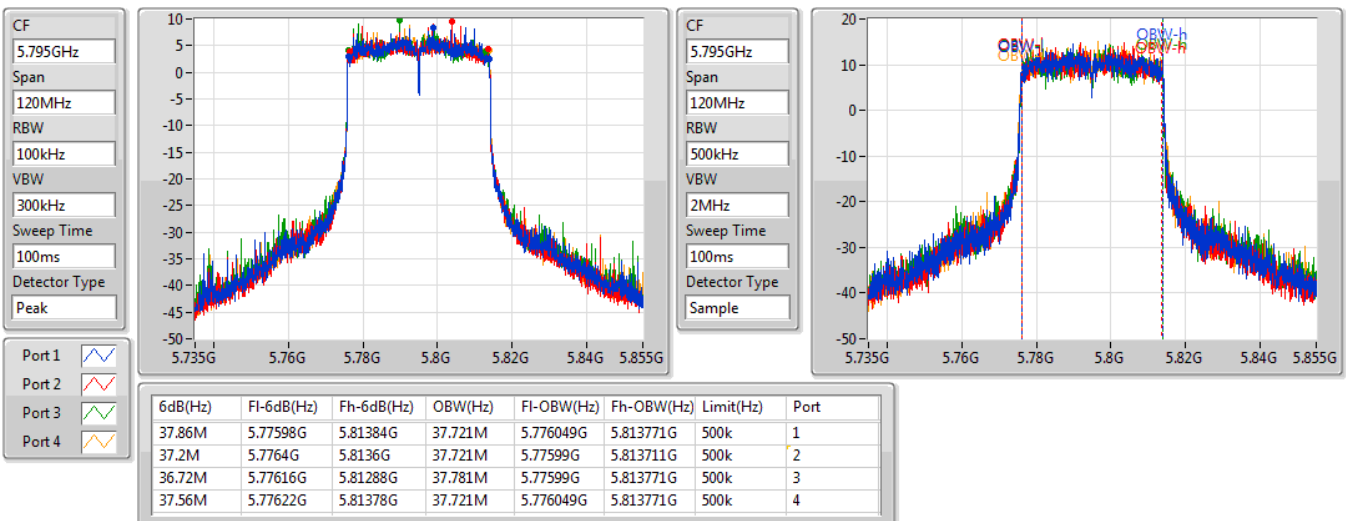


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5755MHz

20/07/2019

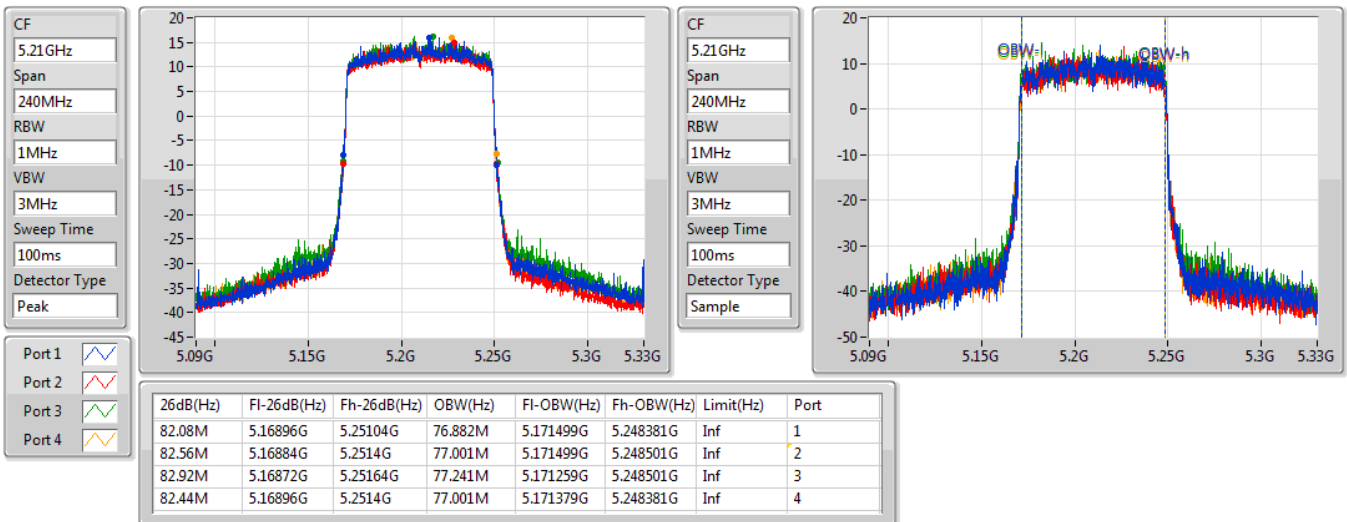

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5795MHz

20/07/2019

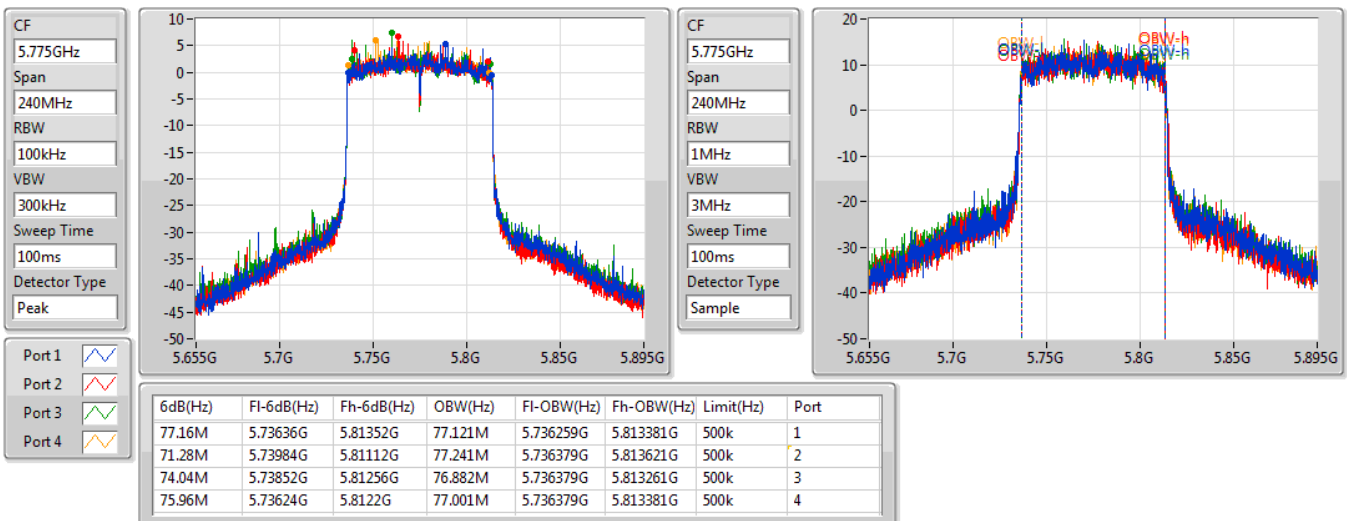


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5210MHz

20/07/2019


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5775MHz

20/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	22.47M	19.01M	19M0D1D	21.3M	18.741M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	41.76M	38.021M	38M0D1D	40.2M	37.421M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	81.36M	77.481M	77M5D1D	80.52M	76.522M
5.725-5.85GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	18.72M	18.951M	19M0D1D	16.47M	18.801M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	37.8M	37.781M	37M8D1D	32.46M	37.601M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	74.4M	77.481M	77M5D1D	70.08M	76.402M

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

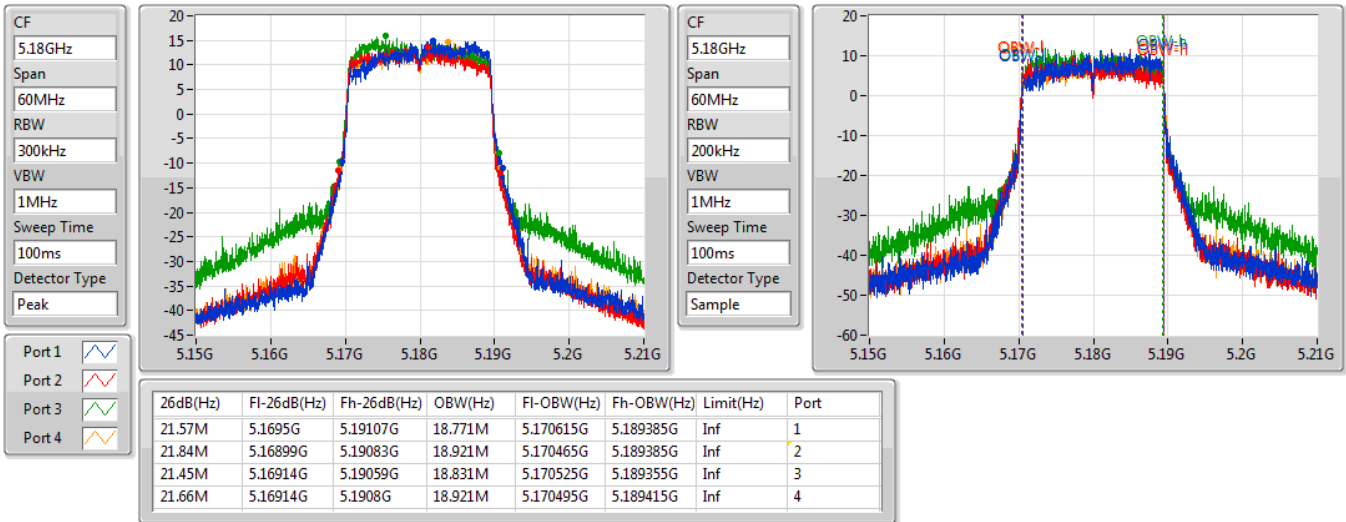
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.57M	18.771M	21.84M	18.921M	21.45M	18.831M	21.66M	18.921M
5200MHz	Pass	Inf	21.3M	18.741M	22.47M	18.981M	21.57M	18.921M	21.51M	18.891M
5240MHz	Pass	Inf	21.78M	18.981M	21.84M	18.861M	21.84M	19.01M	21.63M	18.891M
5745MHz	Pass	500k	18.48M	18.951M	17.97M	18.891M	18.3M	18.951M	18.09M	18.801M
5785MHz	Pass	500k	17.25M	18.921M	17.79M	18.921M	18.24M	18.891M	17.97M	18.831M
5825MHz	Pass	500k	18.72M	18.921M	16.89M	18.831M	16.47M	18.861M	18.21M	18.891M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.56M	37.421M	40.68M	37.661M	41.64M	37.841M	40.44M	37.541M
5230MHz	Pass	Inf	41.04M	37.961M	40.86M	37.481M	40.2M	37.661M	41.76M	38.021M
5755MHz	Pass	500k	37.08M	37.721M	37.26M	37.661M	32.46M	37.781M	34.98M	37.601M
5795MHz	Pass	500k	37.8M	37.601M	36.42M	37.781M	36M	37.661M	37.02M	37.661M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	80.52M	76.522M	81.36M	77.481M	80.64M	77.121M	81.24M	77.241M
5775MHz	Pass	500k	70.08M	76.882M	72.12M	77.361M	71.4M	77.481M	74.4M	76.402M

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

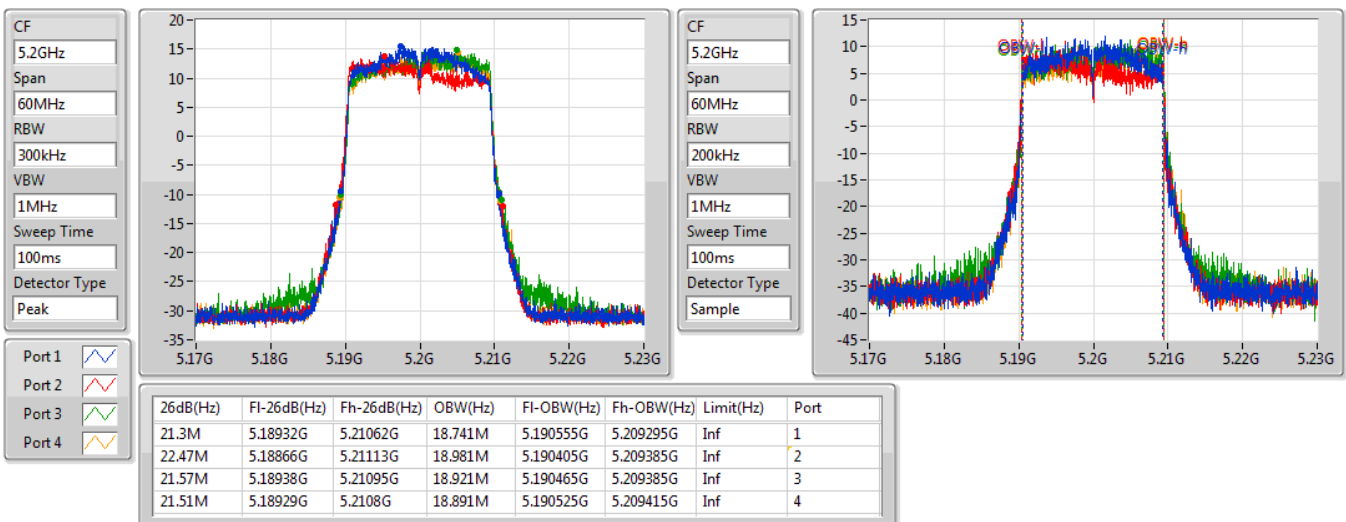
Port X-OBW = Port X 99% occupied bandwidth;

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5180MHz

20/07/2019

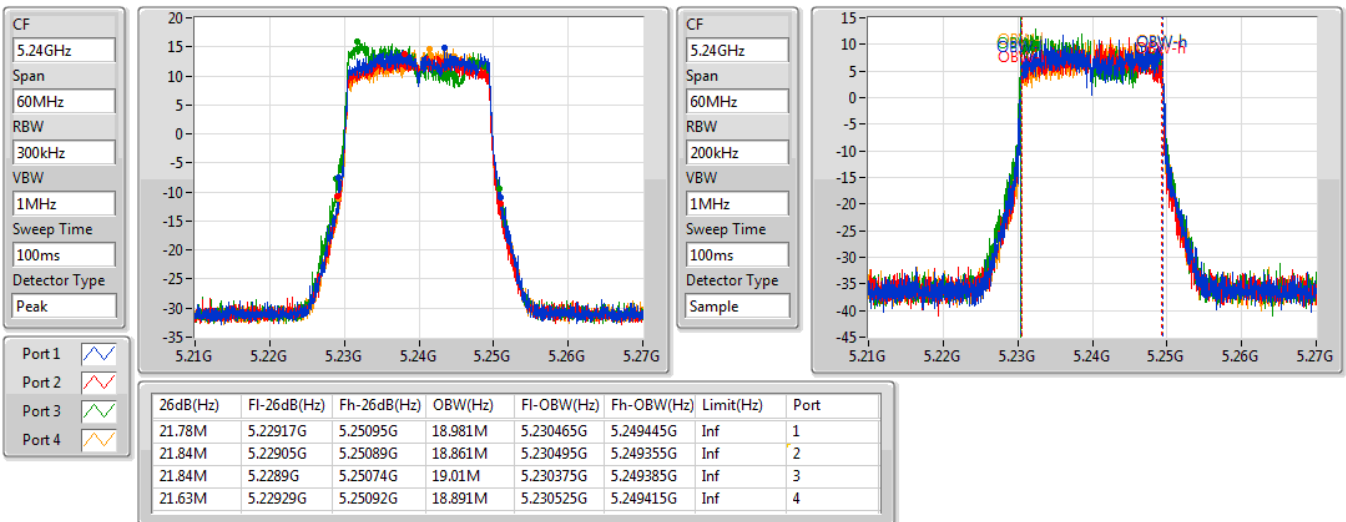

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5200MHz

20/07/2019

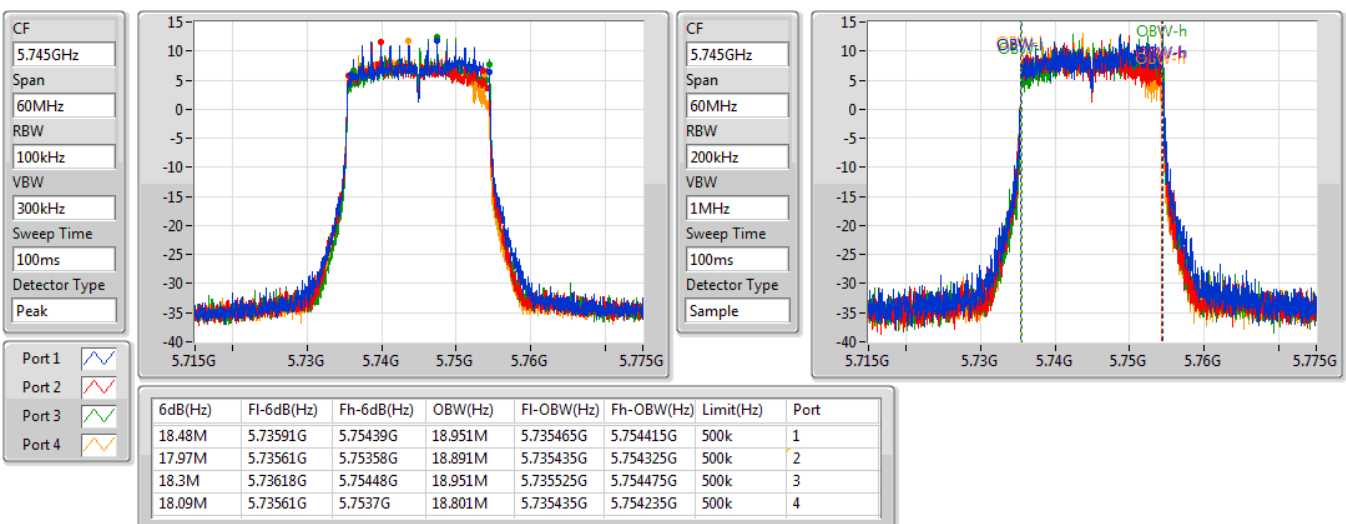


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5240MHz

20/07/2019

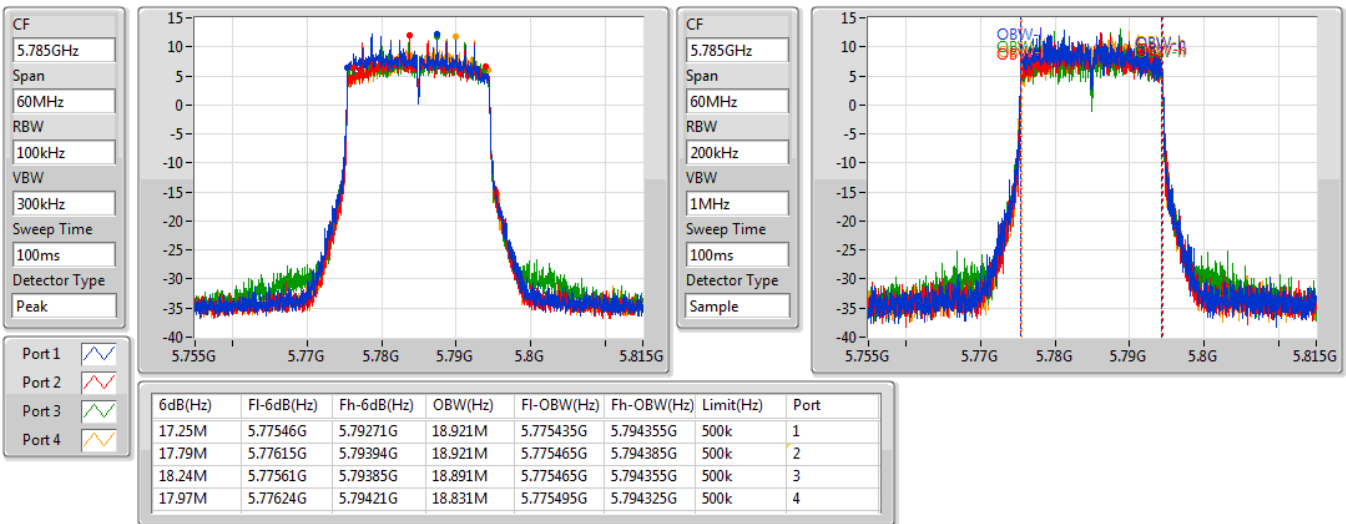

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5745MHz

20/07/2019

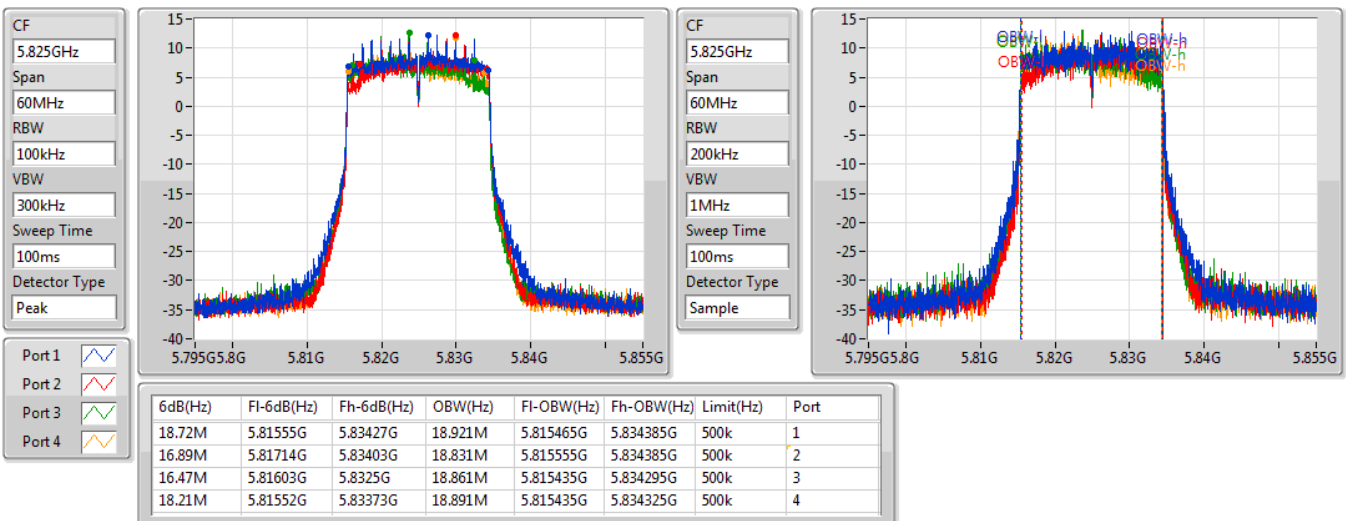


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5785MHz

20/07/2019

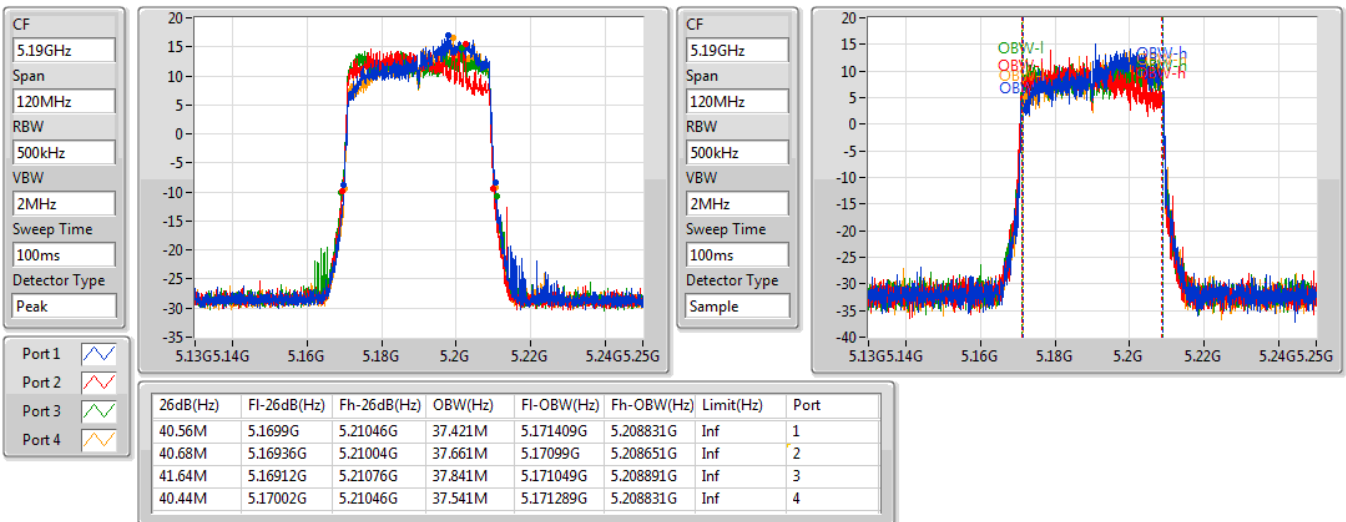

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5825MHz

20/07/2019

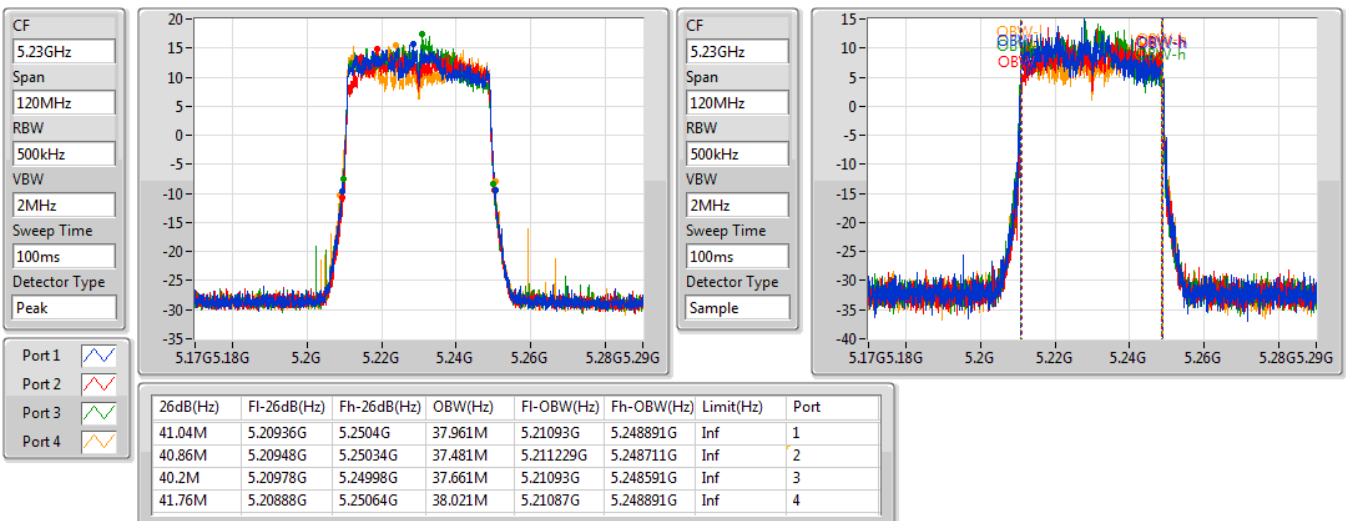


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5190MHz

20/07/2019

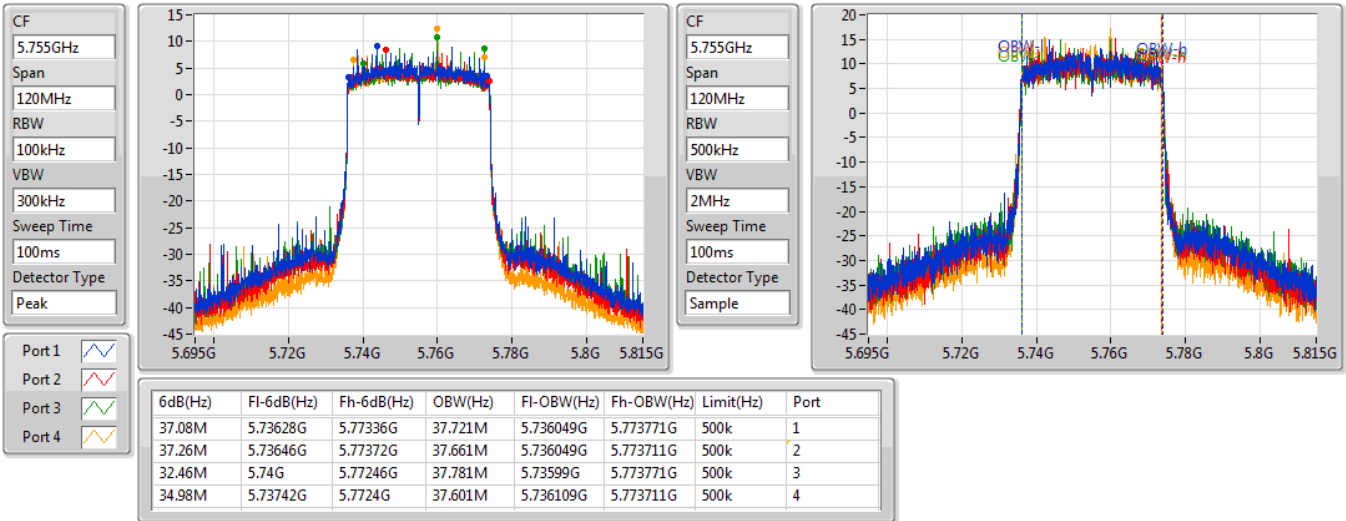

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5230MHz

20/07/2019

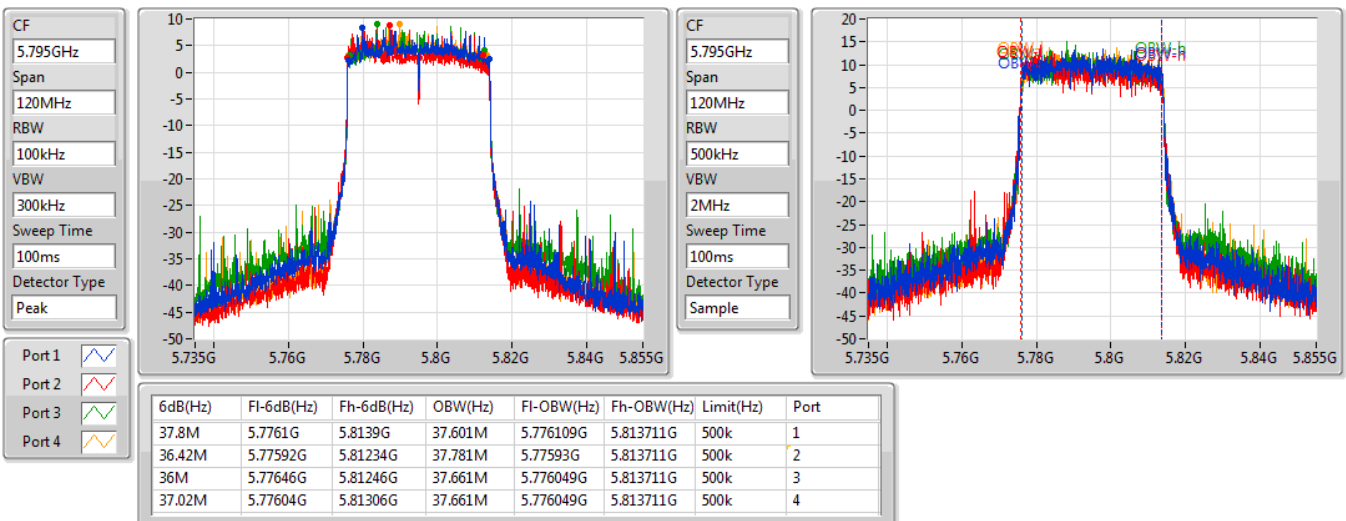


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5755MHz

22/07/2019

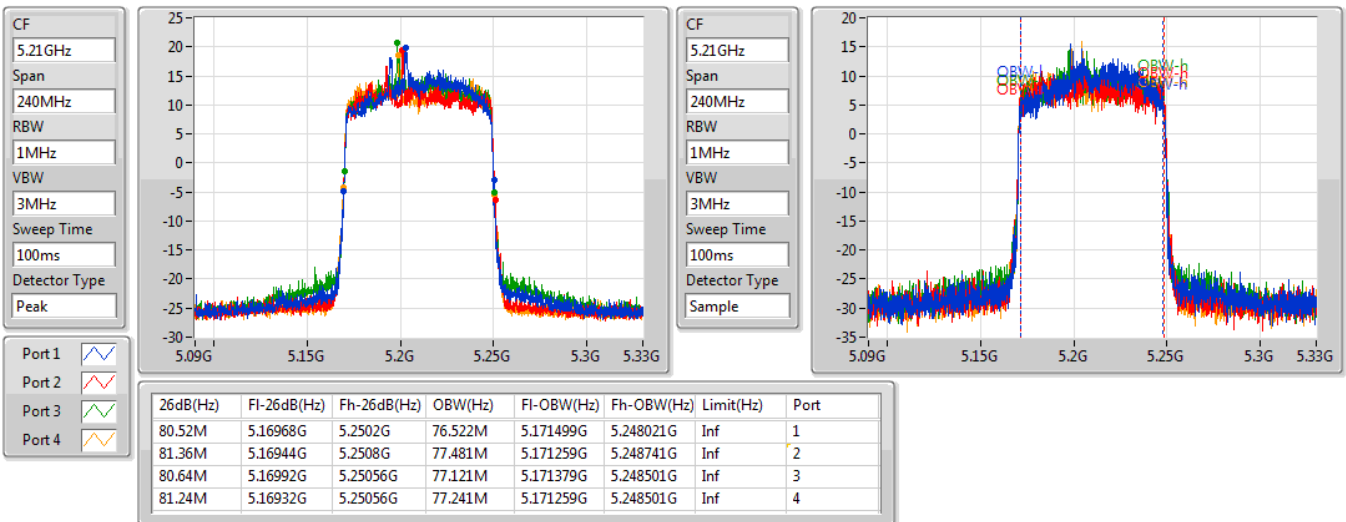

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5795MHz

22/07/2019

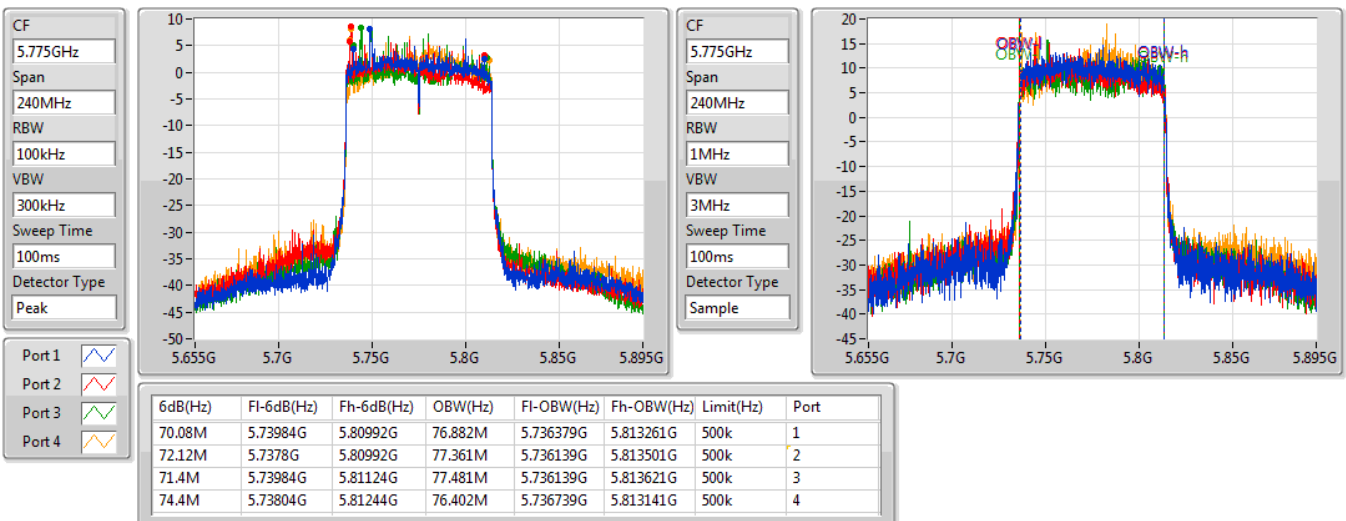


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5210MHz

20/07/2019


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

22/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	39.99M	20.72M	20M7D1D	22.38M	16.522M
802.11ax HEW20_Nss1,(MCS0)_1TX	38.67M	19.85M	19M8D1D	23.01M	18.951M
802.11ax HEW40_Nss1,(MCS0)_1TX	72.3M	38.141M	38M1D1D	40.98M	37.781M
802.11ax HEW80_Nss1,(MCS0)_1TX	82.08M	77.001M	77M0D1D	82.08M	77.001M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	15.66M	17.871M	17M9D1D	15.36M	17.661M
802.11ax HEW20_Nss1,(MCS0)_1TX	18.48M	19.19M	19M2D1D	17.97M	19.13M
802.11ax HEW40_Nss1,(MCS0)_1TX	38.16M	65.547M	65M5D1D	36.96M	40M
802.11ax HEW80_Nss1,(MCS0)_1TX	75.36M	77.121M	77M1D1D	75.36M	77.121M

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

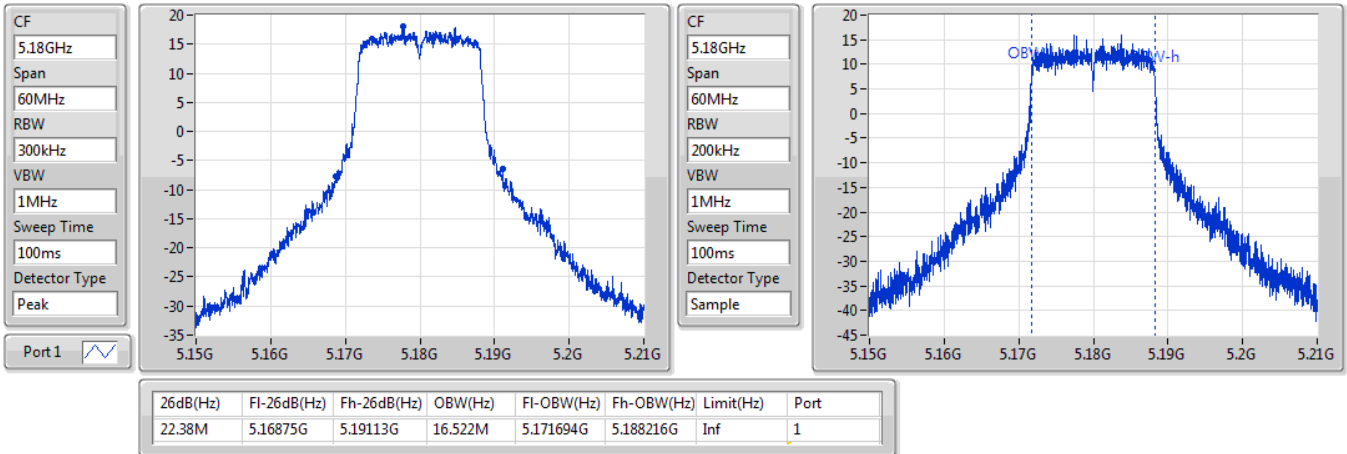
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-
5180MHz	Pass	Inf	22.38M	16.522M
5200MHz	Pass	Inf	39.99M	20.72M
5240MHz	Pass	Inf	38.94M	19.76M
5745MHz	Pass	500k	15.42M	17.871M
5785MHz	Pass	500k	15.36M	17.841M
5825MHz	Pass	500k	15.66M	17.661M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
5180MHz	Pass	Inf	23.01M	18.951M
5200MHz	Pass	Inf	38.67M	19.85M
5240MHz	Pass	Inf	38.25M	19.55M
5745MHz	Pass	500k	18.24M	19.19M
5785MHz	Pass	500k	17.97M	19.13M
5825MHz	Pass	500k	18.48M	19.16M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
5190MHz	Pass	Inf	40.98M	37.781M
5230MHz	Pass	Inf	72.3M	38.141M
5755MHz	Pass	500k	36.96M	40M
5795MHz	Pass	500k	38.16M	65.547M
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-	-	-
5210MHz	Pass	Inf	82.08M	77.001M
5775MHz	Pass	500k	75.36M	77.121M

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

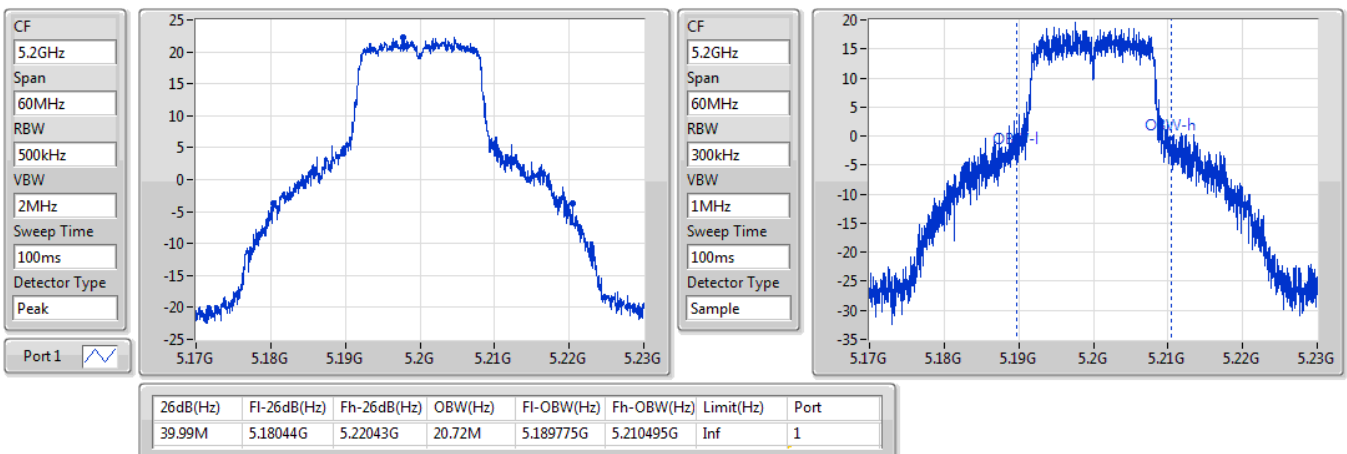
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_1TX
EBW
5180MHz

08/07/2019

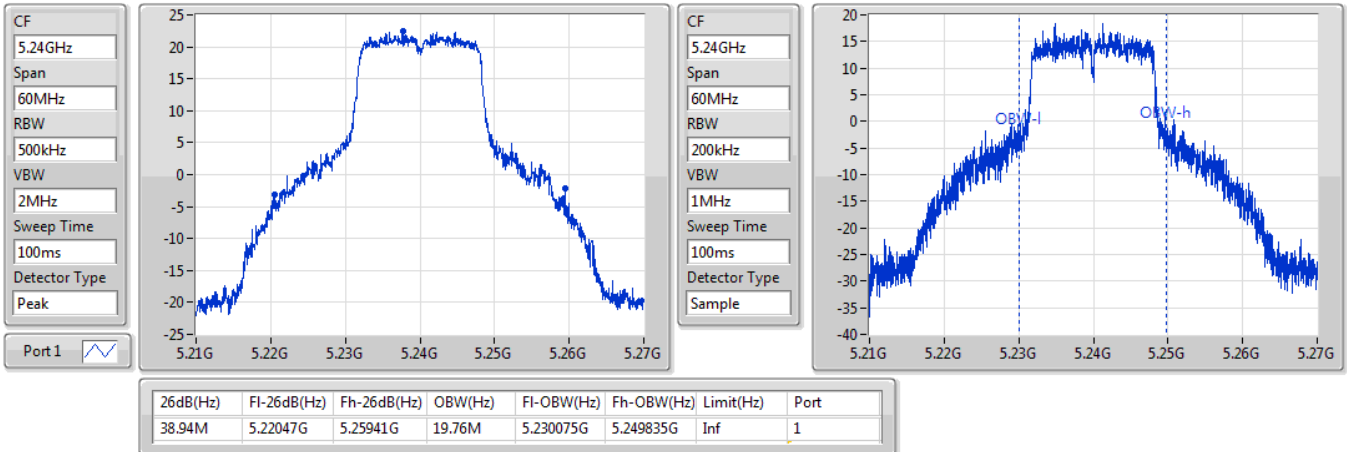

802.11a_Nss1,(6Mbps)_1TX
EBW
5200MHz

08/07/2019

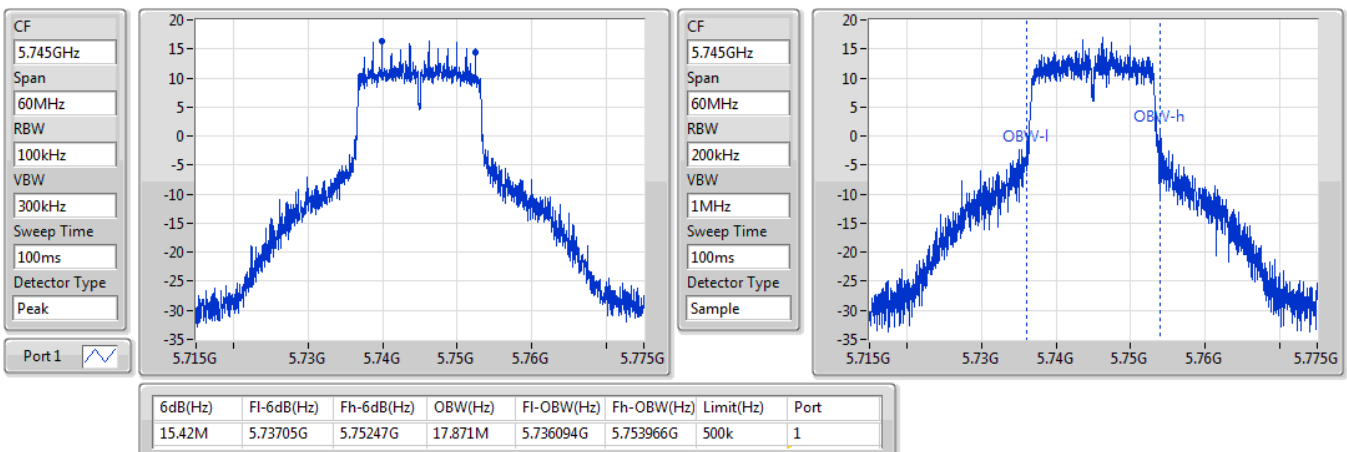


802.11a_Nss1,(6Mbps)_1TX
EBW
5240MHz

08/07/2019

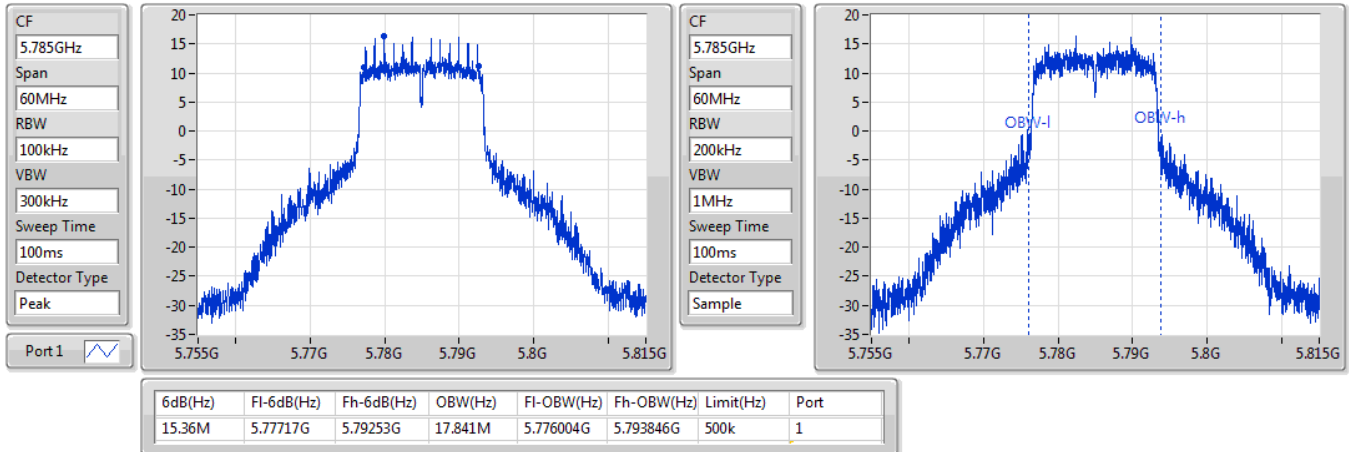

802.11a_Nss1,(6Mbps)_1TX
EBW
5745MHz

08/07/2019

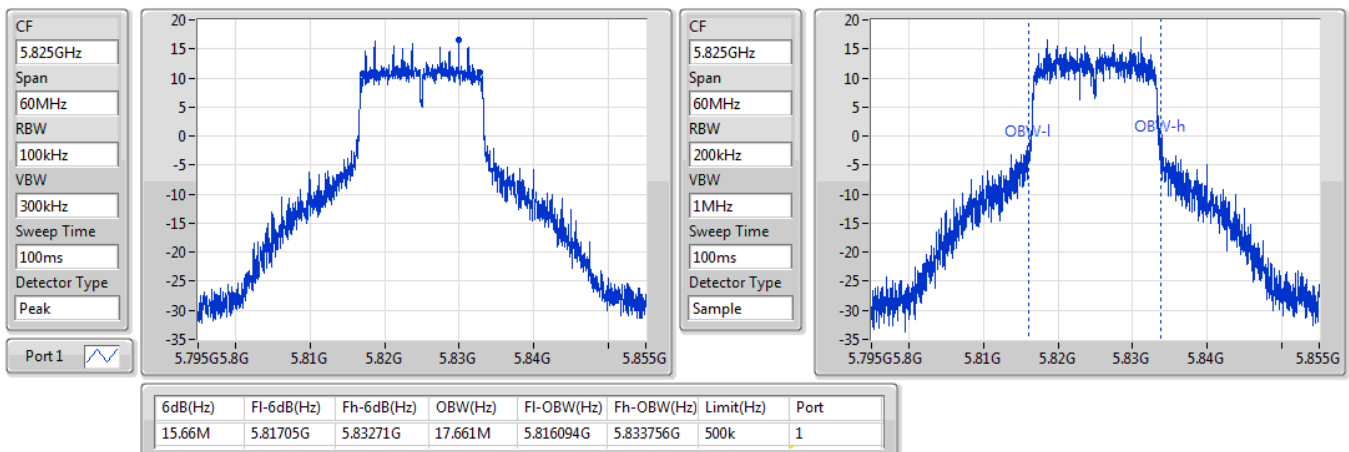


802.11a_Nss1,(6Mbps)_1TX
EBW
5785MHz

08/07/2019

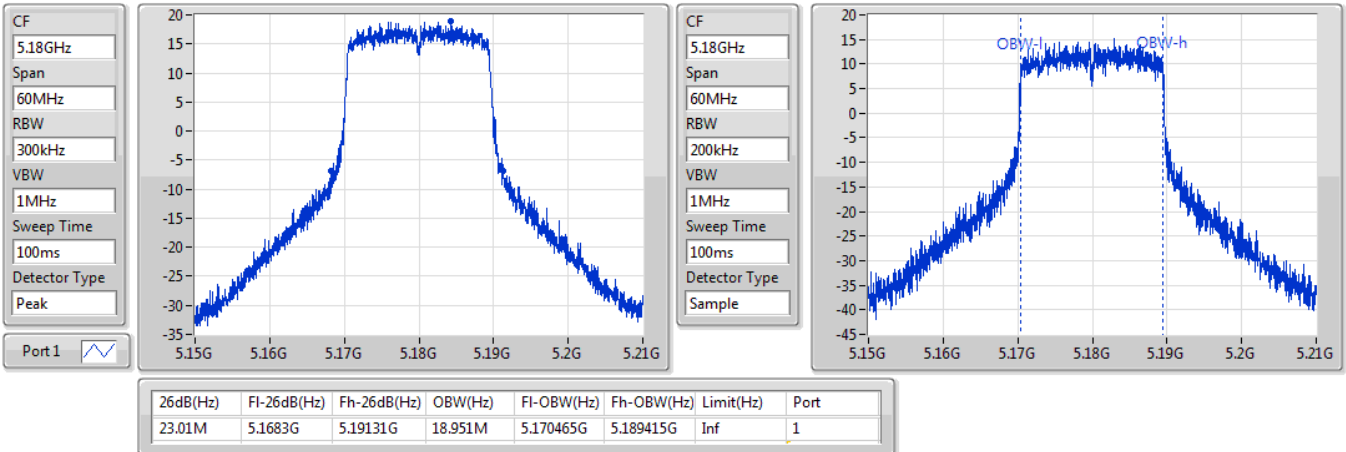

802.11a_Nss1,(6Mbps)_1TX
EBW
5825MHz

08/07/2019

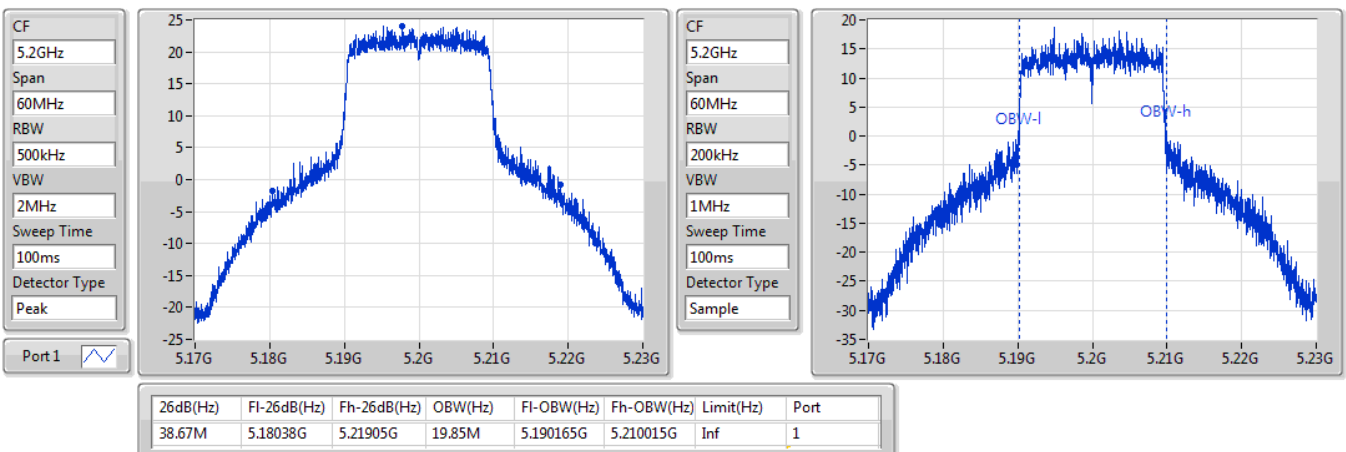


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5180MHz

08/07/2019


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5200MHz

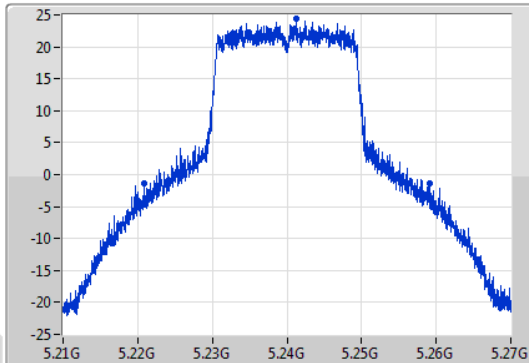
08/07/2019



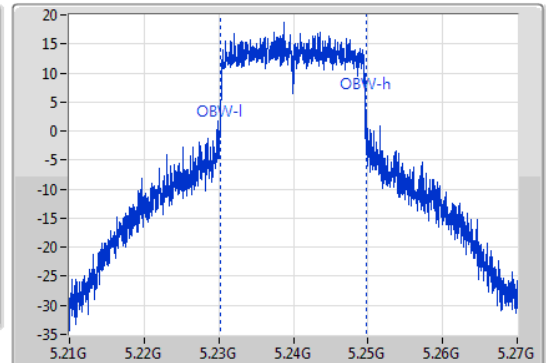
802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5240MHz

08/07/2019

CF
5.24GHz
Span
60MHz
RBW
500kHz
VBW
2MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.24GHz
Span
60MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample

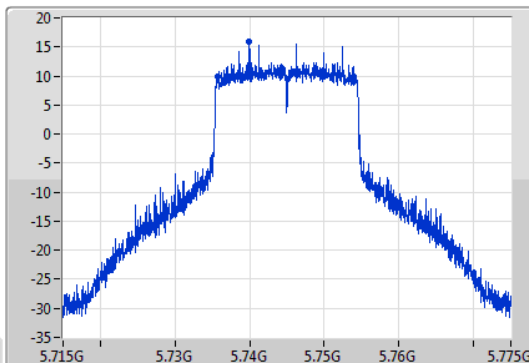


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
38.25M	5.22089G	5.25914G	19.55M	5.230165G	5.249715G	Inf	1

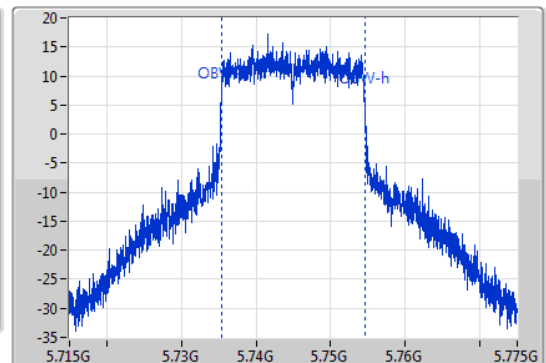
802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5745MHz

08/07/2019

CF
5.745GHz
Span
60MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak



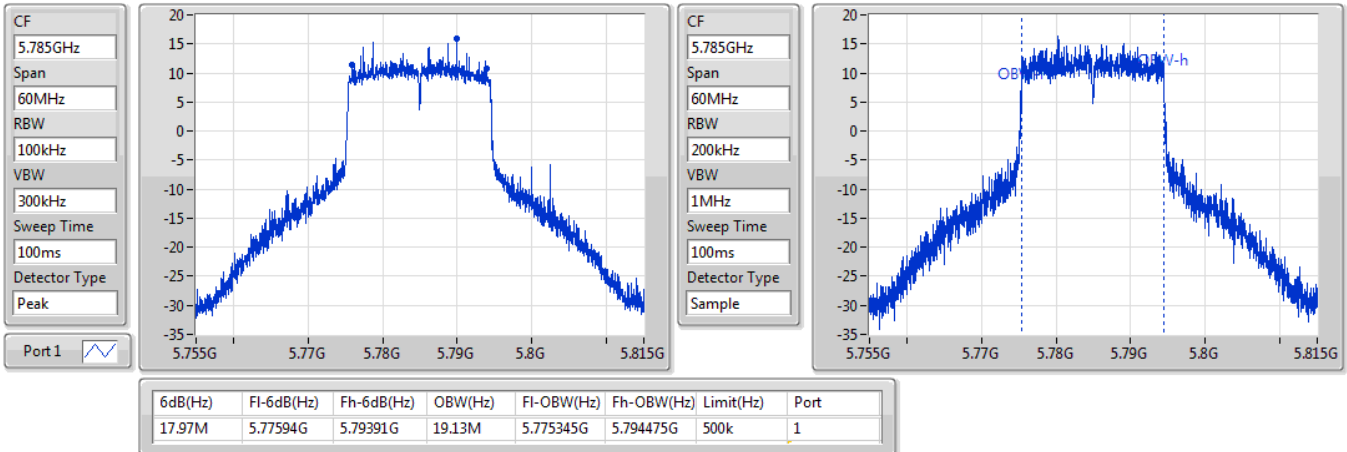
CF
5.745GHz
Span
60MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Sample



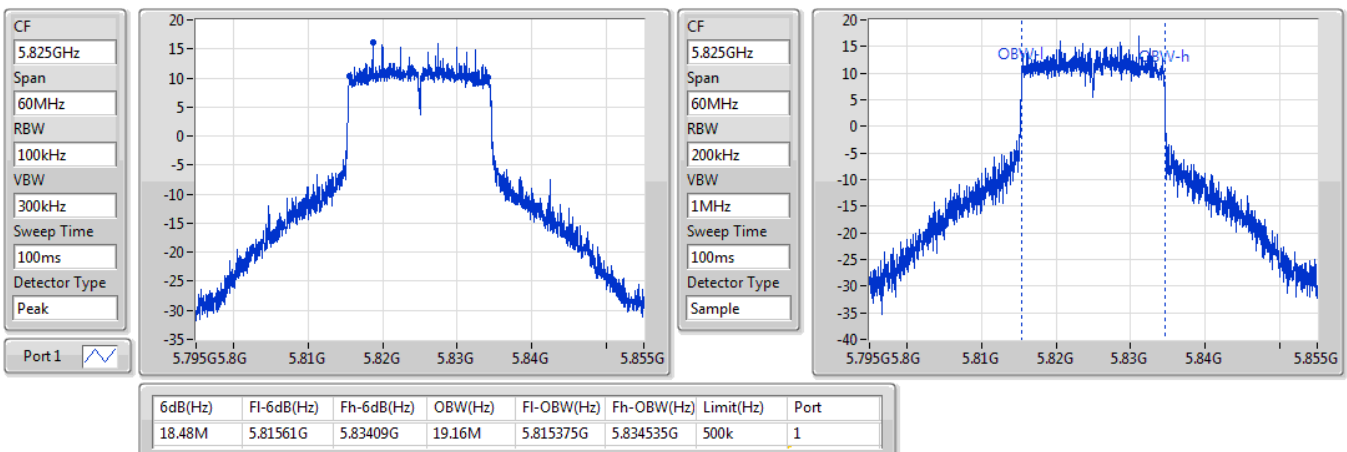
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
18.24M	5.73576G	5.754G	19.19M	5.735345G	5.754535G	500k	1

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5785MHz

08/07/2019


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5825MHz

08/07/2019

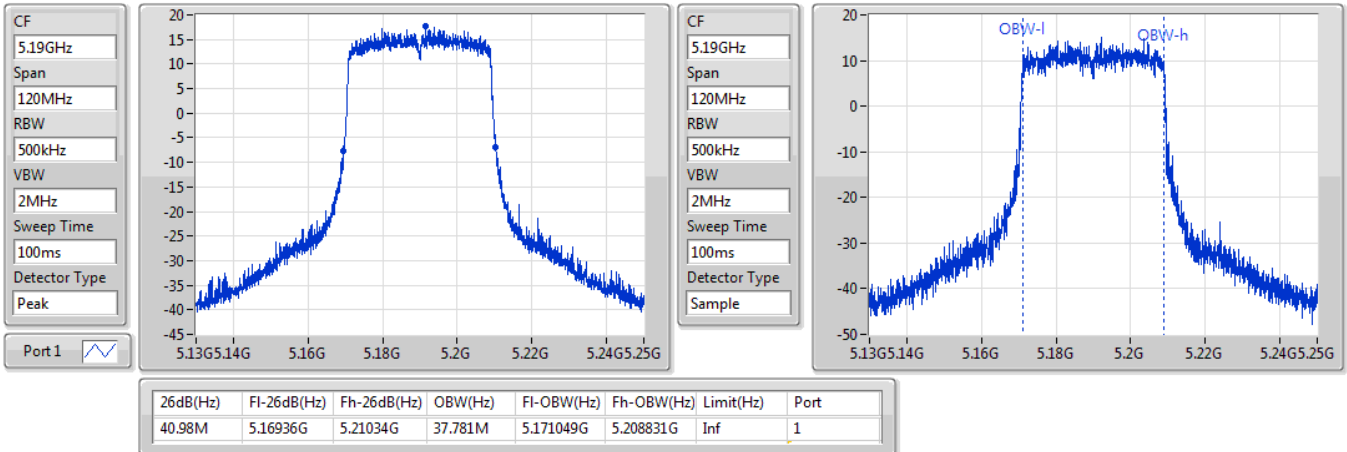


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

5190MHz

08/07/2019

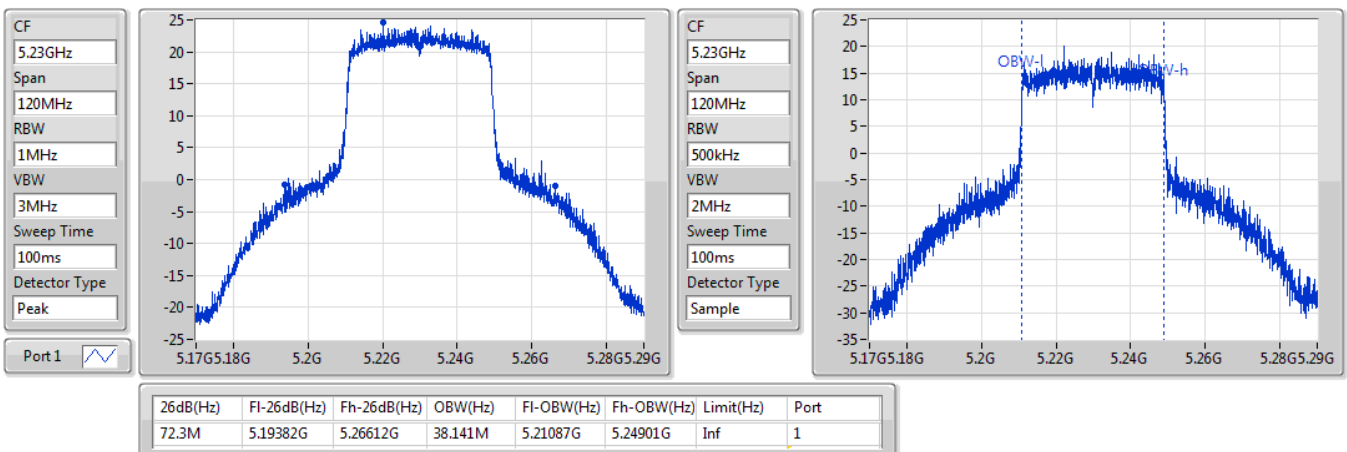


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

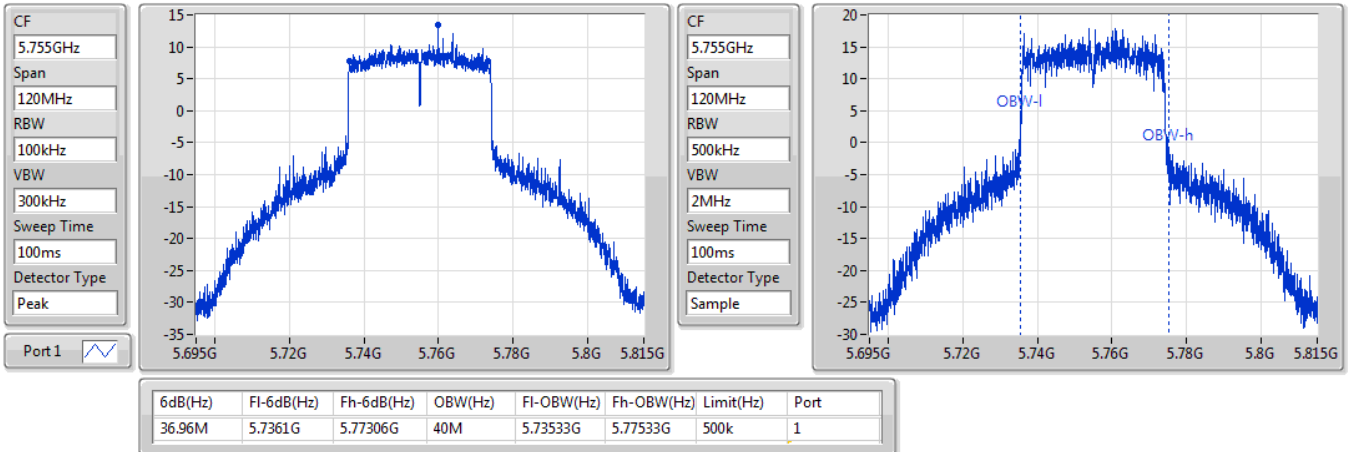
5230MHz

08/07/2019

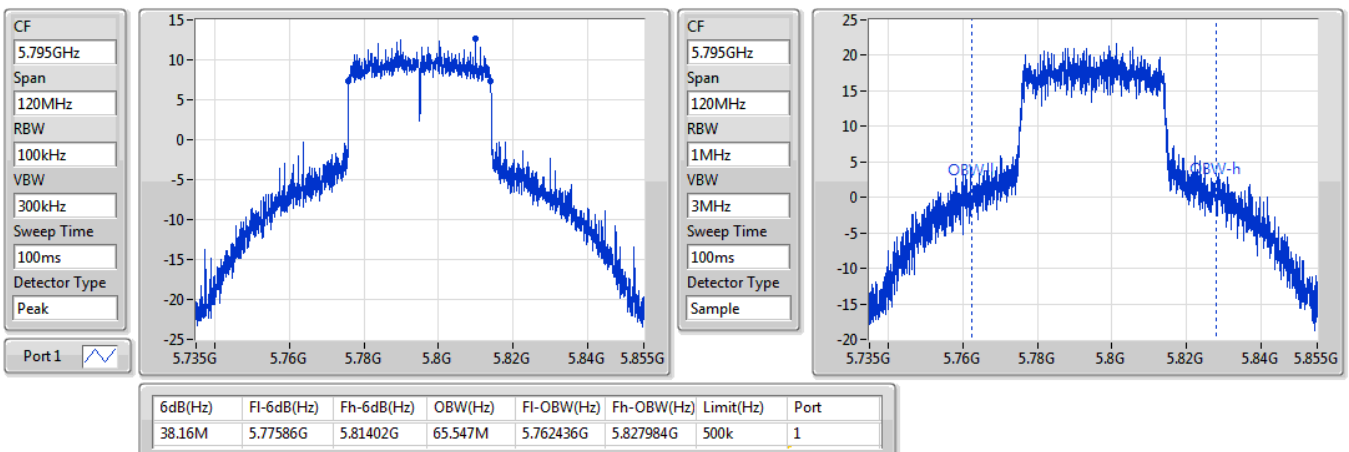


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5755MHz

08/07/2019

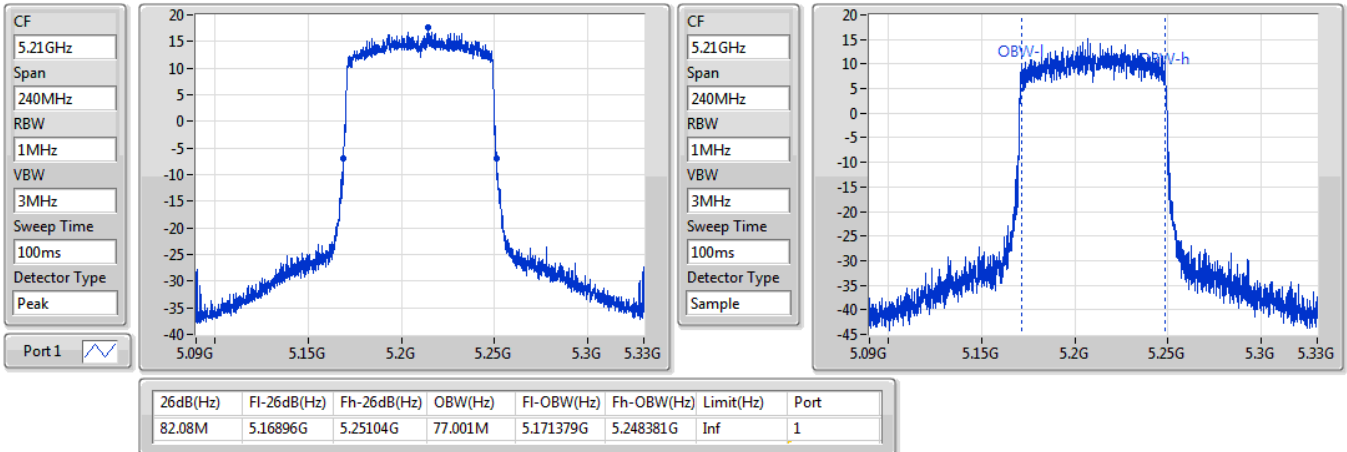

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5795MHz

08/07/2019

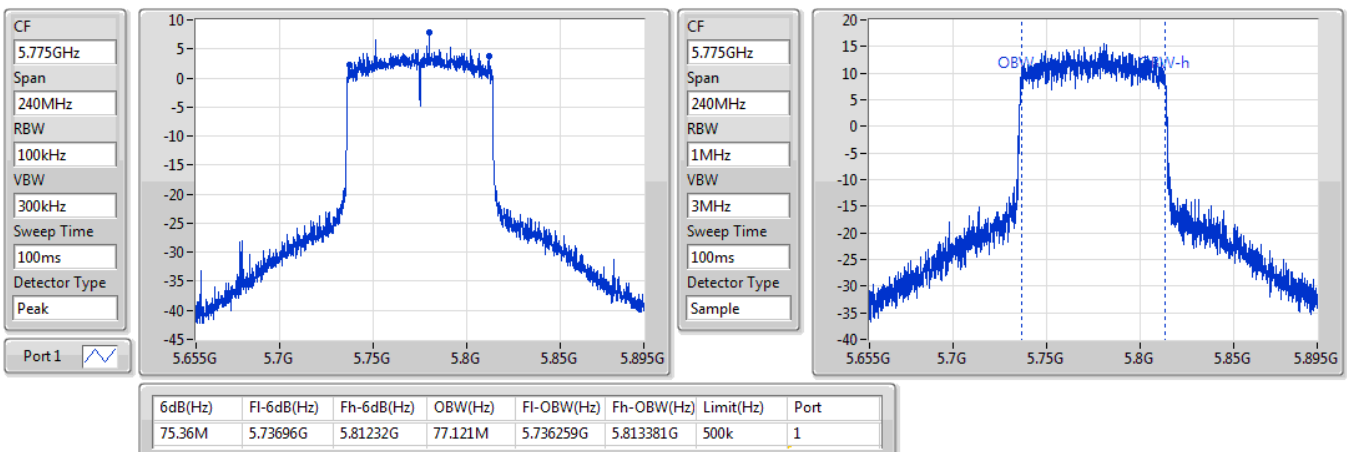


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5210MHz

08/07/2019


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5775MHz

08/07/2019



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	20.76M	16.432M	16M4D1D	20.31M	16.402M
802.11ax HEW20_Nss1,(MCS0)_2TX	22.71M	18.951M	19M0D1D	21.36M	18.921M
802.11ax HEW40_Nss1,(MCS0)_2TX	66M	37.961M	38M0D1D	41.04M	37.661M
802.11ax HEW80_Nss1,(MCS0)_2TX	82.68M	77.121M	77M1D1D	82.44M	77.001M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	16.32M	19.82M	19M8D1D	15.15M	16.522M
802.11ax HEW20_Nss1,(MCS0)_2TX	18.81M	19.37M	19M4D1D	17.52M	18.951M
802.11ax HEW40_Nss1,(MCS0)_2TX	38.04M	46.177M	46M2D1D	37.56M	39.4M
802.11ax HEW80_Nss1,(MCS0)_2TX	74.88M	77.241M	77M2D1D	69.36M	77.121M

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

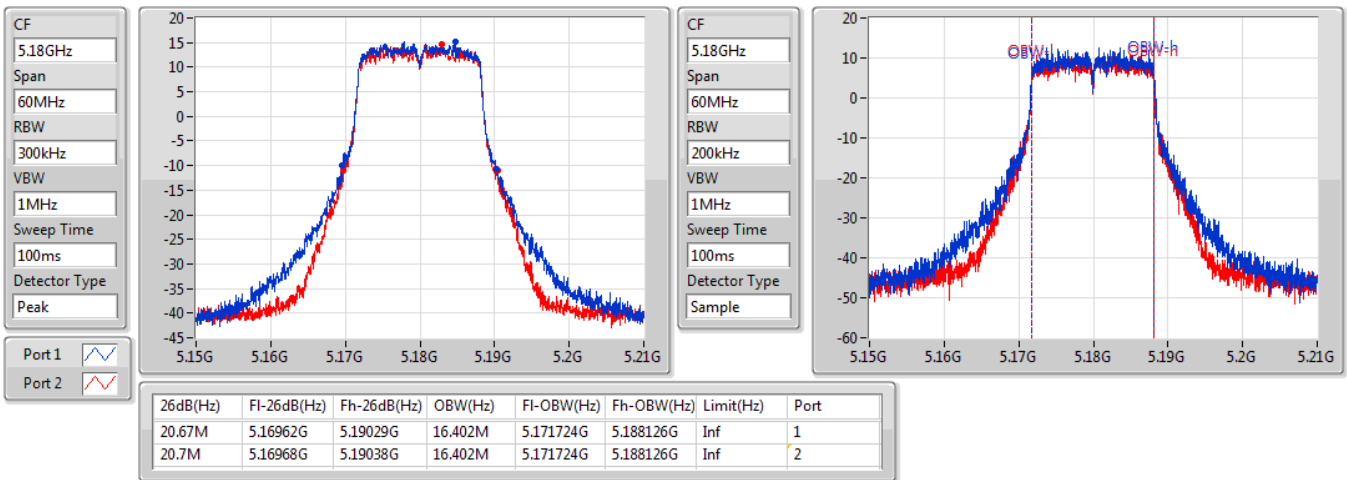
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	20.67M	16.402M	20.7M	16.402M
5200MHz	Pass	Inf	20.76M	16.402M	20.31M	16.432M
5240MHz	Pass	Inf	20.4M	16.402M	20.67M	16.402M
5745MHz	Pass	500k	15.6M	19.52M	16.29M	16.582M
5785MHz	Pass	500k	16.32M	19.82M	15.48M	16.522M
5825MHz	Pass	500k	15.15M	19.28M	15.42M	16.582M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	22.44M	18.951M	21.72M	18.921M
5200MHz	Pass	Inf	21.99M	18.921M	22.14M	18.921M
5240MHz	Pass	Inf	22.71M	18.921M	21.36M	18.921M
5745MHz	Pass	500k	18.57M	19.28M	17.61M	18.951M
5785MHz	Pass	500k	17.97M	19.37M	17.52M	18.951M
5825MHz	Pass	500k	18.81M	19.31M	17.97M	18.981M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	41.22M	37.721M	41.04M	37.661M
5230MHz	Pass	Inf	66M	37.961M	42.9M	37.781M
5755MHz	Pass	500k	38.04M	46.177M	37.92M	41.379M
5795MHz	Pass	500k	37.92M	44.378M	37.56M	39.4M
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	82.44M	77.001M	82.68M	77.121M
5775MHz	Pass	500k	74.88M	77.121M	69.36M	77.241M

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

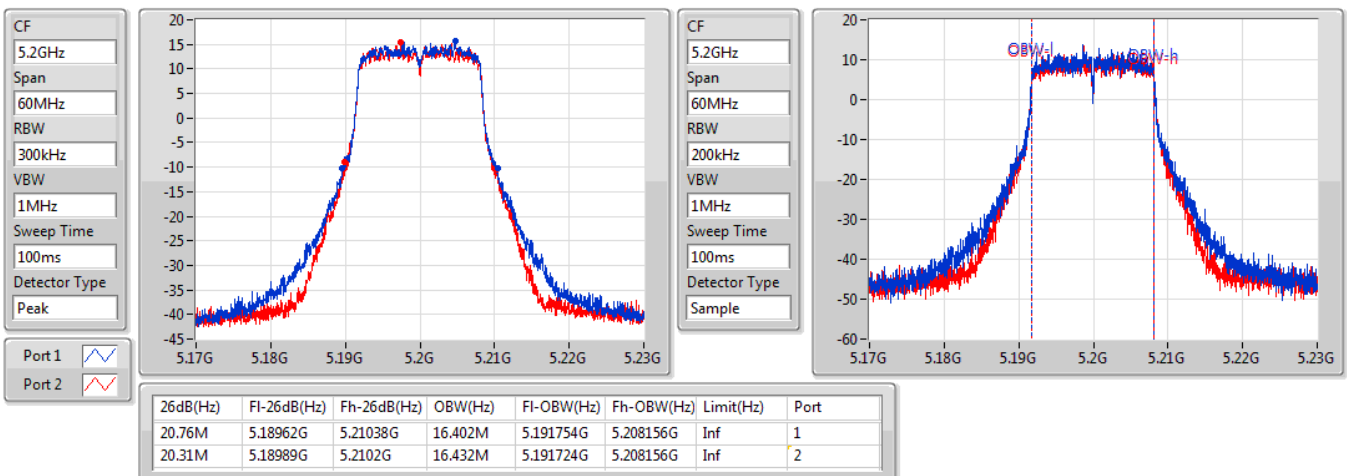
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX
EBW
5180MHz

11/07/2019

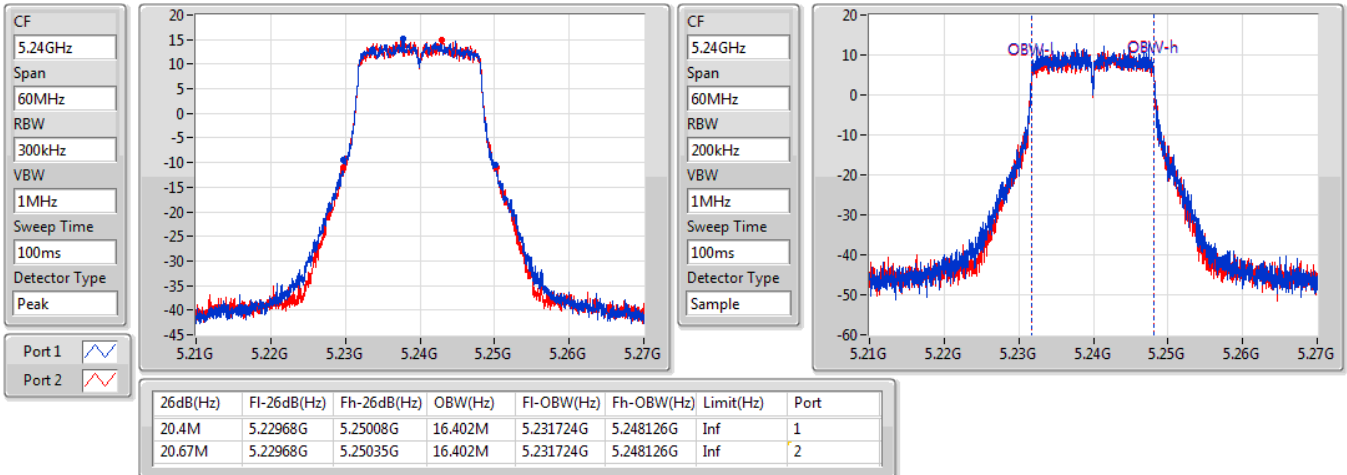

802.11a_Nss1,(6Mbps)_2TX
EBW
5200MHz

11/07/2019

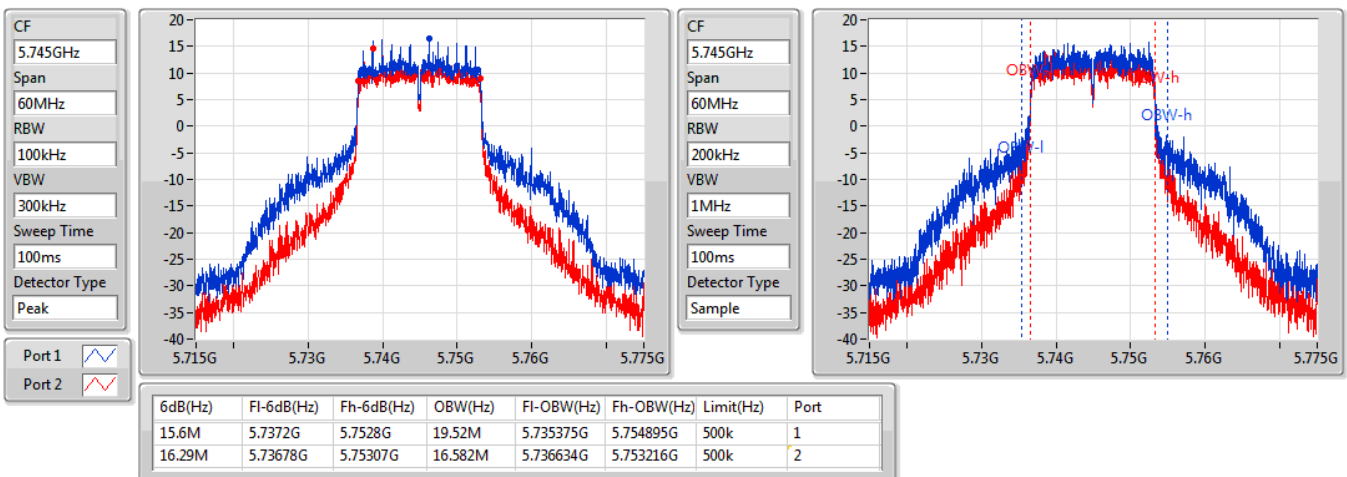


802.11a_Nss1,(6Mbps)_2TX
EBW
5240MHz

11/07/2019

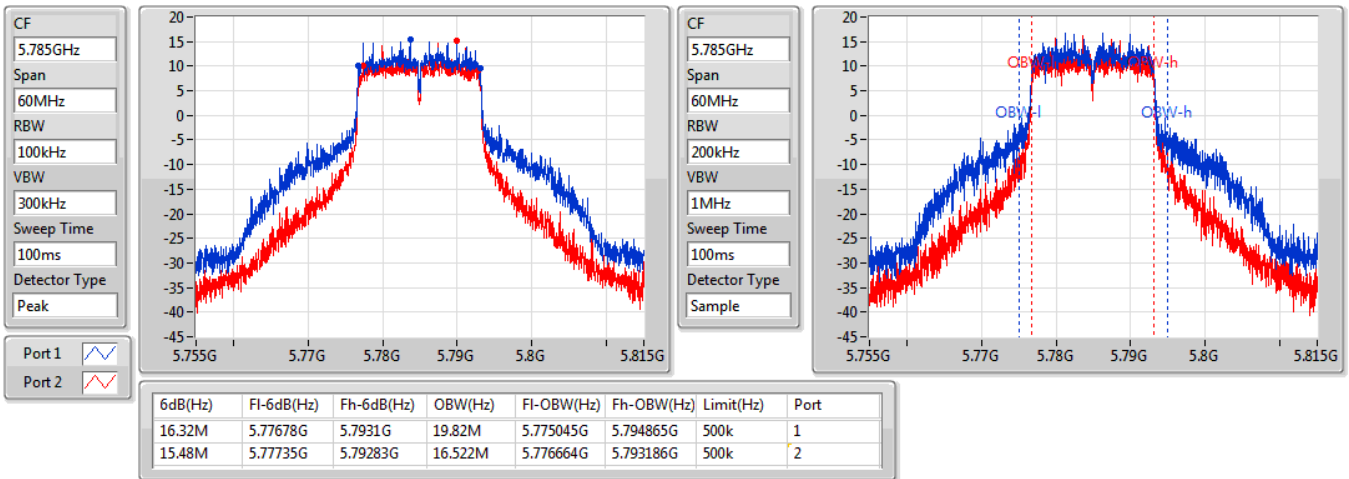

802.11a_Nss1,(6Mbps)_2TX
EBW
5745MHz

09/07/2019

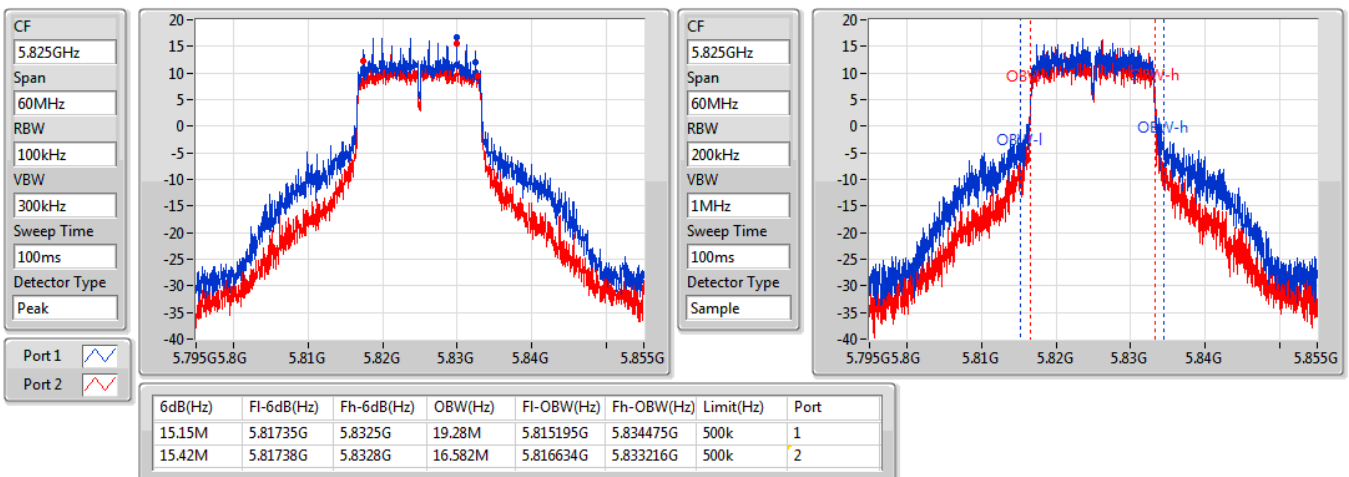


802.11a_Nss1,(6Mbps)_2TX
EBW
5785MHz

09/07/2019

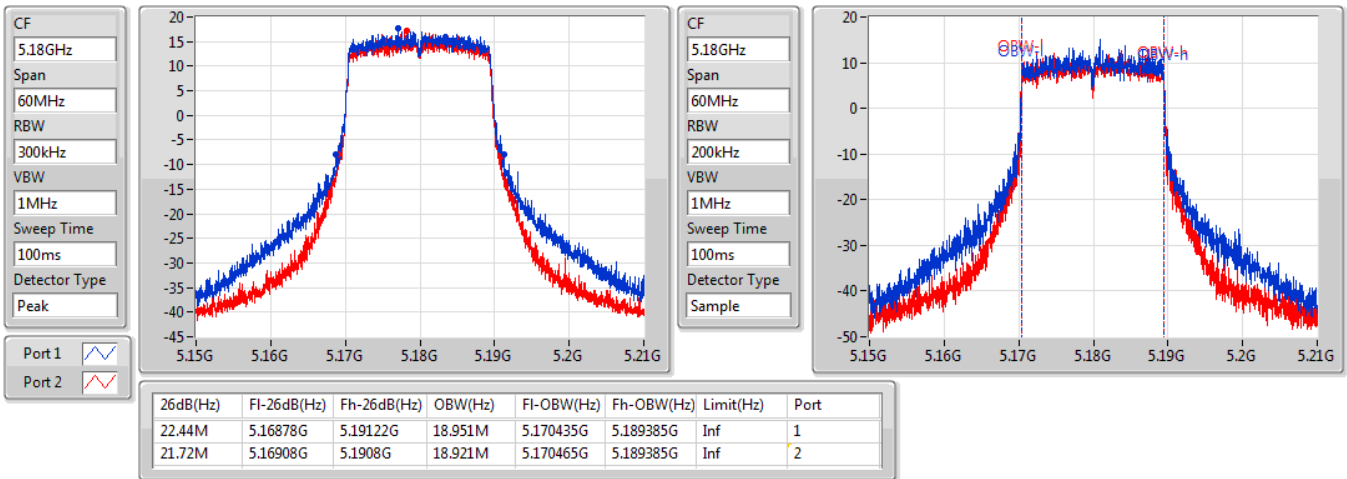

802.11a_Nss1,(6Mbps)_2TX
EBW
5825MHz

09/07/2019

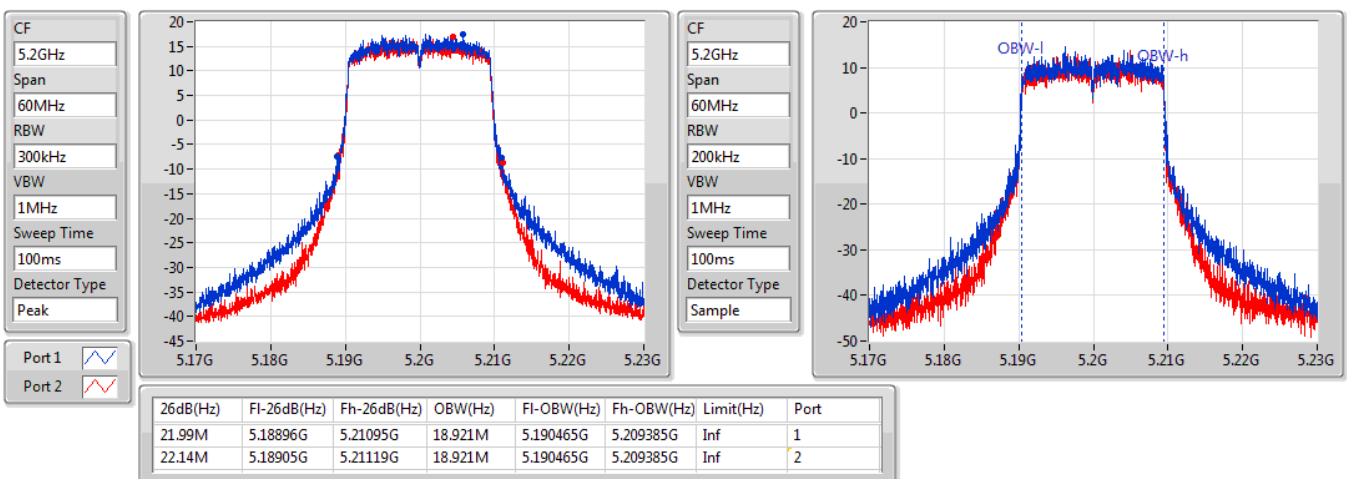


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5180MHz

11/07/2019

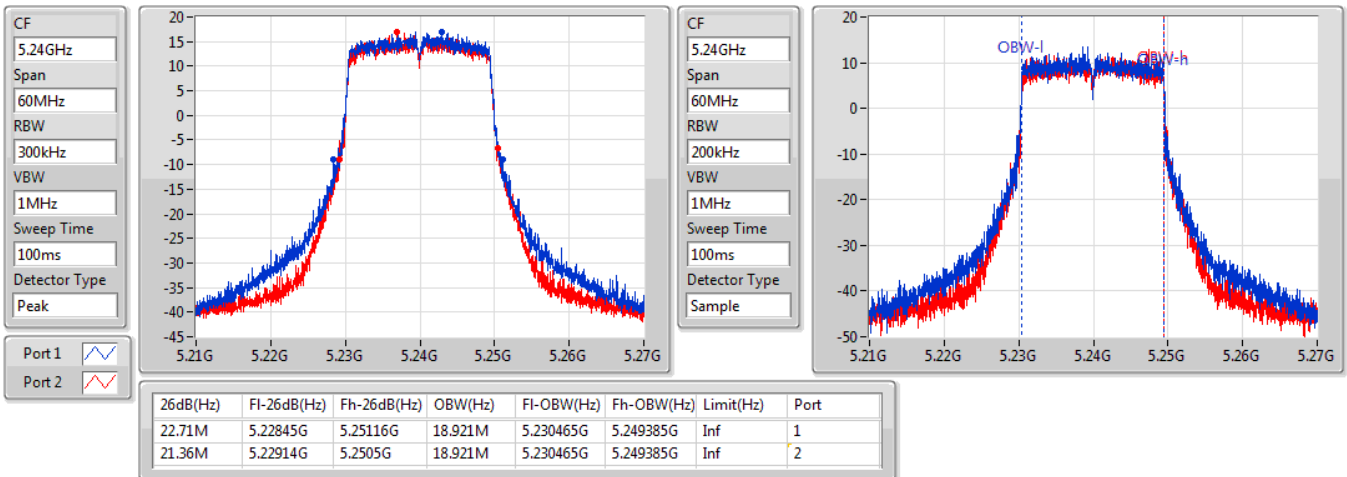

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5200MHz

11/07/2019

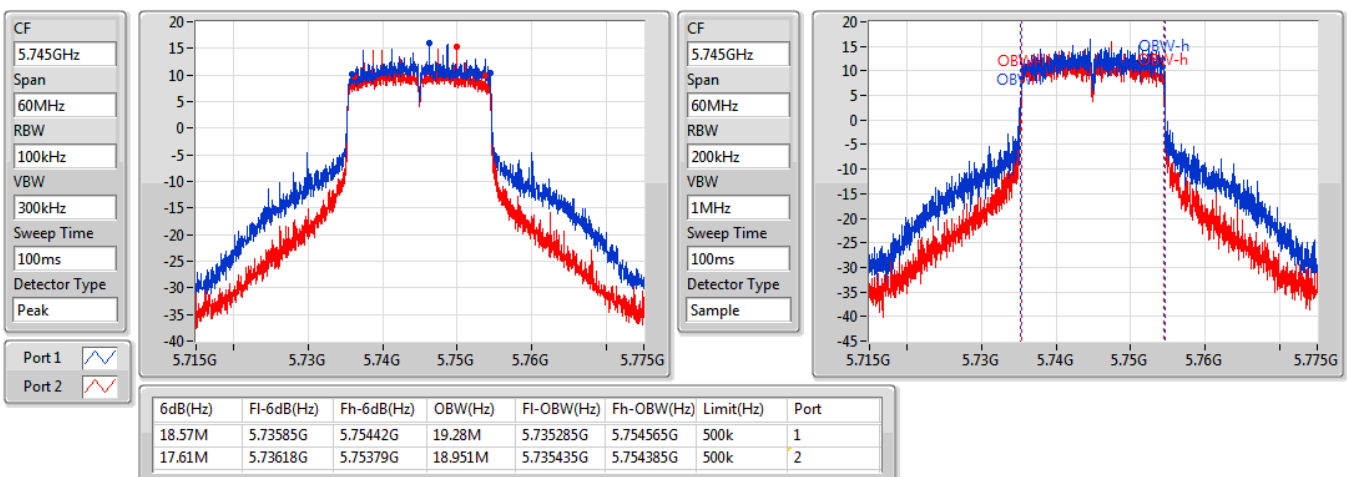


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5240MHz

11/07/2019

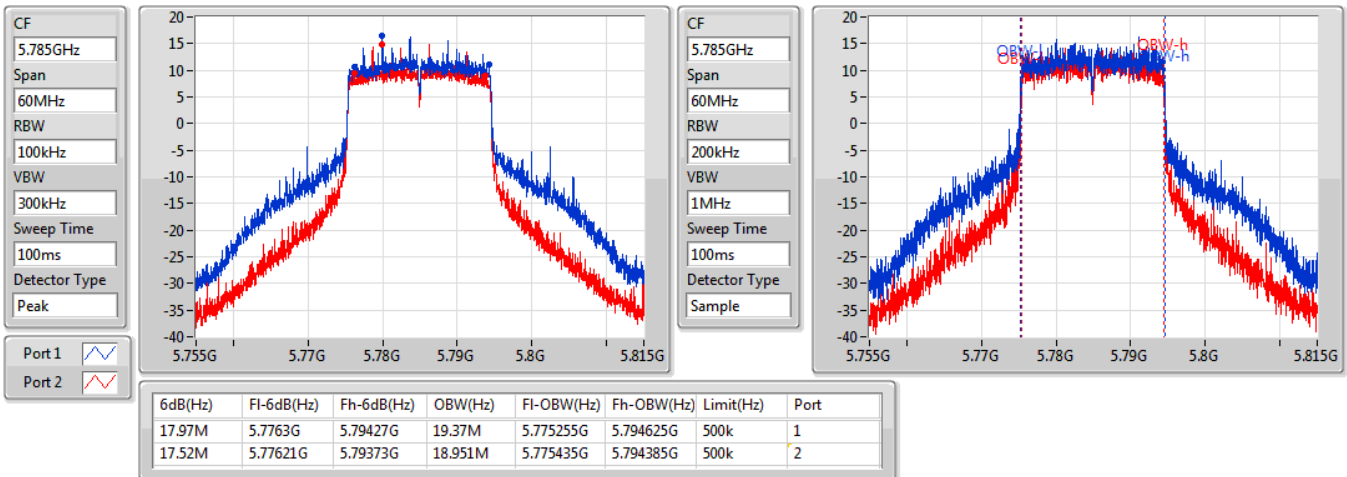

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5745MHz

09/07/2019

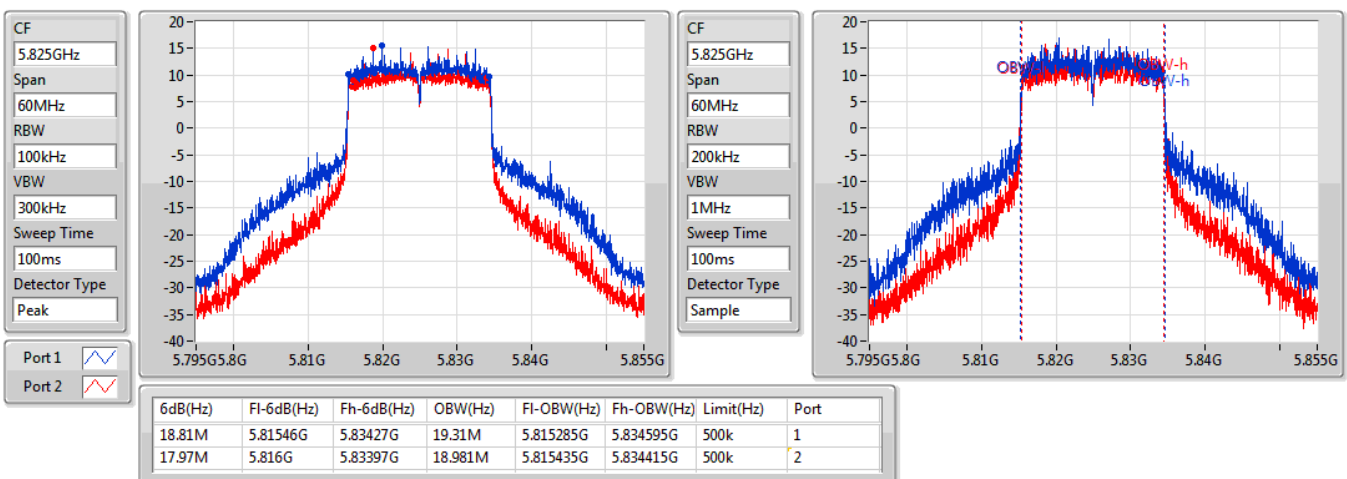


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5785MHz

09/07/2019


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5825MHz

09/07/2019

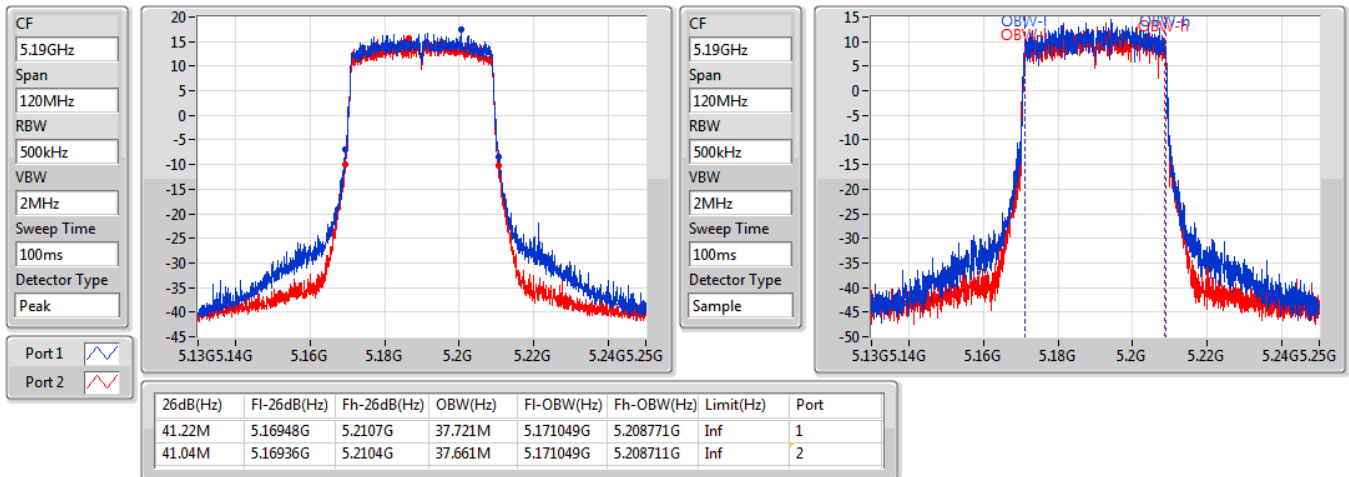


802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

5190MHz

09/07/2019

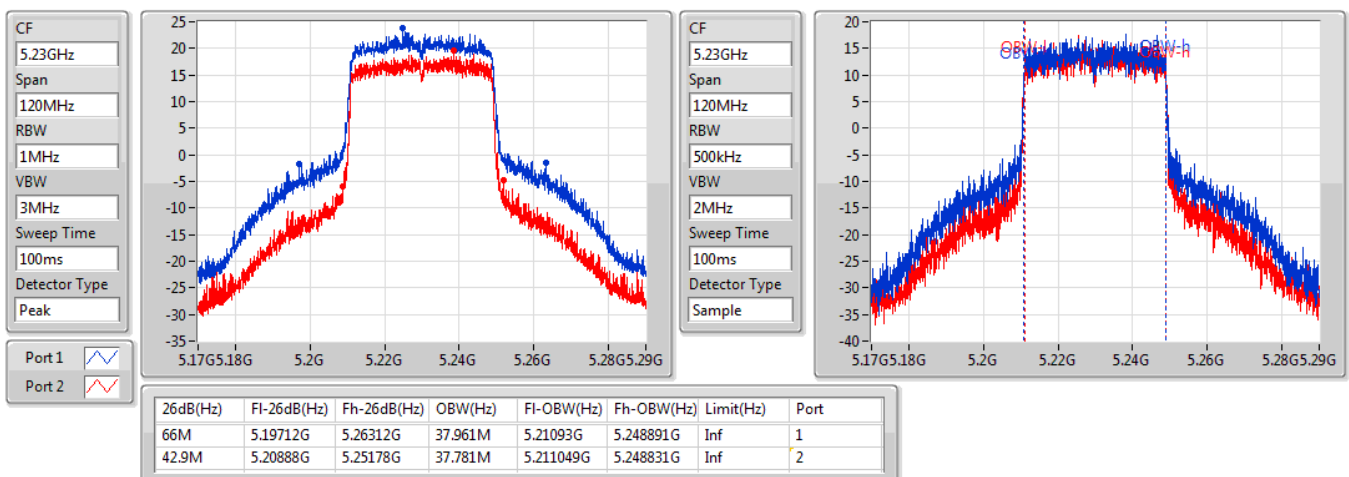


802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

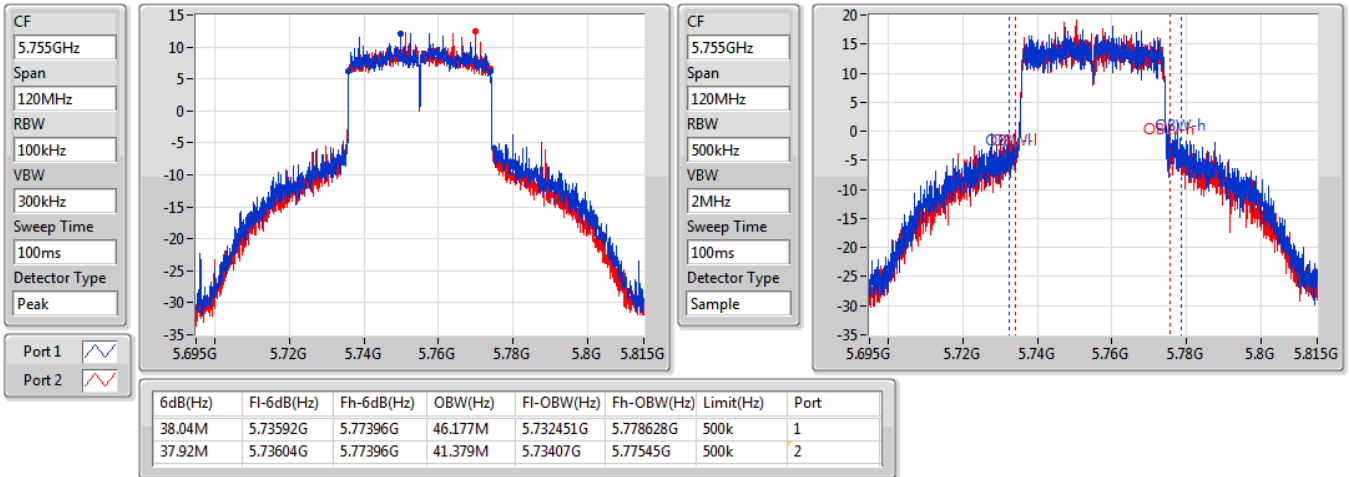
5230MHz

11/07/2019

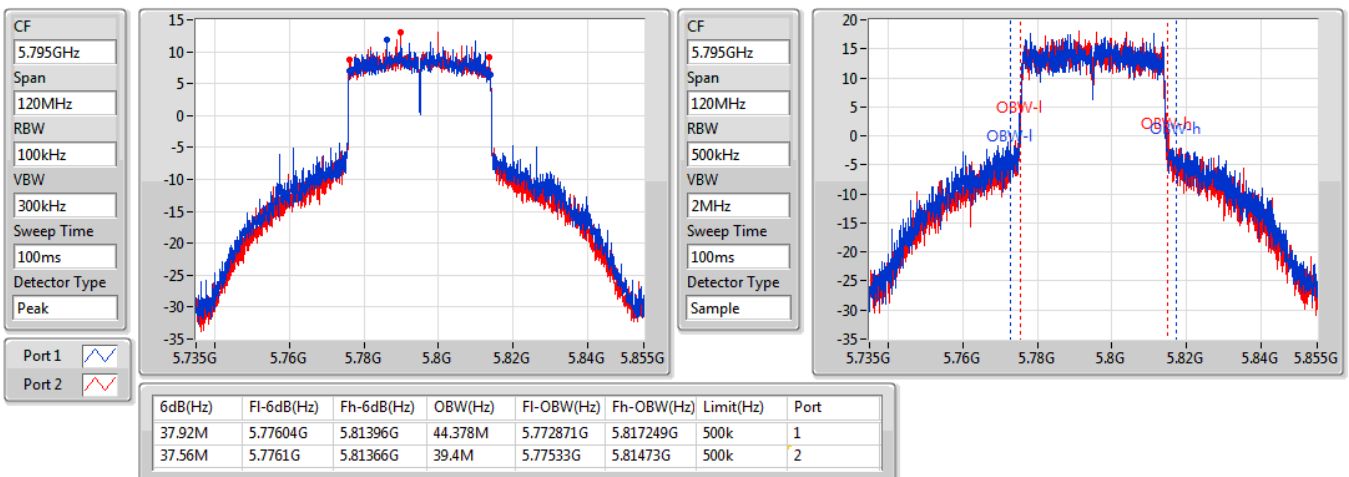


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5755MHz

09/07/2019


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5795MHz

09/07/2019

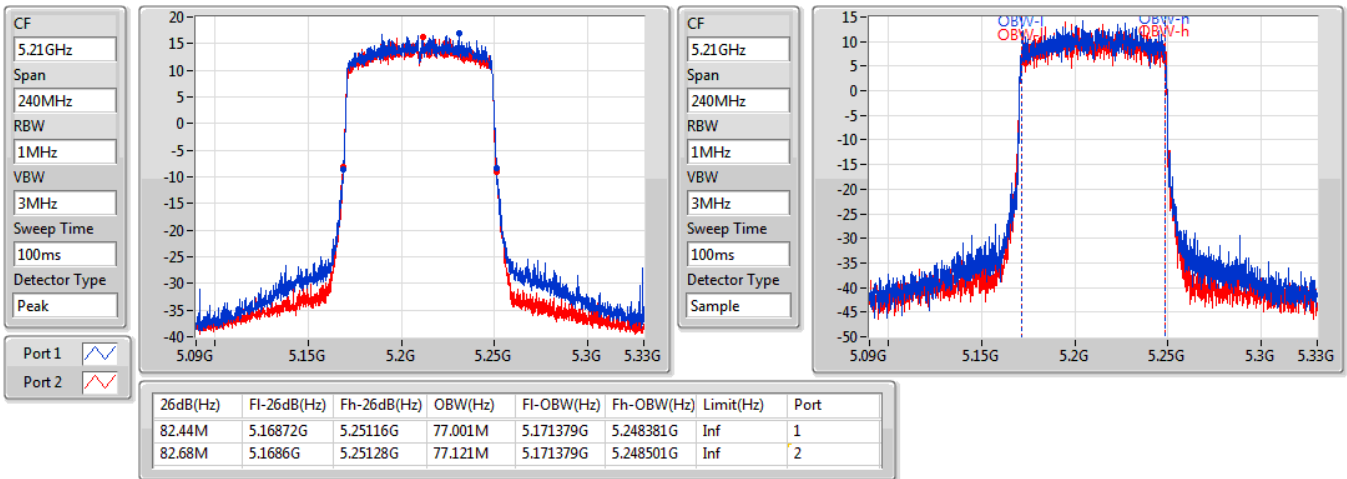


802.11ax HEW80_Nss1,(MCS0)_2TX

EBW

5210MHz

09/07/2019

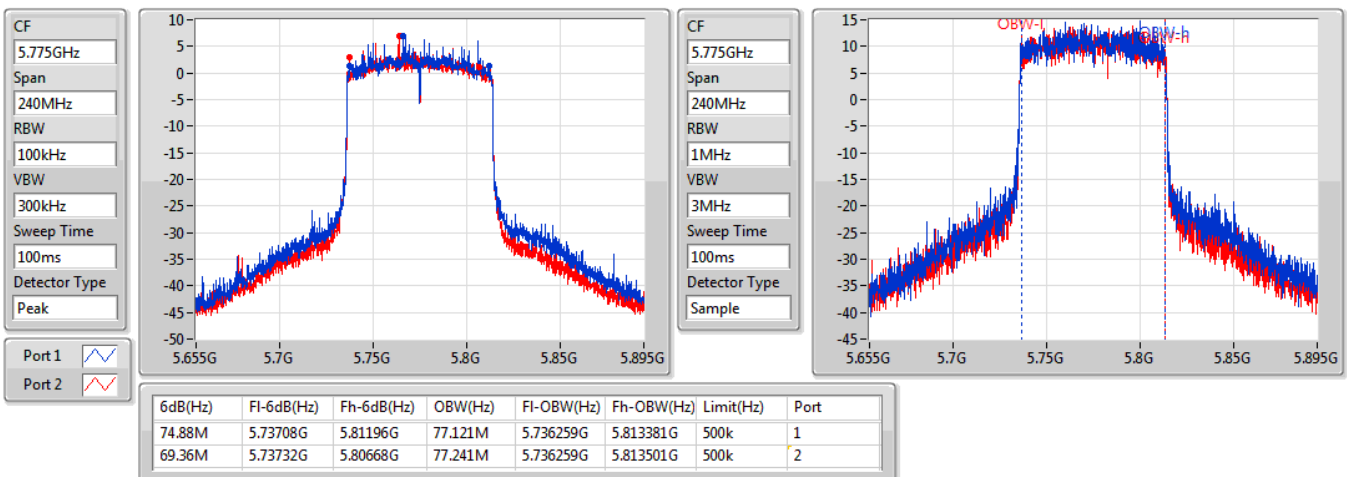


802.11ax HEW80_Nss1,(MCS0)_2TX

EBW

5775MHz

09/07/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	21.84M	18.921M	18M9D1D	21.27M	18.861M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	41.16M	37.721M	37M7D1D	40.32M	37.661M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	81.72M	77.04M	77M0D1D	81.24M	76.68M
5.725-5.85GHz	-	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	18.15M	18.921M	18M9D1D	17.04M	18.891M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	37.5M	37.721M	37M7D1D	36.24M	37.661M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	76.44M	78.12M	78M1D1D	58.56M	77.64M

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

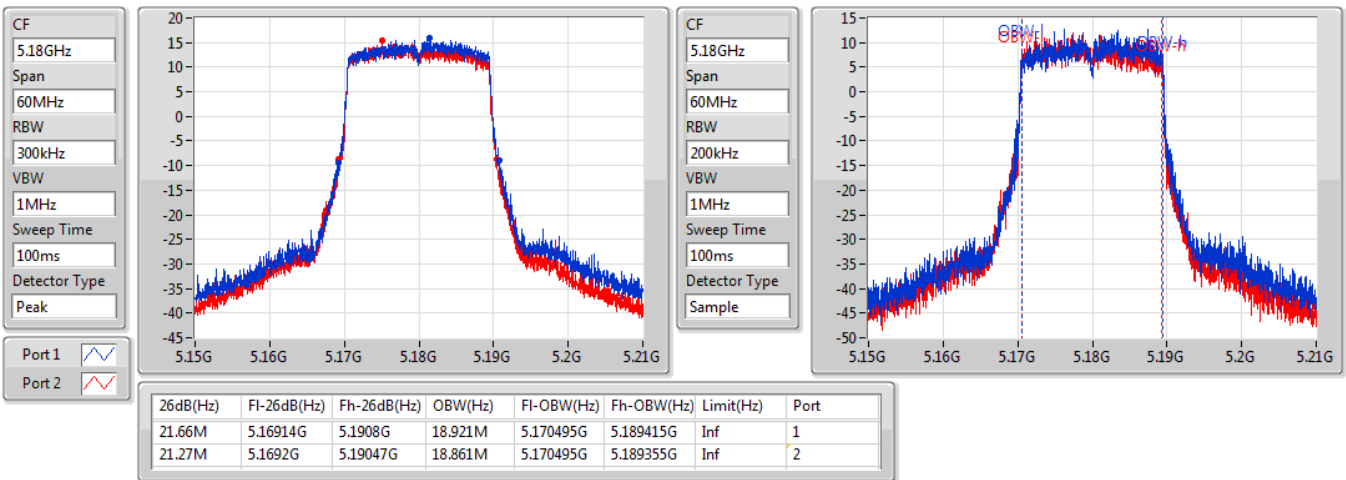
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.66M	18.921M	21.27M	18.861M
5200MHz	Pass	Inf	21.42M	18.891M	21.84M	18.921M
5240MHz	Pass	Inf	21.66M	18.891M	21.81M	18.891M
5745MHz	Pass	500k	17.7M	18.891M	17.49M	18.891M
5785MHz	Pass	500k	17.64M	18.921M	17.91M	18.891M
5825MHz	Pass	500k	17.04M	18.891M	18.15M	18.921M
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	40.32M	37.661M	40.68M	37.721M
5230MHz	Pass	Inf	41.16M	37.661M	40.62M	37.721M
5755MHz	Pass	500k	36.42M	37.721M	37.5M	37.661M
5795MHz	Pass	500k	36.24M	37.661M	36.36M	37.661M
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	81.72M	77.04M	81.24M	76.68M
5775MHz	Pass	500k	58.56M	77.64M	76.44M	78.12M

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

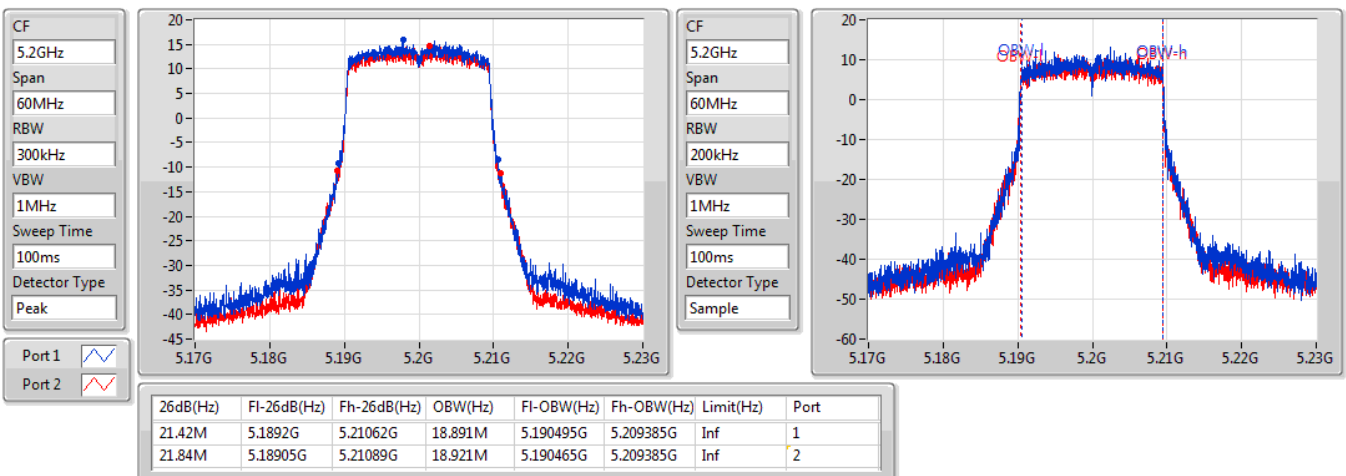
Port X-OBW = Port X 99% occupied bandwidth;

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5180MHz

10/07/2019

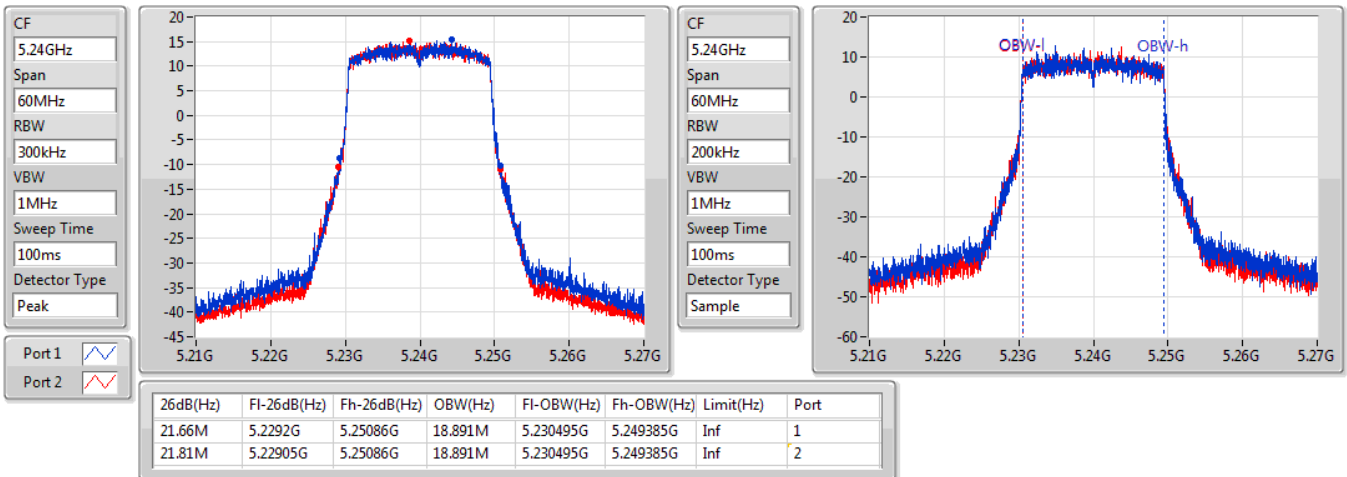

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5200MHz

10/07/2019

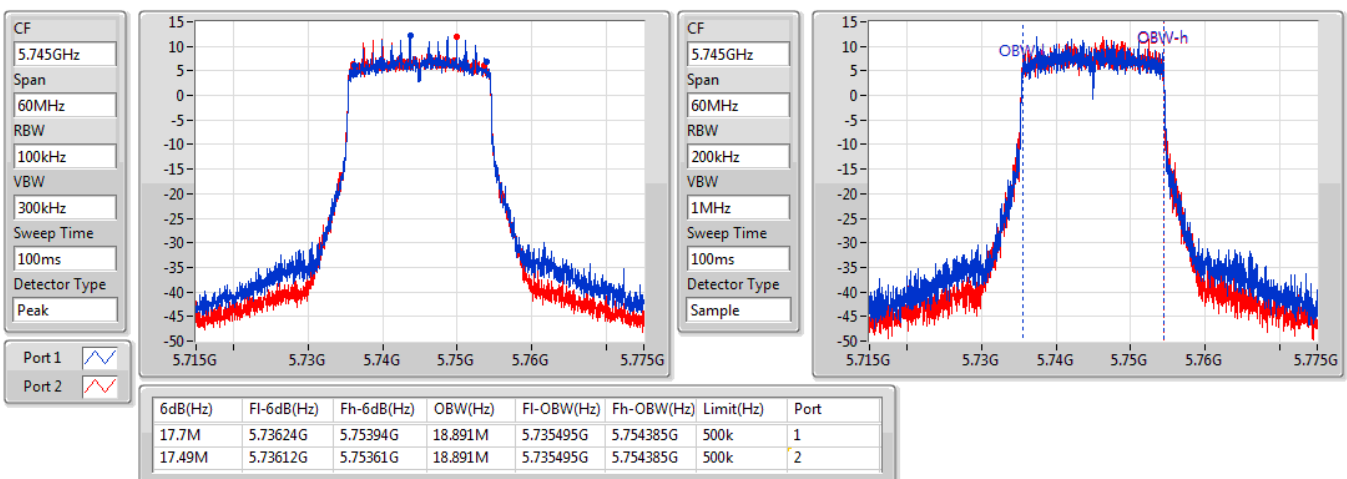


802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5240MHz

10/07/2019

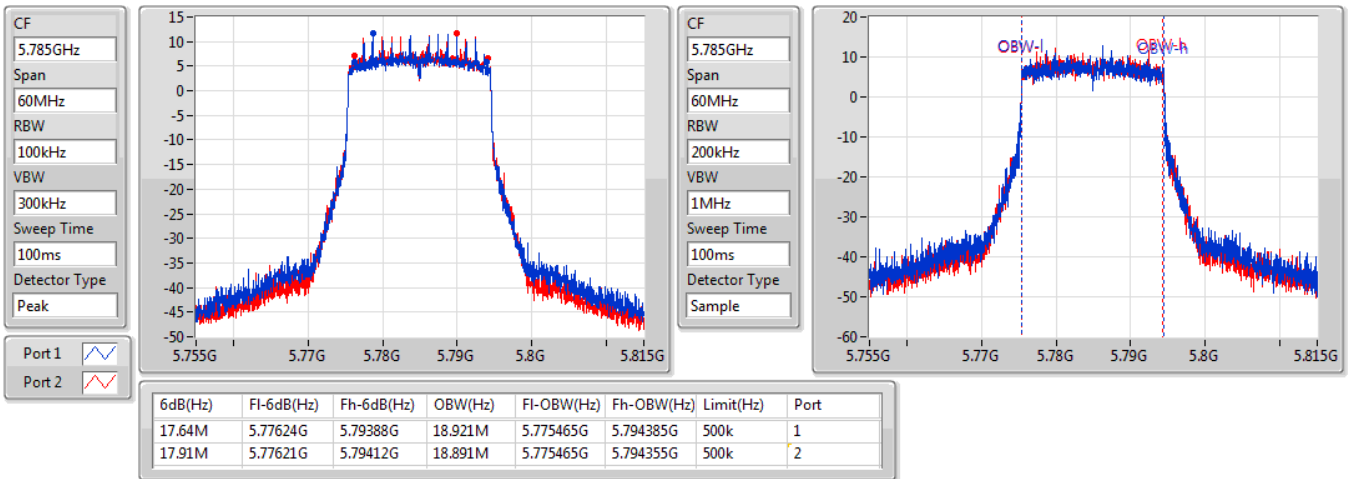

802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5745MHz

10/07/2019

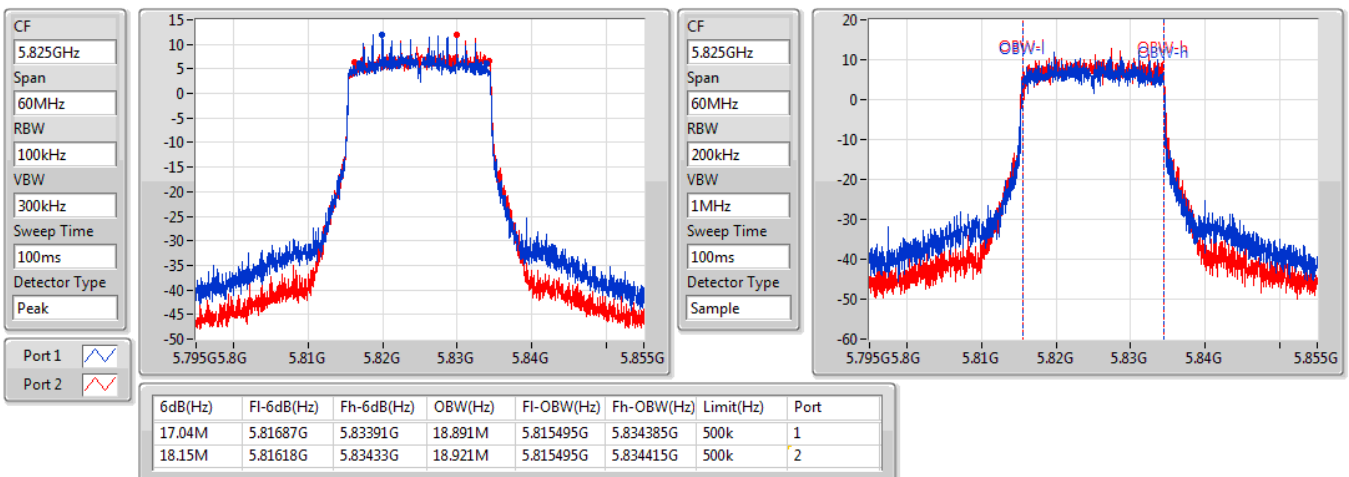


802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5785MHz

10/07/2019


802.11ax HEW20-BF_Nss1,(MCS0)_2TX
EBW
5825MHz

10/07/2019

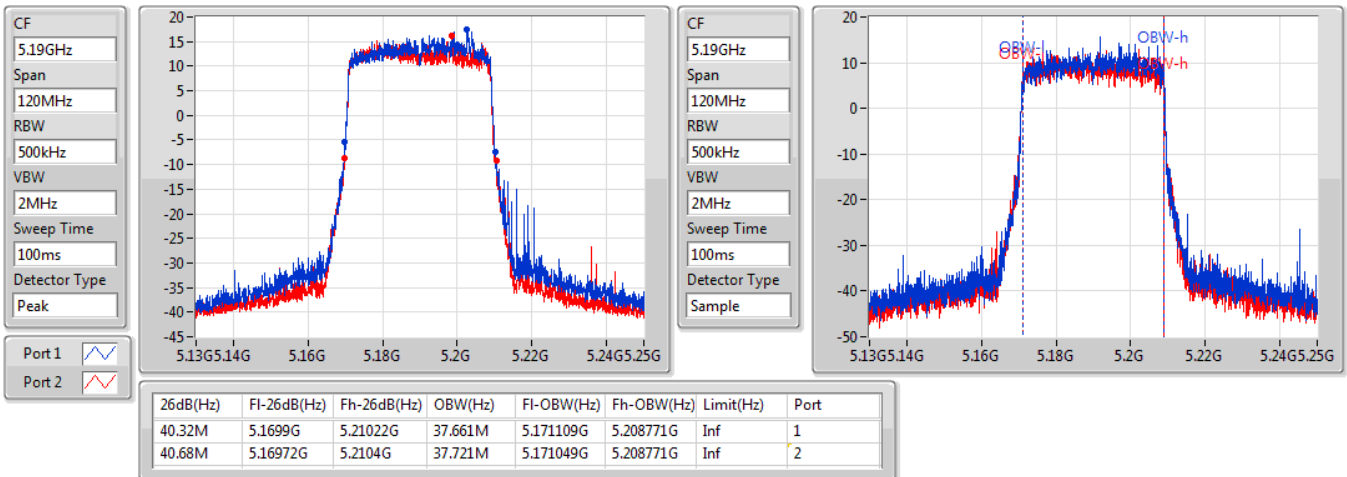


802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

5190MHz

10/07/2019

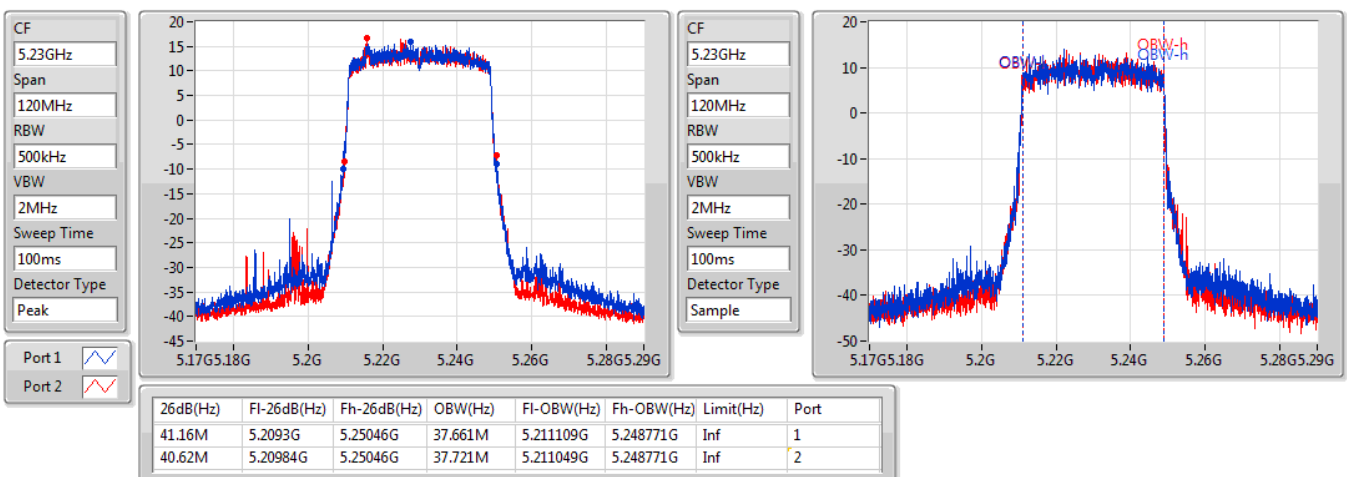


802.11ax HEW40-BF_Nss1,(MCS0)_2TX

EBW

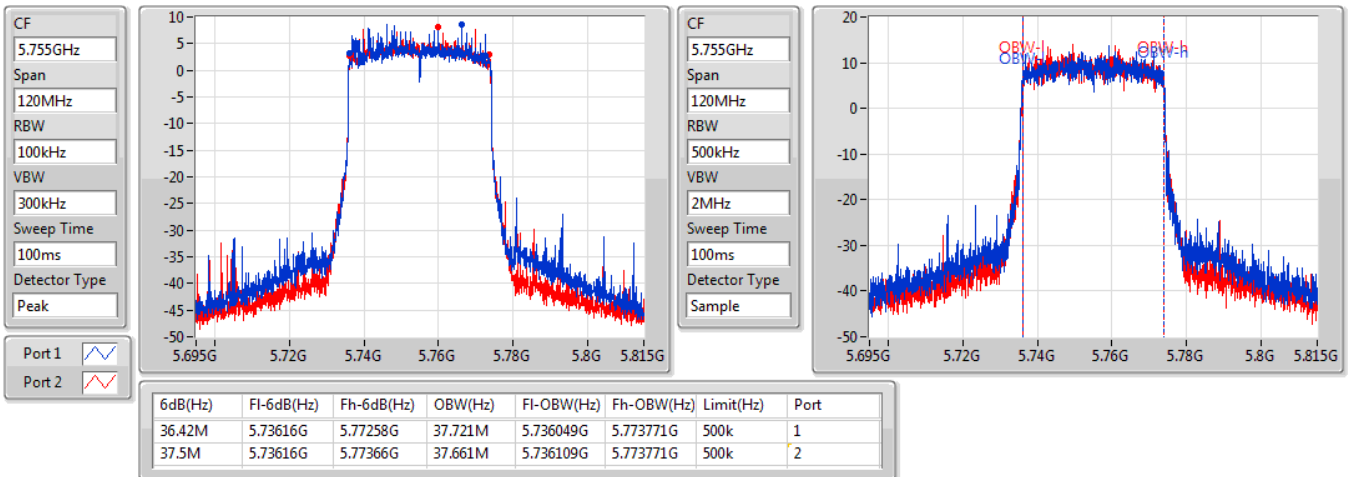
5230MHz

10/07/2019

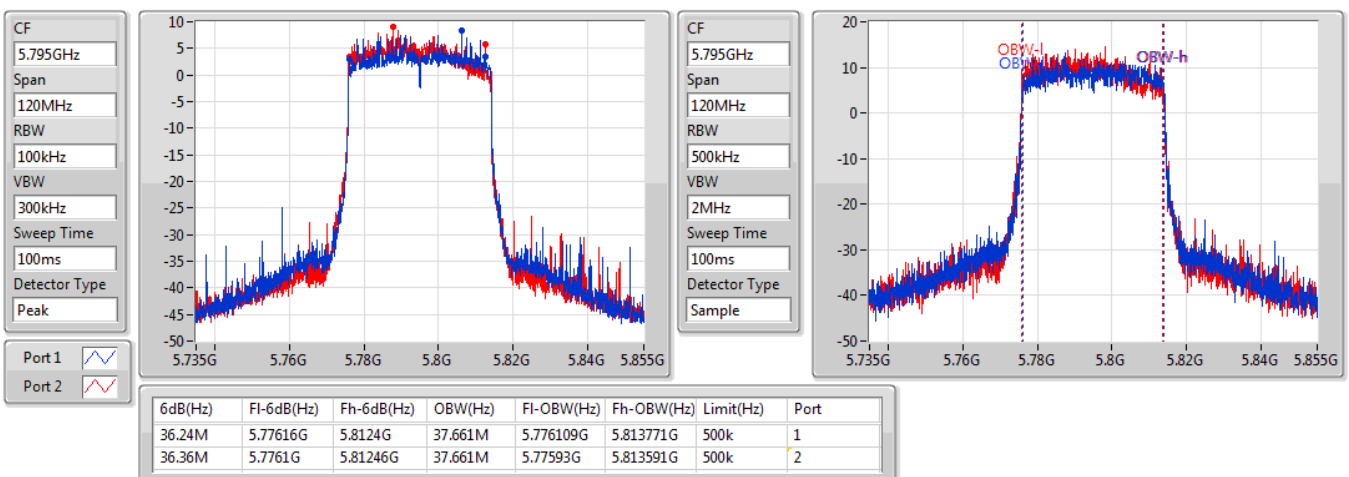


802.11ax HEW40-BF_Nss1,(MCS0)_2TX
EBW
5755MHz

10/07/2019

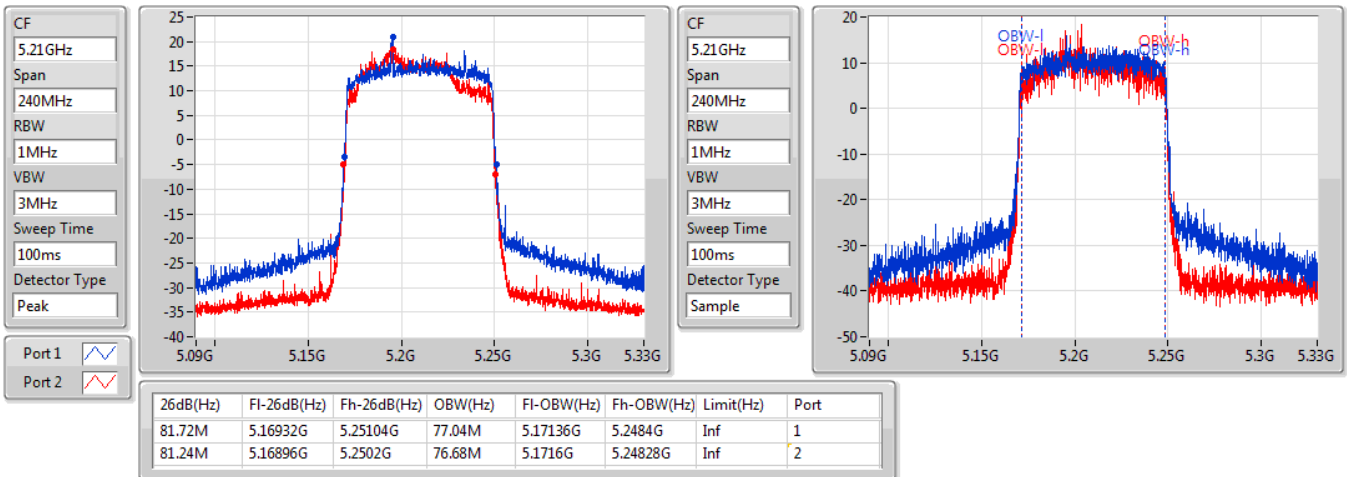

802.11ax HEW40-BF_Nss1,(MCS0)_2TX
EBW
5795MHz

10/07/2019

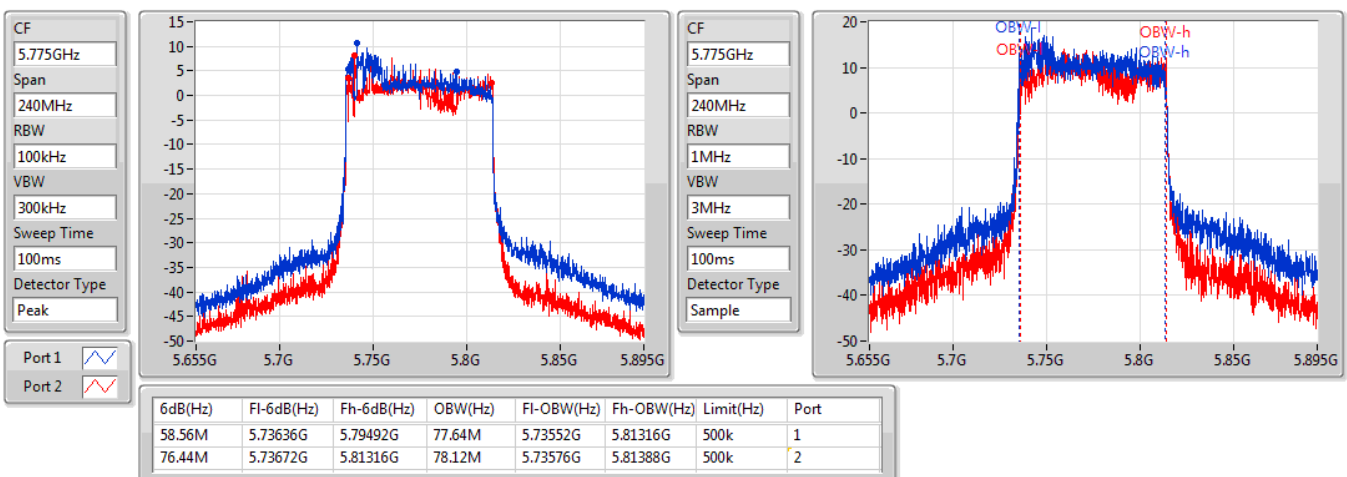


802.11ax HEW80-BF_Nss1,(MCS0)_2TX
EBW
5210MHz

17/07/2019


802.11ax HEW80-BF_Nss1,(MCS0)_2TX
EBW
5775MHz

17/07/2019



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	20.82M	16.432M	16M4D1D	19.86M	16.372M
802.11ax HEW20_Nss1,(MCS0)_4TX	21.84M	18.921M	18M9D1D	21.54M	18.831M
802.11ax HEW40_Nss1,(MCS0)_4TX	41.34M	37.721M	37M7D1D	41.1M	37.661M
802.11ax HEW80_Nss1,(MCS0)_4TX	82.68M	77.241M	77M2D1D	81.84M	76.642M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	15.9M	16.492M	16M5D1D	15.3M	16.342M
802.11ax HEW20_Nss1,(MCS0)_4TX	18.63M	19.01M	19M0D1D	17.43M	18.861M
802.11ax HEW40_Nss1,(MCS0)_4TX	37.74M	37.901M	37M9D1D	36.18M	37.661M
802.11ax HEW80_Nss1,(MCS0)_4TX	77.04M	77.241M	77M2D1D	71.4M	76.882M

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)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	20.64M	16.402M	20.67M	16.402M	20.73M	16.432M	20.7M	16.402M
5200MHz	Pass	Inf	20.82M	16.402M	20.58M	16.402M	19.86M	16.372M	20.55M	16.402M
5240MHz	Pass	Inf	20.79M	16.432M	20.64M	16.372M	19.92M	16.372M	20.67M	16.402M
5745MHz	Pass	500k	15.78M	16.462M	15.87M	16.432M	15.78M	16.432M	15.3M	16.432M
5785MHz	Pass	500k	15.3M	16.342M	15.63M	16.432M	15.9M	16.462M	15.42M	16.462M
5825MHz	Pass	500k	15.3M	16.372M	15.42M	16.402M	15.3M	16.342M	15.75M	16.492M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.75M	18.891M	21.54M	18.891M	21.63M	18.831M	21.81M	18.891M
5200MHz	Pass	Inf	21.84M	18.891M	21.57M	18.921M	21.6M	18.921M	21.63M	18.921M
5240MHz	Pass	Inf	21.69M	18.861M	21.63M	18.921M	21.75M	18.921M	21.54M	18.891M
5745MHz	Pass	500k	18.24M	18.951M	18.06M	18.921M	18.63M	18.951M	17.46M	18.921M
5785MHz	Pass	500k	17.43M	18.861M	17.97M	18.921M	18.6M	19.01M	17.94M	18.951M
5825MHz	Pass	500k	17.58M	18.891M	18M	18.921M	18M	18.921M	18.33M	18.921M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	41.34M	37.721M	41.1M	37.721M	41.16M	37.721M	41.34M	37.721M
5230MHz	Pass	Inf	41.16M	37.661M	41.1M	37.721M	41.22M	37.721M	41.28M	37.661M
5755MHz	Pass	500k	37.62M	37.721M	37.74M	37.661M	37.68M	37.721M	37.68M	37.901M
5795MHz	Pass	500k	36.18M	37.661M	36.42M	37.661M	37.56M	37.721M	36.96M	37.901M
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	82.68M	77.241M	81.84M	77.121M	82.08M	76.642M	82.2M	77.001M
5775MHz	Pass	500k	73.32M	76.882M	71.4M	77.001M	76.92M	77.001M	77.04M	77.241M

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

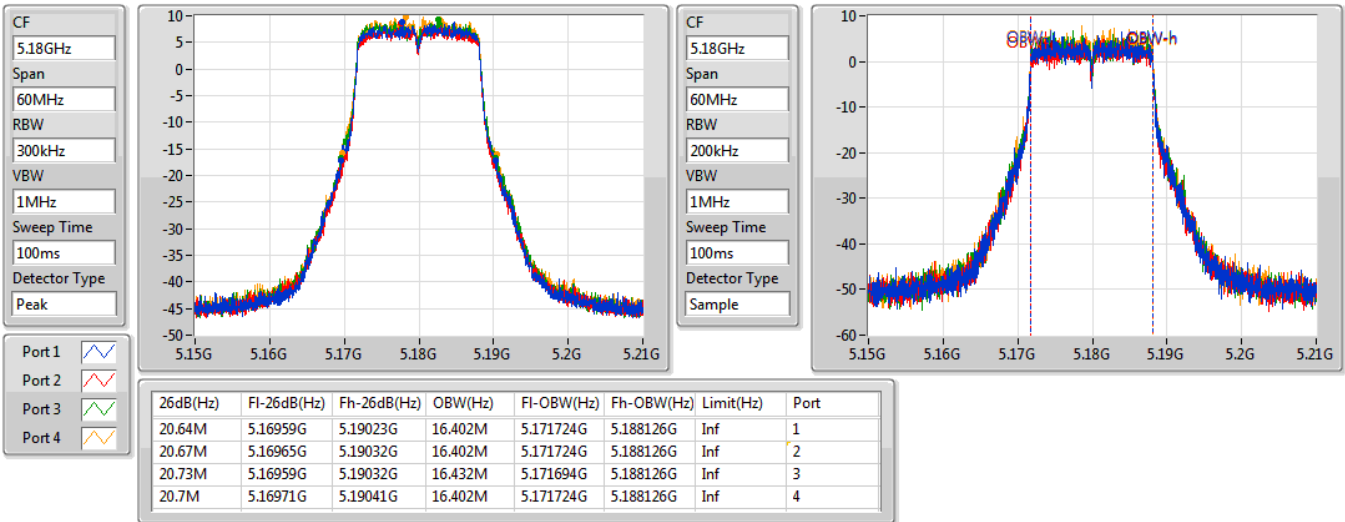
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_4TX

EBW

5180MHz

09/07/2019

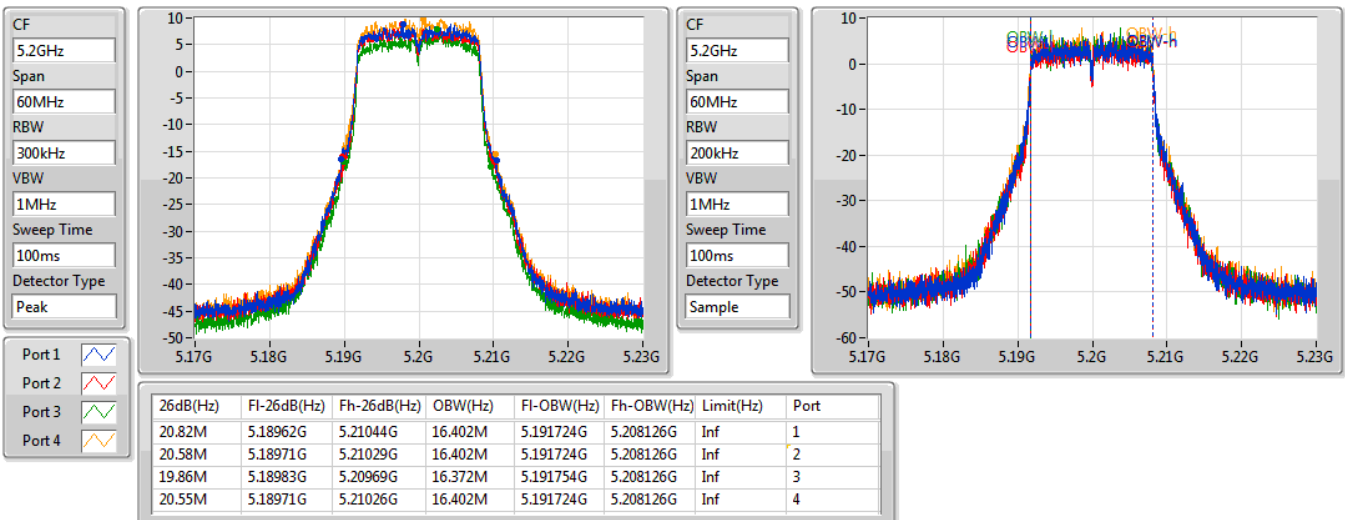


802.11a_Nss1,(6Mbps)_4TX

EBW

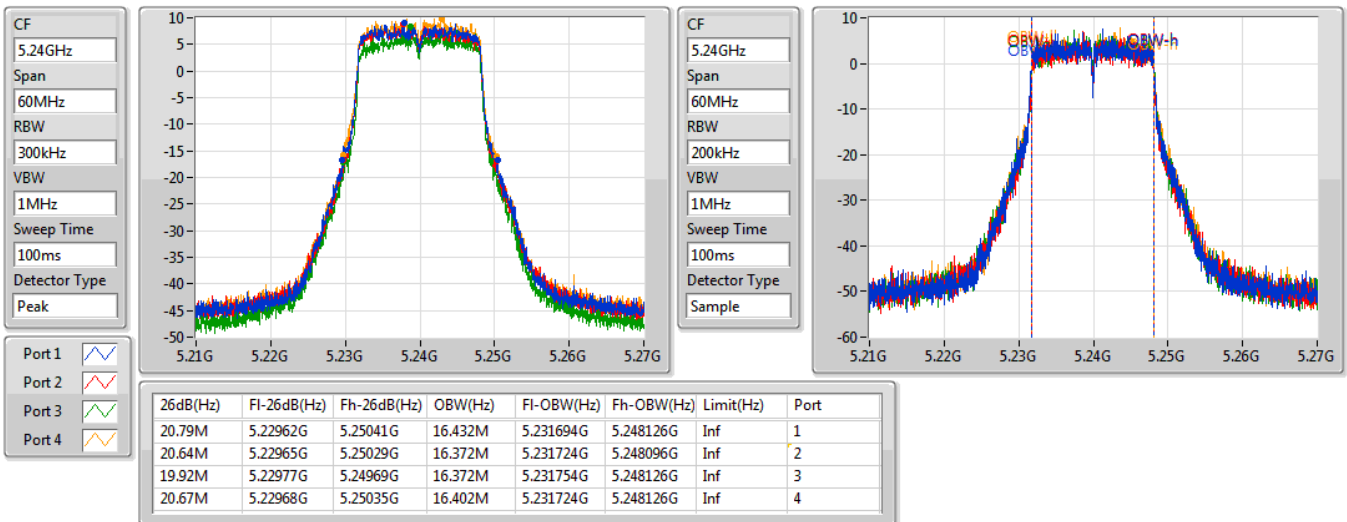
5200MHz

09/07/2019

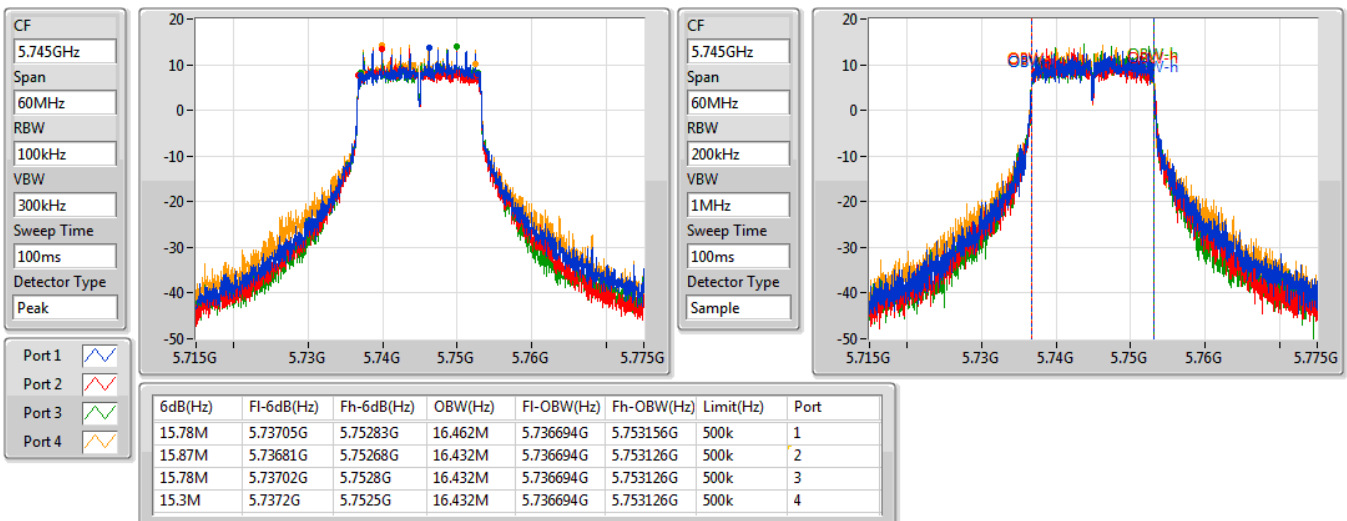


802.11a_Nss1,(6Mbps)_4TX
EBW
5240MHz

09/07/2019

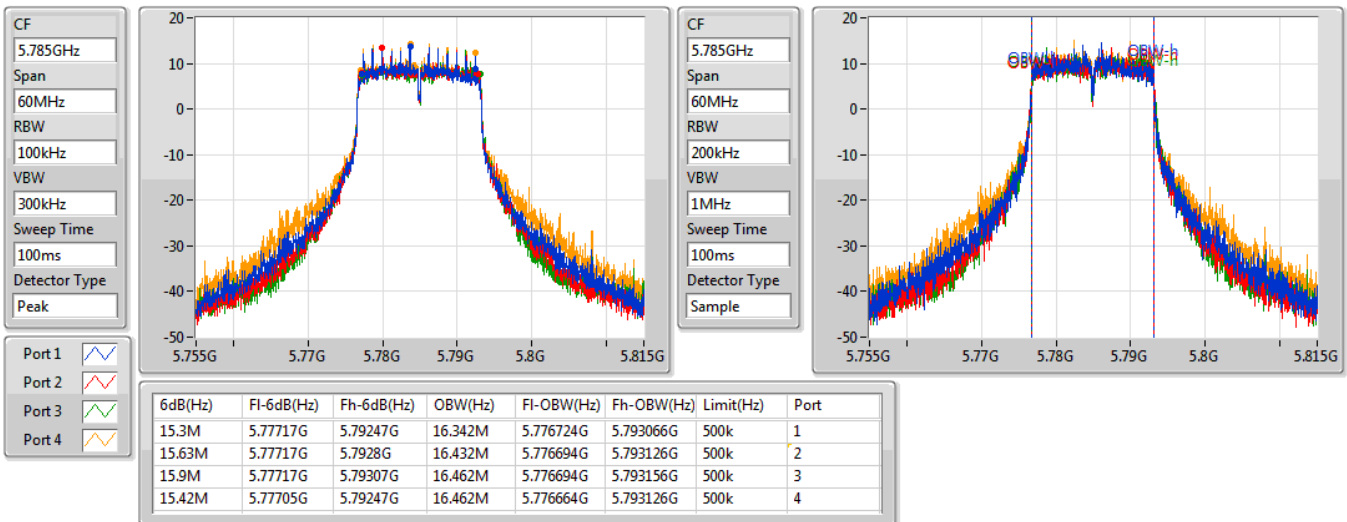

802.11a_Nss1,(6Mbps)_4TX
EBW
5745MHz

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802.11a_Nss1,(6Mbps)_4TX
EBW
5785MHz

09/07/2019


802.11a_Nss1,(6Mbps)_4TX
EBW
5825MHz

09/07/2019

