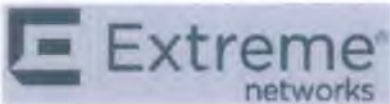
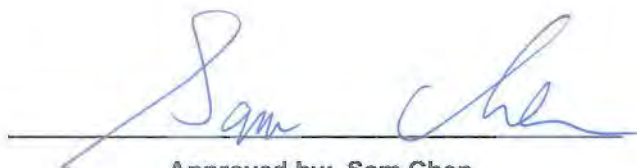


RADIO TEST REPORT

FCC ID : QXO-AP410NB
Equipment : Wireless Access Point
Brand Name :  or Extreme Networks
Model Name : AP410i
Applicant : Extreme Networks, Inc.
6480 Via Del Oro, San Jose, CA 95119, United States
Manufacturer : Extreme Networks, Inc.
6480 Via Del Oro, San Jose, CA 95119, United States
Standard : 47 CFR FCC Part 15.407

The product was received on Sep. 23, 2019, and testing was started from Sep. 23, 2019 and completed on Oct. 26, 2021. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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



Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory

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



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 Information.....	5
1.2 Applicable Standards	16
1.3 Testing Location Information	16
1.4 Measurement Uncertainty	17
2 Test Configuration of EUT.....	18
2.1 Test Channel Mode	18
2.2 The Worst Case Measurement Configuration.....	41
2.3 EUT Operation during Test	44
2.4 Accessories	44
2.5 Support Equipment.....	45
2.6 Test Setup Diagram	46
3 Transmitter Test Result	50
3.1 AC Power-line Conducted Emissions	50
3.2 Emission Bandwidth	52
3.3 Maximum Output Power	53
3.4 Power Spectral Density	55
3.5 Unwanted Emissions.....	58
4 Test Equipment and Calibration Data	63
Appendix A. Test Results of AC Power-line Conducted Emissions	
Appendix B. Test Results of Emission Bandwidth	
Appendix C. Test Results of Maximum Output Power	
Appendix D. Test Results of Power Spectral Density	
Appendix E. Test Results of Unwanted Emissions	
Appendix F. Test Photos	
Photographs of EUT v01	



History of this test report

TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A12_1 Ver1.4

Page Number : 3 of 65
Issued Date : Nov. 15, 2021
Report Version : 01



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 Output Power	PASS	-
3.4	15.407(a)	Power Spectral Density	PASS	-
3.5	15.407(b)	Unwanted Emissions	PASS	-
Note1: Reference to Sporton Project No.: FR970232AD and FR970232-01 Note2: This is a variant report by removing the external antenna, BT/Thread module. AC Conduction and Unwanted Emission below 1GHz was verified.				

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:

1. The test configuration, test mode and test software were written in this test report are declared by the manufacturer.
2. 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]
5250-5350		5260-5320	52-64 [4]
5470-5725		5500-5720	100-144 [12]
5725-5850		5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40), ax (HEW40)	5190-5230	38-46 [2]
5250-5350		5270-5310	54-62 [2]
5470-5725		5510-5710	102-142 [6]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80), ax (HEW80)	5210	42 [1]
5250-5350		5290	58 [1]
5470-5725		5530-5690	106-138 [3]
5725-5850		5775	155 [1]
5150-5350	ac (VHT160), ax (HEW160)	5250	50 [1]
5470-5725		5570	114 [1]

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



Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11ax HEW80	80	1TX, 2TX, 4TX
5.15-5.25GHz	802.11ax HEW80-BF	80	2TX, 4TX
5.15-5.25GHz	802.11ac VHT160	160	1TX, 2TX, 4TX
5.15-5.25GHz	802.11ac VHT160-BF	160	2TX, 4TX
5.15-5.25GHz	802.11ax HEW160	160	1TX, 2TX, 4TX
5.15-5.25GHz	802.11ax HEW160-BF	160	2TX, 4TX
5.25-5.35GHz	802.11a	20	1TX, 2TX, 4TX
5.25-5.35GHz	802.11n HT20	20	1TX, 2TX, 4TX
5.25-5.35GHz	802.11n HT20-BF	20	2TX, 4TX
5.25-5.35GHz	802.11ac VHT20	20	1TX, 2TX, 4TX
5.25-5.35GHz	802.11ac VHT20-BF	20	2TX, 4TX
5.25-5.35GHz	802.11ax HEW20	20	1TX, 2TX, 4TX
5.25-5.35GHz	802.11ax HEW20-BF	20	2TX, 4TX
5.25-5.35GHz	802.11n HT40	40	1TX, 2TX, 4TX
5.25-5.35GHz	802.11n HT40-BF	40	2TX, 4TX
5.25-5.35GHz	802.11ac VHT40	40	1TX, 2TX, 4TX
5.25-5.35GHz	802.11ac VHT40-BF	40	2TX, 4TX
5.25-5.35GHz	802.11ax HEW40	40	1TX, 2TX, 4TX
5.25-5.35GHz	802.11ax HEW40-BF	40	2TX, 4TX
5.25-5.35GHz	802.11ac VHT80	80	1TX, 2TX, 4TX
5.25-5.35GHz	802.11ac VHT80-BF	80	2TX, 4TX
5.25-5.35GHz	802.11ax HEW80	80	1TX, 2TX, 4TX
5.25-5.35GHz	802.11ax HEW80-BF	80	2TX, 4TX
5.25-5.35GHz	802.11ac VHT160	160	1TX, 2TX, 4TX
5.25-5.35GHz	802.11ac VHT160-BF	160	2TX, 4TX
5.25-5.35GHz	802.11ax HEW160	160	1TX, 2TX, 4TX
5.25-5.35GHz	802.11ax HEW160-BF	160	2TX, 4TX
5.47-5.725GHz	802.11a	20	1TX, 2TX, 4TX
5.47-5.725GHz	802.11n HT20	20	1TX, 2TX, 4TX
5.47-5.725GHz	802.11n HT20-BF	20	2TX, 4TX
5.47-5.725GHz	802.11ac VHT20	20	1TX, 2TX, 4TX
5.47-5.725GHz	802.11ac VHT20-BF	20	2TX, 4TX
5.47-5.725GHz	802.11ax HEW20	20	1TX, 2TX, 4TX
5.47-5.725GHz	802.11ax HEW20-BF	20	2TX, 4TX
5.47-5.725GHz	802.11n HT40	40	1TX, 2TX, 4TX
5.47-5.725GHz	802.11n HT40-BF	40	2TX, 4TX
5.47-5.725GHz	802.11ac VHT40	40	1TX, 2TX, 4TX
5.47-5.725GHz	802.11ac VHT40-BF	40	2TX, 4TX
5.47-5.725GHz	802.11ax HEW40	40	1TX, 2TX, 4TX
5.47-5.725GHz	802.11ax HEW40-BF	40	2TX, 4TX



Band	Mode	BWch (MHz)	Nant
5.47-5.725GHz	802.11ac VHT80	80	1TX, 2TX, 4TX
5.47-5.725GHz	802.11ac VHT80-BF	80	2TX, 4TX
5.47-5.725GHz	802.11ax HEW80	80	1TX, 2TX, 4TX
5.47-5.725GHz	802.11ax HEW80-BF	80	2TX, 4TX
5.47-5.725GHz	802.11ac VHT160	160	1TX, 2TX, 4TX
5.47-5.725GHz	802.11ac VHT160-BF	160	2TX, 4TX
5.47-5.725GHz	802.11ax HEW160	160	1TX, 2TX, 4TX
5.47-5.725GHz	802.11ax HEW160-BF	160	2TX, 4TX
5.725-5.85GHz	802.11a	20	1TX, 2TX, 4TX
5.725-5.85GHz	802.11n HT20	20	1TX, 2TX, 4TX
5.725-5.85GHz	802.11n HT20-BF	20	2TX, 4TX
5.725-5.85GHz	802.11ac VHT20	20	1TX, 2TX, 4TX
5.725-5.85GHz	802.11ac VHT20-BF	20	2TX, 4TX
5.725-5.85GHz	802.11ax HEW20	20	1TX, 2TX, 4TX
5.725-5.85GHz	802.11ax HEW20-BF	20	2TX, 4TX
5.725-5.85GHz	802.11n HT40	40	1TX, 2TX, 4TX
5.725-5.85GHz	802.11n HT40-BF	40	2TX, 4TX
5.725-5.85GHz	802.11ac VHT40	40	1TX, 2TX, 4TX
5.725-5.85GHz	802.11ac VHT40-BF	40	2TX, 4TX
5.725-5.85GHz	802.11ax HEW40	40	1TX, 2TX, 4TX
5.725-5.85GHz	802.11ax HEW40-BF	40	2TX, 4TX
5.725-5.85GHz	802.11ac VHT80	80	1TX, 2TX, 4TX
5.725-5.85GHz	802.11ac VHT80-BF	80	2TX, 4TX
5.725-5.85GHz	802.11ax HEW80	80	1TX, 2TX, 4TX
5.725-5.85GHz	802.11ax HEW80-BF	80	2TX, 4TX

Note:

- ♦ 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ For Radio 2 VHT20, VHT40, VHT80 and VHT160 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ For Radio 2 HEW20, HEW40, HEW80 and HEW160 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- ♦ For Radio 3 VHT20, VHT40, VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ For Radio 3 HEW20, HEW40, HEW80 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**

Ant.	Brand	Model Number (P/N)	Antenna Type	Connector	Antenna Gain (dBi)		Remark
					WLAN 2.4GHz	WLAN 5GHz	
1	SENAO	5718A0474300	PIFA	IPEX	4.56	-	Radio 1
2	SENAO	5718A0475300	PIFA	IPEX	4.56	-	Radio 1
3	SENAO	5718A0476300	PIFA	IPEX	4.47	5.02	Radio 3
4	SENAO	5718A0477300	PIFA	IPEX	4.47	5.02	Radio 3
5	SENAO	5718A0478300	PIFA	IPEX	-	5.36	Radio 2
6	SENAO	5718A0479300	PIFA	IPEX	-	5.36	Radio 2
7	SENAO	5718A0480300	PIFA	IPEX	-	5.36	Radio 2
8	SENAO	5718A0481300	PIFA	IPEX	-	5.36	Radio 2

Beamforming Gain (dBi)			
2TX		4TX	
WLAN 2.4GHz	WLAN 5GHz	WLAN 5GHz	
3.01		6.02	

Note: The above information was declared by manufacturer.

For Radio 1:**For IEEE 802.11/b/g/n/ac/ax mode (1TX, 2TX/2RX):**

For 1TX

Only Port 1 can be use as transmitting antenna.

For 2TX

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

Port 1 and Port 2 could transmit simultaneously.

For Radio 2:**For IEEE 802.11a/n/ac/ax mode (1TX, 2TX, 4TX/4RX):**

For 1TX

Only Port 1 can be use as transmitting antenna.

For 2TX

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

Port 1 and Port 2 could transmit simultaneously.

For 4TX

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

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

For 4RX

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 Radio 3:

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

For 1TX

Only Port 1 can be use as transmitting antenna.

For 2TX

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

Port 1 and Port 2 could transmit simultaneously.



1.1.3 Mode Test Duty Cycle

For UNII 1 and UNII 3:

For Radio 2

For 1TX Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.948	0.23	2.068m	1k
802.11ac VHT20	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.973	0.12	1.935m	1k
802.11ac VHT80	0.943	0.25	461.25u	3k
802.11ax HEW20	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW40	0.962	0.17	773.75u	3k
802.11ax HEW80	0.929	0.32	402.5u	3k

For 2TX Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.953	0.21	2.068m	1k
802.11ac VHT20	0.978	0.1	5.007m	300
802.11ac VHT40	0.957	0.19	5.007m	300
802.11ac VHT80	0.912	0.4	2.003m	1k
802.11ax HEW20	0.965	0.15	782.5u	3k
802.11ax HEW40	0.934	0.3	425u	3k
802.11ax HEW80	0.895	0.48	242.5u	10k

For 4T1S Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.948	0.23	2.068m	1k
802.11ac VHT20	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.973	0.12	1.935m	1k
802.11ac VHT80	0.943	0.25	461.25u	3k
802.11ax HEW20	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW40	0.962	0.17	773.75u	3k
802.11ax HEW80	0.929	0.32	402.5u	3k

For 4T4S Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ac VHT20	0.948	0.23	525u	3k
802.11ac VHT40	0.908	0.42	280.625u	10k
802.11ac VHT80	0.846	0.73	160.625u	10k
802.11ax HEW20	0.934	0.3	437.5u	3k
802.11ax HEW40	0.897	0.47	261.25u	10k
802.11ax HEW80	0.842	0.75	170u	10k

**For 4TXBF Mode:**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ac VHT20-BF	0.985	0.07	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40-BF	0.973	0.12	1.935m	1k
802.11ac VHT80-BF	0.945	0.25	950u	3k
802.11ax HEW20-BF	0.858	0.67	1.505m	1k
802.11ax HEW40-BF	0.892	0.5	2.265m	1k
802.11ax HEW80-BF	0.928	0.32	3.865m	300

For Radio 3**For 1TX Mode:**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.95	0.22	2.068m	1k
802.11ac VHT20	0.99	0.04	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.971	0.13	5.007m	300
802.11ac VHT80	0.926	0.33	5.007m	300
802.11ax HEW20	0.981	0.08	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW40	0.965	0.15	775u	3k
802.11ax HEW80	0.931	0.31	405u	3k

For 2TX Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.948	0.23	2.068m	1k
802.11ac VHT20	0.981	0.08	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.925	0.34	5.007m	300
802.11ac VHT80	0.845	0.73	252.174u	10k
802.11ax HEW20	0.965	0.15	782.5u	3k
802.11ax HEW40	0.934	0.3	425u	3k
802.11ax HEW80	0.895	0.48	242.5u	10k

For 2TXBF Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ac VHT20-BF	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40-BF	0.97	0.13	945.333u	3k
802.11ac VHT80-BF	0.942	0.26	457.333u	3k
802.11ax HEW20-BF	0.885	0.53	1.505m	1k
802.11ax HEW40-BF	0.876	0.57	2.225m	1k
802.11ax HEW80-BF	0.928	0.32	3.842m	300

Note:

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

**For UNII 2A and UNII 2C:****For Radio 2****For 1TX Mode:**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.948	0.23	2.068m	1k
802.11ac VHT20	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.973	0.12	1.935m	1k
802.11ac VHT80	0.943	0.25	461.25u	3k
802.11ac VHT160	0.897	0.47	253.75u	10k
802.11ax HEW20	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW40	0.962	0.17	773.75u	3k
802.11ax HEW80	0.929	0.32	402.5u	3k
802.11ax HEW160	0.893	0.49	235u	10k

For 2TX Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.953	0.21	2.068m	1k
802.11ac VHT20	0.978	0.1	5.007m	300
802.11ac VHT40	0.957	0.19	5.007m	300
802.11ac VHT80	0.912	0.4	2.003m	1k
802.11ac VHT160	0.837	0.77	153.125u	10k
802.11ax HEW20	0.965	0.15	782.5u	3k
802.11ax HEW40	0.934	0.3	425u	3k
802.11ax HEW80	0.895	0.48	242.5u	10k
802.11ax HEW160	0.841	0.75	157.5u	10k

For 4T1S Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.948	0.23	2.068m	1k
802.11ac VHT20	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.973	0.12	1.935m	1k
802.11ac VHT80	0.943	0.25	461.25u	3k
802.11ac VHT160	0.895	0.48	252.5u	10k
802.11ax HEW20	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW40	0.962	0.17	773.75u	3k
802.11ax HEW80	0.929	0.32	402.5u	3k
802.11ax HEW160	0.893	0.49	235u	10k

**For 4TXBF Mode:**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ac VHT20-BF	0.985	0.07	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40-BF	0.973	0.12	1.935m	1k
802.11ac VHT80-BF	0.945	0.25	950u	3k
802.11ac VHT160-BF	0.931	0.31	1.675m	1k
802.11ax HEW20-BF	0.858	0.67	1.505m	1k
802.11ax HEW40-BF	0.892	0.5	2.265m	1k
802.11ax HEW80-BF	0.928	0.32	3.865m	300
802.11ax HEW160-BF	0.921	0.36	1.317m	1k

For 4T4S Mode:

802.11ac VHT20	0.948	0.23	525u	3k
802.11ac VHT40	0.908	0.42	280.625u	10k
802.11ac VHT80	0.846	0.73	160.625u	10k
802.11ac VHT160	0.791	1.02	108.75u	10k
802.11ax HEW20	0.934	0.3	437.5u	3k
802.11ax HEW40	0.897	0.47	261.25u	10k
802.11ax HEW80	0.842	0.75	170u	10k
802.11ax HEW160	0.816	0.88	127.5u	10k

**For Radio 3****For 1TX Mode:**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.95	0.22	2.068m	1k
802.11ac VHT20	0.99	0.04	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.971	0.13	5.007m	300
802.11ac VHT80	0.926	0.33	5.007m	300
802.11ax HEW20	0.981	0.08	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW40	0.965	0.15	775u	3k
802.11ax HEW80	0.931	0.31	405u	3k

For 2TX Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.948	0.23	2.068m	1k
802.11ac VHT20	0.981	0.08	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.925	0.34	5.007m	300
802.11ac VHT80	0.845	0.73	252.174u	10k
802.11ax HEW20	0.965	0.15	782.5u	3k
802.11ax HEW40	0.934	0.3	425u	3k
802.11ax HEW80	0.895	0.48	242.5u	10k

For 2TXBF Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ac VHT20-BF	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40-BF	0.97	0.13	945.333u	3k
802.11ac VHT80-BF	0.942	0.26	457.333u	3k
802.11ax HEW20-BF	0.885	0.53	1.505m	1k
802.11ax HEW40-BF	0.876	0.57	2.225m	1k
802.11ax HEW80-BF	0.928	0.32	3.842m	300

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 VHT20/40 and 802.11n/ax in 2.4GHz and 802.11n/ac/ax in 5GHz.		
Weather Band	☒	With 5600~5650MHz	☐ Without 5600~5650MHz
Function	☐	Outdoor P2M	☒ Indoor P2M
	☐	Fixed P2P	☐ Client
	☐	Indoor Client	
TPC Function	☒	With TPC	☐ Without TPC
Test Software Version	Mtool V3.1.0.1		

Note: The above information was declared by manufacturer.



1.2 Applicable Standards

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

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

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

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

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted (For UNII 1 and UNII3)	TH01-CB	Owen Hsu	24.4~25.2°C / 61~62%	Sep. 26, 2019 ~ Oct. 30, 2019
RF Conducted (For UNII 2A and UNII2C)	TH03-CB	Serway Li	25.4~25.8°C / 53~54%	Oct. 26, 2019 ~ Nov. 12, 2019
Radiated>1GHz (For UNII 1 and UNII3)	03CH04-CB	Bruce Yang	24.2~24.9°C / 52~55%	Sep. 23, 2019 ~ Oct. 25, 2019
Radiated>1GHz (For UNII 2A and UNII2C)	03CH04-CB	Bruce Yang	24.2~24.9°C / 52~55%	Oct. 16, 2019 ~ Nov. 05, 2019
Radiated<1GHz	03CH05-CB	Ken Yeh	23.9-24.8 / 55-59	Oct. 21, 2021
AC Conduction	CO02-CB	Peter Wu	22~23 / 55~57	Oct. 26, 2021



1.4 Measurement Uncertainty

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

For Other test items:

Test Items	Uncertainty	Remark
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%

For AC Conduction and Radiated<1GHz:

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	2.0 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.5 dB	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

For UNII 1 and UNII 3:

For Radio 2

For 1TX Mode:

Mode	PowerSetting	PowerSetting (dBm)
802.11a_Nss1,(6Mbps)_1TX	-	-
5180MHz	86	21.5
5200MHz	105	26.25
5240MHz	101	25.25
5745MHz	116	29
5785MHz	120	30
5825MHz	120	30
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-
5180MHz	82	20.5
5200MHz	101	25.25
5240MHz	99	24.75
5745MHz	116	29
5785MHz	120	30
5825MHz	118	29.5
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-
5190MHz	74	18.5
5230MHz	93	23.25
5755MHz	103	25.75
5795MHz	114	28.5
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-
5210MHz	73	18.25
5775MHz	93	23.25
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-
5180MHz	82	20.5
5200MHz	101	25.25
5240MHz	99	24.75
5745MHz	116	29
5785MHz	120	30
5825MHz	118	29.5
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-
5190MHz	74	18.5
5230MHz	93	23.25
5755MHz	103	25.75



RADIO TEST REPORT

Report No. : FR970232-06AB

Mode	PowerSetting	PowerSetting (dBm)
5795MHz	114	28.5
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-
5210MHz	73	18.25
5775MHz	93	23.25

**For 2TX Mode:**

Mode	PowerSetting	PowerSetting (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-
5180MHz	78	19.5
5200MHz	97	24.25
5240MHz	90	22.5
5745MHz	112	28
5785MHz	120	30
5825MHz	113	28.25
802.11ac VHT20_Nss2,(MCS0)_2TX	-	-
5180MHz	73	18.25
5200MHz	91	22.75
5240MHz	89	22.25
5745MHz	112	28
5785MHz	120	30
5825MHz	112	28
802.11ac VHT40_Nss2,(MCS0)_2TX	-	-
5190MHz	65	16.25
5230MHz	86	21.5
5755MHz	95	23.75
5795MHz	99	24.75
802.11ac VHT80_Nss2,(MCS0)_2TX	-	-
5210MHz	65	16.25
5775MHz	82	20.5
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-
5180MHz	73	18.25
5200MHz	91	22.75
5240MHz	89	22.25
5745MHz	112	28
5785MHz	120	30
5825MHz	112	28
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-
5190MHz	65	16.25
5230MHz	86	21.5
5755MHz	95	23.75
5795MHz	99	24.75
802.11ax HEW80_Nss2,(MCS0)_2TX	-	-
5210MHz	65	16.25
5775MHz	82	20.5

**For 4T1S Mode:**

Mode	PowerSetting	PowerSetting (dBm)
802.11a_Nss1,(6Mbps)_4TX	-	-
5180MHz	78	19.5
5200MHz	79	19.75
5240MHz	78	19.5
5745MHz	112	28
5785MHz	109	27.25
5825MHz	111	27.75
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-
5180MHz	69	17.25
5200MHz	80	20
5240MHz	79	19.75
5745MHz	106	26.5
5785MHz	110	27.5
5825MHz	108	27
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-
5190MHz	63	15.75
5230MHz	83	20.75
5755MHz	93	23.25
5795MHz	98	24.5
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-
5210MHz	61	15.25
5775MHz	76	19
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-
5180MHz	69	17.25
5200MHz	80	20
5240MHz	79	19.75
5745MHz	106	26.5
5785MHz	110	27.5
5825MHz	108	27
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-
5190MHz	63	15.75
5230MHz	83	20.75
5755MHz	93	23.25
5795MHz	98	24.5
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-
5210MHz	61	15.25
5775MHz	76	19
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-
5180MHz	75	18.75



Mode	PowerSetting	PowerSetting (dBm)
5200MHz	79	19.75
5240MHz	79	19.75
5745MHz	82	20.5
5785MHz	84	21
5825MHz	86	21.5
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-
5190MHz	68	17
5230MHz	81	20.25
5755MHz	81	20.25
5795MHz	84	21
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-
5210MHz	65	16.25
5775MHz	80	20
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-
5180MHz	75	18.75
5200MHz	79	19.75
5240MHz	79	19.75
5745MHz	82	20.5
5785MHz	84	21
5825MHz	86	21.5
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-
5190MHz	68	17
5230MHz	81	20.25
5755MHz	81	20.25
5795MHz	84	21
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-
5210MHz	65	16.25
5775MHz	80	20

**For 4T4S Mode:**

Mode	PowerSetting	PowerSetting (dBm)
802.11ac VHT20_Nss4,(MCS0)_4TX	-	-
5180MHz	72	18
5200MHz	89	22.25
5240MHz	91	22.75
5745MHz	106	26.5
5785MHz	106	26.5
5825MHz	106	26.5
802.11ac VHT40_Nss4,(MCS0)_4TX	-	-
5190MHz	64	16
5230MHz	82	20.5
5755MHz	94	23.5
5795MHz	99	24.75
802.11ac VHT80_Nss4,(MCS0)_4TX	-	-
5210MHz	60	15
5775MHz	80	20
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-
5180MHz	72	18
5200MHz	89	22.25
5240MHz	91	22.75
5745MHz	106	26.5
5785MHz	106	26.5
5825MHz	106	26.5
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-
5190MHz	64	16
5230MHz	82	20.5
5755MHz	94	23.5
5795MHz	99	24.75
802.11ax HEW80_Nss4,(MCS0)_4TX	-	-
5210MHz	60	15
5775MHz	80	20

**For Radio 3****For 1TX Mode:**

Mode	PowerSetting	PowerSetting (dBm)
802.11a_Nss1,(6Mbps)_1TX	-	-
5180MHz	90	22.5
5200MHz	102	25.5
5240MHz	97	24.25
5745MHz	92	23
5785MHz	88	22
5825MHz	93	23.25
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-
5180MHz	86	21.5
5200MHz	100	25
5240MHz	95	23.75
5745MHz	92	23
5785MHz	89	22.25
5825MHz	94	23.5
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-
5190MHz	76	19
5230MHz	94	23.5
5755MHz	93	23.25
5795MHz	93	23.25
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-
5210MHz	76	19
5775MHz	87	21.75
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-
5180MHz	86	21.5
5200MHz	100	25
5240MHz	95	23.75
5745MHz	92	23
5785MHz	89	22.25
5825MHz	94	23.5
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-
5190MHz	76	19
5230MHz	94	23.5
5755MHz	93	23.25
5795MHz	93	23.25
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-
5210MHz	76	19
5775MHz	87	21.75

**For 2TX Mode:**

Mode	PowerSetting	PowerSetting (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-
5180MHz	86	21.5
5200MHz	98	24.5
5240MHz	91	22.75
5745MHz	91	22.75
5785MHz	88	22
5825MHz	87	21.75
802.11ac VHT20_Nss2,(MCS0)_2TX	-	-
5180MHz	81	20.25
5200MHz	95	23.75
5240MHz	89	22.25
5745MHz	95	23.75
5785MHz	89	22.25
5825MHz	95	23.75
802.11ac VHT40_Nss2,(MCS0)_2TX	-	-
5190MHz	69	17.25
5230MHz	89	22.25
5755MHz	94	23.5
5795MHz	90	22.5
802.11ac VHT80_Nss2,(MCS0)_2TX	-	-
5210MHz	71	17.75
5775MHz	85	21.25
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-
5180MHz	81	20.25
5200MHz	95	23.75
5240MHz	89	22.25
5745MHz	95	23.75
5785MHz	89	22.25
5825MHz	95	23.75
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-
5190MHz	69	17.25
5230MHz	89	22.25
5755MHz	94	23.5
5795MHz	90	22.5
802.11ax HEW80_Nss2,(MCS0)_2TX	-	-
5210MHz	71	17.75
5775MHz	85	21.25
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-
5180MHz	76	19



Mode	PowerSetting	PowerSetting (dBm)
5200MHz	94	23.5
5240MHz	90	22.5
5745MHz	83	20.75
5785MHz	81	20.25
5825MHz	86	21.5
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-
5190MHz	70	17.5
5230MHz	89	22.25
5755MHz	82	20.5
5795MHz	82	20.5
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-
5210MHz	73	18.25
5775MHz	83	20.75
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-
5180MHz	76	19
5200MHz	94	23.5
5240MHz	90	22.5
5745MHz	83	20.75
5785MHz	81	20.25
5825MHz	86	21.5
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-
5190MHz	70	17.5
5230MHz	89	22.25
5755MHz	82	20.5
5795MHz	82	20.5
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-	-
5210MHz	73	18.25
5775MHz	83	20.75

**For UNII 2A and UNII 2C:****For Radio 2****For 1TX Mode:**

Mode	Power Setting	PowerSetting (dBm)
802.11a_Nss1,(6Mbps)_1TX	-	-
5260MHz	99	24.75
5300MHz	99	24.75
5320MHz	83	20.75
5500MHz	80	20
5580MHz	94	23.5
5700MHz	74	18.5
5720MHz Straddle 5.47-5.725GHz	91	22.75
5720MHz Straddle 5.725-5.85GHz	91	22.75
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-
5260MHz	98	24.5
5300MHz	98	24.5
5320MHz	83	20.75
5500MHz	77	19.25
5580MHz	93	23.25
5700MHz	69	17.25
5720MHz Straddle 5.47-5.725GHz	88	22
5720MHz Straddle 5.725-5.85GHz	88	22
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-
5270MHz	95	23.75
5310MHz	74	18.5
5510MHz	71	17.75
5550MHz	93	23.25
5670MHz	81	20.25
5710MHz Straddle 5.47-5.725GHz	89	22.25
5710MHz Straddle 5.725-5.85GHz	89	22.25
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-
5290MHz	75	18.75
5530MHz	71	17.75
5610MHz	90	22.5
5690MHz Straddle 5.47-5.725GHz	92	23
5690MHz Straddle 5.725-5.85GHz	92	23
802.11ac VHT160_Nss1,(MCS0)_1TX	-	-
5250MHz Straddle 5.15-5.25GHz	70	17.5
5250MHz Straddle 5.25-5.35GHz	70	17.5
5570MHz	71	17.75
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-
5260MHz	98	24.5



Mode	Power Setting	PowerSetting (dBm)
5300MHz	98	24.5
5320MHz	83	20.75
5500MHz	77	19.25
5580MHz	93	23.25
5700MHz	69	17.25
5720MHz Straddle 5.47-5.725GHz	88	22
5720MHz Straddle 5.725-5.85GHz	88	22
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-
5270MHz	95	23.75
5310MHz	74	18.5
5510MHz	71	17.75
5550MHz	93	23.25
5670MHz	81	20.25
5710MHz Straddle 5.47-5.725GHz	89	22.25
5710MHz Straddle 5.725-5.85GHz	89	22.25
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-
5290MHz	75	18.75
5530MHz	71	17.75
5610MHz	90	22.5
5690MHz Straddle 5.47-5.725GHz	92	23
5690MHz Straddle 5.725-5.85GHz	92	23
802.11ax HEW160_Nss1,(MCS0)_1TX	-	-
5250MHz Straddle 5.15-5.25GHz	70	17.5
5250MHz Straddle 5.25-5.35GHz	70	17.5
5570MHz	71	17.75

**For 2TX Mode:**

Mode	Power Setting	PowerSetting (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-
5260MHz	77	19.25
5300MHz	77	19.25
5320MHz	77	19.25
5500MHz	66	16.5
5580MHz	76	19
5700MHz	60	15
5720MHz Straddle 5.47-5.725GHz	72	18
5720MHz Straddle 5.725-5.85GHz	72	18
802.11ac VHT20_Nss2,(MCS0)_2TX	-	-
5260MHz	86	21.5
5300MHz	86	21.5
5320MHz	78	19.5
5500MHz	76	19
5580MHz	86	21.5
5700MHz	60	15
5720MHz Straddle 5.47-5.725GHz	84	21
5720MHz Straddle 5.725-5.85GHz	84	21
802.11ac VHT40_Nss2,(MCS0)_2TX	-	-
5270MHz	85	21.25
5310MHz	70	17.5
5510MHz	59	14.75
5550MHz	86	21.5
5670MHz	69	17.25
5710MHz Straddle 5.47-5.725GHz	85	21.25
5710MHz Straddle 5.725-5.85GHz	85	21.25
802.11ac VHT80_Nss2,(MCS0)_2TX	-	-
5290MHz	67	16.75
5530MHz	66	16.5
5610MHz	81	20.25
5690MHz Straddle 5.47-5.725GHz	85	21.25
5690MHz Straddle 5.725-5.85GHz	85	21.25
802.11ac VHT160_Nss2,(MCS0)_2TX	-	-
5250MHz Straddle 5.15-5.25GHz	58	14.5
5250MHz Straddle 5.25-5.35GHz	58	14.5
5570MHz	63	15.75
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-
5260MHz	86	21.5
5300MHz	86	21.5



Mode	Power Setting	PowerSetting (dBm)
5320MHz	78	19.5
5500MHz	76	19
5580MHz	86	21.5
5700MHz	60	15
5720MHz Straddle 5.47-5.725GHz	84	21
5720MHz Straddle 5.725-5.85GHz	84	21
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-
5270MHz	85	21.25
5310MHz	70	17.5
5510MHz	59	14.75
5550MHz	86	21.5
5670MHz	69	17.25
5710MHz Straddle 5.47-5.725GHz	85	21.25
5710MHz Straddle 5.725-5.85GHz	85	21.25
802.11ax HEW80_Nss2,(MCS0)_2TX	-	-
5290MHz	67	16.75
5530MHz	66	16.5
5610MHz	81	20.25
5690MHz Straddle 5.47-5.725GHz	85	21.25
5690MHz Straddle 5.725-5.85GHz	85	21.25
802.11ax HEW160_Nss2,(MCS0)_2TX	-	-
5250MHz Straddle 5.15-5.25GHz	58	14.5
5250MHz Straddle 5.25-5.35GHz	58	14.5
5570MHz	63	15.75

**For 4T1S Mode:**

Mode	Power Setting	PowerSetting (dBm)
802.11a_Nss1,(6Mbps)_4TX	-	-
5260MHz	51	12.75
5300MHz	51	12.75
5320MHz	51	12.75
5500MHz	52	13
5580MHz	51	12.75
5700MHz	48	12
5720MHz Straddle 5.47-5.725GHz	48	12
5720MHz Straddle 5.725-5.85GHz	48	12
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-
5260MHz	52	13
5300MHz	52	13
5320MHz	52	13
5500MHz	53	13.25
5580MHz	52	13
5700MHz	49	12.25
5720MHz Straddle 5.47-5.725GHz	49	12.25
5720MHz Straddle 5.725-5.85GHz	49	12.25
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-
5270MHz	63	15.75
5310MHz	64	16
5510MHz	63	15.75
5550MHz	64	16
5670MHz	61	15.25
5710MHz Straddle 5.47-5.725GHz	61	15.25
5710MHz Straddle 5.725-5.85GHz	61	15.25
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-
5290MHz	62	15.5
5530MHz	65	16.25
5610MHz	72	18
5690MHz Straddle 5.47-5.725GHz	70	17.5
5690MHz Straddle 5.725-5.85GHz	70	17.5
802.11ac VHT160_Nss1,(MCS0)_4TX	-	-
5250MHz Straddle 5.15-5.25GHz	56	14
5250MHz Straddle 5.25-5.35GHz	56	14
5570MHz	67	16.75
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-
5260MHz	52	13
5300MHz	52	13



Mode	Power Setting	PowerSetting (dBm)
5320MHz	52	13
5500MHz	53	13.25
5580MHz	52	13
5700MHz	49	12.25
5720MHz Straddle 5.47-5.725GHz	49	12.25
5720MHz Straddle 5.725-5.85GHz	49	12.25
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-
5270MHz	63	15.75
5310MHz	64	16
5510MHz	63	15.75
5550MHz	64	16
5670MHz	61	15.25
5710MHz Straddle 5.47-5.725GHz	61	15.25
5710MHz Straddle 5.725-5.85GHz	61	15.25
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-
5290MHz	62	15.5
5530MHz	65	16.25
5610MHz	72	18
5690MHz Straddle 5.47-5.725GHz	70	17.5
5690MHz Straddle 5.725-5.85GHz	70	17.5
802.11ax HEW160_Nss1,(MCS0)_4TX	-	-
5250MHz Straddle 5.15-5.25GHz	56	14
5250MHz Straddle 5.25-5.35GHz	56	14
5570MHz	67	16.75
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-
5260MHz	48	12
5300MHz	48	12
5320MHz	48	12
5500MHz	47	11.75
5580MHz	48	12
5700MHz	43	10.75
5720MHz Straddle 5.47-5.725GHz	43	10.75
5720MHz Straddle 5.725-5.85GHz	43	10.75
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-
5270MHz	48	12
5310MHz	48	12
5510MHz	49	12.25
5550MHz	48	12
5670MHz	43	10.75
5710MHz Straddle 5.47-5.725GHz	44	11



Mode	Power Setting	PowerSetting (dBm)
5710MHz Straddle 5.725-5.85GHz	44	11
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-
5290MHz	49	12.25
5530MHz	49	12.25
5610MHz	44	11
5690MHz Straddle 5.47-5.725GHz	44	11
5690MHz Straddle 5.725-5.85GHz	44	11
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-	-
5250MHz Straddle 5.15-5.25GHz	59	14.75
5250MHz Straddle 5.25-5.35GHz	59	14.75
5570MHz	51	12.75
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-
5260MHz	48	12
5300MHz	48	12
5320MHz	48	12
5500MHz	47	11.75
5580MHz	48	12
5700MHz	43	10.75
5720MHz Straddle 5.47-5.725GHz	43	10.75
5720MHz Straddle 5.725-5.85GHz	43	10.75
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-
5270MHz	48	12
5310MHz	48	12
5510MHz	49	12.25
5550MHz	48	12
5670MHz	43	10.75
5710MHz Straddle 5.47-5.725GHz	44	11
5710MHz Straddle 5.725-5.85GHz	44	11
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-
5290MHz	49	12.25
5530MHz	49	12.25
5610MHz	44	11
5690MHz Straddle 5.47-5.725GHz	44	11
5690MHz Straddle 5.725-5.85GHz	44	11
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-
5250MHz Straddle 5.15-5.25GHz	59	14.75
5250MHz Straddle 5.25-5.35GHz	59	14.75
5570MHz	51	12.75

**For 4T4S Mode:**

Mode	Power Setting	PowerSetting (dBm)
802.11ac VHT20_Nss4,(MCS0)_4TX	-	-
5260MHz	72	18
5300MHz	72	18
5320MHz	72	18
5500MHz	74	18.5
5580MHz	73	18.25
5700MHz	60	15
5720MHz Straddle 5.47-5.725GHz	69	17.25
5720MHz Straddle 5.725-5.85GHz	69	17.25
802.11ac VHT40_Nss4,(MCS0)_4TX	-	-
5270MHz	73	18.25
5310MHz	63	15.75
5510MHz	59	14.75
5550MHz	74	18.5
5670MHz	65	16.25
5710MHz Straddle 5.47-5.725GHz	70	17.5
5710MHz Straddle 5.725-5.85GHz	70	17.5
802.11ac VHT80_Nss4,(MCS0)_4TX	-	-
5290MHz	63	15.75
5530MHz	65	16.25
5610MHz	72	18
5690MHz Straddle 5.47-5.725GHz	70	17.5
5690MHz Straddle 5.725-5.85GHz	70	17.5
802.11ac VHT160_Nss4,(MCS0)_4TX	-	-
5250MHz Straddle 5.15-5.25GHz	54	13.5
5250MHz Straddle 5.25-5.35GHz	54	13.5
5570MHz	62	15.5
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-
5260MHz	72	18
5300MHz	72	18
5320MHz	72	18
5500MHz	74	18.5
5580MHz	73	18.25
5700MHz	60	15
5720MHz Straddle 5.47-5.725GHz	69	17.25
5720MHz Straddle 5.725-5.85GHz	69	17.25
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-
5270MHz	73	18.25
5310MHz	63	15.75



Mode	Power Setting	PowerSetting (dBm)
5510MHz	59	14.75
5550MHz	74	18.5
5670MHz	65	16.25
5710MHz Straddle 5.47-5.725GHz	70	17.5
5710MHz Straddle 5.725-5.85GHz	70	17.5
802.11ax HEW80_Nss4,(MCS0)_4TX	-	-
5290MHz	63	15.75
5530MHz	65	16.25
5610MHz	72	18
5690MHz Straddle 5.47-5.725GHz	70	17.5
5690MHz Straddle 5.725-5.85GHz	70	17.5
802.11ax HEW160_Nss4,(MCS0)_4TX	-	-
5250MHz Straddle 5.15-5.25GHz	54	13.5
5250MHz Straddle 5.25-5.35GHz	54	13.5
5570MHz	62	15.5

**For Radio 3****For 1TX Mode:**

Mode	Power Setting	PowerSetting (dBm)
802.11a_Nss1,(6Mbps)_1TX	-	-
5260MHz	97	24.25
5300MHz	97	24.25
5320MHz	93	23.25
5500MHz	86	21.5
5580MHz	98	24.5
5700MHz	81	20.25
5720MHz Straddle 5.47-5.725GHz	92	23
5720MHz Straddle 5.725-5.85GHz	92	23
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-
5260MHz	97	24.25
5300MHz	97	24.25
5320MHz	85	21.25
5500MHz	80	20
5580MHz	97	24.25
5700MHz	73	18.25
5720MHz Straddle 5.47-5.725GHz	91	22.75
5720MHz Straddle 5.725-5.85GHz	91	22.75
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-
5270MHz	96	24
5310MHz	79	19.75
5510MHz	75	18.75
5550MHz	97	24.25
5670MHz	87	21.75
5710MHz Straddle 5.47-5.725GHz	90	22.5
5710MHz Straddle 5.725-5.85GHz	90	22.5
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-
5290MHz	79	19.75
5530MHz	78	19.5
5610MHz	94	23.5
5690MHz Straddle 5.47-5.725GHz	94	23.5
5690MHz Straddle 5.725-5.85GHz	94	23.5
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-
5260MHz	97	24.25
5300MHz	97	24.25
5320MHz	85	21.25
5500MHz	80	20
5580MHz	97	24.25



Mode	Power Setting	PowerSetting (dBm)
5700MHz	73	18.25
5720MHz Straddle 5.47-5.725GHz	91	22.75
5720MHz Straddle 5.725-5.85GHz	91	22.75
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-
5270MHz	96	24
5310MHz	79	19.75
5510MHz	75	18.75
5550MHz	97	24.25
5670MHz	87	21.75
5710MHz Straddle 5.47-5.725GHz	90	22.5
5710MHz Straddle 5.725-5.85GHz	90	22.5
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-
5290MHz	79	19.75
5530MHz	78	19.5
5610MHz	94	23.5
5690MHz Straddle 5.47-5.725GHz	94	23.5
5690MHz Straddle 5.725-5.85GHz	94	23.5

**For 2TX Mode:**

Mode	Power Setting	PowerSetting (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-
5260MHz	73	18.25
5300MHz	73	18.25
5320MHz	73	18.25
5500MHz	72	18
5580MHz	75	18.75
5700MHz	70	17.5
5720MHz Straddle 5.47-5.725GHz	74	18.5
5720MHz Straddle 5.725-5.85GHz	74	18.5
802.11ac VHT20_Nss2,(MCS0)_2TX	-	-
5260MHz	83	20.75
5300MHz	83	20.75
5320MHz	81	20.25
5500MHz	80	20
5580MHz	84	21
5700MHz	67	16.75
5720MHz Straddle 5.47-5.725GHz	84	21
5720MHz Straddle 5.725-5.85GHz	84	21
802.11ac VHT40_Nss2,(MCS0)_2TX	-	-
5270MHz	83	20.75
5310MHz	72	18
5510MHz	68	17
5550MHz	84	21
5670MHz	76	19
5710MHz Straddle 5.47-5.725GHz	82	20.5
5710MHz Straddle 5.725-5.85GHz	82	20.5
802.11ac VHT80_Nss2,(MCS0)_2TX	-	-
5290MHz	69	17.25
5530MHz	74	18.5
5610MHz	84	21
5690MHz Straddle 5.47-5.725GHz	83	20.75
5690MHz Straddle 5.725-5.85GHz	83	20.75
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-
5260MHz	83	20.75
5300MHz	83	20.75
5320MHz	81	20.25
5500MHz	80	20
5580MHz	84	21
5700MHz	67	16.75



Mode	Power Setting	PowerSetting (dBm)
5720MHz Straddle 5.47-5.725GHz	84	21
5720MHz Straddle 5.725-5.85GHz	84	21
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-
5270MHz	83	20.75
5310MHz	72	18
5510MHz	68	17
5550MHz	84	21
5670MHz	76	19
5710MHz Straddle 5.47-5.725GHz	82	20.5
5710MHz Straddle 5.725-5.85GHz	82	20.5
802.11ax HEW80_Nss2,(MCS0)_2TX	-	-
5290MHz	69	17.25
5530MHz	74	18.5
5610MHz	84	21
5690MHz Straddle 5.47-5.725GHz	83	20.75
5690MHz Straddle 5.725-5.85GHz	83	20.75
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-
5260MHz	73	18.25
5300MHz	72	18
5320MHz	72	18
5500MHz	72	18
5580MHz	73	18.25
5700MHz	65	16.25
5720MHz Straddle 5.47-5.725GHz	72	18
5720MHz Straddle 5.725-5.85GHz	72	18
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-
5270MHz	74	18.5
5310MHz	72	18
5510MHz	69	17.25
5550MHz	73	18.25
5670MHz	74	18.5
5710MHz Straddle 5.47-5.725GHz	74	18.5
5710MHz Straddle 5.725-5.85GHz	74	18.5
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-
5290MHz	68	17
5530MHz	63	15.75
5610MHz	74	18.5
5690MHz Straddle 5.47-5.725GHz	74	18.5
5690MHz Straddle 5.725-5.85GHz	74	18.5
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-



Mode	Power Setting	PowerSetting (dBm)
5260MHz	73	18.25
5300MHz	72	18
5320MHz	72	18
5500MHz	72	18
5580MHz	73	18.25
5700MHz	65	16.25
5720MHz Straddle 5.47-5.725GHz	72	18
5720MHz Straddle 5.725-5.85GHz	72	18
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-
5270MHz	74	18.5
5310MHz	72	18
5510MHz	69	17.25
5550MHz	73	18.25
5670MHz	74	18.5
5710MHz Straddle 5.47-5.725GHz	74	18.5
5710MHz Straddle 5.725-5.85GHz	74	18.5
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-	-
5290MHz	68	17
5530MHz	63	15.75
5610MHz	74	18.5
5690MHz Straddle 5.47-5.725GHz	74	18.5
5690MHz Straddle 5.725-5.85GHz	74	18.5

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	CTX
1	EUT + Radio 1 (WLAN 2.4GHz) + Adapter
2	EUT + Radio 2 (WLAN 5GHz) + Adapter
3	EUT + Radio 3 (WLAN 2.4GHz) + Adapter
4	EUT + Radio 3 (WLAN 5GHz) + Adapter
Mode 2 has been evaluated to be the worst case among Mode 1~4, thus measurement for Mode 5 will follow this same test mode.	
5	EUT + Radio 2 (WLAN 5GHz) + PoE
For operating mode 2 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 Output Power Power Spectral Density
Test Condition	Conducted measurement at transmit chains
Operating Mode	Note 1



The Worst Case Mode for Following Conformance Tests				
Tests Item		Unwanted Emissions		
Test Condition		Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
Operating Mode < 1GHz		CTX		
		The EUT was performed at X axis, Y axis and Z axis position Emissions in Restricted Frequency Bands above 1GHz test, and the worst case was found at Z axis. So the measurement will follow this same test configuration.		
1		EUT at Z axis + Radio 1 (WLAN 2.4GHz) + Adapter		
2		EUT at Z axis + Radio 2 (WLAN 5GHz) + Adapter		
3		EUT at Z axis + Radio 3 (WLAN 2.4GHz) + Adapter		
4		EUT at Z axis + Radio 3 (WLAN 5GHz) + Adapter		
Mode 1 has been evaluated to be the worst case among Mode 1~4, thus measurement for Mode 5 will follow this same test mode.				
5		EUT at Z axis + Radio 1 (WLAN 2.4GHz) + PoE		
For operating mode 5 is the worst case and it was record in this test report.				
Operating Mode > 1GHz		CTX (for more details refer note 1)		
The EUT was performed at X axis, Y axis and Z axis position for Unwanted Emissions test. And the worst case were found as below:				
Items		Internal Antenna		
		1TX	2TX	4TX
Radio 2	Radiated	Y axis	X axis	Z axis
	Bandedge			
Radio 3	Radiated	Y axis	Z axis	-
	Bandedge			



The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	Radio 1 + Radio 2 + Radio 3 (2.4GHz)
2	Radio 1 + Radio 2 + Radio 3 (5GHz)
Refer to Sporton Test Report No.: FA970232-06 for Co-location RF Exposure Evaluation.	

Note: 1. Test Mode:

Test Item	Radio 2 / Radio 3														
	802.11a			802.11ac VHT20/40/80						802.11ax HEW20/40/80					
	1T1S	CDD 2T1S	CDD 4T1S	1T1S	SDM 2T2S	TXBF 2T1S	CDD 4T1S	SDM 4T4S	TXBF 4T1S	1T1S	SDM 2T2S	TXBF 2T1S	CDD 4T1S	SDM 4T4S	TXBF 4T1S
Maximum Conducted Output Power	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Emission Bandwidth	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Power Spectral Density	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Unwanted Emissions	V	V	V	Cover by 11ax	Cover by 11ax	Cover by 11ax	Cover by 11ax	Cover by 11ax	Cover by 11ax	V	V	V	V	V	V

- HEW20/HEWT40 covers HT20/HT40. The power setting 11n HT20 and HT40 are the same or lower than 802.11ax HEW20 and HEW40.
- There are two modes of EUT for 802.11n/ax, VHT20, VHT40 in 2.4GHz and 802.11n/ac/ax in 5GHz. One is beamforming mode, and the other is non-beamforming mode. Both modes have been tested and recorded in this test report.
- The Adapter and PoE is for measurement only, would not be marketed.

Adapter and PoE information as below:

Power	Brand Holder	Model
Adapter	Powertron Electronics Corp.	PA1024-120IB200
Power	Brand	Model
PoE	EnGenius	EPA5006GP



2.3 EUT Operation during Test

For CTX Mode:

non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

beamforming mode:

For Conducted Mode:

The EUT was programmed to be in continuously transmitting mode.

For Radiated 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.
3. Executed " Lan Test (2.0.0.2) " to link with the remote workstation to transmit and receive packet by Wireless AP and transmit duty cycle no less than 98%.

2.4 Accessories

Wall-mounted rack*1



2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	LAN NB	DELL	E6430	N/A
B	Flash disk3.0	Transcend	639205 7755	N/A
C	Adapter	Powertron Electronics	PA1024-120IB200	N/A

For Radiated (below 1GHz):

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	PoE	EnGenius	EPA5006GP	N/A

For Radiated (above 1GHz):

<For Non-Beamforming Mode>

Support Equipment				
No.	Equipment	Brand	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
E	Adapter	Powertron Electronics Corp.	PA1024-120IB200	N/A

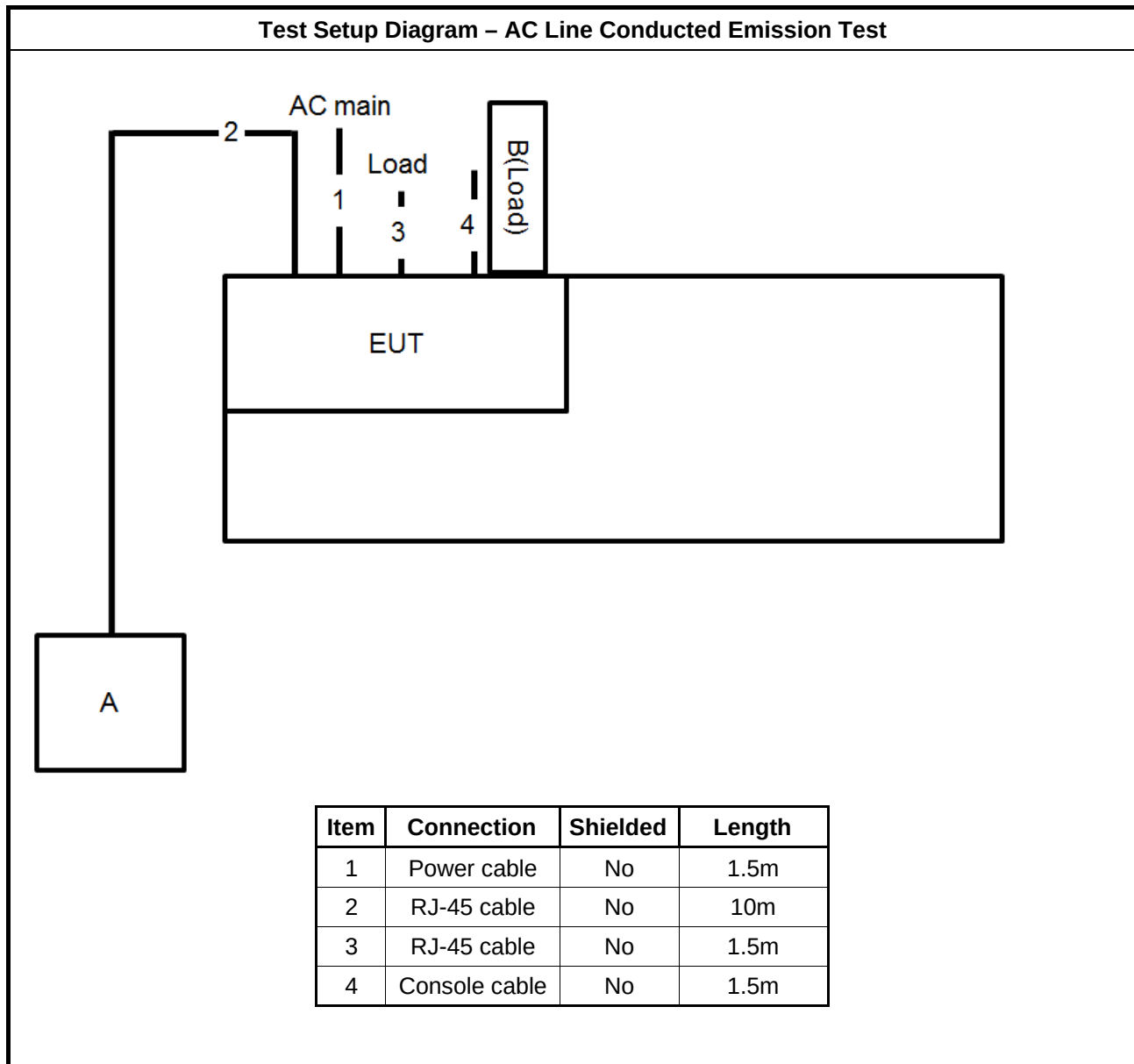
<For Beamforming Mode>

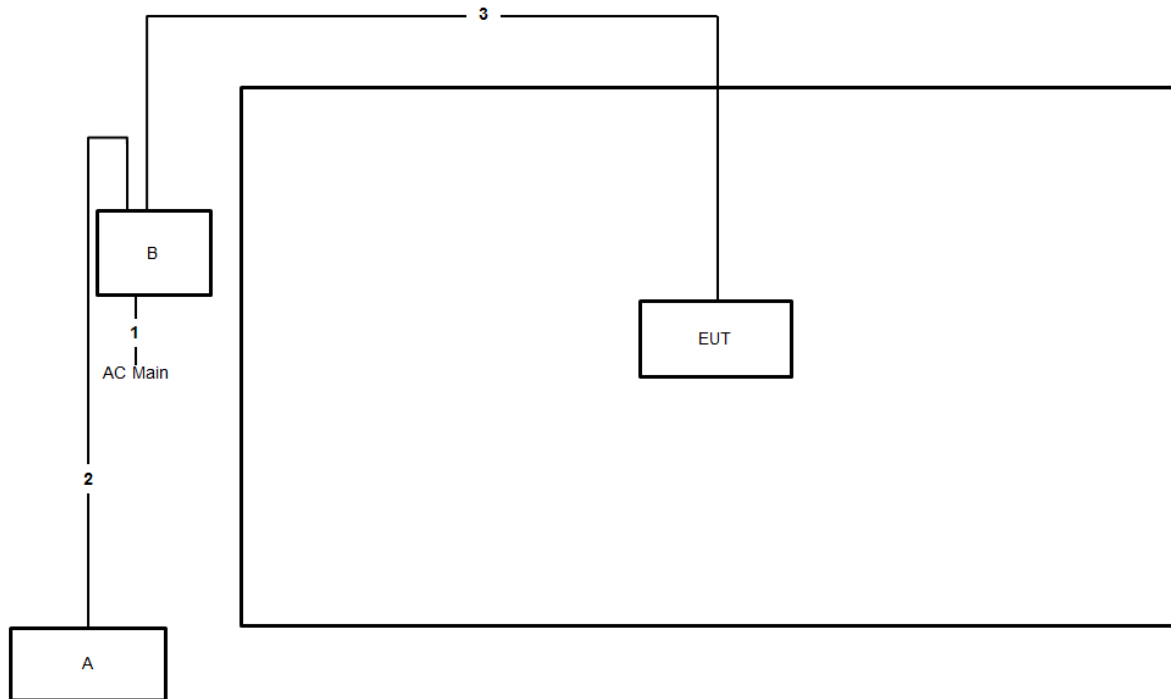
Support Equipment				
No.	Equipment	Brand	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	WLAN AP	Extreme Networks, Inc.	AP460i/e	N/A
C	Notebook	DELL	E4300	N/A
E	Adapter	Powertron Electronics Corp.	PA1024-120IB200	N/A

For RF Conducted:

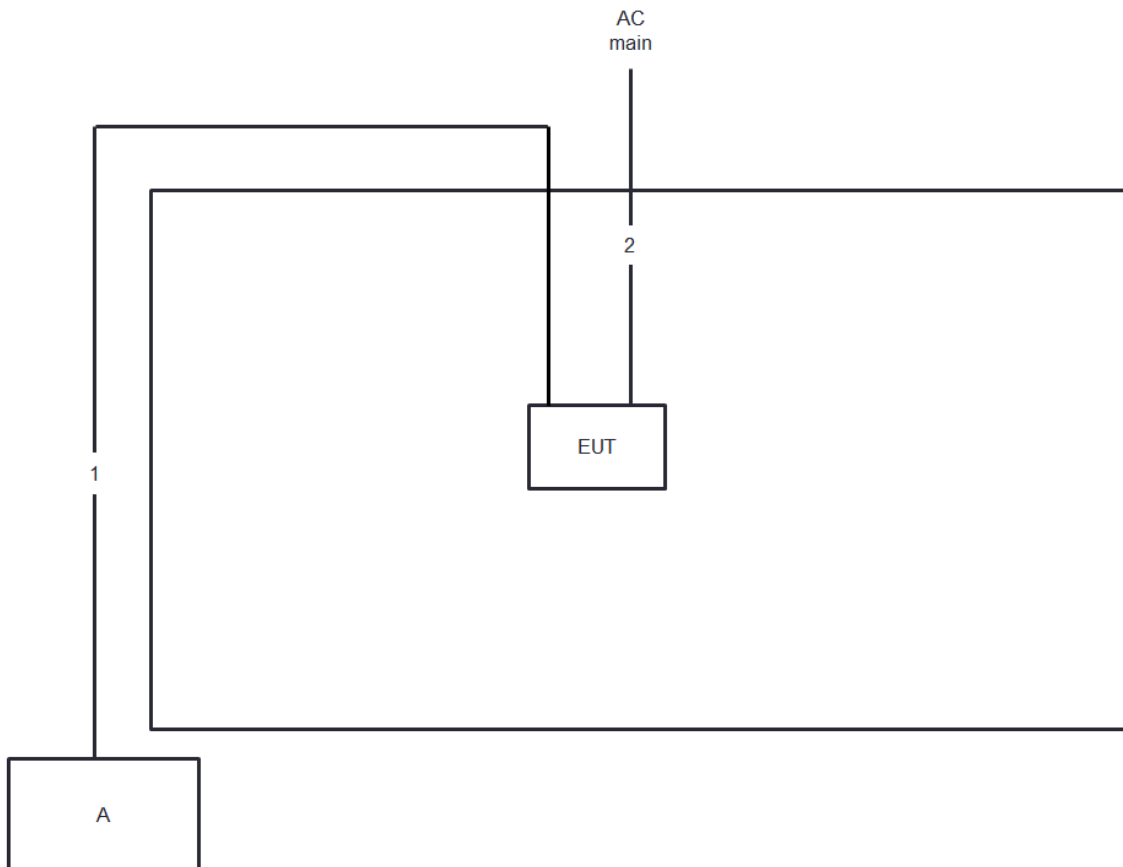
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	Adapter	Powertron Electronics Corp.	PA1024-120IB200	N/A

2.6 Test Setup Diagram

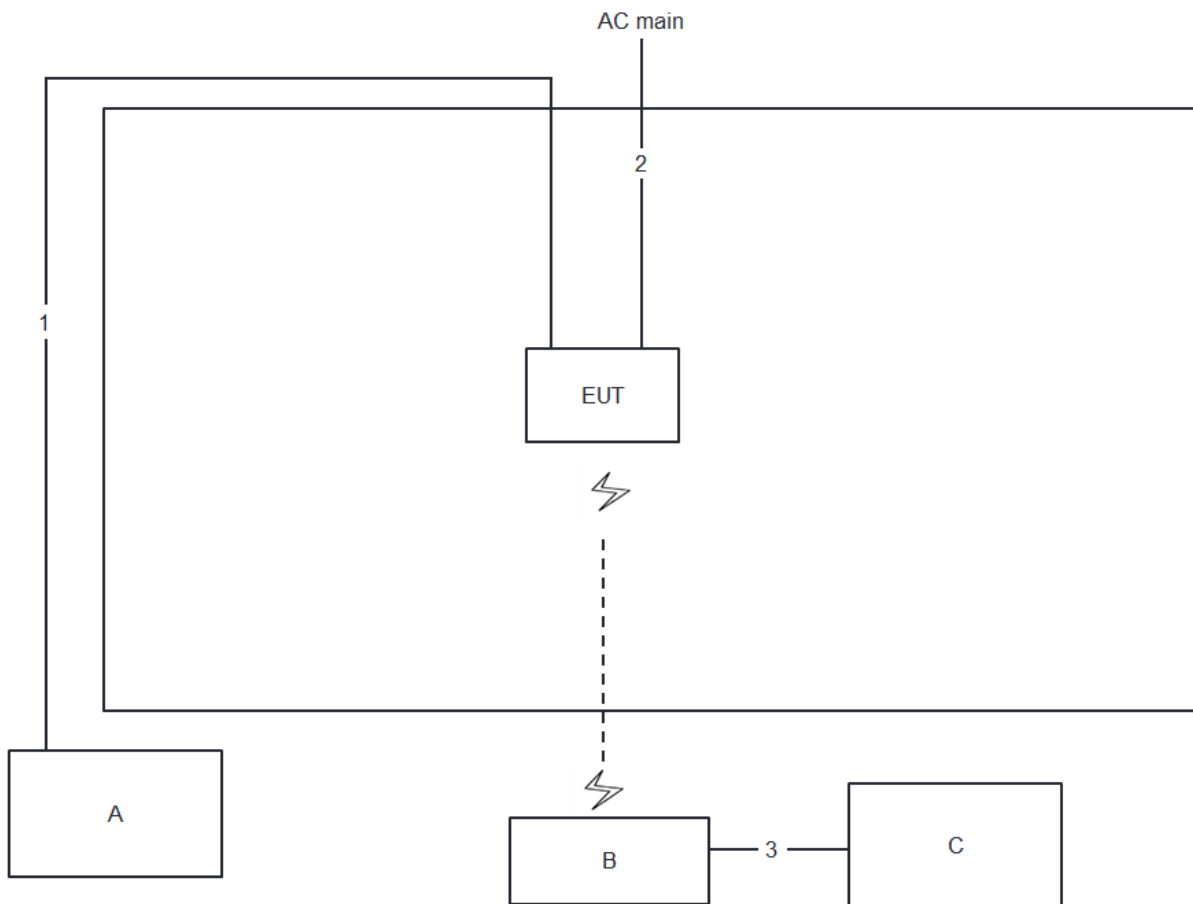


Test Setup Diagram - Radiated Test < 1GHz


Item	Connection	Shielded	Length
1	Power cable	No	0.5m
2	RJ-45 cable	No	1m
3	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test > 1GHz / Non-Beamforming Mode


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

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


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



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

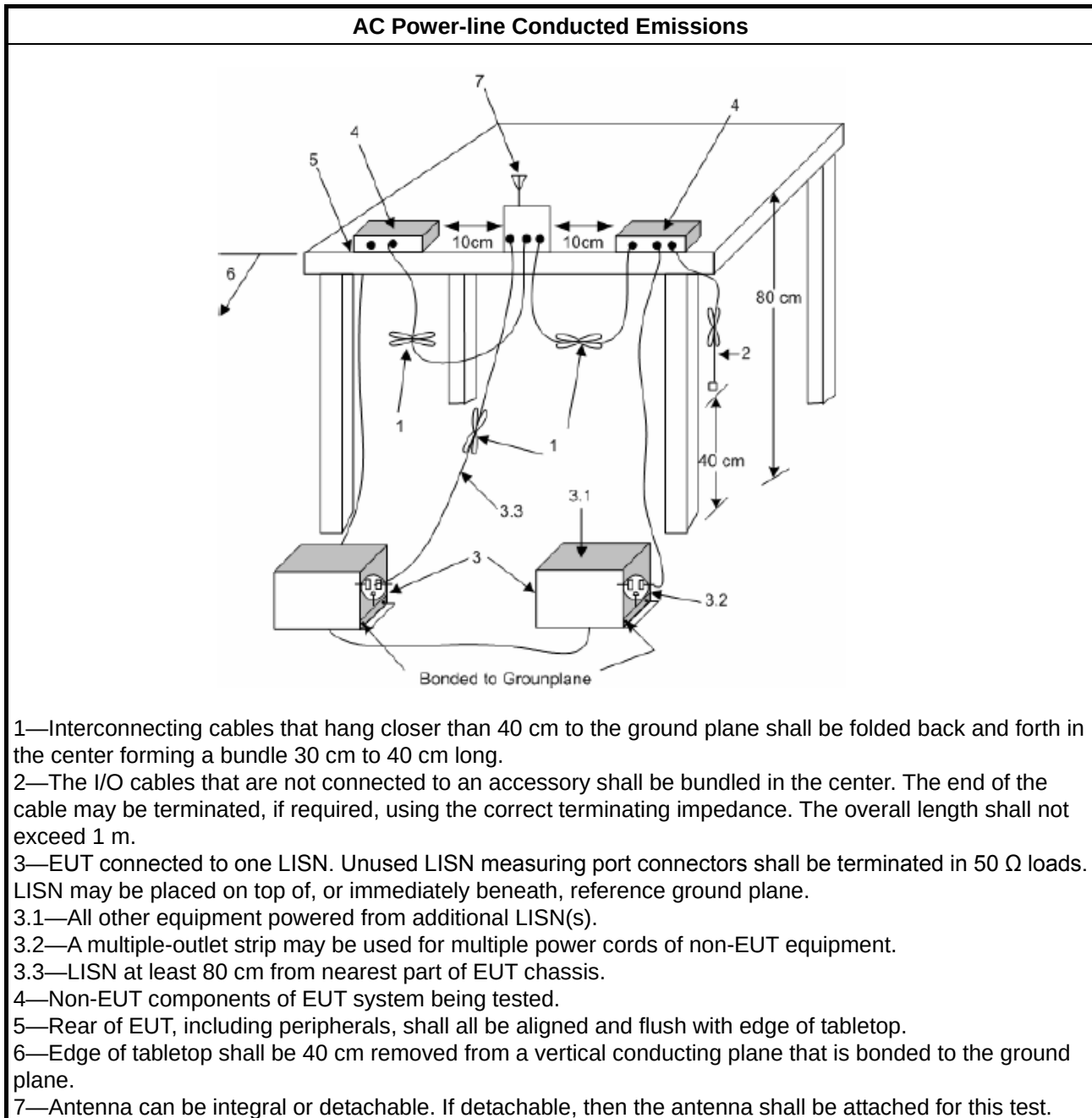
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



3.1.5 Measurement Results Calculation

The measured Level is calculated using:

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

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 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 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☒	For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
☒	For the 5.725-5.85 GHz band, 6 dB emission bandwidth $\geq$ 500kHz.
☐	For the 5.85-5.895 GHz band, 6 dB emission bandwidth $\geq$ 500kHz.
LE-LAN Devices	
☐	For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
☐	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
☐	For the 5.725-5.85 GHz band, 6 dB emission bandwidth $\geq$ 500kHz.

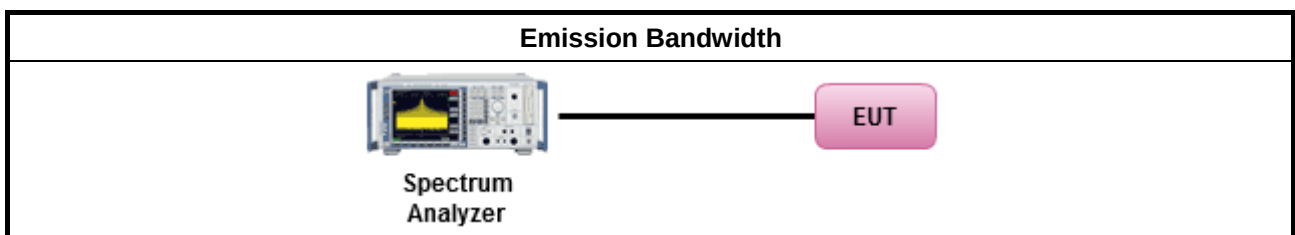
3.2.2 Measuring Instruments

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 Output Power

3.3.1 Limit

Maximum Output Power Limit	
UNII Devices	
☒ For the 5.15-5.25 GHz band:	
☐	- Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees ≤ 125mW [21dBm] - Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ - Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 23$ dBi, then $P_{Out} = 30 - (G_{TX} - 23)$. - Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
☒ For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, 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 $11 \text{ dBm} + 10 \log B$, 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.
Maximum EIRP Limit	
☐ For the 5.85-5.895 GHz band:	
☐	- Indoor AP & subordinate device < 36 dBm - Client device < 30 dBm
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

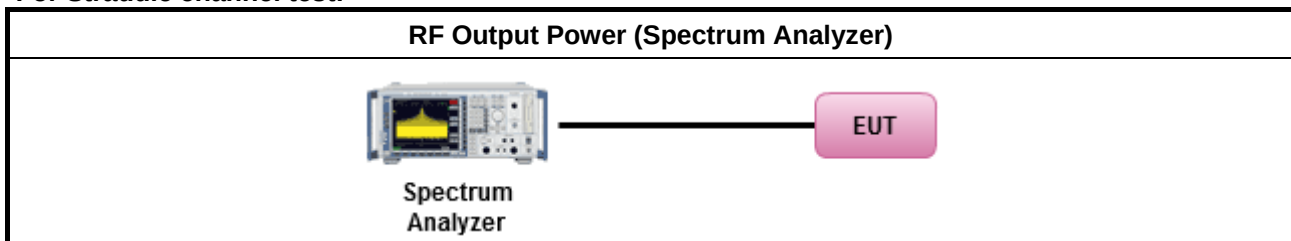
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

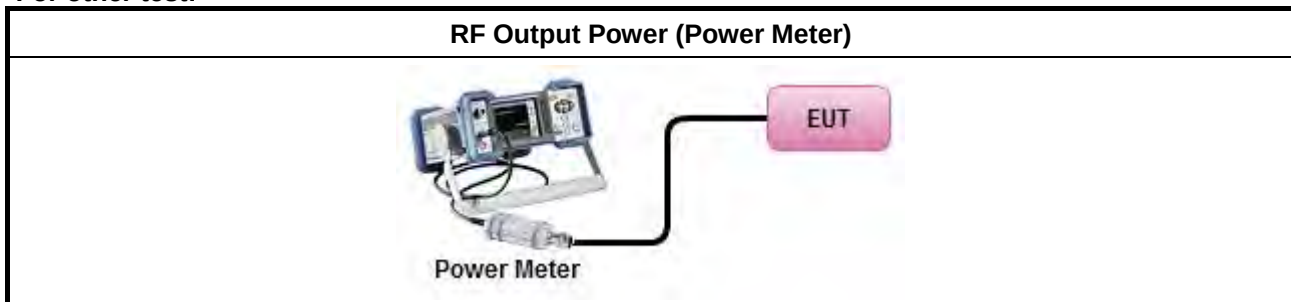
Test Method	
Maximum Conducted Output Power	
Average over on/off periods with duty factor	
☒	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
Wideband RF power meter and average over on/off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

For Straddle channel test:



For other test:



3.3.5 Test Result of Maximum Output Power

Refer as Appendix C



3.4 Power Spectral Density

3.4.1 Limit

Peak Power Spectral Density Limit	
UNII Devices	
☒ For the 5.15-5.25 GHz band:	
	- Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. - Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$. - Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$. - Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.
☒ For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
☒ For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
☒ For the 5.725-5.85 GHz band:	
	- Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
EIRP Power Spectral Density Limit	
☐ For the 5.85-5.895 GHz band:	
	- Indoor AP & subordinate device < 20dBm/MHz - Client device < 14dBm/MHz
LE-LAN Devices	
☐ For the 5.15-5.25 GHz band, the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz.	
☐ For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz.	
	e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below: -13 dBW/MHz for $0^\circ \leq \theta < 8^\circ$; -13 - 0.716 (θ-8) dBW/MHz for $8^\circ \leq \theta < 40^\circ$ -35.9 - 1.22 (θ-40) dBW/MHz for $40^\circ \leq \theta \leq 45^\circ$; -42 dBW/MHz for $\theta > 45^\circ$
☐ For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz.	
☐ For the 5.725-5.85 GHz band:	
	- Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz	



G_{TX} = the maximum transmitting antenna directional gain in dBi.

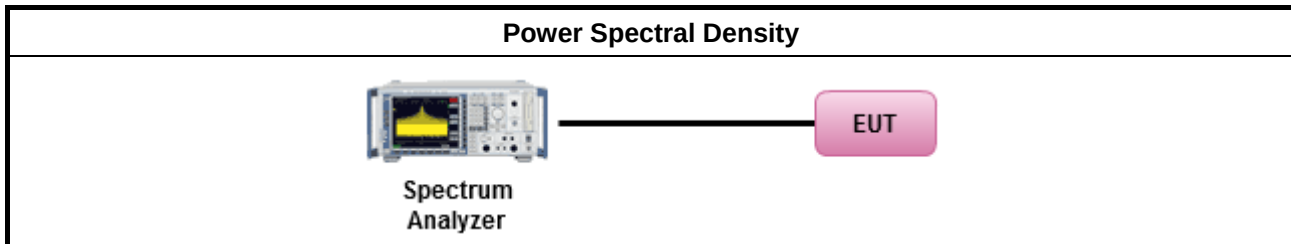
3.4.2 Measuring Instruments

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 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.
☐ 5.85 - 5.895 GHz	(i) For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of 15 dBm/MHz and shall decrease linearly to an e.i.r.p. of - 7 dBm/MHz at or above 5.925 GHz. (ii) For a client device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of -5 dBm/MHz and shall decrease linearly to an e.i.r.p. of -27 dBm/MHz at or above 5.925 GHz. (iii) For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of -27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/ MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.
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

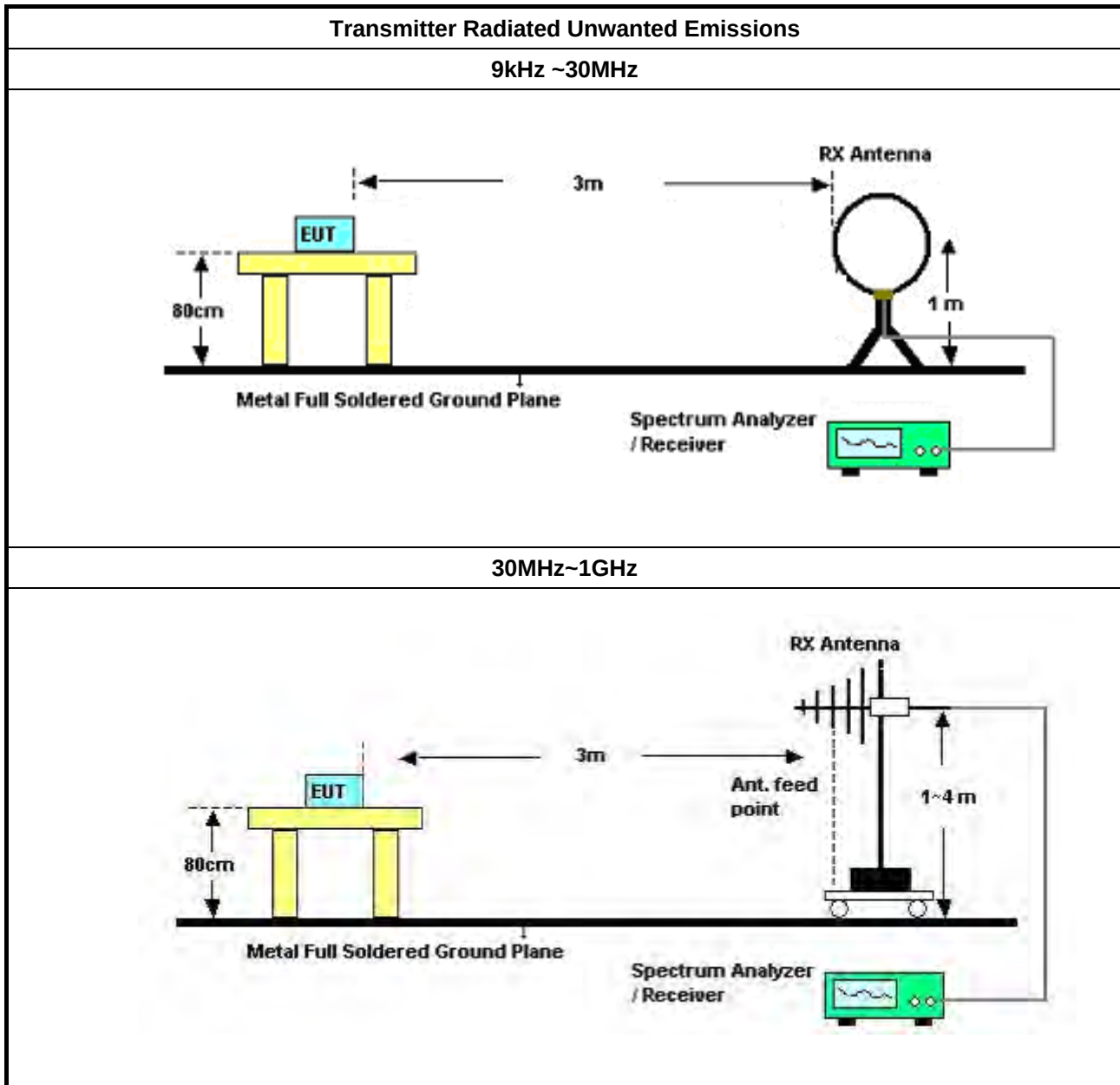
Refer a test equipment and calibration data table in this test report.

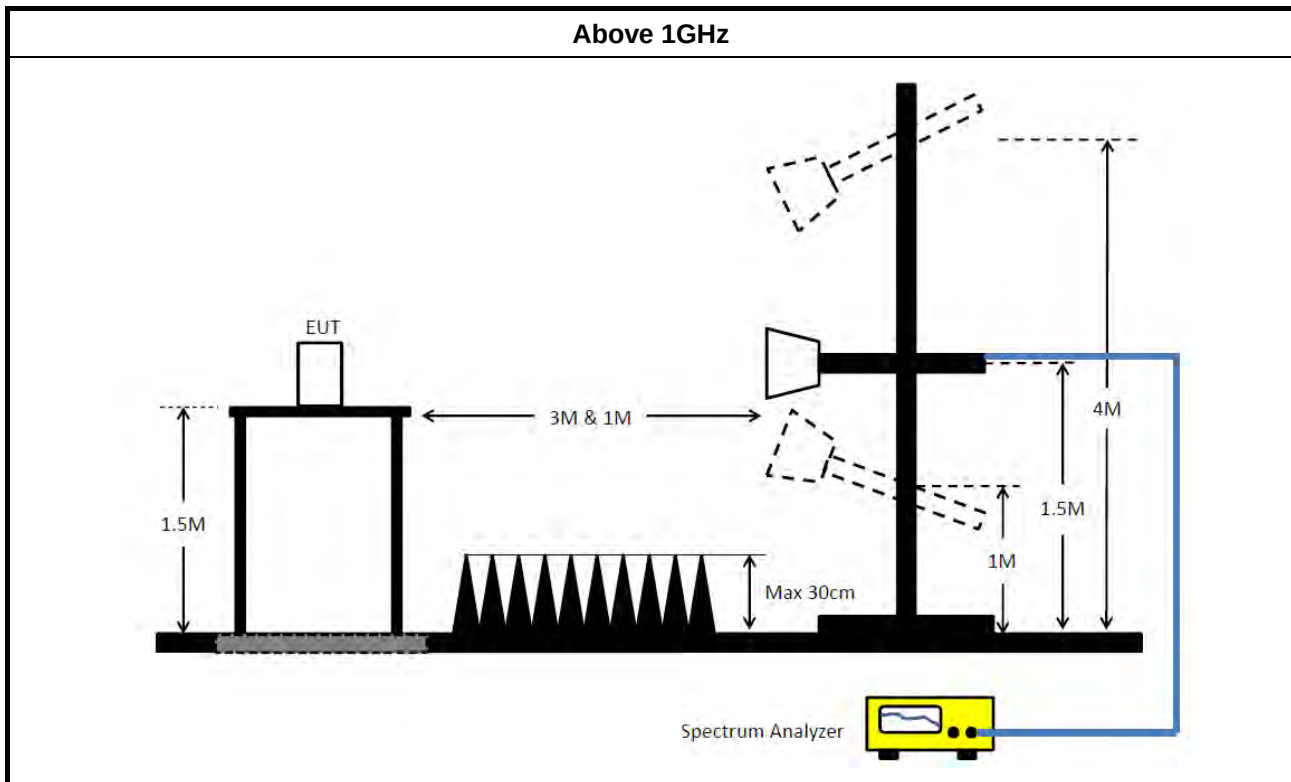


3.5.3 Test Procedures

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 $\geq$ 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 (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

3.5.6 Transmitter Unwanted Emissions (Below 30MHz)

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

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

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

3.5.7 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E



4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Dec. 04, 2020	Dec. 03, 2021	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 20, 2020	Nov. 19, 2021	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	May 05, 2021	May 04, 2022	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F-N	00378	9kHz ~ 30MHz	Mar. 18, 2021	Mar. 17, 2022	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Oct. 19, 2021	Oct. 18, 2022	Conduction (CO02-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 14, 2021	Apr. 13, 2022	Radiation (03CH05-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 09, 2021	Aug. 08, 2022	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 26, 2021	Mar. 25, 2022	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 27, 2021	Apr. 26, 2022	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Nov. 10, 2020	Nov. 09, 2021	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 21, 2021	Jun. 20, 2022	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Horn Antenna	ETS • Lindgren	3115	00143147	750MHz~18GHz	Oct. 26, 2018	Oct. 25, 2019	Radiation (03CH04-CB)
Horn Antenna	ETS • Lindgren	3115	00143147	750MHz~18GHz	Oct. 22, 2019	Oct. 21, 2020	Radiation (03CH04-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 12, 2019	Jun. 11, 2020	Radiation (03CH04-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 12, 2019	Jun. 11, 2020	Radiation (03CH04-CB)
Pre-Amplifier	Agilent	83017A	MY53270063	0.5GHz ~ 26.5GHz	Mar. 19, 2019	Mar. 18, 2020	Radiation (03CH04-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 2020	Radiation (03CH04-CB)
Spectrum Analyzer	R&S	FSP40	100142	9kHz~40GHz	Dec. 26, 2018	Dec. 25, 2019	Radiation (03CH04-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-21	1GHz - 18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21	1GHz - 18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21+22	1GHz - 18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21+22	1GHz - 18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH04-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Feb. 25, 2019	Feb. 24, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz ~ 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz ~ 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz ~ 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz ~ 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz ~ 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz ~ 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz ~ 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz ~ 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz ~ 26.5 GHz	Oct. 08, 2018	Oct. 07, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz ~ 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-28	1 GHz ~ 26.5 GHz	Nov. 19, 2018	Nov. 18, 2019	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-28	1 GHz ~ 26.5 GHz	Nov. 19, 2018	Nov. 18, 2019	Conducted (TH01-CB)
Power Sensor	Agilent	E9327A	US40442088	50MHz~18GHz	Jan. 15, 2019	Jan. 14, 2020	Conducted (TH01-CB)
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Jan. 15, 2019	Jan. 14, 2020	Conducted (TH01-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Feb. 25, 2019	Feb. 24, 2020	Conducted (TH03-CB)
Power Sensor	Anritsu	MA2411B	1726195	300MHz~40GHz	Aug. 13, 2019	Aug. 12, 2020	Conducted (TH03-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Aug. 13, 2019	Aug. 12, 2020	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-11	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-12	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-13	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH03-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH03-CB)

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

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



Conducted Emissions at Powerline

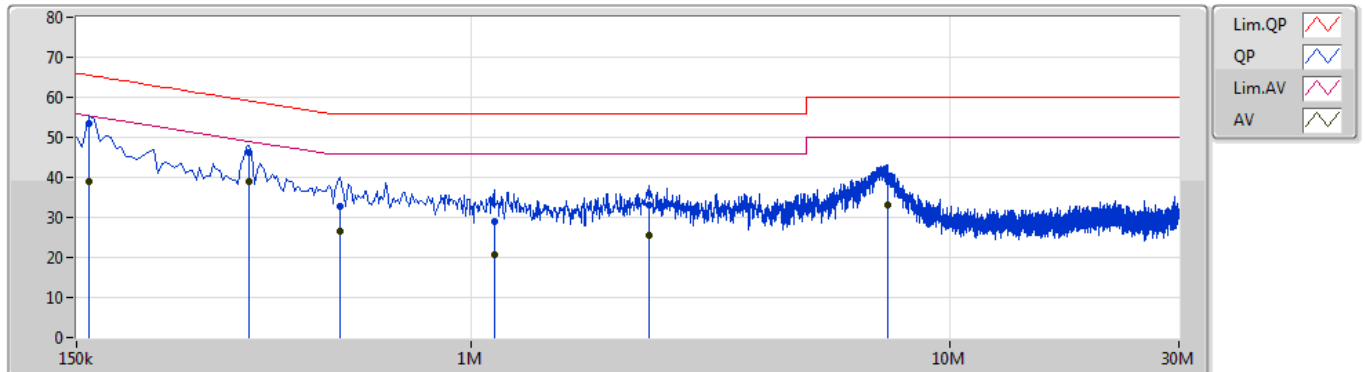
Appendix A

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 2	Pass	AV	339k	41.46	49.23	-7.77	Neutral

Mode 2

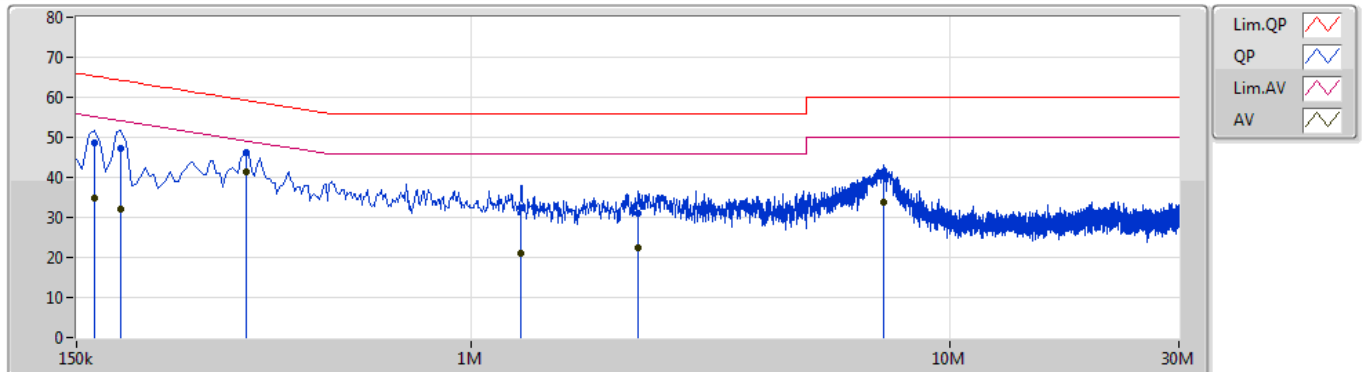
26/10/2021



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	159k	53.56	65.52	-11.96	10.24	Line	-	43.32	0.07	0.02	10.15			
AV	159k	38.99	55.52	-16.53	10.24	Line	-	28.75	0.07	0.02	10.15			
QP	343.5k	46.07	59.12	-13.05	10.22	Line	-	35.85	0.08	0.02	10.12			
AV	343.5k	38.85	49.12	-10.27	10.22	Line	"Worst"	28.63	0.08	0.02	10.12			
QP	532.5k	32.92	56.00	-23.08	10.21	Line	-	22.71	0.08	0.02	10.11			
AV	532.5k	26.71	46.00	-19.29	10.21	Line	-	16.50	0.08	0.02	10.11			
QP	1.118M	28.84	56.00	-27.16	10.21	Line	-	18.63	0.09	0.02	10.10			
AV	1.118M	20.81	46.00	-25.19	10.21	Line	-	10.60	0.09	0.02	10.10			
QP	2.346M	32.97	56.00	-23.03	10.29	Line	-	22.68	0.12	0.05	10.12			
AV	2.346M	25.53	46.00	-20.47	10.29	Line	-	15.24	0.12	0.05	10.12			
QP	7.395M	40.12	60.00	-19.88	10.41	Line	-	29.71	0.23	0.07	10.11			
AV	7.395M	33.11	50.00	-16.89	10.41	Line	-	22.70	0.23	0.07	10.11			

Mode 2

26/10/2021



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	163.5k	48.79	65.27	-16.48	10.23	Neutral	-	38.56	0.06	0.02	10.15			
AV	163.5k	34.80	55.27	-20.47	10.23	Neutral	-	24.57	0.06	0.02	10.15			
QP	186k	47.32	64.20	-16.88	10.24	Neutral	-	37.08	0.06	0.02	10.16			
AV	186k	31.95	54.20	-22.25	10.24	Neutral	-	21.71	0.06	0.02	10.16			
QP	339k	46.07	59.23	-13.16	10.20	Neutral	-	35.87	0.06	0.02	10.12			
AV	339k	41.46	49.23	-7.77	10.20	Neutral	"Worst"	31.26	0.06	0.02	10.12			
QP	1.271M	32.43	56.00	-23.57	10.22	Neutral	-	22.21	0.08	0.03	10.11			
AV	1.271M	20.98	46.00	-25.02	10.22	Neutral	-	10.76	0.08	0.03	10.11			
QP	2.234M	30.95	56.00	-25.05	10.27	Neutral	-	20.68	0.09	0.05	10.13			
AV	2.234M	22.27	46.00	-23.73	10.27	Neutral	-	12.00	0.09	0.05	10.13			
QP	7.278M	40.31	60.00	-19.69	10.37	Neutral	-	29.94	0.19	0.07	10.11			
AV	7.278M	33.63	50.00	-16.37	10.37	Neutral	-	23.26	0.19	0.07	10.11			

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	43.59M	22.879M	22M9D1D	27.09M	16.672M
802.11ac VHT20_Nss1,(MCS0)_1TX	45.81M	20.24M	20M2D1D	29.04M	17.811M
802.11ac VHT40_Nss1,(MCS0)_1TX	76.74M	36.702M	36M7D1D	40.38M	36.222M
802.11ac VHT80_Nss1,(MCS0)_1TX	82.08M	75.682M	75M7D1D	82.08M	75.682M
802.11ax HEW20_Nss1,(MCS0)_1TX	45.81M	20.87M	20M9D1D	23.49M	18.981M
802.11ax HEW40_Nss1,(MCS0)_1TX	76.08M	37.781M	37M8D1D	40.08M	37.481M
802.11ax HEW80_Nss1,(MCS0)_1TX	82.08M	77.001M	77M0D1D	82.08M	77.001M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	16.41M	38.081M	38M1D1D	16.32M	35.472M
802.11ac VHT20_Nss1,(MCS0)_1TX	17.55M	42.339M	42M3D1D	17.52M	38.201M
802.11ac VHT40_Nss1,(MCS0)_1TX	36.3M	74.903M	74M9D1D	36M	57.691M
802.11ac VHT80_Nss1,(MCS0)_1TX	76.08M	78.681M	78M7D1D	76.08M	78.681M
802.11ax HEW20_Nss1,(MCS0)_1TX	18.45M	41.919M	41M9D1D	18.06M	38.501M
802.11ax HEW40_Nss1,(MCS0)_1TX	37.56M	74.663M	74M7D1D	37.5M	59.01M
802.11ax HEW80_Nss1,(MCS0)_1TX	75.96M	78.081M	78M1D1D	75.96M	78.081M

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

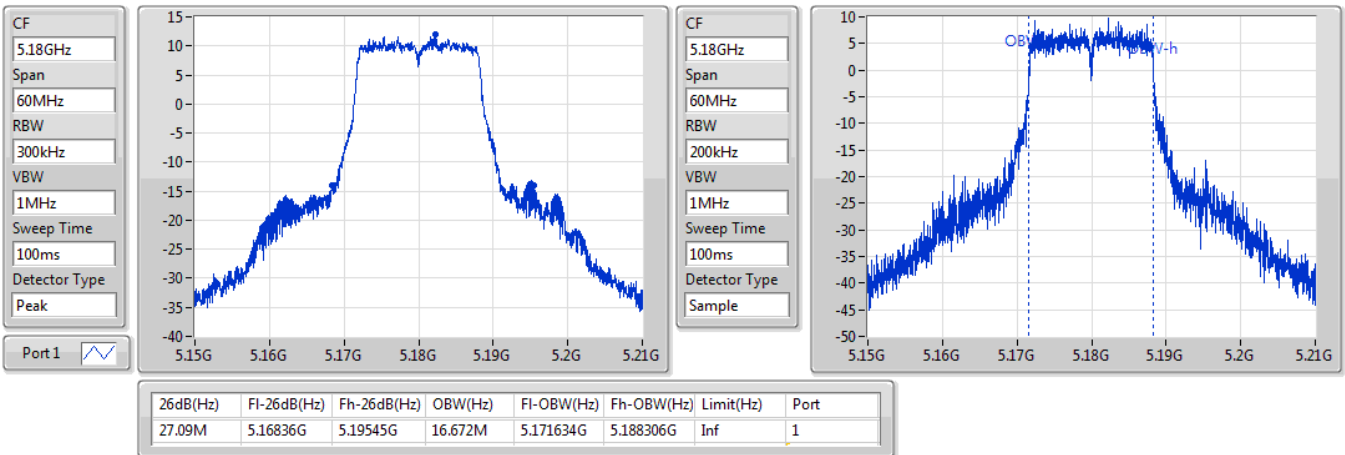
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-
5180MHz	Pass	Inf	27.09M	16.672M
5200MHz	Pass	Inf	43.59M	22.879M
5240MHz	Pass	Inf	43.59M	19.88M
5745MHz	Pass	500k	16.41M	35.742M
5785MHz	Pass	500k	16.32M	38.081M
5825MHz	Pass	500k	16.32M	35.472M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-
5180MHz	Pass	Inf	29.04M	17.811M
5200MHz	Pass	Inf	45.81M	20.24M
5240MHz	Pass	Inf	43.53M	18.861M
5745MHz	Pass	500k	17.52M	38.201M
5785MHz	Pass	500k	17.55M	42.279M
5825MHz	Pass	500k	17.55M	42.339M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-
5190MHz	Pass	Inf	40.38M	36.222M
5230MHz	Pass	Inf	76.74M	36.702M
5755MHz	Pass	500k	36.3M	57.691M
5795MHz	Pass	500k	36M	74.903M
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-	-	-
5210MHz	Pass	Inf	82.08M	75.682M
5775MHz	Pass	500k	76.08M	78.681M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
5180MHz	Pass	Inf	23.49M	18.981M
5200MHz	Pass	Inf	43.02M	20.87M
5240MHz	Pass	Inf	45.81M	19.91M
5745MHz	Pass	500k	18.06M	39.94M
5785MHz	Pass	500k	18.45M	41.919M
5825MHz	Pass	500k	18.36M	38.501M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
5190MHz	Pass	Inf	40.08M	37.481M
5230MHz	Pass	Inf	76.08M	37.781M
5755MHz	Pass	500k	37.56M	59.01M
5795MHz	Pass	500k	37.5M	74.663M
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-	-	-
5210MHz	Pass	Inf	82.08M	77.001M
5775MHz	Pass	500k	75.96M	78.081M

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

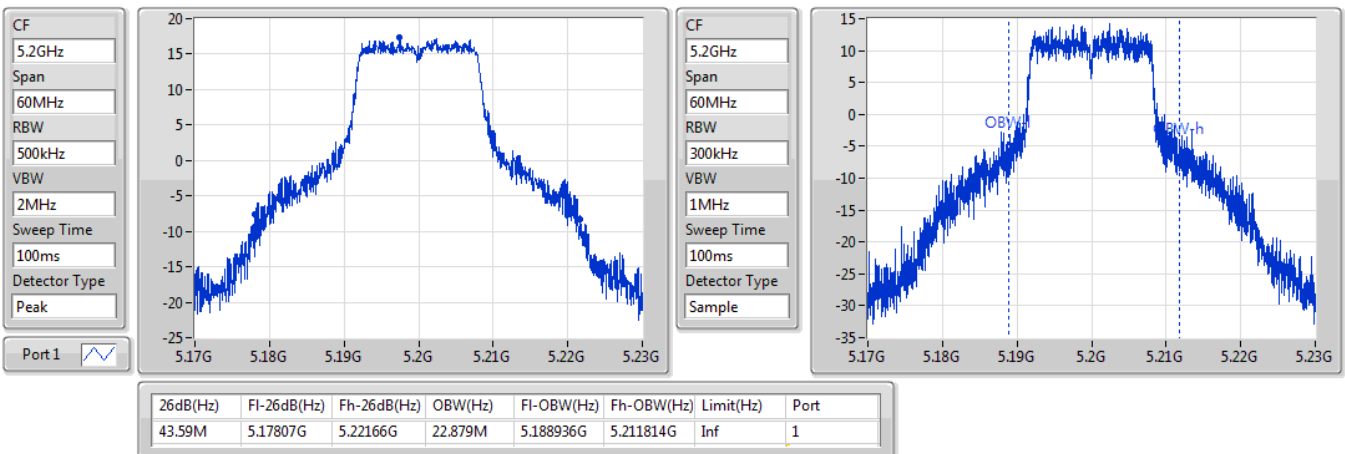
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_1TX
EBW
5180MHz

26/09/2019

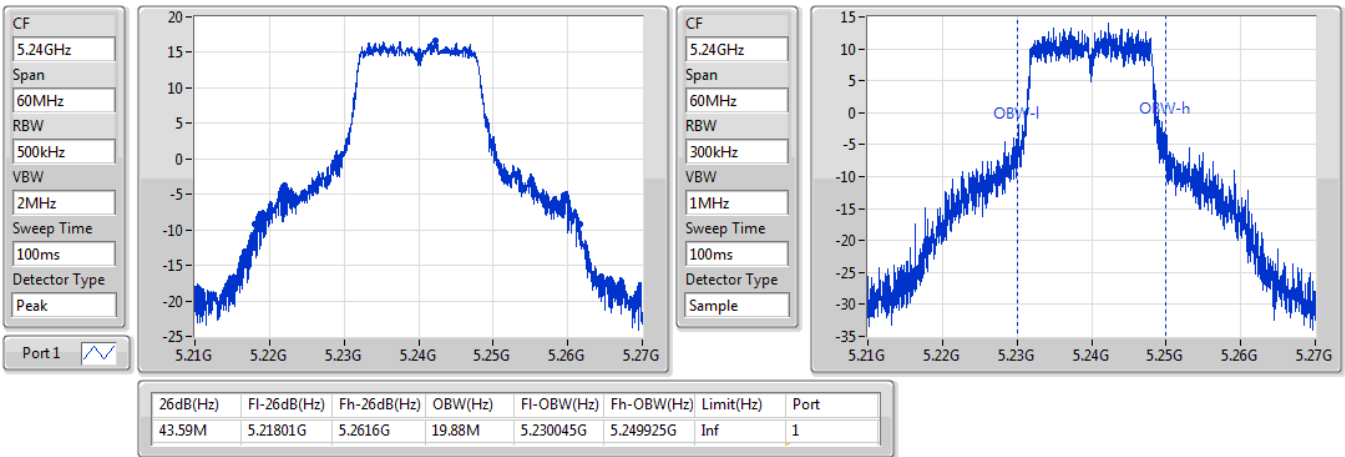

802.11a_Nss1,(6Mbps)_1TX
EBW
5200MHz

26/09/2019

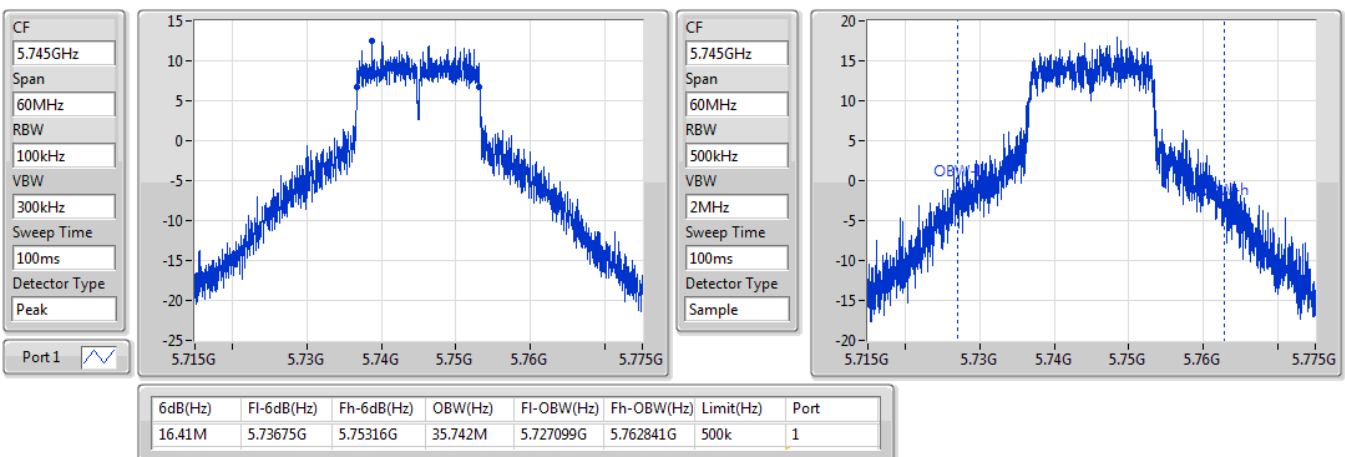


802.11a_Nss1,(6Mbps)_1TX
EBW
5240MHz

26/09/2019

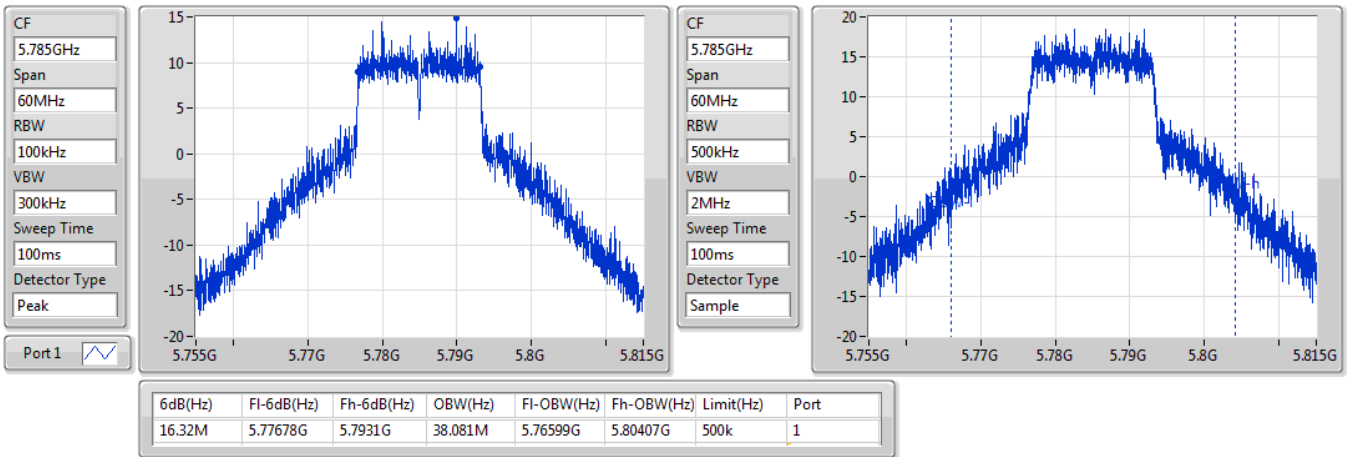

802.11a_Nss1,(6Mbps)_1TX
EBW
5745MHz

26/09/2019

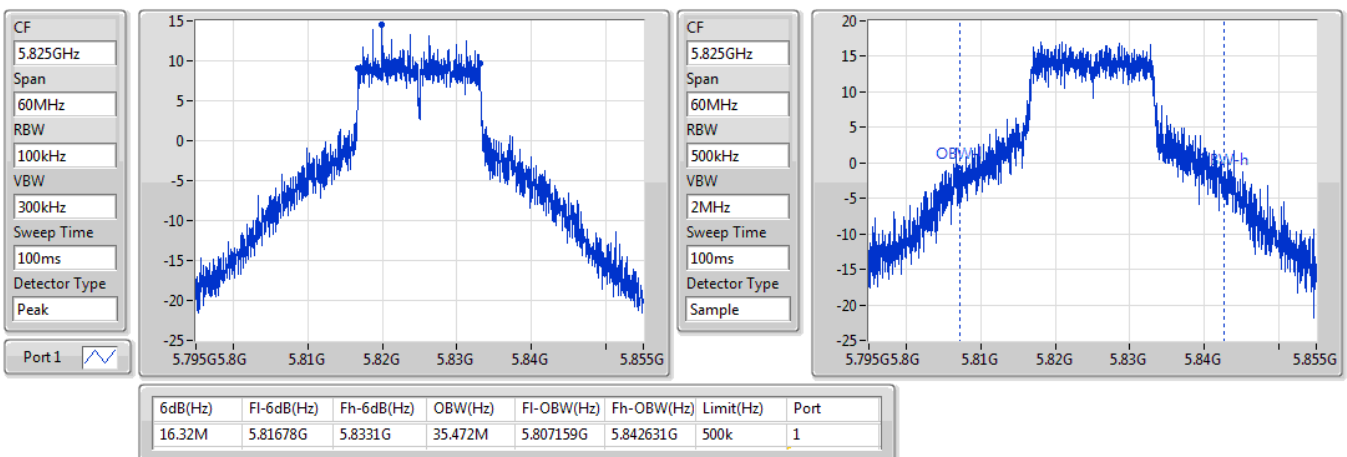


802.11a_Nss1,(6Mbps)_1TX
EBW
5785MHz

26/09/2019

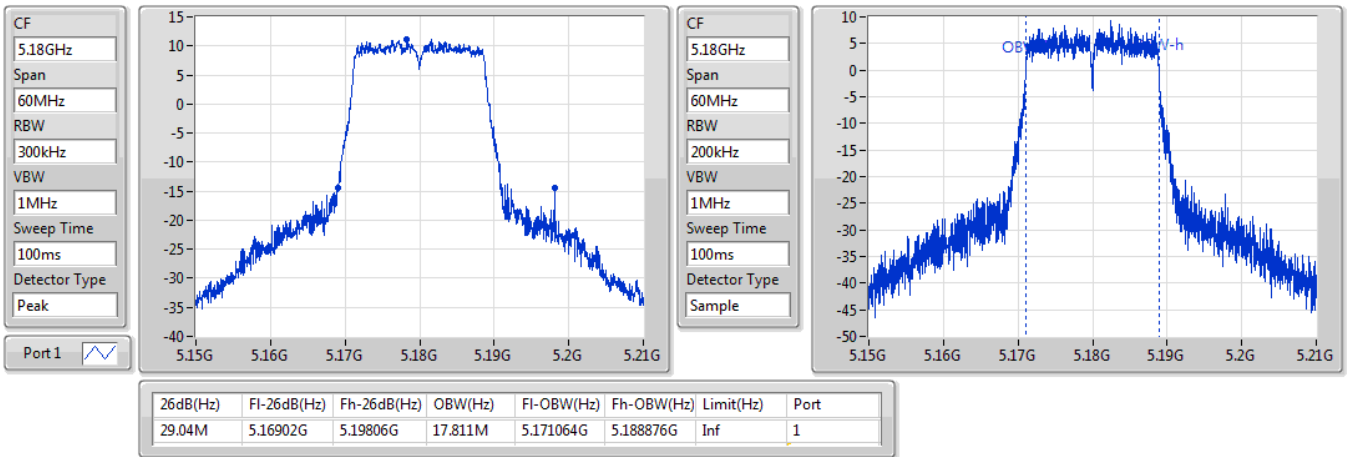

802.11a_Nss1,(6Mbps)_1TX
EBW
5825MHz

26/09/2019

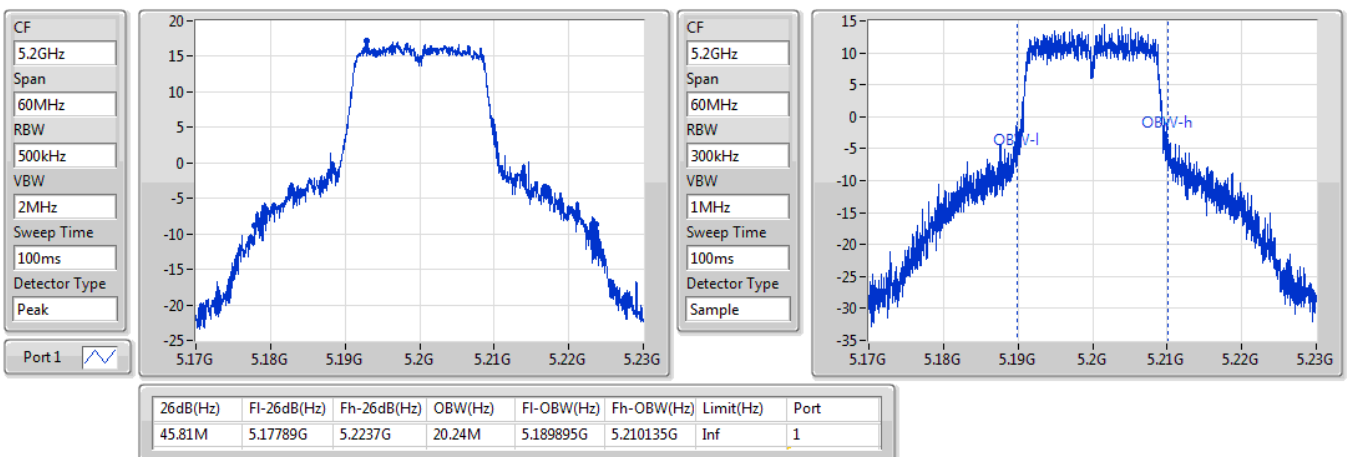


802.11ac VHT20_Nss1,(MCS0)_1TX
EBW
5180MHz

30/10/2019

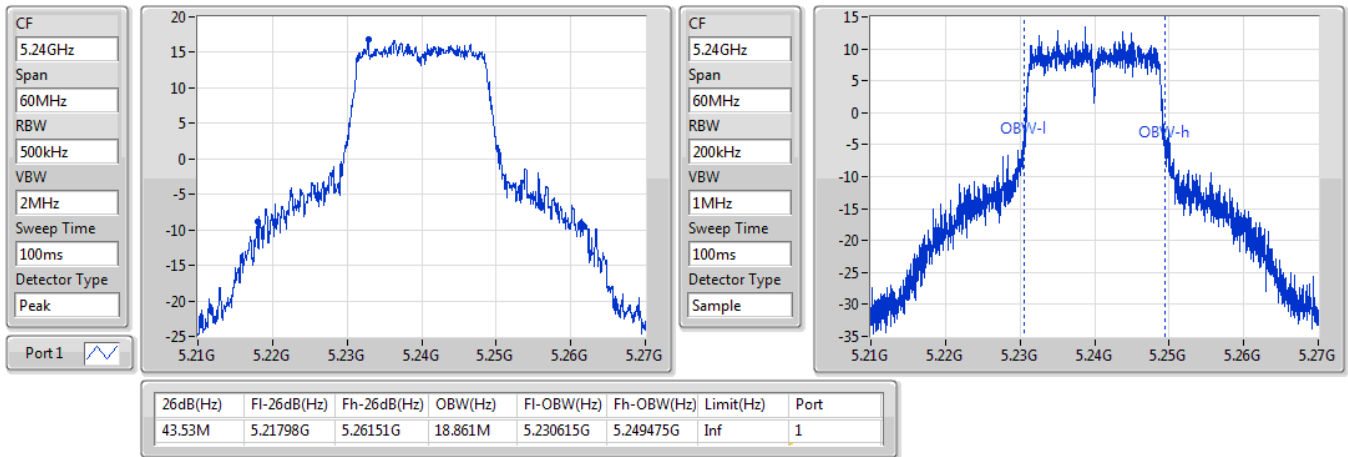

802.11ac VHT20_Nss1,(MCS0)_1TX
EBW
5200MHz

30/10/2019

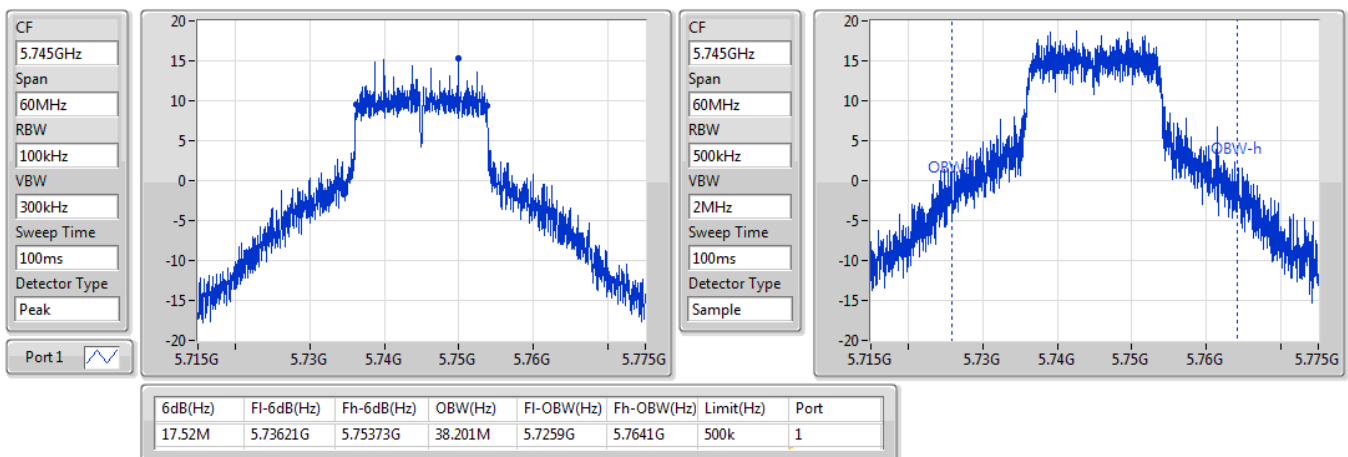


802.11ac VHT20_Nss1,(MCS0)_1TX
EBW
5240MHz

30/10/2019

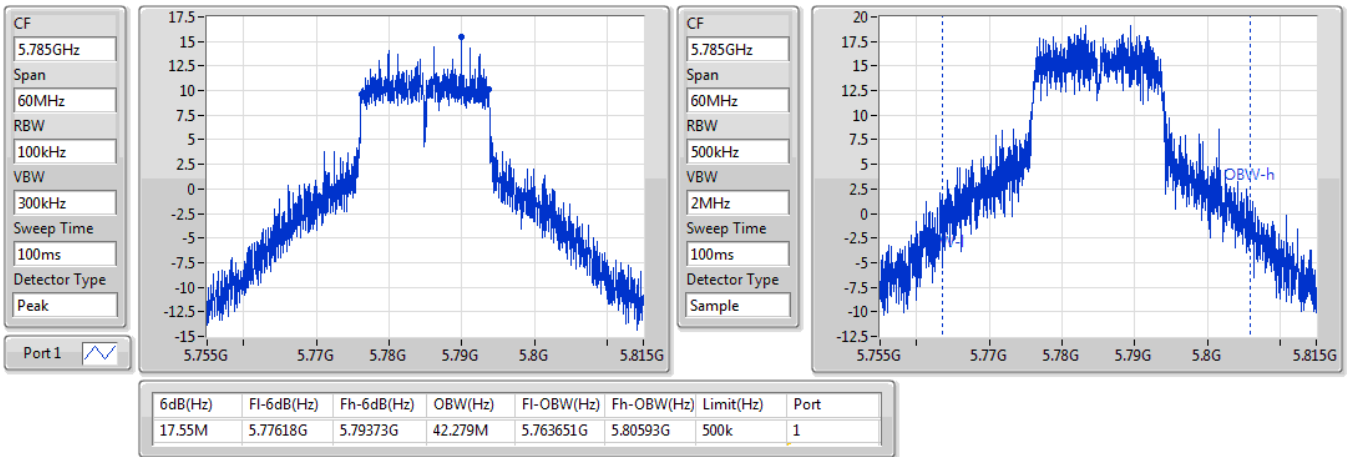

802.11ac VHT20_Nss1,(MCS0)_1TX
EBW
5745MHz

30/10/2019

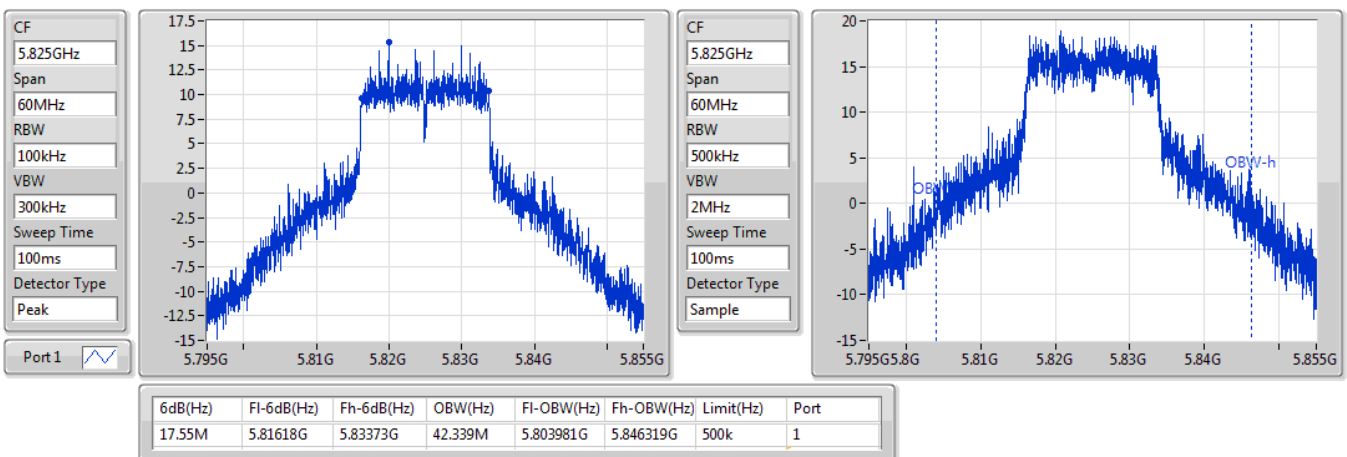


802.11ac VHT20_Nss1,(MCS0)_1TX
EBW
5785MHz

30/10/2019

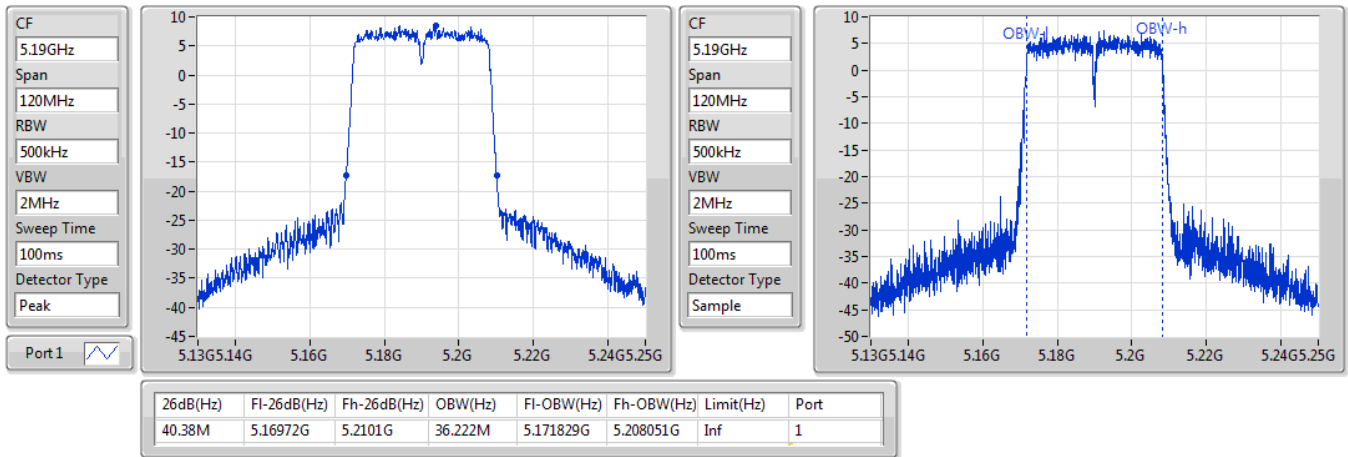

802.11ac VHT20_Nss1,(MCS0)_1TX
EBW
5825MHz

30/10/2019

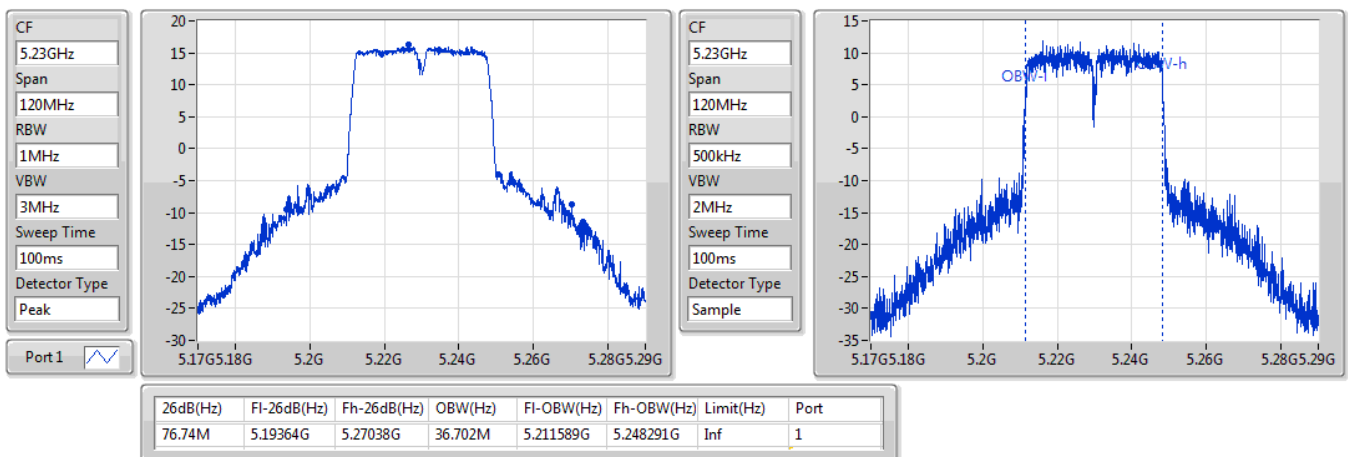


802.11ac VHT40_Nss1,(MCS0)_1TX
EBW
5190MHz

30/10/2019

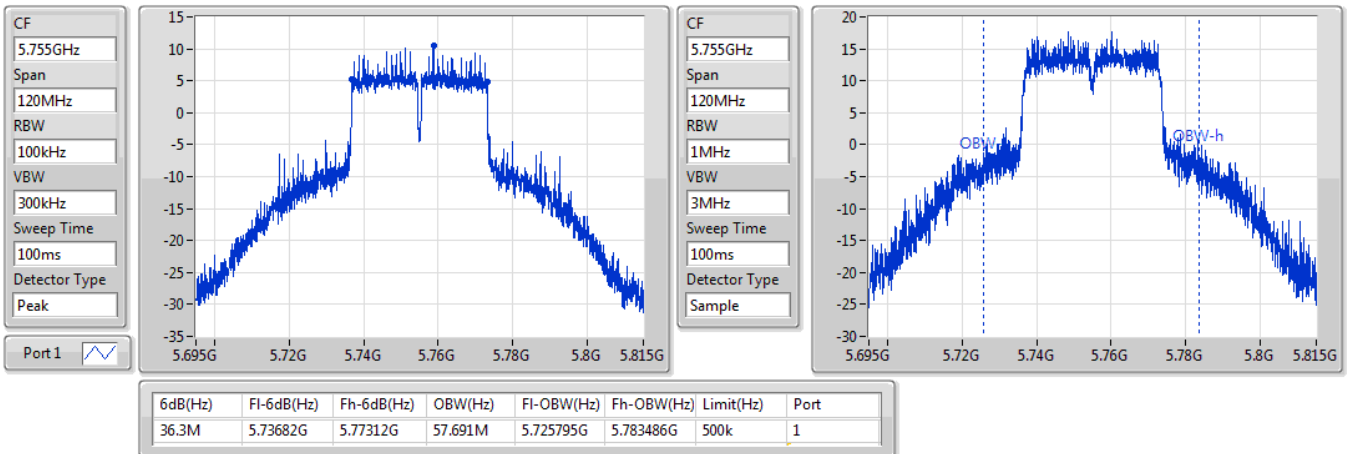

802.11ac VHT40_Nss1,(MCS0)_1TX
EBW
5230MHz

30/10/2019

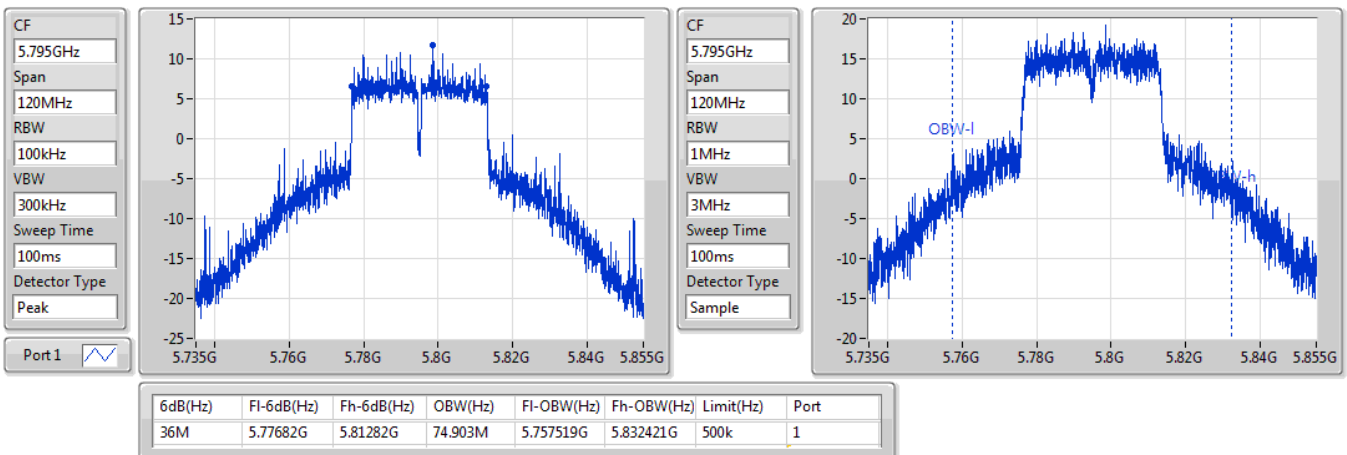


802.11ac VHT40_Nss1,(MCS0)_1TX
EBW
5755MHz

30/10/2019

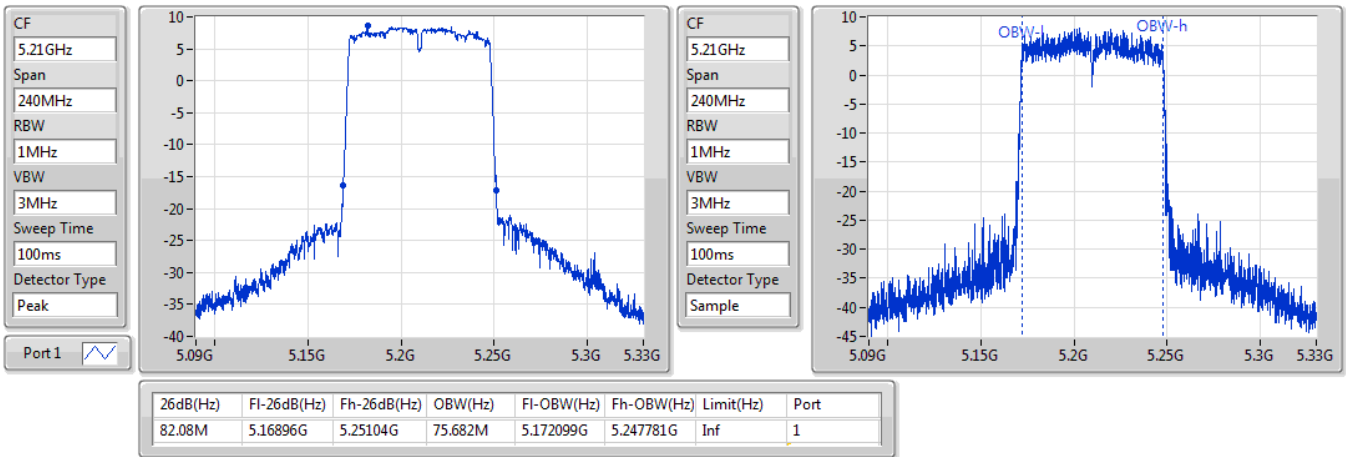

802.11ac VHT40_Nss1,(MCS0)_1TX
EBW
5795MHz

30/10/2019

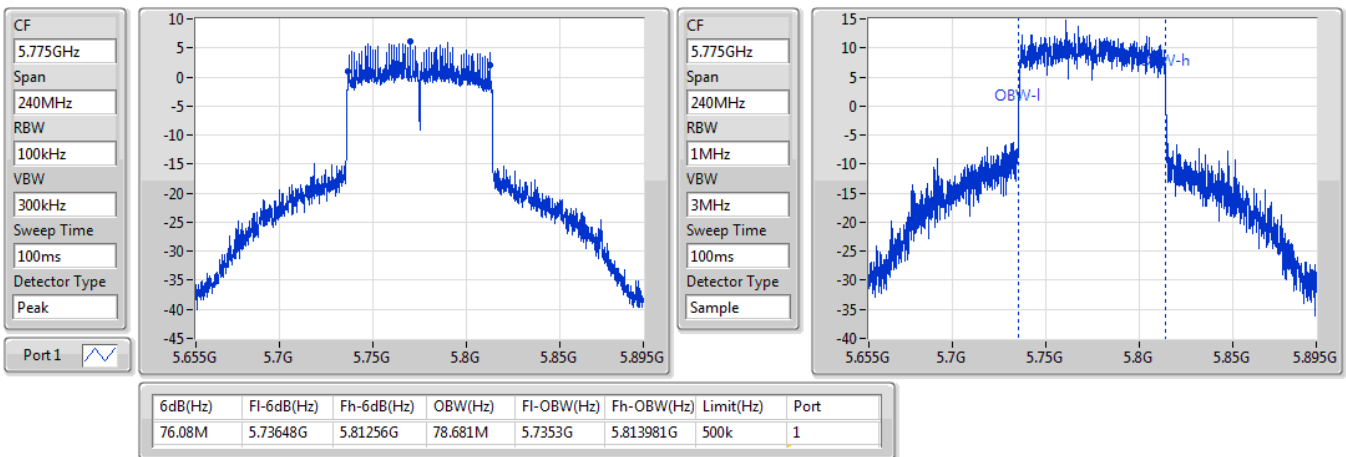


802.11ac VHT80_Nss1,(MCS0)_1TX
EBW
5210MHz

30/10/2019

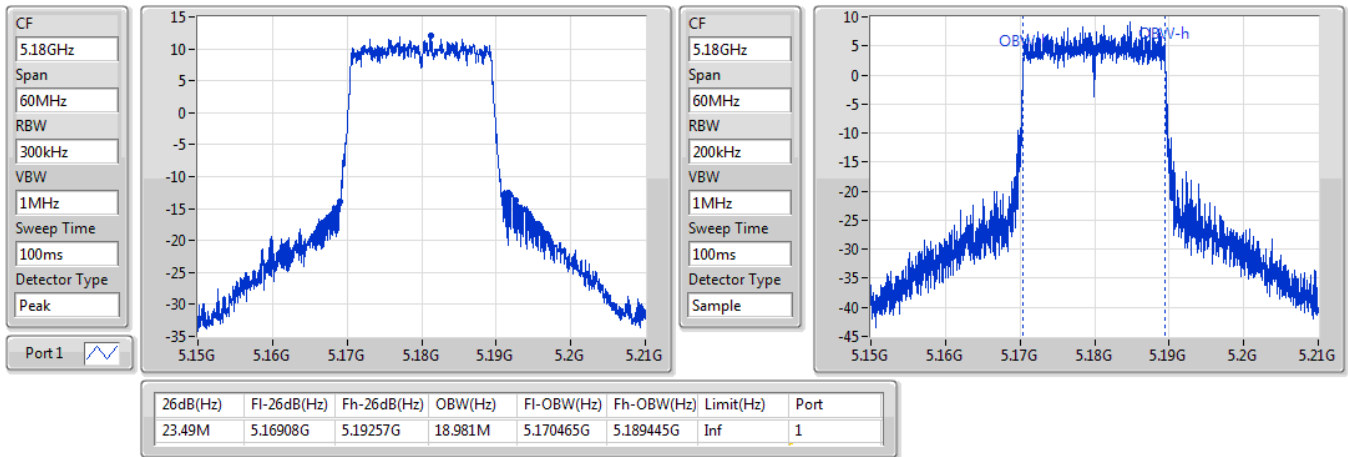

802.11ac VHT80_Nss1,(MCS0)_1TX
EBW
5775MHz

30/10/2019

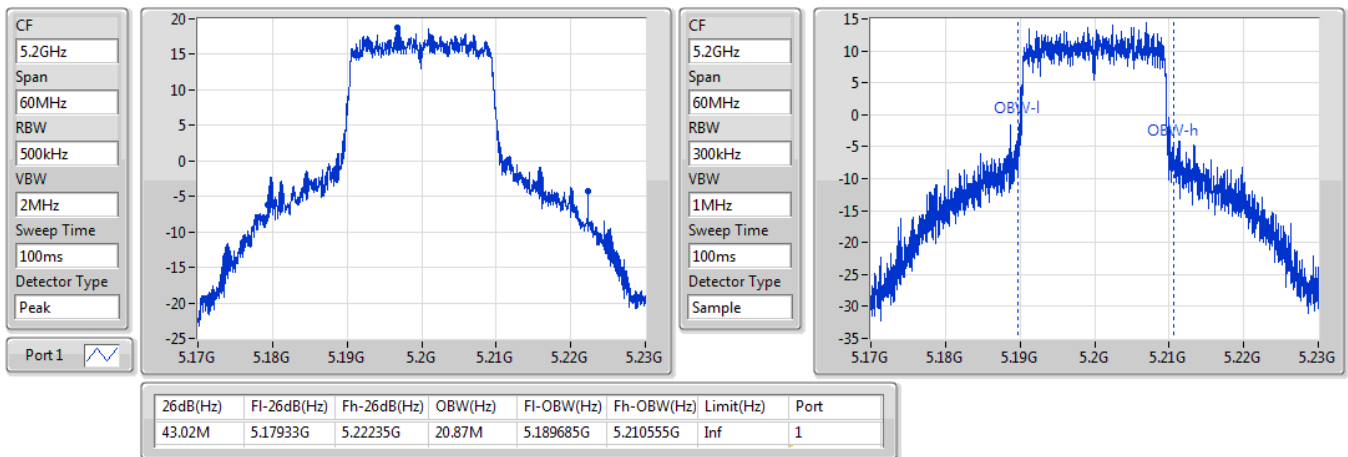


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5180MHz

26/09/2019

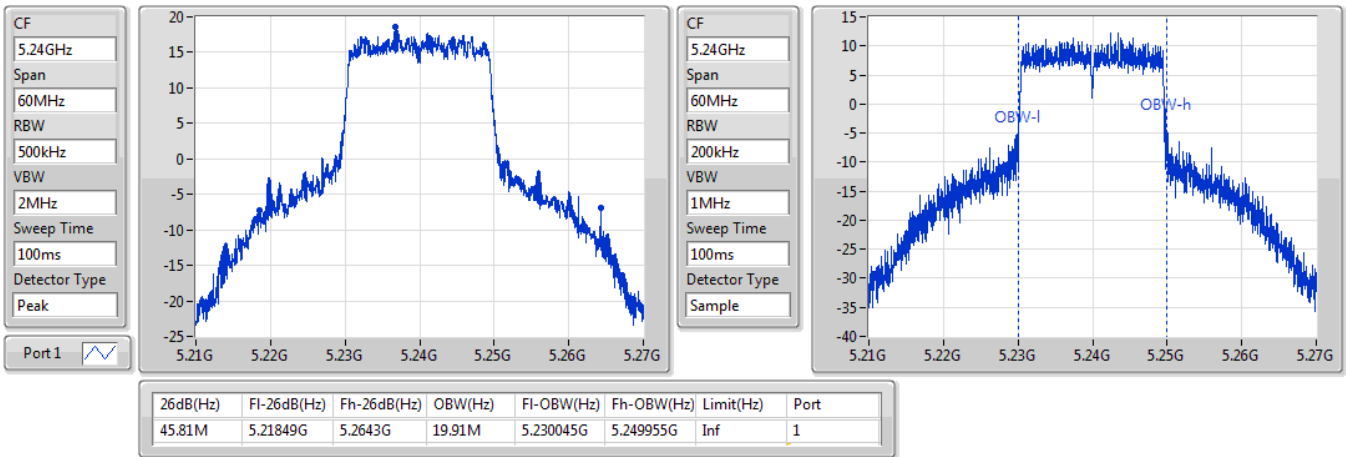

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5200MHz

26/09/2019

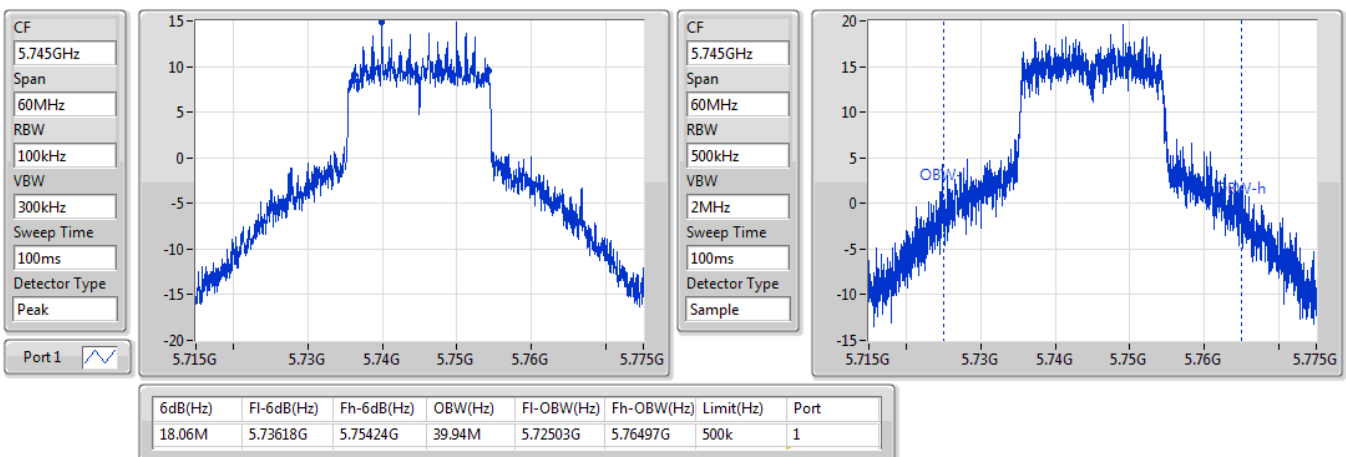


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5240MHz

26/09/2019

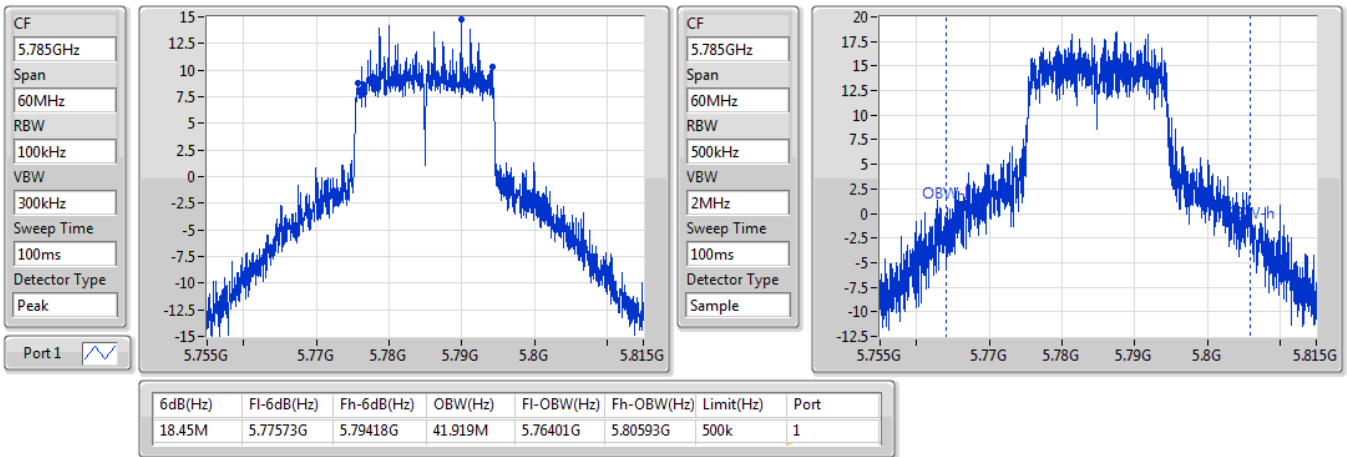

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5745MHz

30/10/2019

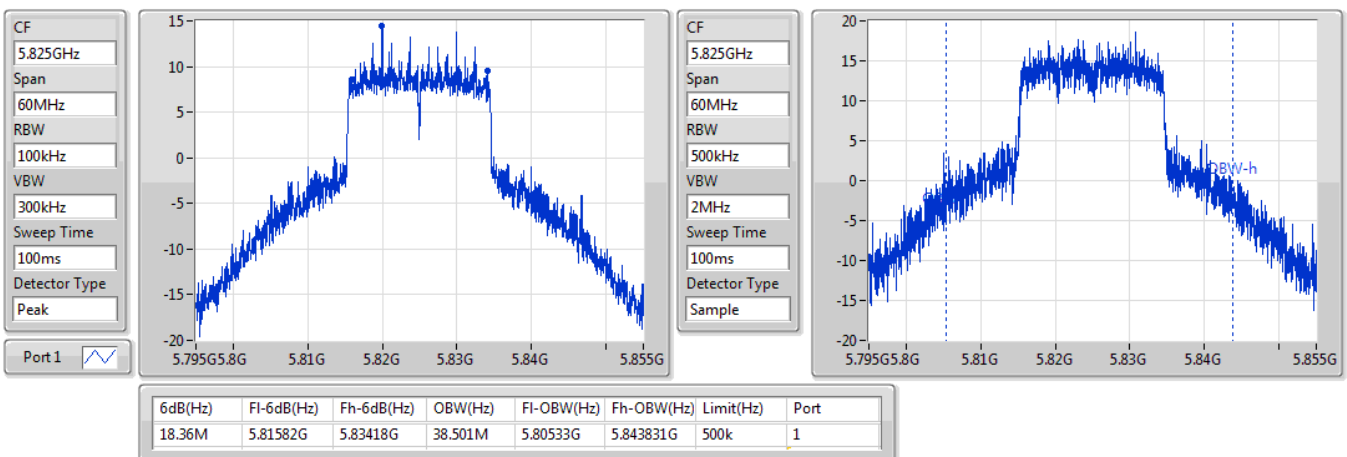


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5785MHz

26/09/2019

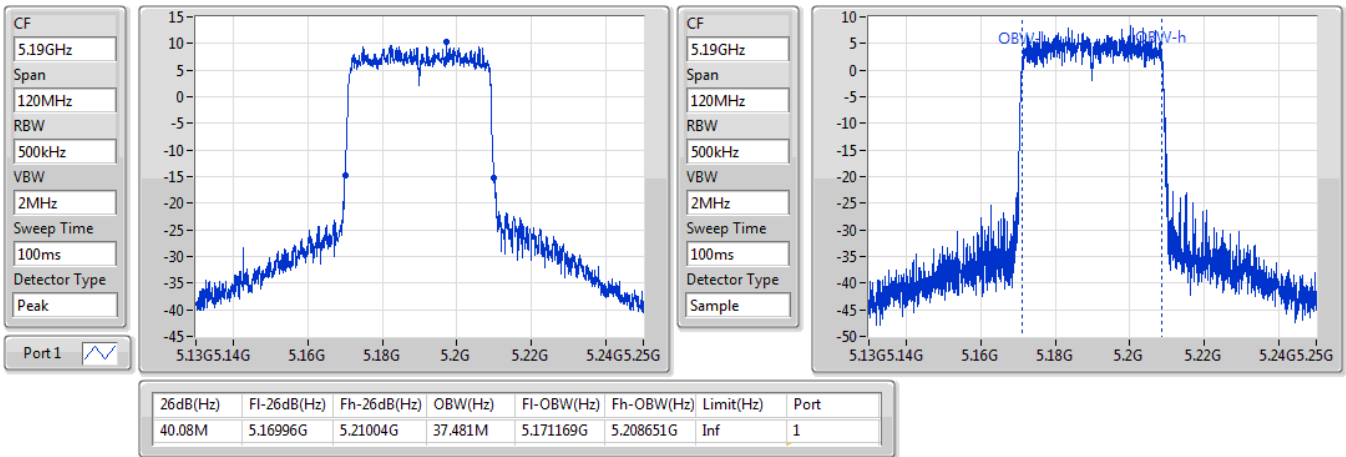

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5825MHz

26/09/2019

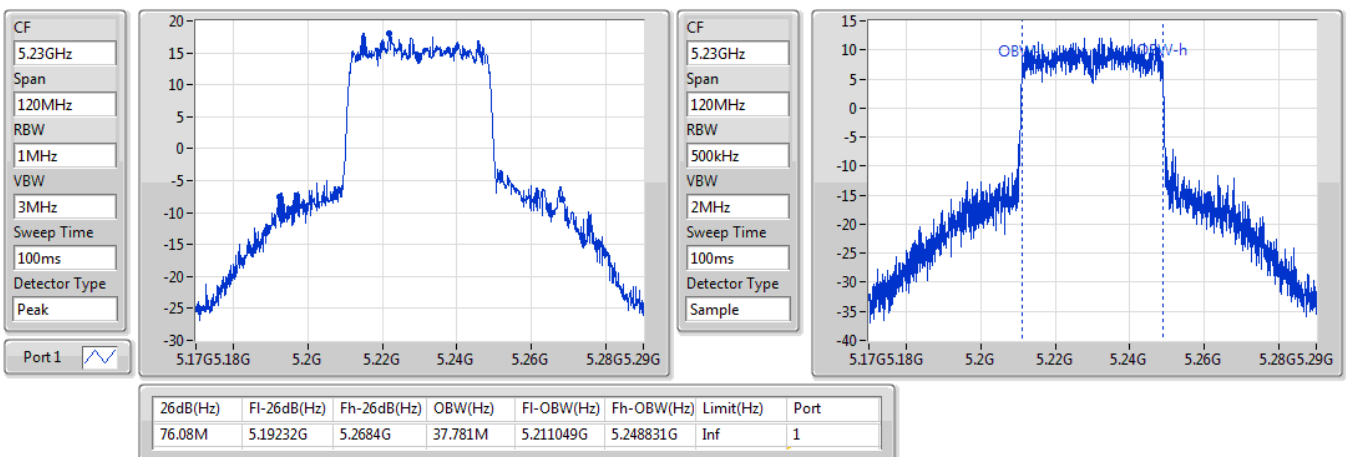


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5190MHz

26/09/2019

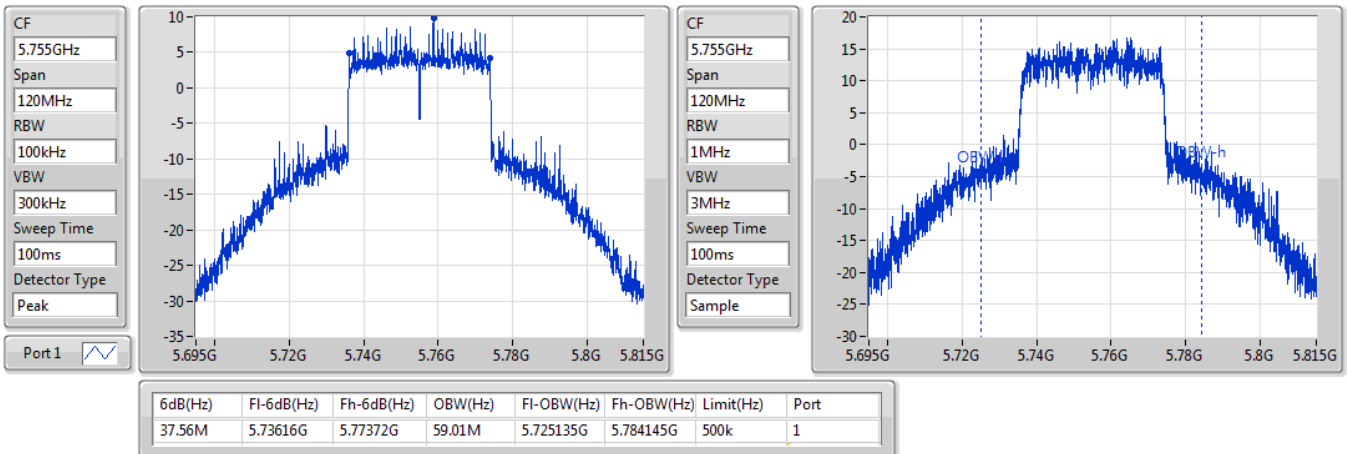

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5230MHz

26/09/2019

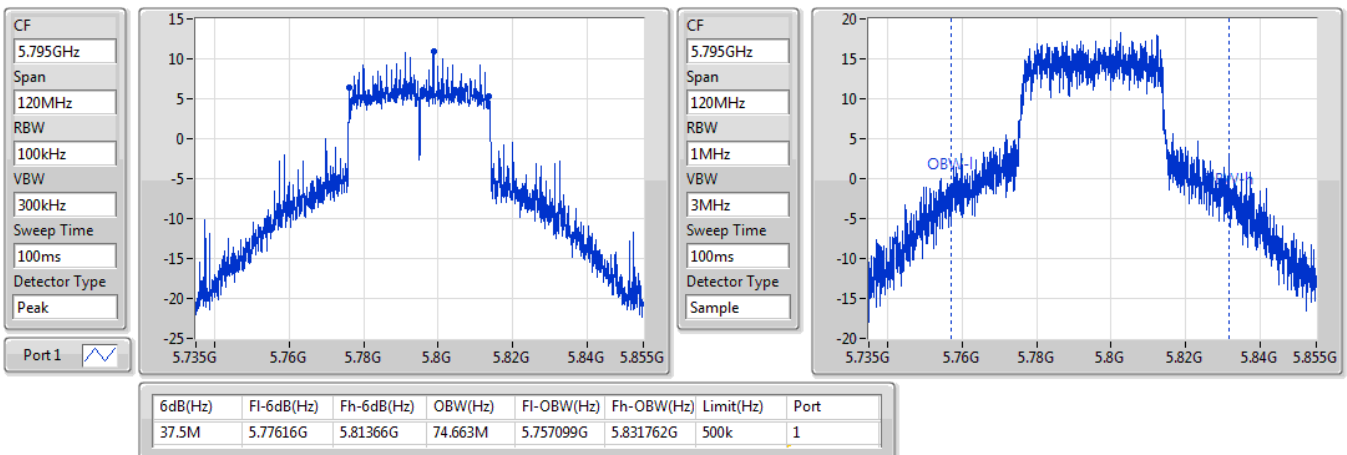


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5755MHz

26/09/2019

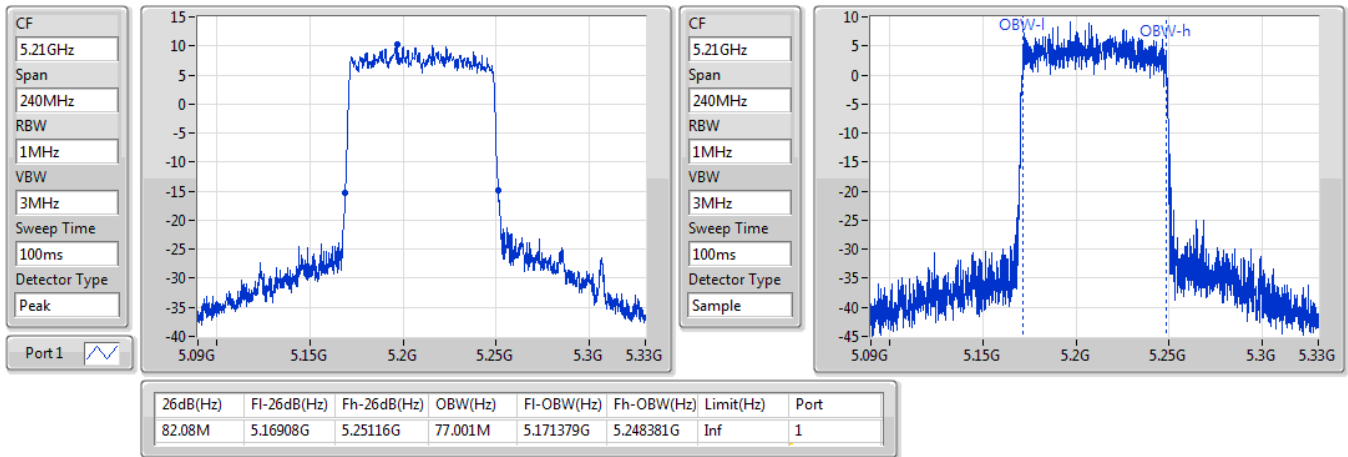

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5795MHz

26/09/2019

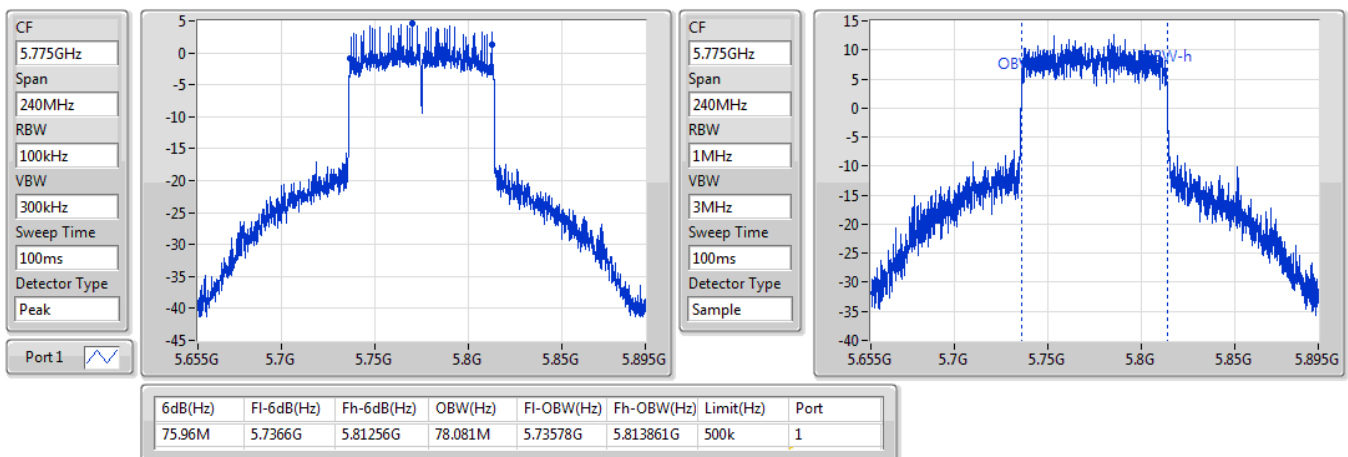


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5210MHz

26/09/2019


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5775MHz

26/09/2019



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	43.77M	25.457M	25M5D1D	21.42M	16.612M
802.11ac VHT20_Nss2,(MCS0)_2TX	44.34M	19.76M	19M8D1D	21.81M	17.751M
802.11ac VHT40_Nss2,(MCS0)_2TX	79.26M	36.942M	36M9D1D	40.02M	36.222M
802.11ac VHT80_Nss2,(MCS0)_2TX	81.96M	75.802M	75M8D1D	81.6M	75.802M
802.11ax HEW20_Nss2,(MCS0)_2TX	43.2M	19.85M	19M8D1D	21.54M	18.981M
802.11ax HEW40_Nss2,(MCS0)_2TX	87.72M	37.961M	38M0D1D	39.96M	37.541M
802.11ax HEW80_Nss2,(MCS0)_2TX	81.24M	77.001M	77M0D1D	81.12M	76.762M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	16.38M	41.469M	41M5D1D	16.35M	33.193M
802.11ac VHT20_Nss2,(MCS0)_2TX	17.58M	43.538M	43M5D1D	17.55M	34.273M
802.11ac VHT40_Nss2,(MCS0)_2TX	36.3M	54.093M	54M1D1D	36M	45.397M
802.11ac VHT80_Nss2,(MCS0)_2TX	75.48M	76.042M	76M0D1D	75.24M	76.042M
802.11ax HEW20_Nss2,(MCS0)_2TX	18.81M	43.898M	43M9D1D	18.06M	35.802M
802.11ax HEW40_Nss2,(MCS0)_2TX	37.62M	53.133M	53M1D1D	37.2M	41.139M
802.11ax HEW80_Nss2,(MCS0)_2TX	76.68M	77.361M	77M4D1D	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

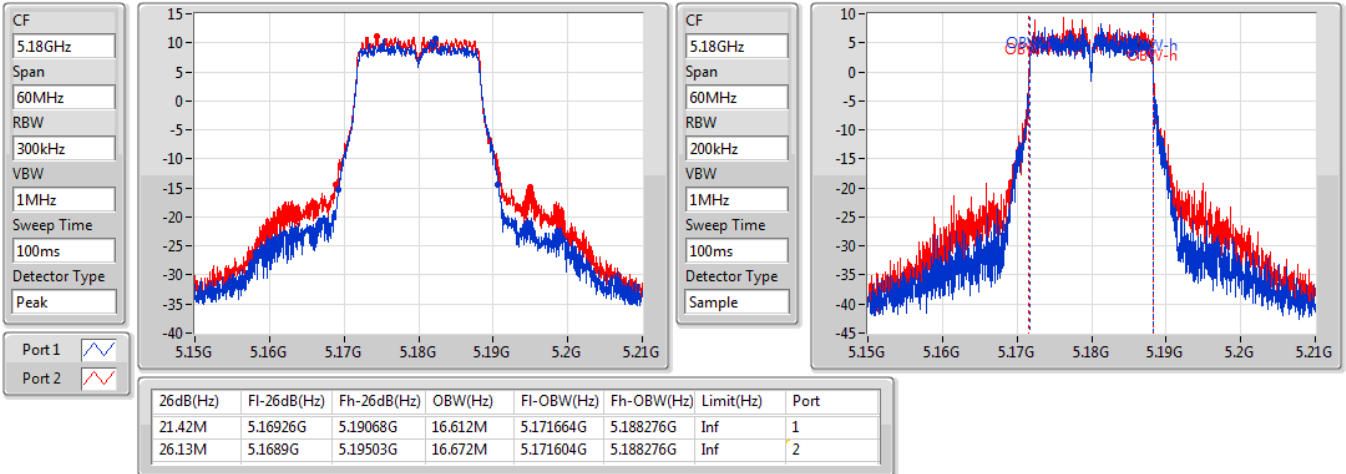
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.42M	16.612M	26.13M	16.672M
5200MHz	Pass	Inf	42.33M	17.421M	43.77M	25.457M
5240MHz	Pass	Inf	27.42M	16.792M	42.6M	19.49M
5745MHz	Pass	500k	16.35M	33.193M	16.35M	36.672M
5785MHz	Pass	500k	16.38M	39.31M	16.38M	41.469M
5825MHz	Pass	500k	16.38M	33.493M	16.38M	37.511M
802.11ac VHT20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.81M	17.781M	22.11M	17.751M
5200MHz	Pass	Inf	37.62M	17.991M	44.34M	19.76M
5240MHz	Pass	Inf	29.55M	17.901M	44.16M	19.04M
5745MHz	Pass	500k	17.55M	34.273M	17.55M	38.081M
5785MHz	Pass	500k	17.58M	42.129M	17.58M	43.538M
5825MHz	Pass	500k	17.55M	35.502M	17.55M	38.051M
802.11ac VHT40_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	40.32M	36.222M	40.02M	36.222M
5230MHz	Pass	Inf	60.72M	36.342M	79.26M	36.942M
5755MHz	Pass	500k	36.3M	45.397M	36.24M	49.595M
5795MHz	Pass	500k	36M	51.694M	36.3M	54.093M
802.11ac VHT80_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	81.96M	75.802M	81.6M	75.802M
5775MHz	Pass	500k	75.48M	76.042M	75.24M	76.042M
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.87M	18.981M	21.54M	18.981M
5200MHz	Pass	Inf	36.21M	19.07M	43.2M	19.85M
5240MHz	Pass	Inf	22.92M	19.04M	42.45M	19.61M
5745MHz	Pass	500k	18.81M	36.072M	18.18M	39.52M
5785MHz	Pass	500k	18.75M	42.279M	18.75M	43.898M
5825MHz	Pass	500k	18.78M	35.802M	18.06M	39.88M
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	40.02M	37.661M	39.96M	37.541M
5230MHz	Pass	Inf	45.96M	37.601M	87.72M	37.961M
5755MHz	Pass	500k	37.62M	41.139M	37.26M	47.136M
5795MHz	Pass	500k	37.62M	48.876M	37.2M	53.133M
802.11ax HEW80_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	81.12M	76.762M	81.24M	77.001M
5775MHz	Pass	500k	76.68M	77.121M	75.36M	77.361M

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

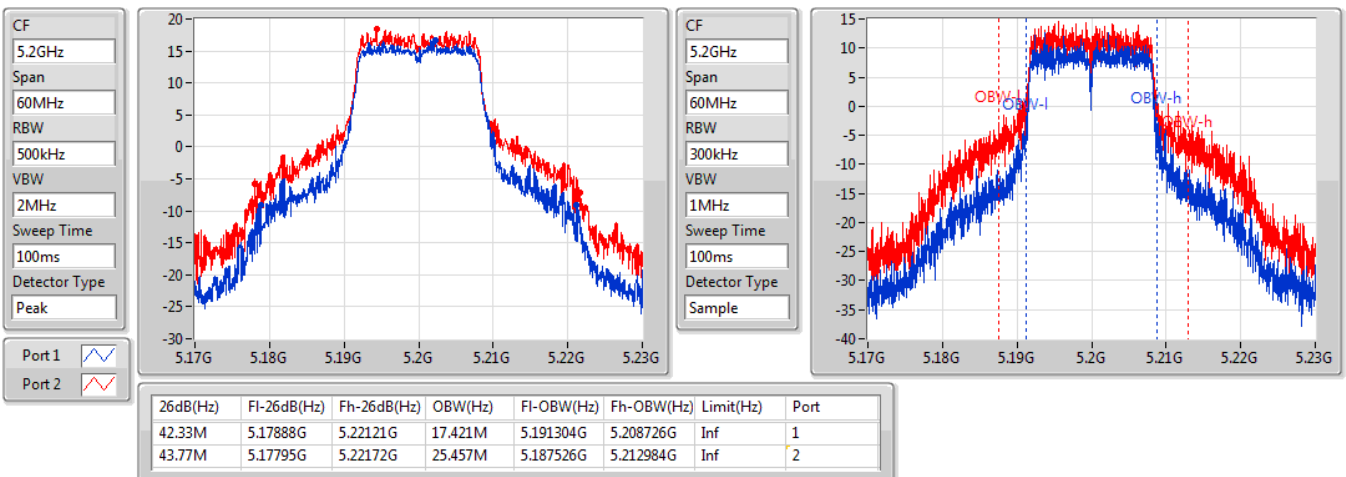
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_2TX
EBW
5180MHz

04/10/2019

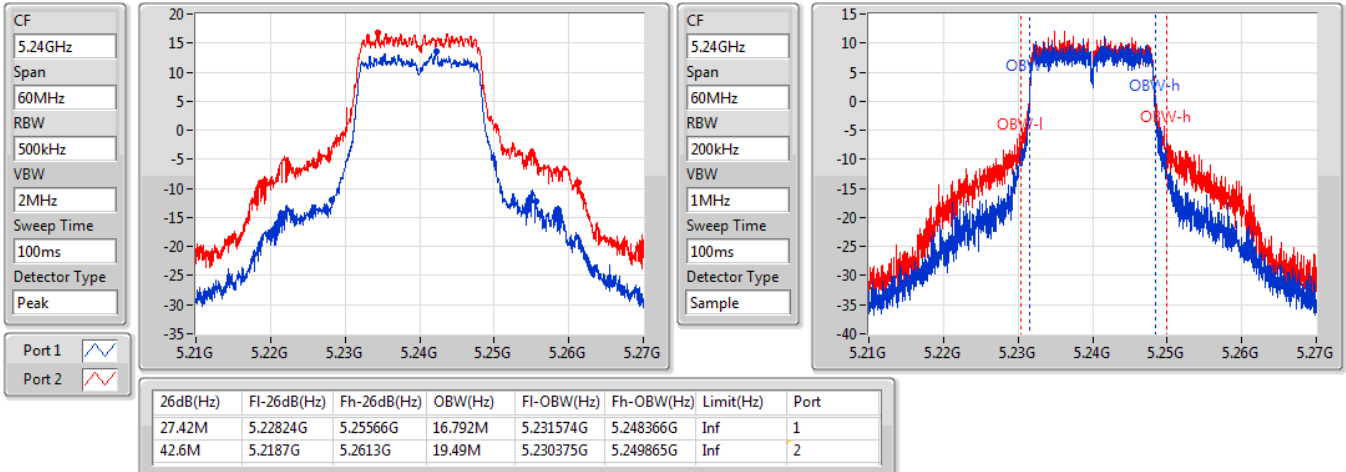

802.11a_Nss1,(6Mbps)_2TX
EBW
5200MHz

04/10/2019

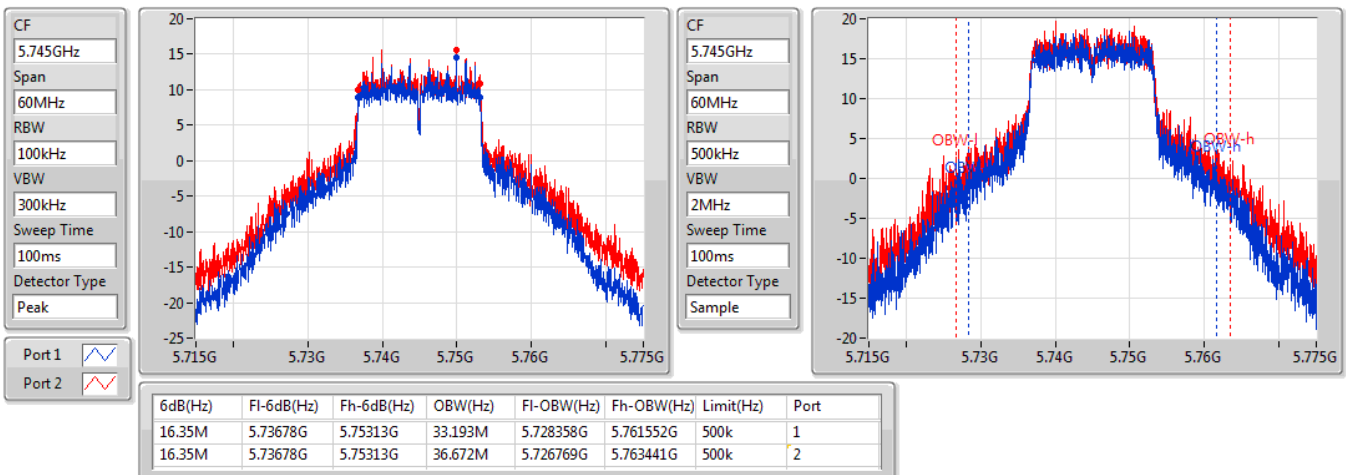


802.11a_Nss1,(6Mbps)_2TX
EBW
5240MHz

04/10/2019

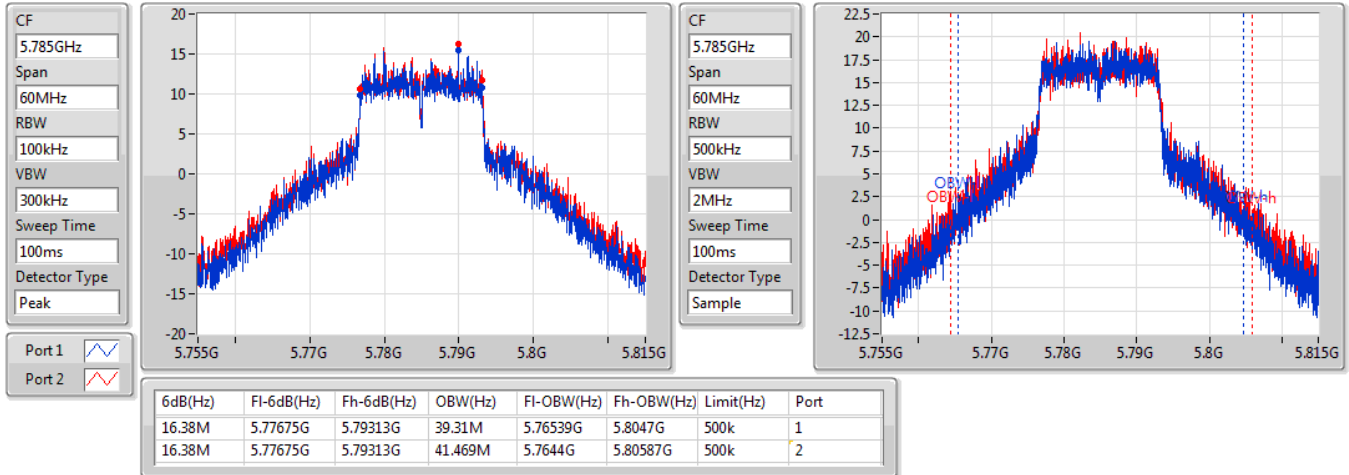

802.11a_Nss1,(6Mbps)_2TX
EBW
5745MHz

04/10/2019

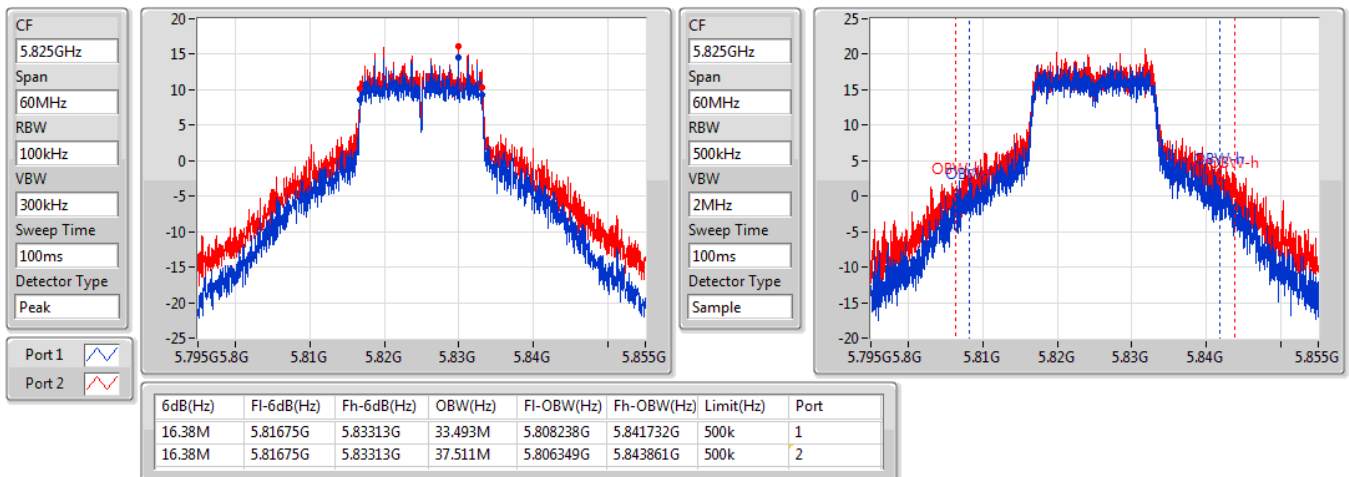


802.11a_Nss1,(6Mbps)_2TX
EBW
5785MHz

04/10/2019

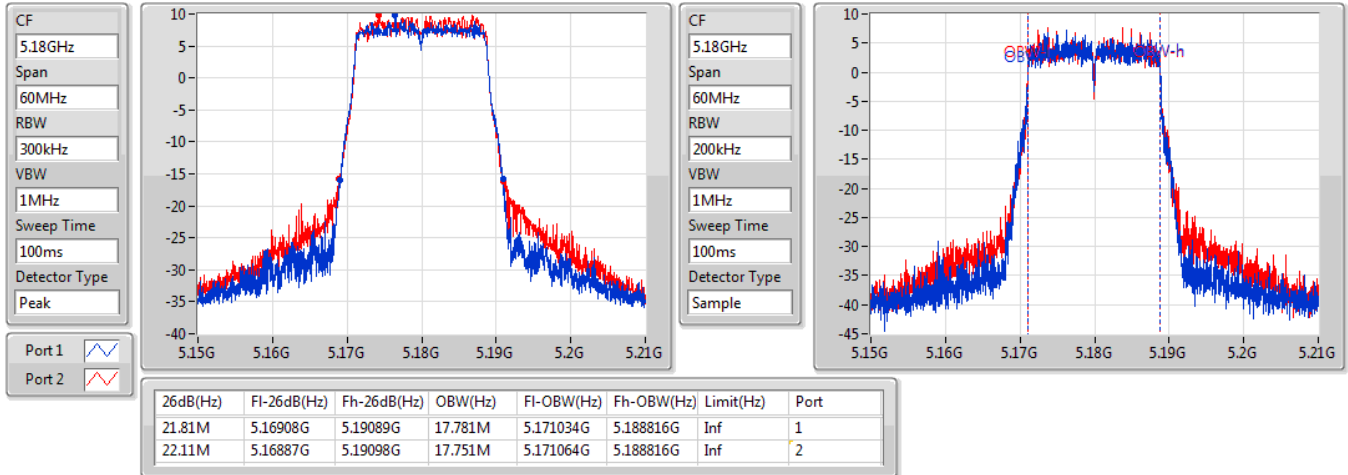

802.11a_Nss1,(6Mbps)_2TX
EBW
5825MHz

04/10/2019

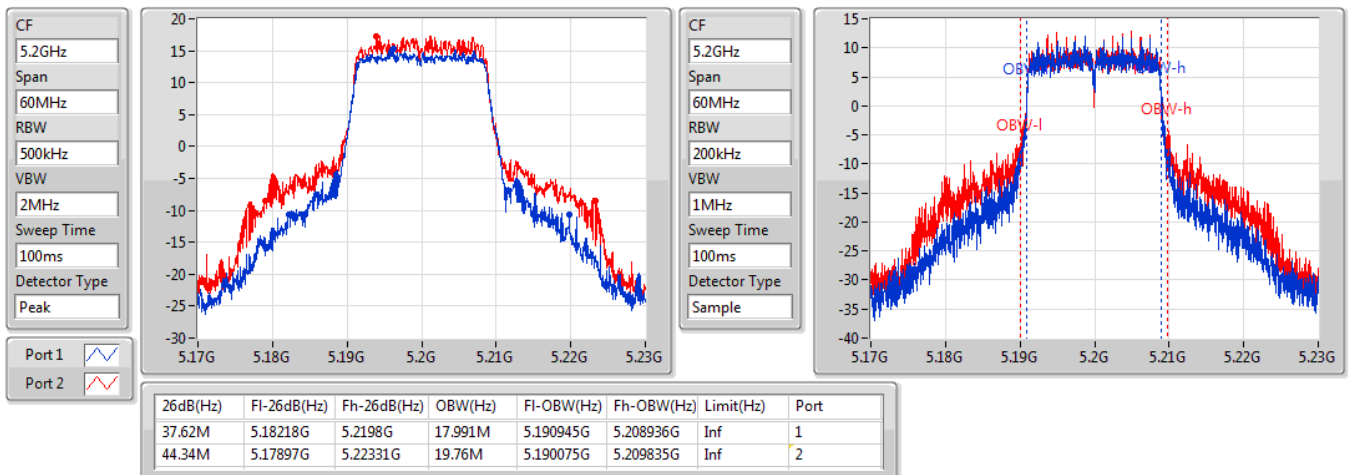


802.11ac VHT20_Nss2,(MCS0)_2TX
EBW
5180MHz

30/10/2019

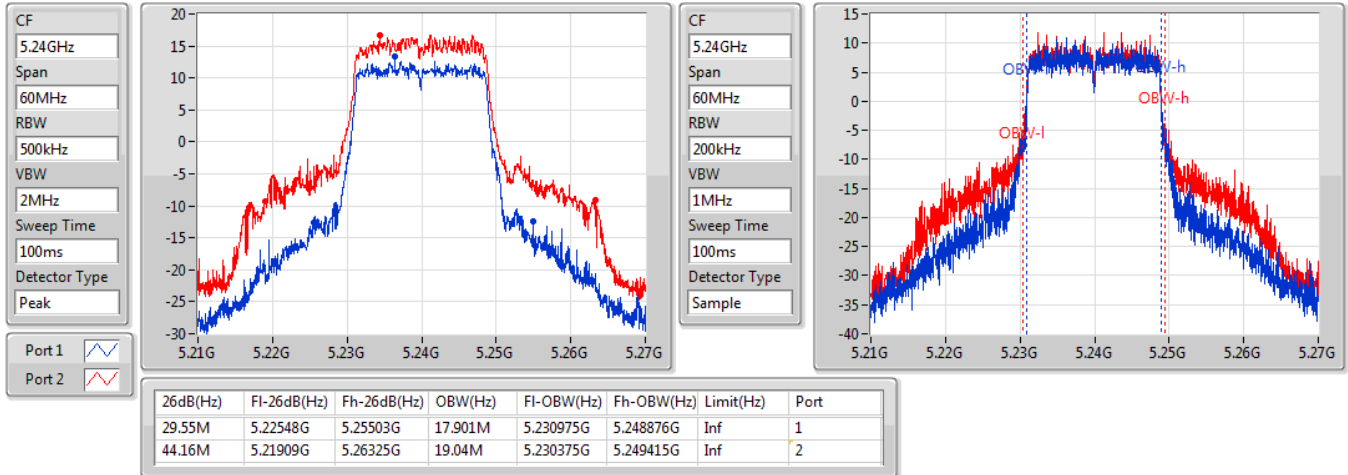

802.11ac VHT20_Nss2,(MCS0)_2TX
EBW
5200MHz

30/10/2019

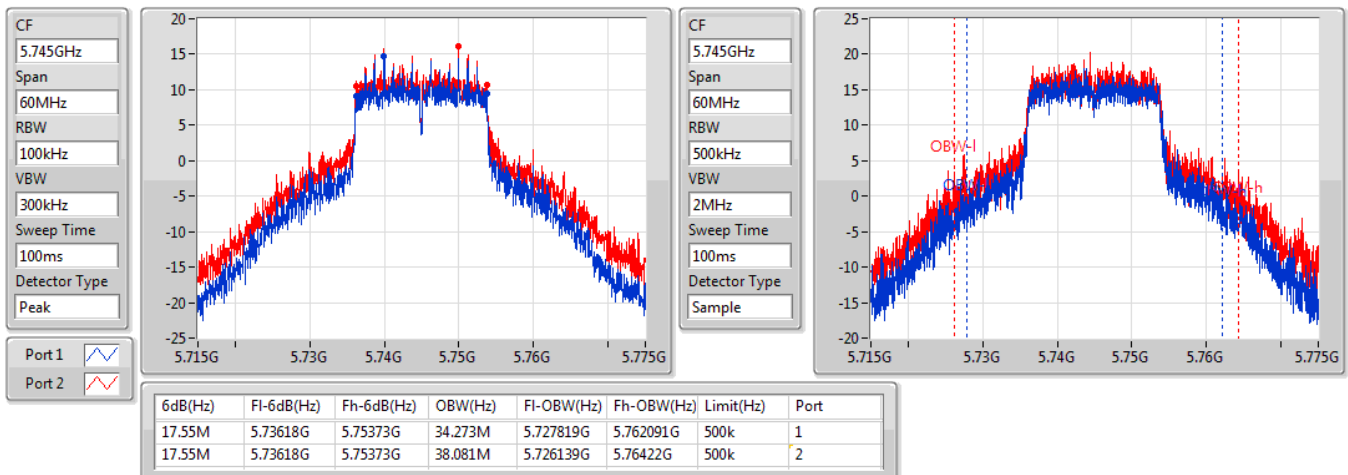


802.11ac VHT20_Nss2,(MCS0)_2TX
EBW
5240MHz

31/10/2019

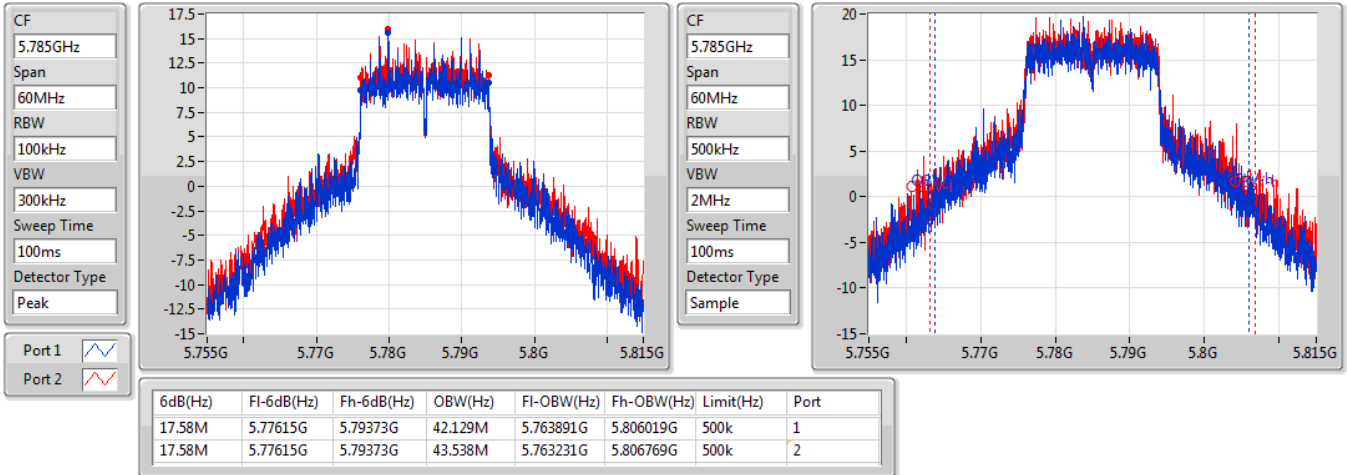

802.11ac VHT20_Nss2,(MCS0)_2TX
EBW
5745MHz

30/10/2019

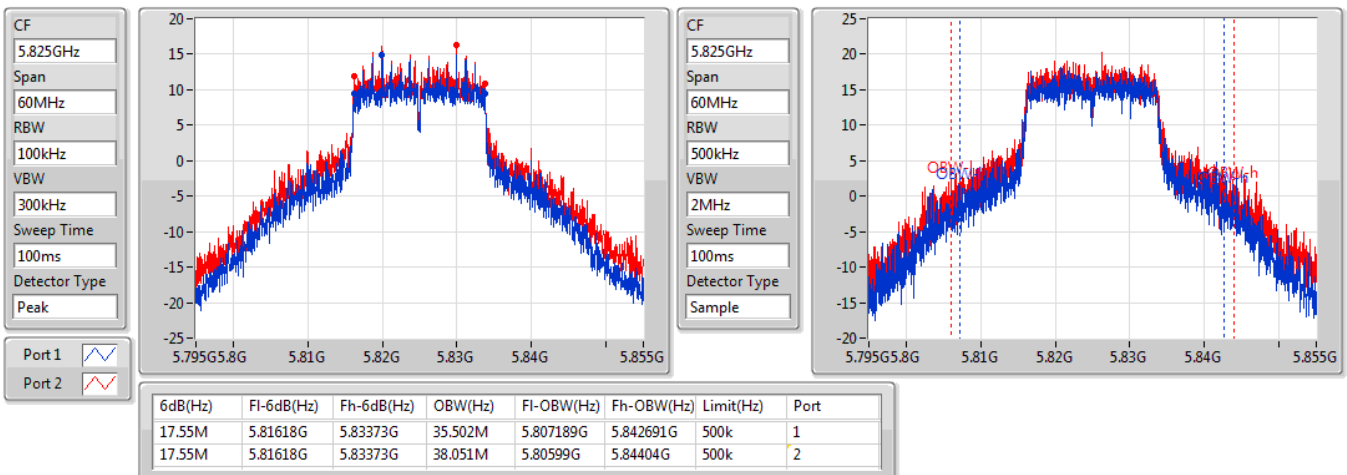


802.11ac VHT20_Nss2,(MCS0)_2TX
EBW
5785MHz

30/10/2019

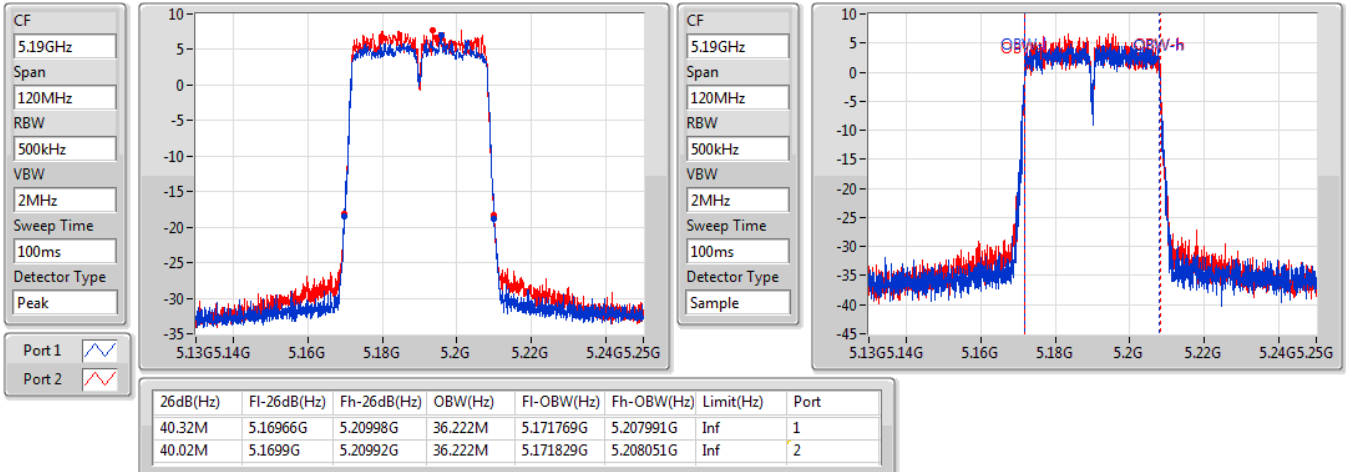

802.11ac VHT20_Nss2,(MCS0)_2TX
EBW
5825MHz

30/10/2019

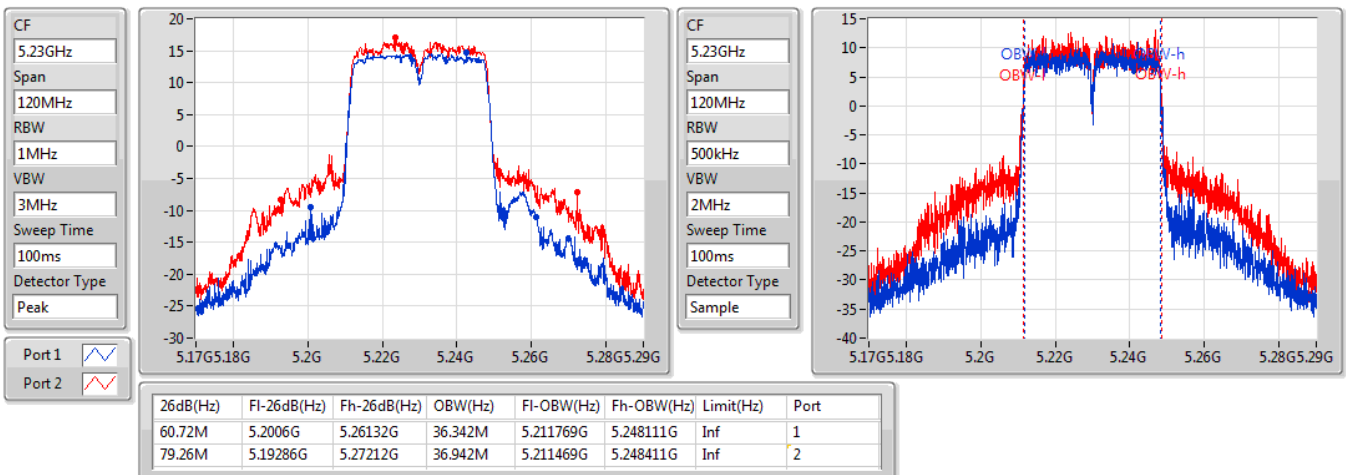


802.11ac VHT40_Nss2,(MCS0)_2TX
EBW
5190MHz

31/10/2019

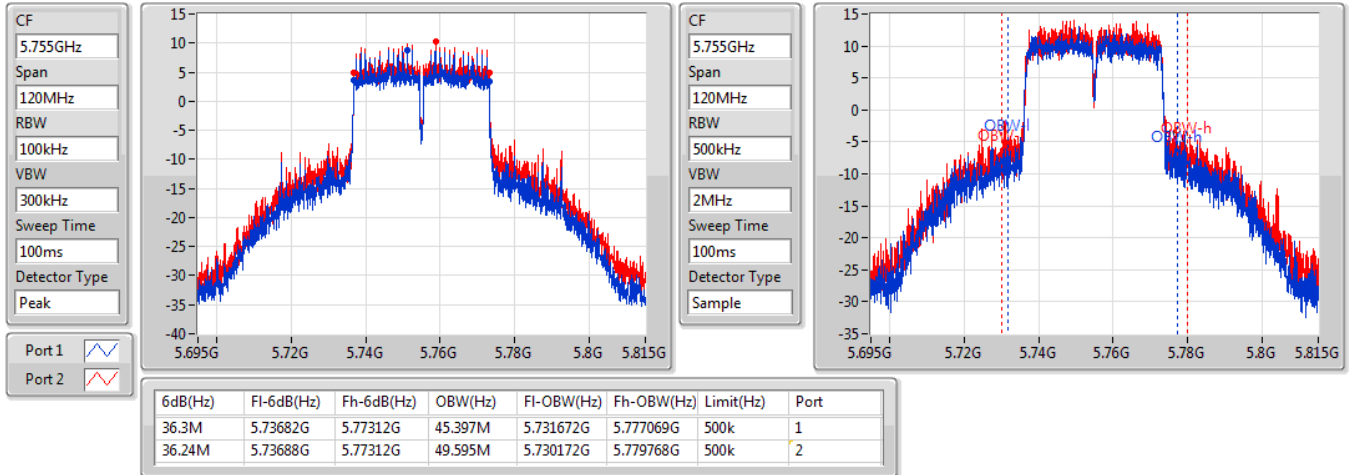

802.11ac VHT40_Nss2,(MCS0)_2TX
EBW
5230MHz

31/10/2019

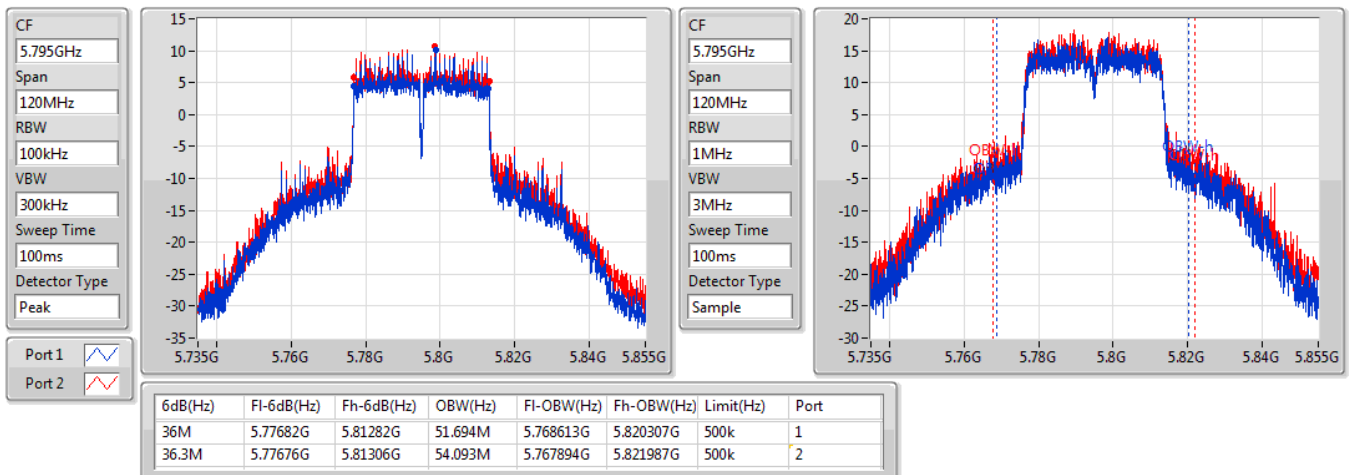


802.11ac VHT40_Nss2,(MCS0)_2TX
EBW
5755MHz

30/10/2019

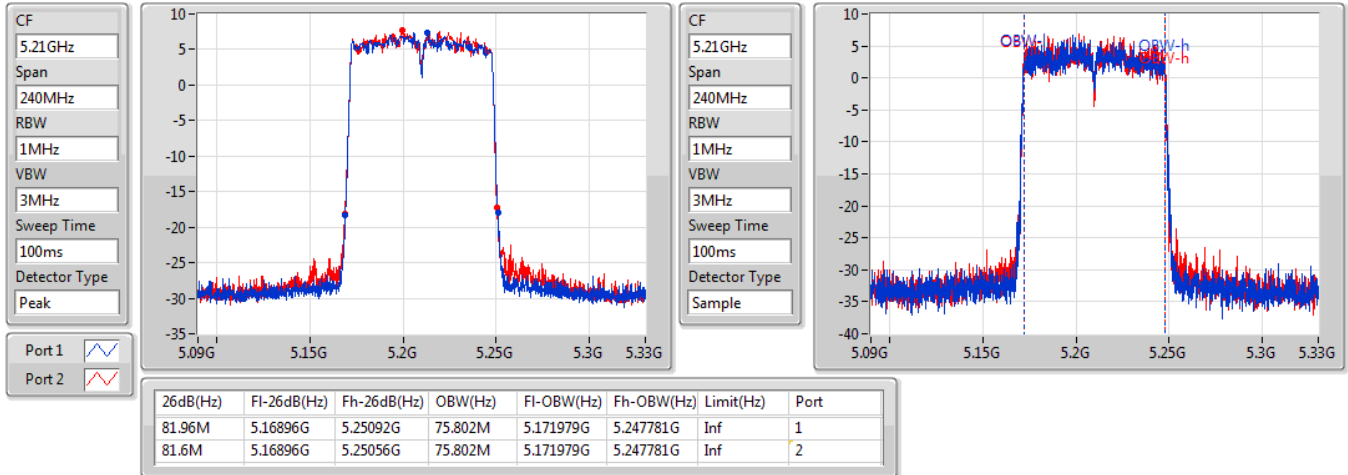

802.11ac VHT40_Nss2,(MCS0)_2TX
EBW
5795MHz

30/10/2019

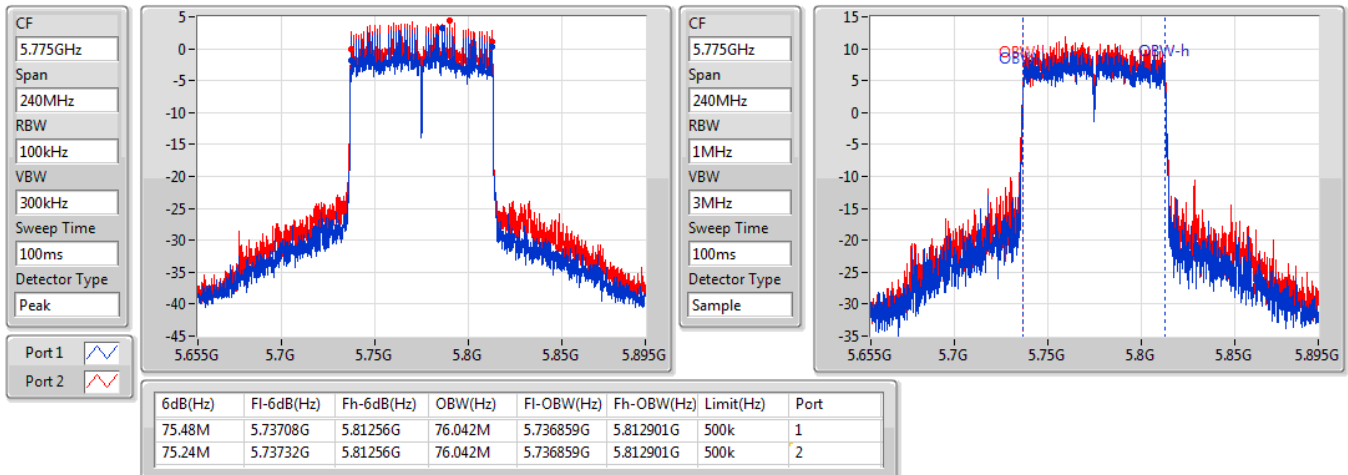


802.11ac VHT80_Nss2,(MCS0)_2TX
EBW
5210MHz

31/10/2019

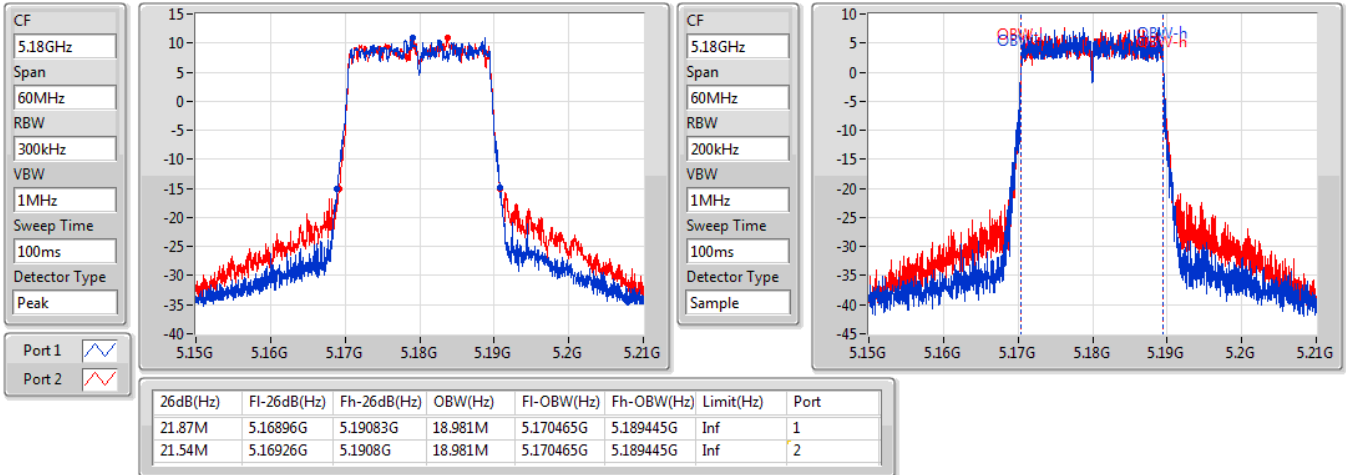

802.11ac VHT80_Nss2,(MCS0)_2TX
EBW
5775MHz

30/10/2019

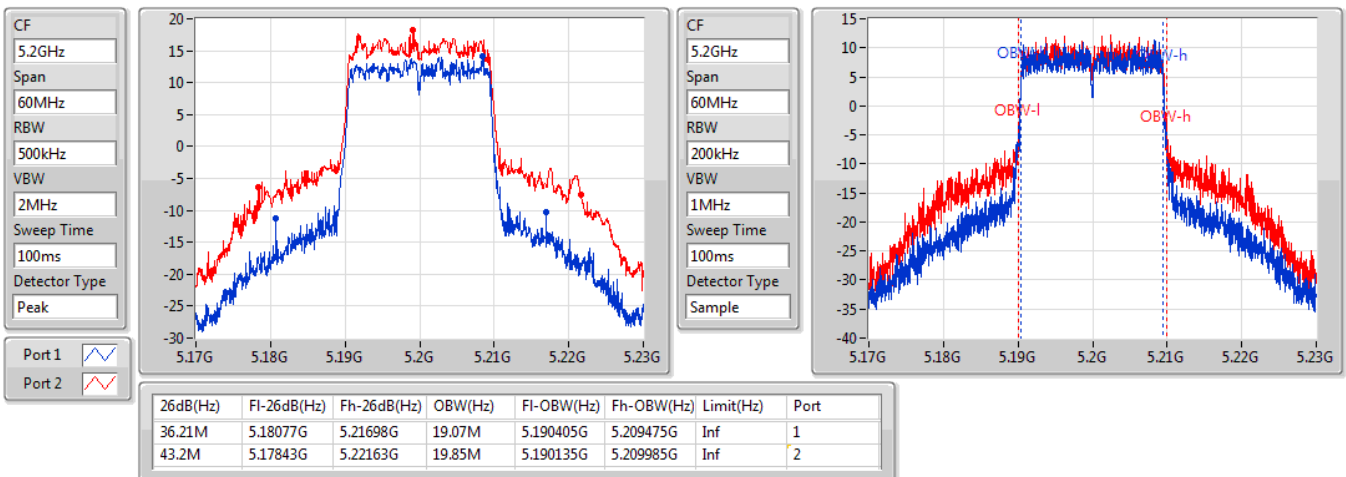


802.11ax HEW20_Nss2,(MCS0)_2TX
EBW
5180MHz

04/10/2019

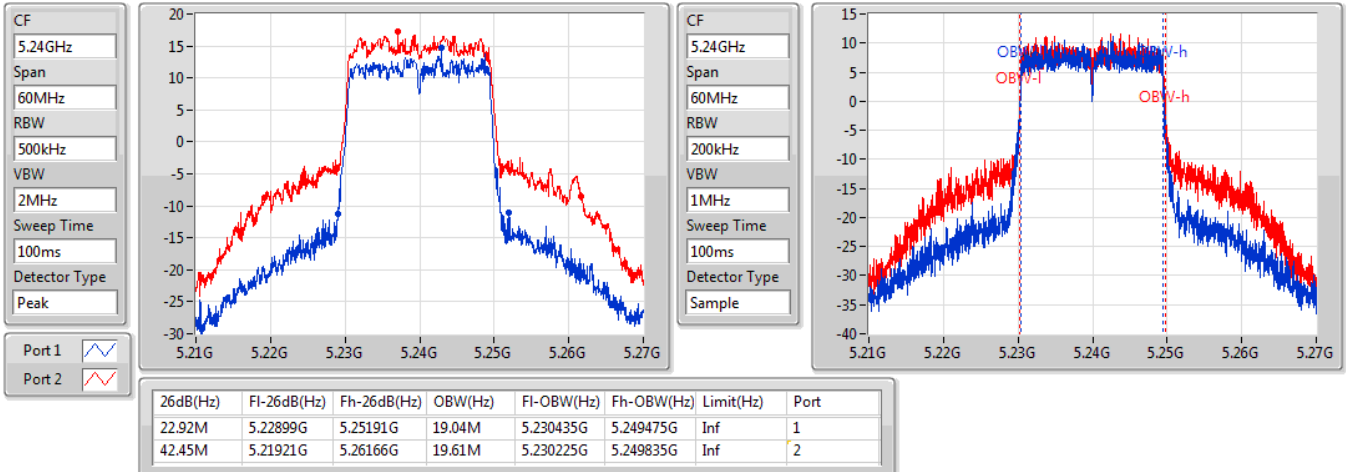

802.11ax HEW20_Nss2,(MCS0)_2TX
EBW
5200MHz

05/10/2019

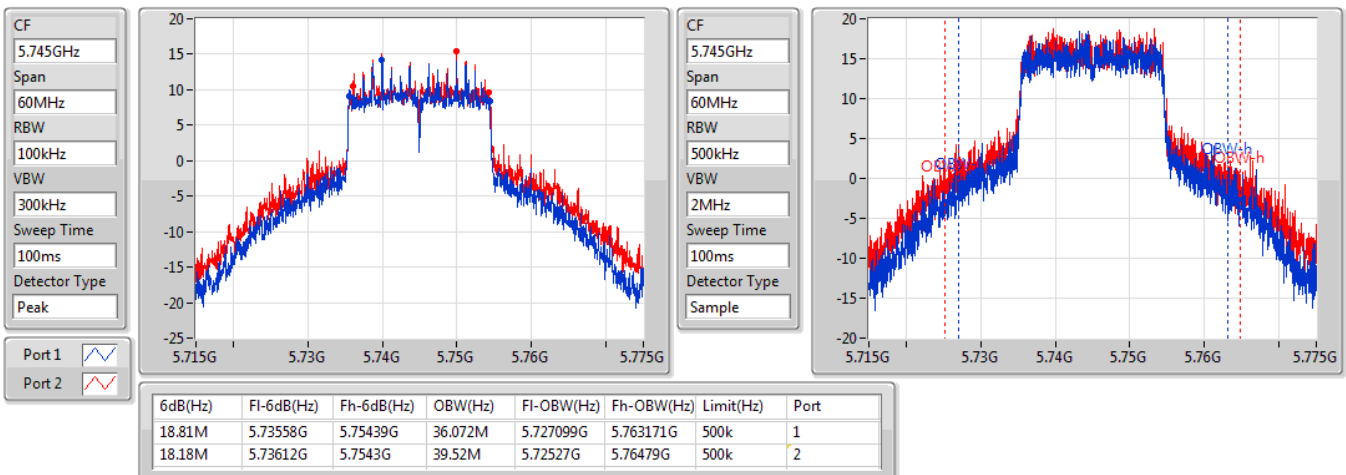


802.11ax HEW20_Nss2,(MCS0)_2TX
EBW
5240MHz

05/10/2019

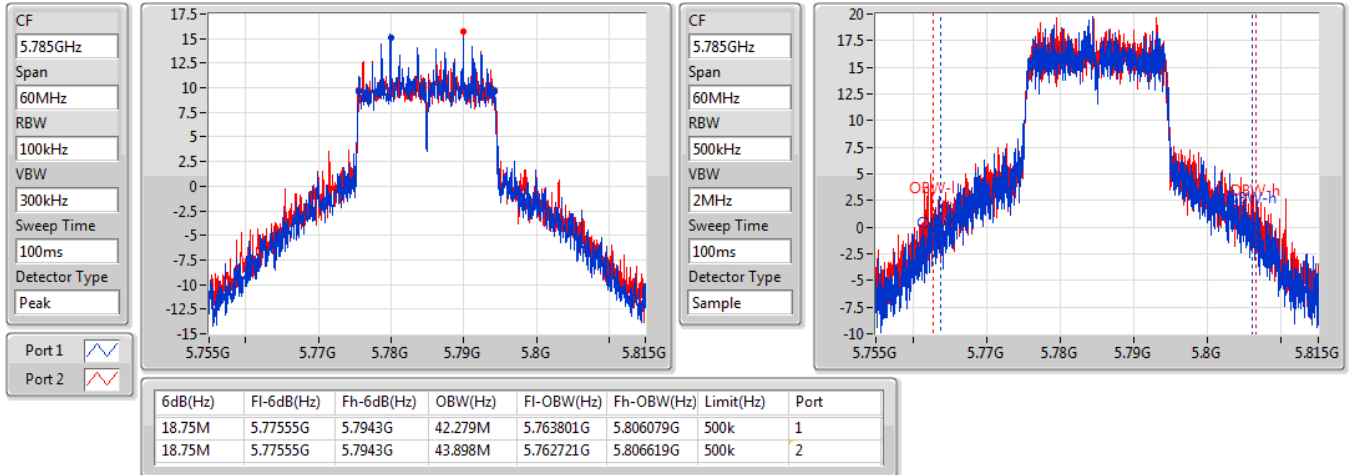

802.11ax HEW20_Nss2,(MCS0)_2TX
EBW
5745MHz

05/10/2019

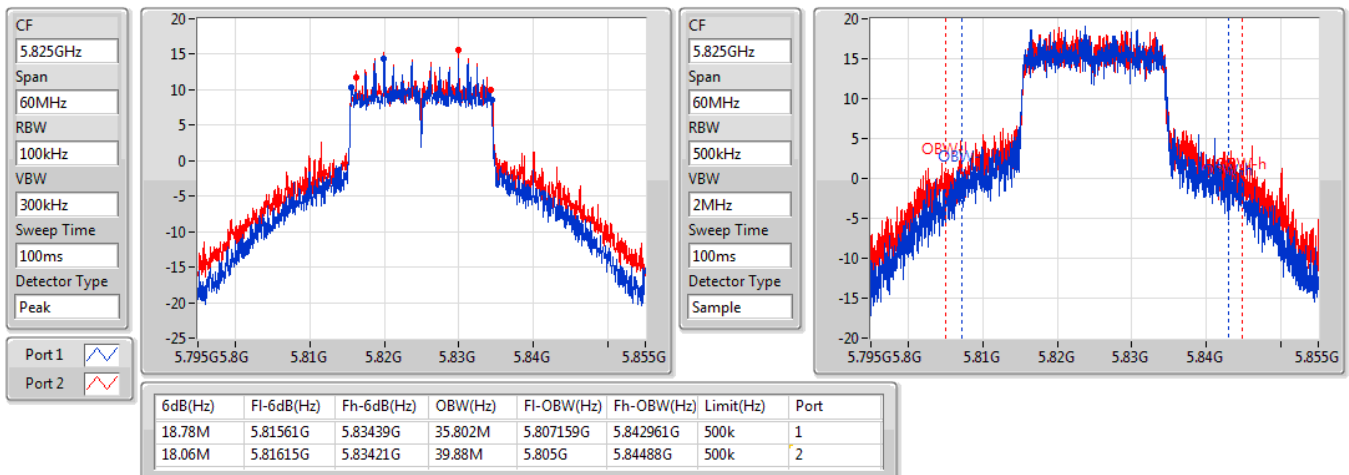


802.11ax HEW20_Nss2,(MCS0)_2TX
EBW
5785MHz

05/10/2019

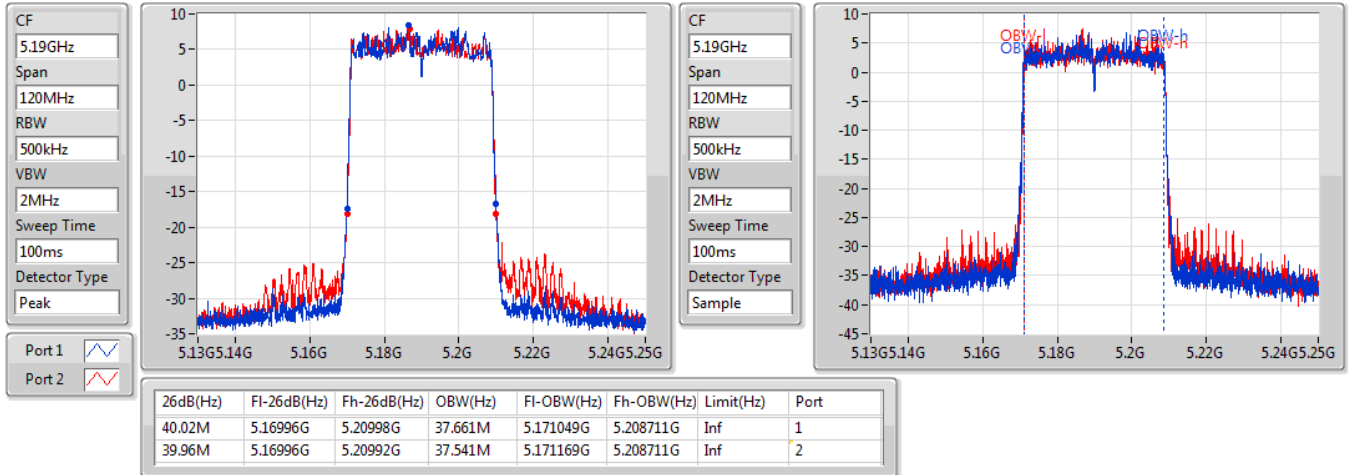

802.11ax HEW20_Nss2,(MCS0)_2TX
EBW
5825MHz

05/10/2019

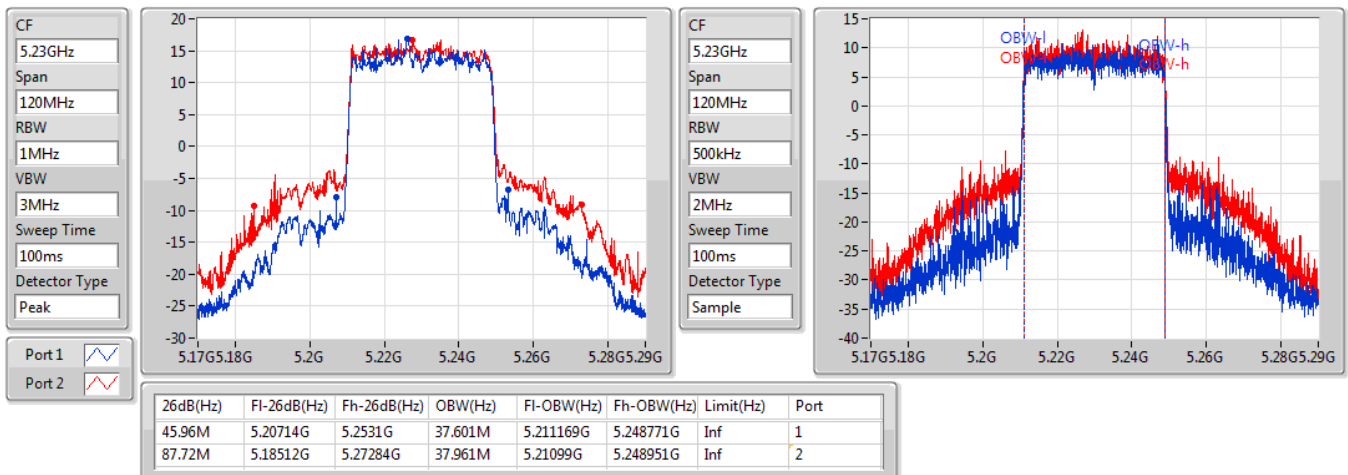


802.11ax HEW40_Nss2,(MCS0)_2TX
EBW
5190MHz

05/10/2019

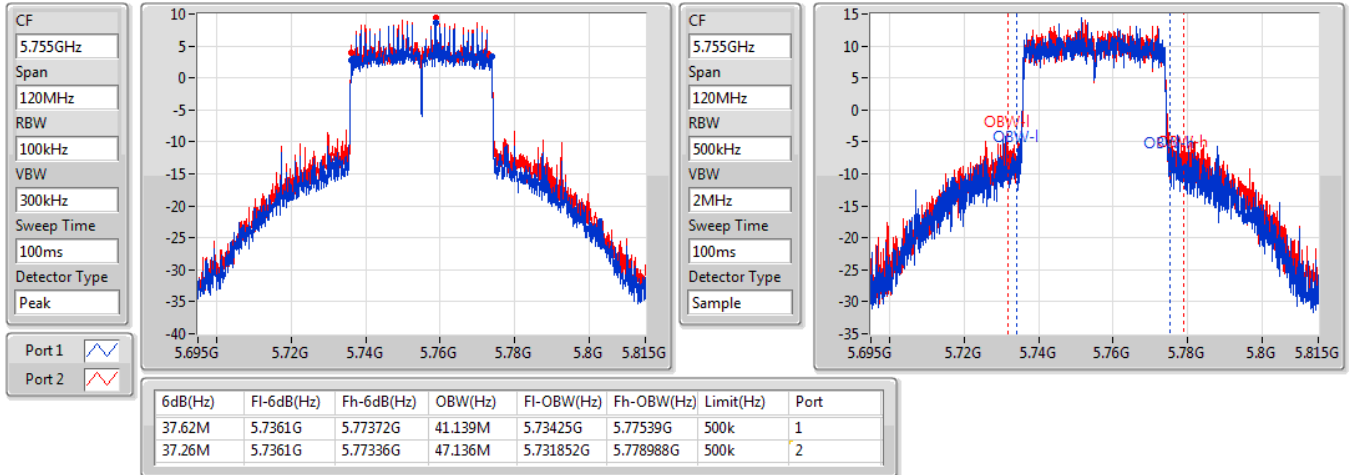

802.11ax HEW40_Nss2,(MCS0)_2TX
EBW
5230MHz

05/10/2019

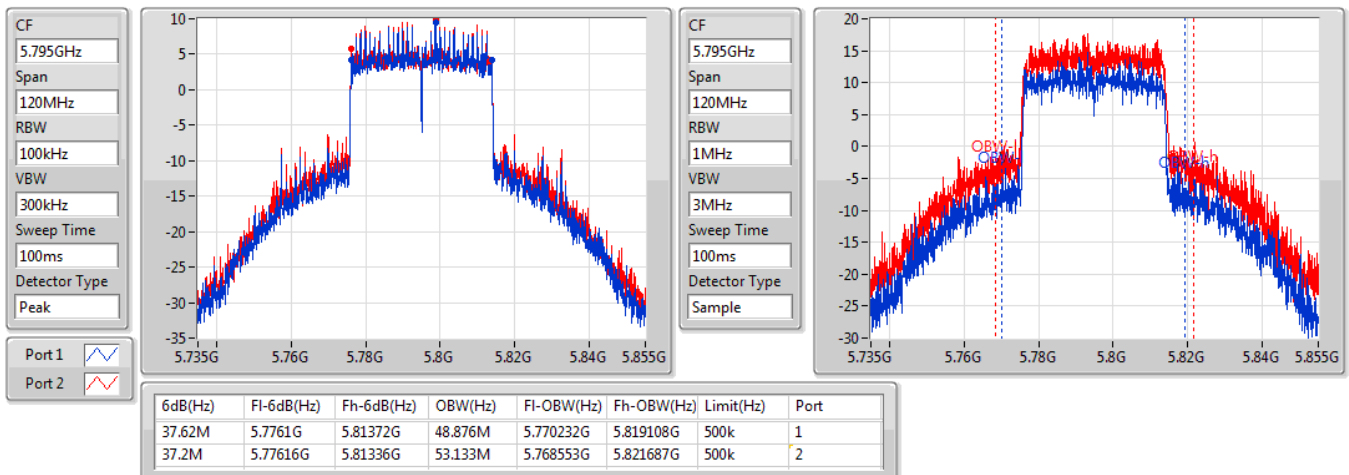


802.11ax HEW40_Nss2,(MCS0)_2TX
EBW
5755MHz

05/10/2019

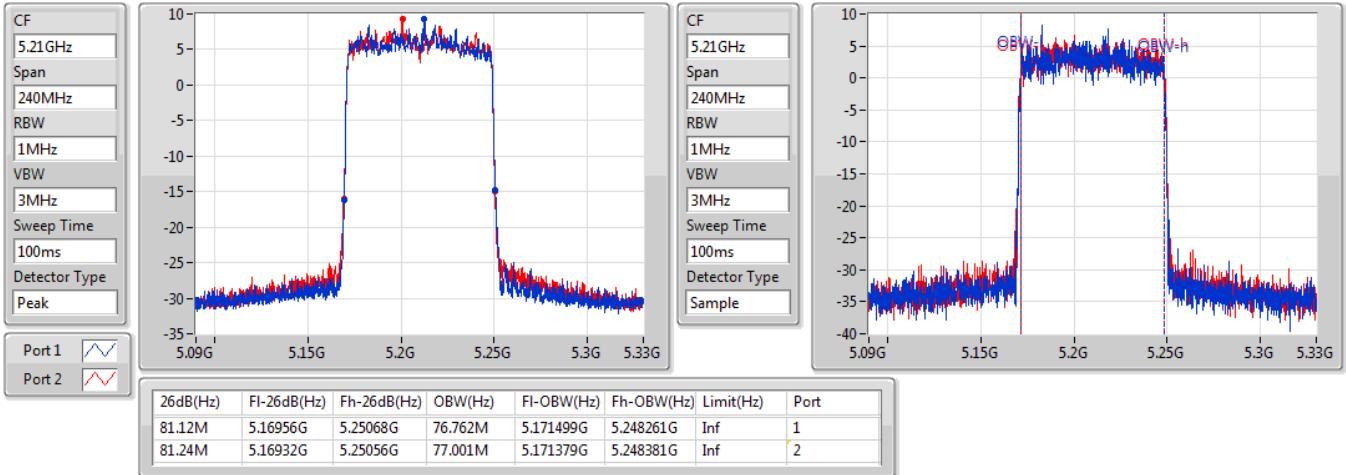

802.11ax HEW40_Nss2,(MCS0)_2TX
EBW
5795MHz

05/10/2019

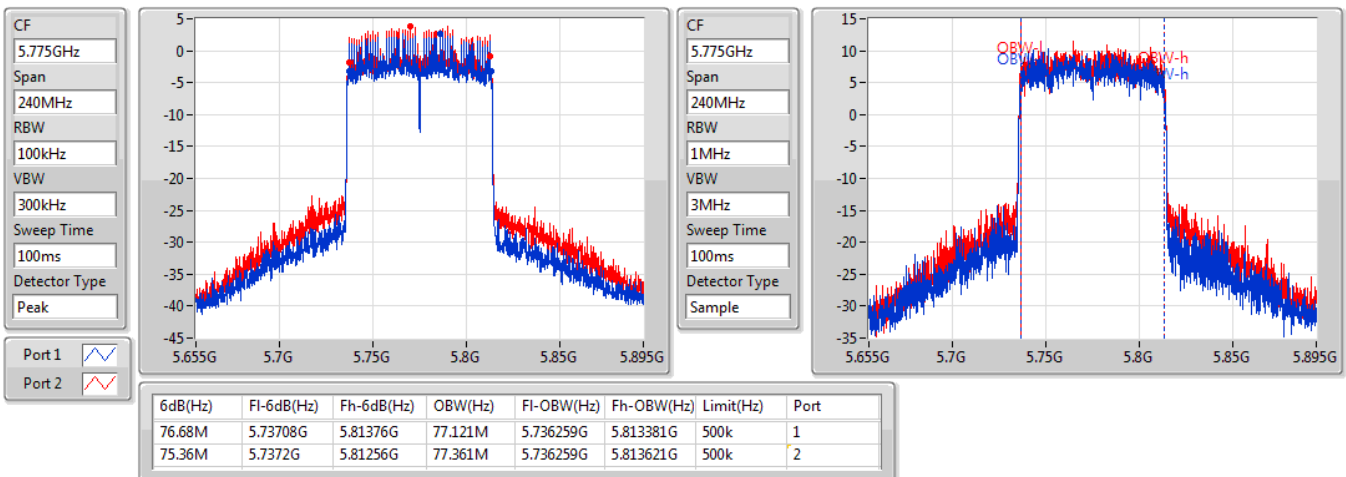


802.11ax HEW80_Nss2,(MCS0)_2TX
EBW
5210MHz

05/10/2019


802.11ax HEW80_Nss2,(MCS0)_2TX
EBW
5775MHz

05/10/2019



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	28.375M	16.642M	16M6D1D	21.475M	16.492M
802.11ac VHT20_Nss1,(MCS0)_4TX	26.375M	17.816M	17M8D1D	21.475M	17.716M
802.11ac VHT40_Nss1,(MCS0)_4TX	74.4M	36.482M	36M5D1D	39.75M	36.182M
802.11ac VHT80_Nss1,(MCS0)_4TX	81.9M	75.762M	75M8D1D	81.3M	75.662M
802.11ax HEW20_Nss1,(MCS0)_4TX	25.075M	19.015M	19M0D1D	21.375M	18.941M
802.11ax HEW40_Nss1,(MCS0)_4TX	76.25M	37.781M	37M8D1D	39.9M	37.431M
802.11ax HEW80_Nss1,(MCS0)_4TX	82.1M	77.261M	77M3D1D	81.4M	77.161M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	16.35M	33.958M	34M0D1D	16.275M	27.386M
802.11ac VHT20_Nss1,(MCS0)_4TX	17.575M	34.658M	34M7D1D	16.9M	27.861M
802.11ac VHT40_Nss1,(MCS0)_4TX	36.35M	49.175M	49M2D1D	36.05M	36.832M
802.11ac VHT80_Nss1,(MCS0)_4TX	75.7M	75.762M	75M8D1D	75.1M	75.462M
802.11ax HEW20_Nss1,(MCS0)_4TX	18.875M	36.157M	36M2D1D	17.875M	27.636M
802.11ax HEW40_Nss1,(MCS0)_4TX	37.6M	49.725M	49M7D1D	36.1M	37.981M
802.11ax HEW80_Nss1,(MCS0)_4TX	77.7M	77.361M	77M4D1D	75.3M	76.962M

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

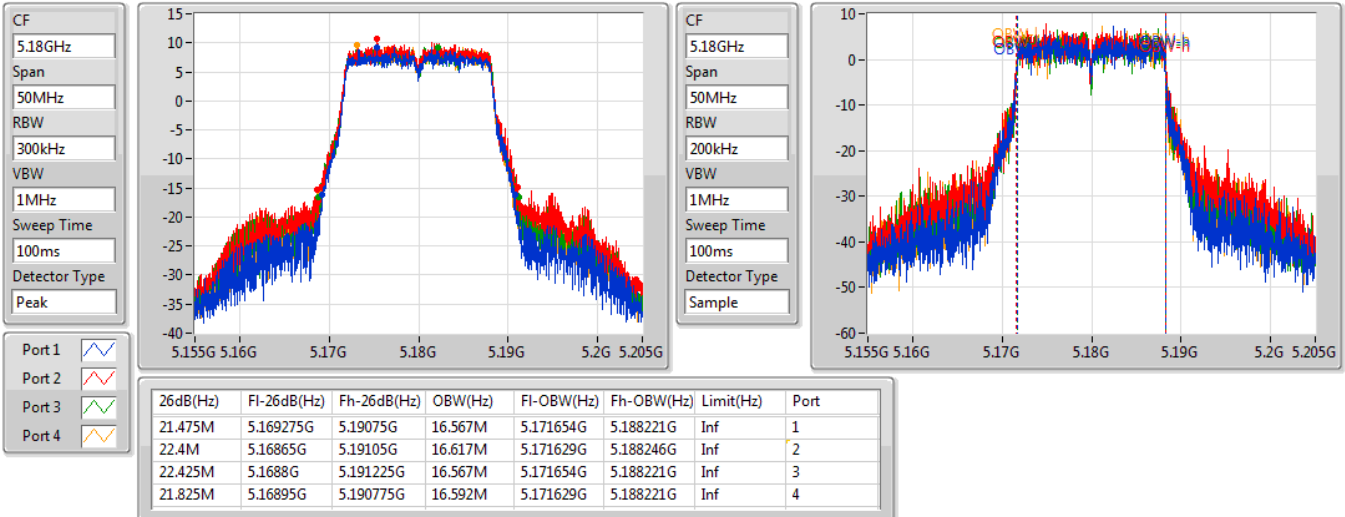
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.475M	16.567M	22.4M	16.617M	22.425M	16.567M	21.825M	16.592M
5200MHz	Pass	Inf	21.75M	16.567M	28.375M	16.642M	26.625M	16.592M	21.8M	16.517M
5240MHz	Pass	Inf	21.525M	16.517M	26.625M	16.617M	22.3M	16.567M	21.5M	16.492M
5745MHz	Pass	500k	16.325M	29.085M	16.3M	31.534M	16.275M	27.886M	16.325M	27.911M
5785MHz	Pass	500k	16.325M	28.661M	16.325M	31.659M	16.35M	28.036M	16.35M	27.386M
5825MHz	Pass	500k	16.325M	30.335M	16.325M	33.958M	16.325M	30.51M	16.325M	29.41M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.775M	17.766M	21.775M	17.766M	21.5M	17.816M	21.7M	17.716M
5200MHz	Pass	Inf	22.275M	17.791M	24.425M	17.791M	21.55M	17.791M	21.925M	17.766M
5240MHz	Pass	Inf	21.875M	17.791M	26.375M	17.816M	21.475M	17.716M	21.675M	17.741M
5745MHz	Pass	500k	16.9M	30.135M	17.175M	31.809M	17.525M	27.886M	17.55M	27.861M
5785MHz	Pass	500k	17.5M	31.584M	17.25M	34.658M	17.575M	29.935M	17.25M	30.135M
5825MHz	Pass	500k	17.5M	30.71M	17.125M	32.234M	17.275M	28.011M	17.525M	29.46M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.35M	36.232M	39.75M	36.232M	40.15M	36.332M	40.05M	36.182M
5230MHz	Pass	Inf	41.9M	36.232M	74.4M	36.482M	59.2M	36.332M	45.55M	36.232M
5755MHz	Pass	500k	36.1M	38.581M	36.05M	39.88M	36.3M	36.832M	36.3M	36.932M
5795MHz	Pass	500k	36.35M	48.426M	36.3M	49.175M	36.3M	39.18M	36.3M	41.879M
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	81.6M	75.662M	81.5M	75.762M	81.3M	75.762M	81.9M	75.662M
5775MHz	Pass	500k	75.1M	75.762M	75.7M	75.762M	75.1M	75.762M	75.7M	75.462M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.375M	19.015M	21.575M	18.966M	21.7M	18.966M	21.625M	18.941M
5200MHz	Pass	Inf	23.275M	18.966M	25.075M	18.991M	23.175M	18.991M	23.175M	18.941M
5240MHz	Pass	Inf	23.45M	18.991M	23.375M	18.966M	24.3M	18.941M	22.675M	18.991M
5745MHz	Pass	500k	18.675M	30.81M	18.675M	32.509M	18.475M	27.636M	17.875M	27.911M
5785MHz	Pass	500k	18M	32.734M	18.85M	35.582M	18.575M	30.585M	18.55M	31.359M
5825MHz	Pass	500k	18.75M	32.784M	18.8M	36.157M	18.875M	31.809M	18.8M	31.709M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.15M	37.431M	39.9M	37.481M	39.9M	37.581M	40.05M	37.581M
5230MHz	Pass	Inf	40.15M	37.531M	76.25M	37.781M	44.5M	37.581M	41.6M	37.581M
5755MHz	Pass	500k	37.6M	38.681M	36.7M	39.38M	36.95M	37.981M	36.45M	38.131M
5795MHz	Pass	500k	37.5M	44.928M	36.1M	49.725M	37.55M	40.08M	36.25M	38.881M
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	82.1M	77.161M	81.9M	77.261M	81.4M	77.161M	81.8M	77.161M
5775MHz	Pass	500k	75.3M	77.061M	76M	77.361M	77.7M	76.962M	76.3M	77.161M

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

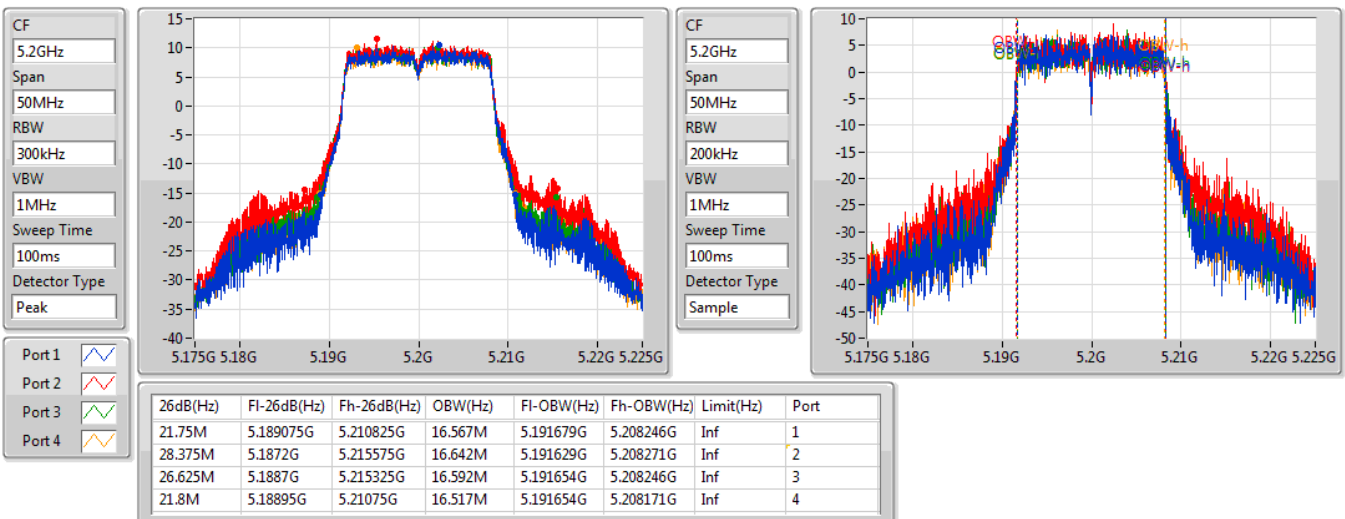
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_4TX
EBW
5180MHz

26/09/2019

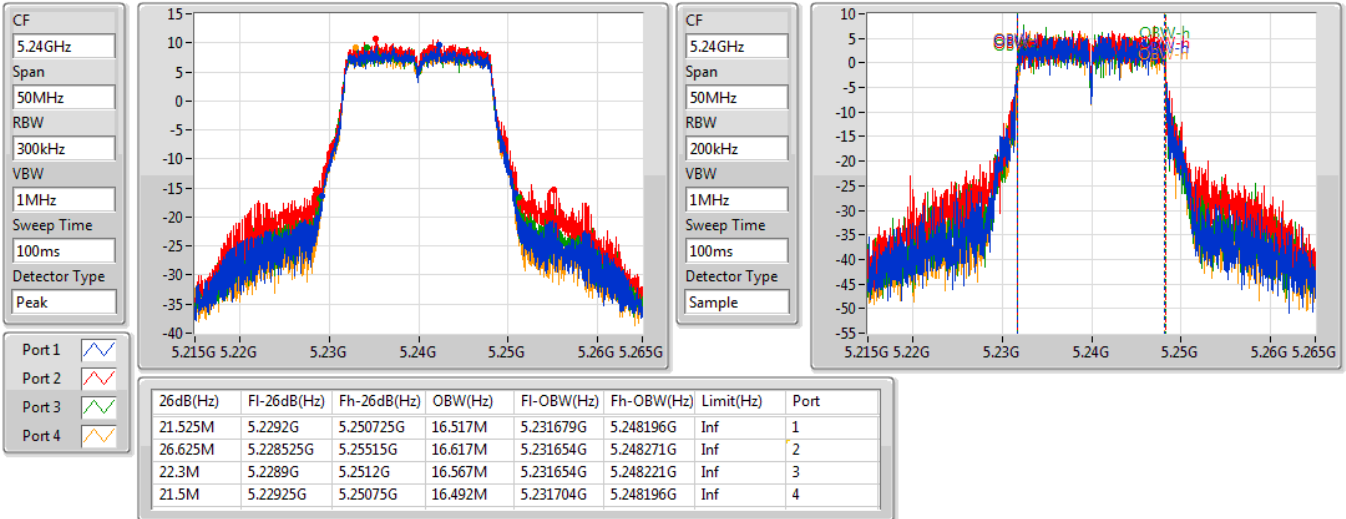

802.11a_Nss1,(6Mbps)_4TX
EBW
5200MHz

26/09/2019

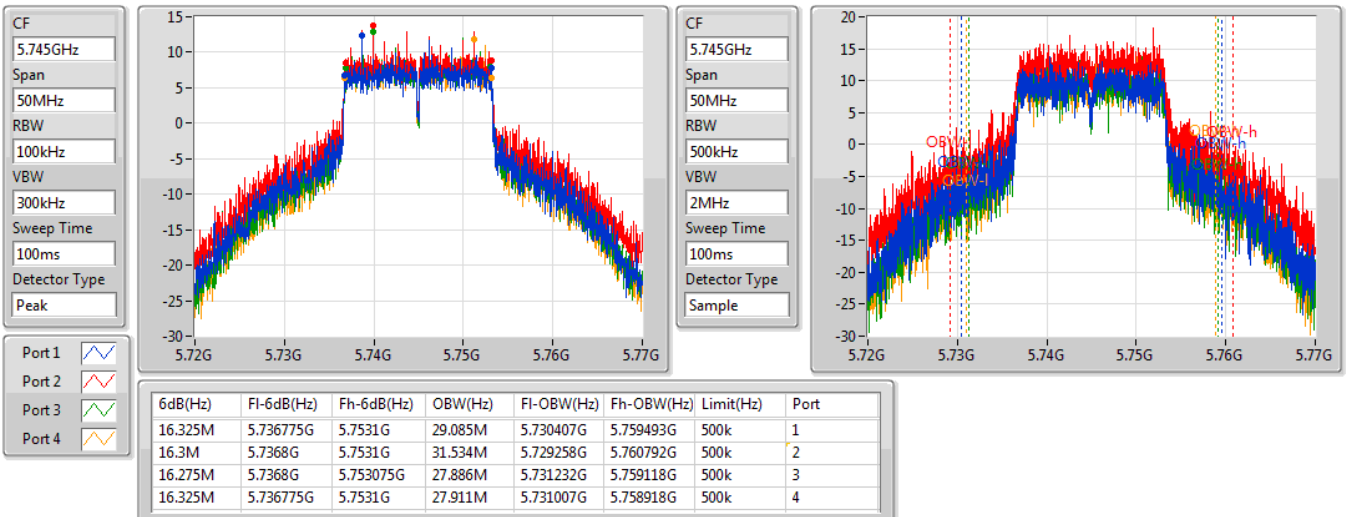


802.11a_Nss1,(6Mbps)_4TX
EBW
5240MHz

26/09/2019

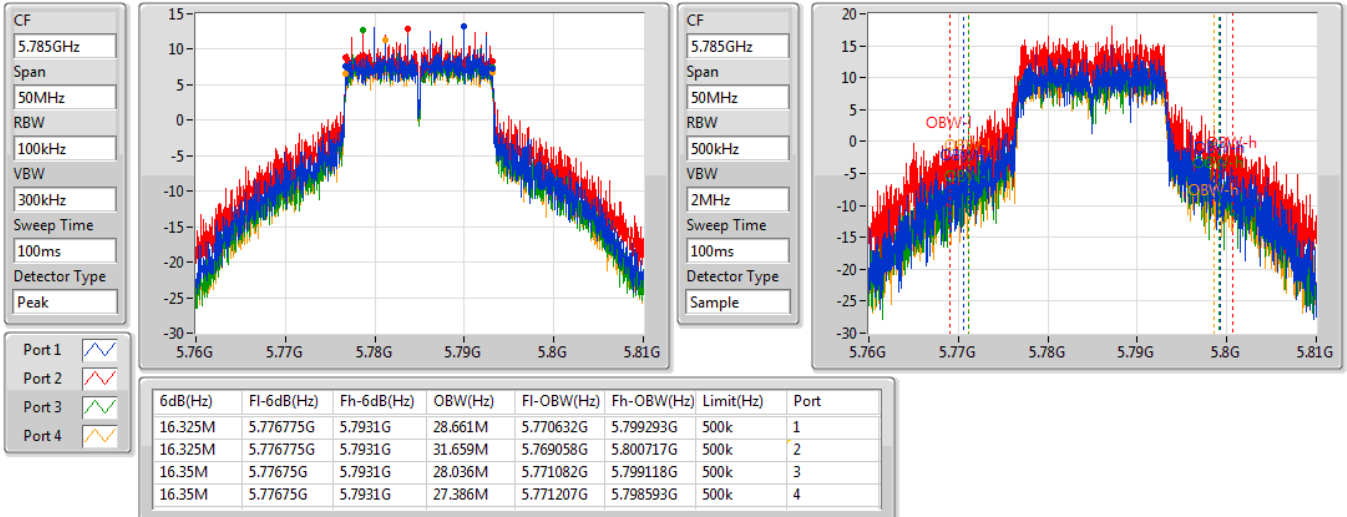

802.11a_Nss1,(6Mbps)_4TX
EBW
5745MHz

26/09/2019

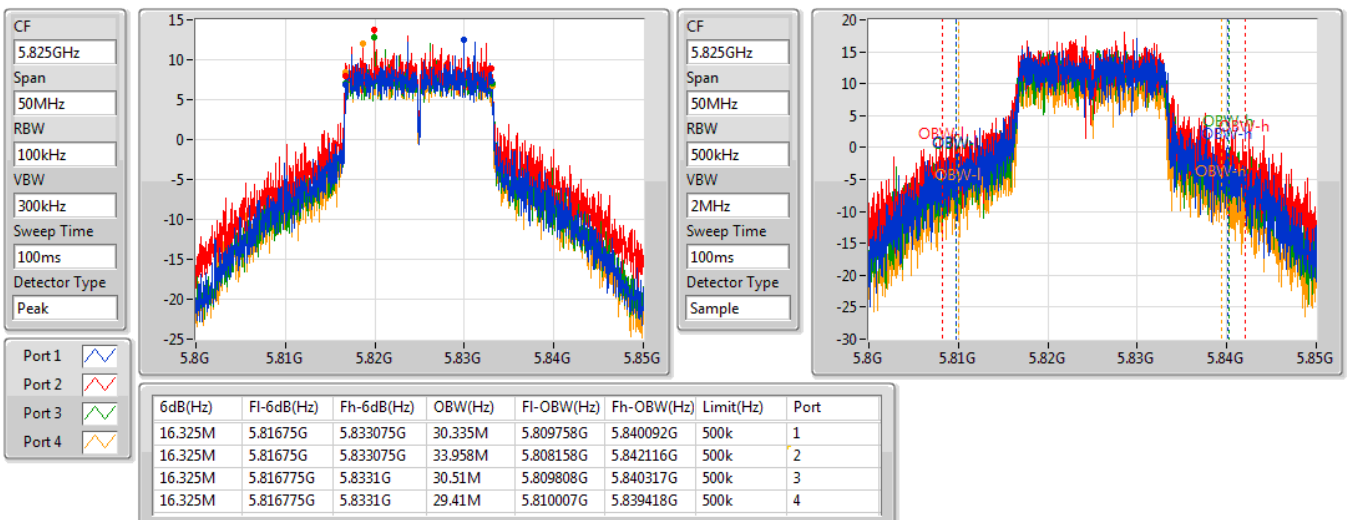


802.11a_Nss1,(6Mbps)_4TX
EBW
5785MHz

26/09/2019

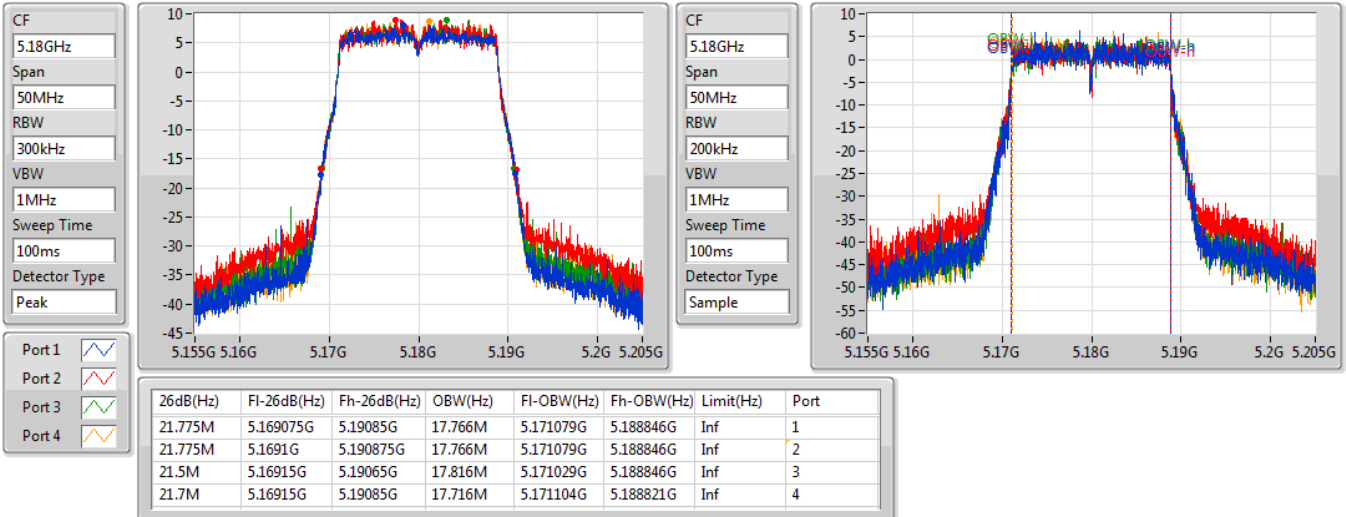

802.11a_Nss1,(6Mbps)_4TX
EBW
5825MHz

26/09/2019

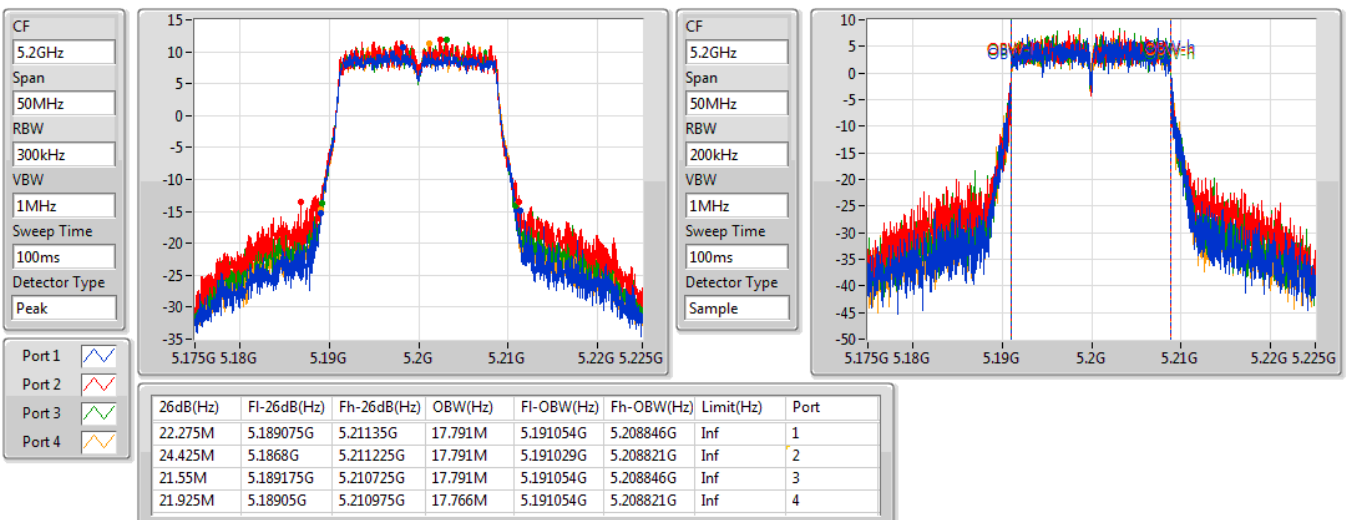


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5180MHz

31/10/2019

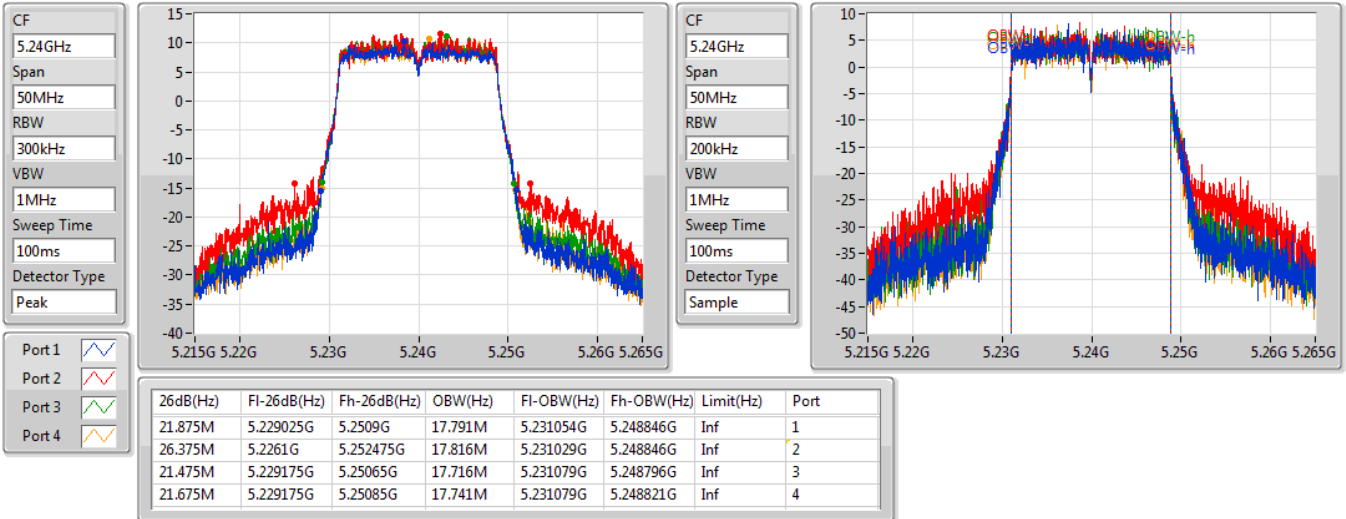

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5200MHz

31/10/2019

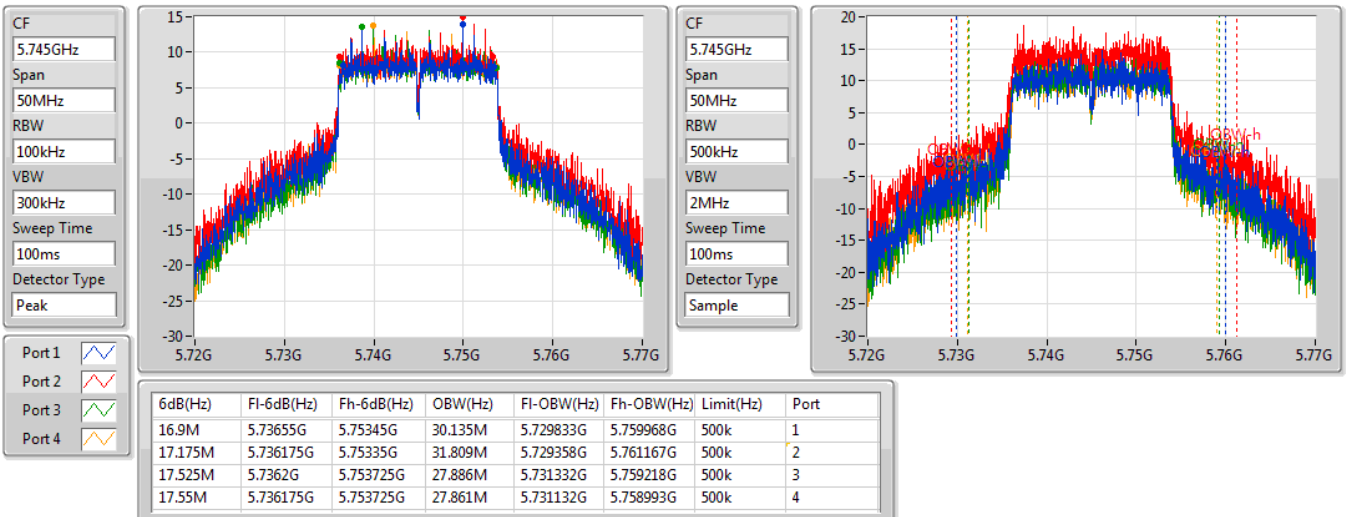


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5240MHz

31/10/2019

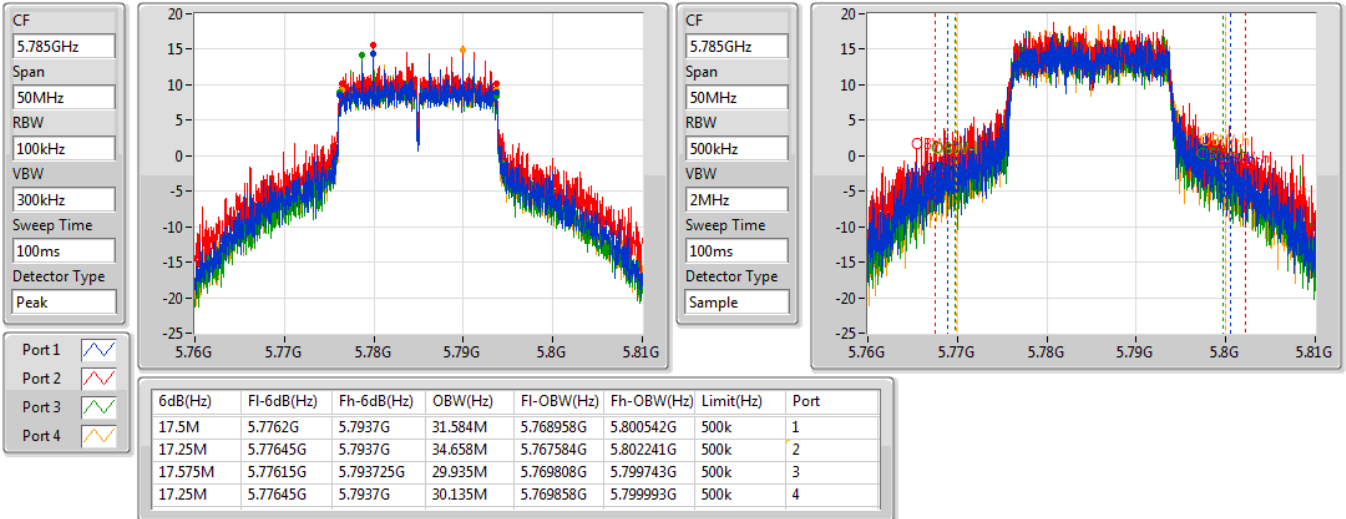

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5745MHz

30/10/2019

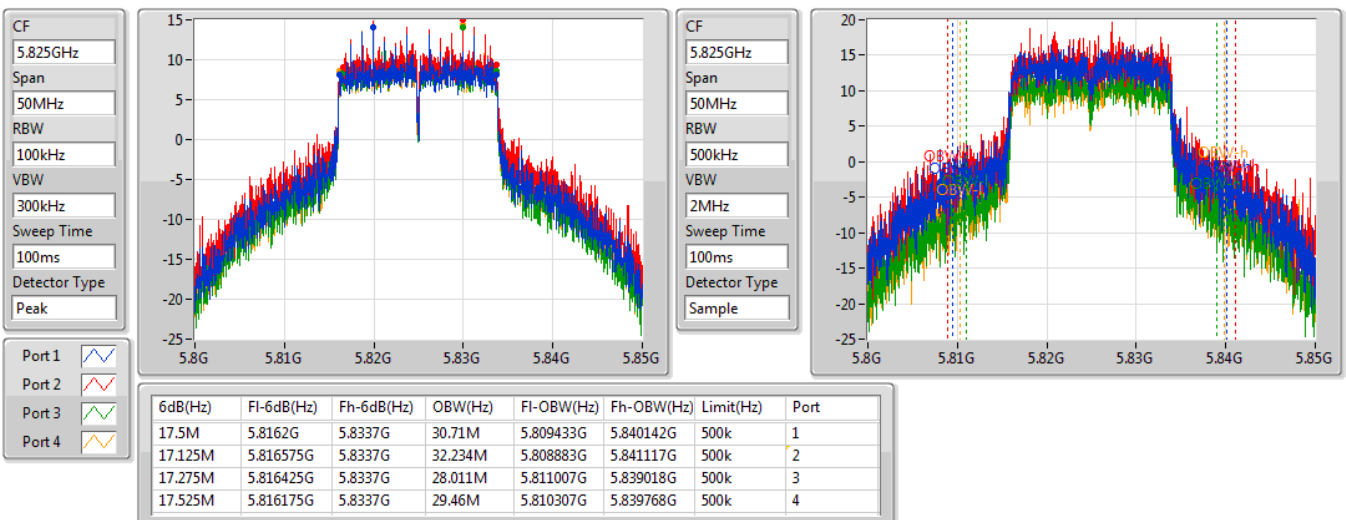


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5785MHz

30/10/2019

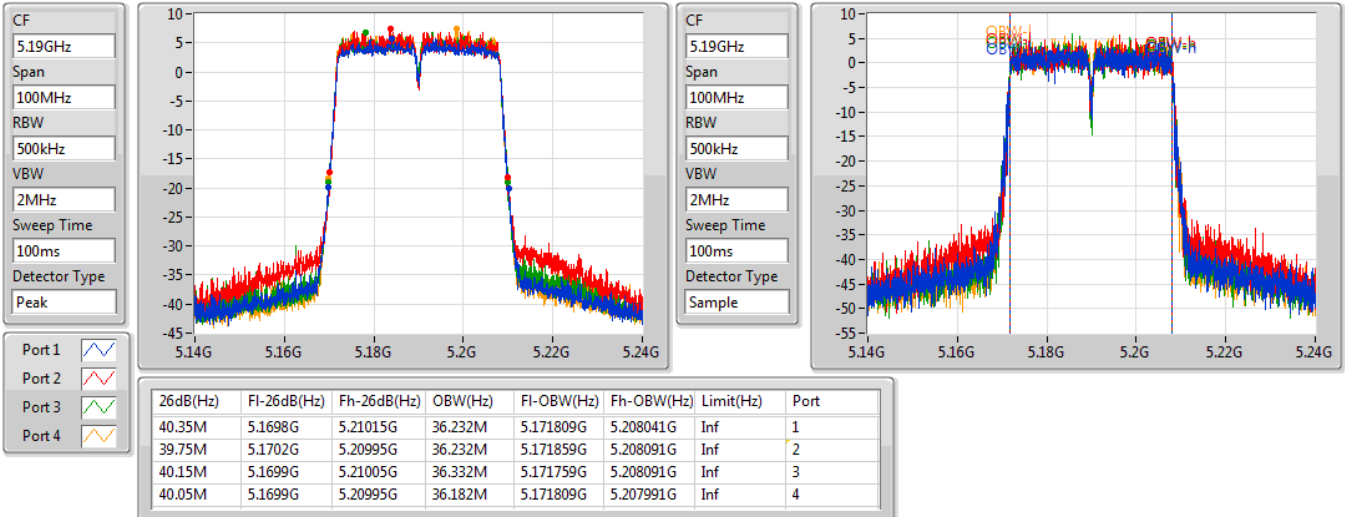

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5825MHz

30/10/2019

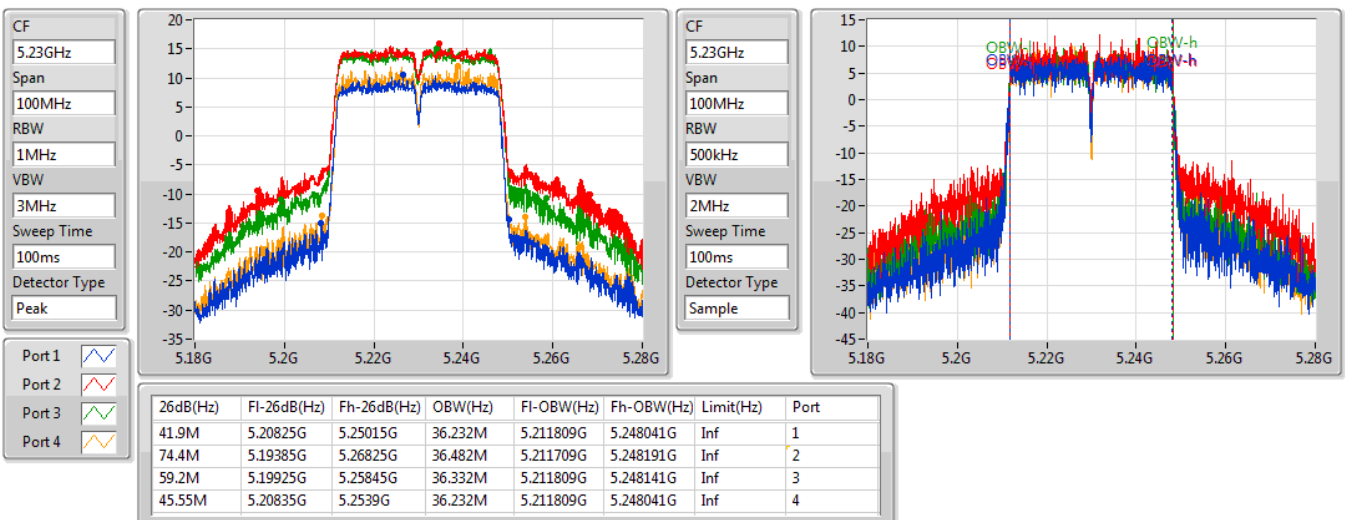


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5190MHz

31/10/2019

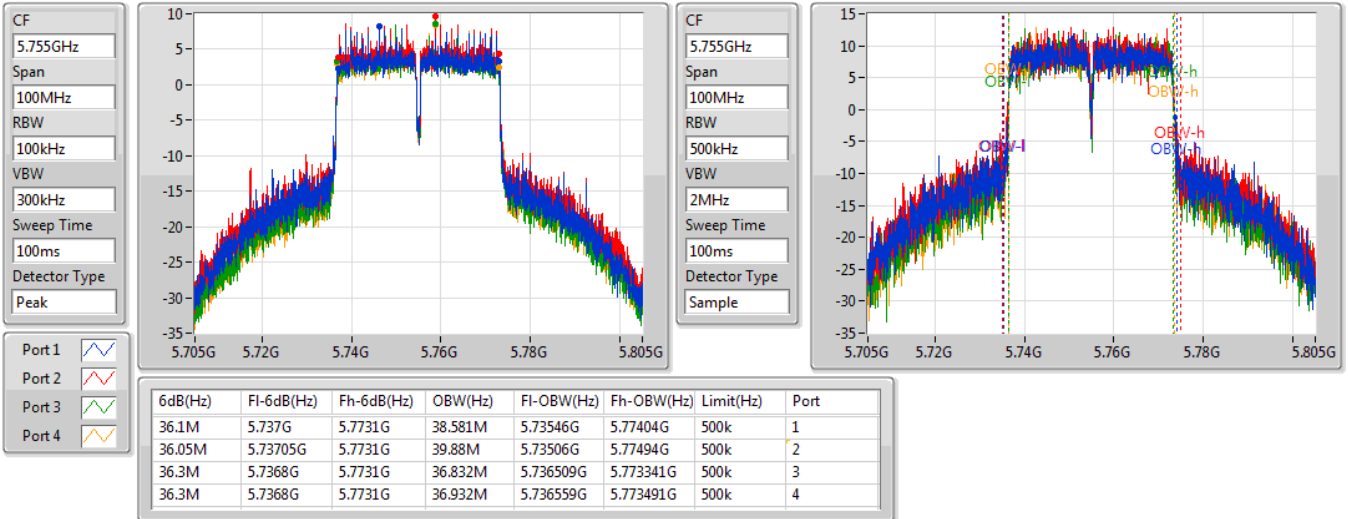

802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5230MHz

31/10/2019

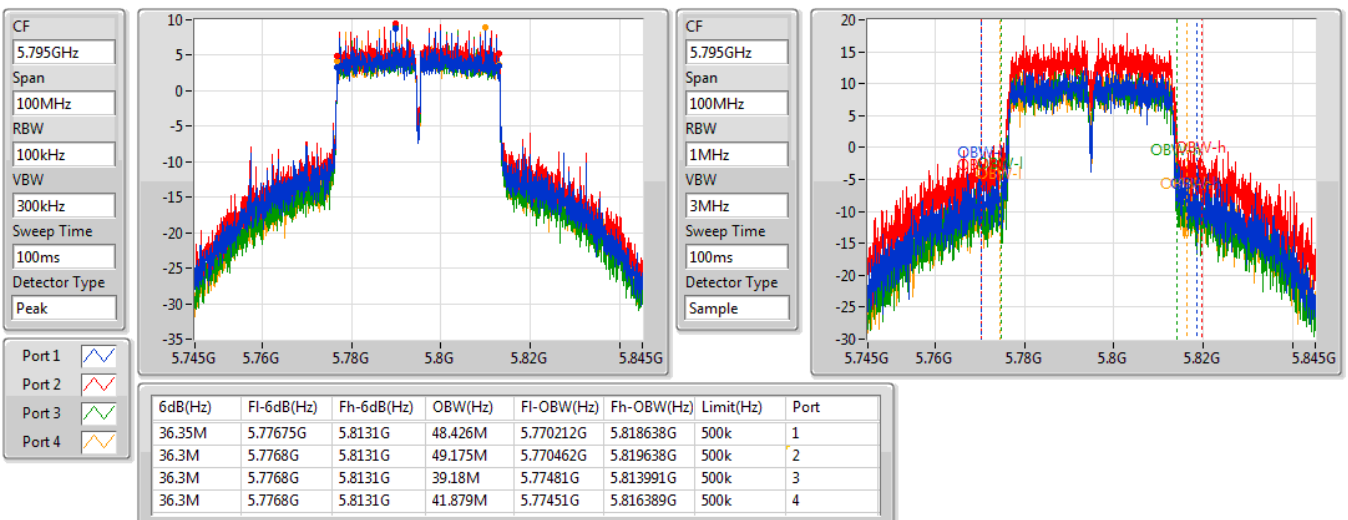


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5755MHz

30/10/2019

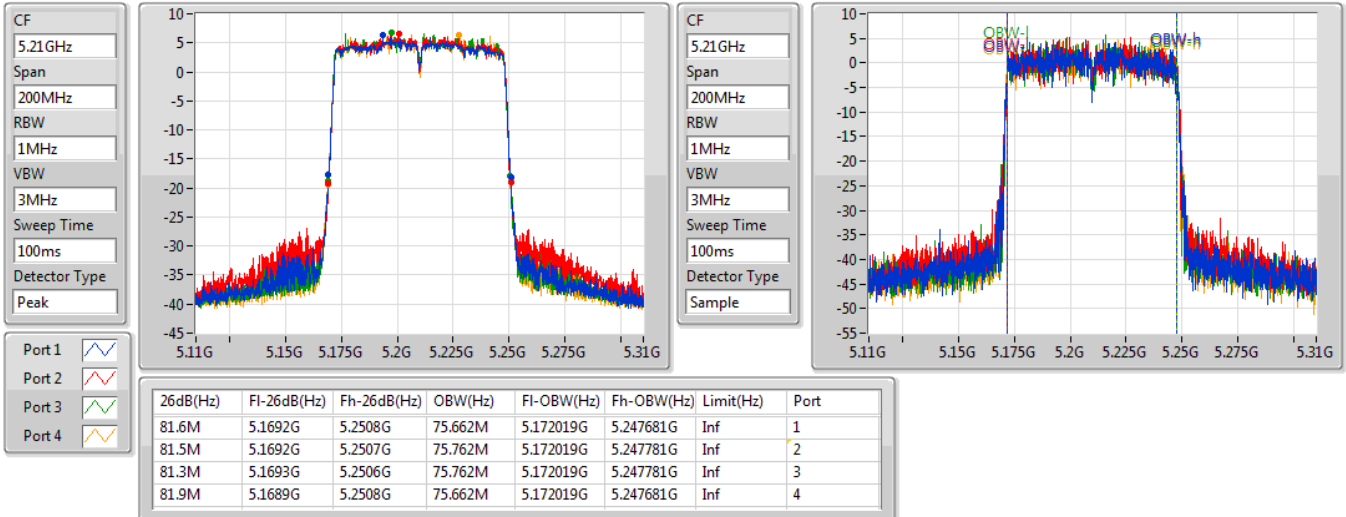

802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5795MHz

30/10/2019

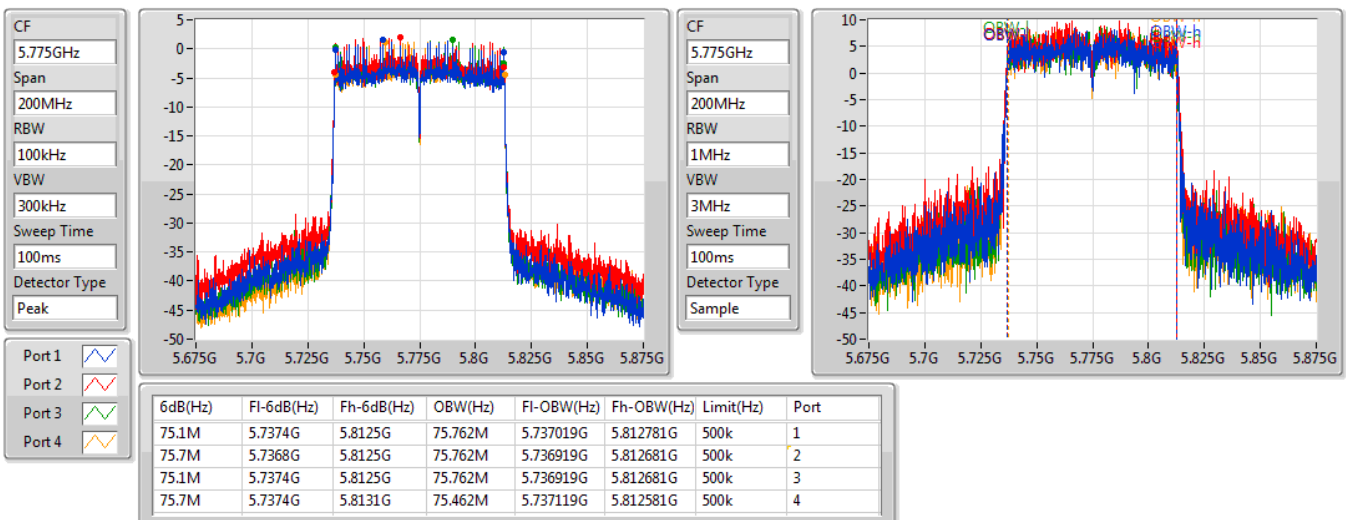


802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5210MHz

31/10/2019

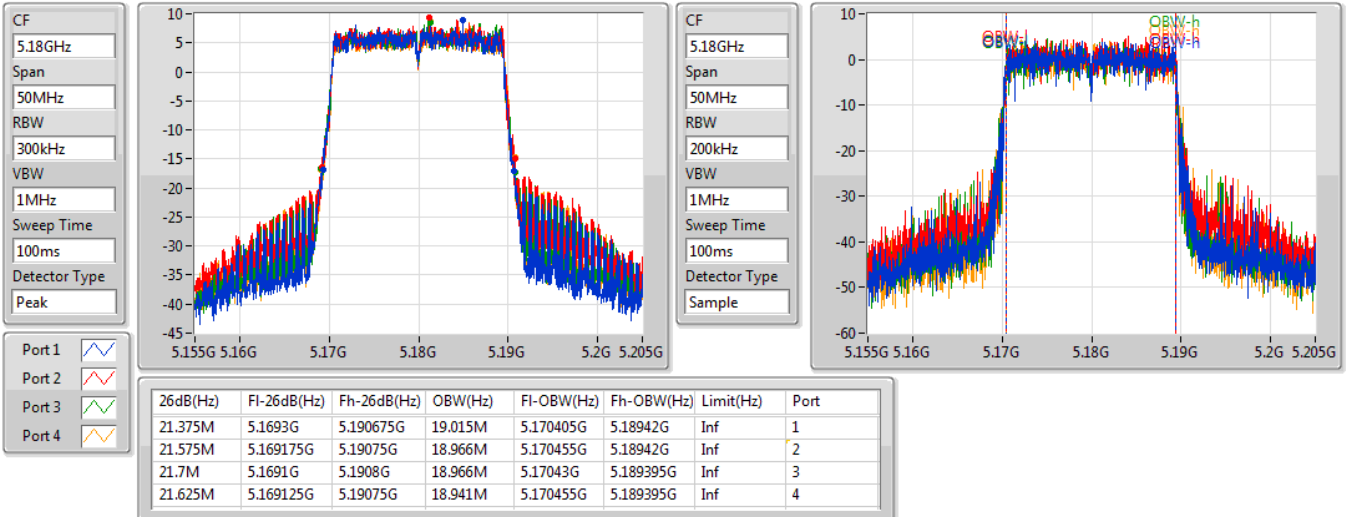

802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5775MHz

30/10/2019

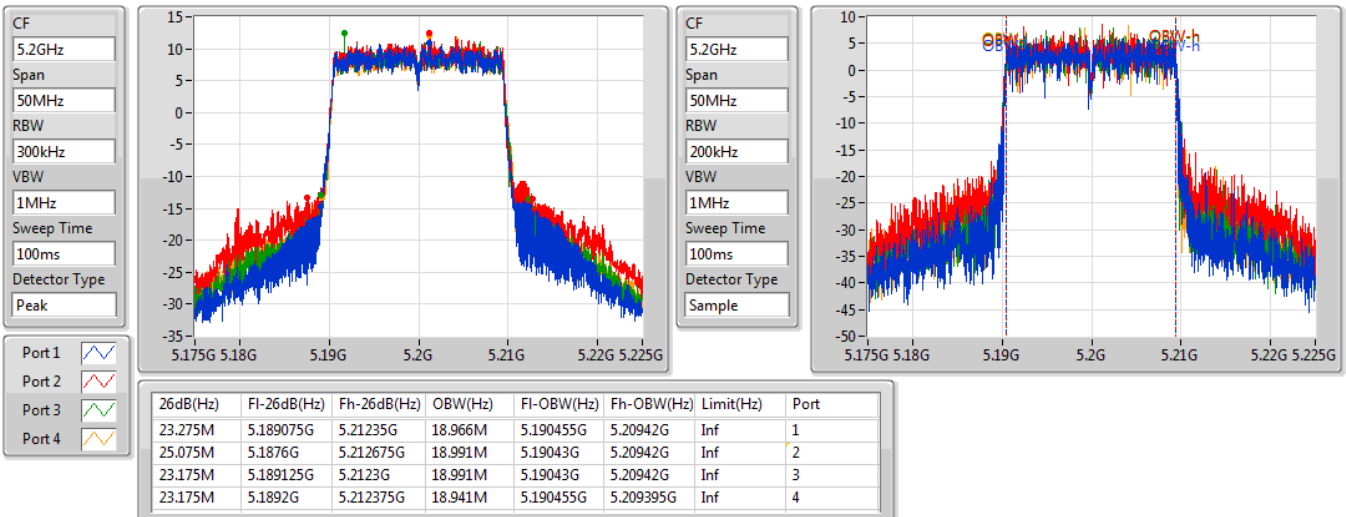


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5180MHz

26/09/2019

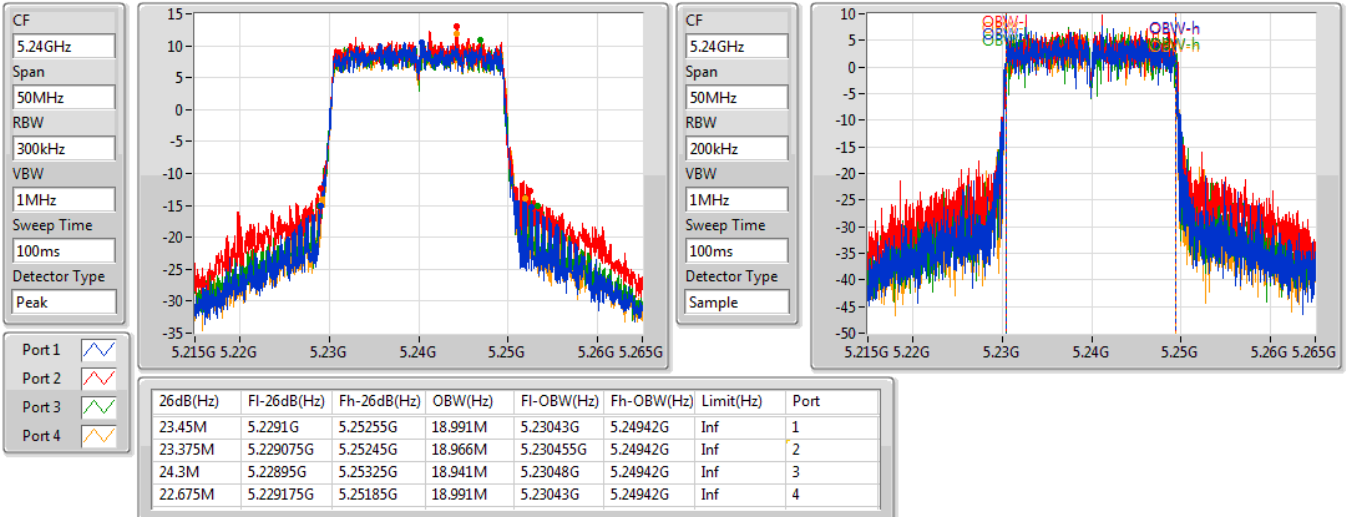

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5200MHz

26/09/2019

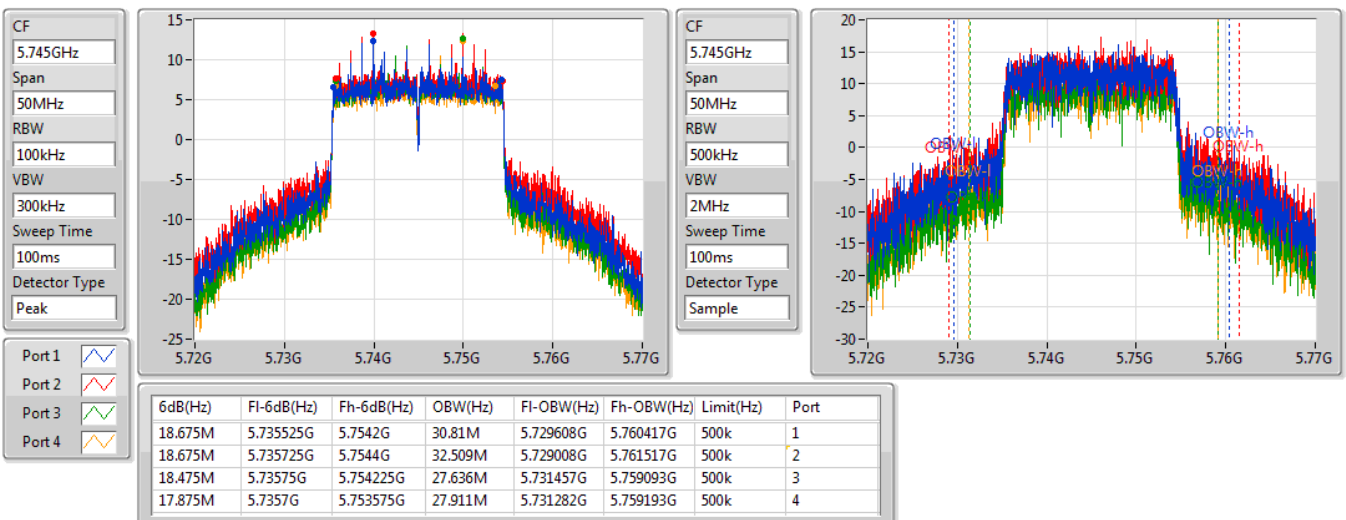


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5240MHz

26/09/2019

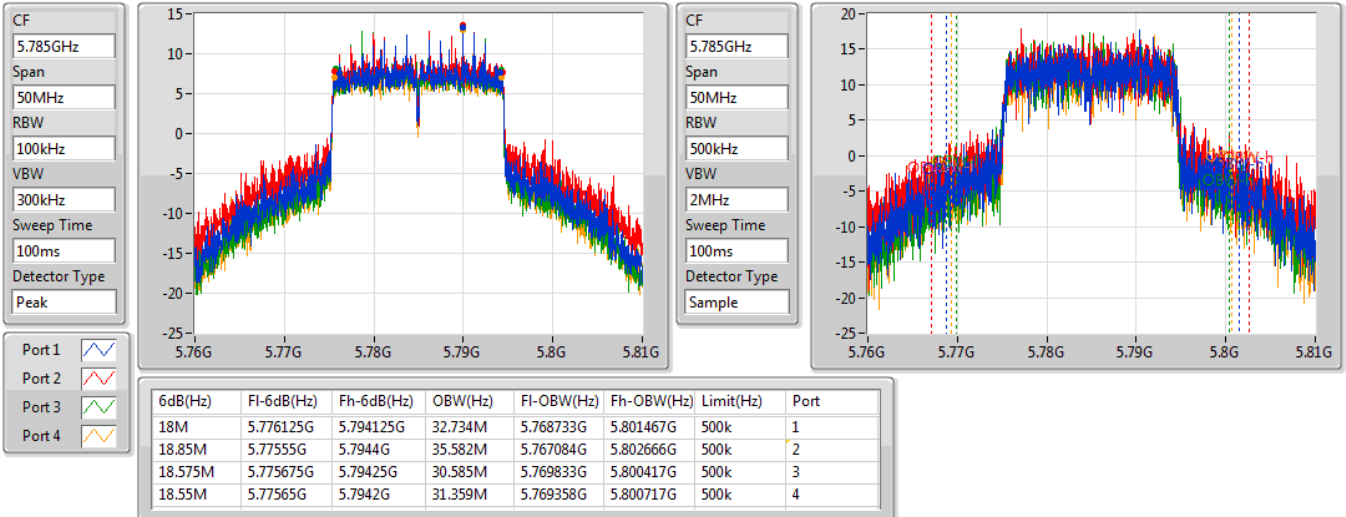

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5745MHz

26/09/2019

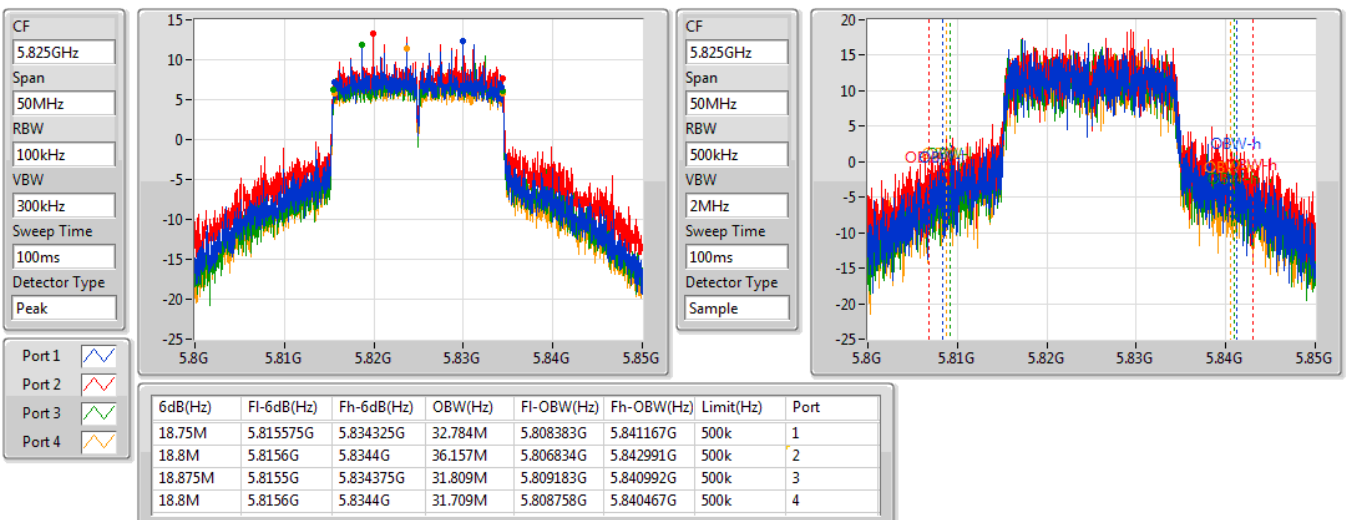


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5785MHz

26/09/2019

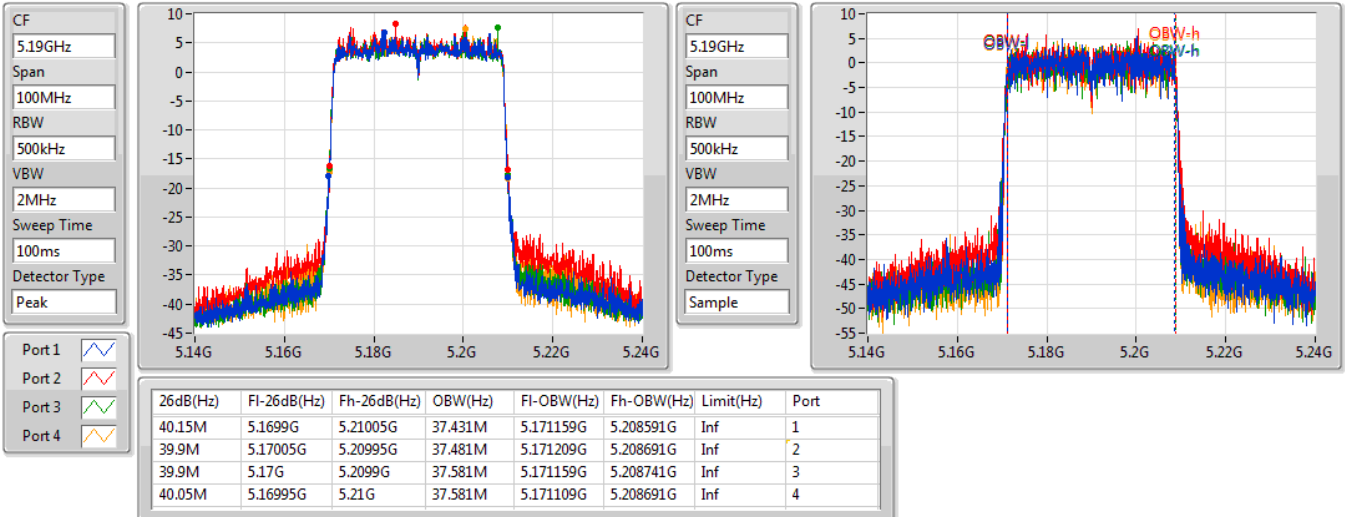

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5825MHz

26/09/2019

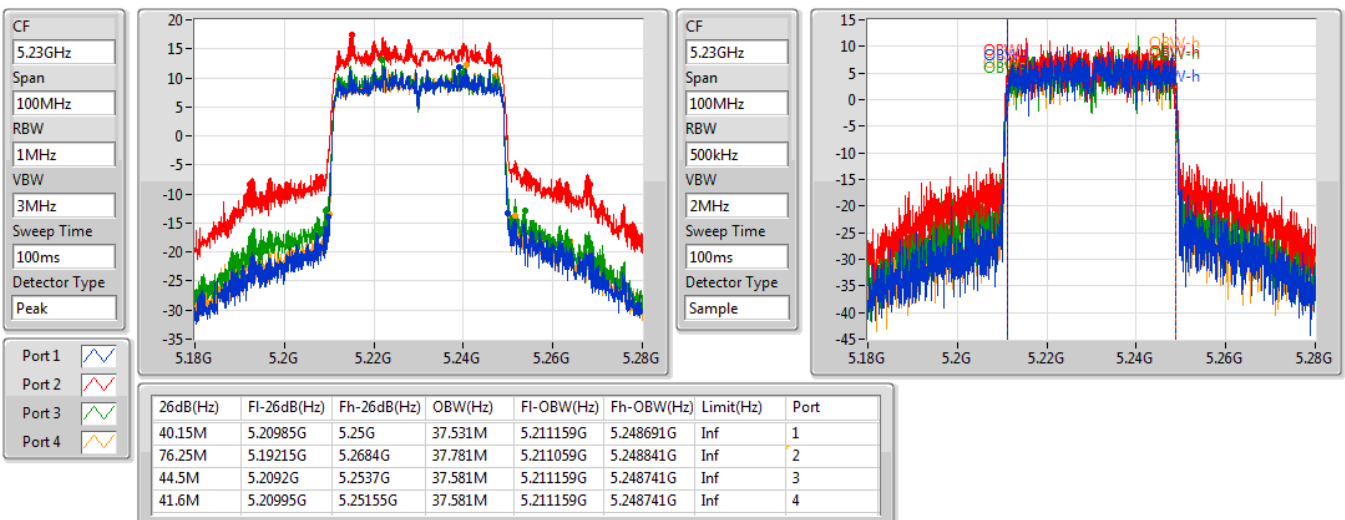


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5190MHz

26/09/2019

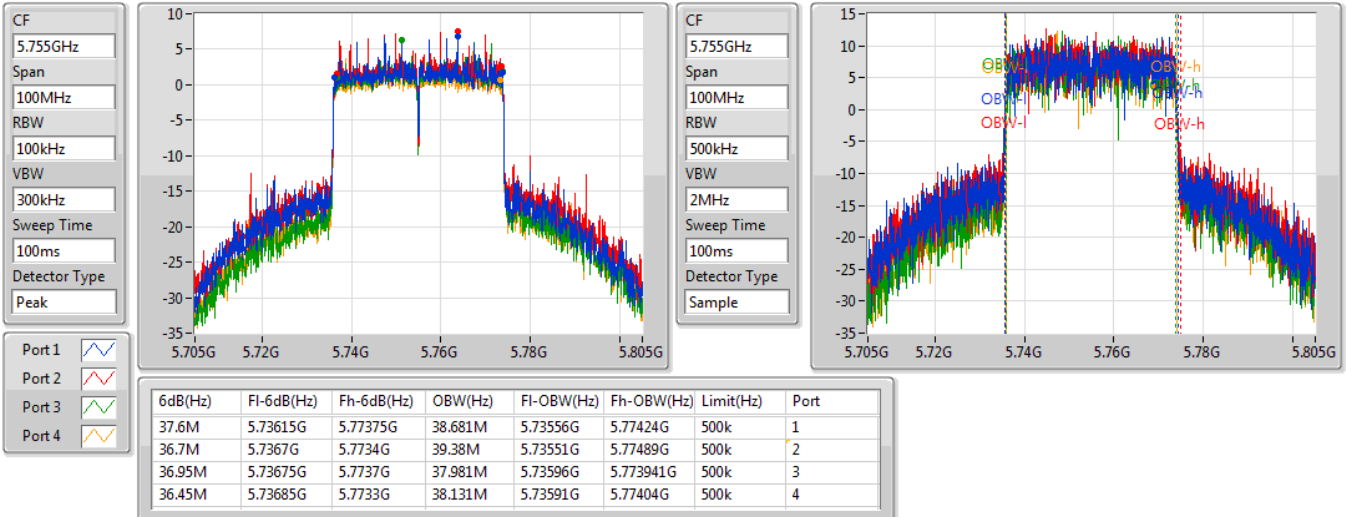

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5230MHz

26/09/2019

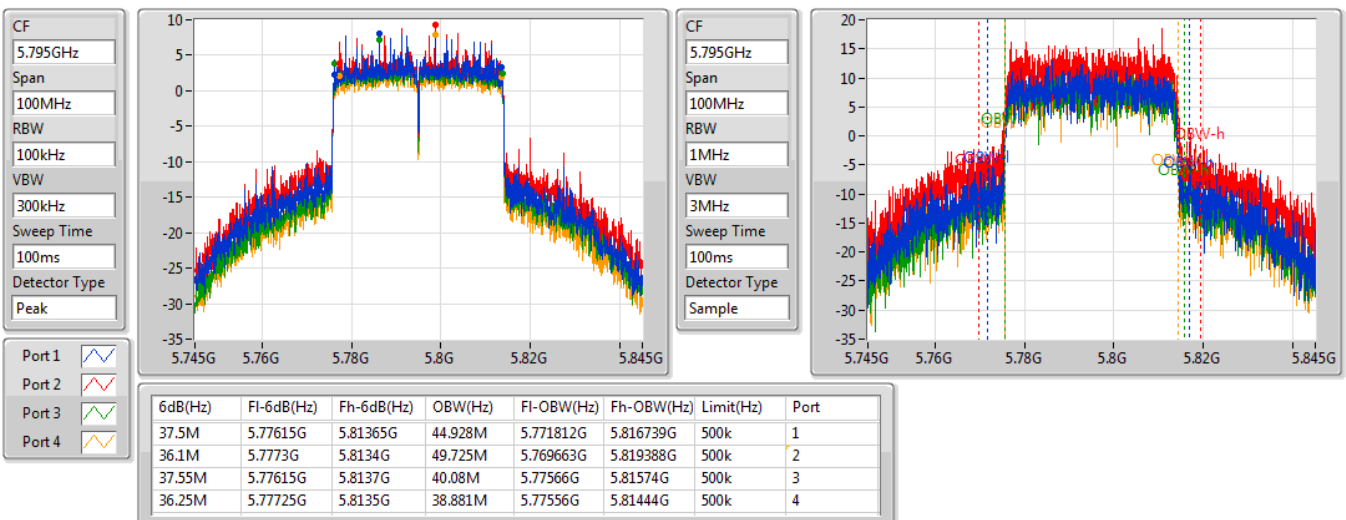


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5755MHz

26/09/2019

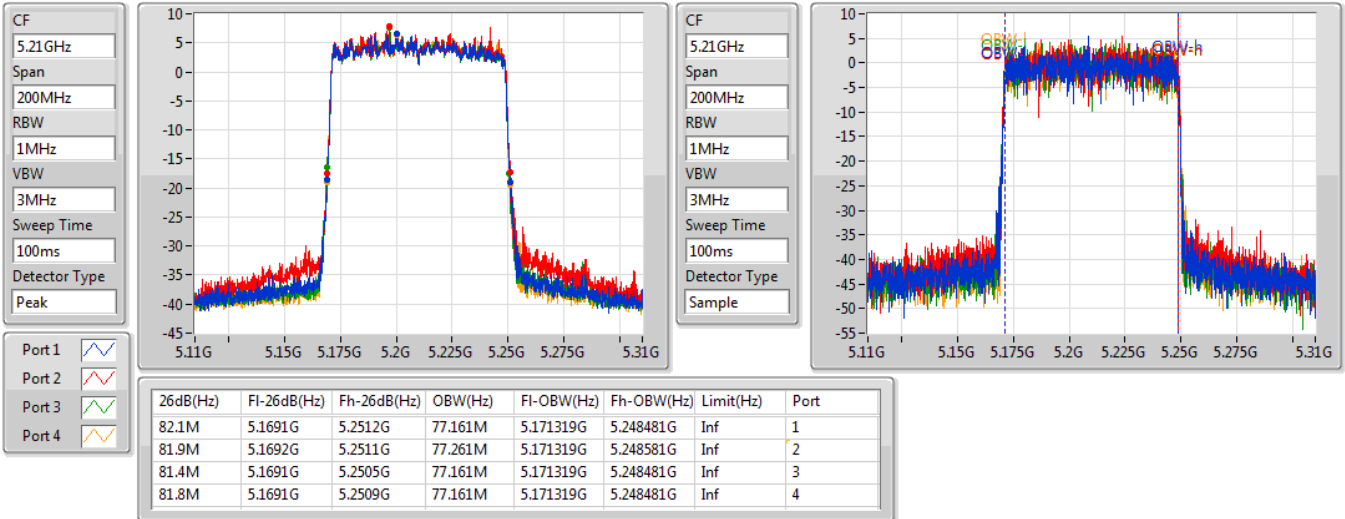

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5795MHz

26/09/2019

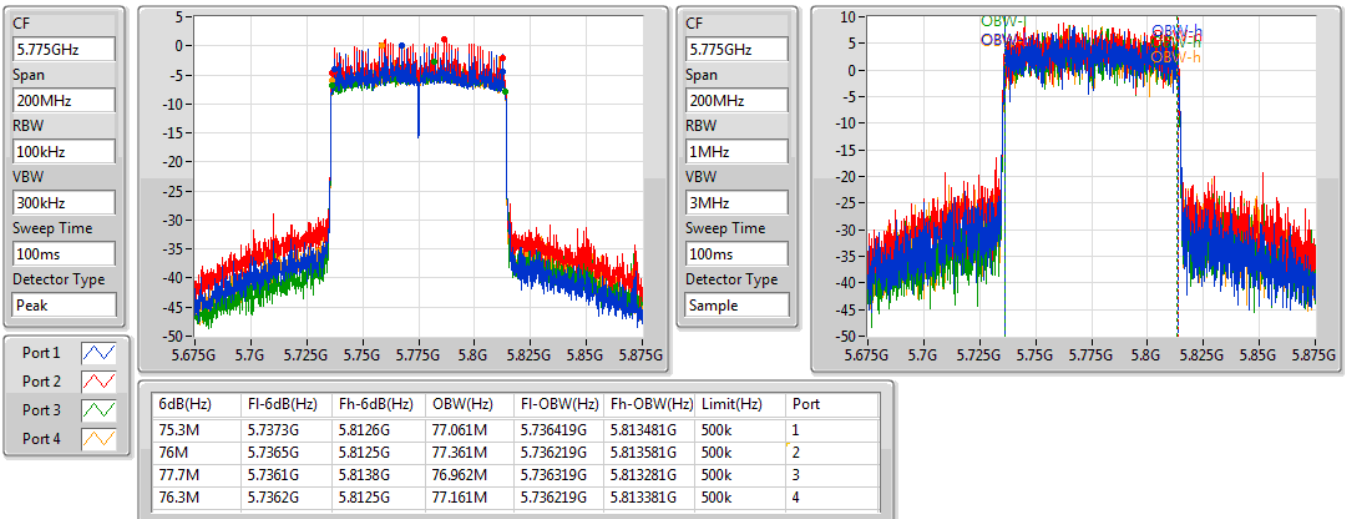


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5210MHz

26/09/2019


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5775MHz

26/09/2019



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	22.83M	17.841M	17M8D1D	21.42M	17.721M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	72.66M	36.402M	36M4D1D	39.72M	36.222M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	82.08M	75.802M	75M8D1D	81.36M	75.682M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	28.59M	19.04M	19M0D1D	21.66M	18.981M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	46.38M	37.661M	37M7D1D	39.9M	37.481M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	82.08M	77.121M	77M1D1D	81.72M	77.001M
5.725-5.85GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	17.58M	17.931M	17M9D1D	17.52M	17.811M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	36.36M	36.462M	36M5D1D	36.3M	36.042M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	75.84M	75.802M	75M8D1D	74.04M	75.682M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	19.05M	19.1M	19M1D1D	18.63M	18.981M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	37.62M	37.721M	37M7D1D	37.08M	37.541M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	76.32M	77.241M	77M2D1D	75.6M	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

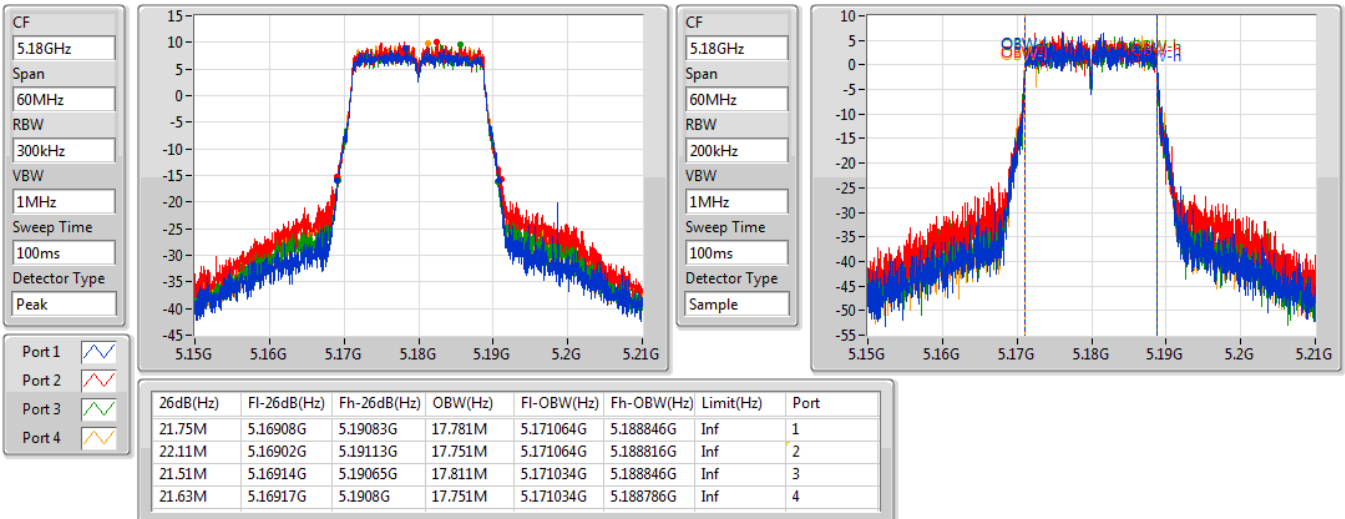
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.75M	17.781M	22.11M	17.751M	21.51M	17.811M	21.63M	17.751M
5200MHz	Pass	Inf	21.84M	17.781M	22.77M	17.841M	21.45M	17.781M	21.6M	17.781M
5240MHz	Pass	Inf	21.9M	17.781M	22.83M	17.811M	21.42M	17.751M	21.63M	17.721M
5745MHz	Pass	500k	17.55M	17.871M	17.58M	17.901M	17.58M	17.811M	17.58M	17.841M
5785MHz	Pass	500k	17.55M	17.871M	17.52M	17.901M	17.58M	17.841M	17.58M	17.841M
5825MHz	Pass	500k	17.58M	17.931M	17.58M	17.901M	17.58M	17.841M	17.55M	17.871M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.26M	36.282M	39.96M	36.222M	39.96M	36.222M	39.84M	36.342M
5230MHz	Pass	Inf	41.7M	36.282M	72.66M	36.402M	45.54M	36.342M	39.72M	36.282M
5755MHz	Pass	500k	36.36M	36.402M	36.36M	36.402M	36.3M	36.042M	36.3M	36.282M
5795MHz	Pass	500k	36.3M	36.402M	36.3M	36.402M	36.36M	36.402M	36.36M	36.462M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	82.08M	75.802M	81.48M	75.802M	81.36M	75.682M	81.96M	75.682M
5775MHz	Pass	500k	74.04M	75.682M	75.72M	75.802M	75.72M	75.682M	75.84M	75.682M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.66M	19.01M	23.16M	19.01M	23.01M	18.981M	21.69M	19.01M
5200MHz	Pass	Inf	23.43M	19.01M	28.59M	19.01M	23.91M	18.981M	21.78M	18.981M
5240MHz	Pass	Inf	23.31M	19.04M	24.99M	19.01M	23.46M	19.01M	21.69M	19.01M
5745MHz	Pass	500k	18.96M	19.04M	18.9M	19.04M	18.69M	19.01M	19.02M	19.01M
5785MHz	Pass	500k	18.93M	19.07M	18.87M	19.07M	18.63M	19.04M	18.99M	18.981M
5825MHz	Pass	500k	18.96M	19.04M	18.69M	19.07M	18.9M	19.1M	19.05M	19.01M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.14M	37.481M	39.9M	37.541M	40.14M	37.601M	40.14M	37.481M
5230MHz	Pass	Inf	40.08M	37.601M	46.38M	37.661M	40.26M	37.601M	40.14M	37.541M
5755MHz	Pass	500k	37.5M	37.661M	37.08M	37.601M	37.62M	37.661M	37.56M	37.601M
5795MHz	Pass	500k	37.26M	37.721M	37.62M	37.721M	37.62M	37.601M	37.32M	37.541M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	82.08M	77.001M	81.84M	77.121M	81.72M	77.001M	82.08M	77.001M
5775MHz	Pass	500k	76.2M	77.001M	75.6M	77.241M	76.2M	77.241M	76.32M	77.001M

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

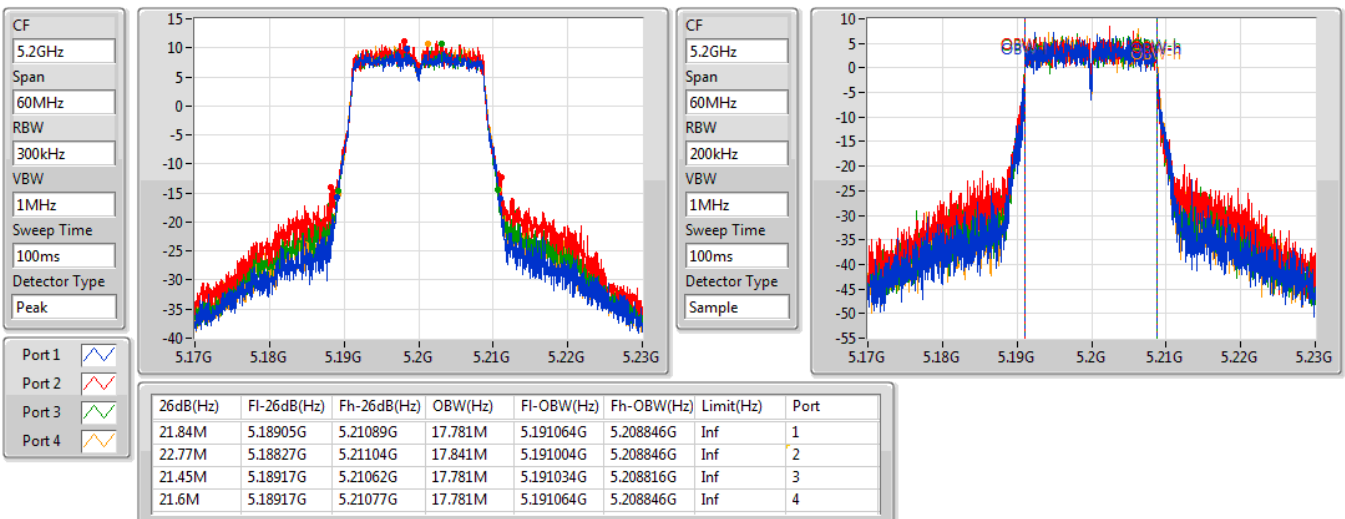
Port X-OBW = Port X 99% occupied bandwidth;

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5180MHz

31/10/2019

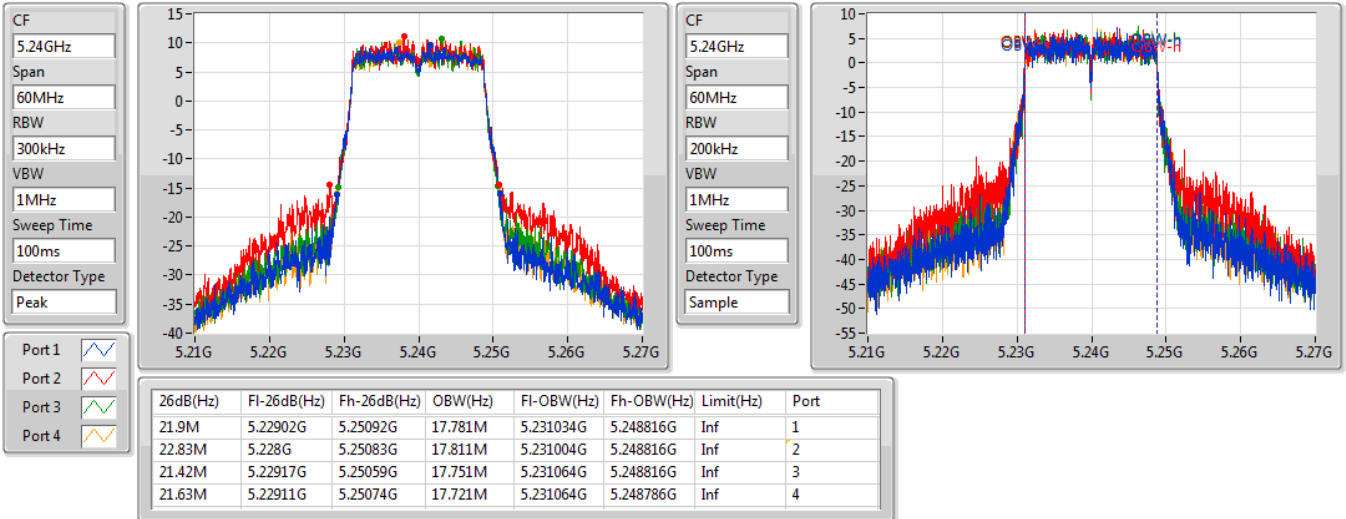

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5200MHz

31/10/2019

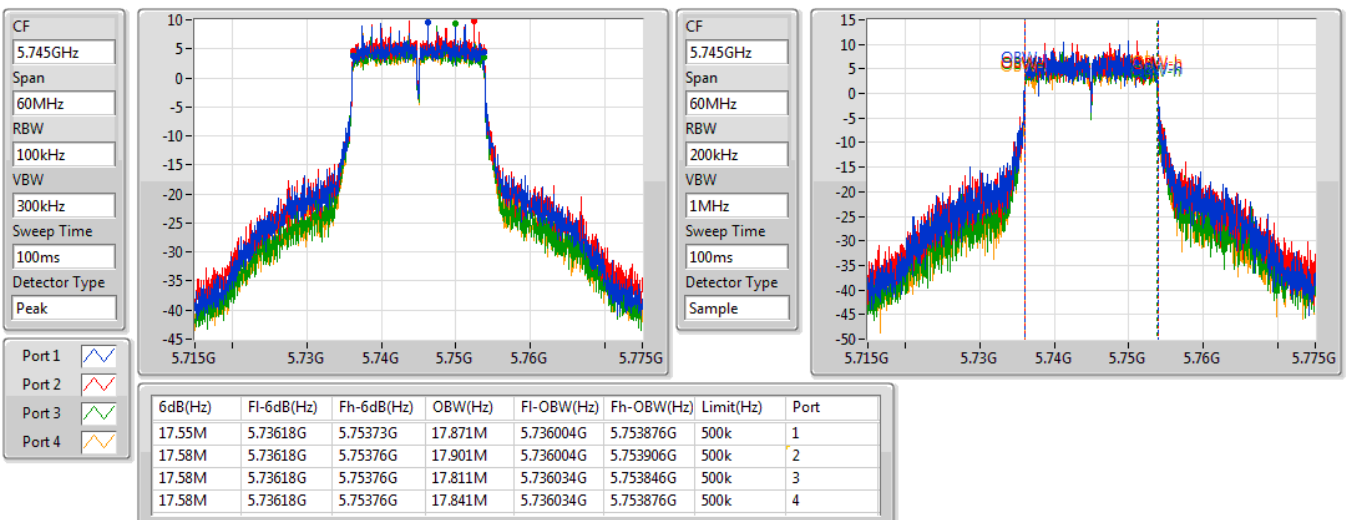


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5240MHz

31/10/2019

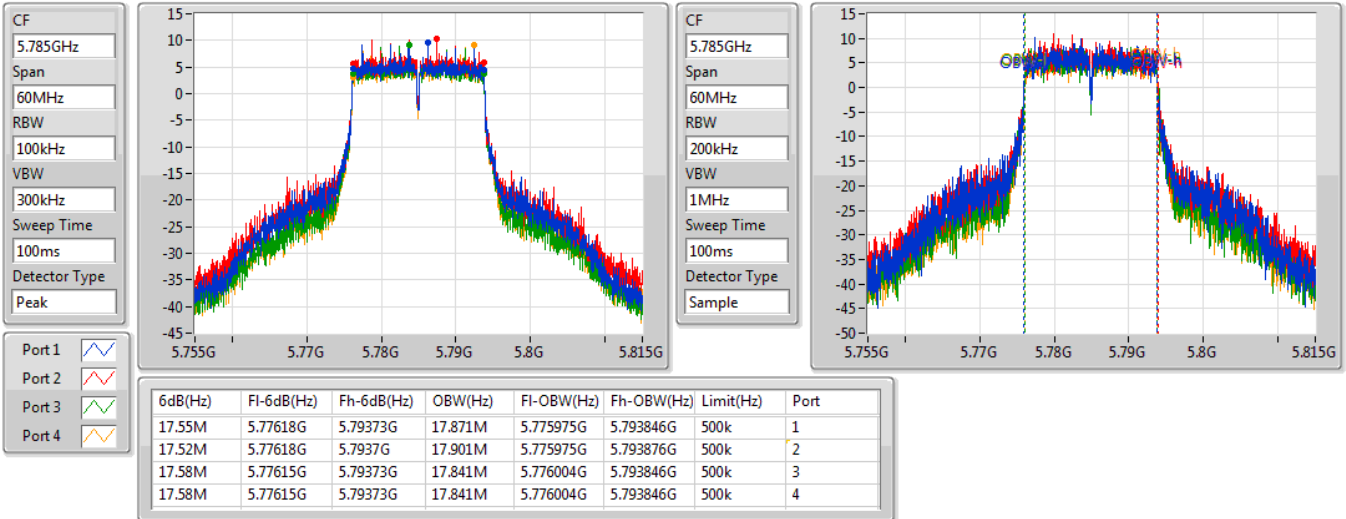

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5745MHz

30/10/2019

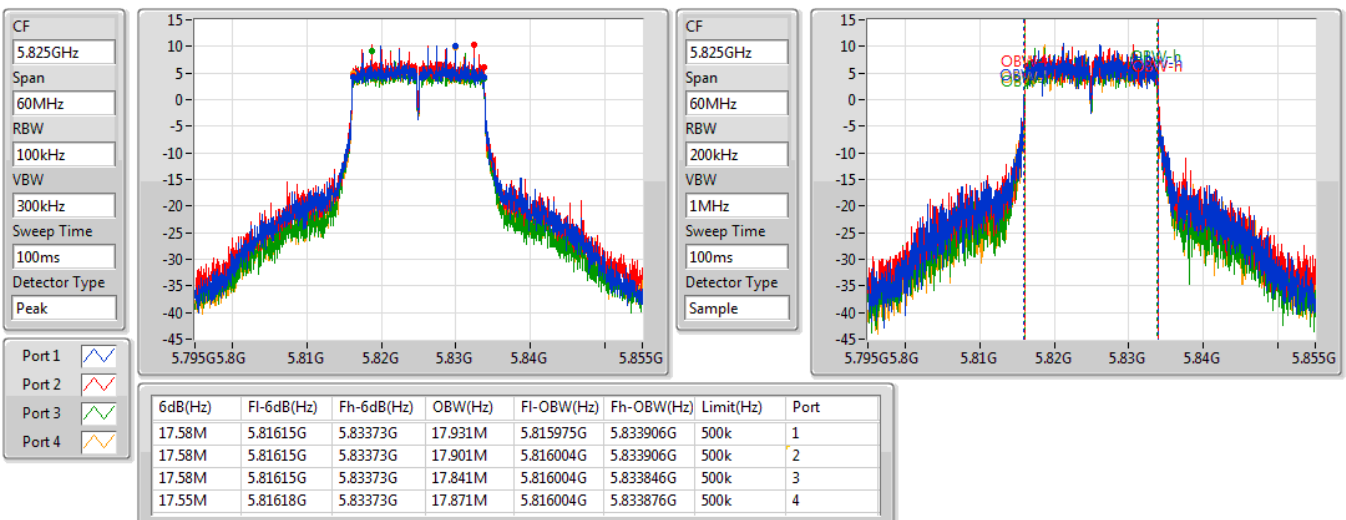


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5785MHz

30/10/2019

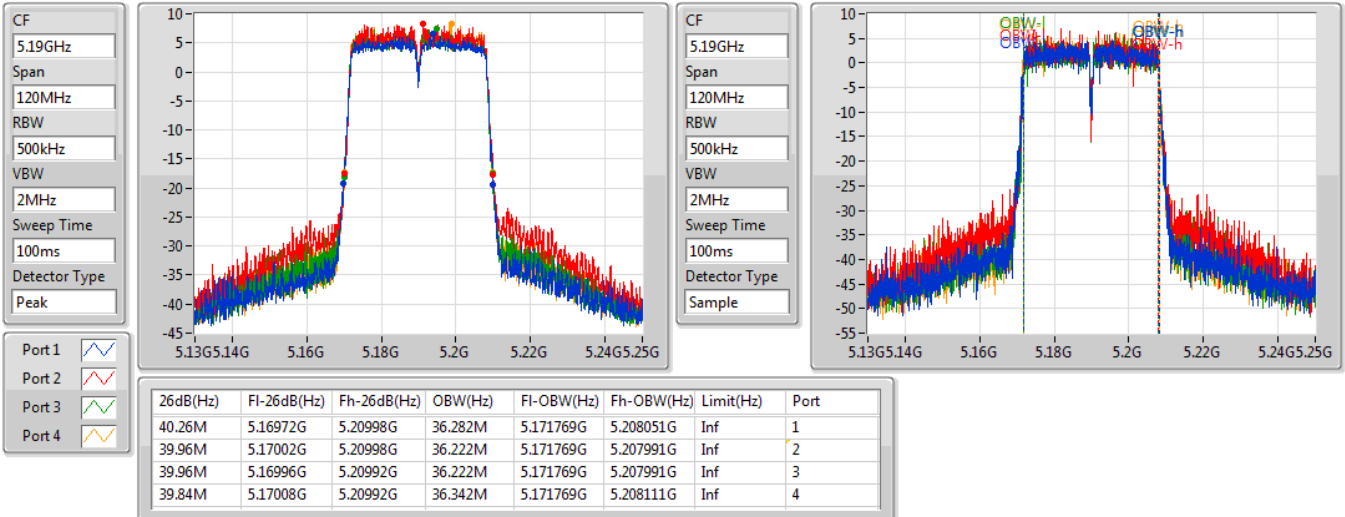

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5825MHz

30/10/2019

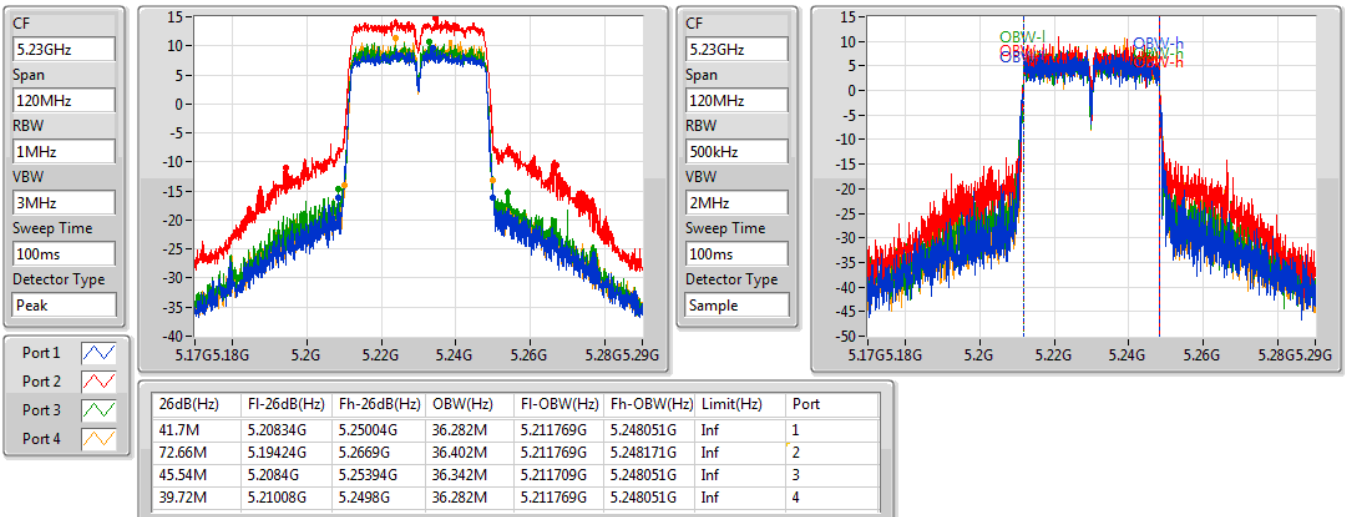


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5190MHz

31/10/2019

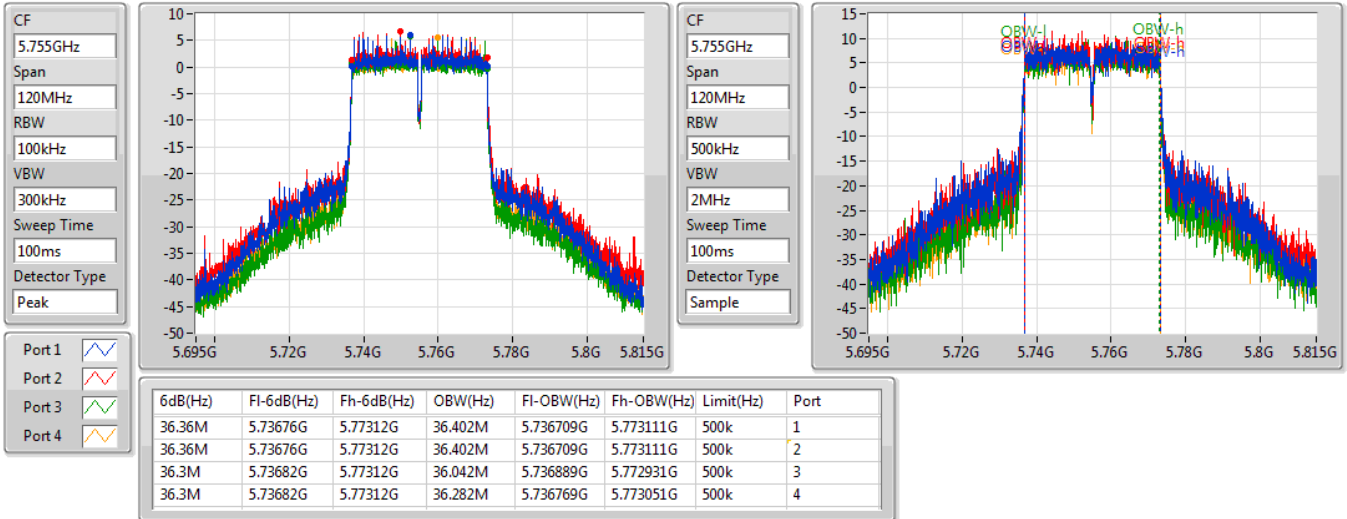

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5230MHz

31/10/2019

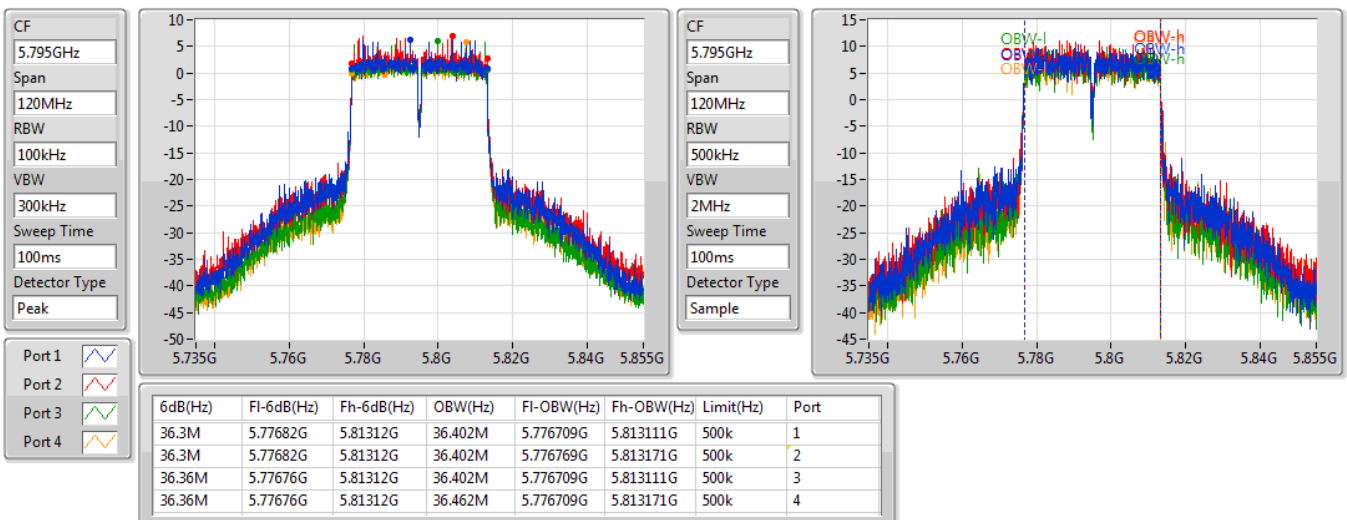


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5755MHz

30/10/2019

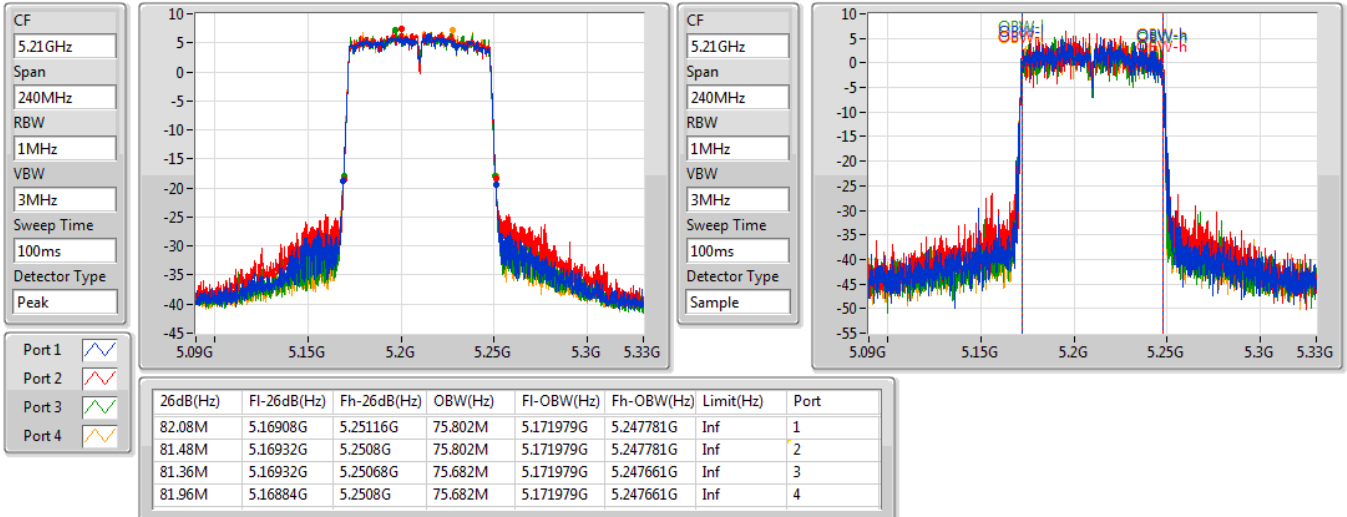

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5795MHz

30/10/2019

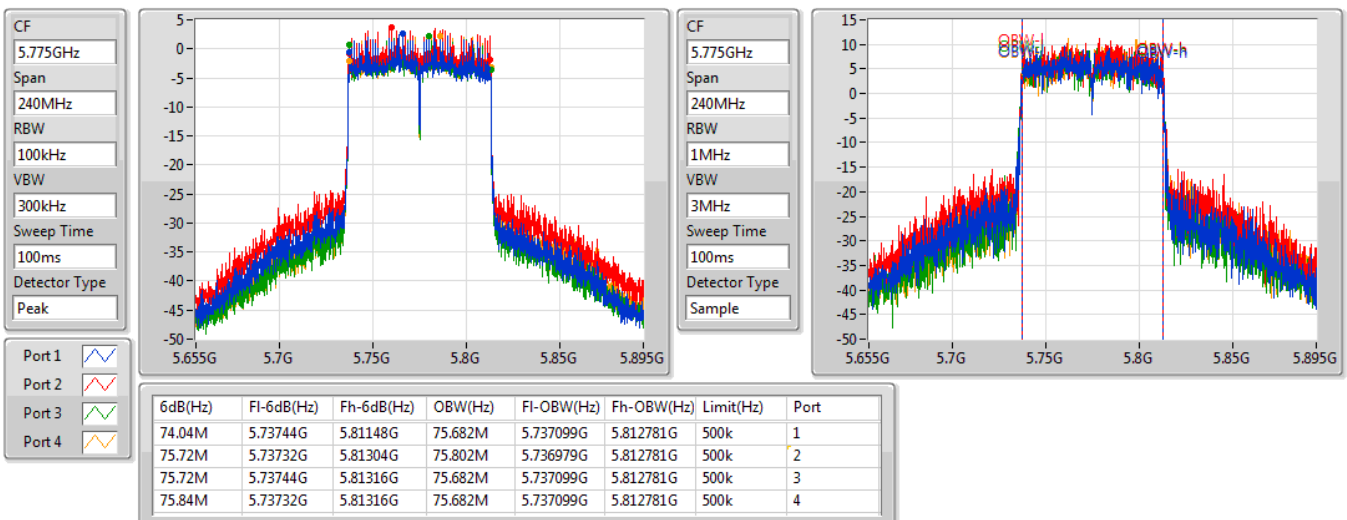


802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5210MHz

31/10/2019

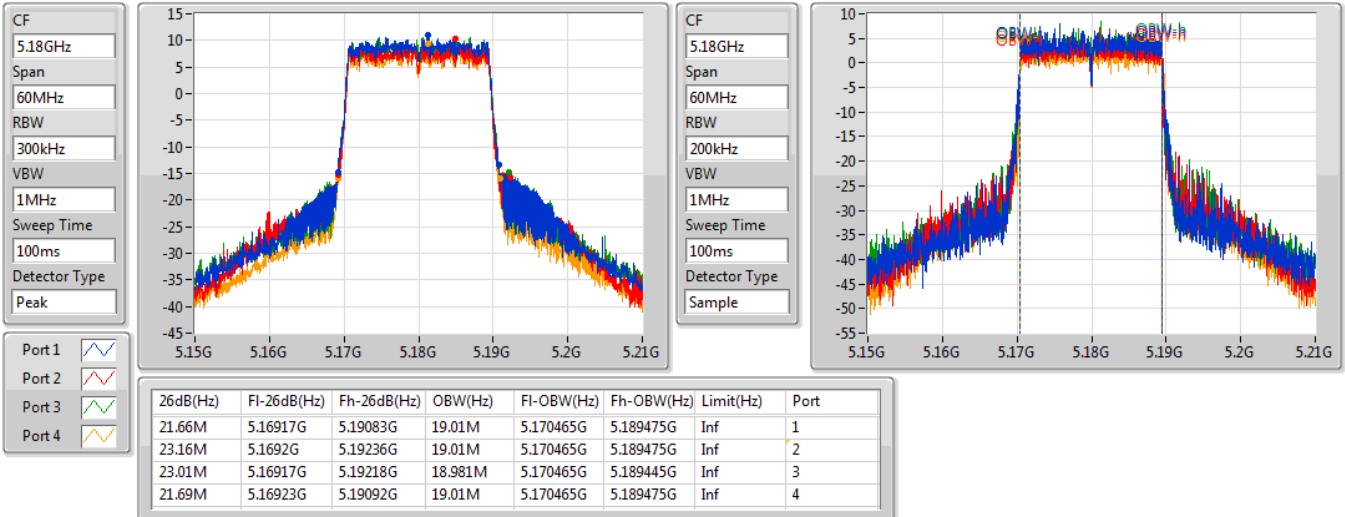

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5775MHz

30/10/2019

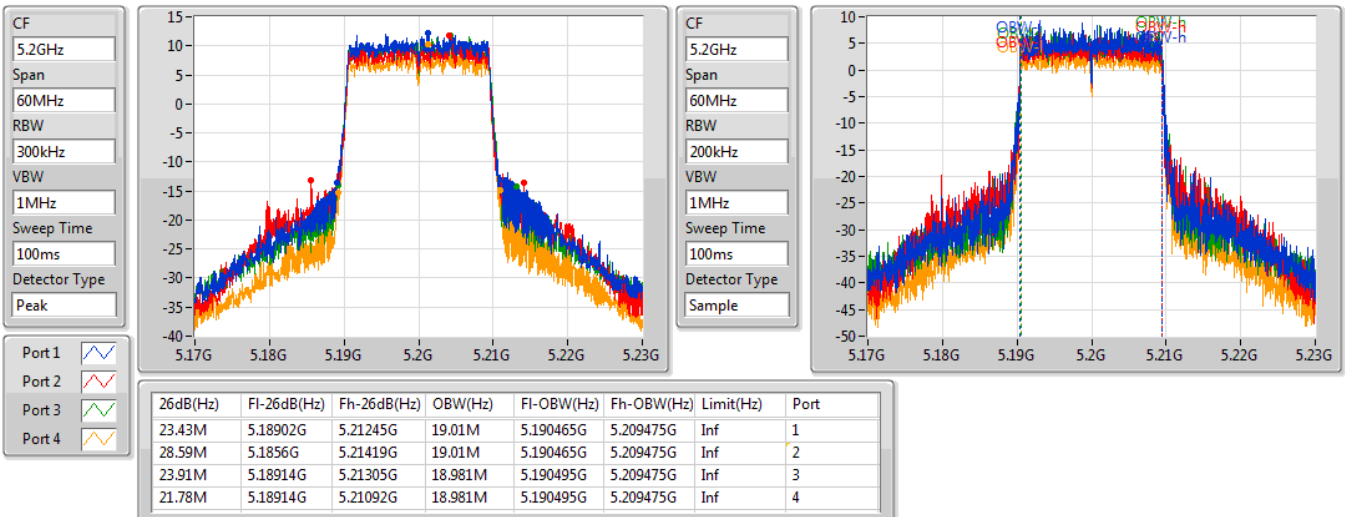


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5180MHz

13/10/2019

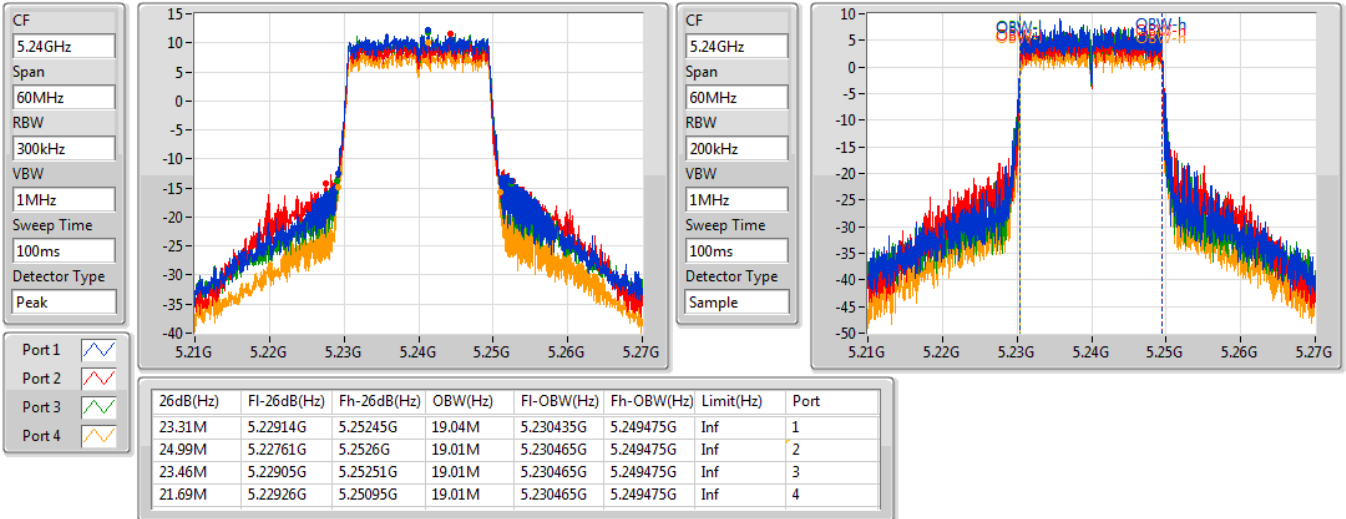

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5200MHz

13/10/2019

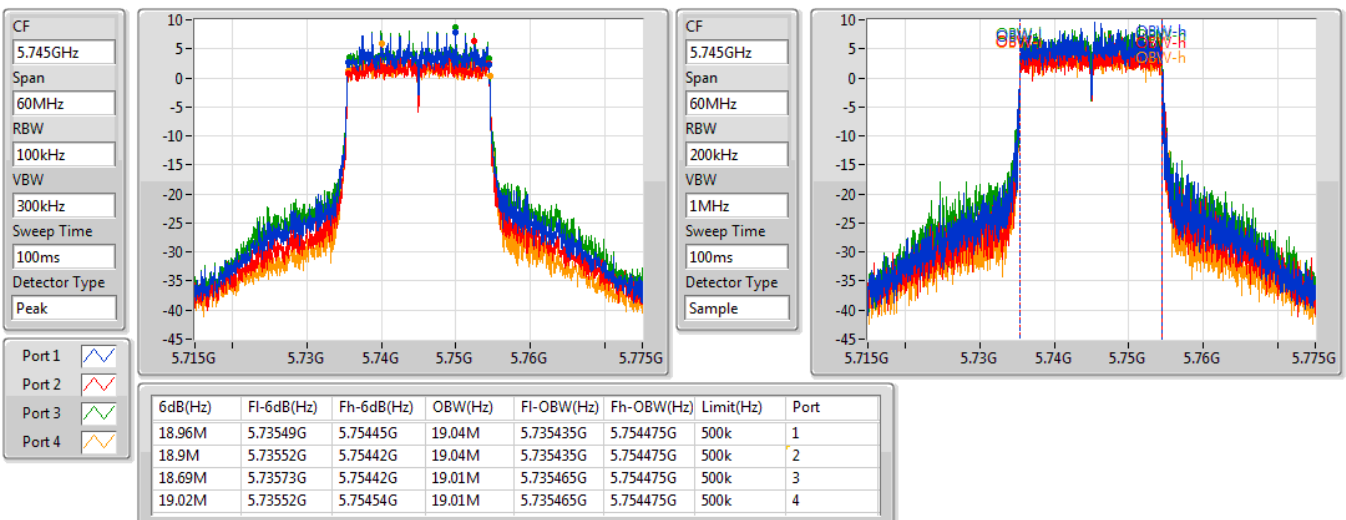


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5240MHz

13/10/2019

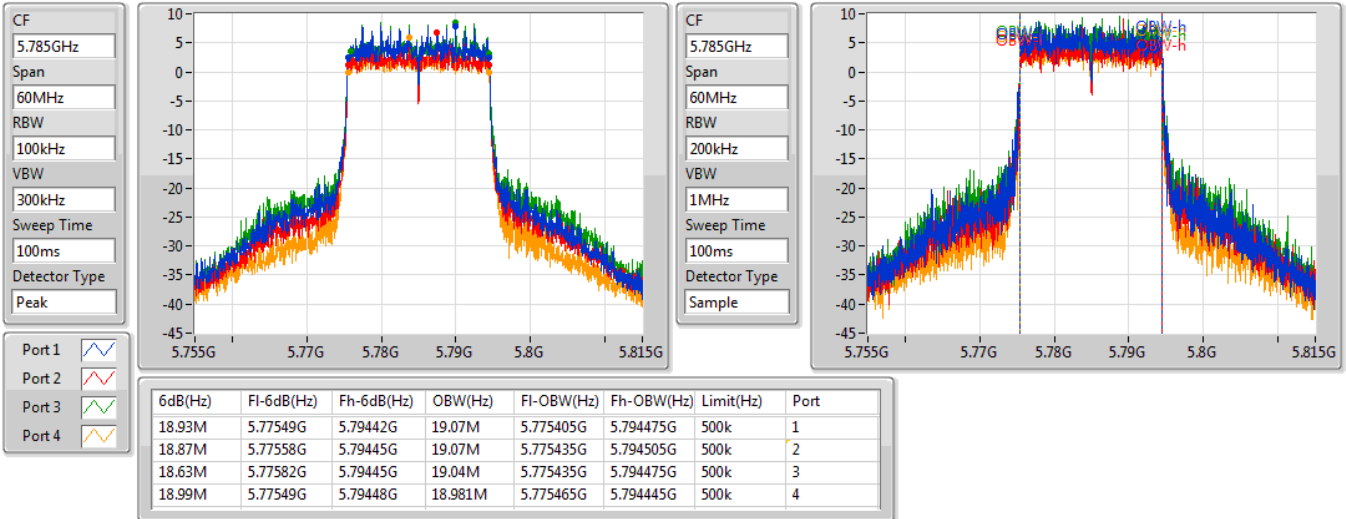

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5745MHz

13/10/2019

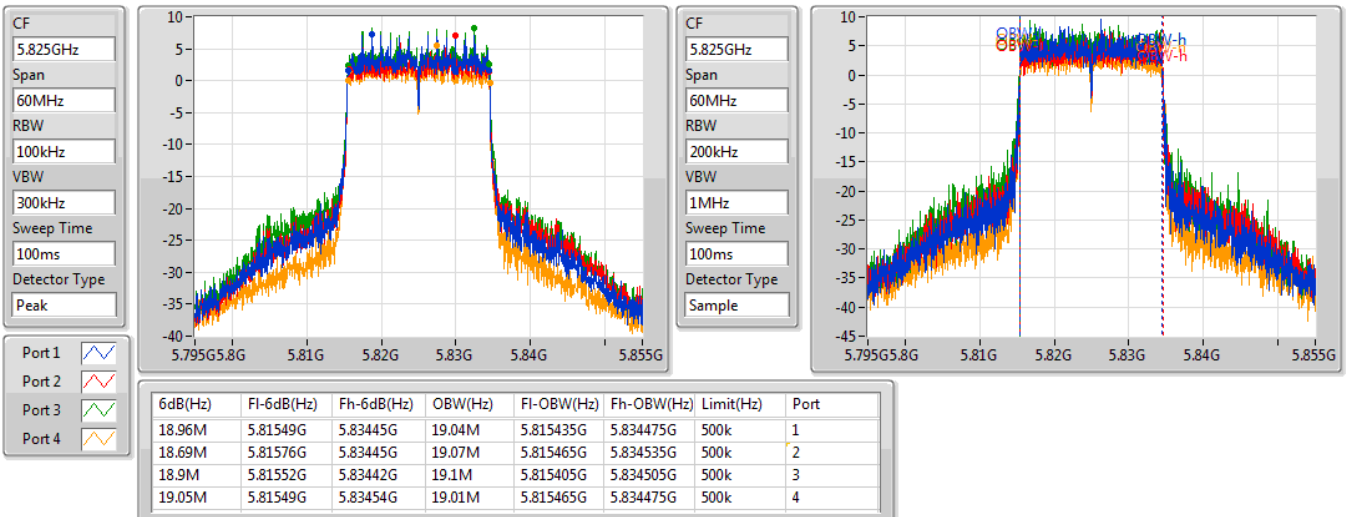


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5785MHz

13/10/2019

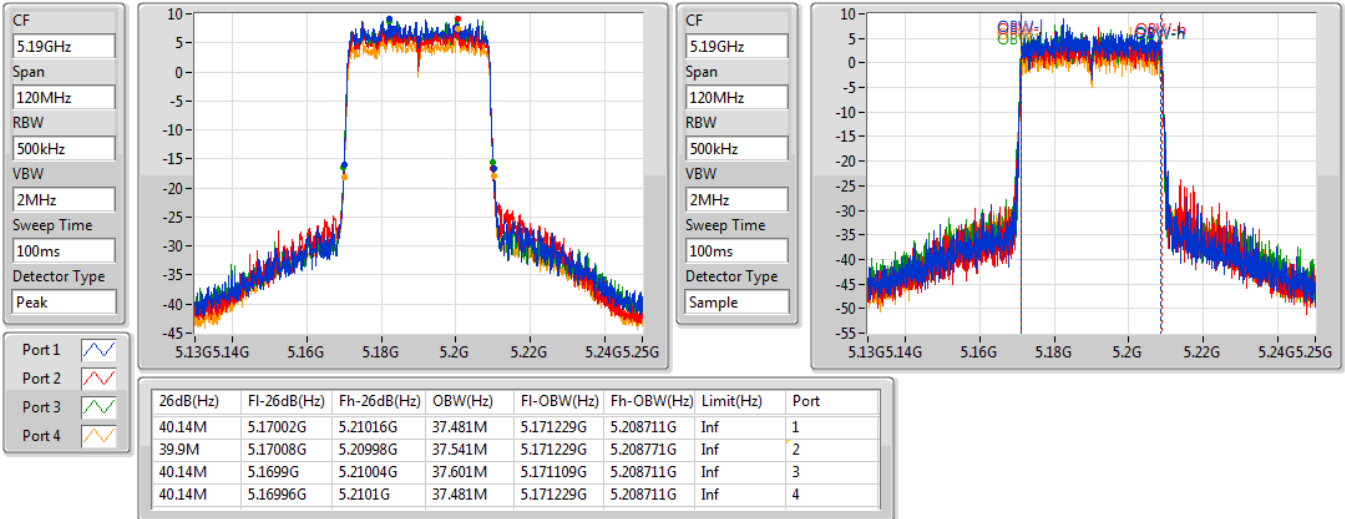

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5825MHz

13/10/2019

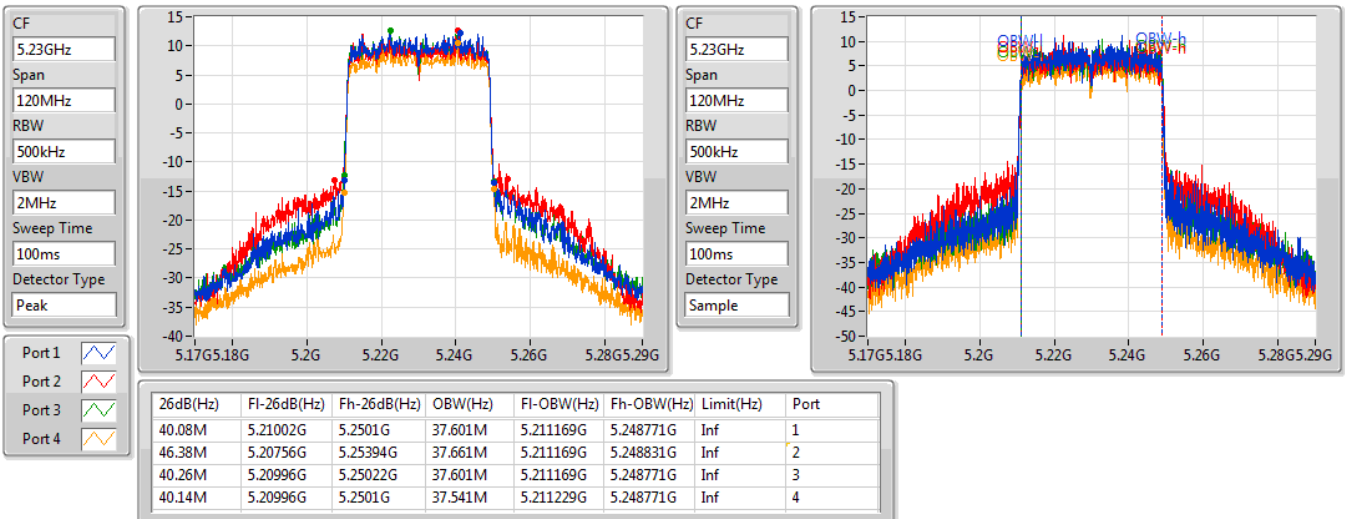


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5190MHz

13/10/2019

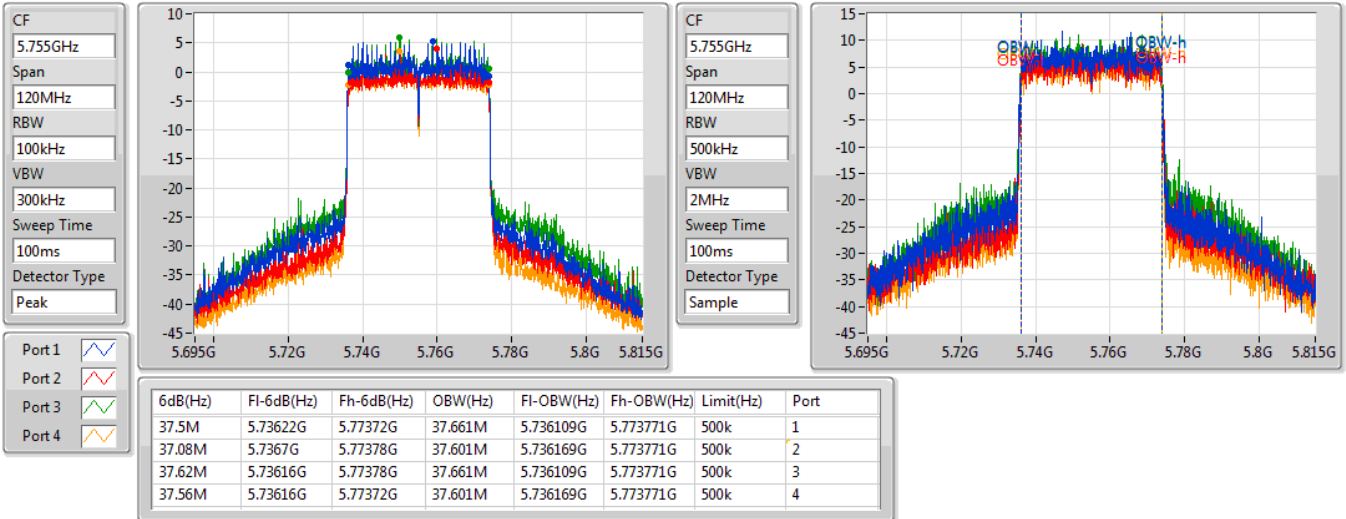

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5230MHz

13/10/2019

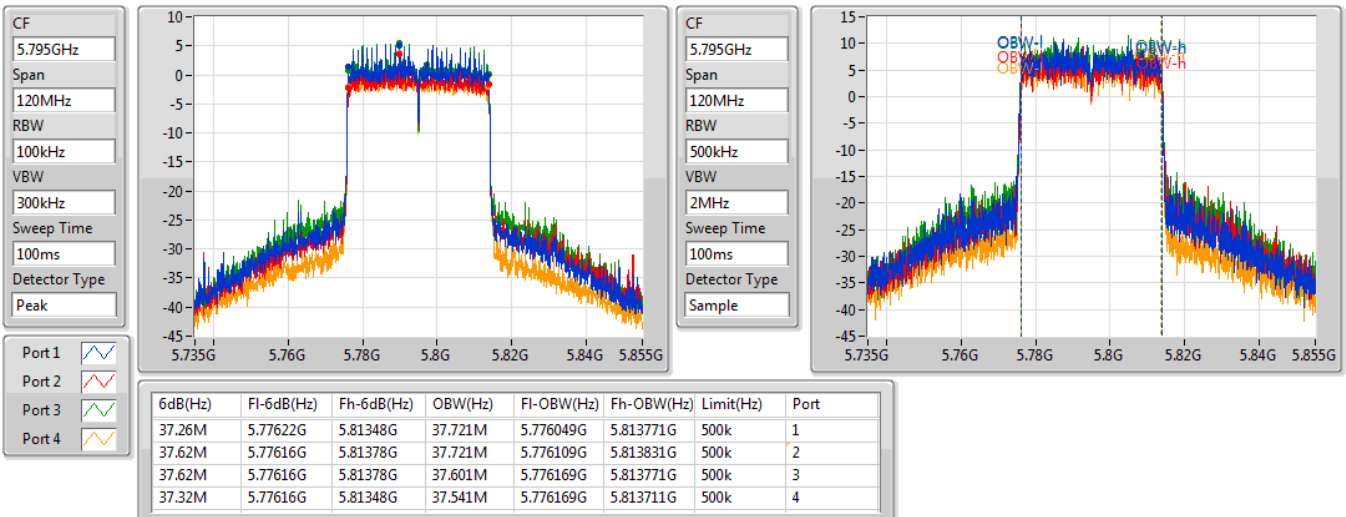


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5755MHz

13/10/2019

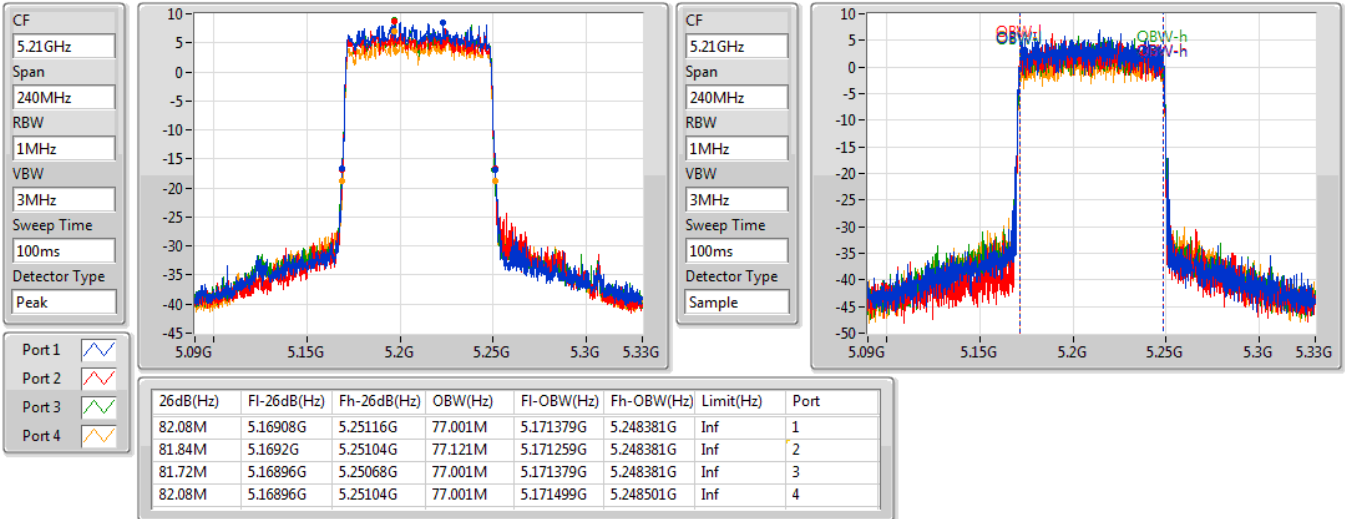

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5795MHz

13/10/2019

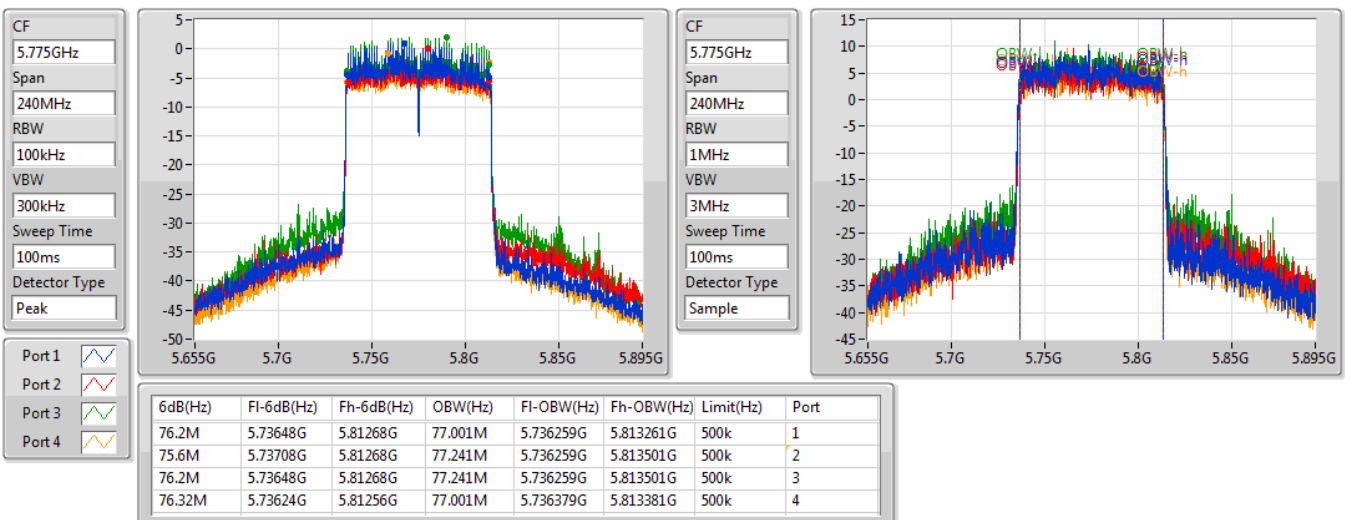


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5210MHz

13/10/2019


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

13/10/2019



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ac VHT20_Nss4,(MCS0)_4TX	41.7M	19.28M	19M3D1D	21.48M	17.691M
802.11ac VHT40_Nss4,(MCS0)_4TX	74.1M	36.402M	36M4D1D	39.78M	36.162M
802.11ac VHT80_Nss4,(MCS0)_4TX	81.72M	75.922M	75M9D1D	81.12M	75.682M
802.11ax HEW20_Nss4,(MCS0)_4TX	42.93M	19.79M	19M8D1D	21.39M	18.981M
802.11ax HEW40_Nss4,(MCS0)_4TX	49.62M	37.781M	37M8D1D	39.84M	37.481M
802.11ax HEW80_Nss4,(MCS0)_4TX	81.72M	77.121M	77M1D1D	80.76M	77.001M
5.725-5.85GHz	-	-	-	-	-
802.11ac VHT20_Nss4,(MCS0)_4TX	17.58M	32.144M	32M1D1D	17.31M	26.147M
802.11ac VHT40_Nss4,(MCS0)_4TX	36.36M	52.654M	52M7D1D	35.76M	37.121M
802.11ac VHT80_Nss4,(MCS0)_4TX	75.48M	76.042M	76M0D1D	75.12M	75.682M
802.11ax HEW20_Nss4,(MCS0)_4TX	18.6M	33.853M	33M9D1D	17.67M	28.186M
802.11ax HEW40_Nss4,(MCS0)_4TX	37.68M	44.138M	44M1D1D	36.54M	37.841M
802.11ax HEW80_Nss4,(MCS0)_4TX	76.32M	77.361M	77M4D1D	75.24M	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

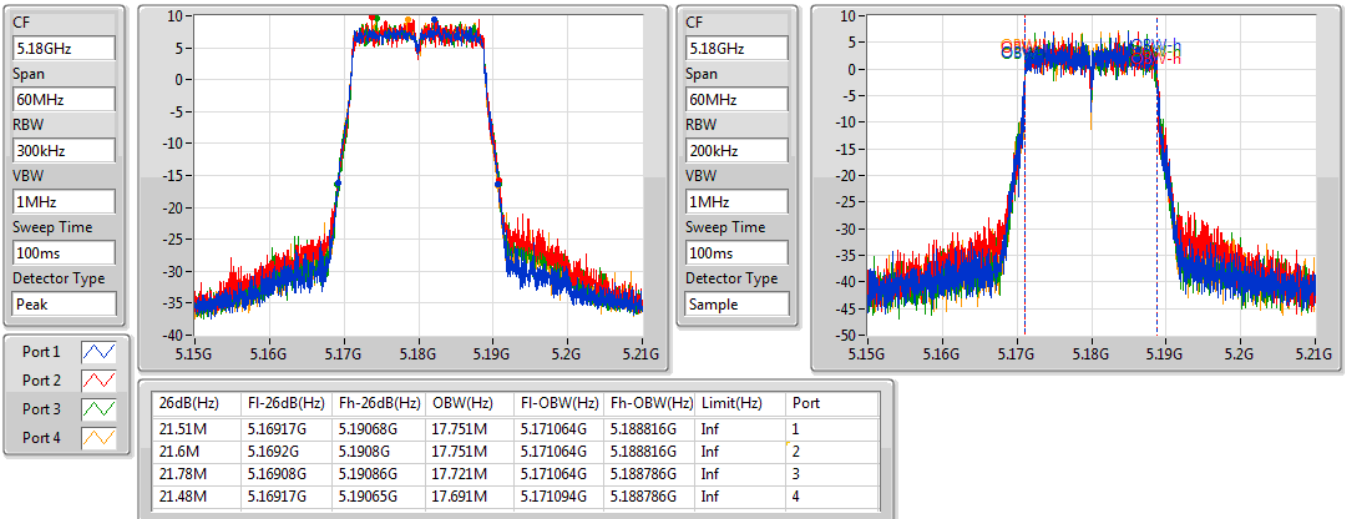
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT20_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.51M	17.751M	21.6M	17.751M	21.78M	17.721M	21.48M	17.691M
5200MHz	Pass	Inf	32.07M	17.781M	37.92M	18.201M	37.92M	17.841M	34.44M	17.811M
5240MHz	Pass	Inf	32.46M	17.781M	41.7M	19.28M	34.05M	17.871M	31.62M	17.781M
5745MHz	Pass	500k	17.49M	29.595M	17.58M	32.144M	17.52M	27.376M	17.52M	27.196M
5785MHz	Pass	500k	17.31M	29.655M	17.49M	31.634M	17.52M	26.837M	17.49M	27.796M
5825MHz	Pass	500k	17.55M	29.265M	17.49M	30.375M	17.55M	26.147M	17.52M	27.076M
802.11ac VHT40_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.14M	36.282M	39.78M	36.282M	39.9M	36.162M	40.02M	36.222M
5230MHz	Pass	Inf	40.2M	36.342M	74.1M	36.402M	44.58M	36.282M	40.2M	36.222M
5755MHz	Pass	500k	35.76M	41.199M	35.88M	42.639M	36.36M	37.121M	36.06M	37.181M
5795MHz	Pass	500k	35.76M	51.934M	35.94M	52.654M	36.36M	42.279M	35.88M	46.117M
802.11ac VHT80_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	81.72M	75.922M	81.36M	75.802M	81.12M	75.922M	81.72M	75.682M
5775MHz	Pass	500k	75.12M	75.802M	75.48M	75.922M	75.24M	75.682M	75.36M	76.042M
802.11ax HEW20_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5180MHz	Pass	Inf	21.39M	18.981M	21.87M	18.981M	21.48M	19.04M	21.72M	18.981M
5200MHz	Pass	Inf	24.93M	19.04M	37.08M	19.22M	37.89M	19.13M	30.78M	19.07M
5240MHz	Pass	Inf	28.26M	19.04M	42.93M	19.79M	40.44M	19.19M	29.04M	19.13M
5745MHz	Pass	500k	18.15M	31.604M	17.88M	33.853M	17.67M	29.325M	18.06M	29.295M
5785MHz	Pass	500k	18.15M	30.315M	17.88M	32.804M	18.6M	28.726M	18.15M	28.576M
5825MHz	Pass	500k	18.12M	29.685M	17.88M	32.504M	17.67M	28.366M	18.21M	28.186M
802.11ax HEW40_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5190MHz	Pass	Inf	40.08M	37.661M	40.2M	37.541M	40.08M	37.601M	40.26M	37.661M
5230MHz	Pass	Inf	40.08M	37.601M	49.62M	37.661M	39.84M	37.481M	40.14M	37.781M
5755MHz	Pass	500k	37.26M	38.021M	37.14M	38.261M	37.68M	37.841M	36.54M	37.961M
5795MHz	Pass	500k	37.08M	38.981M	37.14M	44.138M	37.62M	38.441M	37.38M	38.441M
802.11ax HEW80_Nss4,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5210MHz	Pass	Inf	81.6M	77.121M	80.76M	77.121M	81.48M	77.001M	81.72M	77.121M
5775MHz	Pass	500k	76.2M	77.121M	75.48M	77.361M	75.24M	77.241M	76.32M	77.121M

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

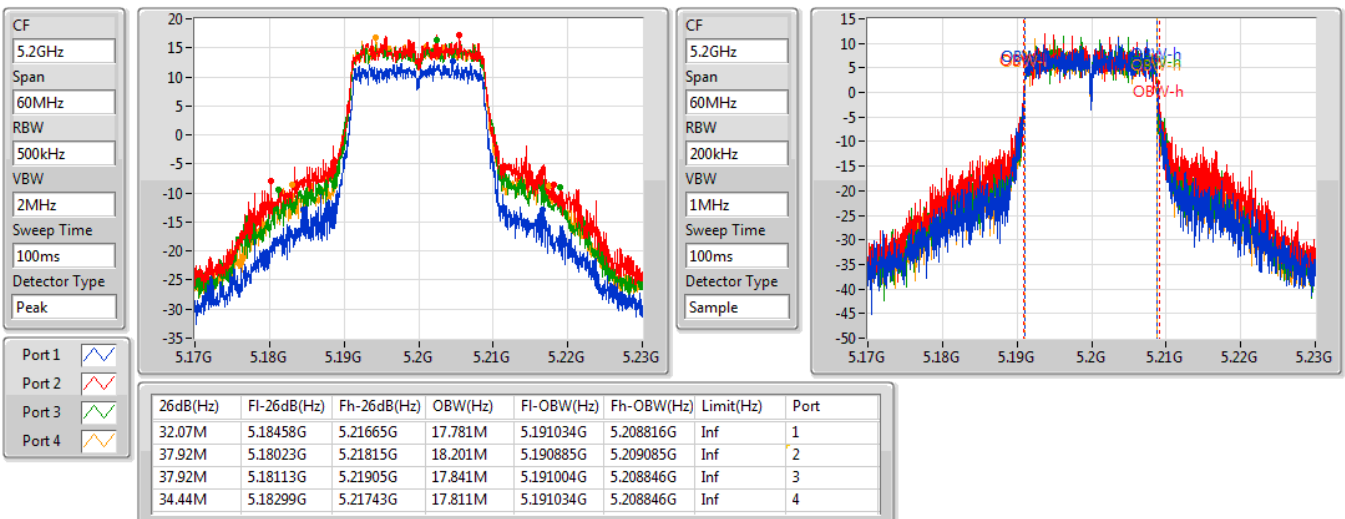
Port X-OBW = Port X 99% occupied bandwidth;

802.11ac VHT20_Nss4,(MCS0)_4TX
EBW
5180MHz

31/10/2019

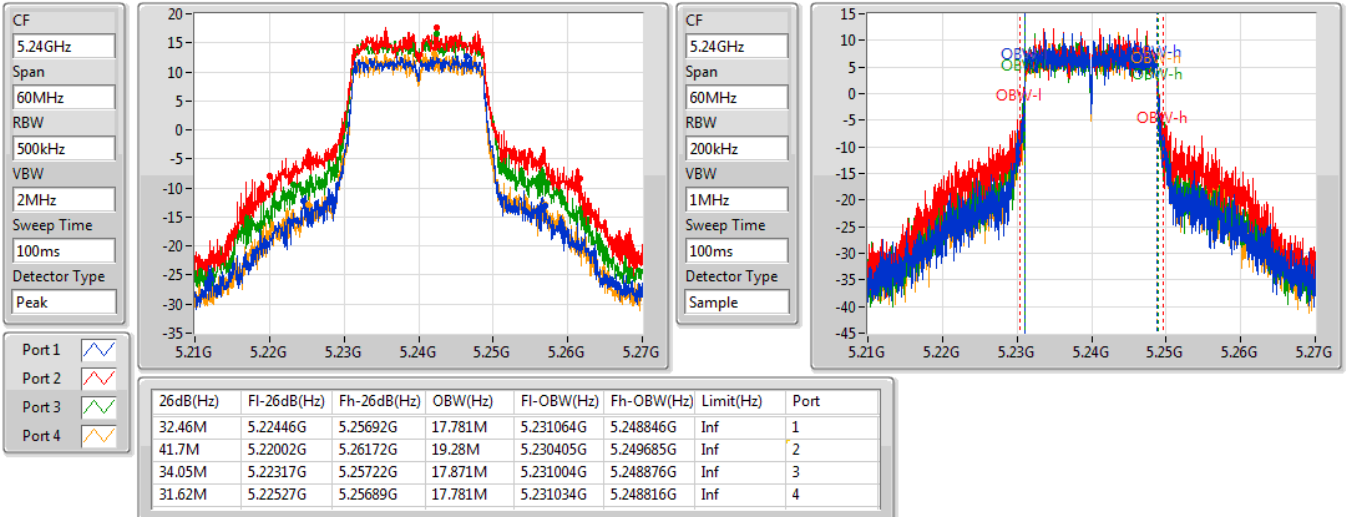

802.11ac VHT20_Nss4,(MCS0)_4TX
EBW
5200MHz

31/10/2019

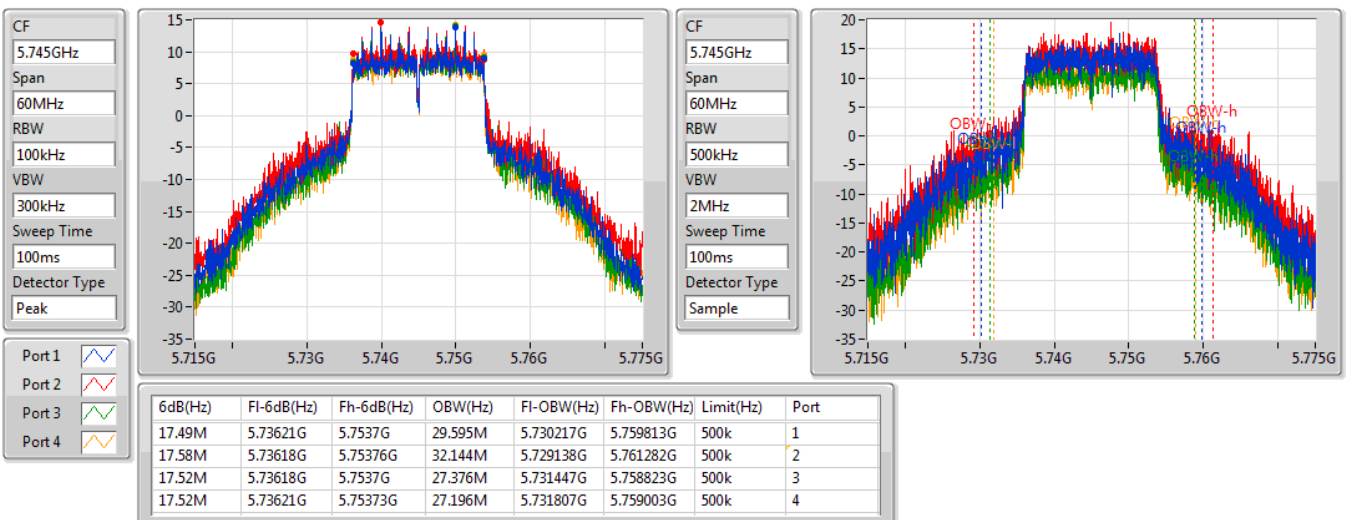


802.11ac VHT20_Nss4,(MCS0)_4TX
EBW
5240MHz

31/10/2019

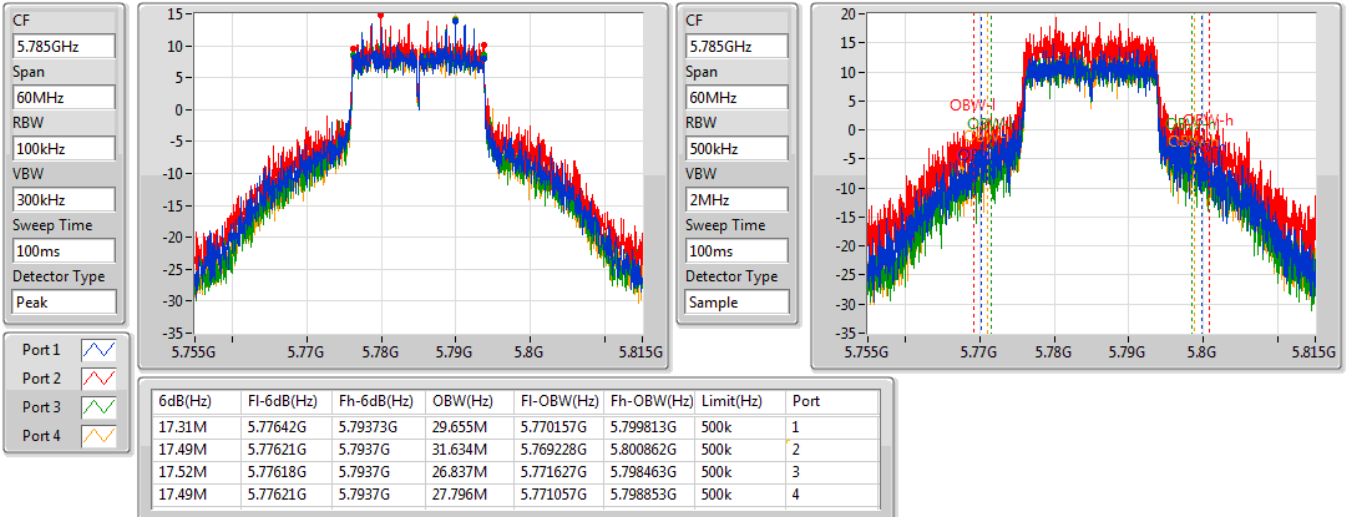

802.11ac VHT20_Nss4,(MCS0)_4TX
EBW
5745MHz

30/10/2019

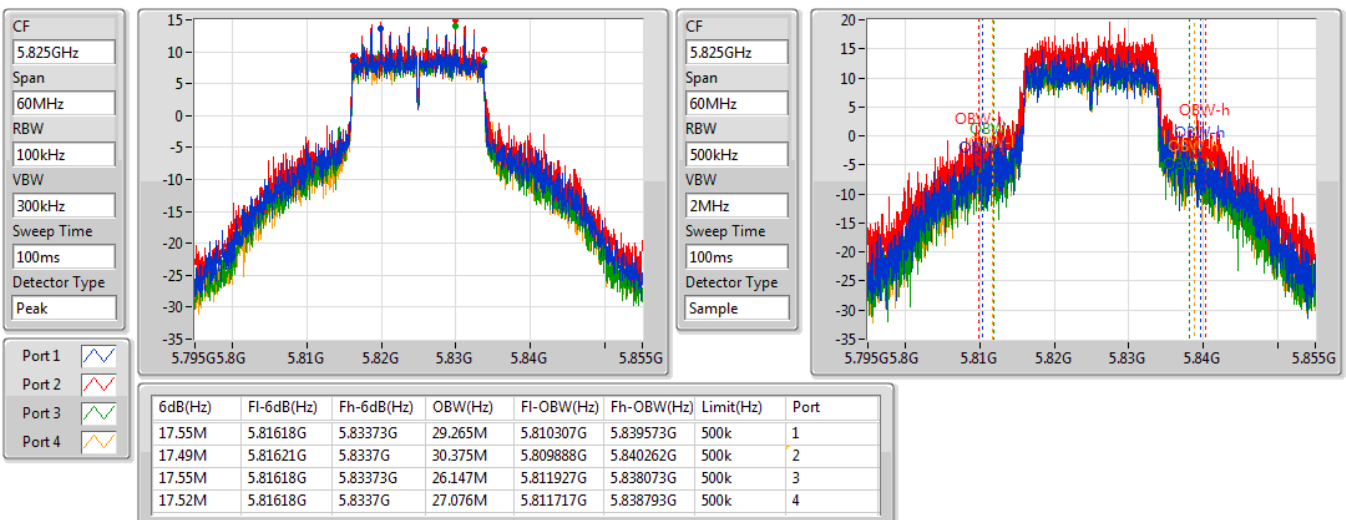


802.11ac VHT20_Nss4,(MCS0)_4TX
EBW
5785MHz

30/10/2019

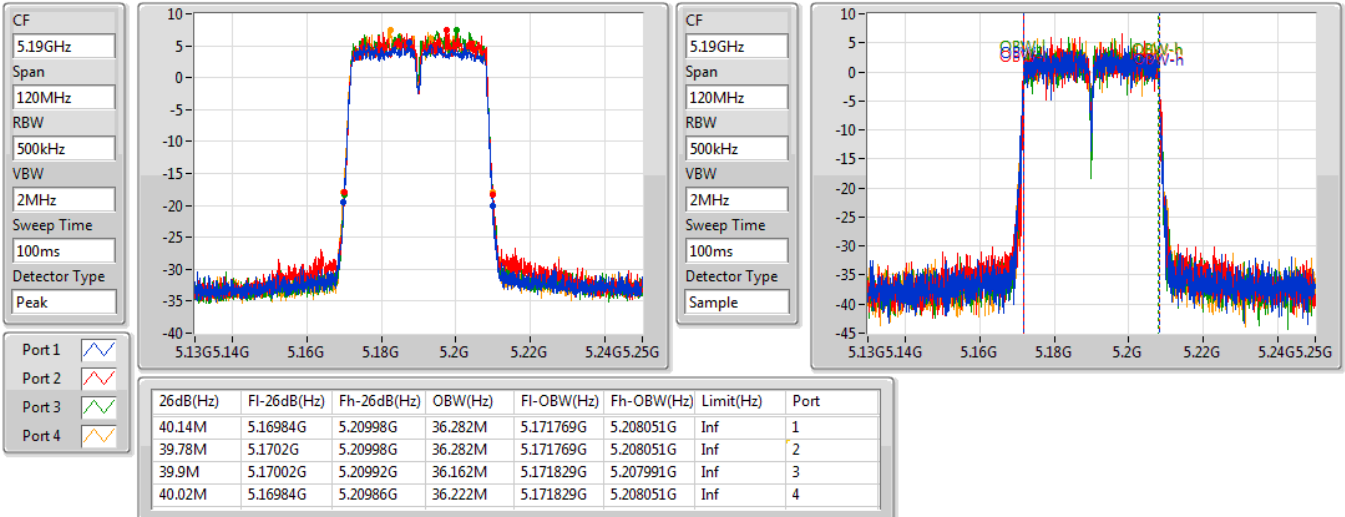

802.11ac VHT20_Nss4,(MCS0)_4TX
EBW
5825MHz

30/10/2019

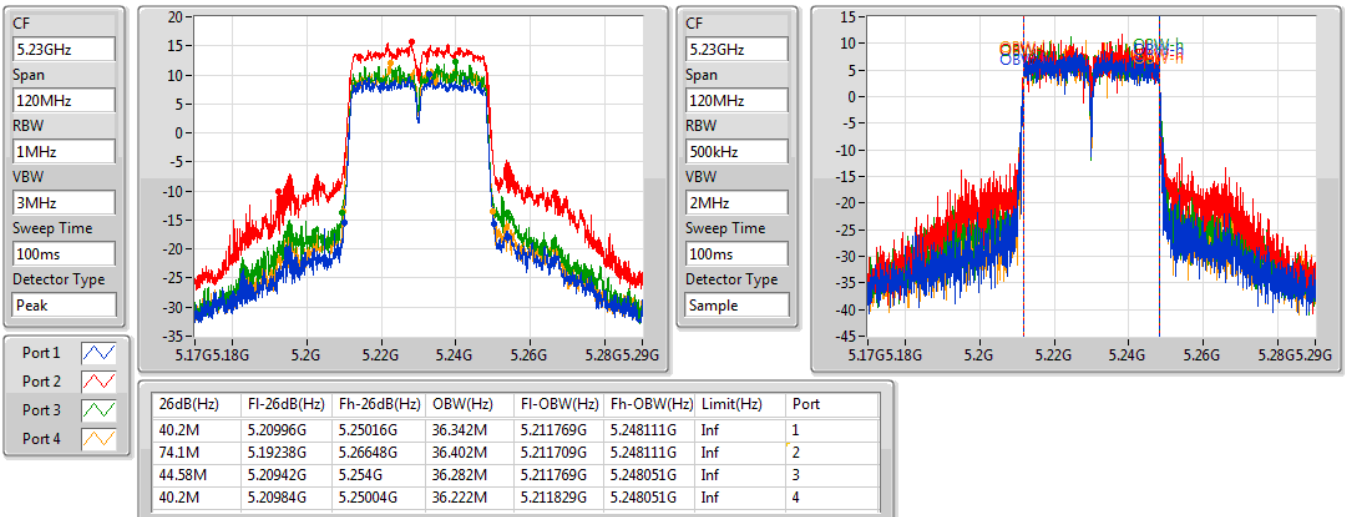


802.11ac VHT40_Nss4,(MCS0)_4TX
EBW
5190MHz

31/10/2019

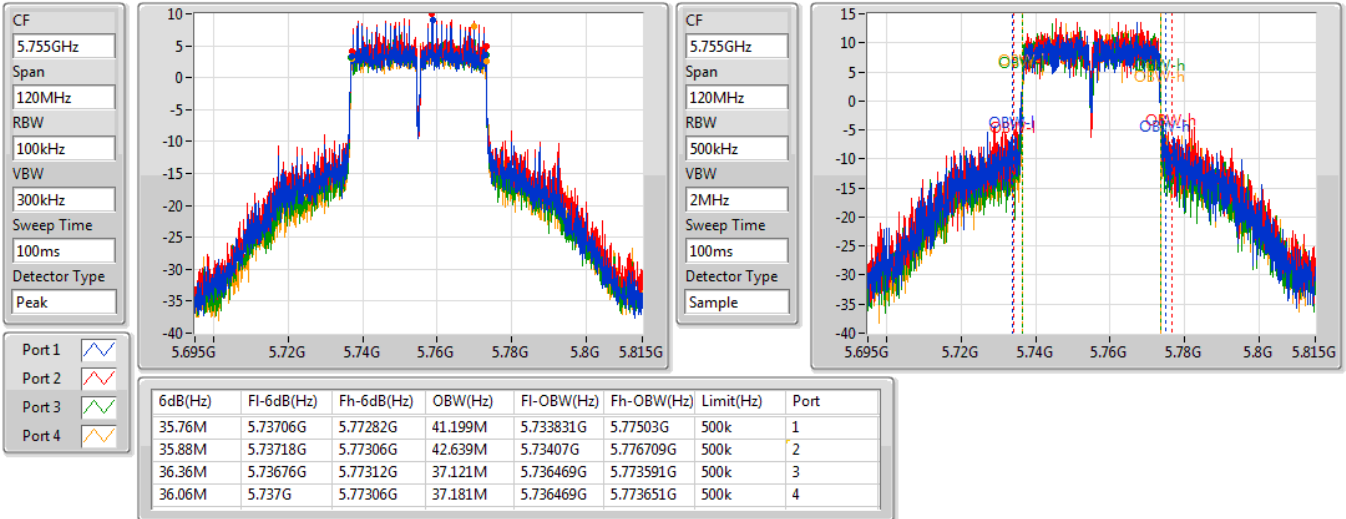

802.11ac VHT40_Nss4,(MCS0)_4TX
EBW
5230MHz

31/10/2019

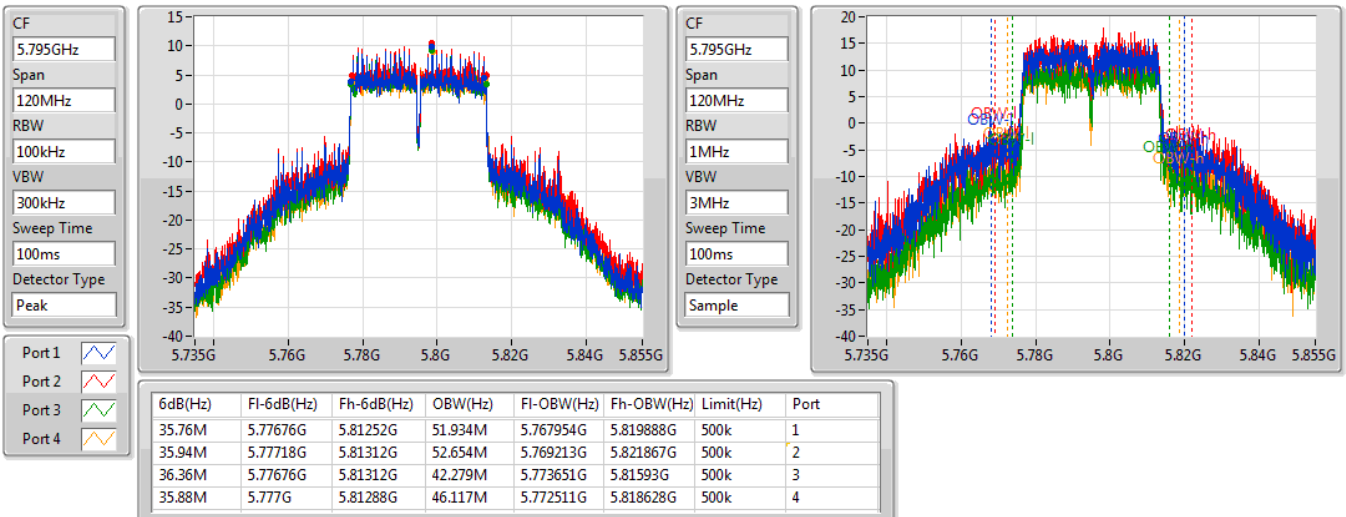


802.11ac VHT40_Nss4,(MCS0)_4TX
EBW
5755MHz

30/10/2019

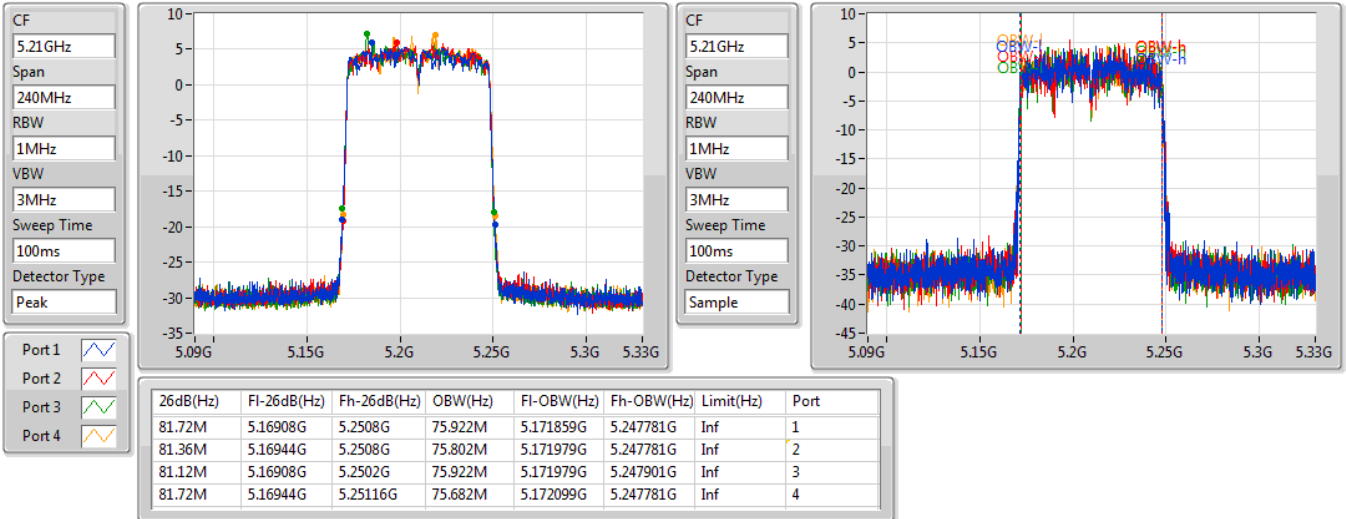

802.11ac VHT40_Nss4,(MCS0)_4TX
EBW
5795MHz

30/10/2019

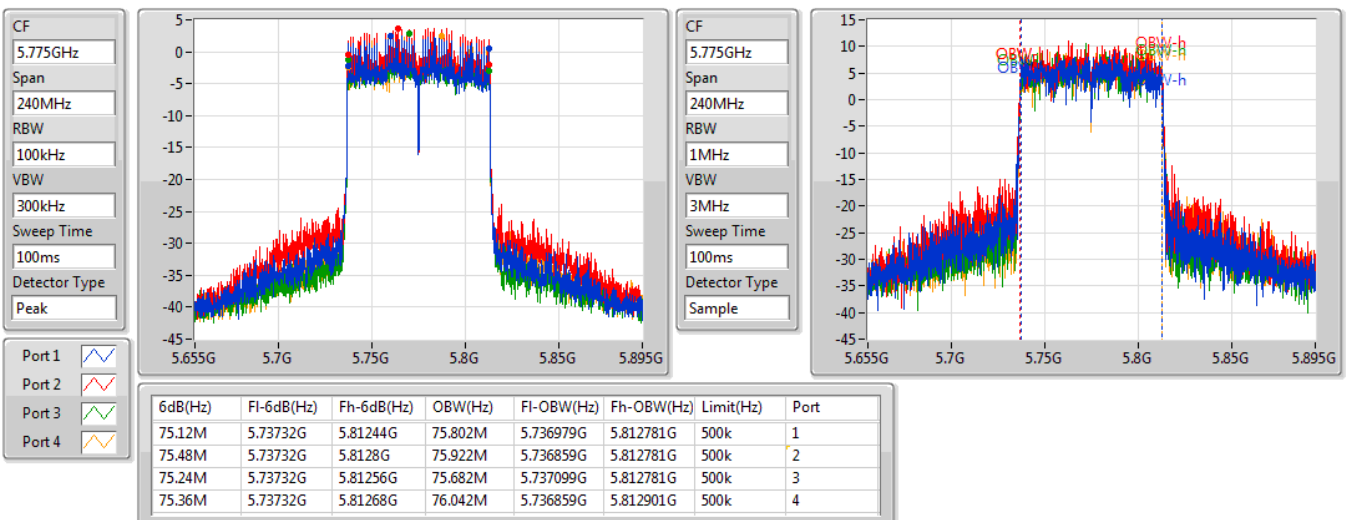


802.11ac VHT80_Nss4,(MCS0)_4TX
EBW
5210MHz

31/10/2019

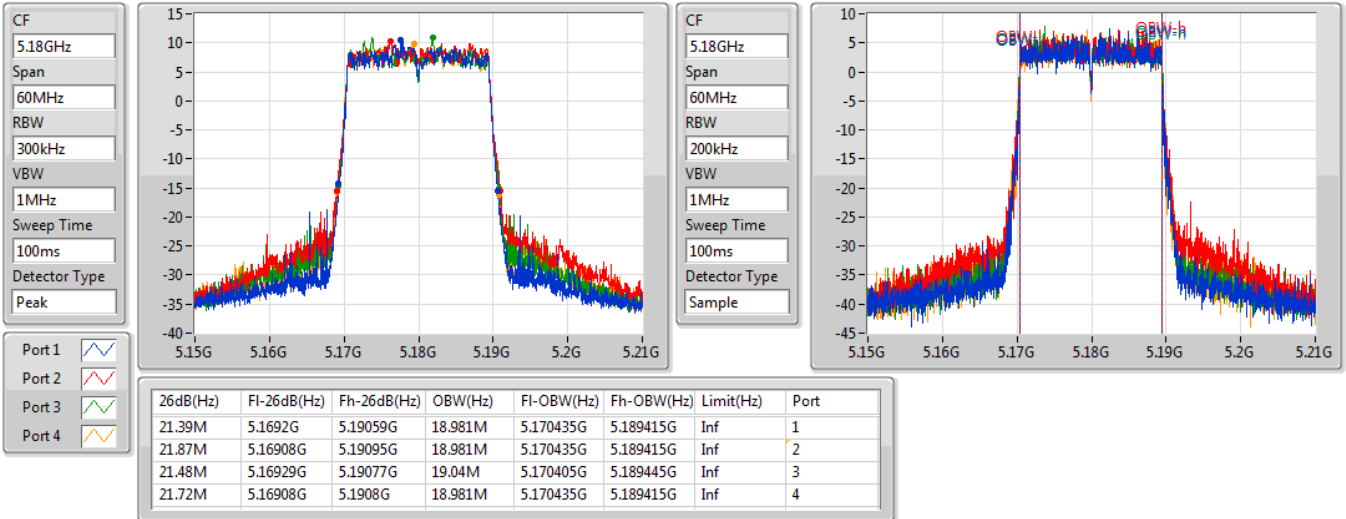

802.11ac VHT80_Nss4,(MCS0)_4TX
EBW
5775MHz

30/10/2019

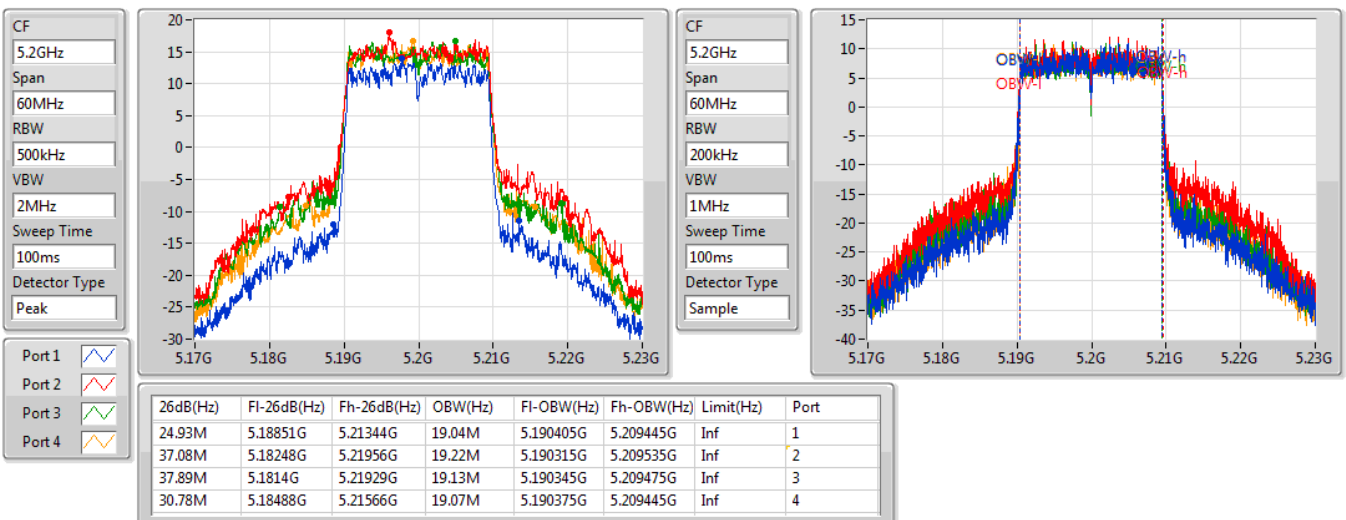


802.11ax HEW20_Nss4,(MCS0)_4TX
EBW
5180MHz

05/10/2019

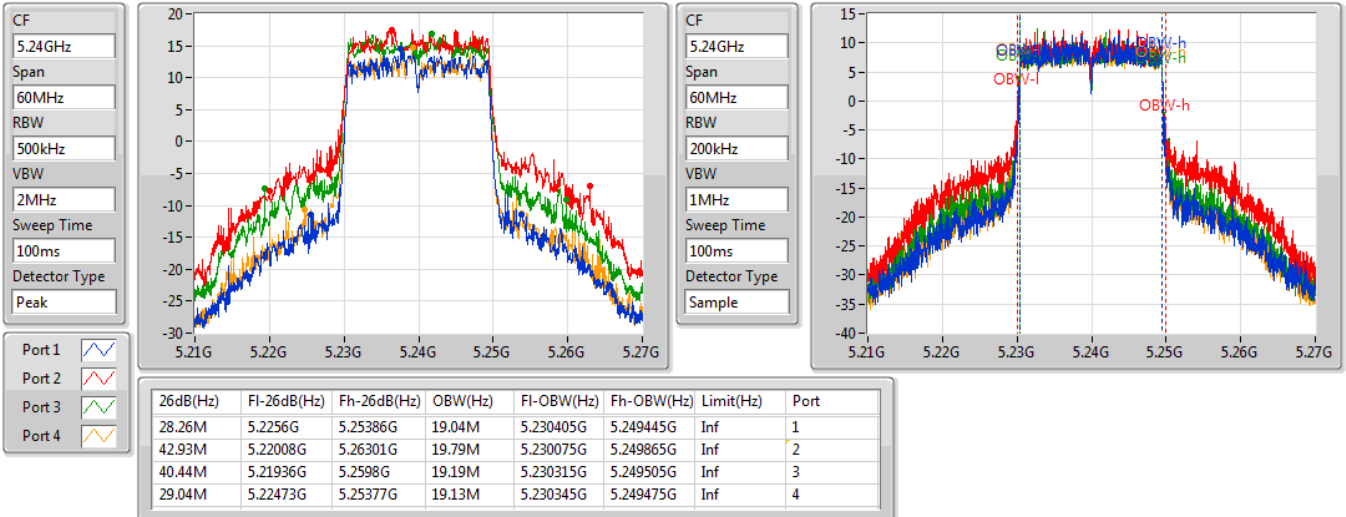

802.11ax HEW20_Nss4,(MCS0)_4TX
EBW
5200MHz

05/10/2019

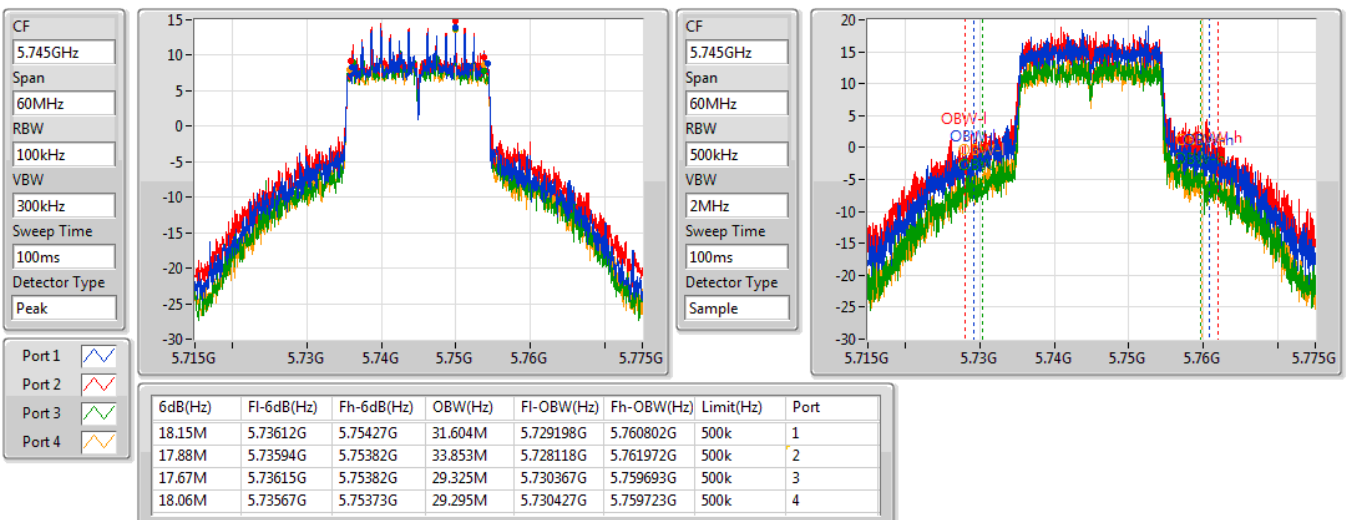


802.11ax HEW20_Nss4,(MCS0)_4TX
EBW
5240MHz

05/10/2019

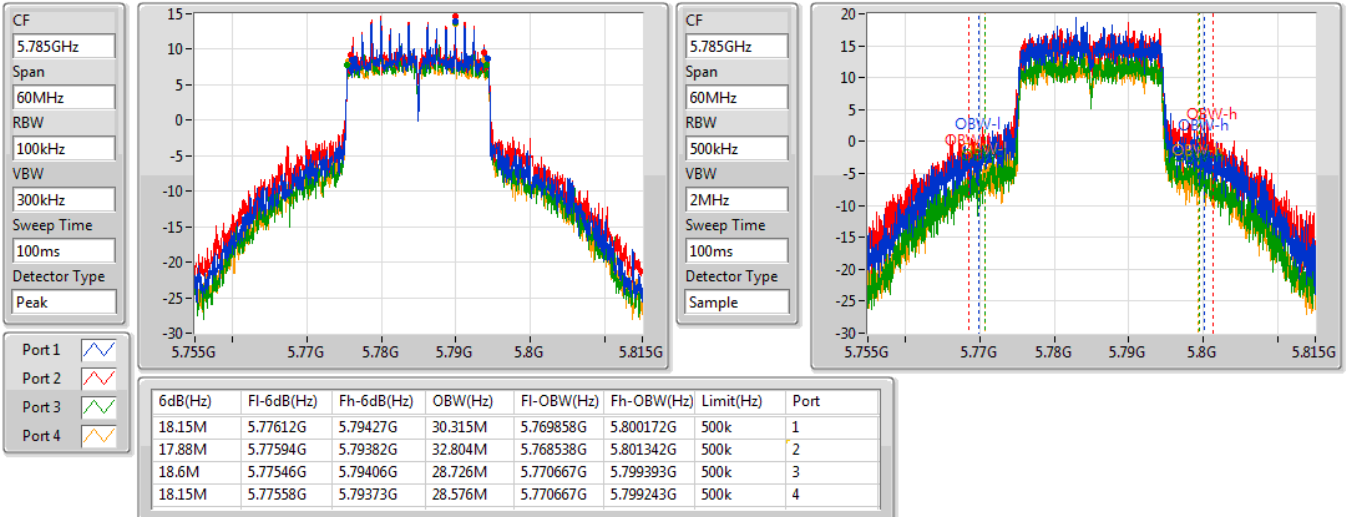

802.11ax HEW20_Nss4,(MCS0)_4TX
EBW
5745MHz

05/10/2019

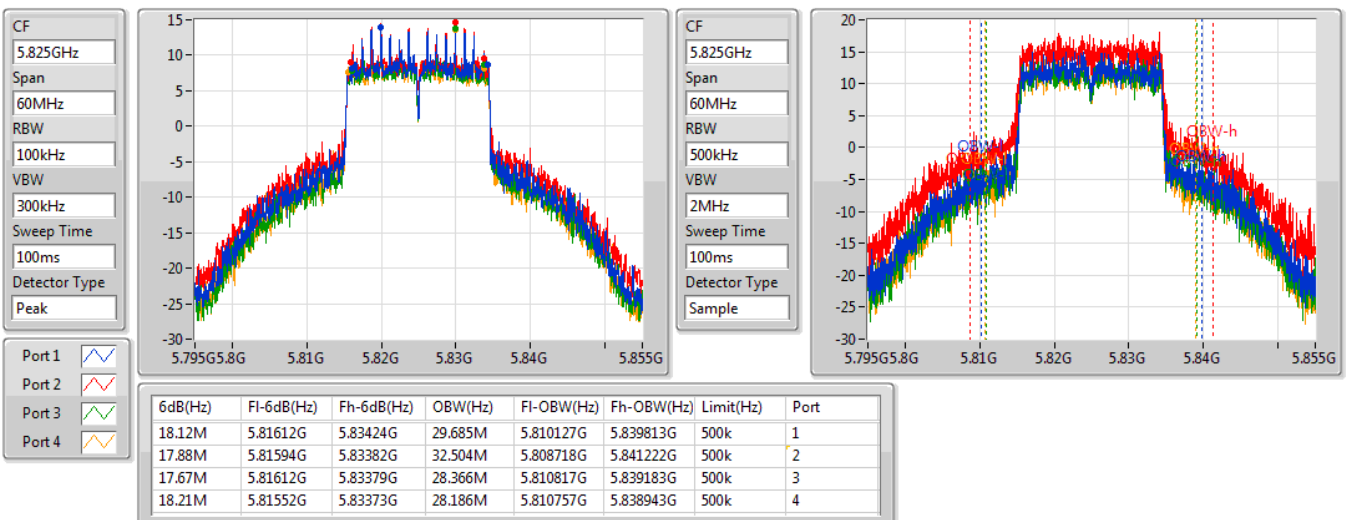


802.11ax HEW20_Nss4,(MCS0)_4TX
EBW
5785MHz

05/10/2019

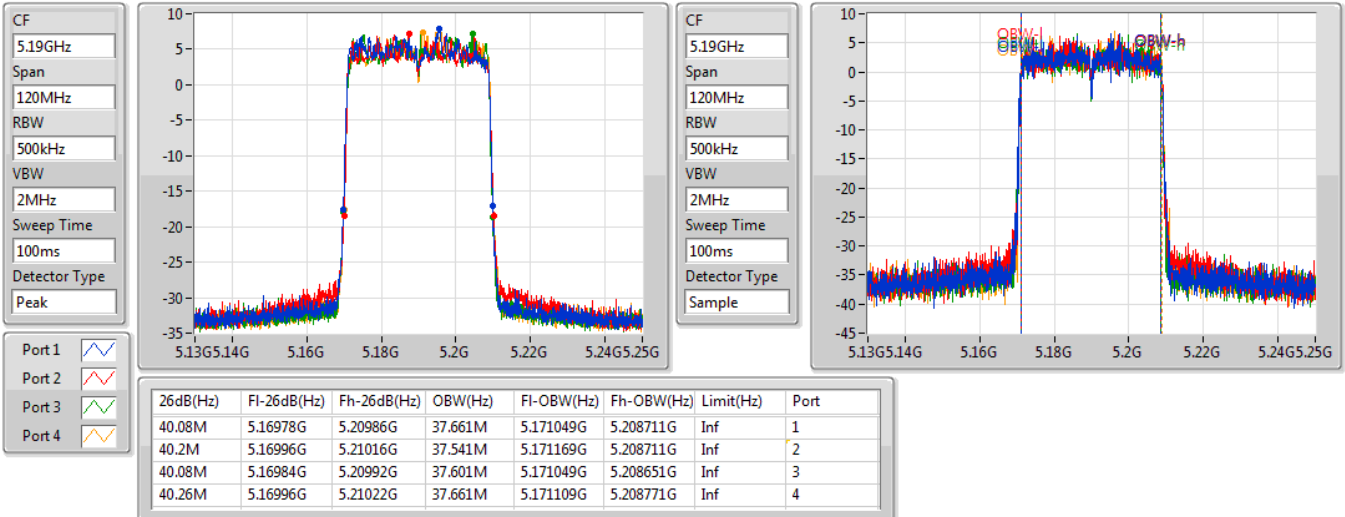

802.11ax HEW20_Nss4,(MCS0)_4TX
EBW
5825MHz

05/10/2019

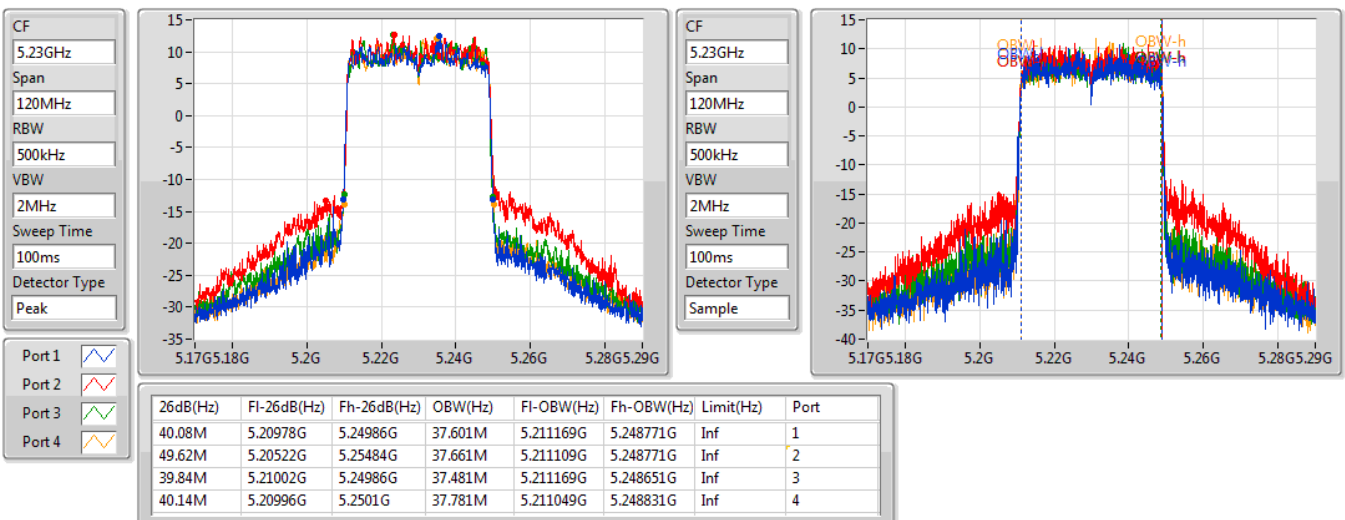


802.11ax HEW40_Nss4,(MCS0)_4TX
EBW
5190MHz

05/10/2019

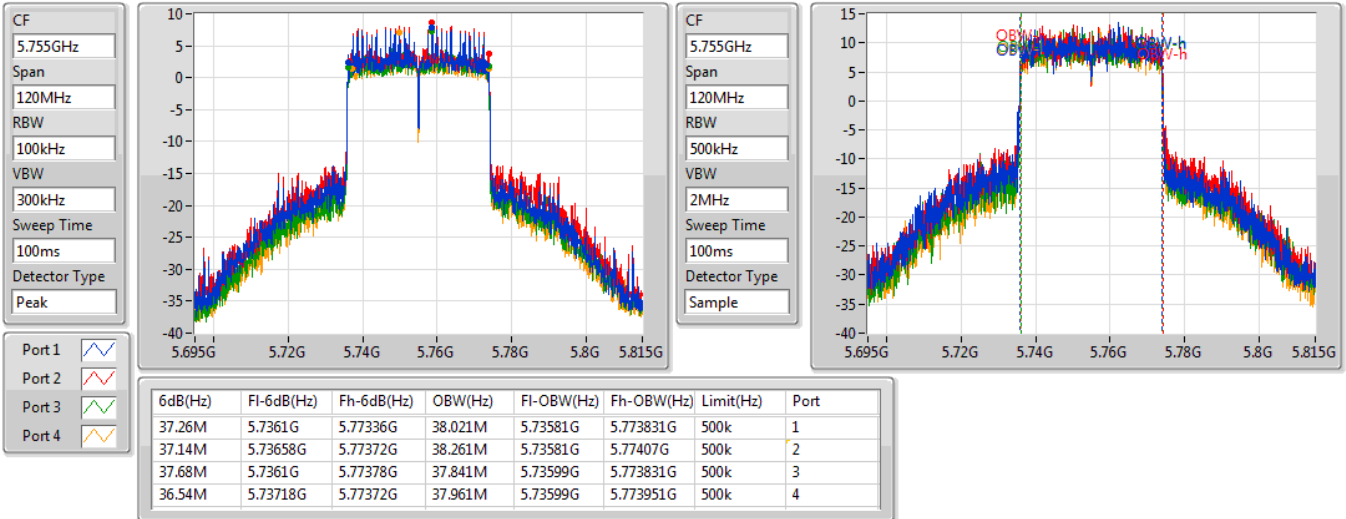

802.11ax HEW40_Nss4,(MCS0)_4TX
EBW
5230MHz

05/10/2019

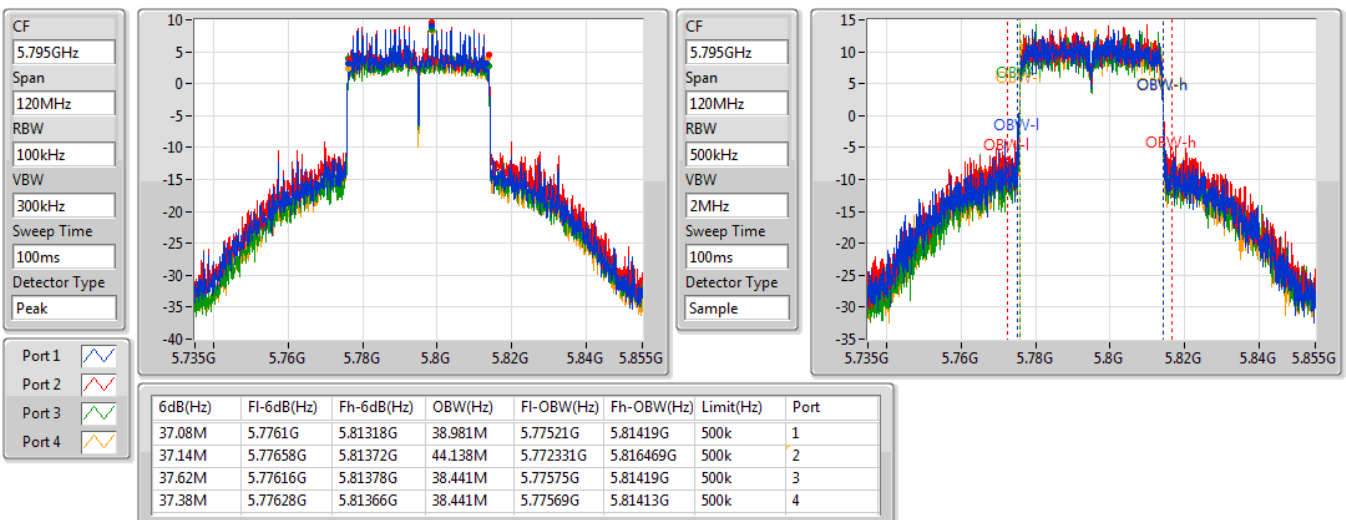


802.11ax HEW40_Nss4,(MCS0)_4TX
EBW
5755MHz

05/10/2019

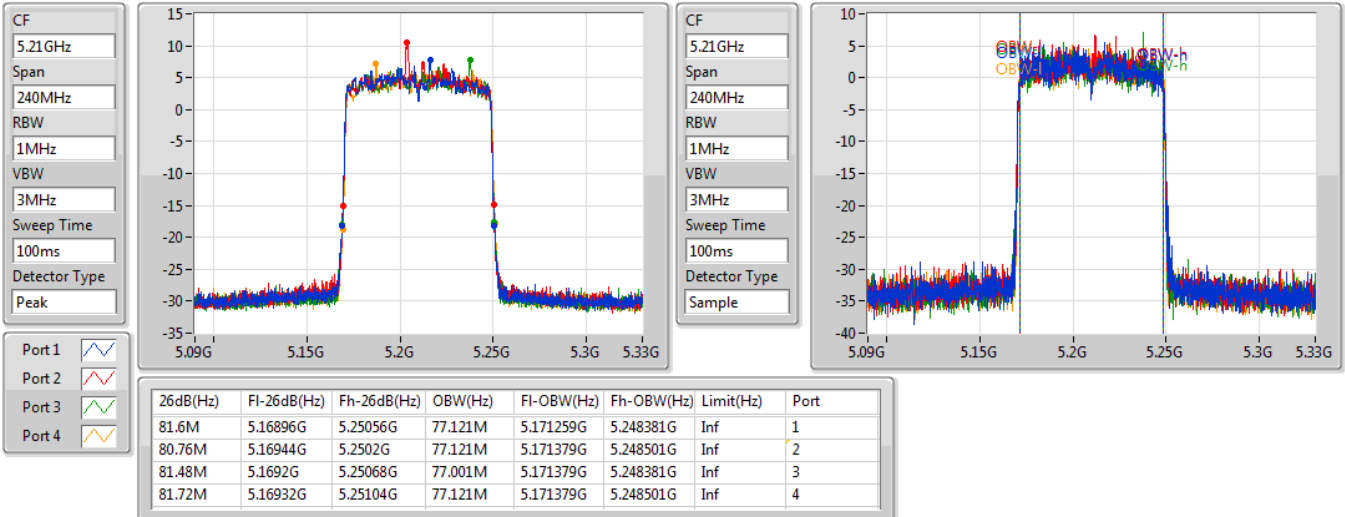

802.11ax HEW40_Nss4,(MCS0)_4TX
EBW
5795MHz

05/10/2019

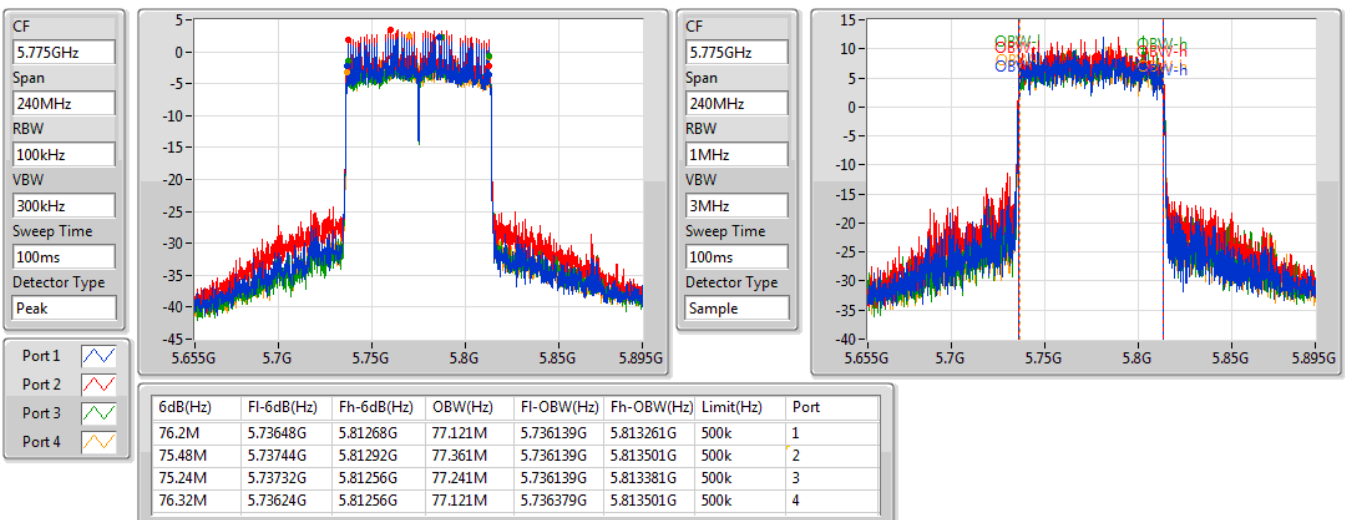


802.11ax HEW80_Nss4,(MCS0)_4TX
EBW
5210MHz

05/10/2019


802.11ax HEW80_Nss4,(MCS0)_4TX
EBW
5775MHz

05/10/2019



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ac VHT160_Nss1,(MCS0)_1TX	115.6M	75.802M	75M8D1D	115.6M	75.802M
802.11ax HEW160_Nss1,(MCS0)_1TX	80.72M	77.241M	77M2D1D	80.72M	77.241M
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	43.29M	19.16M	19M2D1D	21.87M	16.672M
802.11ac VHT20_Nss1,(MCS0)_1TX	44.64M	18.981M	19M0D1D	24.09M	17.841M
802.11ac VHT40_Nss1,(MCS0)_1TX	82.5M	37.001M	37M0D1D	40.32M	36.402M
802.11ac VHT80_Nss1,(MCS0)_1TX	82.44M	75.682M	75M7D1D	82.44M	75.682M
802.11ac VHT160_Nss1,(MCS0)_1TX	147.04M	75.802M	75M8D1D	147.04M	75.802M
802.11ax HEW20_Nss1,(MCS0)_1TX	43.38M	19.52M	19M5D1D	26.1M	19.01M
802.11ax HEW40_Nss1,(MCS0)_1TX	77.58M	37.901M	37M9D1D	40.2M	37.541M
802.11ax HEW80_Nss1,(MCS0)_1TX	82.08M	77.001M	77M0D1D	82.08M	77.001M
802.11ax HEW160_Nss1,(MCS0)_1TX	81.68M	77.161M	77M2D1D	81.68M	77.161M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	43.35M	19.64M	19M6D1D	21.81M	14.813M
802.11ac VHT20_Nss1,(MCS0)_1TX	44.55M	19.13M	19M1D1D	21.9M	14.468M
802.11ac VHT40_Nss1,(MCS0)_1TX	87.84M	38.681M	38M7D1D	40.38M	33.898M
802.11ac VHT80_Nss1,(MCS0)_1TX	165.96M	76.882M	76M9D1D	82.32M	73.913M
802.11ac VHT160_Nss1,(MCS0)_1TX	283.44M	154.243M	154MD1D	283.44M	154.243M
802.11ax HEW20_Nss1,(MCS0)_1TX	42.78M	19.73M	19M7D1D	21.75M	14.918M
802.11ax HEW40_Nss1,(MCS0)_1TX	84.18M	38.621M	38M6D1D	40.14M	34.108M
802.11ax HEW80_Nss1,(MCS0)_1TX	163.2M	78.201M	78M2D1D	82.32M	74.588M
802.11ax HEW160_Nss1,(MCS0)_1TX	165.36M	155.202M	155MD1D	165.36M	155.202M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	3.12M	11.034M	11M0D1D	3.12M	11.034M
802.11ac VHT20_Nss1,(MCS0)_1TX	3.74M	9.695M	9M70D1D	3.74M	9.695M
802.11ac VHT40_Nss1,(MCS0)_1TX	3.12M	23.188M	23M2D1D	3.12M	23.188M
802.11ac VHT80_Nss1,(MCS0)_1TX	3.1M	36.542M	36M5D1D	3.1M	36.542M
802.11ax HEW20_Nss1,(MCS0)_1TX	4.44M	10.795M	10M8D1D	4.44M	10.795M
802.11ax HEW40_Nss1,(MCS0)_1TX	3.76M	23.668M	23M7D1D	3.76M	23.668M
802.11ax HEW80_Nss1,(MCS0)_1TX	3.28M	35.902M	35M9D1D	3.28M	35.902M

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;