



FCC RADIO TEST REPORT

FCC ID : Q87- 03458
Equipment : Dual-Band 802.11ax Wireless Router
Brand Name : LINKSYS
Model Name : MR9600, EA9350, EA9600, MR9550
Applicant : Linksys LLC
121 Theory Drive, Irvine, CA 92617, USA
Standard : 47 CFR FCC Part 15.407

The product was received on Apr. 30, 2019, and testing was started from Apr. 30, 2019 and completed on Aug. 28, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

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



Approved by: Sam Chen

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
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TEL : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A12_1 Ver1.0



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.407(a)	Emission Bandwidth	PASS	-
3.2	15.407(a)	Maximum Conducted Output Power	PASS	-
3.3	15.407(a)	Peak Power Spectral Density	PASS	-
3.4	15.407(b)	Unwanted Emissions	PASS	-
Reference to Sporton Project No.: 962635.				

Declaration of Conformity:

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

Comments and Explanations:

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

Reviewed by: Sam Chen

Report Producer: Cindy Peng



1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5250-5350	a, n (HT20), ac (VHT20), ax (HEW20)	5260-5320	52-64 [4]
5470-5725		5500-5700	100-140 [11]
5250-5350	n (HT40), ac (VHT40), ax (HEW40)	5270-5310	54-62 [2]
5470-5725		5510-5670	102-134 [5]
5250-5350	ac (VHT80), ax (HEW80)	5290	58 [1]
5470-5725		5530-5610	106-122 [2]
5150-5350	ac (VHT160), ax (HEW160)	5250	50 [1]
5470-5725		5570	114 [1]

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



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

Note:

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



1.1.2 Antenna Information

Ant.	Port		Brand	Model Name	Antenna Type	Connector	Gain (dBi)		
	2.4GHz	5GHz					2.4GHz	5GHz	Bluetooth
1	1	2	ARISTOTLE	RFA-52-F100-2-L	Dipole	I-PEX	2.88	2.12	-
2	2	3	ARISTOTLE	RFA-52-F100-3-R	Dipole	I-PEX	2.23	2.28	-
3	3	1	ARISTOTLE	RFA-52-F100-1L	Dipole	I-PEX	2.27	2.05	-
4	4	4	ARISTOTLE	RFA-52-F100-4-R	Dipole	I-PEX	2.00	2.08	-
5	1	-	N/A	N/A	Printed	N/A	-	-	3.57

Note: The above information was declared by manufacturer.

For 2.4GHz function (4TX/4RX):

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

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

For 5GHz function (4TX/4RX):

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

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

For Bluetooth function (1TX/1RX):

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

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.953	0.21	2.068m	1k
802.11ac VHT20	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT20-BF	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.971	0.13	953.125u	3k
802.11ac VHT40-BF	0.971	0.13	952.5u	3k
802.11ac VHT80	0.944	0.25	461.25u	3k
802.11ac VHT80-BF	0.941	0.26	461.25u	3k
802.11ac VHT160	0.896	0.48	253.125u	10k
802.11ac VHT160-BF	0.896	0.48	253.125u	10k
802.11ax HEW20	0.986	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW20-BF	0.94	0.27	2.988m	1k
802.11ax HEW40	0.964	0.16	773.75u	3k
802.11ax HEW40-BF	0.942	0.26	4.36m	300
802.11ax HEW80	0.929	0.32	402.5u	3k
802.11ax HEW80-BF	0.952	0.21	4.856m	300
802.11ax HEW160	0.888	0.52	233.75u	10k



Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ax HEW160-BF	0.794	1	746.25u	3k

Note:

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

1.1.4 EUT Operational Condition

EUT Power Type	From power adapter			
Beamforming Function	☒	With beamforming	☐	Without beamforming
	The product has beamforming function for n/VHT/ax in 2.4GHz and n/ac/ax in 5GHz.			
Weather Band	☒	With 5600~5650MHz	☐	Without 5600~5650MHz
Function	☐	Outdoor P2M	☒	Indoor P2M
	☐	Fixed P2P	☐	Client
TPC Function	☒	With TPC	☐	Without TPC
Test Software Version	17.10.77.12(r774095 WL TEST)			

Note: The above information was declared by manufacturer.

1.1.5 Table for Multiple Listing

The EUT has four model names which are identical to each other in all aspects except for the following table:

Model Name	Description
MR9600	All the models are identical; different models serve as marketing strategy.
EA9350	
EA9600	
MR9550	

From the above models, model: MR9600 was selected as representative model for the test and its data was recorded in this report.

1.1.6 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR962635AB

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

Modifications	Performance Checking
1. Adding 5GHz band 2 and band 3 (5250~5350 MHz, 5470~5725 MHz).	1. Emission Bandwidth.
2. Adding 802.11ac 160MHz and 802.11ax 160MHz Mode.	2. Maximum Conducted Output Power.
	3. Peak Power Spectral Density.
	4. Unwanted Emissions Above 1GHz.
3. Adding two model name "EA9600, MR9550".	It does not need to test.



1.2 Applicable Standards

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

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013
- ♦ FCC KDB 789033 D02 v02r01
- ♦ FCC KDB 662911 D01 v02r01
- ♦ FCC KDB 412172 D01 v01r01

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	DK Chang	24.6-26.5°C / 63-65%	May 09, 2019~Aug. 17, 2019
Radiated	03CH06-CB	Cola Fan	29.7-30.5°C / 67-69%	Apr. 30, 2019~Aug. 28, 2019

Test site Designation No. TW0006 with FCC

Test site registered number IC 4086D with Industry Canada.

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Radiated Emission (1GHz ~ 18GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	5.1 dB	Confidence levels of 95%
Conducted Emission	2.4 dB	Confidence levels of 95%
Output Power Measurement	1.5 dB	Confidence levels of 95%
Power Density Measurement	2.4 dB	Confidence levels of 95%
Bandwidth Measurement	2%	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	Power Setting
802.11a_Nss1,(6Mbps)_4TX	-
5260MHz	63
5300MHz	63
5320MHz	63
5500MHz	63
5580MHz	63
5700MHz	63
5745MHz	98
5785MHz	99
5825MHz	100
802.11ac VHT20_Nss1,(MCS0)_4TX	-
5260MHz	63
5300MHz	64
5320MHz	64
5500MHz	60
5580MHz	64
5700MHz	62
5745MHz	96
5785MHz	97
5825MHz	98
802.11ac VHT40_Nss1,(MCS0)_4TX	-
5270MHz	71
5310MHz	71
5510MHz	71
5550MHz	72
5670MHz	72
5755MHz	96
5795MHz	97
802.11ac VHT80_Nss1,(MCS0)_4TX	-
5290MHz	72
5530MHz	72



Mode	Power Setting
5610MHz	72
5775MHz	90
802.11ac VHT160_Nss1,(MCS0)_4TX	-
5250MHz Straddle 5.15-5.25GHz	65
5250MHz Straddle 5.25-5.35GHz	65
5570MHz	62
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5260MHz	63
5300MHz	64
5320MHz	64
5500MHz	60
5580MHz	64
5700MHz	62 BE
5745MHz	96
5785MHz	97
5825MHz	98
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5270MHz	71
5310MHz	71
5510MHz	71
5550MHz	72
5670MHz	72
5755MHz	96
5795MHz	97
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5290MHz	72
5530MHz	72
5610MHz	72
5775MHz	90
802.11ax HEW160_Nss1,(MCS0)_4TX	-
5250MHz Straddle 5.15-5.25GHz	65
5250MHz Straddle 5.25-5.35GHz	65
5570MHz	62
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
5260MHz	62



Mode	Power Setting
5300MHz	62
5320MHz	62
5500MHz	61
5580MHz	62
5700MHz	62
5745MHz	86
5785MHz	87
5825MHz	88
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
5270MHz	62
5310MHz	62
5510MHz	62
5550MHz	62
5670MHz	62
5755MHz	86
5795MHz	87
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-
5290MHz	62
5530MHz	62
5610MHz	62
5775MHz	87
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-
5250MHz Straddle 5.15-5.25GHz	71
5250MHz Straddle 5.25-5.35GHz	71
5570MHz	63
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5260MHz	62
5300MHz	62
5320MHz	62
5500MHz	61
5580MHz	62
5700MHz	62
5745MHz	86
5785MHz	87
5825MHz	88



Mode	Power Setting
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5270MHz	62
5310MHz	62
5510MHz	62
5550MHz	62
5670MHz	62
5755MHz	86
5795MHz	87
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5290MHz	62
5530MHz	62
5610MHz	62
5775MHz	87
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-
5250MHz Straddle 5.15-5.25GHz	71
5250MHz Straddle 5.25-5.35GHz	71
5570MHz	63

Note:

- ♦ VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.
- ♦ There are two modes of EUT, one is beamforming mode, and the other is Non-beamforming mode for n/VHT/ax in 2.4GHz and n/ac/ax in 5GHz, Beamforming mode and Non-beamforming mode has been test and record in this test report.

2.2 The Worst Case Measurement Configuration

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode > 1GHz	CTX

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz + Bluetooth
Refer to Sporton Test Report No.: FA962635-01 for Co-location RF Exposure Evaluation.	

Note: The EUT can only be used at Z axis position.

2.3 EUT Operation during Test

For non-beamforming mode:

The EUT was programmed to be in continuously transmitting mode.

For 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 "Lantest.exe" to link with the remote workstation to transmit and receive packet by WLAN AP and transmit duty cycle no less than 98%.



2.4 Accessories

Accessories					
No.	Equipment Name	Brand Name	Model Name	Rating	DC power Line
1	Adapter 1	Ktec	KSAS0501200 400HU	Input: 100-240V~50/60Hz 1.2A Output: 12V, 4.0A	-
2	Adapter 2	Ktec	KSAS0501200 400M2	Input: 100-240V~50/60Hz 1.2A Output: 12V, 4.0A	Non-Shielded, 1.3m
3	Adapter 3	LEI	MU48AY12040 0-A1	Input: 100-240V~50/60Hz 1.5A Output: 12V, 4A	-
4	Adapter 4	APD	DA-48T12	Input: 100-240V~50/60Hz 1.4A Max Output: 12V, 4A	Non-Shielded, 1.3m
No.	Others				
5	Power cord*2: Non-Shielded, 1m (Use for Adapter 2 and Adapter 4)				
6	RJ-45 cable*1: Non-Shielded, 1m				

Note: Adapter does not affect the radio tests; there is only adapter 1 tested and recorded in this report.

2.5 Support Equipment

For Radiated:

For non-beamforming mode:

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

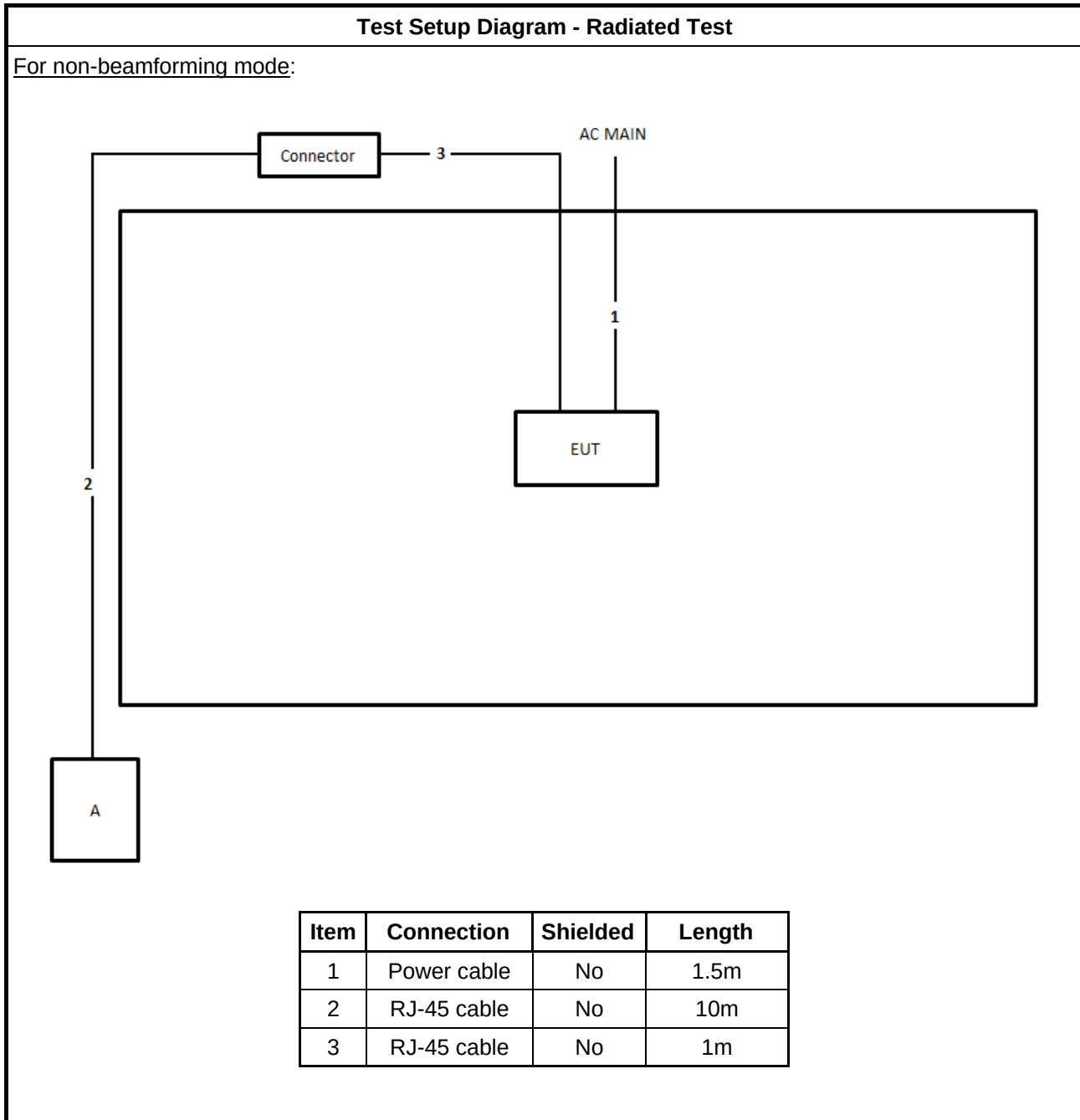
For beamforming mode:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A
B	WLAN AP	ASUS	RT-AX88U	N/A
C	Notebook	DELL	E4300	N/A

For RF Conducted:

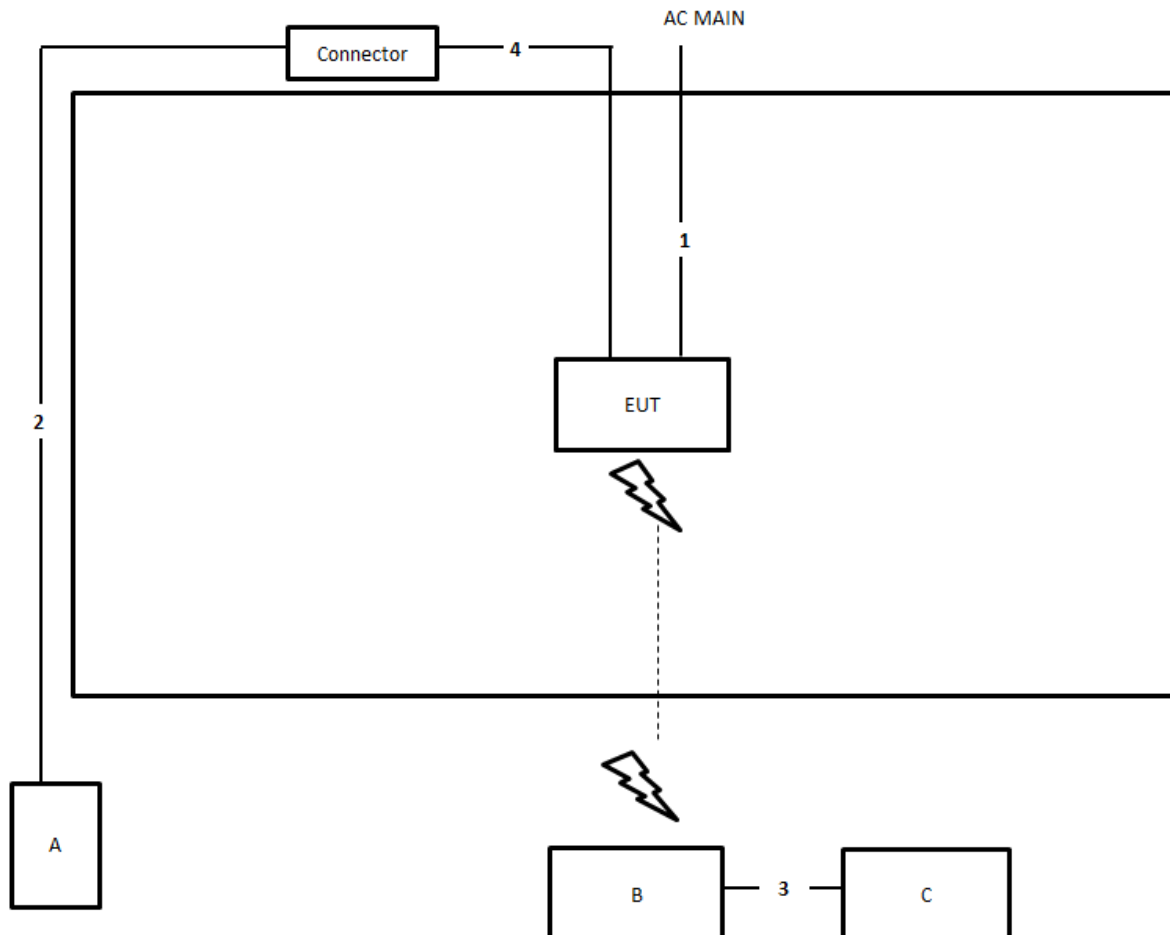
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	E4300	N/A

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test

For beamforming mode:



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



3 Transmitter Test Result

3.1 Emission Bandwidth

3.1.1 Emission Bandwidth Limit

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

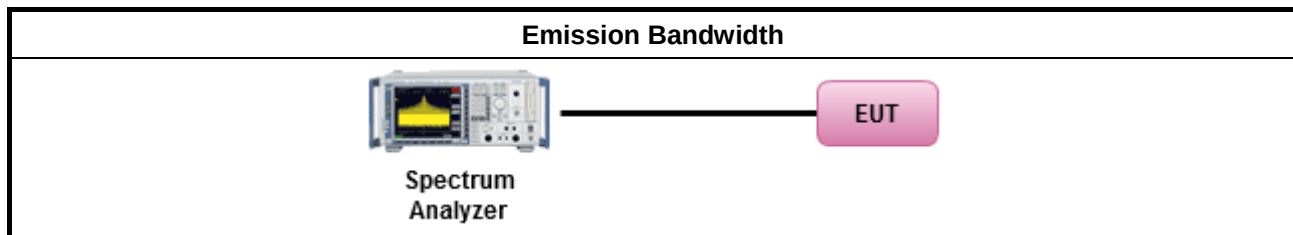
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method	
▪ For the emission bandwidth shall be measured using one of the options below:	
☒	Refer as FCC KDB 789033, clause C for EBW and clause D for OBW measurement.
☐	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
☐	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.

3.1.4 Test Setup



3.1.5 Test Result of Emission Bandwidth

Refer as Appendix A

3.2 Maximum Conducted Output Power

3.2.1 Maximum Conducted Output Power Limit

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

3.2.2 Measuring Instruments

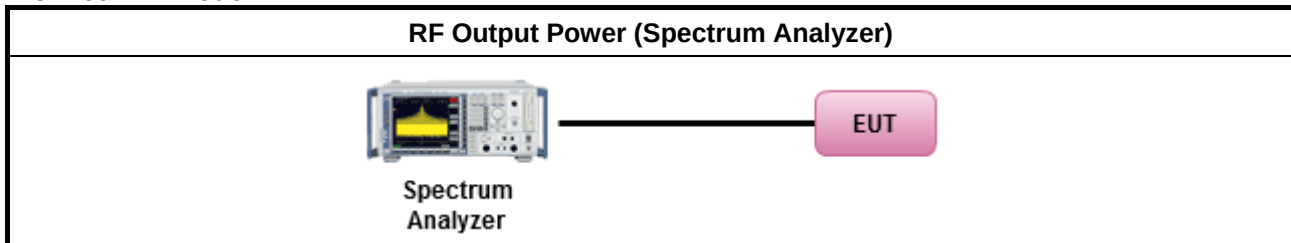
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

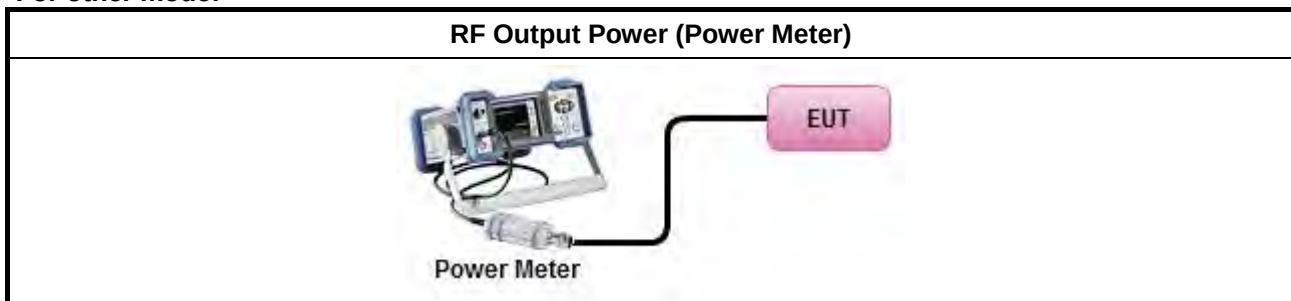
Test Method	
Maximum Conducted Output Power	
	Average over on/off periods with duty factor
☒	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
☒	Refer as FCC KDB 789033, clause E Method PM-G (using an RF average power meter).
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.	
If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$	

3.2.4 Test Setup

For 160MHz mode:



For other mode:



3.2.5 Test Result of Maximum Conducted Output Power

Refer as Appendix B

3.3 Peak Power Spectral Density

3.3.1 Peak Power Spectral Density Limit

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

3.3.2 Measuring Instruments

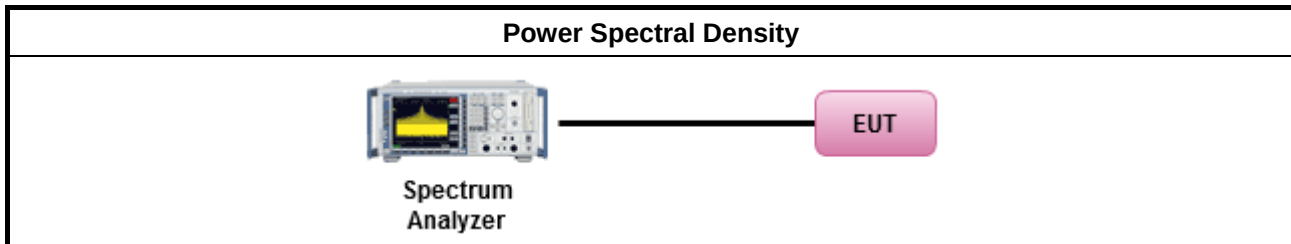
Refer a test equipment and calibration data table in this test report.



3.3.3 Test Procedures

Test Method	
Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:	
☐	Refer as FCC KDB 789033, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth
[duty cycle ≥ 98% or external video / power trigger]	
☒	Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).
☐	Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
duty cycle < 98% and average over on/off periods with duty factor	
☒	Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below:	
☒	Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
☐	Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
☐	Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.
If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$	

3.3.4 Test Setup



3.3.5 Test Result of Peak Power Spectral Density

Refer as Appendix C



3.4 Unwanted Emissions

3.4.1 Transmitter Unwanted Emissions Limit

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

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

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

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

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

Note 1: Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of



linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

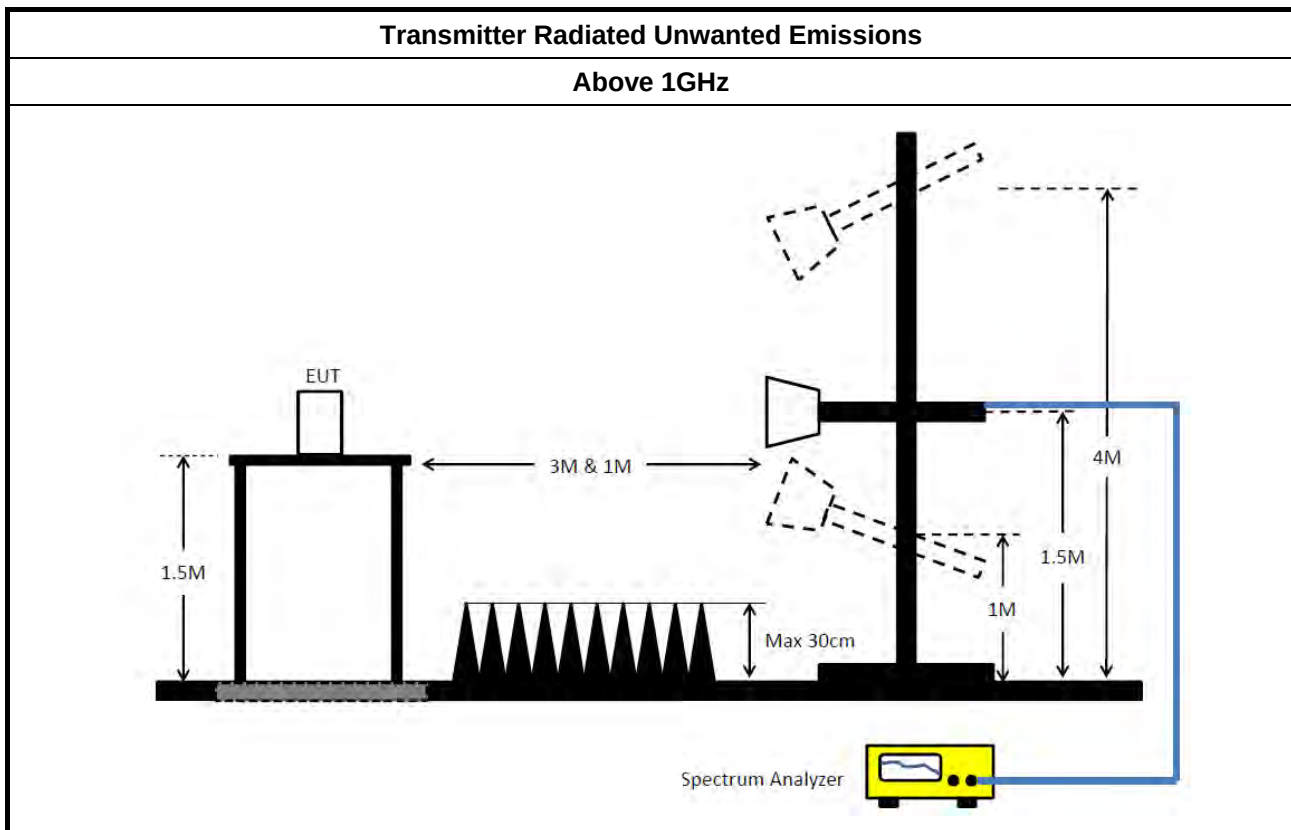
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).	
The average emission levels shall be measured in [duty cycle $\geq$ 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.	

3.4.4 Test Setup



3.4.5 Measurement Results Calculation

The measured Level is calculated using:

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

3.4.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix D



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1292	1GHz~18GHz	Jul. 20, 2018	Jul. 19, 2019	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1292	1GHz~18GHz	Jul. 17, 2019	Jul. 16, 2020	Radiation (03CH06-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 28, 2018	Jun. 27, 2019	Radiation (03CH06-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 12, 2019	Jun. 11, 2020	Radiation (03CH06-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 08, 2019	Jan. 07, 2020	Radiation (03CH06-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 04, 2018	Jul. 03, 2019	Radiation (03CH06-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 2020	Radiation (03CH06-CB)
Spectrum analyzer	R&S	FSP40	100080	9kHz~40GHz	Oct. 03, 2018	Oct. 02, 2019	Radiation (03CH06-CB)
RF Cable-high	HUBER+SUHNER	RG402	High Cable-05	1GHz~18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH06-CB)
RF Cable-high	HUBER+SUHNER	RG402	High Cable-05+24	1GHz~18GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH06-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH06-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-07	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. 08, 2018	Oct. 07, 2019	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-10	1 GHz –26.5 GHz	Oct. 08, 2018	Oct. 07, 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)



FCC RADIO TEST REPORT

Report No. : FR962635-01

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Jan. 15, 2019	Jan. 14, 2020	Conducted (TH01-CB)

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

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	21.675M	16.592M	16M6D1D	21.4M	16.417M
802.11ac VHT20_Nss1,(MCS0)_4TX	21.775M	17.791M	17M8D1D	21.4M	17.691M
802.11ac VHT40_Nss1,(MCS0)_4TX	40.35M	36.332M	36M3D1D	39.8M	36.182M
802.11ac VHT80_Nss1,(MCS0)_4TX	81.9M	75.662M	75M7D1D	81.4M	75.562M
802.11ac VHT160_Nss1,(MCS0)_4TX	83.04M	75.802M	75M8D1D	81.28M	75.482M
802.11ax HEW20_Nss1,(MCS0)_4TX	21.8M	19.015M	19M0D1D	21.55M	18.941M
802.11ax HEW40_Nss1,(MCS0)_4TX	40.05M	37.581M	37M6D1D	39.9M	37.481M
802.11ax HEW80_Nss1,(MCS0)_4TX	82.2M	77.061M	77M1D1D	81.6M	76.762M
802.11ax HEW160_Nss1,(MCS0)_4TX	81.52M	77.321M	77M3D1D	81.36M	76.922M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	21.8M	17.791M	17M8D1D	21.3M	17.691M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	40.35M	36.282M	36M3D1D	39.75M	36.132M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	81.9M	75.862M	75M9D1D	81.5M	75.662M
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	83.04M	75.802M	75M8D1D	81.04M	75.562M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	21.775M	18.991M	19M0D1D	21.45M	18.941M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	40.15M	37.531M	37M5D1D	39.55M	36.132M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	82M	77.061M	77M1D1D	81.7M	76.862M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	81.6M	77.161M	77M2D1D	81.28M	76.922M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	21.775M	16.642M	16M6D1D	21.25M	16.517M
802.11ac VHT20_Nss1,(MCS0)_4TX	21.775M	17.791M	17M8D1D	19.9M	17.716M
802.11ac VHT40_Nss1,(MCS0)_4TX	40.25M	36.332M	36M3D1D	39.65M	36.182M
802.11ac VHT80_Nss1,(MCS0)_4TX	82M	75.762M	75M8D1D	81.2M	75.562M
802.11ac VHT160_Nss1,(MCS0)_4TX	165M	154.323M	154MD1D	163.6M	153.923M
802.11ax HEW20_Nss1,(MCS0)_4TX	21.75M	18.966M	19M0D1D	21.45M	17.691M
802.11ax HEW40_Nss1,(MCS0)_4TX	40.15M	37.581M	37M6D1D	39.45M	36.182M
802.11ax HEW80_Nss1,(MCS0)_4TX	82.1M	77.261M	77M3D1D	81.4M	76.862M
802.11ax HEW160_Nss1,(MCS0)_4TX	165.4M	155.722M	156MD1D	164M	154.923M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	21.775M	17.791M	17M8D1D	21.425M	17.741M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	40.35M	36.282M	36M3D1D	39.7M	36.182M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	82M	75.862M	75M9D1D	81M	75.562M
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	165.2M	154.323M	154MD1D	163.2M	153.723M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	21.8M	18.991M	19M0D1D	21.4M	17.716M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	40.15M	37.631M	37M6D1D	39.8M	37.481M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	82.1M	77.161M	77M2D1D	81.2M	76.762M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	164.8M	155.322M	155MD1D	164.4M	155.122M

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

Max-OBW = Maximum 99% occupied bandwidth;

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

Min-OBW = Minimum 99% occupied bandwidth;

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	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.45M	16.542M	21.65M	16.592M	21.5M	16.417M	21.525M	16.542M
5300MHz	Pass	Inf	21.475M	16.517M	21.675M	16.592M	21.45M	16.542M	21.45M	16.517M
5320MHz	Pass	Inf	21.4M	16.542M	21.6M	16.567M	21.55M	16.467M	21.525M	16.542M
5500MHz	Pass	Inf	21.425M	16.542M	21.575M	16.517M	21.55M	16.617M	21.3M	16.542M
5580MHz	Pass	Inf	21.275M	16.517M	21.35M	16.542M	21.7M	16.642M	21.25M	16.542M
5700MHz	Pass	Inf	21.45M	16.567M	21.775M	16.567M	21.65M	16.567M	21.475M	16.592M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.7M	17.766M	21.5M	17.716M	21.4M	17.741M	21.775M	17.691M
5300MHz	Pass	Inf	21.6M	17.766M	21.525M	17.766M	21.4M	17.766M	21.75M	17.791M
5320MHz	Pass	Inf	21.775M	17.741M	21.65M	17.741M	21.4M	17.766M	21.75M	17.716M
5500MHz	Pass	Inf	21.7M	17.766M	21.6M	17.766M	21.525M	17.791M	21.7M	17.741M
5580MHz	Pass	Inf	19.9M	17.741M	21.575M	17.791M	21.375M	17.766M	21.7M	17.741M
5700MHz	Pass	Inf	21.775M	17.766M	21.525M	17.716M	21.5M	17.741M	21.625M	17.791M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	40.3M	36.282M	39.95M	36.232M	40.1M	36.182M	39.8M	36.182M
5310MHz	Pass	Inf	40.35M	36.282M	39.85M	36.232M	40.15M	36.332M	39.9M	36.332M
5510MHz	Pass	Inf	40.25M	36.232M	39.8M	36.282M	40M	36.232M	39.75M	36.232M
5550MHz	Pass	Inf	40.1M	36.232M	39.9M	36.232M	40.1M	36.232M	39.75M	36.282M
5670MHz	Pass	Inf	40.15M	36.182M	39.75M	36.282M	39.9M	36.182M	39.65M	36.332M
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	81.9M	75.662M	81.7M	75.662M	81.4M	75.662M	81.4M	75.562M
5530MHz	Pass	Inf	82M	75.662M	81.2M	75.762M	81.3M	75.562M	81.7M	75.662M
5610MHz	Pass	Inf	82M	75.762M	81.5M	75.662M	81.6M	75.662M	81.5M	75.762M
802.11ac VHT160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	81.2M	75.642M	80.88M	75.882M	81.84M	75.642M	80.8M	75.722M
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	81.84M	75.802M	83.04M	75.802M	81.52M	75.482M	81.28M	75.722M
5570MHz	Pass	Inf	164M	153.923M	165M	154.123M	165M	154.323M	163.6M	153.923M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.7M	18.966M	21.55M	18.941M	21.7M	18.991M	21.8M	19.015M
5300MHz	Pass	Inf	21.7M	18.966M	21.55M	18.941M	21.7M	18.966M	21.7M	18.966M
5320MHz	Pass	Inf	21.65M	18.991M	21.6M	18.941M	21.625M	18.966M	21.7M	18.991M
5500MHz	Pass	Inf	21.725M	17.791M	21.5M	17.716M	21.5M	17.741M	21.45M	17.766M
5580MHz	Pass	Inf	21.75M	17.791M	21.5M	17.691M	21.6M	17.741M	21.475M	17.741M
5700MHz	Pass	Inf	21.55M	18.916M	21.475M	18.966M	21.575M	18.966M	21.575M	18.891M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	40M	37.481M	39.95M	37.531M	39.9M	37.481M	40M	37.531M
5310MHz	Pass	Inf	40M	37.481M	39.9M	37.531M	39.9M	37.581M	40.05M	37.481M
5510MHz	Pass	Inf	40.15M	36.182M	39.45M	36.232M	39.8M	36.282M	39.7M	36.232M
5550MHz	Pass	Inf	40.05M	37.431M	39.8M	37.531M	40.05M	37.531M	40.1M	37.581M
5670MHz	Pass	Inf	39.85M	37.481M	39.85M	37.531M	39.95M	37.481M	40.1M	37.581M
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	82M	77.061M	82.2M	76.762M	82M	76.862M	81.6M	76.962M
5530MHz	Pass	Inf	81.9M	76.962M	82M	76.962M	81.8M	77.061M	81.7M	77.161M

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
5610MHz	Pass	Inf	82M	76.962M	82.1M	77.261M	81.9M	76.862M	81.4M	77.161M
802.11ax HEW160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	80.88M	77.081M	80.4M	77.081M	81.04M	77.161M	80.96M	77.001M
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	81.52M	76.922M	81.52M	76.922M	81.52M	77.321M	81.36M	77.161M
5570MHz	Pass	Inf	164M	155.122M	164.4M	155.722M	165.4M	155.122M	164.6M	154.923M
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.8M	17.741M	21.55M	17.766M	21.375M	17.691M	21.8M	17.766M
5300MHz	Pass	Inf	21.775M	17.716M	21.55M	17.741M	21.45M	17.741M	21.775M	17.741M
5320MHz	Pass	Inf	21.75M	17.791M	21.55M	17.766M	21.3M	17.741M	21.8M	17.716M
5500MHz	Pass	Inf	21.675M	17.766M	21.525M	17.741M	21.5M	17.741M	21.75M	17.741M
5580MHz	Pass	Inf	21.575M	17.741M	21.6M	17.741M	21.525M	17.766M	21.525M	17.791M
5700MHz	Pass	Inf	21.775M	17.766M	21.425M	17.741M	21.475M	17.766M	21.7M	17.766M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	40.3M	36.182M	39.8M	36.232M	40.05M	36.132M	39.75M	36.282M
5310MHz	Pass	Inf	40.35M	36.232M	39.9M	36.232M	39.95M	36.282M	39.9M	36.282M
5510MHz	Pass	Inf	40.15M	36.232M	39.75M	36.282M	40.15M	36.232M	39.8M	36.232M
5550MHz	Pass	Inf	40.1M	36.182M	39.7M	36.182M	40.1M	36.282M	39.8M	36.282M
5670MHz	Pass	Inf	40.35M	36.182M	40M	36.182M	39.75M	36.232M	39.8M	36.182M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	81.9M	75.662M	81.6M	75.762M	81.5M	75.862M	81.9M	75.762M
5530MHz	Pass	Inf	82M	75.562M	81.1M	75.562M	81.4M	75.662M	81.5M	75.862M
5610MHz	Pass	Inf	82M	75.762M	81M	75.762M	81.4M	75.562M	82M	75.762M
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	81.04M	75.562M	81.12M	75.642M	81.92M	75.642M	80.96M	75.562M
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	81.92M	75.802M	83.04M	75.562M	81.52M	75.802M	81.04M	75.722M
5570MHz	Pass	Inf	164M	154.123M	165.2M	154.323M	164.6M	153.723M	163.2M	154.123M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.625M	18.991M	21.45M	18.941M	21.625M	18.991M	21.775M	18.966M
5300MHz	Pass	Inf	21.575M	18.991M	21.5M	18.966M	21.675M	18.941M	21.75M	18.991M
5320MHz	Pass	Inf	21.625M	18.991M	21.575M	18.966M	21.575M	18.966M	21.775M	18.991M
5500MHz	Pass	Inf	21.65M	18.966M	21.5M	18.991M	21.6M	18.966M	21.575M	18.966M
5580MHz	Pass	Inf	21.75M	17.716M	21.45M	17.716M	21.55M	17.741M	21.575M	17.741M
5700MHz	Pass	Inf	21.65M	18.966M	21.4M	18.991M	21.8M	18.966M	21.625M	18.941M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	40.15M	36.232M	39.55M	36.132M	39.65M	36.132M	39.55M	36.132M
5310MHz	Pass	Inf	40.1M	37.531M	39.8M	37.531M	39.9M	37.531M	40.05M	37.481M
5510MHz	Pass	Inf	40.1M	37.481M	39.8M	37.581M	40M	37.631M	40.15M	37.531M
5550MHz	Pass	Inf	39.85M	37.531M	40M	37.581M	39.85M	37.581M	40.15M	37.581M
5670MHz	Pass	Inf	40.05M	37.581M	39.85M	37.531M	39.9M	37.631M	39.9M	37.531M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	82M	77.061M	82M	77.061M	81.8M	76.962M	81.7M	76.862M
5530MHz	Pass	Inf	82.1M	77.061M	81.9M	77.061M	81.8M	76.862M	81.2M	77.161M
5610MHz	Pass	Inf	82M	77.161M	82M	76.762M	82.1M	77.061M	81.7M	76.962M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	80.64M	77.081M	80.4M	77.241M	81.2M	77.161M	80.88M	77.241M



EBW Result

Appendix A

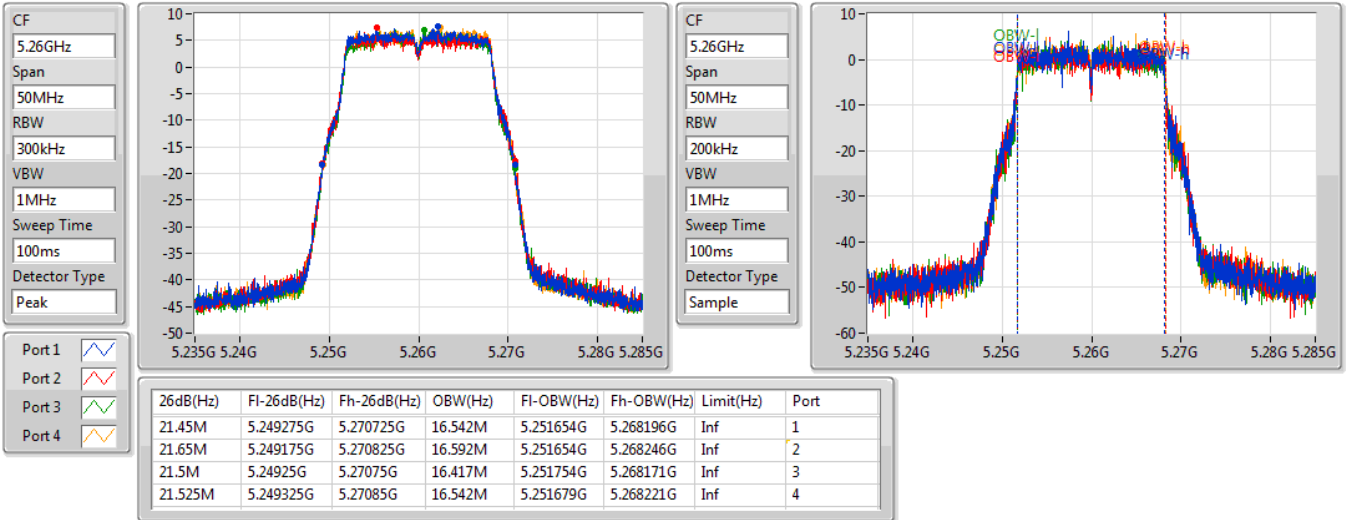
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	81.6M	77.161M	81.52M	77.001M	81.36M	76.922M	81.28M	77.081M
5570MHz	Pass	Inf	164.8M	155.122M	164.4M	155.322M	164.8M	155.322M	164.8M	155.322M

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

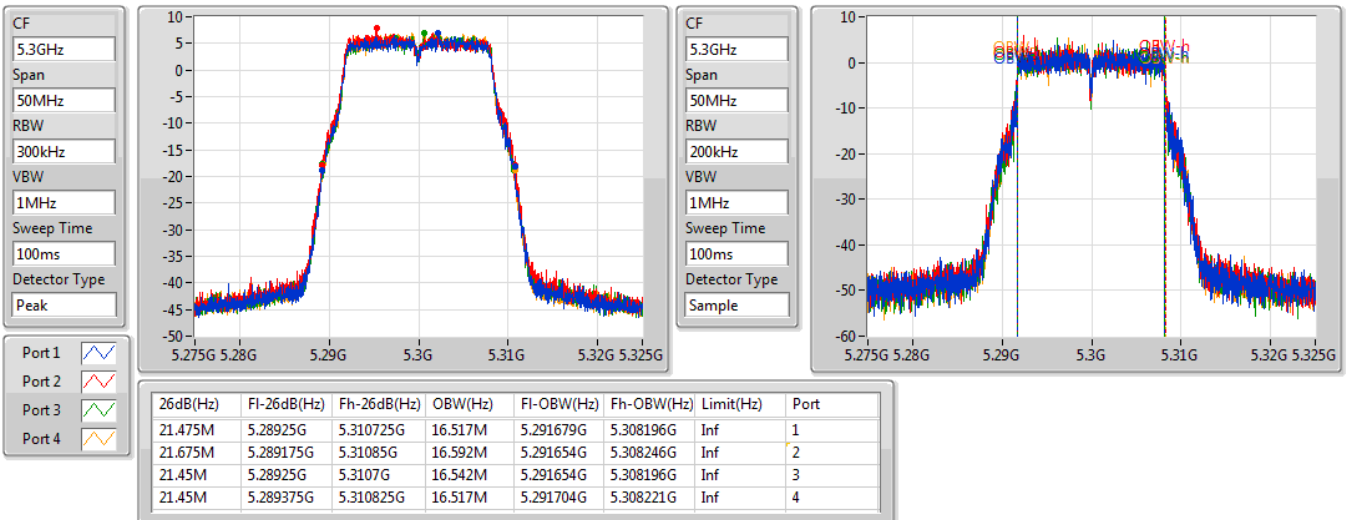
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_4TX
EBW
5260MHz

09/05/2019

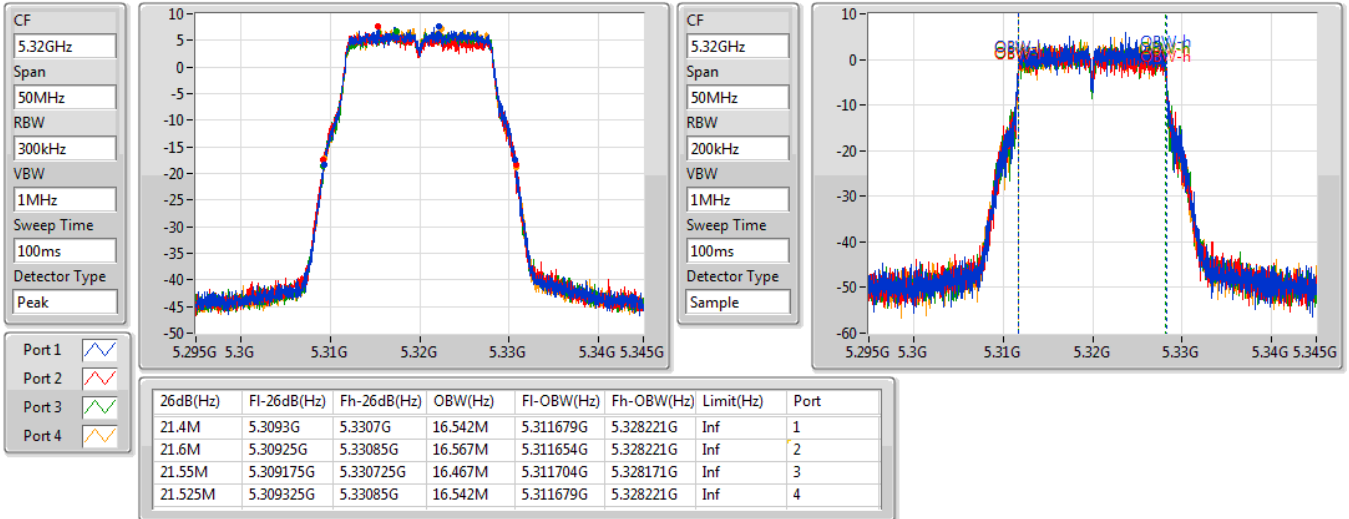

802.11a_Nss1,(6Mbps)_4TX
EBW
5300MHz

09/05/2019

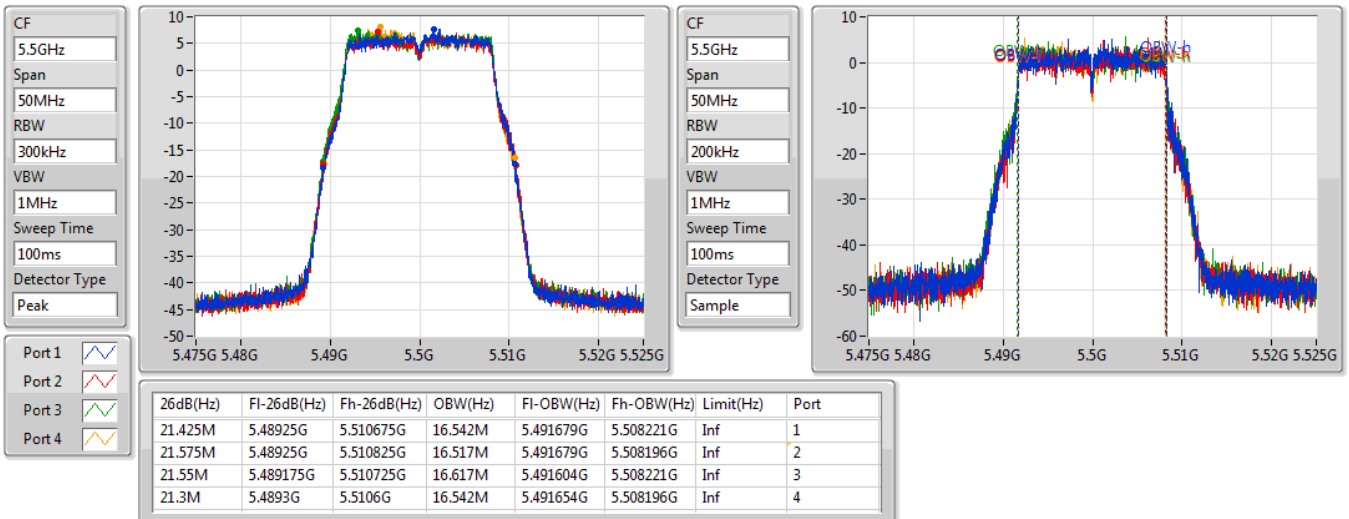


802.11a_Nss1,(6Mbps)_4TX
EBW
5320MHz

09/05/2019

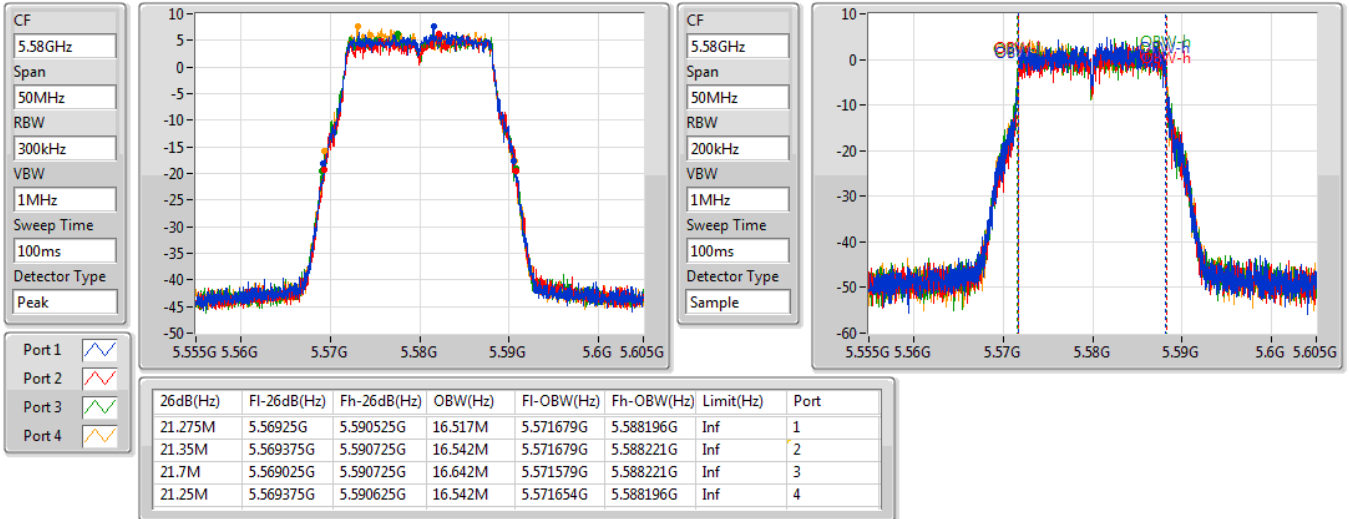

802.11a_Nss1,(6Mbps)_4TX
EBW
5500MHz

09/05/2019

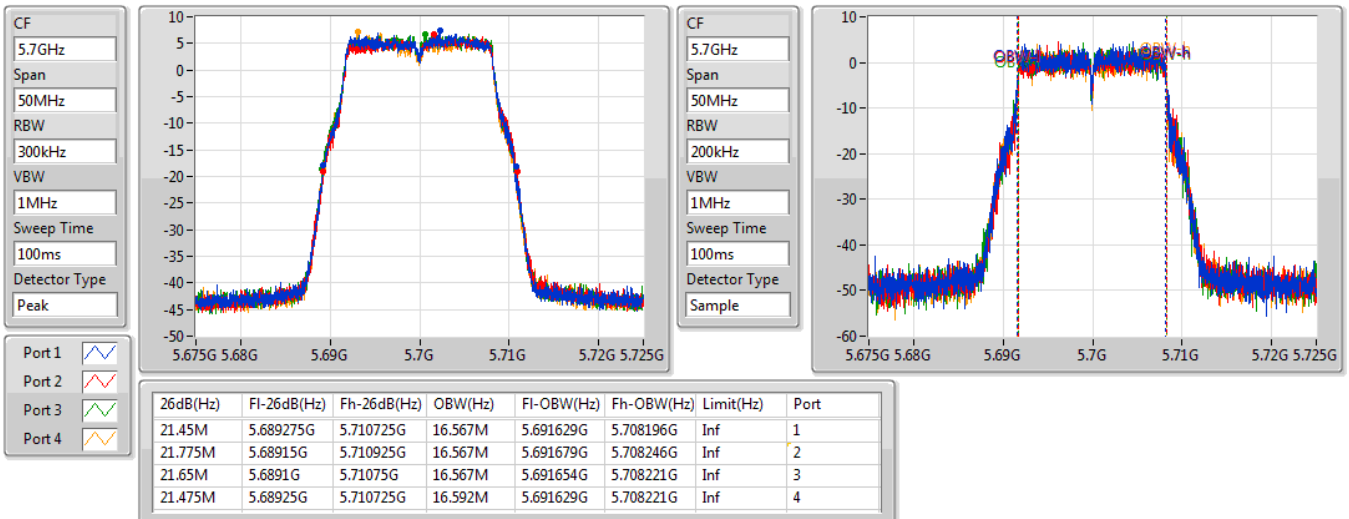


802.11a_Nss1,(6Mbps)_4TX
EBW
5580MHz

09/05/2019

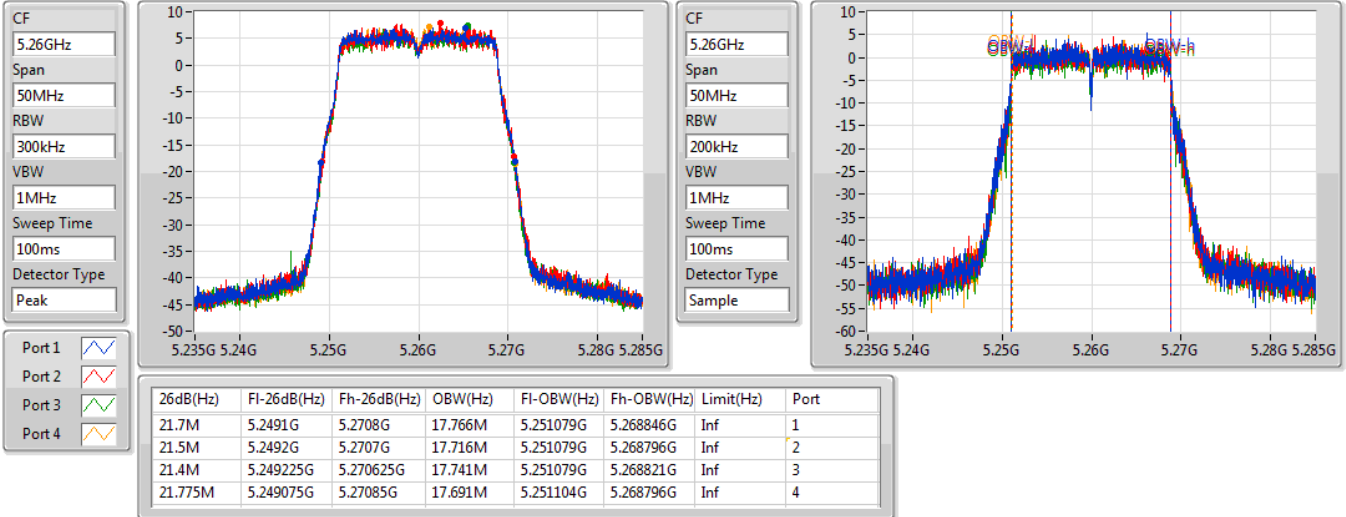

802.11a_Nss1,(6Mbps)_4TX
EBW
5700MHz

09/05/2019

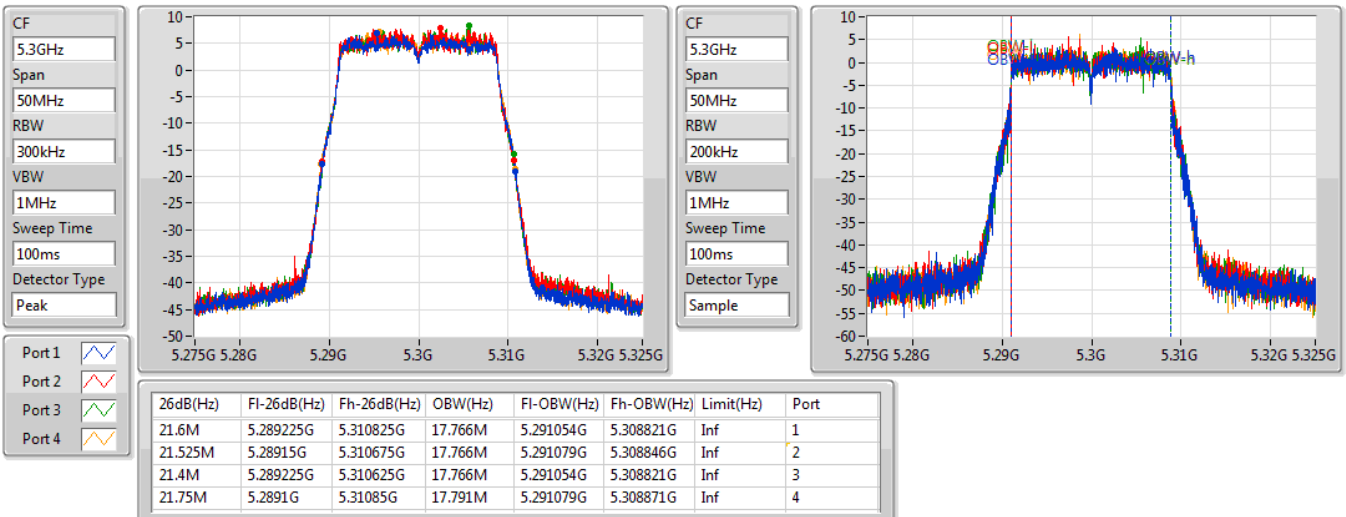


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5260MHz

10/05/2019

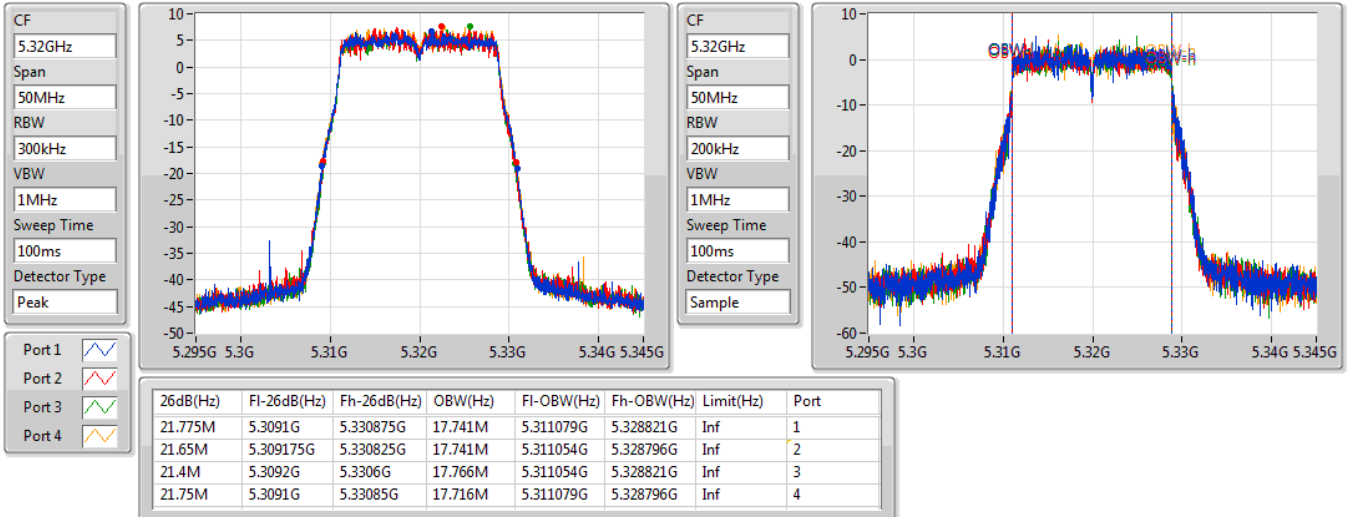

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5300MHz

10/05/2019

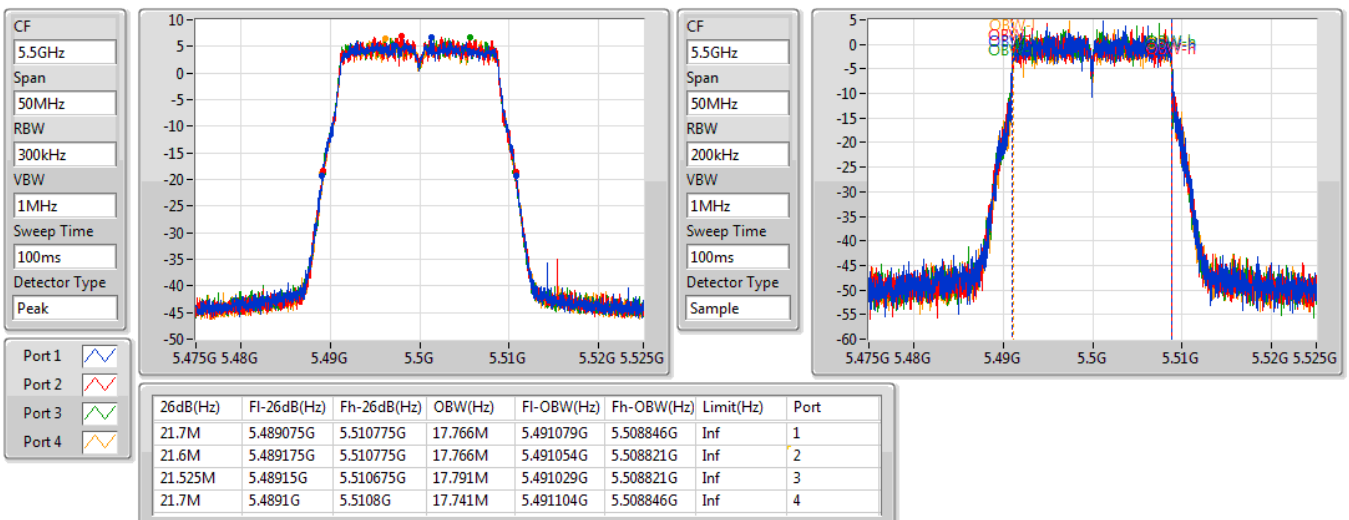


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5320MHz

14/05/2019

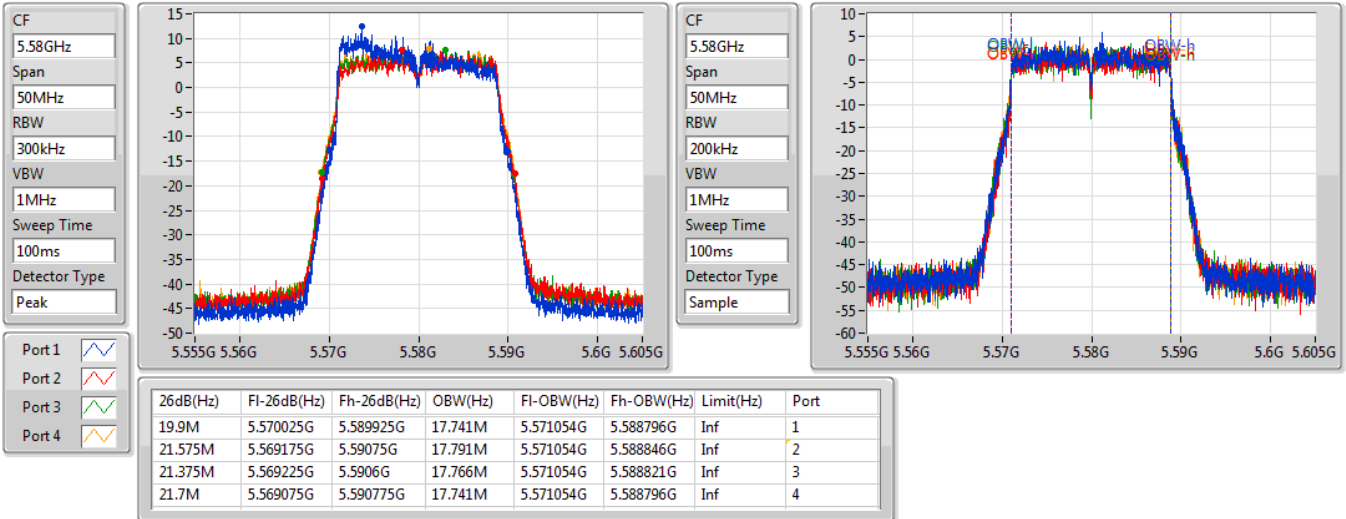

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5500MHz

10/05/2019

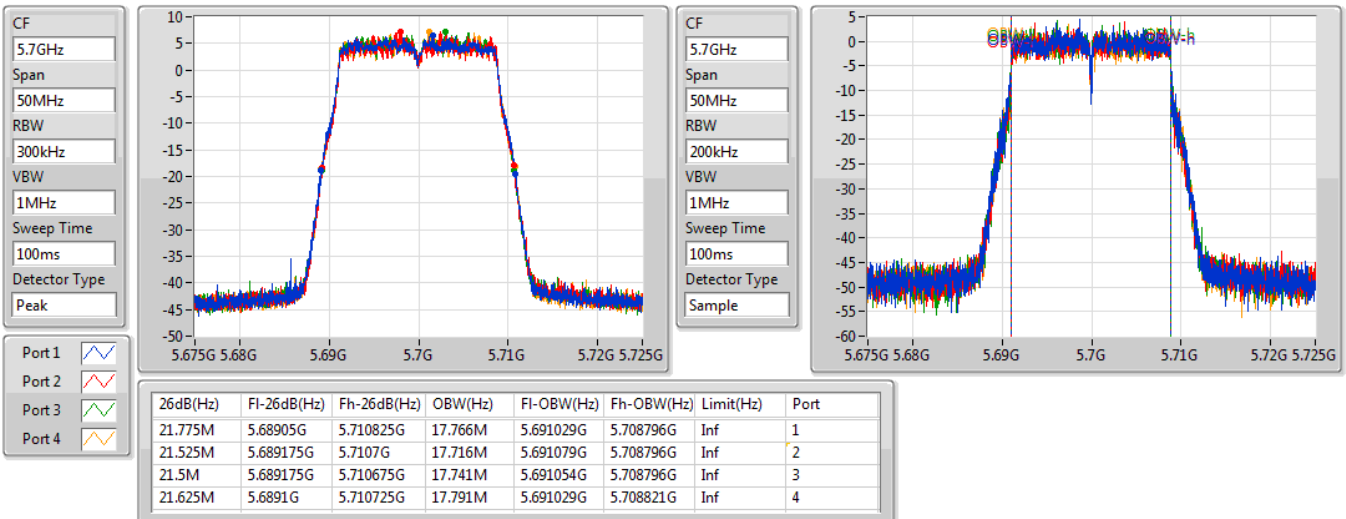


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5580MHz

10/05/2019

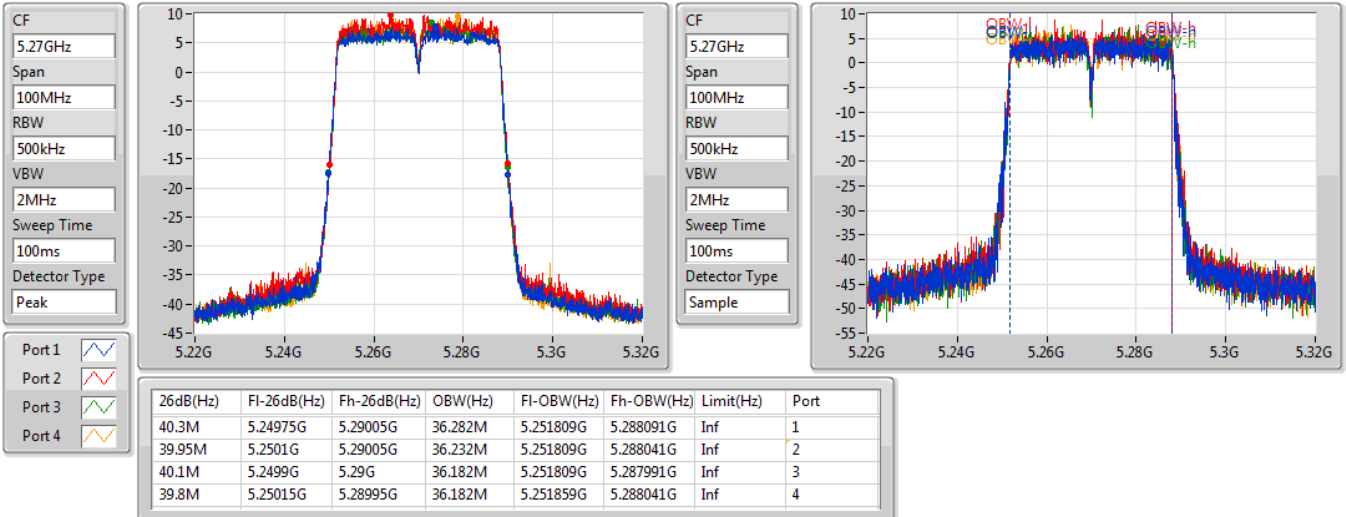

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5700MHz

10/05/2019

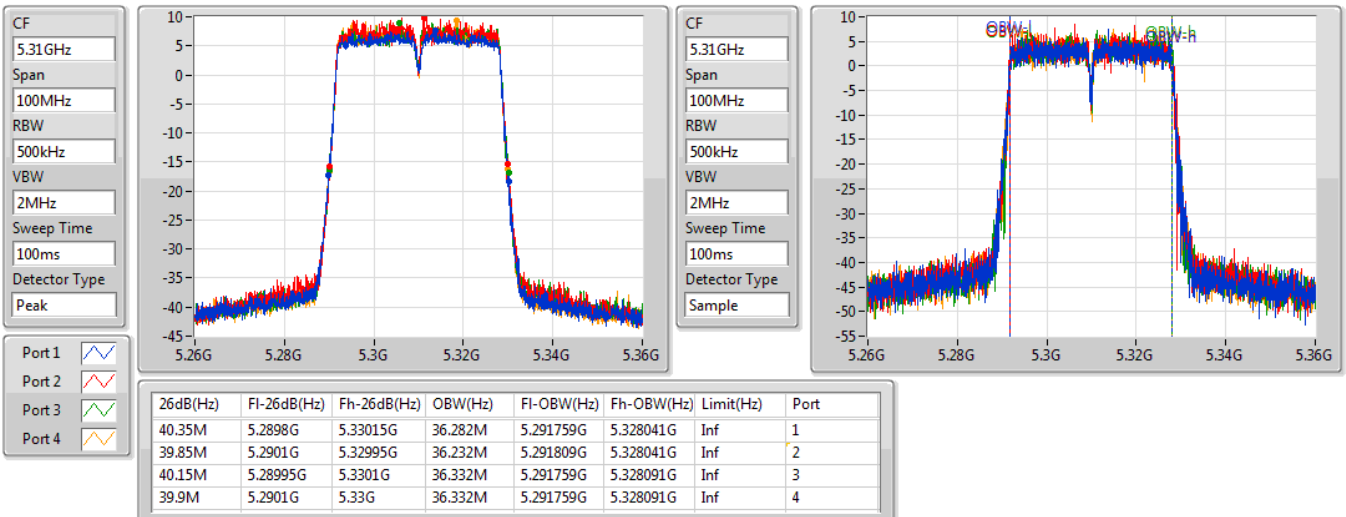


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5270MHz

10/05/2019

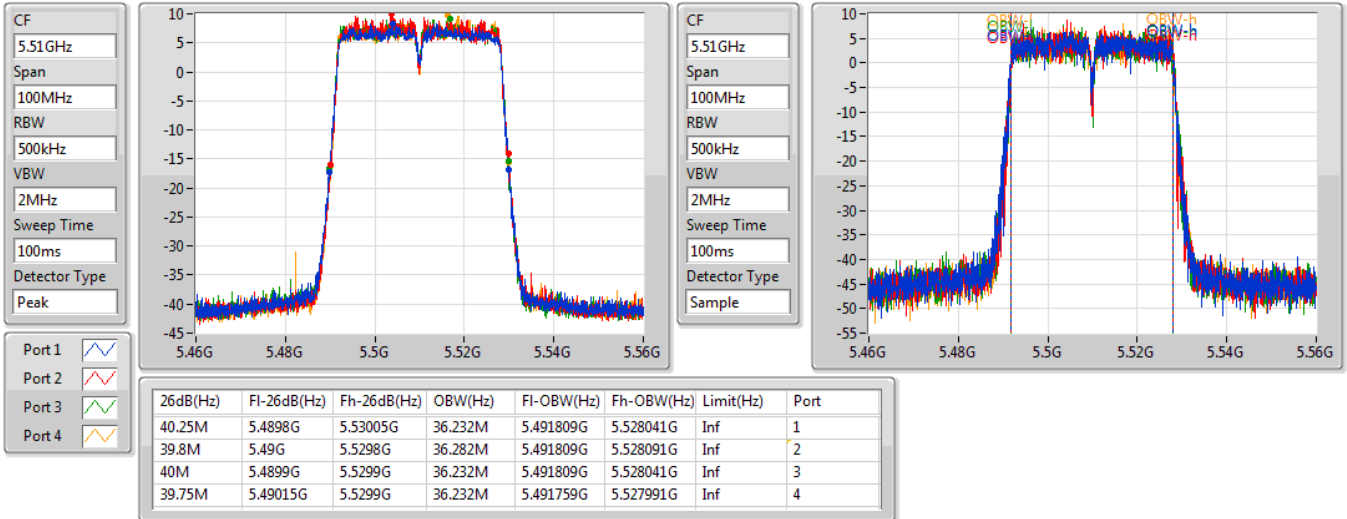

802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5310MHz

10/05/2019

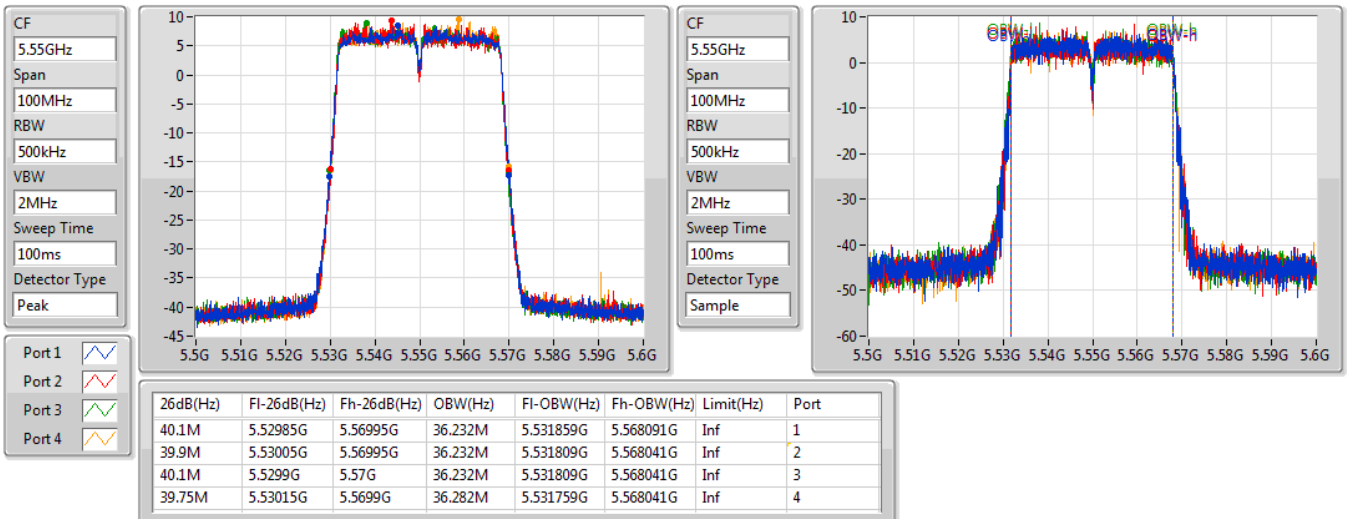


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5510MHz

10/05/2019

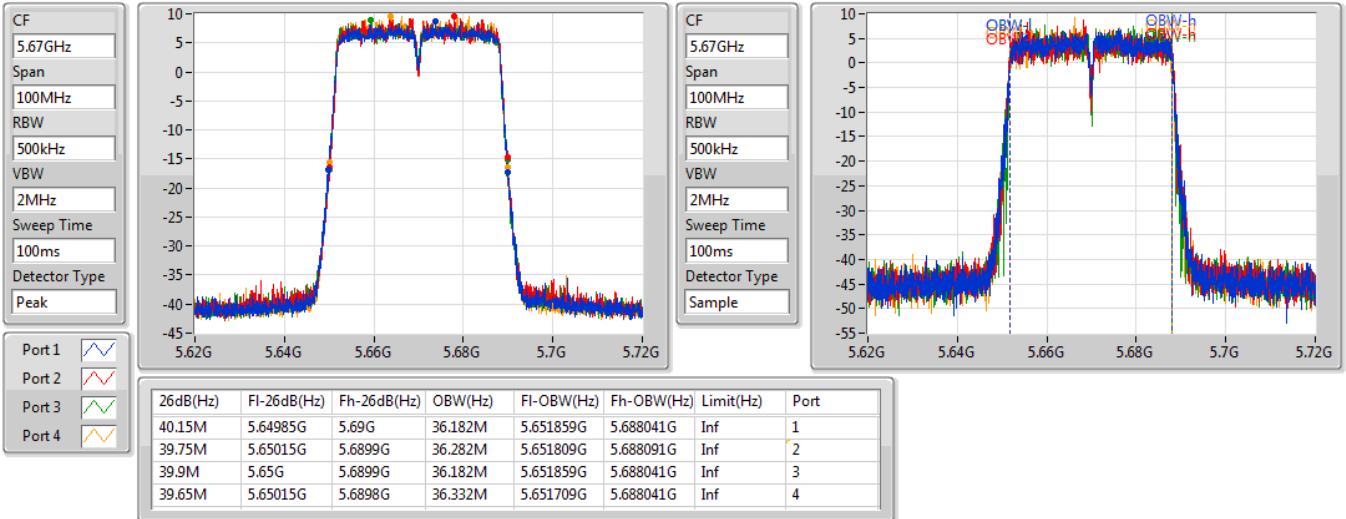

802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5550MHz

14/05/2019

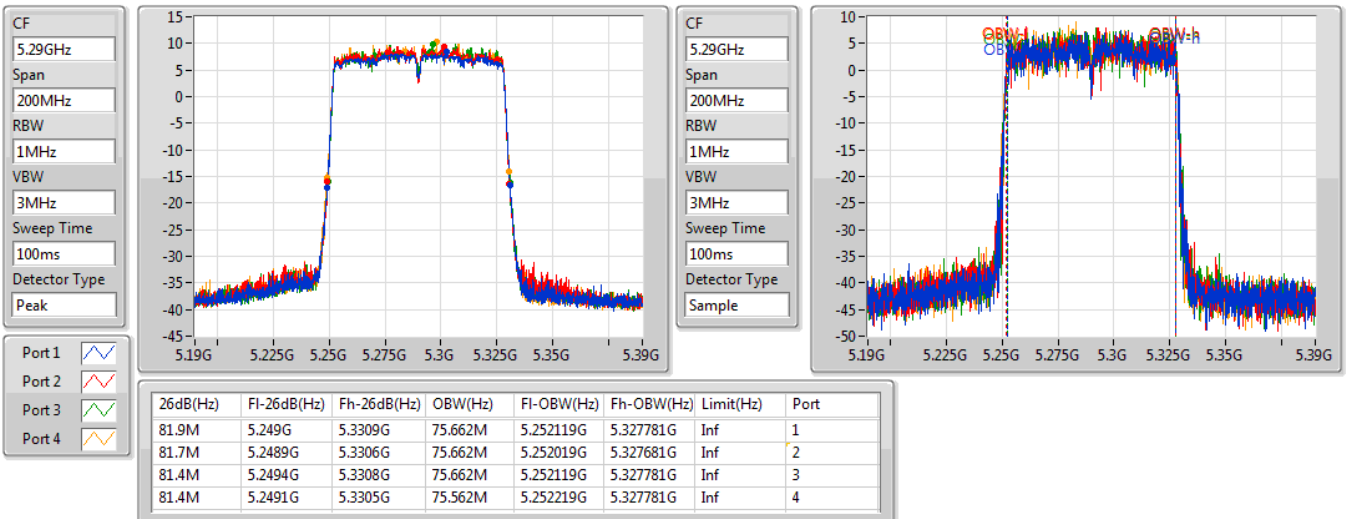


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5670MHz

10/05/2019

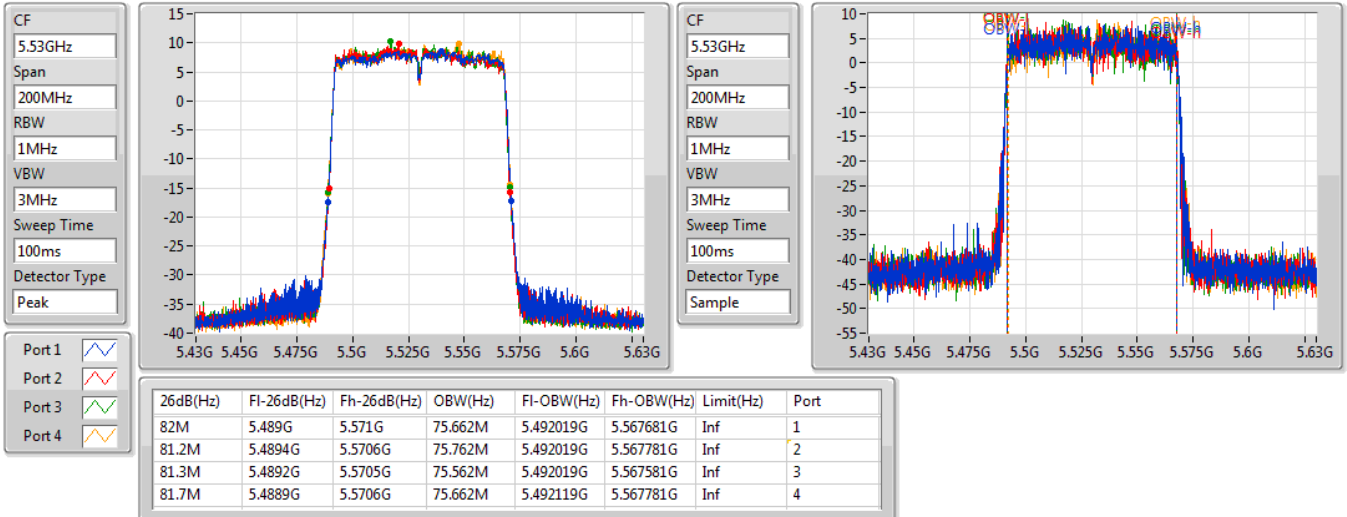

802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5290MHz

10/05/2019

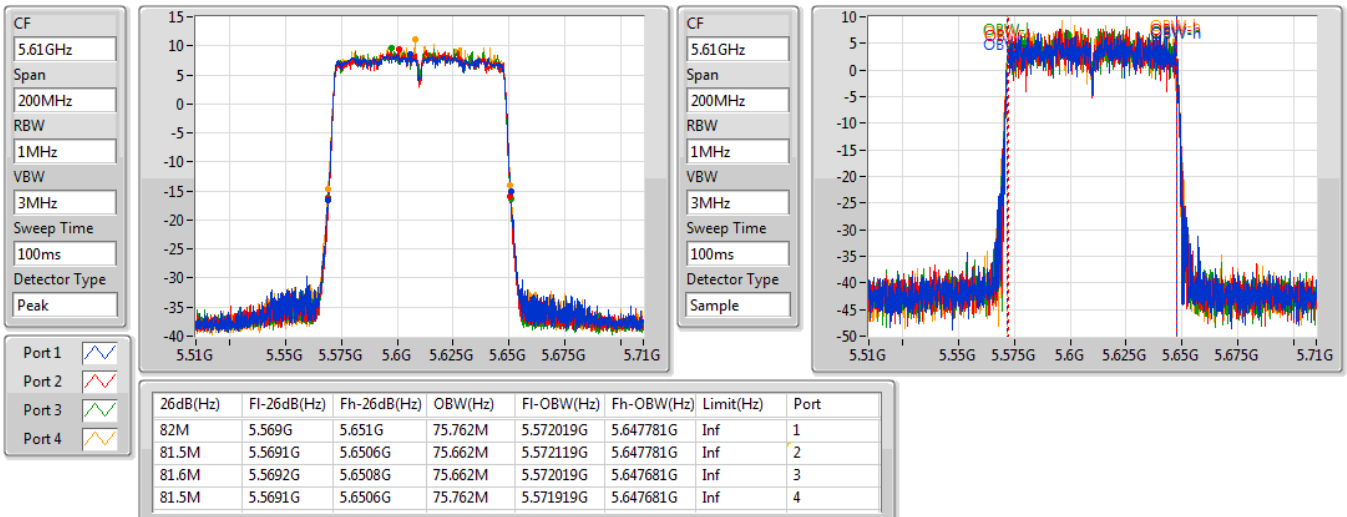


802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5530MHz

10/05/2019

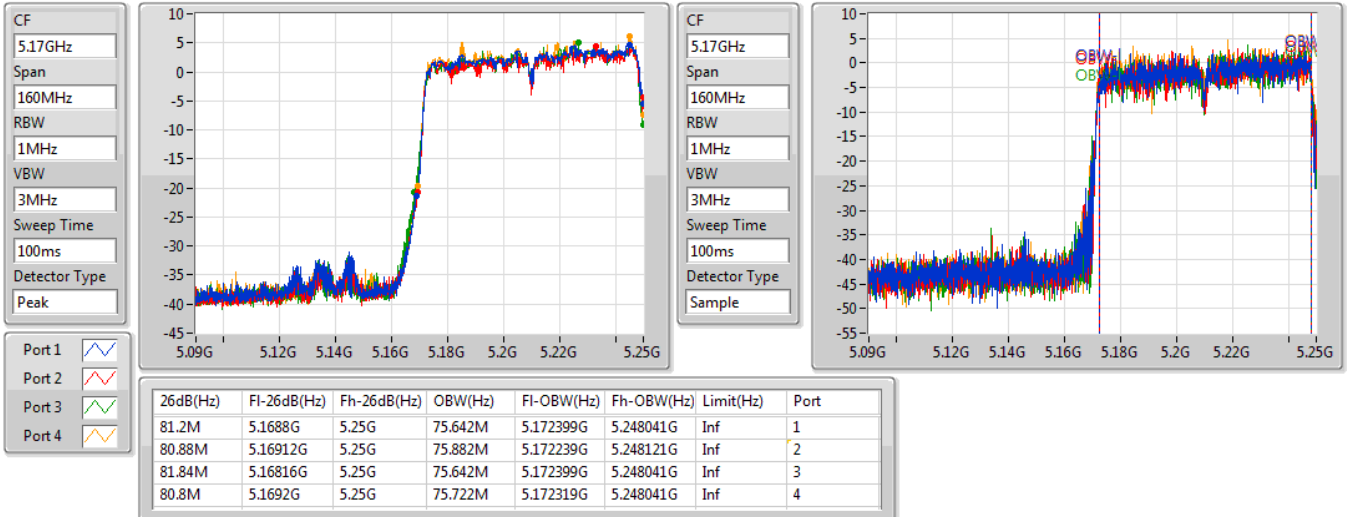

802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5610MHz

10/05/2019

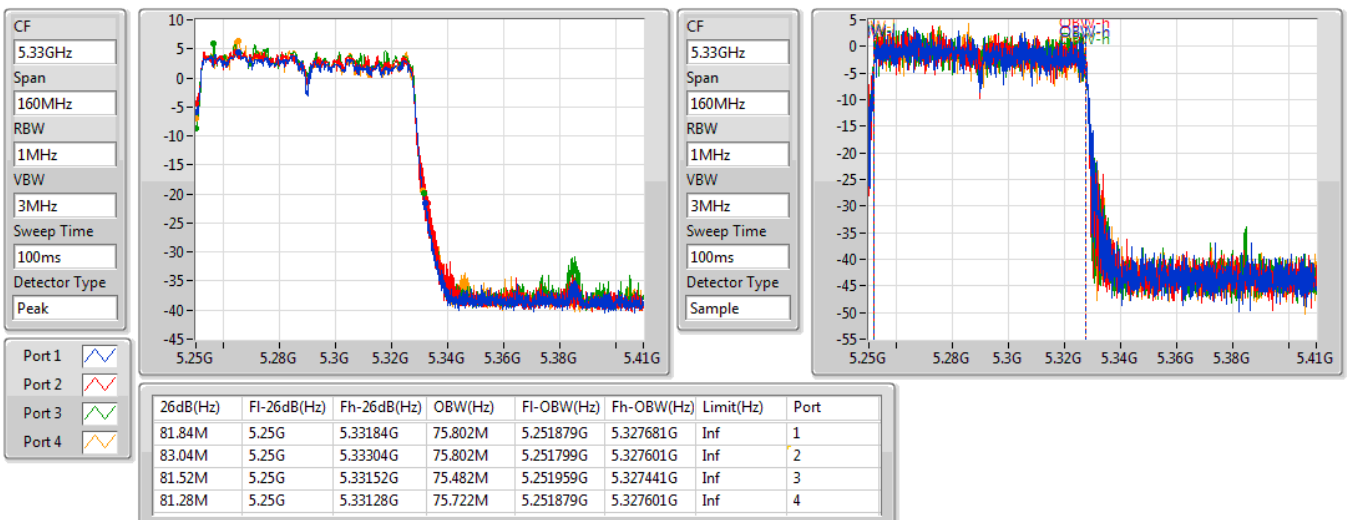


802.11ac VHT160_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.15-5.25GHz

10/05/2019

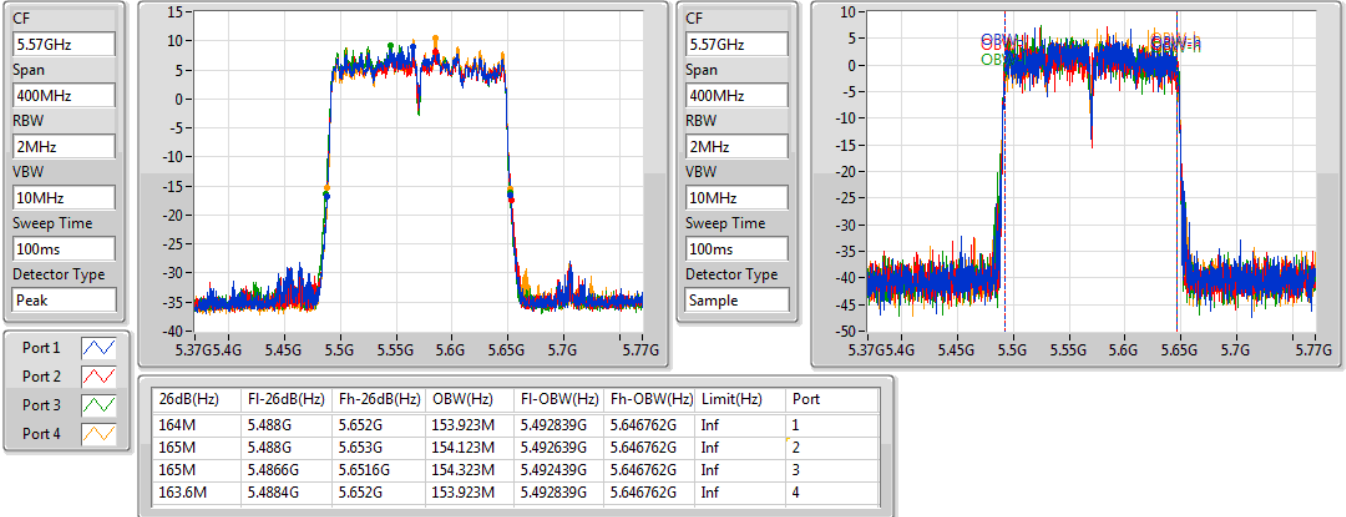

802.11ac VHT160_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.25-5.35GHz

10/05/2019

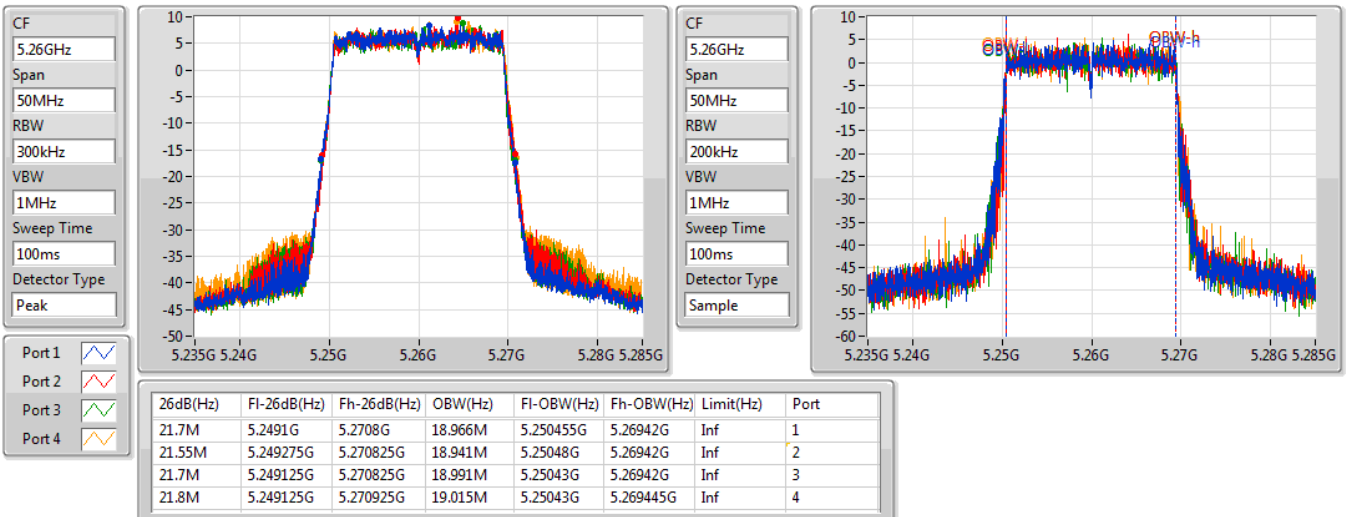


802.11ac VHT160_Nss1,(MCS0)_4TX
EBW
5570MHz

10/05/2019

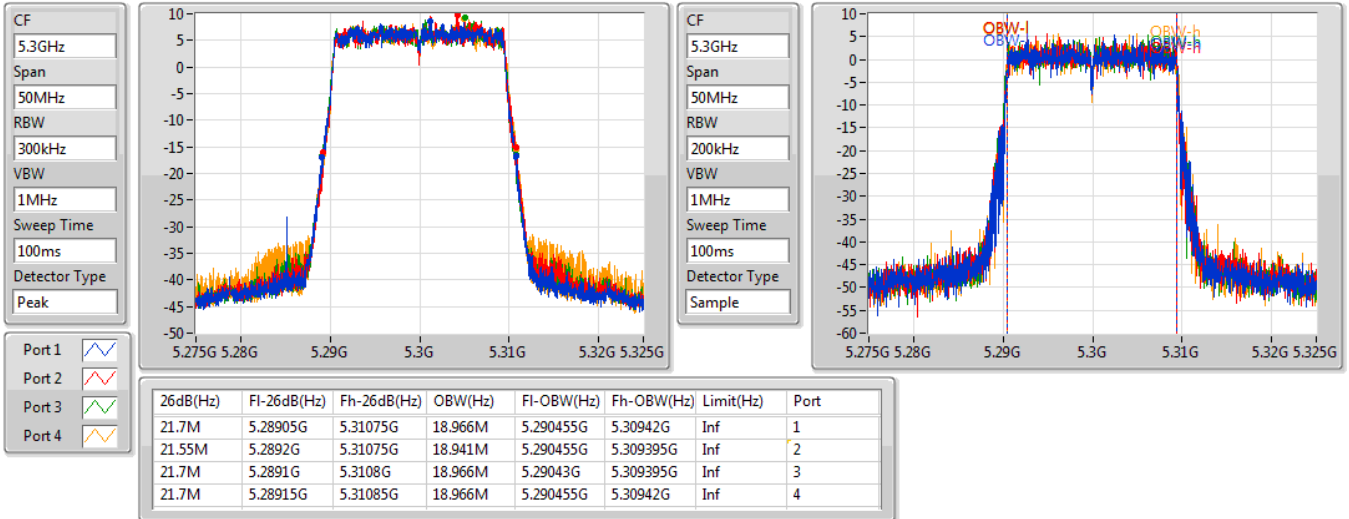

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5260MHz

09/05/2019

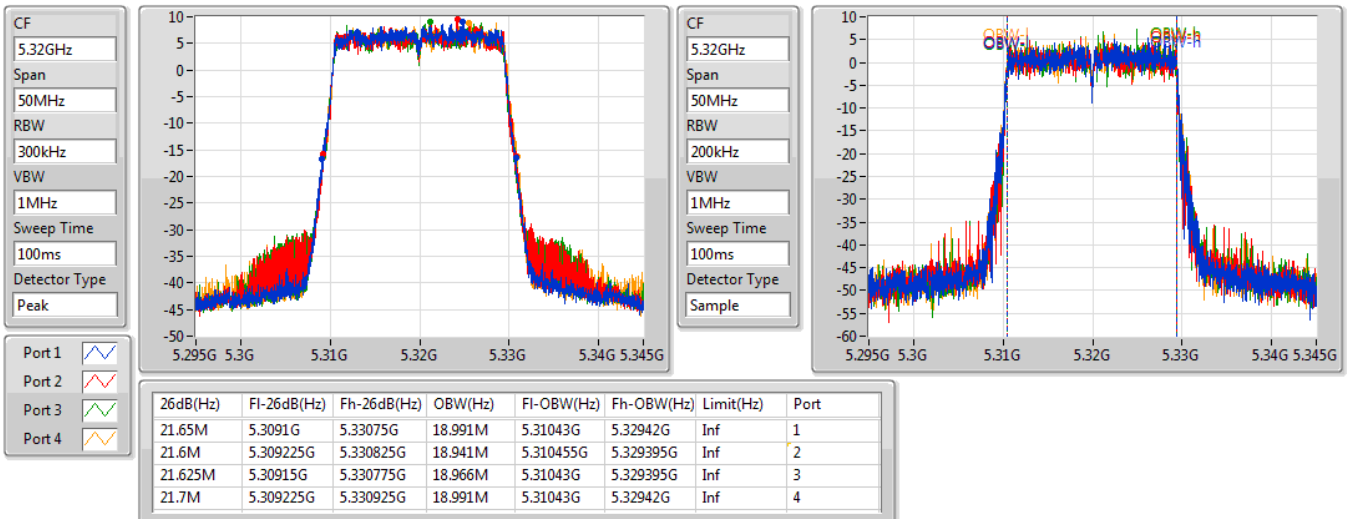


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5300MHz

09/05/2019

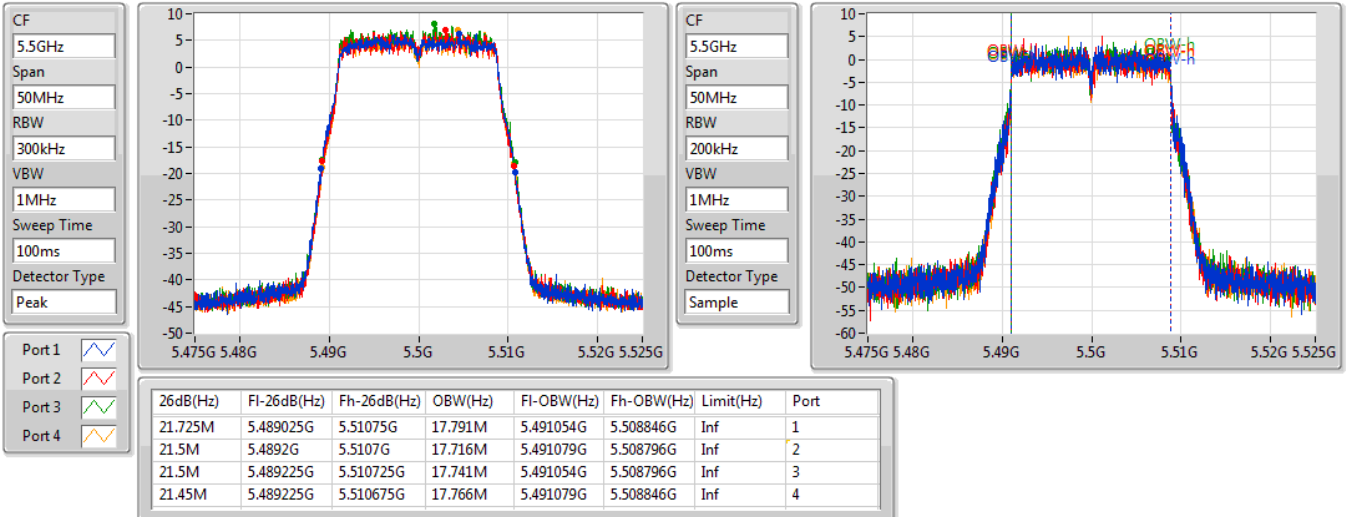

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5320MHz

09/05/2019

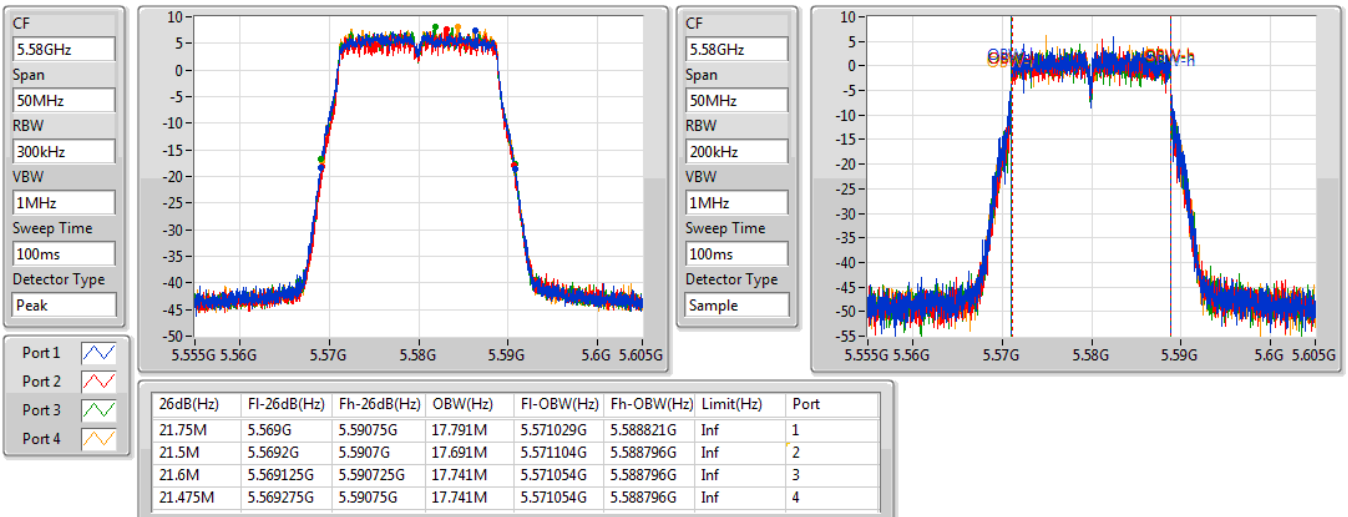


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5500MHz

09/05/2019

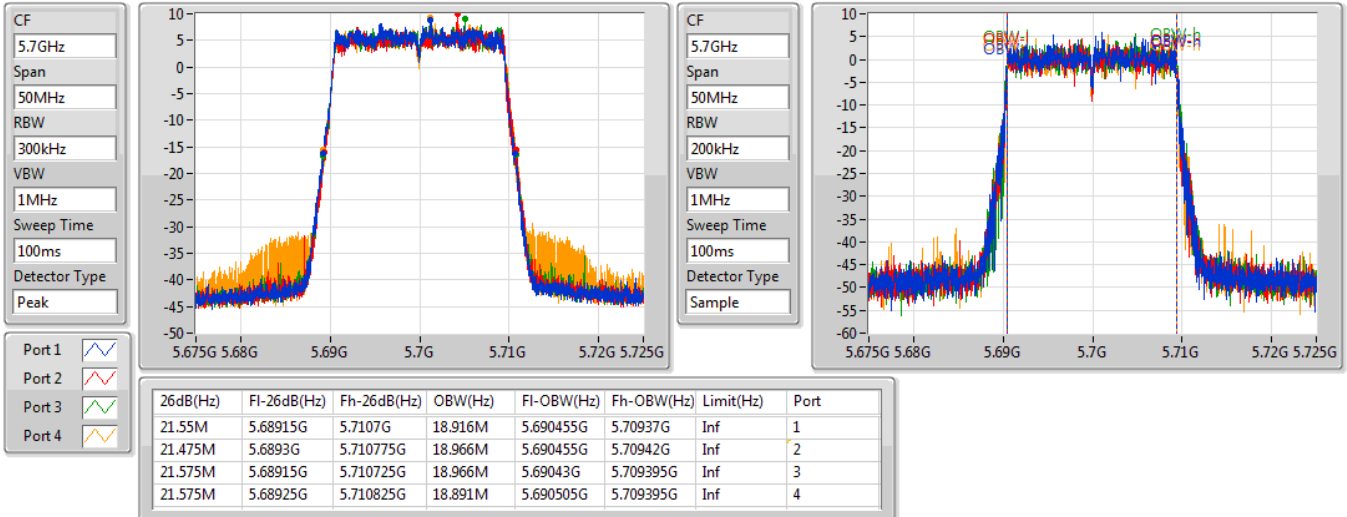

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5580MHz

09/05/2019

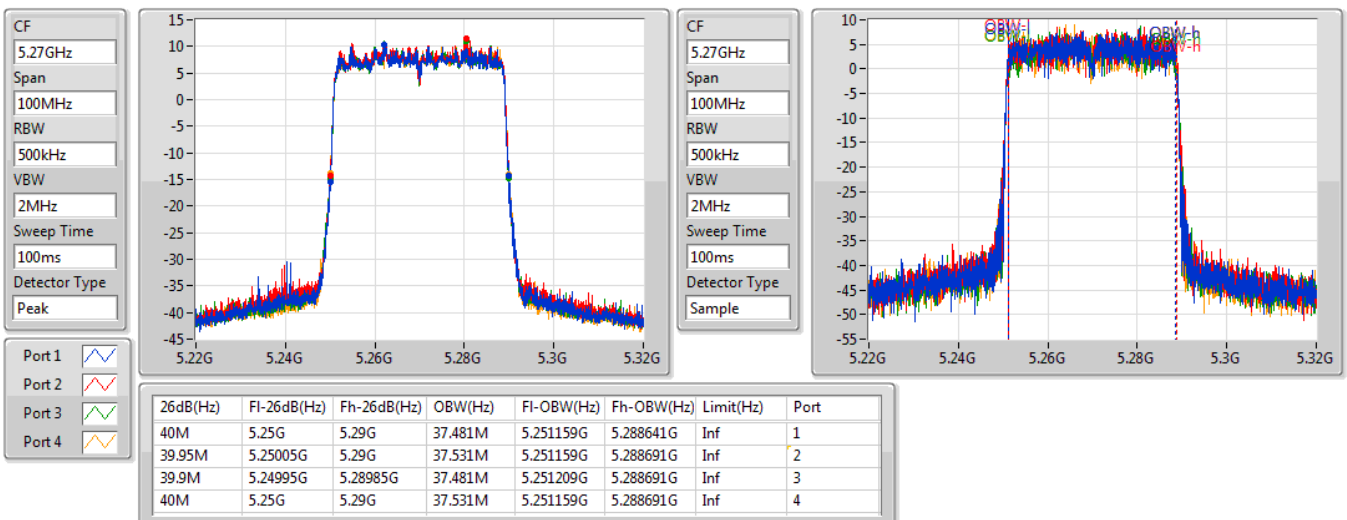


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5700MHz

09/05/2019

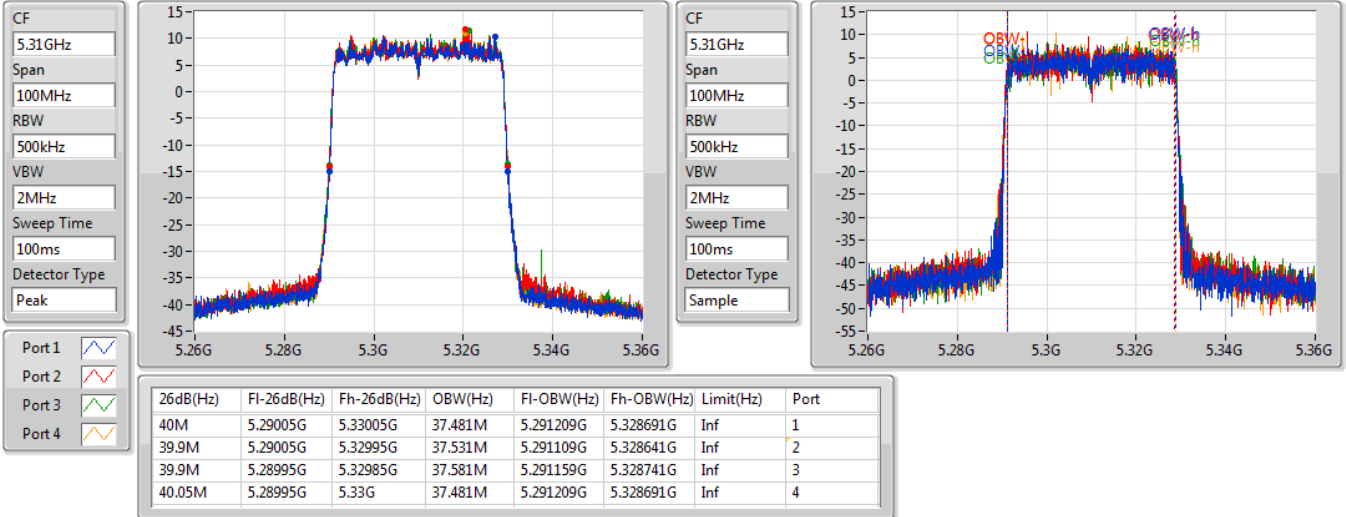

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5270MHz

09/05/2019

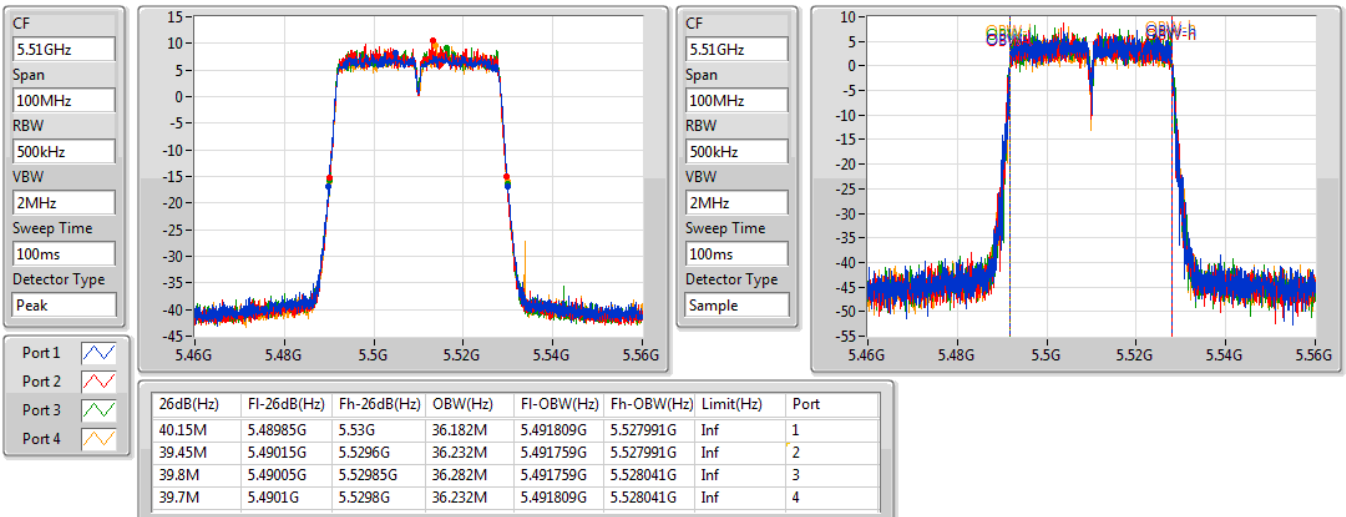


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5310MHz

09/05/2019

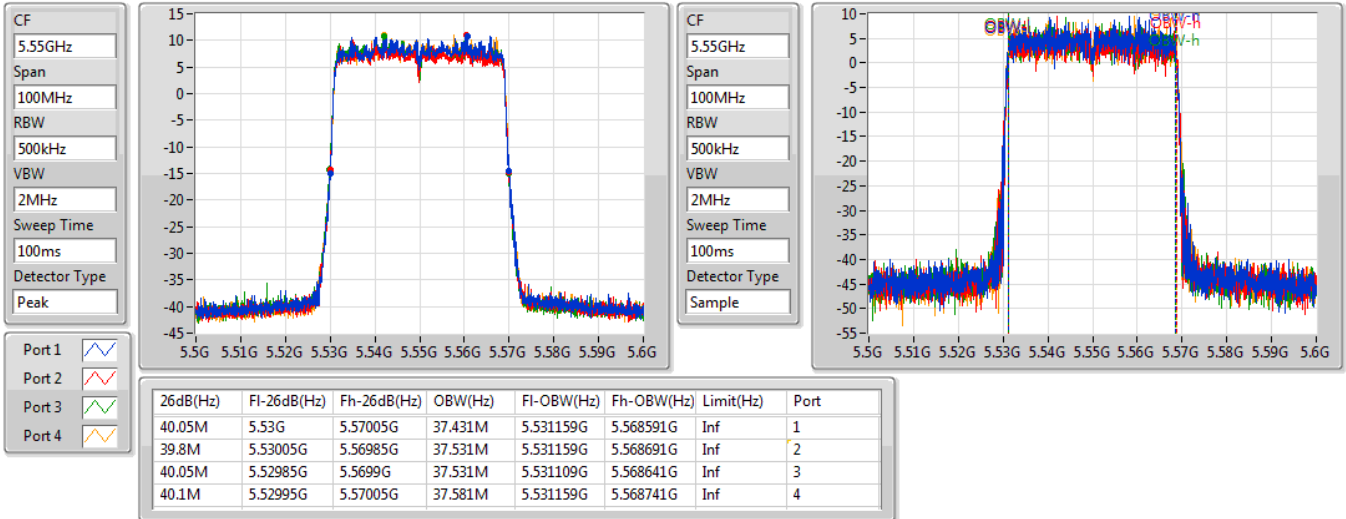

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5510MHz

09/05/2019

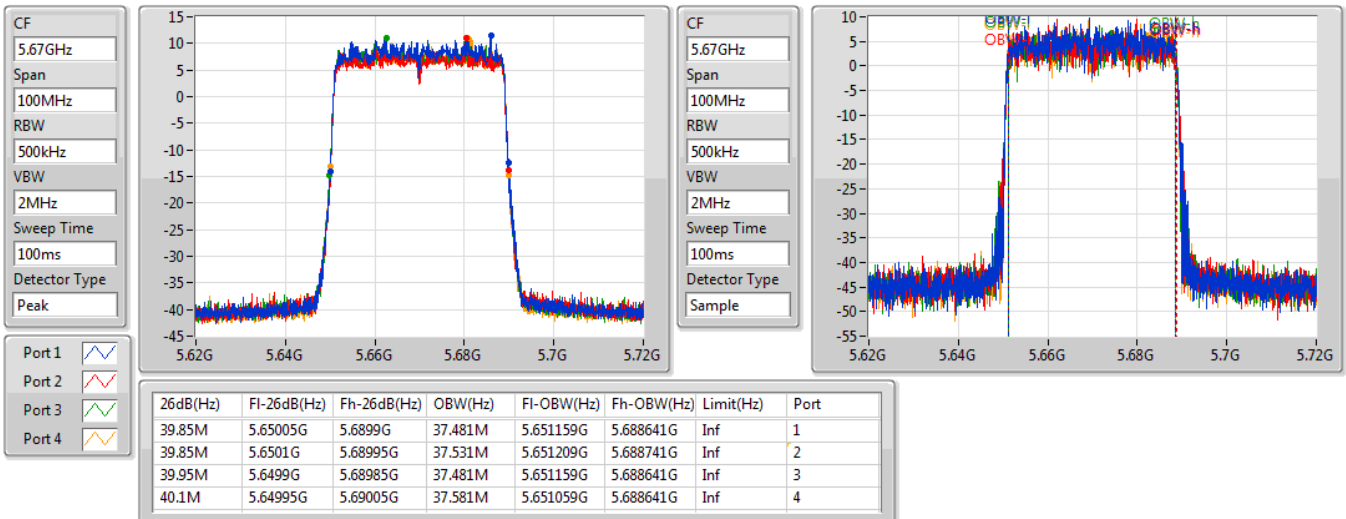


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5550MHz

09/05/2019

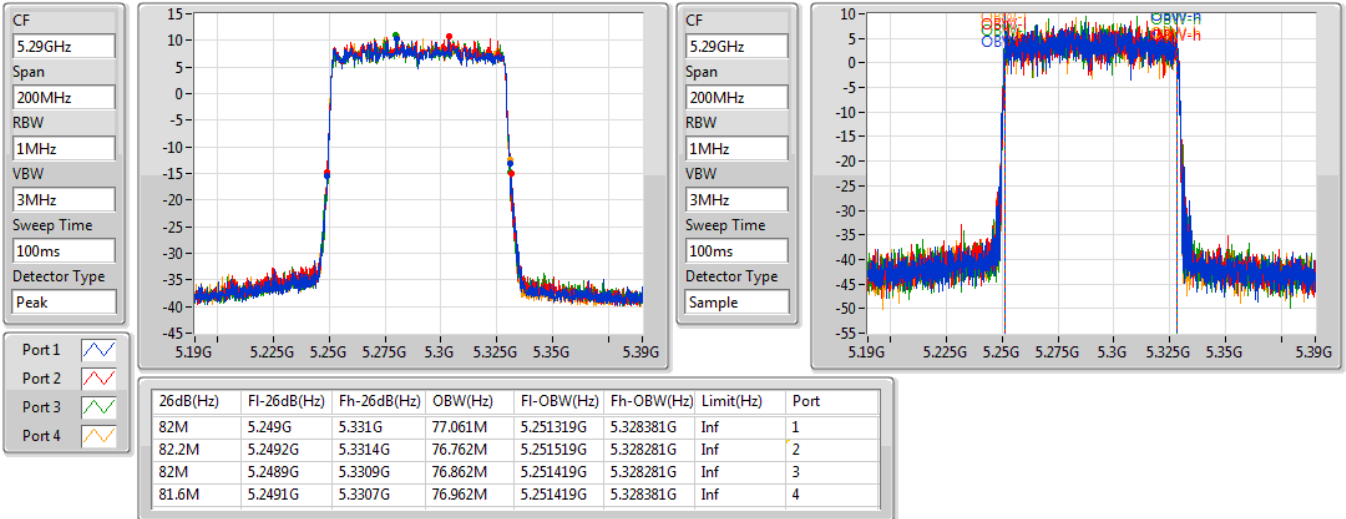

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5670MHz

09/05/2019

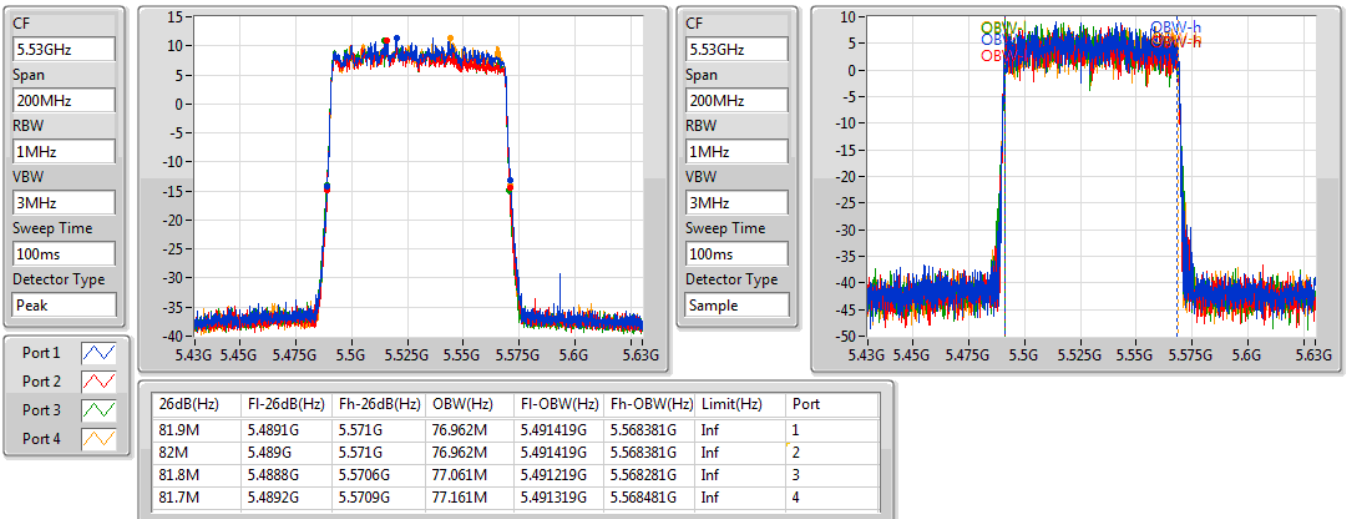


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5290MHz

09/05/2019

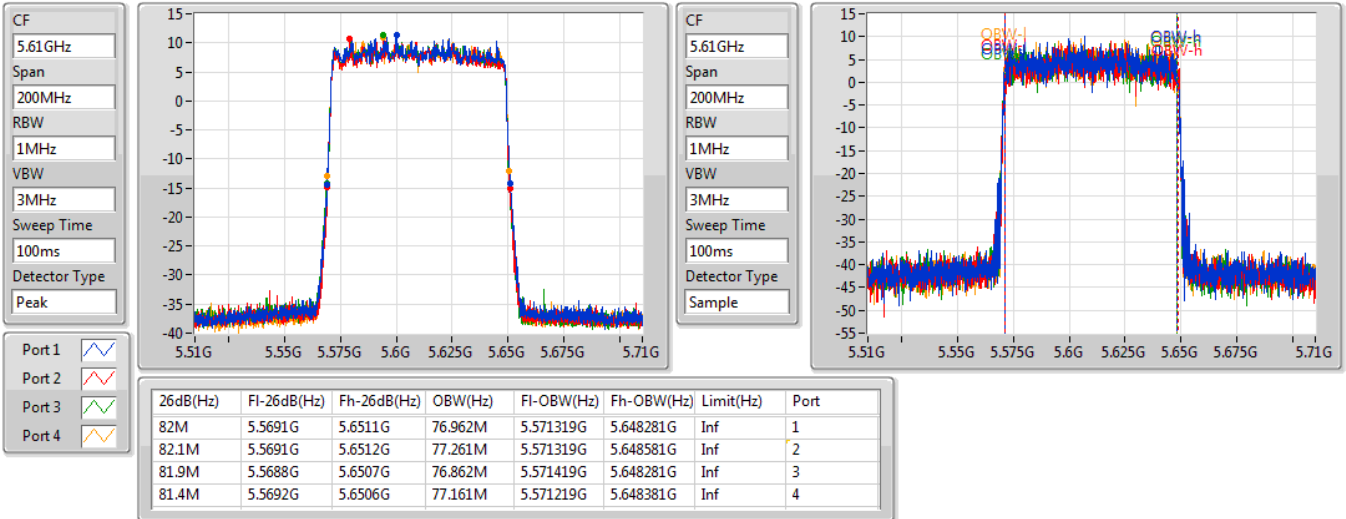

802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5530MHz

09/05/2019

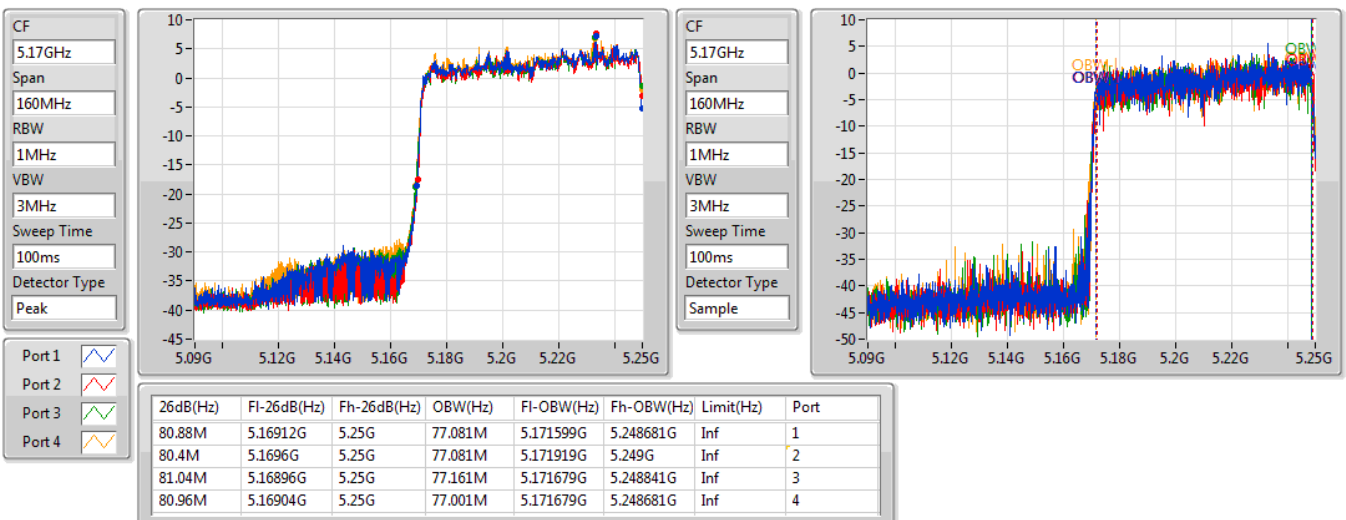


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5610MHz

09/05/2019

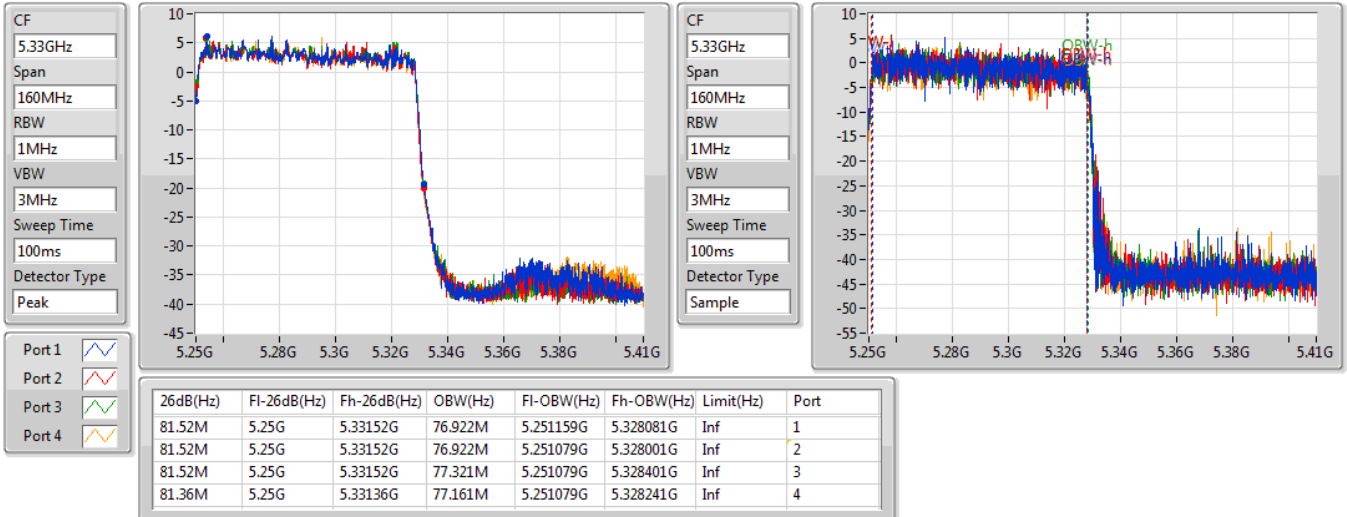

802.11ax HEW160_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.15-5.25GHz

10/05/2019

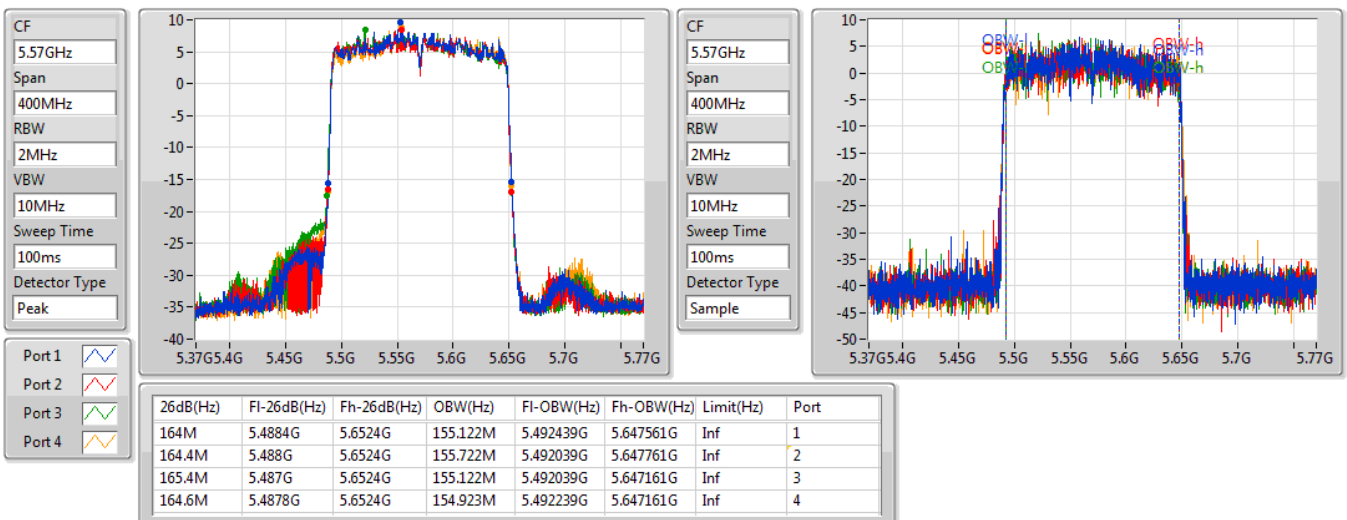


802.11ax HEW160_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.25-5.35GHz

10/05/2019

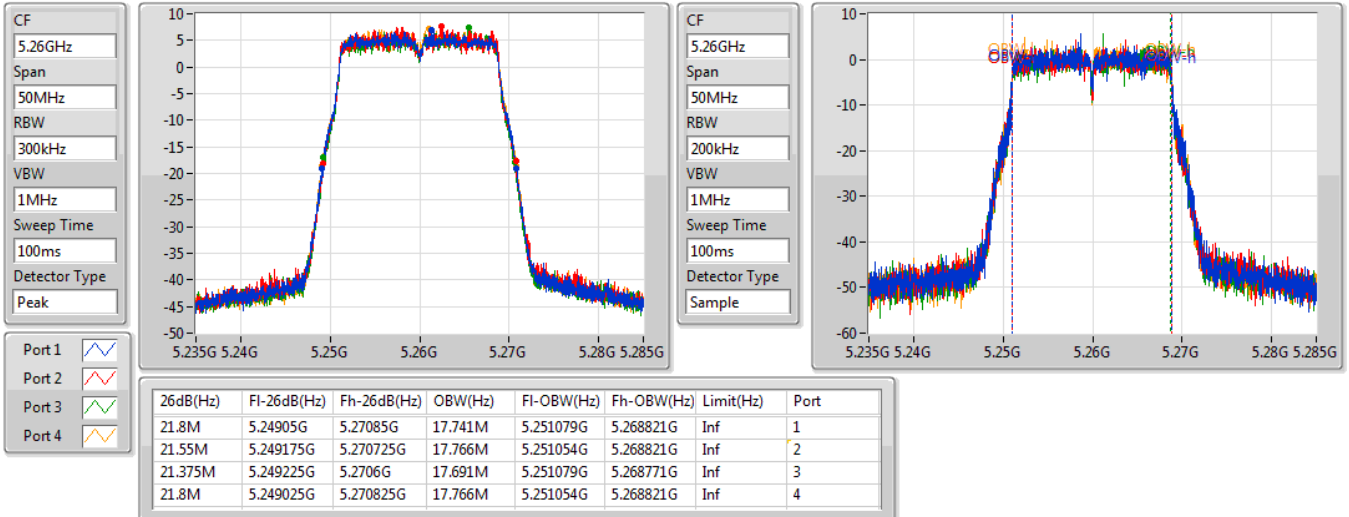

802.11ax HEW160_Nss1,(MCS0)_4TX
EBW
5570MHz

10/05/2019

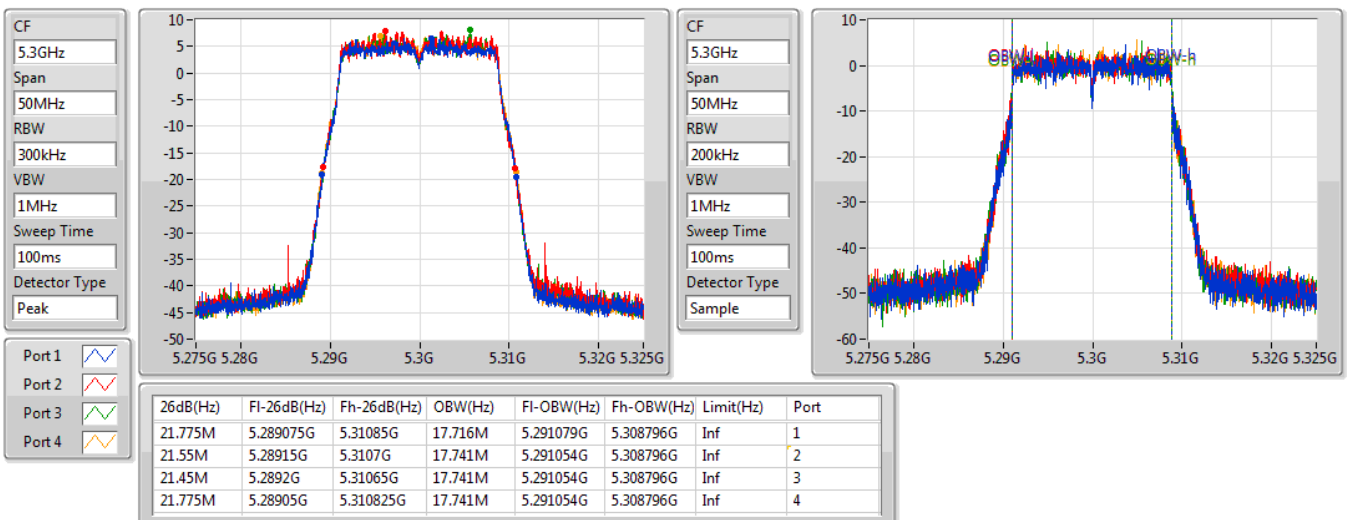


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5260MHz

10/05/2019

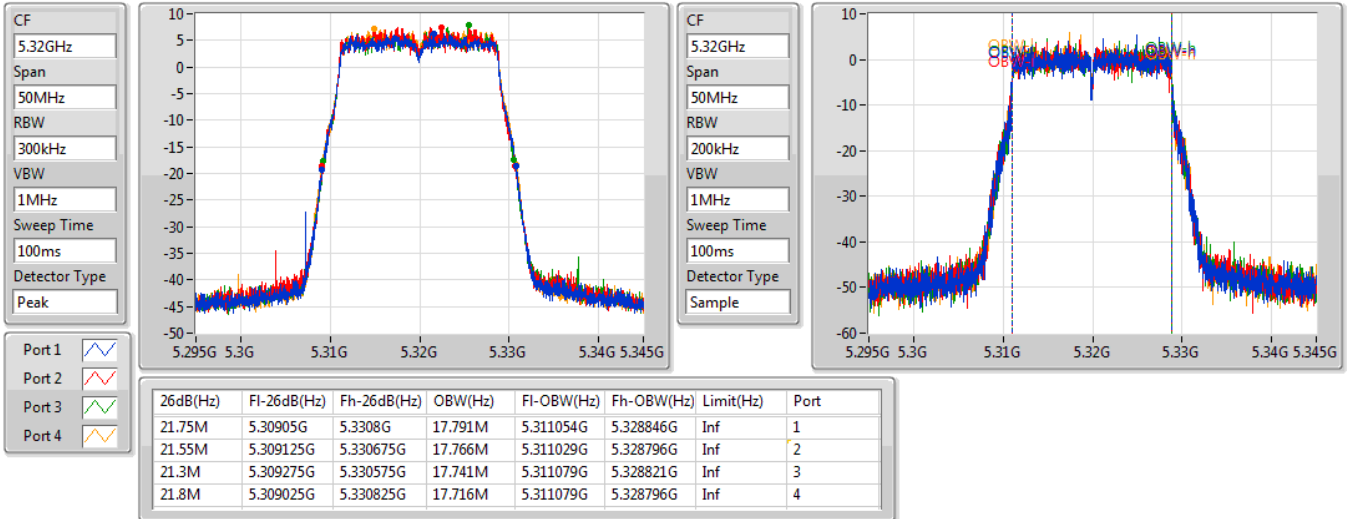

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5300MHz

10/05/2019

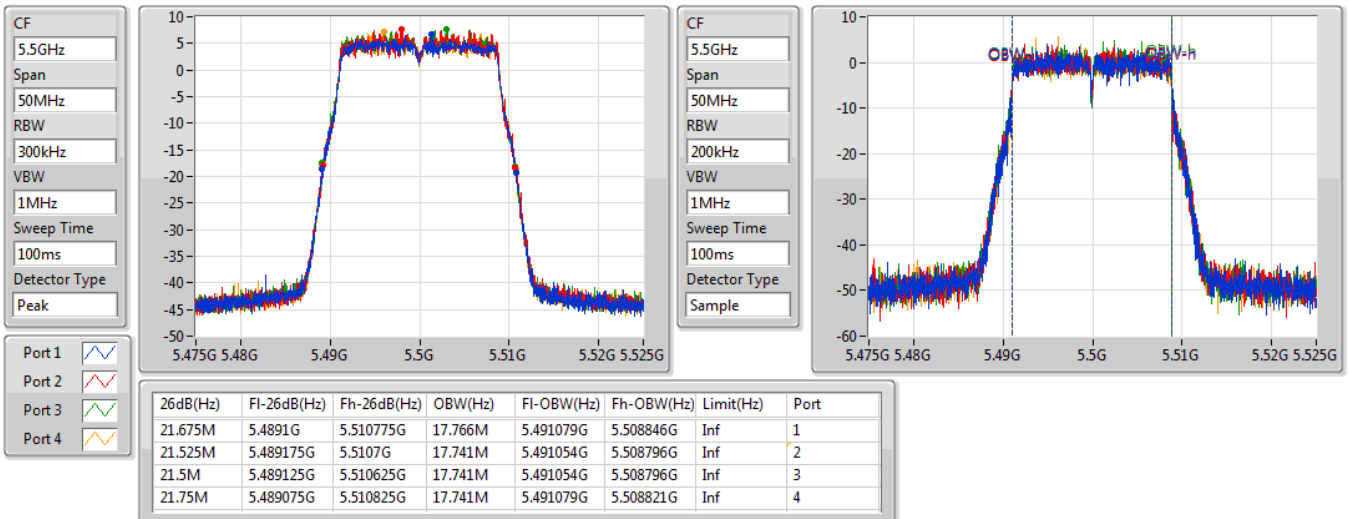


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5320MHz

10/05/2019

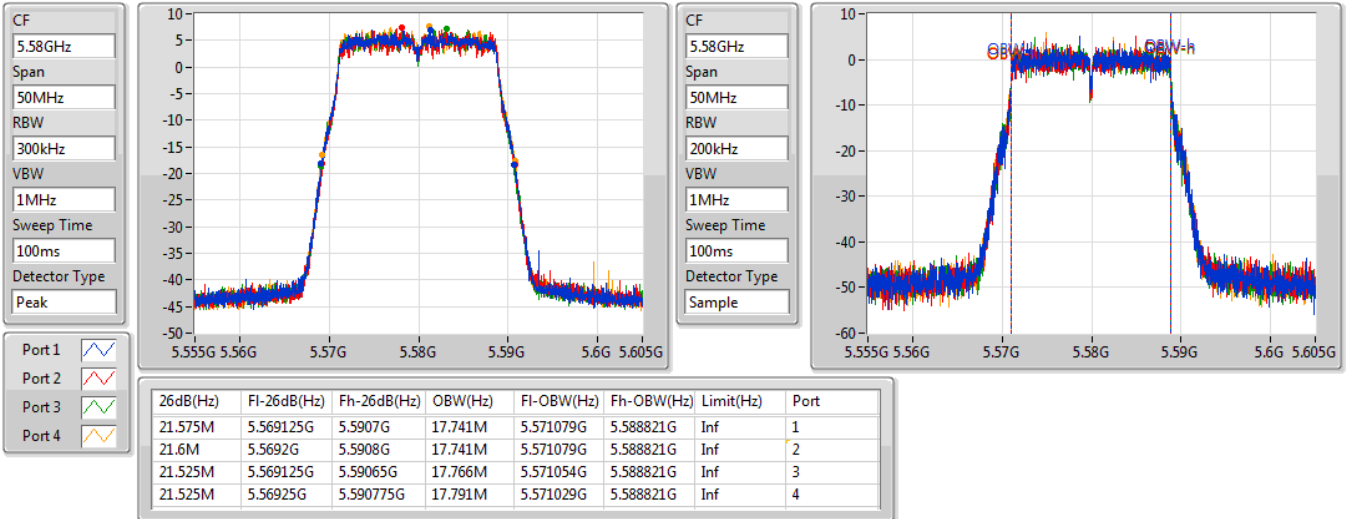

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5500MHz

10/05/2019

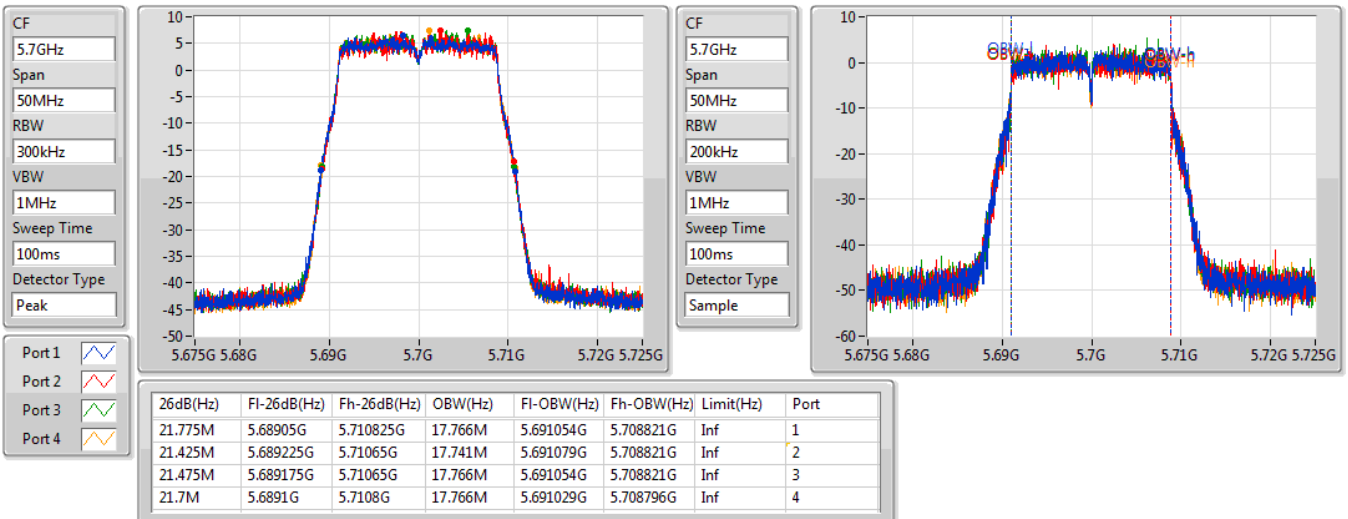


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5580MHz

10/05/2019

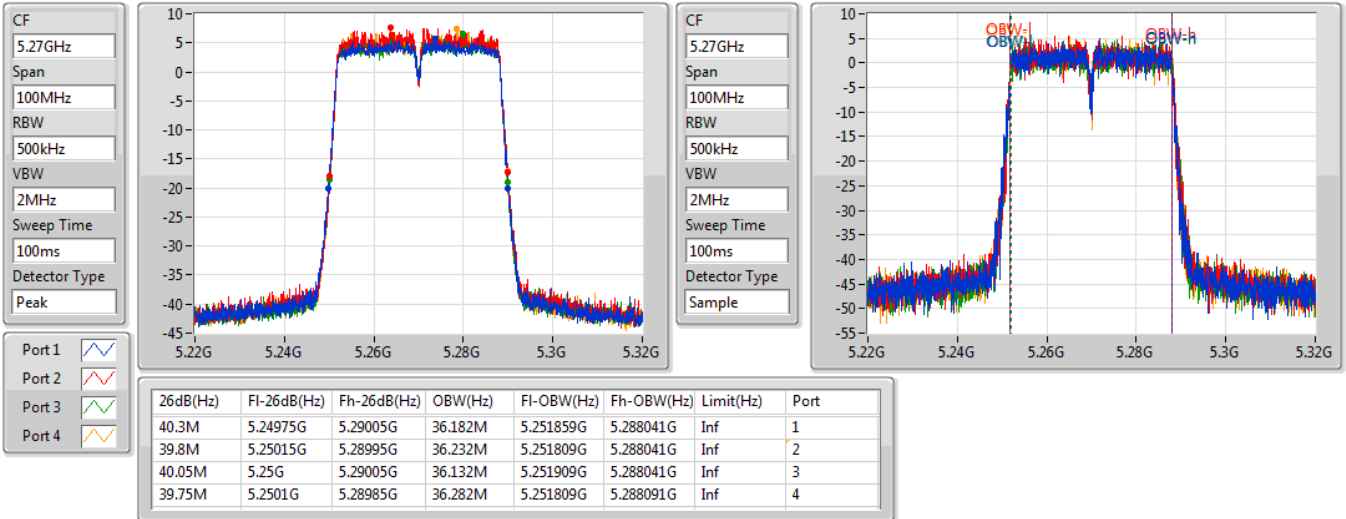

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5700MHz

10/05/2019

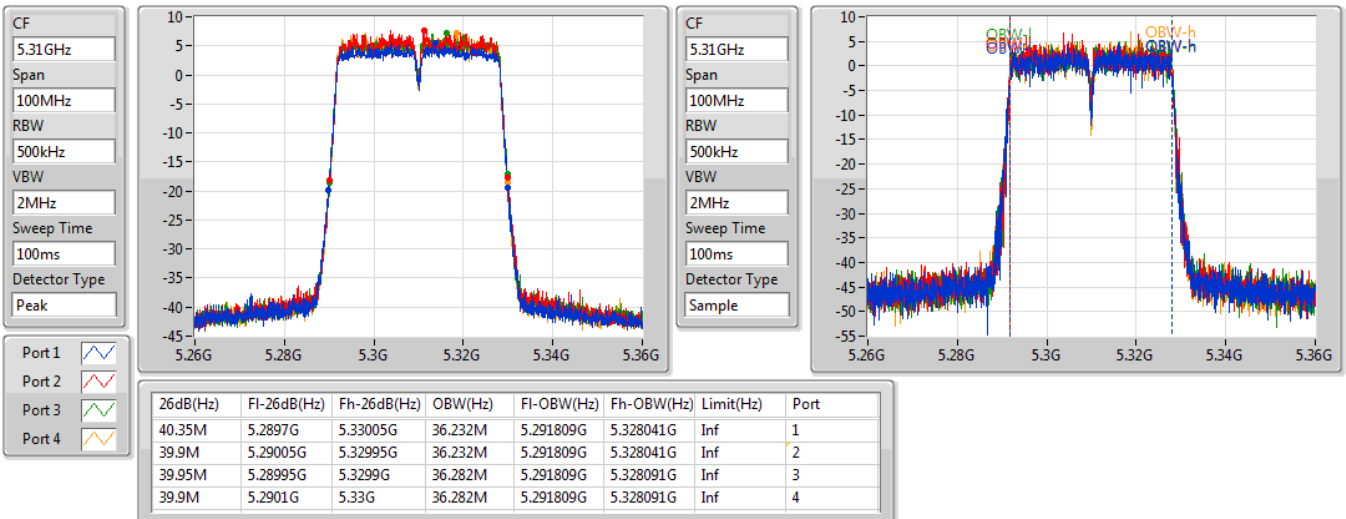


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5270MHz

10/05/2019

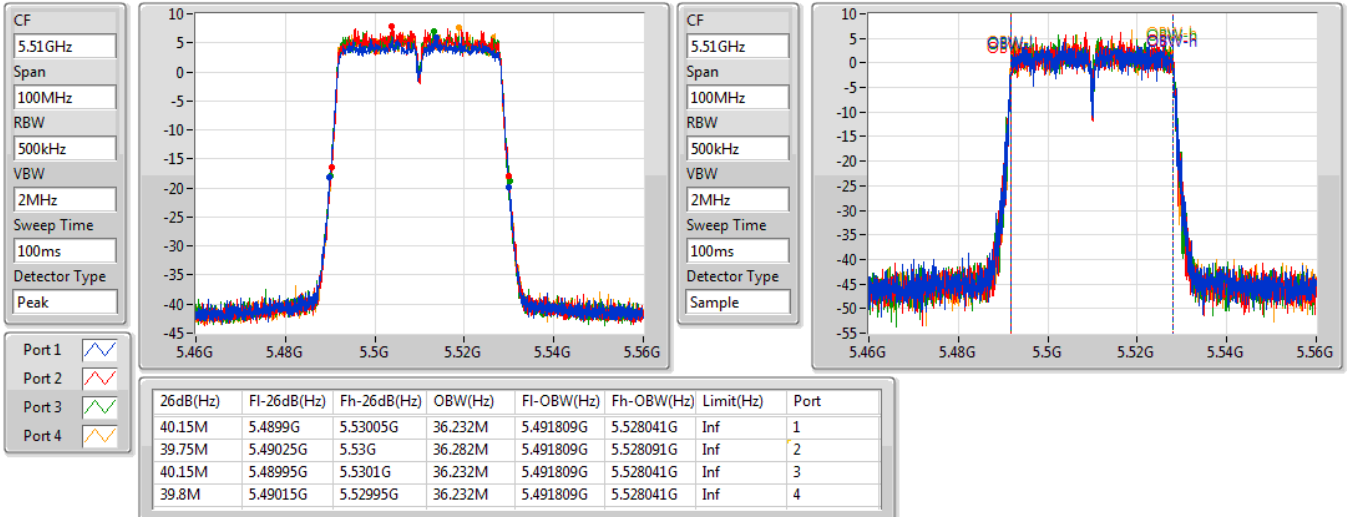

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5310MHz

10/05/2019

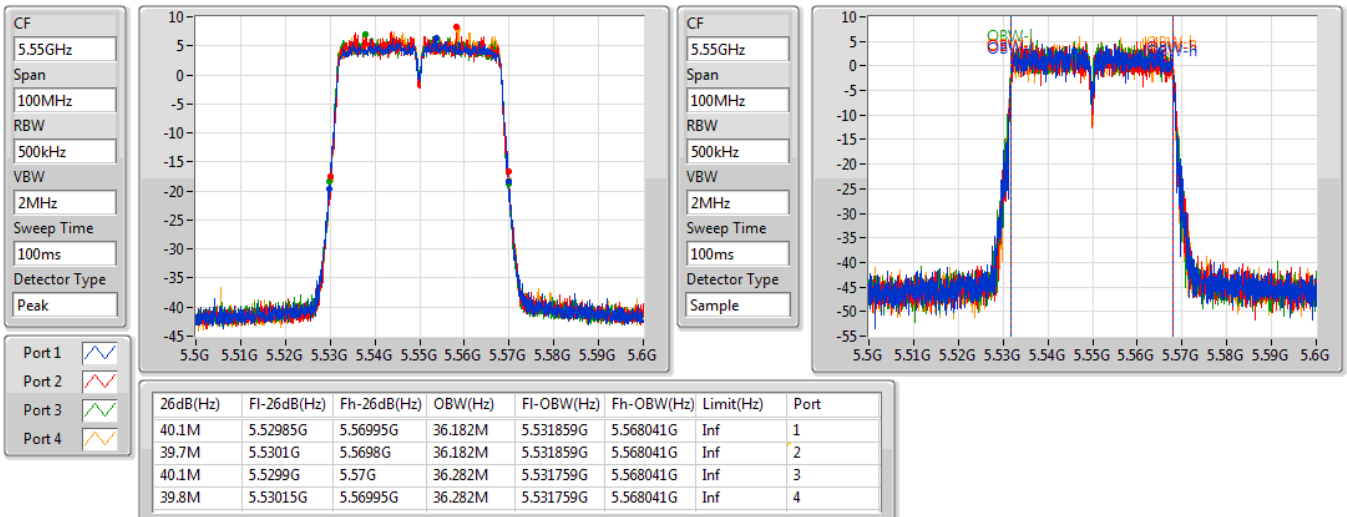


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5510MHz

10/05/2019

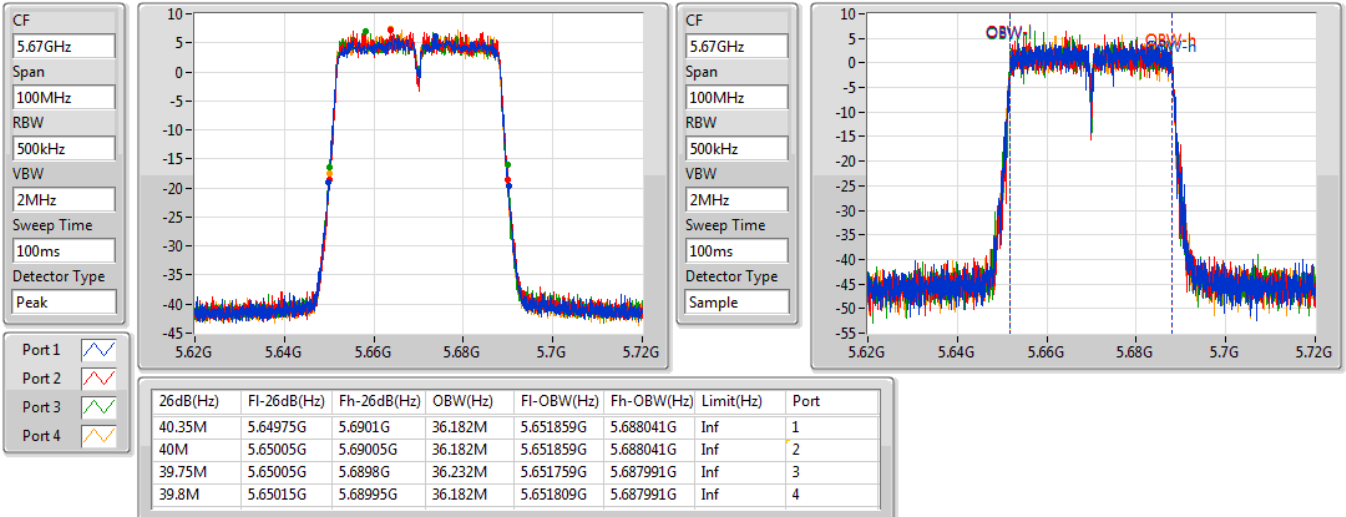

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5550MHz

10/05/2019

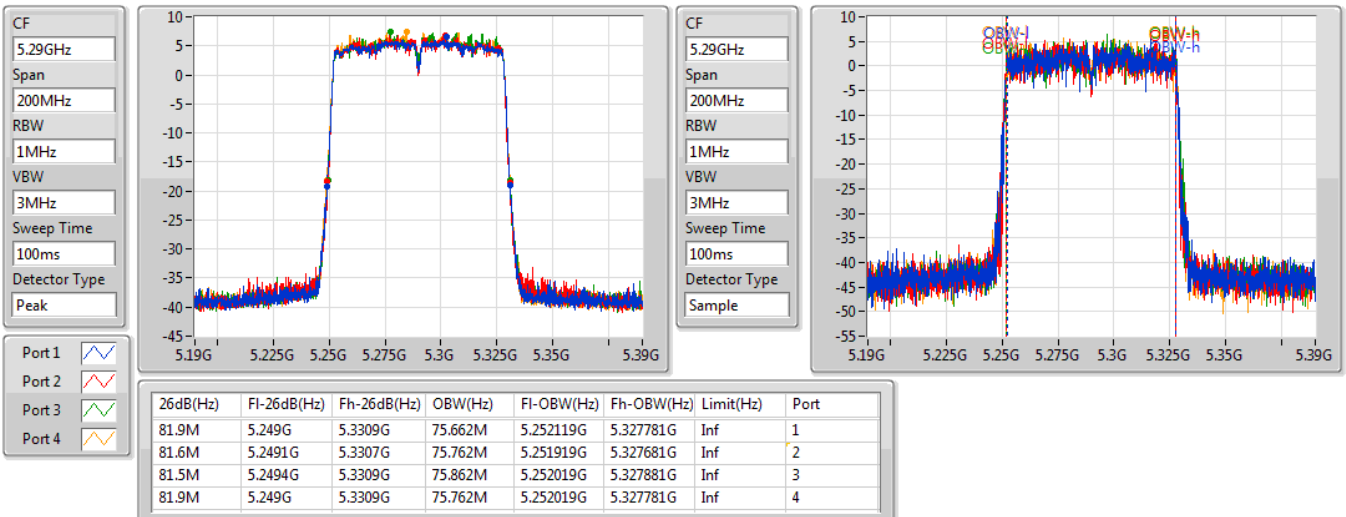


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5670MHz

10/05/2019

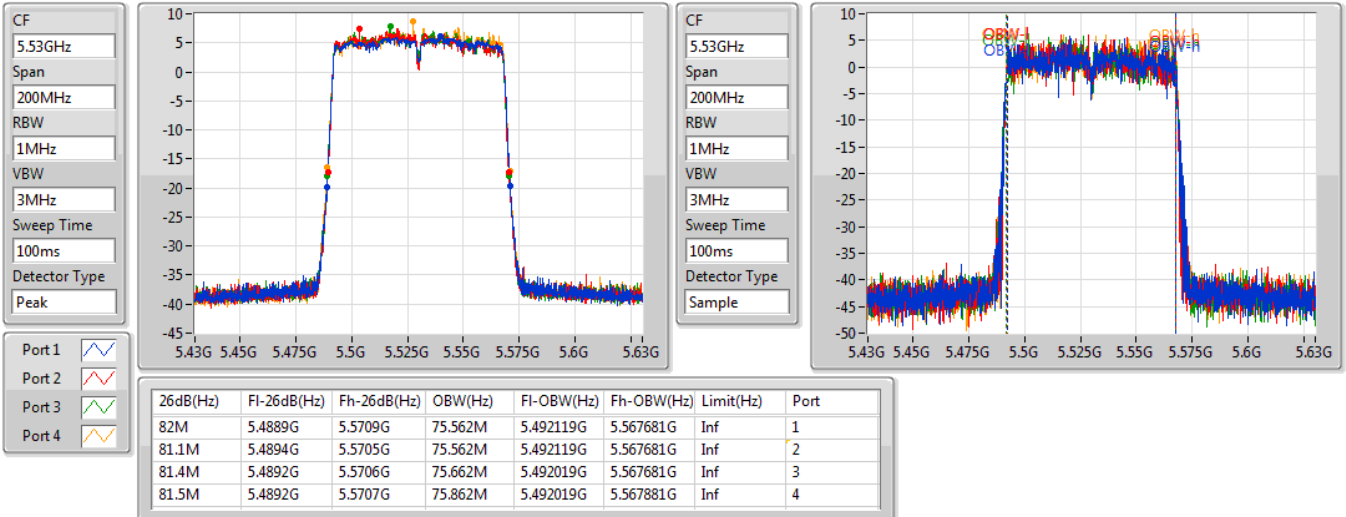

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5290MHz

10/05/2019

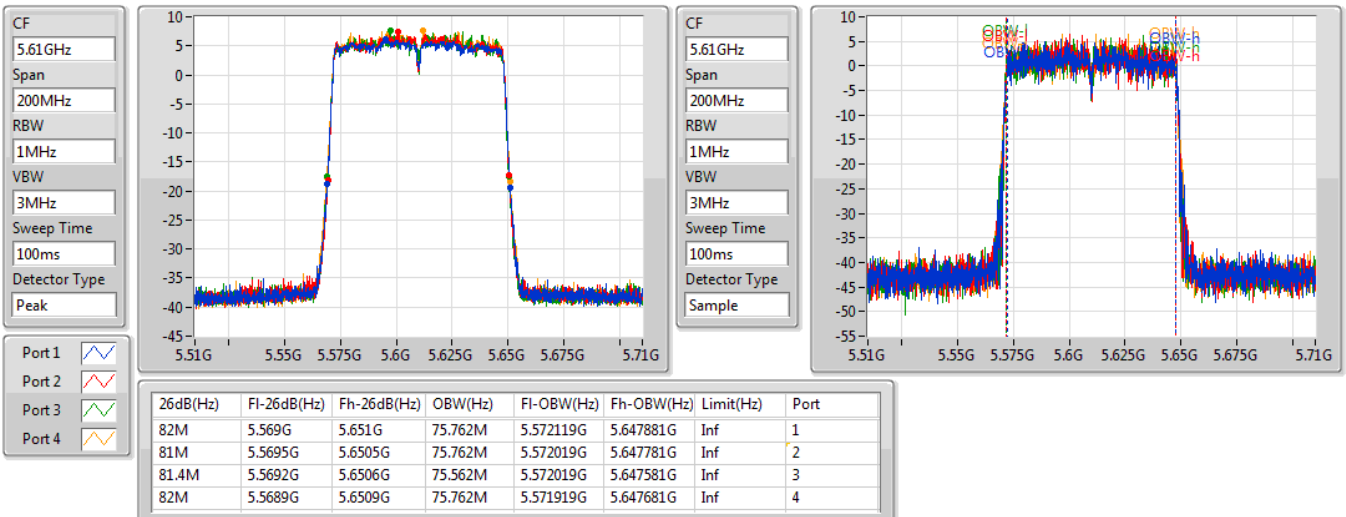


802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5530MHz

10/05/2019

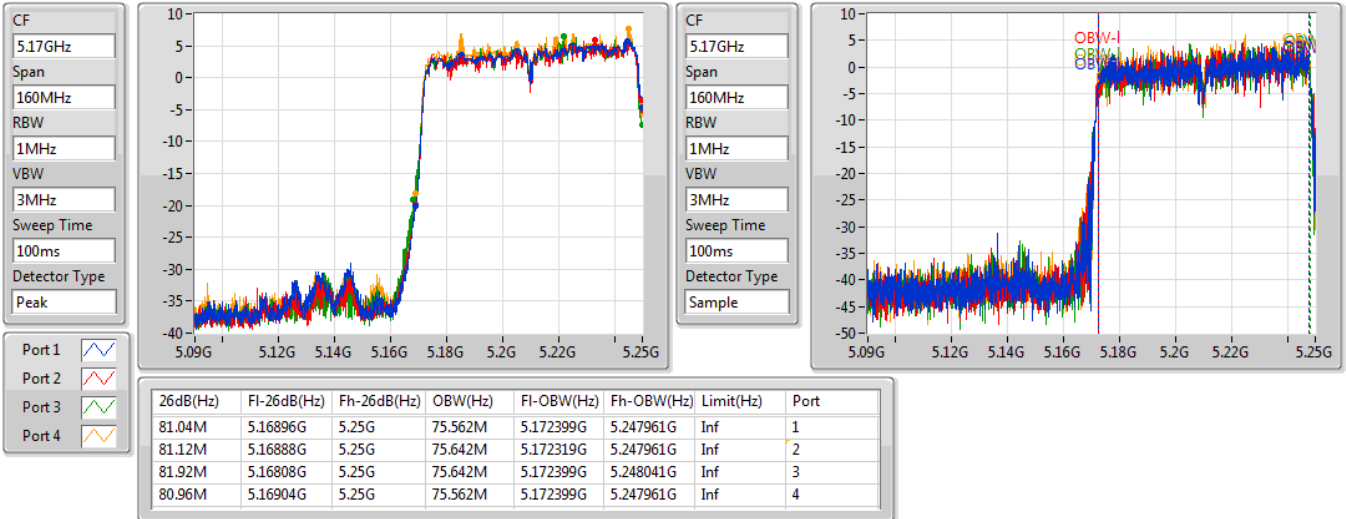

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5610MHz

10/05/2019

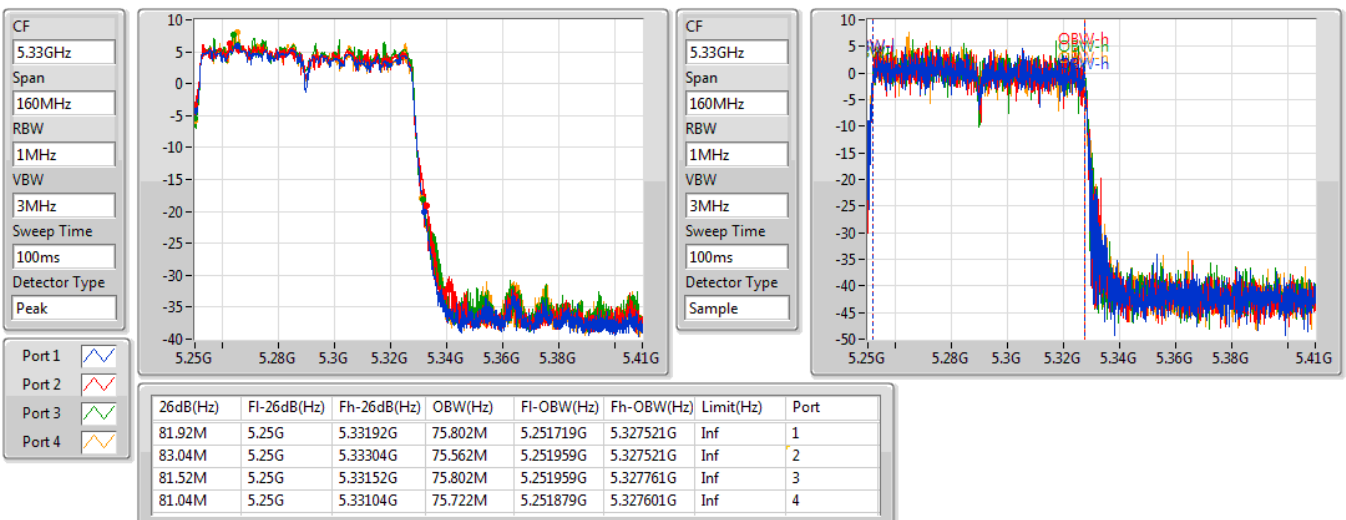


802.11ac VHT160-BF_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.15-5.25GHz

10/05/2019

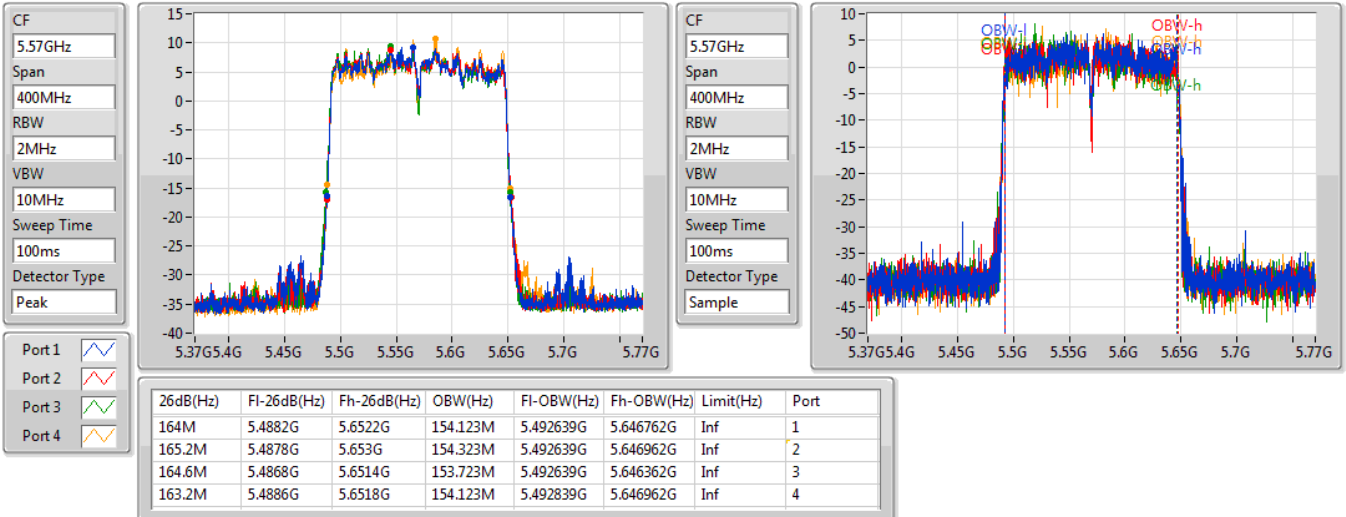

802.11ac VHT160-BF_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.25-5.35GHz

10/05/2019

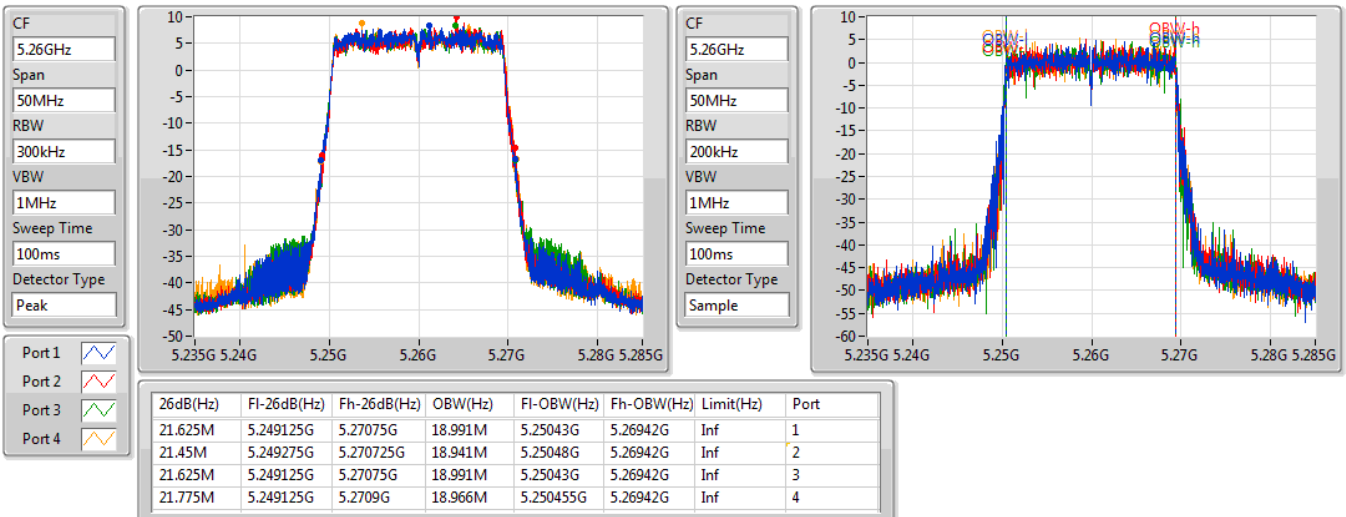


802.11ac VHT160-BF_Nss1,(MCS0)_4TX
EBW
5570MHz

10/05/2019

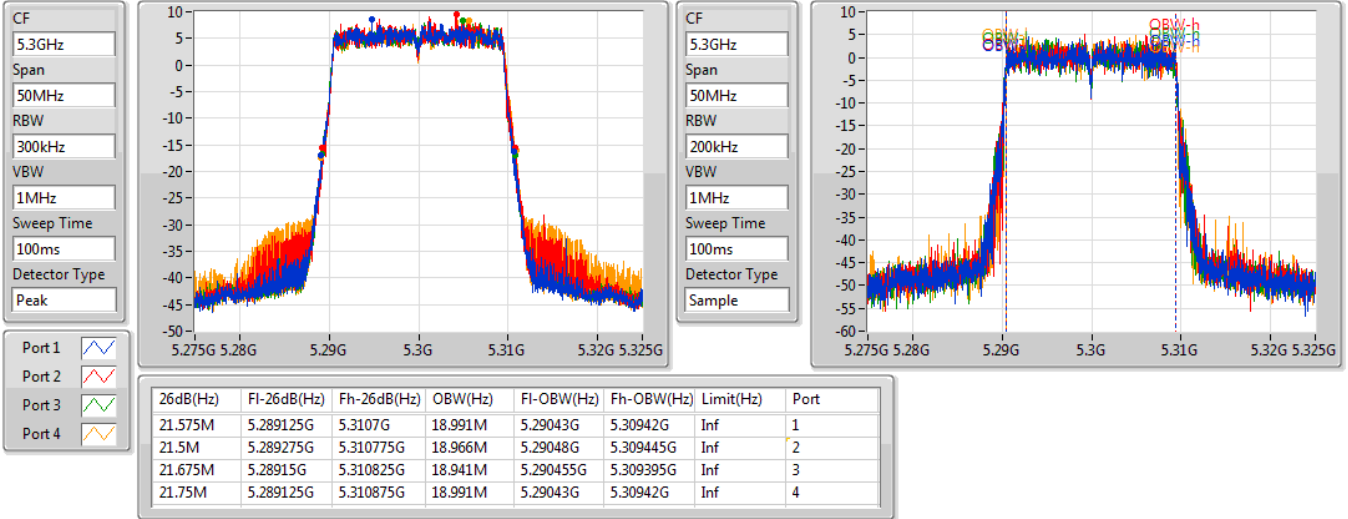

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5260MHz

10/05/2019

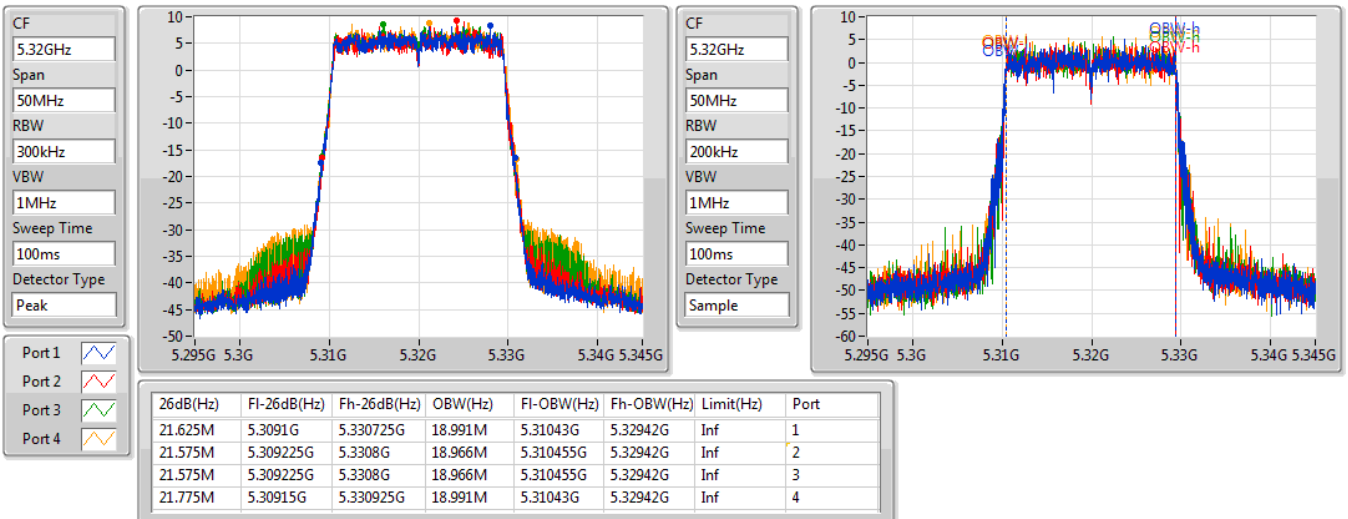


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5300MHz

10/05/2019

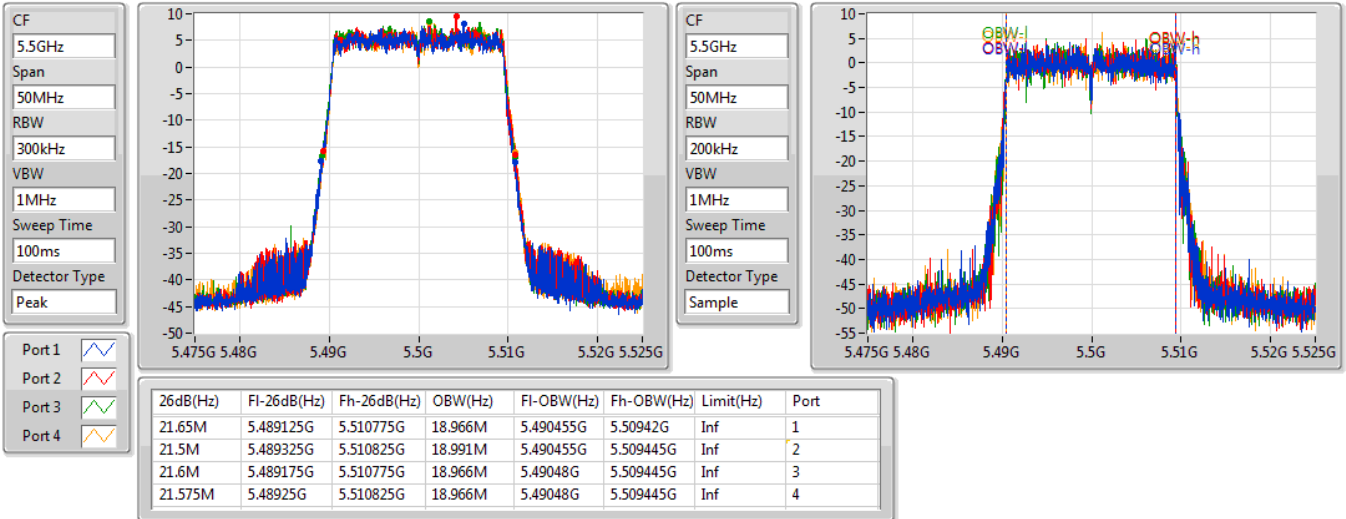

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5320MHz

10/05/2019

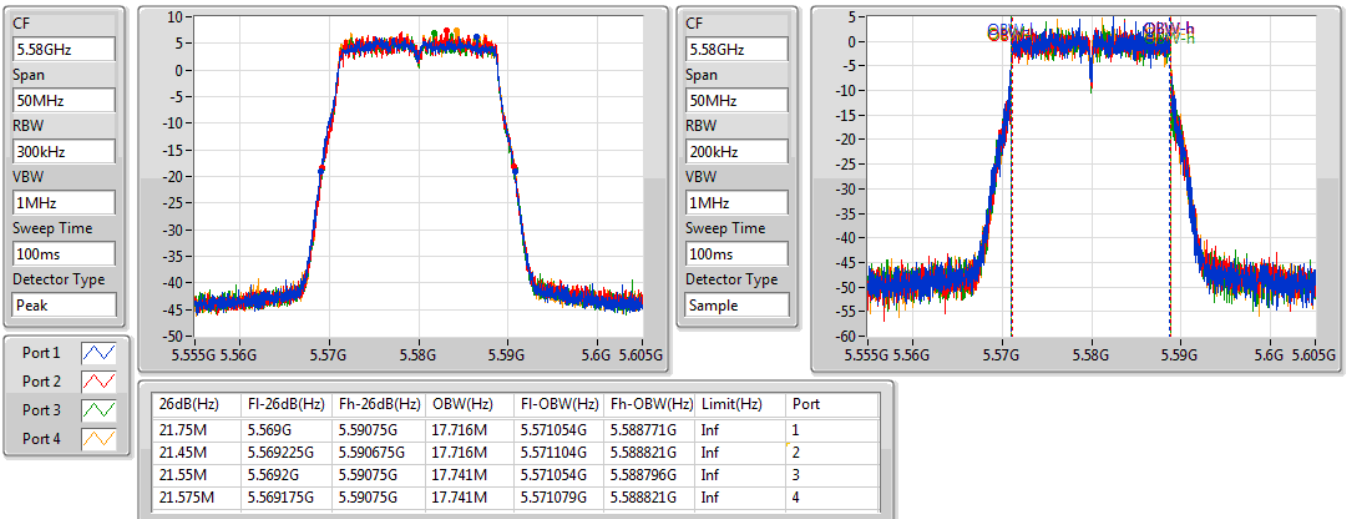


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5500MHz

10/05/2019

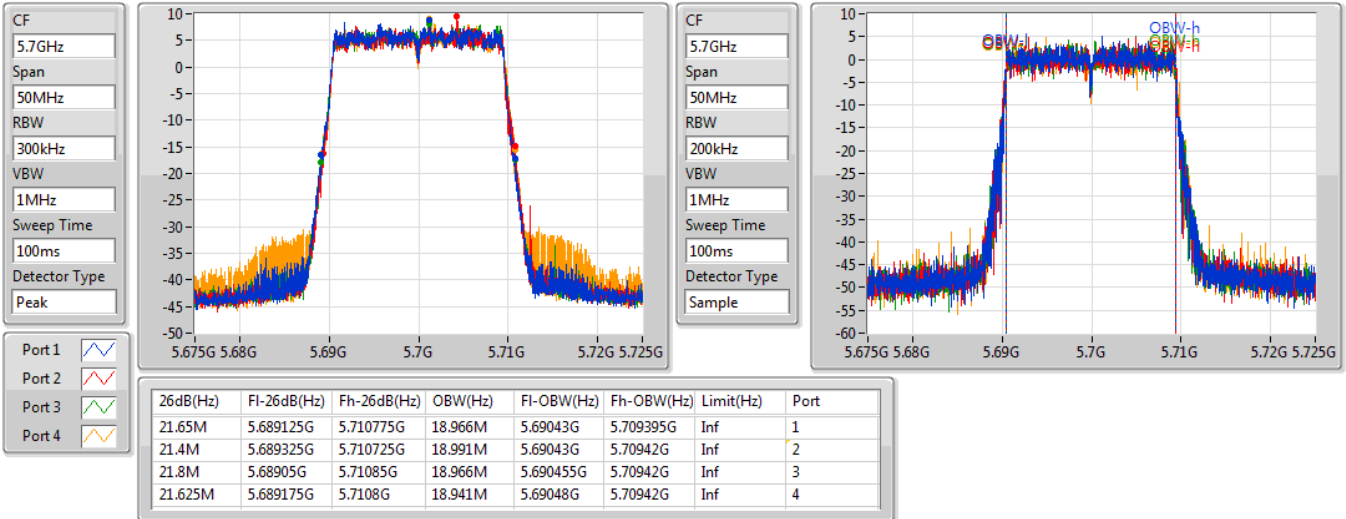

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5580MHz

10/05/2019

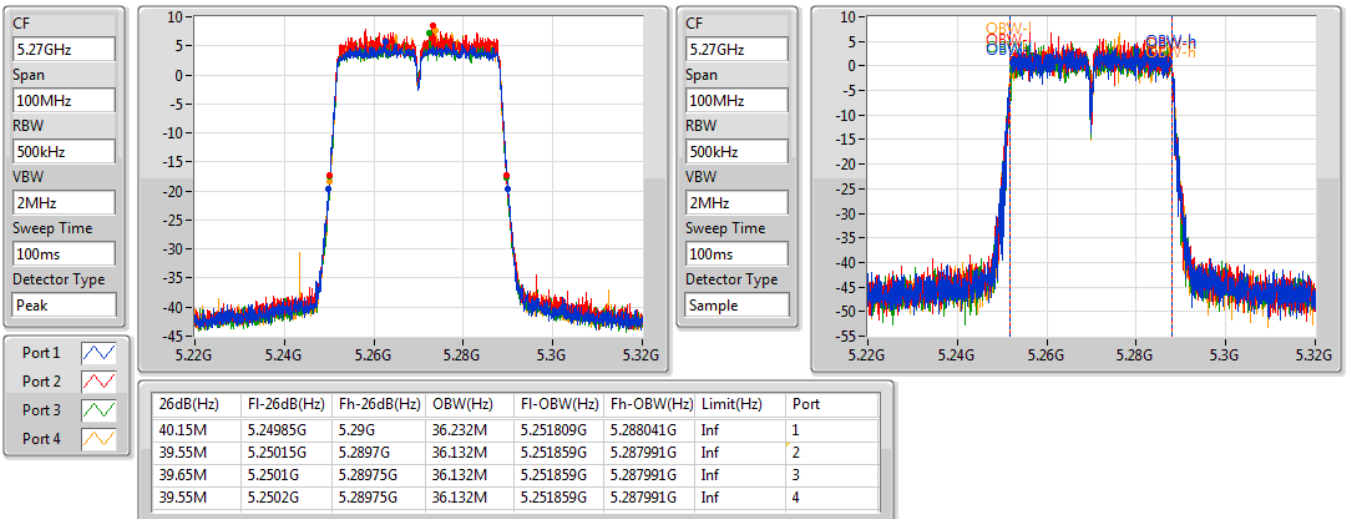


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5700MHz

10/05/2019

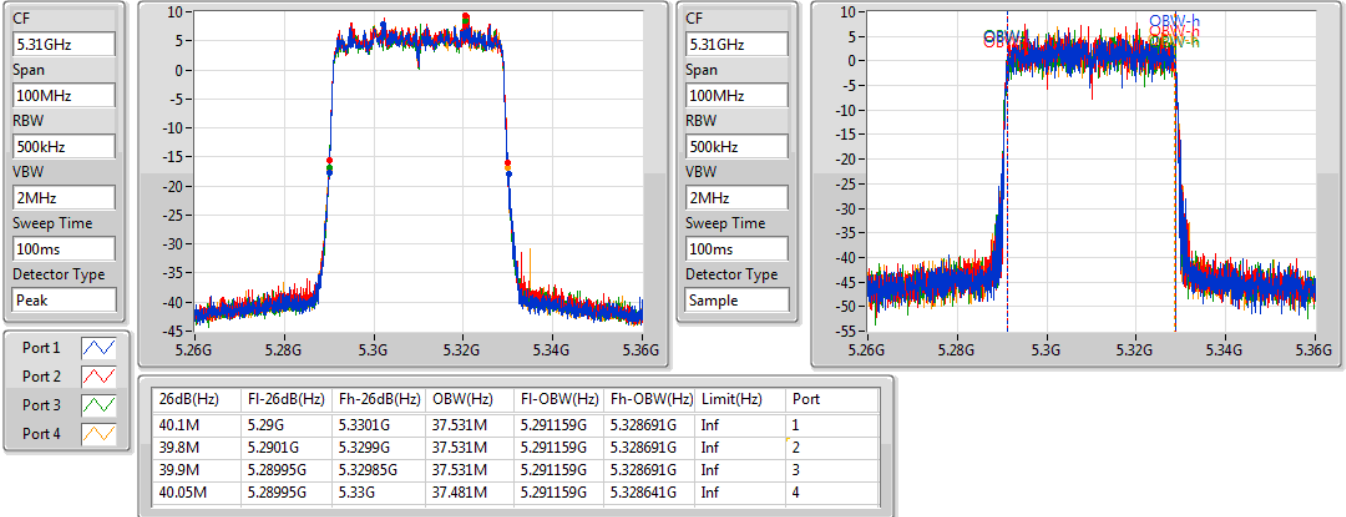

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5270MHz

10/05/2019

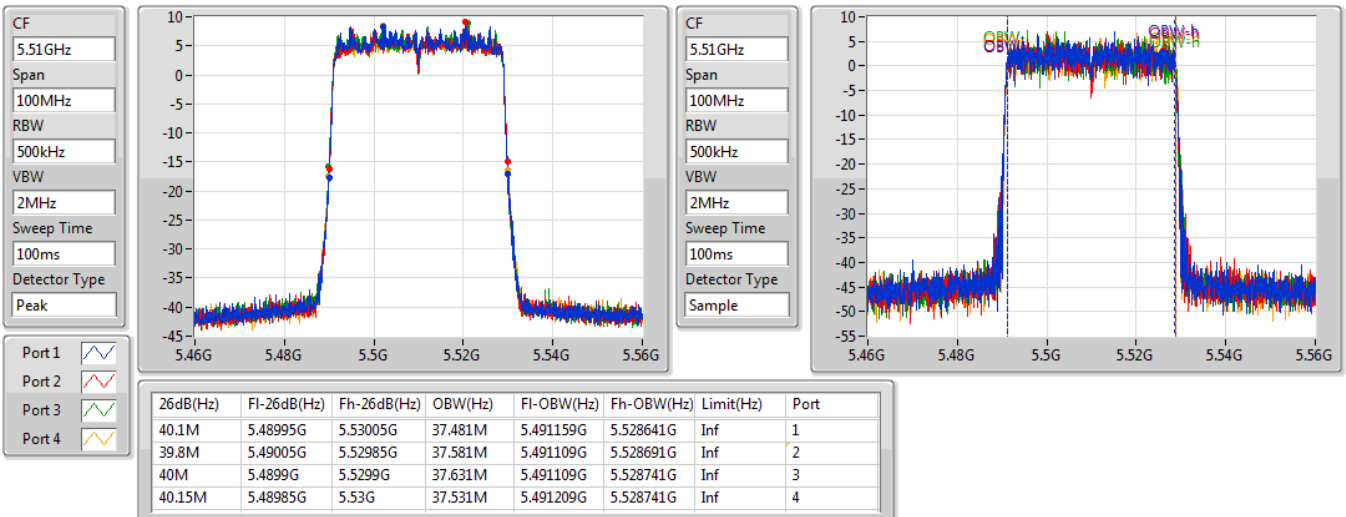


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5310MHz

10/05/2019

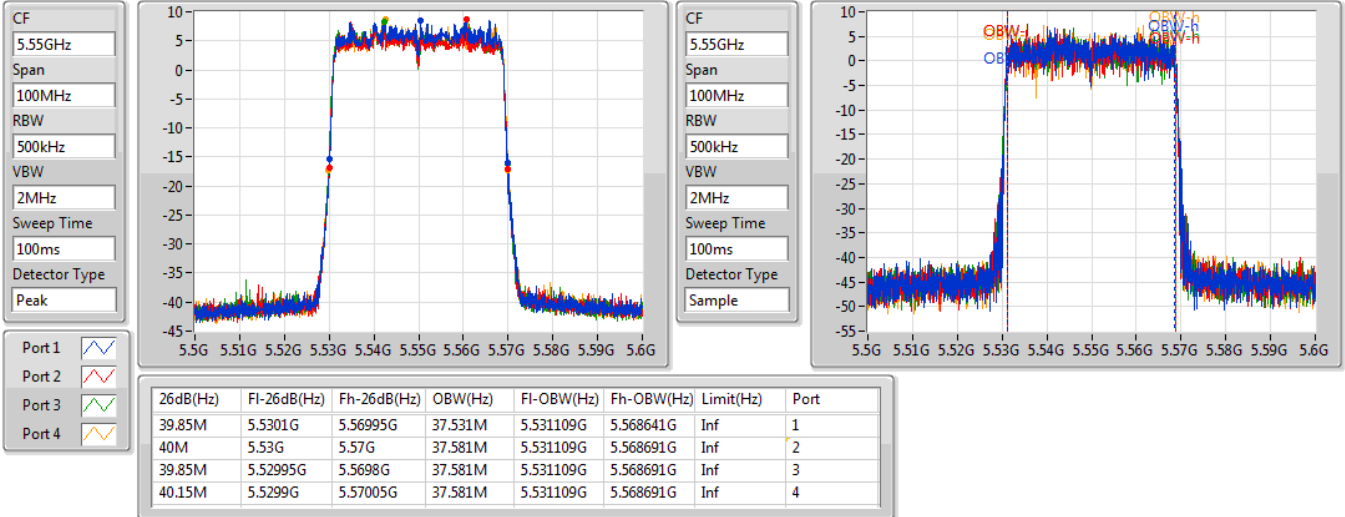

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5510MHz

10/05/2019

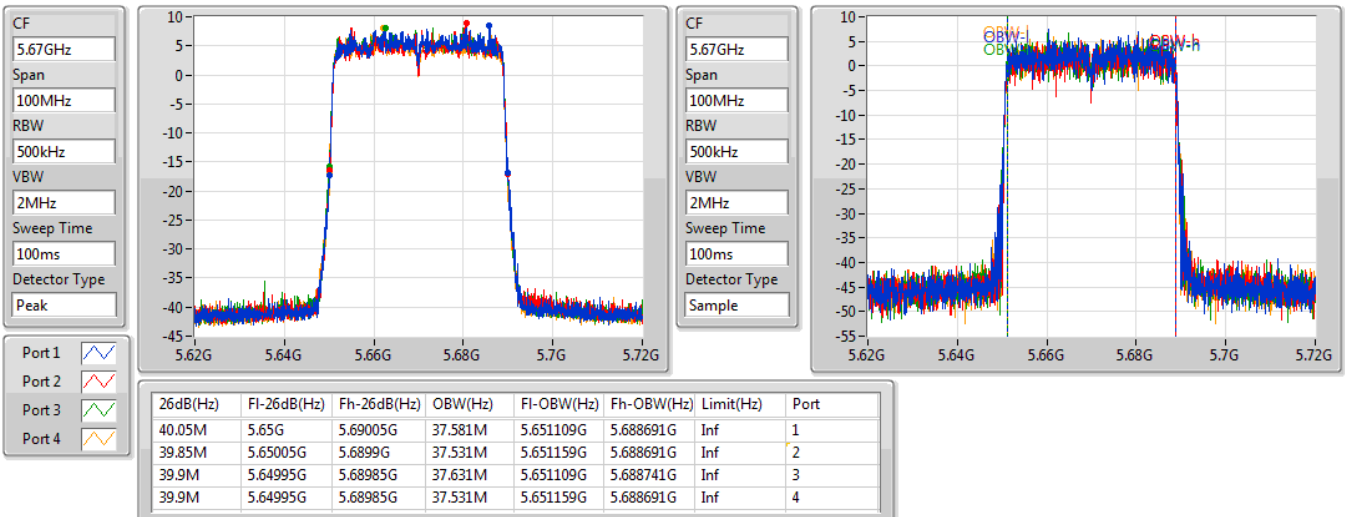


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5550MHz

10/05/2019

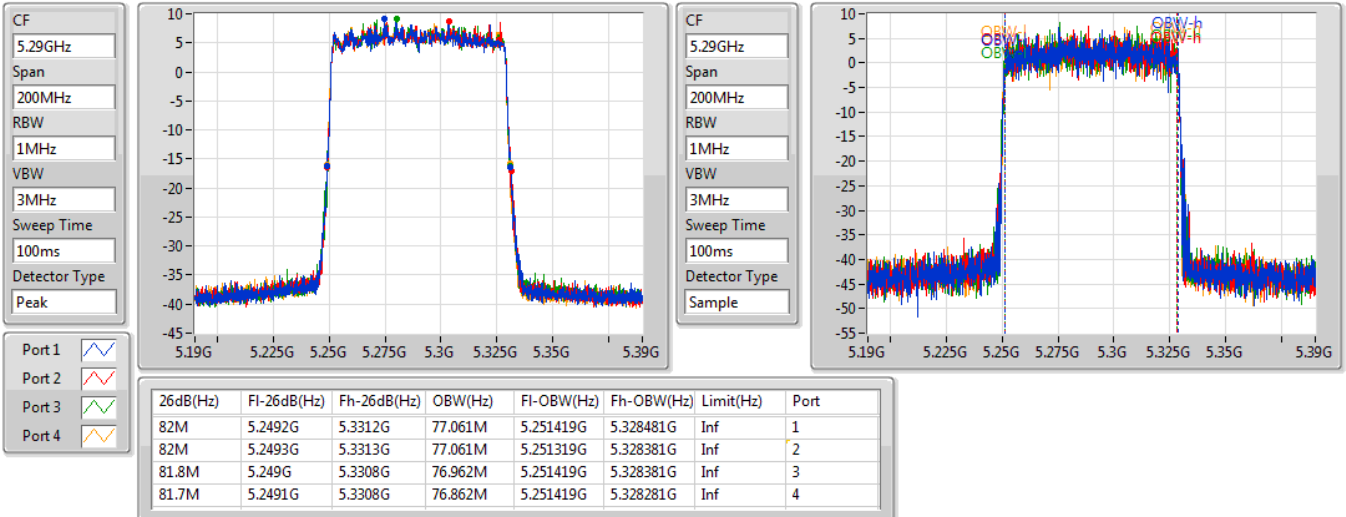

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5670MHz

10/05/2019

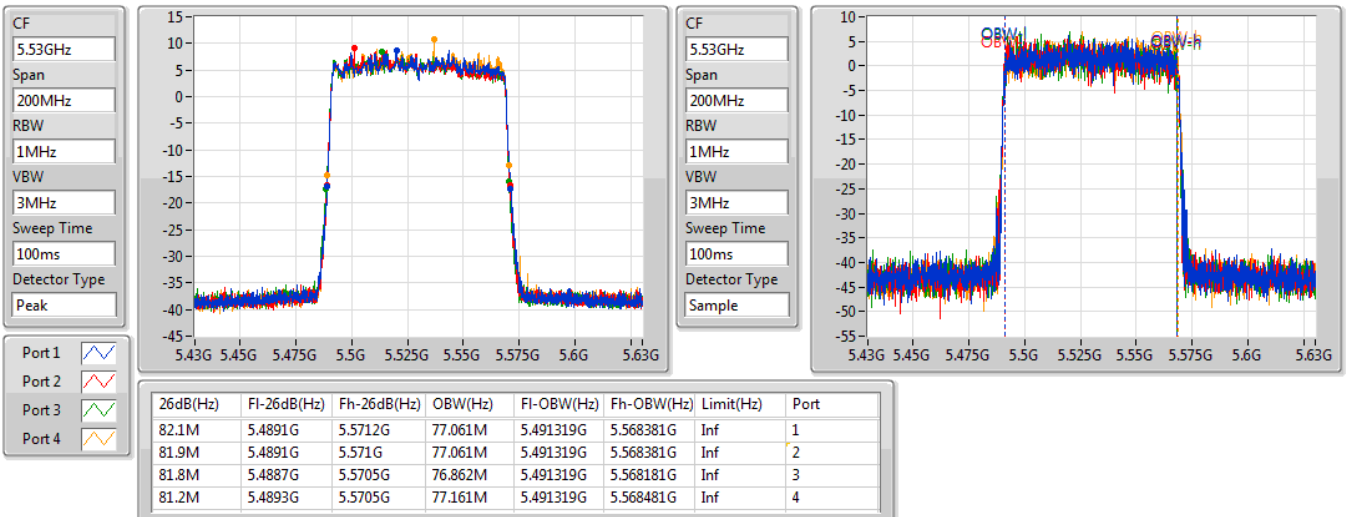


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5290MHz

10/05/2019

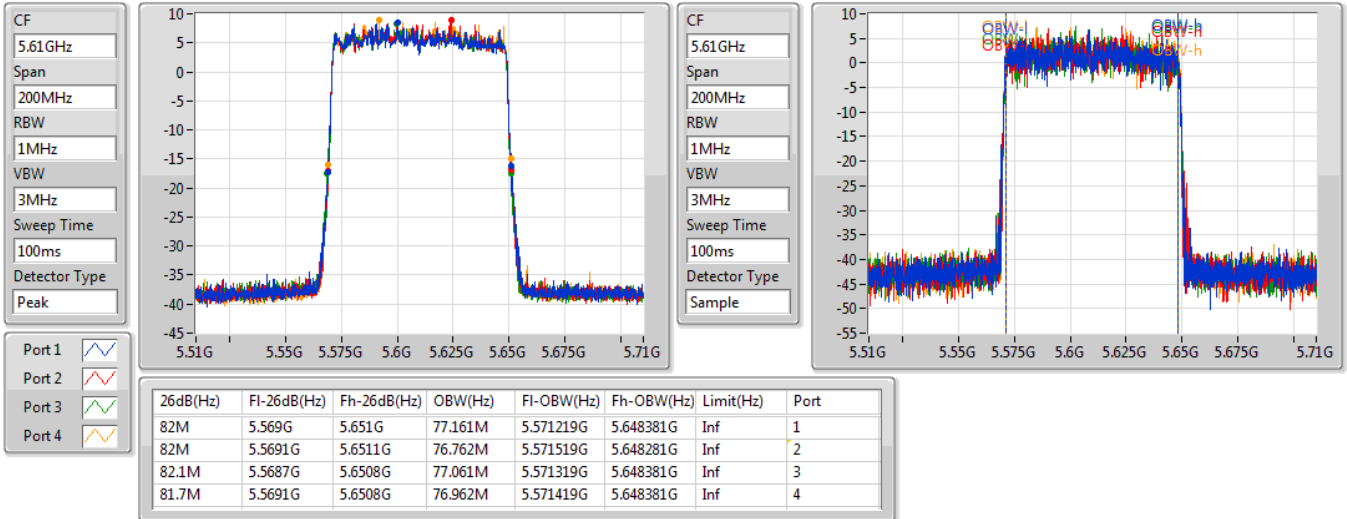

802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5530MHz

10/05/2019

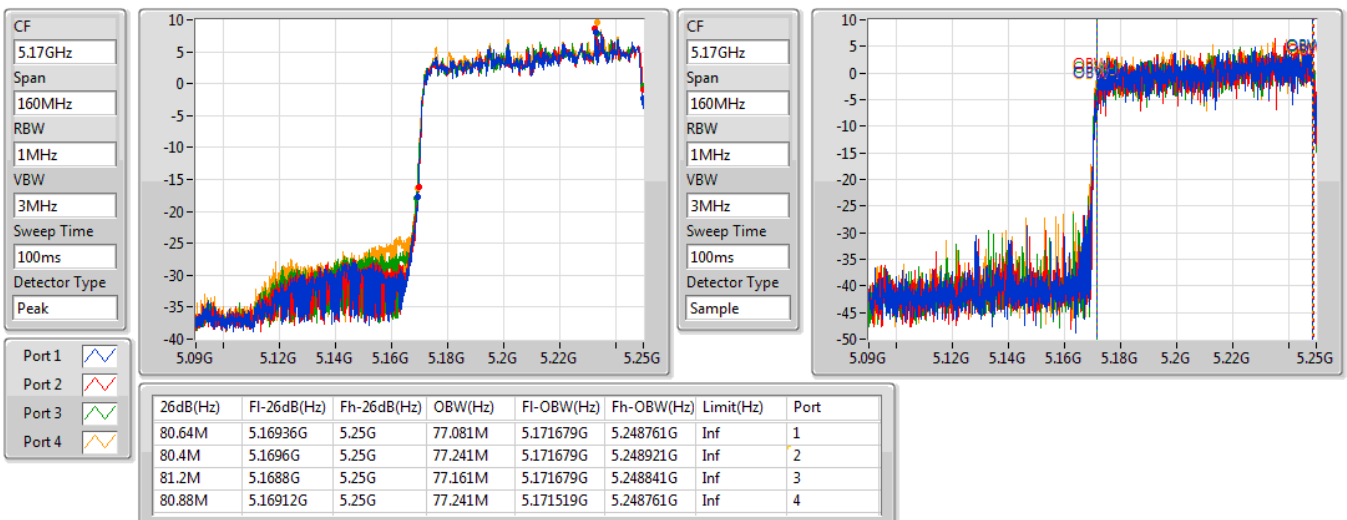


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5610MHz

10/05/2019

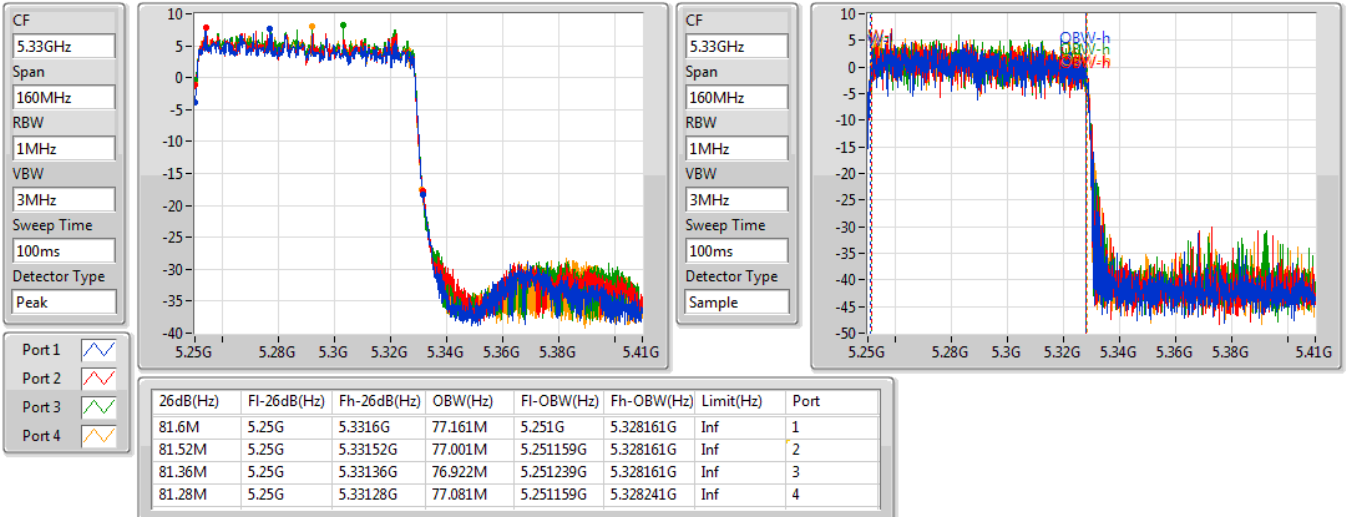

802.11ax HEW160-BF_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.15-5.25GHz

10/05/2019

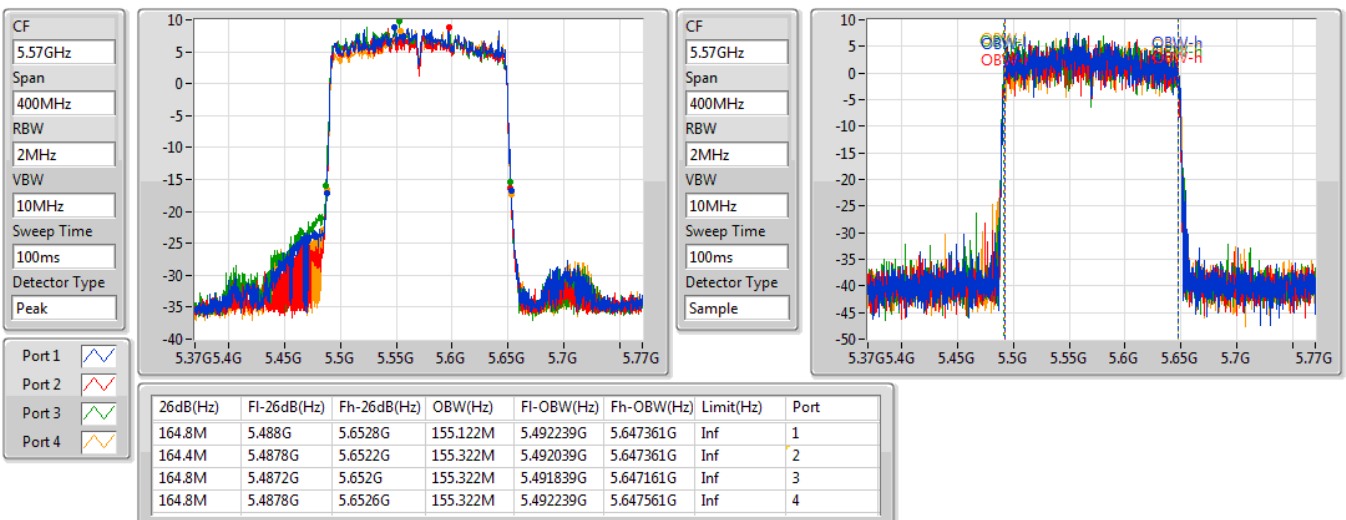


802.11ax HEW160-BF_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.25-5.35GHz

10/05/2019


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

10/05/2019





Average Power Result

Appendix B

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ac VHT160_Nss1,(MCS0)_4TX	18.94	0.07834	21.22	0.13243
802.11ax HEW160_Nss1,(MCS0)_4TX	18.76	0.07516	21.04	0.12706
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	20.68	0.11695	28.83	0.76384
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	21.37	0.13709	29.52	0.89536
5.25-5.35GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	21.60	0.14454	23.88	0.24434
802.11ac VHT20_Nss1,(MCS0)_4TX	21.92	0.15560	24.20	0.26303
802.11ac VHT40_Nss1,(MCS0)_4TX	23.62	0.23014	25.90	0.38905
802.11ac VHT80_Nss1,(MCS0)_4TX	23.64	0.23121	25.92	0.39084
802.11ac VHT160_Nss1,(MCS0)_4TX	19.27	0.08453	21.55	0.14289
802.11ax HEW20_Nss1,(MCS0)_4TX	22.26	0.16827	24.54	0.28445
802.11ax HEW40_Nss1,(MCS0)_4TX	23.86	0.24322	26.14	0.41115
802.11ax HEW80_Nss1,(MCS0)_4TX	23.94	0.24774	26.22	0.41879
802.11ax HEW160_Nss1,(MCS0)_4TX	19.63	0.09183	21.91	0.15524
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	21.53	0.14223	29.68	0.92897
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	21.40	0.13804	29.55	0.90157
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	21.31	0.13521	29.46	0.88308
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	21.29	0.13459	29.44	0.87902
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	21.78	0.15066	29.93	0.98401
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	21.78	0.15066	29.93	0.98401
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	21.61	0.14488	29.76	0.94624
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	21.82	0.15205	29.97	0.99312
5.47-5.725GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	21.83	0.15241	24.11	0.25763
802.11ac VHT20_Nss1,(MCS0)_4TX	21.79	0.15101	24.07	0.25527
802.11ac VHT40_Nss1,(MCS0)_4TX	23.78	0.23878	26.06	0.40365
802.11ac VHT80_Nss1,(MCS0)_4TX	23.72	0.23550	26.00	0.39811
802.11ac VHT160_Nss1,(MCS0)_4TX	20.97	0.12503	23.25	0.21135
802.11ax HEW20_Nss1,(MCS0)_4TX	21.87	0.15382	24.15	0.26002
802.11ax HEW40_Nss1,(MCS0)_4TX	23.91	0.24604	26.19	0.41591
802.11ax HEW80_Nss1,(MCS0)_4TX	23.90	0.24547	26.18	0.41495
802.11ax HEW160_Nss1,(MCS0)_4TX	21.25	0.13335	23.53	0.22542
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	21.37	0.13709	29.52	0.89536
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	21.40	0.13804	29.55	0.90157
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	21.45	0.13964	29.60	0.91201
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	21.23	0.13274	29.38	0.86696
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	21.76	0.14997	29.91	0.97949
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	21.65	0.14622	29.80	0.95499
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	21.64	0.14588	29.79	0.95280
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	21.52	0.14191	29.67	0.92683



Average Power Result

Appendix B

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	2.28	15.62	15.22	15.31	15.78	21.51	23.98	23.79	30.00
5300MHz	Pass	2.28	15.32	15.57	15.52	15.85	21.59	23.98	23.87	30.00
5320MHz	Pass	2.28	15.83	15.18	15.55	15.72	21.60	23.98	23.88	30.00
5500MHz	Pass	2.28	15.85	15.62	15.93	15.83	21.83	23.98	24.11	30.00
5580MHz	Pass	2.28	15.81	15.3	15.51	15.67	21.60	23.98	23.88	30.00
5700MHz	Pass	2.28	15.53	15.1	15.45	15.08	21.32	23.98	23.60	30.00
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	2.28	15.62	15.72	15.11	15.65	21.55	23.98	23.83	30.00
5300MHz	Pass	2.28	15.83	16.05	15.88	15.83	21.92	23.98	24.20	30.00
5320MHz	Pass	2.28	16.05	15.45	15.9	16	21.88	23.98	24.16	30.00
5500MHz	Pass	2.28	14.81	15	15.11	14.77	20.95	23.98	23.23	30.00
5580MHz	Pass	2.28	15.89	15.54	15.65	16	21.79	23.99	24.07	29.99
5700MHz	Pass	2.28	15.54	15.07	15.29	14.94	21.24	23.98	23.52	30.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	2.28	17.26	17.71	17.32	17.53	23.48	23.98	25.76	30.00
5310MHz	Pass	2.28	17.36	17.74	17.69	17.59	23.62	23.98	25.90	30.00
5510MHz	Pass	2.28	17.51	17.44	17.6	17.44	23.52	23.98	25.80	30.00
5550MHz	Pass	2.28	17.79	17.29	17.65	17.72	23.64	23.98	25.92	30.00
5670MHz	Pass	2.28	18.14	17.27	17.82	17.77	23.78	23.98	26.06	30.00
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	2.28	17.4	17.59	17.64	17.84	23.64	23.98	25.92	30.00
5530MHz	Pass	2.28	17.65	17.44	17.57	18	23.69	23.98	25.97	30.00
5610MHz	Pass	2.28	17.68	17.67	17.57	17.88	23.72	23.98	26.00	30.00
802.11ac VHT160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	2.28	13.09	12.83	12.57	13.16	18.94	30.00	21.22	36.00
5250MHz Straddle 5.25-5.35GHz	Pass	2.28	13.27	13.18	13.34	13.22	19.27	23.98	21.55	30.00
5570MHz	Pass	2.28	15.17	14.78	14.88	14.96	20.97	23.98	23.25	30.00
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	2.28	15.82	15.89	15.75	15.99	21.88	23.98	24.16	30.00
5300MHz	Pass	2.28	16.01	16.57	16.13	16.23	22.26	23.98	24.54	30.00
5320MHz	Pass	2.28	16.23	15.88	15.77	16.34	22.08	23.98	24.36	30.00
5500MHz	Pass	2.28	14.83	15.03	15.45	14.68	21.03	23.98	23.31	30.00
5580MHz	Pass	2.28	16.02	15.59	15.75	16.02	21.87	23.98	24.15	30.00
5700MHz	Pass	2.28	15.72	15.17	15.48	15.24	21.43	23.98	23.71	30.00
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	2.28	17.69	18.12	17.76	17.79	23.86	23.98	26.14	30.00
5310MHz	Pass	2.28	17.37	17.75	18.26	17.88	23.85	23.98	26.13	30.00
5510MHz	Pass	2.28	17.89	17.86	17.8	17.39	23.76	23.98	26.04	30.00
5550MHz	Pass	2.28	18.44	17.24	17.87	17.88	23.90	23.98	26.18	30.00
5670MHz	Pass	2.28	18.23	17.48	17.93	17.88	23.91	23.98	26.19	30.00
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	2.28	17.69	17.86	18.15	17.98	23.94	23.98	26.22	30.00
5530MHz	Pass	2.28	18.23	17.47	17.78	18	23.90	23.98	26.18	30.00



Average Power Result

Appendix B

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
5610MHz	Pass	2.28	17.92	17.58	17.78	18.1	23.87	23.98	26.15	30.00
802.11ax HEW160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	2.28	12.87	12.68	12.41	12.99	18.76	30.00	21.04	36.00
5250MHz Straddle 5.25-5.35GHz	Pass	2.28	13.48	13.68	13.86	13.4	19.63	23.98	21.91	30.00
5570MHz	Pass	2.28	15.37	15.02	15.38	15.12	21.25	23.98	23.53	30.00
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	8.15	15.42	15.5	15.03	15.61	21.42	21.83	29.57	30.00
5300MHz	Pass	8.15	15.38	15.54	15.48	15.55	21.51	21.83	29.66	30.00
5320MHz	Pass	8.15	15.68	15.29	15.43	15.61	21.53	21.83	29.68	30.00
5500MHz	Pass	8.15	15.3	15.32	15.62	15.15	21.37	21.83	29.52	30.00
5580MHz	Pass	8.15	15.32	15.06	15.3	15.65	21.36	21.83	29.51	30.00
5700MHz	Pass	8.15	15.27	15.02	15.53	15.14	21.26	21.83	29.41	30.00
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	8.15	15.18	15.44	15.45	15.44	21.40	21.83	29.55	30.00
5310MHz	Pass	8.15	15.16	15.41	15.31	15.53	21.38	21.83	29.53	30.00
5510MHz	Pass	8.15	15.14	15.45	15.41	15.3	21.35	21.83	29.50	30.00
5550MHz	Pass	8.15	15.56	15.01	15.47	15.47	21.40	21.83	29.55	30.00
5670MHz	Pass	8.15	15.48	15.11	15.46	15.4	21.39	21.83	29.54	30.00
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	8.15	15.23	15.31	15.25	15.37	21.31	21.83	29.46	30.00
5530MHz	Pass	8.15	15.25	15.17	15.26	15.34	21.28	21.83	29.43	30.00
5610MHz	Pass	8.15	15.32	15.38	15.52	15.48	21.45	21.83	29.60	30.00
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	8.15	14.6	14.41	14.5	15.08	20.68	27.85	28.83	36.00
5250MHz Straddle 5.25-5.35GHz	Pass	8.15	15.06	15.09	15.63	15.29	21.29	21.83	29.44	30.00
5570MHz	Pass	8.15	15.43	15.04	15.29	15.08	21.23	21.83	29.38	30.00
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	8.15	15.99	15.71	15.49	15.85	21.78	21.83	29.93	30.00
5300MHz	Pass	8.15	15.49	15.87	15.67	15.57	21.67	21.83	29.82	30.00
5320MHz	Pass	8.15	15.61	15.5	15.66	15.84	21.67	21.83	29.82	30.00
5500MHz	Pass	8.15	15.4	15.65	15.95	15.4	21.63	21.83	29.78	30.00
5580MHz	Pass	8.15	15.71	15.57	15.72	15.95	21.76	21.83	29.91	30.00
5700MHz	Pass	8.15	15.78	15.48	15.71	15.36	21.61	21.83	29.76	30.00
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	8.15	15.67	15.93	15.54	15.87	21.78	21.83	29.93	30.00
5310MHz	Pass	8.15	15.4	15.88	15.54	15.78	21.67	21.83	29.82	30.00
5510MHz	Pass	8.15	15.69	15.56	15.75	15.51	21.65	21.83	29.80	30.00
5550MHz	Pass	8.15	15.76	15.25	15.55	15.73	21.60	21.83	29.75	30.00
5670MHz	Pass	8.15	15.92	15.4	15.39	15.69	21.63	21.83	29.78	30.00
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	8.15	15.4	15.33	15.51	16.06	21.61	21.83	29.76	30.00
5530MHz	Pass	8.15	15.73	15.41	15.52	15.82	21.64	21.83	29.79	30.00
5610MHz	Pass	8.15	15.41	15.53	15.71	15.73	21.62	21.83	29.77	30.00
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	8.15	15.18	15.12	15.21	15.83	21.37	27.85	29.52	36.00



Average Power Result

Appendix B

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
5250MHz Straddle 5.25-5.35GHz	Pass	8.15	15.67	15.73	15.96	15.83	21.82	21.83	29.97	30.00
5570MHz	Pass	8.15	15.76	15.23	15.66	15.34	21.52	21.83	29.67	30.00

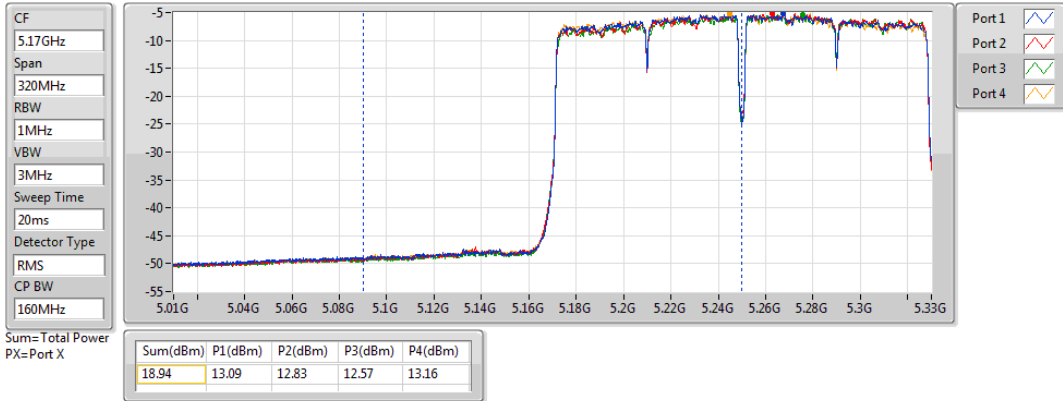
DG = Directional Gain; **Port X** = Port X output power

802.11ac VHT160_Nss1,(MCS0)_4TX

AV Power

5250MHz Straddle 5.15-5.25GHz

10/05/2019

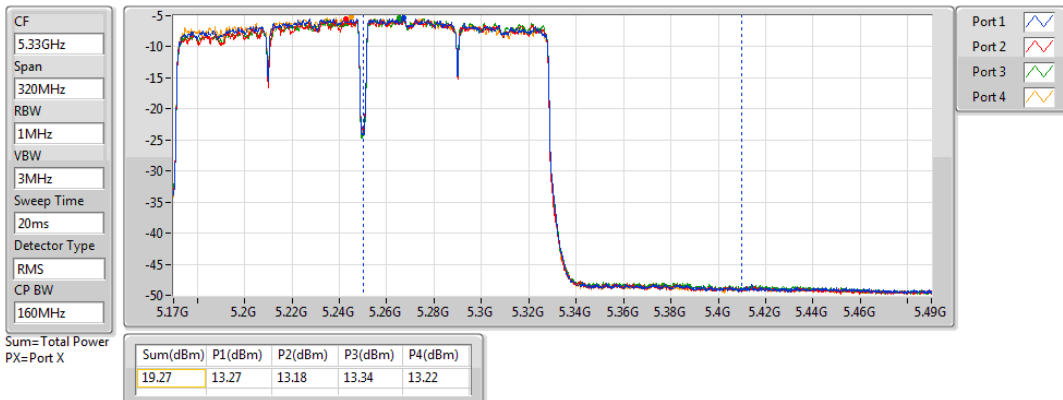


802.11ac VHT160_Nss1,(MCS0)_4TX

AV Power

5250MHz Straddle 5.25-5.35GHz

10/05/2019

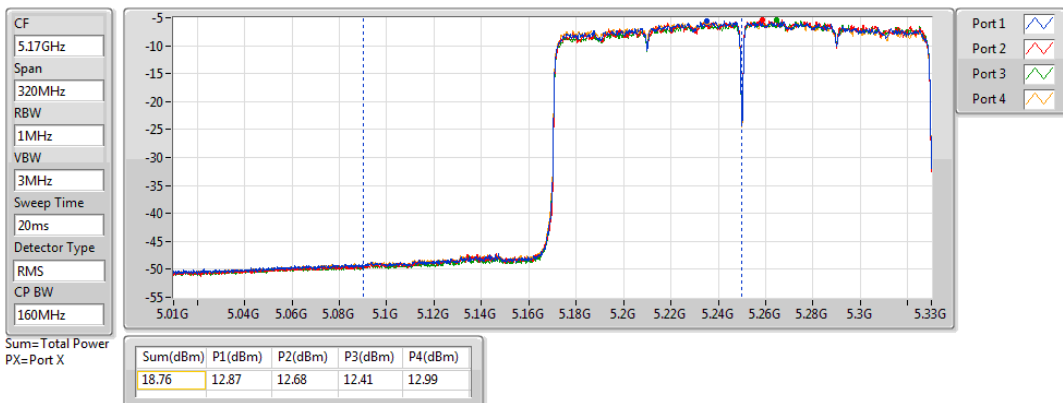


802.11ax HEW160_Nss1,(MCS0)_4TX

AV Power

5250MHz Straddle 5.15-5.25GHz

10/05/2019

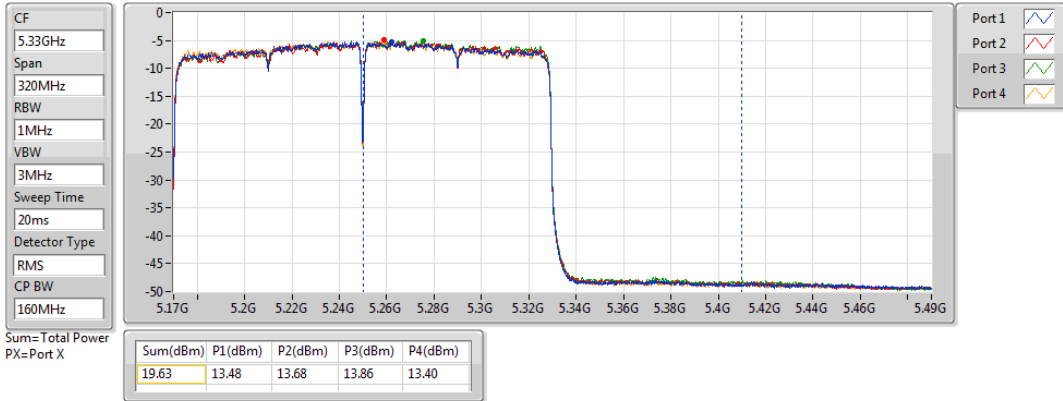


802.11ax HEW160_Nss1,(MCS0)_4TX

AV Power

5250MHz Straddle 5.25-5.35GHz

10/05/2019

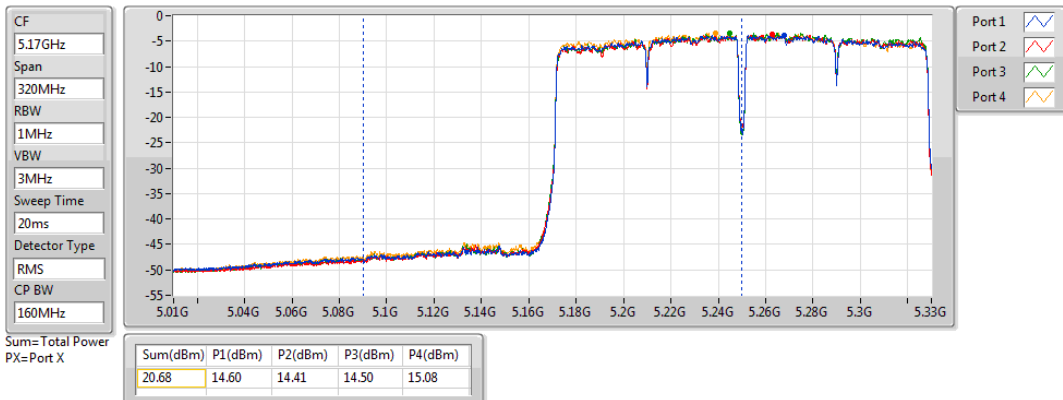


802.11ac VHT160-BF_Nss1,(MCS0)_4TX

AV Power

5250MHz Straddle 5.15-5.25GHz

10/05/2019

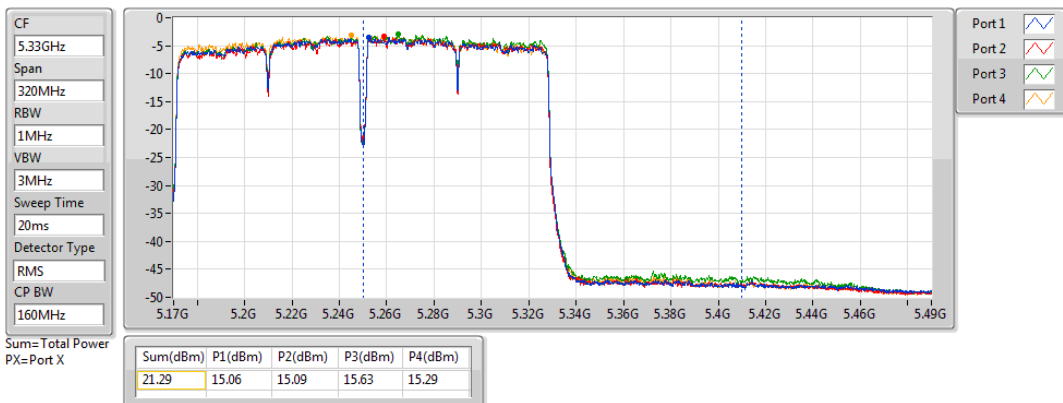


802.11ac VHT160-BF_Nss1,(MCS0)_4TX

AV Power

5250MHz Straddle 5.25-5.35GHz

10/05/2019

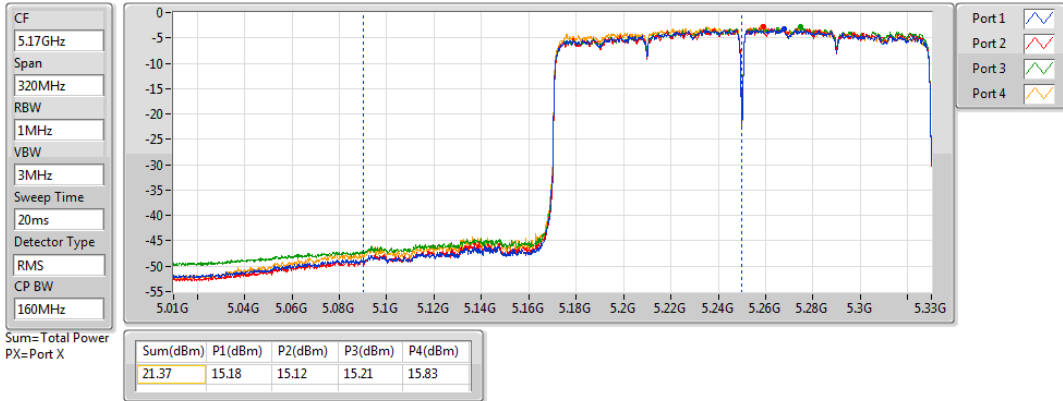


802.11ax HEW160-BF_Nss1,(MCS0)_4TX

AV Power

5250MHz Straddle 5.15-5.25GHz

10/05/2019

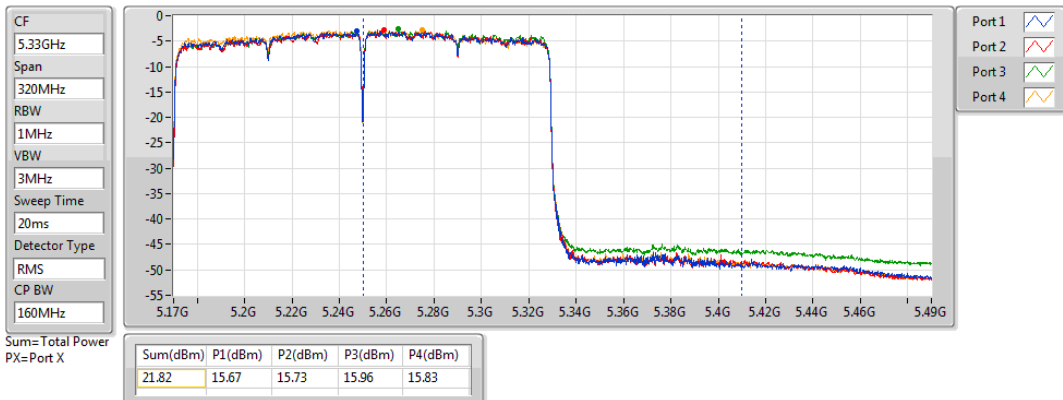


802.11ax HEW160-BF_Nss1,(MCS0)_4TX

AV Power

5250MHz Straddle 5.25-5.35GHz

10/05/2019



Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11ac VHT160_Nss1,(MCS0)_4TX	0.42	8.57
802.11ax HEW160_Nss1,(MCS0)_4TX	-0.06	8.09
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	1.83	9.98
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	2.51	10.66
5.25-5.35GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	8.82	16.97
802.11ac VHT20_Nss1,(MCS0)_4TX	8.57	16.72
802.11ac VHT40_Nss1,(MCS0)_4TX	7.61	15.76
802.11ac VHT80_Nss1,(MCS0)_4TX	5	13.15
802.11ac VHT160_Nss1,(MCS0)_4TX	0.42	8.57
802.11ax HEW20_Nss1,(MCS0)_4TX	8.76	16.91
802.11ax HEW40_Nss1,(MCS0)_4TX	7.87	16.02
802.11ax HEW80_Nss1,(MCS0)_4TX	5.25	13.40
802.11ax HEW160_Nss1,(MCS0)_4TX	0.5	8.65
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	8.33	16.48
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	5.48	13.63
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	2.47	10.62
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	2.01	10.16
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	8.51	16.66
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	5.7	13.85
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	2.6	10.75
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	2.67	10.82
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	8.83	16.98
802.11ac VHT20_Nss1,(MCS0)_4TX	8.48	16.63
802.11ac VHT40_Nss1,(MCS0)_4TX	7.76	15.91
802.11ac VHT80_Nss1,(MCS0)_4TX	5.05	13.20
802.11ac VHT160_Nss1,(MCS0)_4TX	-0.22	7.93
802.11ax HEW20_Nss1,(MCS0)_4TX	8.67	16.82
802.11ax HEW40_Nss1,(MCS0)_4TX	7.89	16.04
802.11ax HEW80_Nss1,(MCS0)_4TX	5.21	13.36
802.11ax HEW160_Nss1,(MCS0)_4TX	0.01	8.16
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	8.27	16.42
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	5.44	13.59
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	2.71	10.86
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	0.08	8.23
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	8.52	16.67
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	5.7	13.85
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	2.75	10.90
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	0.71	8.86

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

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	8.15	3.08	2.63	3.04	3.2	8.82	8.85	16.97	Inf
5300MHz	Pass	8.15	2.64	2.75	2.91	3.15	8.78	8.85	16.93	Inf
5320MHz	Pass	8.15	2.82	2.68	2.84	3.03	8.78	8.85	16.93	Inf
5500MHz	Pass	8.15	3.25	3.08	3.45	3.4	8.83	8.85	16.98	Inf
5580MHz	Pass	8.15	3.67	2.76	2.74	3.54	8.78	8.85	16.93	Inf
5700MHz	Pass	8.15	3.1	2.63	2.99	2.89	8.68	8.85	16.83	Inf
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	8.15	2.42	2.57	2.41	2.39	8.25	8.85	16.40	Inf
5300MHz	Pass	8.15	2.63	2.92	2.76	2.66	8.57	8.85	16.72	Inf
5320MHz	Pass	8.15	2.83	2.49	2.86	2.94	8.53	8.85	16.68	Inf
5500MHz	Pass	8.15	1.63	1.75	2.04	1.7	7.45	8.85	15.60	Inf
5580MHz	Pass	8.15	3.01	2.37	2.62	2.96	8.48	8.85	16.63	Inf
5700MHz	Pass	8.15	2.56	2.01	2.02	2.02	7.90	8.85	16.05	Inf
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	8.15	1.37	1.77	1.76	1.7	7.49	8.85	15.64	Inf
5310MHz	Pass	8.15	1.4	2.08	2.13	1.79	7.61	8.85	15.76	Inf
5510MHz	Pass	8.15	1.65	2	1.91	1.69	7.63	8.85	15.78	Inf
5550MHz	Pass	8.15	2.26	1.73	1.84	2.16	7.76	8.85	15.91	Inf
5670MHz	Pass	8.15	2.34	1.36	2.01	2.31	7.75	8.85	15.90	Inf
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	8.15	-1.18	-0.67	-0.7	-0.83	5.00	8.85	13.15	Inf
5530MHz	Pass	8.15	-0.59	-0.91	-0.81	-0.33	5.05	8.85	13.20	Inf
5610MHz	Pass	8.15	-0.93	-0.84	-1.18	-0.51	4.89	8.85	13.04	Inf
802.11ac VHT160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	8.15	-5.33	-5.59	-5.53	-5.25	0.42	14.85	8.57	Inf
5250MHz Straddle 5.25-5.35GHz	Pass	8.15	-5.33	-5.56	-5.12	-5.4	0.42	8.85	8.57	Inf
5570MHz	Pass	8.15	-5.68	-6.43	-5.75	-5.91	-0.22	8.85	7.93	Inf
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	8.15	2.68	3.08	2.98	2.7	8.74	8.85	16.89	Inf
5300MHz	Pass	8.15	2.75	2.93	3.13	2.98	8.72	8.85	16.87	Inf
5320MHz	Pass	8.15	3.04	2.82	2.93	3.17	8.76	8.85	16.91	Inf
5500MHz	Pass	8.15	2.18	2.12	2.62	2.12	7.94	8.85	16.09	Inf
5580MHz	Pass	8.15	3.29	2.44	2.7	3.22	8.67	8.85	16.82	Inf
5700MHz	Pass	8.15	2.61	1.92	2.27	2.27	8.01	8.85	16.16	Inf
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	8.15	1.63	2.04	2.04	1.82	7.70	8.85	15.85	Inf
5310MHz	Pass	8.15	1.45	2.3	2.36	2.37	7.87	8.85	16.02	Inf
5510MHz	Pass	8.15	2.18	1.64	1.88	1.76	7.56	8.85	15.71	Inf
5550MHz	Pass	8.15	2.63	1.49	2.11	2.35	7.89	8.85	16.04	Inf
5670MHz	Pass	8.15	2.59	1.46	2.1	2.55	7.87	8.85	16.02	Inf
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	8.15	-0.91	-0.18	-0.28	-0.42	5.25	8.85	13.40	Inf
5530MHz	Pass	8.15	-0.36	-0.88	-0.28	-0.24	5.21	8.85	13.36	Inf

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
5610MHz	Pass	8.15	-0.35	-0.45	-0.9	-0.18	5.19	8.85	13.34	Inf
802.11ax HEW160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	8.15	-5.83	-5.83	-6.03	-5.66	-0.06	14.85	8.09	Inf
5250MHz Straddle 5.25-5.35GHz	Pass	8.15	-5.42	-5.21	-5	-5.49	0.50	8.85	8.65	Inf
5570MHz	Pass	8.15	-5.41	-6.33	-5.68	-5.52	0.01	8.85	8.16	Inf
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	8.15	2.18	2.41	2.31	2.5	8.18	8.85	16.33	Inf
5300MHz	Pass	8.15	2.31	2.44	2.55	2.54	8.27	8.85	16.42	Inf
5320MHz	Pass	8.15	2.52	2.51	2.51	2.67	8.33	8.85	16.48	Inf
5500MHz	Pass	8.15	2.26	2.31	2.91	2.36	8.18	8.85	16.33	Inf
5580MHz	Pass	8.15	2.51	2.45	2.33	2.69	8.27	8.85	16.42	Inf
5700MHz	Pass	8.15	2.25	2.02	2.46	2.31	8.00	8.85	16.15	Inf
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	8.15	-0.96	-0.23	-0.09	-0.44	5.40	8.85	13.55	Inf
5310MHz	Pass	8.15	-0.74	0.04	-0.19	-0.13	5.48	8.85	13.63	Inf
5510MHz	Pass	8.15	-0.22	-0.48	0.01	-0.33	5.44	8.85	13.59	Inf
5550MHz	Pass	8.15	-0.11	-0.82	-0.4	-0.17	5.38	8.85	13.53	Inf
5670MHz	Pass	8.15	-0.2	-0.87	-0.32	-0.18	5.36	8.85	13.51	Inf
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	8.15	-3.48	-3.18	-3.14	-3.27	2.47	8.85	10.62	Inf
5530MHz	Pass	8.15	-3.03	-3.1	-3.16	-3.2	2.57	8.85	10.72	Inf
5610MHz	Pass	8.15	-3.43	-3.16	-3.11	-2.93	2.71	8.85	10.86	Inf
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	8.15	-4.16	-4.03	-4.13	-3.66	1.83	14.85	9.98	Inf
5250MHz Straddle 5.25-5.35GHz	Pass	8.15	-4.16	-4.07	-3.53	-3.47	2.01	8.85	10.16	Inf
5570MHz	Pass	8.15	-5.48	-5.99	-5.43	-5.62	0.08	8.85	8.23	Inf
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	8.15	2.66	2.58	2.39	2.59	8.41	8.85	16.56	Inf
5300MHz	Pass	8.15	2.4	2.98	2.61	2.42	8.41	8.85	16.56	Inf
5320MHz	Pass	8.15	2.92	2.59	2.68	2.79	8.51	8.85	16.66	Inf
5500MHz	Pass	8.15	2.27	2.49	2.82	2.51	8.19	8.85	16.34	Inf
5580MHz	Pass	8.15	3.06	2.41	2.62	3.08	8.52	8.85	16.67	Inf
5700MHz	Pass	8.15	2.69	2.47	2.56	2.5	8.30	8.85	16.45	Inf
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	8.15	-0.79	-0.12	-0.11	-0.1	5.55	8.85	13.70	Inf
5310MHz	Pass	8.15	-0.66	-0.02	0.18	-0.04	5.70	8.85	13.85	Inf
5510MHz	Pass	8.15	-0.16	-0.18	0.03	0.16	5.70	8.85	13.85	Inf
5550MHz	Pass	8.15	0.04	-0.7	-0.08	0.06	5.59	8.85	13.74	Inf
5670MHz	Pass	8.15	0	-0.71	-0.32	-0.1	5.56	8.85	13.71	Inf
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	8.15	-3.35	-3.15	-3.13	-2.9	2.60	8.85	10.75	Inf
5530MHz	Pass	8.15	-3.18	-3.17	-2.91	-2.73	2.75	8.85	10.90	Inf
5610MHz	Pass	8.15	-3.29	-3.27	-3.27	-2.79	2.60	8.85	10.75	Inf
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-



PSD Result

Appendix C

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	Port 3 (dBm/RBW)	Port 4 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
5250MHz Straddle 5.15-5.25GHz	Pass	8.15	-3.56	-3.35	-3.16	-3.18	2.51	14.85	10.66	Inf
5250MHz Straddle 5.25-5.35GHz	Pass	8.15	-3.57	-3.14	-2.91	-3.04	2.67	8.85	10.82	Inf
5570MHz	Pass	8.15	-4.61	-5.51	-4.94	-5.02	0.71	8.85	8.86	Inf

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

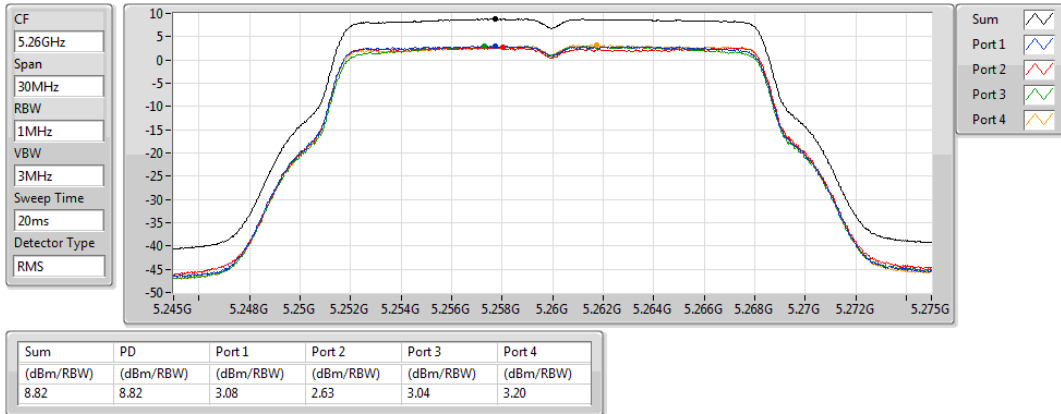
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

802.11a_Nss1,(6Mbps)_4TX

PSD

5260MHz

09/05/2019

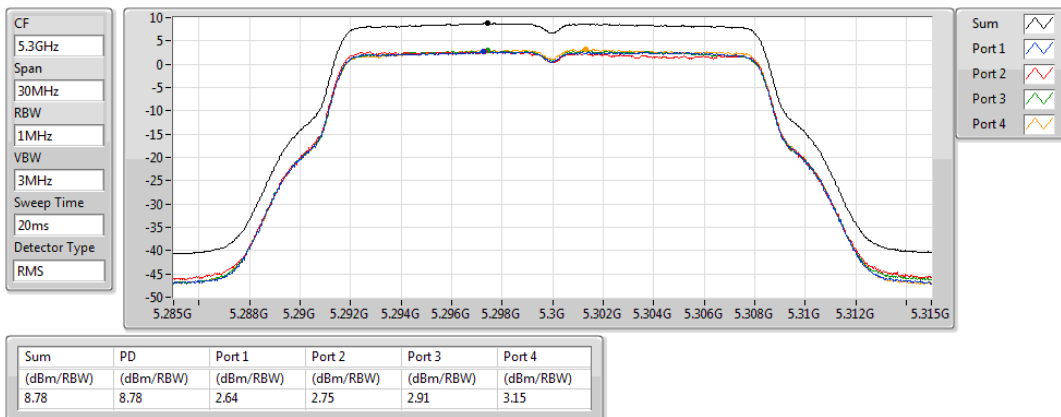


802.11a_Nss1,(6Mbps)_4TX

PSD

5300MHz

09/05/2019

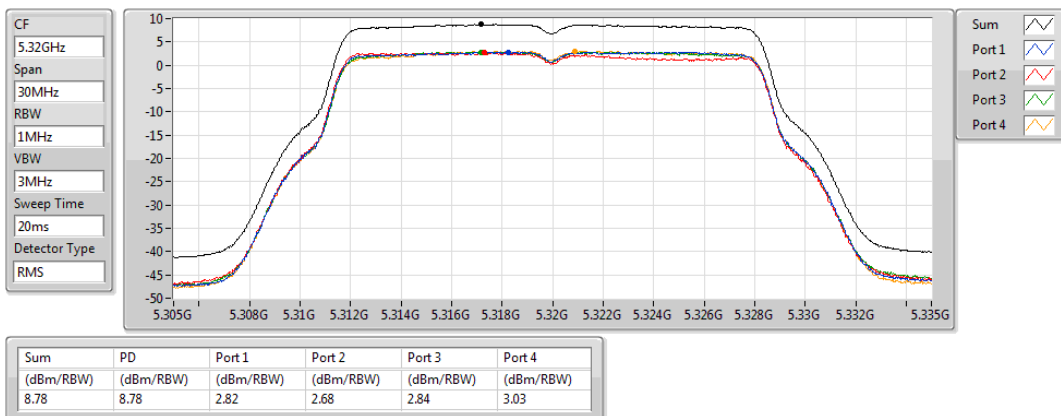


802.11a_Nss1,(6Mbps)_4TX

PSD

5320MHz

09/05/2019

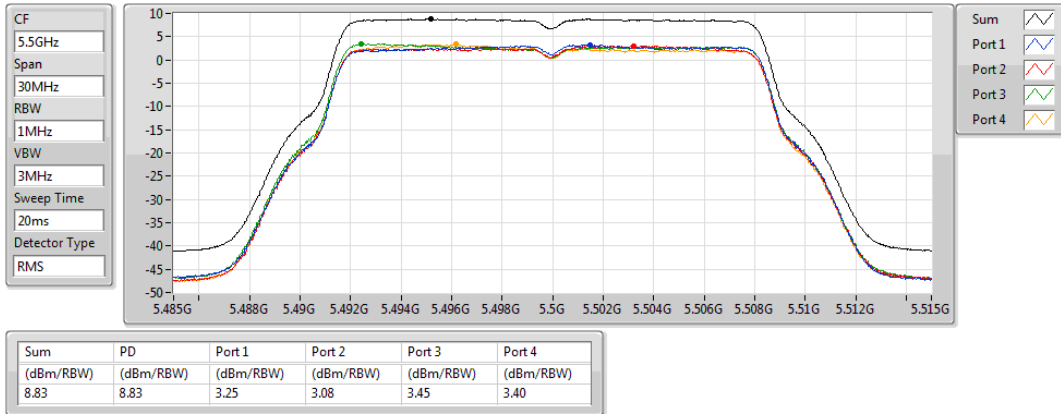


802.11a_Nss1,(6Mbps)_4TX

PSD

5500MHz

09/05/2019

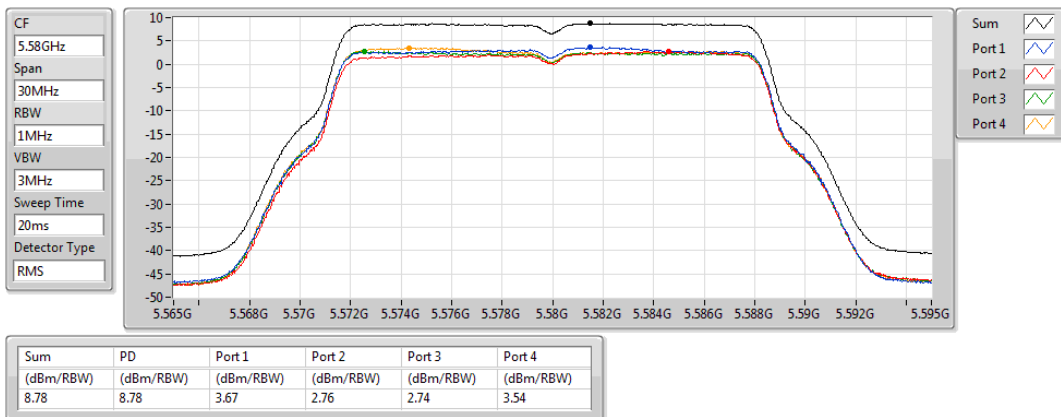


802.11a_Nss1,(6Mbps)_4TX

PSD

5580MHz

09/05/2019

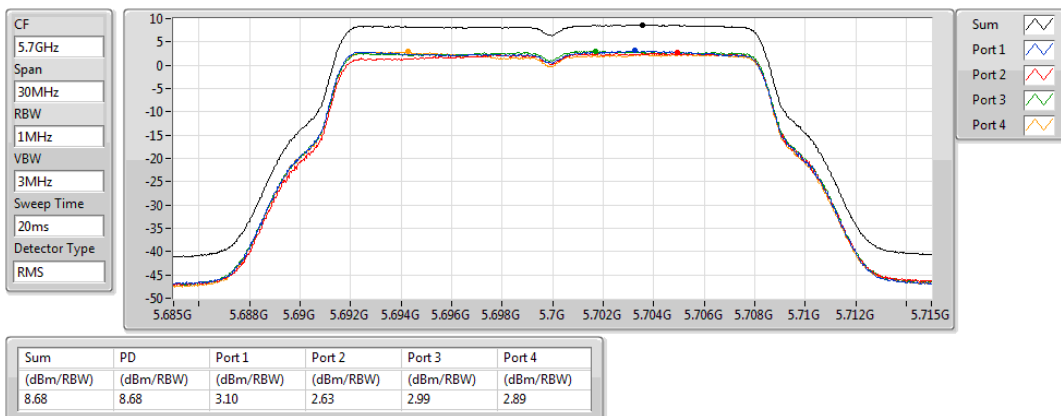


802.11a_Nss1,(6Mbps)_4TX

PSD

5700MHz

09/05/2019

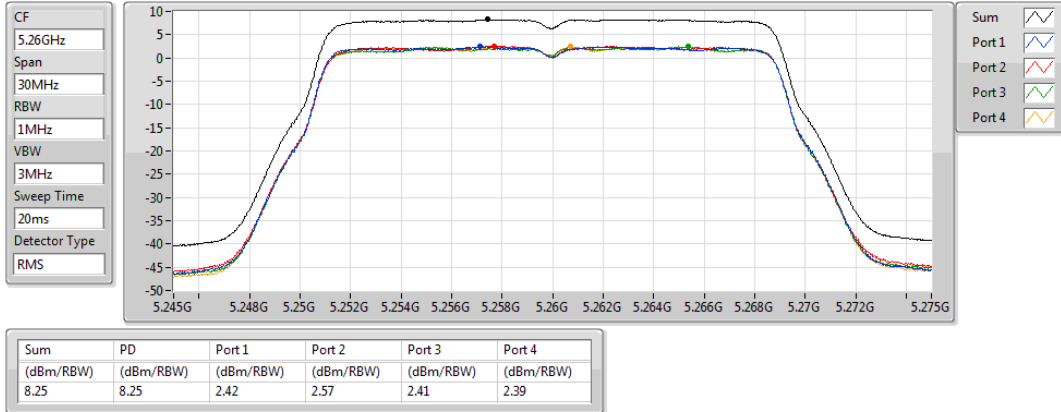


802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

5260MHz

10/05/2019

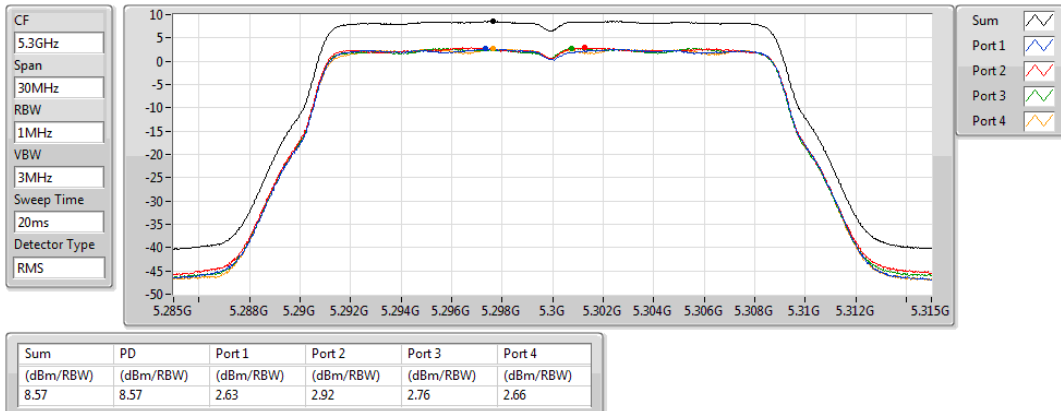


802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

5300MHz

10/05/2019

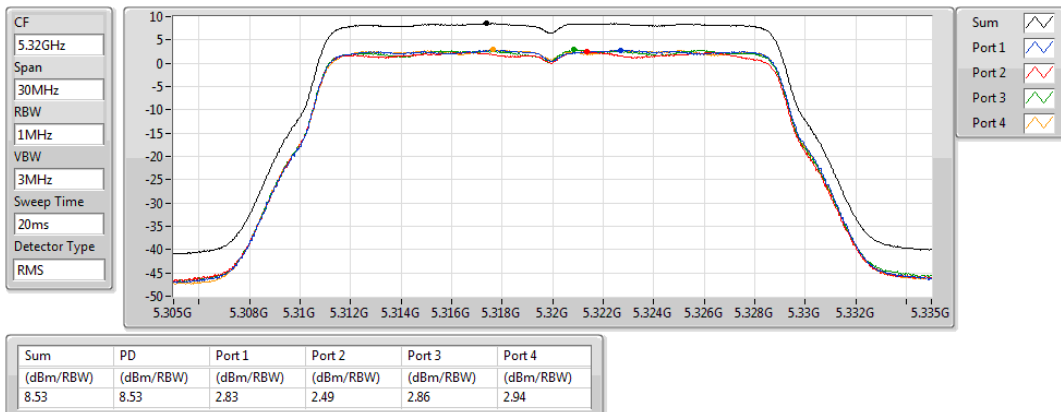


802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

5320MHz

10/05/2019

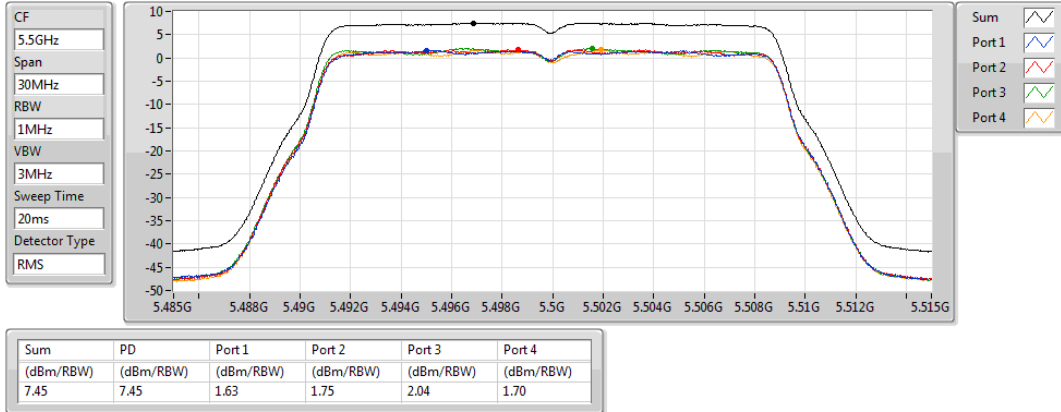


802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

5500MHz

10/05/2019

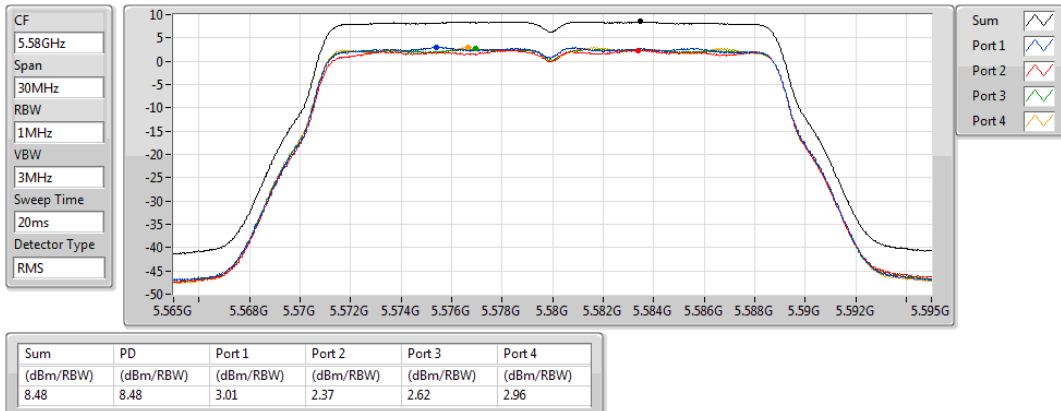


802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

5580MHz

10/05/2019

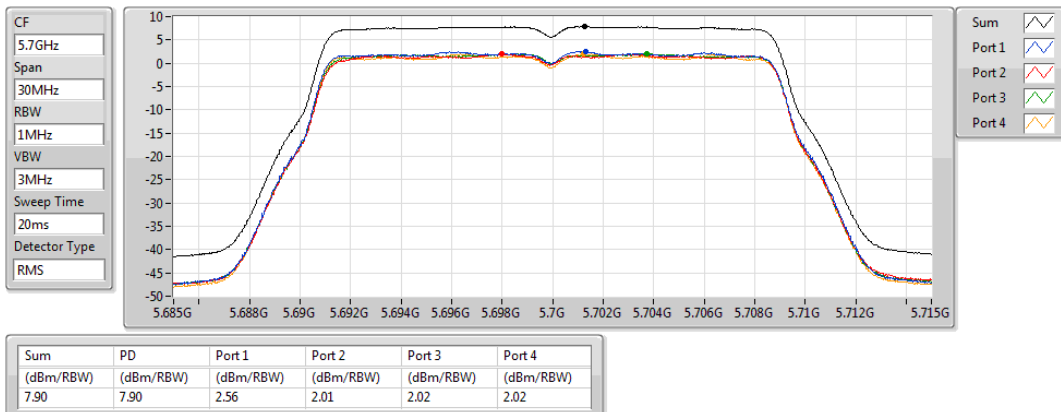


802.11ac VHT20_Nss1,(MCS0)_4TX

PSD

5700MHz

10/05/2019

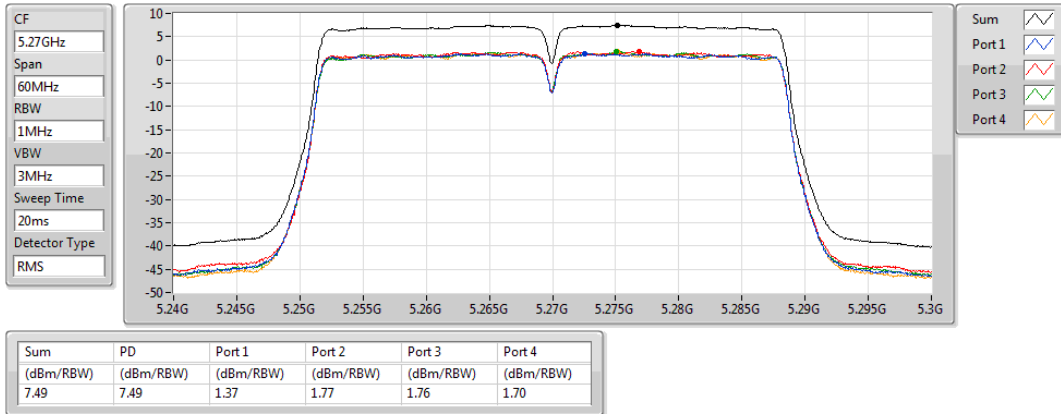


802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

5270MHz

10/05/2019

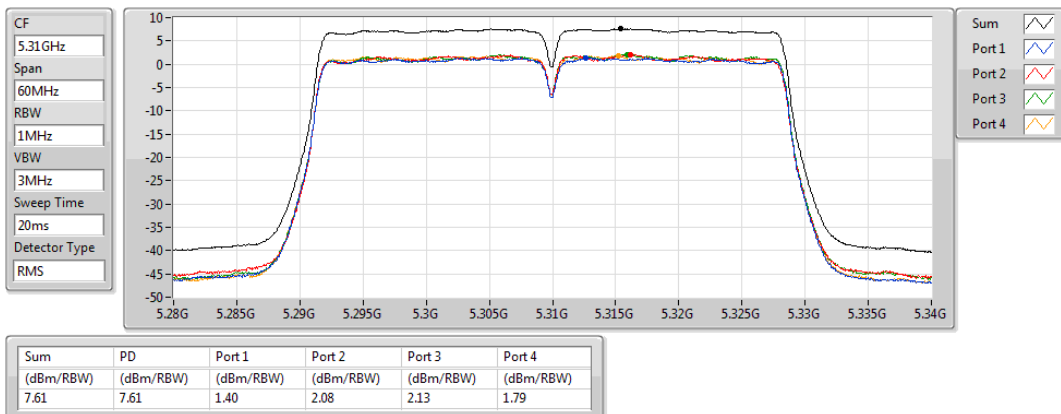


802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

5310MHz

10/05/2019

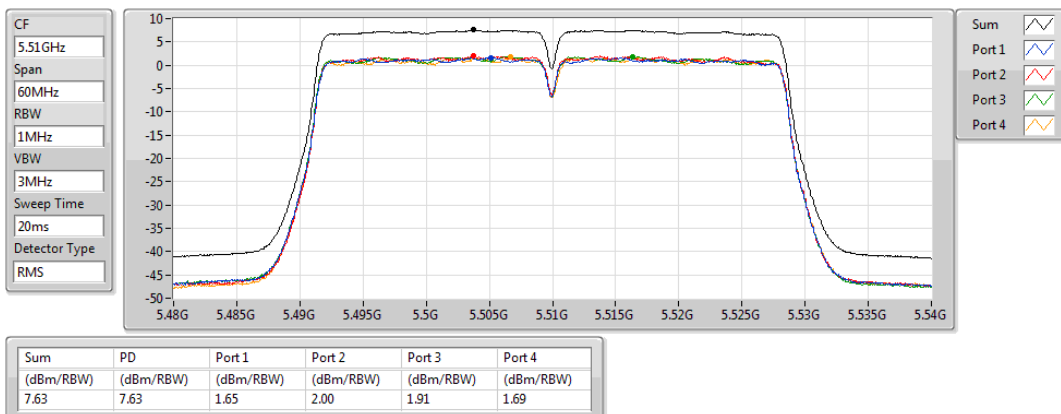


802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

5510MHz

10/05/2019

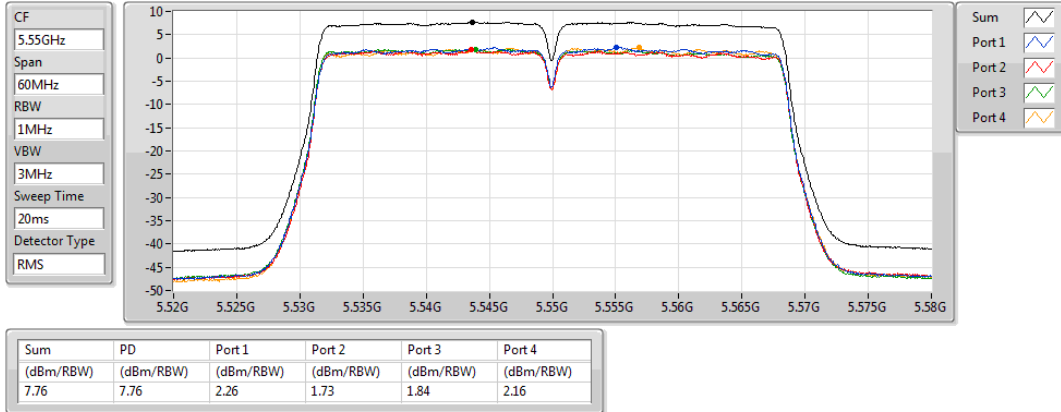


802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

5550MHz

10/05/2019

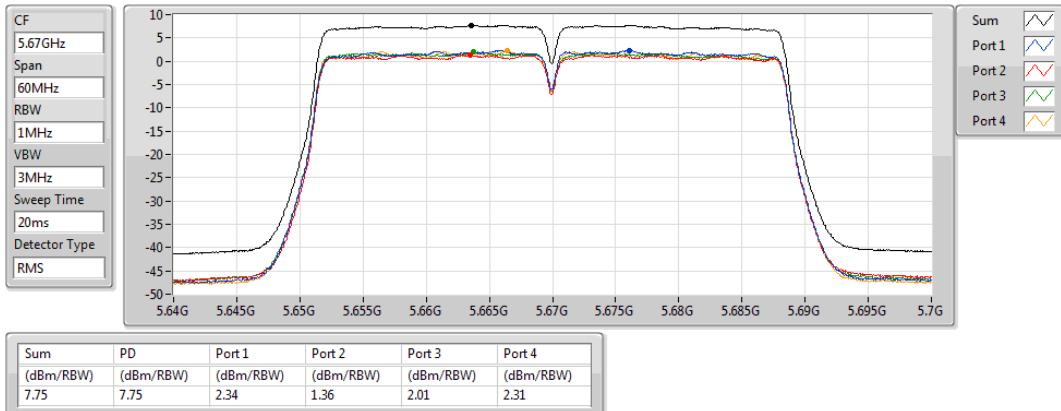


802.11ac VHT40_Nss1,(MCS0)_4TX

PSD

5670MHz

10/05/2019

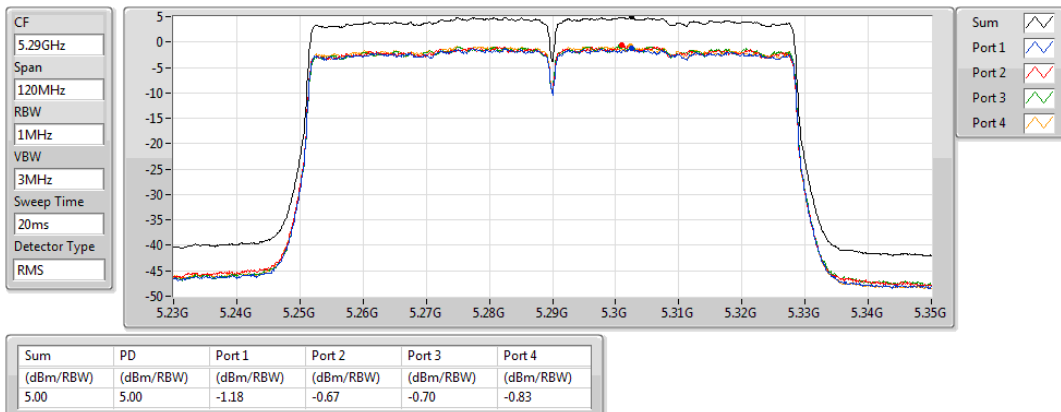


802.11ac VHT80_Nss1,(MCS0)_4TX

PSD

5290MHz

10/05/2019

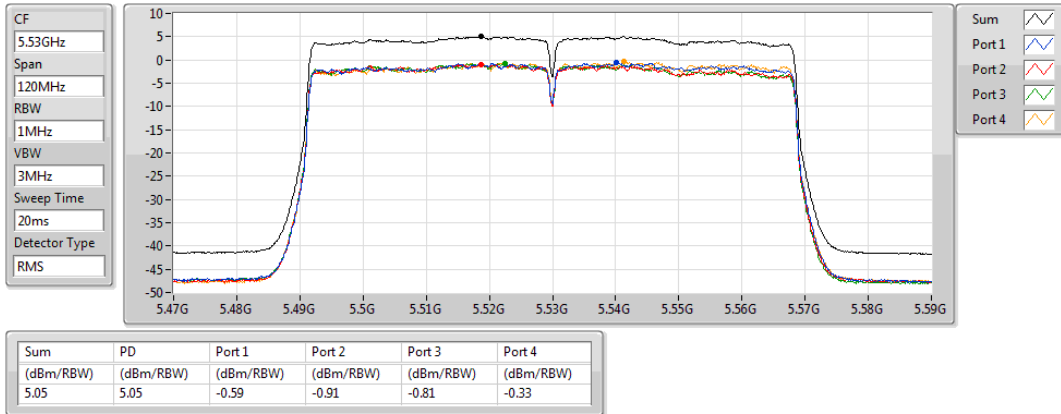


802.11ac VHT80_Nss1,(MCS0)_4TX

PSD

5530MHz

10/05/2019

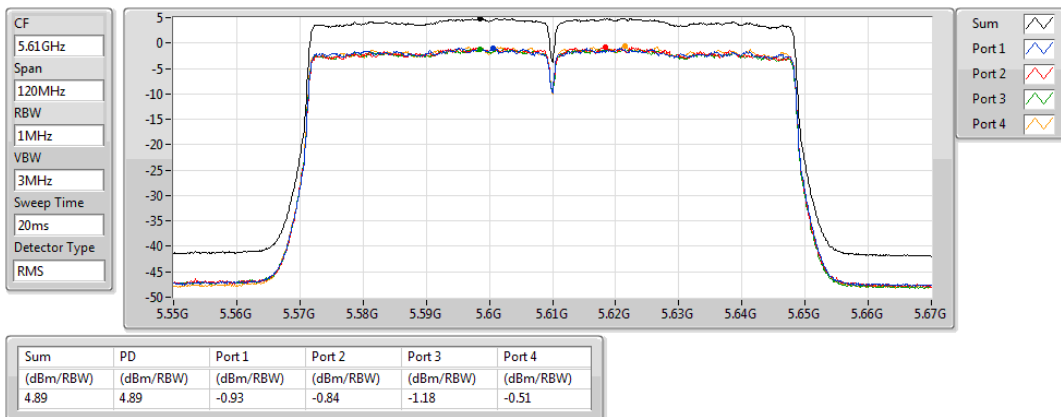


802.11ac VHT80_Nss1,(MCS0)_4TX

PSD

5610MHz

10/05/2019

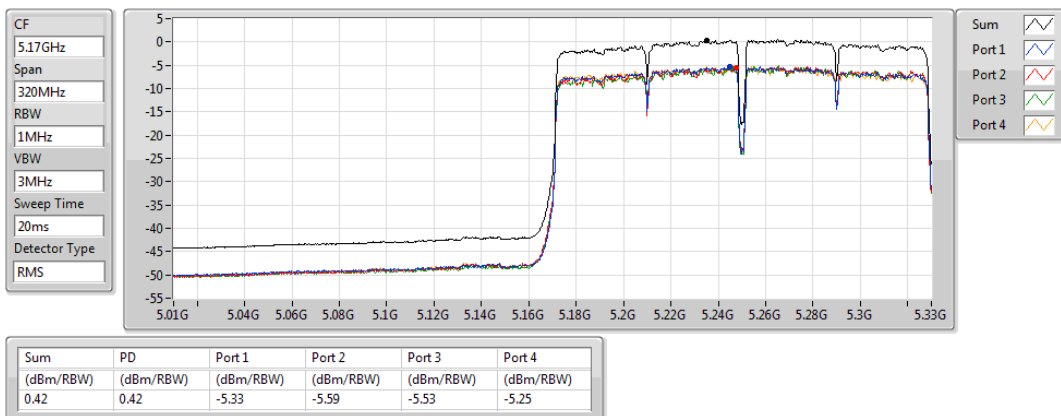


802.11ac VHT160_Nss1,(MCS0)_4TX

PSD

5250MHz Straddle 5.15-5.25GHz

10/05/2019

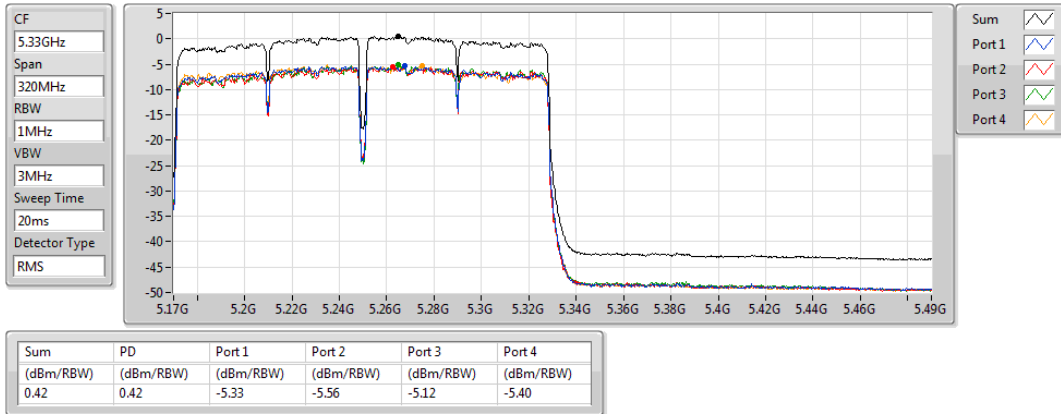


802.11ac VHT160_Nss1,(MCS0)_4TX

PSD

5250MHz Straddle 5.25-5.35GHz

10/05/2019

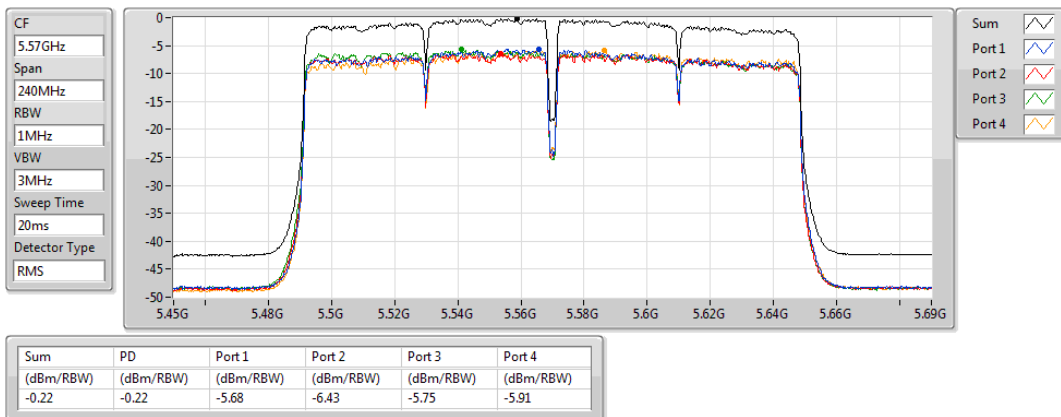


802.11ac VHT160_Nss1,(MCS0)_4TX

PSD

5570MHz

10/05/2019

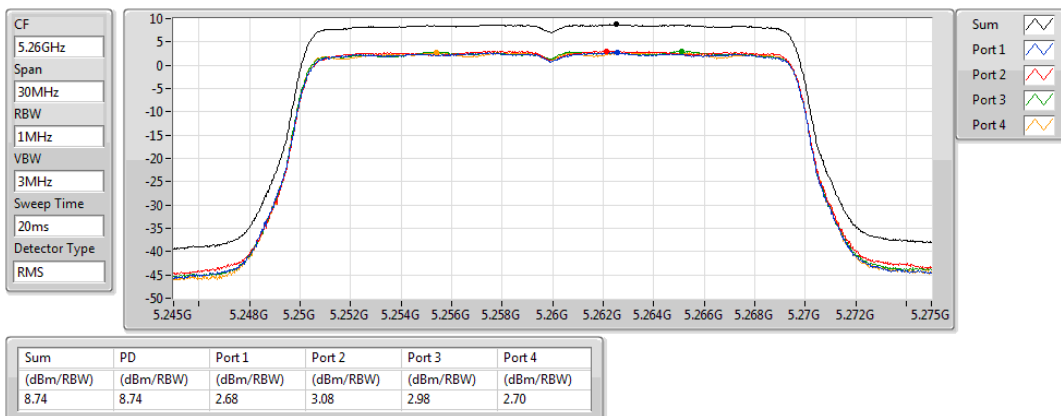


802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

5260MHz

09/05/2019

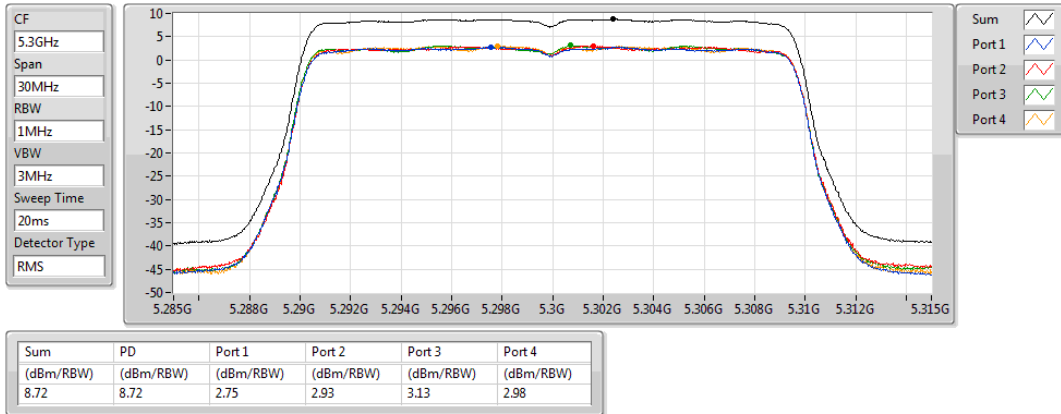


802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

5300MHz

09/05/2019

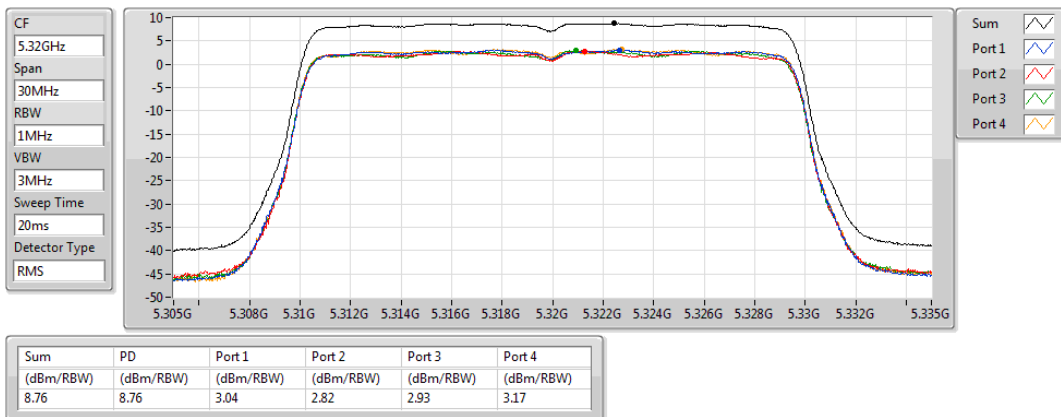


802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

5320MHz

09/05/2019

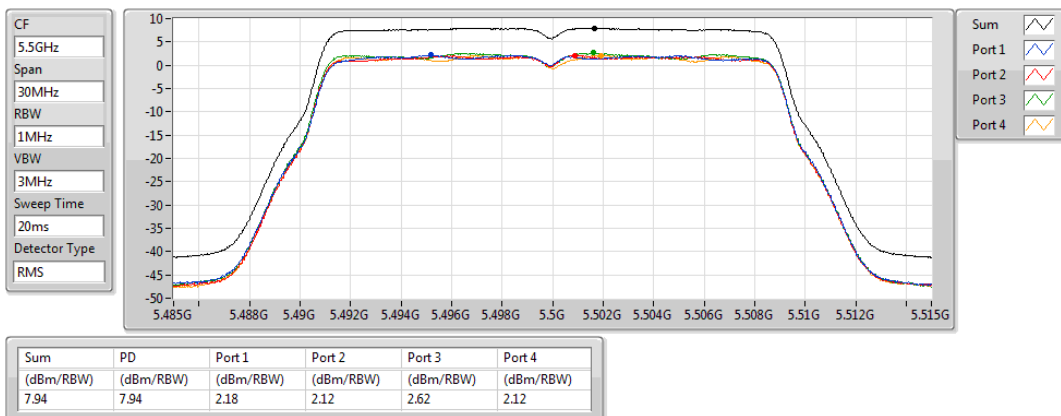


802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

5500MHz

09/05/2019

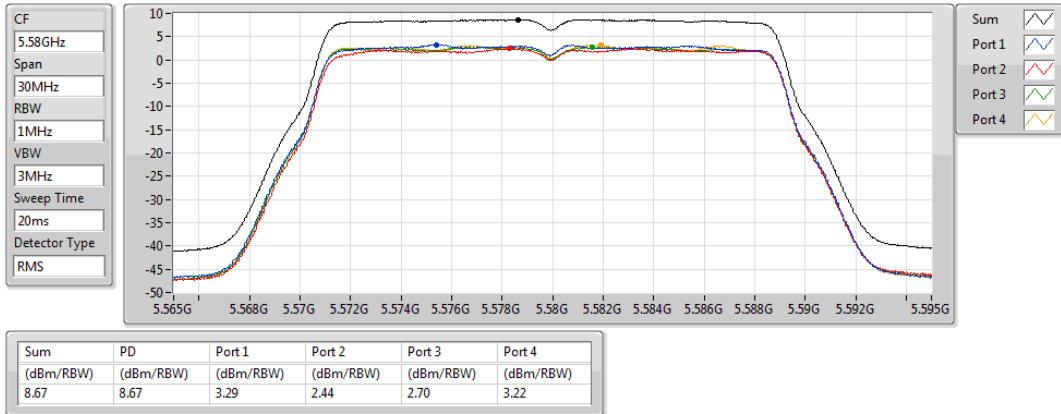


802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

5580MHz

09/05/2019

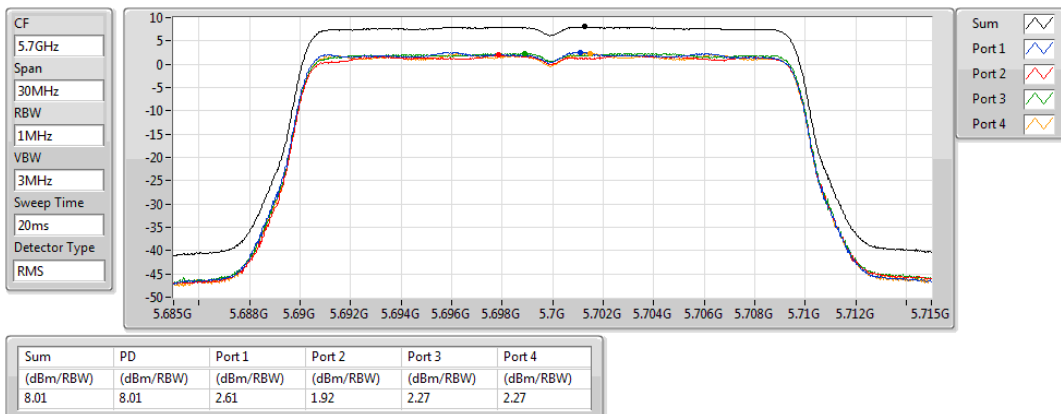


802.11ax HEW20_Nss1,(MCS0)_4TX

PSD

5700MHz

09/05/2019

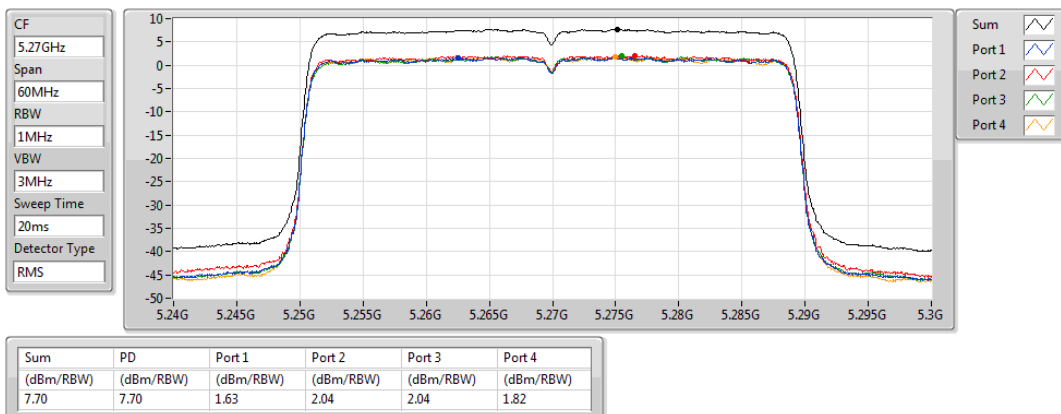


802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

5270MHz

09/05/2019

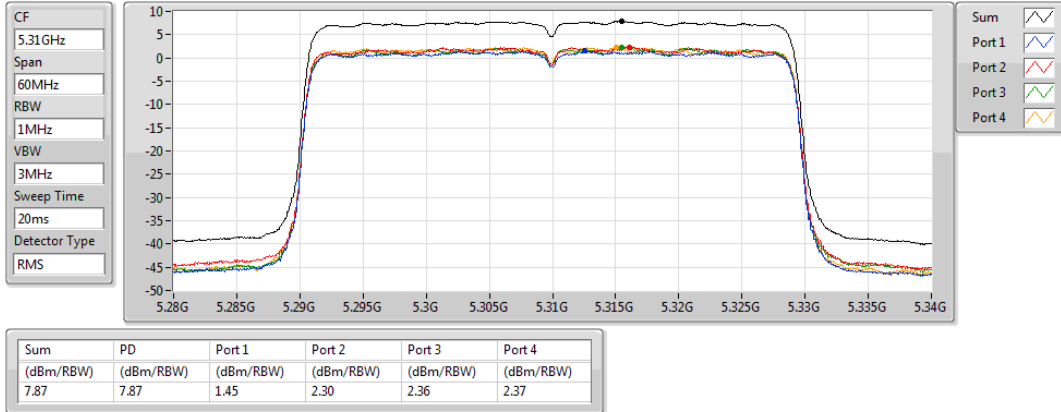


802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

5310MHz

09/05/2019

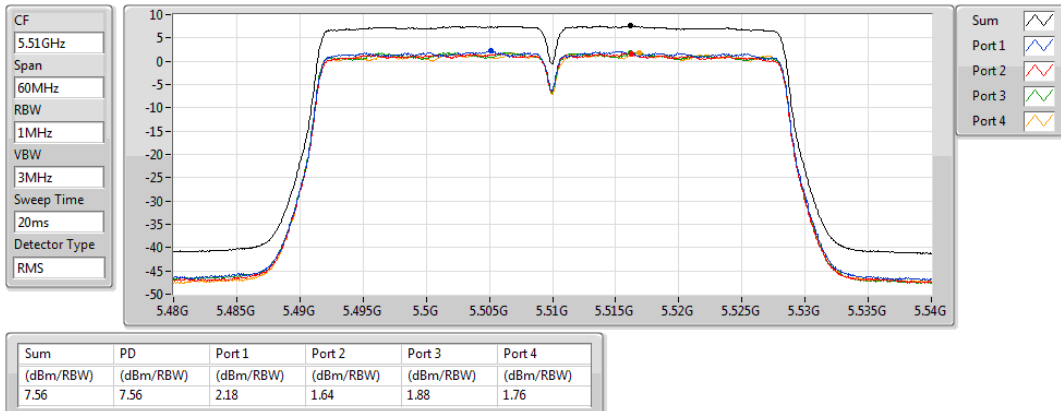


802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

5510MHz

09/05/2019

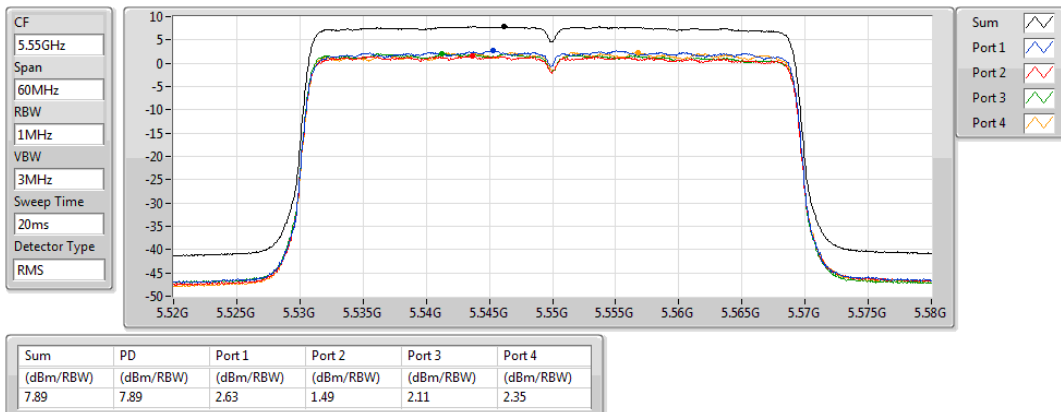


802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

5550MHz

09/05/2019

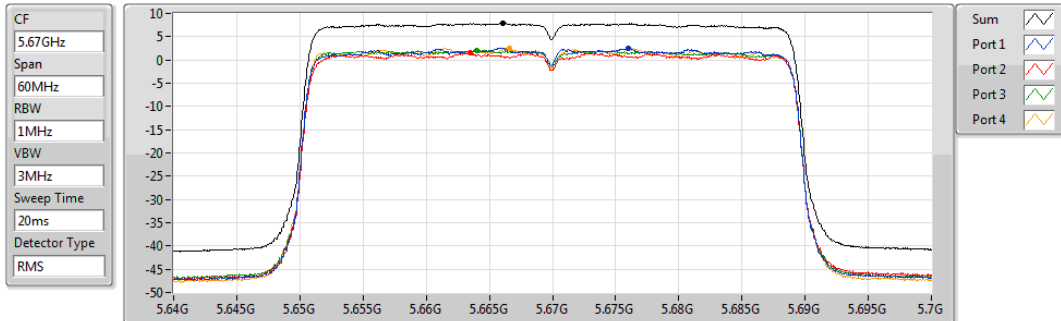


802.11ax HEW40_Nss1,(MCS0)_4TX

PSD

5670MHz

09/05/2019



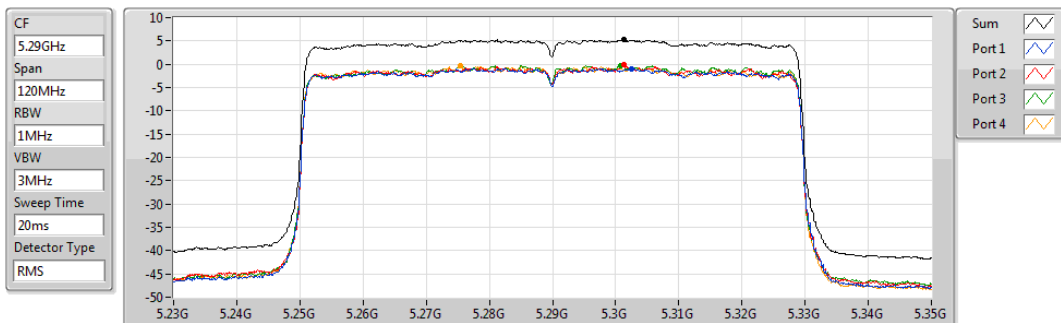
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
7.87	7.87	2.59	1.46	2.10	2.55

802.11ax HEW80_Nss1,(MCS0)_4TX

PSD

5290MHz

09/05/2019



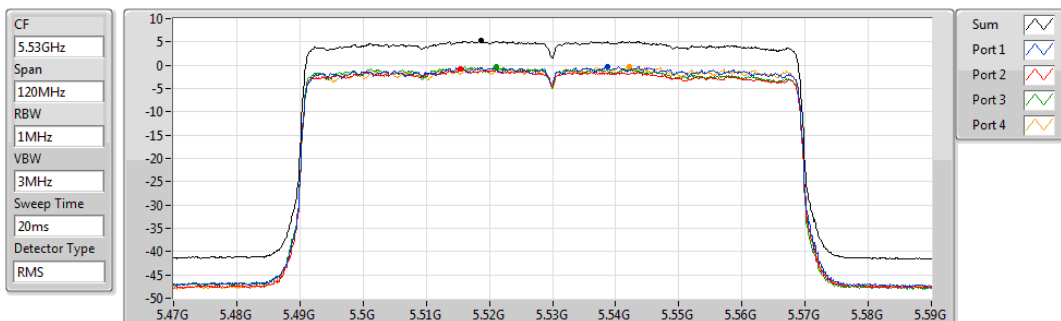
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.25	5.25	-0.91	-0.18	-0.28	-0.42

802.11ax HEW80_Nss1,(MCS0)_4TX

PSD

5530MHz

09/05/2019



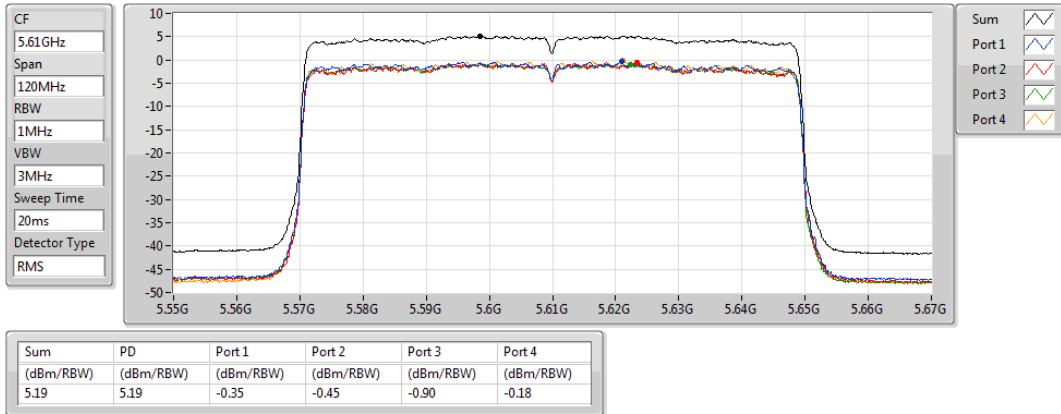
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.21	5.21	-0.36	-0.88	-0.28	-0.24

802.11ax HEW80_Nss1,(MCS0)_4TX

PSD

5610MHz

09/05/2019

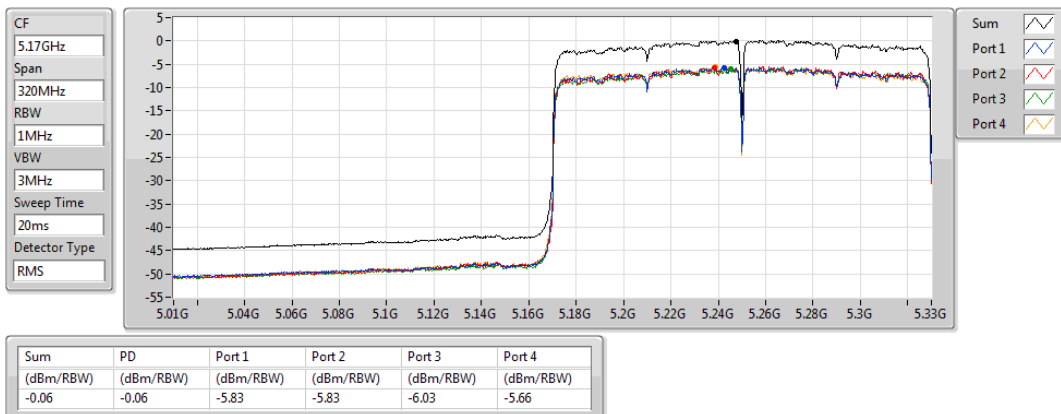


802.11ax HEW160_Nss1,(MCS0)_4TX

PSD

5250MHz Straddle 5.15-5.25GHz

10/05/2019

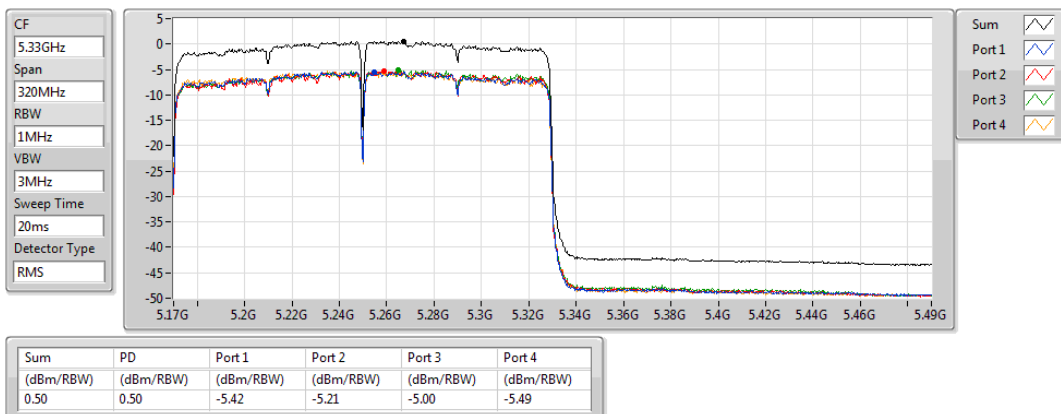


802.11ax HEW160_Nss1,(MCS0)_4TX

PSD

5250MHz Straddle 5.25-5.35GHz

10/05/2019

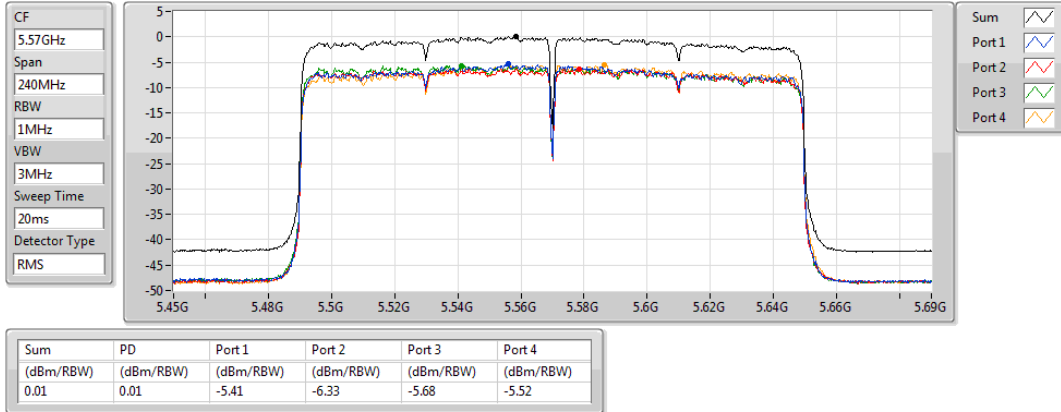


802.11ax HEW160_Nss1,(MCS0)_4TX

PSD

5570MHz

10/05/2019

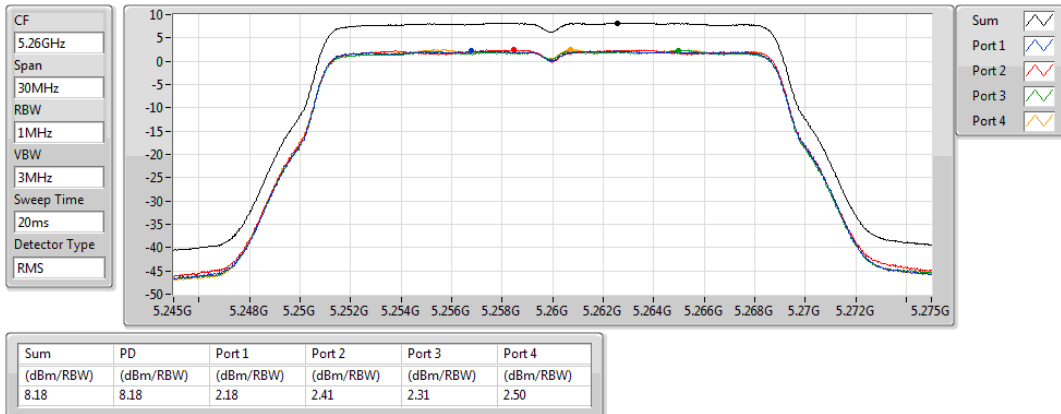


802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

5260MHz

10/05/2019

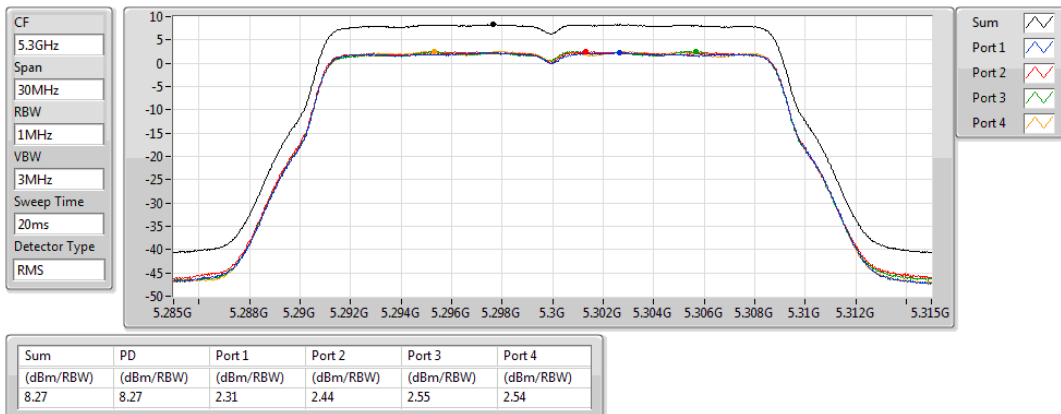


802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

5300MHz

10/05/2019

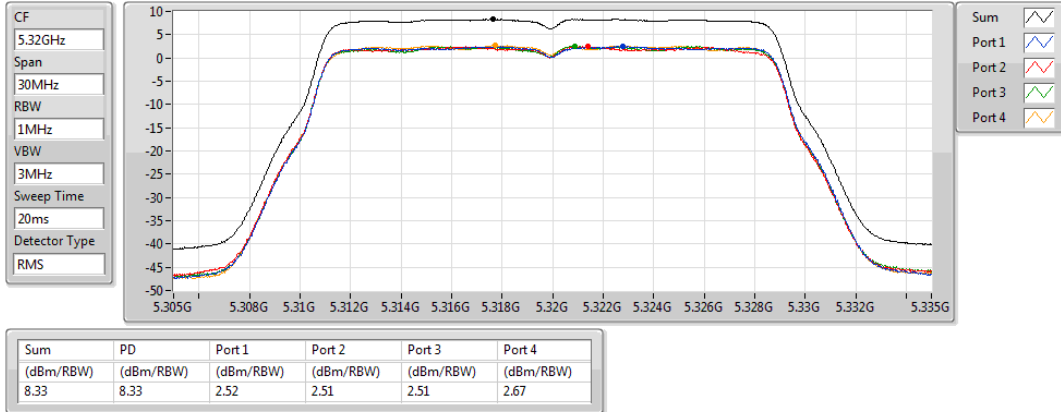


802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

5320MHz

10/05/2019

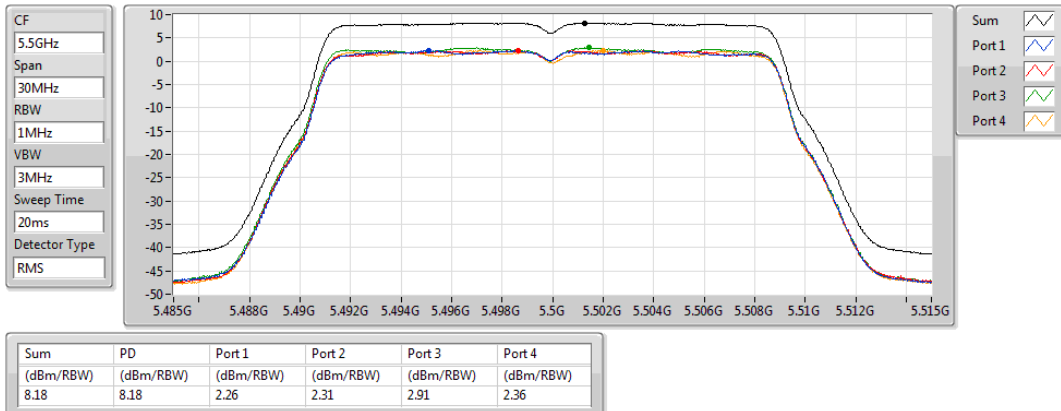


802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

5500MHz

10/05/2019

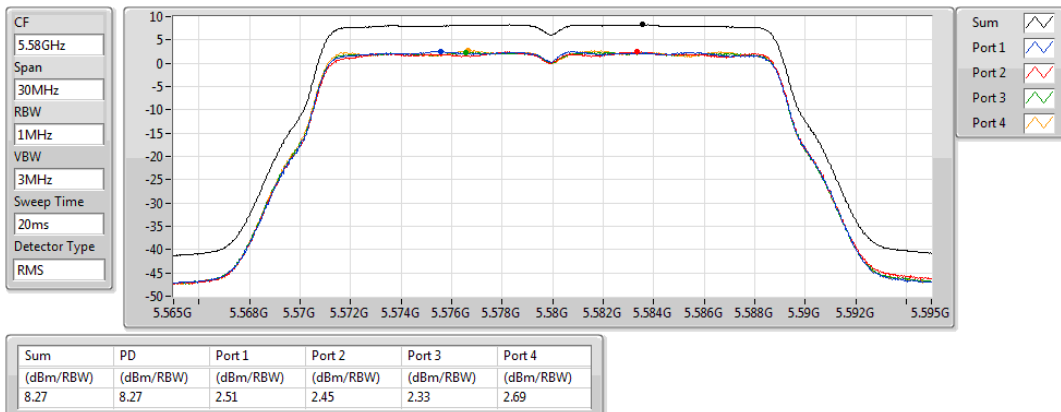


802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

5580MHz

10/05/2019

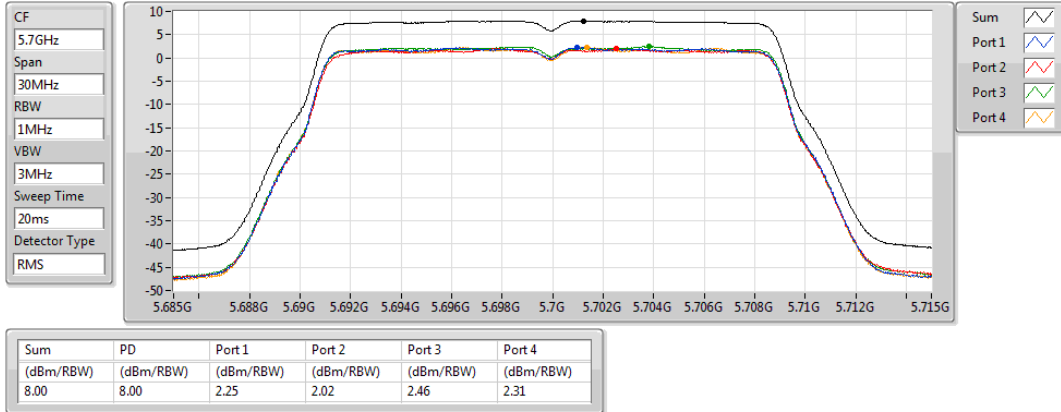


802.11ac VHT20-BF_Nss1,(MCS0)_4TX

PSD

5700MHz

10/05/2019

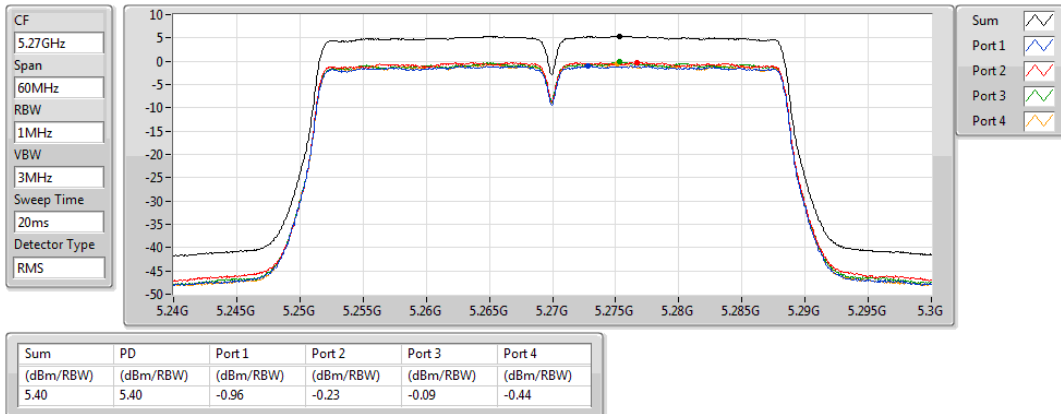


802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

5270MHz

10/05/2019

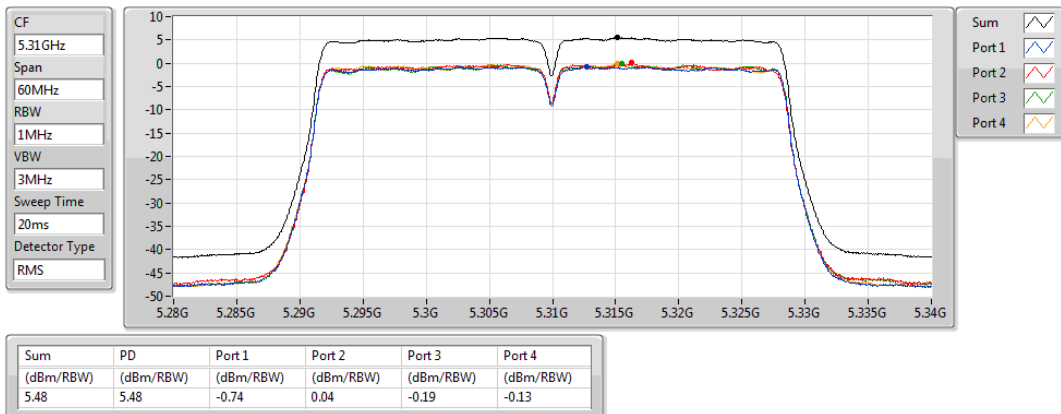


802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

5310MHz

10/05/2019

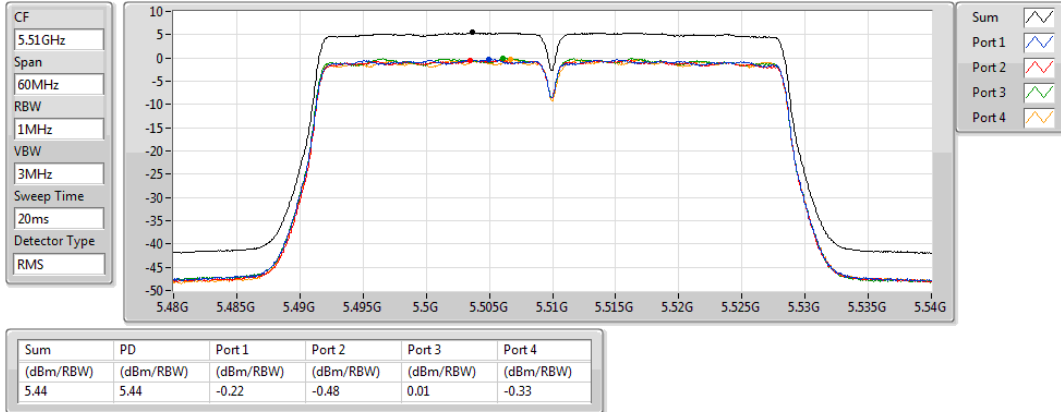


802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

5510MHz

10/05/2019

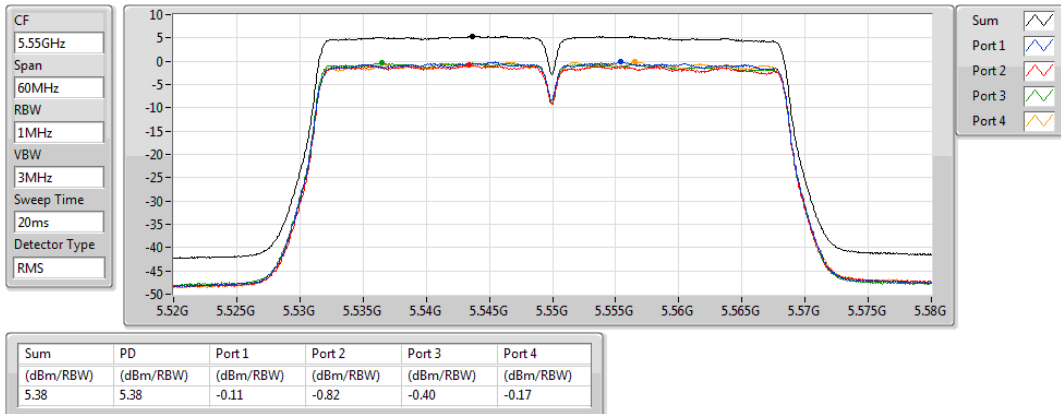


802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

5550MHz

10/05/2019

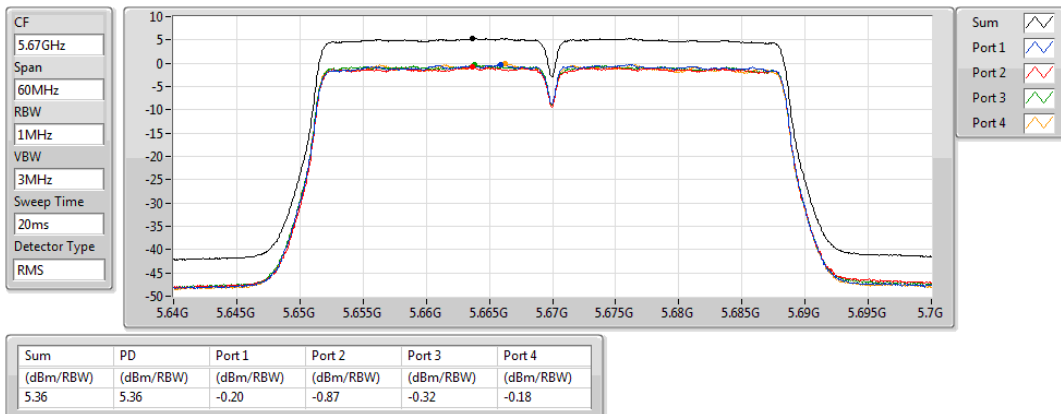


802.11ac VHT40-BF_Nss1,(MCS0)_4TX

PSD

5670MHz

10/05/2019

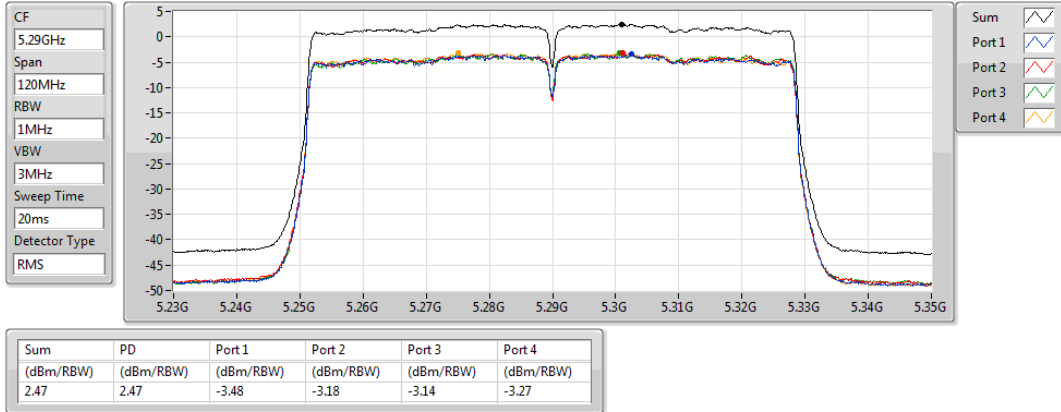


802.11ac VHT80-BF_Nss1,(MCS0)_4TX

PSD

5290MHz

10/05/2019

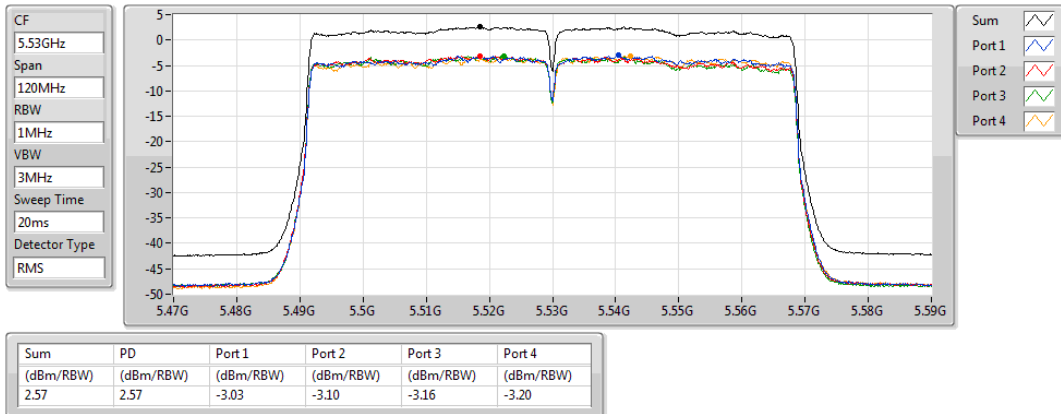


802.11ac VHT80-BF_Nss1,(MCS0)_4TX

PSD

5530MHz

10/05/2019

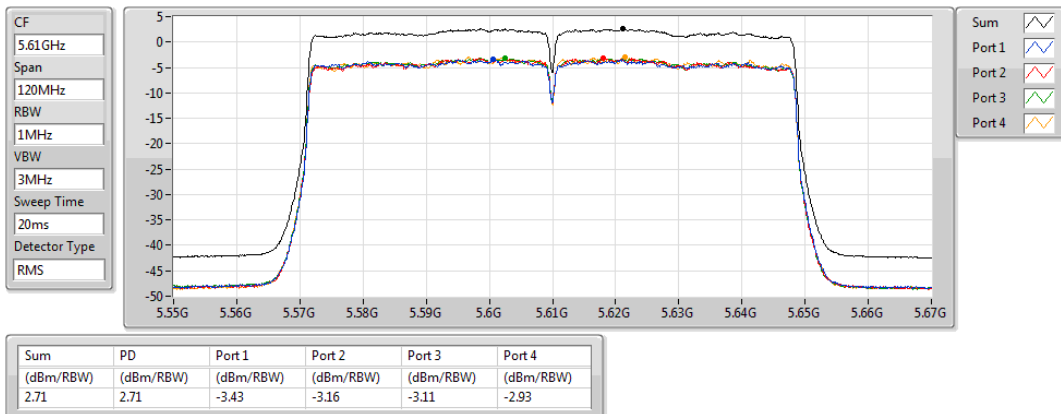


802.11ac VHT80-BF_Nss1,(MCS0)_4TX

PSD

5610MHz

10/05/2019

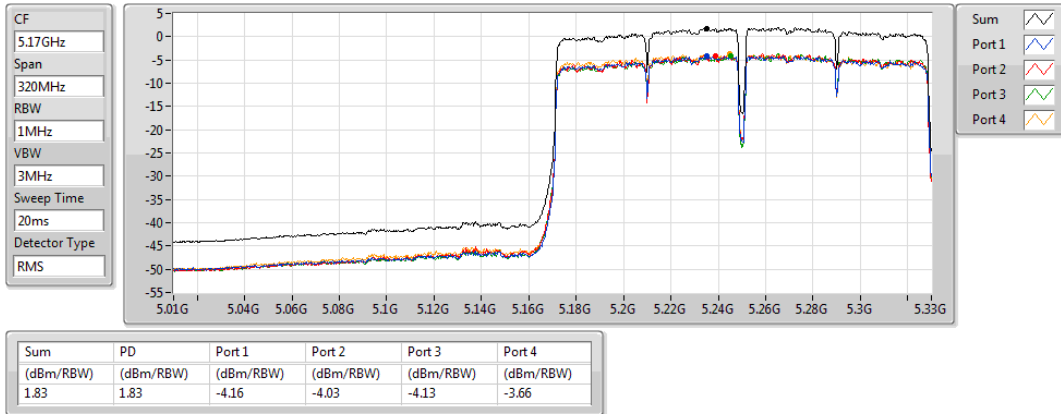


802.11ac VHT160-BF_Nss1,(MCS0)_4TX

PSD

5250MHz Straddle 5.15-5.25GHz

10/05/2019

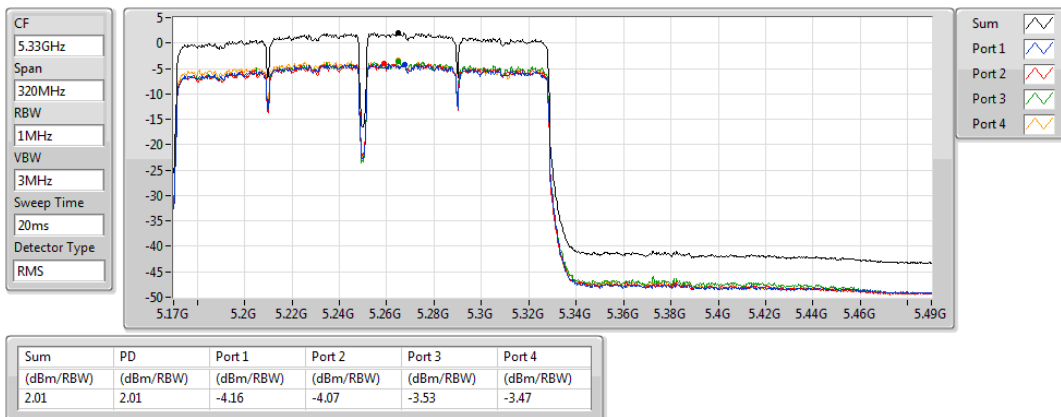


802.11ac VHT160-BF_Nss1,(MCS0)_4TX

PSD

5250MHz Straddle 5.25-5.35GHz

10/05/2019

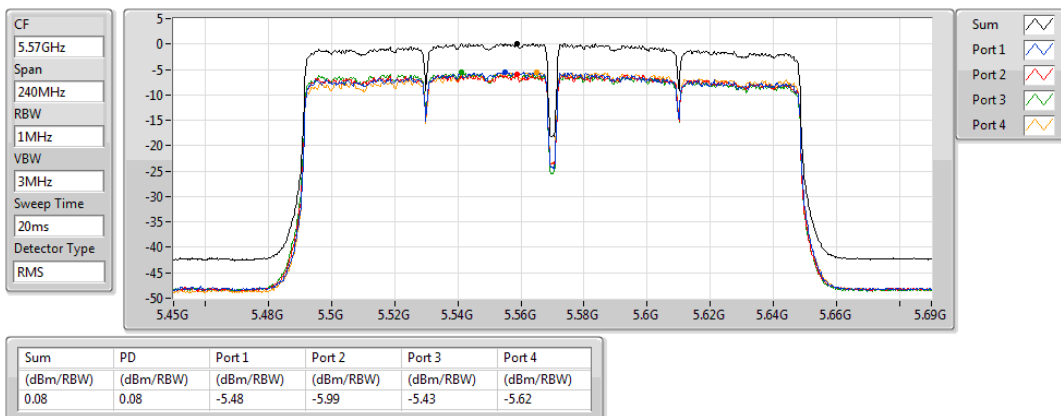


802.11ac VHT160-BF_Nss1,(MCS0)_4TX

PSD

5570MHz

10/05/2019

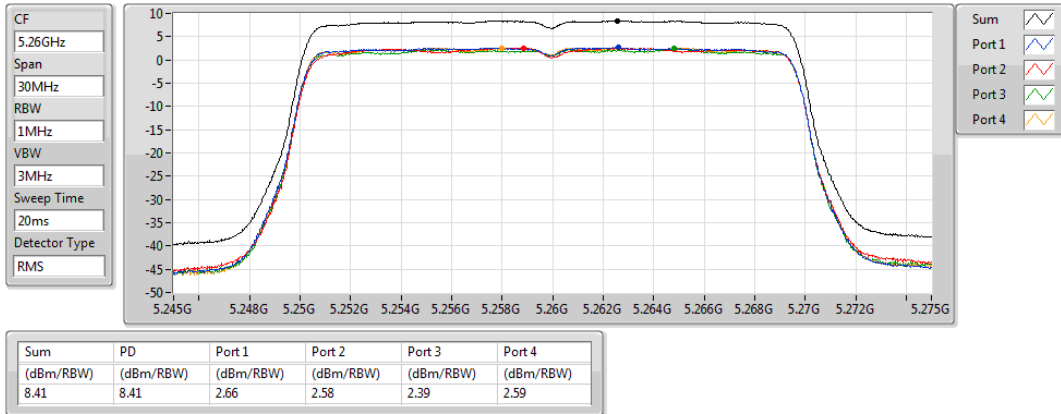


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5260MHz

10/05/2019

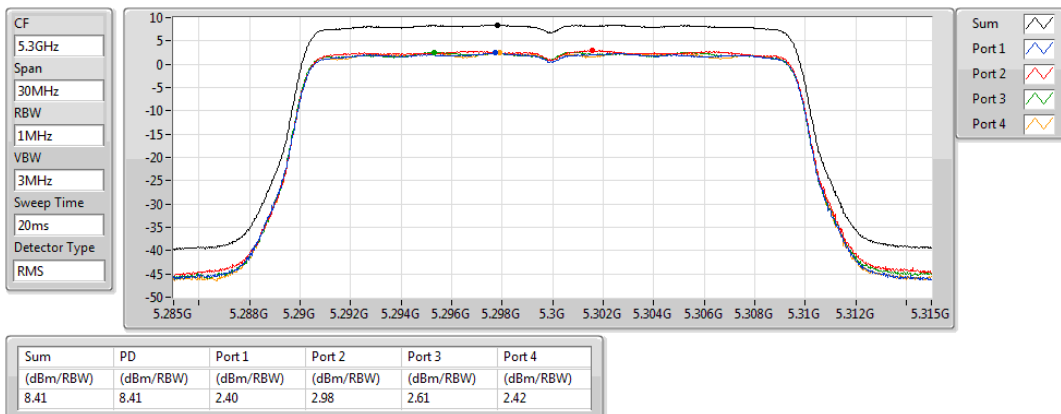


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5300MHz

10/05/2019

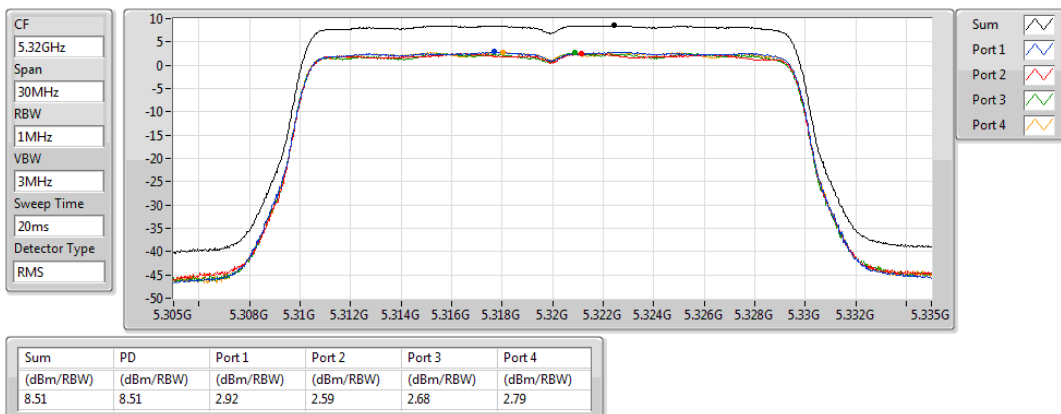


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5320MHz

10/05/2019

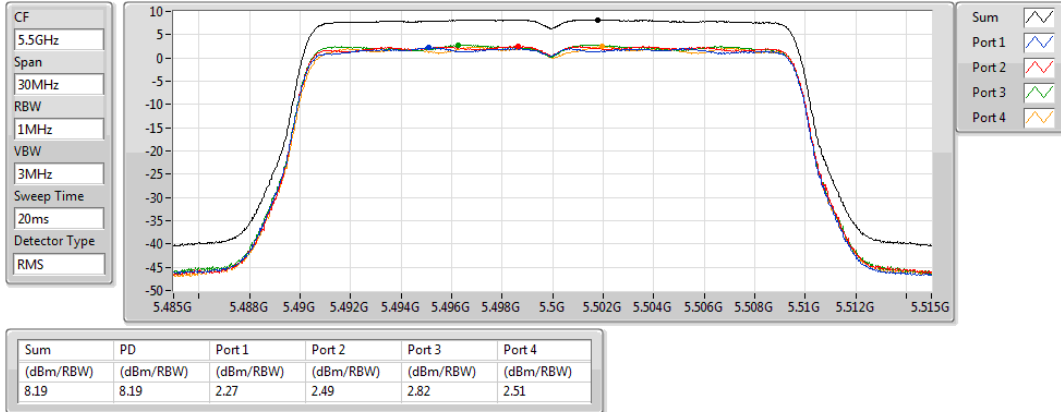


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5500MHz

10/05/2019

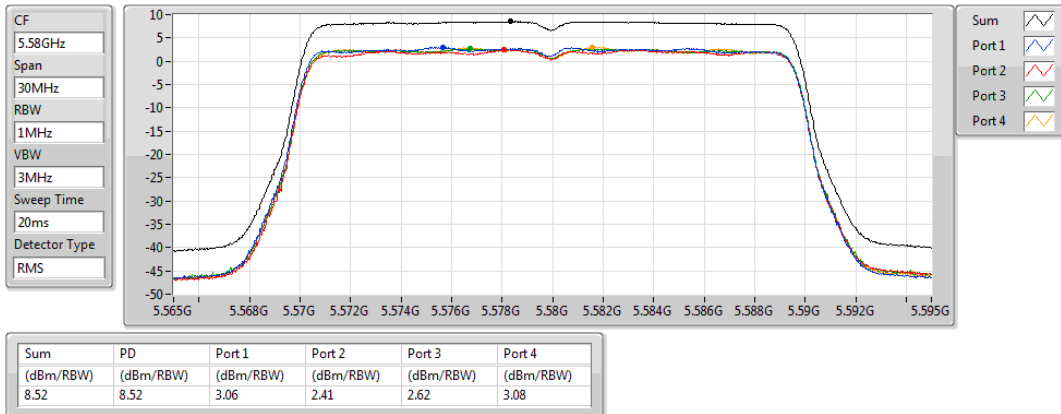


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5580MHz

10/05/2019

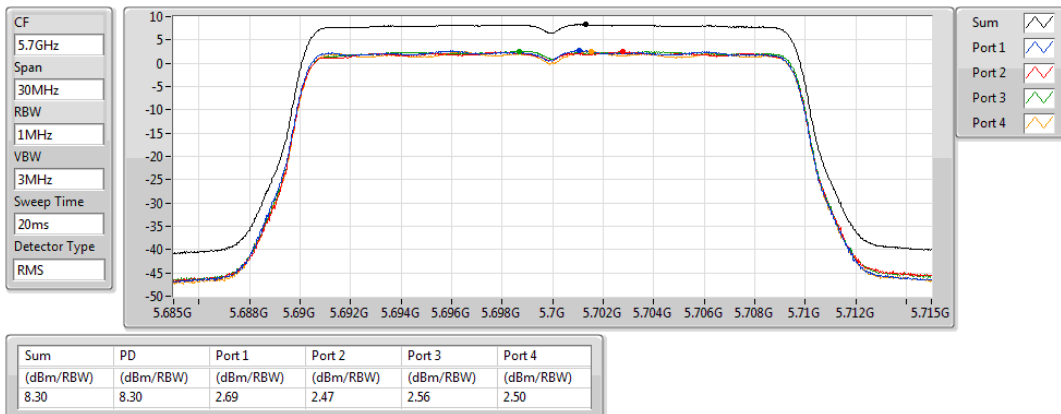


802.11ax HEW20-BF_Nss1,(MCS0)_4TX

PSD

5700MHz

10/05/2019

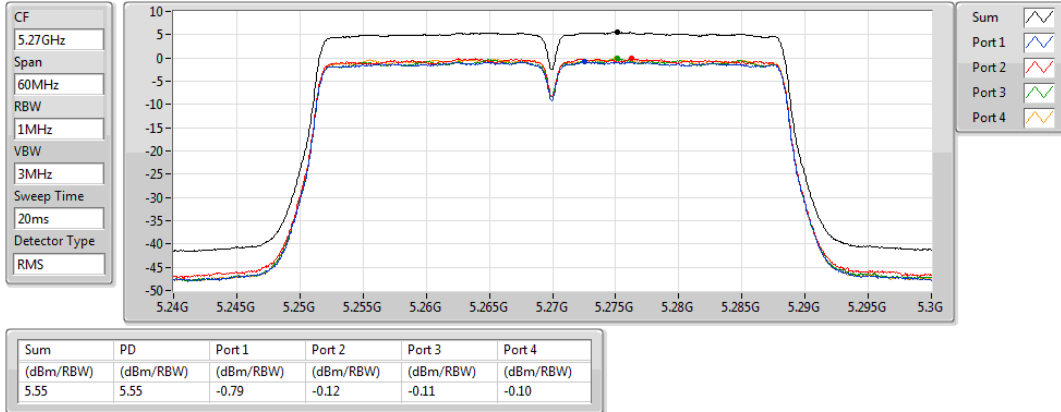


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

PSD

5270MHz

10/05/2019

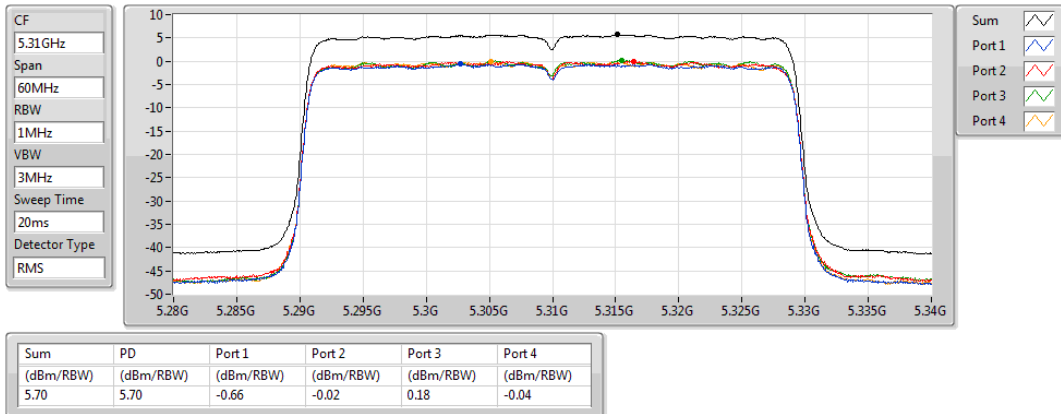


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

PSD

5310MHz

10/05/2019

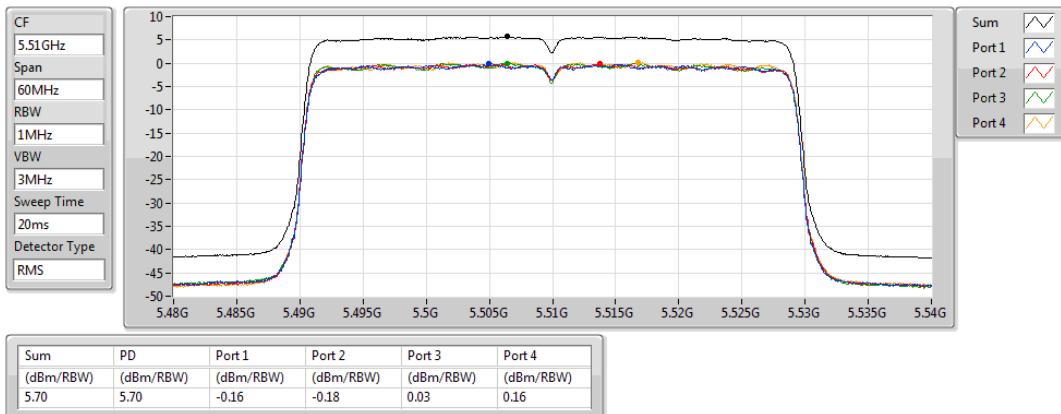


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

PSD

5510MHz

10/05/2019

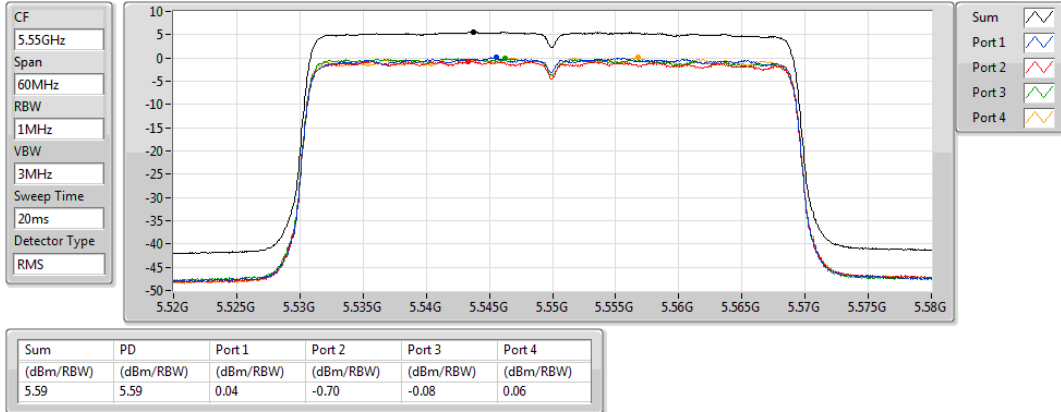


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

PSD

5550MHz

10/05/2019

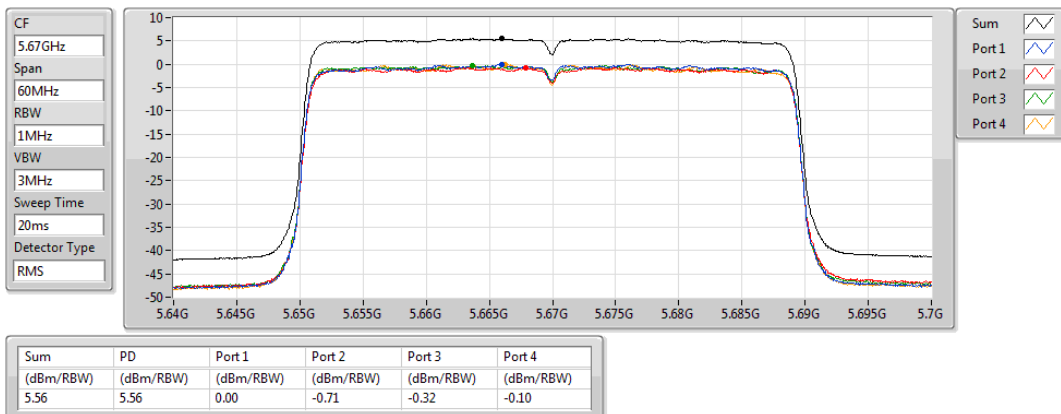


802.11ax HEW40-BF_Nss1,(MCS0)_4TX

PSD

5670MHz

10/05/2019

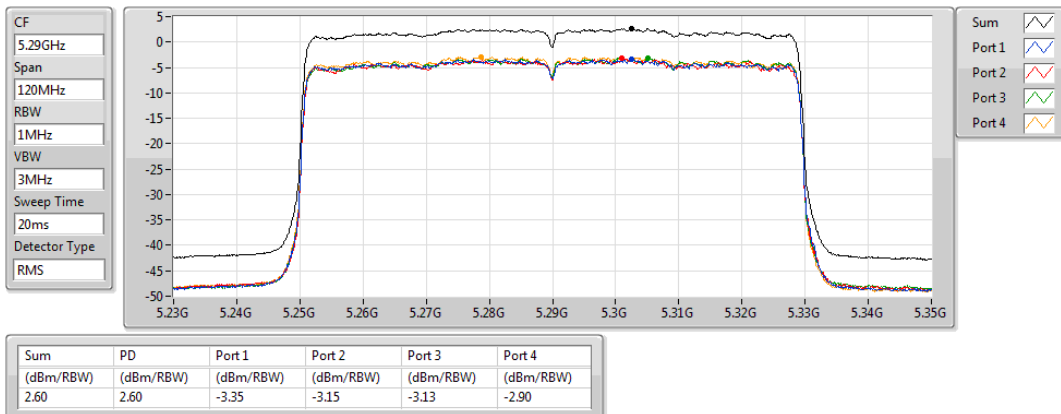


802.11ax HEW80-BF_Nss1,(MCS0)_4TX

PSD

5290MHz

10/05/2019

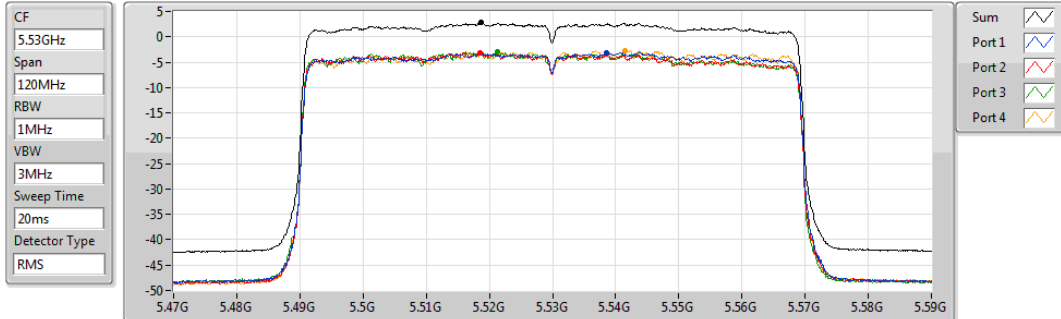


802.11ax HEW80-BF_Nss1,(MCS0)_4TX

PSD

5530MHz

10/05/2019



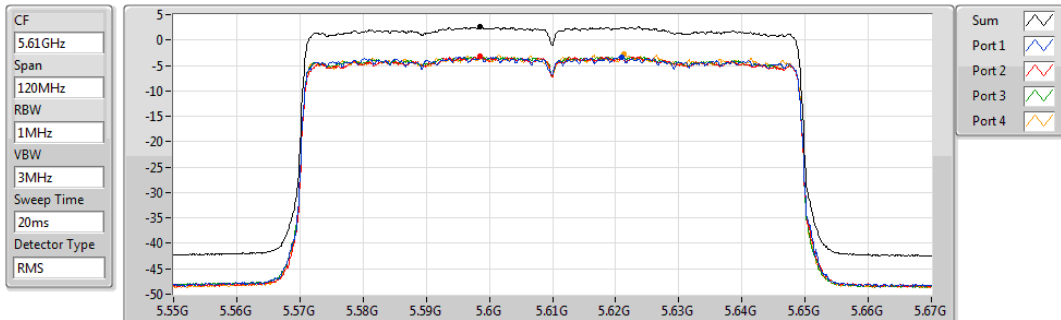
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.75	2.75	-3.18	-3.17	-2.91	-2.73

802.11ax HEW80-BF_Nss1,(MCS0)_4TX

PSD

5610MHz

10/05/2019



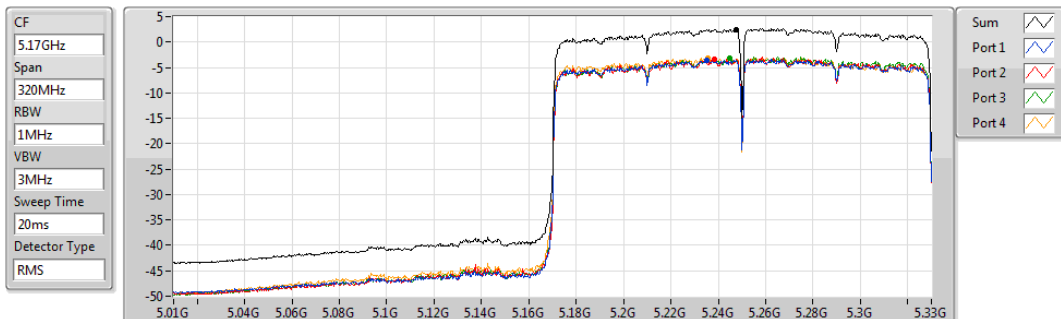
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.60	2.60	-3.29	-3.27	-3.27	-2.79

802.11ax HEW160-BF_Nss1,(MCS0)_4TX

PSD

5250MHz Straddle 5.15-5.25GHz

10/05/2019



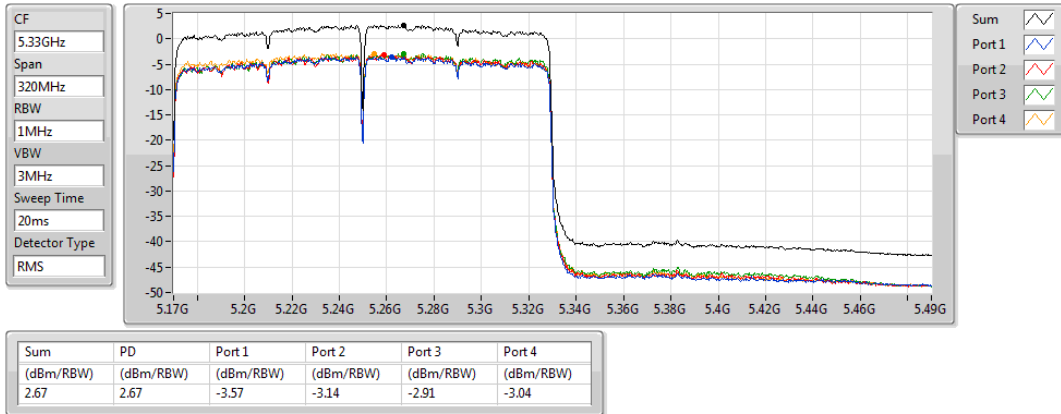
Sum	PD	Port 1	Port 2	Port 3	Port 4
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.51	2.51	-3.56	-3.35	-3.16	-3.18

802.11ax HEW160-BF_Nss1,(MCS0)_4TX

PSD

5250MHz Straddle 5.25-5.35GHz

10/05/2019

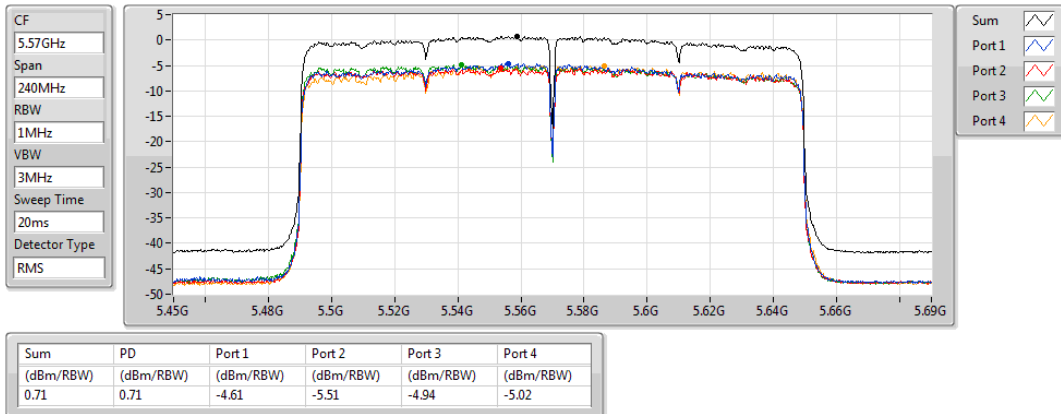


802.11ax HEW160-BF_Nss1,(MCS0)_4TX

PSD

5570MHz

10/05/2019





RSE TX above 1GHz Result

Appendix D

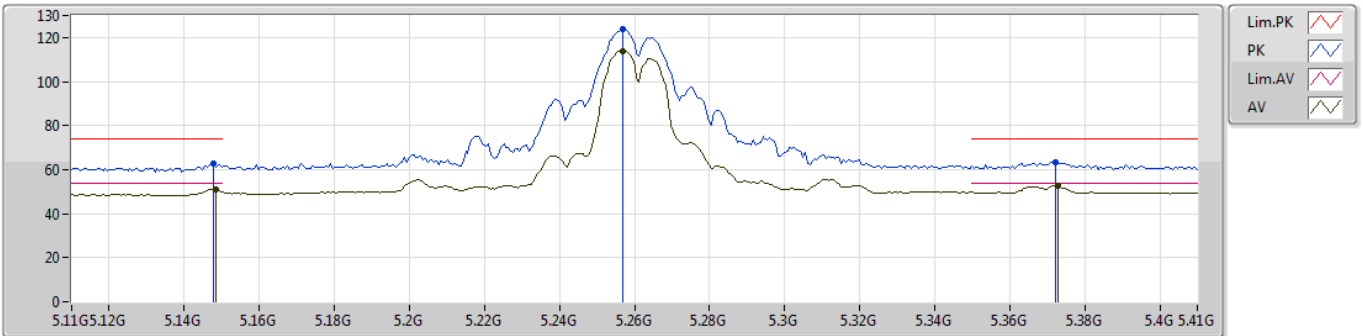
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5.25-5.35GHz	-	-	-	-	-	-	-	-	-	-	-	-
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	Pass	AV	5.3768G	52.99	54.00	-1.01	7.59	3	Vertical	59	1.79	-

802.11a_Nss1,(6Mbps)_4TX

02/05/2019

5260MHz_TX



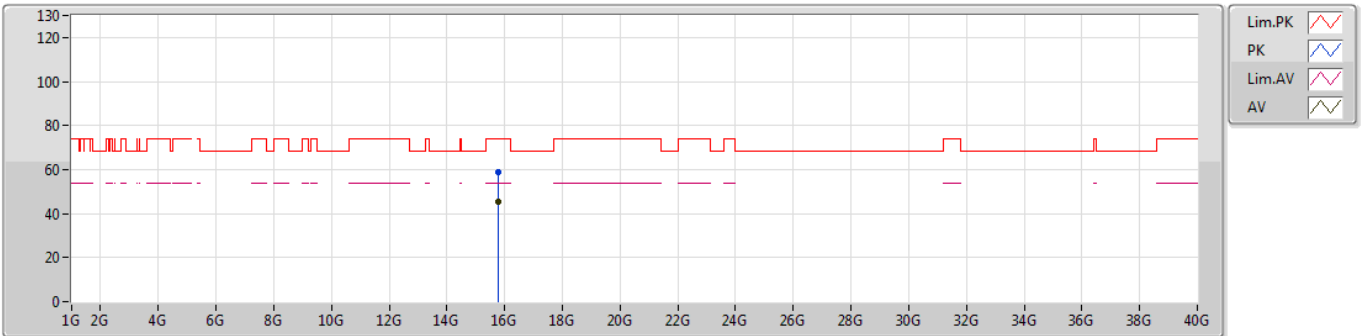
EUT_Z_4TX
Setting 96
06-S-5-10
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	5.1478G	62.55	74.00	-11.45	7.27	3	Vertical	92	1.97	-
AV	5.1484G	51.15	54.00	-2.85	7.27	3	Vertical	92	1.97	-
PK	5.257G	123.81	Inf	-Inf	7.42	3	Vertical	92	1.97	-
AV	5.257G	114.00	Inf	-Inf	7.42	3	Vertical	92	1.97	-
PK	5.3722G	63.34	74.00	-10.66	7.57	3	Vertical	92	1.97	-
AV	5.3728G	52.86	54.00	-1.14	7.57	3	Vertical	92	1.97	-

802.11a_Nss1,(6Mbps)_4TX

02/05/2019

5260MHz_TX



EUT Z_4TX
Setting 96
06-S-5
FSP

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	15.77252G	58.85	74.00	-15.15	16.85	3	Vertical	135	1.93	-
AV	15.7708G	45.48	54.00	-8.52	16.86	3	Vertical	135	1.93	-