



FCC Test Report

FCC ID	: TVE-3111BB056
Equipment	: Secured Wireless Access Point
Brand Name	: FORTINET
Model Name	: FortiAP U431Fxxxxxx, FAP-U431Fxxxxxx, FORTIAP-U431Fxxxxxx FortiAP U433Fxxxxxx, FAP-U433Fxxxxxx, FORTIAP-U433Fxxxxxx (where "x" can be used as "A-Z", or "0-9", or "-", or blank for software changes or marketing purposes only)
Applicant	: Fortinet, Inc. 899 Kifer Road, Sunnyvale, CA 94086, USA
Manufacturer	: Universal Global Scientific Industrial Co., Ltd 141, Lane 351, Sec. 1, Taiping Road, Tsao-tien, Nantou 54261, Taiwan
Standard	: 47 CFR FCC Part 15.407

The product was received on Mar. 11, 2019, and testing was started from May 01, 2019 and completed on May 23, 2019. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

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

Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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History of this test report



Summary of Test Result

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

Declaration of Conformity:

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

Comments and explanations:

None

Reviewed by: Jackson Tsai

Report Producer: Debby Hung



1 General Description

1.1 Information

The EUT has three radio chip.

Function	Radio 1	Radio 2	Radio 3
WiFi 2.4G	X	V	V
WiFi 5G	V	V	V (Only RX)
Bluetooth	X	X	V

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]
Straddle 5720		5720	144 [1]
5725-5850		5745-5825	149-165 [5]
5250-5350	n (HT40), ac (VHT40) , ax (HEW40)	5270-5310	54-62 [2]
5470-5725		5510-5670	102-134 [5]
Straddle 5710		5710	142 [1]
5725-5850		5755-5795	151-159 [2]
5250-5350	ac (VHT80) , ax (HEW80)	5290	58 [1]
5470-5725		5530-5610	106-122 [2]
Straddle 5690		5690	138 [1]
5725-5850		5775	155 [1]
5150-5350	ac (VHT160),ax (HEW160)	5250	50 [1]
5470-5725		5570	114 [1]



Radio 1

<Non-Beamforming>

Band	Mode	BWch (MHz)	Nant
5.25-5.35GHz	802.11a	20	4TX
5.47-5.725GHz	802.11a	20	4TX
5.725-5.85GHz	802.11a	20	4TX
5.25-5.35GHz	802.11n HT20	20	4TX
5.47-5.725GHz	802.11n HT20	20	4TX
5.725-5.85GHz	802.11n HT20	20	4TX
5.25-5.35GHz	802.11ac VHT20	20	4TX
5.47-5.725GHz	802.11ac VHT20	20	4TX
5.725-5.85GHz	802.11ac VHT20	20	4TX
5.25-5.35GHz	802.11ax HEW20	20	4TX
5.47-5.725GHz	802.11ax HEW20	20	4TX
5.725-5.85GHz	802.11ax HEW20	20	4TX
5.25-5.35GHz	802.11n HT40	40	4TX
5.47-5.725GHz	802.11n HT40	40	4TX
5.725-5.85GHz	802.11n HT40	40	4TX
5.25-5.35GHz	802.11ac VHT40	40	4TX
5.47-5.725GHz	802.11ac VHT40	40	4TX
5.725-5.85GHz	802.11ac VHT40	40	4TX
5.25-5.35GHz	802.11ax HEW40	40	4TX
5.47-5.725GHz	802.11ax HEW40	40	4TX
5.725-5.85GHz	802.11ax HEW40	40	4TX
5.25-5.35GHz	802.11ac VHT80	80	4TX
5.47-5.725GHz	802.11ac VHT80	80	4TX
5.725-5.85GHz	802.11ac VHT80	80	4TX
5.25-5.35GHz	802.11ax HEW80	80	4TX
5.47-5.725GHz	802.11ax HEW80	80	4TX
5.725-5.85GHz	802.11ax HEW80	80	4TX
5.15-5.25GHz	802.11ac VHT160	160	4TX
5.25-5.35GHz	802.11ac VHT160	160	4TX
5.47-5.725GHz	802.11ac VHT160	160	4TX
5.15-5.25GHz	802.11ax HEW160	160	4TX
5.25-5.35GHz	802.11ax HEW160	160	4TX
5.47-5.725GHz	802.11ax HEW160	160	4TX



<Beamforming>

Band	Mode	BWch (MHz)	Nant
5.25-5.35GHz	802.11ac VHT20-BF	20	4TX
5.47-5.725GHz	802.11ac VHT20-BF	20	4TX
5.725-5.85GHz	802.11ac VHT20-BF	20	4TX
5.25-5.35GHz	802.11ac VHT40-BF	40	4TX
5.47-5.725GHz	802.11ac VHT40-BF	40	4TX
5.725-5.85GHz	802.11ac VHT40-BF	40	4TX
5.25-5.35GHz	802.11ac VHT80-BF	80	4TX
5.47-5.725GHz	802.11ac VHT80-BF	80	4TX
5.725-5.85GHz	802.11ac VHT80-BF	80	4TX
5.15-5.25GHz	802.11ac VHT160-BF	160	4TX
5.25-5.35GHz	802.11ac VHT160-BF	160	4TX
5.47-5.725GHz	802.11ac VHT160-BF	160	4TX
5.25-5.35GHz	802.11ax HEW20-BF	20	4TX
5.47-5.725GHz	802.11ax HEW20-BF	20	4TX
5.725-5.85GHz	802.11ax HEW20-BF	20	4TX
5.25-5.35GHz	802.11ax HEW40-BF	40	4TX
5.47-5.725GHz	802.11ax HEW40-BF	40	4TX
5.725-5.85GHz	802.11ax HEW40-BF	40	4TX
5.25-5.35GHz	802.11ax HEW80-BF	80	4TX
5.47-5.725GHz	802.11ax HEW80-BF	80	4TX
5.725-5.85GHz	802.11ax HEW80-BF	80	4TX
5.15-5.25GHz	802.11ax HEW160-BF	160	4TX
5.25-5.35GHz	802.11ax HEW160-BF	160	4TX
5.47-5.725GHz	802.11ax HEW160-BF	160	4TX

**Radio 2**
<Non-Beamforming>

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

<Beamforming>

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



Band	Mode	BWch (MHz)	Nant
5.725-5.85GHz	802.11ax HEW80-BF	80	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, VHT160 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- HEW20, HEW40, HEW80, HEW 160 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- BWch is the nominal channel bandwidth.
- The resource unit of HEW 20, HEW 40, HEW 80, HEW 160 only support full loading.



1.1.2 Antenna Information

Model: FAP-U433F

Ant.	Radio	Brand	Model Name	Antenna Type	Connector
1-4	1	ARISTOTLE	RFA-05-C53-U-B32C255	Dipole Antenna	Reversed-SMA
5-8	2	ARISTOTLE	RFA-25-C53-U-B32C255	Dipole Antenna	Reversed-SMA
9-10	3	ARISTOTLE	RFA-25-C53-U-B32C255	Dipole Antenna	Reversed-SMA
11	3	ARISTOTLE	RFA-BT-G402-79-200	PIFA Antenna	IPEX

Ant.	Gain (dBi)			
	Radio 1		Radio 2 & Radio 3	
	5G	2.4G	5G	BT
1-4	4.3	-	-	-
5-8	-	3.5	5.0	-
9-10	-	3.5	5.0	-
11	-	-	-	3.0

Model: FAP-U431F

Ant.	Radio	Brand	Model Name	Antenna Type	Connector
1-4	1	ARISTOTLE	RFA-9953	PIFA Antenna	IPEX
5-8	2	ARISTOTLE	RFA-9953	PIFA Antenna	IPEX
9-10	3	ARISTOTLE	RFA-9953	PIFA Antenna	IPEX
11	3	ARISTOTLE	RFA-BT-G402-79-200	PIFA Antenna	IPEX

Ant.	Gain (dBi)			
	Radio 1		Radio 2 & Radio 3	
	5G	2.4G	5G	BT
1-4	6.0	-	-	-
5-8	-	4.0	6.0	-
9-10	-	4.0	6.0	-
11	-	-	-	3.0



Ant.	BF Gain (dBi)
	Radio 1 & 2
	-
	6.02

Directional gain = $G_{ANT\ MAX} + 10 \log(N_{ANT}/N_{SS})$ dBi, where N_{SS} = the number of independent spatial streams of data and $G_{ANT\ MAX}$ is the gain of the antenna having the highest gain (in dBi).

For 2.4GHz function:

For IEEE 802.11 b/g/n/ac/ax mode

Radio 2 : Ant. 5 to Ant. 8 could transmit/receive simultaneously. (4TX/4RX)

Radio 3 : Ant. 9 and Ant. 10 could transmit/receive simultaneously.(2TX/2RX)

For 5GHz function:

For IEEE 802.11 a/n/ac/ax mode

Radio 1 : Ant. 1 to Ant. 4 could transmit/receive simultaneously. (4TX/4RX)

Radio 2 : Ant. 5 to Ant. 8 could transmit/receive simultaneously. (4TX/4RX)

Radio 3 : Ant. 9 and Ant. 10 could transmit/receive simultaneously. (2RX)

For Bluetooth function:

For IEEE 802.15.1 Bluetooth mode

Radio 3 : Ant. 11 could transmit/receive simultaneously. (1TX/1RX)

1.1.3 EUT Information

Operational Condition				
EUT Power Type		From AC Adapter		
EUT Function	<input type="checkbox"/>	Outdoor	<input checked="" type="checkbox"/>	Indoor
	<input type="checkbox"/>	Fixed P2P	<input type="checkbox"/>	Client
Beamforming Function	<input checked="" type="checkbox"/>	Radio 1	<input checked="" type="checkbox"/>	Radio 2
TPC Function	<input checked="" type="checkbox"/>	With TPC Function	<input type="checkbox"/>	Without TPC Function
Type of EUT				
<input checked="" type="checkbox"/>	Stand-alone			
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device)			
	Combined Equipment - Brand Name / Model No.: ...			
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems)			
	Host System - Brand Name / Model No.: ...			
<input type="checkbox"/>	Other:			



1.1.4 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR931106AN
Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
UNII-2A and UNII-2C was added	All

1.1.5 Mode Test Duty Cycle

Radio 1

<Non-Beamforming>

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11a	0.952	0.21	2.067m	1k
802.11ac VHT20	0.986	0.06	n/a (DC≥=0.98)	n/a (DC≥=0.98)
802.11ac VHT40	0.973	0.12	956.25u	3k
802.11ac VHT80	0.927	0.33	464.063u	3k
802.11ac VHT160	0.91	0.41	256.25u	10k
802.11ax HEW20	0.985	0.07	n/a (DC≥=0.98)	n/a (DC≥=0.98)
802.11ax HEW40	0.958	0.19	910.938u	3k
802.11ax HEW80	0.941	0.26	475u	3k
802.11ax HEW160	0.915	0.39	276.563u	10k

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

<Beamforming>

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11ac VHT20-BF	0.935	0.29	3.844m	300
802.11ac VHT40-BF	0.957	0.19	3.697m	300
802.11ac VHT80-BF	0.96	0.18	3.7m	300
802.11ac VHT160-BF	0.96	0.18	5.104m	300
802.11ax HEW20-BF	0.905	0.43	2.932m	1k
802.11ax HEW40-BF	0.939	0.27	4.616m	300
802.11ax HEW80-BF	0.942	0.26	4.852m	300
802.11ax HEW160-BF	0.941	0.26	5.194m	300

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.



Radio 2
<Non-Beamforming>

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11a	0.952	0.21	2.067m	1k
802.11ac VHT20	0.986	0.06	n/a (DC≥=0.98)	n/a (DC≥=0.98)
802.11ac VHT40	0.97	0.13	956.25u	3k
802.11ac VHT80	0.933	0.3	464.063u	3k
802.11ac VHT160	0.911	0.4	537.5u	3k
802.11ax HEW20	0.981	0.08	n/a (DC≥=0.98)	n/a (DC≥=0.98)
802.11ax HEW40	0.965	0.15	776.563u	3k
802.11ax HEW80	0.913	0.4	404.688u	3k
802.11ax HEW160	0.899	0.46	237.5u	10k

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

< Beamforming>

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11ac VHT20-BF	0.928	0.32	3.967m	300
802.11ac VHT40-BF	0.953	0.21	3.697m	300
802.11ac VHT80-BF	0.937	0.28	5.104m	300
802.11ac VHT160-BF	0.948	0.23	5.194m	300
802.11ax HEW20-BF	0.91	0.41	2.931m	1k
802.11ax HEW40-BF	0.93	0.32	4.616m	300
802.11ax HEW80-BF	0.942	0.26	4.852m	300
802.11ax HEW160-BF	0.96	0.18	5.104m	300

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

1.1.6 Table for Multiple Listing

Brand Name	Model Name	Description
FORTINET	FortiAP U431Fxxxxxx	Internal Antenna
	FAP-U431Fxxxxxx	
	FORTIAP-U431Fxxxxxx	
	FortiAP U433Fxxxxxx	External Antenna
	FAP-U433Fxxxxxx	
	FORTIAP-U433Fxxxxxx	

Notes: All the models are electrically identical, difference model names for marketing purpose.



1.2 Testing Applied 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
- ◆ KDB 789033 D02 v02r01
- ◆ KDB 662911 D01 v02r01

1.3 Testing Location Information

Testing Location				
<input checked="" type="checkbox"/>	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	
Test site Designation No. TW1190 with FCC.				
<input type="checkbox"/>	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)		
		TEL : 886-3-656-9065	FAX : 886-3-656-9085	
Test site Designation No. TW0006 with FCC.				

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH06-HY	Gary	22.3~26.8°C / 62~67%	13/May/2019~23/May/2019
Radiated	03CH02-HY	Daniel	22.4~24.2°C / 52.5~56.1%	01/May/2019~22/May/2019

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.54 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	1.6 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.9 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%
Temperature	0.7 °C	Confidence levels of 95%
Humidity	4 %	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Condition

Condition Item	Abbreviation/Remark	Remark
RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	120V

2.2 Test Channel Mode

Radio1

<Non-Beamforming>

Test Software Version	MTool 3.1.0.1
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Mode	PowerSetting
802.11a_Nss1,(6Mbps)_4TX	-
5260MHz	51
5300MHz	51
5320MHz	52
5500MHz	48
5580MHz	48
5700MHz	50
5720MHz Straddle 5.47-5.725GHz	50
5720MHz Straddle 5.725-5.85GHz	50
802.11ac VHT20_Nss1,(MCS0)_4TX	-
5260MHz	53
5300MHz	53
5320MHz	53
5500MHz	49
5580MHz	49
5700MHz	45
5720MHz Straddle 5.47-5.725GHz	50
5720MHz Straddle 5.725-5.85GHz	50
802.11ac VHT40_Nss1,(MCS0)_4TX	-
5270MHz	63
5310MHz	61
5510MHz	58



Mode	PowerSetting
5550MHz	61
5670MHz	62
5710MHz Straddle 5.47-5.725GHz	62
5710MHz Straddle 5.725-5.85GHz	62
802.11ac VHT80_Nss1,(MCS0)_4TX	-
5290MHz	55
5530MHz	61
5610MHz	69
5690MHz Straddle 5.47-5.725GHz	71
5690MHz Straddle 5.725-5.85GHz	71
802.11ac VHT160_Nss1,(MCS0)_4TX	-
5250MHz Straddle 5.15-5.25GHz	47
5250MHz Straddle 5.25-5.35GHz	47
5570MHz	54
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5260MHz	53
5300MHz	53
5320MHz	53
5500MHz	49
5580MHz	49
5700MHz	45
5720MHz Straddle 5.47-5.725GHz	50
5720MHz Straddle 5.725-5.85GHz	50
802.11ax HEW40_Nss1,(MCS0)_4TX	-
5270MHz	63
5310MHz	61
5510MHz	58
5550MHz	61
5670MHz	62
5710MHz Straddle 5.47-5.725GHz	62
5710MHz Straddle 5.725-5.85GHz	62
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5290MHz	55
5530MHz	61
5610MHz	69



Mode	PowerSetting
5690MHz Straddle 5.47-5.725GHz	71
5690MHz Straddle 5.725-5.85GHz	71
802.11ax HEW160_Nss1,(MCS0)_4TX	-
5250MHz Straddle 5.15-5.25GHz	47
5250MHz Straddle 5.25-5.35GHz	47
5570MHz	54



<Beamforming>

Test Software Version	Dos
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Mode	PowerSetting
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
5260MHz	49
5300MHz	49
5320MHz	49
5500MHz	46
5580MHz	46
5700MHz	48
5720MHz Straddle 5.47-5.725GHz	48
5720MHz Straddle 5.725-5.85GHz	48
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
5270MHz	47
5310MHz	47
5510MHz	45
5550MHz	45
5670MHz	47
5710MHz Straddle 5.47-5.725GHz	48
5710MHz Straddle 5.725-5.85GHz	48
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-
5290MHz	47
5530MHz	44
5610MHz	44
5690MHz Straddle 5.47-5.725GHz	47
5690MHz Straddle 5.725-5.85GHz	47
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-
5250MHz Straddle 5.15-5.25GHz	52
5250MHz Straddle 5.25-5.35GHz	52
5570MHz	44
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-
5260MHz	49
5300MHz	49
5320MHz	49
5500MHz	46



Mode	PowerSetting
5580MHz	46
5700MHz	48
5720MHz Straddle 5.47-5.725GHz	48
5720MHz Straddle 5.725-5.85GHz	48
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5270MHz	47
5310MHz	47
5510MHz	45
5550MHz	45
5670MHz	47
5710MHz Straddle 5.47-5.725GHz	48
5710MHz Straddle 5.725-5.85GHz	48
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5290MHz	47
5530MHz	44
5610MHz	44
5690MHz Straddle 5.47-5.725GHz	47
5690MHz Straddle 5.725-5.85GHz	47
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-
5250MHz Straddle 5.15-5.25GHz	52
5250MHz Straddle 5.25-5.35GHz	52
5570MHz	44



Radio 2

<Non-Beamforming>

Test Software Version	MTool 3.1.0.1
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Mode	PowerSetting
802.11a_Nss1,(6Mbps)_4TX	-
5500MHz	50
5580MHz	53
5700MHz	49
5720MHz Straddle 5.47-5.725GHz	50
5720MHz Straddle 5.725-5.85GHz	50
802.11ac VHT20_Nss1,(MCS0)_4TX	-
5500MHz	50
5580MHz	51
5700MHz	50
5720MHz Straddle 5.47-5.725GHz	50
5720MHz Straddle 5.725-5.85GHz	50
802.11ac VHT40_Nss1,(MCS0)_4TX	-
5510MHz	60
5550MHz	62
5670MHz	62
5710MHz Straddle 5.47-5.725GHz	62
5710MHz Straddle 5.725-5.85GHz	62
802.11ac VHT80_Nss1,(MCS0)_4TX	-
5530MHz	56
5610MHz	73
5690MHz Straddle 5.47-5.725GHz	70
5690MHz Straddle 5.725-5.85GHz	70
802.11ac VHT160_Nss1,(MCS0)_4TX	-
5570MHz	58
802.11ax HEW20_Nss1,(MCS0)_4TX	-
5500MHz	50
5580MHz	51
5700MHz	50
5720MHz Straddle 5.47-5.725GHz	50
5720MHz Straddle 5.725-5.85GHz	50
802.11ax HEW40_Nss1,(MCS0)_4TX	-



Mode	PowerSetting
5510MHz	60
5550MHz	62
5670MHz	62
5710MHz Straddle 5.47-5.725GHz	62
5710MHz Straddle 5.725-5.85GHz	62
802.11ax HEW80_Nss1,(MCS0)_4TX	-
5530MHz	56
5610MHz	73
5690MHz Straddle 5.47-5.725GHz	70
5690MHz Straddle 5.725-5.85GHz	70
802.11ax HEW160_Nss1,(MCS0)_4TX	-
5570MHz	58

<Beamforming>

Mode	PowerSetting
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-
5500MHz	49
5580MHz	52
5700MHz	49
5720MHz Straddle 5.47-5.725GHz	50
5720MHz Straddle 5.725-5.85GHz	50
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-
5510MHz	48
5550MHz	49
5670MHz	47
5710MHz Straddle 5.47-5.725GHz	49
5710MHz Straddle 5.725-5.85GHz	49
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-
5530MHz	45
5610MHz	49
5690MHz Straddle 5.47-5.725GHz	48
5690MHz Straddle 5.725-5.85GHz	48
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-
5570MHz	44
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-



Mode	PowerSetting
5500MHz	49
5580MHz	52
5700MHz	49
5720MHz Straddle 5.47-5.725GHz	50
5720MHz Straddle 5.725-5.85GHz	50
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-
5510MHz	48
5550MHz	49
5670MHz	47
5710MHz Straddle 5.47-5.725GHz	49
5710MHz Straddle 5.725-5.85GHz	49
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-
5530MHz	45
5610MHz	49
5690MHz Straddle 5.47-5.725GHz	48
5690MHz Straddle 5.725-5.85GHz	48
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-
5570MHz	44



2.3 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				
Internal / External	1. Adapter mode ; Radio 1 ; 5G TX 2. Adapter mode ; Radio 2 ; 5G TX 3. Adapter mode ; Radio1 ; 5G BF 4. Adapter mode ; Radio2 ; 5G BF				
Operating Mode > 1GHz	CTX				
Orthogonal Planes of EUT	<table border="1"><thead><tr><th>Y Plane</th><th>Z Plane</th></tr></thead><tbody><tr><td></td><td></td></tr></tbody></table>	Y Plane	Z Plane		
Y Plane	Z Plane				
Worst Planes of EUT	V				



2.4 Accessories and Support Equipment

Accessories				
AC Adapter	Brand Name	APD	Model Name	WA-30J12R
	Power Rating	I/P: 100 - 240Vac, 0.9 A, O/P: 12 Vdc, 2.5 A		
	Power Cord	1.50 meter, non-shielded cable, w/o ferrite core		

Reminder: Regarding to more detail and other information, please refer to user manual.

Support Equipment – RF Conducted				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5410	R33002 / DOC
2	Adapter for NB	DELL	HA65NM130	R35737 / DOC

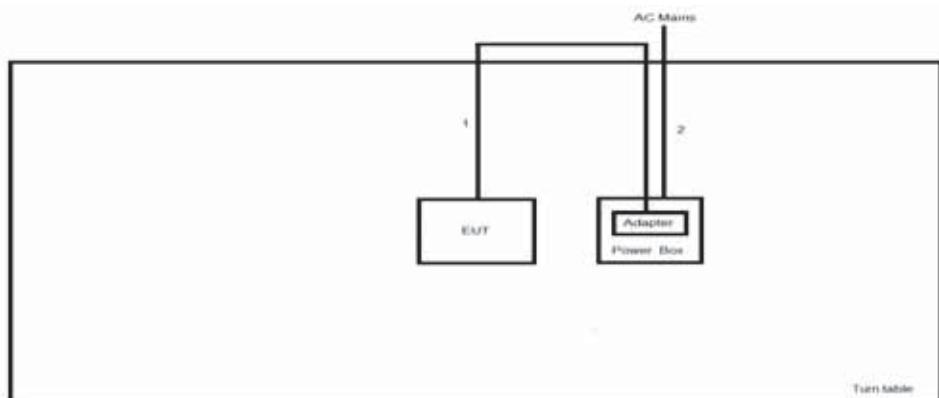
Support Equipment – Radiated Emission				
No.	Equipment	Brand Name	Model Name	FCC ID
1	Notebook	DELL	E5530	DOC
2	Client AP	FORTINET	FAP-U433F	DOC
3	Client AP	FORTINET	FAP-U431F	DOC

Note. Support equipment No.2,3 was provided by customer.



2.5 Test Setup Diagram

Test Setup Diagram - Radiated Test



Turn table

Item	Connection	Shielded	Length(m)	Remark
1	DC Power line	No	1.5	-
2	AC Power line	No	1.8	-



3 Transmitter Test Result

3.1 Emission Bandwidth

3.1.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
<input checked="" type="checkbox"/>	For the 5.15-5.25 GHz band, N/A
<input checked="" type="checkbox"/>	For the 5.25-5.35 GHz band, N/A
<input checked="" type="checkbox"/>	For the 5.47-5.725 GHz band, N/A
<input checked="" type="checkbox"/>	For the 5.725-5.85 GHz band, 6 dB emission bandwidth \geq 500kHz.

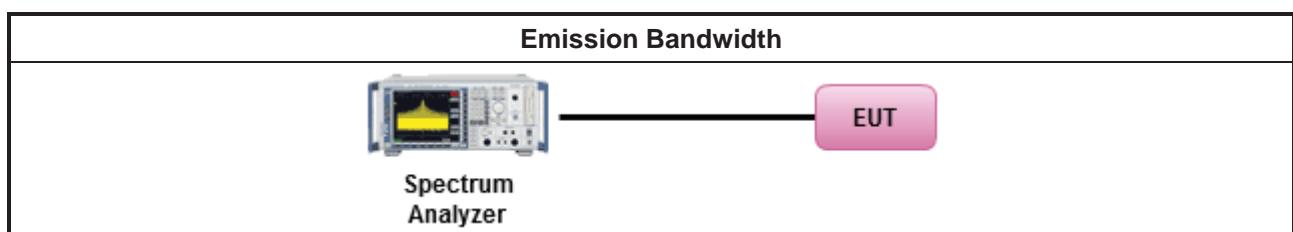
3.1.2 Measuring Instruments

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:	
<input checked="" type="checkbox"/>	Refer as KDB 789033, clause C for EBW and clause D for OBW measurement.
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.
<input type="checkbox"/>	Refer as IC RSS-Gen, clause 6.7 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	
<input checked="" type="checkbox"/> For the 5.15-5.25 GHz band:	<ul style="list-style-type: none">▪ Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees $\leq 125\text{mW}$ [21dBm]▪ Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6 \text{ dBi}$, 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 $G_{TX} > 23 \text{ dBi}$, 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 $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 24 - (G_{TX} - 6)$.
<input checked="" type="checkbox"/> For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 24 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.47-5.725 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6 \text{ dBi}$, then $P_{Out} = 24 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	<ul style="list-style-type: none">▪ Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6 \text{ dBi}$, 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.	

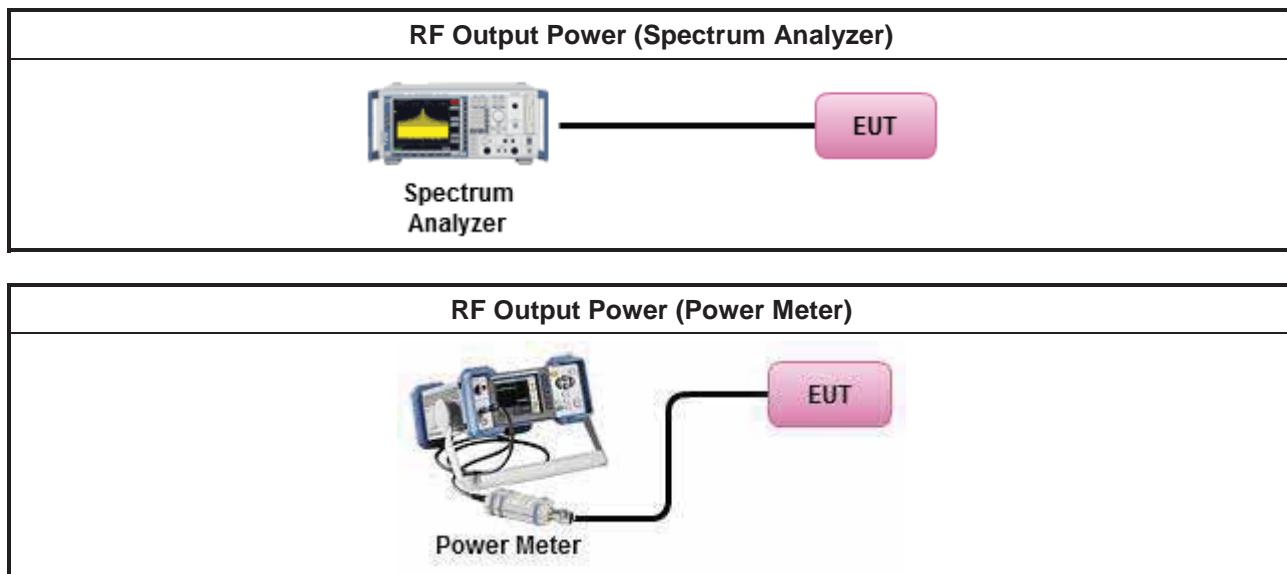
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
▪ Maximum Conducted Output Power	
Duty cycle ≥ 98%	<input checked="" type="checkbox"/> Refer as KDB 789033, clause E Method SA-2 (spectral trace averaging).
Duty cycle < 98%	<input checked="" type="checkbox"/> Refer as 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	<input checked="" type="checkbox"/> Refer as KDB 789033, clause E Method PM (using an RF average power meter).
▪ For conducted measurement.	
	<ul style="list-style-type: none">▪ If the EUT supports multiple transmit chains using options given below: Refer as 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



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	
<input checked="" type="checkbox"/> For the 5.15-5.25 GHz band:	<ul style="list-style-type: none">▪ 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 $PPSD = 11 - (G_{TX} - 6)$.
<input checked="" type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
<input checked="" type="checkbox"/> For the 5.725-5.85 GHz band:	<ul style="list-style-type: none">▪ 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

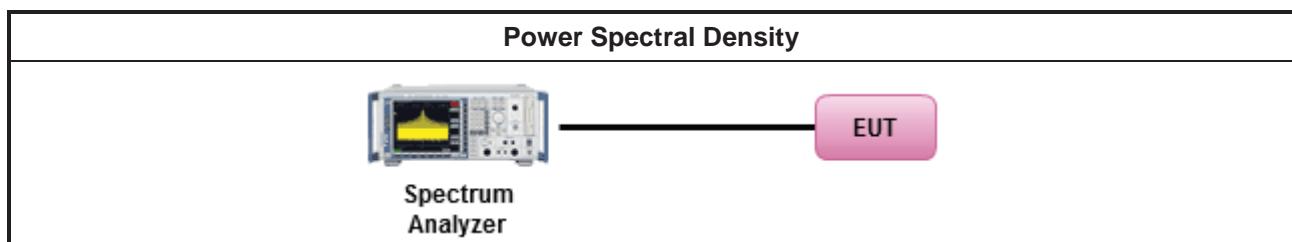
Refer a test equipment and calibration data table in this test report.



3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none">▪ 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:	
	<input type="checkbox"/> Refer as KDB 789033, F5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth
	Duty cycle \geq 98%
	<input checked="" type="checkbox"/> Refer as KDB 789033, clause E Method SA-2 (spectral trace averaging).
	Duty cycle < 98%
	<input checked="" type="checkbox"/> Refer as KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
<ul style="list-style-type: none">▪ For conducted measurement.	
	<ul style="list-style-type: none">▪ If the EUT supports multiple transmit chains using options given below:
	<ul style="list-style-type: none">▪ Measure and sum the spectra across the outputs. Refer as KDB 662911, In-band power spectral density (PPSD). 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.
	<ul style="list-style-type: none">▪ If multiple transmit chains, EIRP PPSD calculation could be following as methods: $\text{PPSD}_{\text{total}} = \text{PPSD}_1 + \text{PPSD}_2 + \dots + \text{PPSD}_n$(calculated in linear unit [mW] and transfer to log unit [dBm]) $\text{EIRP}_{\text{total}} = \text{PPSD}_{\text{total}} + \text{DG}$

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 Radiated 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	5.650-5700 GHz: e.i.r.p. -27 ~ 10 dBm [68.2 ~ 105.2 dBuV/m@3m] 5.700-5720 GHz: e.i.r.p. 10 ~ 15.6 dBm [105.2 ~ 110.8 dBuV/m@3m] 5.720-5725 GHz: e.i.r.p. 15.6 ~ 27 dBm [110.8 ~ 122.2 dBuV/m@3m] 5.850-5.855 GHz: e.i.r.p. 27 ~ 15.6 dBm [122.2 ~ 110.8 dBuV/m@3m] 5.855-5.875 GHz: e.i.r.p. 15.6 ~ 10 dBm [110.8 ~ 105.2 dBuV/m@3m] 5.875-5.925 GHz: e.i.r.p. 10 ~ -27 dBm [105.2 ~ 68.2 dBuV/m@3m] Other un-restricted band: e.i.r.p. -27 dBm [68.2 dBuV/m@3m]

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).



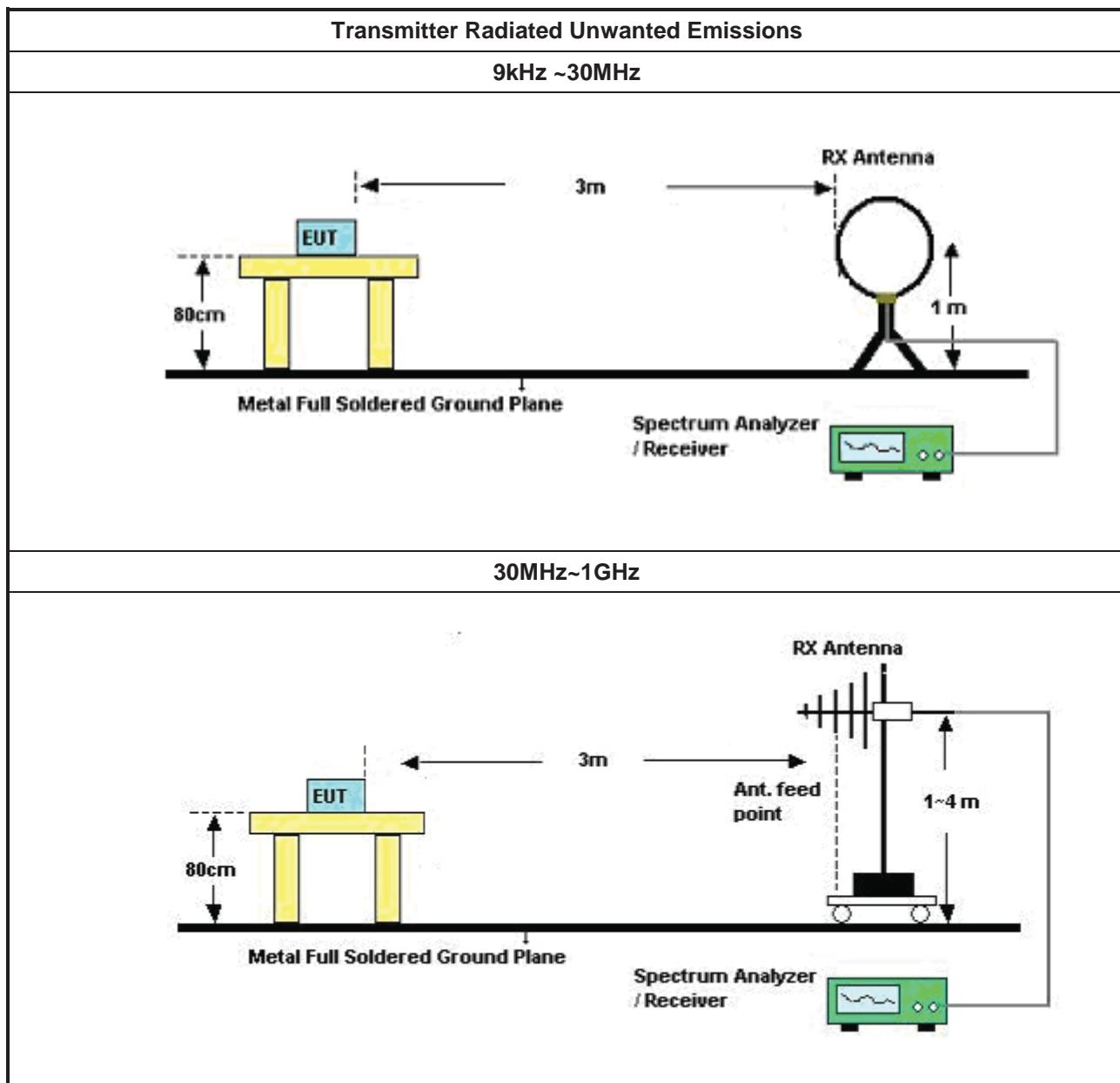
3.4.2 Measuring Instruments

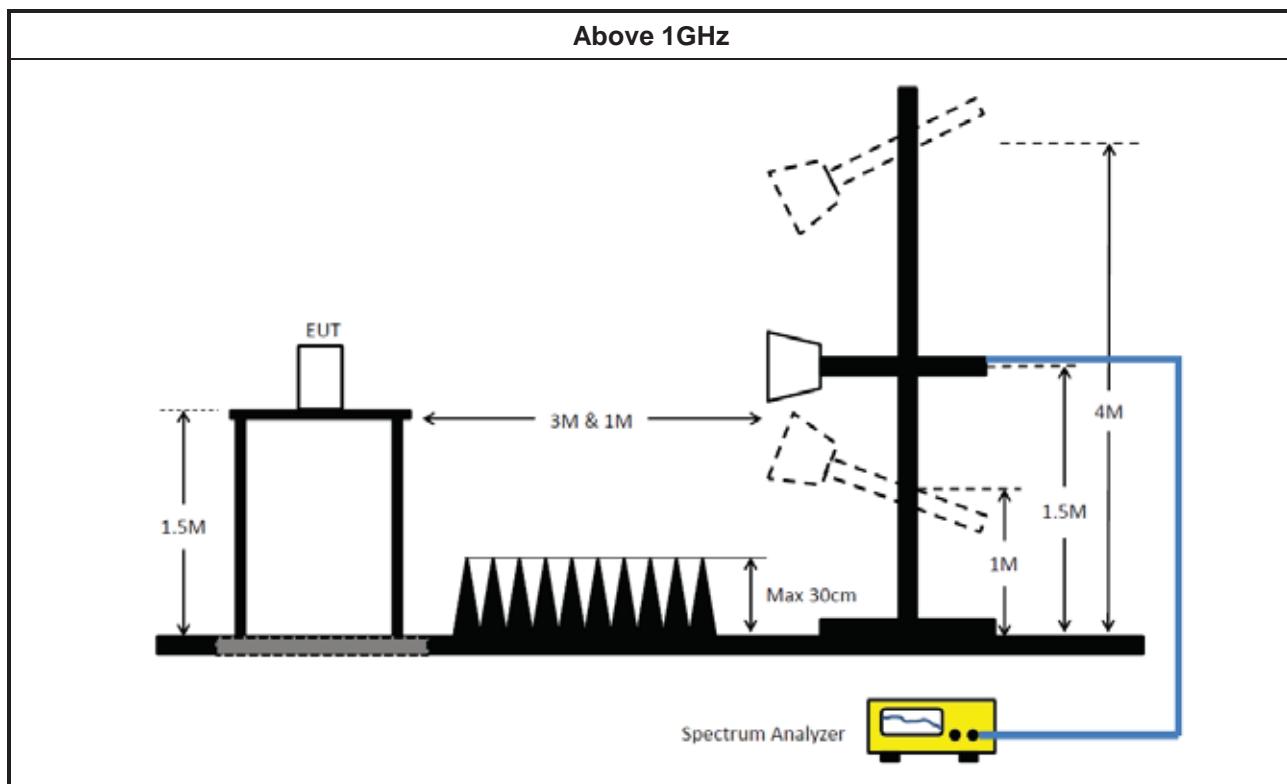
Refer a test equipment and calibration data table in this test report.

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 KDB 789033, clause G)2) for unwanted emissions into non-restricted bands.
	▪ Refer as KDB 789033, clause G)1) for unwanted emissions into restricted bands.
	<input checked="" type="checkbox"/> Refer as KDB 789033, G)6) Method VB (ANSI C63.10, clause 4.1.4.2.3), Reduced VBW.
	<input checked="" type="checkbox"/> Refer as KDB 789033, clause G)5) (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 Transmitter Unwanted Emissions (Below 30MHz)

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

3.4.6 Test Result of Transmitter Unwanted Emissions

Refer as Appendix D



3.5 Test Equipment and Calibration Data

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz ~ 1GHz 3m	19/Oct/2018	18/Oct/2019
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz ~ 18GHz 3m	17/Oct/2018	16/Oct/2019
Amplifier	Agilent	8447D	2944A11149	100kHz ~ 1.3GHz	27Jul/2018	02/Jul/2019
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz ~ 26.5GHz	23/Oct/2018	22/Oct/2019
Signal Analyzer	R&S	FSV40	101500	10Hz ~ 40GHz	18/Jul/2018	17/Jul/2019
RF Cable-R03m	Jye Bao	RG142	CB017	9kHz ~ 1GHz	26/Mar/2019	25/Mar/2020
RF Cable-high 6m	SUHNER	SUCOFLEX104	10567868 / SN805193/4	1GHz~40GHz	09/Apr/2019	08/Apr/2020
RF Cable-high 7m	SUHNER	SUCOFLEX104	10567868 / SN805192/4	1GHz~40GHz	09/Apr/2019	08/Apr/2020
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2723 / 2	30MHz ~ 1GHz	08/Sep/2018	07/Sep/2019
Preamplifier	MITEQ	TTA1840-35-HG	1864481	18GHz ~ 40GHz	24/Aug/2018	23/Aug/2019
EMI Test Receiver	R&S	ESR	102052	9kHz ~ 3.6GHz	09/Apr/2019	08/Apr/2020
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	15/Mar/2019	14/Mar/2020
Broadband Horn Antenna	SCHWARZBEC K	BBHA 9170	BBHA 9170221	15GHz ~ 40GHz	22/Mar/2019	21/Mar/2020
Double Ridged Guide Horn Antenna	SCHWARZBEC K	BBH 9120 D	BBHA 9120 D 1531	1GHz ~ 18GHz	09/Mar/2019	08/Mar/2020



Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101500	10Hz~40GHz	18/Jul/2018	17/Jul/2019
Power Sensor	Anritsu	MA2411B	1339407	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Power Meter	Anritsu	ML2495A	1517010	300MHz ~ 40GHz	17/Nov/2018	16/Nov/2019
Cable 0.2m	HUBER	MY10710/4	RF Cable - 01	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.2m	HUBER	MY10711/4	RF Cable - 02	30MHz ~18G	10/Jan/2019	09/Jan/2020
Cable 0.5m	HUBER	MY39470/4	RF Cable - 29	30MHz ~18G	10/Jan/2019	09/Jan/2020
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	12/Nov/2018	10/Nov/2020



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ac VHT160_Nss1,(MCS0)_4TX	82.32M	75.882M	75M9D1D	80.64M	75.642M
802.11ax HEW160_Nss1,(MCS0)_4TX	81.28M	77.241M	77M2D1D	80.64M	77.001M
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	21.69M	16.642M	16M6D1D	21.42M	16.552M
802.11ac VHT20_Nss1,(MCS0)_4TX	21.84M	17.811M	17M8D1D	21.45M	17.751M
802.11ac VHT40_Nss1,(MCS0)_4TX	40.38M	36.342M	36M3D1D	39.72M	36.222M
802.11ac VHT80_Nss1,(MCS0)_4TX	82.08M	75.802M	75M8D1D	81.36M	75.562M
802.11ac VHT160_Nss1,(MCS0)_4TX	83.12M	75.802M	75M8D1D	80.88M	75.562M
802.11ax HEW20_Nss1,(MCS0)_4TX	21.9M	18.981M	19M0D1D	21.36M	18.921M
802.11ax HEW40_Nss1,(MCS0)_4TX	40.2M	37.601M	37M6D1D	39.9M	37.481M
802.11ax HEW80_Nss1,(MCS0)_4TX	81.84M	77.121M	77M1D1D	81.48M	76.882M
802.11ax HEW160_Nss1,(MCS0)_4TX	81.36M	77.081M	77M1D1D	80.8M	76.922M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	21.69M	16.672M	16M7D1D	15.585M	13.328M
802.11ac VHT20_Nss1,(MCS0)_4TX	21.78M	17.811M	17M8D1D	15.765M	13.928M
802.11ac VHT40_Nss1,(MCS0)_4TX	40.32M	36.342M	36M3D1D	34.895M	33.023M
802.11ac VHT80_Nss1,(MCS0)_4TX	83.28M	75.802M	75M8D1D	75.675M	72.339M
802.11ac VHT160_Nss1,(MCS0)_4TX	230.88M	154.483M	154MD1D	163.44M	154.003M
802.11ax HEW20_Nss1,(MCS0)_4TX	21.96M	18.981M	19M0D1D	15.75M	14.483M
802.11ax HEW40_Nss1,(MCS0)_4TX	40.2M	37.601M	37M6D1D	35.035M	33.653M
802.11ax HEW80_Nss1,(MCS0)_4TX	81.96M	77.121M	77M1D1D	75.6M	73.163M
802.11ax HEW160_Nss1,(MCS0)_4TX	164.64M	155.202M	155MD1D	163.44M	154.963M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	3.22M	3.918M	3M92D1D	3.08M	3.838M
802.11ac VHT20_Nss1,(MCS0)_4TX	3.8M	4.238M	4M24D1D	3.72M	4.158M
802.11ac VHT40_Nss1,(MCS0)_4TX	3.1M	3.458M	3M46D1D	3.08M	3.438M
802.11ac VHT80_Nss1,(MCS0)_4TX	3.08M	21.529M	21M5D1D	2.96M	3.878M
802.11ax HEW20_Nss1,(MCS0)_4TX	4.46M	4.498M	4M50D1D	4.42M	4.458M
802.11ax HEW40_Nss1,(MCS0)_4TX	3.84M	3.978M	3M98D1D	3.7M	3.958M
802.11ax HEW80_Nss1,(MCS0)_4TX	3.76M	18.571M	18M6D1D	3.3M	4.038M

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_TnomVnom	Pass	Inf	21.45M	16.612M	21.63M	16.582M	21.66M	16.582M	21.51M	16.552M
5300MHz_TnomVnom	Pass	Inf	21.48M	16.582M	21.63M	16.582M	21.69M	16.642M	21.42M	16.582M
5320MHz_TnomVnom	Pass	Inf	21.51M	16.612M	21.54M	16.612M	21.57M	16.612M	21.57M	16.552M
5500MHz_TnomVnom	Pass	Inf	21.51M	16.612M	21.66M	16.642M	21.57M	16.582M	21.48M	16.612M
5580MHz_TnomVnom	Pass	Inf	21.45M	16.582M	21.69M	16.672M	21.6M	16.582M	21.54M	16.582M
5700MHz_TnomVnom	Pass	Inf	21.57M	16.552M	21.66M	16.642M	21.54M	16.642M	21.48M	16.552M
5720MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	15.675M	13.358M	15.645M	13.373M	15.795M	13.373M	15.585M	13.328M
5720MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	3.22M	3.838M	3.08M	3.918M	3.1M	3.858M	3.1M	3.838M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz_TnomVnom	Pass	Inf	21.69M	17.811M	21.57M	17.781M	21.48M	17.751M	21.75M	17.751M
5300MHz_TnomVnom	Pass	Inf	21.72M	17.751M	21.54M	17.751M	21.48M	17.781M	21.78M	17.781M
5320MHz_TnomVnom	Pass	Inf	21.84M	17.751M	21.48M	17.781M	21.45M	17.781M	21.72M	17.781M
5500MHz_TnomVnom	Pass	Inf	21.72M	17.781M	21.6M	17.781M	21.45M	17.811M	21.75M	17.781M
5580MHz_TnomVnom	Pass	Inf	21.72M	17.751M	21.54M	17.781M	21.66M	17.781M	21.75M	17.751M
5700MHz_TnomVnom	Pass	Inf	21.78M	17.751M	21.51M	17.751M	21.51M	17.781M	21.66M	17.751M
5720MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	15.795M	13.958M	15.765M	13.928M	15.765M	13.973M	15.78M	13.958M
5720MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	3.72M	4.238M	3.74M	4.238M	3.72M	4.158M	3.8M	4.178M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz_TnomVnom	Pass	Inf	40.38M	36.222M	39.72M	36.222M	40.02M	36.222M	39.9M	36.222M
5310MHz_TnomVnom	Pass	Inf	40.26M	36.222M	39.78M	36.282M	39.9M	36.222M	39.84M	36.342M
5510MHz_TnomVnom	Pass	Inf	40.26M	36.222M	39.96M	36.222M	40.08M	36.342M	39.96M	36.282M
5550MHz_TnomVnom	Pass	Inf	40.26M	36.222M	39.84M	36.222M	39.96M	36.282M	39.96M	36.282M
5670MHz_TnomVnom	Pass	Inf	40.32M	36.222M	39.9M	36.102M	39.96M	36.162M	39.9M	36.222M
5710MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	35.245M	33.058M	34.895M	33.023M	35.035M	33.023M	34.895M	33.093M
5710MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	3.08M	3.438M	3.1M	3.458M	3.08M	3.438M	3.08M	3.458M
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz_TnomVnom	Pass	Inf	82.08M	75.562M	81.48M	75.802M	81.36M	75.682M	81.96M	75.682M
5530MHz_TnomVnom	Pass	Inf	81.96M	75.682M	81.48M	75.562M	81.6M	75.562M	81.84M	75.682M
5610MHz_TnomVnom	Pass	Inf	82.08M	75.682M	81.48M	75.802M	83.28M	75.802M	81.96M	75.802M
5690MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	76.125M	72.339M	75.675M	72.339M	79.95M	72.639M	76.275M	72.564M
5690MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	3.06M	8.676M	3.08M	20.53M	2.96M	21.529M	3.06M	3.878M
802.11ac VHT160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz_TnomVnom	Pass	Inf	81.36M	75.882M	81.36M	75.882M	82.32M	75.802M	80.64M	75.642M
5250MHz Straddle 5.25-5.35GHz_TnomVnom	Pass	Inf	81.52M	75.802M	83.12M	75.642M	80.88M	75.562M	81.12M	75.642M
5570MHz_TnomVnom	Pass	Inf	164.16M	154.003M	165.84M	154.483M	230.88M	154.003M	163.44M	154.243M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz_TnomVnom	Pass	Inf	21.75M	18.981M	21.72M	18.981M	21.84M	18.981M	21.48M	18.921M
5300MHz_TnomVnom	Pass	Inf	21.72M	18.951M	21.72M	18.981M	21.87M	18.921M	21.36M	18.951M
5320MHz_TnomVnom	Pass	Inf	21.72M	18.951M	21.69M	18.981M	21.9M	18.951M	21.48M	18.981M
5500MHz_TnomVnom	Pass	Inf	21.72M	18.981M	21.66M	18.981M	21.81M	18.981M	21.39M	18.981M
5580MHz_TnomVnom	Pass	Inf	21.75M	18.981M	21.66M	18.981M	21.84M	18.981M	21.39M	18.981M
5700MHz_TnomVnom	Pass	Inf	21.72M	18.981M	21.72M	18.981M	21.96M	18.981M	21.51M	18.951M
5720MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	15.81M	14.513M	15.825M	14.513M	15.945M	14.483M	15.75M	14.498M



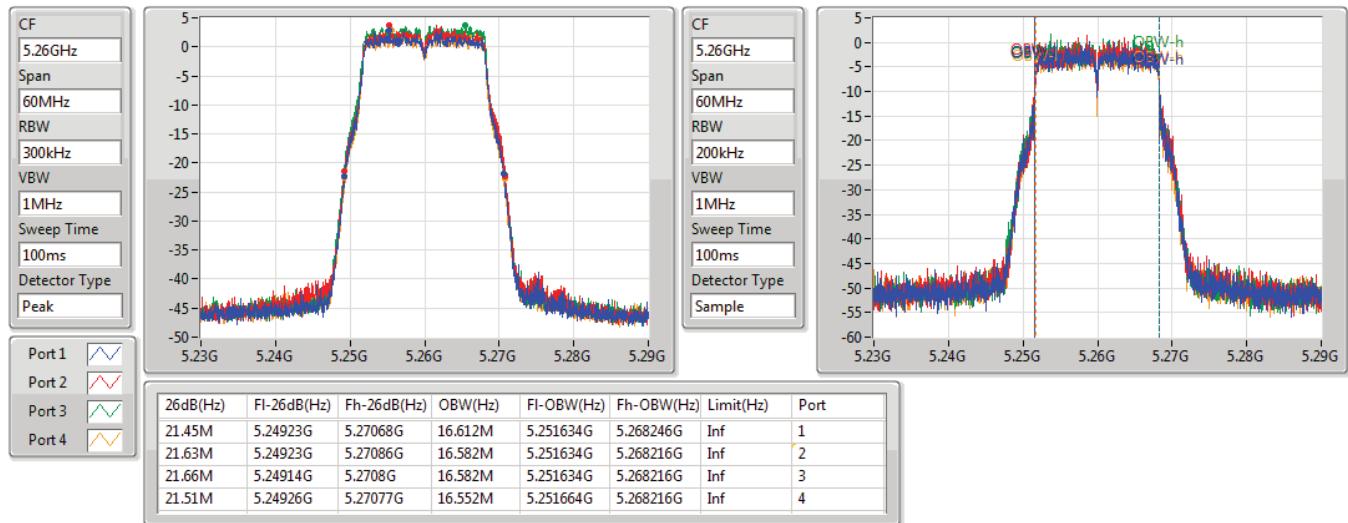
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
5720MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	4.42M	4.458M	4.46M	4.498M	4.46M	4.498M	4.44M	4.458M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz_TnomVnom	Pass	Inf	39.96M	37.541M	40.02M	37.481M	40.14M	37.541M	40.2M	37.541M
5310MHz_TnomVnom	Pass	Inf	39.9M	37.601M	40.08M	37.541M	40.08M	37.601M	40.14M	37.541M
5510MHz_TnomVnom	Pass	Inf	39.96M	37.541M	40.14M	37.541M	40.14M	37.601M	40.14M	37.541M
5550MHz_TnomVnom	Pass	Inf	39.96M	37.481M	40.14M	37.541M	40.2M	37.601M	40.2M	37.601M
5670MHz_TnomVnom	Pass	Inf	39.84M	37.481M	39.96M	37.481M	40.2M	37.601M	40.02M	37.541M
5710MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	35.035M	33.758M	35.21M	33.653M	35.105M	33.653M	35.105M	33.758M
5710MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	3.8M	3.958M	3.72M	3.978M	3.84M	3.978M	3.7M	3.958M
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz_TnomVnom	Pass	Inf	81.72M	76.882M	81.48M	77.001M	81.84M	77.121M	81.84M	77.001M
5530MHz_TnomVnom	Pass	Inf	81.6M	77.121M	81.72M	77.001M	81.84M	77.001M	81.96M	76.882M
5610MHz_TnomVnom	Pass	Inf	81.6M	77.001M	81.36M	77.001M	81.24M	77.121M	81.48M	77.121M
5690MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	75.75M	73.313M	75.6M	73.238M	75.6M	73.238M	75.9M	73.163M
5690MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	3.76M	4.038M	3.7M	9.855M	3.74M	18.571M	3.3M	6.757M
802.11ax HEW160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz_TnomVnom	Pass	Inf	80.64M	77.241M	80.64M	77.161M	81.28M	77.161M	80.8M	77.001M
5250MHz Straddle 5.25-5.35GHz_TnomVnom	Pass	Inf	81.2M	77.001M	81.36M	77.081M	80.8M	76.922M	81.2M	77.001M
5570MHz_TnomVnom	Pass	Inf	164.64M	155.202M	164.64M	154.963M	163.44M	155.202M	163.68M	154.963M

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

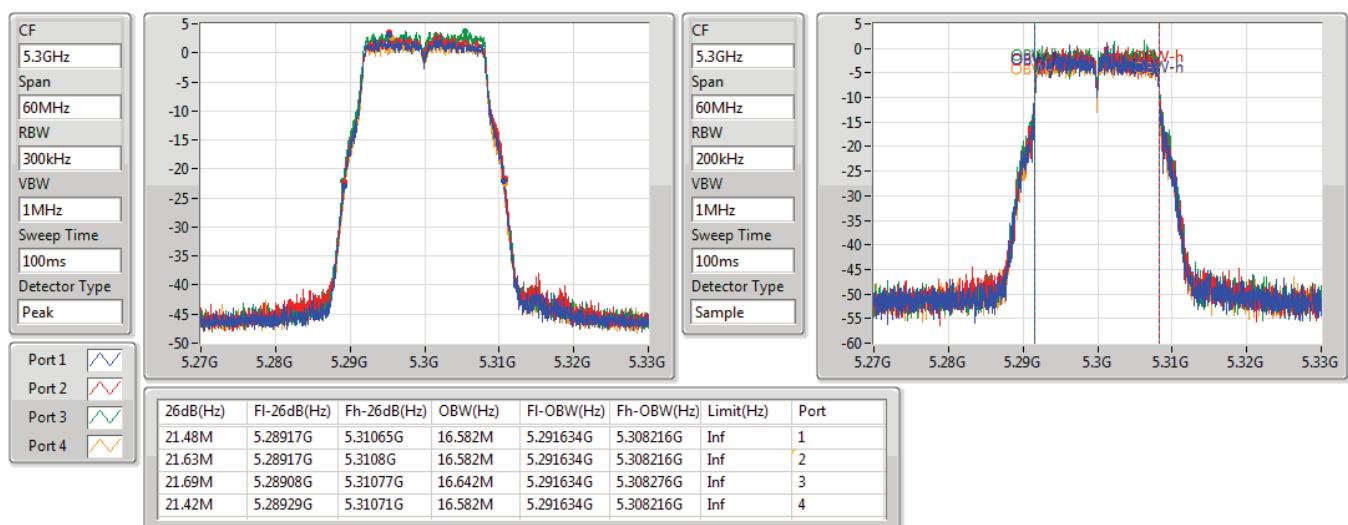
Port X-OBW = Port X 99% occupied bandwidth;

802.11a_Nss1,(6Mbps)_4TX
EBW
5260MHz

13/05/2019

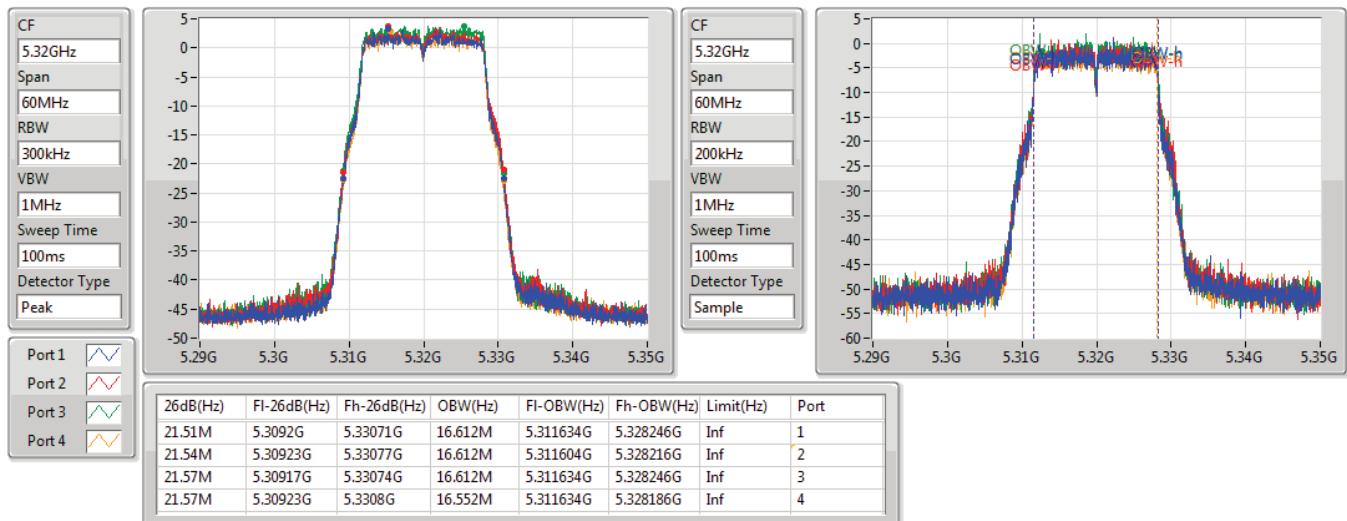

802.11a_Nss1,(6Mbps)_4TX
EBW
5300MHz

13/05/2019

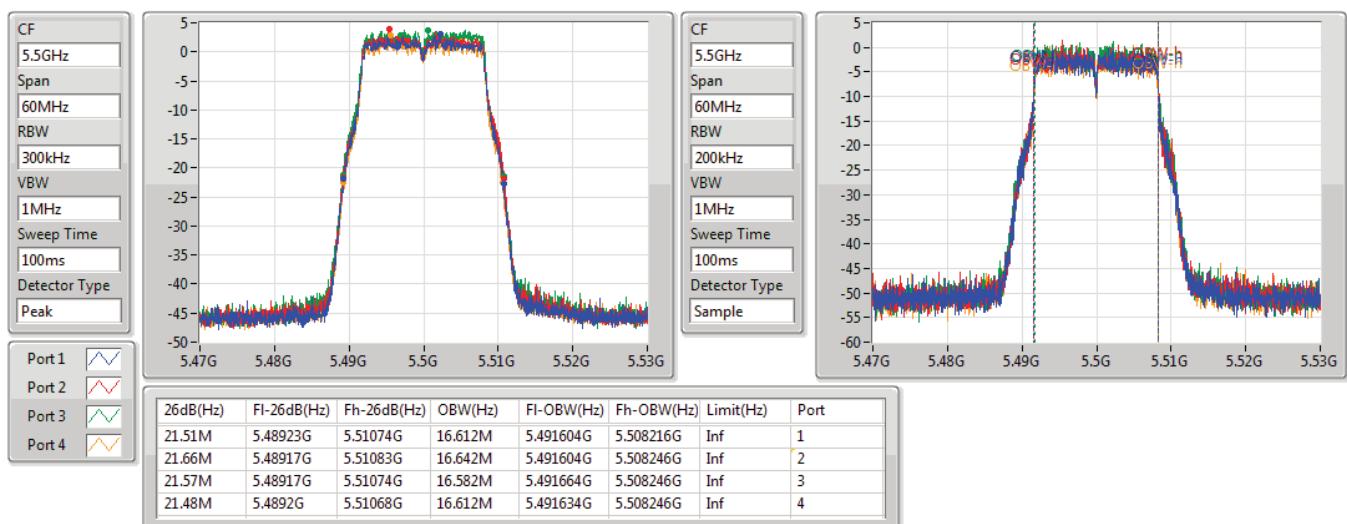


802.11a_Nss1,(6Mbps)_4TX
EBW
5320MHz

13/05/2019

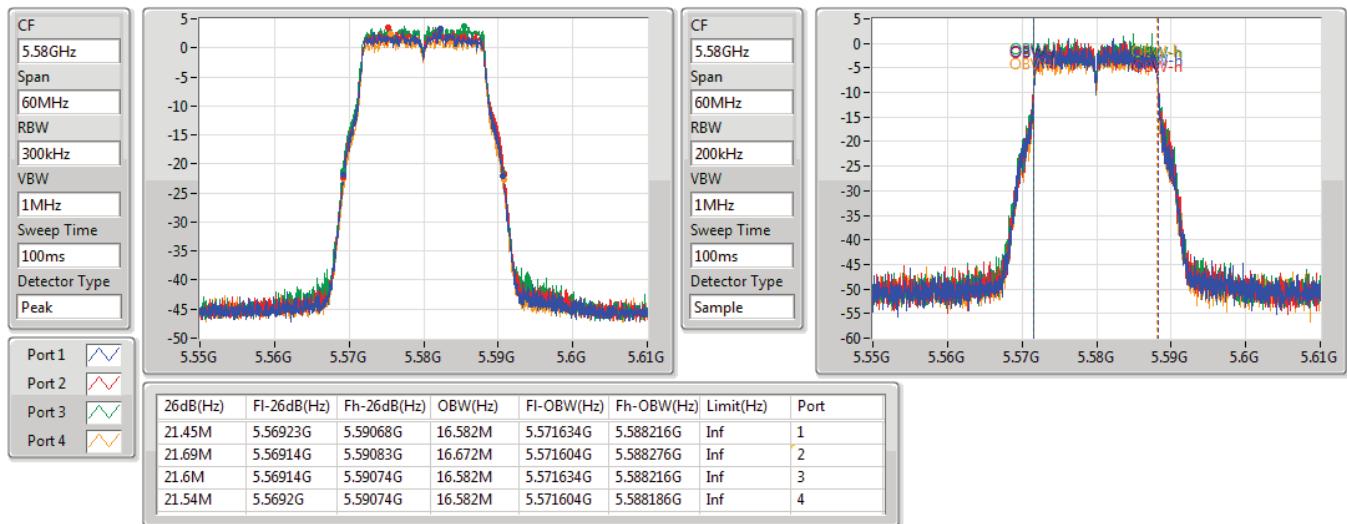

802.11a_Nss1,(6Mbps)_4TX
EBW
5500MHz

13/05/2019

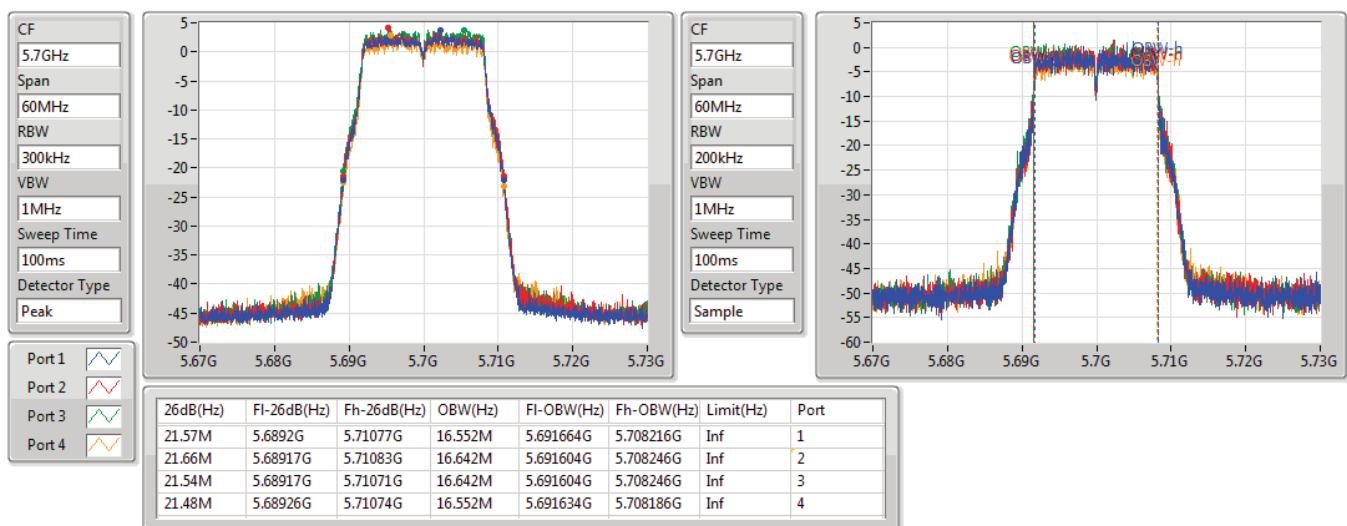


802.11a_Nss1,(6Mbps)_4TX
EBW
5580MHz

13/05/2019

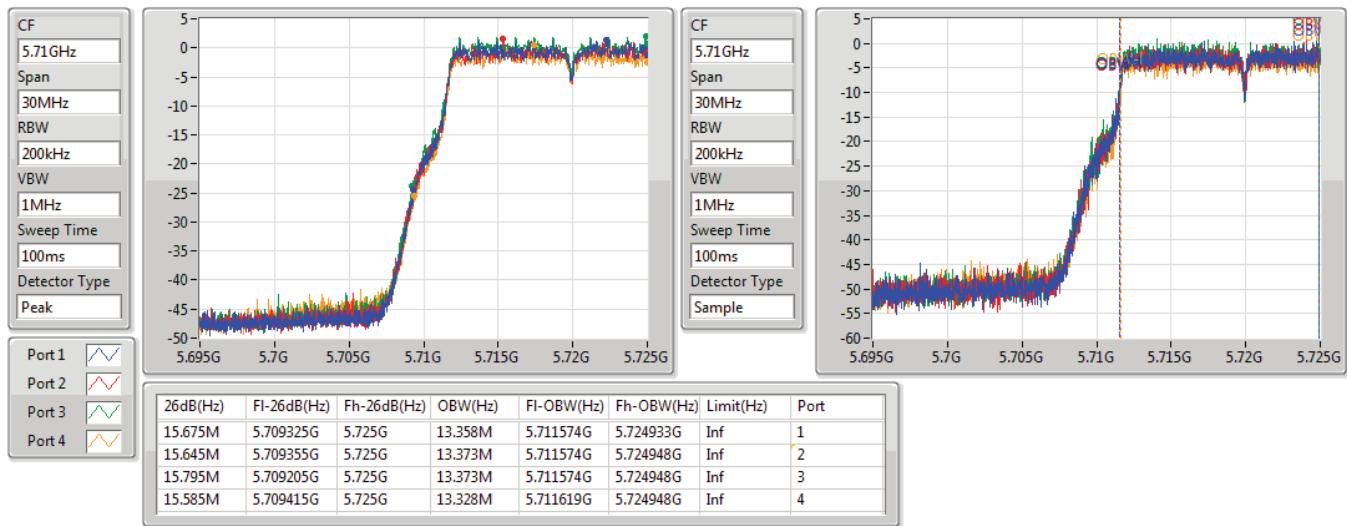

802.11a_Nss1,(6Mbps)_4TX
EBW
5700MHz

13/05/2019

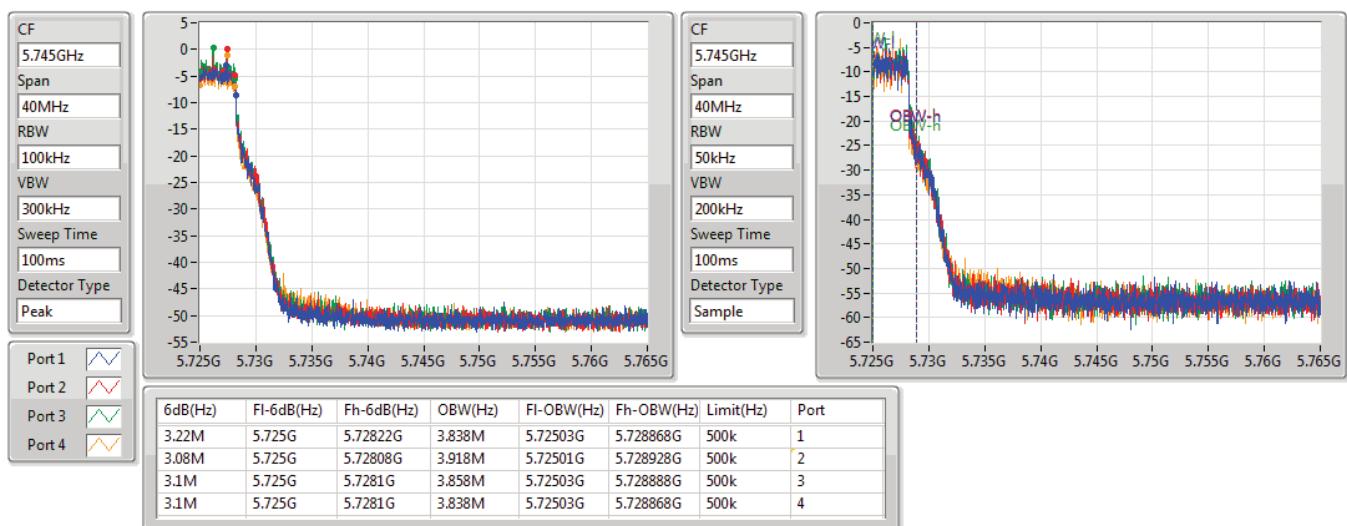


802.11a_Nss1,(6Mbps)_4TX
EBW
5720MHz Straddle 5.47-5.725GHz

13/05/2019

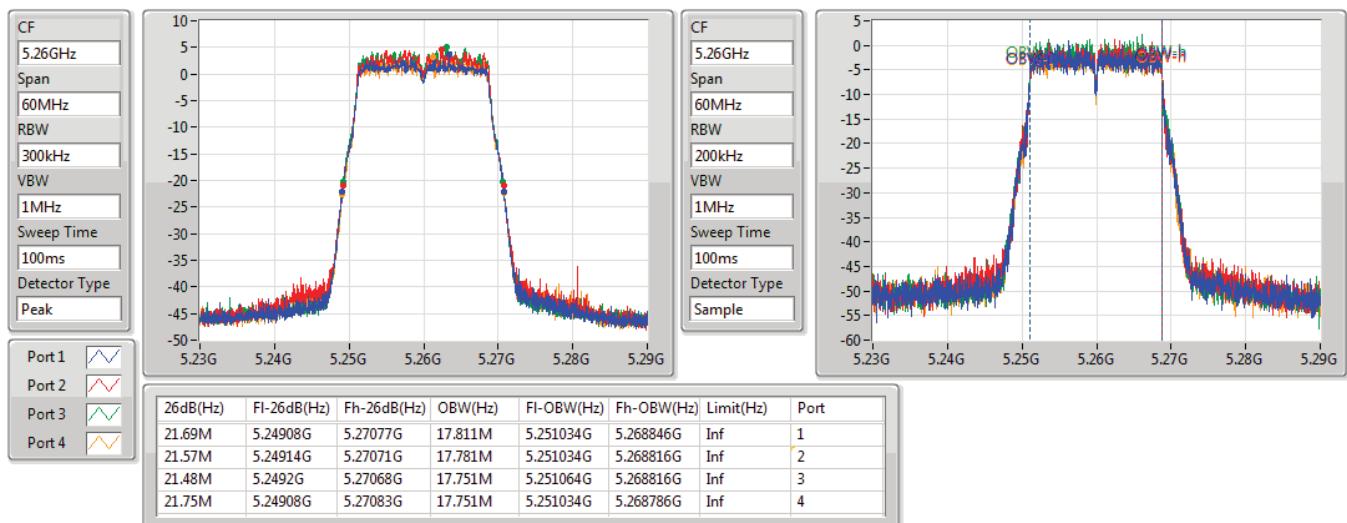

802.11a_Nss1,(6Mbps)_4TX
EBW
5720MHz Straddle 5.725-5.85GHz

13/05/2019

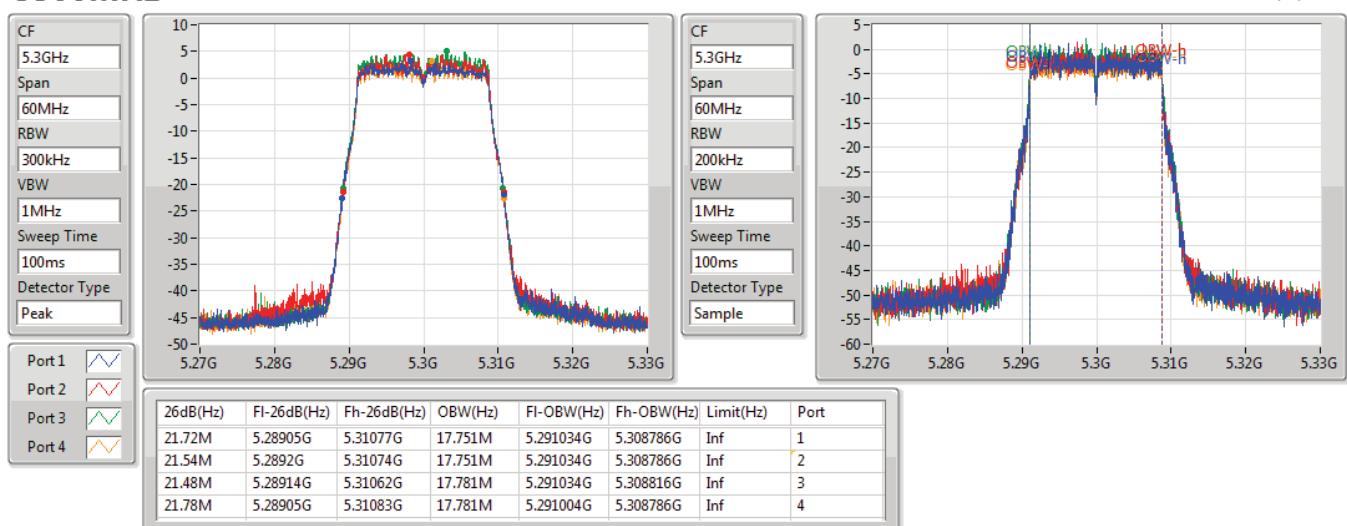


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5260MHz

13/05/2019

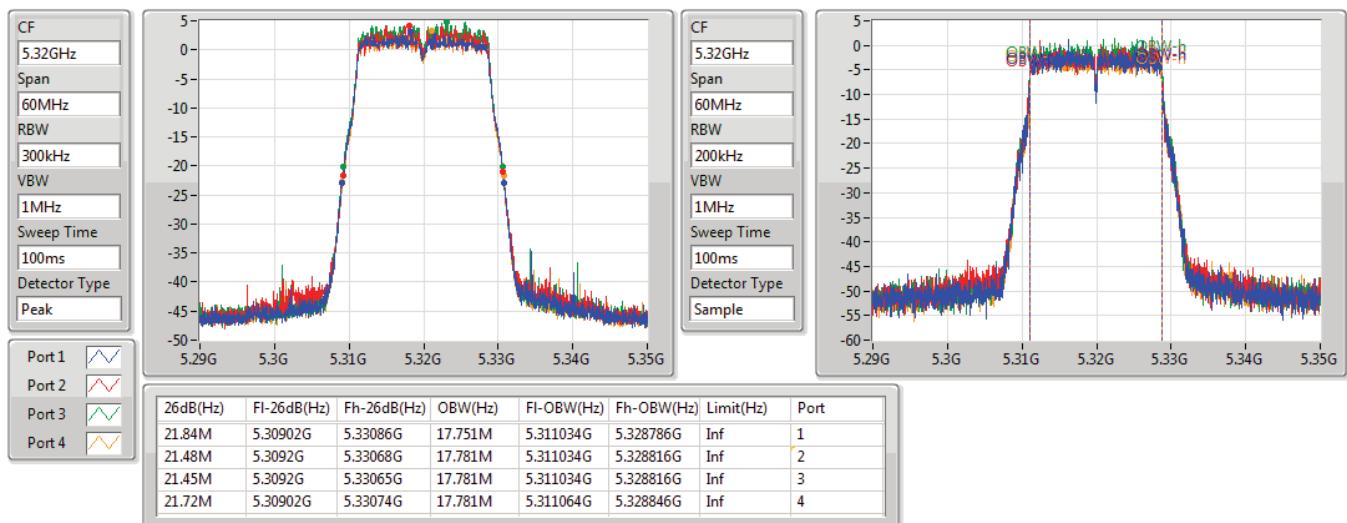

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5300MHz

13/05/2019

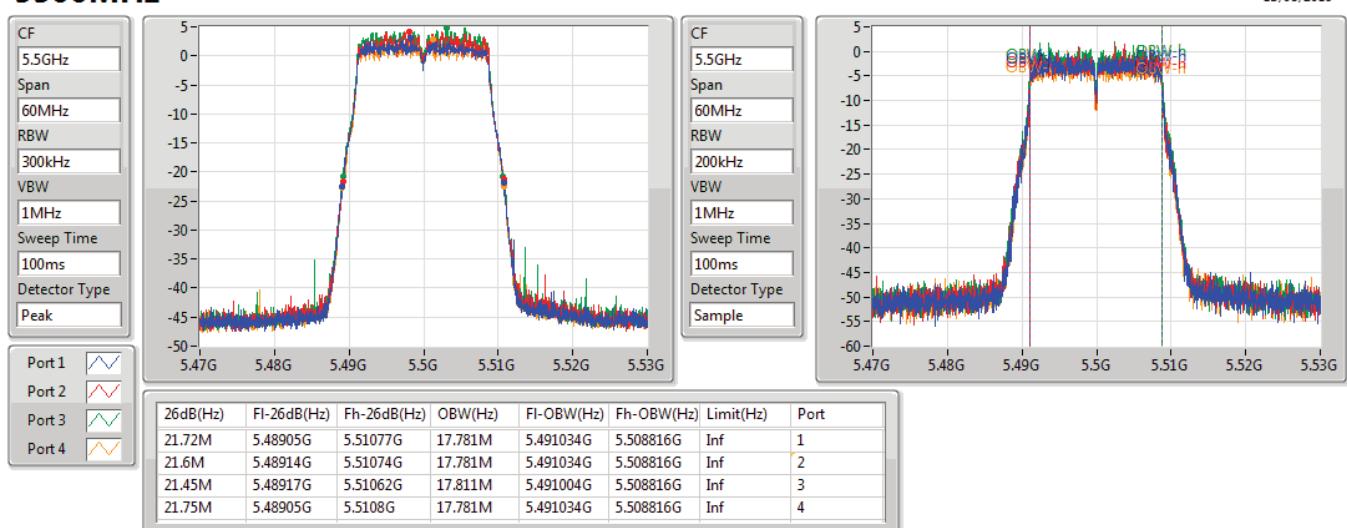


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5320MHz

13/05/2019

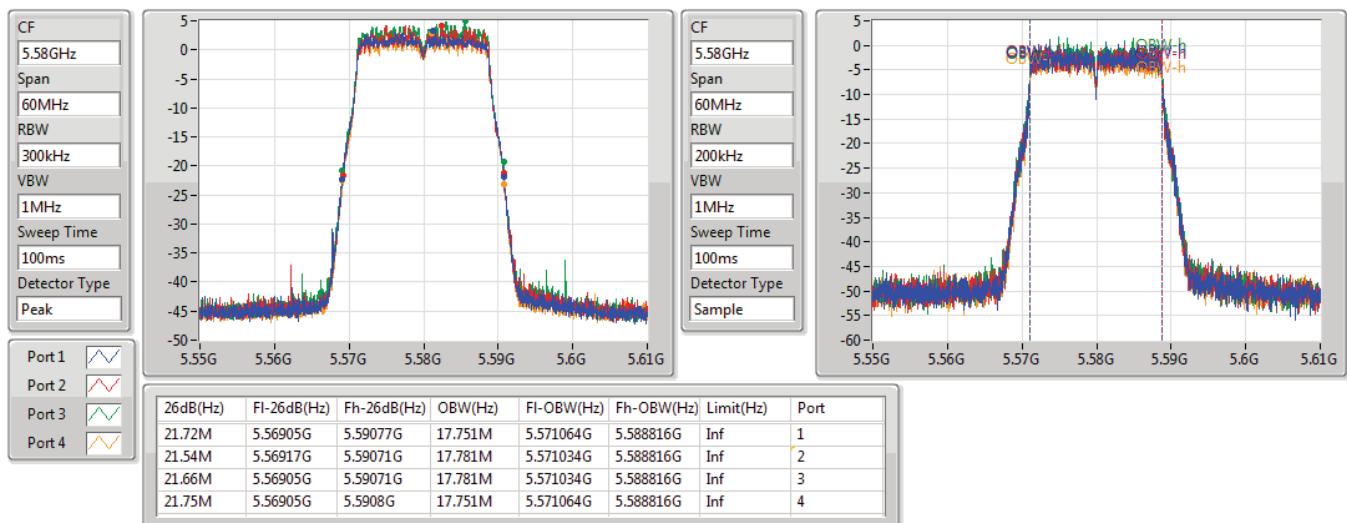

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5500MHz

13/05/2019

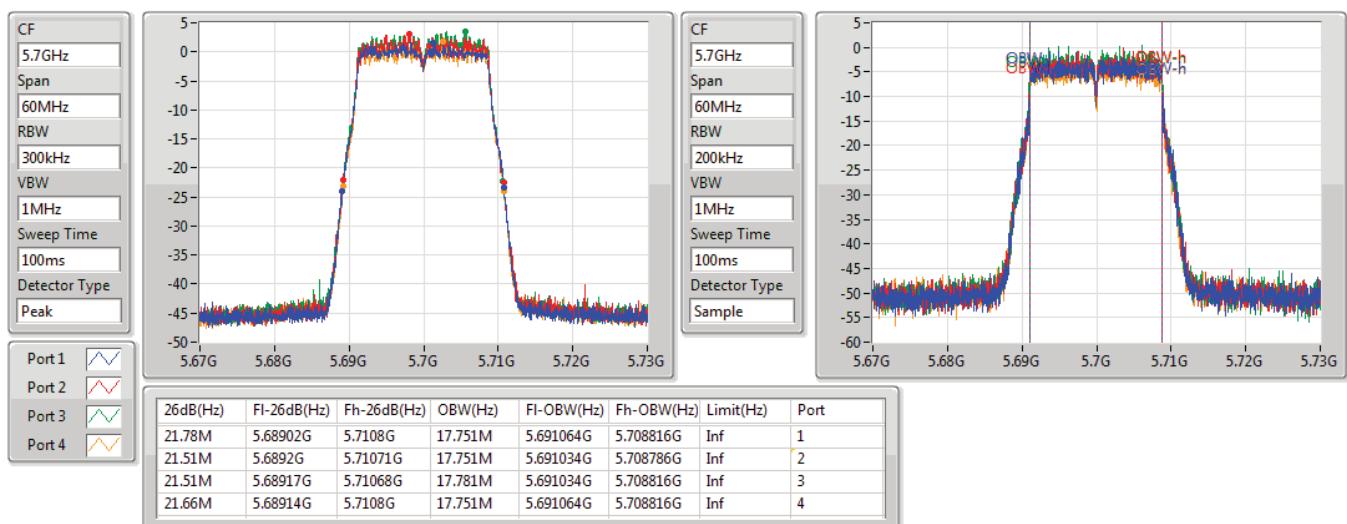


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5580MHz

13/05/2019

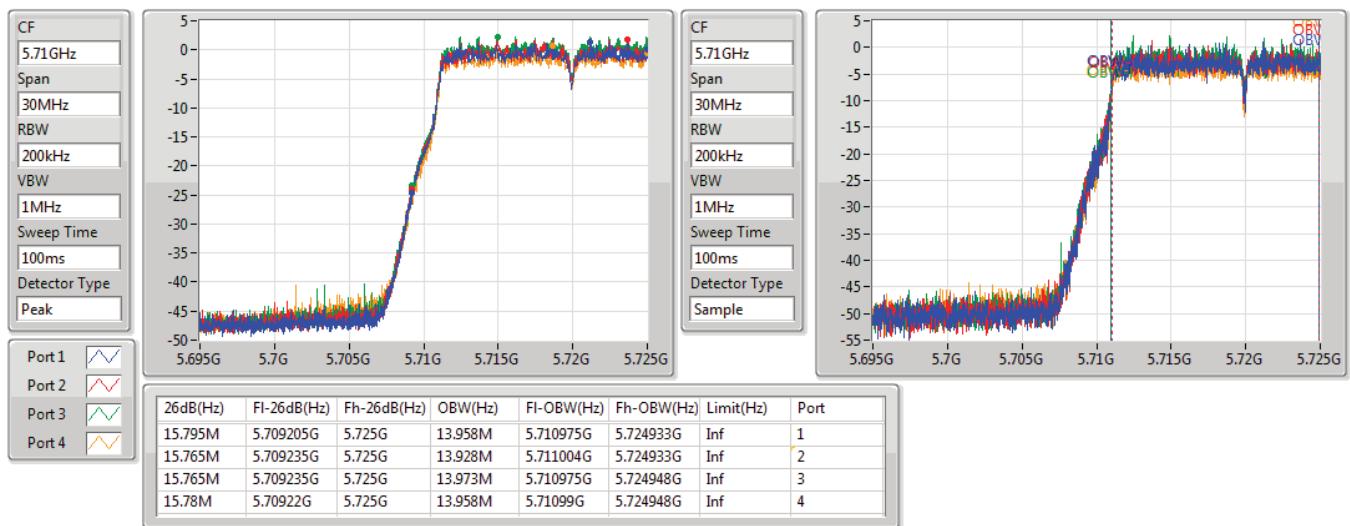

802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5700MHz

13/05/2019

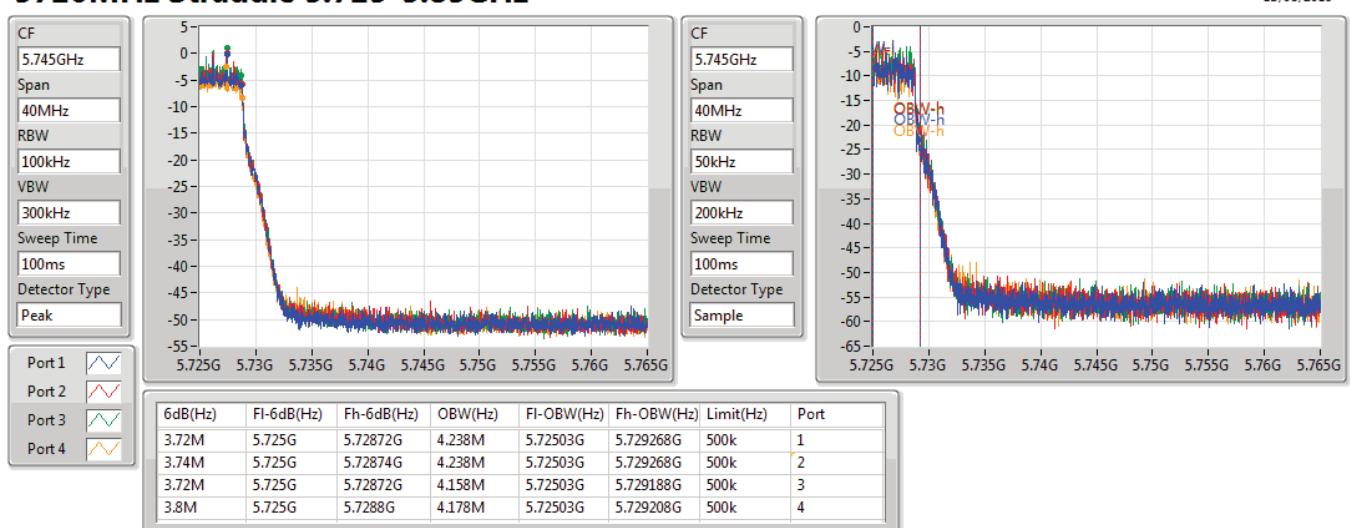


**802.11ac VHT20_Nss1,(MCS0)_4TX
5720MHz Straddle 5.47-5.725GHz**
EBW

13/05/2019

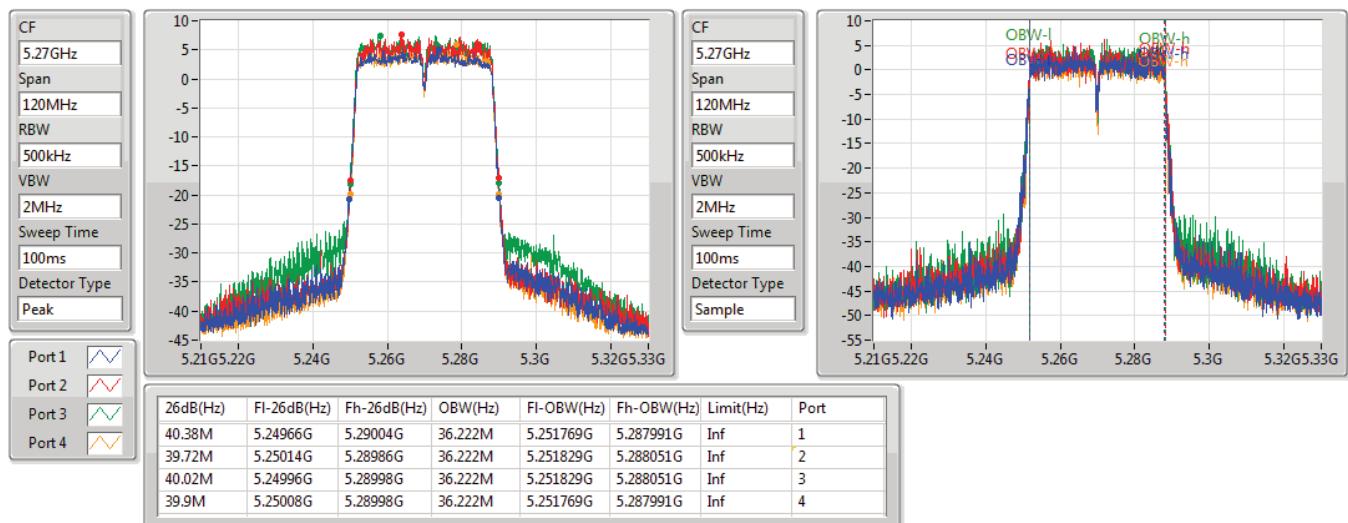

**802.11ac VHT20_Nss1,(MCS0)_4TX
5720MHz Straddle 5.725-5.85GHz**
EBW

13/05/2019

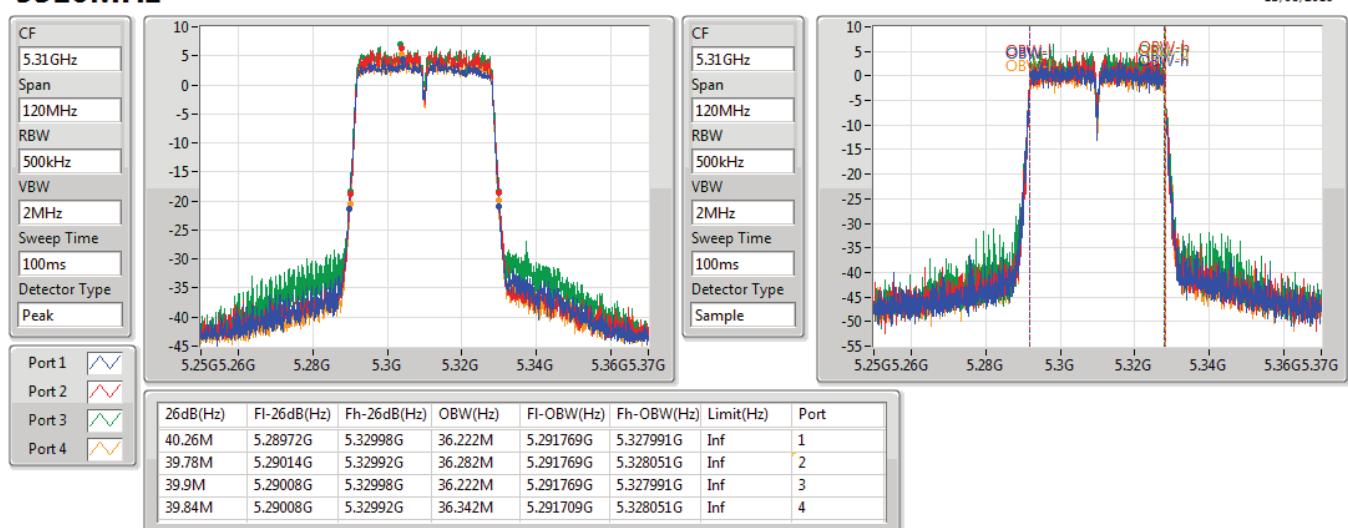


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5270MHz

13/05/2019


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5310MHz

13/05/2019

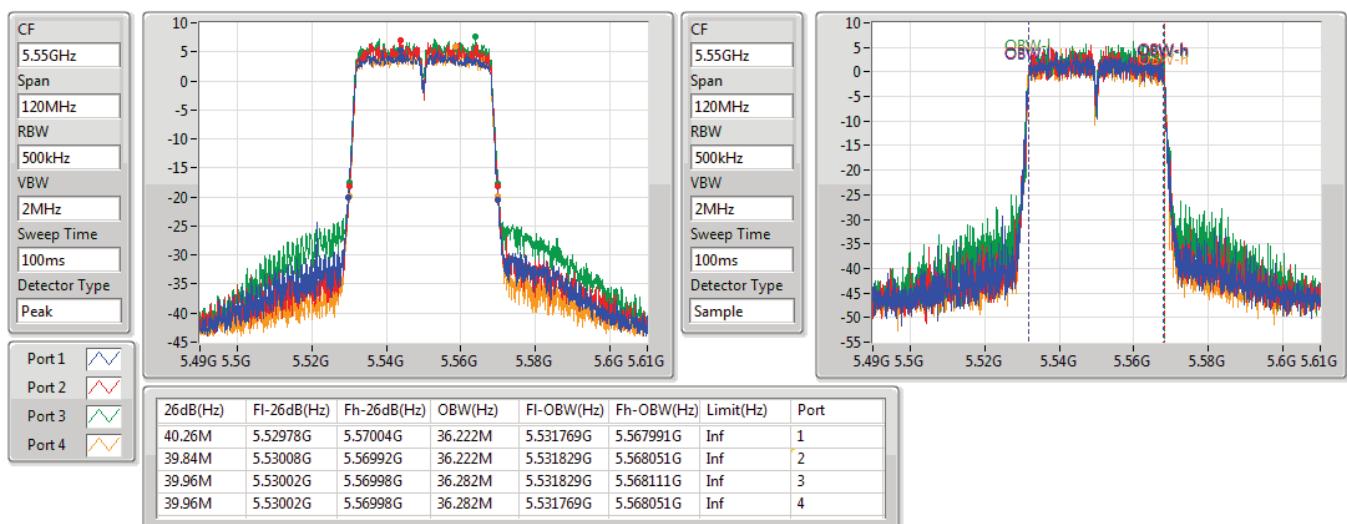


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5510MHz

13/05/2019

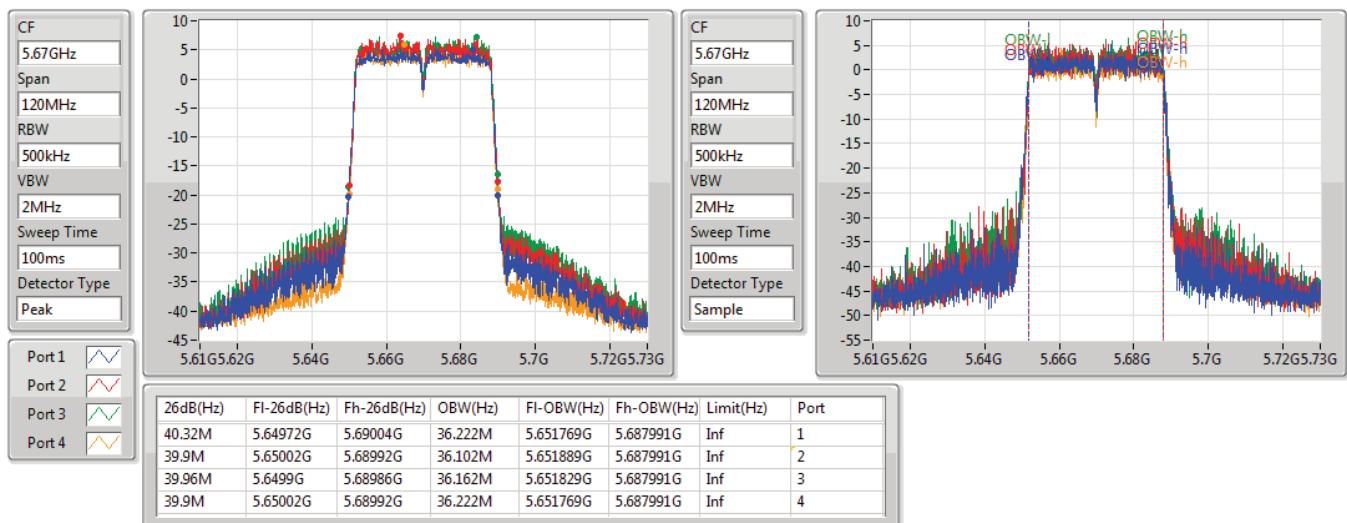

802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5550MHz

13/05/2019

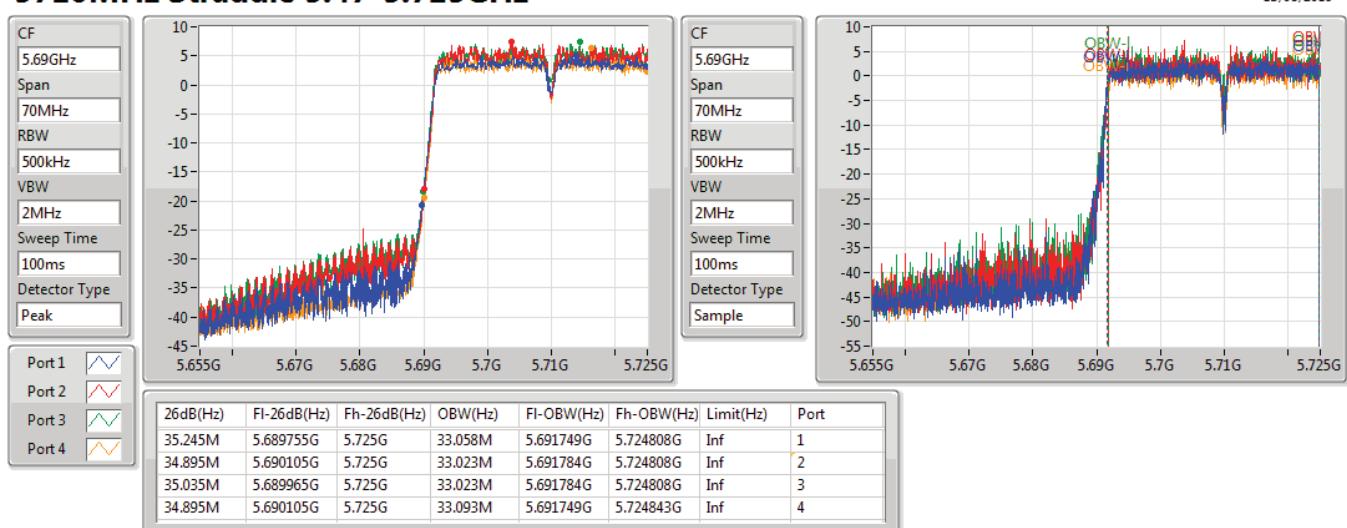


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5670MHz

13/05/2019

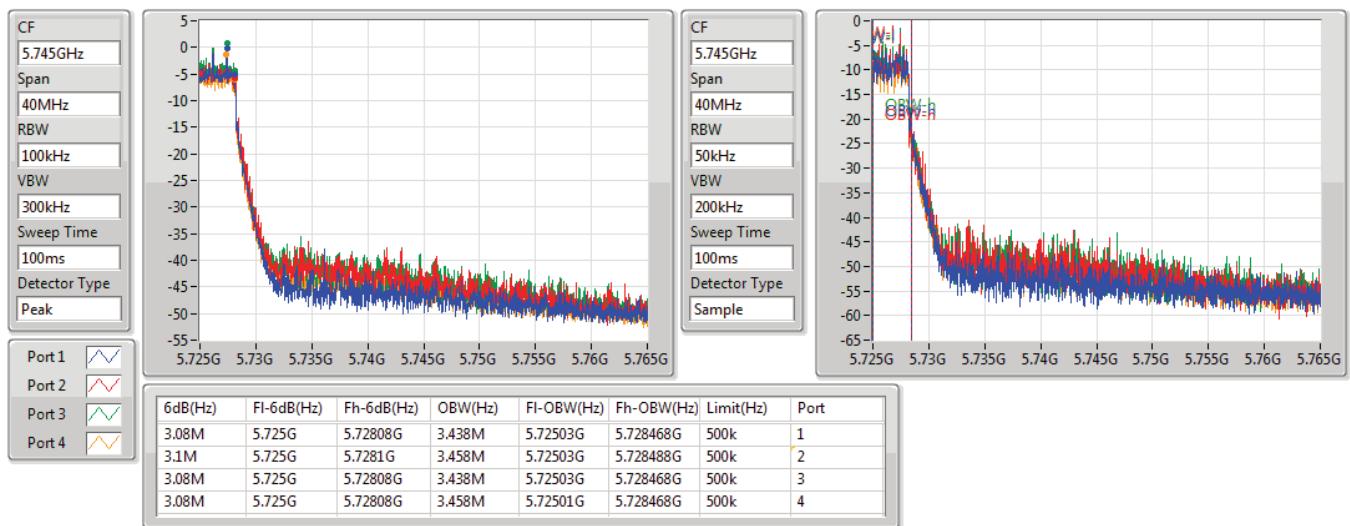

802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.47-5.725GHz

13/05/2019

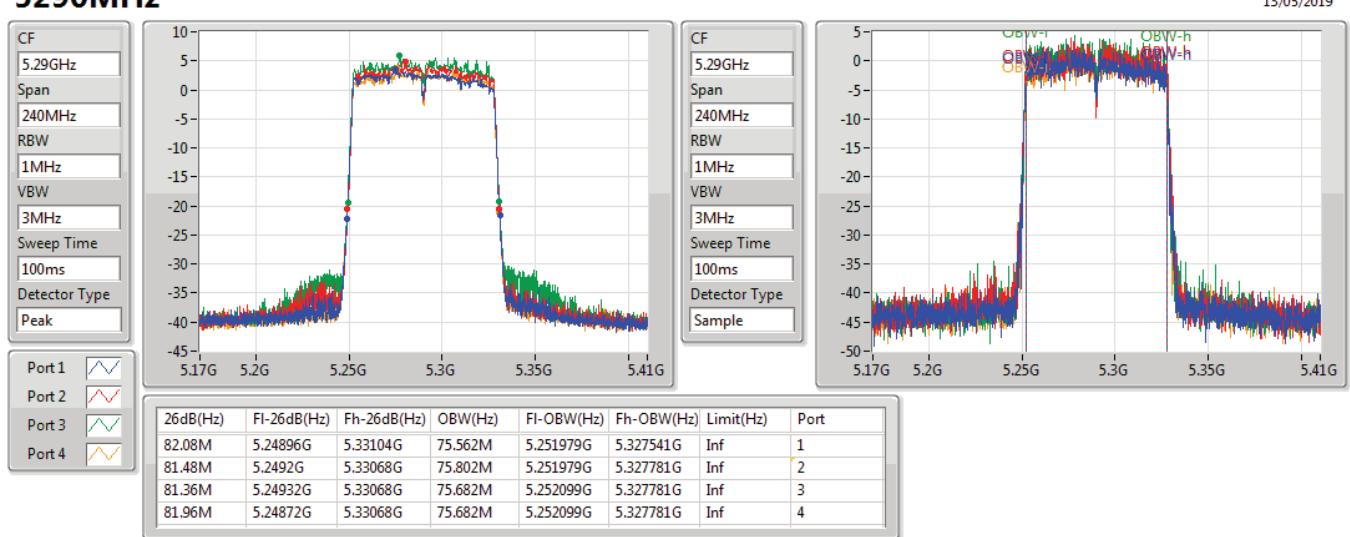


**802.11ac VHT40_Nss1,(MCS0)_4TX
5710MHz Straddle 5.725-5.85GHz**
EBW

13/05/2019

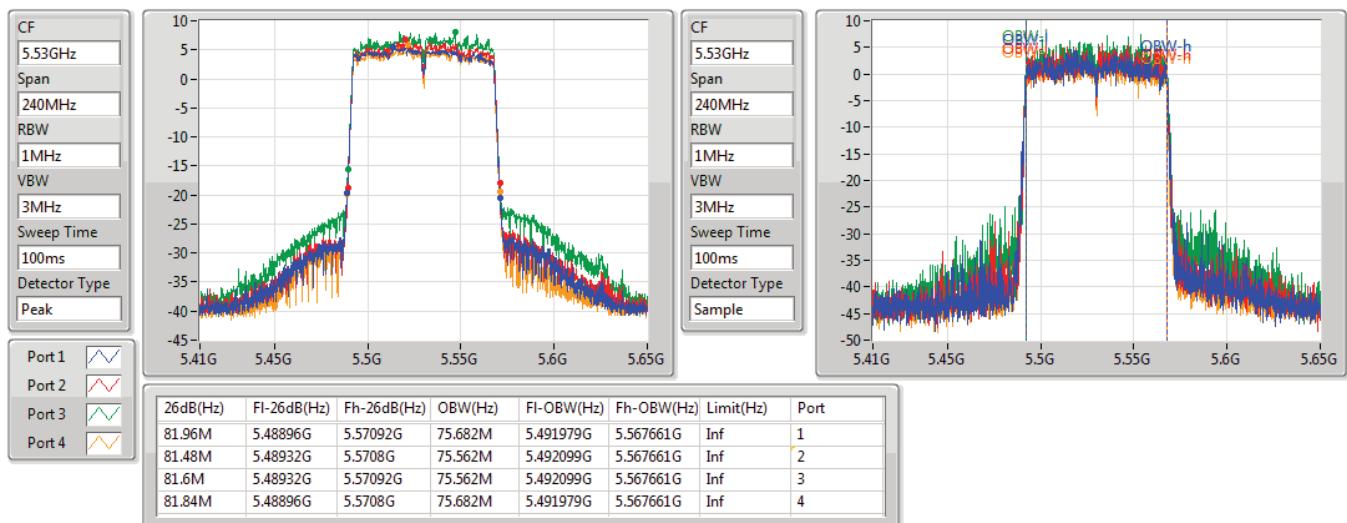

**802.11ac VHT80_Nss1,(MCS0)_4TX
5290MHz**
EBW

13/05/2019

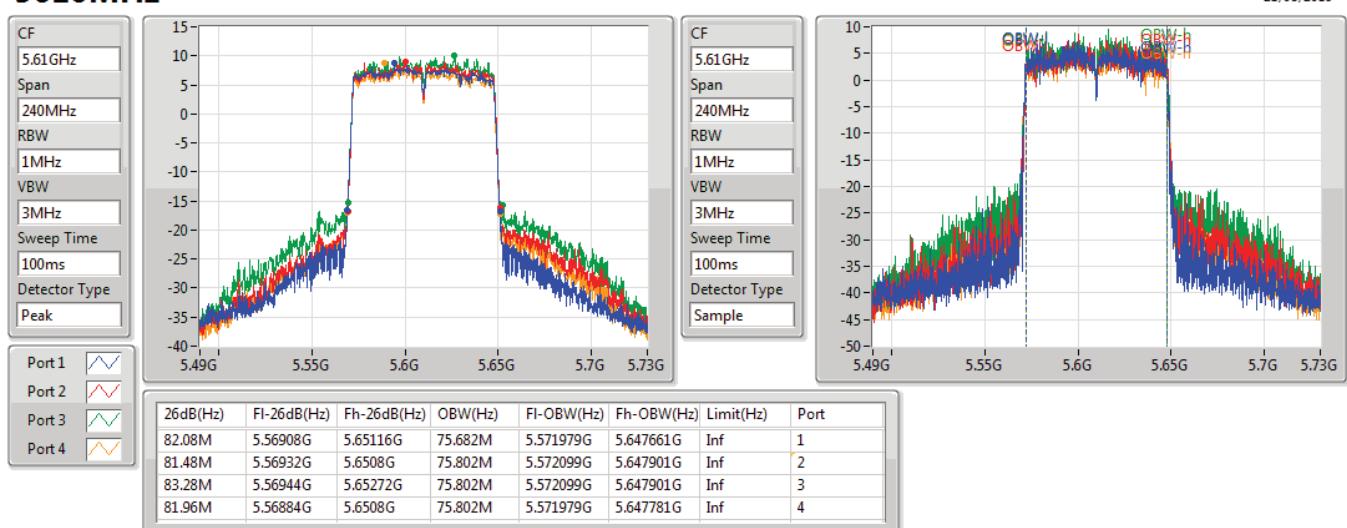


802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5530MHz

13/05/2019

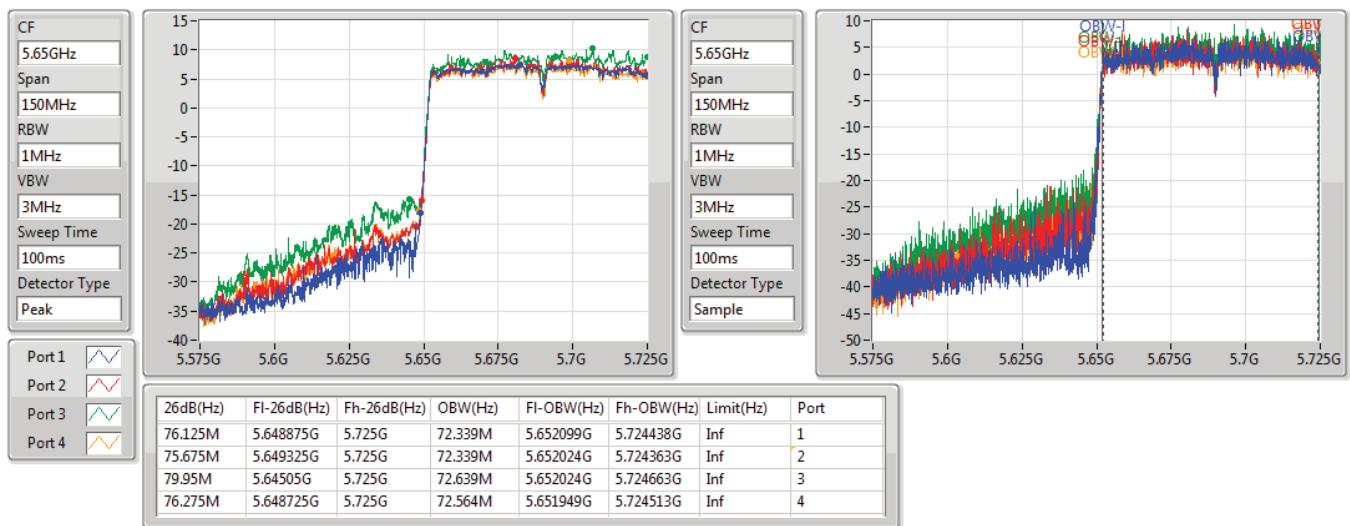

802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5610MHz

21/05/2019

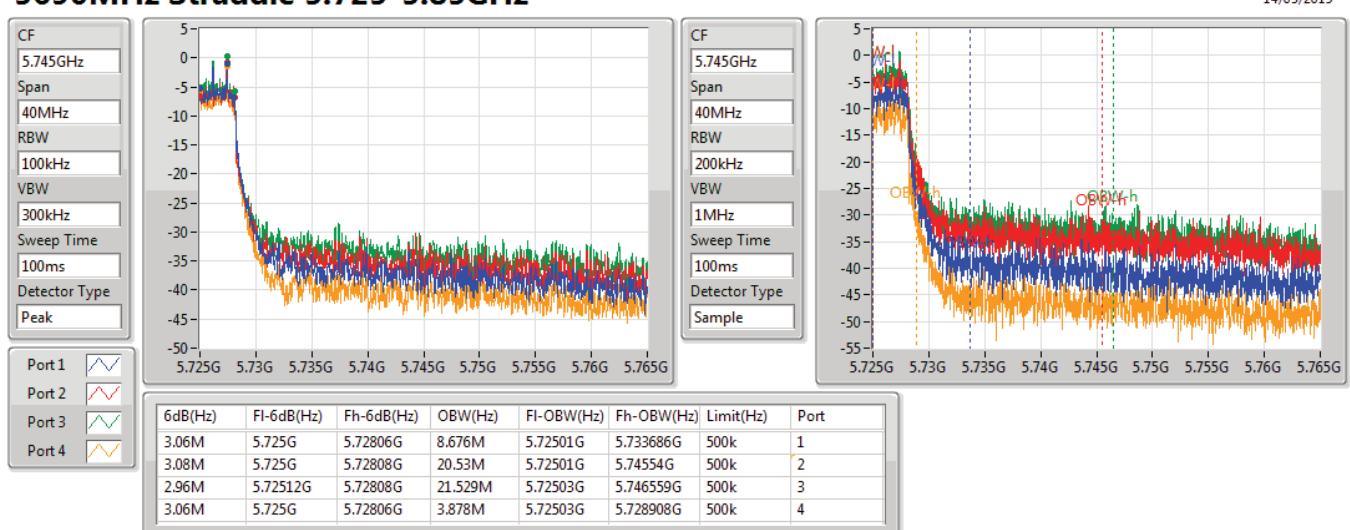


**802.11ac VHT80_Nss1,(MCS0)_4TX
5690MHz Straddle 5.47-5.725GHz**
EBW

21/05/2019

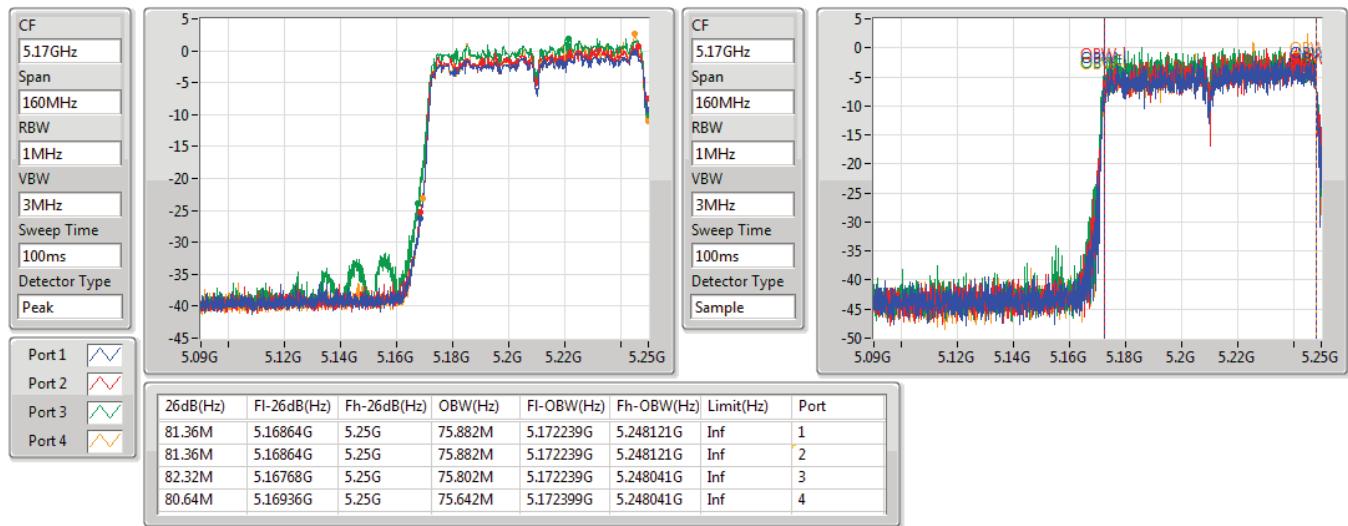

**802.11ac VHT80_Nss1,(MCS0)_4TX
5690MHz Straddle 5.725-5.85GHz**
EBW

14/05/2019

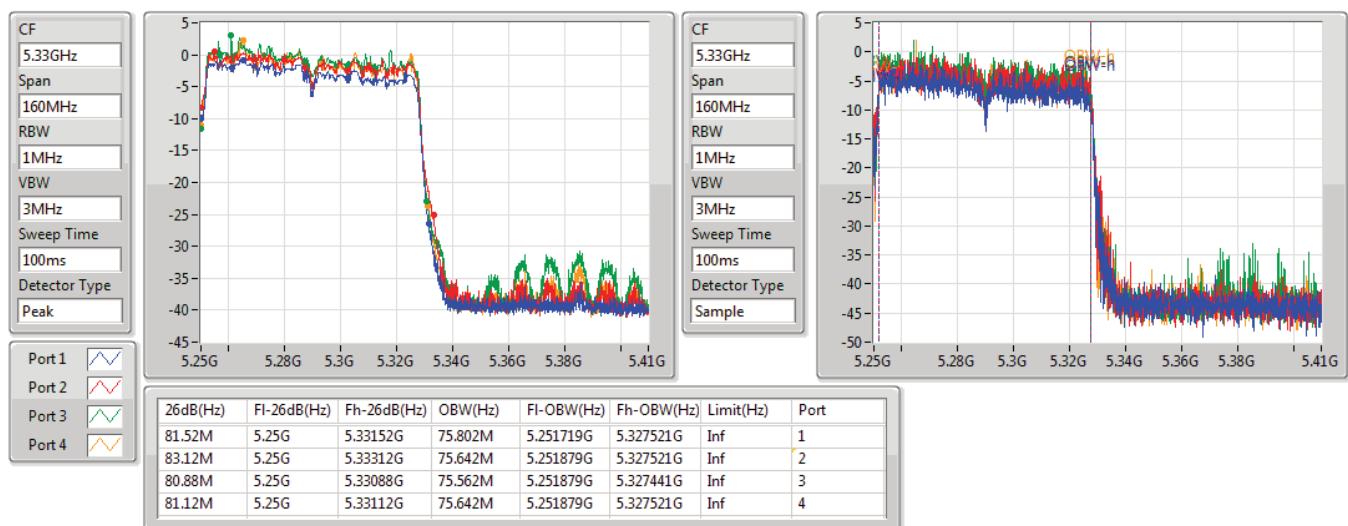


802.11ac VHT160_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.15-5.25GHz

21/05/2019

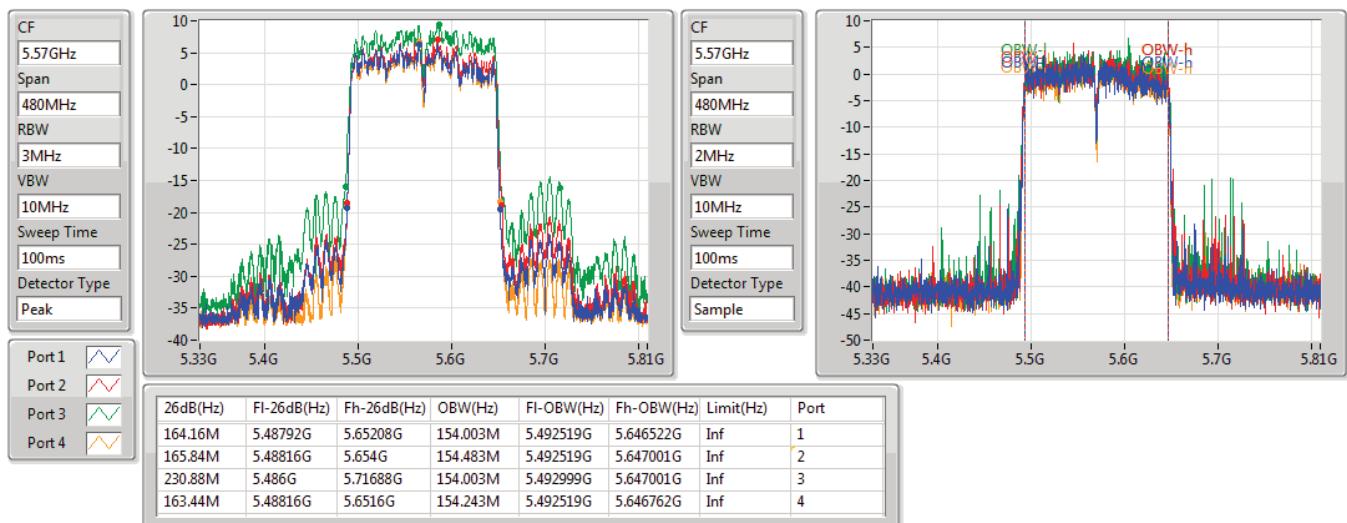

802.11ac VHT160_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.25-5.35GHz

21/05/2019

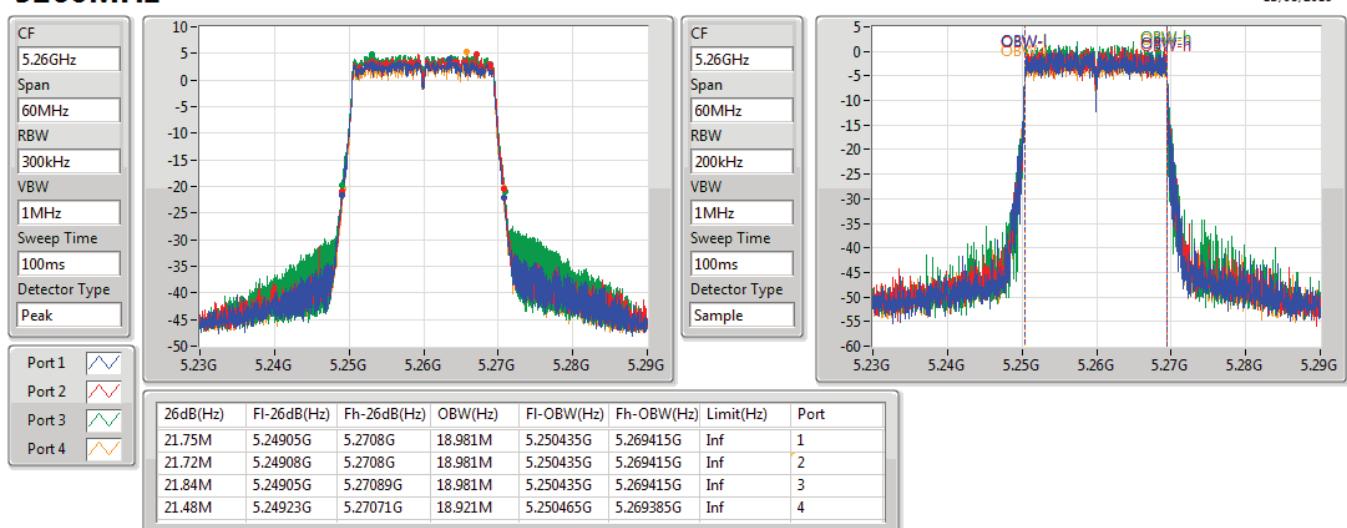


802.11ac VHT160_Nss1,(MCS0)_4TX
EBW
5570MHz

13/05/2019

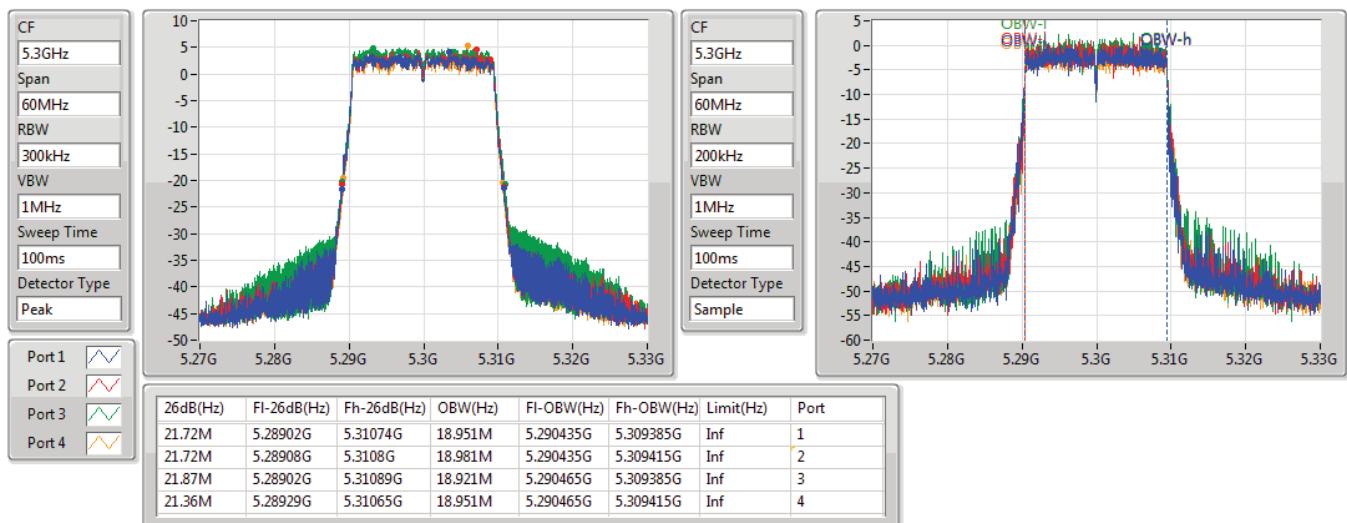

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5260MHz

13/05/2019

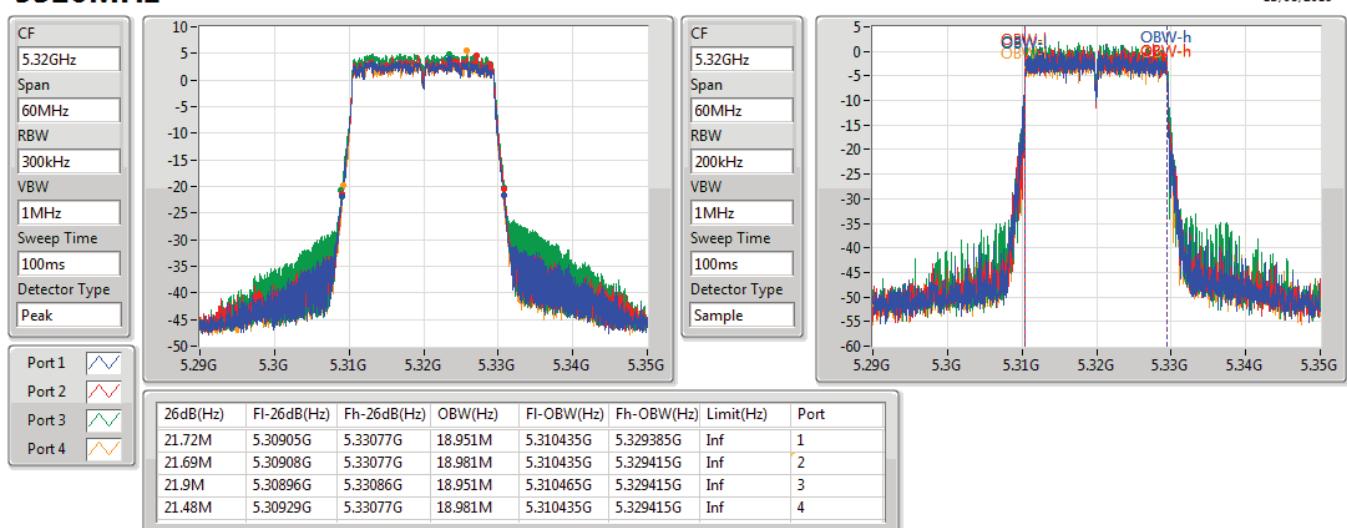


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5300MHz

13/05/2019

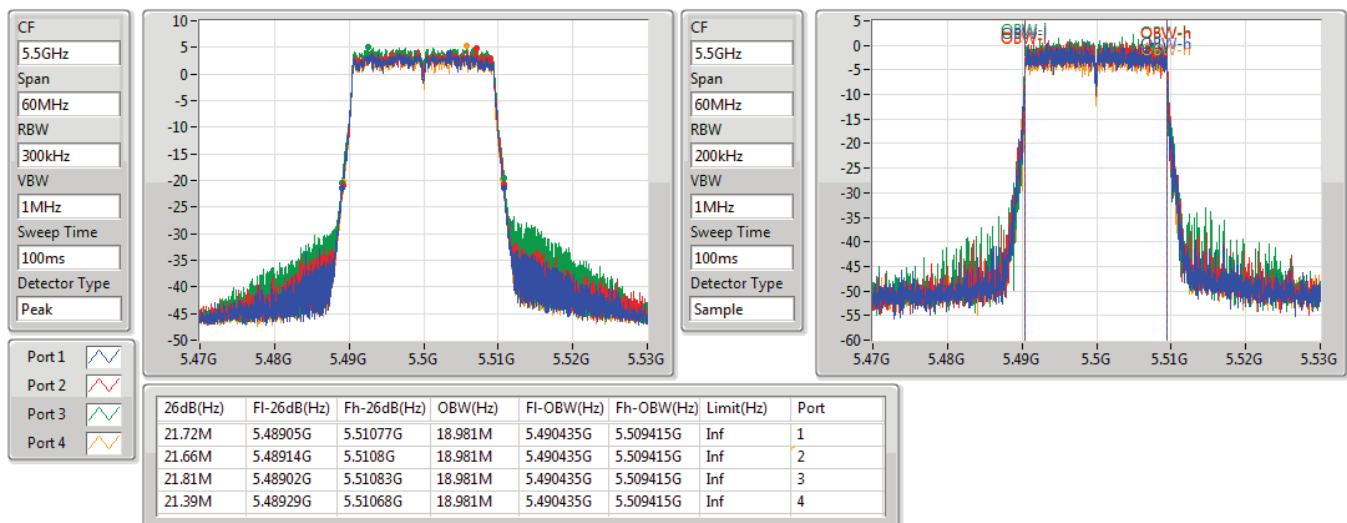

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5320MHz

13/05/2019

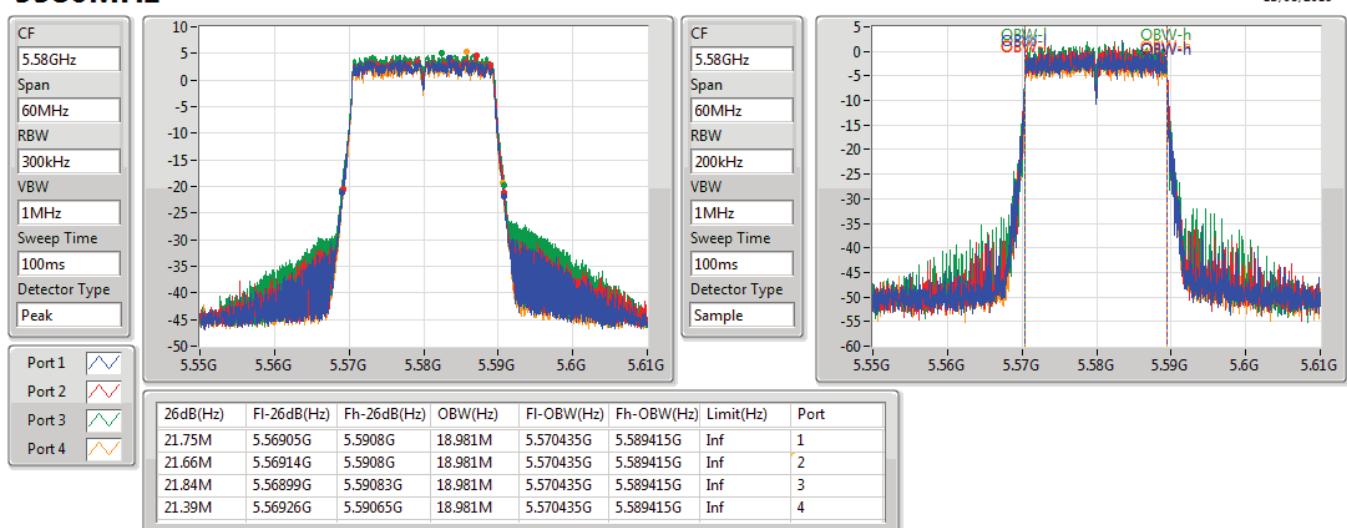


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5500MHz

13/05/2019

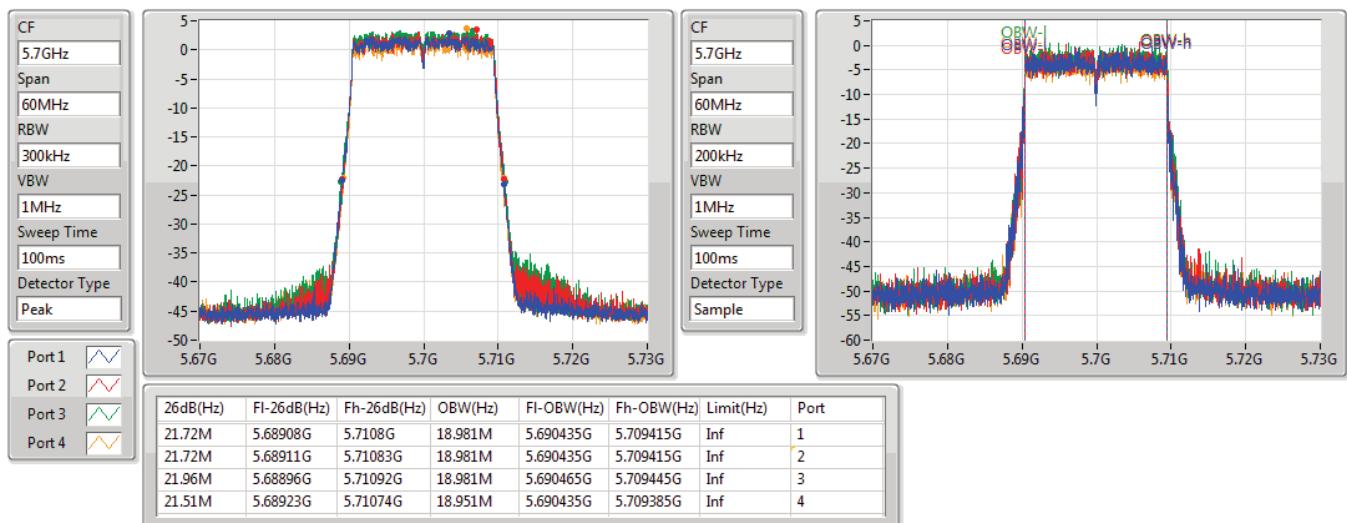

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5580MHz

13/05/2019

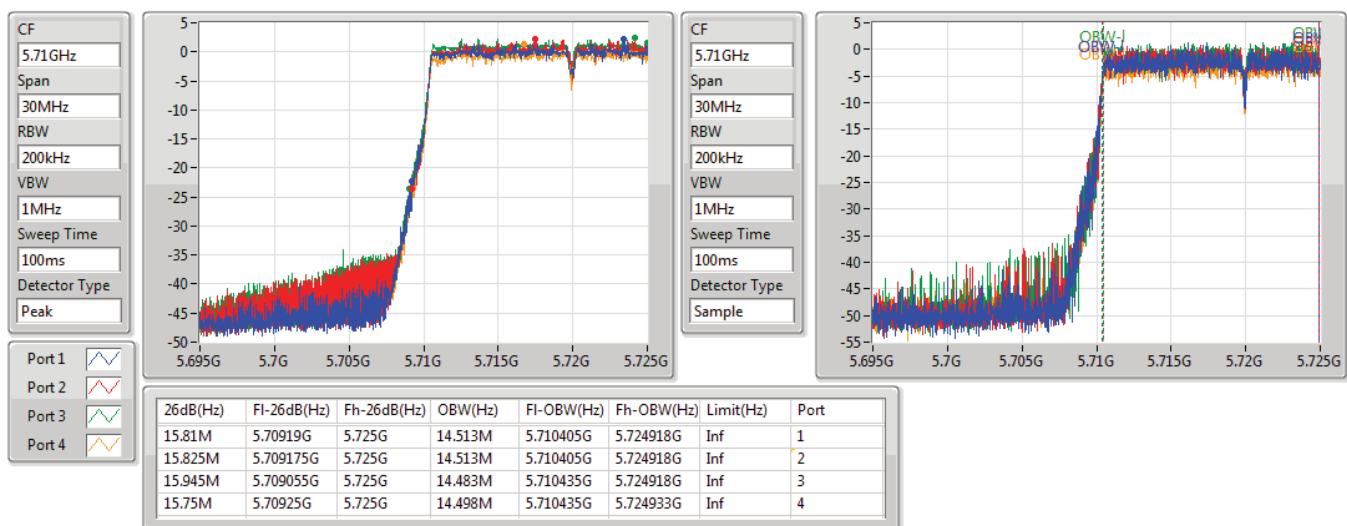


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5700MHz

13/05/2019

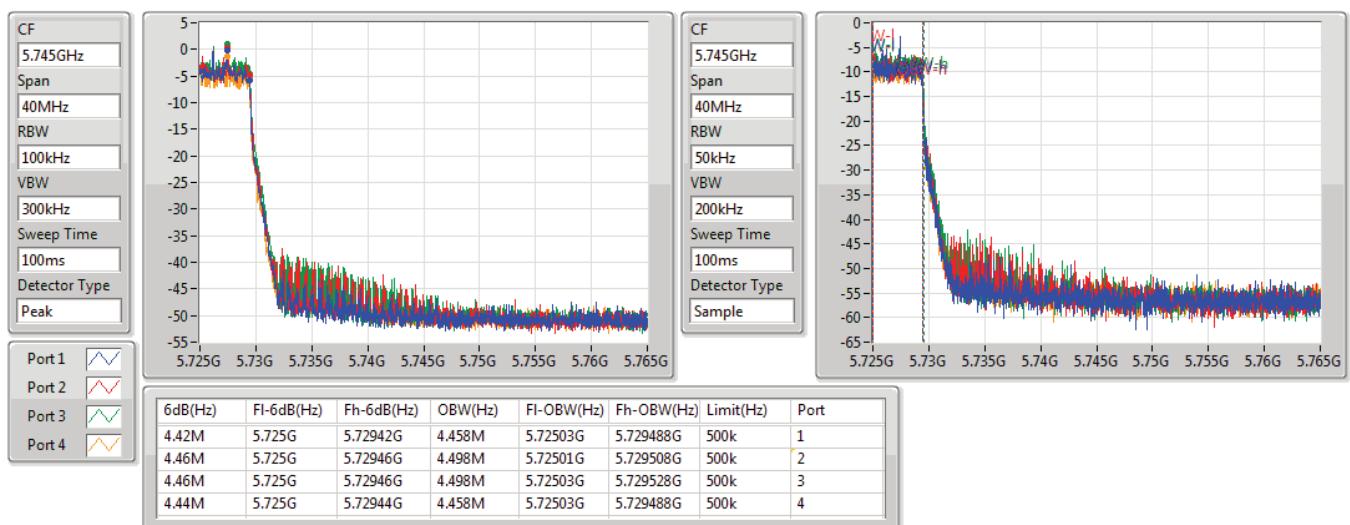

802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.47-5.725GHz

13/05/2019

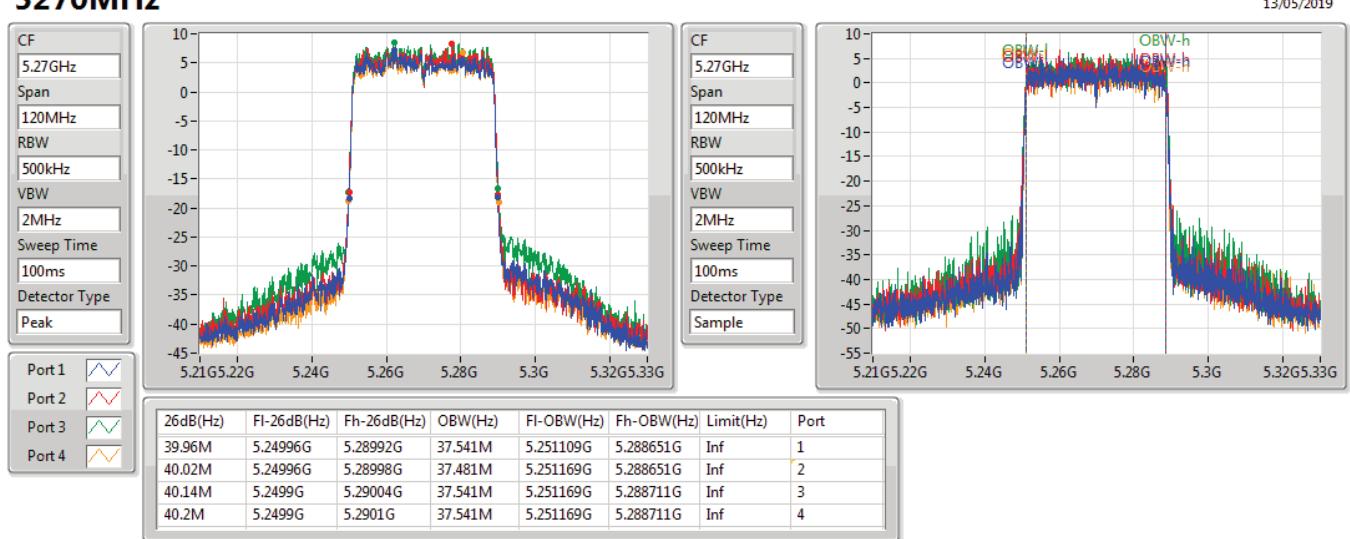


**802.11ax HEW20_Nss1,(MCS0)_4TX
5720MHz Straddle 5.725-5.85GHz**
EBW

13/05/2019

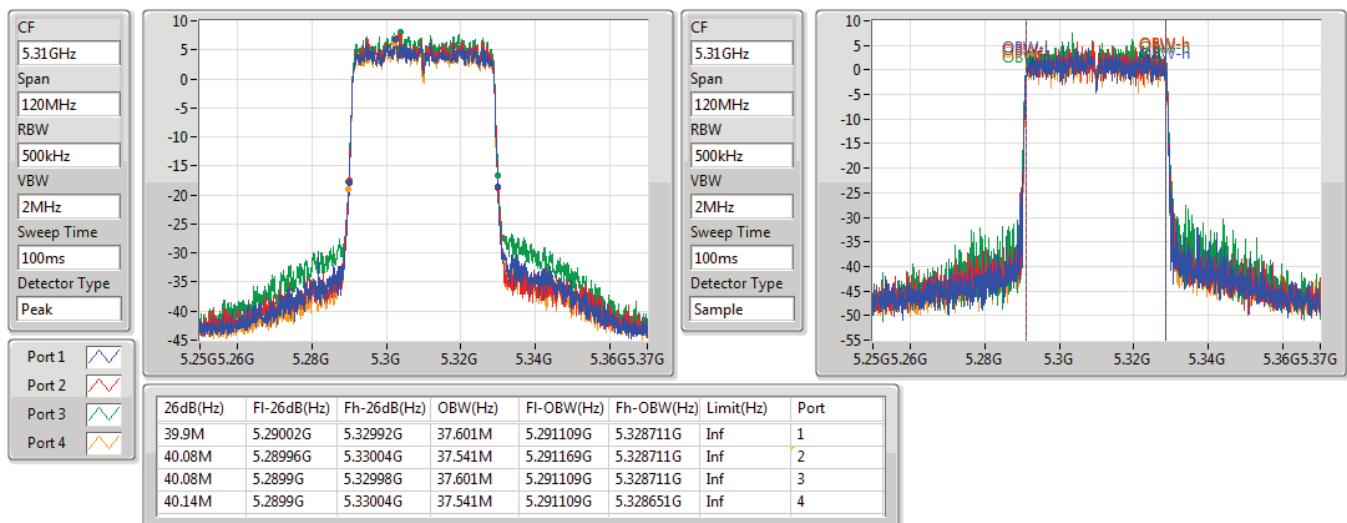

**802.11ax HEW40_Nss1,(MCS0)_4TX
5270MHz**
EBW

13/05/2019

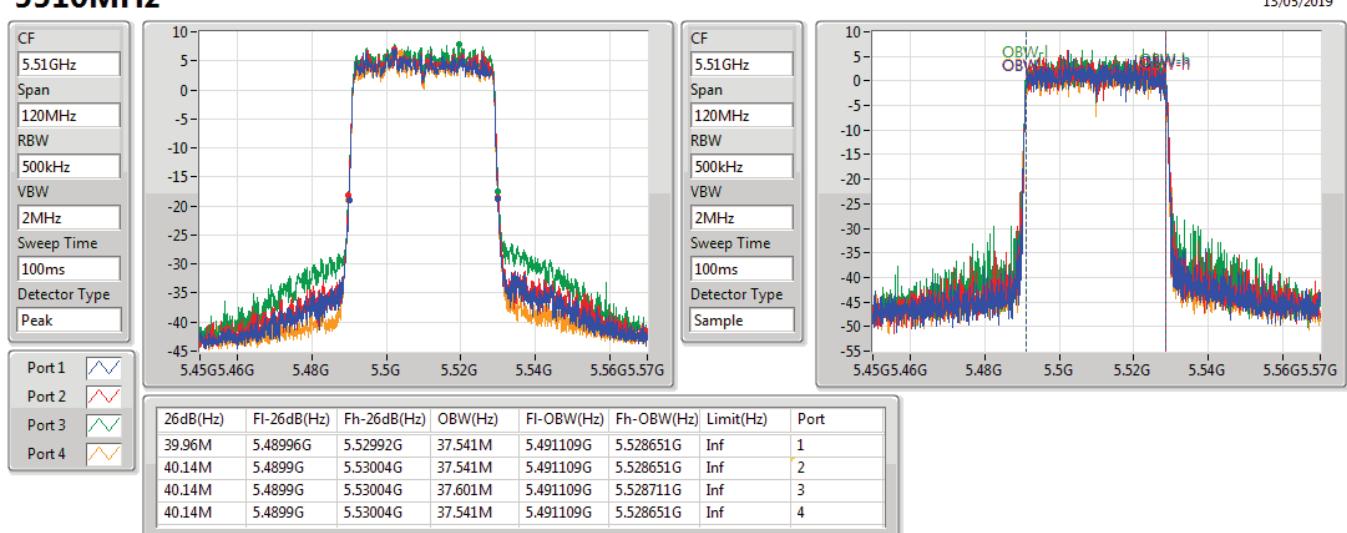


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5310MHz

13/05/2019

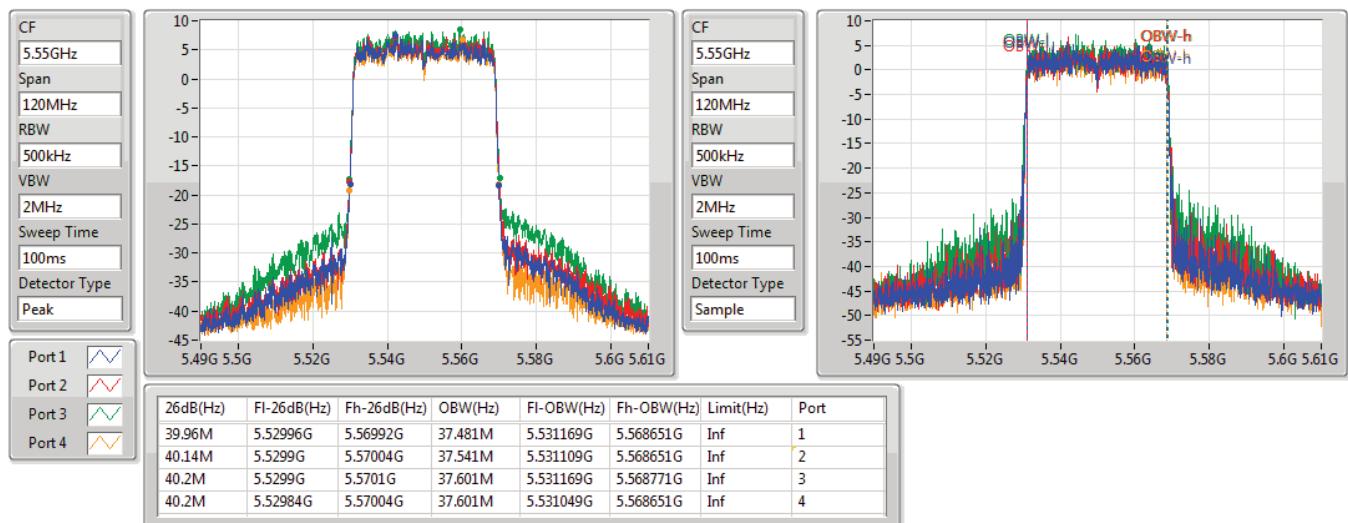

802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5510MHz

13/05/2019

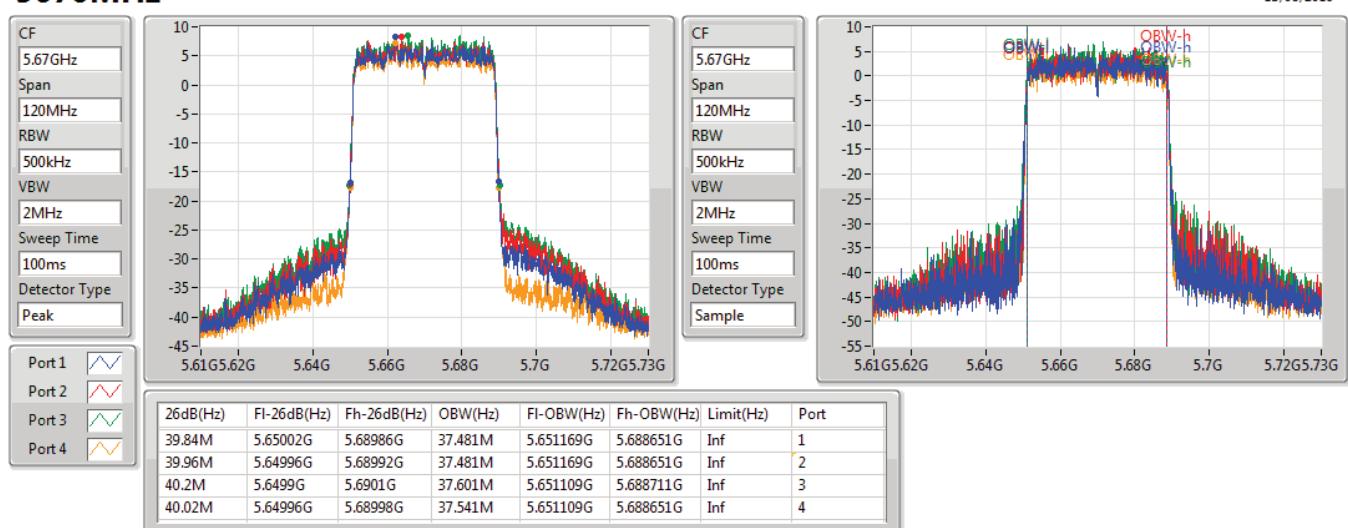


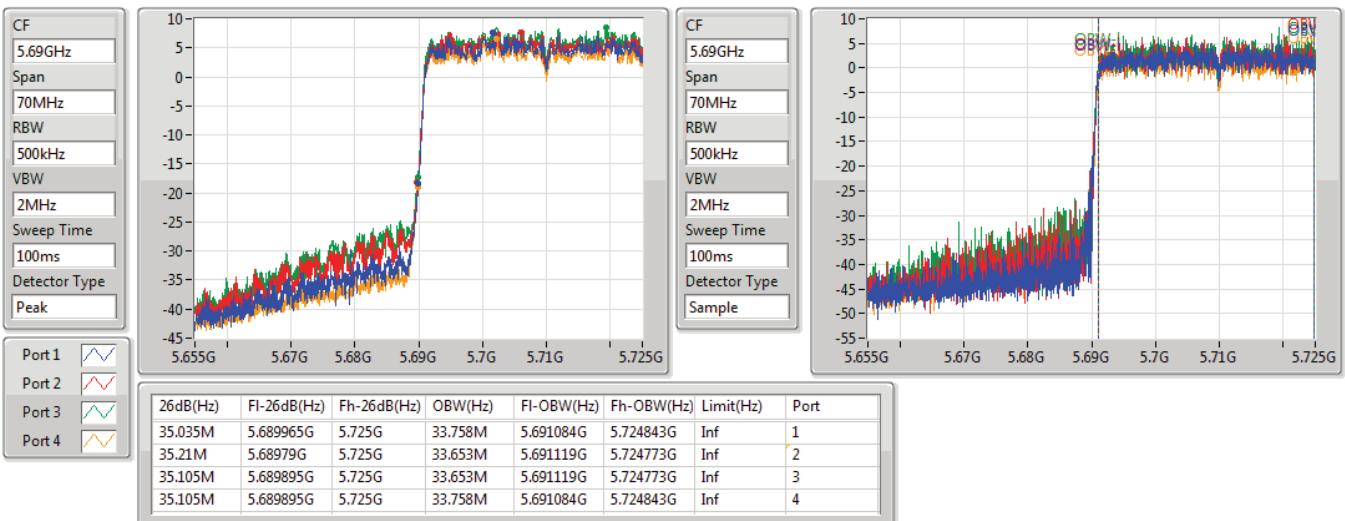
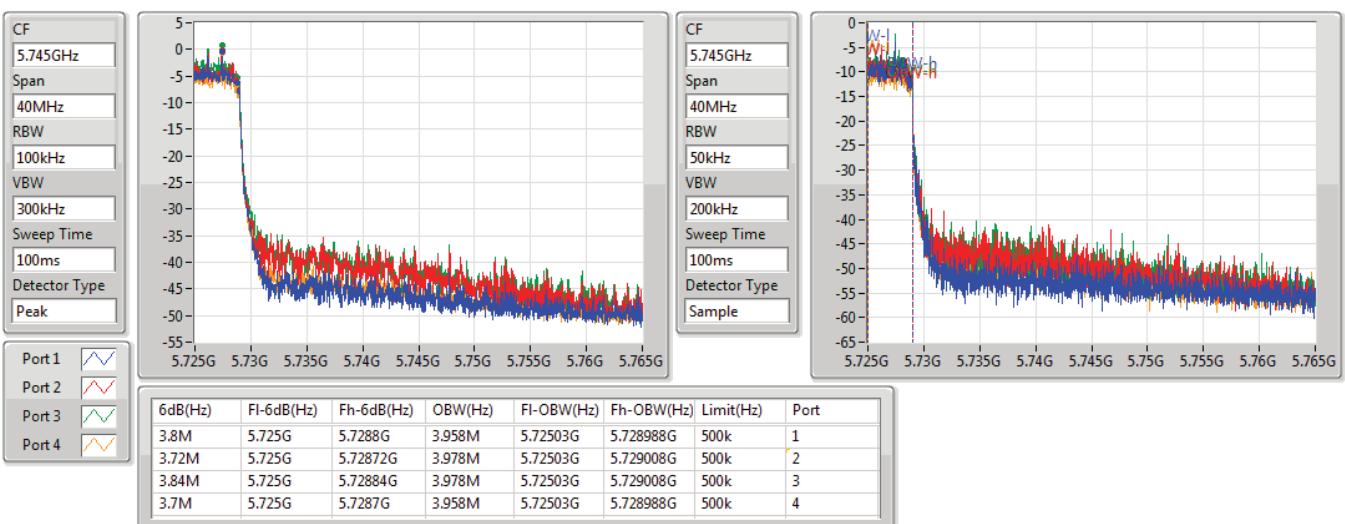
802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5550MHz

13/05/2019


802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5670MHz

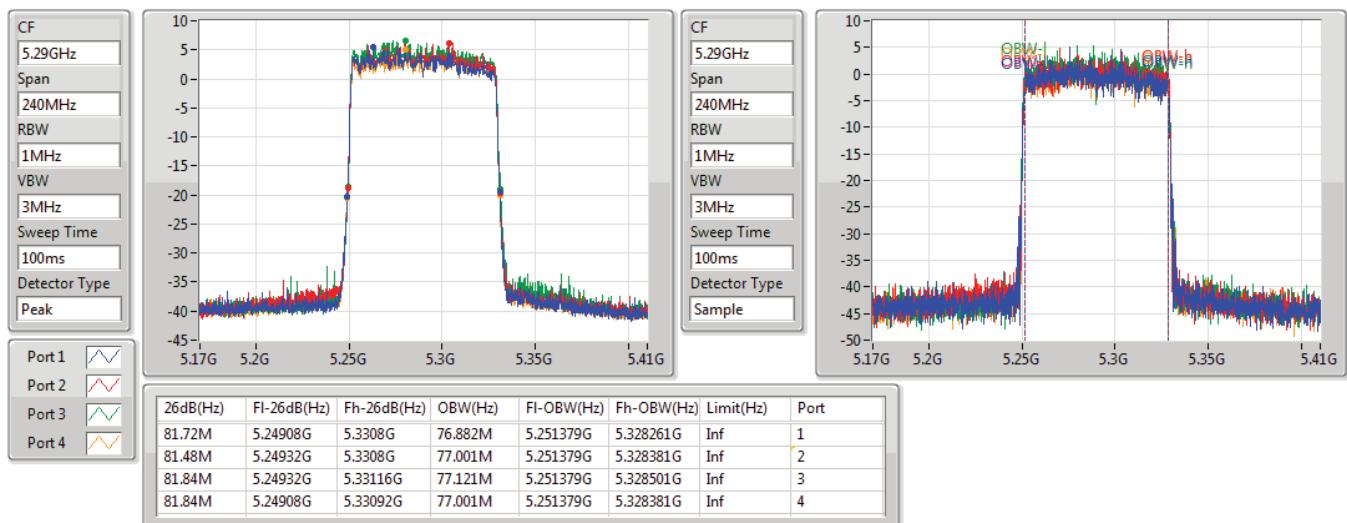
13/05/2019



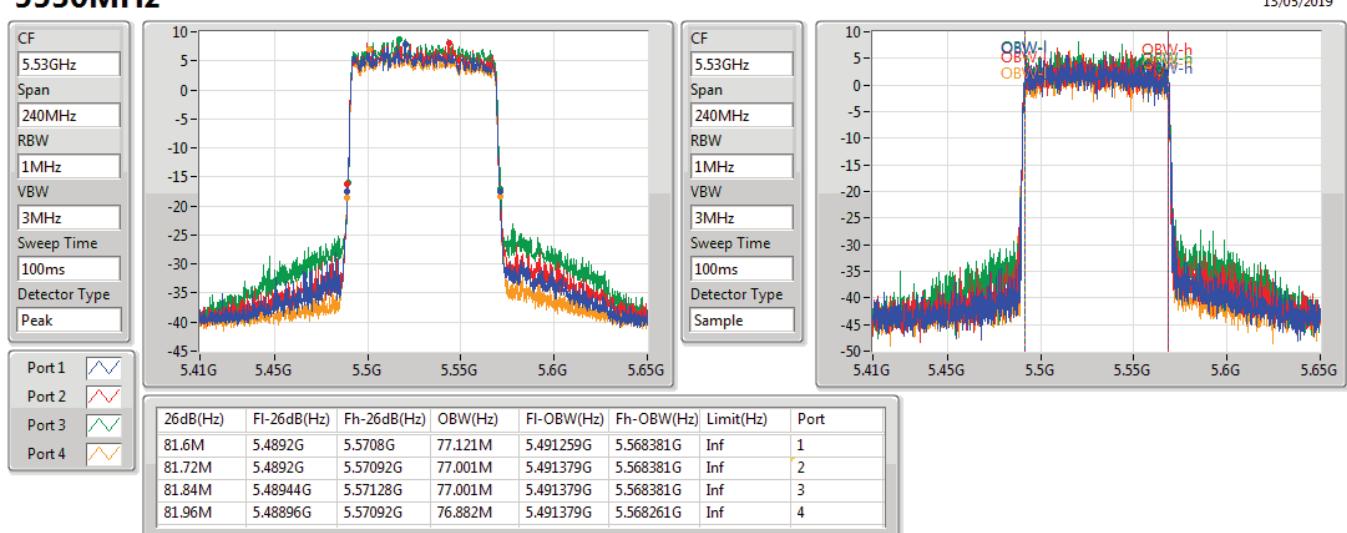
802.11ax HEW40_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.47-5.725GHz

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


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5290MHz

13/05/2019

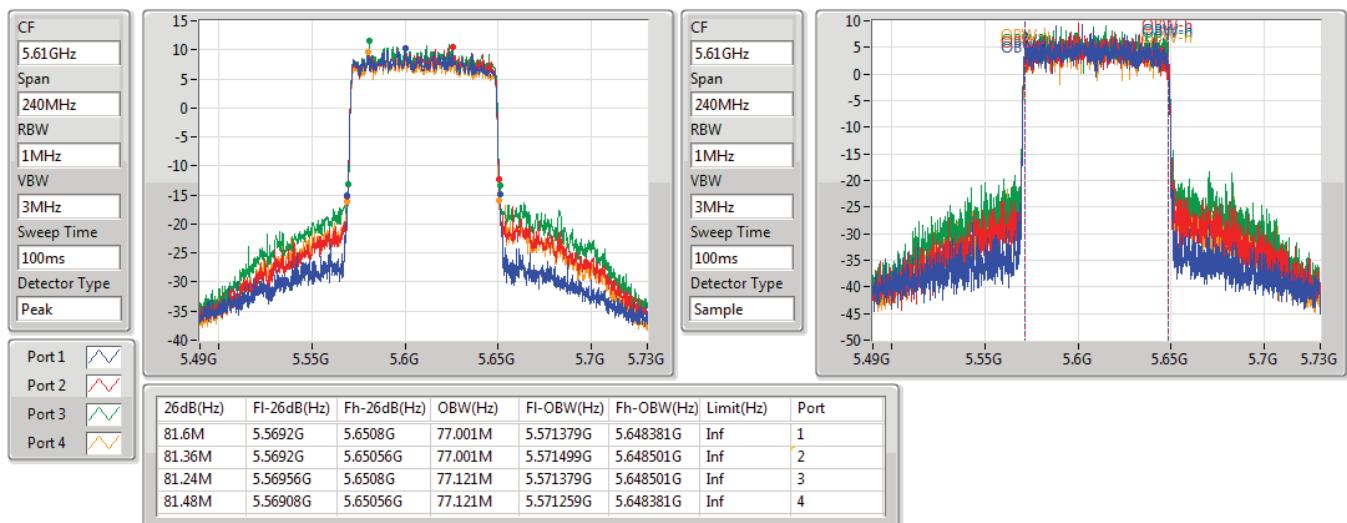

802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5530MHz

13/05/2019

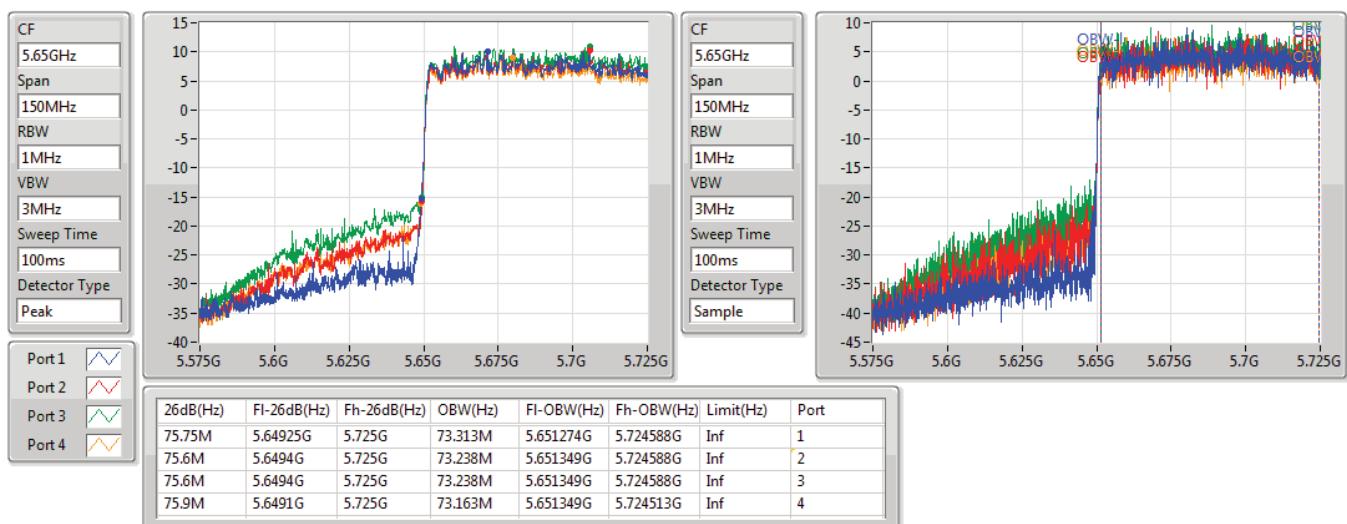


802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5610MHz

21/05/2019

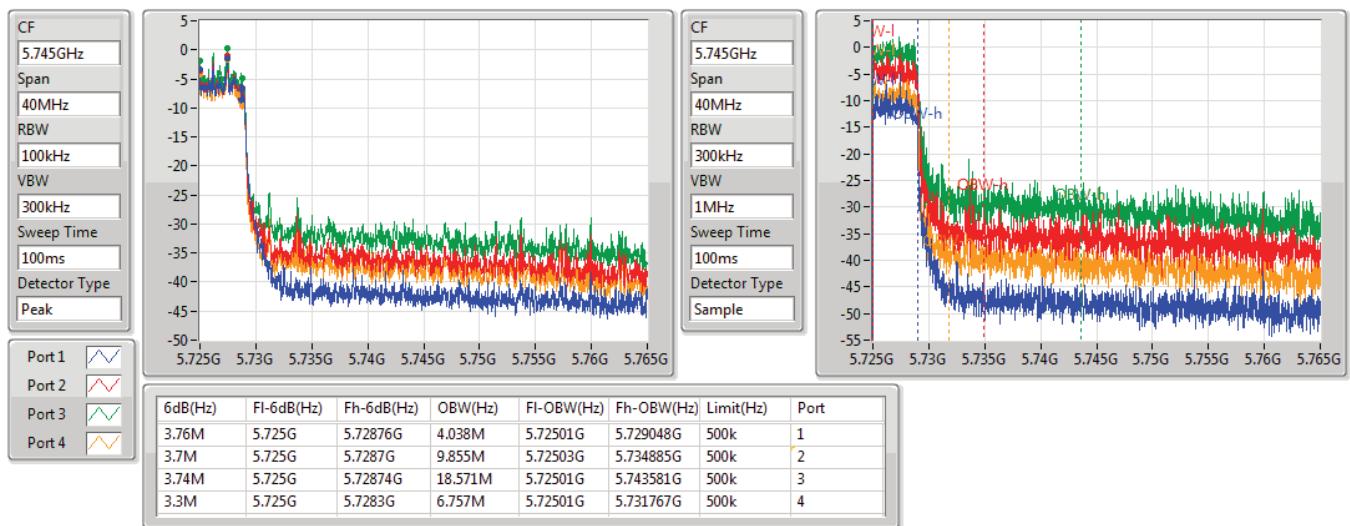

802.11ax HEW80_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.47-5.725GHz

21/05/2019

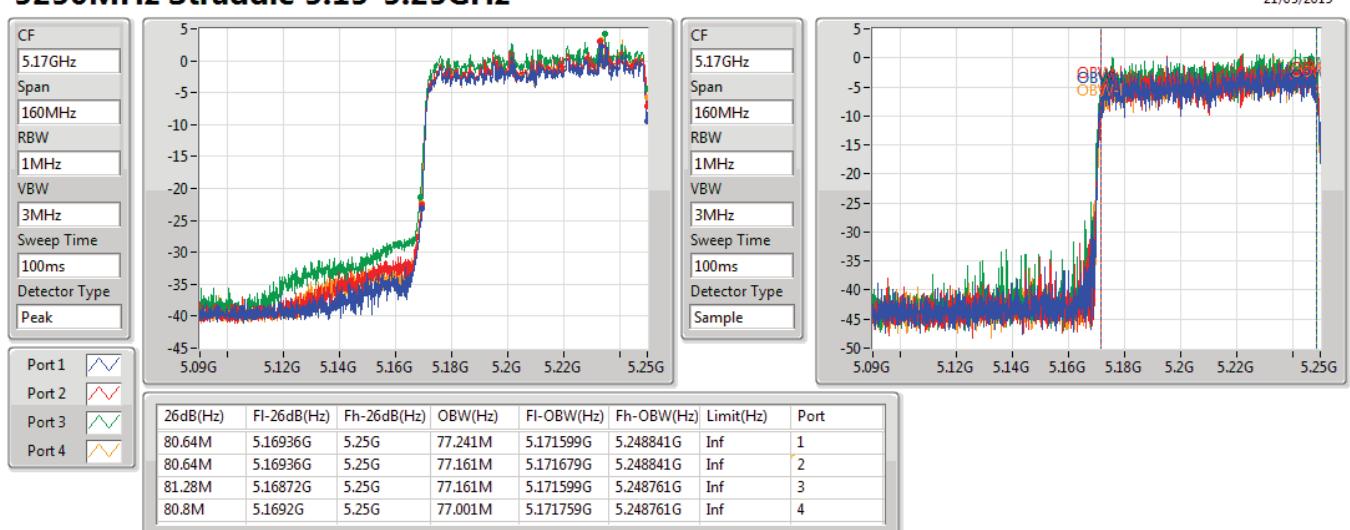


**802.11ax HEW80_Nss1,(MCS0)_4TX
5690MHz Straddle 5.725-5.85GHz**
EBW

21/05/2019

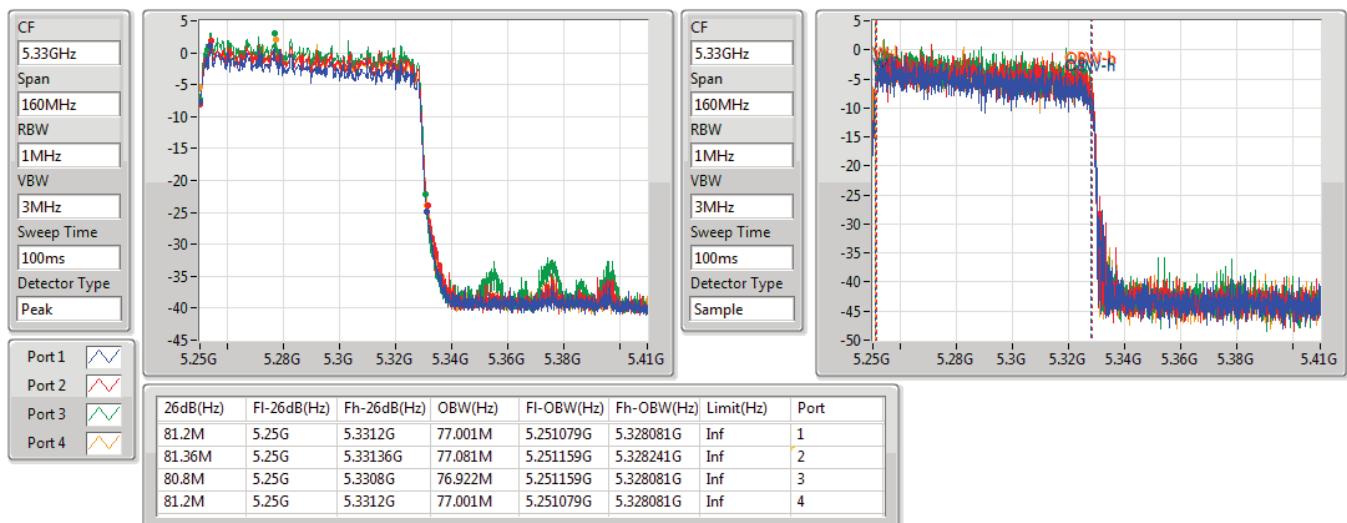

**802.11ax HEW160_Nss1,(MCS0)_4TX
5250MHz Straddle 5.15-5.25GHz**
EBW

21/05/2019

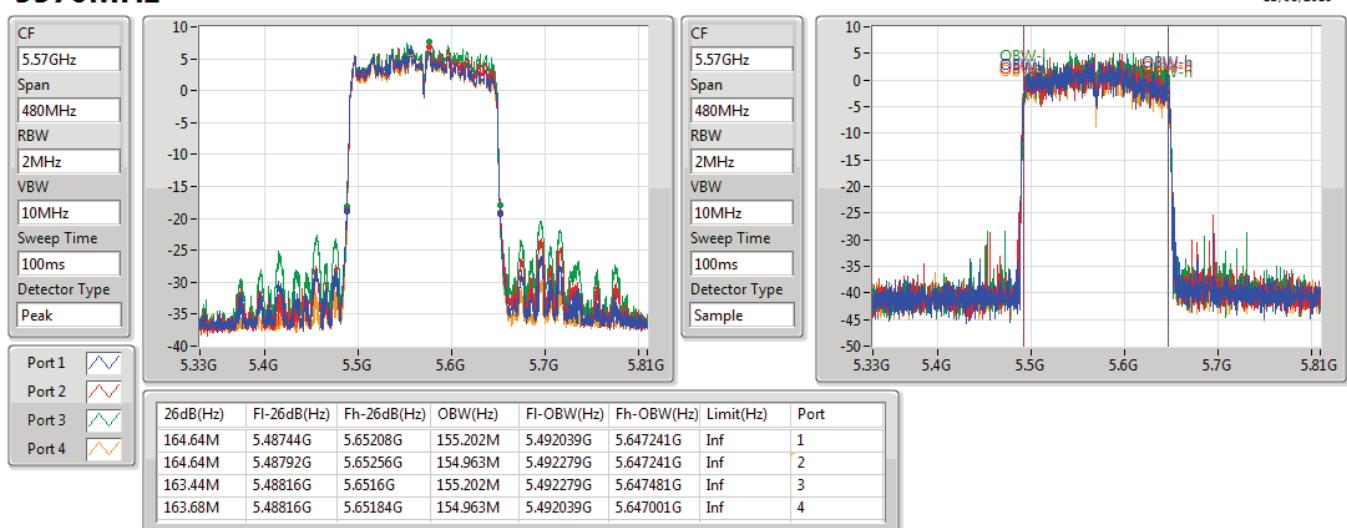


802.11ax HEW160_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.25-5.35GHz

21/05/2019


802.11ax HEW160_Nss1,(MCS0)_4TX
EBW
5570MHz

13/05/2019





Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	80.8M	75.802M	75M8D1D	80.24M	75.562M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	81.2M	77.161M	77M2D1D	80.4M	76.842M
5.25-5.35GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	21.9M	17.811M	17M8D1D	21.57M	17.721M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	40.68M	36.342M	36M3D1D	39.48M	36.222M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	81M	75.802M	75M8D1D	80.16M	75.562M
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	148.48M	75.722M	75M7D1D	81.04M	75.482M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	21.66M	19.01M	19M0D1D	21.45M	18.921M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	40.68M	37.601M	37M6D1D	40.02M	37.421M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	81.48M	77.001M	77M0D1D	80.88M	76.762M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	81.28M	77.161M	77M2D1D	80.8M	76.922M
5.47-5.725GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	21.99M	17.811M	17M8D1D	15.75M	13.943M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	40.44M	36.342M	36M3D1D	34.895M	33.093M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	81M	75.922M	75M9D1D	75.3M	72.489M
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	164.64M	154.483M	154MD1D	161.28M	153.763M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	21.69M	19.01M	19M0D1D	15.78M	14.528M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	40.5M	37.661M	37M7D1D	35.21M	33.688M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	81.6M	77.241M	77M2D1D	75.6M	73.088M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	165.12M	156.162M	156MD1D	163.68M	154.243M
5.725-5.85GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	3.74M	4.238M	4M24D1D	3.7M	4.138M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	3.12M	3.498M	3M50D1D	3.08M	3.438M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	3.1M	3.678M	3M68D1D	3.04M	3.498M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	4.42M	4.498M	4M50D1D	4.38M	4.478M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	3.9M	3.998M	4M00D1D	3.86M	3.978M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	3.88M	4.018M	4M02D1D	3.74M	3.978M

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

Max-OBW = Maximum 99% occupied bandwidth;

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

Min-OBW = Minimum 99% occupied bandwidth;



Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.9M	17.751M	21.63M	17.721M	21.63M	17.781M	21.6M	17.751M
5300MHz	Pass	Inf	21.81M	17.781M	21.63M	17.781M	21.57M	17.811M	21.57M	17.721M
5320MHz	Pass	Inf	21.9M	17.721M	21.57M	17.781M	21.66M	17.751M	21.66M	17.781M
5500MHz	Pass	Inf	21.99M	17.781M	21.45M	17.811M	21.48M	17.751M	21.63M	17.721M
5580MHz	Pass	Inf	21.99M	17.751M	21.69M	17.811M	21.72M	17.781M	21.66M	17.781M
5700MHz	Pass	Inf	21.96M	17.751M	21.63M	17.751M	21.48M	17.751M	21.78M	17.721M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.87M	13.943M	15.87M	13.943M	15.84M	13.943M	15.75M	13.943M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.72M	4.198M	3.74M	4.238M	3.7M	4.178M	3.72M	4.138M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	40.14M	36.282M	39.72M	36.342M	40.2M	36.282M	39.66M	36.282M
5310MHz	Pass	Inf	40.68M	36.342M	39.84M	36.222M	39.48M	36.282M	40.32M	36.222M
5510MHz	Pass	Inf	40.44M	36.282M	39.96M	36.282M	40.2M	36.282M	39.78M	36.222M
5550MHz	Pass	Inf	40.02M	36.282M	39.48M	36.282M	40.26M	36.342M	40.38M	36.222M
5670MHz	Pass	Inf	39.9M	36.282M	39.72M	36.342M	39.66M	36.162M	40.2M	36.222M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	34.965M	33.093M	34.895M	33.128M	34.895M	33.093M	35.07M	33.093M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.08M	3.438M	3.12M	3.438M	3.1M	3.498M	3.08M	3.438M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	81M	75.682M	80.16M	75.802M	80.52M	75.682M	80.52M	75.562M
5530MHz	Pass	Inf	79.68M	75.802M	80.4M	75.682M	80.52M	75.802M	80.76M	75.562M
5610MHz	Pass	Inf	80.04M	75.802M	81M	75.922M	80.76M	75.802M	80.64M	75.802M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.525M	72.789M	75.375M	72.564M	75.3M	72.489M	75.375M	72.564M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.1M	3.678M	3.04M	3.498M	3.08M	3.618M	3.06M	3.638M
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	80.24M	75.562M	80.64M	75.802M	80.8M	75.642M	80.4M	75.802M
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	81.04M	75.722M	148.48M	75.722M	139.76M	75.482M	82.96M	75.642M
5570MHz	Pass	Inf	162M	153.763M	161.28M	154.483M	164.64M	153.763M	162M	154.243M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	Inf	21.57M	18.981M	21.54M	18.981M	21.6M	18.951M	21.6M	18.951M
5300MHz	Pass	Inf	21.57M	18.951M	21.54M	18.981M	21.57M	18.921M	21.57M	19.01M
5320MHz	Pass	Inf	21.66M	18.981M	21.45M	18.921M	21.45M	18.981M	21.51M	18.951M
5500MHz	Pass	Inf	21.6M	18.981M	21.54M	18.981M	21.45M	18.981M	21.63M	18.921M
5580MHz	Pass	Inf	21.48M	18.951M	21.48M	18.951M	21.66M	18.921M	21.54M	18.981M
5700MHz	Pass	Inf	21.57M	18.951M	21.69M	19.01M	21.63M	18.981M	21.63M	18.981M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.84M	14.558M	15.78M	14.528M	15.78M	14.528M	15.825M	14.543M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	4.38M	4.478M	4.4M	4.498M	4.42M	4.478M	4.4M	4.478M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	Inf	40.2M	37.541M	40.2M	37.601M	40.26M	37.541M	40.02M	37.421M
5310MHz	Pass	Inf	40.02M	37.541M	40.08M	37.541M	40.68M	37.541M	40.38M	37.421M
5510MHz	Pass	Inf	40.08M	37.481M	40.14M	37.541M	40.08M	37.661M	39.96M	37.481M
5550MHz	Pass	Inf	40.2M	37.541M	40.2M	37.541M	40.32M	37.661M	40.2M	37.481M
5670MHz	Pass	Inf	40.14M	37.601M	40.5M	37.601M	40.14M	37.541M	39.9M	37.541M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.245M	33.688M	35.525M	33.723M	35.49M	33.758M	35.21M	33.723M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.9M	3.978M	3.88M	3.978M	3.86M	3.998M	3.86M	3.978M



EBW_ Beamforming <Radio 1>

Appendix A.2

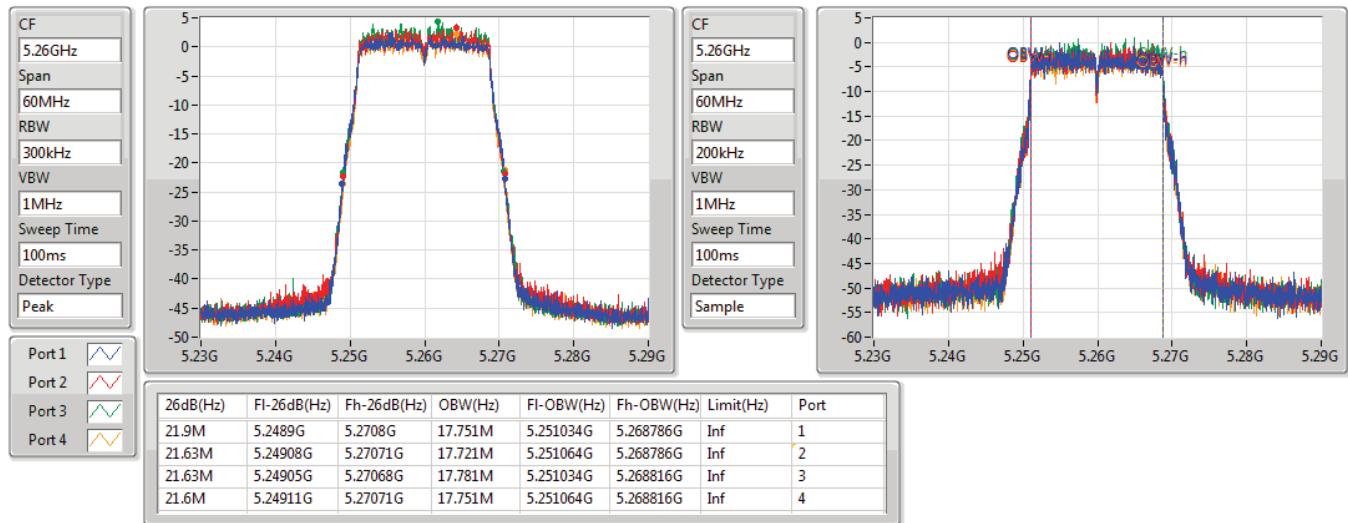
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	Inf	80.88M	77.001M	81M	77.001M	80.88M	76.762M	81.48M	77.001M
5530MHz	Pass	Inf	81M	77.121M	81.24M	76.762M	81.6M	77.241M	80.64M	76.762M
5610MHz	Pass	Inf	81.36M	77.121M	81.24M	76.882M	81.36M	77.121M	81.12M	77.121M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.975M	73.088M	75.6M	73.088M	75.675M	73.238M	75.975M	73.088M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.82M	3.998M	3.86M	4.018M	3.88M	3.978M	3.74M	4.018M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	81.2M	77.001M	80.96M	76.842M	80.4M	77.081M	80.56M	77.161M
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	80.8M	76.922M	81.04M	77.081M	81.2M	77.081M	81.28M	77.161M
5570MHz	Pass	Inf	164.64M	154.963M	164.4M	154.243M	165.12M	156.162M	163.68M	154.963M

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

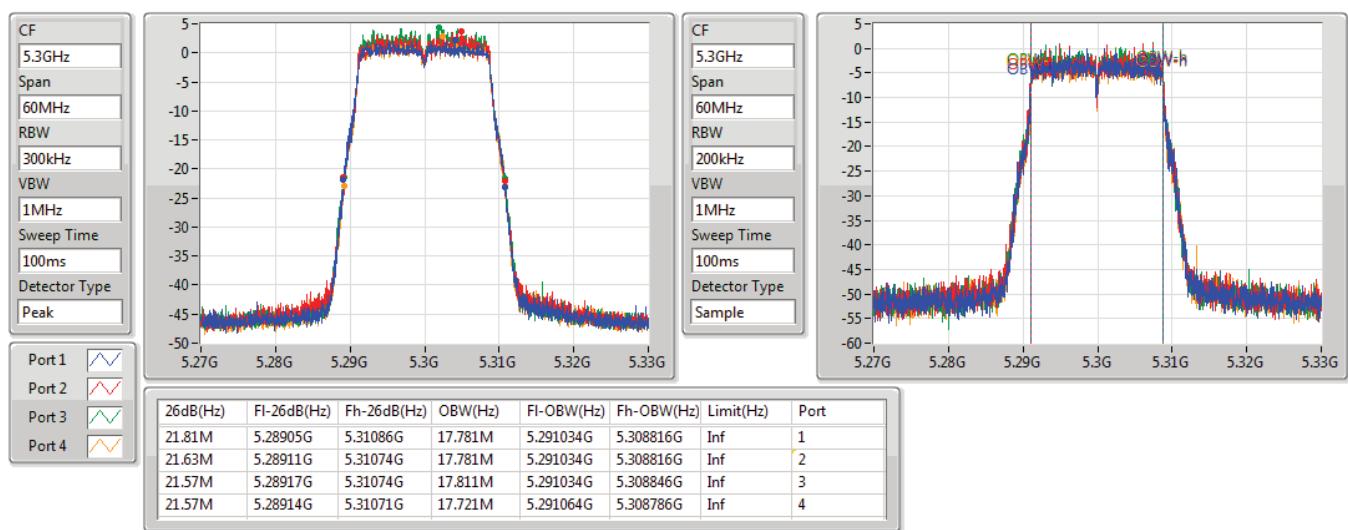
Port X-OBW = Port X 99% occupied bandwidth;

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

16/05/2019

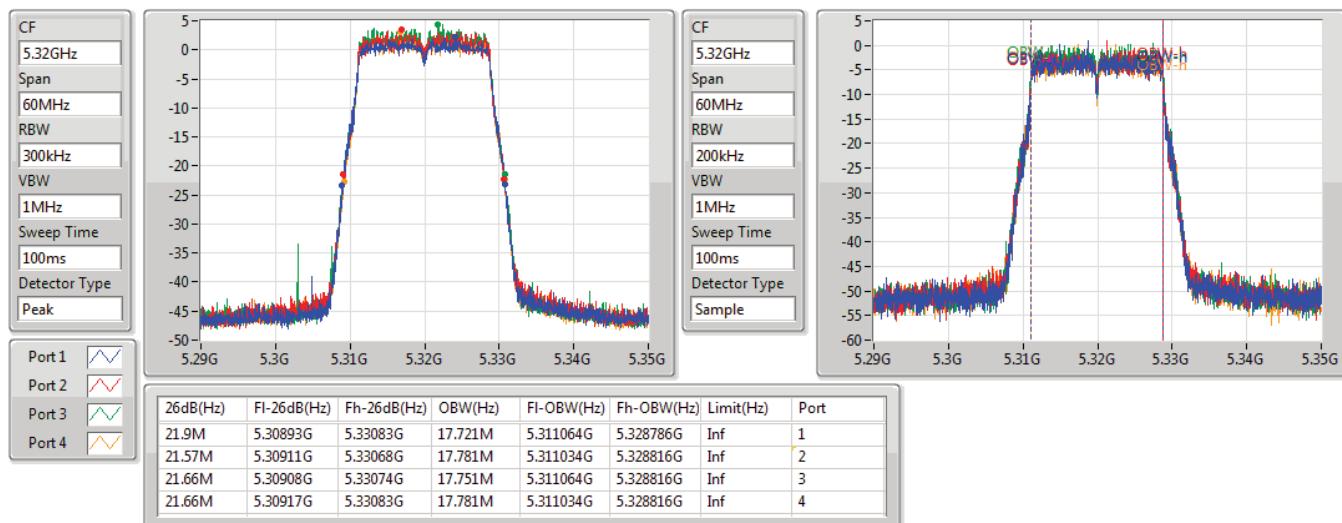

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5300MHz

16/05/2019

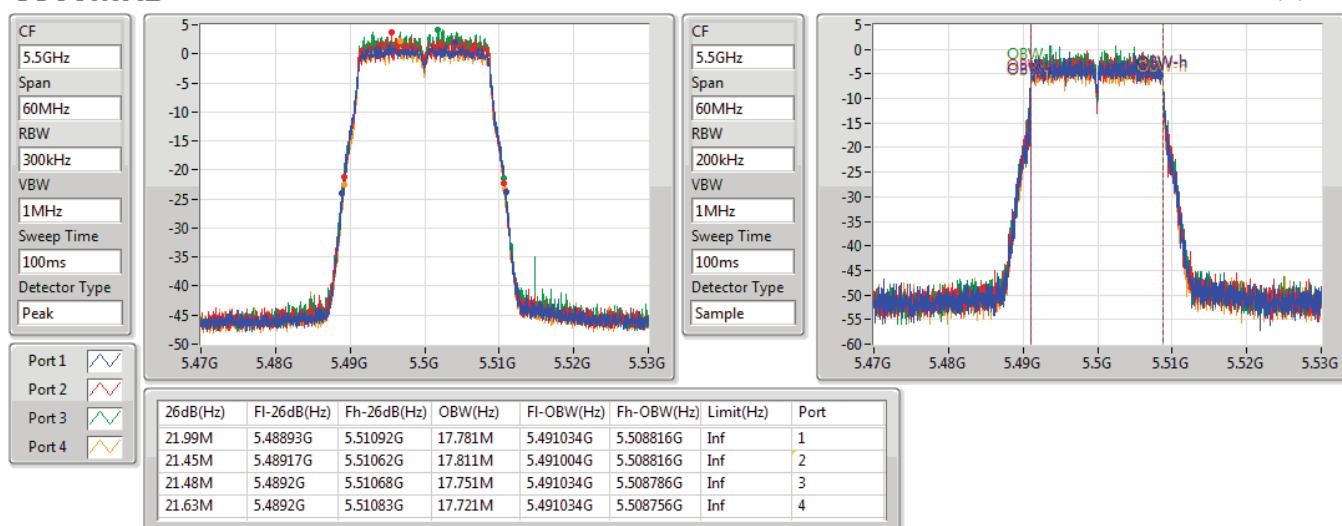


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5320MHz

16/05/2019

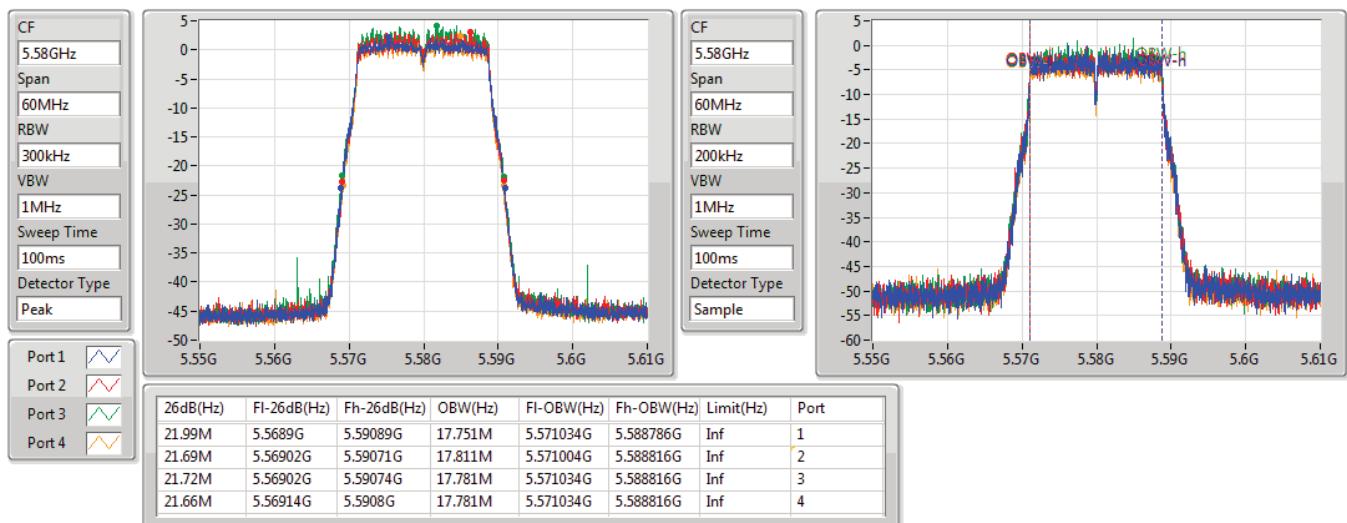

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5500MHz

16/05/2019

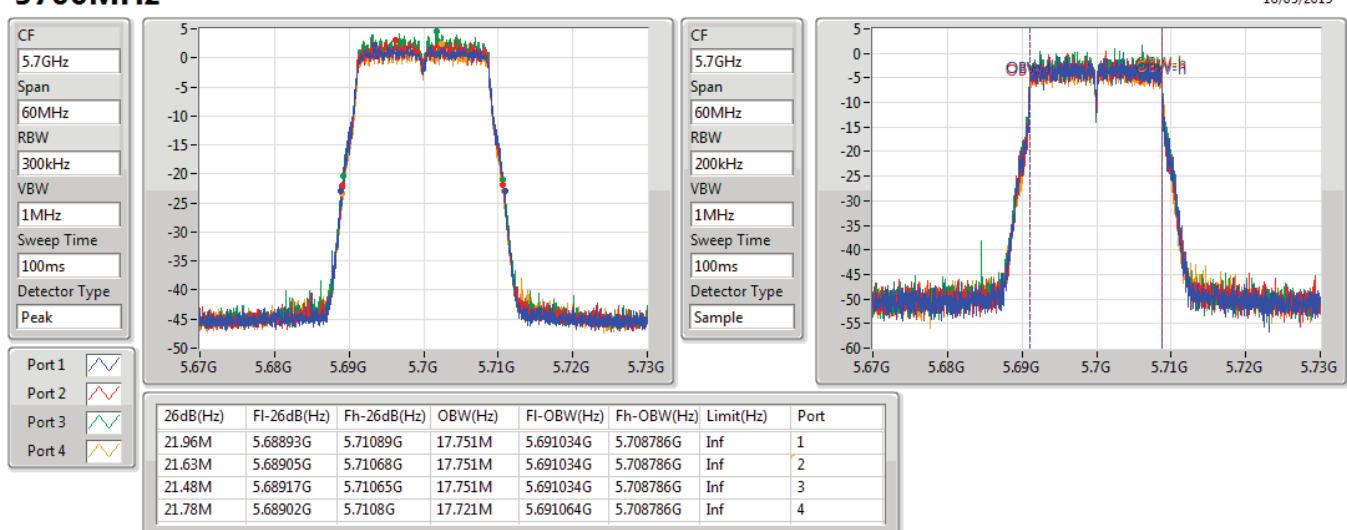


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5580MHz

16/05/2019

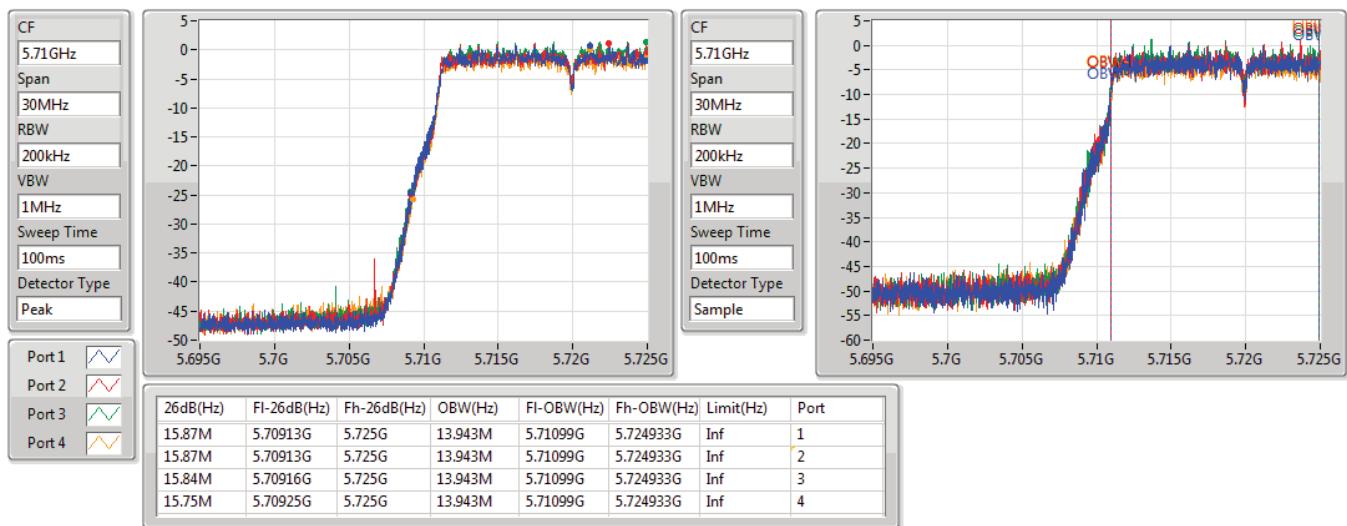

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5700MHz

16/05/2019

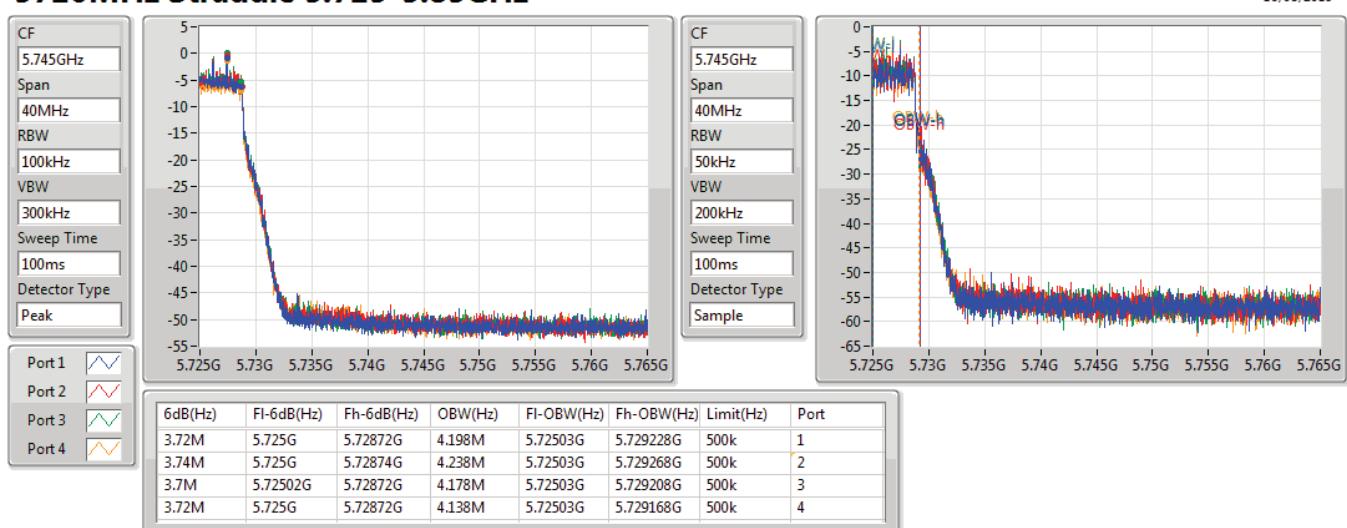


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.47-5.725GHz

16/05/2019

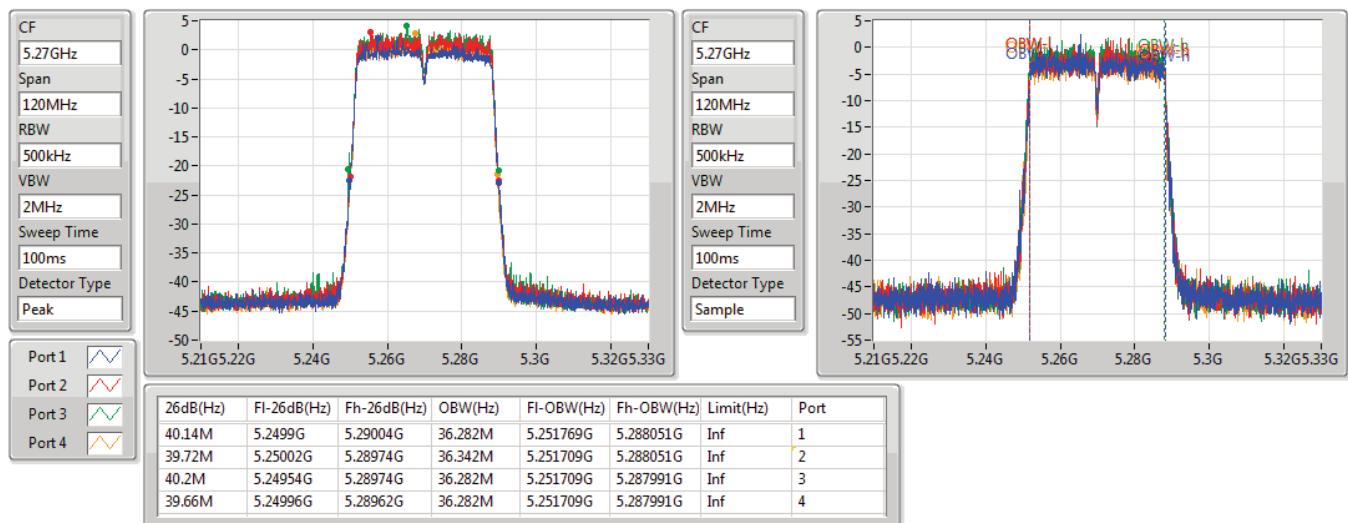

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.725-5.85GHz

16/05/2019

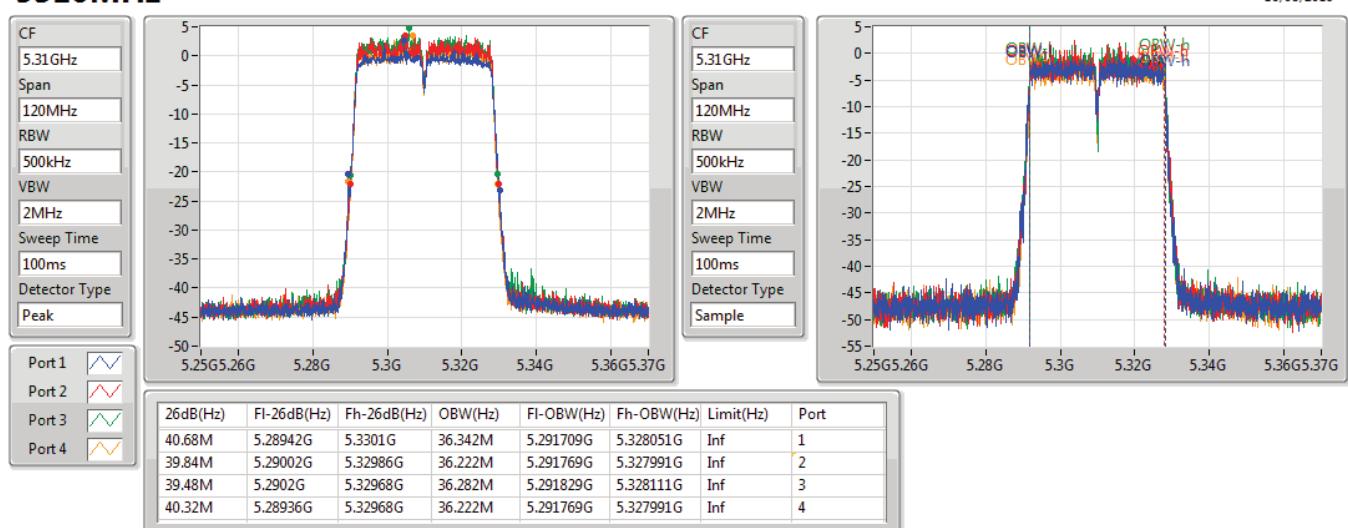


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5270MHz

16/05/2019

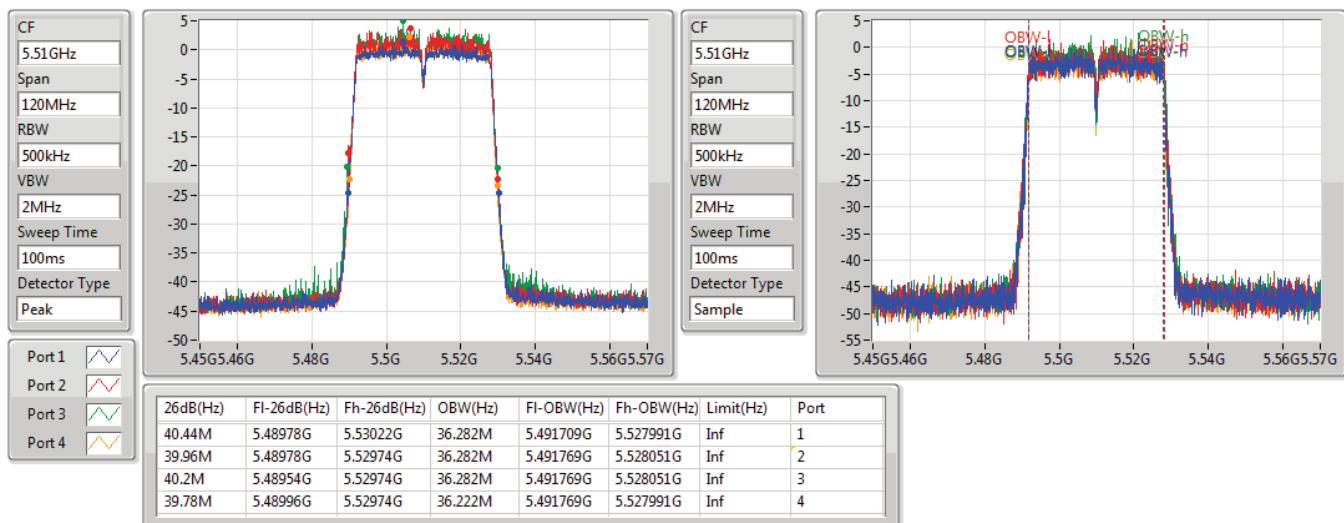

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5310MHz

16/05/2019

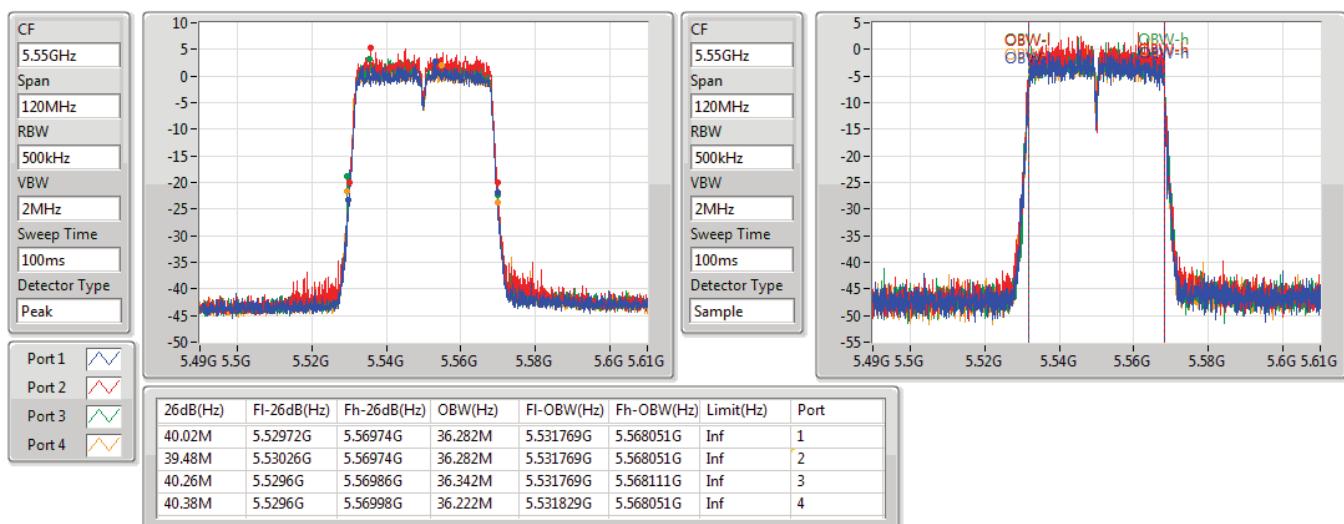


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5510MHz

16/05/2019

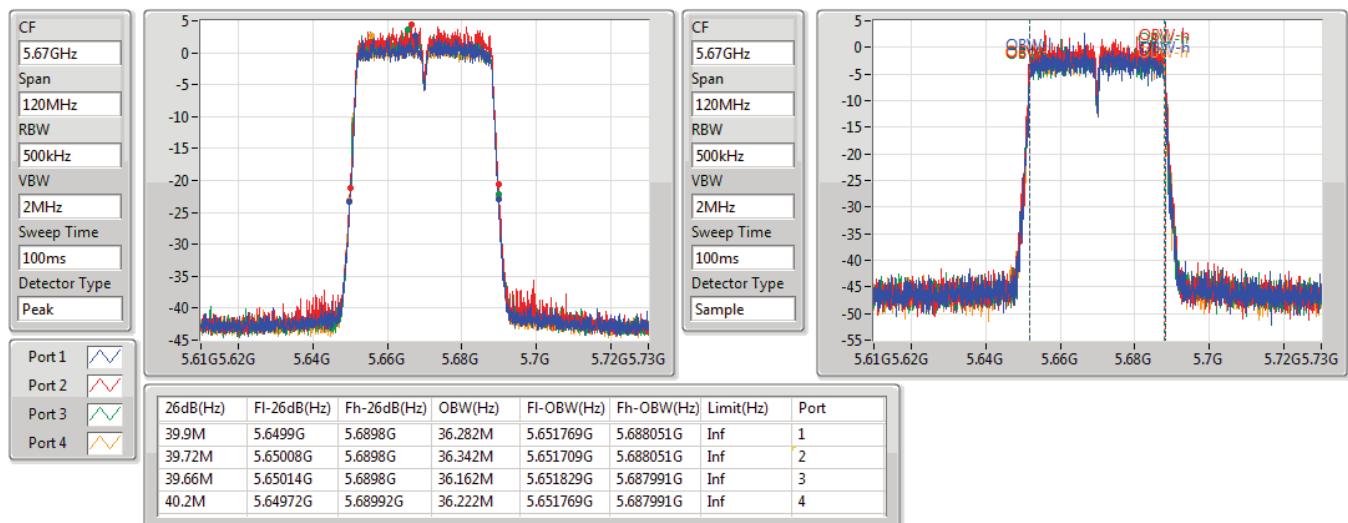

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5550MHz

17/05/2019

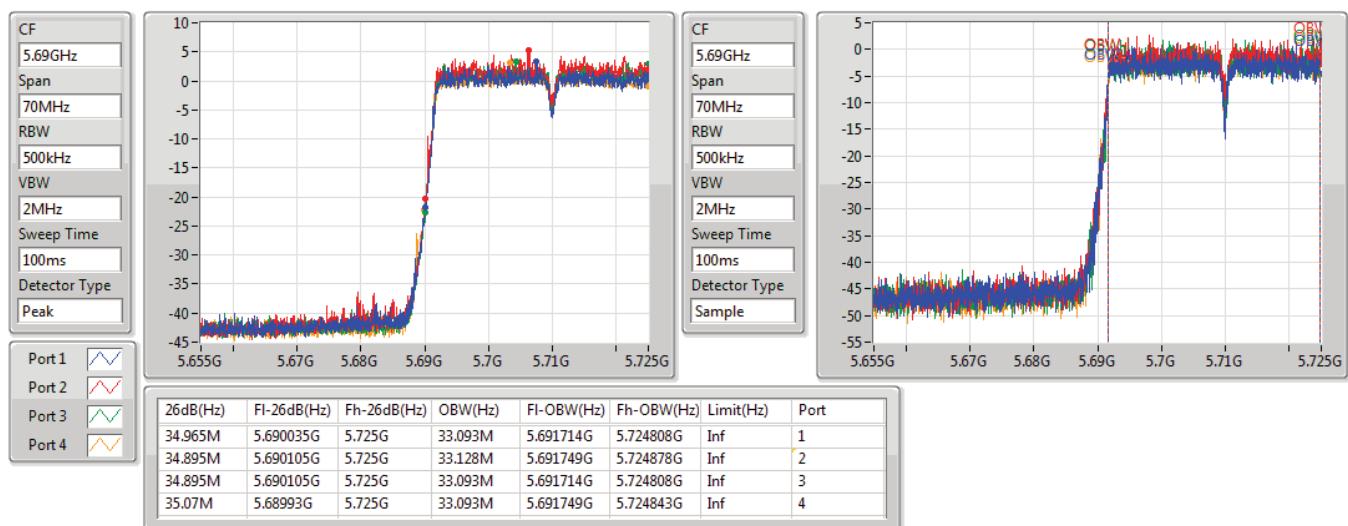


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5670MHz

17/05/2019

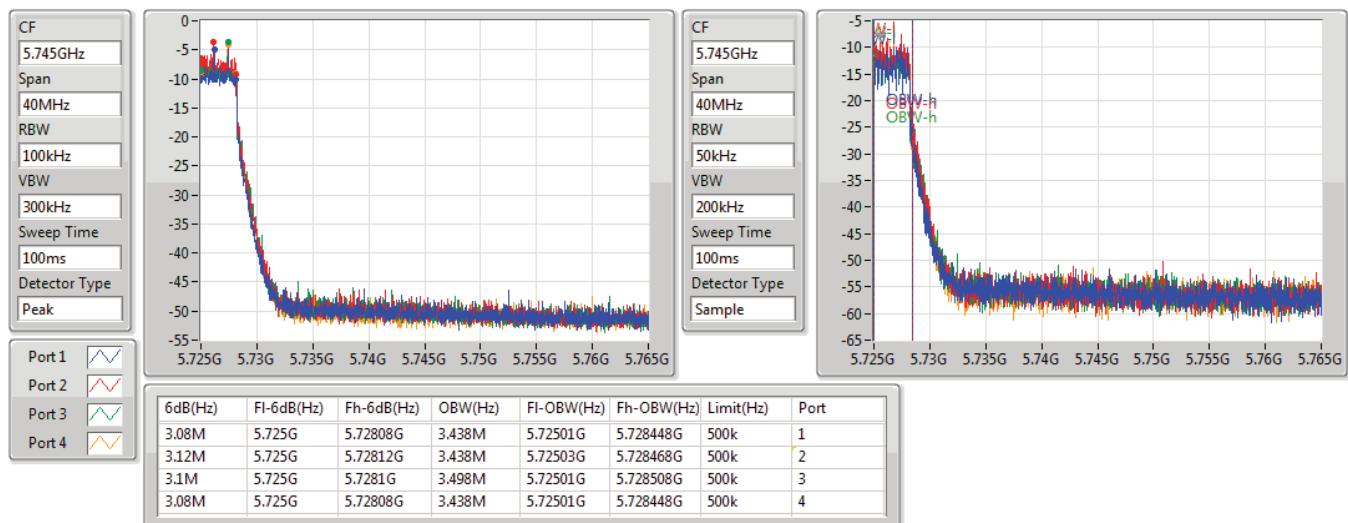

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.47-5.725GHz

17/05/2019

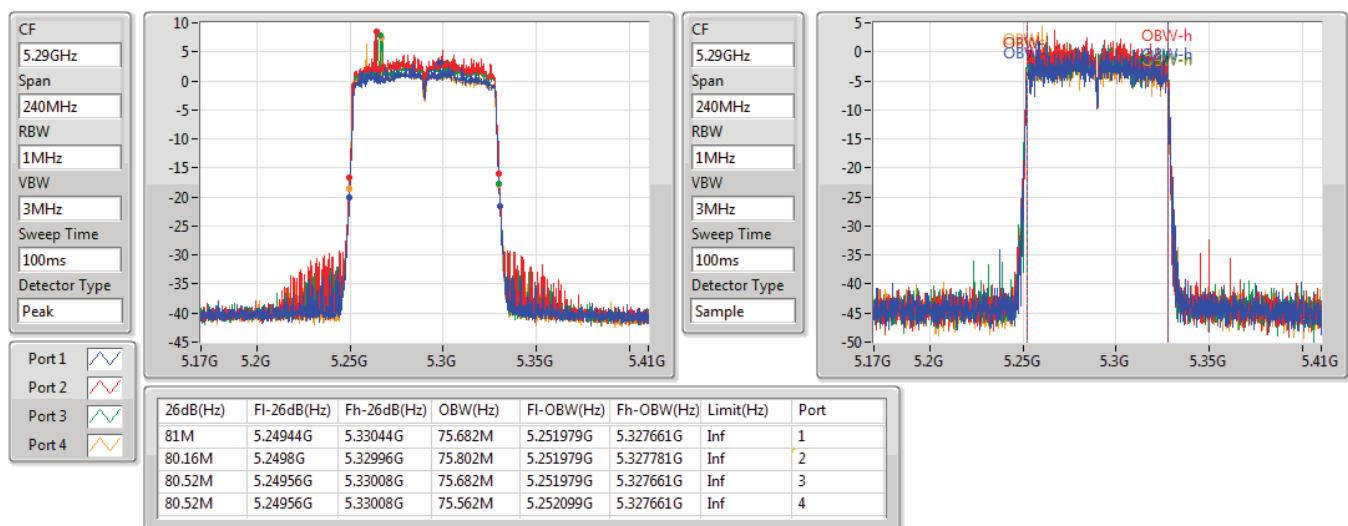


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.725-5.85GHz

17/05/2019

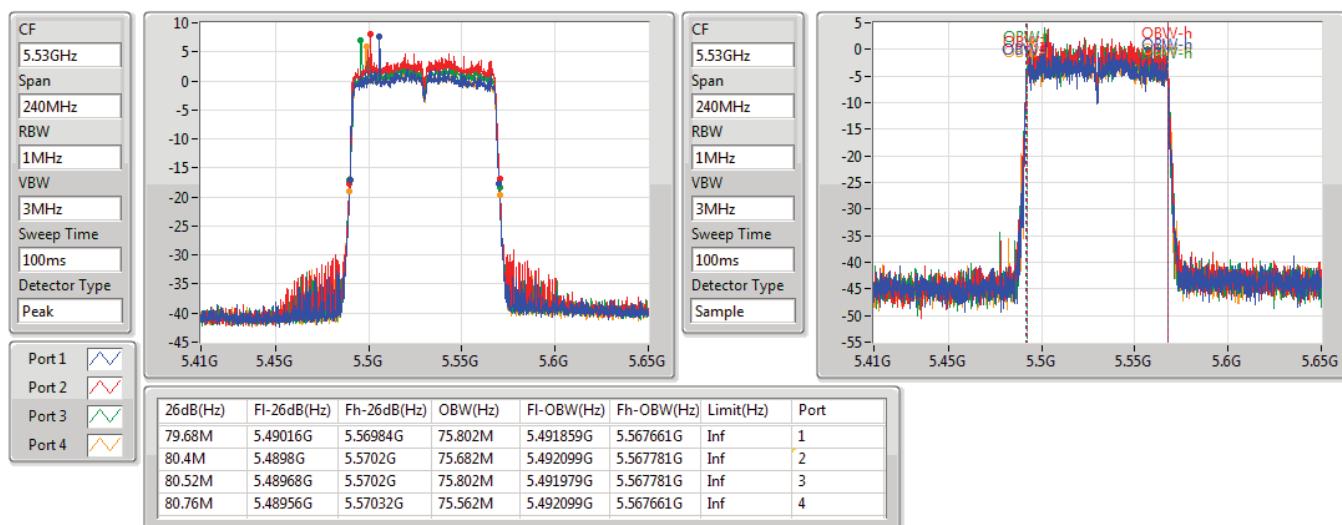

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5290MHz

17/05/2019

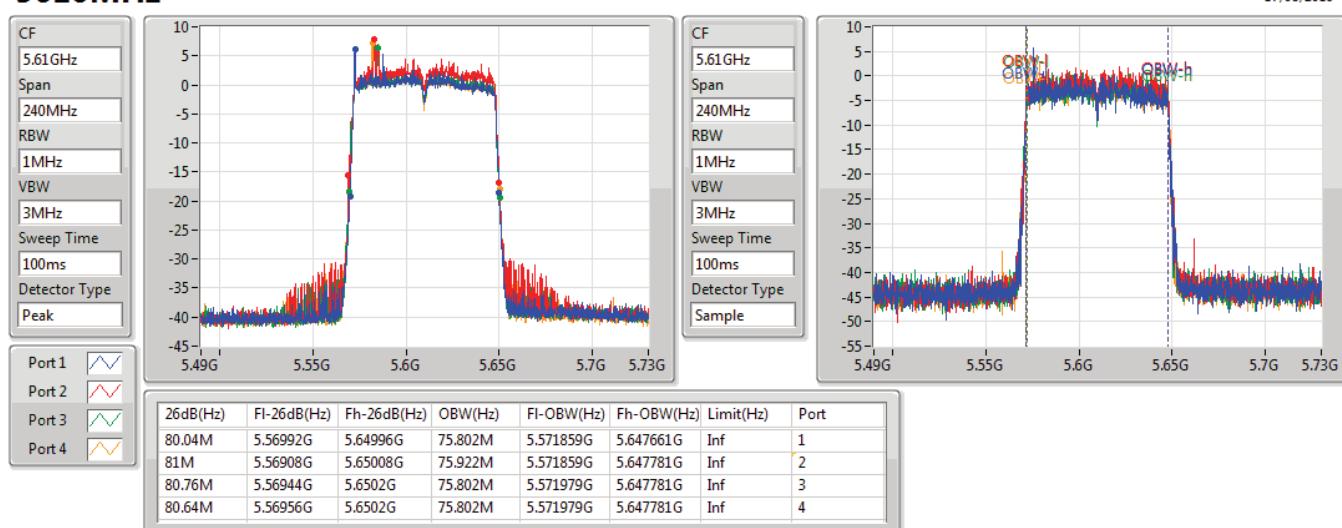


802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5530MHz

17/05/2019

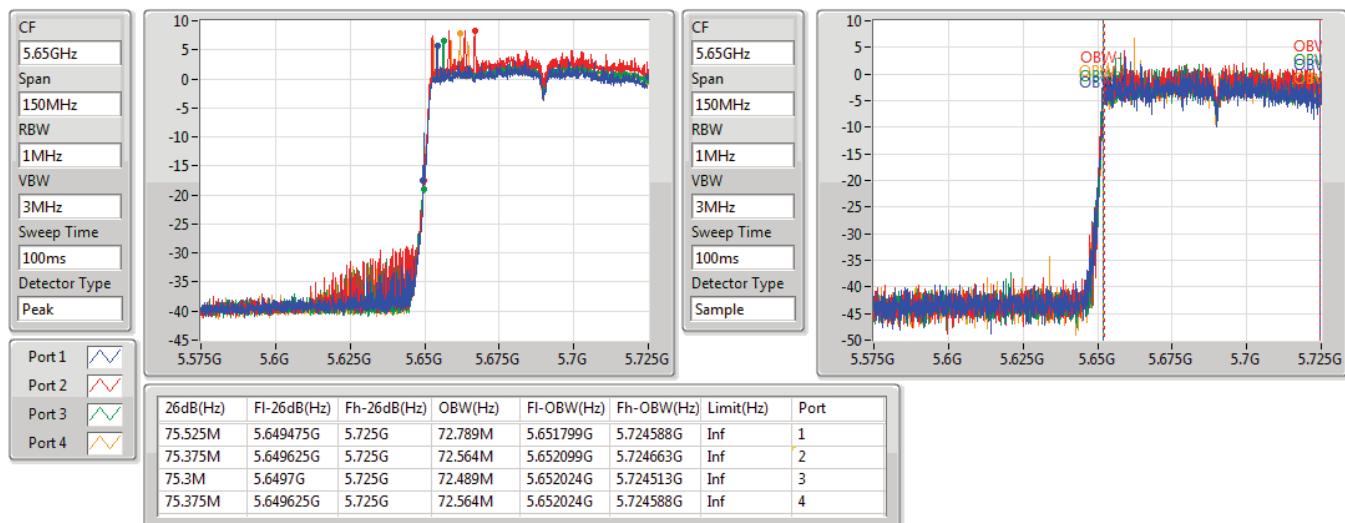

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5610MHz

17/05/2019

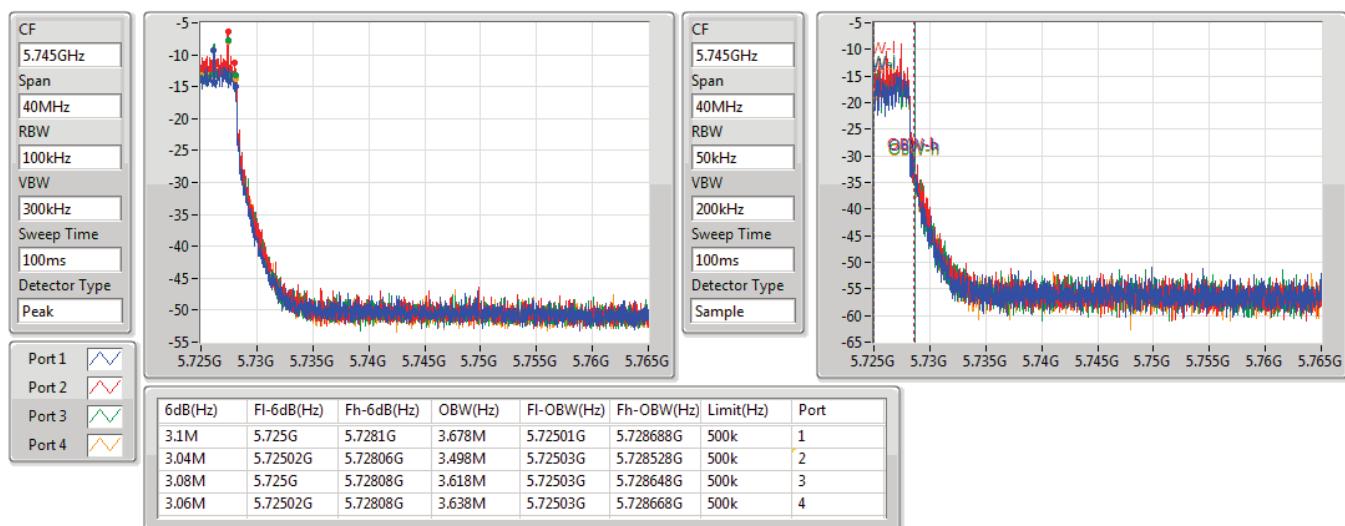


802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.47-5.725GHz

17/05/2019

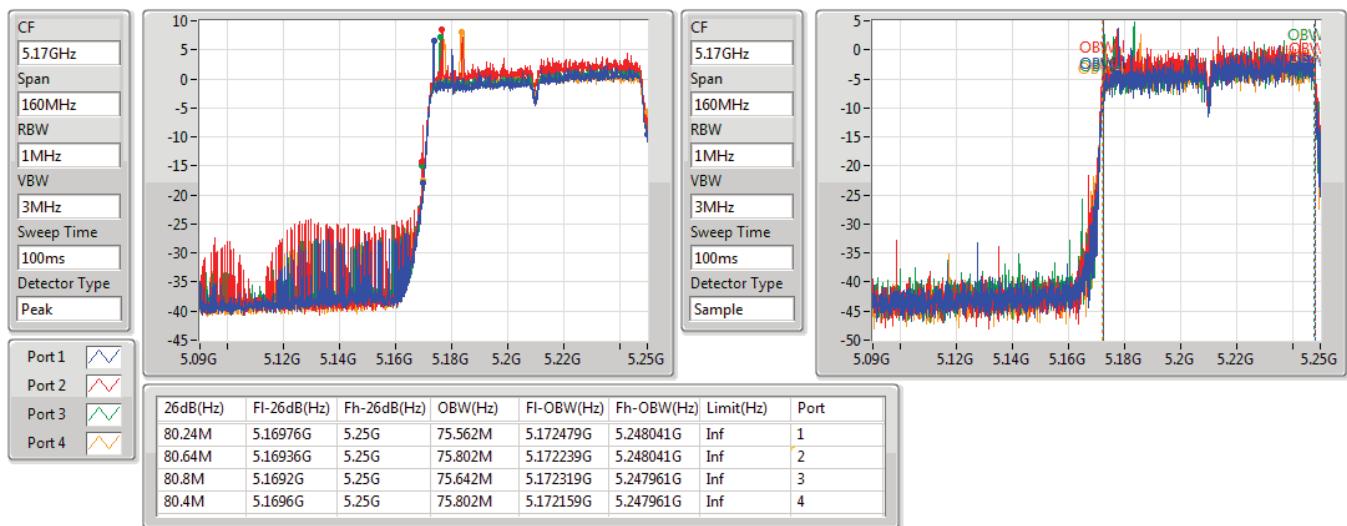

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.725-5.85GHz

17/05/2019

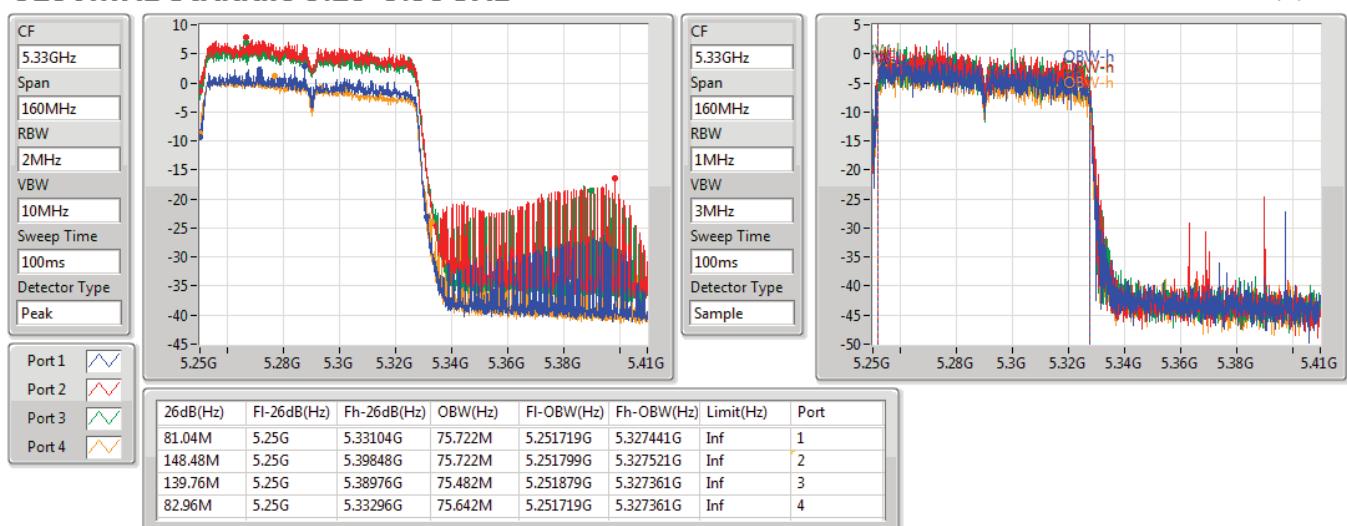


802.11ac VHT160-BF_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.15-5.25GHz

17/05/2019

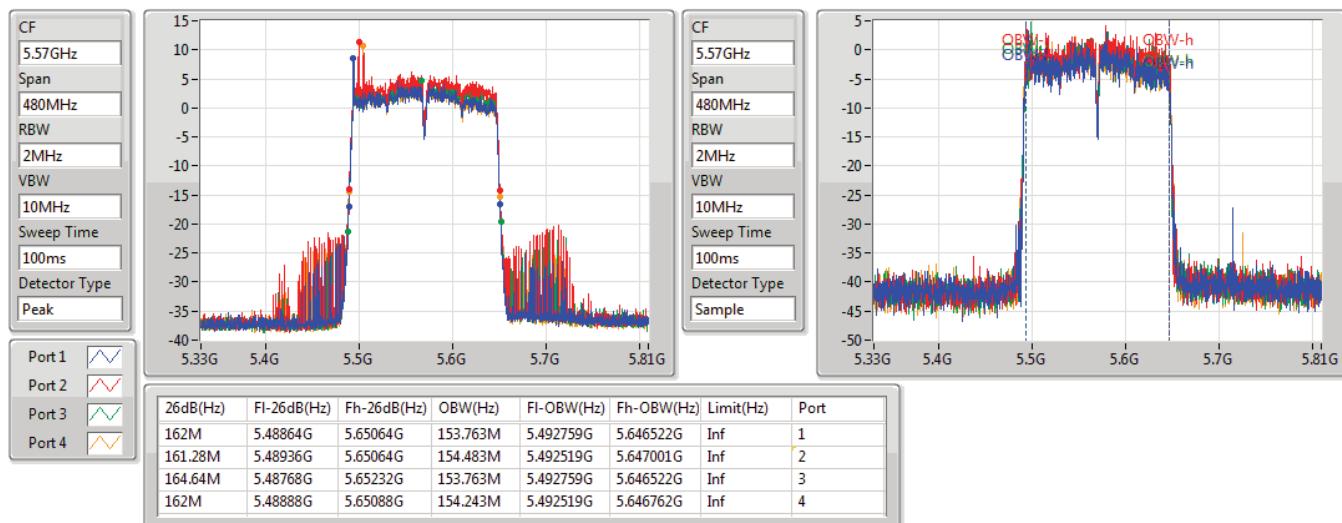

802.11ac VHT160-BF_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.25-5.35GHz

17/05/2019

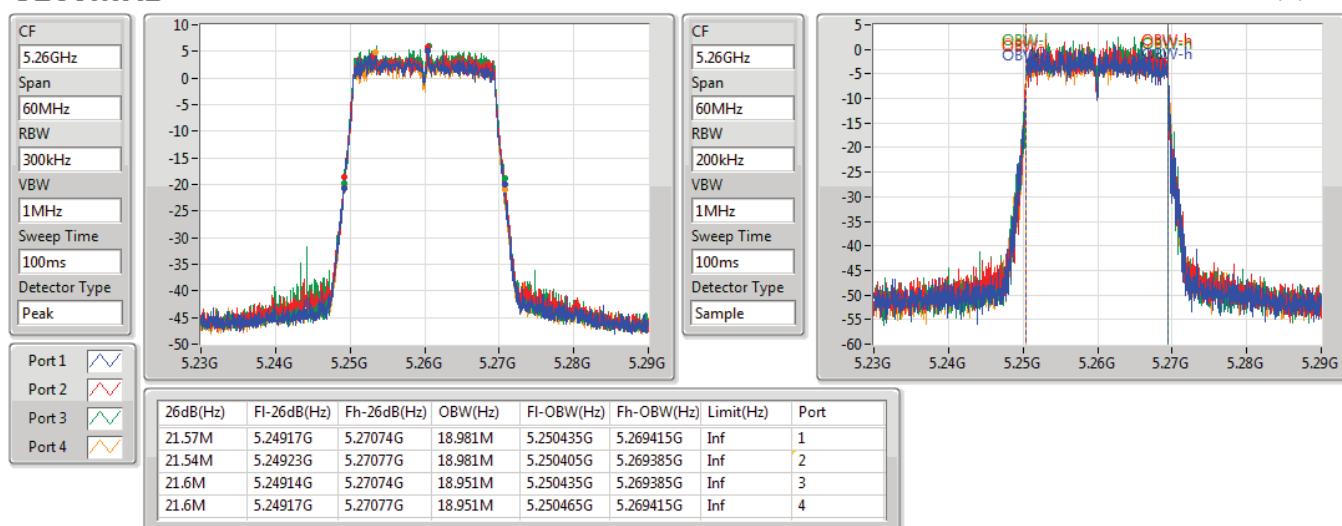


802.11ac VHT160-BF_Nss1,(MCS0)_4TX
EBW
5570MHz

17/05/2019

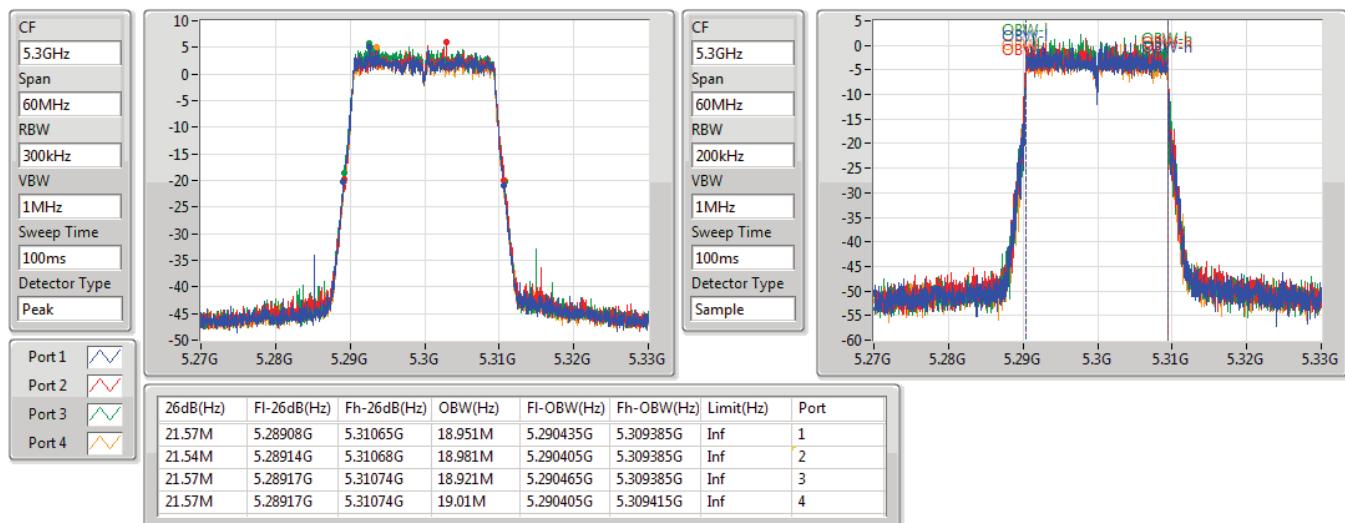

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5260MHz

16/05/2019

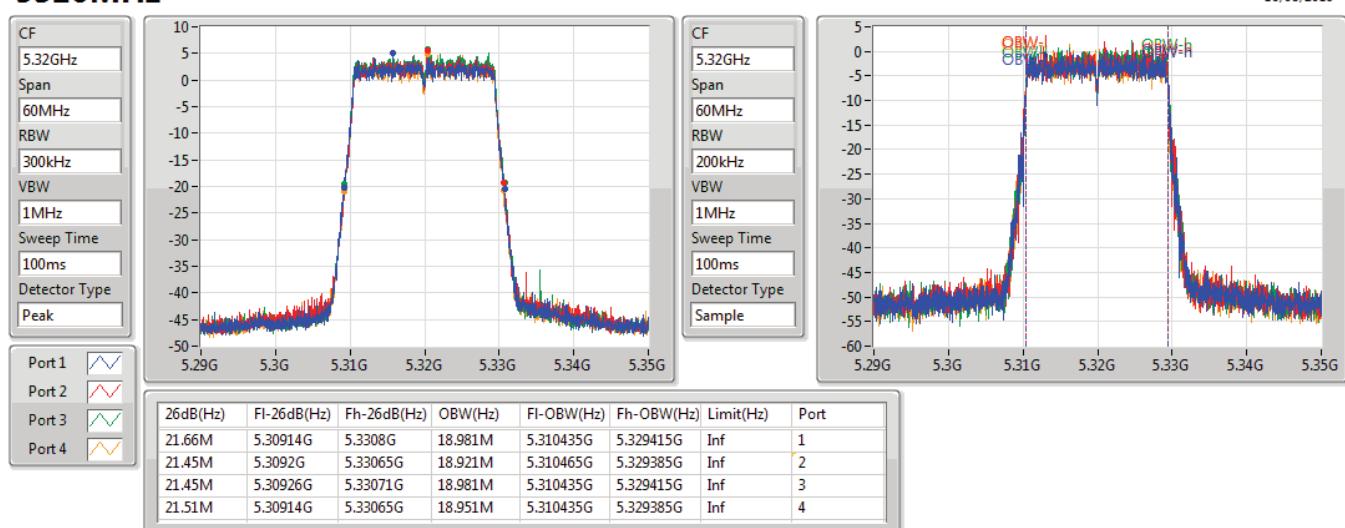


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5300MHz

16/05/2019

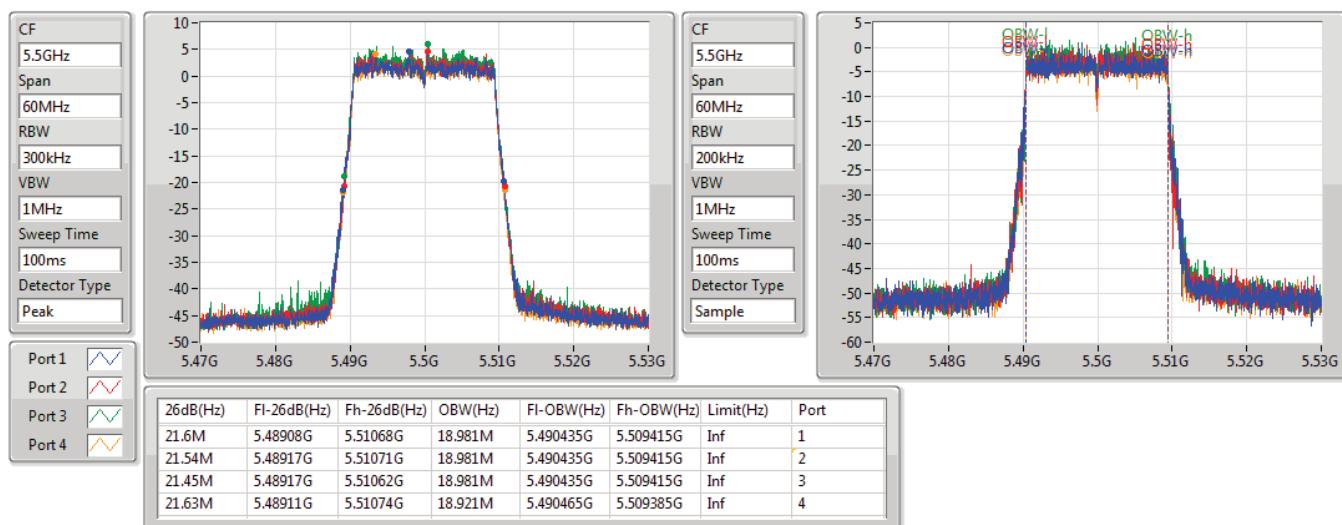

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5320MHz

16/05/2019

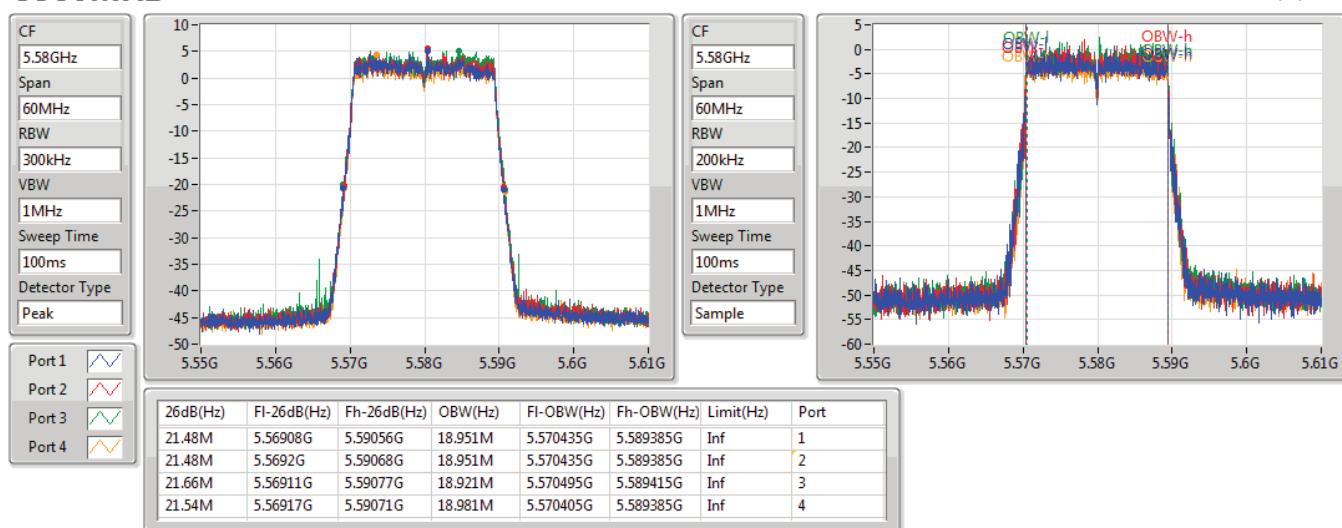


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5500MHz

16/05/2019

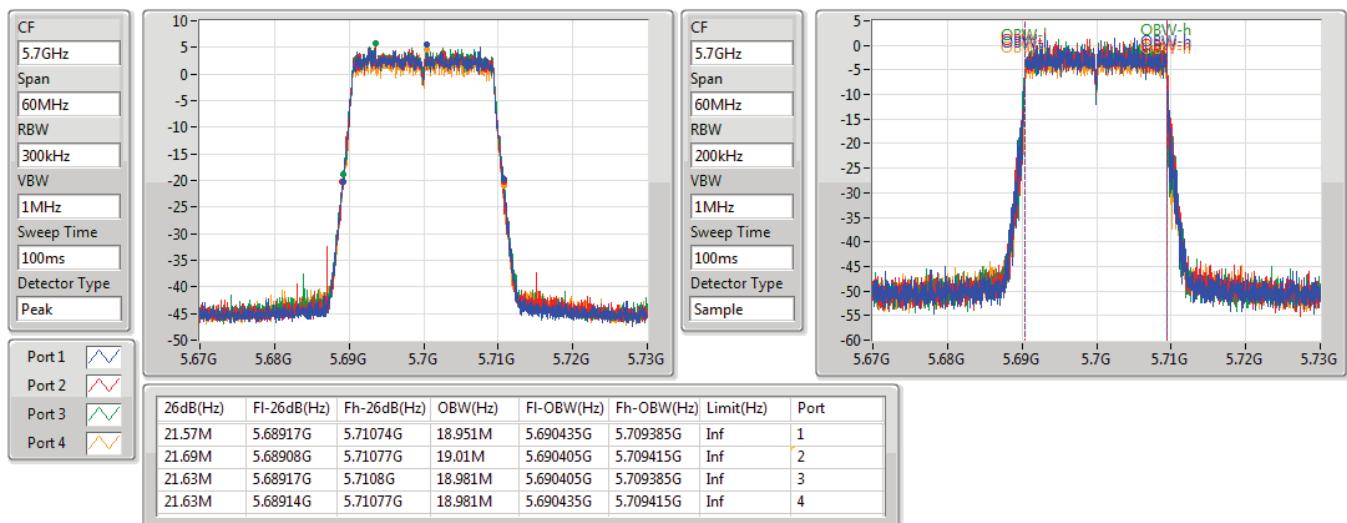

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5580MHz

16/05/2019

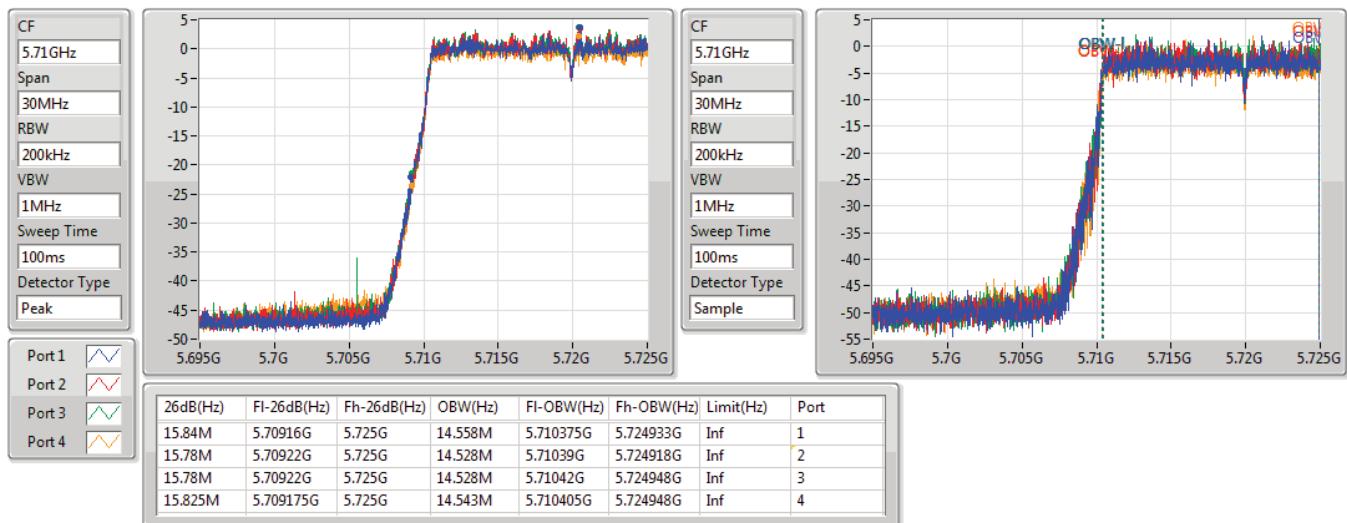


**802.11ax HEW20-BF_Nss1,(MCS0)_4TX****EBW****5700MHz**

16/05/2019

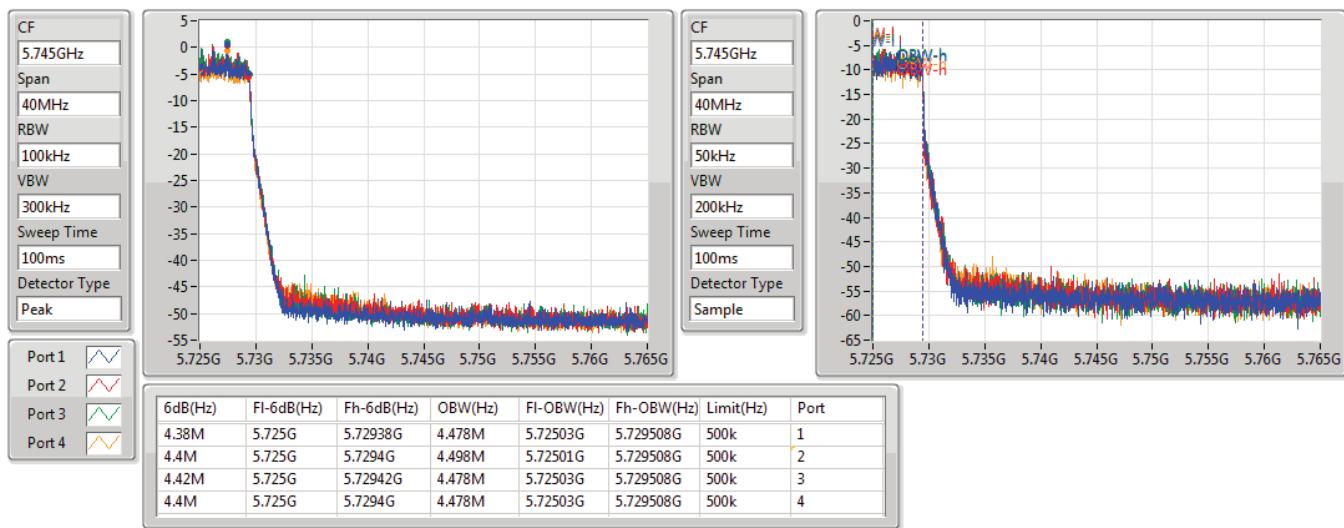
**802.11ax HEW20-BF_Nss1,(MCS0)_4TX****EBW****5720MHz Straddle 5.47-5.725GHz**

16/05/2019

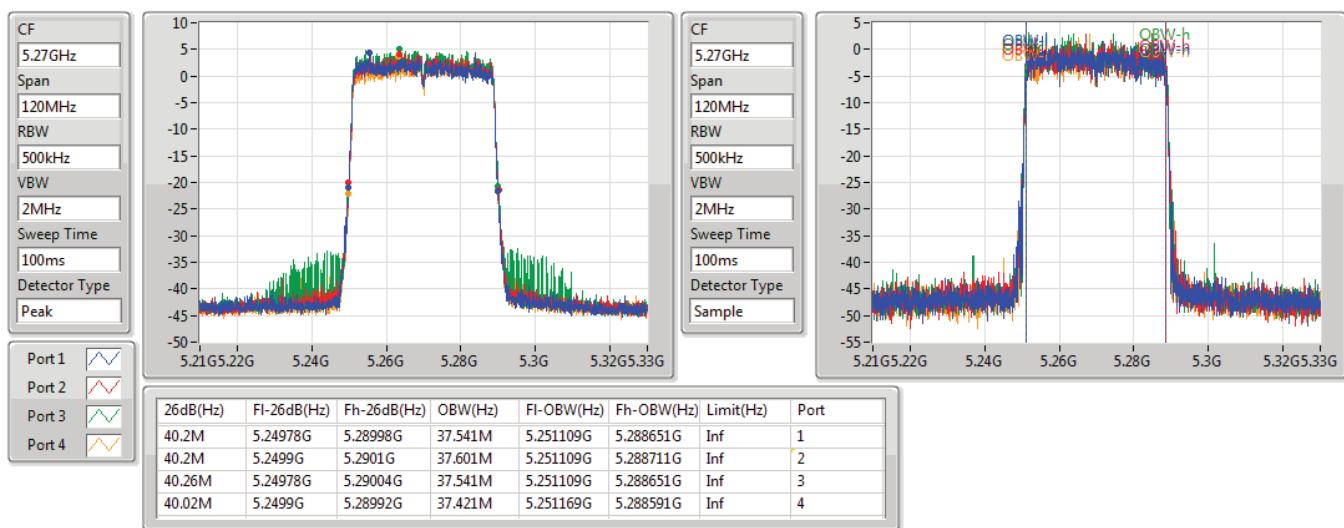


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.725-5.85GHz

16/05/2019

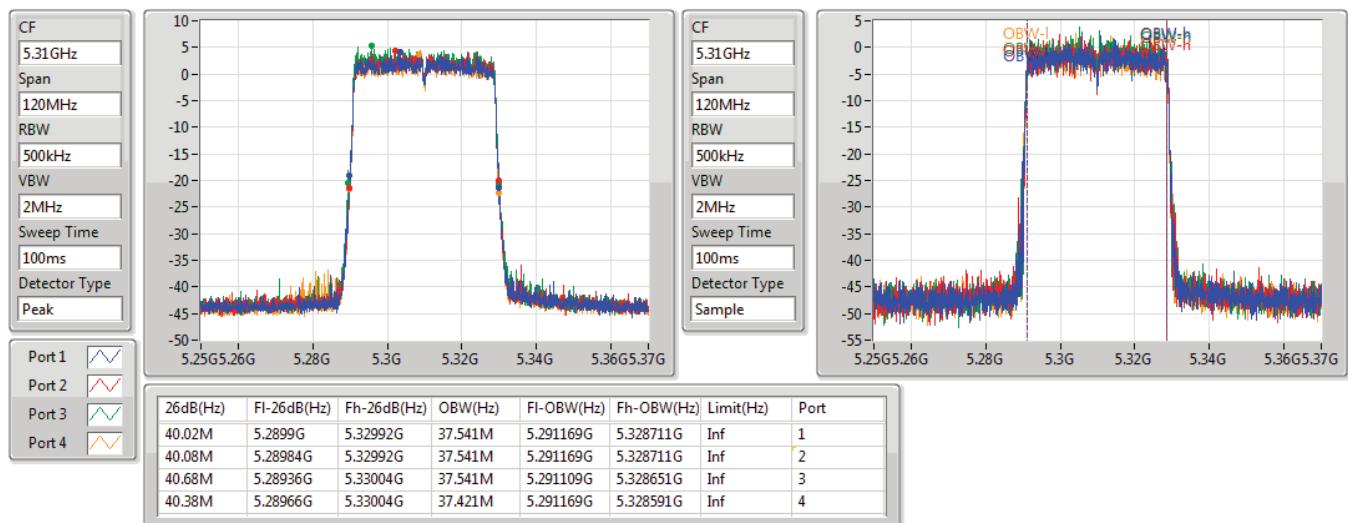

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5270MHz

16/05/2019



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

16/05/2019

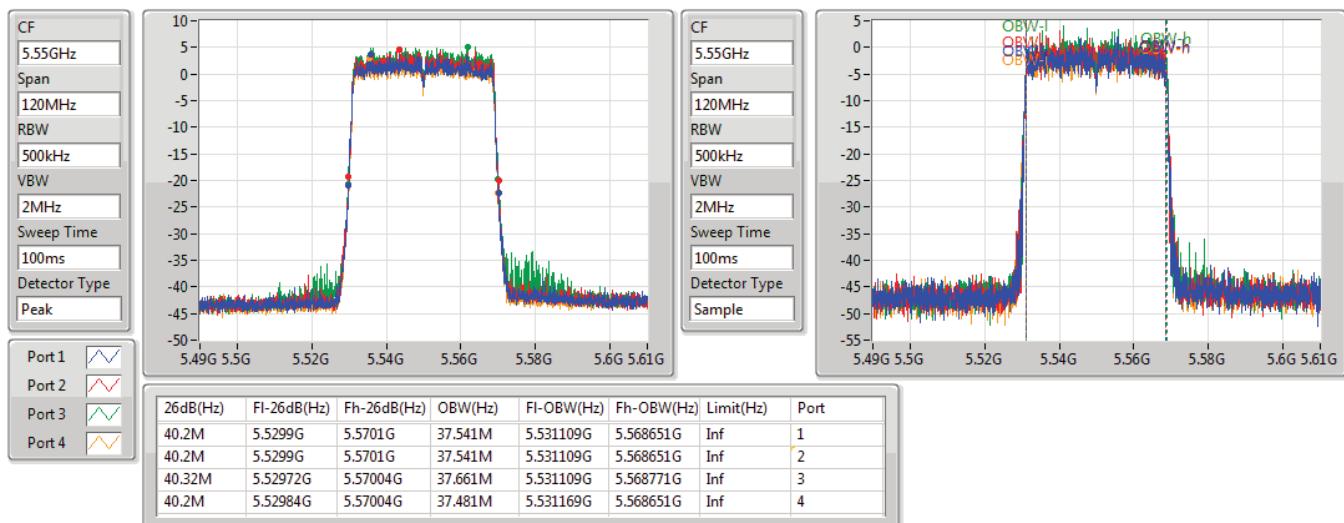

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5510MHz

16/05/2019

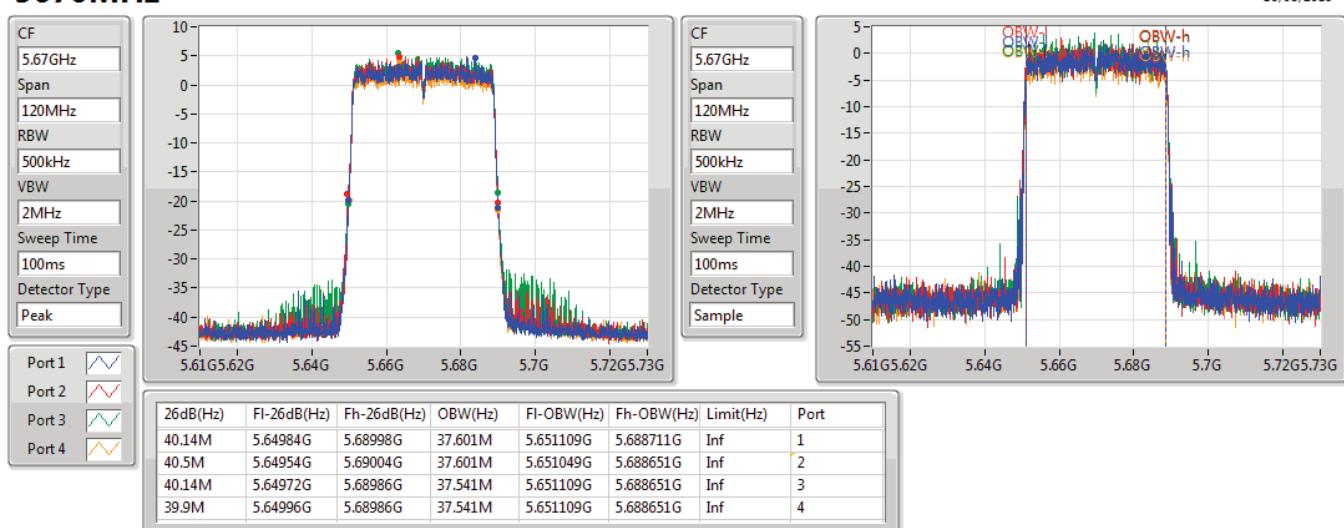


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5550MHz

16/05/2019

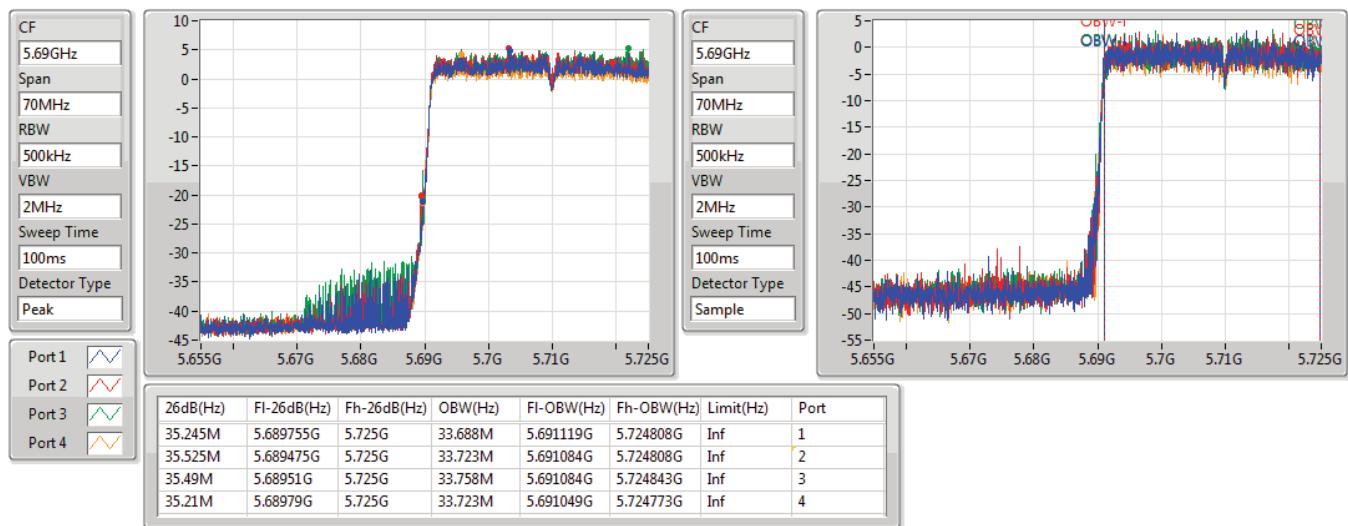

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5670MHz

16/05/2019

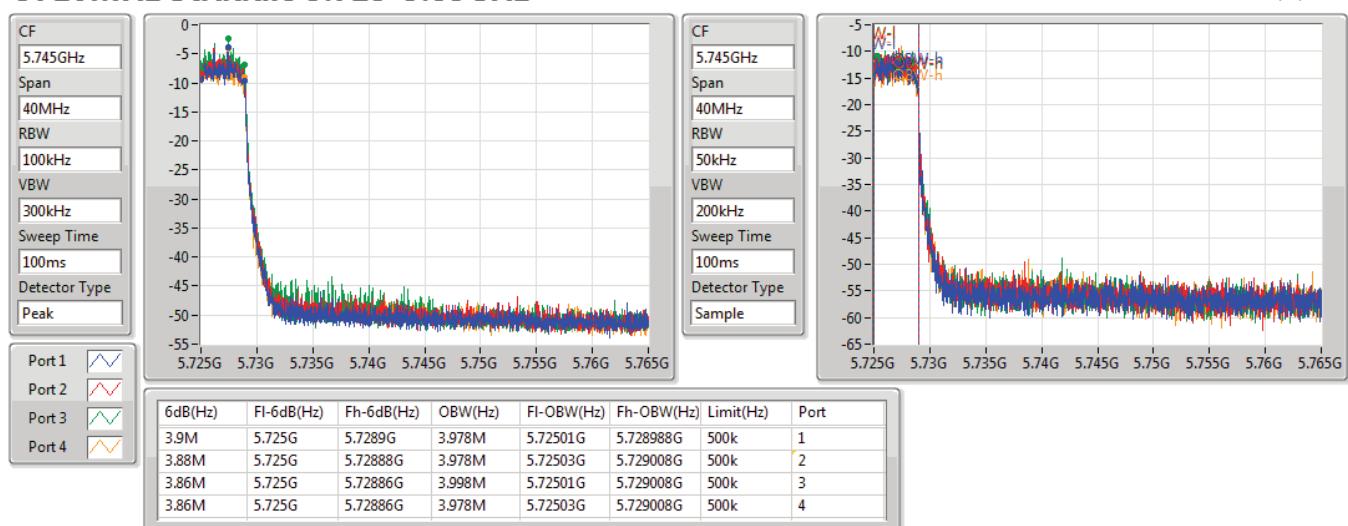


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.47-5.725GHz

16/05/2019

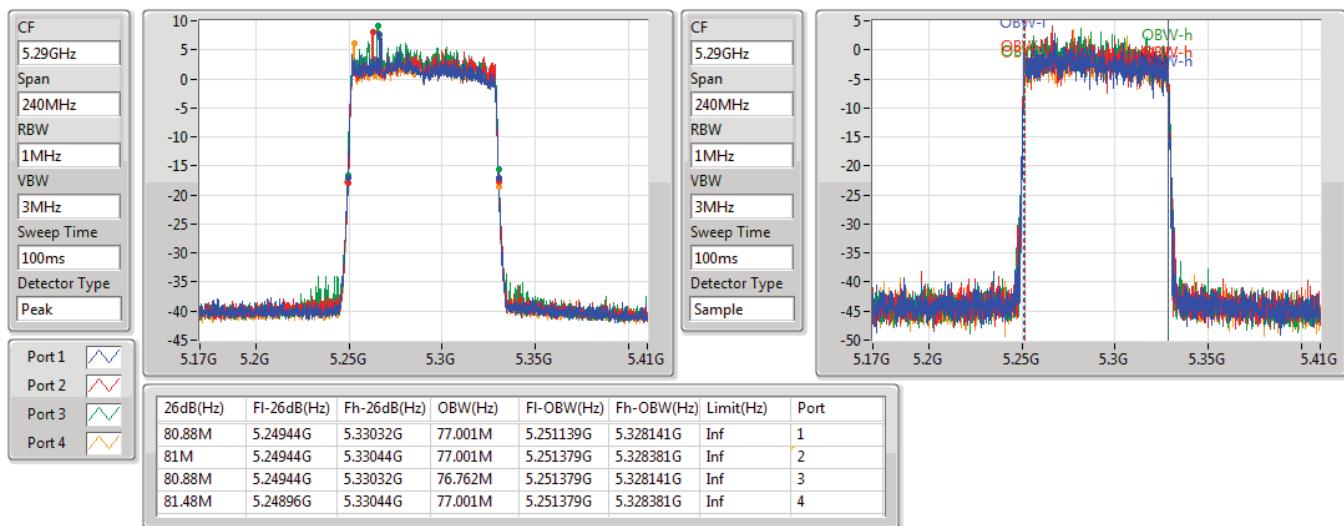

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.725-5.85GHz

16/05/2019

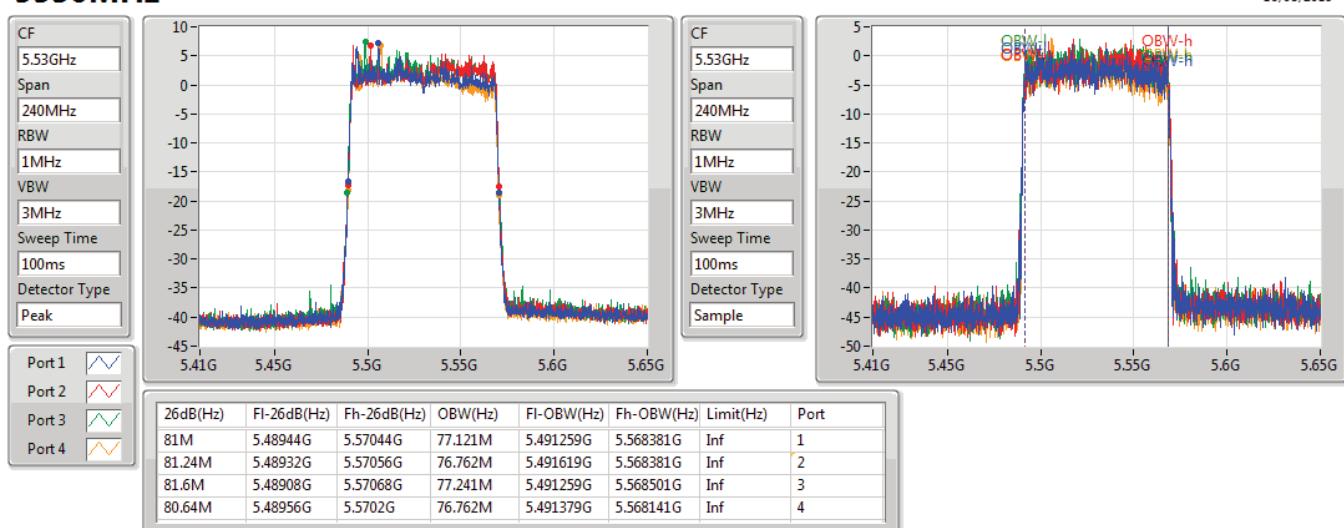


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5290MHz

16/05/2019

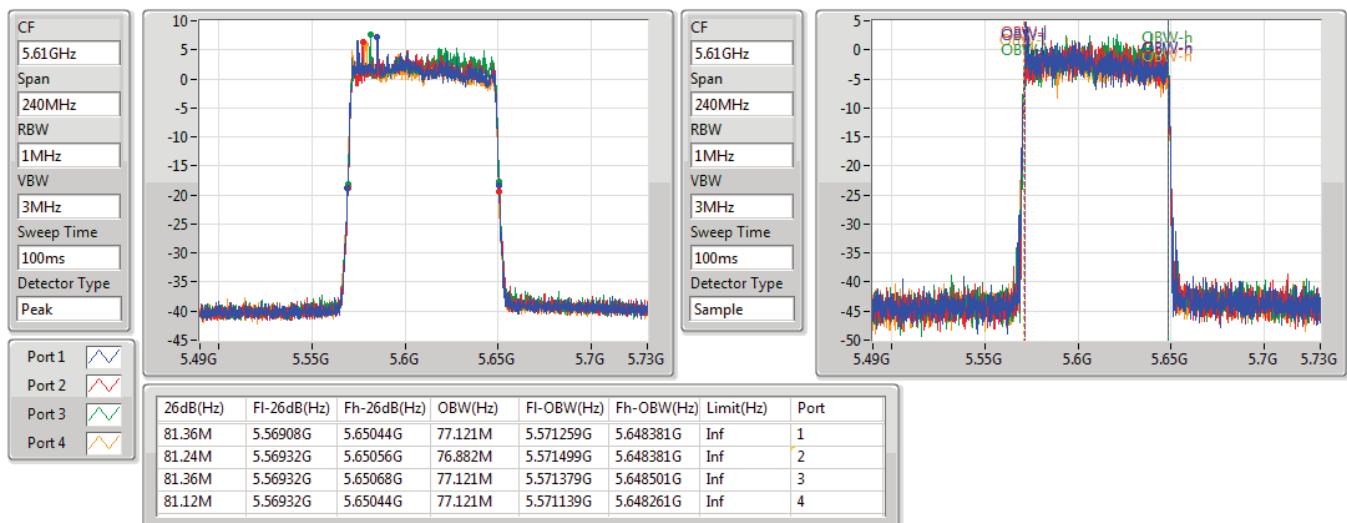

802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5530MHz

16/05/2019

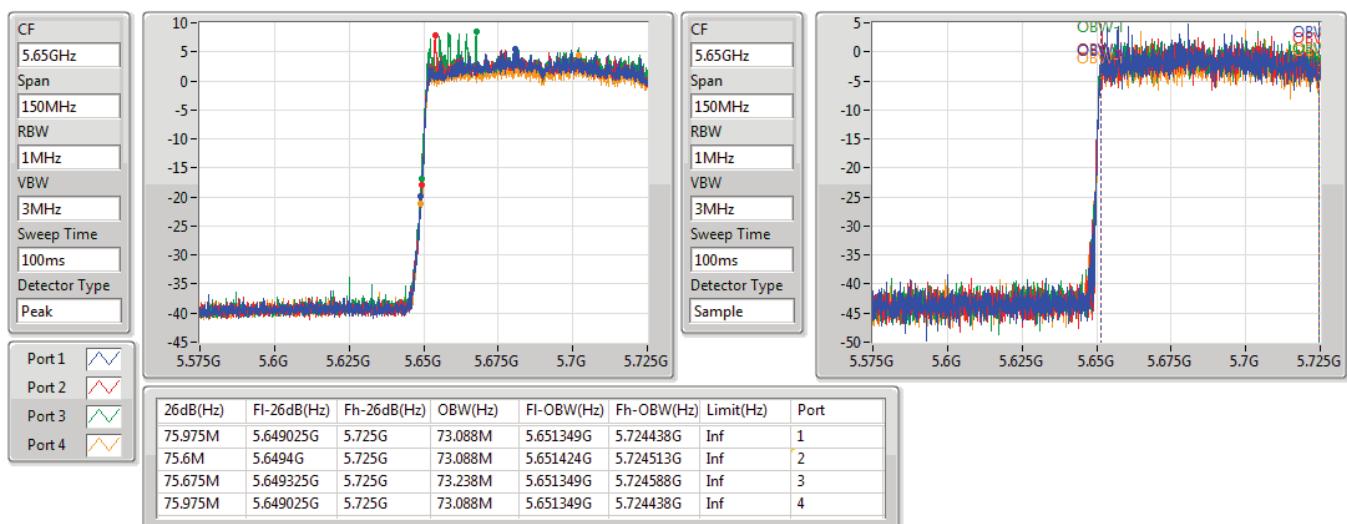


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5610MHz

16/05/2019

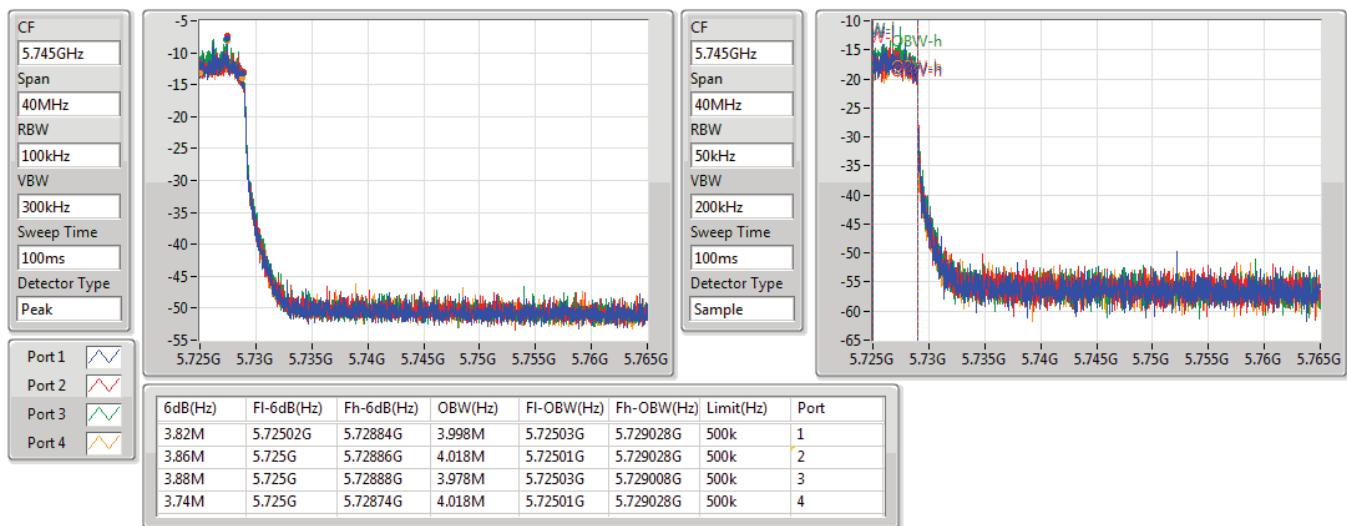

802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.47-5.725GHz

16/05/2019

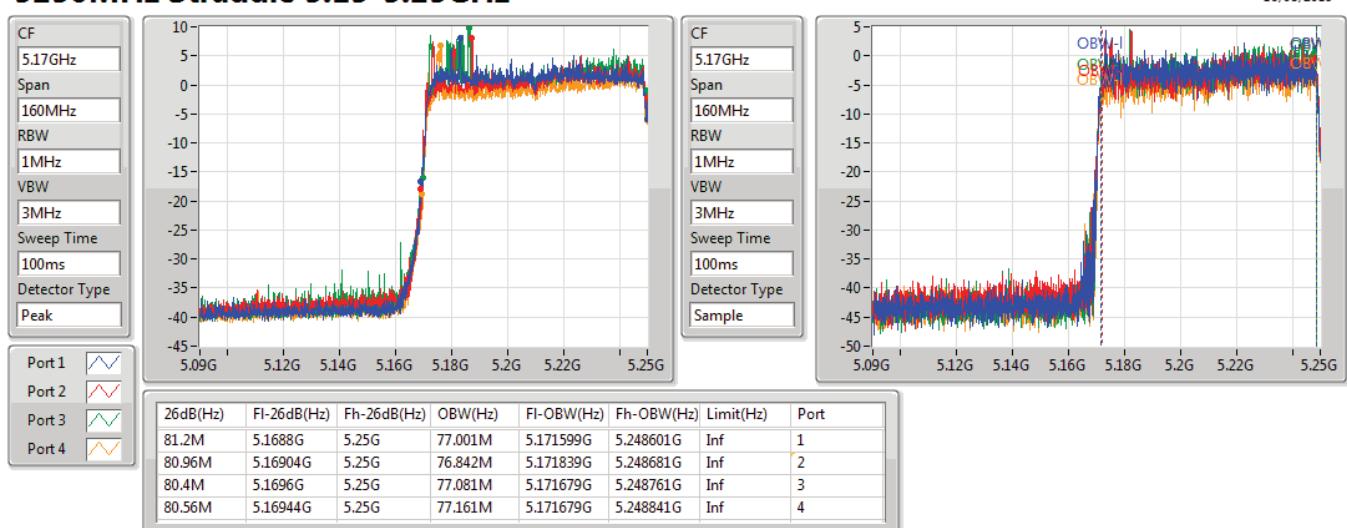


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.725-5.85GHz

16/05/2019

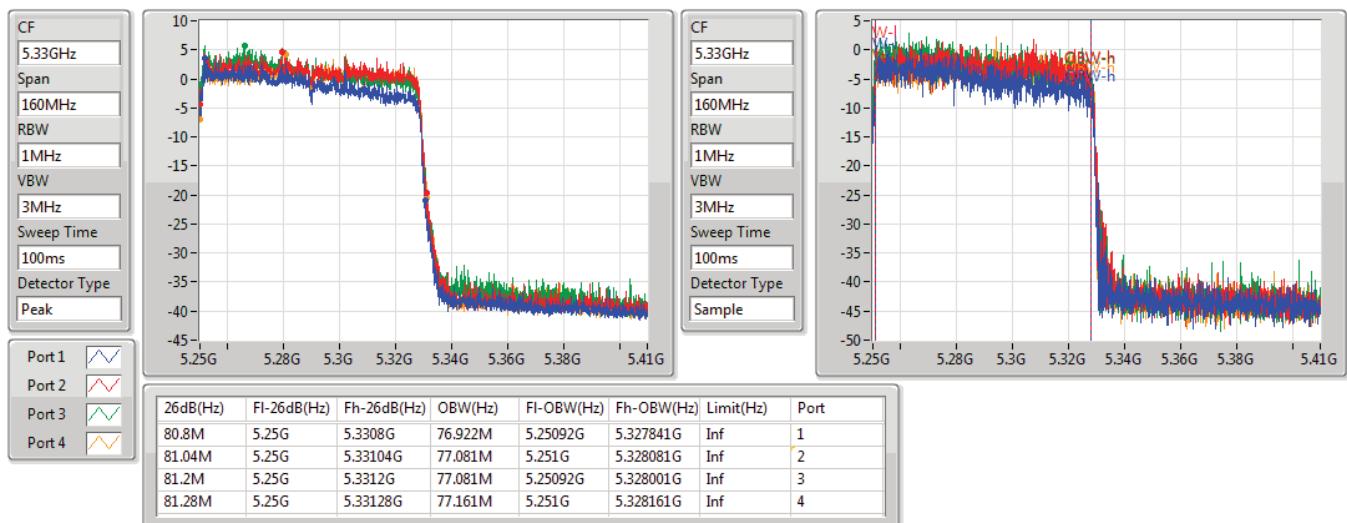

802.11ax HEW160-BF_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.15-5.25GHz

16/05/2019

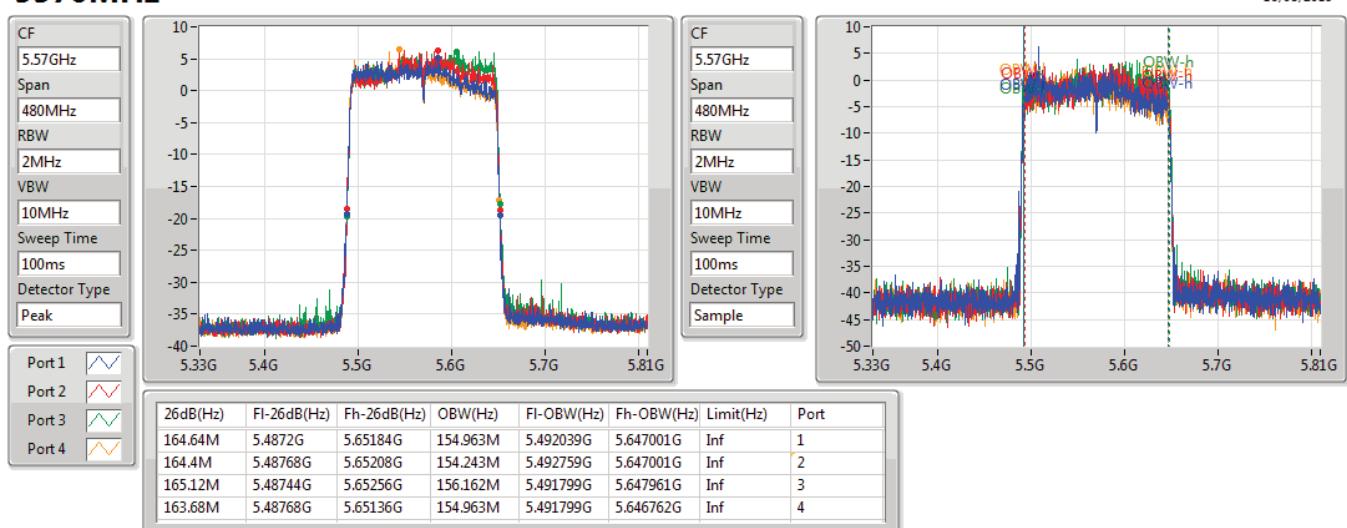


802.11ax HEW160-BF_Nss1,(MCS0)_4TX
EBW
5250MHz Straddle 5.25-5.35GHz

16/05/2019


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

16/05/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	21.78M	16.642M	16M6D1D	15.6M	13.343M
802.11ac VHT20_Nss1,(MCS0)_4TX	21.84M	17.811M	17M8D1D	15.795M	13.928M
802.11ac VHT40_Nss1,(MCS0)_4TX	40.38M	36.342M	36M3D1D	34.895M	33.023M
802.11ac VHT80_Nss1,(MCS0)_4TX	82.2M	75.802M	75M8D1D	75.675M	72.414M
802.11ac VHT160_Nss1,(MCS0)_4TX	241.44M	154.243M	154MD1D	163.92M	153.763M
802.11ax HEW20_Nss1,(MCS0)_4TX	21.78M	19.04M	19M0D1D	15.675M	14.528M
802.11ax HEW40_Nss1,(MCS0)_4TX	40.14M	37.601M	37M6D1D	34.93M	33.688M
802.11ax HEW80_Nss1,(MCS0)_4TX	82.56M	77.241M	77M2D1D	75.825M	73.163M
802.11ax HEW160_Nss1,(MCS0)_4TX	164.4M	155.442M	155MD1D	163.68M	154.963M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	3.18M	3.838M	3M84D1D	3.08M	3.698M
802.11ac VHT20_Nss1,(MCS0)_4TX	3.72M	4.218M	4M22D1D	3.7M	4.118M
802.11ac VHT40_Nss1,(MCS0)_4TX	3.1M	3.518M	3M52D1D	3.08M	3.418M
802.11ac VHT80_Nss1,(MCS0)_4TX	3.08M	4.418M	4M42D1D	3.06M	3.638M
802.11ax HEW20_Nss1,(MCS0)_4TX	4.42M	4.498M	4M50D1D	4.38M	4.458M
802.11ax HEW40_Nss1,(MCS0)_4TX	3.76M	3.978M	3M98D1D	3.64M	3.958M
802.11ax HEW80_Nss1,(MCS0)_4TX	3.74M	6.097M	6M10D1D	3.46M	4.018M

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	-	-	-	-	-	-	-	-	-	-
5500MHz_TnomVnom	Pass	Inf	21.39M	16.612M	21.63M	16.642M	21.78M	16.642M	21.57M	16.552M
5580MHz_TnomVnom	Pass	Inf	21.54M	16.582M	21.6M	16.582M	21.75M	16.612M	21.54M	16.582M
5700MHz_TnomVnom	Pass	Inf	21.39M	16.612M	21.51M	16.582M	21.42M	16.582M	21.6M	16.552M
5720MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	15.6M	13.343M	15.72M	13.358M	15.81M	13.358M	15.69M	13.373M
5720MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	3.08M	3.838M	3.18M	3.798M	3.18M	3.838M	3.1M	3.698M
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5500MHz_TnomVnom	Pass	Inf	21.69M	17.781M	21.54M	17.751M	21.45M	17.781M	21.66M	17.751M
5580MHz_TnomVnom	Pass	Inf	21.75M	17.751M	21.57M	17.751M	21.48M	17.751M	21.84M	17.751M
5700MHz_TnomVnom	Pass	Inf	21.72M	17.781M	21.57M	17.811M	21.57M	17.781M	21.69M	17.751M
5720MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	15.795M	13.943M	15.84M	13.943M	15.825M	13.928M	15.84M	13.958M
5720MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	3.7M	4.158M	3.72M	4.198M	3.72M	4.218M	3.7M	4.118M
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5510MHz_TnomVnom	Pass	Inf	40.32M	36.282M	39.9M	36.222M	40.02M	36.222M	39.78M	36.222M
5550MHz_TnomVnom	Pass	Inf	40.38M	36.162M	39.9M	36.342M	40.02M	36.162M	39.72M	36.102M
5670MHz_TnomVnom	Pass	Inf	40.26M	36.282M	39.96M	36.222M	39.9M	36.282M	39.66M	36.162M
5710MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	35.385M	33.023M	34.895M	33.093M	35.105M	33.058M	34.93M	33.058M
5710MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	3.08M	3.458M	3.08M	3.518M	3.1M	3.418M	3.08M	3.438M
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5530MHz_TnomVnom	Pass	Inf	82.08M	75.682M	81.36M	75.682M	81.72M	75.682M	81.6M	75.682M
5610MHz_TnomVnom	Pass	Inf	81.96M	75.682M	81.48M	75.802M	81.72M	75.682M	82.2M	75.682M
5690MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	76.125M	72.414M	75.825M	72.489M	75.675M	72.714M	75.975M	72.489M
5690MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	3.06M	3.638M	3.06M	4.418M	3.08M	3.818M	3.06M	4.058M
802.11ac VHT160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5570MHz_TnomVnom	Pass	Inf	163.92M	154.243M	231.84M	153.763M	164.4M	154.003M	241.44M	154.003M
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5500MHz_TnomVnom	Pass	Inf	21.66M	18.981M	21.51M	18.981M	21.78M	18.951M	21.75M	19.01M
5580MHz_TnomVnom	Pass	Inf	21.54M	19.01M	21.39M	18.981M	21.57M	18.951M	21.66M	18.921M
5700MHz_TnomVnom	Pass	Inf	21.69M	19.04M	21.63M	18.951M	21.75M	18.981M	21.72M	18.981M
5720MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	15.81M	14.558M	15.675M	14.543M	15.84M	14.528M	15.75M	14.543M
5720MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	4.4M	4.478M	4.42M	4.458M	4.38M	4.498M	4.4M	4.478M
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5510MHz_TnomVnom	Pass	Inf	40.14M	37.481M	39.84M	37.541M	40.08M	37.601M	40.02M	37.481M
5550MHz_TnomVnom	Pass	Inf	39.9M	37.481M	39.84M	37.541M	40.02M	37.541M	40.02M	37.541M
5670MHz_TnomVnom	Pass	Inf	40.08M	37.481M	39.84M	37.601M	40.02M	37.601M	40.08M	37.601M
5710MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	35.035M	33.723M	34.93M	33.723M	35.07M	33.688M	35.07M	33.723M
5710MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	3.68M	3.978M	3.64M	3.958M	3.72M	3.958M	3.76M	3.958M



EBW Result_Non-Beamforming <Radio 2>

Appendix A.3

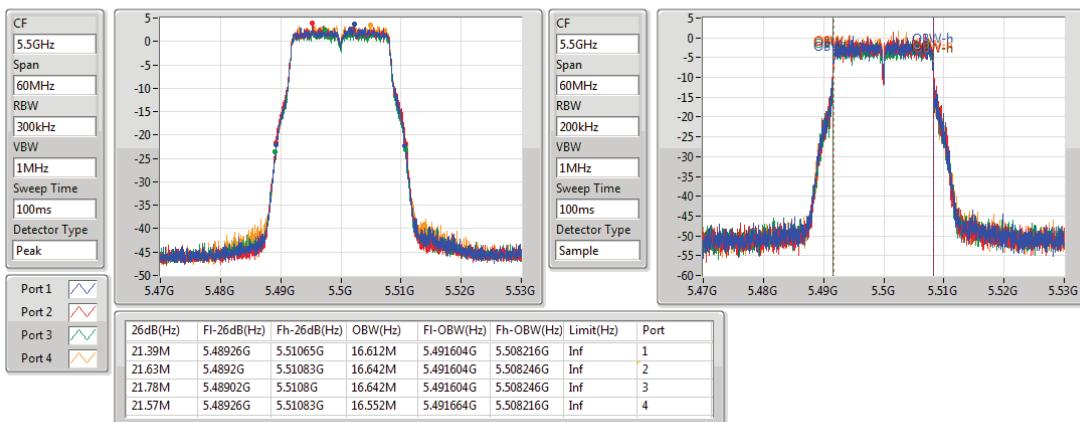
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5530MHz_TnomVnom	Pass	Inf	82.08M	77.121M	82.2M	77.121M	81.84M	76.882M	81.36M	77.001M
5610MHz_TnomVnom	Pass	Inf	82.56M	77.241M	82.44M	77.001M	82.08M	77.001M	81.72M	77.001M
5690MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	Inf	75.825M	73.238M	75.825M	73.313M	76.2M	73.163M	75.9M	73.313M
5690MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	500k	3.7M	4.018M	3.74M	6.097M	3.46M	4.018M	3.68M	4.618M
802.11ax HEW160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5570MHz_TnomVnom	Pass	Inf	163.92M	155.202M	163.68M	155.442M	164.16M	154.963M	164.4M	154.963M

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

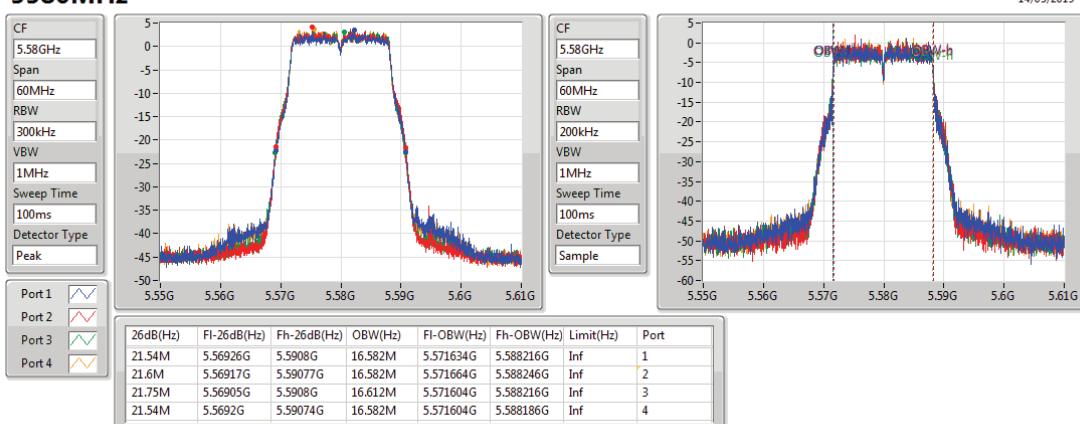
Port X-OBW = Port X 99% occupied bandwidth;

**802.11a_Nss1,(6Mbps)_4TX****EBW****5500MHz**

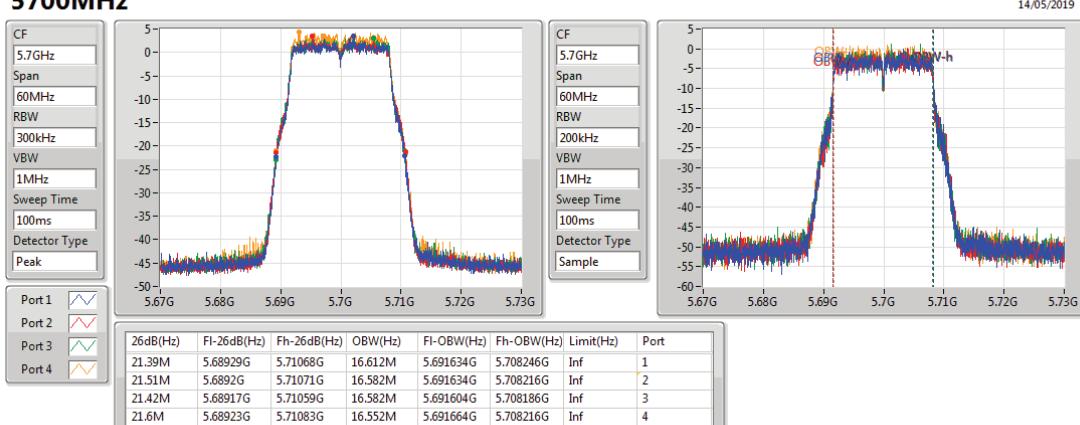
14/05/2019

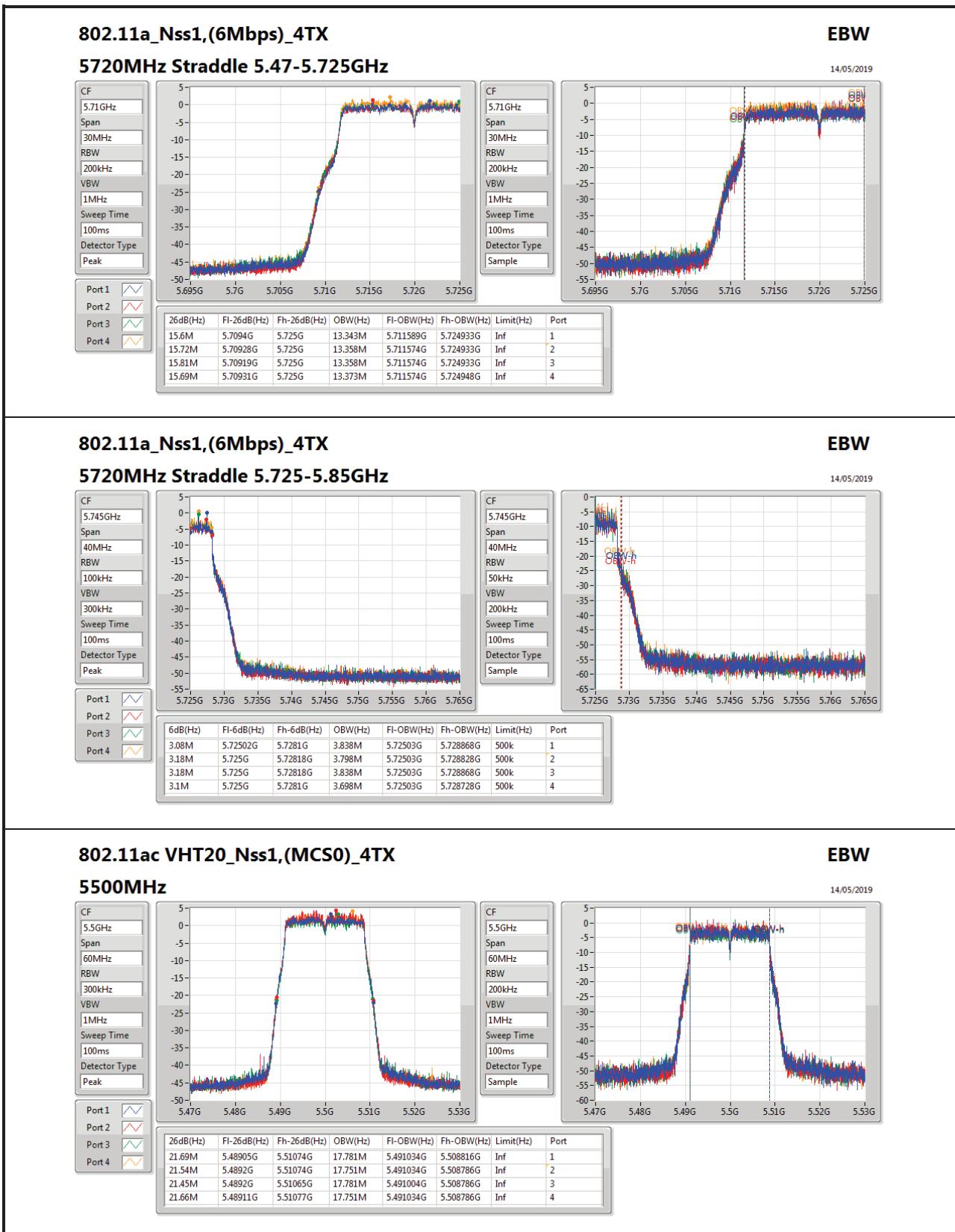
**802.11a_Nss1,(6Mbps)_4TX****EBW****5580MHz**

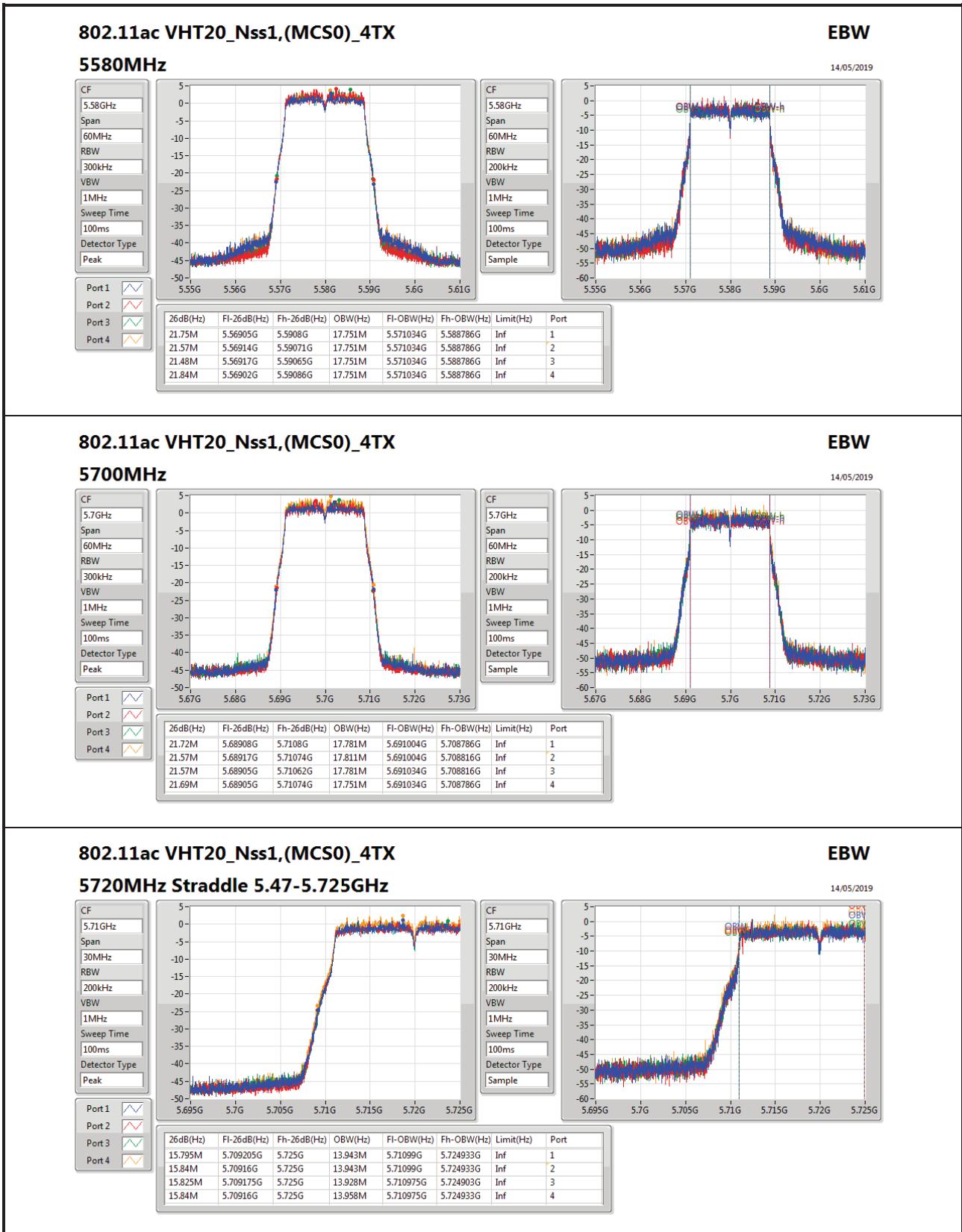
14/05/2019

**802.11a_Nss1,(6Mbps)_4TX****EBW****5700MHz**

14/05/2019

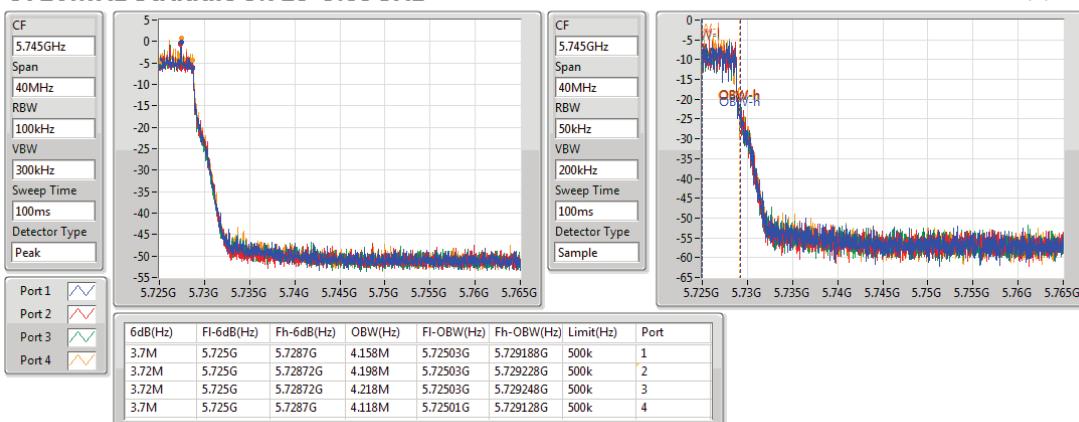




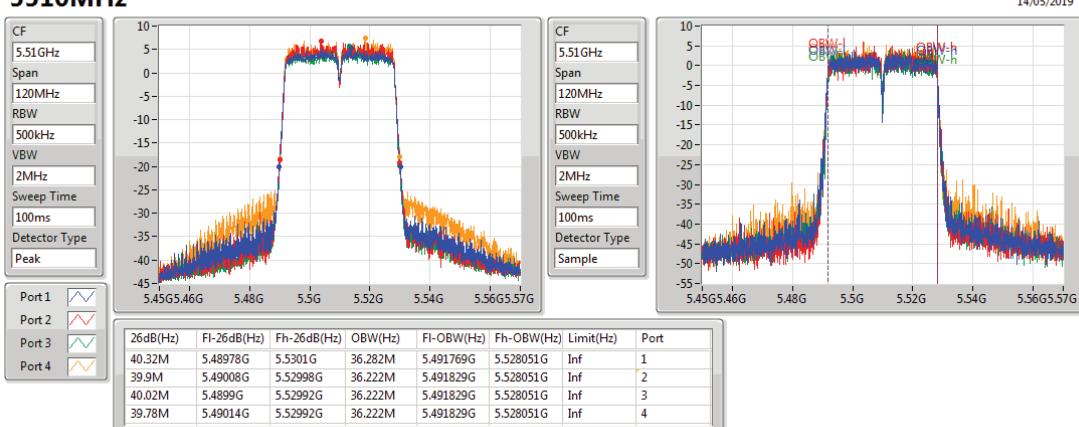


802.11ac VHT20_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.725-5.85GHz

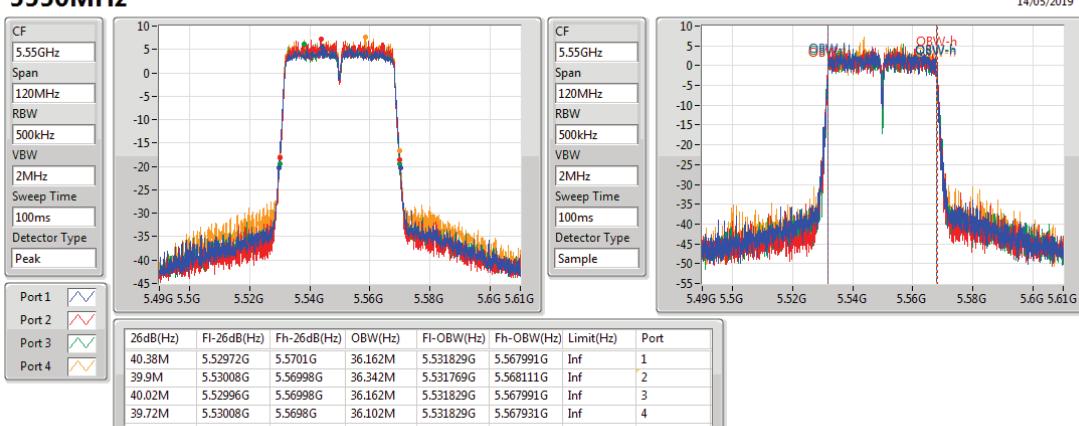
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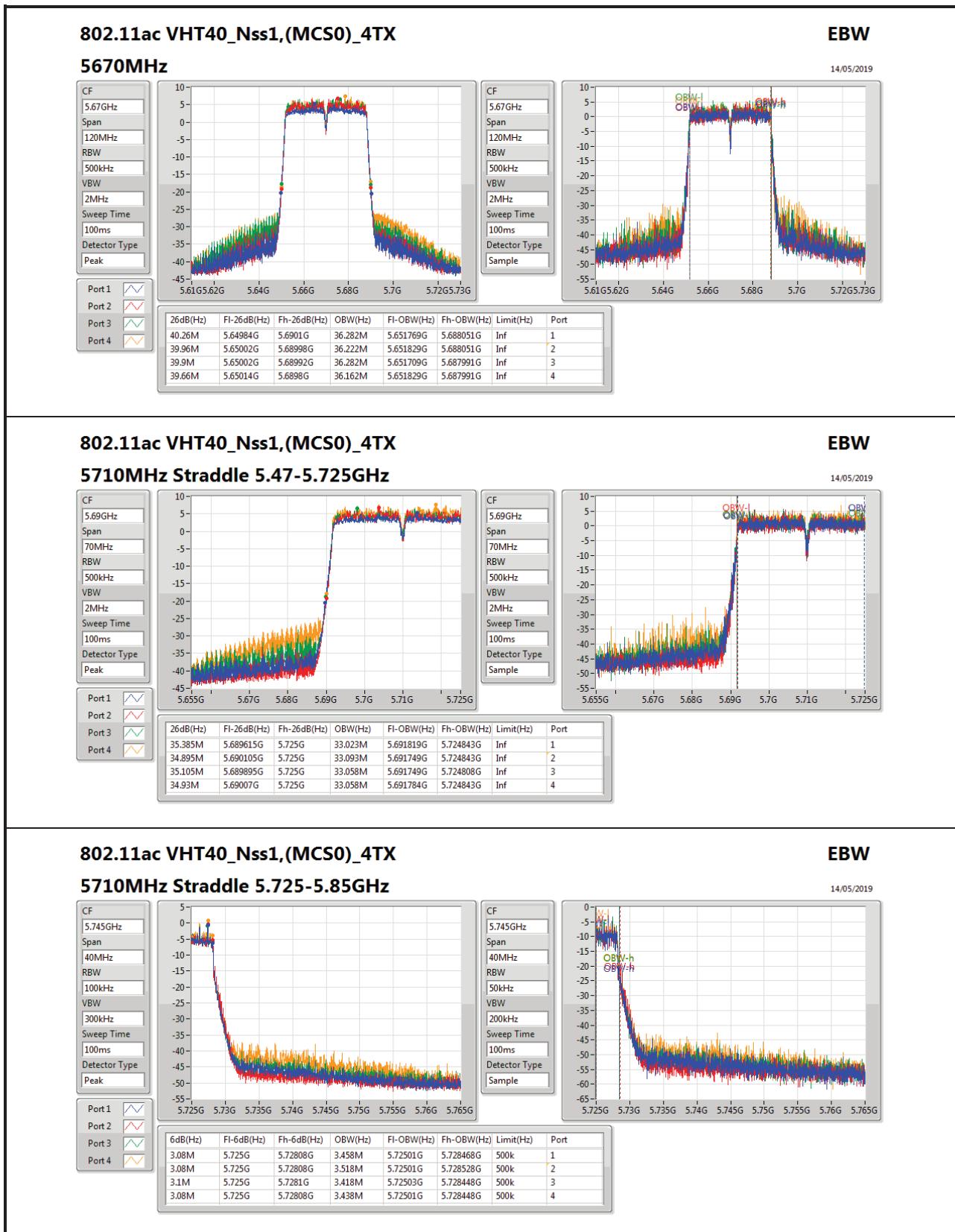

802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5510MHz

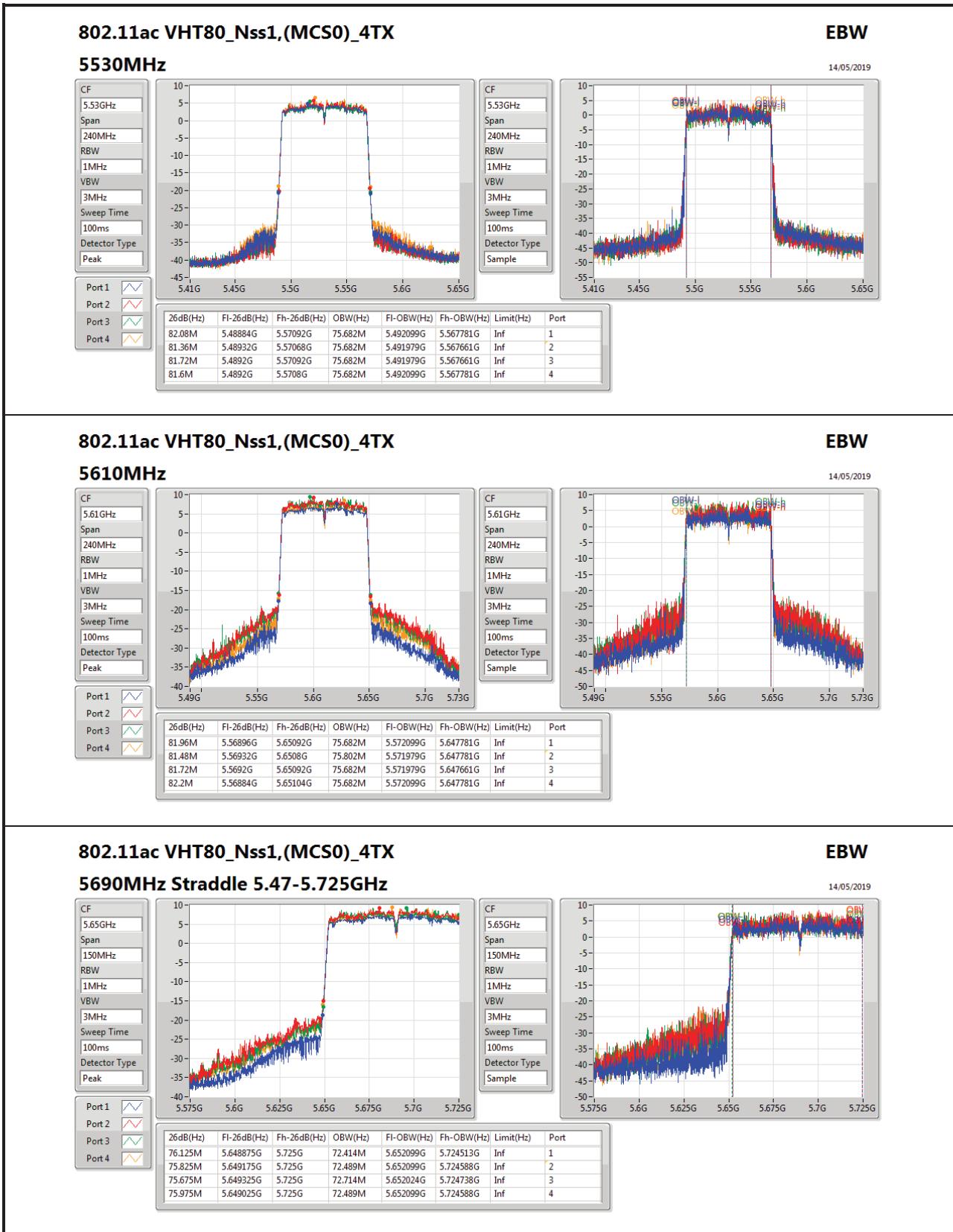
14/05/2019


802.11ac VHT40_Nss1,(MCS0)_4TX
EBW
5550MHz

14/05/2019

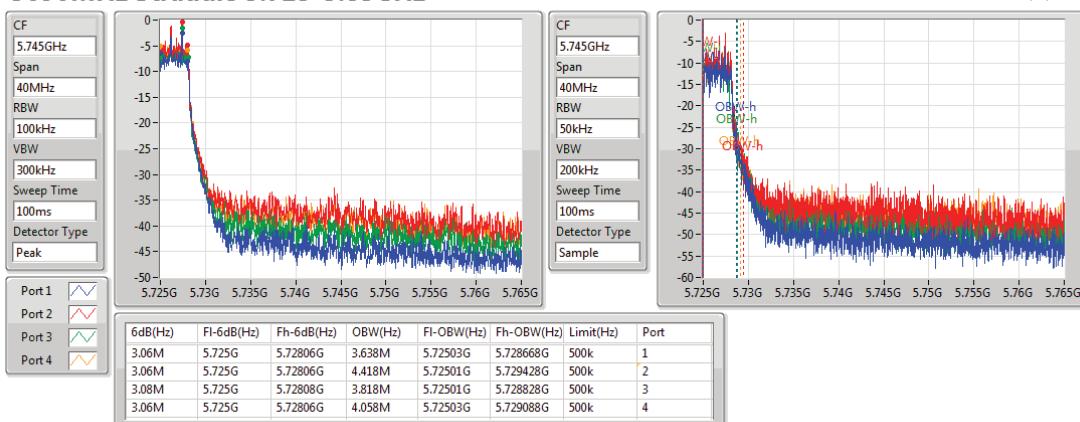




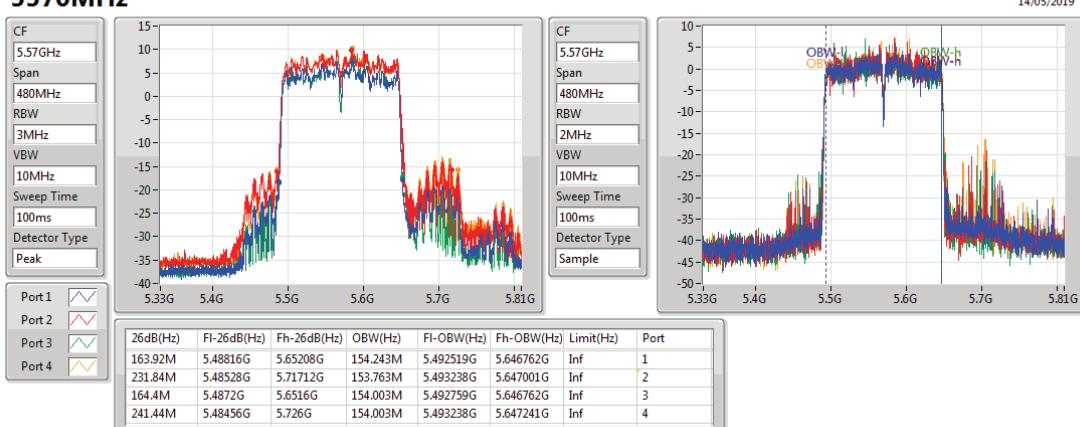


802.11ac VHT80_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.725-5.85GHz

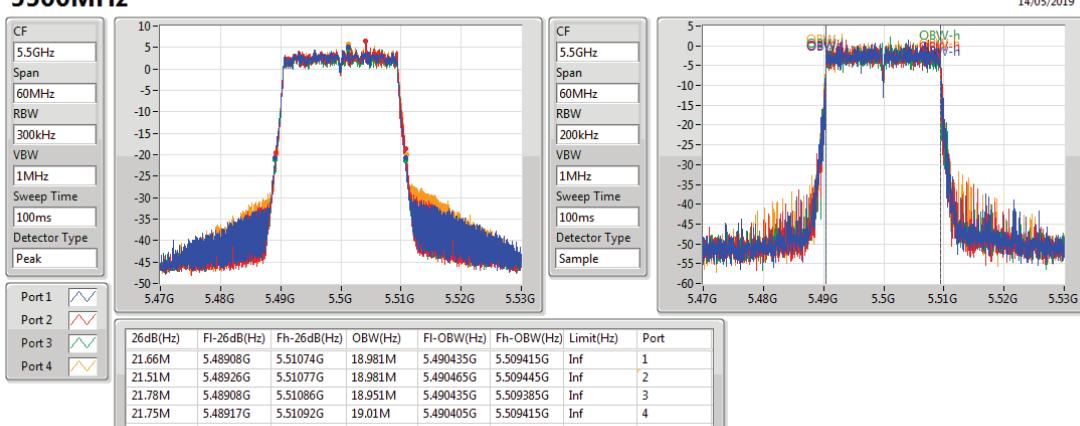
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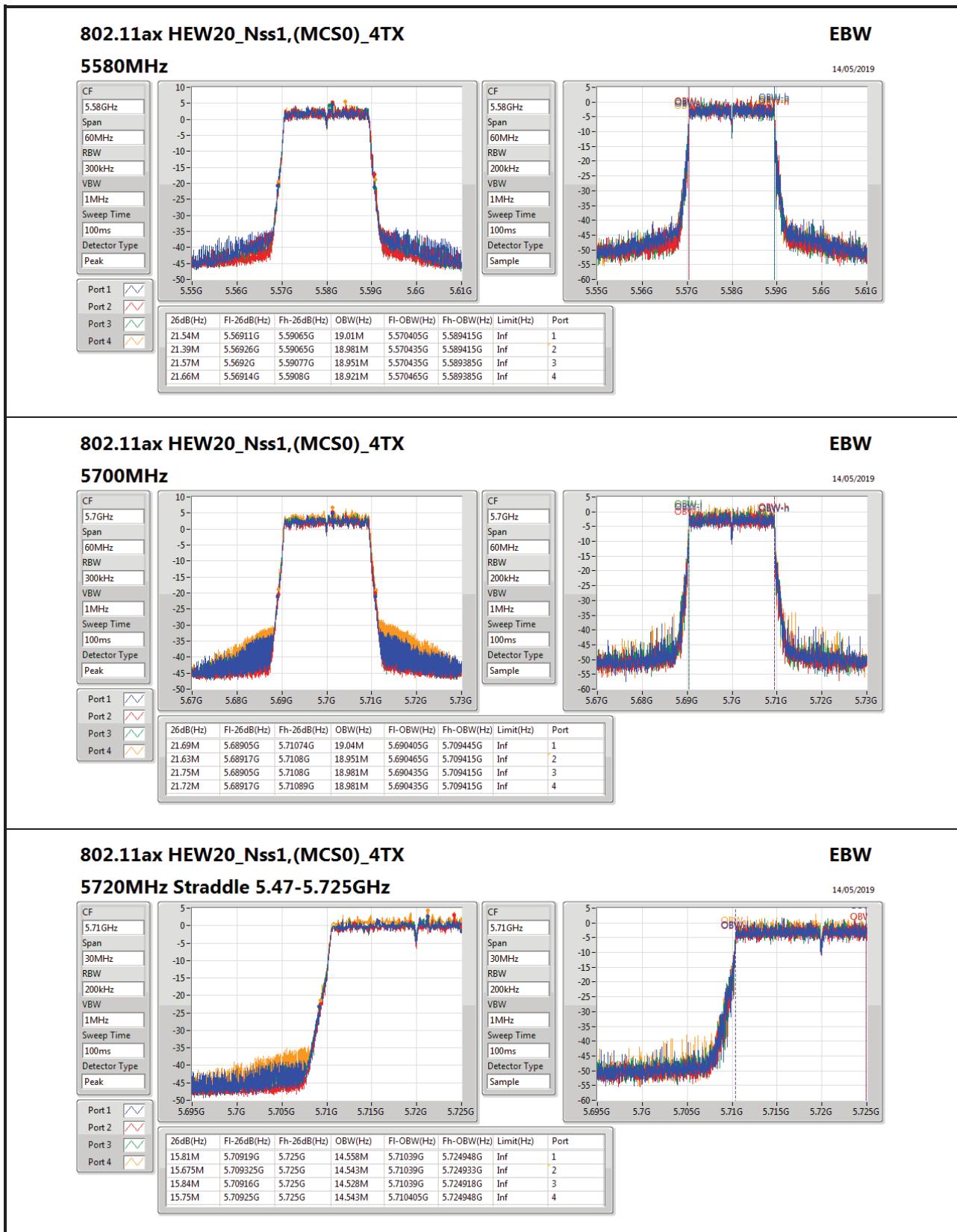

802.11ac VHT160_Nss1,(MCS0)_4TX
EBW
5570MHz

14/05/2019


802.11ax HEW20_Nss1,(MCS0)_4TX
EBW
5500MHz

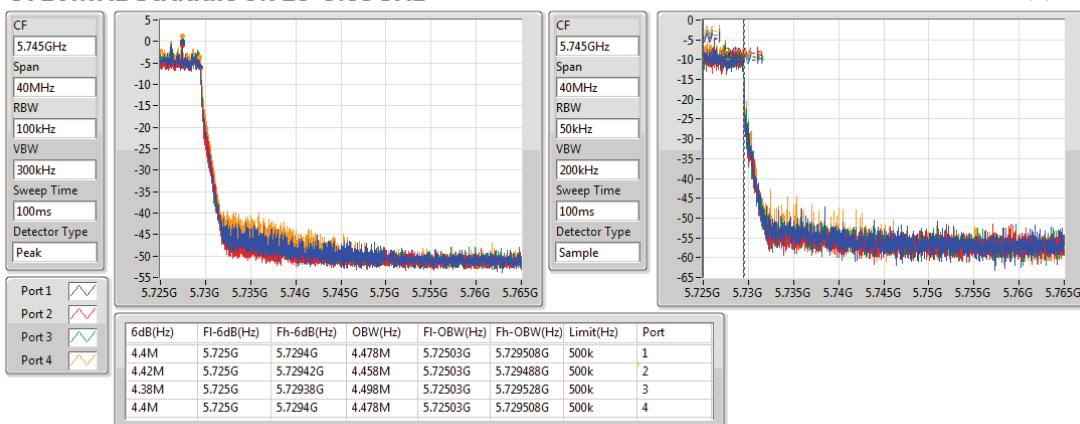
14/05/2019





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

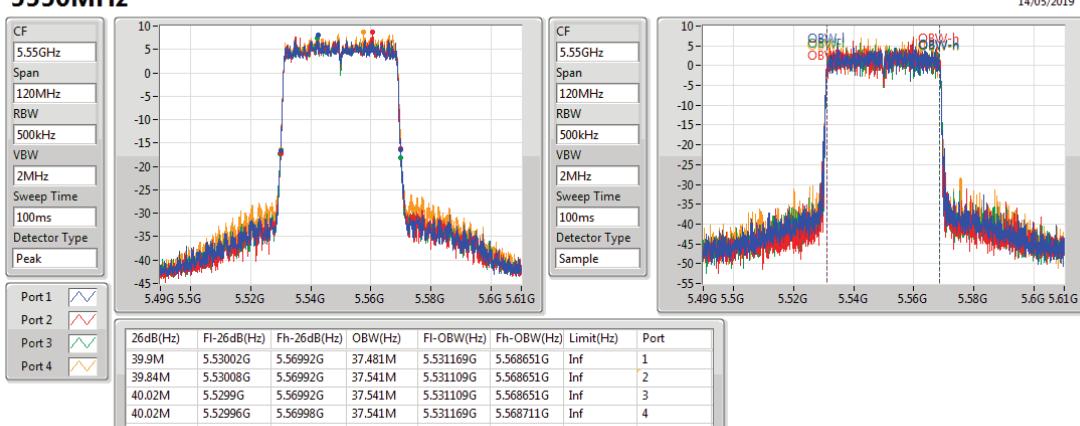
14/05/2019

**802.11ax HEW40_Nss1,(MCS0)_4TX****EBW****5510MHz**

14/05/2019

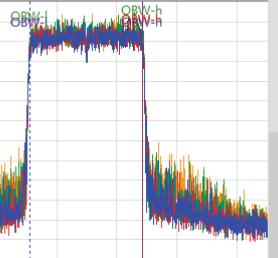
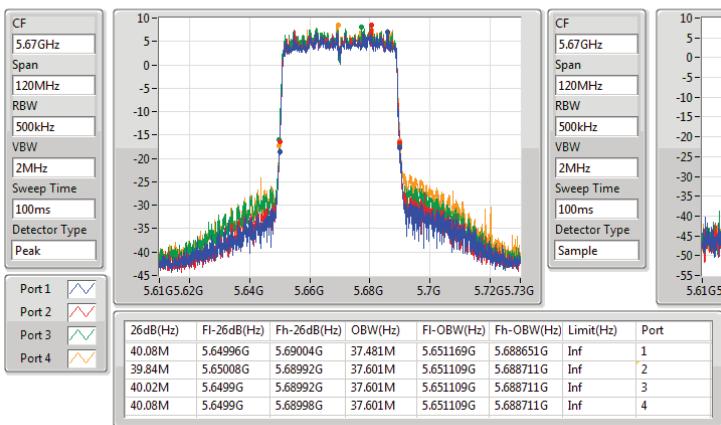
**802.11ax HEW40_Nss1,(MCS0)_4TX****EBW****5550MHz**

14/05/2019

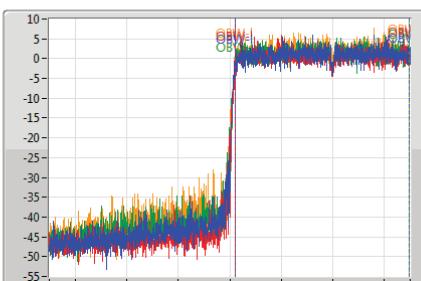
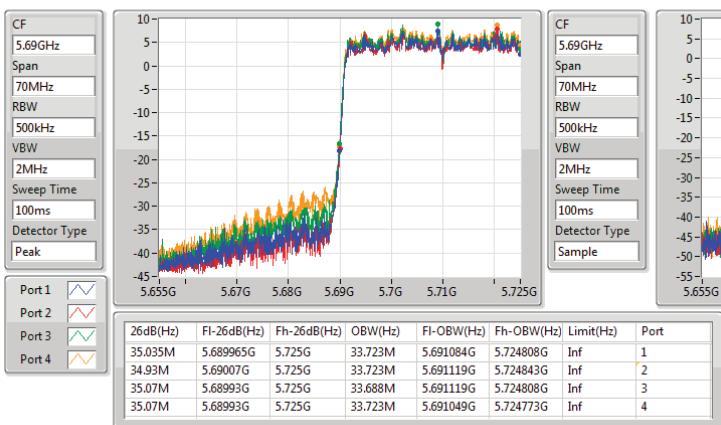


**802.11ax HEW40_Nss1,(MCS0)_4TX****EBW****5670MHz**

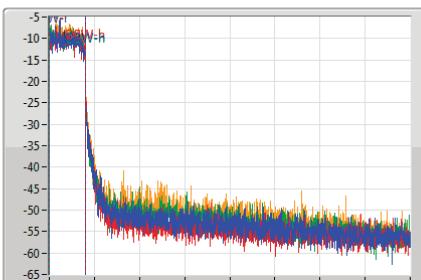
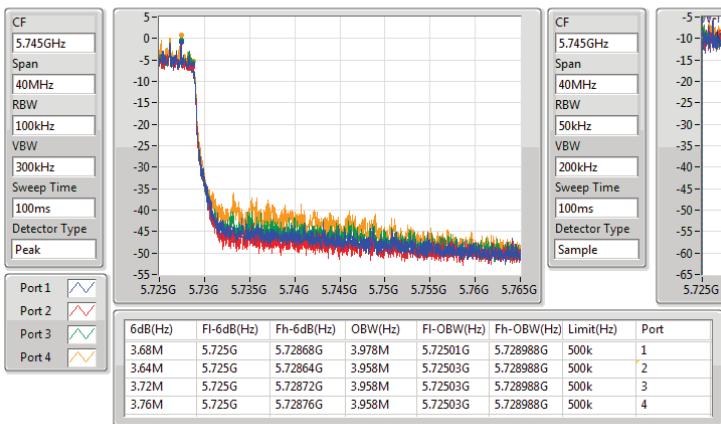
14/05/2019

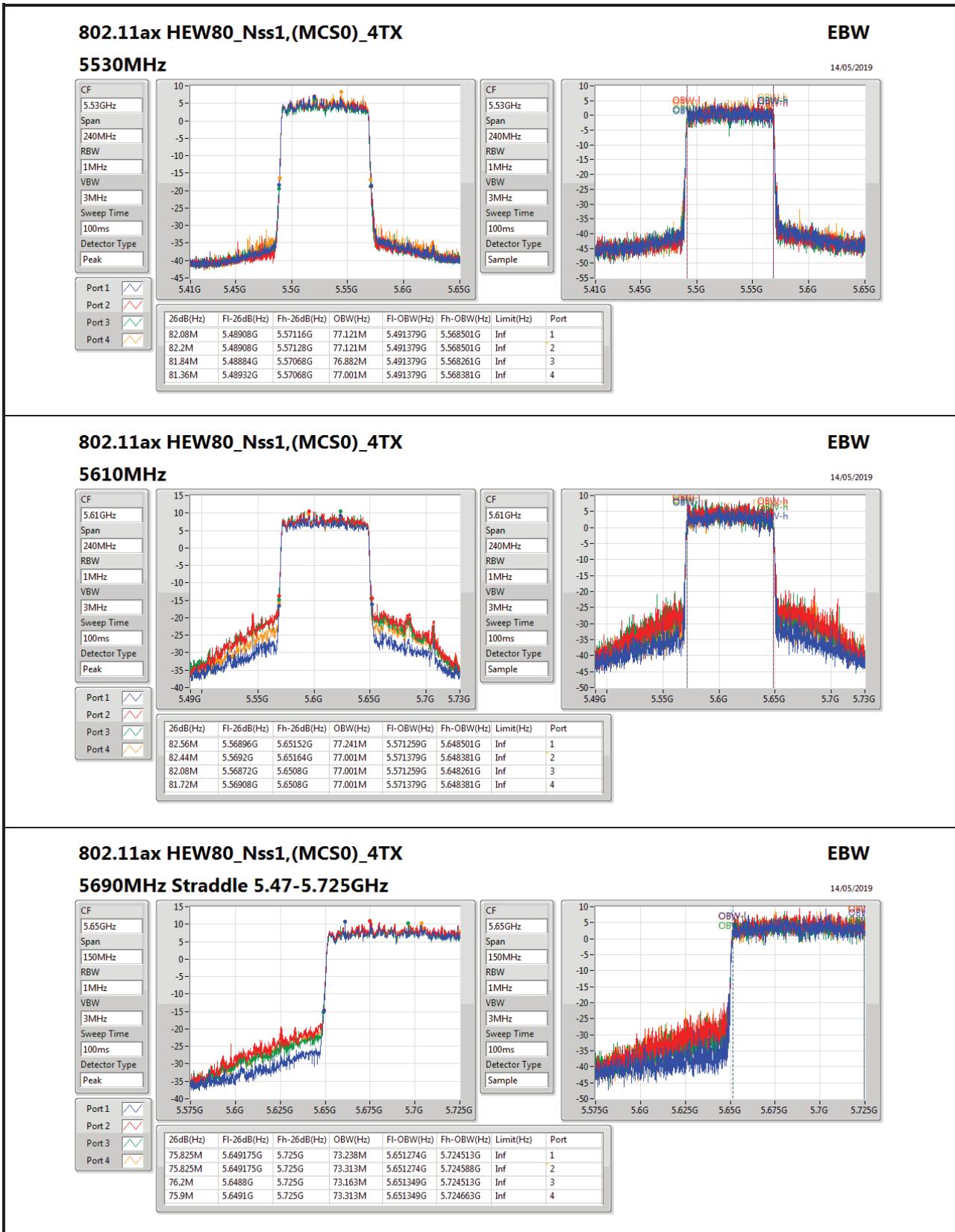
**802.11ax HEW40_Nss1,(MCS0)_4TX****EBW****5710MHz Straddle 5.47-5.725GHz**

14/05/2019

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

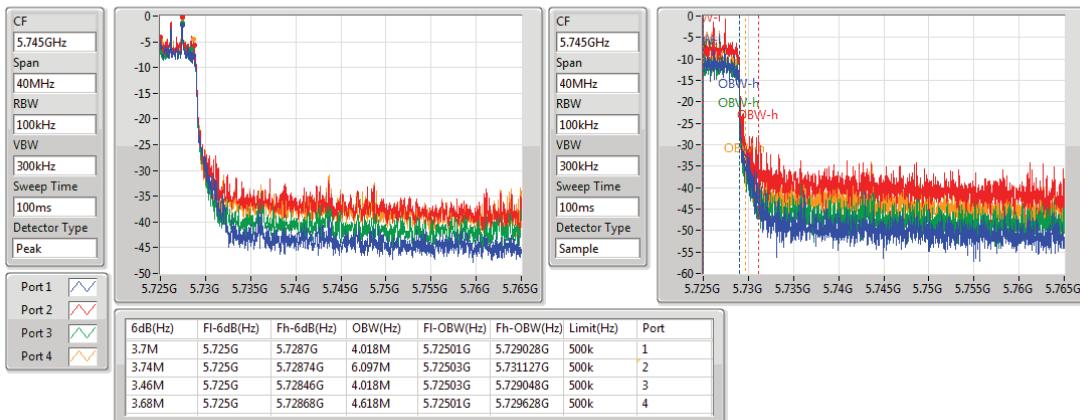
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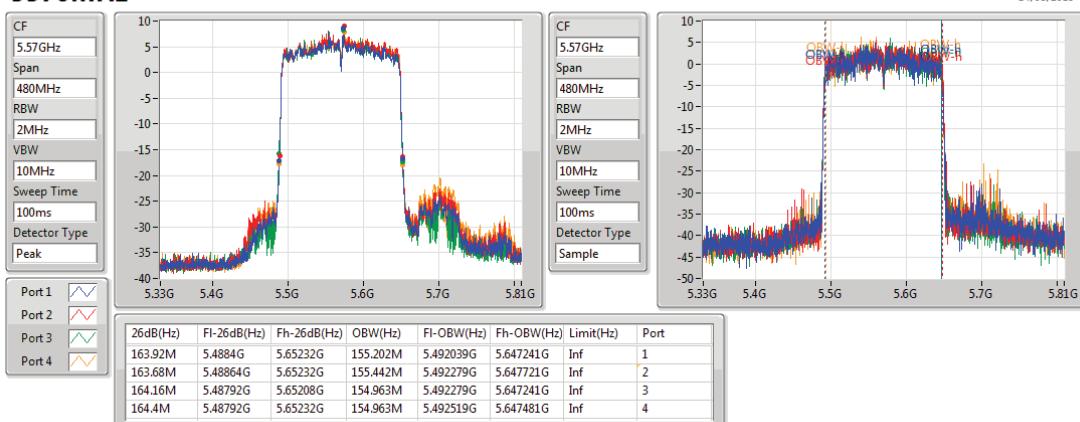


**802.11ax HEW80_Nss1,(MCS0)_4TX****EBW****5690MHz Straddle 5.725-5.85GHz**

14/05/2019

**802.11ax HEW160_Nss1,(MCS0)_4TX****EBW****5570MHz**

14/05/2019



**Summary**

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.47-5.725GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	22.02M	17.811M	17M8D1D	15.78M	13.958M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	40.44M	36.402M	36M4D1D	34.93M	33.023M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	81.36M	75.802M	75M8D1D	75.3M	72.489M
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	218.16M	154.723M	155MD1D	161.76M	153.763M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	21.6M	19.04M	19M0D1D	15.735M	14.528M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	40.32M	37.661M	37M7D1D	35.14M	33.618M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	81.6M	77.001M	77M0D1D	75.45M	73.013M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	164.88M	155.442M	155MD1D	163.2M	154.483M
5.725-5.85GHz	-	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	3.7M	4.198M	4M20D1D	3.7M	4.078M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	3.18M	3.438M	3M44D1D	3.08M	3.378M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	3.2M	3.678M	3M68D1D	3.08M	3.618M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	4.42M	4.478M	4M48D1D	4.38M	4.458M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	3.9M	3.978M	3M98D1D	3.72M	3.958M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	3.98M	3.998M	4M00D1D	3.78M	3.978M

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

Max-OBW = Maximum 99% occupied bandwidth;

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

Min-OBW = Minimum 99% occupied bandwidth;



Result

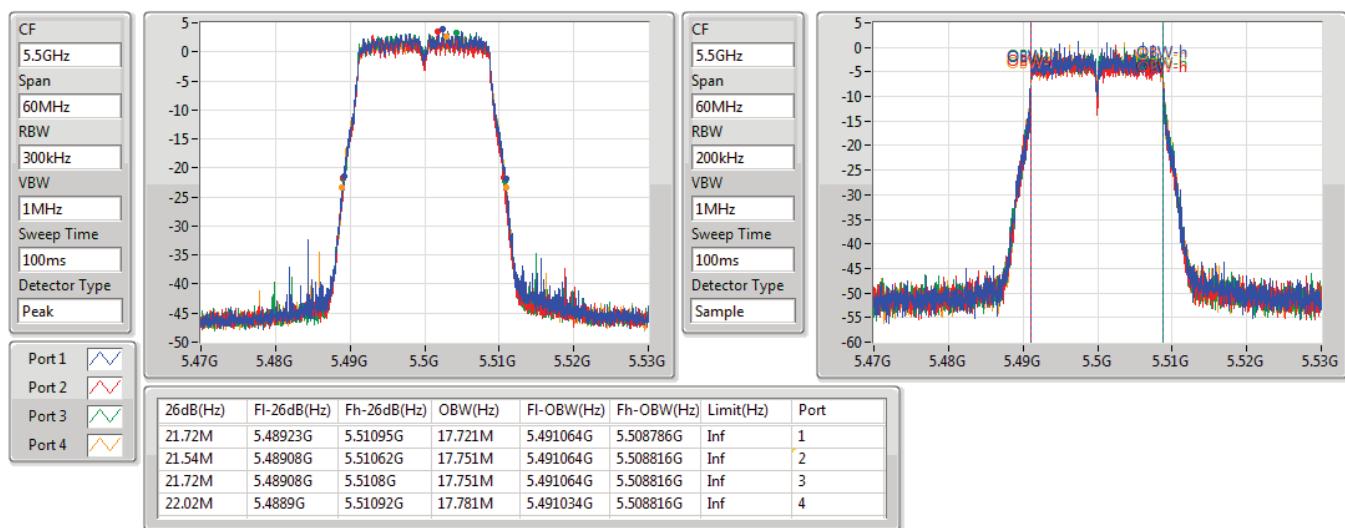
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)	Port 3-N dB (Hz)	Port 3-OBW (Hz)	Port 4-N dB (Hz)	Port 4-OBW (Hz)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5500MHz	Pass	Inf	21.72M	17.721M	21.54M	17.751M	21.72M	17.751M	22.02M	17.781M
5580MHz	Pass	Inf	21.63M	17.751M	21.51M	17.751M	21.63M	17.751M	21.99M	17.781M
5700MHz	Pass	Inf	21.75M	17.751M	21.69M	17.781M	21.6M	17.811M	22.02M	17.811M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.78M	13.988M	15.84M	13.973M	15.81M	13.973M	15.915M	13.958M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.7M	4.078M	3.7M	4.198M	3.7M	4.198M	3.7M	4.198M
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5510MHz	Pass	Inf	39.9M	36.222M	39.66M	36.162M	39.66M	36.402M	40.2M	36.282M
5550MHz	Pass	Inf	39.78M	36.162M	39.84M	36.282M	40.44M	36.222M	40.38M	36.222M
5670MHz	Pass	Inf	39.66M	36.222M	39.66M	36.222M	40.26M	36.222M	40.14M	36.222M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.105M	33.023M	35M	33.128M	34.93M	33.023M	35.175M	33.128M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.08M	3.418M	3.1M	3.378M	3.18M	3.438M	3.08M	3.438M
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5530MHz	Pass	Inf	80.4M	75.682M	80.4M	75.802M	80.76M	75.802M	80.4M	75.802M
5610MHz	Pass	Inf	80.76M	75.802M	80.16M	75.682M	80.52M	75.682M	81.36M	75.682M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.3M	72.489M	75.375M	72.489M	76.125M	72.489M	76.2M	72.714M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.2M	3.618M	3.08M	3.638M	3.08M	3.618M	3.08M	3.678M
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5570MHz	Pass	Inf	218.16M	154.723M	161.76M	154.483M	163.92M	153.763M	165.36M	153.763M
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5500MHz	Pass	Inf	21.51M	19.04M	21.6M	18.981M	21.42M	18.981M	21.6M	18.951M
5580MHz	Pass	Inf	21.6M	18.921M	21.6M	18.981M	21.36M	19.01M	21.54M	18.981M
5700MHz	Pass	Inf	21.57M	18.921M	21.54M	18.951M	21.45M	18.951M	21.54M	19.01M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.915M	14.528M	15.87M	14.558M	15.855M	14.543M	15.735M	14.588M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	4.38M	4.478M	4.42M	4.458M	4.42M	4.458M	4.38M	4.458M
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5510MHz	Pass	Inf	40.02M	37.541M	40.26M	37.541M	40.08M	37.481M	40.02M	37.541M
5550MHz	Pass	Inf	40.2M	37.481M	40.08M	37.541M	40.08M	37.541M	40.02M	37.541M
5670MHz	Pass	Inf	39.84M	37.601M	40.32M	37.541M	40.32M	37.601M	40.14M	37.661M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.14M	33.618M	35.175M	33.793M	35.175M	33.758M	35.28M	33.793M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.9M	3.978M	3.72M	3.978M	3.84M	3.978M	3.9M	3.958M
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5530MHz	Pass	Inf	81.12M	77.001M	81.12M	77.001M	81M	76.882M	81.6M	76.882M
5610MHz	Pass	Inf	81.36M	76.882M	80.88M	76.882M	80.88M	77.001M	81.6M	77.001M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	76.125M	73.013M	75.75M	73.163M	75.45M	73.313M	75.6M	73.013M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.86M	3.978M	3.98M	3.998M	3.92M	3.978M	3.78M	3.998M
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5570MHz	Pass	Inf	163.2M	154.483M	164.16M	154.963M	164.88M	155.442M	163.44M	155.442M

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

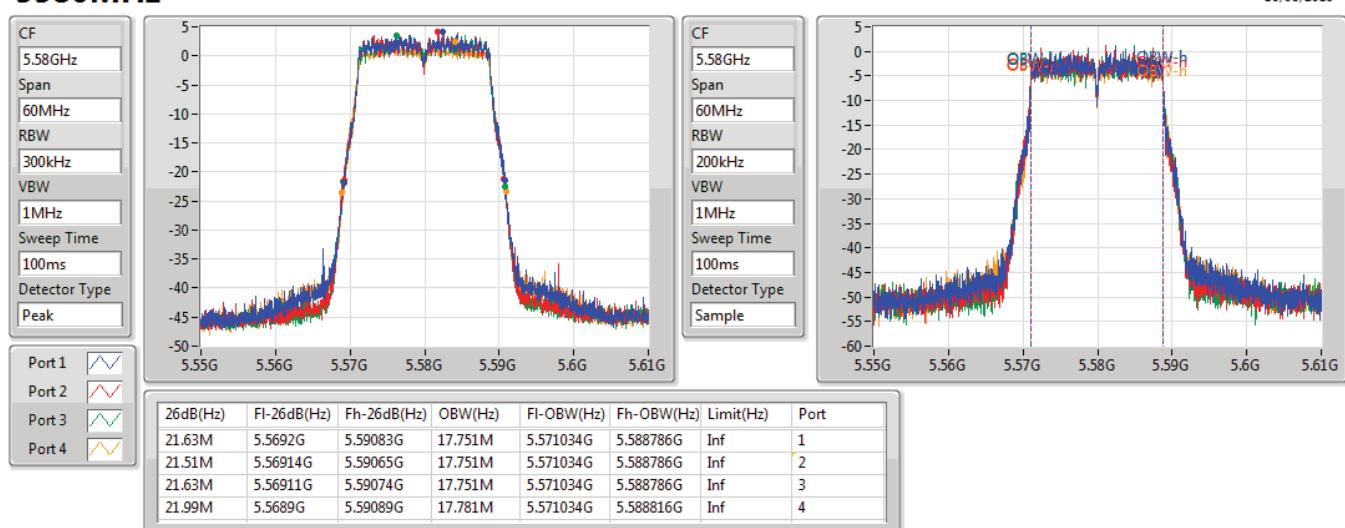
Port X-OBW = Port X 99% occupied bandwidth;

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

16/05/2019

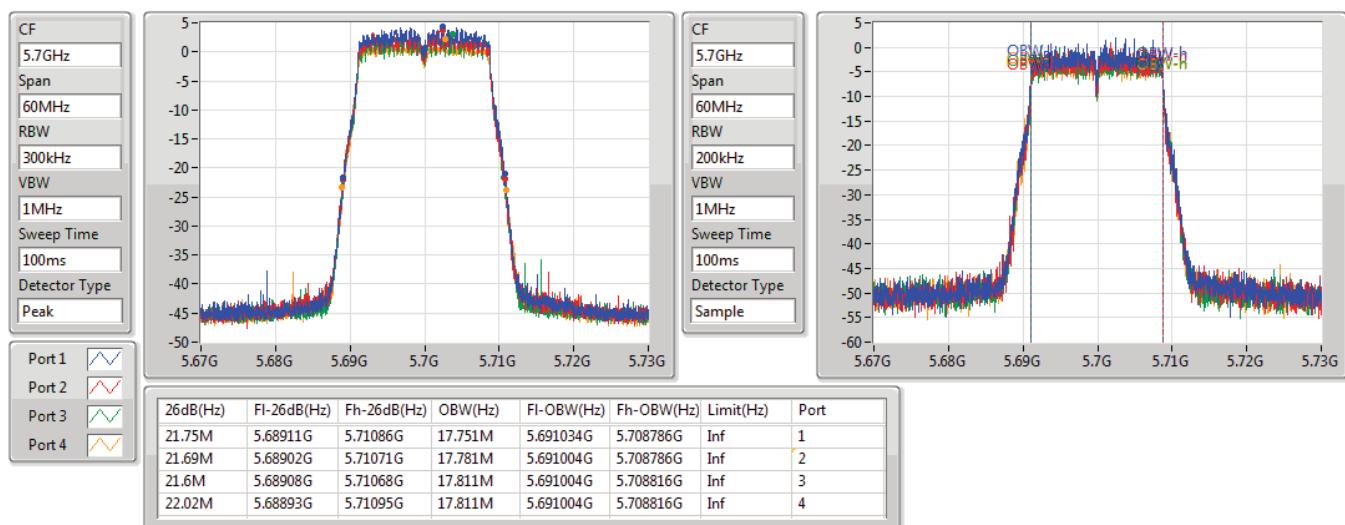

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5580MHz

16/05/2019

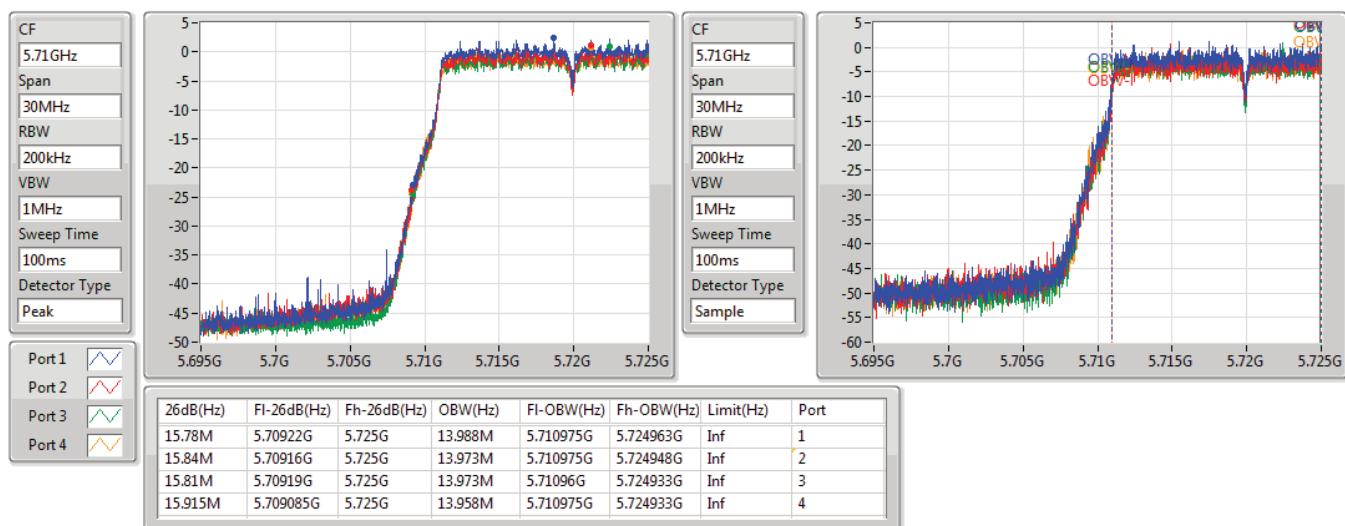


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5700MHz

16/05/2019

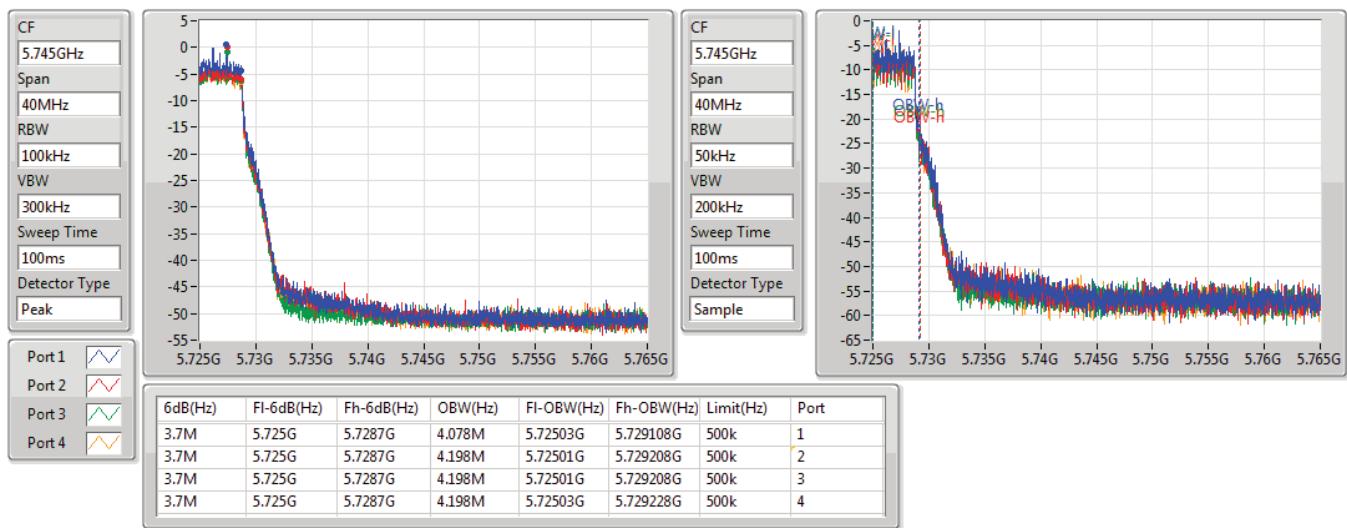

802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.47-5.725GHz

16/05/2019

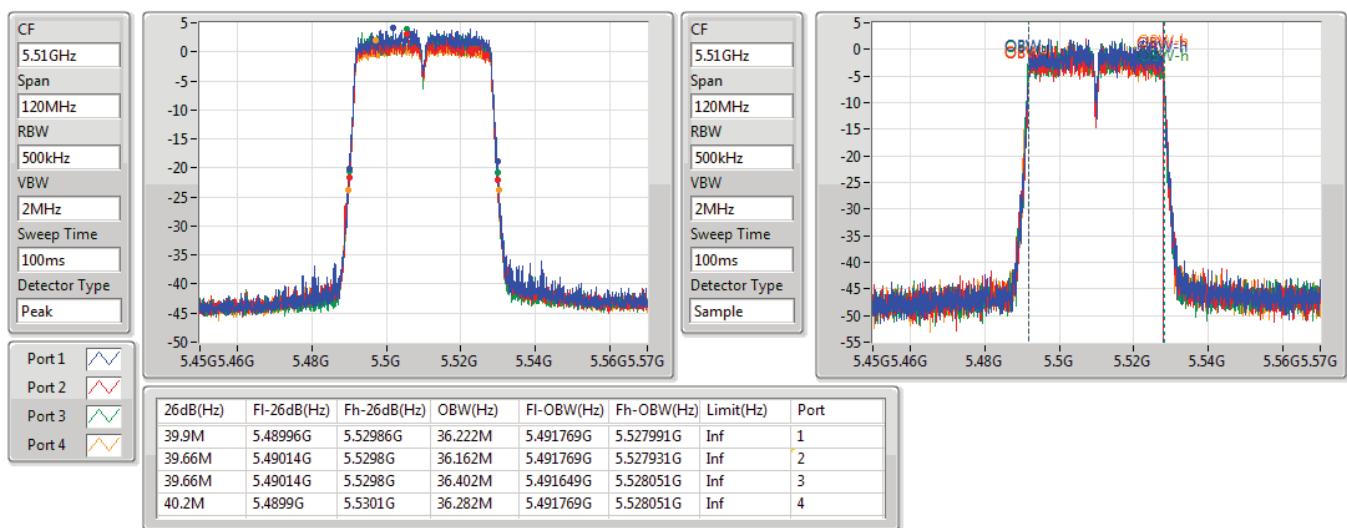


802.11ac VHT20-BF_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.725-5.85GHz

16/05/2019

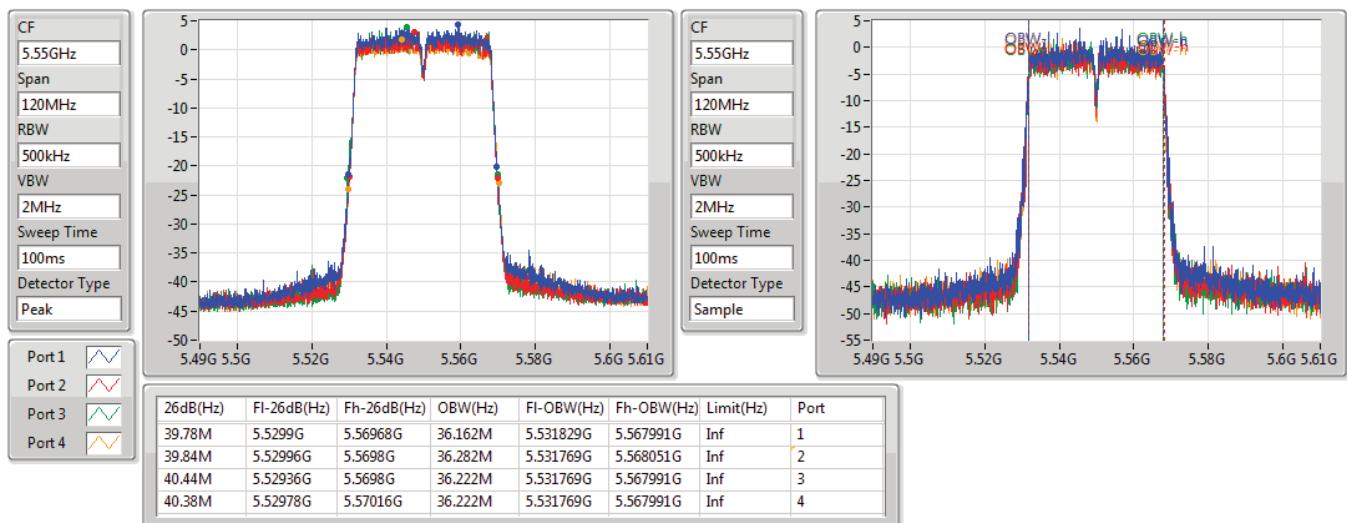

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5510MHz

16/05/2019

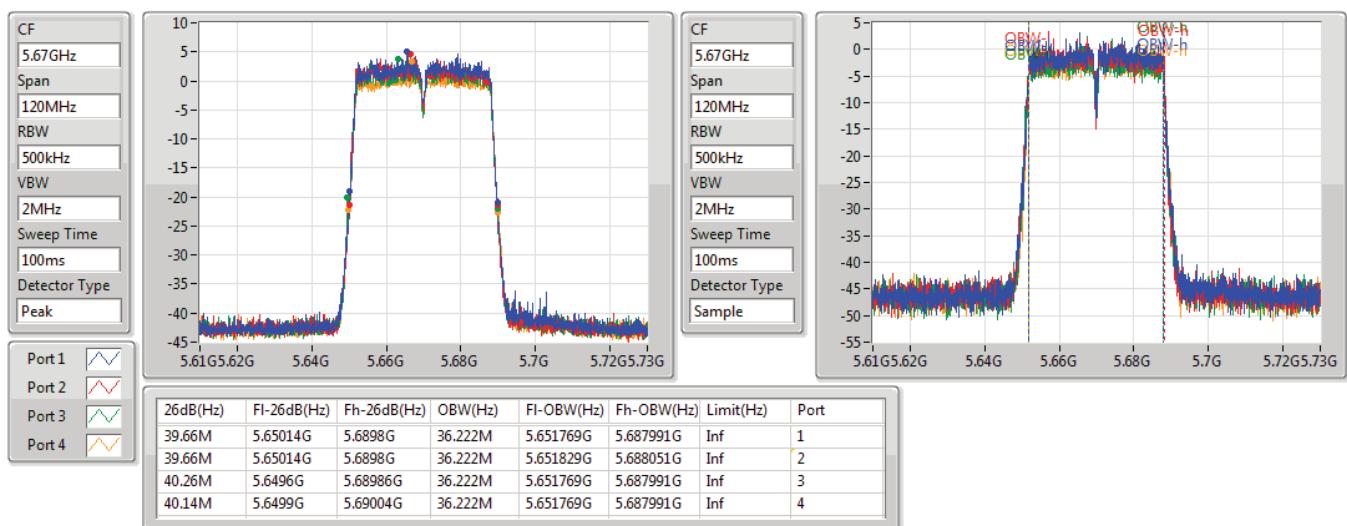


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5550MHz

16/05/2019

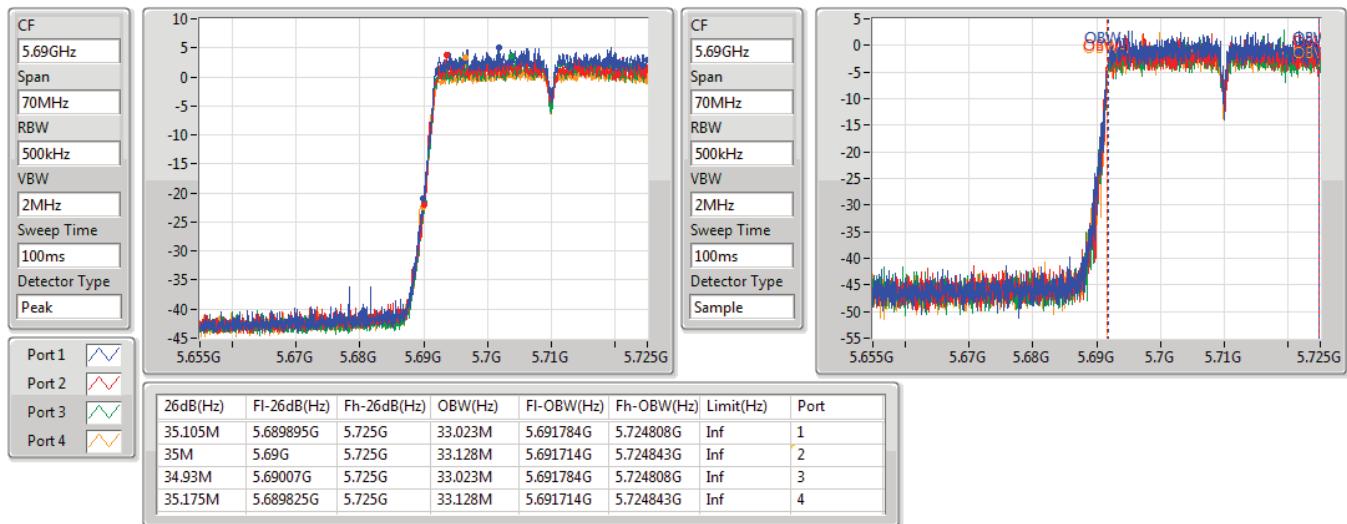

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5670MHz

16/05/2019

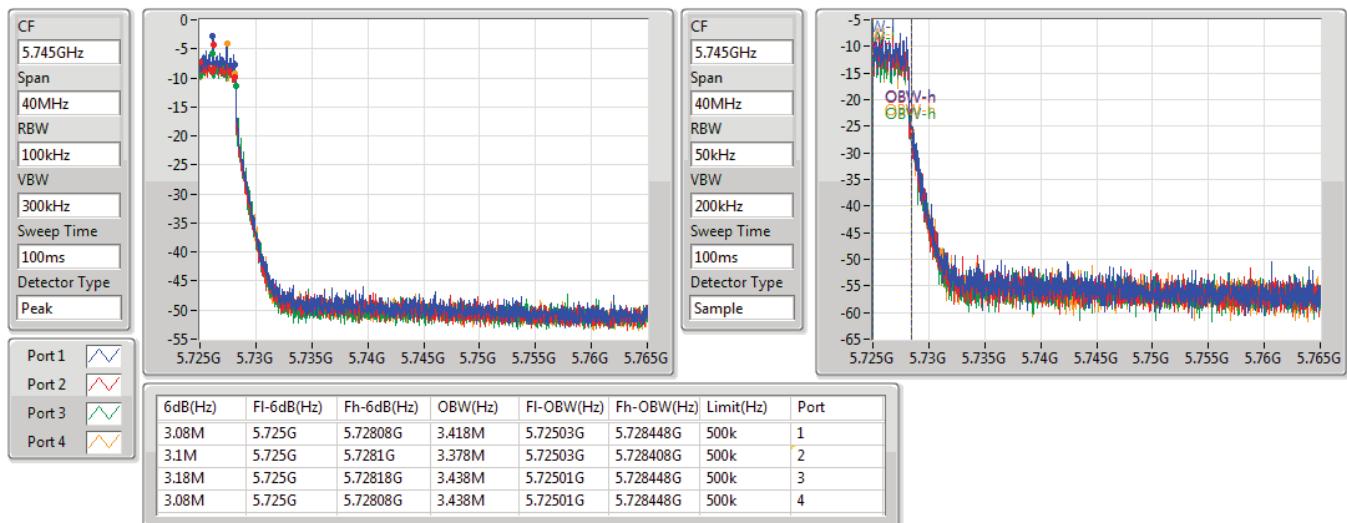


802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.47-5.725GHz

16/05/2019

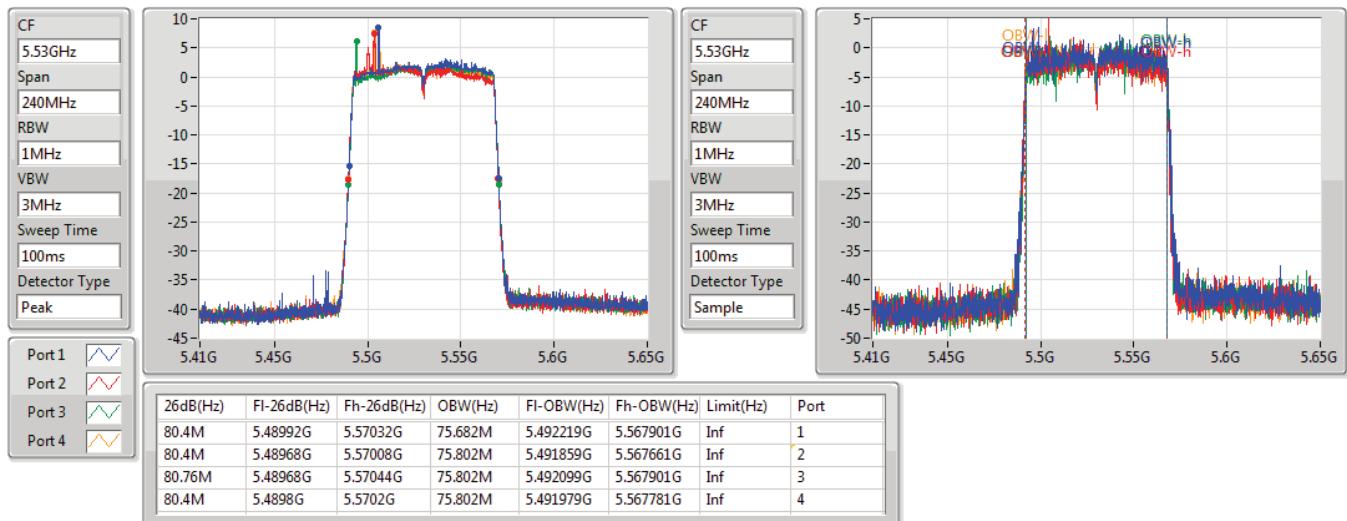

802.11ac VHT40-BF_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.725-5.85GHz

16/05/2019

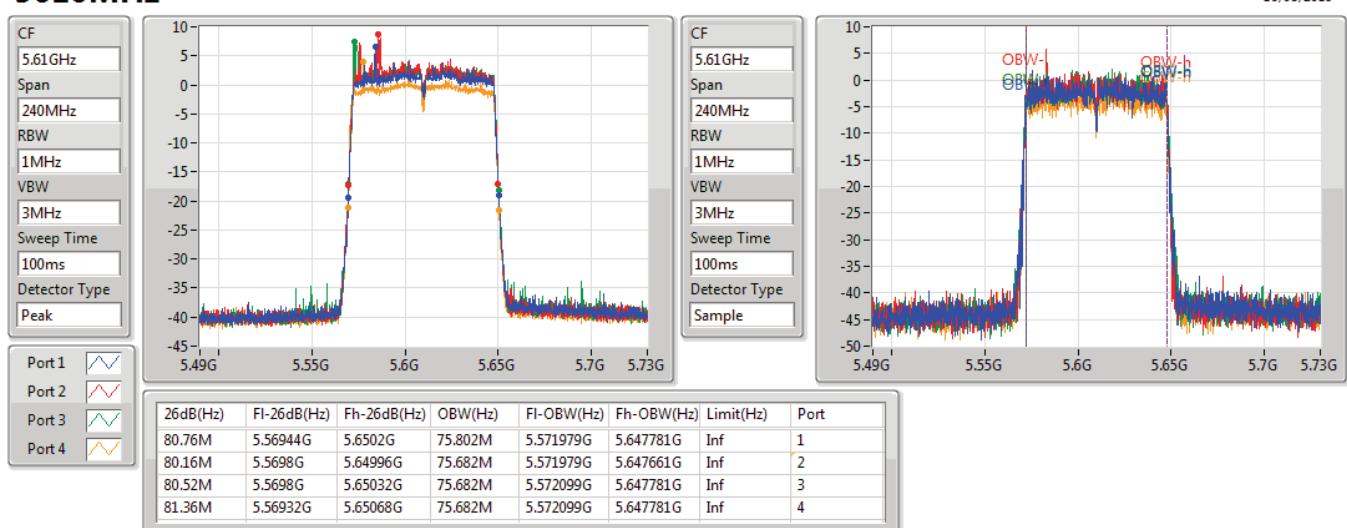


802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5530MHz

16/05/2019

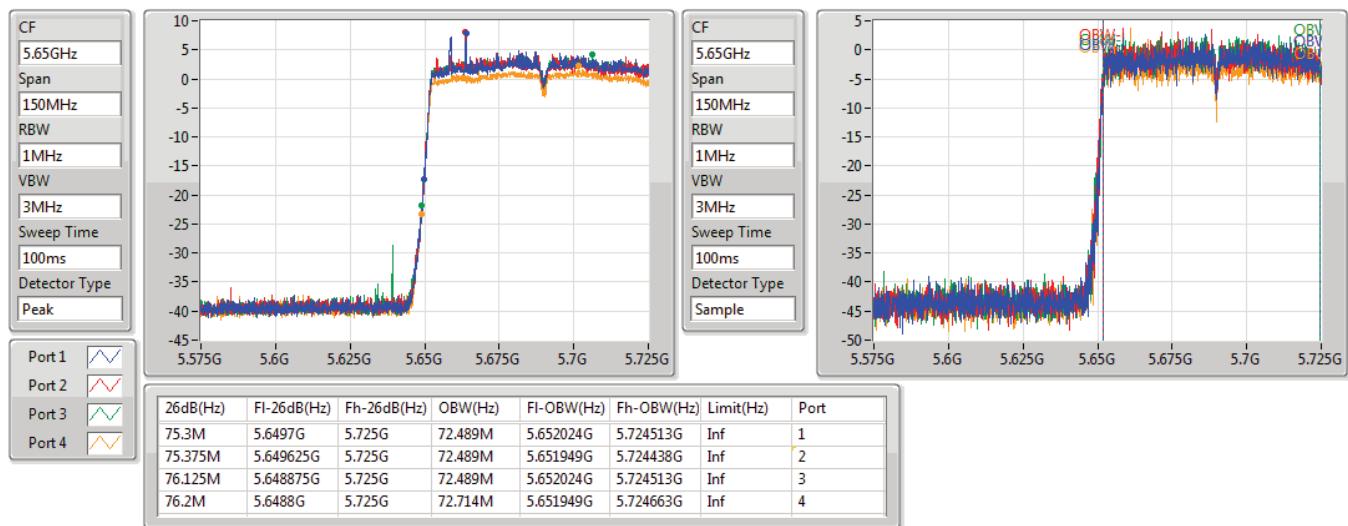

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5610MHz

16/05/2019

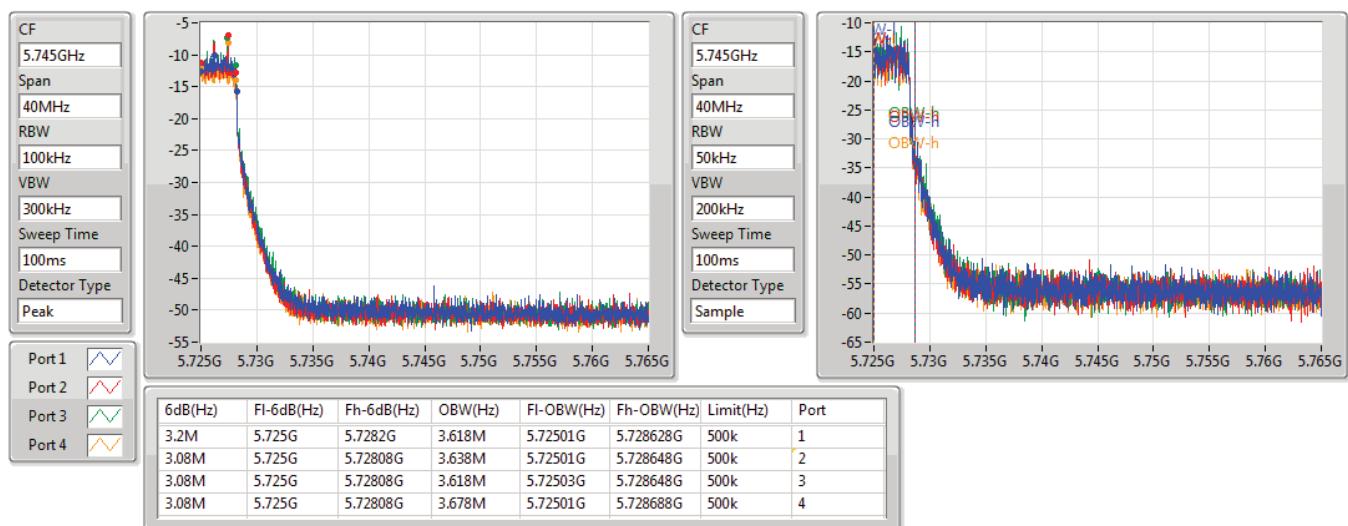


802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.47-5.725GHz

16/05/2019

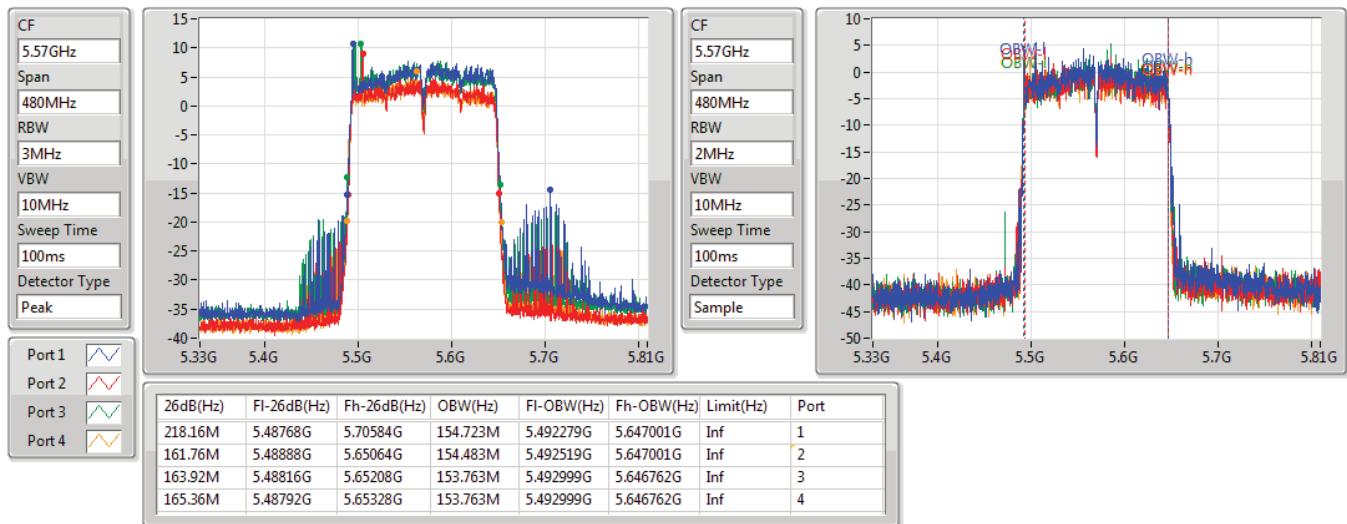

802.11ac VHT80-BF_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.725-5.85GHz

16/05/2019

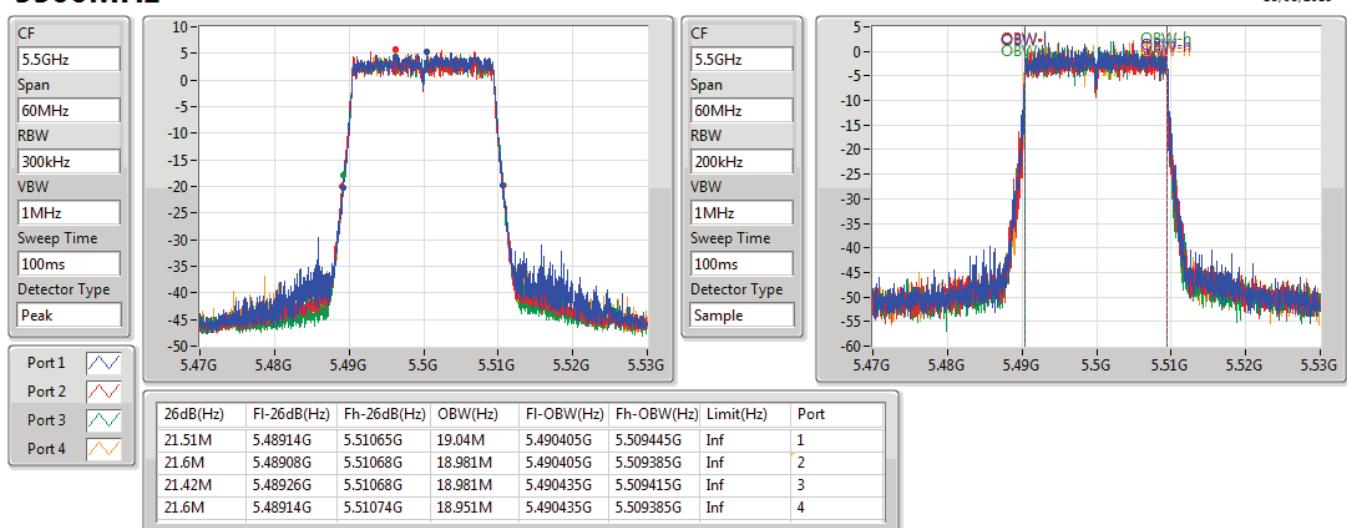


802.11ac VHT160-BF_Nss1,(MCS0)_4TX
EBW
5570MHz

16/05/2019

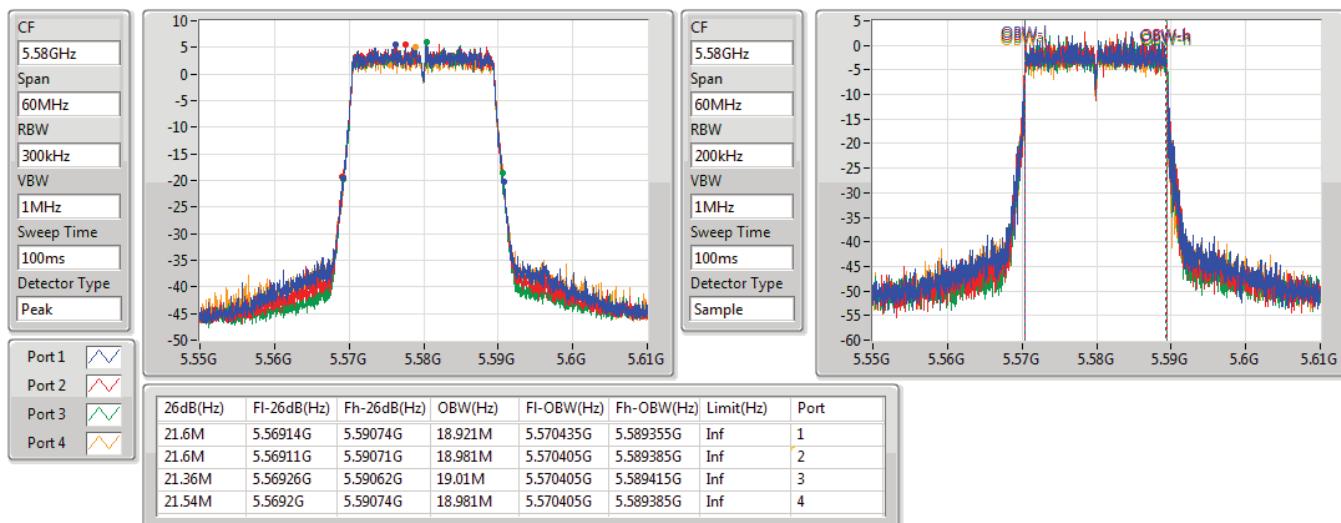

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5500MHz

15/05/2019

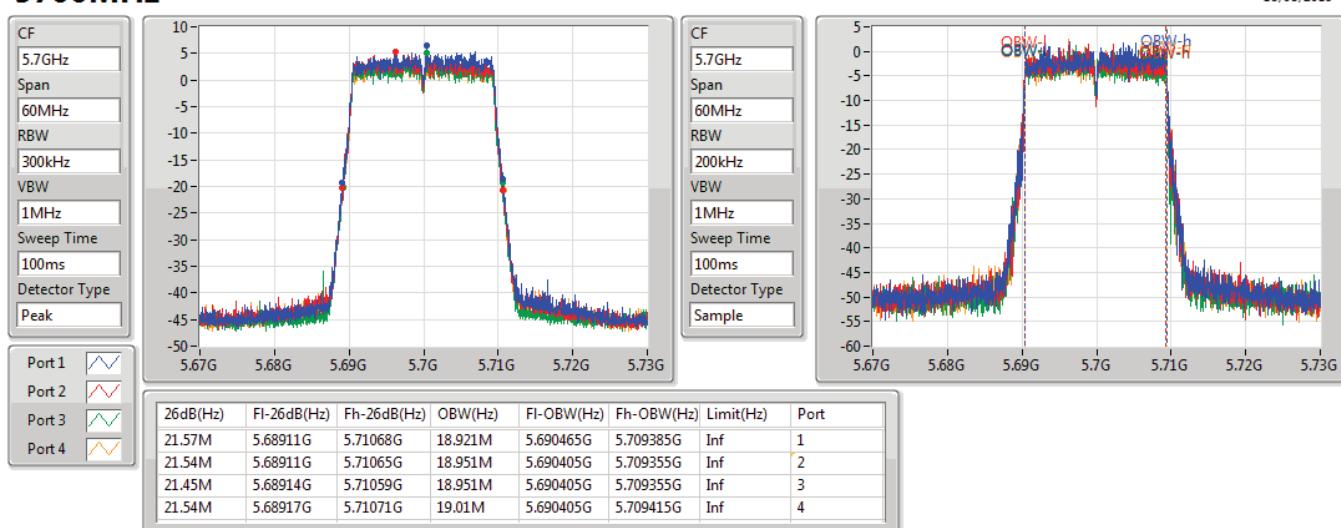


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5580MHz

15/05/2019

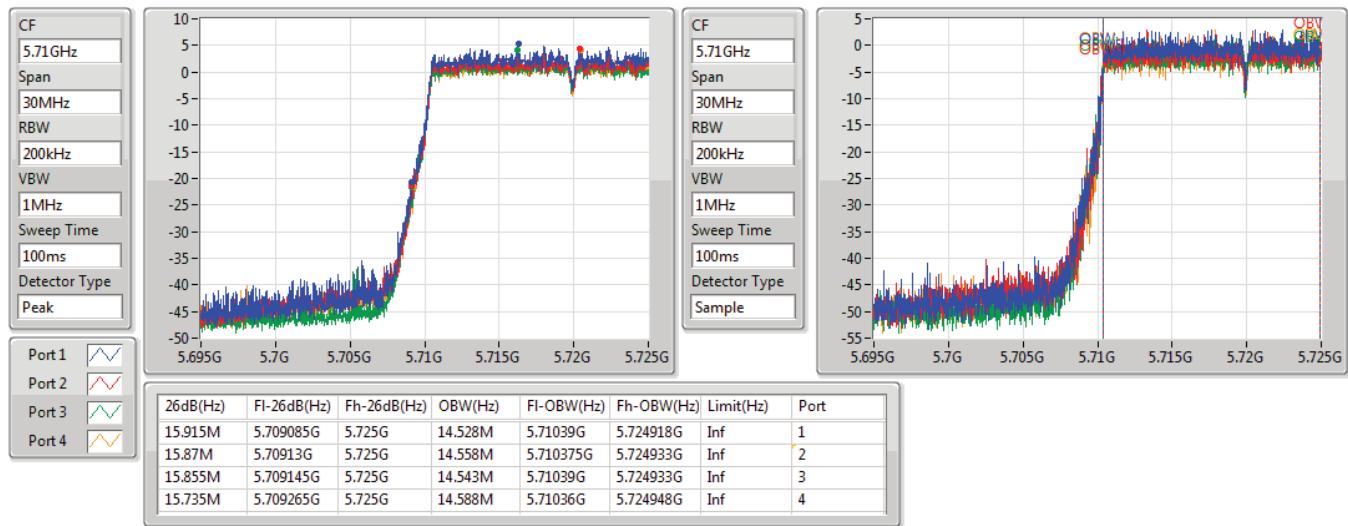

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5700MHz

15/05/2019

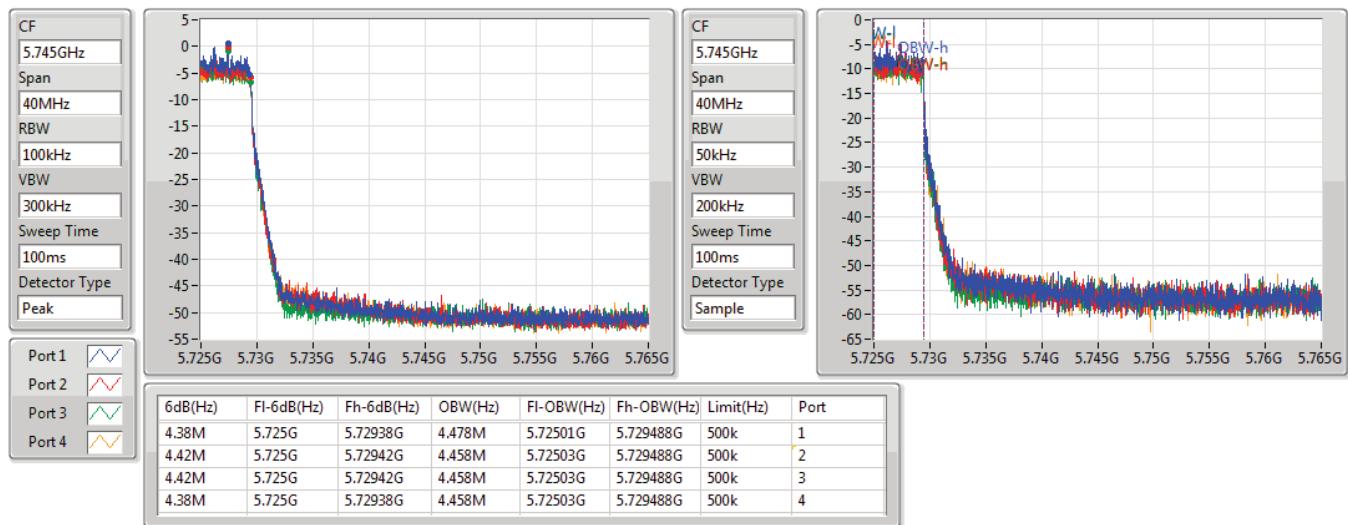


802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.47-5.725GHz

15/05/2019

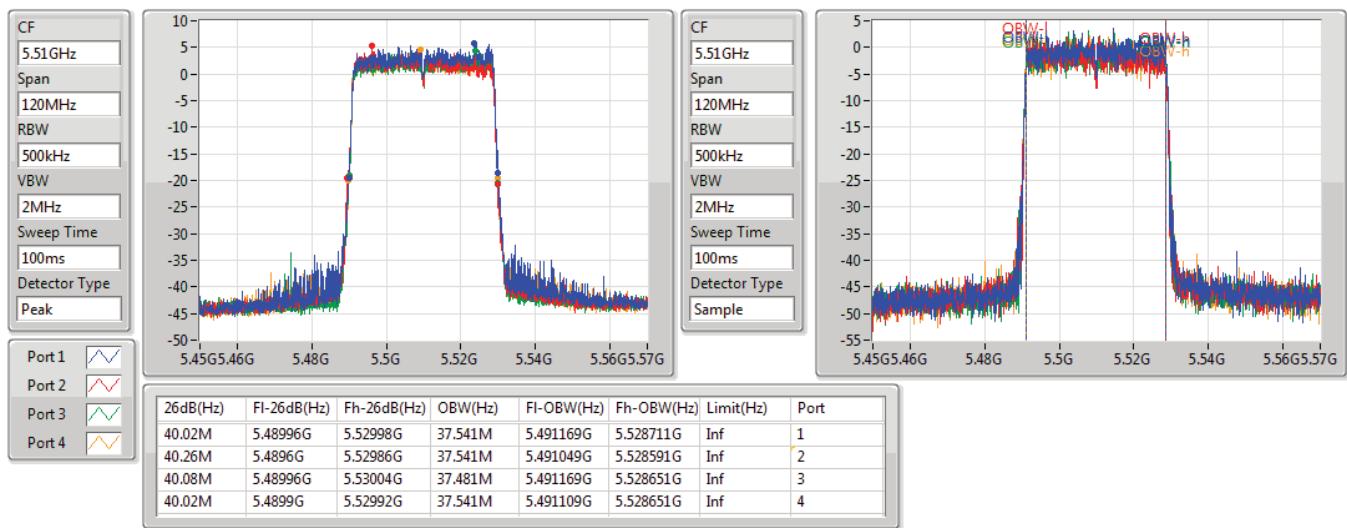

802.11ax HEW20-BF_Nss1,(MCS0)_4TX
EBW
5720MHz Straddle 5.725-5.85GHz

15/05/2019

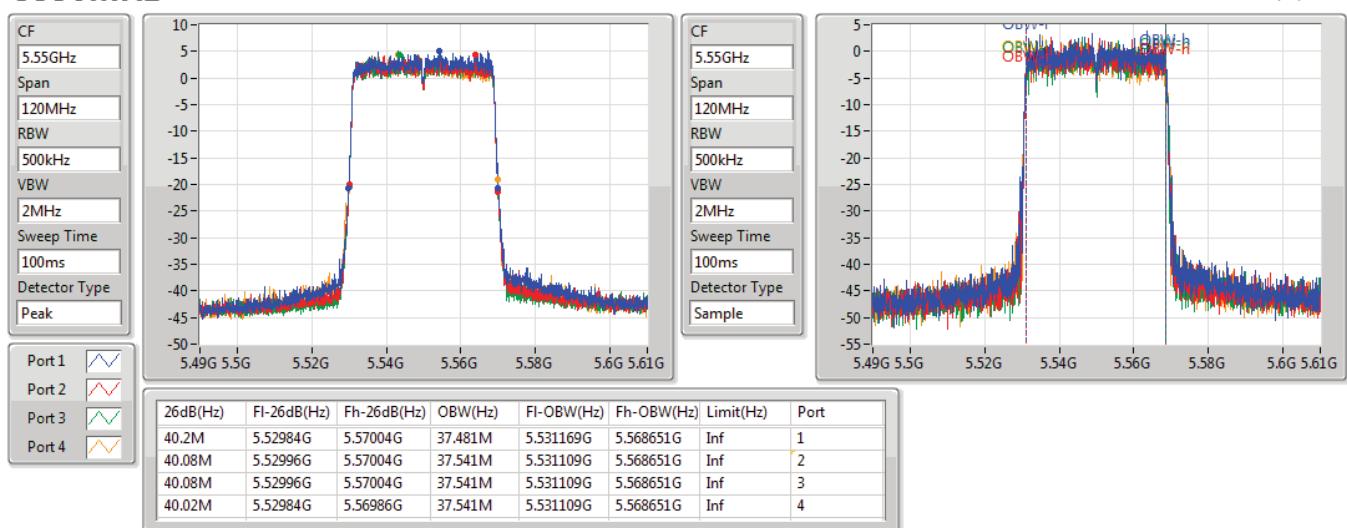


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5510MHz

15/05/2019

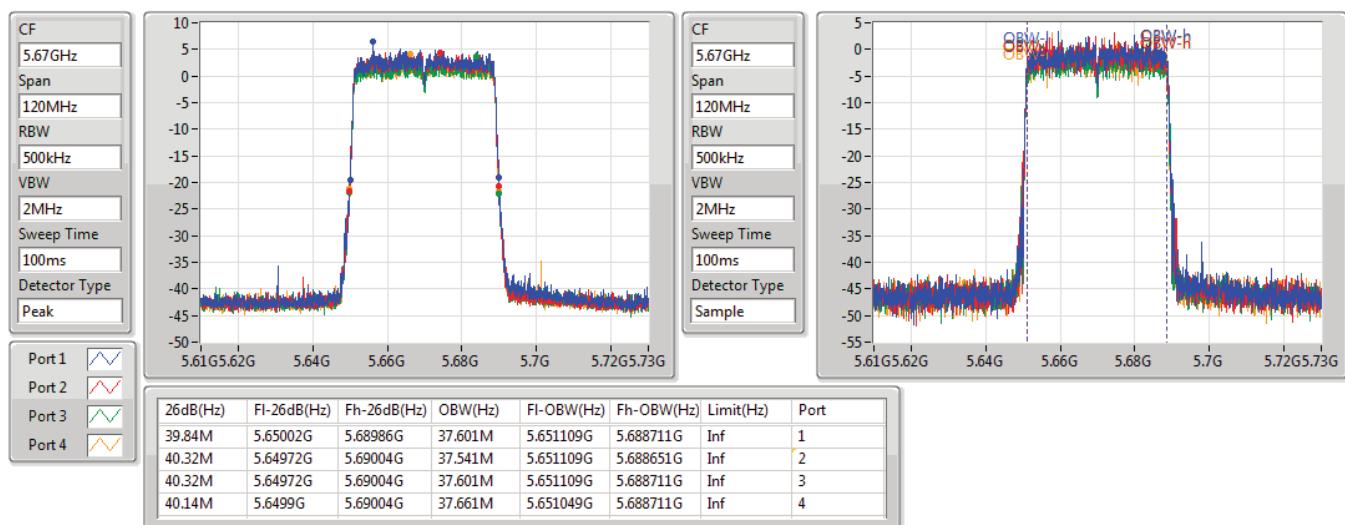

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5550MHz

15/05/2019

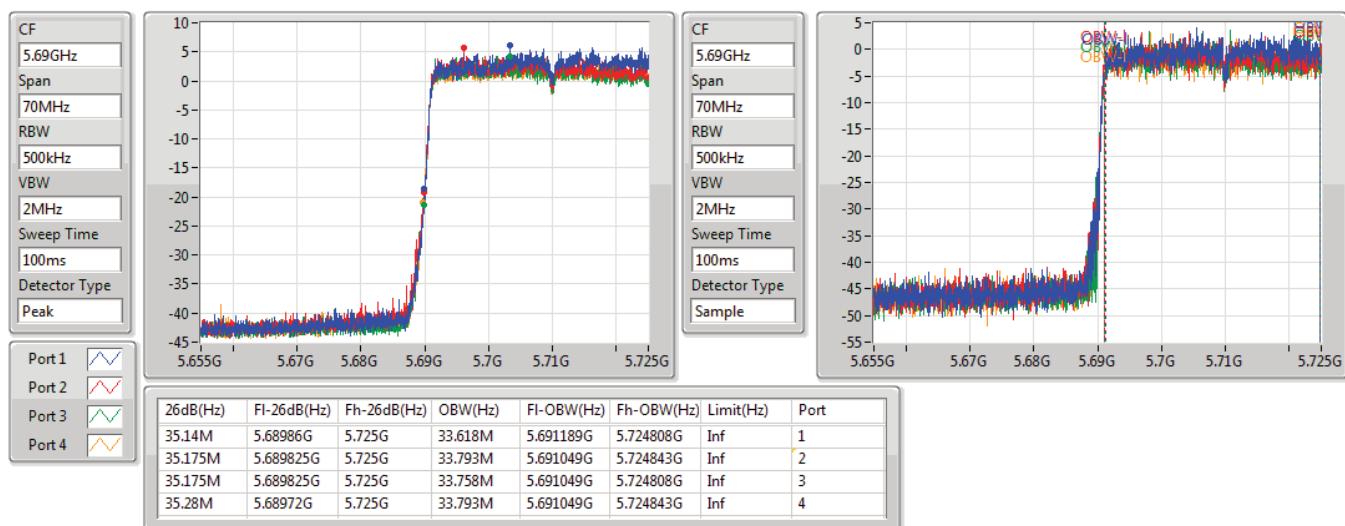


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5670MHz

15/05/2019

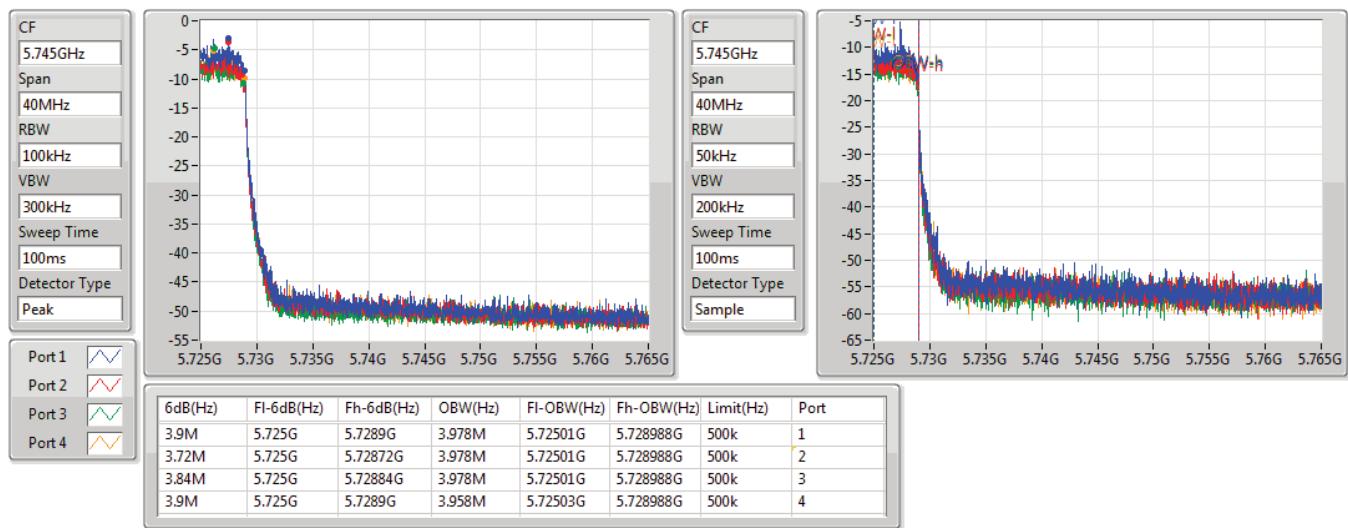

802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.47-5.725GHz

15/05/2019

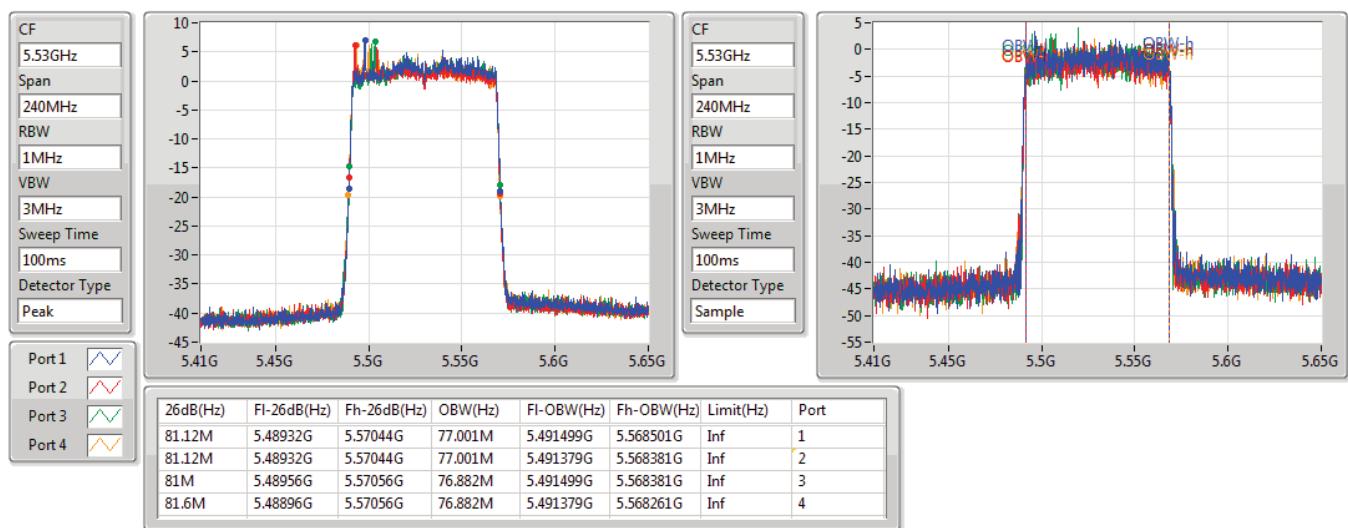


802.11ax HEW40-BF_Nss1,(MCS0)_4TX
EBW
5710MHz Straddle 5.725-5.85GHz

15/05/2019

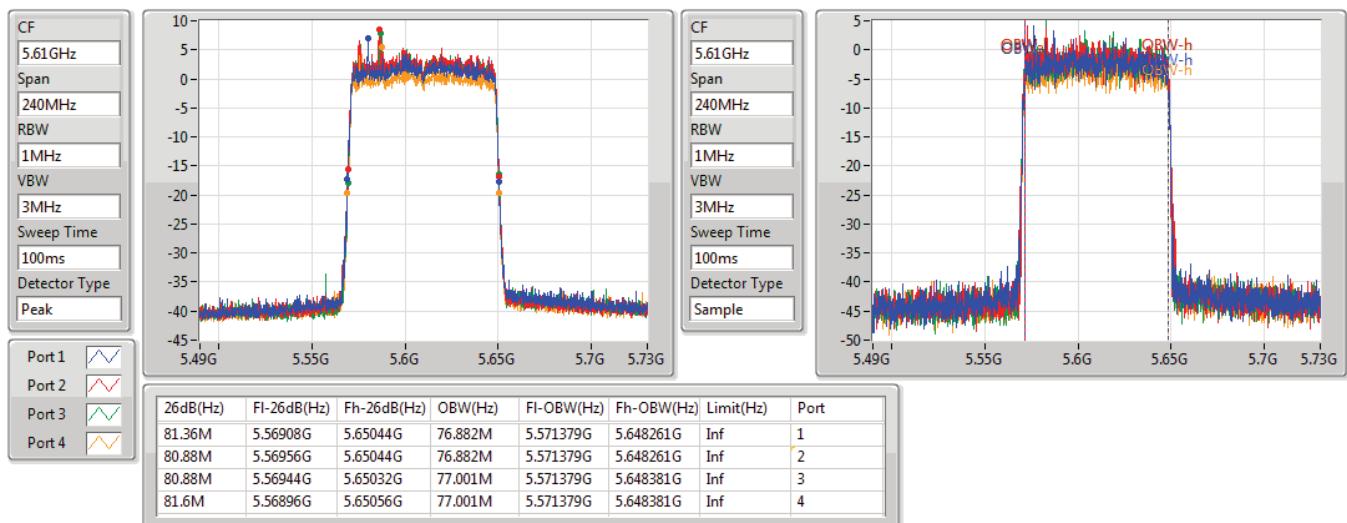

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EBW
5530MHz

15/05/2019

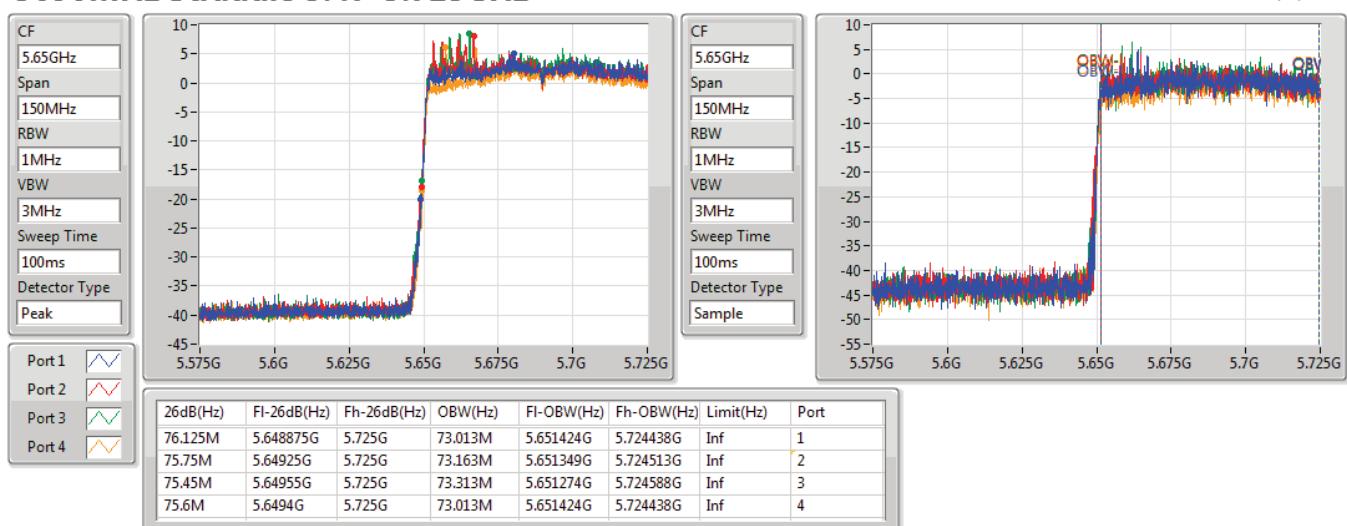


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5610MHz

15/05/2019

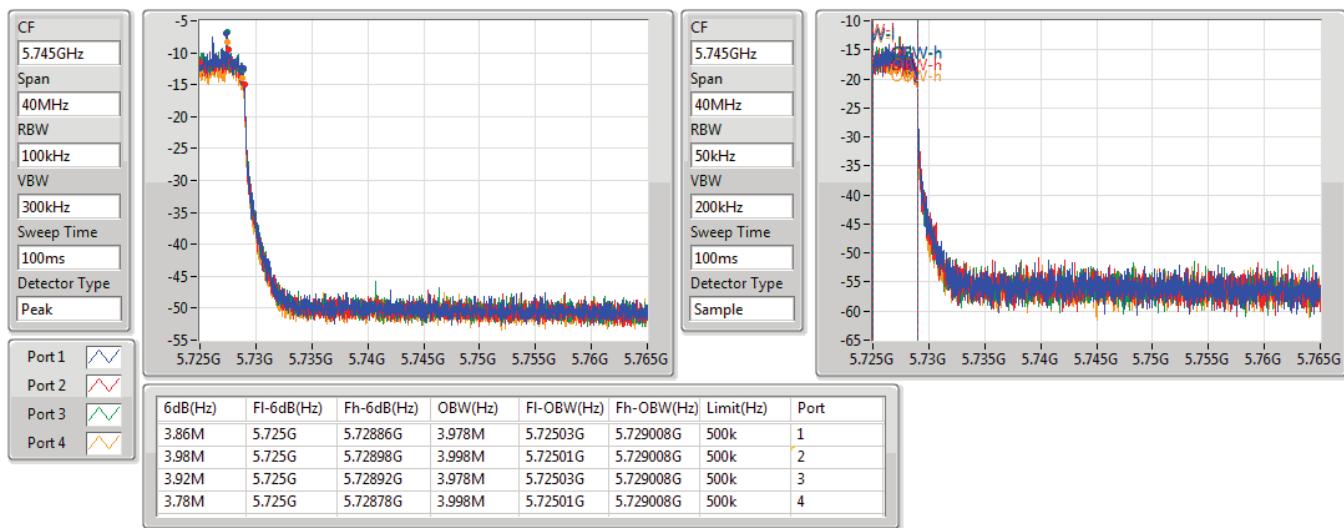

802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.47-5.725GHz

15/05/2019

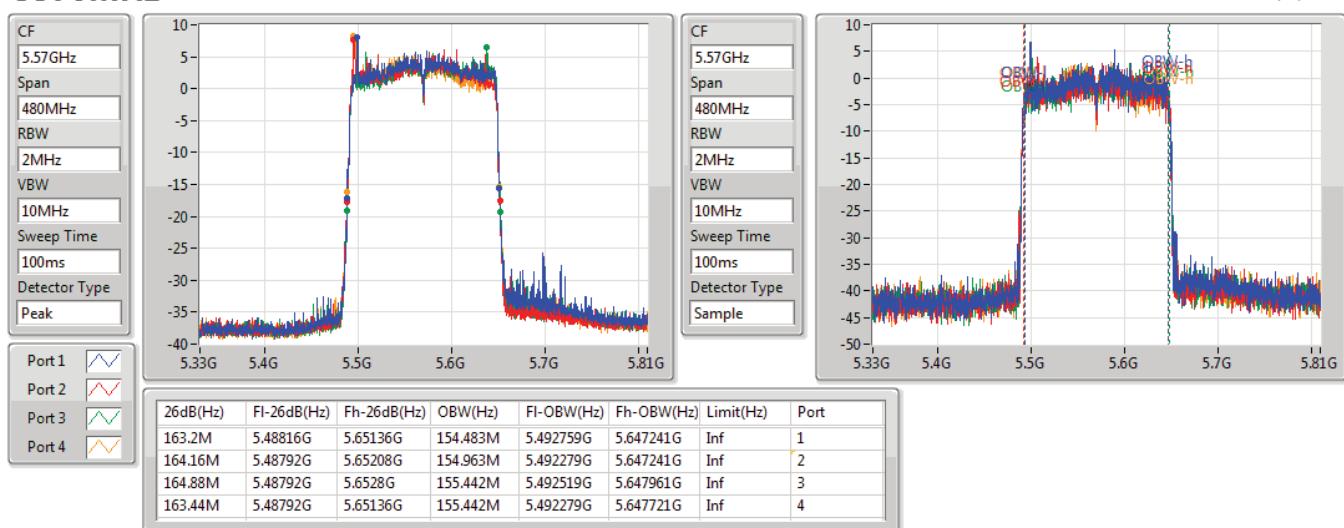


802.11ax HEW80-BF_Nss1,(MCS0)_4TX
EBW
5690MHz Straddle 5.725-5.85GHz

15/05/2019


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

15/05/2019



**Summary**

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ac VHT160_Nss1,(MCS0)_4TX	14.78	0.03006	20.78	0.11967
802.11ax HEW160_Nss1,(MCS0)_4TX	15.09	0.03228	21.09	0.12853
5.25-5.35GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	18.27	0.06714	24.27	0.26730
802.11ac VHT20_Nss1,(MCS0)_4TX	18.56	0.07178	24.56	0.28576
802.11ac VHT40_Nss1,(MCS0)_4TX	21.22	0.13243	27.22	0.52723
802.11ac VHT80_Nss1,(MCS0)_4TX	19.24	0.08395	25.24	0.33420
802.11ac VHT160_Nss1,(MCS0)_4TX	14.87	0.03069	20.87	0.12218
802.11ax HEW20_Nss1,(MCS0)_4TX	18.83	0.07638	24.83	0.30409
802.11ax HEW40_Nss1,(MCS0)_4TX	21.44	0.13932	27.44	0.55463
802.11ax HEW80_Nss1,(MCS0)_4TX	19.41	0.08730	25.41	0.34754
802.11ax HEW160_Nss1,(MCS0)_4TX	15.14	0.03266	21.14	0.13002
5.47-5.725GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	18.49	0.07063	24.49	0.28119
802.11ac VHT20_Nss1,(MCS0)_4TX	18.51	0.07096	24.51	0.28249
802.11ac VHT40_Nss1,(MCS0)_4TX	21.49	0.14093	27.49	0.56105
802.11ac VHT80_Nss1,(MCS0)_4TX	23.24	0.21086	29.24	0.83946
802.11ac VHT160_Nss1,(MCS0)_4TX	19.45	0.08810	25.45	0.35075
802.11ax HEW20_Nss1,(MCS0)_4TX	18.88	0.07727	24.88	0.30761
802.11ax HEW40_Nss1,(MCS0)_4TX	21.57	0.14355	27.57	0.57148
802.11ax HEW80_Nss1,(MCS0)_4TX	23.47	0.22233	29.47	0.88512
802.11ax HEW160_Nss1,(MCS0)_4TX	19.67	0.09268	25.67	0.36898
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	10.60	0.01148	16.60	0.04571
802.11ac VHT20_Nss1,(MCS0)_4TX	11.18	0.01312	17.18	0.05224
802.11ac VHT40_Nss1,(MCS0)_4TX	10.04	0.01009	16.04	0.04018
802.11ac VHT80_Nss1,(MCS0)_4TX	8.94	0.00783	14.94	0.03119
802.11ax HEW20_Nss1,(MCS0)_4TX	11.85	0.01531	17.85	0.06095
802.11ax HEW40_Nss1,(MCS0)_4TX	10.94	0.01242	16.94	0.04943
802.11ax HEW80_Nss1,(MCS0)_4TX	9.64	0.00920	15.64	0.03664



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_TnomVnom	Pass	6.00	11.67	12.61	12.93	11.33	18.20	24.00	24.20	30.00
5300MHz_TnomVnom	Pass	6.00	11.73	12.21	12.96	11.43	18.14	24.00	24.14	30.00
5320MHz_TnomVnom	Pass	6.00	11.85	12.30	13.05	11.65	18.27	24.00	24.27	30.00
5500MHz_TnomVnom	Pass	6.00	11.94	12.32	13.11	11.50	18.28	24.00	24.28	30.00
5580MHz_TnomVnom	Pass	6.00	12.04	12.30	13.06	11.42	18.27	24.00	24.27	30.00
5700MHz_TnomVnom	Pass	6.00	12.38	12.59	13.17	11.58	18.49	24.00	24.49	30.00
5720MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	10.75	10.89	11.65	9.99	16.88	22.93	22.88	28.93
5720MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	4.43	4.72	5.43	3.52	10.60	30.00	16.60	36.00
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz_TnomVnom	Pass	6.00	12.15	12.61	13.50	11.71	18.56	24.00	24.56	30.00
5300MHz_TnomVnom	Pass	6.00	12.12	12.64	13.31	11.85	18.54	24.00	24.54	30.00
5320MHz_TnomVnom	Pass	6.00	12.25	12.22	13.44	11.98	18.53	24.00	24.53	30.00
5500MHz_TnomVnom	Pass	6.00	12.13	12.67	13.35	11.63	18.51	24.00	24.51	30.00
5580MHz_TnomVnom	Pass	6.00	12.17	12.31	13.40	11.74	18.47	24.00	24.47	30.00
5700MHz_TnomVnom	Pass	6.00	10.96	11.26	11.91	10.32	17.17	24.00	23.17	30.00
5720MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	10.81	11.06	11.73	10.06	16.98	22.98	22.98	28.98
5720MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	4.91	5.23	6.16	4.07	11.18	30.00	17.18	36.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz_TnomVnom	Pass	6.00	14.83	15.32	16.08	14.38	21.22	24.00	27.22	30.00
5310MHz_TnomVnom	Pass	6.00	14.28	14.61	15.57	13.82	20.64	24.00	26.64	30.00
5510MHz_TnomVnom	Pass	6.00	14.19	14.73	15.66	13.70	20.65	24.00	26.65	30.00
5550MHz_TnomVnom	Pass	6.00	14.99	15.14	16.12	14.41	21.23	24.00	27.23	30.00
5670MHz_TnomVnom	Pass	6.00	15.24	15.59	16.35	14.48	21.49	24.00	27.49	30.00
5710MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	14.44	14.89	15.47	13.76	20.71	24.00	26.71	30.00
5710MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	3.91	4.03	4.89	3.03	10.04	30.00	16.04	36.00
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz_TnomVnom	Pass	6.00	12.74	13.32	14.17	12.43	19.24	24.00	25.24	30.00
5530MHz_TnomVnom	Pass	6.00	14.91	15.42	16.22	14.53	21.34	24.00	27.34	30.00
5610MHz_TnomVnom	Pass	6.00	17.03	17.15	18.05	16.49	23.24	24.00	29.24	30.00
5690MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	16.99	16.96	18.23	16.44	23.23	24.00	29.23	30.00
5690MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	2.85	2.79	3.95	1.81	8.94	30.00	14.94	36.00
802.11ac VHT160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz_TnomVnom	Pass	6.00	7.93	8.55	9.83	8.50	14.78	30.00	20.78	36.00
5250MHz Straddle 5.25-5.35GHz_TnomVnom	Pass	6.00	7.71	8.88	9.71	8.87	14.87	24.00	20.87	30.00
5570MHz_TnomVnom	Pass	6.00	13.13	13.42	14.30	12.70	19.45	24.00	25.45	30.00
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz_TnomVnom	Pass	6.00	12.41	12.90	13.62	12.00	18.80	24.00	24.80	30.00
5300MHz_TnomVnom	Pass	6.00	12.41	12.70	13.74	12.22	18.83	24.00	24.83	30.00
5320MHz_TnomVnom	Pass	6.00	12.20	12.91	13.72	12.17	18.82	24.00	24.82	30.00
5500MHz_TnomVnom	Pass	6.00	12.55	12.91	13.80	11.98	18.88	24.00	24.88	30.00
5580MHz_TnomVnom	Pass	6.00	12.60	12.79	13.62	11.84	18.78	24.00	24.78	30.00
5700MHz_TnomVnom	Pass	6.00	11.11	11.36	12.13	10.53	17.34	24.00	23.34	30.00
5720MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	11.11	11.31	12.00	10.30	17.24	22.97	23.24	28.97



Average Power_Non-Beamforming <Radio 1>

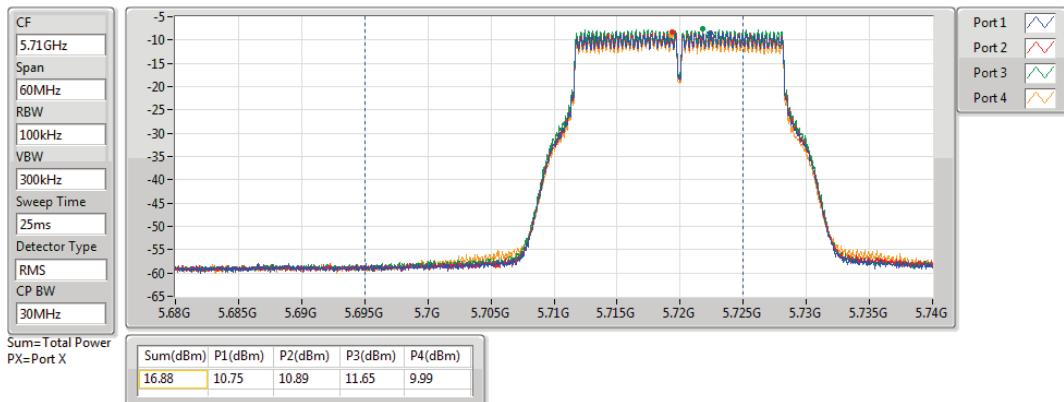
Appendix B.1

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
5720MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	5.67	5.84	6.72	4.91	11.85	30.00	17.85	36.00
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz_TnomVnom	Pass	6.00	15.02	15.58	16.29	14.58	21.44	24.00	27.44	30.00
5310MHz_TnomVnom	Pass	6.00	14.54	14.70	15.63	14.01	20.78	24.00	26.78	30.00
5510MHz_TnomVnom	Pass	6.00	14.43	14.80	15.78	13.93	20.81	24.00	26.81	30.00
5550MHz_TnomVnom	Pass	6.00	14.39	15.30	16.32	14.59	21.24	24.00	27.24	30.00
5670MHz_TnomVnom	Pass	6.00	15.30	15.66	16.38	14.70	21.57	24.00	27.57	30.00
5710MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	14.57	14.96	15.80	13.81	20.86	24.00	26.86	30.00
5710MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	4.62	5.02	5.93	3.85	10.94	30.00	16.94	36.00
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz_TnomVnom	Pass	6.00	12.83	13.41	14.42	12.66	19.41	24.00	25.41	30.00
5530MHz_TnomVnom	Pass	6.00	15.28	15.56	16.43	14.61	21.54	24.00	27.54	30.00
5610MHz_TnomVnom	Pass	6.00	17.28	17.45	18.27	16.63	23.47	24.00	29.47	30.00
5690MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	17.16	17.21	18.31	16.62	23.39	24.00	29.39	30.00
5690MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	3.29	3.51	4.80	2.59	9.64	30.00	15.64	36.00
802.11ax HEW160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz_TnomVnom	Pass	6.00	8.39	8.85	10.09	8.73	15.09	30.00	21.09	36.00
5250MHz Straddle 5.25-5.35GHz_TnomVnom	Pass	6.00	7.89	9.18	10.08	9.07	15.14	24.00	21.14	30.00
5570MHz_TnomVnom	Pass	6.00	13.31	13.61	14.50	13.02	19.67	24.00	25.67	30.00

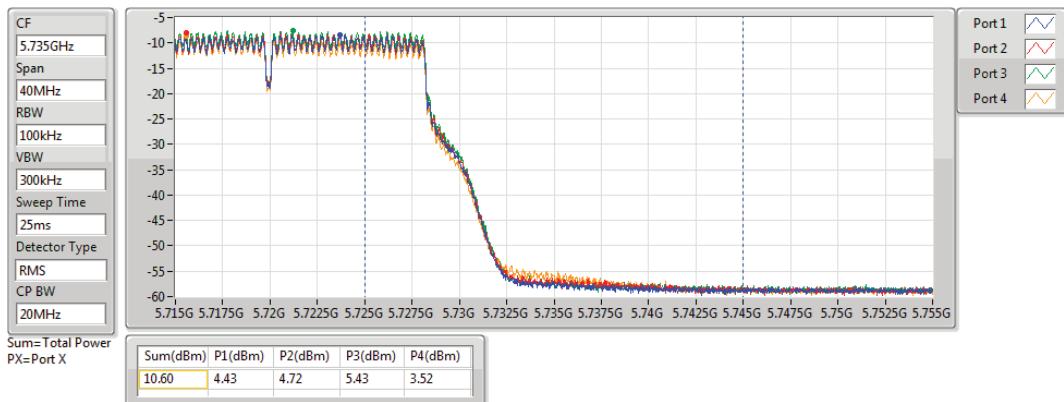
DG = Directional Gain; **Port X** = Port X output power

**802.11a_Nss1,(6Mbps)_4TX
5720MHz Straddle 5.47-5.725GHz**
AV Power

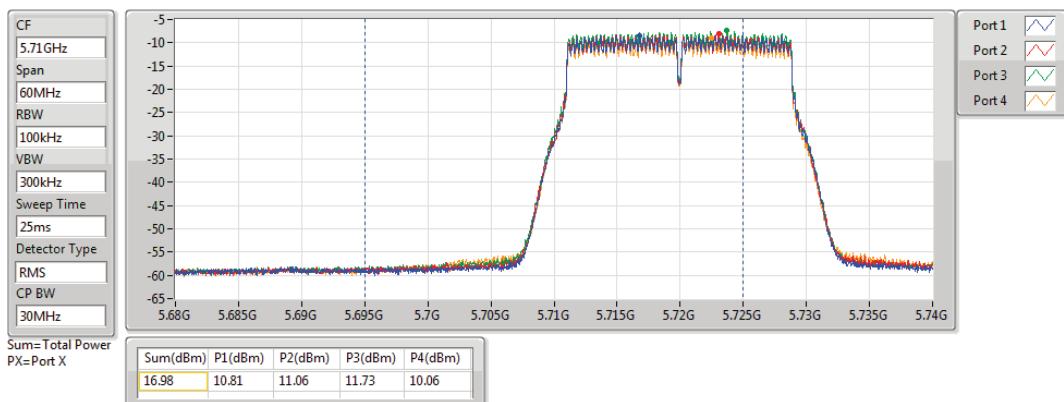
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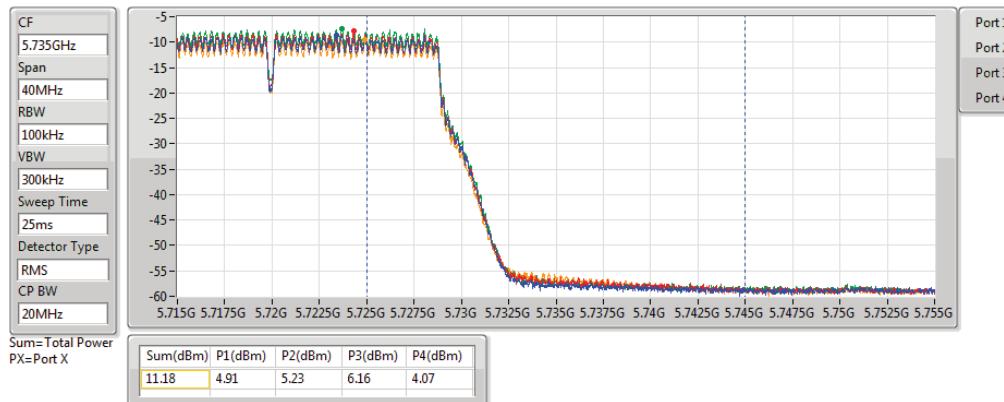
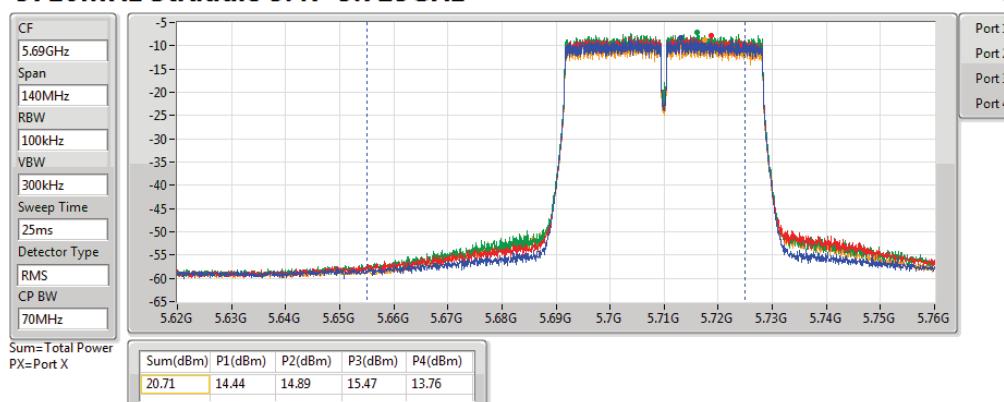
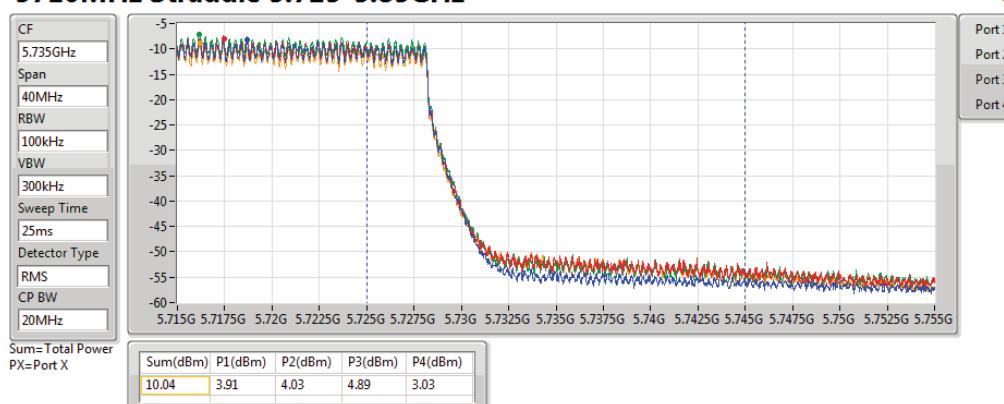

**802.11a_Nss1,(6Mbps)_4TX
5720MHz Straddle 5.725-5.85GHz**
AV Power

13/05/2019


**802.11ac VHT20_Nss1,(MCS0)_4TX
5720MHz Straddle 5.47-5.725GHz**
AV Power

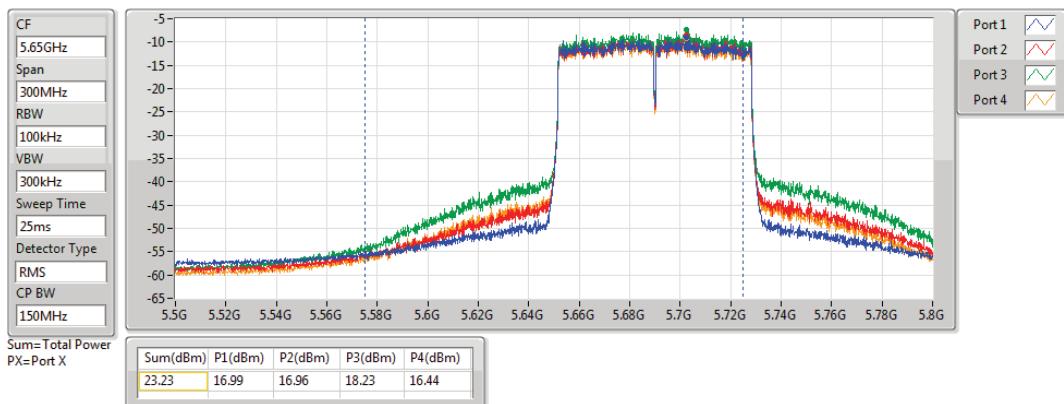
13/05/2019



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

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

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

AV Power

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

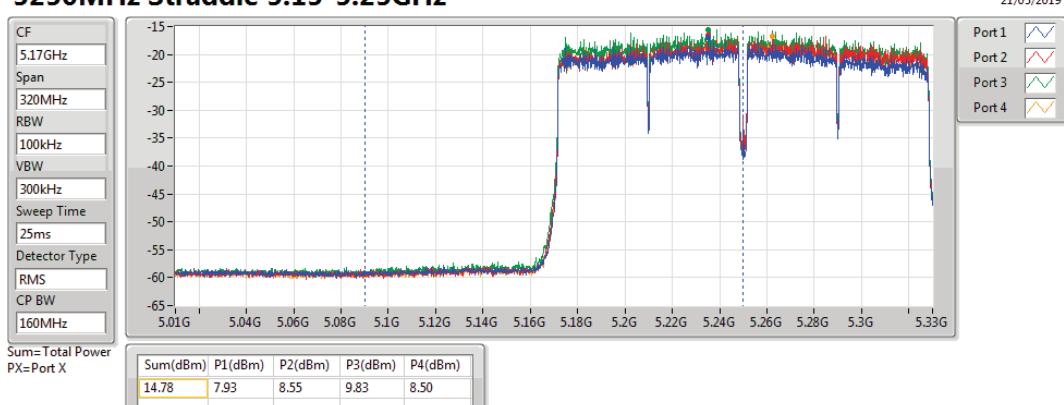
21/05/2019


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

14/05/2019

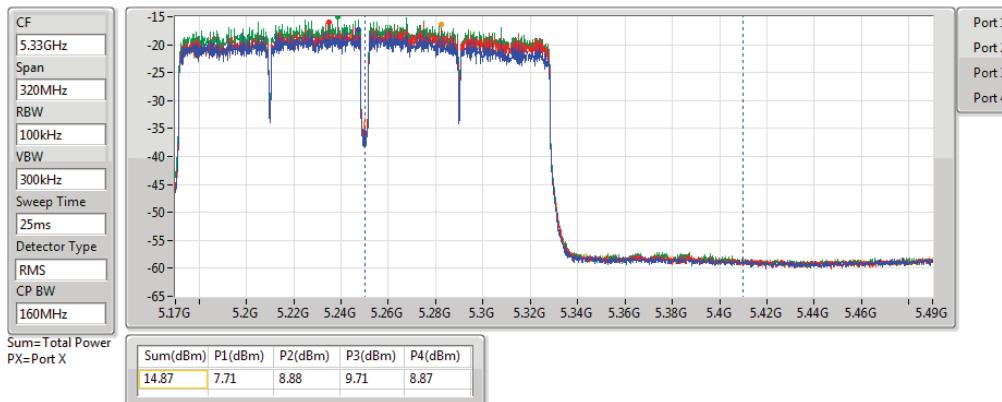

802.11ac VHT160_Nss1,(MCS0)_4TX
AV Power
5250MHz Straddle 5.15-5.25GHz

21/05/2019

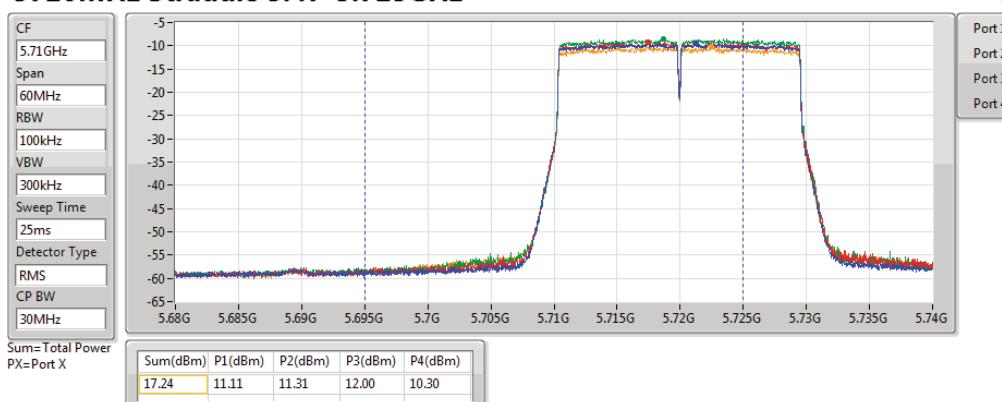


802.11ac VHT160_Nss1,(MCS0)_4TX
AV Power
5250MHz Straddle 5.25-5.35GHz

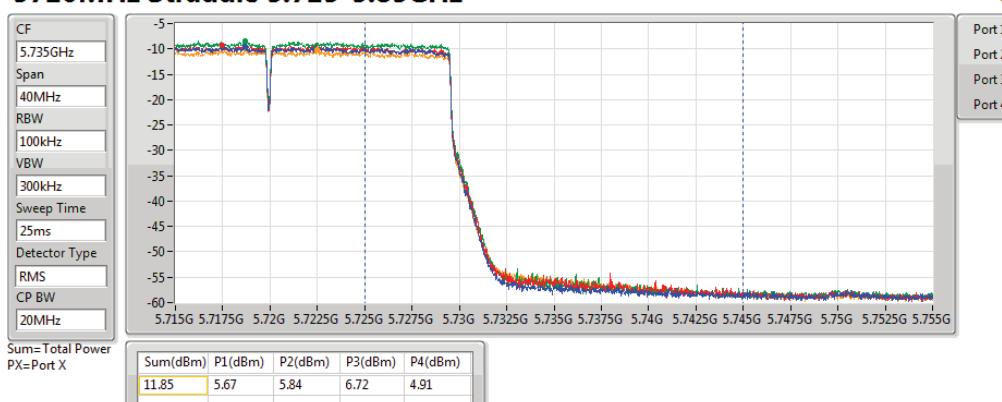
21/05/2019

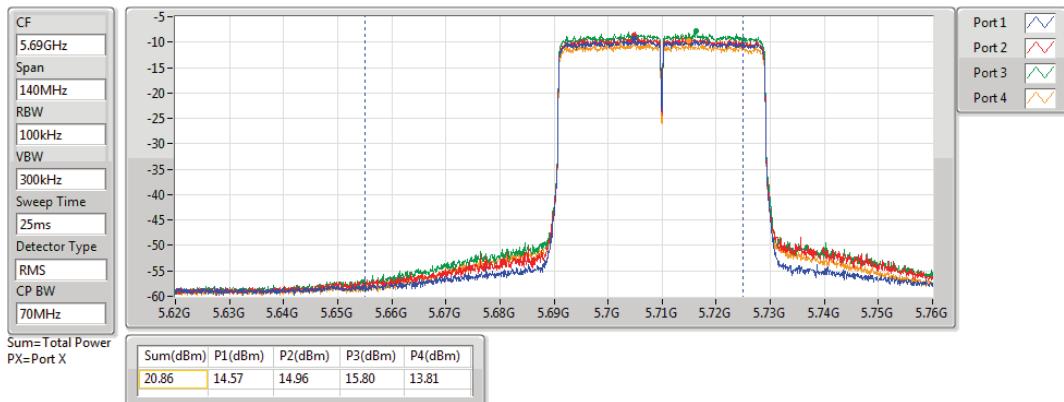
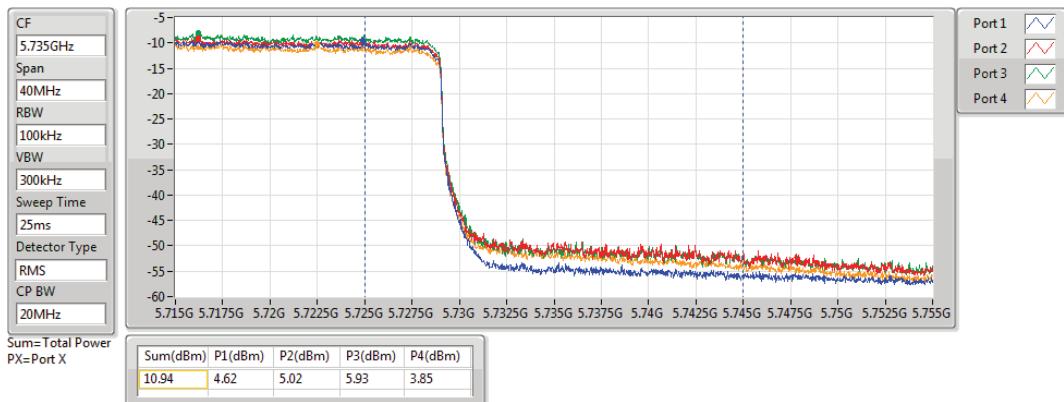
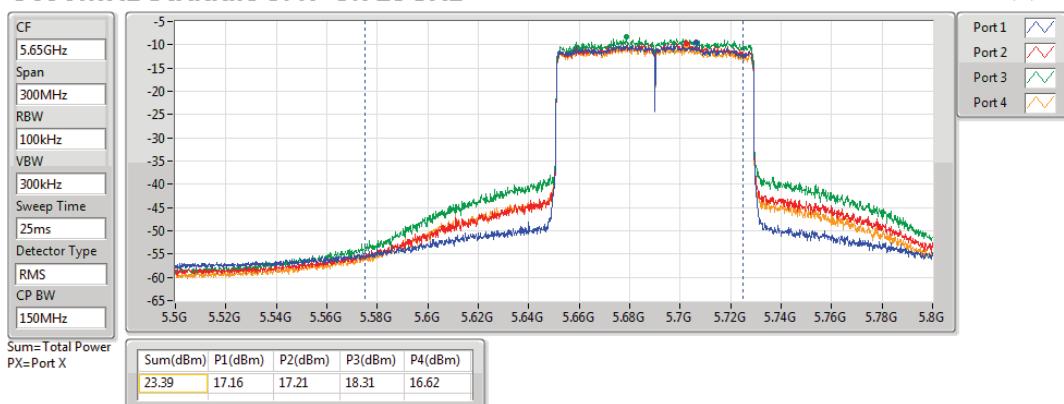

802.11ax HEW20_Nss1,(MCS0)_4TX
AV Power
5720MHz Straddle 5.47-5.725GHz

13/05/2019


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

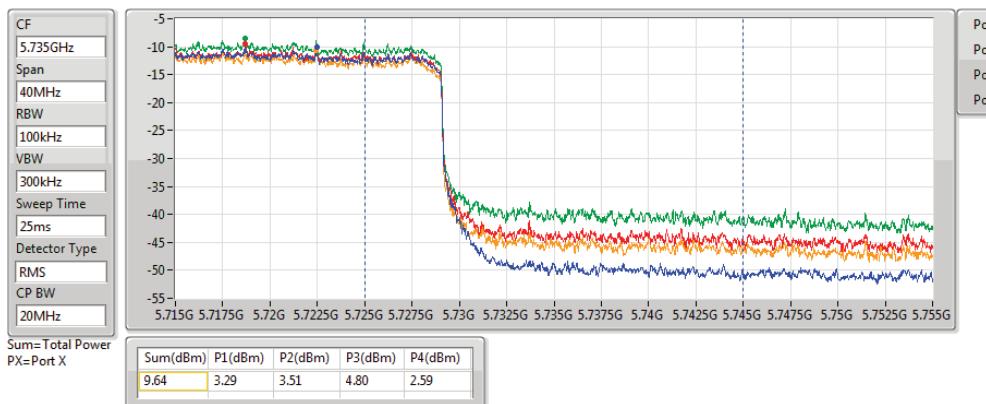
13/05/2019



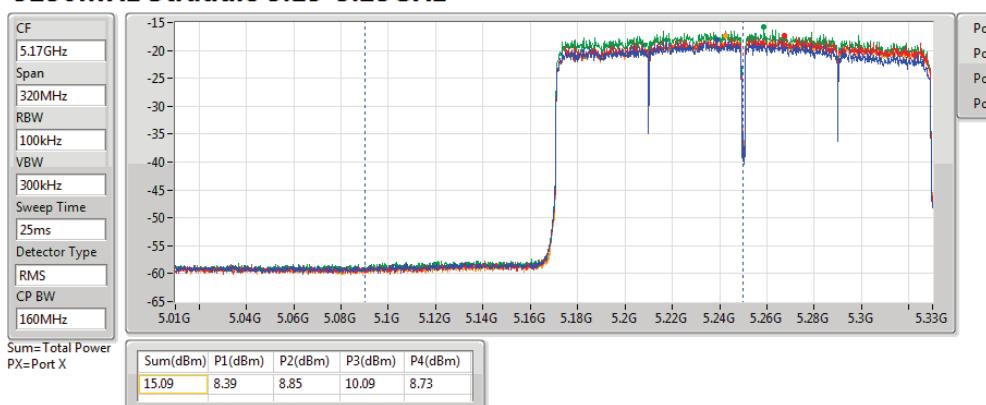
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AV Power
5710MHz Straddle 5.47-5.725GHz

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

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


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

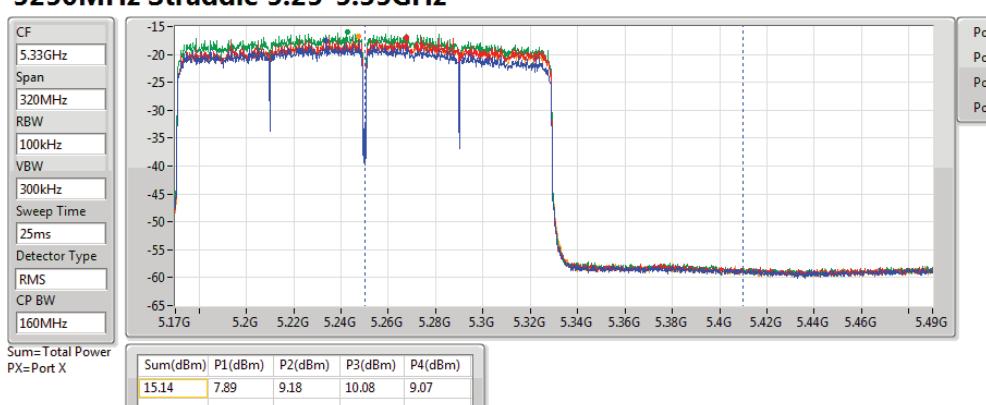
21/05/2019


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

21/05/2019


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

21/05/2019





Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	16.02	0.03999	28.04	0.63680
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	16.32	0.04285	28.34	0.68234
5.25-5.35GHz	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	17.25	0.05309	29.27	0.84528
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	17.40	0.05495	29.42	0.87498
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	16.99	0.05000	29.01	0.79616
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	15.71	0.03724	27.73	0.59293
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	17.41	0.05508	29.43	0.87700
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	17.43	0.05534	29.45	0.88105
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	17.28	0.05346	29.30	0.85114
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	16.05	0.04027	28.07	0.64121
5.47-5.725GHz	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	17.31	0.05383	29.33	0.85704
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	17.29	0.05358	29.31	0.85310
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	17.09	0.05117	29.11	0.81470
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	17.14	0.05176	29.16	0.82414
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	17.44	0.05546	29.46	0.88308
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	17.45	0.05559	29.47	0.88512
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	17.41	0.05508	29.43	0.87700
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	17.24	0.05297	29.26	0.84333
5.725-5.85GHz	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	10.38	0.01091	22.40	0.17378
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	6.32	0.00429	18.34	0.06823
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	2.33	0.00171	14.35	0.02723
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	11.38	0.01374	23.40	0.21878
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	7.31	0.00538	19.33	0.08570
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	3.40	0.00219	15.42	0.03483



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)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	12.02	10.98	11.02	11.96	10.21	17.11	17.98	29.13	30.00
5300MHz	Pass	12.02	11.05	10.55	11.66	10.90	17.08	17.98	29.10	30.00
5320MHz	Pass	12.02	10.89	10.96	12.11	10.84	17.25	17.98	29.27	30.00
5500MHz	Pass	12.02	10.91	11.47	12.07	10.31	17.26	17.98	29.28	30.00
5580MHz	Pass	12.02	10.96	11.26	12.12	9.90	17.15	17.98	29.17	30.00
5700MHz	Pass	12.02	11.40	10.98	12.23	10.31	17.31	17.98	29.33	30.00
5720MHz Straddle 5.47-5.725GHz	Pass	12.02	10.12	10.20	10.85	9.51	16.22	16.95	28.24	28.97
5720MHz Straddle 5.725-5.85GHz	Pass	12.02	4.24	4.48	5.10	3.47	10.38	23.98	22.40	36.00
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	12.02	10.52	11.41	11.72	10.64	17.12	17.98	29.14	30.00
5310MHz	Pass	12.02	11.47	10.80	12.17	10.96	17.40	17.98	29.42	30.00
5510MHz	Pass	12.02	10.25	11.54	12.32	9.92	17.14	17.98	29.16	30.00
5550MHz	Pass	12.02	10.36	12.10	11.69	10.59	17.27	17.98	29.29	30.00
5670MHz	Pass	12.02	10.51	11.58	11.65	11.23	17.29	17.98	29.31	30.00
5710MHz Straddle 5.47-5.725GHz	Pass	12.02	10.16	11.82	10.90	10.71	16.96	17.98	28.98	30.00
5710MHz Straddle 5.725-5.85GHz	Pass	12.02	-0.61	1.34	0.16	0.06	6.32	23.98	18.34	36.00
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	12.02	10.41	11.90	10.13	11.23	16.99	17.98	29.01	30.00
5530MHz	Pass	12.02	10.62	11.22	11.30	10.87	17.03	17.98	29.05	30.00
5610MHz	Pass	12.02	9.89	12.03	10.91	10.36	16.89	17.98	28.91	30.00
5690MHz Straddle 5.47-5.725GHz	Pass	12.02	10.23	11.96	11.00	10.93	17.09	17.98	29.11	30.00
5690MHz Straddle 5.725-5.85GHz	Pass	12.02	-4.82	-2.61	-3.84	-3.77	2.33	23.98	14.35	36.00
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	12.02	9.28	10.98	9.95	9.58	16.02	23.98	28.04	36.00
5250MHz Straddle 5.25-5.35GHz	Pass	12.02	9.06	10.64	10.11	8.68	15.71	17.98	27.73	30.00
5570MHz	Pass	12.02	10.35	11.45	11.88	10.61	17.14	17.98	29.16	30.00
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5260MHz	Pass	12.02	11.01	11.46	11.97	10.60	17.31	17.98	29.33	30.00
5300MHz	Pass	12.02	11.11	11.38	12.07	10.81	17.39	17.98	29.41	30.00
5320MHz	Pass	12.02	11.41	11.42	11.94	10.71	17.41	17.98	29.43	30.00
5500MHz	Pass	12.02	10.92	11.30	12.30	10.76	17.38	17.98	29.40	30.00
5580MHz	Pass	12.02	11.30	11.53	12.15	10.53	17.44	17.98	29.46	30.00
5700MHz	Pass	12.02	11.44	11.39	11.98	10.70	17.42	17.98	29.44	30.00
5720MHz Straddle 5.47-5.725GHz	Pass	12.02	10.76	11.01	11.36	10.06	16.84	16.96	28.86	28.98
5720MHz Straddle 5.725-5.85GHz	Pass	12.02	5.19	5.57	6.00	4.57	11.38	23.98	23.40	36.00
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5270MHz	Pass	12.02	10.55	11.18	11.92	11.14	17.25	17.98	29.27	30.00
5310MHz	Pass	12.02	10.40	11.74	12.34	10.92	17.43	17.98	29.45	30.00
5510MHz	Pass	12.02	10.93	11.40	12.03	11.30	17.45	17.98	29.47	30.00
5550MHz	Pass	12.02	11.41	11.50	12.09	10.37	17.41	17.98	29.43	30.00
5670MHz	Pass	12.02	10.87	11.23	11.86	11.49	17.40	17.98	29.42	30.00
5710MHz Straddle 5.47-5.725GHz	Pass	12.02	11.21	11.56	11.92	10.58	17.37	17.98	29.39	30.00
5710MHz Straddle 5.725-5.85GHz	Pass	12.02	0.90	1.30	2.33	0.40	7.31	23.98	19.33	36.00

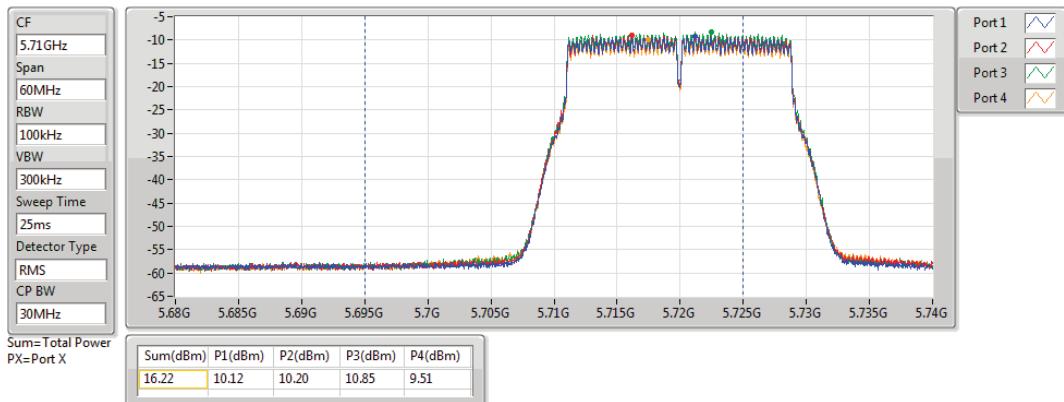
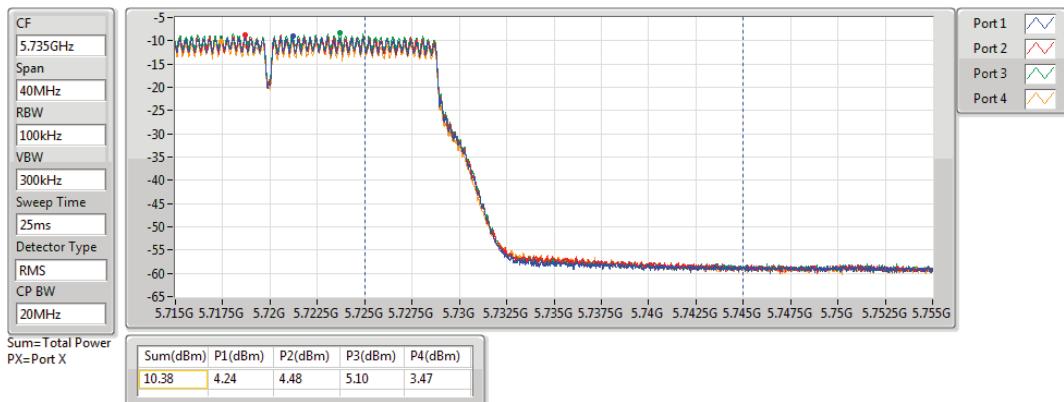
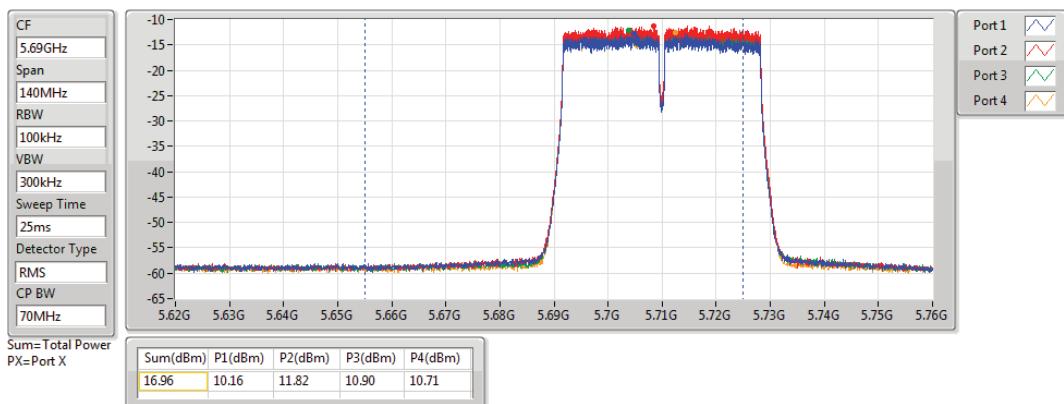


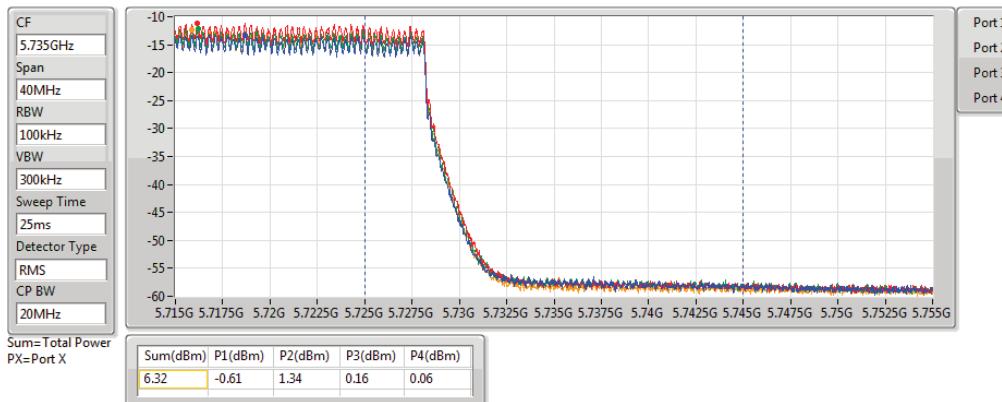
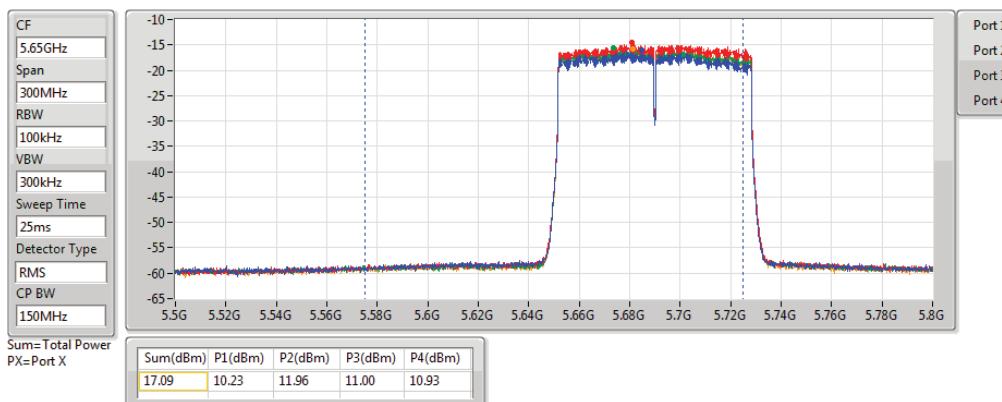
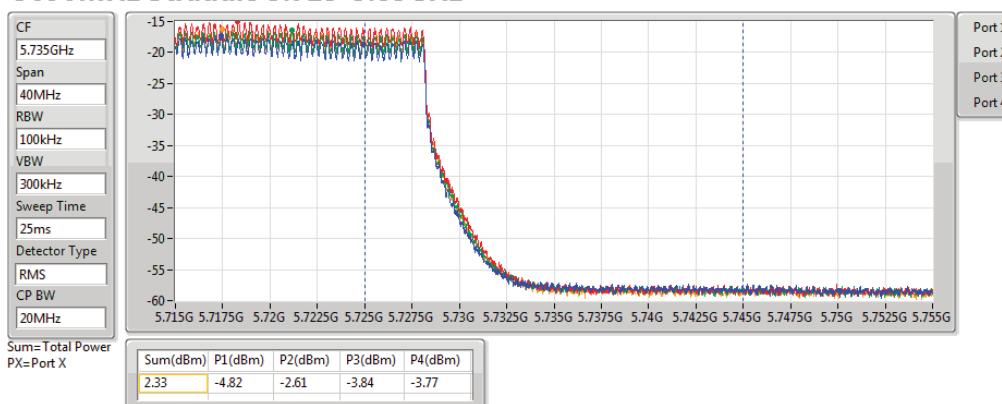
Average Power- Beamforming <Radio 1>

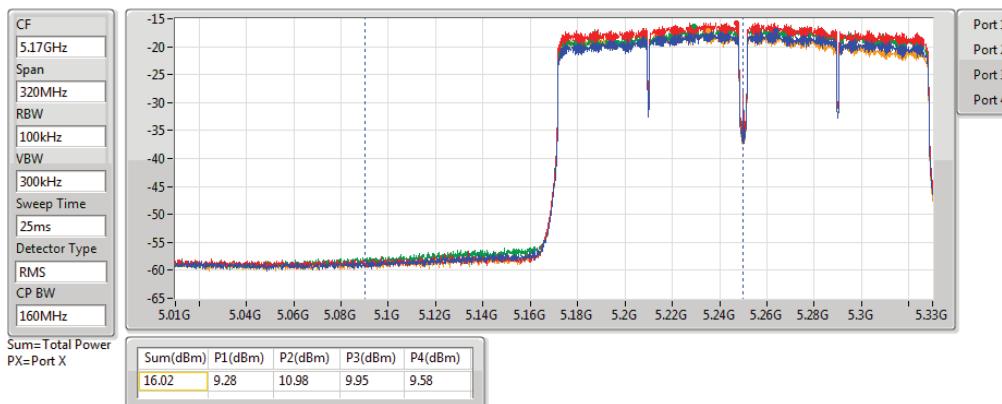
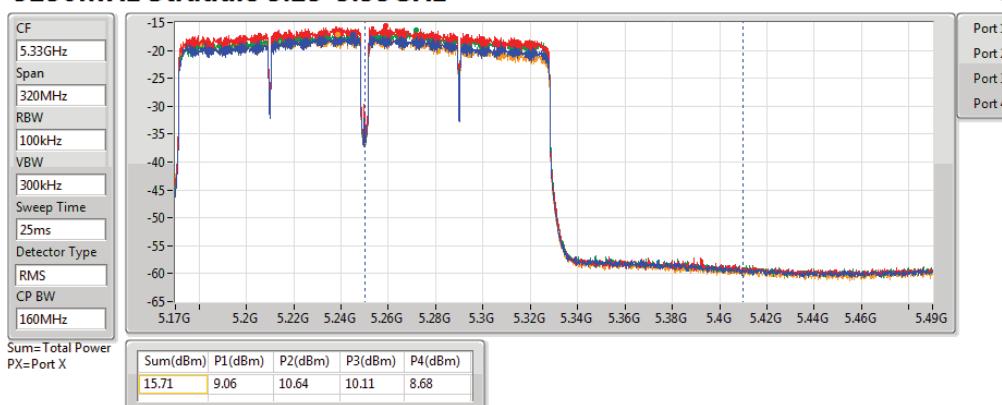
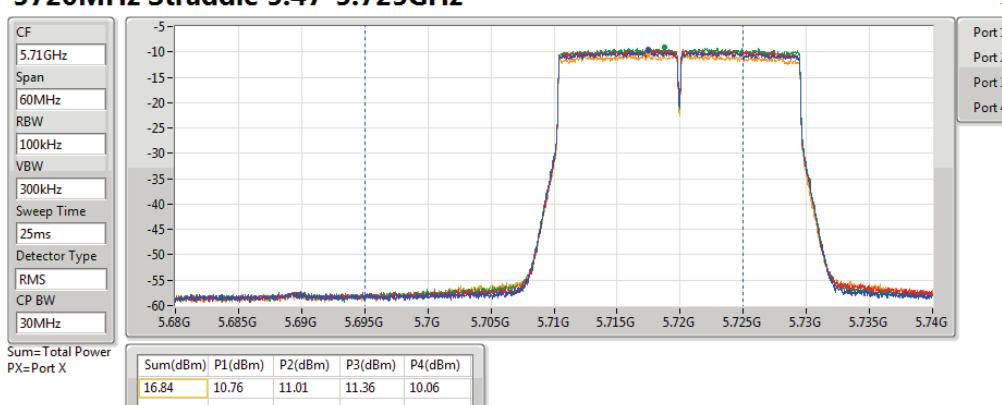
Appendix B.2

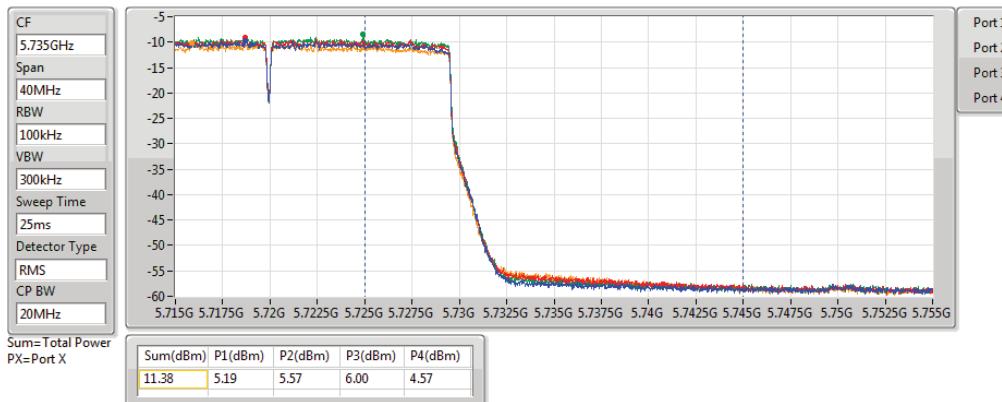
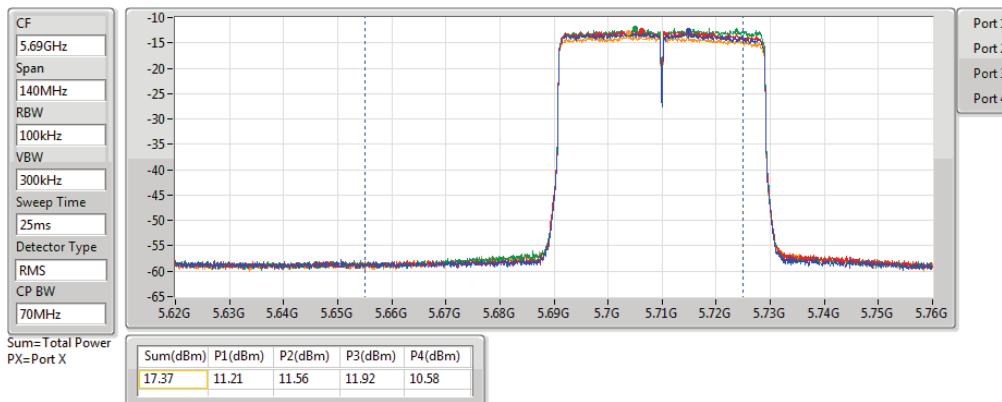
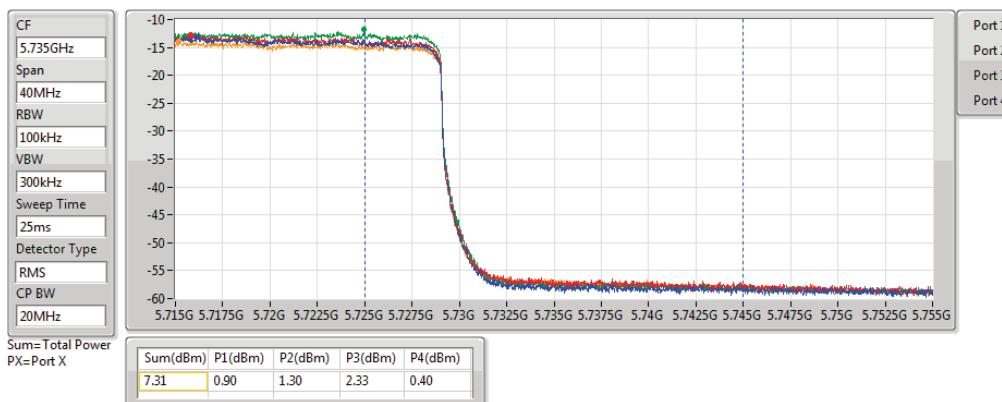
Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5290MHz	Pass	12.02	11.21	11.03	12.22	10.36	17.28	17.98	29.30	30.00
5530MHz	Pass	12.02	10.66	11.80	12.08	10.77	17.39	17.98	29.41	30.00
5610MHz	Pass	12.02	10.89	11.59	11.74	11.01	17.34	17.98	29.36	30.00
5690MHz Straddle 5.47-5.725GHz	Pass	12.02	11.47	11.51	11.93	10.54	17.41	17.98	29.43	30.00
5690MHz Straddle 5.725-5.85GHz	Pass	12.02	-2.88	-2.83	-1.72	-3.22	3.40	23.98	15.42	36.00
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	12.02	10.62	10.34	11.03	8.92	16.32	23.98	28.34	36.00
5250MHz Straddle 5.25-5.35GHz	Pass	12.02	8.50	10.51	10.87	9.89	16.05	17.98	28.07	30.00
5570MHz	Pass	12.02	11.24	11.42	11.65	10.49	17.24	17.98	29.26	30.00

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

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

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

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


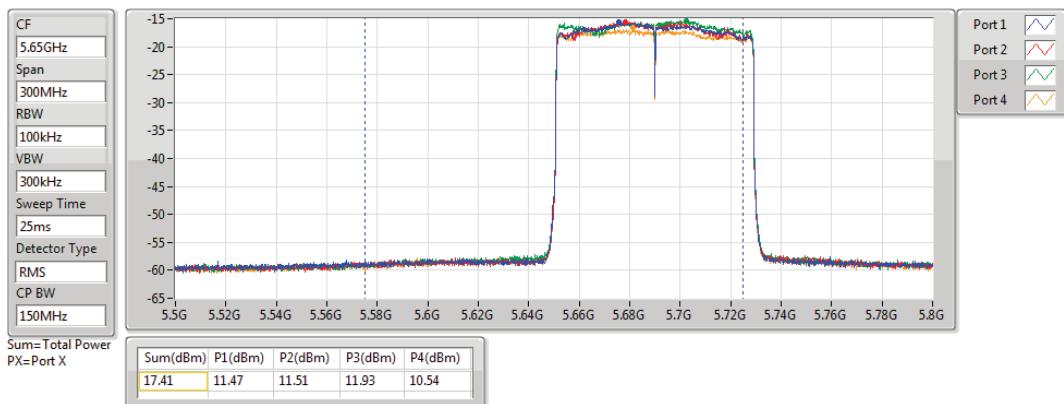
802.11ac VHT40-BF_Nss1,(MCS0)_4TX
5710MHz Straddle 5.725-5.85GHz

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

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


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

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

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

AV Power

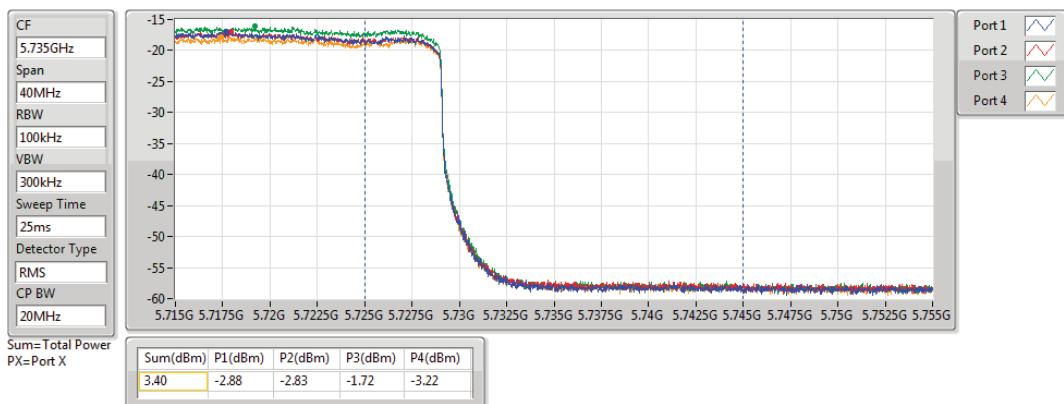
802.11ax HEW20-BF_Nss1,(MCS0)_4TX
AV Power
5720MHz Straddle 5.725-5.85GHz

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

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


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

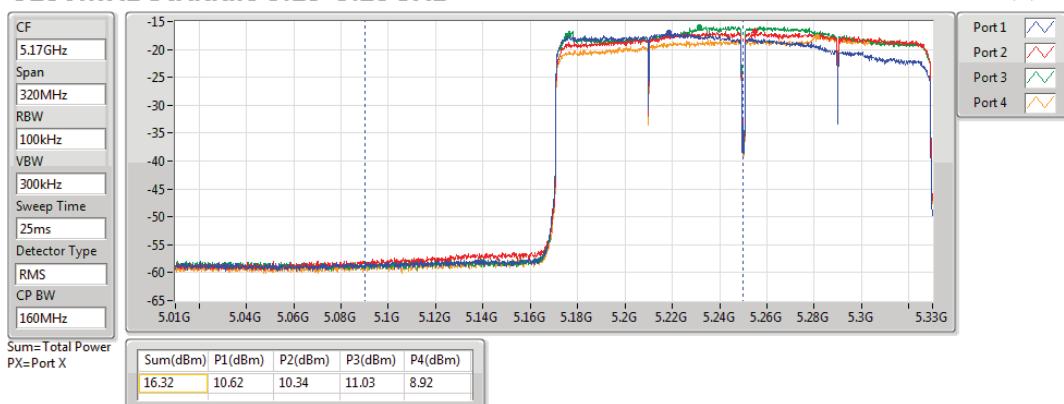
16/05/2019


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

16/05/2019


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

16/05/2019



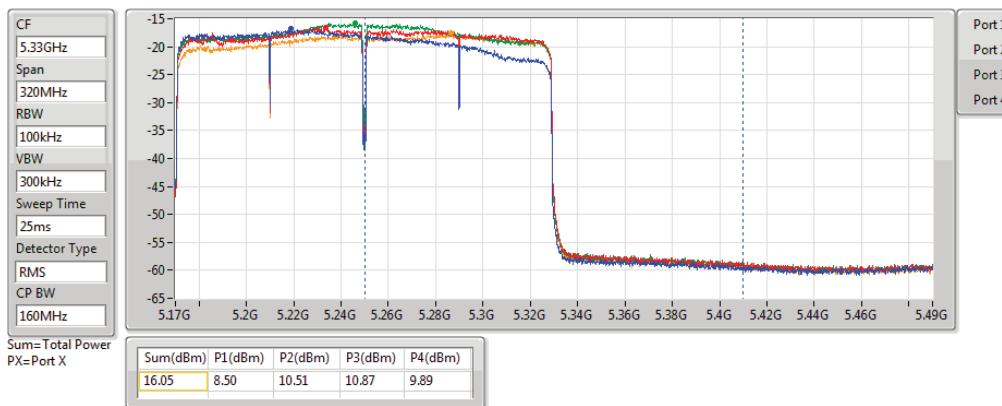


802.11ax HEW160-BF_Nss1,(MCS0)_4TX

AV Power

5250MHz Straddle 5.25-5.35GHz

16/05/2019



**Summary**

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.47-5.725GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	18.38	0.06887	24.38	0.27416
802.11ac VHT20_Nss1,(MCS0)_4TX	18.24	0.06668	24.24	0.26546
802.11ac VHT40_Nss1,(MCS0)_4TX	21.26	0.13366	27.26	0.53211
802.11ac VHT80_Nss1,(MCS0)_4TX	23.20	0.20893	29.20	0.83176
802.11ac VHT160_Nss1,(MCS0)_4TX	20.13	0.10304	26.13	0.41020
802.11ax HEW20_Nss1,(MCS0)_4TX	18.75	0.07499	24.75	0.29854
802.11ax HEW40_Nss1,(MCS0)_4TX	21.39	0.13772	27.39	0.54828
802.11ax HEW80_Nss1,(MCS0)_4TX	23.45	0.22131	29.45	0.88105
802.11ax HEW160_Nss1,(MCS0)_4TX	20.44	0.11066	26.44	0.44055
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_4TX	10.83	0.01211	16.83	0.04819
802.11ac VHT20_Nss1,(MCS0)_4TX	11.01	0.01262	17.01	0.05023
802.11ac VHT40_Nss1,(MCS0)_4TX	10.00	0.01000	16.00	0.03981
802.11ac VHT80_Nss1,(MCS0)_4TX	8.57	0.00719	14.57	0.02864
802.11ax HEW20_Nss1,(MCS0)_4TX	11.77	0.01503	17.77	0.05984
802.11ax HEW40_Nss1,(MCS0)_4TX	10.78	0.01197	16.78	0.04764
802.11ax HEW80_Nss1,(MCS0)_4TX	9.71	0.00935	15.71	0.03724



Power Result- Non-Beamforming <Radio 2>

Appendix B.3

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	-	-	-	-	-	-	-	-	-	-
5500MHz_TnomVnom	Pass	6.00	12.29	12.33	12.03	12.60	18.34	24.00	24.34	30.00
5580MHz_TnomVnom	Pass	6.00	12.08	12.48	12.46	12.42	18.38	24.00	24.38	30.00
5700MHz_TnomVnom	Pass	6.00	11.72	11.82	12.12	12.98	18.21	24.00	24.21	30.00
5720MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	10.70	10.56	10.76	11.98	17.06	22.93	23.06	28.93
5720MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	4.42	4.17	4.66	5.79	10.83	30.00	16.83	36.00
802.11ac VHT20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5500MHz_TnomVnom	Pass	6.00	11.88	12.29	11.53	12.34	18.04	24.00	24.04	30.00
5580MHz_TnomVnom	Pass	6.00	11.59	12.11	12.16	12.02	18.00	24.00	24.00	30.00
5700MHz_TnomVnom	Pass	6.00	11.90	11.72	12.14	12.99	18.24	24.00	24.24	30.00
5720MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	10.56	10.44	10.52	11.76	16.88	22.99	22.88	28.99
5720MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	4.72	4.51	4.68	5.90	11.01	30.00	17.01	36.00
802.11ac VHT40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5510MHz_TnomVnom	Pass	6.00	14.86	14.89	14.35	15.55	20.95	24.00	26.95	30.00
5550MHz_TnomVnom	Pass	6.00	14.98	15.24	14.89	15.79	21.26	24.00	27.26	30.00
5670MHz_TnomVnom	Pass	6.00	14.69	14.82	15.49	15.53	21.17	24.00	27.17	30.00
5710MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	14.20	14.10	14.63	15.49	20.66	24.00	26.66	30.00
5710MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	3.51	3.50	3.89	4.88	10.00	30.00	16.00	36.00
802.11ac VHT80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5530MHz_TnomVnom	Pass	6.00	13.91	14.12	13.25	14.33	19.94	24.00	25.94	30.00
5610MHz_TnomVnom	Pass	6.00	16.51	17.66	17.60	16.82	23.20	24.00	29.20	30.00
5690MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	16.72	17.44	17.11	17.16	23.14	24.00	29.14	30.00
5690MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	1.39	3.21	2.52	2.88	8.57	30.00	14.57	36.00
802.11ac VHT160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5570MHz_TnomVnom	Pass	6.00	13.72	14.26	13.99	14.45	20.13	24.00	26.13	30.00
802.11ax HEW20_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5500MHz_TnomVnom	Pass	6.00	12.49	12.71	12.14	12.85	18.58	24.00	24.58	30.00
5580MHz_TnomVnom	Pass	6.00	12.02	12.46	12.41	12.58	18.39	24.00	24.39	30.00
5700MHz_TnomVnom	Pass	6.00	12.32	12.22	12.63	13.59	18.75	24.00	24.75	30.00
5720MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	10.91	10.64	11.04	12.17	17.25	22.95	23.25	28.95
5720MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	5.45	5.16	5.52	6.70	11.77	30.00	17.77	36.00
802.11ax HEW40_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5510MHz_TnomVnom	Pass	6.00	14.81	14.91	14.51	15.86	21.07	24.00	27.07	30.00
5550MHz_TnomVnom	Pass	6.00	15.10	15.25	15.12	15.94	21.39	24.00	27.39	30.00
5670MHz_TnomVnom	Pass	6.00	14.79	14.92	15.80	15.72	21.35	24.00	27.35	30.00
5710MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	14.16	14.34	14.81	15.53	20.76	24.00	26.76	30.00
5710MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	4.29	4.20	4.71	5.68	10.78	30.00	16.78	36.00

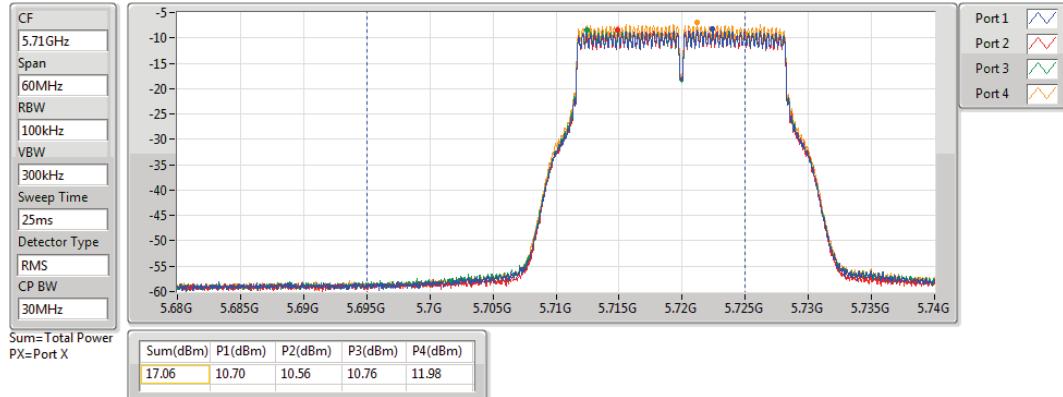
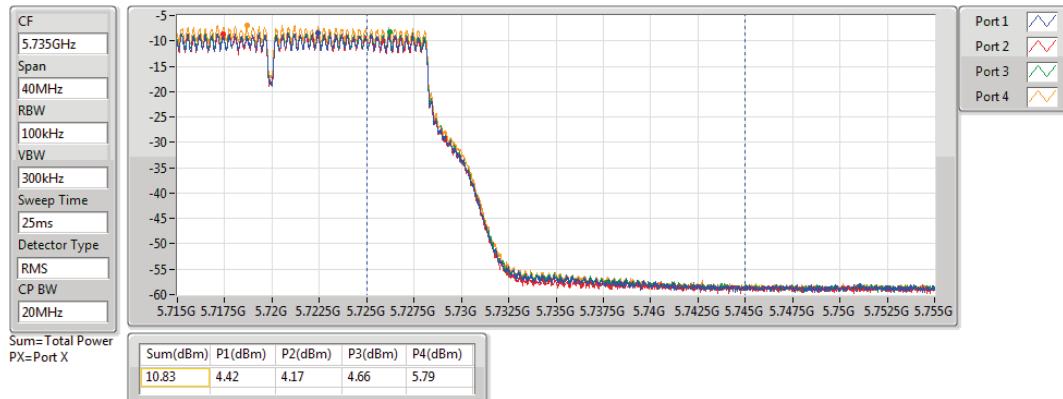
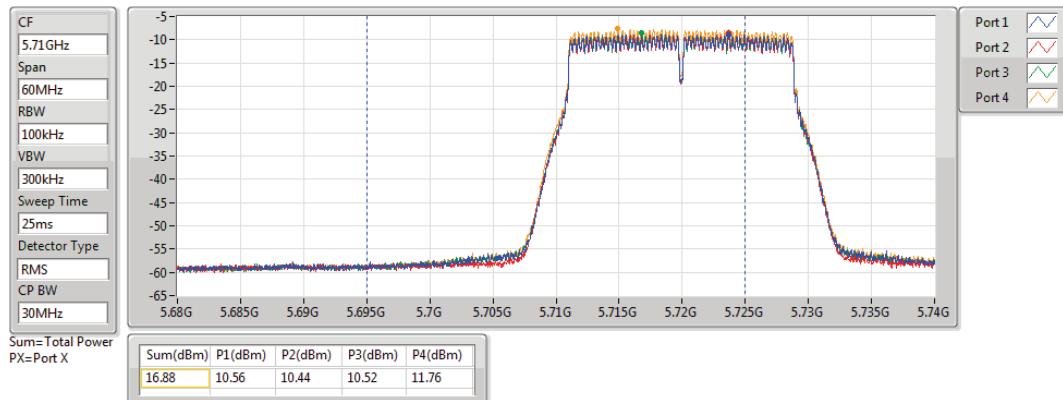


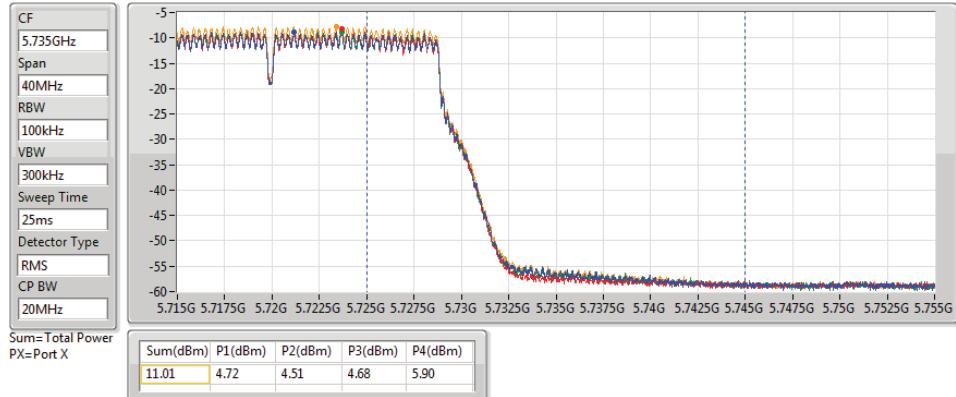
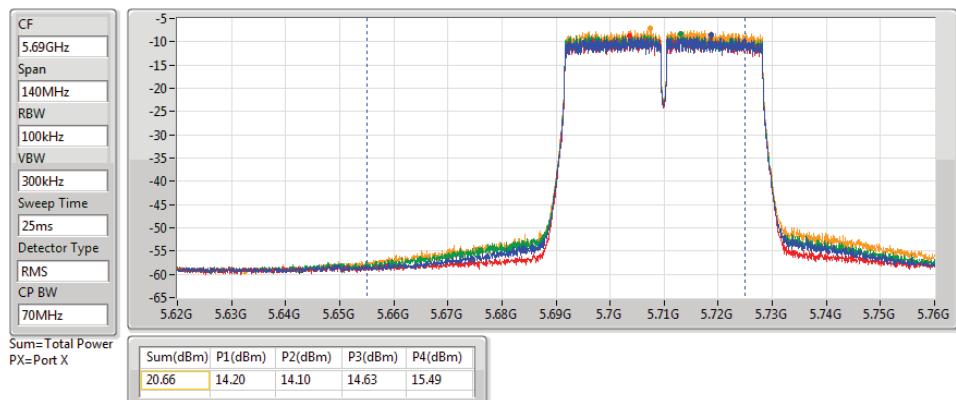
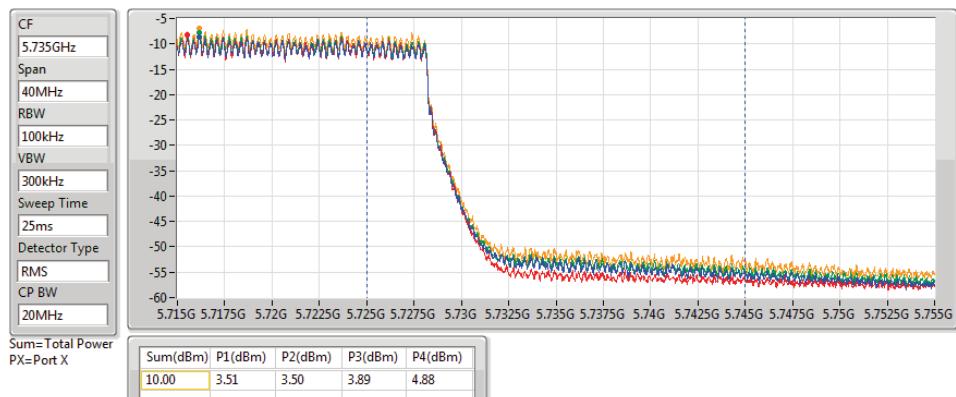
Power Result- Non-Beamforming <Radio 2>

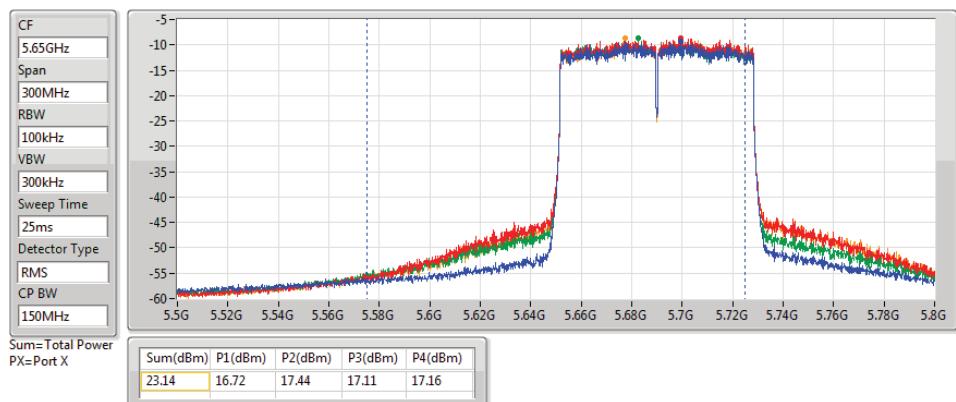
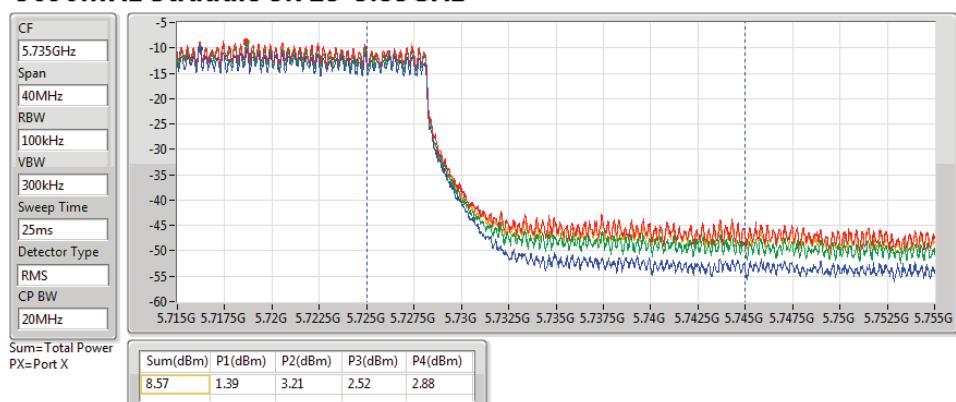
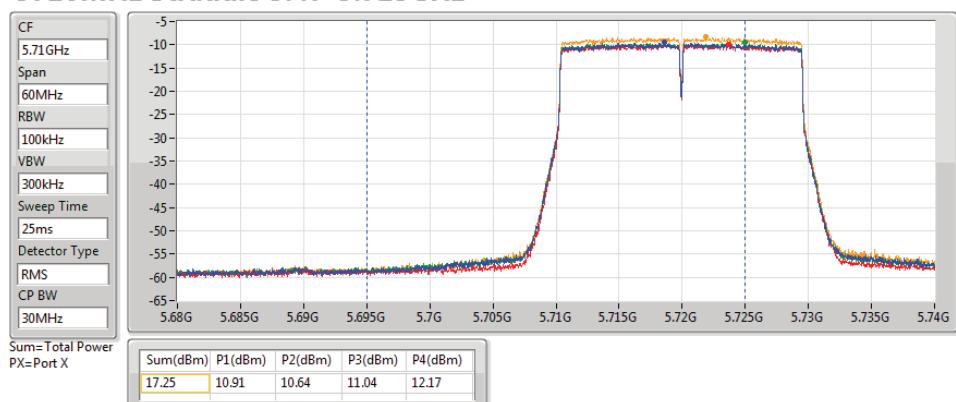
Appendix B.3

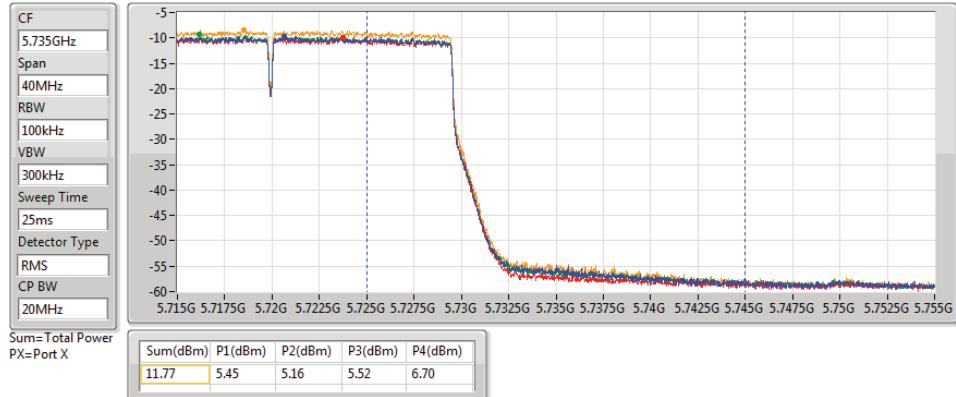
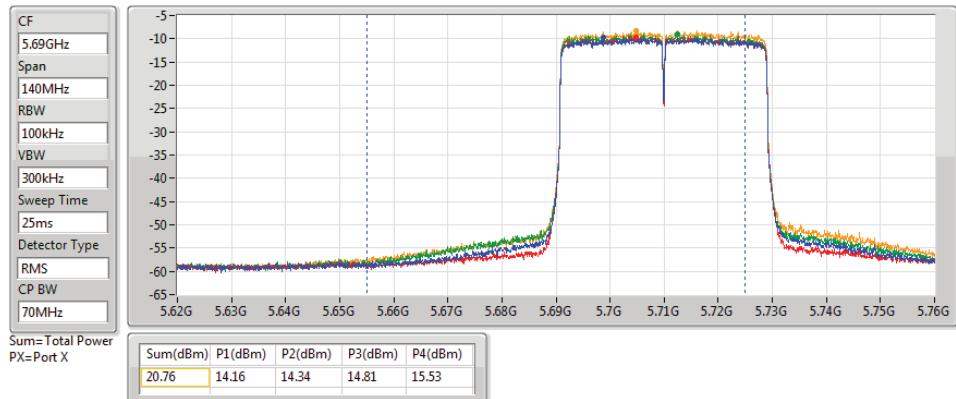
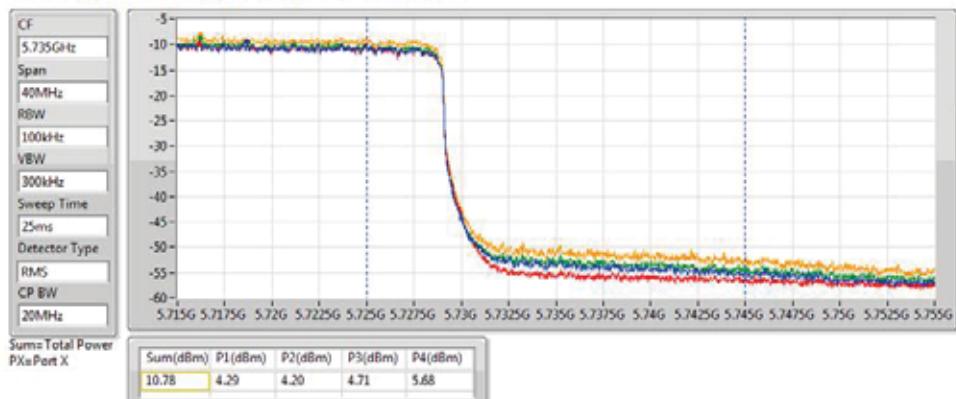
Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ax HEW80_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5530MHz_TnomVnom	Pass	6.00	14.11	14.44	13.85	14.75	20.32	24.00	26.32	30.00
5610MHz_TnomVnom	Pass	6.00	16.66	17.83	17.85	17.14	23.42	24.00	29.42	30.00
5690MHz Straddle 5.47-5.725GHz_TnomVnom	Pass	6.00	16.89	17.90	17.44	17.42	23.45	24.00	29.45	30.00
5690MHz Straddle 5.725-5.85GHz_TnomVnom	Pass	6.00	3.16	4.30	3.28	3.92	9.71	30.00	15.71	36.00
802.11ax HEW160_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5570MHz_TnomVnom	Pass	6.00	14.15	14.71	14.09	14.68	20.44	24.00	26.44	30.00

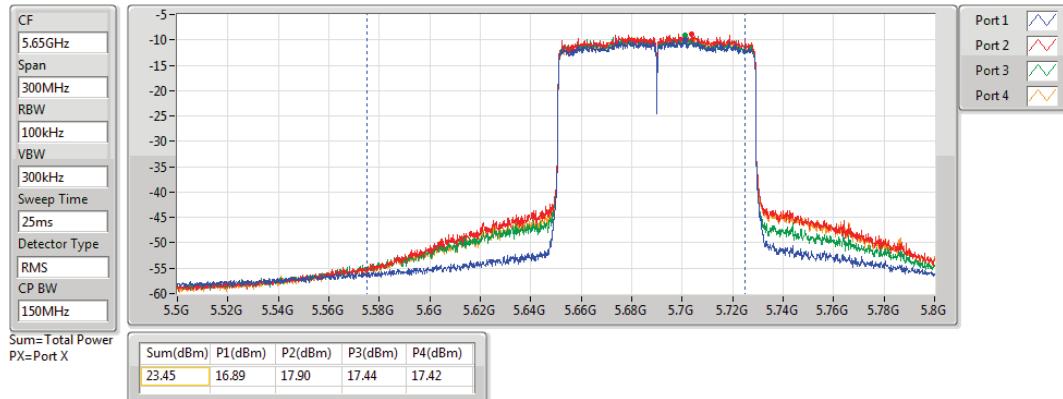
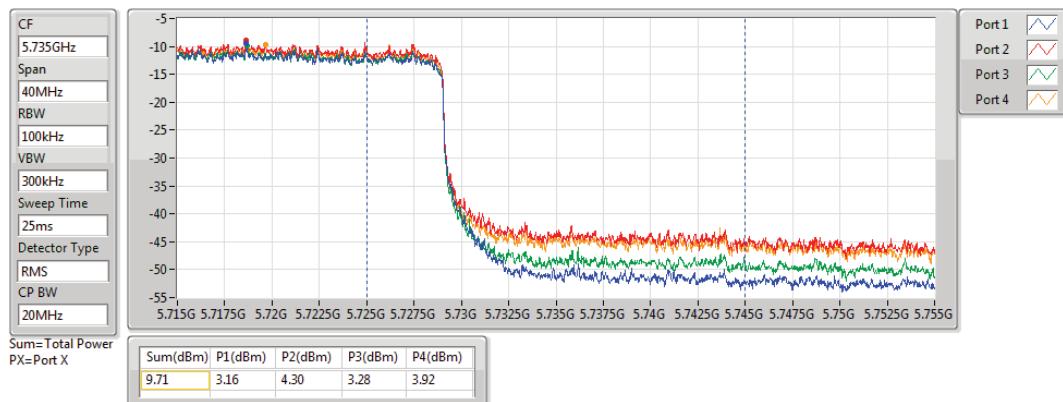
DG = Directional Gain;**Port X** = Port X output power

**802.11a_Nss1,(6Mbps)_4TX****5720MHz Straddle 5.47-5.725GHz****802.11a_Nss1,(6Mbps)_4TX****5720MHz Straddle 5.725-5.85GHz****802.11ac VHT20_Nss1,(MCS0)_4TX****5720MHz Straddle 5.47-5.725GHz**

**802.11ac VHT20_Nss1,(MCS0)_4TX****5720MHz Straddle 5.725-5.85GHz****AV Power****802.11ac VHT40_Nss1,(MCS0)_4TX****5710MHz Straddle 5.47-5.725GHz****AV Power****802.11ac VHT40_Nss1,(MCS0)_4TX****5710MHz Straddle 5.725-5.85GHz****AV Power**

**802.11ac VHT80_Nss1,(MCS0)_4TX****5690MHz Straddle 5.47-5.725GHz****AV Power****802.11ac VHT80_Nss1,(MCS0)_4TX****5690MHz Straddle 5.725-5.85GHz****AV Power****802.11ax HEW20_Nss1,(MCS0)_4TX****5720MHz Straddle 5.47-5.725GHz****AV Power**

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

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

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

AV Power

**802.11ax HEW80_Nss1,(MCS0)_4TX****5690MHz Straddle 5.47-5.725GHz****AV Power****802.11ax HEW80_Nss1,(MCS0)_4TX****5690MHz Straddle 5.725-5.85GHz****AV Power**



Summary

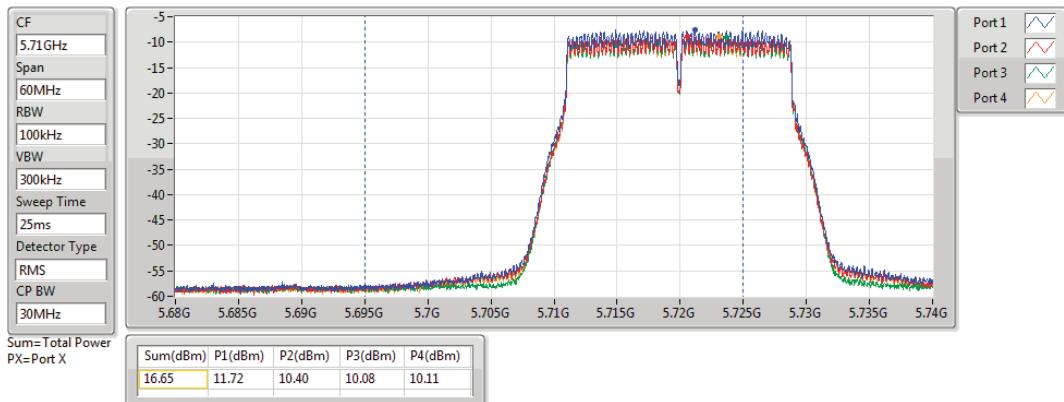
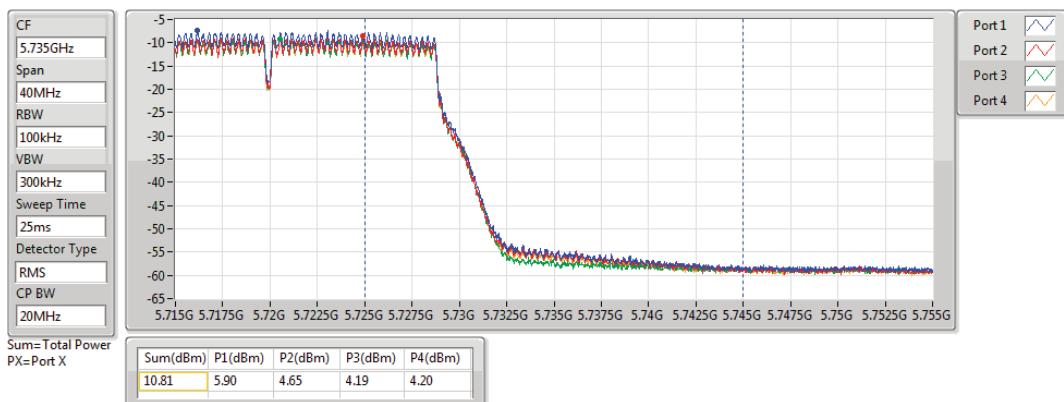
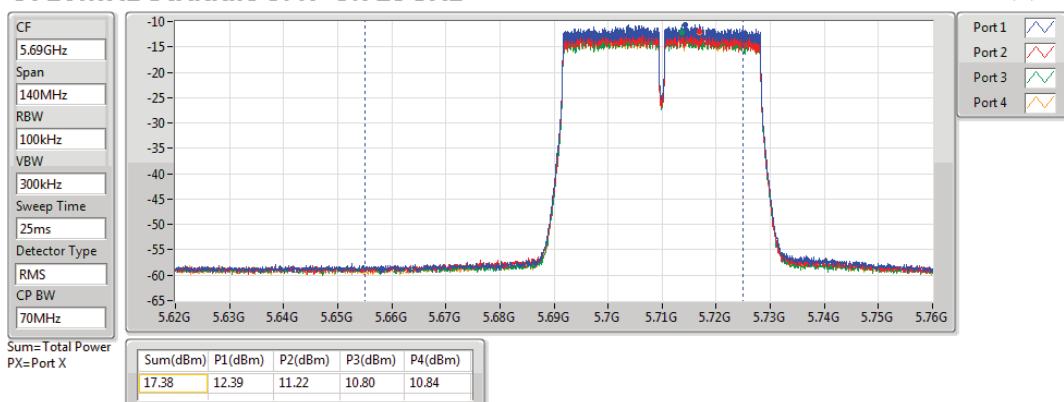
Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.47-5.725GHz	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	17.38	0.05470	29.40	0.87096
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	17.43	0.05534	29.45	0.88105
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	17.27	0.05333	29.29	0.84918
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	16.96	0.04966	28.98	0.79068
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	17.45	0.05559	29.47	0.88512
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	17.47	0.05585	29.49	0.88920
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	17.46	0.05572	29.48	0.88716
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	17.36	0.05445	29.38	0.86696
5.725-5.85GHz	-	-	-	-
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	10.81	0.01205	22.83	0.19187
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	6.79	0.00478	18.81	0.07603
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	3.00	0.00200	15.02	0.03177
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	11.38	0.01374	23.40	0.21878
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	7.32	0.00540	19.34	0.08590
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	3.52	0.00225	15.54	0.03581

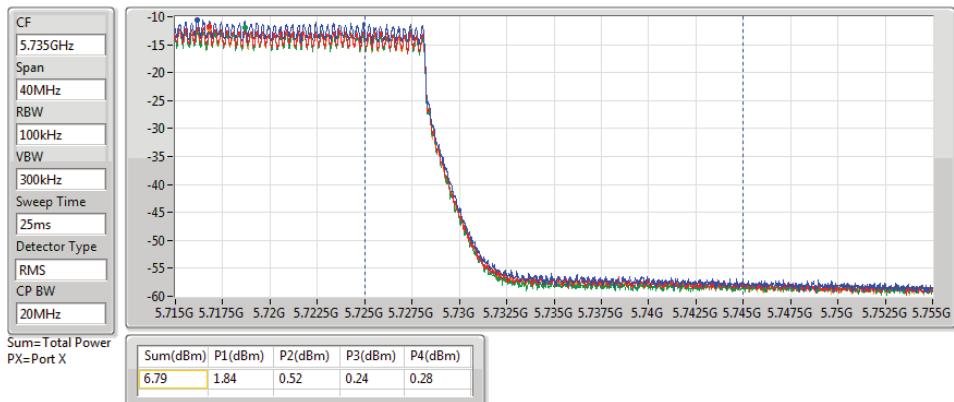
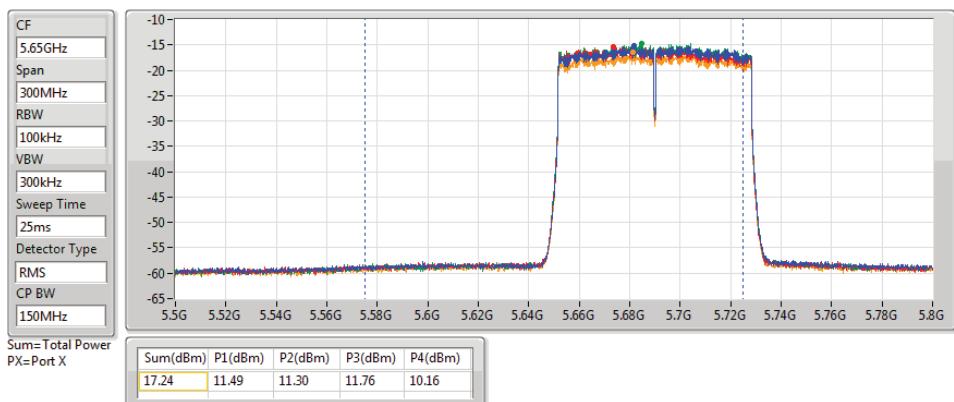
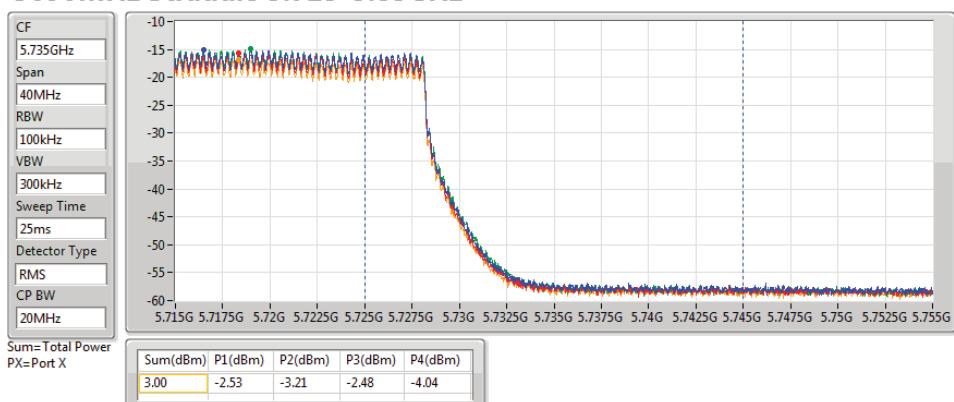


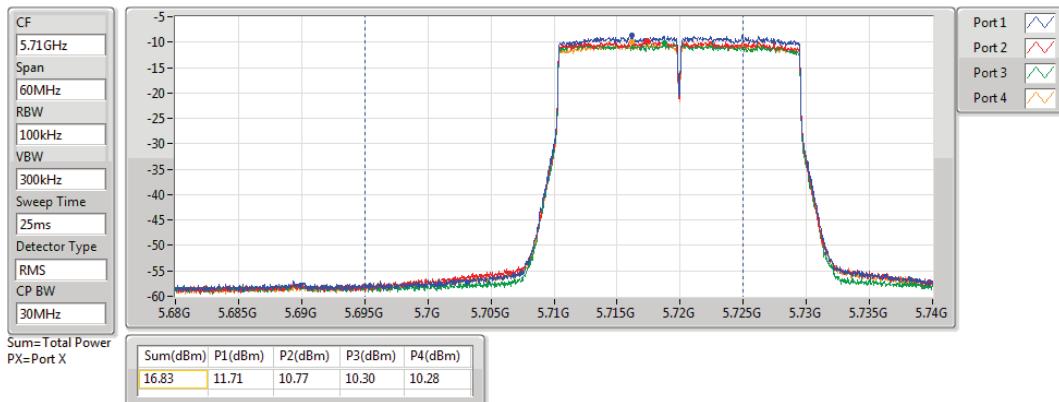
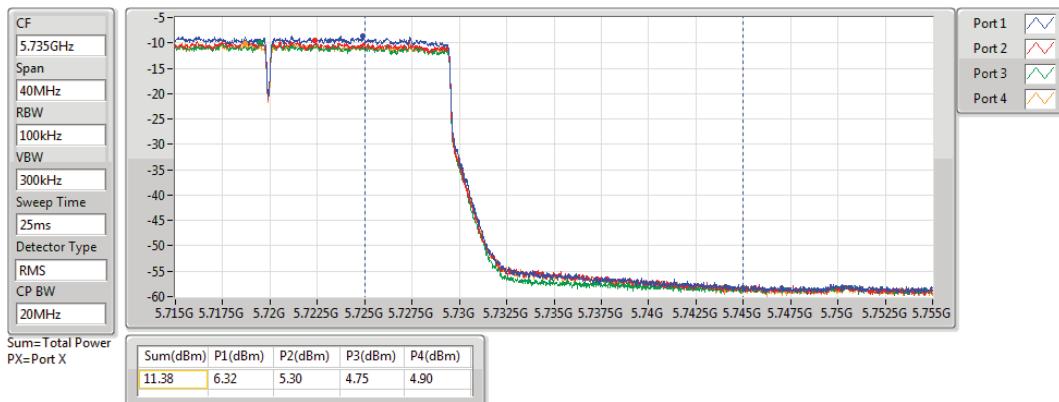
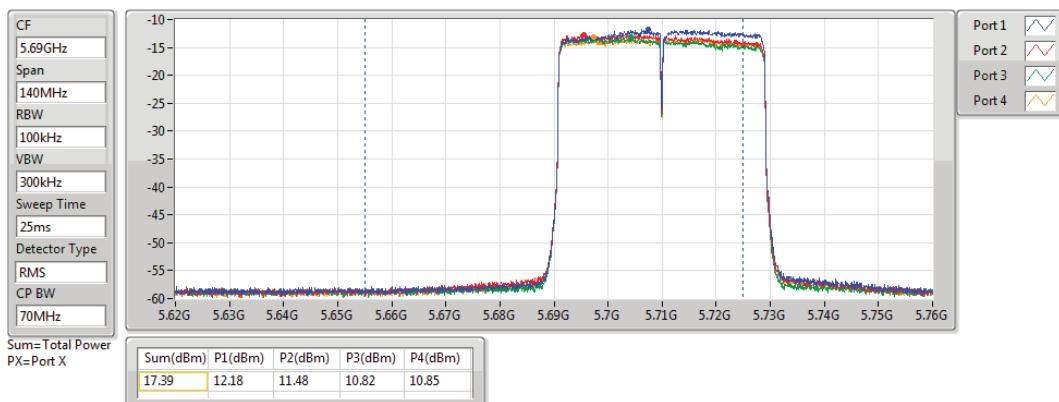
Result

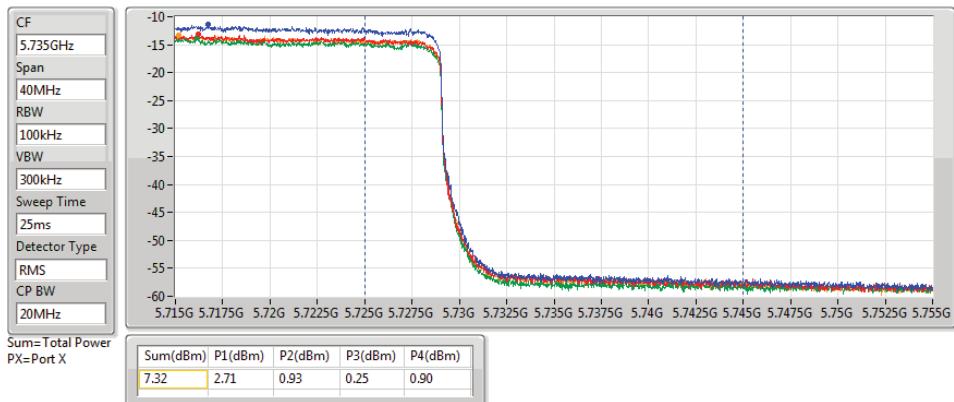
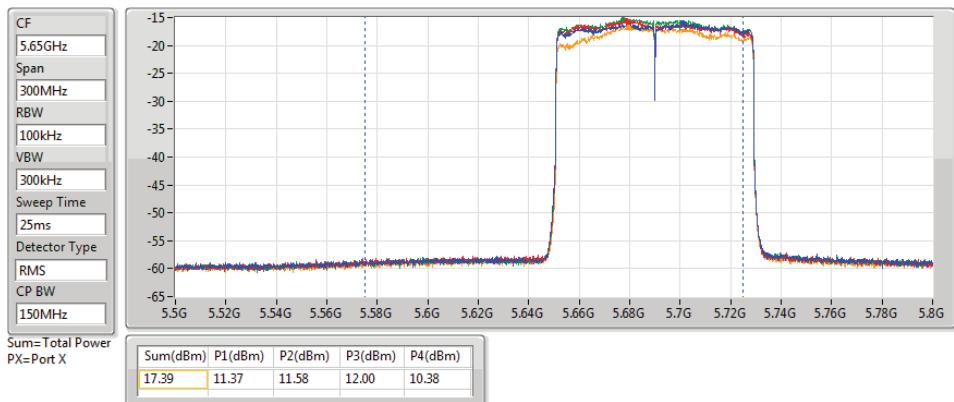
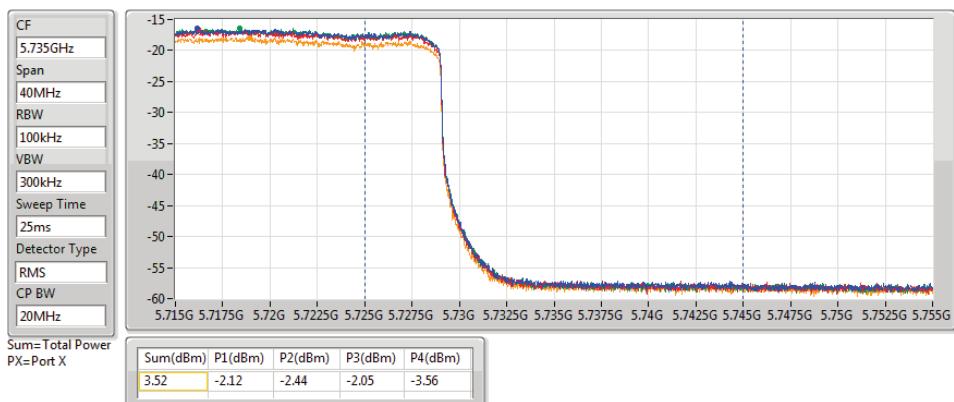
Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Port 3 (dBm)	Port 4 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ac VHT20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5500MHz	Pass	12.02	11.73	10.85	11.43	11.37	17.38	17.98	29.40	30.00
5580MHz	Pass	12.02	11.54	11.60	11.36	10.89	17.38	17.98	29.40	30.00
5700MHz	Pass	12.02	12.35	11.09	10.93	10.58	17.31	17.98	29.33	30.00
5720MHz Straddle 5.47-5.725GHz	Pass	12.02	11.72	10.40	10.08	10.11	16.65	16.96	28.67	28.98
5720MHz Straddle 5.725-5.85GHz	Pass	12.02	5.90	4.65	4.19	4.20	10.81	23.98	22.83	36.00
802.11ac VHT40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5510MHz	Pass	12.02	11.87	10.93	11.56	10.74	17.32	17.98	29.34	30.00
5550MHz	Pass	12.02	12.47	11.07	11.01	10.89	17.43	17.98	29.45	30.00
5670MHz	Pass	12.02	11.58	11.20	11.39	10.48	17.20	17.98	29.22	30.00
5710MHz Straddle 5.47-5.725GHz	Pass	12.02	12.39	11.22	10.80	10.84	17.38	17.98	29.40	30.00
5710MHz Straddle 5.725-5.85GHz	Pass	12.02	1.84	0.52	0.24	0.28	6.79	23.98	18.81	36.00
802.11ac VHT80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5530MHz	Pass	12.02	11.58	11.73	11.05	10.53	17.27	17.98	29.29	30.00
5610MHz	Pass	12.02	11.72	11.76	11.24	10.04	17.26	17.98	29.28	30.00
5690MHz Straddle 5.47-5.725GHz	Pass	12.02	11.49	11.30	11.76	10.16	17.24	17.98	29.26	30.00
5690MHz Straddle 5.725-5.85GHz	Pass	12.02	-2.53	-3.21	-2.48	-4.04	3.00	23.98	15.02	36.00
802.11ac VHT160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5570MHz	Pass	12.02	11.50	10.40	10.99	10.80	16.96	17.98	28.98	30.00
802.11ax HEW20-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5500MHz	Pass	12.02	11.92	11.05	11.44	10.92	17.37	17.98	29.39	30.00
5580MHz	Pass	12.02	11.51	11.62	11.72	10.52	17.39	17.98	29.41	30.00
5700MHz	Pass	12.02	12.34	11.10	11.09	11.06	17.45	17.98	29.47	30.00
5720MHz Straddle 5.47-5.725GHz	Pass	12.02	11.71	10.77	10.30	10.28	16.83	16.95	28.85	28.97
5720MHz Straddle 5.725-5.85GHz	Pass	12.02	6.32	5.30	4.75	4.90	11.38	23.98	23.40	36.00
802.11ax HEW40-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5510MHz	Pass	12.02	12.34	10.84	10.87	11.34	17.41	17.98	29.43	30.00
5550MHz	Pass	12.02	12.31	11.07	11.28	11.02	17.47	17.98	29.49	30.00
5670MHz	Pass	12.02	12.51	11.34	10.63	10.43	17.33	17.98	29.35	30.00
5710MHz Straddle 5.47-5.725GHz	Pass	12.02	12.18	11.48	10.82	10.85	17.39	17.98	29.41	30.00
5710MHz Straddle 5.725-5.85GHz	Pass	12.02	2.71	0.93	0.25	0.90	7.32	23.98	19.34	36.00
802.11ax HEW80-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5530MHz	Pass	12.02	11.89	10.56	11.62	11.56	17.46	17.98	29.48	30.00
5610MHz	Pass	12.02	10.82	12.36	11.87	9.43	17.28	17.98	29.30	30.00
5690MHz Straddle 5.47-5.725GHz	Pass	12.02	11.37	11.58	12.00	10.38	17.39	17.98	29.41	30.00
5690MHz Straddle 5.725-5.85GHz	Pass	12.02	-2.12	-2.44	-2.05	-3.56	3.52	23.98	15.54	36.00
802.11ax HEW160-BF_Nss1,(MCS0)_4TX	-	-	-	-	-	-	-	-	-	-
5570MHz	Pass	12.02	11.11	11.03	12.27	10.81	17.36	17.98	29.38	30.00

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

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

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

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


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

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

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


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

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

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


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

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

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


**Summary**

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11ac VHT160_Nss1,(MCS0)_4TX	-4.00	8.02
802.11ax HEW160_Nss1,(MCS0)_4TX	-3.92	8.10
5.25-5.35GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	4.92	16.94
802.11ac VHT20_Nss1,(MCS0)_4TX	4.97	16.99
802.11ac VHT40_Nss1,(MCS0)_4TX	4.80	16.82
802.11ac VHT80_Nss1,(MCS0)_4TX	0.08	12.10
802.11ac VHT160_Nss1,(MCS0)_4TX	-3.81	8.21
802.11ax HEW20_Nss1,(MCS0)_4TX	4.92	16.94
802.11ax HEW40_Nss1,(MCS0)_4TX	4.92	16.94
802.11ax HEW80_Nss1,(MCS0)_4TX	0.23	12.25
802.11ax HEW160_Nss1,(MCS0)_4TX	-3.65	8.37
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	4.97	16.99
802.11ac VHT20_Nss1,(MCS0)_4TX	4.78	16.80
802.11ac VHT40_Nss1,(MCS0)_4TX	4.77	16.79
802.11ac VHT80_Nss1,(MCS0)_4TX	4.30	16.32
802.11ac VHT160_Nss1,(MCS0)_4TX	-2.26	9.76
802.11ax HEW20_Nss1,(MCS0)_4TX	4.88	16.90
802.11ax HEW40_Nss1,(MCS0)_4TX	4.85	16.87
802.11ax HEW80_Nss1,(MCS0)_4TX	4.48	16.50
802.11ax HEW160_Nss1,(MCS0)_4TX	-2.28	9.74
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_4TX	2.97	14.99
802.11ac VHT20_Nss1,(MCS0)_4TX	2.91	14.93
802.11ac VHT40_Nss1,(MCS0)_4TX	2.47	14.49
802.11ac VHT80_Nss1,(MCS0)_4TX	1.49	13.51
802.11ax HEW20_Nss1,(MCS0)_4TX	2.86	14.88
802.11ax HEW40_Nss1,(MCS0)_4TX	2.72	14.74
802.11ax HEW80_Nss1,(MCS0)_4TX	1.46	13.48

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