



RADIO TEST REPORT

FCC ID : LDK-RUSS9105AXW
Equipment : Catalyst 9105AX 802.11ax Access Point
Brand Name : Cisco
Model Name : C9105AXW-B, C9105AXW-C, C9105AXW-D,
C9105AXW-F, C9105AXW-N, C9105AXW-S,
C9105AXW-K, C9105AXW-x
(Refer to section 1.1.5 for more details)
Applicant : Cisco Systems, Inc.
125 West Tasman Drive, San Jose, California,
United States, 95134-1706
Manufacturer : Cisco Systems, Inc.
125 West Tasman Drive, San Jose, California,
United States, 95134-1706
Standard : 47 CFR FCC Part 15.407

The product was received on Feb. 27, 2020, and testing was started from Mar. 05, 2020 and completed on Jul. 08, 2022. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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



Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory
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Photographs of EUT v01



History of this test report

Report No.	Version	Description	Issued Date
FR992017-11AB	01	Initial issue of report	Jul. 19, 2022



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.407(a)	Emission Bandwidth	PASS	-
3.3	15.407(a)	Maximum Output Power	PASS	-
3.4	15.407(a)	Power Spectral Density	PASS	-
3.5	15.407(b)	Unwanted Emissions	PASS	-

Note: Reference to Sporton Project No.: FR992017-02

Declaration of Conformity:

1. The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results.
2. The measurement uncertainty please refer to report "Measurement Uncertainty".

Comments and Explanations:

1. The test configuration, test mode and test software were written in this test report are declared by the manufacturer.
2. The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: **Sam Chen**

Report Producer: **Jessie Wei**



1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	a20, n (HT20), ac (VHT20), ax (HEW20)	5180-5240	36-48 [4]
5250-5350		5260-5320	52-64 [4]
5470-5725		5500-5720	100-144 [12]
5150-5250	a40,n (HT40), ac (VHT40), ax (HEW40)	5190-5230	38-46 [2]
5250-5350		5270-5310	54-62 [2]
5470-5725		5510-5710	102-142 [6]
5150-5250	a80, ac (VHT80), ax (HEW80)	5210	42 [1]
5250-5350		5290	58 [1]
5470-5725		5530-5690	106-138 [3]

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11a20	20	1TX, 2TX
5.15-5.25GHz	802.11a20-BF	20	2TX
5.15-5.25GHz	802.11n HT20	20	1TX, 2TX
5.15-5.25GHz	802.11n HT20-BF	20	2TX
5.15-5.25GHz	802.11ac VHT20	20	1TX, 2TX
5.15-5.25GHz	802.11ac VHT20-BF	20	2TX
5.15-5.25GHz	802.11ax HEW20	20	1TX, 2TX
5.15-5.25GHz	802.11ax HEW20-BF	20	2TX
5.15-5.25GHz	802.11a40	40	1TX, 2TX
5.15-5.25GHz	802.11a40-BF	40	2TX
5.15-5.25GHz	802.11n HT40	40	1TX, 2TX
5.15-5.25GHz	802.11n HT40-BF	40	2TX
5.15-5.25GHz	802.11ac VHT40	40	1TX, 2TX
5.15-5.25GHz	802.11ac VHT40-BF	40	2TX
5.15-5.25GHz	802.11ax HEW40	40	1TX, 2TX
5.15-5.25GHz	802.11ax HEW40-BF	40	2TX
5.15-5.25GHz	802.11a80	80	1TX, 2TX
5.15-5.25GHz	802.11a80-BF	80	2TX
5.15-5.25GHz	802.11n HT80	80	1TX, 2TX
5.15-5.25GHz	802.11n HT80-BF	80	2TX
5.15-5.25GHz	802.11ac VHT80	80	1TX, 2TX
5.15-5.25GHz	802.11ac VHT80-BF	80	2TX



Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11ax HEW80	80	1TX, 2TX
5.15-5.25GHz	802.11ax HEW80-BF	80	2TX
5.25-5.35GHz	802.11a20	20	1TX, 2TX
5.25-5.35GHz	802.11a20-BF	20	2TX
5.25-5.35GHz	802.11n HT20	20	1TX, 2TX
5.25-5.35GHz	802.11n HT20-BF	20	2TX
5.25-5.35GHz	802.11ac VHT20	20	1TX, 2TX
5.25-5.35GHz	802.11ac VHT20-BF	20	2TX
5.25-5.35GHz	802.11ax HEW20	20	1TX, 2TX
5.25-5.35GHz	802.11ax HEW20-BF	20	2TX
5.25-5.35GHz	802.11a40	40	1TX, 2TX
5.25-5.35GHz	802.11a40-BF	40	2TX
5.25-5.35GHz	802.11n HT40	40	1TX, 2TX
5.25-5.35GHz	802.11n HT40-BF	40	2TX
5.25-5.35GHz	802.11ac VHT40	40	1TX, 2TX
5.25-5.35GHz	802.11ac VHT40-BF	40	2TX
5.25-5.35GHz	802.11ax HEW40	40	1TX, 2TX
5.25-5.35GHz	802.11ax HEW40-BF	40	2TX
5.25-5.35GHz	802.11a80	80	1TX, 2TX
5.25-5.35GHz	802.11a80-BF	80	2TX
5.25-5.35GHz	802.11n HT80	80	1TX, 2TX
5.25-5.35GHz	802.11n HT80-BF	80	2TX
5.25-5.35GHz	802.11ac VHT80	80	1TX, 2TX
5.25-5.35GHz	802.11ac VHT80-BF	80	2TX
5.25-5.35GHz	802.11ax HEW80	80	1TX, 2TX
5.25-5.35GHz	802.11ax HEW80-BF	80	2TX
5.47-5.725GHz	802.11a20	20	1TX, 2TX
5.47-5.725GHz	802.11a20-BF	20	2TX
5.47-5.725GHz	802.11n HT20	20	1TX, 2TX
5.47-5.725GHz	802.11n HT20-BF	20	2TX
5.47-5.725GHz	802.11ac VHT20	20	1TX, 2TX
5.47-5.725GHz	802.11ac VHT20-BF	20	2TX
5.47-5.725GHz	802.11ax HEW20	20	1TX, 2TX
5.47-5.725GHz	802.11ax HEW20-BF	20	2TX
5.47-5.725GHz	802.11a40	40	1TX, 2TX
5.47-5.725GHz	802.11a40-BF	40	2TX
5.47-5.725GHz	802.11n HT40	40	1TX, 2TX
5.47-5.725GHz	802.11n HT40-BF	40	2TX
5.47-5.725GHz	802.11ac VHT40	40	1TX, 2TX
5.47-5.725GHz	802.11ac VHT40-BF	40	2TX



Band	Mode	BWch (MHz)	Nant
5.47-5.725GHz	802.11ax HEW40	40	1TX, 2TX
5.47-5.725GHz	802.11ax HEW40-BF	40	2TX
5.47-5.725GHz	802.11a80	80	1TX, 2TX
5.47-5.725GHz	802.11a80-BF	80	2TX
5.47-5.725GHz	802.11n HT80	80	1TX, 2TX
5.47-5.725GHz	802.11n HT80-BF	80	2TX
5.47-5.725GHz	802.11ac VHT80	80	1TX, 2TX
5.47-5.725GHz	802.11ac VHT80-BF	80	2TX
5.47-5.725GHz	802.11ax HEW80	80	1TX, 2TX
5.47-5.725GHz	802.11ax HEW80-BF	80	2TX

Note:

- ♦ 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40, VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ HEW20, HEW40, HEW80 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- ♦ BWch is the nominal channel bandwidth.



1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	PEGATRON	WIFI_1 ant	PIFA	I-PEX	Note 1
2	2	PEGATRON	WIFI_2 ant	PIFA	I-PEX	
3	1	PEGATRON	BLE ant	PIFA	I-PEX	

Note 1:

Ant.	Port	WLAN 2.4GHz Gain (dBi)							
		2400 MHz	2412 MHz	2437 MHz	2442 MHz	2450 MHz	2462 MHz	2472 MHz	2500 MHz
1	1	2.02	1.81	2.25	2.37	2.51	2.48	2.20	2.14
2	2	1.55	1.63	2.10	2.23	2.20	2.07	1.75	1.99

Ant.	Port	WLAN 5GHz Gain (dBi)							
		5150 MHz	5250 MHz	5350 MHz	5470 MHz	5500 MHz	5600 MHz	5725 MHz	5850 MHz
1	1	4.91	4.97	4.88	4.93	4.82	4.73	4.78	4.93
2	2	4.58	4.76	4.60	4.41	4.35	4.25	4.40	4.56

Ant.	Port	BT Gain (dBi)							
		2400 MHz	2412 MHz	2437 MHz	2442 MHz	2450 MHz	2462 MHz	2472 MHz	2500 MHz
3	1	2.47	2.45	2.55	2.70	2.69	2.64	2.58	2.62

Note 2: The above information was declared by manufacturer.

Note 3: Directional gain information

Type	Maximum Output Power	Power Spectral Density
Non-BF	Directional gain = Max gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4	$Directional\ iGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$
BF		$Directional\ iGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$

Ex.

Directional Gain (NSS1) formula :

$$Directional\ iGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{ANT}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right]$$

$$NSS1(g1,1) = 10^{G1/20} ; NSS1(g1,2) = 10^{G2/20} ;$$

$$g_{j,k} = (NSS1(g1,1) + NSS1(g1,2))$$

$$DG = 10 \log \left[\frac{NSS1(g1,1) + NSS1(g1,2)}{N_{ANT}} \right] \Rightarrow 10 \log \left[\frac{(10^{G1/20} + 10^{G2/20})^2}{N_{ANT}} \right]$$

Where ;

$$G1 = 10 ; G2 = 10 ; G3 = 10 ; G4 = 10 ;$$



2.4G

2412MHz G1 = 1.81dBi ; G2 = 1.63dBi ;2T1S DG=4.73 dBi 2T2S DG=1.72 dBi
2437MHz G1 = 2.25dBi ; G2 = 2.1dBi ;2T1S DG=5.19 dBi 2T2S DG=2.18 dBi
2462MHz G1 = 2.48dBi ; G2 = 2.07dBi ;2T1S DG=5.29 dBi 2T2S DG=2.28 dBi

5G

5180MHz G1 = 4.91dBi ; G2 = 4.58dBi ;2T1S DG=7.76 dBi 2T2S DG=4.75 dBi
5200MHz G1 = 4.97dBi ; G2 = 4.76dBi ;2T1S DG=7.88 dBi 2T2S DG=4.87 dBi
5240MHz G1 = 4.97dBi ; G2 = 4.76dBi ;2T1S DG=7.88 dBi 2T2S DG=4.87 dBi
5260MHz G1 = 4.97dBi ; G2 = 4.76dBi ;2T1S DG=7.88 dBi 2T2S DG=4.87 dBi
5300MHz G1 = 4.97dBi ; G2 = 4.76dBi ;2T1S DG=7.88 dBi 2T2S DG=4.87 dBi
5320MHz G1 = 4.88dBi ; G2 = 4.6dBi ;2T1S DG=7.75 dBi 2T2S DG=4.74 dBi
5500MHz G1 = 4.82dBi ; G2 = 4.35dBi ;2T1S DG=7.6 dBi 2T2S DG=4.59 dBi
5580MHz G1 = 4.73dBi ; G2 = 4.25dBi ;2T1S DG=7.5 dBi 2T2S DG=4.5 dBi
5700MHz G1 = 4.78dBi ; G2 = 4.4dBi ;2T1S DG=7.6 dBi 2T2S DG=4.59 dBi
5720MHz G1 = 4.78dBi ; G2 = 4.4dBi ;2T1S DG=7.6 dBi 2T2S DG=4.59 dBi
5745MHz G1 = 4.78dBi ; G2 = 4.56dBi ;2T1S DG=7.6 dBi 2T2S DG=4.67 dBi
5785MHz G1 = 4.78dBi ; G2 = 4.56dBi ;2T1S DG=7.6 dBi 2T2S DG=4.67 dBi
5825MHz G1 = 4.93dBi ; G2 = 4.56dBi ;2T1S DG=7.76 dBi 2T2S DG=4.75 dBi
5190MHz G1 = 4.91dBi ; G2 = 4.58dBi ;2T1S DG=7.76 dBi 2T2S DG=4.75 dBi
5230MHz G1 = 4.97dBi ; G2 = 4.76dBi ;2T1S DG=7.88 dBi 2T2S DG=4.87 dBi
5270MHz G1 = 4.97dBi ; G2 = 4.76dBi ;2T1S DG=7.88 dBi 2T2S DG=4.87 dBi
5310MHz G1 = 4.88dBi ; G2 = 4.6dBi ;2T1S DG=7.75 dBi 2T2S DG=4.74 dBi
5510MHz G1 = 4.82dBi ; G2 = 4.35dBi ;2T1S DG=7.6 dBi 2T2S DG=4.59 dBi
5550MHz G1 = 4.82dBi ; G2 = 4.35dBi ;2T1S DG=7.6 dBi 2T2S DG=4.59 dBi
5670MHz G1 = 4.78dBi ; G2 = 4.4dBi ;2T1S DG=7.6 dBi 2T2S DG=4.59 dBi
5710MHz G1 = 4.78dBi ; G2 = 4.4dBi ;2T1S DG=7.6 dBi 2T2S DG=4.59 dBi
5755MHz G1 = 4.78dBi ; G2 = 4.4dBi ;2T1S DG=7.6 dBi 2T2S DG=4.59 dBi
5795MHz G1 = 4.93dBi ; G2 = 4.56dBi ;2T1S DG=7.76 dBi 2T2S DG=4.75 dBi
5210MHz G1 = 4.97dBi ; G2 = 4.76dBi ;2T1S DG=7.88 dBi 2T2S DG=4.87 dBi
5290MHz G1 = 4.97dBi ; G2 = 4.76dBi ;2T1S DG=7.88 dBi 2T2S DG=4.87 dBi
5530MHz G1 = 4.82dBi ; G2 = 4.35dBi ;2T1S DG=7.6 dBi 2T2S DG=4.59 dBi
5610MHz G1 = 4.73dBi ; G2 = 4.25dBi ;2T1S DG=7.5 dBi 2T2S DG=4.5 dBi
5690MHz G1 = 4.78dBi ; G2 = 4.4dBi ;2T1S DG=7.6 dBi 2T2S DG=4.59 dBi
5775MHz G1 = 4.78dBi ; G2 = 4.4dBi ;2T1S DG=7.6 dBi 2T2S DG=4.59 dBi

Note 4:

For 2.4GHz function:

For IEEE 802.11 b/g/n/ax (1TX/1RX):

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

For IEEE 802.11 b/g/n/ax (2TX/2RX):

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11a/n/ac/ax (1TX/1RX):

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

For IEEE 802.11a/n/ac/ax (2TX/2RX):

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

For Bluetooth function:

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

**1.1.3 Mode Test Duty Cycle**

<2T1S>

Non-beamforming mode

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
11a20_Nss1,(6Mbps)_2TX	0.99	0.04	2.384m	10
11a40_Nss1,(6Mbps)_2TX	0.99	0.04	2.384m	10
11a80_Nss1,(6Mbps)_2TX	0.99	0.04	2.384m	10
802.11ac VHT20_Nss1,(MCS0)_2TX	0.987	0.06	2.224m	10
802.11ac VHT40_Nss1,(MCS0)_2TX	0.979	0.09	1.093m	1k
802.11ac VHT80_Nss1,(MCS0)_2TX	0.954	0.2	528.438u	3k
802.11ax HEW20_Nss1,(MCS0)_2TX	0.984	0.07	1.711m	10
802.11ax HEW40_Nss1,(MCS0)_2TX	0.974	0.11	885u	3k
802.11ax HEW80_Nss1,(MCS0)_2TX	0.945	0.25	453.75u	3k

beamforming mode

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
11a20-BF_Nss1,(6Mbps)_2TX	0.99	0.04	2.384m	10
11a40-BF_Nss1,(6Mbps)_2TX	0.99	0.04	2.384m	10
11a80-BF_Nss1,(6Mbps)_2TX	0.99	0.04	2.384m	10
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	0.987	0.06	2.224m	10
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	0.977	0.1	1.093m	1k
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	0.954	0.2	528.438u	3k
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	0.984	0.07	1.711m	10
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	0.974	0.11	885u	3k
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	0.945	0.25	453.75u	3k

<2T2S>

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ac VHT20_Nss2,(MCS0)_2TX	0.977	0.1	1.136m	1k
802.11ac VHT40_Nss2,(MCS0)_2TX	0.959	0.18	572.5u	3k
802.11ac VHT80_Nss2,(MCS0)_2TX	0.918	0.37	288.438u	10k
802.11ax HEW20_Nss2,(MCS0)_2TX	0.974	0.11	892.188u	3k
802.11ax HEW40_Nss2,(MCS0)_2TX	0.951	0.22	480.313u	3k
802.11ax HEW80_Nss2,(MCS0)_2TX	0.91	0.41	262.813u	10k

Note:

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



1.1.4 EUT Operational Condition

EUT Power Type	From PoE			
Beamforming Function	<input checked="" type="checkbox"/>	With beamforming	<input type="checkbox"/>	Without beamforming
	The product has beamforming function for n/ax in 2.4GHz and a/n/ac/ax in 5GHz.			
Weather Band	<input checked="" type="checkbox"/>	With 5600~5650MHz	<input type="checkbox"/>	Without 5600~5650MHz
Function	<input type="checkbox"/>	Outdoor P2M	<input checked="" type="checkbox"/>	Indoor P2M
	<input type="checkbox"/>	Fixed P2P	<input type="checkbox"/>	Client
	<input checked="" type="checkbox"/>	Point-to-multipoint	<input type="checkbox"/>	Point-to-point
TPC Function	<input checked="" type="checkbox"/>	With TPC	<input type="checkbox"/>	Without TPC
Test Software Version	17.18.2 (r782430 WLTEST) · TeraTerm V4.75			

Note: The above information was declared by manufacturer.

1.1.5 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

Model Name	Description
C9105AXW-B	All the models are identical, the difference model for difference marketing strategy.
C9105AXW-C	
C9105AXW-D	
C9105AXW-F	
C9105AXW-N	
C9105AXW-S	
C9105AXW-K	
C9105AXW-x	
(x can be A-Z, regional country code)	

Note 1: From the above models, model: C9105AXW-B was selected as representative model for the test and its data was recorded in this report.

Note 2: The above information was declared by manufacturer.



1.2 Applicable Standards

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

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

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

- ◆ FCC KDB 662911 D01 v02r01
- ◆ FCC KDB 412172 D01 v01r01
- ◆ FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted (other test items)	TH01-CB	Owen Hsu	20.5~22 / 49~53	Mar. 05, 2020~ Mar. 27, 2020
RF Conducted (2T1S-802.11ax-5200/5300& 2T2S-802.11ax-5500MHz)	TH03-CB	Owen Hsu	20.6~21.8 / 62~67	Jun. 22, 2022~ Jun. 28, 2022
Radiated (Cabinet-Above 1GHz)	03CH02-CB	Chris Li	23.8~24.9 / 55~58	Jun. 22, 2~ Jul. 08, 2022
Radiated (Below 1GHz)	03CH05-CB	Chris Li	24.4~25.5 / 55~58	Jun. 22, 2022~ Jul. 08, 2022
Radiated (Radiated Emission Co-location)	03CH05-CB	Stim Sun	21.3~23.2 / 55~58	May 20, 2020
AC Conduction (Mode 1~2)	CO01-CB	GN Hou	23~24 / 63~65	May 11, 2020
AC Conduction (Mode 3)	CO01-CB	Dean Chang	22~23 / 53~54	Jul. 07, 2022

Note: The tested sample of the test item (Radiated below 1GHz, Radiated Cabinet above 1GHz, AC power-line conducted emissions-Mode 3, Unwanted Emissions (Above 1GHz)-Bandedge/Harmonic-2T1S-802.11ax-5200/5300MHz&2T2S-802.11ax-5500MHz) was received on Jun. 13, 2022.



1.4 Measurement Uncertainty

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

For AC Conduction(Mode 1~2), RF Conducted(other test items), Radiated(Radiated Emission Co-location)

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	2.0 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	5.1 dB	Confidence levels of 95%
Conducted Emission	2.4 dB	Confidence levels of 95%
Output Power Measurement	1.5 dB	Confidence levels of 95%
Power Density Measurement	2.4 dB	Confidence levels of 95%
Bandwidth Measurement	2%	Confidence levels of 95%

For others test:

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	5.2 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.7 dB	Confidence levels of 95%
Conducted Emission	3.2 dB	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

<2T1S>

Non-beamforming mode

Mode	Power Setting
11a20_Nss1,(6Mbps)_2TX	-
5180MHz	17
5200MHz	17
5240MHz	17
5260MHz	17
5300MHz	17
5320MHz	17
5500MHz	16
5580MHz	17
5700MHz	16
5720MHz Straddle 5.47-5.725GHz	17
5720MHz Straddle 5.725-5.85GHz	17
11a40_Nss1,(6Mbps)_2TX	-
5190MHz	13
5230MHz	17
5270MHz	17
5310MHz	15
5510MHz	15
5550MHz	17
5670MHz	17
5710MHz Straddle 5.47-5.725GHz	17
5710MHz Straddle 5.725-5.85GHz	17
11a80_Nss1,(6Mbps)_2TX	-
5210MHz	14
5290MHz	14
5530MHz	14
5610MHz	17
5690MHz Straddle 5.47-5.725GHz	17
5690MHz Straddle 5.725-5.85GHz	17
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5180MHz	16
5200MHz	17
5240MHz	17



Mode	Power Setting
5260MHz	17
5300MHz	17
5320MHz	16
5500MHz	16
5580MHz	17
5700MHz	15
5720MHz Straddle 5.47-5.725GHz	17
5720MHz Straddle 5.725-5.85GHz	17
802.11ac VHT40_Nss1,(MCS0)_2TX	-
5190MHz	13
5230MHz	17
5270MHz	17
5310MHz	14
5510MHz	15
5550MHz	17
5670MHz	16
5710MHz Straddle 5.47-5.725GHz	17
5710MHz Straddle 5.725-5.85GHz	17
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5210MHz	13
5290MHz	14
5530MHz	16
5610MHz	17
5690MHz Straddle 5.47-5.725GHz	17
5690MHz Straddle 5.725-5.85GHz	17
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5180MHz	16
5200MHz	17
5240MHz	17
5260MHz	17
5300MHz	17
5320MHz	16
5500MHz	16
5580MHz	17
5700MHz	15
5720MHz Straddle 5.47-5.725GHz	17
5720MHz Straddle 5.725-5.85GHz	17
802.11ax HEW40_Nss1,(MCS0)_2TX	-
5190MHz	13
5230MHz	17



Mode	Power Setting
5270MHz	17
5310MHz	14
5510MHz	15
5550MHz	17
5670MHz	16
5710MHz Straddle 5.47-5.725GHz	17
5710MHz Straddle 5.725-5.85GHz	17
802.11ax HEW80_Nss1,(MCS0)_2TX	-
5210MHz	13
5290MHz	14
5530MHz	16
5610MHz	17
5690MHz Straddle 5.47-5.725GHz	17
5690MHz Straddle 5.725-5.85GHz	17



beamforming mode

Mode	Power Setting
11a20,BF_Nss1,(6Mbps)_2TX	-
5180MHz	17
5200MHz	17
5240MHz	17
5260MHz	17
5300MHz	17
5320MHz	17
5500MHz	16
5580MHz	17
5700MHz	16
5720MHz Straddle 5.47-5.725GHz	17
5720MHz Straddle 5.725-5.85GHz	17
11a40,BF_Nss1,(6Mbps)_2TX	-
5190MHz	13
5230MHz	17
5270MHz	17
5310MHz	15
5510MHz	15
5550MHz	17
5670MHz	17
5710MHz Straddle 5.47-5.725GHz	17
5710MHz Straddle 5.725-5.85GHz	17
11a80,BF_Nss1,(6Mbps)_2TX	-
5210MHz	14
5290MHz	14
5530MHz	14
5610MHz	17
5690MHz Straddle 5.47-5.725GHz	17
5690MHz Straddle 5.725-5.85GHz	17
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-
5180MHz	16
5200MHz	17
5240MHz	17
5260MHz	17
5300MHz	17
5320MHz	16
5500MHz	16
5580MHz	17
5700MHz	15



Mode	Power Setting
5720MHz Straddle 5.47-5.725GHz	17
5720MHz Straddle 5.725-5.85GHz	17
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-
5190MHz	13
5230MHz	17
5270MHz	17
5310MHz	14
5510MHz	15
5550MHz	17
5670MHz	16
5710MHz Straddle 5.47-5.725GHz	17
5710MHz Straddle 5.725-5.85GHz	17
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-
5210MHz	13
5290MHz	14
5530MHz	16
5610MHz	17
5690MHz Straddle 5.47-5.725GHz	17
5690MHz Straddle 5.725-5.85GHz	17
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
5180MHz	16
5200MHz	17
5240MHz	17
5260MHz	17
5300MHz	17
5320MHz	16
5500MHz	16
5580MHz	17
5700MHz	15
5720MHz Straddle 5.47-5.725GHz	17
5720MHz Straddle 5.725-5.85GHz	17
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
5190MHz	13
5230MHz	17
5270MHz	17
5310MHz	14
5510MHz	15
5550MHz	17
5670MHz	16
5710MHz Straddle 5.47-5.725GHz	17



Mode	Power Setting
5710MHz Straddle 5.725-5.85GHz	17
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-
5210MHz	13
5290MHz	14
5530MHz	16
5610MHz	17
5690MHz Straddle 5.47-5.725GHz	17
5690MHz Straddle 5.725-5.85GHz	17



<2T2S>

Mode	Power Setting
802.11ac VHT20_Nss2,(MCS0)_2TX	-
5180MHz	17
5320MHz	17
5500MHz	17
5700MHz	16
802.11ac VHT40_Nss2,(MCS0)_2TX	-
5190MHz	15
5310MHz	16
5510MHz	16
5670MHz	17
802.11ac VHT80_Nss2,(MCS0)_2TX	-
5210MHz	16
5290MHz	16
5530MHz	17
802.11ax HEW20_Nss2,(MCS0)_2TX	-
5180MHz	17
5320MHz	17
5500MHz	17
5700MHz	16
802.11ax HEW40_Nss2,(MCS0)_2TX	-
5190MHz	15
5310MHz	16
5510MHz	16
5670MHz	17
802.11ax HEW80_Nss2,(MCS0)_2TX	-
5210MHz	16
5290MHz	16
5530MHz	17

Note:

- ♦ VHT20/VHT40/VHT80 covers HT20/HT40/HT80, due to same modulation. The power setting for 802.11n HT20, HT40 and HT 80 are the same or lower than 802.11ac VHT20, VHT40 and VHT80.
- ♦ There are two modes of EUT, one is beamforming mode, and the other is non-beamforming mode for 11n/11ax in 2.4GHz and 11a/11n/11ac/11ax in 5GHz. Both modes have been tested and recorded in this test report.
- ♦ The STBC mode covered by 2T2S mode.
- ♦ The beamforming mode only evaluated power and power density.
- ♦ This function has 1TX/2TX, and only 2TX was test and record in the test report was declared by the manufacturer.



2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	CTX
1	EUT+ PoE_2.4GHz
2	EUT+ PoE_5GHz
3	EUT+ PoE_Bluetooth LE
For operating mode 3 is the worst case and it was record in this test report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Maximum Output Power Power Spectral Density Unwanted Emissions (Above 1GHz)
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests	
Tests Item	Unwanted Emissions
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	CTX
The EUT was performed at X axis, Y axis and Z axis position for Unwanted Emissions above 1GHz test, and the worst case was found at Y axis. So the measurement will follow this same test configuration.	
1	EUT in Y axis + PoE_Bluetooth LE
2	EUT in Y axis + PoE_2.4GHz
3	EUT in Y axis + PoE_5GHz
For operating mode 1 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX (Cabinet)
The EUT was performed at X axis, Y axis and Z axis position. The worst case was found at Y axis, thus the measurement will follow this same test configuration.	
1	EUT in Y axis_5GHz



The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode	Normal Link
The EUT was performed at X axis, Y axis and Z axis position for Unwanted Emissions above 1GHz test, and the worst case was found at Y axis. So the measurement will follow this same test configuration.	
1	EUT in Y axis_WLAN 2.4GHz + WLAN 5GHz
Refer to Appendix F for Radiated Emission Co-location.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz + Bluetooth LE
Refer to Sporton Test Report No.: FA992017-11 for Co-location RF Exposure Evaluation.	

Note: The EUT was powered by PoE, and the PoE was for measurement only, it would not be marketed.

<For Conducted emissions, Radiated and RF Conducted (2T1S-802.11ax-5200/5300MHz & 2T2S-802.11ax-5500MHz)>

Equipment	Brand Name	Model Name	FCC ID
PoE	PHIHONG	POE29U-1AT(PL)	N/A

<For other tests>

Equipment	Brand Name	Model Name	FCC ID
PoE	CERIO	POE-G30	N/A

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link Mode:

During the test, the EUT operation to normal function.



2.4 Accessories

Optional				
No.	Equipment Name	Brand Name	Model Name	Remark
1	Mounting bracket*1	PEGATRON	13BK-30N1601	-
2	Jumper cable*1	Tung-Li	1402-00WF000	Non-Shielded, 0.07m
3	Back cover*1	PEGATRON	13BK-30B0901	-
4	Spacer box*1	PEGATRON	13BK-30Q0701	-
5	RJ-45 cable*1	CISCO	72-101204-01	Non-Shielded, 1.5m

2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PoE	PHIHONG	POE29U-1AT(PL)	N/A
B	Flash disk3.0	Transcend	JetFlash-700	N/A

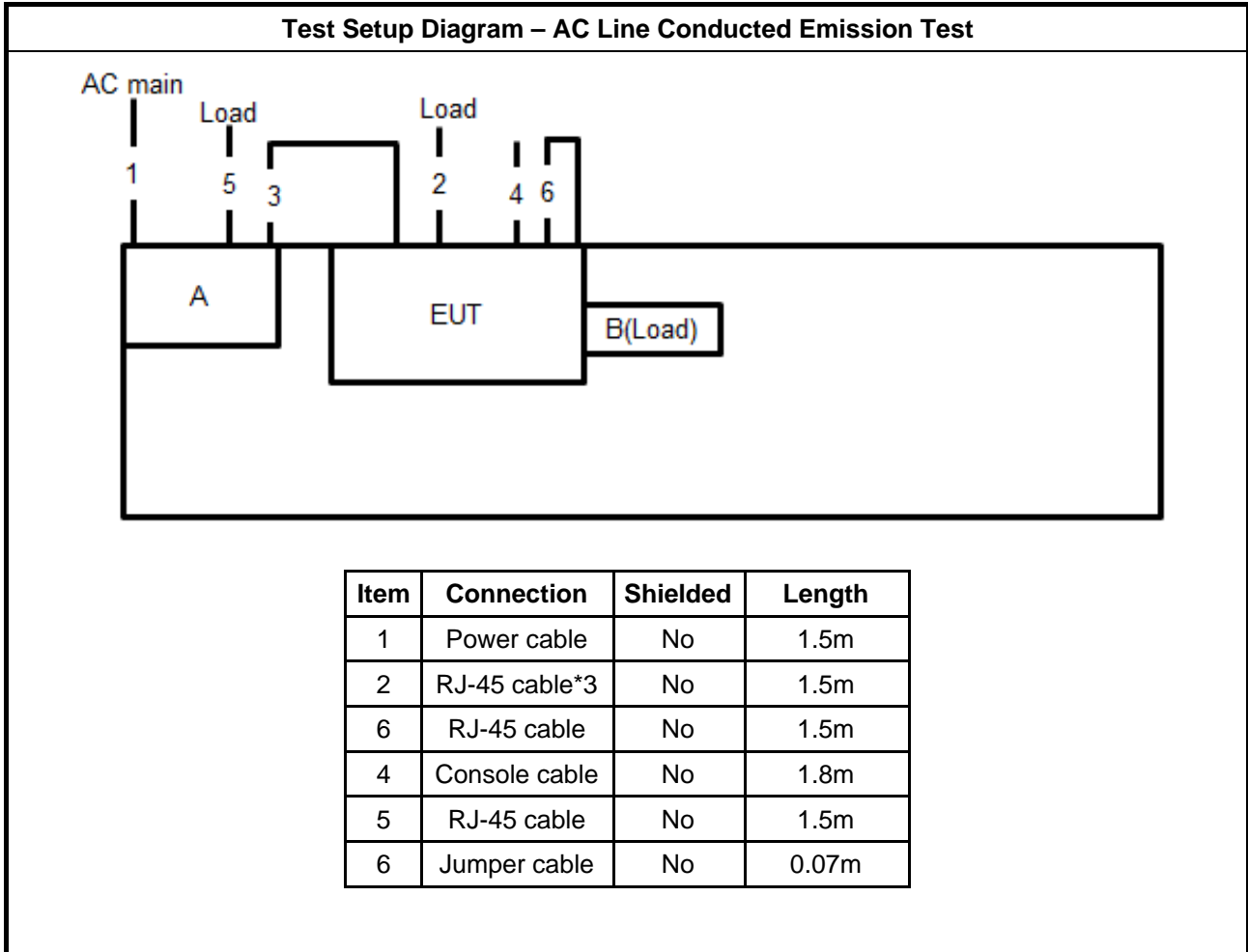
For Radiated and RF Conducted (2T1S-802.11ax-5200/5300MHz & 2T2S-802.11ax-5500MHz):

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	Notebook	DELL	PP13S	N/A
B	PoE	PHIHONG	POE29U-1AT(PL)	N/A

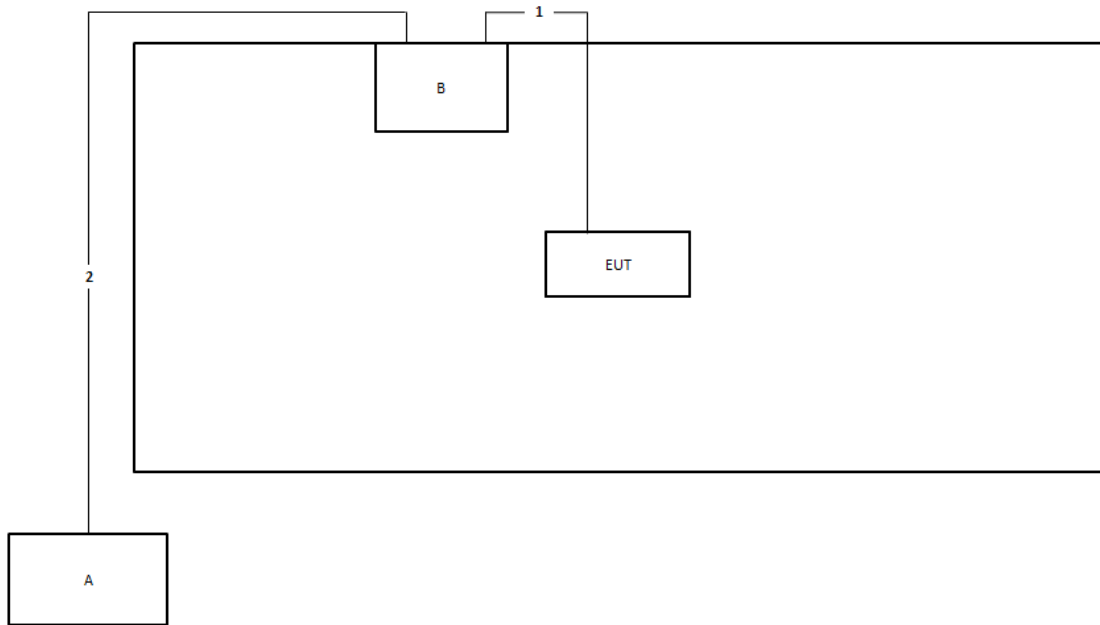
For RF Conducted (other test items):

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PoE	CERIO	POE-G30	N/A
B	Notebook	DELL	E4300	N/A

2.6 Test Setup Diagram

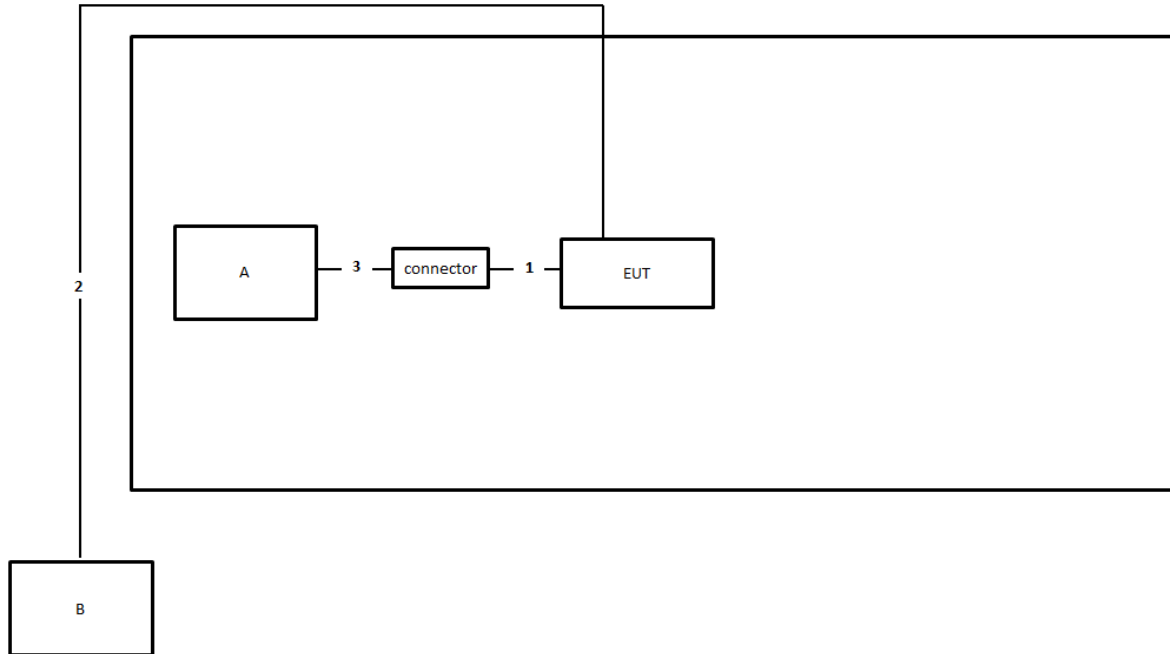


Test Setup Diagram - Radiated Test < 1GHz



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

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	Console cable (RS232 to RJ45)	No	1.6m
2	RJ-45 cable	No	10m
3	Console cable (RS232 to USB)	No	1.6m



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

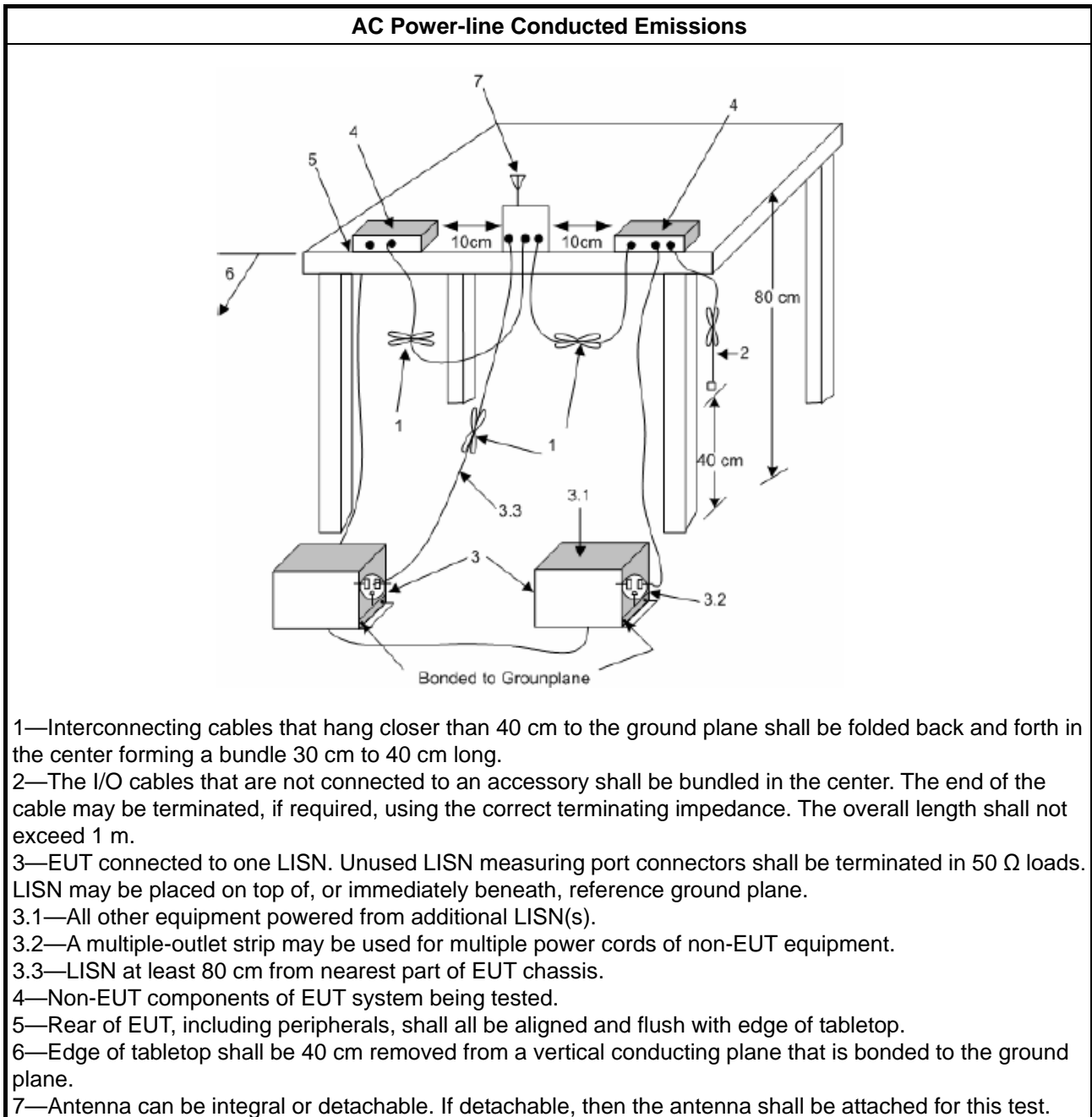
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method
<input checked="" type="checkbox"/> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Test Setup



3.1.5 Measurement Results Calculation

The measured Level is calculated using:

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

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A



3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
<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, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
<input checked="" type="checkbox"/>	For the 5.47-5.725 GHz band, the maximum conducted output power shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz.
<input checked="" type="checkbox"/>	For the 5.725-5.85 GHz band, 26 dB emission bandwidth ,N/A. 6 dB emission bandwidth ≥ 500kHz.
<input type="checkbox"/>	For the 5.85-5.895 GHz band, 26 dB emission bandwidth ,N/A. 6 dB emission bandwidth ≥ 500kHz.
LE-LAN Devices	
<input type="checkbox"/>	For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.
<input type="checkbox"/>	For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
<input type="checkbox"/>	For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz
<input type="checkbox"/>	For the 5.725-5.85 GHz band, 6 dB emission bandwidth ≥ 500kHz.

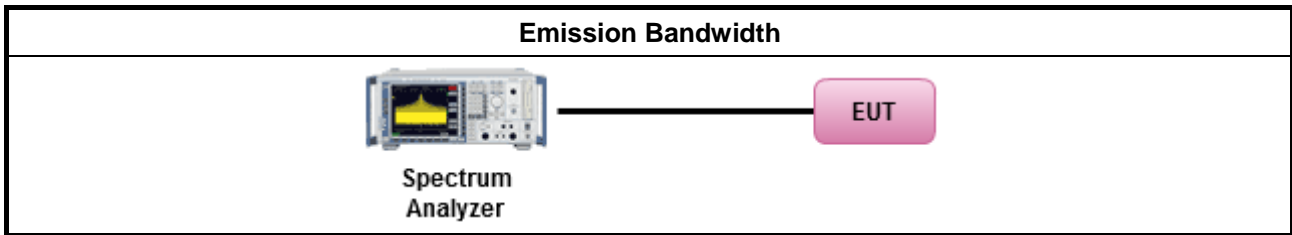
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method							
<ul style="list-style-type: none"> ▪ For the emission bandwidth shall be measured using one of the options below: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30px;"><input checked="" type="checkbox"/></td> <td>Refer as FCC KDB 789033 D02, clause C for EBW and clause D for OBW measurement.</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.</td> </tr> </table> 		<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, clause C for EBW and clause D for OBW measurement.	<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.	<input type="checkbox"/>	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, clause C for EBW and clause D for OBW measurement.						
<input type="checkbox"/>	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.						
<input type="checkbox"/>	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.						

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B



3.3 Maximum Output Power

3.3.1 Limit

Maximum Output Power Limit	
UNII Devices	
<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 $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees ≤ 125mW [21dBm] ▪ Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ ▪ Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 23$ dBi, then $P_{Out} = 30 - (G_{TX} - 23)$. ▪ Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
<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 $G_{TX} > 6$ 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 $G_{TX} > 6$ 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 $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. ▪ Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
Maximum EIRP Limit	
<input type="checkbox"/> For the 5.85-5.895 GHz band:	
	<ul style="list-style-type: none"> ▪ Indoor AP & subordinate device < 36 dBm ▪ Client device < 30 dBm
LE-LAN Devices	
<input type="checkbox"/> For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or $10 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.	
<input type="checkbox"/> For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
<input type="checkbox"/> For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
<input 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 $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. ▪ Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the



lesser of 1 W.

P_{Out} = maximum conducted output power in dBm,
G_{TX} = the maximum transmitting antenna directional gain in dBi.

3.3.2 Measuring Instruments

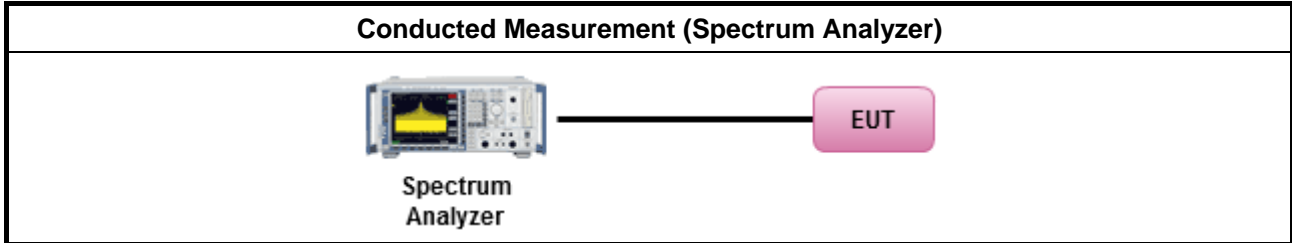
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

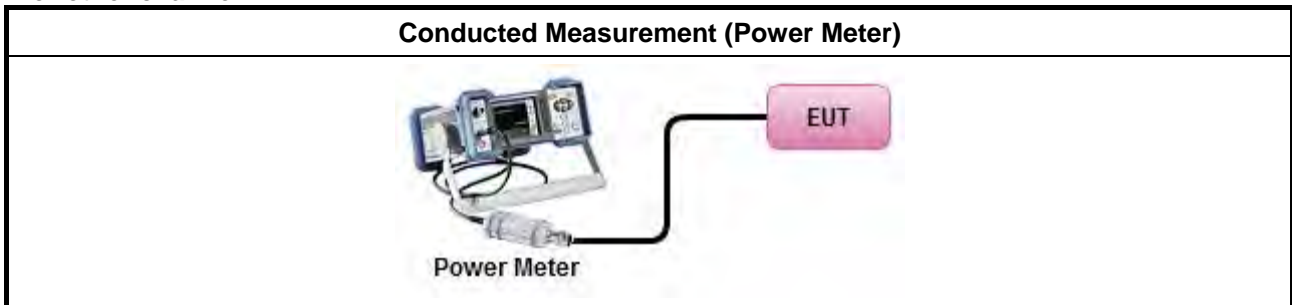
Test Method	
	Average over on/off periods with duty factor
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method SA-2 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method PM-G (using an RF average power meter).
<input checked="" type="checkbox"/>	For conducted measurement.
	<ul style="list-style-type: none"> ▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them. ▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$
<input type="checkbox"/>	For radiated measurement.
	<ul style="list-style-type: none"> ▪ Refer as FCC KDB 789033 D02 clause II A.1.F "Antenna-port Conducted versus Radiated Testing" ▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz. ▪ Refer as FCC KDB 412172 D01 clause 2.2 for EIRP calculation.

3.3.4 Test Setup

For straddle channel:



For other channel:



3.3.5 Test Result of Maximum Output Power

Refer as Appendix C



3.4 Power Spectral Density

3.4.1 Limit

Peak Power Spectral Density Limit	
UNII Devices	
<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.
EIRP Power Spectral Density Limit	
<input type="checkbox"/> For the 5.85-5.895 GHz band:	
	<ul style="list-style-type: none"> ▪ Indoor AP & subordinate device < 20dBm/MHz ▪ Client device < 14dBm/MHz
LE-LAN Devices	
<input type="checkbox"/> For the 5.15-5.25 GHz band, the e.i.r.p. peak power spectral density (PPSD) ≤ 10 dBm/MHz.	
<input type="checkbox"/> For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz.	
	<ul style="list-style-type: none"> ▪ e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. at different elevations, where θ is the angle above the local horizontal plane (of the Earth) as shown below: -13 dBW/MHz for $0^\circ \leq \theta < 8^\circ$; -13 - 0.716 (θ-8) dBW/MHz for $8^\circ \leq \theta < 40^\circ$ -35.9 - 1.22 (θ-40) dBW/MHz for $40^\circ \leq \theta \leq 45^\circ$; -42 dBW/MHz for $\theta > 45^\circ$
<input type="checkbox"/> For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz.	
<input 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.

3.4.2 Measuring Instruments

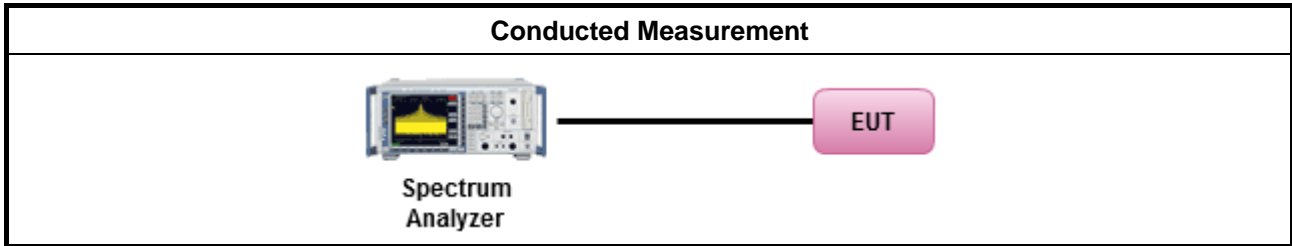
Refer a test equipment and calibration data table in this test report.

3.4.3 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 FCC KDB 789033 D02, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth
	[duty cycle ≥ 98% or external video / power trigger]
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method SA-1 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)
	duty cycle < 98% and average over on/off periods with duty factor
<input checked="" type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method SA-2 (spectral trace averaging).
<input type="checkbox"/>	Refer as FCC KDB 789033 D02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
<input checked="" type="checkbox"/>	For conducted measurement.
	<ul style="list-style-type: none"> ▪ If the EUT supports multiple transmit chains using options given below:
<input checked="" type="checkbox"/>	Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
<input type="checkbox"/>	Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
<input type="checkbox"/>	Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.
	<ul style="list-style-type: none"> ▪ If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm])

Test Method	
	$EIRP_{total} = PPSD_{total} + DG$
<input type="checkbox"/>	For radiated measurement.
	<ul style="list-style-type: none"> Refer as FCC KDB 789033 D02 clause II A.1.F "Antenna-port Conducted versus Radiated Testing"
	<ul style="list-style-type: none"> Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
	<ul style="list-style-type: none"> Refer as FCC KDB 412172 D01 clause 2.2 for EIRP calculation.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D



3.5 Unwanted Emissions

3.5.1 Transmitter Unwanted Emissions Limit

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

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

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

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



Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
<input checked="" type="checkbox"/> 5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
<input checked="" type="checkbox"/> 5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
<input checked="" type="checkbox"/> 5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
<input checked="" type="checkbox"/> 5.725 - 5.85 GHz	all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
<input type="checkbox"/> 5.85 - 5.895 GHz	(i) For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of 15 dBm/MHz and shall decrease linearly to an e.i.r.p. of - 7 dBm/MHz at or above 5.925 GHz. (ii) For a client device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of -5 dBm/MHz and shall decrease linearly to an e.i.r.p. of -27 dBm/MHz at or above 5.925 GHz. (iii) For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of -27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/ MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.
Note 1: Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).	

3.5.2 Measuring Instruments

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



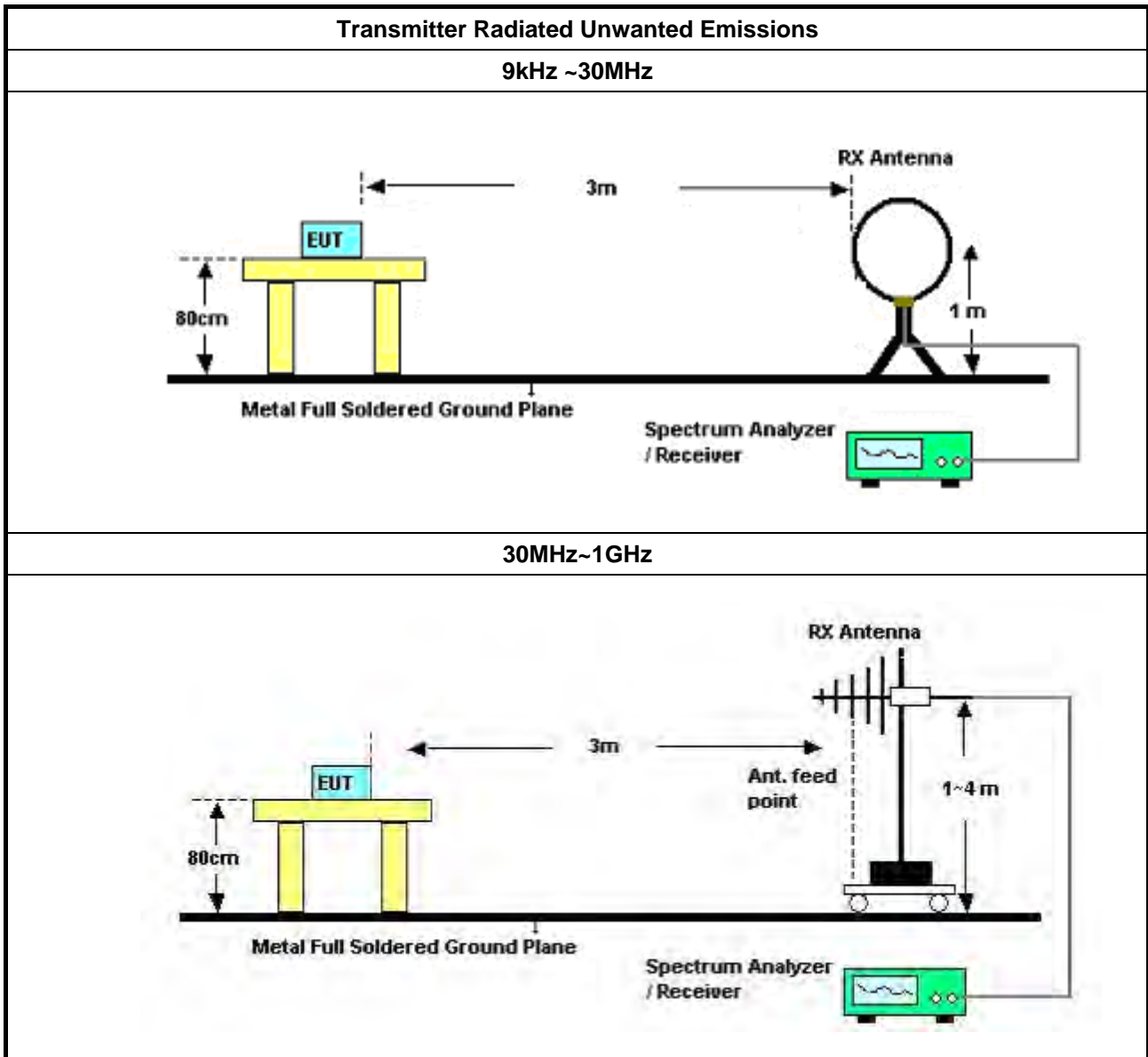
3.5.3 Test Procedures

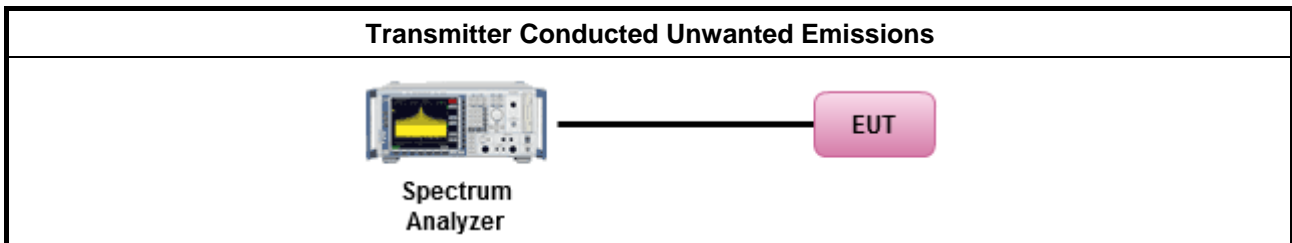
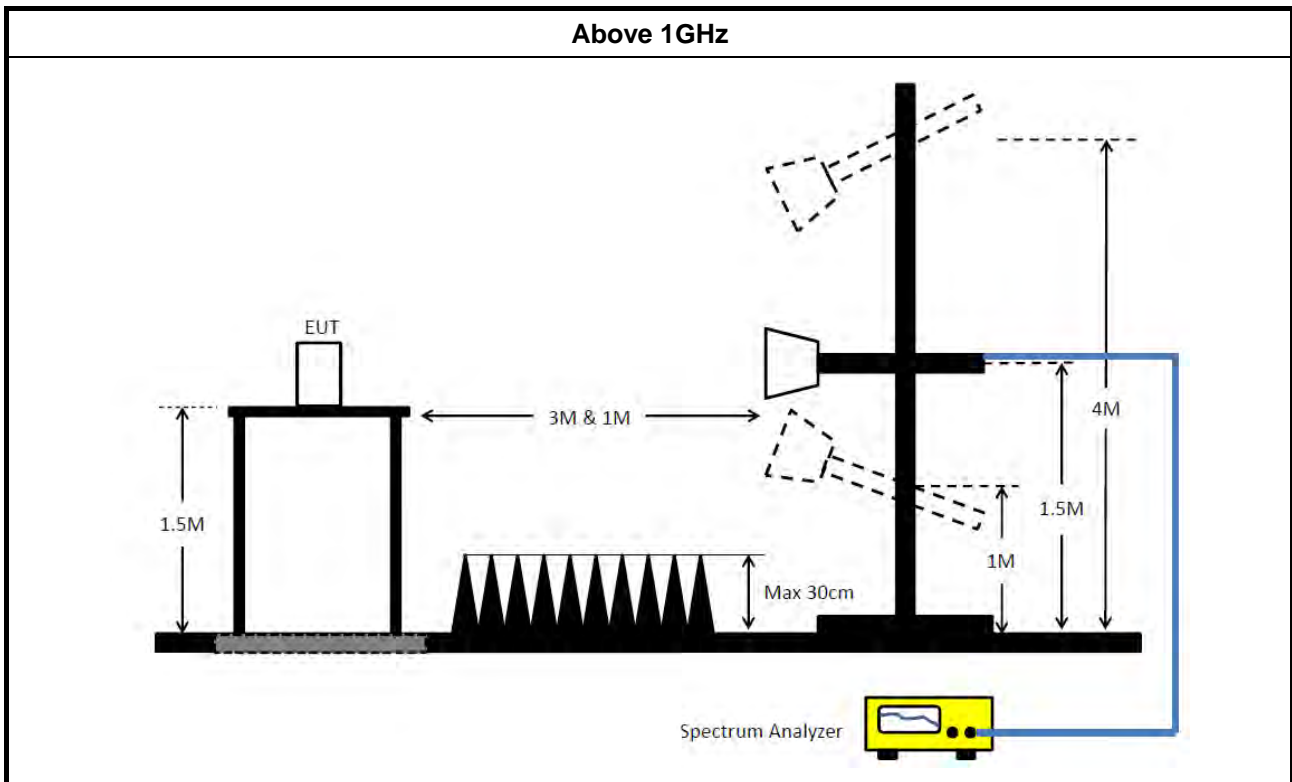
Test Method	
<ul style="list-style-type: none"> ▪ Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance 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). 	
<ul style="list-style-type: none"> ▪ The average emission levels shall be measured in [duty cycle \geq 98 or duty factor]. 	
<ul style="list-style-type: none"> ▪ For the transmitter unwanted emissions shall be measured using following options below: 	
	<ul style="list-style-type: none"> ▪ Refer as FCC KDB 789033 D02, clause G)2) for unwanted emissions into non-restricted bands.
	<ul style="list-style-type: none"> ▪ Refer as FCC KDB 789033 D02, clause G)1) for unwanted emissions into restricted bands.
	<input type="checkbox"/> Refer as FCC KDB 789033 D02, G)6) Method AD (Trace Averaging).
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033 D02, G)6) Method VB (Reduced VBW).
	<input type="checkbox"/> Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). $VBW \geq 1/T$, where T is pulse time.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
	<input checked="" type="checkbox"/> Refer as FCC KDB 789033 D02, clause G)5) measurement procedure peak limit.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
<ul style="list-style-type: none"> ▪ For radiated measurement. 	
	<ul style="list-style-type: none"> ▪ Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	<ul style="list-style-type: none"> ▪ Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	<ul style="list-style-type: none"> ▪ Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
<ul style="list-style-type: none"> ▪ The any unwanted emissions level shall not exceed the fundamental emission level. 	
<ul style="list-style-type: none"> ▪ All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported. 	



Test Method	
▪ For conducted and cabinet radiation measurement, refer as FCC KDB 789033 D02, clause G)3).	
▪ For conducted unwanted emissions into non-restricted bands (relative emission limits). Devices with multiple transmit chains: Refer as FCC KDB 662911, when testing out-of-band and spurious emissions against relative emission limits, tests may be performed on each output individually without summing or adding 10 log(N) if the measurements are made relative to the in-band emissions on the individual outputs.	
▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB	
▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.	

3.5.4 Test Setup





3.5.5 Measurement Results Calculation

The measured Level is calculated using:
 Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

3.5.6 Transmitter Unwanted Emissions (Below 30MHz)

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

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

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

3.5.7 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E



4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Feb. 26, 2020	Feb. 25, 2021	Conduction (CO01-CB)
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Feb. 22, 2022	Feb. 21, 2023	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-1 6-2	04083	150kHz ~ 100MHz	Dec. 25, 2019	Dec. 24, 2020	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-1 6-2	04083	150kHz ~ 100MHz	Feb. 09, 2022	Feb. 08, 2023	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Feb. 25, 2020	Feb. 24, 2021	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Apr. 12, 2022	Apr. 11, 2023	Conduction (CO01-CB)
Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Jan. 31, 2020	Jan. 30, 2021	Conduction (CO01-CB)
Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Feb. 10, 2022	Feb. 09, 2023	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 21, 2019	May 20, 2020	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 18, 2022	May 17, 2023	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	May 14, 2022	May 13, 2023	Radiation (03CH05-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 09, 2021	Aug. 08, 2022	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH05-CB	1GHz ~18GHz 3m	Nov. 09, 2019	Nov. 08, 2020	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMC I	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 25, 2022	Mar. 24, 2023	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA 9120D-1291	1GHz~18GHz	Oct. 05, 2019	Oct. 04, 2020	Radiation (03CH05-CB)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170507	15GHz ~ 40GHz	Jun. 12, 2019	Jun. 11, 2020	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 26, 2022	Apr. 25, 2023	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC12630SE	980287	1GHz ~ 26.5GHz	Apr. 15, 2020	Apr. 14, 2021	Radiation (03CH05-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 03, 2019	Jul. 02, 2020	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Aug. 15, 2019	Aug. 14, 2020	Radiation (03CH05-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Mar. 14, 2022	Mar. 13, 2023	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 17, 2022	Jun. 16, 2023	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-28	1GHz~18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-04+28	1GHz~18GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH05-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 24, 2019	Jul. 23, 2020	Radiation (03CH05-CB)
Test Software	Audix	E3	6.120210m	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	RIKEN	SAC-3M	03CH02-CB	1GHz ~18GHz	Mar. 26, 2022	Mar. 25, 2023	Radiation (03CH02-CB)
Horn Antenna	EMCO	3115	9610-4976	1GHz ~ 18GHz	Apr. 19, 2022	Apr. 18, 2023	Radiation (03CH02-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH02-CB)
Pre-Amplifier	Agilent	83017A	MY39501305	1GHz ~ 26.5GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (03CH02-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH02-CB)
Spectrum analyzer	R&S	FSU	100015	9kHz~26GHz	Oct. 25, 2021	Oct. 24, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18+19	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH02-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Jul. 02, 2019	Jul. 01, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 07, 2019	Oct. 06, 2020	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-28	1 GHz –26.5 GHz	Nov. 18, 2019	Nov. 17, 2020	Conducted (TH01-CB)
Power Sensor	Agilent	E9327A	US40442088	50MHz~18GHz	Feb. 07, 2020	Feb. 06, 2021	Conducted (TH01-CB)
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Feb. 07, 2020	Feb. 06, 2021	Conducted (TH01-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH01-CB)
Spectrum analyzer	R&S	FSV40	101028	9kHz~40GHz	Jan. 07, 2022	Jan. 06, 2023	Conducted (TH03-CB)
Power Sensor	Anritsu	MA2411B	1726195	300MHz~40GHz	Aug. 22, 2021	Aug. 21, 2022	Conducted (TH03-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Aug. 22, 2021	Aug. 21, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-11	1 GHz –18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-12	1 GHz –18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-13	1 GHz –18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-14	1 GHz –18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	High Cable-15	1 GHz –18 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH03-CB)
Switch	SPTCB	SP-SWI	SWI-03	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	SWI-03-P1	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	SWI-03-P2	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	SWI-03-P3	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	SWI-03-P4	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH03-CB)
RF Cable-high	Woken	RG402	SWI-03-P5	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH03-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH03-CB)

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

NCR means Non-Calibration required.

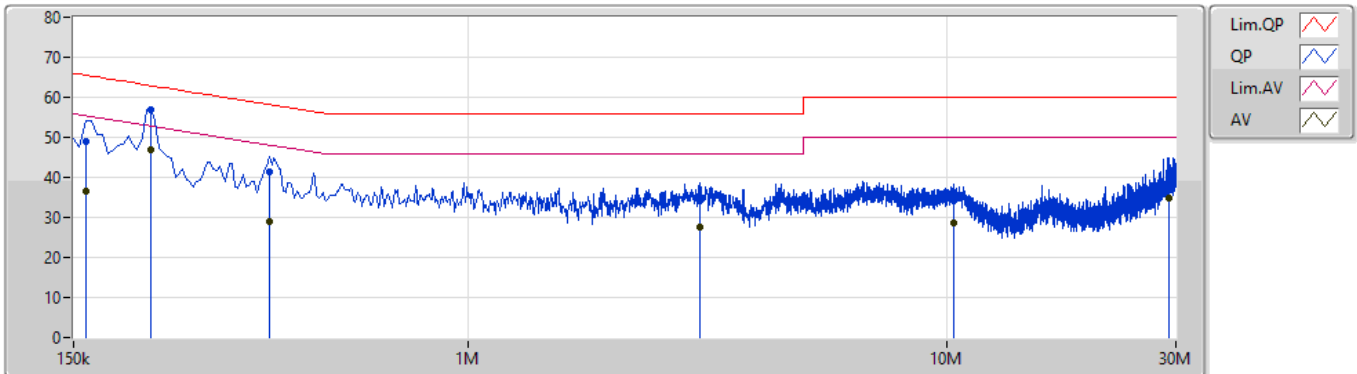


Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 3	Pass	QP	217.5k	56.88	62.92	-6.04	Line

Mode 3

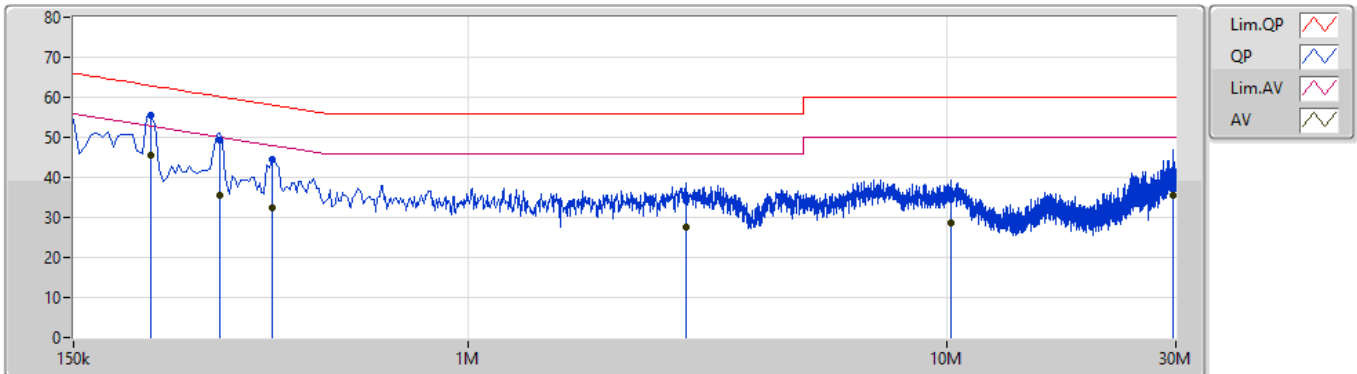
07/07/2022



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	159k	49.03	65.52	-16.49	9.99	Line	-	39.04	0.06	0.04	9.89
AV	159k	36.49	55.52	-19.03	9.99	Line	-	26.50	0.06	0.04	9.89
QP	217.5k	56.88	62.92	-6.04	9.99	Line	"Worst"	46.89	0.06	0.04	9.89
AV	217.5k	46.75	52.92	-6.17	9.99	Line	-	36.76	0.06	0.04	9.89
QP	384k	41.42	58.20	-16.78	10.01	Line	-	31.41	0.06	0.06	9.89
AV	384k	29.04	48.20	-19.16	10.01	Line	-	19.03	0.06	0.06	9.89
QP	3.039M	34.31	56.00	-21.69	10.10	Line	-	24.21	0.11	0.10	9.89
AV	3.039M	27.63	46.00	-18.37	10.10	Line	-	17.53	0.11	0.10	9.89
QP	10.325M	34.21	60.00	-25.79	10.29	Line	-	23.92	0.22	0.16	9.91
AV	10.325M	28.50	50.00	-21.50	10.29	Line	-	18.21	0.22	0.16	9.91
QP	29.058M	41.30	60.00	-18.70	10.73	Line	-	30.57	0.39	0.33	10.01
AV	29.058M	34.97	50.00	-15.03	10.73	Line	-	24.24	0.39	0.33	10.01

Mode 3

07/07/2022



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)
QP	217.5k	55.65	62.92	-7.27	10.00	Neutral	"Worst"	45.65	0.07	0.04	9.89
AV	217.5k	45.36	52.92	-7.56	10.00	Neutral	-	35.36	0.07	0.04	9.89
QP	303k	49.46	60.17	-10.71	10.01	Neutral	-	39.45	0.07	0.05	9.89
AV	303k	35.62	50.17	-14.55	10.01	Neutral	-	25.61	0.07	0.05	9.89
QP	388.5k	44.33	58.10	-13.77	10.02	Neutral	-	34.31	0.07	0.06	9.89
AV	388.5k	32.36	48.10	-15.74	10.02	Neutral	-	22.34	0.07	0.06	9.89
QP	2.841M	34.05	56.00	-21.95	10.11	Neutral	-	23.94	0.12	0.10	9.89
AV	2.841M	27.42	46.00	-18.58	10.11	Neutral	-	17.31	0.12	0.10	9.89
QP	10.212M	34.50	60.00	-25.50	10.31	Neutral	-	24.19	0.24	0.16	9.91
AV	10.212M	28.70	50.00	-21.30	10.31	Neutral	-	18.39	0.24	0.16	9.91
QP	29.54M	41.84	60.00	-18.16	10.66	Neutral	-	31.18	0.31	0.33	10.02
AV	29.54M	35.56	50.00	-14.44	10.66	Neutral	-	24.90	0.31	0.33	10.02

<2T1S>
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
11a20_Nss1,(6Mbps)_2TX	21.54M	16.822M	16M8D1D	21.18M	16.702M
11a40_Nss1,(6Mbps)_2TX	39.9M	36.462M	36M5D1D	39.84M	36.342M
11a80_Nss1,(6Mbps)_2TX	82.08M	76.042M	76MOD1D	81.72M	75.922M
802.11ac VHT20_Nss1,(MCS0)_2TX	21.78M	17.991M	18MOD1D	21.6M	17.931M
802.11ac VHT40_Nss1,(MCS0)_2TX	40.08M	36.402M	36M4D1D	39.6M	36.282M
802.11ac VHT80_Nss1,(MCS0)_2TX	82.08M	76.042M	76MOD1D	81.84M	75.802M
802.11ax HEW20_Nss1,(MCS0)_2TX	21.54M	19.04M	19MOD1D	21.27M	19.01M
802.11ax HEW40_Nss1,(MCS0)_2TX	40.14M	37.661M	37M7D1D	40.02M	37.601M
802.11ax HEW80_Nss1,(MCS0)_2TX	81.72M	77.121M	77M1D1D	81.72M	77.121M
5.25-5.35GHz	-	-	-	-	-
11a20_Nss1,(6Mbps)_2TX	21.42M	16.792M	16M8D1D	21.21M	16.672M
11a40_Nss1,(6Mbps)_2TX	39.9M	36.522M	36M5D1D	39.72M	36.342M
11a80_Nss1,(6Mbps)_2TX	82.32M	76.162M	76M2D1D	81.84M	76.042M
802.11ac VHT20_Nss1,(MCS0)_2TX	21.9M	18.021M	18MOD1D	21.75M	17.931M
802.11ac VHT40_Nss1,(MCS0)_2TX	40.08M	36.402M	36M4D1D	39.54M	36.342M
802.11ac VHT80_Nss1,(MCS0)_2TX	82.2M	76.042M	76MOD1D	81.84M	75.802M
802.11ax HEW20_Nss1,(MCS0)_2TX	21.57M	19.07M	19M1D1D	21.27M	19.01M
802.11ax HEW40_Nss1,(MCS0)_2TX	40.14M	37.721M	37M7D1D	40.08M	37.601M
802.11ax HEW80_Nss1,(MCS0)_2TX	81.6M	77.121M	77M1D1D	81.24M	77.121M
5.47-5.725GHz	-	-	-	-	-
11a20_Nss1,(6Mbps)_2TX	21.39M	16.792M	16M8D1D	15.575M	13.363M
11a40_Nss1,(6Mbps)_2TX	39.9M	36.402M	36M4D1D	35.025M	33.133M
11a80_Nss1,(6Mbps)_2TX	81.96M	76.162M	76M2D1D	75.408M	72.581M
802.11ac VHT20_Nss1,(MCS0)_2TX	21.9M	18.021M	18MOD1D	15.873M	14.01M
802.11ac VHT40_Nss1,(MCS0)_2TX	40.08M	36.402M	36M4D1D	34.875M	33.058M
802.11ac VHT80_Nss1,(MCS0)_2TX	82.32M	76.042M	76MOD1D	75.795M	72.349M
802.11ax HEW20_Nss1,(MCS0)_2TX	21.45M	19.04M	19MOD1D	15.698M	14.535M
802.11ax HEW40_Nss1,(MCS0)_2TX	40.02M	37.721M	37M7D1D	35.138M	33.658M
802.11ax HEW80_Nss1,(MCS0)_2TX	81.84M	77.001M	77MOD1D	75.563M	73.046M
5.725-5.85GHz	-	-	-	-	-
11a20_Nss1,(6Mbps)_2TX	3.15M	4.393M	4M39D1D	3.135M	4.213M
11a40_Nss1,(6Mbps)_2TX	3.135M	3.718M	3M72D1D	3.135M	3.703M
11a80_Nss1,(6Mbps)_2TX	3.15M	4.768M	4M77D1D	3.135M	4.663M
802.11ac VHT20_Nss1,(MCS0)_2TX	3.78M	4.693M	4M69D1D	3.765M	4.603M
802.11ac VHT40_Nss1,(MCS0)_2TX	3.135M	3.763M	3M76D1D	3.135M	3.718M
802.11ac VHT80_Nss1,(MCS0)_2TX	3.135M	4.918M	4M92D1D	3.135M	4.393M

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
802.11ax HEW20_Nss1,(MCS0)_2TX	4.47M	4.708M	4M71D1D	4.455M	4.678M
802.11ax HEW40_Nss1,(MCS0)_2TX	3.825M	4.093M	4M09D1D	3.78M	4.093M
802.11ax HEW80_Nss1,(MCS0)_2TX	3.945M	4.273M	4M27D1D	3.87M	4.153M

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)
11a20_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.42M	16.822M	21.54M	16.702M
5200MHz	Pass	Inf	21.36M	16.792M	21.21M	16.702M
5240MHz	Pass	Inf	21.18M	16.792M	21.54M	16.702M
5260MHz	Pass	Inf	21.36M	16.792M	21.33M	16.672M
5300MHz	Pass	Inf	21.33M	16.792M	21.36M	16.702M
5320MHz	Pass	Inf	21.42M	16.762M	21.21M	16.702M
5500MHz	Pass	Inf	21.3M	16.792M	21.21M	16.672M
5580MHz	Pass	Inf	21.33M	16.792M	21.24M	16.672M
5700MHz	Pass	Inf	21.39M	16.792M	21.15M	16.702M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.61M	13.416M	15.575M	13.363M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.15M	4.393M	3.135M	4.213M
11a40_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	39.84M	36.402M	39.9M	36.402M
5230MHz	Pass	Inf	39.9M	36.462M	39.84M	36.342M
5270MHz	Pass	Inf	39.84M	36.402M	39.9M	36.402M
5310MHz	Pass	Inf	39.78M	36.522M	39.72M	36.342M
5510MHz	Pass	Inf	39.78M	36.402M	39.9M	36.342M
5550MHz	Pass	Inf	39.84M	36.402M	39.84M	36.402M
5670MHz	Pass	Inf	39.84M	36.402M	39.84M	36.342M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.1M	33.171M	35.025M	33.133M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.135M	3.703M	3.135M	3.718M
11a80_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	82.08M	75.922M	81.72M	76.042M
5290MHz	Pass	Inf	82.32M	76.042M	81.84M	76.162M
5530MHz	Pass	Inf	81.96M	75.922M	81.72M	76.162M
5610MHz	Pass	Inf	81.72M	75.922M	81.72M	76.042M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.64M	72.581M	75.408M	72.659M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.135M	4.768M	3.15M	4.663M
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.72M	17.991M	21.6M	17.931M
5200MHz	Pass	Inf	21.69M	17.961M	21.75M	17.961M
5240MHz	Pass	Inf	21.78M	17.991M	21.72M	17.961M
5260MHz	Pass	Inf	21.75M	18.021M	21.75M	17.931M
5300MHz	Pass	Inf	21.75M	17.991M	21.75M	17.931M
5320MHz	Pass	Inf	21.9M	17.991M	21.84M	17.931M
5500MHz	Pass	Inf	21.81M	17.991M	21.72M	17.961M
5580MHz	Pass	Inf	21.69M	18.021M	21.69M	17.931M
5700MHz	Pass	Inf	21.9M	17.991M	21.72M	17.961M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.89M	14.01M	15.873M	14.063M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.765M	4.693M	3.78M	4.603M
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	40.08M	36.402M	39.6M	36.342M

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
5230MHz	Pass	Inf	40.02M	36.402M	39.66M	36.282M
5270MHz	Pass	Inf	40.02M	36.402M	39.84M	36.342M
5310MHz	Pass	Inf	40.08M	36.402M	39.54M	36.342M
5510MHz	Pass	Inf	40.08M	36.402M	39.6M	36.342M
5550MHz	Pass	Inf	40.02M	36.342M	39.66M	36.282M
5670MHz	Pass	Inf	40.08M	36.402M	39.66M	36.282M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.025M	33.058M	34.875M	33.058M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.135M	3.763M	3.135M	3.718M
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	82.08M	76.042M	81.84M	75.802M
5290MHz	Pass	Inf	82.2M	76.042M	81.84M	75.802M
5530MHz	Pass	Inf	82.32M	76.042M	81.6M	75.682M
5610MHz	Pass	Inf	81.72M	75.922M	81.72M	75.802M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	76.105M	72.581M	75.795M	72.349M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.135M	4.918M	3.135M	4.393M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.42M	19.04M	21.39M	19.01M
5200MHz	Pass	Inf	21.51M	19.04M	21.36M	19.04M
5240MHz	Pass	Inf	21.54M	19.04M	21.27M	19.04M
5260MHz	Pass	Inf	21.57M	19.04M	21.39M	19.01M
5300MHz	Pass	Inf	21.33M	19.04M	21.27M	19.01M
5320MHz	Pass	Inf	21.42M	19.07M	21.27M	19.04M
5500MHz	Pass	Inf	21.45M	19.04M	21.39M	19.04M
5580MHz	Pass	Inf	21.42M	19.04M	21.3M	19.04M
5700MHz	Pass	Inf	21.45M	19.04M	21.18M	19.01M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.785M	14.535M	15.698M	14.535M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	4.455M	4.708M	4.47M	4.678M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	40.02M	37.601M	40.14M	37.661M
5230MHz	Pass	Inf	40.08M	37.601M	40.02M	37.601M
5270MHz	Pass	Inf	40.08M	37.601M	40.14M	37.721M
5310MHz	Pass	Inf	40.08M	37.601M	40.14M	37.661M
5510MHz	Pass	Inf	39.96M	37.661M	40.02M	37.601M
5550MHz	Pass	Inf	39.96M	37.601M	40.02M	37.661M
5670MHz	Pass	Inf	39.96M	37.661M	39.96M	37.721M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.138M	33.658M	35.175M	33.696M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.78M	4.093M	3.825M	4.093M
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	81.72M	77.121M	81.72M	77.121M
5290MHz	Pass	Inf	81.24M	77.121M	81.6M	77.121M
5530MHz	Pass	Inf	81.6M	77.001M	81.84M	77.001M
5610MHz	Pass	Inf	81.24M	77.001M	81.48M	77.001M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.563M	73.046M	75.95M	73.201M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.945M	4.153M	3.87M	4.273M

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;

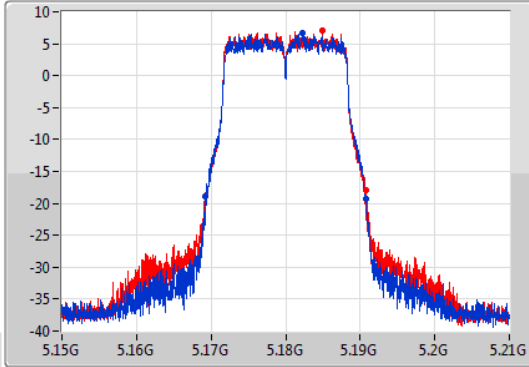
11a20_Nss1,(6Mbps)_2TX

EBW

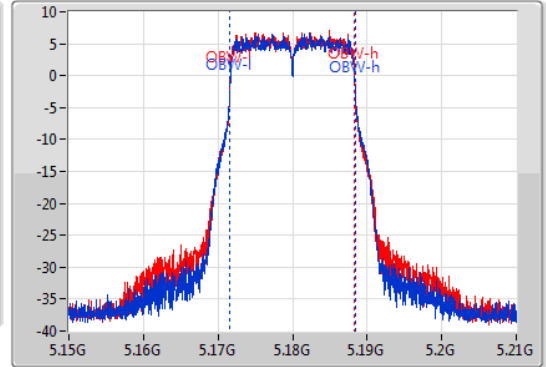
5180MHz

07/03/2020

CF: 5.18GHz
 Span: 60MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



CF: 5.18GHz
 Span: 60MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.42M	5.16929G	5.19071G	16.822M	5.171604G	5.188426G	Inf	1
21.54M	5.16923G	5.19077G	16.702M	5.171634G	5.188336G	Inf	2

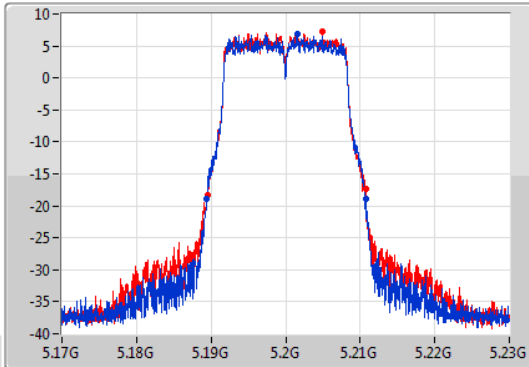
11a20_Nss1,(6Mbps)_2TX

EBW

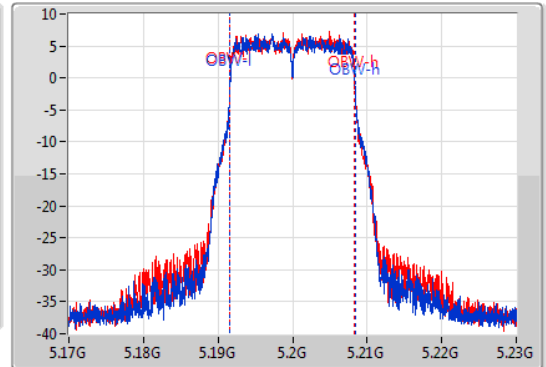
5200MHz

07/03/2020

CF: 5.2GHz
 Span: 60MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



CF: 5.2GHz
 Span: 60MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



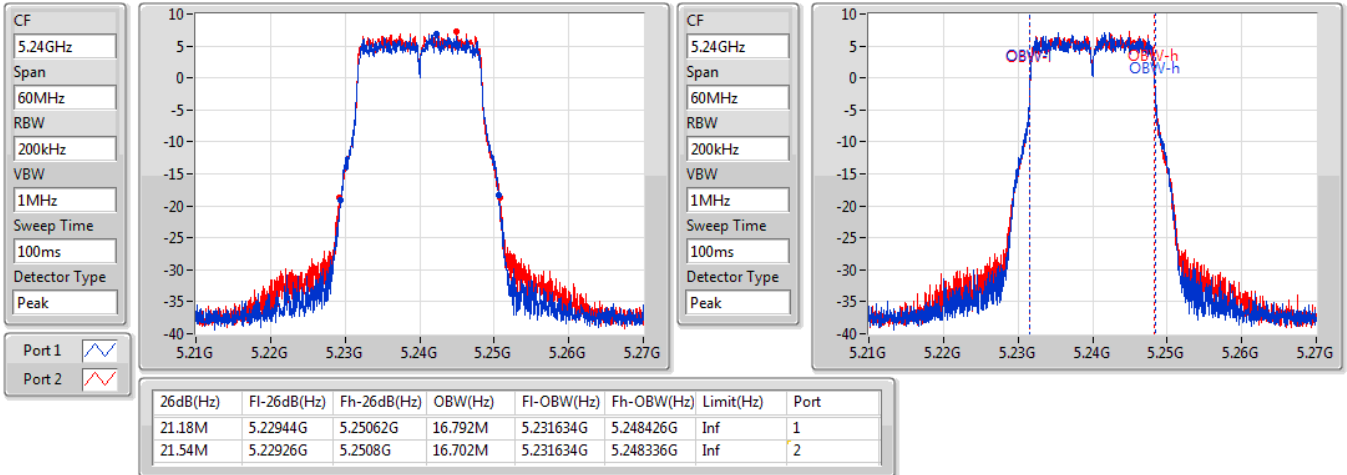
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.36M	5.18935G	5.21071G	16.792M	5.191604G	5.208396G	Inf	1
21.21M	5.1895G	5.21071G	16.702M	5.191634G	5.208336G	Inf	2

11a20_Nss1,(6Mbps)_2TX

EBW

5240MHz

07/03/2020

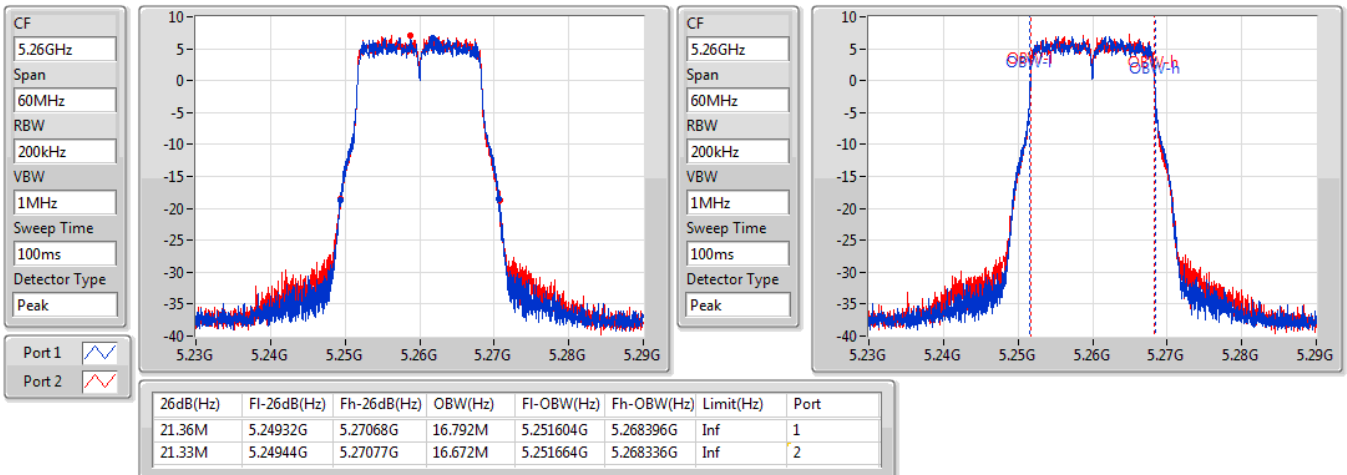


11a20_Nss1,(6Mbps)_2TX

EBW

5260MHz

07/03/2020

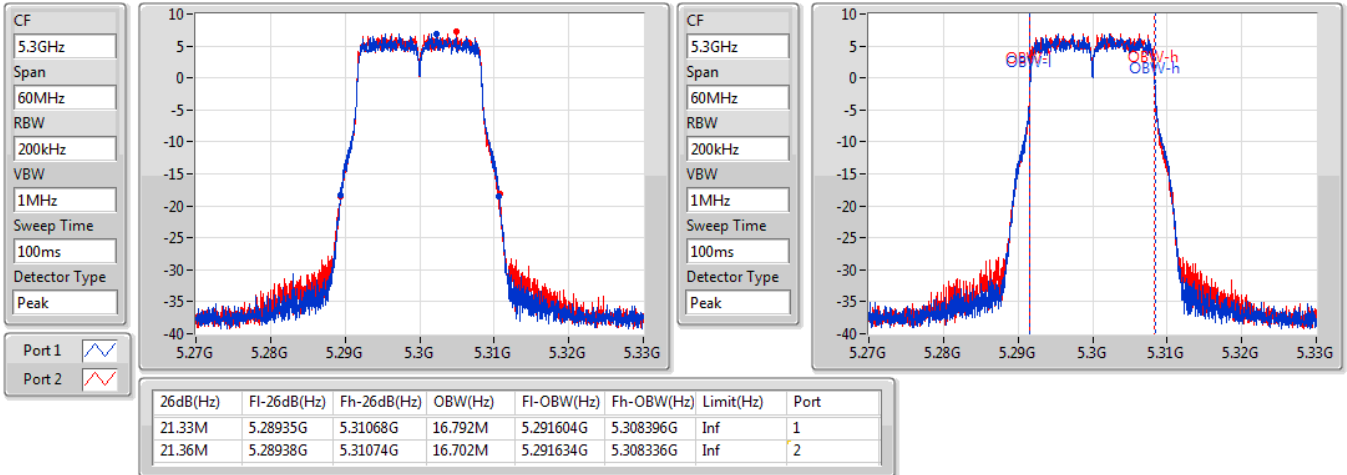


11a20_Nss1,(6Mbps)_2TX

EBW

5300MHz

07/03/2020

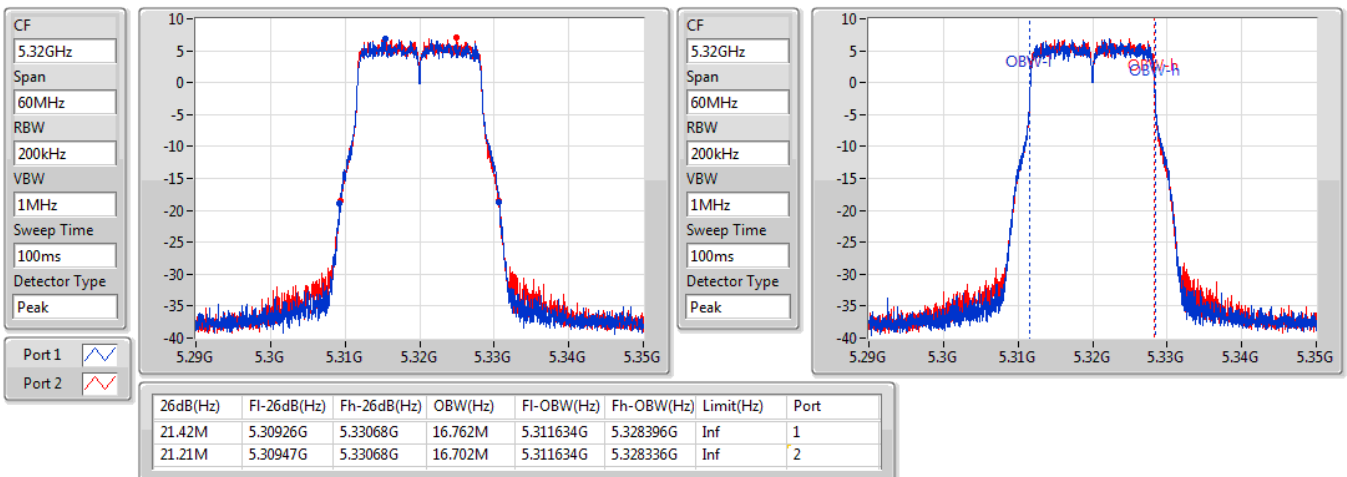


11a20_Nss1,(6Mbps)_2TX

EBW

5320MHz

07/03/2020

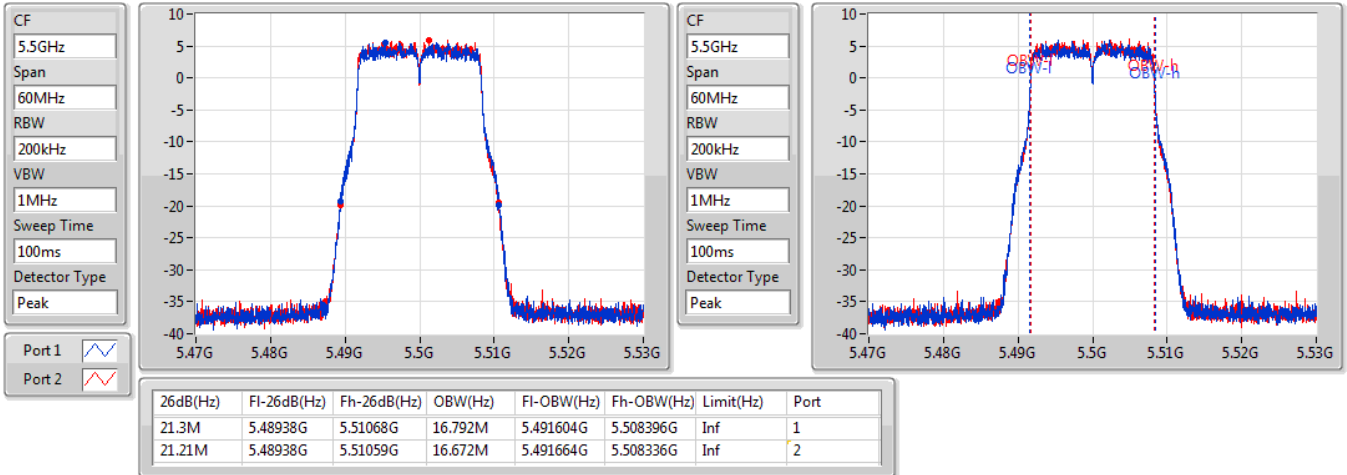


11a20_Nss1,(6Mbps)_2TX

EBW

5500MHz

07/03/2020

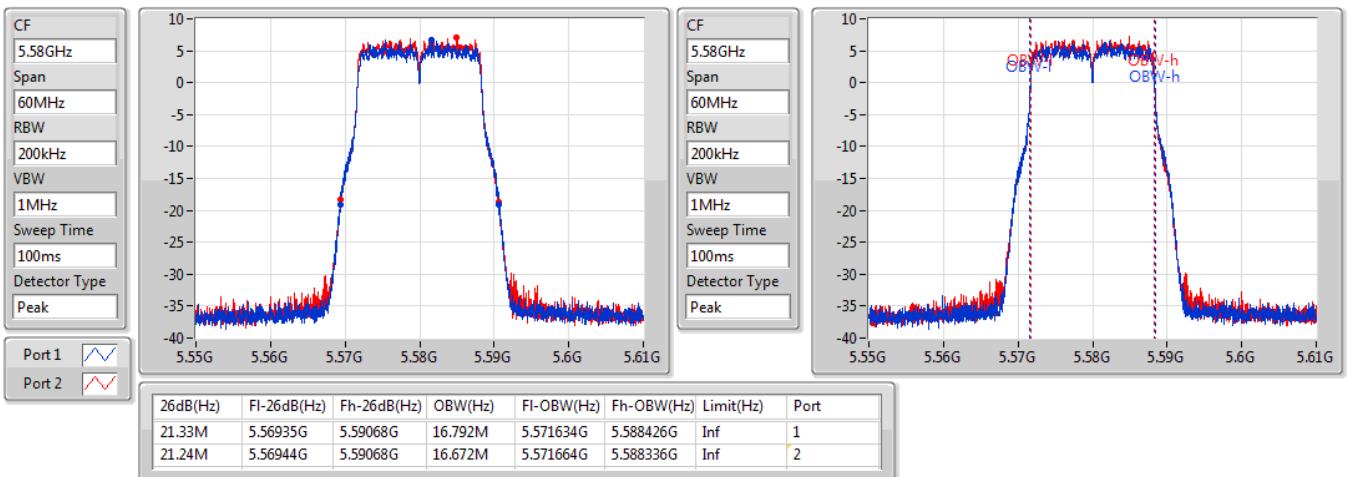


11a20_Nss1,(6Mbps)_2TX

EBW

5580MHz

07/03/2020

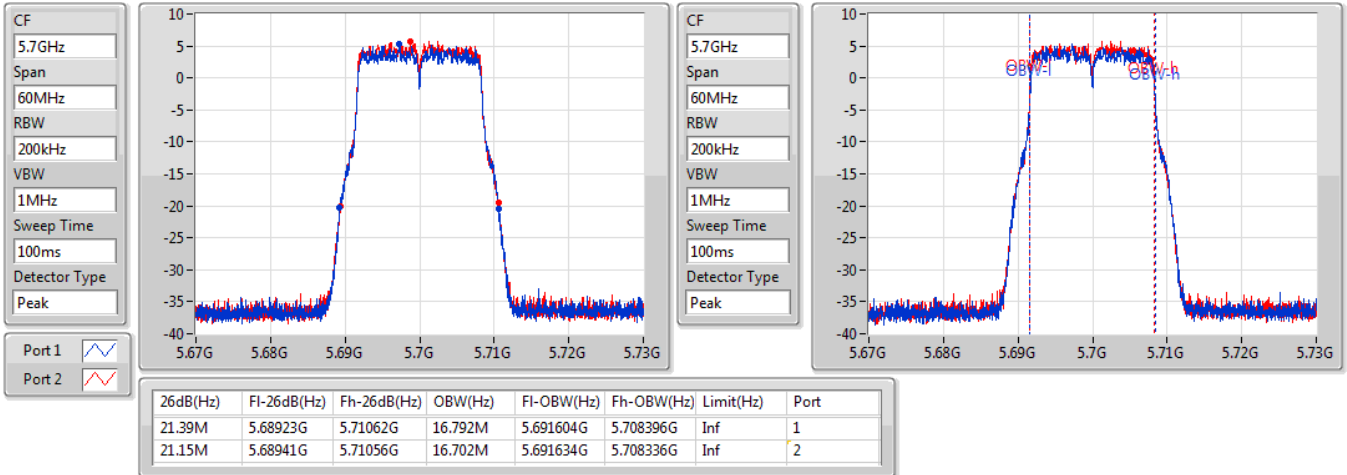


11a20_Nss1,(6Mbps)_2TX

EBW

5700MHz

07/03/2020

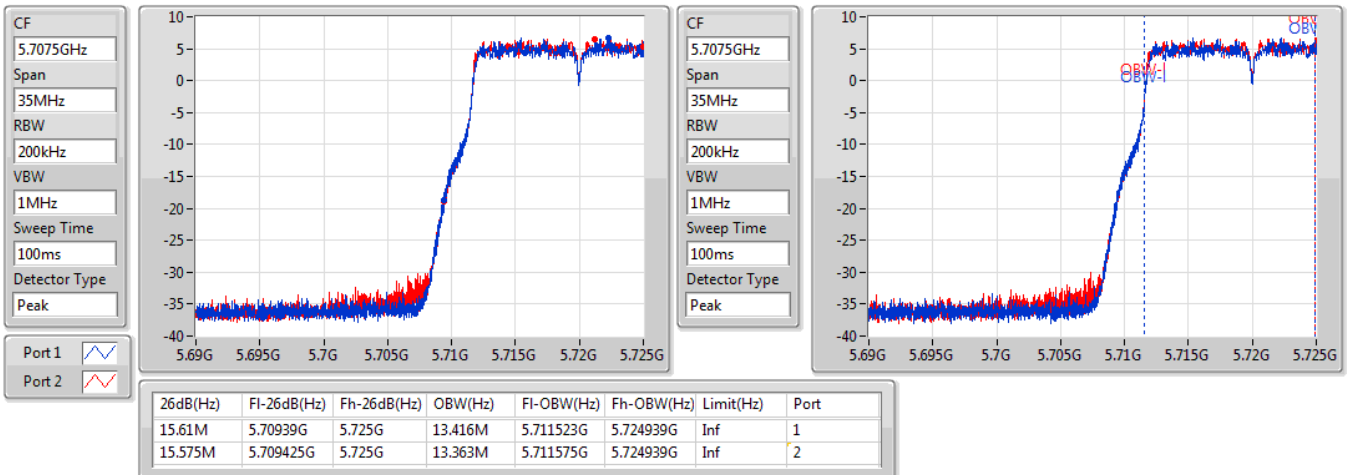


11a20_Nss1,(6Mbps)_2TX

EBW

5720MHz Straddle 5.47-5.725GHz

07/03/2020

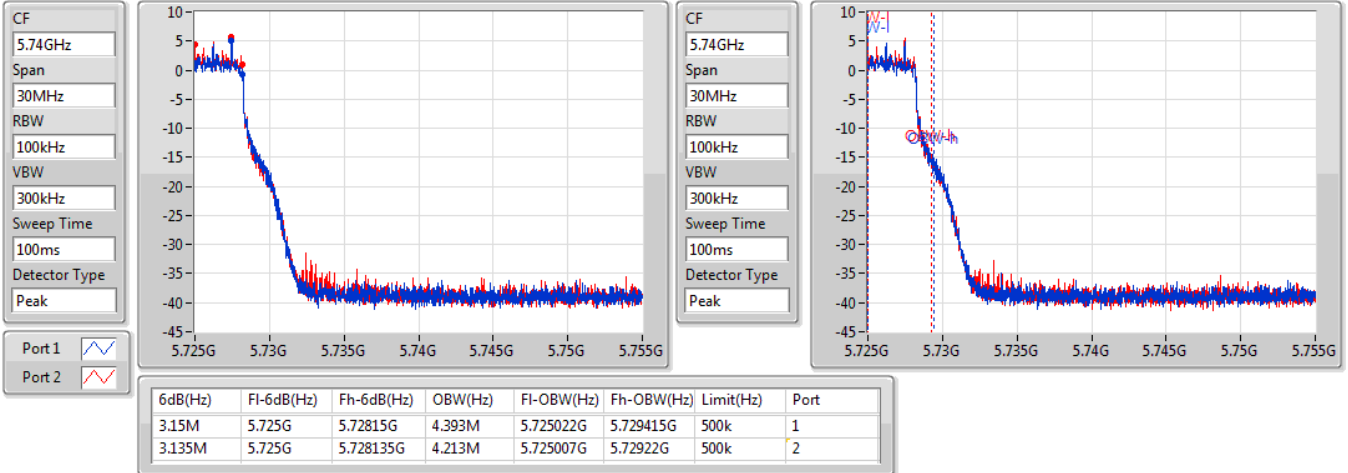


11a20_Nss1,(6Mbps)_2TX

EBW

5720MHz Straddle 5.725-5.85GHz

07/03/2020

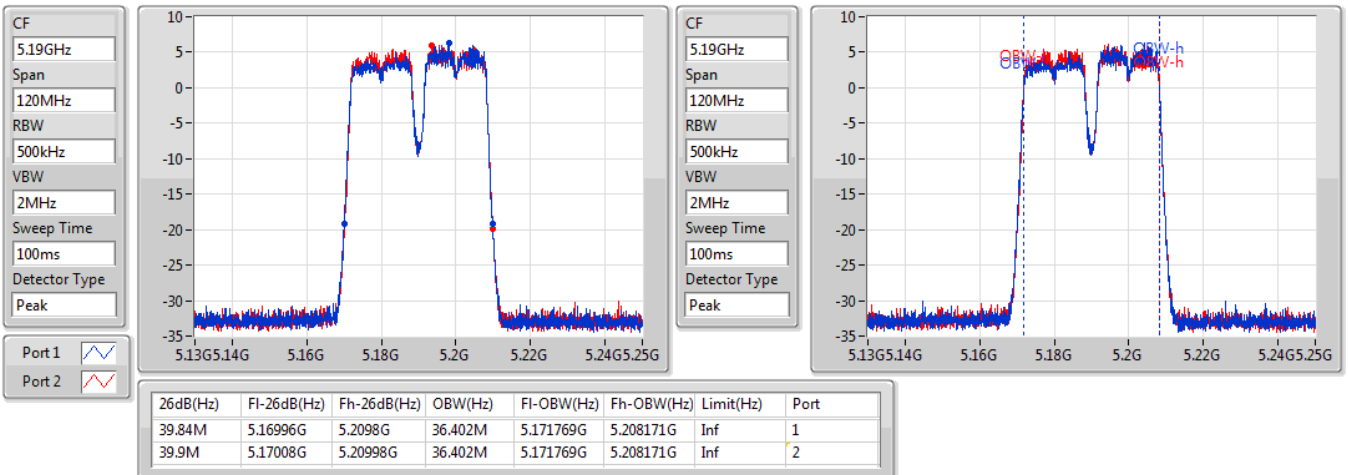


11a40_Nss1,(6Mbps)_2TX

EBW

5190MHz

07/03/2020

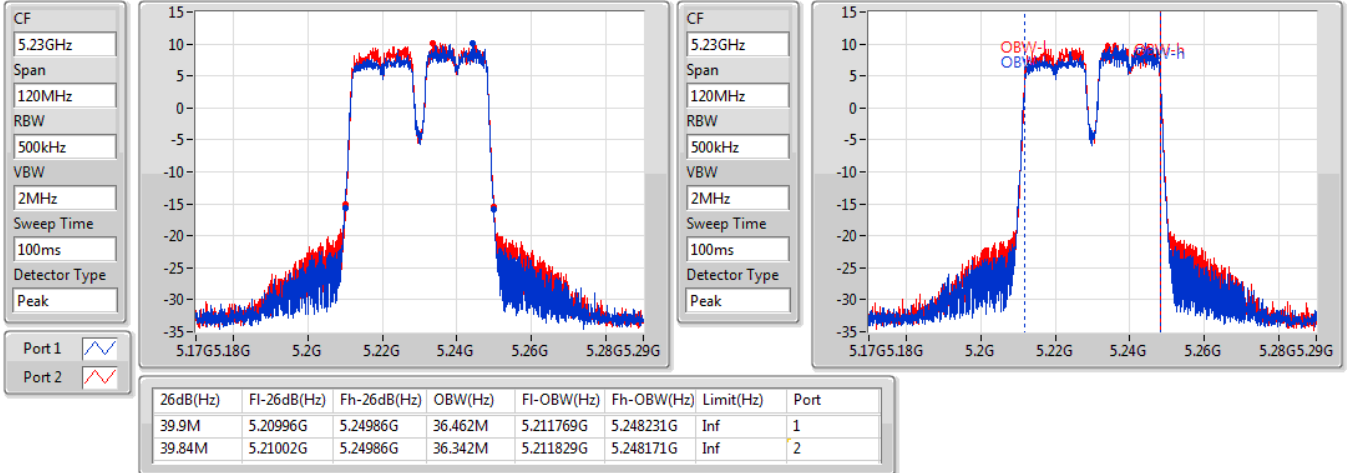


11a40_Nss1,(6Mbps)_2TX

EBW

5230MHz

07/03/2020

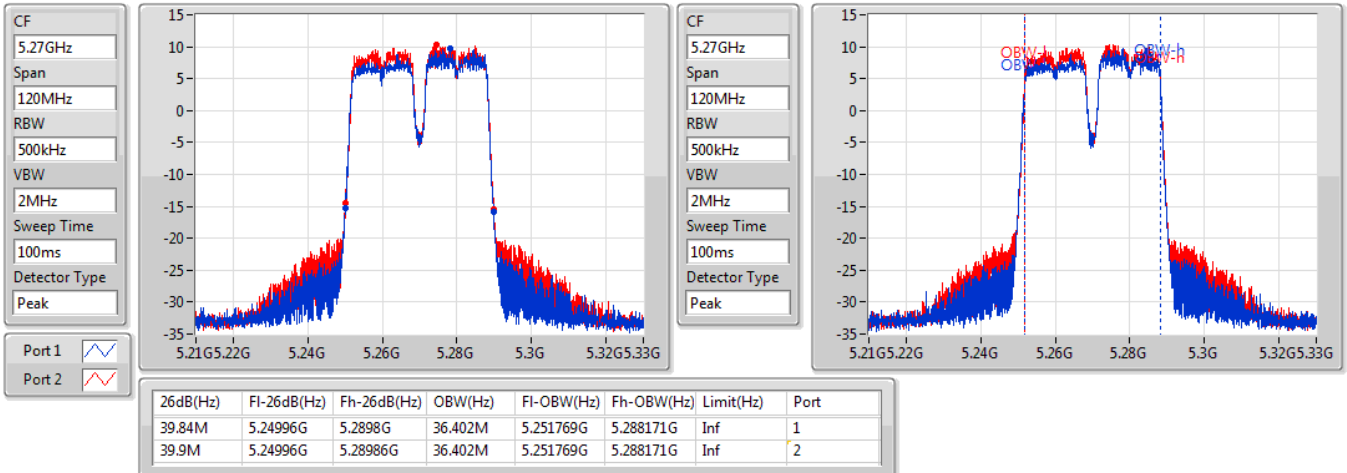


11a40_Nss1,(6Mbps)_2TX

EBW

5270MHz

07/03/2020

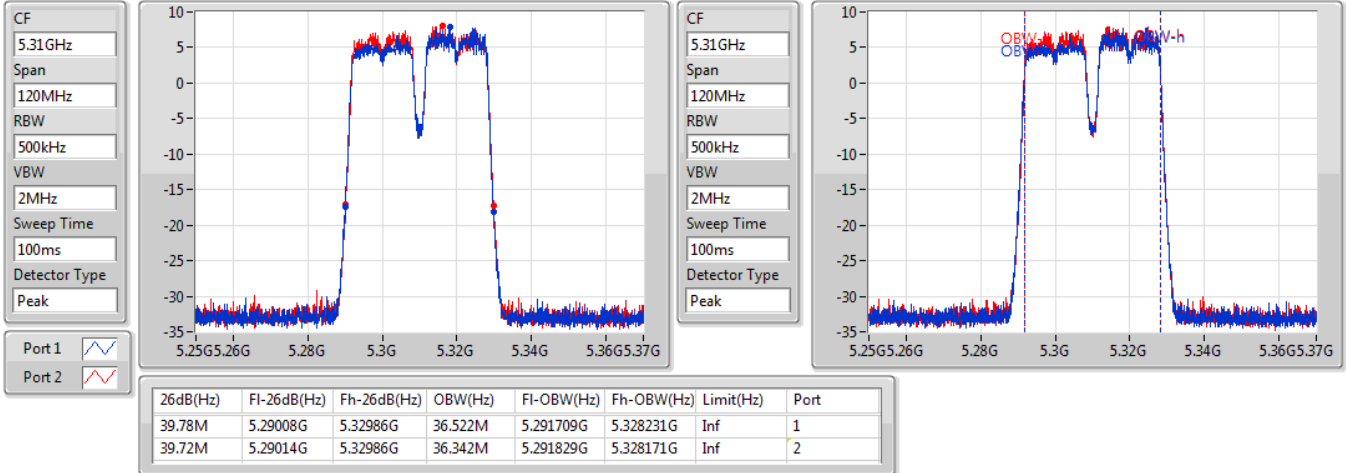


11a40_Nss1,(6Mbps)_2TX

EBW

5310MHz

07/03/2020

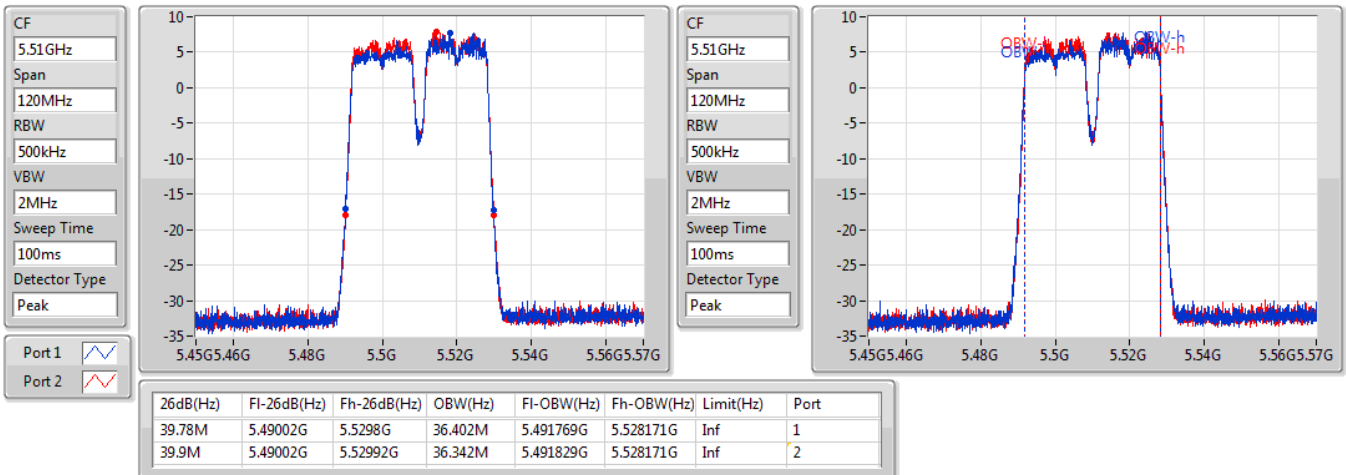


11a40_Nss1,(6Mbps)_2TX

EBW

5510MHz

07/03/2020

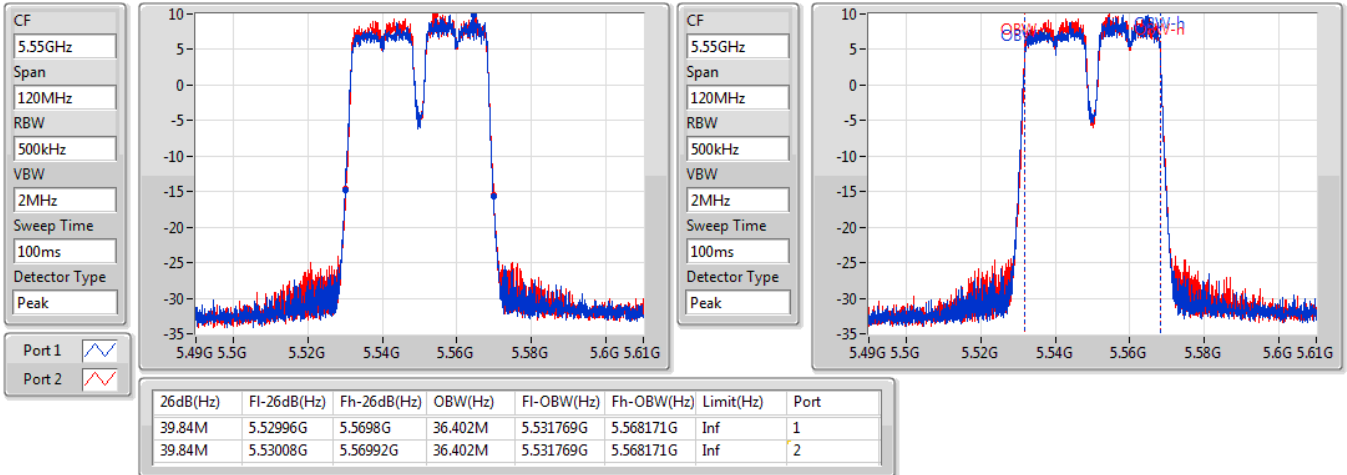


11a40_Nss1,(6Mbps)_2TX

EBW

5550MHz

07/03/2020

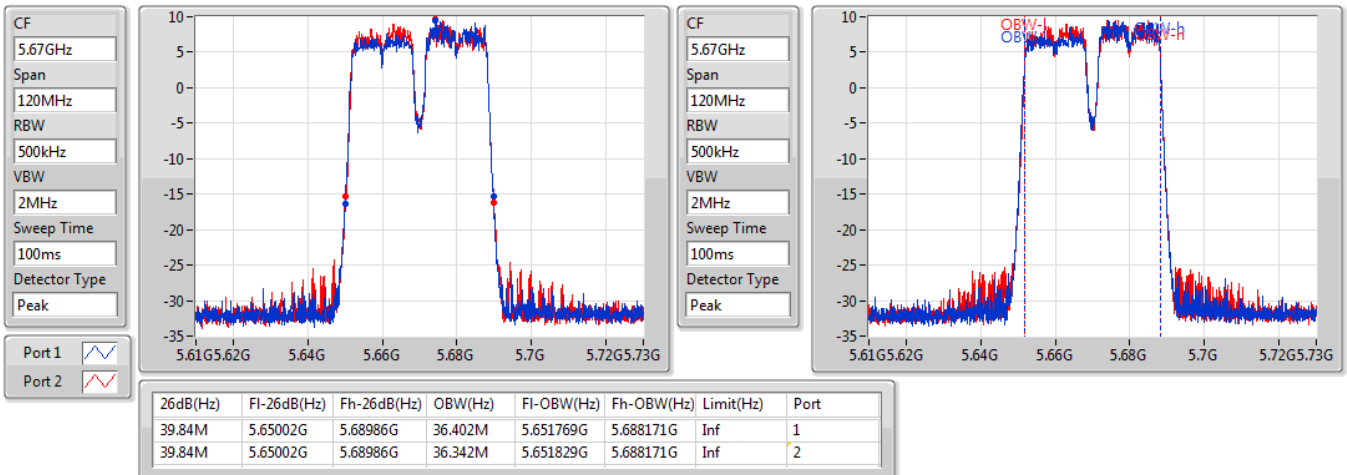


11a40_Nss1,(6Mbps)_2TX

EBW

5670MHz

07/03/2020

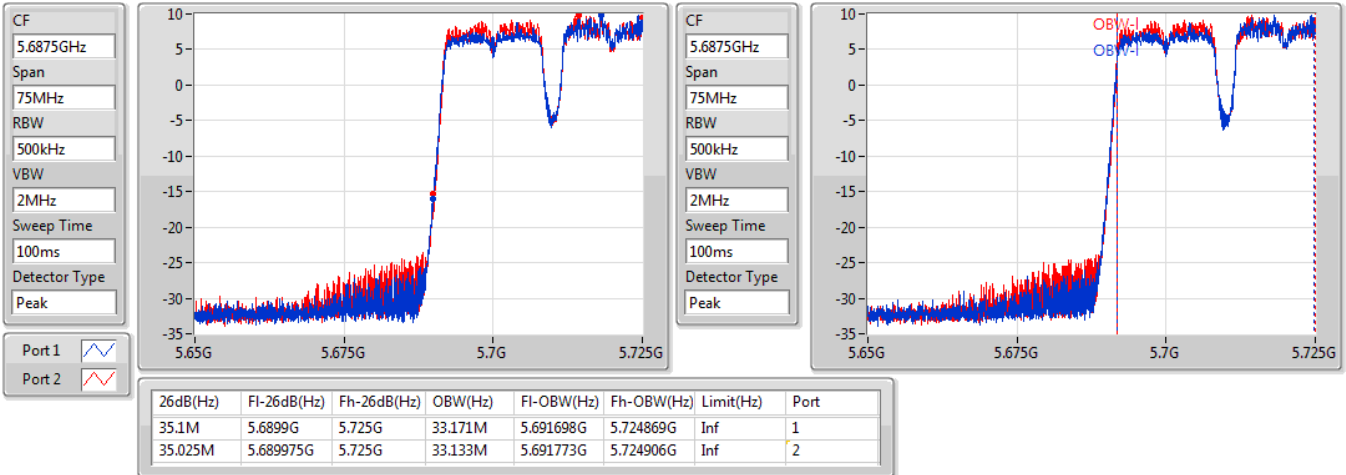


11a40_Nss1,(6Mbps)_2TX

EBW

5710MHz Straddle 5.47-5.725GHz

07/03/2020

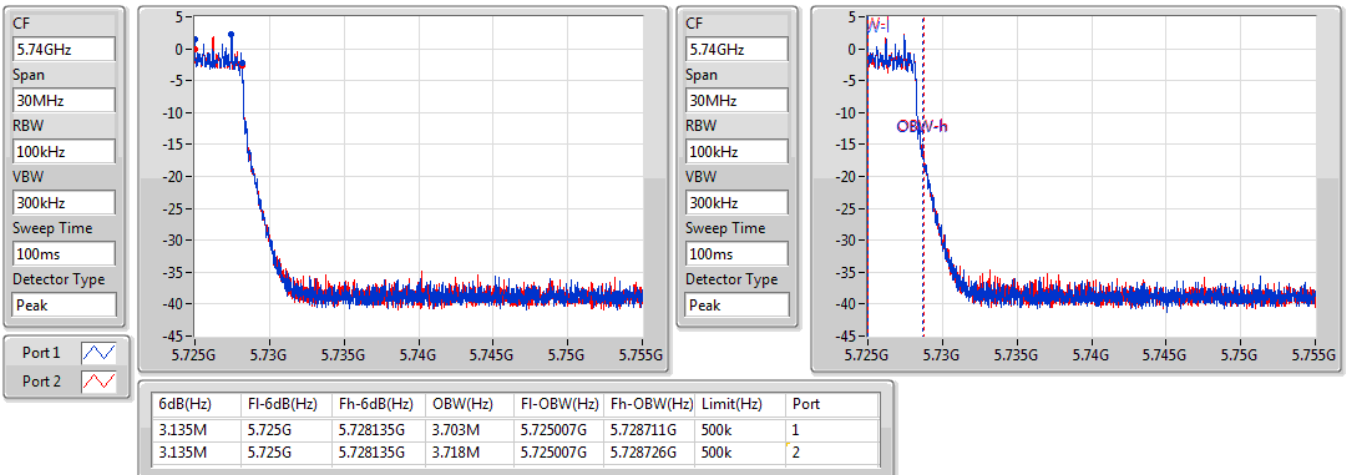


11a40_Nss1,(6Mbps)_2TX

EBW

5710MHz Straddle 5.725-5.85GHz

07/03/2020

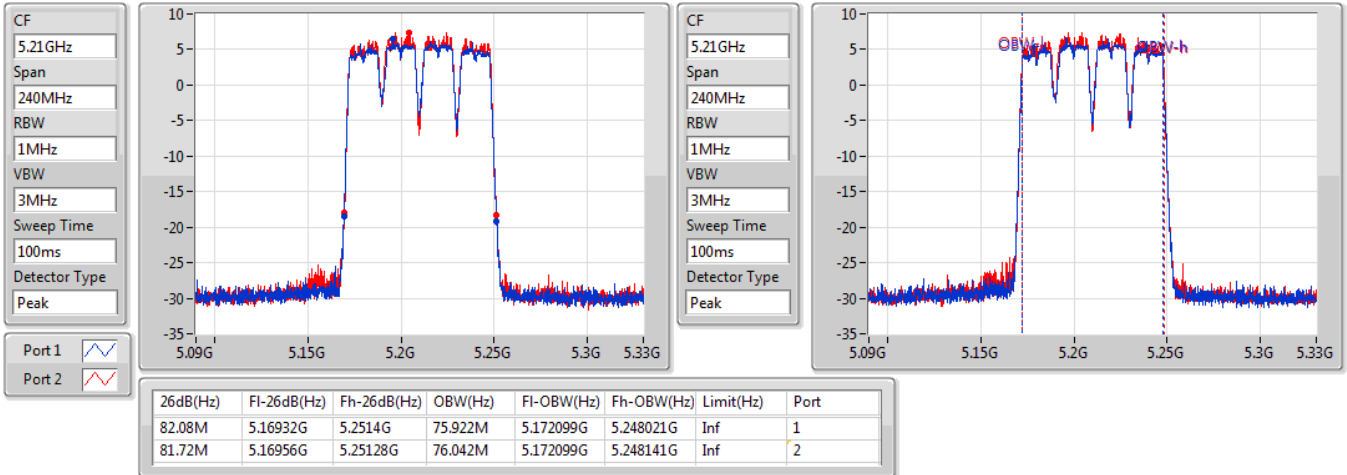


11a80_Nss1,(6Mbps)_2TX

EBW

5210MHz

07/03/2020

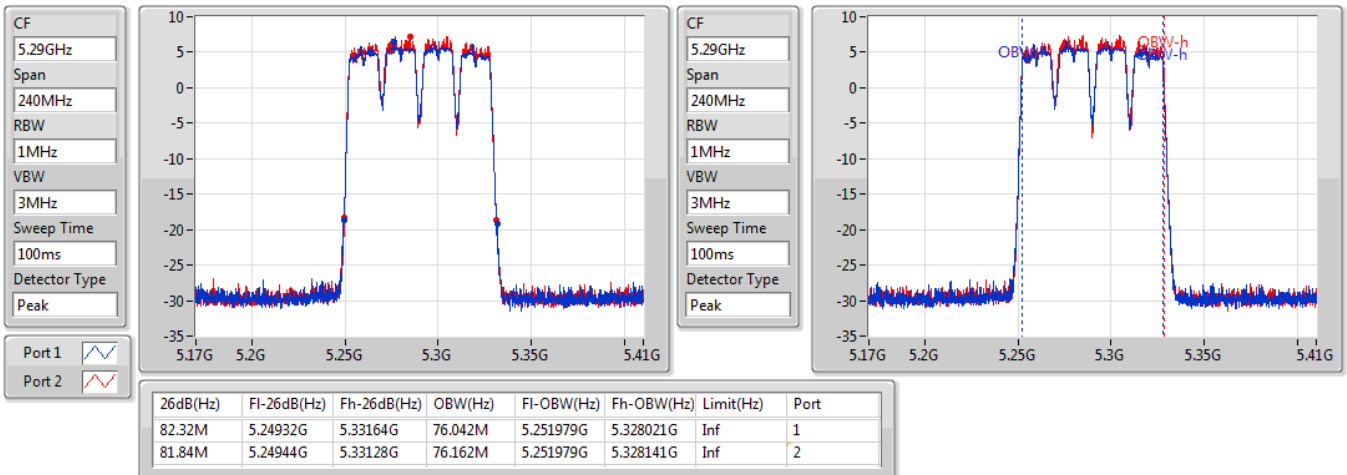


11a80_Nss1,(6Mbps)_2TX

EBW

5290MHz

07/03/2020

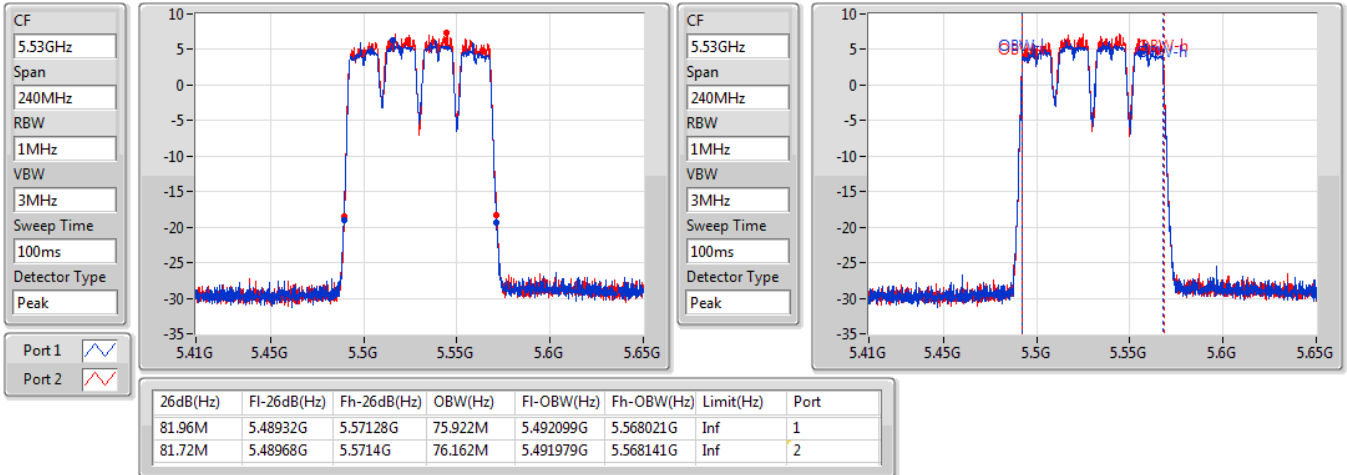


11a80_Nss1,(6Mbps)_2TX

EBW

5530MHz

07/03/2020

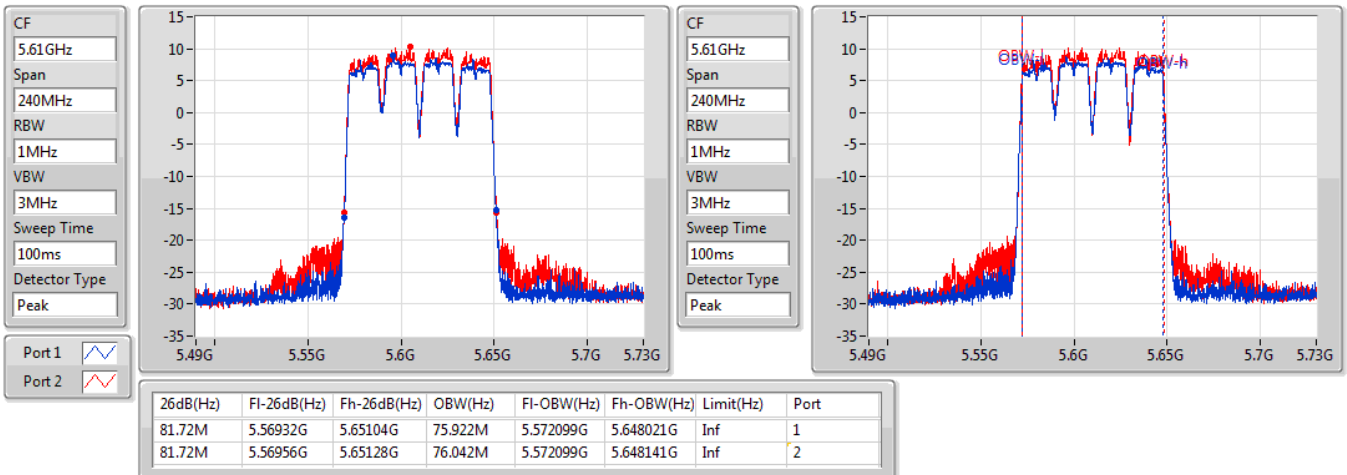


11a80_Nss1,(6Mbps)_2TX

EBW

5610MHz

07/03/2020

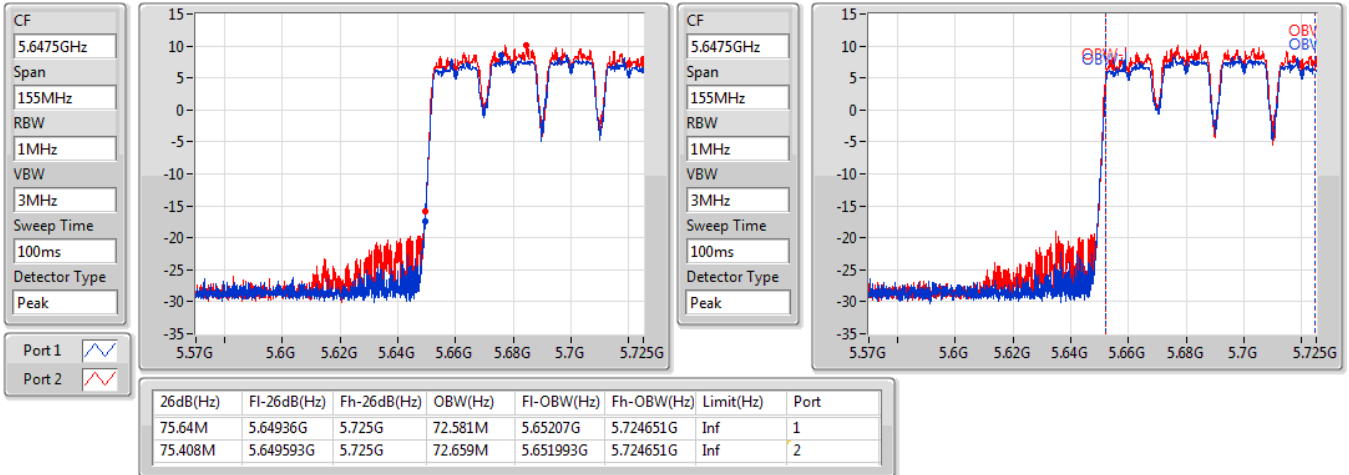


11a80_Nss1,(6Mbps)_2TX

EBW

5690MHz Straddle 5.47-5.725GHz

07/03/2020

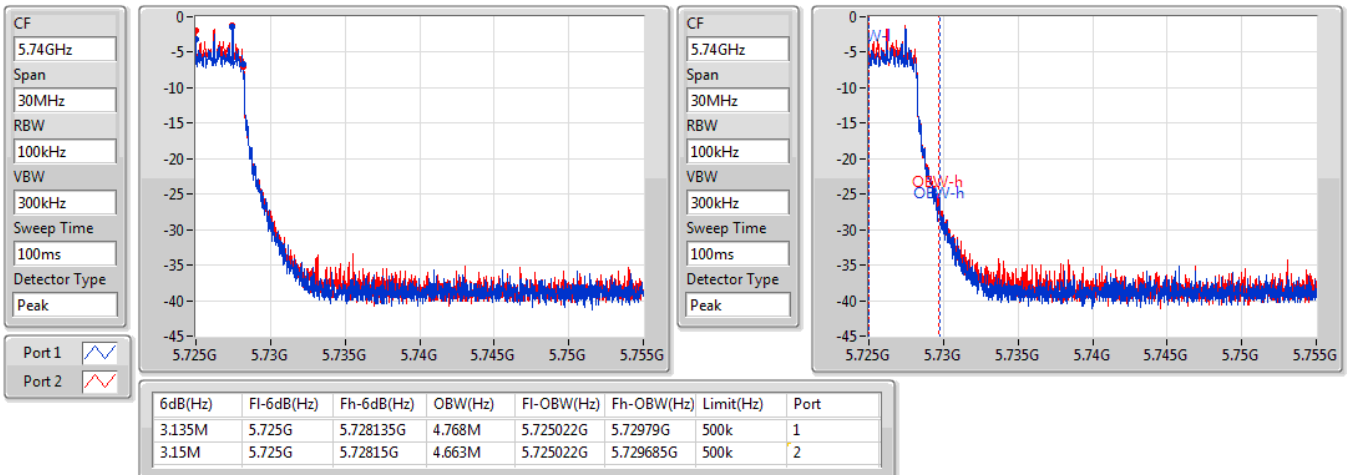


11a80_Nss1,(6Mbps)_2TX

EBW

5690MHz Straddle 5.725-5.85GHz

07/03/2020



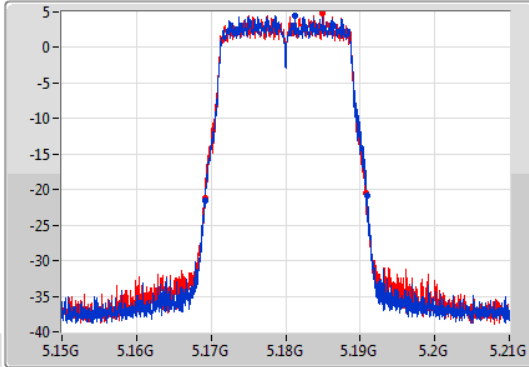
802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

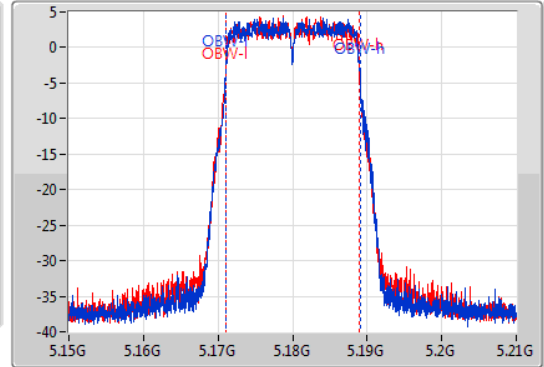
5180MHz

25/03/2020

CF
5.18GHz
Span
60MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.18GHz
Span
60MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.72M	5.16923G	5.19095G	17.991M	5.171064G	5.189055G	Inf	1
21.6M	5.16923G	5.19083G	17.931M	5.171004G	5.188936G	Inf	2

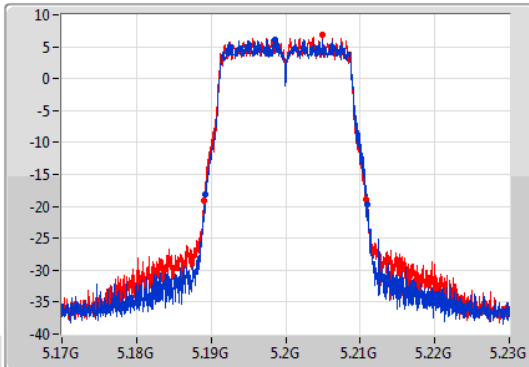
802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

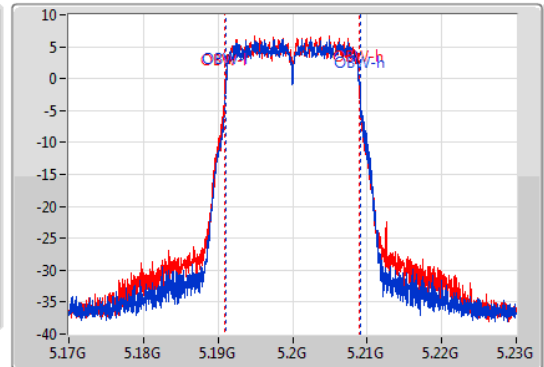
5200MHz

25/03/2020

CF
5.2GHz
Span
60MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.2GHz
Span
60MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.69M	5.18923G	5.21092G	17.961M	5.191064G	5.209025G	Inf	1
21.75M	5.18911G	5.21086G	17.961M	5.190975G	5.208936G	Inf	2

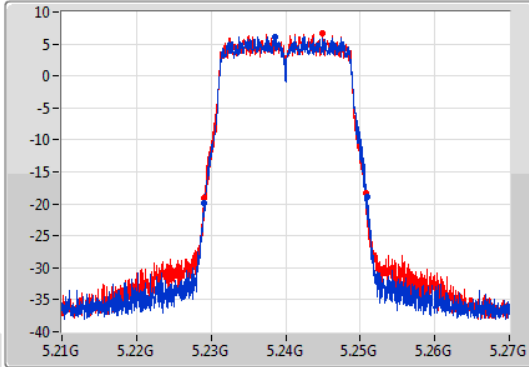
802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

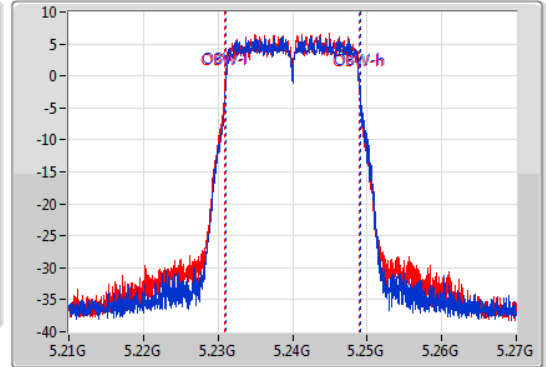
5240MHz

25/03/2020

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



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



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.78M	5.22911G	5.25089G	17.991M	5.231034G	5.249025G	Inf	1
21.72M	5.22911G	5.25083G	17.961M	5.230975G	5.248936G	Inf	2

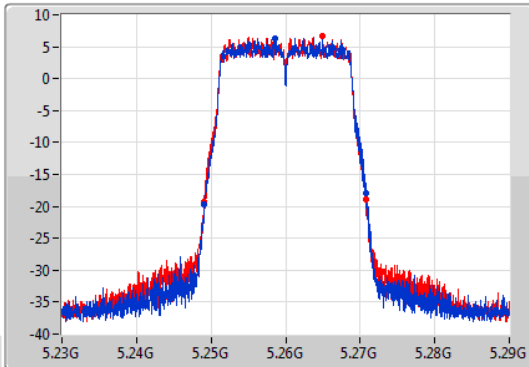
802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

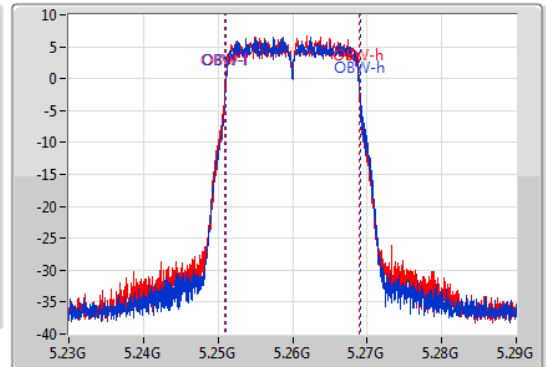
5260MHz

25/03/2020

CF
5.26GHz
Span
60MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



CF
5.26GHz
Span
60MHz
RBW
200kHz
VBW
1MHz
Sweep Time
100ms
Detector Type
Peak



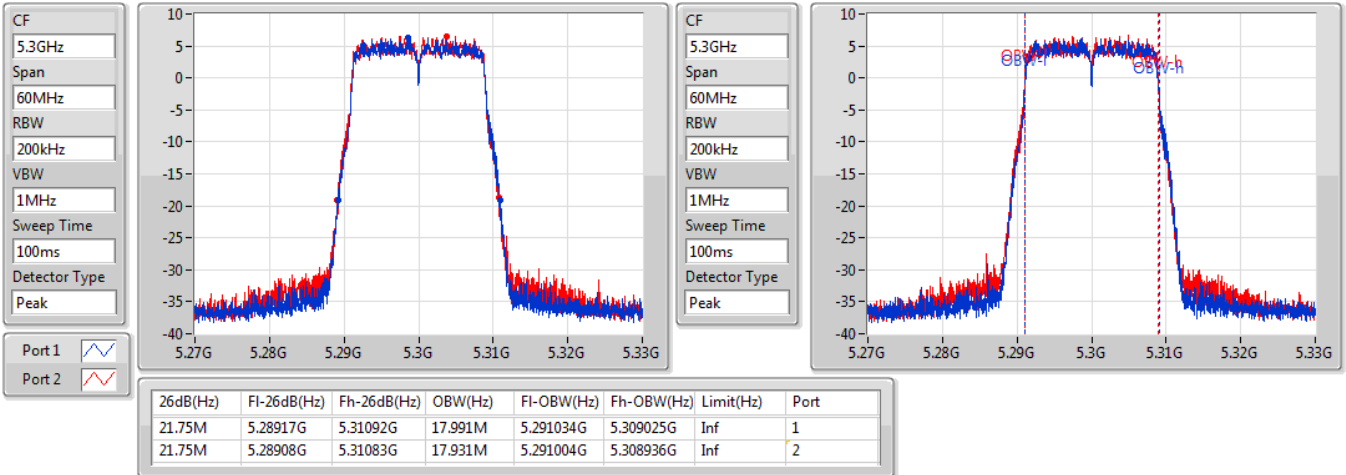
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.75M	5.24911G	5.27086G	18.021M	5.251034G	5.269055G	Inf	1
21.75M	5.24908G	5.27083G	17.931M	5.250975G	5.268906G	Inf	2

802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5300MHz

25/03/2020

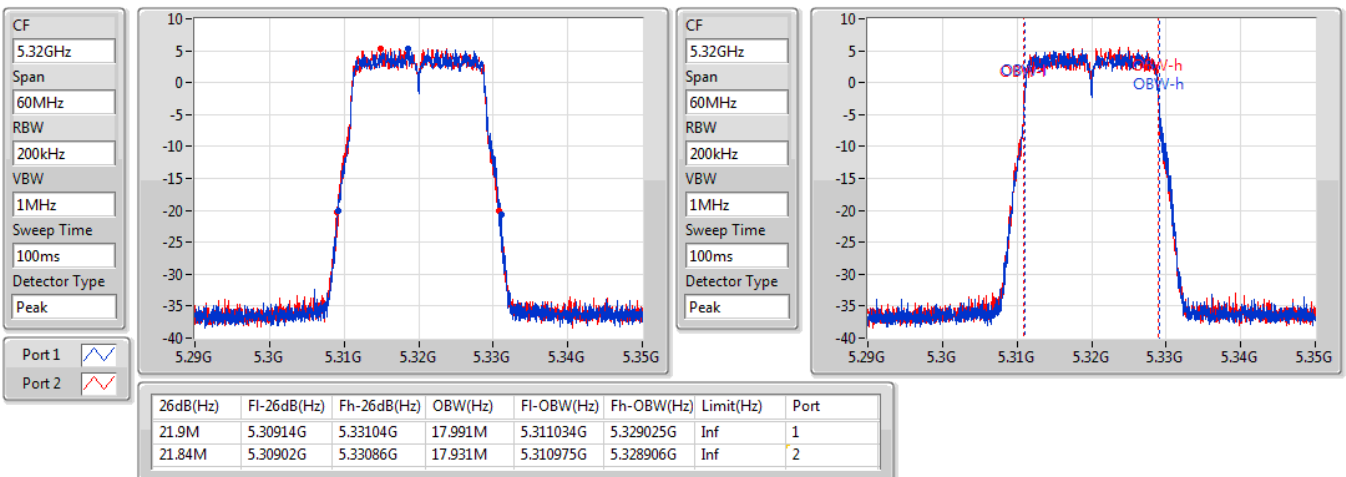


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5320MHz

25/03/2020

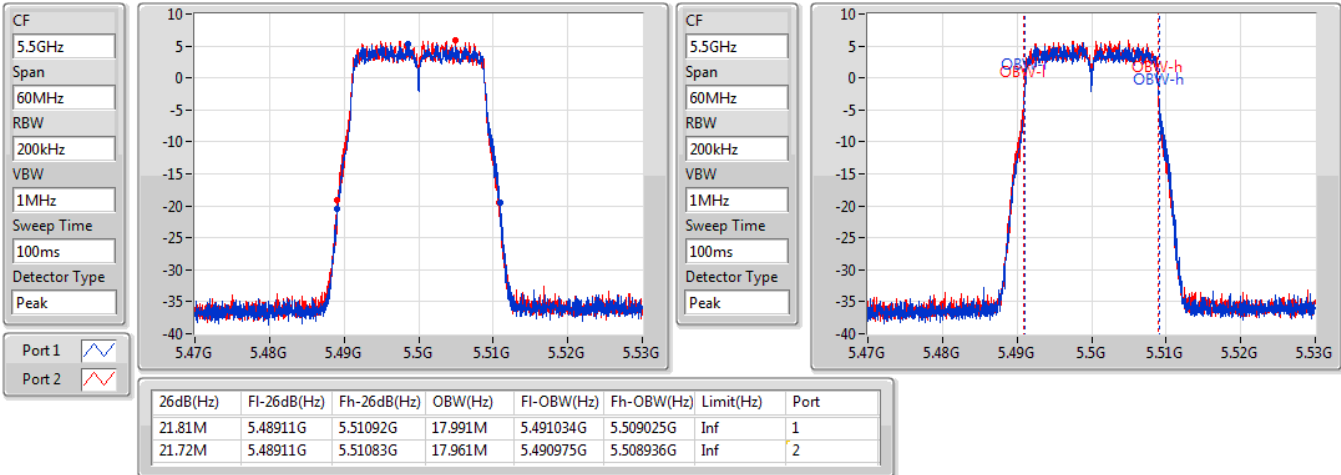


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5500MHz

25/03/2020

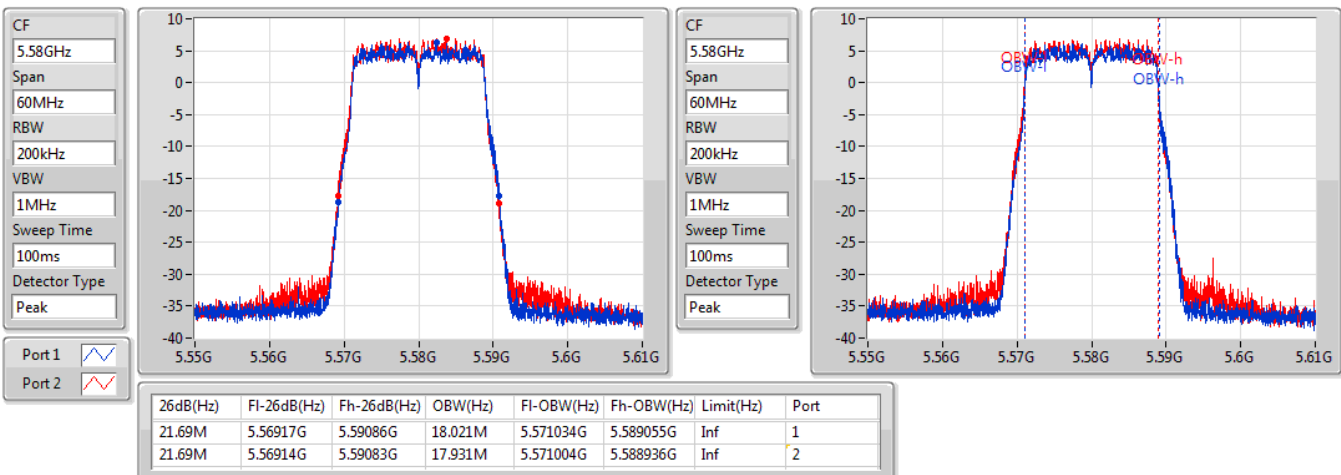


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5580MHz

25/03/2020

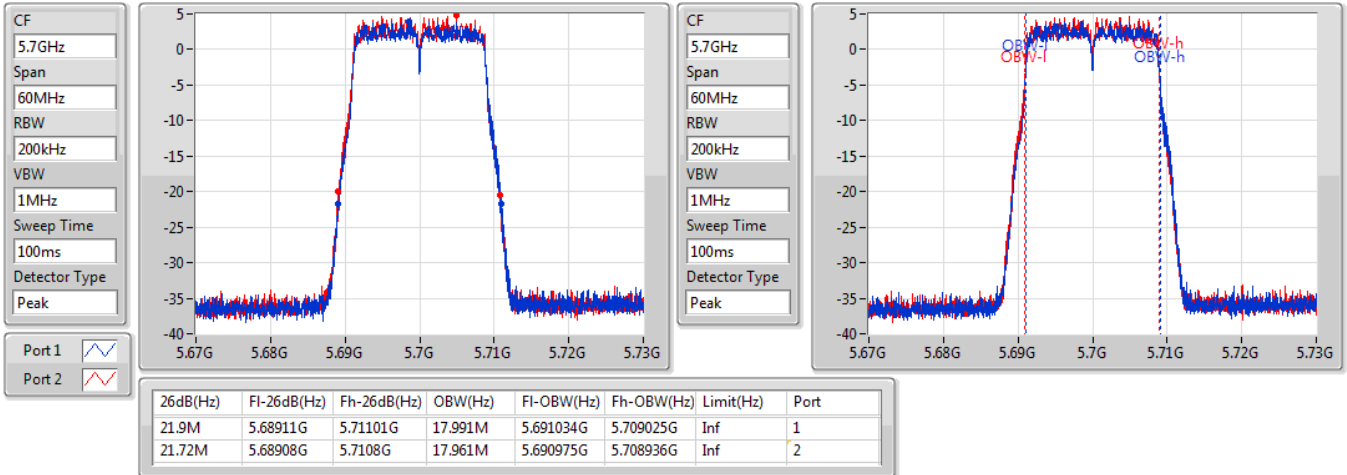


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5700MHz

25/03/2020

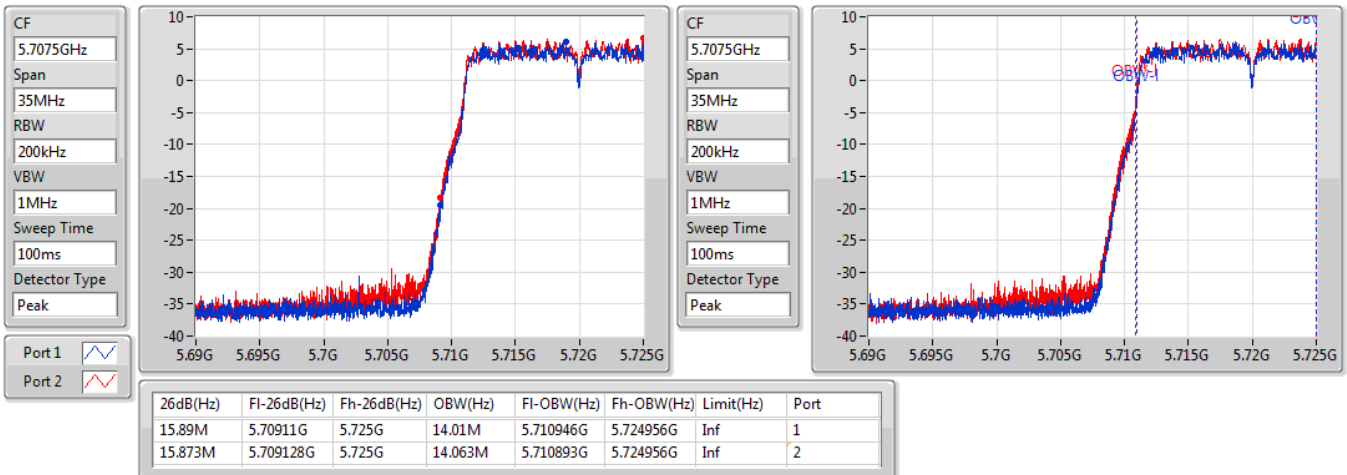


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5720MHz Straddle 5.47-5.725GHz

25/03/2020

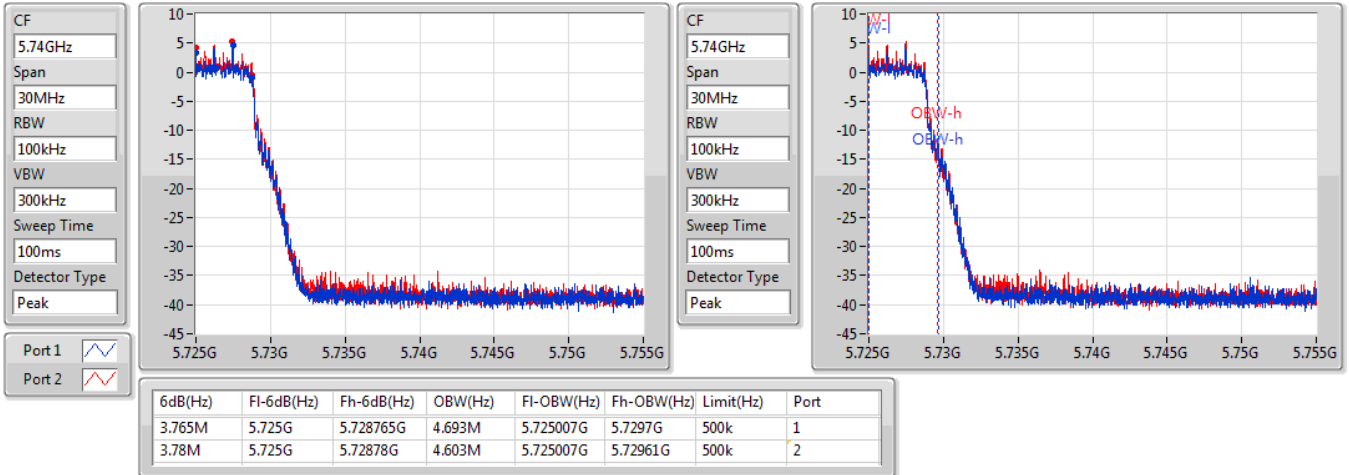


802.11ac VHT20_Nss1,(MCS0)_2TX

EBW

5720MHz Straddle 5.725-5.85GHz

25/03/2020

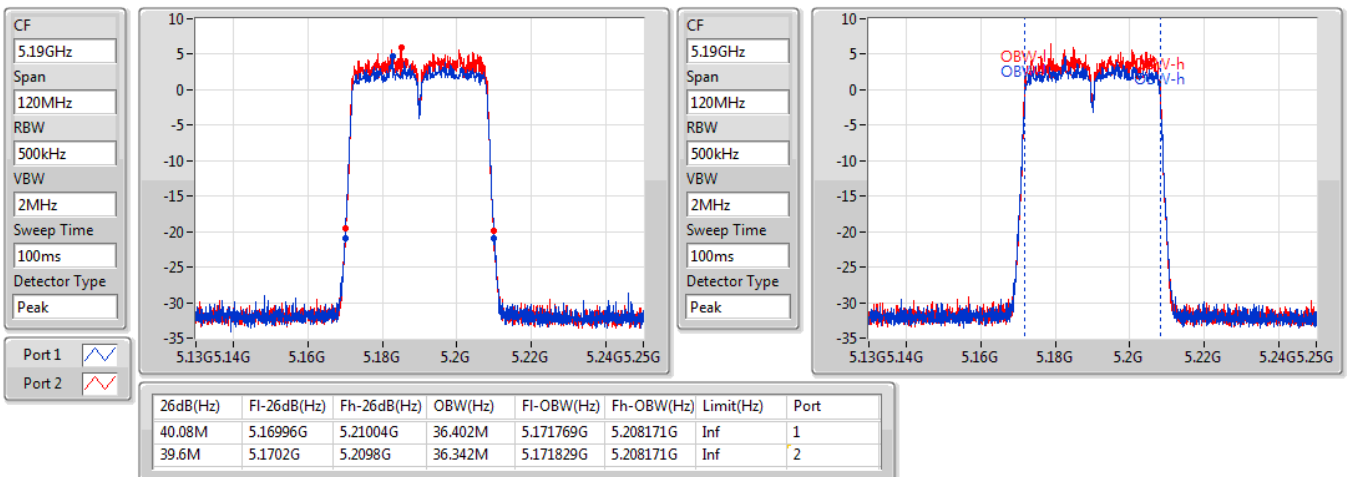


802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

5190MHz

25/03/2020

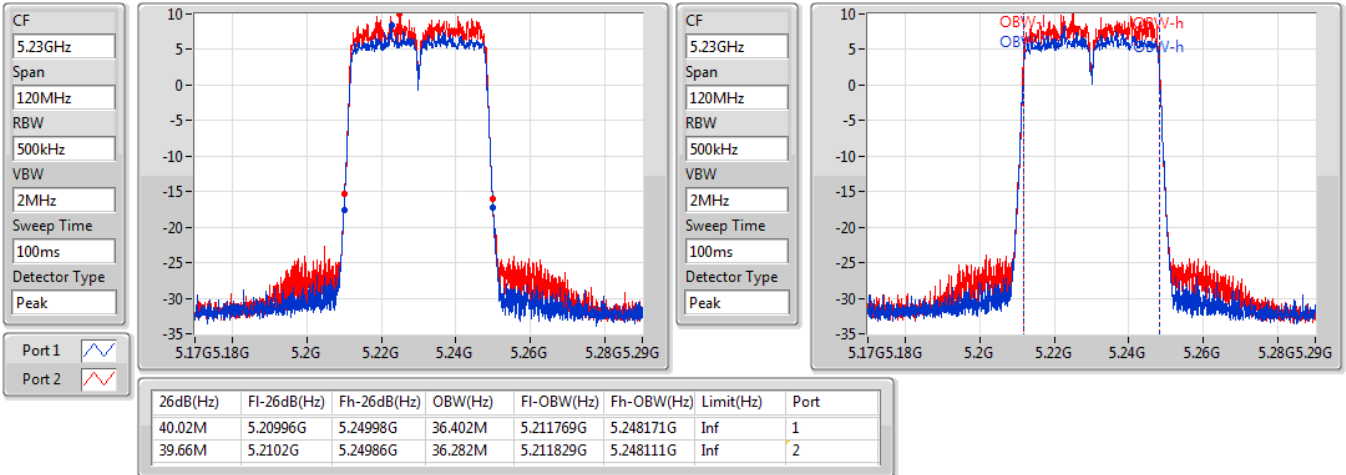


802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

5230MHz

25/03/2020

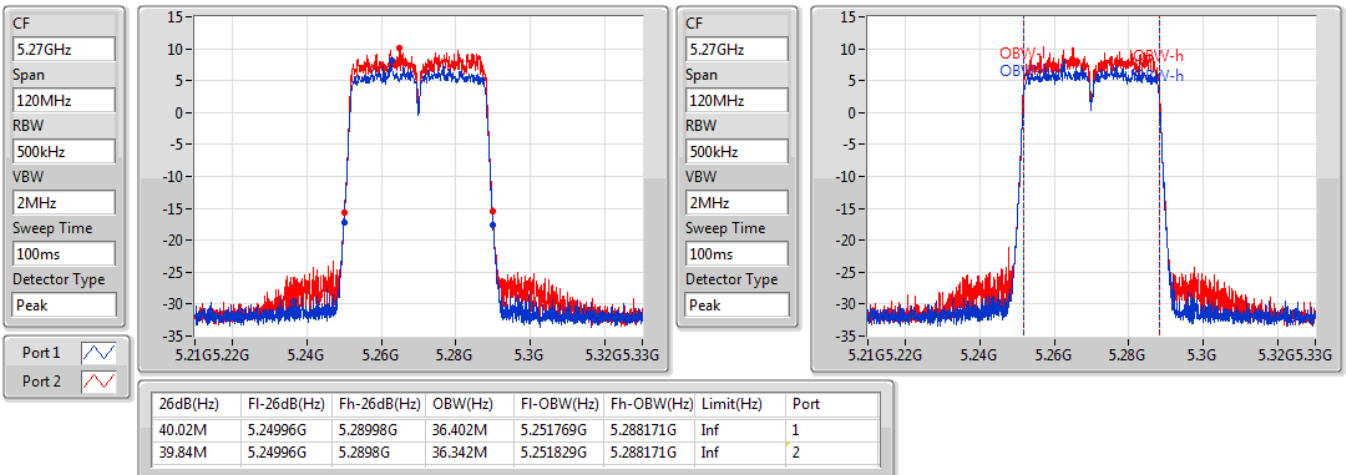


802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

5270MHz

25/03/2020

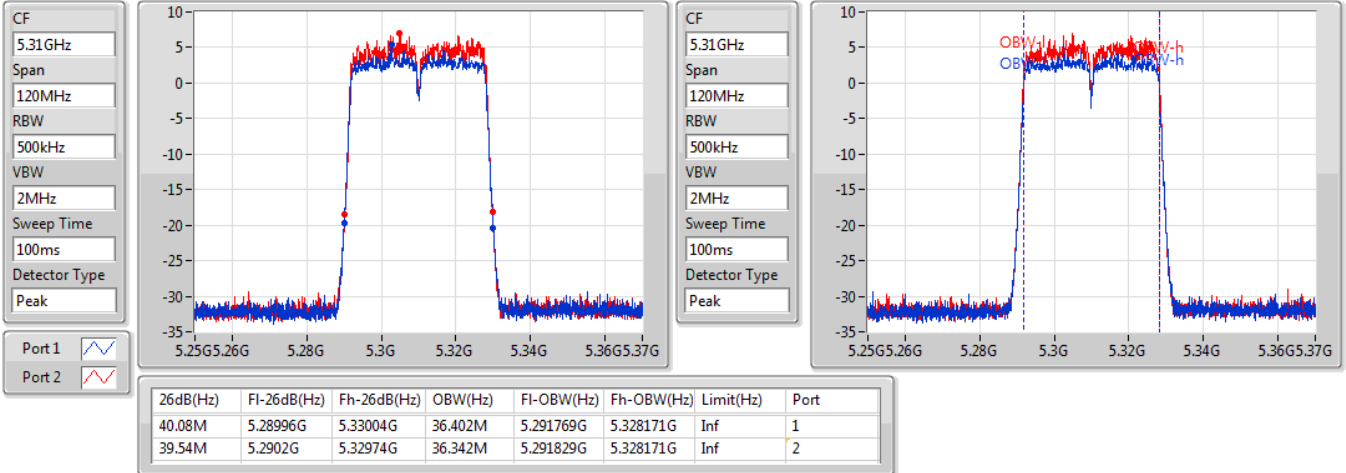


802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

5310MHz

25/03/2020

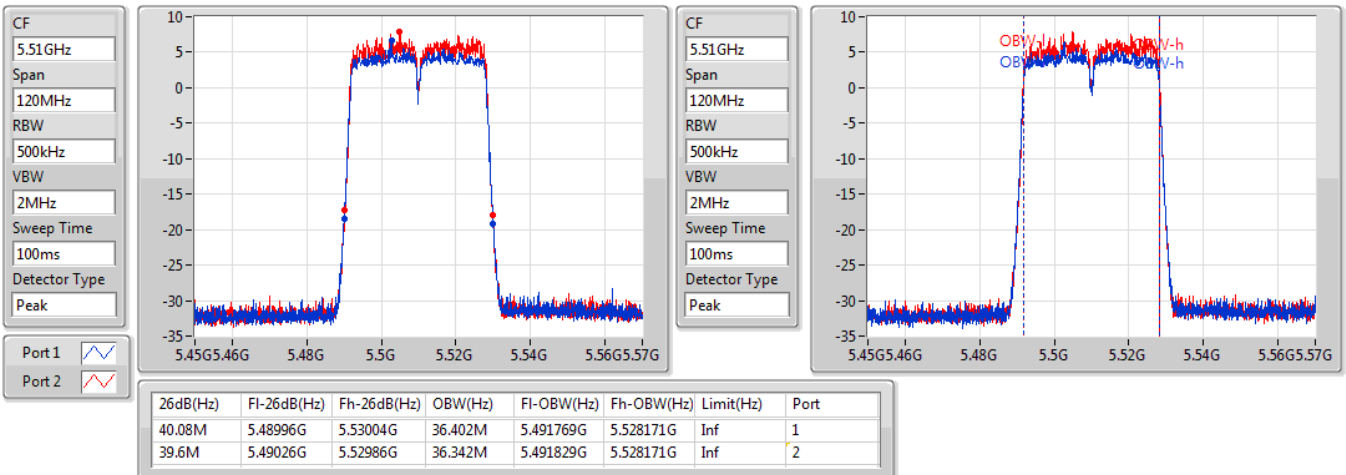


802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

5510MHz

25/03/2020

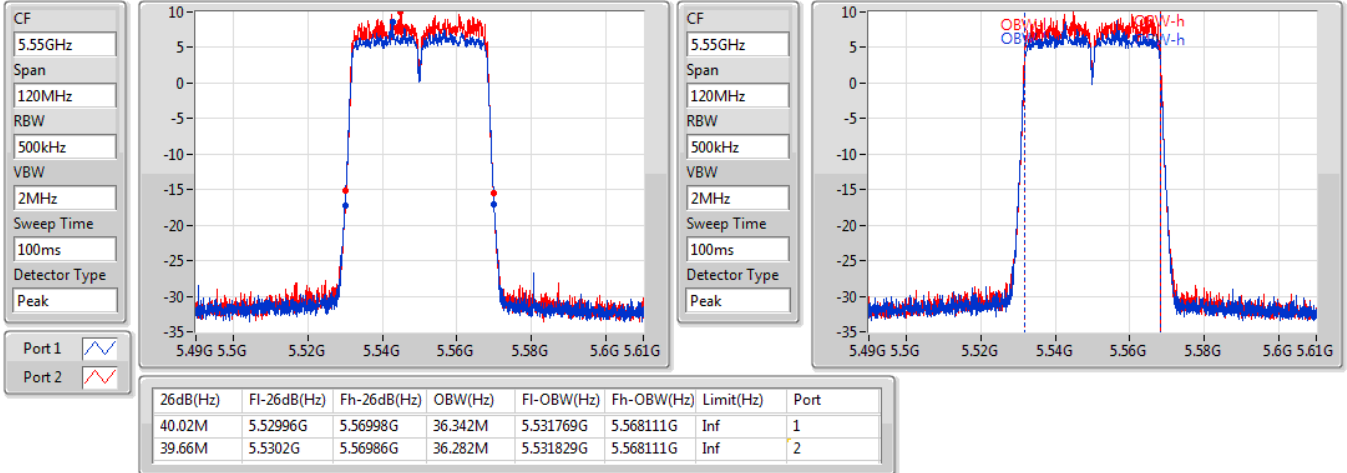


802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

5550MHz

25/03/2020

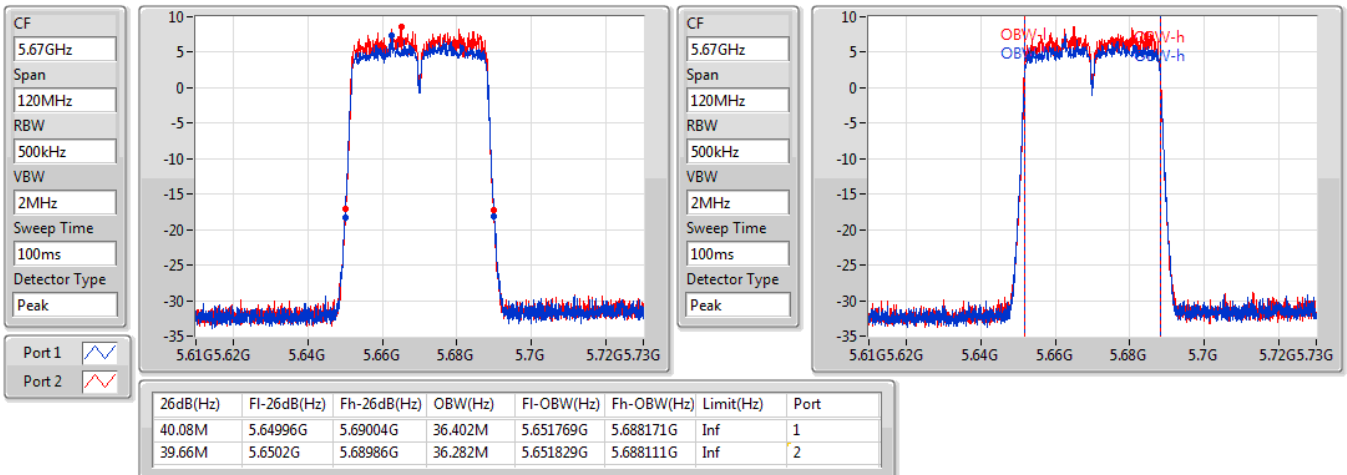


802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

5670MHz

25/03/2020

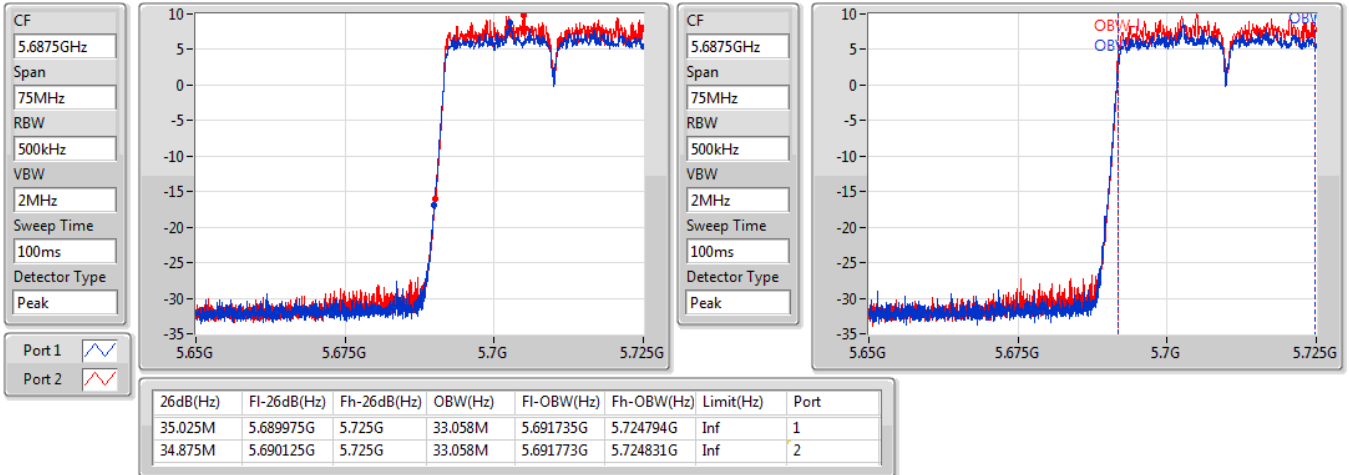


802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

5710MHz Straddle 5.47-5.725GHz

25/03/2020

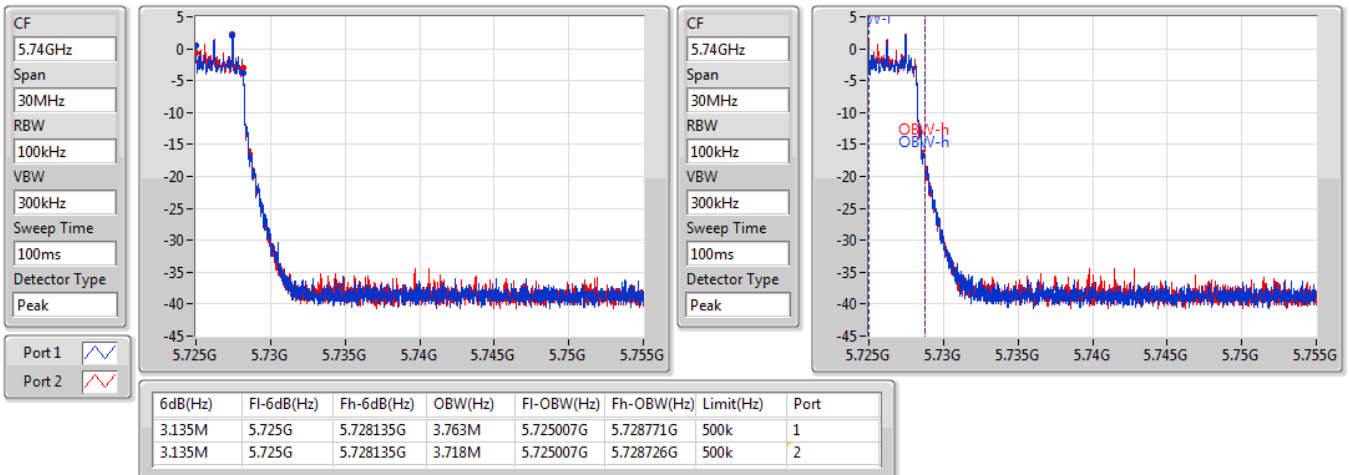


802.11ac VHT40_Nss1,(MCS0)_2TX

EBW

5710MHz Straddle 5.725-5.85GHz

25/03/2020

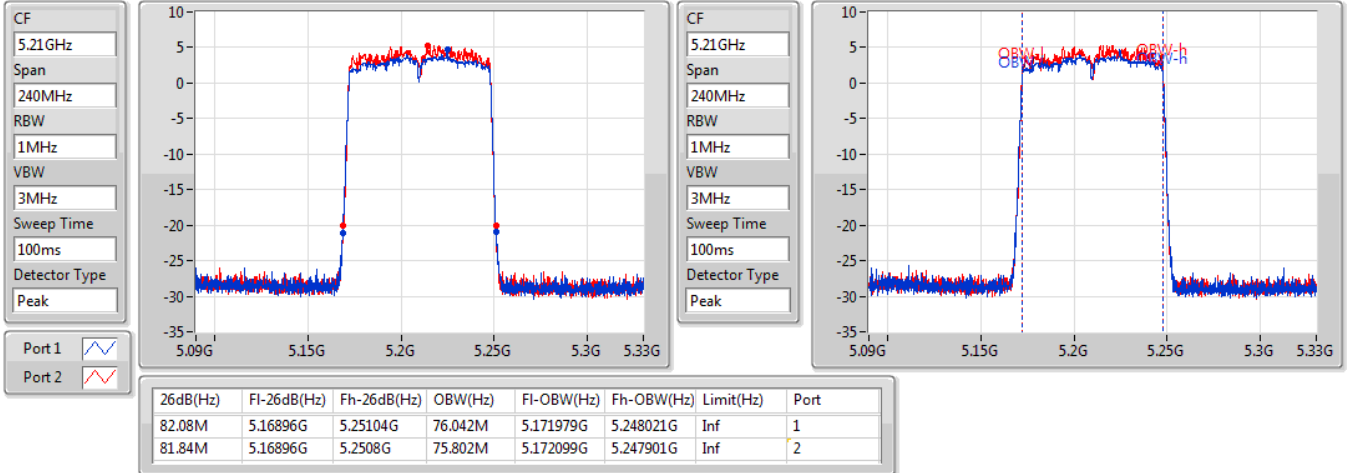


802.11ac VHT80_Nss1,(MCS0)_2TX

EBW

5210MHz

25/03/2020

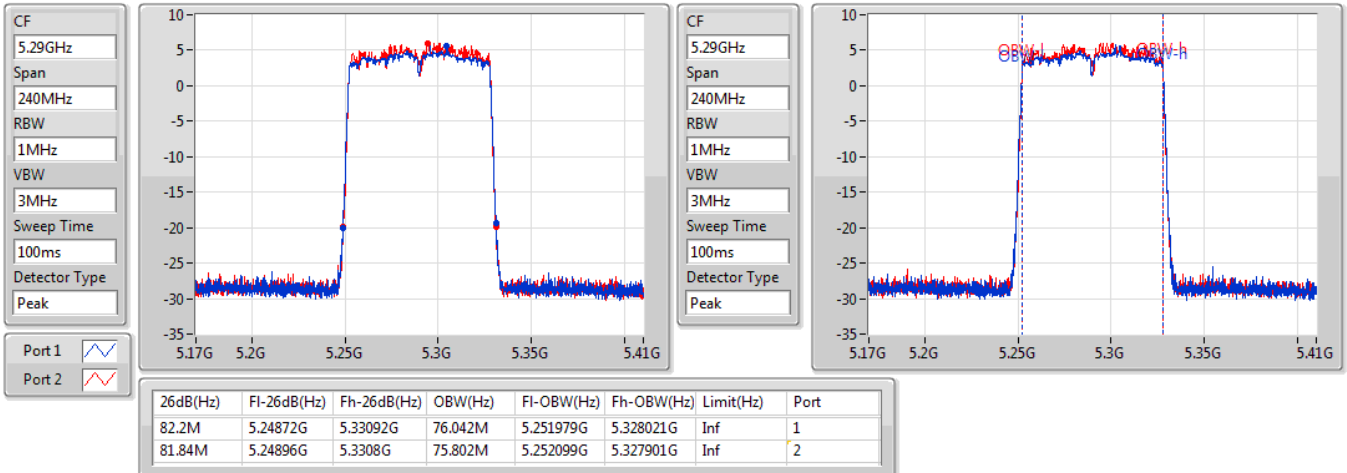


802.11ac VHT80_Nss1,(MCS0)_2TX

EBW

5290MHz

25/03/2020

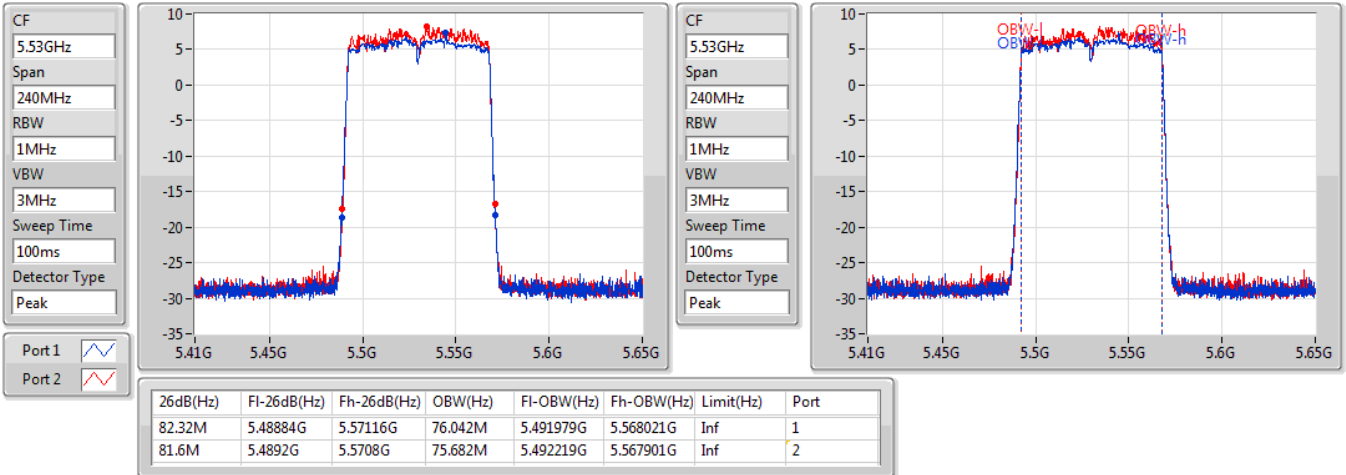


802.11ac VHT80_Nss1,(MCS0)_2TX

EBW

5530MHz

25/03/2020

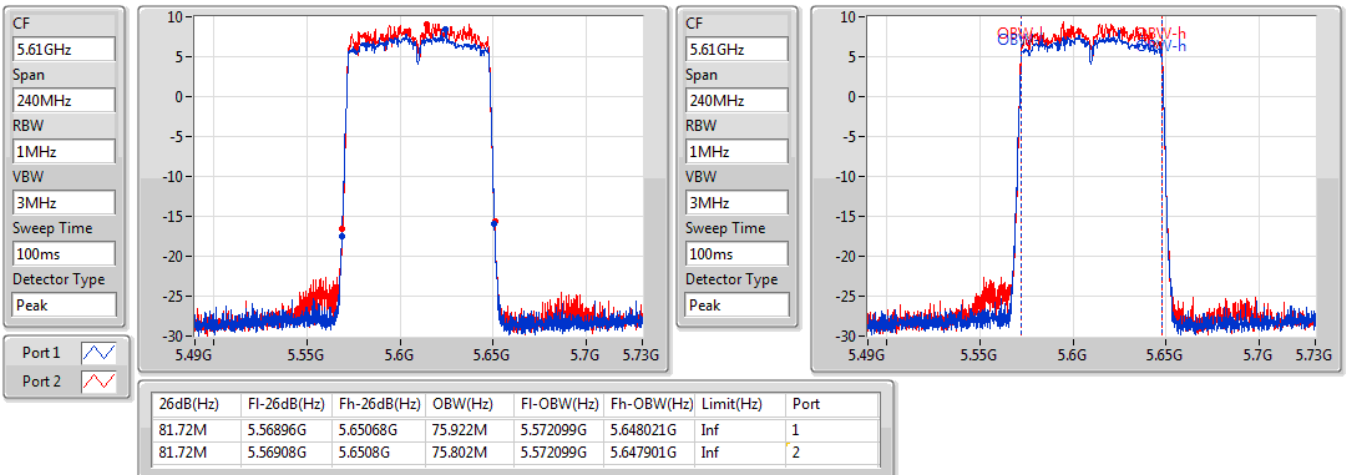


802.11ac VHT80_Nss1,(MCS0)_2TX

EBW

5610MHz

25/03/2020

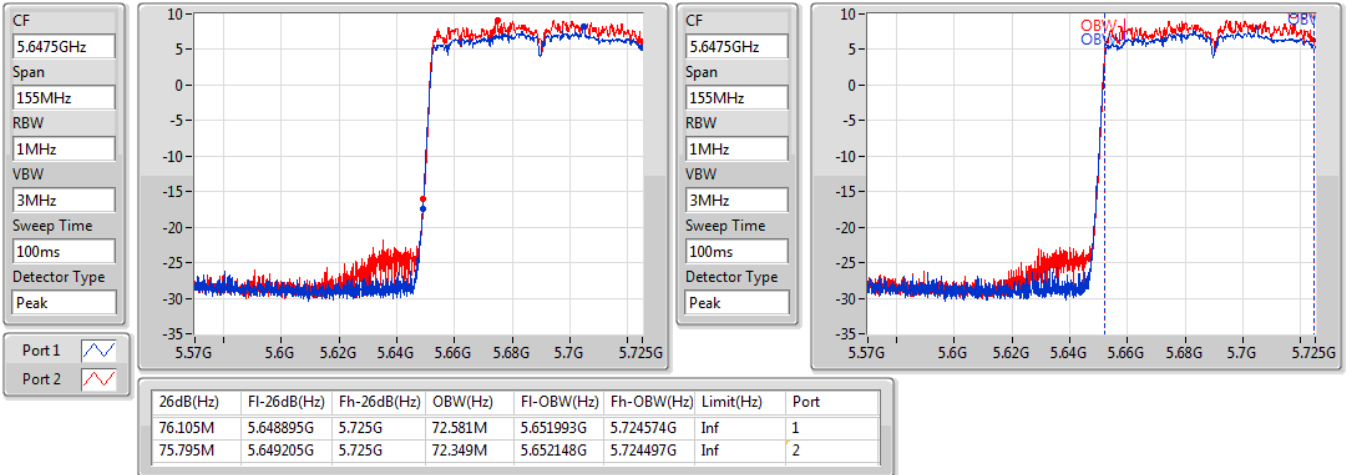


802.11ac VHT80_Nss1,(MCS0)_2TX

EBW

5690MHz Straddle 5.47-5.725GHz

25/03/2020

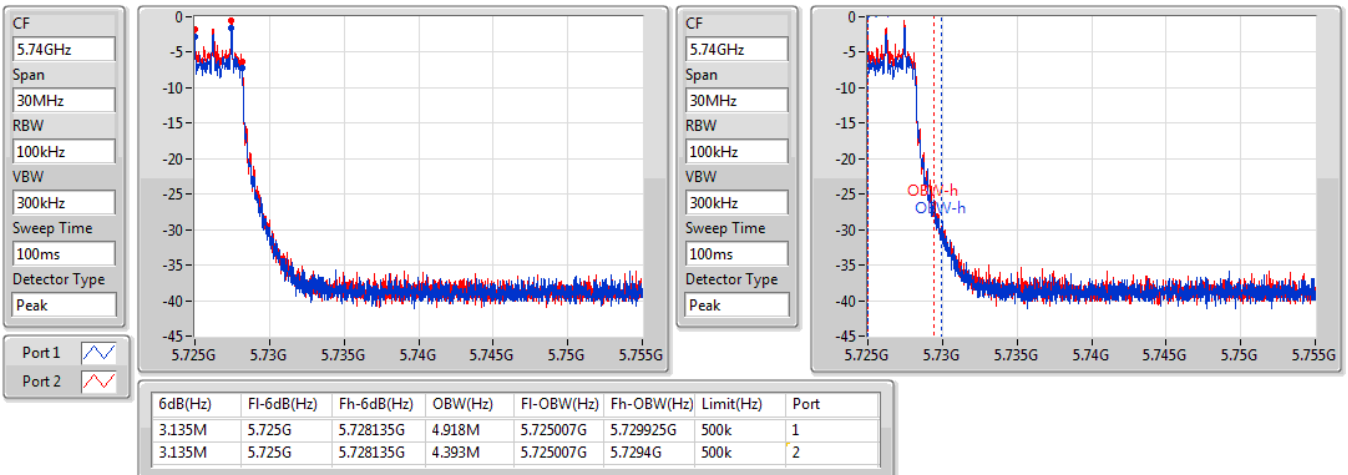


802.11ac VHT80_Nss1,(MCS0)_2TX

EBW

5690MHz Straddle 5.725-5.85GHz

25/03/2020

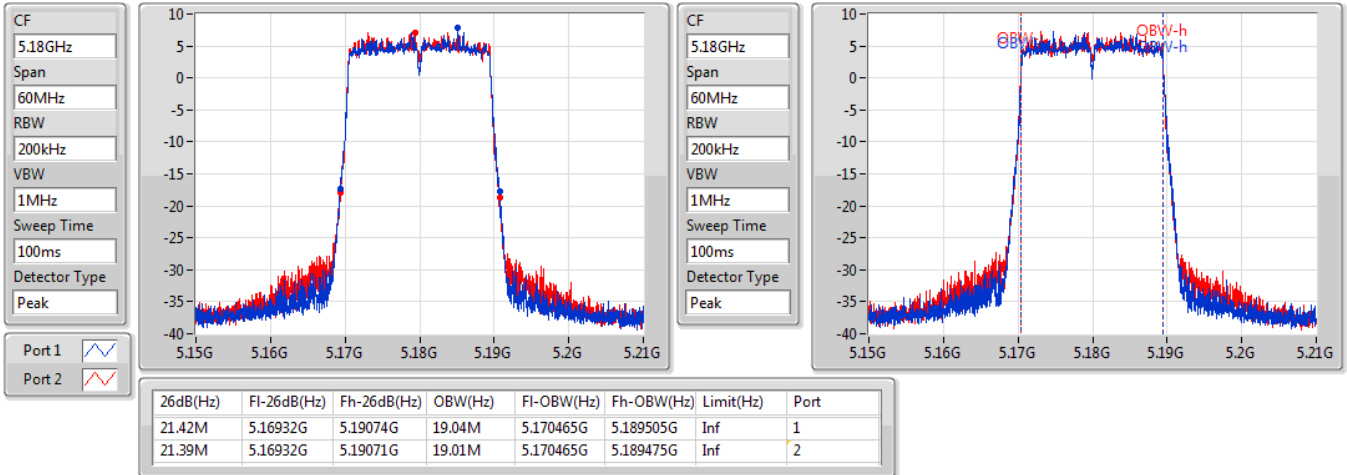


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5180MHz

07/03/2020

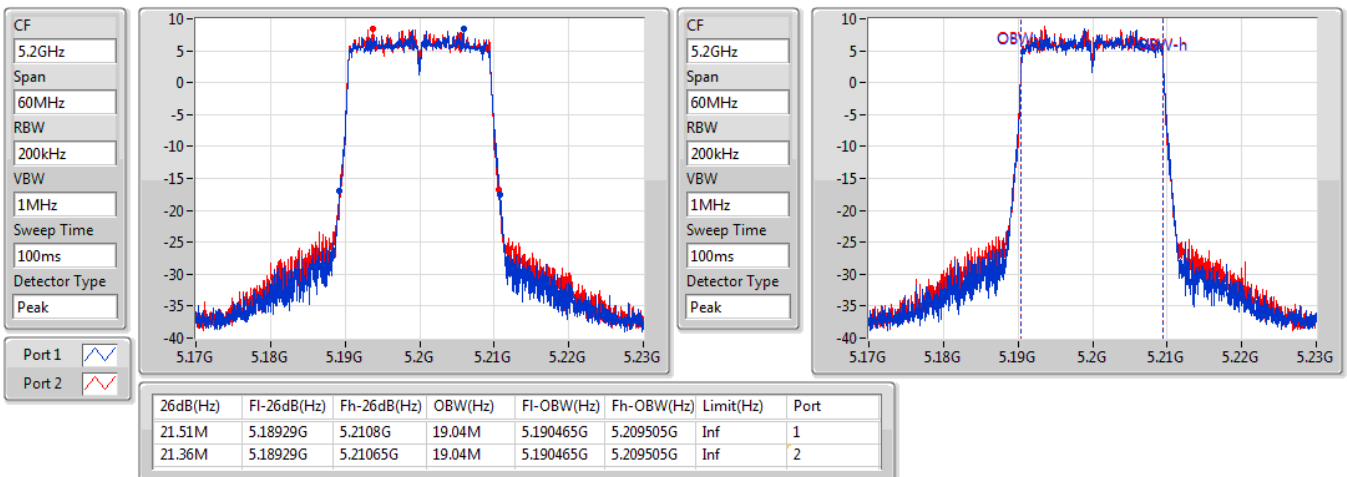


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5200MHz

07/03/2020

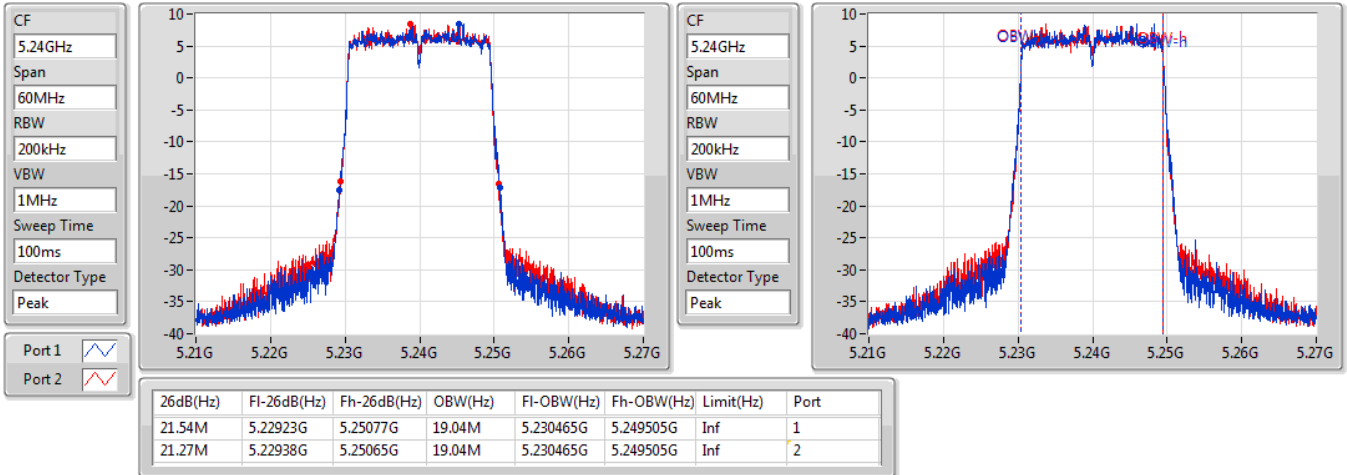


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5240MHz

07/03/2020

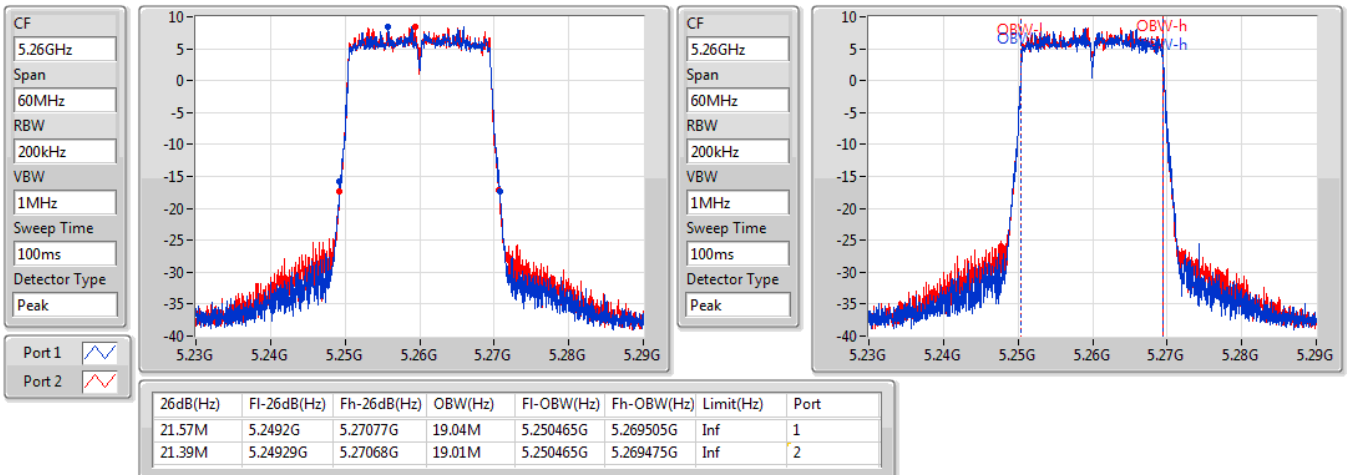


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5260MHz

07/03/2020

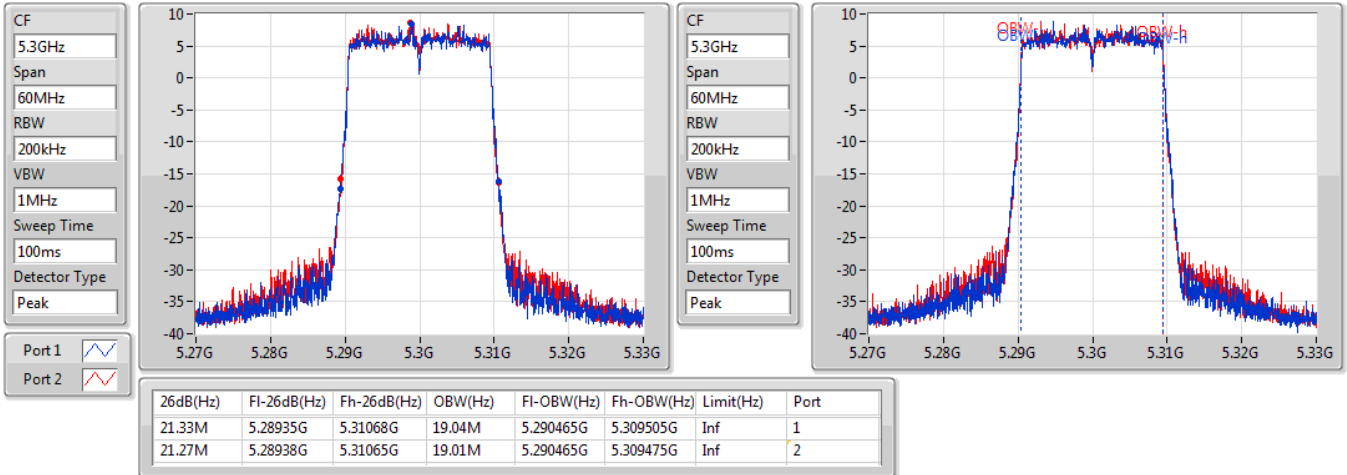


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5300MHz

07/03/2020

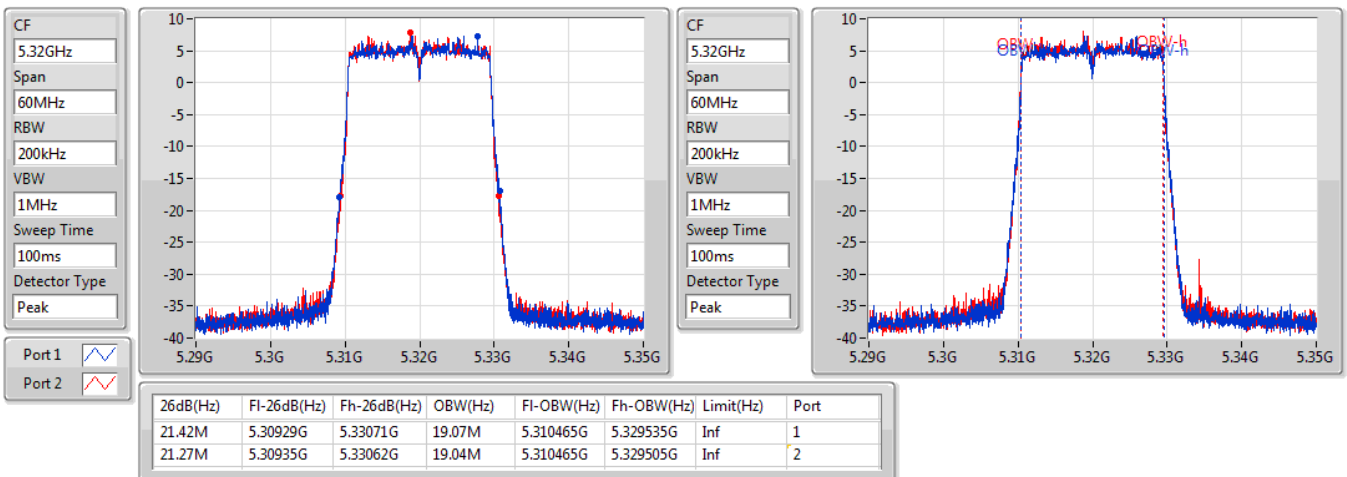


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5320MHz

07/03/2020

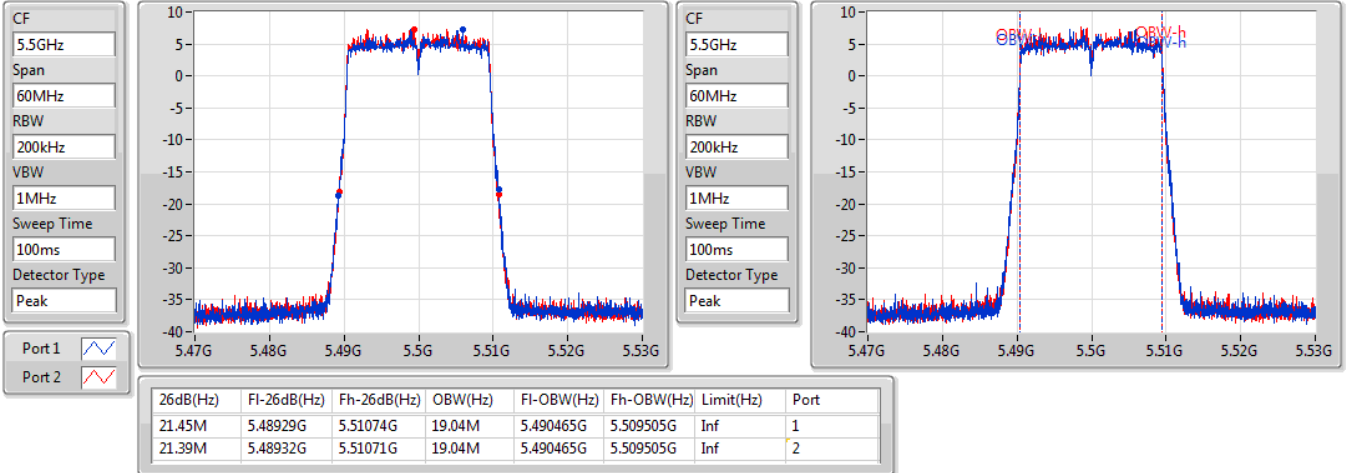


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5500MHz

07/03/2020

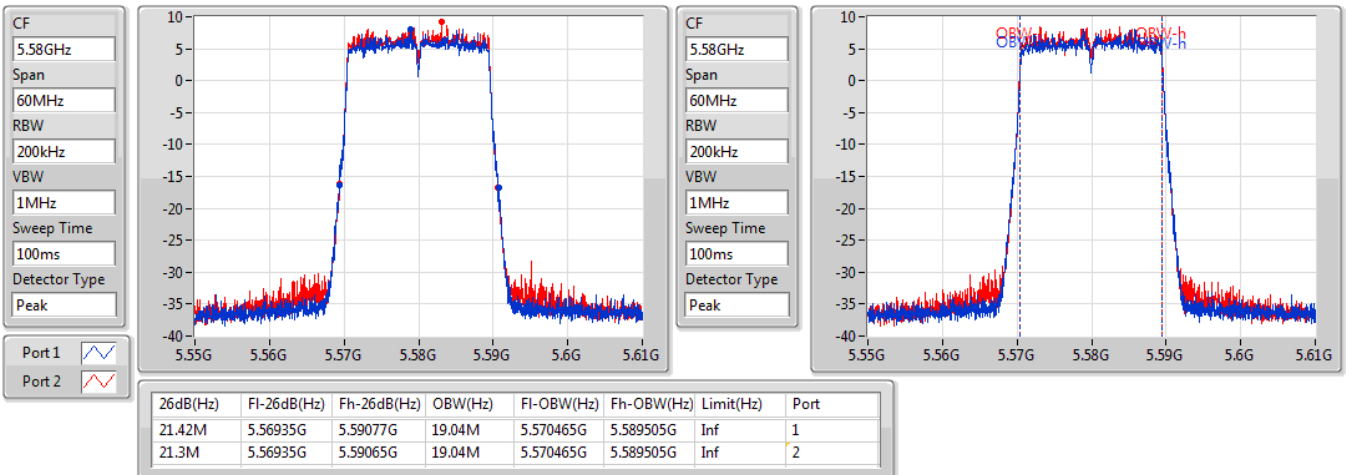


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5580MHz

07/03/2020

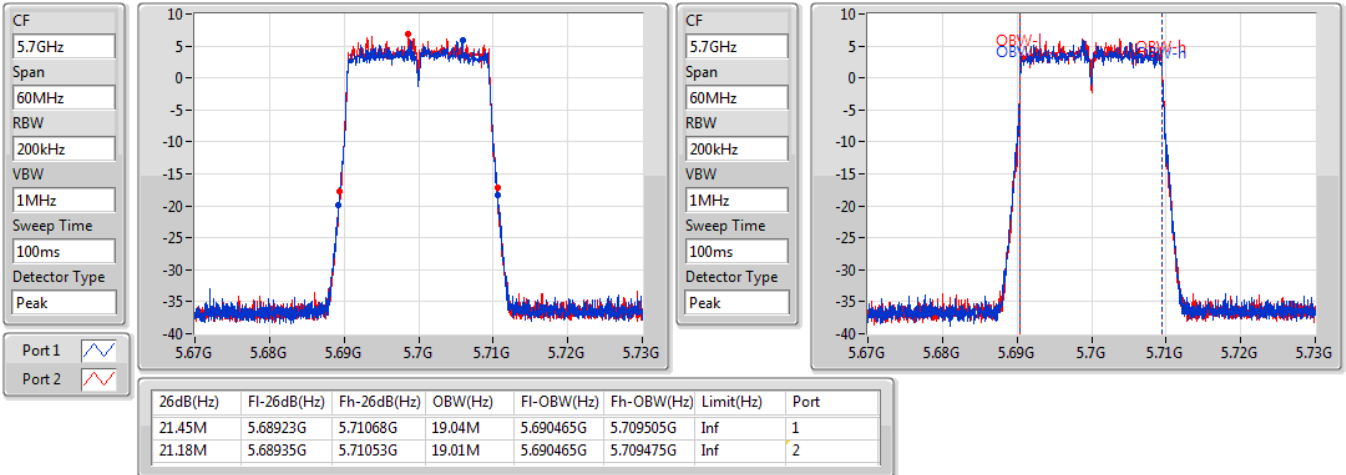


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5700MHz

07/03/2020

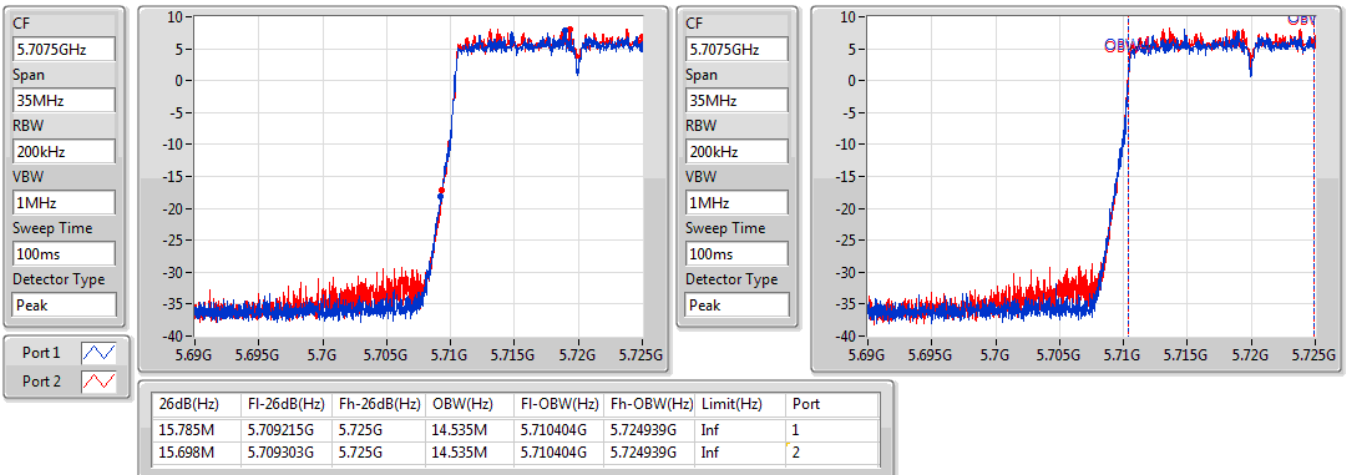


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5720MHz Straddle 5.47-5.725GHz

07/03/2020

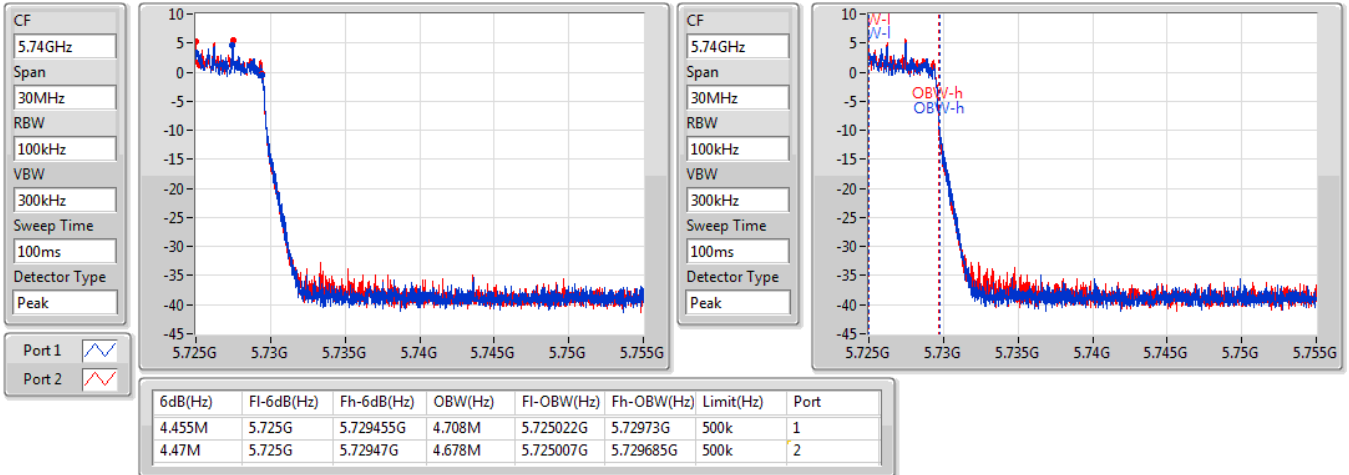


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5720MHz Straddle 5.725-5.85GHz

07/03/2020

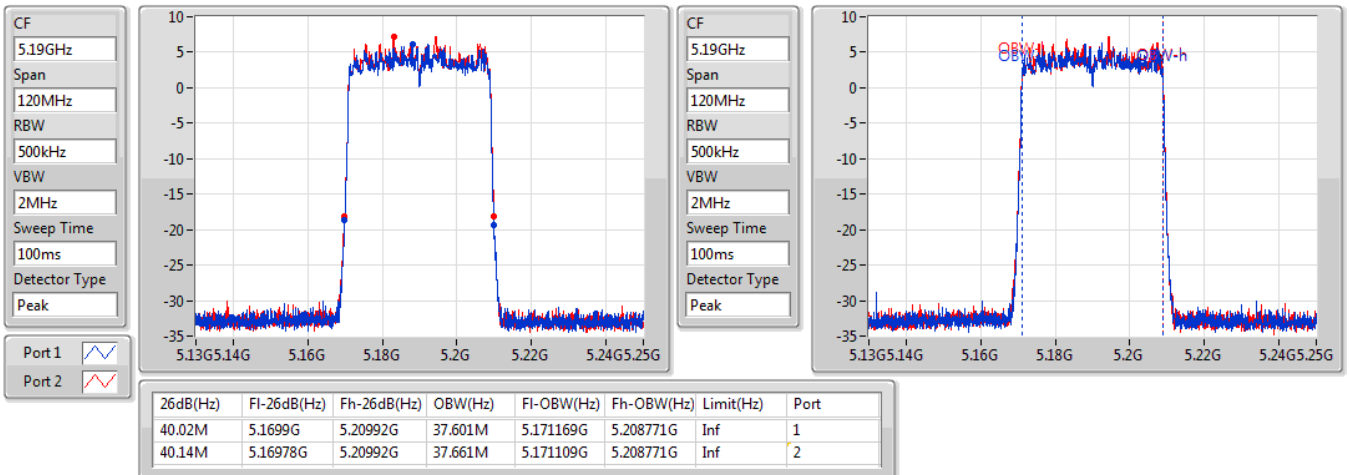


802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

5190MHz

07/03/2020

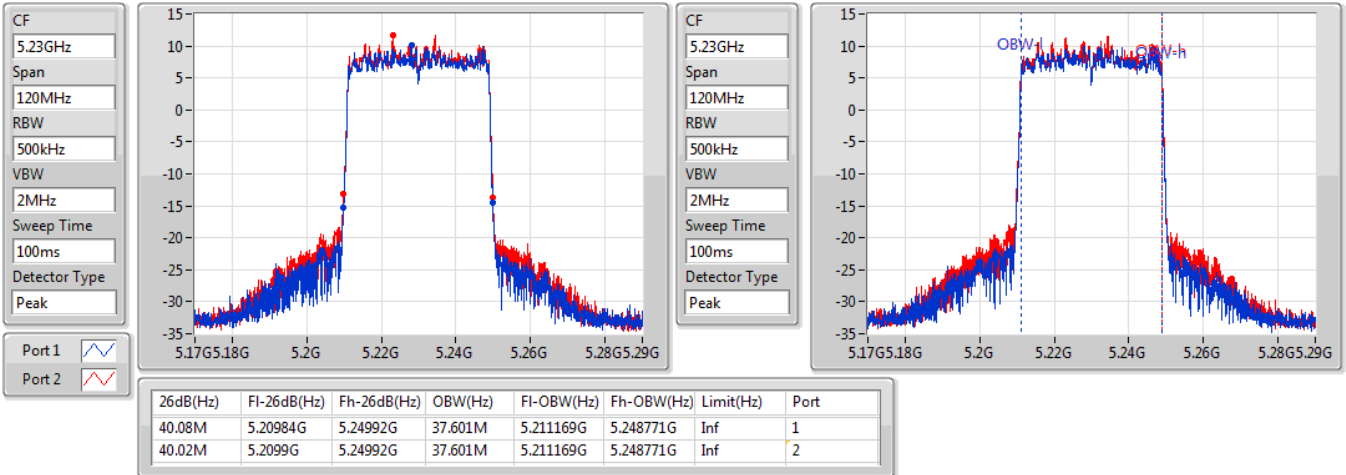


802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

5230MHz

07/03/2020

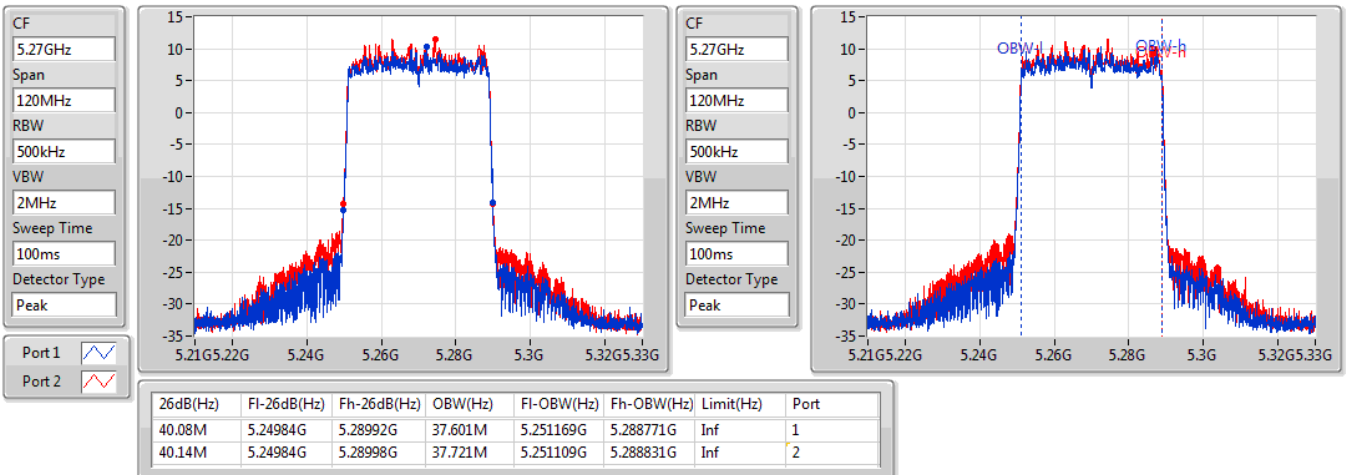


802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

5270MHz

07/03/2020

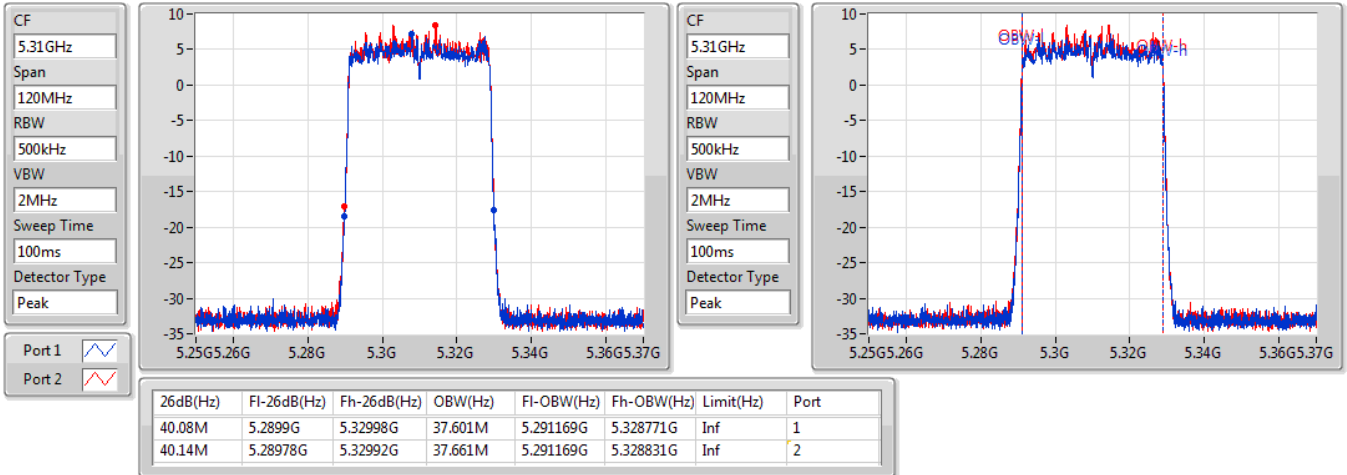


802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

5310MHz

07/03/2020

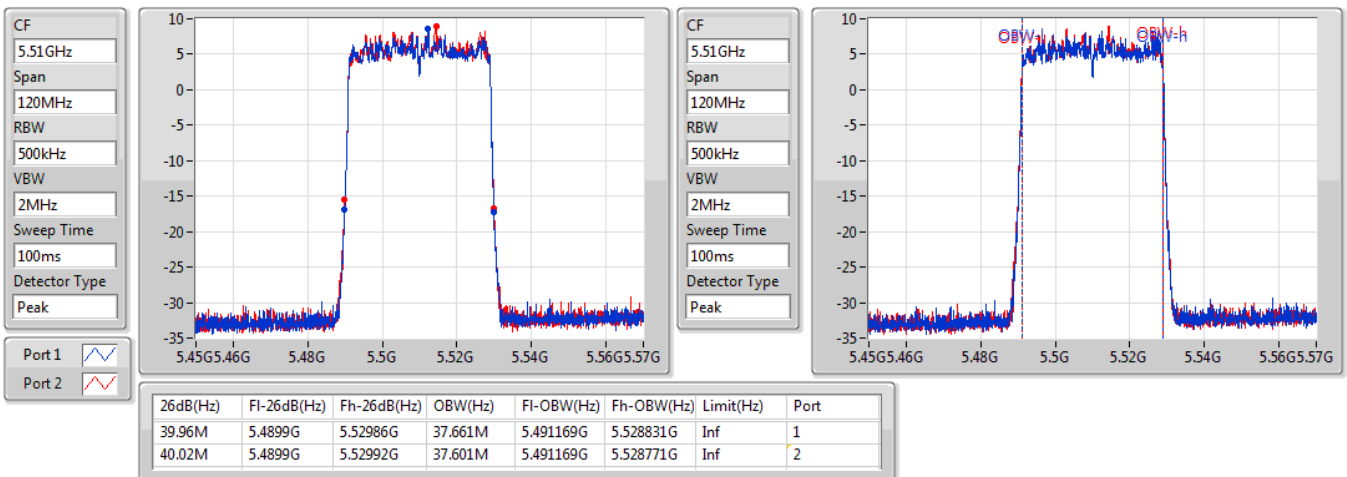


802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

5510MHz

07/03/2020

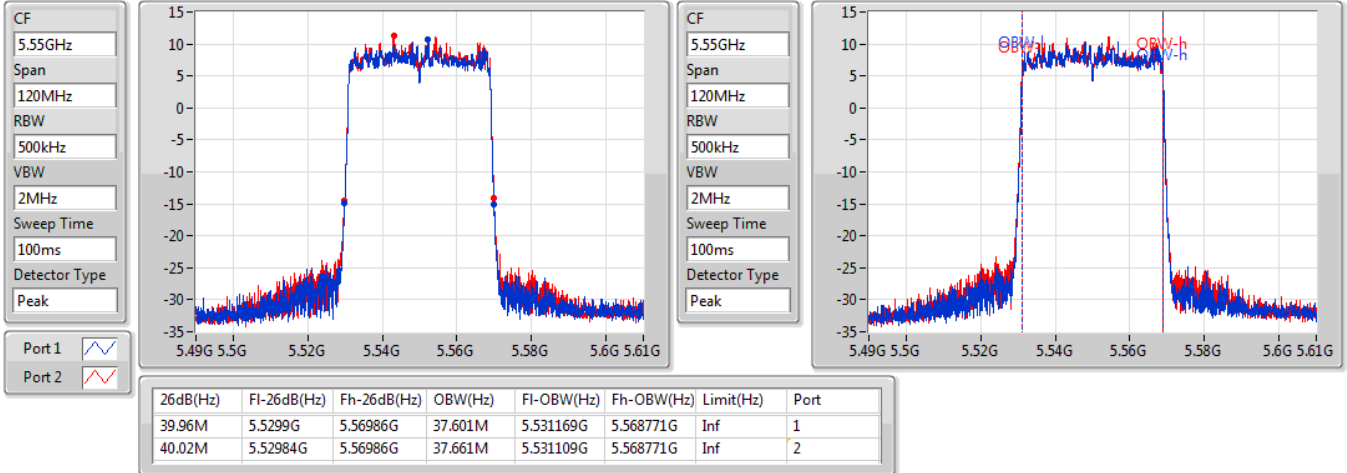


802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

5550MHz

07/03/2020

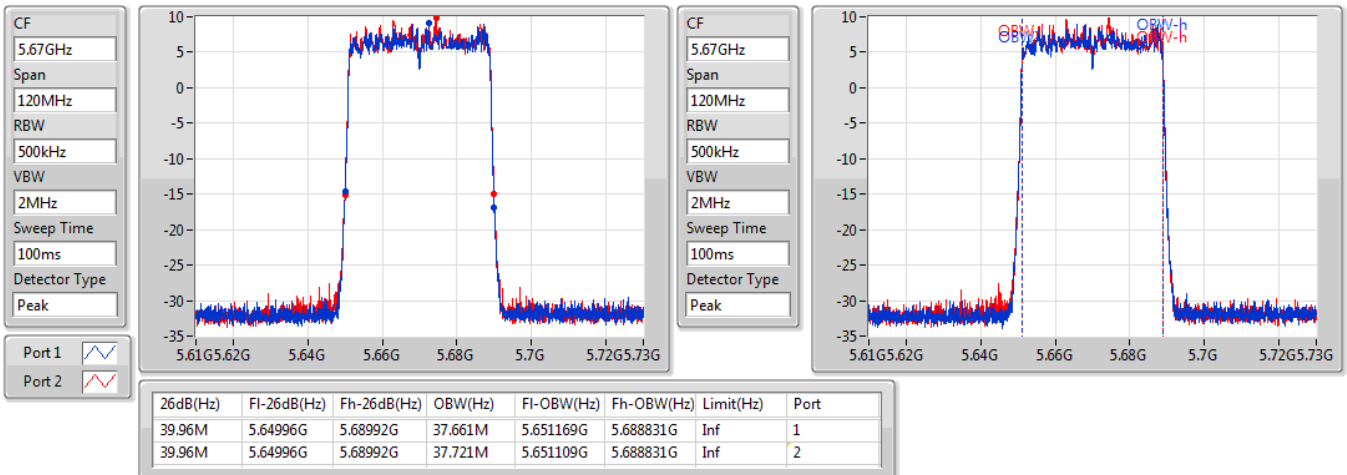


802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

5670MHz

07/03/2020

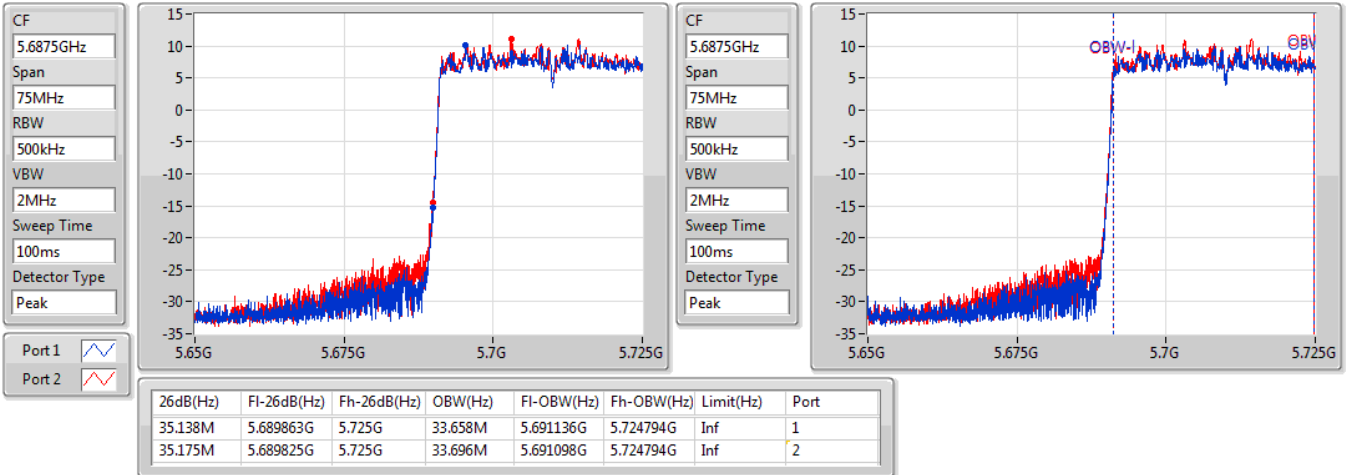


802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

5710MHz Straddle 5.47-5.725GHz

07/03/2020

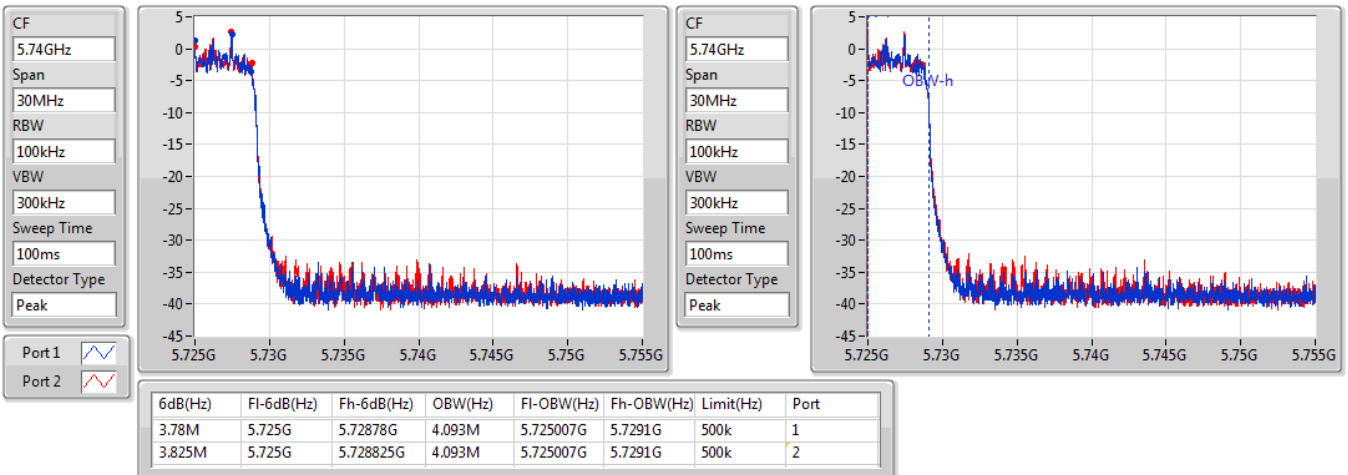


802.11ax HEW40_Nss1,(MCS0)_2TX

EBW

5710MHz Straddle 5.725-5.85GHz

07/03/2020

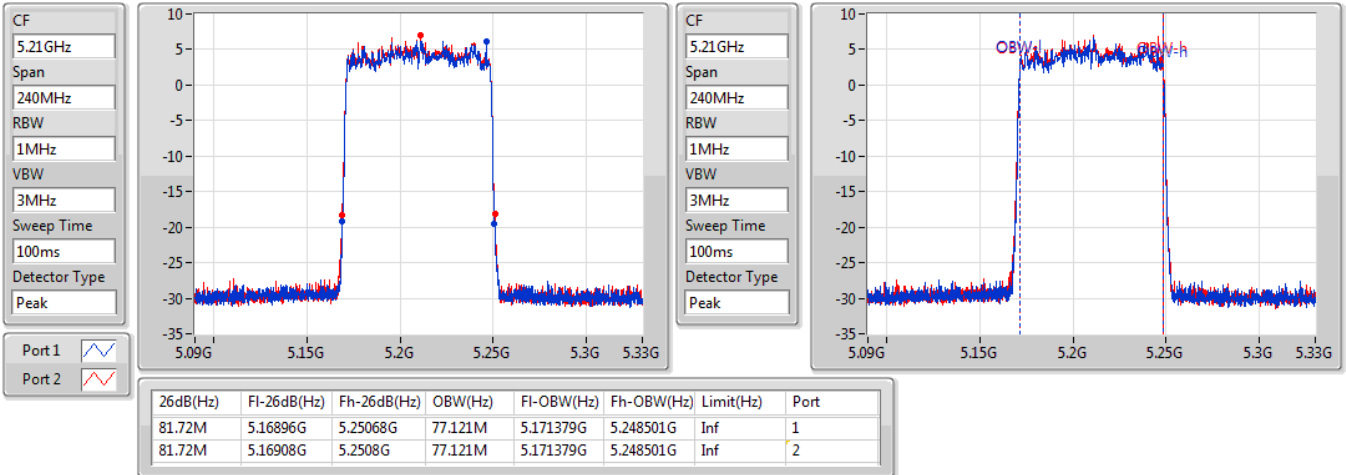


802.11ax HEW80_Nss1,(MCS0)_2TX

EBW

5210MHz

07/03/2020

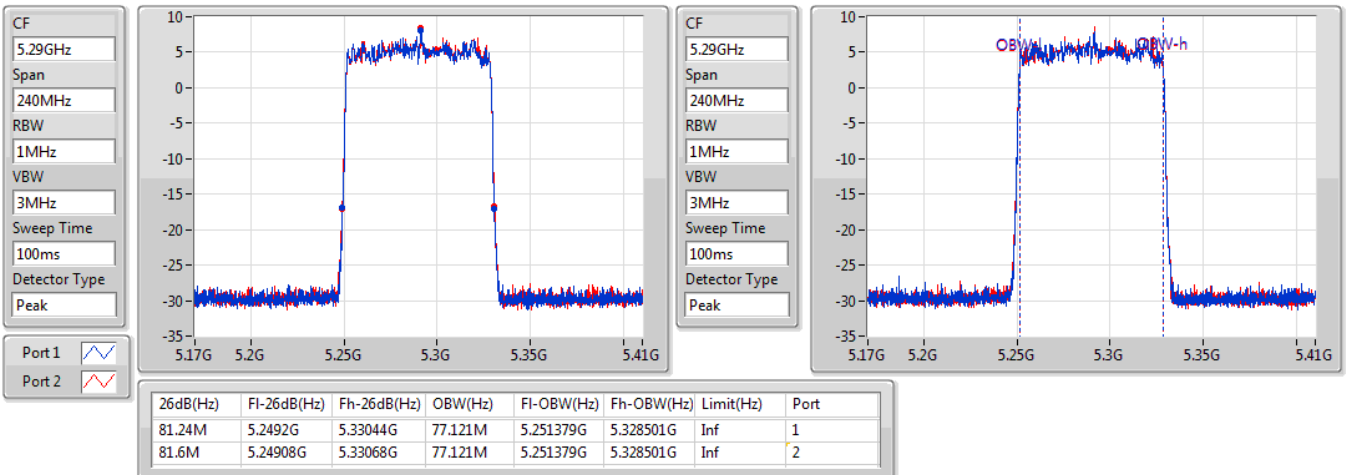


802.11ax HEW80_Nss1,(MCS0)_2TX

EBW

5290MHz

07/03/2020

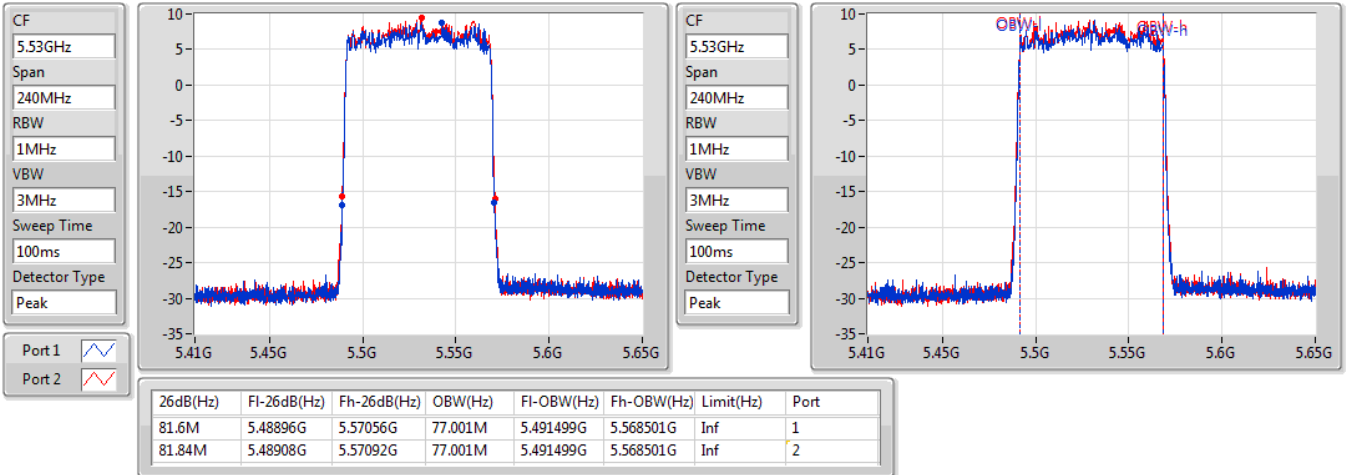


802.11ax HEW80_Nss1,(MCS0)_2TX

EBW

5530MHz

07/03/2020

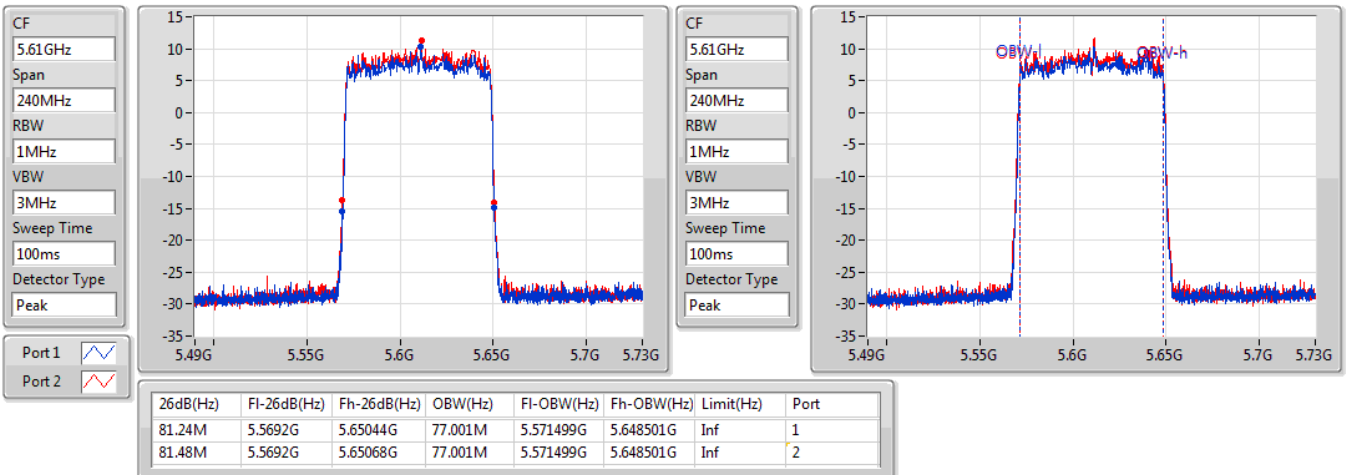


802.11ax HEW80_Nss1,(MCS0)_2TX

EBW

5610MHz

07/03/2020

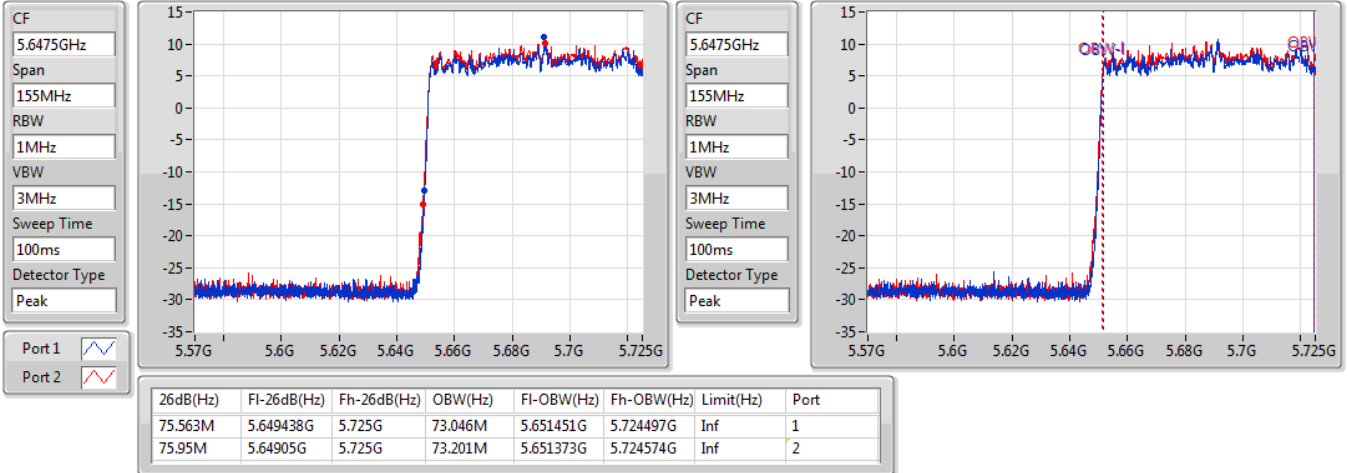


802.11ax HEW80_Nss1,(MCS0)_2TX

EBW

5690MHz Straddle 5.47-5.725GHz

07/03/2020

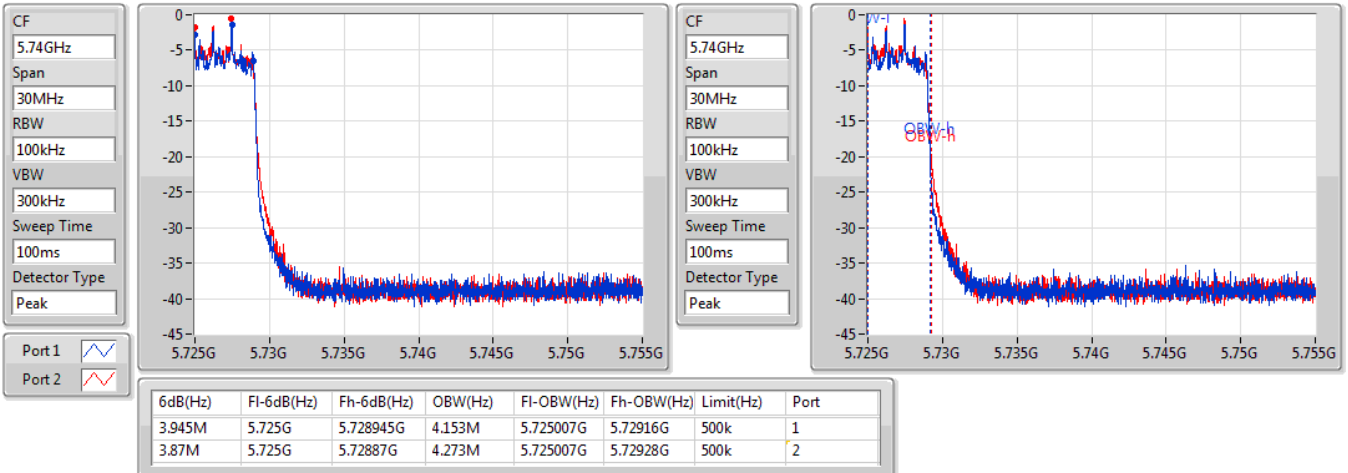


802.11ax HEW80_Nss1,(MCS0)_2TX

EBW

5690MHz Straddle 5.725-5.85GHz

07/03/2020



<2T2S>
Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11ac VHT20_Nss2,(MCS0)_2TX	21.54M	17.871M	17M9D1D	21.45M	17.811M
802.11ac VHT40_Nss2,(MCS0)_2TX	40.02M	36.462M	36M5D1D	39.72M	36.342M
802.11ac VHT80_Nss2,(MCS0)_2TX	82.2M	75.802M	75M8D1D	81.48M	75.682M
802.11ax HEW20_Nss2,(MCS0)_2TX	21.48M	19.1M	19M1D1D	21.24M	19.04M
802.11ax HEW40_Nss2,(MCS0)_2TX	40.02M	37.541M	37M5D1D	39.96M	37.541M
802.11ax HEW80_Nss2,(MCS0)_2TX	81.36M	77.001M	77M0D1D	81M	77.001M
5.25-5.35GHz	-	-	-	-	-
802.11ac VHT20_Nss2,(MCS0)_2TX	21.45M	17.871M	17M9D1D	21.39M	17.811M
802.11ac VHT40_Nss2,(MCS0)_2TX	39.9M	36.462M	36M5D1D	39.66M	36.342M
802.11ac VHT80_Nss2,(MCS0)_2TX	82.2M	75.802M	75M8D1D	81.48M	75.682M
802.11ax HEW20_Nss2,(MCS0)_2TX	21.48M	19.07M	19M1D1D	21.18M	19.04M
802.11ax HEW40_Nss2,(MCS0)_2TX	40.02M	37.601M	37M6D1D	39.9M	37.541M
802.11ax HEW80_Nss2,(MCS0)_2TX	81.6M	77.001M	77M0D1D	81M	77.001M
5.47-5.725GHz	-	-	-	-	-
802.11ac VHT20_Nss2,(MCS0)_2TX	21.51M	17.871M	17M9D1D	21.36M	17.841M
802.11ac VHT40_Nss2,(MCS0)_2TX	40.08M	36.462M	36M5D1D	39.66M	36.342M
802.11ac VHT80_Nss2,(MCS0)_2TX	81.96M	75.802M	75M8D1D	81.6M	75.562M
802.11ax HEW20_Nss2,(MCS0)_2TX	21.48M	19.07M	19M1D1D	21.18M	19.04M
802.11ax HEW40_Nss2,(MCS0)_2TX	40.08M	37.601M	37M6D1D	39.84M	37.481M
802.11ax HEW80_Nss2,(MCS0)_2TX	81.6M	77.001M	77M0D1D	81M	76.882M

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

Max-OBW = Maximum 99% occupied bandwidth;

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

Min-OBW = Minimum 99% occupied bandwidth;

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11ac VHT20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.54M	17.871M	21.45M	17.811M
5320MHz	Pass	Inf	21.45M	17.871M	21.39M	17.811M
5500MHz	Pass	Inf	21.48M	17.871M	21.36M	17.841M
5700MHz	Pass	Inf	21.51M	17.871M	21.36M	17.841M
802.11ac VHT40_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	40.02M	36.462M	39.72M	36.342M
5310MHz	Pass	Inf	39.9M	36.462M	39.66M	36.342M
5510MHz	Pass	Inf	39.96M	36.462M	39.66M	36.342M
5670MHz	Pass	Inf	40.08M	36.462M	39.72M	36.342M
802.11ac VHT80_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	82.2M	75.802M	81.48M	75.682M
5290MHz	Pass	Inf	82.2M	75.802M	81.48M	75.682M
5530MHz	Pass	Inf	81.96M	75.802M	81.6M	75.562M
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.48M	19.1M	21.24M	19.04M
5320MHz	Pass	Inf	21.48M	19.07M	21.18M	19.04M
5500MHz	Pass	Inf	21.42M	19.07M	21.24M	19.04M
5700MHz	Pass	Inf	21.48M	19.07M	21.18M	19.04M
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	39.96M	37.541M	40.02M	37.541M
5310MHz	Pass	Inf	39.9M	37.601M	40.02M	37.541M
5510MHz	Pass	Inf	39.9M	37.601M	40.08M	37.541M
5670MHz	Pass	Inf	39.84M	37.481M	40.08M	37.541M
802.11ax HEW80_Nss2,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	81.36M	77.001M	81M	77.001M
5290MHz	Pass	Inf	81.6M	77.001M	81M	77.001M
5530MHz	Pass	Inf	81.6M	77.001M	81M	76.882M

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;

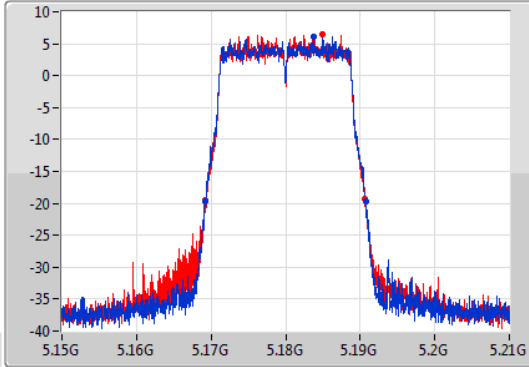
802.11ac VHT20_Nss2,(MCS0)_2TX

EBW

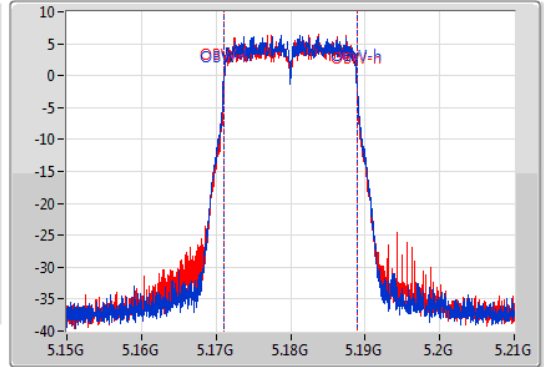
5180MHz

27/03/2020

CF: 5.18GHz
 Span: 60MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



CF: 5.18GHz
 Span: 60MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.54M	5.16917G	5.19071G	17.871M	5.171034G	5.188906G	Inf	1
21.45M	5.16923G	5.19068G	17.811M	5.171064G	5.188876G	Inf	2

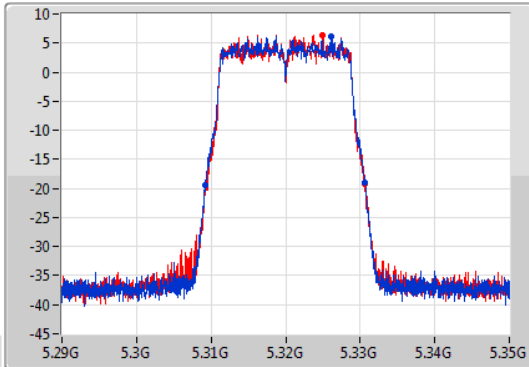
802.11ac VHT20_Nss2,(MCS0)_2TX

EBW

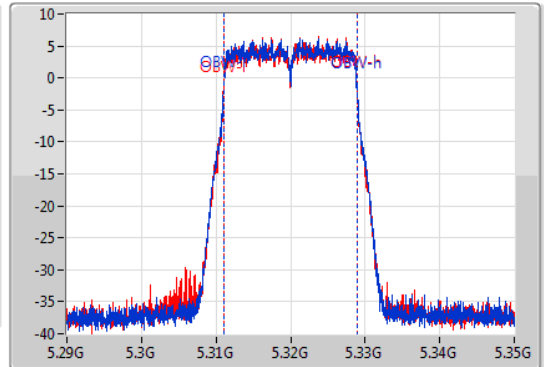
5320MHz

27/03/2020

CF: 5.32GHz
 Span: 60MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



CF: 5.32GHz
 Span: 60MHz
 RBW: 200kHz
 VBW: 1MHz
 Sweep Time: 100ms
 Detector Type: Peak



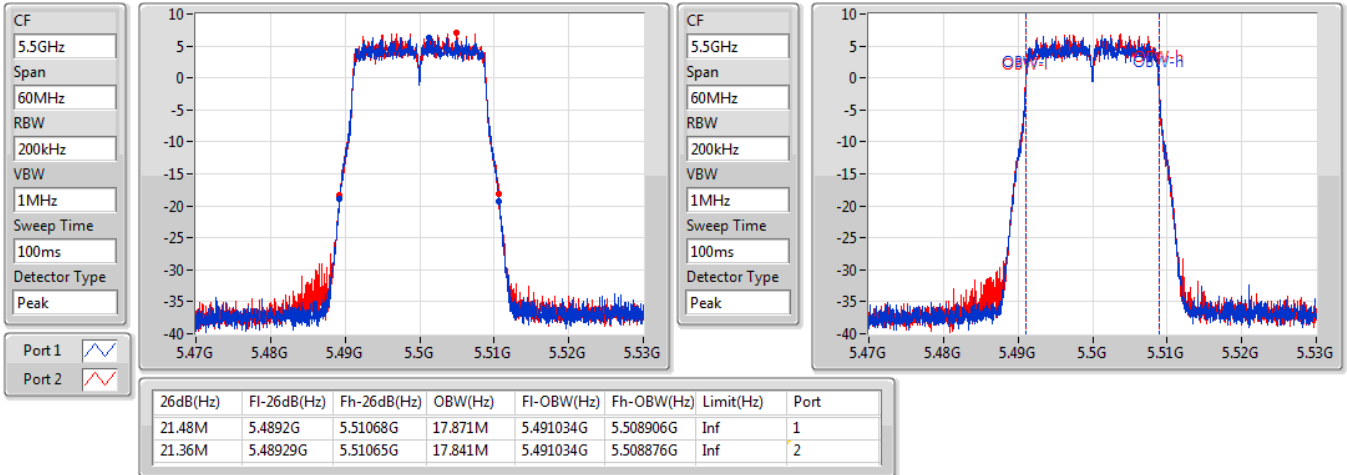
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
21.45M	5.30923G	5.33068G	17.871M	5.311034G	5.328906G	Inf	1
21.39M	5.30926G	5.33065G	17.811M	5.311064G	5.328876G	Inf	2

802.11ac VHT20_Nss2,(MCS0)_2TX

EBW

5500MHz

27/03/2020

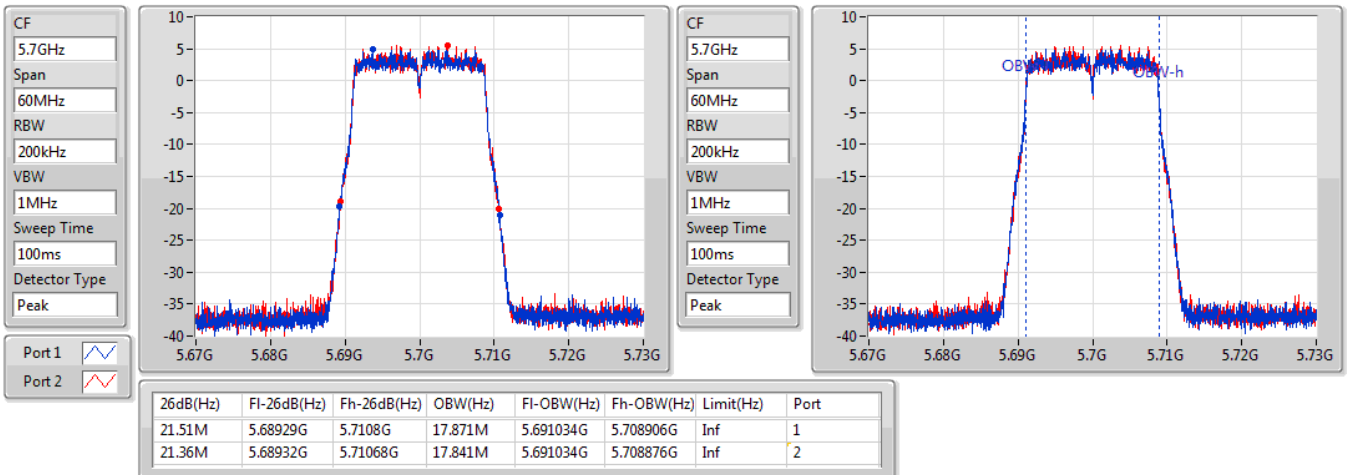


802.11ac VHT20_Nss2,(MCS0)_2TX

EBW

5700MHz

27/03/2020

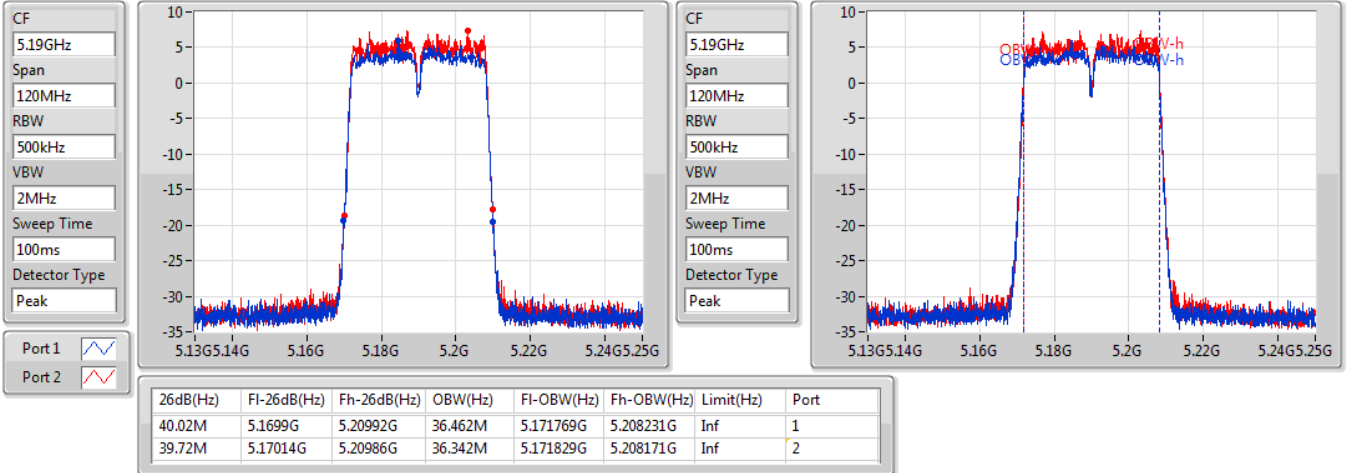


802.11ac VHT40_Nss2,(MCS0)_2TX

EBW

5190MHz

27/03/2020

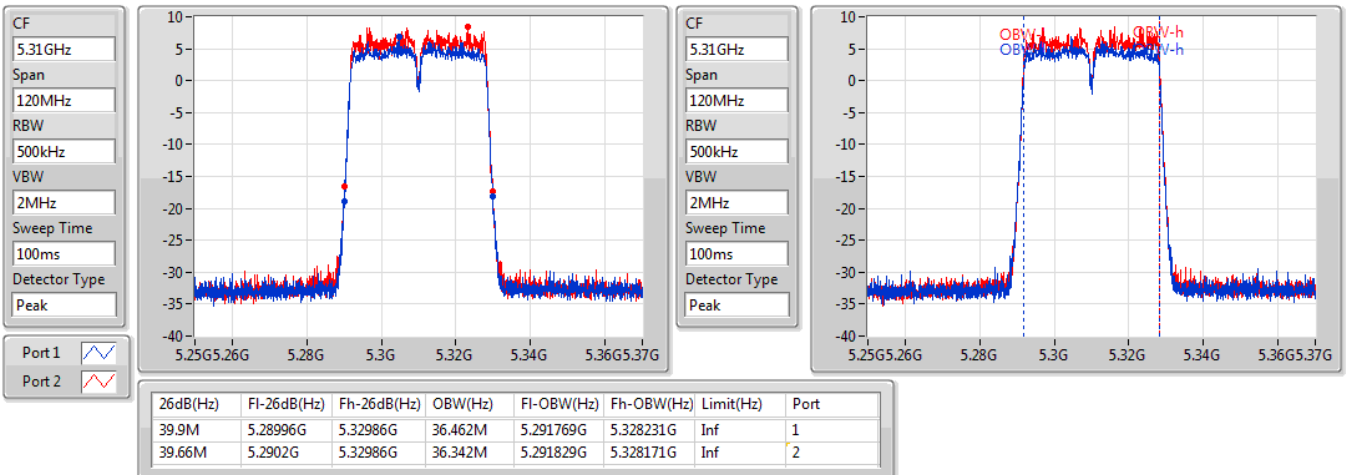


802.11ac VHT40_Nss2,(MCS0)_2TX

EBW

5310MHz

27/03/2020

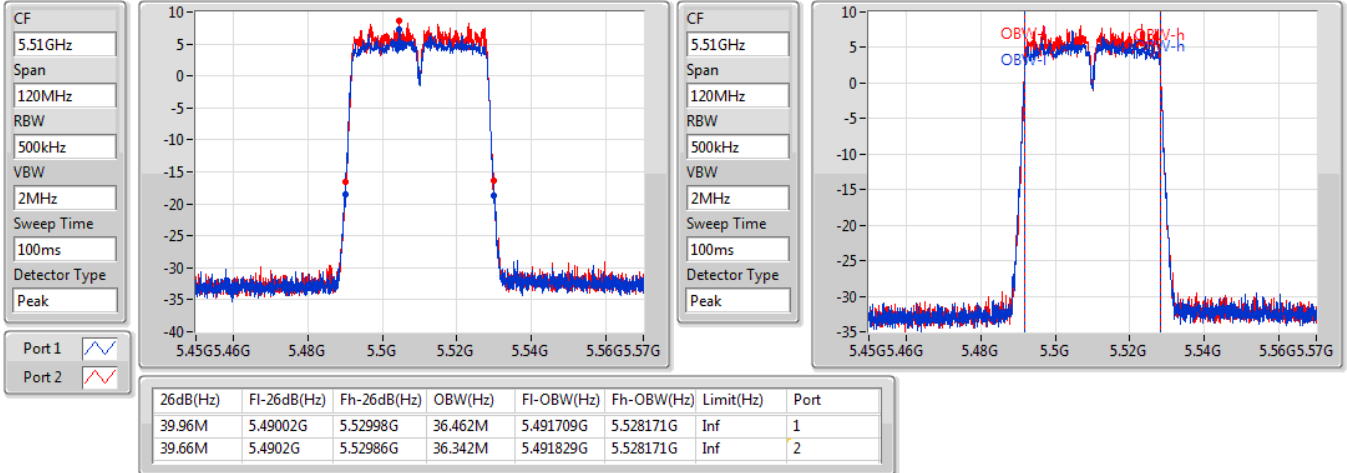


802.11ac VHT40_Nss2,(MCS0)_2TX

EBW

5510MHz

27/03/2020

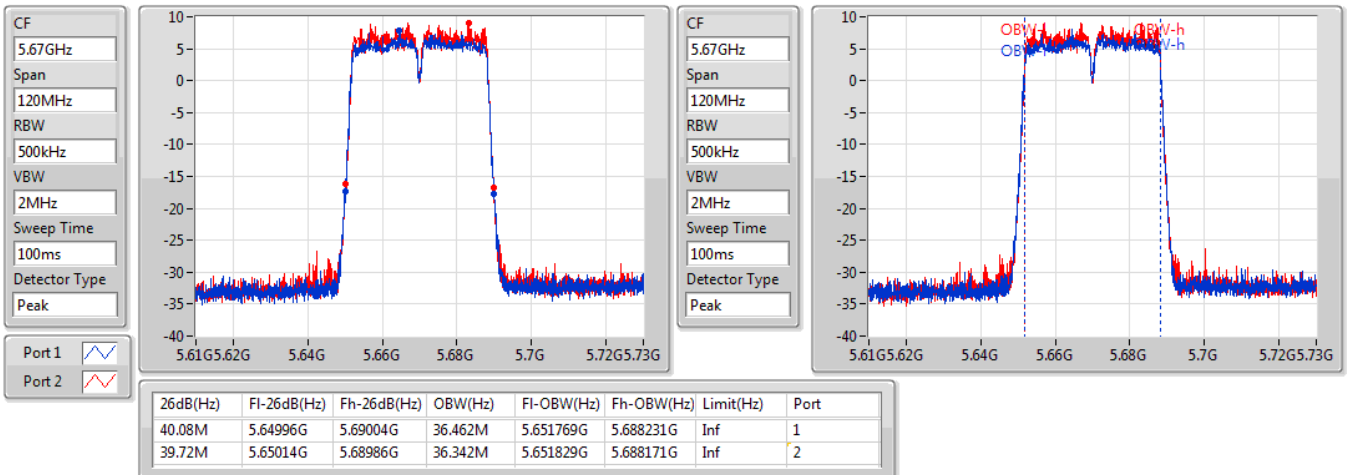


802.11ac VHT40_Nss2,(MCS0)_2TX

EBW

5670MHz

27/03/2020

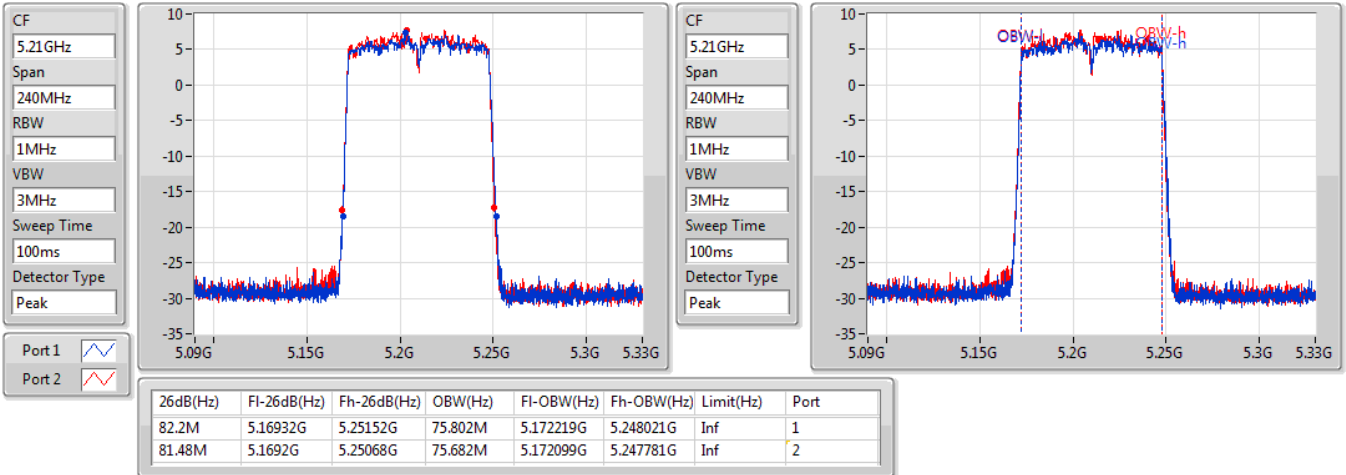


802.11ac VHT80_Nss2,(MCS0)_2TX

EBW

5210MHz

27/03/2020

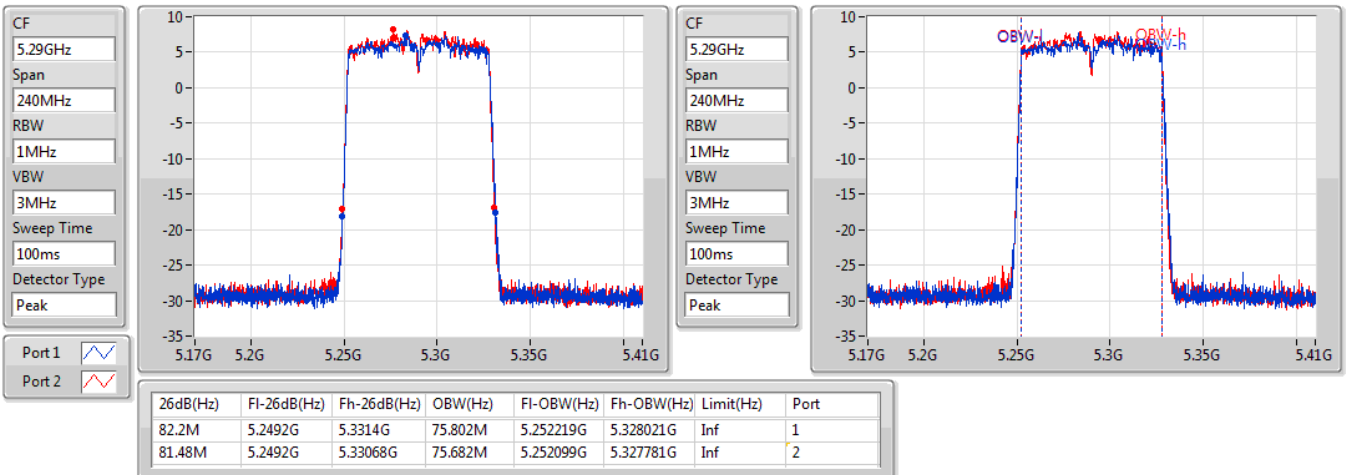


802.11ac VHT80_Nss2,(MCS0)_2TX

EBW

5290MHz

27/03/2020

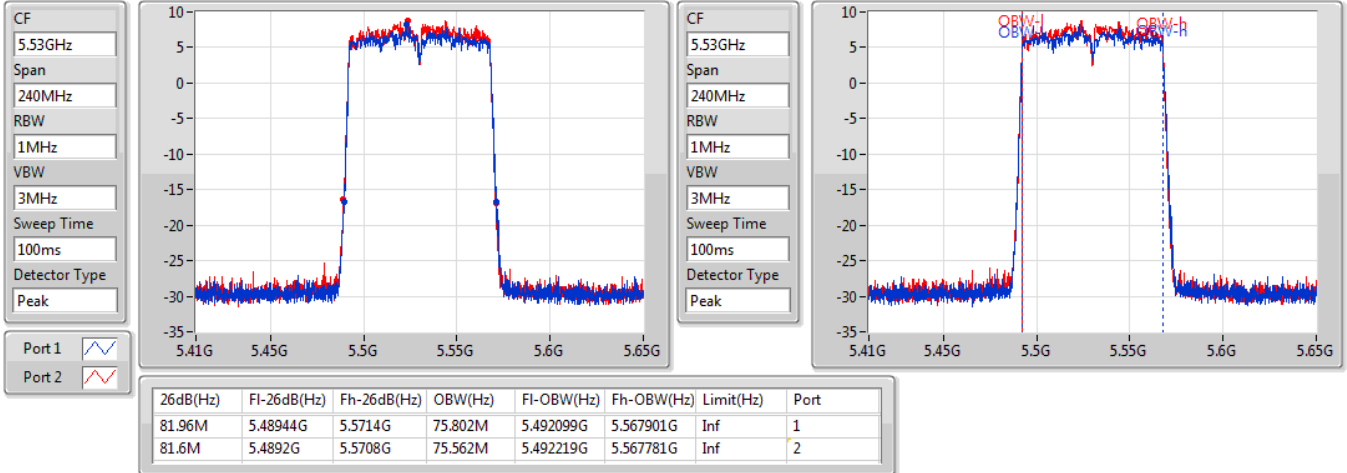


802.11ac VHT80_Nss2,(MCS0)_2TX

EBW

5530MHz

27/03/2020

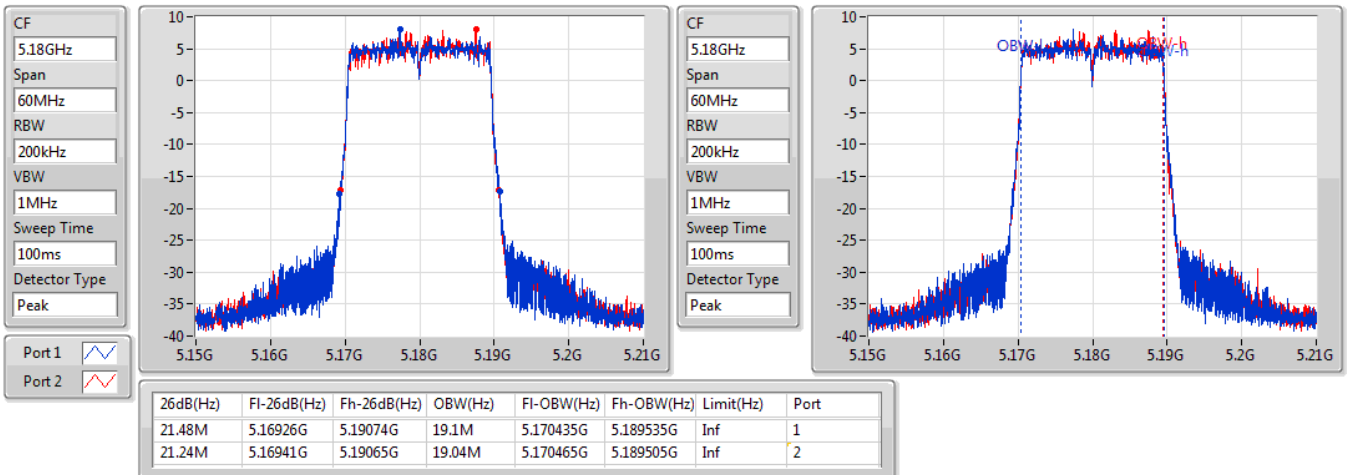


802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

5180MHz

27/03/2020

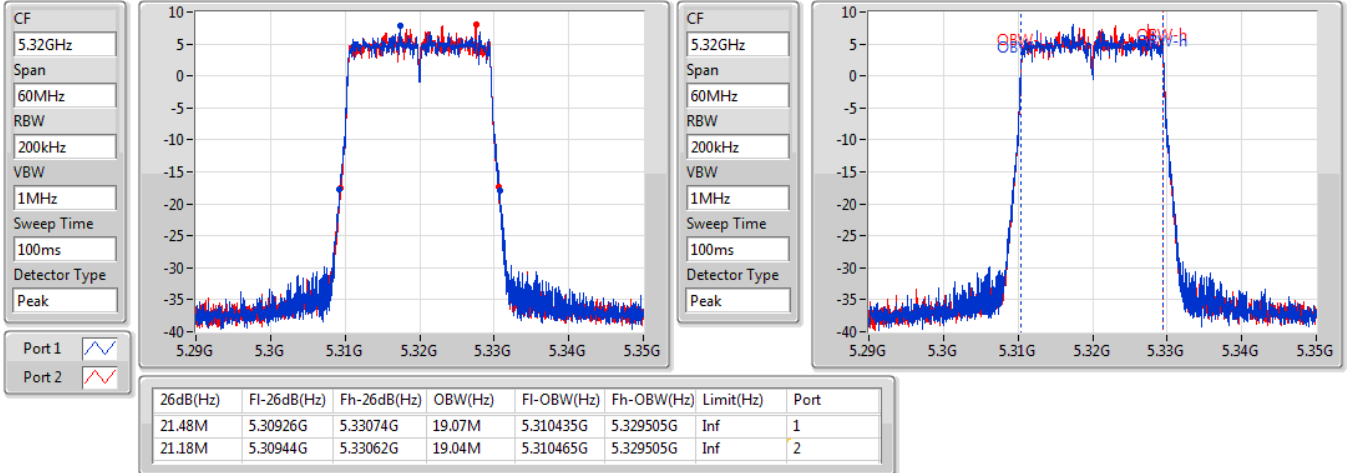


802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

5320MHz

27/03/2020

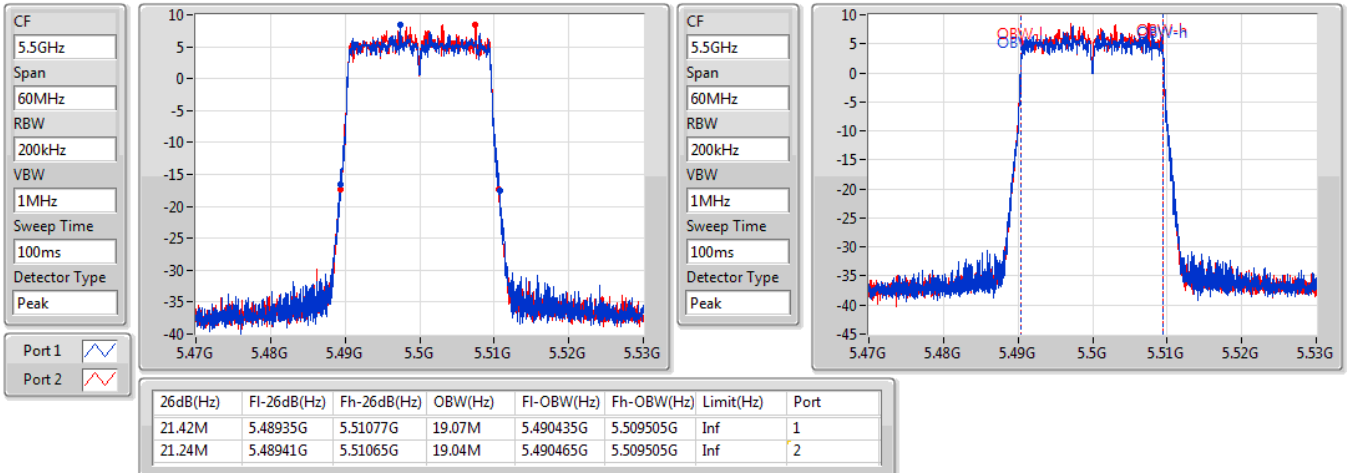


802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

5500MHz

27/03/2020

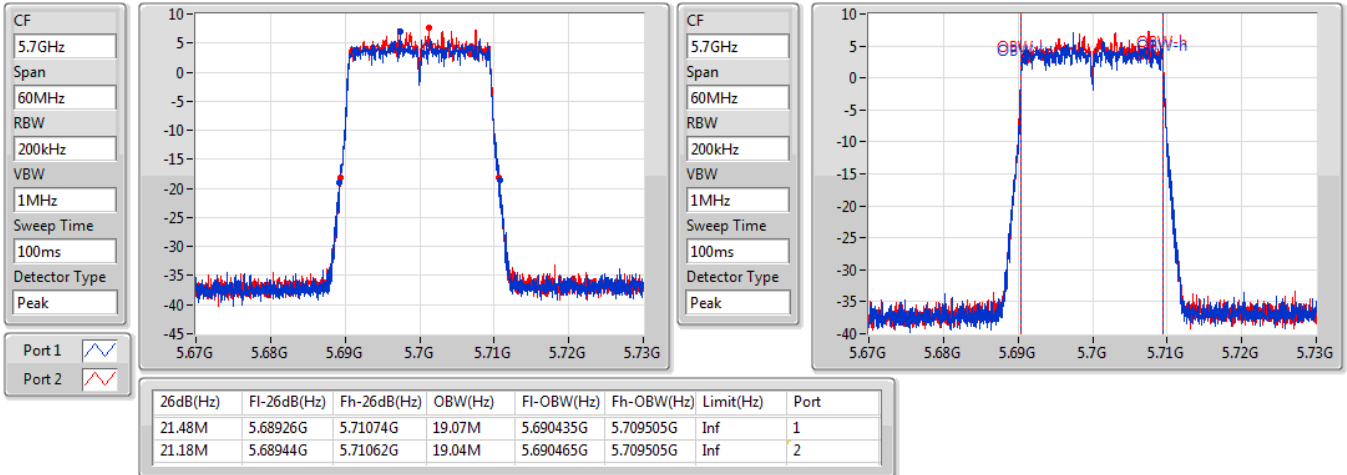


802.11ax HEW20_Nss2,(MCS0)_2TX

EBW

5700MHz

27/03/2020

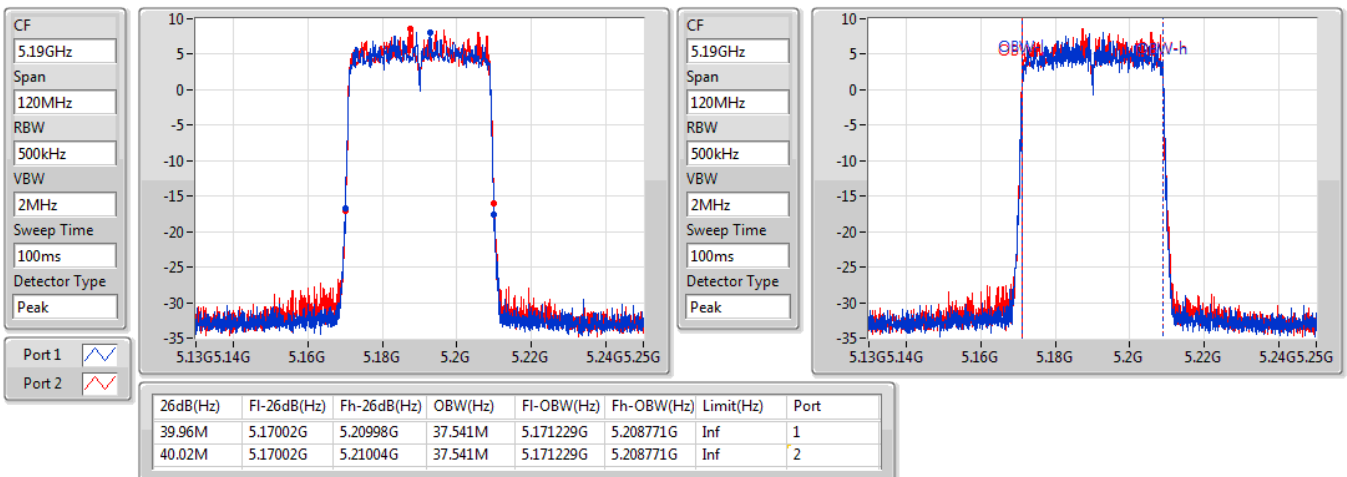


802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

5190MHz

27/03/2020

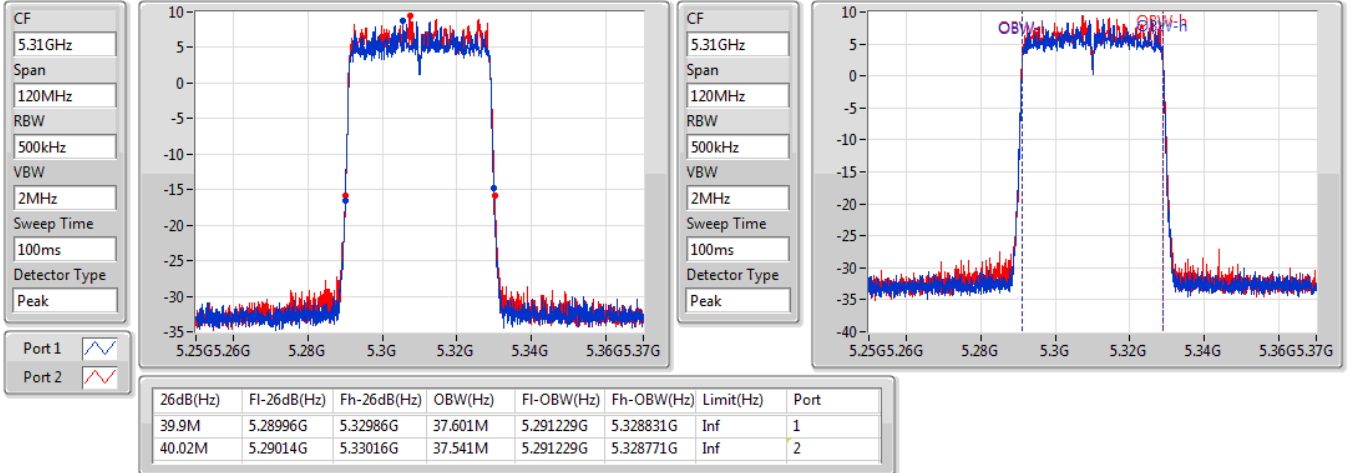


802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

5310MHz

27/03/2020

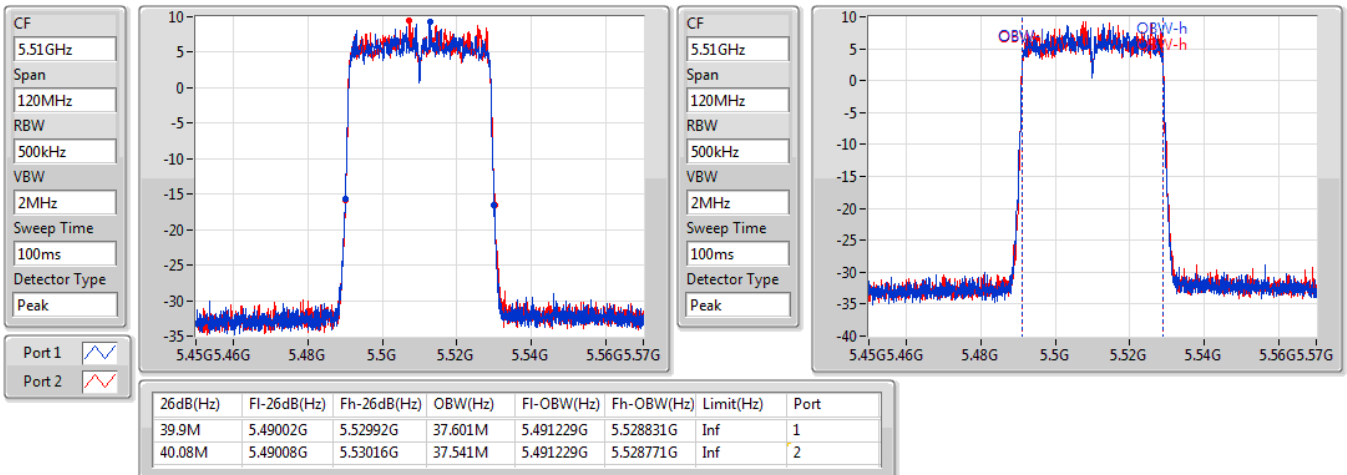


802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

5510MHz

27/03/2020

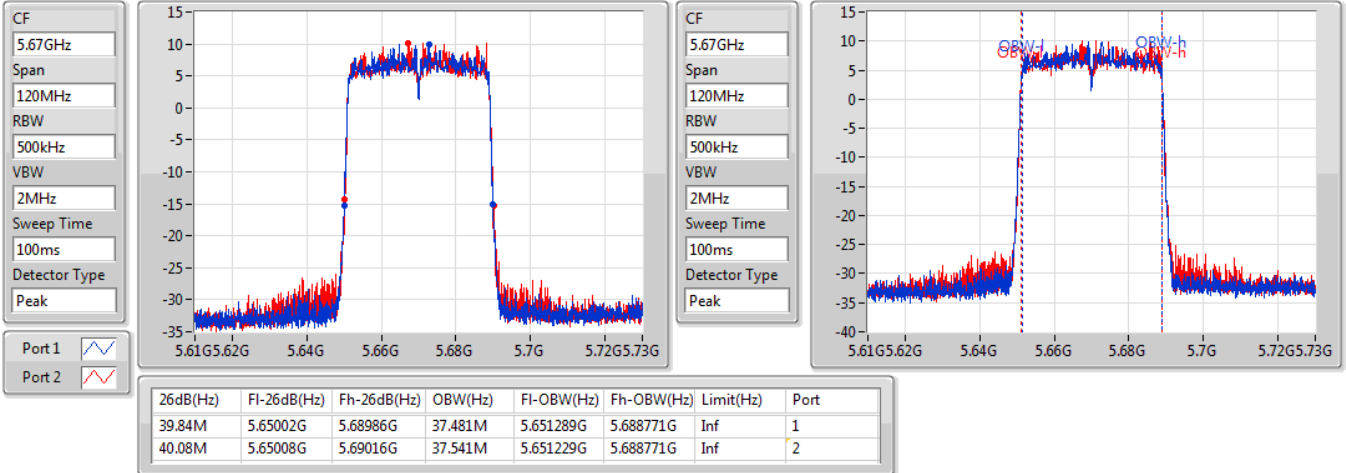


802.11ax HEW40_Nss2,(MCS0)_2TX

EBW

5670MHz

27/03/2020

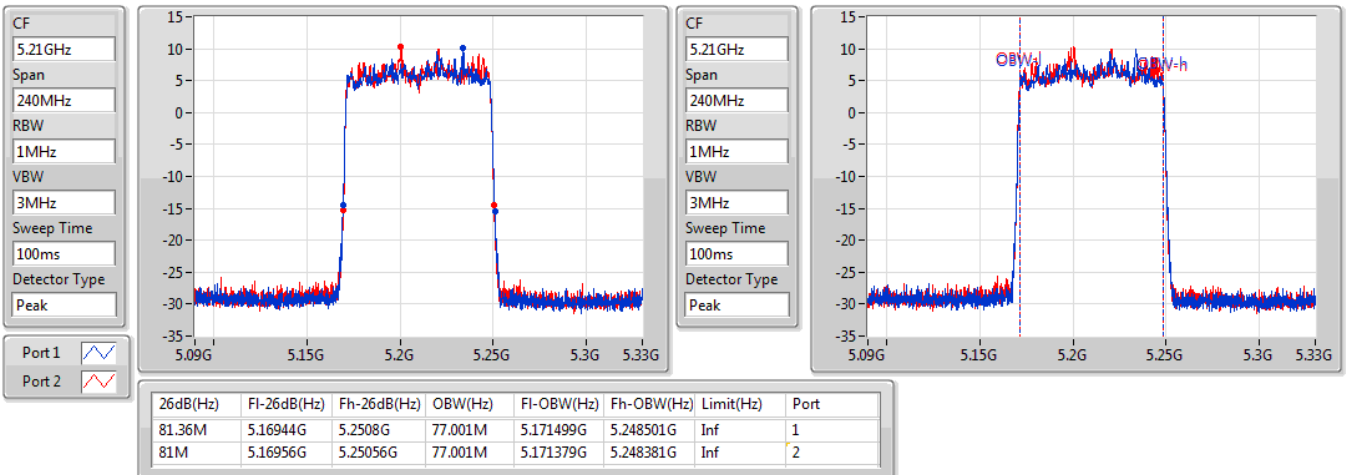


802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

5210MHz

27/03/2020

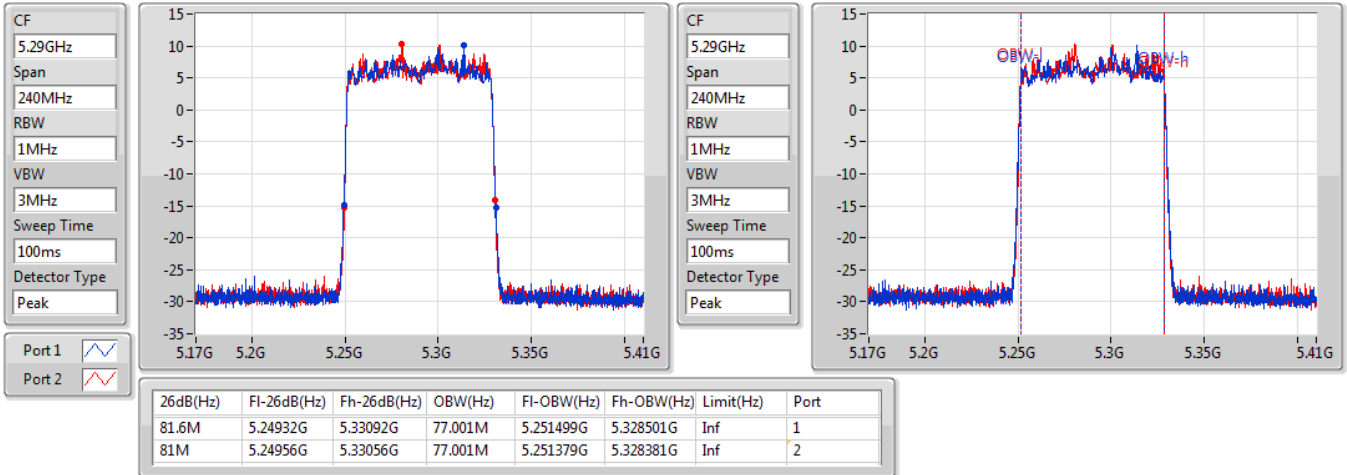


802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

5290MHz

27/03/2020

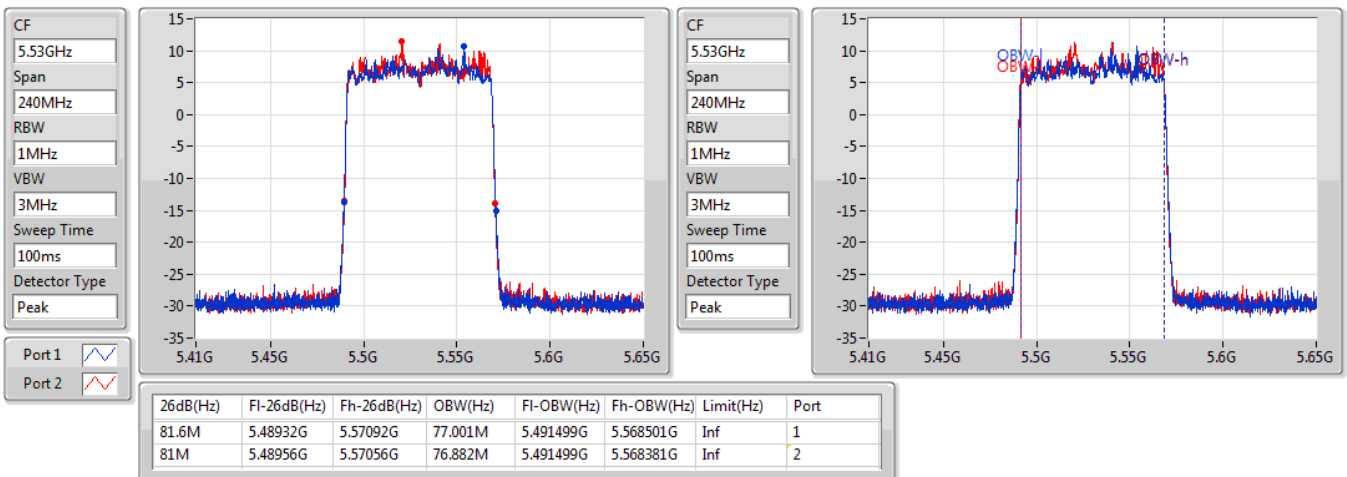


802.11ax HEW80_Nss2,(MCS0)_2TX

EBW

5530MHz

27/03/2020





<2T1S>

Non-beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
11a20_Nss1,(6Mbps)_2TX	20.47	0.11143	25.44	0.34995
11a40_Nss1,(6Mbps)_2TX	20.56	0.11376	25.53	0.35727
11a80_Nss1,(6Mbps)_2TX	17.52	0.05649	22.49	0.17742
802.11ac VHT20_Nss1,(MCS0)_2TX	20.48	0.11169	25.45	0.35075
802.11ac VHT40_Nss1,(MCS0)_2TX	20.33	0.10789	25.30	0.33884
802.11ac VHT80_Nss1,(MCS0)_2TX	16.55	0.04519	21.52	0.14191
802.11ax HEW20_Nss1,(MCS0)_2TX	20.74	0.11858	25.71	0.37239
802.11ax HEW40_Nss1,(MCS0)_2TX	20.70	0.11749	25.67	0.36898
802.11ax HEW80_Nss1,(MCS0)_2TX	16.81	0.04797	21.78	0.15066
5.25-5.35GHz	-	-	-	-
11a20_Nss1,(6Mbps)_2TX	20.49	0.11194	25.46	0.35156
11a40_Nss1,(6Mbps)_2TX	20.47	0.11143	25.44	0.34995
11a80_Nss1,(6Mbps)_2TX	17.51	0.05636	22.48	0.17701
802.11ac VHT20_Nss1,(MCS0)_2TX	20.33	0.10789	25.30	0.33884
802.11ac VHT40_Nss1,(MCS0)_2TX	20.41	0.10990	25.38	0.34514
802.11ac VHT80_Nss1,(MCS0)_2TX	17.39	0.05483	22.36	0.17219
802.11ax HEW20_Nss1,(MCS0)_2TX	20.75	0.11885	25.72	0.37325
802.11ax HEW40_Nss1,(MCS0)_2TX	20.61	0.11508	25.58	0.36141
802.11ax HEW80_Nss1,(MCS0)_2TX	17.70	0.05888	22.67	0.18493
5.47-5.725GHz	-	-	-	-
11a20_Nss1,(6Mbps)_2TX	20.35	0.10839	25.08	0.32211
11a40_Nss1,(6Mbps)_2TX	20.36	0.10864	25.18	0.32961
11a80_Nss1,(6Mbps)_2TX	20.11	0.10257	24.84	0.30479
802.11ac VHT20_Nss1,(MCS0)_2TX	20.54	0.11324	25.27	0.33651
802.11ac VHT40_Nss1,(MCS0)_2TX	20.40	0.10965	25.22	0.33266
802.11ac VHT80_Nss1,(MCS0)_2TX	20.19	0.10447	24.92	0.31046
802.11ax HEW20_Nss1,(MCS0)_2TX	20.67	0.11668	25.40	0.34674
802.11ax HEW40_Nss1,(MCS0)_2TX	20.53	0.11298	25.35	0.34277
802.11ax HEW80_Nss1,(MCS0)_2TX	20.27	0.10641	25.04	0.31915
5.725-5.85GHz	-	-	-	-
11a20_Nss1,(6Mbps)_2TX	13.40	0.02188	18.18	0.06577
11a40_Nss1,(6Mbps)_2TX	10.23	0.01054	15.01	0.03170
11a80_Nss1,(6Mbps)_2TX	6.67	0.00465	11.45	0.01396
802.11ac VHT20_Nss1,(MCS0)_2TX	13.46	0.02218	18.24	0.06668
802.11ac VHT40_Nss1,(MCS0)_2TX	9.64	0.00920	14.42	0.02767
802.11ac VHT80_Nss1,(MCS0)_2TX	5.99	0.00397	10.77	0.01194
802.11ax HEW20_Nss1,(MCS0)_2TX	14.44	0.02780	19.22	0.08356
802.11ax HEW40_Nss1,(MCS0)_2TX	10.71	0.01178	15.49	0.03540
802.11ax HEW80_Nss1,(MCS0)_2TX	7.00	0.00501	11.78	0.01507



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)
11a20_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-
5180MHz	Pass	4.91	17.18	17.36	20.28	30.00	25.19
5200MHz	Pass	4.97	17.19	17.66	20.44	30.00	25.41
5240MHz	Pass	4.97	17.29	17.62	20.47	30.00	25.44
5260MHz	Pass	4.97	17.30	17.64	20.48	23.98	25.45
5300MHz	Pass	4.97	17.33	17.63	20.49	23.98	25.46
5320MHz	Pass	4.88	17.11	17.57	20.36	23.98	25.24
5500MHz	Pass	4.82	16.34	16.69	19.53	23.98	24.35
5580MHz	Pass	4.73	17.07	17.59	20.35	23.98	25.08
5700MHz	Pass	4.78	15.82	16.54	19.21	23.98	23.99
5720MHz Straddle 5.47-5.725GHz	Pass	4.78	16.12	16.50	19.32	22.92	24.10
5720MHz Straddle 5.725-5.85GHz	Pass	4.78	10.16	10.61	13.40	30.00	18.18
11a40_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-
5190MHz	Pass	4.91	13.56	13.67	16.63	30.00	21.54
5230MHz	Pass	4.97	17.32	17.77	20.56	30.00	25.53
5270MHz	Pass	4.97	17.18	17.72	20.47	23.98	25.44
5310MHz	Pass	4.88	15.23	15.64	18.45	23.98	23.33
5510MHz	Pass	4.82	15.16	15.36	18.27	23.98	23.09
5550MHz	Pass	4.82	17.20	17.50	20.36	23.98	25.18
5670MHz	Pass	4.78	17.09	17.23	20.17	23.98	24.95
5710MHz Straddle 5.47-5.725GHz	Pass	4.78	16.91	17.06	20.00	23.98	24.78
5710MHz Straddle 5.725-5.85GHz	Pass	4.78	7.13	7.30	10.23	30.00	15.01
11a80_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-
5210MHz	Pass	4.97	14.49	14.53	17.52	30.00	22.49
5290MHz	Pass	4.97	14.46	14.54	17.51	23.98	22.48
5530MHz	Pass	4.82	14.27	14.46	17.38	23.98	22.20
5610MHz	Pass	4.73	16.75	17.43	20.11	23.98	24.84
5690MHz Straddle 5.47-5.725GHz	Pass	4.78	16.50	17.25	19.90	23.98	24.68
5690MHz Straddle 5.725-5.85GHz	Pass	4.78	3.33	3.97	6.67	30.00	11.45
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
5180MHz	Pass	4.91	16.15	16.45	19.31	30.00	24.22
5200MHz	Pass	4.97	17.35	17.58	20.48	30.00	25.45
5240MHz	Pass	4.97	17.11	17.39	20.26	30.00	25.23
5260MHz	Pass	4.97	17.19	17.45	20.33	23.98	25.30
5300MHz	Pass	4.97	17.16	17.43	20.31	23.98	25.28
5320MHz	Pass	4.88	16.14	16.54	19.35	23.98	24.23
5500MHz	Pass	4.82	16.23	16.75	19.51	23.98	24.33
5580MHz	Pass	4.73	17.17	17.87	20.54	23.98	25.27
5700MHz	Pass	4.78	15.02	15.62	18.34	23.98	23.12
5720MHz Straddle 5.47-5.725GHz	Pass	4.78	15.74	16.23	19.00	23.01	23.78
5720MHz Straddle 5.725-5.85GHz	Pass	4.78	10.21	10.68	13.46	30.00	18.24
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
5190MHz	Pass	4.91	13.49	13.62	16.57	30.00	21.48
5230MHz	Pass	4.97	17.07	17.56	20.33	30.00	25.30

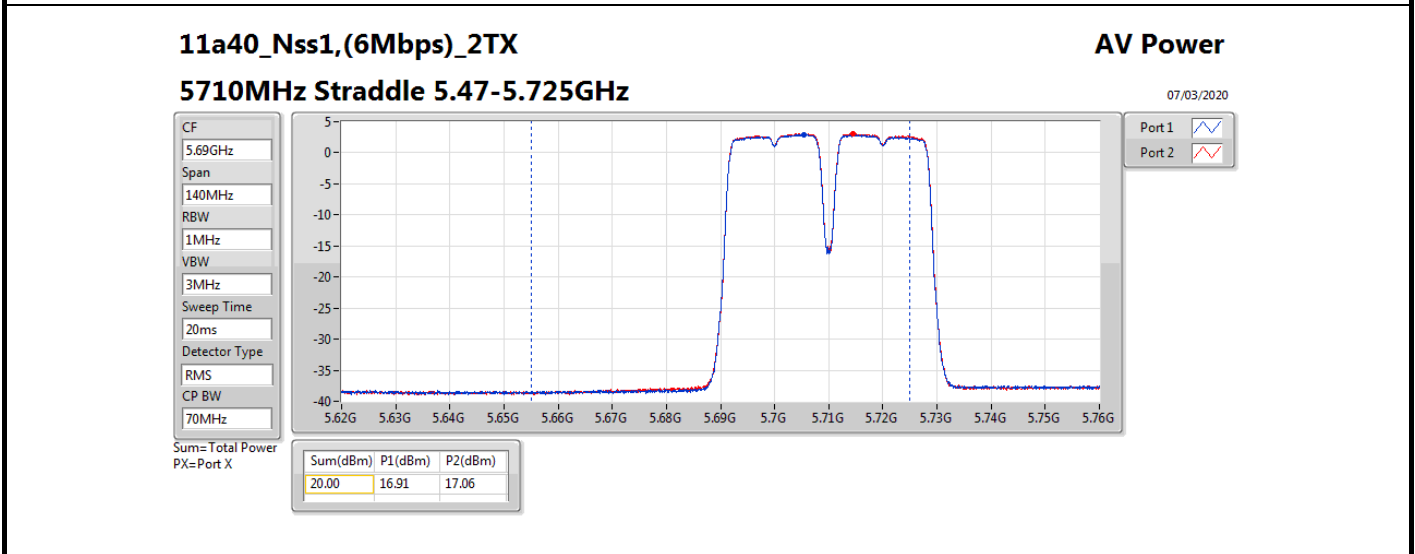
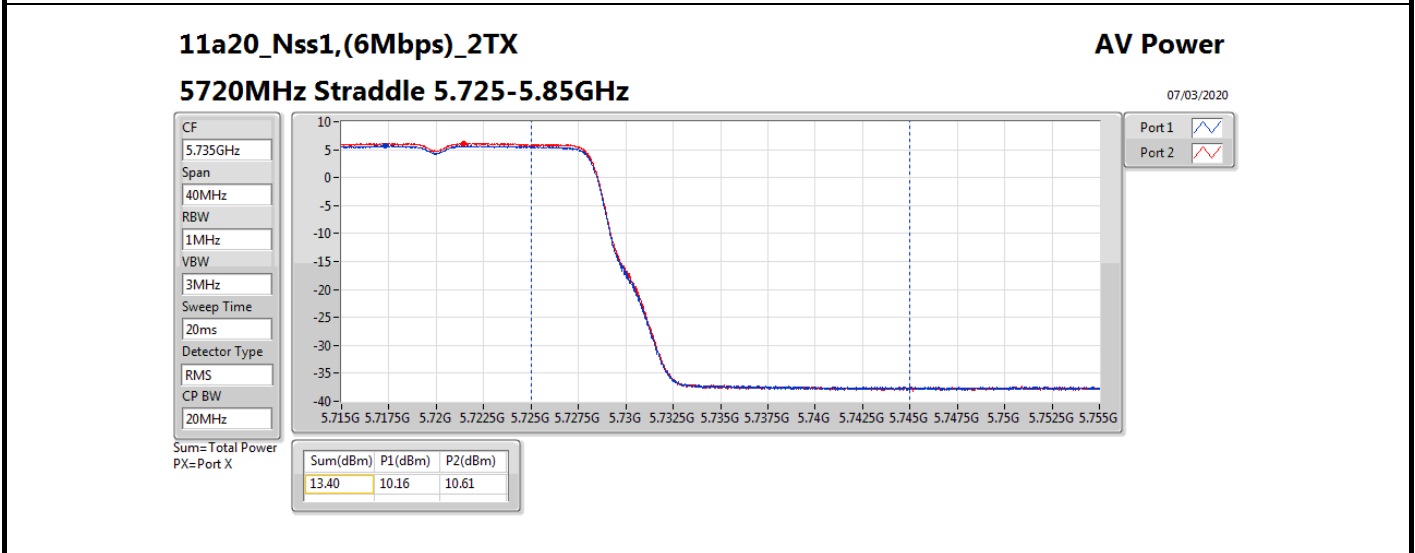
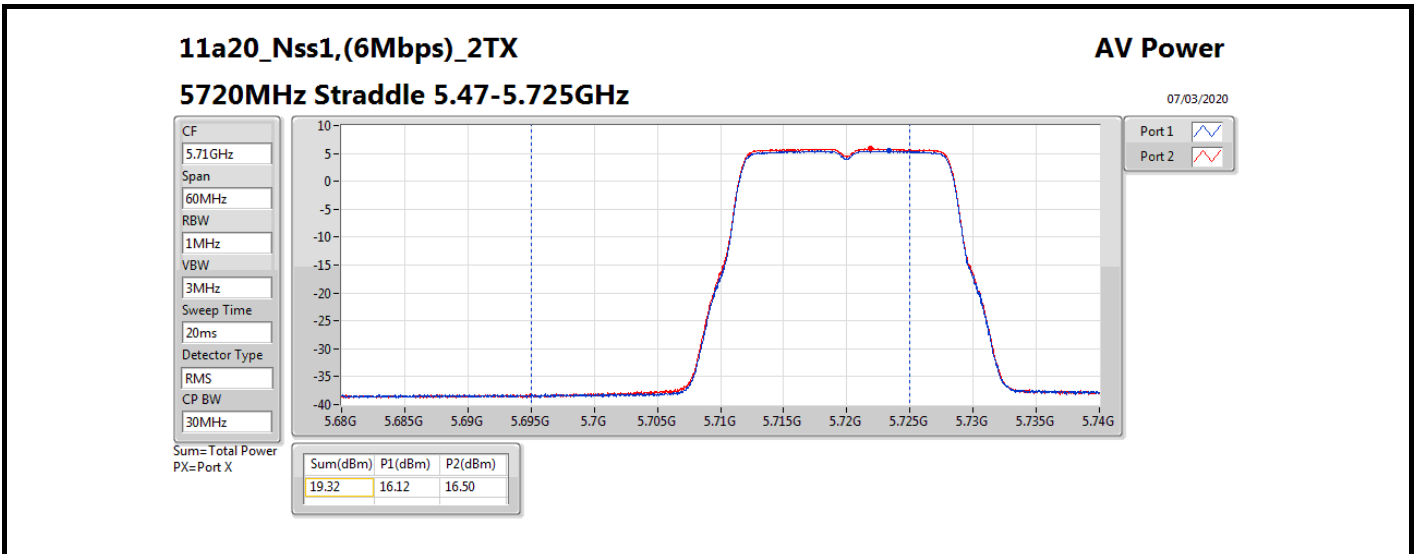


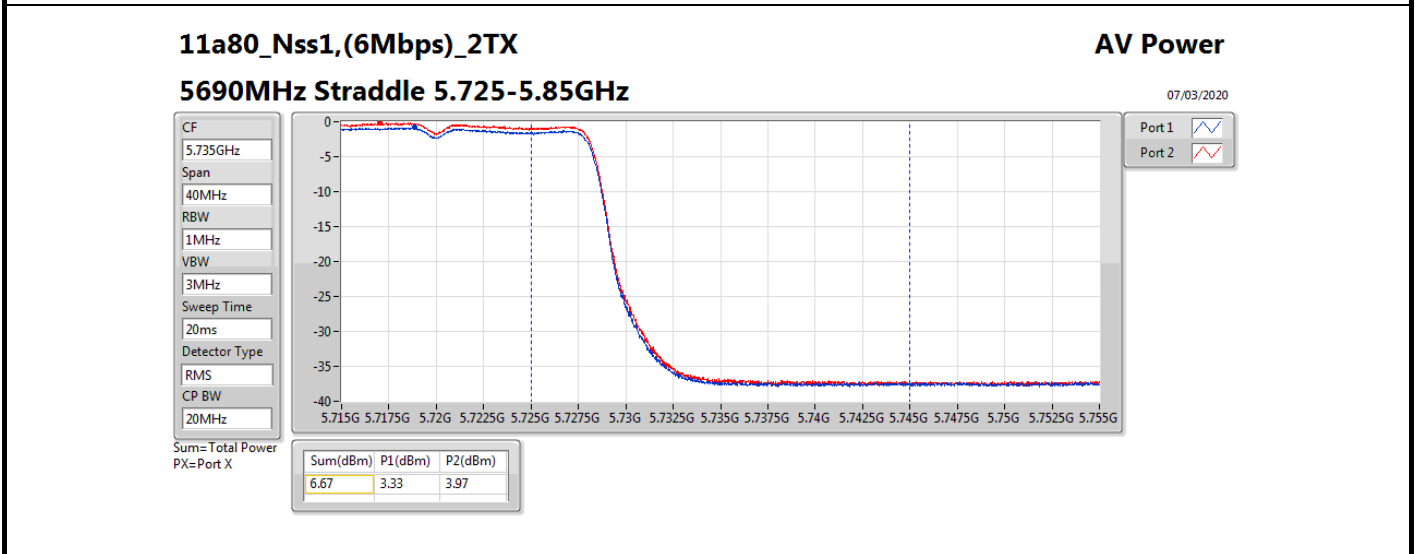
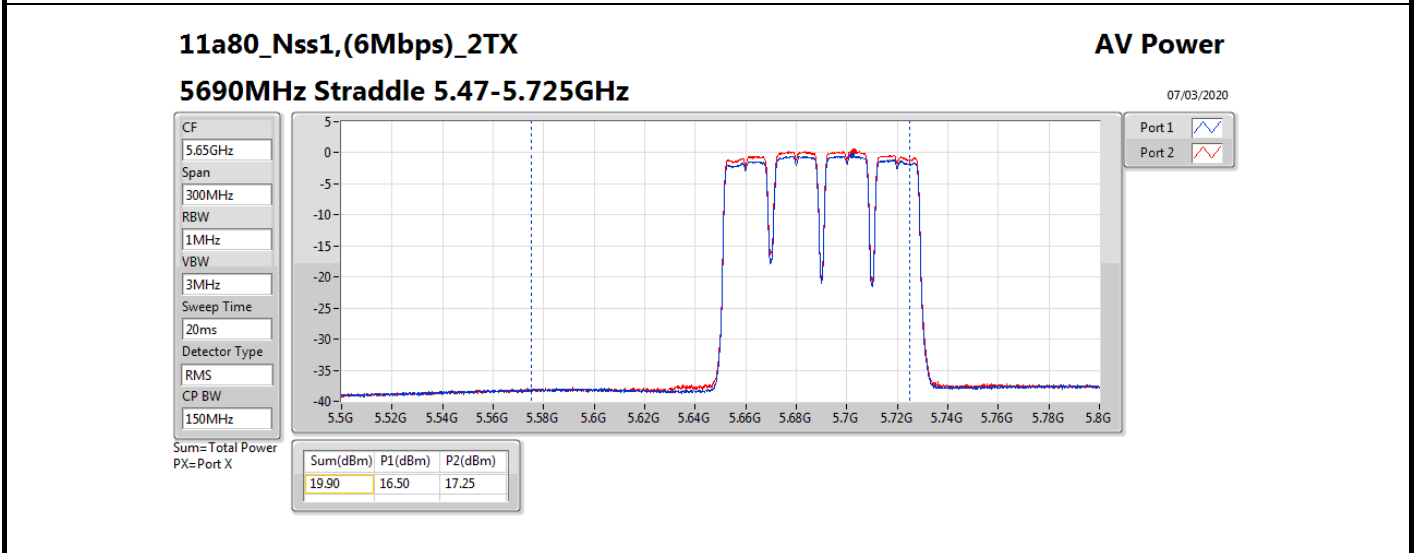
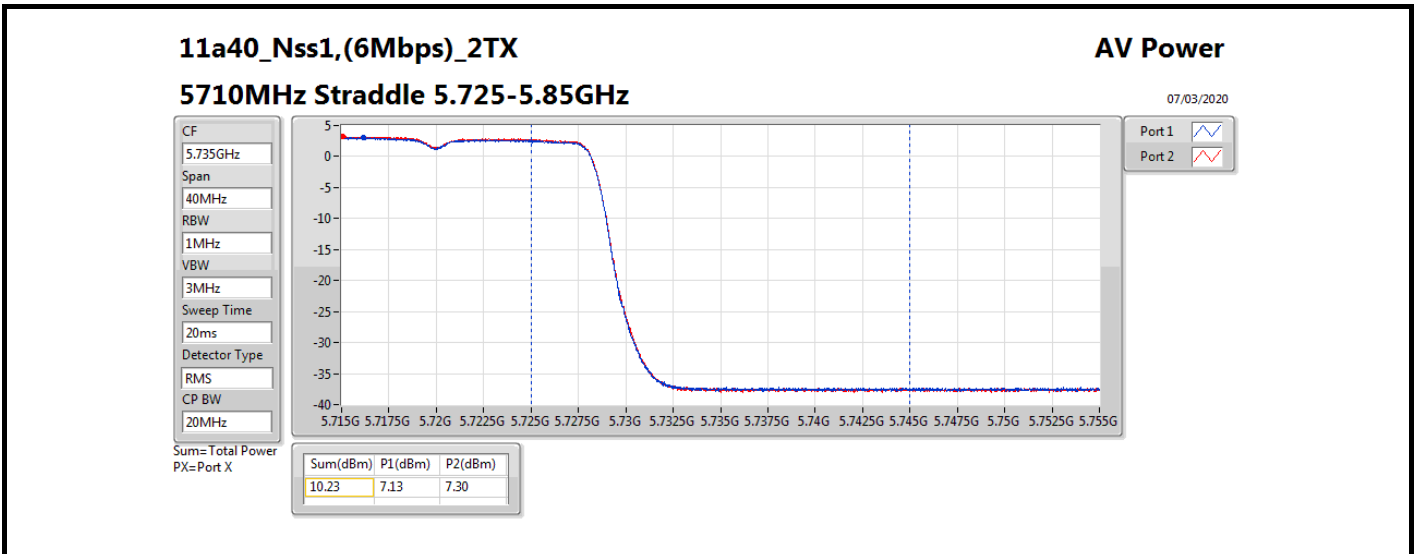
Average Power

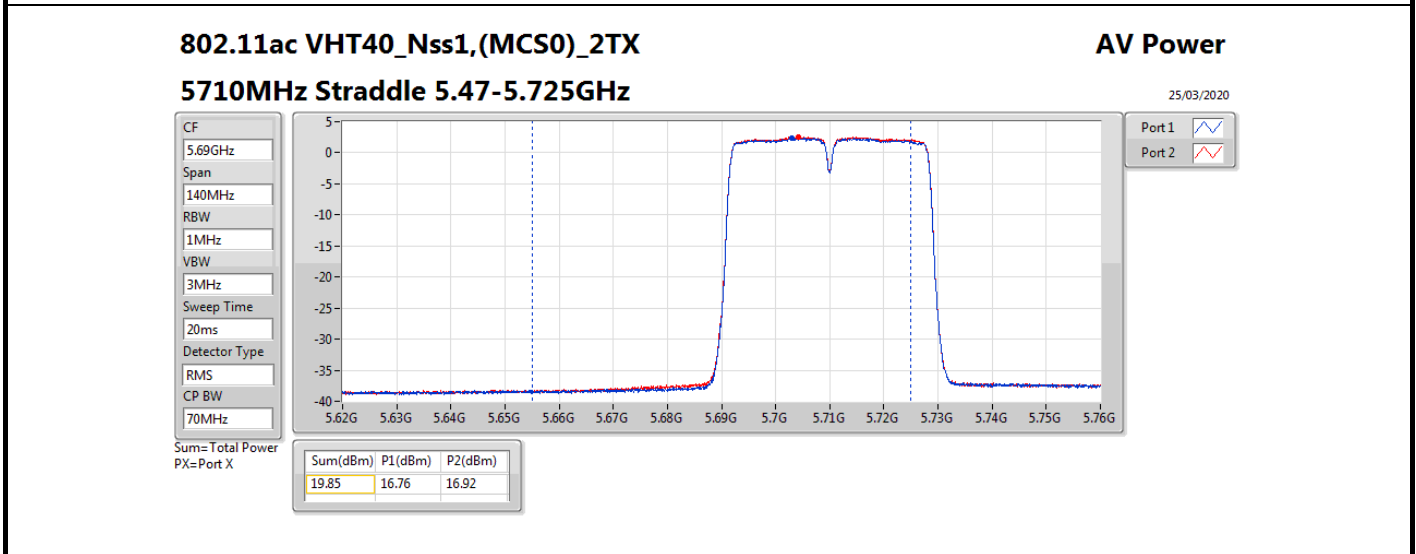
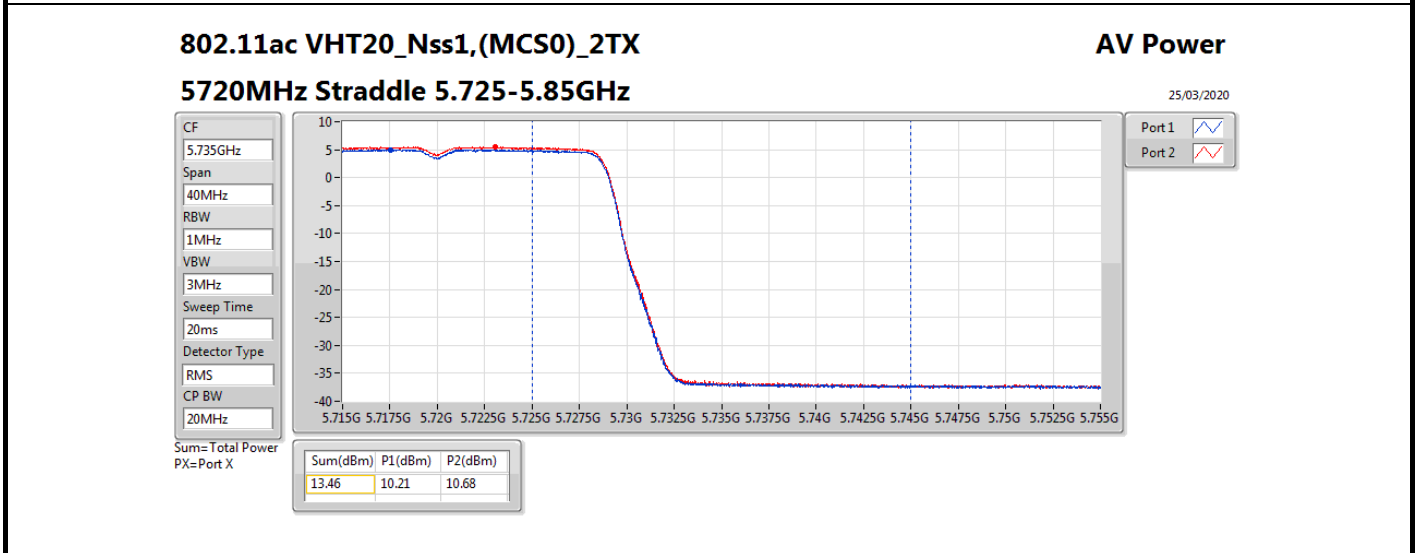
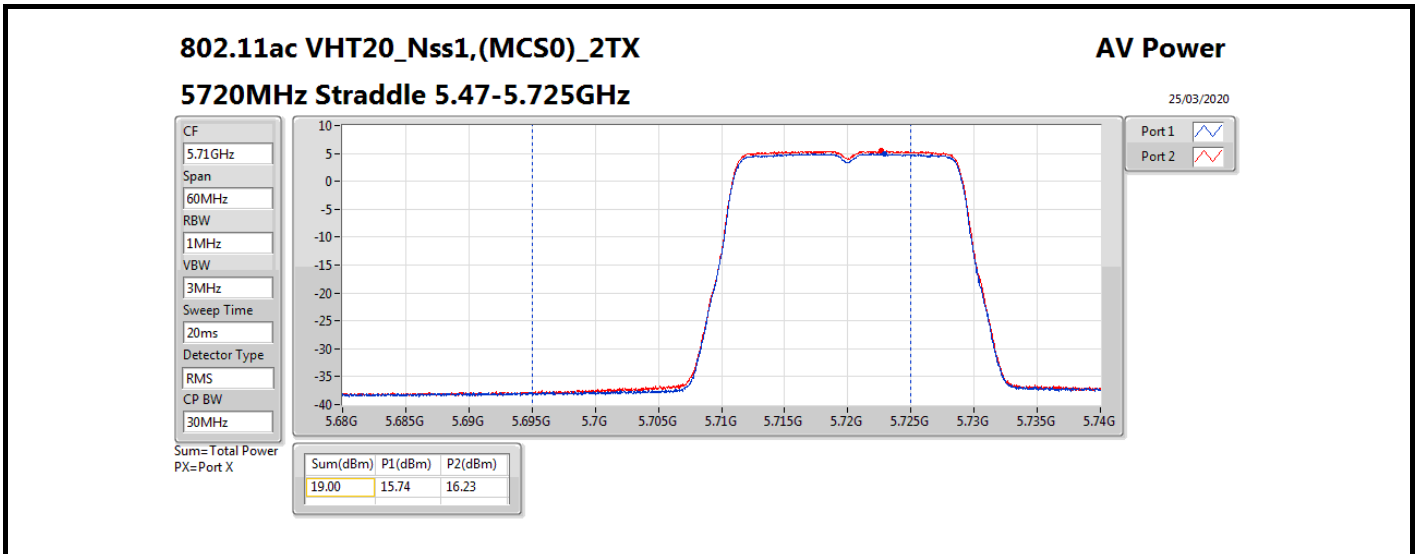
Appendix C.1

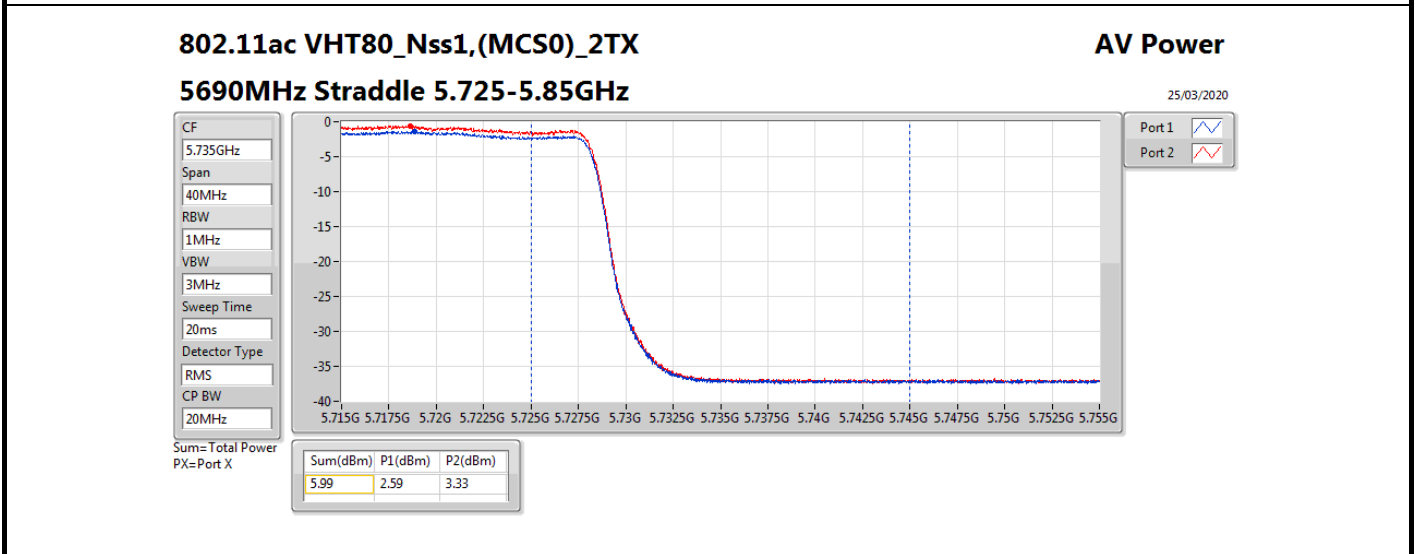
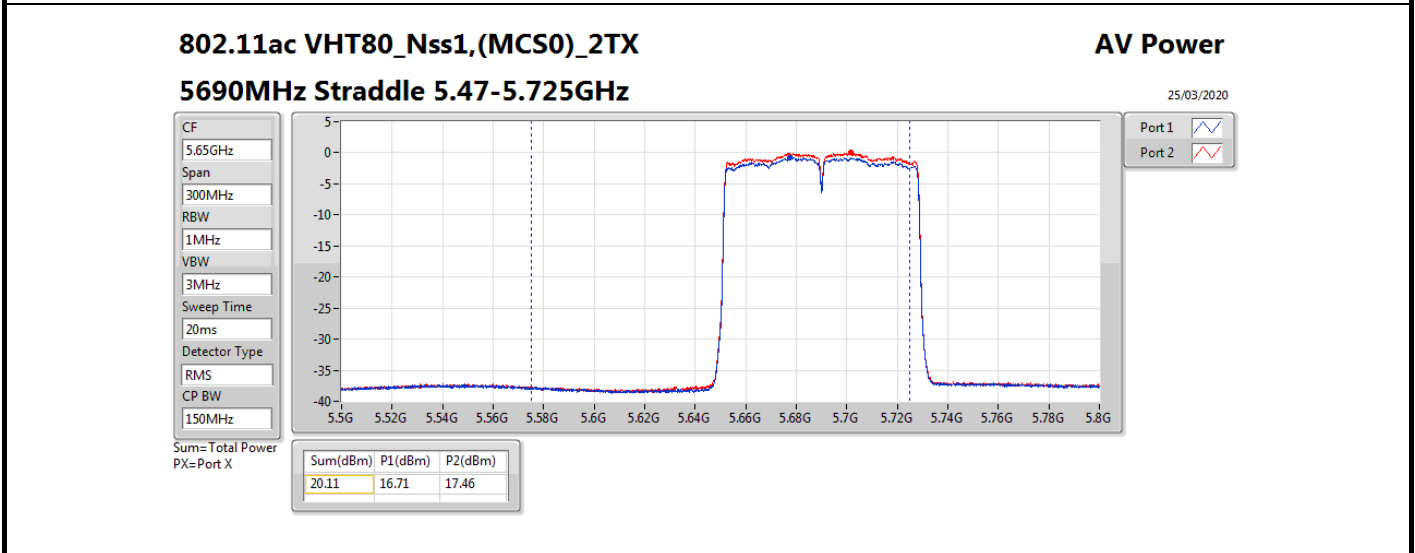
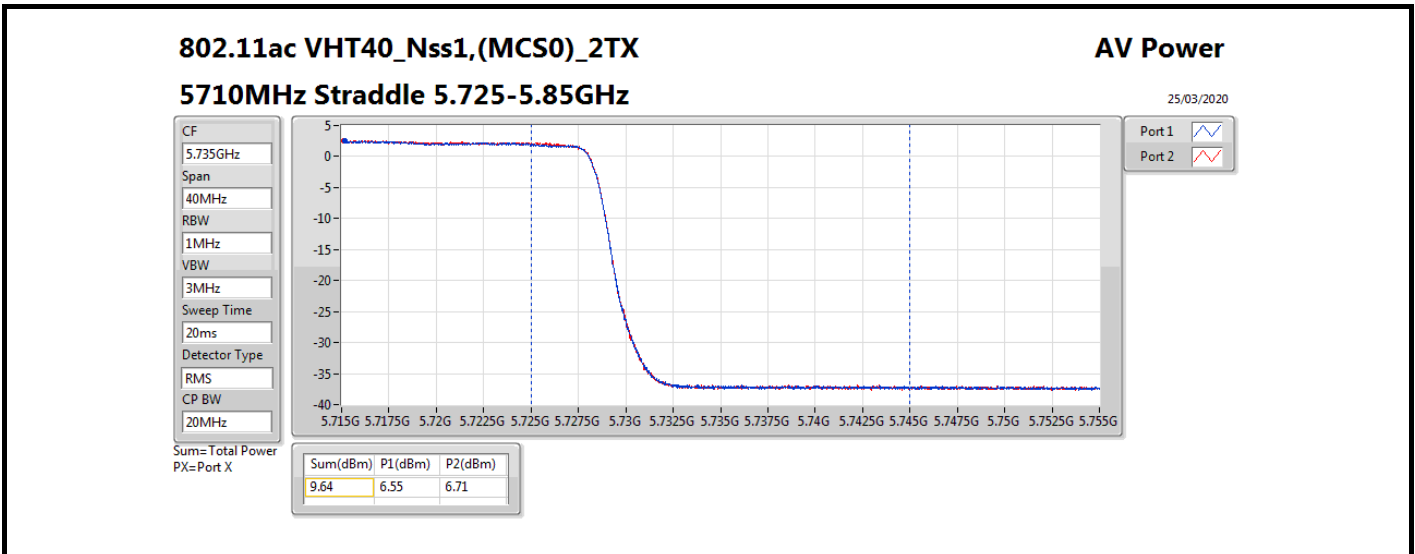
Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)
5270MHz	Pass	4.97	17.05	17.73	20.41	23.98	25.38
5310MHz	Pass	4.88	14.08	14.58	17.35	23.98	22.23
5510MHz	Pass	4.82	15.22	15.48	18.36	23.98	23.18
5550MHz	Pass	4.82	17.15	17.61	20.40	23.98	25.22
5670MHz	Pass	4.78	16.25	16.33	19.30	23.98	24.08
5710MHz Straddle 5.47-5.725GHz	Pass	4.78	16.76	16.92	19.85	23.98	24.63
5710MHz Straddle 5.725-5.85GHz	Pass	4.78	6.55	6.71	9.64	30.00	14.42
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
5210MHz	Pass	4.97	13.34	13.74	16.55	30.00	21.52
5290MHz	Pass	4.97	14.26	14.50	17.39	23.98	22.36
5530MHz	Pass	4.82	15.96	16.59	19.30	23.98	24.12
5610MHz	Pass	4.73	16.94	17.41	20.19	23.98	24.92
5690MHz Straddle 5.47-5.725GHz	Pass	4.78	16.71	17.46	20.11	23.98	24.89
5690MHz Straddle 5.725-5.85GHz	Pass	4.78	2.59	3.33	5.99	30.00	10.77
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
5180MHz	Pass	4.91	16.40	16.64	19.53	30.00	24.44
5200MHz	Pass	4.97	17.67	17.79	20.74	30.00	25.71
5240MHz	Pass	4.97	17.56	17.81	20.70	30.00	25.67
5260MHz	Pass	4.97	17.62	17.84	20.74	23.98	25.71
5300MHz	Pass	4.97	17.56	17.92	20.75	23.98	25.72
5320MHz	Pass	4.88	16.57	16.79	19.69	23.98	24.57
5500MHz	Pass	4.82	16.71	16.87	19.80	23.98	24.62
5580MHz	Pass	4.73	17.34	17.95	20.67	23.98	25.40
5700MHz	Pass	4.78	15.14	15.79	18.49	23.98	23.27
5720MHz Straddle 5.47-5.725GHz	Pass	4.78	16.24	16.72	19.50	22.96	24.28
5720MHz Straddle 5.725-5.85GHz	Pass	4.78	11.21	11.64	14.44	30.00	19.22
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
5190MHz	Pass	4.91	13.63	13.76	16.71	30.00	21.62
5230MHz	Pass	4.97	17.42	17.94	20.70	30.00	25.67
5270MHz	Pass	4.97	17.26	17.91	20.61	23.98	25.58
5310MHz	Pass	4.88	14.43	14.92	17.69	23.98	22.57
5510MHz	Pass	4.82	15.49	15.52	18.52	23.98	23.34
5550MHz	Pass	4.82	17.39	17.64	20.53	23.98	25.35
5670MHz	Pass	4.78	16.39	16.37	19.39	23.98	24.17
5710MHz Straddle 5.47-5.725GHz	Pass	4.78	17.09	17.31	20.21	23.98	24.99
5710MHz Straddle 5.725-5.85GHz	Pass	4.78	7.61	7.79	10.71	30.00	15.49
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
5210MHz	Pass	4.97	13.69	13.90	16.81	30.00	21.78
5290MHz	Pass	4.97	14.65	14.72	17.70	23.98	22.67
5530MHz	Pass	4.82	16.13	16.68	19.42	23.98	24.24
5610MHz	Pass	4.73	16.96	17.54	20.27	23.98	25.00
5690MHz Straddle 5.47-5.725GHz	Pass	4.78	16.92	17.55	20.26	23.98	25.04
5690MHz Straddle 5.725-5.85GHz	Pass	4.78	3.72	4.25	7.00	30.00	11.78

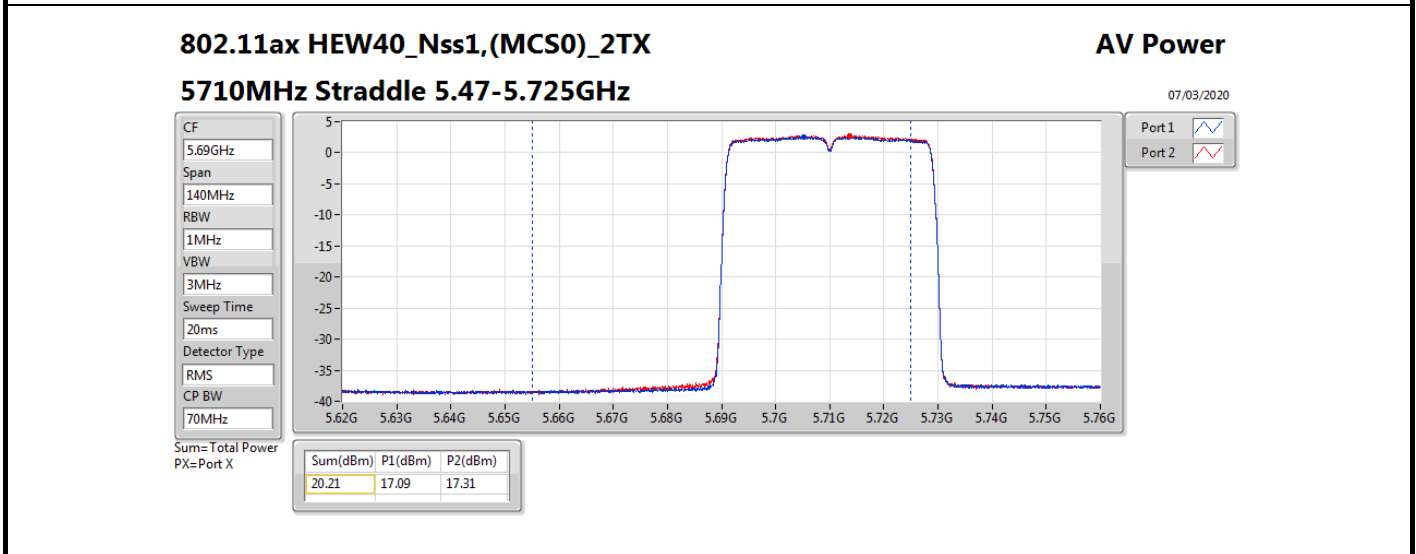
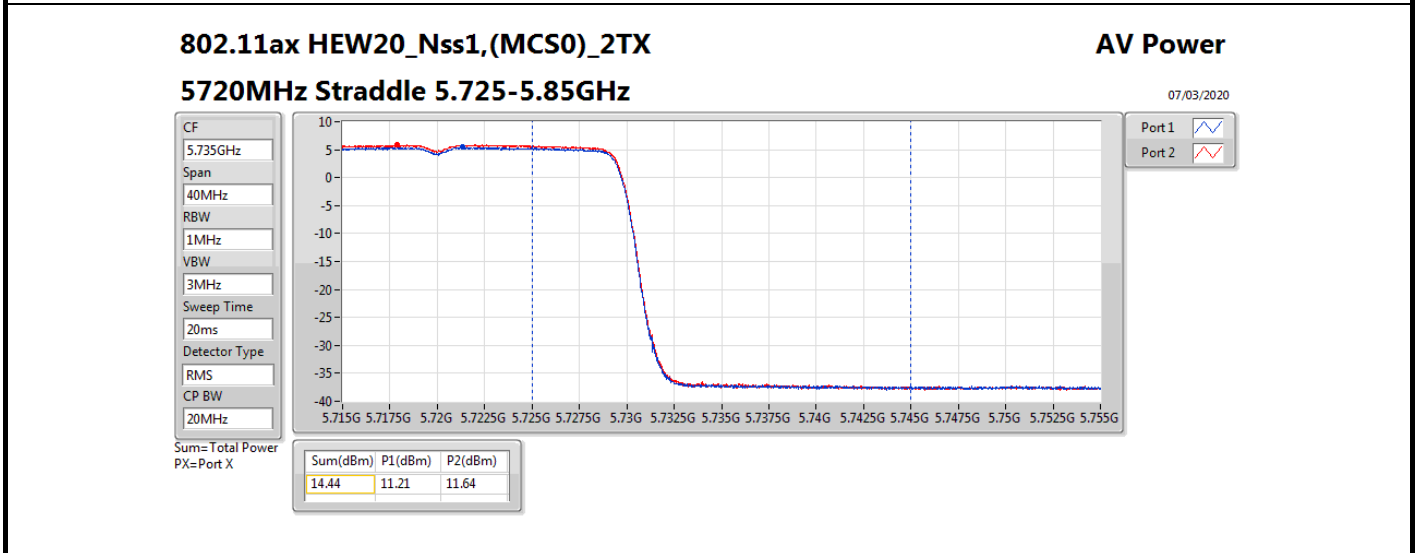
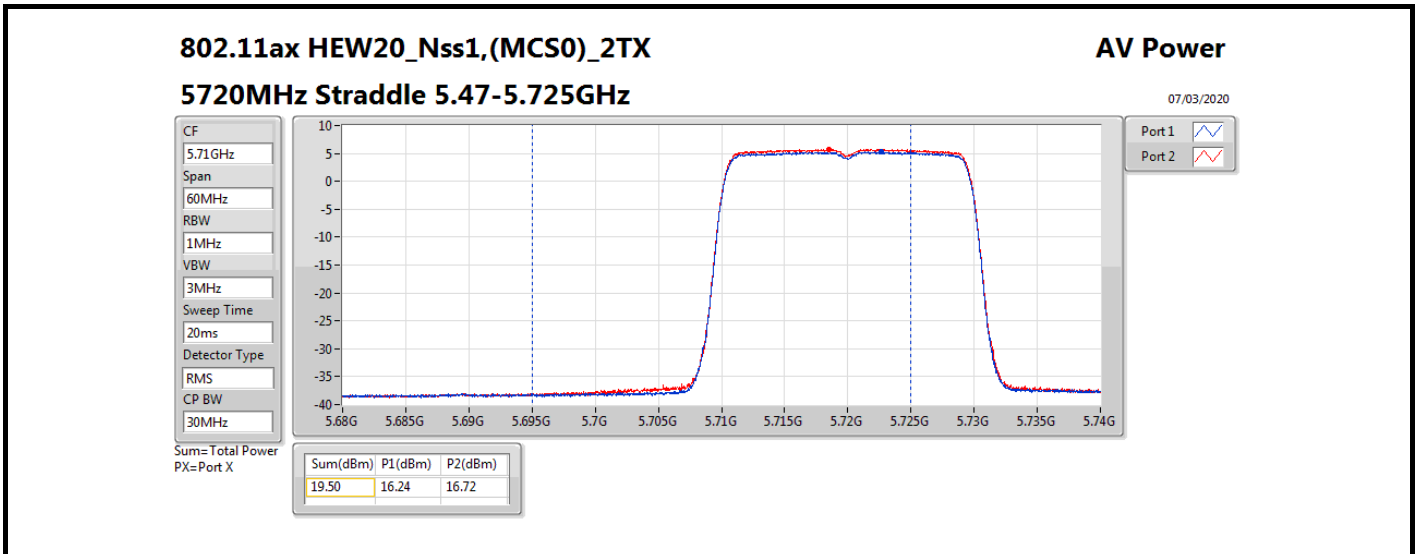
DG = Directional Gain; Port X = Port X output power

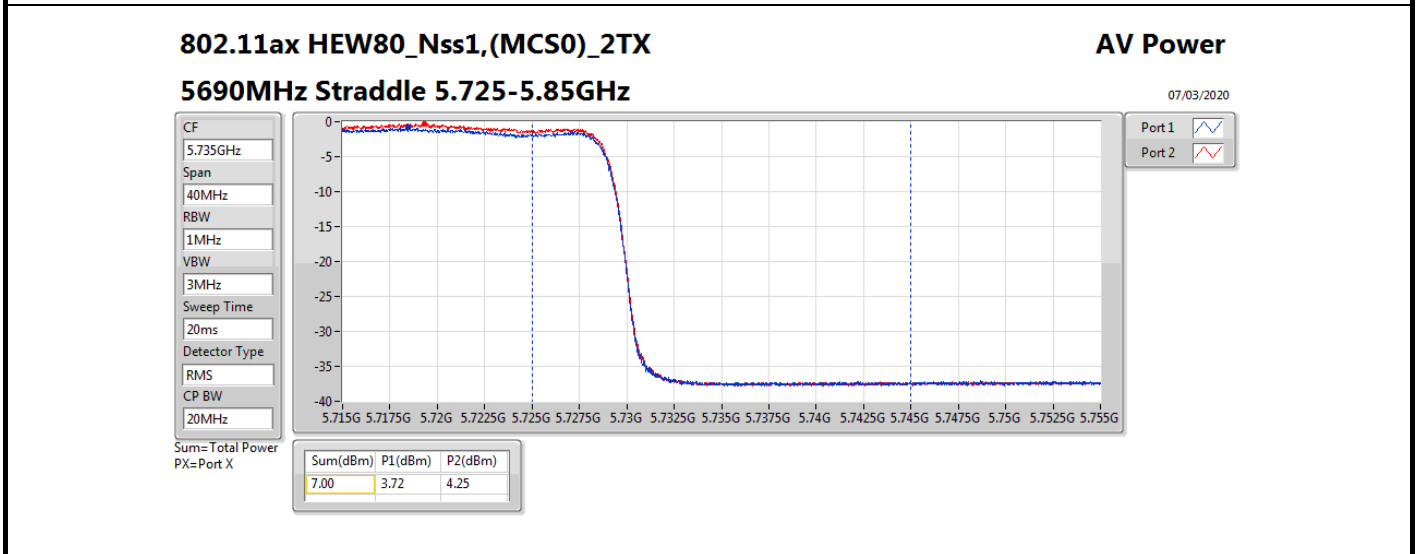
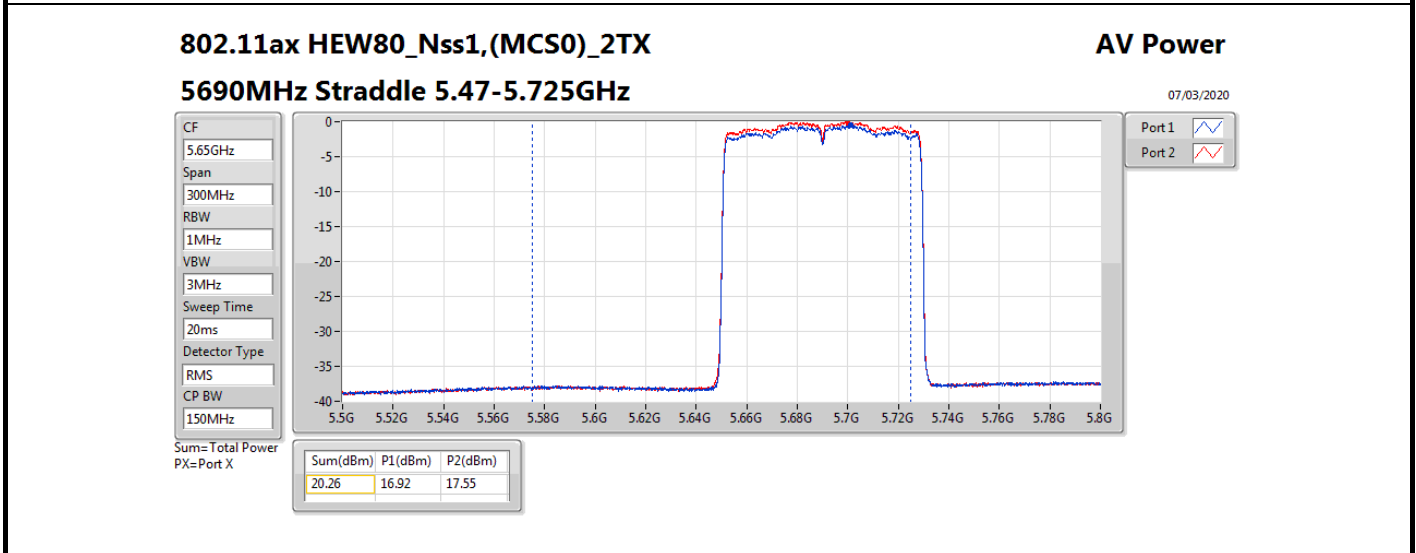
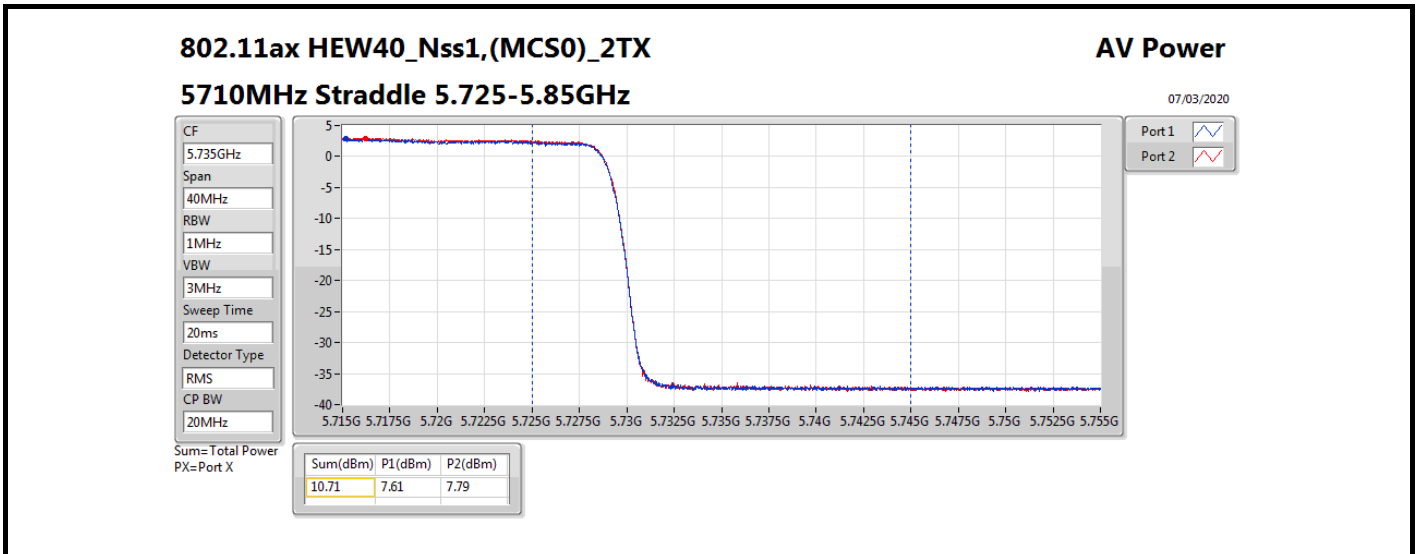














<2T1S>

beamforming mode

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
11a20,BF_Nss1,(6Mbps)_2TX	20.47	0.11143	28.35	0.68391
11a40,BF_Nss1,(6Mbps)_2TX	20.56	0.11376	28.44	0.69823
11a80,BF_Nss1,(6Mbps)_2TX	17.52	0.05649	25.40	0.34674
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	20.48	0.11169	28.36	0.68549
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	20.33	0.10789	28.21	0.66222
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	16.55	0.04519	24.43	0.27733
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	20.74	0.11858	28.62	0.72778
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	20.70	0.11749	28.58	0.72111
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	16.81	0.04797	24.69	0.29444
5.25-5.35GHz	-	-	-	-
11a20,BF_Nss1,(6Mbps)_2TX	20.49	0.11194	28.37	0.68707
11a40,BF_Nss1,(6Mbps)_2TX	20.47	0.11143	28.35	0.68391
11a80,BF_Nss1,(6Mbps)_2TX	17.51	0.05636	25.39	0.34594
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	20.33	0.10789	28.21	0.66222
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	20.41	0.10990	28.29	0.67453
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	17.39	0.05483	25.27	0.33651
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	20.75	0.11885	28.63	0.72946
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	20.61	0.11508	28.49	0.70632
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	17.70	0.05888	25.58	0.36141
5.47-5.725GHz	-	-	-	-
11a20,BF_Nss1,(6Mbps)_2TX	20.35	0.10839	27.85	0.60954
11a40,BF_Nss1,(6Mbps)_2TX	20.36	0.10864	27.96	0.62517
11a80,BF_Nss1,(6Mbps)_2TX	20.11	0.10257	27.61	0.57677
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	20.54	0.11324	28.04	0.63680
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	20.40	0.10965	28.00	0.63096
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	20.19	0.10447	27.71	0.59020
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	20.67	0.11668	28.17	0.65615
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	20.53	0.11298	28.13	0.65013
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	20.27	0.10641	27.86	0.61094
5.725-5.85GHz	-	-	-	-
11a20,BF_Nss1,(6Mbps)_2TX	13.40	0.02188	21.00	0.12589
11a40,BF_Nss1,(6Mbps)_2TX	10.23	0.01054	17.83	0.06067
11a80,BF_Nss1,(6Mbps)_2TX	6.67	0.00465	14.27	0.02673
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	13.46	0.02218	21.06	0.12764
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	9.64	0.00920	17.24	0.05297
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	5.99	0.00397	13.59	0.02286
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	14.44	0.02780	22.04	0.15996
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	10.71	0.01178	18.31	0.06776
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	7.00	0.00501	14.60	0.02884



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)
11a20,BF_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-
5180MHz	Pass	7.76	17.18	17.36	20.28	28.24	28.04
5200MHz	Pass	7.88	17.19	17.66	20.44	28.12	28.32
5240MHz	Pass	7.88	17.29	17.62	20.47	28.12	28.35
5260MHz	Pass	7.88	17.3	17.64	20.48	22.10	28.36
5300MHz	Pass	7.88	17.33	17.63	20.49	22.10	28.37
5320MHz	Pass	7.75	17.11	17.57	20.36	22.23	28.11
5500MHz	Pass	7.60	16.34	16.69	19.53	22.38	27.13
5580MHz	Pass	7.50	17.07	17.59	20.35	22.48	27.85
5700MHz	Pass	7.60	15.82	16.54	19.21	22.38	26.81
5720MHz Straddle 5.47-5.725GHz	Pass	7.60	16.12	16.5	19.32	21.32	26.92
5720MHz Straddle 5.725-5.85GHz	Pass	7.60	10.16	10.61	13.40	28.40	21.00
11a40,BF_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-
5190MHz	Pass	7.76	13.56	13.67	16.63	28.24	24.39
5230MHz	Pass	7.88	17.32	17.77	20.56	28.12	28.44
5270MHz	Pass	7.88	17.18	17.72	20.47	22.10	28.35
5310MHz	Pass	7.75	15.23	15.64	18.45	22.23	26.20
5510MHz	Pass	7.60	15.16	15.36	18.27	22.38	25.87
5550MHz	Pass	7.60	17.2	17.5	20.36	22.38	27.96
5670MHz	Pass	7.60	17.09	17.23	20.17	22.38	27.77
5710MHz Straddle 5.47-5.725GHz	Pass	7.60	16.91	17.06	20.00	22.38	27.60
5710MHz Straddle 5.725-5.85GHz	Pass	7.60	7.13	7.3	10.23	28.40	17.83
11a80,BF_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-
5210MHz	Pass	7.88	14.49	14.53	17.52	28.12	25.40
5290MHz	Pass	7.88	14.46	14.54	17.51	22.10	25.39
5530MHz	Pass	7.60	14.27	14.46	17.38	22.38	24.98
5610MHz	Pass	7.50	16.75	17.43	20.11	22.48	27.61
5690MHz Straddle 5.47-5.725GHz	Pass	7.60	16.5	17.25	19.90	22.38	27.50
5690MHz Straddle 5.725-5.85GHz	Pass	7.60	3.33	3.97	6.67	28.40	14.27
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
5180MHz	Pass	7.76	16.15	16.45	19.31	28.24	27.07
5200MHz	Pass	7.88	17.35	17.58	20.48	28.12	28.36
5240MHz	Pass	7.88	17.11	17.39	20.26	28.12	28.14
5260MHz	Pass	7.88	17.19	17.45	20.33	22.10	28.21
5300MHz	Pass	7.88	17.16	17.43	20.31	22.10	28.19
5320MHz	Pass	7.75	16.14	16.54	19.35	22.23	27.10
5500MHz	Pass	7.60	16.23	16.75	19.51	22.38	27.11
5580MHz	Pass	7.50	17.17	17.87	20.54	22.48	28.04
5700MHz	Pass	7.60	15.02	15.62	18.34	22.38	25.94
5720MHz Straddle 5.47-5.725GHz	Pass	7.60	15.74	16.23	19.00	21.41	26.60
5720MHz Straddle 5.725-5.85GHz	Pass	7.60	10.21	10.68	13.46	28.40	21.06
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
5190MHz	Pass	7.76	13.49	13.62	16.57	28.24	24.33
5230MHz	Pass	7.88	17.07	17.56	20.33	28.12	28.21

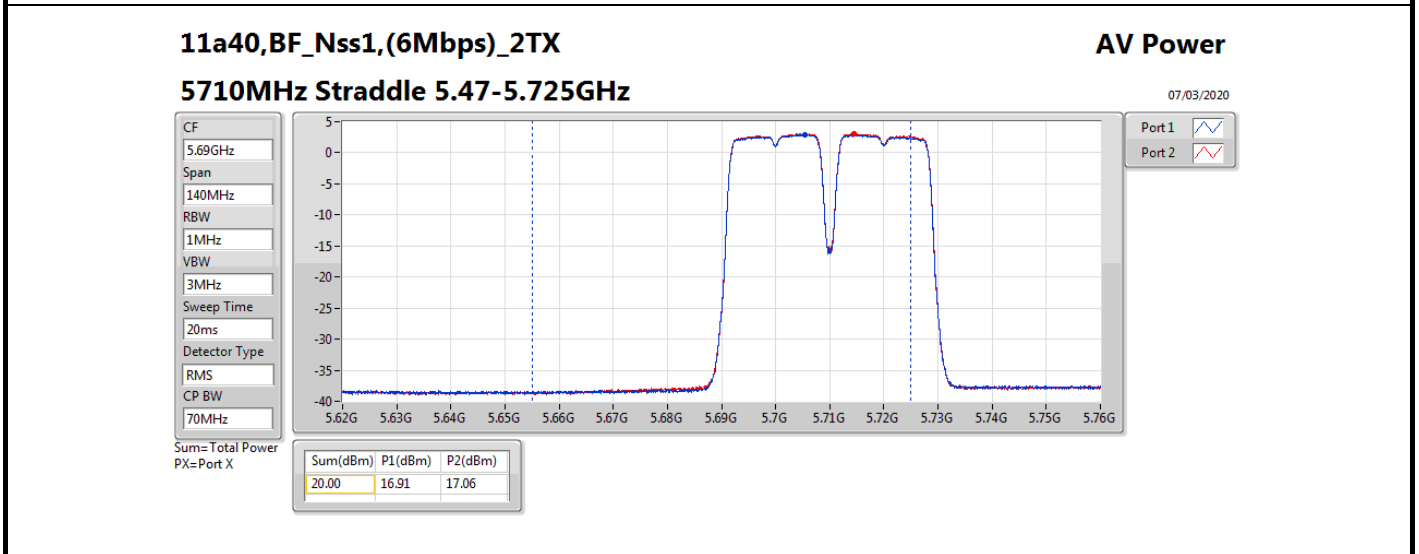
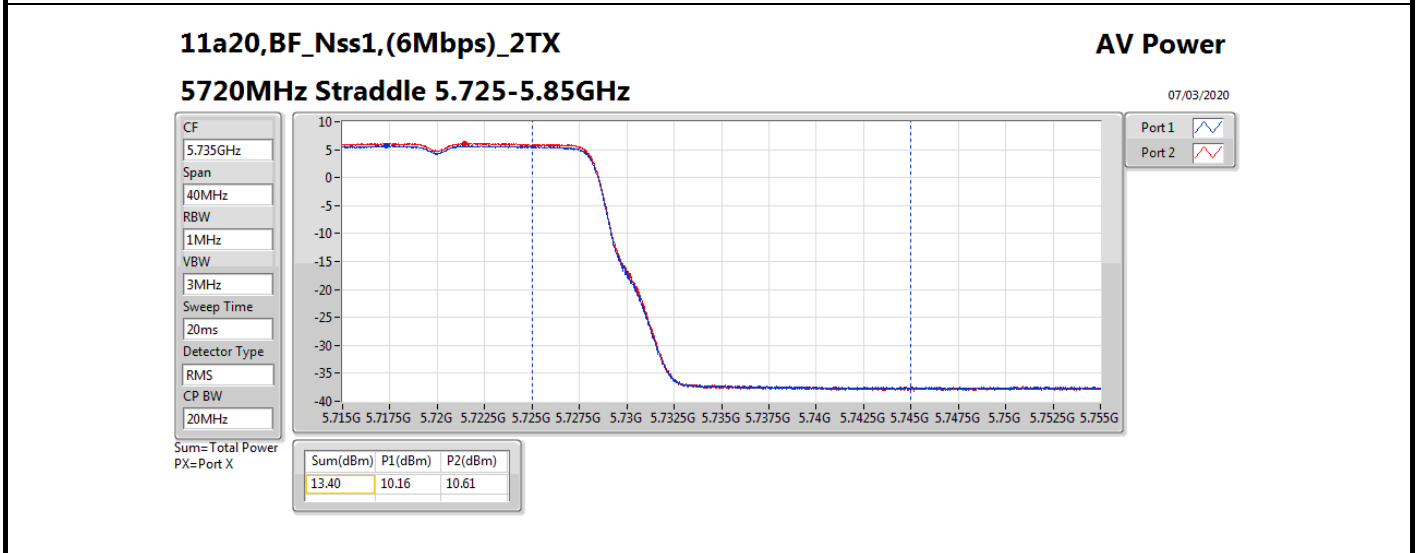
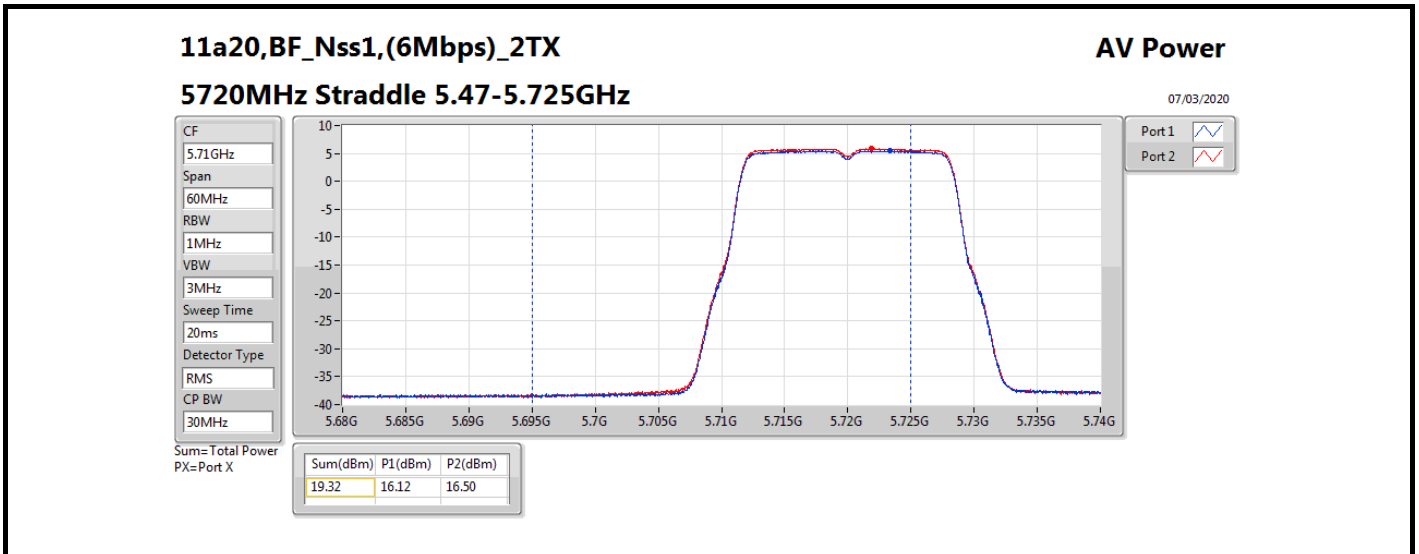


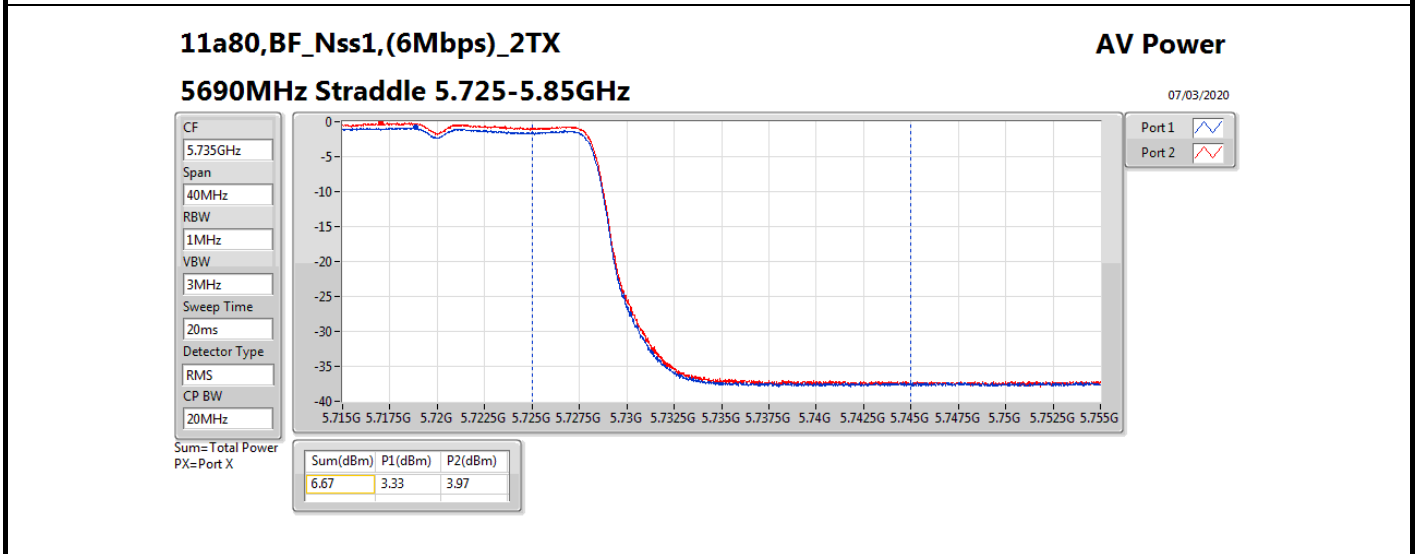
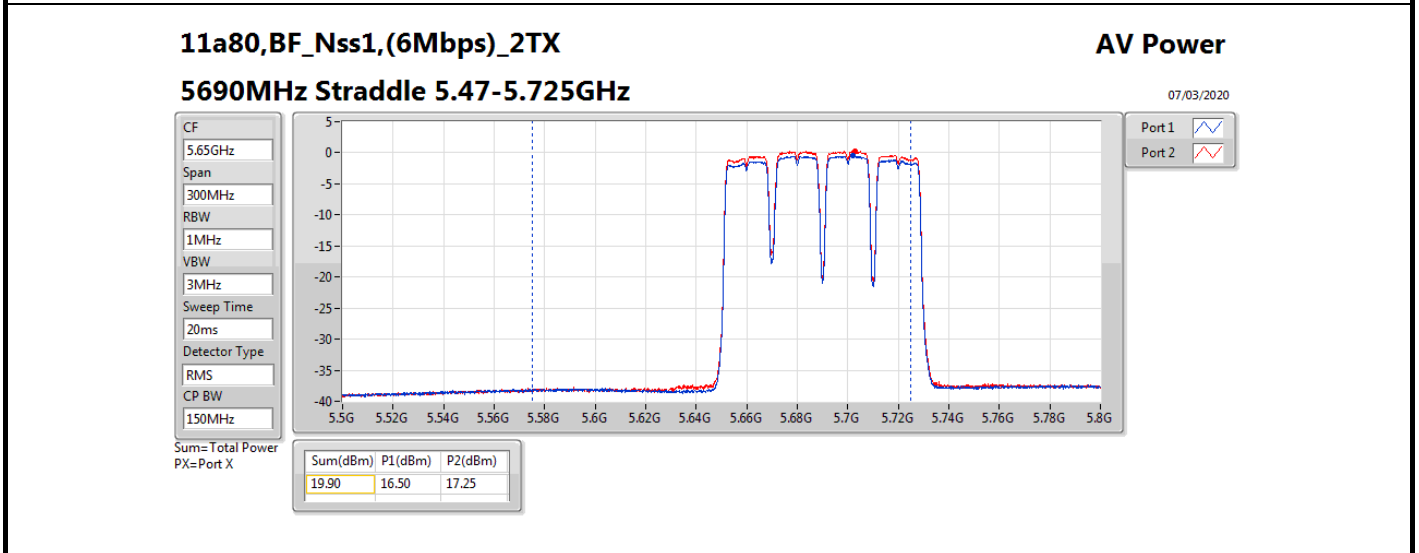
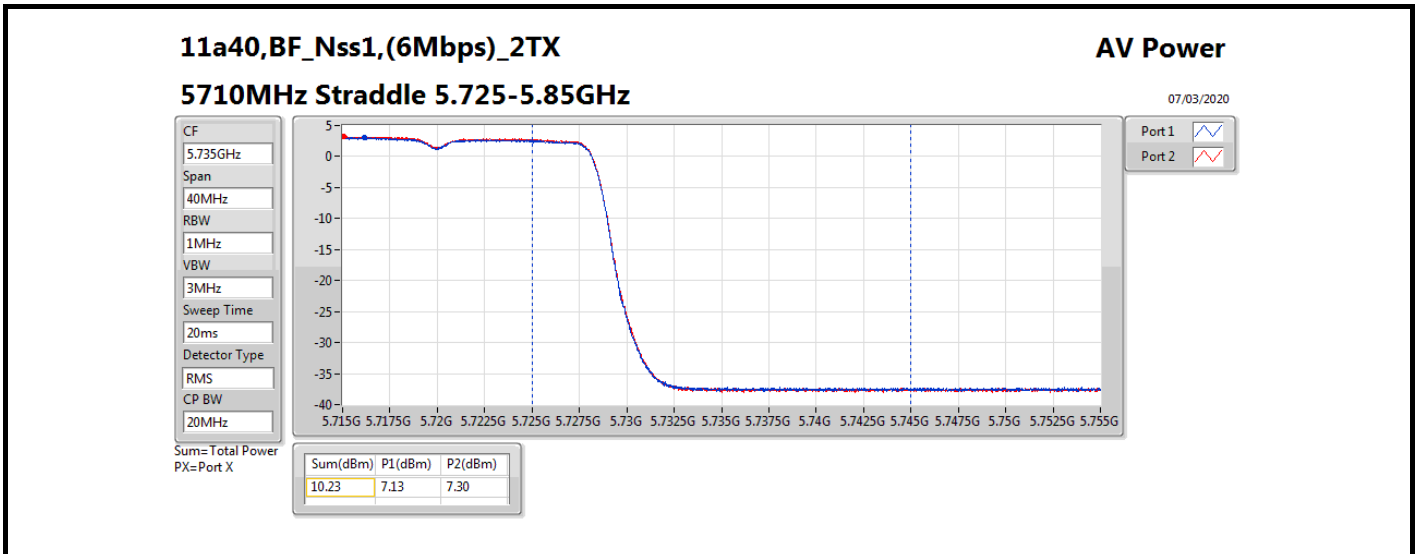
Average Power

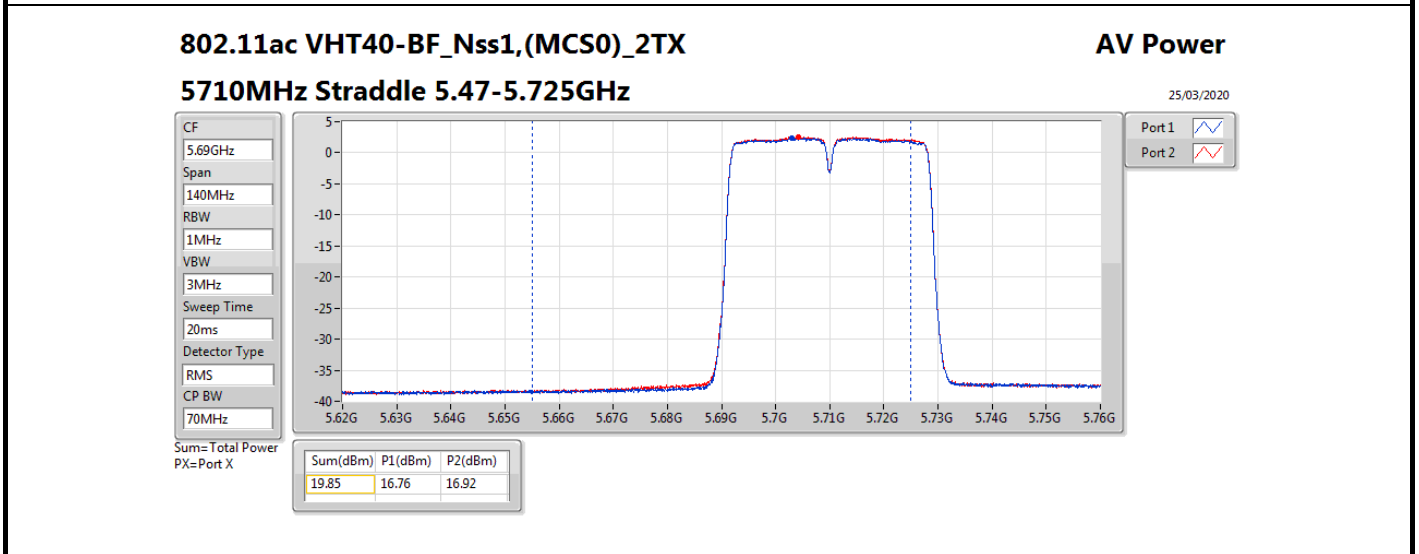
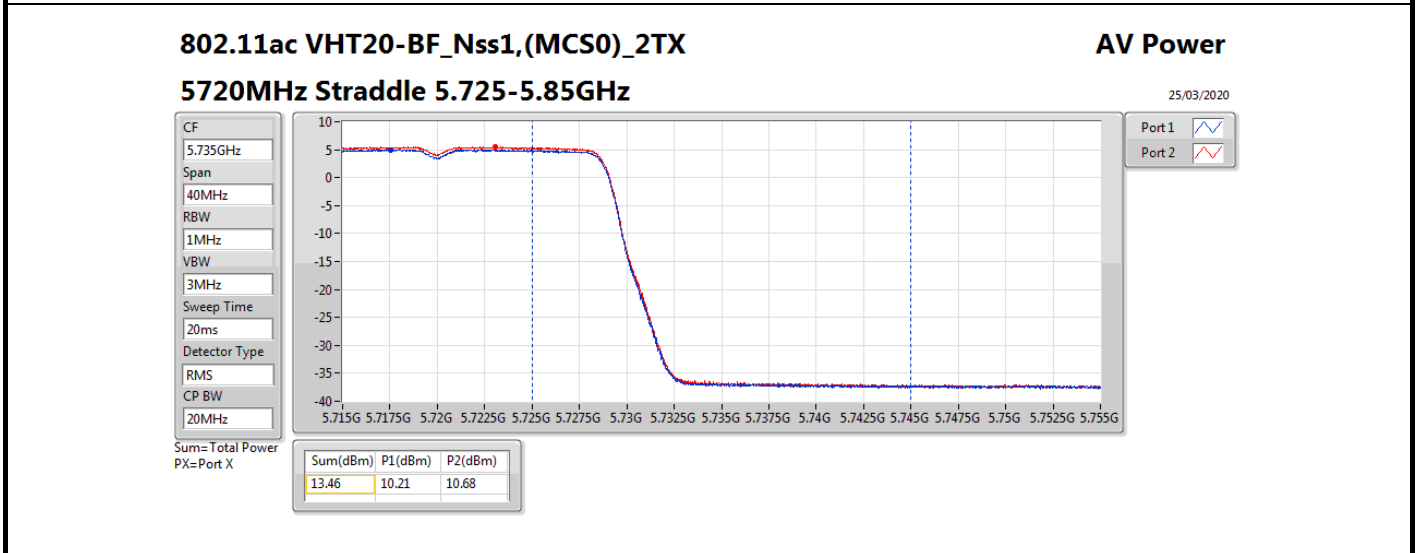
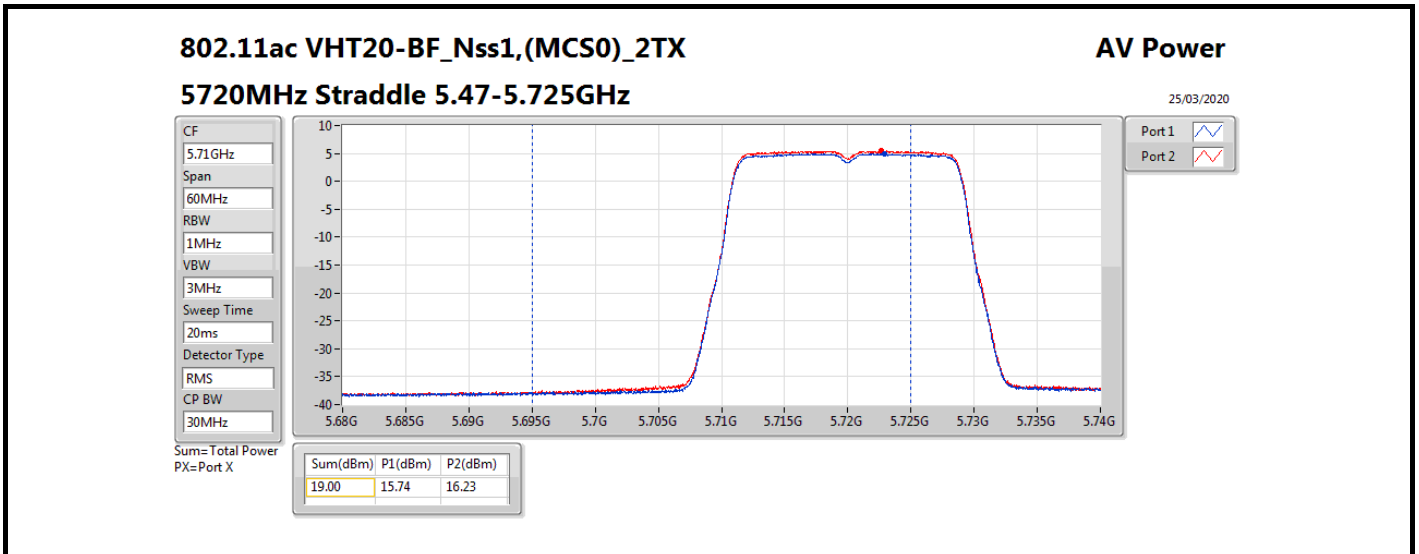
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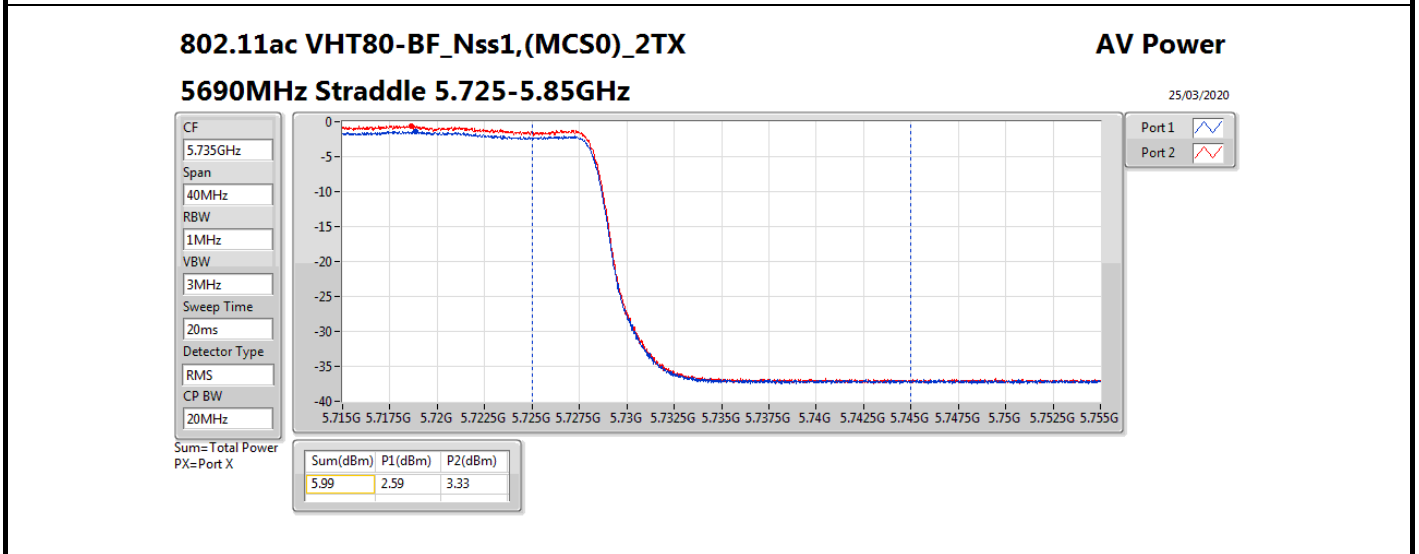
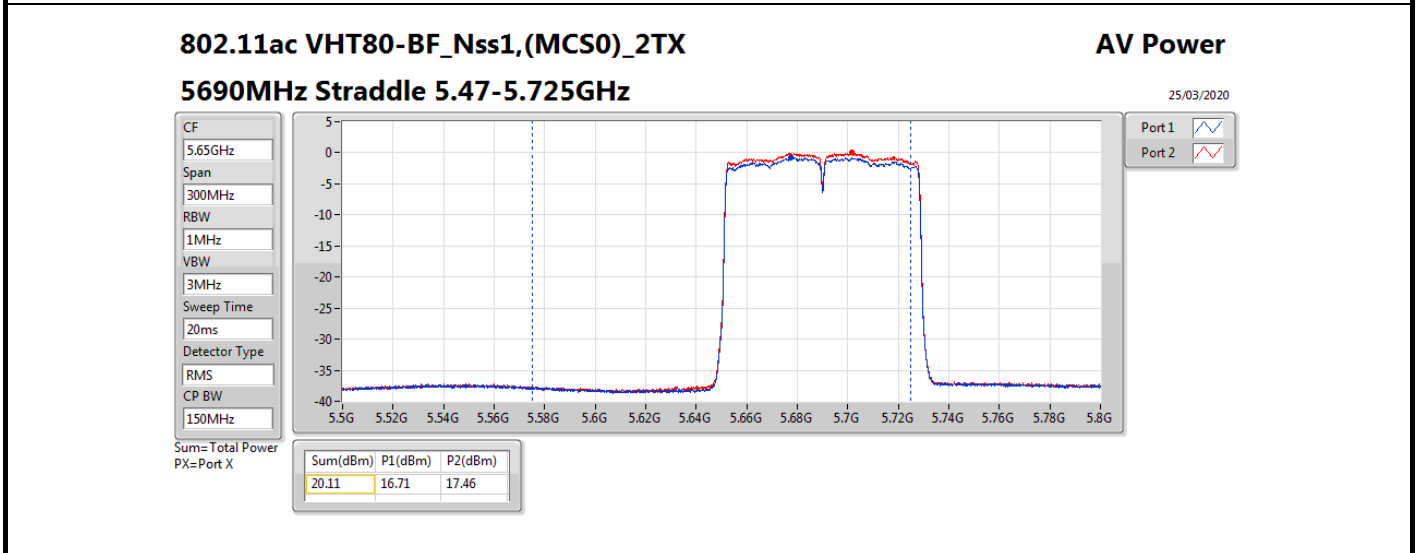
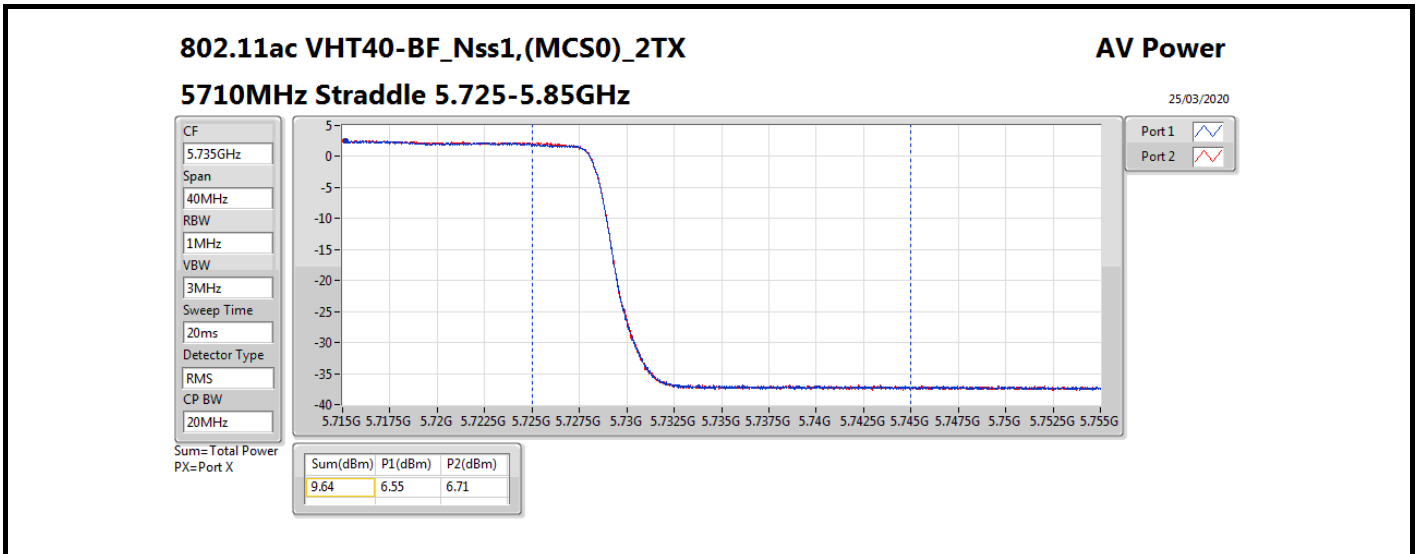
Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)
5270MHz	Pass	7.88	17.05	17.73	20.41	22.10	28.29
5310MHz	Pass	7.75	14.08	14.58	17.35	22.23	25.10
5510MHz	Pass	7.60	15.22	15.48	18.36	22.38	25.96
5550MHz	Pass	7.60	17.15	17.61	20.40	22.38	28.00
5670MHz	Pass	7.60	16.25	16.33	19.30	22.38	26.90
5710MHz Straddle 5.47-5.725GHz	Pass	7.60	16.76	16.92	19.85	22.38	27.45
5710MHz Straddle 5.725-5.85GHz	Pass	7.60	6.55	6.71	9.64	28.40	17.24
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
5210MHz	Pass	7.88	13.34	13.74	16.55	28.12	24.43
5290MHz	Pass	7.88	14.26	14.5	17.39	22.10	25.27
5530MHz	Pass	7.60	15.96	16.59	19.30	22.38	26.90
5610MHz	Pass	7.50	16.94	17.41	20.19	22.48	27.69
5690MHz Straddle 5.47-5.725GHz	Pass	7.60	16.71	17.46	20.11	22.38	27.71
5690MHz Straddle 5.725-5.85GHz	Pass	7.60	2.59	3.33	5.99	28.40	13.59
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
5180MHz	Pass	7.76	16.4	16.64	19.53	28.24	27.29
5200MHz	Pass	7.88	17.67	17.79	20.74	28.12	28.62
5240MHz	Pass	7.88	17.56	17.81	20.70	28.12	28.58
5260MHz	Pass	7.88	17.62	17.84	20.74	22.10	28.62
5300MHz	Pass	7.88	17.56	17.92	20.75	22.10	28.63
5320MHz	Pass	7.75	16.57	16.79	19.69	22.23	27.44
5500MHz	Pass	7.60	16.71	16.87	19.80	22.38	27.40
5580MHz	Pass	7.50	17.34	17.95	20.67	22.48	28.17
5700MHz	Pass	7.60	15.14	15.79	18.49	22.38	26.09
5720MHz Straddle 5.47-5.725GHz	Pass	7.60	16.24	16.72	19.50	21.36	27.10
5720MHz Straddle 5.725-5.85GHz	Pass	7.60	11.21	11.64	14.44	28.40	22.04
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
5190MHz	Pass	7.76	13.63	13.76	16.71	28.24	24.47
5230MHz	Pass	7.88	17.42	17.94	20.70	28.12	28.58
5270MHz	Pass	7.88	17.26	17.91	20.61	22.10	28.49
5310MHz	Pass	7.75	14.43	14.92	17.69	22.23	25.44
5510MHz	Pass	7.60	15.49	15.52	18.52	22.38	26.12
5550MHz	Pass	7.60	17.39	17.64	20.53	22.38	28.13
5670MHz	Pass	7.60	16.39	16.37	19.39	22.38	26.99
5710MHz Straddle 5.47-5.725GHz	Pass	7.60	17.09	17.31	20.21	22.38	27.81
5710MHz Straddle 5.725-5.85GHz	Pass	7.60	7.61	7.79	10.71	28.40	18.31
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-
5210MHz	Pass	7.88	13.69	13.9	16.81	28.12	24.69
5290MHz	Pass	7.88	14.65	14.72	17.70	22.10	25.58
5530MHz	Pass	7.60	16.13	16.68	19.42	22.38	27.02
5610MHz	Pass	7.50	16.96	17.54	20.27	22.48	27.77
5690MHz Straddle 5.47-5.725GHz	Pass	7.60	16.92	17.55	20.26	22.38	27.86
5690MHz Straddle 5.725-5.85GHz	Pass	7.60	3.72	4.25	7.00	28.40	14.60

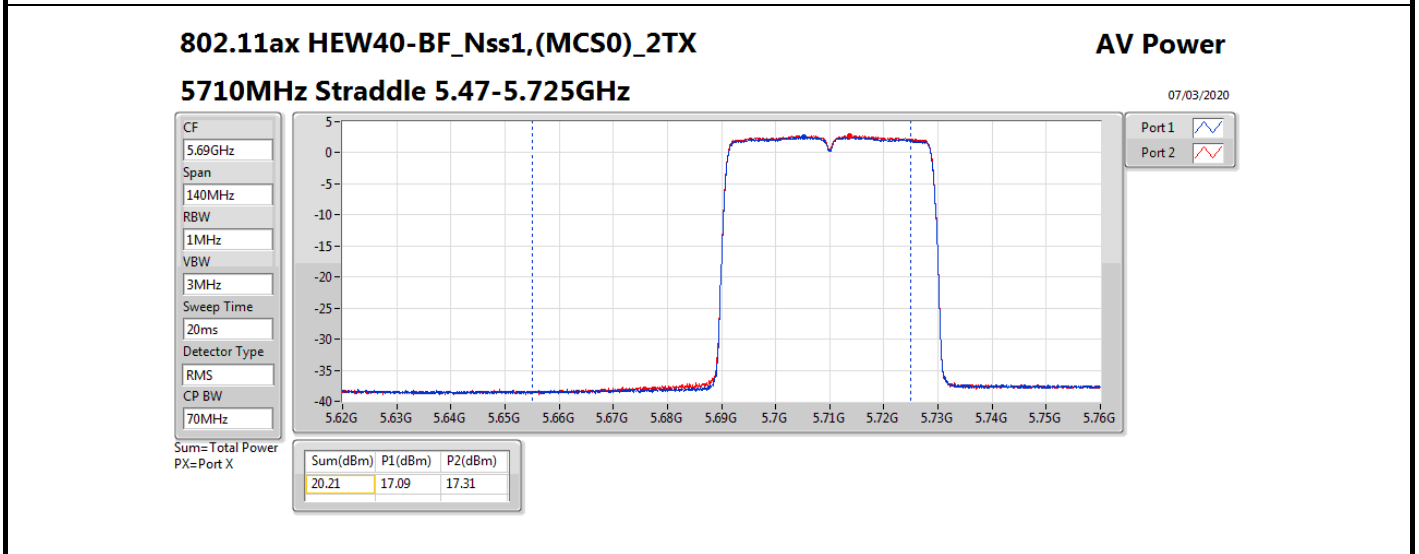
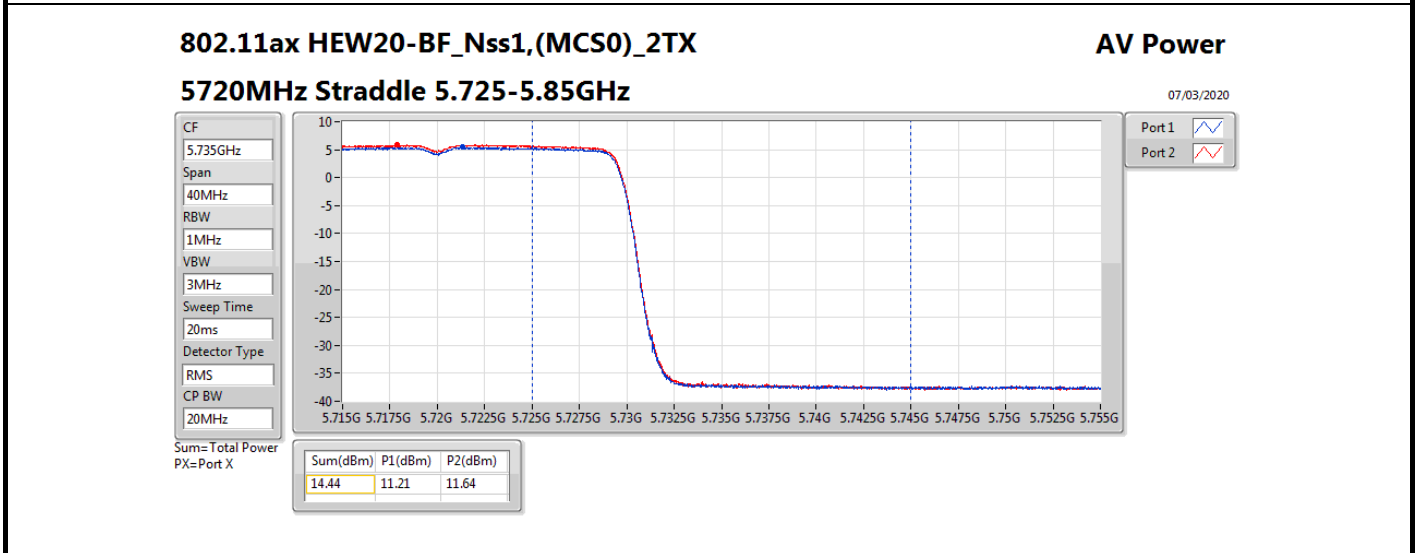
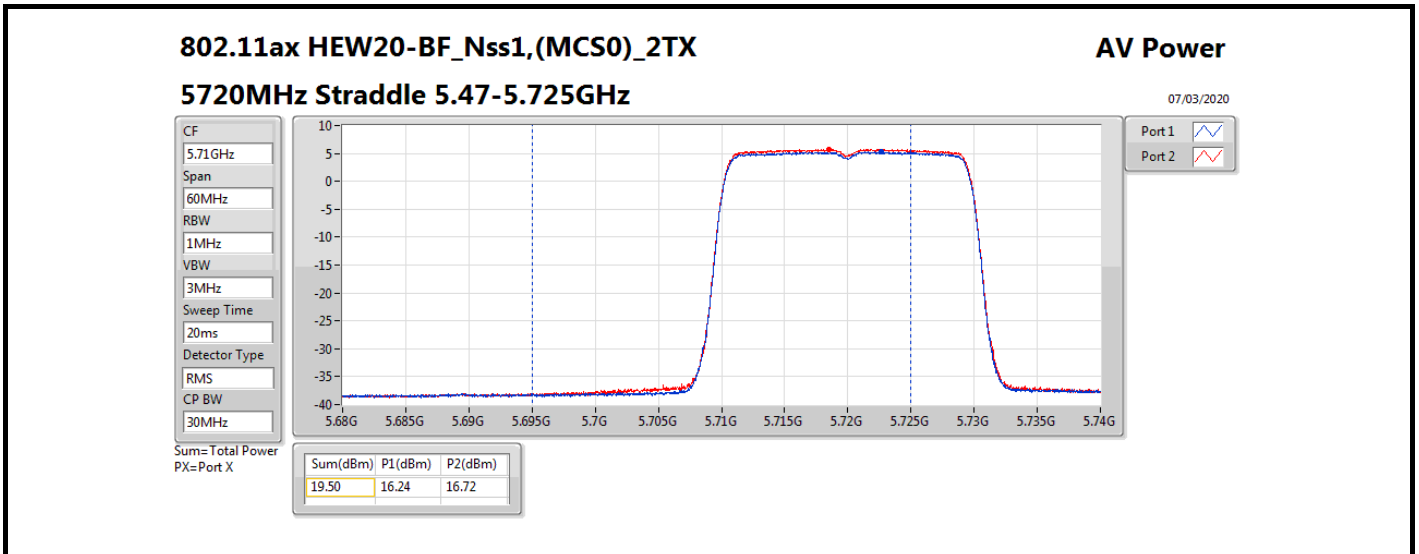
DG = Directional Gain; Port X = Port X output power

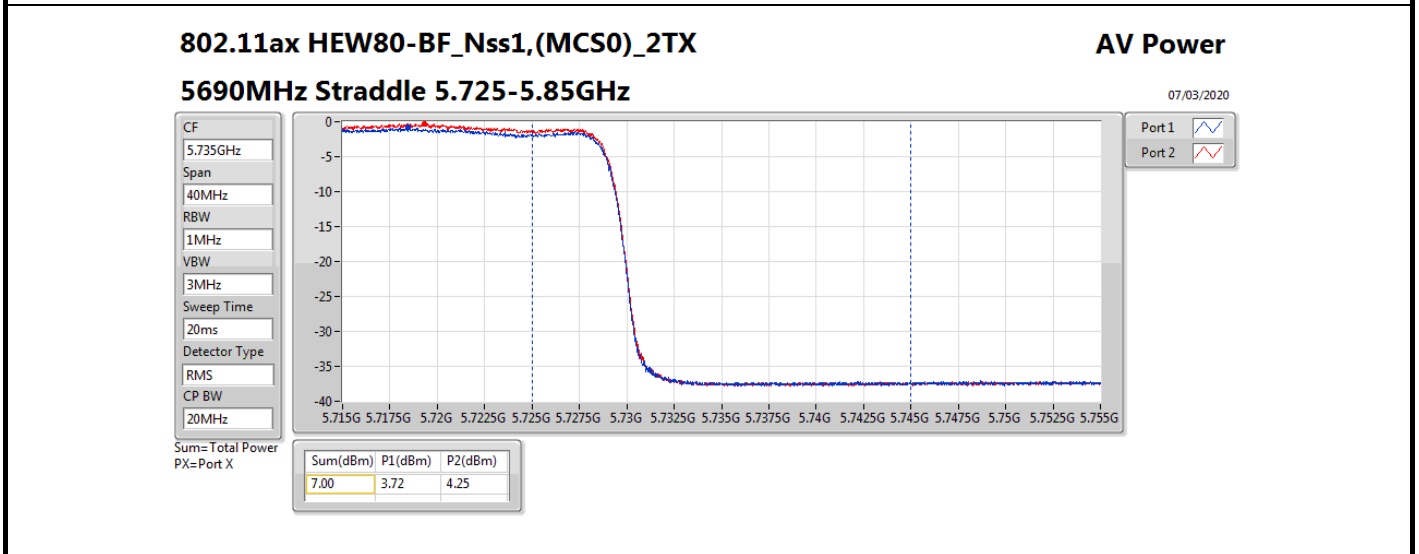
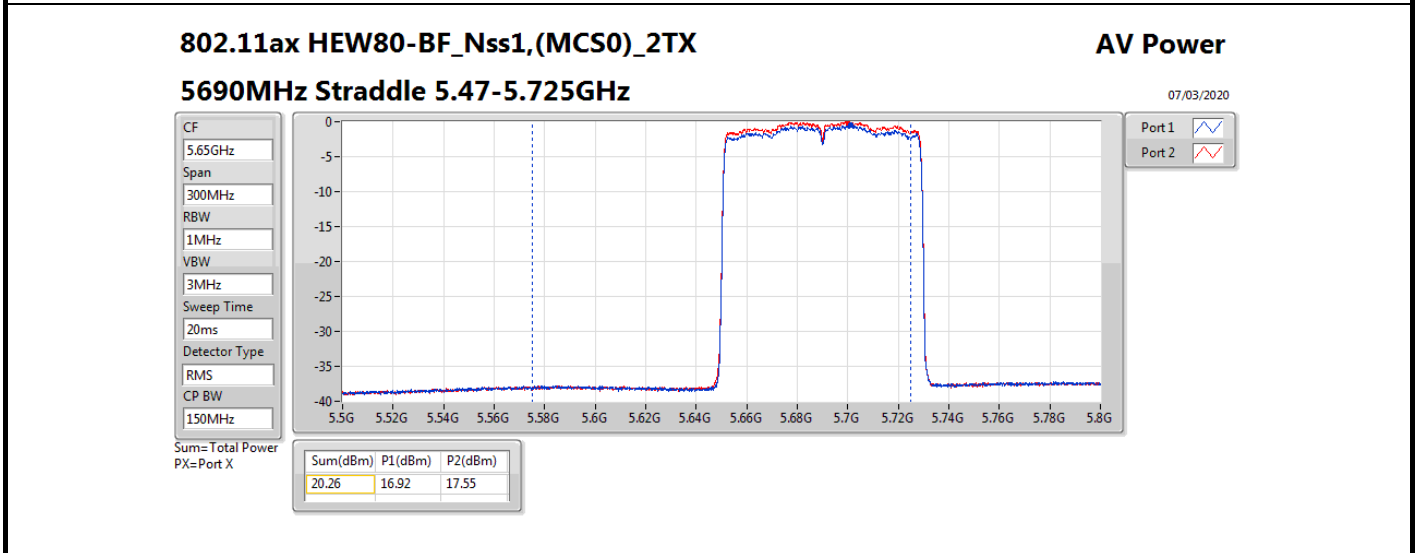
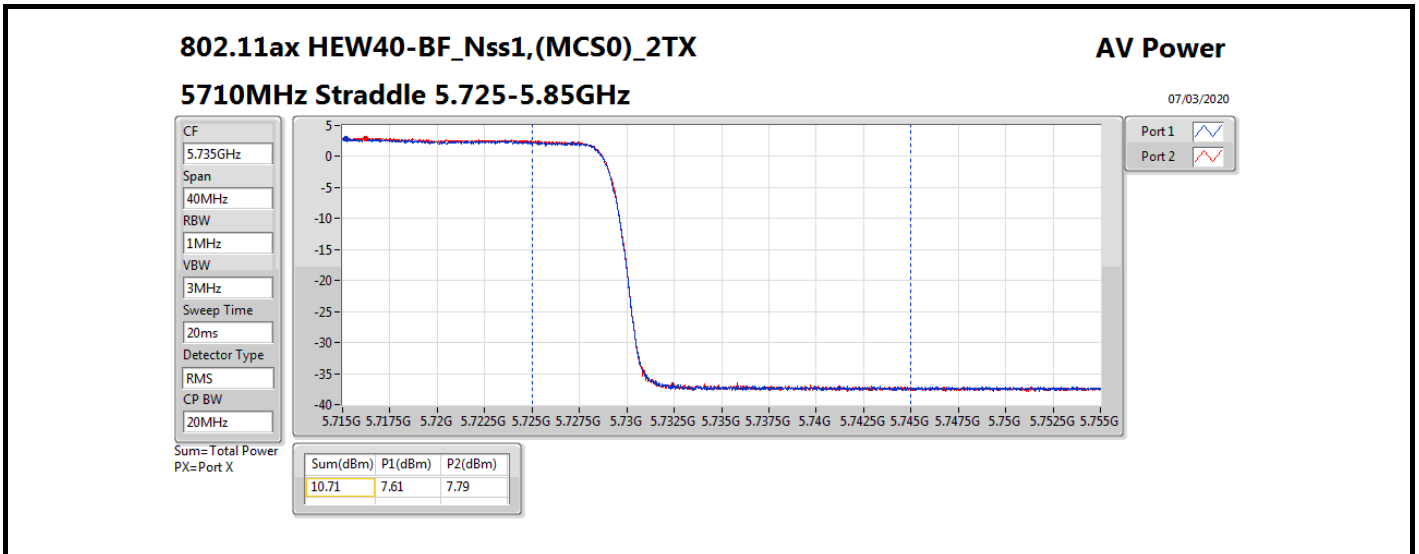














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Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ac VHT20_Nss2,(MCS0)_2TX	20.23	0.10544	24.98	0.31477
802.11ac VHT40_Nss2,(MCS0)_2TX	18.36	0.06855	23.11	0.20464
802.11ac VHT80_Nss2,(MCS0)_2TX	19.07	0.08072	23.94	0.24774
802.11ax HEW20_Nss2,(MCS0)_2TX	20.50	0.11220	25.25	0.33497
802.11ax HEW40_Nss2,(MCS0)_2TX	18.67	0.07362	23.42	0.21979
802.11ax HEW80_Nss2,(MCS0)_2TX	19.27	0.08453	24.14	0.25942
5.25-5.35GHz	-	-	-	-
802.11ac VHT20_Nss2,(MCS0)_2TX	20.16	0.10375	24.90	0.30903
802.11ac VHT40_Nss2,(MCS0)_2TX	19.20	0.08318	23.94	0.24774
802.11ac VHT80_Nss2,(MCS0)_2TX	19.32	0.08551	24.19	0.26242
802.11ax HEW20_Nss2,(MCS0)_2TX	20.41	0.10990	25.15	0.32734
802.11ax HEW40_Nss2,(MCS0)_2TX	19.43	0.08770	24.17	0.26122
802.11ax HEW80_Nss2,(MCS0)_2TX	19.40	0.08710	24.27	0.26730
5.47-5.725GHz	-	-	-	-
802.11ac VHT20_Nss2,(MCS0)_2TX	20.55	0.11350	25.14	0.32659
802.11ac VHT40_Nss2,(MCS0)_2TX	20.19	0.10447	24.78	0.30061
802.11ac VHT80_Nss2,(MCS0)_2TX	19.98	0.09954	24.57	0.28642
802.11ax HEW20_Nss2,(MCS0)_2TX	20.80	0.12023	25.39	0.34594
802.11ax HEW40_Nss2,(MCS0)_2TX	20.48	0.11169	25.07	0.32137
802.11ax HEW80_Nss2,(MCS0)_2TX	20.26	0.10617	24.85	0.30549



Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ac VHT20_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.75	17.20	17.24	20.23	30.00	24.98	36.00
5320MHz	Pass	4.74	17.01	17.28	20.16	23.98	24.90	30.00
5500MHz	Pass	4.59	17.31	17.75	20.55	23.98	25.14	30.00
5700MHz	Pass	4.59	15.95	16.36	19.17	23.98	23.76	30.00
802.11ac VHT40_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	4.75	15.23	15.47	18.36	30.00	23.11	36.00
5310MHz	Pass	4.74	15.88	16.48	19.20	23.98	23.94	30.00
5510MHz	Pass	4.59	16.19	16.25	19.23	23.98	23.82	30.00
5670MHz	Pass	4.59	17.11	17.25	20.19	23.98	24.78	30.00
802.11ac VHT80_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	4.87	16.01	16.11	19.07	30.00	23.94	36.00
5290MHz	Pass	4.87	16.24	16.37	19.32	23.98	24.19	30.00
5530MHz	Pass	4.59	16.74	17.19	19.98	23.98	24.57	30.00
802.11ax HEW20_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	4.75	17.44	17.53	20.50	30.00	25.25	36.00
5320MHz	Pass	4.74	17.30	17.50	20.41	23.98	25.15	30.00
5500MHz	Pass	4.59	17.53	18.03	20.80	23.98	25.39	30.00
5700MHz	Pass	4.59	16.03	16.67	19.37	23.98	23.96	30.00
802.11ax HEW40_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	4.75	15.49	15.83	18.67	30.00	23.42	36.00
5310MHz	Pass	4.74	16.31	16.53	19.43	23.98	24.17	30.00
5510MHz	Pass	4.59	16.51	16.47	19.50	23.98	24.09	30.00
5670MHz	Pass	4.59	17.41	17.52	20.48	23.98	25.07	30.00
802.11ax HEW80_Nss2,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	4.87	16.17	16.34	19.27	30.00	24.14	36.00
5290MHz	Pass	4.87	16.36	16.41	19.40	23.98	24.27	30.00
5530MHz	Pass	4.59	17.12	17.37	20.26	23.98	24.85	30.00

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

<2T1S>

Non-beamforming mode

Summary

Mode	PD (dBm/RBW)
5.15-5.25GHz	-
11a20_Nss1,(6Mbps)_2TX	7.55
11a40_Nss1,(6Mbps)_2TX	4.87
11a80_Nss1,(6Mbps)_2TX	-0.98
802.11ac VHT20_Nss1,(MCS0)_2TX	6.82
802.11ac VHT40_Nss1,(MCS0)_2TX	3.86
802.11ac VHT80_Nss1,(MCS0)_2TX	-2.51
802.11ax HEW20_Nss1,(MCS0)_2TX	7.27
802.11ax HEW40_Nss1,(MCS0)_2TX	4.53
802.11ax HEW80_Nss1,(MCS0)_2TX	-2.27
5.25-5.35GHz	-
11a20_Nss1,(6Mbps)_2TX	7.54
11a40_Nss1,(6Mbps)_2TX	4.83
11a80_Nss1,(6Mbps)_2TX	-0.92
802.11ac VHT20_Nss1,(MCS0)_2TX	6.79
802.11ac VHT40_Nss1,(MCS0)_2TX	3.88
802.11ac VHT80_Nss1,(MCS0)_2TX	-1.53
802.11ax HEW20_Nss1,(MCS0)_2TX	7.31
802.11ax HEW40_Nss1,(MCS0)_2TX	4.36
802.11ax HEW80_Nss1,(MCS0)_2TX	-1.24
5.47-5.725GHz	-
11a20_Nss1,(6Mbps)_2TX	7.45
11a40_Nss1,(6Mbps)_2TX	4.63
11a80_Nss1,(6Mbps)_2TX	1.65
802.11ac VHT20_Nss1,(MCS0)_2TX	6.97
802.11ac VHT40_Nss1,(MCS0)_2TX	4.01
802.11ac VHT80_Nss1,(MCS0)_2TX	1.19
802.11ax HEW20_Nss1,(MCS0)_2TX	7.20
802.11ax HEW40_Nss1,(MCS0)_2TX	4.26
802.11ax HEW80_Nss1,(MCS0)_2TX	1.40
5.725-5.85GHz	-
11a20_Nss1,(6Mbps)_2TX	5.75
11a40_Nss1,(6Mbps)_2TX	2.73
11a80_Nss1,(6Mbps)_2TX	-0.93
802.11ac VHT20_Nss1,(MCS0)_2TX	5.09
802.11ac VHT40_Nss1,(MCS0)_2TX	2.08
802.11ac VHT80_Nss1,(MCS0)_2TX	-1.50
802.11ax HEW20_Nss1,(MCS0)_2TX	5.44
802.11ax HEW40_Nss1,(MCS0)_2TX	2.38
802.11ax HEW80_Nss1,(MCS0)_2TX	-1.25

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

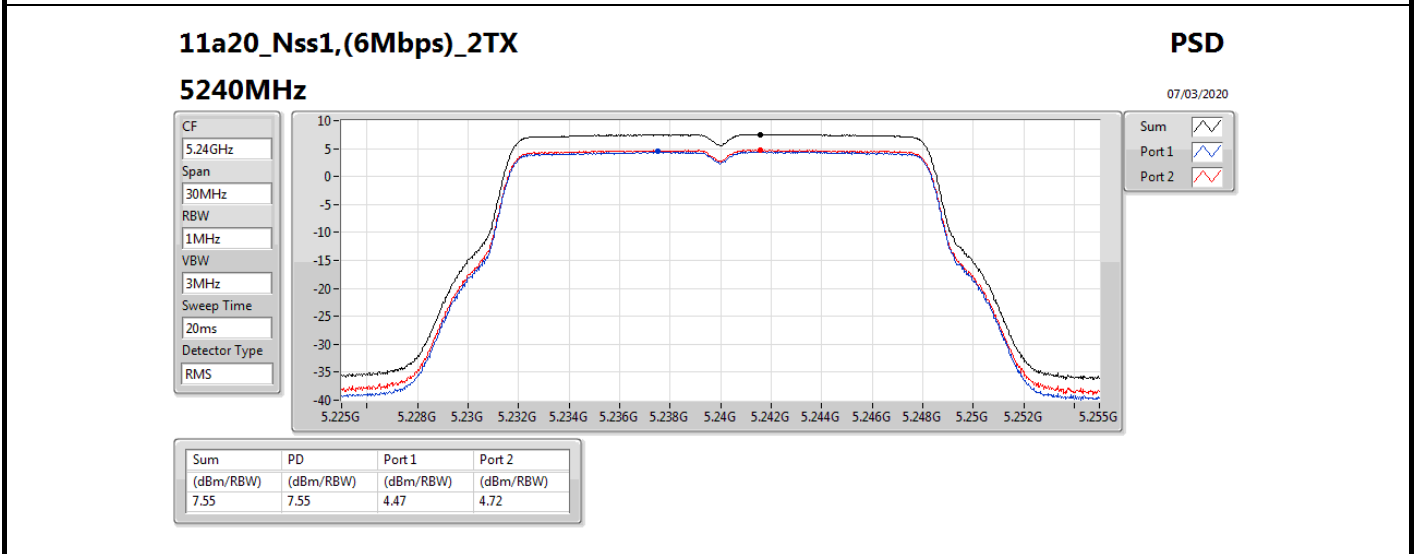
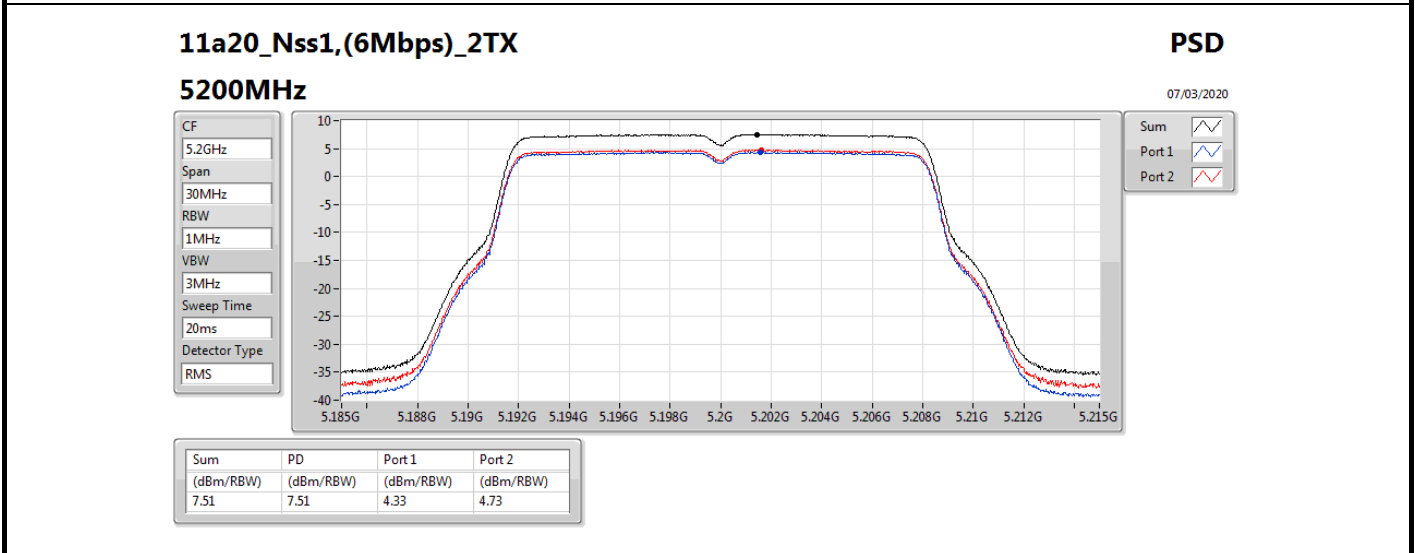
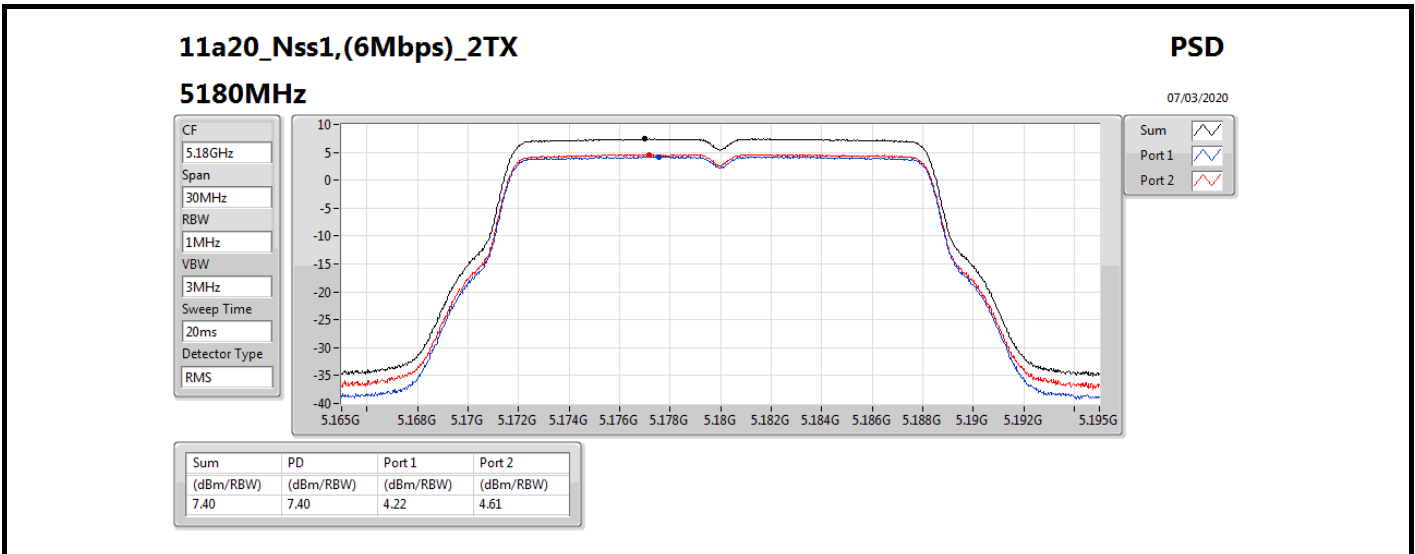
Result

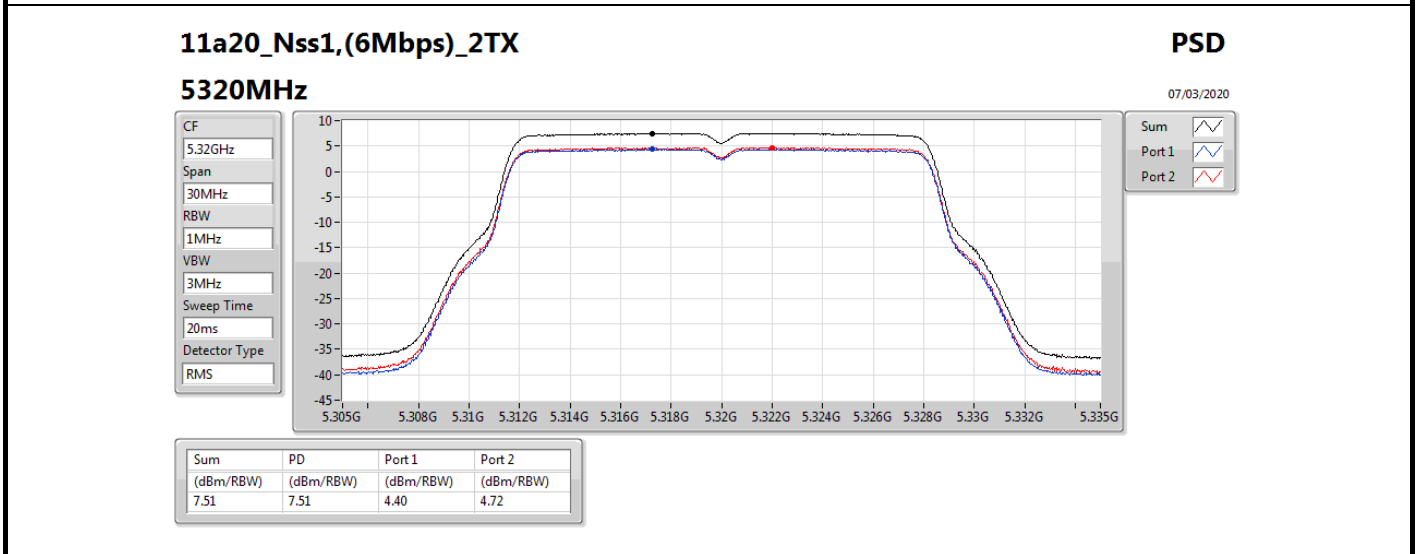
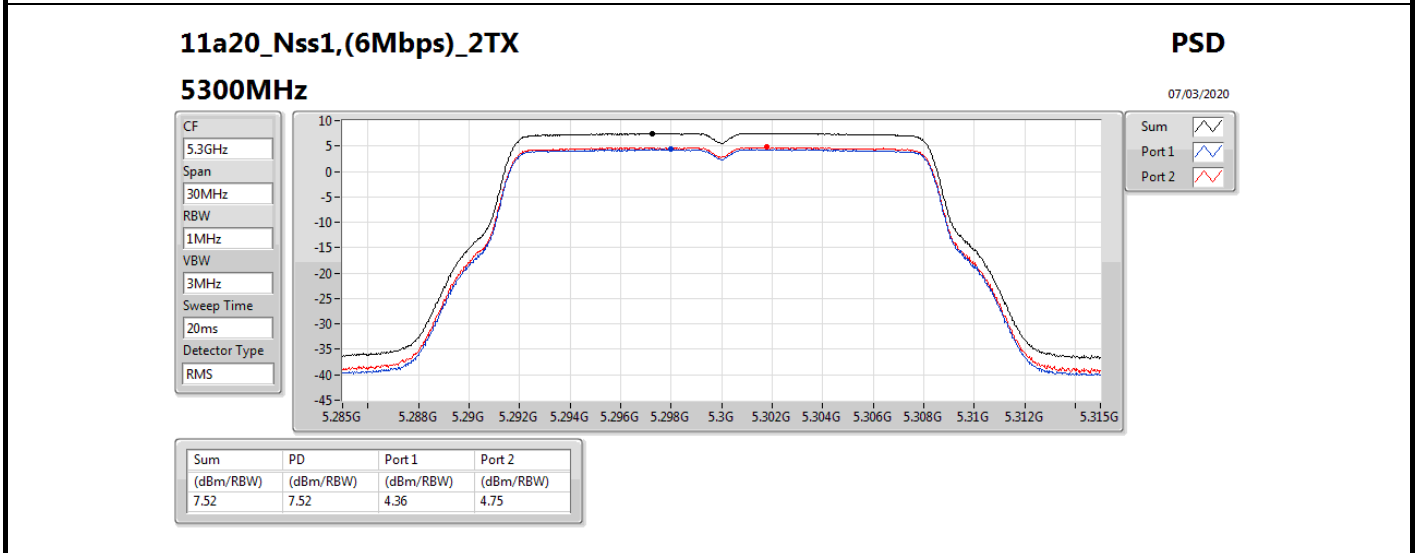
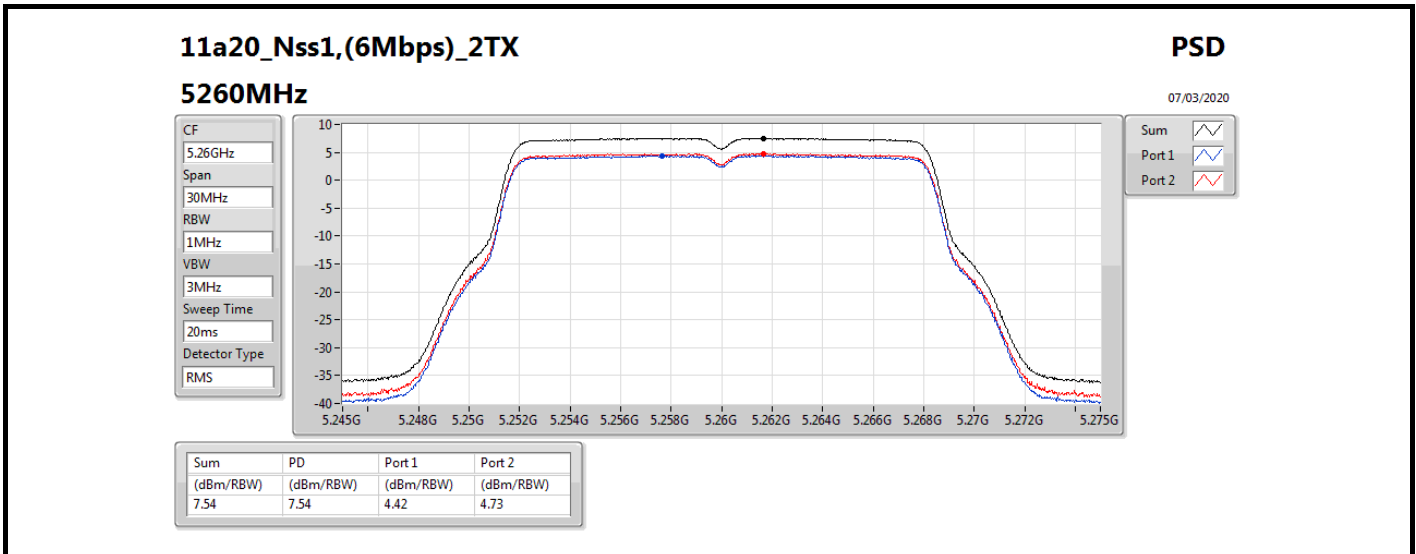
Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
11a20_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	7.76	4.22	4.61	7.40	15.24
5200MHz	Pass	7.88	4.33	4.73	7.51	15.12
5240MHz	Pass	7.88	4.47	4.72	7.55	15.12
5260MHz	Pass	7.88	4.42	4.73	7.54	9.12
5300MHz	Pass	7.88	4.36	4.75	7.52	9.12
5320MHz	Pass	7.75	4.40	4.72	7.51	9.25
5500MHz	Pass	7.60	3.41	3.73	6.53	9.40
5580MHz	Pass	7.50	4.08	4.84	7.45	9.50
5700MHz	Pass	7.60	2.98	3.45	6.20	9.40
5720MHz Straddle 5.47-5.725GHz	Pass	7.60	3.94	4.56	7.23	9.40
5720MHz Straddle 5.725-5.85GHz	Pass	7.60	2.59	2.99	5.75	28.40
11a40_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5190MHz	Pass	7.76	-2.24	-2.10	0.80	15.24
5230MHz	Pass	7.88	1.63	2.16	4.87	15.12
5270MHz	Pass	7.88	1.59	2.11	4.83	9.12
5310MHz	Pass	7.75	-0.45	-0.04	2.75	9.25
5510MHz	Pass	7.60	-0.38	-0.33	2.62	9.40
5550MHz	Pass	7.60	1.50	1.84	4.63	9.40
5670MHz	Pass	7.60	1.49	1.66	4.54	9.40
5710MHz Straddle 5.47-5.725GHz	Pass	7.60	1.44	1.52	4.48	9.40
5710MHz Straddle 5.725-5.85GHz	Pass	7.60	-0.30	-0.26	2.73	28.40
11a80_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5210MHz	Pass	7.88	-3.97	-3.91	-0.98	15.12
5290MHz	Pass	7.88	-4.04	-3.78	-0.92	9.12
5530MHz	Pass	7.60	-4.35	-3.98	-1.21	9.40
5610MHz	Pass	7.50	-1.63	-1.08	1.65	9.50
5690MHz Straddle 5.47-5.725GHz	Pass	7.60	-1.79	-1.29	1.46	9.40
5690MHz Straddle 5.725-5.85GHz	Pass	7.60	-4.22	-3.60	-0.93	28.40
802.11ac VHT20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	7.76	2.64	2.96	5.81	15.24
5200MHz	Pass	7.88	3.65	3.97	6.82	15.12
5240MHz	Pass	7.88	3.53	3.89	6.66	15.12
5260MHz	Pass	7.88	3.65	3.96	6.79	9.12
5300MHz	Pass	7.88	3.55	3.85	6.70	9.12
5320MHz	Pass	7.75	2.53	3.00	5.76	9.25
5500MHz	Pass	7.60	2.78	3.20	5.93	9.40
5580MHz	Pass	7.50	3.63	4.35	6.97	9.50
5700MHz	Pass	7.60	1.48	2.03	4.74	9.40
5720MHz Straddle 5.47-5.725GHz	Pass	7.60	3.38	3.90	6.62	9.40
5720MHz Straddle 5.725-5.85GHz	Pass	7.60	1.82	2.36	5.09	28.40
802.11ac VHT40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	7.76	-3.12	-2.80	0.01	15.24
5230MHz	Pass	7.88	0.57	1.13	3.86	15.12

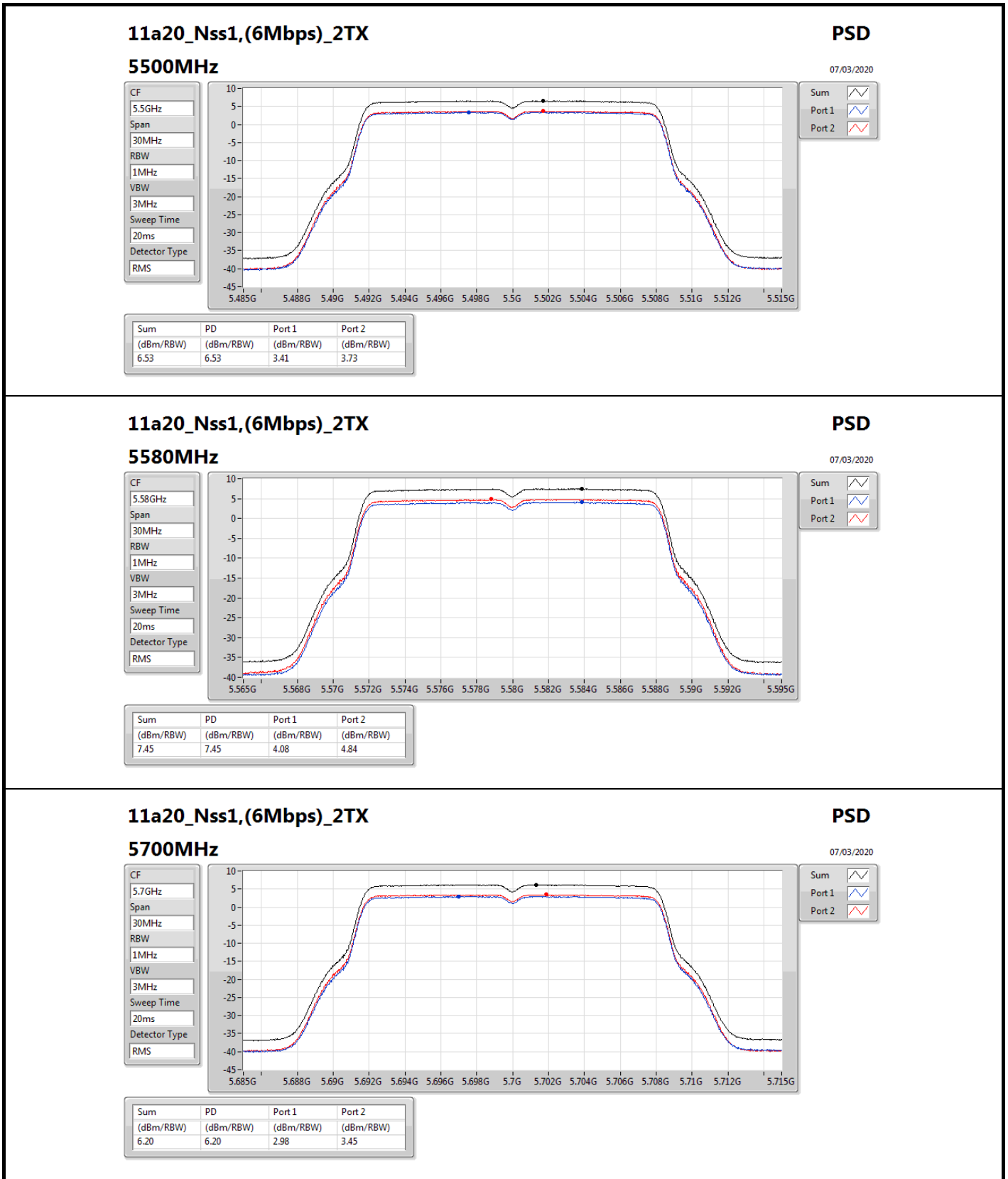
Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	Port 2 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
5270MHz	Pass	7.88	0.48	1.29	3.88	9.12
5310MHz	Pass	7.75	-2.38	-1.88	0.87	9.25
5510MHz	Pass	7.60	-1.37	-1.00	1.78	9.40
5550MHz	Pass	7.60	0.66	1.05	3.84	9.40
5670MHz	Pass	7.60	-0.07	-0.10	2.83	9.40
5710MHz Straddle 5.47-5.725GHz	Pass	7.60	1.01	1.00	4.01	9.40
5710MHz Straddle 5.725-5.85GHz	Pass	7.60	-0.94	-0.82	2.08	28.40
802.11ac VHT80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	7.88	-5.75	-5.19	-2.51	15.12
5290MHz	Pass	7.88	-4.73	-4.29	-1.53	9.12
5530MHz	Pass	7.60	-3.09	-2.37	0.20	9.40
5610MHz	Pass	7.50	-2.03	-1.34	1.19	9.50
5690MHz Straddle 5.47-5.725GHz	Pass	7.60	-2.30	-1.45	1.12	9.40
5690MHz Straddle 5.725-5.85GHz	Pass	7.60	-4.91	-4.07	-1.50	28.40
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	7.76	3.01	3.29	6.11	15.24
5200MHz	Pass	7.88	4.15	4.43	7.27	15.12
5240MHz	Pass	7.88	4.13	4.31	7.20	15.12
5260MHz	Pass	7.88	4.23	4.45	7.30	9.12
5300MHz	Pass	7.88	4.24	4.38	7.31	9.12
5320MHz	Pass	7.75	3.16	3.29	6.20	9.25
5500MHz	Pass	7.60	3.13	3.42	6.23	9.40
5580MHz	Pass	7.50	3.81	4.56	7.20	9.50
5700MHz	Pass	7.60	1.66	2.44	5.02	9.40
5720MHz Straddle 5.47-5.725GHz	Pass	7.60	3.71	4.20	6.94	9.40
5720MHz Straddle 5.725-5.85GHz	Pass	7.60	2.25	2.62	5.44	28.40
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	7.76	-2.63	-2.51	0.42	15.24
5230MHz	Pass	7.88	1.32	1.82	4.53	15.12
5270MHz	Pass	7.88	1.00	1.79	4.36	9.12
5310MHz	Pass	7.75	-1.84	-1.36	1.41	9.25
5510MHz	Pass	7.60	-0.73	-0.78	2.22	9.40
5550MHz	Pass	7.60	1.18	1.44	4.26	9.40
5670MHz	Pass	7.60	0.20	0.14	3.15	9.40
5710MHz Straddle 5.47-5.725GHz	Pass	7.60	1.05	1.40	4.16	9.40
5710MHz Straddle 5.725-5.85GHz	Pass	7.60	-0.69	-0.50	2.38	28.40
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	7.88	-5.34	-5.10	-2.27	15.12
5290MHz	Pass	7.88	-4.23	-4.20	-1.24	9.12
5530MHz	Pass	7.60	-2.74	-2.15	0.54	9.40
5610MHz	Pass	7.50	-1.76	-1.15	1.40	9.50
5690MHz Straddle 5.47-5.725GHz	Pass	7.60	-2.07	-1.40	1.19	9.40
5690MHz Straddle 5.725-5.85GHz	Pass	7.60	-4.43	-3.95	-1.25	28.40

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

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







11a20_Nss1,(6Mbps)_2TX

5700MHz

PSD

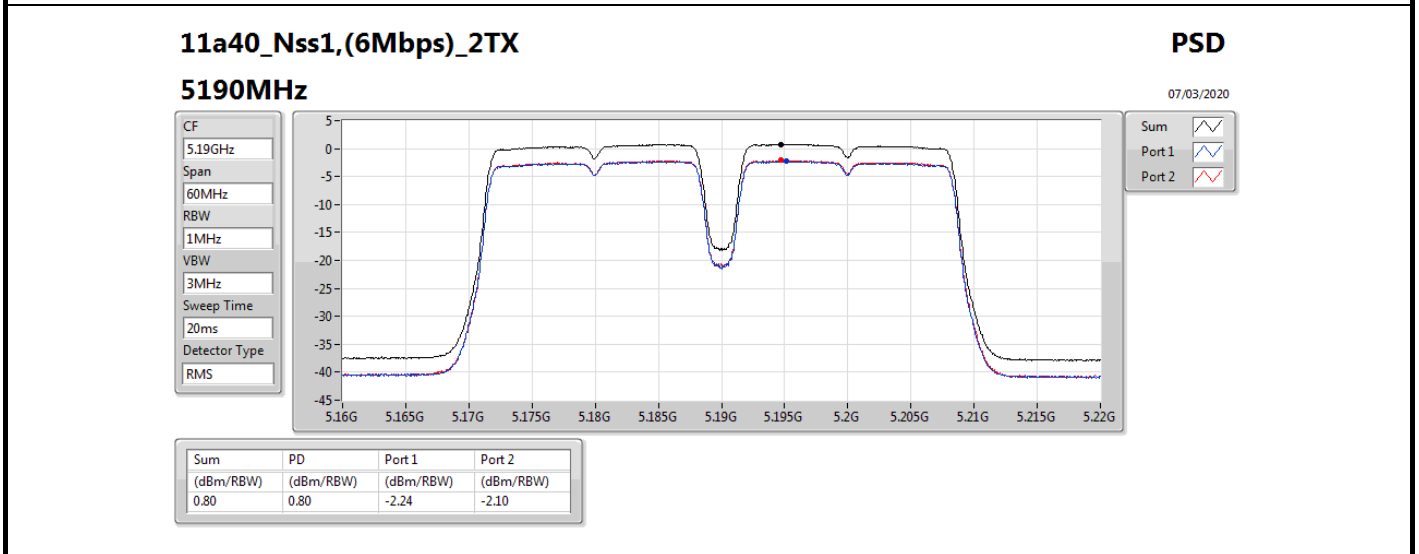
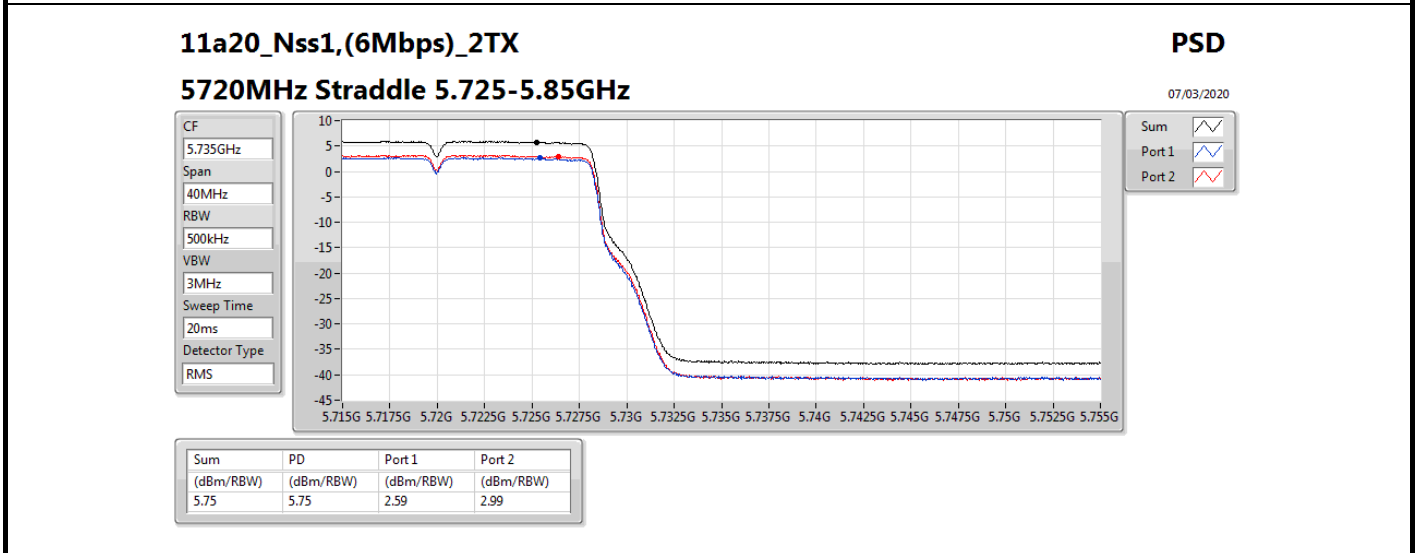
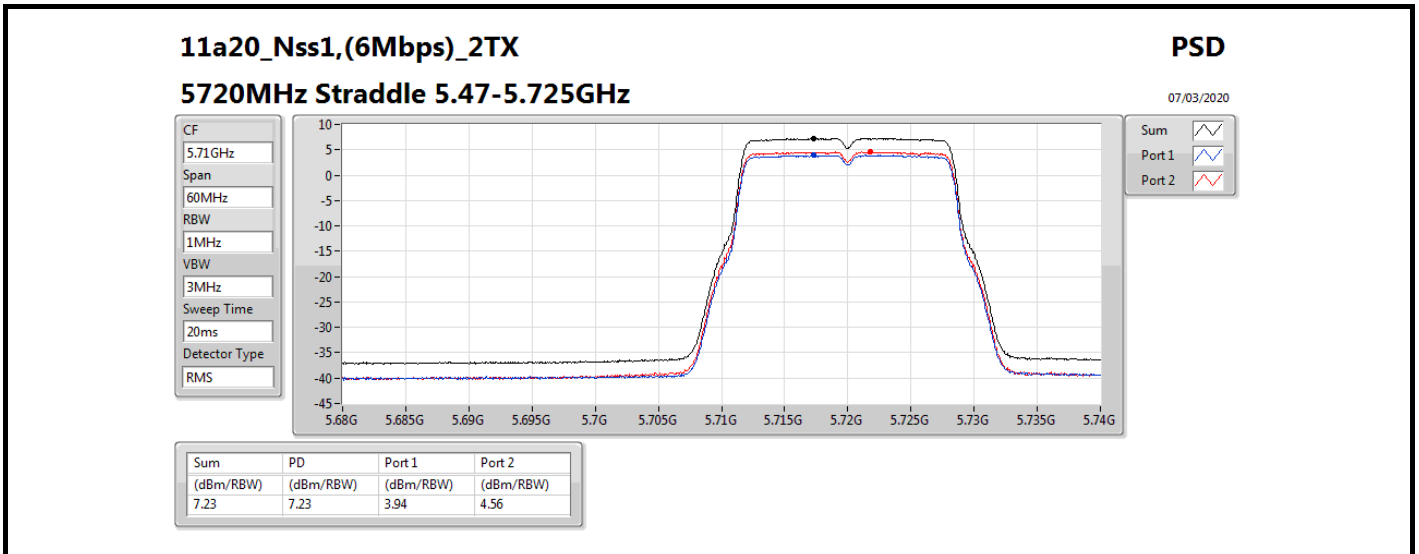
07/03/2020

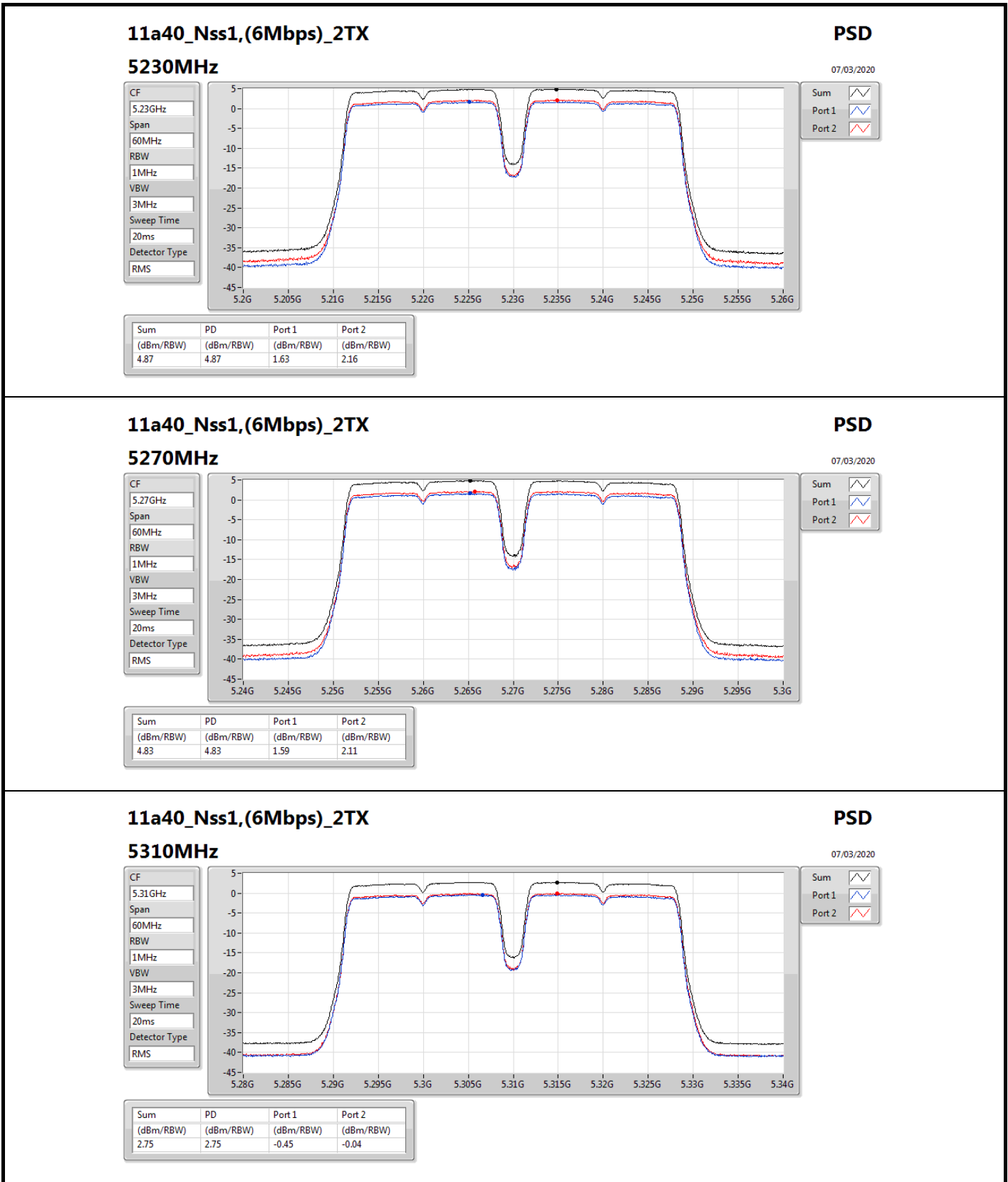
Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
6.20	6.20	2.98	3.45

Sum

Port 1

Port 2





11a40_Nss1,(6Mbps)_2TX

5310MHz

PSD

07/03/2020

CF	5.31GHz
Span	60MHz
RBW	1MHz
VBW	3MHz
Sweep Time	20ms
Detector Type	RMS

Sum	PD	Port 1	Port 2
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.75	2.75	-0.45	-0.04

