

FCC Radio Test Report

FCC ID : H8N-CME1000
Equipment : Wi-Fi Extender Mini
Model Name : CME1000
Applicant : Askey Computer Corp.
10F, No.119, Jiankang Road, Zhonghe Dist., New Taipei
City, Taiwan
Manufacturer : Askey Computer Corp.
10F, No.119, Jiankang Road, Zhonghe Dist., New Taipei
City, Taiwan
Standard : 47 CFR FCC Part 15.407

The product was received on Feb. 18, 2021, and testing was started from Feb. 22, 2021 and completed on Apr. 22, 2021. We, SPORTON INTERNATIONAL INC. Hsinhua 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. Hsinhua Laboratory, the test report shall not be reproduced except in full.



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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History of this test report

[illegible]

Summary of Test Result

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

Declaration of Conformity:

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

Comments and explanations:

The EUT supports beamforming and CDD modes, and the CDD mode is the worse case. Therefore, all test items are evaluated in the report. The beamforming mode only evaluateds the output power.

Reviewed by: Howard Lee

Report Producer: Debby Hung

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	a, n (HT20), ac (VHT20) , ax(HEW20)	5180-5240	36-48 [4]
5250-5350		5260-5320	52-64 [4]
5470-5725		5500-5700	100-140 [11]
Straddle 5720		5720	144 [1]
5725-5850		5745-5825	149-165 [5]
5150-5250	n (HT40), ac (VHT40) , ax(HEW40)	5190-5230	38-46 [2]
5250-5350		5270-5310	54-62 [2]
5470-5725		5510-5670	102-134 [5]
Straddle 5710		5710	142 [1]
5725-5850		5755-5795	151-159 [2]
5150-5250	ac (VHT80) , ax(HEW80)	5210	42 [1]
5250-5350		5290	58 [1]
5470-5725		5530-5610	106-122 [2]
Straddle 5690		5690	138 [1]
5725-5850		5775	155 [1]

**Non-Beamforming**

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11a	20	2TX
5.25-5.35GHz	802.11a	20	2TX
5.47-5.725GHz	802.11a	20	2TX
5.725-5.85GHz	802.11a	20	2TX
5.15-5.25GHz	802.11ax HEW20	20	2TX
5.25-5.35GHz	802.11ax HEW20	20	2TX
5.47-5.725GHz	802.11ax HEW20	20	2TX
5.725-5.85GHz	802.11ax HEW20	20	2TX
5.15-5.25GHz	802.11ax HEW40	40	2TX
5.25-5.35GHz	802.11ax HEW40	40	2TX
5.47-5.725GHz	802.11ax HEW40	40	2TX
5.725-5.85GHz	802.11ax HEW40	40	2TX
5.15-5.25GHz	802.11ax HEW80	80	2TX
5.25-5.35GHz	802.11ax HEW80	80	2TX
5.47-5.725GHz	802.11ax HEW80	80	2TX
5.725-5.85GHz	802.11ax HEW80	80	2TX

Beamforming

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11ax HEW20-BF	20	2TX
5.25-5.35GHz	802.11ax HEW20-BF	20	2TX
5.47-5.725GHz	802.11ax HEW20-BF	20	2TX
5.725-5.85GHz	802.11ax HEW20-BF	20	2TX
5.15-5.25GHz	802.11ax HEW40-BF	40	2TX
5.25-5.35GHz	802.11ax HEW40-BF	40	2TX
5.47-5.725GHz	802.11ax HEW40-BF	40	2TX
5.725-5.85GHz	802.11ax HEW40-BF	40	2TX
5.15-5.25GHz	802.11ax HEW80-BF	80	2TX
5.25-5.35GHz	802.11ax HEW80-BF	80	2TX
5.47-5.725GHz	802.11ax HEW80-BF	80	2TX
5.725-5.85GHz	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.	Brand	Model Name	Antenna Type	Connector
1	Askey	AP5685W-D315	PIFA antenna	I-PEX
2	Askey	AP5685W-D315	PIFA antenna	I-PEX
3	Askey	AP5685W-D315	Dipole antenna	I-PEX
4	Askey	AP5685W-D315	Dipole antenna	I-PEX
5	Askey	AP5685W-D315	PIFA antenna	I-PEX
6	Askey	AP5685W-D315	PIFA antenna	I-PEX

Ant.	Port	Gain (dBi)								
		2.4G	5G				6G			
			U-NII-1	U-NII-2A	U-NII-2C	U-NII-3	U-NII- 5	U-NII-6	U-NII-7	U-NII-8
1	1	3.00	3.41	3.41	4.01	4.74	-	-	-	-
2	2	1.99	1.08	1.08	0.88	0.62	-	-	-	-
3	1	-	-	-	-	-	5.09	4.71	4.71	4.72
4	2	-	-	-	-	-	5.09	4.71	4.71	4.72
5	3	-	-	-	-	-	5.09	4.71	4.71	4.72
6	4	-	-	-	-	-	5.09	4.71	4.71	4.72

Ant.	Port	Directional Gain (dBi)				
		2.4G	5G			
			U-NII-1	U-NII-2A	U-NII-2C	U-NII-3
1	1	5.52	5.33	5.33	5.60	5.93
2	2	5.52	5.33	5.33	5.60	5.93

Note 1: The above information was declared by manufacturer.

For 2.4GHz function:

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

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

*VHT= Very High Throughput

For 5GHz function:

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

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

**For 6GHz function:**

For IEEE 802.11 a/n/ac/ax mode (4TX/4RX)

Ant. 3 (port 1), Ant. 4 (port 2), Ant. 5 (port 3) and Ant. 6 (port 4) could transmit/receive simultaneously.

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From Internal Power Supply			
EUT Function	☐	Outdoor AP	☒	Indoor AP
	☐	Fixed P2P AP	☐	Outdoor/Indoor Client
Beamforming Function	☒	With beamforming	☐	Without beamforming
TPC Function	☒	With TPC Function	☐	Without TPC Function
Weather Band	☒	With 5600~5650MHz	☐	Without 5600~5650MHz
Type of EUT				
☒	Stand-alone			
☐	Combined (EUT where the radio part is fully integrated within another device)			
	Combined Equipment - Brand Name / Model No.:		...	
☐	Plug-in radio (EUT intended for a variety of host systems)			
	Host System - Brand Name / Model No.:			
☐	Other:			

1.1.4 Mode Test Duty Cycle**Non-Beamforming**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11a_Nss1,(6Mbps)_2TX	0.945	0.25	1.977m	1k
802.11ax HEW20_Nss1,(MCS0)_2TX	0.952	0.21	5.446m	300
802.11ax HEW40_Nss1,(MCS0)_2TX	0.923	0.35	5.446m	300
802.11ax HEW80_Nss1,(MCS0)_2TX	0.943	0.25	5.446m	300

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

Beamforming

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	0.952	0.21	5.446m	300
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	0.923	0.35	5.446m	300
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	0.943	0.25	5.446m	300

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

1.2 Testing Applied Standards

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

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

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

- ♦ KDB 662911 D01 v02r01
- ♦ KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab. : Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua (TAF: 3785)	ADD: No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
	TEL: 886-3-327-3456		FAX: 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Edward Wang	21.2~22.3°C / 58~63%	17/Apr/2021
RF Conducted	TH06-HY	Johnny Yu	20.1~26.9°C / 50~60%	22/Feb/2021~14/Apr/2021
Radiated	03CH02-HY	Daniel Lin	20.2~25.1°C / 51~63%	25/Feb/2021~22/Apr/2021
☐ Wen 33rd.St. (TAF: 3785)	ADD: No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)			
	TEL: 886-3-318-0787		FAX: 886-3-318-0287	
Test site Designation No. TW0008 with FCC.				

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	0.9 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	2.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.0 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

Test Software Version	qdart_conn.win.1.0_installer_00077.1
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Non-Beamforming

Mode	Power Setting
802.11a_Nss1,(6Mbps)_2TX	-
5180MHz	21.5
5200MHz	31.5
5240MHz	24.5
5260MHz	21
5300MHz	21
5320MHz	21
5500MHz	21
5580MHz	21.5
5700MHz	21
5720MHz Straddle 5.47-5.725GHz	21.5
5720MHz Straddle 5.725-5.85GHz	21.5
5745MHz	31.5
5785MHz	31.5
5825MHz	31.5
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5180MHz	22
5200MHz	31.5
5240MHz	25
5260MHz	22
5300MHz	22
5320MHz	22
5500MHz	21
5580MHz	22.5
5700MHz	21
5720MHz Straddle 5.47-5.725GHz	22.5
5720MHz Straddle 5.725-5.85GHz	22.5
5745MHz	31.5
5785MHz	31.5



Mode	Power Setting
5825MHz	31.5
802.11ax HEW40_Nss1,(MCS0)_2TX	-
5190MHz	20.5
5230MHz	23.5
5270MHz	21
5310MHz	20.5
5510MHz	19.5
5550MHz	21.5
5670MHz	20.5
5710MHz Straddle 5.47-5.725GHz	21.5
5710MHz Straddle 5.725-5.85GHz	21.5
5755MHz	23
5795MHz	31.5
802.11ax HEW80_Nss1,(MCS0)_2TX	-
5210MHz	19.5
5290MHz	20.5
5530MHz	19
5610MHz	22
5690MHz Straddle 5.47-5.725GHz	22
5690MHz Straddle 5.725-5.85GHz	22
5775MHz	20

**Beamforming**

Mode	Power Setting
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
5180MHz	22
5200MHz	31.5
5240MHz	25
5260MHz	22
5300MHz	22
5320MHz	22
5500MHz	21
5580MHz	22.5
5700MHz	21
5720MHz Straddle 5.47-5.725GHz	22.5
5720MHz Straddle 5.725-5.85GHz	22.5
5745MHz	31.5
5785MHz	31.5
5825MHz	31.5
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
5190MHz	20.5
5230MHz	23.5
5270MHz	21
5310MHz	20.5
5510MHz	19.5
5550MHz	21.5
5670MHz	20.5
5710MHz Straddle 5.47-5.725GHz	21.5
5710MHz Straddle 5.725-5.85GHz	21.5
5755MHz	23
5795MHz	31.5
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-
5210MHz	19.5
5290MHz	20.5
5530MHz	19
5610MHz	22
5690MHz Straddle 5.47-5.725GHz	22



Mode	Power Setting
5690MHz Straddle 5.725-5.85GHz	22
5775MHz	20

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	Switching power supply mode

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

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



Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	WLAN 2.4GHz +WLAN 5GHz
Refer to Appendix F for Radiated Emission Co-location.	

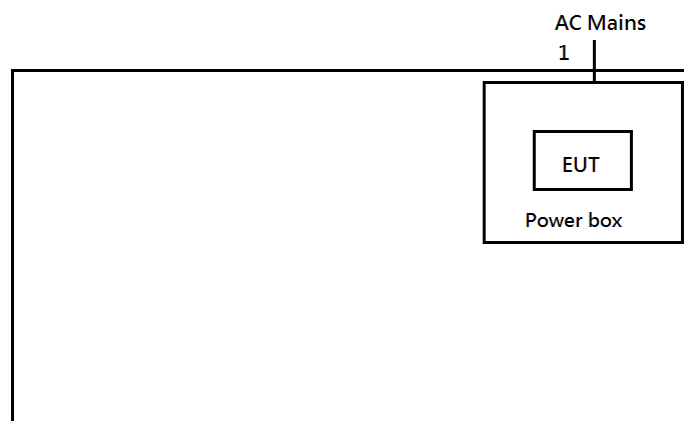
The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Operating Mode	CTX
1	WLAN 2.4GHz +WLAN 5GHz+ WLAN 6 GHz
Refer to Sporton Test Report No.: FA121021 for Co-location RF Exposure Evaluation.	

2.3 Support Equipment

Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-

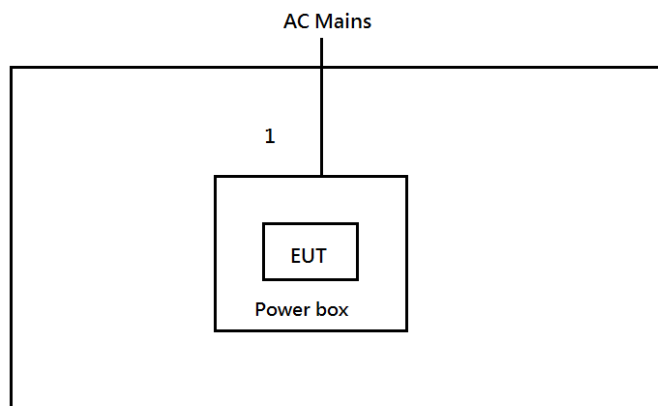
2.4 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

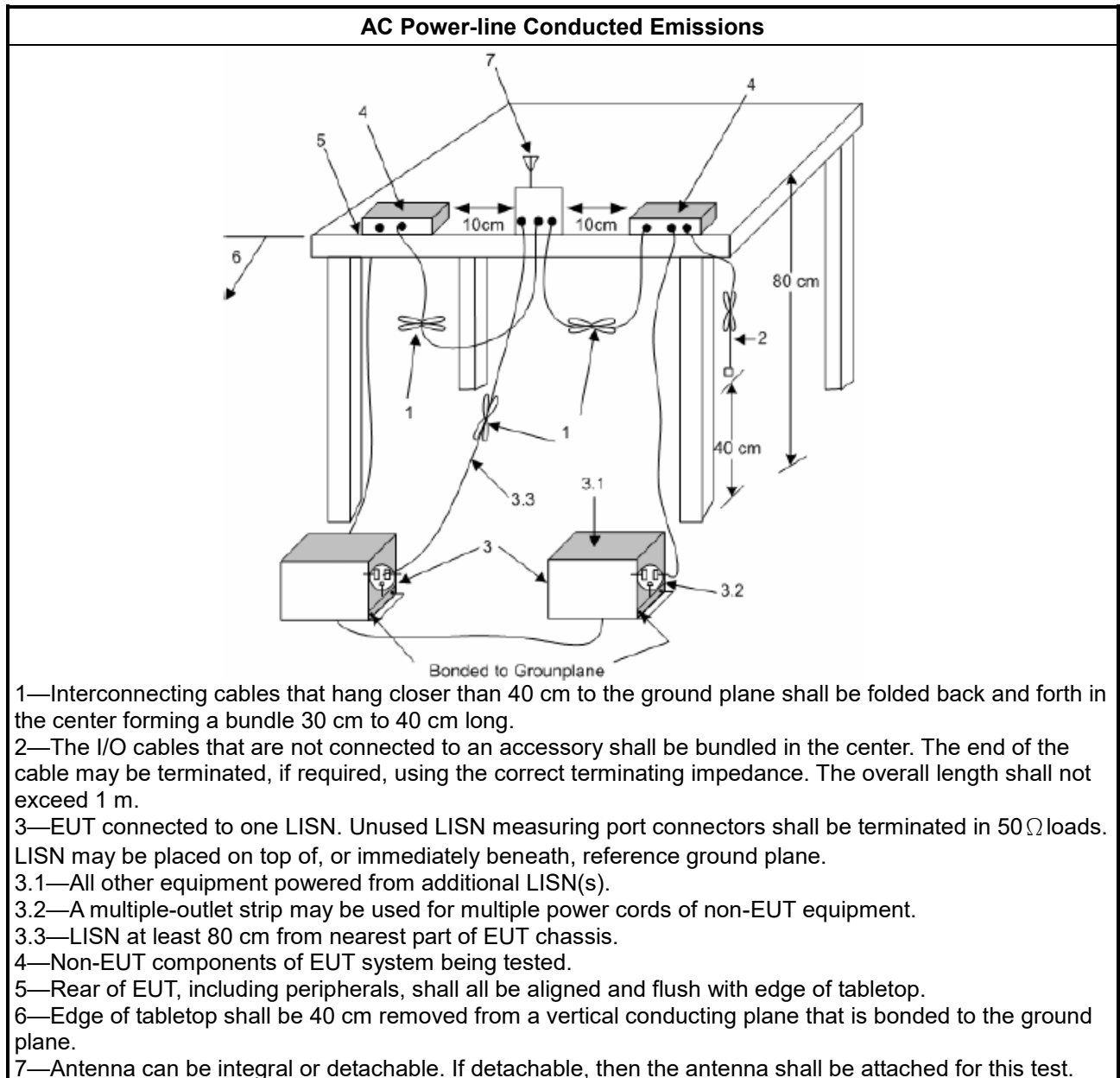
Test Method
☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + LISN(LISN Factor) + CL(Cable Loss) + AT(Attenuator).

3.1.5 Test Setup



3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

Emission Bandwidth Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band, N/A
☒	For the 5.25-5.35 GHz band, N/A
☒	For the 5.47-5.725 GHz band, N/A
☒	For the 5.725-5.85 GHz band, 6 dB emission bandwidth $\geq$ 500kHz.

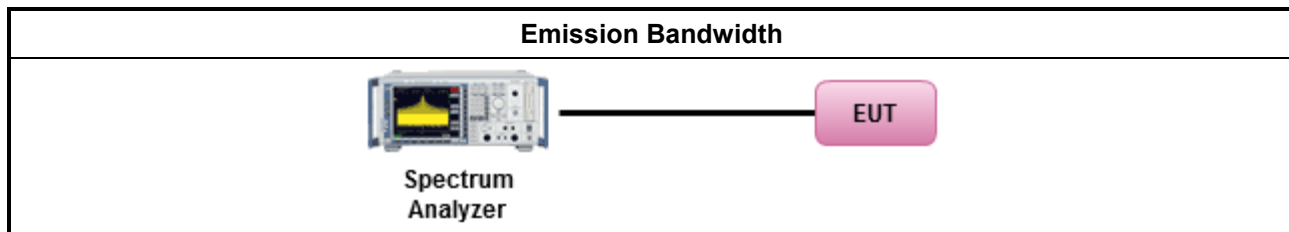
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
For the emission bandwidth shall be measured using one of the options below:	
☒	Refer as KDB 789033, clause C for EBW and clause D for OBW measurement.
☐	Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.
☐	Refer as IC RSS-Gen, clause 6.7 for bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

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

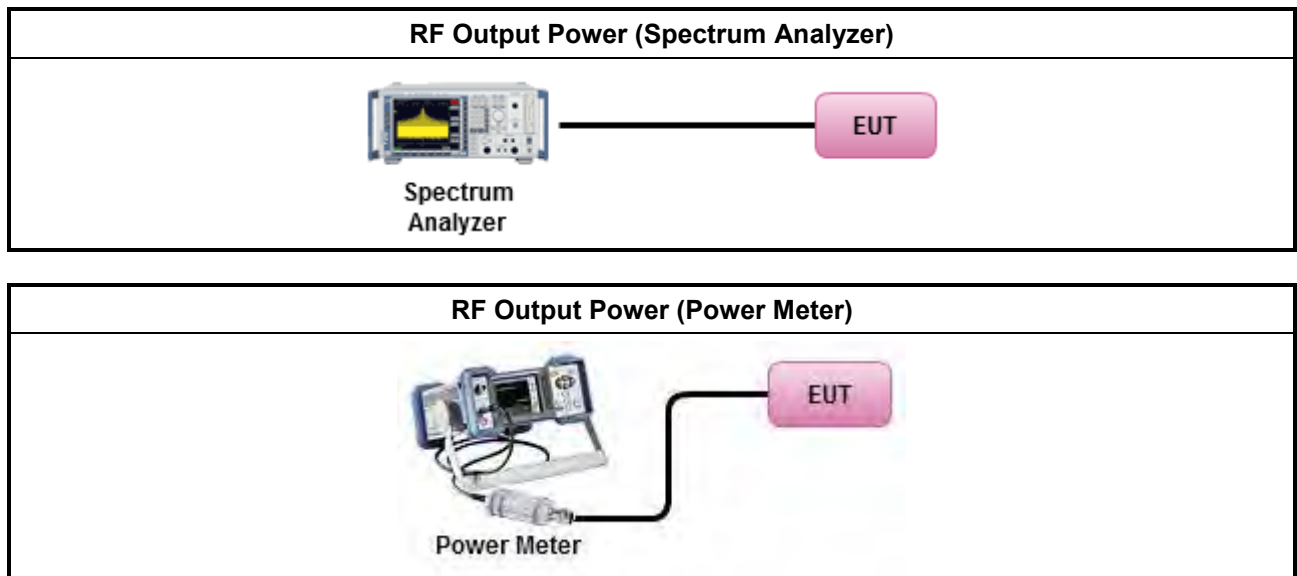
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
Maximum Conducted Output Power	
	Duty cycle $\geq 98\%$
☐	Refer as KDB 789033, clause E Method SA-2 (spectral trace averaging).
	Duty cycle $< 98\%$
☒	Refer as KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
☒	Refer as KDB 789033, clause E Method PM (using an RF average power meter).
For conducted measurement.	
	If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit	
UNII Devices	
☒ For the 5.15-5.25 GHz band:	
	Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$.
	Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$.
	Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 17 - (G_{TX} - 23)$.
	Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.
☒ For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
☒ For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If $G_{TX} > 6$ dBi, then $PPSD = 11 - (G_{TX} - 6)$.	
☒ For the 5.725-5.85 GHz band:	
	Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If $G_{TX} > 6$ dBi, then $PPSD = 30 - (G_{TX} - 6)$.
	Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that the same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz G_{TX} = the maximum transmitting antenna directional gain in dBi.	

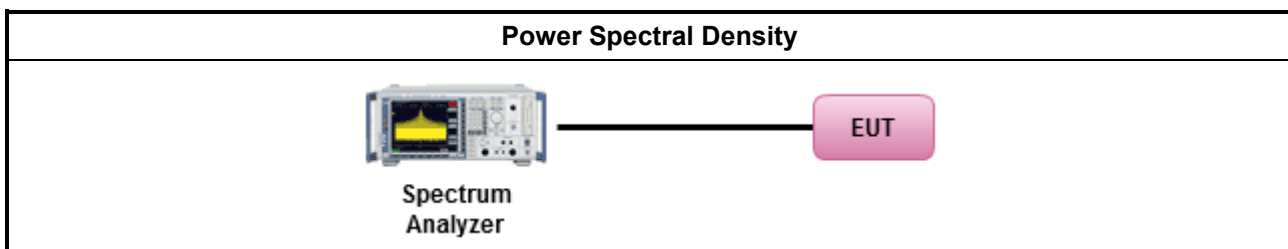
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:	
☐ Refer as KDB 789033, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth	Duty cycle ≥ 98%
☐ Refer as KDB 789033, clause E Method SA-2 (spectral trace averaging).	Duty cycle < 98%
☒ Refer as KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)	
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below:	
Measure and sum the spectra across the outputs. Refer as 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.	
If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \dots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$	

3.4.4 Test Setup



3.4.5 Test Result of Peak Power Spectral Density

Refer as Appendix D

3.5 Unwanted Emissions

3.5.1 Transmitter Radiated Unwanted Emissions Limit

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

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

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

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

Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
5.725 - 5.85 GHz	5.650-5700 GHz: e.i.r.p. -27 ~ 10 dBm [68.2 ~ 105.2 dBuV/m@3m] 5.700-5720 GHz: e.i.r.p. 10 ~ 15.6 dBm [105.2 ~ 110.8 dBuV/m@3m] 5.720-5725 GHz: e.i.r.p. 15.6 ~ 27 dBm [110.8 ~ 122.2 dBuV/m@3m] 5.850-5.855 GHz: e.i.r.p. 27 ~ 15.6 dBm [122.2 ~ 110.8 dBuV/m@3m] 5.855-5.875 GHz: e.i.r.p. 15.6 ~ 10 dBm [110.8 ~ 105.2 dBuV/m@3m] 5.875-5.925 GHz: e.i.r.p. 10 ~ -27 dBm [105.2 ~ 68.2dBuV/m@3m] Other un-restricted band: e.i.r.p. -27 dBm [68.2 dBuV/m@3m]

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

3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

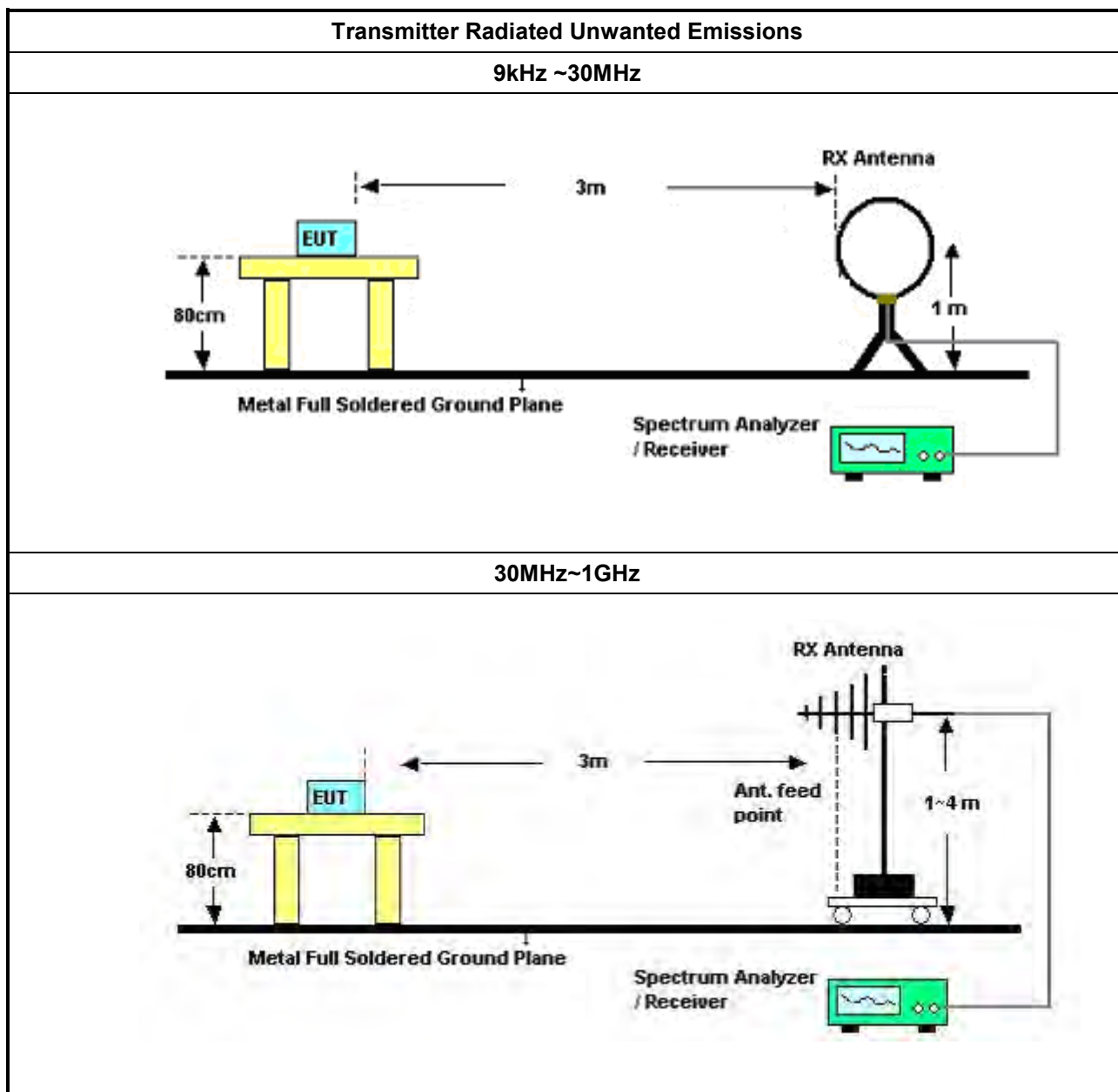
Test Method	
Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).	
The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].	
For the transmitter unwanted emissions shall be measured using following options below:	
	Refer as KDB 789033, clause G)2) for unwanted emissions into non-restricted bands.
	Refer as KDB 789033, clause G)1) for unwanted emissions into restricted bands.
☒	Refer as KDB 789033, G)6) Method VB (ANSI C63.10, clause 4.1.4.2.3), Reduced VBW.
☒	Refer as KDB 789033, clause G)5) (ANSI C63.10, clause 4.1.4.2.2), measurement procedure peak limit.
For radiated measurement.	
	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1GHz.
The any unwanted emissions level shall not exceed the fundamental emission level.	
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.	
Use the following spectrum analyzer settings:	
	Set RBW=100 kHz for $f < 1$ GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
	Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement. For average measurement, refer as 1.1.4.
KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.	
	Based on FCC 15.31(f)(2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.
	Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

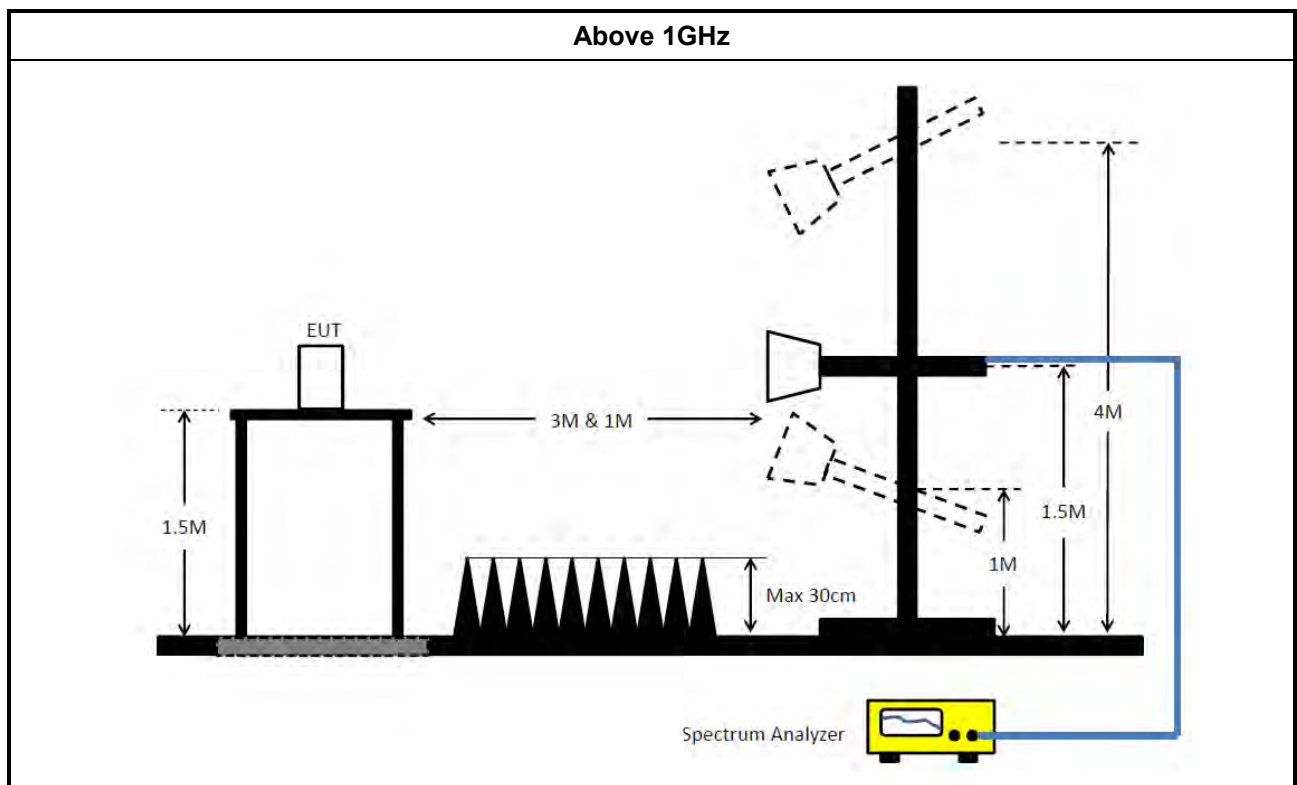
3.5.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamplifier Factor)

3.5.5 Test Setup





3.5.6 Transmitter Unwanted Emissions (Below 30MHz)

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

3.5.7 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR3	102051	9kHz ~ 3.6GHz	29/May/2020	28/May/2021
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	11/Nov/2020	10/Nov/2021
RF Cable 5m	TITAN	TITAN	CO04-cable-01	0.1MHz~200MHz	03/Mar/2021	02/Mar/2022
Impuls Begrenzer Puls e Limiter	SCHWARZBEC K	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	21/Sep/2020	20/Sep/2021

NCR: No Calibration Required

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101029	10Hz~40GHz	19/Oct/2020	18/Oct/2021
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	20/Oct/2020	19/Oct/2021
Pulse Sensor	Anritsu	MA2411B	1339407	300MHz~40GHz	27/Nov/2020	26/Nov/2021
Power Meter	Anritsu	ML2495A	1517010	300MHz~40GHz	27/Nov/2020	26/Nov/2021

**Instrument for Radiated Test**

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz~1GHz 3m	04/Aug/2020	03/Aug/2021
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz~18GHz 3m	02/Aug/2020	01/Aug/2021
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	19/Aug/2020	18/Aug/2021
Amplifier	Agilent	8447D	2944A11149	100kHz~1.3GHz	30/Jun/2020	29/Jun/2021
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz~18GHz	23/Oct/2020	22/Oct/2021
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2723 / 2	30MHz~1GHz	06/Sep/2020	05/Sep/2021
Double Ridged Guide Horn Antenna	SCHWARZBEC	BBHA 9120 D	BBHA 9120 D 01543	1GHz~18GHz	09/Jun/2020	08/Jun/2021
RF Cable-R03m	Jye Bao	RG142	CB017	9kHz~30MHz	20/Jun/2020	19/Jun/2021
RF Cable-R03m	Jye Bao	RG142	CB017	30MHz~1GHz	25/Mar/2020	24/Mar/2021
RF Cable-R03m	Jye Bao	RG142	CB017	30MHz~1GHz	23/Mar/2021	22/Mar/2022
RF Cable-R03m	HUBER+SUHNER	SUCOFLEX104	805193/4+805192/4	1GHz~40GHz	08/Apr/2020	07/Apr/2021
RF Cable-R03m	HUBER+SUHNER	SUCOFLEX104	805193/4+805192/4	1GHz~40GHz	06/Apr/2021	05/Apr/2022
Broadband Horn Antenna	SCHWARZBEC K	BBHA 9170	BBHA 9170221	18GHz~40GHz	13/Mar/2020	12/Mar/2021
Broadband Horn Antenna	SCHWARZBEC K	BBHA 9170	BBHA 9170221	15GHz~40GHz	11/Mar/2021	10/Mar/2022
Preamplifier	MITEQ	TTA1840-35-H G	1864481	18GHz~40GHz	10/Mar/2020	09/Mar/2021
Microwave Preamplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz~40GHz	09/Mar/2021	08/Mar/2022
EMI Test Receiver	R&S	ESR3	102051	9kHz~3.6GHz	29/May/2020	28/May/2021



Conducted Emissions at Powerline

Appendix A

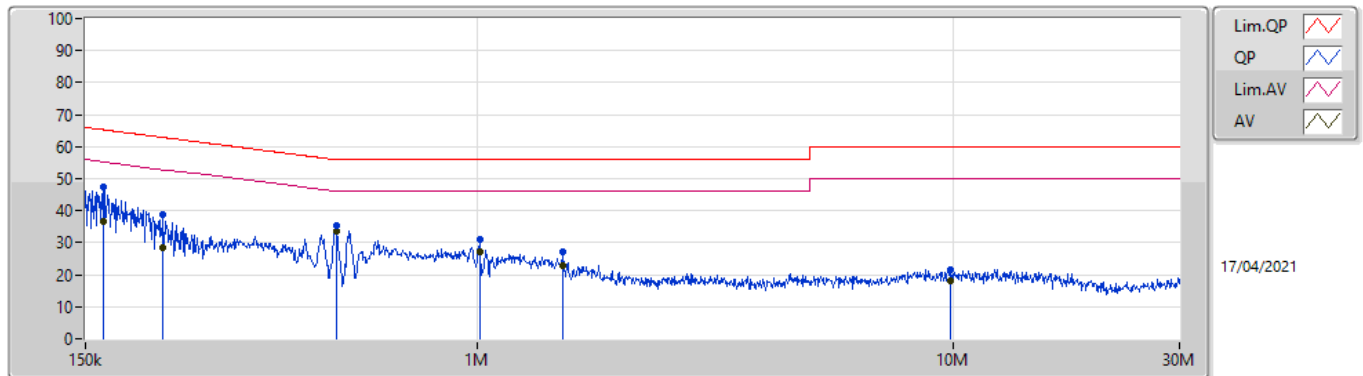
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	504.824k	33.77	46.00	-12.23	Line

Result

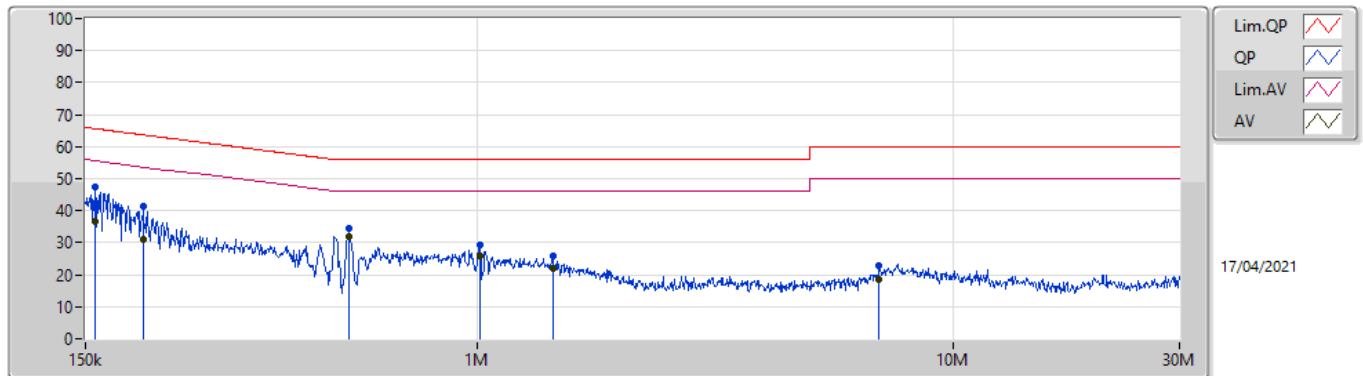
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	163.117k	47.24	65.31	-18.07	Line	-
Mode 1	Pass	AV	163.117k	36.77	55.31	-18.54	Line	-
Mode 1	Pass	QP	218.303k	38.70	62.88	-24.18	Line	-
Mode 1	Pass	AV	218.303k	28.26	52.88	-24.62	Line	-
Mode 1	Pass	QP	504.824k	35.29	56.00	-20.71	Line	-
Mode 1	Pass	AV	504.824k	33.77	46.00	-12.23	Line	-
Mode 1	Pass	QP	1.011M	31.08	56.00	-24.92	Line	-
Mode 1	Pass	AV	1.011M	27.10	46.00	-18.90	Line	-
Mode 1	Pass	QP	1.513M	27.20	56.00	-28.80	Line	-
Mode 1	Pass	AV	1.513M	22.90	46.00	-23.10	Line	-
Mode 1	Pass	QP	9.88M	21.34	60.00	-38.66	Line	-
Mode 1	Pass	AV	9.88M	18.09	50.00	-31.91	Line	-
Mode 1	Pass	QP	156.734k	47.20	65.64	-18.44	Neutral	-
Mode 1	Pass	AV	156.734k	36.51	55.64	-19.13	Neutral	-
Mode 1	Pass	QP	198.359k	41.51	63.69	-22.18	Neutral	-
Mode 1	Pass	AV	198.359k	31.06	53.69	-22.63	Neutral	-
Mode 1	Pass	QP	538.12k	34.60	56.00	-21.40	Neutral	-
Mode 1	Pass	AV	538.12k	31.78	46.00	-14.22	Neutral	-
Mode 1	Pass	QP	1.011M	29.15	56.00	-26.85	Neutral	-
Mode 1	Pass	AV	1.011M	25.88	46.00	-20.12	Neutral	-
Mode 1	Pass	QP	1.442M	25.66	56.00	-30.34	Neutral	-
Mode 1	Pass	AV	1.442M	22.16	46.00	-23.84	Neutral	-
Mode 1	Pass	QP	7.009M	22.98	60.00	-37.02	Neutral	-
Mode 1	Pass	AV	7.009M	18.68	50.00	-31.32	Neutral	-

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	163.117k	47.24	65.31	-18.07	19.63	Line	-	27.61	9.69	0.04	9.90			
AV	163.117k	36.77	55.31	-18.54	19.63	Line	-	17.14	9.69	0.04	9.90			
QP	218.303k	38.70	62.88	-24.18	19.62	Line	-	19.08	9.68	0.04	9.90			
AV	218.303k	28.26	52.88	-24.62	19.62	Line	-	8.64	9.68	0.04	9.90			
QP	504.824k	35.29	56.00	-20.71	19.61	Line	-	15.68	9.67	0.07	9.87			
AV	504.824k	33.77	46.00	-12.23	19.61	Line	-	14.16	9.67	0.07	9.87			
QP	1.011M	31.08	56.00	-24.92	19.55	Line	-	11.53	9.67	0.08	9.80			
AV	1.011M	27.10	46.00	-18.90	19.55	Line	-	7.55	9.67	0.08	9.80			
QP	1.513M	27.20	56.00	-28.80	19.57	Line	-	7.63	9.68	0.09	9.80			
AV	1.513M	22.90	46.00	-23.10	19.57	Line	-	3.33	9.68	0.09	9.80			
QP	9.88M	21.34	60.00	-38.66	19.82	Line	-	1.52	9.72	0.20	9.90			
AV	9.88M	18.09	50.00	-31.91	19.82	Line	-	-1.73	9.72	0.20	9.90			

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	156.734k	47.20	65.64	-18.44	19.63	Neutral	-	27.57	9.69	0.04	9.90			
AV	156.734k	36.51	55.64	-19.13	19.63	Neutral	-	16.88	9.69	0.04	9.90			
QP	198.359k	41.51	63.69	-22.18	19.62	Neutral	-	21.89	9.68	0.04	9.90			
AV	198.359k	31.06	53.69	-22.63	19.62	Neutral	-	11.44	9.68	0.04	9.90			
QP	538.12k	34.60	56.00	-21.40	19.61	Neutral	-	14.99	9.67	0.07	9.87			
AV	538.12k	31.78	46.00	-14.22	19.61	Neutral	-	12.17	9.67	0.07	9.87			
QP	1.011M	29.15	56.00	-26.85	19.55	Neutral	-	9.60	9.67	0.08	9.80			
AV	1.011M	25.88	46.00	-20.12	19.55	Neutral	-	6.33	9.67	0.08	9.80			
QP	1.442M	25.66	56.00	-30.34	19.57	Neutral	-	6.09	9.68	0.09	9.80			
AV	1.442M	22.16	46.00	-23.84	19.57	Neutral	-	2.59	9.68	0.09	9.80			
QP	7.009M	22.98	60.00	-37.02	19.79	Neutral	-	3.19	9.71	0.18	9.90			
AV	7.009M	18.68	50.00	-31.32	19.79	Neutral	-	-1.11	9.71	0.18	9.90			

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	42.63M	28.636M	28M6D1D	20.85M	16.432M
802.11ax HEW20_Nss1,(MCS0)_2TX	49.08M	31.004M	31M0D1D	21.3M	18.921M
802.11ax HEW40_Nss1,(MCS0)_2TX	67.56M	38.441M	38M4D1D	40.86M	37.961M
802.11ax HEW80_Nss1,(MCS0)_2TX	82.2M	77.361M	77M4D1D	82.08M	77.241M
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	20.79M	16.462M	16M5D1D	20.43M	16.402M
802.11ax HEW20_Nss1,(MCS0)_2TX	21.81M	19.01M	19M0D1D	21.21M	18.921M
802.11ax HEW40_Nss1,(MCS0)_2TX	41.34M	38.021M	38M0D1D	40.92M	37.781M
802.11ax HEW80_Nss1,(MCS0)_2TX	82.44M	77.601M	77M6D1D	82.32M	77.241M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	20.79M	16.462M	16M5D1D	15.225M	13.178M
802.11ax HEW20_Nss1,(MCS0)_2TX	21.93M	18.981M	19M0D1D	16.245M	14.438M
802.11ax HEW40_Nss1,(MCS0)_2TX	41.34M	38.081M	38M1D1D	35.63M	33.863M
802.11ax HEW80_Nss1,(MCS0)_2TX	87.375M	77.481M	77M5D1D	76.125M	73.463M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	16.29M	32.264M	32M3D1D	2.86M	3.658M
802.11ax HEW20_Nss1,(MCS0)_2TX	18.99M	32.444M	32M4D1D	4.22M	4.678M
802.11ax HEW40_Nss1,(MCS0)_2TX	38.1M	65.427M	65M4D1D	3.96M	4.198M
802.11ax HEW80_Nss1,(MCS0)_2TX	77.04M	77.481M	77M5D1D	4M	7.656M

Max-N dB = Maximum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
 Max-OBW = Maximum 99% occupied bandwidth;
 Min-N dB = Minimum 6dB down bandwidth for 5.725-5.85GHz band / Maximum 26dB down bandwidth for other band;
 Min-OBW = Minimum 99% occupied bandwidth

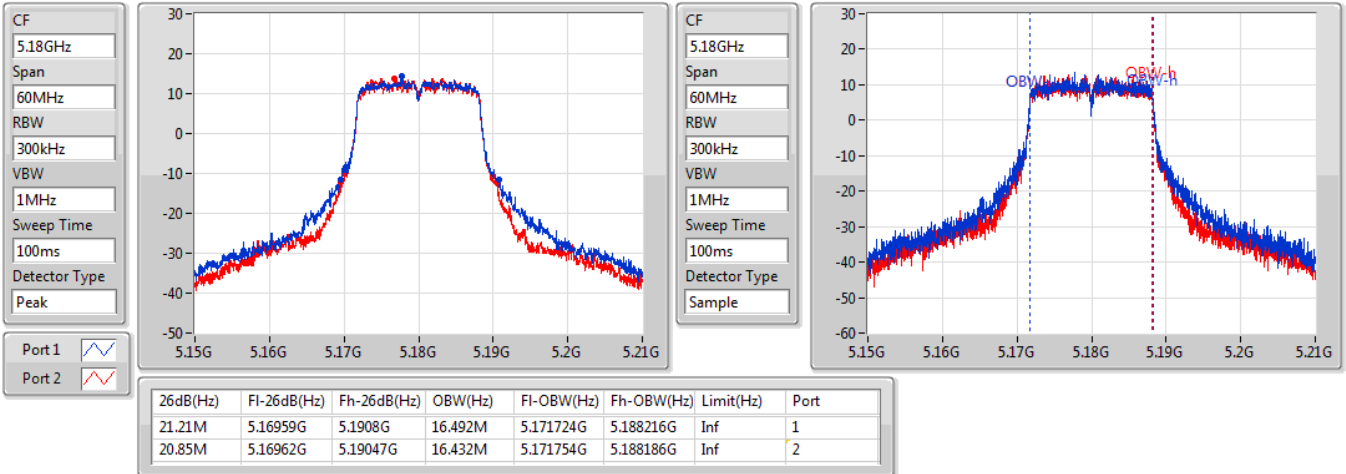
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	21.21M	16.492M	20.85M	16.432M
5200MHz	Pass	Inf	42.63M	28.636M	34.32M	18.081M
5240MHz	Pass	Inf	36.18M	19.55M	24.24M	16.612M
5260MHz	Pass	Inf	20.55M	16.432M	20.43M	16.402M
5300MHz	Pass	Inf	20.52M	16.432M	20.49M	16.432M
5320MHz	Pass	Inf	20.58M	16.432M	20.79M	16.462M
5500MHz	Pass	Inf	20.55M	16.432M	20.79M	16.462M
5580MHz	Pass	Inf	20.55M	16.462M	20.79M	16.432M
5700MHz	Pass	Inf	20.13M	16.402M	20.43M	16.462M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	15.27M	13.223M	15.225M	13.178M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.14M	3.658M	2.86M	3.698M
5745MHz	Pass	500k	16.23M	31.904M	16.02M	32.264M
5785MHz	Pass	500k	16.02M	30.885M	16.26M	28.726M
5825MHz	Pass	500k	16.29M	31.544M	16.29M	29.805M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	22.11M	18.951M	21.3M	18.921M
5200MHz	Pass	Inf	49.08M	31.004M	39.93M	19.55M
5240MHz	Pass	Inf	38.13M	19.76M	22.44M	19.04M
5260MHz	Pass	Inf	21.81M	18.951M	21.39M	18.921M
5300MHz	Pass	Inf	21.48M	19.01M	21.21M	18.921M
5320MHz	Pass	Inf	21.75M	18.981M	21.51M	18.981M
5500MHz	Pass	Inf	21.75M	18.921M	21.42M	18.891M
5580MHz	Pass	Inf	21.48M	18.921M	21.45M	18.981M
5700MHz	Pass	Inf	21.93M	18.951M	21.81M	18.891M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	16.485M	14.438M	16.245M	14.468M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	4.22M	4.698M	4.28M	4.678M
5745MHz	Pass	500k	18.93M	32.324M	18.75M	32.444M
5785MHz	Pass	500k	18.69M	31.364M	18.99M	28.306M
5825MHz	Pass	500k	18.81M	32.324M	18.09M	30.405M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	42.06M	37.961M	40.86M	38.081M
5230MHz	Pass	Inf	67.56M	38.441M	41.58M	37.961M
5270MHz	Pass	Inf	40.98M	37.841M	41.34M	37.781M
5310MHz	Pass	Inf	40.92M	38.021M	41.16M	37.841M
5510MHz	Pass	Inf	41.1M	37.901M	40.92M	37.781M
5550MHz	Pass	Inf	41.16M	37.961M	41.34M	38.081M
5670MHz	Pass	Inf	41.04M	37.901M	40.8M	37.841M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.7M	33.863M	35.63M	33.863M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.96M	4.238M	4.06M	4.198M
5755MHz	Pass	500k	37.98M	38.621M	38.1M	38.381M
5795MHz	Pass	500k	37.74M	65.427M	37.92M	58.171M
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	82.08M	77.361M	82.2M	77.241M
5290MHz	Pass	Inf	82.32M	77.241M	82.44M	77.601M
5530MHz	Pass	Inf	82.08M	77.481M	82.2M	77.241M
5610MHz	Pass	Inf	82.44M	77.361M	82.44M	77.361M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	87.375M	73.463M	76.125M	73.463M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	4.06M	14.373M	4M	7.656M
5775MHz	Pass	500k	77.04M	77.481M	63.36M	77.361M

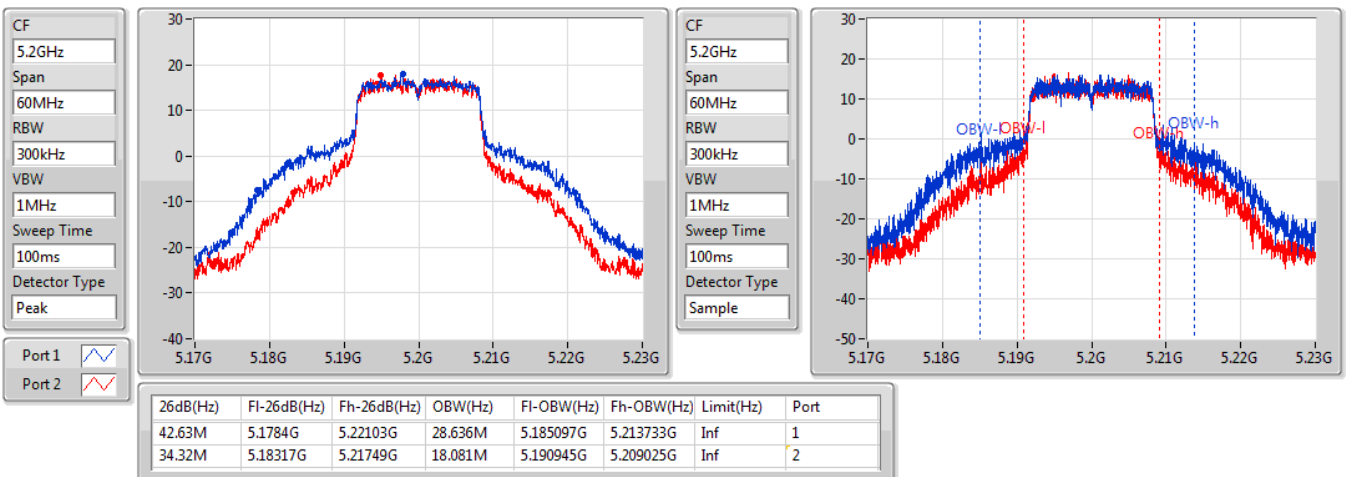
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

802.11a_Nss1,(6Mbps)_2TX
EBW
5180MHz

09/03/2021

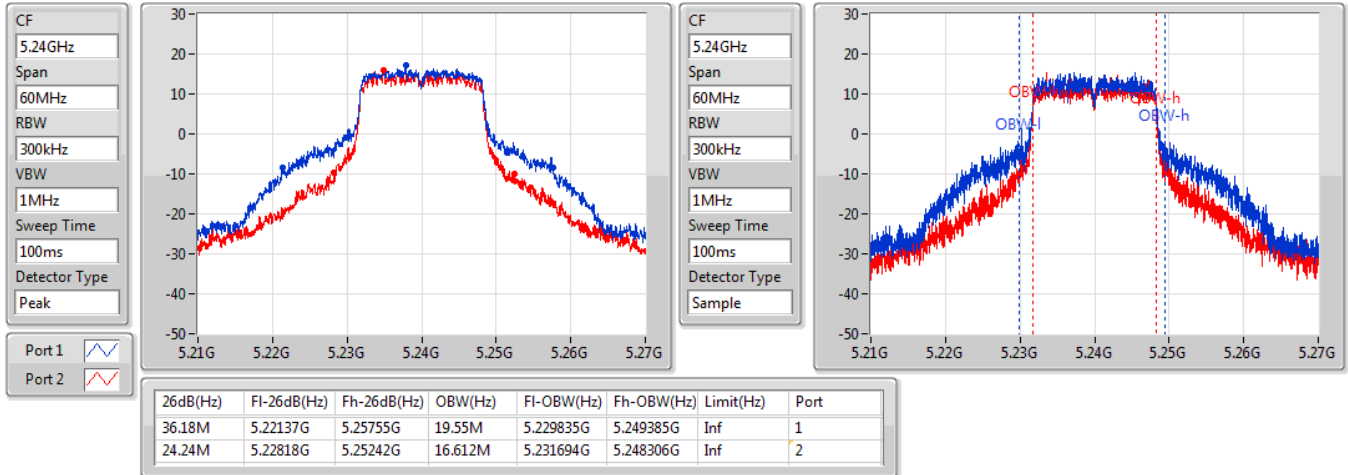

802.11a_Nss1,(6Mbps)_2TX
EBW
5200MHz

09/03/2021

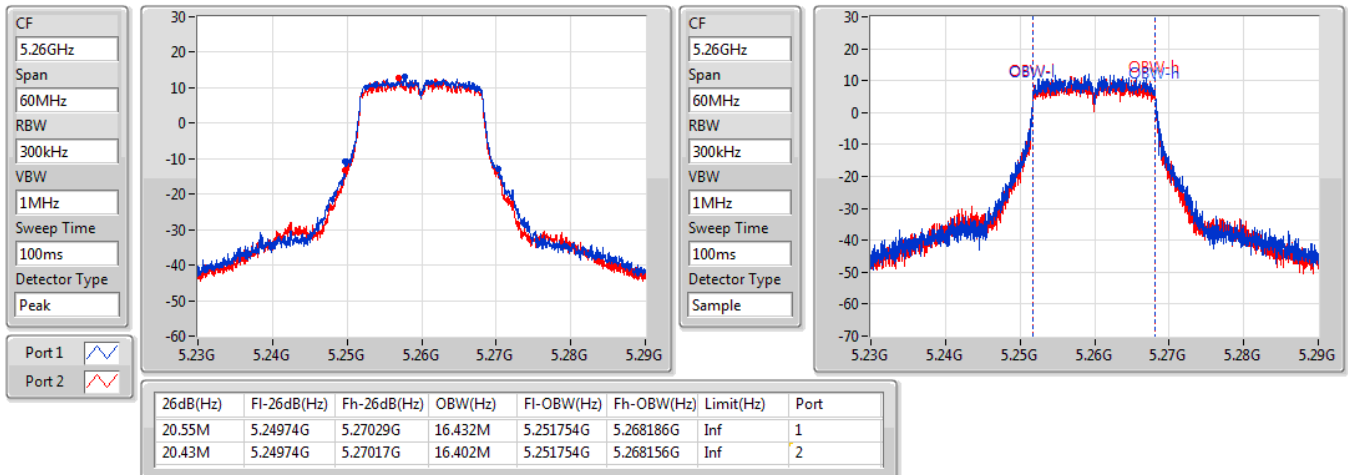


802.11a_Nss1,(6Mbps)_2TX
EBW
5240MHz

09/03/2021

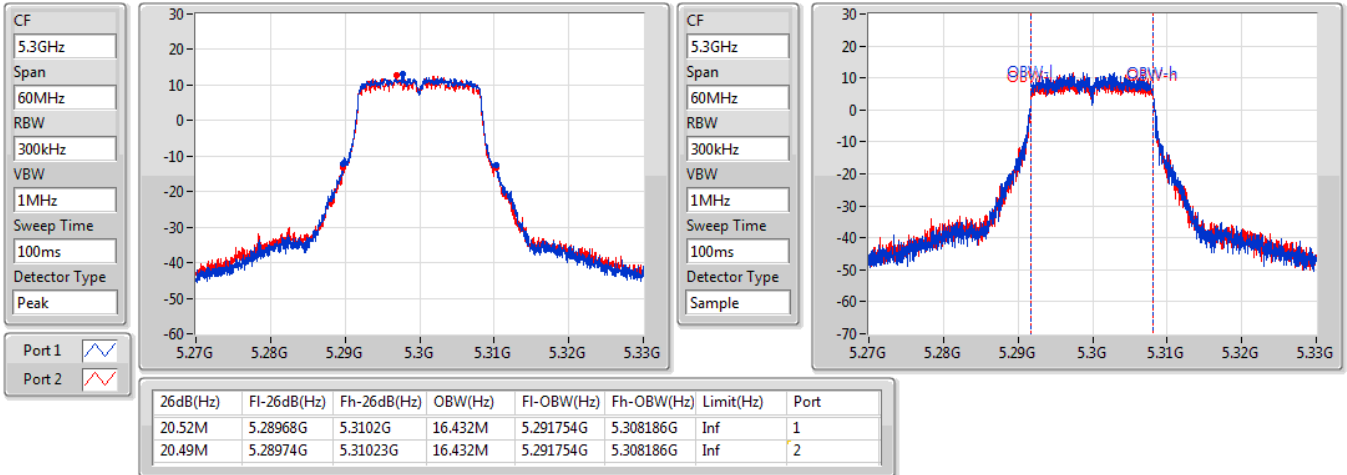

802.11a_Nss1,(6Mbps)_2TX
EBW
5260MHz

09/03/2021

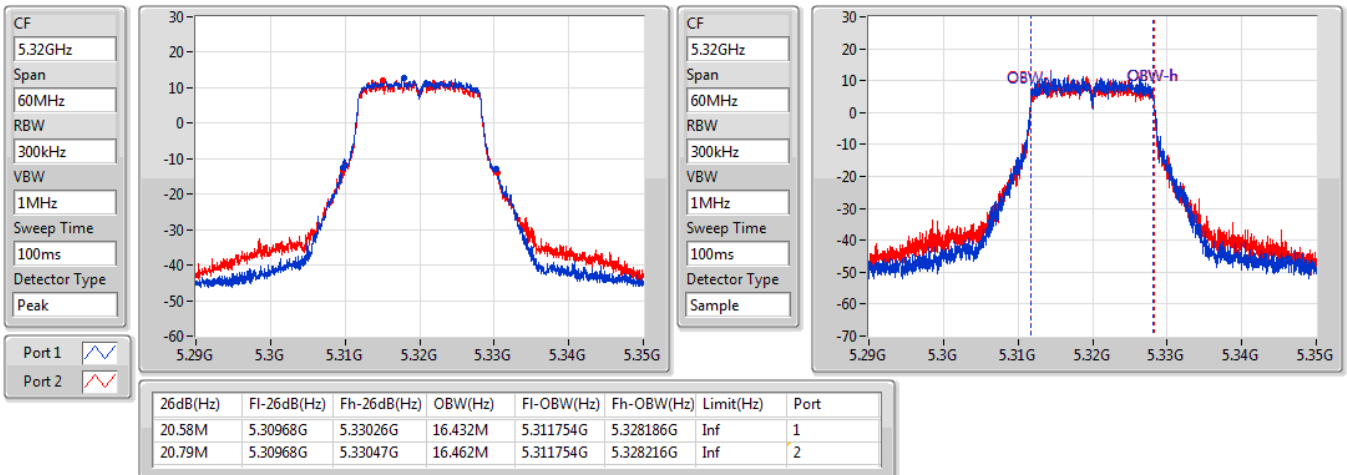


802.11a_Nss1,(6Mbps)_2TX
EBW
5300MHz

09/03/2021


802.11a_Nss1,(6Mbps)_2TX
EBW
5320MHz

09/03/2021

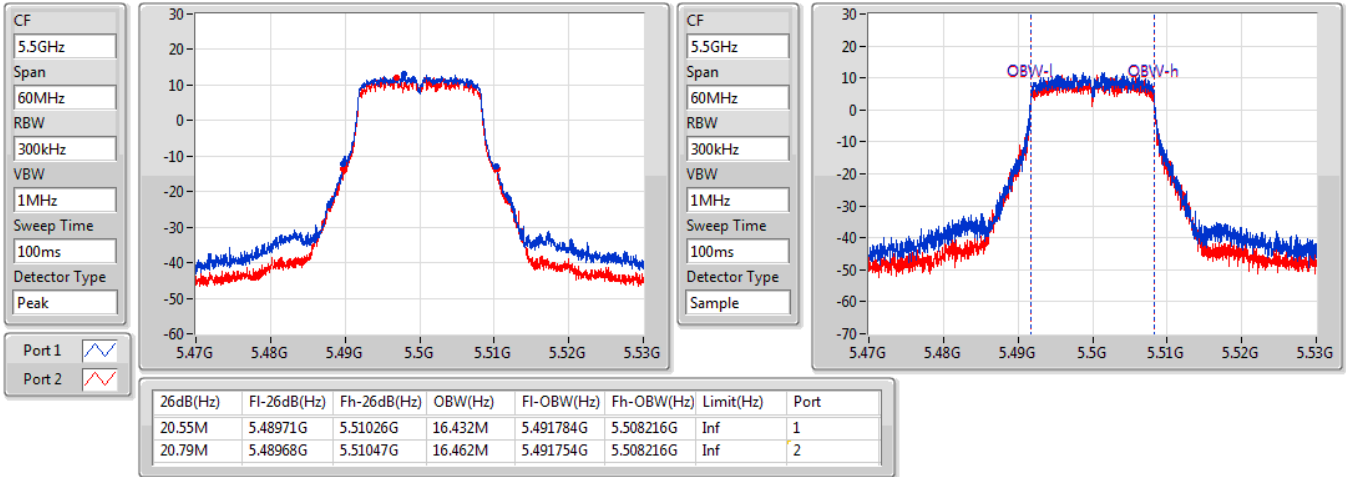


802.11a_Nss1,(6Mbps)_2TX

EBW

5500MHz

09/03/2021

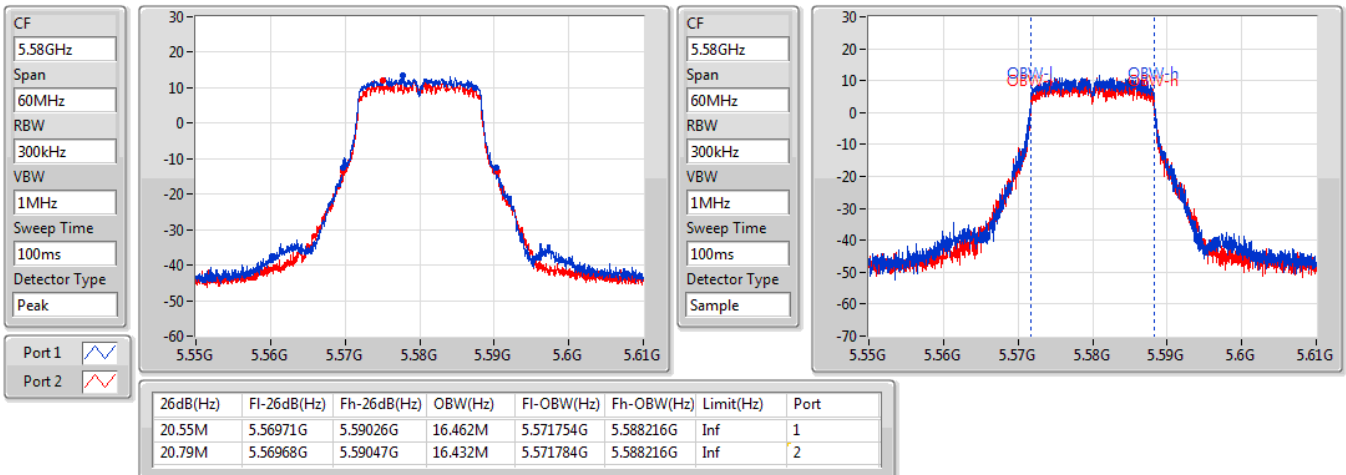


802.11a_Nss1,(6Mbps)_2TX

EBW

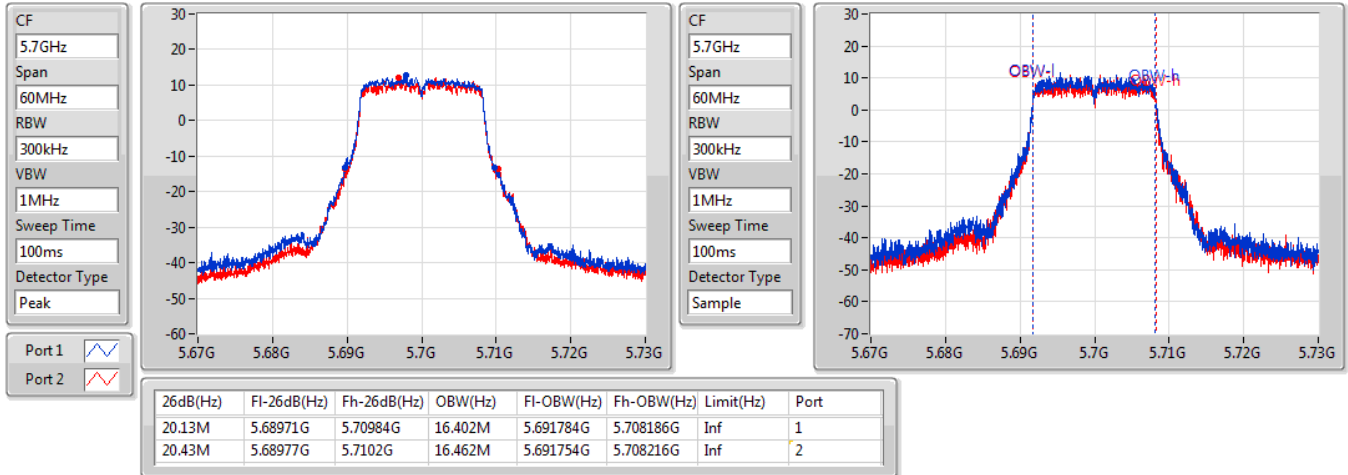
5580MHz

09/03/2021

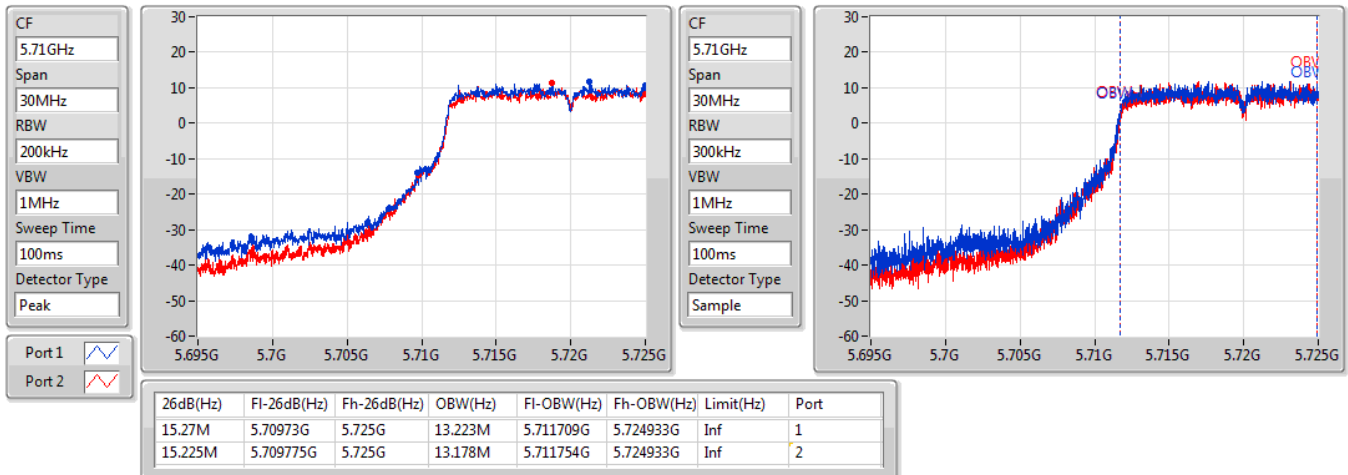


802.11a_Nss1,(6Mbps)_2TX
EBW
5700MHz

09/03/2021

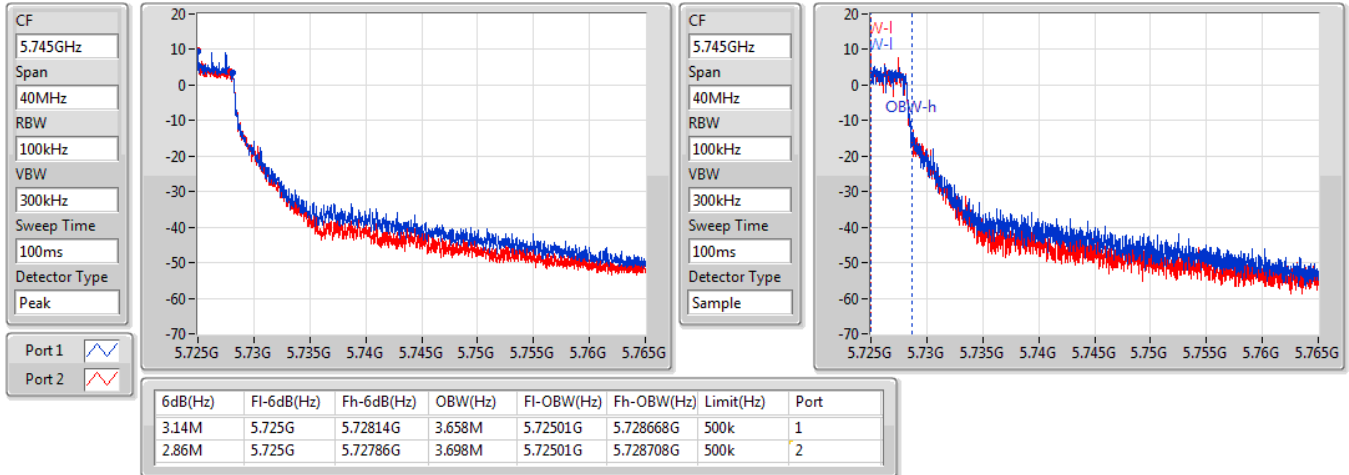

802.11a_Nss1,(6Mbps)_2TX
EBW
5720MHz Straddle 5.47-5.725GHz

09/03/2021

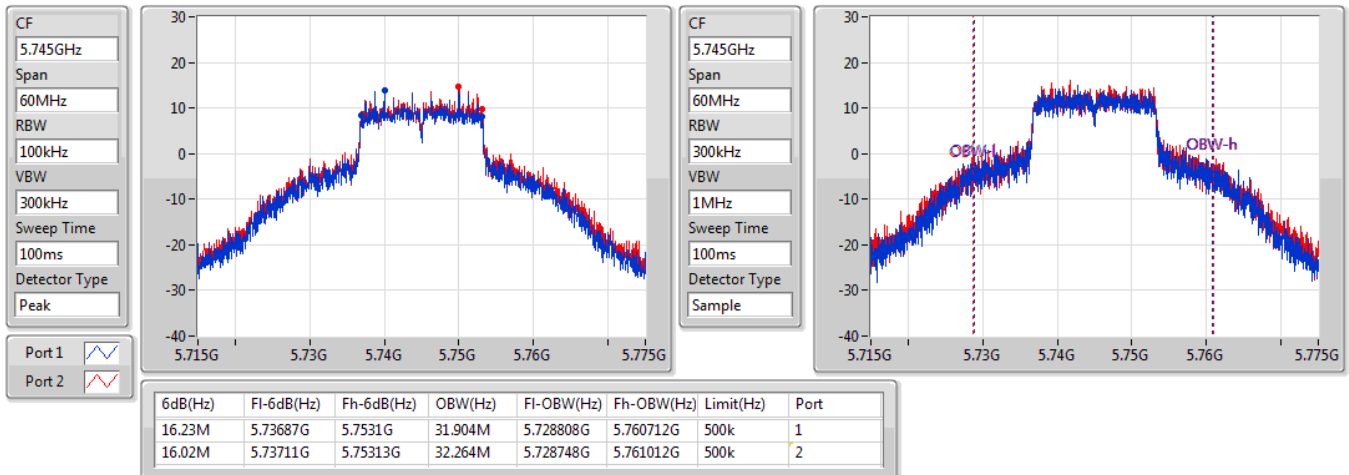


802.11a_Nss1,(6Mbps)_2TX
EBW
5720MHz Straddle 5.725-5.85GHz

09/03/2021

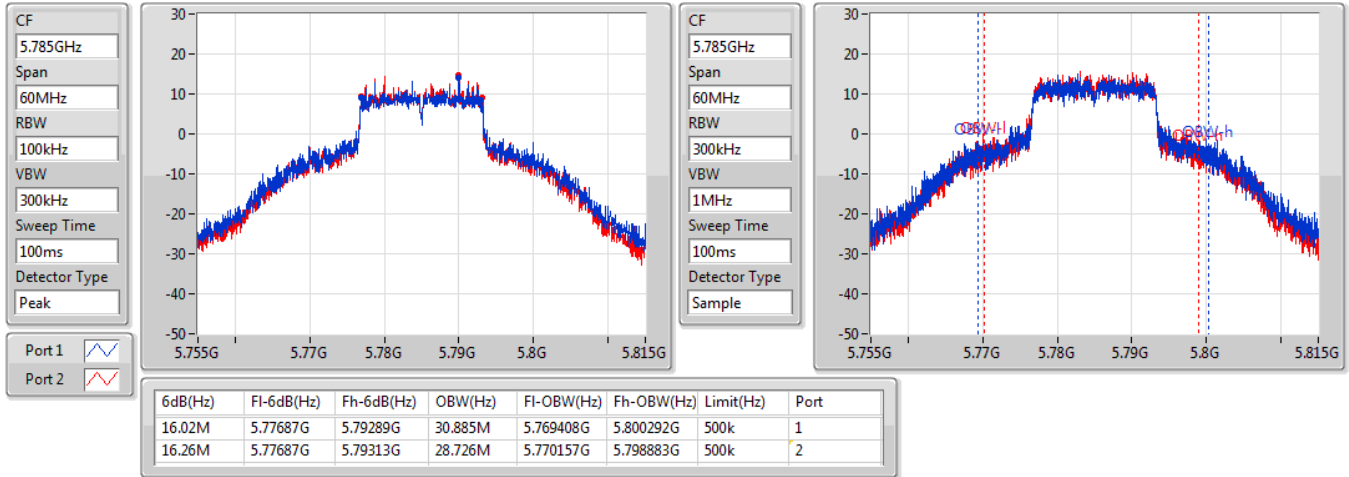

802.11a_Nss1,(6Mbps)_2TX
EBW
5745MHz

09/03/2021

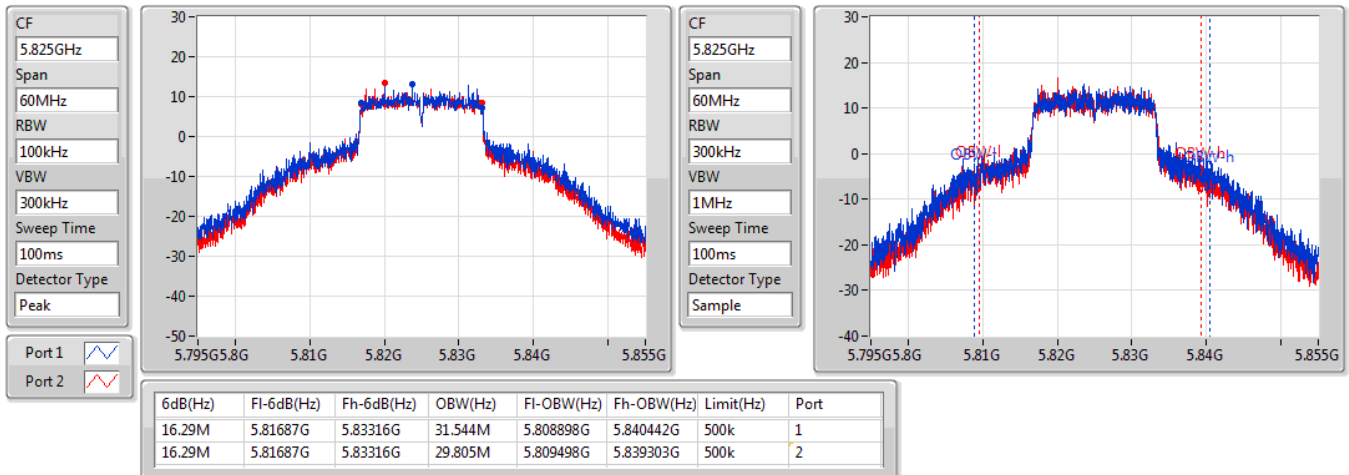


802.11a_Nss1,(6Mbps)_2TX
EBW
5785MHz

09/03/2021

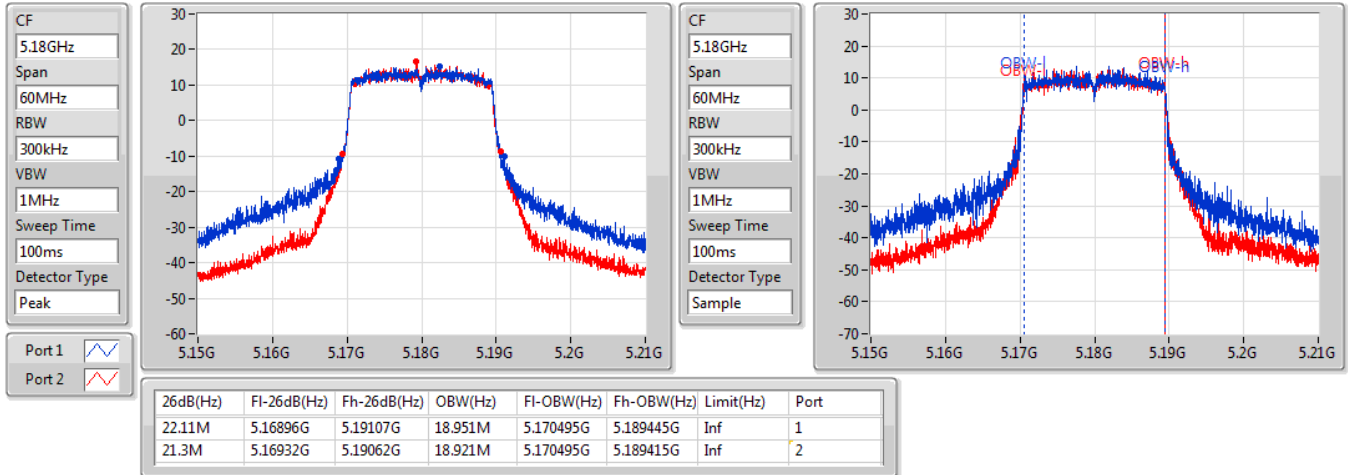

802.11a_Nss1,(6Mbps)_2TX
EBW
5825MHz

09/03/2021

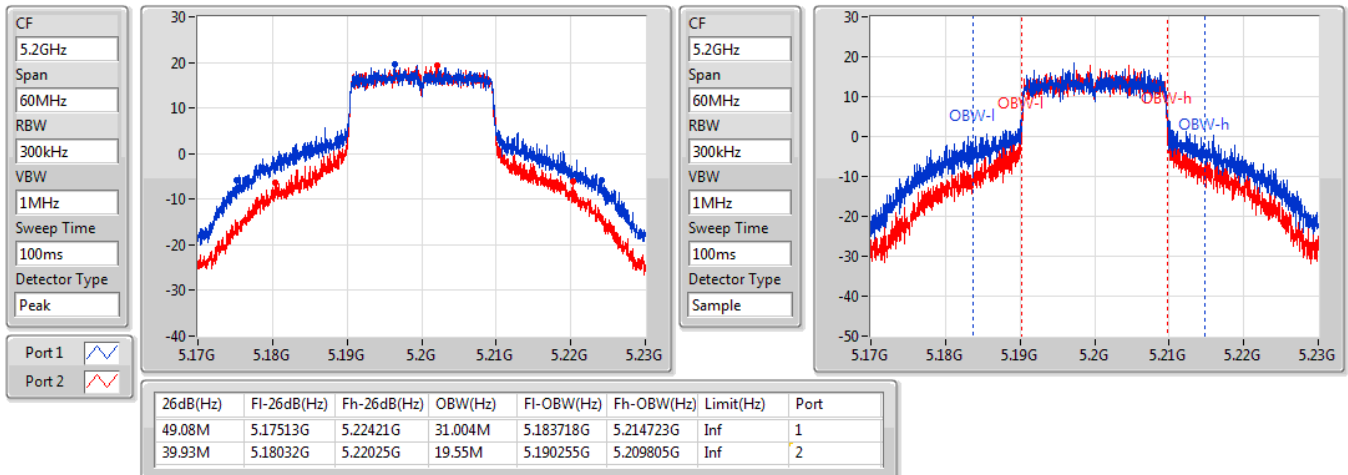


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5180MHz

09/03/2021

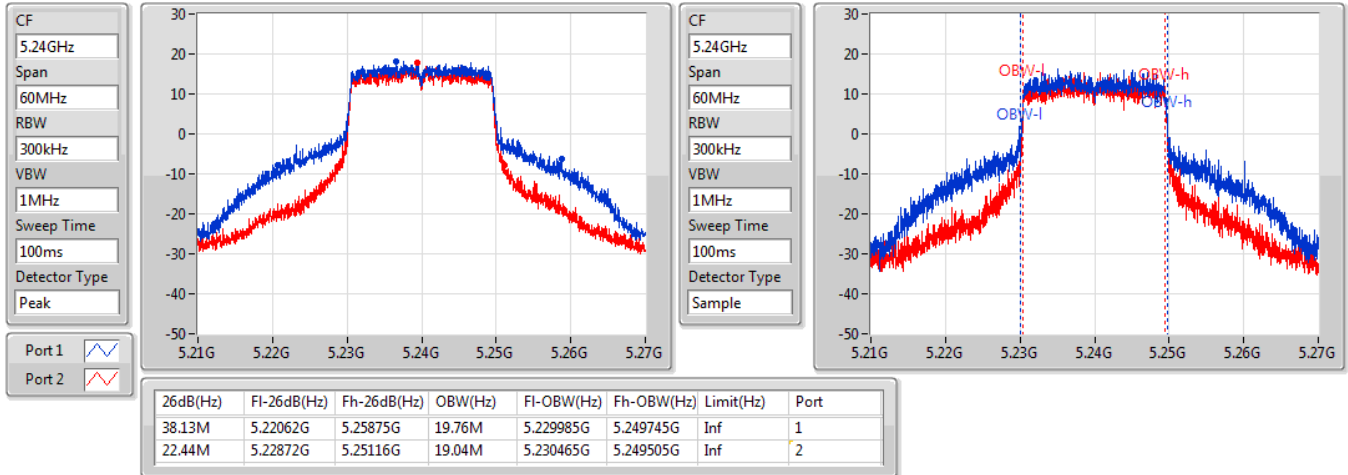

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5200MHz

09/03/2021

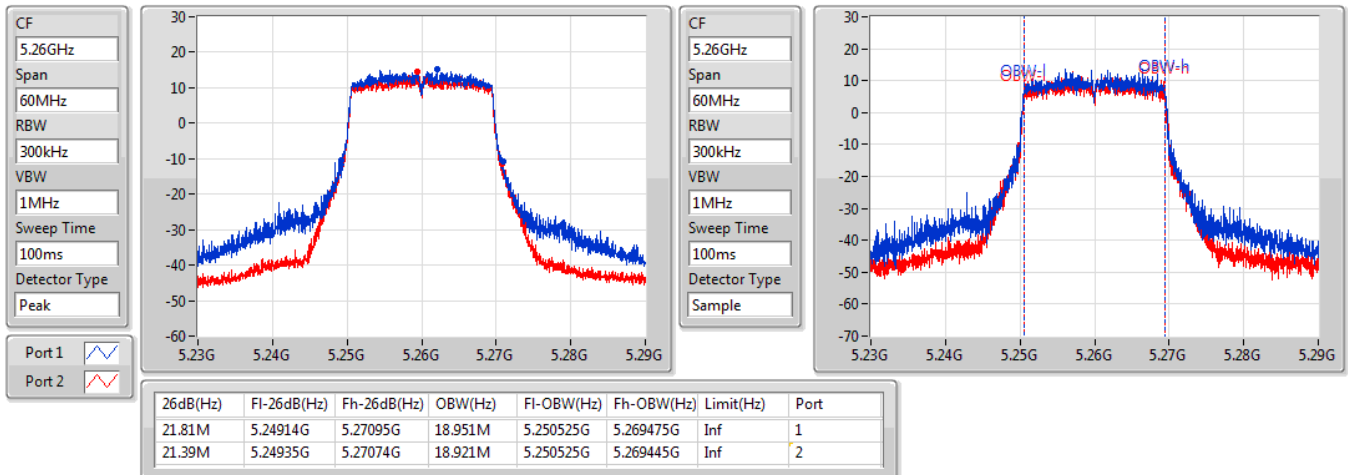


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5240MHz

09/03/2021

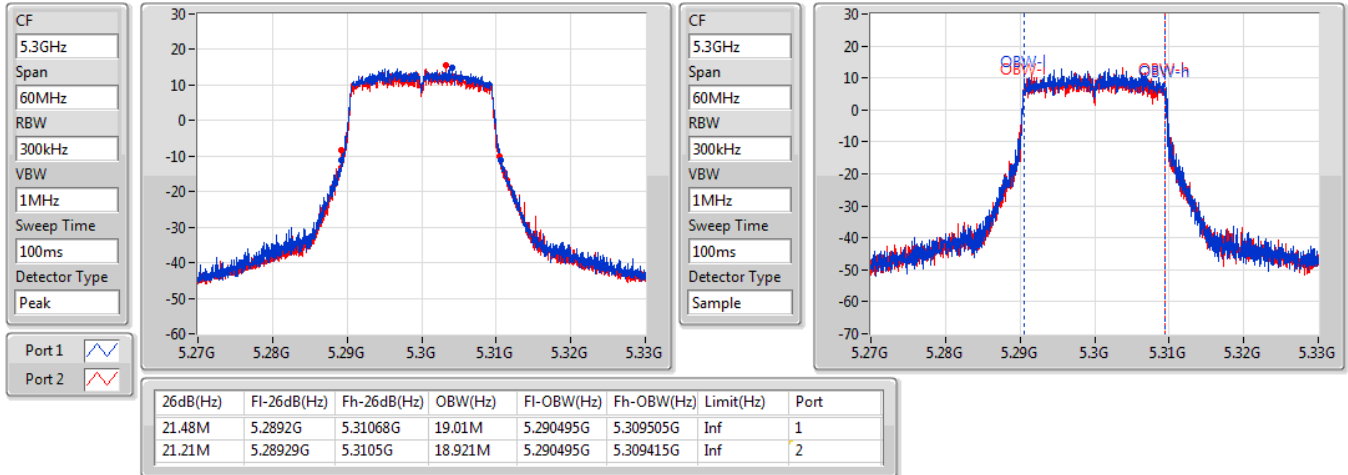

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5260MHz

09/03/2021

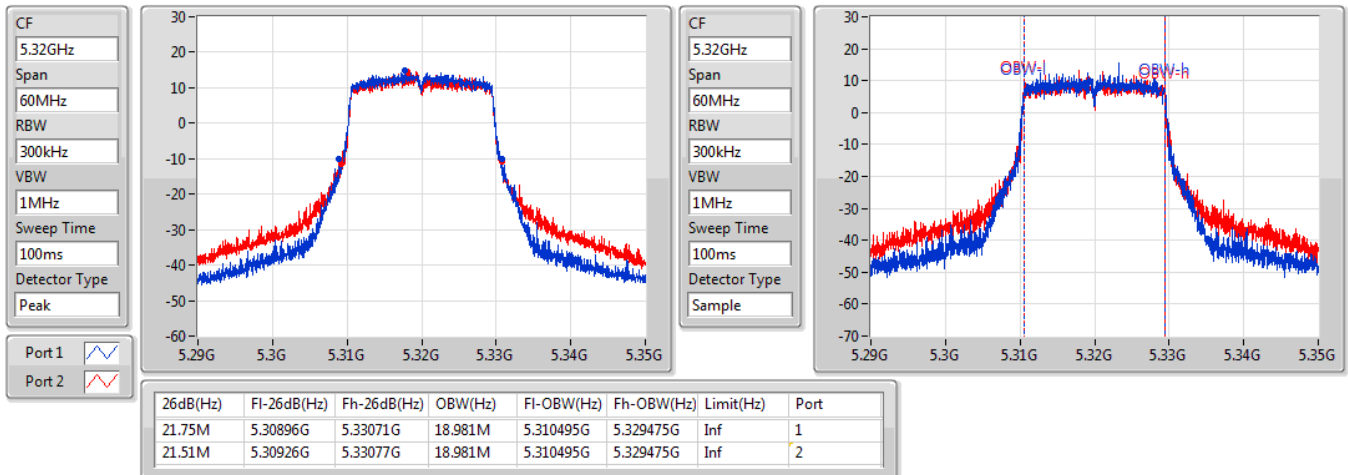


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5300MHz

09/03/2021

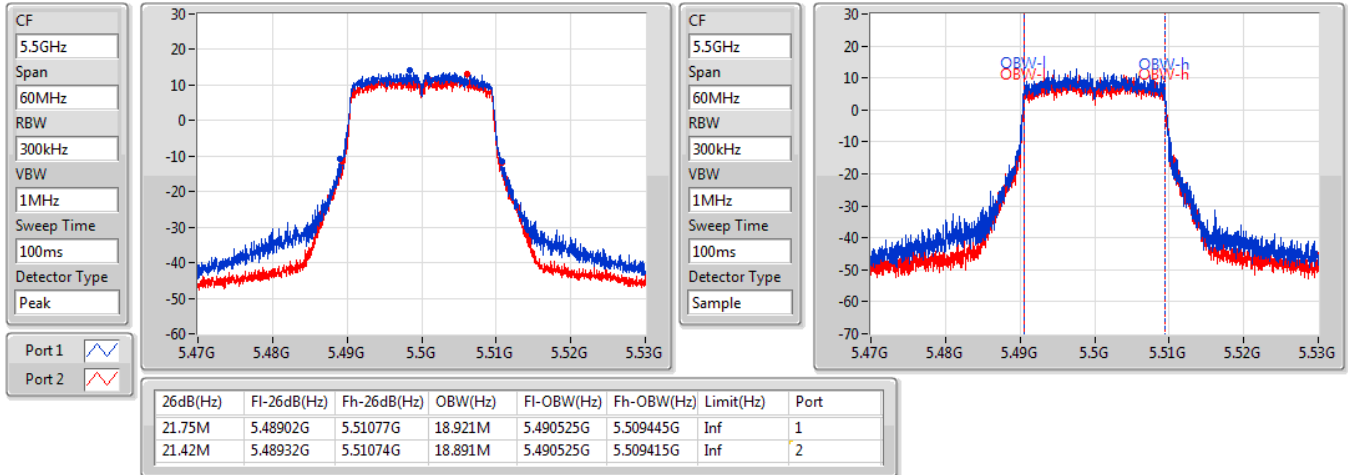

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5320MHz

09/03/2021

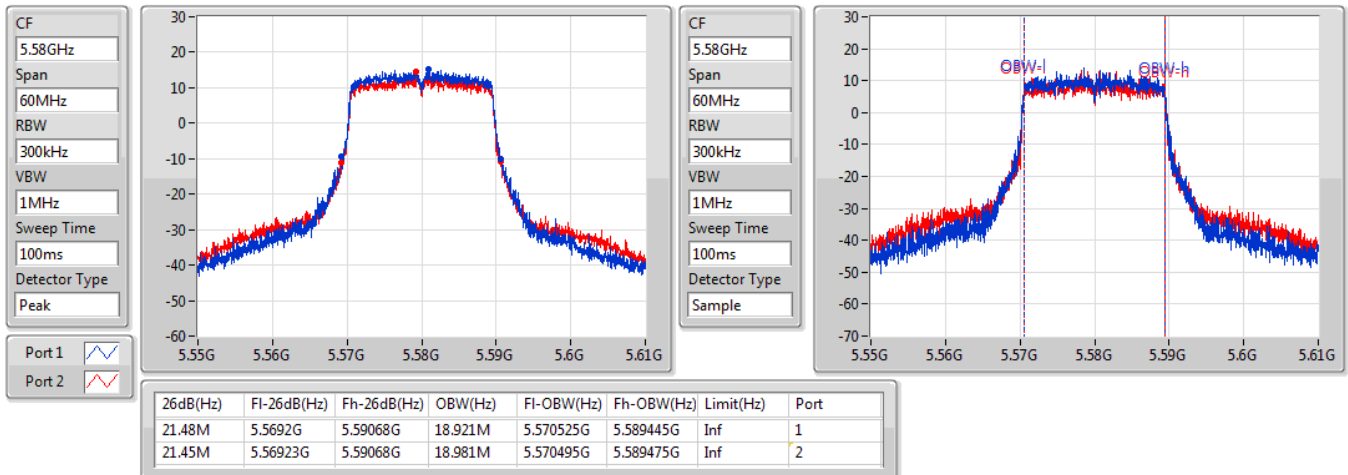


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5500MHz

09/03/2021

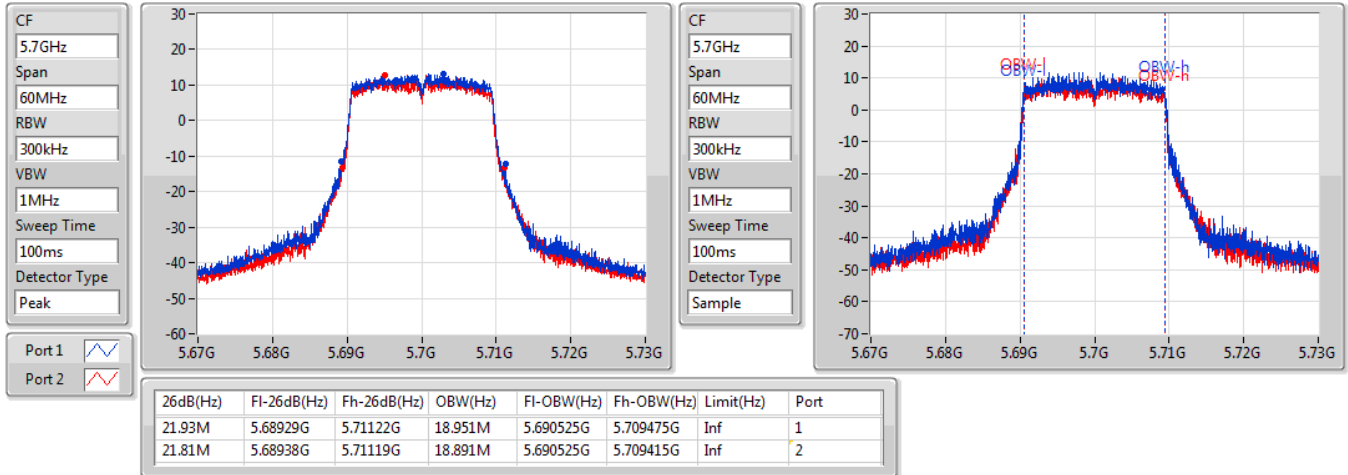

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5580MHz

09/03/2021

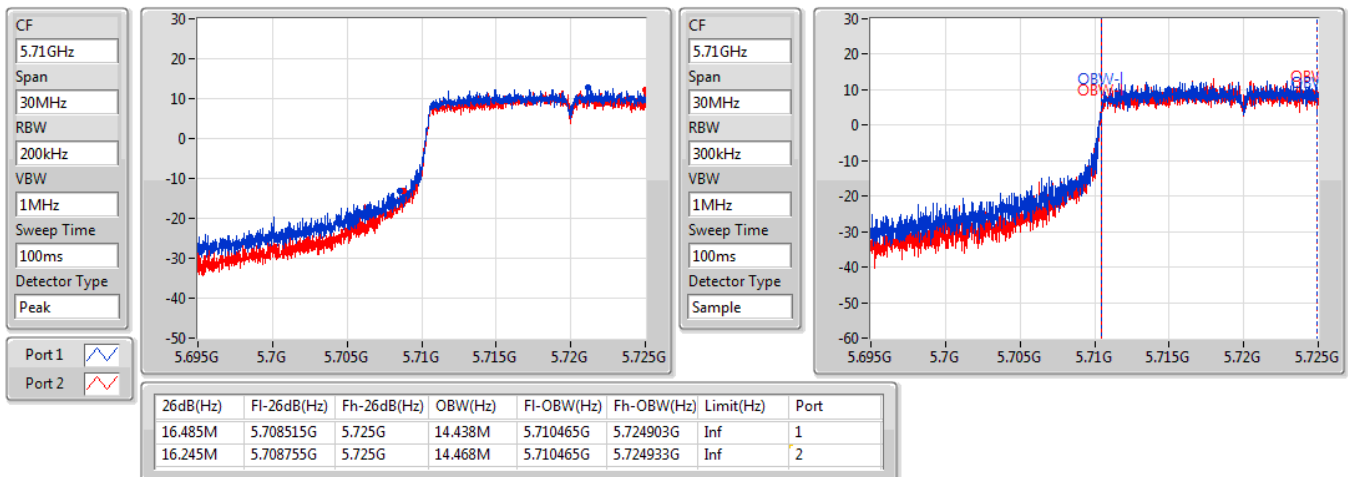


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5700MHz

09/03/2021

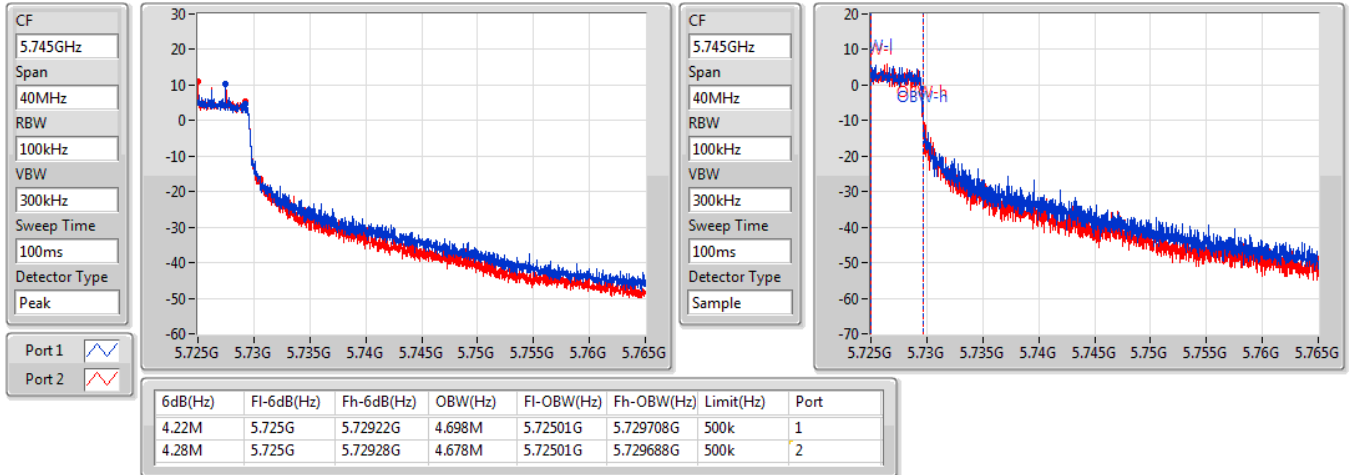

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EBW
5720MHz Straddle 5.47-5.725GHz

09/03/2021

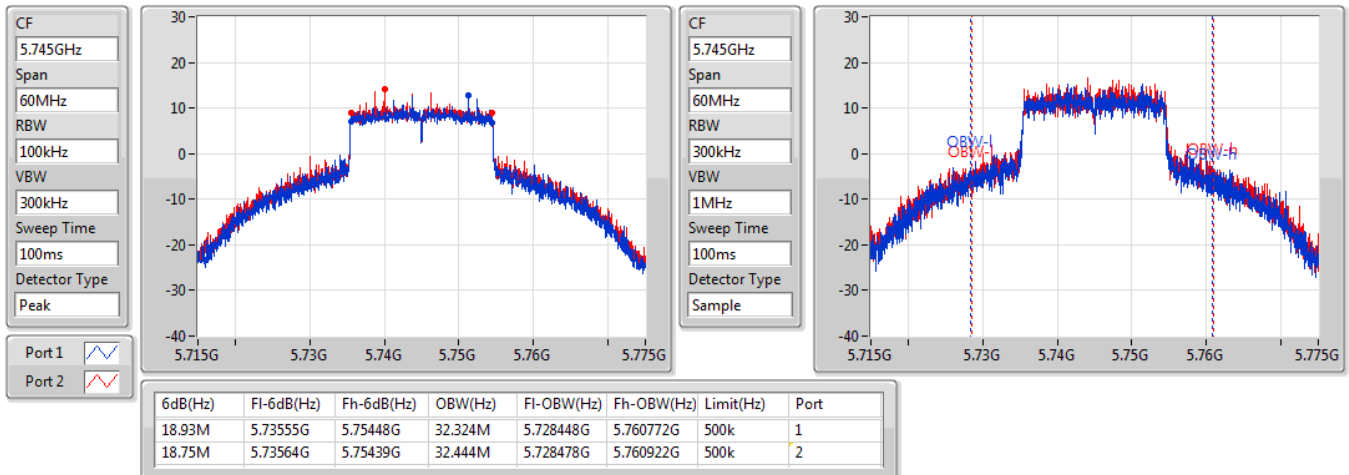


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5720MHz Straddle 5.725-5.85GHz

09/03/2021


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5745MHz

09/03/2021

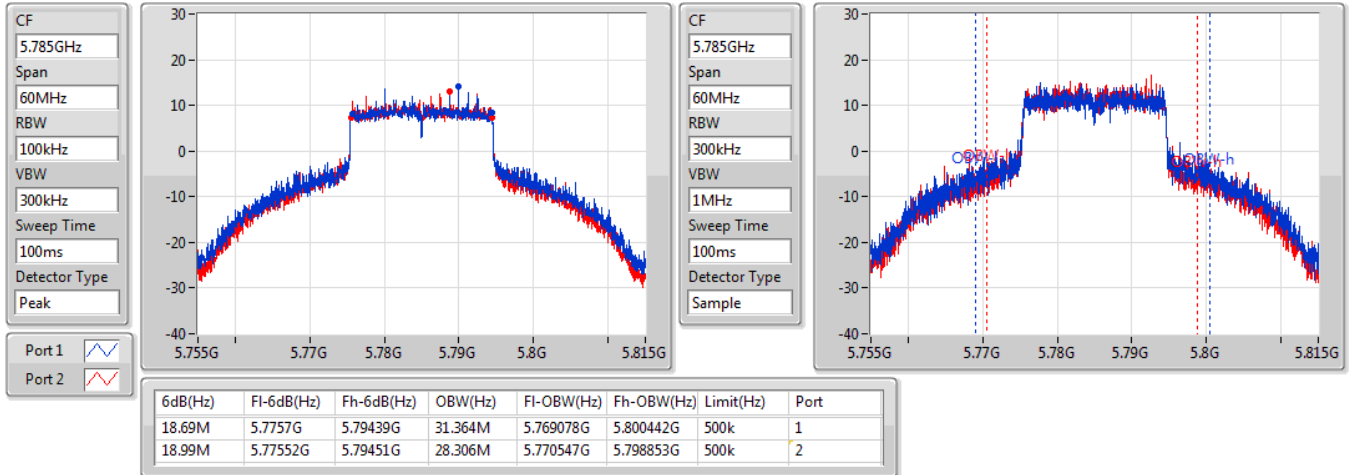


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

5785MHz

09/03/2021

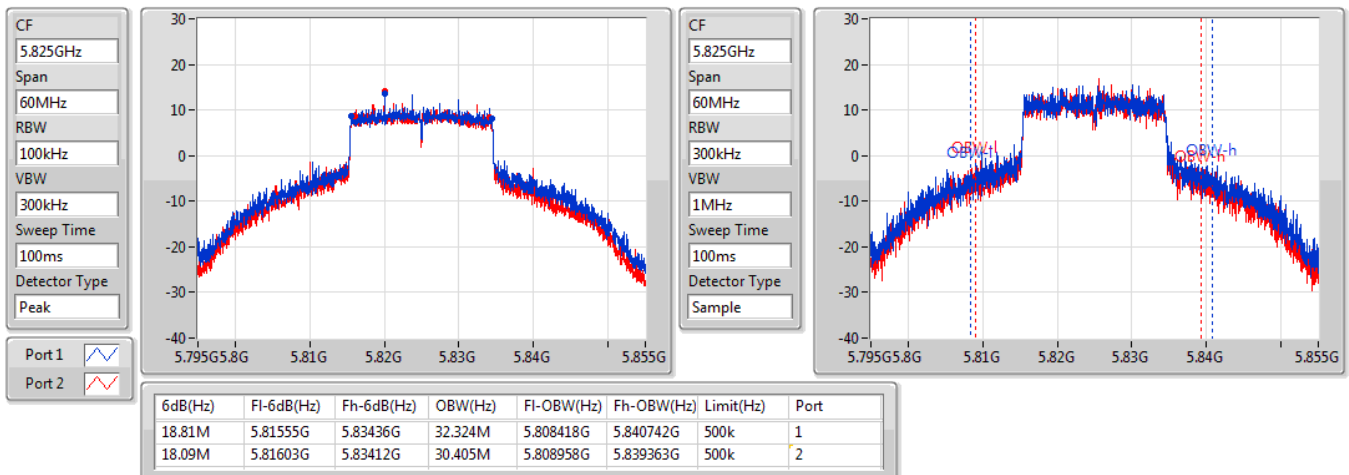


802.11ax HEW20_Nss1,(MCS0)_2TX

EBW

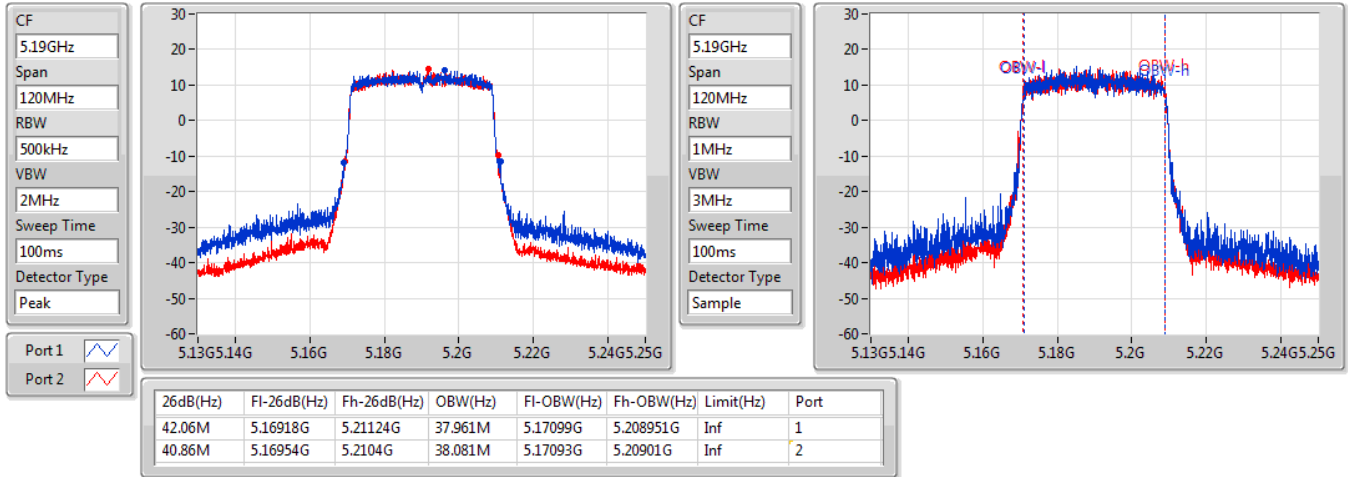
5825MHz

09/03/2021

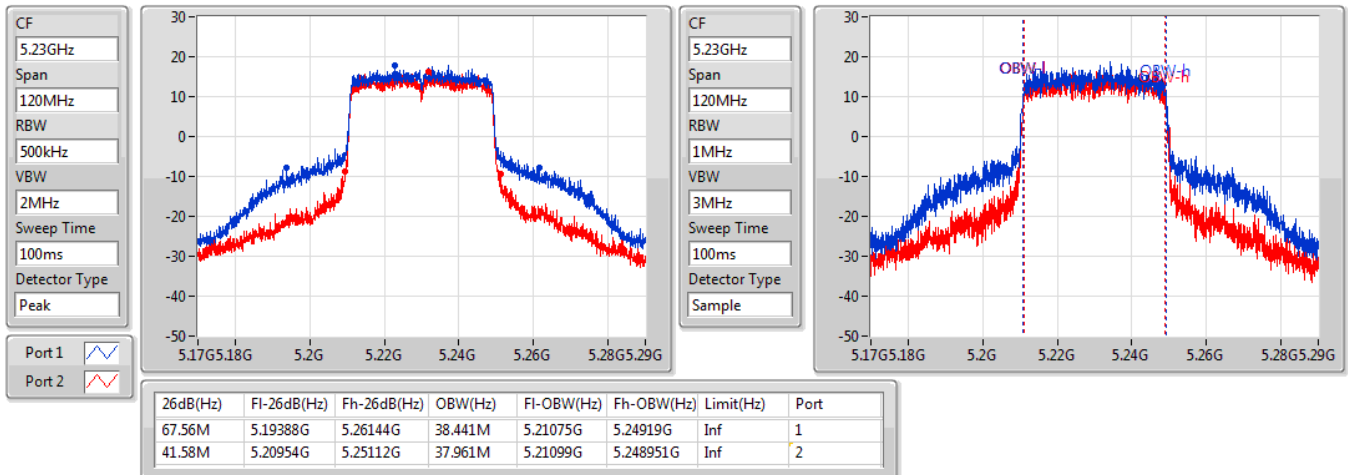


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5190MHz

09/03/2021

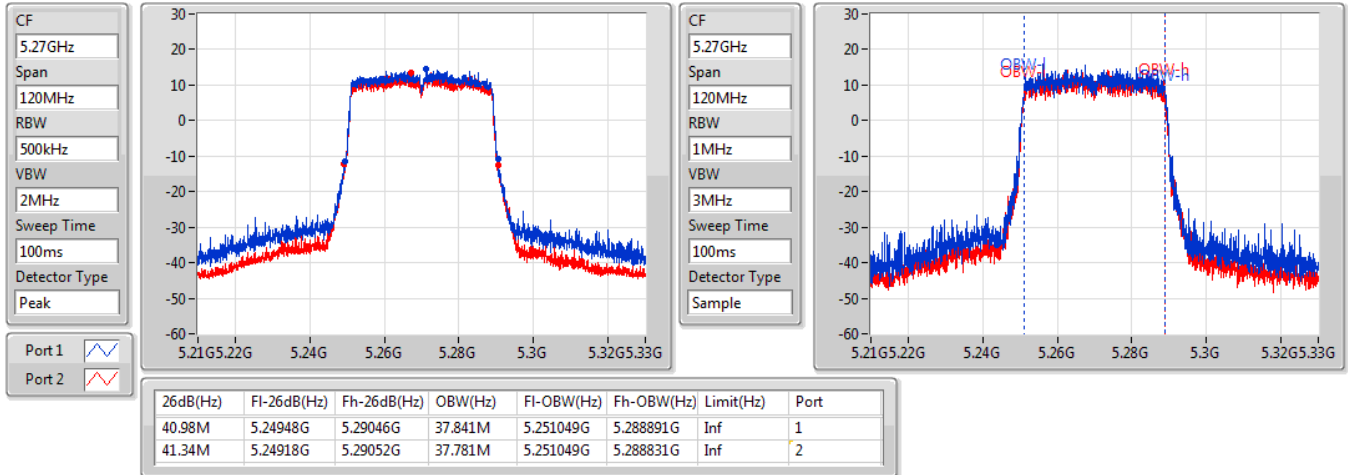

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5230MHz

09/03/2021

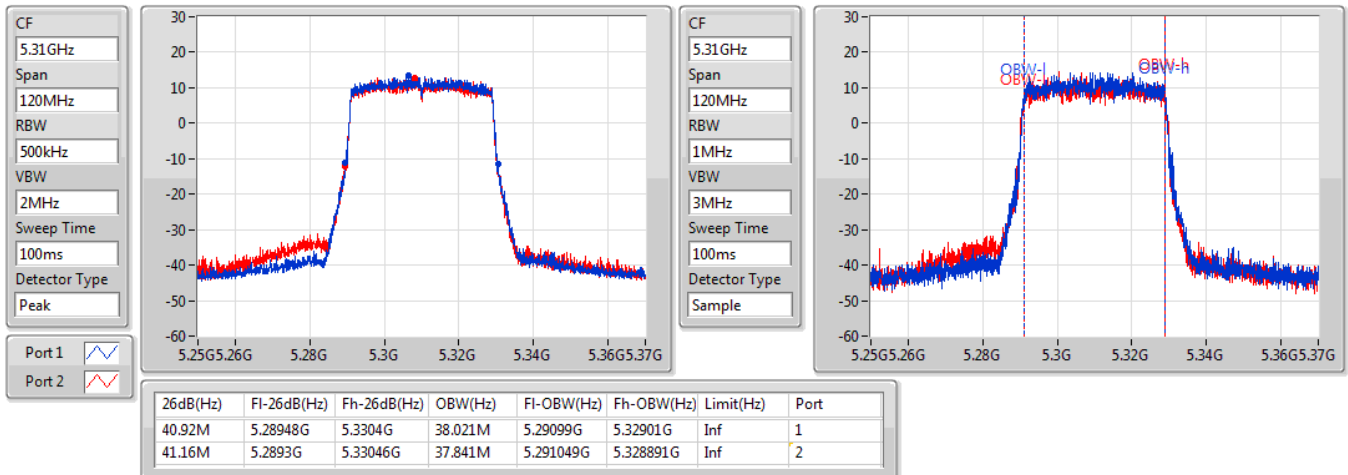


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5270MHz

09/03/2021

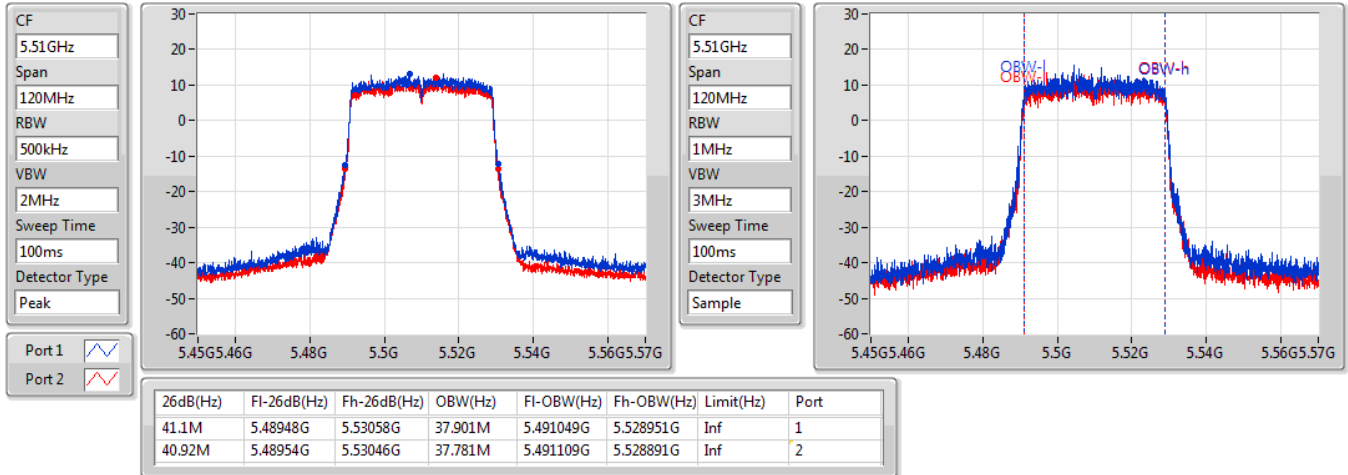

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5310MHz

09/03/2021

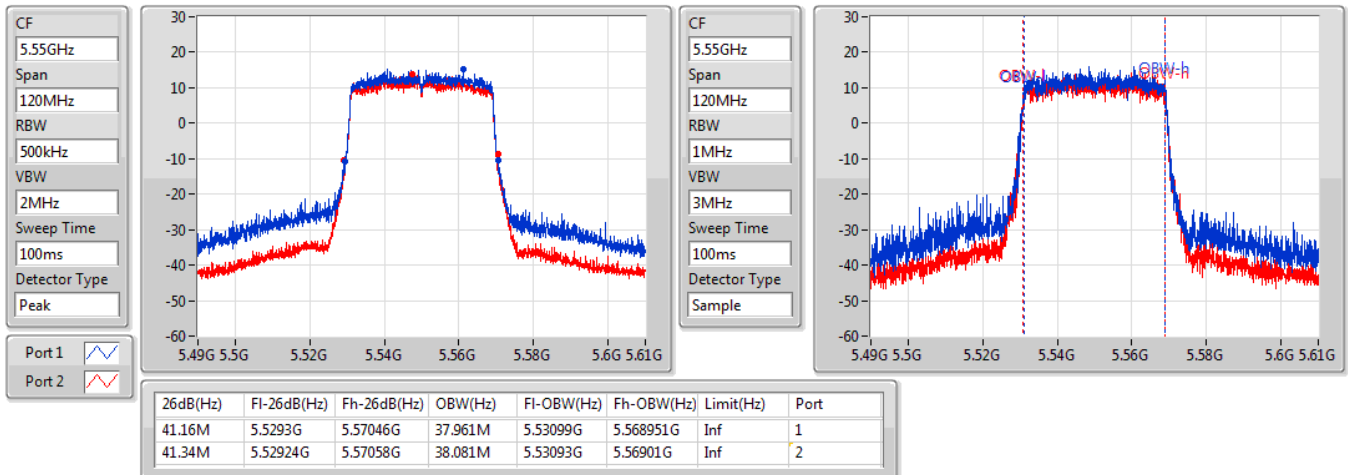


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5510MHz

09/03/2021

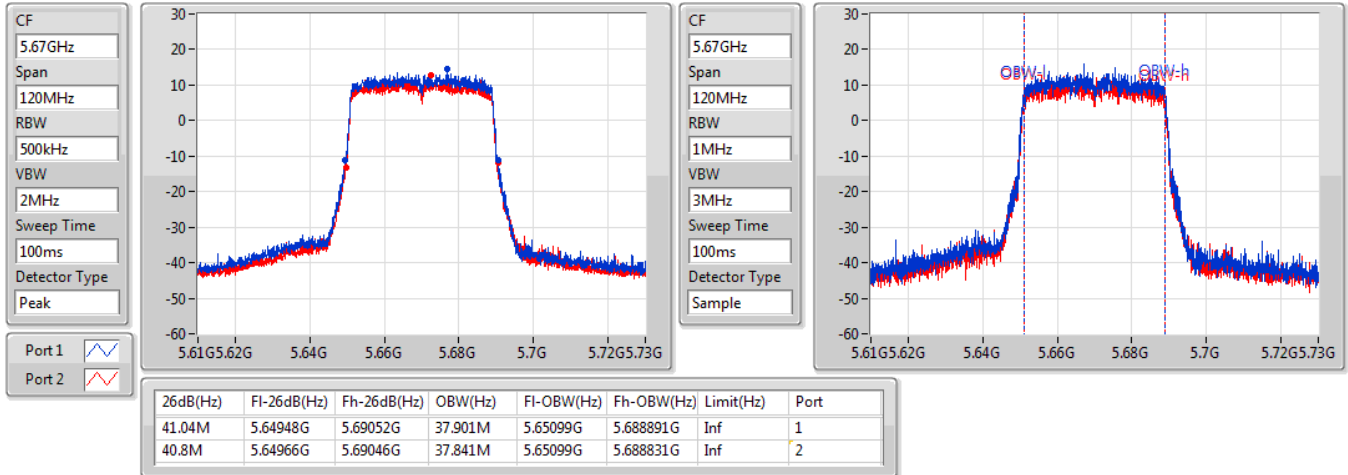

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5550MHz

09/03/2021

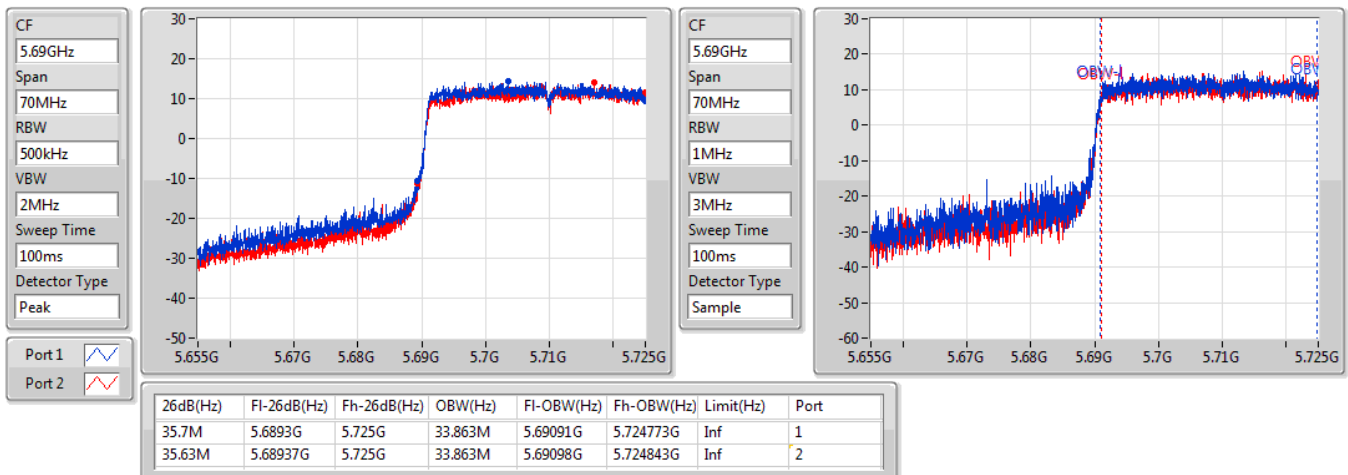


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5670MHz

09/03/2021

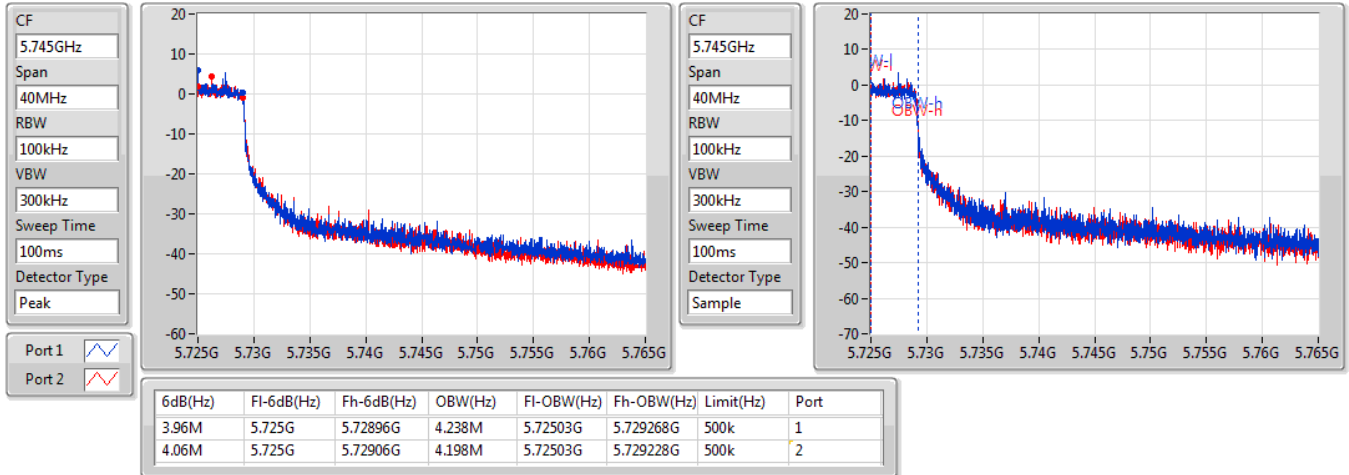

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5710MHz Straddle 5.47-5.725GHz

09/03/2021

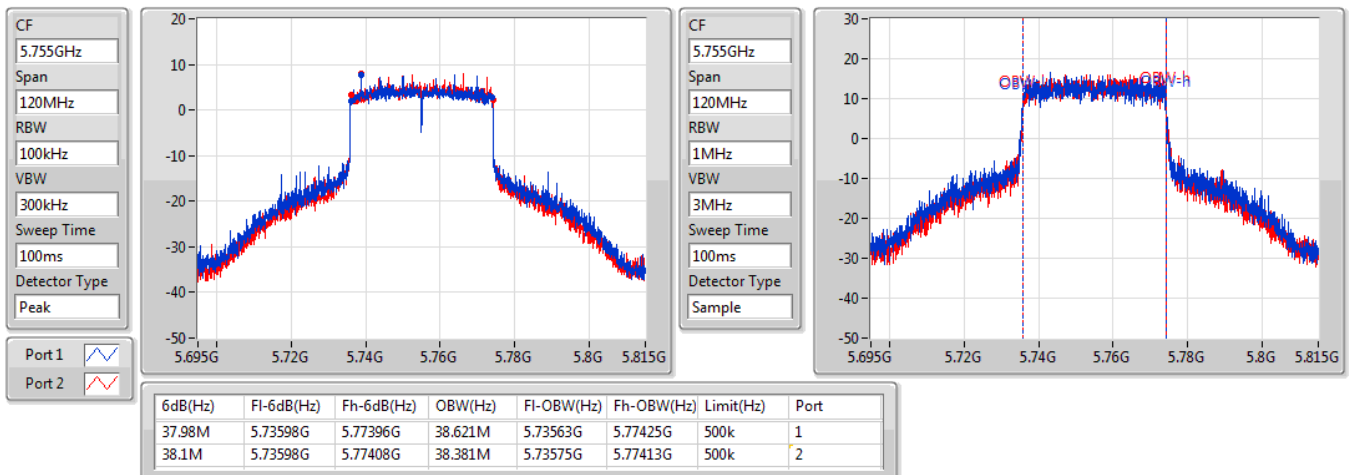


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5710MHz Straddle 5.725-5.85GHz

09/03/2021

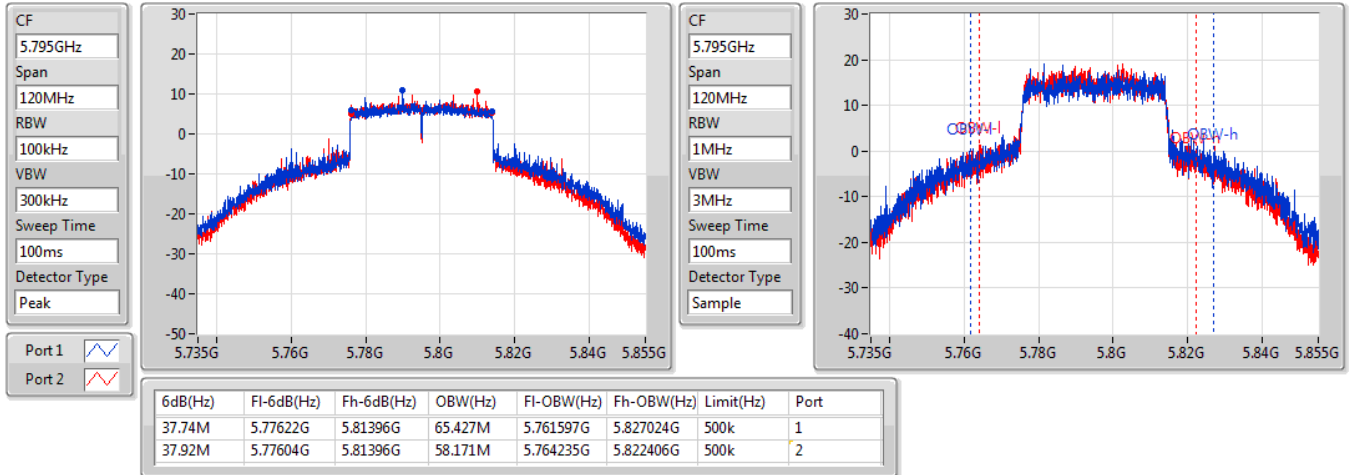

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5755MHz

09/03/2021

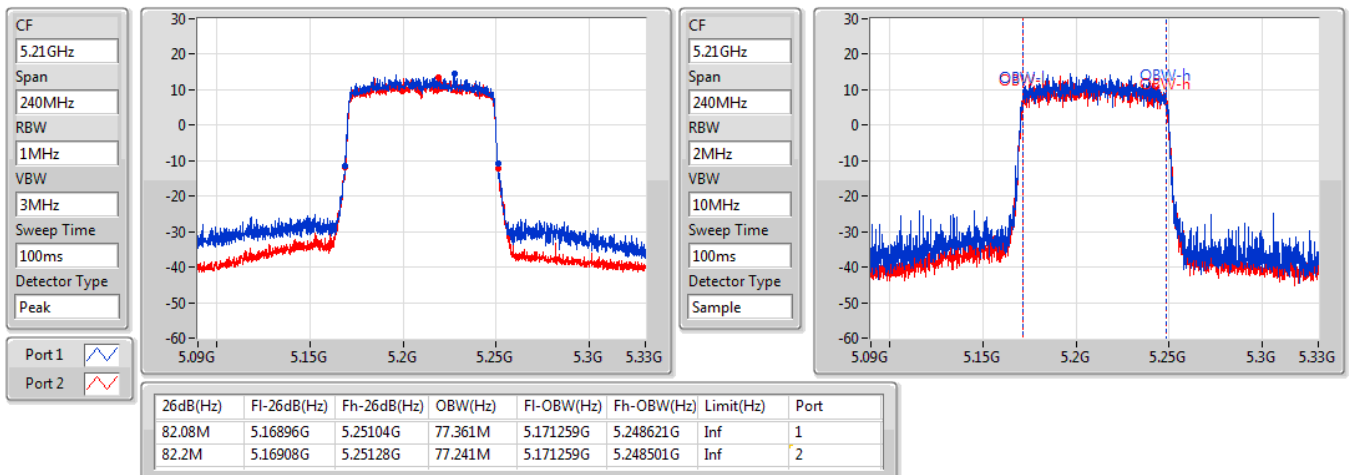


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5795MHz

09/03/2021

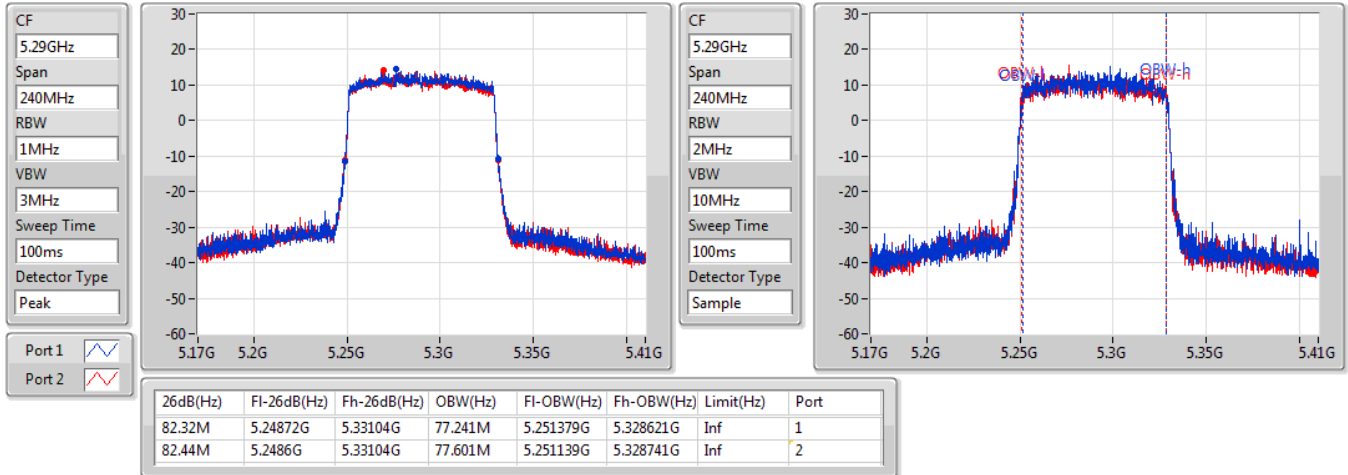

802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5210MHz

09/03/2021

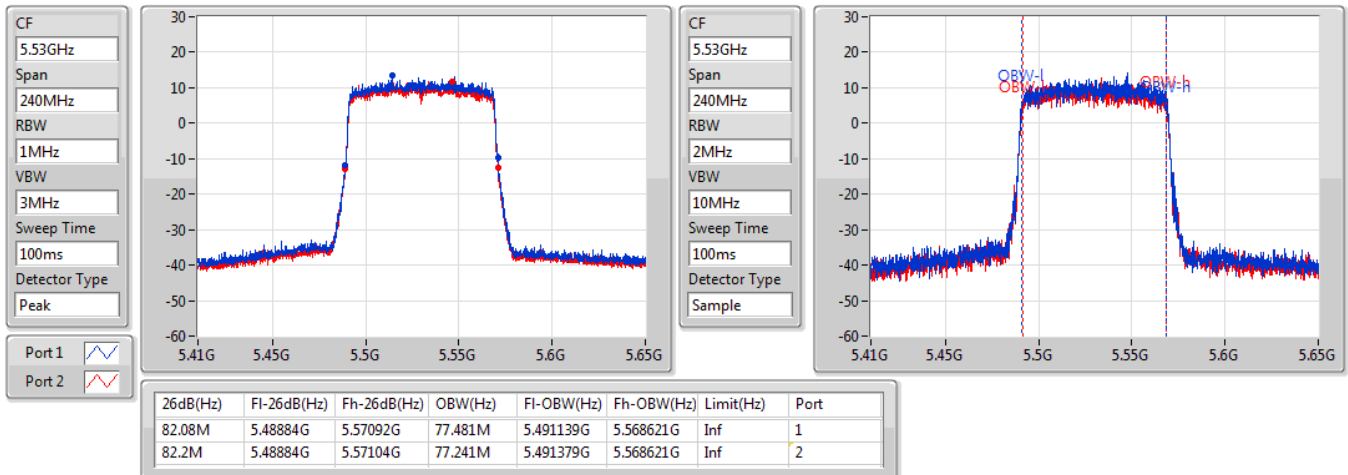


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5290MHz

09/03/2021

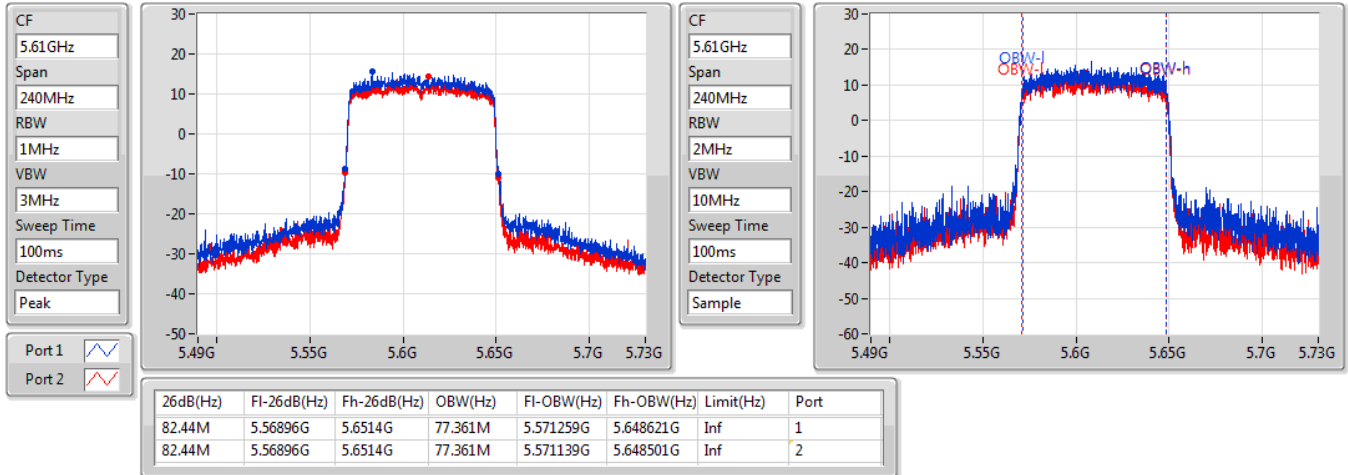

802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5530MHz

09/03/2021

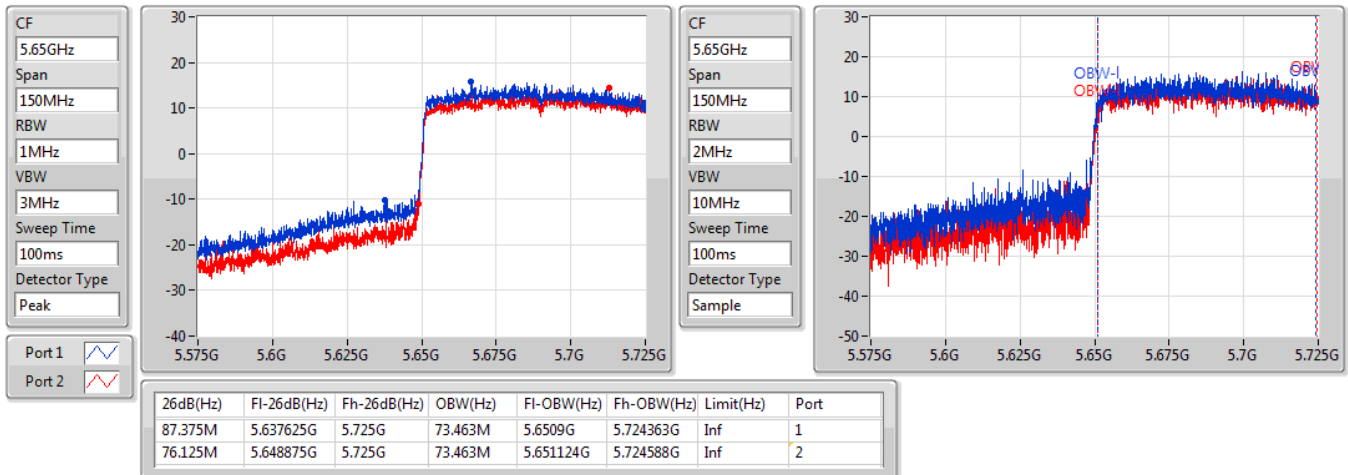


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5610MHz

09/03/2021

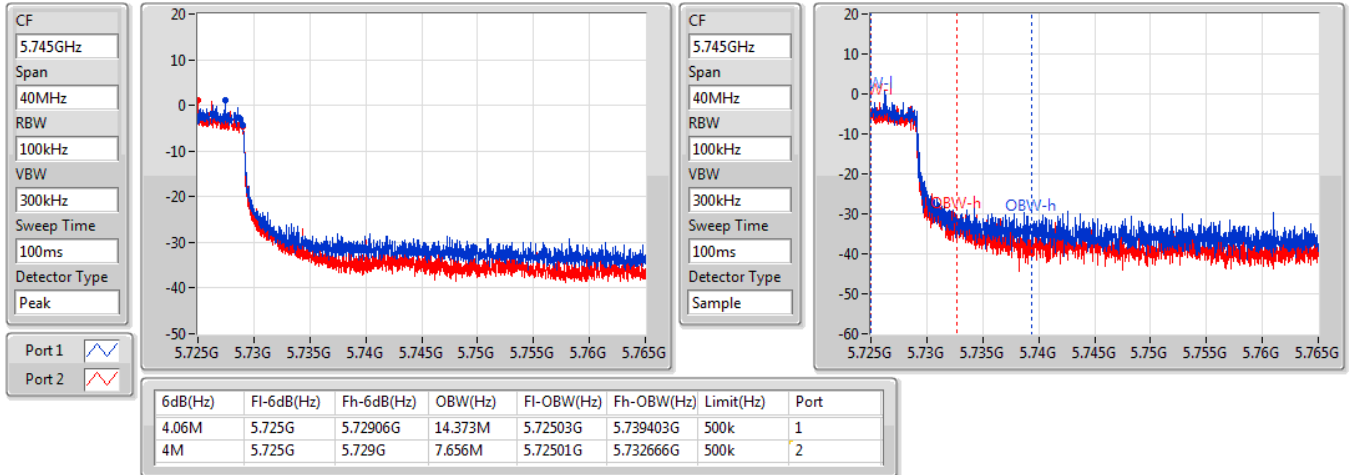

802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5690MHz Straddle 5.47-5.725GHz

09/03/2021

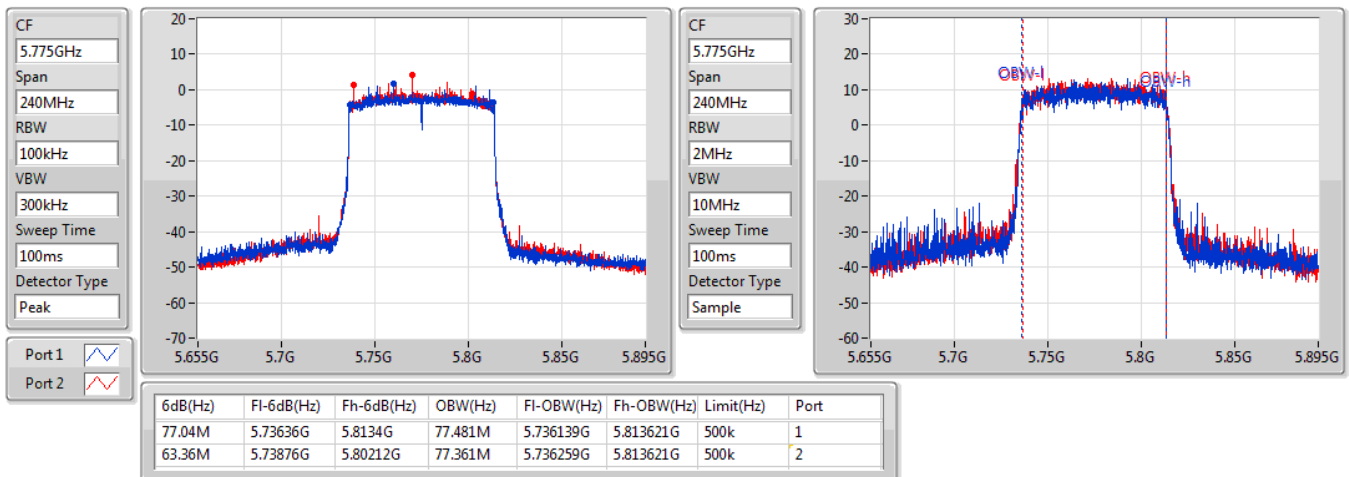


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5690MHz Straddle 5.725-5.85GHz

09/03/2021


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5775MHz

09/03/2021



**Summary**

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	28.34	0.68234	31.75	1.49624
802.11ax HEW20_Nss1,(MCS0)_2TX	28.86	0.76913	32.27	1.68655
802.11ax HEW40_Nss1,(MCS0)_2TX	26.66	0.46345	30.07	1.01625
802.11ax HEW80_Nss1,(MCS0)_2TX	22.63	0.18323	26.04	0.40179
5.25-5.35GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	23.66	0.23227	27.07	0.50933
802.11ax HEW20_Nss1,(MCS0)_2TX	23.87	0.24378	27.28	0.53456
802.11ax HEW40_Nss1,(MCS0)_2TX	23.64	0.23121	27.05	0.50699
802.11ax HEW80_Nss1,(MCS0)_2TX	22.80	0.19055	26.21	0.41783
5.47-5.725GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	23.46	0.22182	27.47	0.55847
802.11ax HEW20_Nss1,(MCS0)_2TX	23.96	0.24889	27.97	0.62661
802.11ax HEW40_Nss1,(MCS0)_2TX	23.90	0.24547	27.91	0.61802
802.11ax HEW80_Nss1,(MCS0)_2TX	23.96	0.24889	27.97	0.62661
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	27.15	0.51880	31.89	1.54525
802.11ax HEW20_Nss1,(MCS0)_2TX	27.14	0.51761	31.88	1.54170
802.11ax HEW40_Nss1,(MCS0)_2TX	27.50	0.56234	32.24	1.67494
802.11ax HEW80_Nss1,(MCS0)_2TX	21.86	0.15346	26.60	0.45709

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	3.41	21.88	21.59	24.75	30.00	28.16	36.00
5200MHz	Pass	3.41	25.53	25.11	28.34	30.00	31.75	36.00
5240MHz	Pass	3.41	24.83	23.47	27.21	30.00	30.62	36.00
5260MHz	Pass	3.41	21.13	20.12	23.66	23.98	27.07	30.00
5300MHz	Pass	3.41	20.85	20.02	23.47	23.98	26.88	30.00
5320MHz	Pass	3.41	20.73	19.99	23.39	23.98	26.80	30.00
5500MHz	Pass	4.01	20.94	19.75	23.40	23.98	27.41	30.00
5580MHz	Pass	4.01	21.18	19.57	23.46	23.98	27.47	30.00
5700MHz	Pass	4.01	20.46	19.31	22.93	23.98	26.94	30.00
5720MHz Straddle 5.47-5.725GHz	Pass	4.01	19.95	19.26	22.63	22.83	26.64	28.83
5720MHz Straddle 5.725-5.85GHz	Pass	4.74	13.44	12.71	16.10	30.00	20.84	36.00
5745MHz	Pass	4.74	23.79	24.39	27.11	30.00	31.85	36.00
5785MHz	Pass	4.74	23.91	24.36	27.15	30.00	31.89	36.00
5825MHz	Pass	4.74	24.06	23.98	27.03	30.00	31.77	36.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	3.41	21.19	21.54	24.38	30.00	27.79	36.00
5200MHz	Pass	3.41	25.87	25.82	28.86	30.00	32.27	36.00
5240MHz	Pass	3.41	24.97	23.54	27.32	30.00	30.73	36.00
5260MHz	Pass	3.41	21.30	20.36	23.87	23.98	27.28	30.00
5300MHz	Pass	3.41	21.20	20.30	23.78	23.98	27.19	30.00
5320MHz	Pass	3.41	21.11	20.37	23.77	23.98	27.18	30.00
5500MHz	Pass	4.01	20.55	19.23	22.95	23.98	26.96	30.00
5580MHz	Pass	4.01	21.62	20.15	23.96	23.98	27.97	30.00
5700MHz	Pass	4.01	19.85	18.74	22.34	23.98	26.35	30.00
5720MHz Straddle 5.47-5.725GHz	Pass	4.01	20.14	19.41	22.80	23.11	26.81	29.11
5720MHz Straddle 5.725-5.85GHz	Pass	4.74	14.38	14.25	17.33	30.00	22.07	36.00
5745MHz	Pass	4.74	23.79	24.44	27.14	30.00	31.88	36.00
5785MHz	Pass	4.74	23.94	24.32	27.14	30.00	31.88	36.00
5825MHz	Pass	4.74	24.05	23.91	26.99	30.00	31.73	36.00
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	3.41	20.90	20.67	23.80	30.00	27.21	36.00
5230MHz	Pass	3.41	24.36	22.79	26.66	30.00	30.07	36.00
5270MHz	Pass	3.41	21.14	20.04	23.64	23.98	27.05	30.00
5310MHz	Pass	3.41	20.24	19.58	22.93	23.98	26.34	30.00
5510MHz	Pass	4.01	19.70	18.42	22.12	23.98	26.13	30.00
5550MHz	Pass	4.01	21.44	20.26	23.90	23.98	27.91	30.00
5670MHz	Pass	4.01	20.11	18.64	22.45	23.98	26.46	30.00
5710MHz Straddle 5.47-5.725GHz	Pass	4.01	20.80	20.15	23.50	23.98	27.51	30.00
5710MHz Straddle 5.725-5.85GHz	Pass	4.74	10.26	10.34	13.31	30.00	18.05	36.00
5755MHz	Pass	4.74	22.31	22.72	25.53	30.00	30.27	36.00
5795MHz	Pass	4.74	24.29	24.69	27.50	30.00	32.24	36.00
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	3.41	20.03	19.16	22.63	30.00	26.04	36.00
5290MHz	Pass	3.41	20.03	19.54	22.80	23.98	26.21	30.00
5530MHz	Pass	4.01	18.88	17.87	21.41	23.98	25.42	30.00
5610MHz	Pass	4.01	21.32	19.77	23.62	23.98	27.63	30.00
5690MHz Straddle 5.47-5.725GHz	Pass	4.01	21.61	20.17	23.96	23.98	27.97	30.00
5690MHz Straddle 5.725-5.85GHz	Pass	4.74	6.99	5.97	9.52	30.00	14.26	36.00
5775MHz	Pass	4.74	18.50	19.18	21.86	30.00	26.60	36.00

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

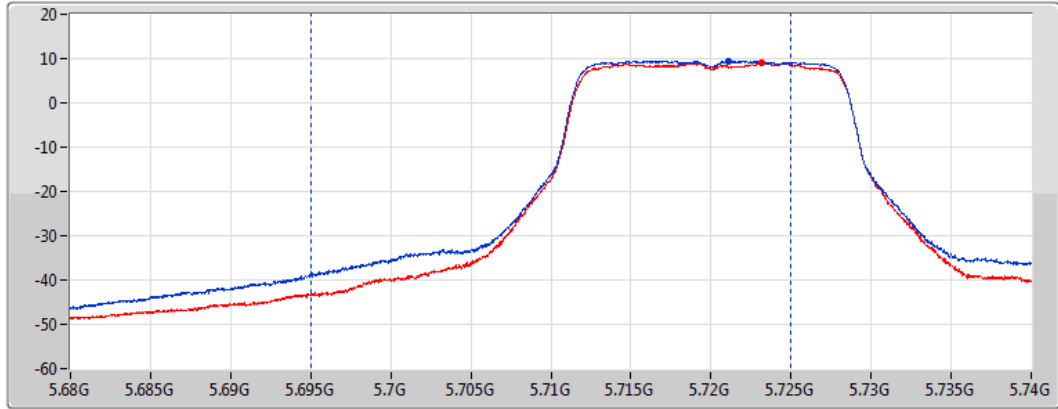
802.11a_Nss1,(6Mbps)_2TX

AV Power

5720MHz Straddle 5.47-5.725GHz_TnomVnom

09/03/2021

CF
5.71GHz
Span
60MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS
CP BW
30MHz



Port 1
Port 2

Sum= Total Power
PX=Port X

Sum(dBm)	P1(dBm)	P2(dBm)
22.63	19.95	19.26

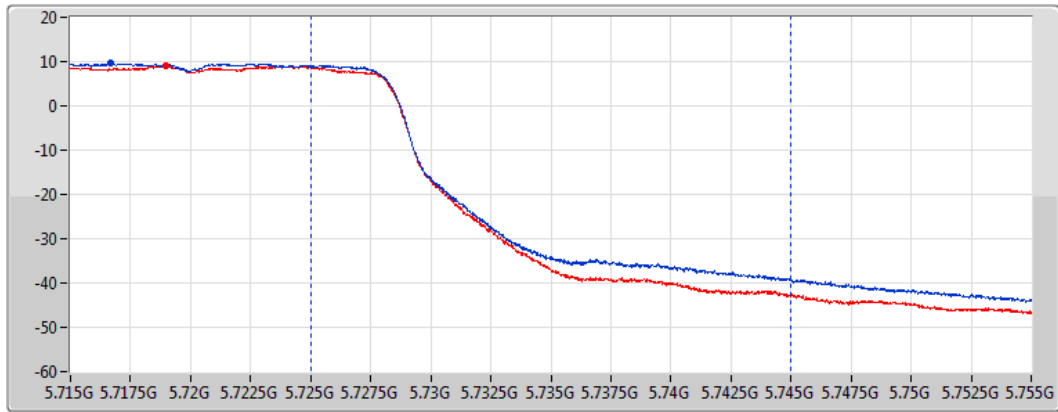
802.11a_Nss1,(6Mbps)_2TX

AV Power

5720MHz Straddle 5.725-5.85GHz_TnomVnom

09/03/2021

CF
5.735GHz
Span
40MHz
RBW
1MHz
VBW
3MHz
Sweep Time
20ms
Detector Type
RMS
CP BW
20MHz



Port 1
Port 2

Sum= Total Power
PX=Port X

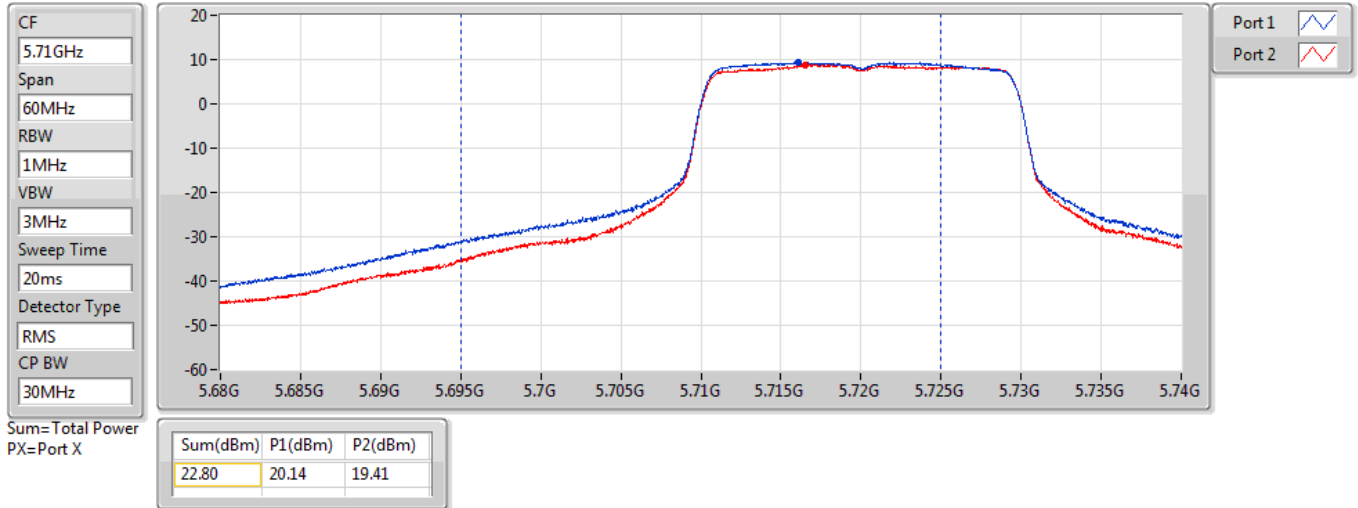
Sum(dBm)	P1(dBm)	P2(dBm)
16.10	13.44	12.71

802.11ax HEW20_Nss1,(MCS0)_2TX

AV Power

5720MHz Straddle 5.47-5.725GHz_TnomVnom

09/03/2021

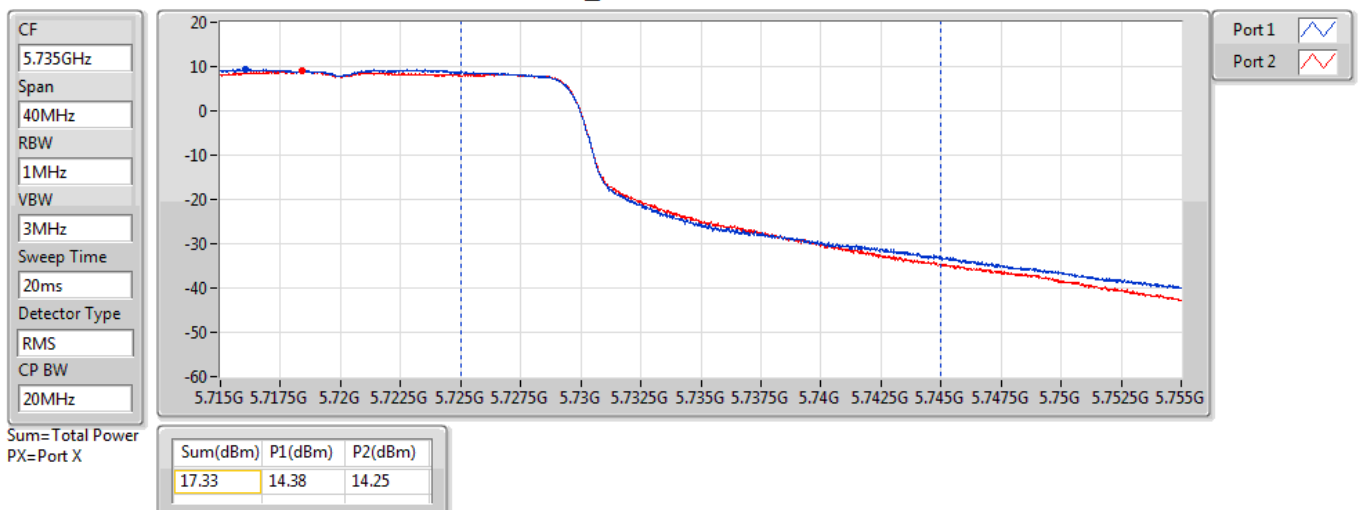


802.11ax HEW20_Nss1,(MCS0)_2TX

AV Power

5720MHz Straddle 5.725-5.85GHz_TnomVnom

09/03/2021

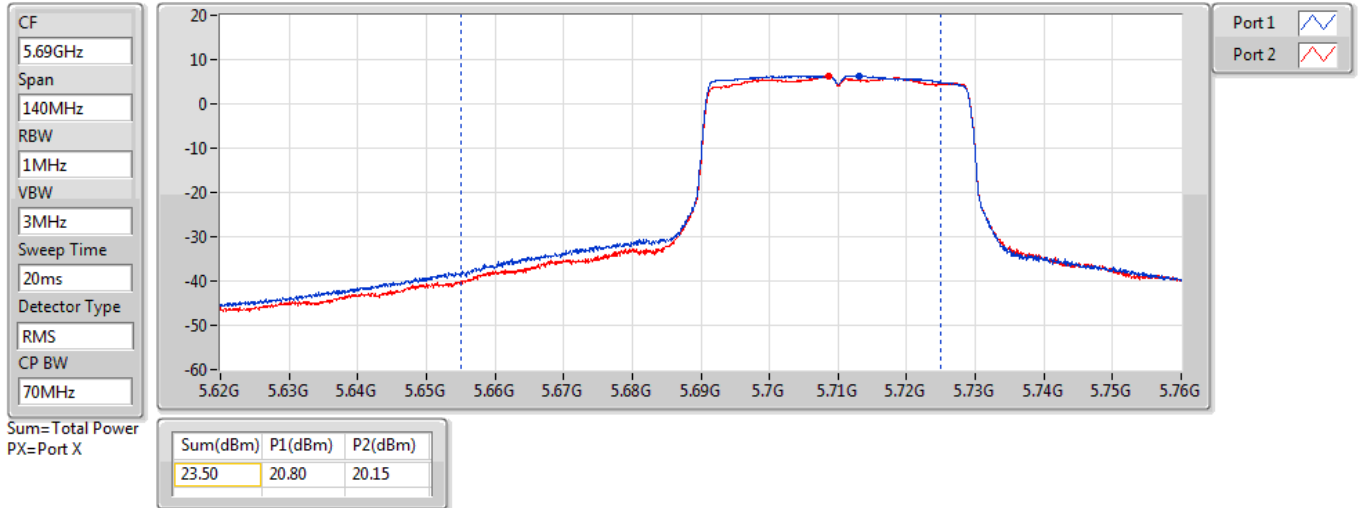


802.11ax HEW40_Nss1,(MCS0)_2TX

AV Power

5710MHz Straddle 5.47-5.725GHz_TnomVnom

09/03/2021

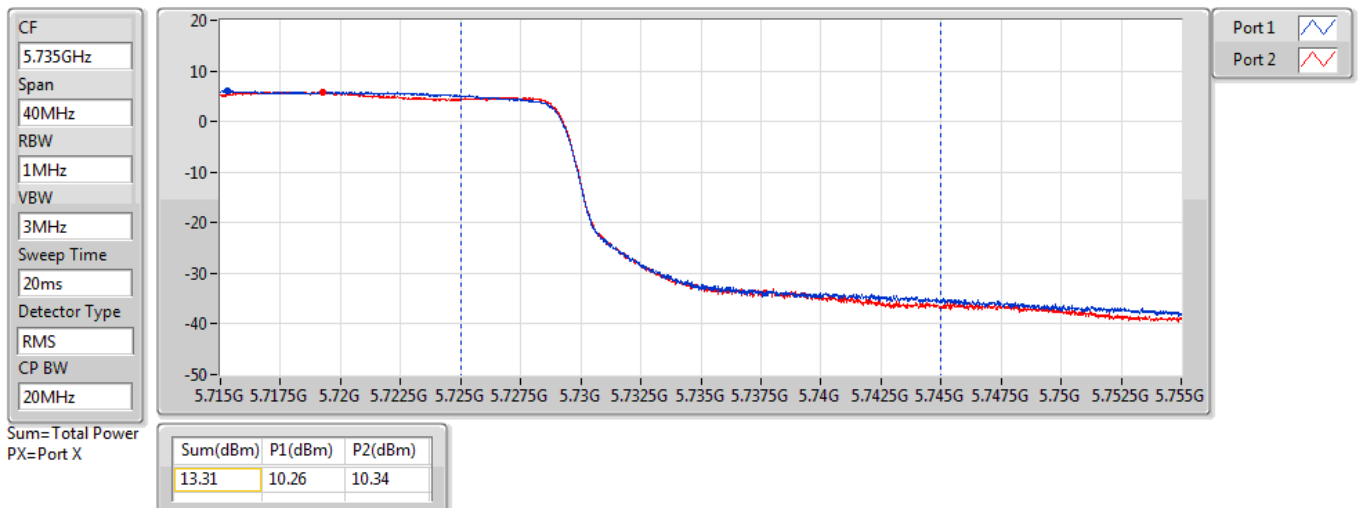


802.11ax HEW40_Nss1,(MCS0)_2TX

AV Power

5710MHz Straddle 5.725-5.85GHz_TnomVnom

09/03/2021

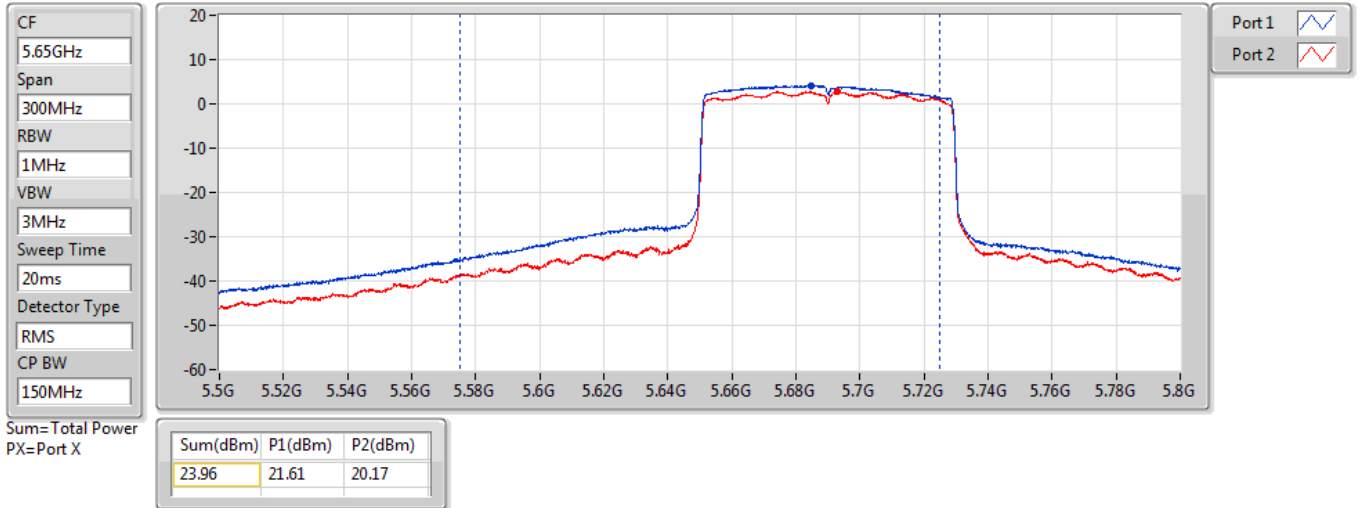


802.11ax HEW80_Nss1,(MCS0)_2TX

AV Power

5690MHz Straddle 5.47-5.725GHz_TnomVnom

09/03/2021

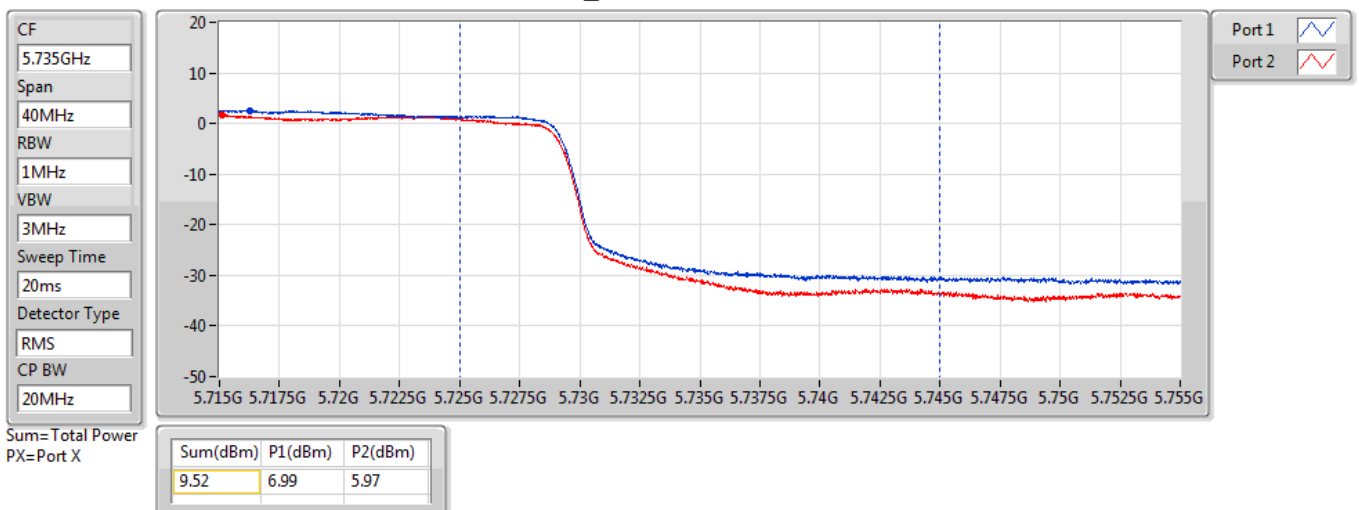


802.11ax HEW80_Nss1,(MCS0)_2TX

AV Power

5690MHz Straddle 5.725-5.85GHz_TnomVnom

09/03/2021



**Summary**

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	28.86	0.76913	34.19	2.62422
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	26.66	0.46345	31.99	1.58125
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	22.63	0.18323	27.96	0.62517
5.25-5.35GHz	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	23.87	0.24378	29.20	0.83176
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	23.64	0.23121	28.97	0.78886
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	22.80	0.19055	28.13	0.65013
5.47-5.725GHz	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	23.96	0.24889	29.56	0.90365
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	23.90	0.24547	29.50	0.89125
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	23.96	0.24889	29.56	0.90365
5.725-5.85GHz	-	-	-	-
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	27.14	0.51761	33.07	2.02768
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	27.50	0.56234	33.43	2.20293
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	21.86	0.15346	27.79	0.60117

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Port 2 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	5.33	21.19	21.54	24.38	30.00	29.71	36.00
5200MHz	Pass	5.33	25.87	25.82	28.86	30.00	34.19	36.00
5240MHz	Pass	5.33	24.97	23.54	27.32	30.00	32.65	36.00
5260MHz	Pass	5.33	21.3	20.36	23.87	23.98	29.20	30.00
5300MHz	Pass	5.33	21.2	20.3	23.78	23.98	29.11	30.00
5320MHz	Pass	5.33	21.11	20.37	23.77	23.98	29.10	30.00
5500MHz	Pass	5.60	20.55	19.23	22.95	23.98	28.55	30.00
5580MHz	Pass	5.60	21.62	20.15	23.96	23.98	29.56	30.00
5700MHz	Pass	5.60	19.85	18.74	22.34	23.98	27.94	30.00
5720MHz Straddle 5.47-5.725GHz	Pass	5.60	20.14	19.41	22.80	23.11	28.40	30.00
5720MHz Straddle 5.725-5.85GHz	Pass	5.93	14.38	14.25	17.33	30.00	23.26	36.00
5745MHz	Pass	5.93	23.79	24.44	27.14	30.00	33.07	36.00
5785MHz	Pass	5.93	23.94	24.32	27.14	30.00	33.07	36.00
5825MHz	Pass	5.93	24.05	23.91	26.99	30.00	32.92	36.00
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	5.33	20.9	20.67	23.80	30.00	29.13	36.00
5230MHz	Pass	5.33	24.36	22.79	26.66	30.00	31.99	36.00
5270MHz	Pass	5.33	21.14	20.04	23.64	23.98	28.97	30.00
5310MHz	Pass	5.33	20.24	19.58	22.93	23.98	28.26	30.00
5510MHz	Pass	5.60	19.7	18.42	22.12	23.98	27.72	30.00
5550MHz	Pass	5.60	21.44	20.26	23.90	23.98	29.50	30.00
5670MHz	Pass	5.60	20.11	18.64	22.45	23.98	28.05	30.00
5710MHz Straddle 5.47-5.725GHz	Pass	5.60	20.8	20.15	23.50	23.98	29.10	30.00
5710MHz Straddle 5.725-5.85GHz	Pass	5.93	10.26	10.34	13.31	30.00	19.24	36.00
5755MHz	Pass	5.93	22.31	22.72	25.53	30.00	31.46	36.00
5795MHz	Pass	5.93	24.29	24.69	27.50	30.00	33.43	36.00
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	5.33	20.03	19.16	22.63	30.00	27.96	36.00
5290MHz	Pass	5.33	20.03	19.54	22.80	23.98	28.13	30.00
5530MHz	Pass	5.60	18.88	17.87	21.41	23.98	27.01	30.00
5610MHz	Pass	5.60	21.32	19.77	23.62	23.98	29.22	30.00
5690MHz Straddle 5.47-5.725GHz	Pass	5.60	21.61	20.17	23.96	23.98	29.56	30.00
5690MHz Straddle 5.725-5.85GHz	Pass	5.93	6.99	5.97	9.52	30.00	15.45	36.00
5775MHz	Pass	5.93	18.5	19.18	21.86	30.00	27.79	36.00

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

Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	15.50	20.83
802.11ax HEW20_Nss1,(MCS0)_2TX	15.22	20.55
802.11ax HEW40_Nss1,(MCS0)_2TX	10.67	16.00
802.11ax HEW80_Nss1,(MCS0)_2TX	3.67	9.00
5.25-5.35GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	10.90	16.23
802.11ax HEW20_Nss1,(MCS0)_2TX	10.92	16.25
802.11ax HEW40_Nss1,(MCS0)_2TX	7.62	12.95
802.11ax HEW80_Nss1,(MCS0)_2TX	3.88	9.21
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	10.91	16.51
802.11ax HEW20_Nss1,(MCS0)_2TX	10.80	16.40
802.11ax HEW40_Nss1,(MCS0)_2TX	7.92	13.52
802.11ax HEW80_Nss1,(MCS0)_2TX	4.91	10.51
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_2TX	12.82	18.75
802.11ax HEW20_Nss1,(MCS0)_2TX	12.05	17.98
802.11ax HEW40_Nss1,(MCS0)_2TX	9.77	15.70
802.11ax HEW80_Nss1,(MCS0)_2TX	1.55	7.48

RBW = 500kHz 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)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	5.33	9.20	9.03	12.03	17.00	17.36	23.00
5200MHz	Pass	5.33	12.75	12.26	15.50	17.00	20.83	23.00
5240MHz	Pass	5.33	12.18	10.99	14.47	17.00	19.80	23.00
5260MHz	Pass	5.33	8.40	7.52	10.90	11.00	16.23	17.00
5300MHz	Pass	5.33	8.14	7.48	10.70	11.00	16.03	17.00
5320MHz	Pass	5.33	8.00	7.56	10.75	11.00	16.08	17.00
5500MHz	Pass	5.60	8.41	7.37	10.84	11.00	16.44	17.00
5580MHz	Pass	5.60	8.65	7.32	10.91	11.00	16.51	17.00
5700MHz	Pass	5.60	7.92	6.90	10.30	11.00	15.90	17.00
5720MHz Straddle 5.47-5.725GHz	Pass	5.60	8.00	7.62	10.77	11.00	16.37	17.00
5720MHz Straddle 5.725-5.85GHz	Pass	5.93	5.98	5.63	8.76	30.00	14.69	36.00
5745MHz	Pass	5.93	9.57	10.25	12.82	30.00	18.75	36.00
5785MHz	Pass	5.93	9.67	10.24	12.82	30.00	18.75	36.00
5825MHz	Pass	5.93	9.69	9.73	12.65	30.00	18.58	36.00
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5180MHz	Pass	5.33	8.49	8.47	11.49	17.00	16.82	23.00
5200MHz	Pass	5.33	12.29	12.53	15.22	17.00	20.55	23.00
5240MHz	Pass	5.33	11.74	10.60	14.10	17.00	19.43	23.00
5260MHz	Pass	5.33	8.38	7.50	10.92	11.00	16.25	17.00
5300MHz	Pass	5.33	8.01	7.26	10.60	11.00	15.93	17.00
5320MHz	Pass	5.33	7.93	7.59	10.71	11.00	16.04	17.00
5500MHz	Pass	5.60	7.38	6.22	9.80	11.00	15.40	17.00
5580MHz	Pass	5.60	8.51	7.22	10.80	11.00	16.40	17.00
5700MHz	Pass	5.60	6.76	5.85	9.19	11.00	14.79	17.00
5720MHz Straddle 5.47-5.725GHz	Pass	5.60	7.95	7.56	10.63	11.00	16.23	17.00
5720MHz Straddle 5.725-5.85GHz	Pass	5.93	5.67	5.27	8.37	30.00	14.30	36.00
5745MHz	Pass	5.93	8.71	9.48	12.05	30.00	17.98	36.00
5785MHz	Pass	5.93	8.96	9.35	12.03	30.00	17.96	36.00
5825MHz	Pass	5.93	8.94	8.95	11.84	30.00	17.77	36.00
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5190MHz	Pass	5.33	4.77	4.75	7.73	17.00	13.06	23.00
5230MHz	Pass	5.33	8.24	7.02	10.67	17.00	16.00	23.00
5270MHz	Pass	5.33	5.11	4.18	7.62	11.00	12.95	17.00
5310MHz	Pass	5.33	4.08	3.85	6.95	11.00	12.28	17.00
5510MHz	Pass	5.60	3.75	2.73	6.18	11.00	11.78	17.00
5550MHz	Pass	5.60	5.48	4.36	7.92	11.00	13.52	17.00
5670MHz	Pass	5.60	4.19	2.79	6.41	11.00	12.01	17.00
5710MHz Straddle 5.47-5.725GHz	Pass	5.60	4.82	4.44	7.53	11.00	13.13	17.00
5710MHz Straddle 5.725-5.85GHz	Pass	5.93	1.89	1.65	4.65	30.00	10.58	36.00
5755MHz	Pass	5.93	4.79	5.35	7.98	30.00	13.91	36.00
5795MHz	Pass	5.93	6.62	7.16	9.77	30.00	15.70	36.00
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-
5210MHz	Pass	5.33	1.02	0.45	3.67	17.00	9.00	23.00
5290MHz	Pass	5.33	1.06	0.84	3.88	11.00	9.21	17.00
5530MHz	Pass	5.60	0.07	-0.71	2.67	11.00	8.27	17.00
5610MHz	Pass	5.60	2.49	1.20	4.85	11.00	10.45	17.00
5690MHz Straddle 5.47-5.725GHz	Pass	5.60	2.59	1.38	4.91	11.00	10.51	17.00
5690MHz Straddle 5.725-5.85GHz	Pass	5.93	-1.52	-2.09	1.04	30.00	6.97	36.00
5775MHz	Pass	5.93	-1.85	-0.87	1.55	30.00	7.48	36.00

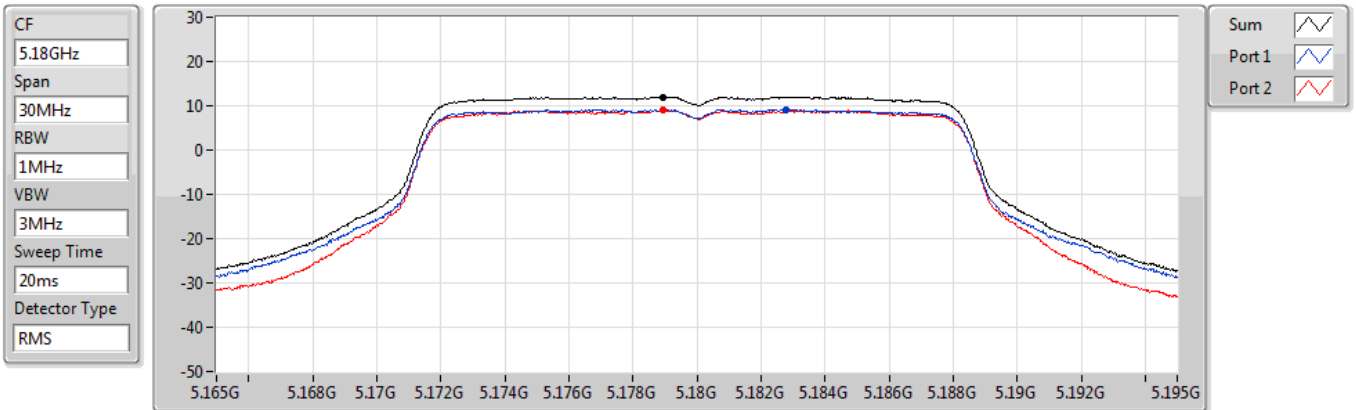
DG = Directional Gain; RBW = 500kHz for 5.725-5.85GHz band / 1MHz for other band;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

802.11a_Nss1,(6Mbps)_2TX

PSD

5180MHz

09/03/2021



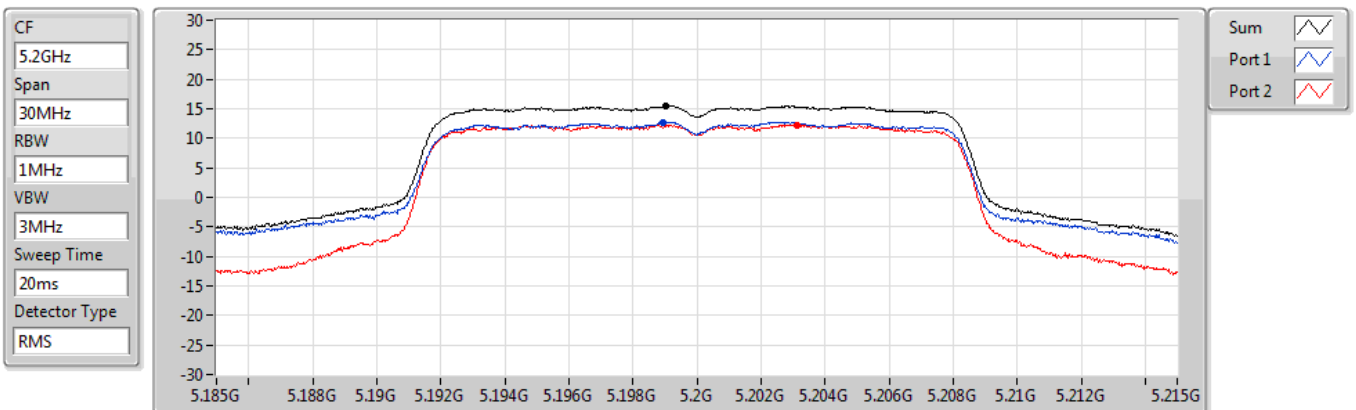
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
12.03	12.03	9.20	9.03

802.11a_Nss1,(6Mbps)_2TX

PSD

5200MHz

09/03/2021



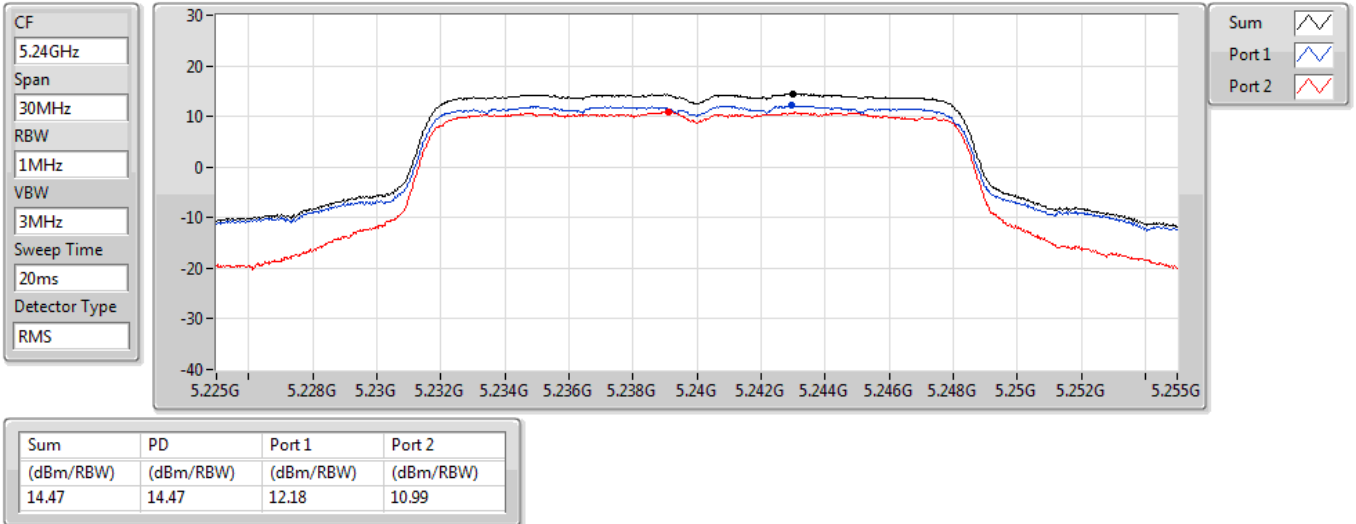
Sum	PD	Port 1	Port 2
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
15.50	15.50	12.75	12.26

802.11a_Nss1,(6Mbps)_2TX

PSD

5240MHz

09/03/2021

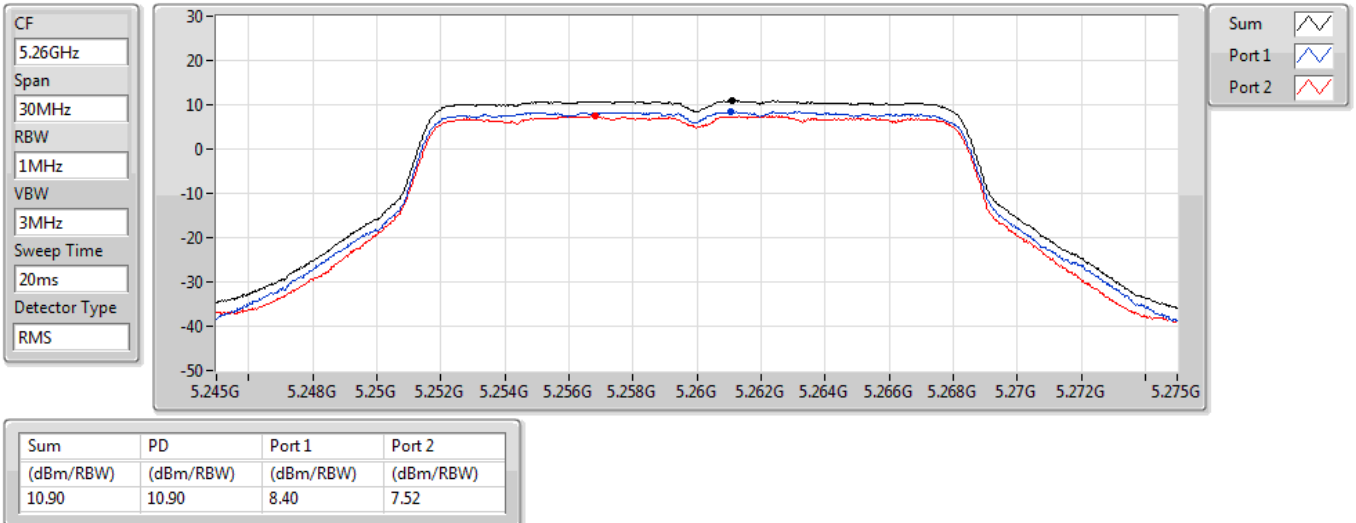


802.11a_Nss1,(6Mbps)_2TX

PSD

5260MHz

09/03/2021

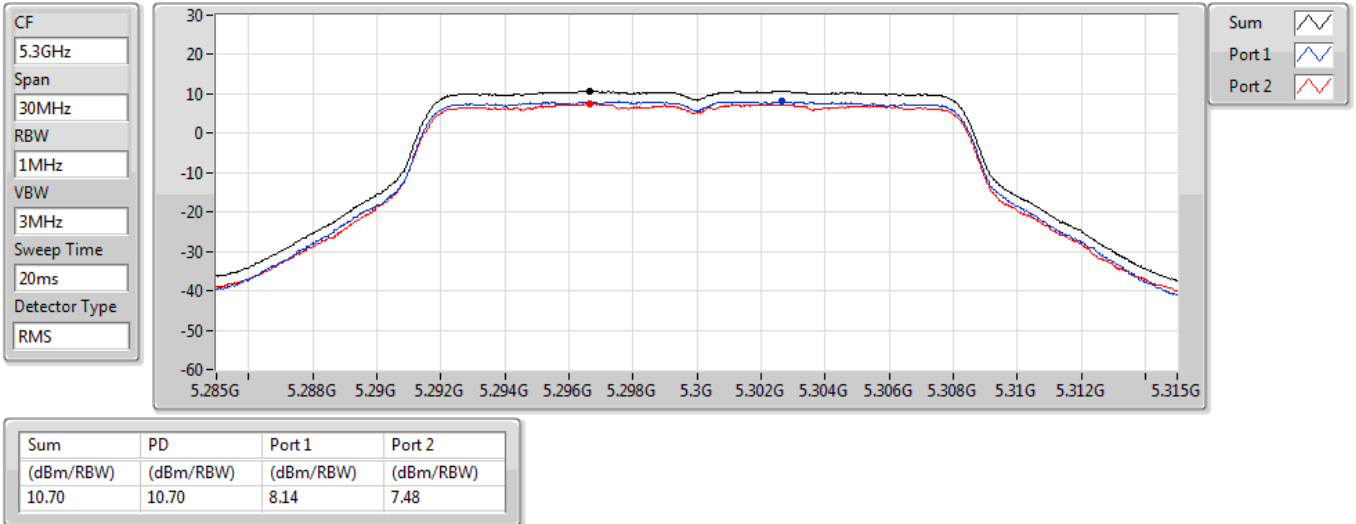


802.11a_Nss1,(6Mbps)_2TX

PSD

5300MHz

09/03/2021

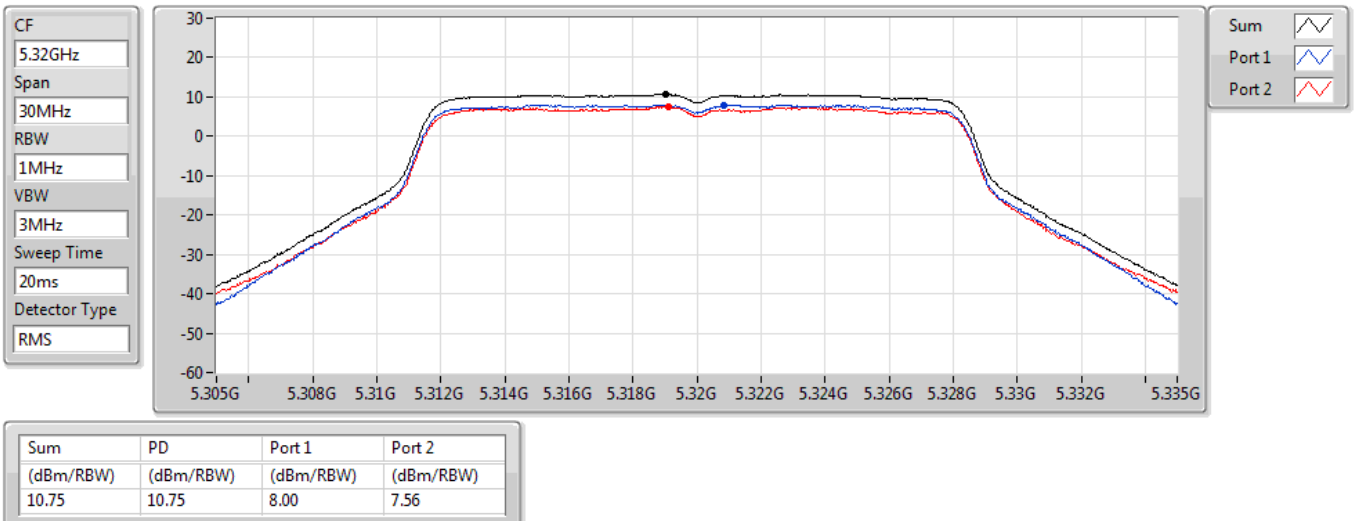


802.11a_Nss1,(6Mbps)_2TX

PSD

5320MHz

09/03/2021

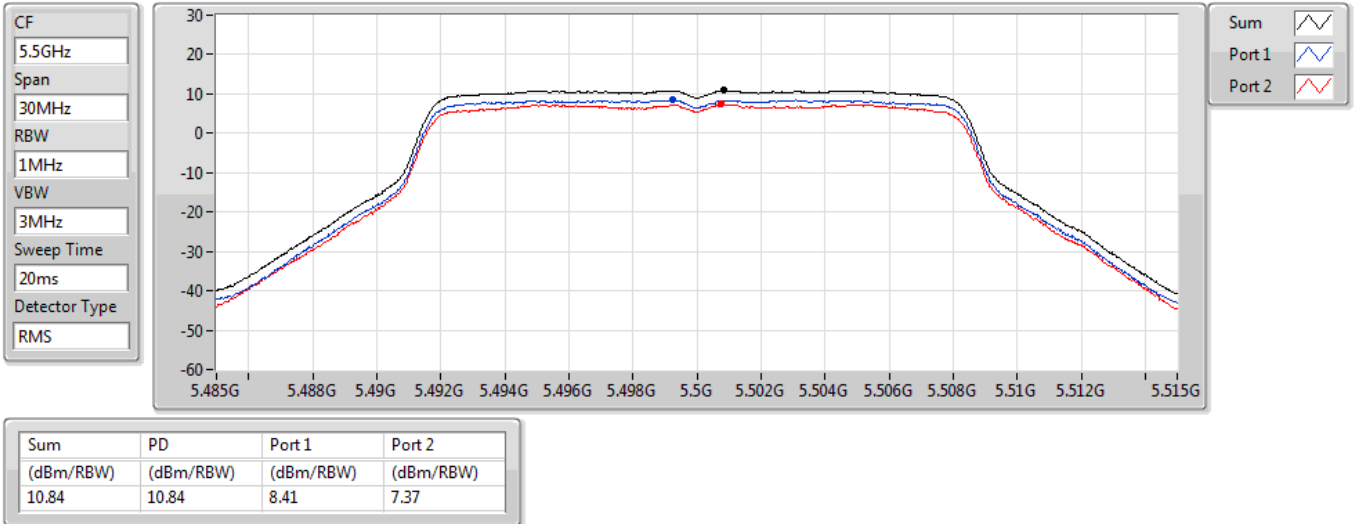


802.11a_Nss1,(6Mbps)_2TX

PSD

5500MHz

09/03/2021

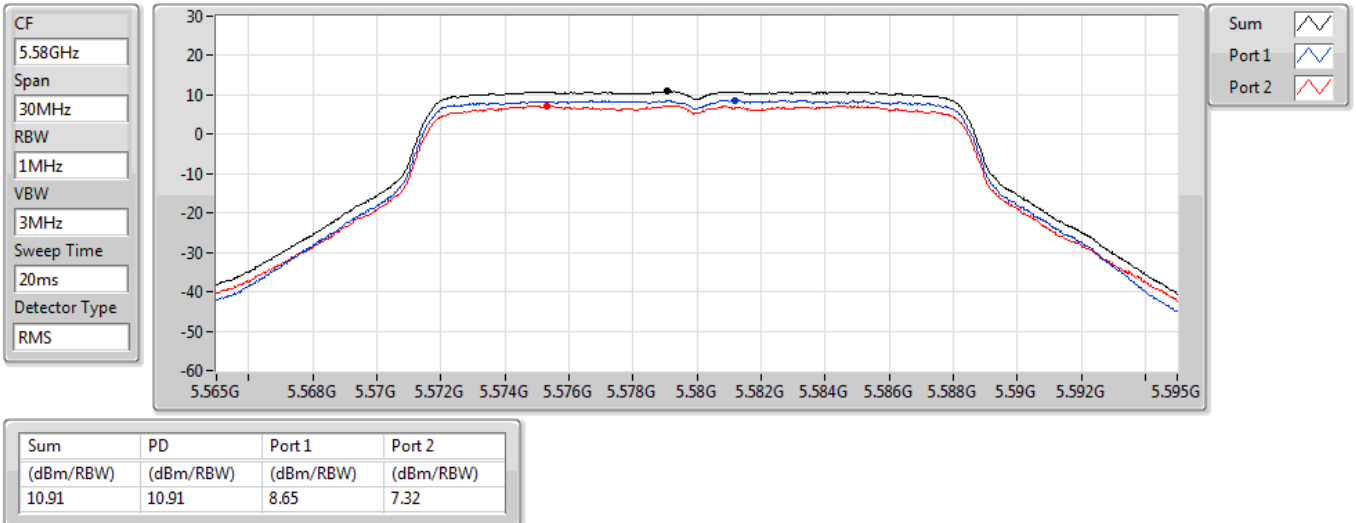


802.11a_Nss1,(6Mbps)_2TX

PSD

5580MHz

09/03/2021

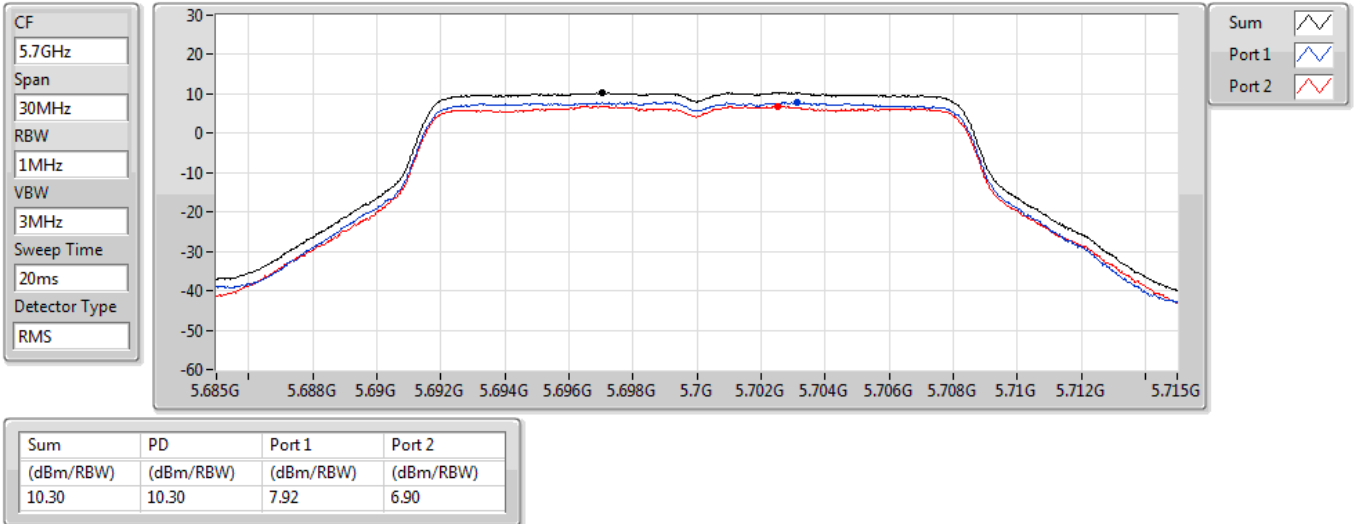


802.11a_Nss1,(6Mbps)_2TX

PSD

5700MHz

09/03/2021

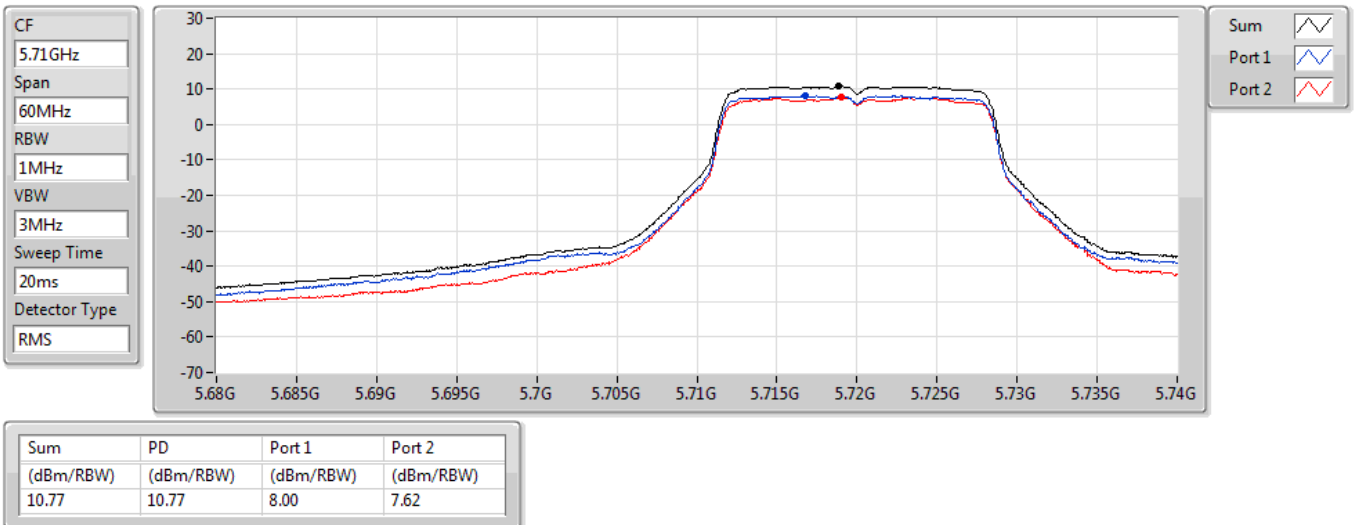


802.11a_Nss1,(6Mbps)_2TX

PSD

5720MHz Straddle 5.47-5.725GHz

09/03/2021

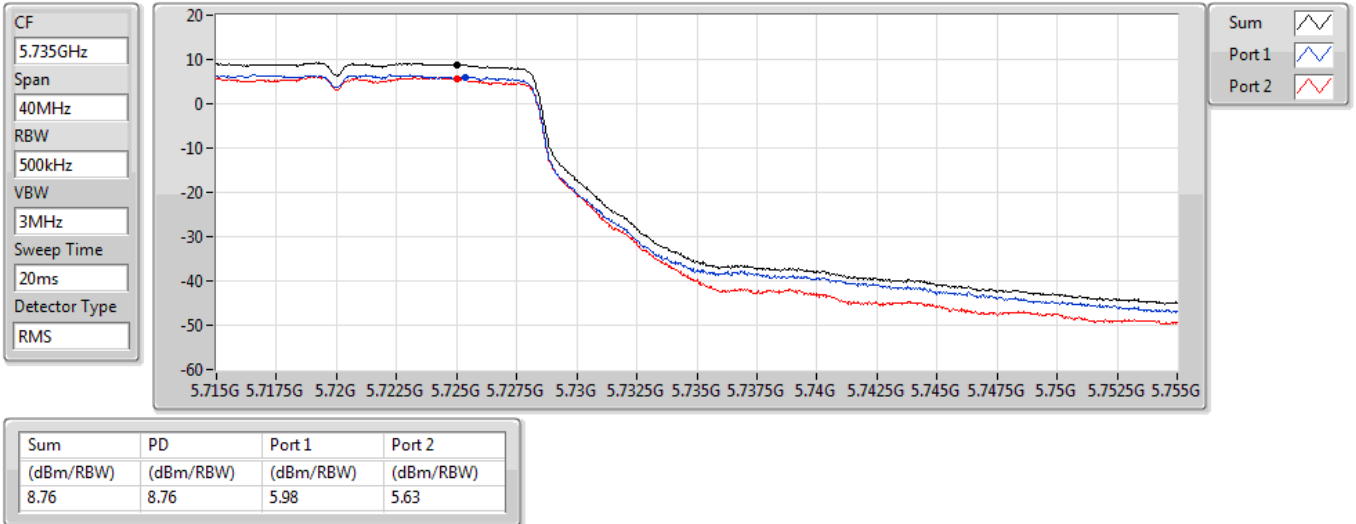


802.11a_Nss1,(6Mbps)_2TX

5720MHz Straddle 5.725-5.85GHz

PSD

09/03/2021

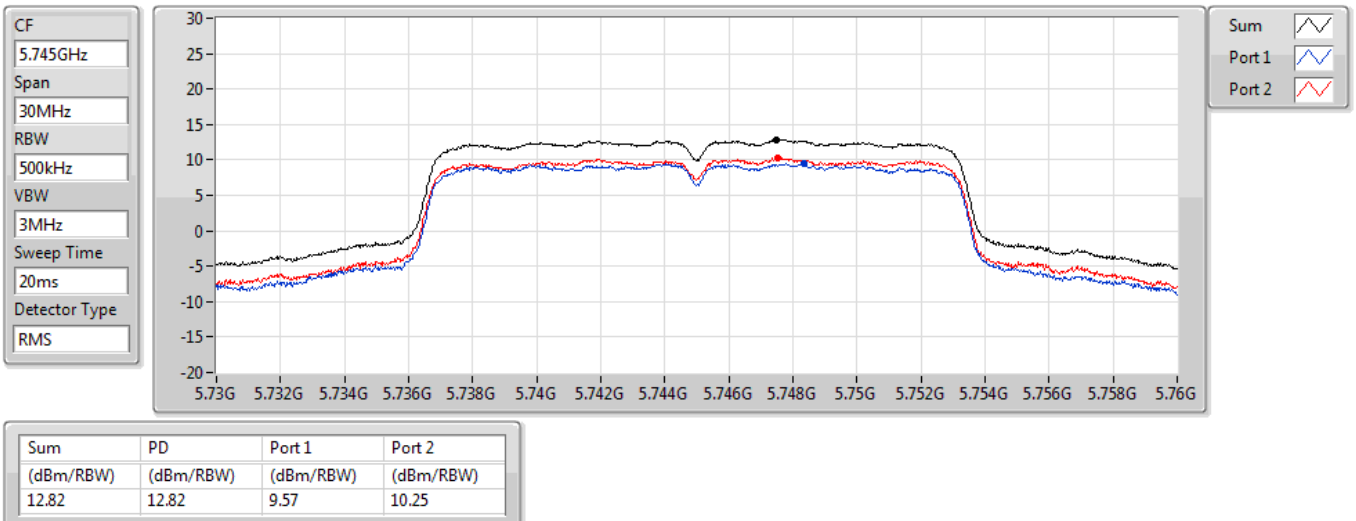


802.11a_Nss1,(6Mbps)_2TX

5745MHz

PSD

09/03/2021

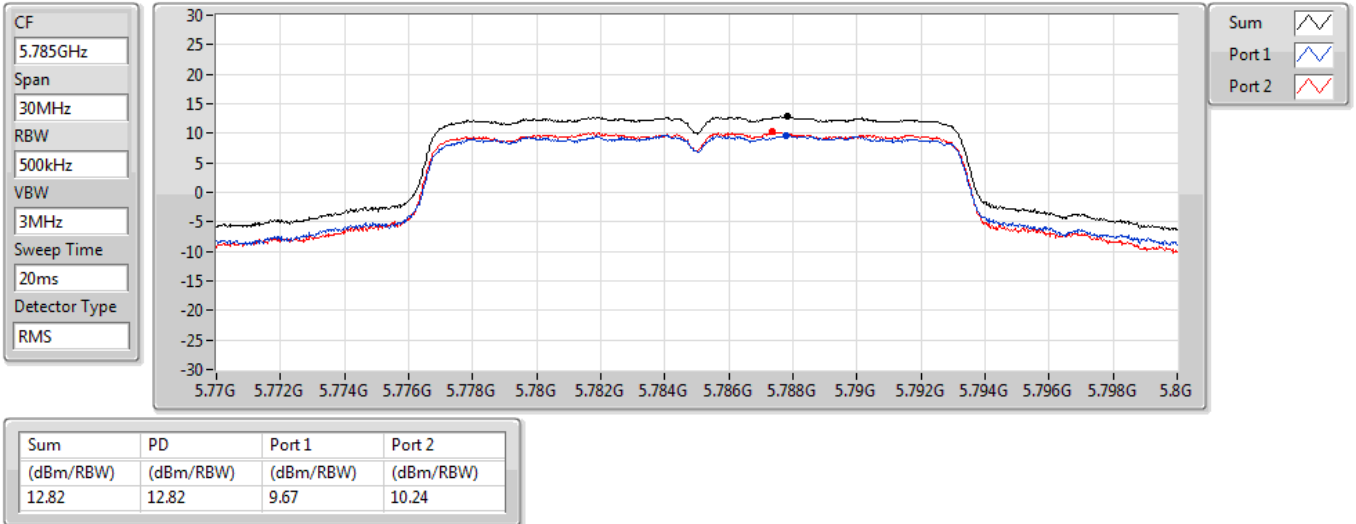


802.11a_Nss1,(6Mbps)_2TX

PSD

5785MHz

09/03/2021

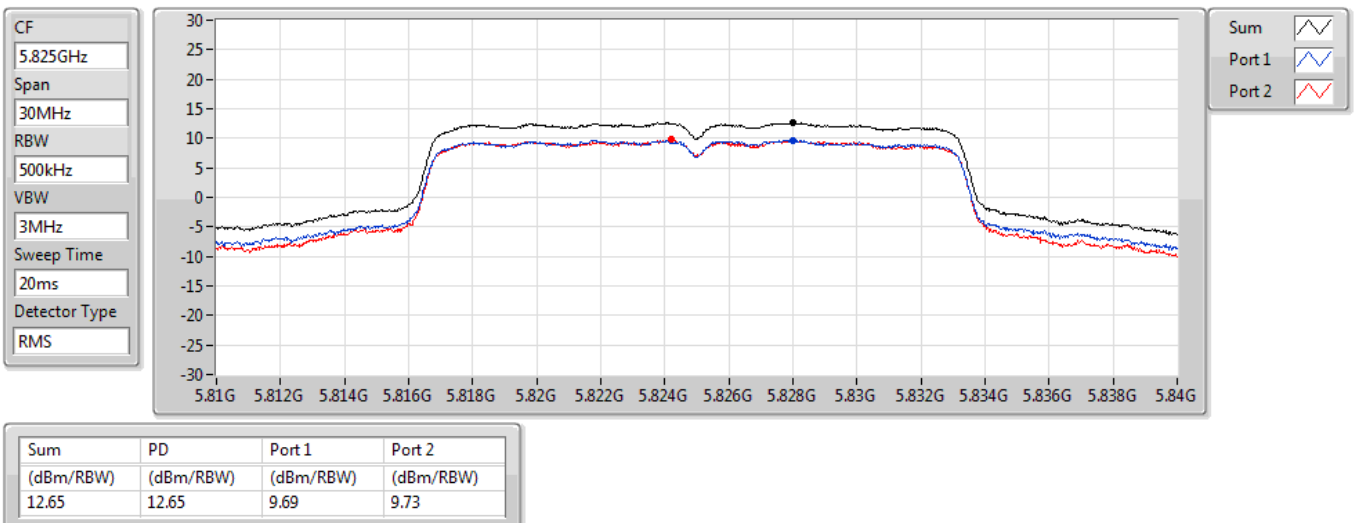


802.11a_Nss1,(6Mbps)_2TX

PSD

5825MHz

09/03/2021

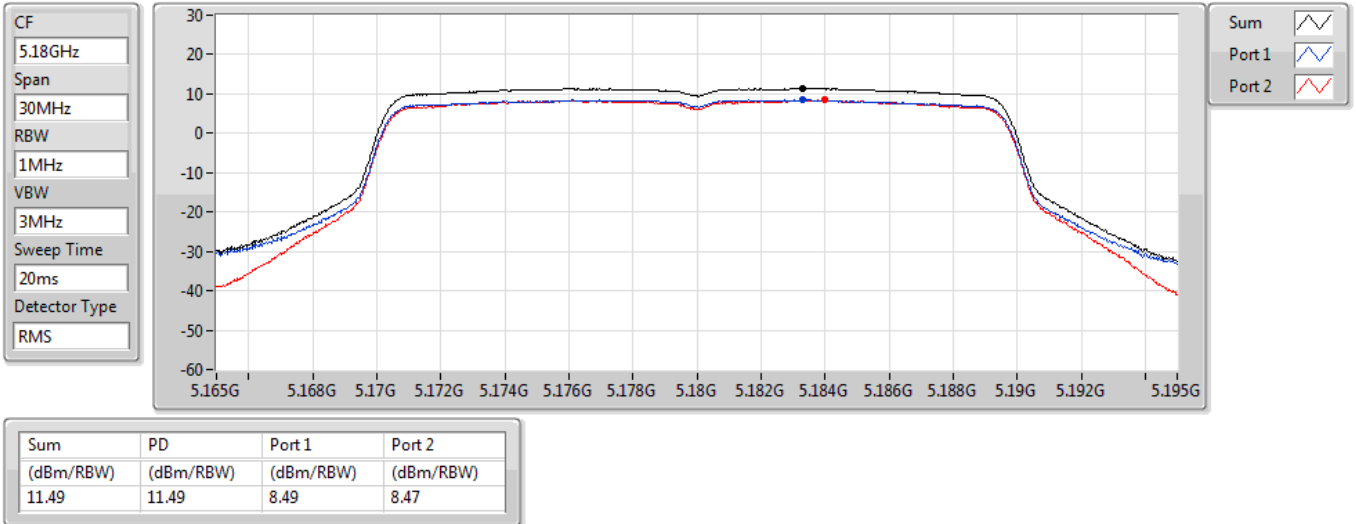


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5180MHz

09/03/2021

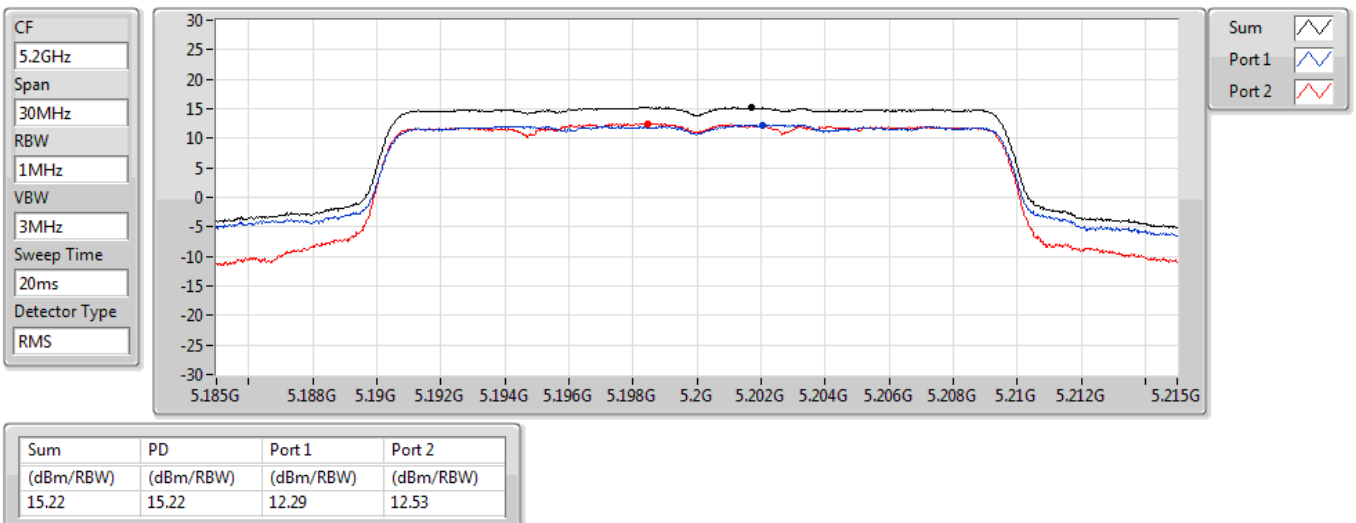


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5200MHz

09/03/2021

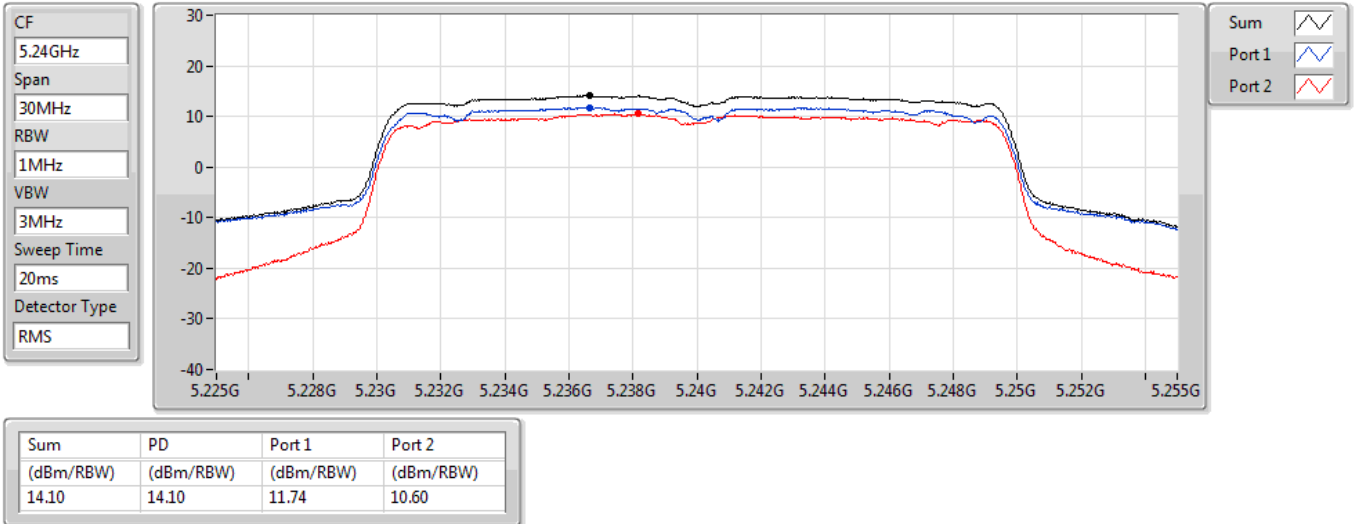


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5240MHz

09/03/2021

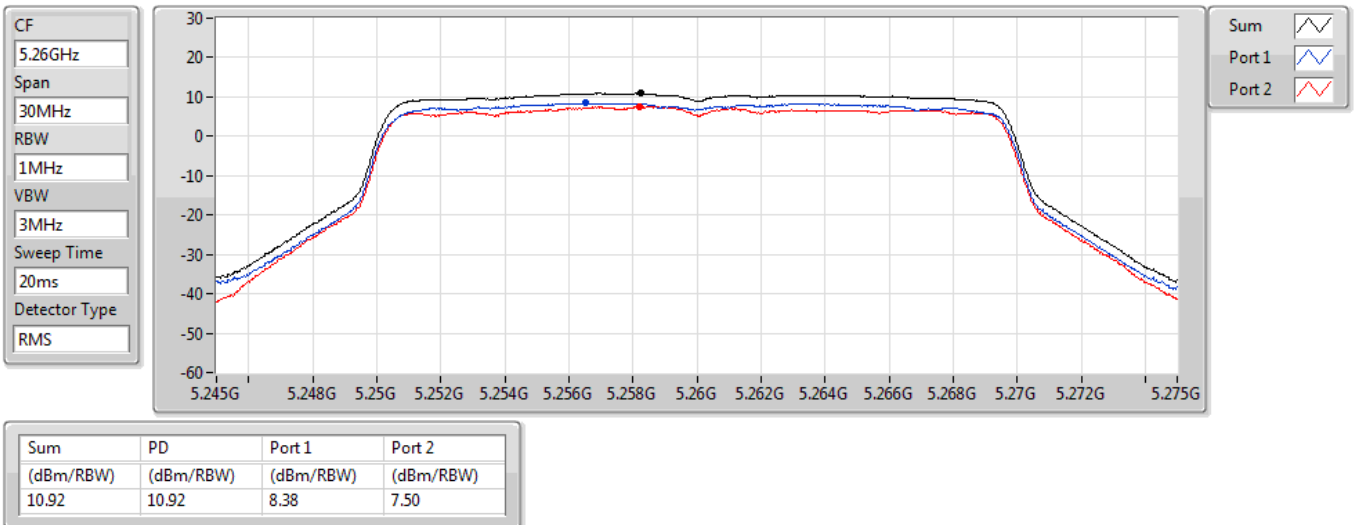


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5260MHz

09/03/2021

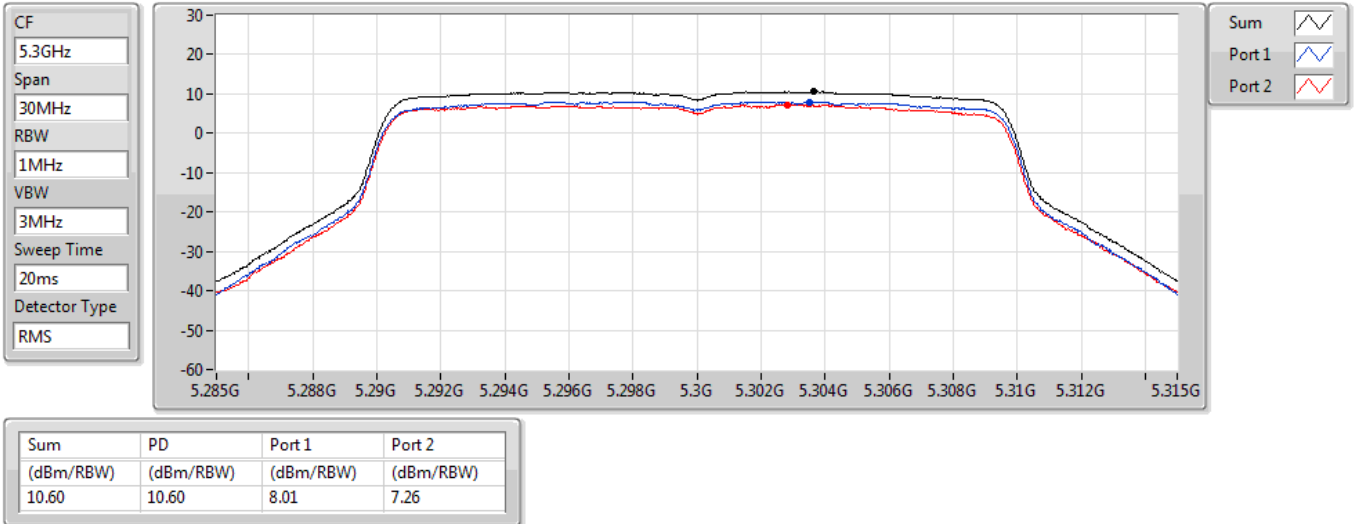


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5300MHz

09/03/2021

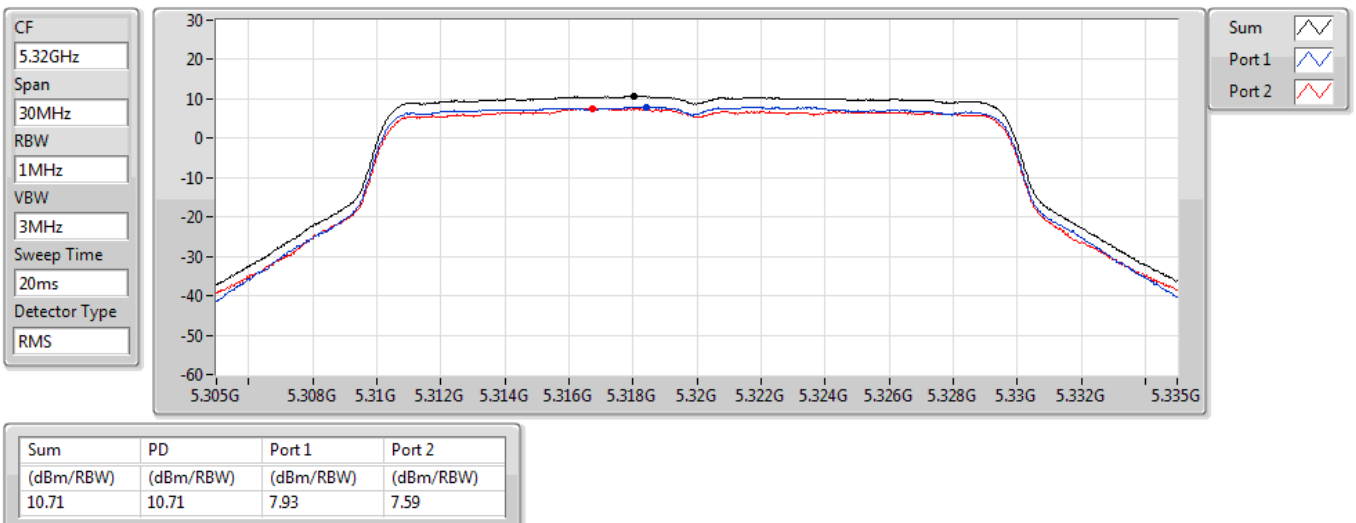


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5320MHz

09/03/2021

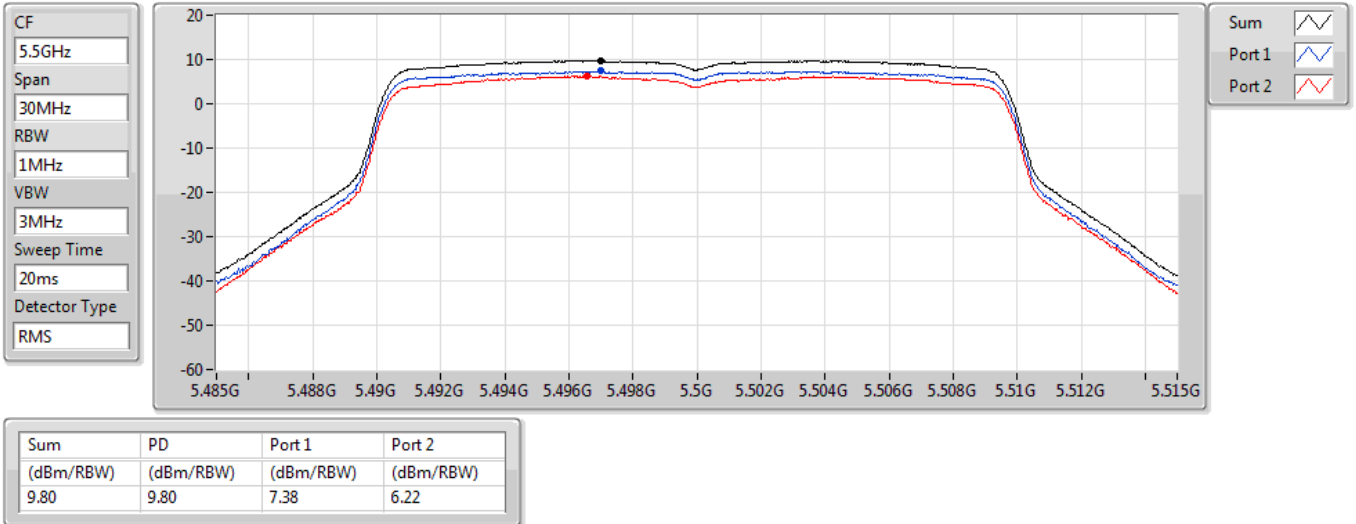


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5500MHz

09/03/2021

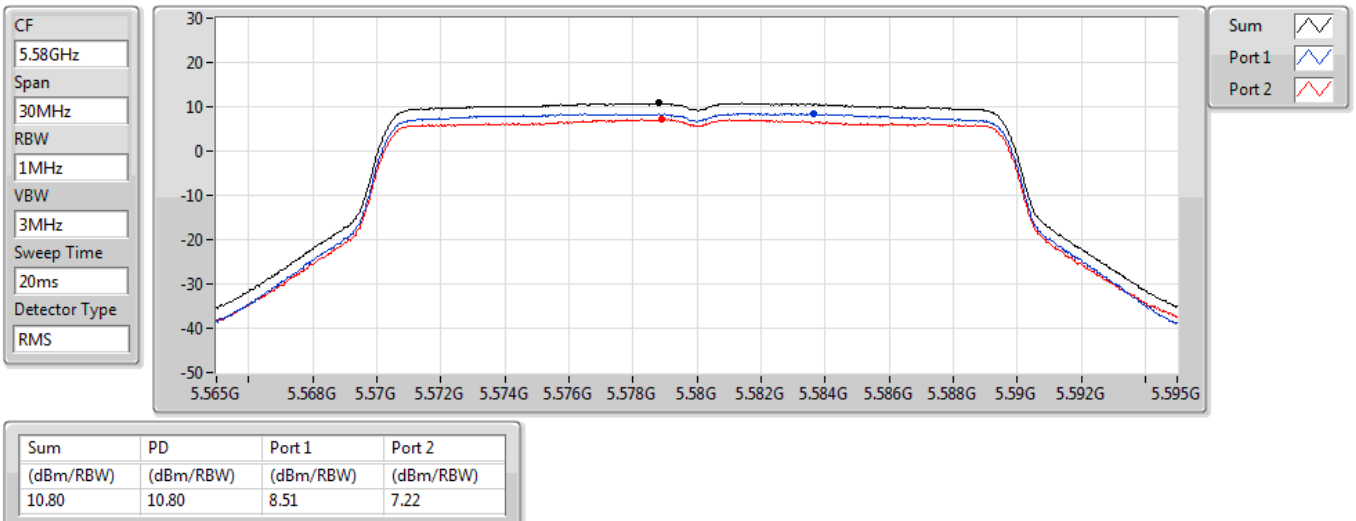


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5580MHz

09/03/2021

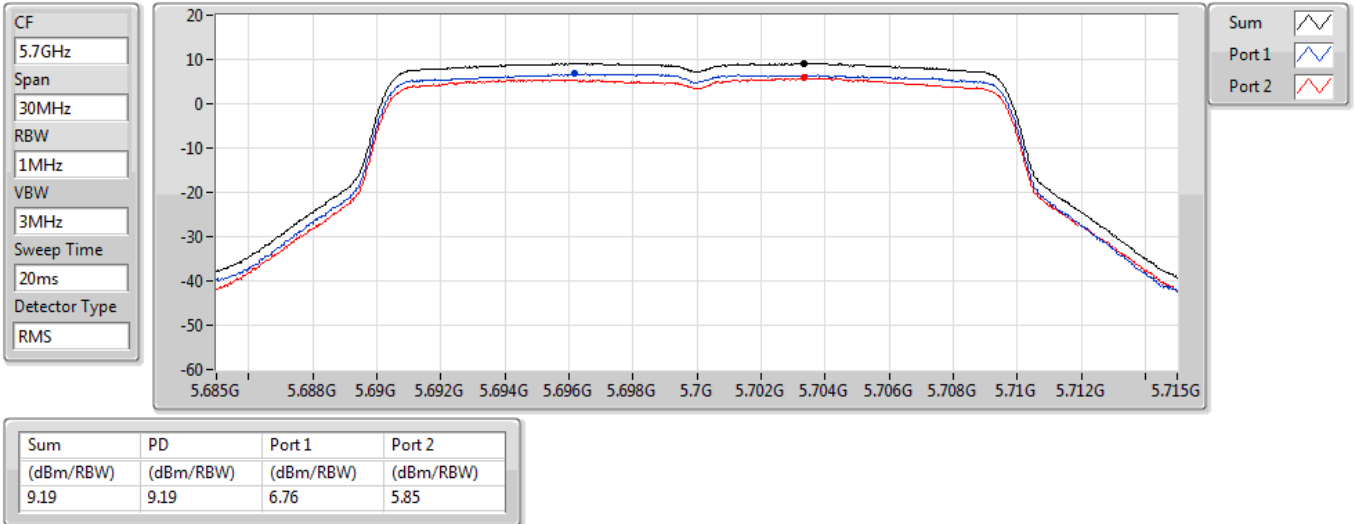


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5700MHz

09/03/2021

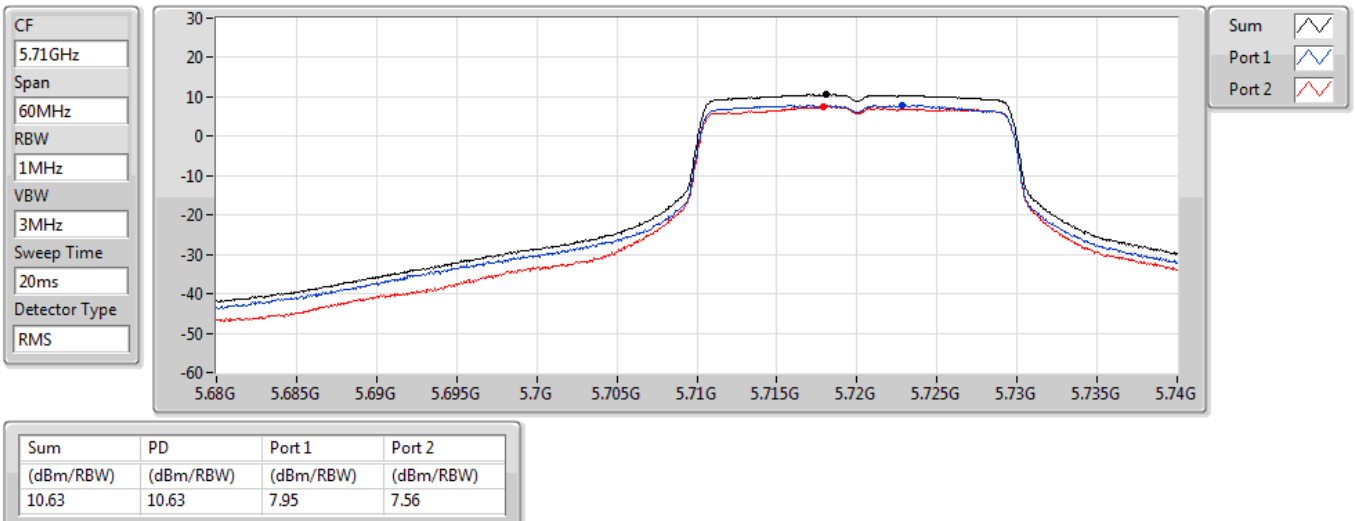


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5720MHz Straddle 5.47-5.725GHz

09/03/2021

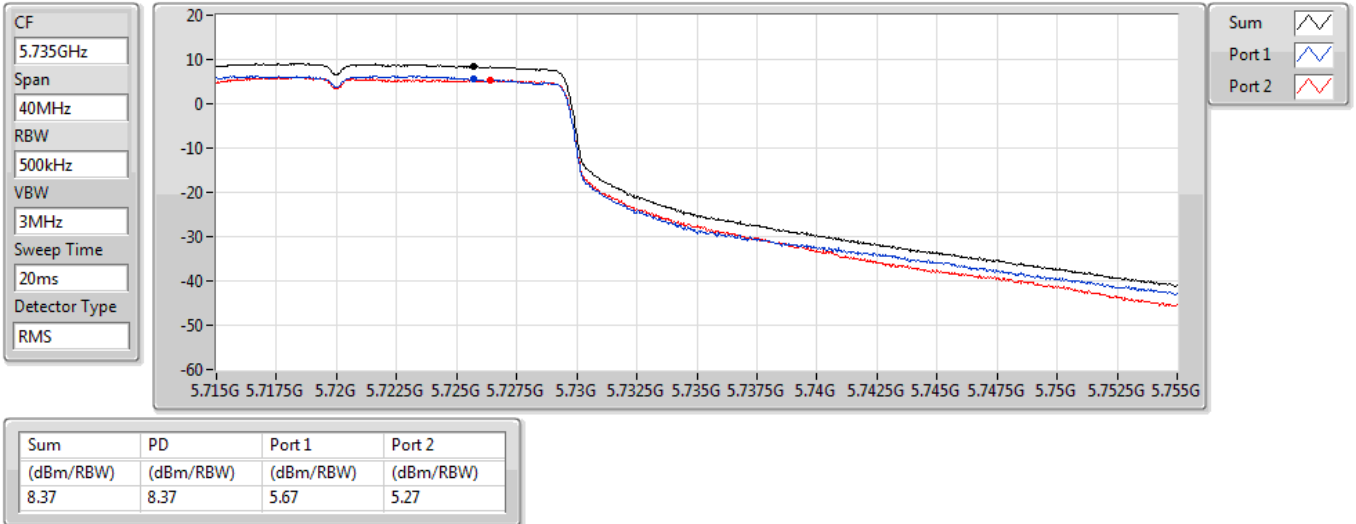


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5720MHz Straddle 5.725-5.85GHz

09/03/2021

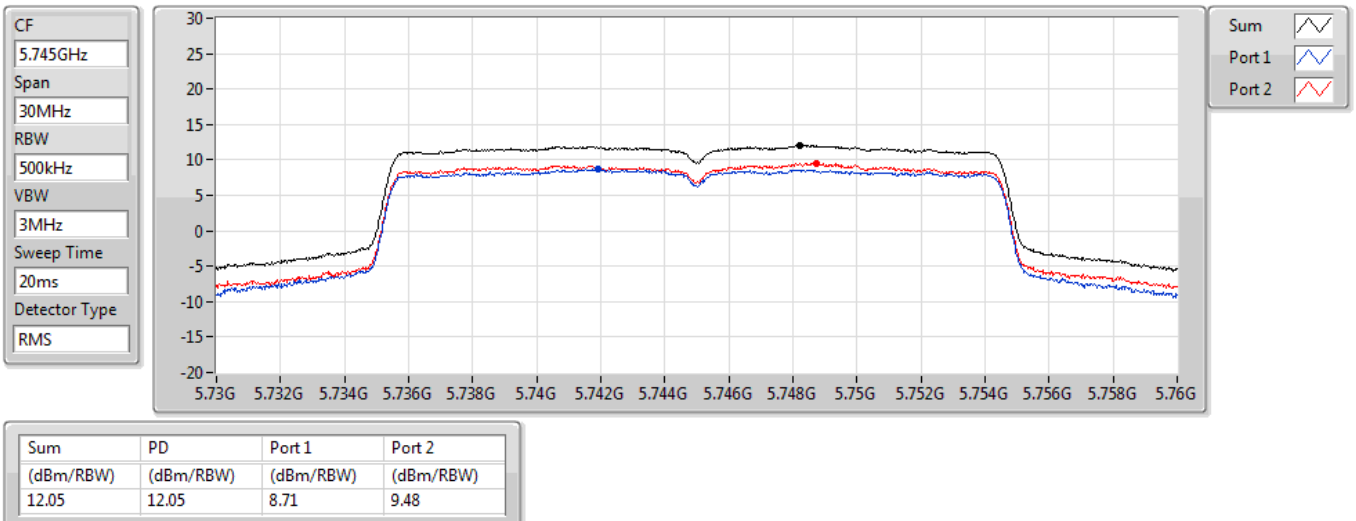


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5745MHz

09/03/2021

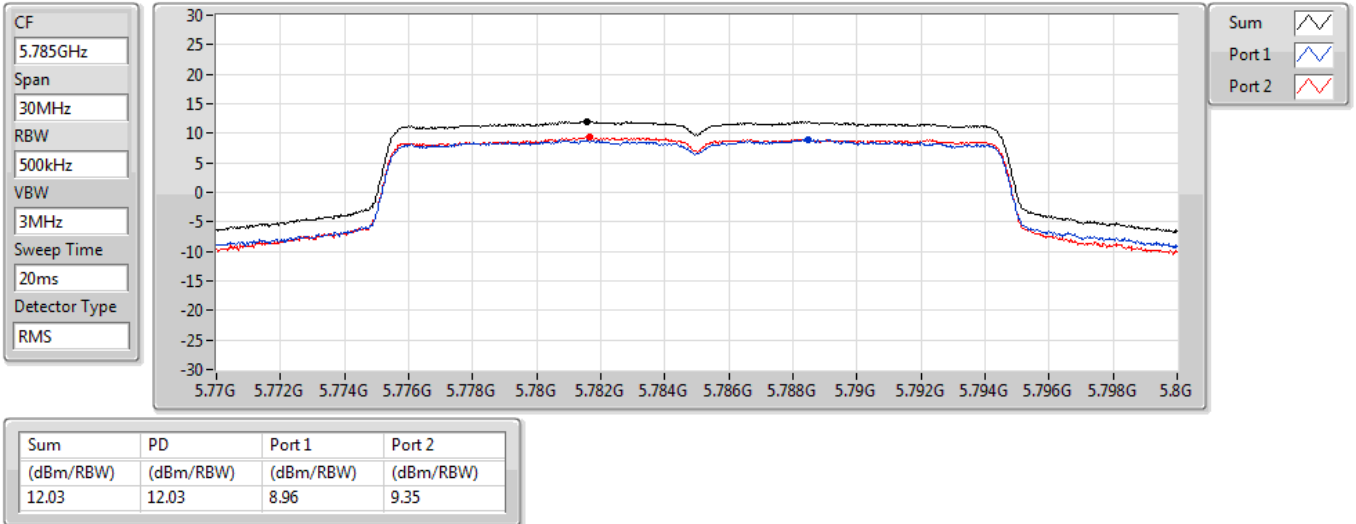


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5785MHz

09/03/2021

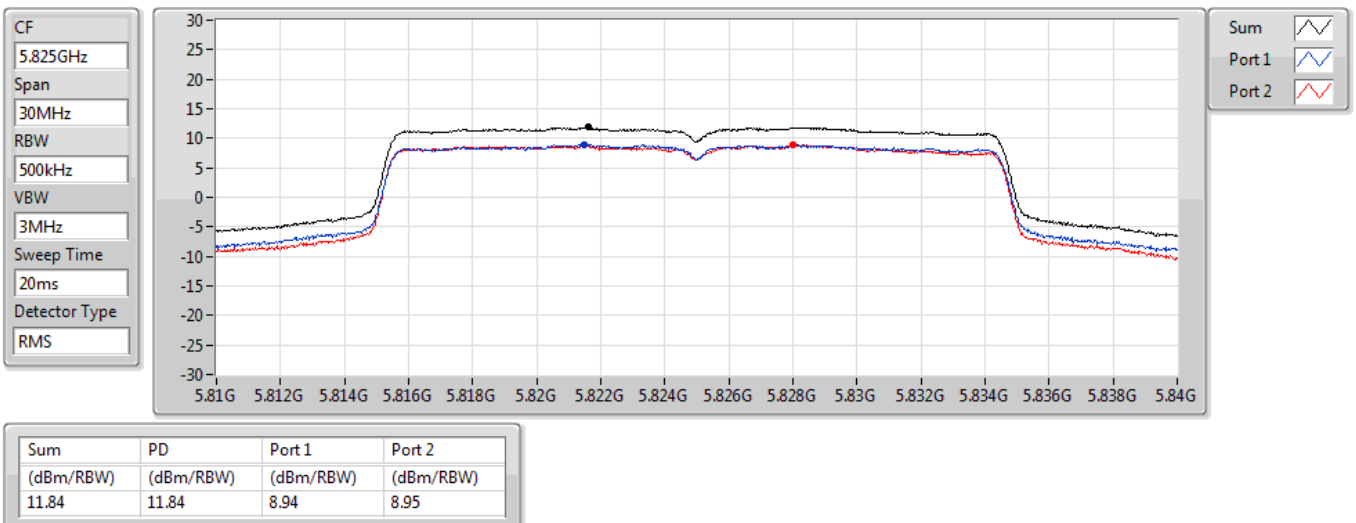


802.11ax HEW20_Nss1,(MCS0)_2TX

PSD

5825MHz

09/03/2021

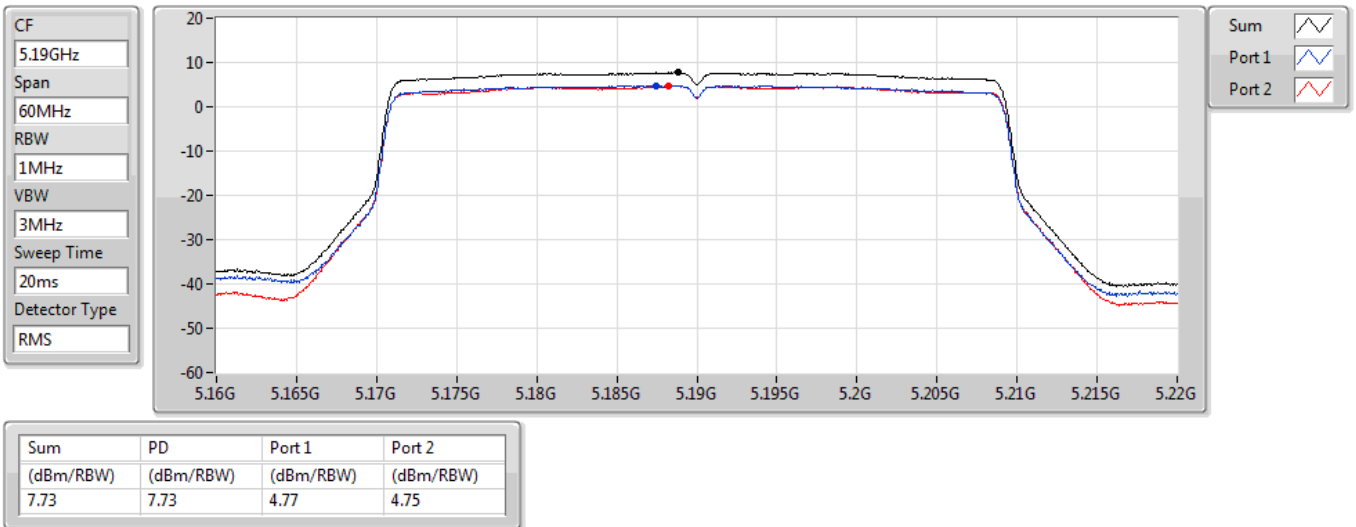


802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5190MHz

09/03/2021

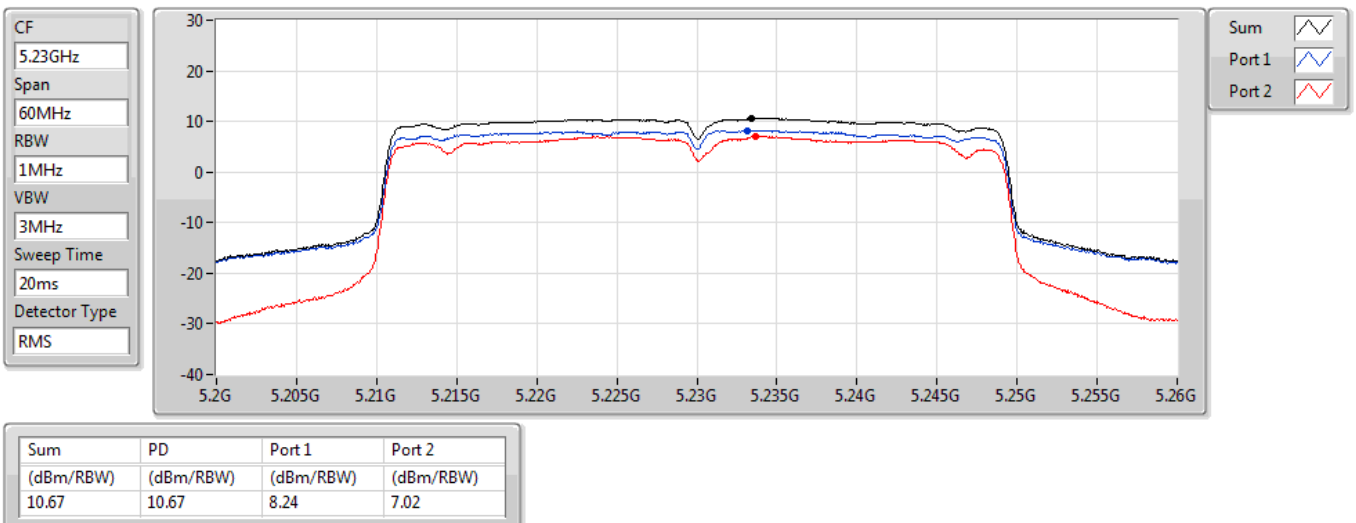


802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5230MHz

09/03/2021

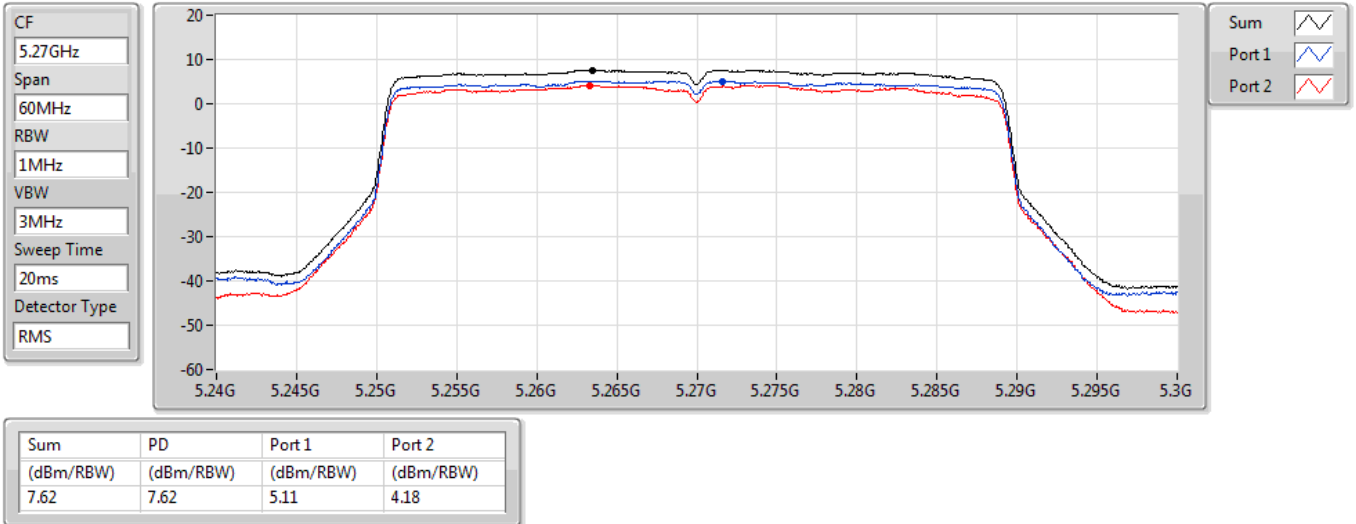


802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5270MHz

09/03/2021

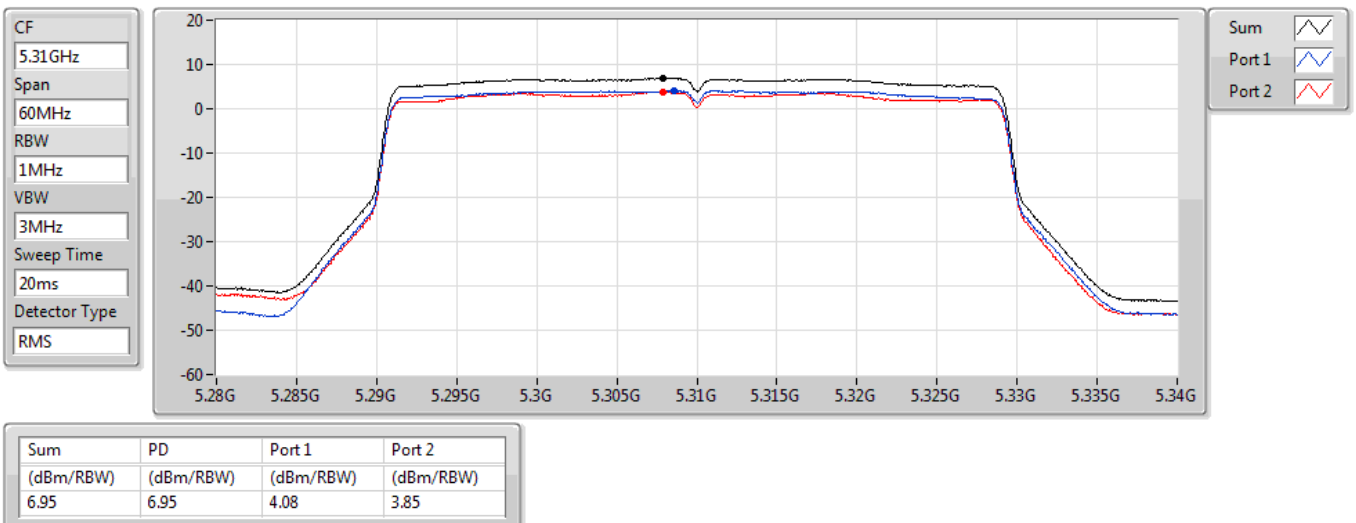


802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5310MHz

09/03/2021

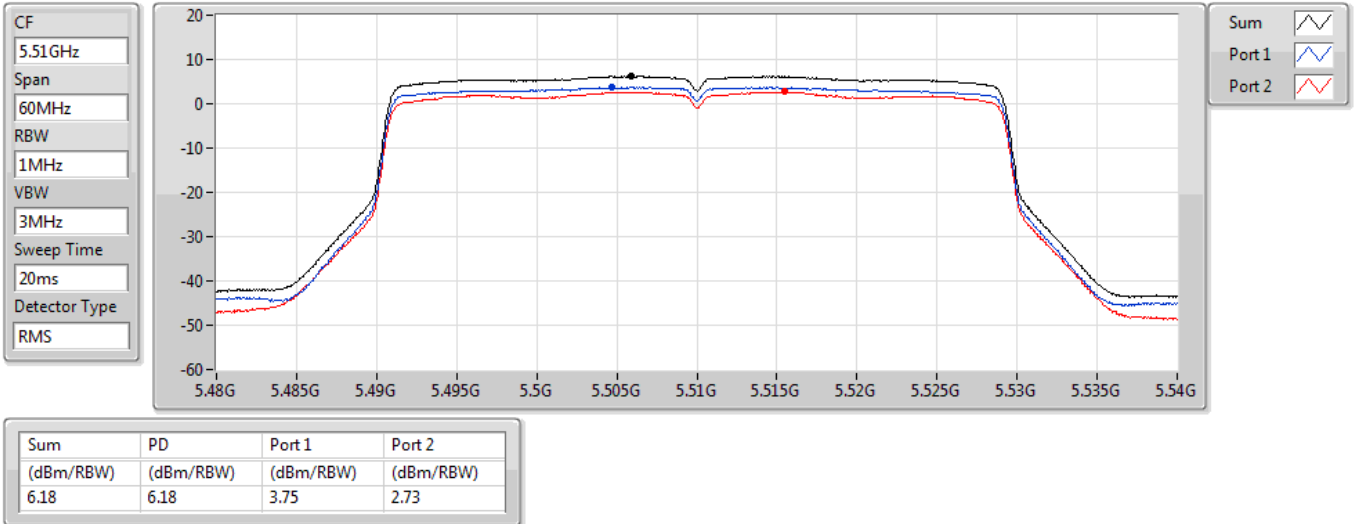


802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5510MHz

09/03/2021

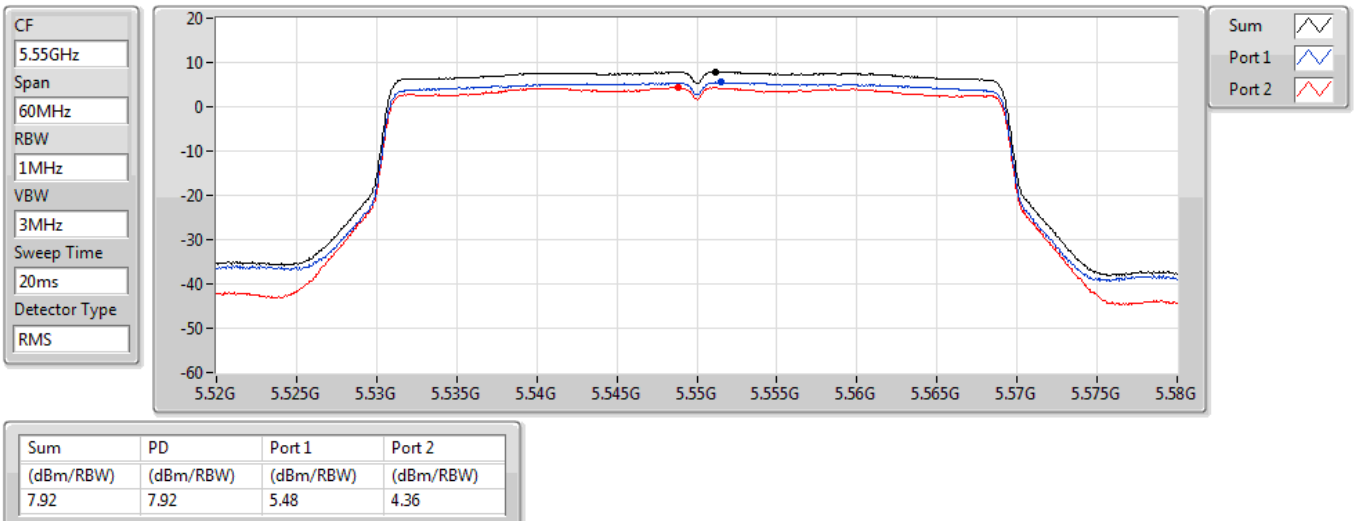


802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5550MHz

09/03/2021

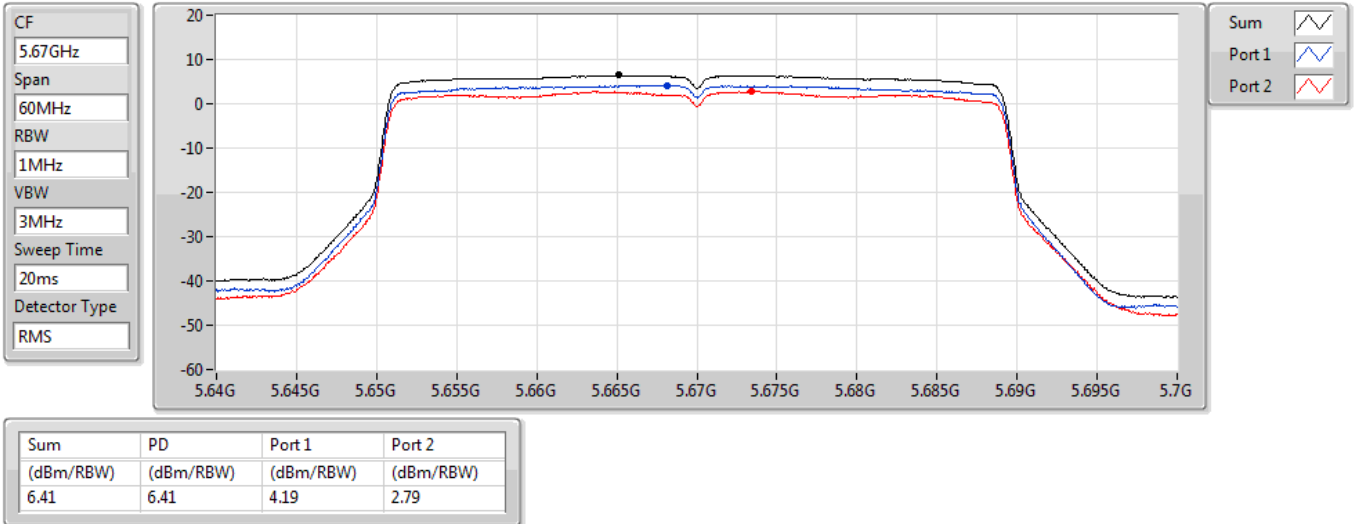


802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5670MHz

09/03/2021

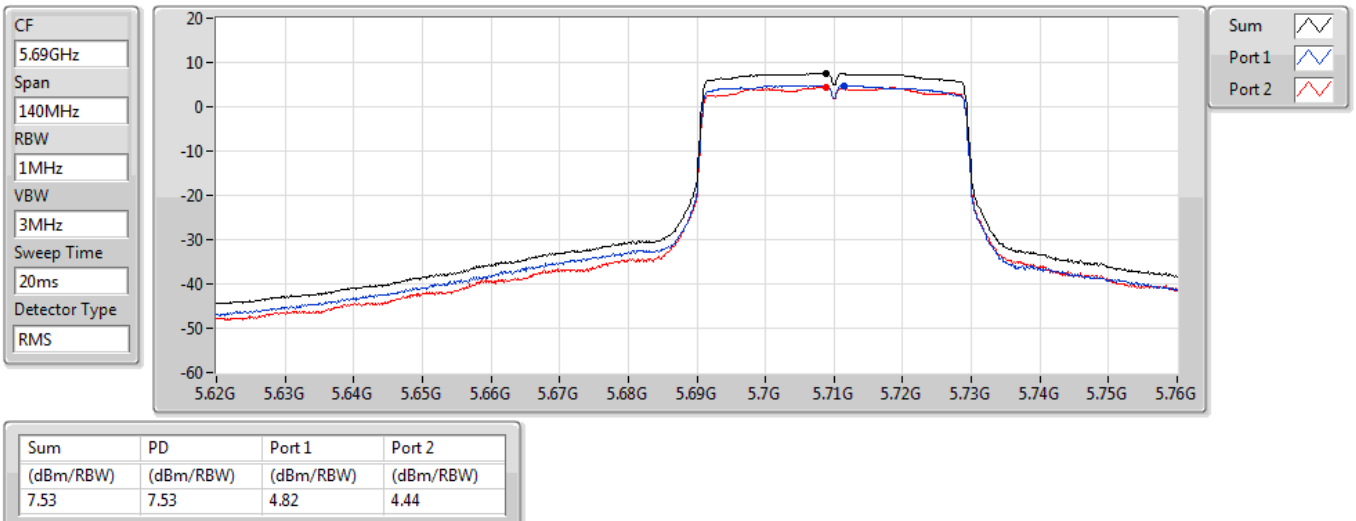


802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5710MHz Straddle 5.47-5.725GHz

09/03/2021

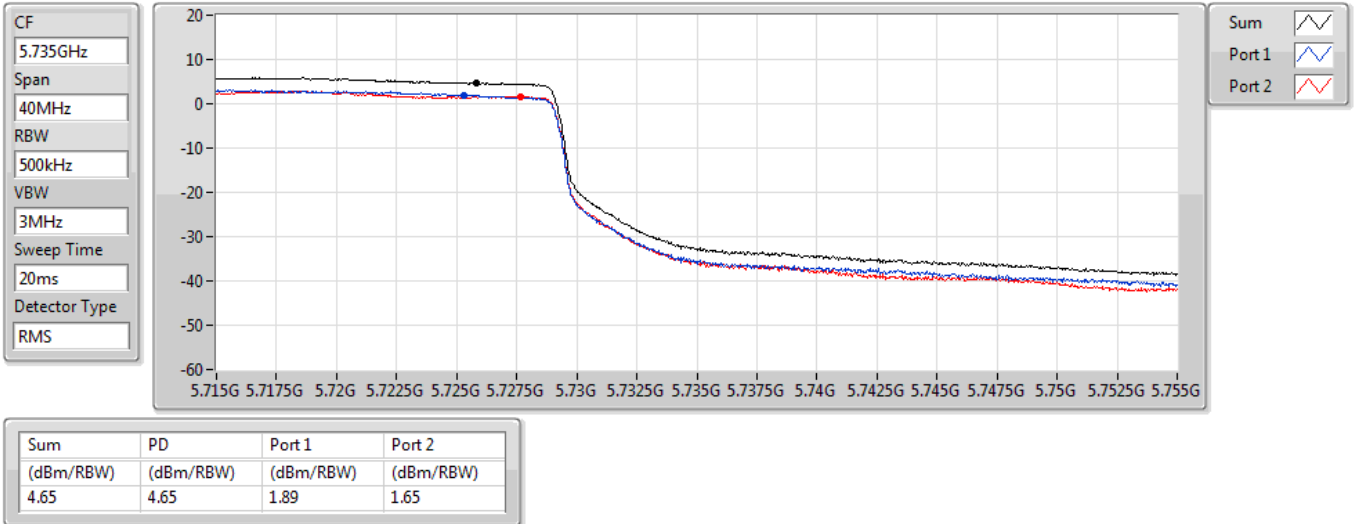


802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5710MHz Straddle 5.725-5.85GHz

09/03/2021

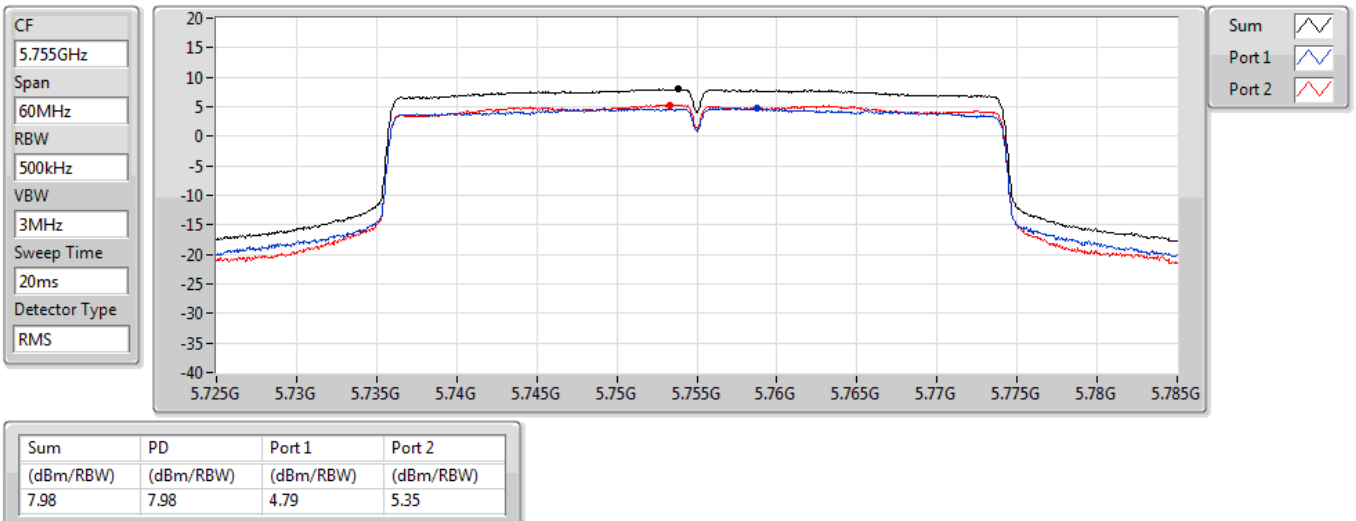


802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5755MHz

09/03/2021

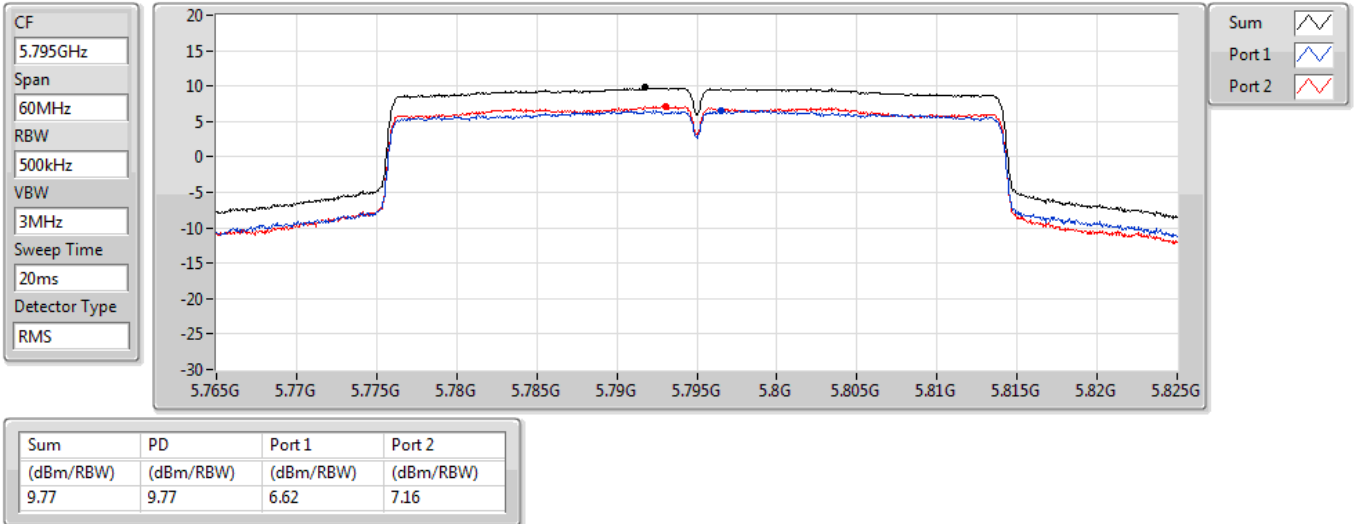


802.11ax HEW40_Nss1,(MCS0)_2TX

PSD

5795MHz

09/03/2021

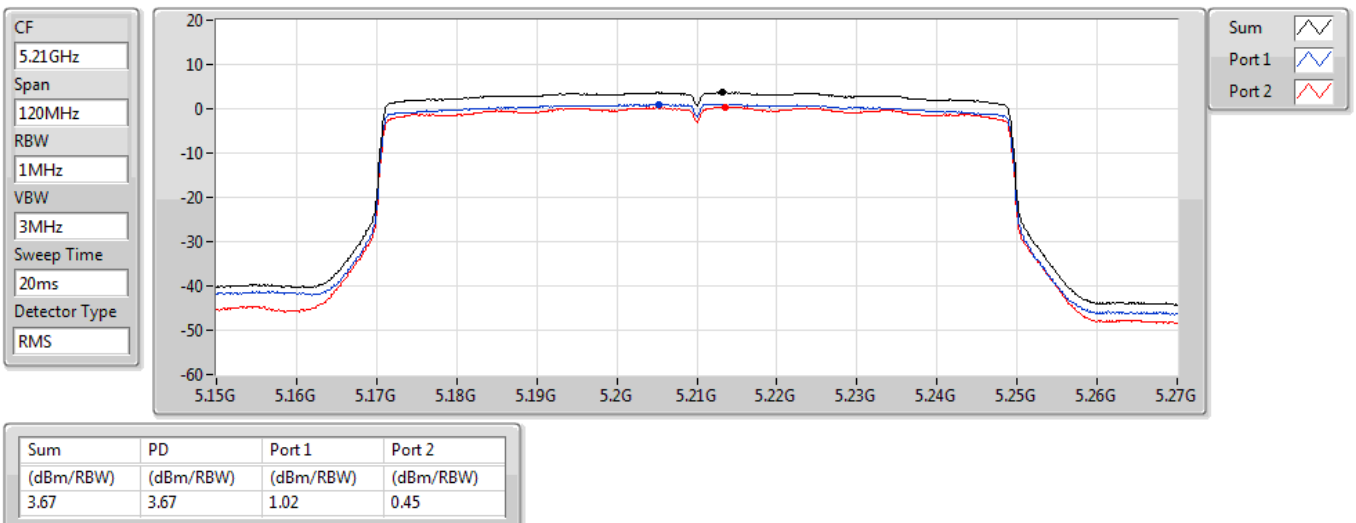


802.11ax HEW80_Nss1,(MCS0)_2TX

PSD

5210MHz

09/03/2021

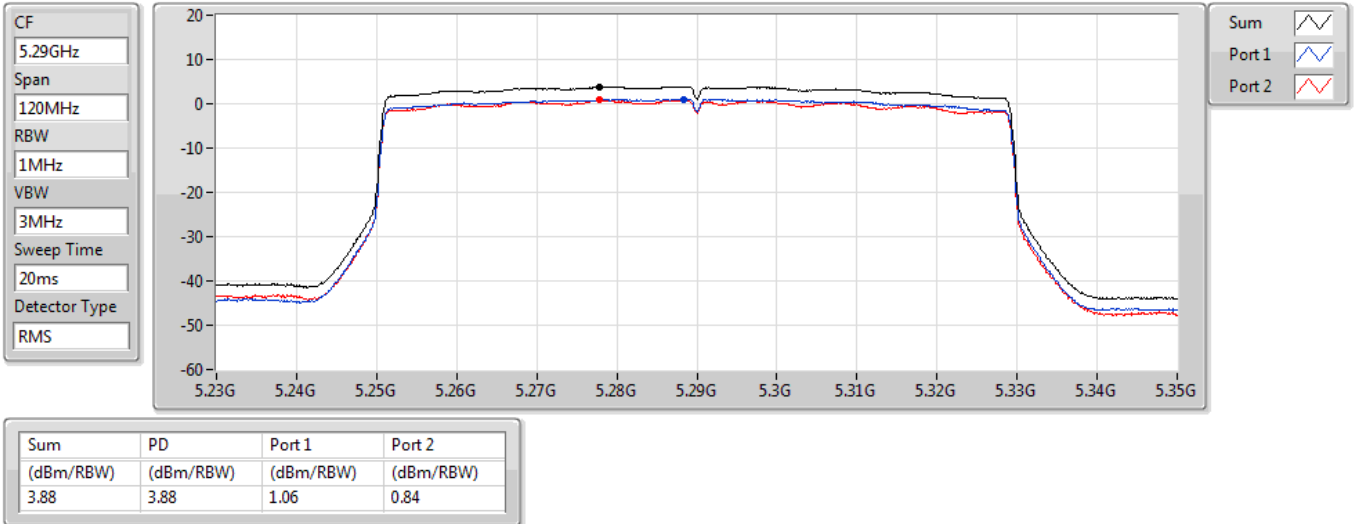


802.11ax HEW80_Nss1,(MCS0)_2TX

PSD

5290MHz

09/03/2021

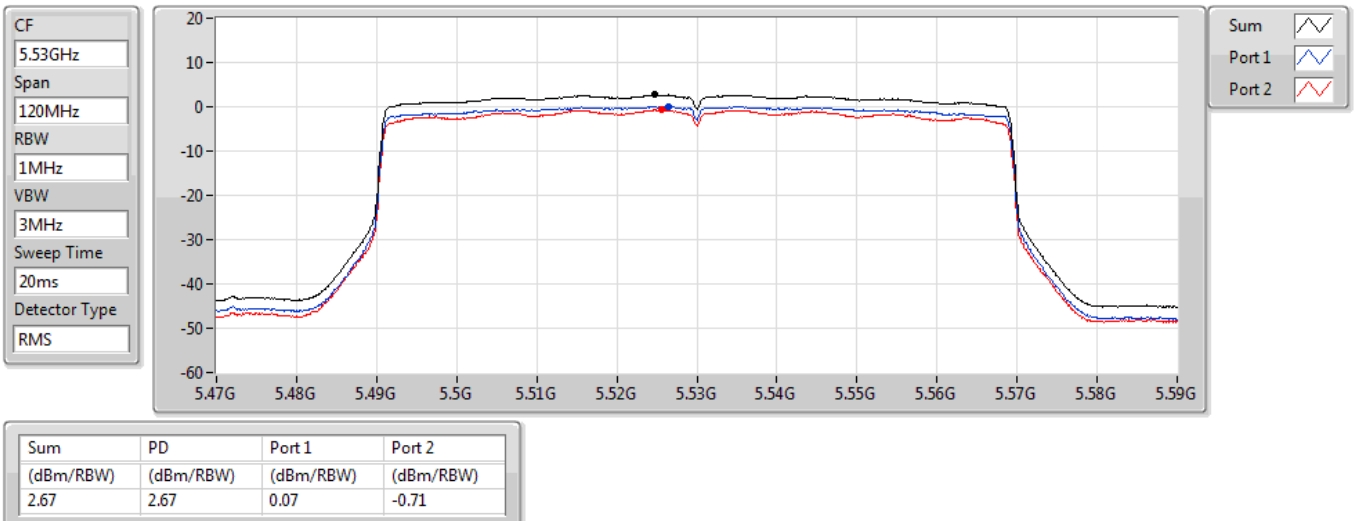


802.11ax HEW80_Nss1,(MCS0)_2TX

PSD

5530MHz

09/03/2021

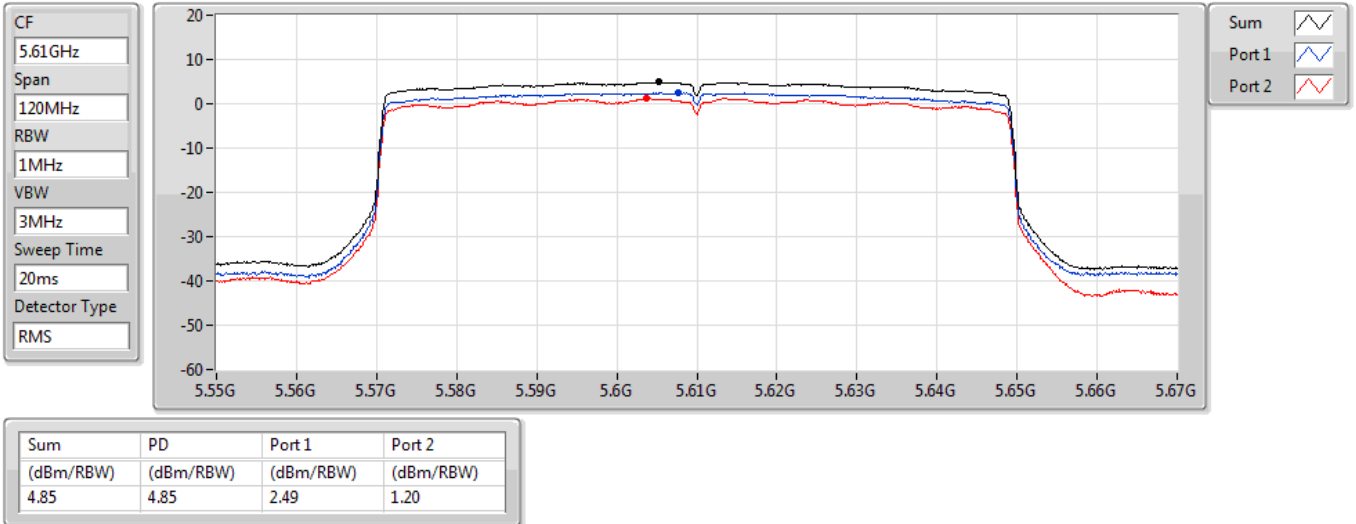


802.11ax HEW80_Nss1,(MCS0)_2TX

PSD

5610MHz

09/03/2021

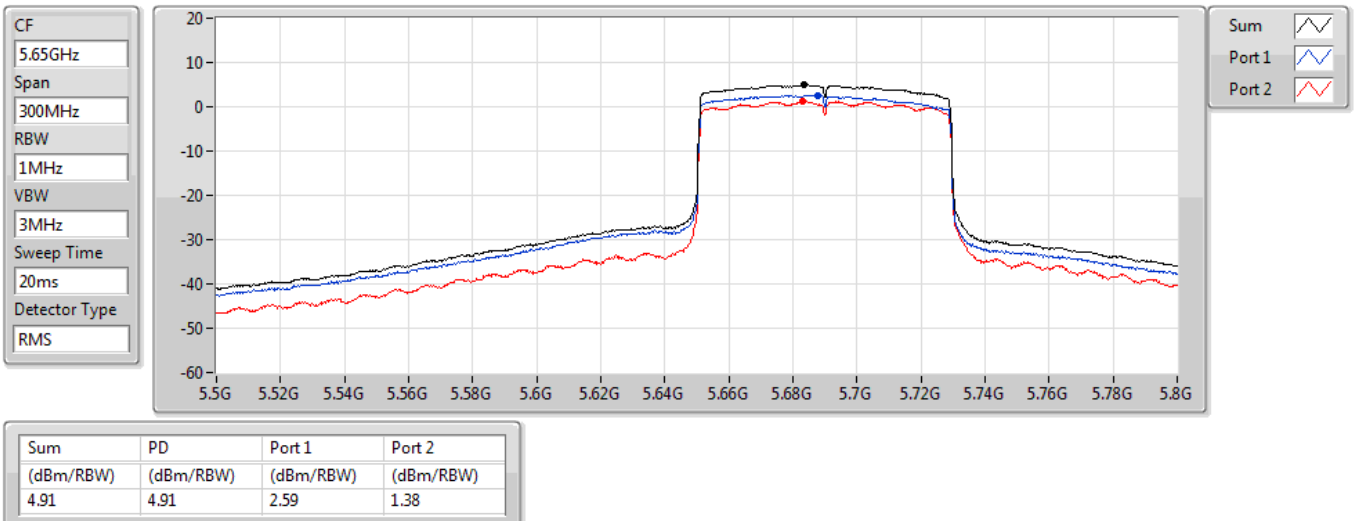


802.11ax HEW80_Nss1,(MCS0)_2TX

PSD

5690MHz Straddle 5.47-5.725GHz

09/03/2021

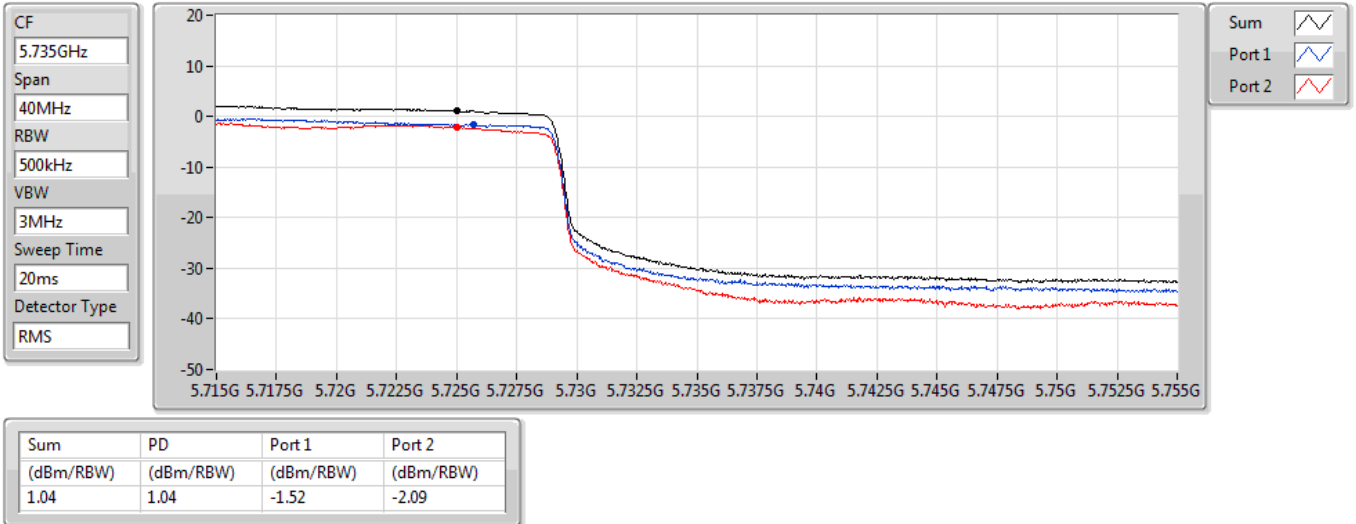


802.11ax HEW80_Nss1,(MCS0)_2TX

PSD

5690MHz Straddle 5.725-5.85GHz

09/03/2021

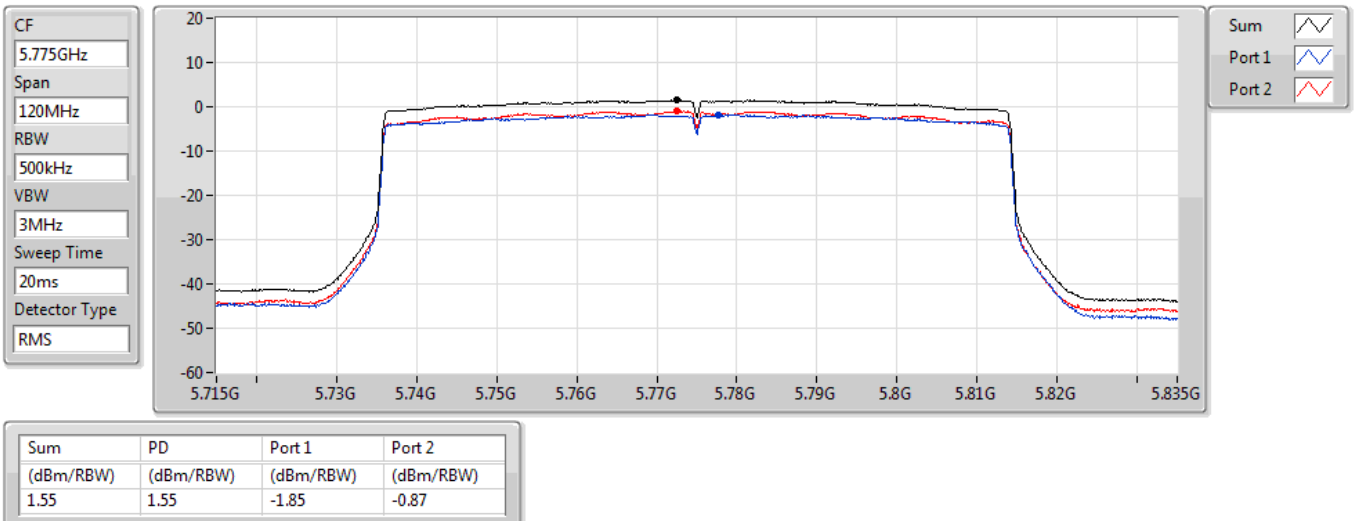


802.11ax HEW80_Nss1,(MCS0)_2TX

PSD

5775MHz

09/03/2021





Summary

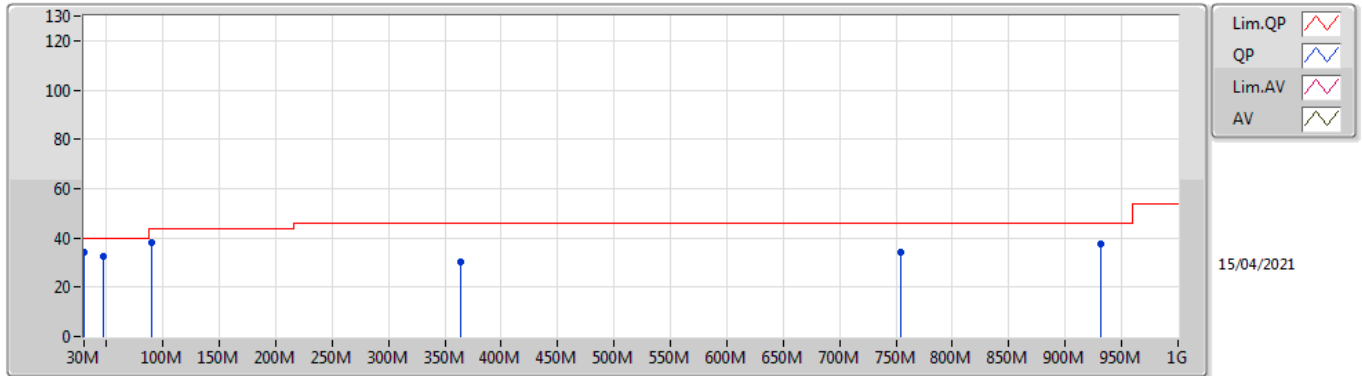
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5.725-5.85GHz	-	-	-	-	-	-	-	-	-	-	-
802.11ax HEW80_Nss1,(MCS0)_2TX	Pass	PK	90.14M	38.17	43.50	-5.33	3	Vertical	0	1.00	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-	-	-	-	-	-
5775MHz	Pass	PK	47.46M	32.57	40.00	-7.43	3	Vertical	0	1.00	-
5775MHz	Pass	PK	90.14M	38.17	43.50	-5.33	3	Vertical	0	1.00	-
5775MHz	Pass	PK	363.68M	30.36	46.00	-15.64	3	Vertical	0	1.00	-
5775MHz	Pass	PK	753.62M	33.95	46.00	-12.05	3	Vertical	0	1.00	-
5775MHz	Pass	PK	932.1M	37.70	46.00	-8.30	3	Vertical	0	1.00	-
5775MHz	Pass	QP	30M	34.10	40.00	-5.90	3	Vertical	0	1.60	-
5775MHz	Pass	PK	49.4M	29.42	40.00	-10.58	3	Horizontal	360	1.00	-
5775MHz	Pass	PK	90.14M	36.75	43.50	-6.75	3	Horizontal	360	1.00	-
5775MHz	Pass	PK	235.64M	28.58	46.00	-17.42	3	Horizontal	360	1.00	-
5775MHz	Pass	PK	357.86M	35.15	46.00	-10.85	3	Horizontal	360	1.00	-
5775MHz	Pass	PK	745.86M	33.49	46.00	-12.51	3	Horizontal	360	1.00	-
5775MHz	Pass	PK	932.1M	35.50	46.00	-10.50	3	Horizontal	360	1.00	-

802.11ax HEW80_Nss1,(MCS0)_2TX

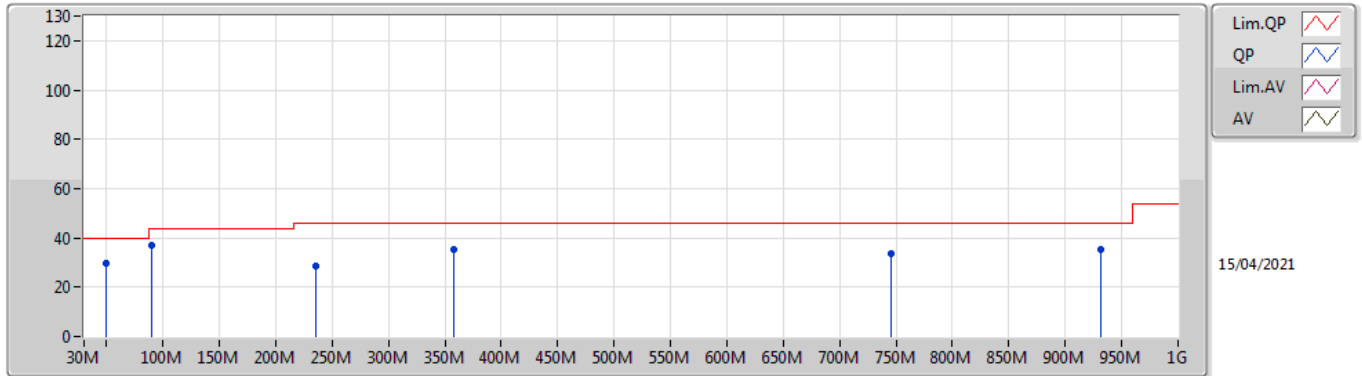
5775MHz_Switching Power Supply



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	47.46M	32.57	40.00	-7.43	-12.46	3	Vertical	0	1.00	-	45.03	14.05	1.14	27.65
PK	90.14M	38.17	43.50	-5.33	-12.20	3	Vertical	0	1.00	-	50.37	14.08	1.52	27.80
PK	363.68M	30.36	46.00	-15.64	-4.44	3	Vertical	0	1.00	-	34.80	19.90	3.09	27.43
PK	753.62M	33.95	46.00	-12.05	1.53	3	Vertical	0	1.00	-	32.42	24.94	4.57	27.98
PK	932.1M	37.70	46.00	-8.30	3.72	3	Vertical	0	1.00	-	33.98	25.83	5.19	27.30
QP	30M	34.10	40.00	-5.90	-2.99	3	Vertical	0	1.60	-	37.09	23.32	0.90	27.21

802.11ax HEW80_Nss1,(MCS0)_2TX

5775MHz_Switching Power Supply



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	49.4M	29.42	40.00	-10.58	-13.13	3	Horizontal	360	1.00	-	42.55	13.40	1.16	27.69
PK	90.14M	36.75	43.50	-6.75	-12.20	3	Horizontal	360	1.00	-	48.95	14.08	1.52	27.80
PK	235.64M	28.58	46.00	-17.42	-8.69	3	Horizontal	360	1.00	-	37.27	15.96	2.47	27.12
PK	357.86M	35.15	46.00	-10.85	-4.50	3	Horizontal	360	1.00	-	39.65	19.82	3.06	27.38
PK	745.86M	33.49	46.00	-12.51	1.43	3	Horizontal	360	1.00	-	32.06	24.90	4.54	28.01
PK	932.1M	35.50	46.00	-10.50	3.72	3	Horizontal	360	1.00	-	31.78	25.83	5.19	27.30