



RADIO TEST REPORT

FCC ID : TX2-RTL8852CE
Equipment : 11ax RTL8852CE Combo module
Brand Name : REALTEK
Model Name : RTL8852CE
Applicant : Realtek Semiconductor Corp.
No. 2, Innovation Road II, Hsinchu Science Park,
Hsinchu 300, Taiwan
Manufacturer : Realtek Semiconductor Corp.
No. 2, Innovation Road II, Hsinchu Science Park,
Hsinchu 300, Taiwan
Standard : 47 CFR FCC Part 15.407

The product was received on Nov. 05, 2021, and testing was started from Mar. 16, 2022 and completed on Sep. 01, 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
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	5
1.1 Information.....	5
1.2 Applicable Standards	14
1.3 Testing Location Information	14
1.4 Measurement Uncertainty	15
2 Test Configuration of EUT.....	16
2.1 Test Channel Mode	16
2.2 The Worst Case Measurement Configuration.....	34
2.3 EUT Operation during Test	37
2.4 Accessories	37
2.5 Support Equipment.....	38
2.6 Test Setup Diagram	39
3 Transmitter Test Result	42
3.1 AC Power-line Conducted Emissions	42
3.2 Emission Bandwidth	44
3.3 Maximum Output Power	46
3.4 Power Spectral Density	49
3.5 Unwanted Emissions.....	52
4 Test Equipment and Calibration Data	56
Appendix A. Test Results of AC Power-line Conducted Emissions	
Appendix B. Test Results of Emission Bandwidth	
Appendix C. Test Results of Maximum Output Power	
Appendix D. Test Results of Power Spectral Density	
Appendix E. Test Results of Unwanted Emissions	
Appendix F. Test Results of Radiated Emission Co-location	
Appendix G. Test Photos	
Photographs of EUT v01	



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



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	-

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:

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: Sandy Chuang



1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	a, n (HT20), ac (VHT20), ax (HEW20)	5180-5240	36-48 [4]
5250-5350		5260-5320	52-64 [4]
5470-5725		5500-5720	100-144 [12]
5725-5850		5745-5825	149-165 [5]
5725-5895		5845-5885	169-177[3]
5150-5250	n (HT40), ac (VHT40), ax (HEW40)	5190-5230	38-46 [2]
5250-5350		5270-5310	54-62 [2]
5470-5725		5510-5710	102-142 [6]
5725-5850		5755-5795	151-159 [2]
5725-5895		5835-5875	167-175[2]
5150-5250	ac (VHT80), ax (HEW80)	5210	42 [1]
5250-5350		5290	58 [1]
5470-5725		5530-5690	106-138 [3]
5725-5850		5775	155 [1]
5725-5895		5855	171[1]
5150-5350	ac (VHT160), ax (HEW160)	5250	50 [1]
5470-5725		5570	114 [1]
5725-5895		5815	163[1]

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11a	20	1TX/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	802.11n 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



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



Band	Mode	BWch (MHz)	Nant
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
5.725-5.85GHz	802.11a	20	1TX/2TX
5.725-5.85GHz	802.11n HT20	20	1TX/2TX
5.725-5.85GHz	802.11n HT20-BF	20	2TX
5.725-5.85GHz	802.11ac VHT20	20	1TX/2TX
5.725-5.85GHz	802.11ac VHT20-BF	20	2TX
5.725-5.85GHz	802.11ax HEW20	20	1TX/2TX
5.725-5.85GHz	802.11ax HEW20-BF	20	2TX
5.725-5.85GHz	802.11n HT40	40	1TX/2TX
5.725-5.85GHz	802.11n HT40-BF	40	2TX
5.725-5.85GHz	802.11ac VHT40	40	1TX/2TX
5.725-5.85GHz	802.11ac VHT40-BF	40	2TX
5.725-5.85GHz	802.11ax HEW40	40	1TX/2TX
5.725-5.85GHz	802.11ax HEW40-BF	40	2TX
5.725-5.85GHz	802.11ac VHT80	80	1TX/2TX
5.725-5.85GHz	802.11ac VHT80-BF	80	2TX
5.725-5.85GHz	802.11ax HEW80	80	1TX/2TX
5.725-5.85GHz	802.11ax HEW80-BF	80	2TX
5.47-5.725GHz	802.11ac VHT160	160	1TX/2TX
5.47-5.725GHz	802.11ac VHT160-BF	160	2TX
5.47-5.725GHz	802.11ax HEW160	160	1TX/2TX
5.47-5.725GHz	802.11ax HEW160-BF	160	2TX
5.725-5.895GHz	802.11a	20	1TX/2TX
5.725-5.895GHz	802.11n HT20	20	1TX/2TX
5.725-5.895GHz	802.11n HT20-BF	20	2TX
5.725-5.895GHz	802.11ac VHT20	20	1TX/2TX
5.725-5.895GHz	802.11ac VHT20-BF	20	2TX
5.725-5.895GHz	802.11ax HEW20	20	1TX/2TX
5.725-5.895GHz	802.11ax HEW20-BF	20	2TX
5.725-5.895GHz	802.11n HT40	40	1TX/2TX
5.725-5.895GHz	802.11n HT40-BF	40	2TX
5.725-5.895GHz	802.11ac VHT40	40	1TX/2TX
5.725-5.895GHz	802.11ac VHT40-BF	40	2TX
5.725-5.895GHz	802.11ax HEW40	40	1TX/2TX
5.725-5.895GHz	802.11ax HEW40-BF	40	2TX
5.725-5.895GHz	802.11ac VHT80	80	1TX/2TX
5.725-5.895GHz	802.11ac VHT80-BF	80	2TX
5.725-5.895GHz	802.11ax HEW80	80	1TX/2TX



Band	Mode	BWch (MHz)	Nant
5.725-5.895GHz	802.11ax HEW80-BF	80	2TX
5.725-5.895GHz	802.11ac VHT160	160	1TX/2TX
5.725-5.895GHz	802.11ac VHT160-BF	160	2TX
5.725-5.895GHz	802.11ax HEW160	160	1TX/2TX
5.725-5.895GHz	802.11ax HEW160-BF	160	2TX

Note:

- ♦ 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- ♦ VHT20, VHT40, VHT80 and VHT 160 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- ♦ HEW20, HEW40, HEW80 and HEW 160 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)
	WLAN 2.4GHz	WLAN 5GHz / 6GHz	Bluetooth					
1	1/2	1/2	1	ARISTOTLE	RFA-27-JP378-4B-200	Monopole	I-PEX	Note 1
2	1/2	1/2	1	ARISTOTLE	RFA-27-JP326-MHF4300	PIFA	I-PEX	
3	1/2	1/2	1	ARISTOTLE	RFA-27-C38H1-MHF4300	Dipole	I-PEX	
4	-	1/2	-	ARISTOTLE	RFA-57-JP697-4B-300	Monopole	I-PEX	

Note 1

Ant.	Port			Gain (dBi)		
	WLAN 2.4GHz	WLAN 5GHz / 6GHz	Bluetooth	WLAN 2.4GHz	WLAN 5GHz / 6GHz	Bluetooth
1	1/2	1/2	1	3.38	4.86	3.38
2	1/2	1/2	1	3.50	5.00	3.50
3	1/2	1/2	1	3.00	5.00	3.00
4	-	1/2	-	-	-5	-

Note 2: The above information was declared by manufacturer.

Note 3: For Conducted measurement Test: Only the highest gain antenna "Ant. 2" was selected to perform the test and recorded in this report.

<For WLAN 2.4GHz function>**For IEEE 802.11b/g/n/VHT/ax (1TX/2RX):****For Conducted:**

The EUT supports the antenna with TX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used at one time.

The Port 1 generated the worst case, so it was selected to test and record in the report.

Port 1 and Port 2 could receive simultaneously

For Radiated:

The EUT supports the antenna with TX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used at one time.

The Port 2 generated the worst case, so it was selected to test and record in the report.

Port 1 and Port 2 could receive simultaneously

For IEEE 802.11b/g/n/VHT/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 WLAN 5GHz function>****For IEEE 802.11a/n/ac/ax (1TX/2RX):**

The EUT supports the antenna with TX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used at one time.

The Port 1 generated the worst case, so it was selected to test and record in the report.

Port 1 and Port 2 could receive simultaneously

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 WLAN 6GHz function>**For IEEE 802.11ax (1TX/2RX):**

The EUT supports the antenna with TX diversity functions.

Both Port 1 and Port 2 support transmit and receive functions, but only one of them will be used at one time.

The Port 1 generated the worst case, so it was selected to test and record in the report.

Port 1 and Port 2 could receive simultaneously

For IEEE 802.11ax (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> (1TX/1RX):

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

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	$Directional\ Gain = 10 \cdot \log \left[\frac{\sum_{i=1}^{N_{SS}} \left[\sum_{k=1}^{N_{ANT}} g_{i,k} \right]^2}{N_{ANT}} \right]$
BF	$Directional\ Gain = 10 \cdot \log \left[\frac{\sum_{i=1}^{N_{SS}} \left[\sum_{k=1}^{N_{ANT}} g_{i,k} \right]^2}{N_{ANT}} \right]$	$Directional\ Gain = 10 \cdot \log \left[\frac{\sum_{i=1}^{N_{SS}} \left[\sum_{k=1}^{N_{ANT}} g_{i,k} \right]^2}{N_{ANT}} \right]$

Ex.

Directional Gain (NSS1) formula :

$$Directional\ Gain = 10 \cdot \log \left[\frac{\sum_{i=1}^{N_{SS}} \left[\sum_{k=1}^{N_{ANT}} g_{i,k} \right]^2}{N_{ANT}} \right]$$

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

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

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

Where ;

Monopole Antenna

$$2.4G\ G1 = 3.38\ dBi ; G2 = 3.38\ dBi ; DG=6.39\ dBi$$

$$5G\ G1 = 4.86\ dBi ; G2 = 4.86\ dBi ; DG=7.87\ dBi$$

$$6G\ G1 = 4.86\ dBi ; G2 = 4.86\ dBi ; DG=7.87\ dBi$$

PIFA Antenna

$$2.4G\ G1 = 3.5\ dBi ; G2 = 3.5\ dBi ; DG=6.51\ dBi$$

$$5G\ G1 = 5\ dBi ; G2 = 5\ dBi ; DG=8.01\ dBi$$

$$6G\ G1 = 5\ dBi ; G2 = 5\ dBi ; DG=8.01\ dBi$$

Dipole Antenna

$$2.4G\ G1 = 3\ dBi ; G2 = 3\ dBi ; DG=6.01\ dBi$$

$$5G\ G1 = 5\ dBi ; G2 = 5\ dBi ; DG=8.01\ dBi$$

$$6G\ G1 = 5\ dBi ; G2 = 5\ dBi ; DG=8.01\ dBi$$

1.1.3 Test Mode of Partial RU

Mode		Partial RU		
802.11ax HEW20	1TX	26	52	106
	2TX	26	52	106

**1.1.4 Mode Test Duty Cycle**

<Full RU>

Non-Beamforming Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11a	0.995	0.02	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT20	0.993	0.03	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW20	0.993	0.03	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40	0.987	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW40	0.987	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT80	0.973	0.12	288.75u	10k
802.11ax HEW80	0.977	0.1	290u	10k
802.11ac VHT160	0.953	0.21	166.25u	10k
802.11ax HEW160	0.961	0.17	168.125u	10k

Beamforming Mode:

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ac VHT20-BF	0.993	0.03	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW20-BF	0.993	0.03	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT40-BF	0.987	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ax HEW40-BF	0.987	0.06	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)
802.11ac VHT80-BF	0.973	0.12	288.75u	10k
802.11ax HEW80-BF	0.977	0.1	290u	10k
802.11ac VHT160-BF	0.953	0.21	166.25u	10k
802.11ax HEW160-BF	0.961	0.17	168.125u	10k

<Partial RU>

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
802.11ax HEW20	0.999	0.01	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)

Note:

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

**1.1.5 EUT Operational Condition**

EUT Power Type	From host system		
Beamforming Function	☒ With beamforming	☐ Without beamforming	
	The product has beamforming function for 11n/VHT/11ax in 2.4GHz, 11n/11ac/11ax in 5GHz and ax in 6GHz.		
Weather Band	☒ With 5600~5650MHz	☐ Without 5600~5650MHz	
Function	☐ Outdoor P2M	☐ Indoor P2M	
	☐ Fixed P2P	☒ Client	
	☒ Point-to-multipoint	☐ Point-to-point	
Device Type (UNII 4)	☐ Indoor Access Point	☐ Subordinate	
	☒ Indoor Client		
TPC Function	☒ With TPC	☐ Without TPC	
Test Software Version	REALTEK MP V:homo_V1.0.2		

Note: The above information was declared by manufacturer.



1.2 Applicable Standards

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

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

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

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

1.3 Testing Location Information

Testing Location Information	
Test Lab. : Sporton International Inc. Hsinchu Laboratory	
Hsinchu	ADD: No.8, Ln. 724, Bo' ai St., Zhubei City, Hsinchu County 302010, Taiwan
(TAF: 3787)	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	TH01-CB	Serway Lee	21~22.3 / 65~69	May 02, 2022~ Sep. 01, 2022
Radiated <Below 1GHz>	10CH01-CB	Peter Wu	23~24 / 57~58	May 18, 2022
Radiated <Above 1GHz>	03CH02-CB 03CH03-CB	Ken Yeh	23.7-24.8 / 57-60 24.1-24.2 / 55-58	Mar. 16, 2022~ Jun. 01, 2022
Radiated <Co-location>	03CH04-CB	Ken Yeh	24.4-25.5 / 55-58	Jun. 09, 2022
AC Conduction	CO01-CB	Ryan Huang	23~24 / 56~57	May 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))

Test Date: Before Jun. 01, 2022

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.4 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.5 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%
Conducted Emission	2.5 dB	Confidence levels of 95%
Output Power Measurement	1.3 dB	Confidence levels of 95%
Power Density Measurement	2.5 dB	Confidence levels of 95%
Bandwidth Measurement	0.9%	Confidence levels of 95%

Test Date: After May 31, 2022

Test Items	Uncertainty	Remark
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%
Output Power Measurement	0.8 dB	Confidence levels of 95%
Power Density Measurement	3.2 dB	Confidence levels of 95%
Bandwidth Measurement	2.0 %	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

<Full RU> UNII1~UNII3

Non-Beamforming Mode:

1TX

Mode	Power Setting
802.11a_Nss1,(6Mbps)_1TX	-
5180MHz	19
5200MHz	20.25
5240MHz	20.25
5260MHz	20.25
5300MHz	20.5
5320MHz	17
5500MHz	17.75
5580MHz	19.75
5700MHz	14.25
5720MHz Straddle 5.47-5.725GHz	19.75
5720MHz Straddle 5.725-5.85GHz	19.75
5745MHz	20.5
5785MHz	20.5
5825MHz	20.75
802.11ac VHT20_Nss1,(MCS0)_1TX	-
5180MHz	17.25
5200MHz	20.75
5240MHz	20.5
5260MHz	21.25
5300MHz	20.5
5320MHz	16.75
5500MHz	17.25
5580MHz	20
5700MHz	14
5720MHz Straddle 5.47-5.725GHz	20.25
5720MHz Straddle 5.725-5.85GHz	20.25
5745MHz	20.75
5785MHz	20.75
5825MHz	21.5
802.11ac VHT40_Nss1,(MCS0)_1TX	-
5190MHz	15.5
5230MHz	19.5



Mode	Power Setting
5270MHz	18.5
5310MHz	15
5510MHz	15.75
5550MHz	17.75
5670MHz	15
5710MHz Straddle 5.47-5.725GHz	19
5710MHz Straddle 5.725-5.85GHz	19
5755MHz	18.75
5795MHz	19.5
802.11ac VHT80_Nss1,(MCS0)_1TX	-
5210MHz	14.25
5290MHz	12.75
5530MHz	14.75
5610MHz	15
5690MHz Straddle 5.47-5.725GHz	17.75
5690MHz Straddle 5.725-5.85GHz	17.75
5775MHz	16.25
802.11ac VHT160_Nss1,(MCS0)_1TX	-
5250MHz Straddle 5.15-5.25GHz	9
5250MHz Straddle 5.25-5.35GHz	9
5570MHz	10.25
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5180MHz	17.25
5200MHz	20.75
5240MHz	20.5
5260MHz	21.25
5300MHz	20.5
5320MHz	16.75
5500MHz	17.25
5580MHz	20
5700MHz	14
5720MHz Straddle 5.47-5.725GHz	20.25
5720MHz Straddle 5.725-5.85GHz	20.25
5745MHz	20.75
5785MHz	20.75
5825MHz	21.5
802.11ax HEW40_Nss1,(MCS0)_1TX	-
5190MHz	15.5
5230MHz	19.5
5270MHz	18.5



Mode	Power Setting
5310MHz	15
5510MHz	15.75
5550MHz	17.75
5670MHz	15
5710MHz Straddle 5.47-5.725GHz	19
5710MHz Straddle 5.725-5.85GHz	19
5755MHz	18.75
5795MHz	19.5
802.11ax HEW80_Nss1,(MCS0)_1TX	-
5210MHz	14.25
5290MHz	12.75
5530MHz	14.75
5610MHz	15
5690MHz Straddle 5.47-5.725GHz	17.75
5690MHz Straddle 5.725-5.85GHz	17.75
5775MHz	16.25
802.11ax HEW160_Nss1,(MCS0)_1TX	-
5250MHz Straddle 5.15-5.25GHz	9
5250MHz Straddle 5.25-5.35GHz	9
5570MHz	10.25

**2TX**

Mode	Power Setting
802.11a_Nss1,(6Mbps)_2TX	-
5180MHz	17 (S0-1.5)
5200MHz	16.75 (S0-1.5)
5240MHz	16.5 (S0-1)
5260MHz	17 (S0-1)
5300MHz	16.75 (S0-1)
5320MHz	16.5 (S0-1)
5500MHz	16.5 (S0-1)
5580MHz	16.25 (S0-1)
5700MHz	14.5 (S0-1)
5720MHz Straddle 5.47-5.725GHz	16 (S0-1.25)
5720MHz Straddle 5.725-5.85GHz	16 (S0-1.25)
5745MHz	21.5 (S1-1)
5785MHz	21.5 (S0-1.25)
5825MHz	21.5 (S1-0.25)
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5180MHz	17.25 (S0-1.5)
5200MHz	17.25 (S0-1.5)
5240MHz	17.25 (S0-1)
5260MHz	17.5 (S0-1.25)
5300MHz	17 (S0-1)
5320MHz	17 (S0-1)
5500MHz	16 (S0-1)
5580MHz	16.75 (S0-1)
5700MHz	13(S0-1)
5720MHz Straddle 5.47-5.725GHz	16.5 (S0-1.25)
5720MHz Straddle 5.725-5.85GHz	16.5 (S0-1.25)
5745MHz	21.5 (S0-1.5)
5785MHz	21.5 (S0-1.5)
5825MHz	21.5
802.11ac VHT40_Nss1,(MCS0)_2TX	-
5190MHz	15.25(S0-1.5)
5230MHz	20.5(S0-1)
5270MHz	20.25
5310MHz	14.5(S0-0.5)
5510MHz	14.75 (S0-0.75)
5550MHz	21.5 (S1-1.5)
5670MHz	14.5(S0-1)



Mode	Power Setting
5710MHz Straddle 5.47-5.725GHz	21.5 (S1-2)
5710MHz Straddle 5.725-5.85GHz	21.5 (S1-2)
5755MHz	21.5(S1-1)
5795MHz	21.5(S0-0.5)
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5210MHz	13.25 (S0-1.25)
5290MHz	11 (S0-1)
5530MHz	13.75 (S0-1)
5610MHz	14.25(S0-1)
5690MHz Straddle 5.47-5.725GHz	16.5(S0-1.25)
5690MHz Straddle 5.725-5.85GHz	16.5(S0-1.25)
5775MHz	15.75(S0-1)
802.11ac VHT160_Nss1,(MCS0)_2TX	-
5250MHz Straddle 5.15-5.25GHz	8.75 (S0-1.25)
5250MHz Straddle 5.25-5.35GHz	8.75 (S0-1.25)
5570MHz	9.5 (S0-1)
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5180MHz	17.25 (S0-1.5)
5200MHz	17.25 (S0-1.5)
5240MHz	17.25 (S0-1)
5260MHz	17.5 (S0-1.25)
5300MHz	17 (S0-1)
5320MHz	17 (S0-1)
5500MHz	16 (S0-1)
5580MHz	16.75 (S0-1)
5700MHz	13(S0-1)
5720MHz Straddle 5.47-5.725GHz	16.5 (S0-1.25)
5720MHz Straddle 5.725-5.85GHz	16.5 (S0-1.25)
5745MHz	21.5 (S0-1.5)
5785MHz	21.5 (S0-1.5)
5825MHz	21.5
802.11ax HEW40_Nss1,(MCS0)_2TX	-
5190MHz	15.25(S0-1.5)
5230MHz	20.5(S0-1)
5270MHz	20.25
5310MHz	14.5(S0-0.5)
5510MHz	14.75 (S0-0.75)
5550MHz	21.5 (S1-1.5)
5670MHz	14.5(S0-1)
5710MHz Straddle 5.47-5.725GHz	21.5 (S1-2)



Mode	Power Setting
5710MHz Straddle 5.725-5.85GHz	21.5 (S1-2)
5755MHz	21.5(S1-1)
5795MHz	21.5(S0-0.5)
802.11ax HEW80_Nss1,(MCS0)_2TX	-
5210MHz	13.25 (S0-1.25)
5290MHz	11 (S0-1)
5530MHz	13.75 (S0-1)
5610MHz	14.25(S0-1)
5690MHz Straddle 5.47-5.725GHz	16.5(S0-1.25)
5690MHz Straddle 5.725-5.85GHz	16.5(S0-1.25)
5775MHz	15.75(S0-1)
802.11ax HEW160_Nss1,(MCS0)_2TX	-
5250MHz Straddle 5.15-5.25GHz	8.75 (S0-1.25)
5250MHz Straddle 5.25-5.35GHz	8.75 (S0-1.25)
5570MHz	9.5 (S0-1)

**Beamforming Mode:****2TX**

Mode	Power Setting
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-
5180MHz	17.25 (S0-1.5)
5200MHz	17.25 (S0-1.5)
5240MHz	17.25 (S0-1)
5260MHz	17.5 (S0-1.25)
5300MHz	17 (S0-1)
5320MHz	17 (S0-1)
5500MHz	16 (S0-1)
5580MHz	16.75 (S0-1)
5700MHz	13(S0-1)
5720MHz Straddle 5.47-5.725GHz	16.5 (S0-1.25)
5720MHz Straddle 5.725-5.85GHz	16.5 (S0-1.25)
5745MHz	21.5 (S0-1.5)
5785MHz	21.5 (S0-1.5)
5825MHz	21.5
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-
5190MHz	15.25(S0-1.5)
5230MHz	19(S0-1)
5270MHz	19(S0-1.25)
5310MHz	14.5(S0-0.5)
5510MHz	14.75 (S0-0.75)
5550MHz	20.25 (S1-1.5)
5670MHz	14.5(S0-1)
5710MHz Straddle 5.47-5.725GHz	18(S0-1.5)
5710MHz Straddle 5.725-5.85GHz	18(S0-1.5)
5755MHz	21.5(S1-1)
5795MHz	21.5(S0-0.5)
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-
5210MHz	13.25 (S0-1.25)
5290MHz	11 (S0-1)
5530MHz	13.75 (S0-1)
5610MHz	14.25(S0-1)
5690MHz Straddle 5.47-5.725GHz	16.5(S0-1.25)
5690MHz Straddle 5.725-5.85GHz	16.5(S0-1.25)
5775MHz	15.75(S0-1)
802.11ac VHT160-BF_Nss1,(MCS0)_2TX	-
5250MHz Straddle 5.15-5.25GHz	8.75 (S0-1.25)



Mode	Power Setting
5250MHz Straddle 5.25-5.35GHz	8.75 (S0-1.25)
5570MHz	9.5 (S0-1)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
5180MHz	17.25 (S0-1.5)
5200MHz	17.25 (S0-1.5)
5240MHz	17.25 (S0-1)
5260MHz	17.5 (S0-1.25)
5300MHz	17 (S0-1)
5320MHz	17 (S0-1)
5500MHz	16 (S0-1)
5580MHz	16.75 (S0-1)
5700MHz	13(S0-1)
5720MHz Straddle 5.47-5.725GHz	16.5 (S0-1.25)
5720MHz Straddle 5.725-5.85GHz	16.5 (S0-1.25)
5745MHz	21.5 (S0-1.5)
5785MHz	21.5 (S0-1.5)
5825MHz	21.5
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
5190MHz	15.25(S0-1.5)
5230MHz	19(S0-1)
5270MHz	19(S0-1.25)
5310MHz	14.5(S0-0.5)
5510MHz	14.75 (S0-0.75)
5550MHz	19.25 (S1-1.5)
5670MHz	14.5(S0-1)
5710MHz Straddle 5.47-5.725GHz	18(S0-1.5)
5710MHz Straddle 5.725-5.85GHz	18(S0-1.5)
5755MHz	21.5(S1-1)
5795MHz	21.5(S0-0.5)
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-
5210MHz	13.25 (S0-1.25)
5290MHz	11 (S0-1)
5530MHz	13.75 (S0-1)
5610MHz	14.25(S0-1)
5690MHz Straddle 5.47-5.725GHz	16.5(S0-1.25)
5690MHz Straddle 5.725-5.85GHz	16.5(S0-1.25)
5775MHz	15.75(S0-1)
802.11ax HEW160-BF_Nss1,(MCS0)_2TX	-
5250MHz Straddle 5.15-5.25GHz	8.75 (S0-1.25)
5250MHz Straddle 5.25-5.35GHz	8.75 (S0-1.25)



RADIO TEST REPORT

Report No. : FR1N0223AB

Mode	Power Setting
5570MHz	9.5 (S0-1)

**<Partial RU> UNII1~UNII3****RU 26****1TX**

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5180MHz	16.25
5200MHz	16
5240MHz	16.25
5260MHz	16.25
5300MHz	16.25
5320MHz	16.25
5500MHz	16.25
5580MHz	16
5700MHz	13.75
5720MHz Straddle 5.47-5.725GHz	15.75
5720MHz Straddle 5.725-5.85GHz	15.75
5745MHz	19
5785MHz	18
5825MHz	18

2TX

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5180MHz	12.5 (S0-1.5)
5200MHz	12.5 (S0-1.25)
5240MHz	12.25 (S0-0.75)
5260MHz	12.25 (S0-1)
5300MHz	11.5 (S0-0.25)
5320MHz	11.5 (S0-0.25)
5500MHz	11.75 (S0-0.75)
5580MHz	11.75 (S0-1.25)
5700MHz	11.25 (S0-1.25)
5720MHz Straddle 5.47-5.725GHz	11.5 (S0-1.25)
5720MHz Straddle 5.725-5.85GHz	11.5 (S0-1.25)
5745MHz	19.25 (S0-1)
5785MHz	18.25 (S0-1)
5825MHz	18 (S0-1)

**RU 52****1TX**

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5180MHz	17.75
5200MHz	17.75
5240MHz	18
5260MHz	17.75
5300MHz	17.75
5320MHz	17.75
5500MHz	17.75
5580MHz	17.5
5700MHz	15.5
5720MHz Straddle 5.47-5.725GHz	17.5
5720MHz Straddle 5.725-5.85GHz	17.5
5745MHz	20.5
5785MHz	19
5825MHz	19.25

2TX

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5180MHz	14.5 (S0-1.5)
5200MHz	14.5 (S0-1.5)
5240MHz	14.5 (S0-1.5)
5260MHz	14.25 (S0-1)
5300MHz	14 (S0-1)
5320MHz	13.75 (S0-1)
5500MHz	13.75 (S0-1)
5580MHz	13.5 (S0-1)
5700MHz	12 (S0-1)
5720MHz Straddle 5.47-5.725GHz	13.25 (S0-1.5)
5720MHz Straddle 5.725-5.85GHz	13.25 (S0-1.5)
5745MHz	21.5 (S0-1.25)
5785MHz	21.5 (S0-1.25)
5825MHz	21.5

**RU 106****1TX**

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5180MHz	18
5200MHz	17
5240MHz	18
5260MHz	18
5300MHz	18
5320MHz	17.75
5500MHz	17.75
5580MHz	17.75
5700MHz	16
5720MHz Straddle 5.47-5.725GHz	17.5
5720MHz Straddle 5.725-5.85GHz	17.5
5745MHz	21.5
5785MHz	19.75
5825MHz	21.5

2TX

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5180MHz	14.75 (S0-1.5)
5200MHz	14.5 (S0-1.25)
5240MHz	14.5 (S0-1.25)
5260MHz	14.5 (S0-1.25)
5300MHz	14 (S0-1)
5320MHz	13.75 (S0-0.75)
5500MHz	13.75 (S0-1)
5580MHz	13.75 (S0-1)
5700MHz	13 (S0-1.25)
5720MHz Straddle 5.47-5.725GHz	13.5 (S0-1.25)
5720MHz Straddle 5.725-5.85GHz	13.5 (S0-1.25)
5745MHz	21.5 (S0-1)
5785MHz	21.5 (S0-0.5)
5825MHz	21.5 (S1-1)



Note:

- ♦ Evaluated HEW20/HEW40/HEW80/HEW160 mode only. Due to similar modulation, The power setting of HT20/HT40/VHT20/VHT40/VHT80/VHT160 mode are the same or lower than HEW20/HEW40/HEW80/HEW160. The VHT20/VHT40/VHT80/VHT160 evaluates the output power only.
- ♦ The EUT supports non-beamforming and beamforming modes, after evaluating, the non-beamforming mode has been evaluated to be the worst case, so it was selected to test. The beamforming mode evaluates the output power only.

**<Full RU> UNII4
1TX**

Mode	Power Setting
802.11a_Nss1,(6Mbps)_1TX	-
5845MHz	17.75
5865MHz	17.5
5885MHz	17.5
802.11ac VHT20_Nss1,(MCS0)_1TX	-
5845MHz	18.25
5865MHz	18
5885MHz	18
802.11ac VHT40_Nss1,(MCS0)_1TX	-
5835MHz	19.75
5875MHz	19.5
802.11ac VHT80_Nss1,(MCS0)_1TX	-
5855MHz	18
802.11ac VHT160_Nss1,(MCS0)_1TX	-
5815MHz	13.75
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5845MHz	18.25
5865MHz	18
5885MHz	18
802.11ax HEW40_Nss1,(MCS0)_1TX	-
5835MHz	19.75
5875MHz	19.5
802.11ax HEW80_Nss1,(MCS0)_1TX	-
5855MHz	18
802.11ax HEW160_Nss1,(MCS0)_1TX	-
5815MHz	13.75

**2TX**

Mode	Power Setting
802.11a_Nss1,(6Mbps)_2TX	-
5845MHz	13.5 (S0-1)
5865MHz	13.5 (S0-1)
5885MHz	13.5 (S0-1)
802.11ac VHT20_Nss1,(MCS0)_2TX	-
5845MHz	13.75 (S0-1)
5865MHz	14 (S0-1)
5885MHz	13.75 (S0-1)
802.11ac VHT40_Nss1,(MCS0)_2TX	-
5835MHz	16.75 (S0-1)
5875MHz	16.5 (S0-1.25)
802.11ac VHT80_Nss1,(MCS0)_2TX	-
5855MHz	17.25 (S0-1.25)
802.11ac VHT160_Nss1,(MCS0)_2TX	-
5815MHz	11.25 (S0-1)
802.11ac VHT20-BF_Nss1,(MCS0)_2TX	-
5845MHz	13.75 (S0-1)
5865MHz	14 (S0-1)
5885MHz	13.75 (S0-1)
802.11ac VHT40-BF_Nss1,(MCS0)_2TX	-
5835MHz	16.75 (S0-1)
5875MHz	16.5 (S0-1.25)
802.11ac VHT80-BF_Nss1,(MCS0)_2TX	-
5855MHz	17.25 (S0-1.25)
802.11ac VHT160-BF_Nss1,(MCS0)_2TX	-
5815MHz	11.25 (S0-1)
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5845MHz	13.75 (S0-1)
5865MHz	14 (S0-1)
5885MHz	13.75 (S0-1)
802.11ax HEW40_Nss1,(MCS0)_2TX	-
5835MHz	16.75 (S0-1)
5875MHz	16.5 (S0-1.25)
802.11ax HEW80_Nss1,(MCS0)_2TX	-
5855MHz	17.25 (S0-1.25)
802.11ax HEW160_Nss1,(MCS0)_2TX	-
5815MHz	11.25 (S0-1)
802.11ax HEW20-BF_Nss1,(MCS0)_2TX	-
5845MHz	13.75 (S0-1)



RADIO TEST REPORT

Report No. : FR1N0223AB

Mode	Power Setting
5865MHz	14 (S0-1)
5885MHz	13.75 (S0-1)
802.11ax HEW40-BF_Nss1,(MCS0)_2TX	-
5835MHz	16.75 (S0-1)
5875MHz	16.5 (S0-1.25)
802.11ax HEW80-BF_Nss1,(MCS0)_2TX	-
5855MHz	17.25 (S0-1.25)
802.11ax HEW160-BF_Nss1,(MCS0)_2TX	-
5815MHz	11.25 (S0-1)

**<Partial RU> UNII 4****RU 26****1TX**

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5845MHz	14.75
5865MHz	14.5
5885MHz	12.25

2TX

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5845MHz	10.25 (S0-1)
5865MHz	10.25 (S0-1.25)
5885MHz	7 (S0-1)

RU 52**1TX**

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5845MHz	16.25
5865MHz	16.25
5885MHz	16.25

2TX

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5845MHz	12.25 (S0-1)
5865MHz	12 (S0-0.75)
5885MHz	11 (S0-1)

**RU 106****1TX**

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_1TX	-
5845MHz	16.75
5865MHz	16.5
5885MHz	16.5

2TX

Mode	Power Setting
802.11ax HEW20_Nss1,(MCS0)_2TX	-
5845MHz	12 (S0-0.5)
5865MHz	12 (S-0.75)
5885MHz	12 (S0-0.75)

Note:

- ♦ Evaluated HEW20/HEW40/HEW80/HEW160 mode only. Due to similar modulation, The power setting of HT20/HT40/VHT20/VHT40/VHT80/VHT160 mode are the same or lower than HEW20/HEW40/HEW80/HEW160. The VHT20/VHT40/VHT80/VHT160 evaluates the output power only.
- ♦ There are two modes of EUT, one is beamforming mode, and the other is Non-beamforming mode. only beamforming mode was tested and recorded in this report.

2.2 The Worst Case Measurement Configuration

<Full RU>

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	Normal Link
1	EUT + WLAN 2.4GHz+ Bluetooth + Ant. 2
2	EUT + WLAN 5GHz+ Bluetooth + Ant. 2
3	EUT + WLAN 6GHz+ Bluetooth + Ant. 2
Mode 2 generated the worst test result, so it was recorded in this report.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Maximum Output Power
Test Condition	Conducted measurement at transmit chains
1	EUT with Ant. 2

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Power Spectral Density Unwanted Emissions
Test Condition	Conducted measurement at transmit chains
1	EUT with Ant. 1
2	EUT with Ant. 2
3	EUT with Ant. 3



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	Normal Link
1	EUT in X axis + WLAN 2.4GHz + Bluetooth + Ant. 2
2	EUT in Y axis + WLAN 2.4GHz + Bluetooth + Ant. 2
3	EUT in Z axis + WLAN 2.4GHz + Bluetooth + Ant. 2
Mode 3 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4 ~ 5 will follow this same test mode.	
4	EUT in Z axis + WLAN 5GHz + Bluetooth + Ant. 2
5	EUT in Z axis + WLAN 6GHz + Bluetooth + Ant. 2
Mode 3 has been evaluated to be the worst case among Mode 1~5, thus measurement for Mode 6 ~ 7 will follow this same test mode.	
6	EUT in Z axis + WLAN 2.4GHz + Bluetooth + Ant. 3
7	EUT in Z axis + WLAN 2.4GHz + Bluetooth + Ant. 1
For operating mode 3 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
The EUT was performed at X axis, Y axis and Z axis position, and the worst case as below:	
1	1TX: EUT in X axis with Ant. 1
	2TX: EUT in X axis with Ant. 1
2	1TX: EUT with Ant. 2 (Bandedge at Z axis / Harmonic at X axis)
	2TX: EUT in X axis with Ant. 2
3	1TX: EUT in X axis with Ant. 3
	2TX: EUT in Y axis with Ant. 3

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. EUT X axis in 5GHz + Bluetooth and EUT Y axis in 6GHz + Bluetooth were been evaluated to be the worst case at Radiated measurement <Above 1GHz>; thus, the measurement will follow this same test configuration	
1	EUT in X with Ant. 1 (Port 1)_WLAN 5GHz + Bluetooth
2	EUT in Y with Ant. 1 (Port 1)_WLAN 6GHz + Bluetooth
3	EUT in X with Ant. 2 (Port 1)_WLAN 5GHz + Bluetooth
4	EUT in Y with Ant. 2 (Port 1)_WLAN 6GHz + Bluetooth
5	EUT in X with Ant. 3 (Port 1)_WLAN 5GHz + Bluetooth
6	EUT in Y with Ant. 3 (Port 1)_WLAN 6GHz + Bluetooth
For operating mode 5 is the worst case and it was record in this test report.	
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	Bluetooth + WLAN 5GHz : 2TX
2	Bluetooth + WLAN 6GHz : 2TX
3	WLAN 2.4GHz: 1TX + WLAN 5GHz : 1TX
4	WLAN 2.4GHz: 1TX + WLAN 6GHz : 1TX
5	Bluetooth + WLAN 5GHz : 1TX + WLAN 6GHz : 1TX
Refer to Sporton Test Report No.: FA1N0223 for Co-location RF Exposure Evaluation.	

**<Partial RU>**

The Worst Case Mode for Following Conformance Tests	
Tests Item	Maximum Output Power
Test Condition	Conducted measurement at transmit chains
1	EUT with Ant. 2

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth Power Spectral Density Unwanted Emissions
Test Condition	Conducted measurement at transmit chains
1	EUT with Ant. 1
2	EUT with Ant. 2
3	EUT with Ant. 3

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, and the worst case as below:	
1	1TX: EUT in X axis with Ant. 1
	2TX: EUT in X axis with Ant. 1
2	1TX: EUT with Ant. 2 (Bandedge at Z axis / Harmonic at X axis)
	2TX: EUT in X axis with Ant. 2
3	1TX: EUT in X axis with Ant. 3
	2TX: EUT in Y axis with Ant. 3

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

N/A



2.5 Support Equipment

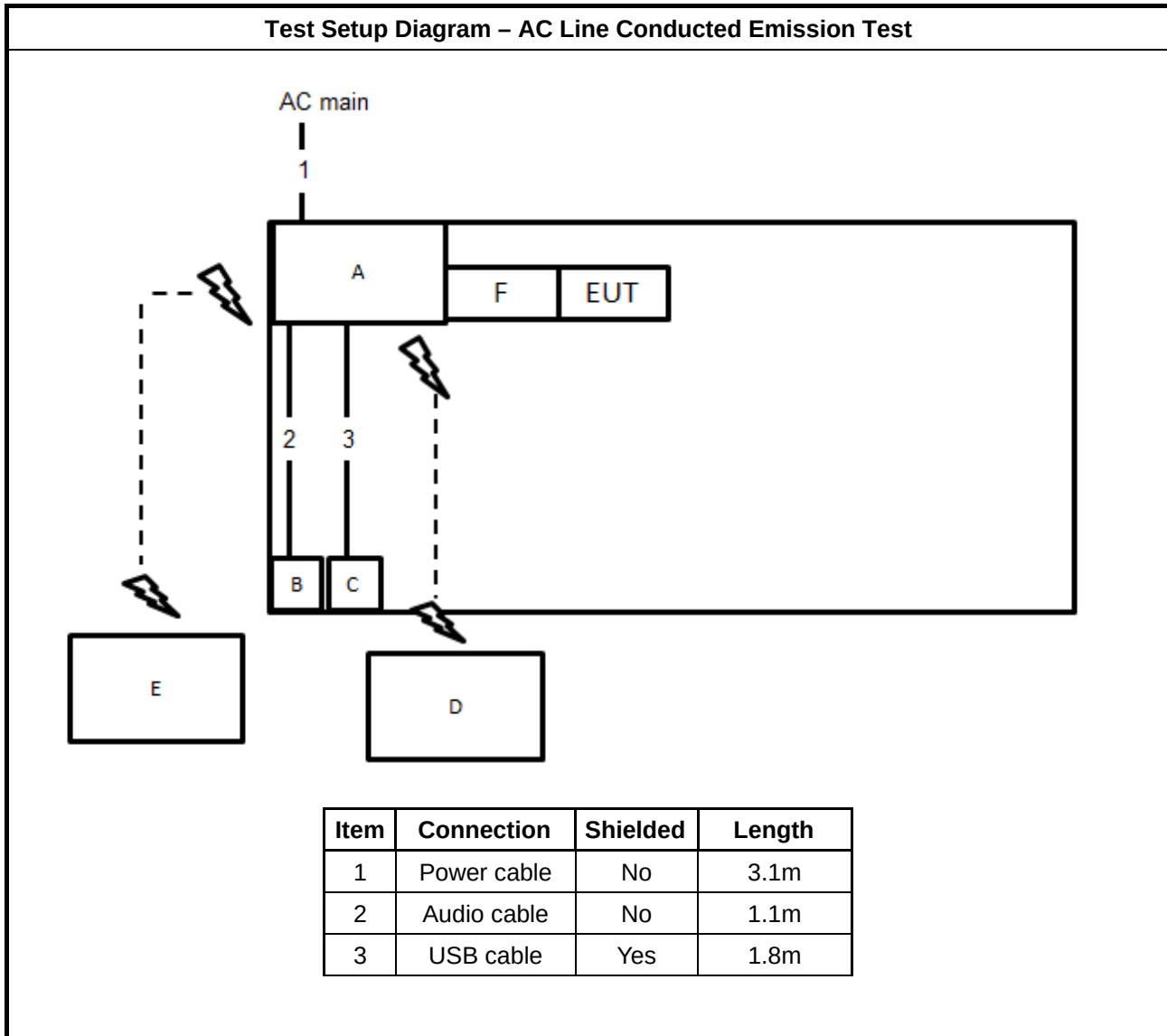
For AC Conduction and Radiated (below 1GHz):

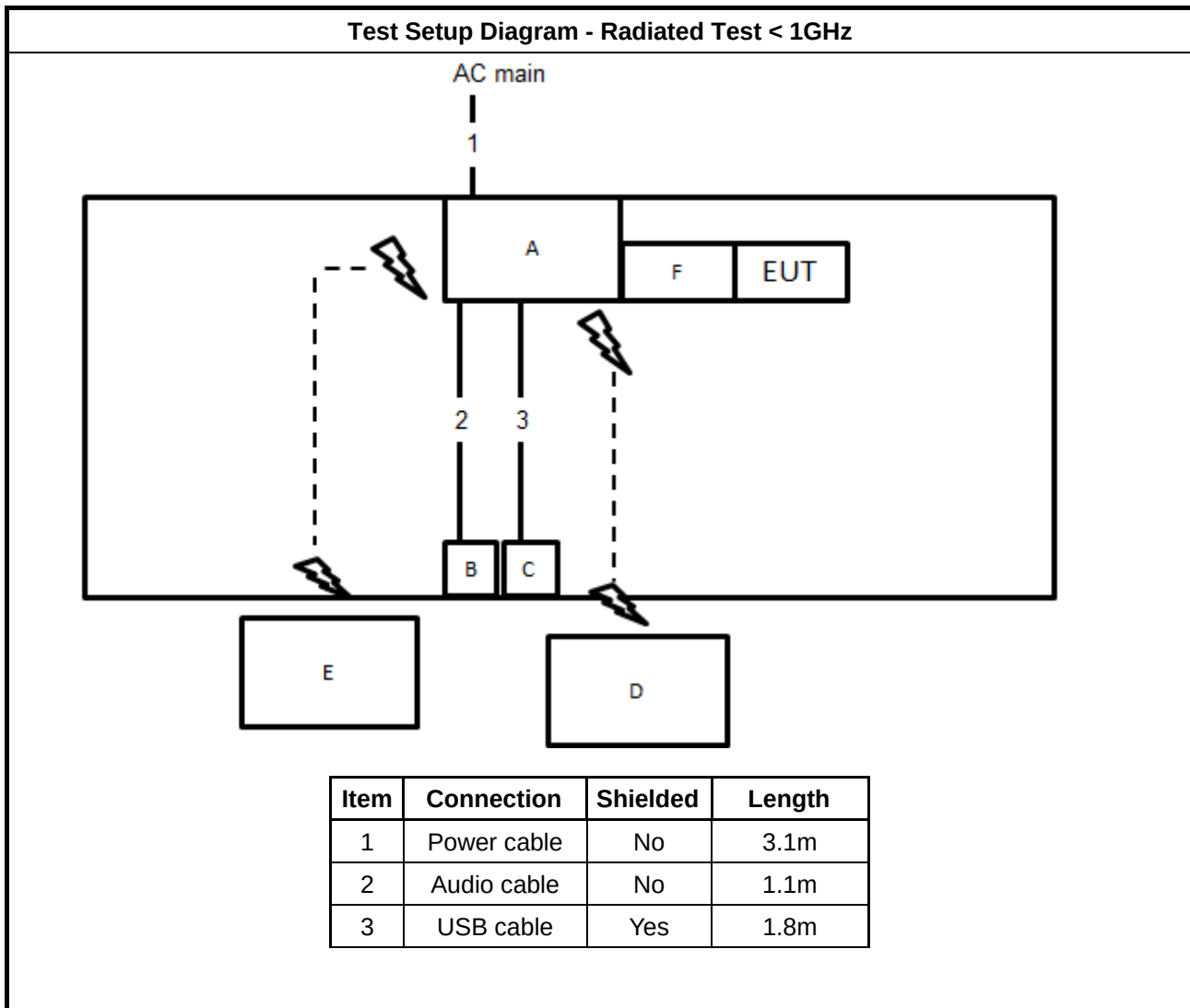
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	PP13S	N/A
B	Earphone	SHYARO CHI	MIC-04	N/A
C	Mouse	Logitech	M-U0026	N/A
D	WIFI AP	ASUS	AX88U	N/A
E	Wireless Connectivity Tester	R&S	CMW270	N/A
F	Test fixture	REALTEK	Ameba adapter	N/A

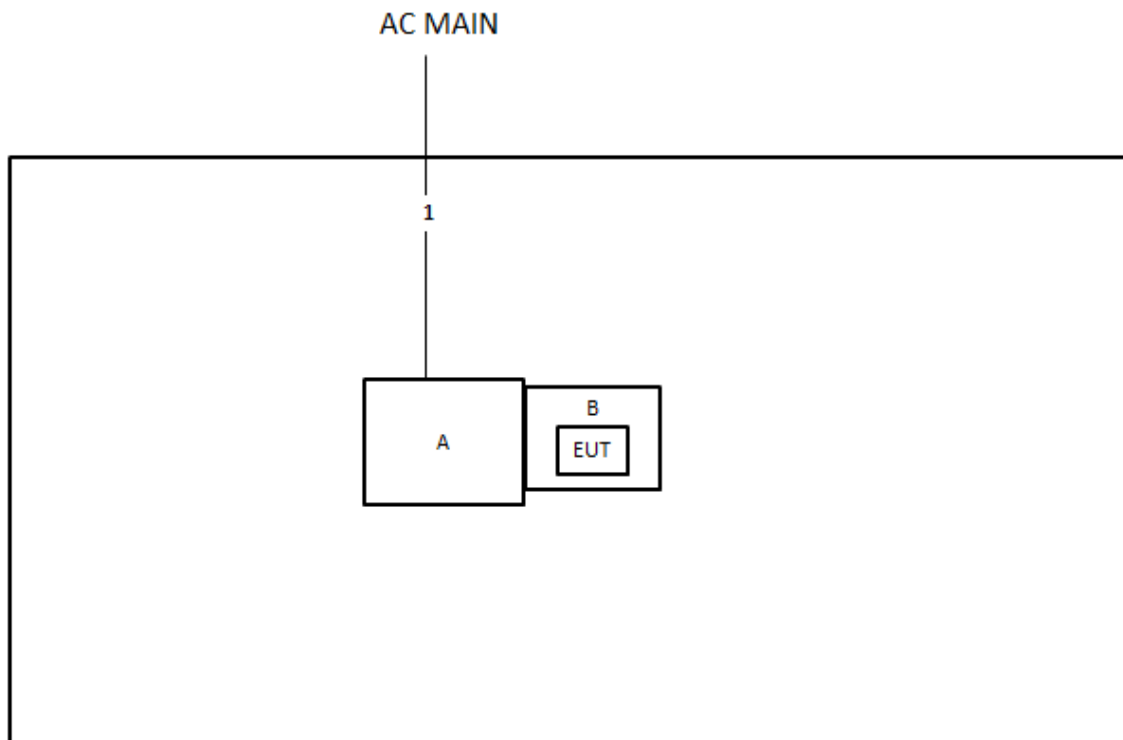
For Radiated (above 1GHz) and RF Conducted:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A
B	Test fixture	REALTEK	Ameba adapter	N/A

2.6 Test Setup Diagram





Test Setup Diagram - Radiated Test > 1GHz


Item	Connection	Shielded	Length
1	Power cable	No	1.5m



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

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

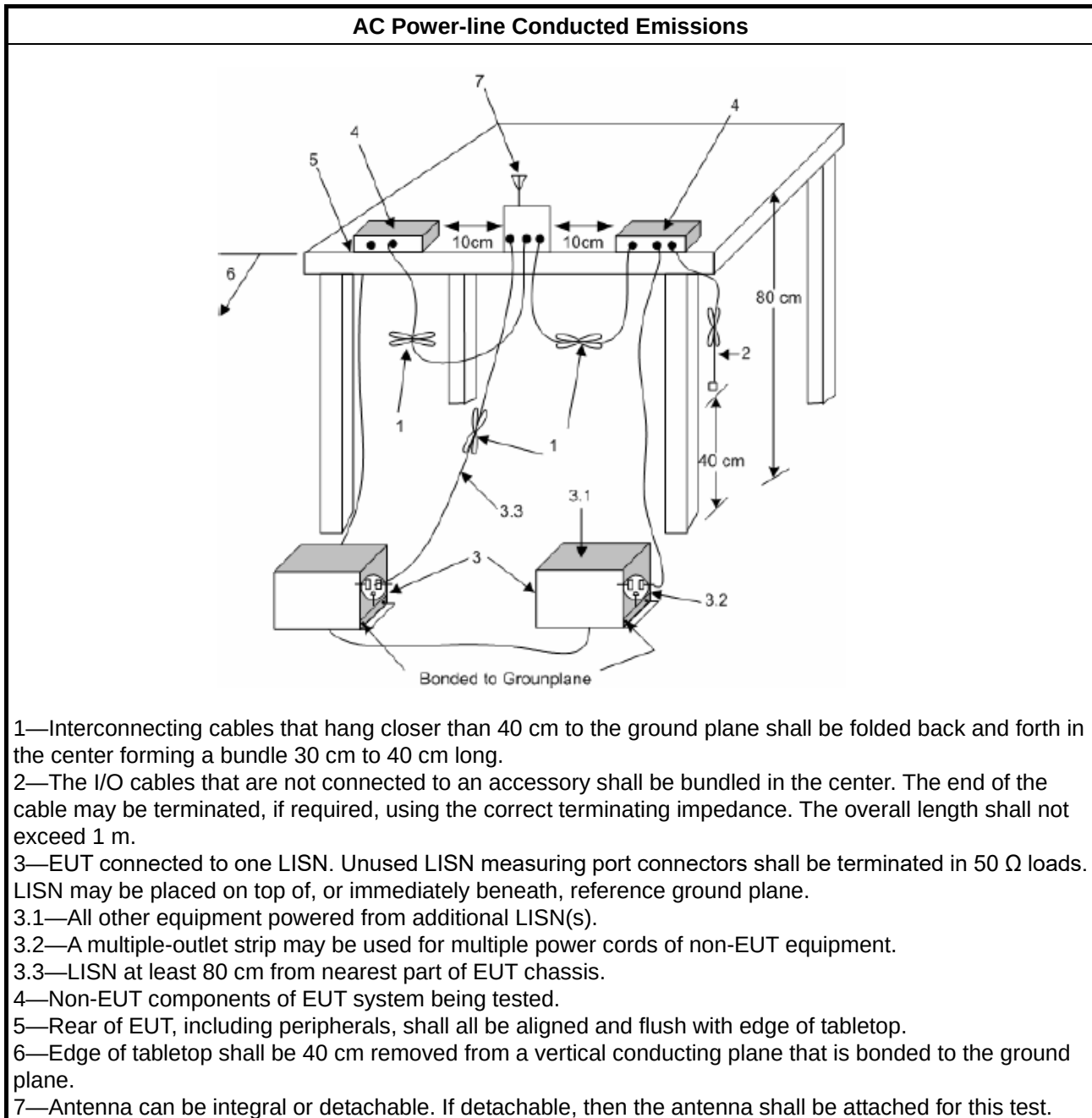
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



3.1.5 Measurement Results Calculation

The measured Level is calculated using:

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

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

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

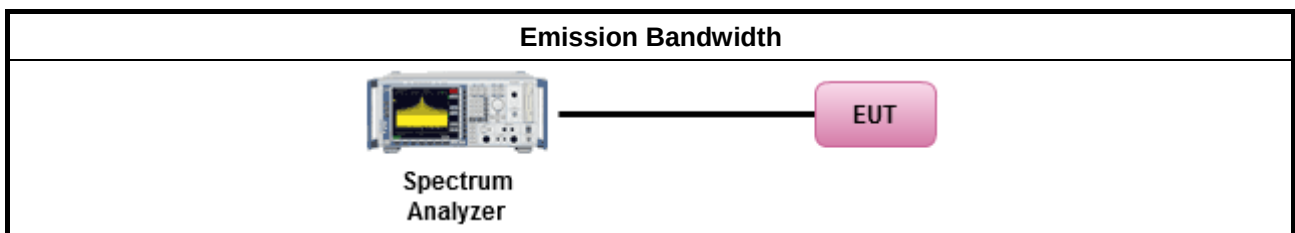
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
For the emission bandwidth shall be measured using one of the options below:	
☒	Refer as FCC KDB 789033 D02, clause C for EBW and clause D for OBW measurement.
☐	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.
☐	Refer as IC RSS-Gen, clause 4.6 for bandwidth testing.

3.2.4 Test Setup





3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B



3.3 Maximum Output Power

3.3.1 Limit

Maximum Output Power Limit	
UNII Devices	
☒ For the 5.15-5.25 GHz band:	
☐	- Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. e.i.r.p. at any elevation angle above 30 degrees ≤ 125mW [21dBm] - Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ - Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 23$ dBi, then $P_{Out} = 30 - (G_{TX} - 23)$. - Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.
☒ For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.	
☒ For the 5.47-5.725 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$.	
☒ For the 5.725-5.85 GHz band:	
☐	- Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W.
Maximum EIRP Limit	
☒ For the 5.85-5.895 GHz band:	
☐	- Indoor AP & subordinate device < 36 dBm - Client device < 30 dBm
LE-LAN Devices	
☐ For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.	
☐ For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
☐ For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz	
☐ For the 5.725-5.85 GHz band:	
☐	- Point-to-multipoint systems (P2M): the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$. - Point-to-point systems (P2P): the maximum conducted output power (P_{Out}) shall not exceed the



lesser of 1 W.

P_{Out} = maximum conducted output power in dBm,

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

3.3.2 Measuring Instruments

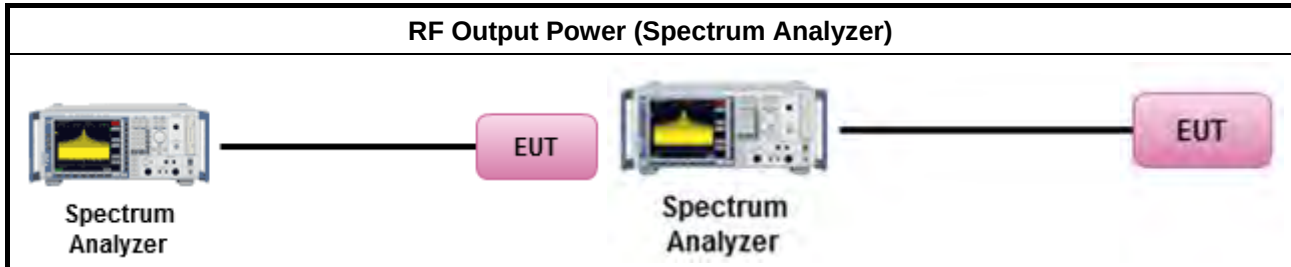
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

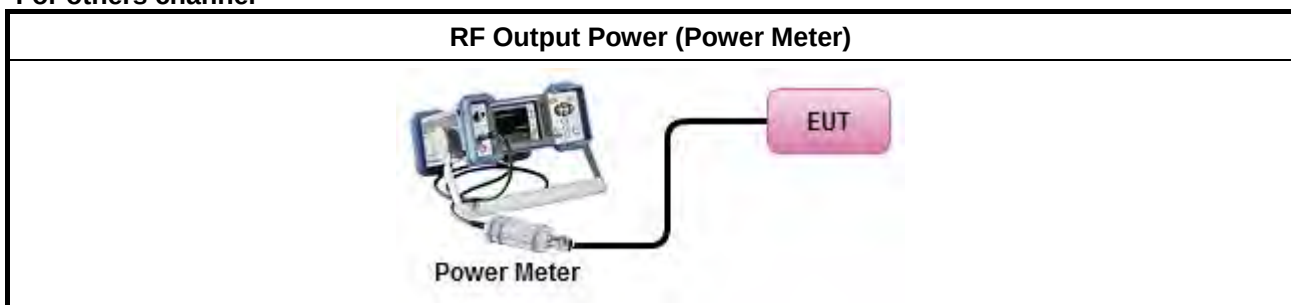
Test Method	
	Average over on/off periods with duty factor
☒	Refer as FCC KDB 789033 D02, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033 D02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods with duty factor
☒	Refer as FCC KDB 789033 D02, clause E Method PM-G (using an RF average power meter).
☒	For conducted measurement.
	If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	If multiple transmit chains, EIRP calculation could be following as methods: $P_{\text{total}} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $\text{EIRP}_{\text{total}} = P_{\text{total}} + \text{DG}$
☐	For radiated measurement.
	- 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 others channel



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C



3.4 Power Spectral Density

3.4.1 Limit

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



PPSD = peak power spectral density that he same method as used to determine the conducted output power shall be used to determine the power spectral density. And power spectral density in dBm/MHz
G_{TX} = the maximum transmitting antenna directional gain in dBi.

3.4.2 Measuring Instruments

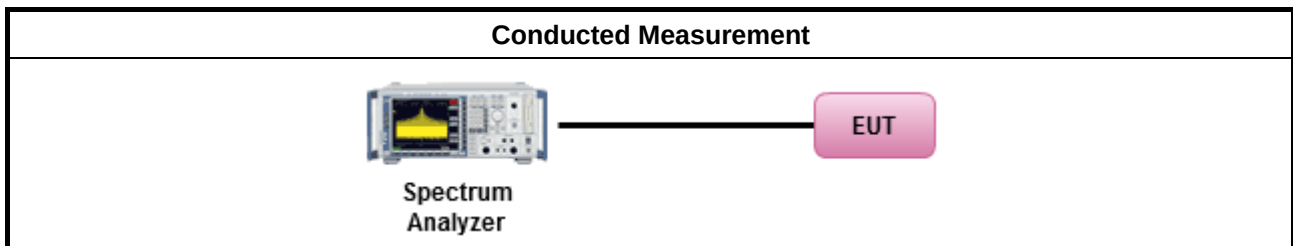
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method	
Peak power spectral density procedures that the same method as used to determine the conducted output power shall be used to determine the peak power spectral density and use the peak search function on the spectrum analyzer to find the peak of the spectrum. For the peak power spectral density shall be measured using below options:	
☐	Refer as FCC KDB 789033 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]
☒	Refer as FCC KDB 789033 D02, clause E Method SA-1 (spectral trace averaging).
☐	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
☒	Refer as FCC KDB 789033 D02, clause E Method SA-2 (spectral trace averaging).
☐	Refer as FCC KDB 789033 D02, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
☒ For conducted measurement.	
If the EUT supports multiple transmit chains using options given below:	
☒	Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
☐	Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
☐	Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.
If multiple transmit chains, EIRP PPCSD calculation could be following as methods: $PPSD_{total} = PPCSD_1 + PPCSD_2 + \dots + PPCSD_n$	

Test Method	
	(calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$
☐	For radiated measurement.
	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.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D



3.5 Unwanted Emissions

3.5.1 Transmitter Unwanted Emissions Limit

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

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

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

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

Un-restricted band emissions above 1GHz Limit	
Operating Band	Limit
☒ 5.15 - 5.25 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
☒ 5.25 - 5.35 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
☒ 5.47 - 5.725 GHz	e.i.r.p. -27 dBm [68.2 dBuV/m@3m]
☒ 5.725 - 5.85 GHz	all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
☒ 5.85 - 5.895 GHz	(i) For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of 15 dBm/MHz and shall decrease linearly to an e.i.r.p. of - 7 dBm/MHz at or above 5.925 GHz. (ii) For a client device, all emissions at or above 5.895 GHz shall not exceed an



	e.i.r.p. of -5 dBm/MHz and shall decrease linearly to an e.i.r.p. of -27 dBm/MHz at or above 5.925 GHz. (iii) For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of -27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/ MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.
Note 1: Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).	

3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method	
Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).	
The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].	
For the transmitter unwanted emissions shall be measured using following options below:	
For radiated measurement.	Refer as FCC KDB 789033 D02, clause G)2) for unwanted emissions into non-restricted bands.
	Refer as FCC KDB 789033 D02, clause G)1) for unwanted emissions into restricted bands.
	☐ Refer as FCC KDB 789033 D02, G)6) Method AD (Trace Averaging).
	☒ Refer as FCC KDB 789033 D02, G)6) Method VB (Reduced VBW).
	☐ Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.
	☐ Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
	☒ Refer as FCC KDB 789033 D02, clause G)5) measurement procedure peak limit.
The any unwanted emissions level shall not exceed the fundamental emission level.	☐ Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.

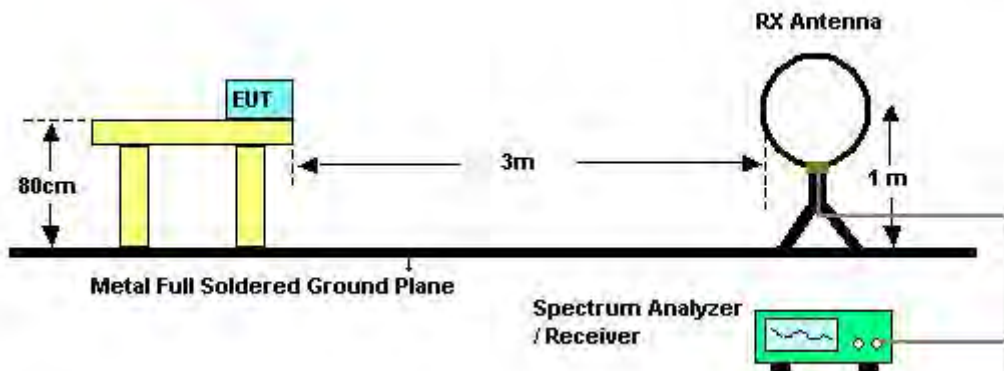
Test Method

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

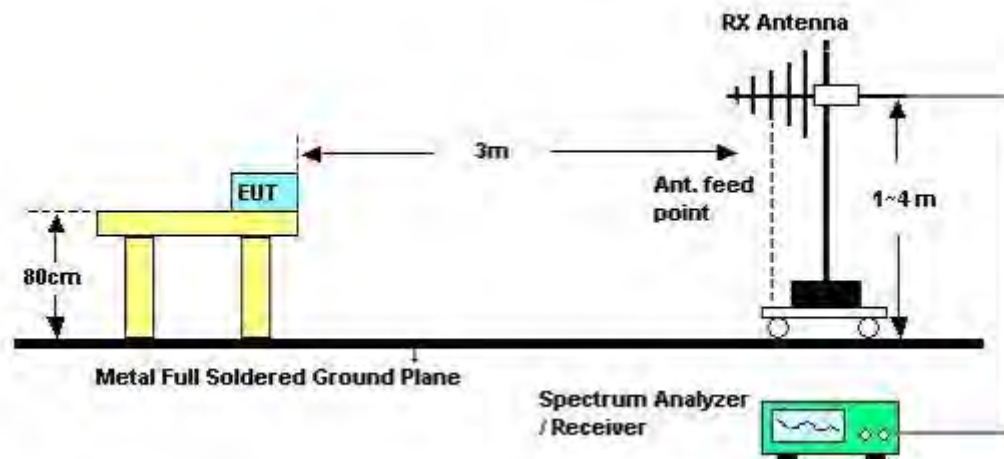
3.5.4 Test Setup

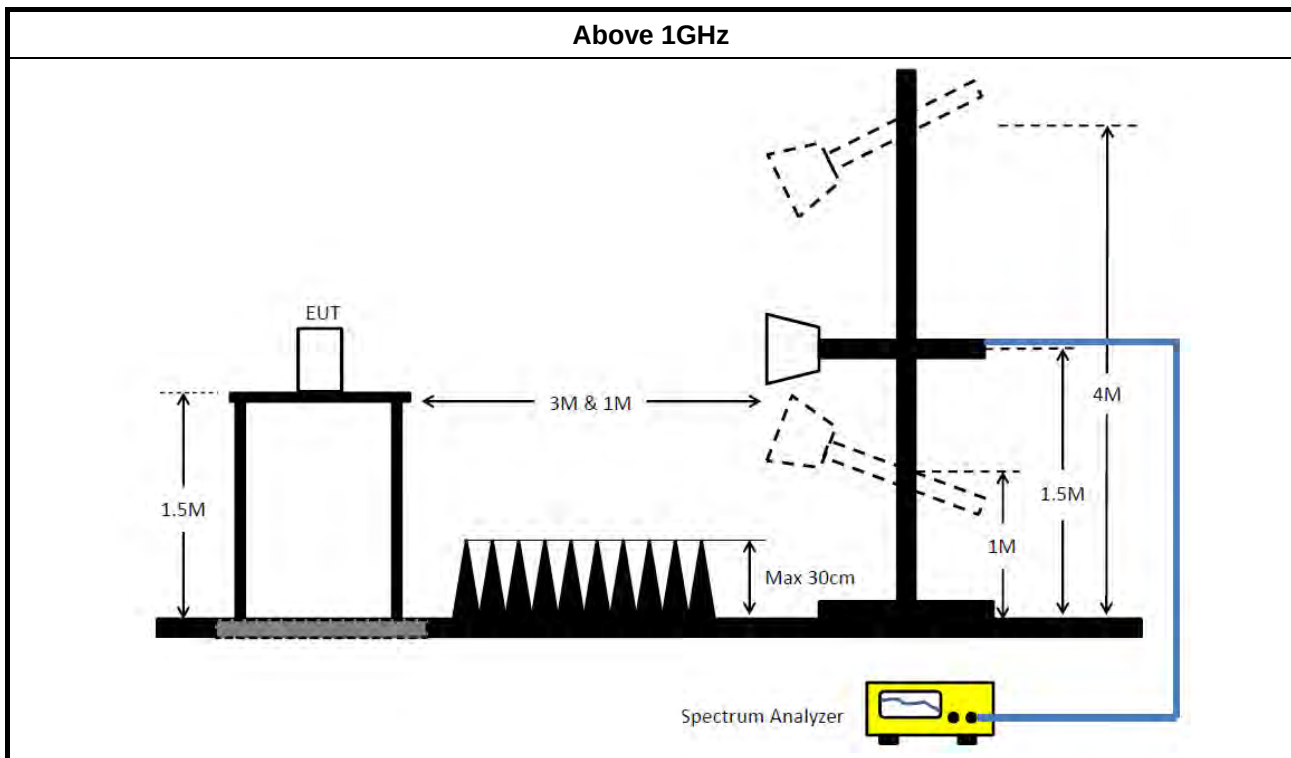
Radiated - Emissions in Restricted Frequency Bands

9kHz ~30MHz



30MHz~1GHz





3.5.5 Measurement Results Calculation

The measured Level is calculated using:

Measure Level = Read level (RAW) + Antenna factor (AF) + Cable loss (CL) - Preamp factor (PA) (if applicable)

Explanation example

Example of 802.11a_NSS1,(6Mbps)_1TX 5180MHz Band edge result

Peak Level(5150MHz) = RAW(67.62 dBuV/m) + AF(34 dB) + CL(7.17dB) – PA(35.34 dB) = 73.45 dBuV/m < 74 dBuV/m

Average Level(5150MHz) = RAW(46.88 dBuV/m) + AF(34 dB) + CL(7.17dB) – PA(35.34 dB) = 52.71 dBuV/m < 54 dBuV/m

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 ~ 8.4GHz	Feb. 22, 2022	Feb. 21, 2023	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Feb. 09, 2022	Feb. 08, 2023	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	Feb. 10, 2022	Feb. 09, 2023	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 19, 2021	May 18, 2022	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6120	31244	9kHz - 30 MHz	Mar. 18, 2022	Mar. 17, 2023	Radiation (10CH01-CB)
10m Semi Anechoic Chamber NSA	TDK	SAC-10M	10CH01-CB	30MHz~1GHz 10m,3m	Jan. 27, 2022	Jan. 26, 2023	Radiation (10CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10783	9kHz ~ 1.3GHz	Mar. 11, 2022	Mar. 10, 2023	Radiation (10CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10784	9kHz ~ 1.3GHz	Mar. 11, 2022	Mar. 10, 2023	Radiation (10CH01-CB)
Low Cable	Woken	SUCOFLEX 104	low cable-01	25MHz ~ 1GHz	Oct. 19, 2021	Oct. 18, 2022	Radiation (10CH01-CB)
High Cable	Woken	SUCOFLEX 104	low cable-02	25MHz ~ 1GHz	Oct. 19, 2021	Oct. 18, 2022	Radiation (10CH01-CB)
Bilog Antenna with 6dB Attenuator	Chase & EMCI	CBL6111A &N-6-06	1543 &AT-N0609	30MHz ~ 1GHz	Jul. 01, 2021	Jun. 30, 2022	Radiation (10CH01-CB)
EMI Test Receiver	Rohde&Schwarz	ESCI	100186	9kHz ~ 3GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (10CH01-CB)
Spectrum Analyzer	Rohde&Schwarz	FSV30	101026	9kHz ~ 30GHz	Apr. 22, 2022	Apr. 21, 2023	Radiation (10CH01-CB)
Signal Analyzer	R&S	FSV40	101904	9kHz ~ 40GHz	Apr. 26, 2022	Apr. 25, 2023	Radiation (10CH01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (10CH01-CB)
3m Semi Anechoic Chamber VSWR	RIKEN	SAC-3M	03CH02-CB	1GHz ~18GHz 3m	Mar. 27, 2021	Mar. 26, 2022	Radiation (03CH02-CB)
3m Semi Anechoic Chamber VSWR	RIKEN	SAC-3M	03CH02-CB	1GHz ~18GHz	Mar. 26, 2022	Mar. 25, 2023	Radiation (03CH02-CB)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1370	1GHz~18GHz	Sep. 14, 2021	Sep. 13, 2022	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)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Pre-Amplifier	MITEQ	TTA1840-35-H G	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)
RF Cable-high	Woken	RG402	High Cable-20+29	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-29	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
High Cable	Woken	RG402	40G#4	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH02-CB)
Test Software	Audix	E3	6.2009-10-8b	-	N.C.R.	N.C.R.	Radiation (03CH02-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH03-CB	1GHz ~18GHz 3m	May 06, 2021	May 05, 2022	Radiation (03CH03-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH03-CB	1GHz ~18GHz 3m	May 05, 2022	May 04, 2023	Radiation (03CH03-CB)
Horn Antenna	ETS • Lindgren	3115	6821	750MHz~18GHz	Jan. 21, 2022	Jan. 20, 2023	Radiation (03CH03-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8449B	3008A02097	1GHz ~ 26.5GHz	Jul. 02, 2021	Jul. 01, 2022	Radiation (03CH03-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP40	100019	9kHz ~ 40GHz	Jun. 04, 2021	Jun. 03, 2022	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-20+29	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-29	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-18	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-18+19	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH03-CB)
High Cable	Woken	RG402	40G#4	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH03-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH03-CB)
Test Software	Audix	E3	6.2009-10-8b	-	N.C.R.	N.C.R.	Radiation (03CH03-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH04-CB	30 MHz ~ 1 GHz	Aug. 08, 2021	Aug. 07, 2022	Radiation (03CH04-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH04-CB	1GHz ~18GHz 3m	Feb. 24, 2022	Feb. 23, 2023	Radiation (03CH04-CB)
Horn Antenna	ETS • Lindgren	3115	00143147	750MHz~18GHz	Oct. 25, 2021	Oct. 24, 2022	Radiation (03CH04-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH04-CB)
Pre-Amplifier	Agilent	83017A	MY53270063	0.5GHz ~ 26.5GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (03CH04-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH04-CB)
Spectrum Analyzer	R&S	FSP40	100142	9kHz~40GHz	Mar. 28, 2022	Mar. 27, 2023	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21	1GHz - 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21+67	1GHz - 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH04-CB)
High Cable	Woken	RG402	40G#4	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH04-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH04-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH04-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	May 21, 2021	May 20, 2022	Conducted (TH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	May 27, 2022	May 26, 2023	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz – 26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-30	1 GHz –26.5 GHz	Oct. 04, 2021	Oct. 03, 2022	Conducted (TH01-CB)
Switch	SPTCB	SP-SWI	SWI-01	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P1	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P2	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P3	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	SWI-01-P4	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)

**RADIO TEST REPORT****Report No. : FR1N0223AB**

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	SWI-01-P5	1 GHz –26.5 GHz	Dec. 13, 2021	Dec. 12, 2022	Conducted (TH01-CB)
Power Sensor	Agilent	E9327A	US40442088	50MHz~18GHz	Feb. 21, 2022	Feb. 20, 2023	Conducted (TH01-CB)
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Feb. 21, 2022	Feb. 20, 2023	Conducted (TH01-CB)

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

NCR means Non-Calibration required.



Conducted Emissions at Powerline

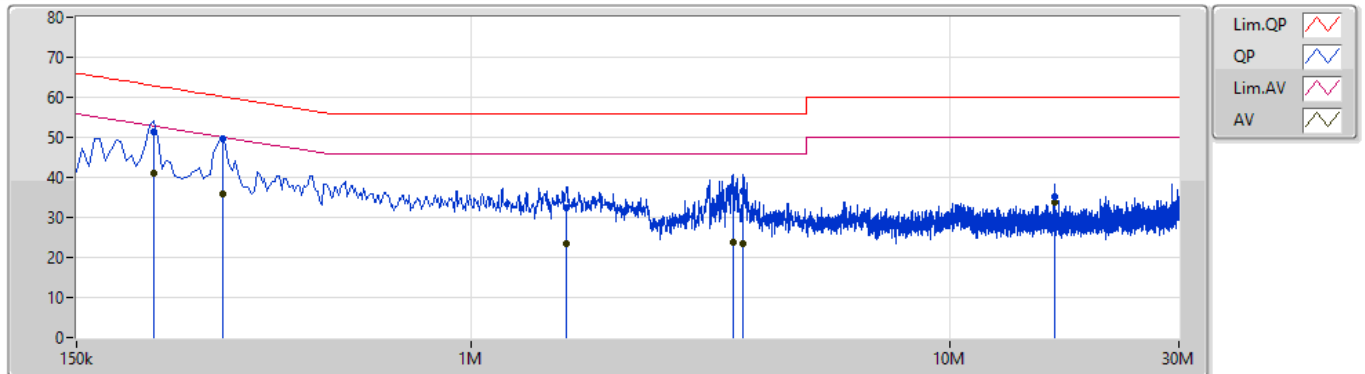
Appendix A

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 2	Pass	QP	303k	49.73	60.17	-10.44	Line

Mode 2

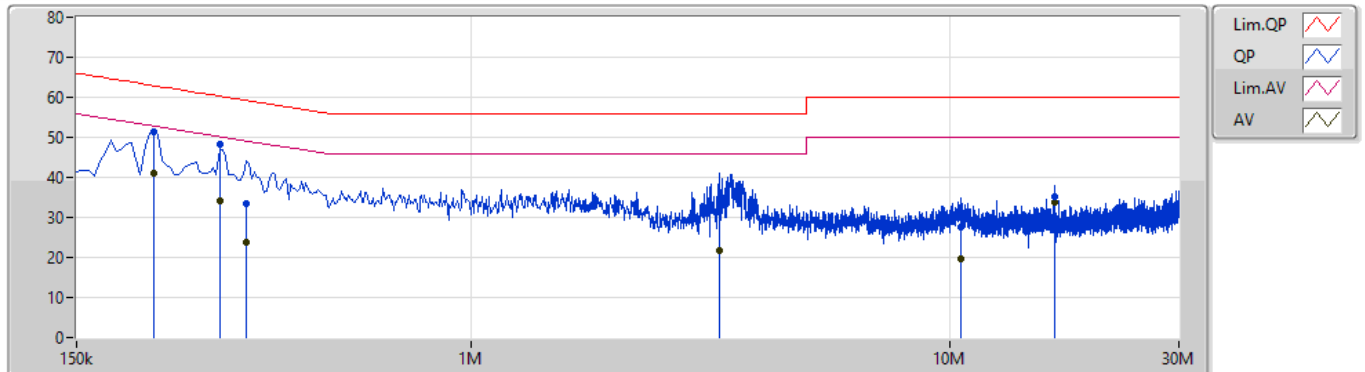
13/05/2022



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	217.5k	51.25	62.92	-11.67	9.97	Line	-	41.28	0.06	0.02	9.89			
AV	217.5k	41.20	52.92	-11.72	9.97	Line	-	31.23	0.06	0.02	9.89			
QP	303k	49.73	60.17	-10.44	9.97	Line	"Worst"	39.76	0.06	0.02	9.89			
AV	303k	35.87	50.17	-14.30	9.97	Line	-	25.90	0.06	0.02	9.89			
QP	1.581M	32.27	56.00	-23.73	10.01	Line	-	22.26	0.08	0.04	9.89			
AV	1.581M	23.37	46.00	-22.63	10.01	Line	-	13.36	0.08	0.04	9.89			
QP	3.512M	36.85	56.00	-19.15	10.07	Line	-	26.78	0.11	0.07	9.89			
AV	3.512M	23.68	46.00	-22.32	10.07	Line	-	13.61	0.11	0.07	9.89			
QP	3.701M	36.56	56.00	-19.44	10.08	Line	-	26.48	0.12	0.07	9.89			
AV	3.701M	23.28	46.00	-22.72	10.08	Line	-	13.20	0.12	0.07	9.89			
QP	16.467M	35.01	60.00	-24.99	10.34	Line	-	24.67	0.28	0.11	9.95			
AV	16.467M	33.72	50.00	-16.28	10.34	Line	-	23.38	0.28	0.11	9.95			

Mode 2

13/05/2022



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	217.5k	51.31	62.92	-11.61	9.98	Neutral	"Worst"	41.33	0.07	0.02	9.89			
AV	217.5k	40.99	52.92	-11.93	9.98	Neutral	-	31.01	0.07	0.02	9.89			
QP	298.5k	48.18	60.28	-12.10	9.98	Neutral	-	38.20	0.07	0.02	9.89			
AV	298.5k	34.28	50.28	-16.00	9.98	Neutral	-	24.30	0.07	0.02	9.89			
QP	339k	33.53	59.23	-25.70	9.98	Neutral	-	23.55	0.07	0.02	9.89			
AV	339k	23.75	49.23	-25.48	9.98	Neutral	-	13.77	0.07	0.02	9.89			
QP	3.291M	34.54	56.00	-21.46	10.07	Neutral	-	24.47	0.12	0.06	9.89			
AV	3.291M	21.71	46.00	-24.29	10.07	Neutral	-	11.64	0.12	0.06	9.89			
QP	10.518M	27.42	60.00	-32.58	10.22	Neutral	-	17.20	0.24	0.07	9.91			
AV	10.518M	19.73	50.00	-30.27	10.22	Neutral	-	9.51	0.24	0.07	9.91			
QP	16.467M	35.03	60.00	-24.97	10.34	Neutral	-	24.69	0.28	0.11	9.95			
AV	16.467M	33.76	50.00	-16.24	10.34	Neutral	-	23.42	0.28	0.11	9.95			

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	34.98M	22.009M	22M0D1D	32.19M	18.441M
802.11ax HEW20_Nss1,(MCS0)_1TX	36.18M	22.069M	22M1D1D	31.47M	19.22M
802.11ax HEW40_Nss1,(MCS0)_1TX	65.04M	38.381M	38M4D1D	46.44M	37.781M
802.11ax HEW80_Nss1,(MCS0)_1TX	80.52M	77.481M	77M5D1D	80.52M	77.481M
802.11ax HEW160_Nss1,(MCS0)_1TX	81.12M	78.521M	78M5D1D	81.12M	78.521M
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	32.73M	18.411M	18M4D1D	26.1M	16.522M
802.11ax HEW20_Nss1,(MCS0)_1TX	30.33M	19.07M	19M1D1D	25.74M	18.741M
802.11ax HEW40_Nss1,(MCS0)_1TX	65.82M	38.801M	38M8D1D	39.78M	37.601M
802.11ax HEW80_Nss1,(MCS0)_1TX	80.52M	77.121M	77M1D1D	80.52M	77.121M
802.11ax HEW160_Nss1,(MCS0)_1TX	80.96M	78.121M	78M1D1D	80.96M	78.121M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	31.47M	18.411M	18M4D1D	18.39M	13.508M
802.11ax HEW20_Nss1,(MCS0)_1TX	31.8M	19.16M	19M2D1D	19.395M	14.453M
802.11ax HEW40_Nss1,(MCS0)_1TX	58.08M	38.681M	38M7D1D	39.72M	33.828M
802.11ax HEW80_Nss1,(MCS0)_1TX	98.925M	77.361M	77M4D1D	80.52M	73.613M
802.11ax HEW160_Nss1,(MCS0)_1TX	162M	154.963M	155MD1D	162M	154.963M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	15.09M	19.85M	19M8D1D	3.08M	10.855M
802.11ax HEW20_Nss1,(MCS0)_1TX	15.06M	21.199M	21M2D1D	3.34M	12.234M
802.11ax HEW40_Nss1,(MCS0)_1TX	35.04M	38.381M	38M4D1D	3.9M	22.289M
802.11ax HEW80_Nss1,(MCS0)_1TX	75M	78.681M	78M7D1D	3.78M	37.201M

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

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-
5180MHz	Pass	Inf	34.98M	22.009M
5200MHz	Pass	Inf	34.83M	21.769M
5240MHz	Pass	Inf	32.19M	18.441M
5260MHz	Pass	Inf	31.35M	18.201M
5300MHz	Pass	Inf	32.73M	18.411M
5320MHz	Pass	Inf	26.1M	16.522M
5500MHz	Pass	Inf	26.31M	16.522M
5580MHz	Pass	Inf	31.47M	18.411M
5700MHz	Pass	Inf	18.39M	16.162M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	20.37M	13.508M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.08M	10.855M
5745MHz	Pass	500k	15.06M	19.82M
5785MHz	Pass	500k	15M	19.04M
5825MHz	Pass	500k	15.09M	19.85M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
5180MHz	Pass	Inf	36.18M	22.069M
5200MHz	Pass	Inf	36.09M	21.499M
5240MHz	Pass	Inf	31.47M	19.22M
5260MHz	Pass	Inf	30.33M	19.04M
5300MHz	Pass	Inf	29.94M	19.07M
5320MHz	Pass	Inf	25.74M	18.741M
5500MHz	Pass	Inf	22.68M	18.681M
5580MHz	Pass	Inf	31.8M	19.16M
5700MHz	Pass	Inf	20.07M	18.621M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	19.395M	14.453M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.34M	12.234M
5745MHz	Pass	500k	15M	20.39M
5785MHz	Pass	500k	15.03M	20M
5825MHz	Pass	500k	15.06M	21.199M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
5190MHz	Pass	Inf	46.44M	37.781M
5230MHz	Pass	Inf	65.04M	38.381M
5270MHz	Pass	Inf	65.82M	38.801M
5310MHz	Pass	Inf	39.78M	37.601M
5510MHz	Pass	Inf	39.72M	37.481M
5550MHz	Pass	Inf	58.08M	38.681M
5670MHz	Pass	Inf	39.78M	37.541M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	39.795M	33.828M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.9M	22.289M
5755MHz	Pass	500k	35.04M	38.381M
5795MHz	Pass	500k	31.26M	38.381M
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-	-	-
5210MHz	Pass	Inf	80.52M	77.481M
5290MHz	Pass	Inf	80.52M	77.121M
5530MHz	Pass	Inf	80.52M	77.361M
5610MHz	Pass	Inf	80.52M	77.241M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	98.925M	73.613M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.78M	37.201M
5775MHz	Pass	500k	75M	78.681M



EBW

<Full RU> UNII1~UNII3_Non-Beamforming Mode_Ant.1 (1TX)

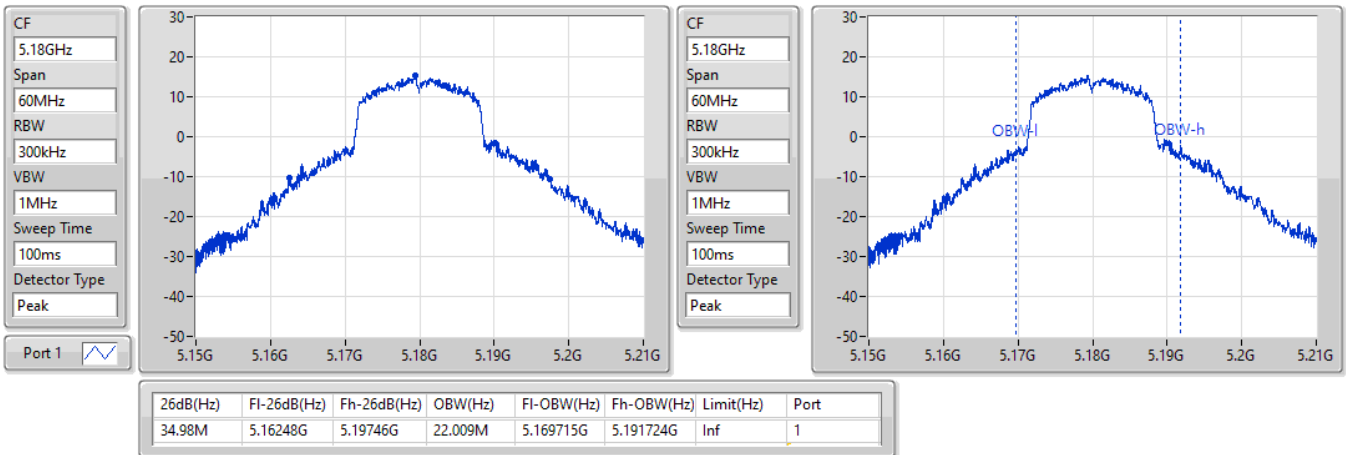
Appendix B.1

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11ax HEW160_Nss1,(MCS0)_1TX	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	81.12M	78.521M
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	80.96M	78.121M
5570MHz	Pass	Inf	162M	154.963M

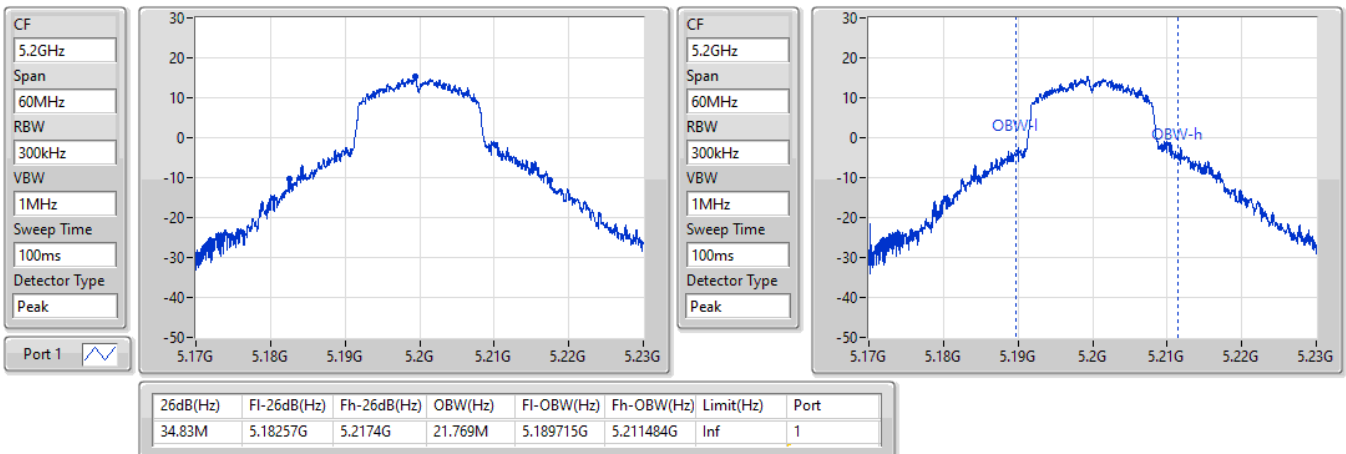
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

802.11a_Nss1,(6Mbps)_1TX
EBW
5180MHz

20/05/2022

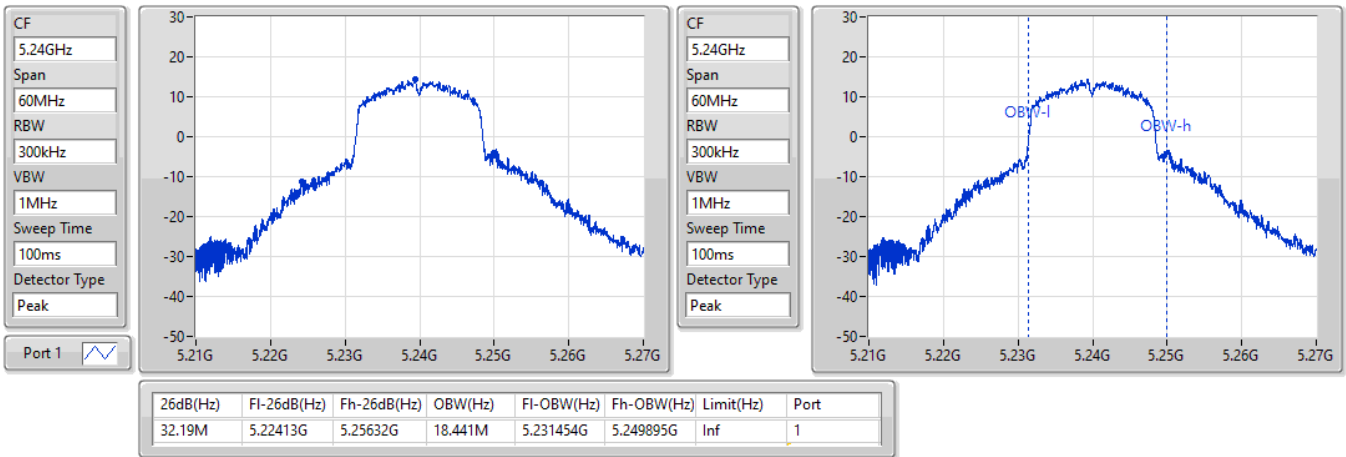

802.11a_Nss1,(6Mbps)_1TX
EBW
5200MHz

20/05/2022

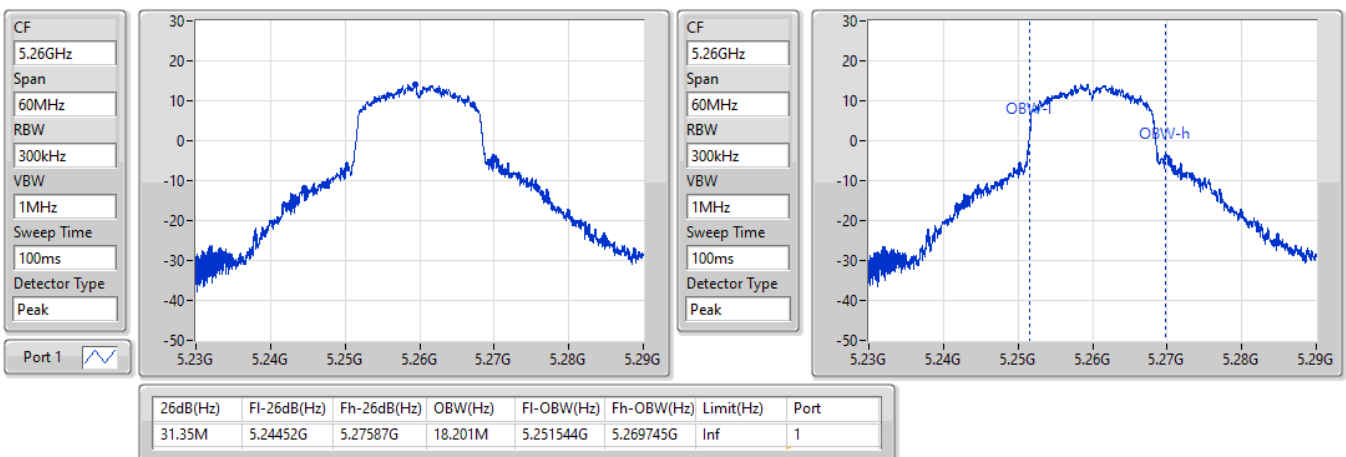


802.11a_Nss1,(6Mbps)_1TX
EBW
5240MHz

20/05/2022

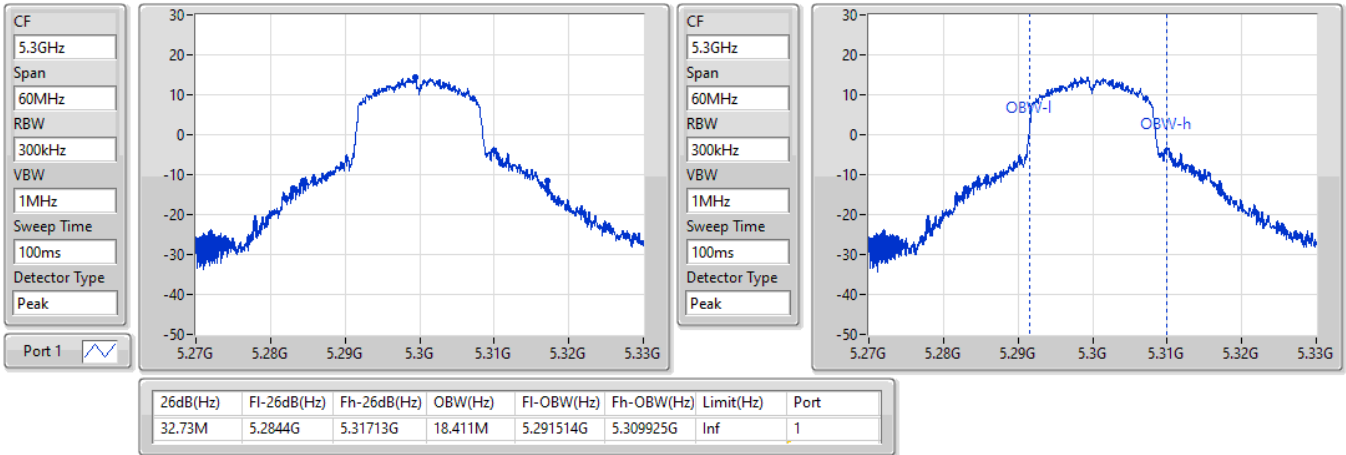

802.11a_Nss1,(6Mbps)_1TX
EBW
5260MHz

20/05/2022

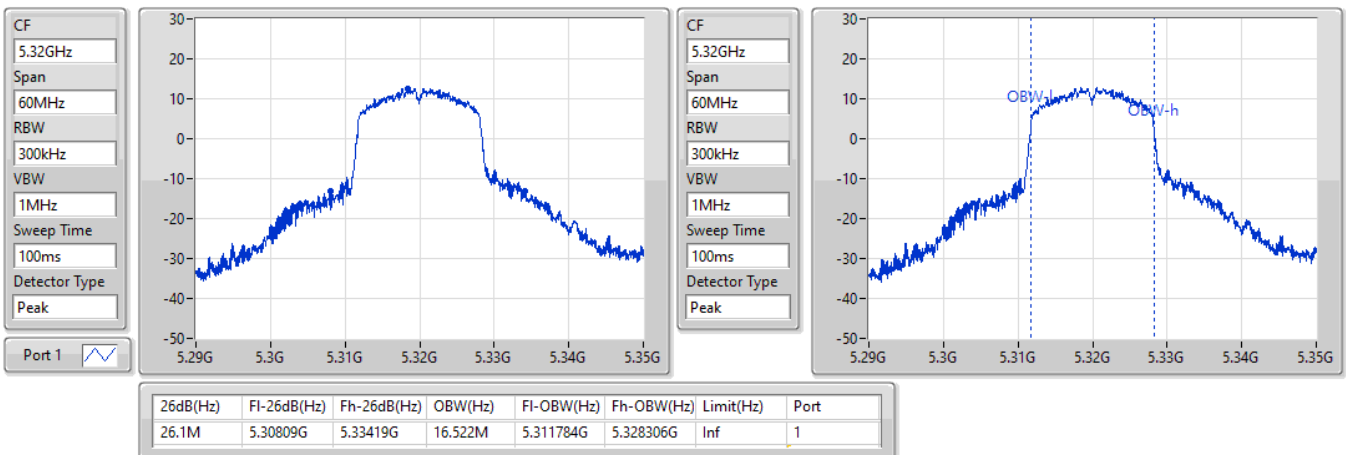


802.11a_Nss1,(6Mbps)_1TX
EBW
5300MHz

20/05/2022

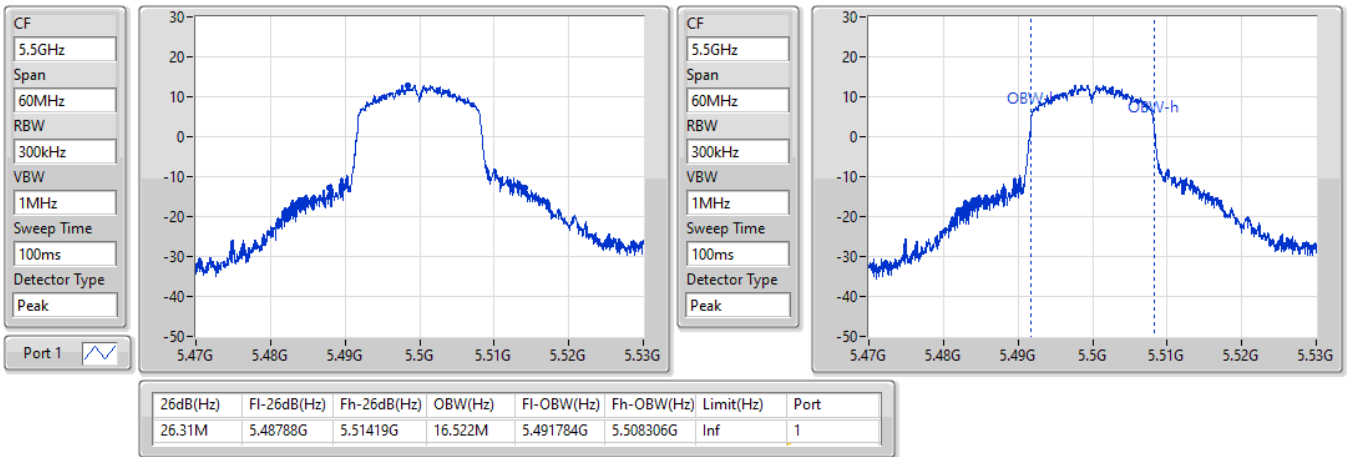

802.11a_Nss1,(6Mbps)_1TX
EBW
5320MHz

20/05/2022

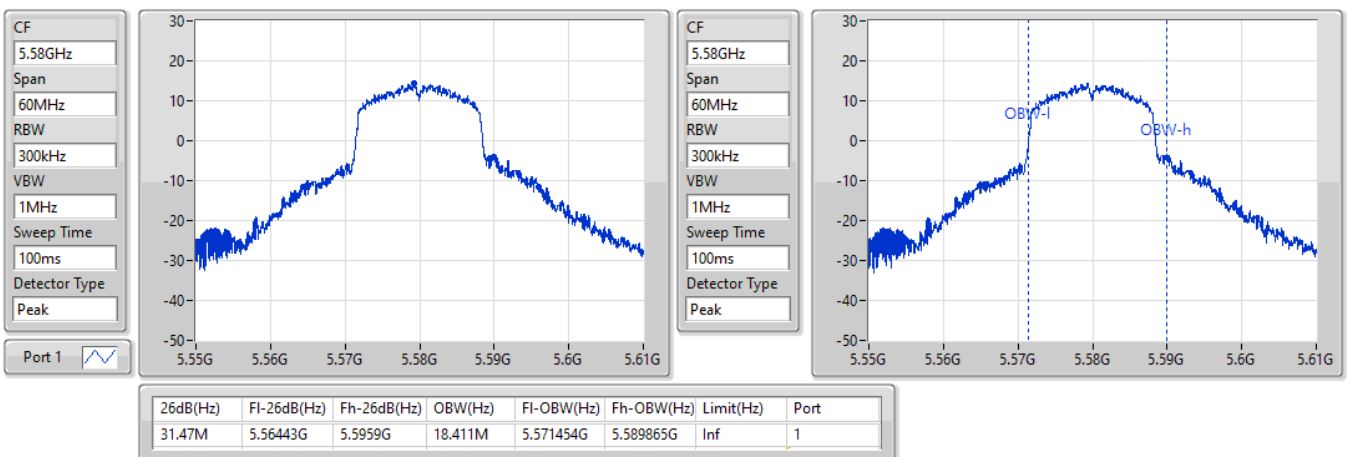


802.11a_Nss1,(6Mbps)_1TX
EBW
5500MHz

20/05/2022

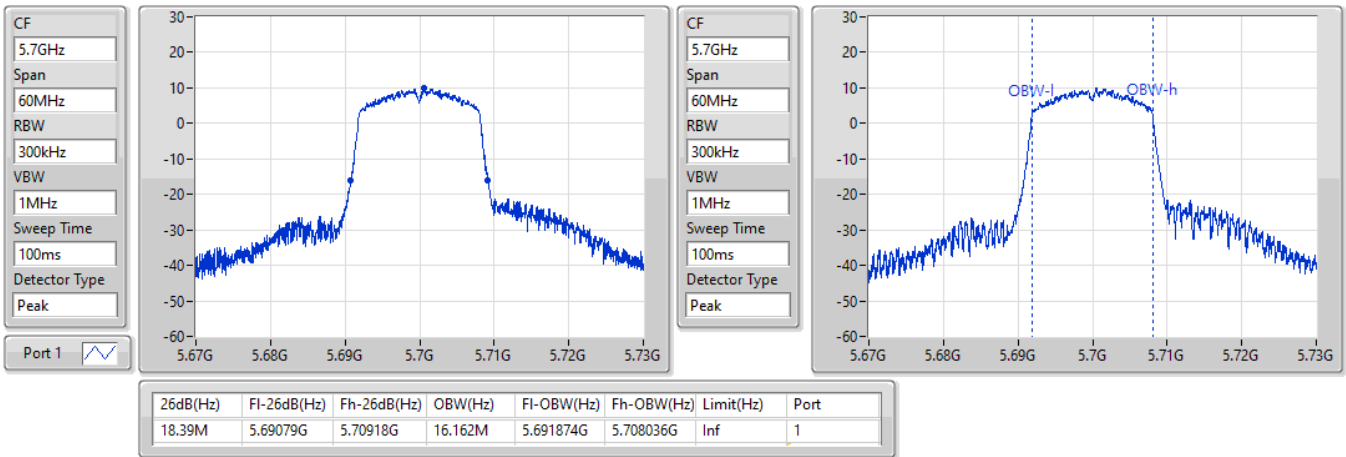

802.11a_Nss1,(6Mbps)_1TX
EBW
5580MHz

20/05/2022

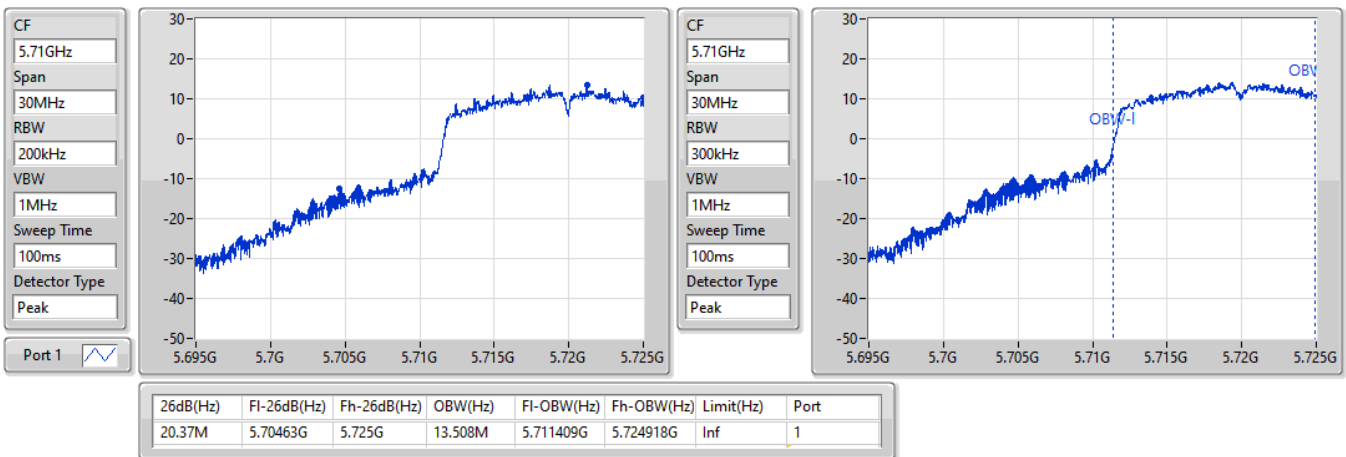


802.11a_Nss1,(6Mbps)_1TX
EBW
5700MHz

20/05/2022

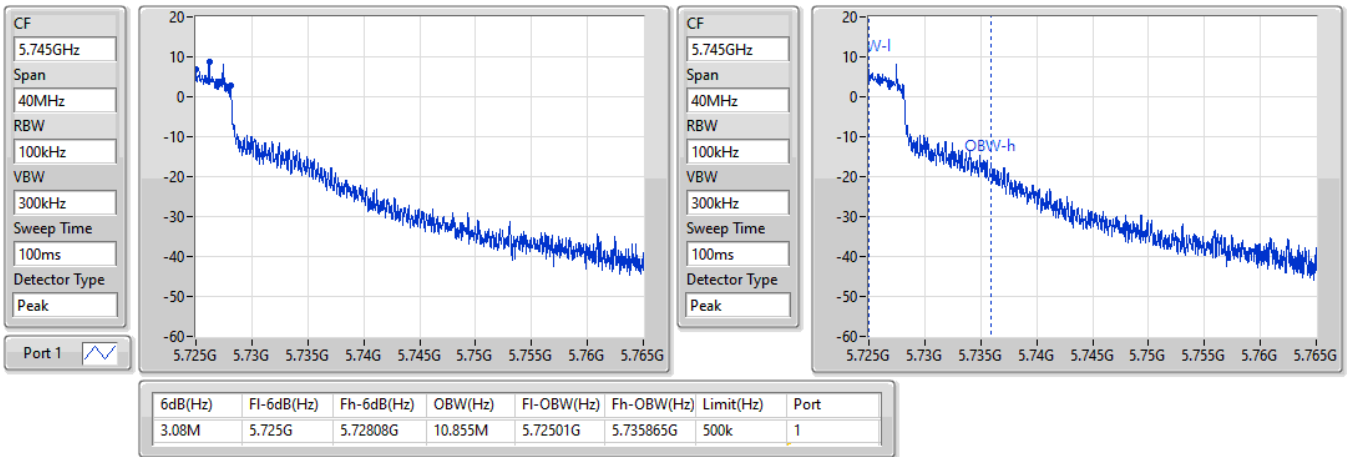

802.11a_Nss1,(6Mbps)_1TX
EBW
5720MHz Straddle 5.47-5.725GHz

03/06/2022

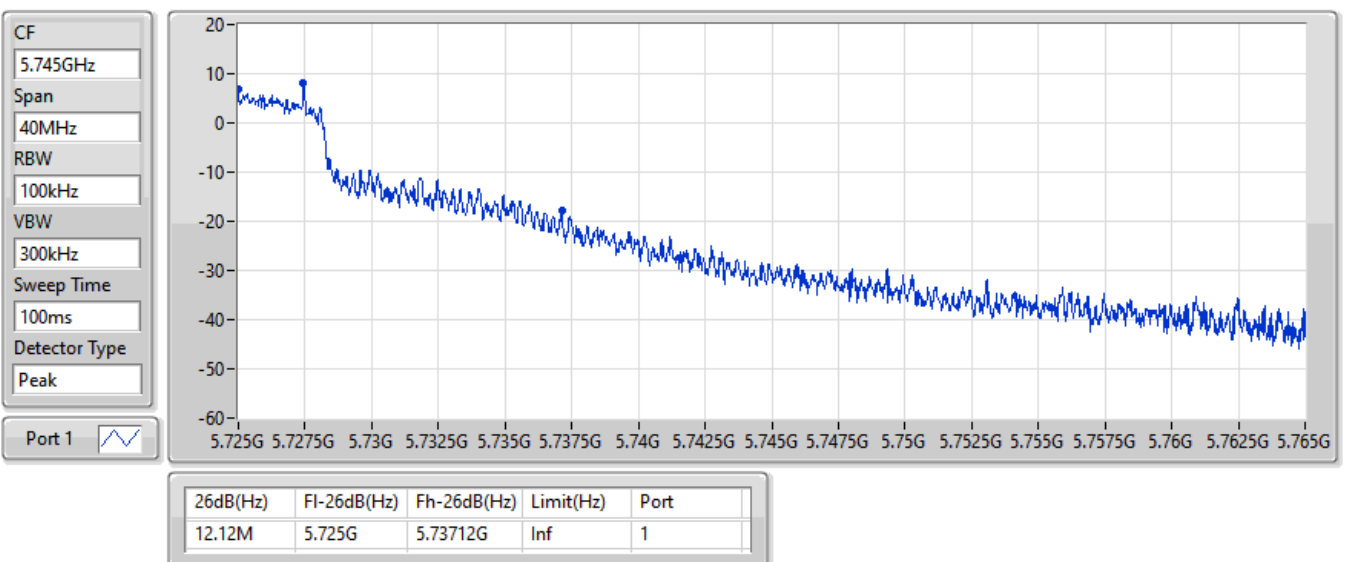


802.11a_Nss1,(6Mbps)_1TX
EBW
5720MHz Straddle 5.725-5.85GHz

03/06/2022

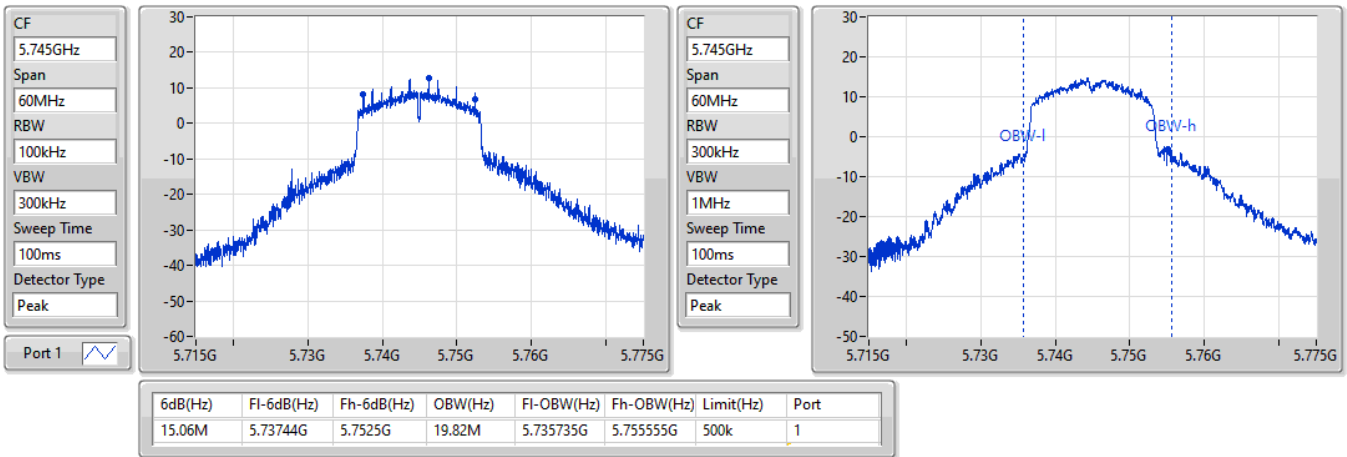

802.11a_Nss1,(6Mbps)_1TX
EBW
5720MHz Straddle 5.725-5.85GHz

03/06/2022

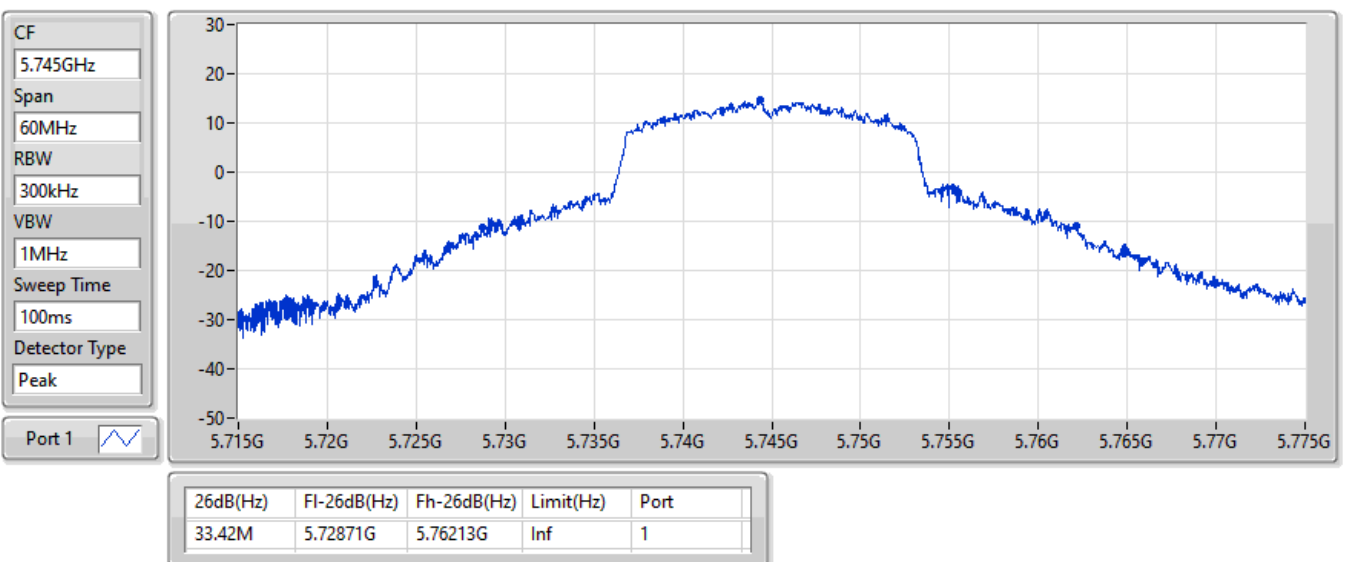


802.11a_Nss1,(6Mbps)_1TX
EBW
5745MHz

03/06/2022

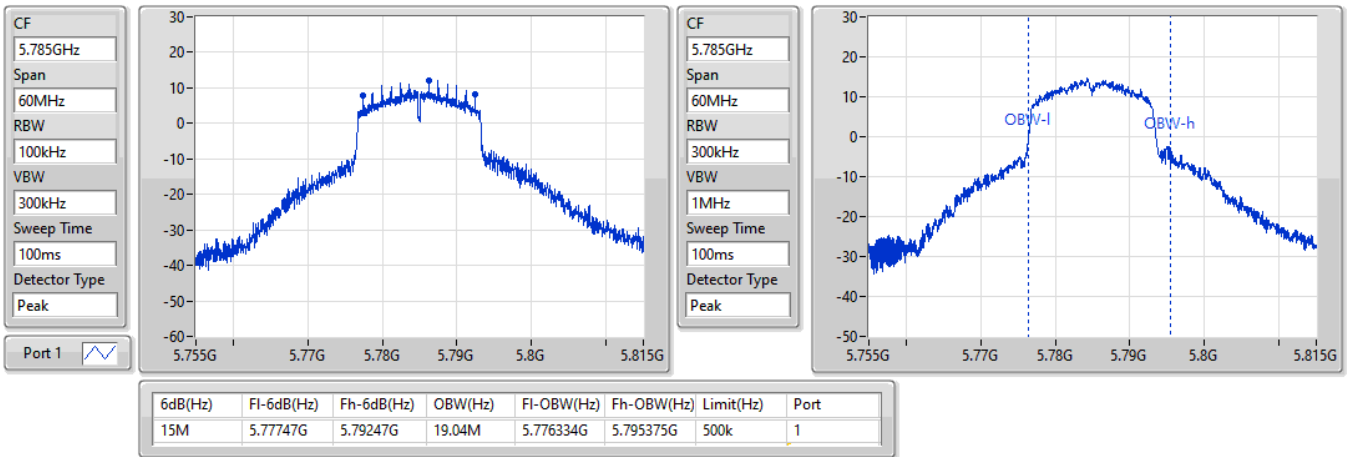

802.11a_Nss1,(6Mbps)_1TX
EBW
5745MHz

03/06/2022

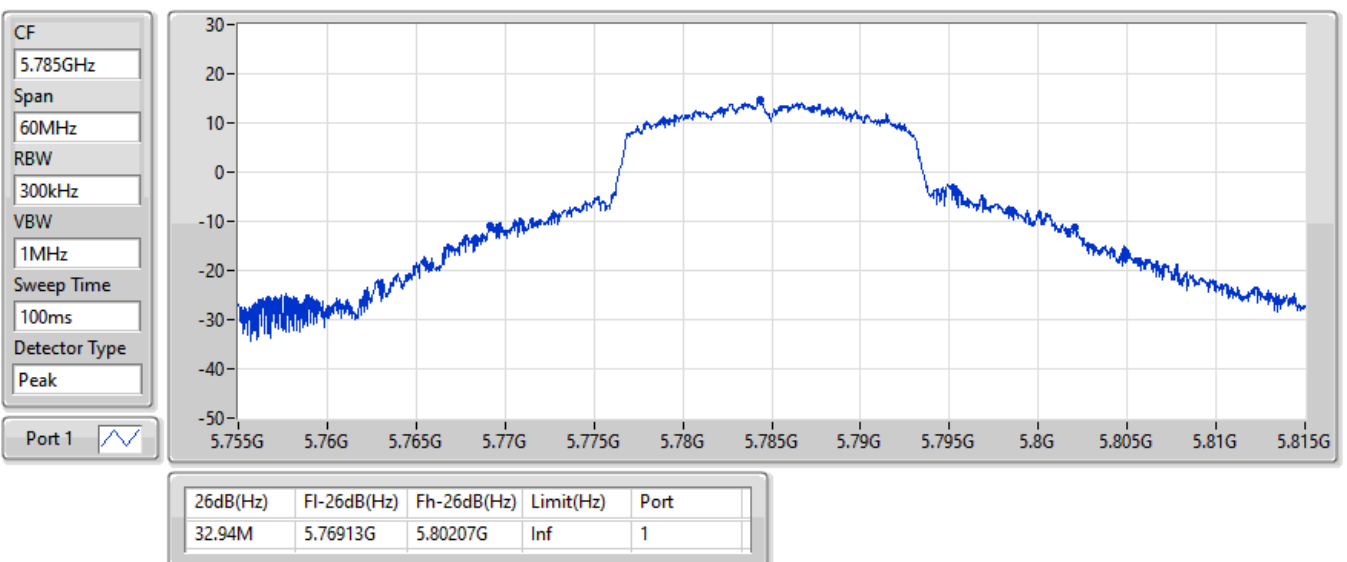


802.11a_Nss1,(6Mbps)_1TX
EBW
5785MHz

03/06/2022

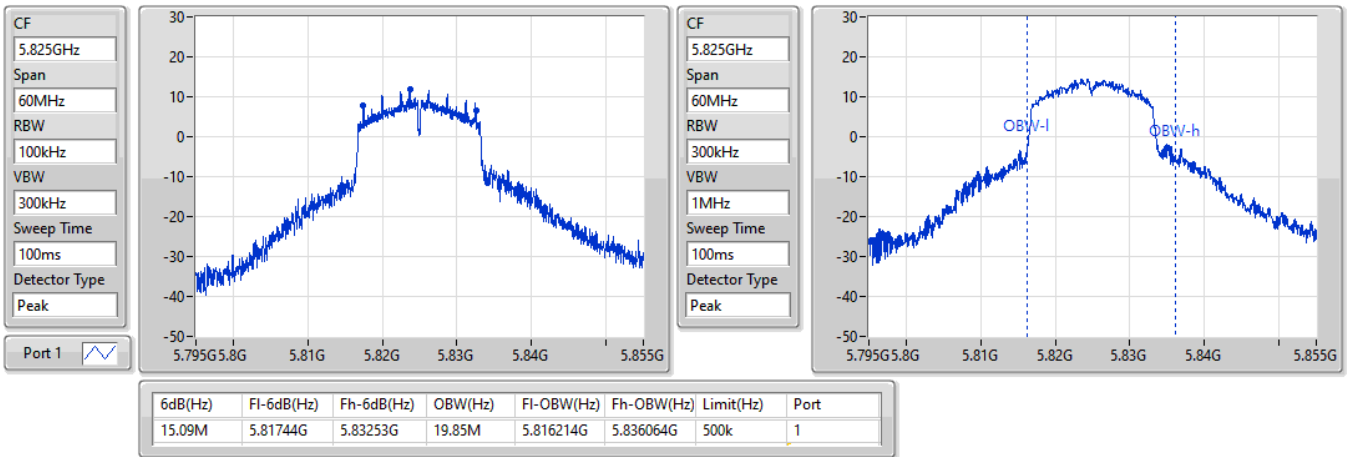

802.11a_Nss1,(6Mbps)_1TX
EBW
5785MHz

03/06/2022

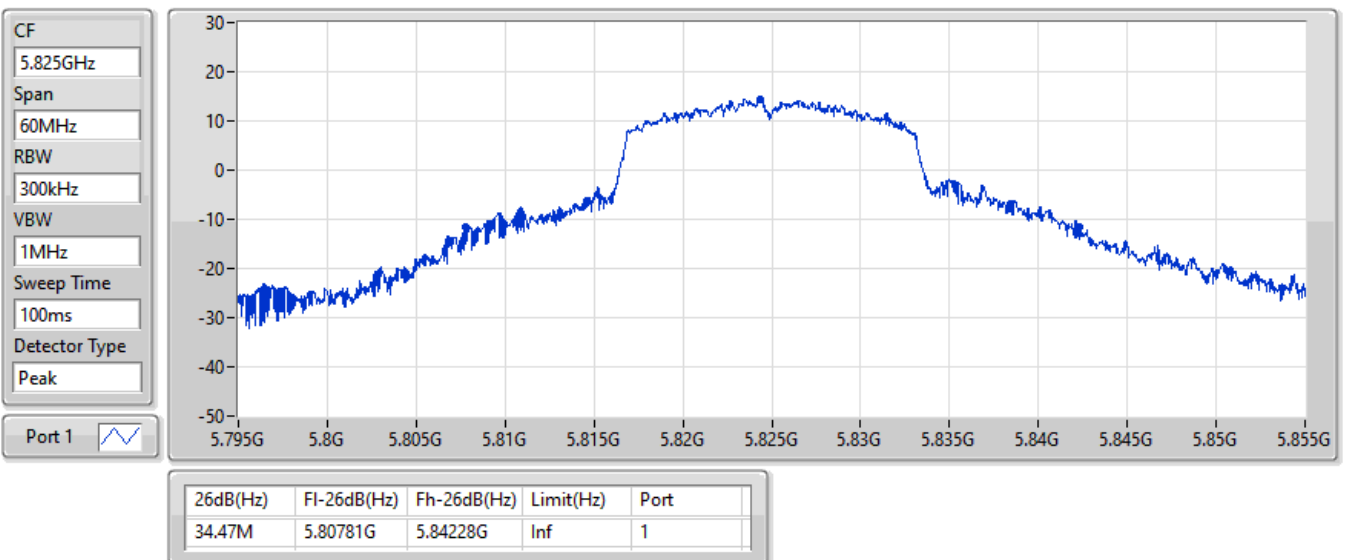


802.11a_Nss1,(6Mbps)_1TX
EBW
5825MHz

03/06/2022

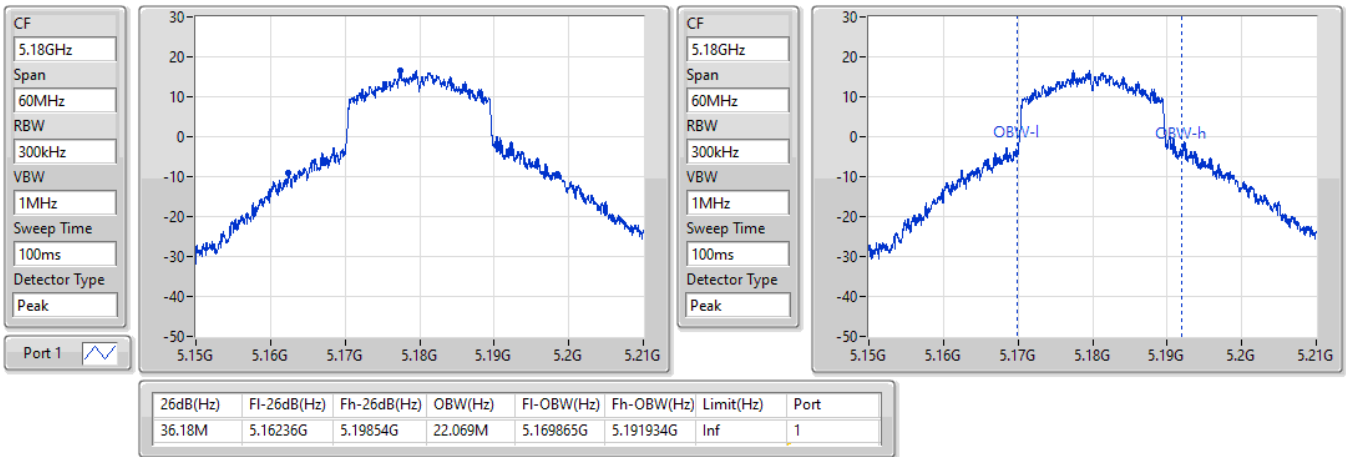

802.11a_Nss1,(6Mbps)_1TX
EBW
5825MHz

03/06/2022

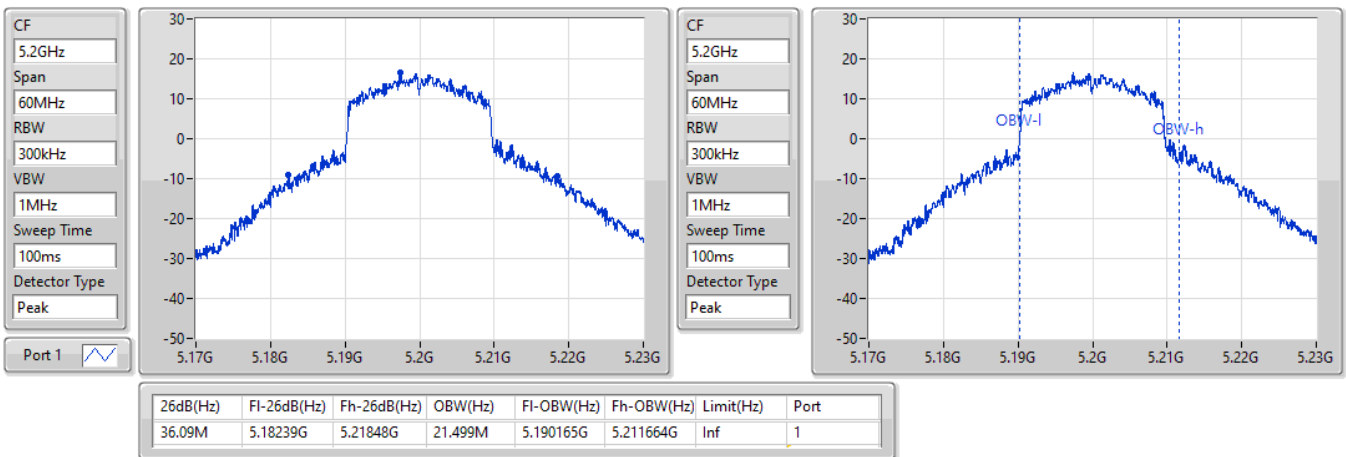


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5180MHz

20/05/2022

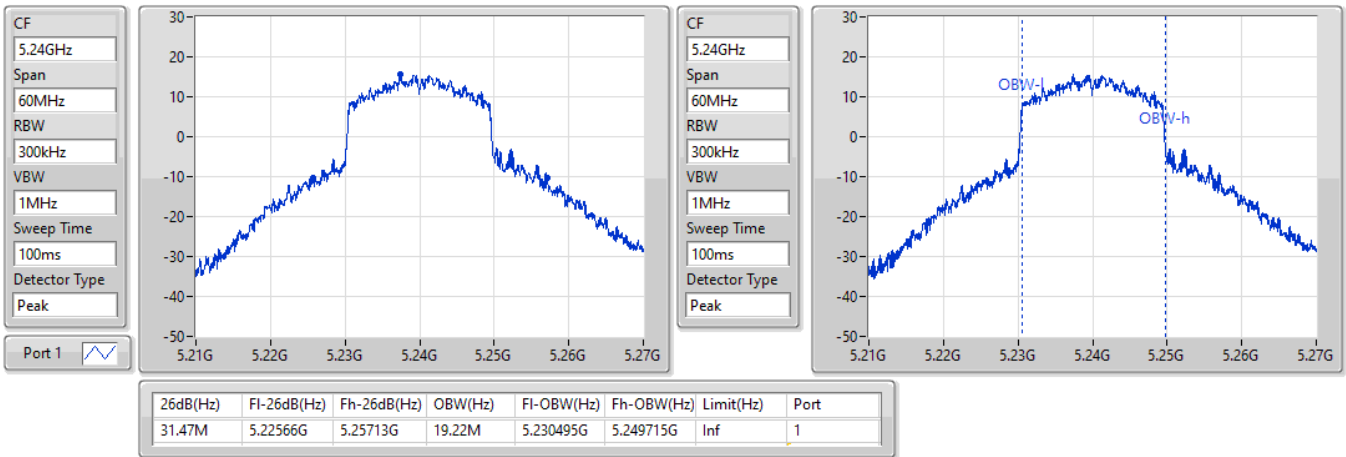

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5200MHz

20/05/2022

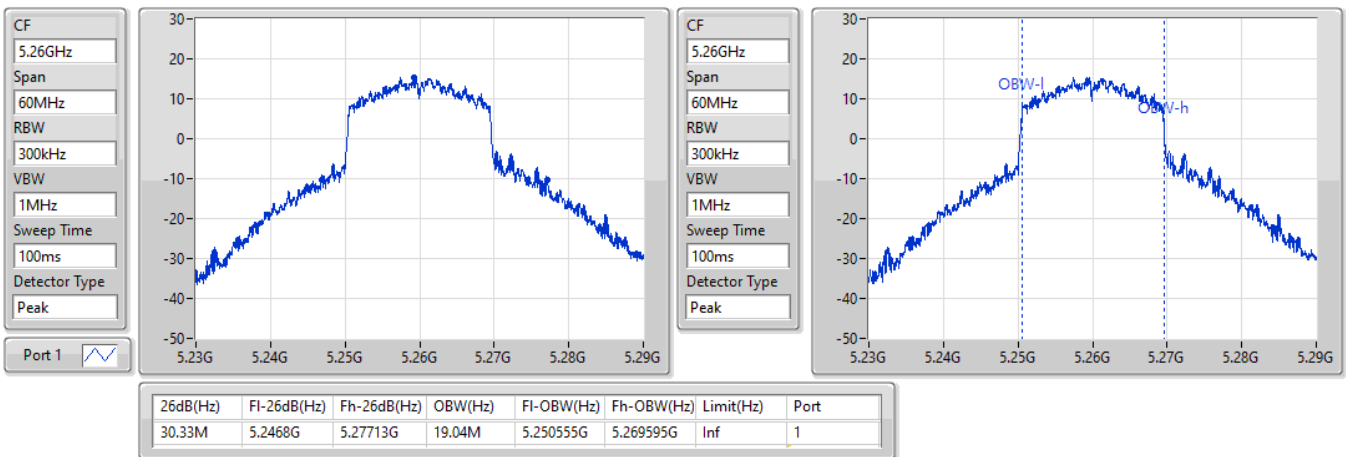


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5240MHz

20/05/2022

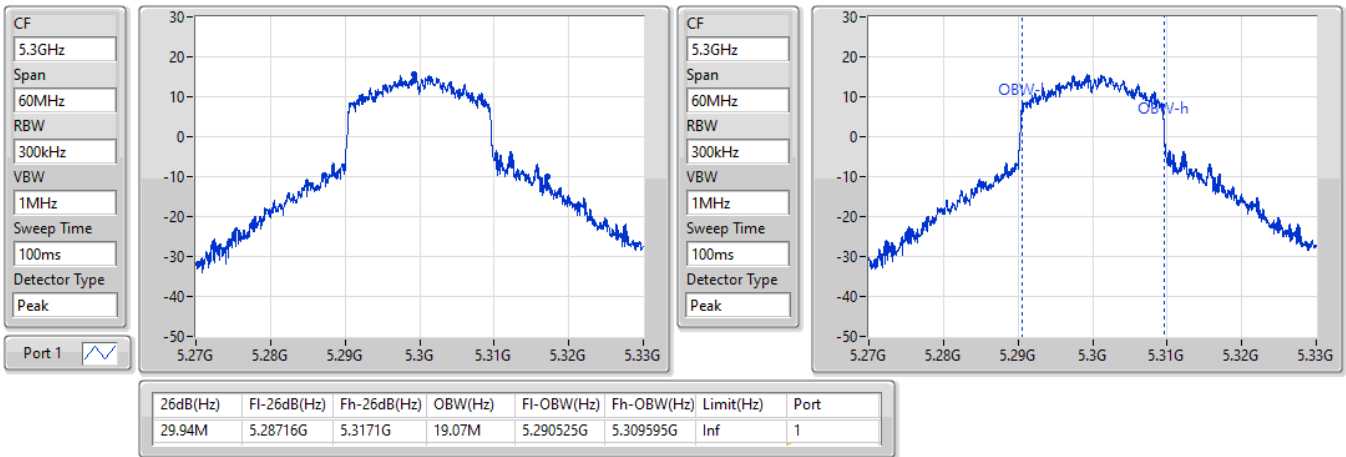

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5260MHz

20/05/2022

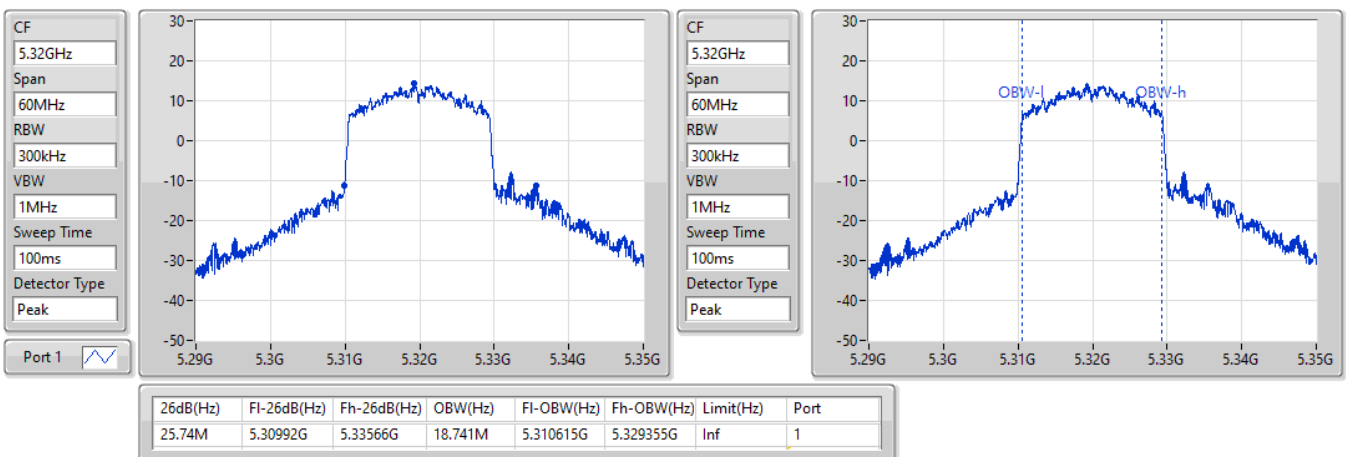


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5300MHz

20/05/2022

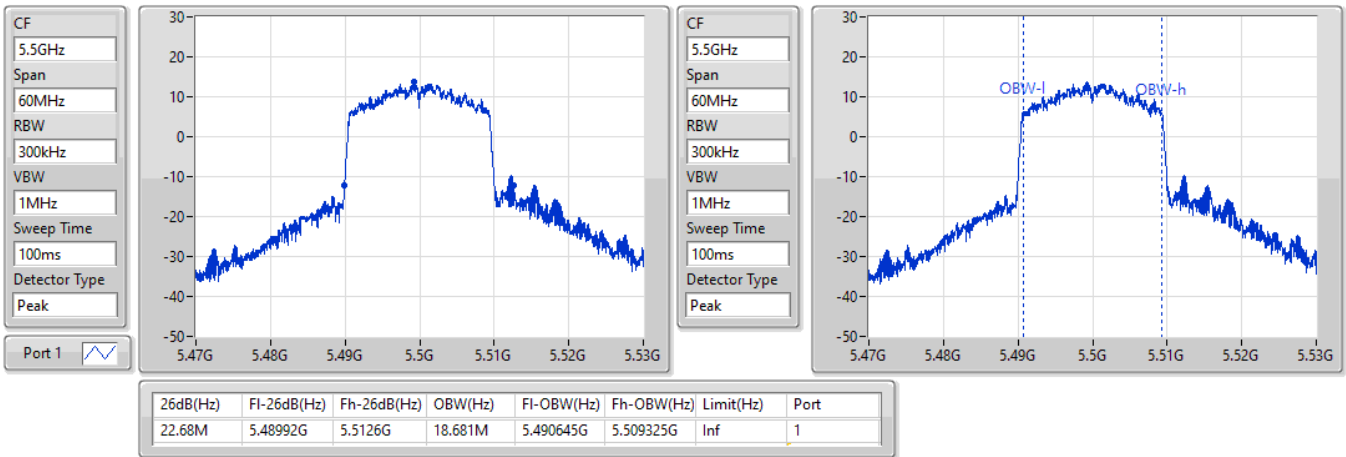

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5320MHz

20/05/2022

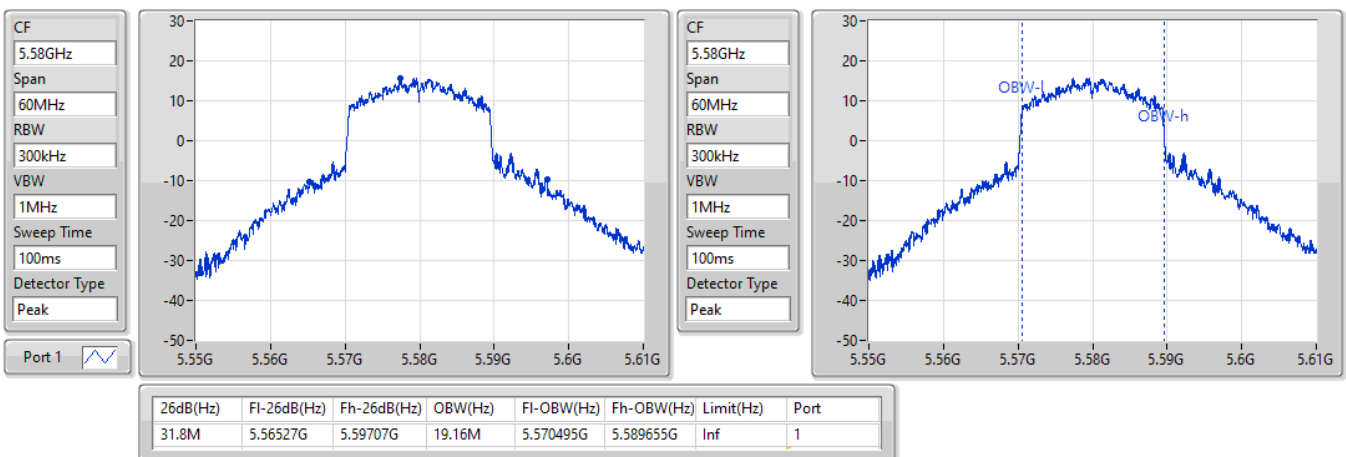


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5500MHz

20/05/2022

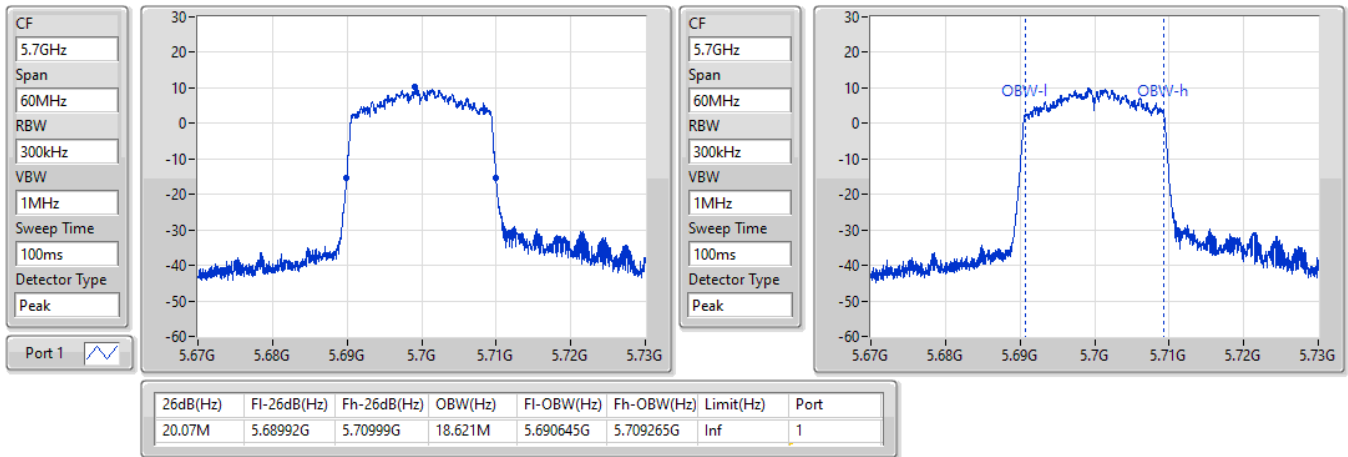

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5580MHz

20/05/2022

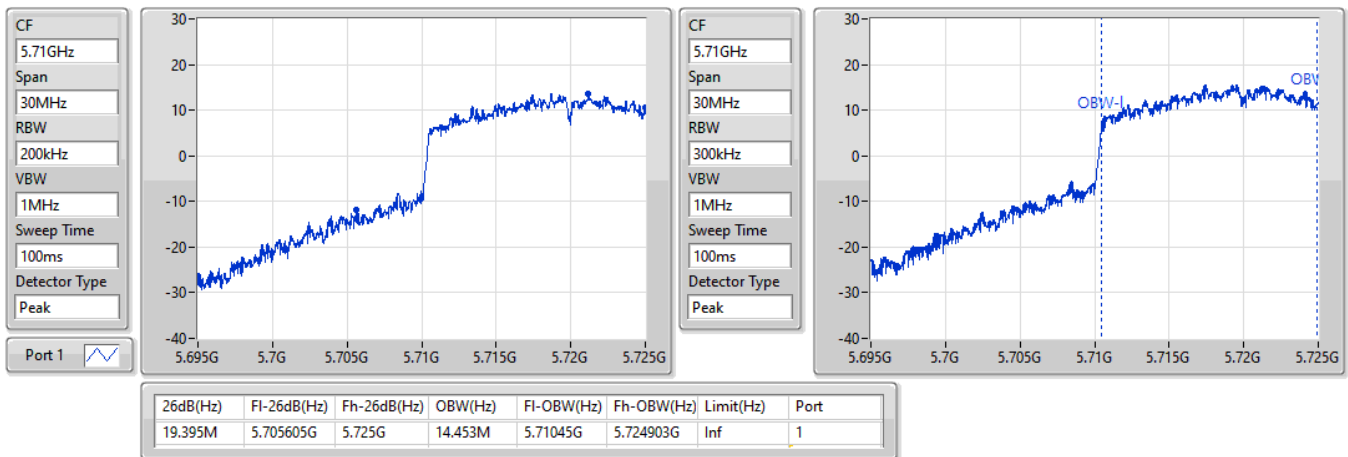


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5700MHz

20/05/2022

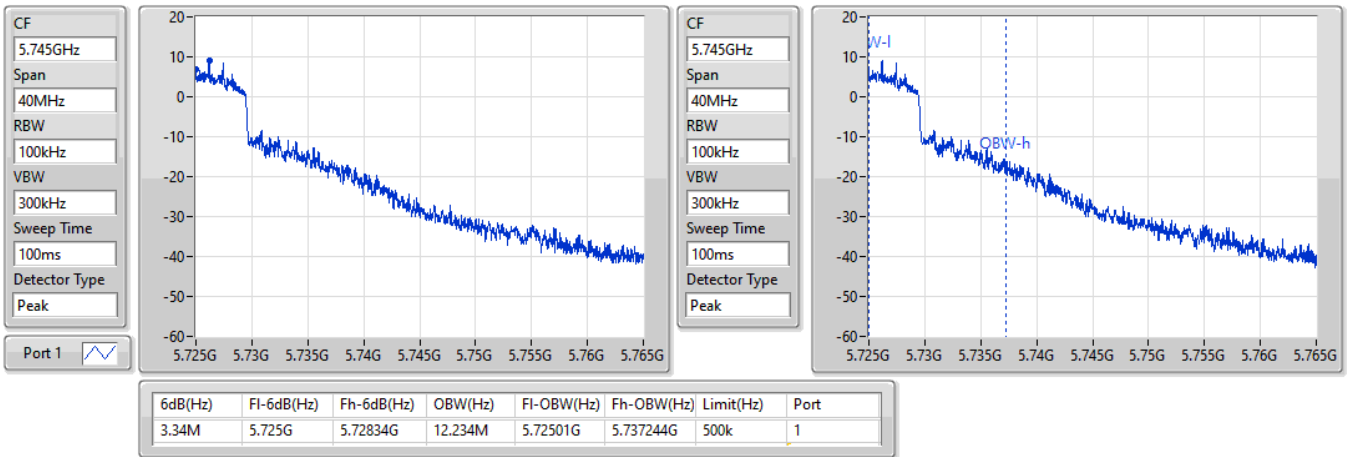

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5720MHz Straddle 5.47-5.725GHz

03/06/2022

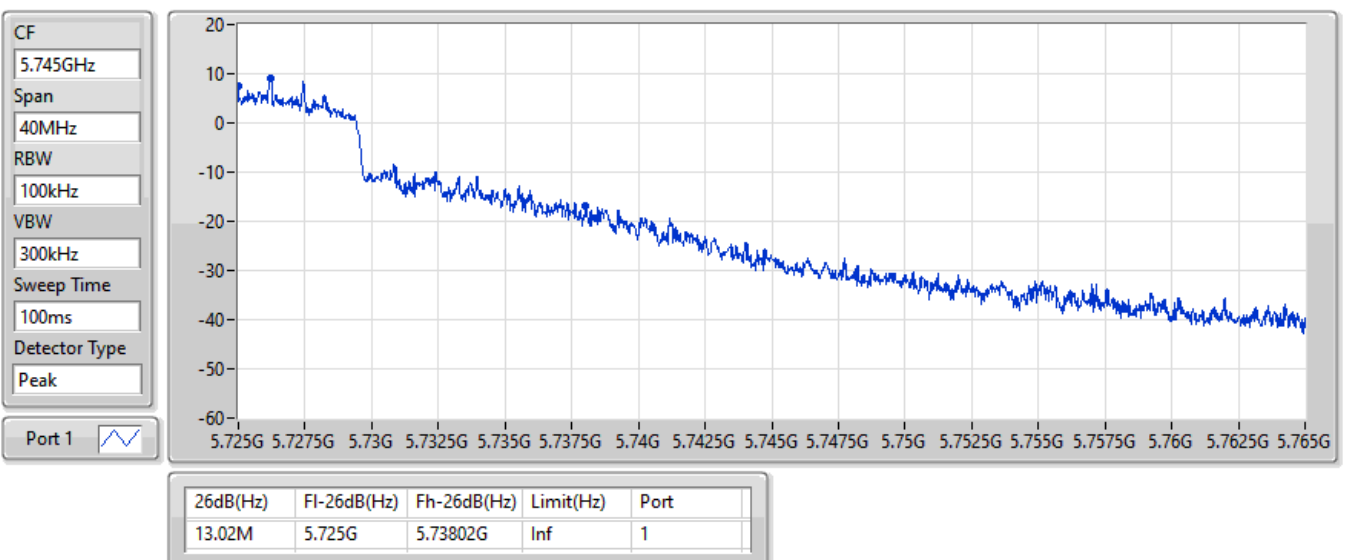


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5720MHz Straddle 5.725-5.85GHz

03/06/2022

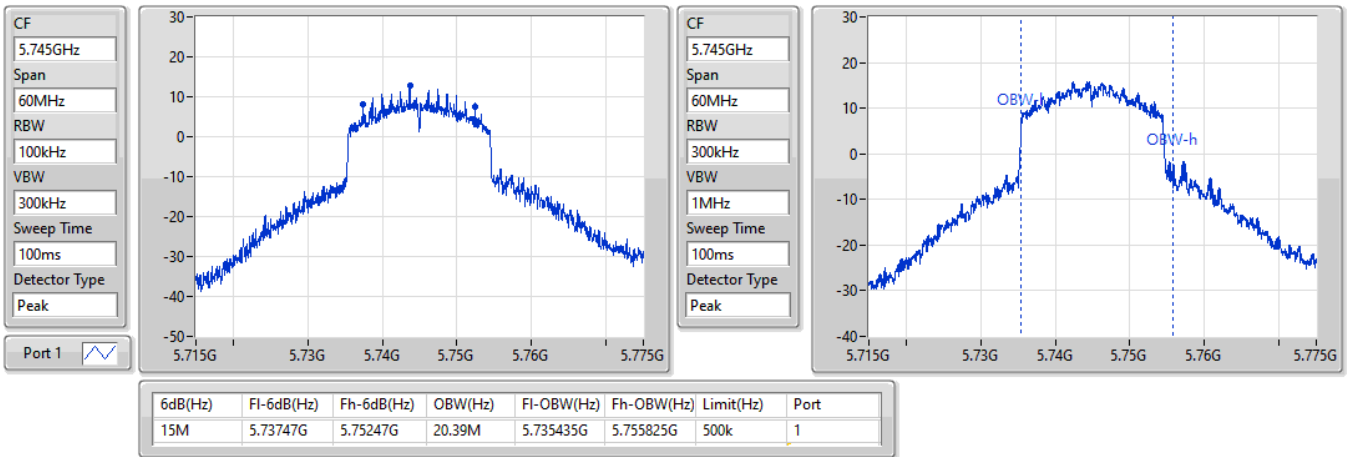

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5720MHz Straddle 5.725-5.85GHz

03/06/2022

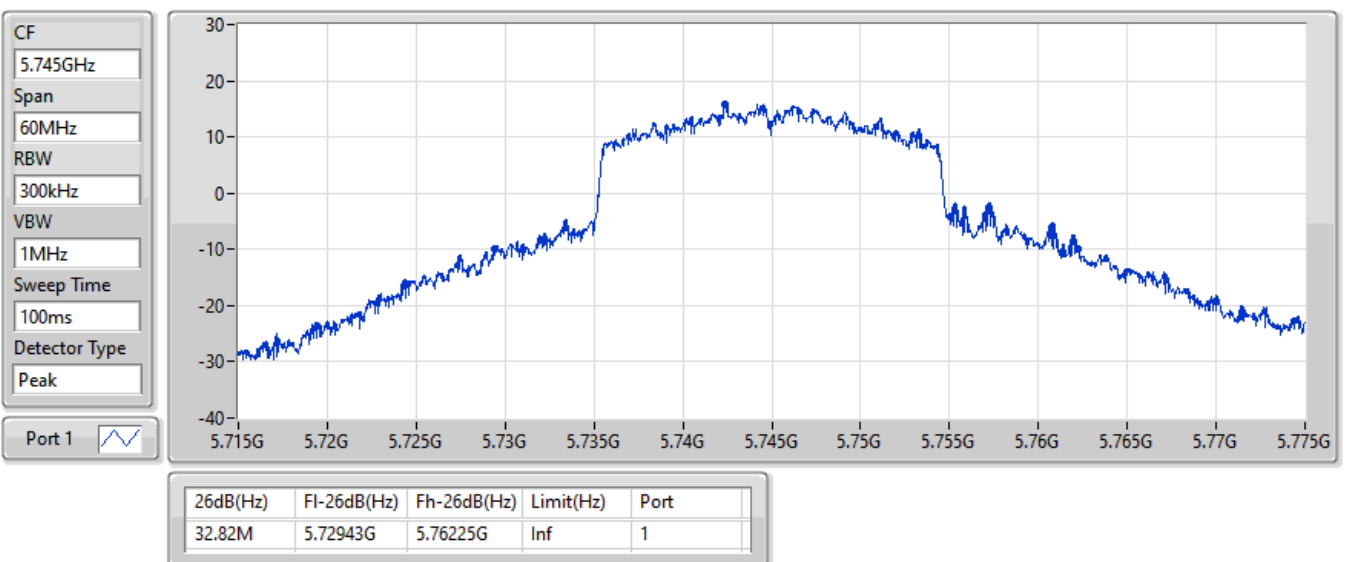


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5745MHz

03/06/2022

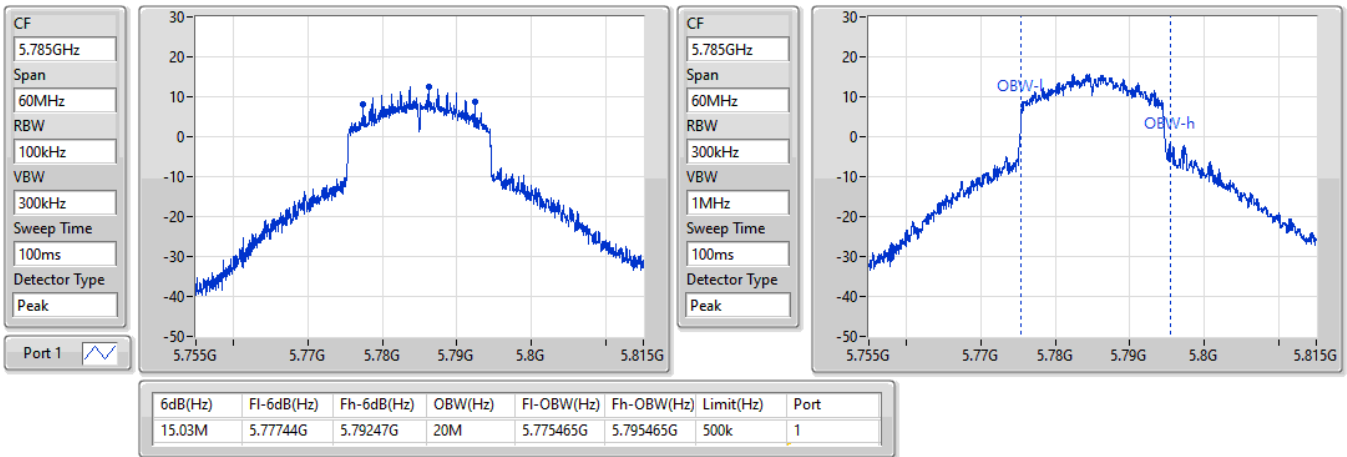

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5745MHz

03/06/2022

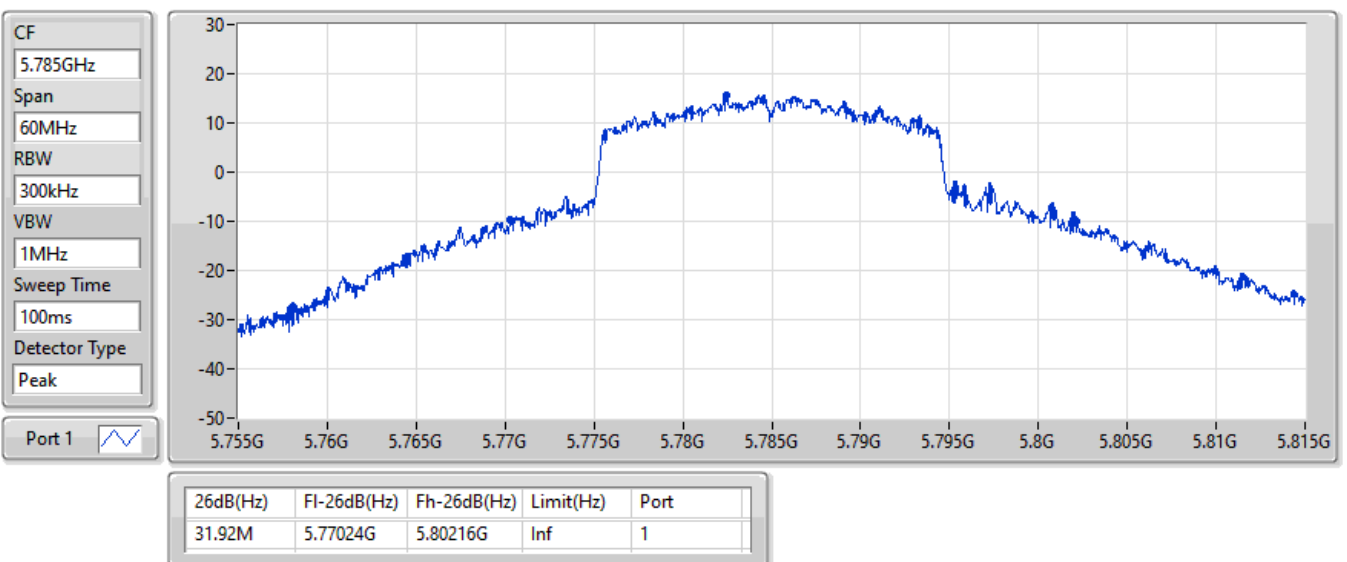


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5785MHz

03/06/2022


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5785MHz

03/06/2022

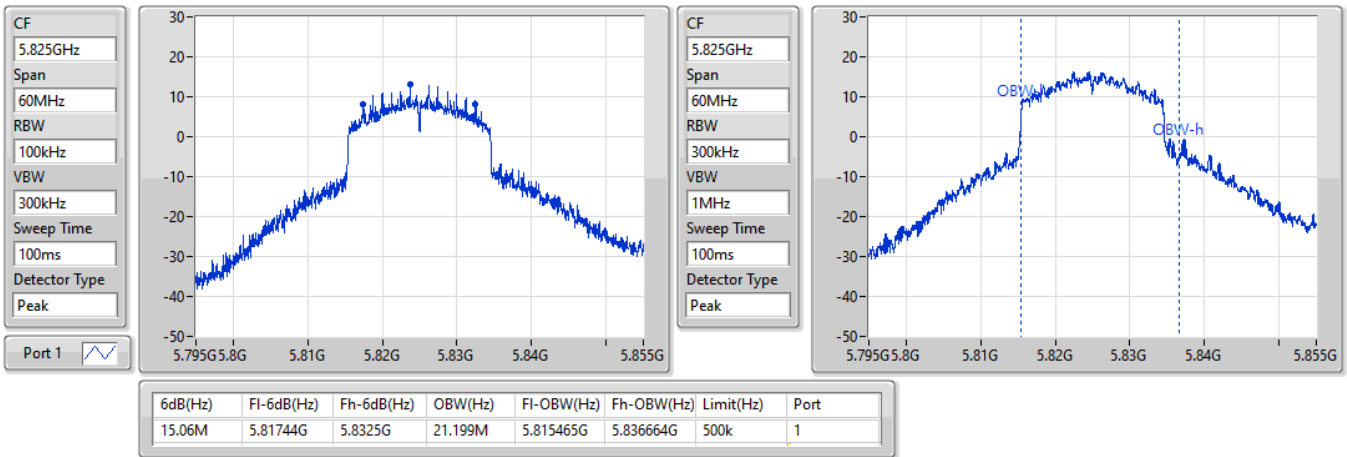


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5825MHz

03/06/2022

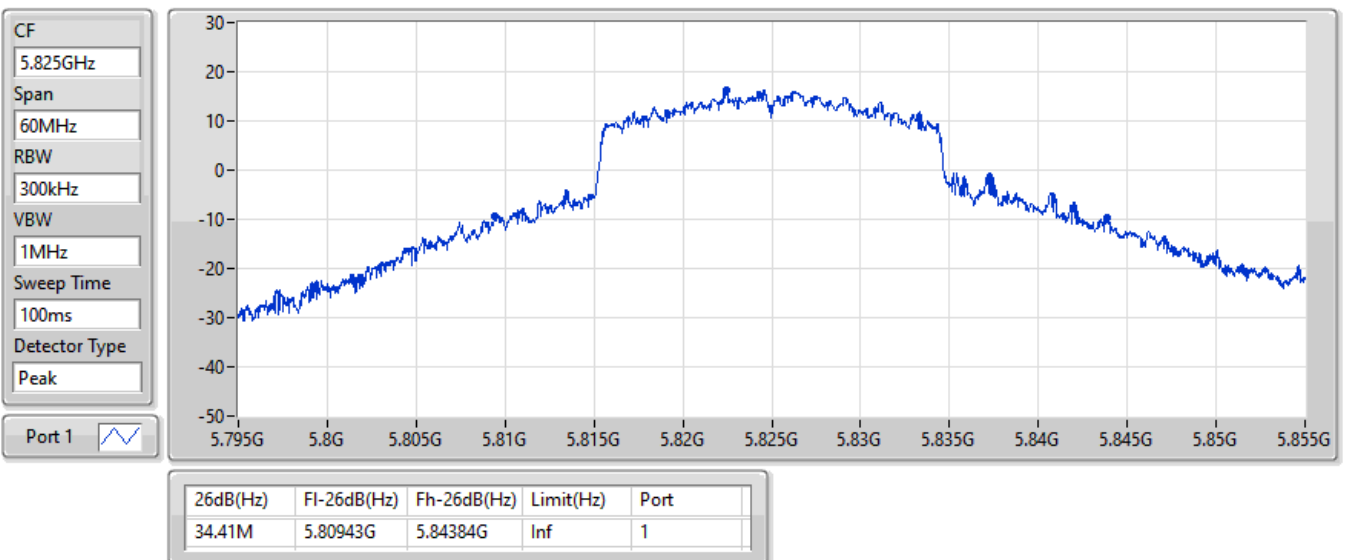


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

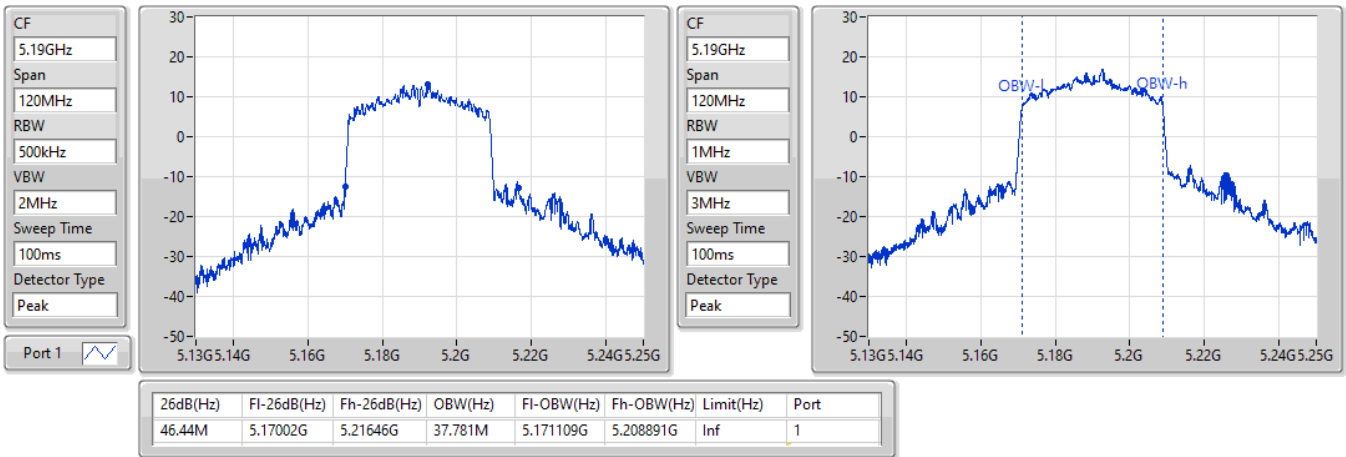
5825MHz

03/06/2022

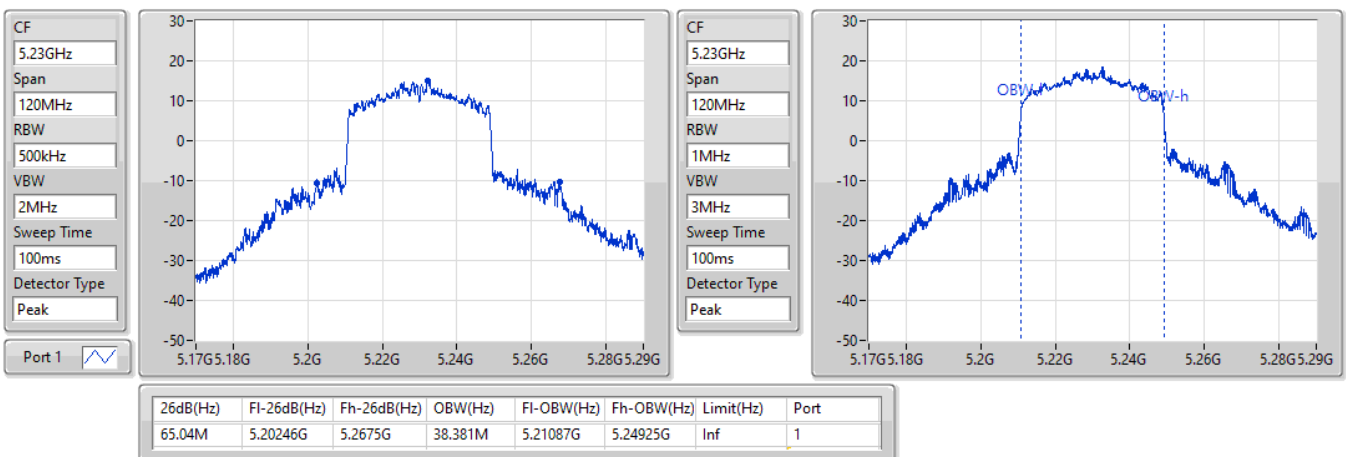


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5190MHz

20/05/2022

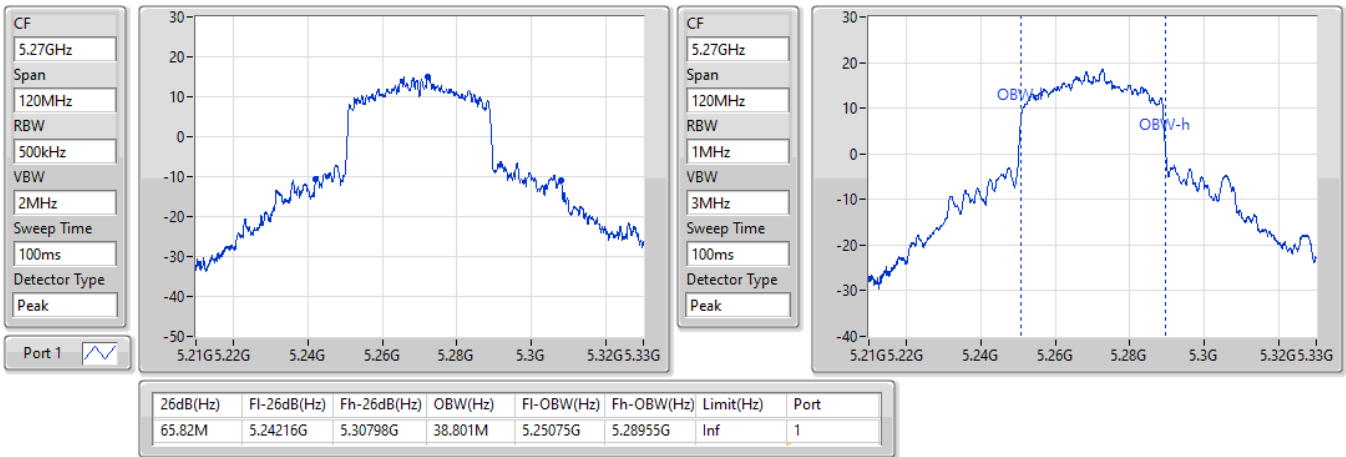

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5230MHz

20/05/2022

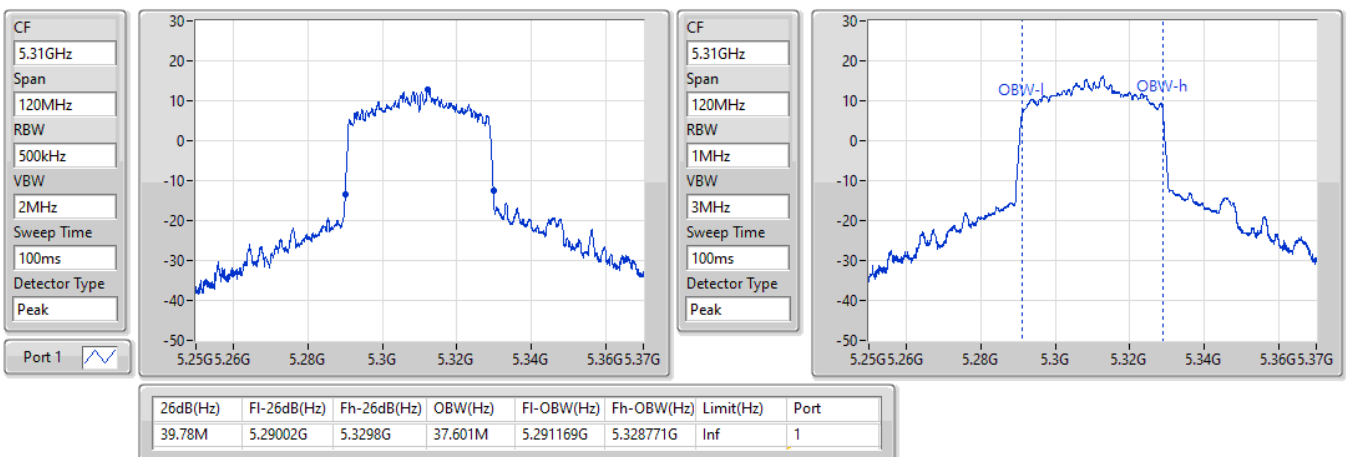


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5270MHz

20/05/2022

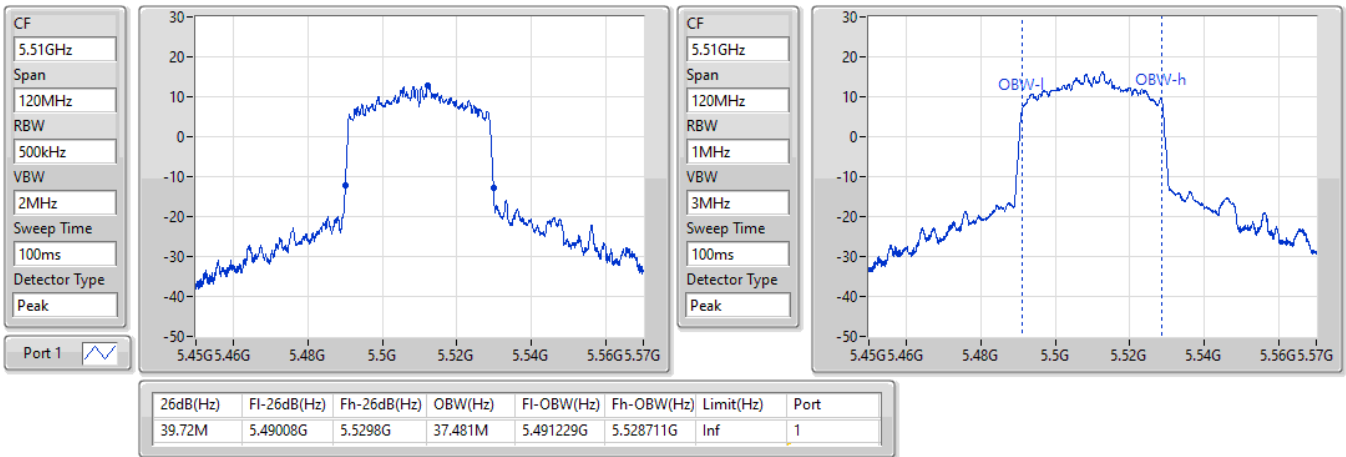

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5310MHz

20/05/2022

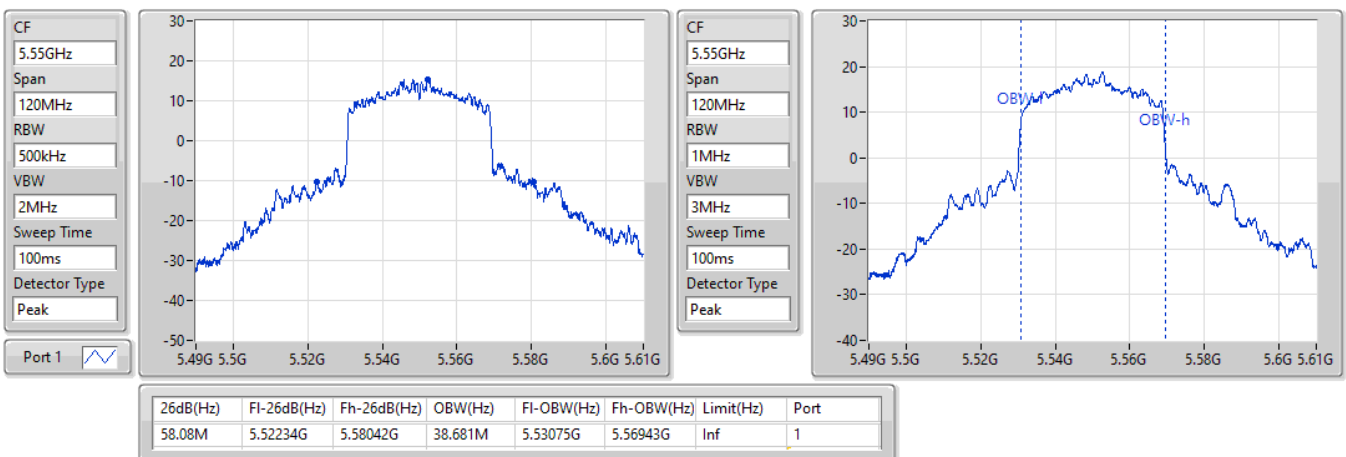


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5510MHz

20/05/2022

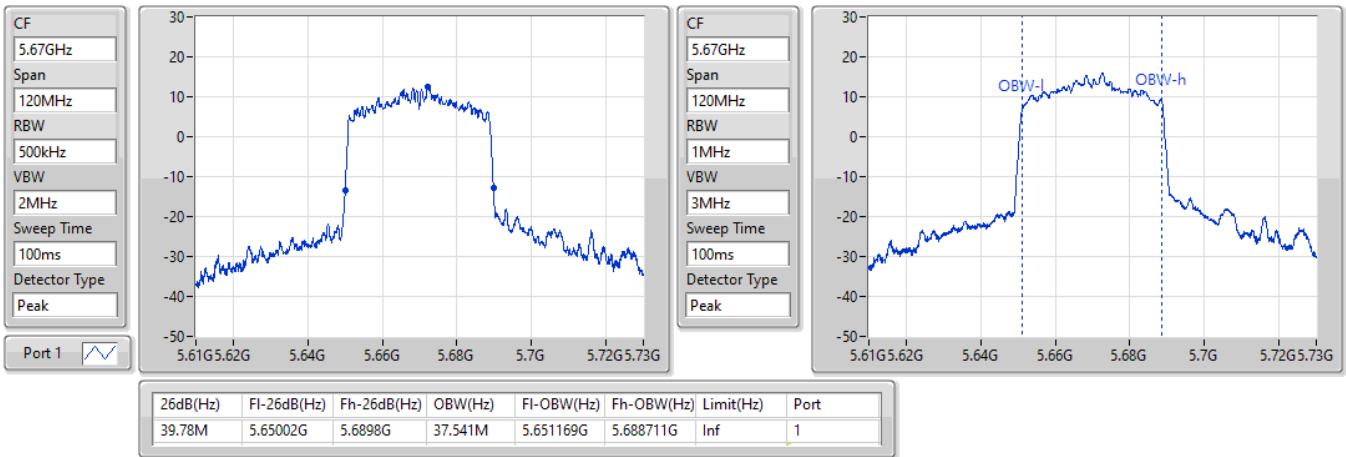

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5550MHz

20/05/2022

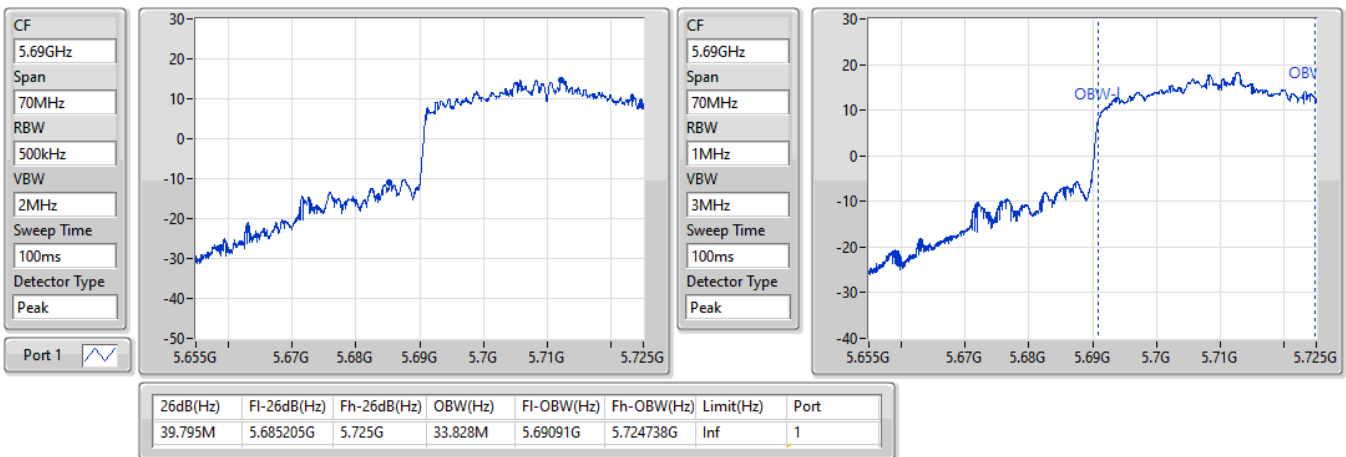


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5670MHz

20/05/2022

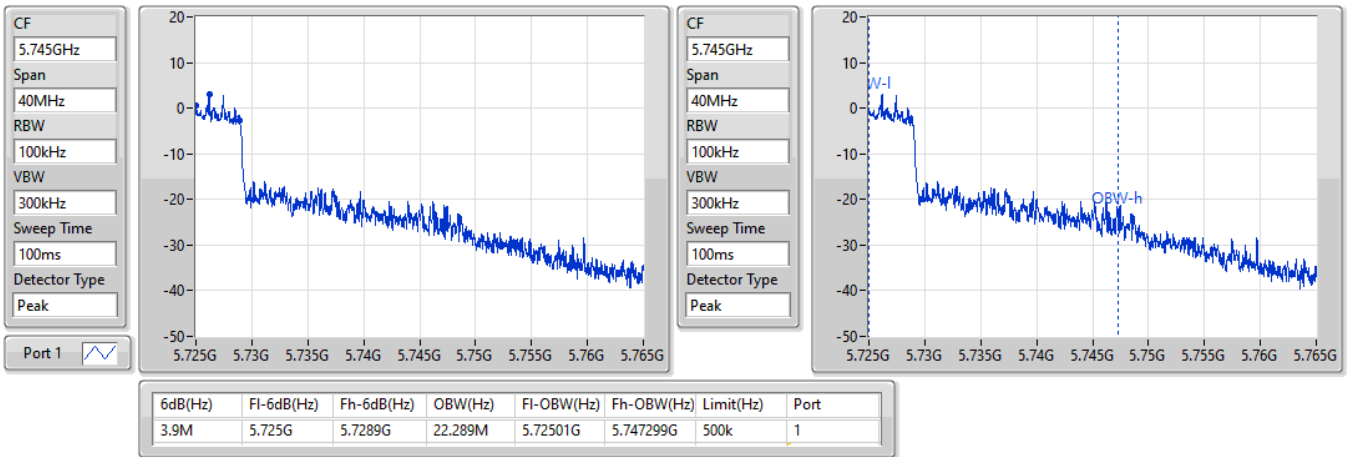

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5710MHz Straddle 5.47-5.725GHz

03/06/2022

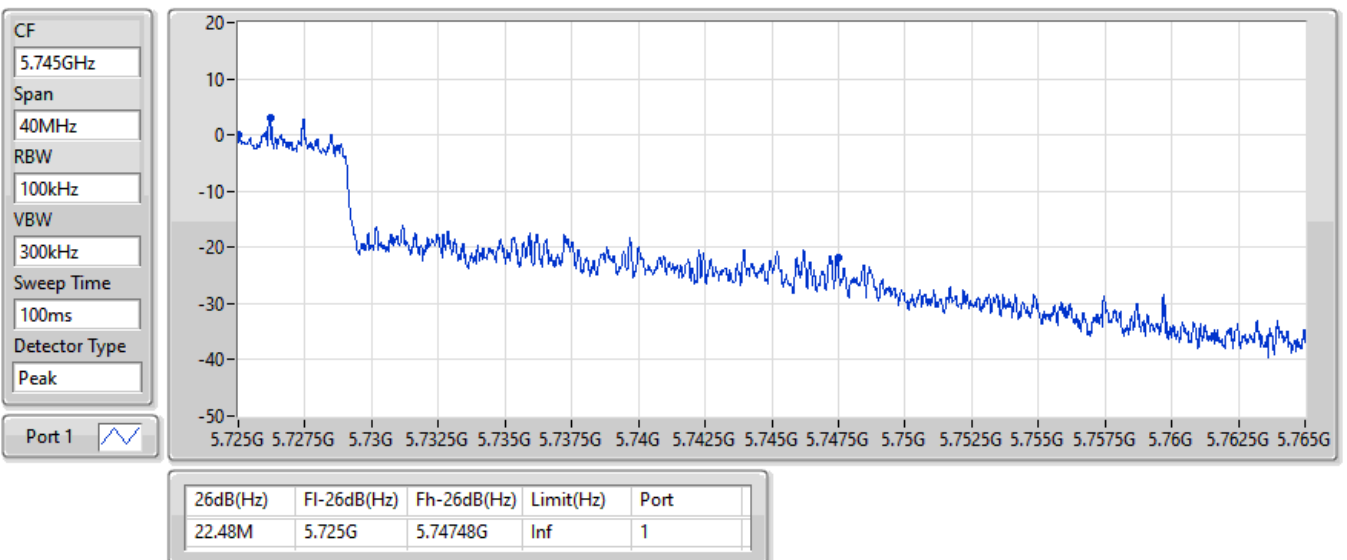


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5710MHz Straddle 5.725-5.85GHz

03/06/2022

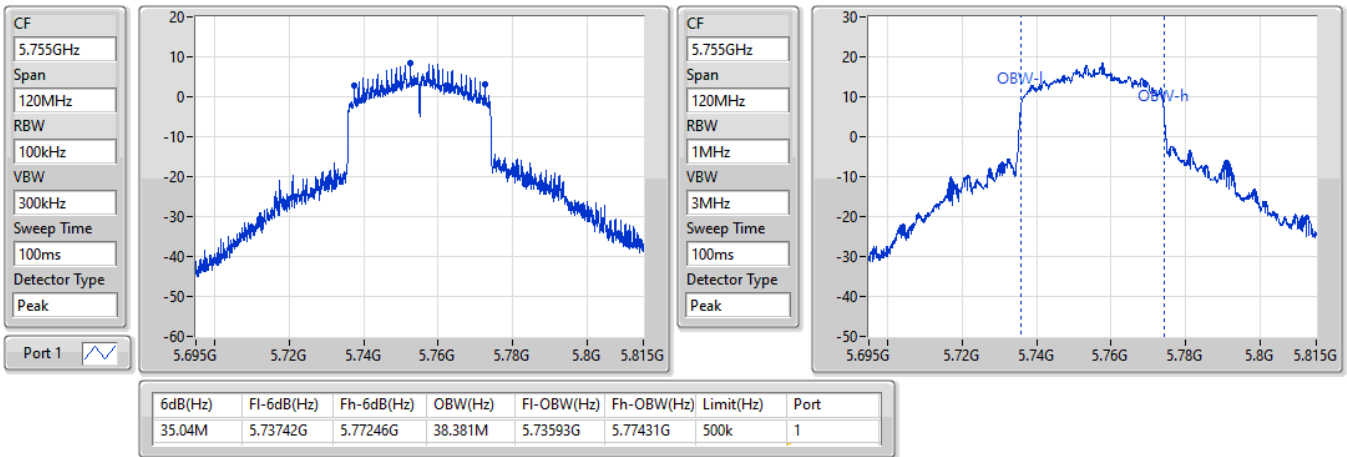

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5710MHz Straddle 5.725-5.85GHz

03/06/2022

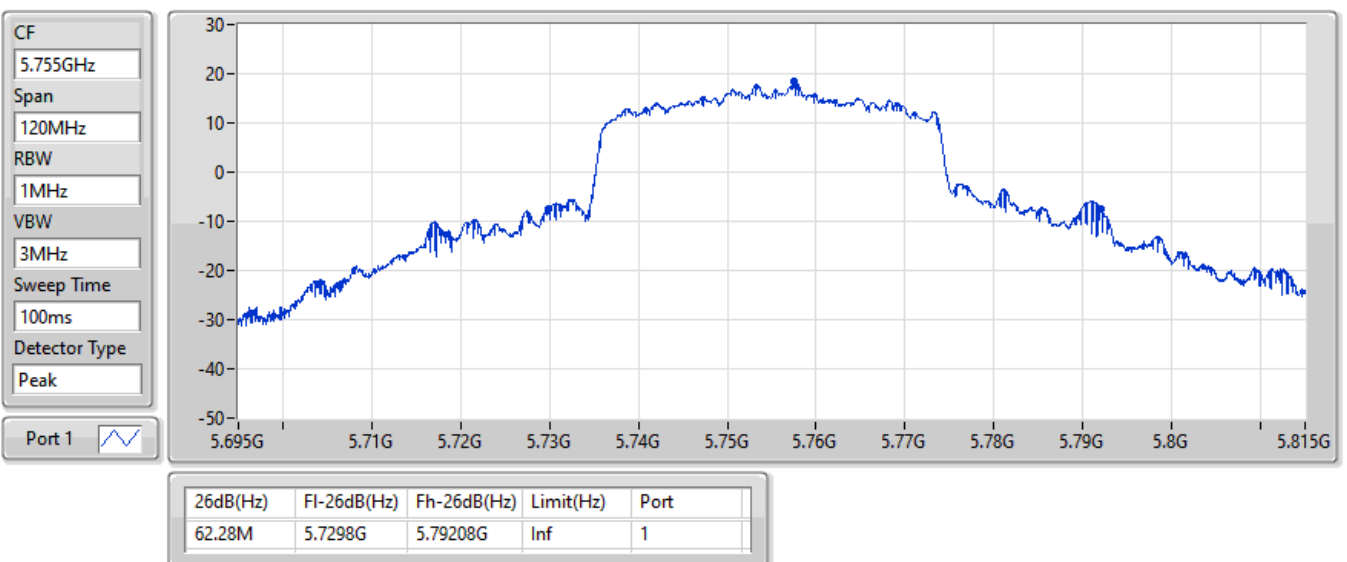


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5755MHz

03/06/2022

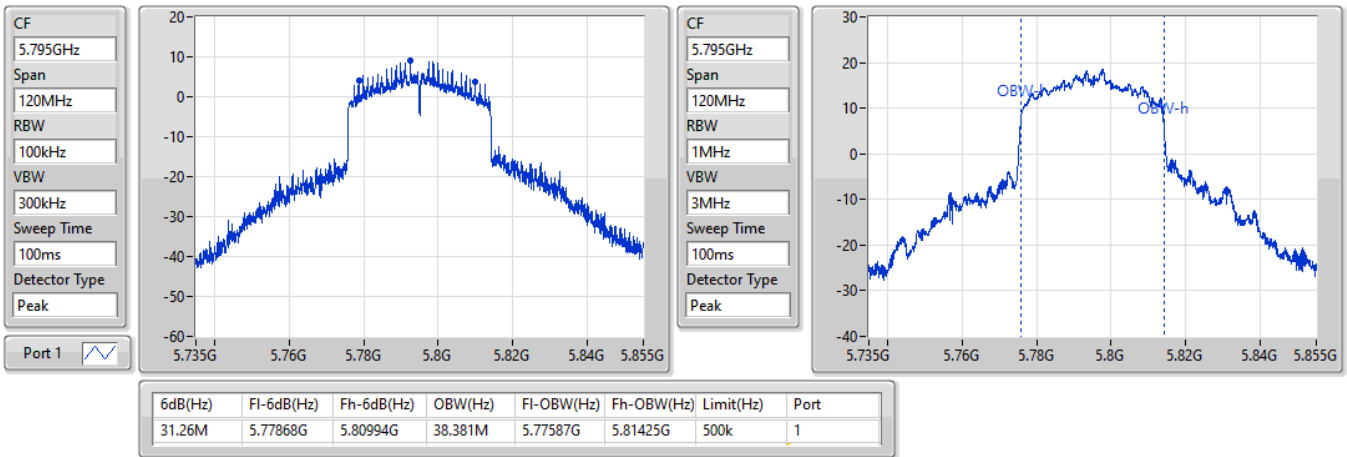

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5755MHz

03/06/2022

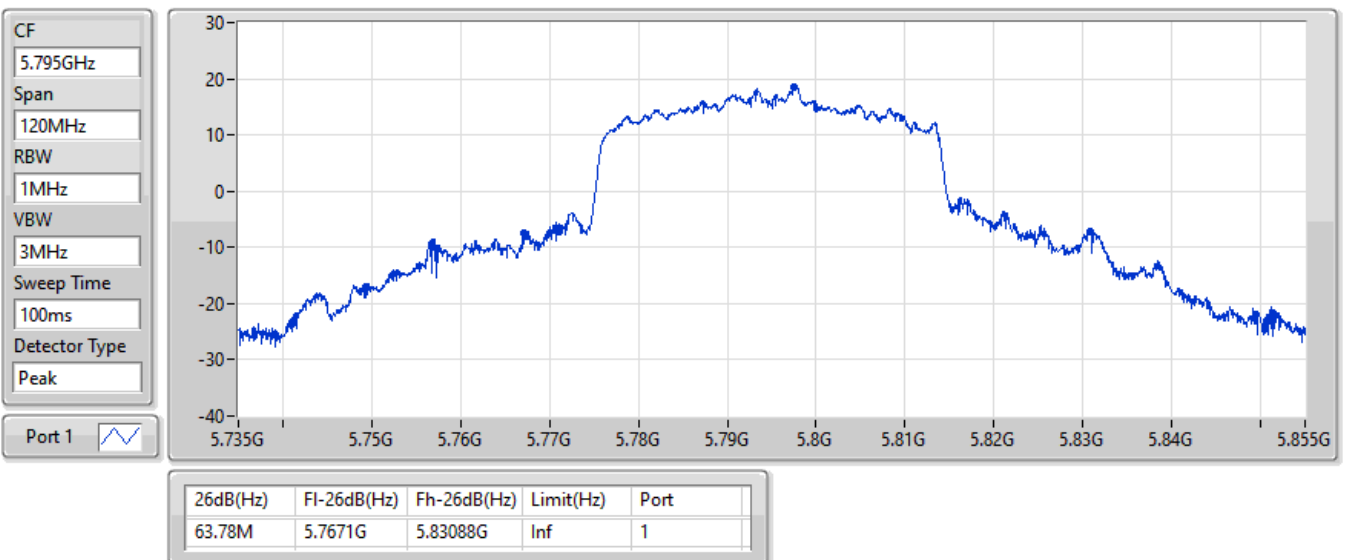


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5795MHz

03/06/2022

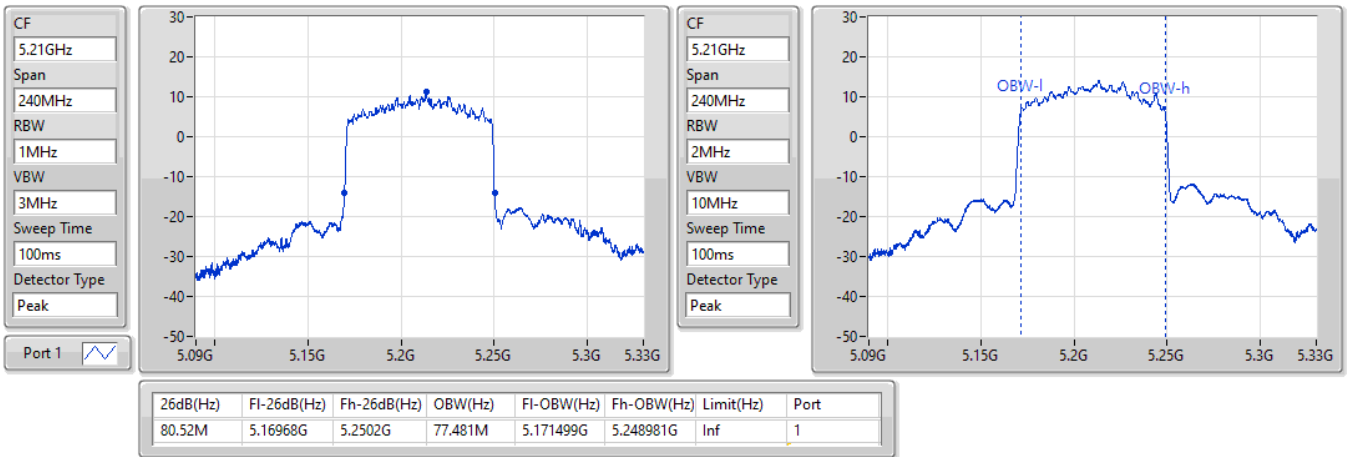

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5795MHz

03/06/2022

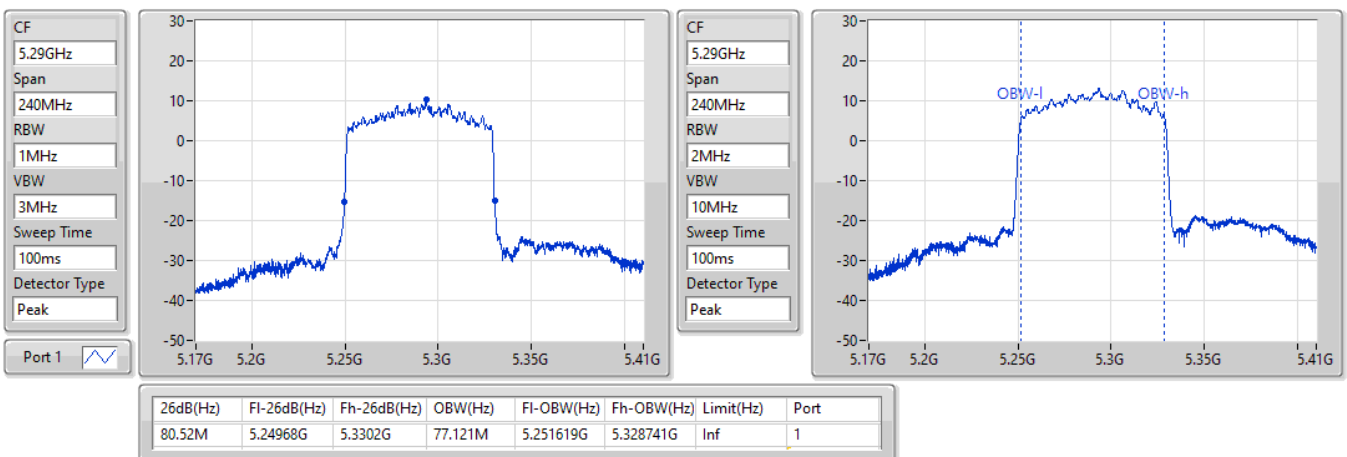


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5210MHz

20/05/2022

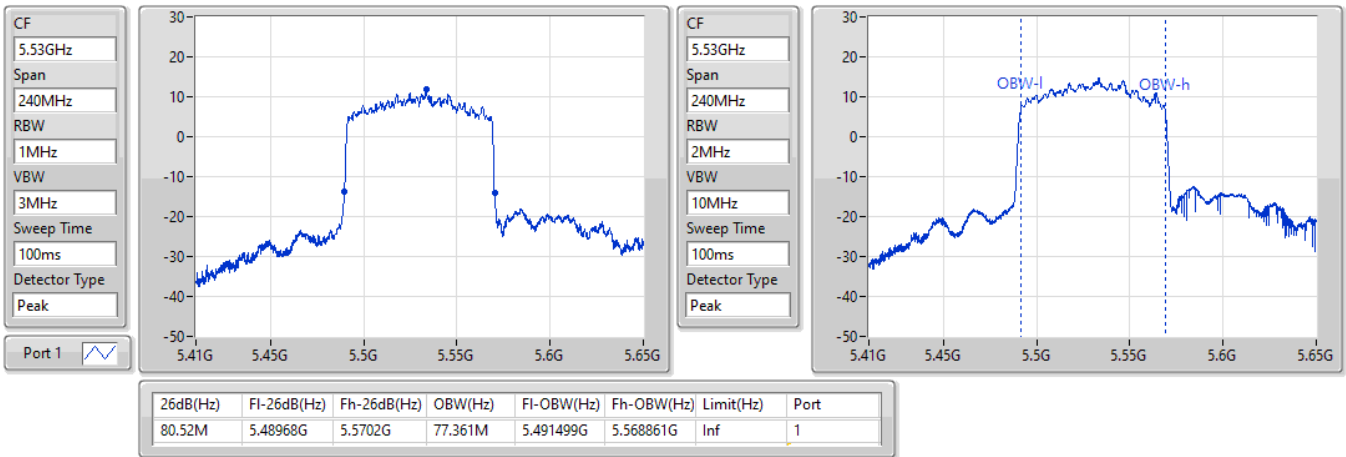

802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5290MHz

20/05/2022

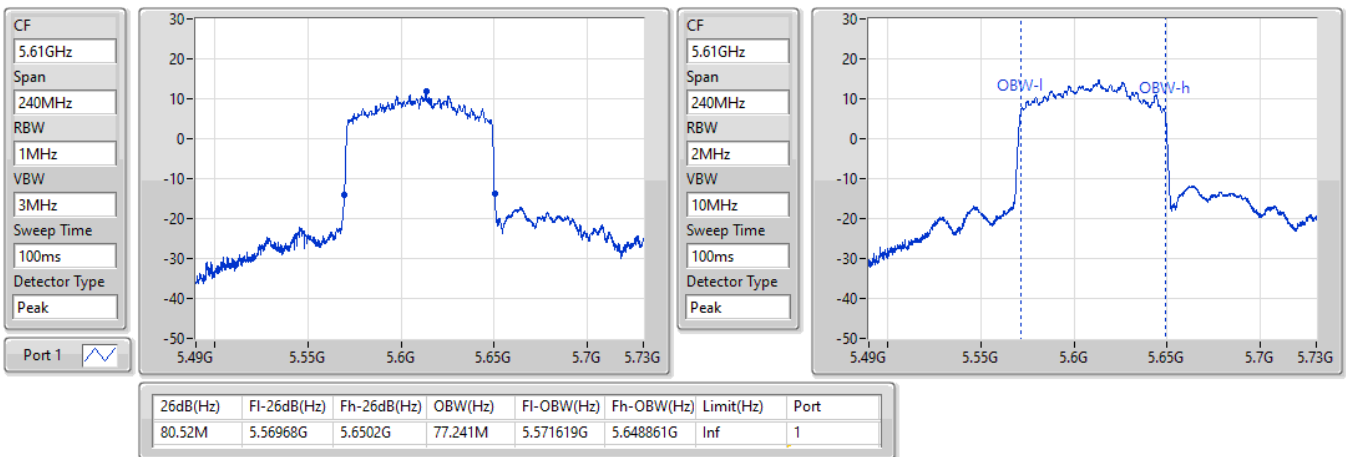


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5530MHz

20/05/2022

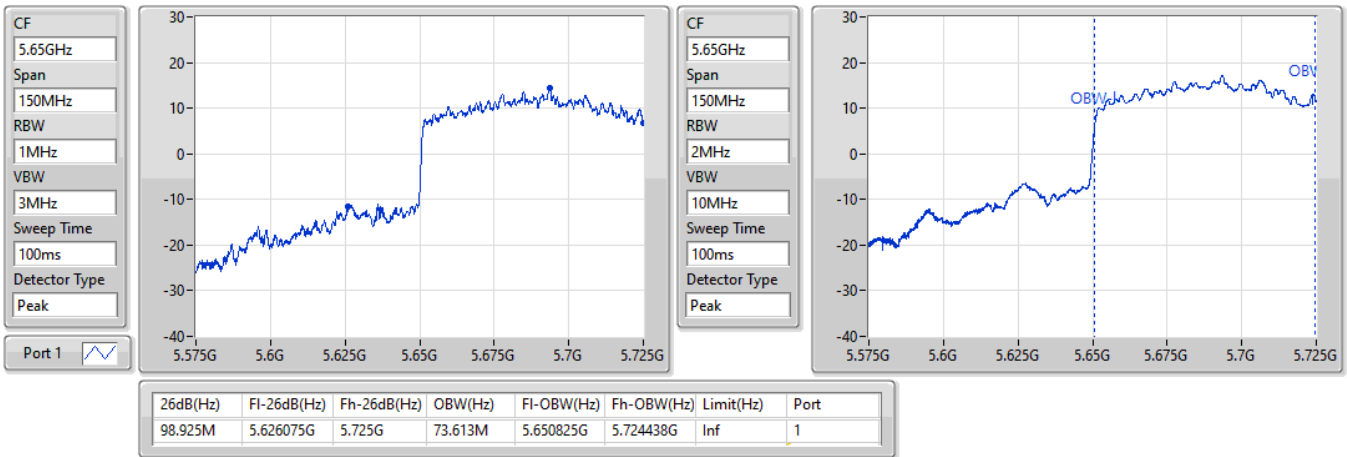

802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5610MHz

20/05/2022

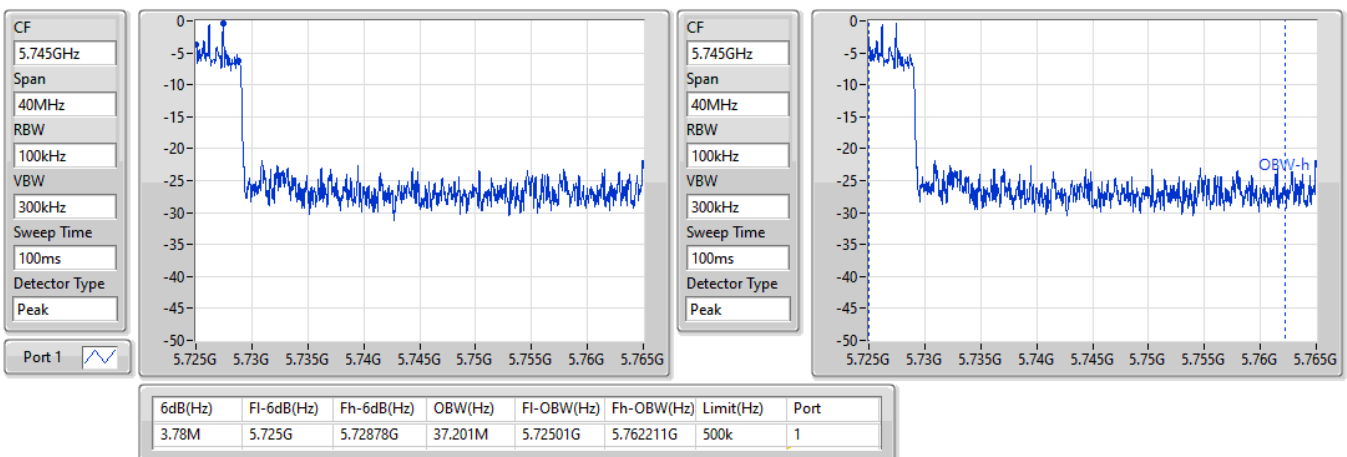


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5690MHz Straddle 5.47-5.725GHz

03/06/2022

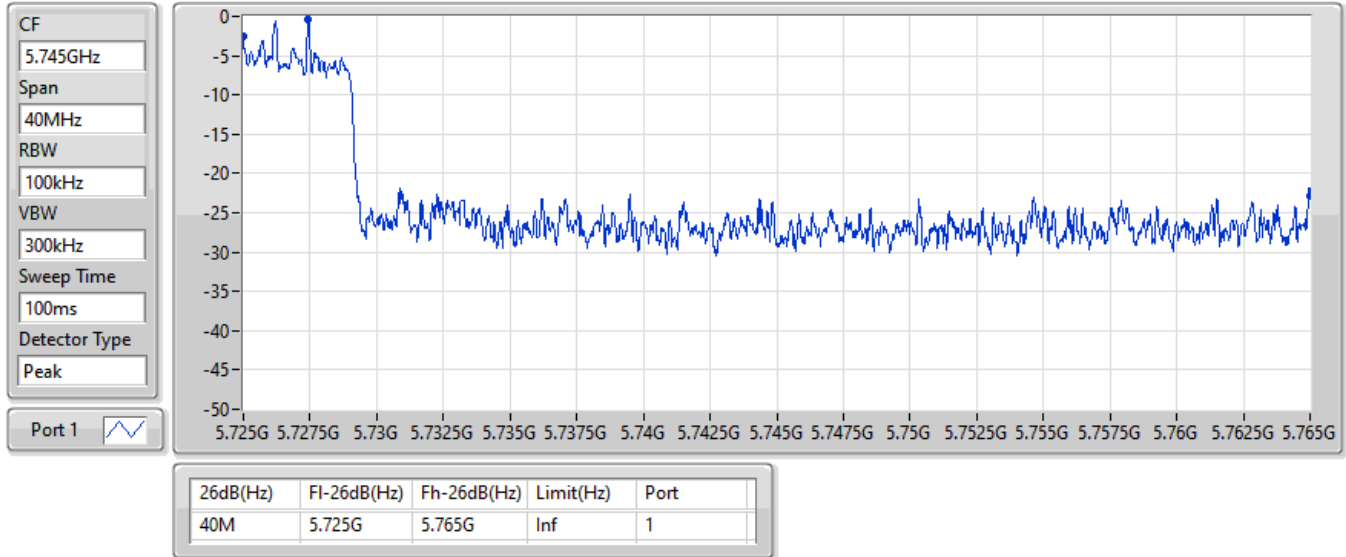

802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5690MHz Straddle 5.725-5.85GHz

03/06/2022

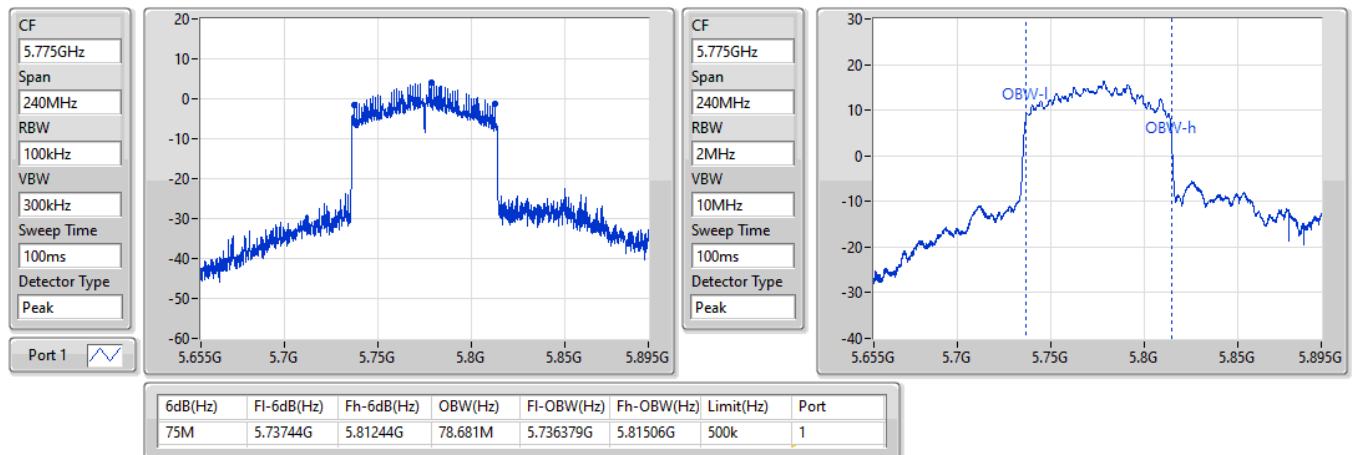


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5690MHz Straddle 5.725-5.85GHz

03/06/2022

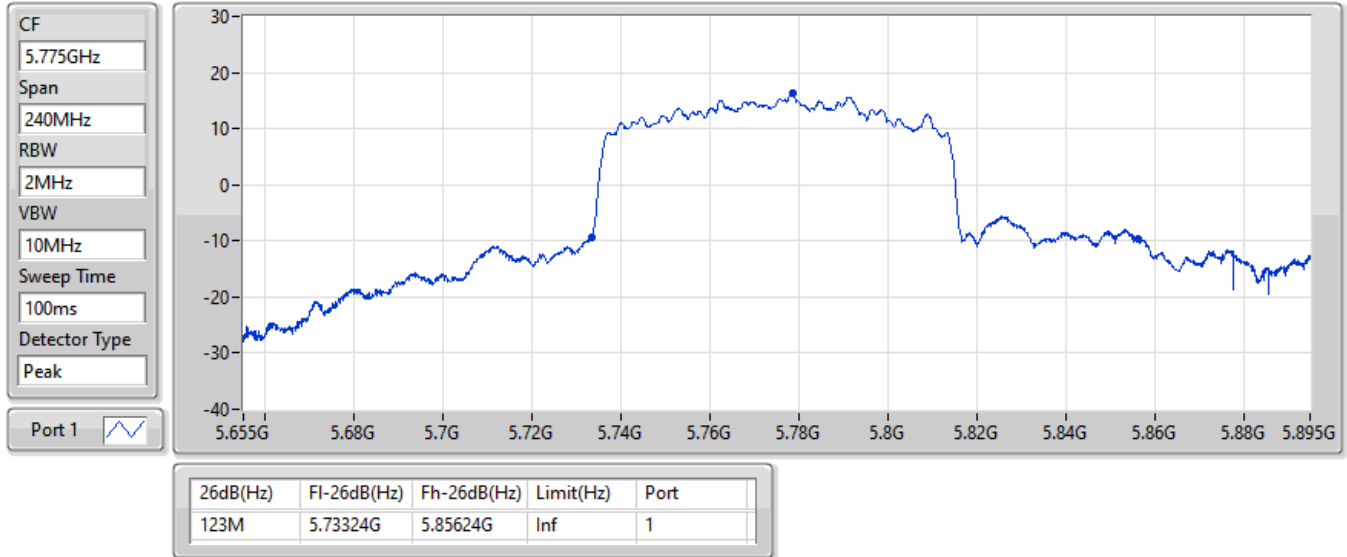

802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5775MHz

03/06/2022

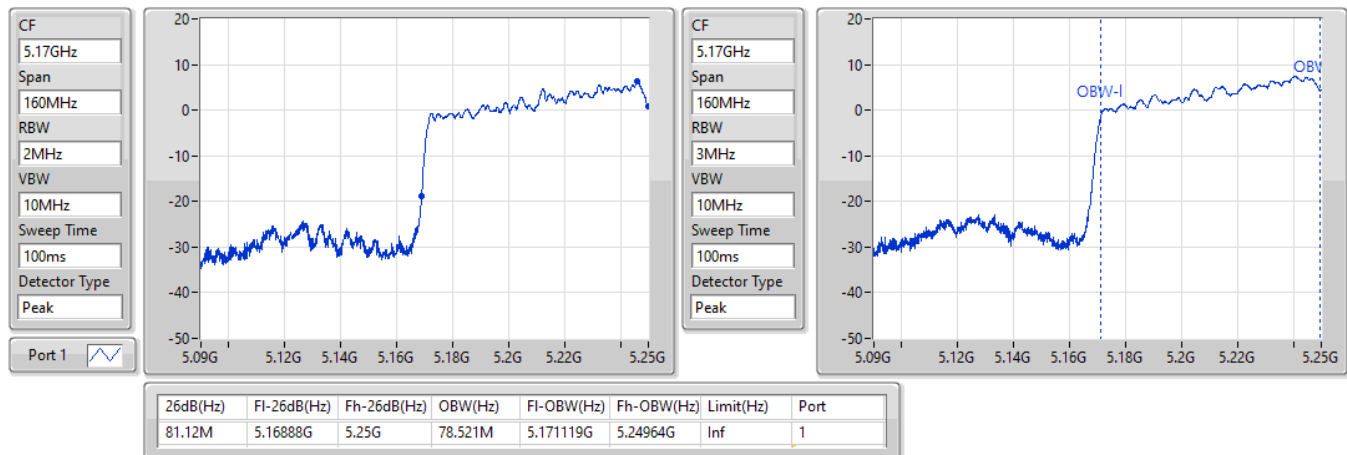


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5775MHz

03/06/2022

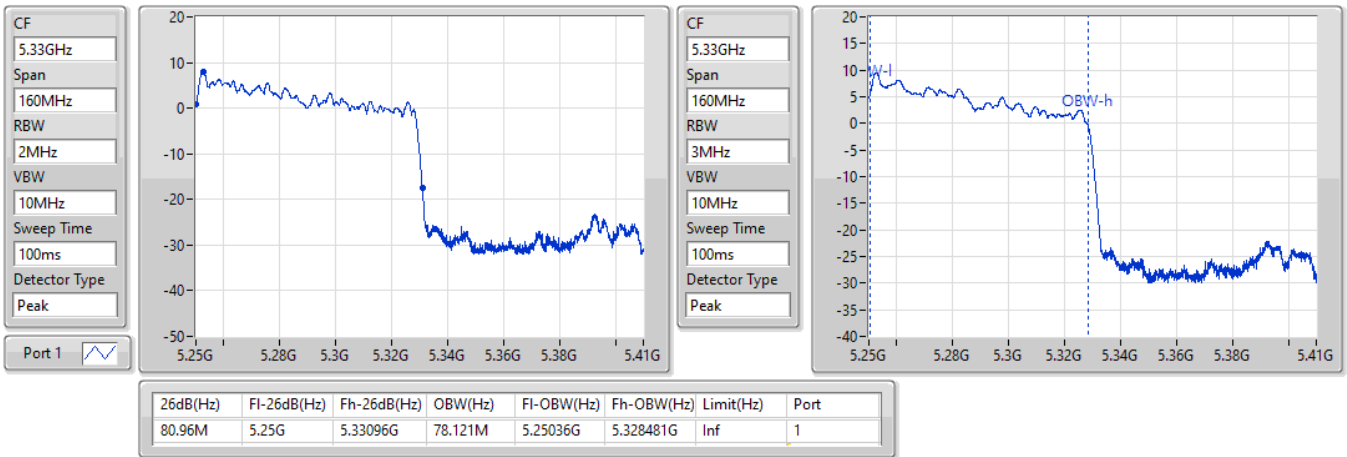

802.11ax HEW160_Nss1,(MCS0)_1TX
EBW
5250MHz Straddle 5.15-5.25GHz

20/05/2022

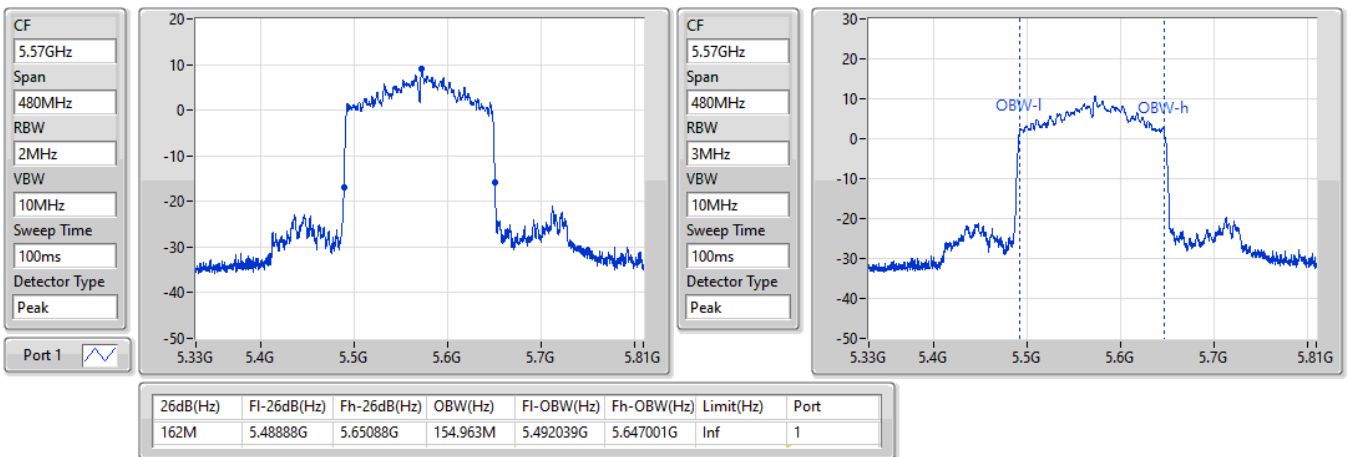


802.11ax HEW160_Nss1,(MCS0)_1TX
EBW
5250MHz Straddle 5.25-5.35GHz

20/05/2022


802.11ax HEW160_Nss1,(MCS0)_1TX
EBW
5570MHz

03/06/2022



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	34.98M	22.009M	22M0D1D	32.19M	18.441M
802.11ax HEW20_Nss1,(MCS0)_1TX	36.18M	22.069M	22M1D1D	31.47M	19.22M
802.11ax HEW40_Nss1,(MCS0)_1TX	65.04M	38.381M	38M4D1D	46.2M	37.661M
802.11ax HEW80_Nss1,(MCS0)_1TX	80.52M	77.481M	77M5D1D	80.52M	77.481M
802.11ax HEW160_Nss1,(MCS0)_1TX	81.04M	78.681M	78M7D1D	81.04M	78.681M
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	32.73M	18.411M	18M4D1D	19.44M	16.282M
802.11ax HEW20_Nss1,(MCS0)_1TX	30.33M	19.07M	19M1D1D	25.74M	18.741M
802.11ax HEW40_Nss1,(MCS0)_1TX	65.82M	38.801M	38M8D1D	39.78M	37.601M
802.11ax HEW80_Nss1,(MCS0)_1TX	80.52M	77.001M	77M0D1D	80.52M	77.001M
802.11ax HEW160_Nss1,(MCS0)_1TX	80.96M	78.201M	78M2D1D	80.96M	78.201M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	31.47M	18.411M	18M4D1D	19.5M	14.363M
802.11ax HEW20_Nss1,(MCS0)_1TX	31.8M	19.16M	19M2D1D	19.38M	14.438M
802.11ax HEW40_Nss1,(MCS0)_1TX	58.08M	38.681M	38M7D1D	39.72M	33.828M
802.11ax HEW80_Nss1,(MCS0)_1TX	89.25M	77.361M	77M4D1D	80.52M	73.388M
802.11ax HEW160_Nss1,(MCS0)_1TX	162M	155.202M	155MD1D	162M	155.202M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	15.03M	20.6M	20M6D1D	3.08M	11.294M
802.11ax HEW20_Nss1,(MCS0)_1TX	15.06M	20.63M	20M6D1D	3.38M	12.314M
802.11ax HEW40_Nss1,(MCS0)_1TX	33.72M	38.741M	38M7D1D	3.88M	22.409M
802.11ax HEW80_Nss1,(MCS0)_1TX	73.8M	83.598M	83M6D1D	3.8M	37.561M

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

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-
5180MHz	Pass	Inf	34.98M	22.009M
5200MHz	Pass	Inf	34.83M	21.769M
5240MHz	Pass	Inf	32.19M	18.441M
5260MHz	Pass	Inf	31.35M	18.201M
5300MHz	Pass	Inf	32.73M	18.411M
5320MHz	Pass	Inf	19.44M	16.282M
5500MHz	Pass	Inf	26.13M	16.522M
5580MHz	Pass	Inf	31.47M	18.411M
5700MHz	Pass	Inf	19.5M	16.222M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	20.37M	14.363M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.08M	11.294M
5745MHz	Pass	500k	14.97M	19.37M
5785MHz	Pass	500k	15.03M	19.16M
5825MHz	Pass	500k	15M	20.6M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
5180MHz	Pass	Inf	36.18M	22.069M
5200MHz	Pass	Inf	36.09M	21.499M
5240MHz	Pass	Inf	31.47M	19.22M
5260MHz	Pass	Inf	30.33M	19.04M
5300MHz	Pass	Inf	29.94M	19.07M
5320MHz	Pass	Inf	25.74M	18.741M
5500MHz	Pass	Inf	22.68M	18.681M
5580MHz	Pass	Inf	31.8M	19.16M
5700MHz	Pass	Inf	20.07M	18.621M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	19.38M	14.438M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.38M	12.314M
5745MHz	Pass	500k	15.06M	20.63M
5785MHz	Pass	500k	15.03M	20.15M
5825MHz	Pass	500k	15.06M	20.6M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
5190MHz	Pass	Inf	46.2M	37.661M
5230MHz	Pass	Inf	65.04M	38.381M
5270MHz	Pass	Inf	65.82M	38.801M
5310MHz	Pass	Inf	39.78M	37.601M
5510MHz	Pass	Inf	39.72M	37.481M
5550MHz	Pass	Inf	58.08M	38.681M
5670MHz	Pass	Inf	39.78M	37.541M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	39.725M	33.828M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.88M	22.409M
5755MHz	Pass	500k	33.72M	38.441M
5795MHz	Pass	500k	32.46M	38.741M
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-	-	-
5210MHz	Pass	Inf	80.52M	77.481M
5290MHz	Pass	Inf	80.52M	77.001M
5530MHz	Pass	Inf	80.52M	77.361M
5610MHz	Pass	Inf	80.52M	77.241M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	89.25M	73.388M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.8M	37.561M
5775MHz	Pass	500k	73.8M	83.598M



EBW

<Full RU> UNII1~UNII3_Non-Beamforming Mode_Ant.2 (1TX)

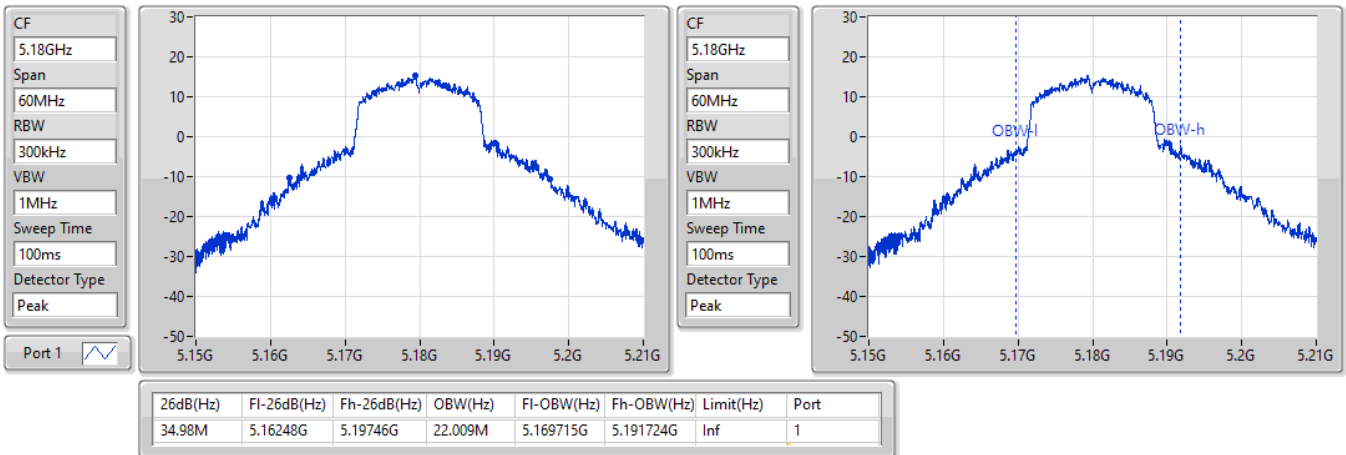
Appendix B.2

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11ax HEW160_Nss1,(MCS0)_1TX	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	81.04M	78.681M
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	80.96M	78.201M
5570MHz	Pass	Inf	162M	155.202M

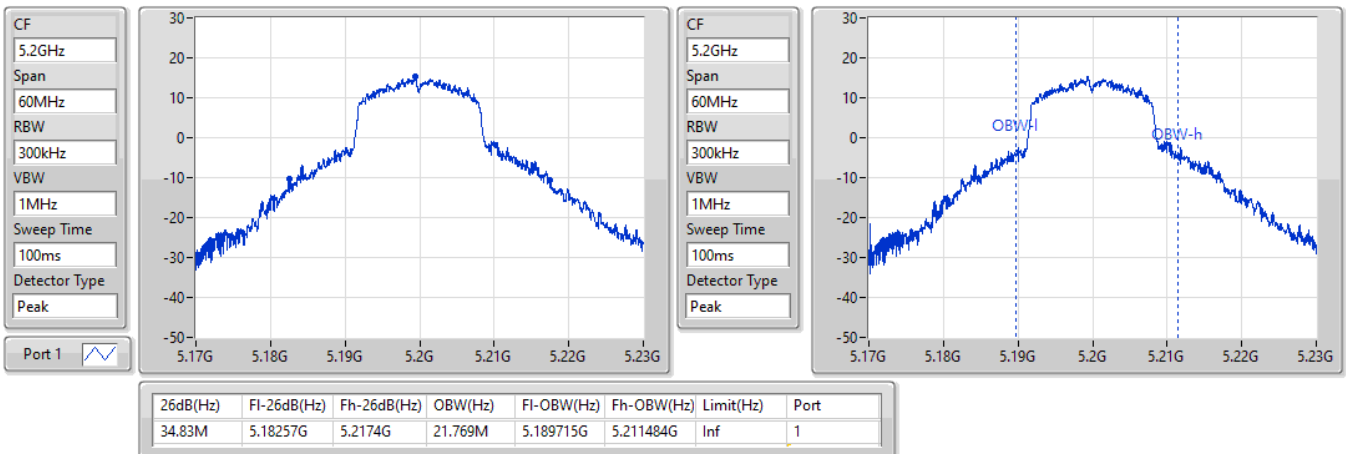
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

802.11a_Nss1,(6Mbps)_1TX
EBW
5180MHz

20/05/2022

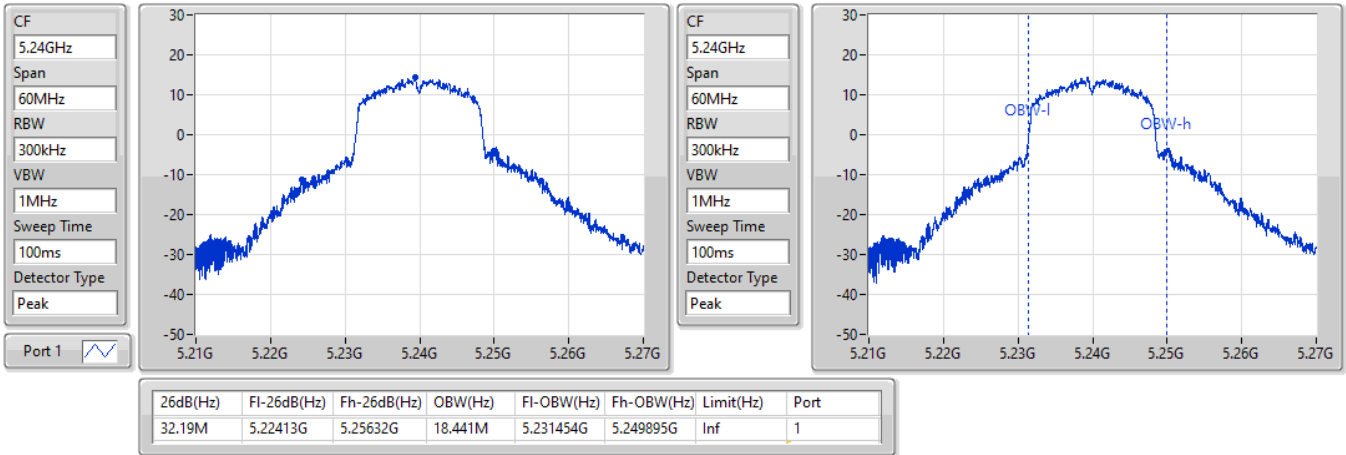

802.11a_Nss1,(6Mbps)_1TX
EBW
5200MHz

20/05/2022

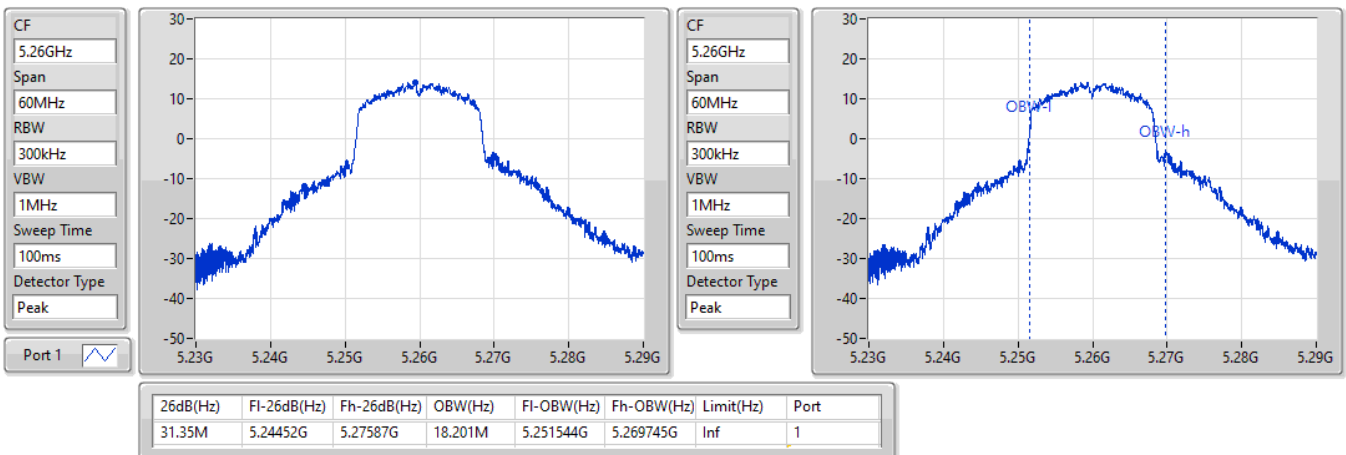


802.11a_Nss1,(6Mbps)_1TX
EBW
5240MHz

20/05/2022

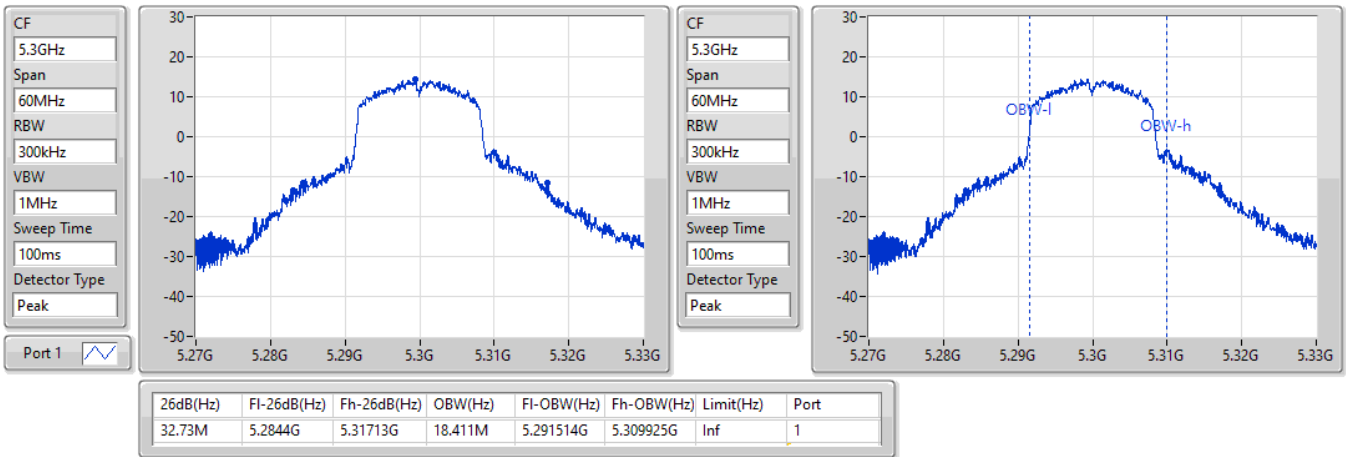

802.11a_Nss1,(6Mbps)_1TX
EBW
5260MHz

20/05/2022

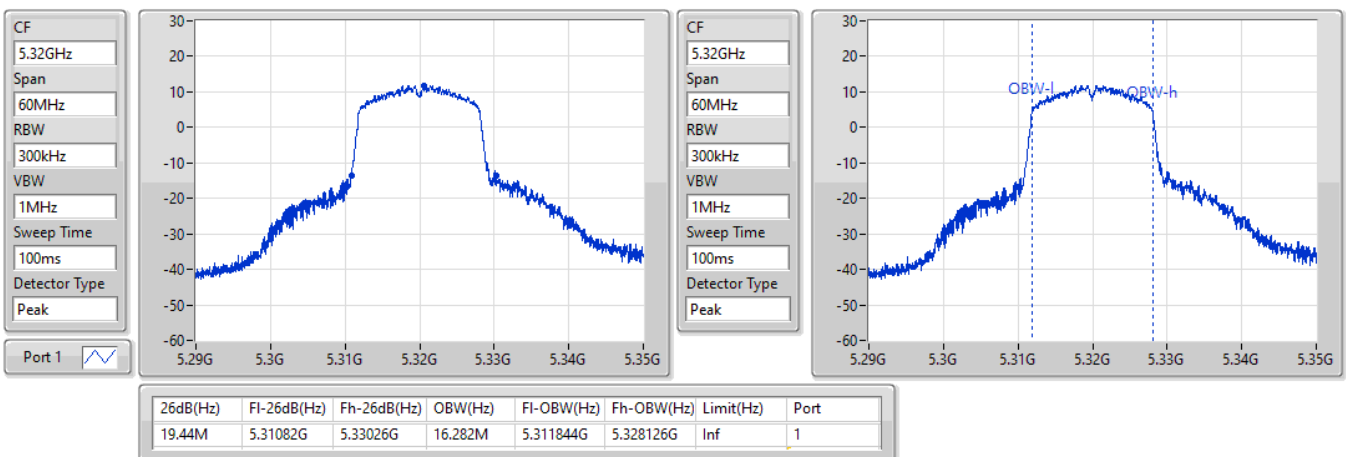


802.11a_Nss1,(6Mbps)_1TX
EBW
5300MHz

20/05/2022

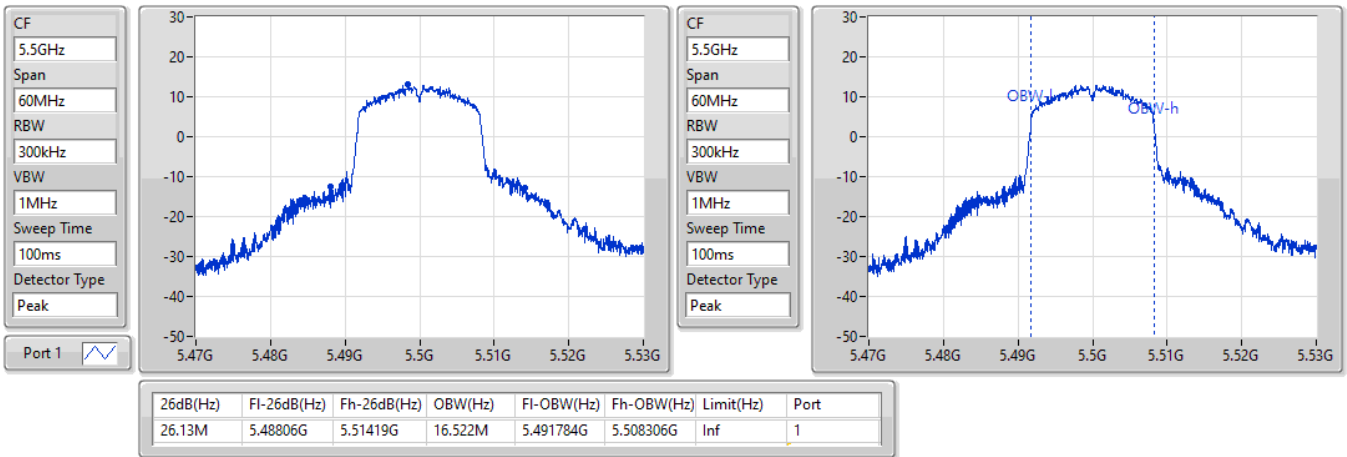

802.11a_Nss1,(6Mbps)_1TX
EBW
5320MHz

02/06/2022

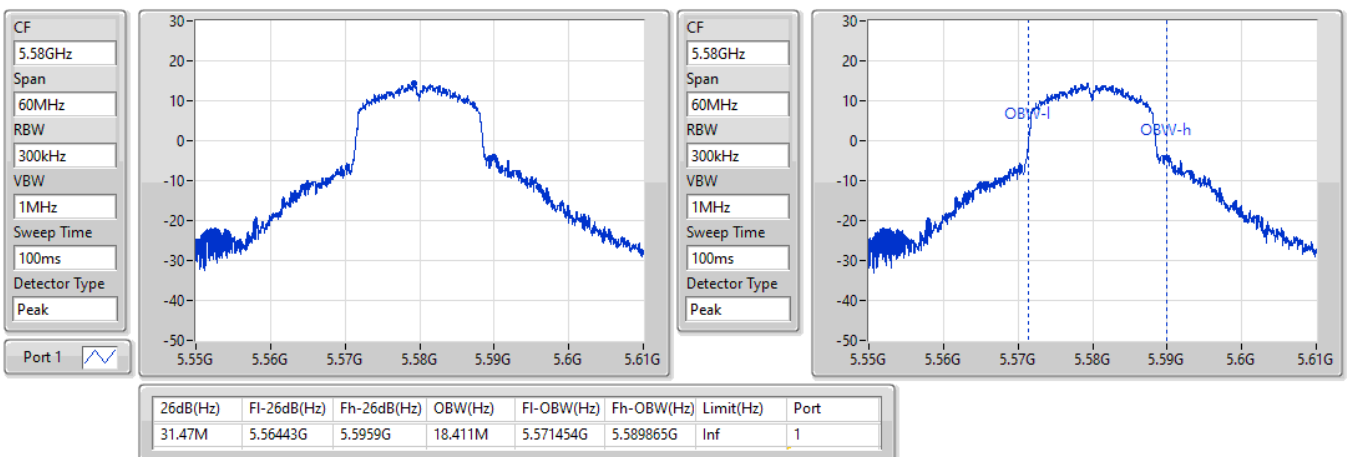


802.11a_Nss1,(6Mbps)_1TX
EBW
5500MHz

02/06/2022

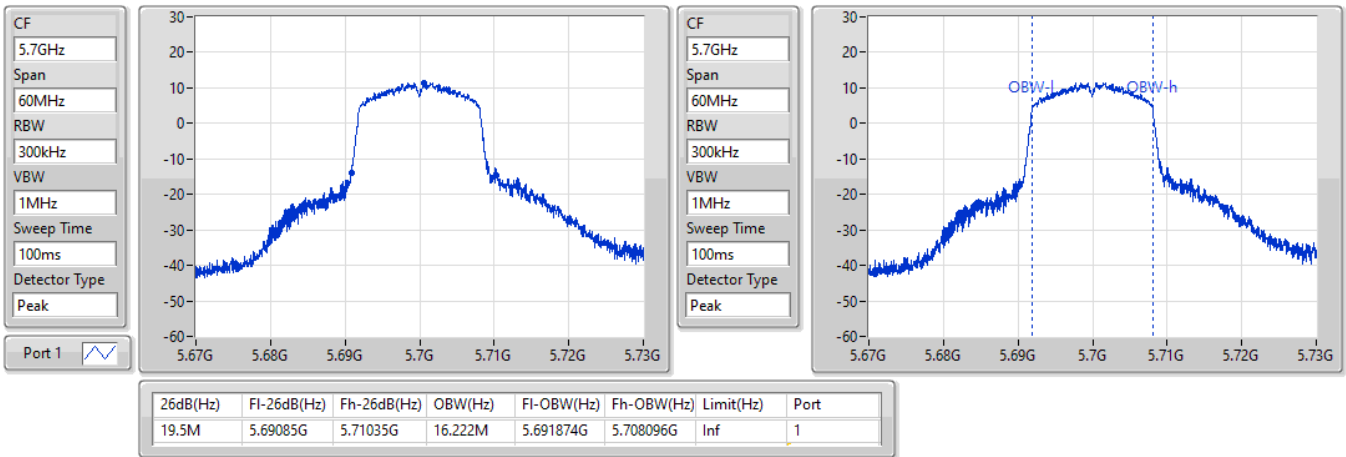

802.11a_Nss1,(6Mbps)_1TX
EBW
5580MHz

20/05/2022

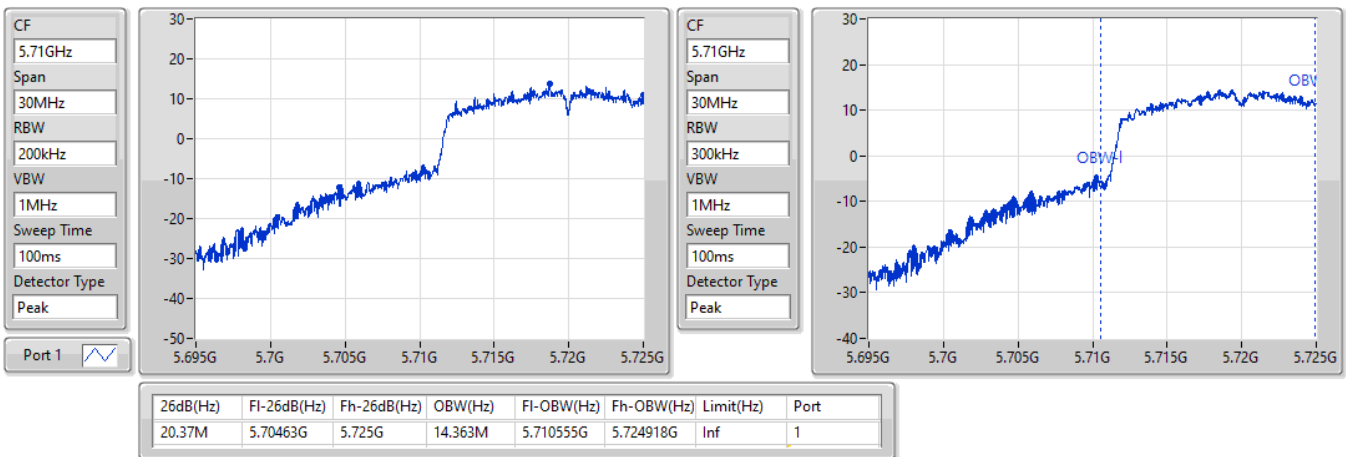


802.11a_Nss1,(6Mbps)_1TX
EBW
5700MHz

02/06/2022

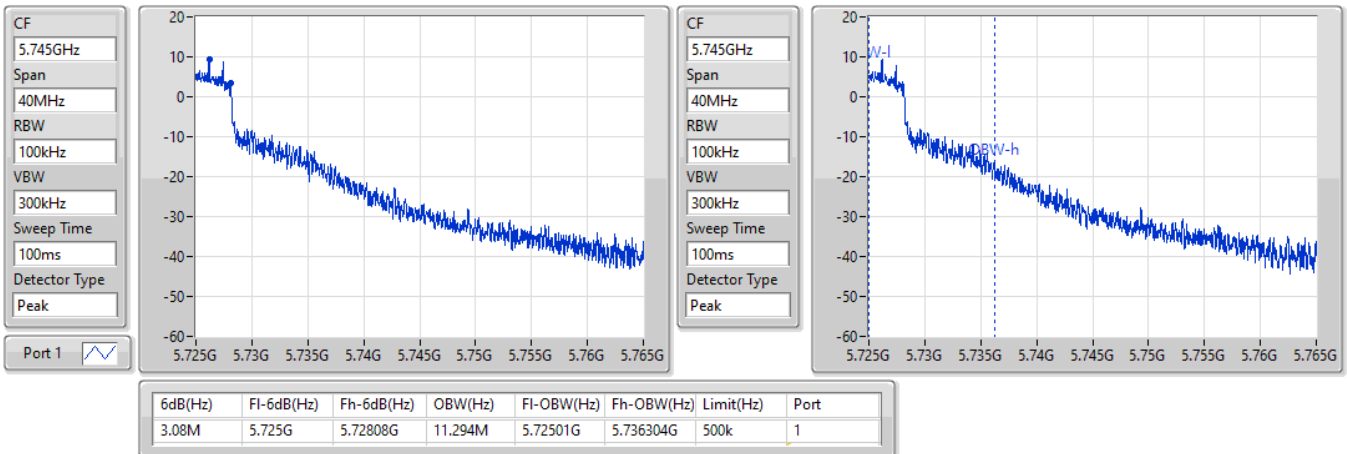

802.11a_Nss1,(6Mbps)_1TX
EBW
5720MHz Straddle 5.47-5.725GHz

02/06/2022

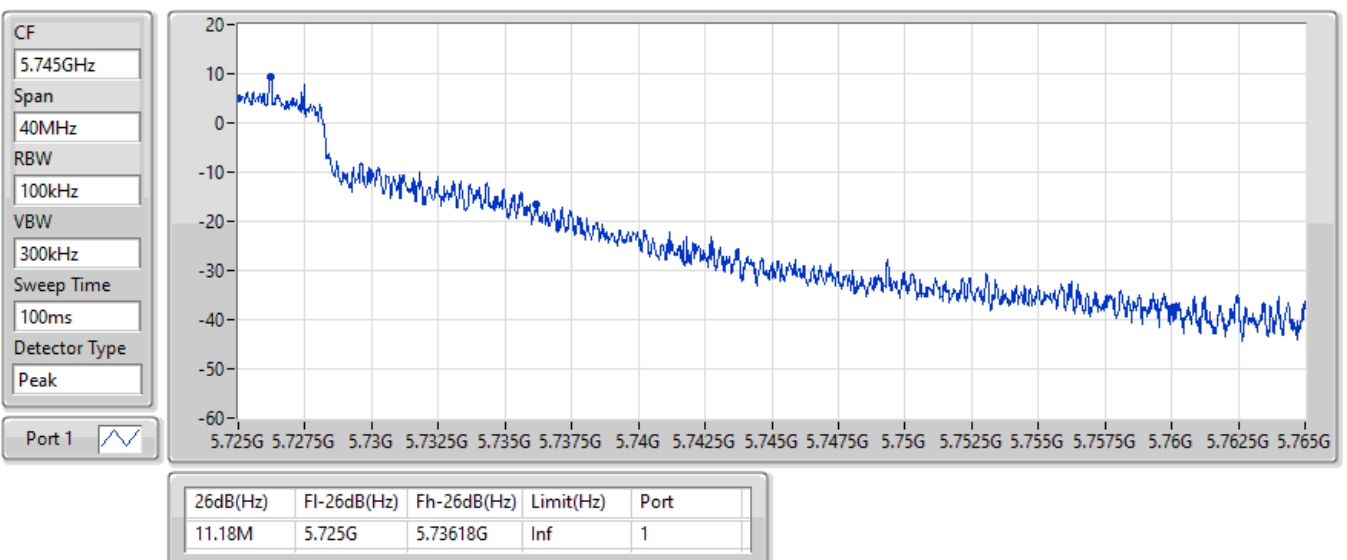


802.11a_Nss1,(6Mbps)_1TX
EBW
5720MHz Straddle 5.725-5.85GHz

02/06/2022

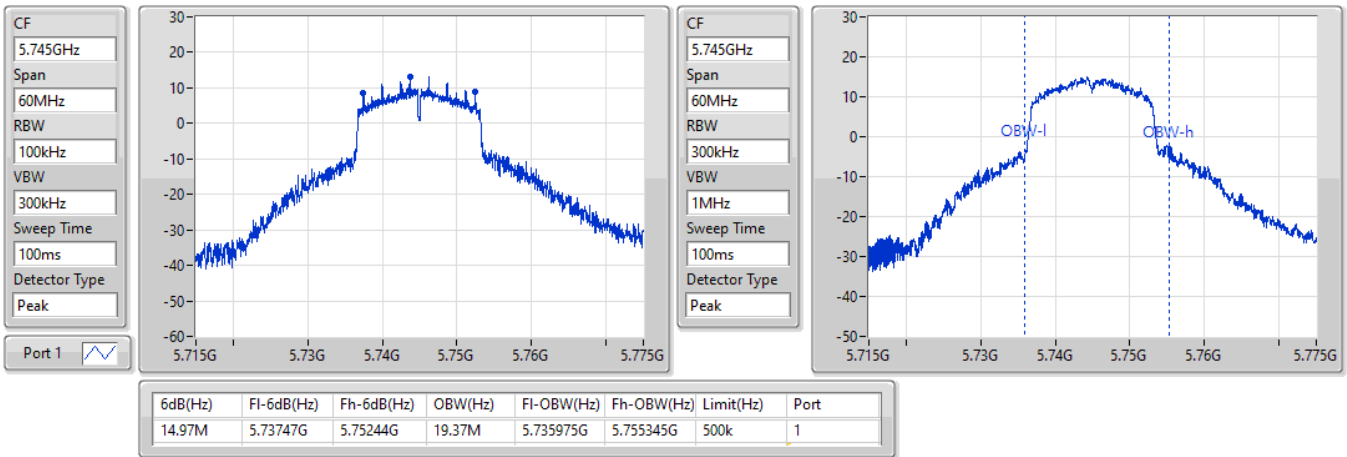

802.11a_Nss1,(6Mbps)_1TX
EBW
5720MHz Straddle 5.725-5.85GHz

02/06/2022

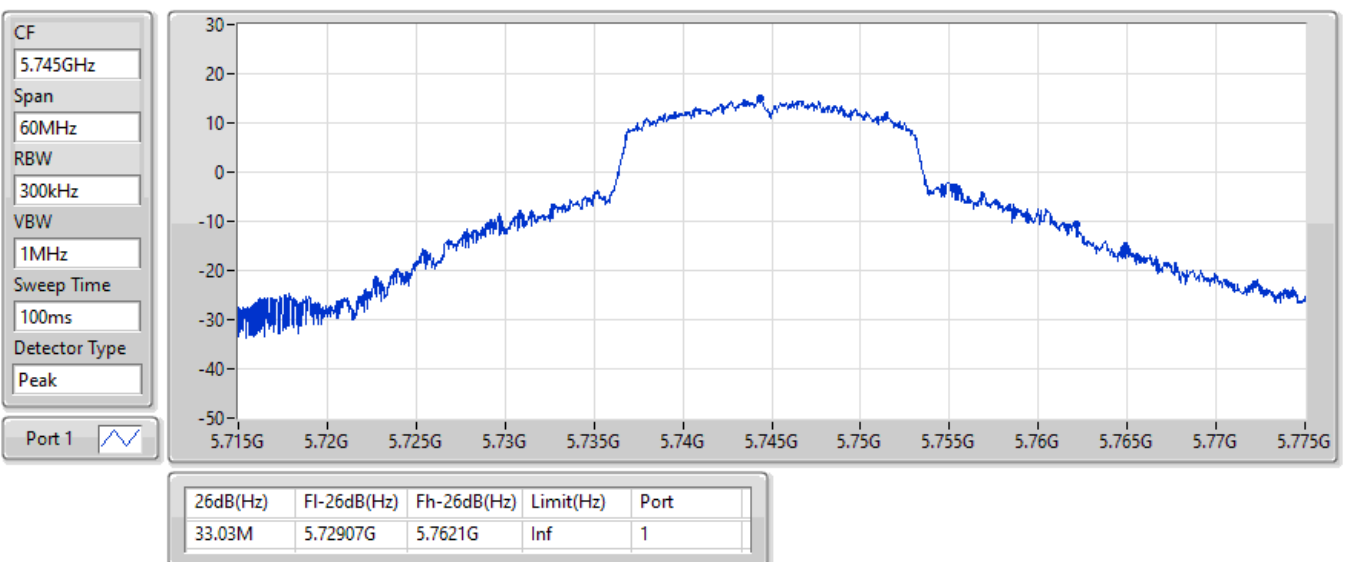


802.11a_Nss1,(6Mbps)_1TX
EBW
5745MHz

02/06/2022

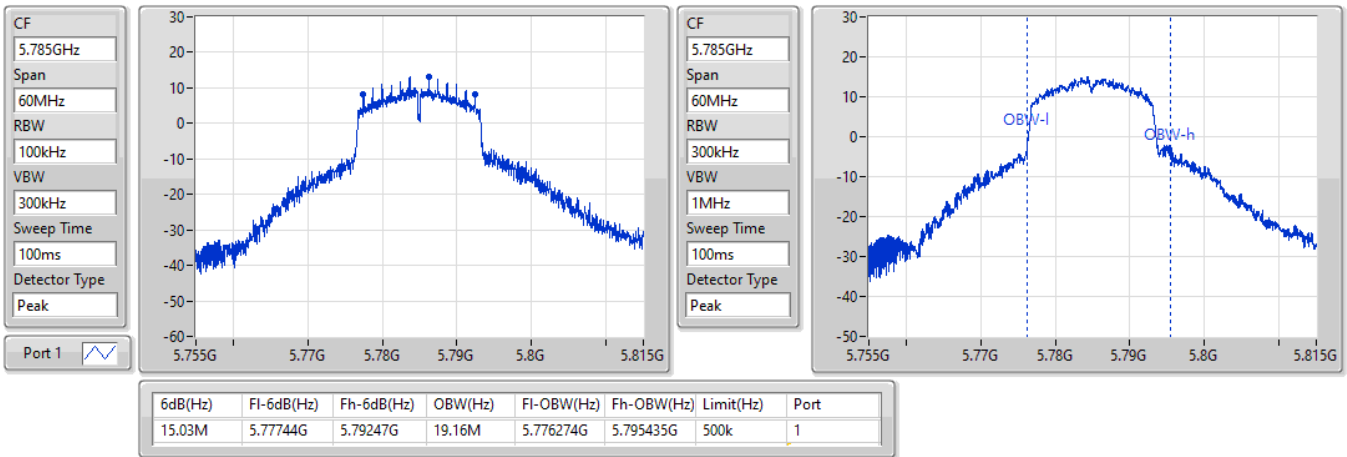

802.11a_Nss1,(6Mbps)_1TX
EBW
5745MHz

02/06/2022

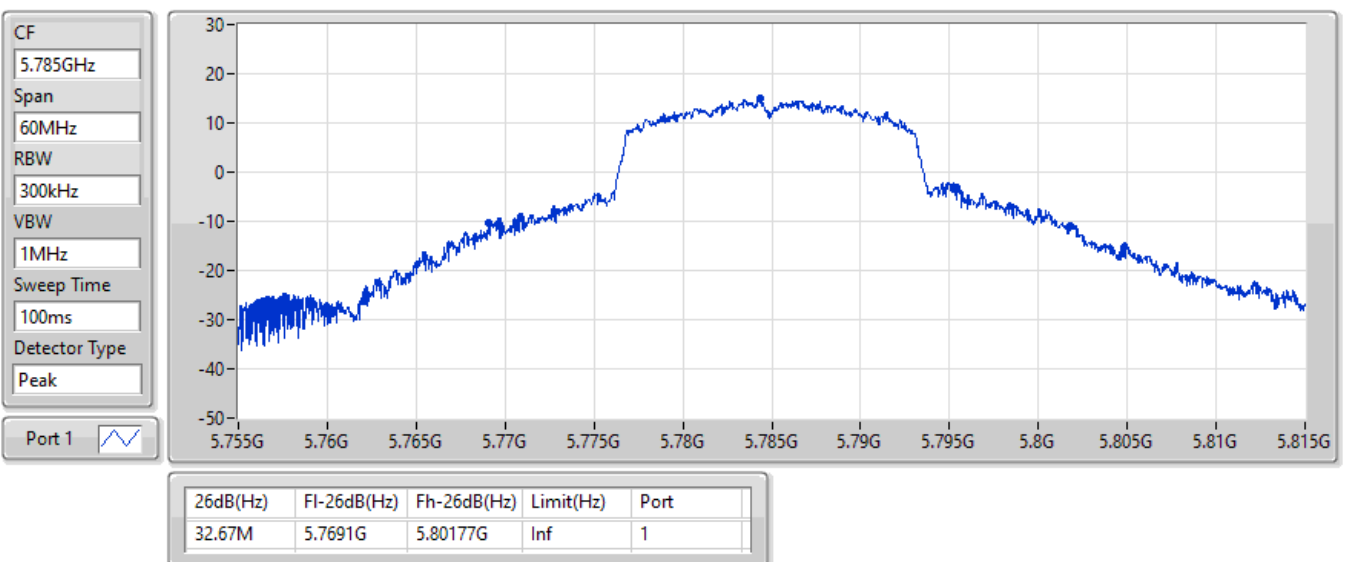


802.11a_Nss1,(6Mbps)_1TX
EBW
5785MHz

02/06/2022

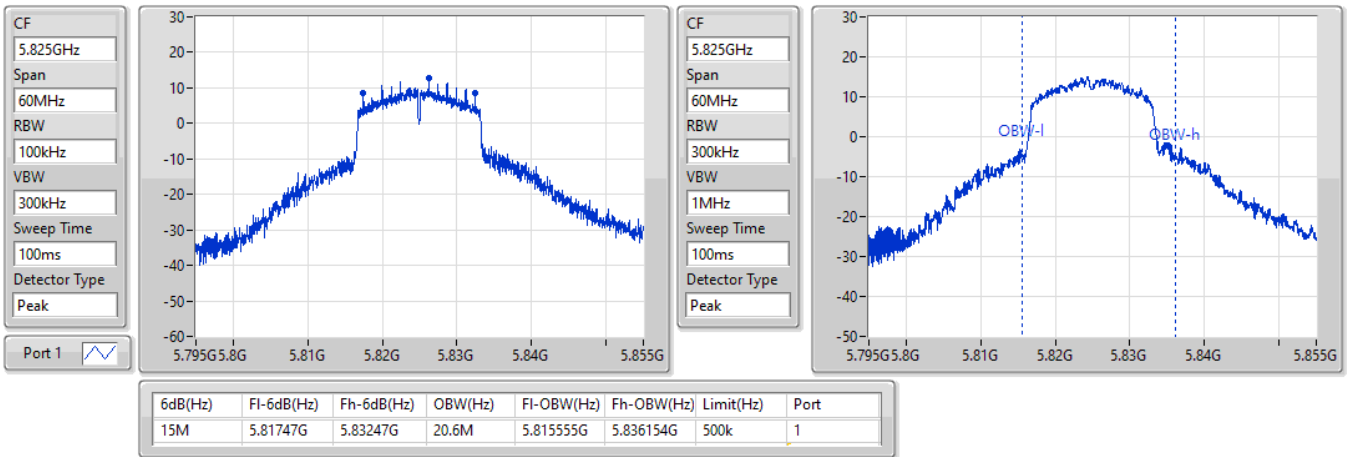

802.11a_Nss1,(6Mbps)_1TX
EBW
5785MHz

02/06/2022

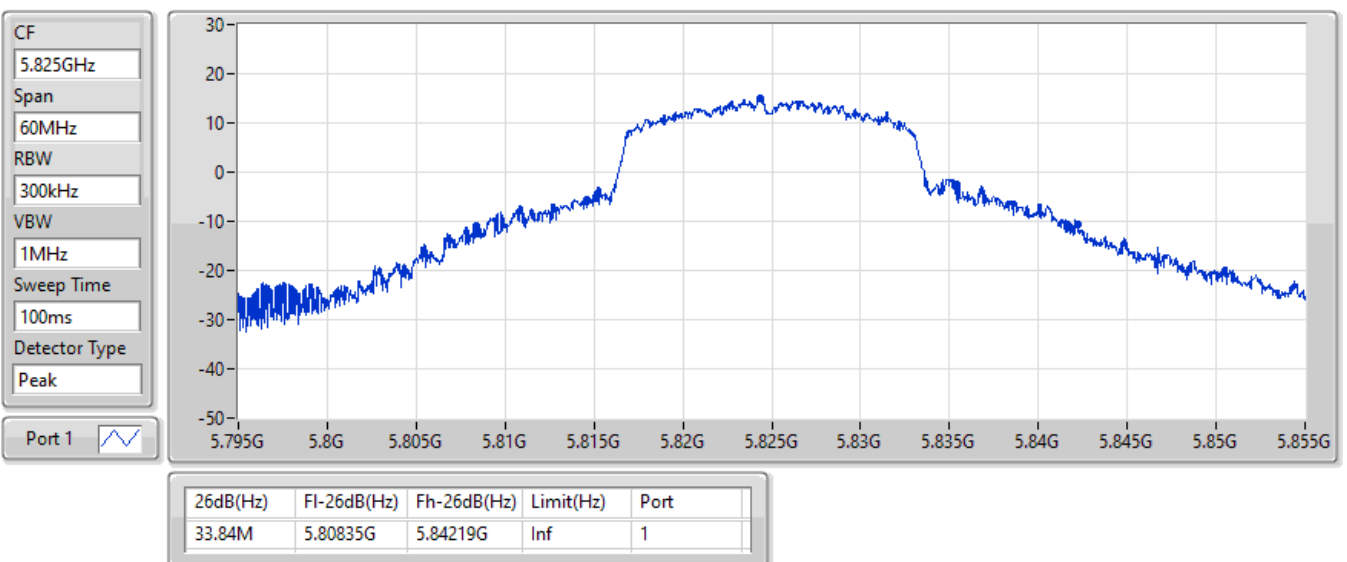


802.11a_Nss1,(6Mbps)_1TX
EBW
5825MHz

02/06/2022

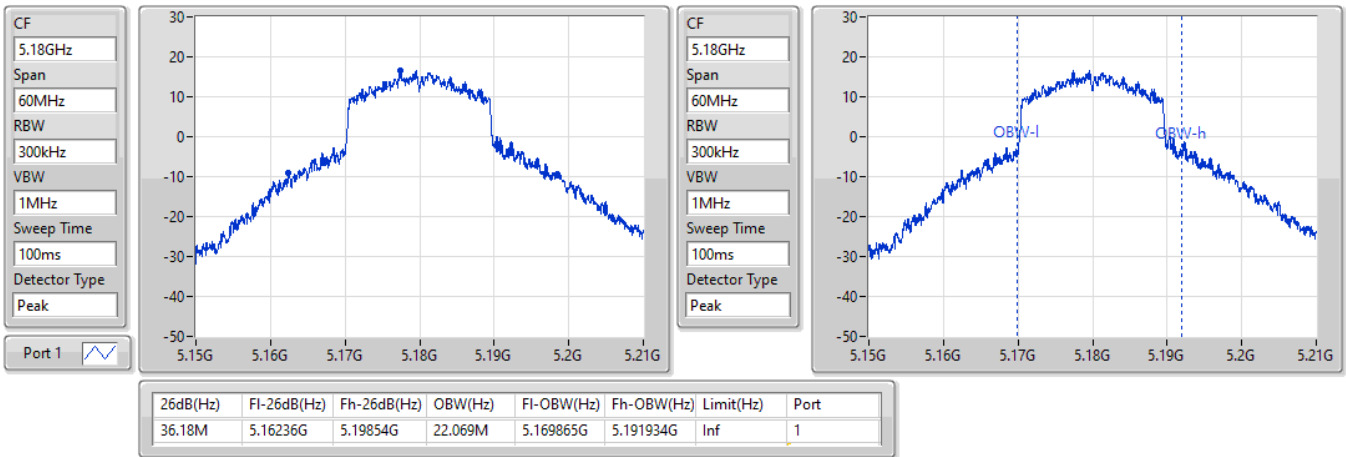

802.11a_Nss1,(6Mbps)_1TX
EBW
5825MHz

02/06/2022

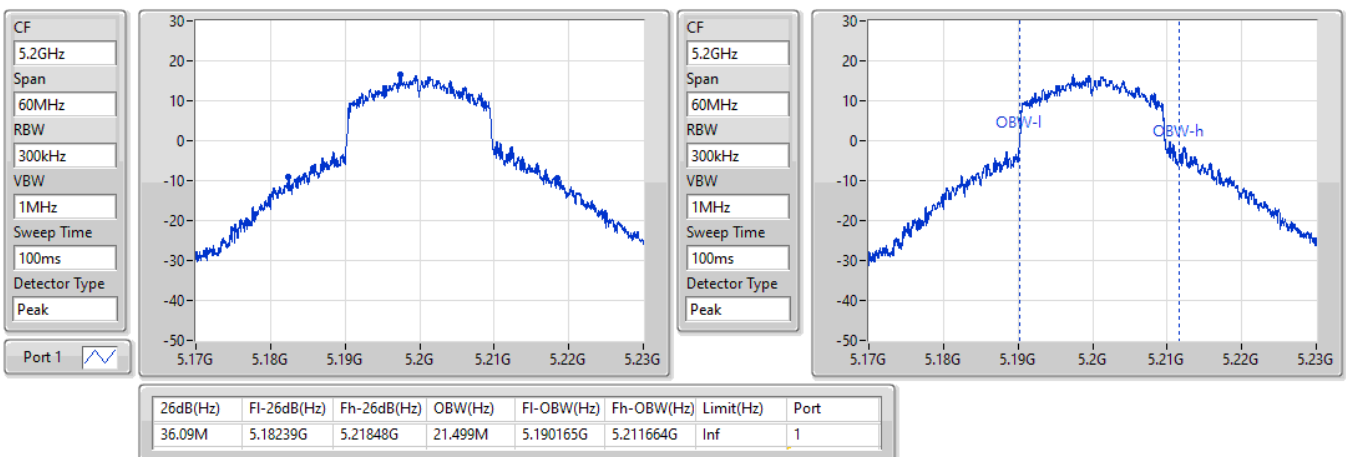


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5180MHz

20/05/2022

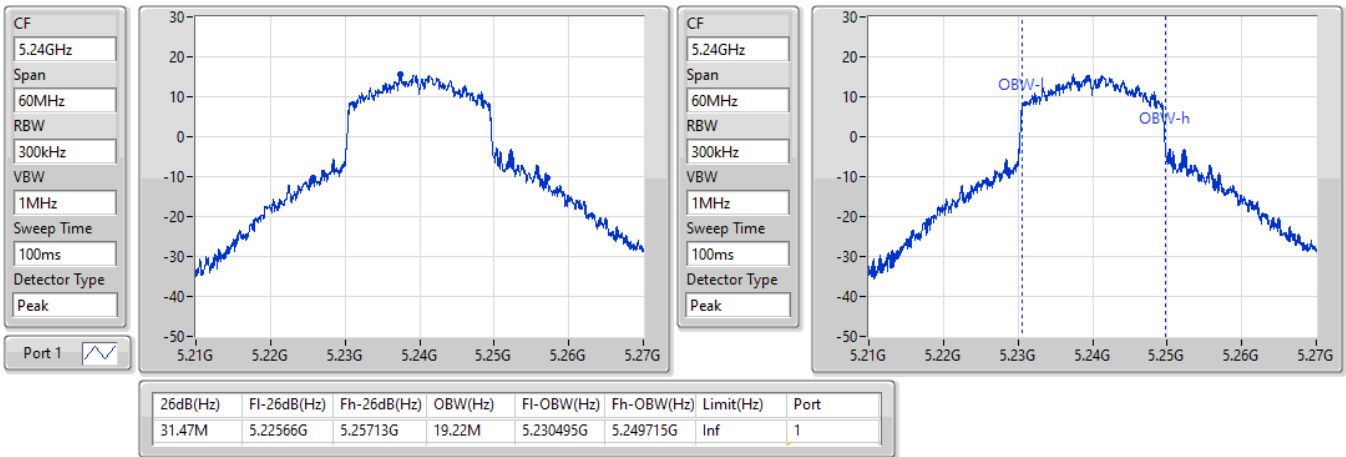

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5200MHz

20/05/2022

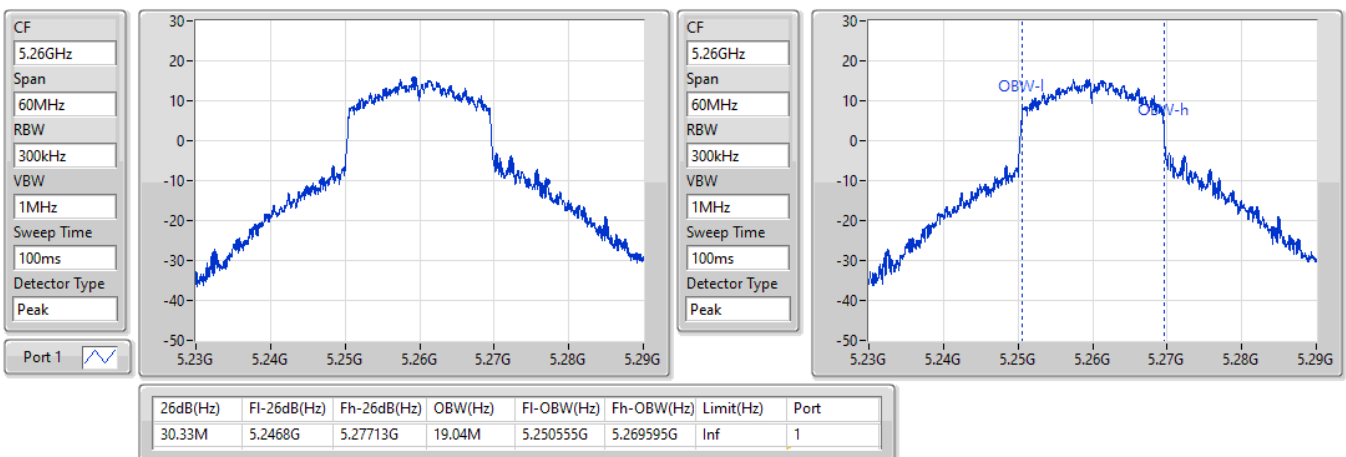


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5240MHz

20/05/2022

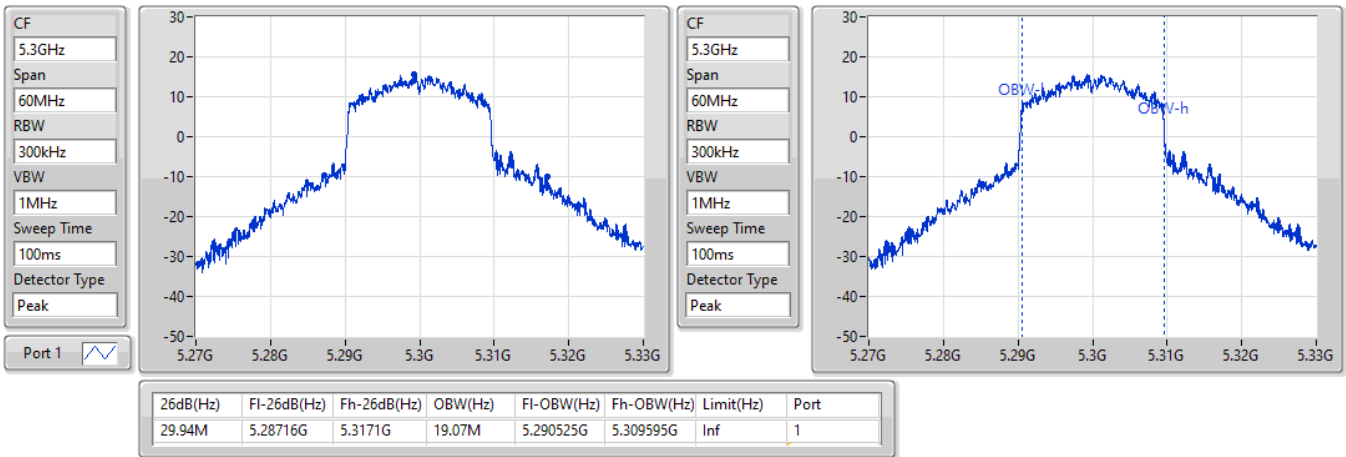

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5260MHz

20/05/2022

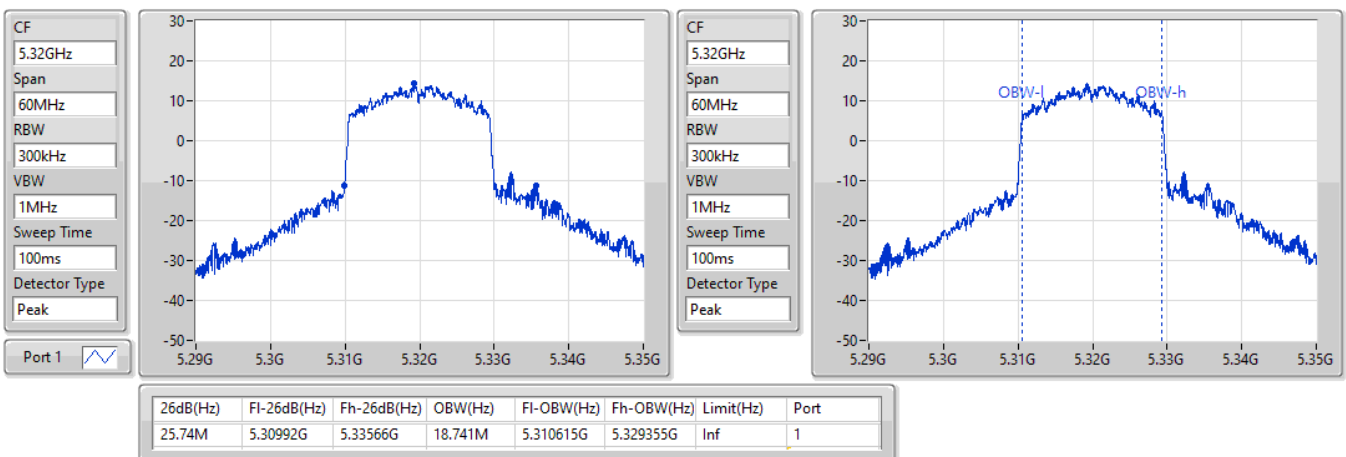


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5300MHz

20/05/2022

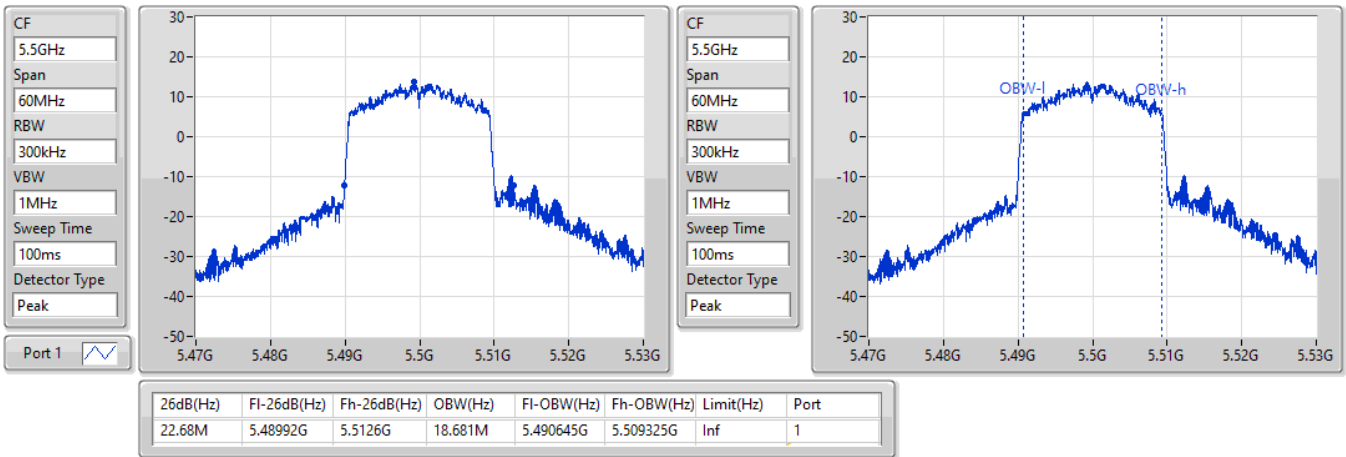

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5320MHz

20/05/2022

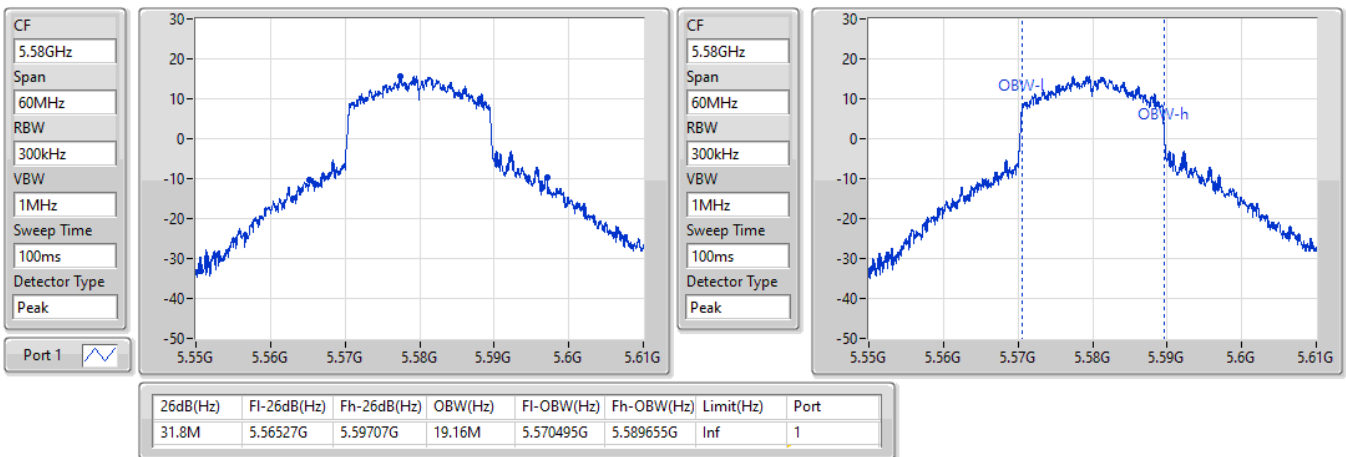


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5500MHz

20/05/2022

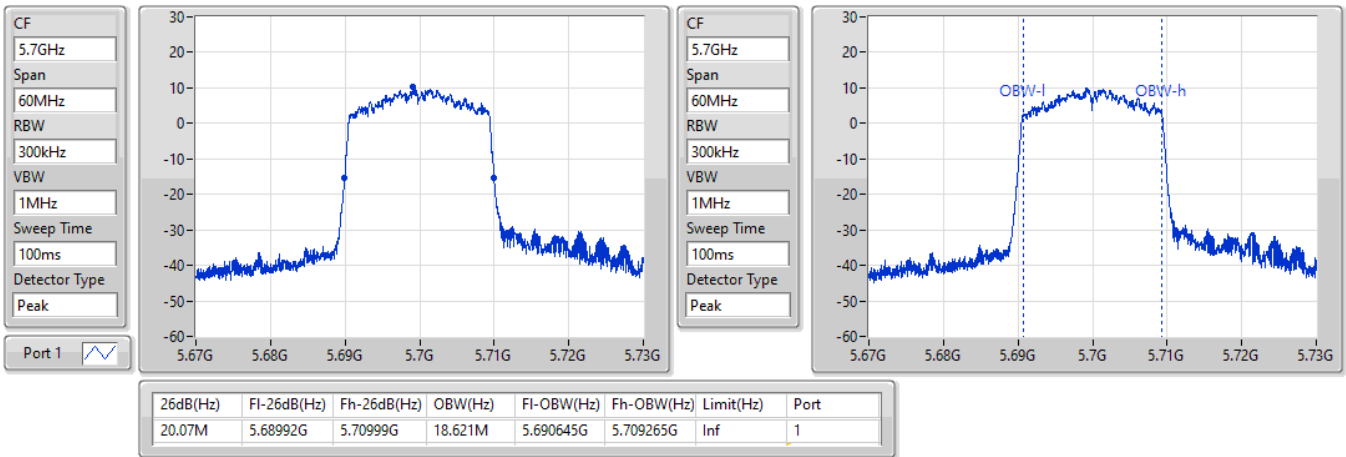

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5580MHz

20/05/2022

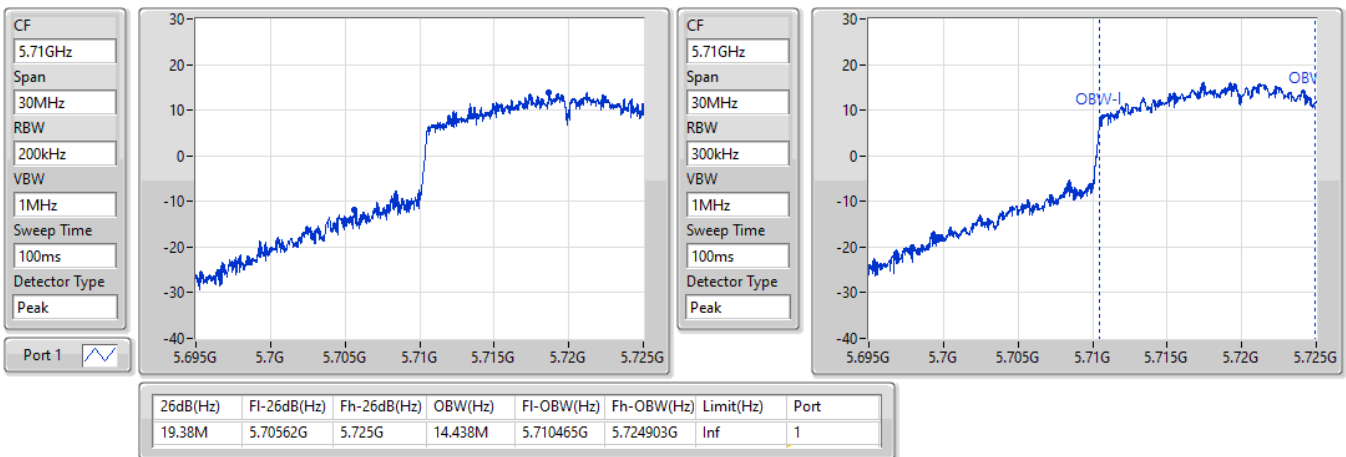


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5700MHz

20/05/2022

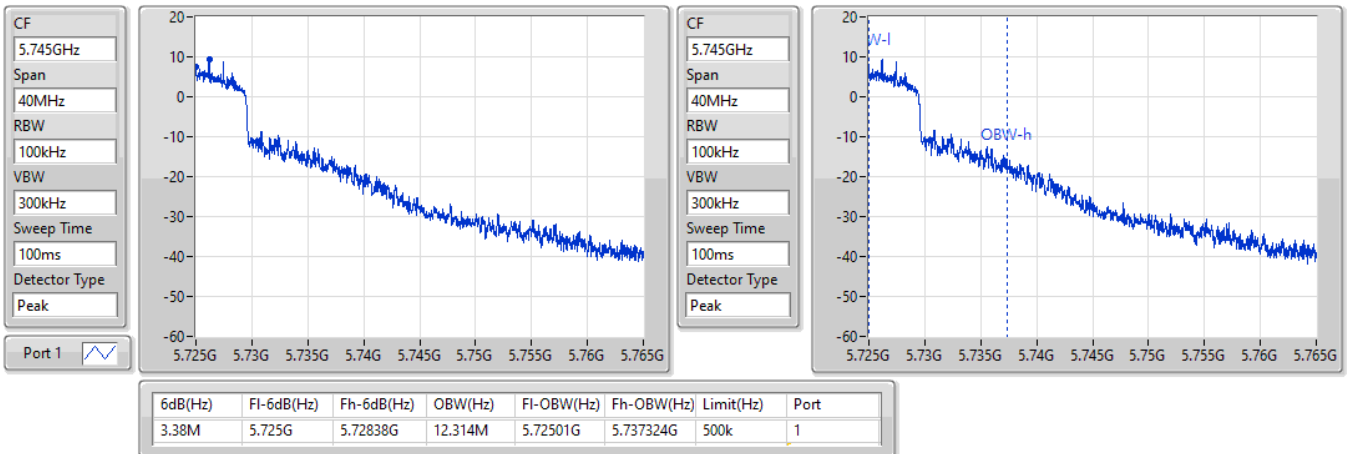

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5720MHz Straddle 5.67-5.725GHz

02/06/2022

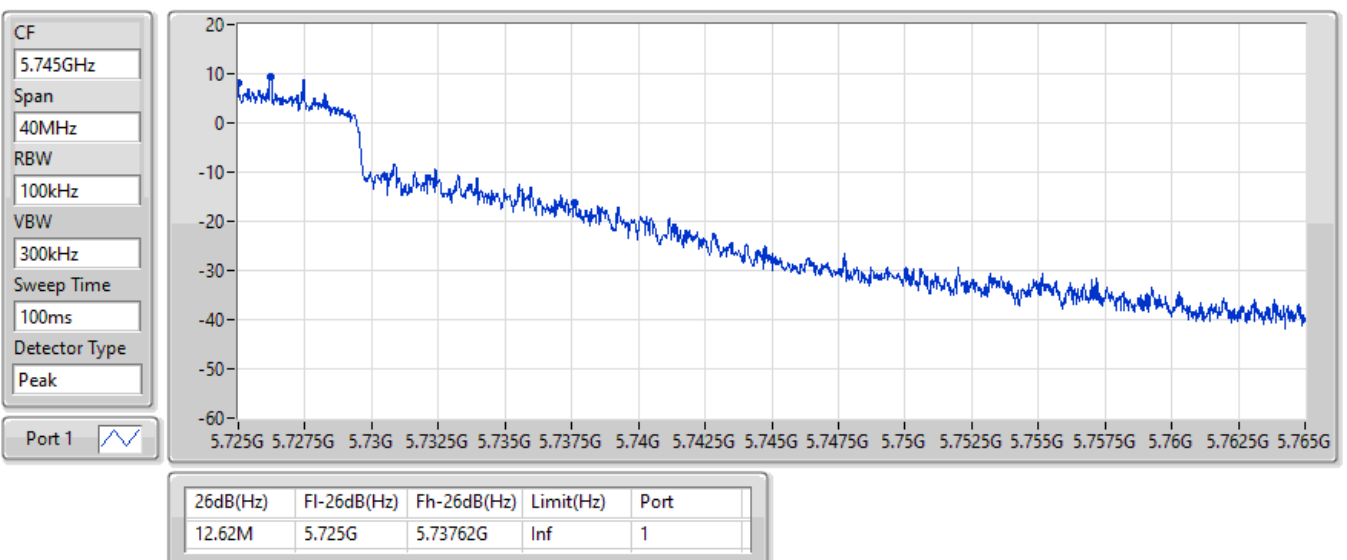


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5720MHz Straddle 5.725-5.85GHz

02/06/2022

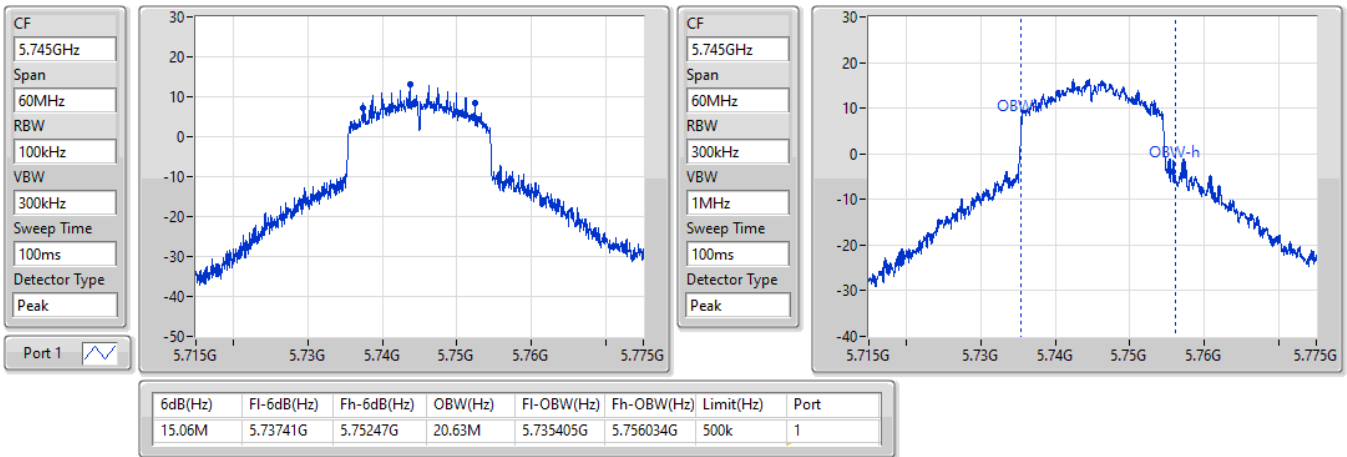

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5720MHz Straddle 5.725-5.85GHz

02/06/2022

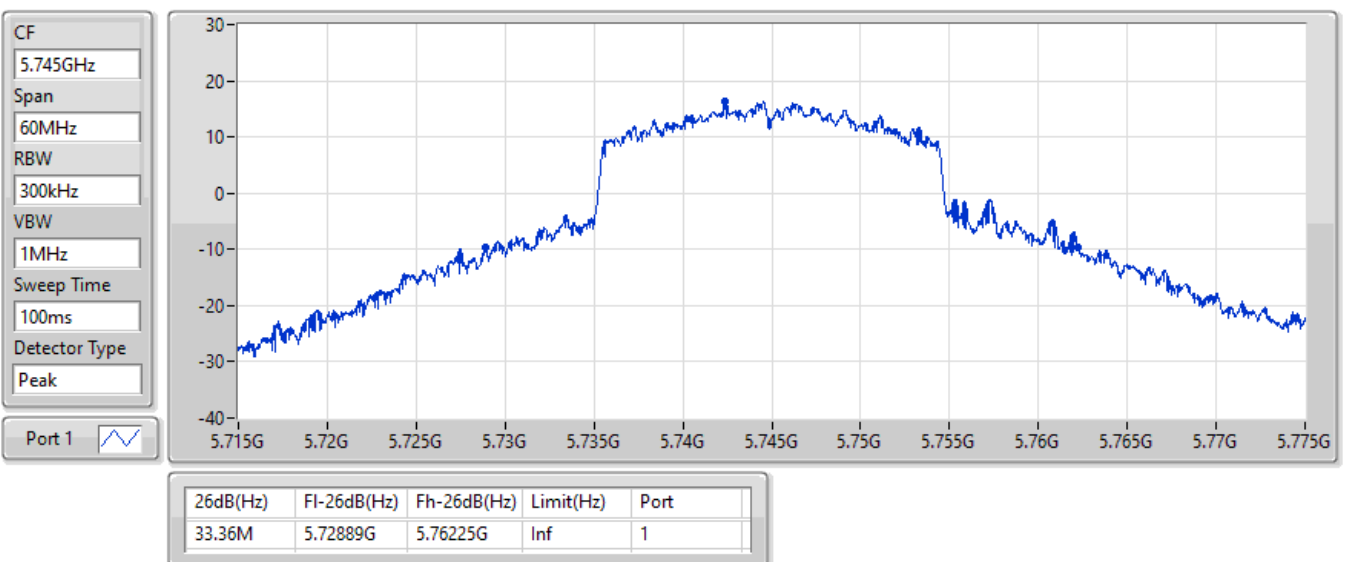


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5745MHz

02/06/2022

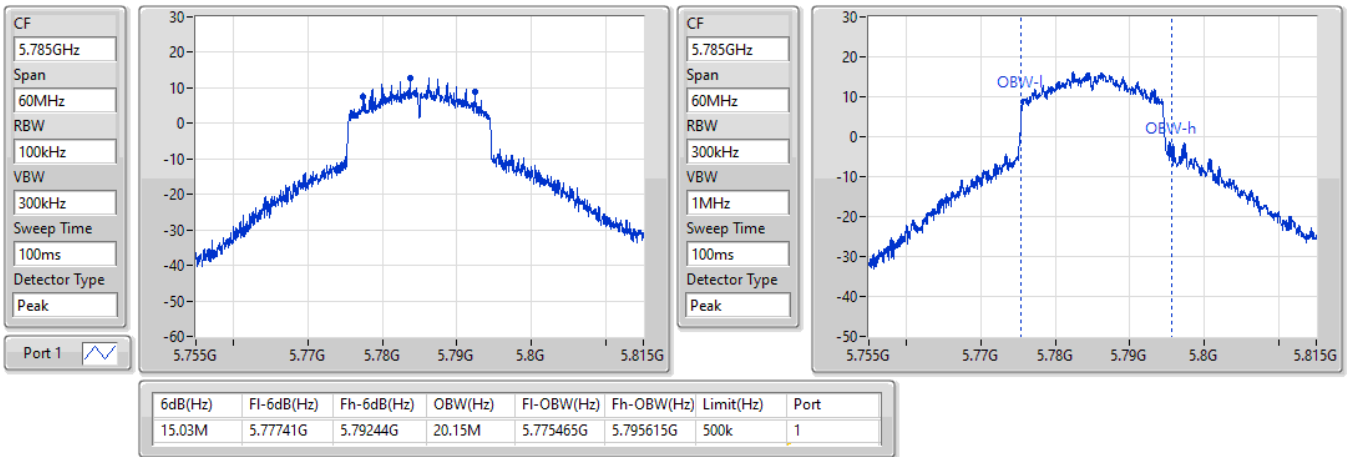

802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5745MHz

02/06/2022

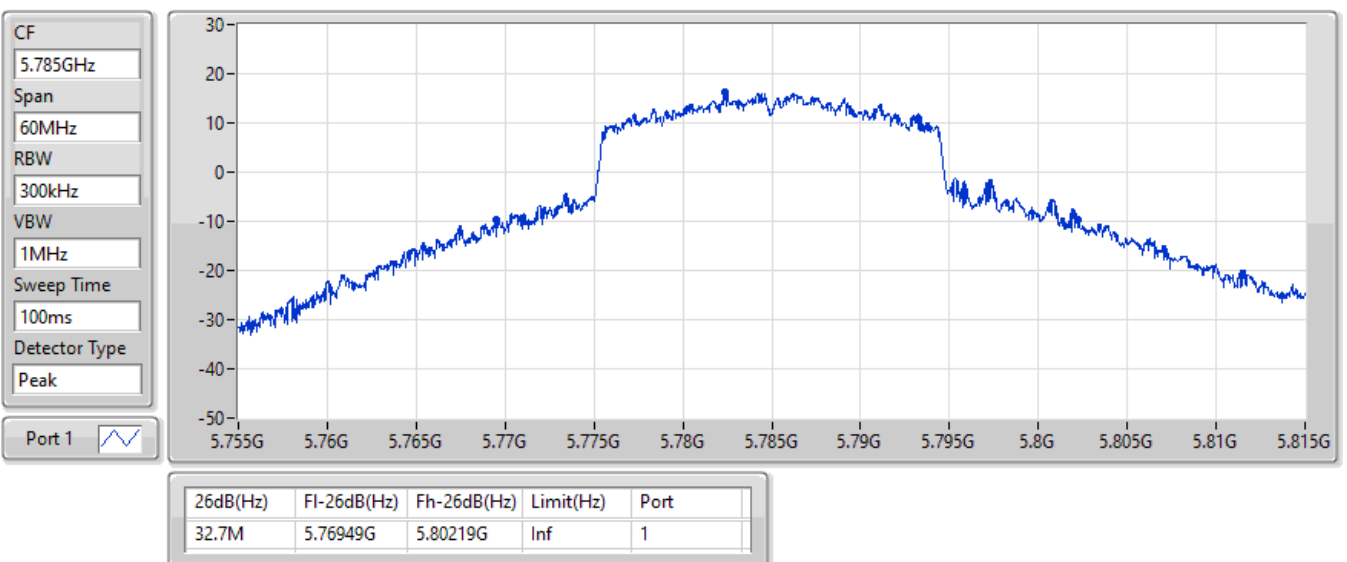


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5785MHz

02/06/2022


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5785MHz

02/06/2022

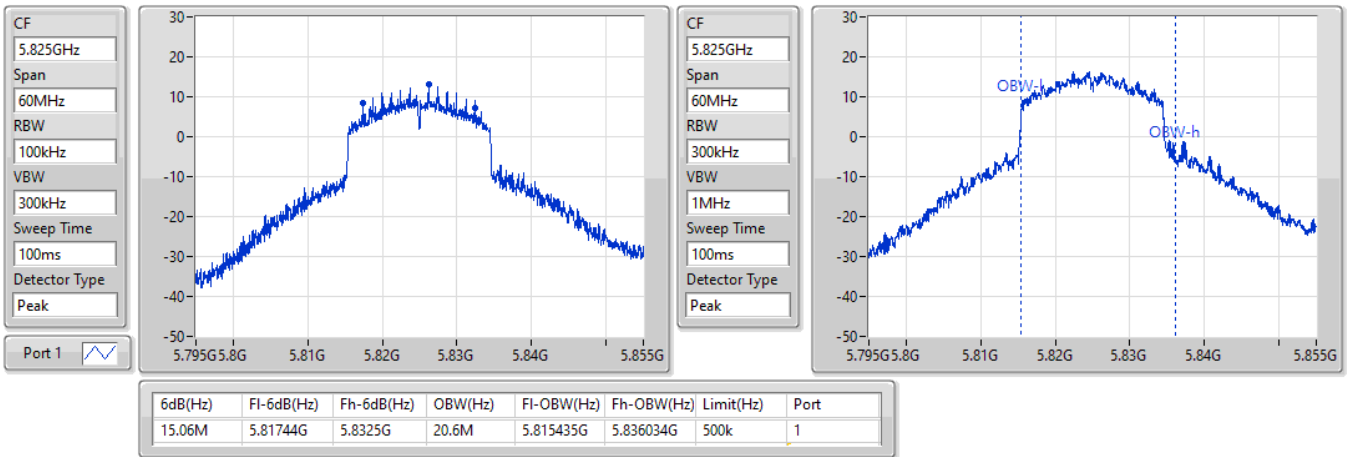


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5825MHz

02/06/2022

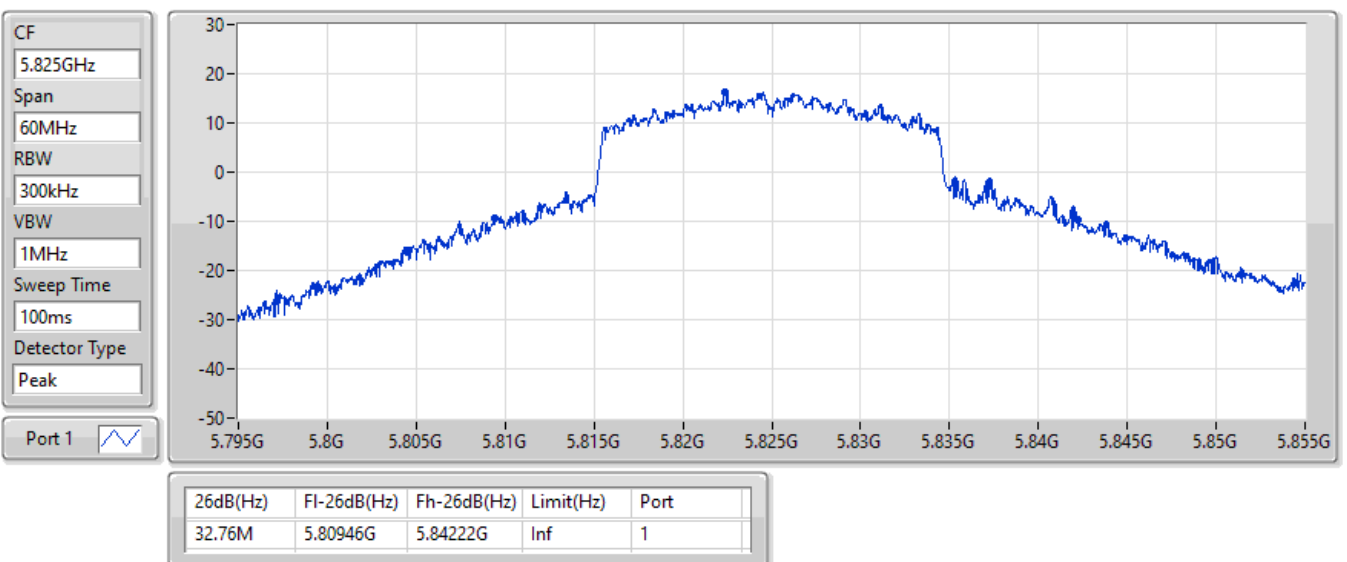


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

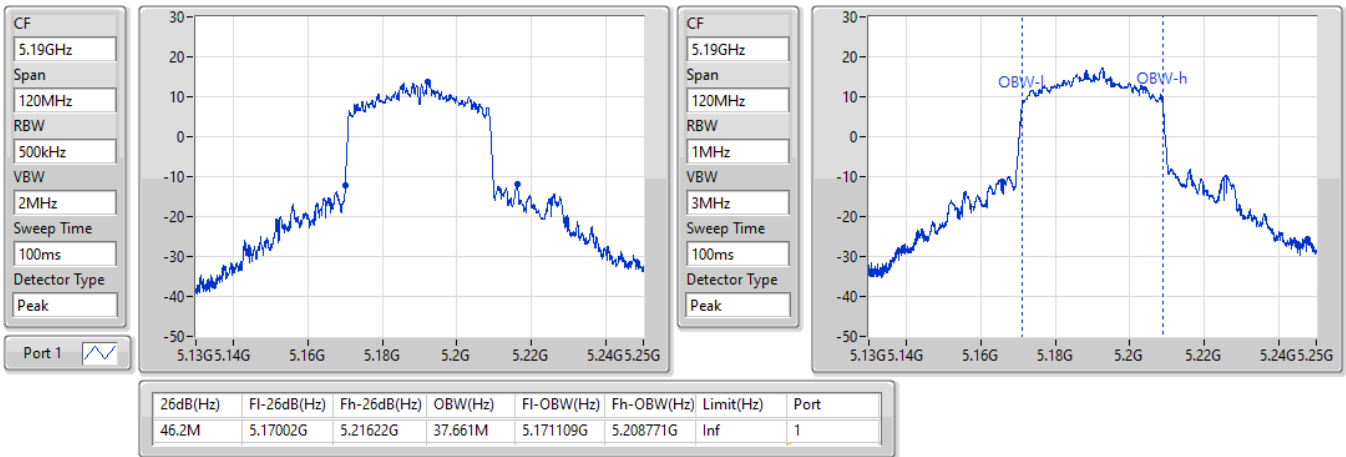
5825MHz

02/06/2022

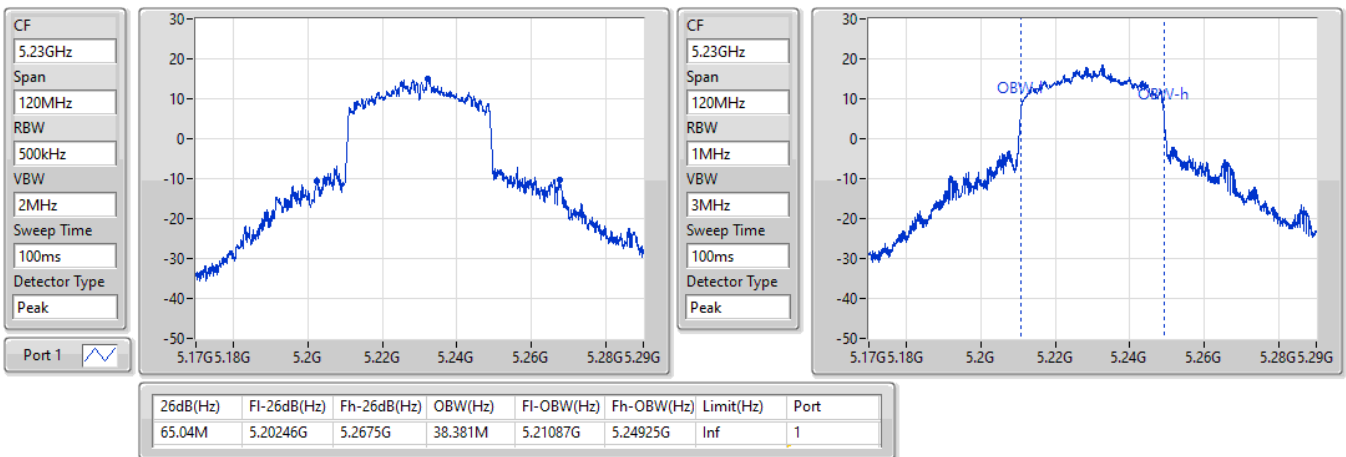


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5190MHz

02/06/2022

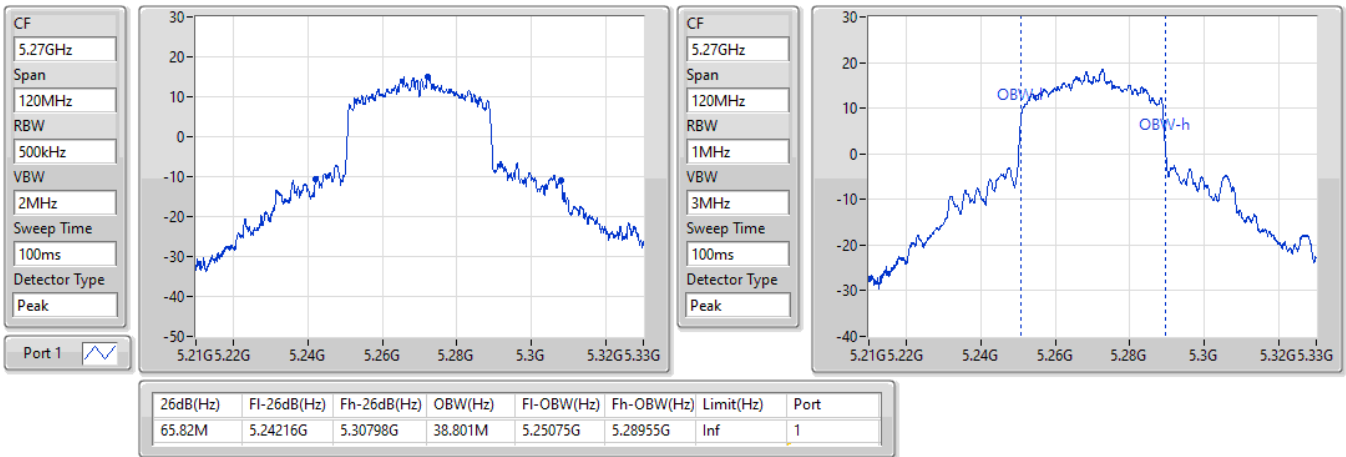

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5230MHz

20/05/2022

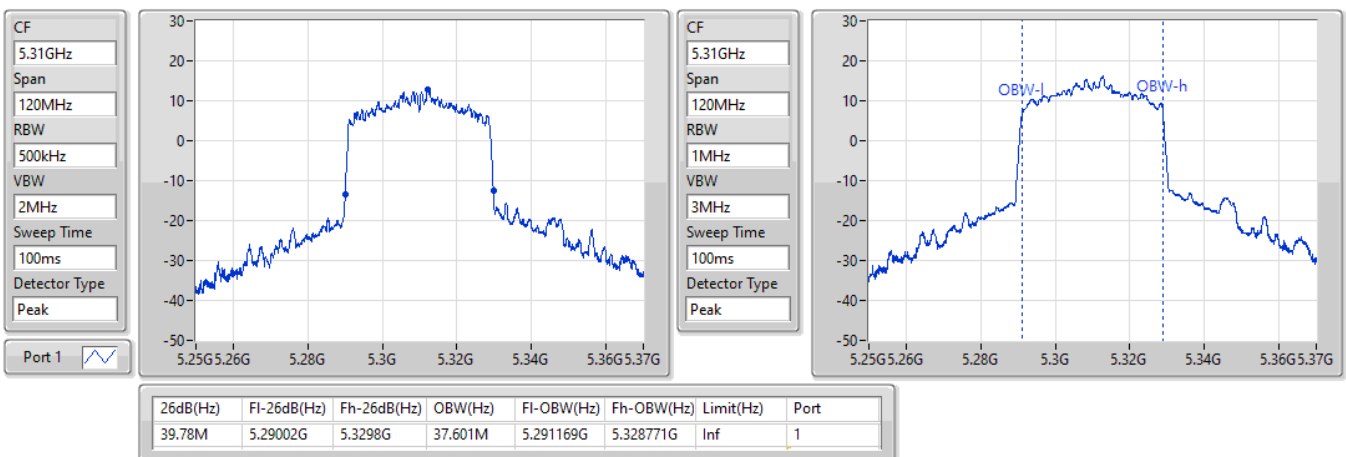


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5270MHz

20/05/2022

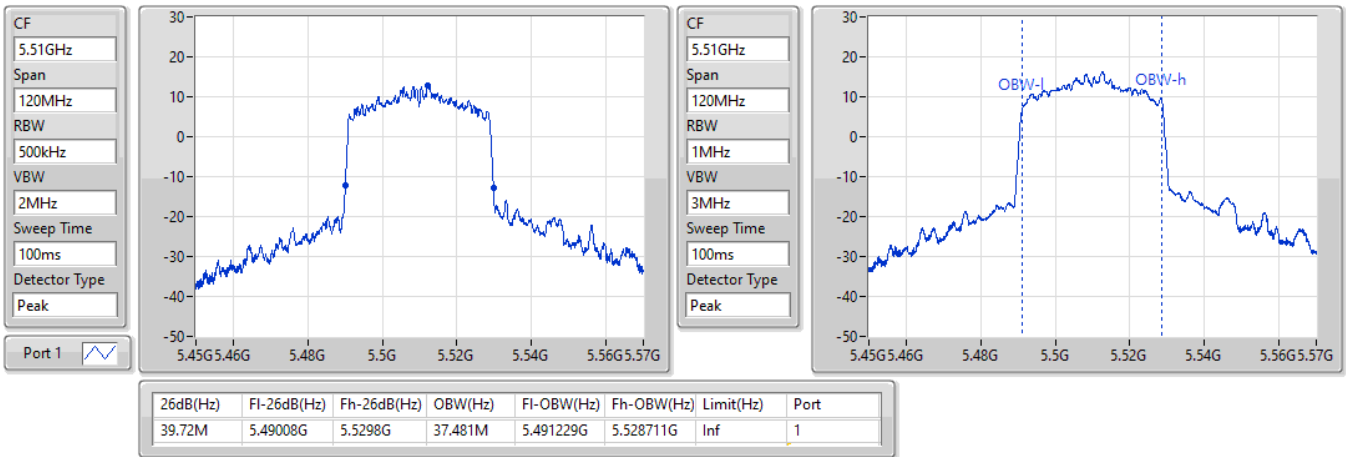

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5310MHz

20/05/2022

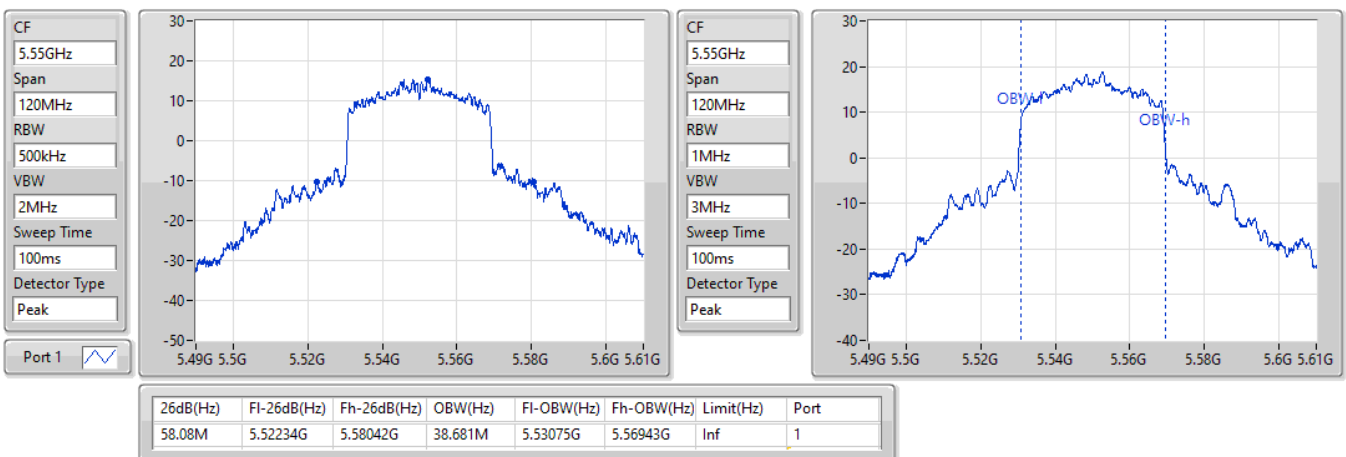


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5510MHz

20/05/2022

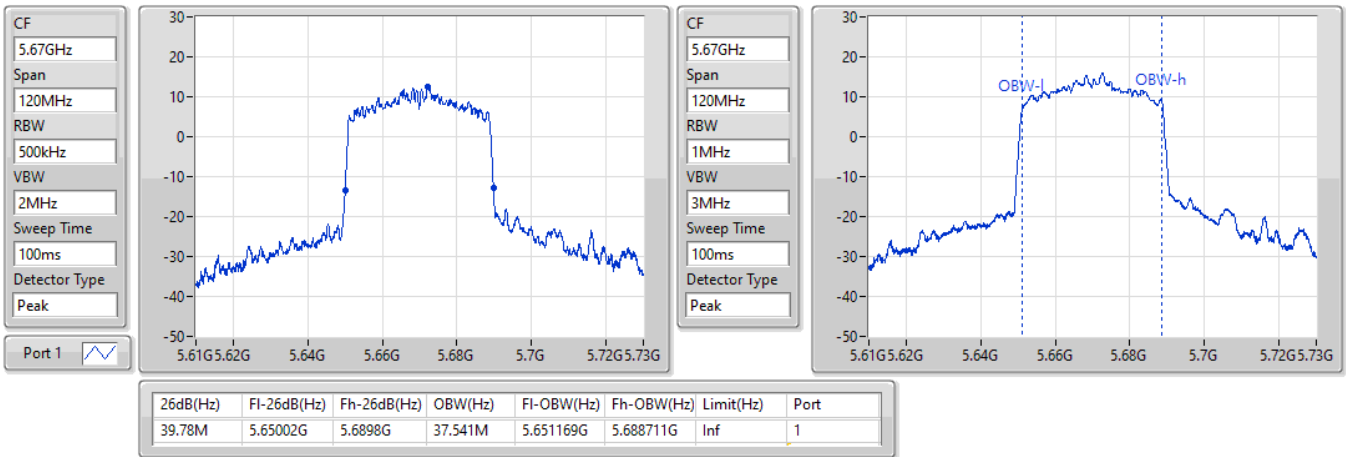

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5550MHz

20/05/2022

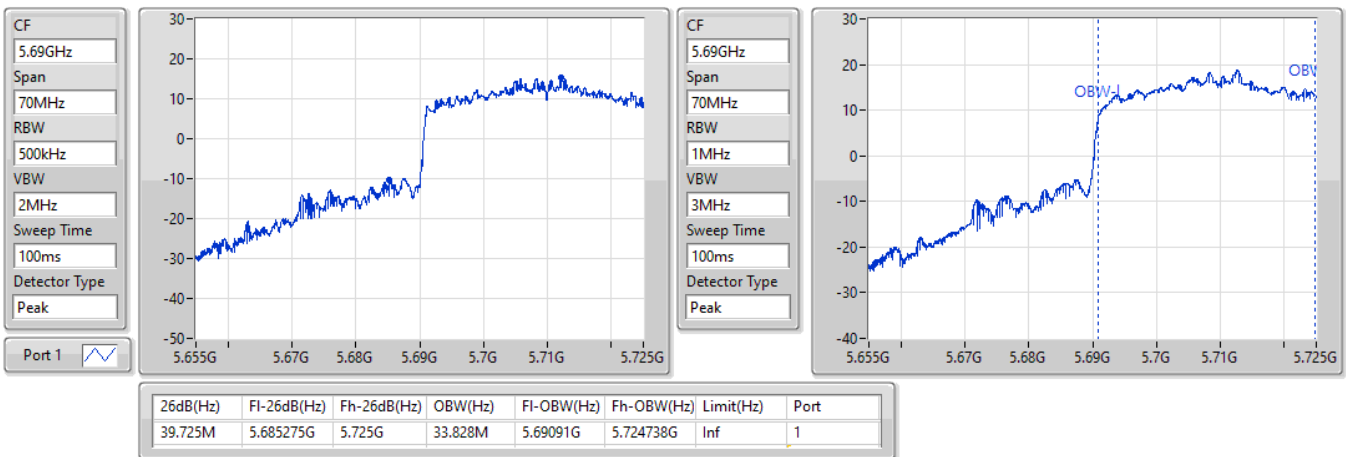


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5670MHz

20/05/2022

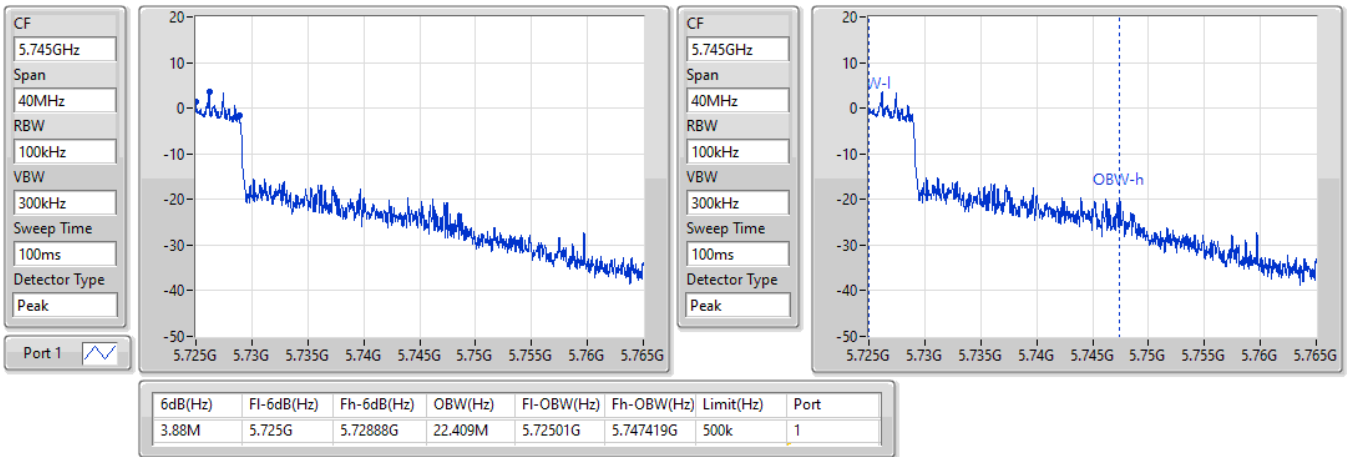

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5710MHz Straddle 5.47-5.725GHz

02/06/2022

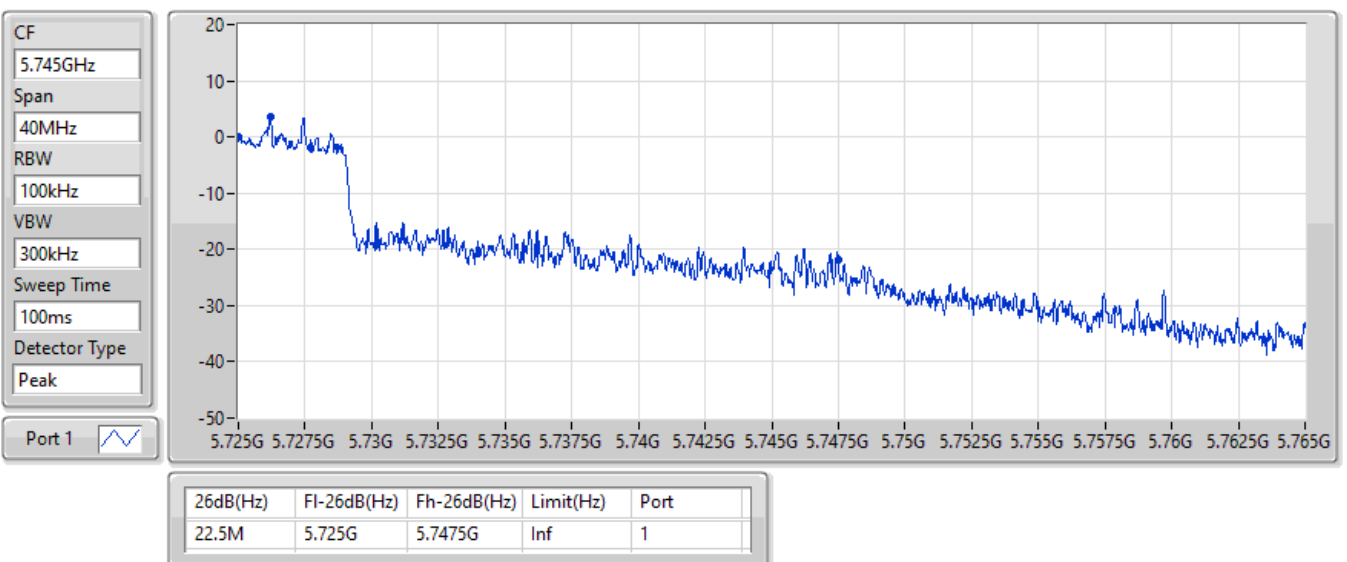


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5710MHz Straddle 5.725-5.85GHz

02/06/2022

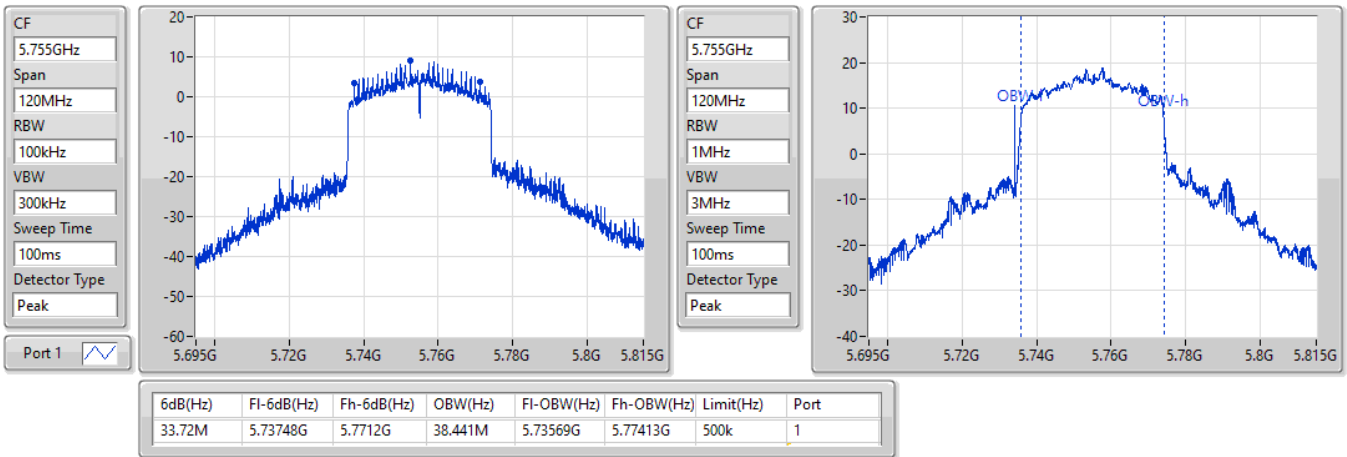

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5710MHz Straddle 5.725-5.85GHz

02/06/2022

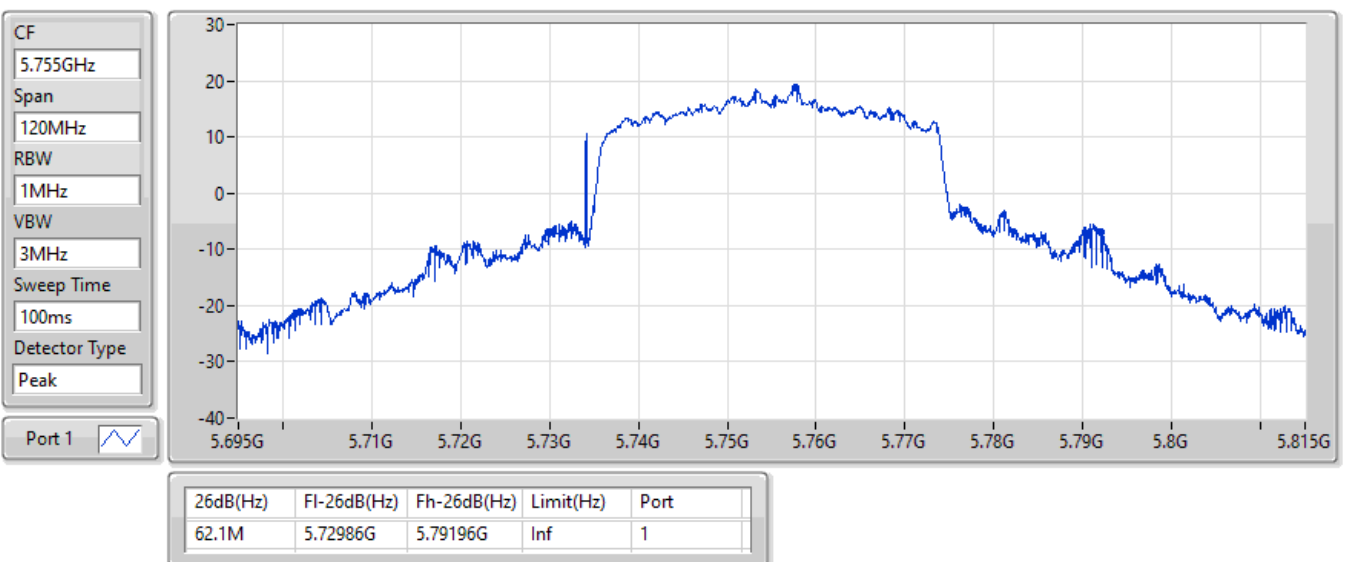


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5755MHz

02/06/2022

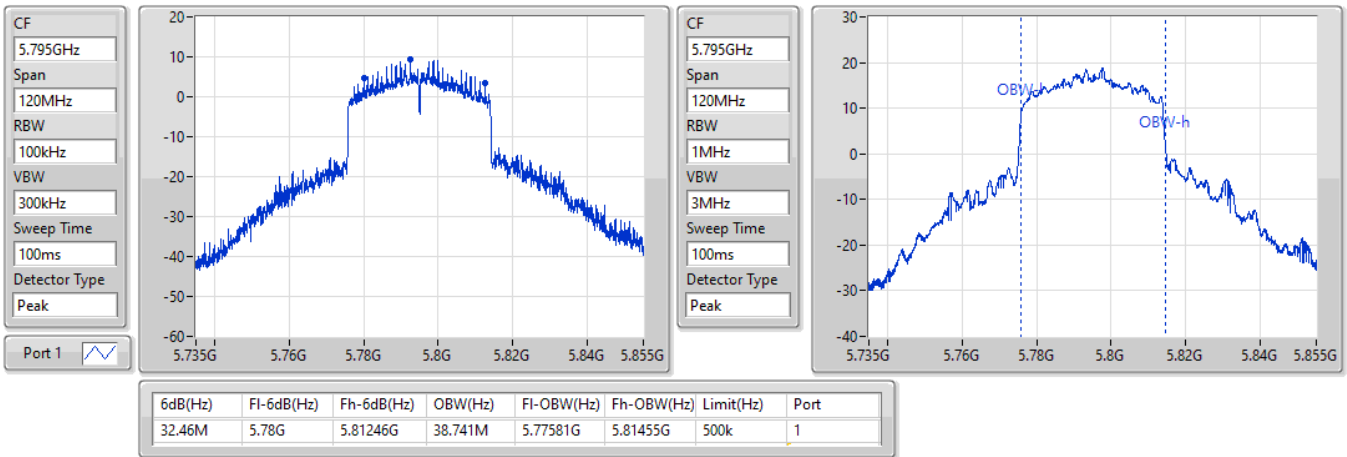

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5755MHz

02/06/2022

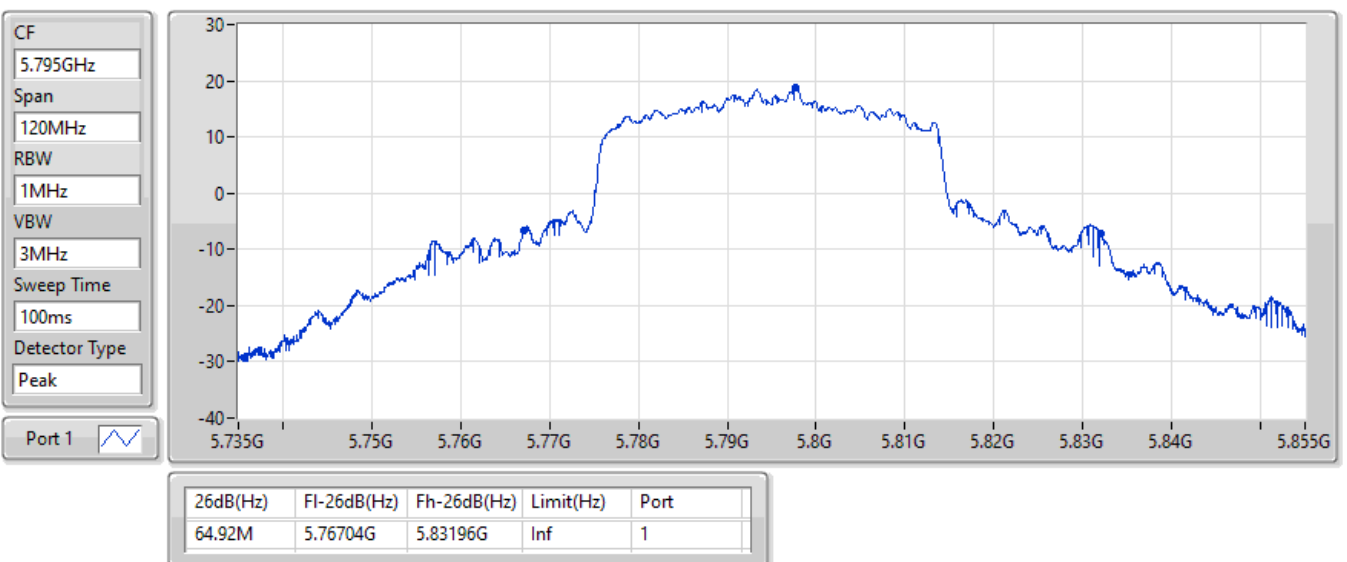


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5795MHz

02/06/2022

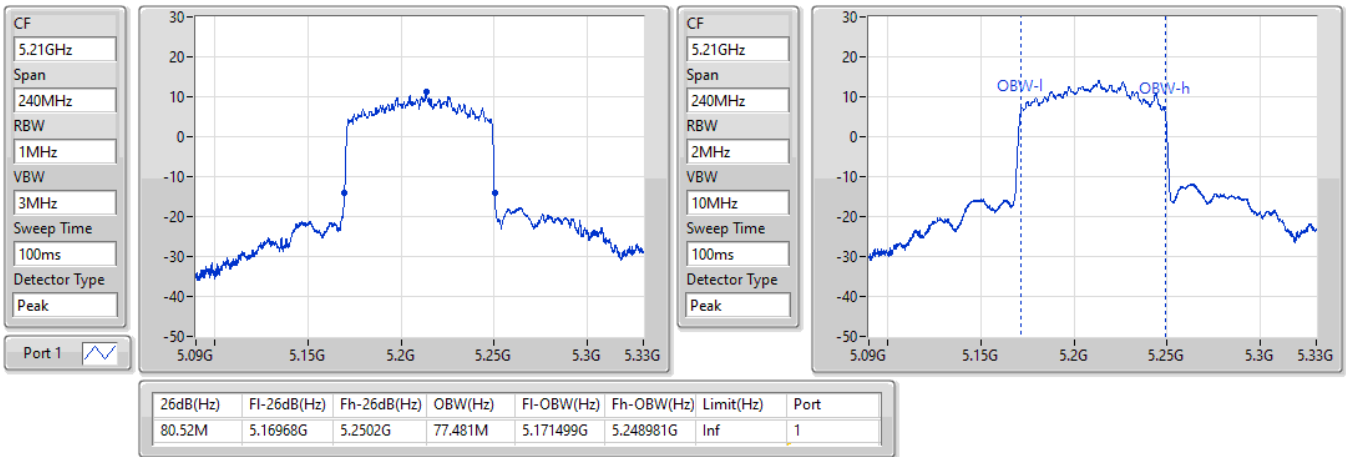

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5795MHz

02/06/2022

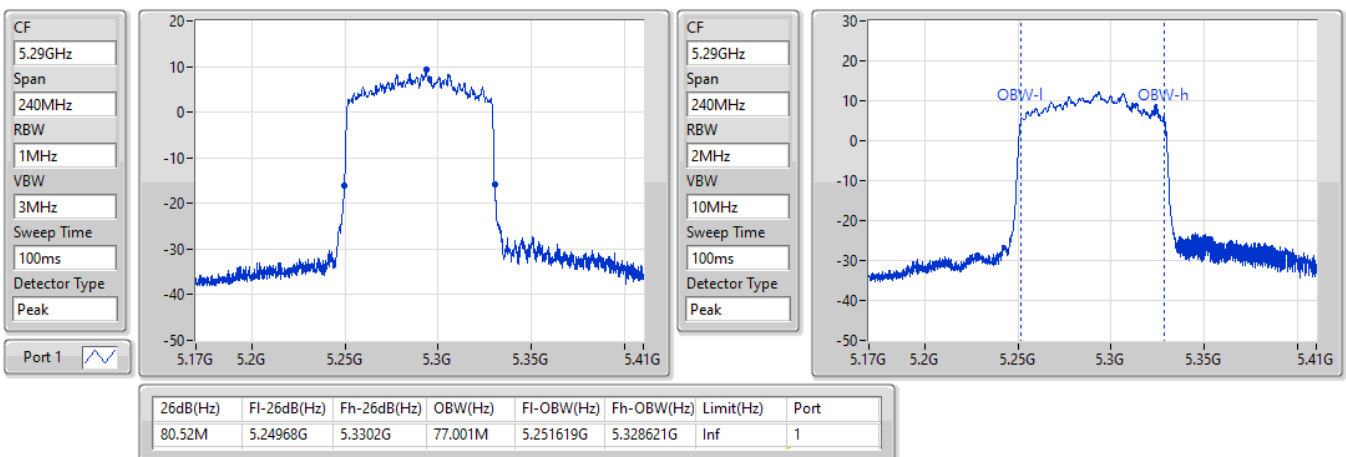


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5210MHz

20/05/2022

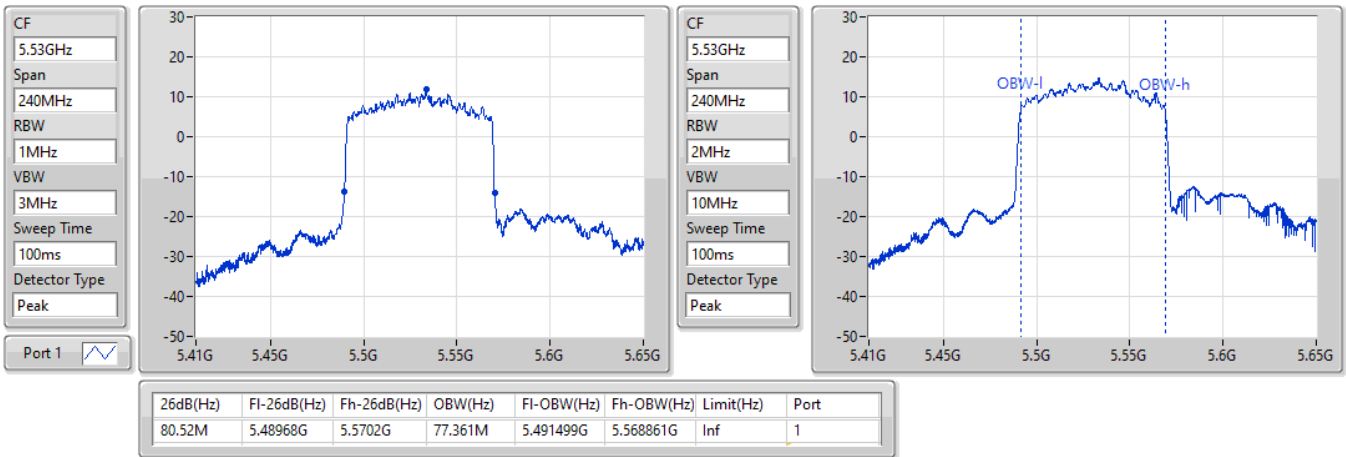

802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5290MHz

02/06/2022

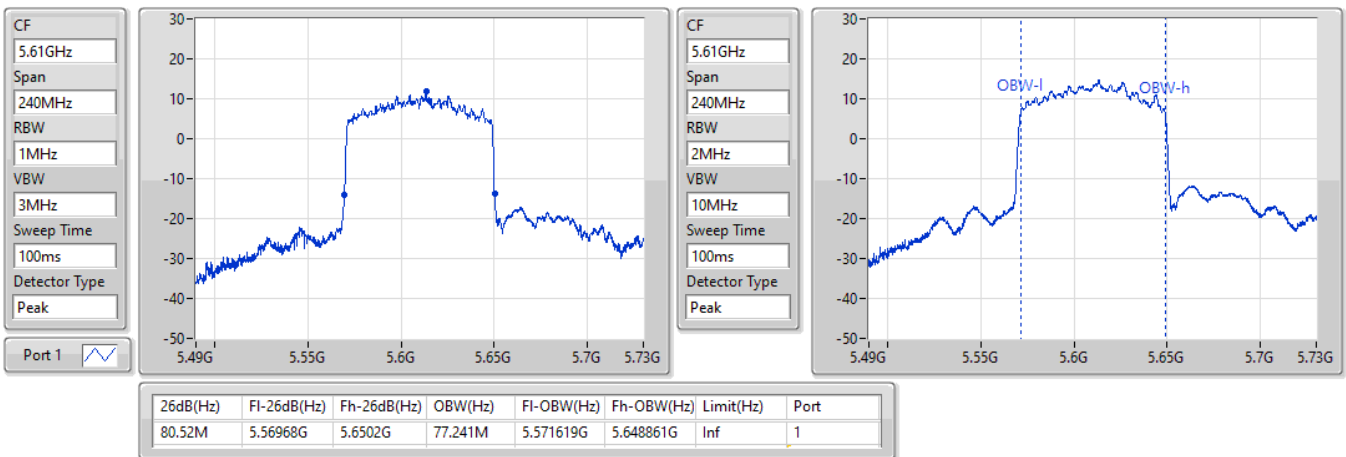


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5530MHz

20/05/2022

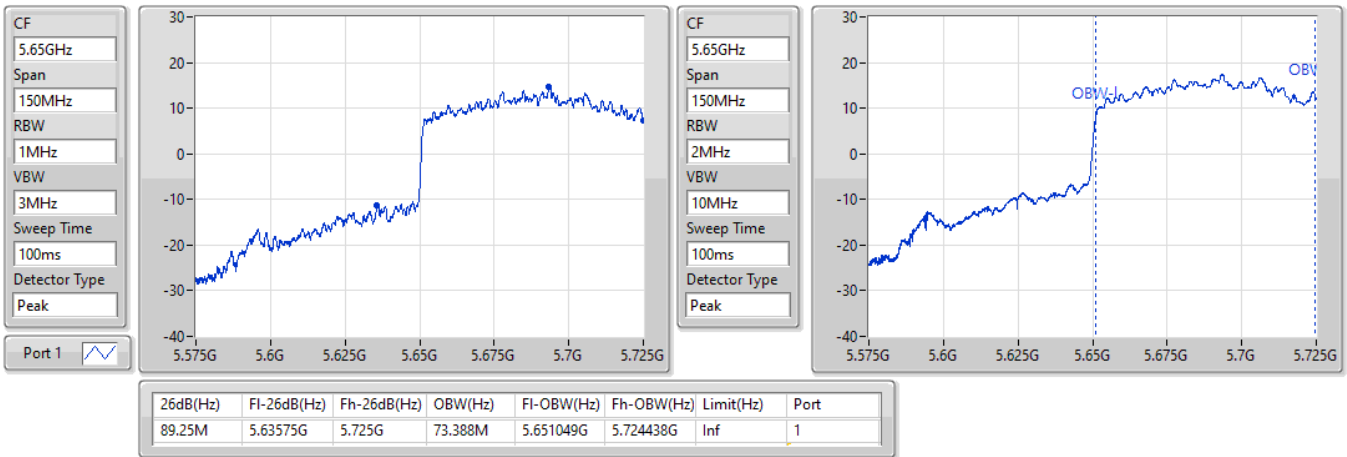

802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5610MHz

20/05/2022

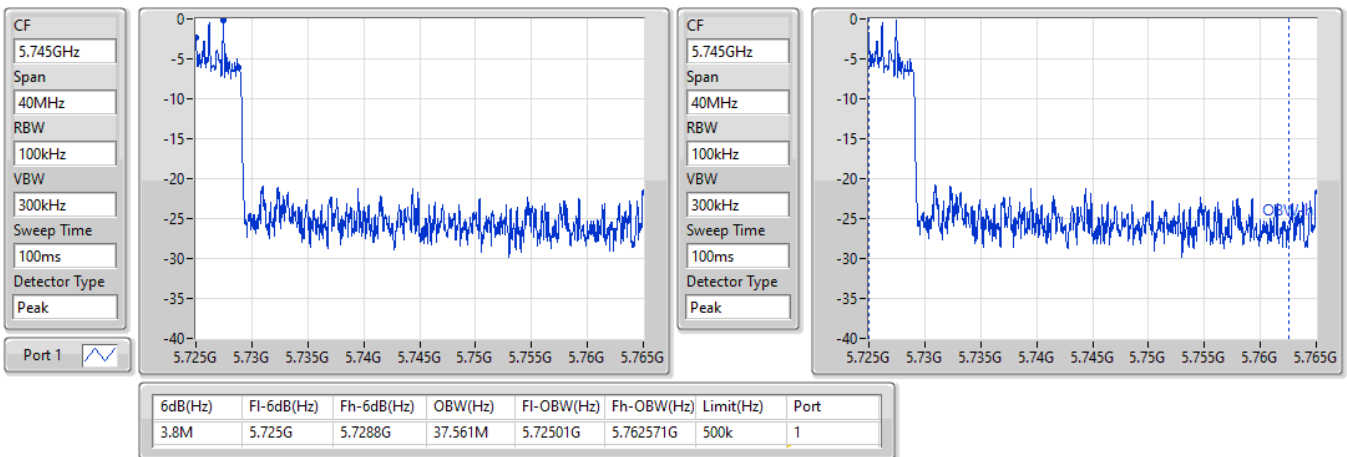


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5690MHz Straddle 5.47-5.725GHz

02/06/2022

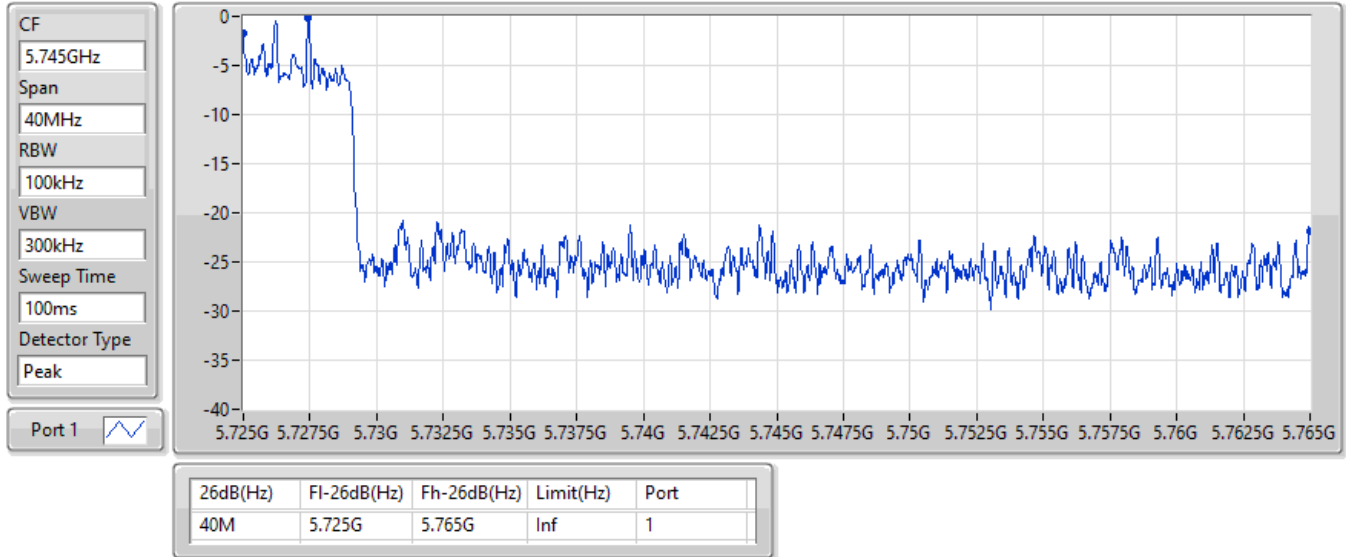

802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5690MHz Straddle 5.725-5.85GHz

02/06/2022

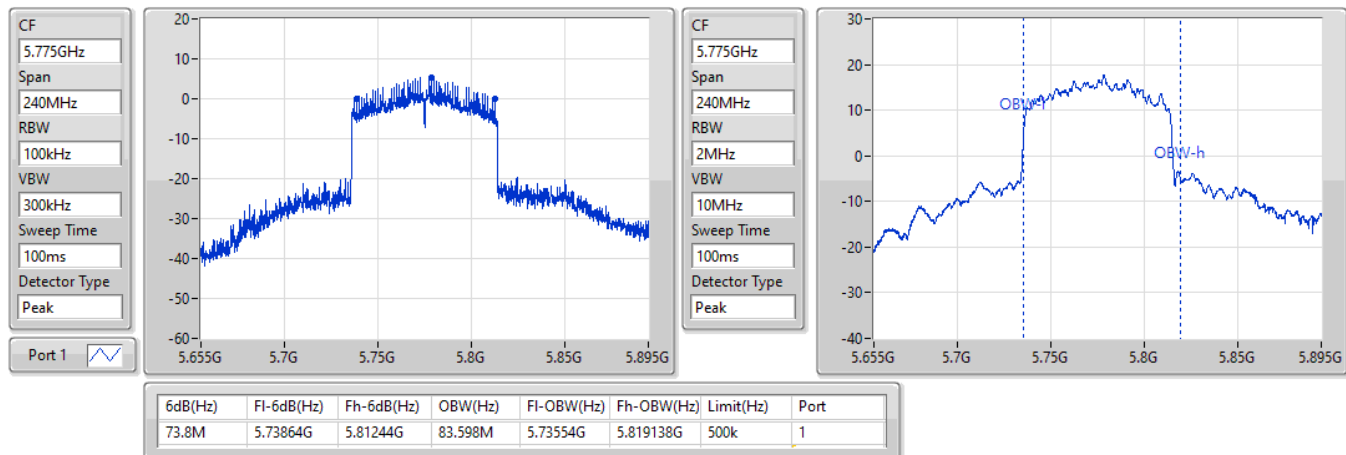


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5690MHz Straddle 5.725-5.85GHz

02/06/2022

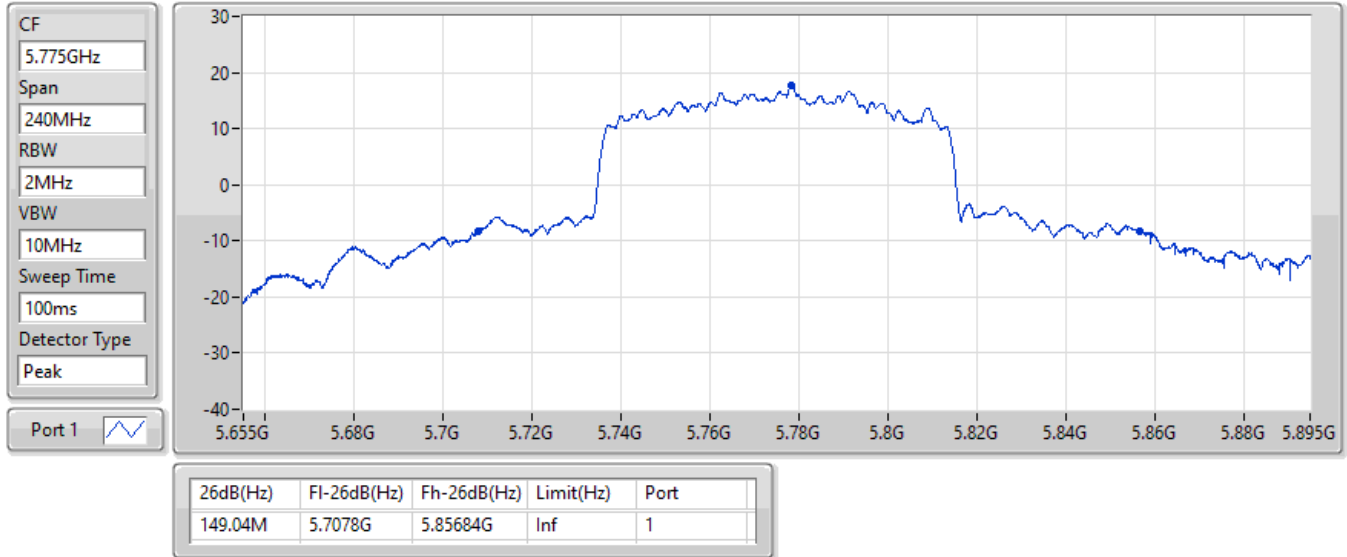

802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5775MHz

02/06/2022

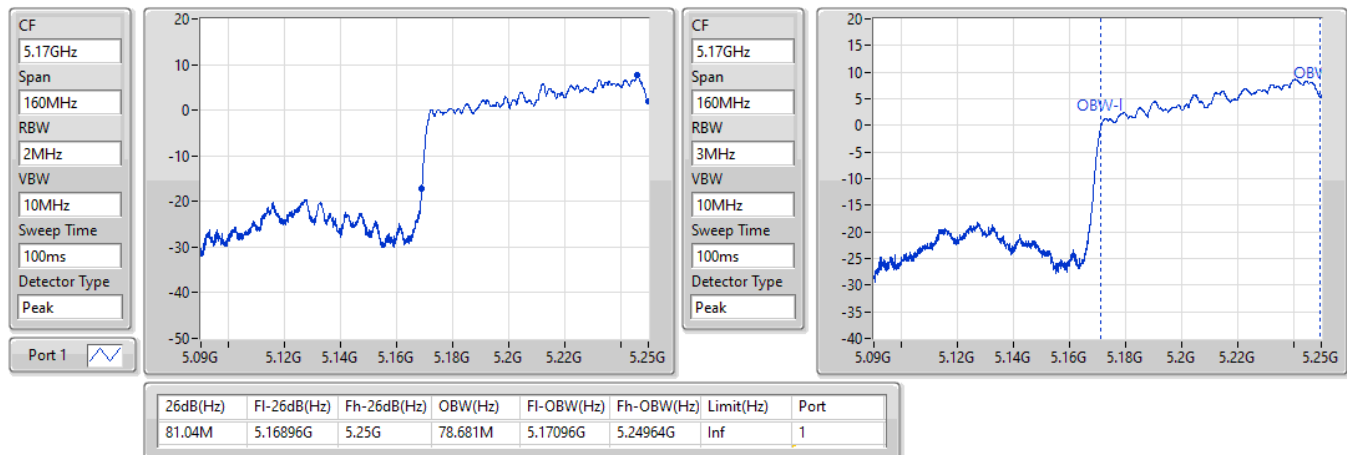


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5775MHz

02/06/2022

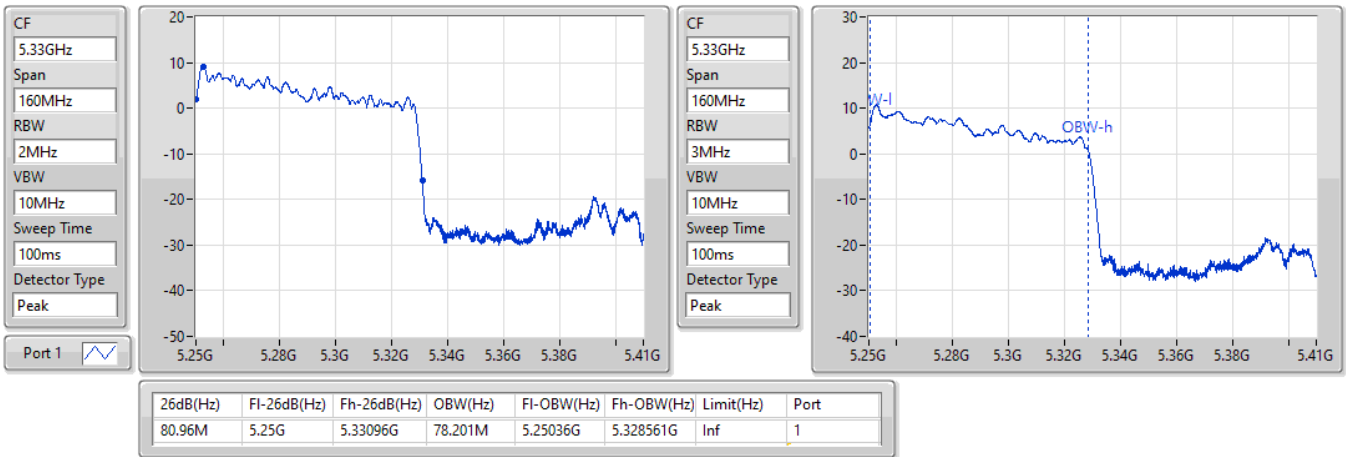

802.11ax HEW160_Nss1,(MCS0)_1TX
EBW
5250MHz Straddle 5.15-5.25GHz

02/06/2022

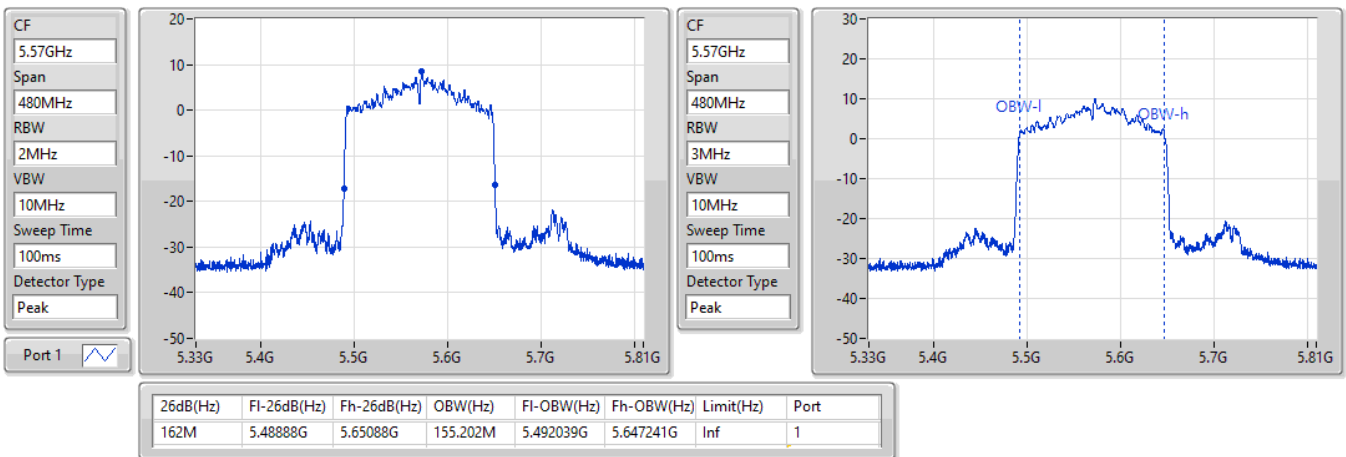


802.11ax HEW160_Nss1,(MCS0)_1TX
EBW
5250MHz Straddle 5.25-5.35GHz

02/06/2022


802.11ax HEW160_Nss1,(MCS0)_1TX
EBW
5570MHz

02/06/2022



Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
5.15-5.25GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	35.01M	22.249M	22M2D1D	27.18M	16.642M
802.11ax HEW20_Nss1,(MCS0)_1TX	36.06M	21.319M	21M3D1D	22.68M	18.681M
802.11ax HEW40_Nss1,(MCS0)_1TX	64.02M	38.381M	38M4D1D	39.78M	37.601M
802.11ax HEW80_Nss1,(MCS0)_1TX	80.52M	77.121M	77M1D1D	80.52M	77.121M
802.11ax HEW160_Nss1,(MCS0)_1TX	81.12M	78.361M	78M4D1D	81.12M	78.361M
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	31.65M	18.501M	18M5D1D	19.23M	16.222M
802.11ax HEW20_Nss1,(MCS0)_1TX	30.36M	19.25M	19M2D1D	20.07M	18.651M
802.11ax HEW40_Nss1,(MCS0)_1TX	61.32M	38.081M	38M1D1D	39.72M	37.481M
802.11ax HEW80_Nss1,(MCS0)_1TX	80.52M	77.001M	77M0D1D	80.52M	77.001M
802.11ax HEW160_Nss1,(MCS0)_1TX	81.04M	78.041M	78M0D1D	81.04M	78.041M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	32.73M	18.561M	18M6D1D	18.36M	14.363M
802.11ax HEW20_Nss1,(MCS0)_1TX	31.83M	19.28M	19M3D1D	19.695M	14.498M
802.11ax HEW40_Nss1,(MCS0)_1TX	43.26M	37.721M	37M7D1D	39.72M	34.003M
802.11ax HEW80_Nss1,(MCS0)_1TX	80.52M	77.481M	77M5D1D	76.2M	73.388M
802.11ax HEW160_Nss1,(MCS0)_1TX	162M	154.963M	155MD1D	162M	154.963M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	15.06M	20.99M	21M0D1D	3.1M	11.554M
802.11ax HEW20_Nss1,(MCS0)_1TX	15.09M	20.84M	20M8D1D	3.42M	12.054M
802.11ax HEW40_Nss1,(MCS0)_1TX	35.04M	38.801M	38M8D1D	3.9M	22.249M
802.11ax HEW80_Nss1,(MCS0)_1TX	75M	77.601M	77M6D1D	3.86M	37.901M

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

Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-
5180MHz	Pass	Inf	27.18M	16.642M
5200MHz	Pass	Inf	35.01M	22.249M
5240MHz	Pass	Inf	31.62M	18.351M
5260MHz	Pass	Inf	31.32M	18.501M
5300MHz	Pass	Inf	31.65M	17.721M
5320MHz	Pass	Inf	19.23M	16.222M
5500MHz	Pass	Inf	22.98M	16.312M
5580MHz	Pass	Inf	32.73M	18.561M
5700MHz	Pass	Inf	18.36M	16.162M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	20.385M	14.363M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.1M	11.554M
5745MHz	Pass	500k	15.06M	20.84M
5785MHz	Pass	500k	15.06M	20.81M
5825MHz	Pass	500k	15.06M	20.99M
802.11ax HEW20_Nss1,(MCS0)_1TX	-	-	-	-
5180MHz	Pass	Inf	22.68M	18.681M
5200MHz	Pass	Inf	36.06M	21.319M
5240MHz	Pass	Inf	30.33M	19.22M
5260MHz	Pass	Inf	30.36M	19.25M
5300MHz	Pass	Inf	30.24M	19.16M
5320MHz	Pass	Inf	20.07M	18.651M
5500MHz	Pass	Inf	22.53M	18.651M
5580MHz	Pass	Inf	31.83M	19.28M
5700MHz	Pass	Inf	20.13M	18.621M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	19.695M	14.498M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.42M	12.054M
5745MHz	Pass	500k	15.06M	20.84M
5785MHz	Pass	500k	15.09M	20.6M
5825MHz	Pass	500k	14.97M	20.3M
802.11ax HEW40_Nss1,(MCS0)_1TX	-	-	-	-
5190MHz	Pass	Inf	39.78M	37.601M
5230MHz	Pass	Inf	64.02M	38.381M
5270MHz	Pass	Inf	61.32M	38.081M
5310MHz	Pass	Inf	39.72M	37.481M
5510MHz	Pass	Inf	39.72M	37.421M
5550MHz	Pass	Inf	43.26M	37.721M
5670MHz	Pass	Inf	39.72M	37.421M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	40.845M	34.003M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.9M	22.249M
5755MHz	Pass	500k	35.04M	38.021M
5795MHz	Pass	500k	35.04M	38.801M
802.11ax HEW80_Nss1,(MCS0)_1TX	-	-	-	-
5210MHz	Pass	Inf	80.52M	77.121M
5290MHz	Pass	Inf	80.52M	77.001M
5530MHz	Pass	Inf	80.52M	77.241M
5610MHz	Pass	Inf	80.52M	77.481M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	76.2M	73.388M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.86M	37.901M
5775MHz	Pass	500k	75M	77.601M



EBW

<Full RU> UNII1~UNII3_Non-Beamforming Mode_Ant.3 (1TX)

Appendix B.3

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11ax HEW160_Nss1,(MCS0)_1TX	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	81.12M	78.361M
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	81.04M	78.041M
5570MHz	Pass	Inf	162M	154.963M

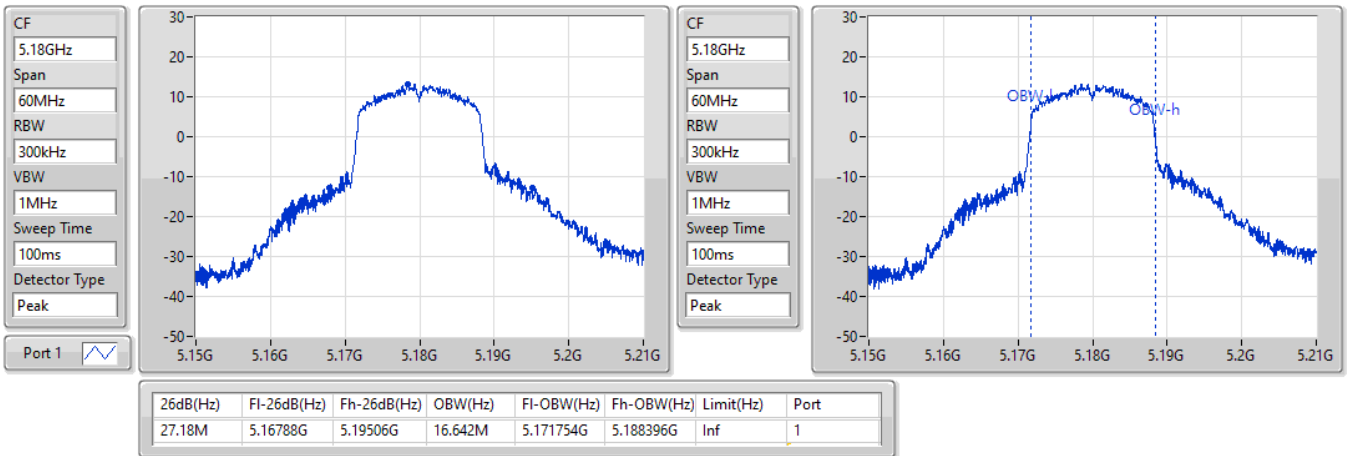
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band

Port X-OBW = Port X 99% occupied bandwidth

802.11a_Nss1,(6Mbps)_1TX

5180MHz

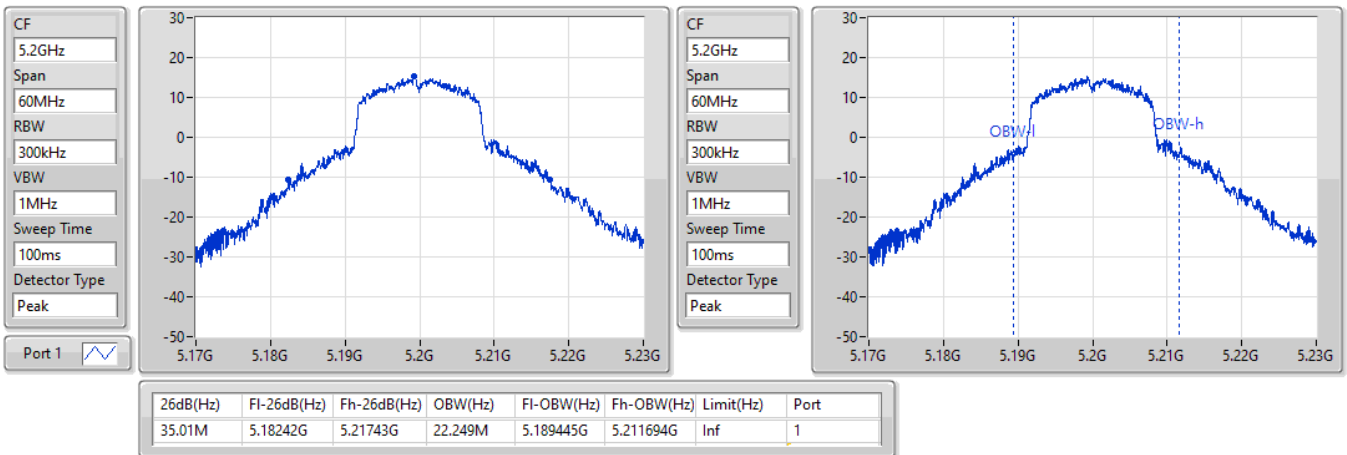
19/05/2022



802.11a_Nss1,(6Mbps)_1TX

5200MHz

19/05/2022

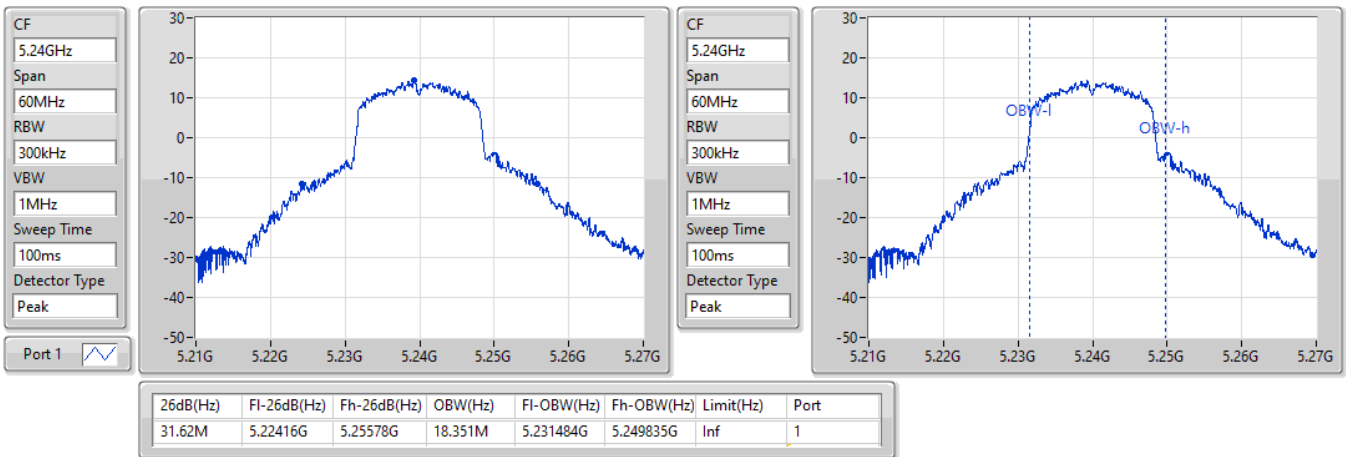


802.11a_Nss1,(6Mbps)_1TX

EBW

5240MHz

19/05/2022

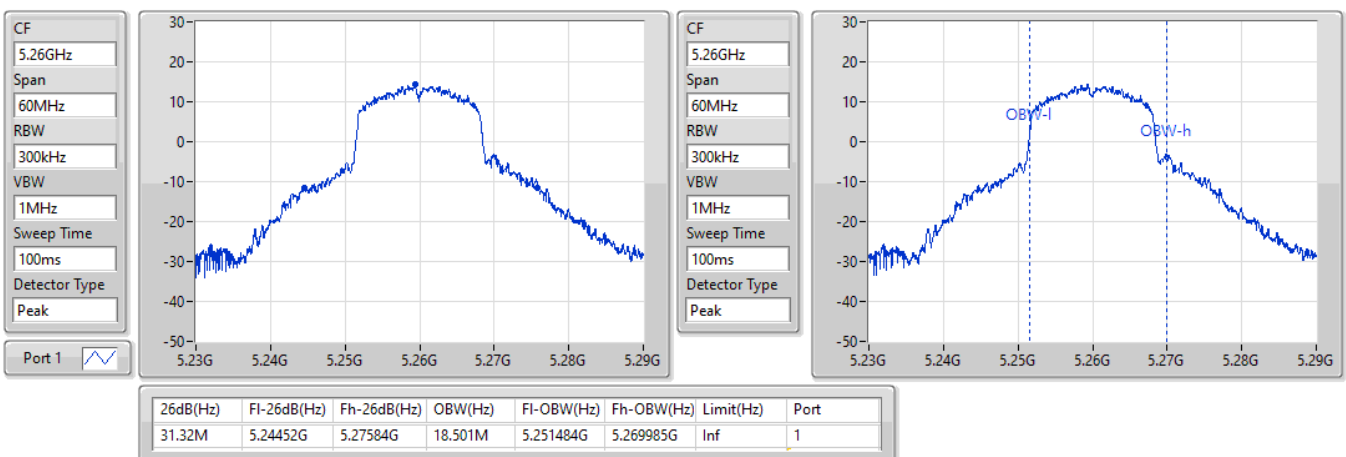


802.11a_Nss1,(6Mbps)_1TX

EBW

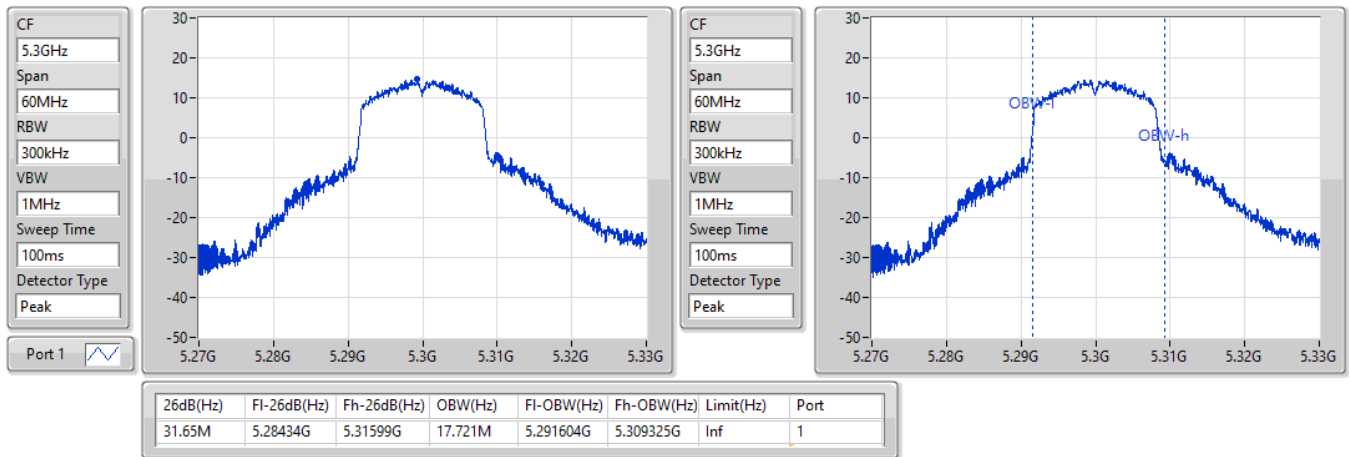
5260MHz

19/05/2022

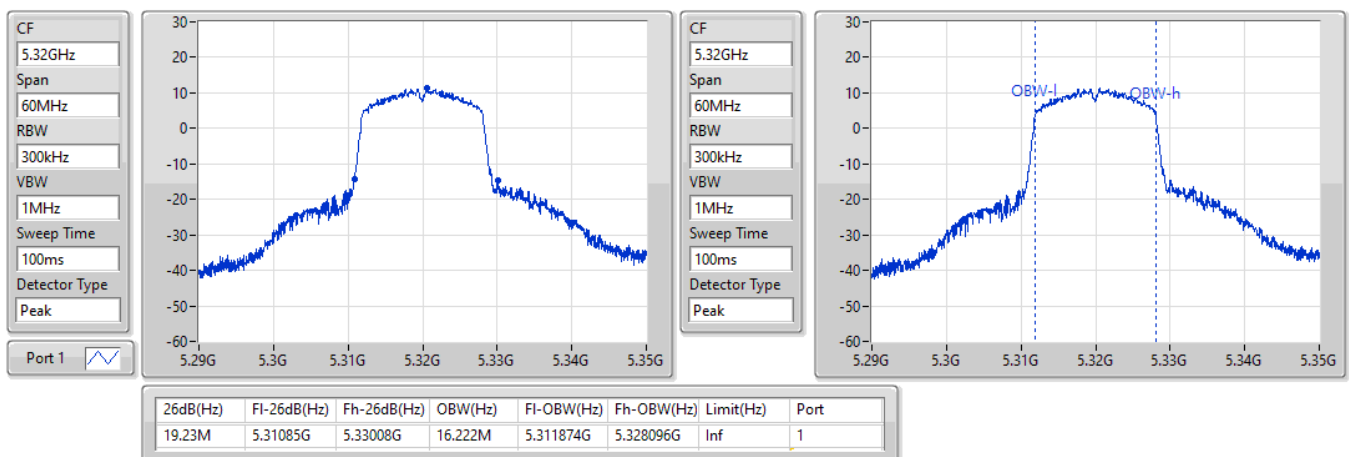


802.11a_Nss1,(6Mbps)_1TX
EBW
5300MHz

21/05/2022


802.11a_Nss1,(6Mbps)_1TX
EBW
5320MHz

19/05/2022

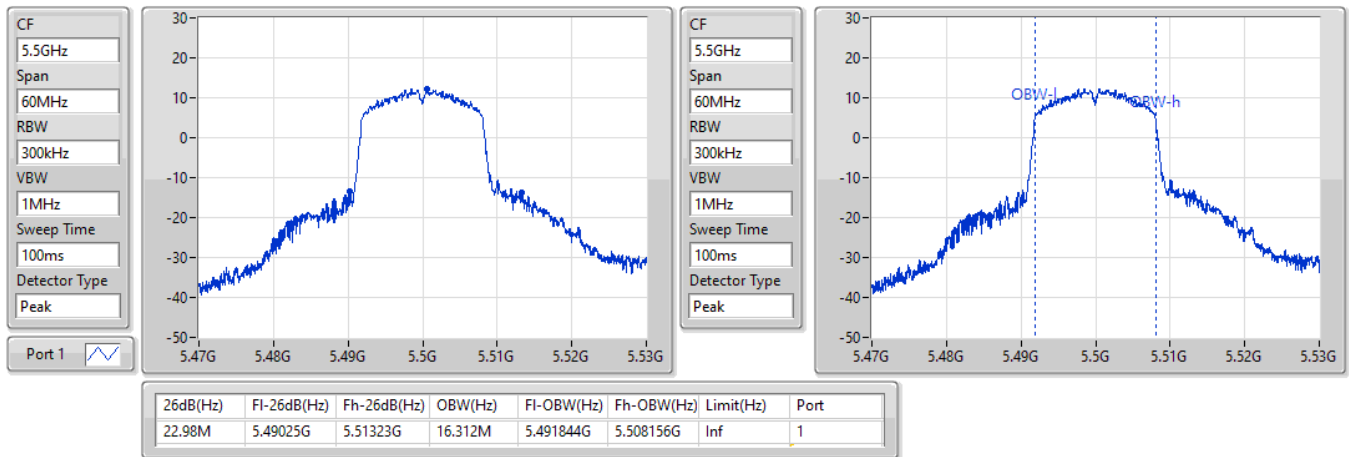


802.11a_Nss1,(6Mbps)_1TX

EBW

5500MHz

19/05/2022

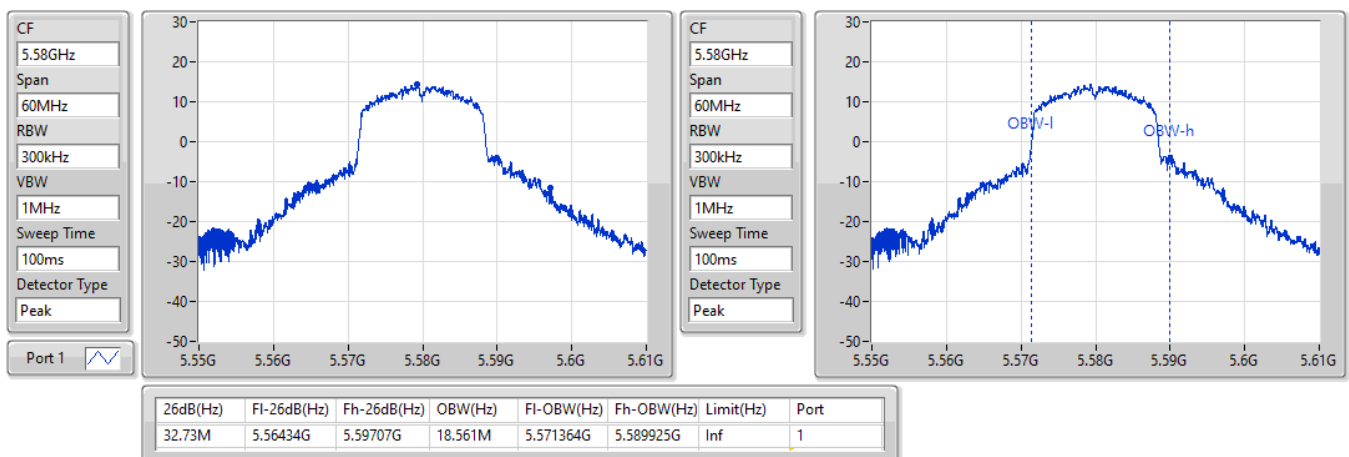


802.11a_Nss1,(6Mbps)_1TX

EBW

5580MHz

19/05/2022

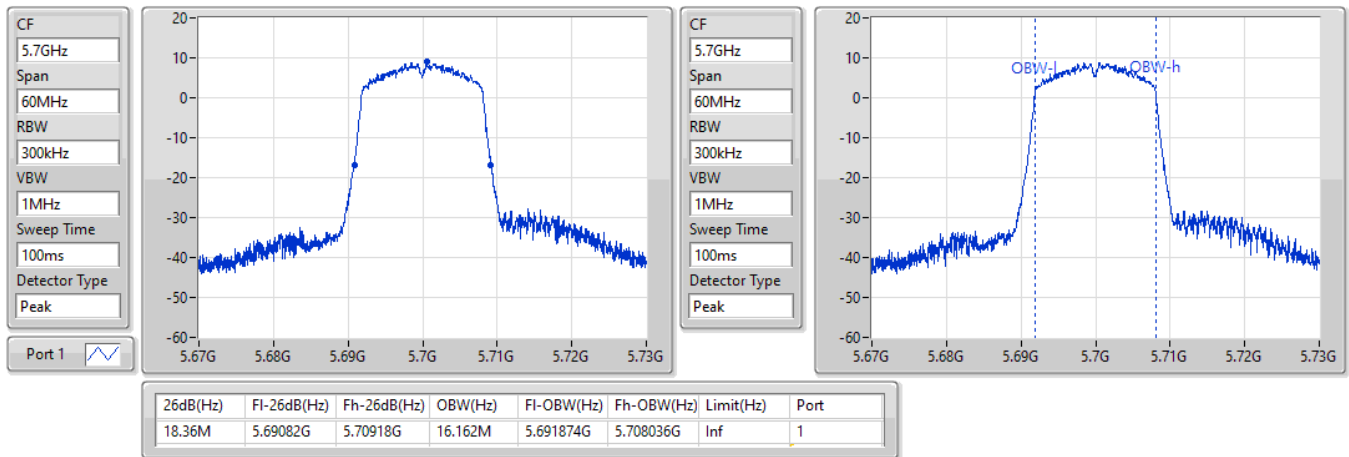


802.11a_Nss1,(6Mbps)_1TX

EBW

5700MHz

19/05/2022

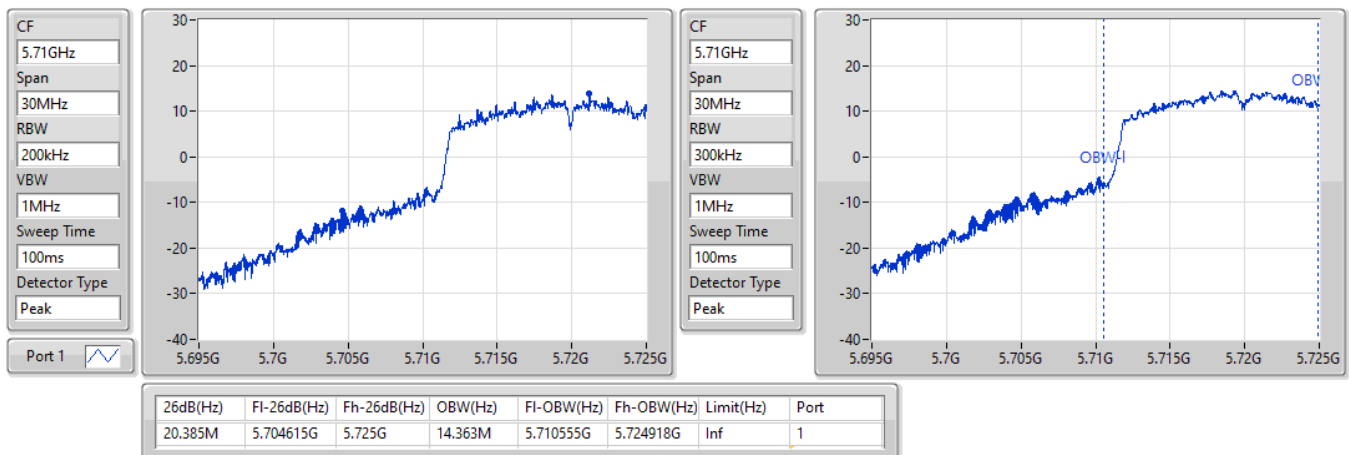


802.11a_Nss1,(6Mbps)_1TX

EBW

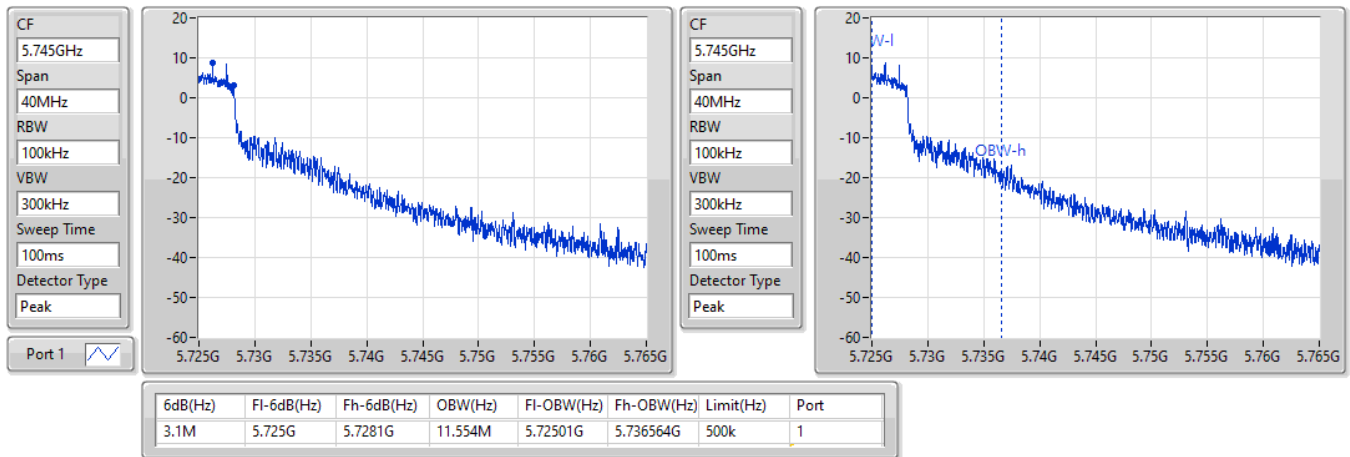
5720MHz Straddle 5.47-5.725GHz

19/05/2022

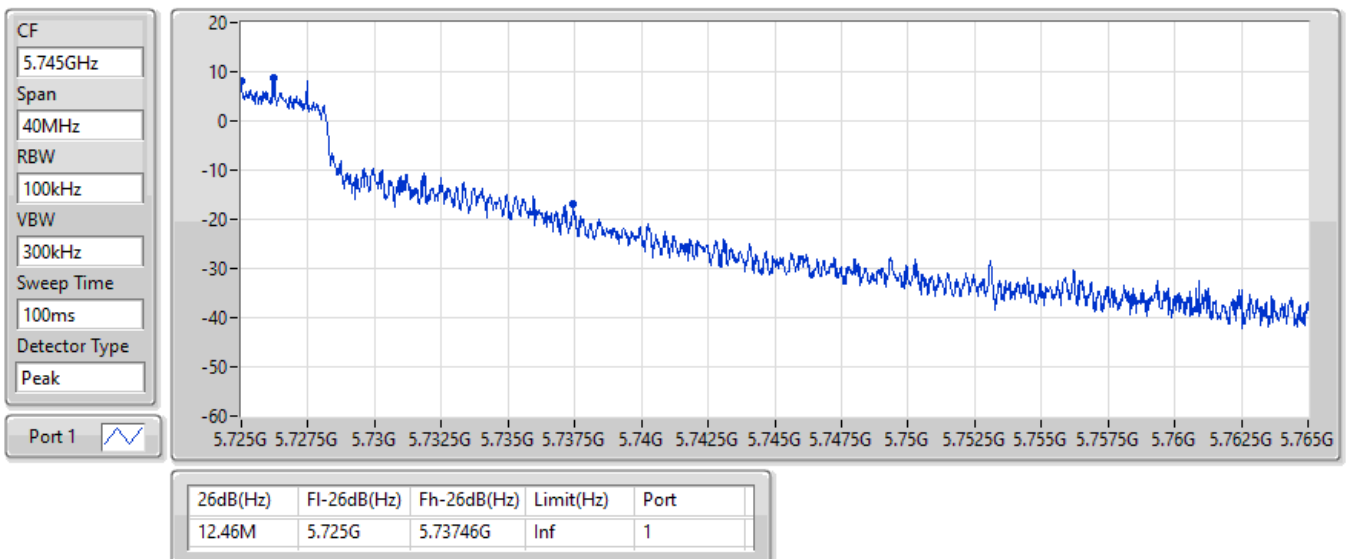


802.11a_Nss1,(6Mbps)_1TX
EBW
5720MHz Straddle 5.725-5.85GHz

02/06/2022


802.11a_Nss1,(6Mbps)_1TX
EBW
5720MHz Straddle 5.725-5.85GHz

02/06/2022

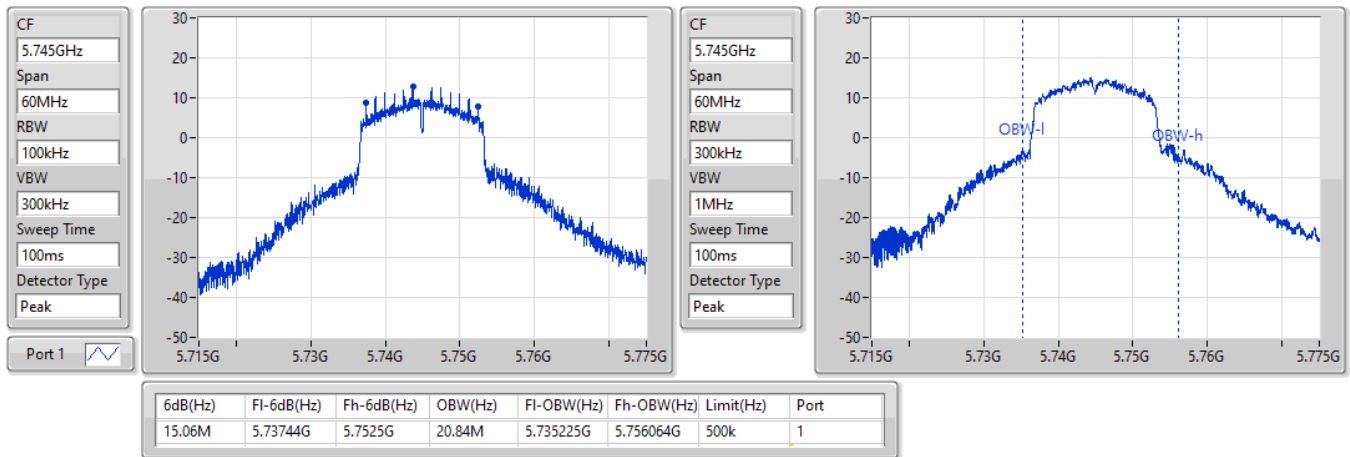


802.11a_Nss1,(6Mbps)_1TX

EBW

5745MHz

02/06/2022

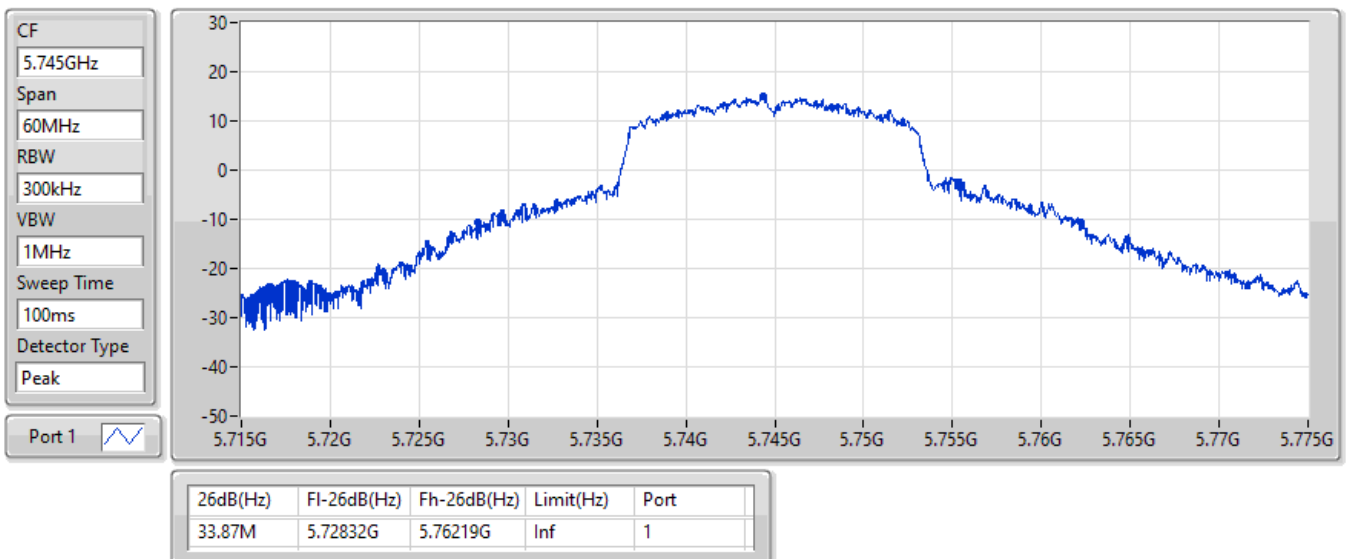


802.11a_Nss1,(6Mbps)_1TX

EBW

5745MHz

02/06/2022

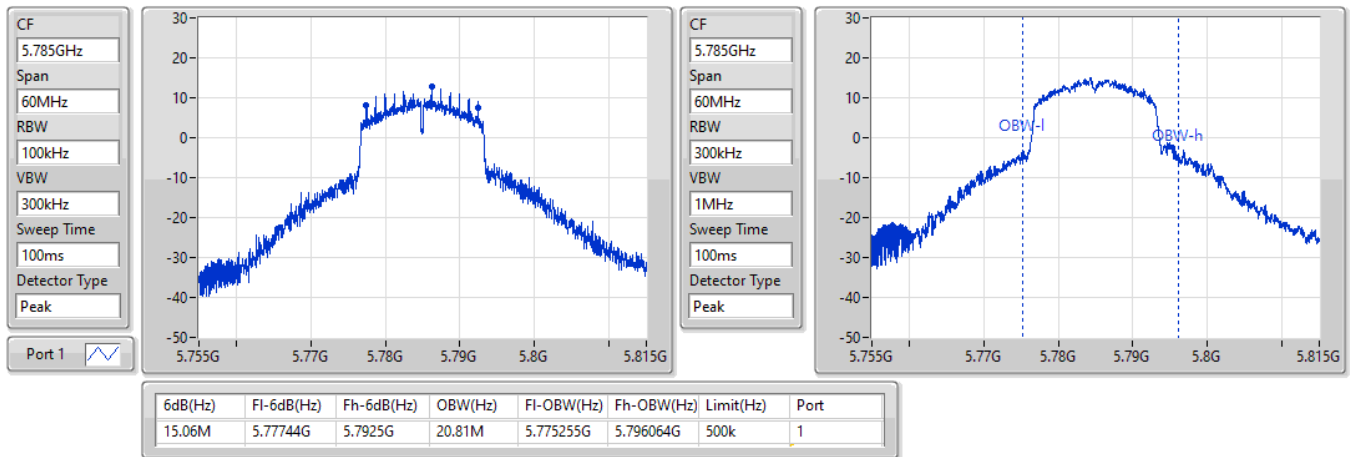


802.11a_Nss1,(6Mbps)_1TX

EBW

5785MHz

02/06/2022

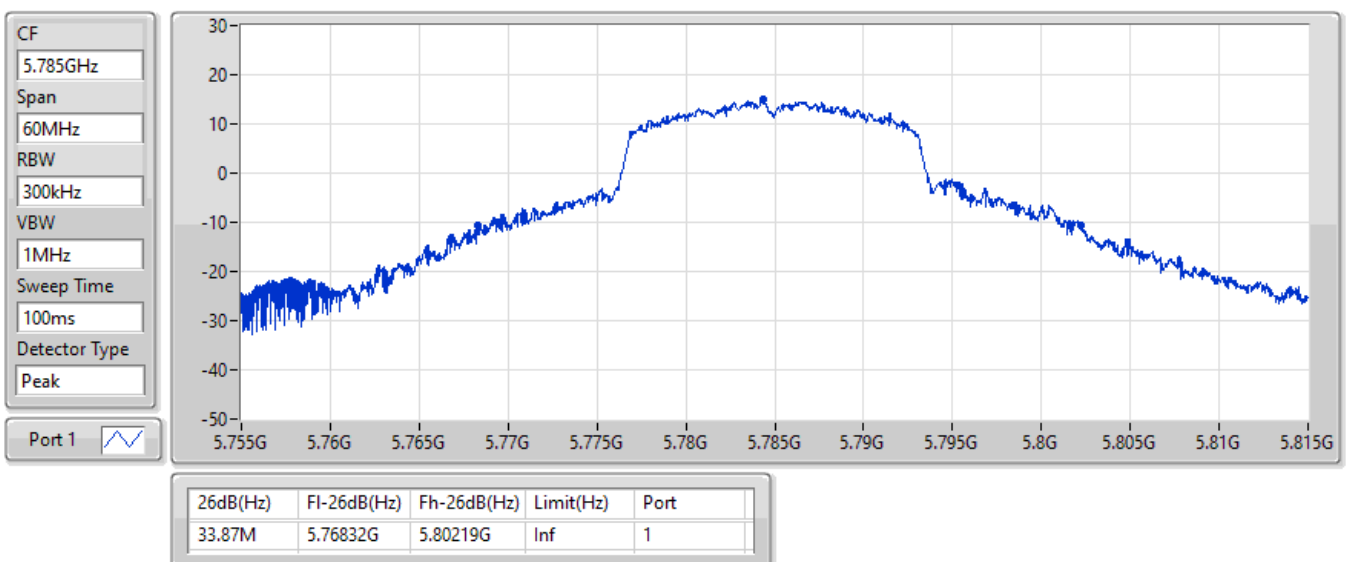


802.11a_Nss1,(6Mbps)_1TX

EBW

5785MHz

02/06/2022

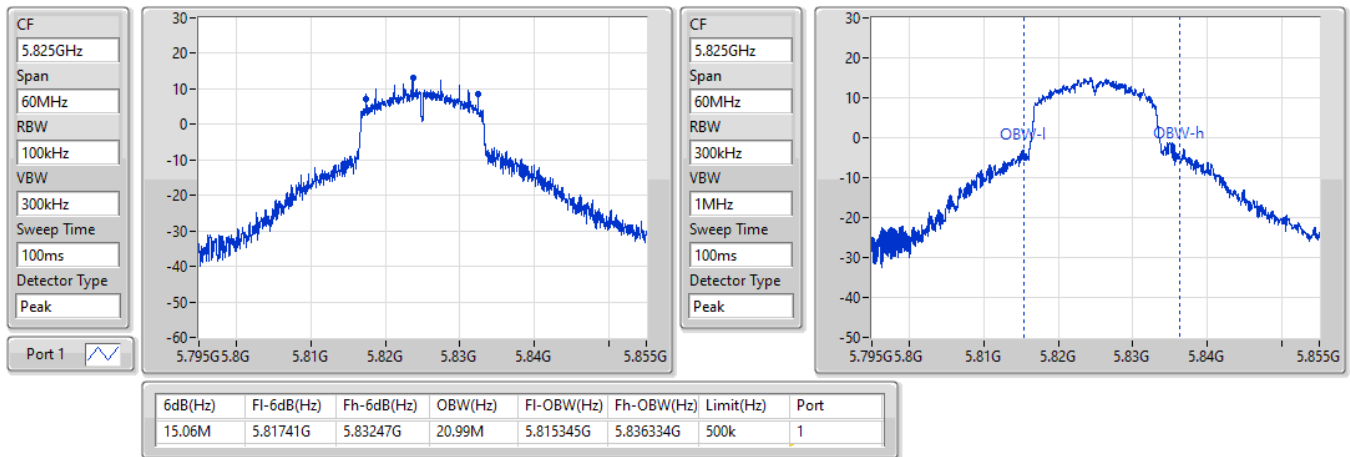


802.11a_Nss1,(6Mbps)_1TX

EBW

5825MHz

02/06/2022

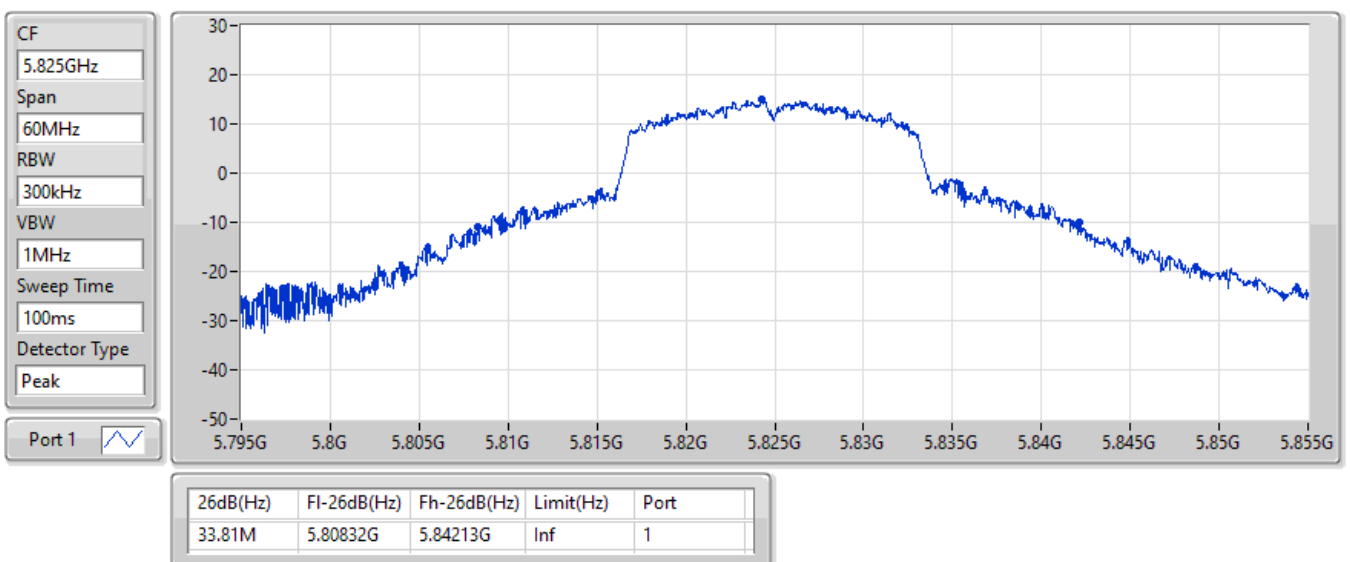


802.11a_Nss1,(6Mbps)_1TX

EBW

5825MHz

02/06/2022

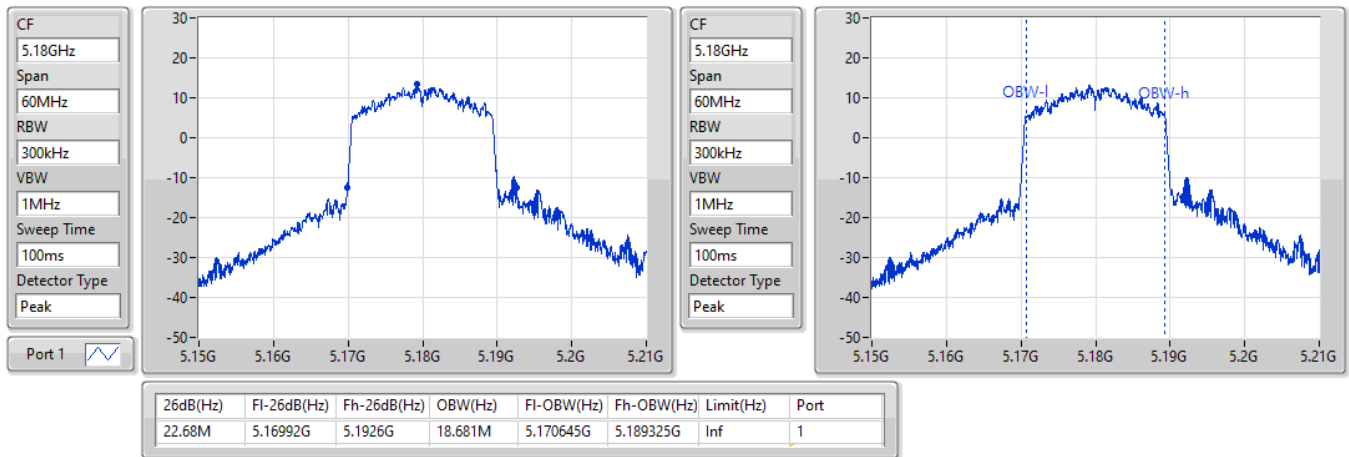


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5180MHz

19/05/2022

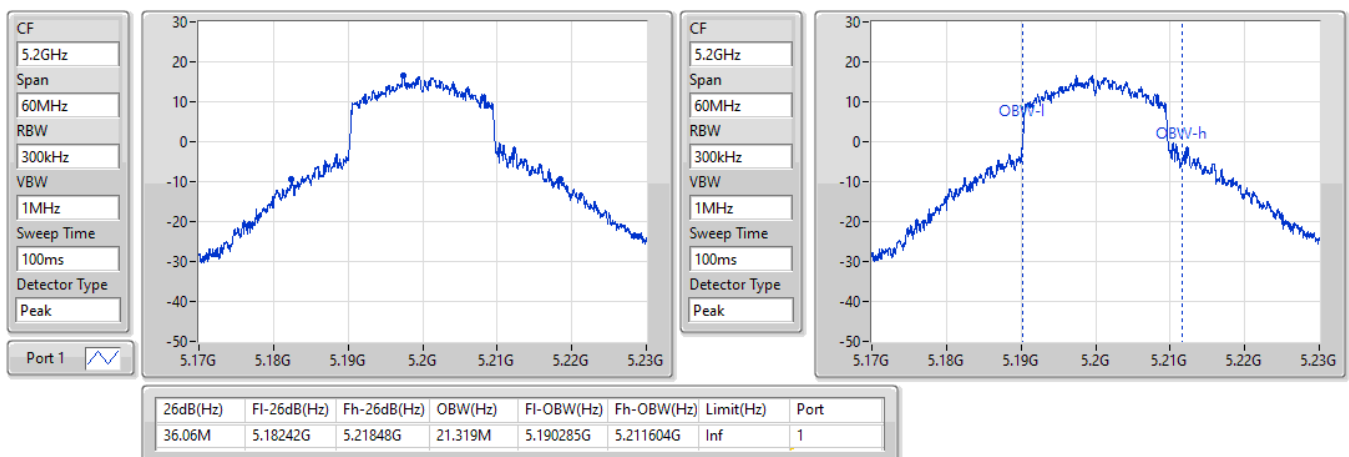


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5200MHz

19/05/2022

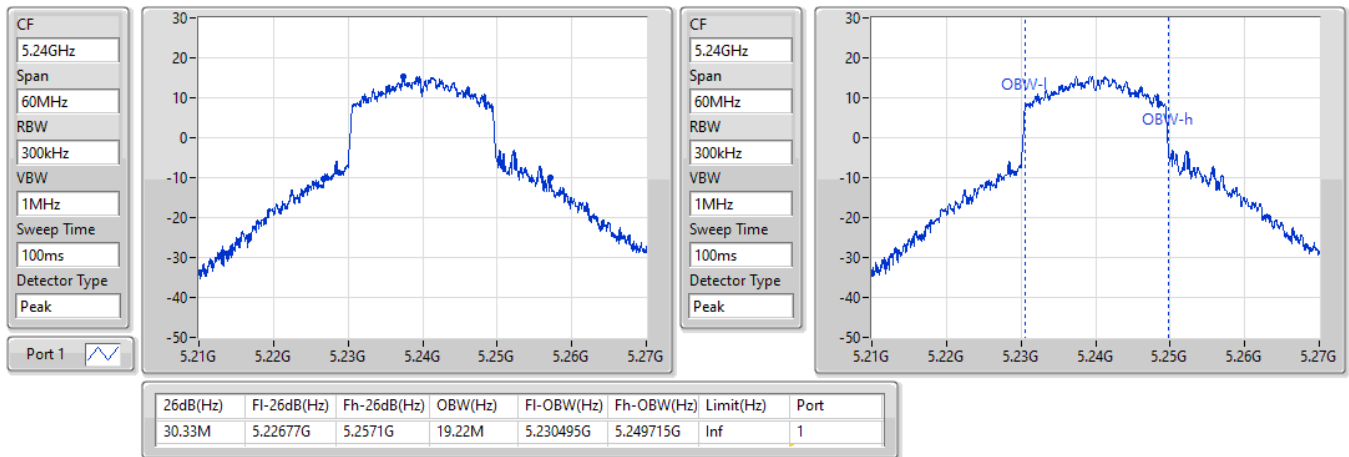


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5240MHz

19/05/2022

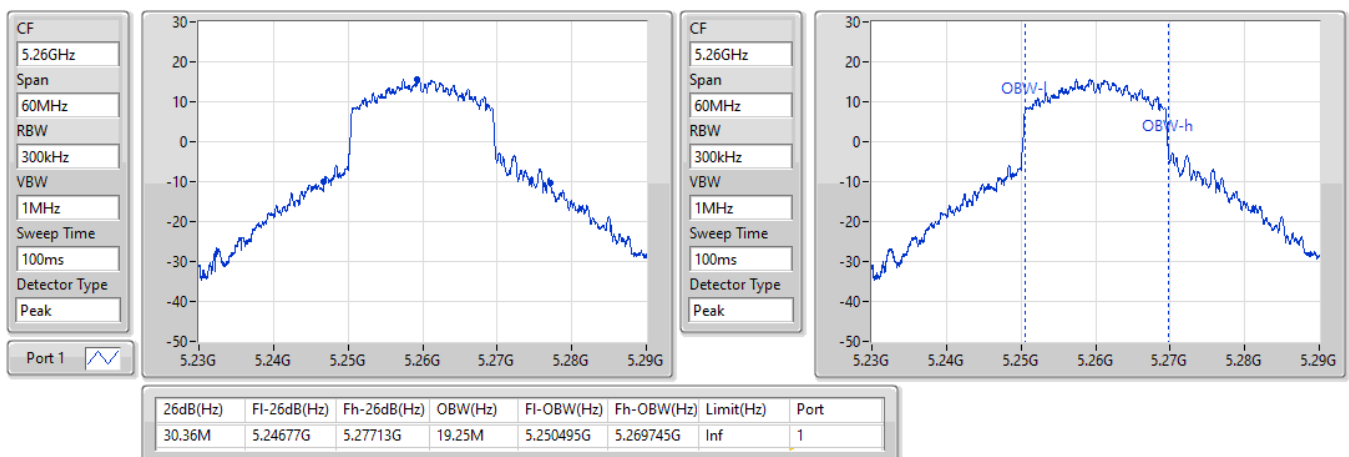


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

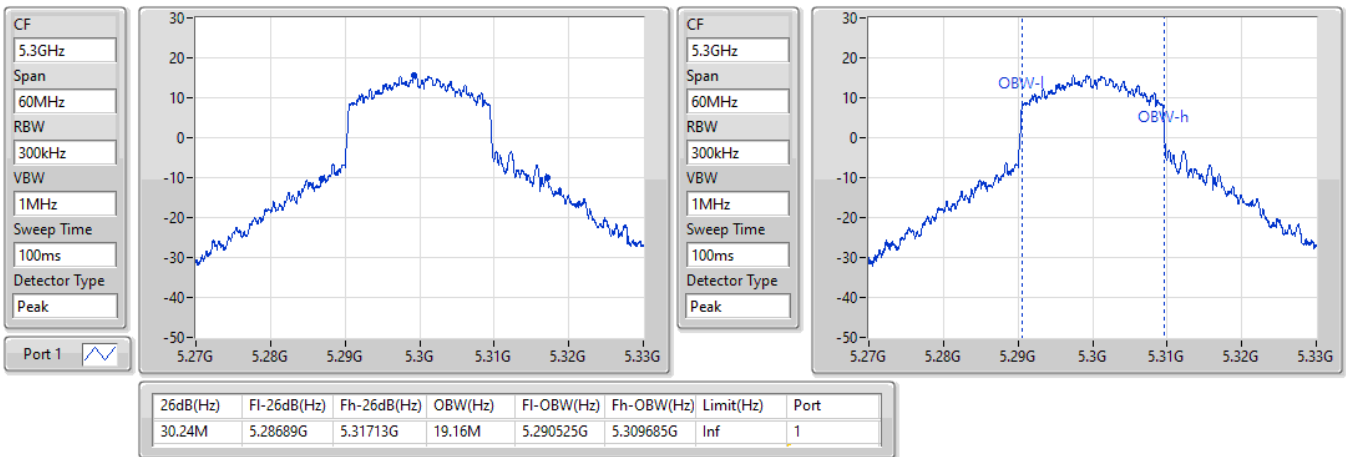
5260MHz

19/05/2022

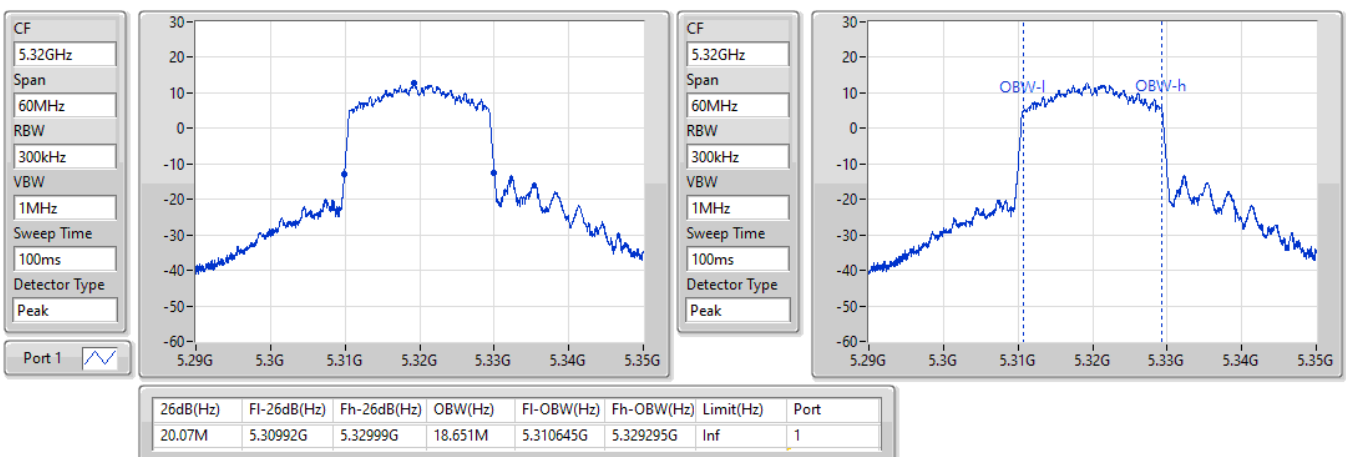


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5300MHz

19/05/2022


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5320MHz

19/05/2022

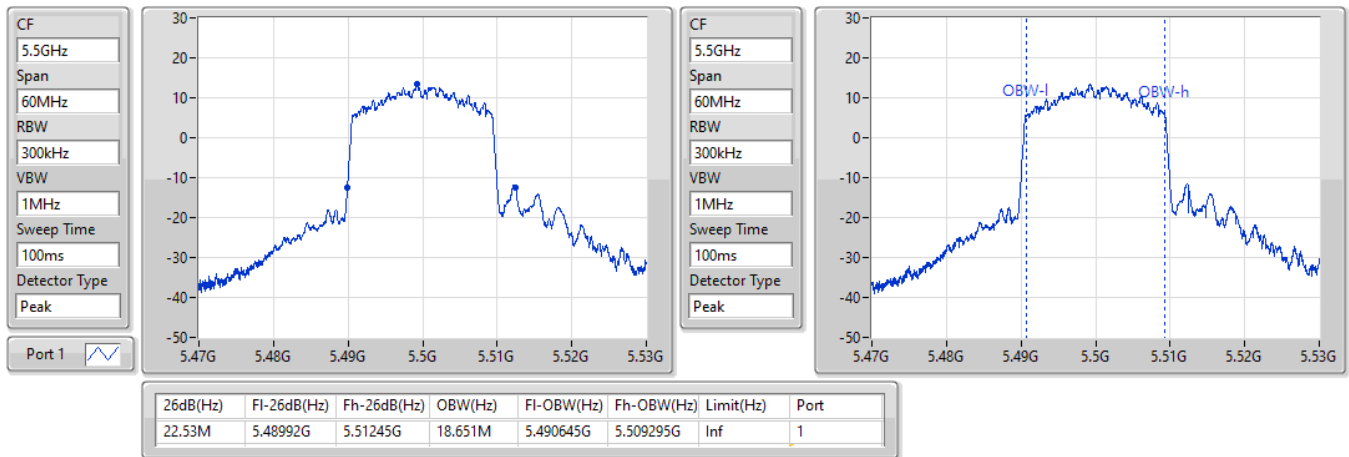


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5500MHz

19/05/2022

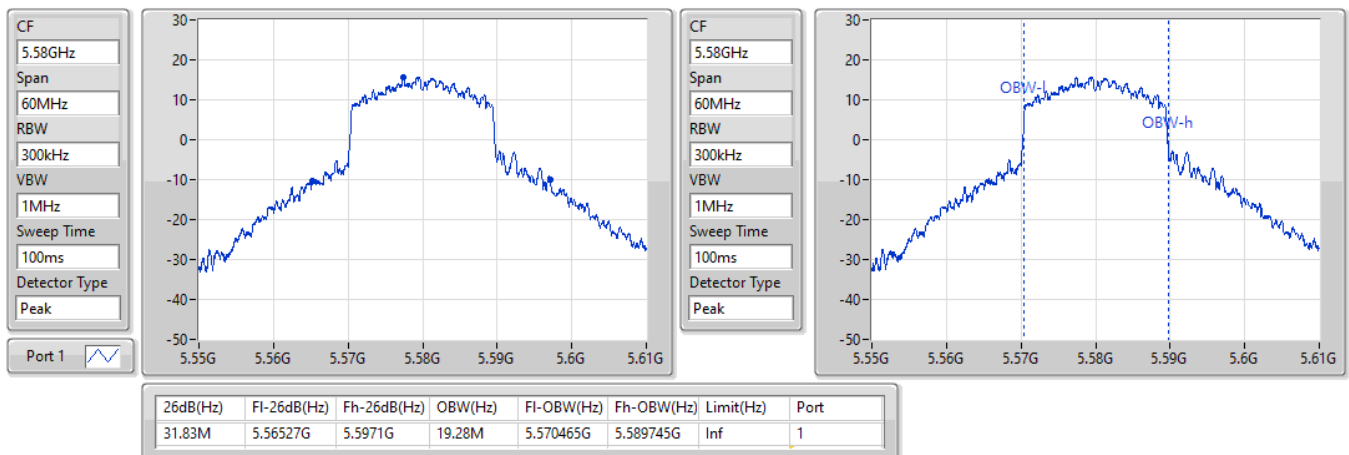


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5580MHz

19/05/2022

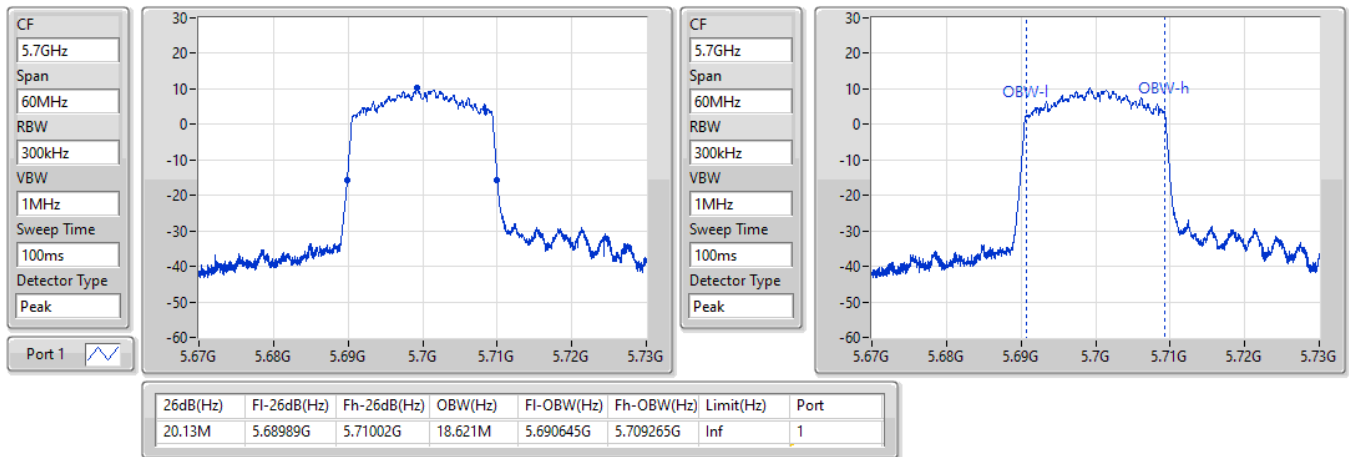


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5700MHz

19/05/2022

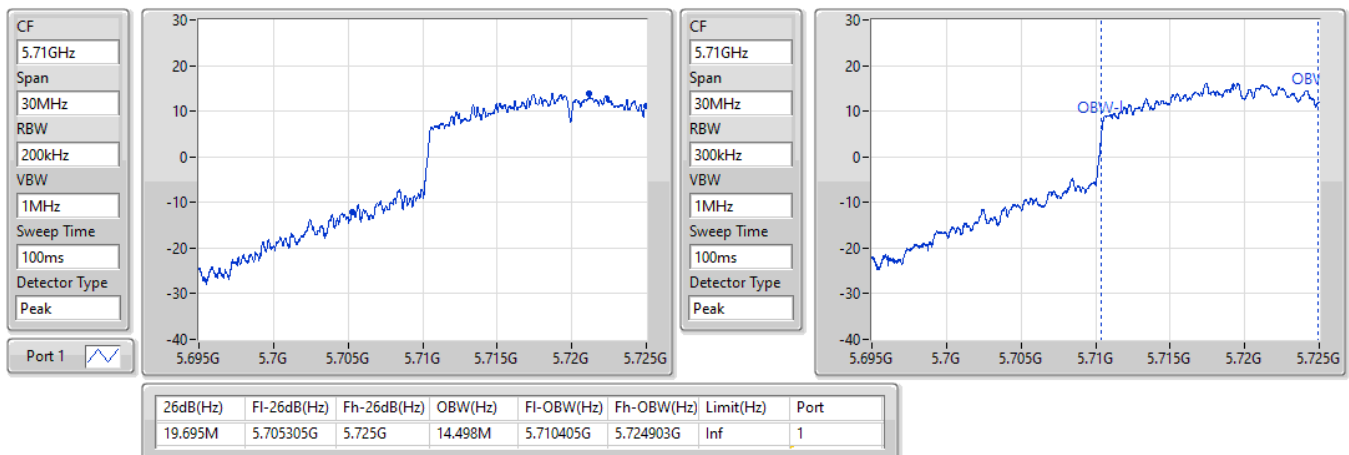


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5720MHz Straddle 5.67-5.725GHz

19/05/2022

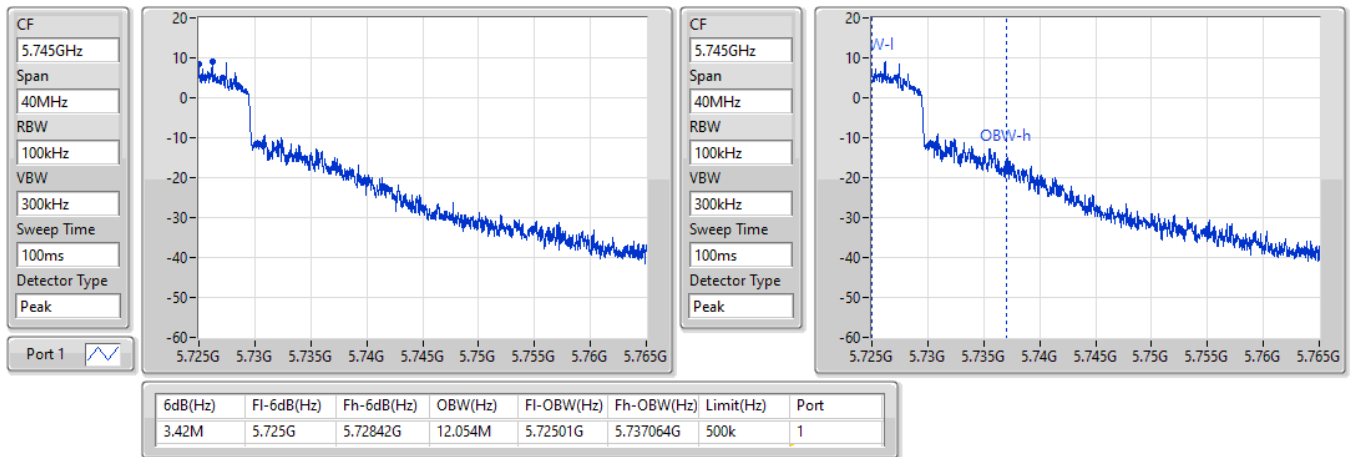


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5720MHz Straddle 5.725-5.85GHz

02/06/2022

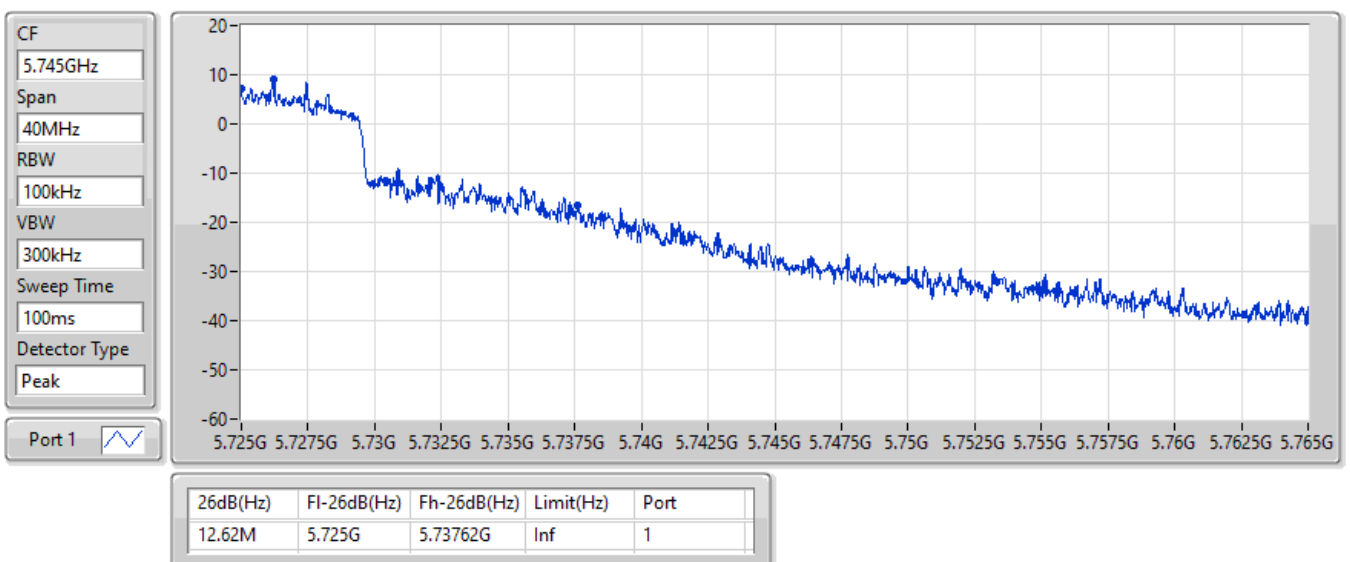


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

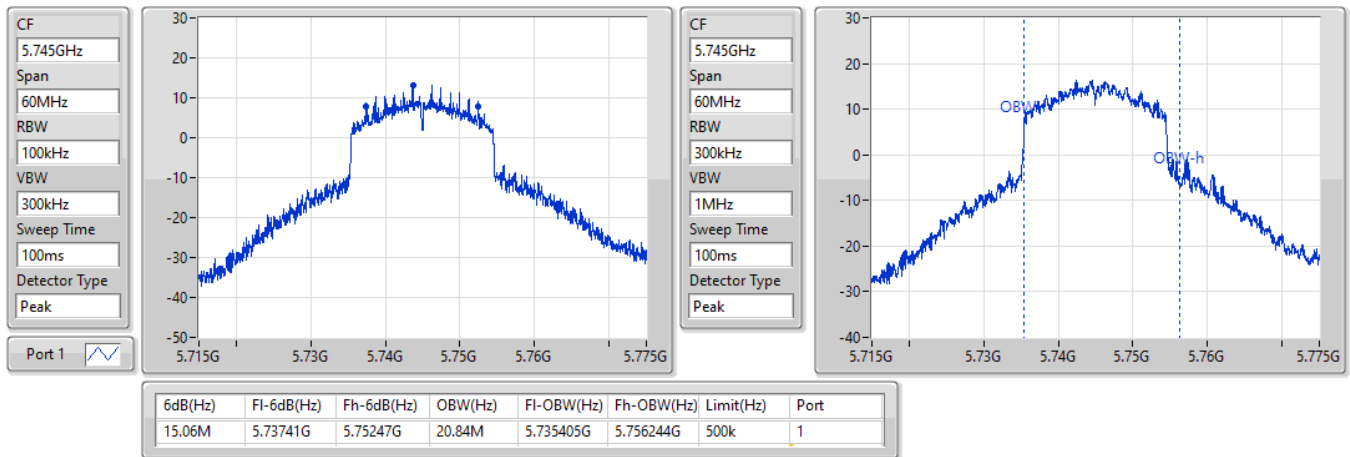
5720MHz Straddle 5.725-5.85GHz

02/06/2022

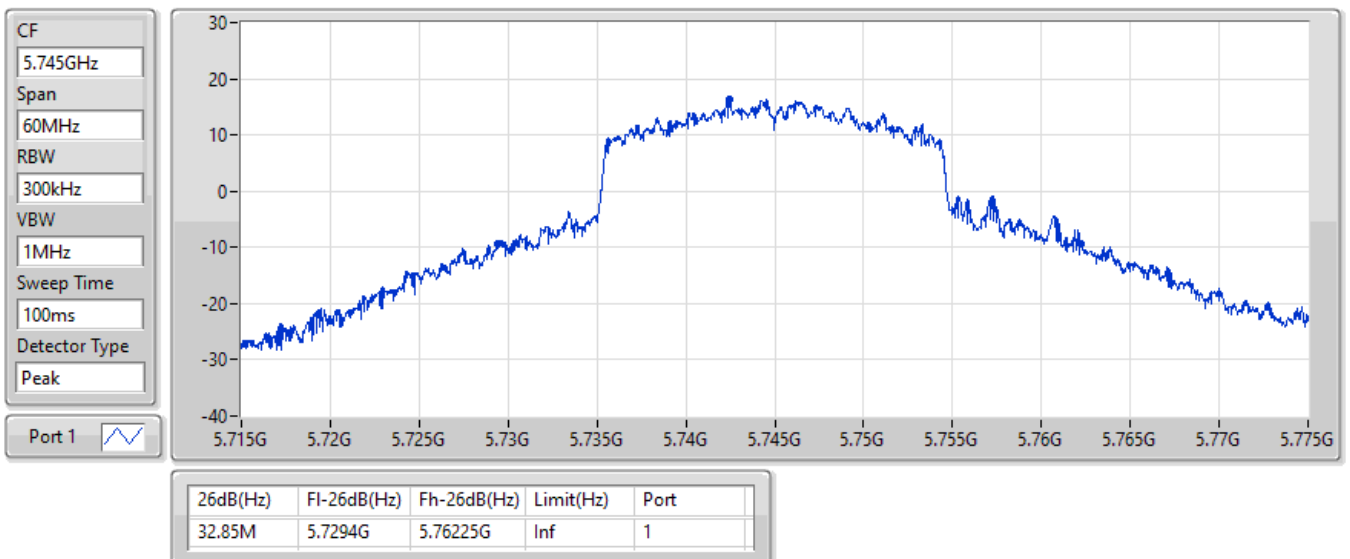


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5745MHz

02/06/2022


802.11ax HEW20_Nss1,(MCS0)_1TX
EBW
5745MHz

02/06/2022

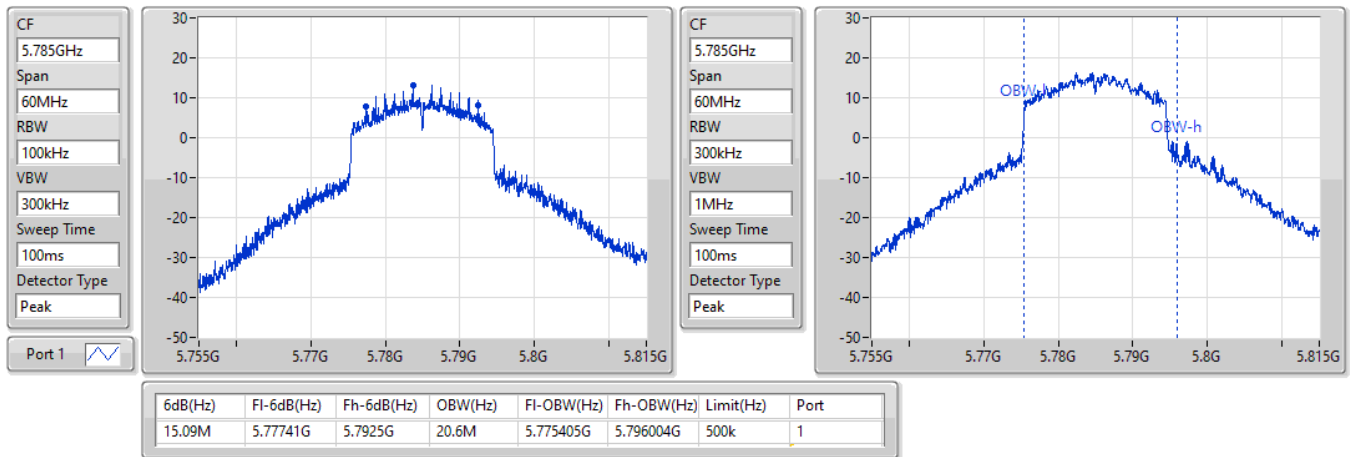


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5785MHz

02/06/2022

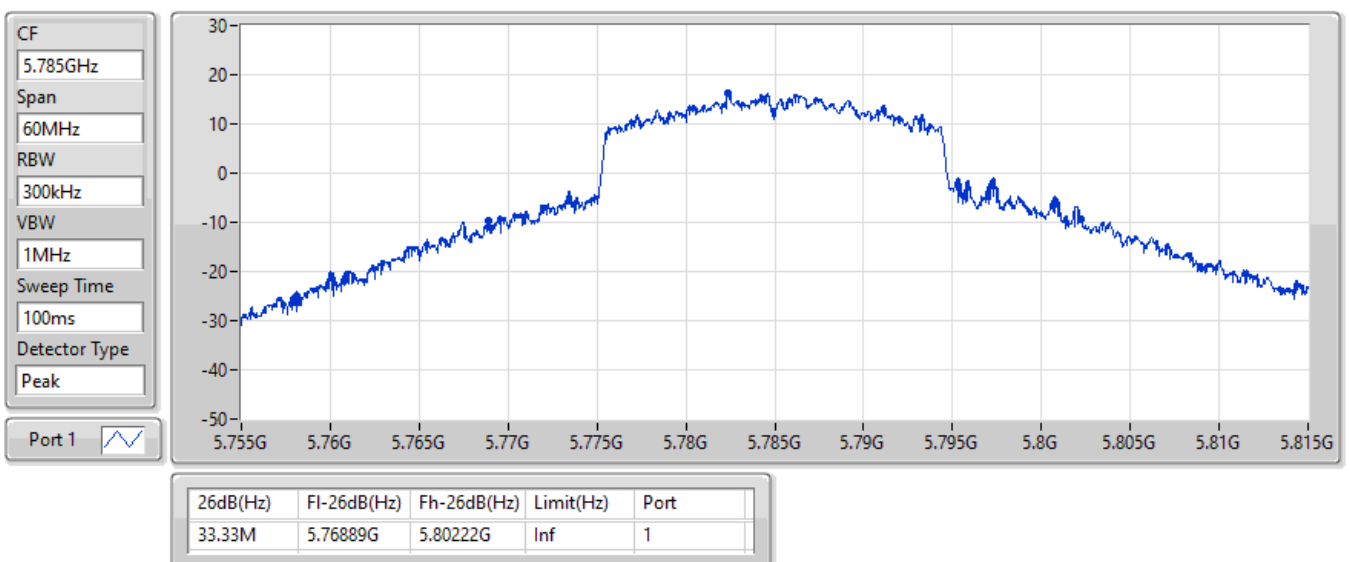


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5785MHz

02/06/2022

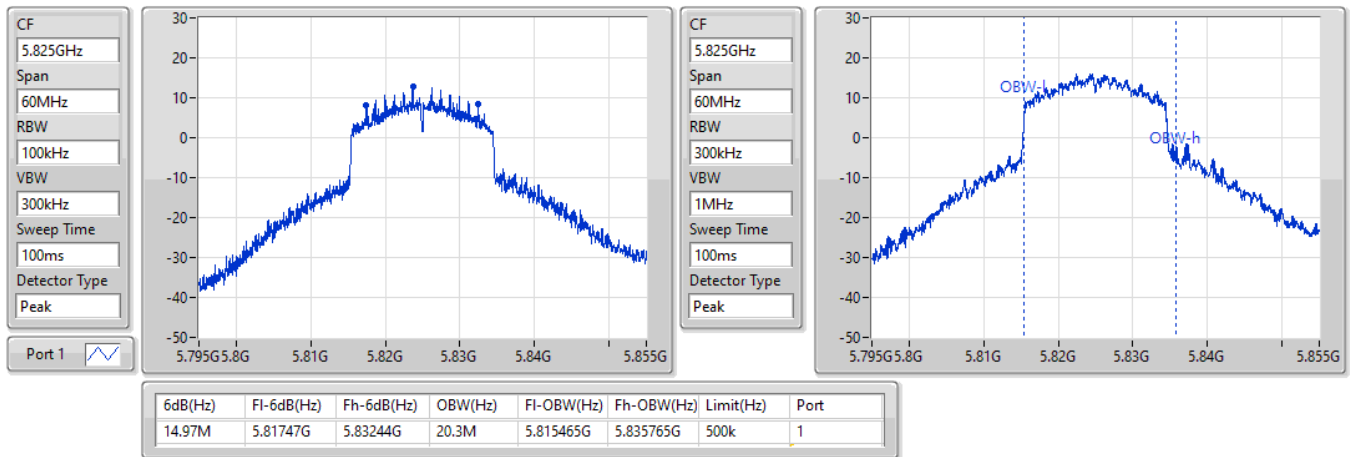


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5825MHz

02/06/2022

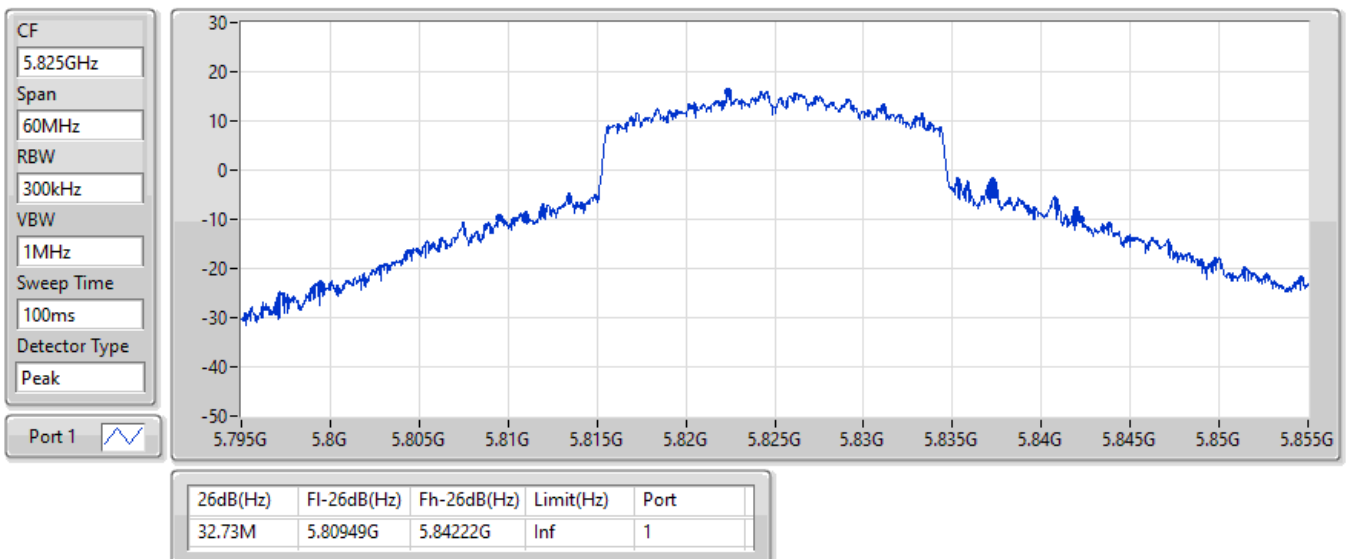


802.11ax HEW20_Nss1,(MCS0)_1TX

EBW

5825MHz

02/06/2022

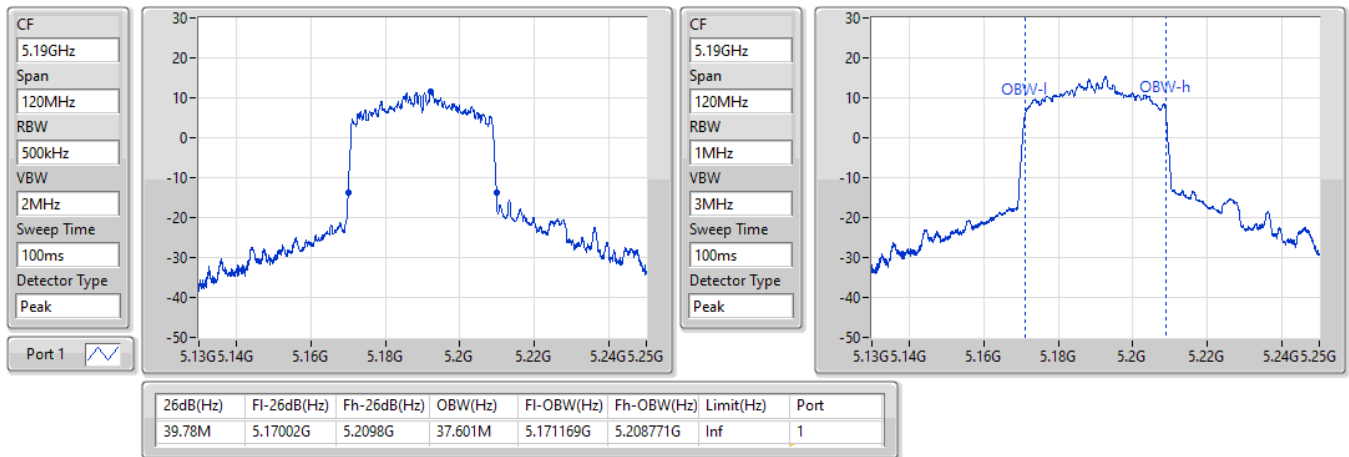


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

5190MHz

19/05/2022

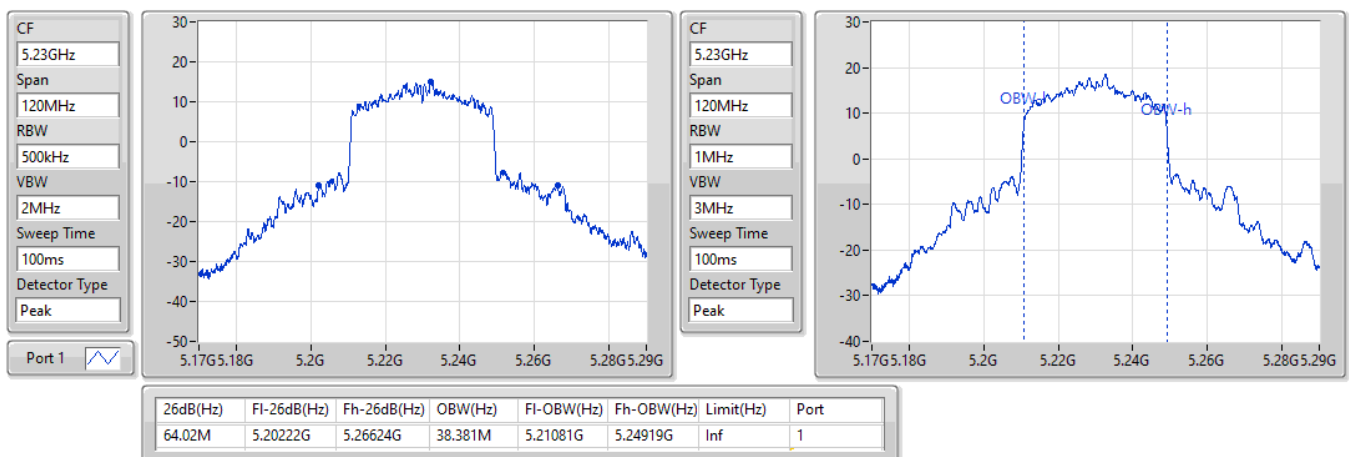


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

5230MHz

19/05/2022

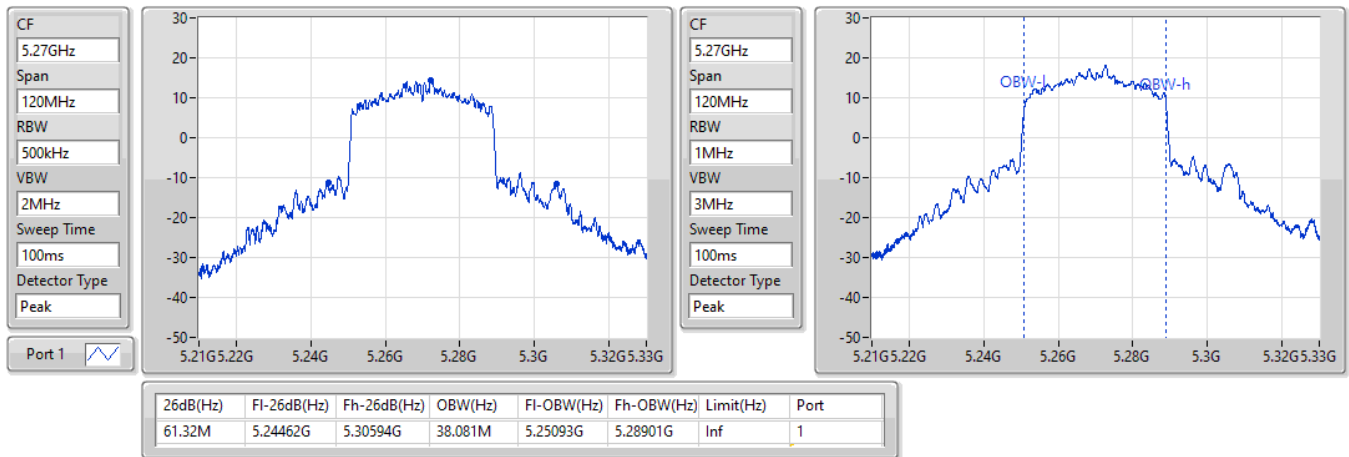


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

5270MHz

19/05/2022

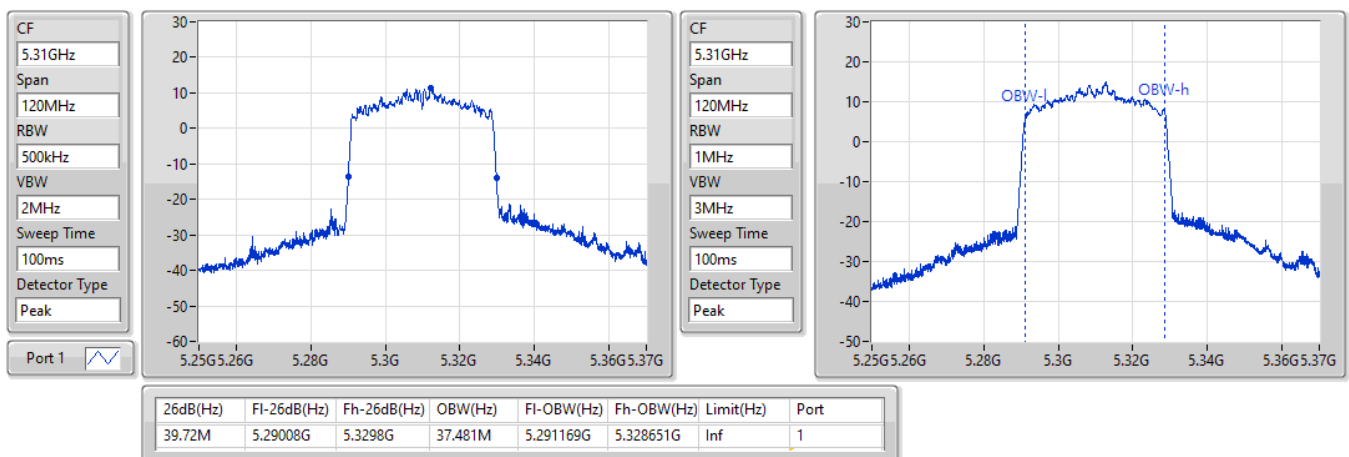


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

5310MHz

19/05/2022

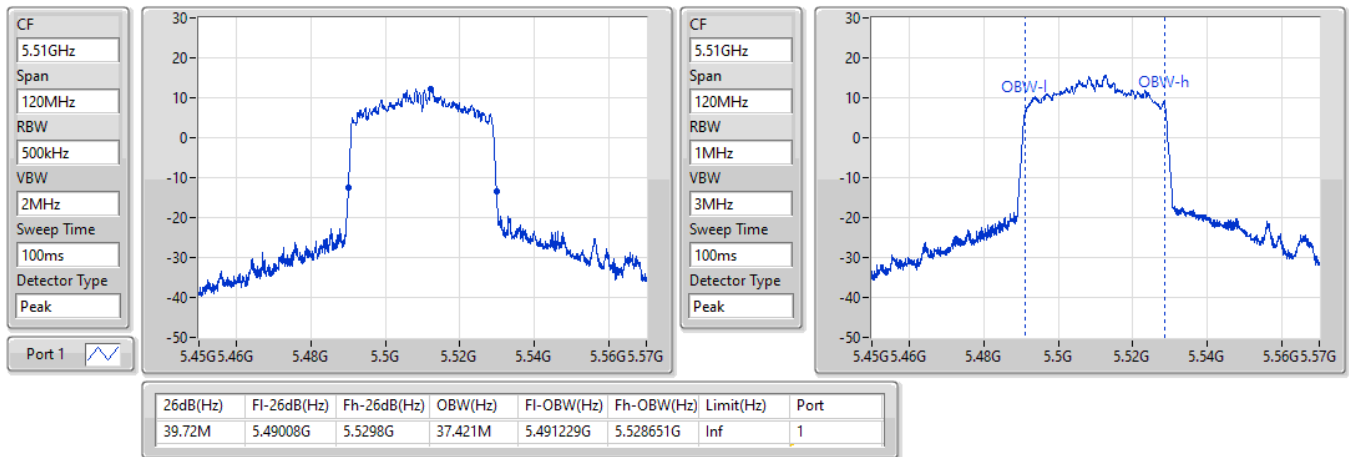


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

5510MHz

19/05/2022

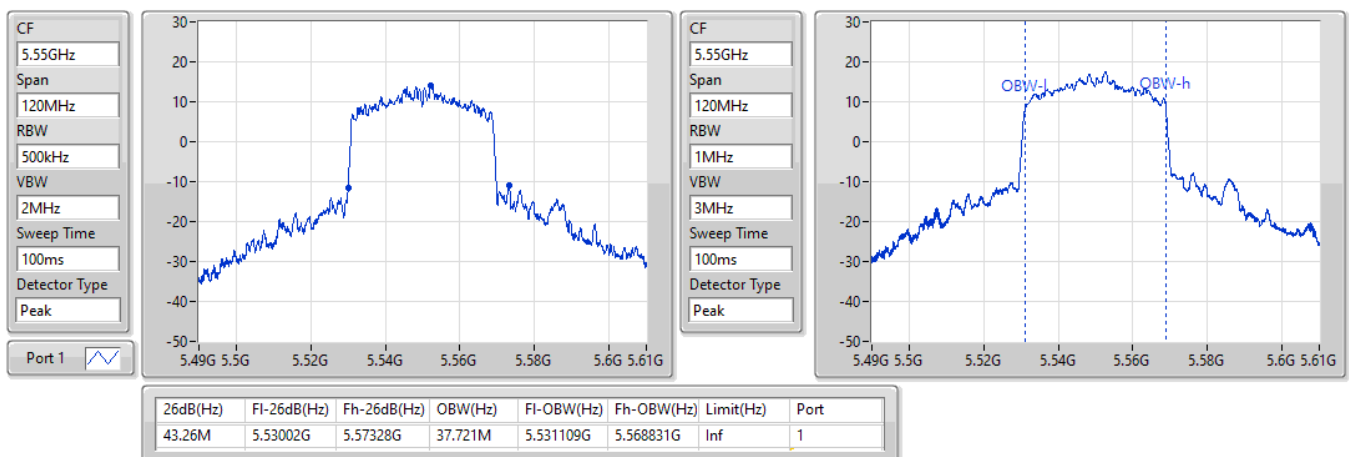


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

5550MHz

19/05/2022

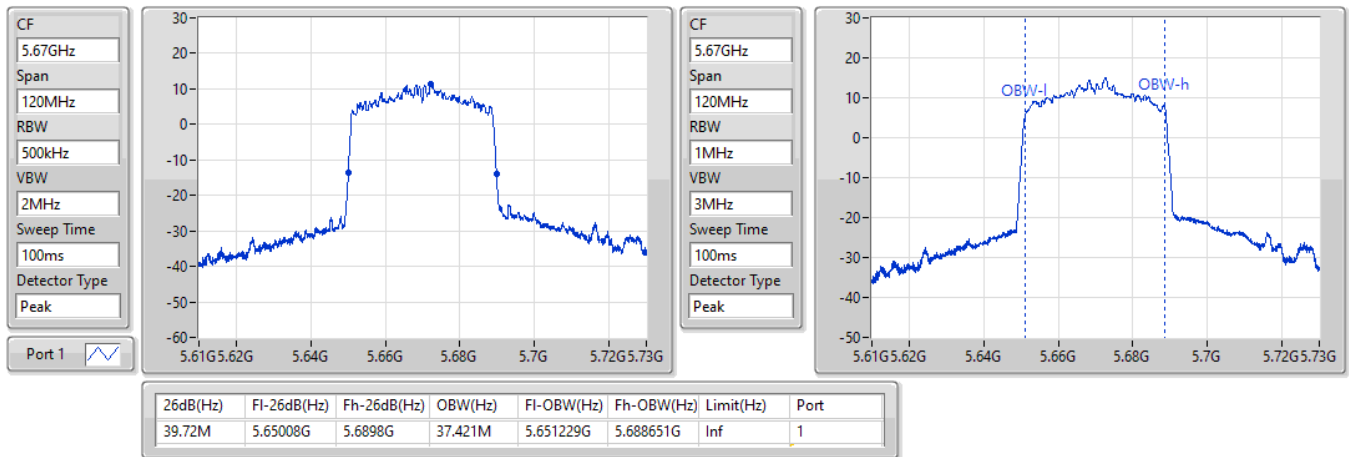


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

5670MHz

19/05/2022

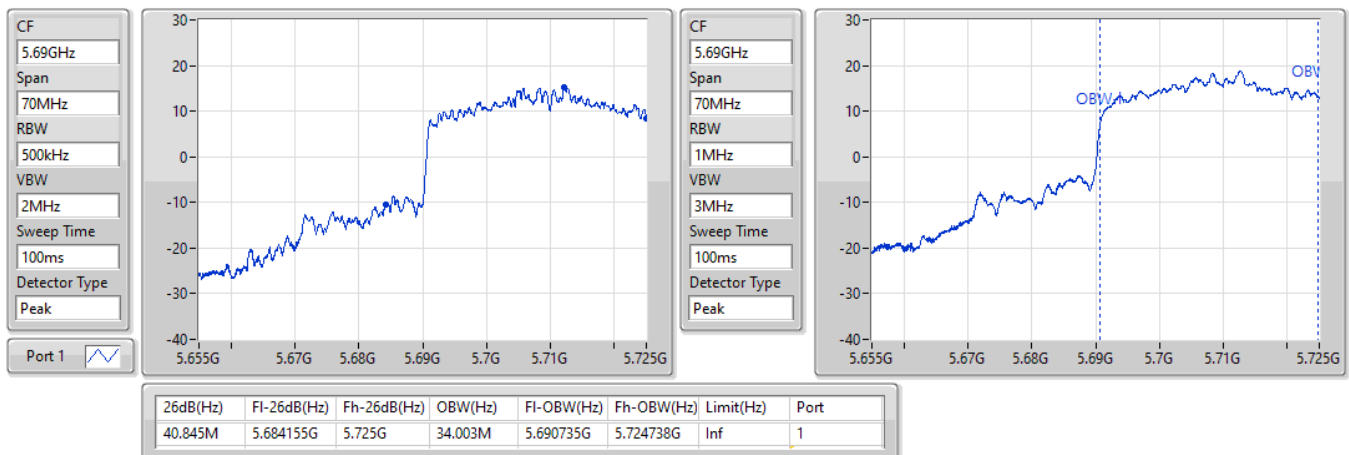


802.11ax HEW40_Nss1,(MCS0)_1TX

EBW

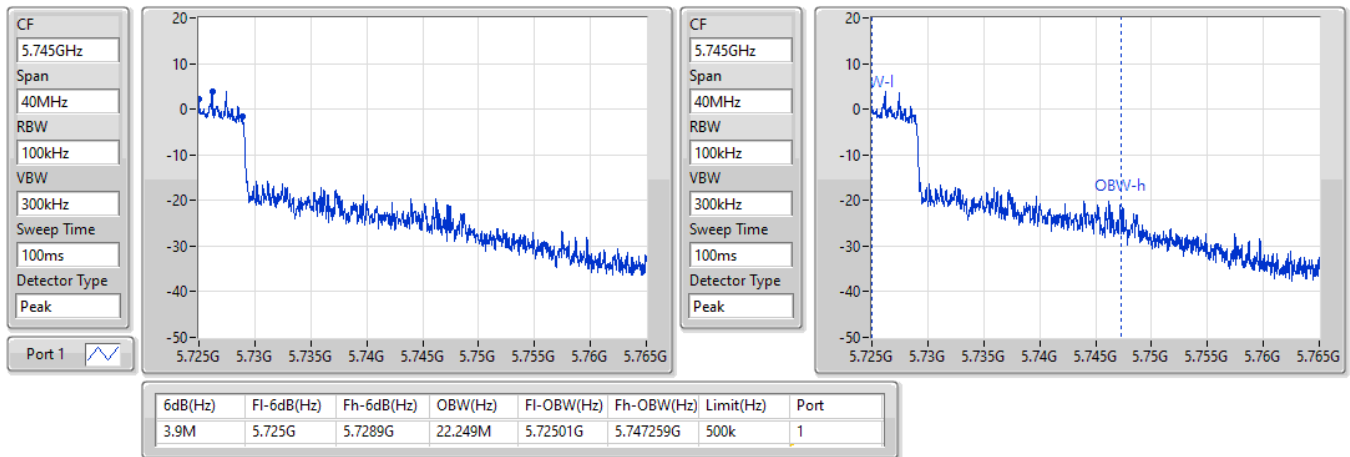
5710MHz Straddle 5.47-5.725GHz

19/05/2022

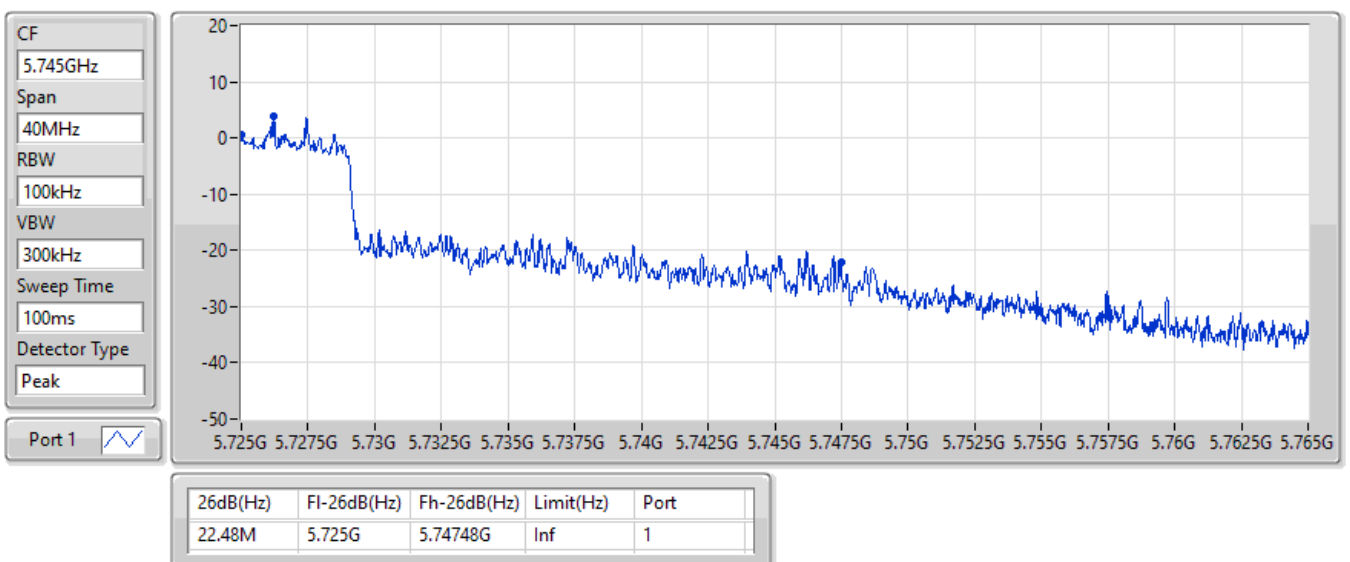


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5710MHz Straddle 5.725-5.85GHz

02/06/2022

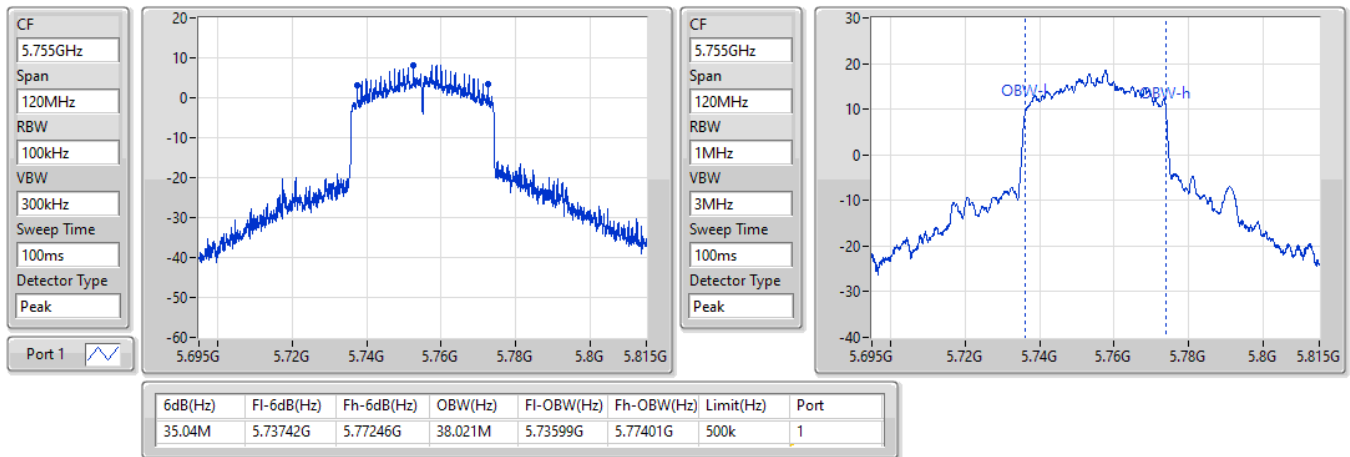

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5710MHz Straddle 5.725-5.85GHz

02/06/2022

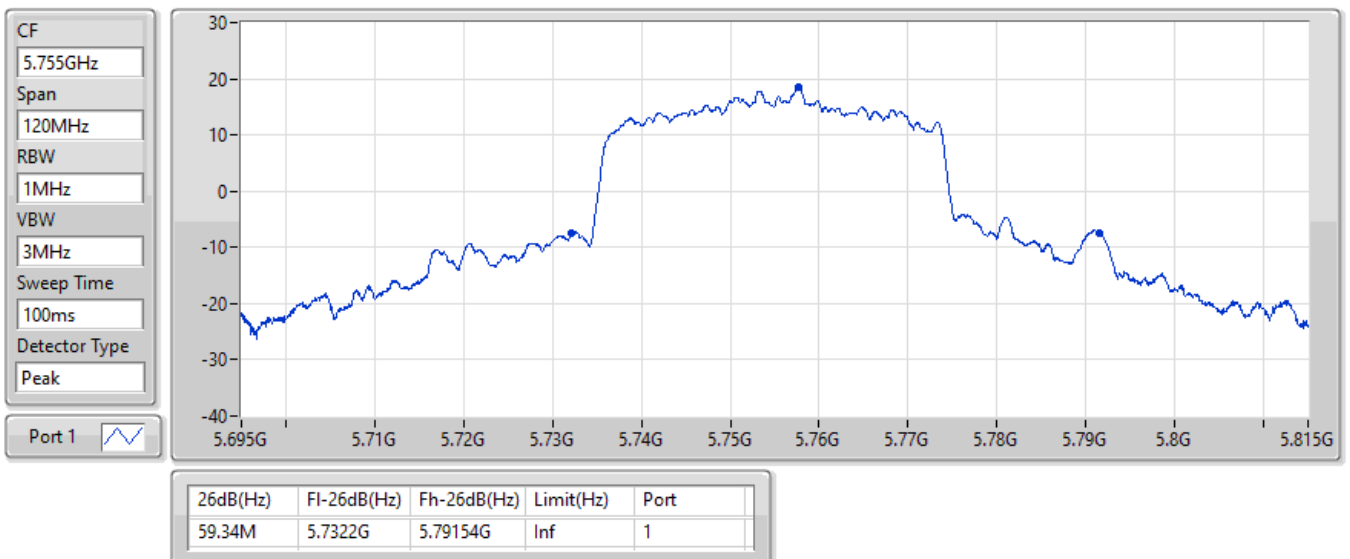


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5755MHz

02/06/2022

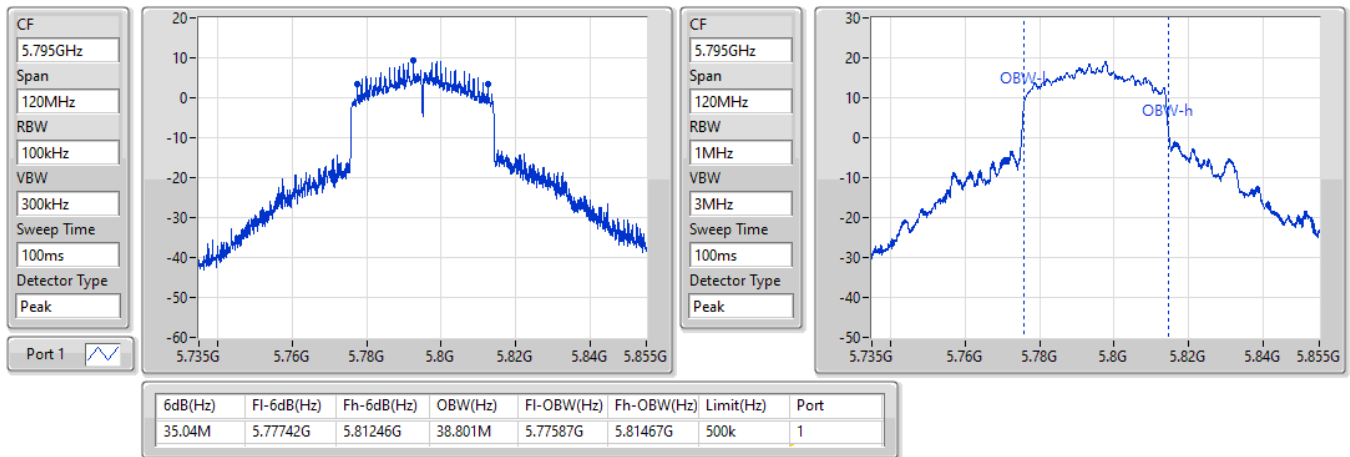

802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5755MHz

02/06/2022

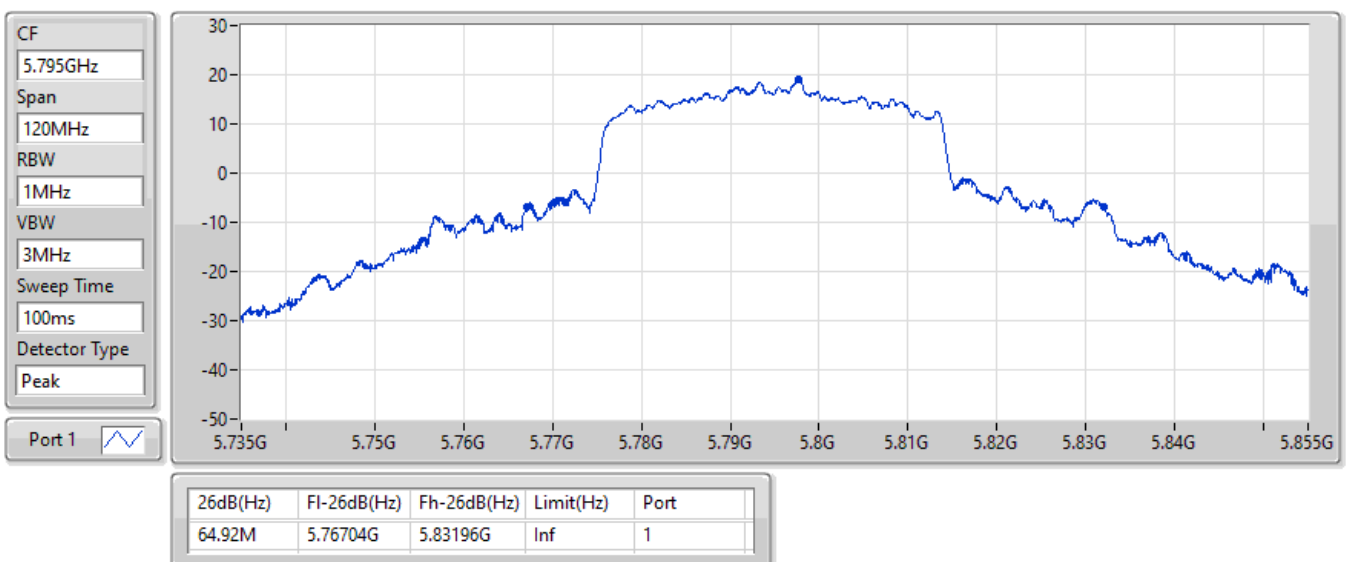


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5795MHz

02/06/2022


802.11ax HEW40_Nss1,(MCS0)_1TX
EBW
5795MHz

02/06/2022

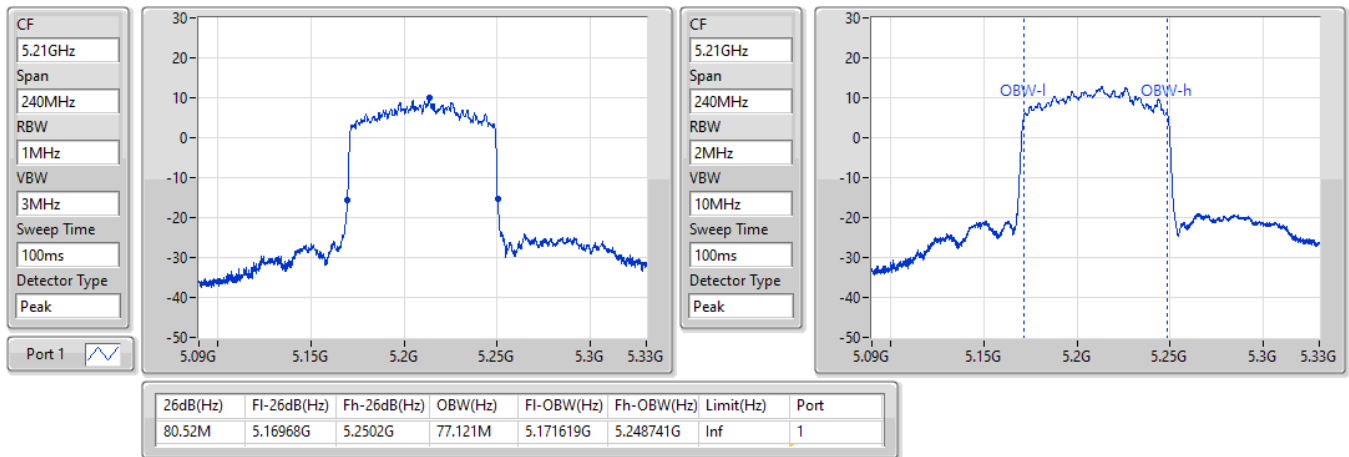


802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

5210MHz

19/05/2022

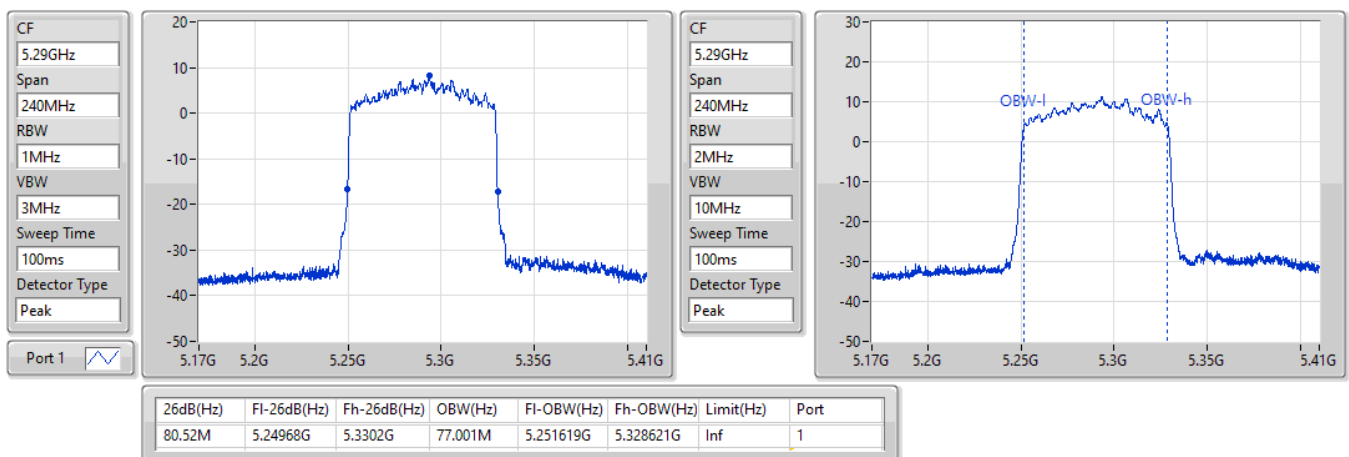


802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

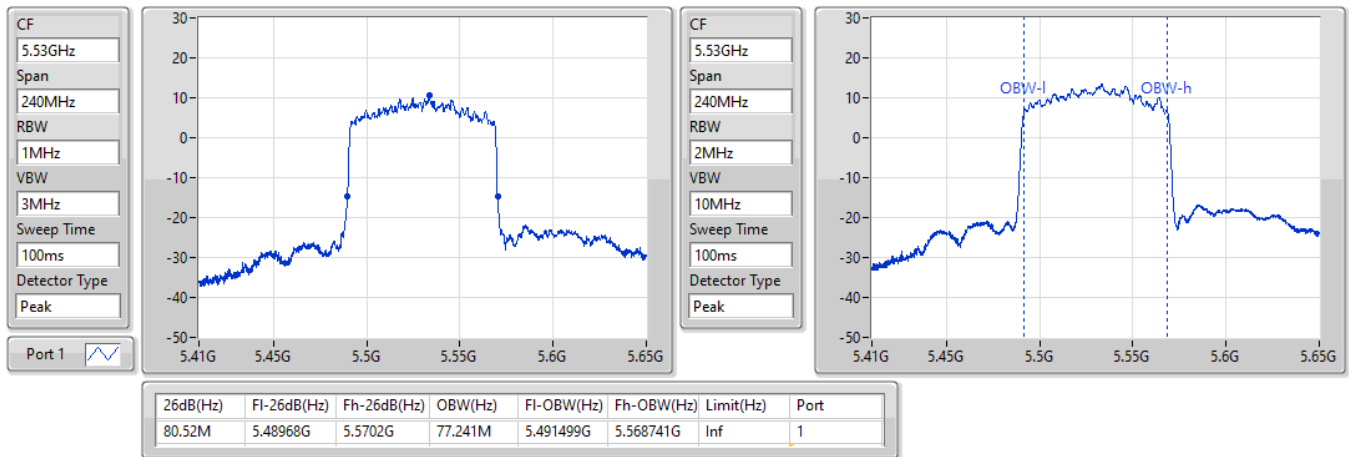
5290MHz

19/05/2022

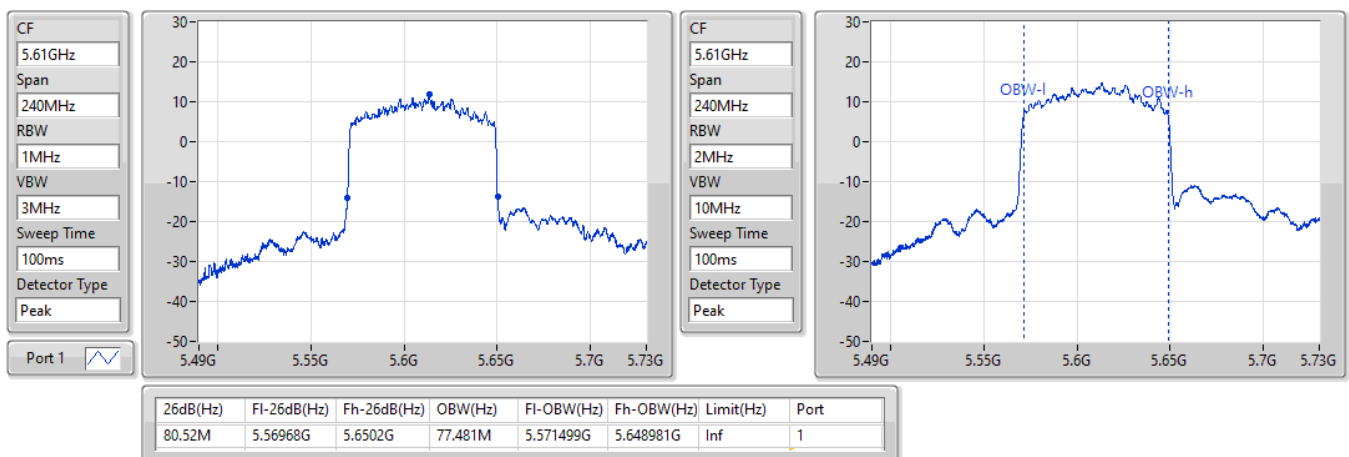


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5530MHz

19/05/2022


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5610MHz

19/05/2022

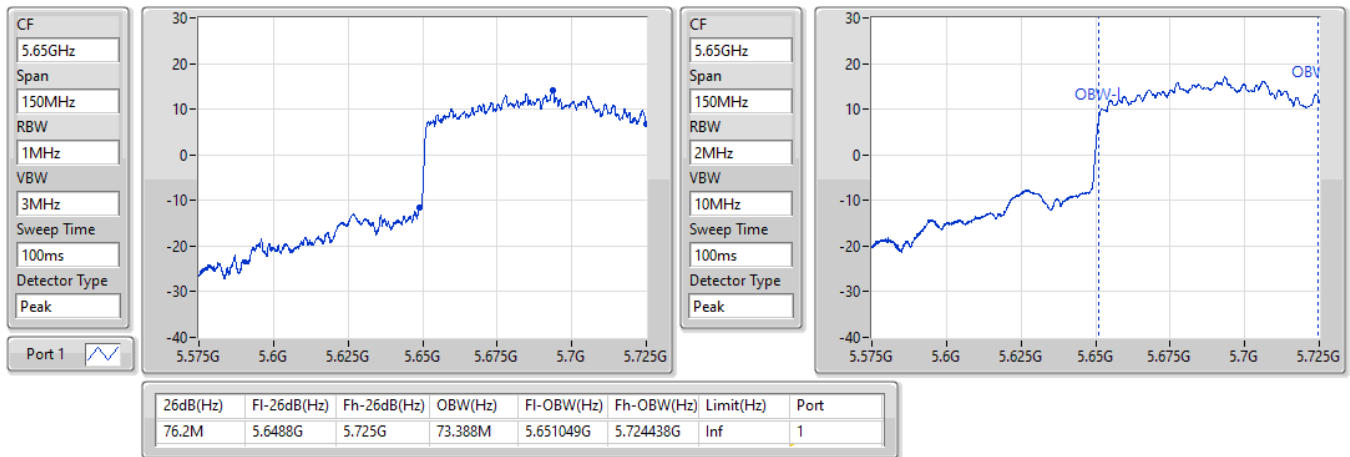


802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

5690MHz Straddle 5.47-5.725GHz

19/05/2022

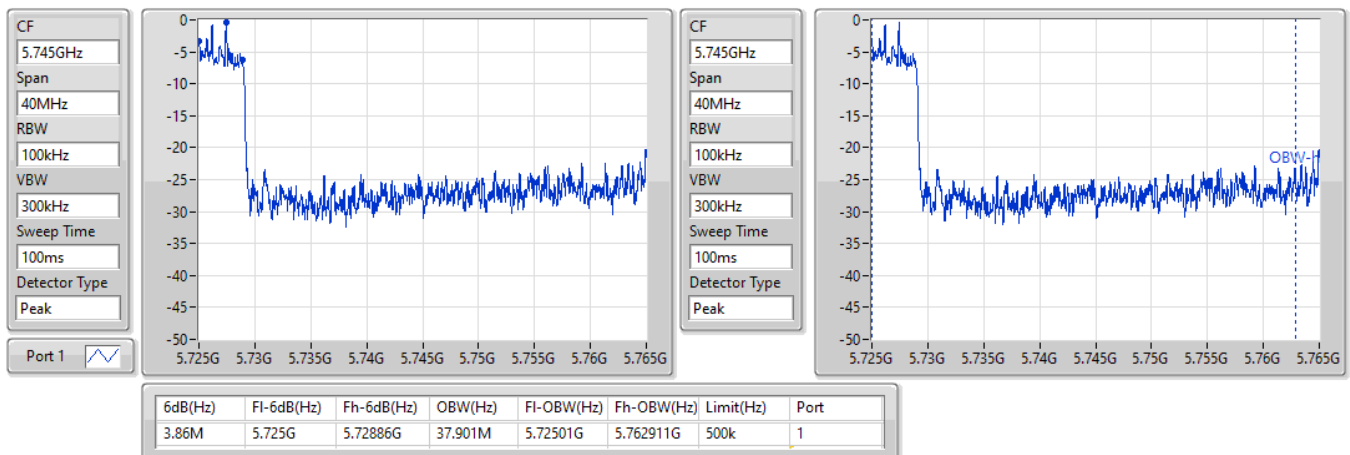


802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

5690MHz Straddle 5.725-5.85GHz

02/06/2022

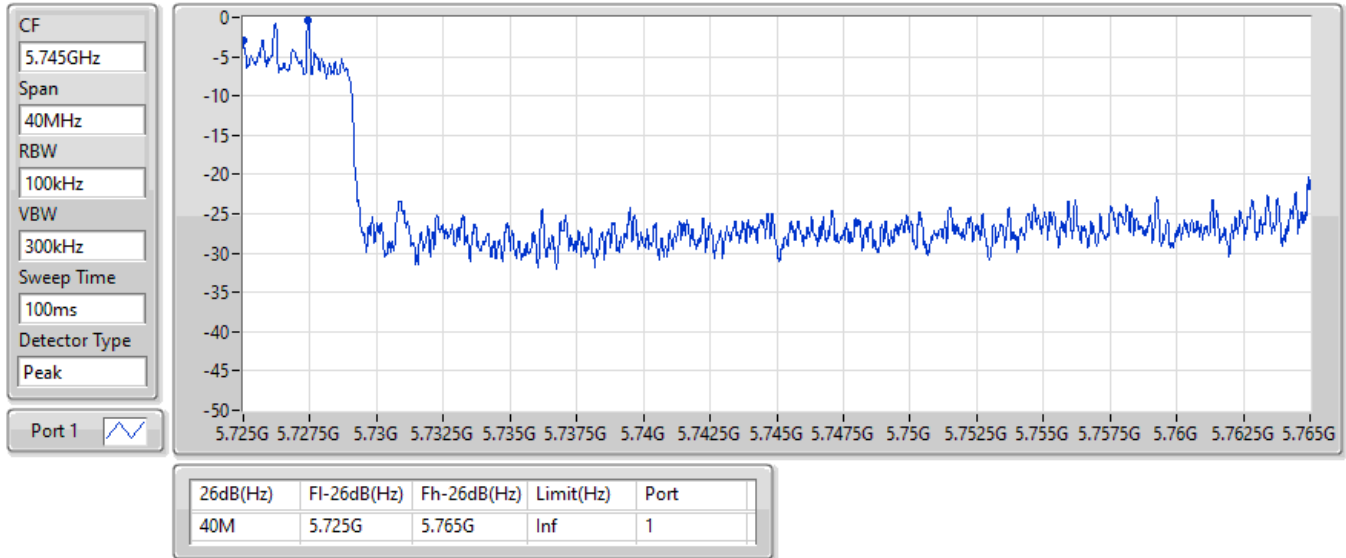


802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

5690MHz Straddle 5.725-5.85GHz

02/06/2022

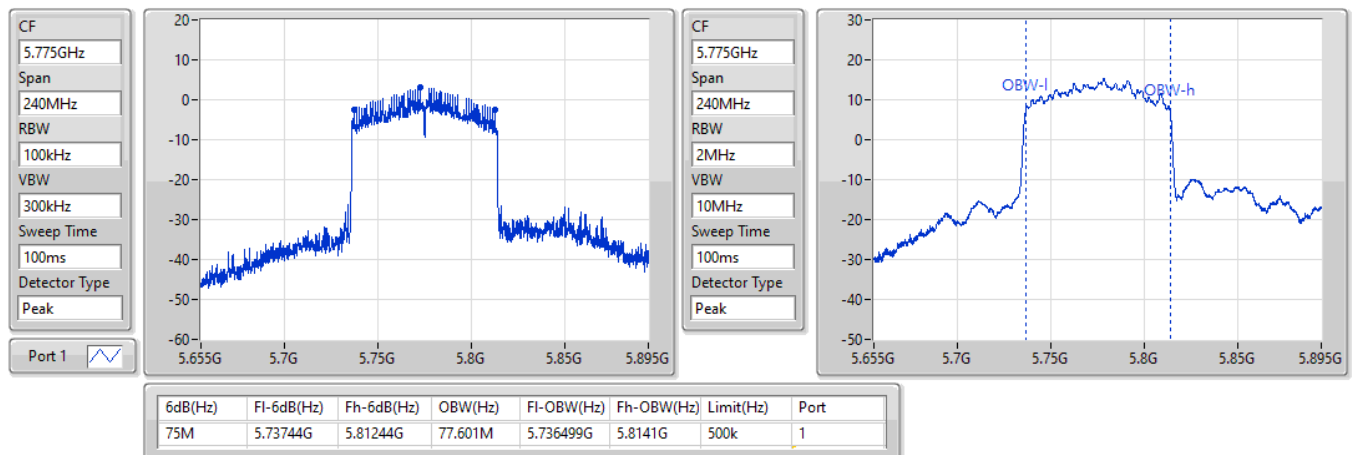


802.11ax HEW80_Nss1,(MCS0)_1TX

EBW

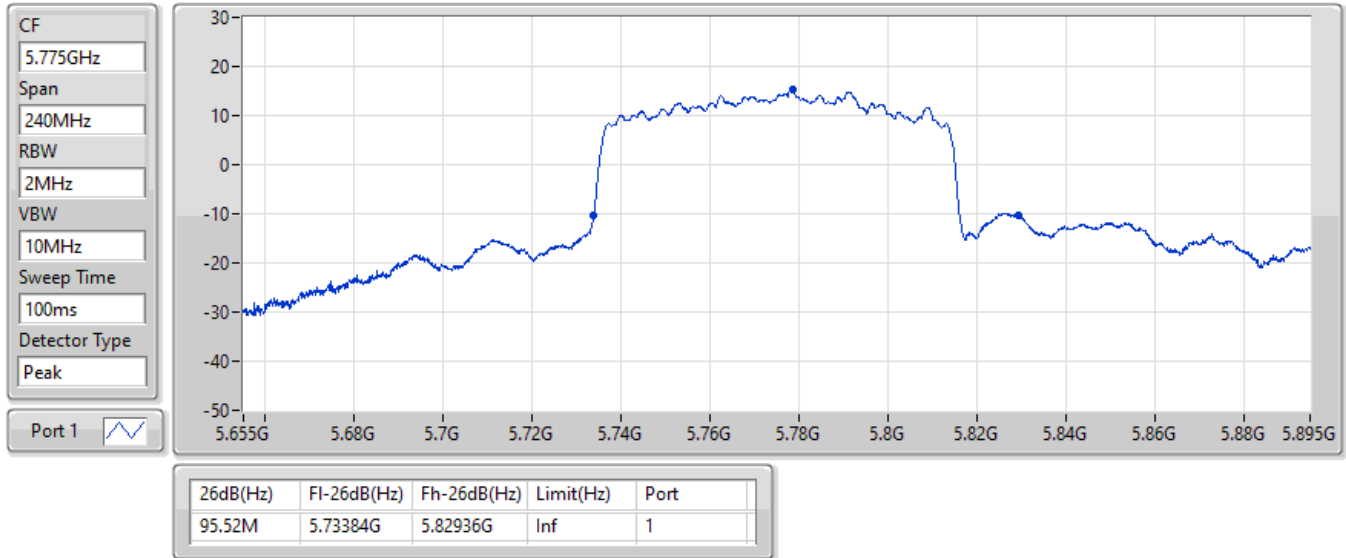
5775MHz

02/06/2022

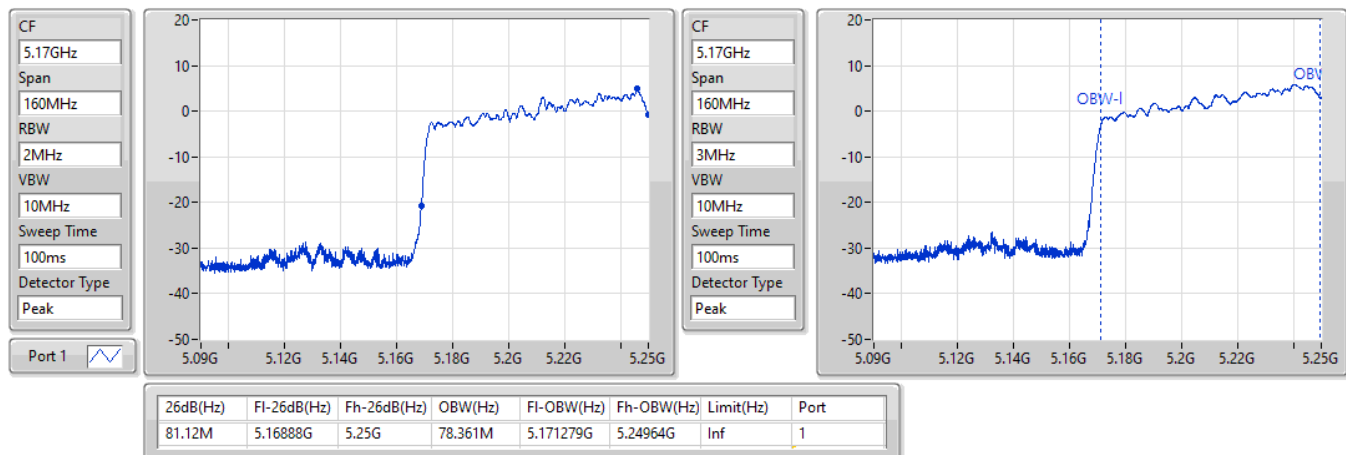


802.11ax HEW80_Nss1,(MCS0)_1TX
EBW
5775MHz

02/06/2022


802.11ax HEW160_Nss1,(MCS0)_1TX
EBW
5250MHz Straddle 5.15-5.25GHz

19/05/2022

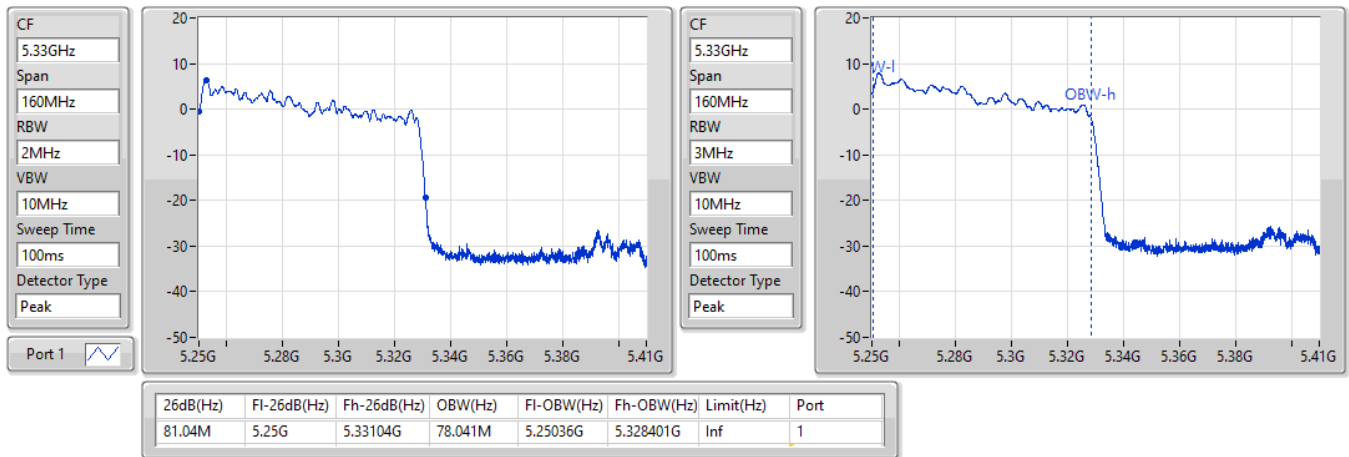


802.11ax HEW160_Nss1,(MCS0)_1TX

EBW

5250MHz Straddle 5.25-5.35GHz

19/05/2022

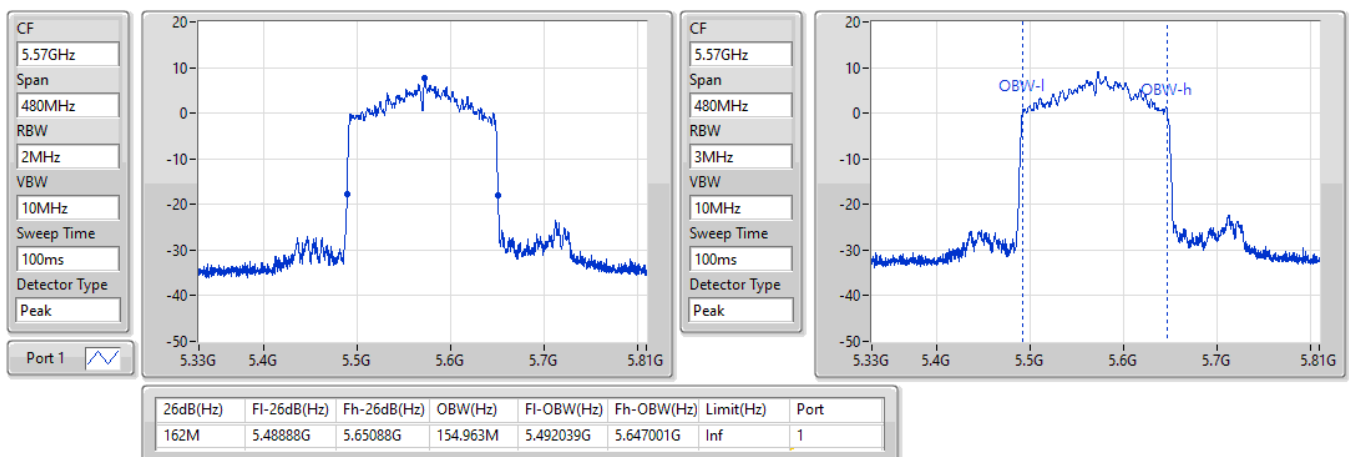


802.11ax HEW160_Nss1,(MCS0)_1TX

EBW

5570MHz

19/05/2022



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	20.22M	16.252M	16M3D1D	18.15M	16.192M
802.11ax HEW20_Nss1,(MCS0)_2TX	22.56M	18.681M	18M7D1D	20.04M	18.621M
802.11ax HEW40_Nss1,(MCS0)_2TX	71.7M	39.22M	39M2D1D	39.72M	37.421M
802.11ax HEW80_Nss1,(MCS0)_2TX	80.52M	77.121M	77M1D1D	80.28M	77.001M
802.11ax HEW160_Nss1,(MCS0)_2TX	81.2M	78.361M	78M4D1D	81.2M	78.281M
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	18.48M	16.192M	16M2D1D	17.88M	16.162M
802.11ax HEW20_Nss1,(MCS0)_2TX	22.56M	18.651M	18M7D1D	20.01M	18.591M
802.11ax HEW40_Nss1,(MCS0)_2TX	71.7M	39.04M	39M0D1D	39.72M	37.301M
802.11ax HEW80_Nss1,(MCS0)_2TX	80.64M	77.001M	77M0D1D	80.4M	77.001M
802.11ax HEW160_Nss1,(MCS0)_2TX	80.96M	77.881M	77M9D1D	80.96M	77.881M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	18.48M	16.222M	16M2D1D	13.905M	13.043M
802.11ax HEW20_Nss1,(MCS0)_2TX	22.44M	18.651M	18M7D1D	14.955M	14.288M
802.11ax HEW40_Nss1,(MCS0)_2TX	71.64M	38.381M	38M4D1D	39.6M	33.828M
802.11ax HEW80_Nss1,(MCS0)_2TX	80.52M	77.121M	77M1D1D	75.225M	72.564M
802.11ax HEW160_Nss1,(MCS0)_2TX	161.76M	154.723M	155MD1D	161.76M	154.483M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	15.06M	21.949M	21M9D1D	2.54M	3.678M
802.11ax HEW20_Nss1,(MCS0)_2TX	15.09M	20.24M	20M2D1D	3.32M	4.618M
802.11ax HEW40_Nss1,(MCS0)_2TX	32.58M	48.396M	48M4D1D	3.56M	20.99M
802.11ax HEW80_Nss1,(MCS0)_2TX	75.12M	75.322M	75M3D1D	2.92M	26.907M

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	20.22M	16.252M	18.33M	16.222M
5200MHz	Pass	Inf	18.36M	16.192M	18.27M	16.192M
5240MHz	Pass	Inf	18.15M	16.192M	18.45M	16.192M
5260MHz	Pass	Inf	18.09M	16.192M	18.48M	16.192M
5300MHz	Pass	Inf	18.12M	16.192M	18.36M	16.162M
5320MHz	Pass	Inf	17.88M	16.162M	18.3M	16.162M
5500MHz	Pass	Inf	17.97M	16.162M	18.48M	16.192M
5580MHz	Pass	Inf	18.06M	16.162M	18.48M	16.222M
5700MHz	Pass	Inf	18M	16.132M	18.3M	16.192M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	13.905M	13.058M	13.95M	13.043M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	2.76M	3.678M	2.54M	4.438M
5745MHz	Pass	500k	15.03M	20.12M	15.03M	21.949M
5785MHz	Pass	500k	15.03M	19.94M	15.06M	21.349M
5825MHz	Pass	500k	15.03M	19.13M	15.06M	17.211M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	22.56M	18.651M	22.47M	18.651M
5200MHz	Pass	Inf	22.53M	18.651M	20.04M	18.621M
5240MHz	Pass	Inf	22.5M	18.681M	22.29M	18.621M
5260MHz	Pass	Inf	20.01M	18.591M	22.47M	18.621M
5300MHz	Pass	Inf	22.56M	18.651M	20.07M	18.621M
5320MHz	Pass	Inf	20.07M	18.621M	20.01M	18.591M
5500MHz	Pass	Inf	20.01M	18.621M	20.07M	18.621M
5580MHz	Pass	Inf	22.44M	18.651M	22.38M	18.651M
5700MHz	Pass	Inf	20.04M	18.561M	20.01M	18.621M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	14.955M	14.288M	14.97M	14.288M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.32M	4.638M	3.48M	4.618M
5745MHz	Pass	500k	15.06M	19.43M	15.03M	19.85M
5785MHz	Pass	500k	15.09M	19.88M	15.06M	20.24M
5825MHz	Pass	500k	15.06M	19.16M	15.06M	18.861M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	39.72M	37.421M	39.72M	37.421M
5230MHz	Pass	Inf	71.7M	39.04M	62.94M	39.22M
5270MHz	Pass	Inf	71.7M	38.741M	65.52M	39.04M
5310MHz	Pass	Inf	39.72M	37.301M	39.72M	37.361M
5510MHz	Pass	Inf	39.78M	37.361M	39.66M	37.361M
5550MHz	Pass	Inf	71.64M	38.381M	61.8M	38.201M
5670MHz	Pass	Inf	39.78M	37.421M	39.6M	37.421M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	48.895M	34.073M	39.725M	33.828M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.56M	22.849M	3.58M	20.99M
5755MHz	Pass	500k	32.58M	48.396M	32.52M	41.139M
5795MHz	Pass	500k	31.32M	46.117M	32.52M	41.679M
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	80.52M	77.121M	80.28M	77.001M
5290MHz	Pass	Inf	80.64M	77.001M	80.4M	77.001M
5530MHz	Pass	Inf	80.52M	77.121M	80.4M	77.001M
5610MHz	Pass	Inf	80.52M	77.001M	80.28M	77.001M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	75.3M	72.564M	75.225M	72.939M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.12M	27.426M	2.92M	26.907M
5775MHz	Pass	500k	72.48M	75.202M	75.12M	75.322M



EBW

<Full RU> UNII1~UNII3_Non-Beamforming Mode_Ant.1 (2TX)

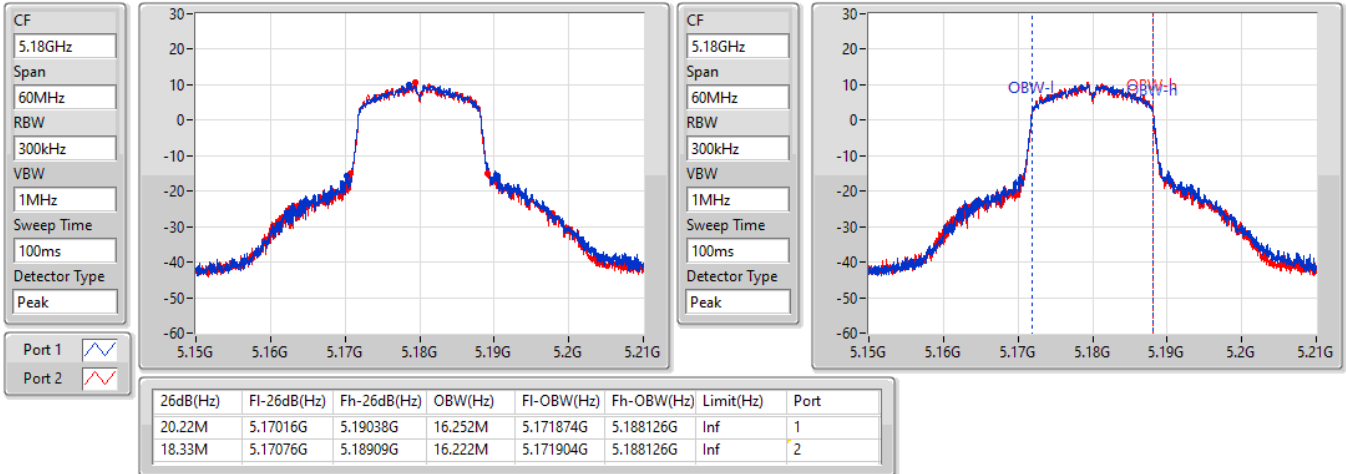
Appendix B.4

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11ax HEW160_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	81.2M	78.281M	81.2M	78.361M
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	80.96M	77.881M	80.96M	77.881M
5570MHz	Pass	Inf	161.76M	154.483M	161.76M	154.723M

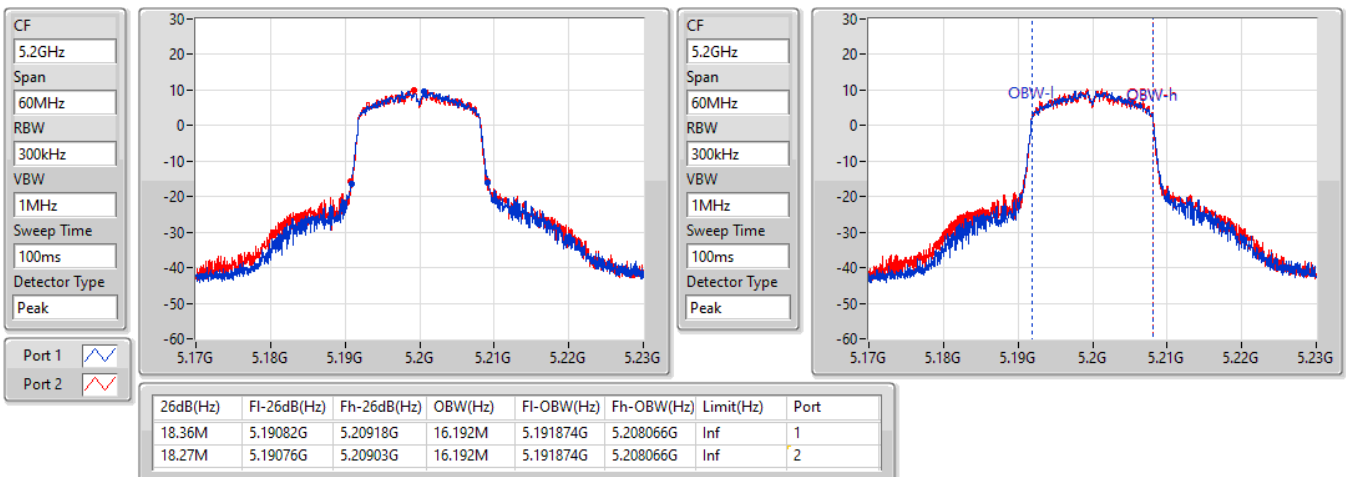
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

802.11a_Nss1,(6Mbps)_2TX
EBW
5180MHz

22/05/2022

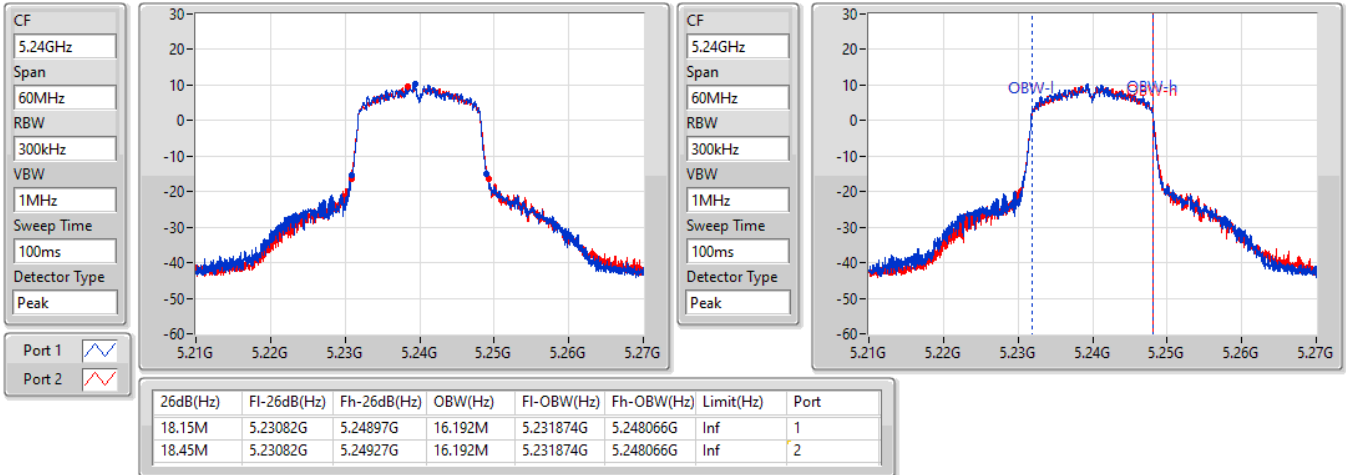

802.11a_Nss1,(6Mbps)_2TX
EBW
5200MHz

22/05/2022

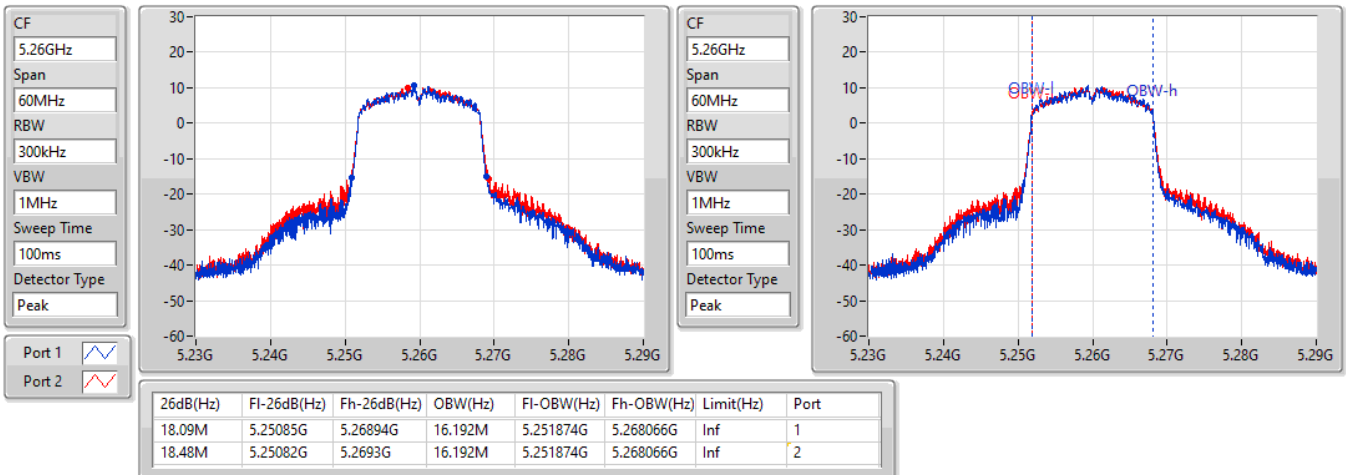


802.11a_Nss1,(6Mbps)_2TX
EBW
5240MHz

22/05/2022

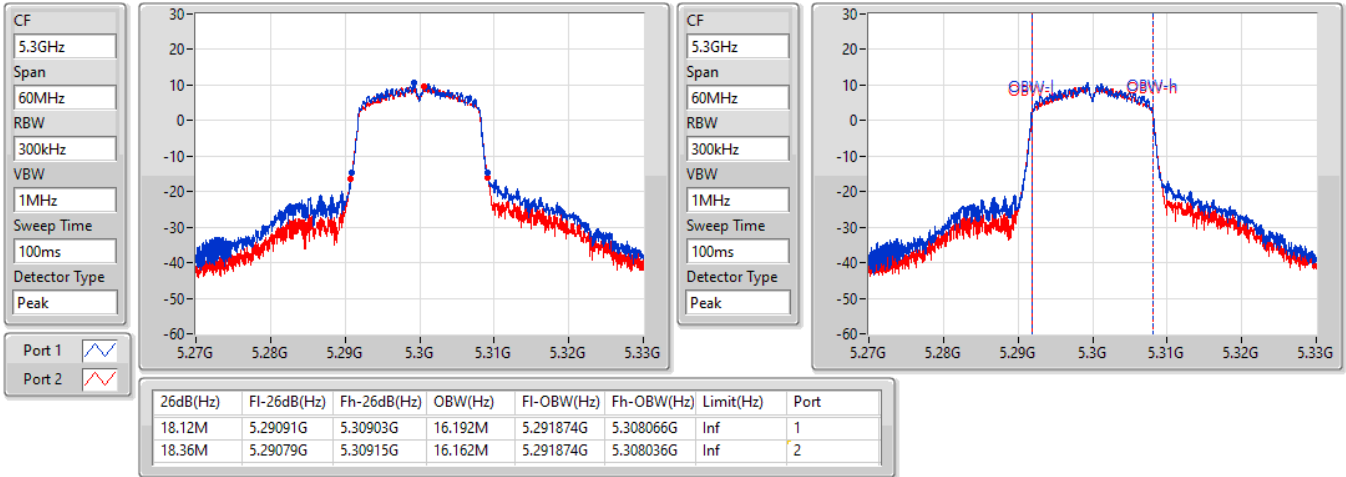

802.11a_Nss1,(6Mbps)_2TX
EBW
5260MHz

22/05/2022

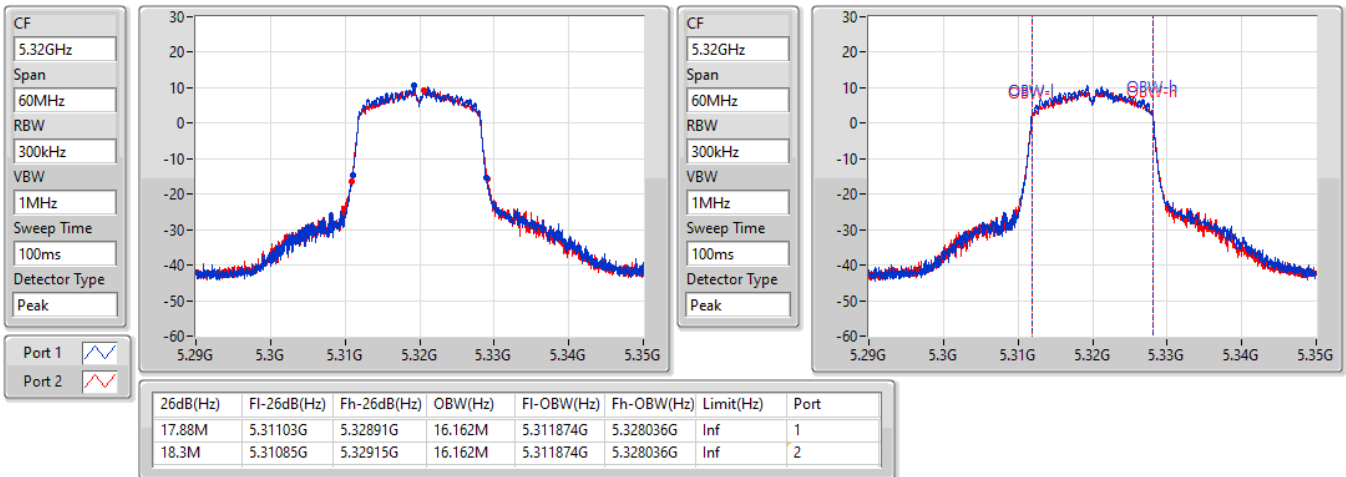


802.11a_Nss1,(6Mbps)_2TX
EBW
5300MHz

22/05/2022

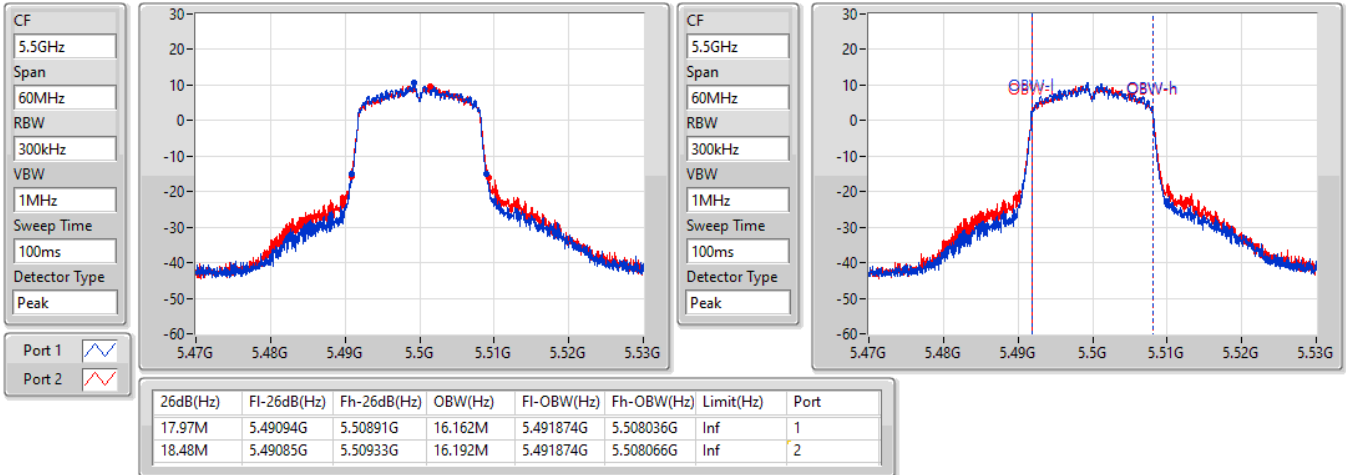

802.11a_Nss1,(6Mbps)_2TX
EBW
5320MHz

22/05/2022

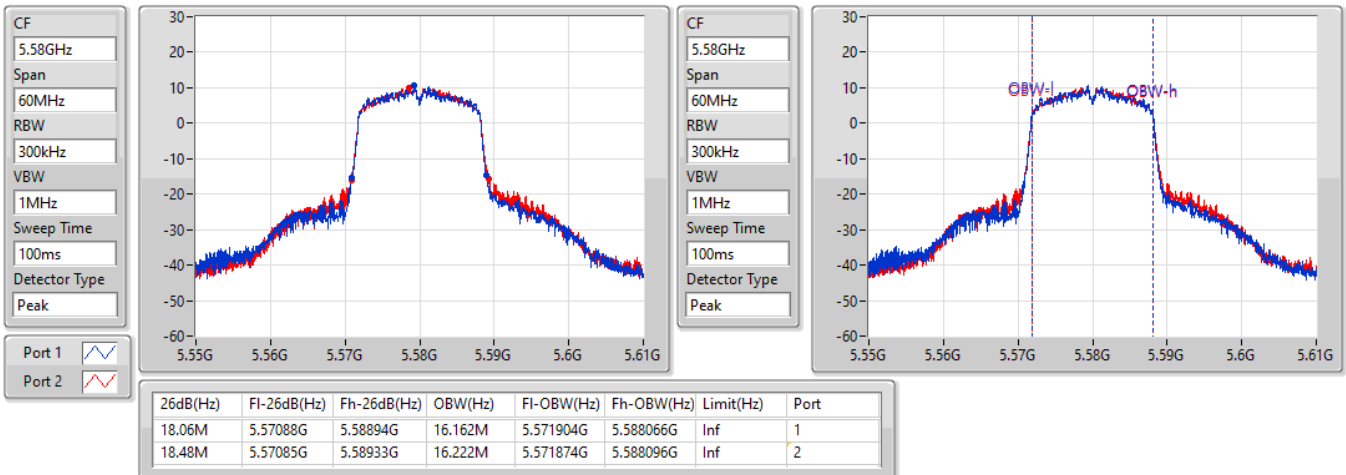


802.11a_Nss1,(6Mbps)_2TX
EBW
5500MHz

22/05/2022

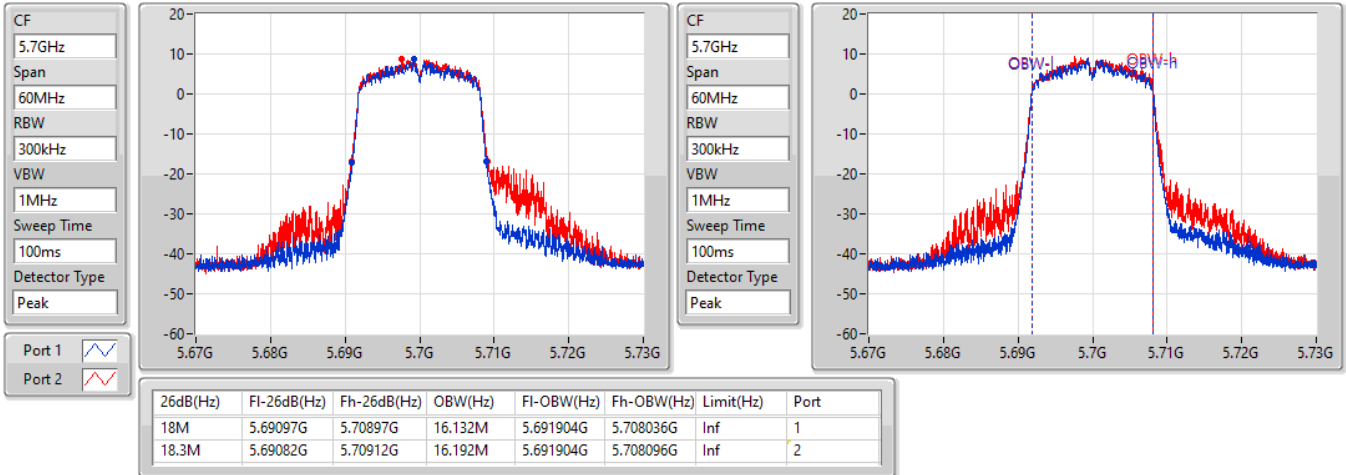

802.11a_Nss1,(6Mbps)_2TX
EBW
5580MHz

22/05/2022

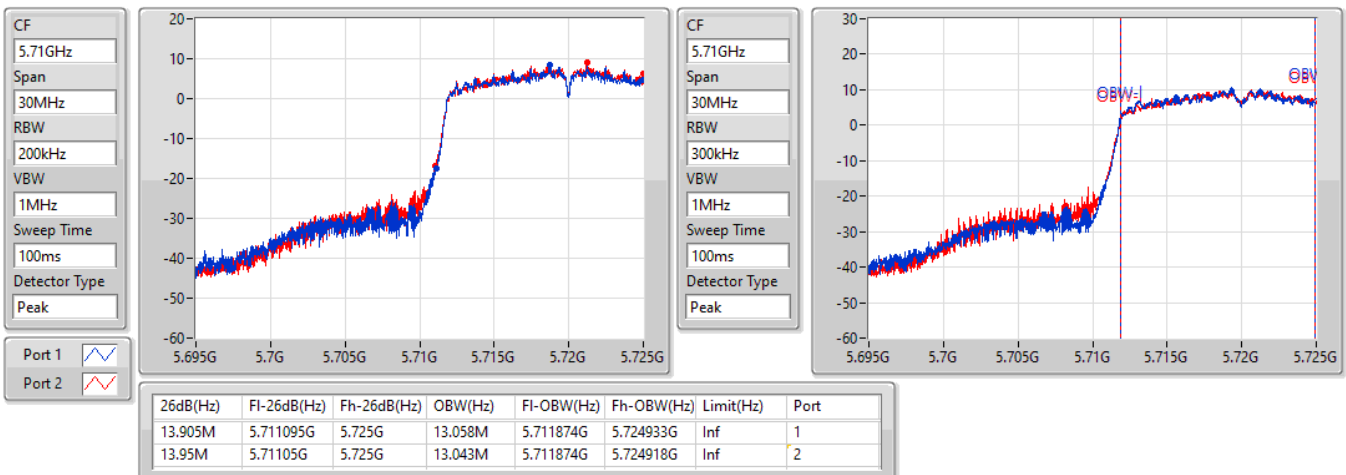


802.11a_Nss1,(6Mbps)_2TX
EBW
5700MHz

22/05/2022

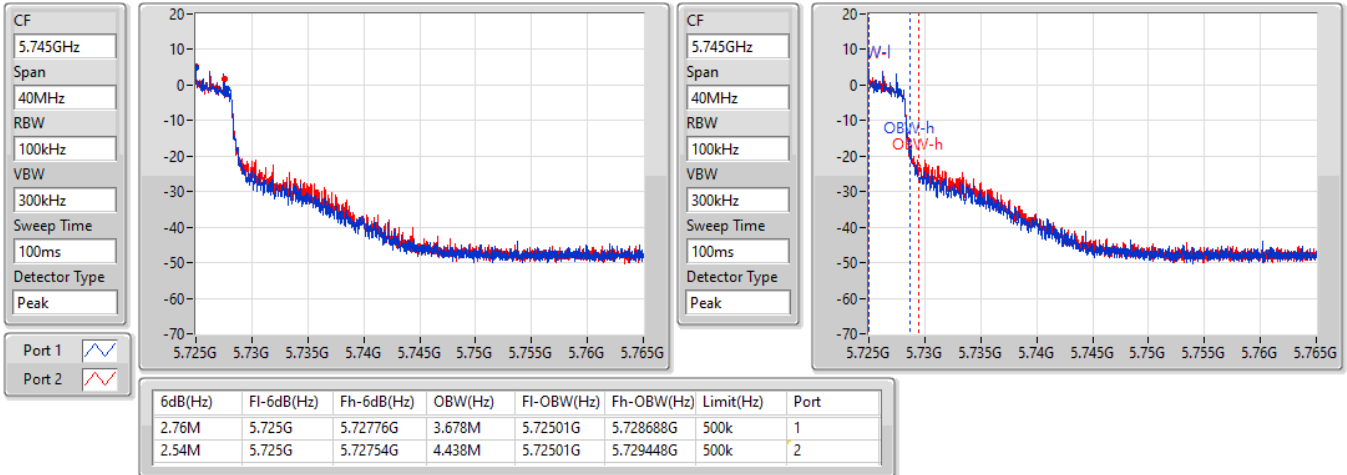

802.11a_Nss1,(6Mbps)_2TX
EBW
5720MHz Straddle 5.47-5.725GHz

22/05/2022

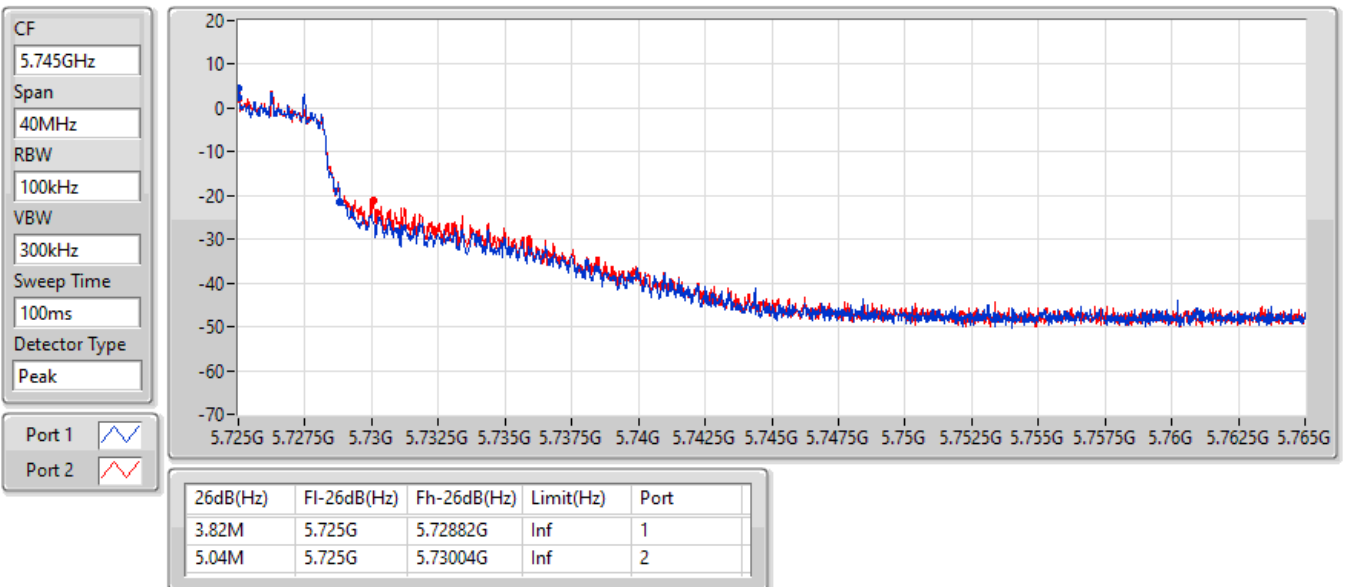


802.11a_Nss1,(6Mbps)_2TX
EBW
5720MHz Straddle 5.725-5.85GHz

02/06/2022

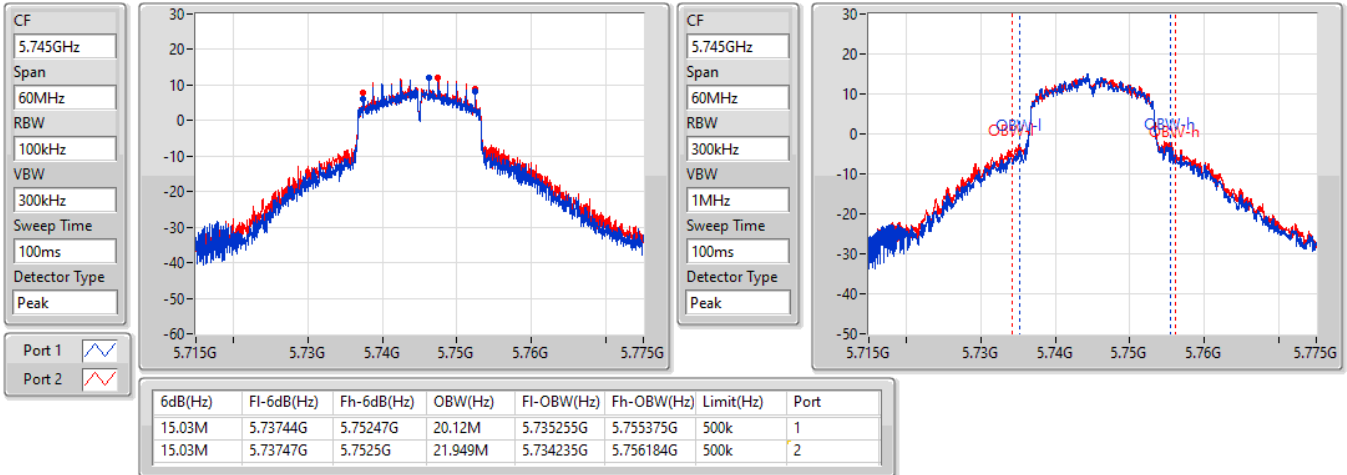

802.11a_Nss1,(6Mbps)_2TX
EBW
5720MHz Straddle 5.725-5.85GHz

02/06/2022

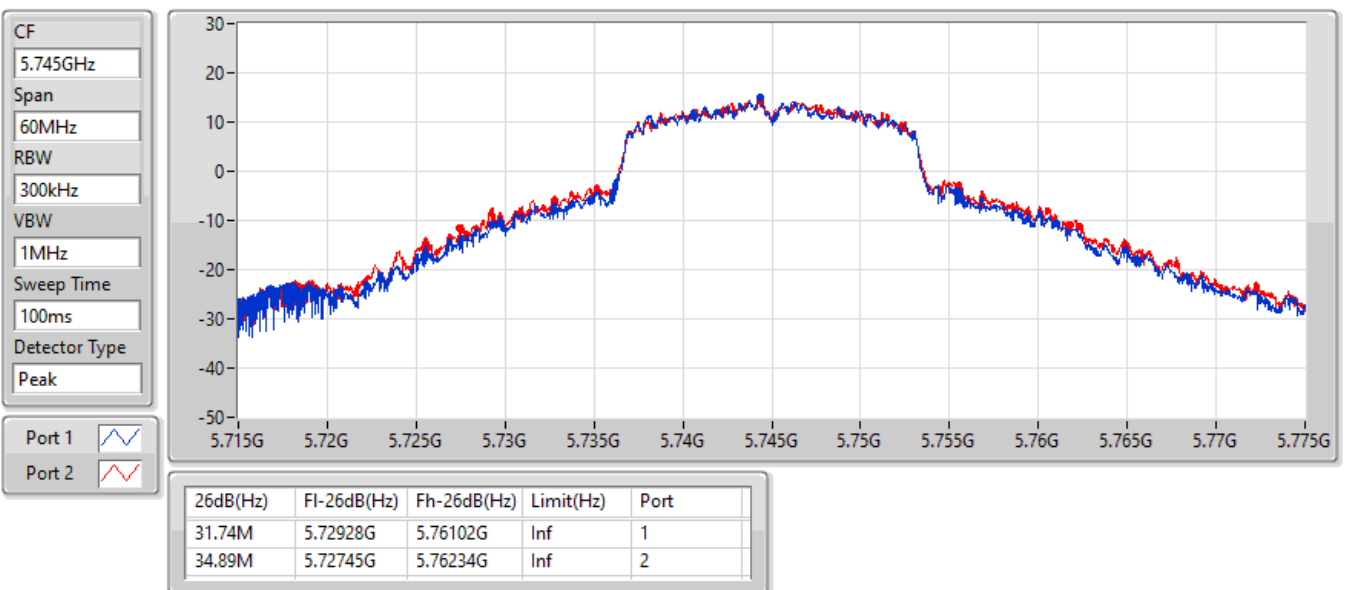


802.11a_Nss1,(6Mbps)_2TX
EBW
5745MHz

02/06/2022

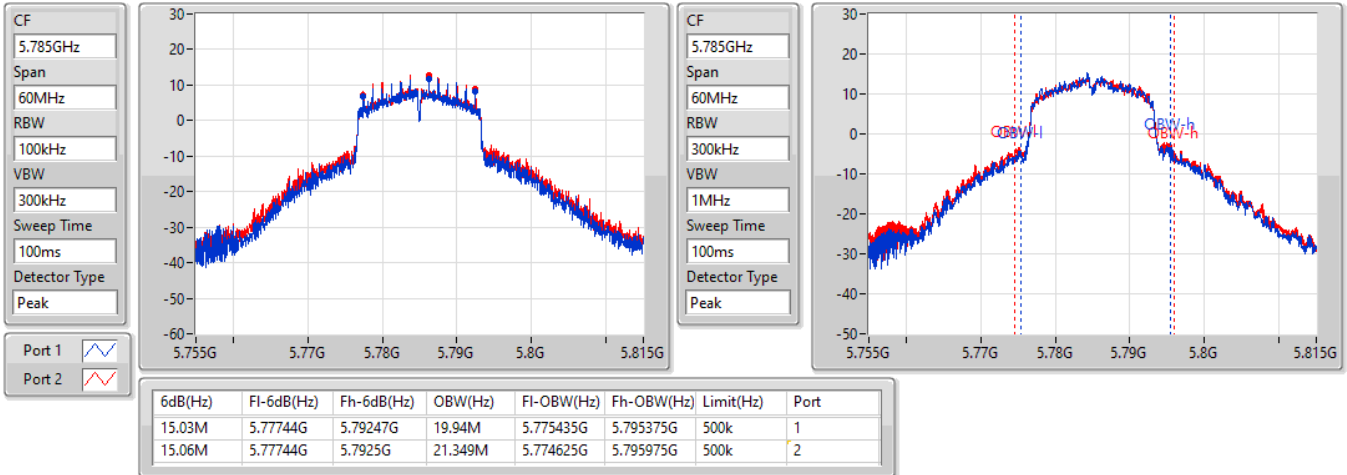

802.11a_Nss1,(6Mbps)_2TX
EBW
5745MHz

02/06/2022

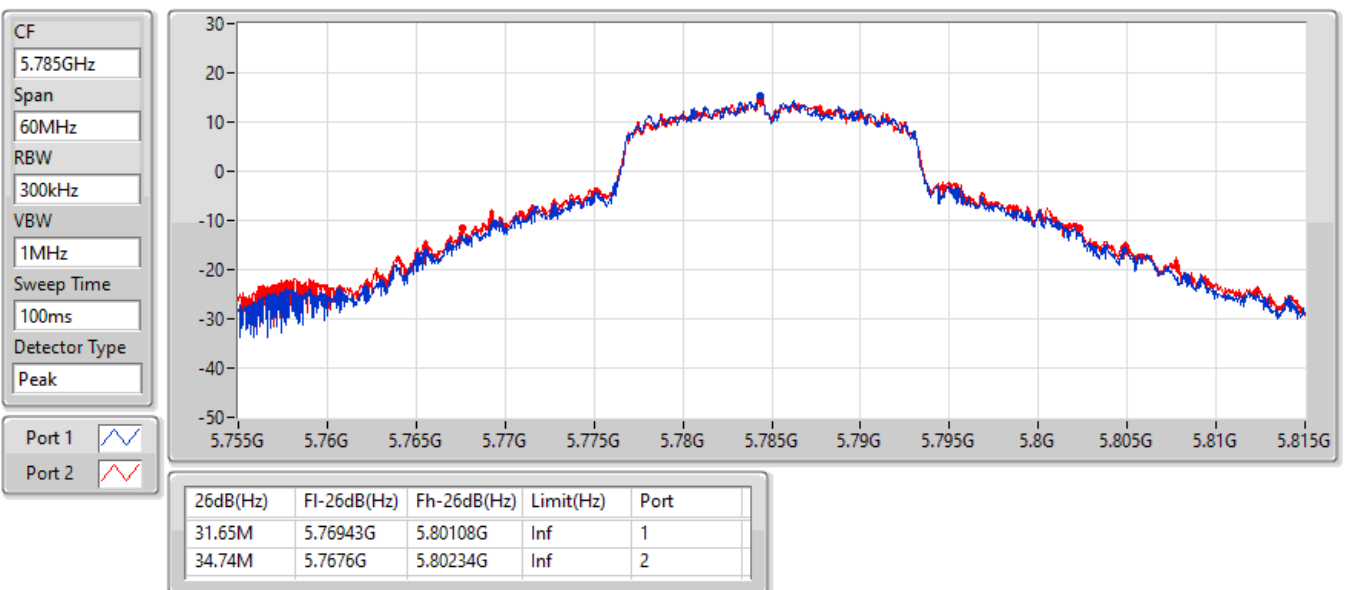


802.11a_Nss1,(6Mbps)_2TX
EBW
5785MHz

02/06/2022

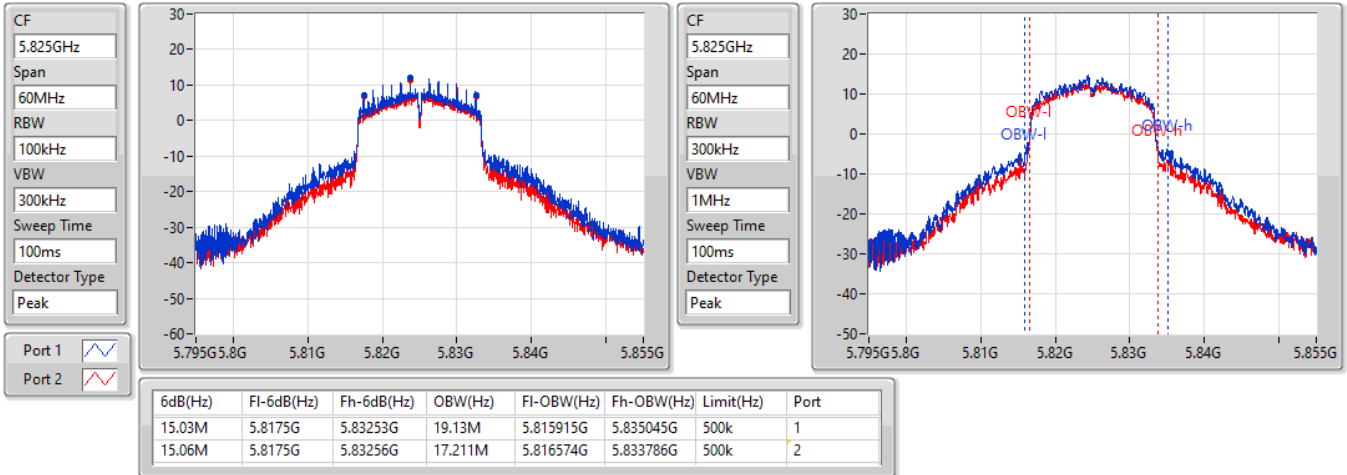

802.11a_Nss1,(6Mbps)_2TX
EBW
5785MHz

02/06/2022

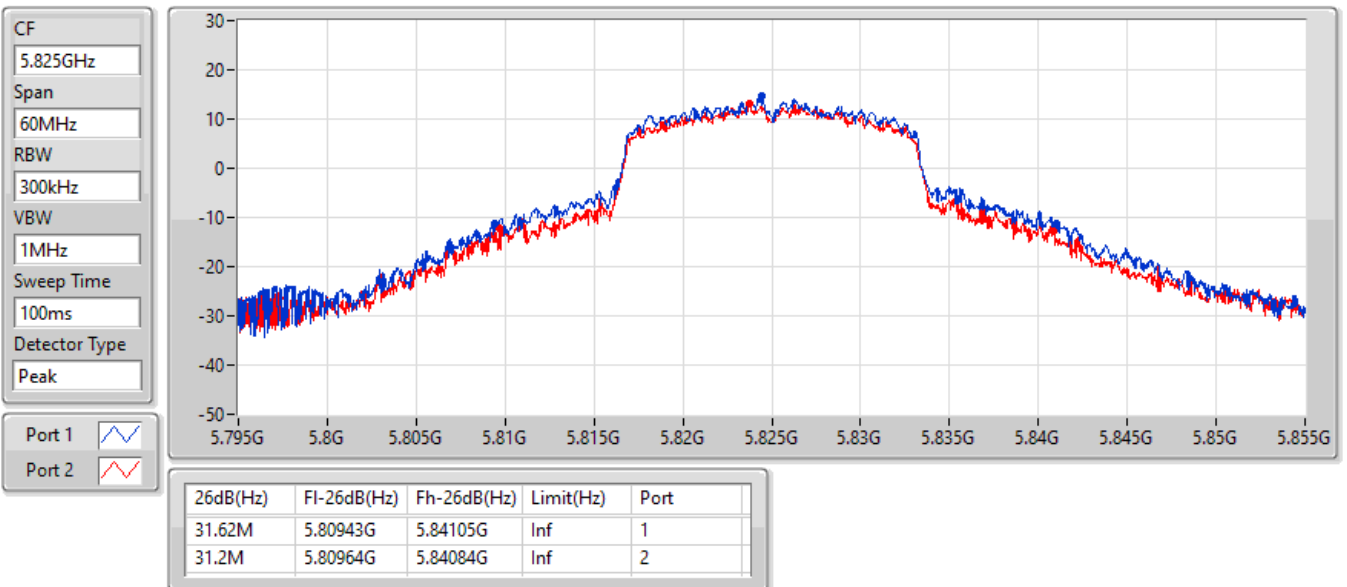


802.11a_Nss1,(6Mbps)_2TX
EBW
5825MHz

02/06/2022

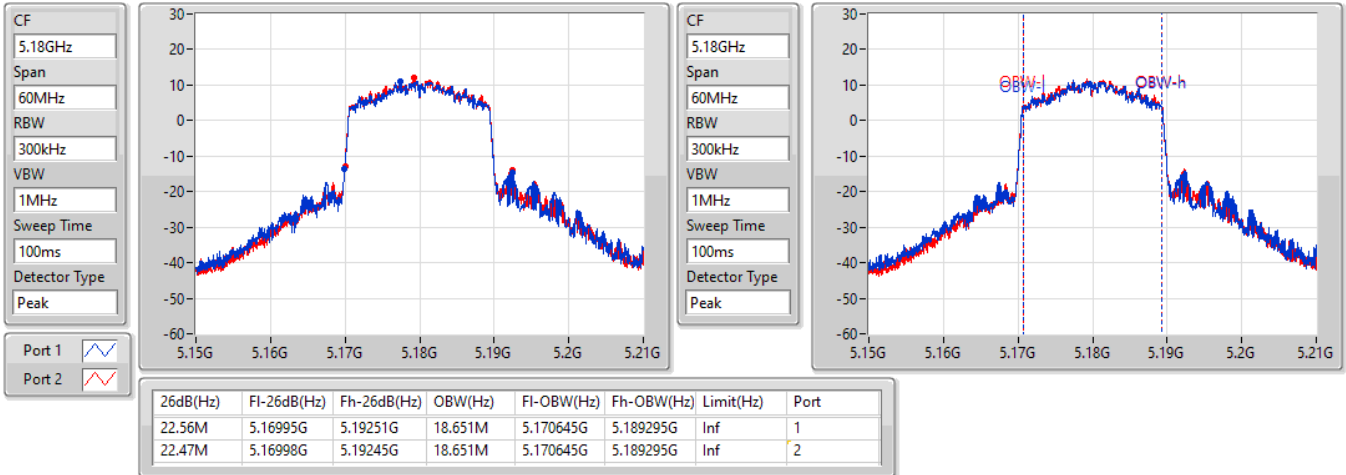

802.11a_Nss1,(6Mbps)_2TX
EBW
5825MHz

02/06/2022

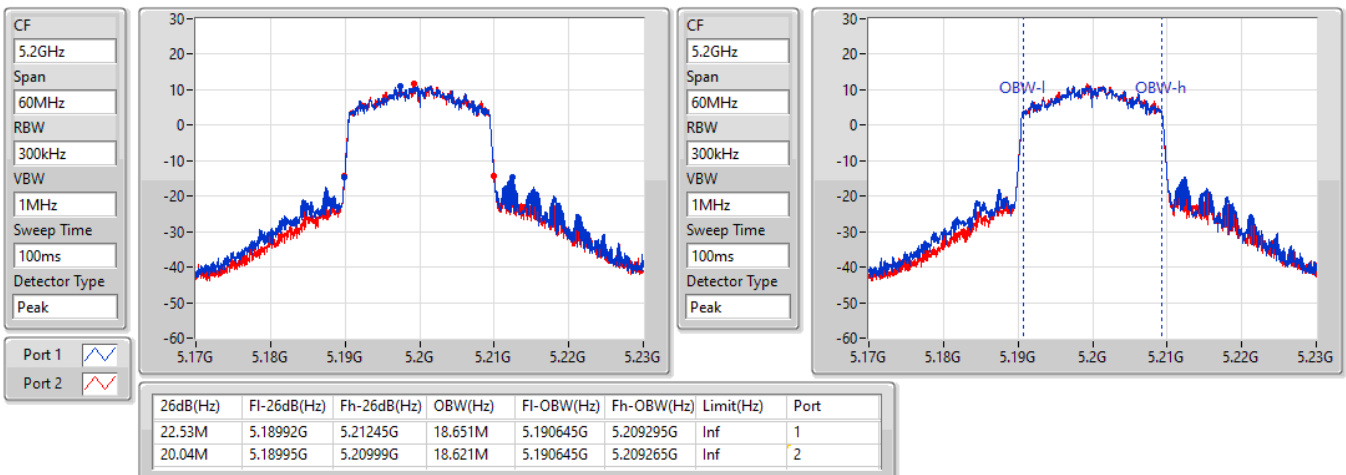


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5180MHz

22/05/2022

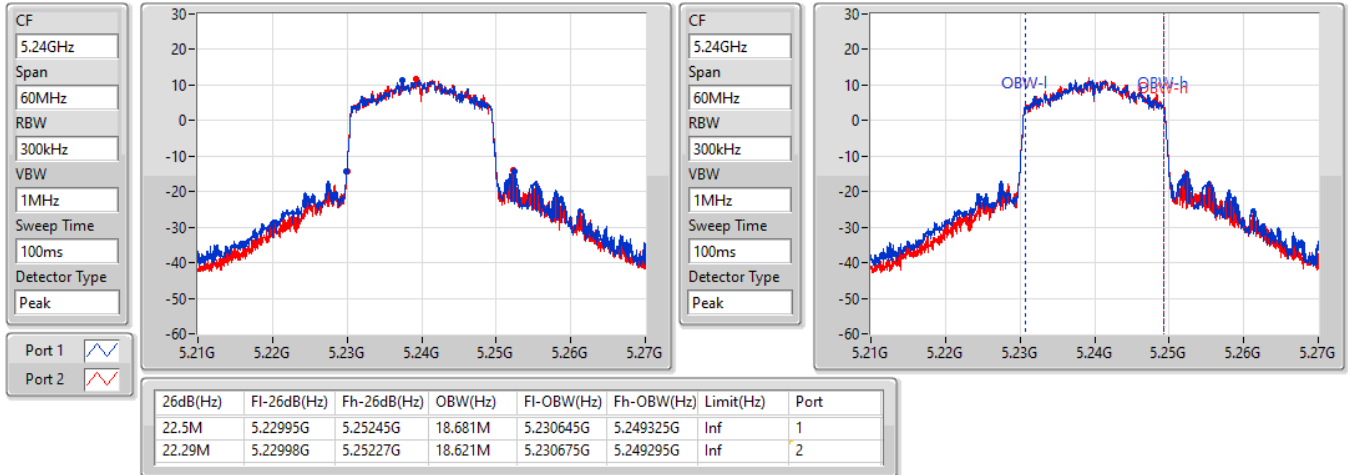

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5200MHz

22/05/2022

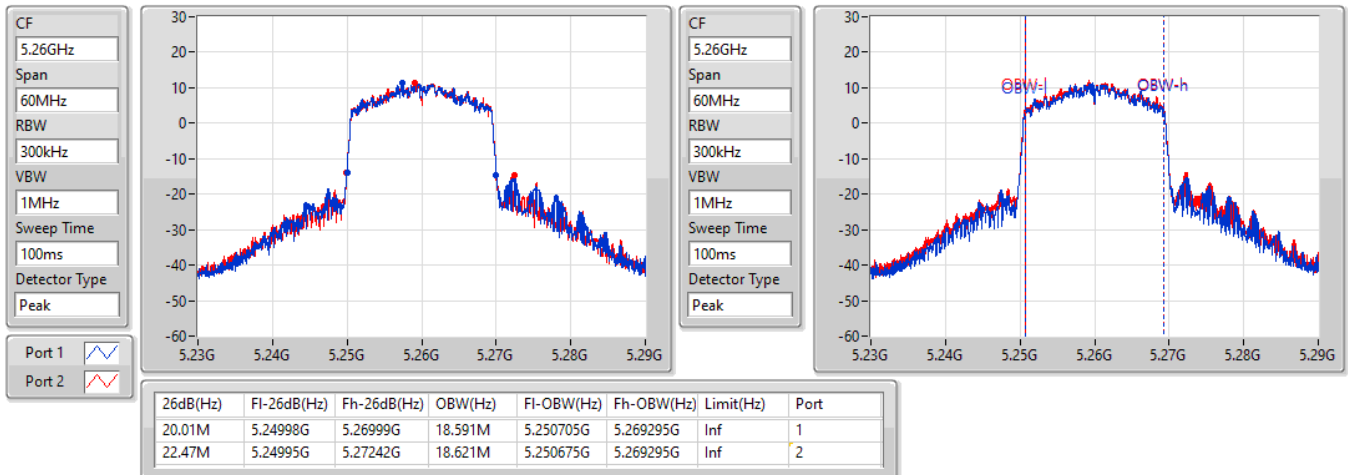


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5240MHz

22/05/2022

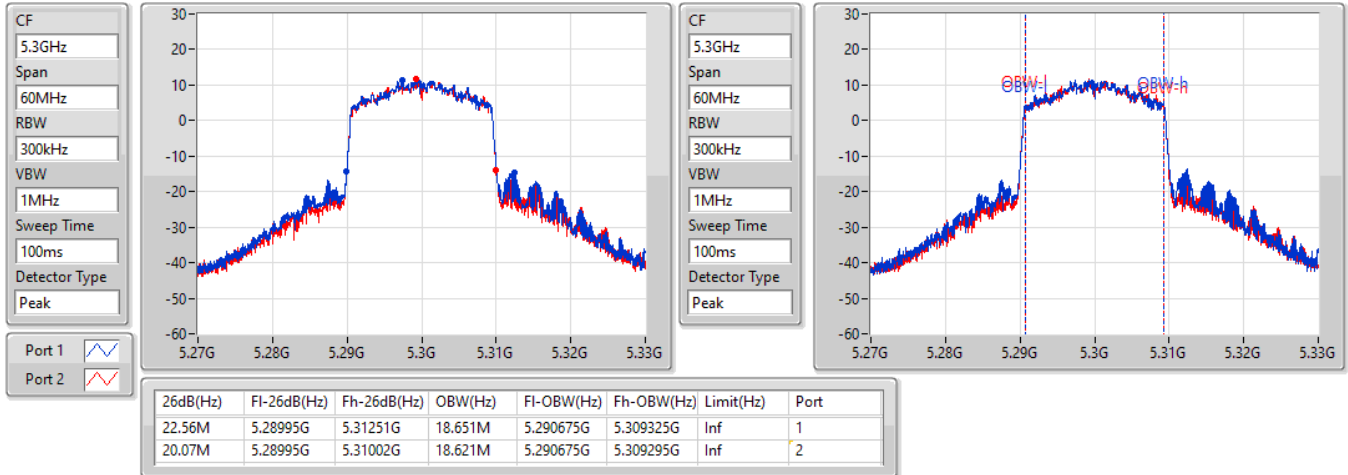

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5260MHz

22/05/2022

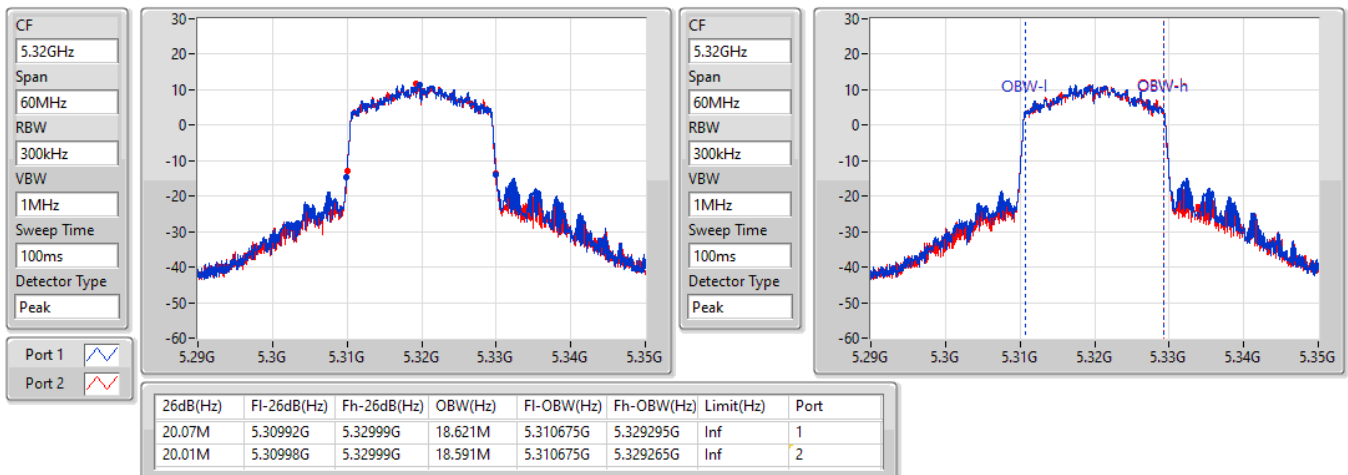


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5300MHz

22/05/2022

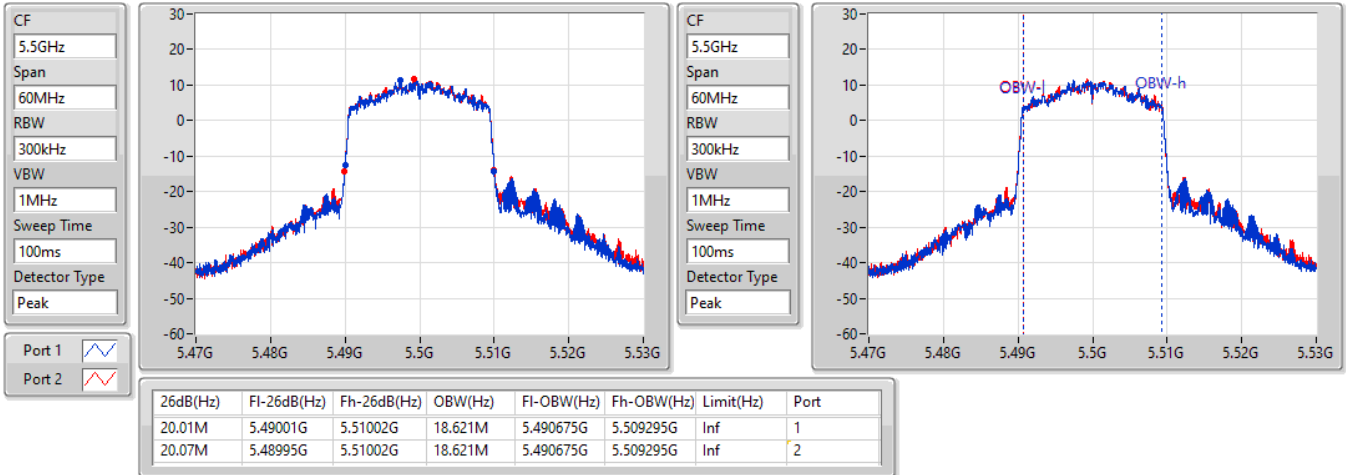

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5320MHz

22/05/2022

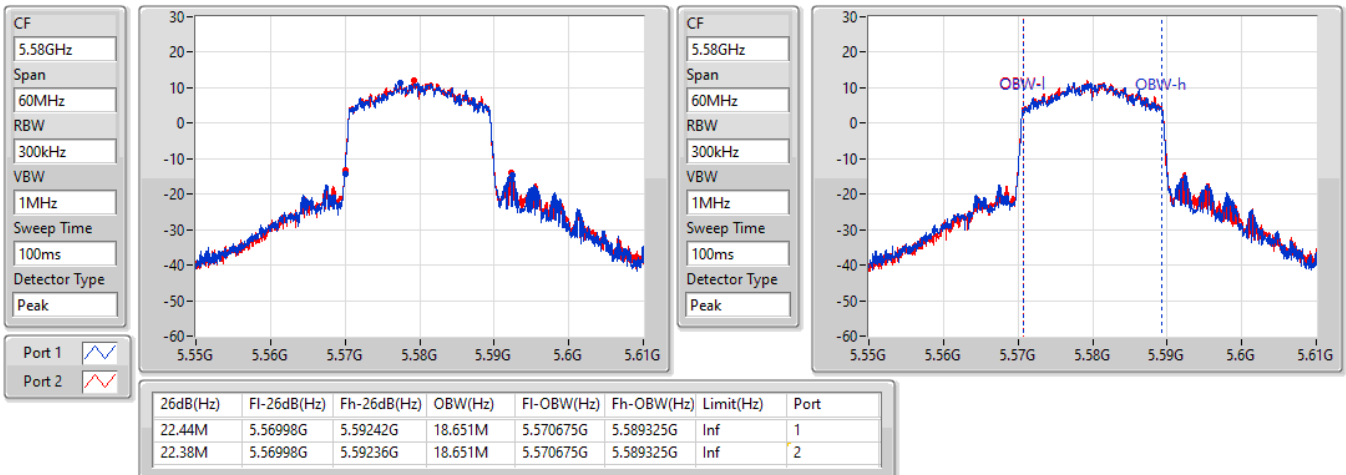


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5500MHz

22/05/2022

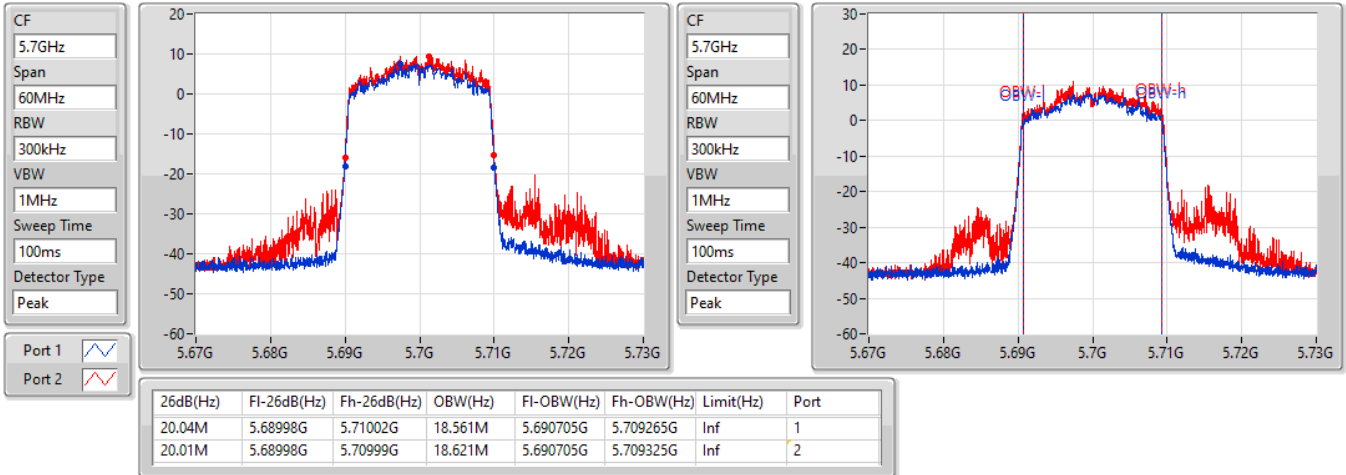

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5580MHz

22/05/2022

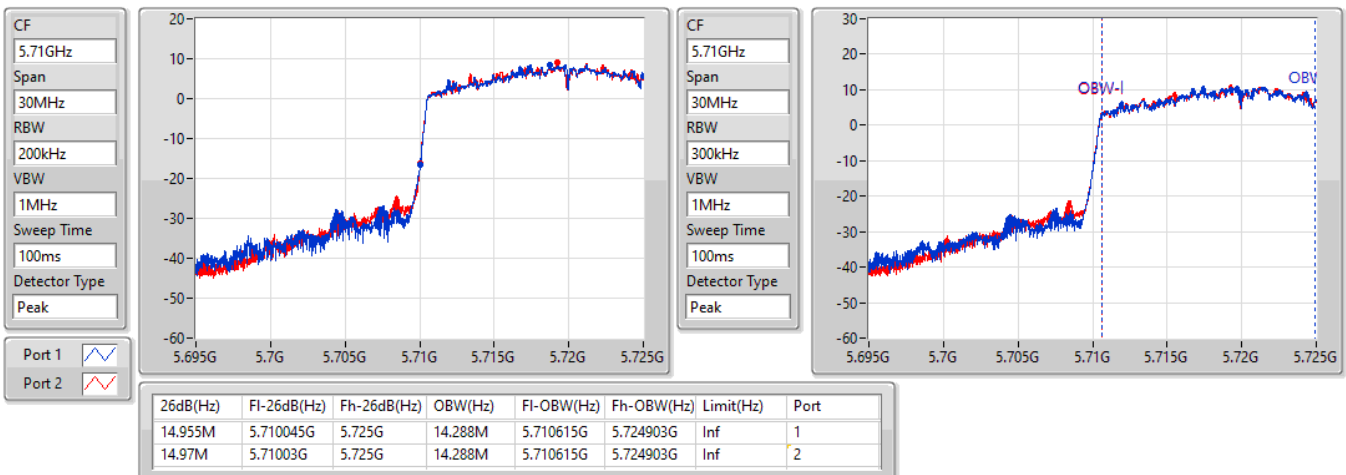


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5700MHz

22/05/2022

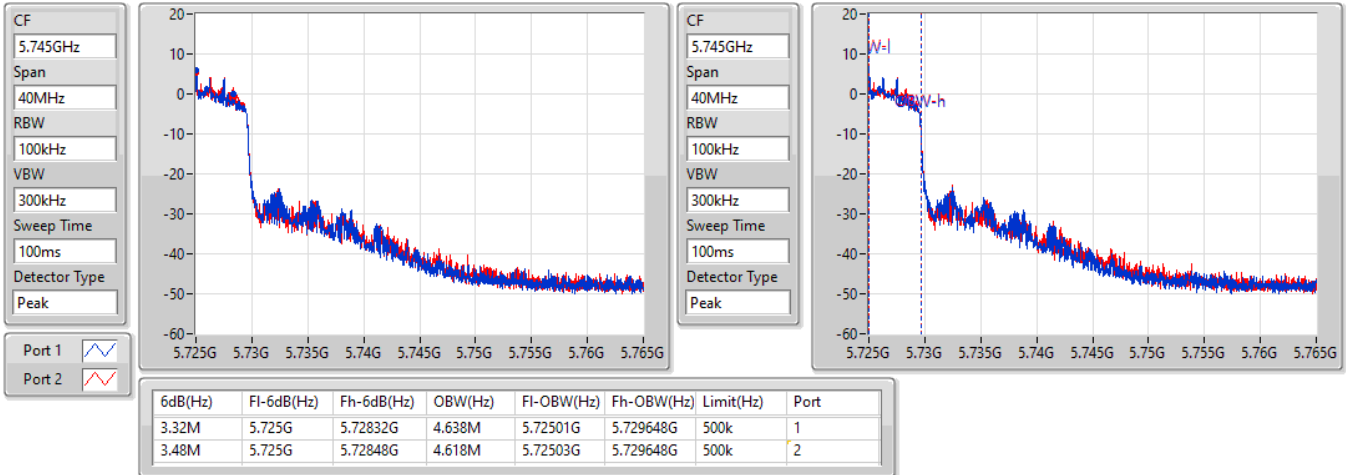

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5720MHz Straddle 5.47-5.725GHz

22/05/2022

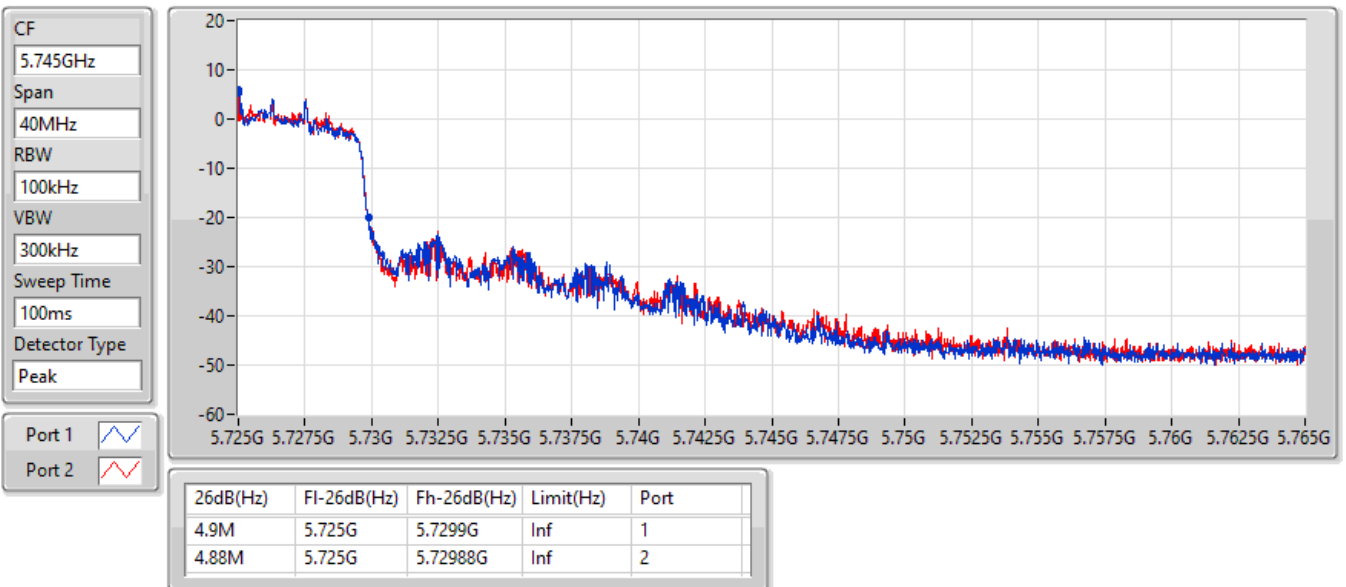


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5720MHz Straddle 5.725-5.85GHz

02/06/2022

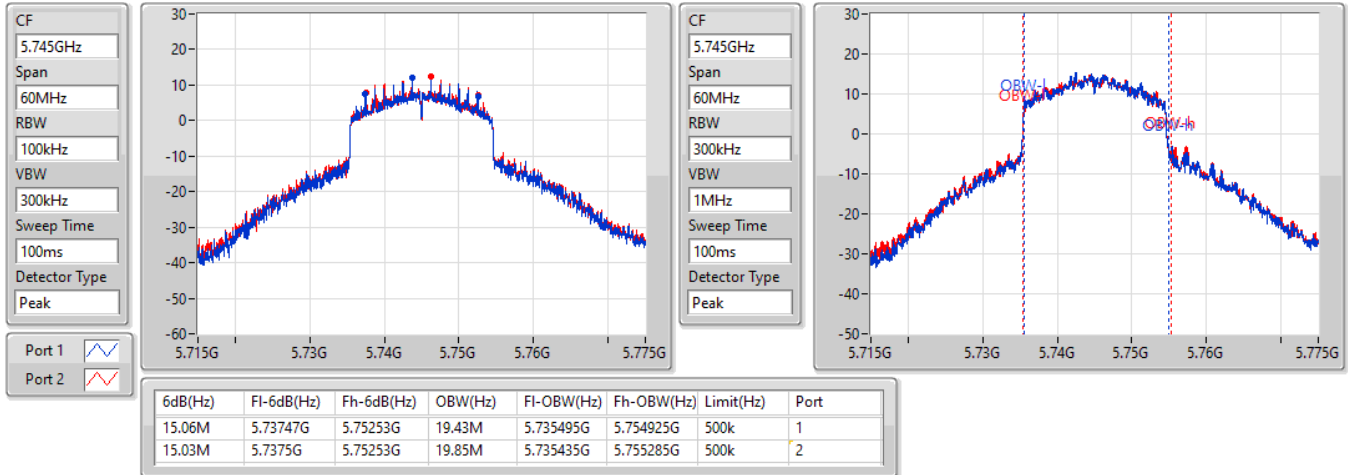

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5720MHz Straddle 5.725-5.85GHz

02/06/2022

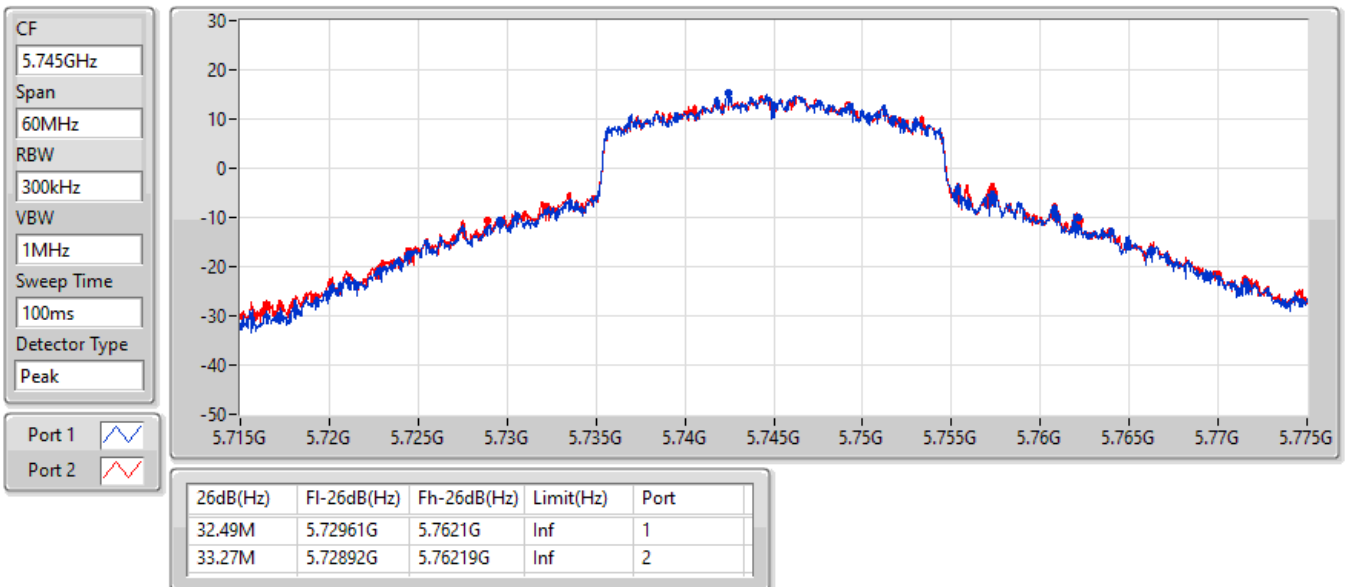


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5745MHz

02/06/2022

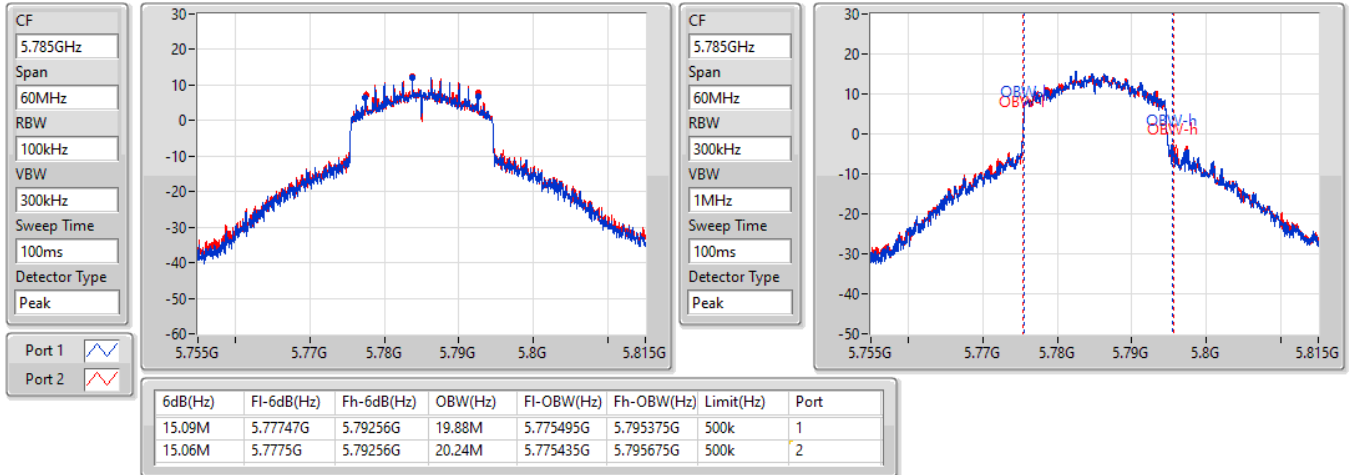

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5745MHz

02/06/2022

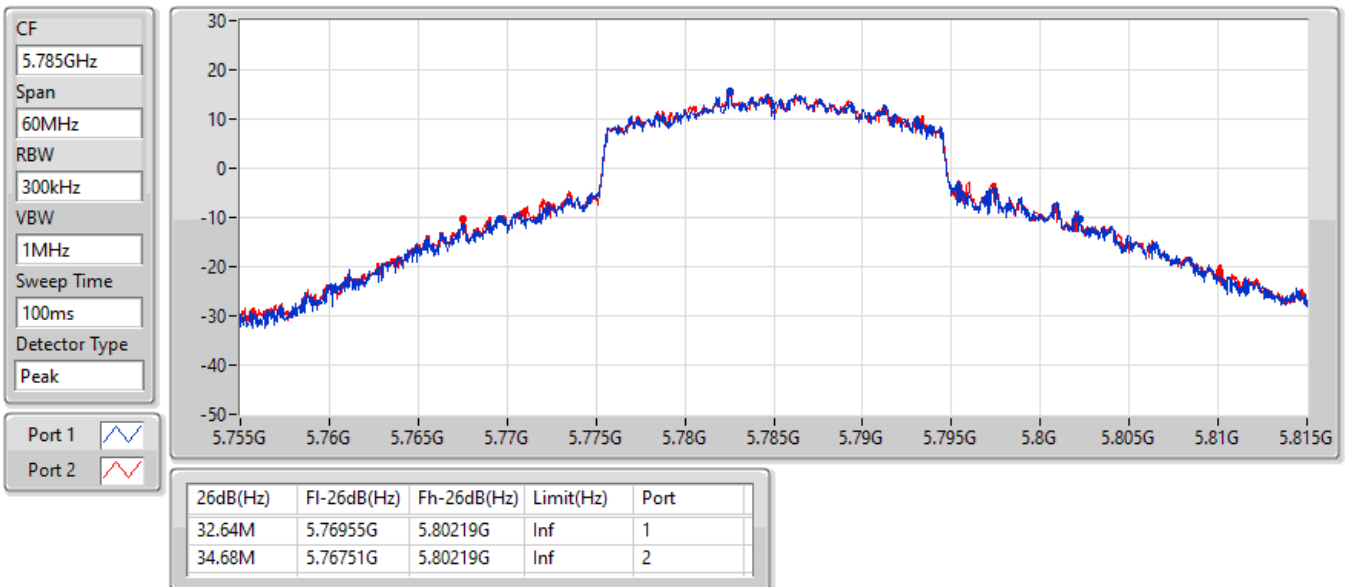


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5785MHz

02/06/2022

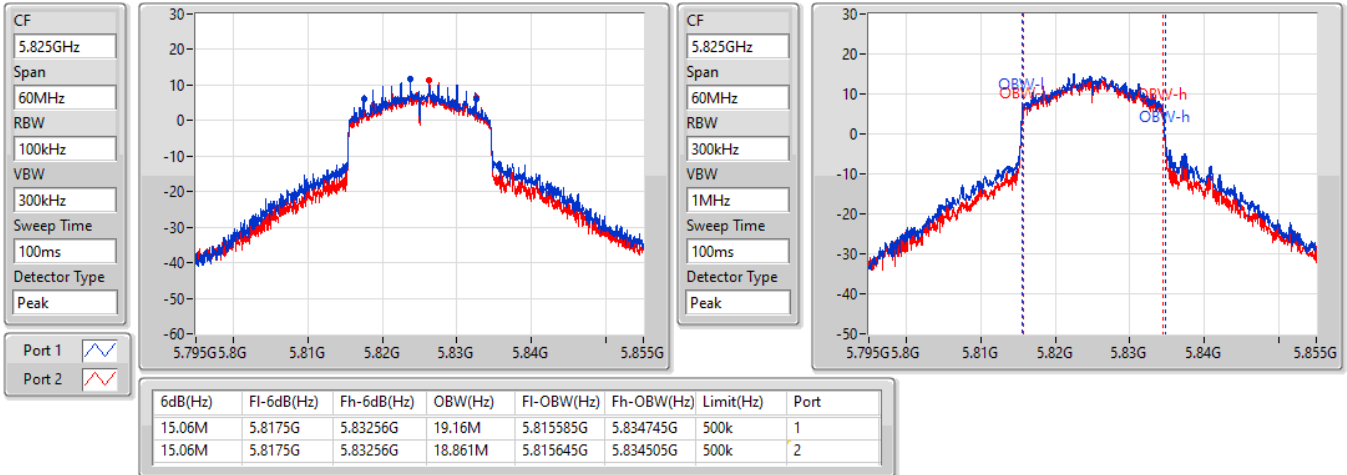

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5785MHz

02/06/2022

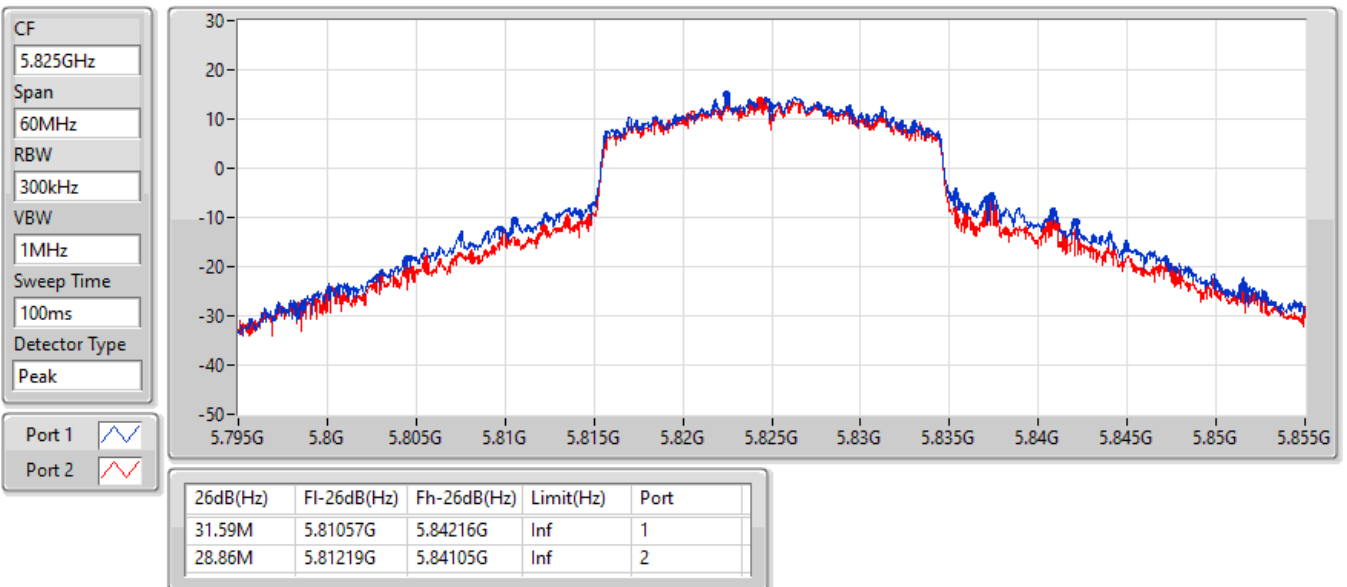


802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5825MHz

02/06/2022

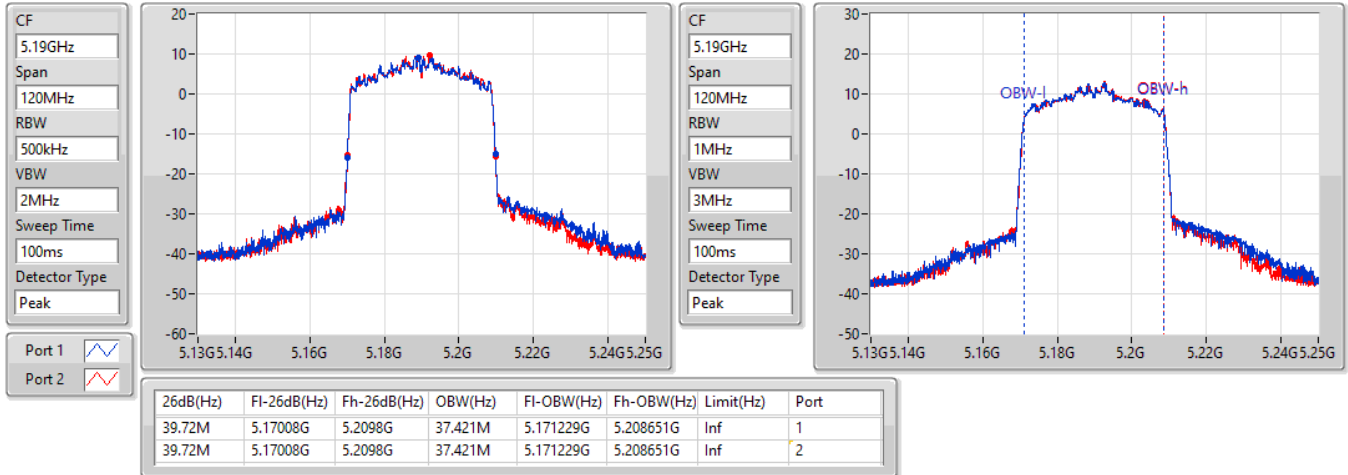

802.11ax HEW20_Nss1,(MCS0)_2TX
EBW
5825MHz

02/06/2022

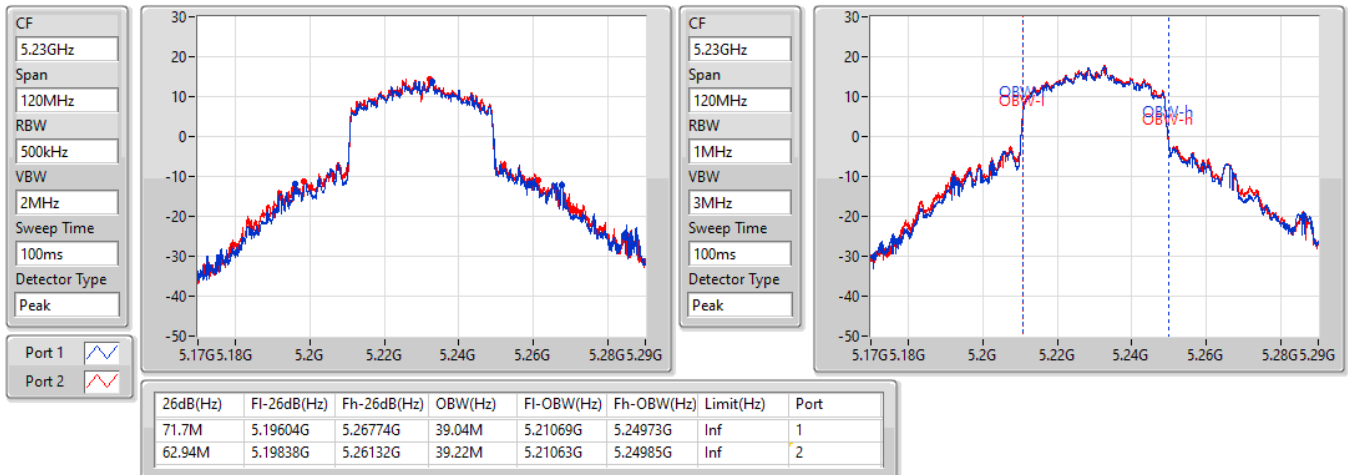


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5190MHz

22/05/2022

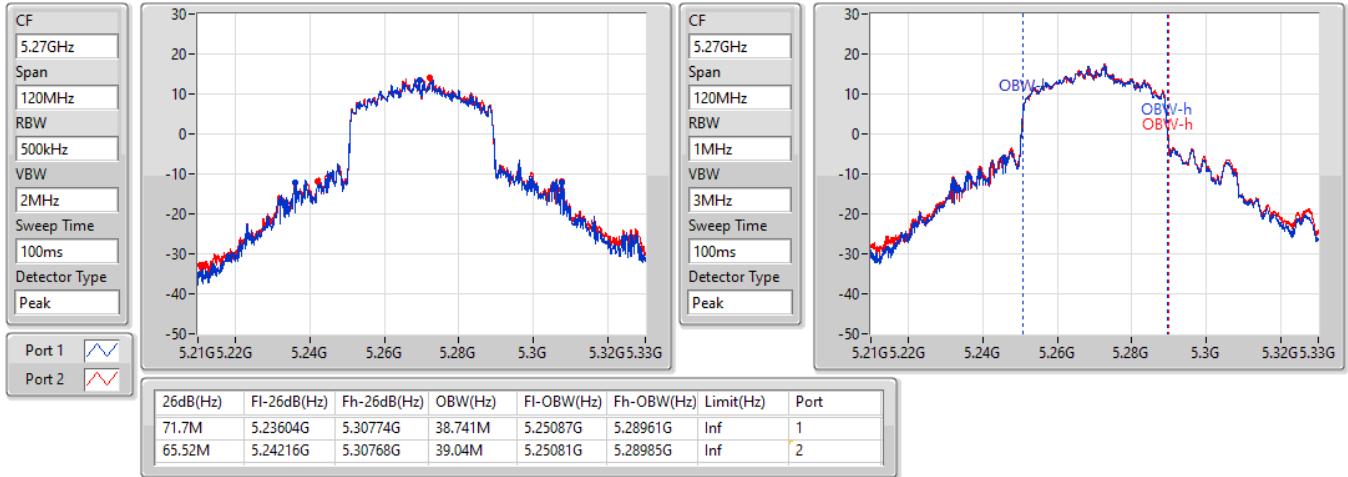

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5230MHz

22/05/2022

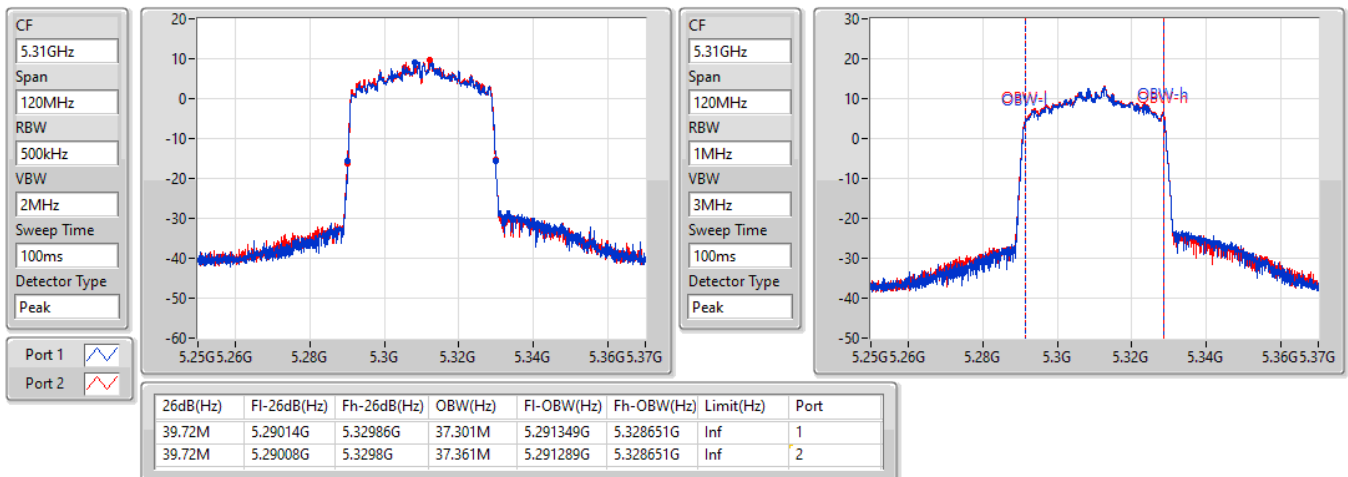


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5270MHz

22/05/2022

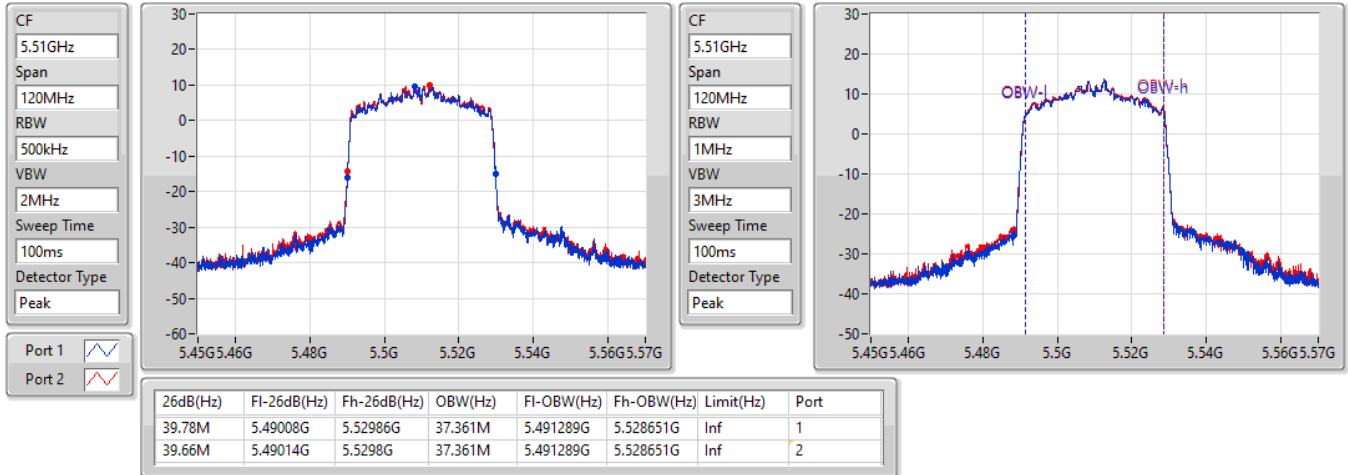

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5310MHz

22/05/2022

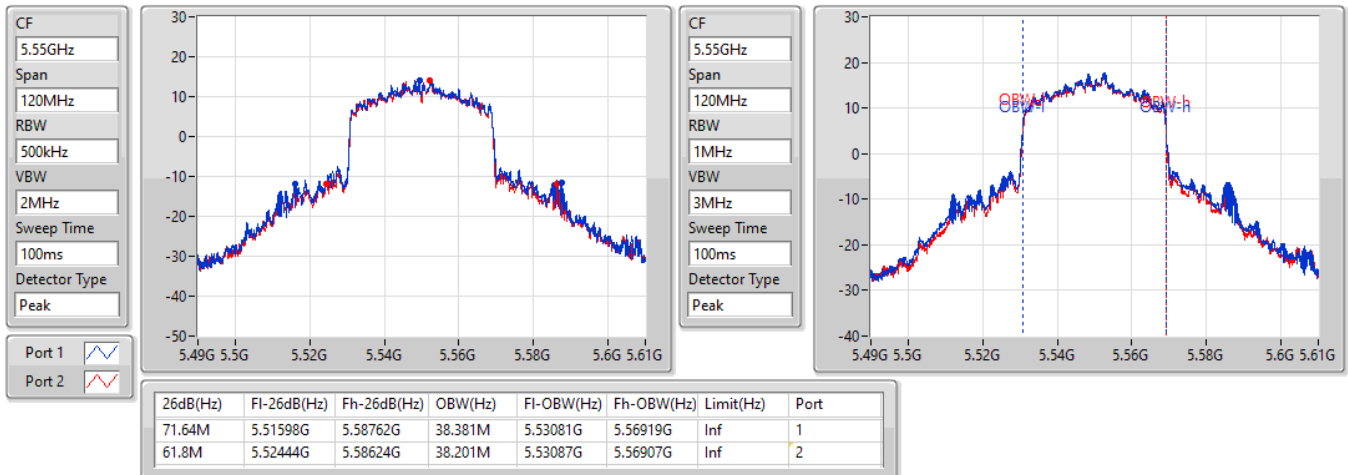


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5510MHz

22/05/2022

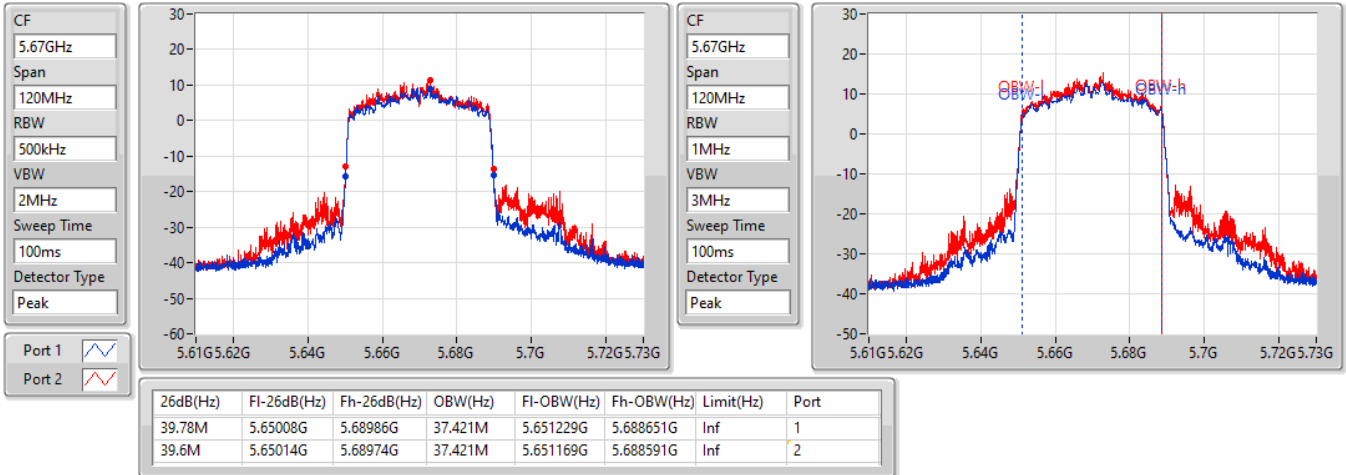

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5550MHz

22/05/2022

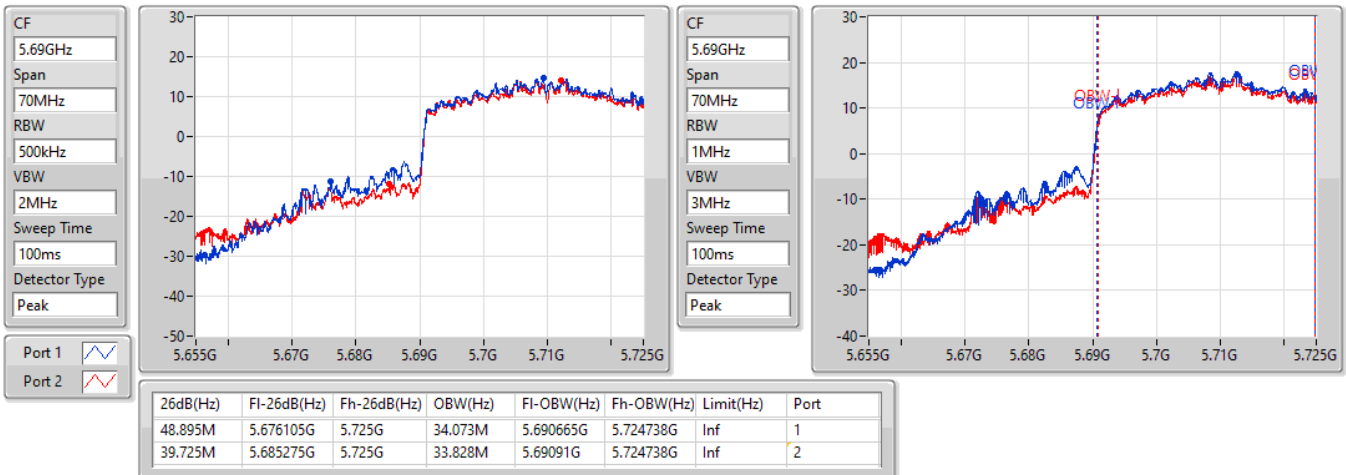


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5670MHz

22/05/2022

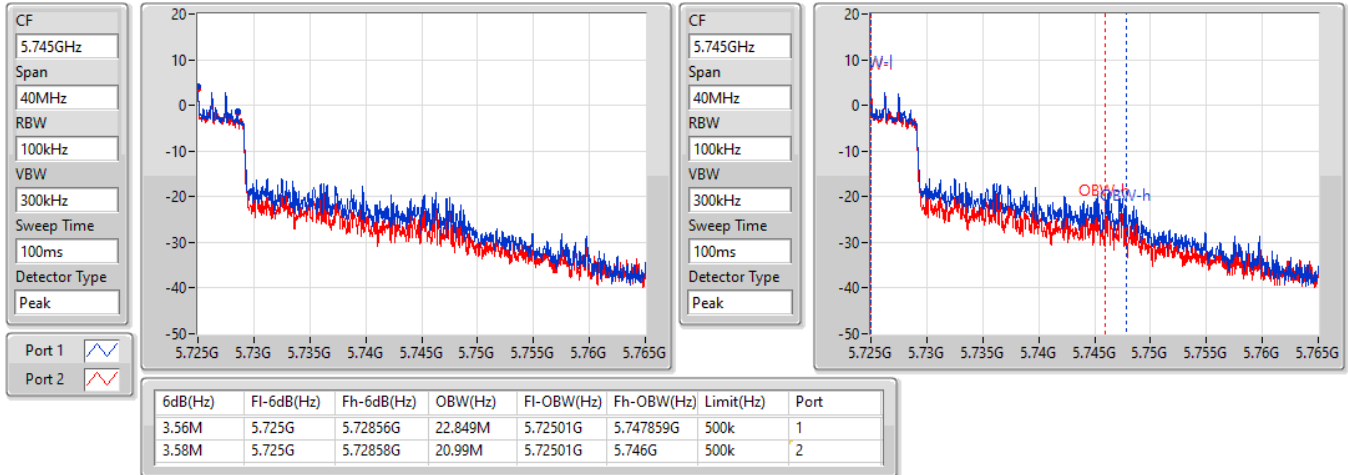

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5710MHz Straddle 5.47-5.725GHz

22/05/2022

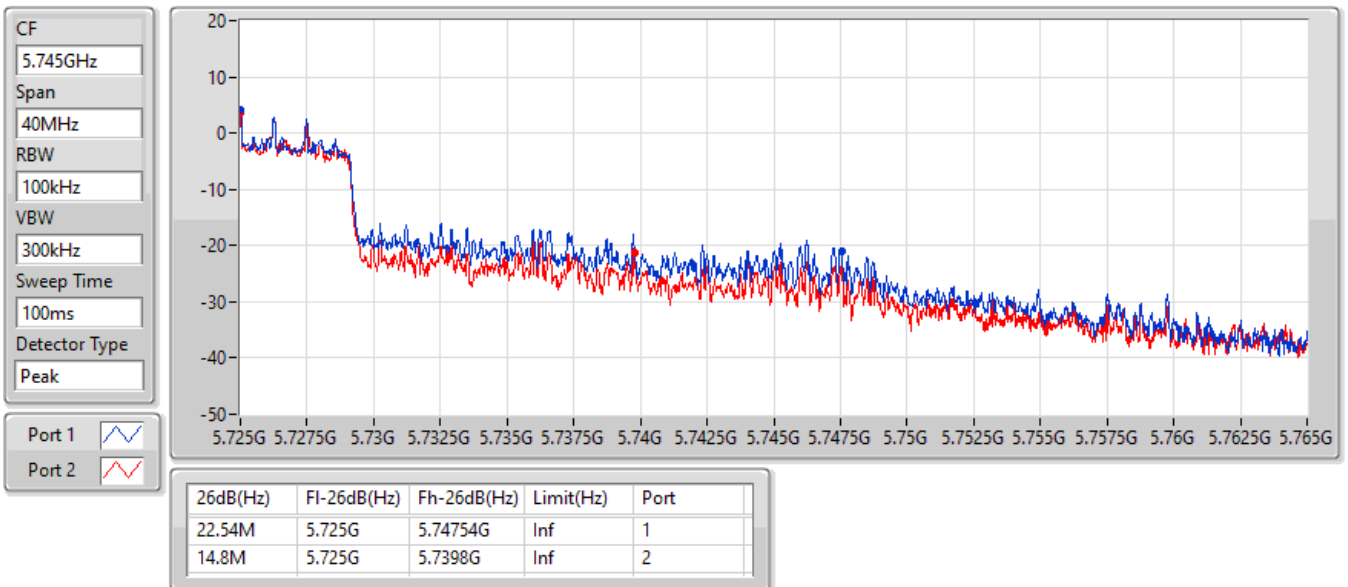


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5710MHz Straddle 5.725-5.85GHz

02/06/2022

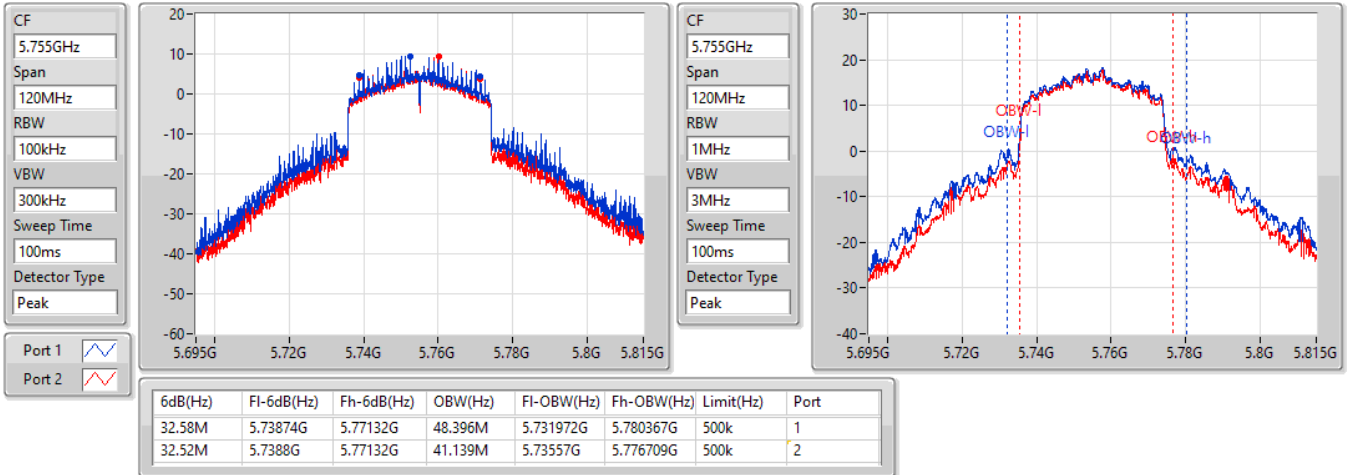

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5710MHz Straddle 5.725-5.85GHz

02/06/2022

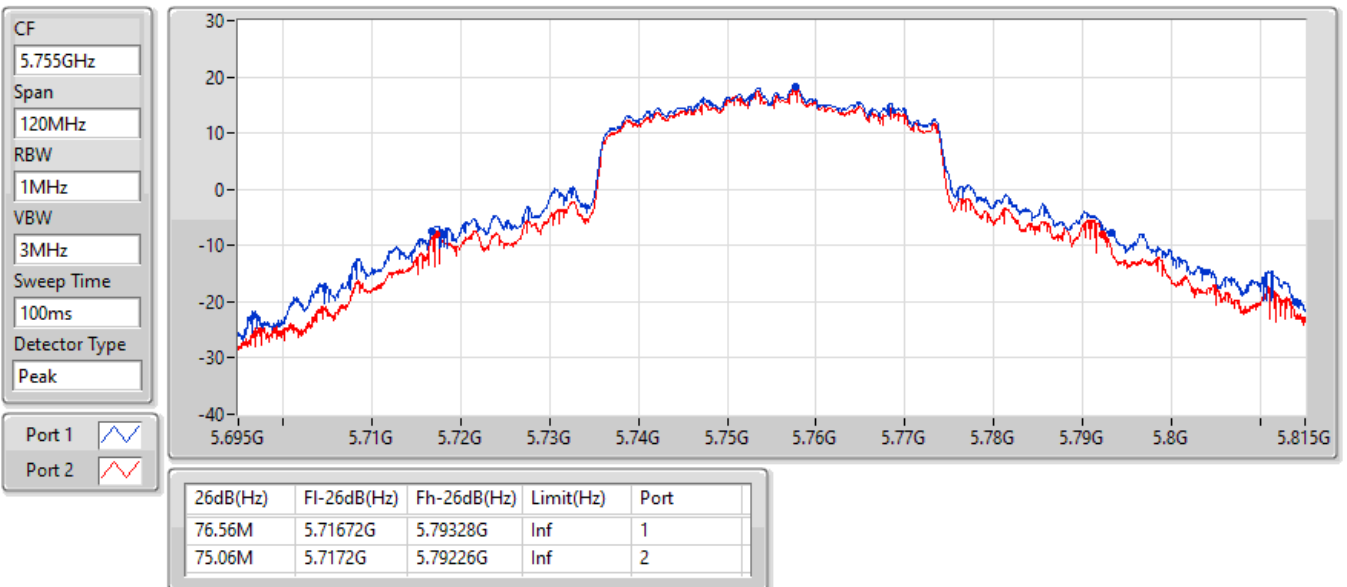


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5755MHz

02/06/2022

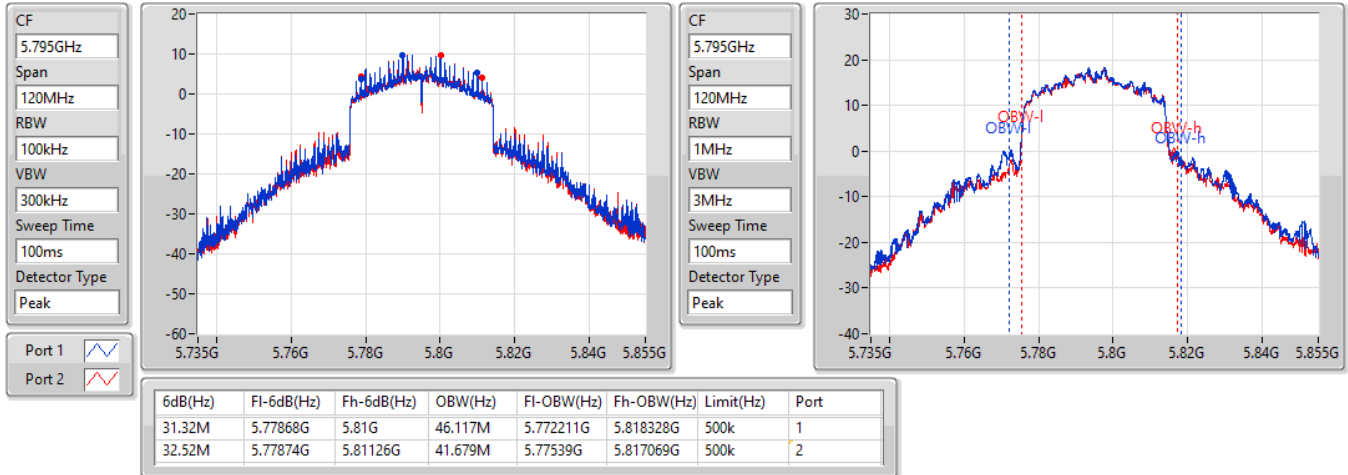

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5755MHz

02/06/2022

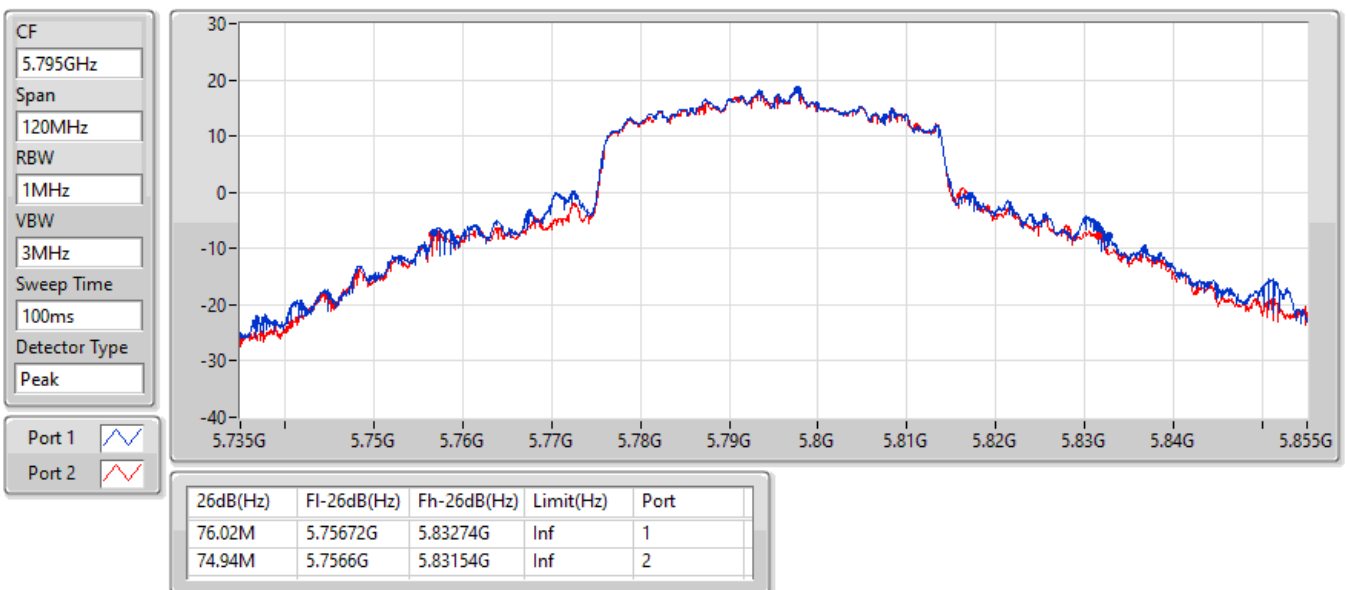


802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5795MHz

02/06/2022

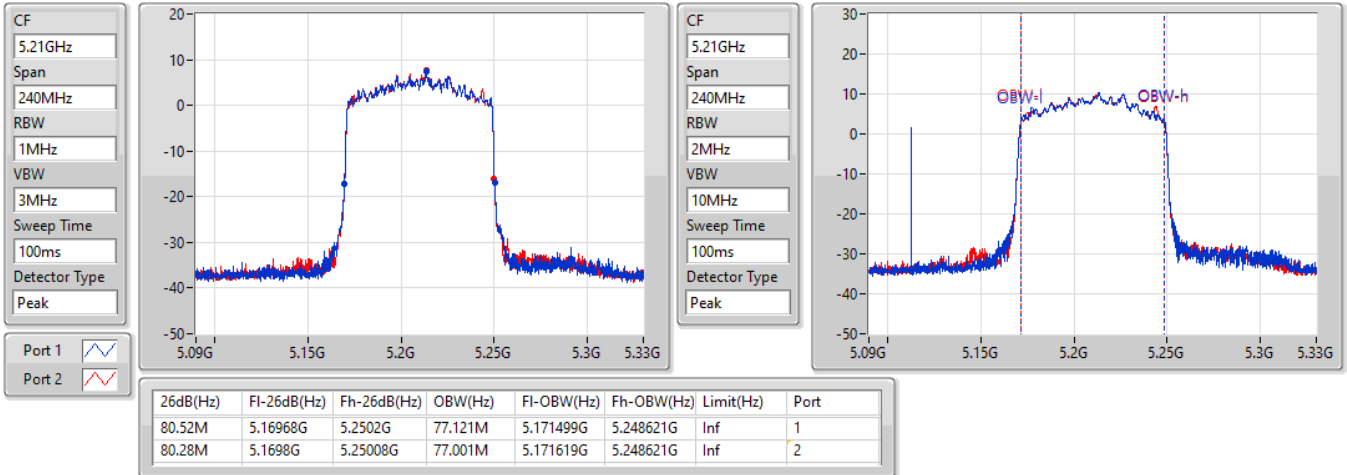

802.11ax HEW40_Nss1,(MCS0)_2TX
EBW
5795MHz

02/06/2022

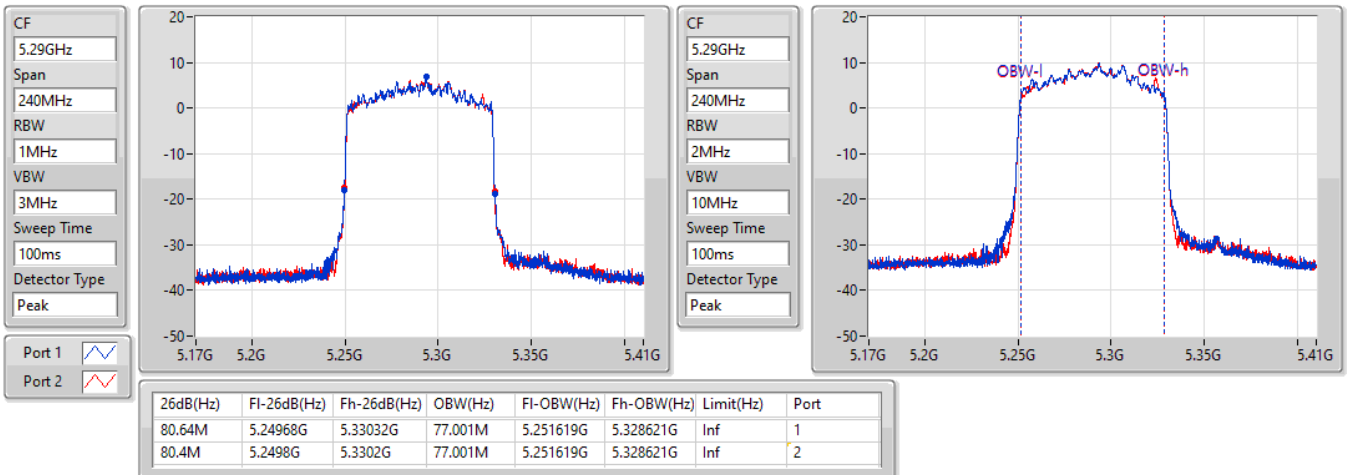


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5210MHz

22/05/2022

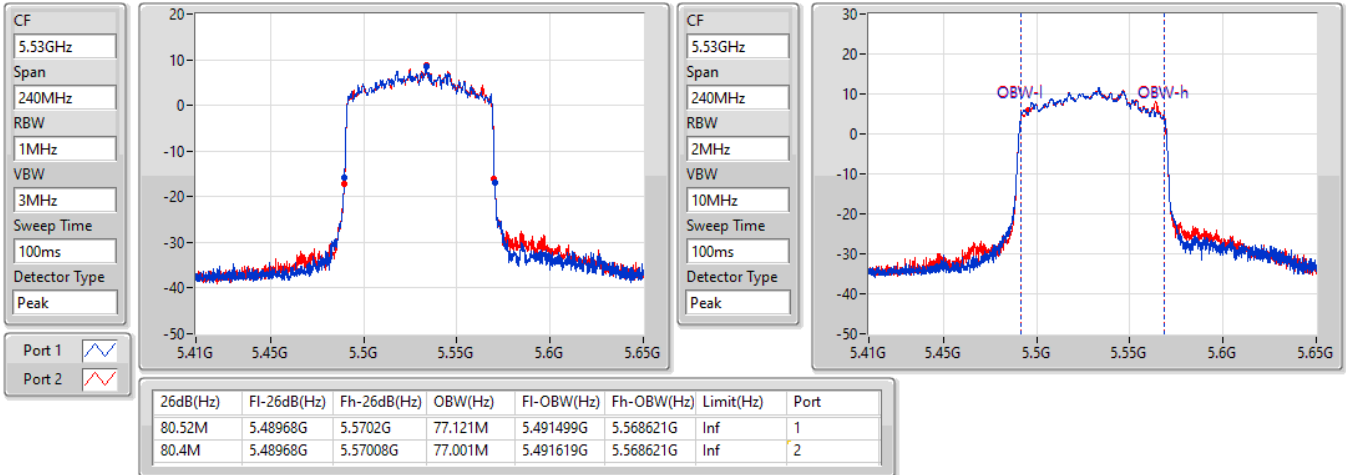

802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5290MHz

22/05/2022

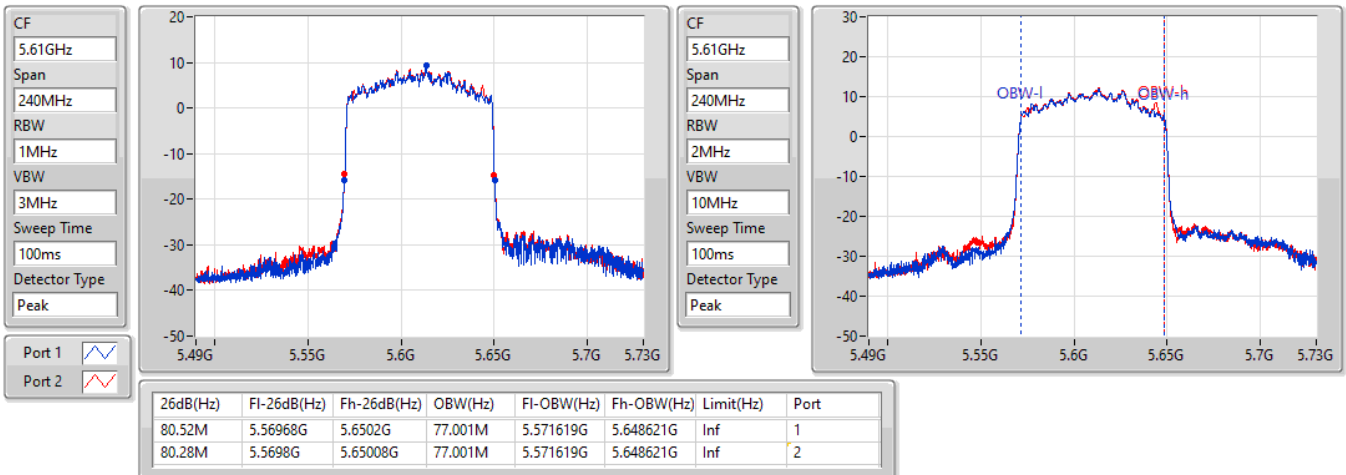


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5530MHz

22/05/2022

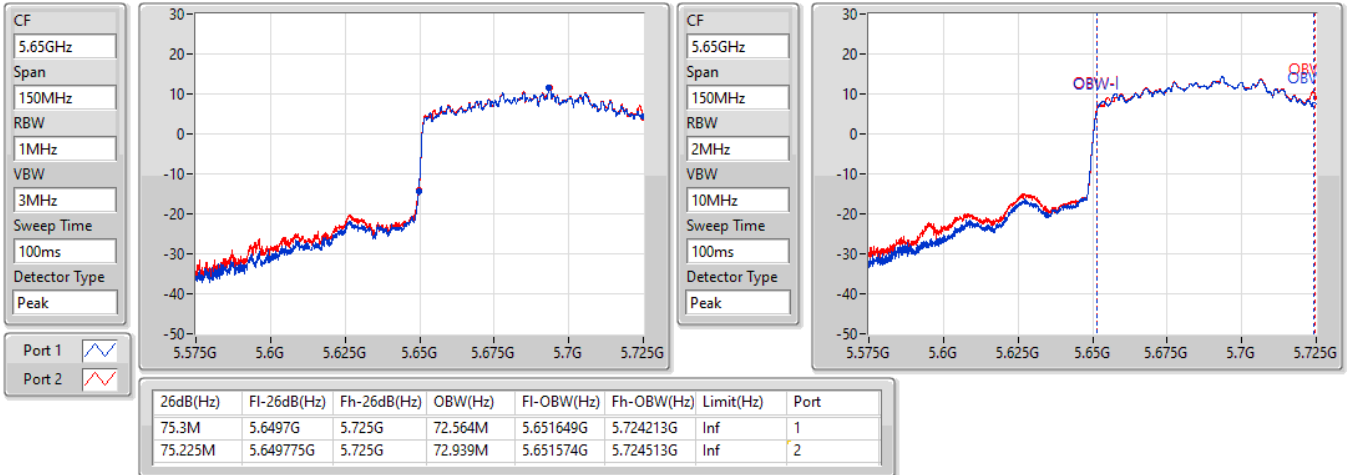

802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5610MHz

22/05/2022

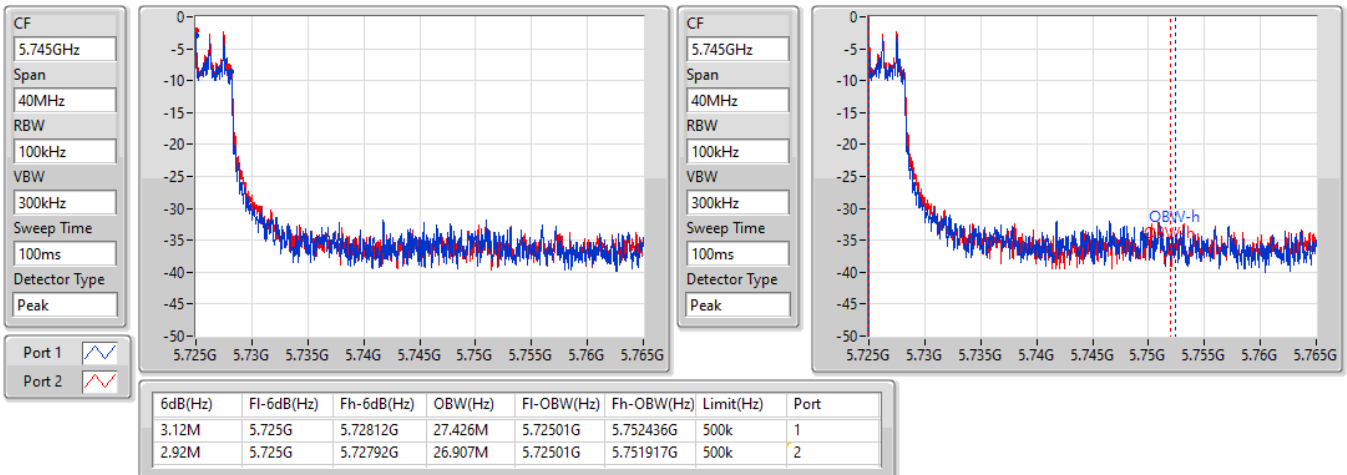


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5690MHz Straddle 5.47-5.725GHz

22/05/2022

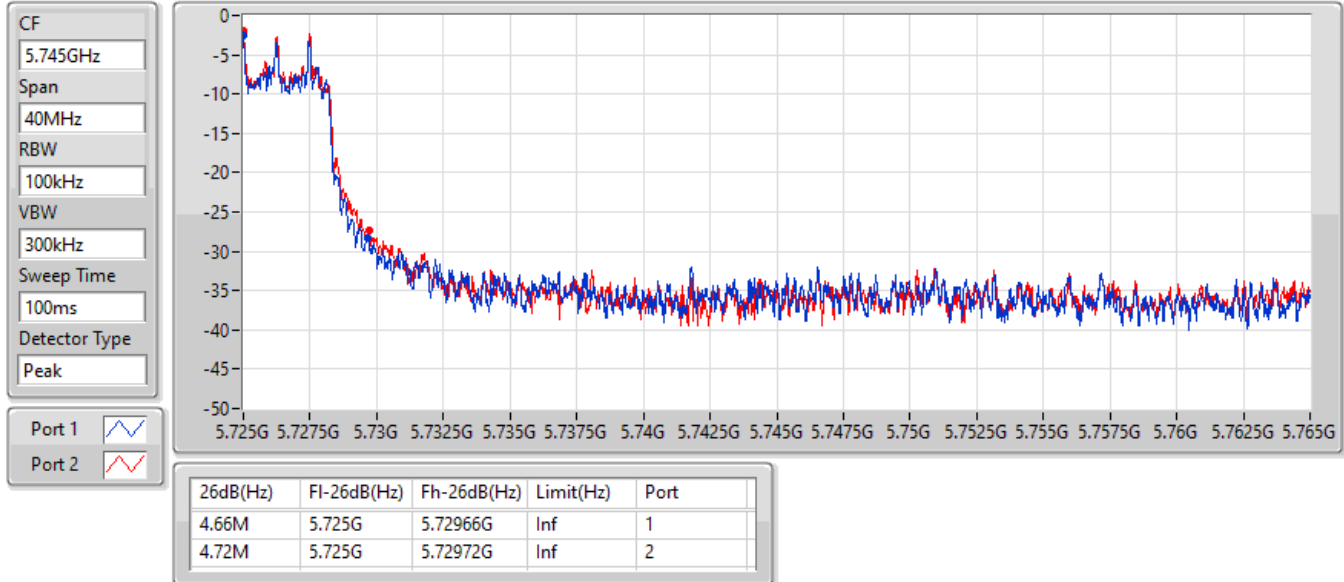

802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5690MHz Straddle 5.725-5.85GHz

02/06/2022

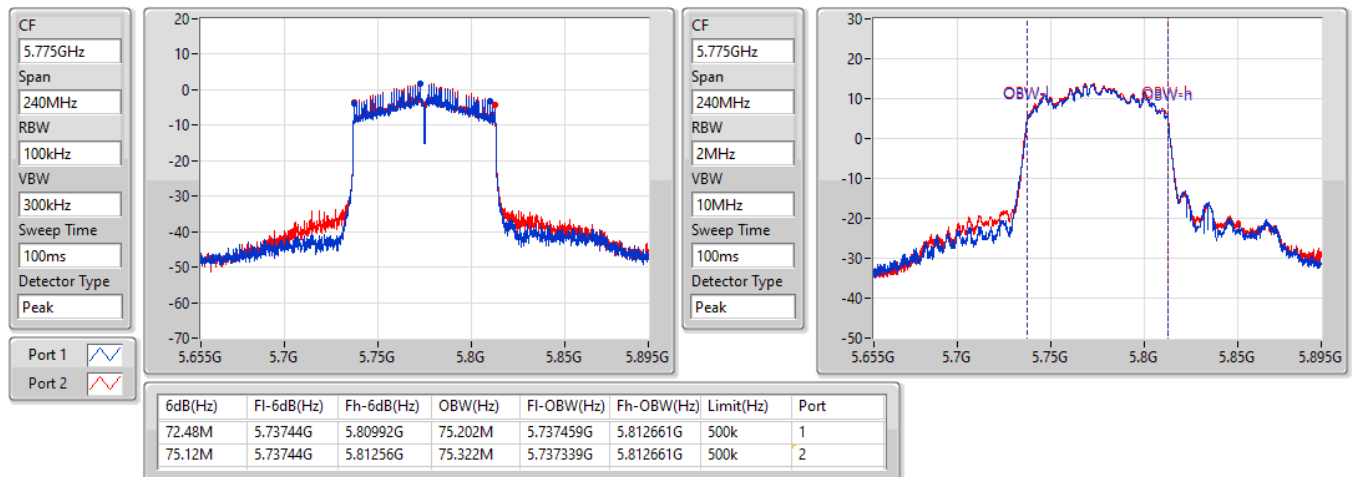


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5690MHz Straddle 5.725-5.85GHz

02/06/2022


802.11ax HEW80_Nss1,(MCS0)_2TX
EBW
5775MHz

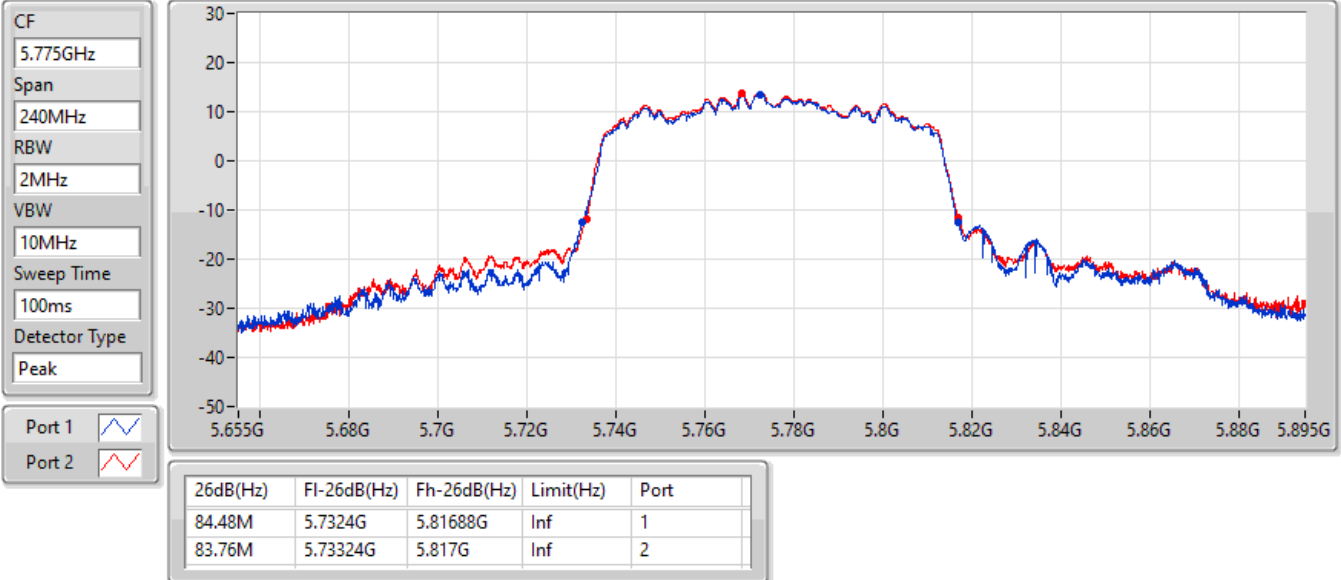
02/06/2022



802.11ax HEW80_Nss1,(MCS0)_2TX

EBW
5775MHz

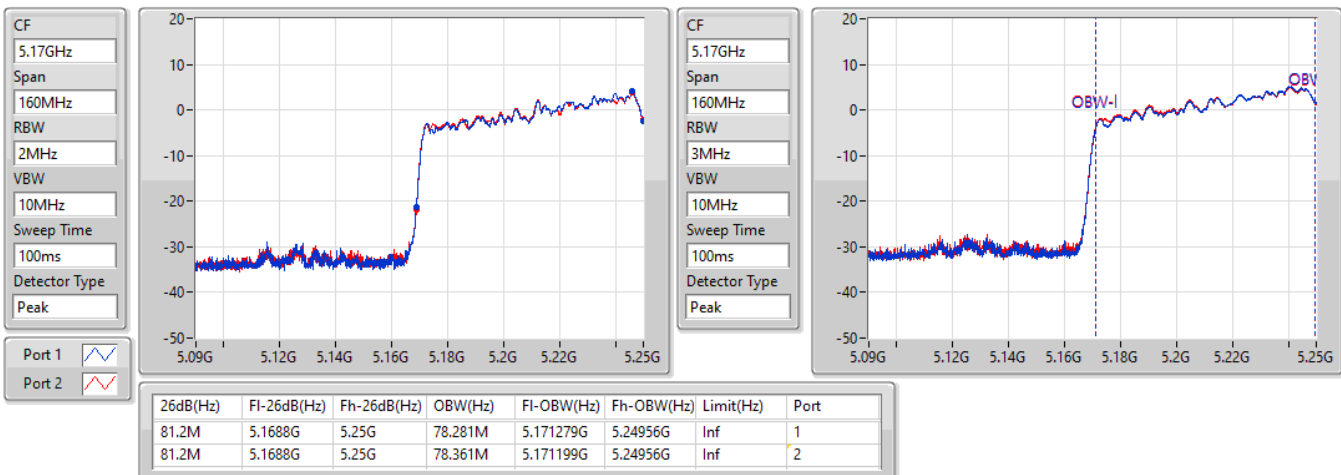
02/06/2022



802.11ax HEW160_Nss1,(MCS0)_2TX

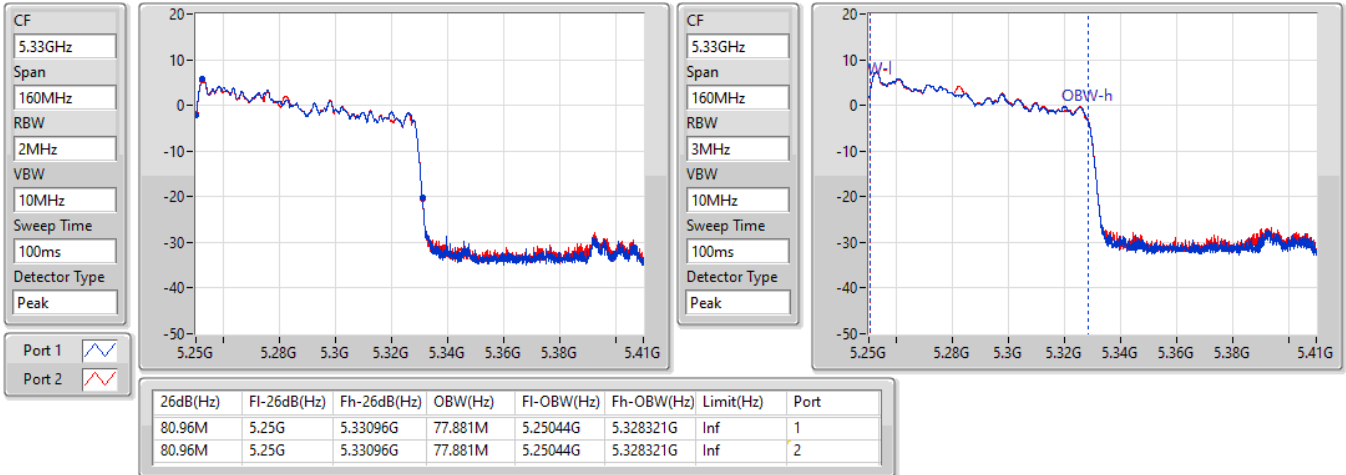
EBW
5250MHz Straddle 5.15-5.25GHz

22/05/2022

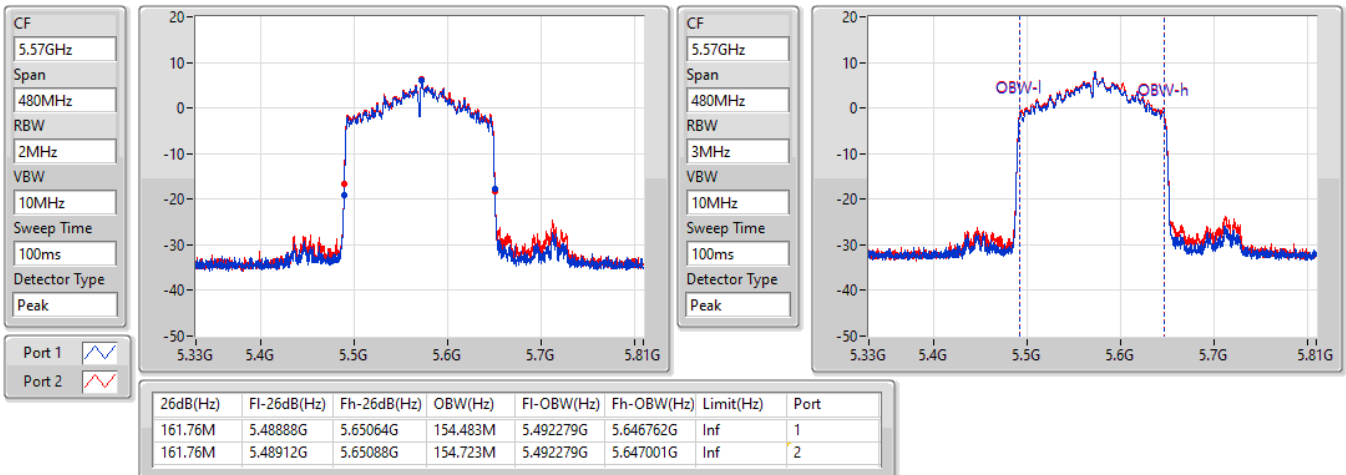


802.11ax HEW160_Nss1,(MCS0)_2TX
EBW
5250MHz Straddle 5.25-5.35GHz

22/05/2022


802.11ax HEW160_Nss1,(MCS0)_2TX
EBW
5570MHz

22/05/2022



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	19.32M	16.252M	16M3D1D	18.12M	16.192M
802.11ax HEW20_Nss1,(MCS0)_2TX	22.68M	18.651M	18M7D1D	22.23M	18.621M
802.11ax HEW40_Nss1,(MCS0)_2TX	71.7M	39.1M	39M1D1D	39.72M	37.541M
802.11ax HEW80_Nss1,(MCS0)_2TX	80.52M	77.001M	77M0D1D	80.52M	77.001M
802.11ax HEW160_Nss1,(MCS0)_2TX	81.2M	78.361M	78M4D1D	81.12M	78.361M
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	23.07M	16.222M	16M2D1D	18.18M	16.192M
802.11ax HEW20_Nss1,(MCS0)_2TX	22.65M	18.651M	18M7D1D	20.01M	18.591M
802.11ax HEW40_Nss1,(MCS0)_2TX	71.64M	38.861M	38M9D1D	39.6M	37.361M
802.11ax HEW80_Nss1,(MCS0)_2TX	80.64M	77.001M	77M0D1D	80.52M	77.001M
802.11ax HEW160_Nss1,(MCS0)_2TX	81.04M	77.961M	78M0D1D	80.96M	77.961M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	18.48M	16.192M	16M2D1D	13.935M	13.073M
802.11ax HEW20_Nss1,(MCS0)_2TX	22.47M	18.651M	18M7D1D	14.955M	14.273M
802.11ax HEW40_Nss1,(MCS0)_2TX	71.76M	39.4M	39M4D1D	39.66M	33.933M
802.11ax HEW80_Nss1,(MCS0)_2TX	102.3M	77.001M	77M0D1D	80.4M	73.763M
802.11ax HEW160_Nss1,(MCS0)_2TX	162M	155.202M	155MD1D	161.76M	154.963M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_2TX	15.06M	20.87M	20M9D1D	3.08M	3.418M
802.11ax HEW20_Nss1,(MCS0)_2TX	15.06M	19.25M	19M2D1D	3.8M	4.558M
802.11ax HEW40_Nss1,(MCS0)_2TX	32.52M	47.316M	47M3D1D	3.56M	21.169M
802.11ax HEW80_Nss1,(MCS0)_2TX	73.8M	77.961M	78M0D1D	2.62M	37.521M

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	18.21M	16.192M	19.32M	16.222M
5200MHz	Pass	Inf	19.26M	16.252M	18.45M	16.192M
5240MHz	Pass	Inf	18.12M	16.192M	19.23M	16.192M
5260MHz	Pass	Inf	18.24M	16.222M	23.07M	16.222M
5300MHz	Pass	Inf	18.18M	16.192M	18.39M	16.192M
5320MHz	Pass	Inf	18.24M	16.192M	18.45M	16.192M
5500MHz	Pass	Inf	17.97M	16.162M	18.42M	16.192M
5580MHz	Pass	Inf	18.09M	16.192M	18.48M	16.192M
5700MHz	Pass	Inf	17.94M	16.162M	18.39M	16.162M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	13.935M	13.088M	13.995M	13.073M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.1M	3.418M	3.08M	3.578M
5745MHz	Pass	500k	15.06M	18.381M	15.03M	20.75M
5785MHz	Pass	500k	15M	19.16M	15.03M	20.87M
5825MHz	Pass	500k	15M	18.801M	12.66M	18.681M
802.11ax HEW20_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5180MHz	Pass	Inf	22.59M	18.651M	22.38M	18.621M
5200MHz	Pass	Inf	22.68M	18.651M	22.23M	18.651M
5240MHz	Pass	Inf	22.56M	18.651M	22.44M	18.651M
5260MHz	Pass	Inf	20.07M	18.591M	20.04M	18.621M
5300MHz	Pass	Inf	22.65M	18.651M	22.41M	18.651M
5320MHz	Pass	Inf	22.53M	18.621M	20.01M	18.651M
5500MHz	Pass	Inf	20.04M	18.621M	20.07M	18.651M
5580MHz	Pass	Inf	20.04M	18.651M	22.47M	18.651M
5700MHz	Pass	Inf	20.01M	18.591M	20.04M	18.621M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	14.955M	14.288M	14.955M	14.273M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.8M	4.558M	3.82M	4.558M
5745MHz	Pass	500k	15.03M	19.13M	15.03M	19.25M
5785MHz	Pass	500k	15.03M	19.19M	15.06M	19.13M
5825MHz	Pass	500k	15M	19.04M	15.06M	19.07M
802.11ax HEW40_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5190MHz	Pass	Inf	39.84M	37.541M	39.72M	37.541M
5230MHz	Pass	Inf	71.7M	39.04M	67.86M	39.1M
5270MHz	Pass	Inf	71.64M	38.861M	64.02M	38.381M
5310MHz	Pass	Inf	39.72M	37.481M	39.6M	37.361M
5510MHz	Pass	Inf	39.84M	37.481M	39.66M	37.481M
5550MHz	Pass	Inf	71.76M	39.4M	49.38M	38.021M
5670MHz	Pass	Inf	39.9M	37.481M	39.78M	37.481M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	48.965M	34.073M	40.18M	33.933M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.56M	23.388M	3.58M	21.169M
5755MHz	Pass	500k	31.26M	47.316M	31.26M	44.018M
5795MHz	Pass	500k	31.2M	45.097M	32.52M	41.499M
802.11ax HEW80_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5210MHz	Pass	Inf	80.52M	77.001M	80.52M	77.001M
5290MHz	Pass	Inf	80.64M	77.001M	80.52M	77.001M
5530MHz	Pass	Inf	80.52M	76.882M	80.52M	77.001M
5610MHz	Pass	Inf	80.52M	77.001M	80.4M	77.001M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	102.3M	73.763M	97.425M	73.838M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	2.62M	37.521M	2.62M	37.581M
5775MHz	Pass	500k	71.28M	77.481M	73.8M	77.961M



EBW

<Full RU> UNII1~UNII3_Non-Beamforming Mode_Ant.2 (2TX)

Appendix B.5

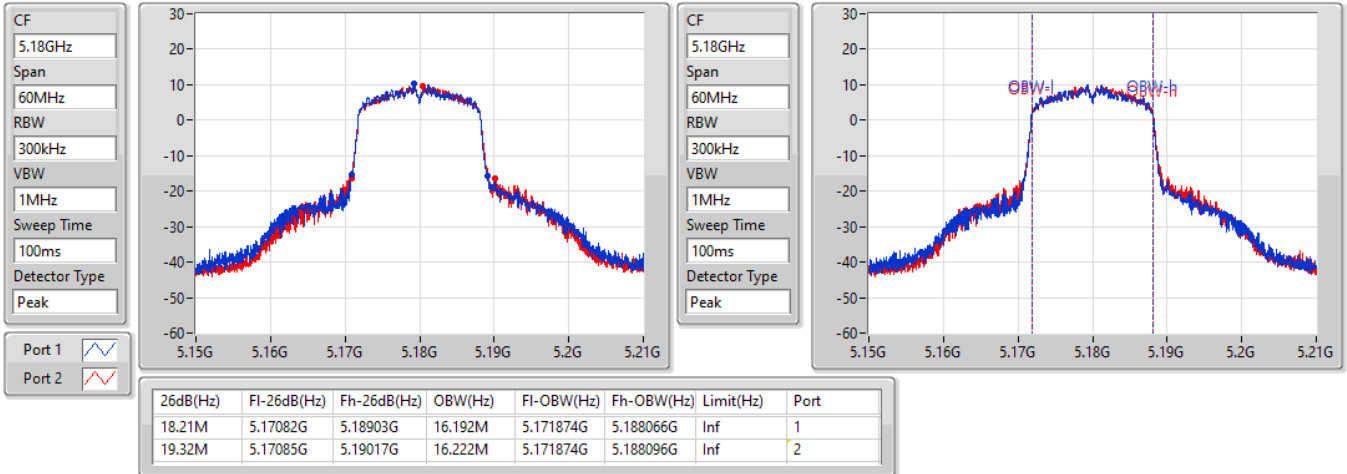
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)	Port 2-N dB (Hz)	Port 2-OBW (Hz)
802.11ax HEW160_Nss1,(MCS0)_2TX	-	-	-	-	-	-
5250MHz Straddle 5.15-5.25GHz	Pass	Inf	81.2M	78.361M	81.12M	78.361M
5250MHz Straddle 5.25-5.35GHz	Pass	Inf	81.04M	77.961M	80.96M	77.961M
5570MHz	Pass	Inf	162M	154.963M	161.76M	155.202M

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

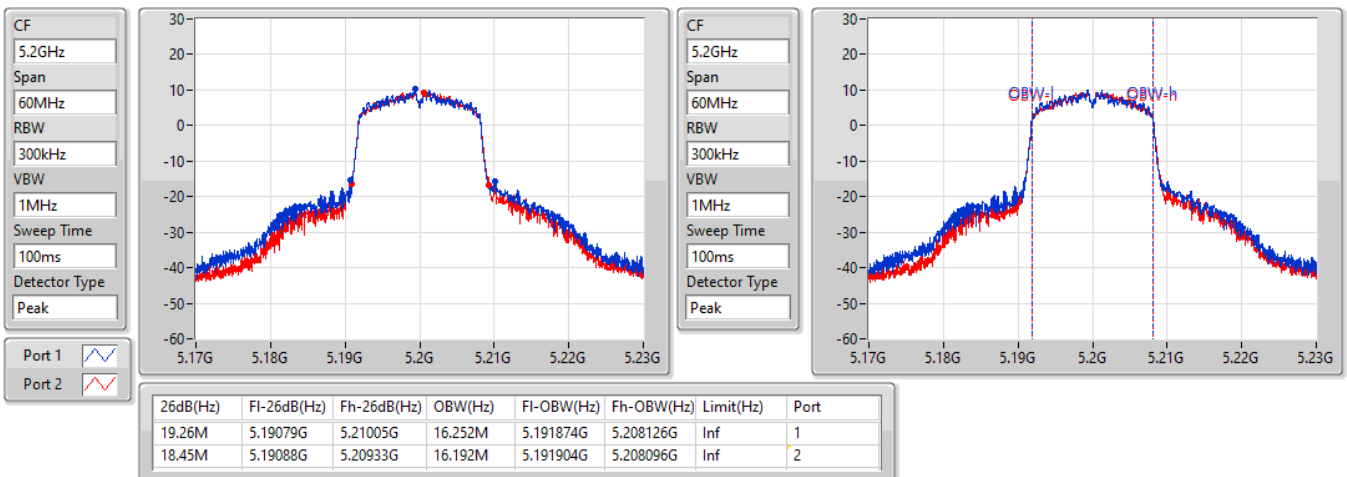
Port X-OBW = Port X 99% occupied bandwidth

802.11a_Nss1,(6Mbps)_2TX
EBW
5180MHz

20/05/2022

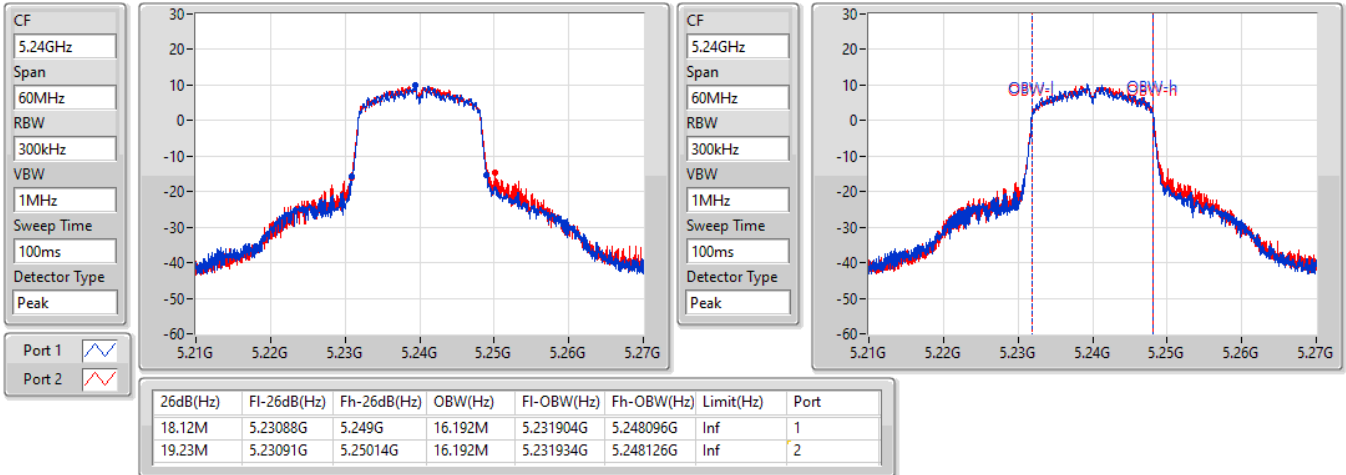

802.11a_Nss1,(6Mbps)_2TX
EBW
5200MHz

20/05/2022

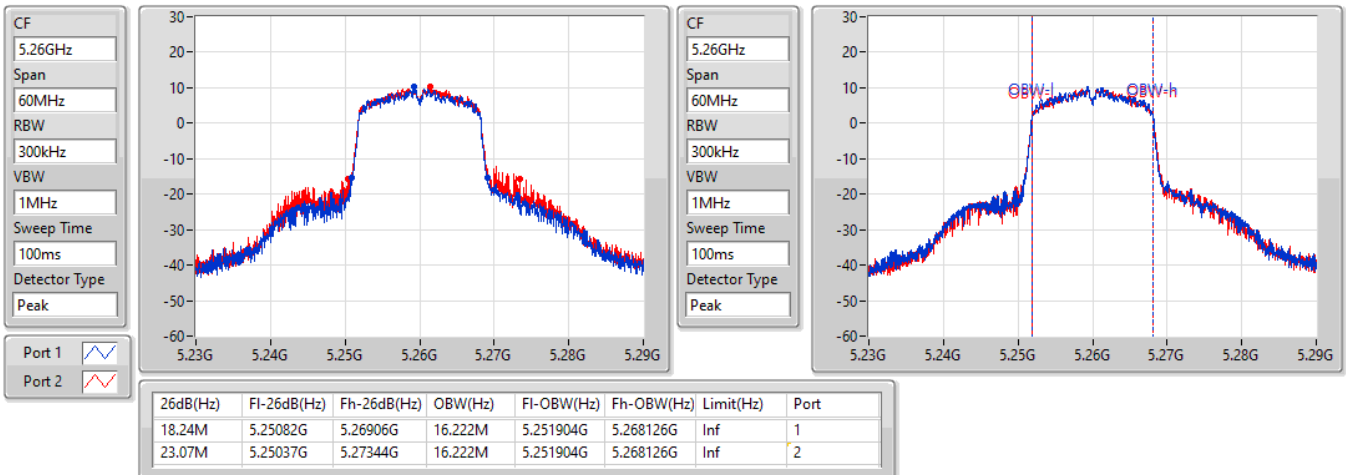


802.11a_Nss1,(6Mbps)_2TX
5240MHz

20/05/2022

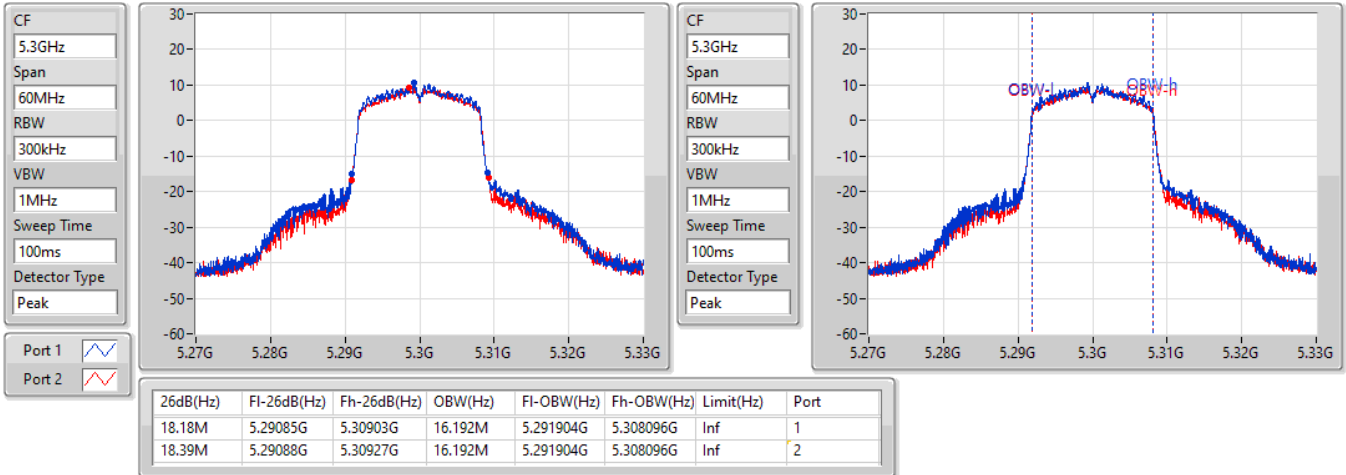

802.11a_Nss1,(6Mbps)_2TX
5260MHz

20/05/2022

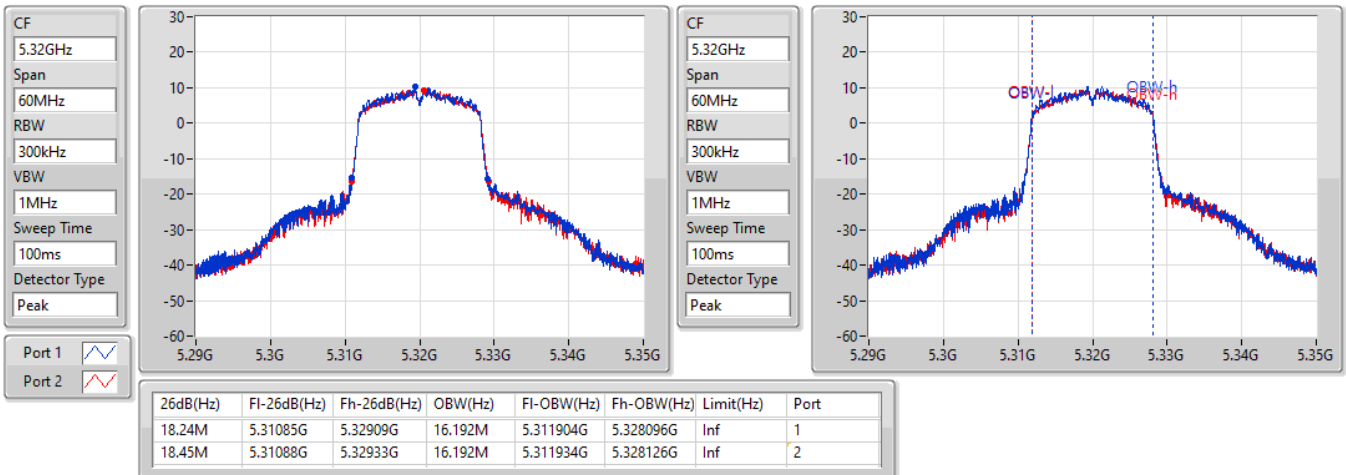


802.11a_Nss1,(6Mbps)_2TX
EBW
5300MHz

20/05/2022

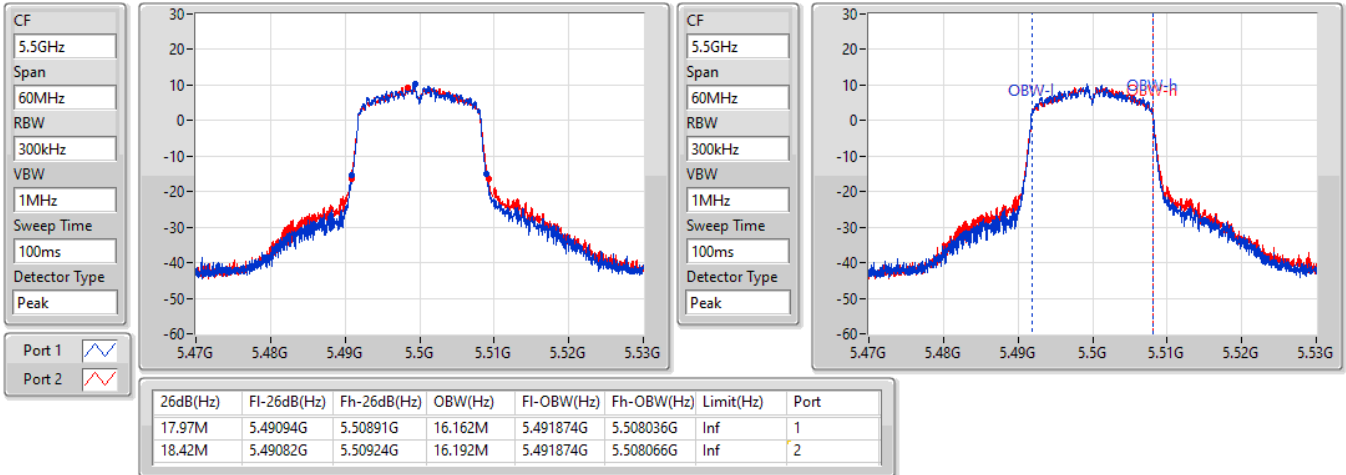

802.11a_Nss1,(6Mbps)_2TX
EBW
5320MHz

20/05/2022

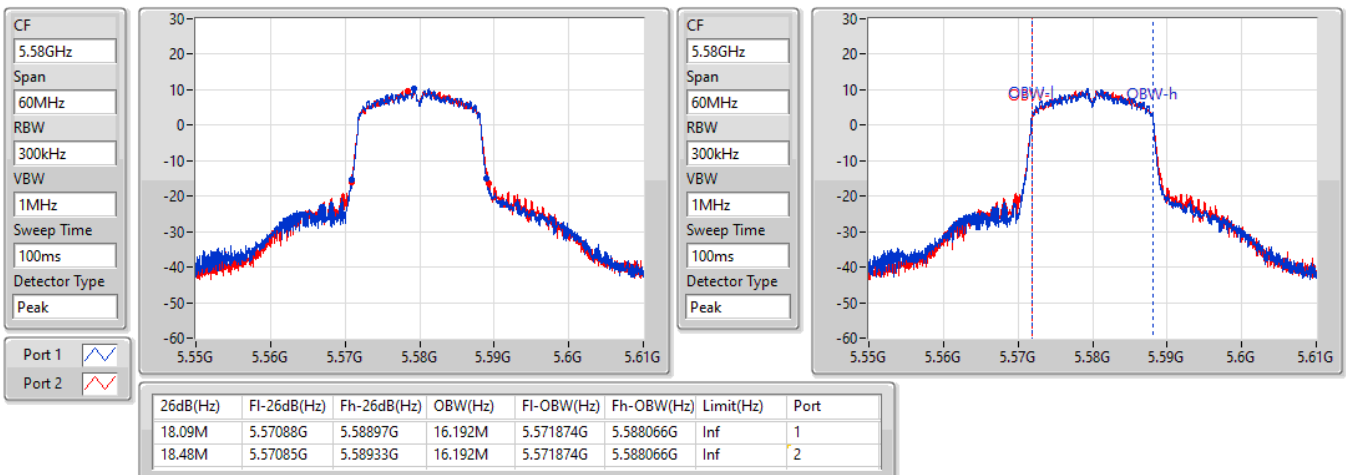


802.11a_Nss1,(6Mbps)_2TX
EBW
5500MHz

20/05/2022

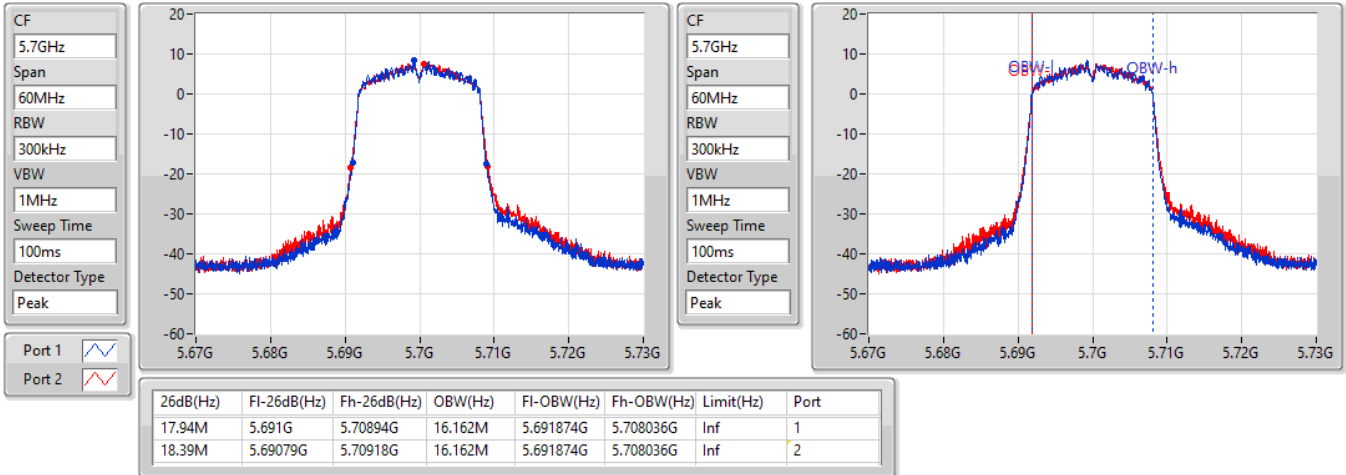

802.11a_Nss1,(6Mbps)_2TX
EBW
5580MHz

20/05/2022

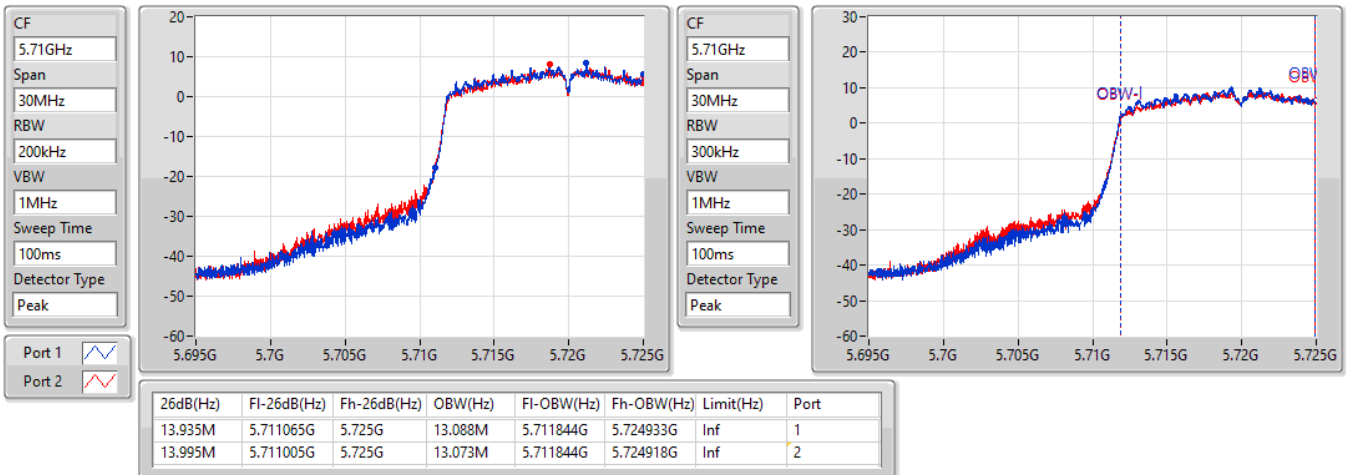


802.11a_Nss1,(6Mbps)_2TX
EBW
5700MHz

20/05/2022

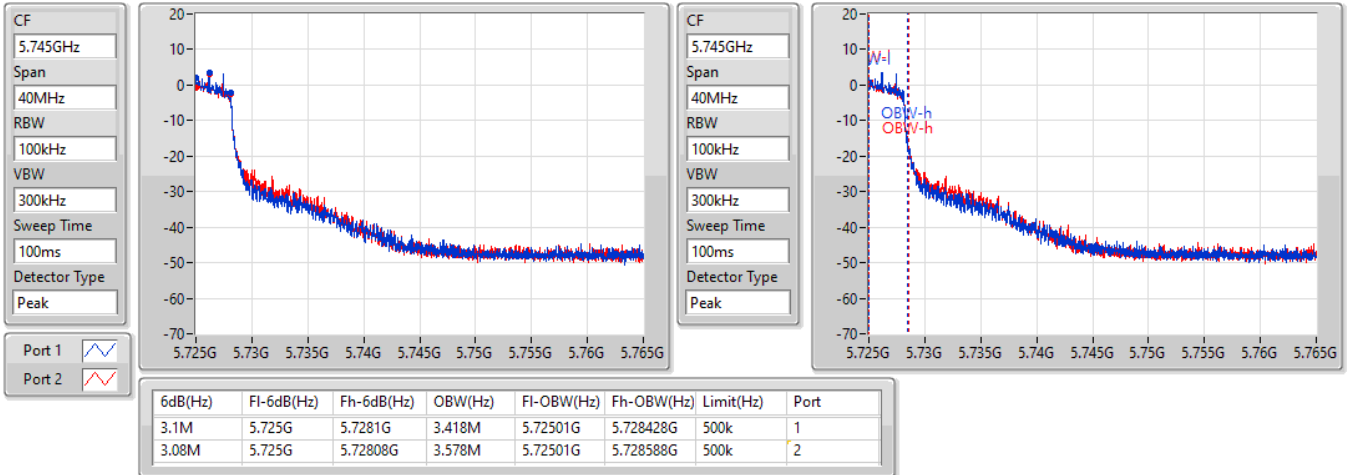

802.11a_Nss1,(6Mbps)_2TX
EBW
5720MHz Straddle 5.47-5.725GHz

03/06/2022

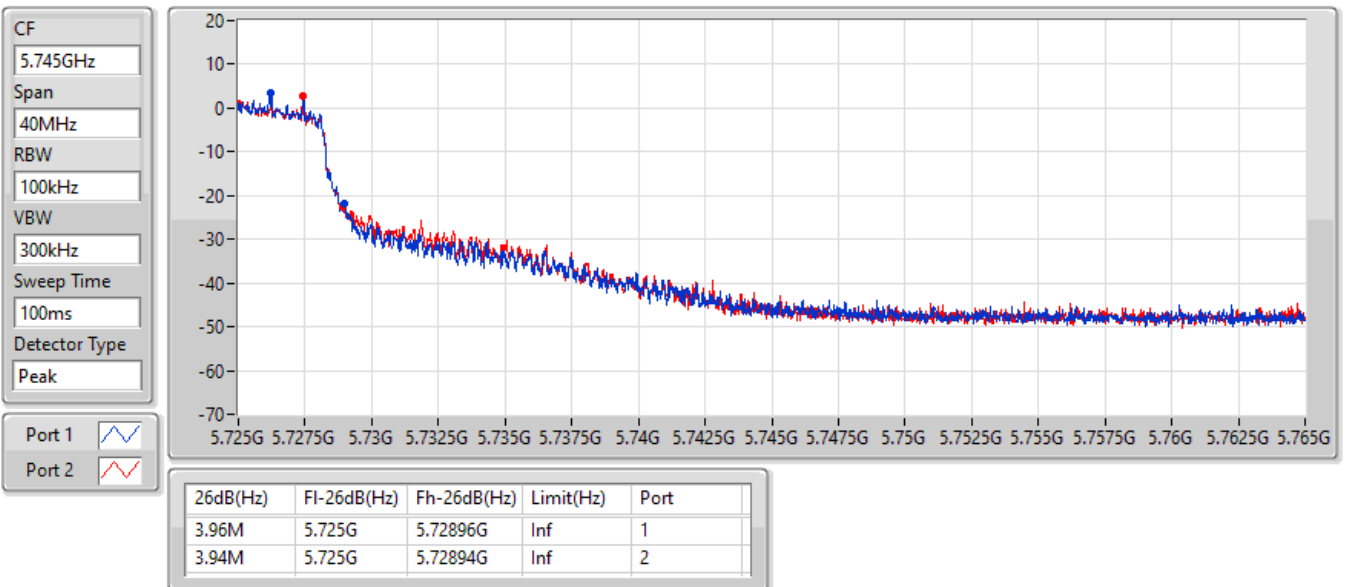


802.11a_Nss1,(6Mbps)_2TX
EBW
5720MHz Straddle 5.725-5.85GHz

03/06/2022

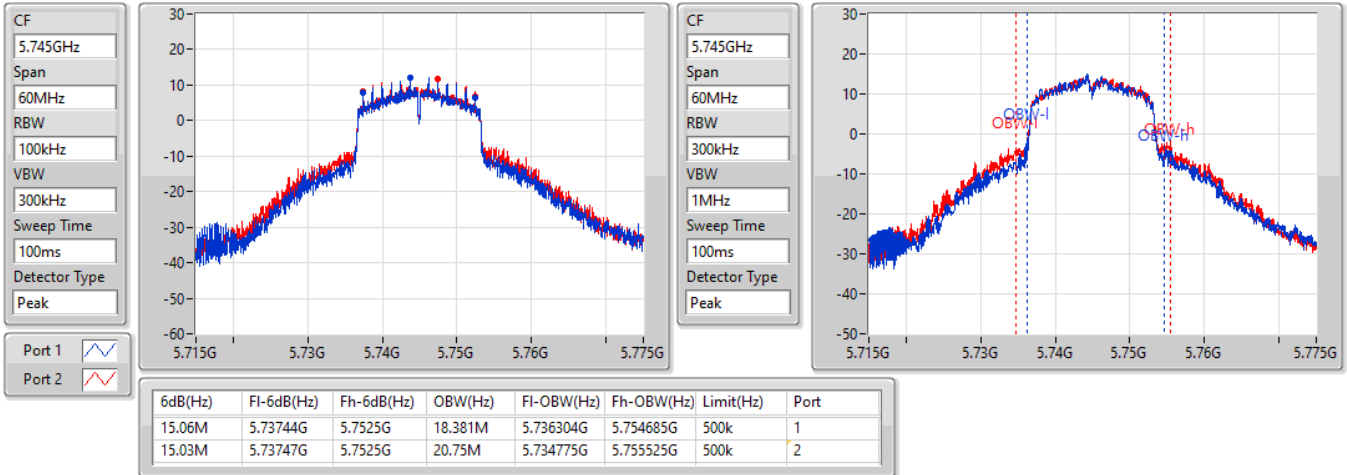

802.11a_Nss1,(6Mbps)_2TX
EBW
5720MHz Straddle 5.725-5.85GHz

03/06/2022

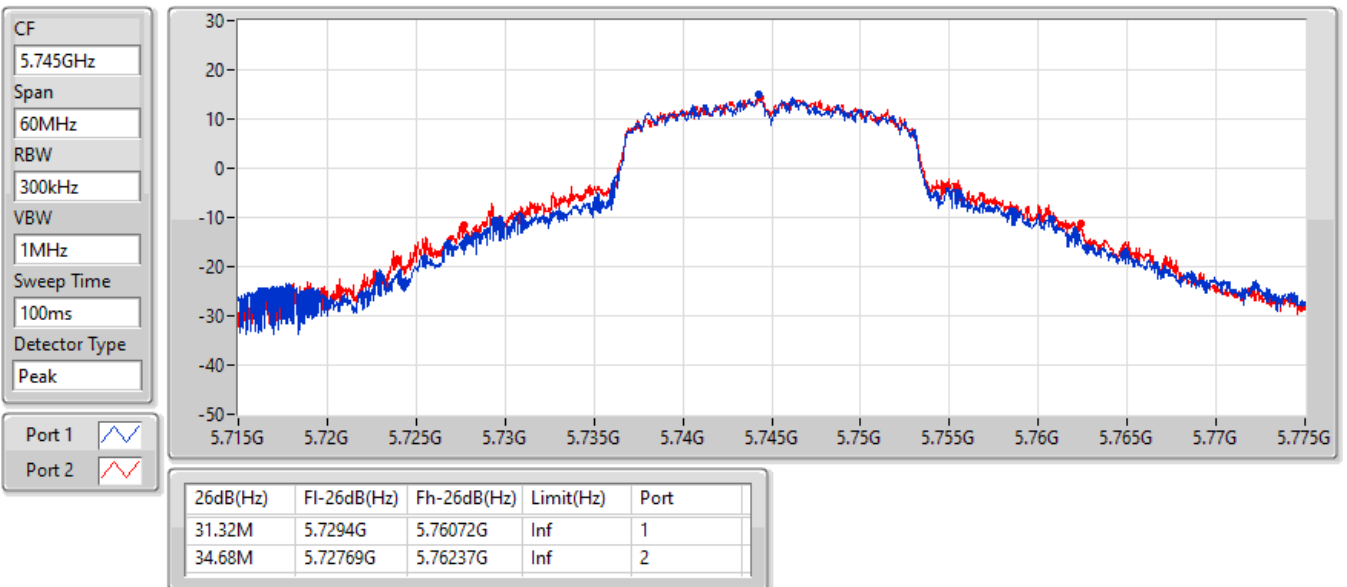


802.11a_Nss1,(6Mbps)_2TX
EBW
5745MHz

03/06/2022

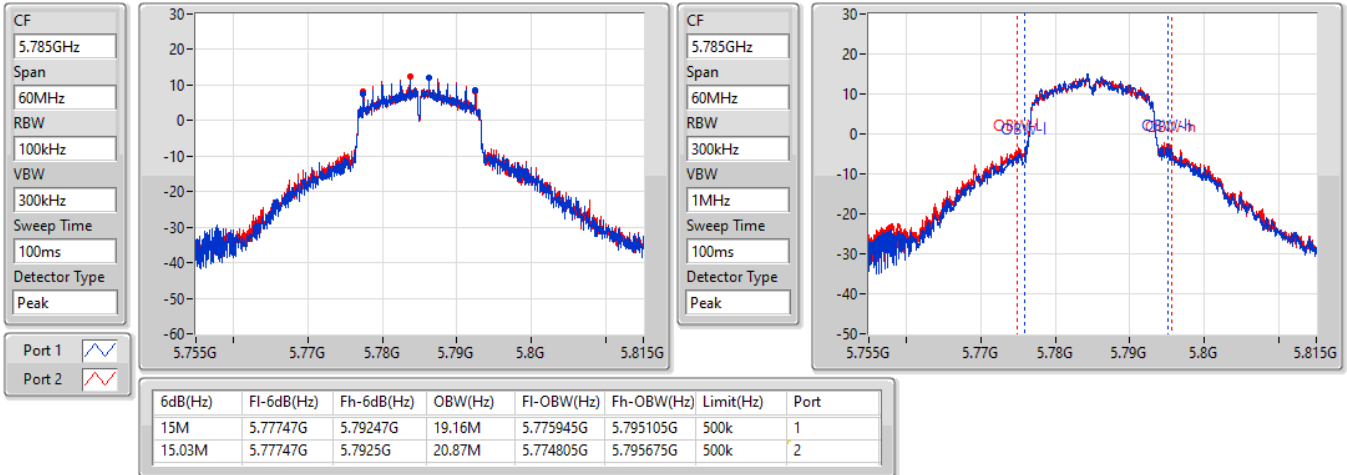

802.11a_Nss1,(6Mbps)_2TX
EBW
5745MHz

03/06/2022

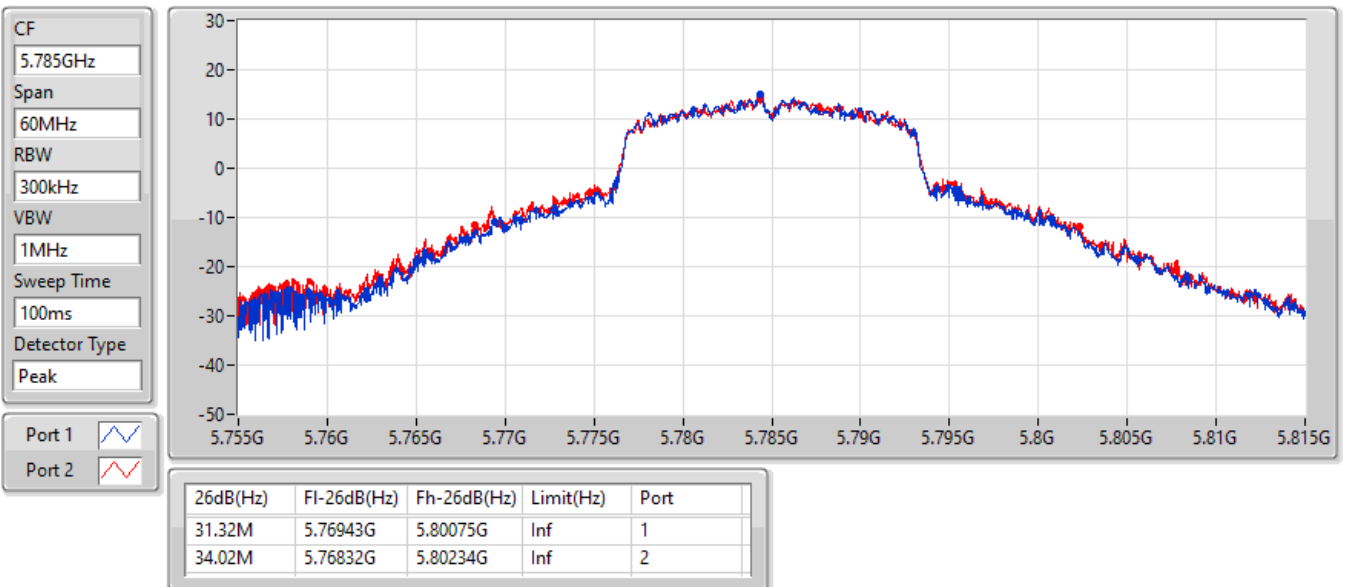


802.11a_Nss1,(6Mbps)_2TX
EBW
5785MHz

03/06/2022

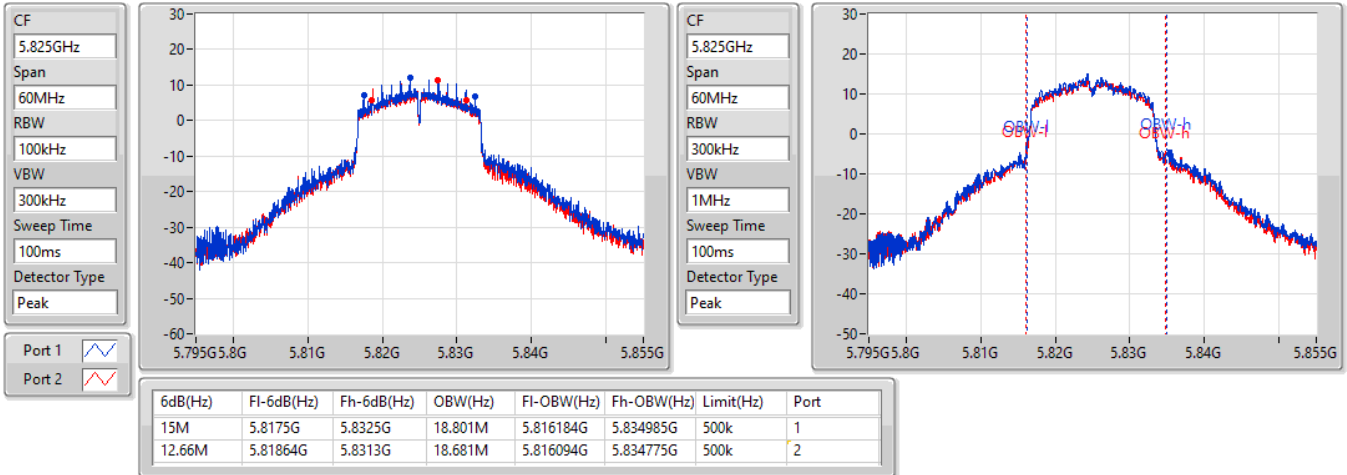

802.11a_Nss1,(6Mbps)_2TX
EBW
5785MHz

03/06/2022



802.11a_Nss1,(6Mbps)_2TX
EBW
5825MHz

03/06/2022


802.11a_Nss1,(6Mbps)_2TX
EBW
5825MHz

03/06/2022

