FCC Radio Test Report

FCC ID	:	**2AFZZ16SG**
Equipment	:	**Mobile Phone**
Brand Name	:	**Redmi**
Model Name	:	**2201116SG**
Applicant	:	**Xiaomi Communications Co., Ltd. #019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085**
Manufacturer	:	**Xiaomi Communications Co., Ltd. #019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085**
Standard	:	**47 CFR FCC Part 15.407**

The product was received on Nov. 14, 2021, and testing was started from Dec. 06, 2021 and completed on Dec. 20, 2021. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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

Allen Lin

Approved by: Allen Lin

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, 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 Testing Applied Standards 8
1.3 Testing Location Information 8
1.4 Measurement Uncertainty 8

2 TEST CONFIGURATION OF EUT **9**

2.1 The Worst Case Measurement Configuration 9
2.2 Accessories 10
2.3 Support Equipment 10
2.4 Test Setup Diagram 11

3 TRANSMITTER TEST RESULT **12**

3.1 AC Power-line Conducted Emissions 12
3.2 Emission Bandwidth 14
3.3 Maximum Conducted Output Power 15
3.4 Peak Power Spectral Density 17
3.5 Unwanted Emissions 19

4 TEST EQUIPMENT AND CALIBRATION DATA **23**

APPENDIX A. TEST RESULTS OF AC POWER-LINE CONDUCTED EMISSIONS

APPENDIX B. TEST RESULTS OF EMISSION BANDWIDTH

APPENDIX C. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER

APPENDIX D. TEST RESULTS OF PEAK POWER SPECTRAL DENSITY

APPENDIX E. TEST RESULTS OF UNWANTED EMISSIONS

APPENDIX F. TEST PHOTOS

PHOTOGRAPHS OF EUT V01

History of this test report

Report No.	Version	Description	Issued Date
FR1N2204AN	01	Initial issue of report	Jan. 03, 2022
FR1N2204AN	02	Revised typo (This report is the latest version replacing for the report issued on Jan. 03, 2022.)	Jan. 11, 2022

Summary of Test Result

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

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and explanations:
None

Reviewed by: Ben Tseng

Report Producer: Michelle Tsai

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

Band	Mode	BWch (MHz)	Nant
5.15-5.25GHz	802.11a	20	1TX
5.25-5.35GHz	802.11a	20	1TX
5.47-5.725GHz	802.11a	20	1TX
5.725-5.85GHz	802.11a	20	1TX
5.15-5.25GHz	802.11ac VHT20	20	1TX
5.25-5.35GHz	802.11ac VHT20	20	1TX
5.47-5.725GHz	802.11ac VHT20	20	1TX
5.725-5.85GHz	802.11ac VHT20	20	1TX
5.15-5.25GHz	802.11ac VHT40	40	1TX
5.25-5.35GHz	802.11ac VHT40	40	1TX
5.47-5.725GHz	802.11ac VHT40	40	1TX
5.725-5.85GHz	802.11ac VHT40	40	1TX
5.15-5.25GHz	802.11ac VHT80	80	1TX
5.25-5.35GHz	802.11ac VHT80	80	1TX
5.47-5.725GHz	802.11ac VHT80	80	1TX
5.725-5.85GHz	802.11ac VHT80	80	1TX

Note:
- 11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40, VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	MI	K6S	PIFA	I-pex

Ant.	Gain (dBi)					
	2.4G	Bluetooth	5G			
			UNII-1	UNII-2A	UNII-2C	UNII-3
1	-3.7	-3.7	-3.6	-3.9	-3.8	-4.3

For 2.4GHz function:
For IEEE 802.11 b/g/n mode (1TX/1RX)
Ant. 1 could transmit/receive.
For BT function:
For IEEE 802.15.1 Bluetooth mode (1TX/1RX)
Ant. 1 and could transmit/receive.
For 5GHz function:
For IEEE 802.11 a/n/ac mode (1TX/1RX)
Ant. 1 could transmit/receive.

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From AC Adapter / Host system / Battery			
EUT Function	☐	Outdoor AP	☐	Indoor AP
	☐	Fixed P2P AP	☒	Client
Beamforming Function	☐	With beamforming	☒	Without beamforming
TPC Function	☒	With TPC Function	☐	Without TPC Function
Weather Band	☒	With 5600~5650MHz	☐	Without 5600~5650MHz

Type of EUT		
☒	Stand-alone	
☐	Combined (EUT where the radio part is fully integrated within another device)	
	Combined Equipment - Brand Name / Model No.:	…
☐	Plug-in radio (EUT intended for a variety of host systems)	
	Host System - Brand Name / Model No.:	
☐	Other:	

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11a_Nss1,(6Mbps)_1TX	0.976	0.11	1.391m	1k
802.11ac VHT20_Nss1,(MCS0)_1TX	0.974	0.11	1.31m	1k
802.11ac VHT40_Nss1,(MCS0)_1TX	0.951	0.22	655u	3k
802.11ac VHT80_Nss1,(MCS0)_1TX	0.901	0.45	324.688u	10k

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

1.2 Testing Applied Standards

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

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

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

- KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab.：Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua (**TAF:** 3785)	**ADD:** No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan			
	TEL: 886-3-327-3456		**FAX:** 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
AC Conduction	CO04-HY	Edward Wang	21.5~22.0°C / 50~54%	15/Dec/2021
RF Conducted	TH01-HY	Barry Hsiao	23.2~26.9°C / 50~60%	16/Dec/2021~20/Dec/2021
Radiated	03CH03-HY	Edward Wang	19.6~22.6°C / 47~58%	06/Dec/2021~09/Dec/2021
☐ Wen 33rd.St. (**TAF:** 3785)	**ADD:** No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan			
	TEL: 886-3-318-0787		**FAX:** 886-3-318-0287	
Test site Designation No. TW0008 with FCC.				

1.4 Measurement Uncertainty

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

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

2 Test Configuration of EUT

2.1 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	CTX
1	Adapter Mode

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

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

2.2 Accessories

AC Adapter	Brand Name	MI	Model Name	MDY-12-EJ
	Manufacturer	Salcomp		
	Power Rating	I/P: 100 - 240 Vac, 50/60Hz, 1.7A, Normal O/P:5.0Vdc, 3.0A, 15W, fast O/P: 5.0 - 20 Vdc, 6.2 - 3.25A, 67W		
Battery 1	Brand Name	MI	Model Name	BN5E
	Manufacturer	Dongguan Amperex Technology Limited		
	Power Rating	3.87 Vdc, 4900 mAh	Type	Li-ion
Battery 2	Brand Name	MI	Model Name	BN5E
	Manufacturer	Zhejiang sunwoda electronic Co., Ltd		
	Power Rating	3.87 Vdc, 4900 mAh	Type	Li-ion
USB Cable 1	Brand Name	MI	Model Name	H26250
	Manufacturer	Dehong		
	Signal Line	1.0 meter, non-shielded cable, without ferrite core		
USB Cable 2	Brand Name	MI	Model Name	L26250
	Manufacturer	Lux		
	Signal Line	1.0 meter, non-shielded cable, without ferrite core		

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

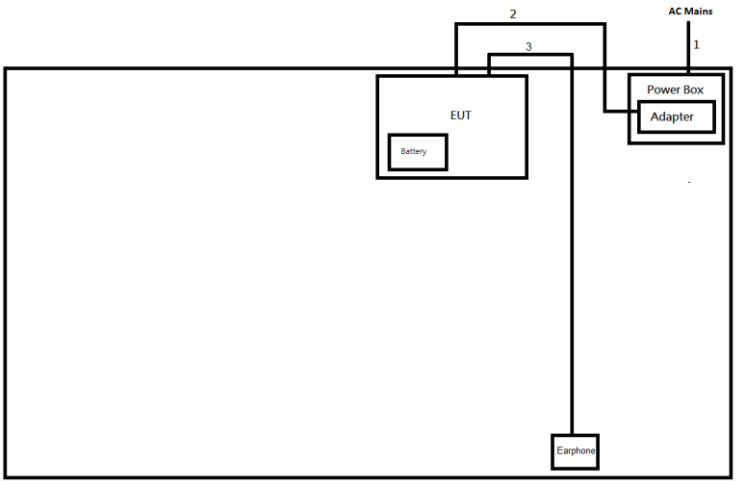
2.3 Support Equipment

Support Equipment – AC Conduction and Radiated					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	AC Power Cable	Power sync	AC Power Cable	-	-
2	Earphone	MI	EM023	-	Provided by Customer

Support Equipment – Conducted					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	HP	HSTNN-142C	-	-
2	Adapter (For NB)	HP	HSTNN-CA40	-	-

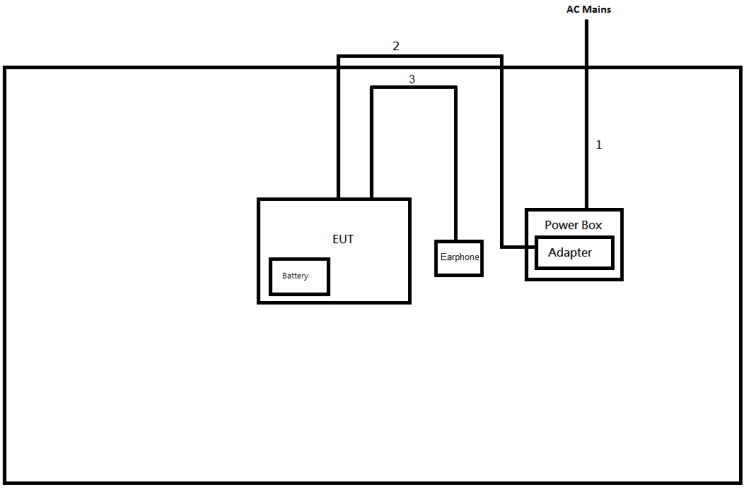
2.4 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test - Adapter Mode



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	USB cable	No	1.00	-
3	Audio cable	No	1.25	-

Test Setup Diagram - Radiated Test - Adapter Mode



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	USB cable	No	1.00	-
3	Audio cable	No	1.25	-

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

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

3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

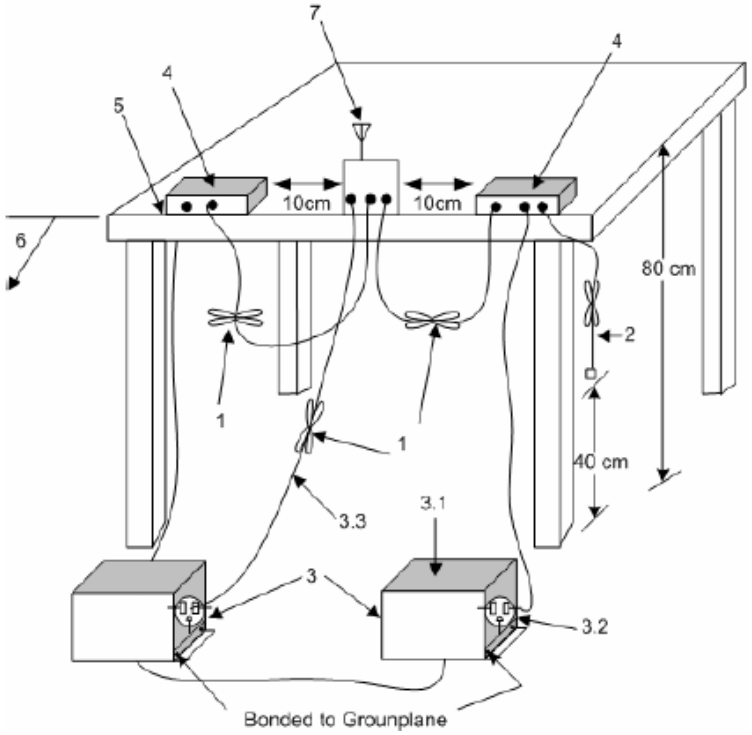
Test Method
☒ Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) +LISN(LISN Factor) + CL(Cable Loss) + AT(Attenuator).

3.1.5 Test Setup

AC Power-line Conducted Emissions



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50Ωloads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

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

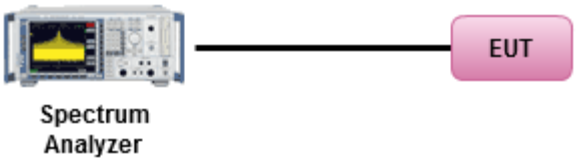
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup

Emission Bandwidth


3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band:
	▪ Outdoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6). e.i.r.p. at any elevation angle above 30 degrees ≤ 125mW [21dBm]
	▪ Indoor AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W. If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)
	▪ Point-to-point AP: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 1 W If G_{TX} > 23 dBi, then P_{Out} = 30 – (G_{TX} – 23).
	▪ Mobile or Portable Client: the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW. If G_{TX} > 6 dBi, then P_{Out} = 24 – (G_{TX} – 6).
☒	For the 5.25-5.35 GHz band, the maximum conducted output power (P_{Out}) shall not exceed the lesser of 250 mW or 11 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.
P_{Out} = maximum conducted output power in dBm, **G_{TX}** = the maximum transmitting antenna directional gain in dBi.	

3.3.2 Measuring Instruments

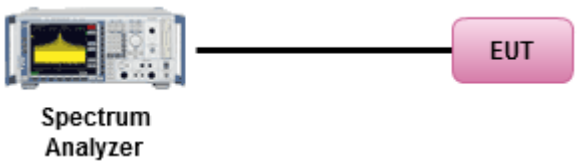
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

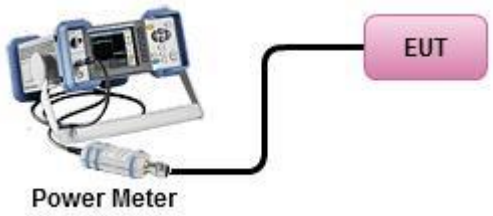
Test Method	
▪ Maximum Conducted Output Power	
	Duty cycle ≥ 98%
	☐ Refer as KDB 789033, clause E Method SA-2 (spectral trace averaging).
	Duty cycle < 98%
	☒ Refer as KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)
	Wideband RF power meter and average over on/off periods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

3.3.4 Test Setup

RF Output Power (Spectrum Analyzer)



RF Output Power (Power Meter)



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Peak Power Spectral Density

3.4.1 Peak Power Spectral Density Limit

Peak Power Spectral Density Limit	
UNII Devices	
☒	For the 5.15-5.25 GHz band:
	▪ Outdoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If G_{TX} > 6 dBi, then P_{Out} = 17 – (G_{TX} – 6).
	▪ Indoor AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If G_{TX} > 6 dBi, then P_{Out} = 17 – (G_{TX} – 6).
	▪ Point-to-point AP: the peak power spectral density (PPSD) shall not exceed the lesser of 17dBm/MHz. If G_{TX} > 23 dBi, then P_{Out} = 17 – (G_{TX} – 23).
	▪ Mobile or Portable Client: the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If G_{TX} > 6 dBi, then PPSD= 11 – (G_{TX} – 6)..
☒	For the 5.25-5.35 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If G_{TX} > 6 dBi, then PPSD= 11 – (G_{TX} – 6).
☒	For the 5.47-5.725 GHz band, the peak power spectral density (PPSD) ≤ 11 dBm/MHz. If G_{TX} > 6 dBi, then PPSD= 11 – (G_{TX} – 6).
☒	For the 5.725-5.85 GHz band:
	▪ Point-to-multipoint systems (P2M): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz. If G_{TX} > 6 dBi, then PPSD= 30 – (G_{TX} – 6).
	▪ Point-to-point systems (P2P): the peak power spectral density (PPSD) ≤ 30 dBm/500kHz.
PPSD = peak power spectral density that 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.	

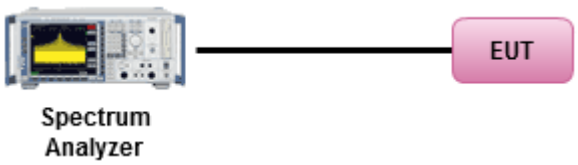
3.4.2 Measuring Instruments

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 KDB 789033, F)5) power spectral density can be measured using resolution bandwidths < 1 MHz provided that the results are integrated over 1 MHz bandwidth	
	Duty cycle ≥ 98%	
	☐ Refer as KDB 789033, clause E Method SA-2 (spectral trace averaging).	
	Duty cycle < 98%	
	☒ Refer as KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)	
▪ For conducted measurement.		
	▪ If the EUT supports multiple transmit chains using options given below:	
		▪ Measure and sum the spectra across the outputs. Refer as KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
	▪	If multiple transmit chains, EIRP PPSD calculation could be following as methods: $PPSD_{total} = PPSD_1 + PPSD_2 + \ldots + PPSD_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = PPSD_{total} + DG$

3.4.4 Test Setup

Power Spectral Density


3.4.5 Test Result of Peak Power Spectral Density

Refer as Appendix D

3.5 Unwanted Emissions

3.5.1 Transmitter Radiated Unwanted Emissions Limit

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

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

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

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

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

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

3.5.2 Measuring Instruments

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

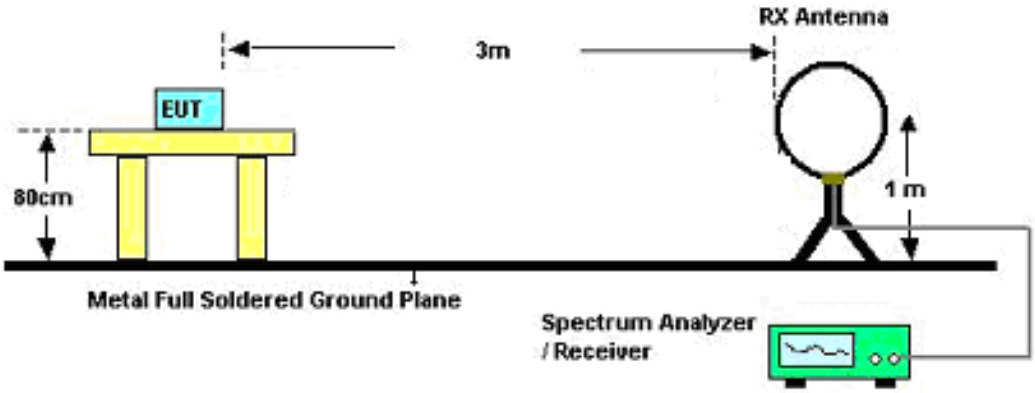
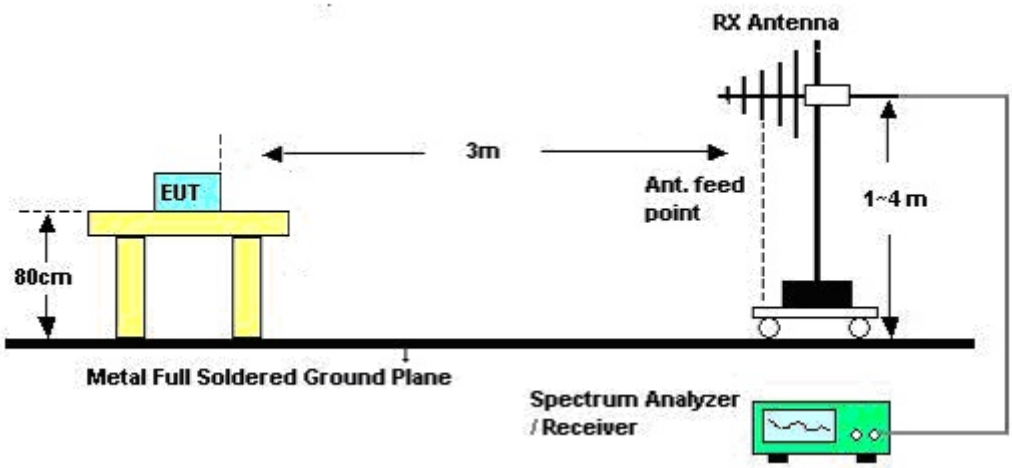
3.5.3 Test Procedures

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

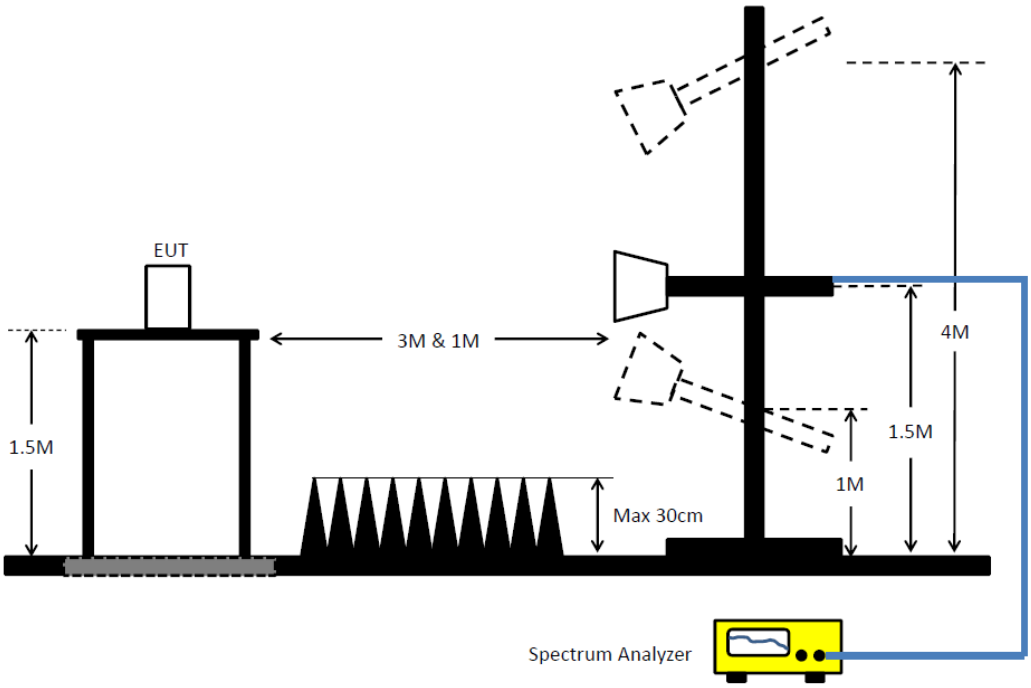
3.5.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

3.5.5 Test Setup

Transmitter Radiated Unwanted Emissions
9kHz ~30MHz

30MHz~1GHz


Above 1GHz



3.5.6 Transmitter Unwanted Emissions (Below 30MHz)

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

3.5.7 Test Result of Transmitter Unwanted Emissions

Refer as Appendix E

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR3	102051	9kHz ~ 3.6GHz	21/May/2021	20/May/2022
LISN	R&S	ENV216	101274	9kHz ~ 30MHz	13/May/2021	12/May/2022
LISN (Support Unit)	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127477	9kHz ~ 30MHz	25/Feb/2021	24/Feb/2022
RF Cable 5m	TITAN	TITAN	CO04-cable-01	0.1MHz~200MHz	03/Mar/2021	02/Mar/2022
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	26/Oct/2021	25/Oct/2022

Instrument for Radiated Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	03/Aug/2021	02/Aug/2022
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz~18GHz 3m	03/Aug/2021	02/Aug/2022
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	12/Oct/2021	11/Oct/2022
Amplifier	HP	8447D	2944A08033	10kHz~1.3GHz	13/Apr/2021	12/Apr/2022
Microwave Preamplifier	Agilent	8449B	3008A02326	1GHz~26.5GHz	15/Jul/2021	14/Jul/2022
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMCI	CBL6112B / N-6-05	22237 / AT-N-0603	30MHz~1GHz	17/Oct/2021	16/Oct/2022
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	2267	1GHz~18GHz	14/Sep/2021	13/Sep/2022
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz~30MHz	16/Jun/2021	15/Jun/2022
RF Cable-R03m	Jye Bao	RG142	MY37335/4+CB021-1+CB021-2	30MHz~1GHz	17/Mar/2021	16/Mar/2022
RF CABLE 5+6m	HUBER+SUHNER	SUOFLEX 104	SN MY38596/4+SN 804300/4	1GHz~40GHz	28/Jul/2021	27/Jul/2022
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	15GHz~40GHz	11/Mar/2021	10/Mar/2022
Microwave Premplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~ 40GHz	09/Mar/2021	08/Mar/2022
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2021	15/Mar/2022
EMI Test Receiver	R&S	ESR3	102052	9kHz~3.6GHz	19/Apr/2021	18/Apr/2022

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101013	10Hz~40GHz	30/Mar/2021	29/Mar/2022
Programmable Temp. & Humi. Chamber	Giant Force	GTH-225-20-SP -SD	MAA1112-007	-20~100℃	21/May/2021	20/May/2022
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	21/Oct/2021	20/Oct/2022
Pulse Sensor	Anritsu	MA2411B	0917017	300MHz~40GHz	23/Feb/2021	22/Feb/2022
Power Meter	Anritsu	ML2495A	0949003	300MHz~40GHz	23/Feb/2021	22/Feb/2022

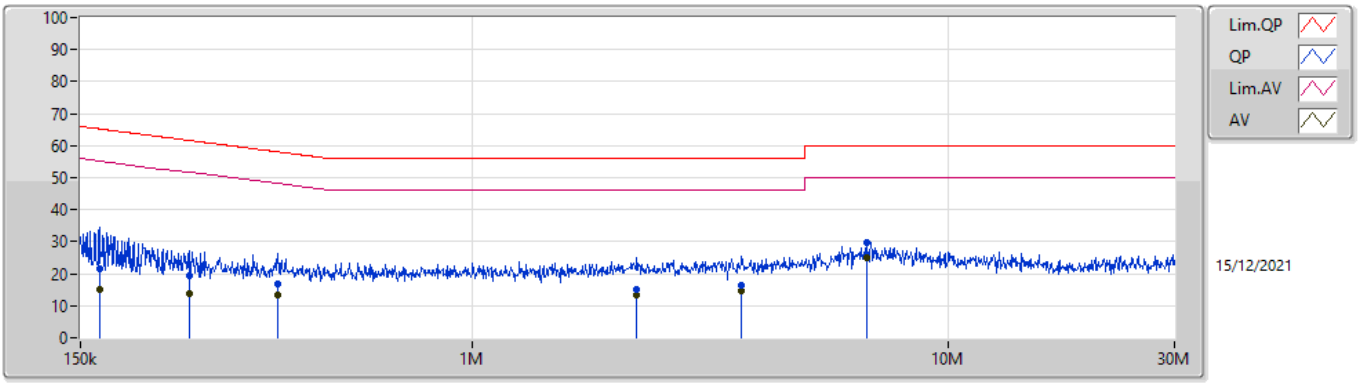
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	6.762M	24.80	50.00	-25.20	Line

Mode Configure

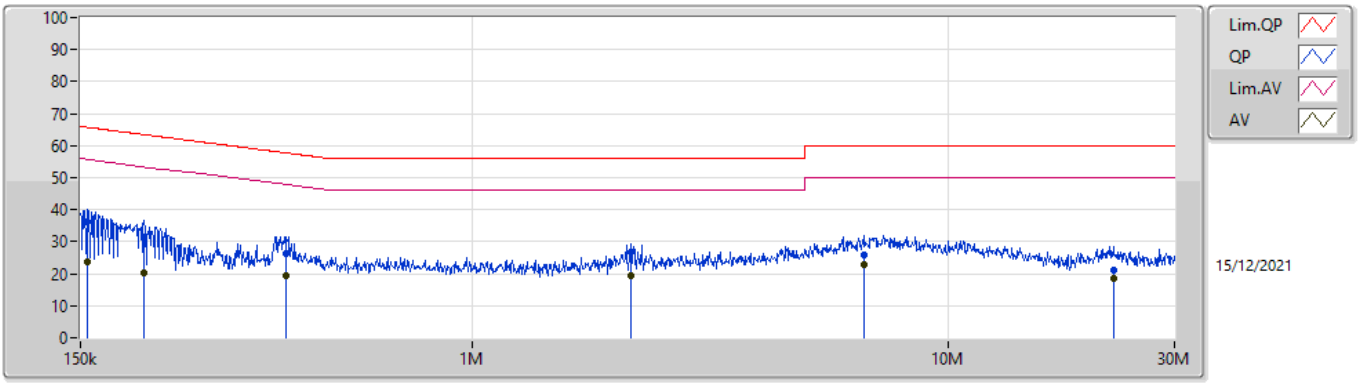
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	164.425k	21.56	65.24	-43.68	Line	-
Mode 1	Pass	AV	164.425k	15.06	55.24	-40.18	Line	-
Mode 1	Pass	QP	255.079k	19.30	61.58	-42.28	Line	-
Mode 1	Pass	AV	255.079k	13.80	51.58	-37.78	Line	-
Mode 1	Pass	QP	391.005k	16.87	58.05	-41.18	Line	-
Mode 1	Pass	AV	391.005k	13.56	48.05	-34.49	Line	-
Mode 1	Pass	QP	2.22M	14.97	56.00	-41.03	Line	-
Mode 1	Pass	AV	2.22M	13.30	46.00	-32.70	Line	-
Mode 1	Pass	QP	3.686M	16.31	56.00	-39.69	Line	-
Mode 1	Pass	AV	3.686M	14.57	46.00	-31.43	Line	-
Mode 1	Pass	QP	6.762M	29.68	60.00	-30.32	Line	-
Mode 1	Pass	AV	6.762M	24.80	50.00	-25.20	Line	-
Mode 1	Pass	QP	154.868k	36.14	65.73	-29.59	Neutral	-
Mode 1	Pass	AV	154.868k	23.67	55.73	-32.06	Neutral	-
Mode 1	Pass	QP	203.98k	31.60	63.44	-31.84	Neutral	-
Mode 1	Pass	AV	203.98k	20.18	53.44	-33.26	Neutral	-
Mode 1	Pass	QP	406.93k	26.14	57.70	-31.56	Neutral	-
Mode 1	Pass	AV	406.93k	19.49	47.70	-28.21	Neutral	-
Mode 1	Pass	QP	2.15M	26.71	56.00	-29.29	Neutral	-
Mode 1	Pass	AV	2.15M	19.39	46.00	-26.61	Neutral	-
Mode 1	Pass	QP	6.655M	26.04	60.00	-33.96	Neutral	-
Mode 1	Pass	AV	6.655M	22.69	50.00	-27.31	Neutral	-
Mode 1	Pass	QP	22.307M	21.20	60.00	-38.80	Neutral	-
Mode 1	Pass	AV	22.307M	18.36	50.00	-31.64	Neutral	-

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	164.425k	21.56	65.24	-43.68	19.64	Line	-	1.92	9.69	0.04	9.91
AV	164.425k	15.06	55.24	-40.18	19.64	Line	-	-4.58	9.69	0.04	9.91
QP	255.079k	19.30	61.58	-42.28	19.64	Line	-	-0.34	9.68	0.05	9.91
AV	255.079k	13.80	51.58	-37.78	19.64	Line	-	-5.84	9.68	0.05	9.91
QP	391.005k	16.87	58.05	-41.18	19.65	Line	-	-2.78	9.68	0.06	9.91
AV	391.005k	13.56	48.05	-34.49	19.65	Line	-	-6.09	9.68	0.06	9.91
QP	2.22M	14.97	56.00	-41.03	19.72	Line	-	-4.75	9.69	0.11	9.92
AV	2.22M	13.30	46.00	-32.70	19.72	Line	-	-6.42	9.69	0.11	9.92
QP	3.686M	16.31	56.00	-39.69	19.76	Line	-	-3.45	9.70	0.14	9.92
AV	3.686M	14.57	46.00	-31.43	19.76	Line	-	-5.19	9.70	0.14	9.92
QP	6.762M	29.68	60.00	-30.32	19.82	Line	-	9.86	9.72	0.17	9.93
AV	6.762M	24.80	50.00	-25.20	19.82	Line	-	4.98	9.72	0.17	9.93

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	154.868k	36.14	65.73	-29.59	19.64	Neutral	-	16.50	9.69	0.04	9.91
AV	154.868k	23.67	55.73	-32.06	19.64	Neutral	-	4.03	9.69	0.04	9.91
QP	203.98k	31.60	63.44	-31.84	19.62	Neutral	-	11.98	9.67	0.04	9.91
AV	203.98k	20.18	53.44	-33.26	19.62	Neutral	-	0.56	9.67	0.04	9.91
QP	406.93k	26.14	57.70	-31.56	19.64	Neutral	-	6.50	9.67	0.06	9.91
AV	406.93k	19.49	47.70	-28.21	19.64	Neutral	-	-0.15	9.67	0.06	9.91
QP	2.15M	26.71	56.00	-29.29	19.70	Neutral	-	7.01	9.68	0.10	9.92
AV	2.15M	19.39	46.00	-26.61	19.70	Neutral	-	-0.31	9.68	0.10	9.92
QP	6.655M	26.04	60.00	-33.96	19.82	Neutral	-	6.22	9.72	0.17	9.93
AV	6.655M	22.69	50.00	-27.31	19.82	Neutral	-	2.87	9.72	0.17	9.93
QP	22.307M	21.20	60.00	-38.80	19.97	Neutral	-	1.23	9.73	0.31	9.93
AV	22.307M	18.36	50.00	-31.64	19.97	Neutral	-	-1.61	9.73	0.31	9.93

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	25.8M	16.792M	16M8D1D	23.34M	16.732M
802.11ac VHT20_Nss1,(MCS0)_1TX	23.58M	17.901M	17M9D1D	23.31M	17.901M
802.11ac VHT40_Nss1,(MCS0)_1TX	41.52M	36.582M	36M6D1D	41.34M	36.522M
802.11ac VHT80_Nss1,(MCS0)_1TX	83.88M	76.162M	76M2D1D	83.88M	76.162M
5.25-5.35GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	23.52M	16.792M	16M8D1D	23.01M	16.762M
802.11ac VHT20_Nss1,(MCS0)_1TX	24.84M	17.931M	17M9D1D	23.31M	17.871M
802.11ac VHT40_Nss1,(MCS0)_1TX	41.34M	36.522M	36M5D1D	41.22M	36.402M
802.11ac VHT80_Nss1,(MCS0)_1TX	84M	76.282M	76M3D1D	84M	76.282M
5.47-5.725GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	23.76M	16.792M	16M8D1D	16.245M	13.403M
802.11ac VHT20_Nss1,(MCS0)_1TX	24.51M	17.901M	17M9D1D	16.29M	14.003M
802.11ac VHT40_Nss1,(MCS0)_1TX	41.52M	36.522M	36M5D1D	35.77M	33.128M
802.11ac VHT80_Nss1,(MCS0)_1TX	84.72M	76.282M	76M3D1D	77.4M	72.639M
5.725-5.85GHz	-	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	15.72M	16.762M	16M8D1D	3.12M	4.758M
802.11ac VHT20_Nss1,(MCS0)_1TX	16.86M	17.931M	17M9D1D	3.74M	5.077M
802.11ac VHT40_Nss1,(MCS0)_1TX	35.64M	36.522M	36M5D1D	3.14M	4.158M
802.11ac VHT80_Nss1,(MCS0)_1TX	73.92M	76.162M	76M2D1D	3.14M	5.297M

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

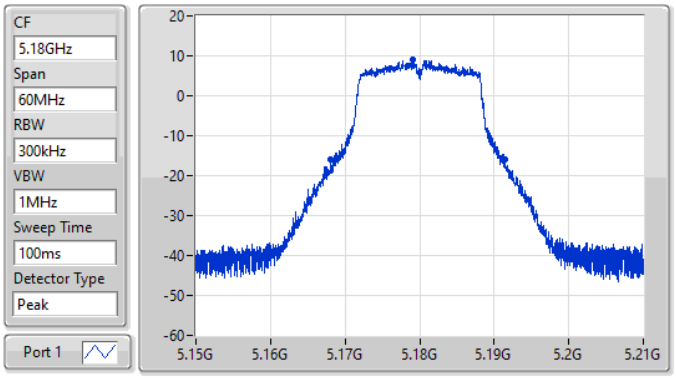
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-
5180MHz	Pass	Inf	23.34M	16.792M
5200MHz	Pass	Inf	25.8M	16.792M
5240MHz	Pass	Inf	23.52M	16.732M
5260MHz	Pass	Inf	23.34M	16.762M
5300MHz	Pass	Inf	23.52M	16.792M
5320MHz	Pass	Inf	23.01M	16.762M
5500MHz	Pass	Inf	22.95M	16.762M
5580MHz	Pass	Inf	23.76M	16.762M
5700MHz	Pass	Inf	23.13M	16.792M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	16.245M	13.403M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.12M	4.758M
5745MHz	Pass	500k	15.72M	16.762M
5785MHz	Pass	500k	15.12M	16.732M
5825MHz	Pass	500k	15.36M	16.762M
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-
5180MHz	Pass	Inf	23.46M	17.901M
5200MHz	Pass	Inf	23.58M	17.901M
5240MHz	Pass	Inf	23.31M	17.901M
5260MHz	Pass	Inf	24.84M	17.901M
5300MHz	Pass	Inf	23.76M	17.871M
5320MHz	Pass	Inf	23.31M	17.931M
5500MHz	Pass	Inf	24.51M	17.901M
5580MHz	Pass	Inf	24.3M	17.901M
5700MHz	Pass	Inf	24.12M	17.901M
5720MHz Straddle 5.47-5.725GHz	Pass	Inf	16.29M	14.003M
5720MHz Straddle 5.725-5.85GHz	Pass	500k	3.74M	5.077M
5745MHz	Pass	500k	16.86M	17.901M
5785MHz	Pass	500k	15.12M	17.931M
5825MHz	Pass	500k	15.06M	17.931M
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-
5190MHz	Pass	Inf	41.34M	36.582M
5230MHz	Pass	Inf	41.52M	36.522M
5270MHz	Pass	Inf	41.34M	36.402M
5310MHz	Pass	Inf	41.22M	36.522M
5510MHz	Pass	Inf	41.22M	36.522M
5550MHz	Pass	Inf	41.52M	36.522M
5670MHz	Pass	Inf	41.28M	36.522M
5710MHz Straddle 5.47-5.725GHz	Pass	Inf	35.77M	33.128M
5710MHz Straddle 5.725-5.85GHz	Pass	500k	3.14M	4.158M
5755MHz	Pass	500k	35.16M	36.462M
5795MHz	Pass	500k	35.64M	36.522M
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-	-	-
5210MHz	Pass	Inf	83.88M	76.162M
5290MHz	Pass	Inf	84M	76.282M
5530MHz	Pass	Inf	83.88M	76.282M
5610MHz	Pass	Inf	84.72M	76.162M
5690MHz Straddle 5.47-5.725GHz	Pass	Inf	77.4M	72.639M
5690MHz Straddle 5.725-5.85GHz	Pass	500k	3.14M	5.297M
5775MHz	Pass	500k	73.92M	76.162M

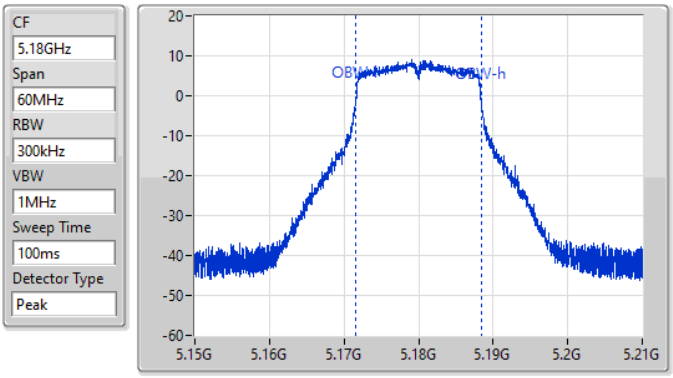
Port X-N dB = Port X 6dB down bandwidth for 5.725-5.85GHz band / 26dB down bandwidth for other band
Port X-OBW = Port X 99% occupied bandwidth

802.11a_Nss1,(6Mbps)_1TX EBW

5180MHz

20/12/2021



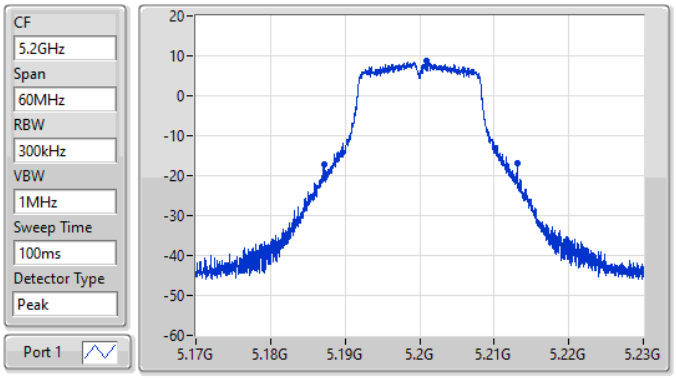


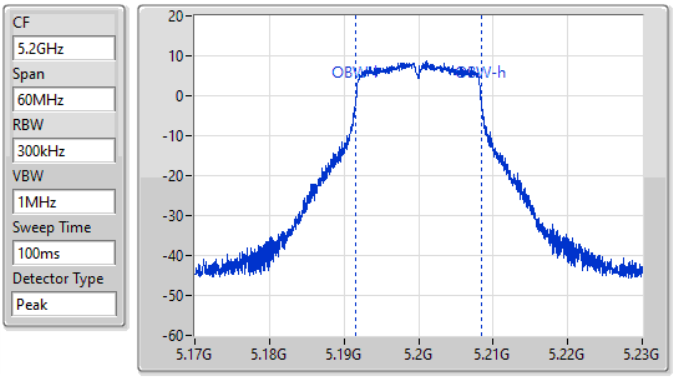
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.34M	5.16809G	5.19143G	16.792M	5.171574G	5.188366G	Inf	1

802.11a_Nss1,(6Mbps)_1TX EBW

5200MHz

20/12/2021



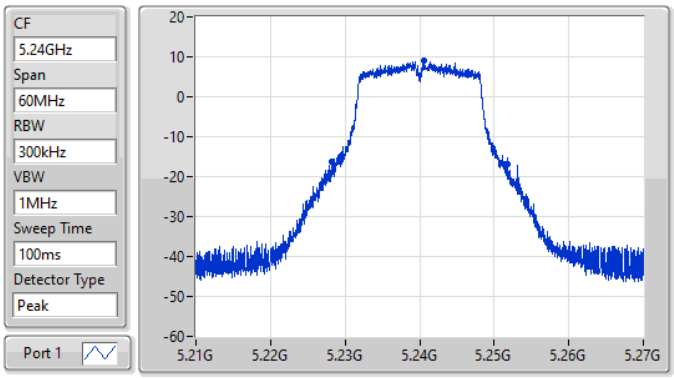


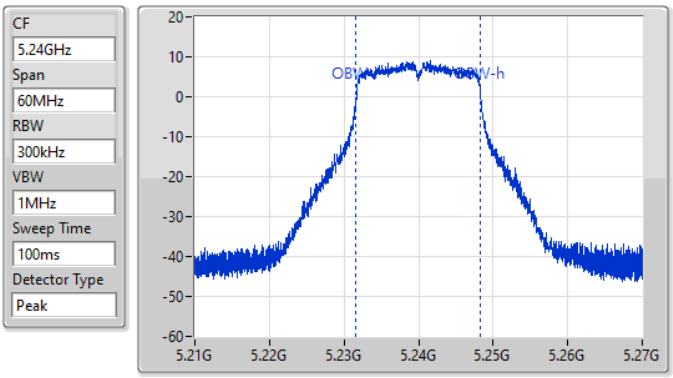
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
25.8M	5.18725G	5.21305G	16.792M	5.191574G	5.208366G	Inf	1

802.11a_Nss1,(6Mbps)_1TX EBW

5240MHz

20/12/2021



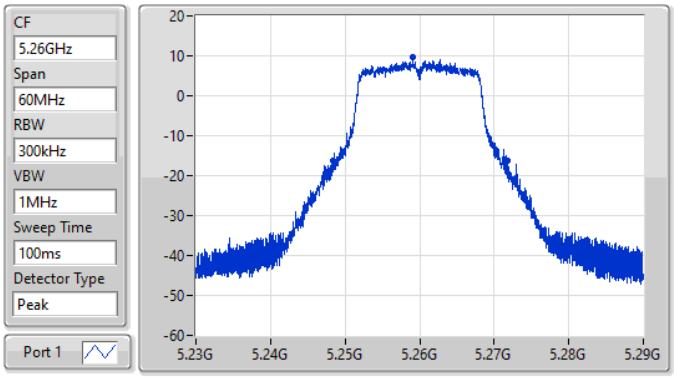


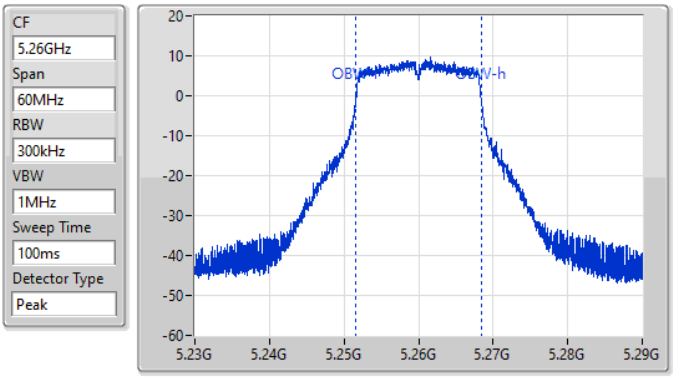
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.52M	5.22827G	5.25179G	16.732M	5.231604G	5.248336G	Inf	1

802.11a_Nss1,(6Mbps)_1TX EBW

5260MHz

20/12/2021



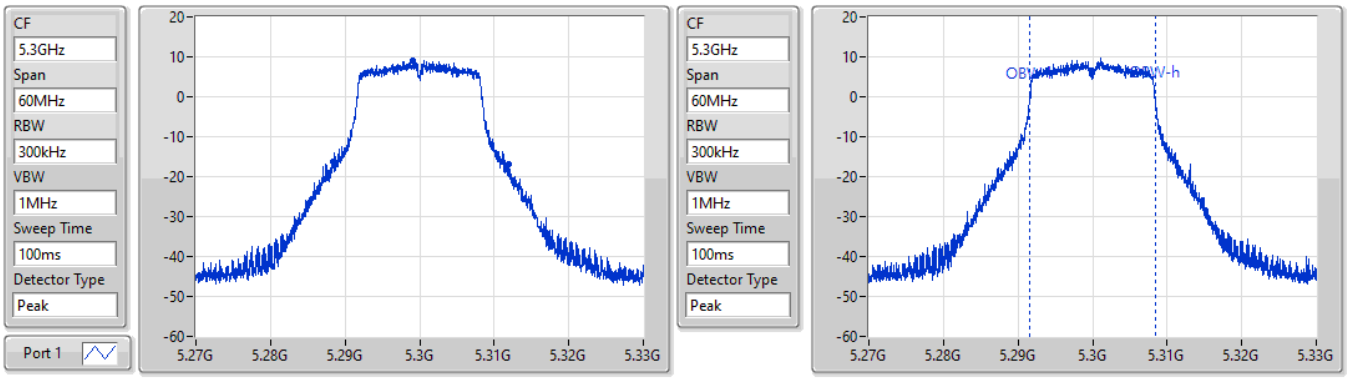


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.34M	5.24842G	5.27176G	16.762M	5.251604G	5.268366G	Inf	1

802.11a_Nss1,(6Mbps)_1TX EBW

5300MHz

20/12/2021

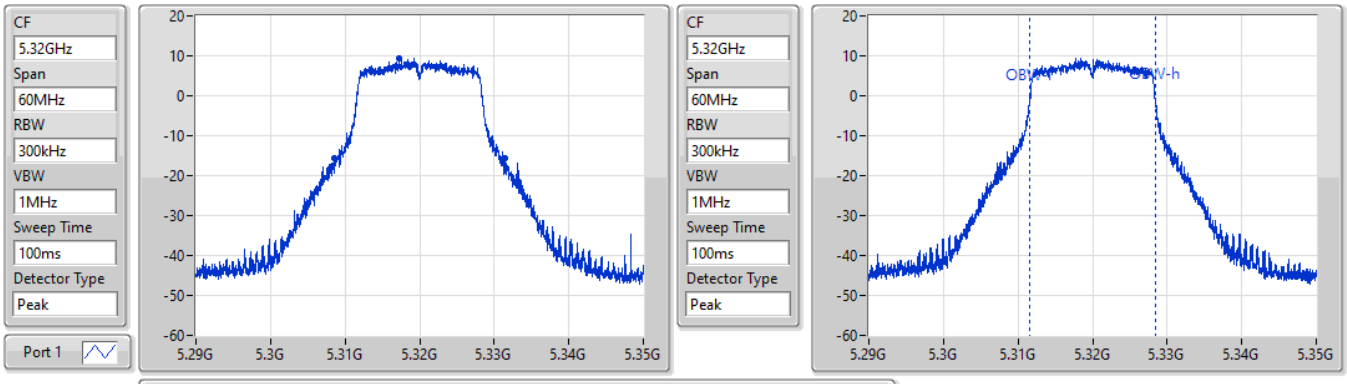


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.52M	5.28836G	5.31188G	16.792M	5.291574G	5.308366G	Inf	1

802.11a_Nss1,(6Mbps)_1TX EBW

5320MHz

20/12/2021

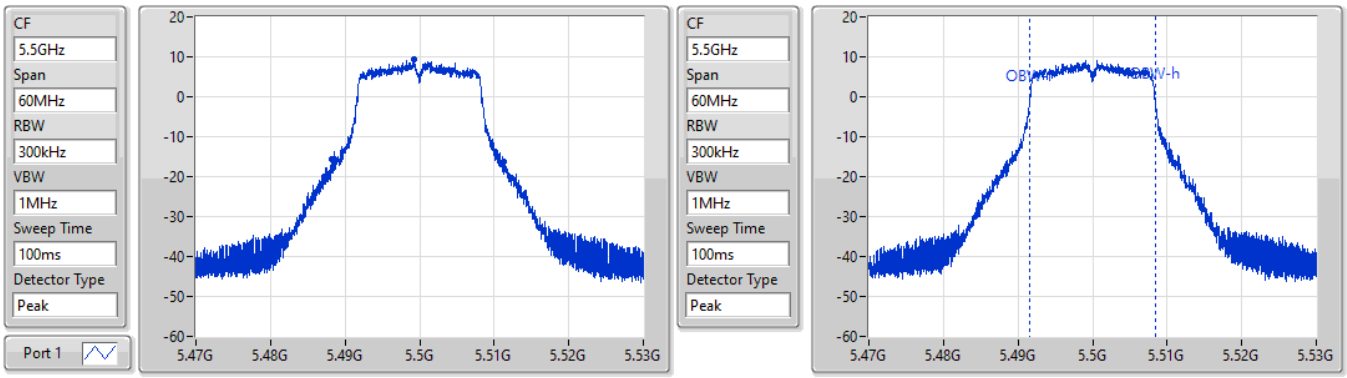


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.01M	5.30851G	5.33152G	16.762M	5.311604G	5.328366G	Inf	1

802.11a_Nss1,(6Mbps)_1TX EBW

5500MHz

20/12/2021

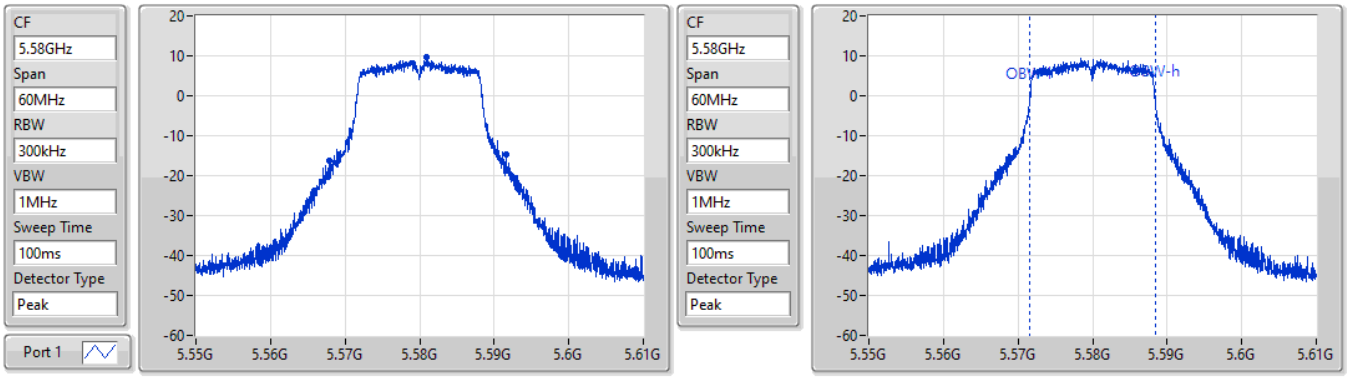


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
22.95M	5.48827G	5.51122G	16.762M	5.491604G	5.508366G	Inf	1

802.11a_Nss1,(6Mbps)_1TX EBW

5580MHz

20/12/2021

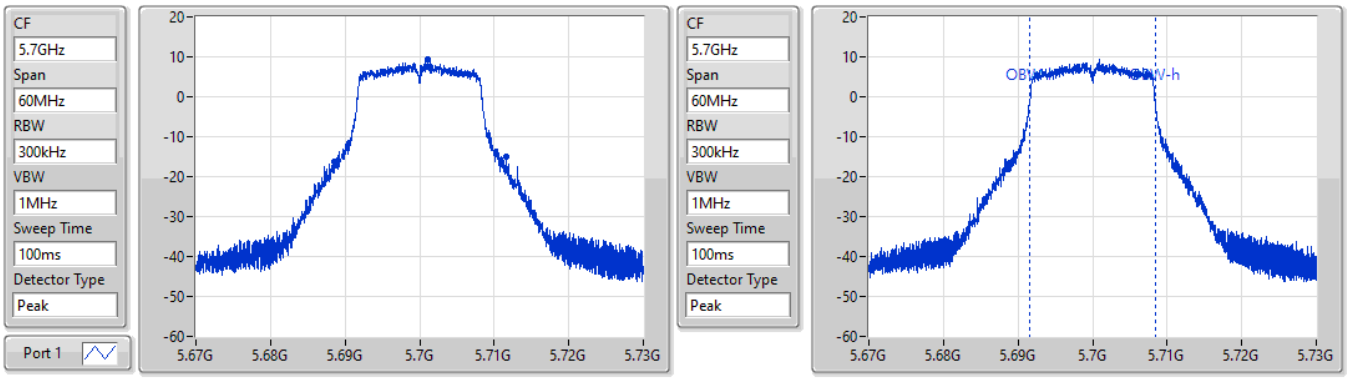


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.76M	5.56785G	5.59161G	16.762M	5.571604G	5.588366G	Inf	1

802.11a_Nss1,(6Mbps)_1TX EBW

5700MHz

20/12/2021

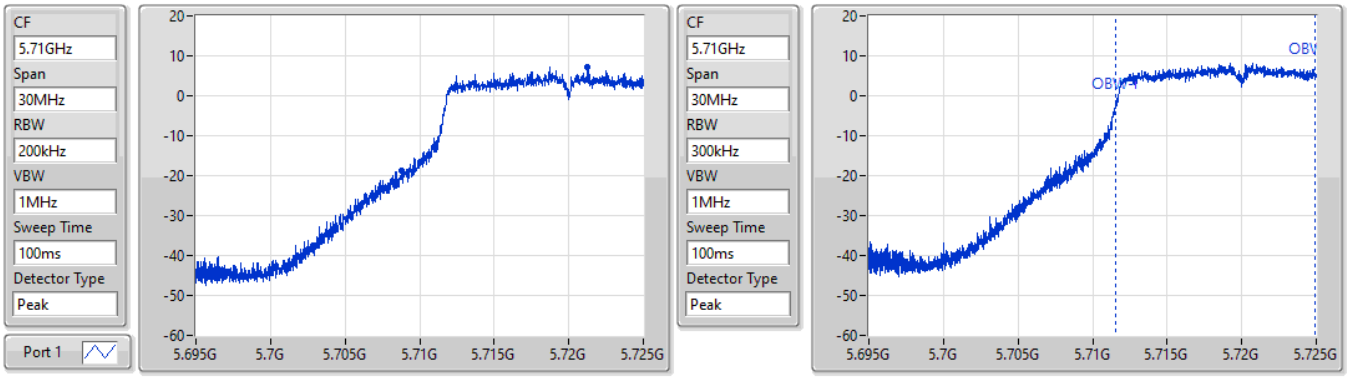


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.13M	5.68851G	5.71164G	16.792M	5.691574G	5.708366G	Inf	1

802.11a_Nss1,(6Mbps)_1TX EBW

5720MHz Straddle 5.47-5.725GHz

20/12/2021



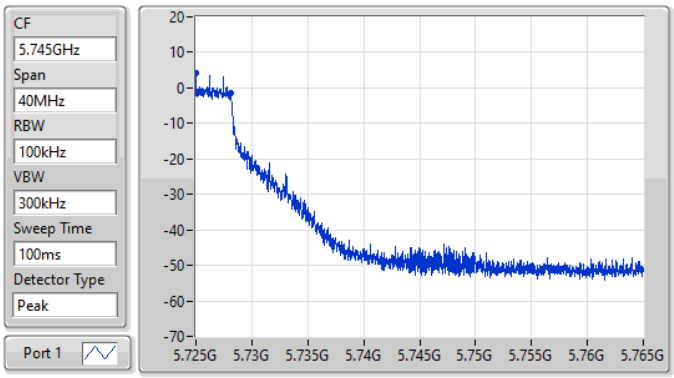
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.245M	5.708755G	5.725G	13.403M	5.711514G	5.724918G	Inf	1

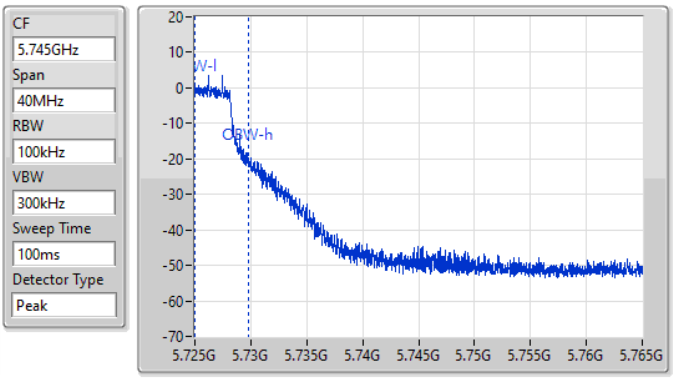
802.11a_Nss1,(6Mbps)_1TX

EBW

5720MHz Straddle 5.725-5.85GHz

20/12/2021





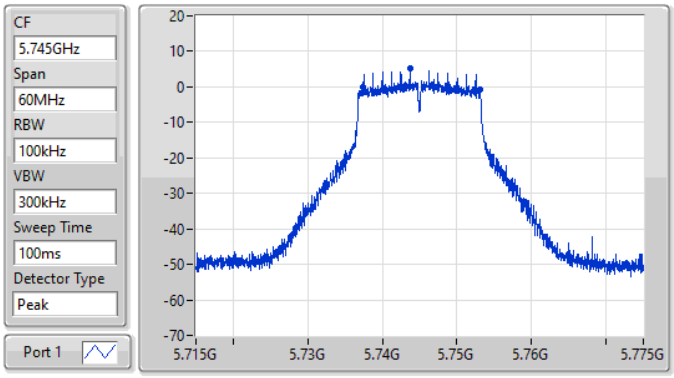
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
3.12M	5.725G	5.72812G	4.758M	5.72501G	5.729768G	500k	1

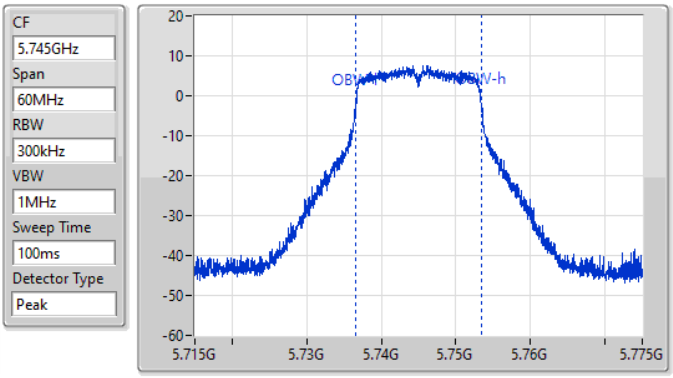
802.11a_Nss1,(6Mbps)_1TX

EBW

5745MHz

20/12/2021



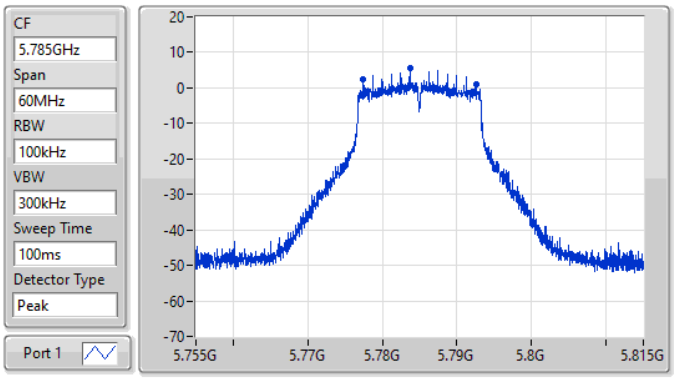


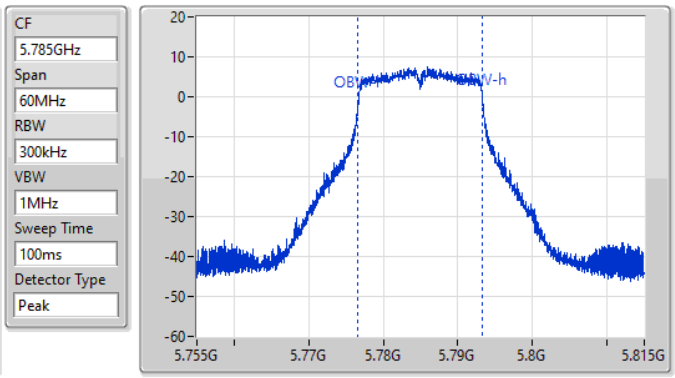
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.72M	5.73741G	5.75313G	16.762M	5.736604G	5.753366G	500k	1

802.11a_Nss1,(6Mbps)_1TX EBW

5785MHz

20/12/2021



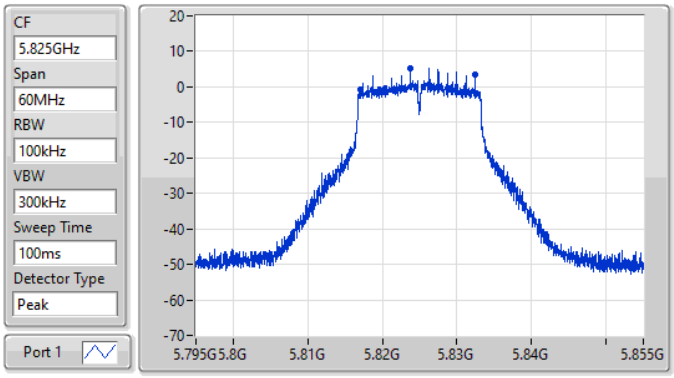


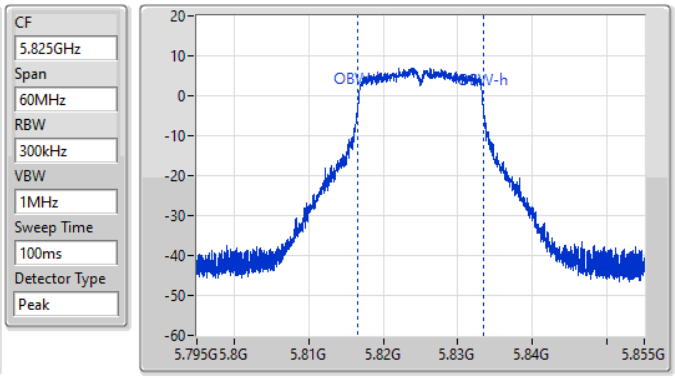
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.12M	5.77744G	5.79256G	16.732M	5.776604G	5.793336G	500k	1

802.11a_Nss1,(6Mbps)_1TX EBW

5825MHz

20/12/2021



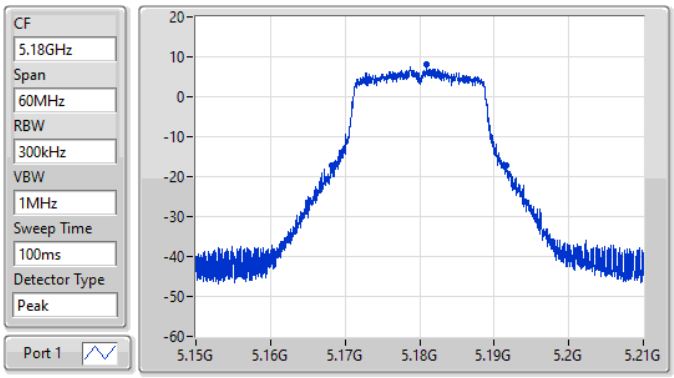


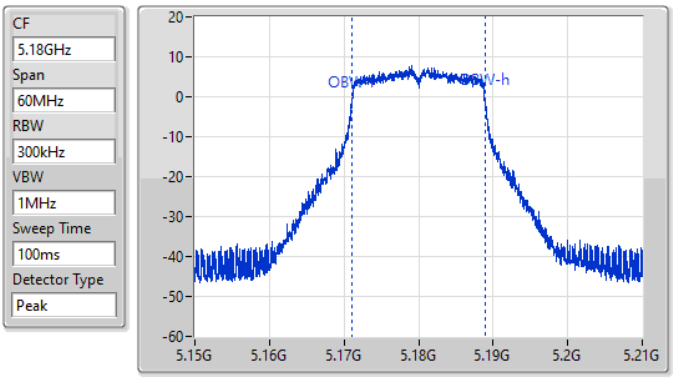
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.36M	5.81711G	5.83247G	16.762M	5.816604G	5.833366G	500k	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5180MHz

20/12/2021



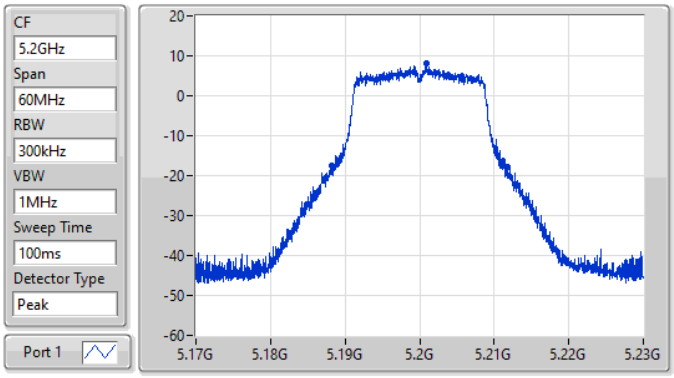


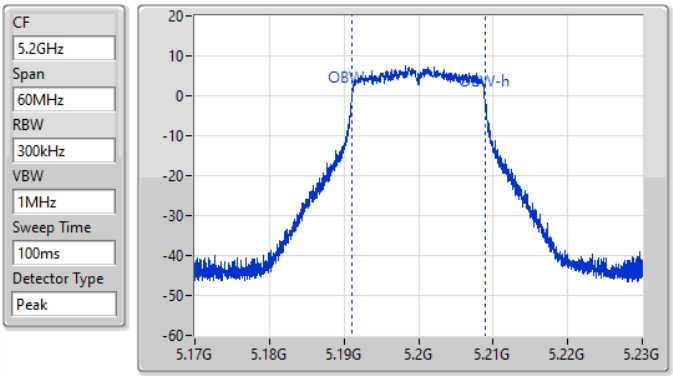
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.46M	5.16821G	5.19167G	17.901M	5.171034G	5.188936G	Inf	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5200MHz

20/12/2021



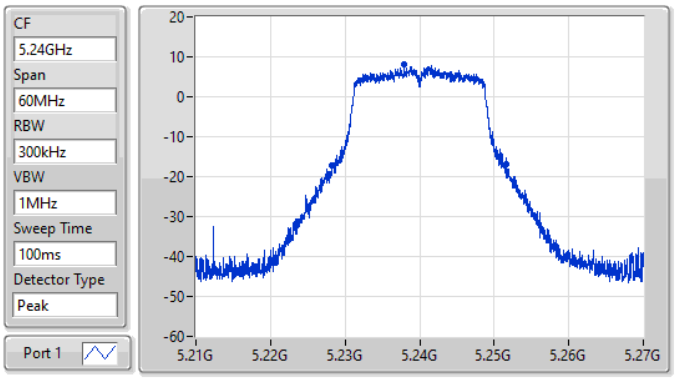


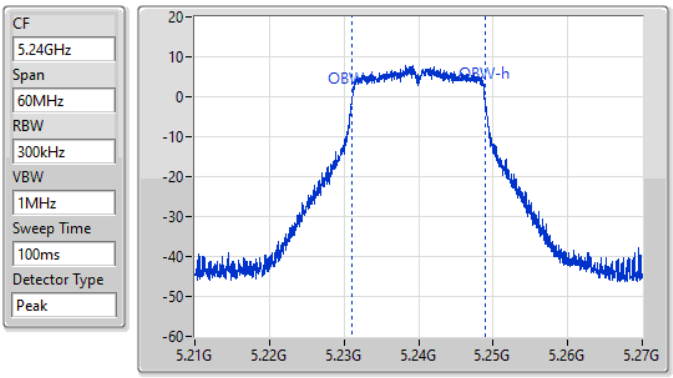
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.58M	5.18824G	5.21182G	17.901M	5.191034G	5.208936G	Inf	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5240MHz

20/12/2021



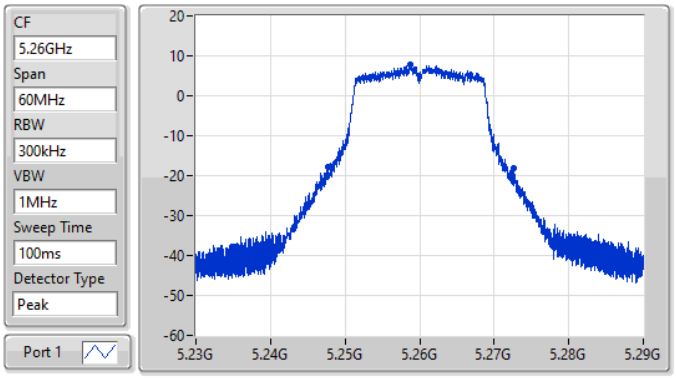


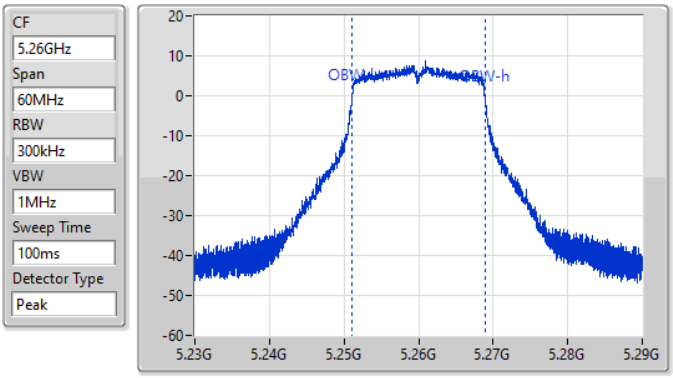
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.31M	5.22827G	5.25158G	17.901M	5.231034G	5.248936G	Inf	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5260MHz

20/12/2021



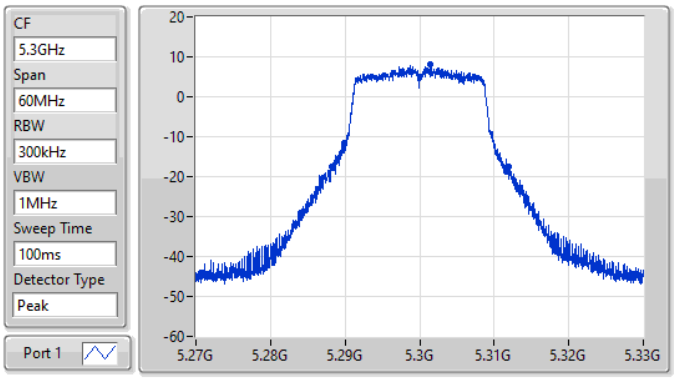


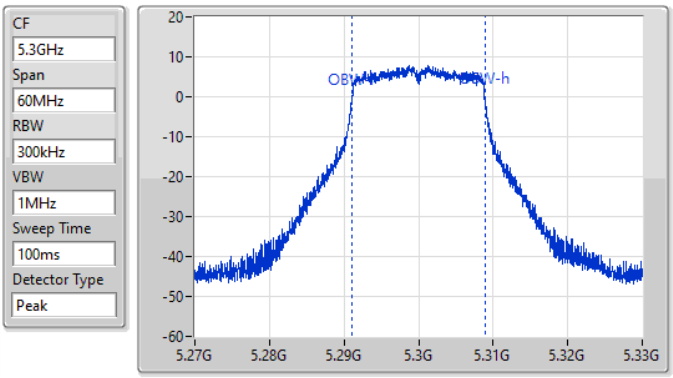
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
24.84M	5.2477G	5.27254G	17.901M	5.251034G	5.268936G	Inf	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5300MHz

20/12/2021



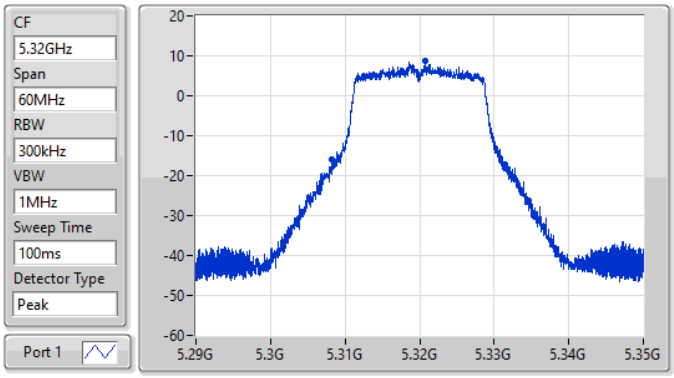


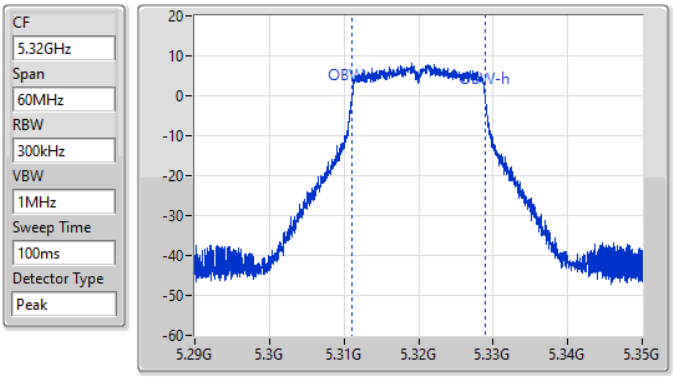
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.76M	5.28815G	5.31191G	17.871M	5.291034G	5.308906G	Inf	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5320MHz

20/12/2021



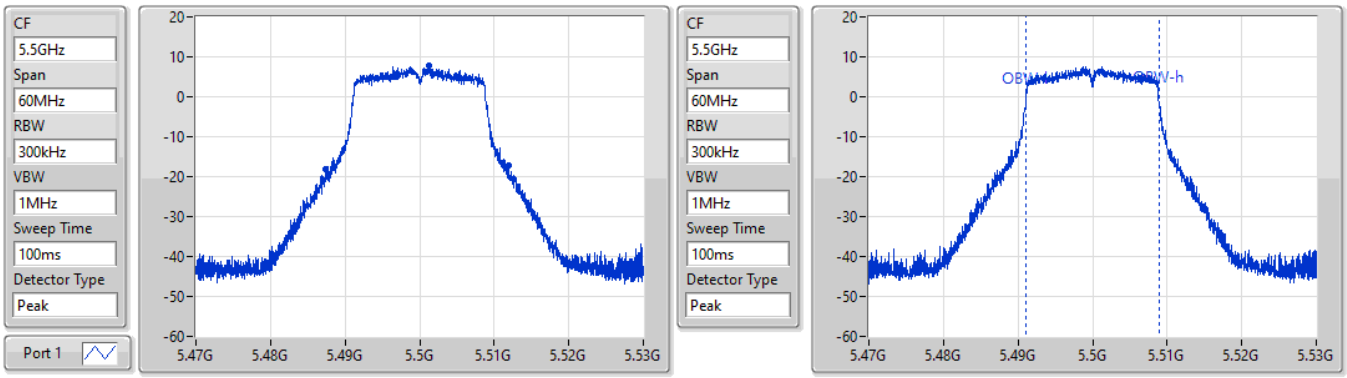


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
23.31M	5.30818G	5.33149G	17.931M	5.311004G	5.328936G	Inf	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5500MHz

20/12/2021

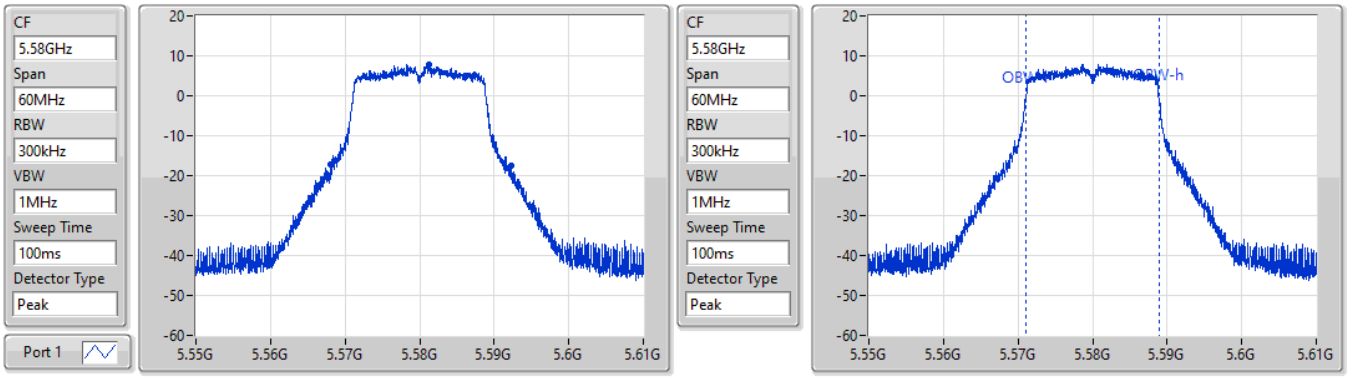


26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
24.51M	5.48743G	5.51194G	17.901M	5.491034G	5.508936G	Inf	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5580MHz

20/12/2021

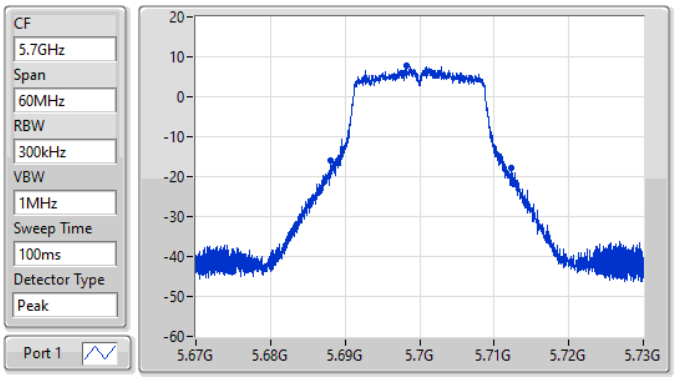


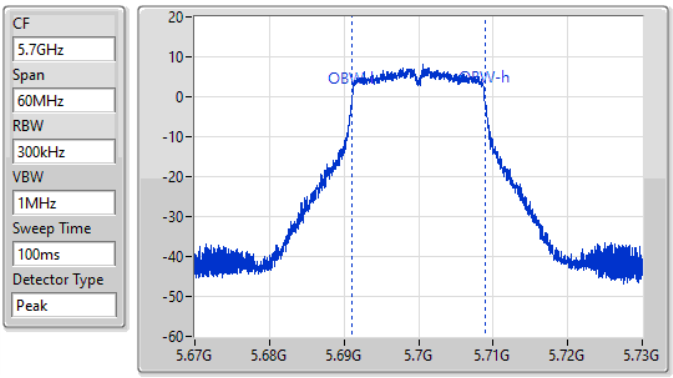
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
24.3M	5.568G	5.5923G	17.901M	5.571004G	5.588906G	Inf	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5700MHz

20/12/2021



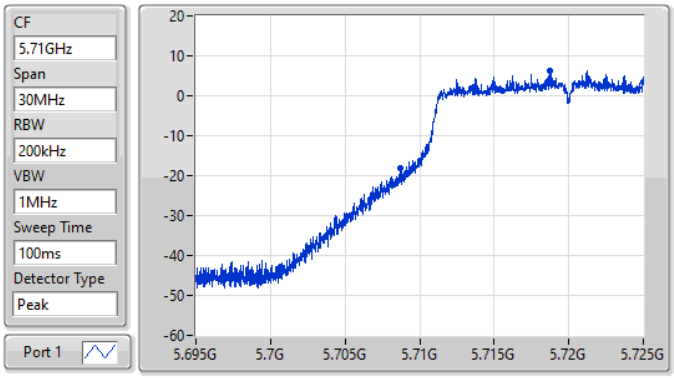


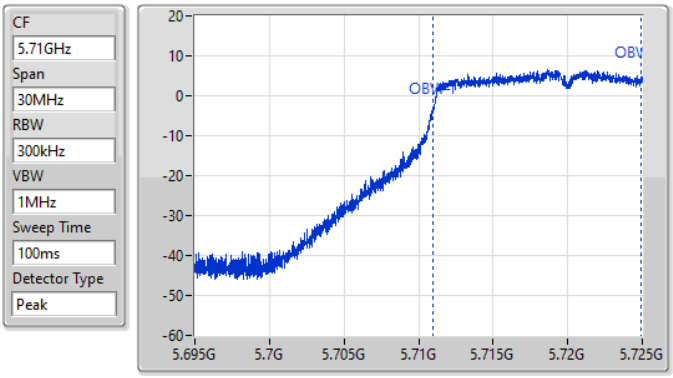
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
24.12M	5.68812G	5.71224G	17.901M	5.691034G	5.708936G	Inf	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5720MHz Straddle 5.47-5.725GHz

20/12/2021



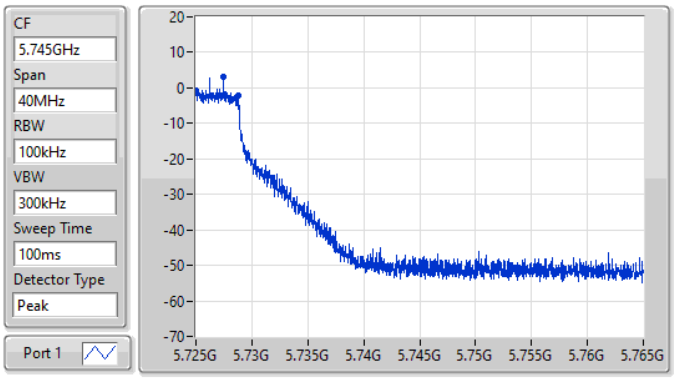


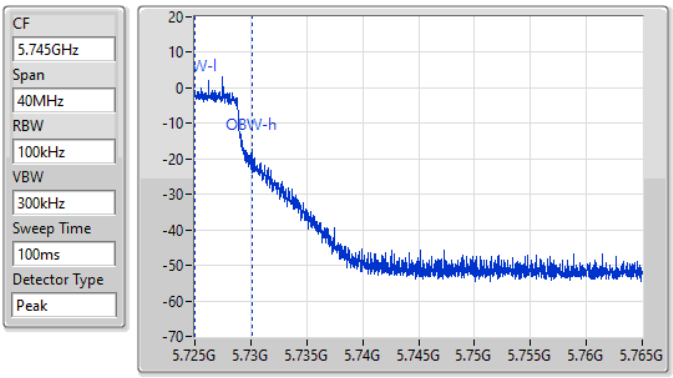
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.29M	5.70871G	5.725G	14.003M	5.71093G	5.724933G	Inf	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5720MHz Straddle 5.725-5.85GHz

20/12/2021



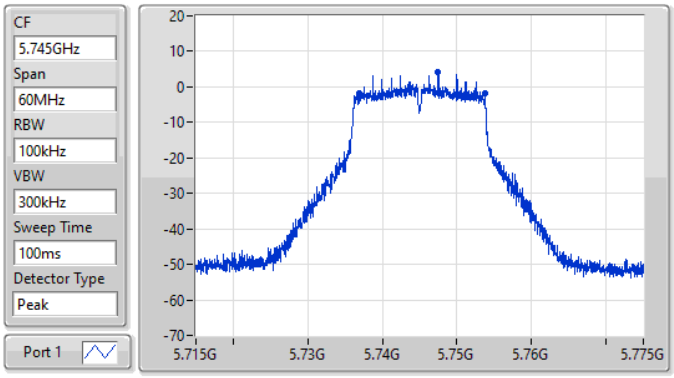


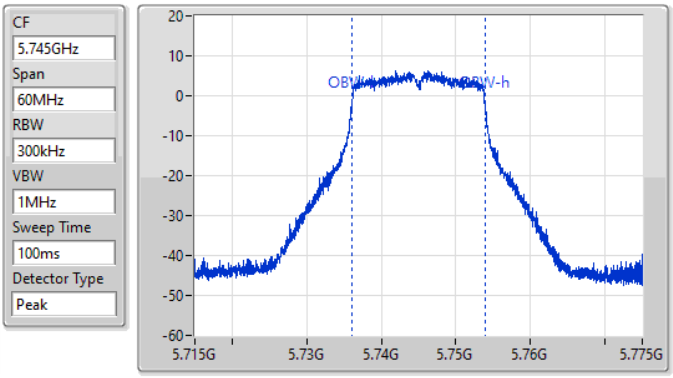
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
3.74M	5.725G	5.72874G	5.077M	5.72501G	5.730087G	500k	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5745MHz

20/12/2021



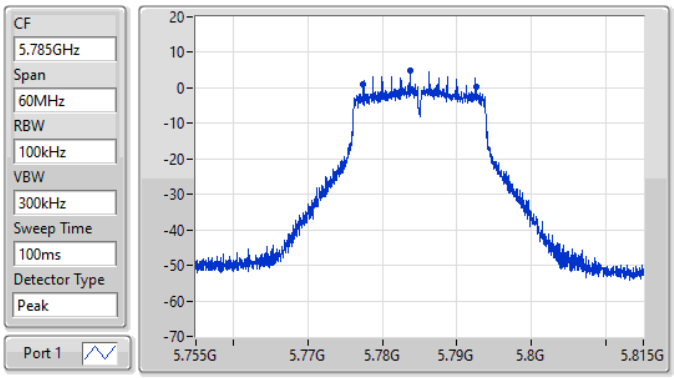


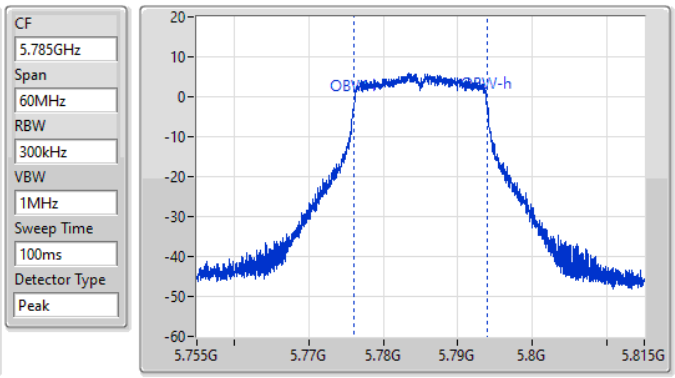
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.86M	5.73687G	5.75373G	17.901M	5.736004G	5.753906G	500k	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5785MHz

20/12/2021



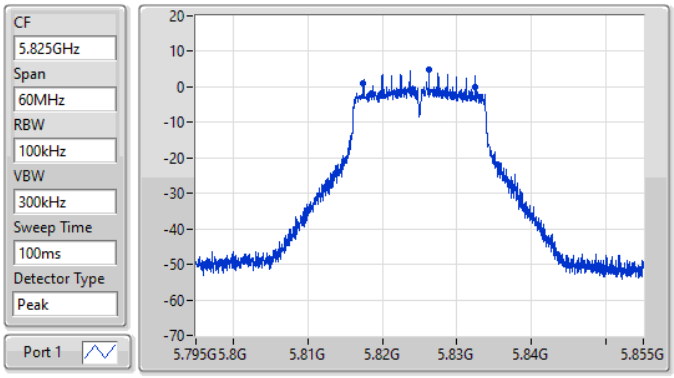


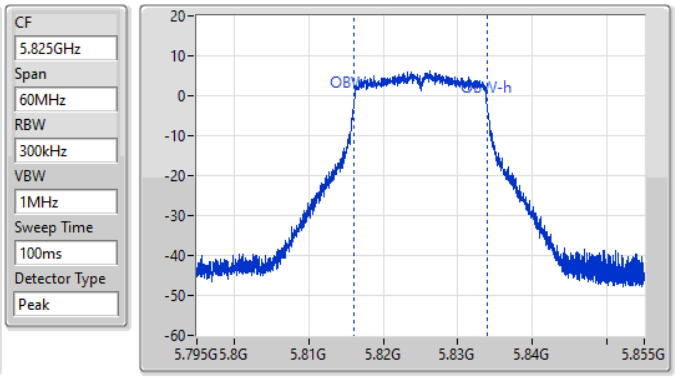
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.12M	5.77744G	5.79256G	17.931M	5.776004G	5.793936G	500k	1

802.11ac VHT20_Nss1,(MCS0)_1TX EBW

5825MHz

20/12/2021



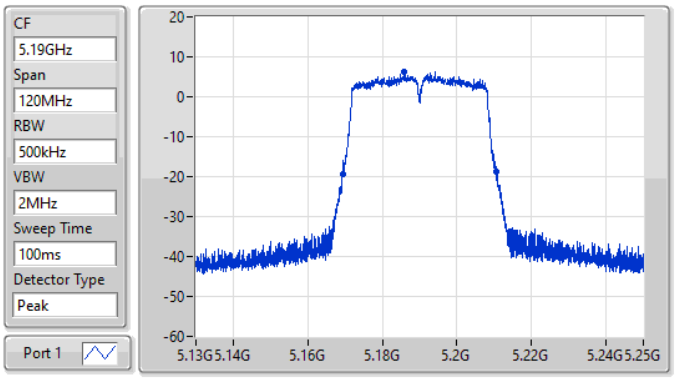


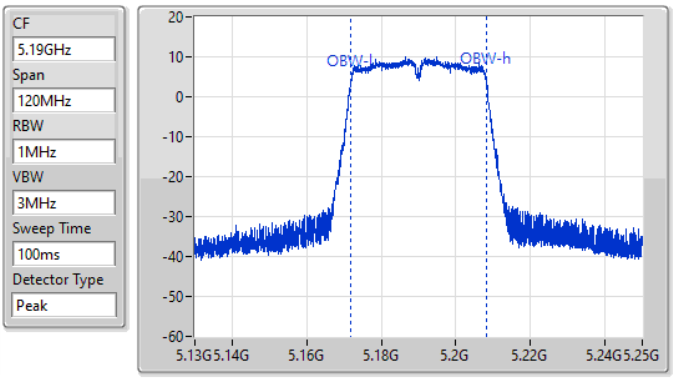
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
15.06M	5.81744G	5.8325G	17.931M	5.816004G	5.833936G	500k	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

5190MHz

20/12/2021



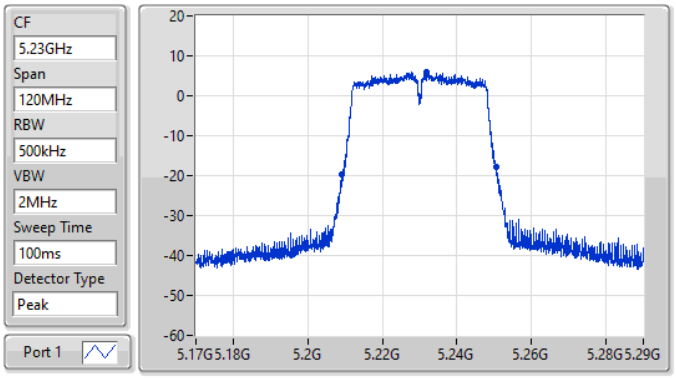


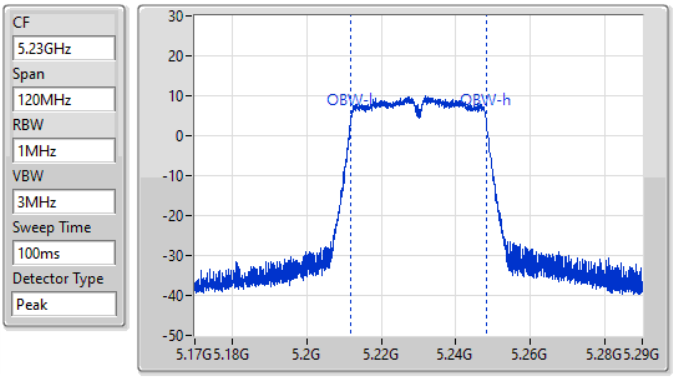
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.34M	5.1693G	5.21064G	36.582M	5.171709G	5.208291G	Inf	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

5230MHz

20/12/2021



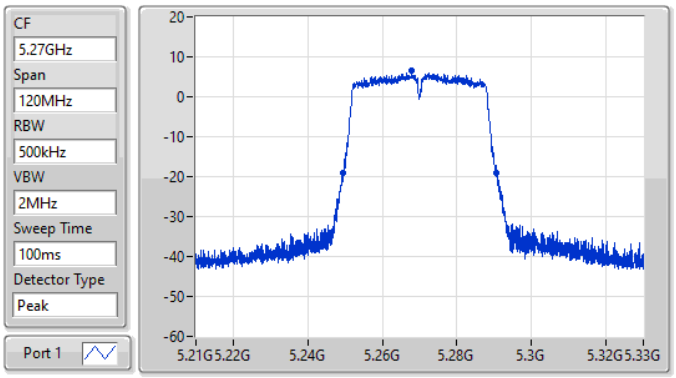


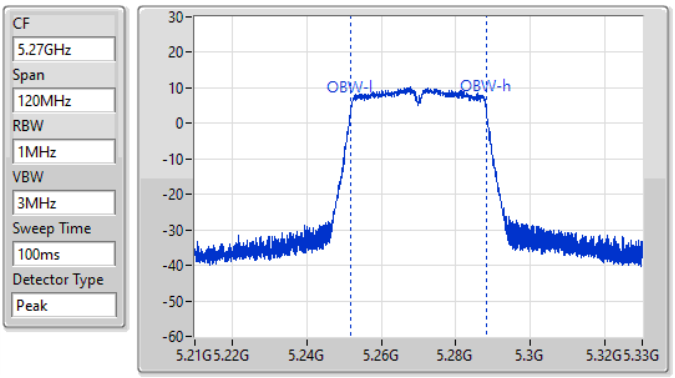
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.52M	5.20918G	5.2507G	36.522M	5.211709G	5.248231G	Inf	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

5270MHz

20/12/2021



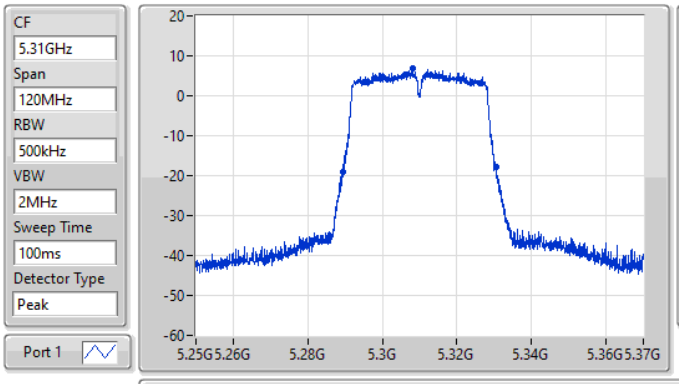


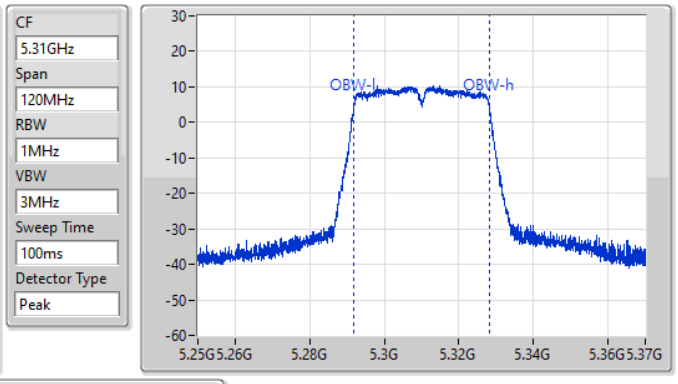
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.34M	5.24936G	5.2907G	36.402M	5.251769G	5.288171G	Inf	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

5310MHz

20/12/2021



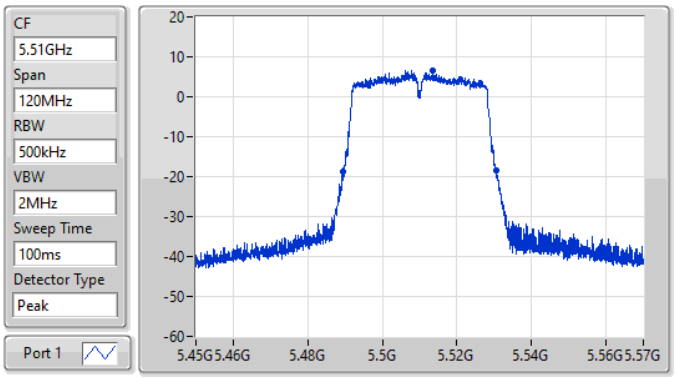


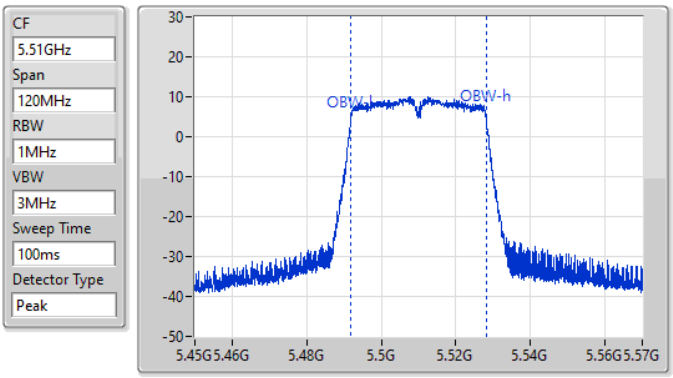
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.22M	5.28936G	5.33058G	36.522M	5.291709G	5.328231G	Inf	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

5510MHz

20/12/2021



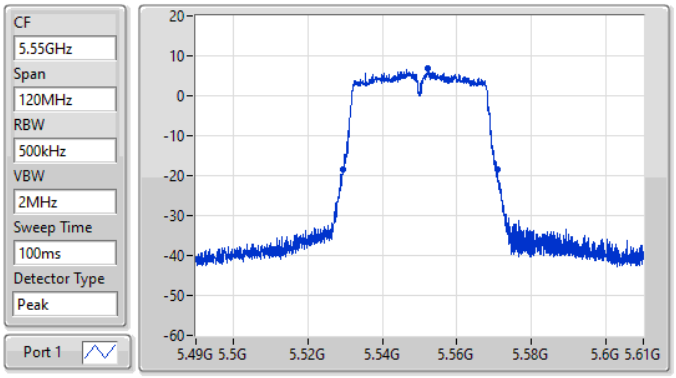


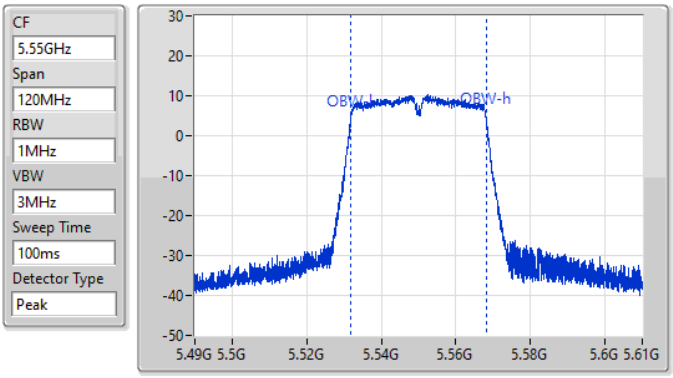
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.22M	5.4893G	5.53052G	36.522M	5.491709G	5.528231G	Inf	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

5550MHz

20/12/2021



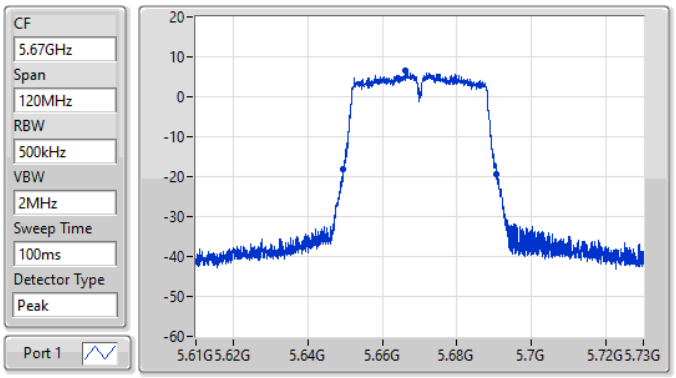


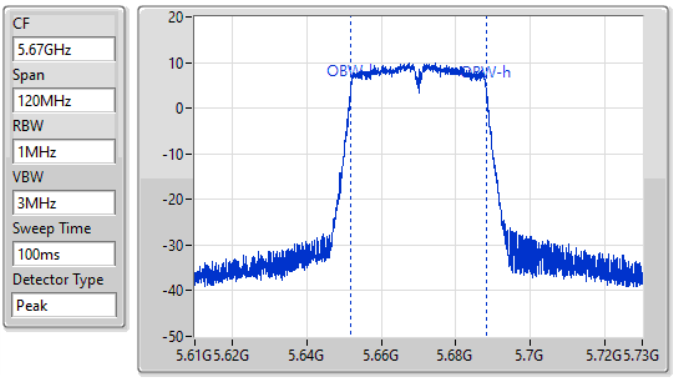
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.52M	5.5293G	5.57082G	36.522M	5.531709G	5.568231G	Inf	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

5670MHz

20/12/2021



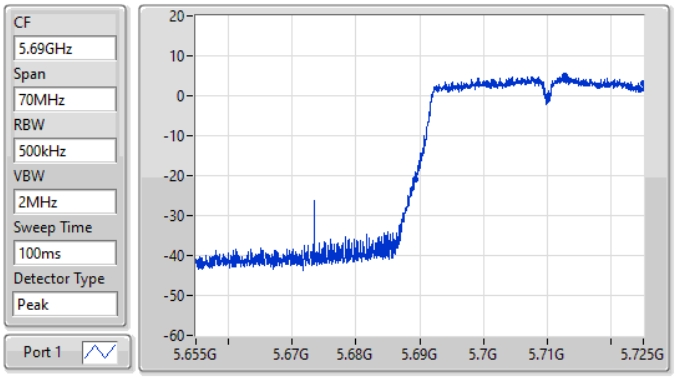


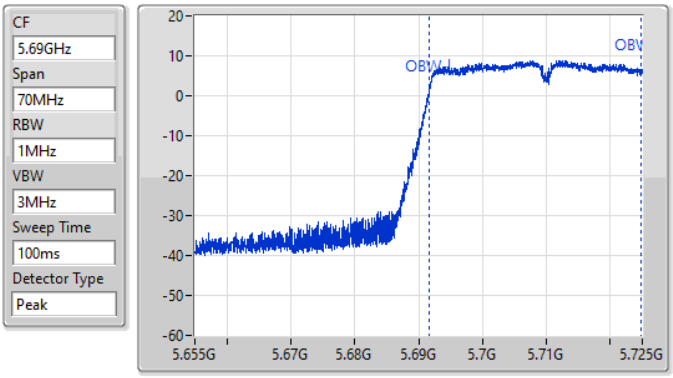
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
41.28M	5.64936G	5.69064G	36.522M	5.651709G	5.688231G	Inf	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

5710MHz Straddle 5.47-5.725GHz

20/12/2021



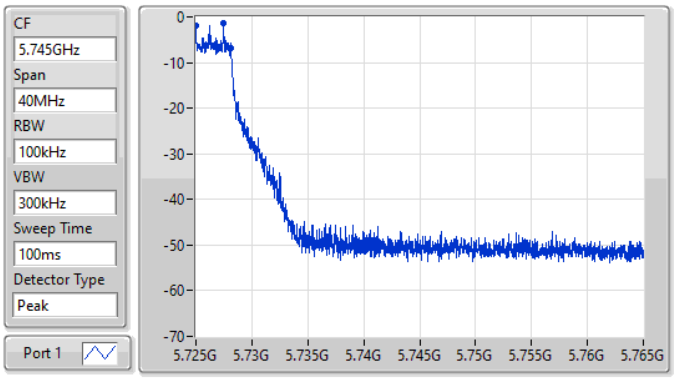


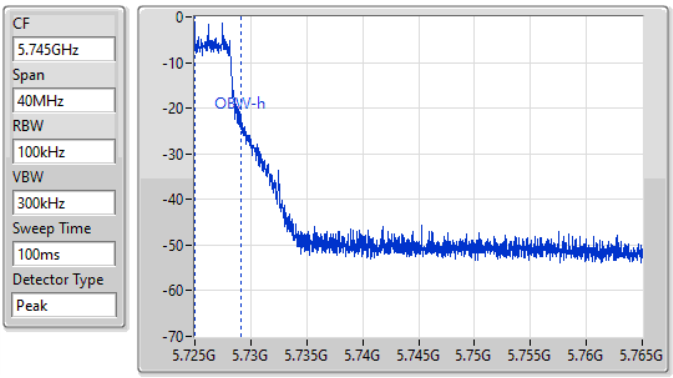
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.77M	5.68923G	5.725G	33.128M	5.691679G	5.724808G	Inf	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

5710MHz Straddle 5.725-5.85GHz

20/12/2021



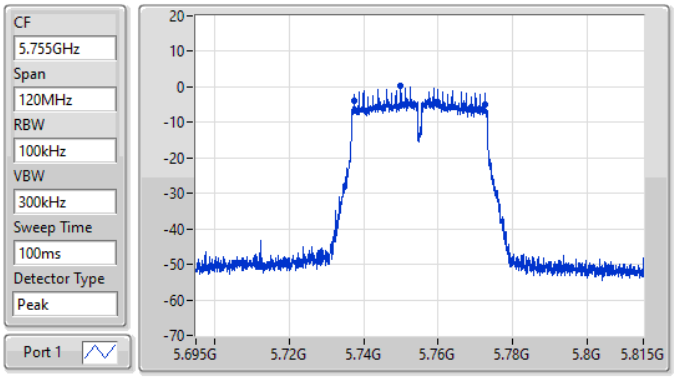


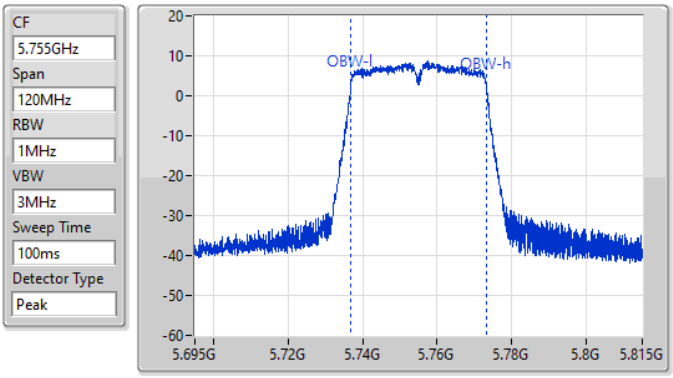
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
3.14M	5.725G	5.72814G	4.158M	5.72501G	5.729168G	500k	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

5755MHz

20/12/2021



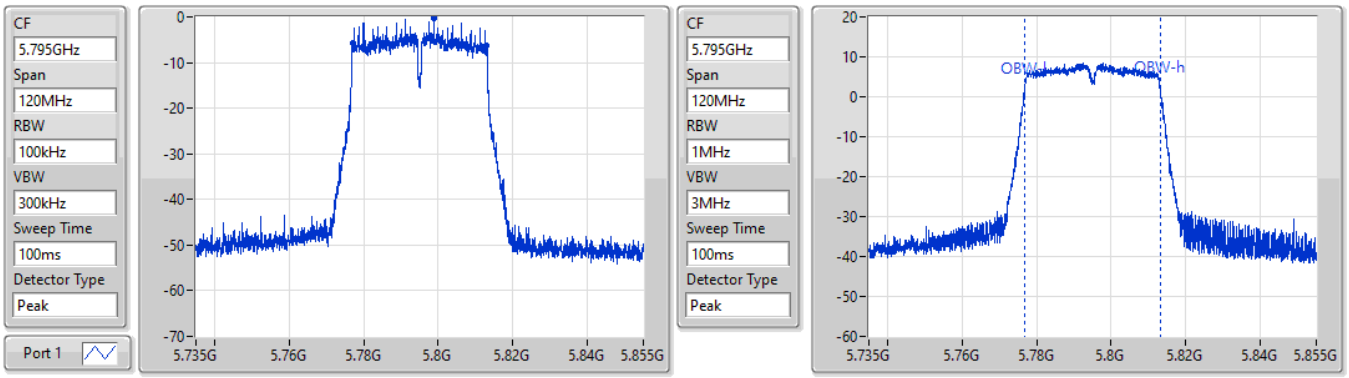


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.16M	5.73742G	5.77258G	36.462M	5.736769G	5.773231G	500k	1

802.11ac VHT40_Nss1,(MCS0)_1TX EBW

5795MHz

20/12/2021

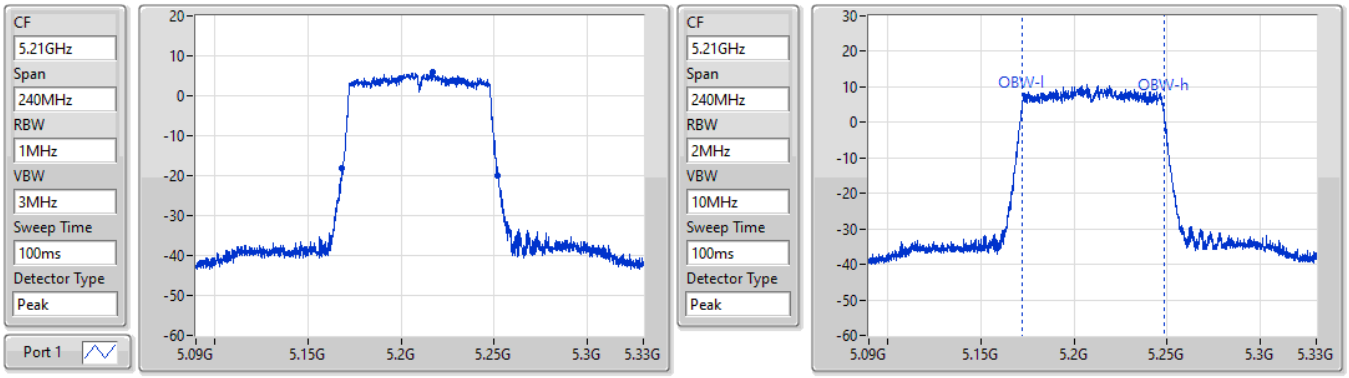


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
35.64M	5.77712G	5.81276G	36.522M	5.776709G	5.813231G	500k	1

802.11ac VHT80_Nss1,(MCS0)_1TX EBW

5210MHz

20/12/2021

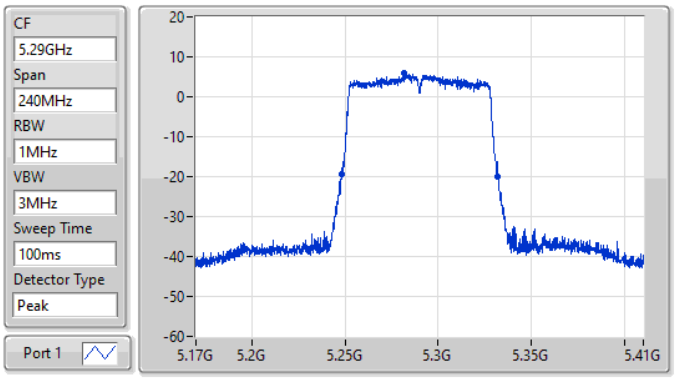


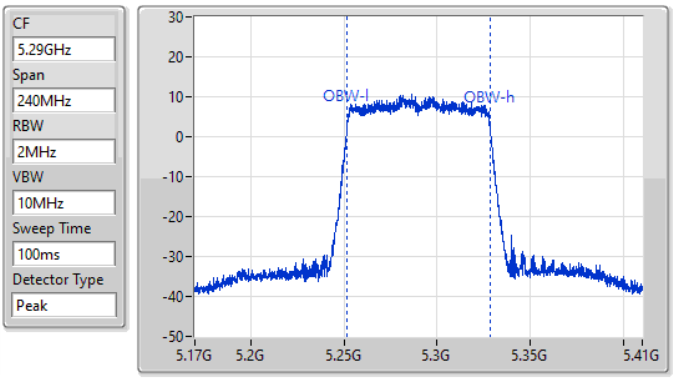
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
83.88M	5.16812G	5.252G	76.162M	5.171979G	5.248141G	Inf	1

802.11ac VHT80_Nss1,(MCS0)_1TX EBW

5290MHz

20/12/2021



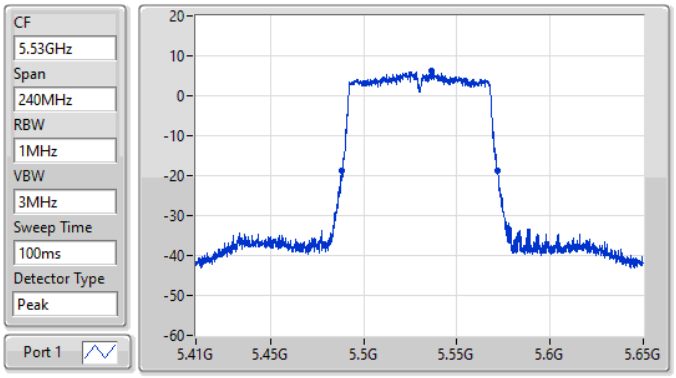


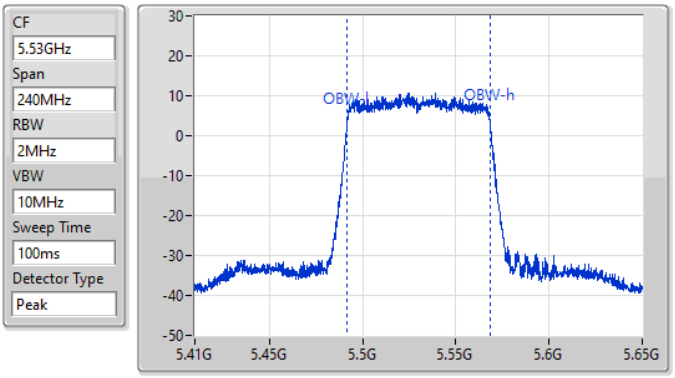
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
84M	5.248G	5.332G	76.282M	5.251859G	5.328141G	Inf	1

802.11ac VHT80_Nss1,(MCS0)_1TX EBW

5530MHz

20/12/2021



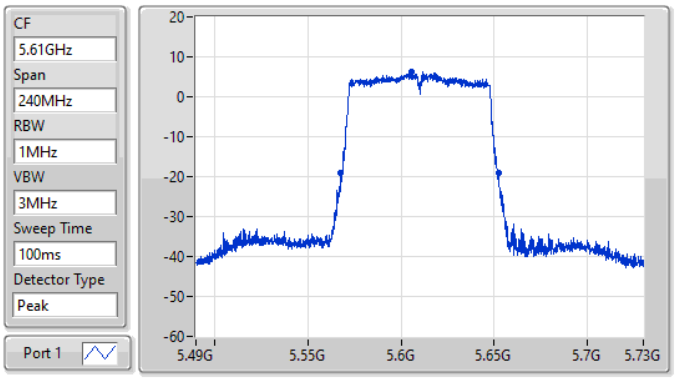


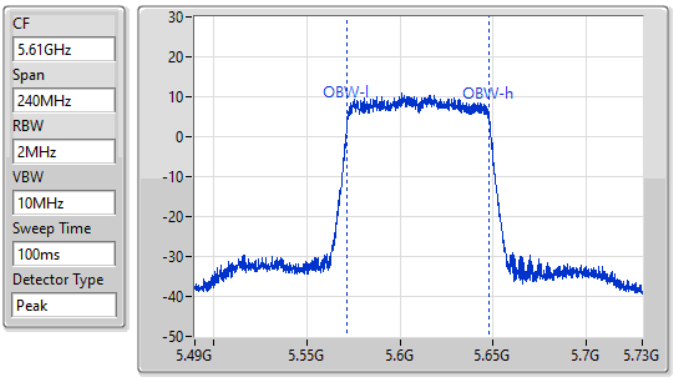
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
83.88M	5.48812G	5.572G	76.282M	5.491859G	5.568141G	Inf	1

802.11ac VHT80_Nss1,(MCS0)_1TX EBW

5610MHz

20/12/2021



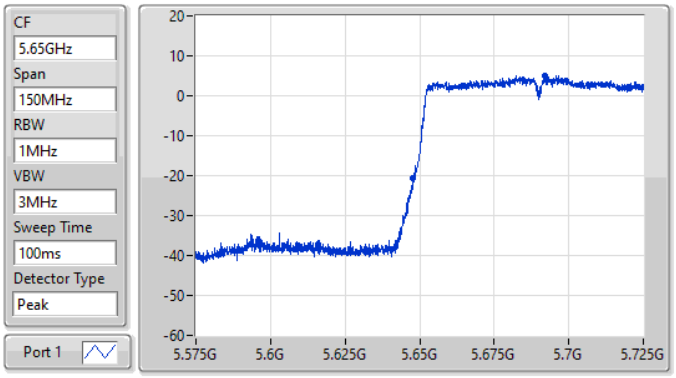


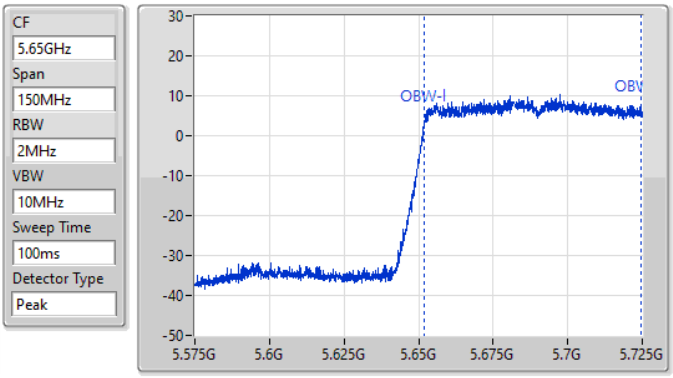
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
84.72M	5.56776G	5.65248G	76.162M	5.571859G	5.648021G	Inf	1

802.11ac VHT80_Nss1,(MCS0)_1TX EBW

5690MHz Straddle 5.47-5.725GHz

20/12/2021



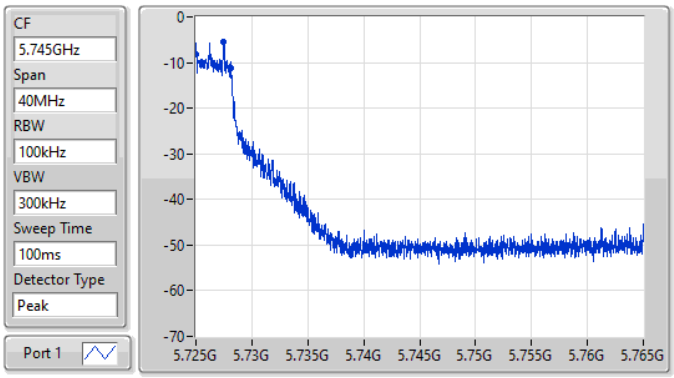


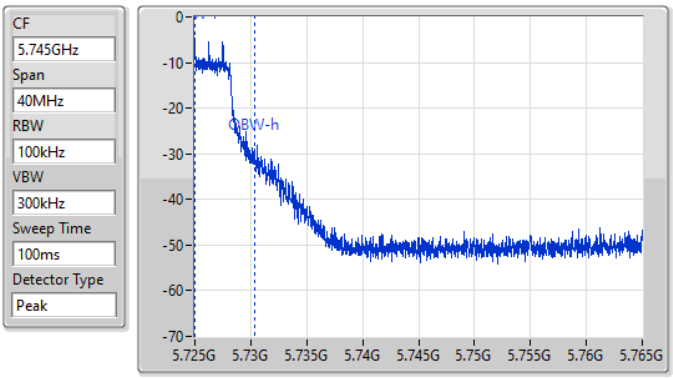
26dB(Hz)	Fl-26dB(Hz)	Fh-26dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
77.4M	5.6476G	5.725G	72.639M	5.651874G	5.724513G	Inf	1

802.11ac VHT80_Nss1,(MCS0)_1TX EBW

5690MHz Straddle 5.725-5.85GHz

20/12/2021



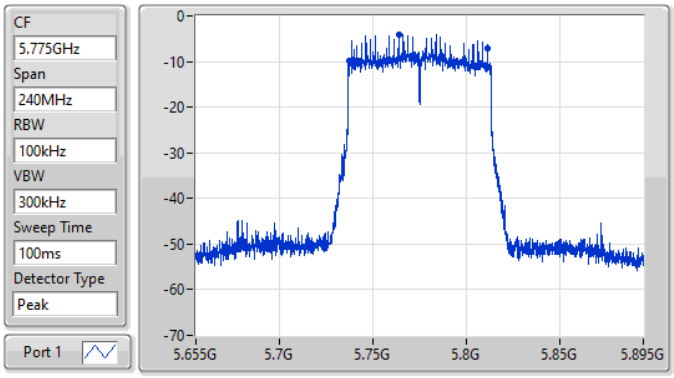


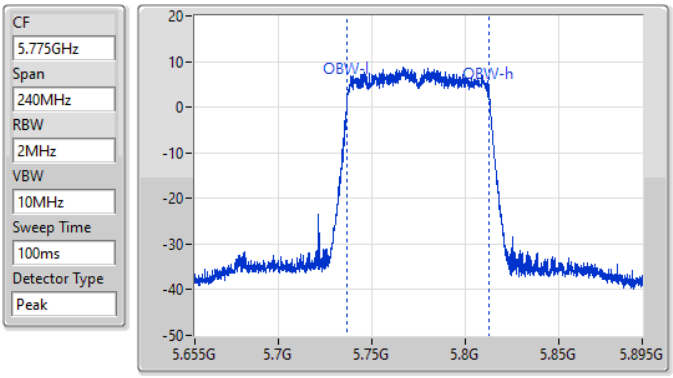
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
3.14M	5.725G	5.72814G	5.297M	5.72501G	5.730307G	500k	1

802.11ac VHT80_Nss1,(MCS0)_1TX EBW

5775MHz

20/12/2021





6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
73.92M	5.73744G	5.81136G	76.162M	5.736859G	5.813021G	500k	1

Summary

Mode	Total Power (dBm)	Total Power (W)	EIRP (dBm)	EIRP (W)
5.15-5.25GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	18.11	0.06471	14.51	0.02825
802.11ac VHT20_Nss1,(MCS0)_1TX	16.93	0.04932	13.33	0.02153
802.11ac VHT40_Nss1,(MCS0)_1TX	15.88	0.03873	12.28	0.01690
802.11ac VHT80_Nss1,(MCS0)_1TX	14.77	0.02999	11.17	0.01309
5.25-5.35GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	18.21	0.06622	14.31	0.02698
802.11ac VHT20_Nss1,(MCS0)_1TX	17.17	0.05212	13.27	0.02123
802.11ac VHT40_Nss1,(MCS0)_1TX	16.43	0.04395	12.53	0.01791
802.11ac VHT80_Nss1,(MCS0)_1TX	14.71	0.02958	10.81	0.01205
5.47-5.725GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	18.07	0.06412	14.27	0.02673
802.11ac VHT20_Nss1,(MCS0)_1TX	16.94	0.04943	13.14	0.02061
802.11ac VHT40_Nss1,(MCS0)_1TX	16.09	0.04064	12.29	0.01694
802.11ac VHT80_Nss1,(MCS0)_1TX	15.02	0.03177	11.22	0.01324
5.725-5.85GHz	-	-	-	-
802.11a_Nss1,(6Mbps)_1TX	16.51	0.04477	12.21	0.01663
802.11ac VHT20_Nss1,(MCS0)_1TX	15.41	0.03475	11.11	0.01291
802.11ac VHT40_Nss1,(MCS0)_1TX	14.58	0.02871	10.28	0.01067
802.11ac VHT80_Nss1,(MCS0)_1TX	13.43	0.02203	9.13	0.00818

Result

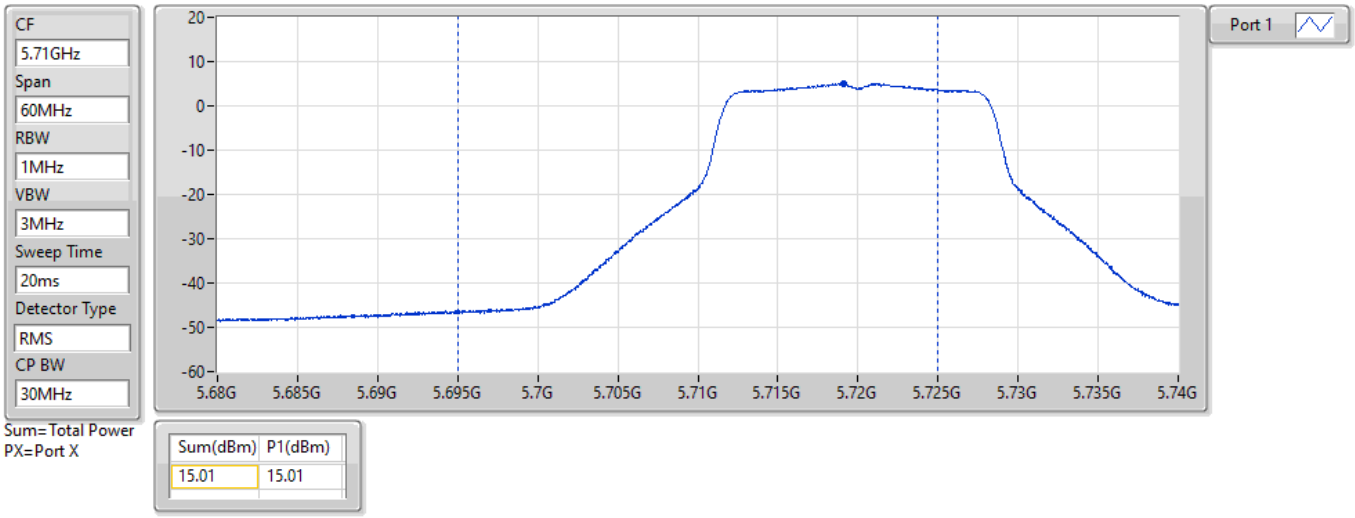
Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)	EIRP (dBm)	EIRP Limit (dBm)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-
5180MHz	Pass	-3.60	17.64	17.64	23.98	14.04	30.00
5200MHz	Pass	-3.60	17.64	17.64	23.98	14.04	30.00
5240MHz	Pass	-3.60	18.11	18.11	23.98	14.51	30.00
5260MHz	Pass	-3.90	18.06	18.06	23.98	14.16	26.99
5300MHz	Pass	-3.90	18.16	18.16	23.98	14.26	26.99
5320MHz	Pass	-3.90	18.21	18.21	23.98	14.31	26.99
5500MHz	Pass	-3.80	17.79	17.79	23.98	13.99	26.99
5580MHz	Pass	-3.80	18.07	18.07	23.98	14.27	26.99
5700MHz	Pass	-3.80	17.84	17.84	23.98	14.04	26.99
5720MHz Straddle 5.47-5.725GHz	Pass	-3.80	15.01	15.01	23.11	11.21	26.99
5720MHz Straddle 5.725-5.85GHz	Pass	-4.30	8.15	8.15	30.00	3.85	36.00
5745MHz	Pass	-4.30	16.51	16.51	30.00	12.21	36.00
5785MHz	Pass	-4.30	16.40	16.40	30.00	12.10	36.00
5825MHz	Pass	-4.30	16.33	16.33	30.00	12.03	36.00
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5180MHz	Pass	-3.60	16.60	16.60	23.98	13.00	30.00
5200MHz	Pass	-3.60	16.58	16.58	23.98	12.98	30.00
5240MHz	Pass	-3.60	16.93	16.93	23.98	13.33	30.00
5260MHz	Pass	-3.90	16.93	16.93	23.98	13.03	26.99
5300MHz	Pass	-3.90	17.17	17.17	23.98	13.27	26.99
5320MHz	Pass	-3.90	17.15	17.15	23.98	13.25	26.99
5500MHz	Pass	-3.80	16.82	16.82	23.98	13.02	26.99
5580MHz	Pass	-3.80	16.94	16.94	23.98	13.14	26.99
5700MHz	Pass	-3.80	16.75	16.75	23.98	12.95	26.99
5720MHz Straddle 5.47-5.725GHz	Pass	-3.80	13.80	13.80	23.12	10.00	26.99
5720MHz Straddle 5.725-5.85GHz	Pass	-4.30	7.51	7.51	30.00	3.21	36.00
5745MHz	Pass	-4.30	15.41	15.41	30.00	11.11	36.00
5785MHz	Pass	-4.30	15.32	15.32	30.00	11.02	36.00
5825MHz	Pass	-4.30	15.41	15.41	30.00	11.11	36.00
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5190MHz	Pass	-3.60	15.73	15.73	23.98	12.13	30.00
5230MHz	Pass	-3.60	15.88	15.88	23.98	12.28	30.00
5270MHz	Pass	-3.90	16.24	16.24	23.98	12.34	26.99
5310MHz	Pass	-3.90	16.43	16.43	23.98	12.53	26.99
5510MHz	Pass	-3.80	15.96	15.96	23.98	12.16	26.99
5550MHz	Pass	-3.80	16.09	16.09	23.98	12.29	26.99
5670MHz	Pass	-3.80	16.08	16.08	23.98	12.28	26.99
5710MHz Straddle 5.47-5.725GHz	Pass	-3.80	13.81	13.81	23.98	10.01	26.99
5710MHz Straddle 5.725-5.85GHz	Pass	-4.30	2.94	2.94	30.00	-1.36	36.00
5755MHz	Pass	-4.30	14.58	14.58	30.00	10.28	36.00
5795MHz	Pass	-4.30	14.43	14.43	30.00	10.13	36.00
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5210MHz	Pass	-3.60	14.77	14.77	23.98	11.17	30.00
5290MHz	Pass	-3.90	14.71	14.71	23.98	10.81	26.99
5530MHz	Pass	-3.80	14.74	14.74	23.98	10.94	26.99
5610MHz	Pass	-3.80	15.02	15.02	23.98	11.22	26.99
5690MHz Straddle 5.47-5.725GHz	Pass	-3.80	13.13	13.13	23.98	9.33	26.99
5690MHz Straddle 5.725-5.85GHz	Pass	-4.30	-1.12	-1.12	30.00	-5.42	36.00
5775MHz	Pass	-4.30	13.43	13.43	30.00	9.13	36.00

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

802.11a_Nss1,(6Mbps)_1TX AV Power

5720MHz Straddle 5.47-5.725GHz_TnomVnom

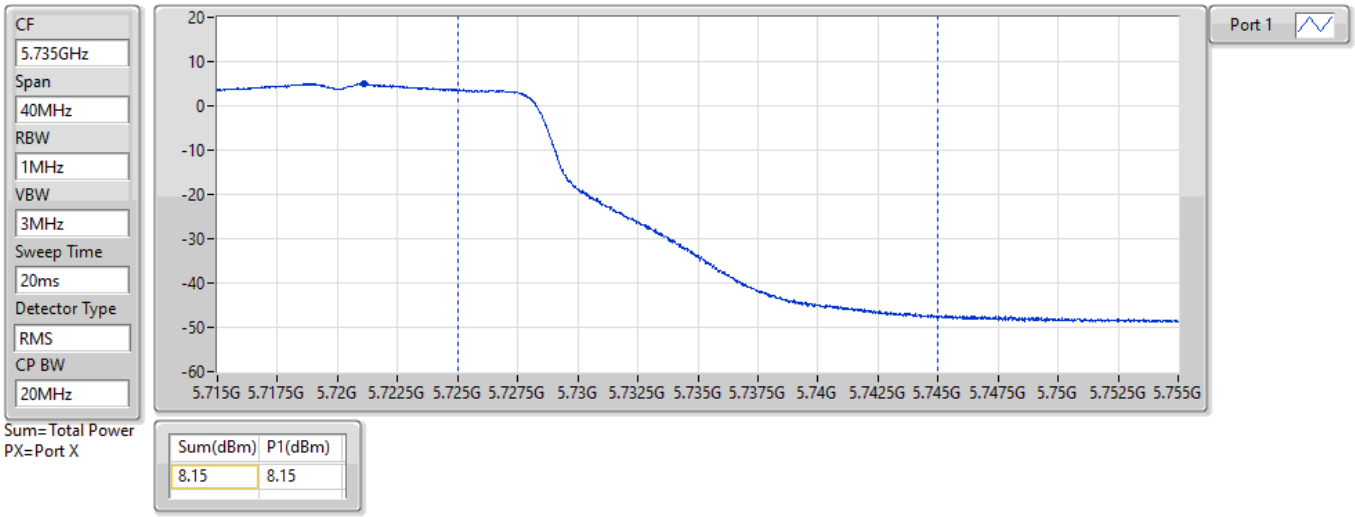
20/12/2021



802.11a_Nss1,(6Mbps)_1TX AV Power

5720MHz Straddle 5.725-5.85GHz_TnomVnom

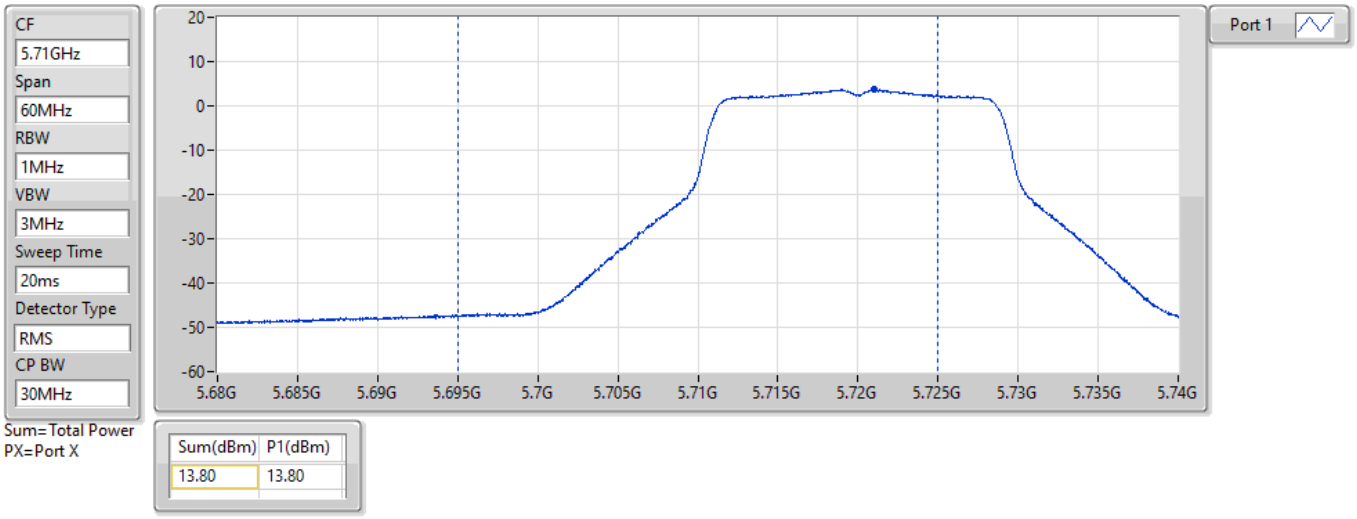
20/12/2021



802.11ac VHT20_Nss1,(MCS0)_1TX AV Power

5720MHz Straddle 5.47-5.725GHz_TnomVnom

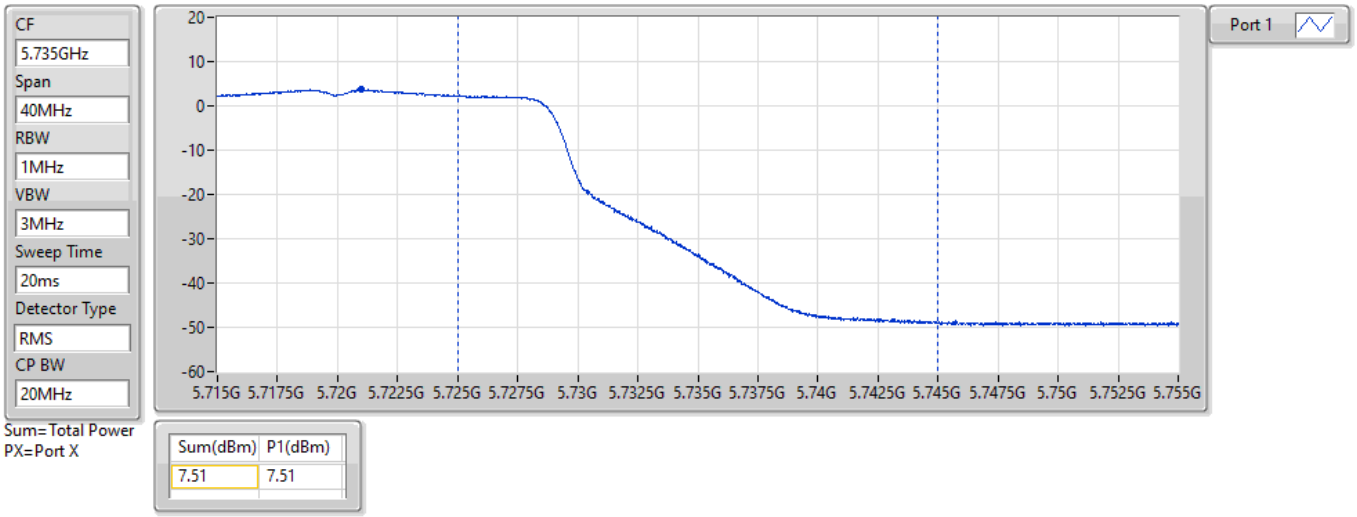
20/12/2021



802.11ac VHT20_Nss1,(MCS0)_1TX AV Power

5720MHz Straddle 5.725-5.85GHz_TnomVnom

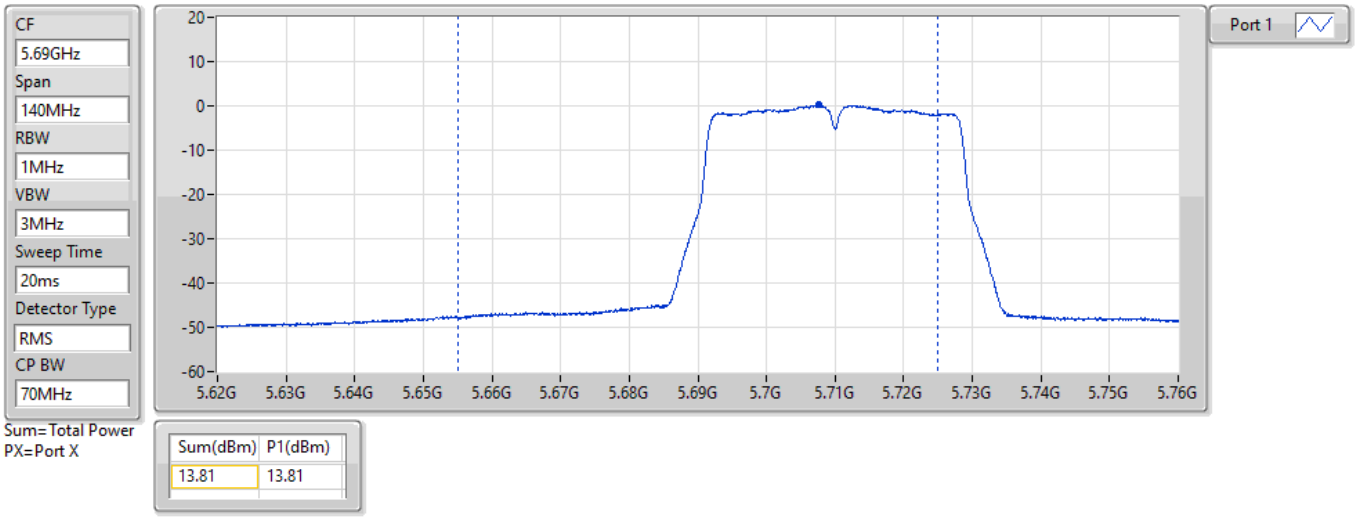
20/12/2021



802.11ac VHT40_Nss1,(MCS0)_1TX AV Power

5710MHz Straddle 5.47-5.725GHz_TnomVnom

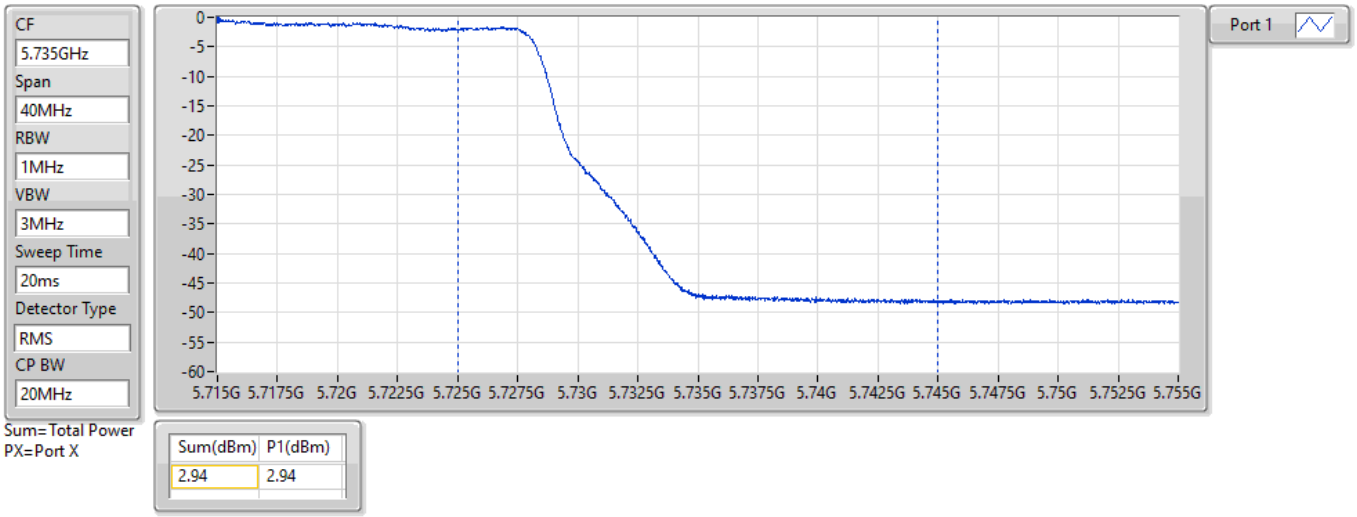
20/12/2021



802.11ac VHT40_Nss1,(MCS0)_1TX AV Power

5710MHz Straddle 5.725-5.85GHz_TnomVnom

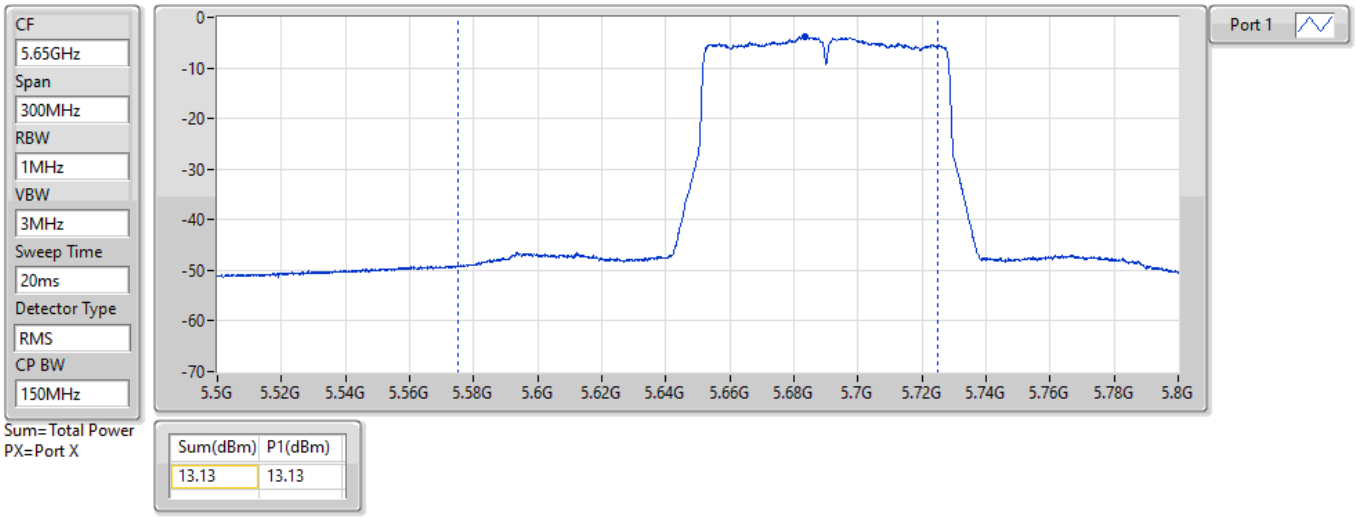
20/12/2021



802.11ac VHT80_Nss1,(MCS0)_1TX AV Power

5690MHz Straddle 5.47-5.725GHz_TnomVnom

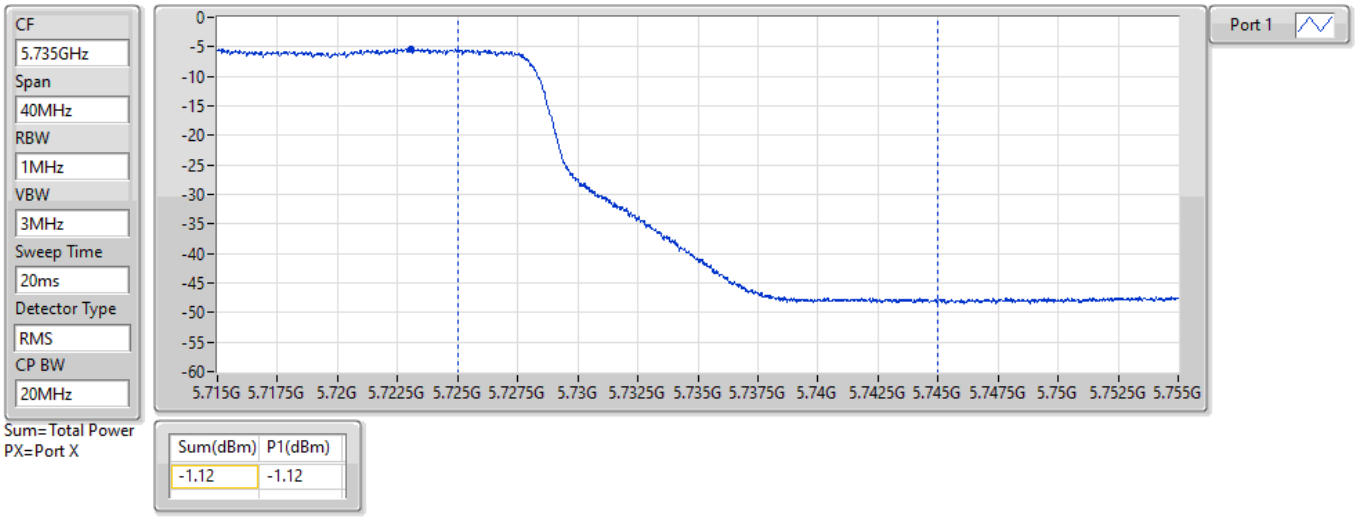
20/12/2021



802.11ac VHT80_Nss1,(MCS0)_1TX AV Power

5690MHz Straddle 5.725-5.85GHz_TnomVnom

20/12/2021



Summary

Mode	PD (dBm/RBW)	EIRP PD (dBm/RBW)
5.15-5.25GHz	-	-
802.11a_Nss1,(6Mbps)_1TX	4.80	1.20
802.11ac VHT20_Nss1,(MCS0)_1TX	3.52	-0.08
802.11ac VHT40_Nss1,(MCS0)_1TX	-0.27	-3.87
802.11ac VHT80_Nss1,(MCS0)_1TX	-4.37	-7.97
5.25-5.35GHz	-	-
802.11a_Nss1,(6Mbps)_1TX	5.12	1.22
802.11ac VHT20_Nss1,(MCS0)_1TX	3.89	-0.01
802.11ac VHT40_Nss1,(MCS0)_1TX	0.11	-3.79
802.11ac VHT80_Nss1,(MCS0)_1TX	-4.43	-8.33
5.47-5.725GHz	-	-
802.11a_Nss1,(6Mbps)_1TX	5.11	1.31
802.11ac VHT20_Nss1,(MCS0)_1TX	3.81	0.01
802.11ac VHT40_Nss1,(MCS0)_1TX	0.00	-3.80
802.11ac VHT80_Nss1,(MCS0)_1TX	-3.92	-7.72
5.725-5.85GHz	-	-
802.11a_Nss1,(6Mbps)_1TX	1.86	-2.44
802.11ac VHT20_Nss1,(MCS0)_1TX	0.54	-3.76
802.11ac VHT40_Nss1,(MCS0)_1TX	-3.16	-7.46
802.11ac VHT80_Nss1,(MCS0)_1TX	-6.94	-11.24

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

Result

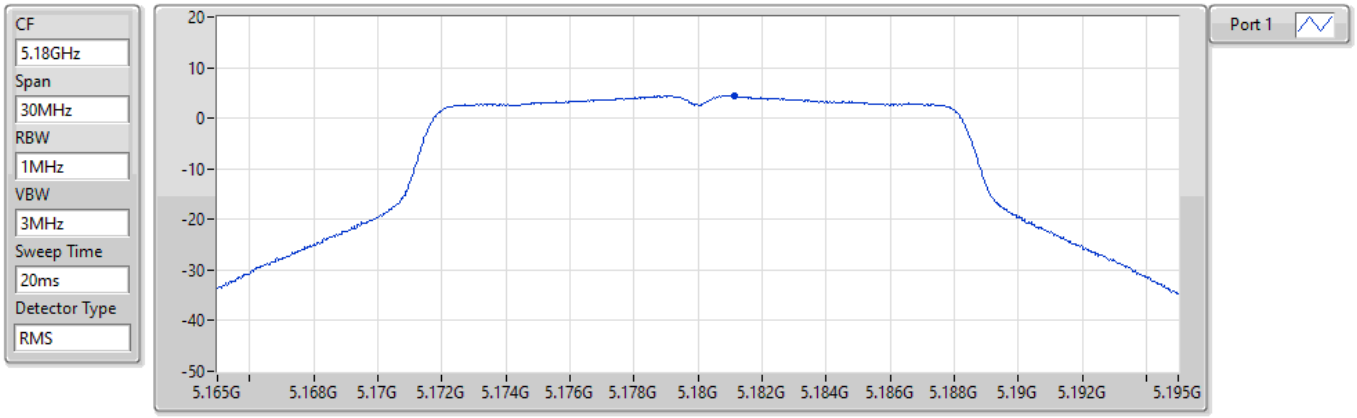
Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)	EIRP PD (dBm/RBW)	EIRP PD Limit (dBm/RBW)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-	-	-	-
5180MHz	Pass	-3.60	4.46	4.46	11.00	0.86	17.00
5200MHz	Pass	-3.60	4.42	4.42	11.00	0.82	17.00
5240MHz	Pass	-3.60	4.80	4.80	11.00	1.20	17.00
5260MHz	Pass	-3.90	4.89	4.89	11.00	0.99	17.00
5300MHz	Pass	-3.90	5.07	5.07	11.00	1.17	17.00
5320MHz	Pass	-3.90	5.12	5.12	11.00	1.22	17.00
5500MHz	Pass	-3.80	4.70	4.70	11.00	0.90	17.00
5580MHz	Pass	-3.80	5.11	5.11	11.00	1.31	17.00
5700MHz	Pass	-3.80	4.68	4.68	11.00	0.88	17.00
5720MHz Straddle 5.47-5.725GHz	Pass	-3.80	3.58	3.58	11.00	-0.22	17.00
5720MHz Straddle 5.725-5.85GHz	Pass	-4.30	0.71	0.71	30.00	-3.59	36.00
5745MHz	Pass	-4.30	1.86	1.86	30.00	-2.44	36.00
5785MHz	Pass	-4.30	1.74	1.74	30.00	-2.56	36.00
5825MHz	Pass	-4.30	1.65	1.65	30.00	-2.65	36.00
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5180MHz	Pass	-3.60	3.21	3.21	11.00	-0.39	17.00
5200MHz	Pass	-3.60	3.23	3.23	11.00	-0.37	17.00
5240MHz	Pass	-3.60	3.52	3.52	11.00	-0.08	17.00
5260MHz	Pass	-3.90	3.58	3.58	11.00	-0.32	17.00
5300MHz	Pass	-3.90	3.77	3.77	11.00	-0.13	17.00
5320MHz	Pass	-3.90	3.89	3.89	11.00	-0.01	17.00
5500MHz	Pass	-3.80	3.47	3.47	11.00	-0.33	17.00
5580MHz	Pass	-3.80	3.81	3.81	11.00	0.01	17.00
5700MHz	Pass	-3.80	3.31	3.31	11.00	-0.49	17.00
5720MHz Straddle 5.47-5.725GHz	Pass	-3.80	2.33	2.33	11.00	-1.47	17.00
5720MHz Straddle 5.725-5.85GHz	Pass	-4.30	-0.72	-0.72	30.00	-5.02	36.00
5745MHz	Pass	-4.30	0.50	0.50	30.00	-3.80	36.00
5785MHz	Pass	-4.30	0.47	0.47	30.00	-3.83	36.00
5825MHz	Pass	-4.30	0.54	0.54	30.00	-3.76	36.00
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5190MHz	Pass	-3.60	-0.52	-0.52	11.00	-4.12	17.00
5230MHz	Pass	-3.60	-0.27	-0.27	11.00	-3.87	17.00
5270MHz	Pass	-3.90	-0.03	-0.03	11.00	-3.93	17.00
5310MHz	Pass	-3.90	0.11	0.11	11.00	-3.79	17.00
5510MHz	Pass	-3.80	-0.13	-0.13	11.00	-3.93	17.00
5550MHz	Pass	-3.80	0.00	0.00	11.00	-3.80	17.00
5670MHz	Pass	-3.80	-0.11	-0.11	11.00	-3.91	17.00
5710MHz Straddle 5.47-5.725GHz	Pass	-3.80	-1.32	-1.32	11.00	-5.12	17.00
5710MHz Straddle 5.725-5.85GHz	Pass	-4.30	-4.67	-4.67	30.00	-8.97	36.00
5755MHz	Pass	-4.30	-3.16	-3.16	30.00	-7.46	36.00
5795MHz	Pass	-4.30	-3.33	-3.33	30.00	-7.63	36.00
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-
5210MHz	Pass	-3.60	-4.37	-4.37	11.00	-7.97	17.00
5290MHz	Pass	-3.90	-4.43	-4.43	11.00	-8.33	17.00
5530MHz	Pass	-3.80	-4.12	-4.12	11.00	-7.92	17.00
5610MHz	Pass	-3.80	-3.92	-3.92	11.00	-7.72	17.00
5690MHz Straddle 5.47-5.725GHz	Pass	-3.80	-5.37	-5.37	11.00	-9.17	17.00
5690MHz Straddle 5.725-5.85GHz	Pass	-4.30	-8.47	-8.47	30.00	-12.77	36.00
5775MHz	Pass	-4.30	-6.94	-6.94	30.00	-11.24	36.00

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

802.11a_Nss1,(6Mbps)_1TX PSD

5180MHz

20/12/2021

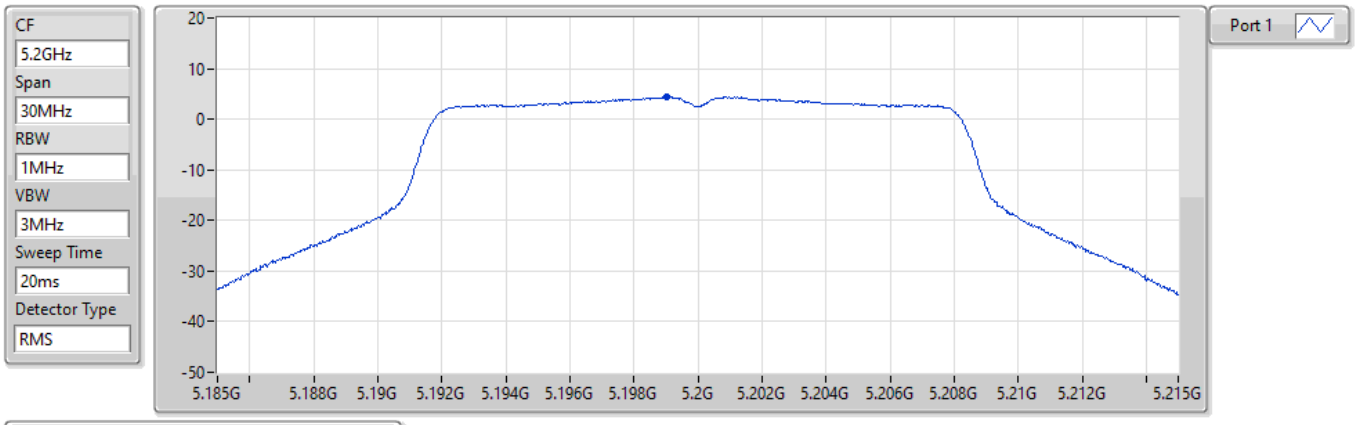


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.46	4.46	4.46

802.11a_Nss1,(6Mbps)_1TX PSD

5200MHz

20/12/2021

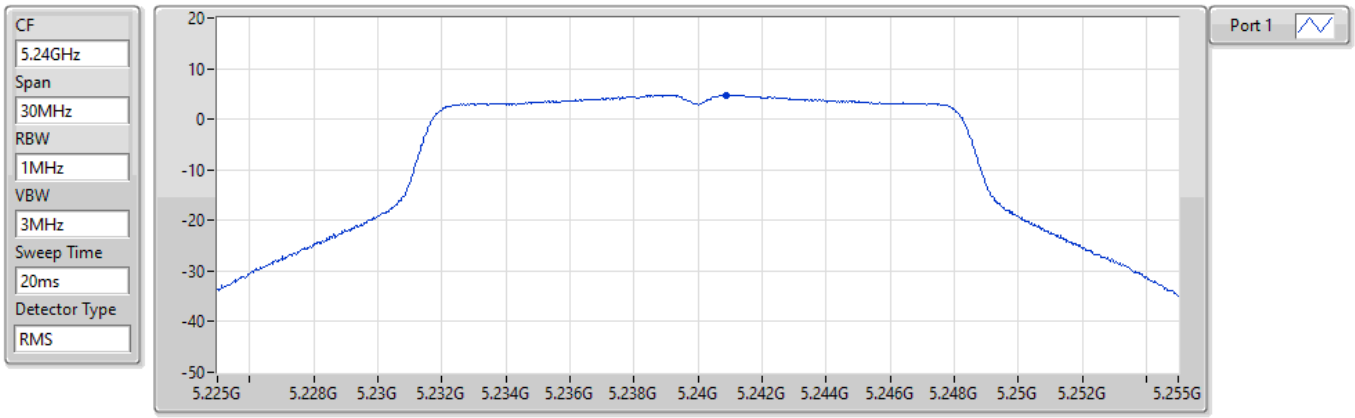


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.42	4.42	4.42

802.11a_Nss1,(6Mbps)_1TX PSD

5240MHz

20/12/2021

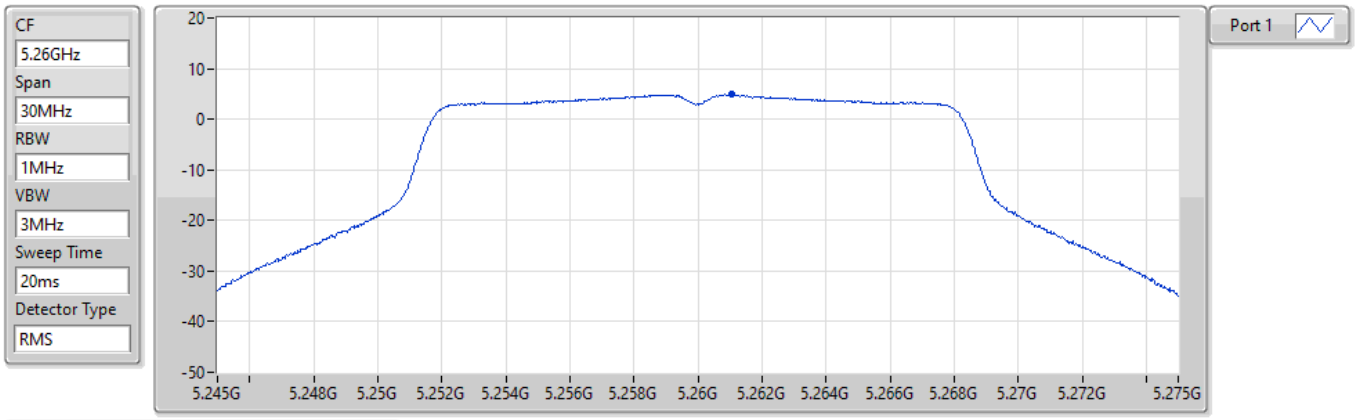


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.80	4.80	4.80

802.11a_Nss1,(6Mbps)_1TX PSD

5260MHz

20/12/2021

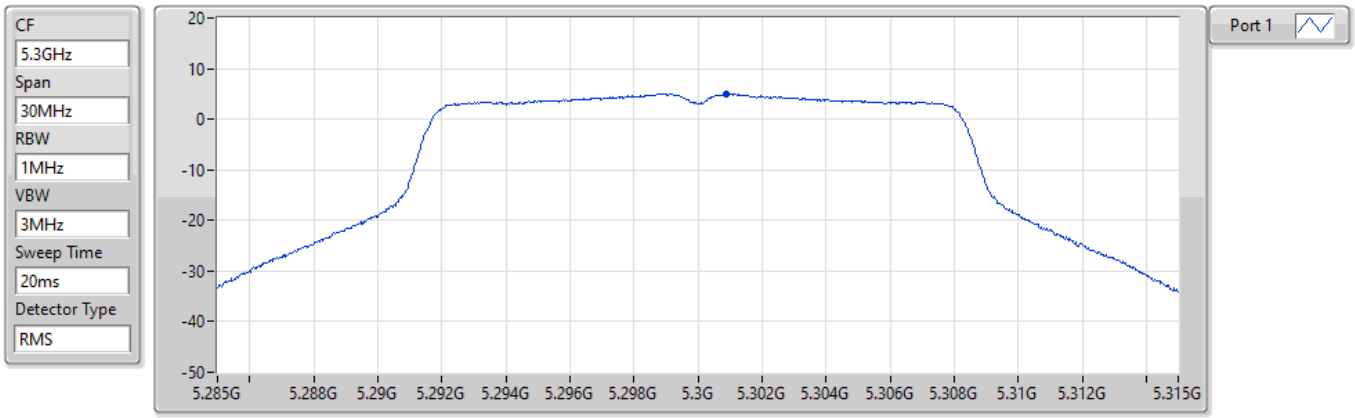


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.89	4.89	4.89

802.11a_Nss1,(6Mbps)_1TX PSD

5300MHz

20/12/2021

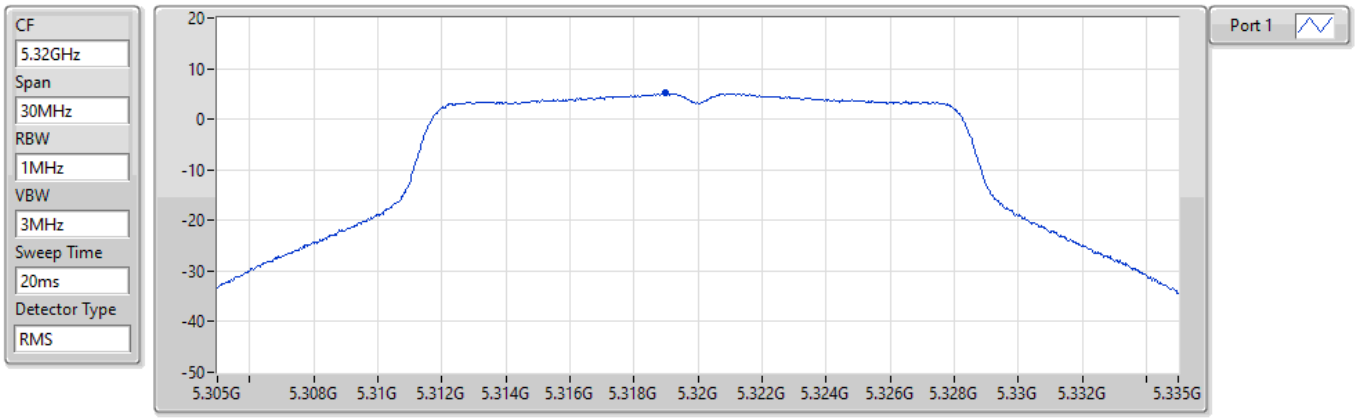


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.07	5.07	5.07

802.11a_Nss1,(6Mbps)_1TX PSD

5320MHz

20/12/2021

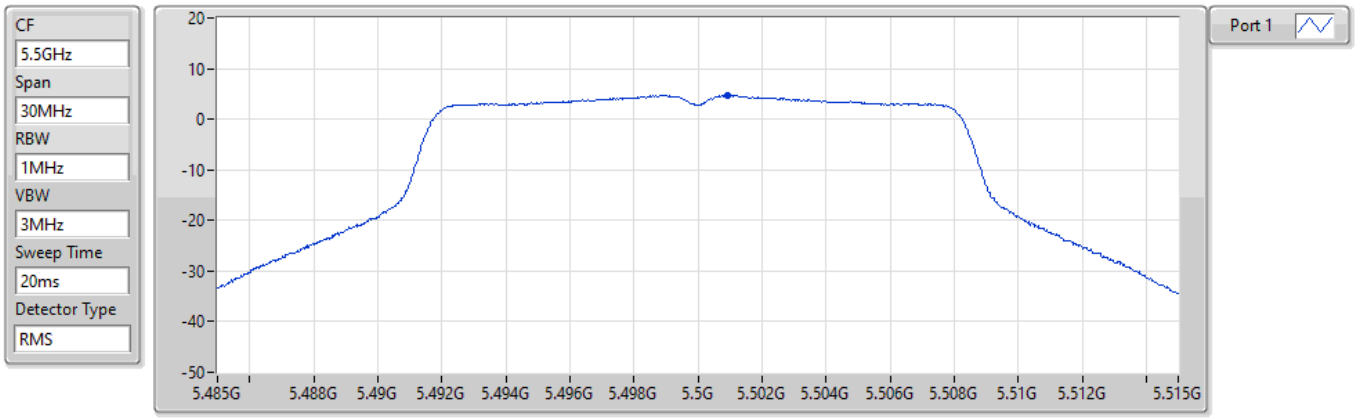


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.12	5.12	5.12

802.11a_Nss1,(6Mbps)_1TX PSD

5500MHz

20/12/2021

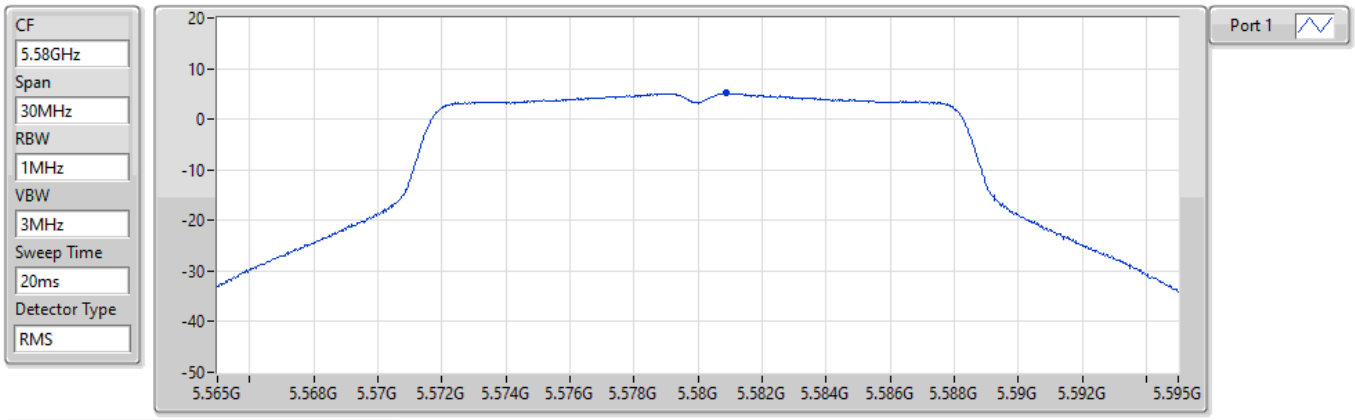


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.70	4.70	4.70

802.11a_Nss1,(6Mbps)_1TX PSD

5580MHz

20/12/2021

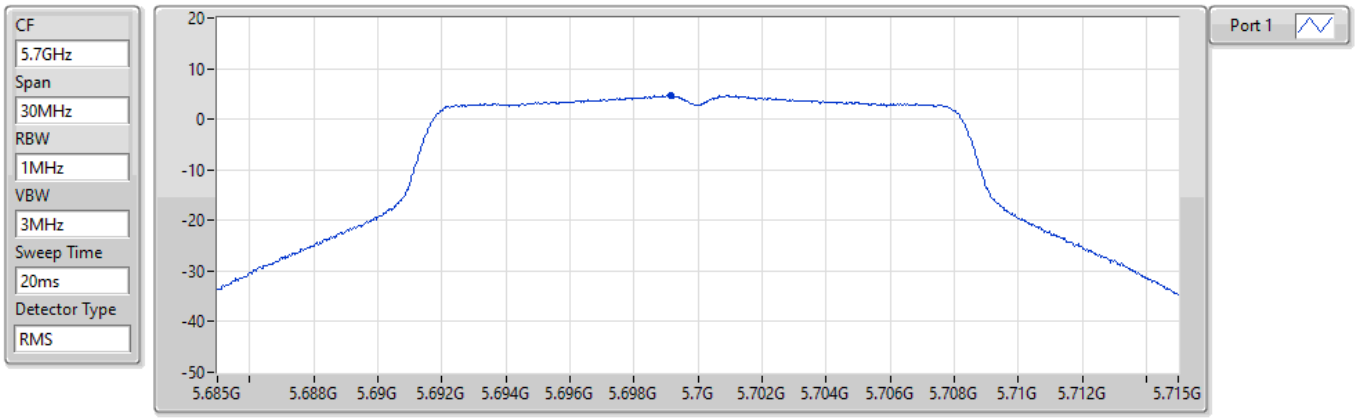


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
5.11	5.11	5.11

802.11a_Nss1,(6Mbps)_1TX PSD

5700MHz

20/12/2021

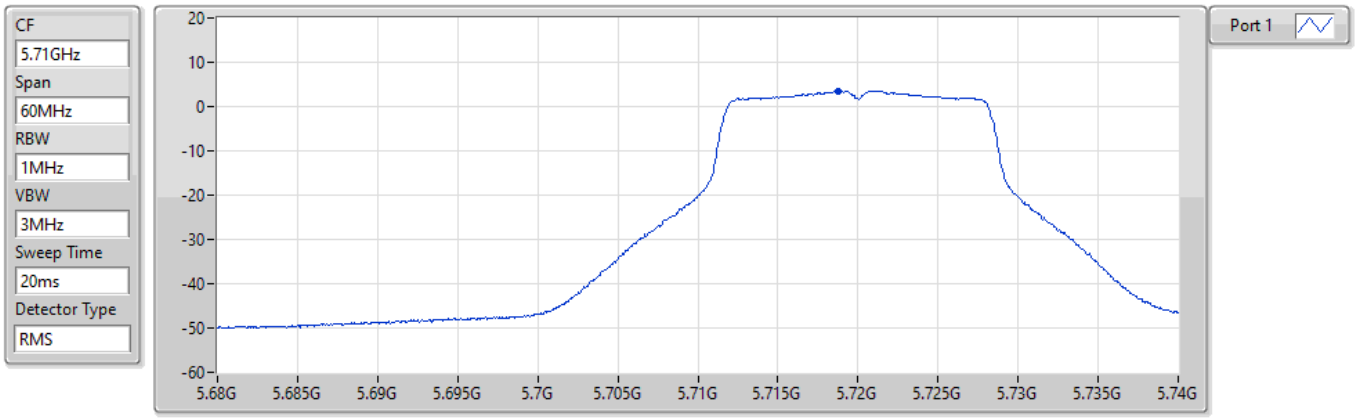


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
4.68	4.68	4.68

802.11a_Nss1,(6Mbps)_1TX PSD

5720MHz Straddle 5.47-5.725GHz

20/12/2021

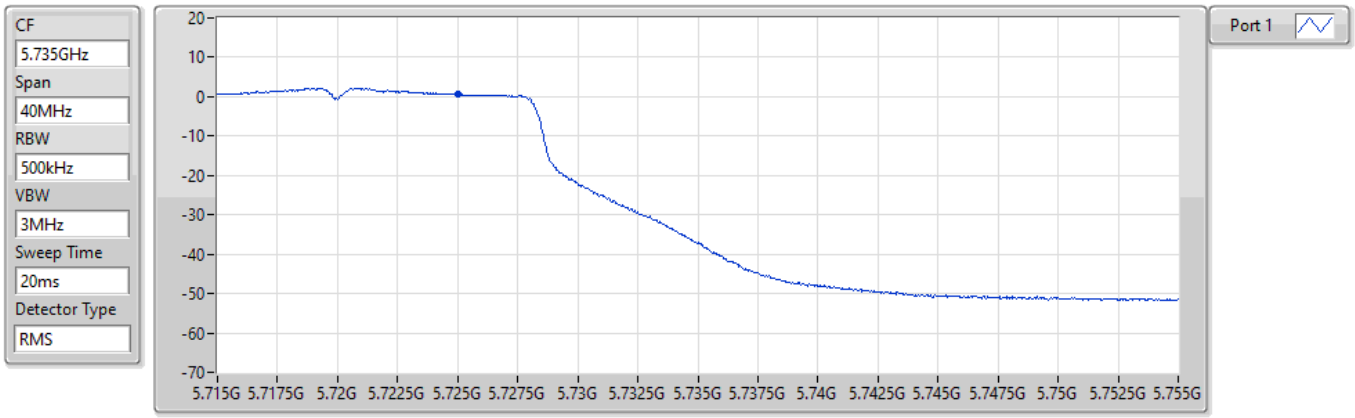


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.58	3.58	3.58

802.11a_Nss1,(6Mbps)_1TX PSD

5720MHz Straddle 5.725-5.85GHz

20/12/2021

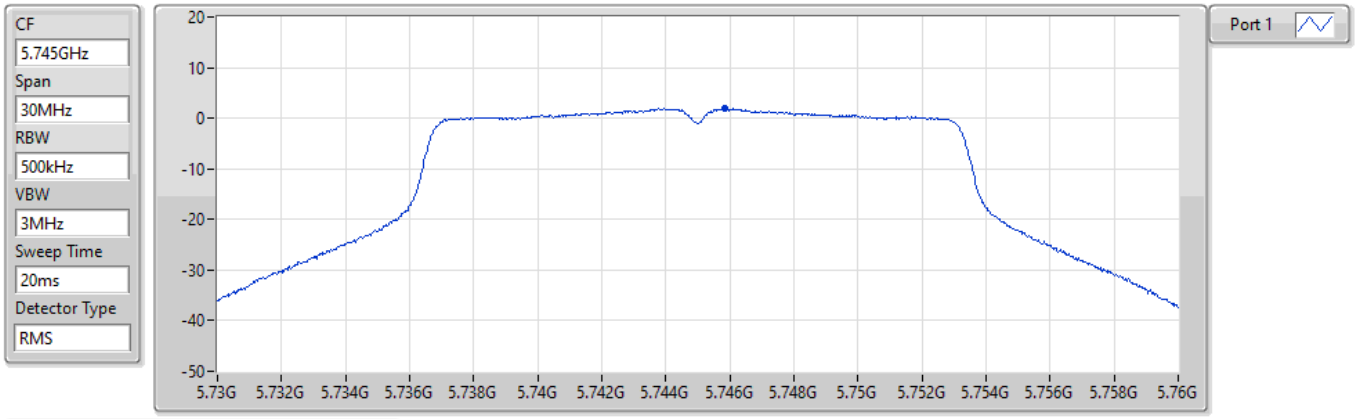


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.71	0.71	0.71

802.11a_Nss1,(6Mbps)_1TX PSD

5745MHz

20/12/2021

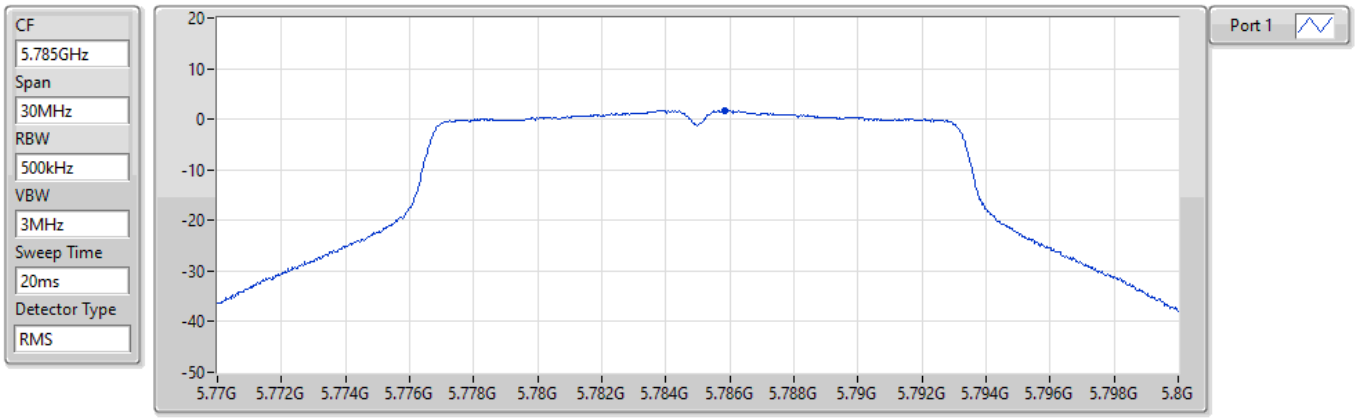


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.86	1.86	1.86

802.11a_Nss1,(6Mbps)_1TX PSD

5785MHz

20/12/2021

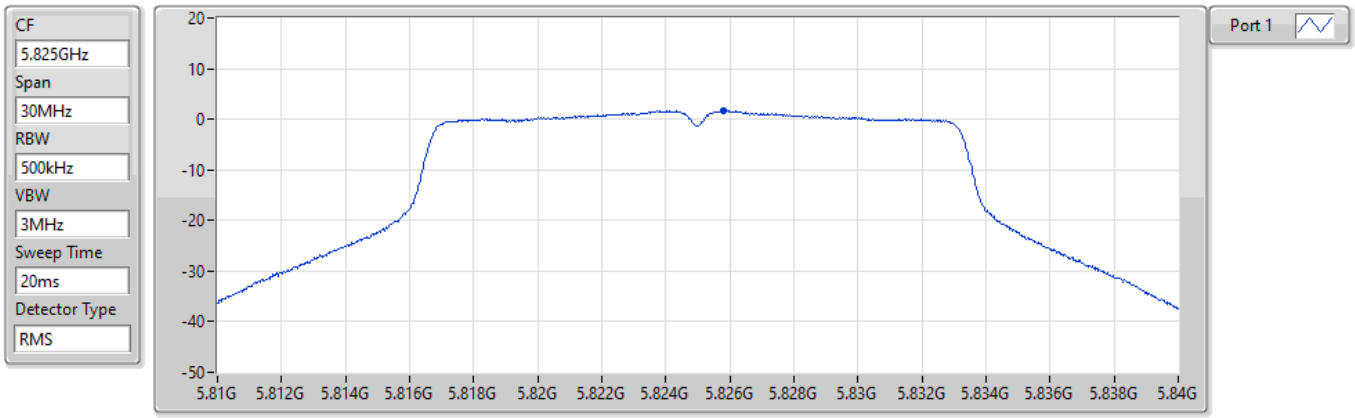


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.74	1.74	1.74

802.11a_Nss1,(6Mbps)_1TX PSD

5825MHz

20/12/2021

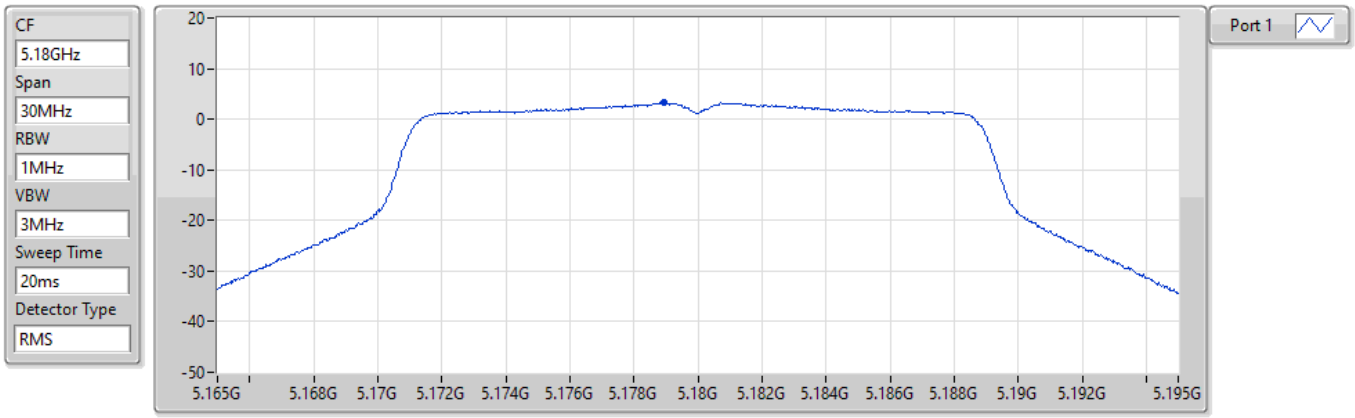


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.65	1.65	1.65

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5180MHz

20/12/2021

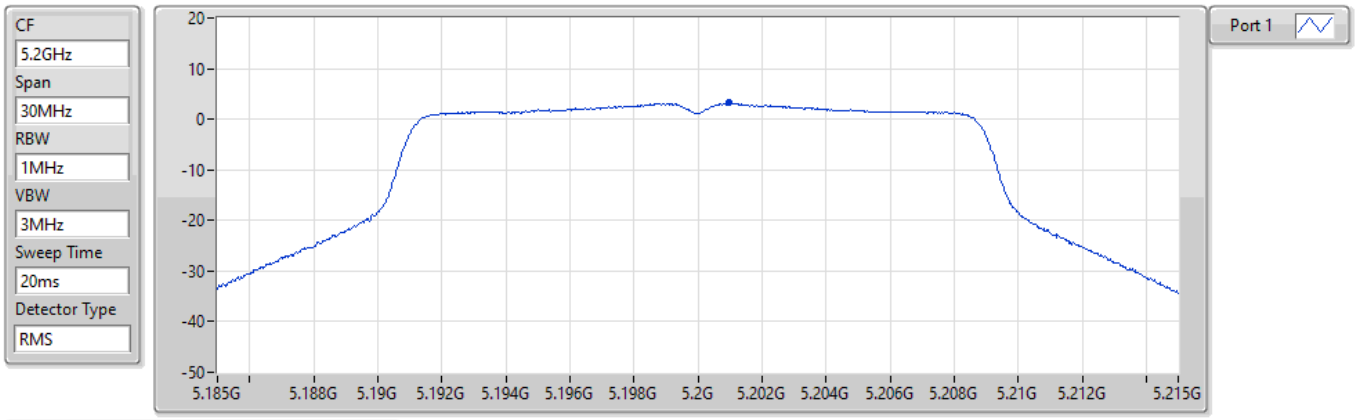


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.21	3.21	3.21

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5200MHz

20/12/2021

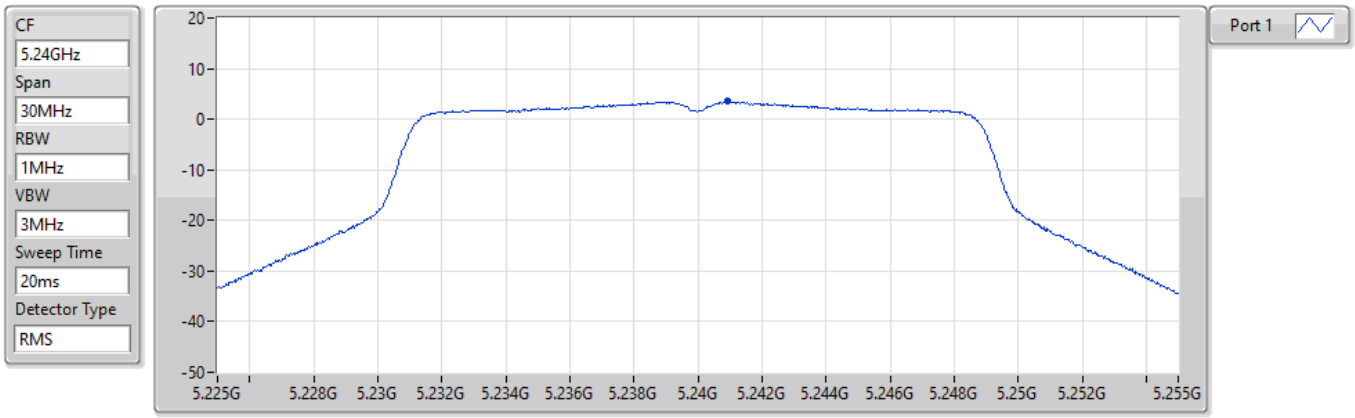


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.23	3.23	3.23

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5240MHz

20/12/2021

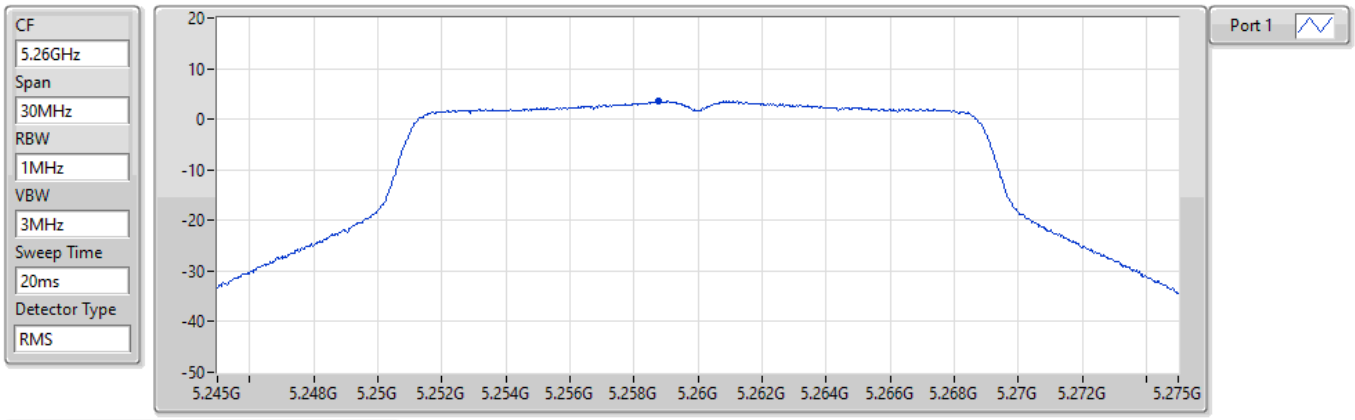


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.52	3.52	3.52

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5260MHz

20/12/2021

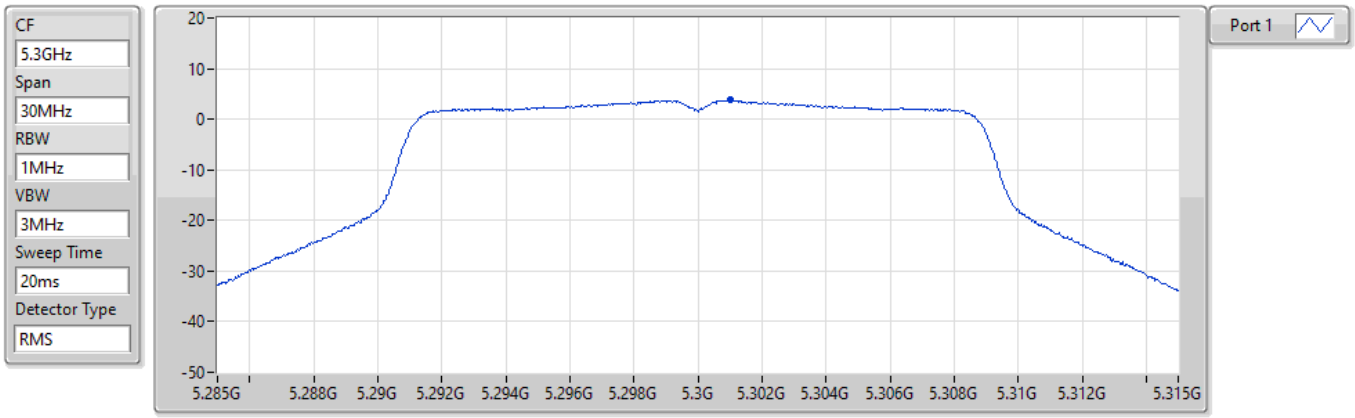


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.58	3.58	3.58

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5300MHz

20/12/2021

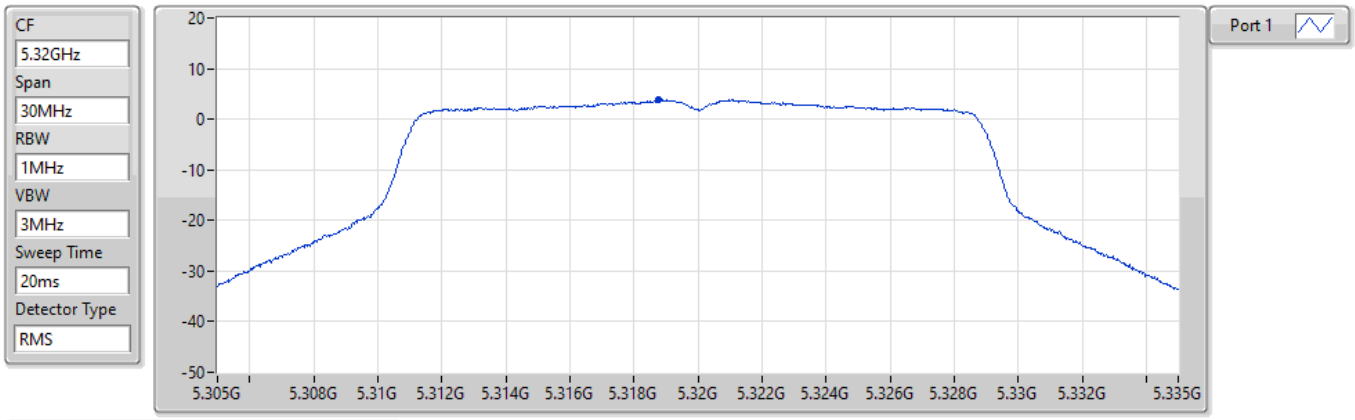


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.77	3.77	3.77

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5320MHz

20/12/2021

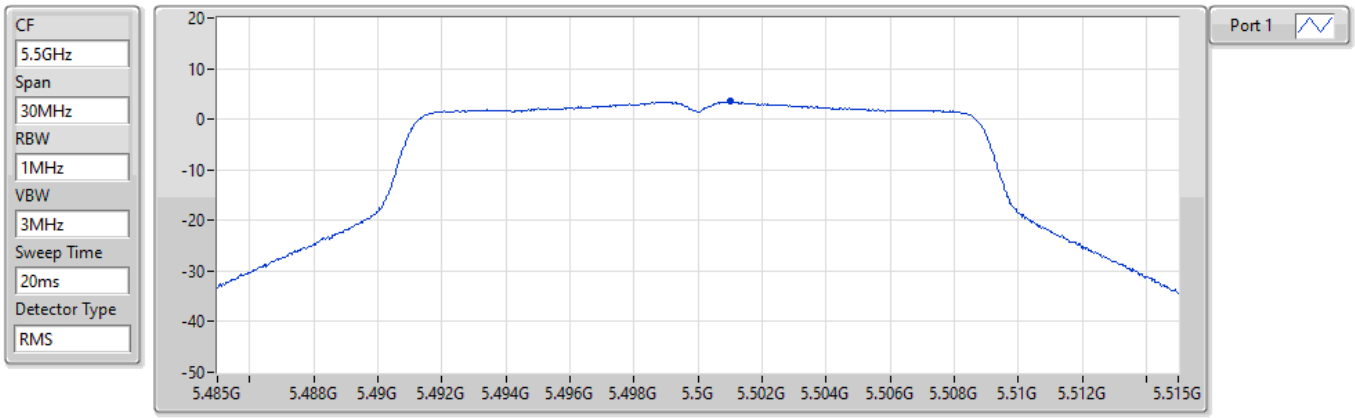


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.89	3.89	3.89

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5500MHz

20/12/2021

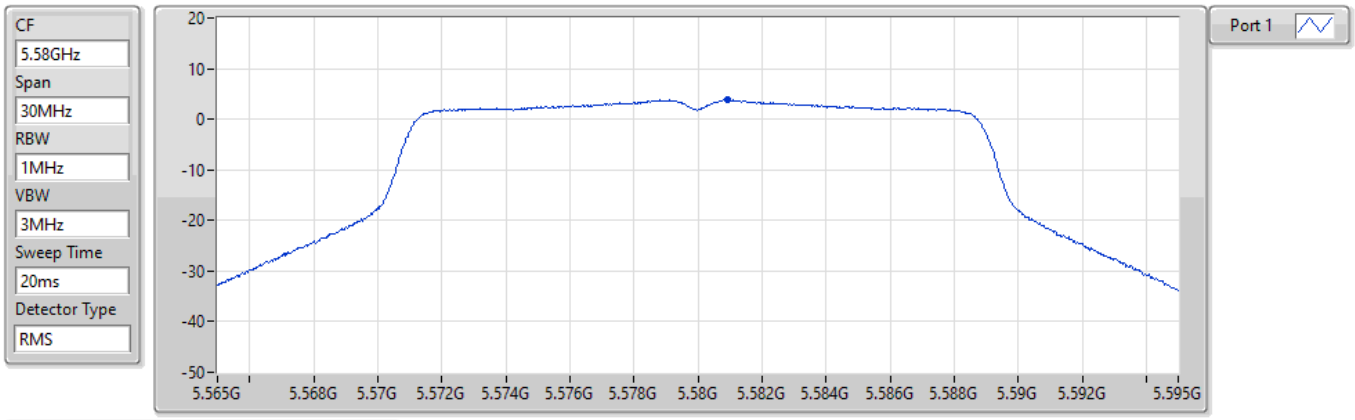


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.47	3.47	3.47

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5580MHz

20/12/2021

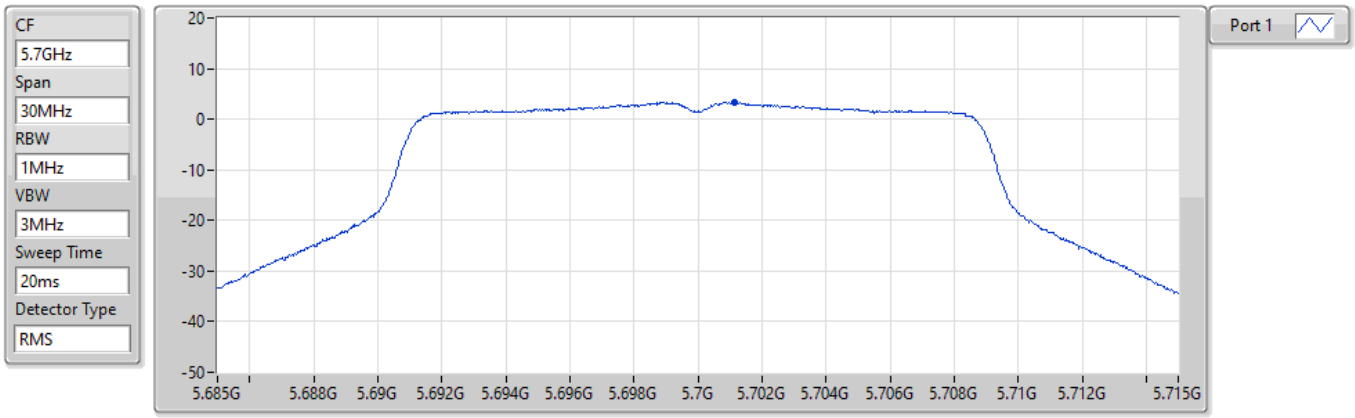


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.81	3.81	3.81

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5700MHz

20/12/2021

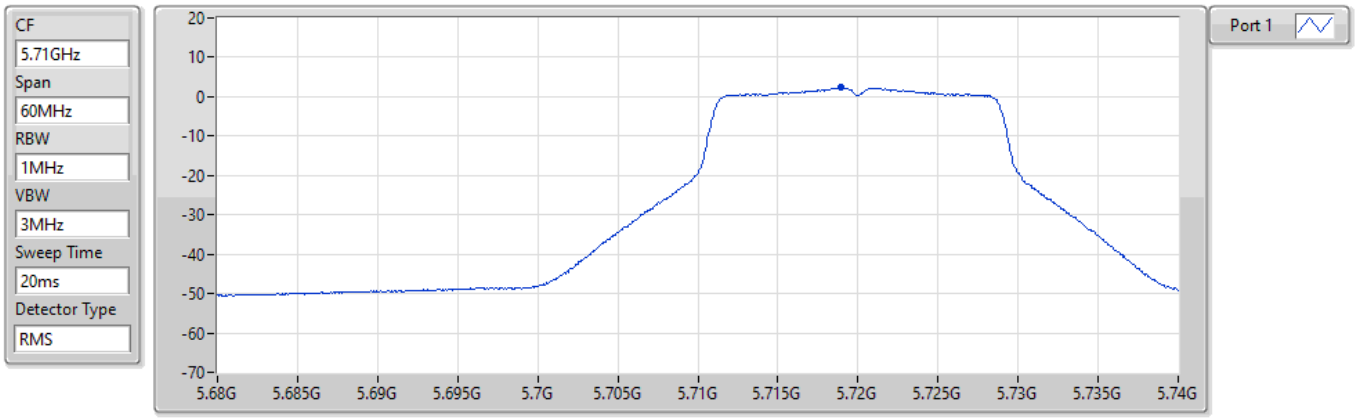


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
3.31	3.31	3.31

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5720MHz Straddle 5.47-5.725GHz

20/12/2021

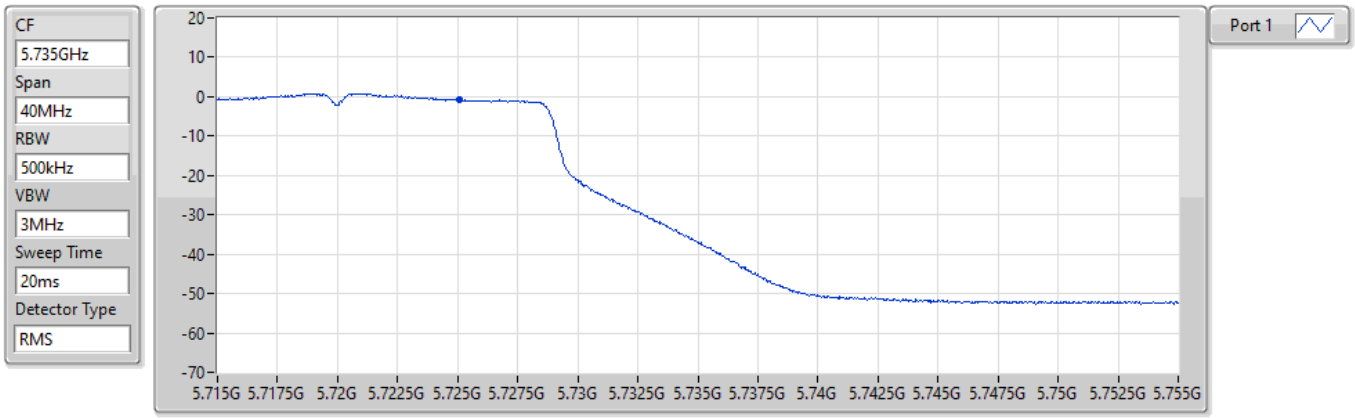


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.33	2.33	2.33

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5720MHz Straddle 5.725-5.85GHz

20/12/2021

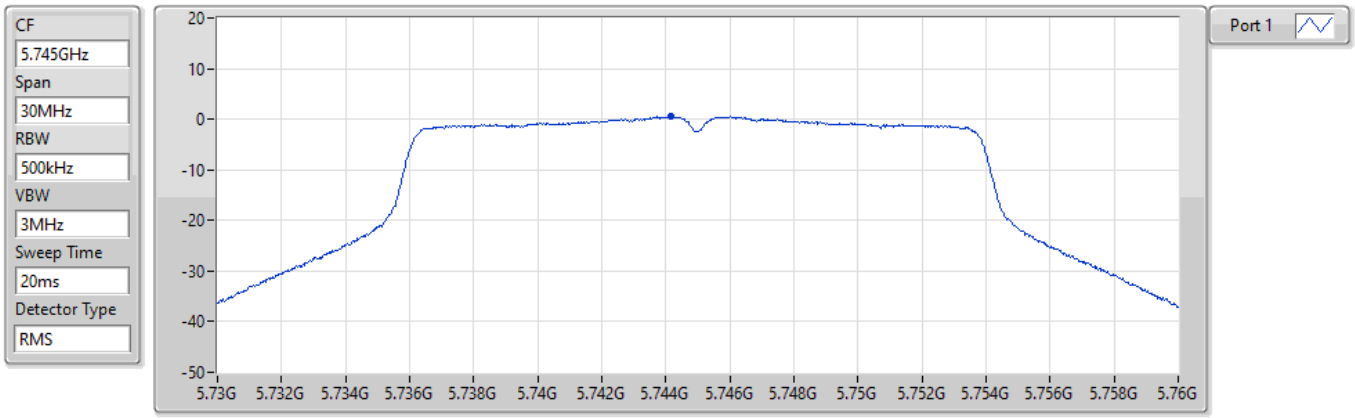


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.72	-0.72	-0.72

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5745MHz

20/12/2021

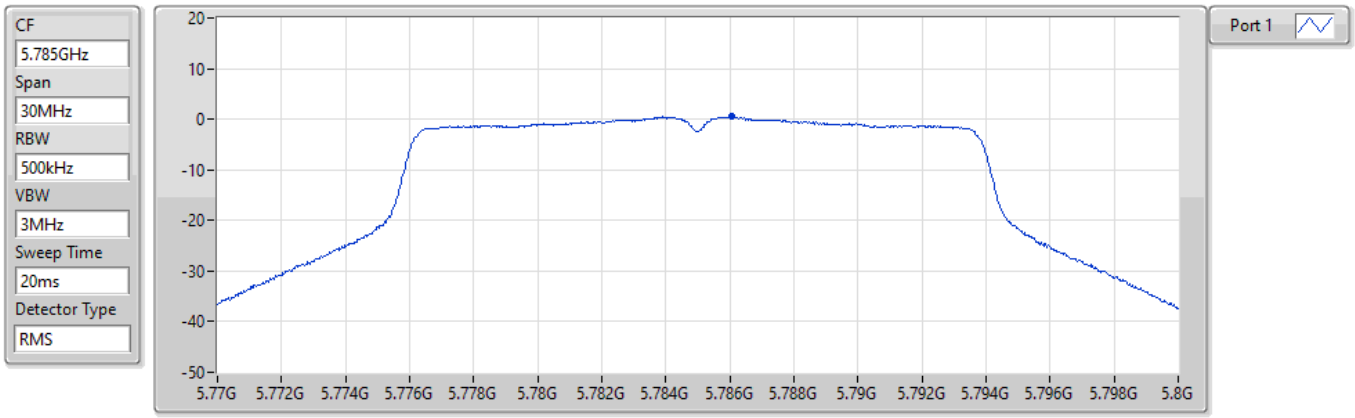


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.50	0.50	0.50

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5785MHz

20/12/2021

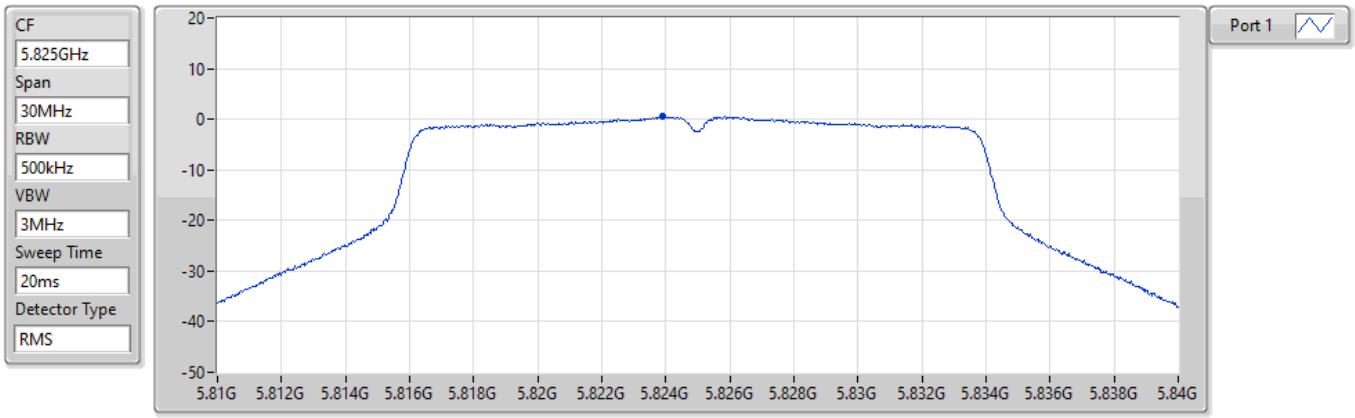


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.47	0.47	0.47

802.11ac VHT20_Nss1,(MCS0)_1TX PSD

5825MHz

20/12/2021

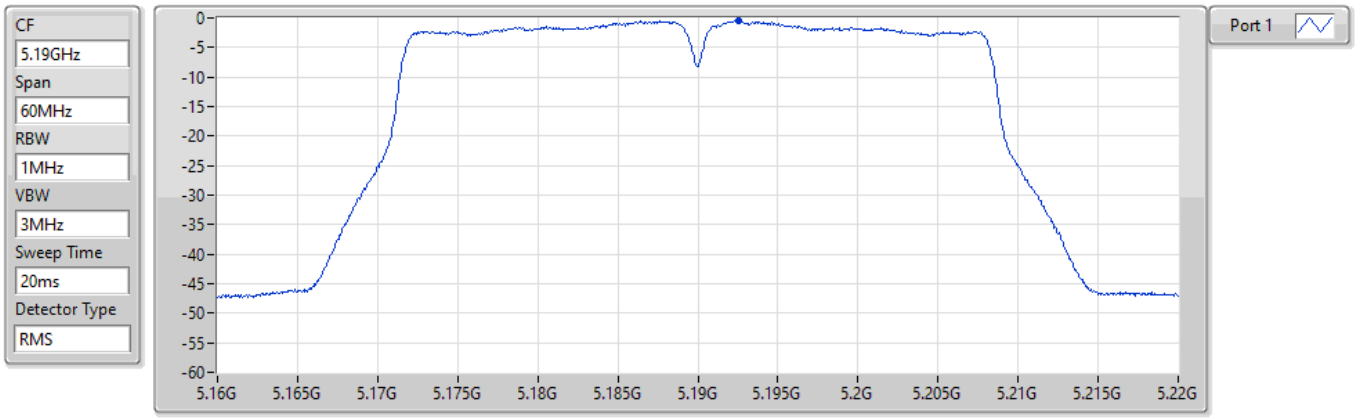


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.54	0.54	0.54

802.11ac VHT40_Nss1,(MCS0)_1TX PSD

5190MHz

20/12/2021

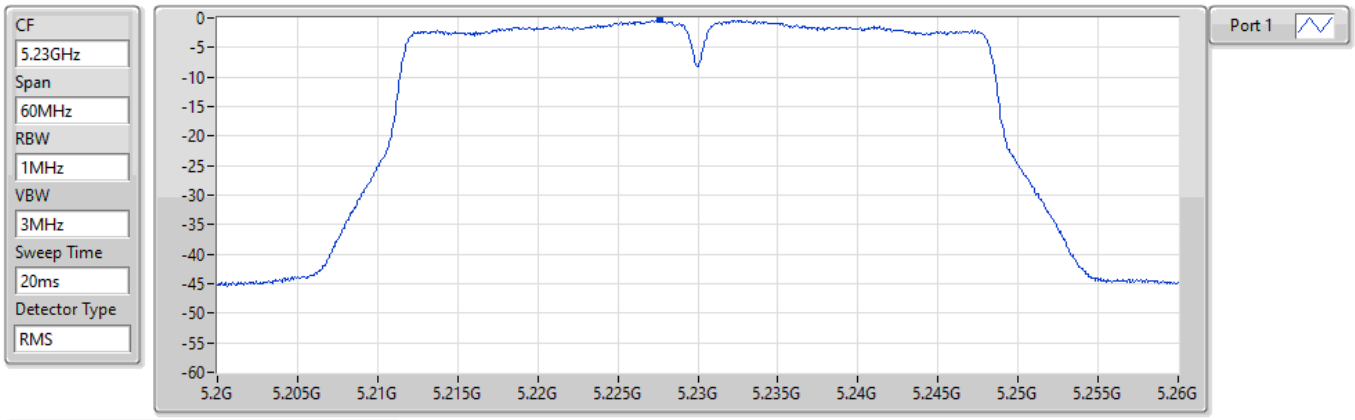


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.52	-0.52	-0.52

802.11ac VHT40_Nss1,(MCS0)_1TX PSD

5230MHz

20/12/2021

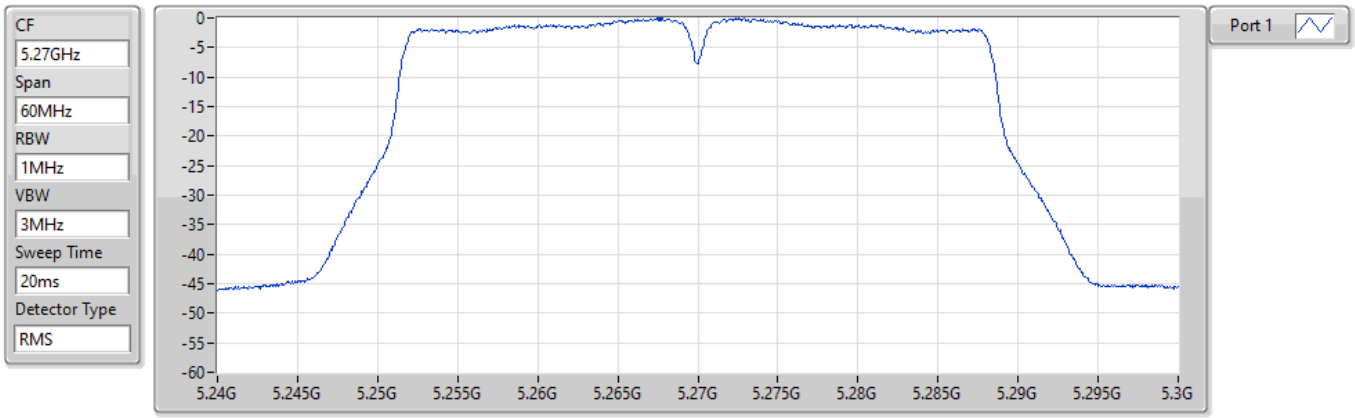


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.27	-0.27	-0.27

802.11ac VHT40_Nss1,(MCS0)_1TX PSD

5270MHz

20/12/2021

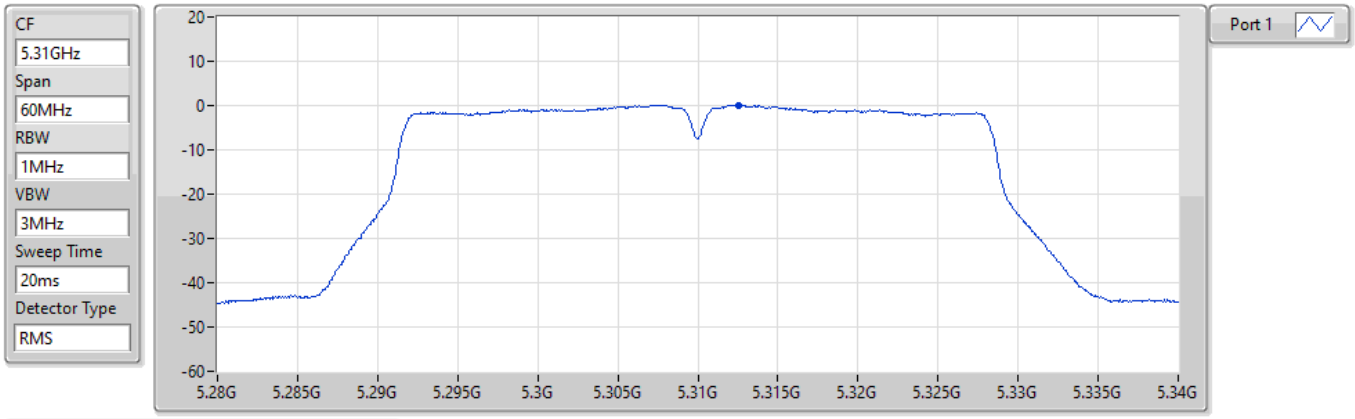


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.03	-0.03	-0.03

802.11ac VHT40_Nss1,(MCS0)_1TX PSD

5310MHz

20/12/2021

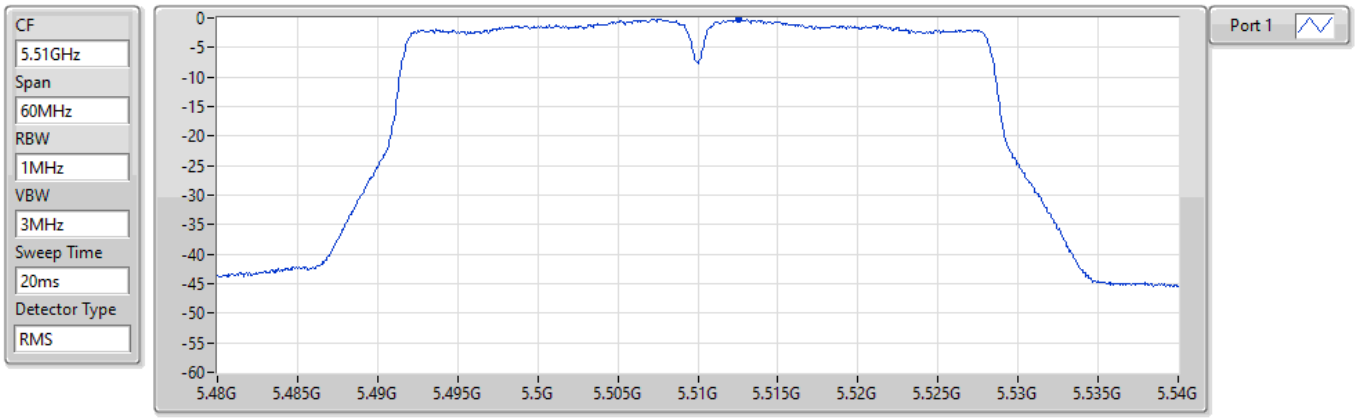


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.11	0.11	0.11

802.11ac VHT40_Nss1,(MCS0)_1TX PSD

5510MHz

20/12/2021

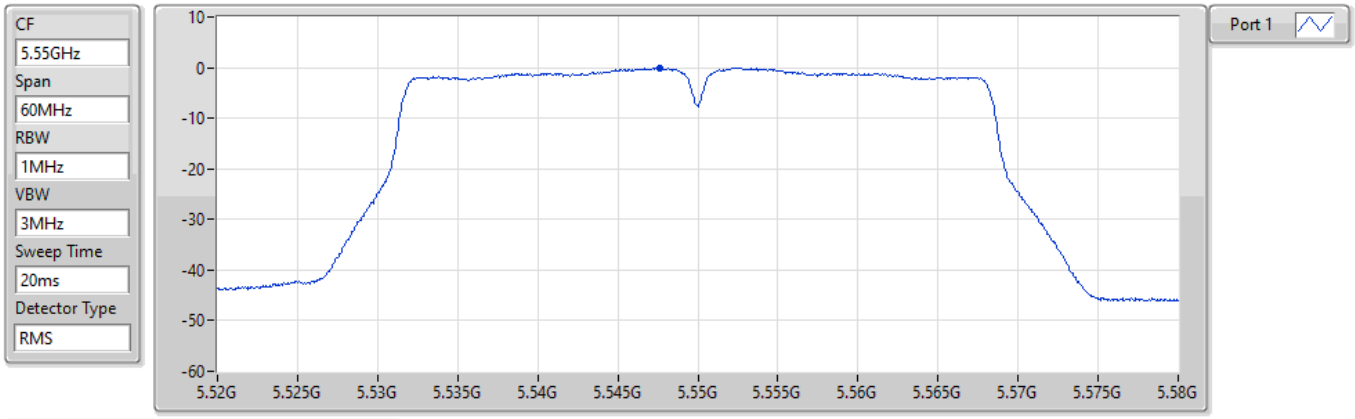


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.13	-0.13	-0.13

802.11ac VHT40_Nss1,(MCS0)_1TX PSD

5550MHz

20/12/2021

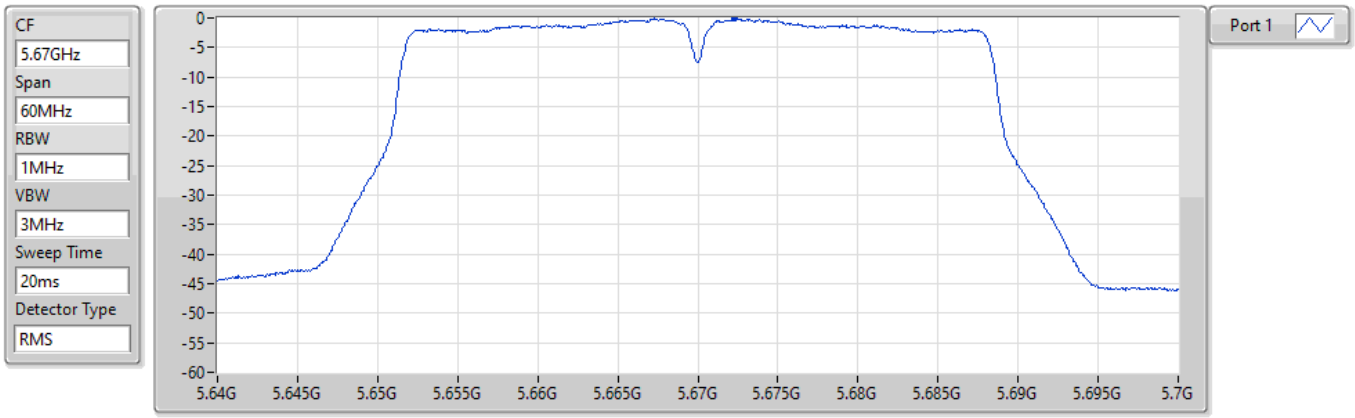


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.00	0.00	0.00

802.11ac VHT40_Nss1,(MCS0)_1TX PSD

5670MHz

20/12/2021

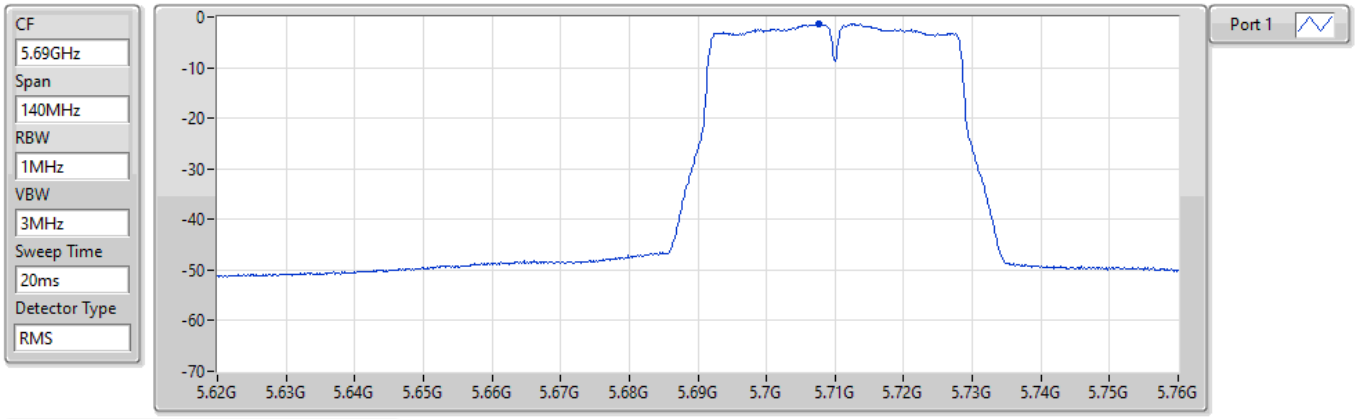


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.11	-0.11	-0.11

802.11ac VHT40_Nss1,(MCS0)_1TX PSD

5710MHz Straddle 5.47-5.725GHz

20/12/2021

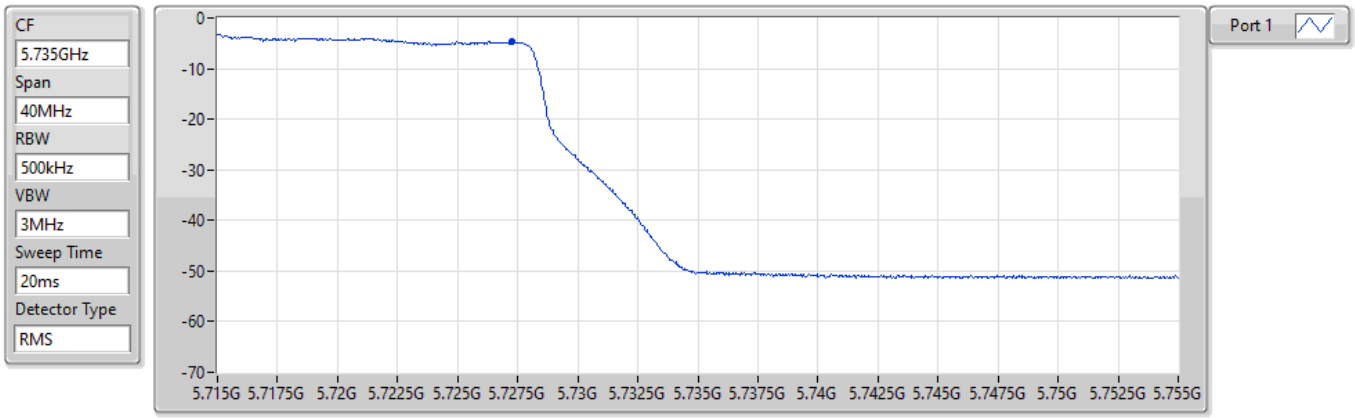


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.32	-1.32	-1.32

802.11ac VHT40_Nss1,(MCS0)_1TX PSD

5710MHz Straddle 5.725-5.85GHz

20/12/2021

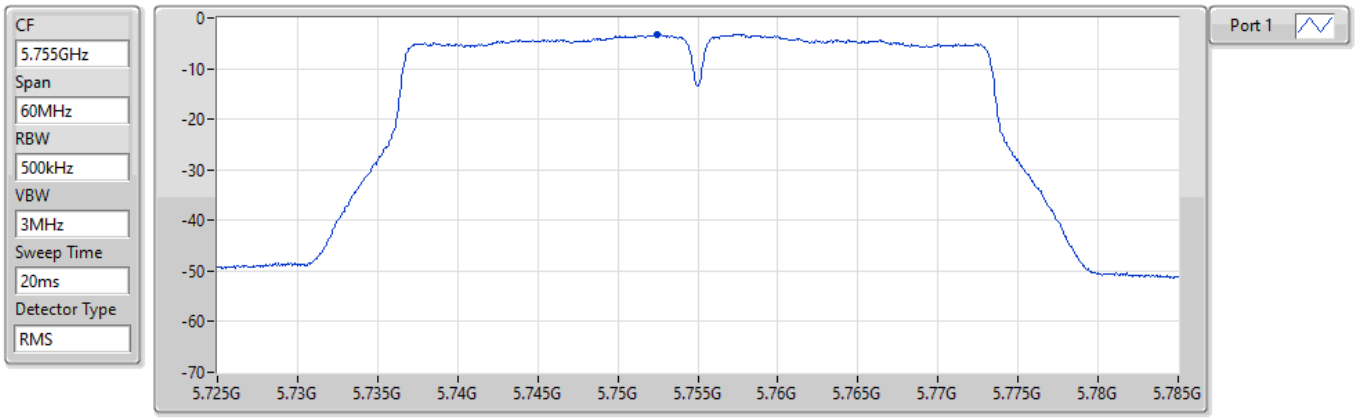


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.67	-4.67	-4.67

802.11ac VHT40_Nss1,(MCS0)_1TX PSD

5755MHz

20/12/2021

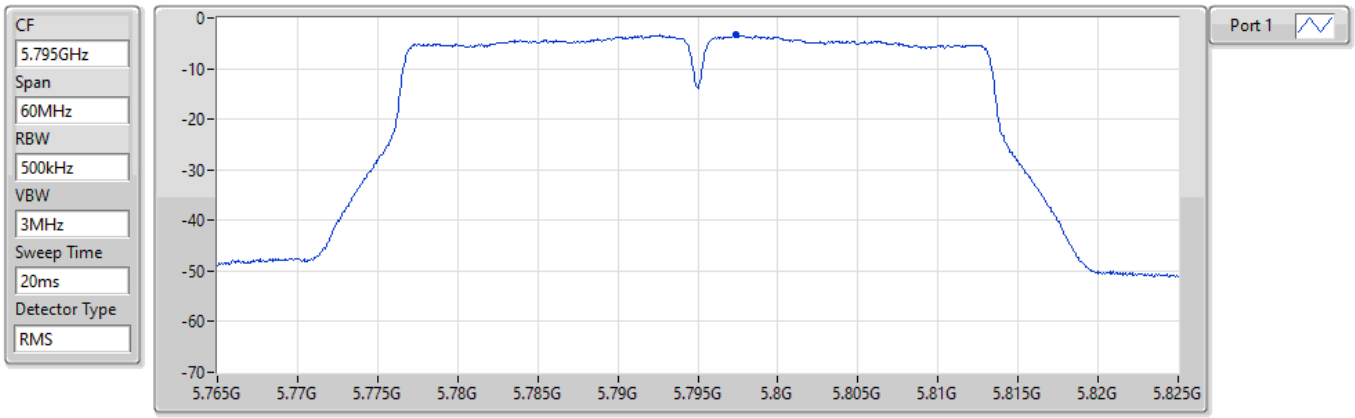


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.16	-3.16	-3.16

802.11ac VHT40_Nss1,(MCS0)_1TX PSD

5795MHz

20/12/2021

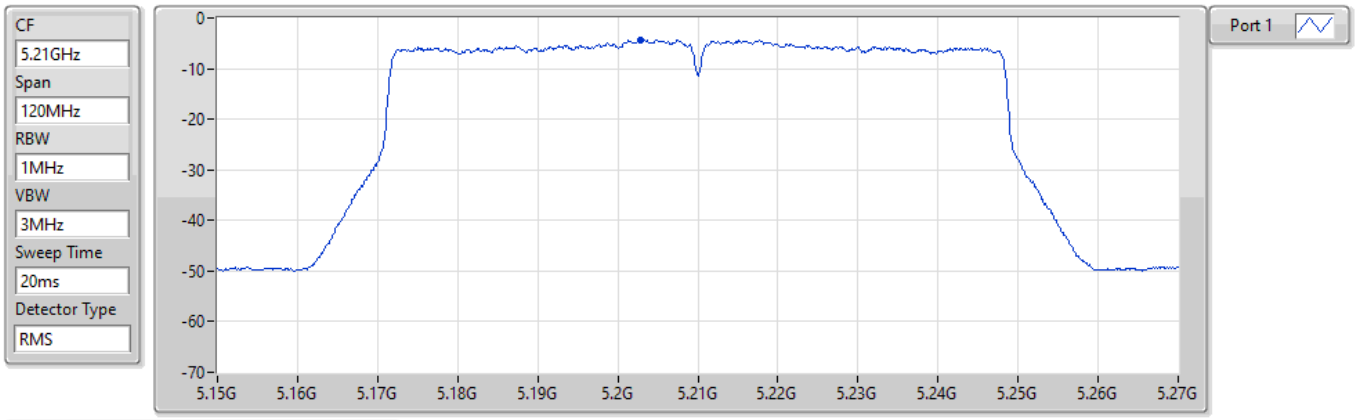


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.33	-3.33	-3.33

802.11ac VHT80_Nss1,(MCS0)_1TX PSD

5210MHz

20/12/2021

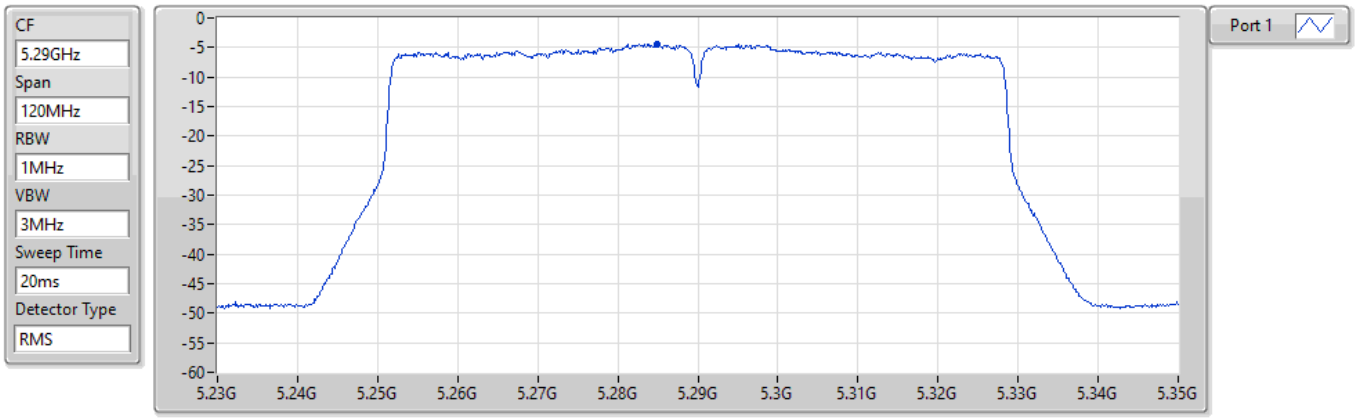


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.37	-4.37	-4.37

802.11ac VHT80_Nss1,(MCS0)_1TX PSD

5290MHz

20/12/2021

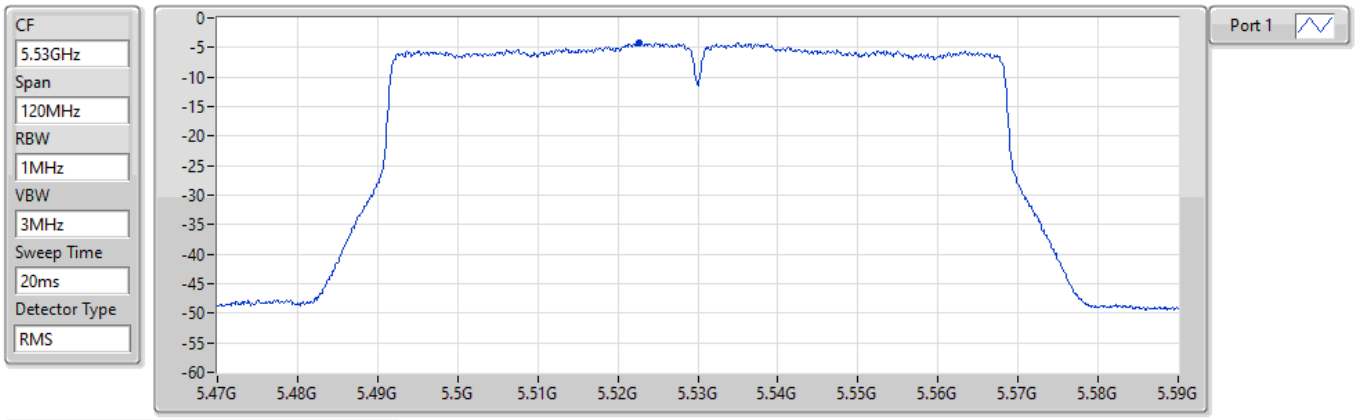


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.43	-4.43	-4.43

802.11ac VHT80_Nss1,(MCS0)_1TX PSD

5530MHz

20/12/2021

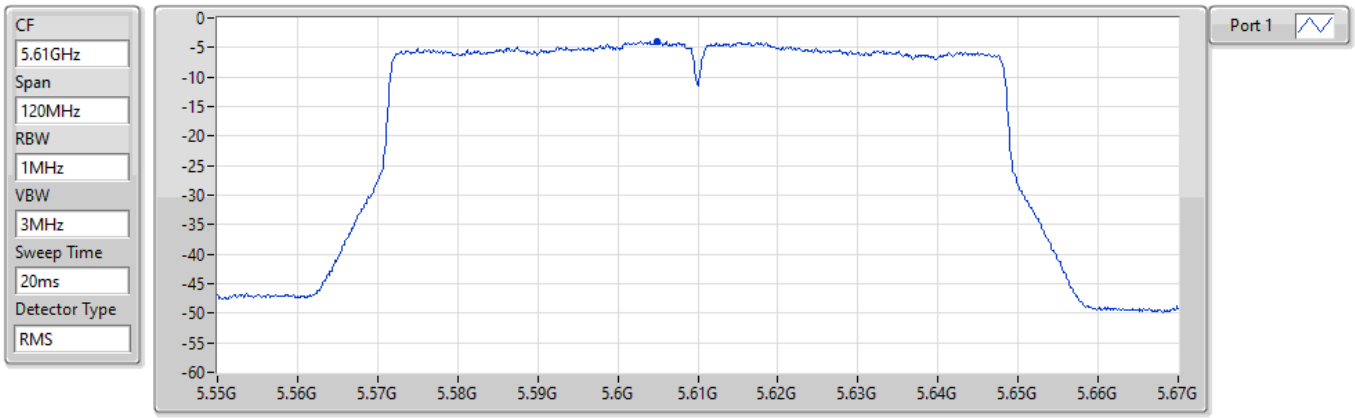


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.12	-4.12	-4.12

802.11ac VHT80_Nss1,(MCS0)_1TX PSD

5610MHz

20/12/2021

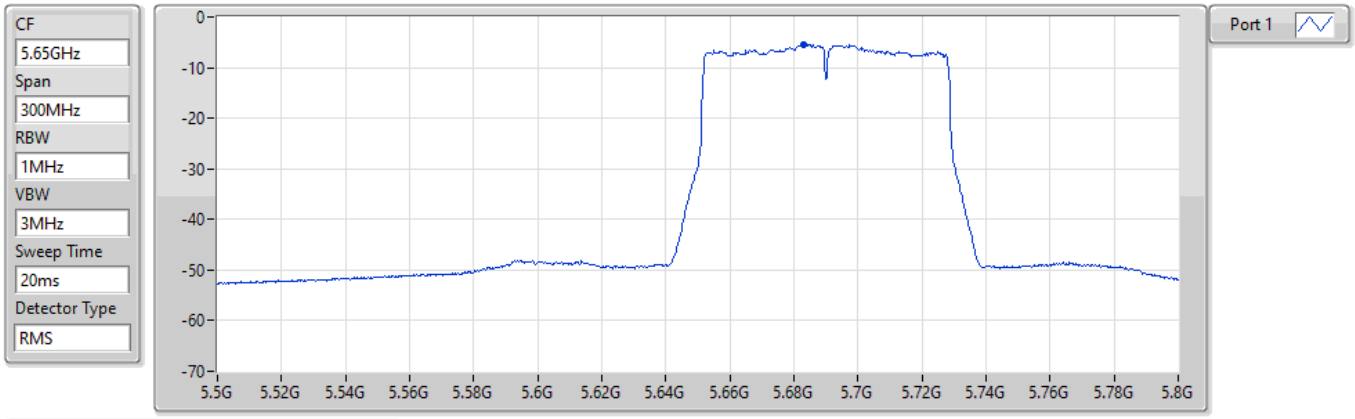


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.92	-3.92	-3.92

802.11ac VHT80_Nss1,(MCS0)_1TX PSD

5690MHz Straddle 5.47-5.725GHz

20/12/2021

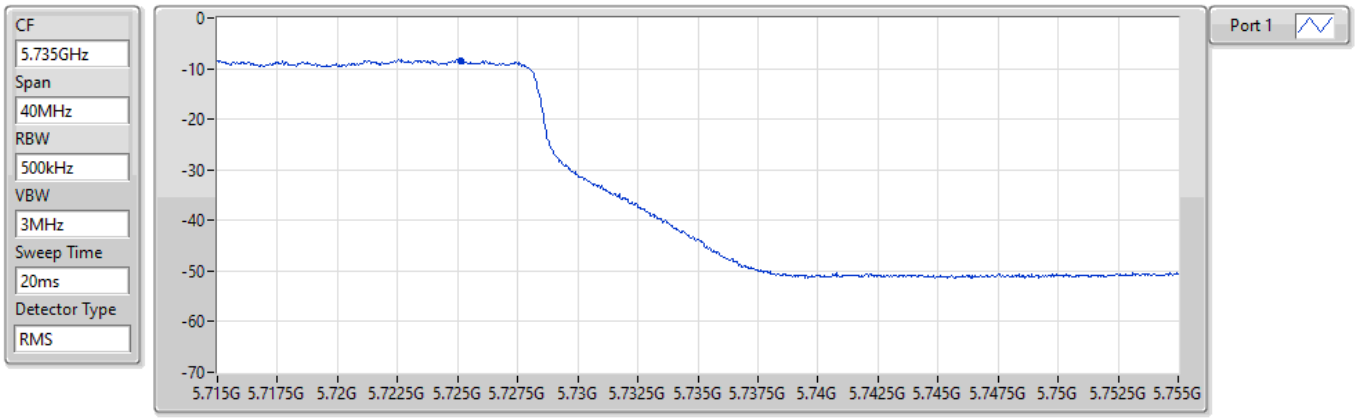


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-5.37	-5.37	-5.37

802.11ac VHT80_Nss1,(MCS0)_1TX PSD

5690MHz Straddle 5.725-5.85GHz

20/12/2021

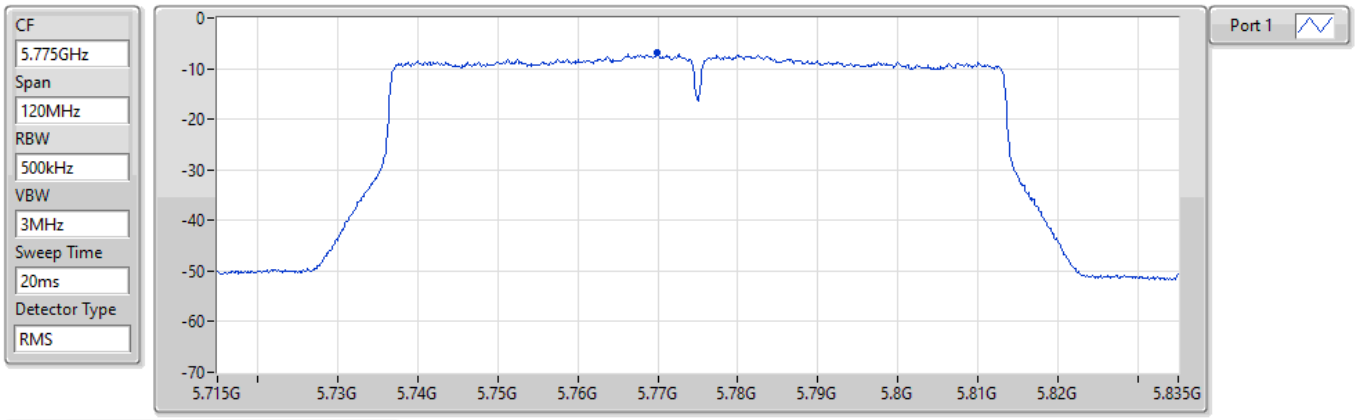


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.47	-8.47	-8.47

802.11ac VHT80_Nss1,(MCS0)_1TX PSD

5775MHz

20/12/2021



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.94	-6.94	-6.94

Summary

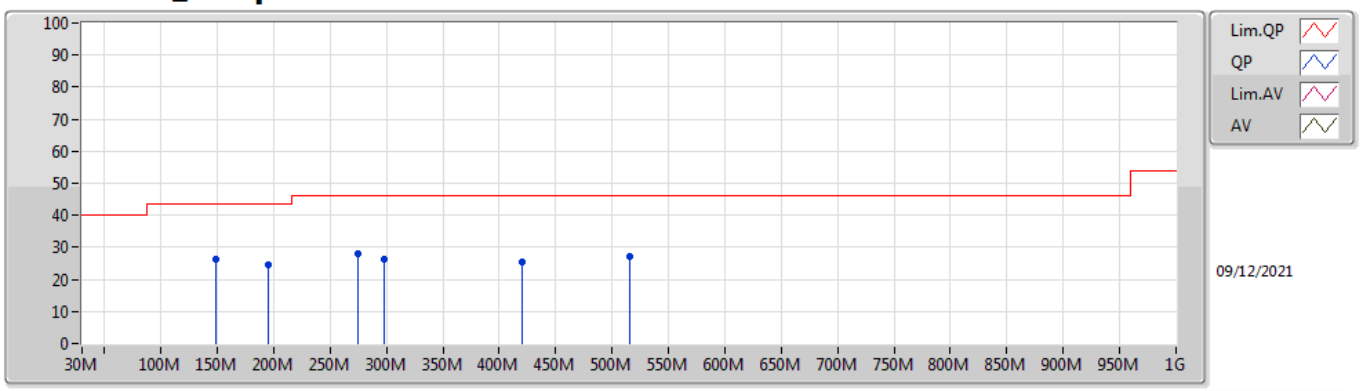
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
5.725-5.85GHz	-	-	-	-	-	-	-	-	-	-	-
802.11ac VHT80_Nss1,(MCS0)_1TX	Pass	PK	150.28M	28.92	43.50	-14.58	3	Horizontal	0	1.00	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-	-	-	-	-	-	-	-	-	-
5775MHz	Pass	PK	148.34M	26.45	43.50	-17.05	3	Vertical	360	1.00	-
5775MHz	Pass	PK	194.9M	24.47	43.50	-19.03	3	Vertical	360	1.00	-
5775MHz	Pass	PK	274.44M	28.13	46.00	-17.87	3	Vertical	360	1.00	-
5775MHz	Pass	PK	297.72M	26.47	46.00	-19.53	3	Vertical	360	1.00	-
5775MHz	Pass	PK	419.94M	25.43	46.00	-20.57	3	Vertical	360	1.00	-
5775MHz	Pass	PK	515M	27.05	46.00	-18.95	3	Vertical	360	1.00	-
5775MHz	Pass	PK	150.28M	28.92	43.50	-14.58	3	Horizontal	0	1.00	-
5775MHz	Pass	PK	196.84M	24.64	43.50	-18.86	3	Horizontal	0	1.00	-
5775MHz	Pass	PK	268.62M	28.39	46.00	-17.61	3	Horizontal	0	1.00	-
5775MHz	Pass	PK	297.72M	26.20	46.00	-19.80	3	Horizontal	0	1.00	-
5775MHz	Pass	PK	385.02M	26.96	46.00	-19.04	3	Horizontal	0	1.00	-
5775MHz	Pass	PK	515M	28.56	46.00	-17.44	3	Horizontal	0	1.00	-

802.11ac VHT80_Nss1,(MCS0)_1TX

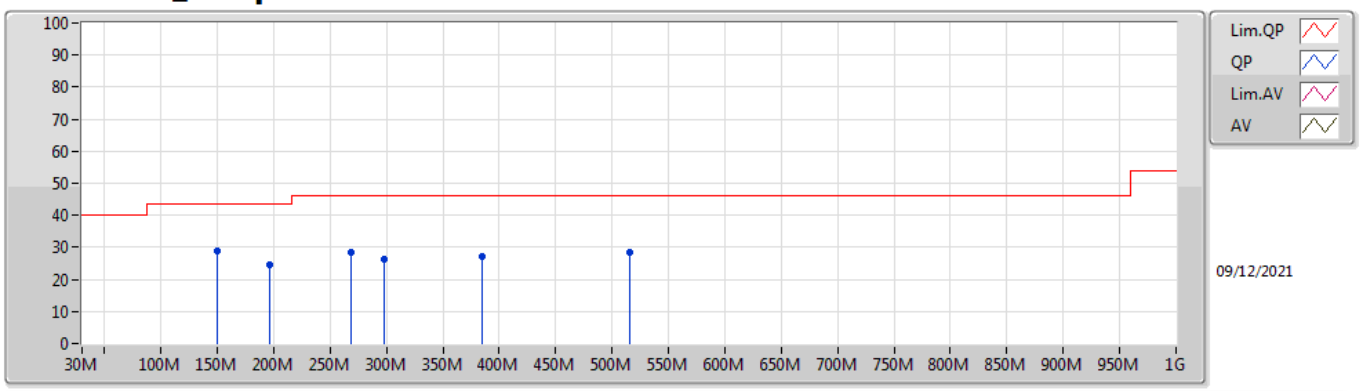
5775MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	148.34M	26.45	43.50	-17.05	-9.66	3	Vertical	360	1.00	-	36.11	15.54	2.05	27.25
PK	194.9M	24.47	43.50	-19.03	-10.45	3	Vertical	360	1.00	-	34.92	14.26	2.36	27.07
PK	274.44M	28.13	46.00	-17.87	-6.18	3	Vertical	360	1.00	-	34.31	17.78	2.79	26.75
PK	297.72M	26.47	46.00	-19.53	-5.64	3	Vertical	360	1.00	-	32.11	18.24	2.91	26.79
PK	419.94M	25.43	46.00	-20.57	-2.04	3	Vertical	360	1.00	-	27.47	21.87	3.54	27.45
PK	515M	27.05	46.00	-18.95	-1.07	3	Vertical	360	1.00	-	28.12	22.82	3.93	27.82

802.11ac VHT80_Nss1,(MCS0)_1TX

5775MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	150.28M	28.92	43.50	-14.58	-9.84	3	Horizontal	0	1.00	-	38.76	15.34	2.06	27.24
PK	196.84M	24.64	43.50	-18.86	-10.39	3	Horizontal	0	1.00	-	35.03	14.29	2.38	27.06
PK	268.62M	28.39	46.00	-17.61	-6.05	3	Horizontal	0	1.00	-	34.44	17.94	2.76	26.75
PK	297.72M	26.20	46.00	-19.80	-5.64	3	Horizontal	0	1.00	-	31.84	18.24	2.91	26.79
PK	385.02M	26.96	46.00	-19.04	-3.48	3	Horizontal	0	1.00	-	30.44	20.30	3.39	27.17
PK	515M	28.56	46.00	-17.44	-1.07	3	Horizontal	0	1.00	-	29.63	22.82	3.93	27.82