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Acronyms

Acronym ID	Acronym Description
Avg Power	Maximum Average Conducted Output Power
DC	Duty Cycle
Detector	Detector used
Ebw	Emission Bandwidth
EUT	Equipment Under Test
Freq	Frequency
Freq Rng	Frequency Range
Inband Peak Lvl	Inband Peak Level
Lvl	Level
MP	Measurement Point
Max EIRP	Maximum Burst EIRP
Mod	Modulation
Mode	MIMO Mode
Operation Band	Operation Band
PSD	Power Spectral Density
Pol	Polarization
Port	Active Port
TPC	TPC
Unwanted Freq	Unwanted Emissions Frequency
Unwanted Lvl	Unwanted Emissions Level

Competences and guarantees

DEKRA Testing and Certification S.A.U. is a testing laboratory accredited by the National Accreditation Body (ENAC -Entidad Nacional de Acreditación), to perform the tests indicated in the Certificate No. 51/LE 147.

DEKRA Testing and Certification S.A.U. is an FCC-recognized accredited testing laboratory with appropriate scope of accreditation that covers the performed tests in this report.

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Uncertainty

Uncertainty (factor $k=2$) was calculated according to the DEKRA Testing and Certification S.A.U. internal document PODT000.

The total uncertainty of the measurement system for the radiated emissions of EUT from 30 MHz to 1 GHz is:
Measurement uncertainty $\leq \pm 5,35$ dB with factor ($k = 2$).

The total uncertainty of the measurement system for the radiated emissions of EUT from 1 GHz to 17 GHz is:
Measurement uncertainty $\leq \pm 4,32$ dB with factor ($k = 2$).

The total uncertainty of the measurement system for the radiated emissions of EUT from 17 GHz to 40 GHz is:
Measurement uncertainty $\leq \pm 5,55$ dB with factor ($k = 2$).

The total uncertainty of the measurement system for the conducted testing of EUT is:

RF Average Output Power: Measurement uncertainty $\leq \pm 2,01$ dB

Duty Cycle: Measurement uncertainty $\leq \pm 0,84$ ms

Power Spectral Density: Measurement uncertainty $\leq \pm 2,01$ dB

Occupied/26 dBc Bandwidth: Measurement uncertainty

$\leq \pm 57,76$ kHz for BW 20MHz;

$\leq \pm 115,53$ kHz for BW 40MHz; and

$\leq \pm 231,06$ kHz for BW 80MHz.

6 dB Bandwidth: Measurement uncertainty

$\leq \pm 34,67$ kHz for BW 20MHz;

$\leq \pm 46,22$ kHz for BW 40MHz; and

$\leq \pm 80,90$ kHz for BW 80MHz.

Data provided by the client

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested").
2. The sample consists of a CIVIC Central In-Vehicle Infotainment Computer, including WLAN/ Bluetooth, GPS, AM/FM/DAB receiver

DEKRA Testing and Certification S.A.U. declines any responsibility with respect to the information provided by the client and that may affect the validity of results. The laboratory is not responsible for such information and it is not covered by accreditation.

Usage of samples

Samples undergoing test have been selected by: The client.

Id	Control Number	Description	Model	Serial N°	Date of Reception	Application
S/01	82544C_3.1	Headunit A- PREMIUM USA	MBCI2LS3PN1	0759610	2025-05-13	Element Under Test
S/01	76719D_20.1	Antenna			2024-04-04	Auxiliary Element
S/01	76719D_83.1	Antenna	A1779052902/002		2024-04-17	Auxiliary Element
S/01	76719D_9.1	Fakra - 4 Fakra Cable			2024-04-04	Auxiliary Element
S/01	76719D_91.1	Antenna	A1779052902/002		2024-04-17	Auxiliary Element
S/01	76719D_92.1	Antenna	A1779052902/002		2024-04-17	Auxiliary Element
S/01	80633C_4.1	Ethernet- CAN interface	VN5610A		2024-12-18	Auxiliary Element
S/01	80633C_9.1	Harness			2024-12-18	Auxiliary Element
S/01	82341B_13.1	Fakra Cable			2025-04-09	Auxiliary Element

Notes referenced to samples during the project:

Id	Type
S/01	Sample used for Conducted and Radiated testing

Test sample description

Ports..... :	Port name and description	Cable					
		Specified max length [m]	Attached during test		Shielded		
		Main Connector	2m	[X]		[]	
		Main Connector	2m	[X]		[]	
		Fakra Quad Connector AM/FM/DAB		[X]		[X]	
		Fakra Single Connector GPS					
	Fakra Quad Connector WLAN/BT		[X]		[X]		
Supplementary information to the ports..... :	--						
Rated power supply	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	[]	AC:					
	[X]	DC: 9-16V nominal 12 VDC by vehicle battery					
Rated Power	--						
Clock frequencies..... :	--						
Other parameters							
Software version	E030.5						
Hardware version	D22						
Dimensions in cm (W x H x D) :							
Mounting position	[]	Table top equipment					
	[]	Wall/Ceiling mounted equipment					
	[]	Floor standing equipment					
	[]	Hand-held equipment					
	[X]	Other: Cluster in the car					
Modules/parts..... :	Module/parts of test item		Type		Manufacturer		
	--						
Accessories (not part of the test item)	Description		Type		Manufacturer		
	Antennas						
	HUD						
	SA2 Panel						
	Cameras						
Documents as provided by the applicant	Description		File name		Issue date		
	--						

Identification of the client

Robert Bosch GmbH
Robert-Bosch-Strasse 200, 31139 Hildesheim
Germany

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2025-06-12
Date (finish)	2025-07-24

Document history

Report number	Date	Description
83206RRF.005	2025-08-14	First release.
83206RRF.005A1	2025-09-02	Second release. This report was modified due to minor typos. This report replaces 83206RRF005
83206RRF.005A2	2025-09-03	Third release. This report was modified due to update the FCC ID. This report replaces 83206RRF005A1

Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 20 % Max. = 75 %

In the semianechoic chamber, the following limits were not exceeded during the test.

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 20 % Max. = 75 %

In the chamber for conducted measurements, the following limits were not exceeded during the test:

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 20 % Max. = 75 %

Remarks and comments

The tests have been performed by the technical personnel: Antonio Maireles, Carmen Vázquez Perez, Pablo Redondo Reyes and Valentin Andarias Diaz.

Used instrumentation:

Control No.	Equipment	Model	Manufacturer	Next Calibration
06791	SEMIANECHOIC ABSORBER LINED CHAMBER IV	FACT 3 200 STP	ETS LINDGREN	N/A
06792	SHIELDED ROOM	S101	ETS LINDGREN	N/A
06609	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2026-04-21
06615	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2026-04-24
06143	HYBRID BILOG ANTENNA 30MHz-6GHz	3142E	ETS LINDGREN	2027-01-22
06142	PRE-AMPLIFIER G>38dB 30MHz-6GHz	BLNA 0360-01N	BONN ELEKTRONIK	2025-07-25
06496	HORN ANTENNA 1-18GHz	BBHA 9120 D	SCHWARZBECK	2026-12-01
03783	PRE-AMPLIFIER G>30dB 1GHz-18GHz	BLMA 0118-3A	BONN ELEKTRONIK	2026-03-17
04657	HORN ANTENNA 18-40GHz	BBHA 9170	SCHWARZBECK	2026-06-12
10537	PRE-AMPLIFIER G>46dB 18-40 GHz	BLMA 1840-5G	BONN ELEKTRONIK	2026-03-07
07817	EMI TEST RECEIVER 2Hz-44GHz	ESW44	ROHDE AND SCHWARZ	2026-07-01
07445	DC POWER SUPPLY 30V/5A	U8002A	KEYSIGHT TECHNOLOGIES	N/A
07760	DIGITAL MULTIMETER	175	FLUKE	2025-11-07
04848	SOFTWARE FOR EMC/RF TESTING	EMC32	ROHDE AND SCHWARZ	N/A
06793	SHIELDED ROOM	S101	ETS LINDGREN	N/A
06611	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2026-04-21
06668	SIGNAL AND SPECTRUM ANALYZER 10Hz-40GHz	FSV40	ROHDE AND SCHWARZ	2027-04-01
07796	EXTENSION FOR OPEN SWITCH UNIT UP TO 40GHz	OSP-B157Wx	ROHDE AND SCHWARZ	2027-01-09
08848	OPEN SWITCH UNIT UP TO 7.5 GHz	OSP-B157W8 PLUS	ROHDE AND SCHWARZ	2027-01-02
00922	POWER SUPPLY DC 40 V / 40 A	NGPE 40/40	ROHDE AND SCHWARZ	N/A
05850	DIGITAL MULTIMETER	179	FLUKE	2025-11-04
07798	SOFTWARE FOR EMC/RF TESTING	WMS32	ROHDE AND SCHWARZ	N/A

Testing verdicts

Fail	F
Inconclusive	I
Not applicable	N/A
Not measured	N/M
Pass	P

Summary

A. Common requirements for all Bands:

FCC PART 15		
Requirement – Test case	Verdict	Remark
Transmitter. Duty Cycle	P	
Transmitter. 99% Occupied Bandwidth	P	
Transmitter. 26 dB Emission Bandwidth (EBW)	P	
<u>Supplementary information and remarks:</u> None.		

U-NII-1 Band: 5.15 - 5.25 GHz

FCC PART 15 PARAGRAPH		
Requirement – Test case	Verdict	Remark
FCC 15.407 (a)(1)(iv) Transmitter Maximum conducted Output Power	P	
FCC 15.407 (a)(1)(iv) Transmitter Maximum Power Spectral Density	P	
FCC 15.407 (b)(1) Transmitter Out of Band Radiated Emissions	P	
FCC 15.407 (b)(1) Transmitter Band Edge Radiated Emissions	P	
<u>Supplementary information and remarks:</u> None.		

RSS-247		
Requirement – Test case	Verdict	Remark
RSS-247 6.2.1.1 Transmitter Maximum Conducted Output Power	P	
RSS-247 6.2.1.1 Transmitter Maximum Power Spectral Density	P	
RSS-247 6.2.1.2 Transmitter Out of Band Radiated Emissions	P	
RSS-247 6.2.1.2 Transmitter Band Edge Radiated Emissions	P	
<u>Supplementary information and remarks:</u> None.		

U-NII-3: 5.725 GHz – 5.85 GHz Band:

FCC PART 15 PARAGRAPH			
Requirement – Test case		Verdict	Remark
FCC 15.407 (e)	6 dB Bandwidth	P	
FCC 15.407 (a)(3)(i)	Transmitter Maximum Conducted Output Power	P	
FCC 15.407 (a)(3)(i)	Transmitter Maximum Power Spectral Density	P	
FCC 15.407 (b)(4)	Transmitter Out of Band Radiated Emissions	P	
FCC 15.407 (b)(4)	Transmitter Band Edge Radiated Emissions	P	
<u>Supplementary information and remarks:</u>			
None.			

RSS-247			
Requirement – Test case		Verdict	Remark
RSS-247 6.2.4.2	6 dB Bandwidth	P	
RSS-247 6.2.4.2	Transmitter Maximum Conducted Output Power	P	
RSS-247 6.2.4.2	Transmitter Maximum Power Spectral Density	P	
RSS-247 6.2.4.3	Transmitter Band Edge Radiated Emissions	P	
RSS-247 6.2.4.3	Transmitter Out of Band Radiated Emissions	P	
<u>Supplementary information and remarks:</u>			
None.			

Appendix A: Test Common requirements for all Bands

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TEST CONDITIONS

(*) Declared by the Client.

POWER SUPPLY (*):

Vnominal: 12 Vdc
Type of Power Supply: Vehicle battery

ANTENNA (*):

Type of Antenna: External

Directional Antenna Gain Calculations for CDD MIMO In-Band Measurements:

For 2Tx CDD MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii) y F)2)e)ii), directional gain, directional gain was calculated as follows:

$$\begin{aligned}
 N_{SS} &= 1, N_{ANT} = 2, G_{ANT0} = 5.1, G_{ANT1} = 5.1 \\
 \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^2 g_{j,k} \right)^2}{2} \right] \\
 &= 10 \log \left[\frac{(g_{1,1} + g_{1,2})^2}{2} \right] = 10 \log \left[\frac{(10^{\frac{5.1}{20}} + 10^{\frac{5.1}{20}})^2}{2} \right] = 10 \log \left[\frac{(10^{\frac{5.1}{20}} + 10^{\frac{5.1}{20}})^2}{2} \right] = 8.11 \text{ dBi}
 \end{aligned}$$

POWER ADJUSTMENT (*): 9 dBm

TEST FREQUENCIES (*):

UNII-1:

Technology Tested:	WLAN (IEEE 802.11 a,n,ac,ax) 2x2 / U-NII-1	
	802.11 n HT20: MCS0 to MCS23 (MIMO 2x2)	
	802.11 n HT40: MCS0 to MCS23 (MIMO 2x2)	
	802.11 ac VHT20: MCS0 to MCS9 (MIMO 2x2)	
	802.11 ac VHT40: MCS0 to MCS9 (MIMO 2x2)	
	802.11 ac VHT80: MCS0 to MCS9 (MIMO 2x2)	
	802.11 ax HE20: MCS0 to MCS11 (MIMO 2x2) – SU/RU	
	802.11 ax HE40: MCS0 to MCS11 (MIMO 2x2) – SU/RU	
	802.11 ax HE80: MCS0 to MCS11 (MIMO 2x2) – SU/RU	
Setting of cores / ports:	3+4	
Beamforming:	No.	
Frequency Range:	5150 MHz to 5250 MHz	
Channel Spacing:	20 MHz	
Transmit Channels	Channel	Channel Frequency (MHz)
	Low: 36	5180
	Middle: 40	5200
	High: 48	5240
Channel Spacing:	40 MHz	
Transmit Channels	Channel	Channel Frequency (MHz)
	Low: 38	5190
	High: 46	5230
Channel Spacing:	80 MHz	
Transmit Channels	Middle: 42	5210

* The EUT does not support the Middle Channel of 802.11ax HE20 (OFDMA MCS0) SU modulation.

UNII-3:

Technology Tested:	WLAN (IEEE 802.11 a,n,ac,ax) 2x2 / U-NII-3	
	802.11 n HT20: MCS0 to MCS23 (MIMO 2x2)	
	802.11 n HT40: MCS0 to MCS23 (MIMO 2x2)	
	802.11 ac VHT20: MCS0 to MCS9 (MIMO 2x2)	
	802.11 ac VHT40: MCS0 to MCS9 (MIMO 2x2)	
	802.11 ac VHT80: MCS0 to MCS9 (MIMO 2x2)	
	802.11 ax HE20: MCS0 to MCS11 (MIMO 2x2) – SU/RU	
	802.11 ax HE40: MCS0 to MCS11 (MIMO 2x2) – SU/RU	
	802.11 ax HE80: MCS0 to MCS11 (MIMO 2x2) – SU/RU	
Setting of cores / ports:	3+4	
Beamforming:	No.	
	5725 MHz to 5850 MHz	
Power Settings:	13 dBm	
Operating Channel Bandwidth:	20 MHz	
Transmission Channels:	Channel	Channel Frequency (MHz)
	Low (149)	5745
	Middle (157)	5785
	High (165)	5825
Operating Channel Bandwidth:	40 MHz	
Transmission Channels:	Channel	Channel Frequency (MHz)
	Low (151)	5755
	High (159)	5795
Operating Channel Bandwidth:	80 MHz	
Transmission Channels:	Single (155)	5775

* The EUT does not support the Middle Channel of 802.11ax HE20 (OFDMA MCS0) SU modulation.

The test set-up was made in accordance to the general provisions of FCC Unlicensed National Information Infrastructure (U-NII) Devices 789033 D02 General U-NII Test Procedures New Rules v02r01 dated Dec 14, 2017.

The EUT was tested in the following operating mode:

- Continuously transmitting with a modulated carrier at maximum power in all required channels using the supported data rates/modulations types.

The field strength at the band edges was evaluated for each mode on the lowest and highest channels at the rated power for the channel under test.

For all modes, the EUT was configured in test mode using a software application. The application was used to enable a continuous transmission and to select the test channels as required. The client supplied instructions to configure the EUT. The customer supplied a document containing the setup instructions.

The worst cases for testing were identified for output power and spurious levels at the band edges which were selected based on preliminary testing that correspond to next data rates:

- 802.11 n HT20: MCS0
- 802.11 n HT40: MCS0
- 802.11 ac VHT20: MCS0
- 802.11 ac VHT40: MCS0
- 802.11 ac VHT80: MCS0
- 802.11 ax HE20: MCS0
- 802.11 ax HE40: MCS0
- 802.11 ax HE80: MCS0

CONDUCTED MEASUREMENTS:

The equipment under test was set up in a shielded room and connected to the spectrum analyzer using a low-loss RF cable. The reading in the spectrum analyzer is corrected taking into account the internal and external RF cable loss.

For all modes:



Transmitter Duty Cycle

Limits

When the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.

Results

Modulation: 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	3+4	5180.00000	99.74
		5220.00000	99.74
		5240.00000	99.74
[5725, 5850]		5745.00000	99.72
		5785.00000	99.72
		5825.00000	99.72

Modulation: 802.11n HT40 (OFDM MCS0 13.5 Mbit/s)

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	3+4	5190.00000	99.73
		5230.00000	99.73
[5725, 5850]		5755.00000	99.73
		5795.00000	99.73

Modulation: 802.11ac VHT20 (OFDM MCS0)

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	3+4	5180.00000	99.72
		5220.00000	99.72
		5240.00000	99.72
[5725, 5850]		5745.00000	99.72
		5785.00000	99.72
		5825.00000	99.72

Modulation: 802.11ac VHT40 (OFDM MCS0)

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	3+4	5190.00000	99.73
		5230.00000	99.73
[5725, 5850]		5755.00000	99.74
		5795.00000	99.73

Modulation: 802.11ac VHT80 (OFDM MCS0)

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	3+4	5210.00000	99.74
[5725, 5850]		5775.00000	99.75

Modulation: 802.11ax HE20 (OFDMA MCS0) SU

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	3+4	5180.00000	99.66
		5240.00000	99.73
[5725, 5850]		5745.00000	99.69
		5825.00000	99.73

Modulation: 802.11ax HE20 (OFDMA MCS0) RU26

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	3+4	5180.00000	99.69
		5220.00000	99.73
		5240.00000	99.68
[5725, 5850]		5745.00000	99.73
		5785.00000	99.69
		5825.00000	99.69

Modulation: 802.11ax HE40 (OFDMA MCS0) SU

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	3+4	5190.00000	99.73
		5230.00000	99.73
[5725, 5850]		5755.00000	99.73
		5795.00000	99.74

Modulation: 802.11ax HE40 (OFDMA MCS0) RU26

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	3+4	5190.00000	99.64
		5230.00000	99.59
[5725, 5850]		5755.00000	99.63
		5795.00000	99.59

Modulation: 802.11ax HE80 (OFDMA MCS0) SU

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	3+4	5210.00000	99.74
[5725, 5850]		5775.00000	99.74

Modulation: 802.11ax HE80 (OFDMA MCS0) RU26

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	3+4	5210.00000	99.56
[5725, 5850]		5775.00000	99.56

Transmitter. 99% Occupied Bandwidth

Limits

The occupied bandwidth or the “99% emission bandwidth” is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained.

The following conditions shall be observed for measuring the occupied bandwidth:

- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the spectrum analyzer shall be set large enough to capture all products of the modulation process, including the emission skirts, around the carrier frequency, but small enough to avoid having other emissions (e.g. on adjacent channels) within the span.
- The detector of the spectrum analyzer shall be set to “Sample”. However, a peak, or peak hold, may be used in place of the sampling detector since this usually produces a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold (or “Max Hold”) may be necessary to determine the occupied / x dB bandwidth if the device is not transmitting continuously.
- The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

Note: It may be necessary to repeat the measurement a few times until the RBW and VBW are in compliance with the above requirement.

For the 99% emission bandwidth, the trace data points are recovered and directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached, and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency). This frequency is then recorded. The difference between the two recorded frequencies is the occupied bandwidth (or the 99% emission bandwidth).

Modulation: 802.11ax HE20 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Antenna configuration	Subcarrier Mode	Occ Ch BW (MHz)
[5150, 5250]	3+4	5180.00000	MIMO CDD Mode 2x2	RU	18.500
[5150, 5250]	3+4	5180.00000	MIMO CDD Mode 2x2	SU	18.900
[5150, 5250]	3+4	5220.00000	MIMO CDD Mode 2x2	RU	17.400
[5150, 5250]	3+4	5220.00000	MIMO CDD Mode 2x2	SU	18.900
[5150, 5250]	3+4	5240.00000	MIMO CDD Mode 2x2	RU	18.600
[5150, 5250]	3+4	5240.00000	MIMO CDD Mode 2x2	SU	18.900

Verdict

Pass

Attachments

Operation Band MHz = [5150, 5250]

Active Port = 3+4

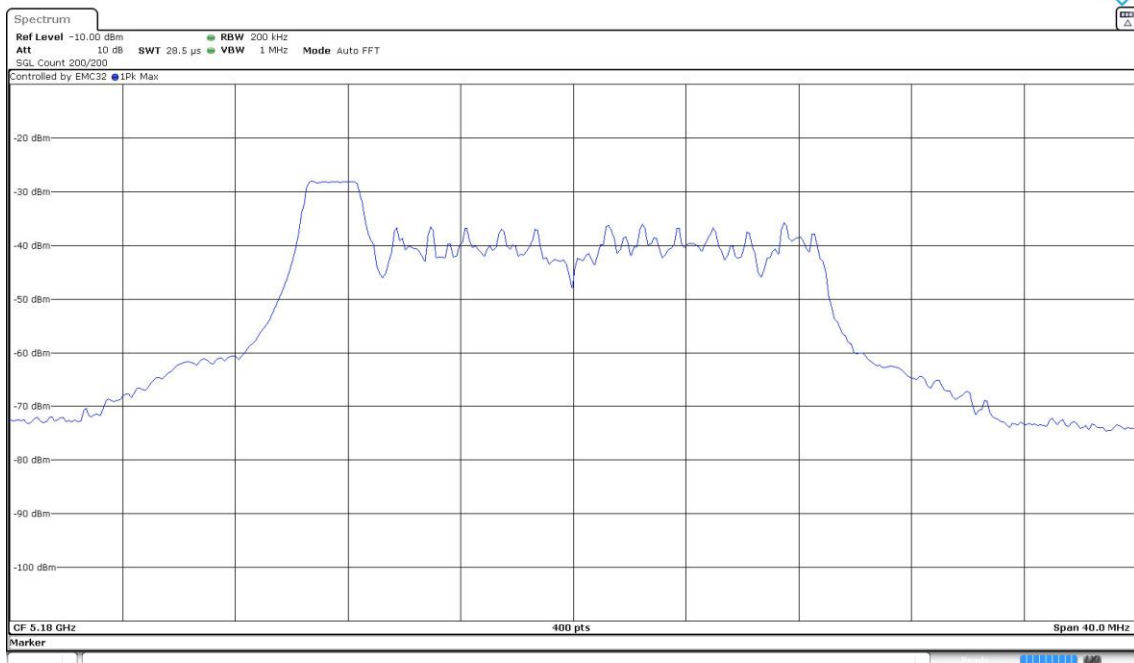
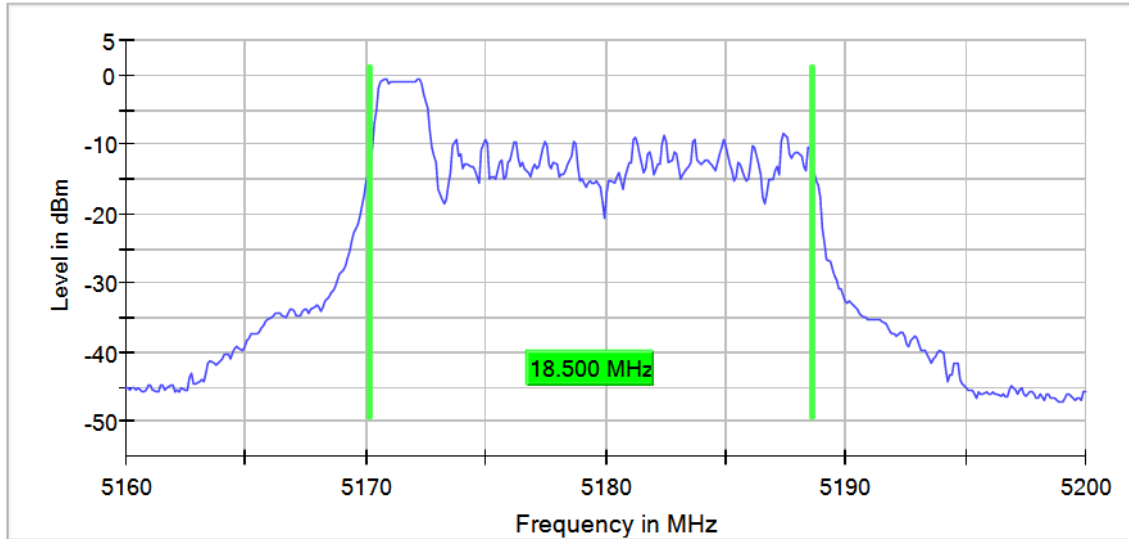
Frequency MHz = 5180.00000

Modulation = 802.11ax HE20 (OFDM MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5150, 5250]

Active Port = 3+4

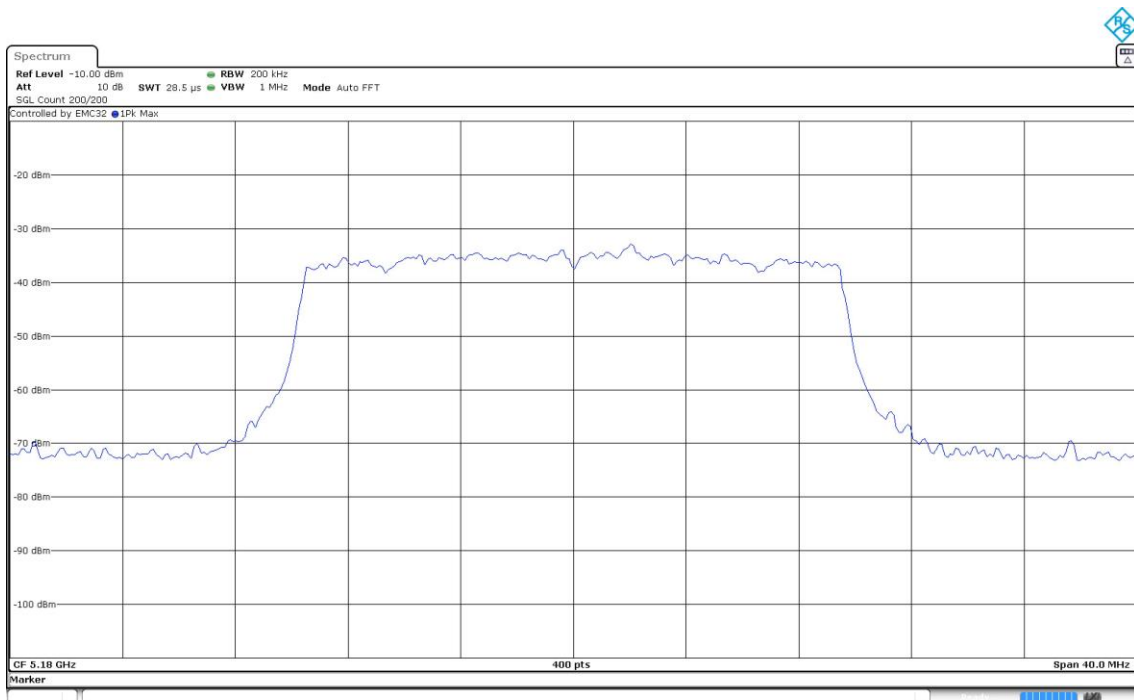
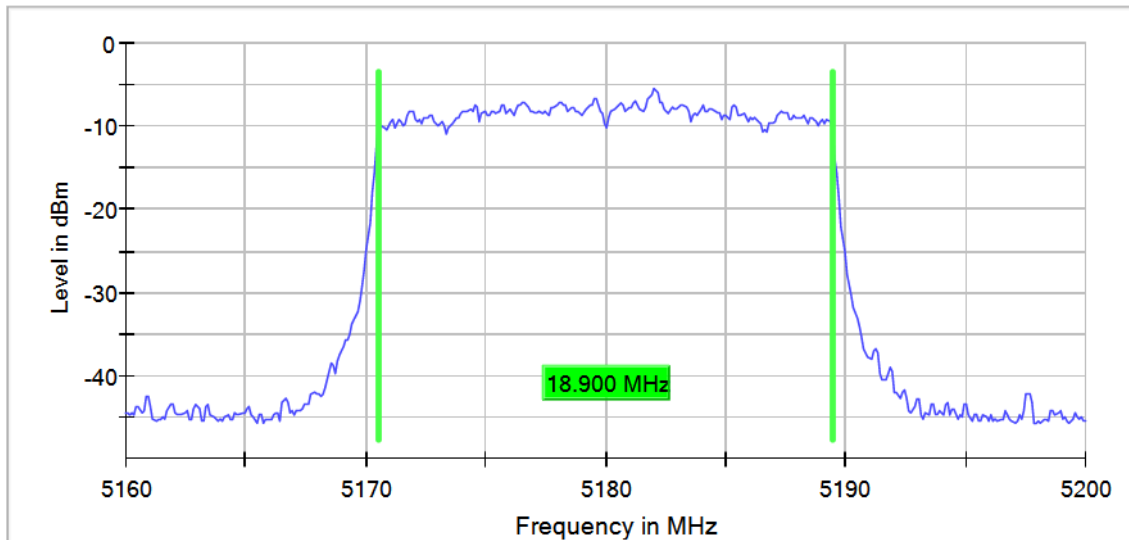
Frequency MHz = 5180.00000

Modulation = 802.11ax HE20 (OFDM MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5150, 5250]

Active Port = 3+4

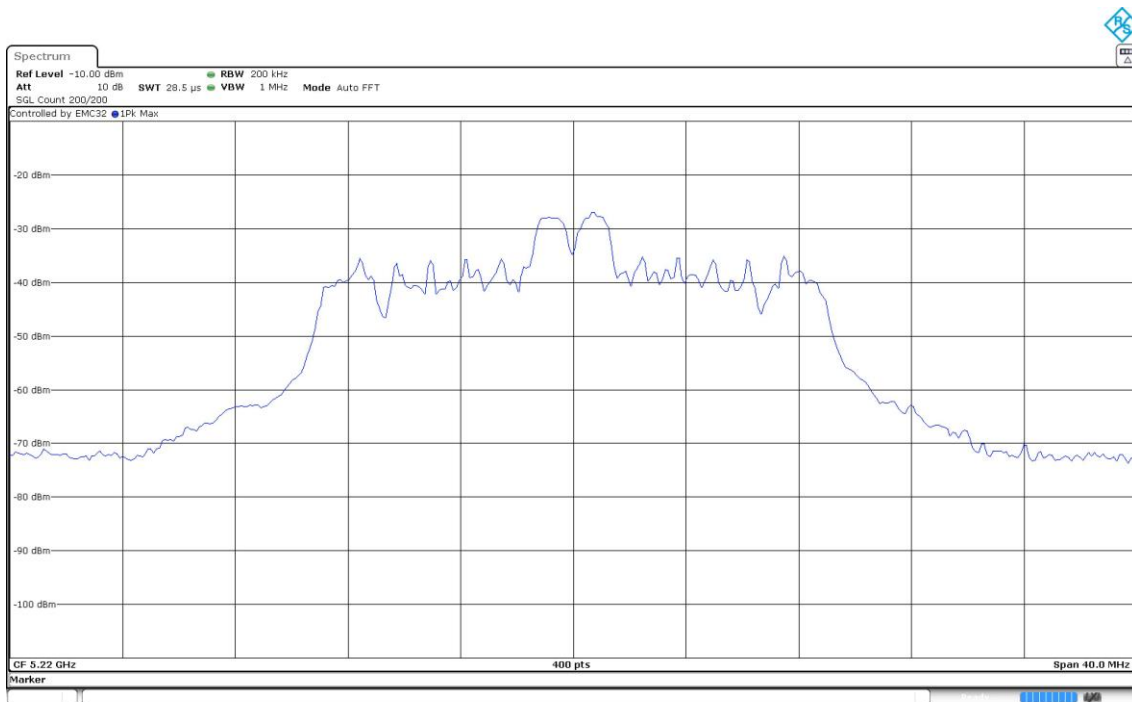
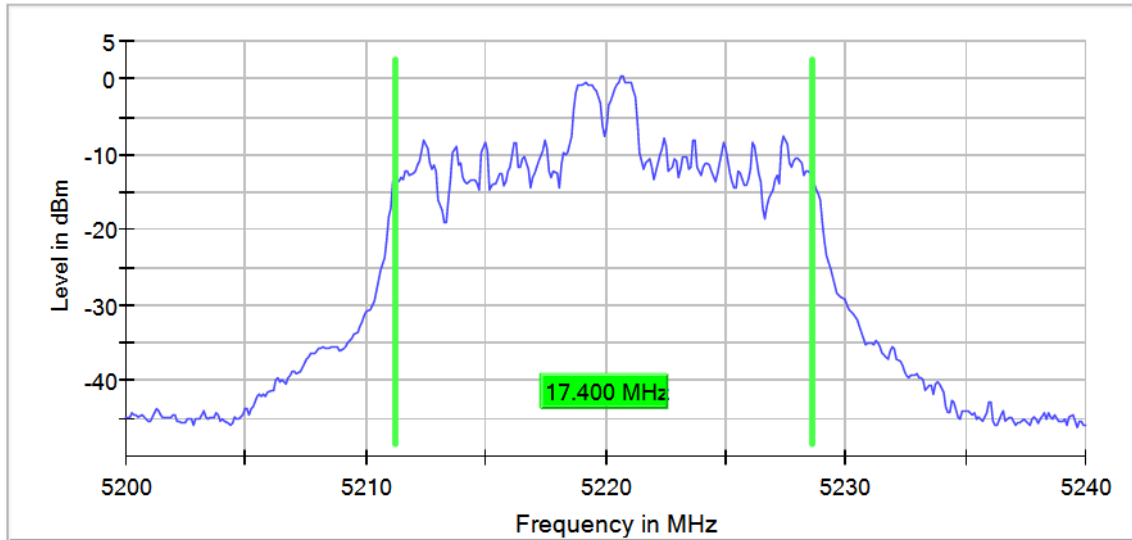
Frequency MHz = 5220.00000

Modulation = 802.11ax HE20 (OFDM MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5150, 5250]

Active Port = 3+4

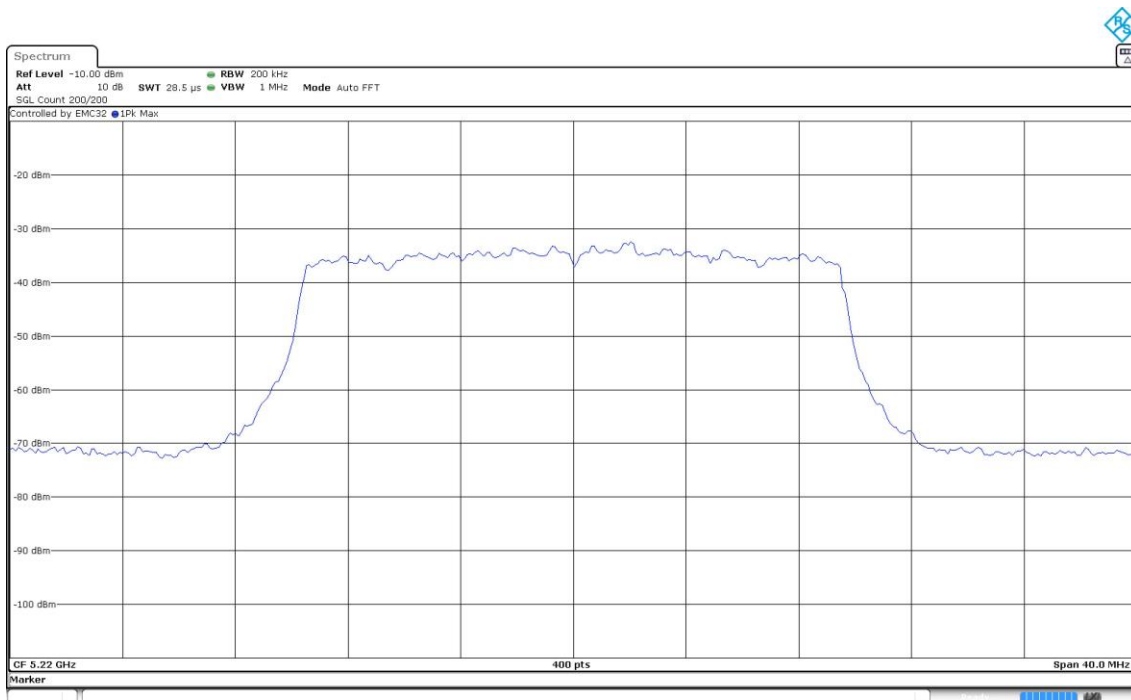
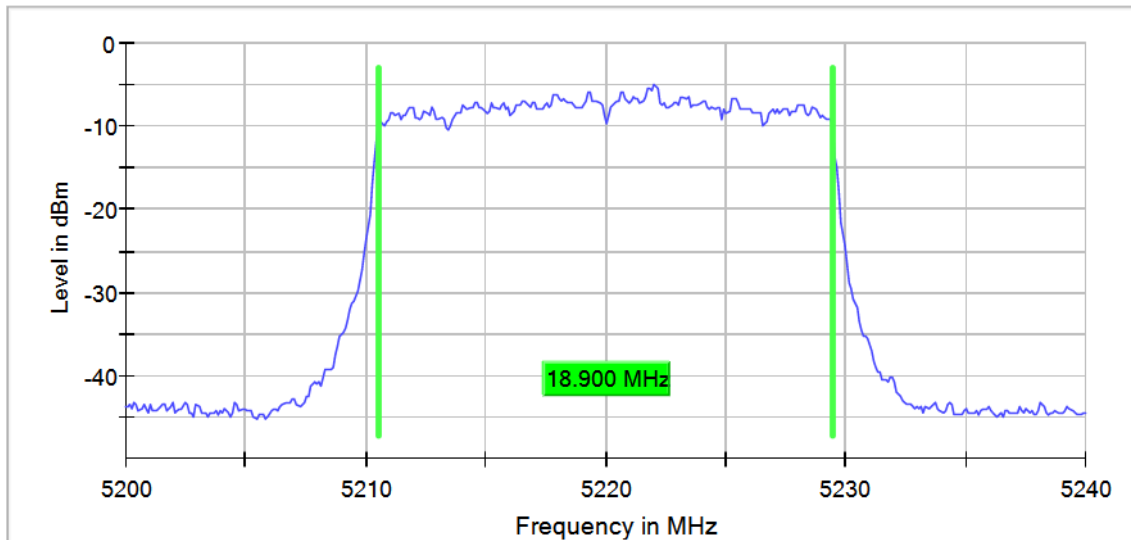
Frequency MHz = 5220.00000

Modulation = 802.11ax HE20 (OFDM MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5150, 5250]

Active Port = 3+4

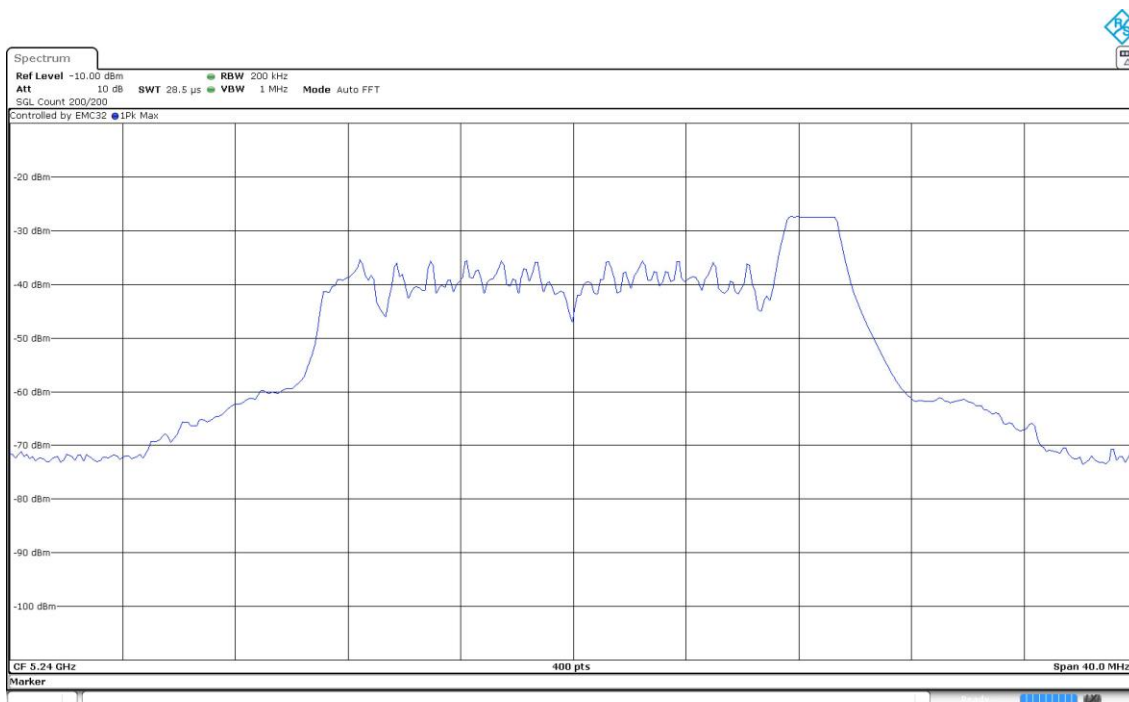
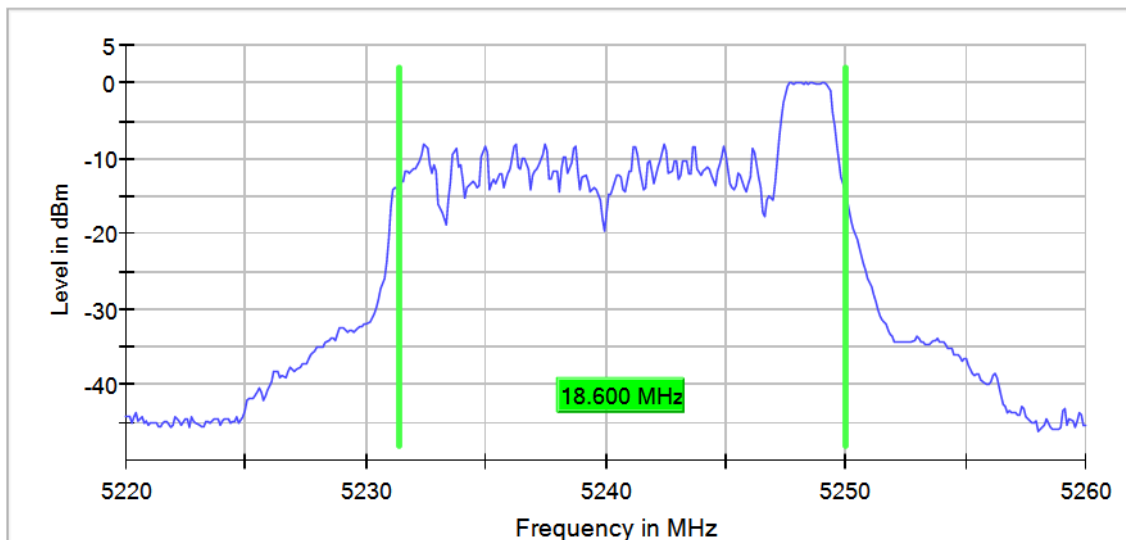
Frequency MHz = 5240.00000

Modulation = 802.11ax HE20 (OFDM MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5150, 5250]

Active Port = 3+4

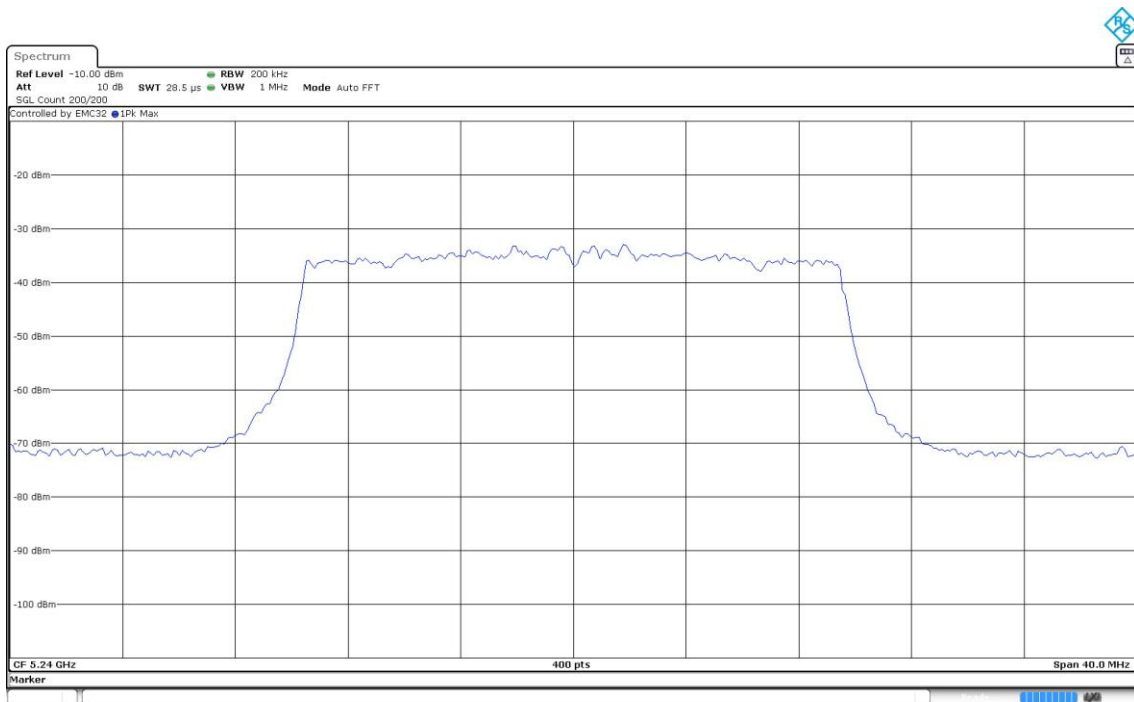
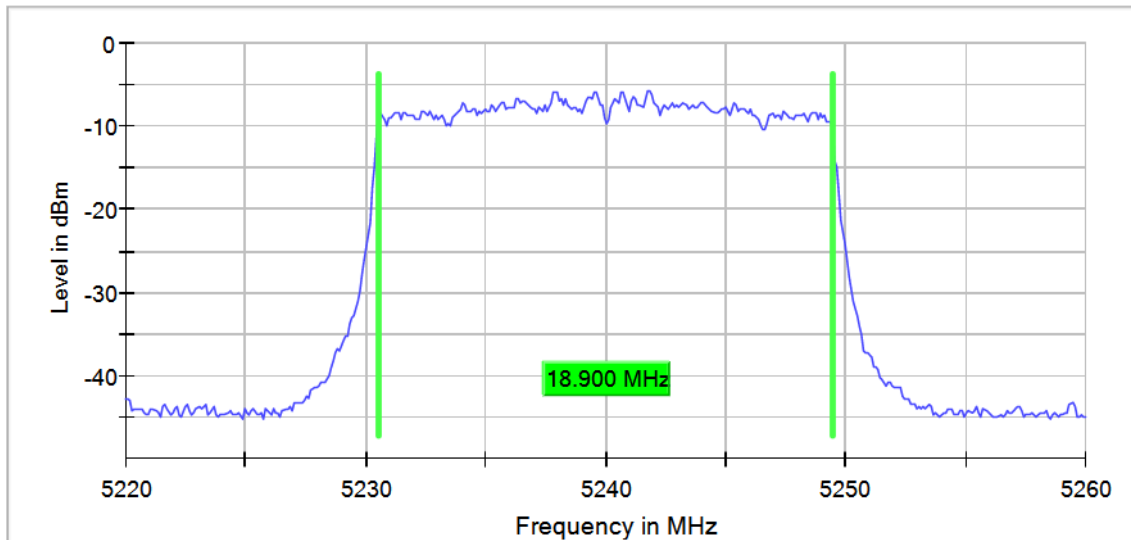
Frequency MHz = 5240.00000

Modulation = 802.11ax HE20 (OFDM MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Modulation: 802.11ax HE40 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Antenna configuration	Subcarrier Mode	Occ Ch BW (MHz)
[5150, 5250]	3+4	5190.00000	MIMO CDD Mode 2x2	RU	38.000
[5150, 5250]	3+4	5190.00000	MIMO CDD Mode 2x2	SU	37.750
[5150, 5250]	3+4	5230.00000	MIMO CDD Mode 2x2	RU	38.250
[5150, 5250]	3+4	5230.00000	MIMO CDD Mode 2x2	SU	37.750

Verdict

Pass

Attachments

Operation Band MHz = [5150, 5250]

Active Port = 3+4

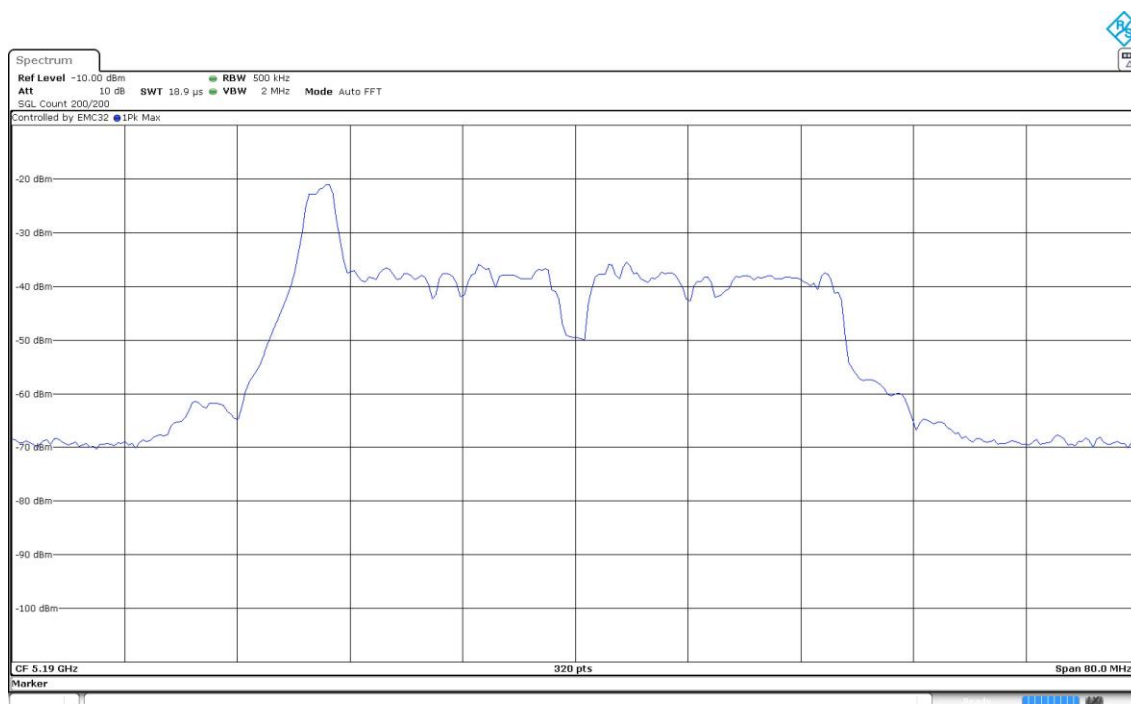
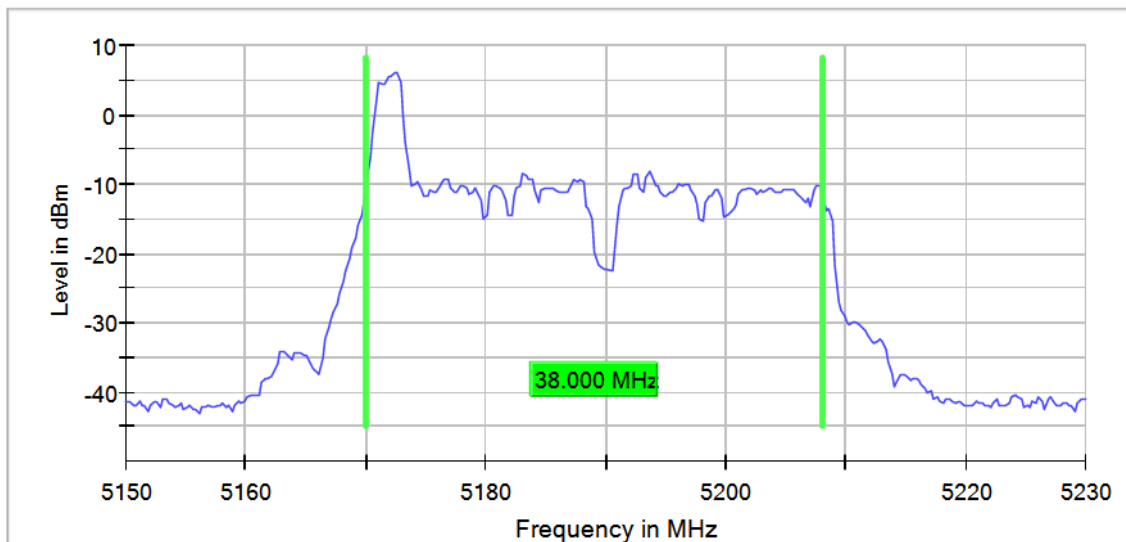
Frequency MHz = 5190.00000

Modulation = 802.11ax HE40 (OFDM MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5150, 5250]

Active Port = 3+4

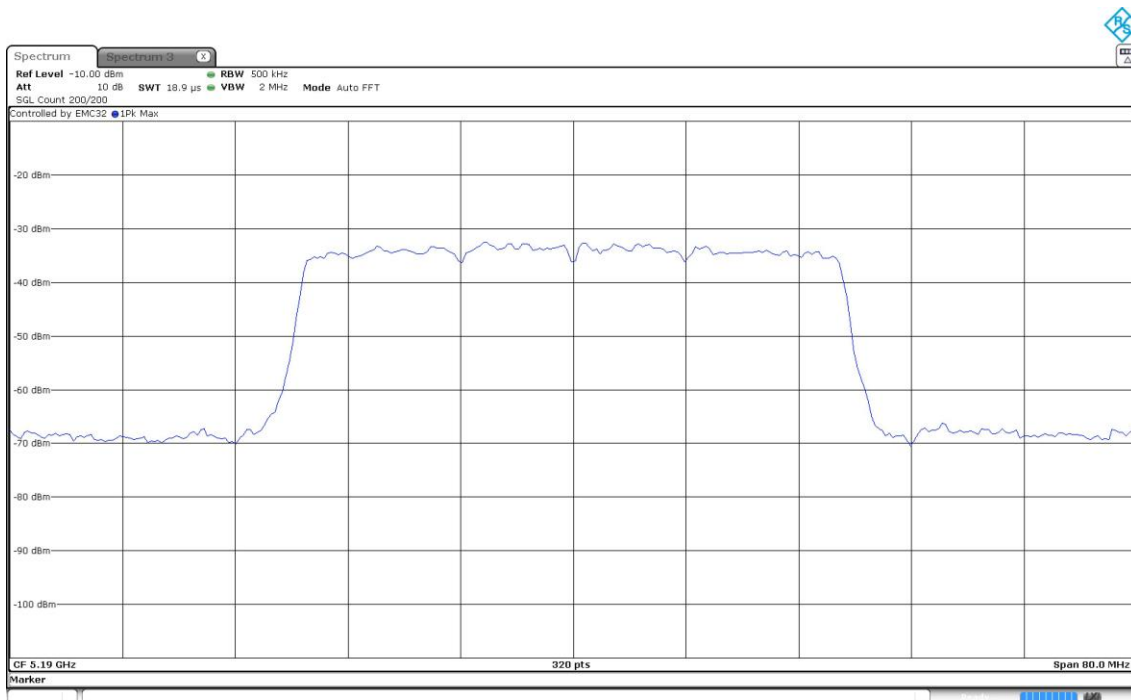
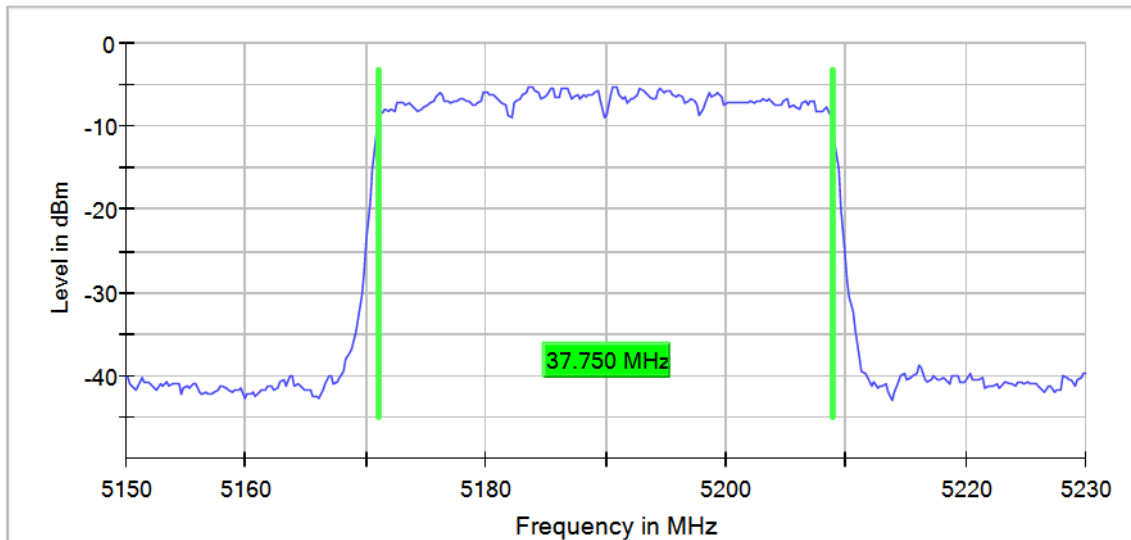
Frequency MHz = 5190.00000

Modulation = 802.11ax HE40 (OFDM MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5150, 5250]

Active Port = 3+4

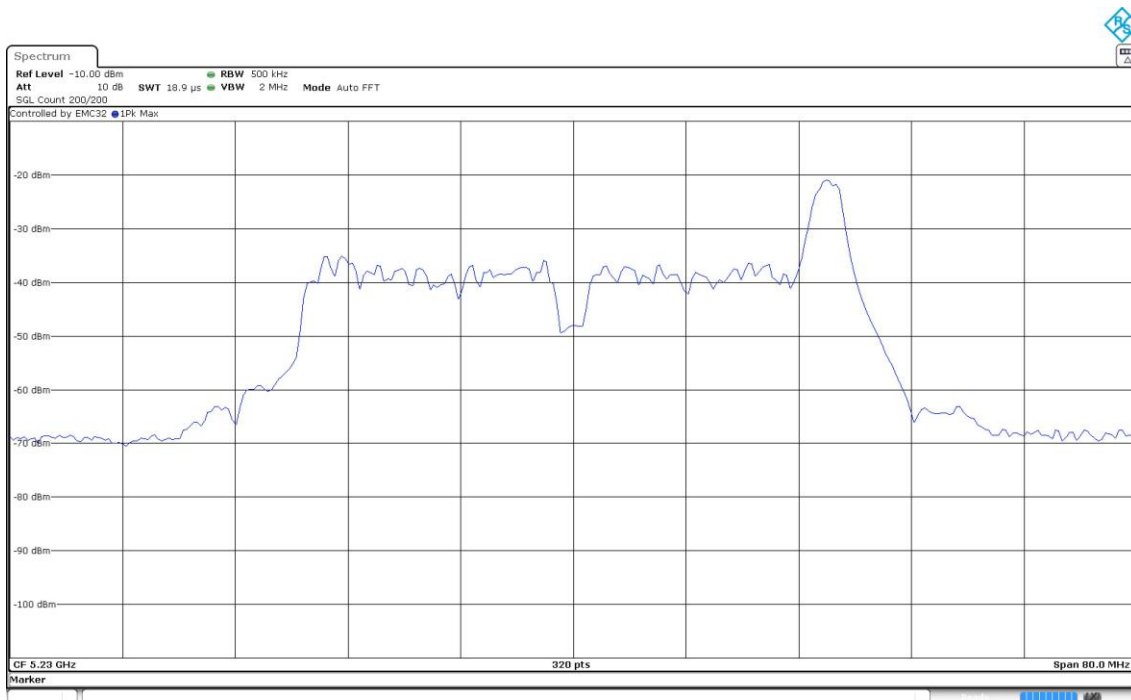
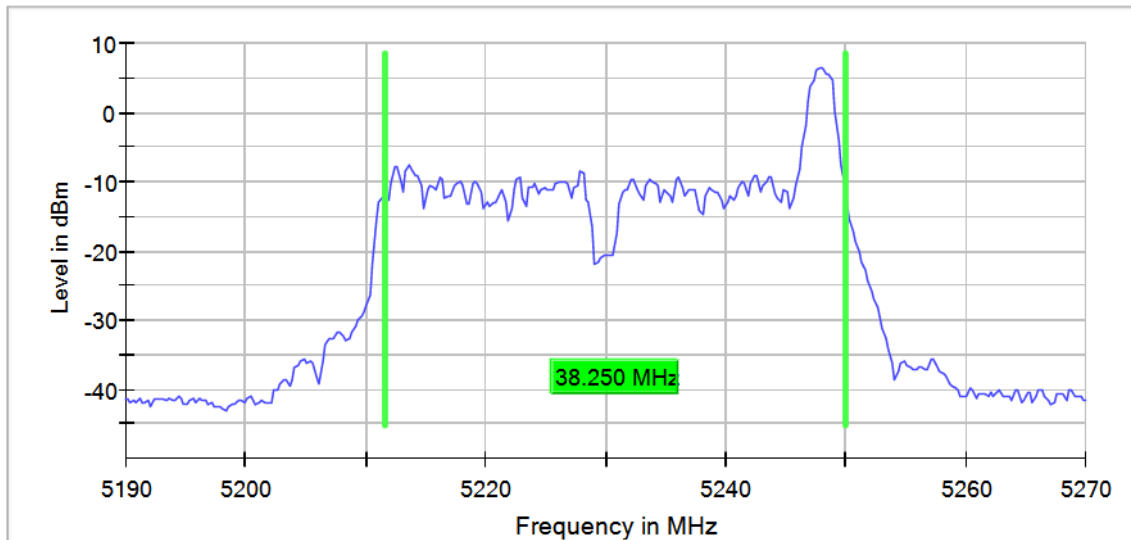
Frequency MHz = 5230.00000

Modulation = 802.11ax HE40 (OFDM MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5150, 5250]

Active Port = 3+4

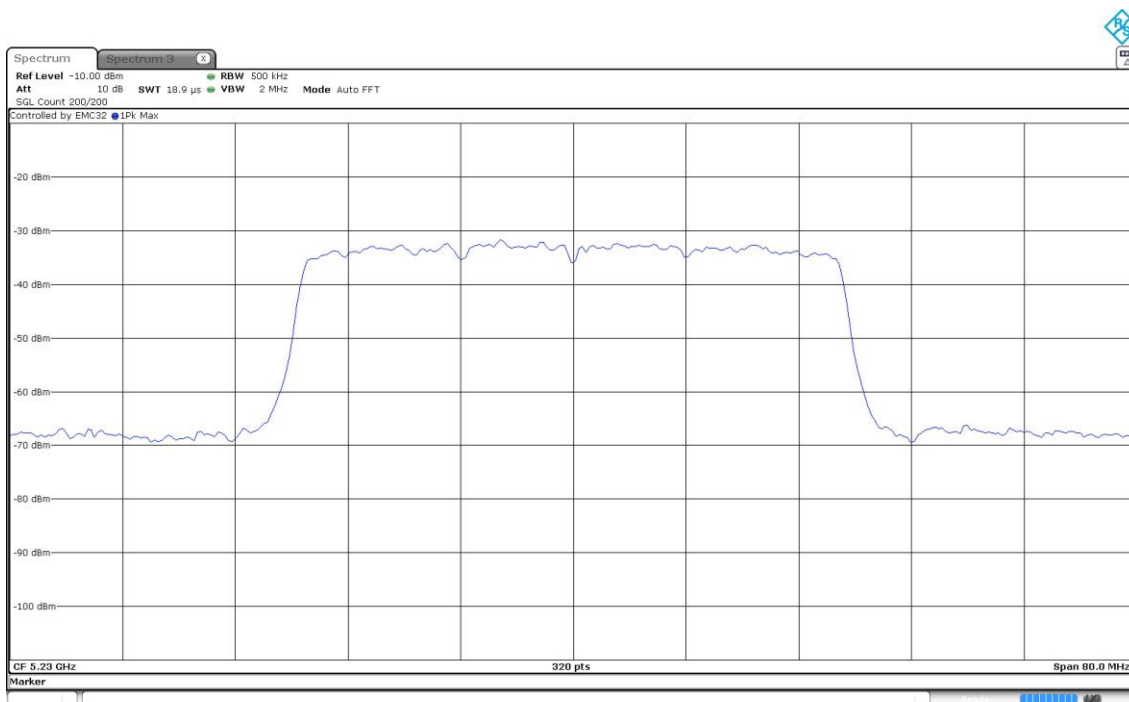
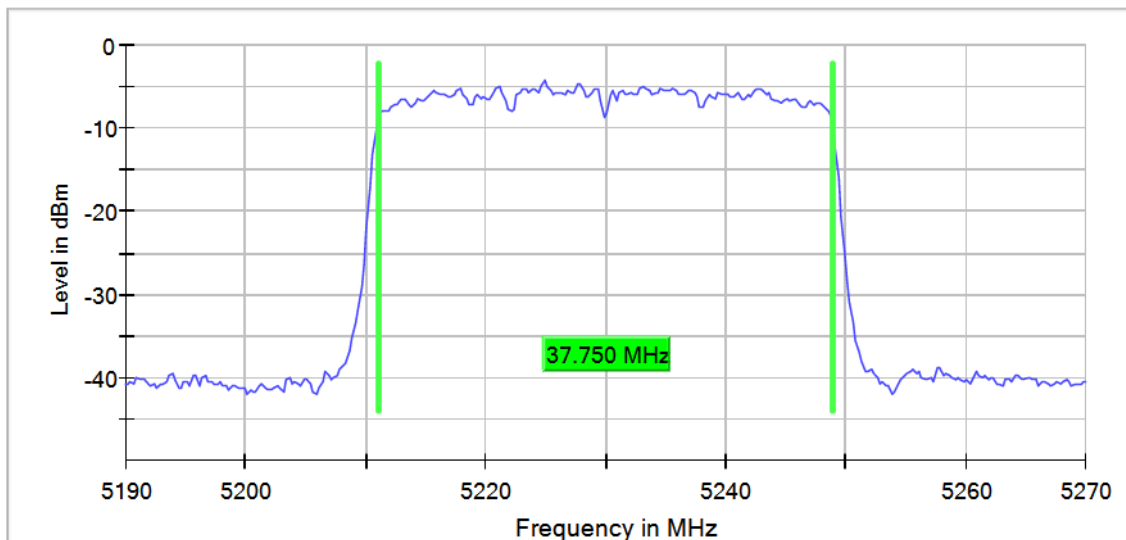
Frequency MHz = 5230.00000

Modulation = 802.11ax HE40 (OFDM MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Modulation: 802.11ax HE80 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Antenna configuration	Subcarrier Mode	Occ Ch BW (MHz)
[5150, 5250]	3+4	5210.00000	MIMO CDD Mode 2x2	RU	79.500
[5150, 5250]	3+4	5210.00000	MIMO CDD Mode 2x2	SU	77.500

Verdict

Pass

Attachments

Operation Band MHz = [5150, 5250]

Active Port = 3+4

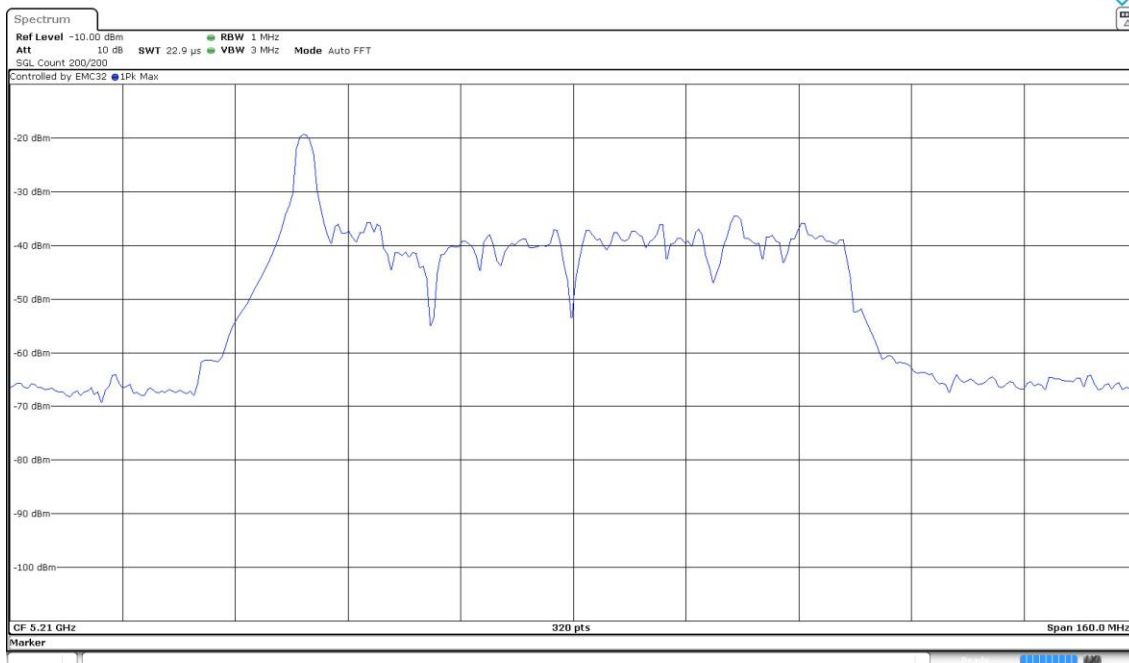
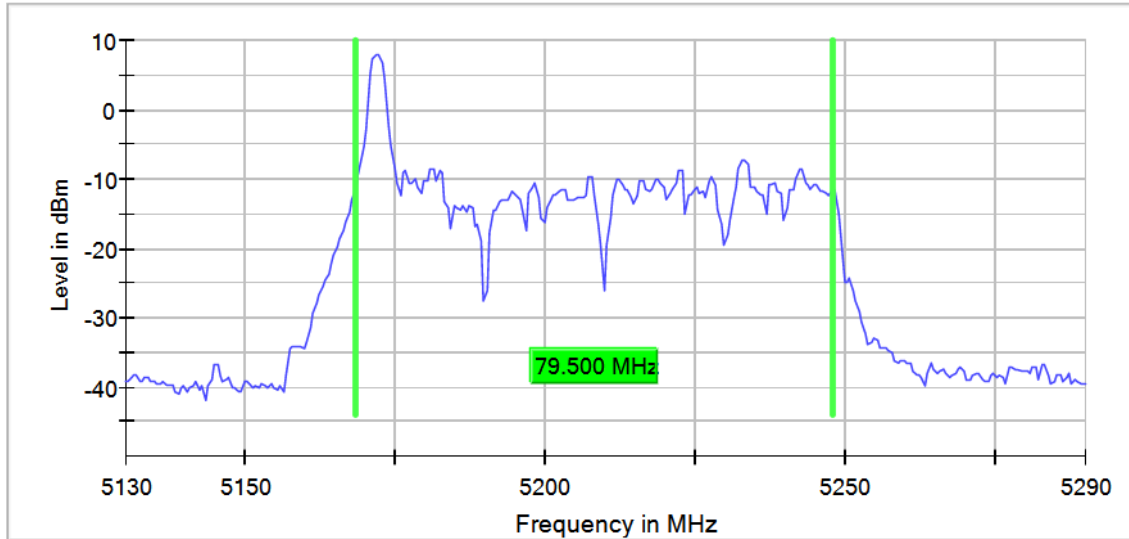
Frequency MHz = 5210.00000

Modulation = 802.11ax HE80 (OFDM MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5150, 5250]

Active Port = 3+4

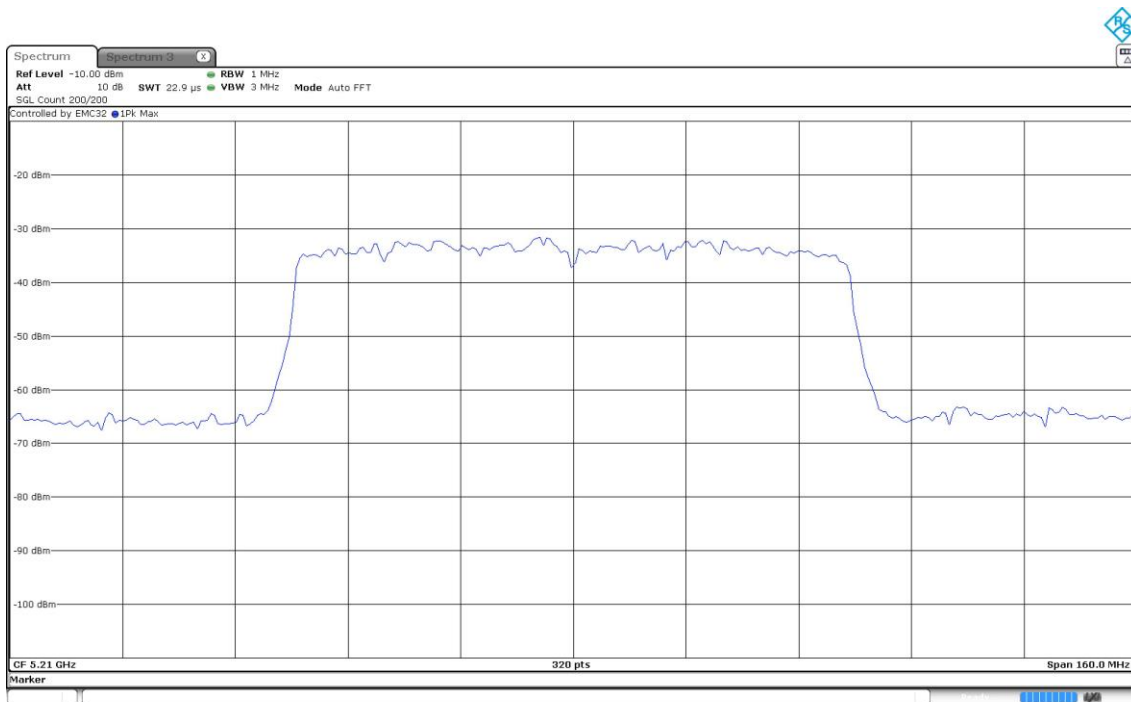
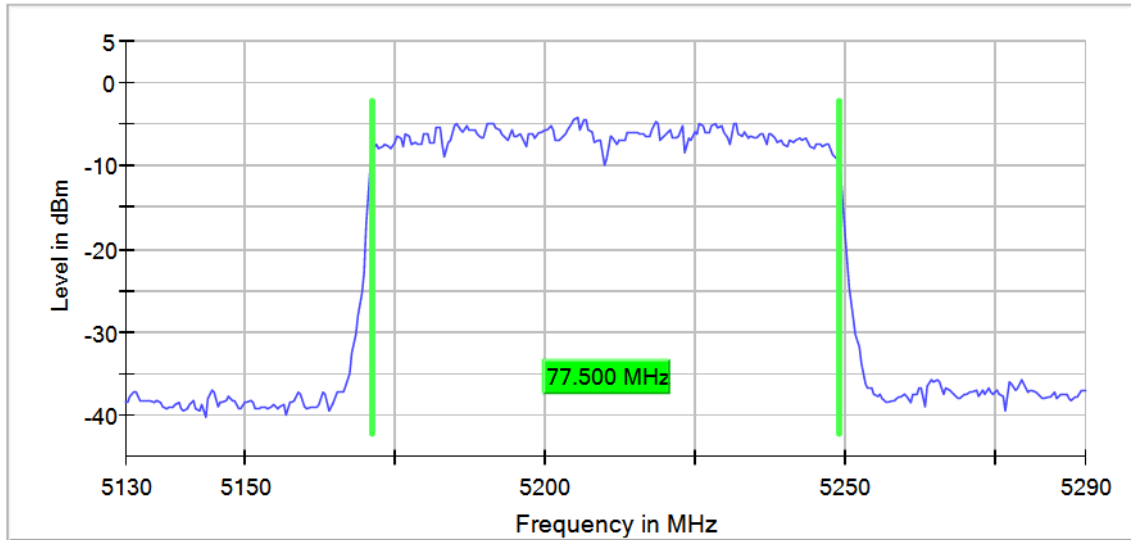
Frequency MHz = 5210.00000

Modulation = 802.11ax HE80 (OFDM MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Modulation: 802.11n HT20 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5150, 5250]	3+4	5180.00000	17.600
		5220.00000	17.600
		5240.00000	17.600

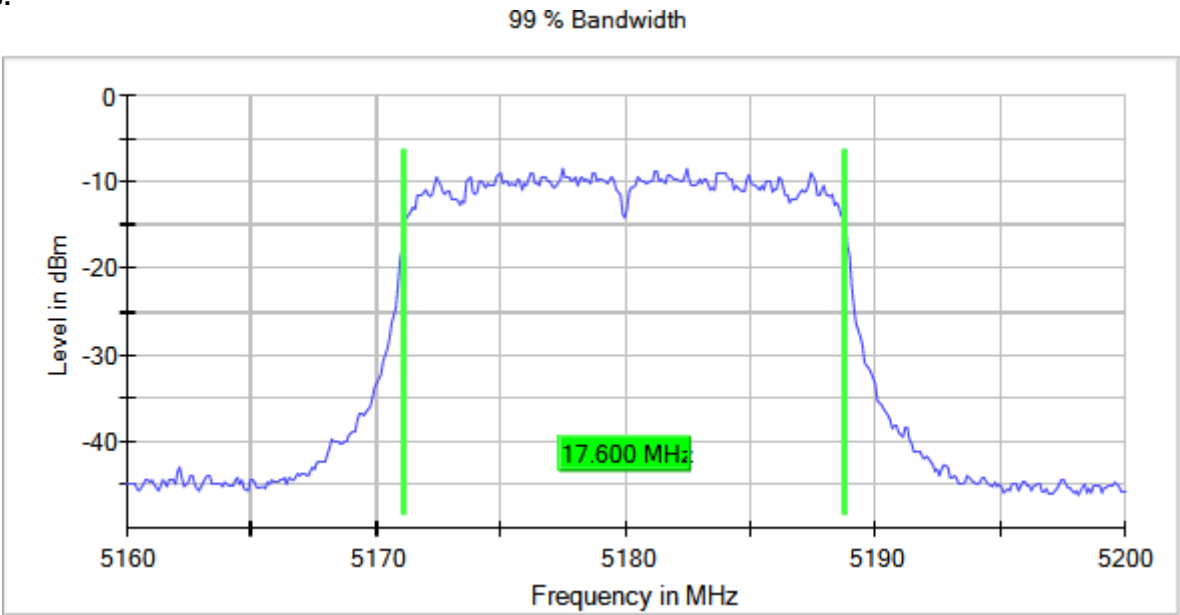
Verdict

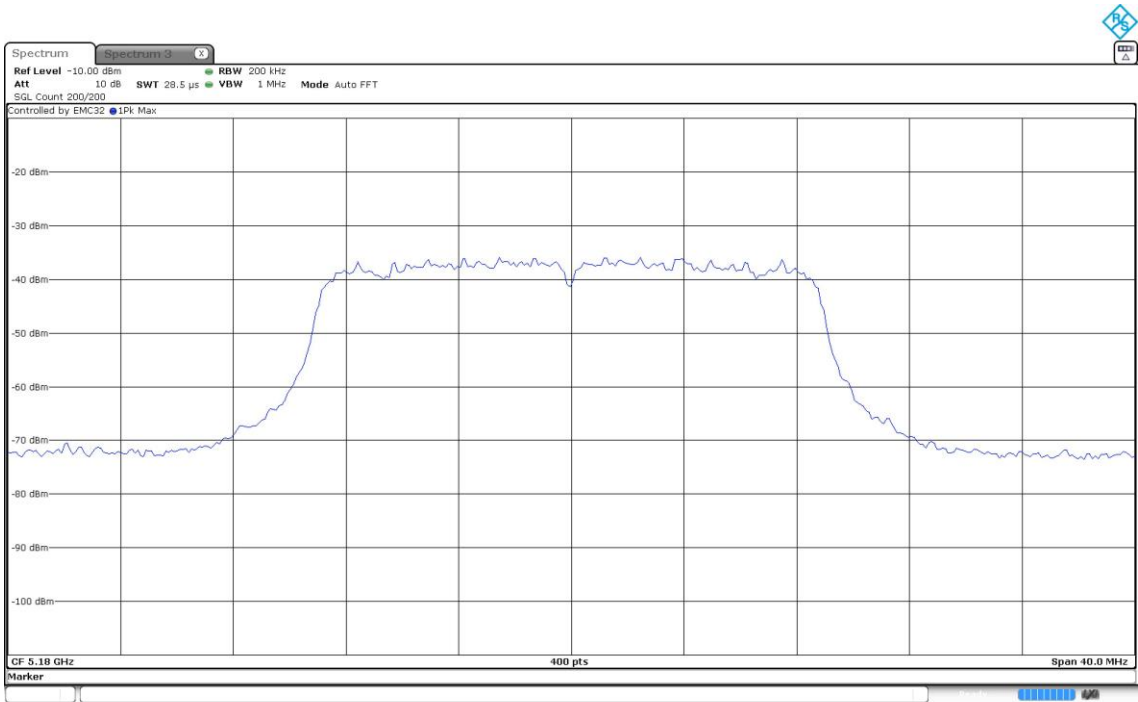
Pass

Attachments

Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5180.00000 Modulation = 802.11n HT20 (OFDM MCS0)

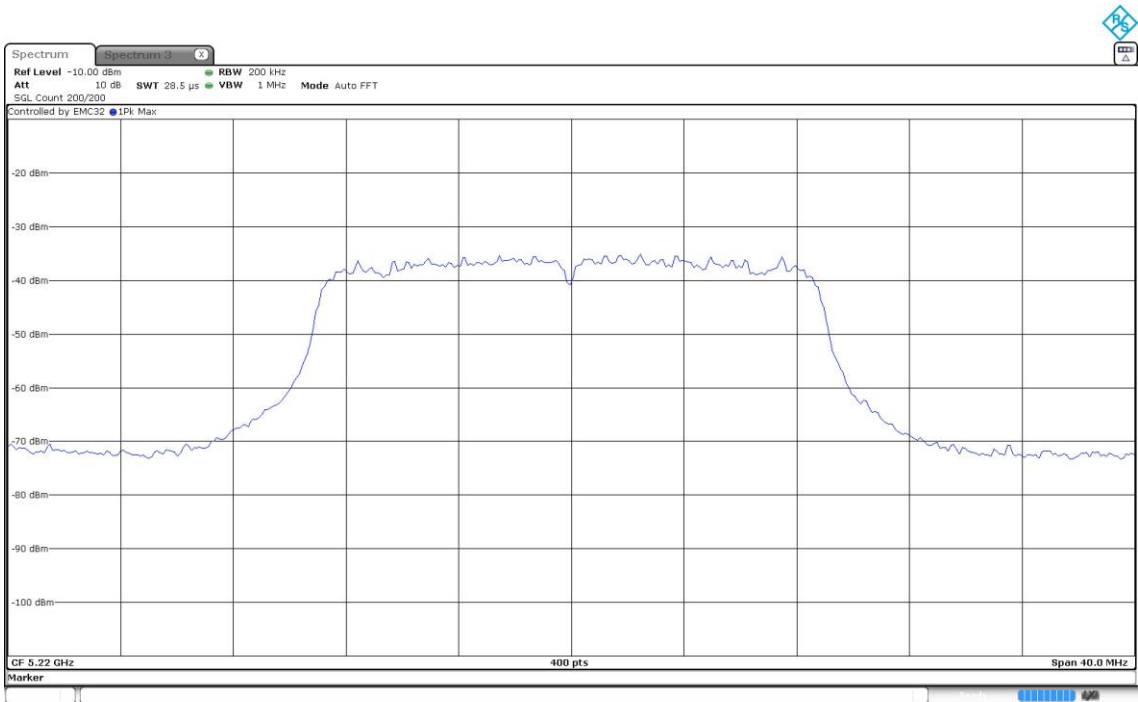
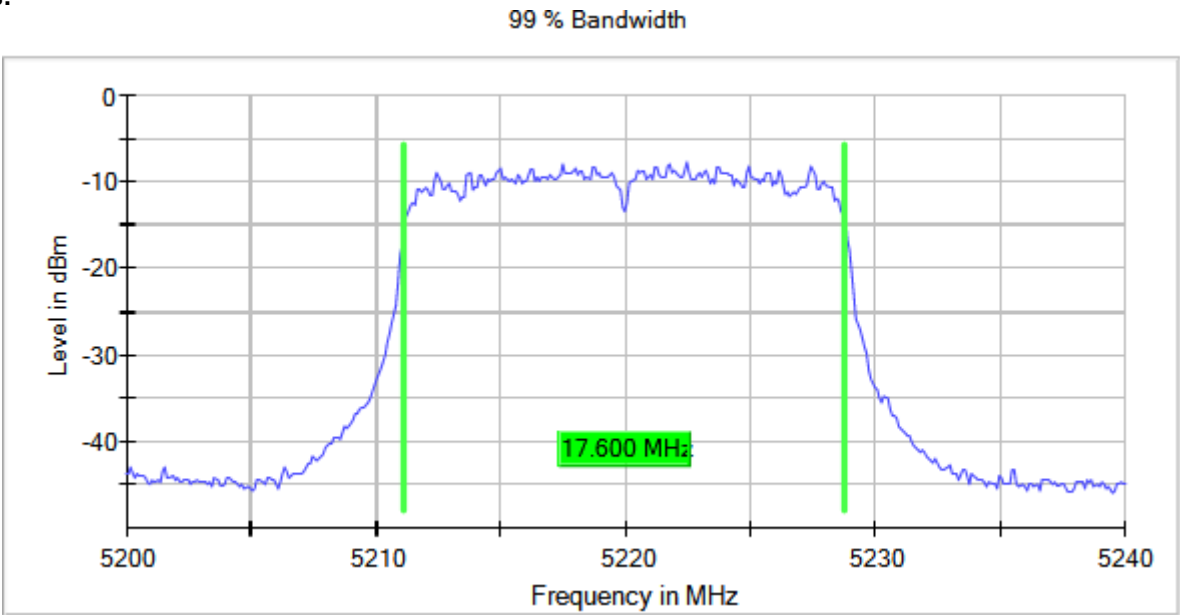
Images:





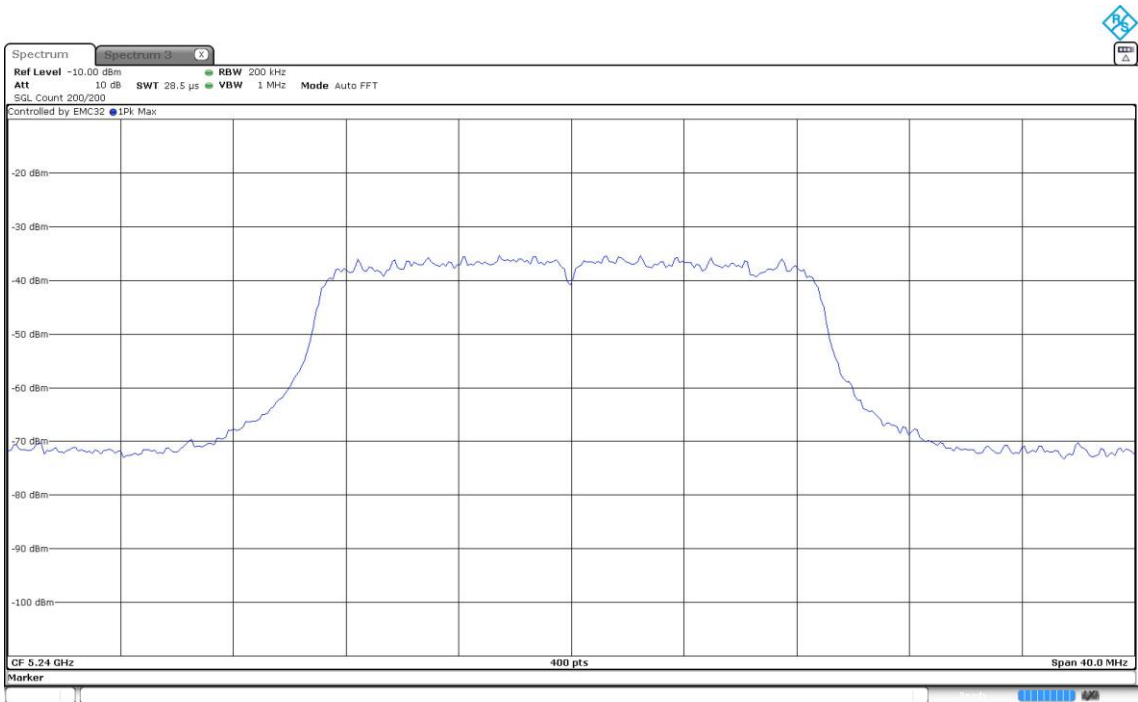
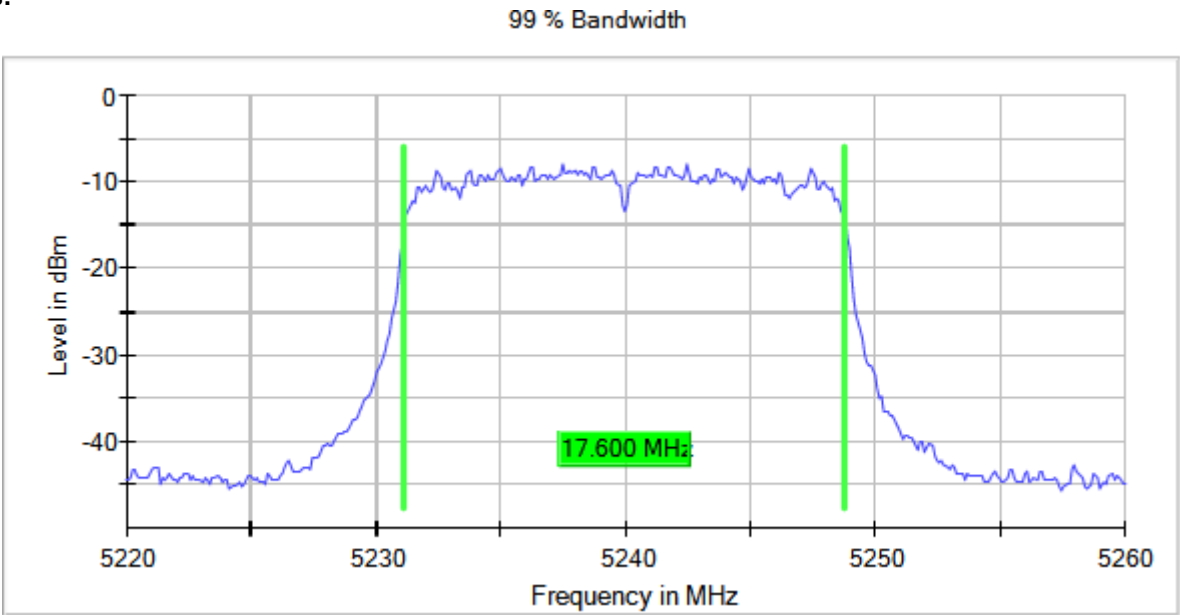
Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5220.00000 Modulation = 802.11n HT20 (OFDM MCS0)

Images:



Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5240.00000 Modulation = 802.11n HT20 (OFDM MCS0)

Images:



Modulation: 802.11n HT40 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5150, 5250]	3+4	5190.00000	36.250
		5230.00000	36.250

Verdict

Pass

Attachments

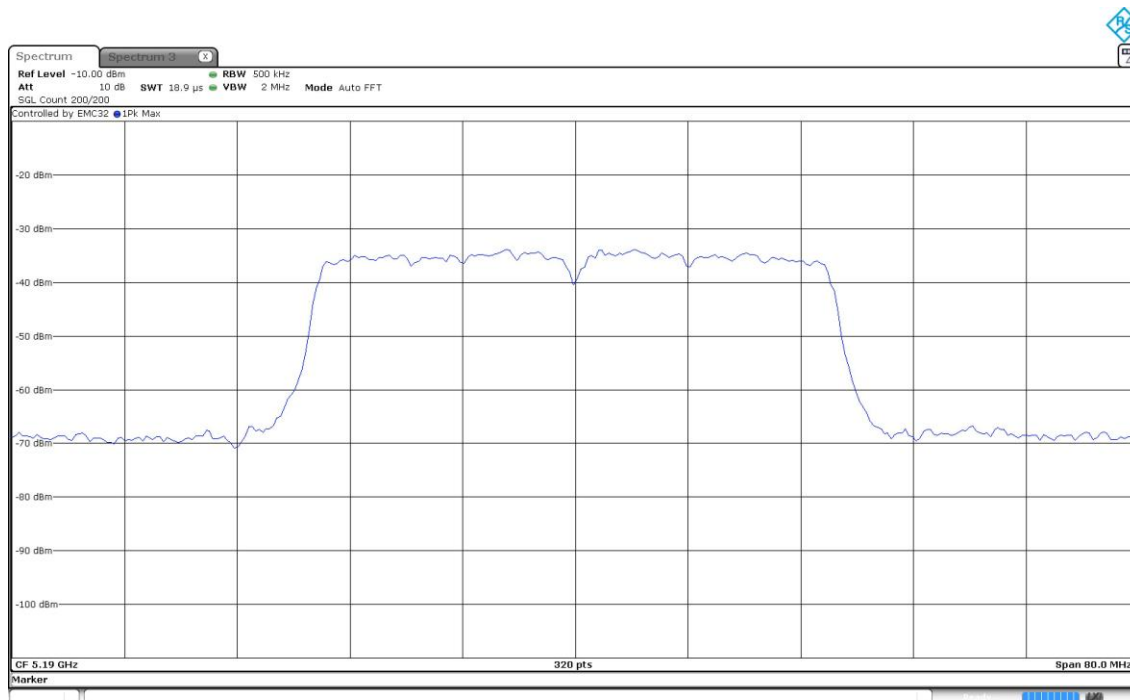
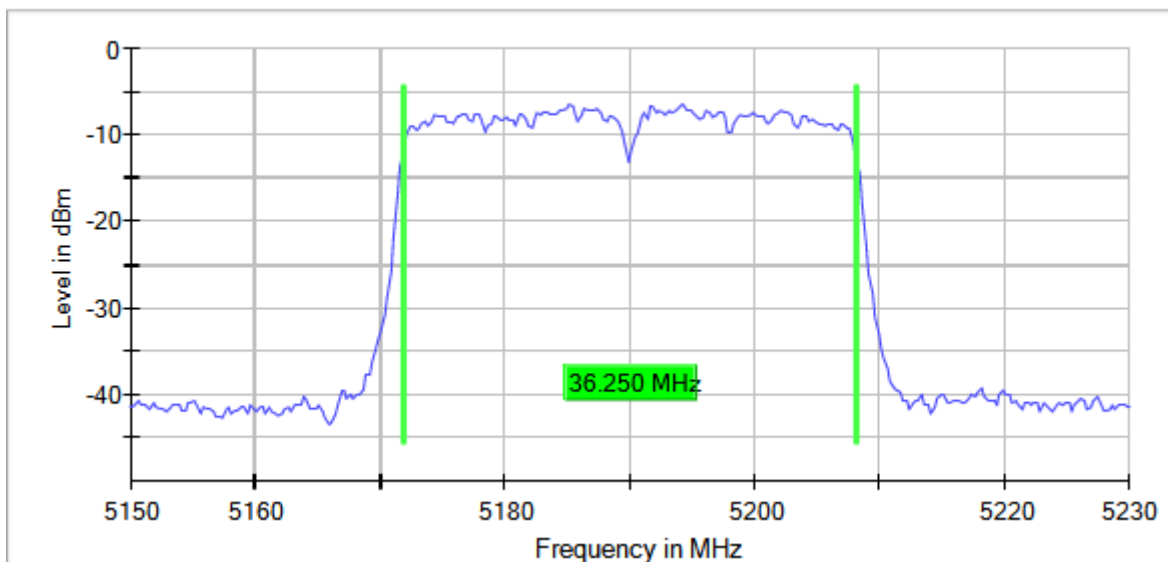
Operation Band MHz = [5150, 5250] Active Port = 3+4

Frequency MHz = 5190.00000

Modulation = 802.11n HT40 (OFDM MCS0)

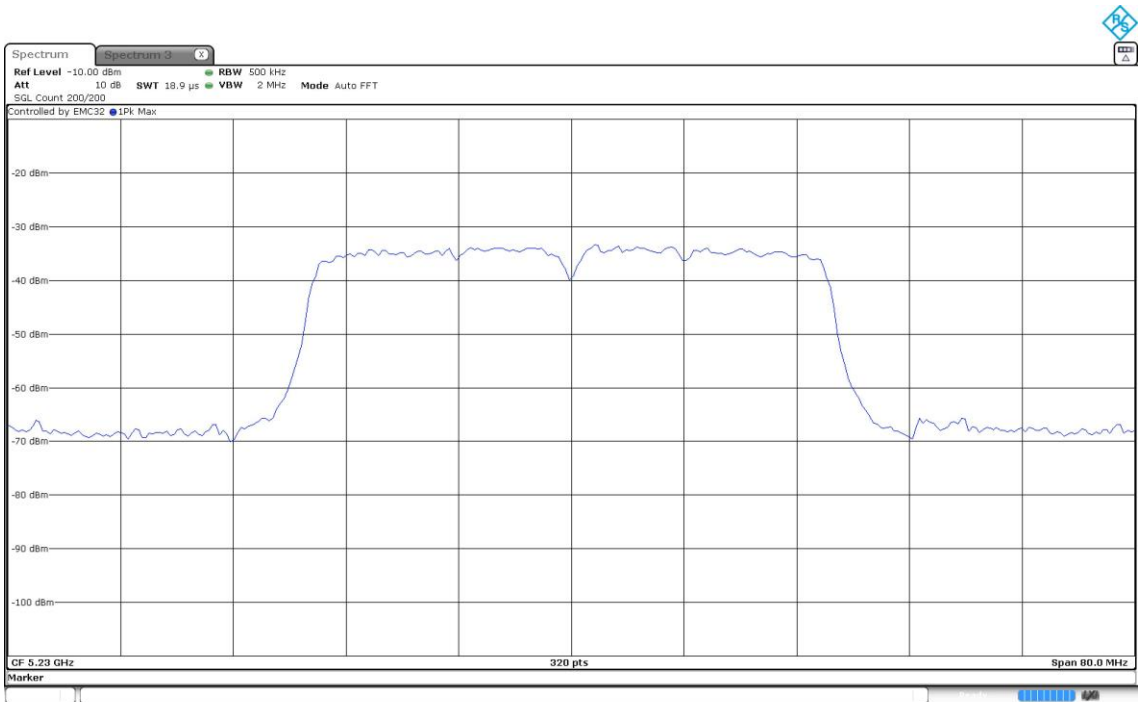
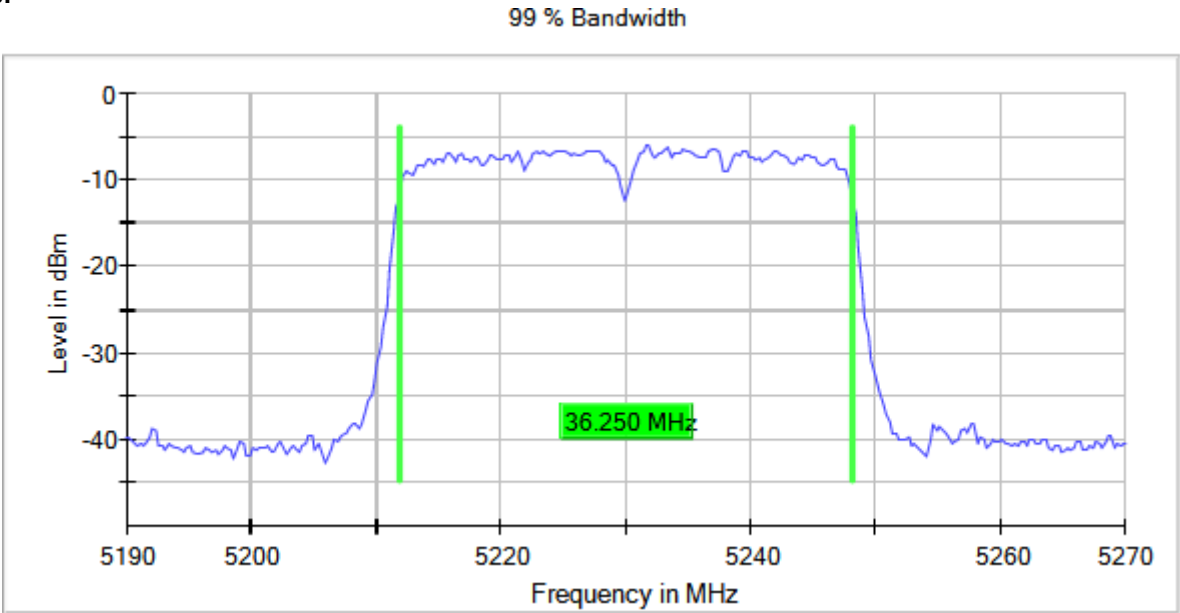
Images:

99 % Bandwidth



Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5230.00000 Modulation = 802.11n HT40 (OFDM MCS0)

Images:



Modulation: 802.11ac VHT20 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5150, 5250]	3+4	5180.00000	17.600
		5220.00000	17.600
		5240.00000	17.600

Verdict

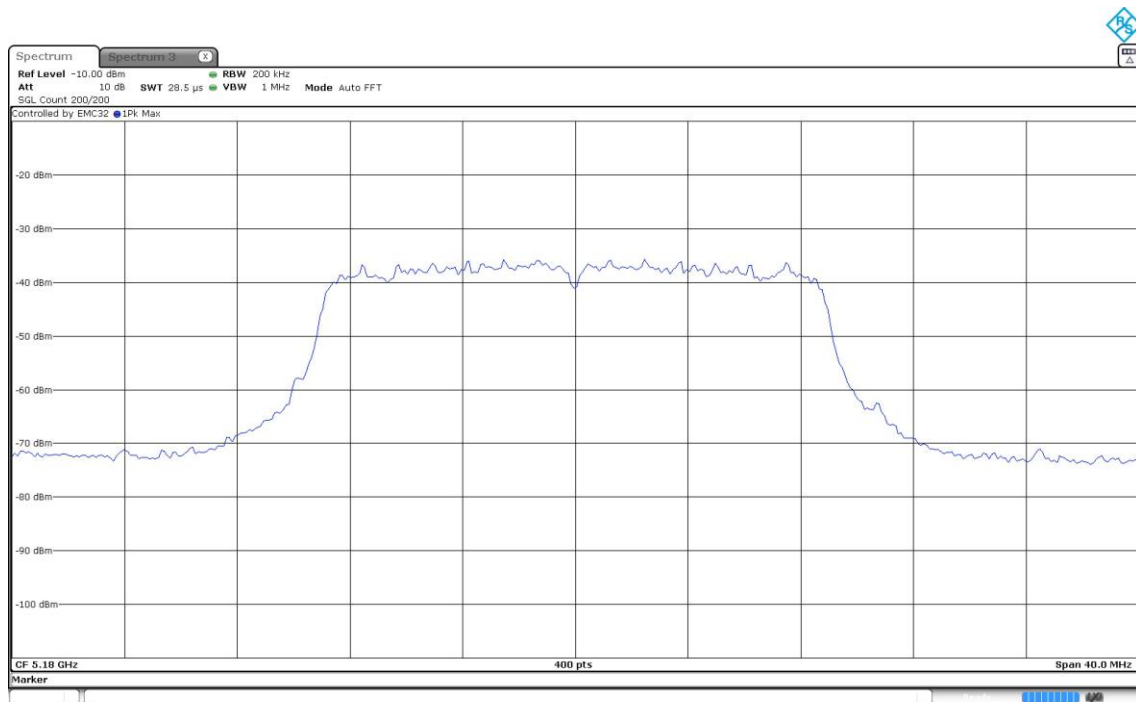
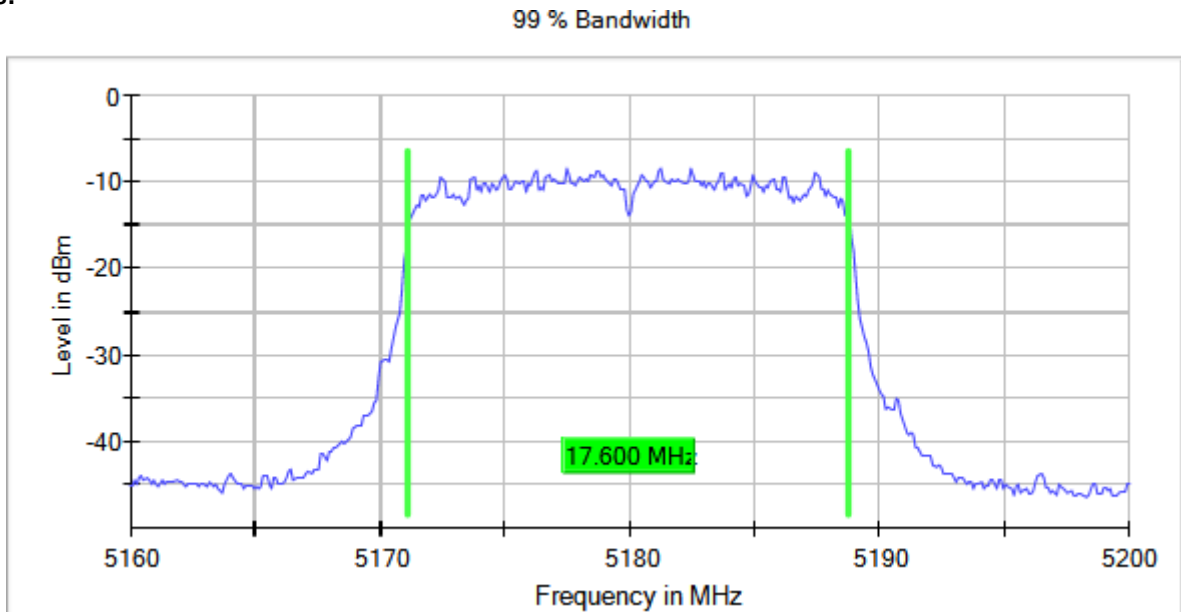
Pass

Attachments

Operation Band MHz = [5150, 5250] Active Port = 3+4

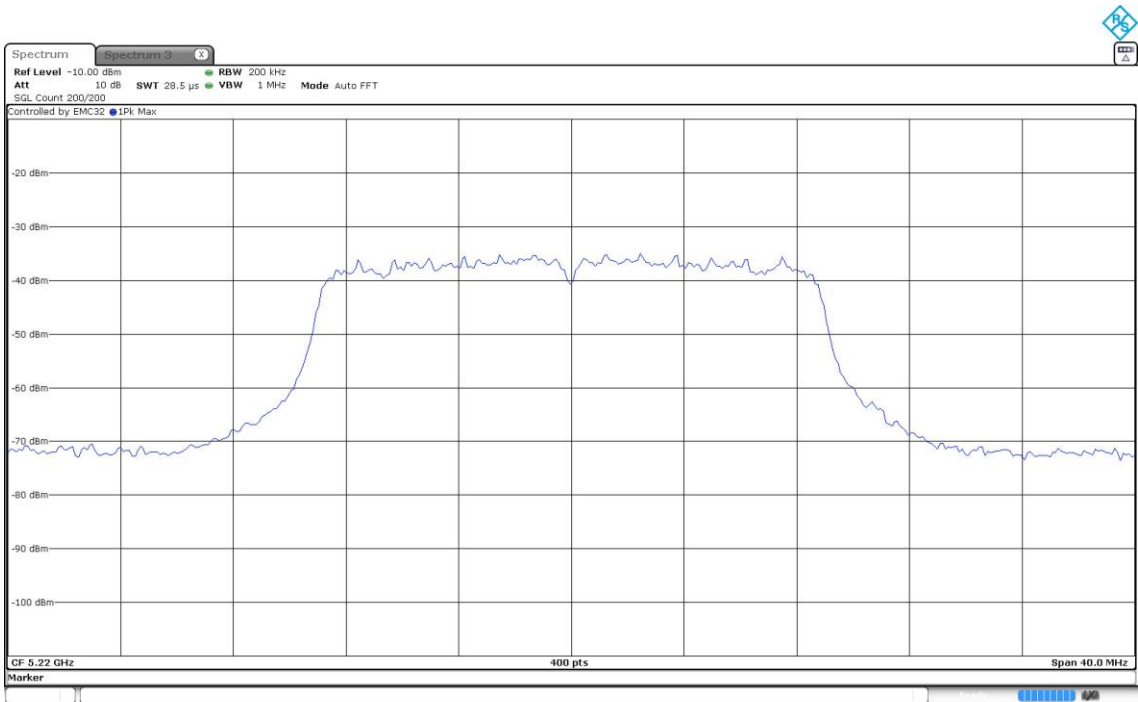
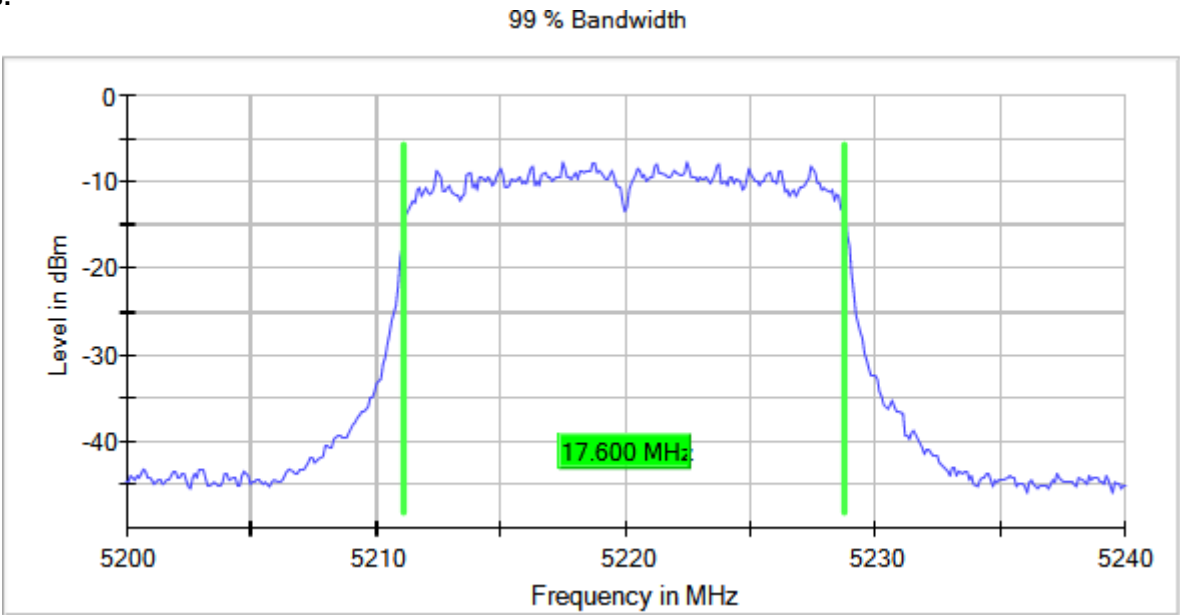
Frequency MHz = 5180.00000 Modulation = 802.11ac VHT20 (OFDM MCS0)

Images:



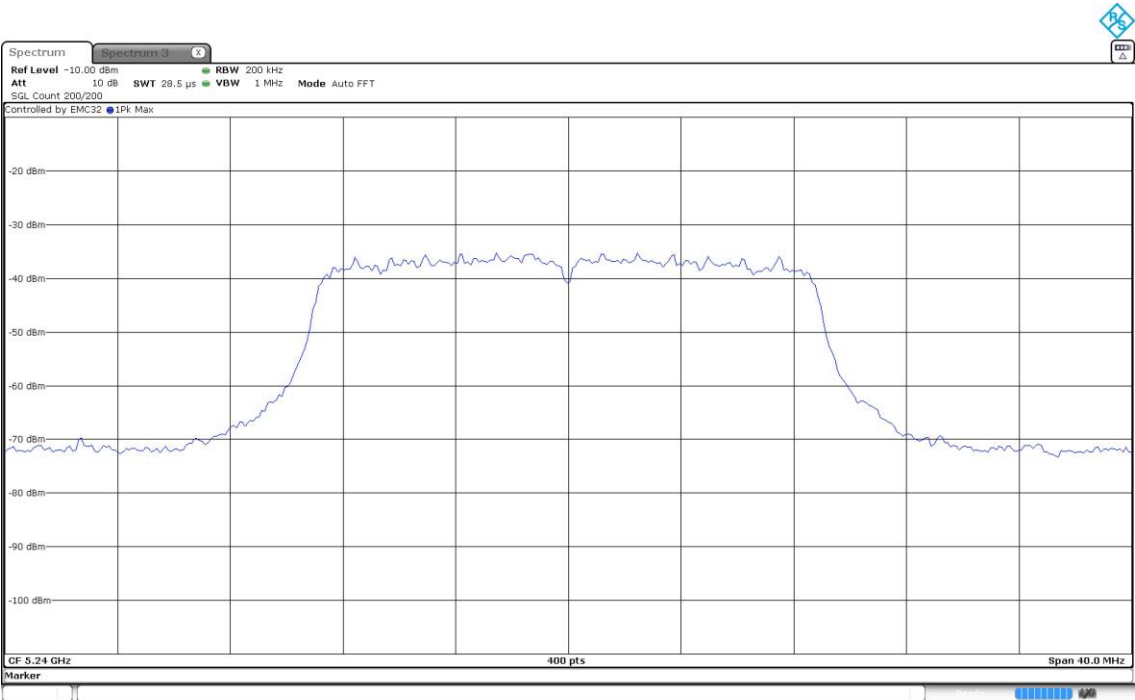
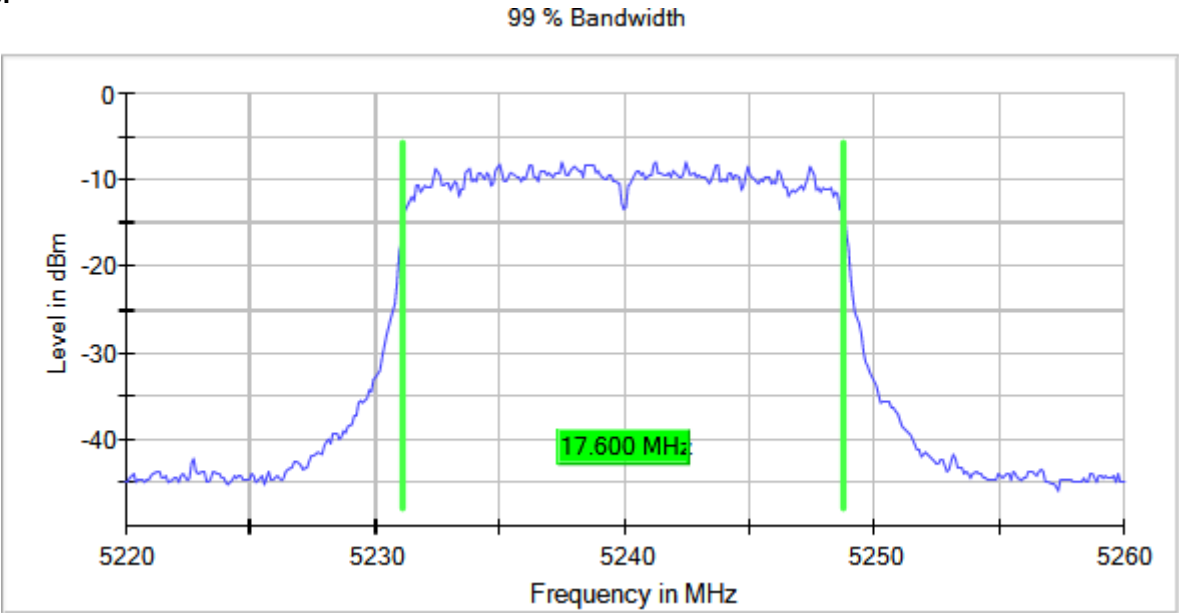
Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5220.00000 Modulation = 802.11ac VHT20 (OFDM MCS0)

Images:



Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5240.00000 Modulation = 802.11ac VHT20 (OFDM MCS0)

Images:



Modulation: 802.11ac VHT40 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5150, 5250]	3+4	5190.00000	36.000
		5230.00000	36.250

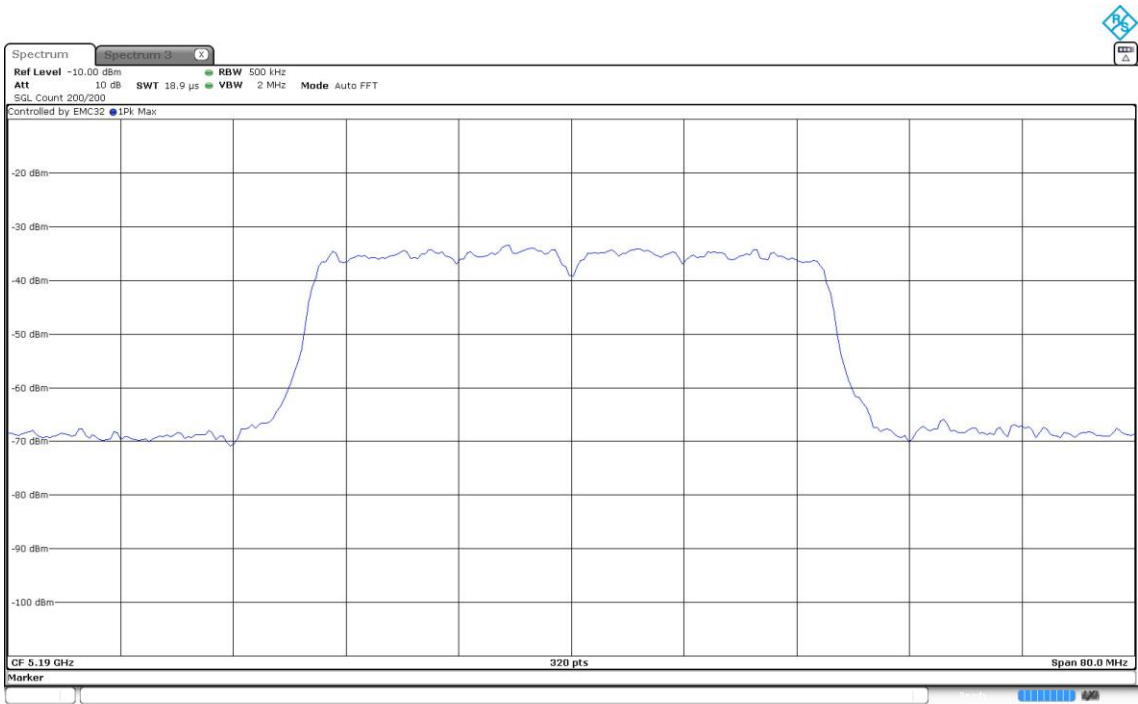
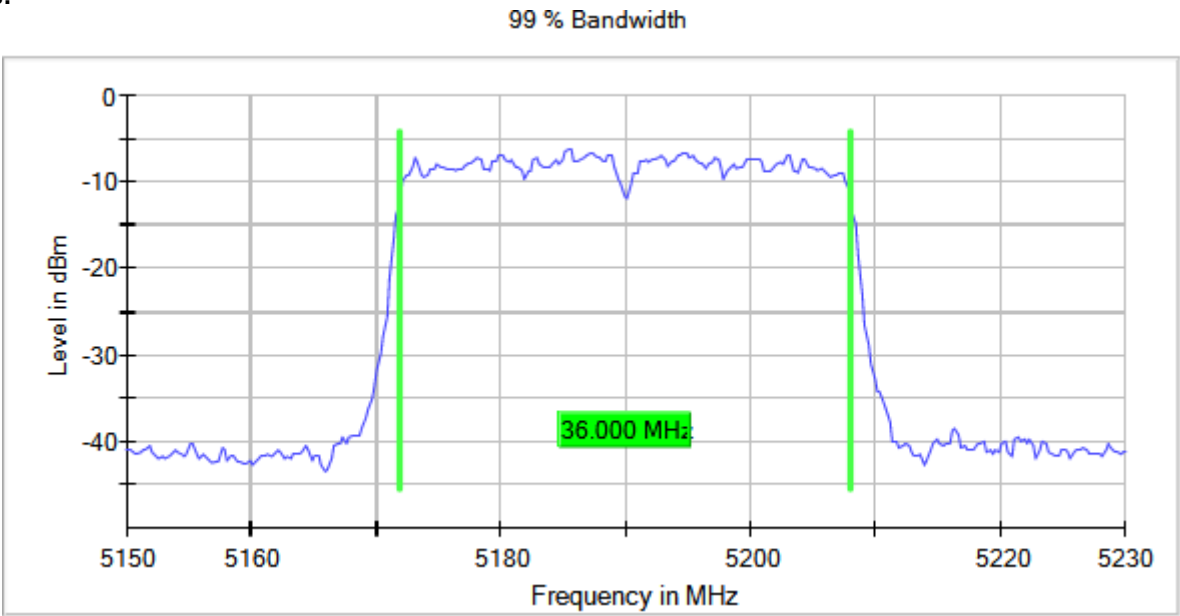
Verdict

Pass

Attachments

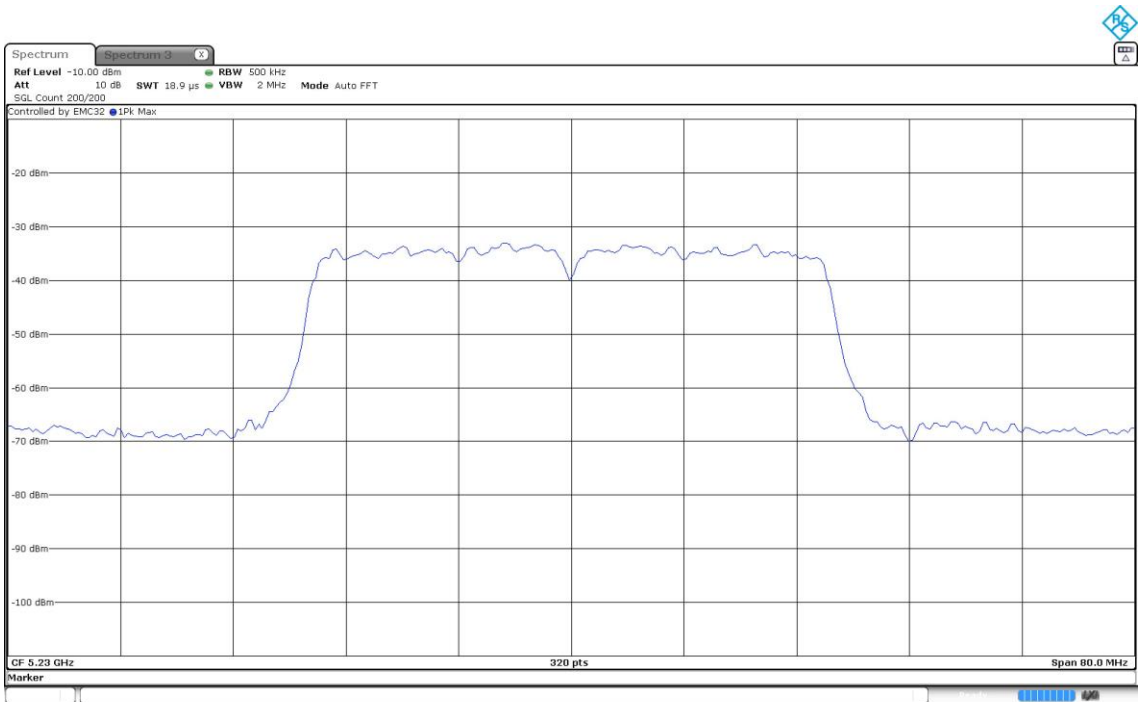
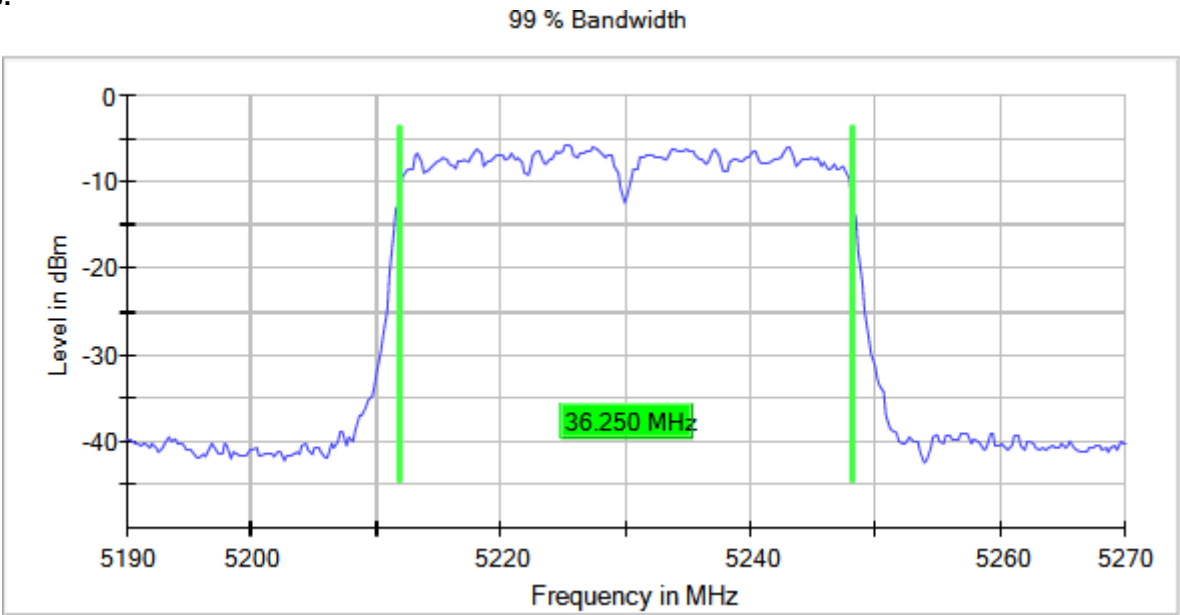
Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5190.00000 Modulation = 802.11ac VHT40 (OFDM MCS0)

Images:



Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5230.00000 Modulation = 802.11ac VHT40 (OFDM MCS0)

Images:



Modulation: 802.11ac VHT80 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5150, 5250]	3+4	5210.00000	75.500

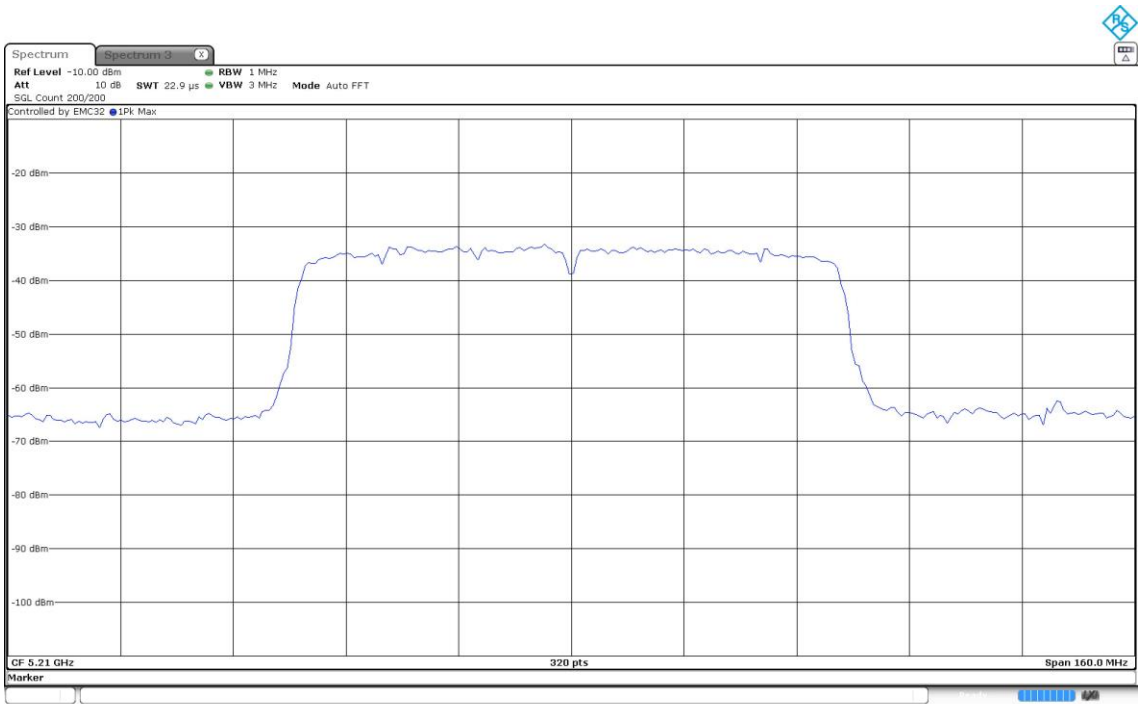
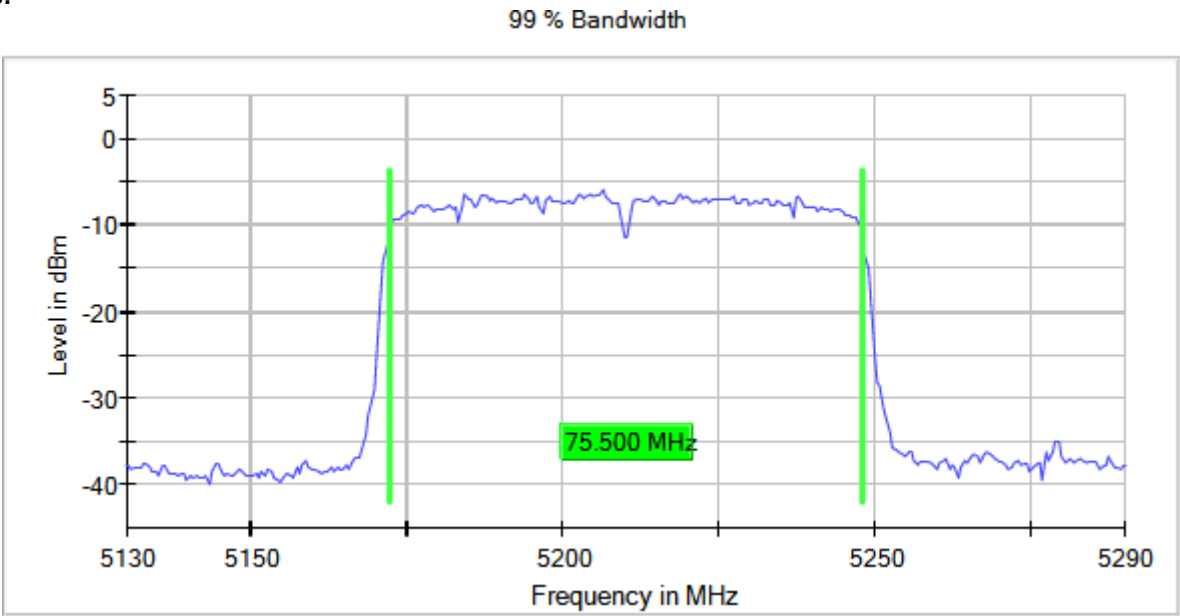
Verdict

Pass

Attachments

Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5210.00000 Modulation = 802.11ac VHT80 (OFDM MCS0)

Images:



Modulation: 802.11n HT20 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5725, 5850]	3+4	5745.00000	17.600
		5785.00000	17.600
		5825.00000	17.600

Verdict

Pass

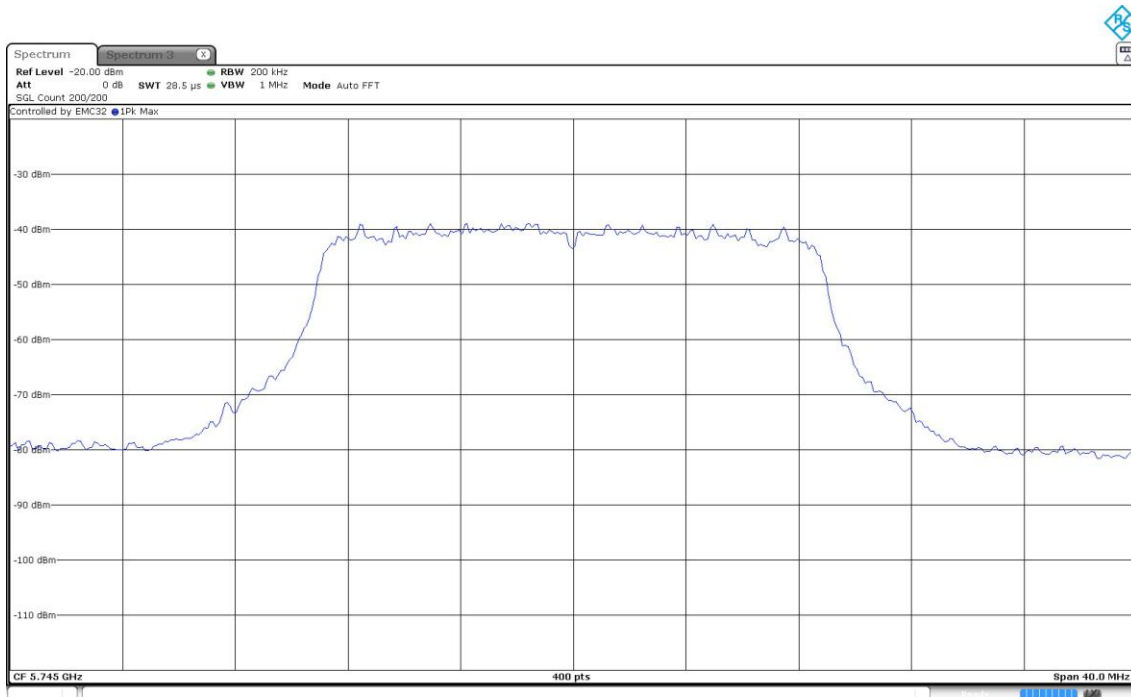
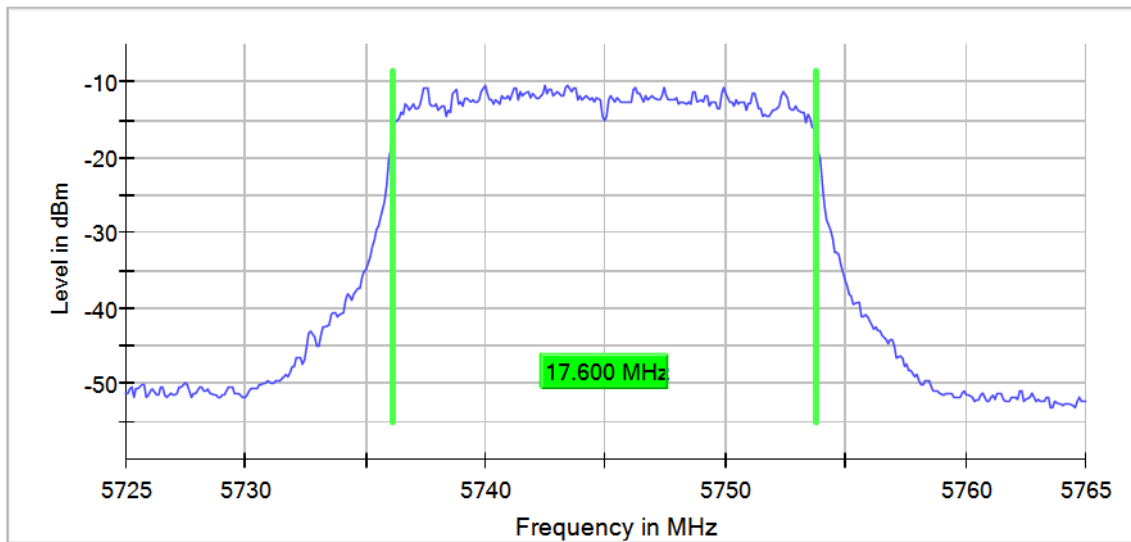
Attachments

Operation Band MHz = [5725, 5850] Active Port = 3+4

Frequency MHz = 5745.00000 Modulation = 802.11n HT20 (OFDM MCS0)

Images:

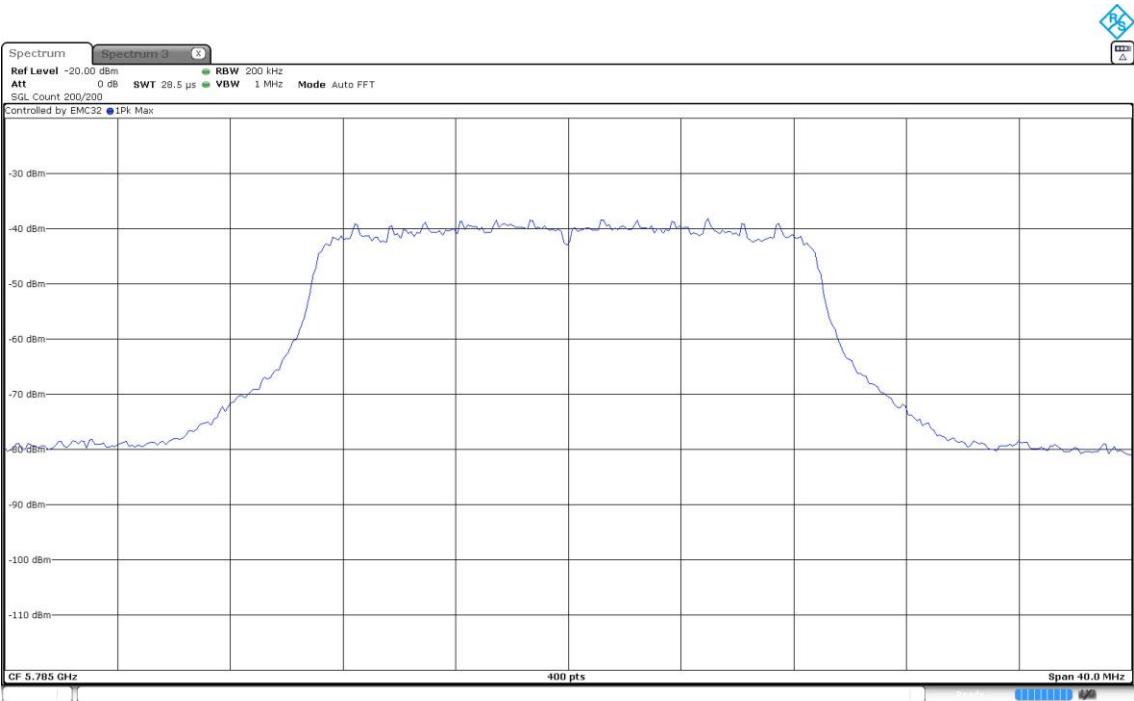
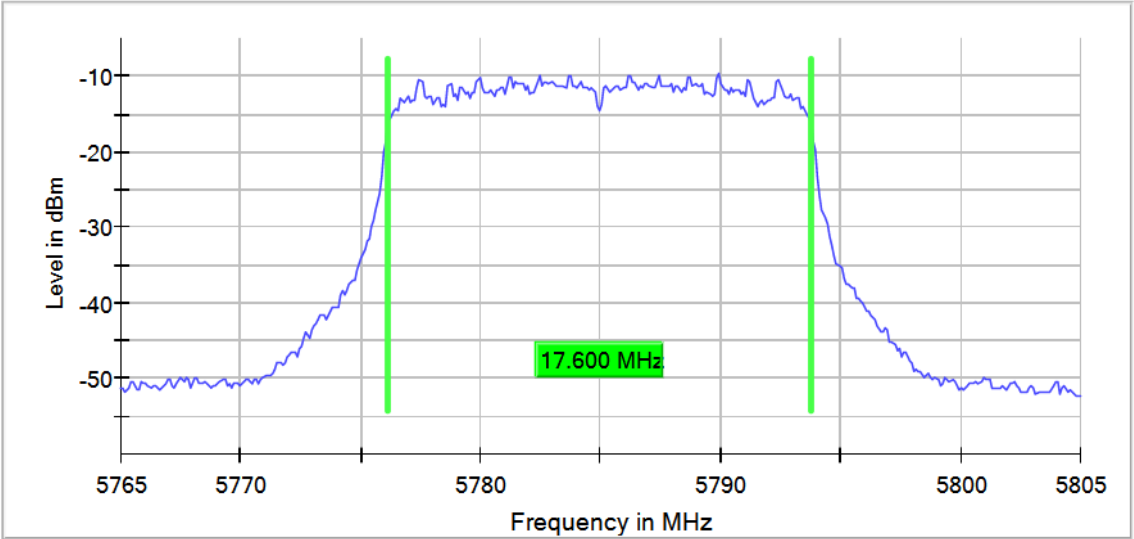
99 % Bandwidth



Operation Band MHz = [5725, 5850] Active Port = 3+4
Frequency MHz = 5785.00000 Modulation = 802.11n HT20 (OFDM MCS0)

Images:

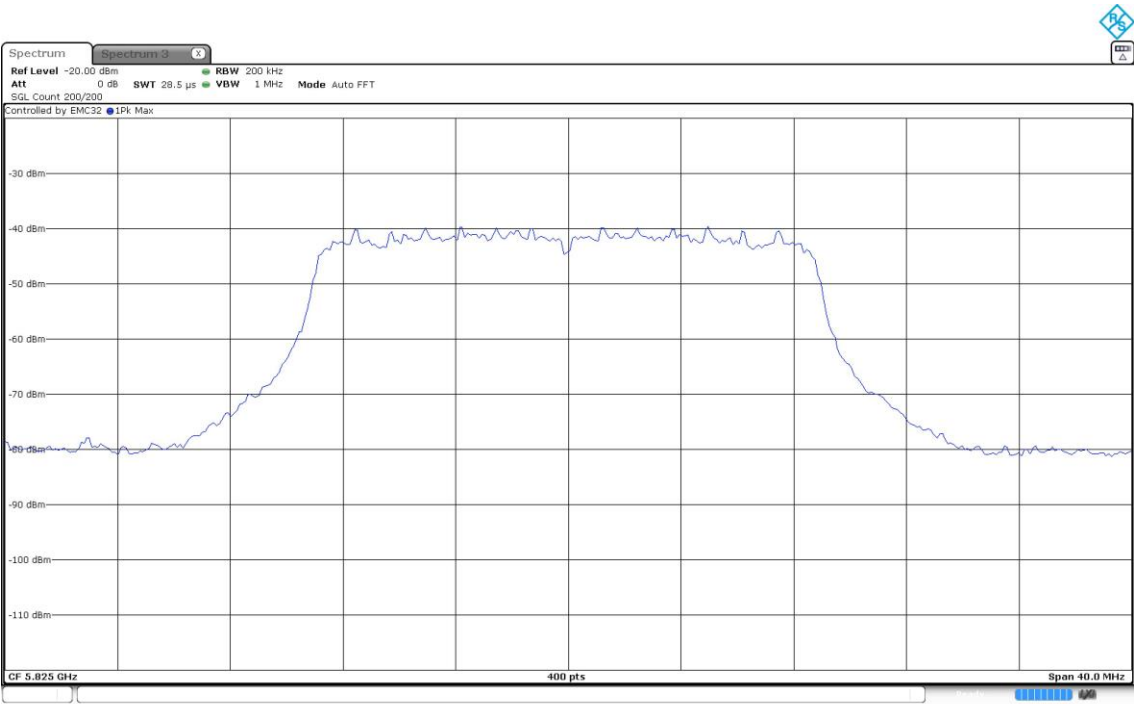
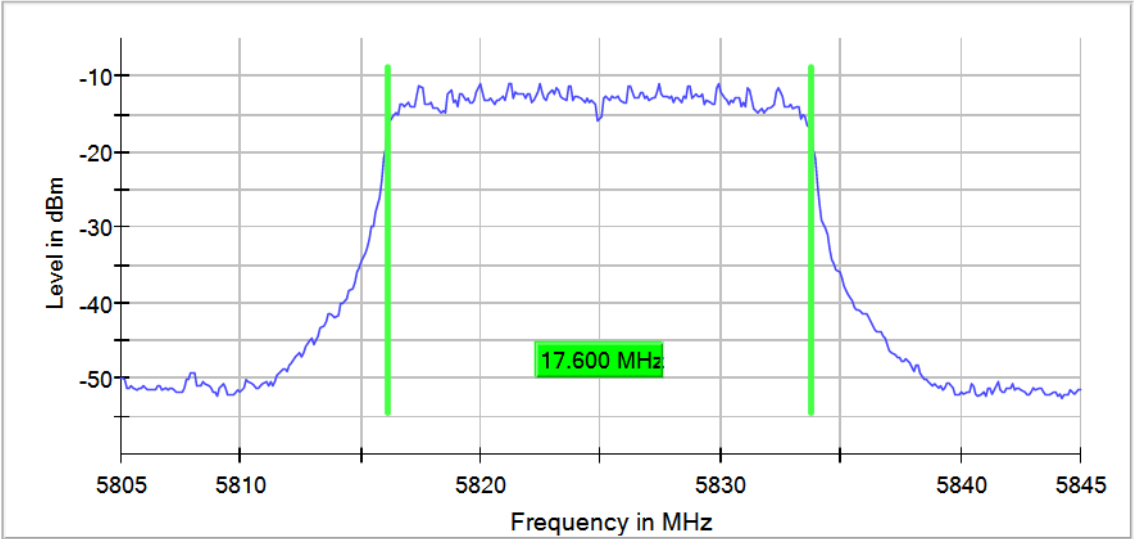
99 % Bandwidth



Operation Band MHz = [5725, 5850] Active Port = 3+4
Frequency MHz = 5825.00000 Modulation = 802.11n HT20 (OFDM MCS0)

Images:

99 % Bandwidth



Modulation: 802.11n HT40 (OFDM MCS0 13.5 Mbit/s)

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5725, 5850]	3+4	5755.00000	36.250
		5795.00000	36.000

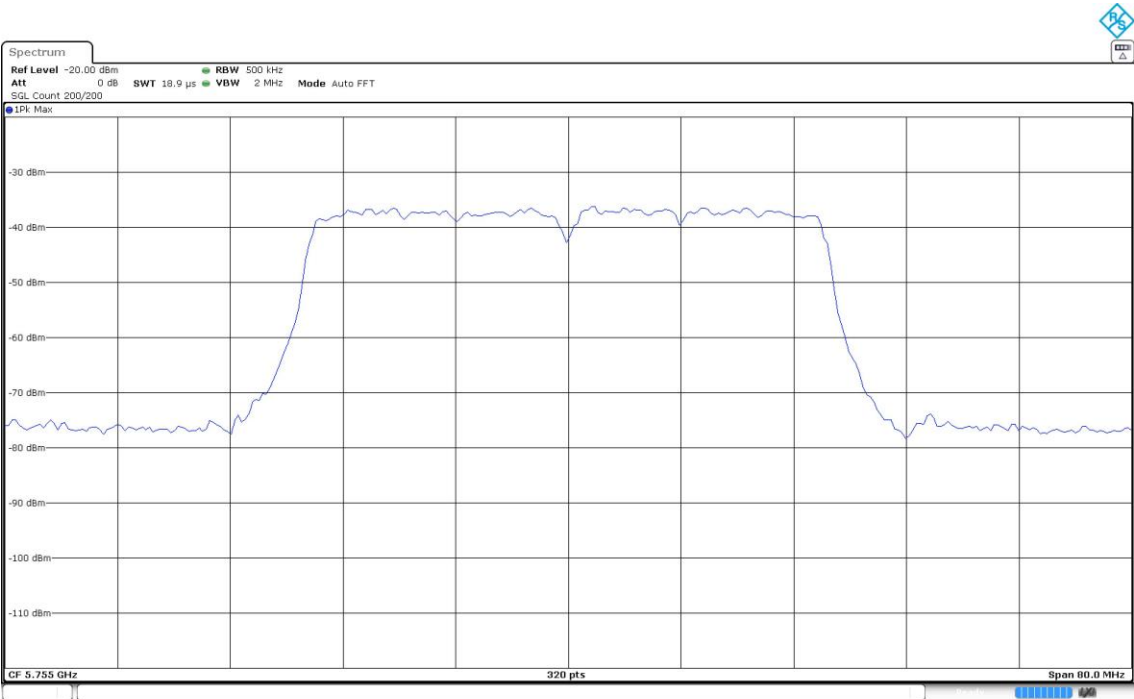
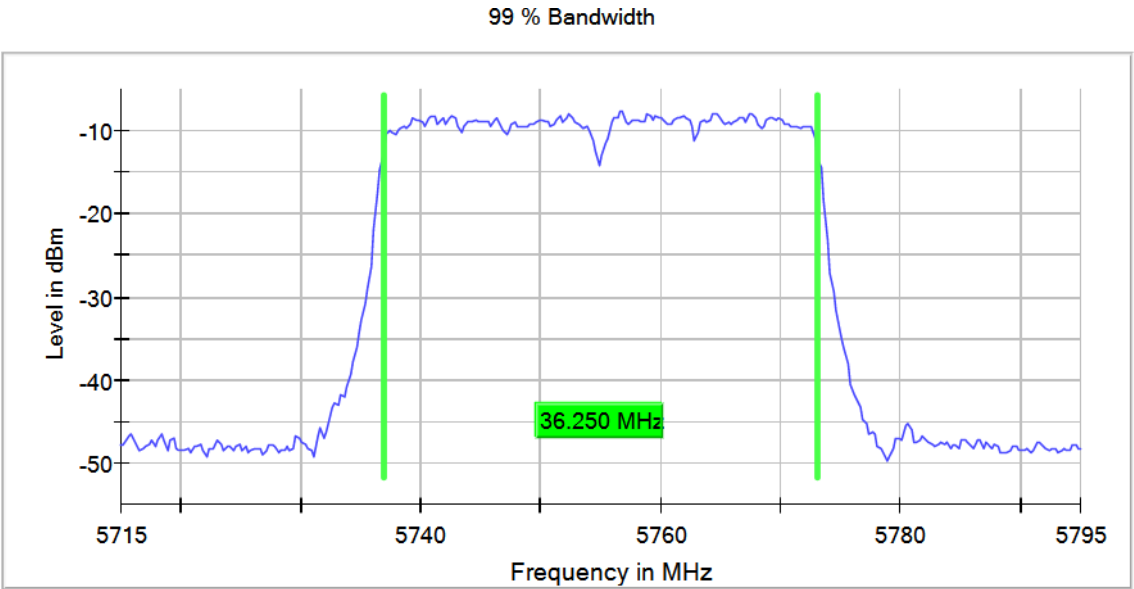
Verdict

Pass

Attachments

Operation Band MHz = [5725, 5850] Active Port = 3+4
Frequency MHz = 5755.00000 Modulation = 802.11n HT40 (OFDM MCS0 13.5 Mbit/s)

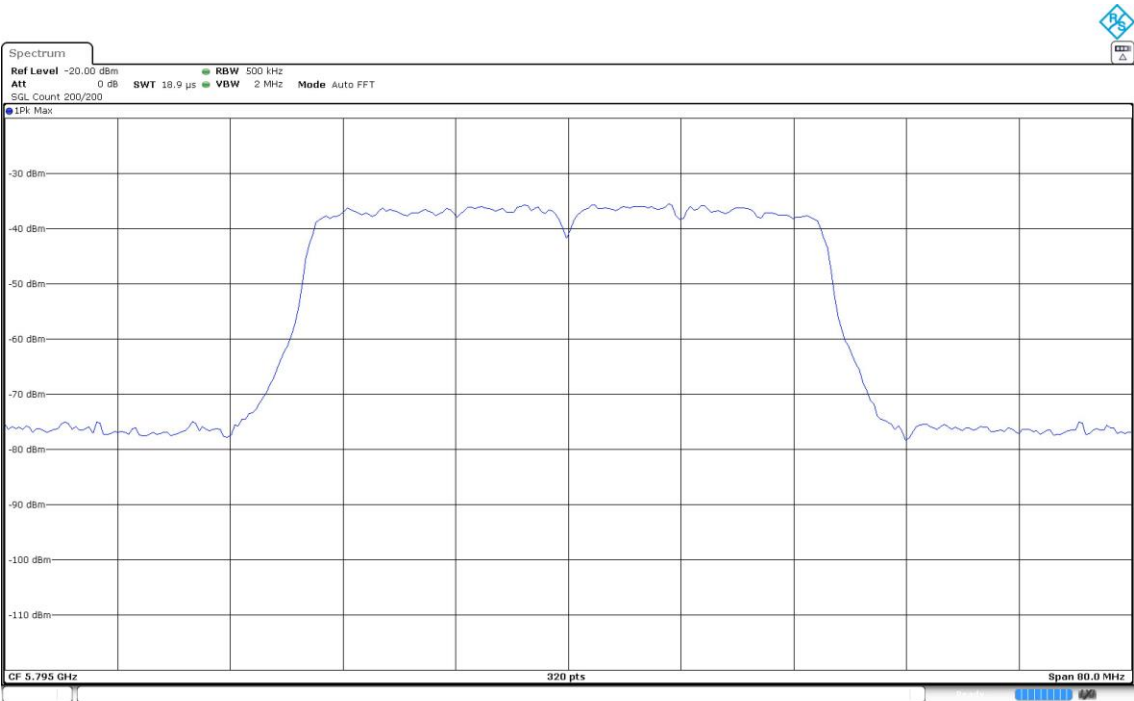
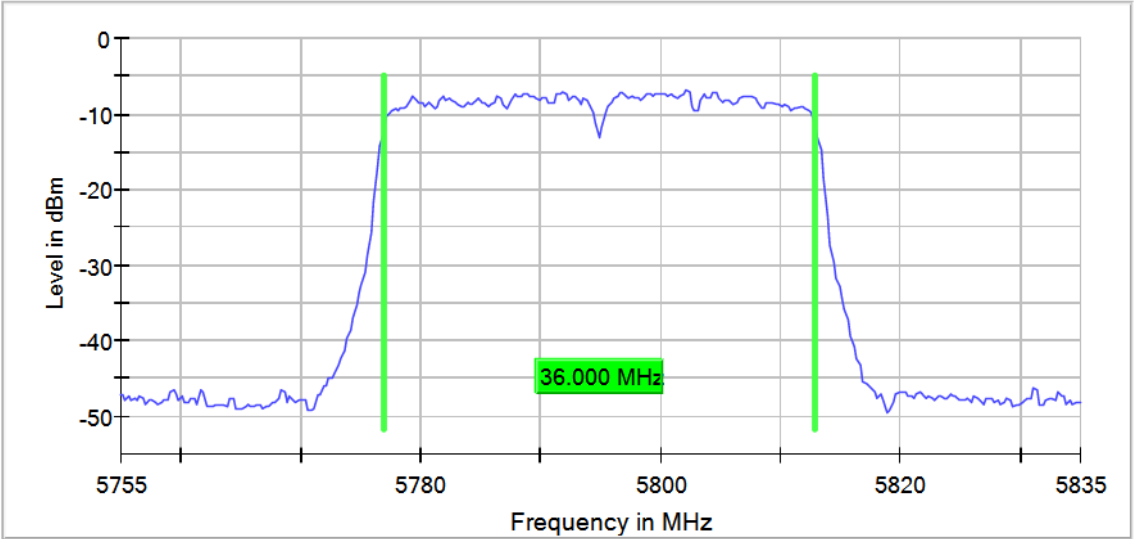
Images:



Operation Band MHz = [5725, 5850] Active Port = 3+4
Frequency MHz = 5795.00000 Modulation = 802.11n HT40 (OFDM MCS0 13.5 Mbit/s)

Images:

99 % Bandwidth



Modulation: 802.11ac VHT40 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5725, 5850]	3+4	5755.00000	36.250
		5795.00000	36.000

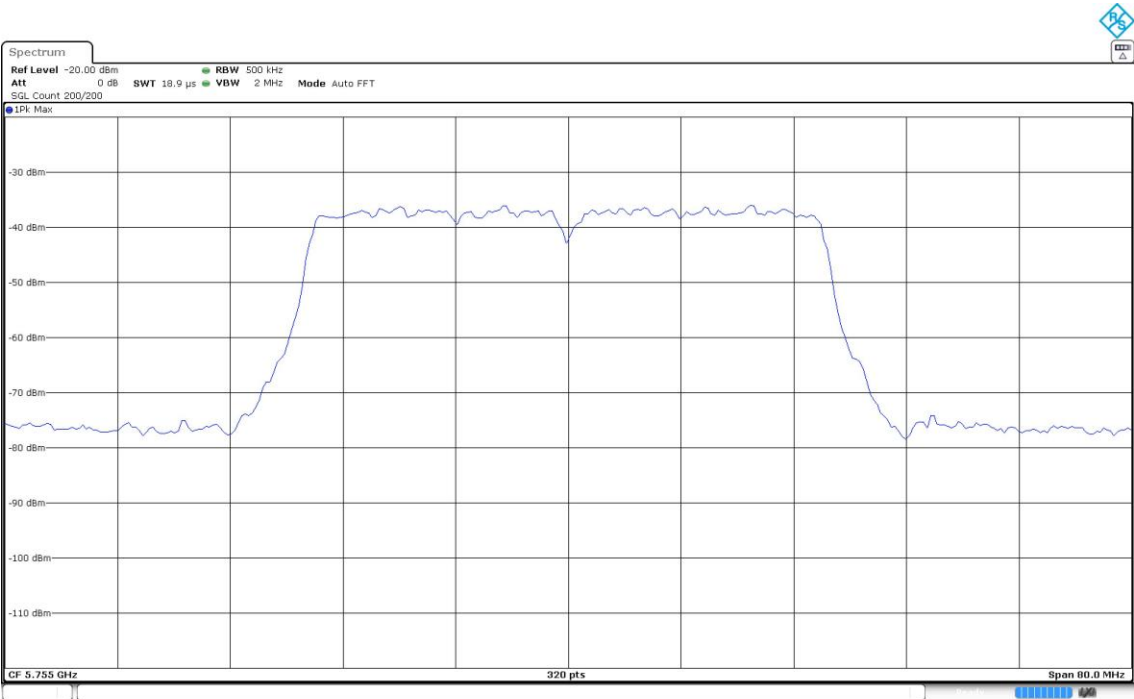
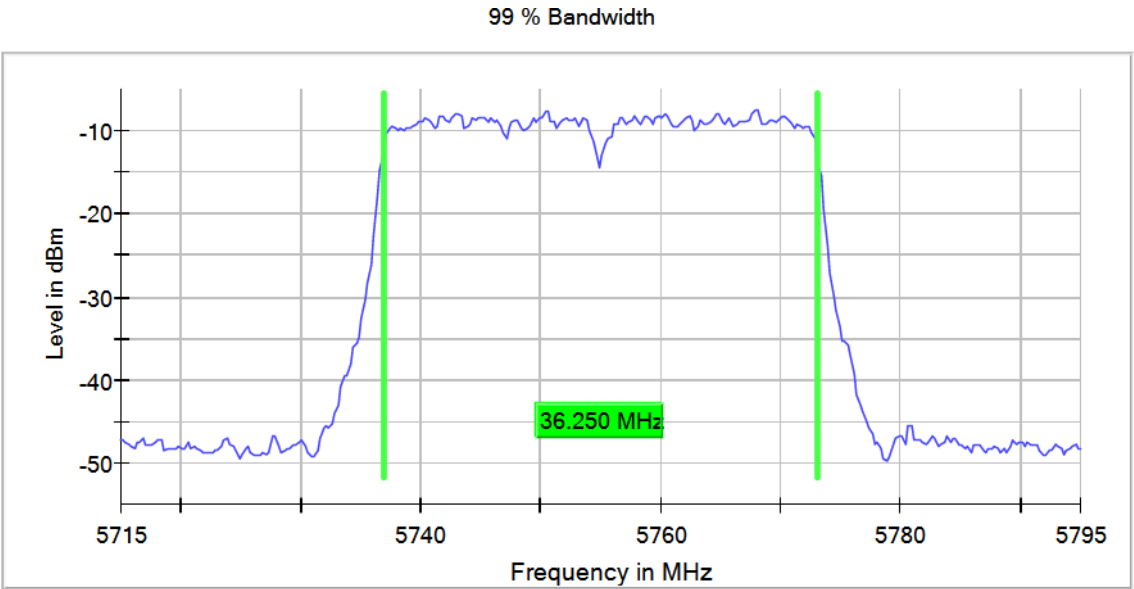
Verdict

Pass

Attachments

Operation Band MHz = [5725, 5850] Active Port = 3+4
Frequency MHz = 5755.00000 Modulation = 802.11ac VHT40 (OFDM MCS0)

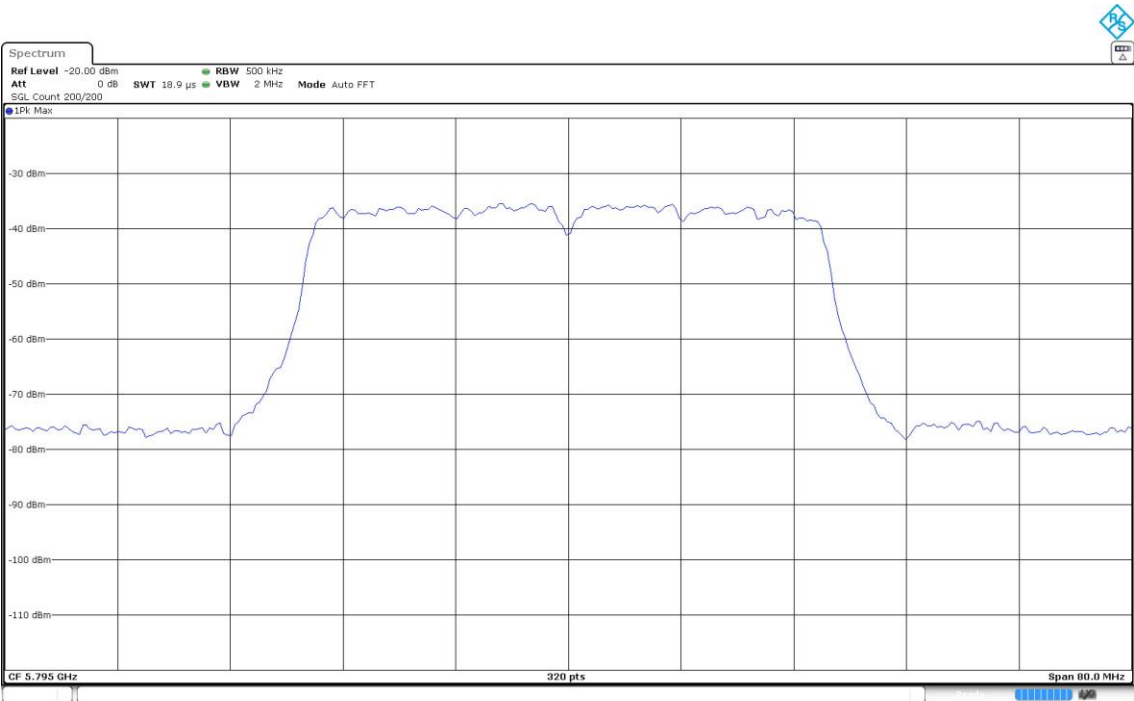
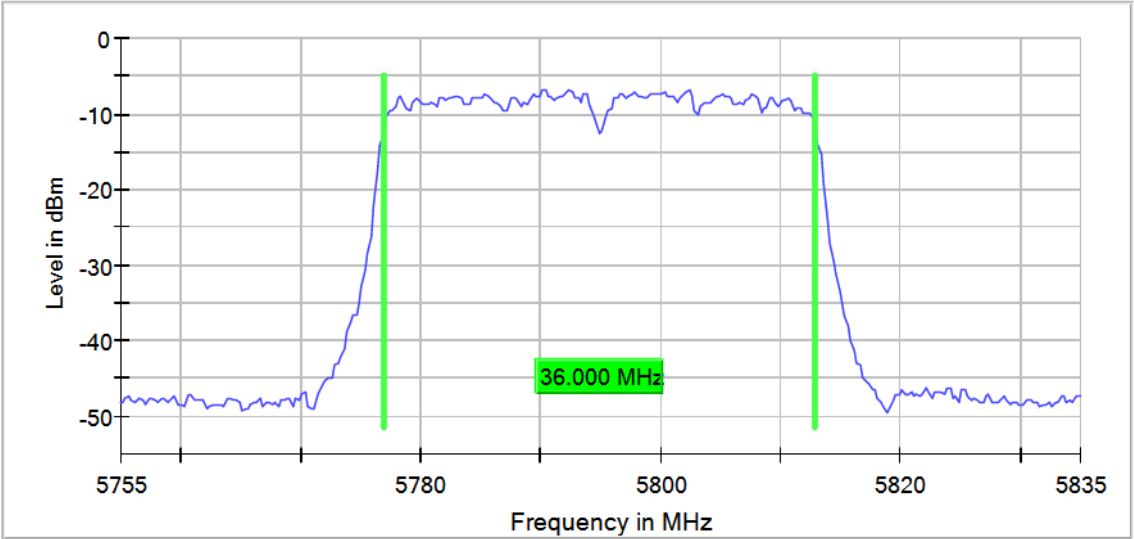
Images:



Operation Band MHz = [5725, 5850] Active Port = 3+4
Frequency MHz = 5795.00000 Modulation = 802.11ac VHT40 (OFDM MCS0)

Images:

99 % Bandwidth



Modulation: 802.11ac VHT80 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5725, 5850]	3+4	5775.00000	75.500

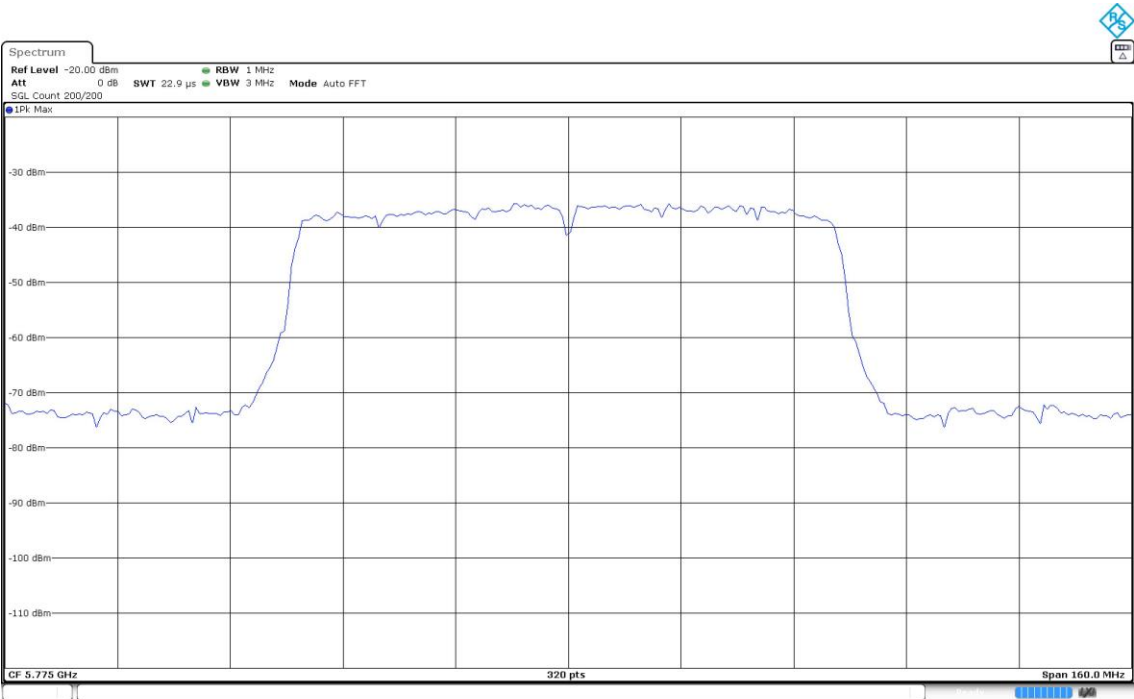
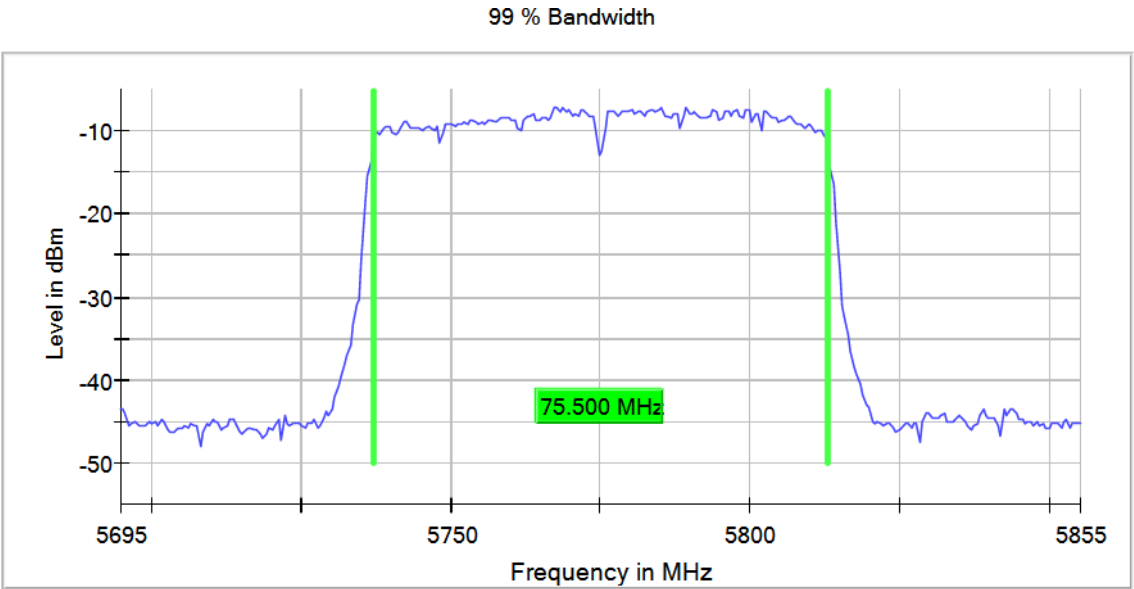
Verdict

Pass

Attachments

Operation Band MHz = [5725, 5850] Active Port = 3+4
Frequency MHz = 5775.00000 Modulation = 802.11ac VHT80 (OFDM MCS0)

Images:



Modulation: 802.11ax HE20 (OFDMA MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Antenna configuration	Subcarrier Mode	Occ Ch BW (MHz)
[5725, 5850]	3+4	5745.00000	MIMO CDD Mode 2x2	RU	18.500
		5745.00000		SU	19.000
		5785.00000		RU	18.500
		5785.00000		SU	18.300
		5825.00000		RU	18.500
		5825.00000		SU	19.000

Verdict

Pass

Attachments

Operation Band MHz = [5725, 5850]

Active Port = 3+4

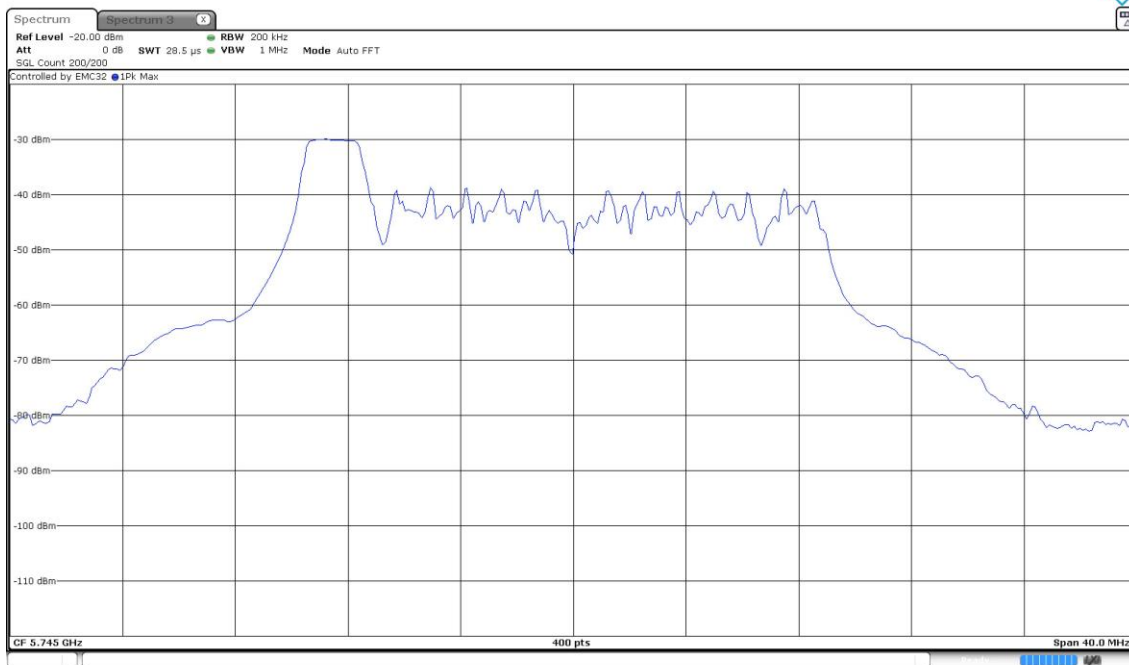
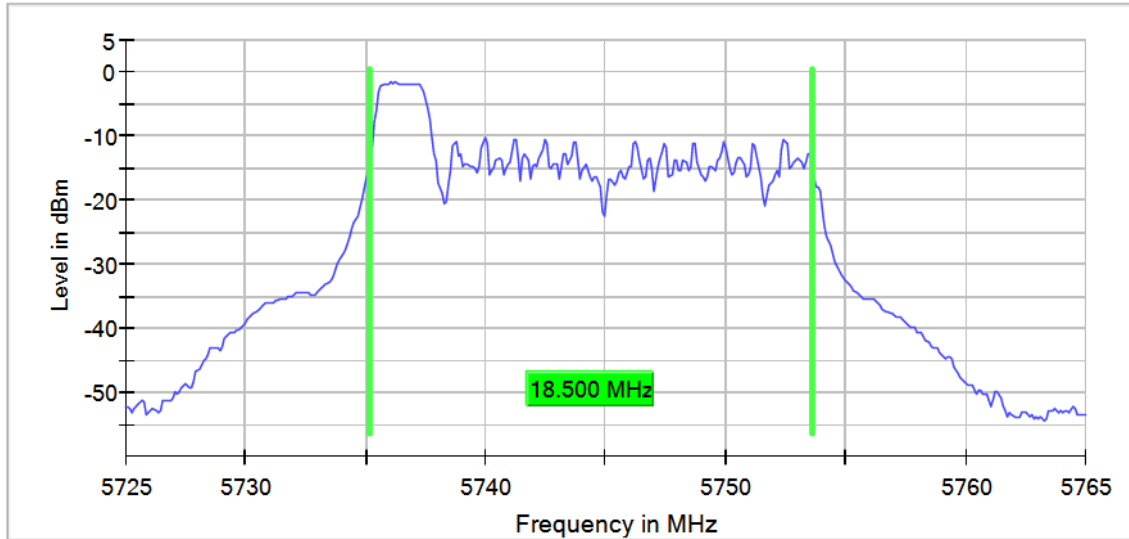
Frequency MHz = 5745.00000

Modulation = 802.11ax HE20 (OFDMA MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5725, 5850]

Active Port = 3+4

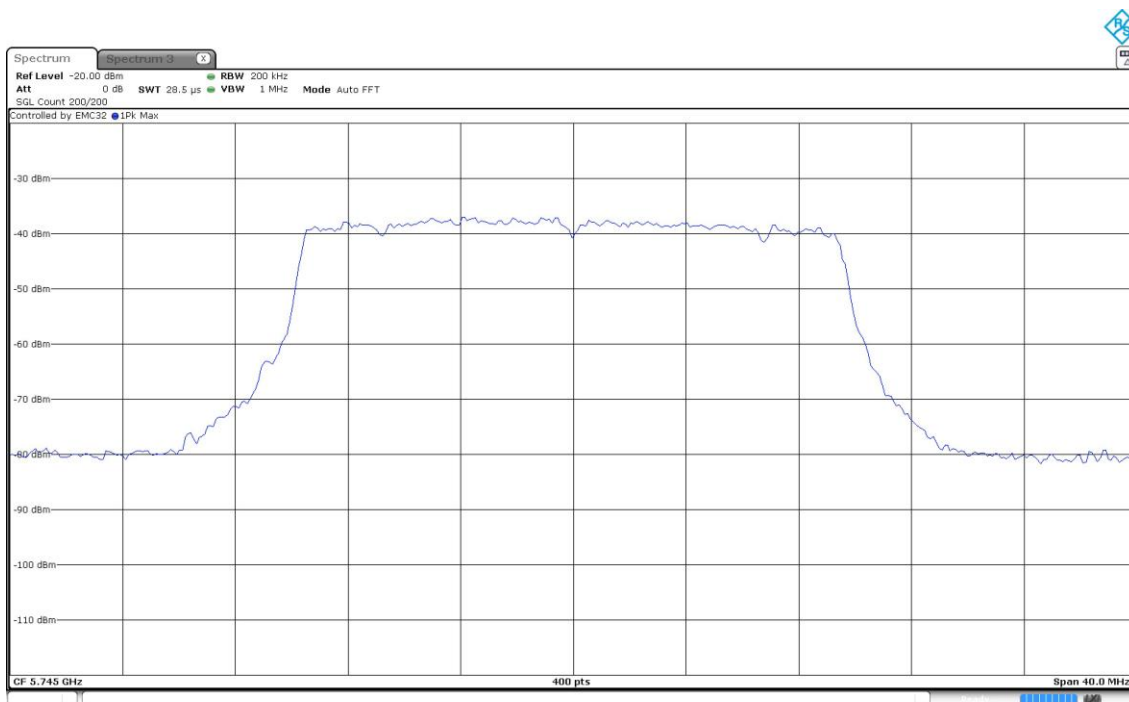
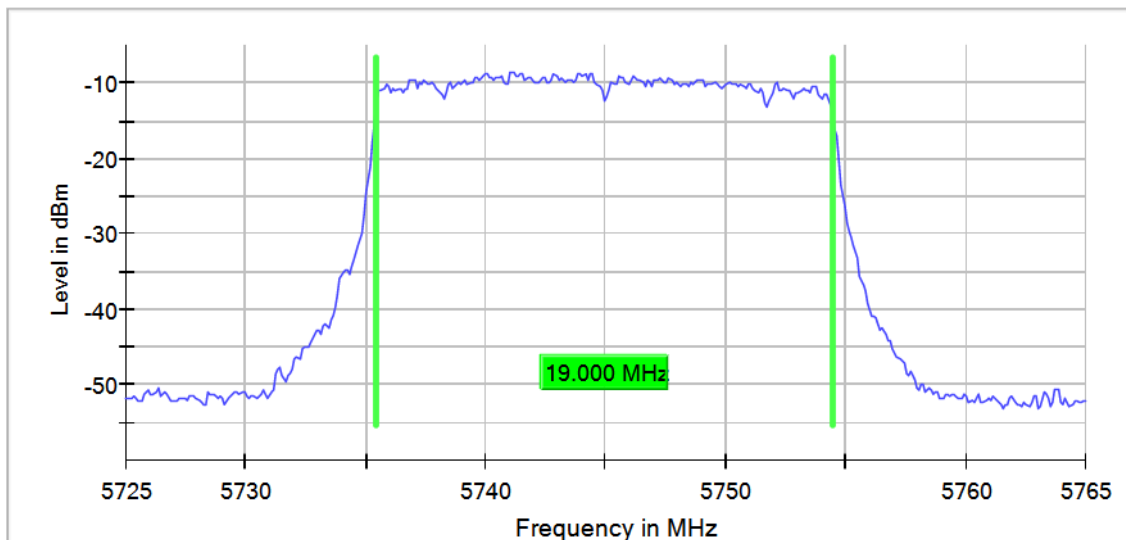
Frequency MHz = 5745.00000

Modulation = 802.11ax HE20 (OFDMA MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5725, 5850]

Active Port = 3+4

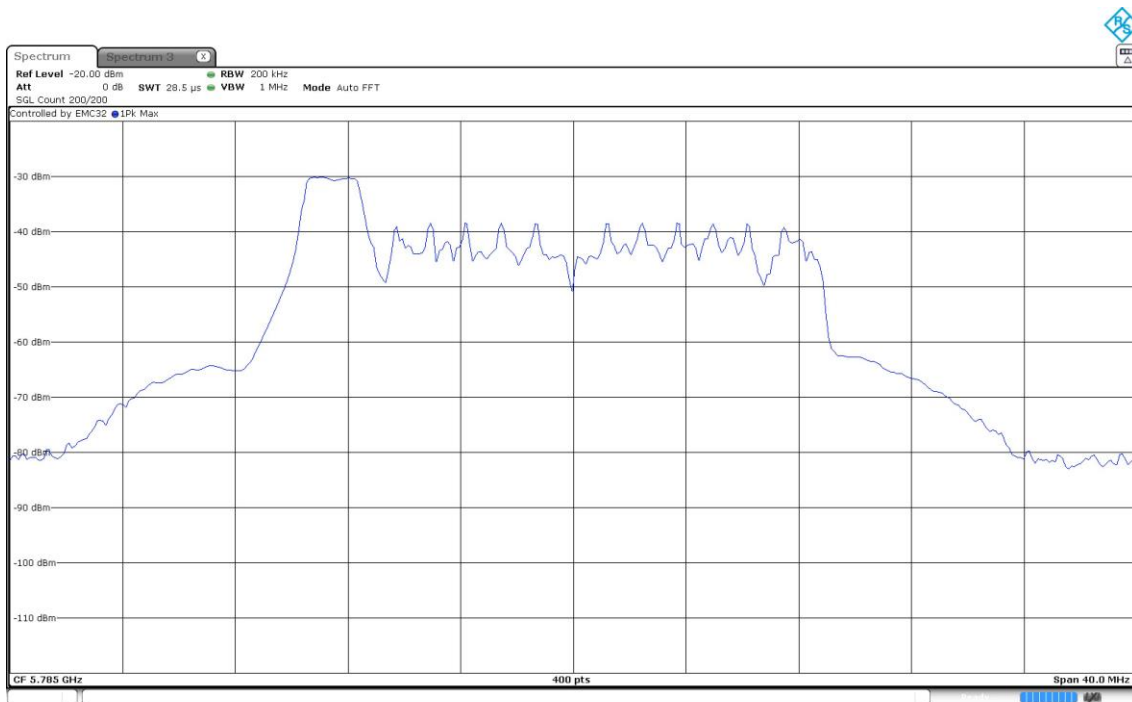
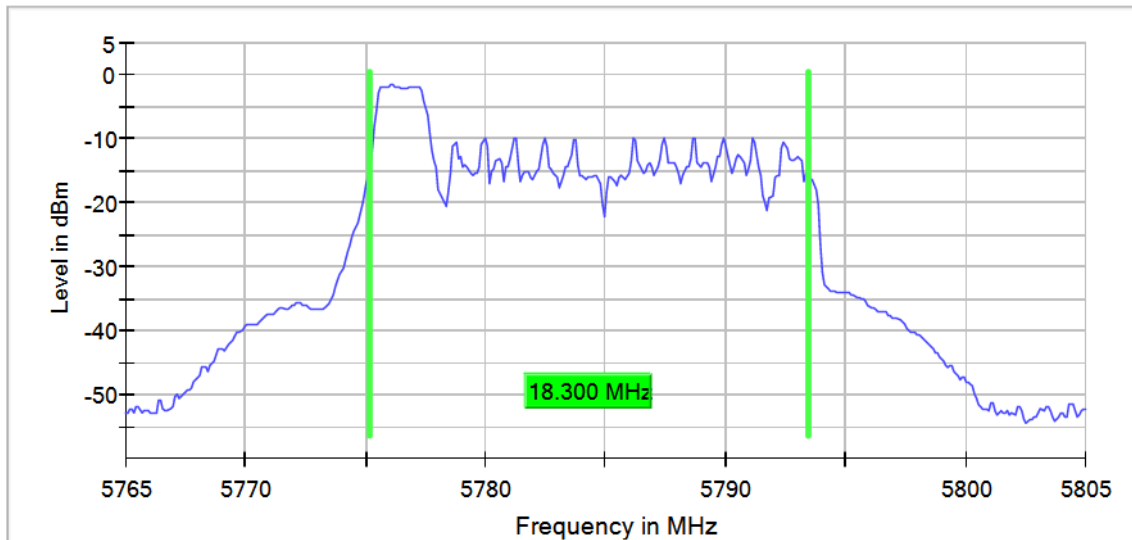
Frequency MHz = 5785.00000

Modulation = 802.11ax HE20 (OFDMA MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5725, 5850]

Active Port = 3+4

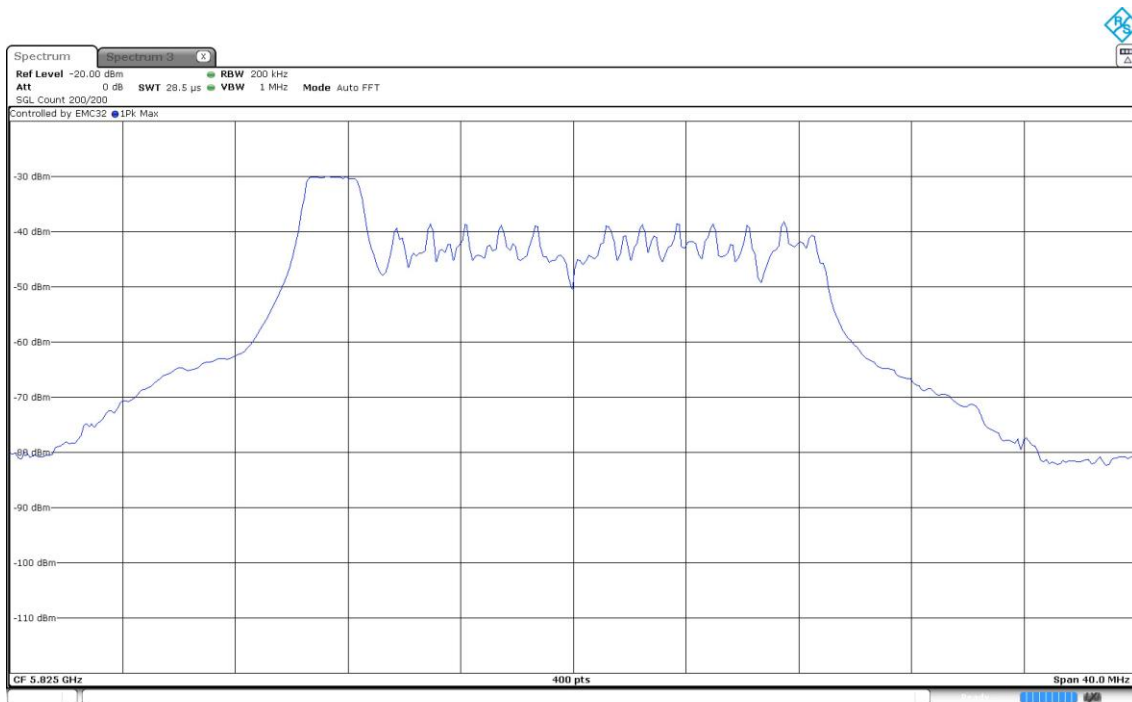
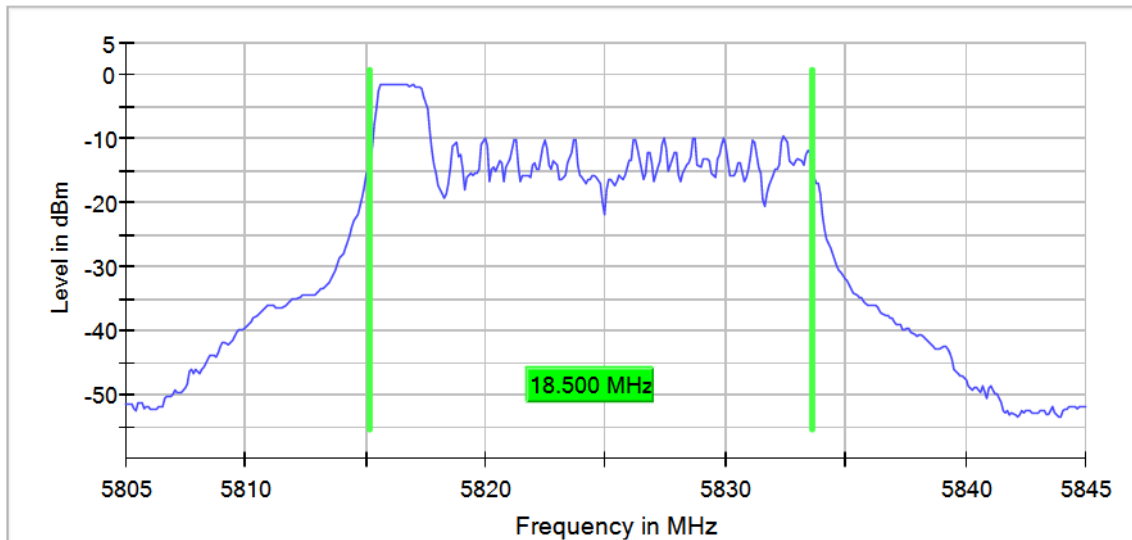
Frequency MHz = 5825.00000

Modulation = 802.11ax HE20 (OFDMA MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5725, 5850]

Active Port = 3+4

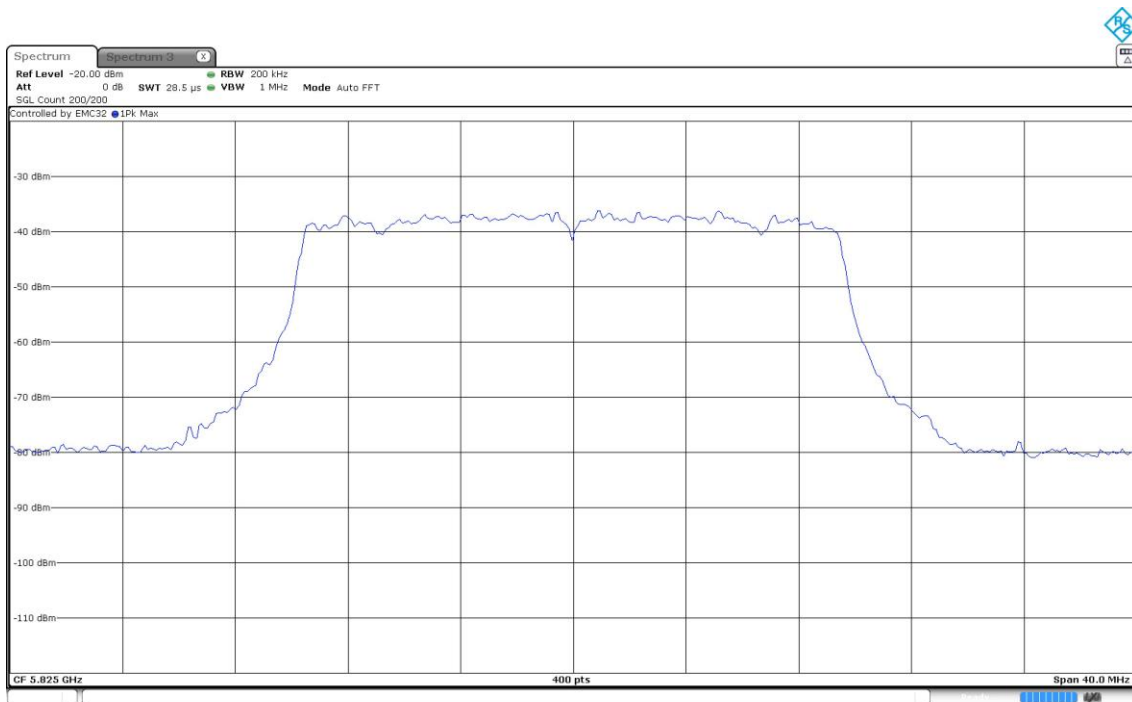
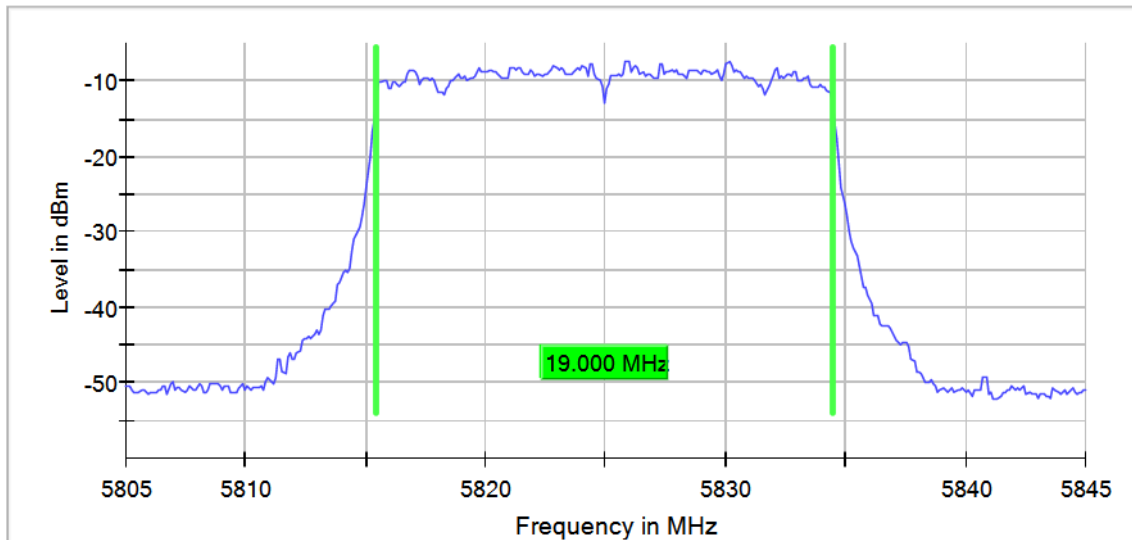
Frequency MHz = 5825.00000

Modulation = 802.11ax HE20 (OFDMA MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Modulation: 802.11ax HE40 (OFDMA MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Antenna configuration	Subcarrier Mode	Occ Ch BW (MHz)
[5725, 5850]	3+4	5755.00000	MIMO CDD Mode 2x2	RU	38.000
[5725, 5850]	3+4	5755.00000	MIMO CDD Mode 2x2	SU	37.750
[5725, 5850]	3+4	5795.00000	MIMO CDD Mode 2x2	RU	38.250
[5725, 5850]	3+4	5795.00000	MIMO CDD Mode 2x2	SU	37.750

Verdict

Pass

Attachments

Operation Band MHz = [5725, 5850]

Active Port = 3+4

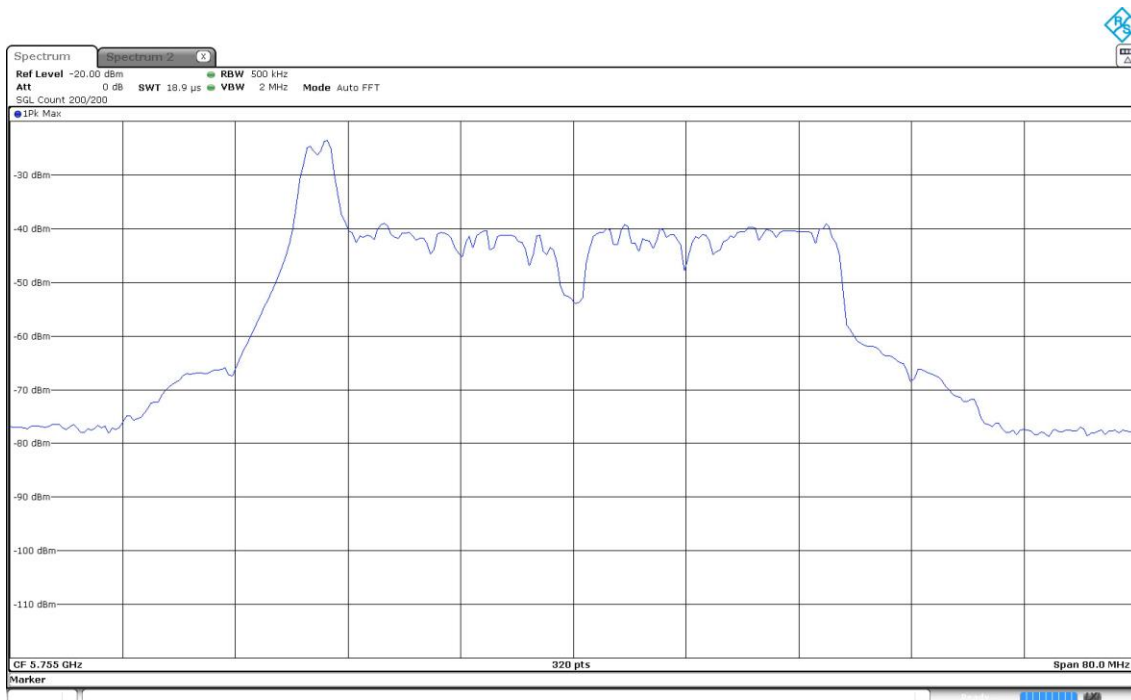
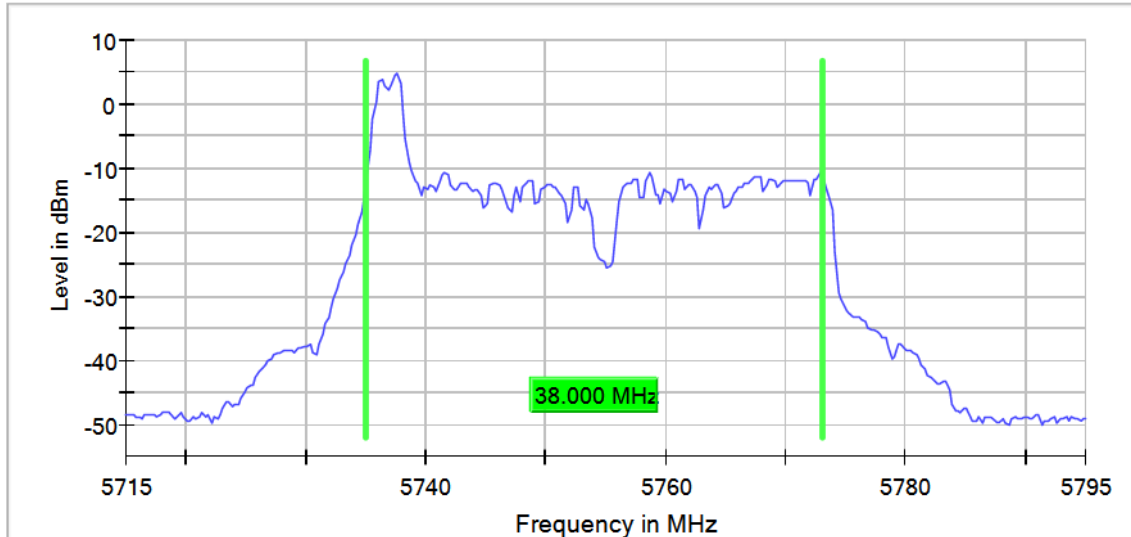
Frequency MHz = 5755.00000

Modulation = 802.11ax HE40 (OFDMA MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5725, 5850]

Active Port = 3+4

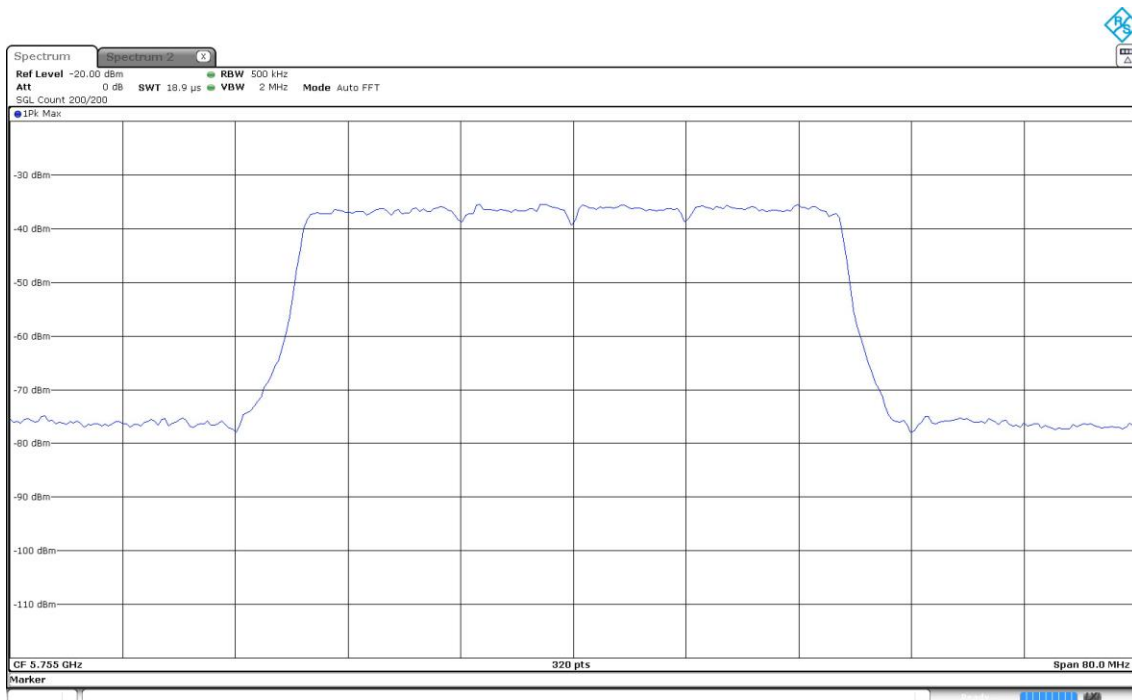
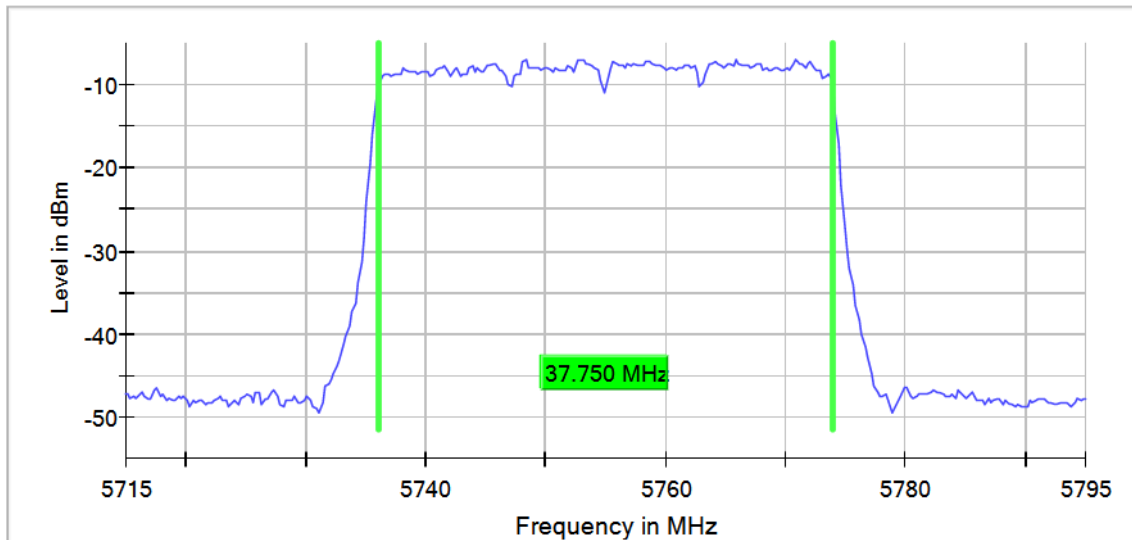
Frequency MHz = 5755.00000

Modulation = 802.11ax HE40 (OFDMA MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5725, 5850]

Active Port = 3+4

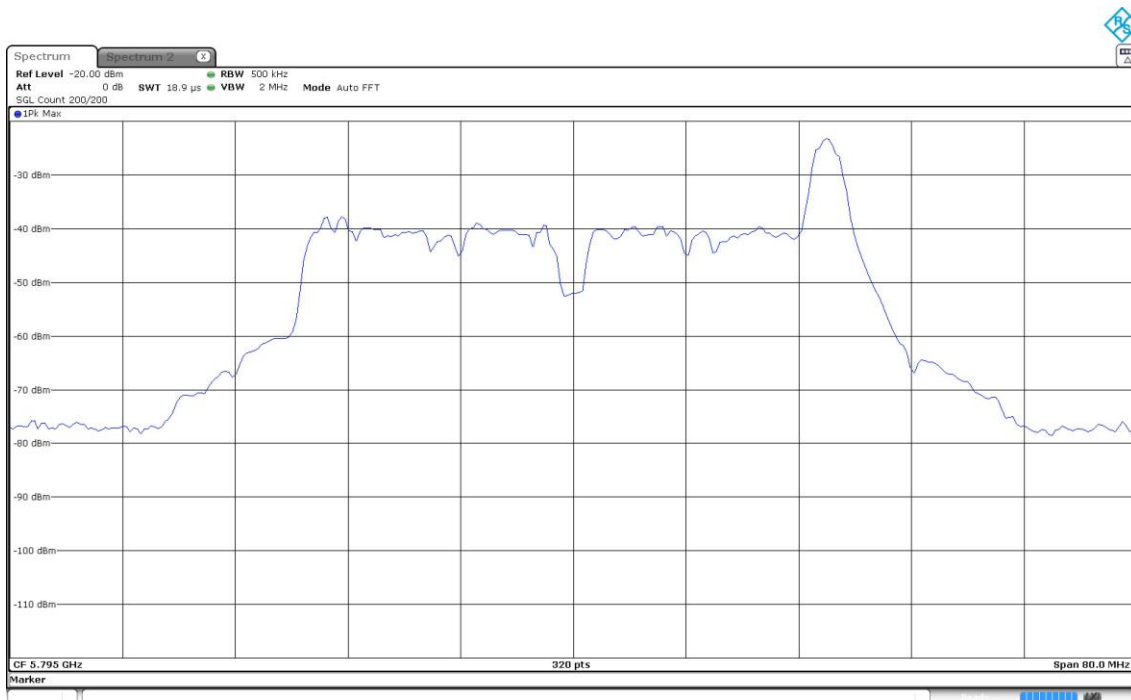
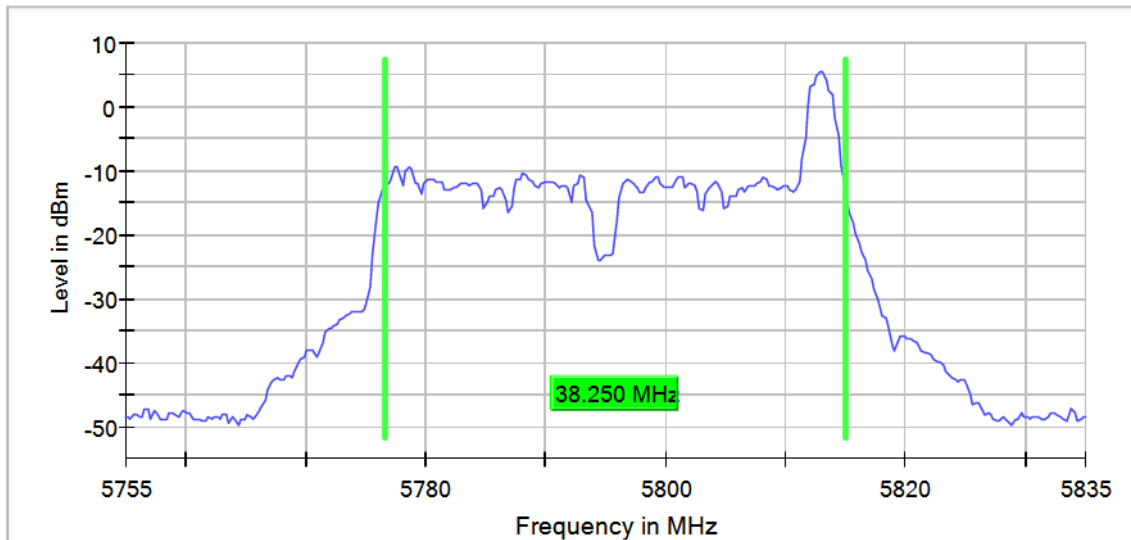
Frequency MHz = 5795.00000

Modulation = 802.11ax HE40 (OFDMA MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5725, 5850]

Active Port = 3+4

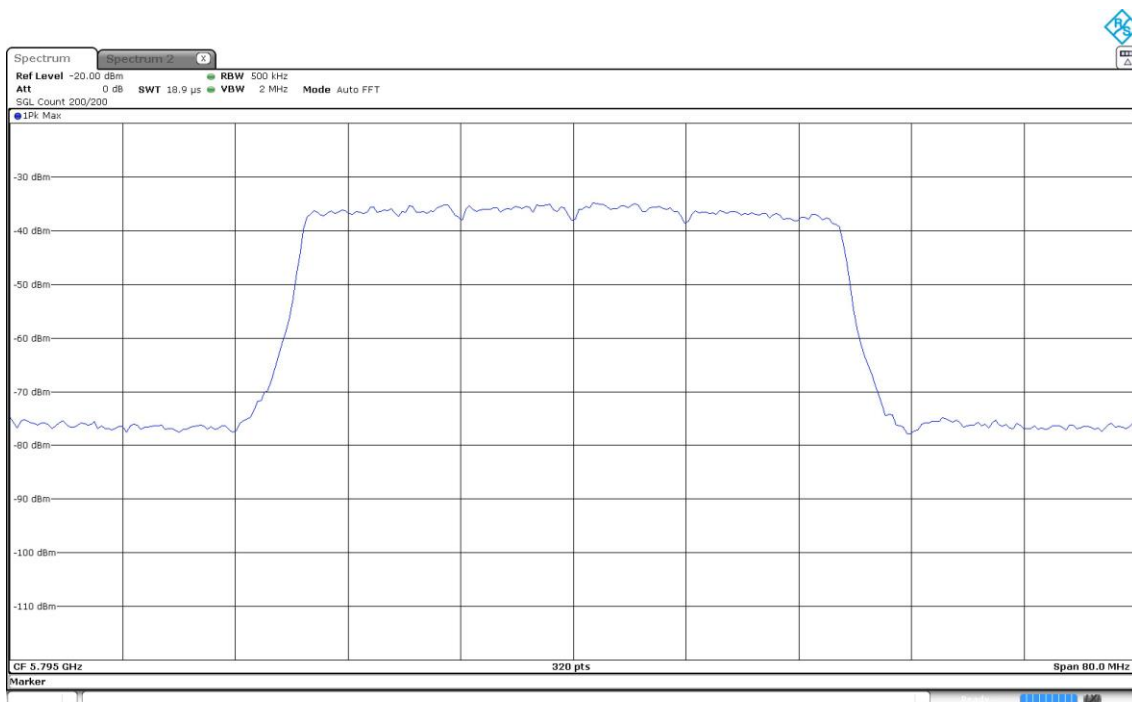
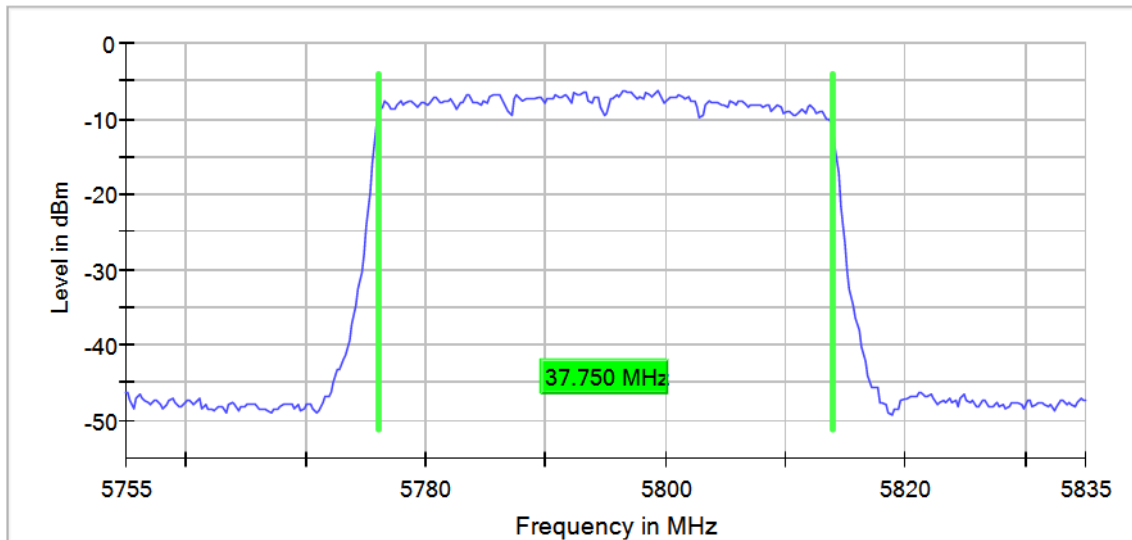
Frequency MHz = 5795.00000

Modulation = 802.11ax HE40 (OFDMA MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Modulation: 802.11ax HE80 (OFDMA MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Antenna configuration	Subcarrier Mode	Occ Ch BW (MHz)
[5725, 5850]	3+4	5775.00000	MIMO CDD Mode 2x2	RU	79.000
[5725, 5850]	3+4	5775.00000	MIMO CDD Mode 2x2	SU	77.500

Verdict

Pass

Attachments

Operation Band MHz = [5725, 5850]

Active Port = 3+4

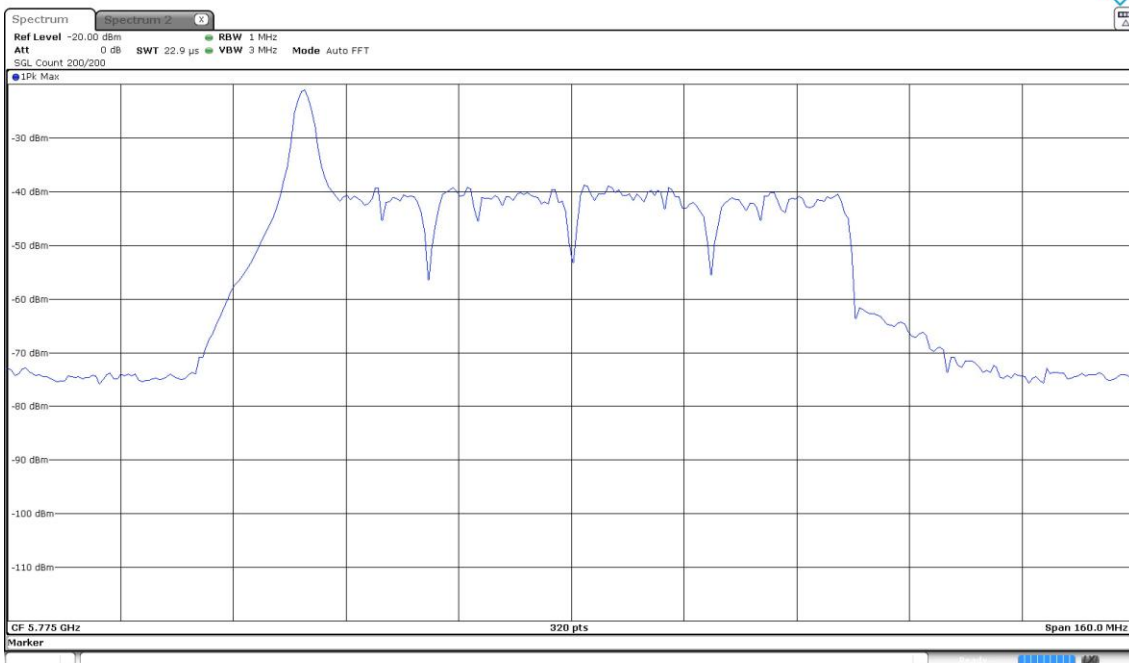
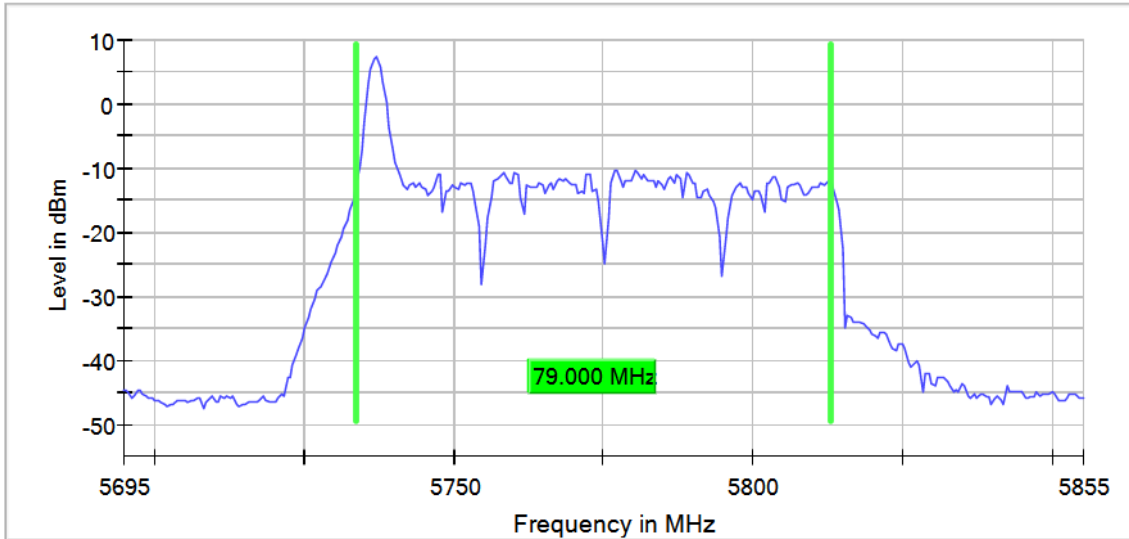
Frequency MHz = 5775.00000

Modulation = 802.11ax HE80 (OFDMA MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Operation Band MHz = [5725, 5850]

Active Port = 3+4

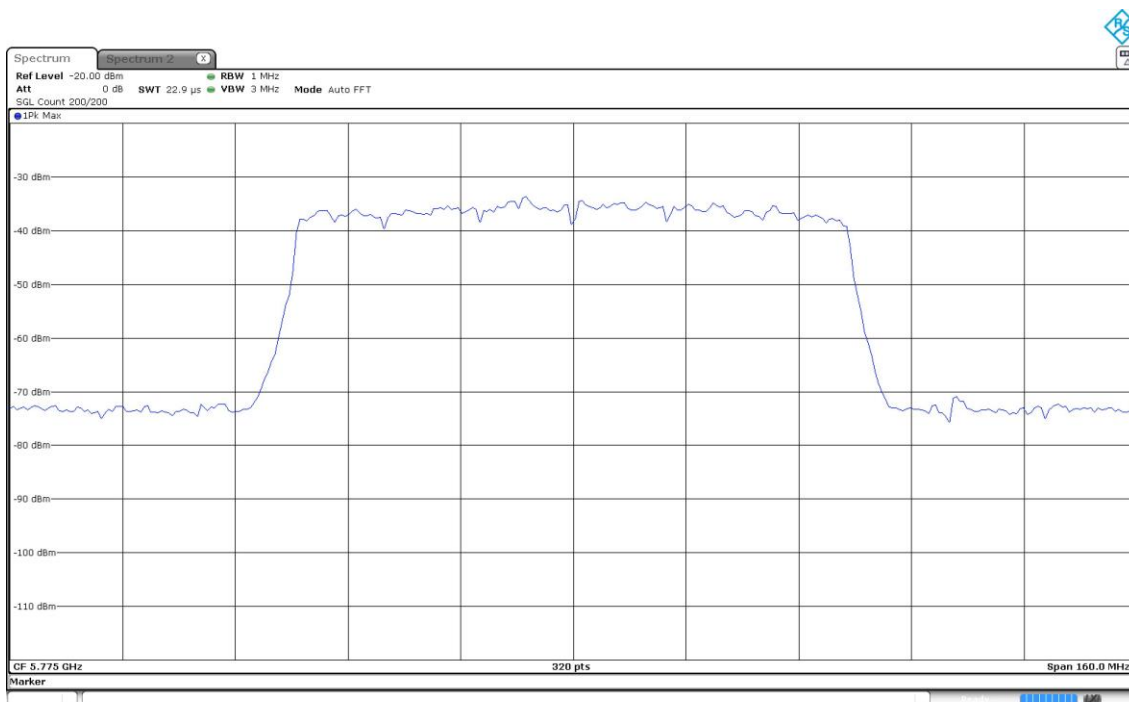
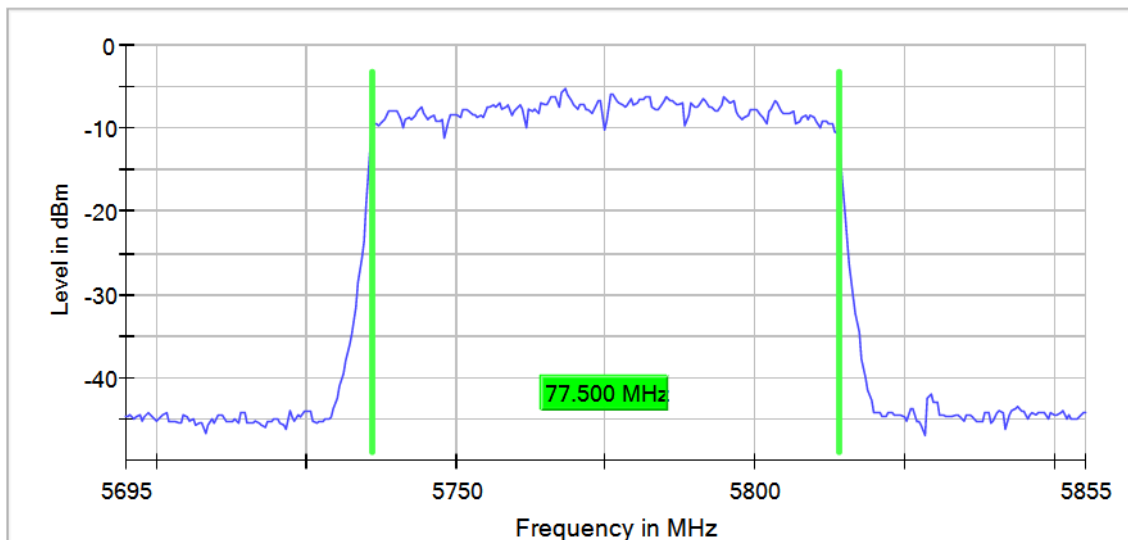
Frequency MHz = 5775.00000

Modulation = 802.11ax HE80 (OFDMA MCS0)

Antenna configuration = MIMO CDD Mode 2x2

Images:

99 % Bandwidth



Transmitter. 26 dB Emission Bandwidth (EBW)

Results

The 26 dB Emission Bandwidth was measured using the method according to clause C) 1) of 789033 D02 General UNII Test Procedures New Rules v02r01.

Modulation: 802.11n HT20 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Ebw (MHz)
[5150, 5250]	3+4	5180.00000	20.200
		5220.00000	20.100
		5240.00000	20.200

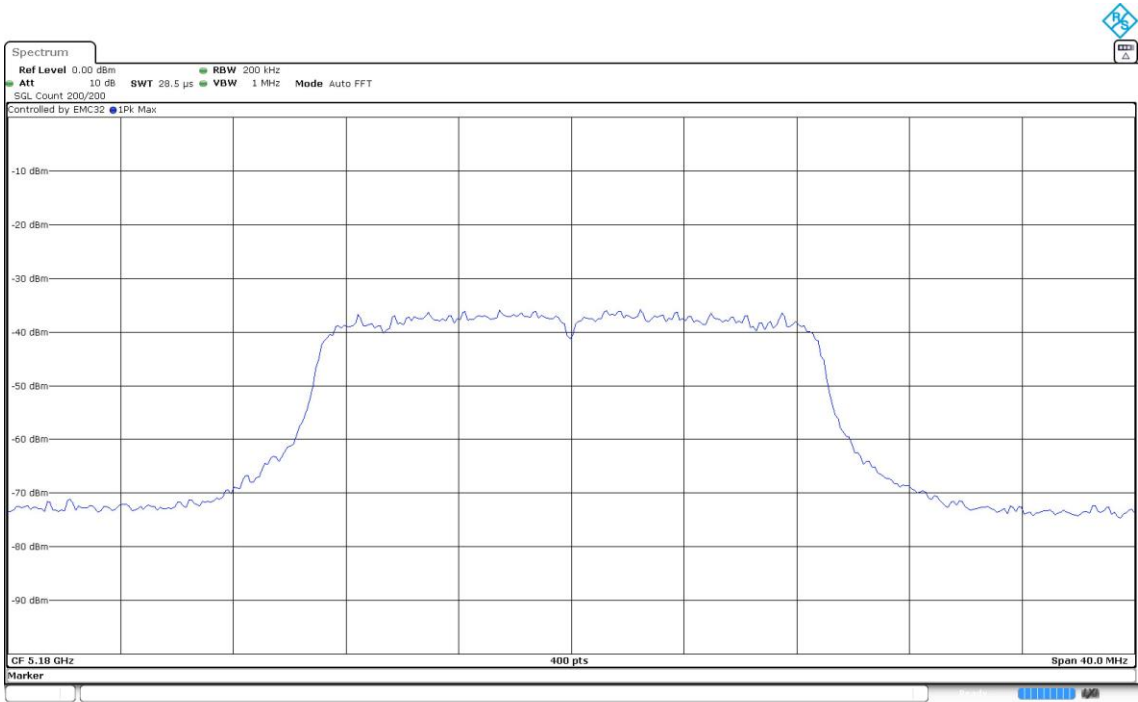
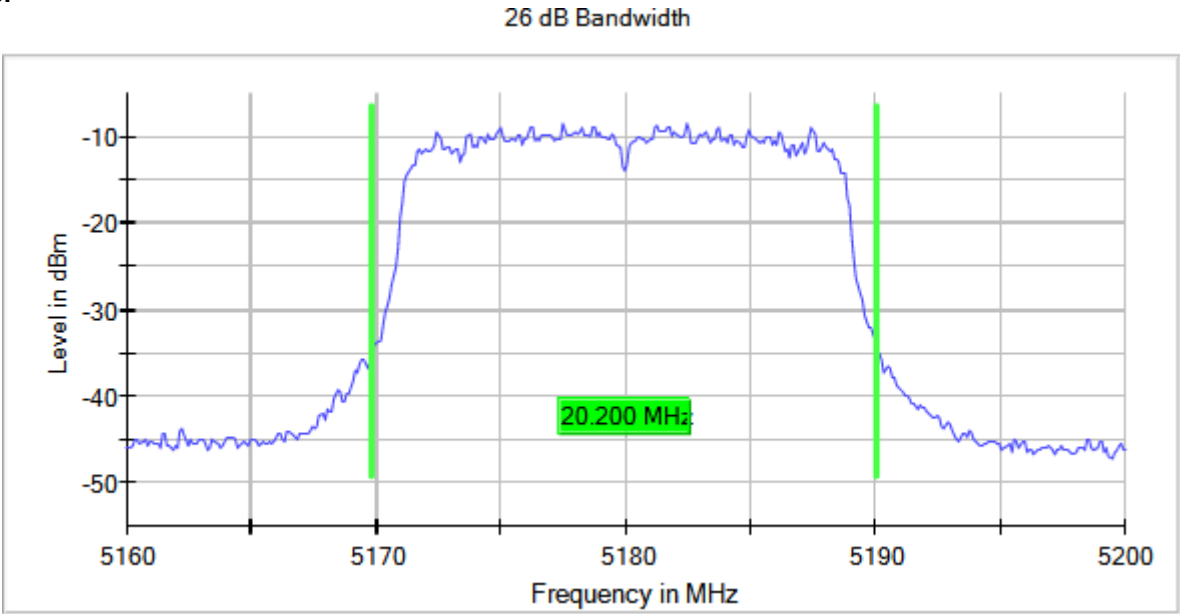
Verdict

Pass

Attachments

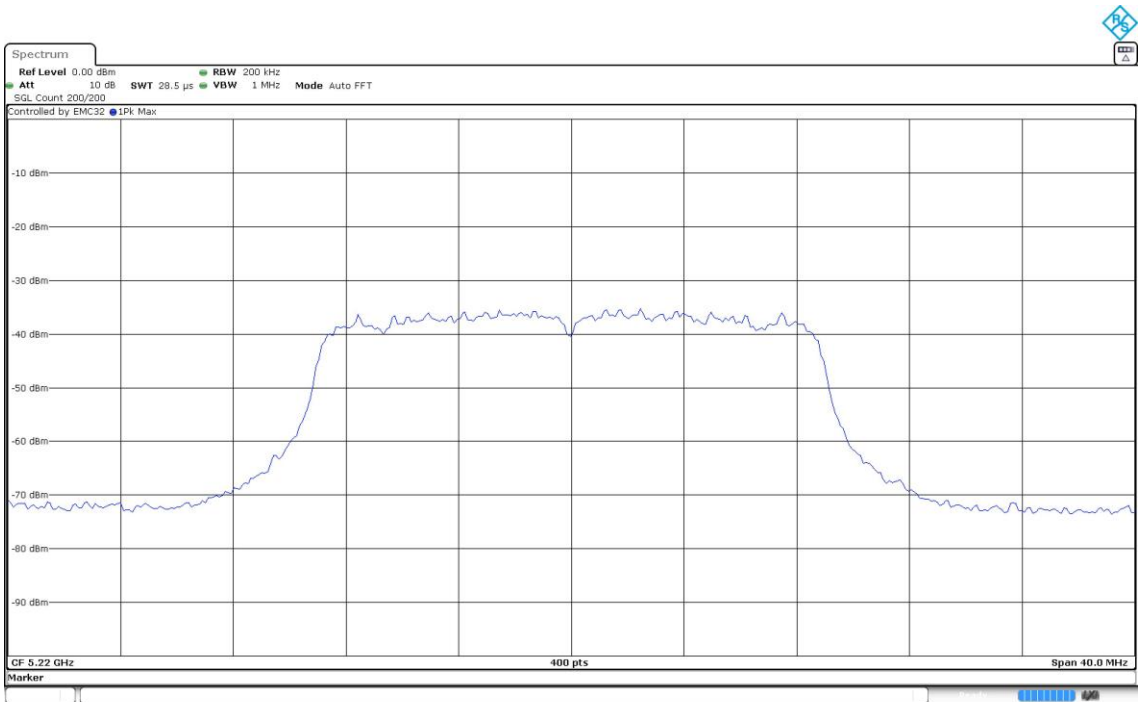
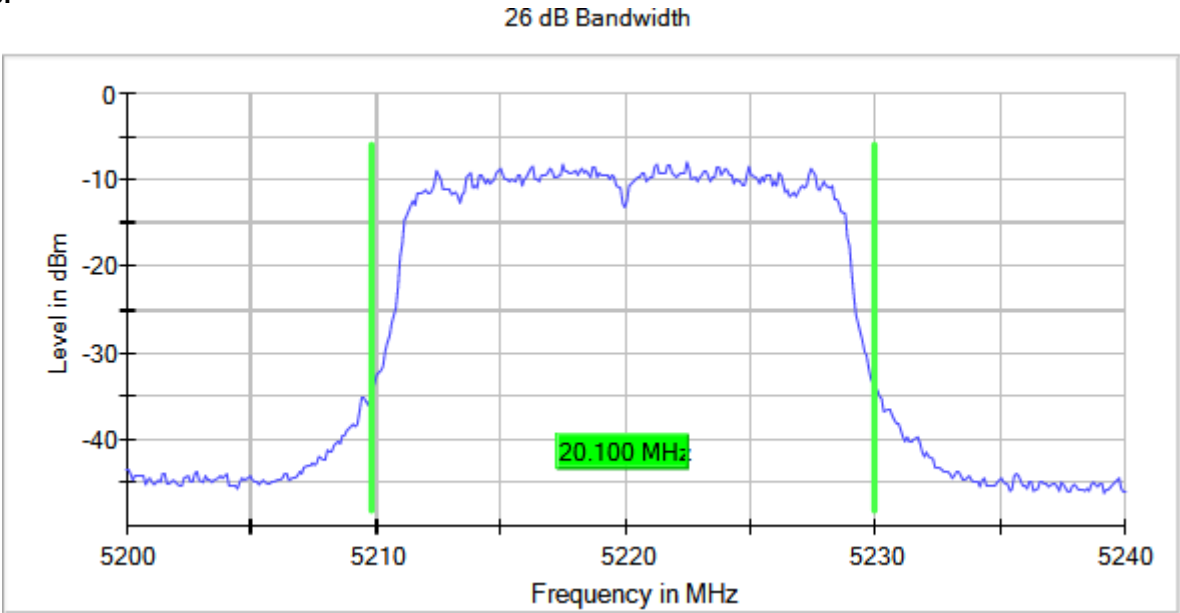
Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5180.00000 Modulation = 802.11n HT20 (OFDM MCS0)

Images:



Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5220.00000 Modulation = 802.11n HT20 (OFDM MCS0)

Images:



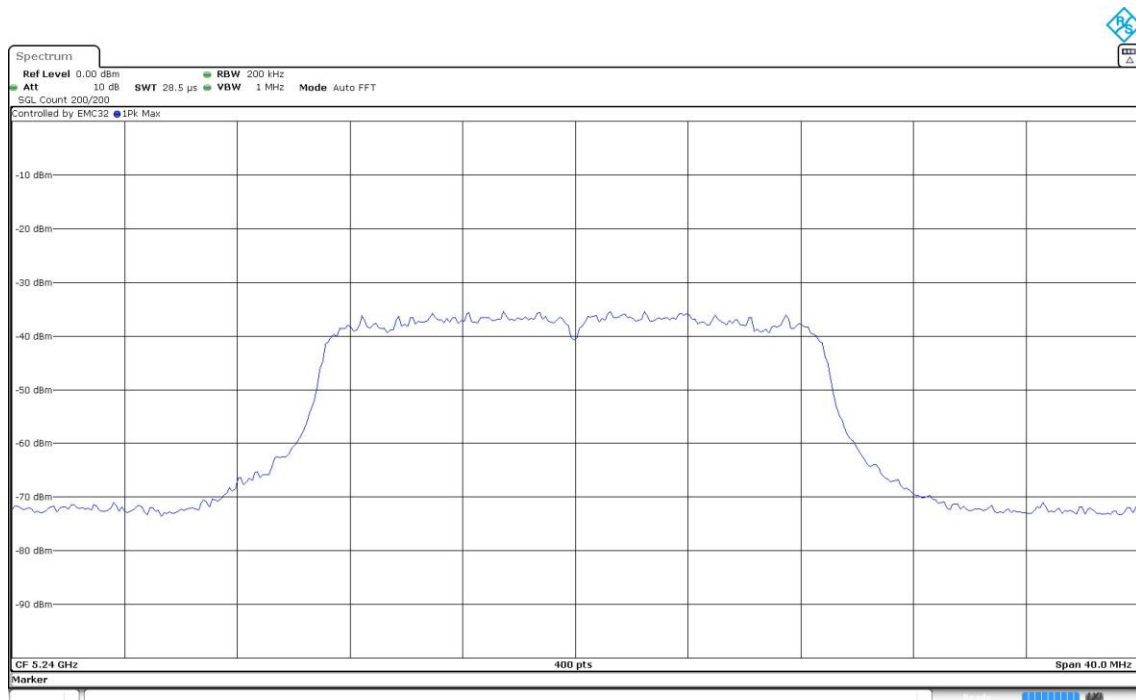
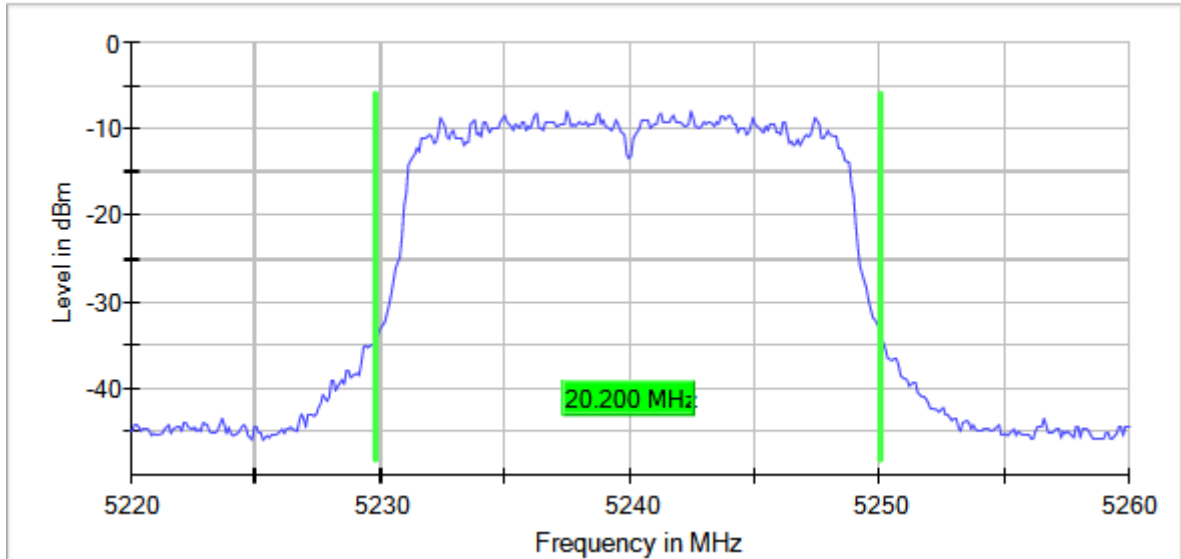
Operation Band MHz = [5150, 5250] Active Port = 3+4

Frequency MHz = 5240.00000

Modulation = 802.11n HT20 (OFDM MCS0)

Images:

26 dB Bandwidth



Modulation: 802.11n HT40 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Ebw (MHz)
[5150, 5250]	3+4	5190.00000	39.625
		5230.00000	39.625

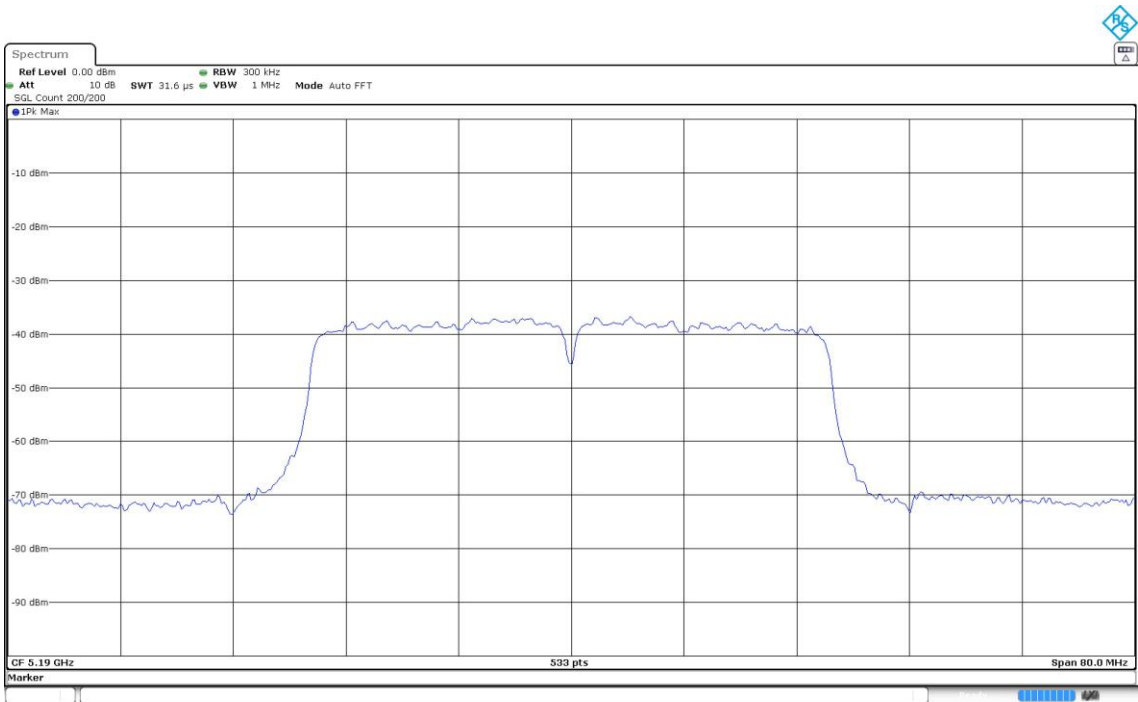
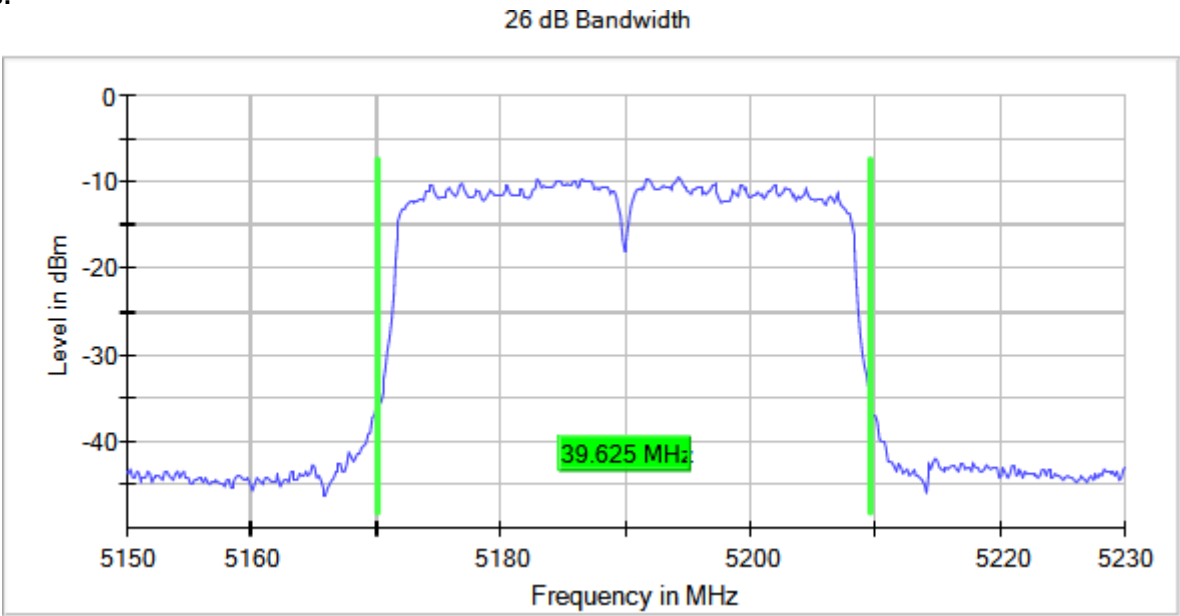
Verdict

Pass

Attachments

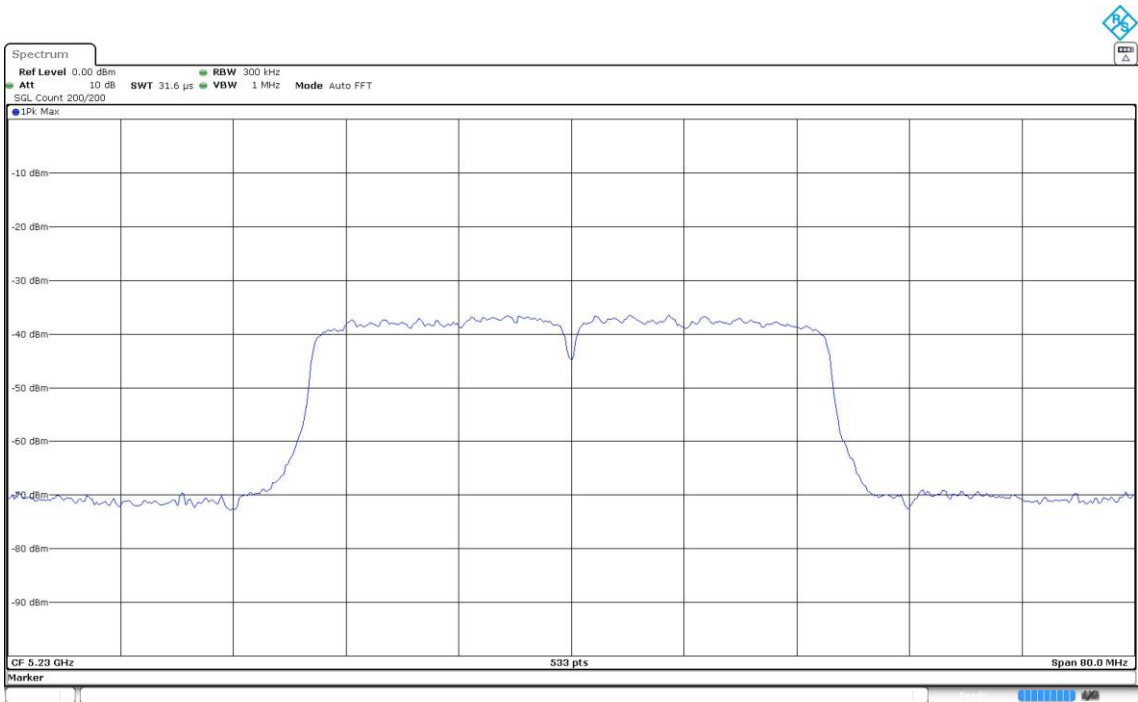
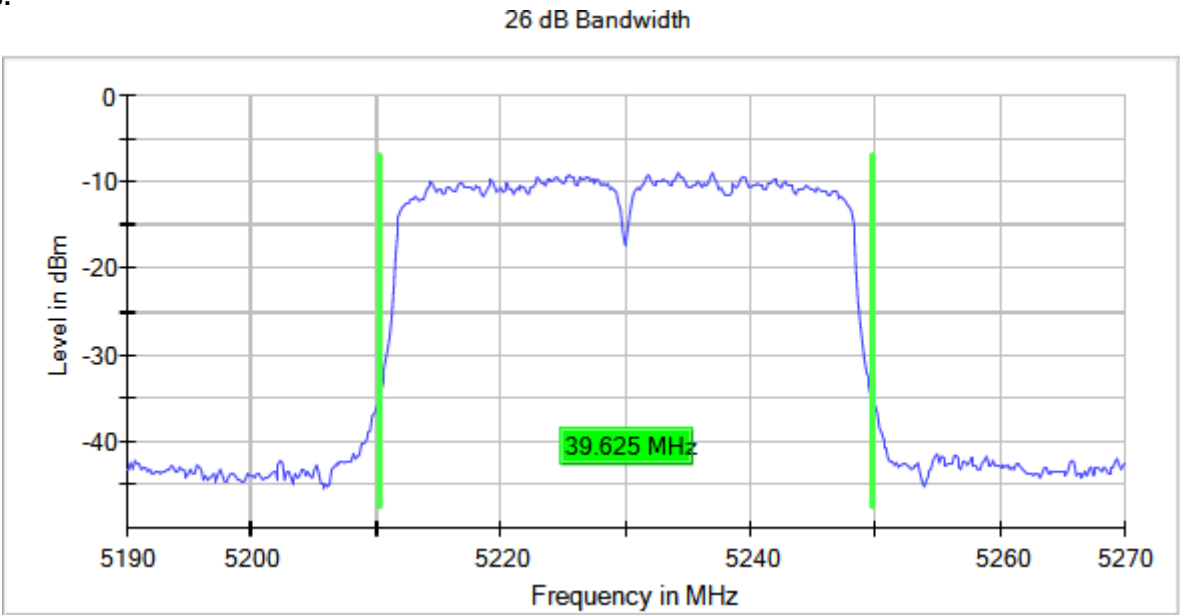
Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5190.00000 Modulation = 802.11n HT40 (OFDM MCS0)

Images:



Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5230.00000 Modulation = 802.11n HT40 (OFDM MCS0)

Images:



Modulation: 802.11ac VHT40 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Ebw (MHz)
[5150, 5250]	3+4	5190.00000	39.925
		5230.00000	39.625

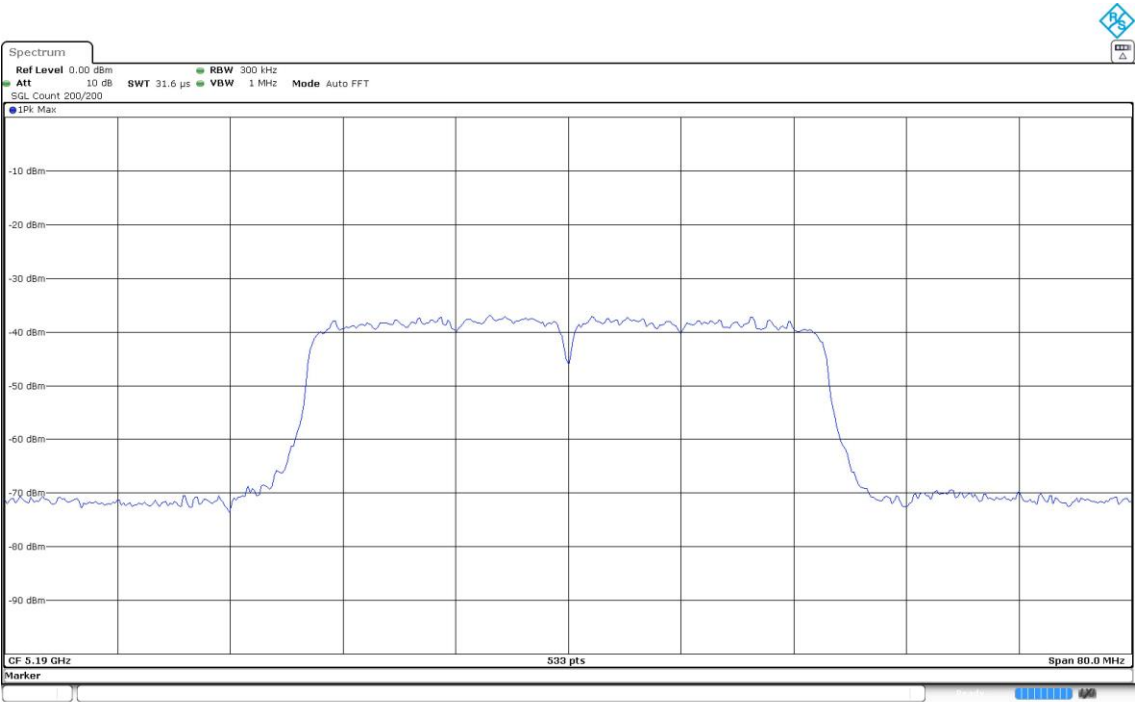
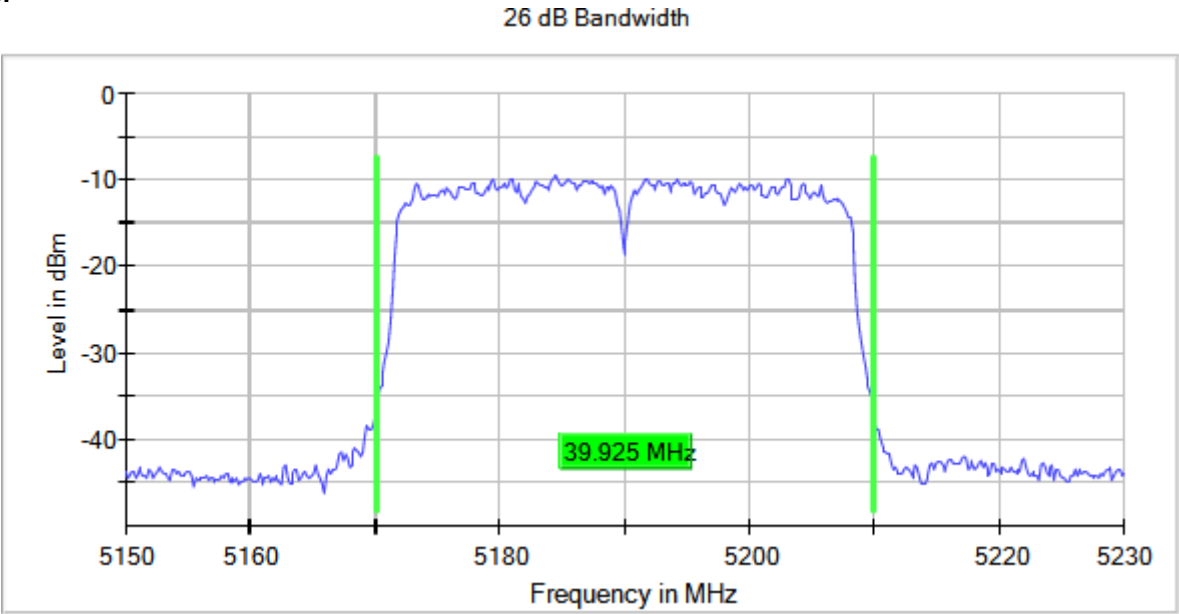
Verdict

Pass

Attachments

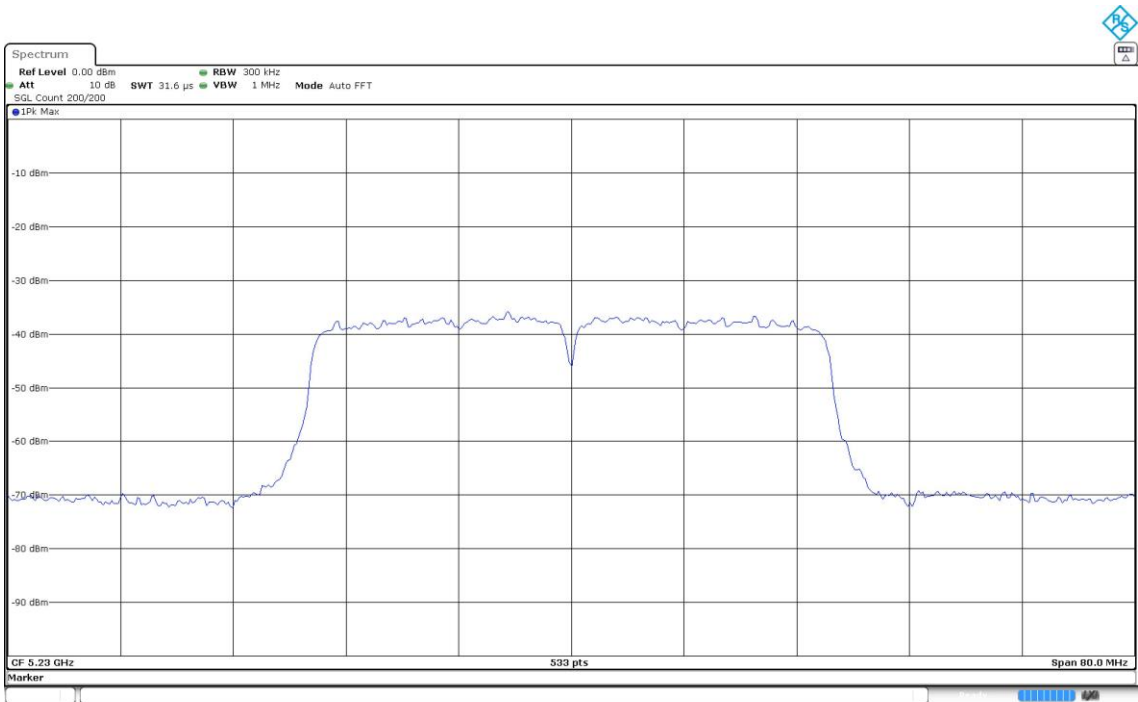
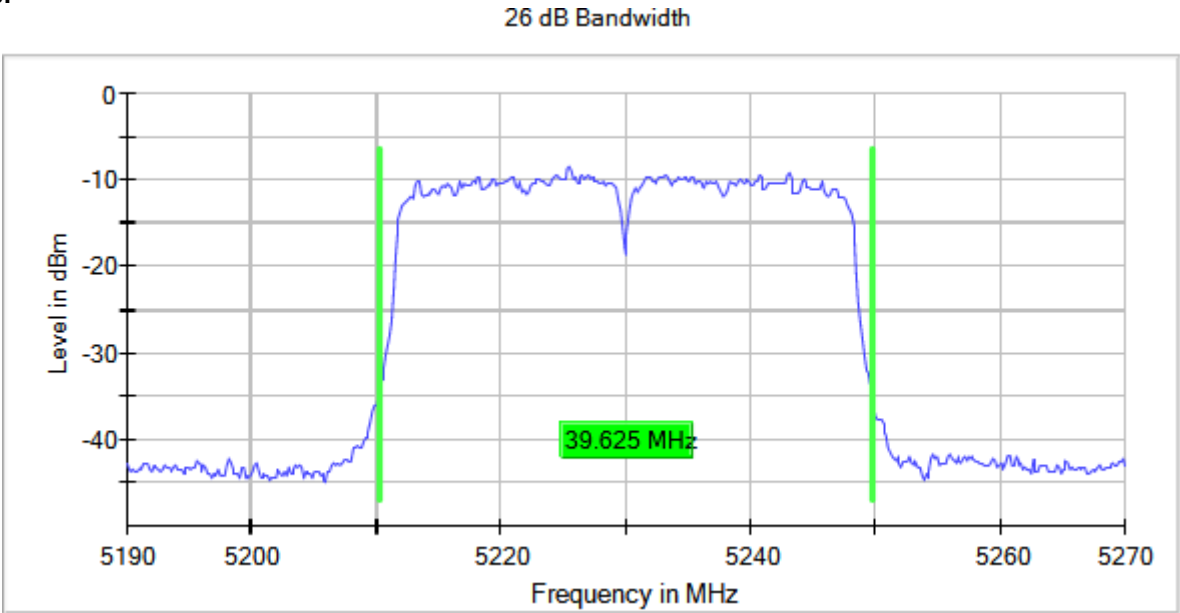
Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5190.00000 Modulation = 802.11ac VHT40 (OFDM MCS0)

Images:



Operation Band MHz = [5150, 5250] Active Port = 3+4
Frequency MHz = 5230.00000 Modulation = 802.11ac VHT40 (OFDM MCS0)

Images:



Modulation: 802.11ac VHT80 (OFDM MCS0)

Results

Operation Band (MHz)	Port	Freq (MHz)	Ebw (MHz)
[5150, 5250]	3+4	5210.00000	83.500

Verdict

Pass