

Index

Acronyms.....3

Competences and guarantees3

General Conditions3

Uncertainty4

Data provided by the client.....4

Usage of samples5

Test sample description5

Identification of the client.....7

Testing period and place.....7

Document history7

Environmental conditions7

Remarks and comments8

Testing verdicts.....9

Summary10

Appendix A: Test results of Common requirements for all Bands.....11

Appendix B: Tests results for the U-NII-1: 5.15 GHz – 5.25 GHz Band86

Appendix C: Tests results for the U-NII-3: 5.725 GHz – 5.85 GHz Band146

Acronyms

Acronym ID	Acronym Description
# of Tx Chains	Number of Transmission Chains
Detector	Detector used
Equipment	Equipment Type
Freq	Frequency
Freq Rng	Frequency Range
MP	Measurement Point
Mod	Modulation
Pol	Polarization
Port	Active Port
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 is an FCC-recognized accredited testing laboratory with appropriate scope of accreditation that covers the performed tests in this report.

DEKRA Testing and Certification S.A.U. is an ISED-recognized accredited testing laboratory, CABid: ES1909, Company Number: 4621A, with the appropriate scope of accreditation that covers the performed tests in this report.

In order to assure the traceability to other national and international laboratories, DEKRA Testing and Certification S.A.U. has a calibration and maintenance program for its measurement equipment.

DEKRA Testing and Certification S.A.U. guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and it is based on the knowledge and technical facilities available at DEKRA Testing and Certification S.A.U. at the time of performance of the test.

DEKRA Testing and Certification S.A.U. is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA Testing and Certification S.A.U.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Testing and Certification S.A.U. and the Accreditation Bodies.

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 26 GHz is:
Measurement uncertainty $\leq \pm 5,51$ dB with factor ($k = 2$).

The total uncertainty of the measurement system for the radiated emissions of EUT from 26 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.

Conducted Band-edge spurious emissions: Measurement uncertainty $\leq \pm 2,57$ dB

DFS Channel closing & Move time: Measurement uncertainty $\leq \pm 0,84$ ms

DFS Detection Threshold Level: Measurement uncertainty $\leq \pm 1,81$ dB

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 an ASOG device.

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 Reception	of Application
S/01	80539B_5.1	Mobile Network Equipment	ASOG 476254A	L124290545	2024-10-03	Element Under Test

Notes referenced to samples during the project:

Id	Type
S/01	Samples used for Conducted and radiated tests.

Test sample description

Ports..... :	Port name and description		Cable				
			Specified max length [m]	Attached during test	Shielded	Coupled to patient ⁽³⁾	
	LMP RJ45		100m	[X]	[X]	[]	
	-48V PSU Connector		-	[X]	[X]	[]	
	EIF1-2 SFP		optical	[]	[X]	[]	
	EIF3 RJ45		100m	[]	[X]	[]	
	SEI SFP		optical	[]	[X]	[]	
	RF1-15 SFP		optical	[]	[X]	[]	
	EAC 19-pin		-	[]	[X]	[]	
	SIN 19-pin		-	[]	[X]	[]	
SOUT 19-pin		-	[]	[X]	[]		
Supplementary information to the ports..... :							
Rated power supply:	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	[]	AC: -	[]	[]	[]	[]	[]
	[]	AC: -	[]	[]	[]	[]	[]

	☒	DC: -48V		
	☐	DC: -		
Rated Power	396.88 W			
Clock frequencies.....	-			
Other parameters	-			
Software version	MB_PS_REL_2024_07_0021			
Hardware version	ASOG A102			
Dimensions in cm (W x H x D)	440mm x 365mm x 43.5mm (1U)			
Mounting position	☒	Table top equipment		
	☒	Wall/Ceiling mounted equipment		
	☐	Floor standing equipment		
	☐	Hand-held equipment		
	☒	Other: Server rack, mobile tower		
Modules/parts.....	Module/parts of test item		Type	Manufacturer
				
Accessories (not part of the test item)	Description		Type	Manufacturer
				
Documents as provided by the applicant.....	Description		File name	Issue date
				

⁽³⁾ Only for Medical Equipment

Identification of the client

Nokia Solutions and Networks GmbH & Co. KG
Lise-Meitner-Straße 7/1-2, 89081 Ulm, Germany

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2024-10-22
Date (finish)	2024-10-31

Document history

Report number	Date	Description
80539RRF.005	2024-11-14	First release.
80539RRF.005A1	2024-11-22	Second release. Modification due to typos. This modification test report cancels and replaces the test report 80539RRF.005.
80539RRF.005A2	2025-01-17	Third release. Modification due to typos. This modification test report cancels and replaces the test report 80539RRF.005A1.

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: Valentin Andarias Diaz.

Used instrumentation:

Control No.	Equipment	Model	Manufacturer	Next Calibration
07445	DC POWER SUPPLY 30V/5A	U8002A	KEYSIGHT TECHNOLOGIES	N/A
07760	DIGITAL MULTIMETER	175	FLUKE	2024-11-08
07817	EMI TEST RECEIVER 2Hz-44GHz	ESW44	ROHDE AND SCHWARZ	2026-07-01
06615	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2025-04-04
06609	ETHERNET TEMPERATURE AND HUMIDITY LOGGER	HWg-STE	HW GROUP	2025-04-22
04953	HIGH PASS FILTER 1.1-8GHz	WHK10-990-1100-8000-40SS	WAINWRIGHT INSTRUMENTS	2025-02-14
09029	HIGH PASS FILTER 17-40 GHZ	STHP-17-40G-92	TEMSTRON/TEM WELL	2025-03-29
08770	HIGH PASS FILTER 3-18 GHZ	ST-3GA2833-HS	TEMSTRON/TEM WELL	2025-08-02
06496	HORN ANTENNA 1-18GHz	BBHA 9120 D	SCHWARZBECK	2026-12-01
04657	HORN ANTENNA 18-40GHz	BBHA 9170	SCHWARZBECK	2026-06-12
06143	HYBRID BILOG ANTENNA 30MHz-6GHz	3142E	ETS LINDGREN	2027-01-22
07656	LOW PASS FILTER TEMSTRON/TEMWELL DC - 1 GHZ	ST-1GA3250-LS	TEMSTRON/TEM WELL	2025-02-02
07193	MULTI-DEVICE CONTROLLER	CO3000	INNCO	N/A
08848	OPEN SWITCH UNIT UP TO 7.5 GHz	OSP-B157W8 PLUS	ROHDE & SCHWARZ	2024-12-21
00922	POWER SUPPLY DC 40 V / 40 A	Type 4231	BRÜEL & KJÆR	2027-10-02
08856	PRE-AMPLIFIER G>30dB 18-40GHz	BLMA 1840-4A	BONN ELEKTRONIK	2025-02-27
03783	PRE-AMPLIFIER G>30dB 1GHz-18GHz	BLMA 0118-3A	BONN ELEKTRONIK	2025-03-15
06142	PRE-AMPLIFIER G>38dB 30MHz-6GHz	BLNA 0360-01N	BONN ELEKTRONIK	2025-07-25
06144	PRE-AMPLIFIER G>40dB 10MHz-6GHz	BLNA 0160-01N	BONN ELEKTRONIK	2025-07-22
06791	SEMIANECHOIC ABSORBER LINED CHAMBER IV	FACT 3 200 STP	ETS LINDGREN	N/A
06793	SHIELDED ROOM	S101	ETS LINDGREN	N/A

Control No.	Equipment	Model	Manufacturer	Next Calibration
07794	SIGNAL AND SPECTRUM ANALYZER 10Hz-40GHz	FSV40	ROHDE AND SCHWARZ	2025-04-21
06668	SIGNAL AND SPECTRUM ANALYZER 10Hz-40GHz	FSV40	ROHDE AND SCHWARZ	2024-12-14
07791	SIGNAL GENERATOR 8kHz-6GHz	SMB100B	ROHDE AND SCHWARZ	2026-03-15
07793	SIGNAL GENERATOR 8kHz-6GHz	SMBV100B	ROHDE AND SCHWARZ	2026-03-11
04848	SOFTWARE FOR EMC/RF TESTING	EMC32	ROHDE AND SCHWARZ	N/A
06611	TEMPERATURE AND HUMIDITY PROBE	HWg-STE	HW GROUP	2025-04-04
08847	VECTOR SIGNAL GENERATOR 100kHz-7.5GHz	SMW200A	ROHDE AND SCHWARZ	2025-09-29
07795	WIRELESS CONNECTIVITY TESTER BW 160 MHz	CMW270	ROHDE AND SCHWARZ	2025-03-13
07798	WMS32	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 PARAGRAPH / RSS-247		
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		

B. U-NII-1: 5.15 GHz – 5.25 GHz Band:

FCC PART 15 PARAGRAPH / RSS-247		
Requirement – Test case	Verdict	Remark
FCC 15.407 (a)(1)(iv) Transmitter Maximum Conducted Output Power	P	
RSS-247 6.2.1.1 Transmitter Maximum Equivalent Isotropically Radiated Power EIRP	P	
FCC 15.407 (a)(1)(iv) Transmitter Maximum Power Spectral Density	P	
RSS-247 6.2.1.1 Transmitter EIRP Spectral Density	P	
FCC 15.407 (b)(1)(6) / RSS-247 6.2.1.2 Transmitter Out of Band Radiated Emissions	P	
FCC 15.407 (b)(1) / RSS-247 6.2.1.2 Transmitter Band Edge Radiated Emissions	P	
<u>Supplementary information and remarks:</u> None.		

C. U-NII-3: 5.725 GHz – 5.85 GHz Band:

FCC PART 15		
Requirement – Test case	Verdict	Remark
FCC 15.407 (e) / RSS-247 Clause 6.2.4.1 6 dB Bandwidth.	P	
FCC 15.407 (a)(3) / RSS-247 6.2.4.1 Transmitter Maximum conducted Output Power	P	
FCC 15.407 (a)(3) / RSS-247 Clause 6.2.4.1 Transmitter Maximum Power Spectral Density	P	
FCC 15.407 (b) (4) / RSS-247 6.2.4.2 Transmitter Band Edge Radiated Emissions	P	
FCC 15.407 (b) (4) (6) / RSS-247 6.2.4.2 Transmitter Out of Band Radiated Emissions	P	
<u>Supplementary information and remarks:</u> None.		

Appendix A: Test results of Common requirements for all Bands

INDEX

INDEX.....12

TEST CONDITIONS.....13

Transmitter. 99% Occupied Bandwidth16

RSS-Gen 6.10. / Section 15.35 Subclause (c) [DC] Duty Cycle50

Transmitter. 26 dB Emission Bandwidth (EBW)52

TEST CONDITIONS

(*) Declared by the Client.

POWER SUPPLY (*):

Vnominal:	-48 V DC
Type of Power Supply:	DC power

ANTENNA (*):

Type of Antennas:	Rod Antenna
Maximum Declared Antenna Gain:	+2 dBi

U-NII-1 & U-NII-3:

TEST FREQUENCIES (*):

Technology Tested:	WLAN (IEEE 802.11 a20 / n2040 / ac204080)
	802.11a: 6, 9, 12, 18, 24, 36, 48 & 54 Mbps
	802.11n HT20: MCS0 to MCS23
	802.11n HT40: MCS0 to MCS23
Modes:	802.11ac VHT20: MCS0 to MCS9
	802.11ac VHT40: MCS0 to MCS9
	802.11ac VHT80: MCS0 to MCS9
Beamforming:	No.

Band U-NII-1:

Operating Channel Bandwidth:	20 MHz	Channels	Channel Frequency (MHz)
		Low (36)	5180
Transmission Channels:		Middle (40)	5200
		Middle (44)	5220
		High (48)	5240
Operating Channel Bandwidth:	40 MHz	Channels	Channel Frequency (MHz)
Transmission Channels:		Low (38)	5190
		High (46)	5230
Operating Channel Bandwidth:	80 MHz	Channels	Channel Frequency (MHz)
Transmission Channels:		Single (42)	5210

Band U-NII-3:

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		
		Channel	Channel Frequency (MHz)
Transmission Channels:		Low (151)	5755
		High (159)	5795
Operating Channel Bandwidth:	80 MHz		
Transmission Channels:		Single (155)	5775

POWER SETTING (*):

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 power setting table with the maximum level for each mode and band:

Mode	POWER CONFIGURED FOR TESTING					
	Ch.36	Ch.44	Ch.48	Ch.149	Ch.157	Ch.165
802.11a	14	14	14	16	16	16
802.11n-20	14	14	14	15,5	15,5	15,5
11ac-20	12	12	12	13,5	13,5	13,5
Mode	Ch.38	Ch.46	Ch.151	Ch.159		
11n-40	14	14	16	16		
11ac-40	12,5	12,5	13,5	13,5		
Mode	Ch.42	Ch.155				
11ac-80	12	18				

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 power setting according the table on 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.

CONDUCTED MEASUREMENTS:

The equipment under test was set up in a shielded room and connected to the TS8997 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. 99% Occupied Bandwidth

Limit

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).

Results

This test was performed on all the supported modes of the EUT, in the worst data rates after preliminary testing.

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

MIMO Mode: SISO

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5150, 5250]	1	5180.00000	18.000
		5220.00000	18.000
		5240.00000	18.000
[5725, 5850]		5745.00000	19.500
		5785.00000	19.500
		5825.00000	19.250

Verdict

Pass

Attachments

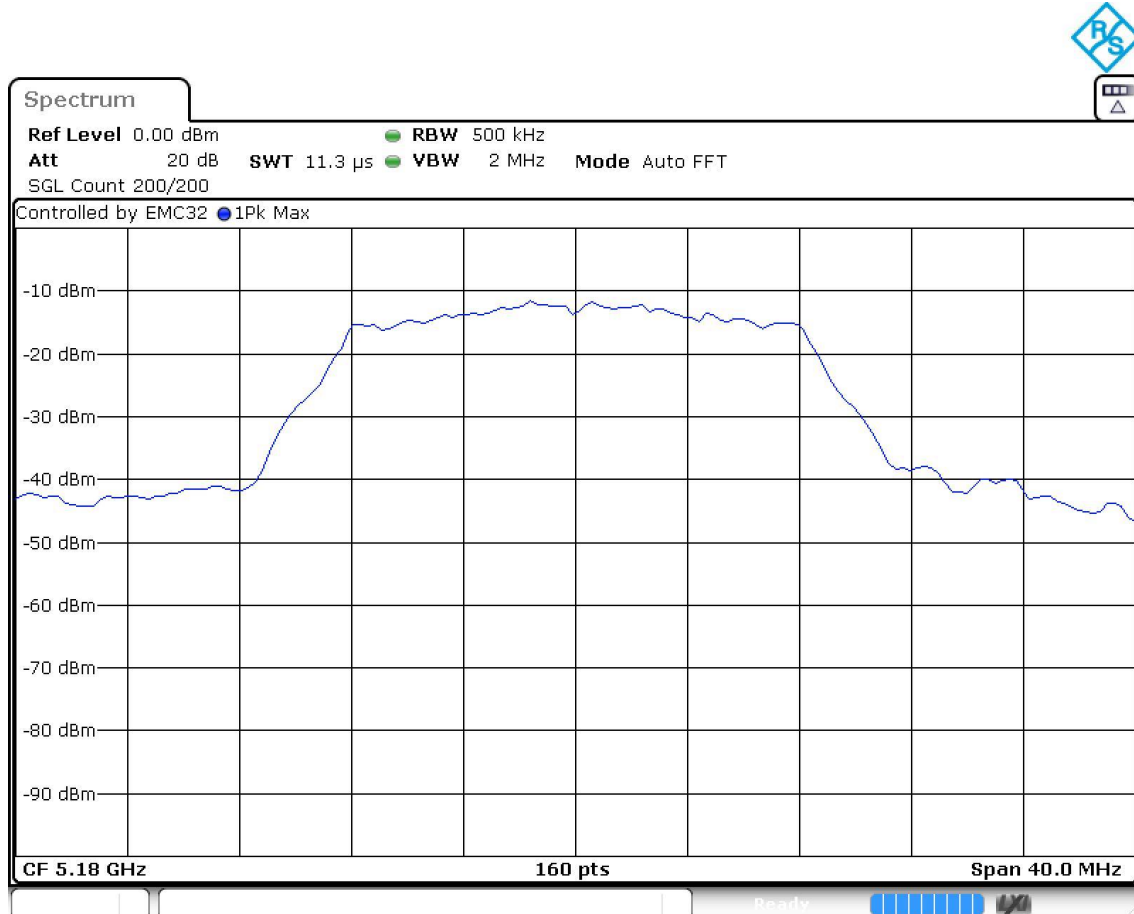
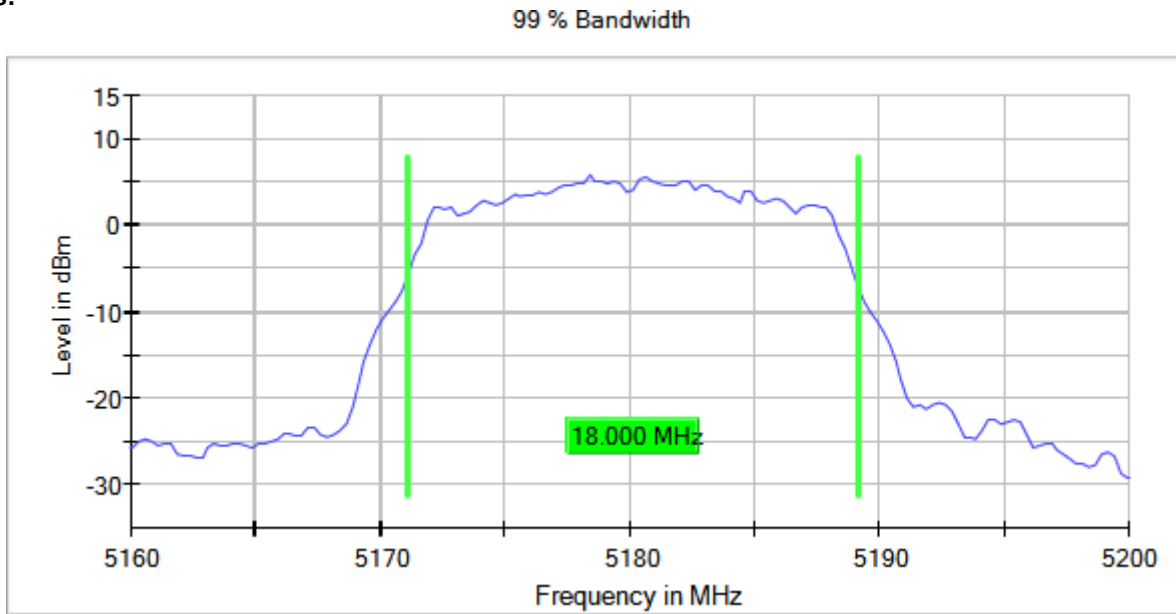
Operation Band MHz = [5150, 5250] Active Port = 1

Frequency MHz = 5180.00000

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

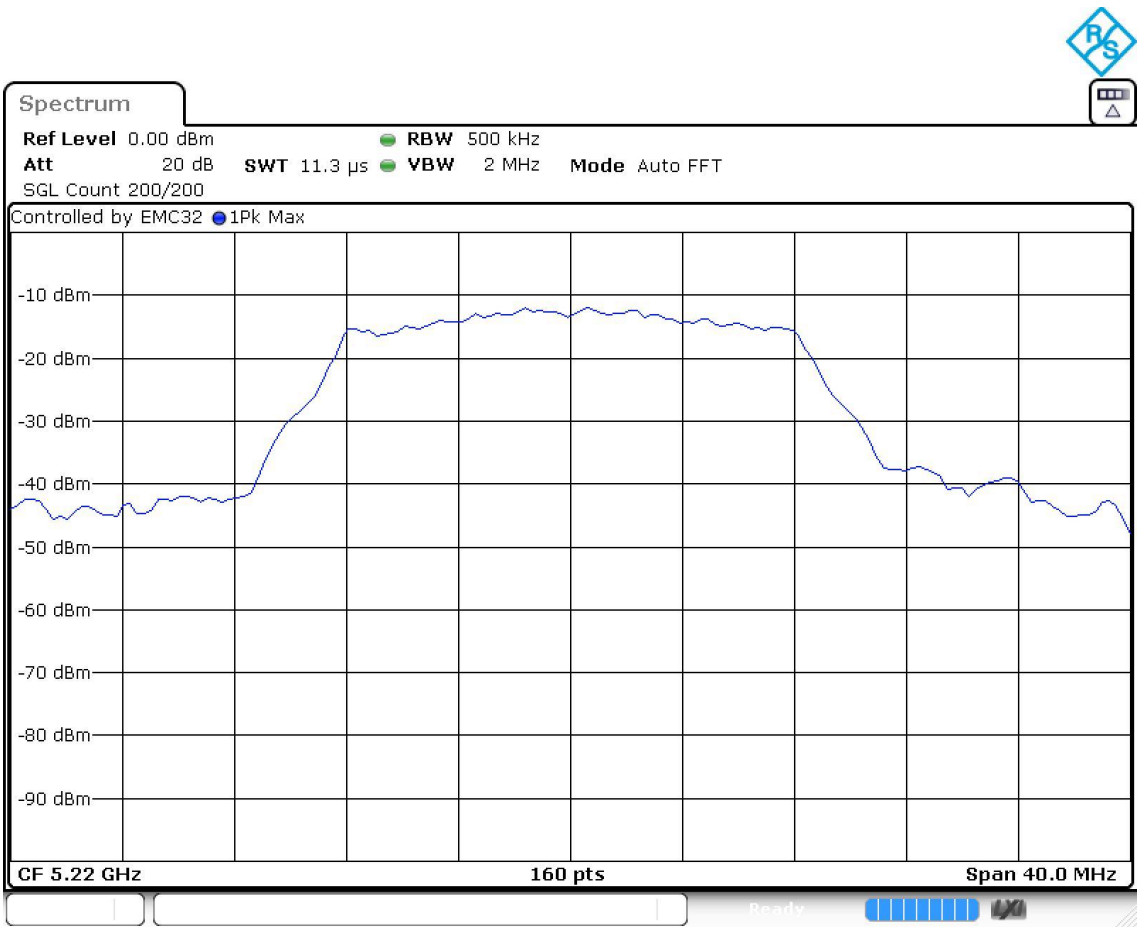
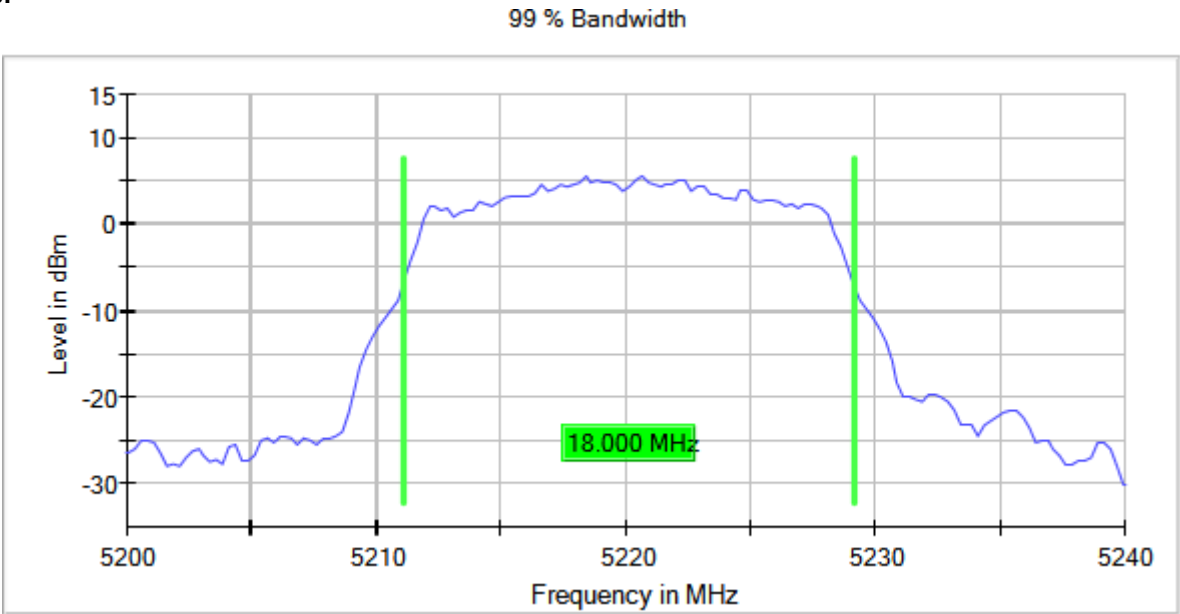
MIMO Mode = SISO

Images:



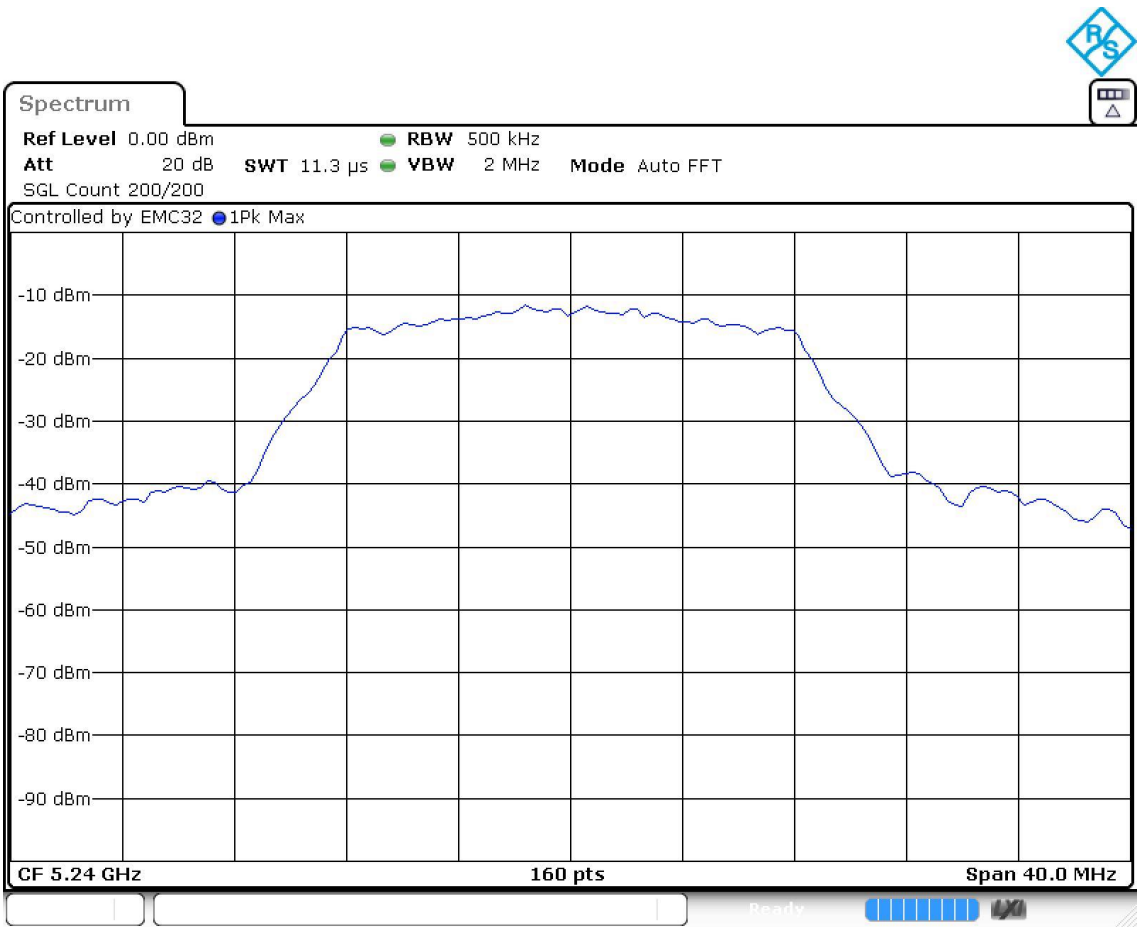
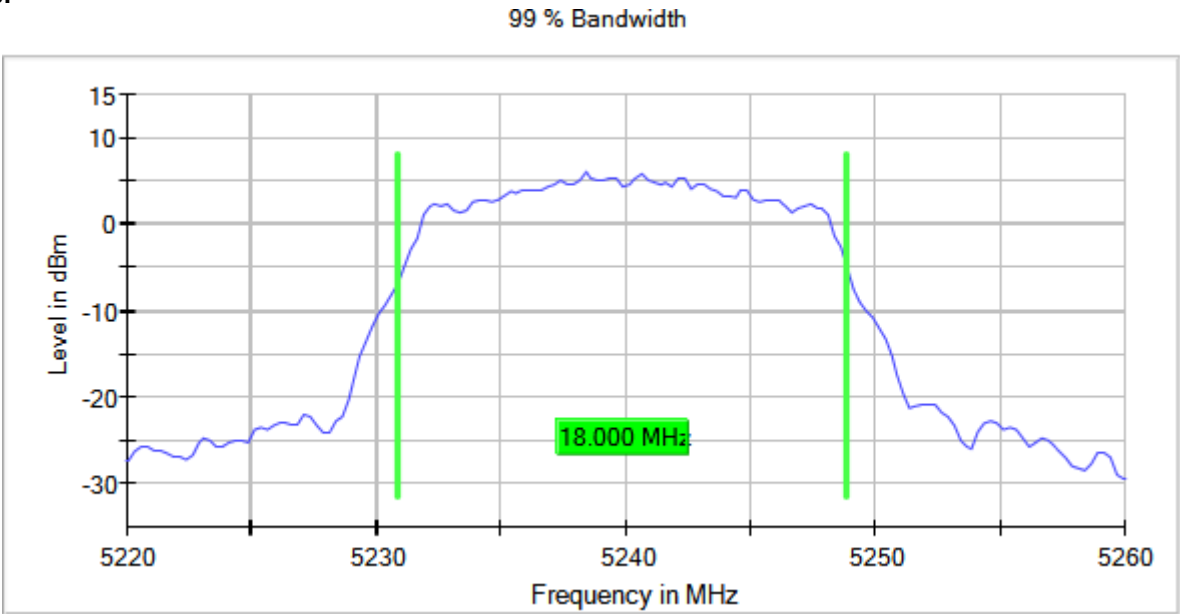
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5220.00000 Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)
MIMO Mode = SISO

Images:



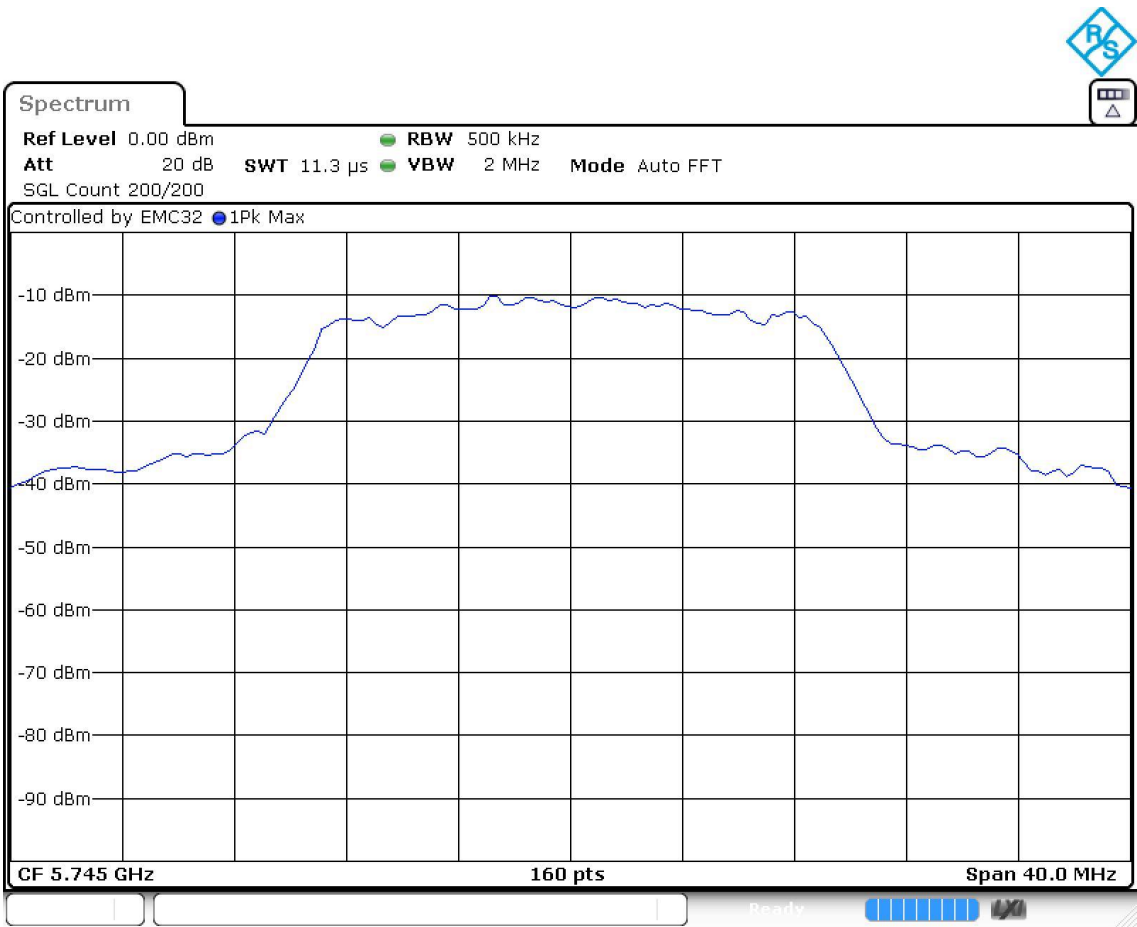
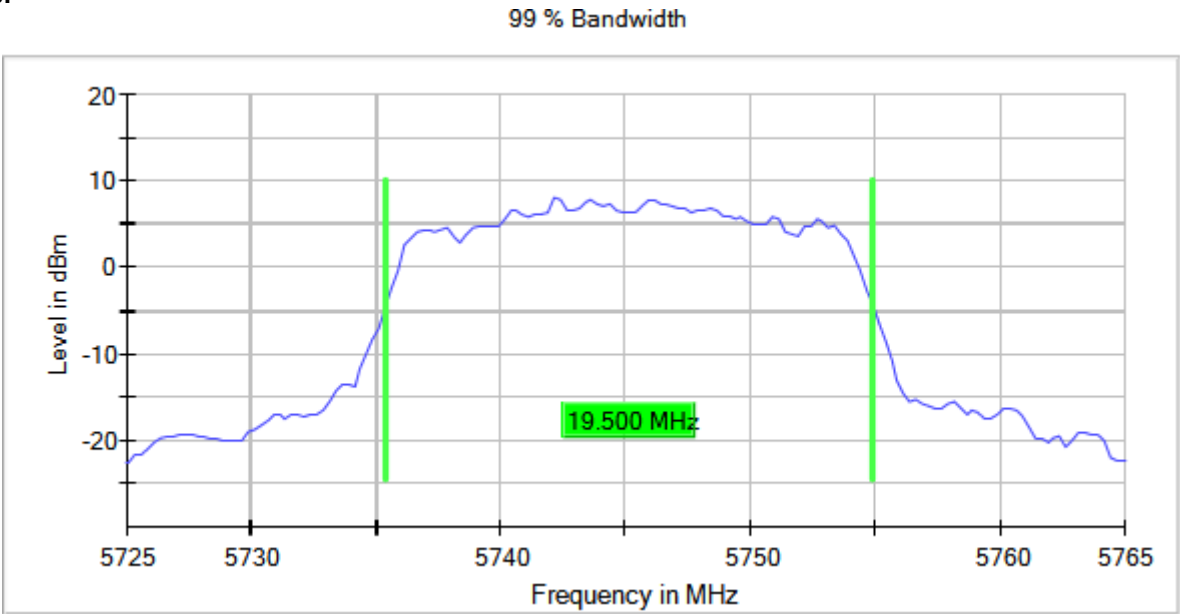
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5240.00000 Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)
MIMO Mode = SISO

Images:



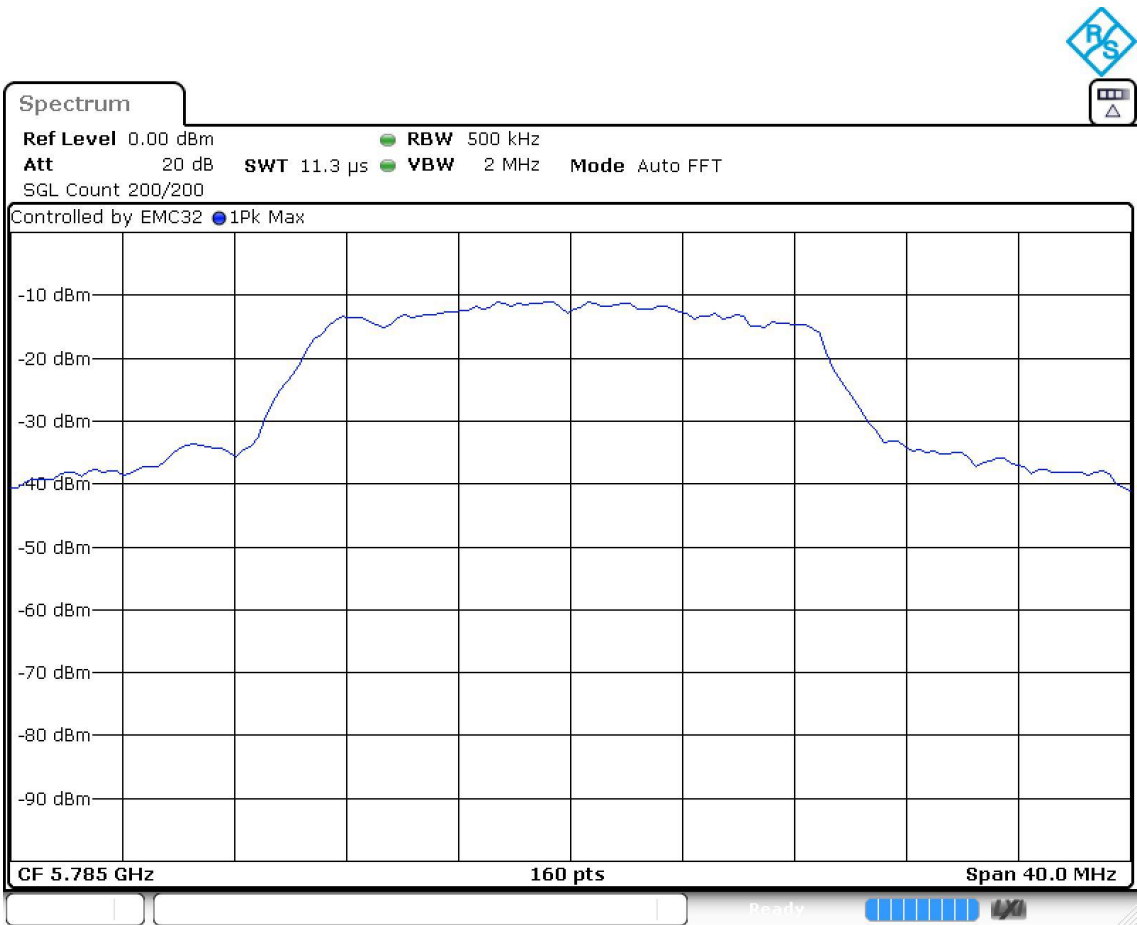
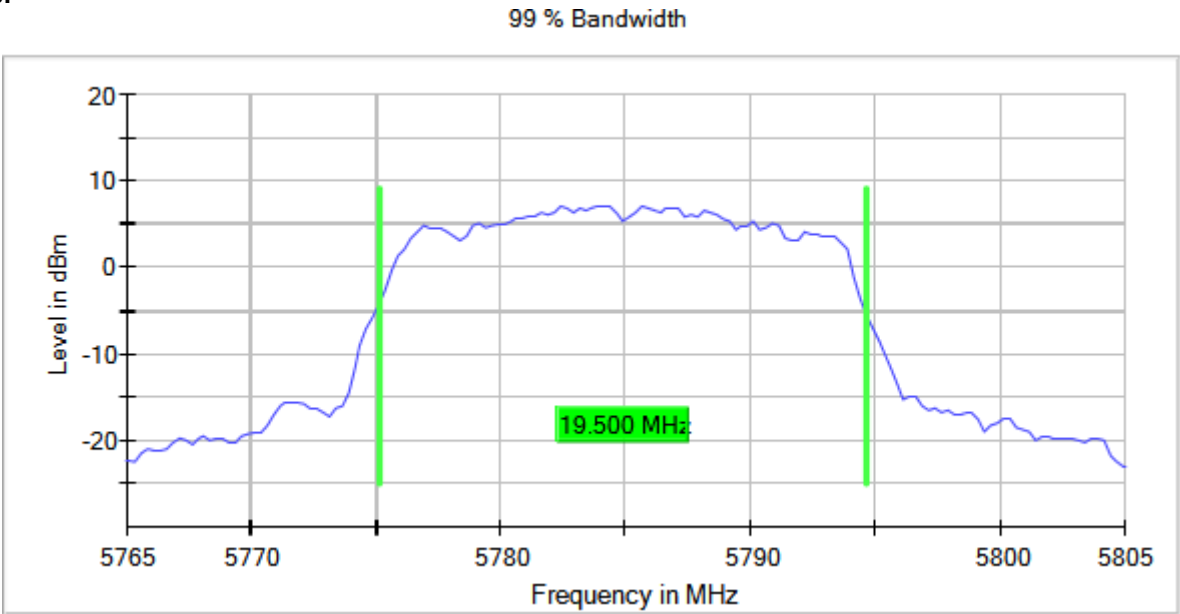
Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5745.00000 Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)
MIMO Mode = SISO

Images:



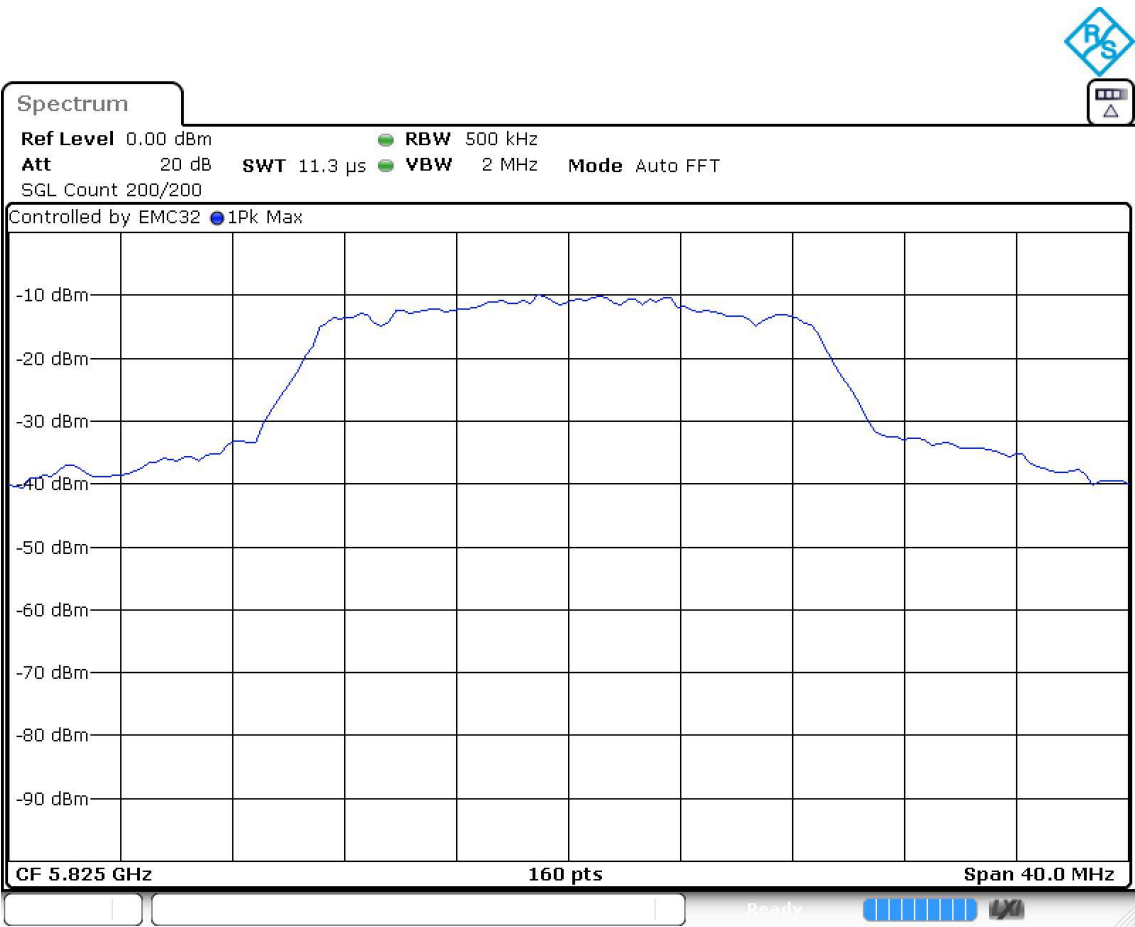
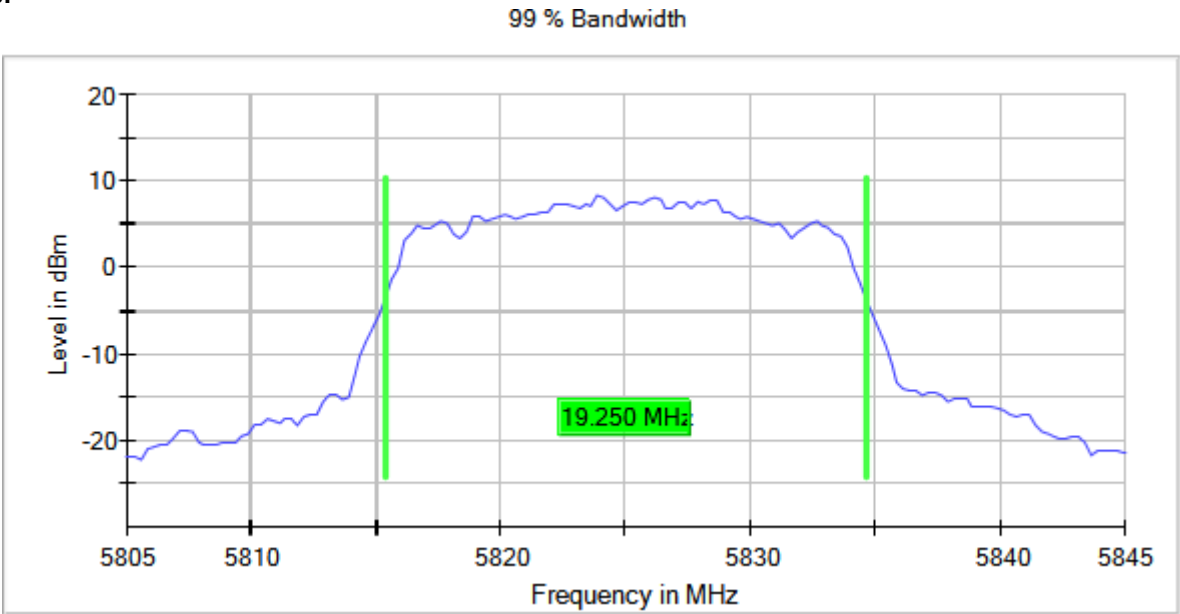
Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5785.00000 Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)
MIMO Mode = SISO

Images:



Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5825.00000 Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)
MIMO Mode = SISO

Images:



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

MIMO Mode: SISO

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5150, 5250]	1	5190.00000	37.500
		5230.00000	37.000
[5725, 5850]		5755.00000	37.500
		5795.00000	37.500

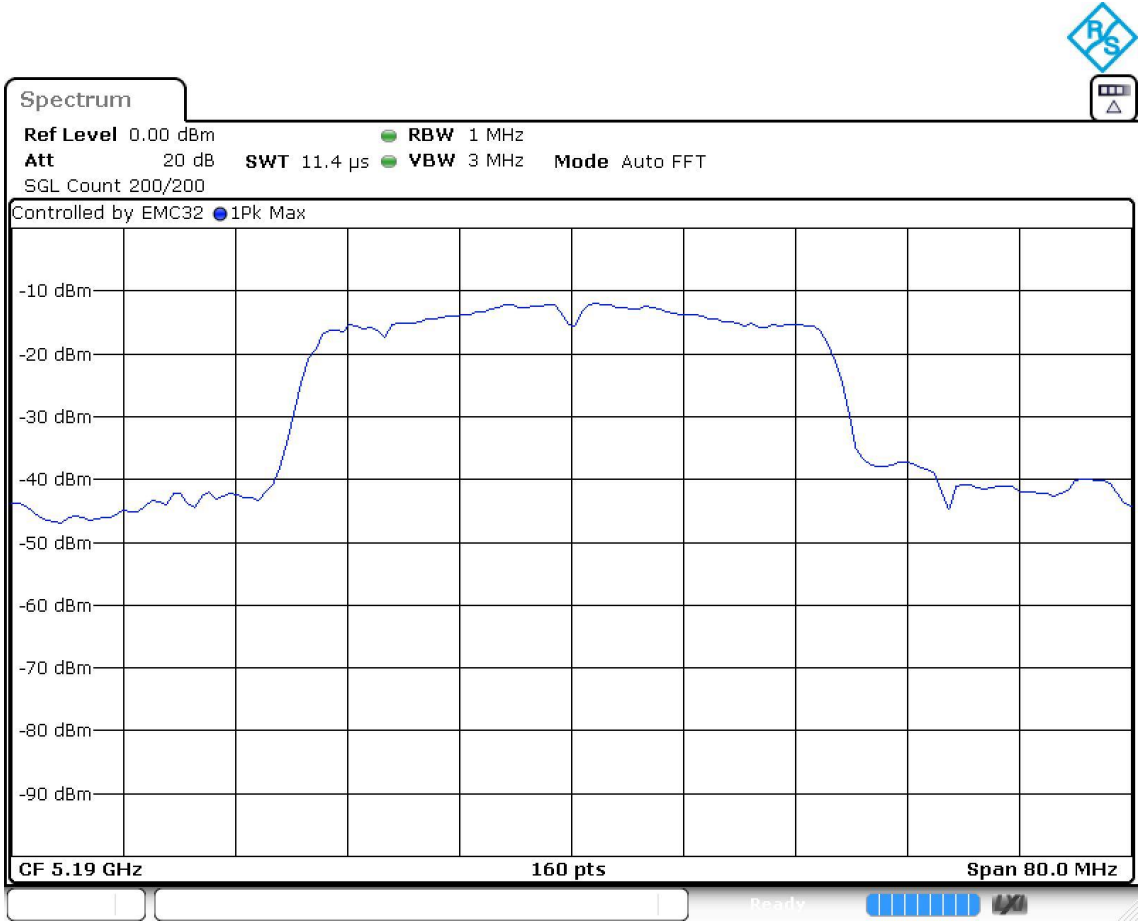
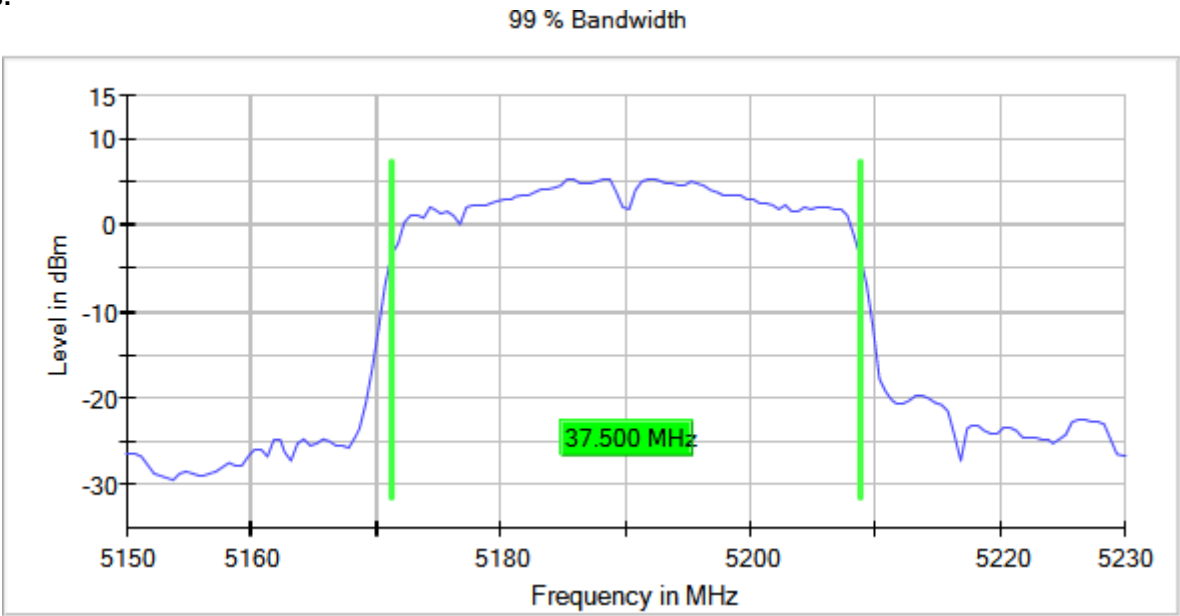
Verdict

Pass

Attachments

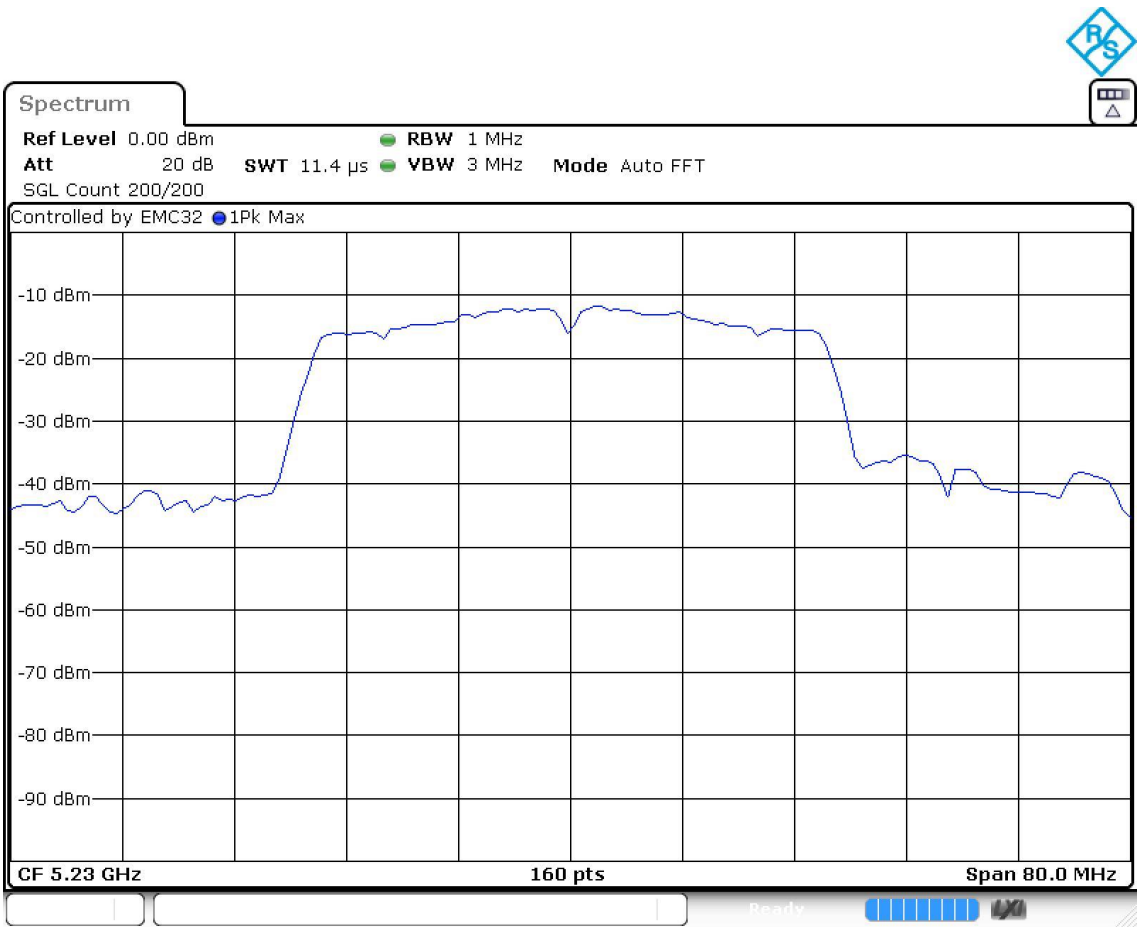
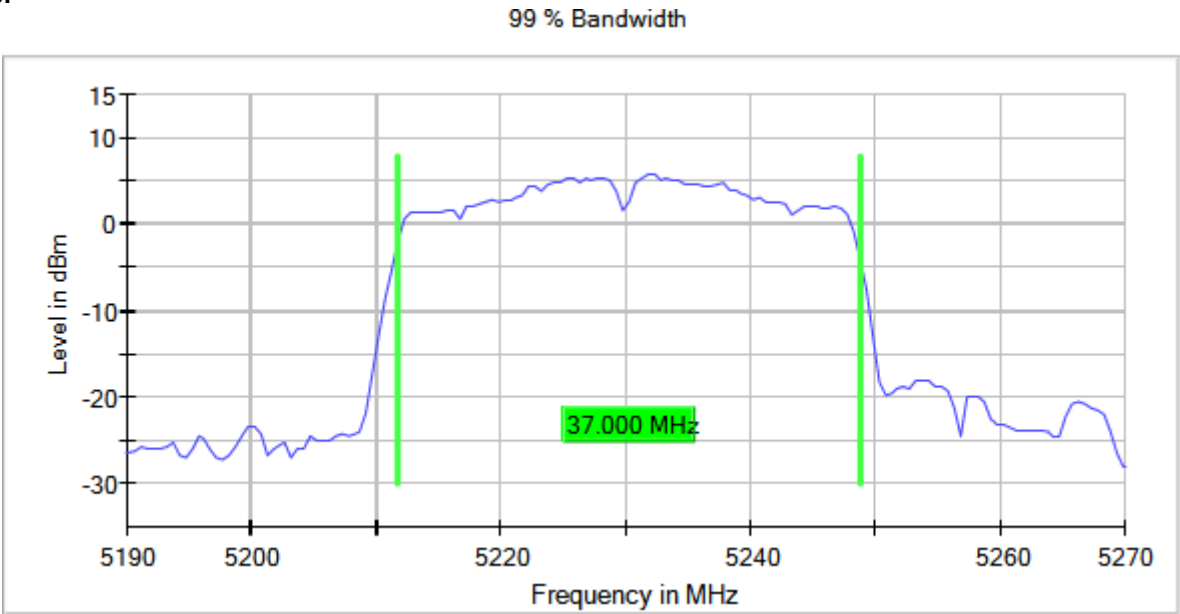
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5190.00000 Modulation = 802.11n HT40 (OFDM MCS0 13.5 Mbit/s)
MIMO Mode = SISO

Images:



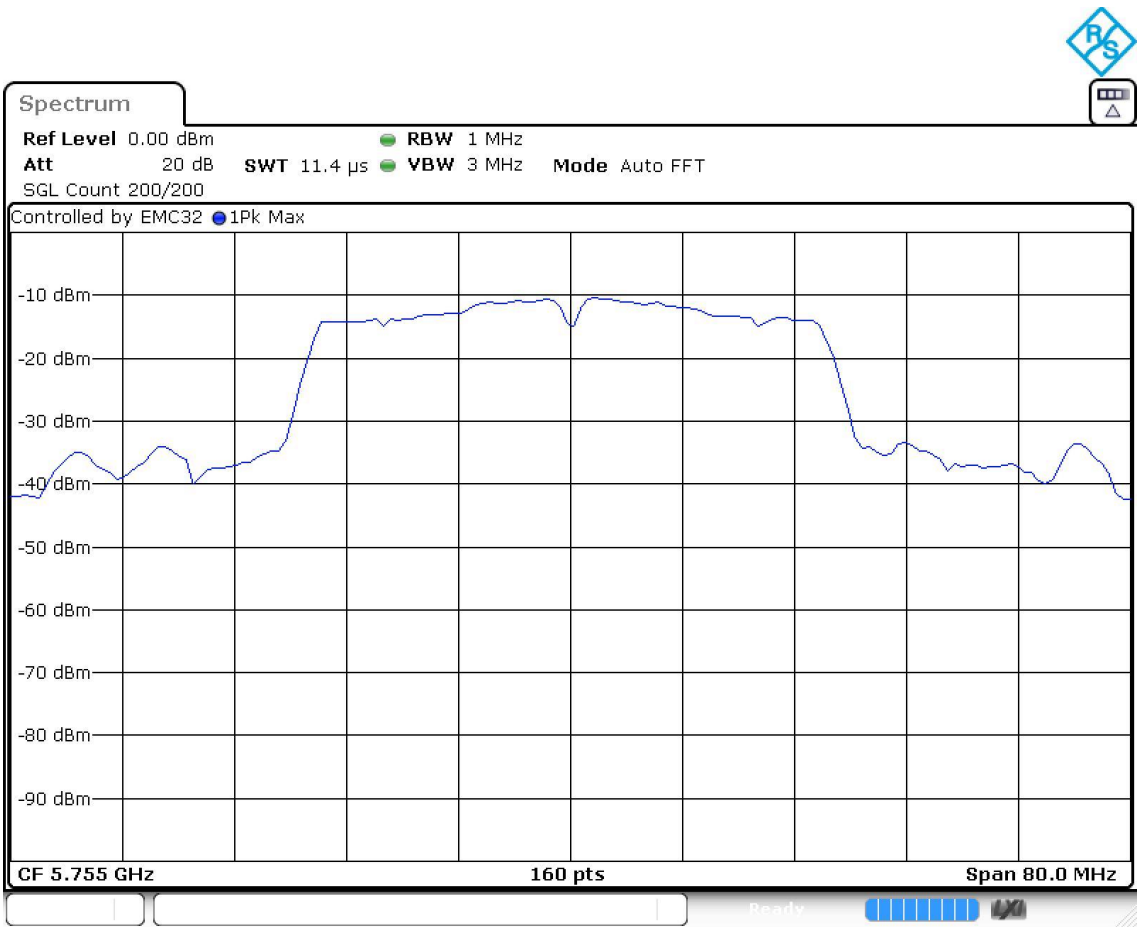
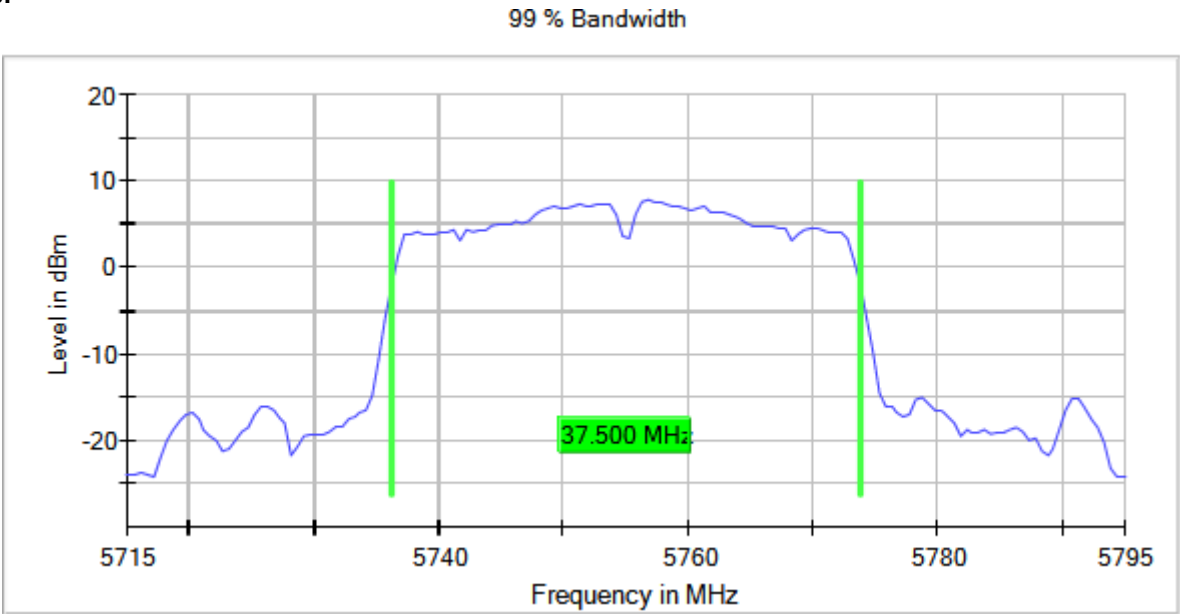
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5230.00000 Modulation = 802.11n HT40 (OFDM MCS0 13.5 Mbit/s)
MIMO Mode = SISO

Images:



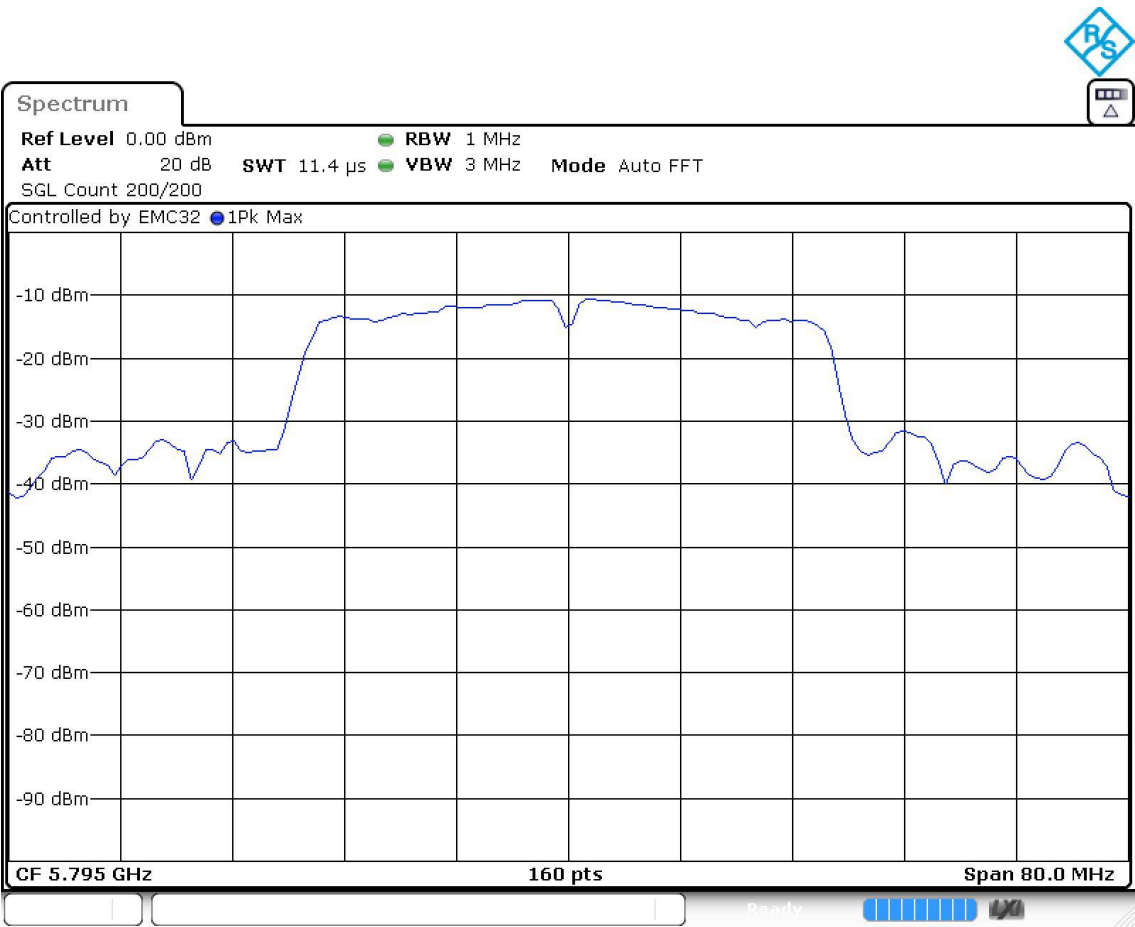
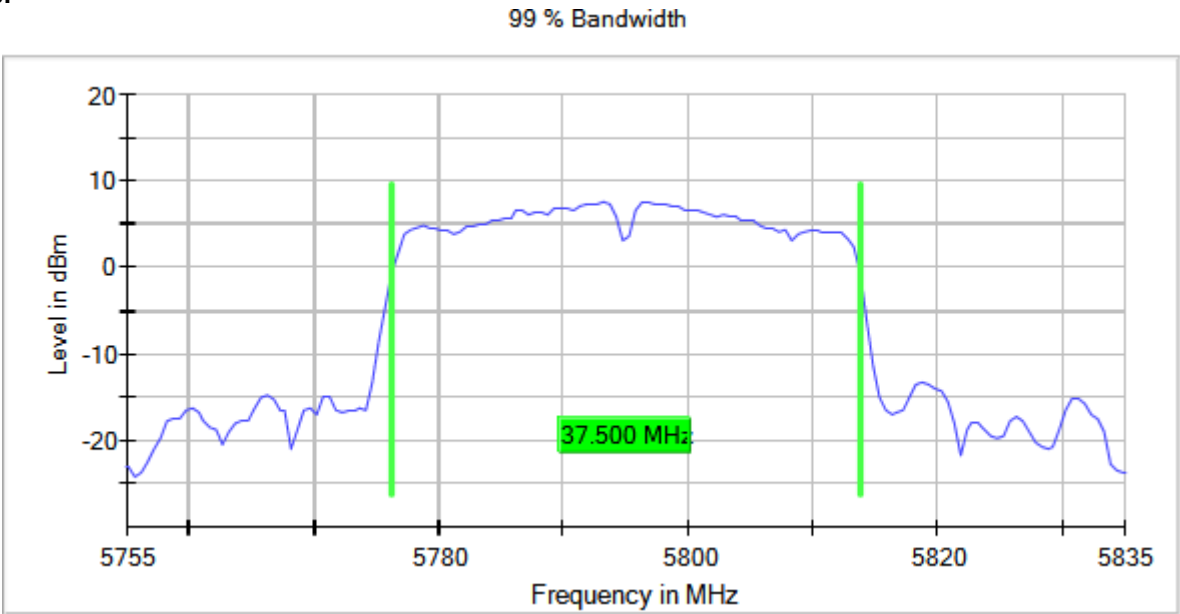
Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5755.00000 Modulation = 802.11n HT40 (OFDM MCS0 13.5 Mbit/s)
MIMO Mode = SISO

Images:



Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5795.00000 Modulation = 802.11n HT40 (OFDM MCS0 13.5 Mbit/s)
MIMO Mode = SISO

Images:



Modulation: 802.11a (OFDM 6 Mbit/s)

MIMO Mode: SISO

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5150, 5250]	1	5180.00000	17.750
		5220.00000	18.000
		5240.00000	17.750
[5725, 5850]		5745.00000	18.500
		5785.00000	18.500
		5825.00000	18.500

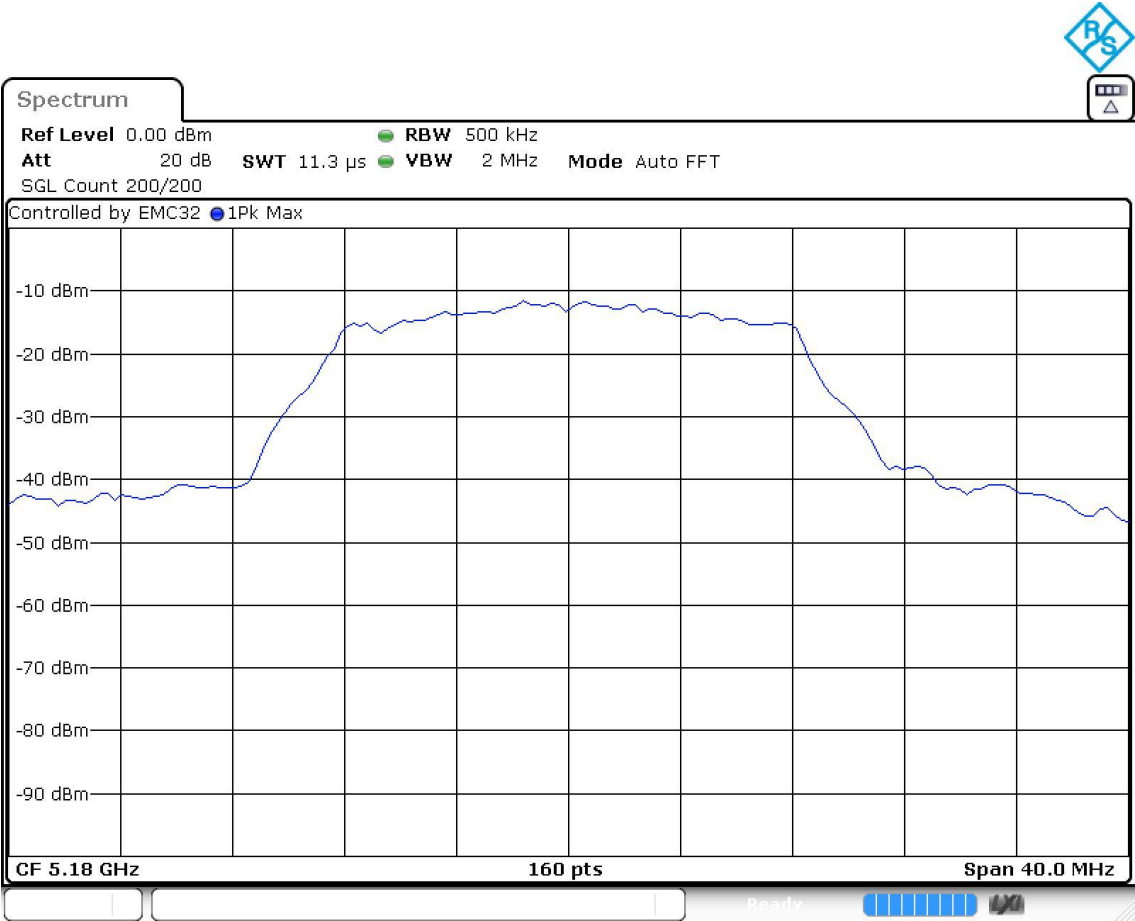
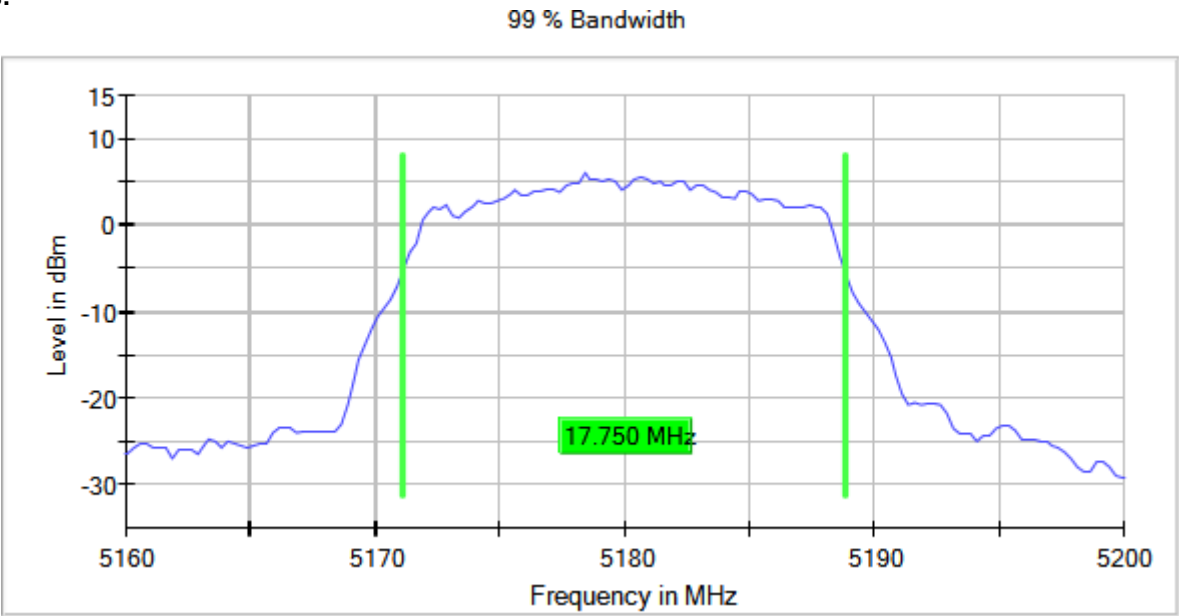
Verdict

Pass

Attachments

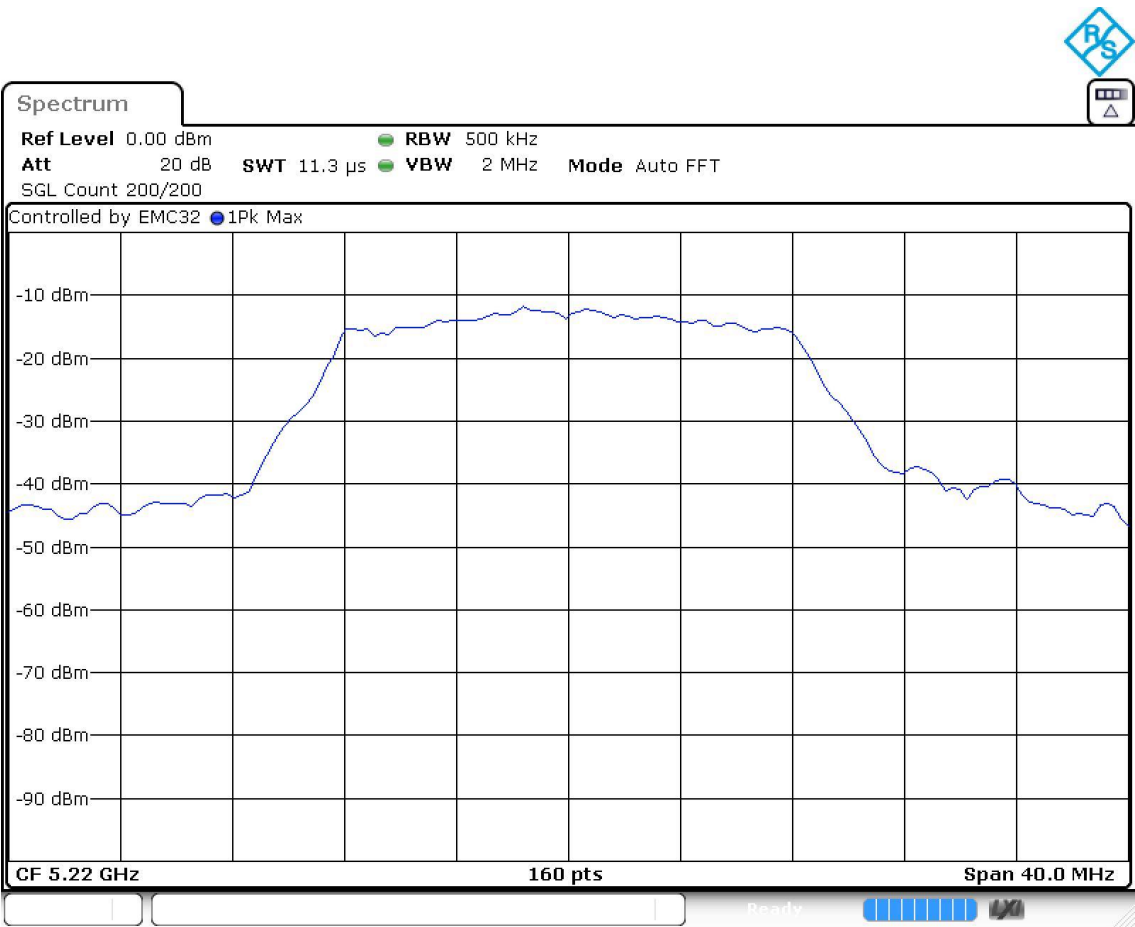
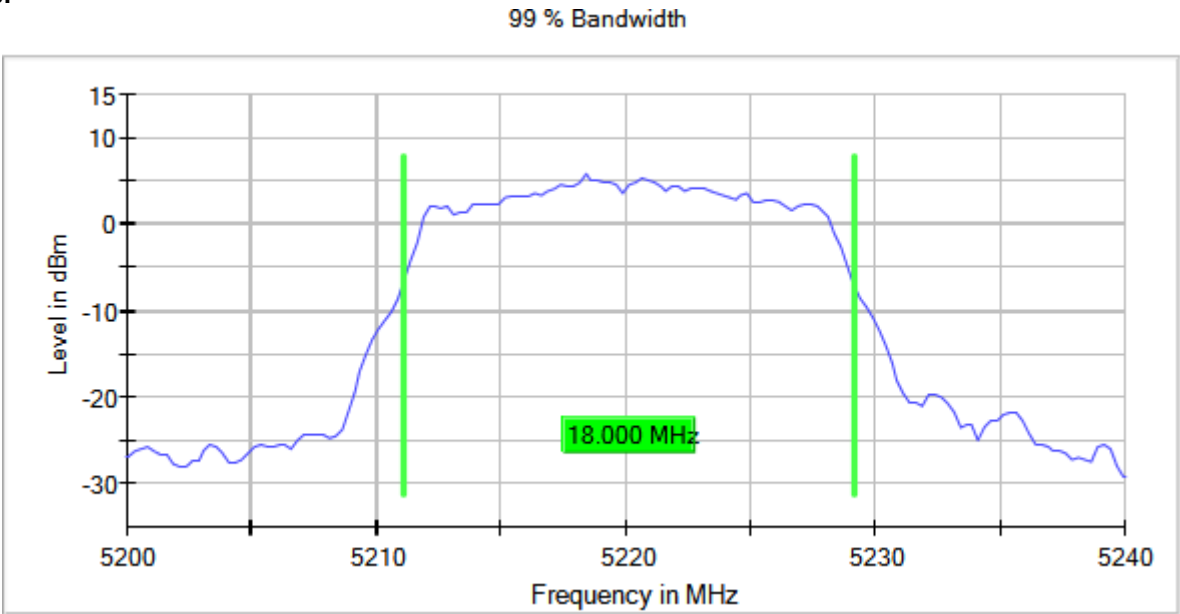
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5180.00000 Modulation = 802.11a (OFDM 6 Mbit/s)
MIMO Mode = SISO

Images:



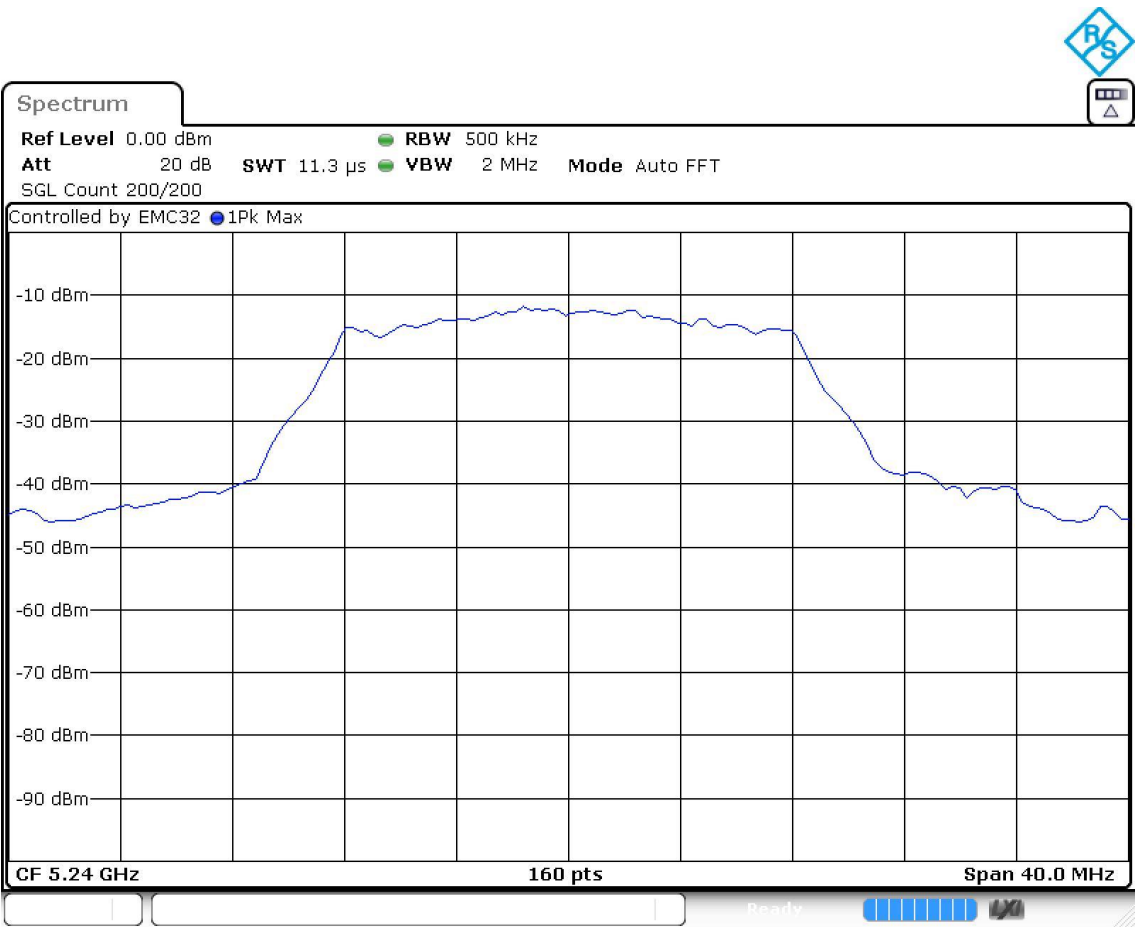
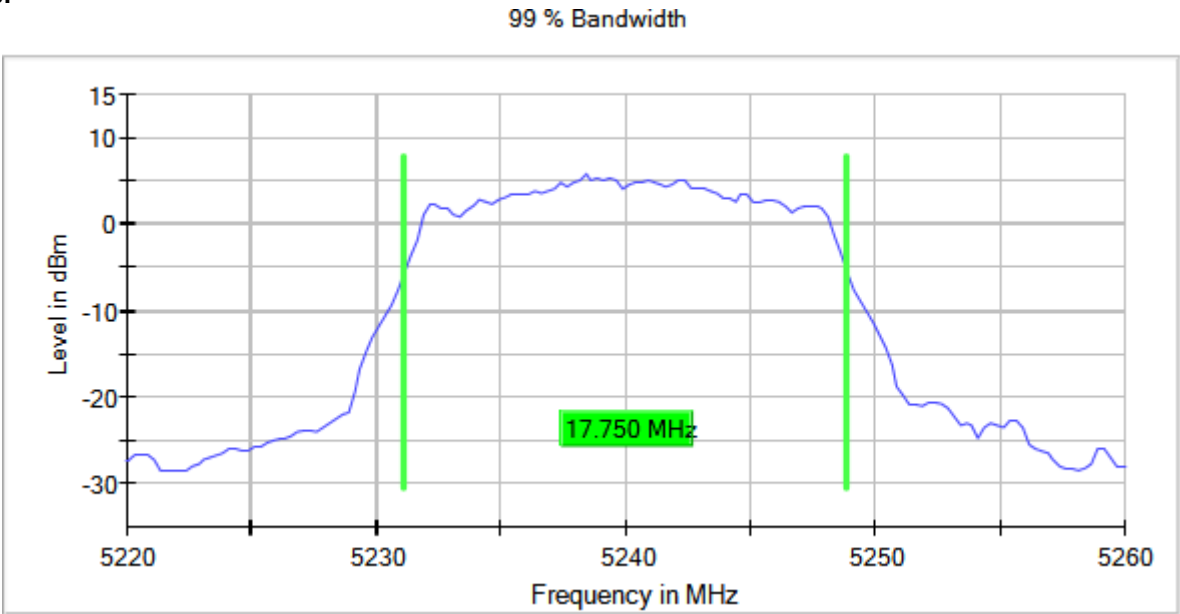
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5220.00000 Modulation = 802.11a (OFDM 6 Mbit/s)
MIMO Mode = SISO

Images:



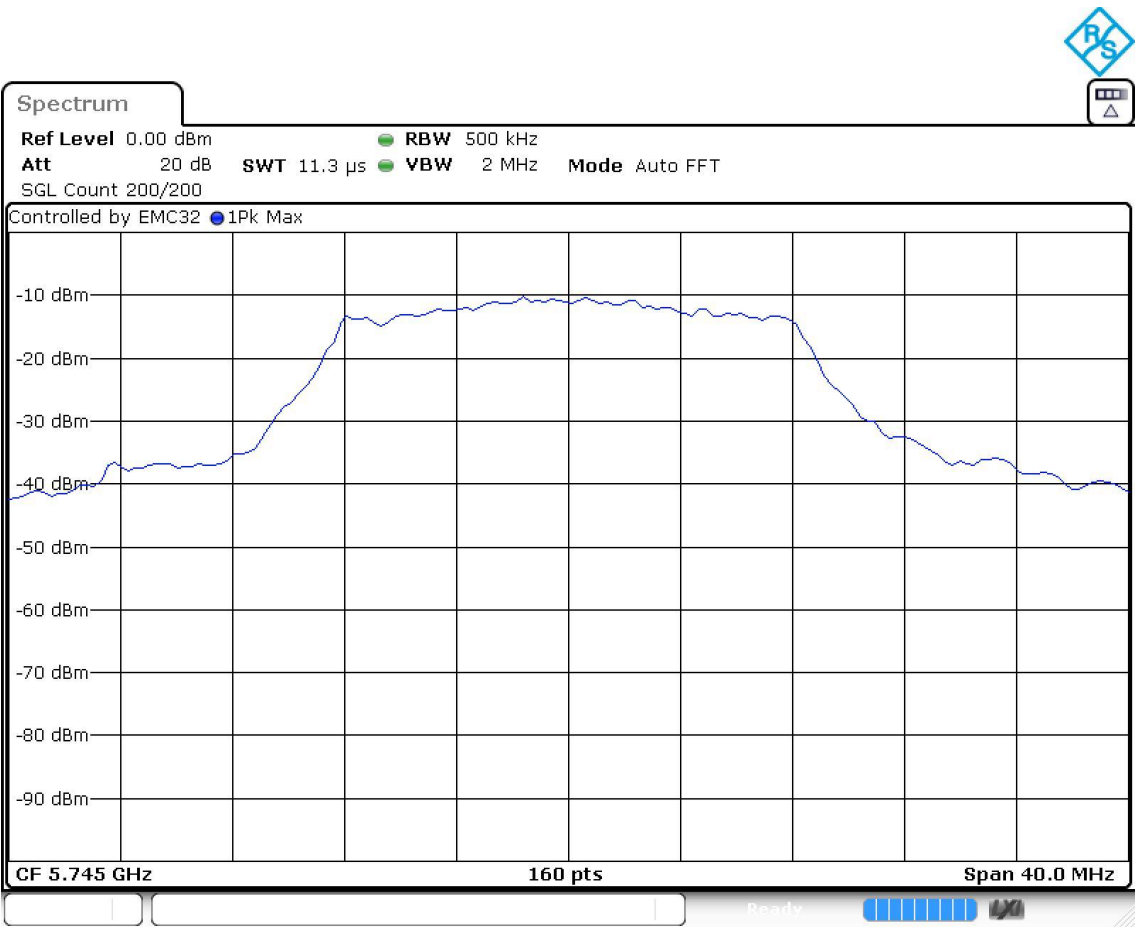
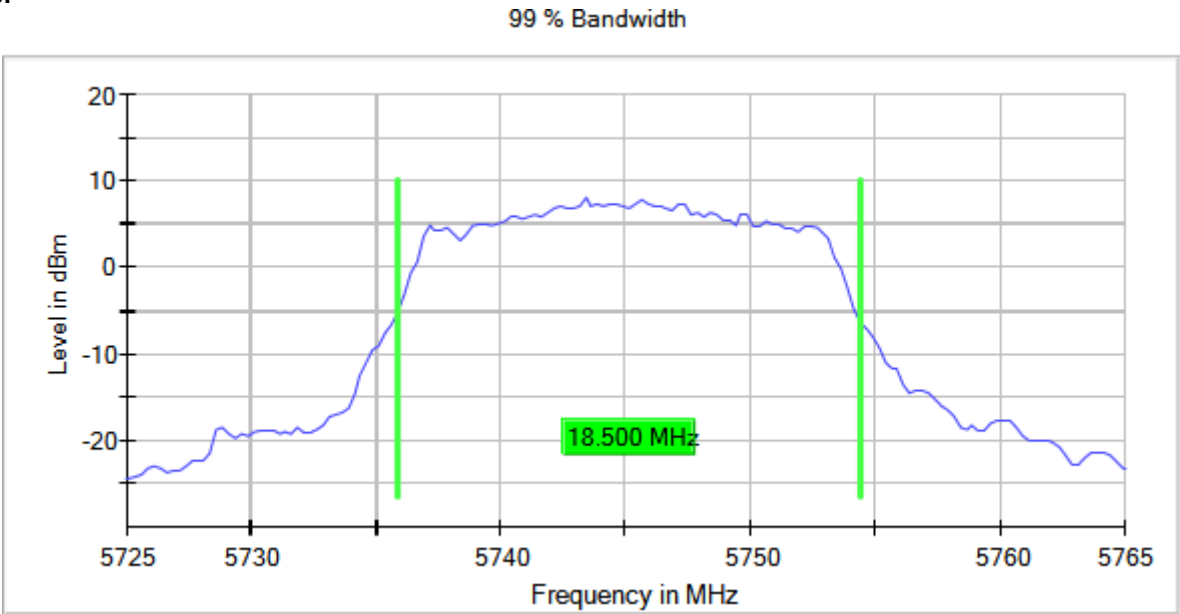
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5240.00000 Modulation = 802.11a (OFDM 6 Mbit/s)
MIMO Mode = SISO

Images:



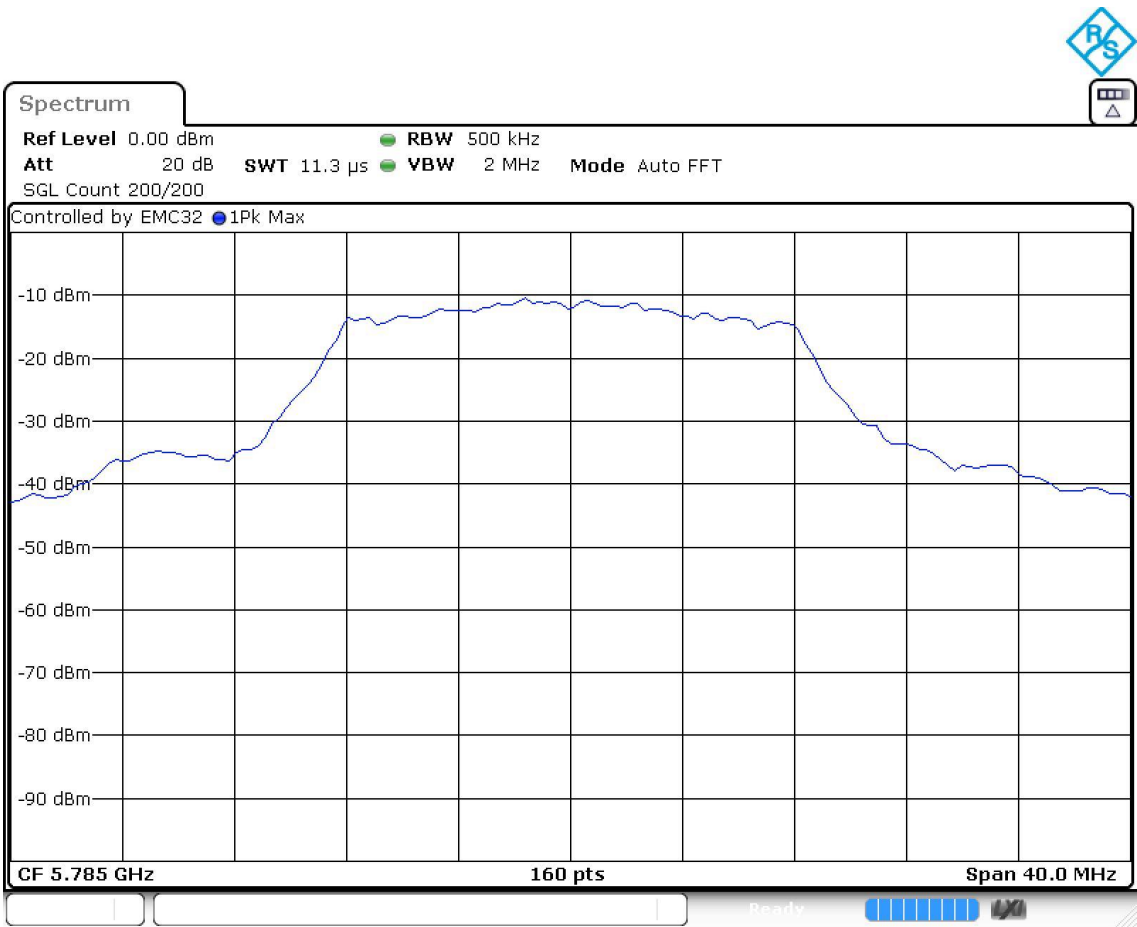
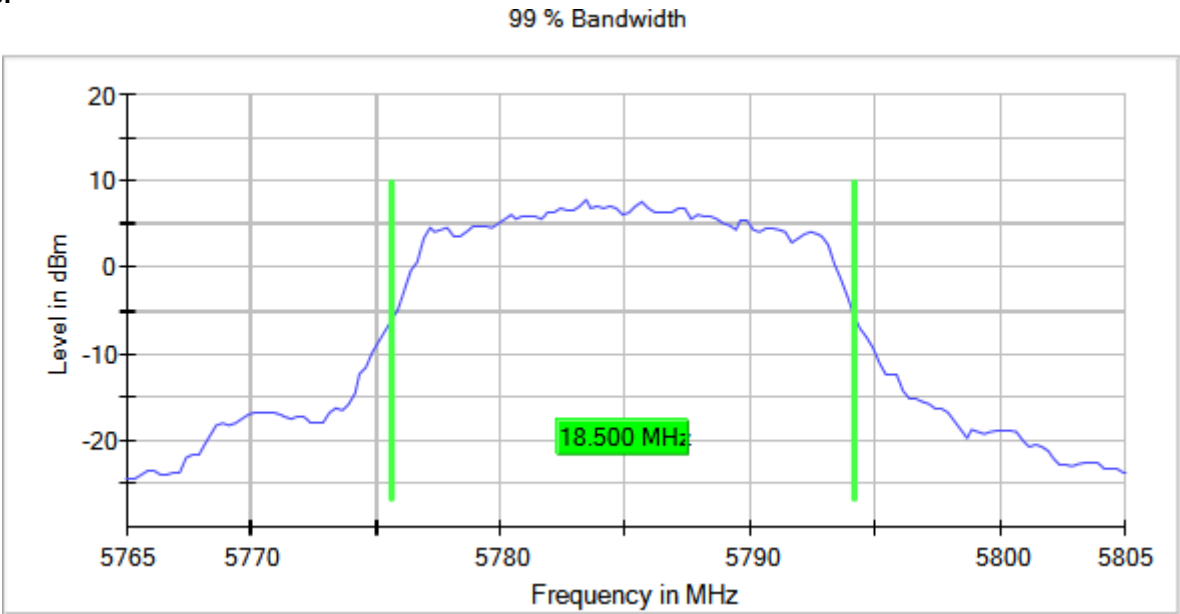
Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5745.00000 Modulation = 802.11a (OFDM 6 Mbit/s)
MIMO Mode = SISO

Images:



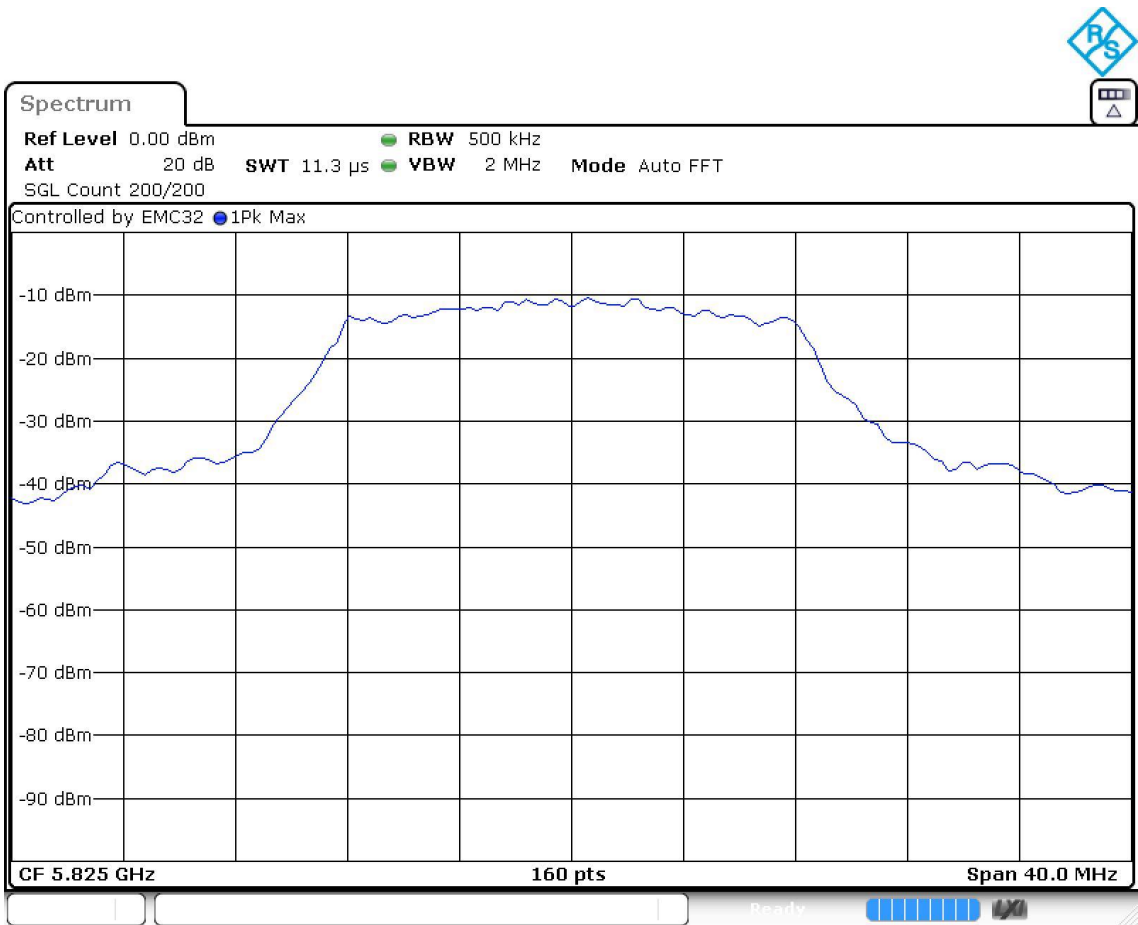
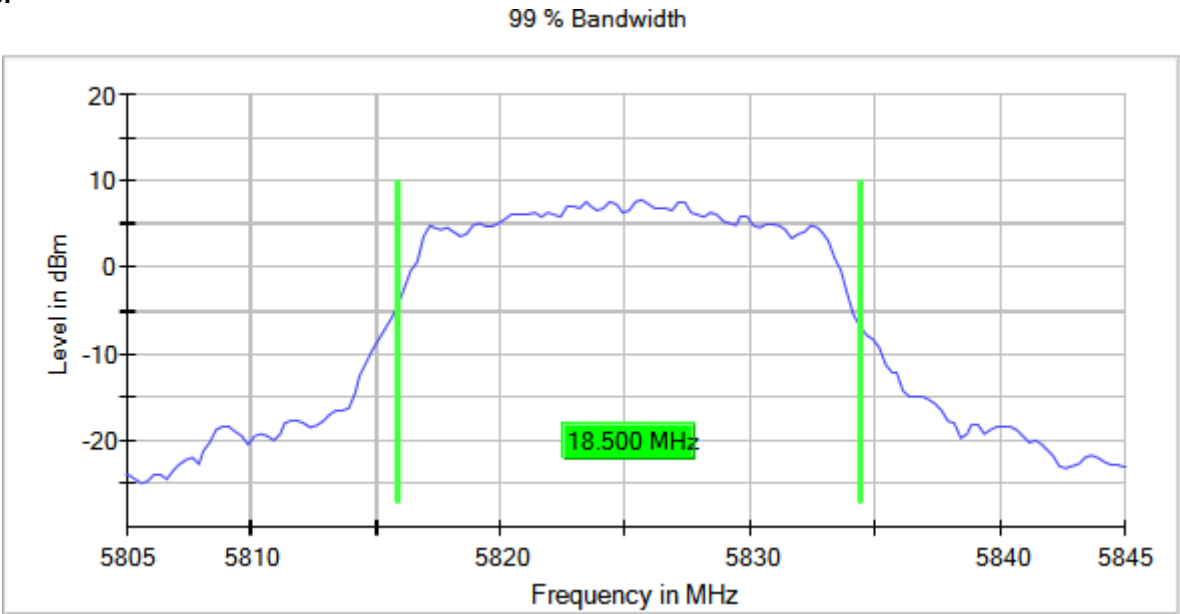
Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5785.00000 Modulation = 802.11a (OFDM 6 Mbit/s)
MIMO Mode = SISO

Images:



Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5825.00000 Modulation = 802.11a (OFDM 6 Mbit/s)
MIMO Mode = SISO

Images:



Modulation: 802.11ac VHT20 (OFDM MCS0)

MIMO Mode: SISO

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5150, 5250]	1	5180.00000	17.500
		5220.00000	17.500
		5240.00000	17.250
[5725, 5850]		5745.00000	19.000
		5785.00000	19.000
		5825.00000	18.750

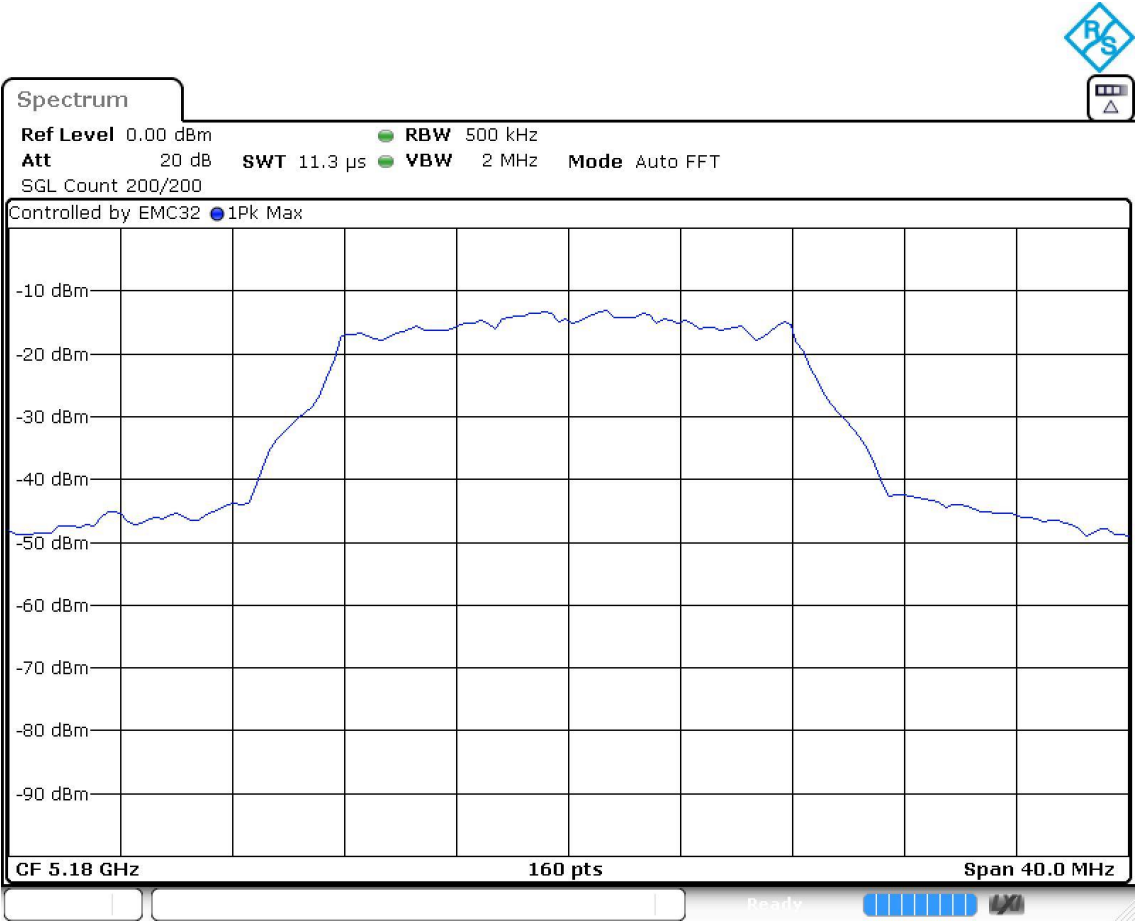
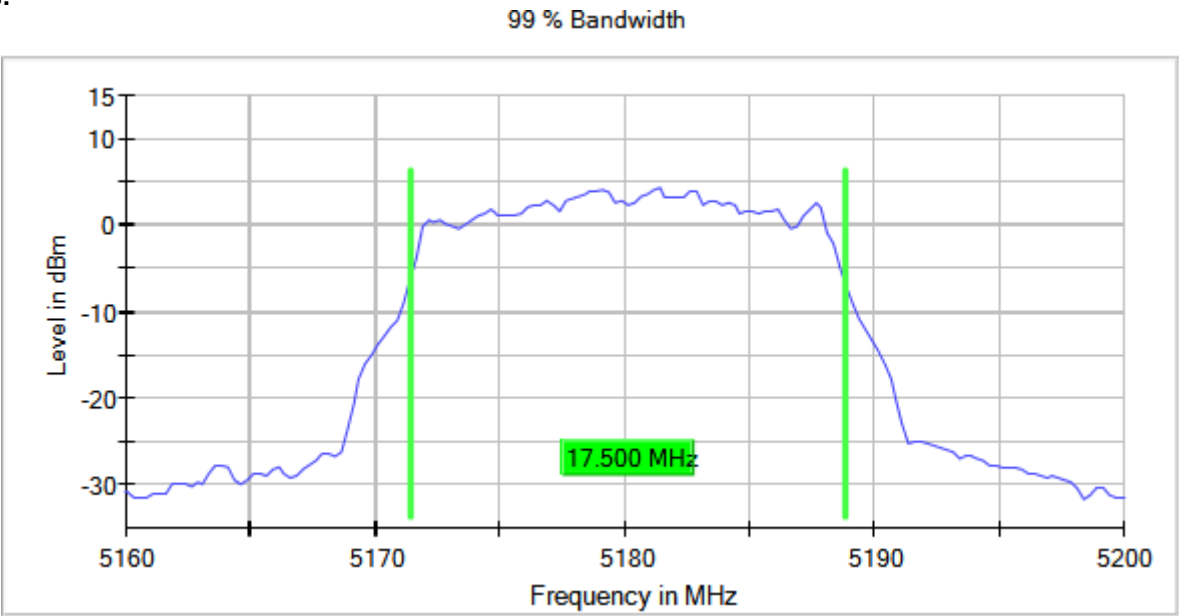
Verdict

Pass

Attachments

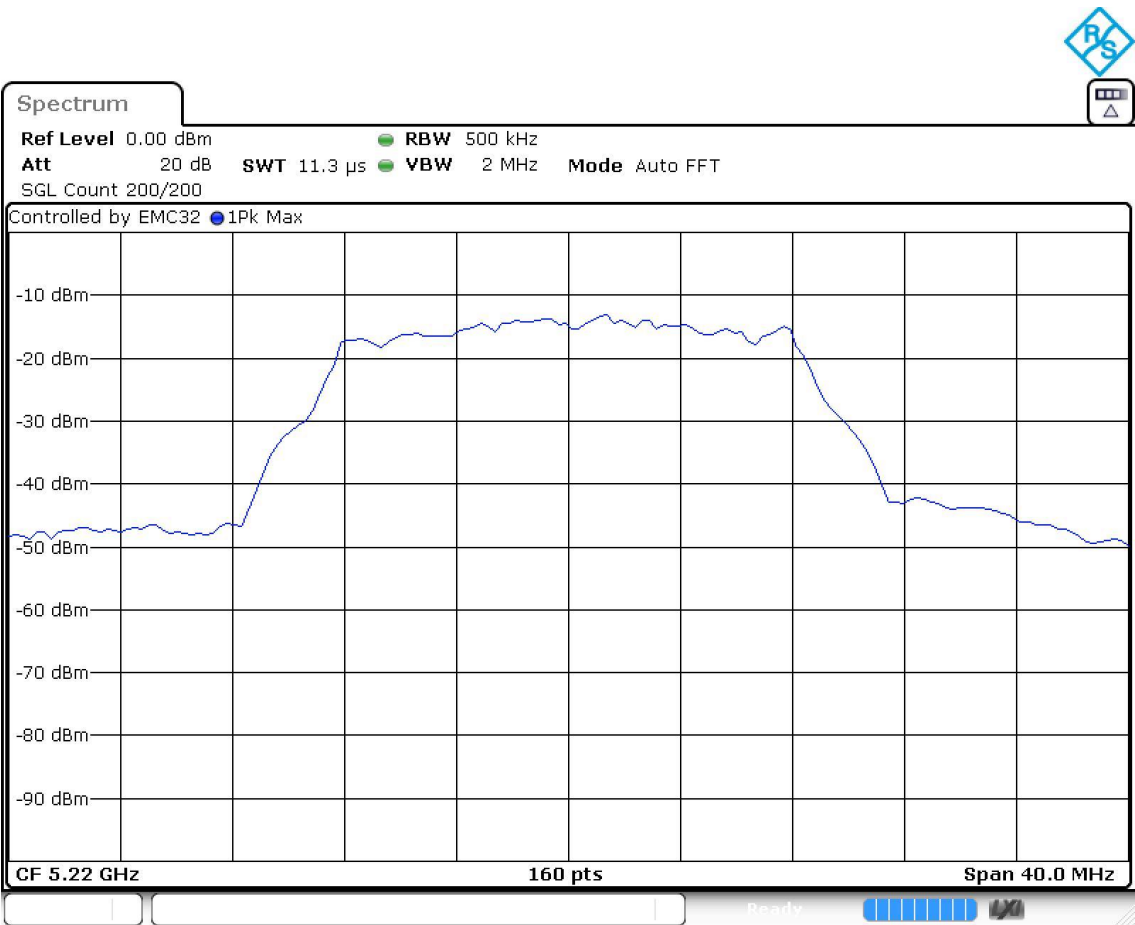
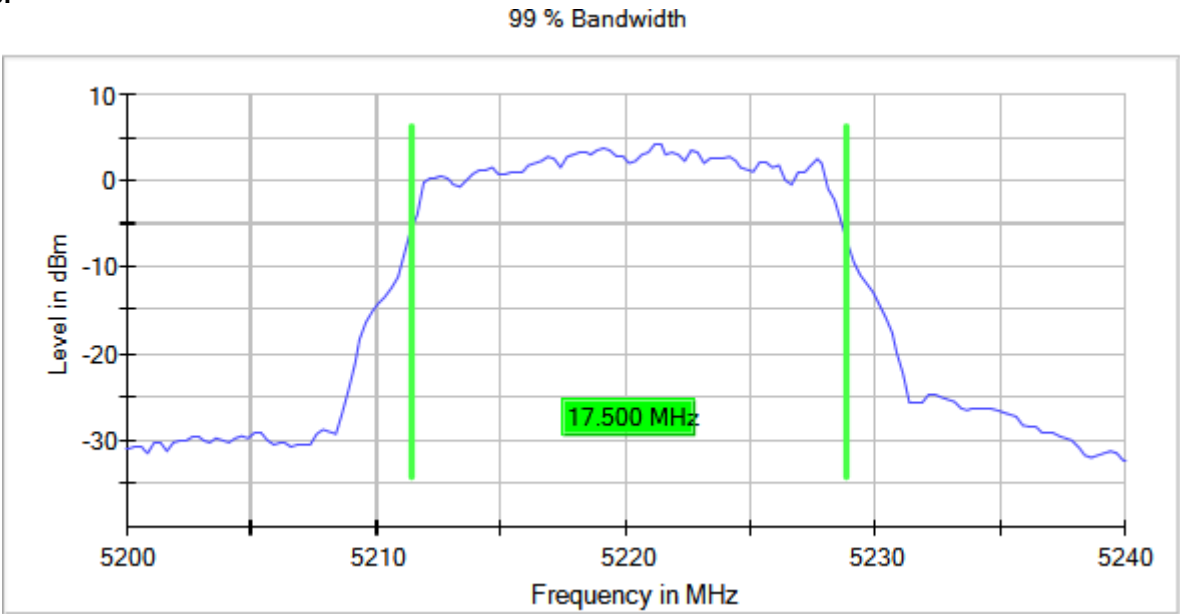
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5180.00000 Modulation = 802.11ac VHT20 (OFDM MCS0)
MIMO Mode = SISO

Images:



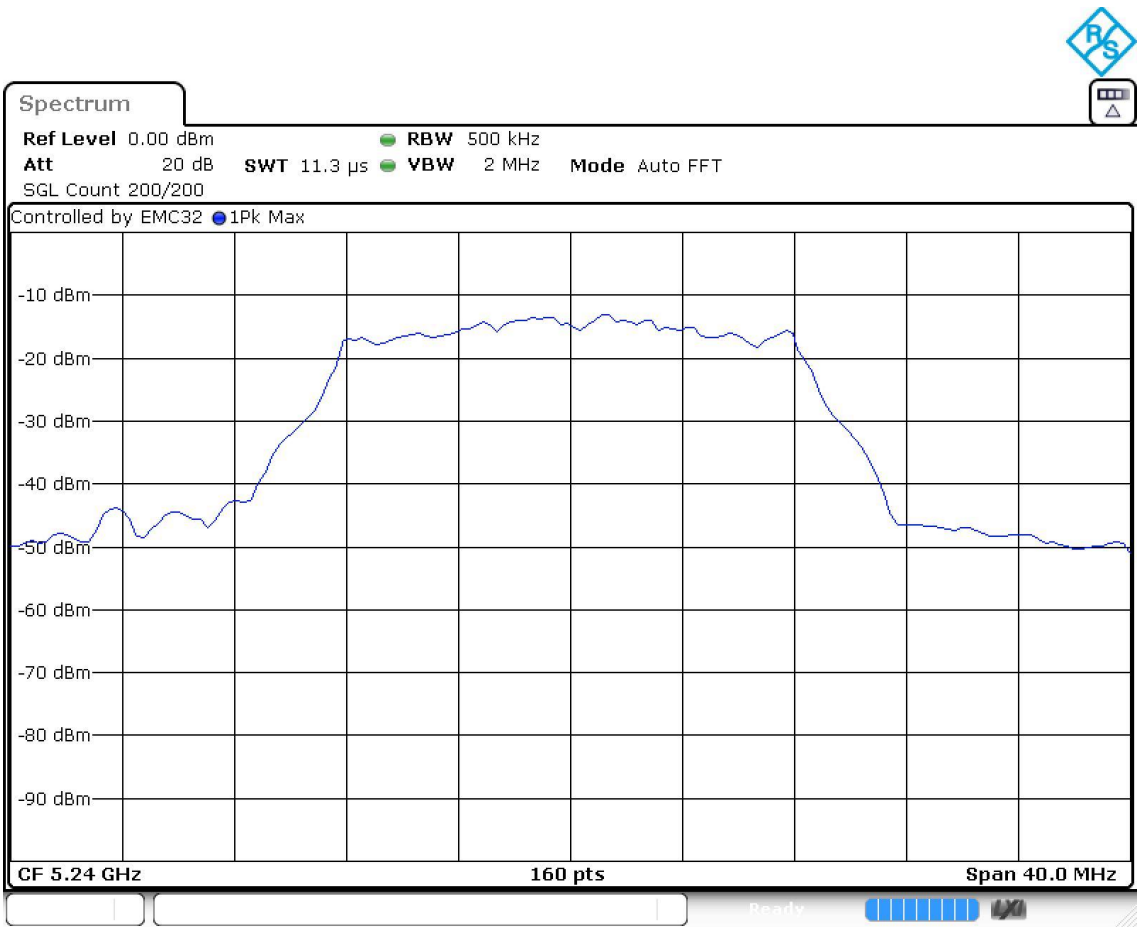
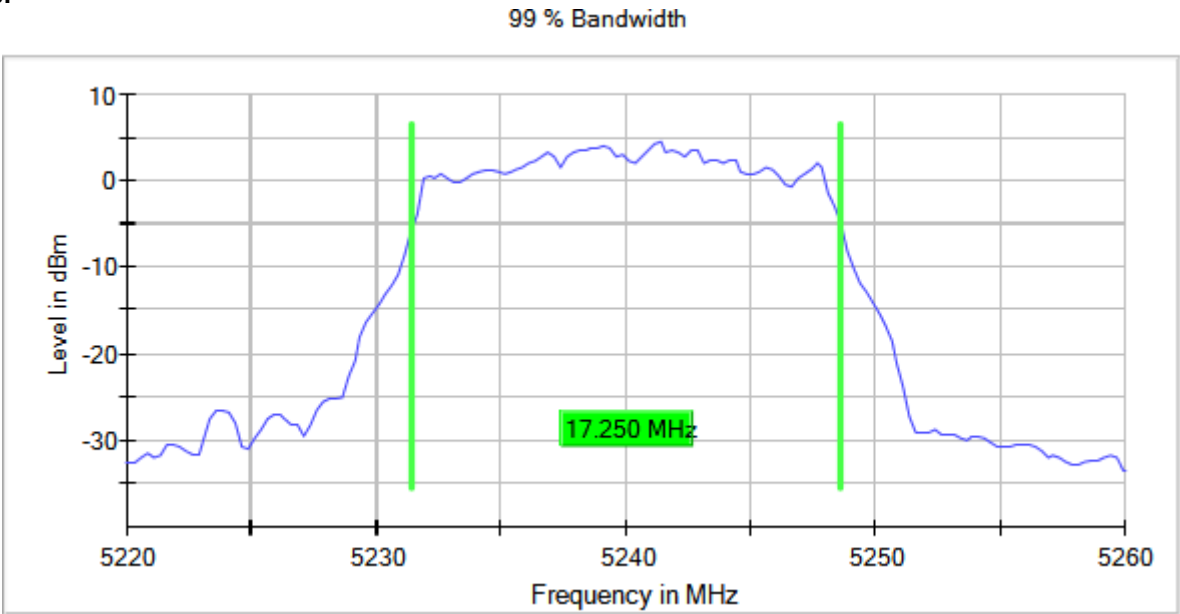
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5220.00000 Modulation = 802.11ac VHT20 (OFDM MCS0)
MIMO Mode = SISO

Images:



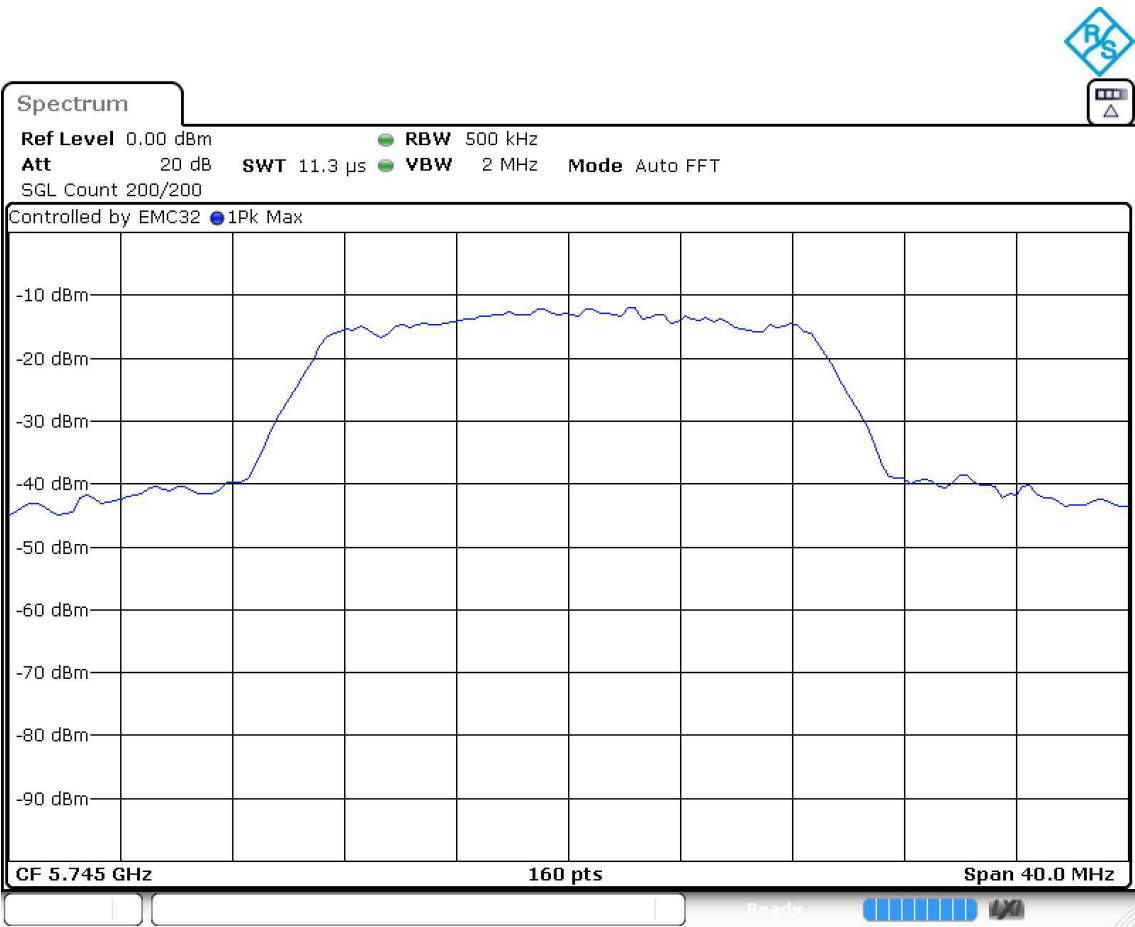
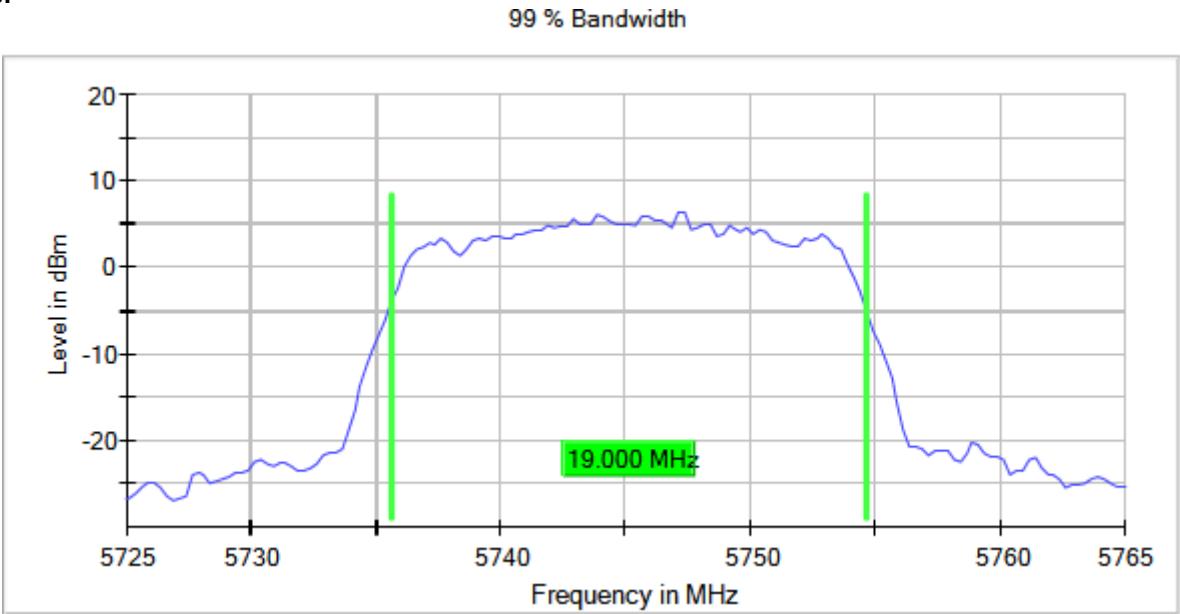
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5240.00000 Modulation = 802.11ac VHT20 (OFDM MCS0)
MIMO Mode = SISO

Images:



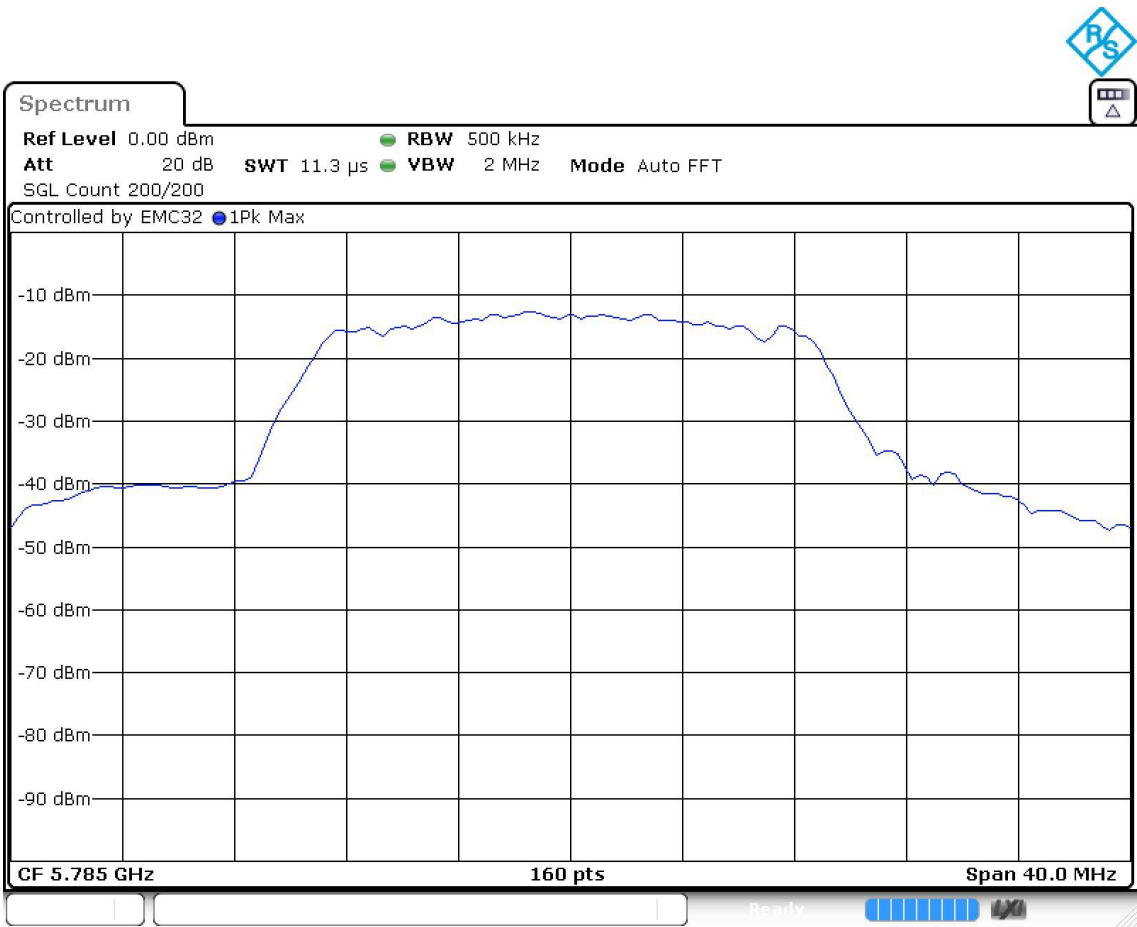
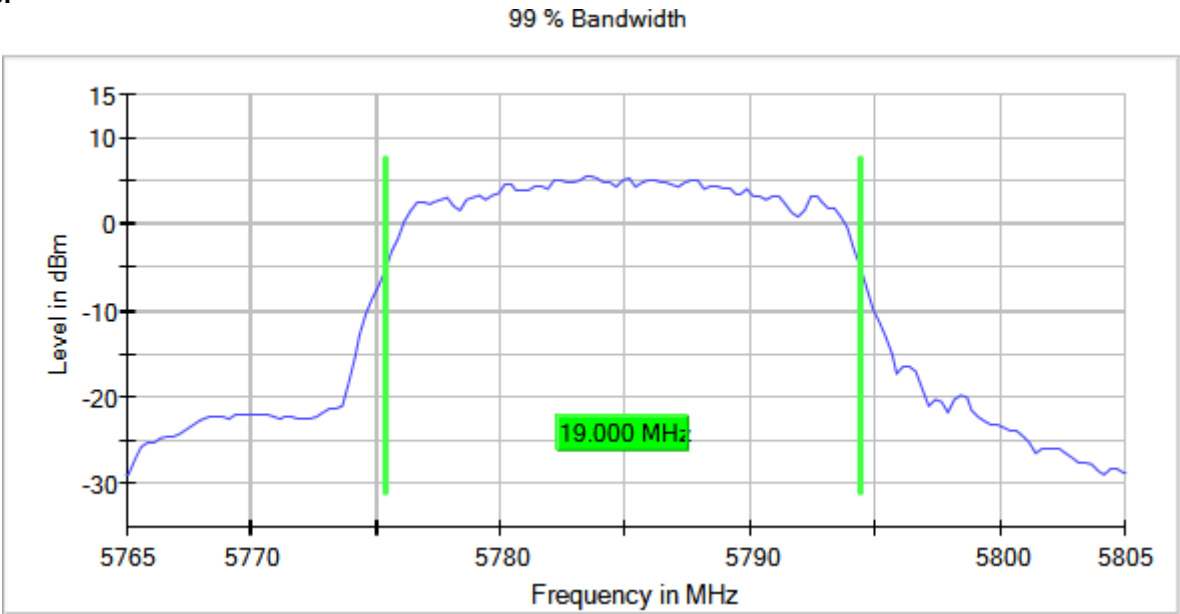
Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5745.00000 Modulation = 802.11ac VHT20 (OFDM MCS0)
MIMO Mode = SISO

Images:



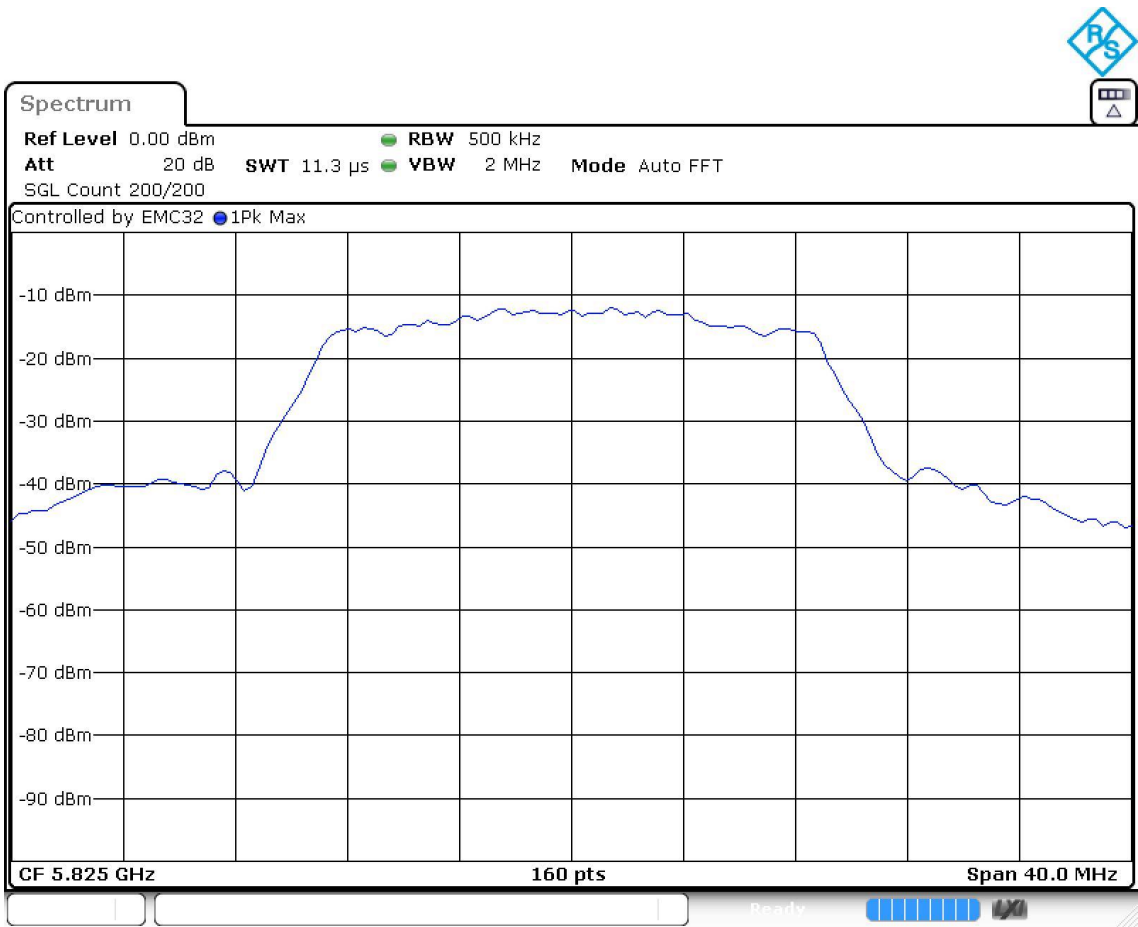
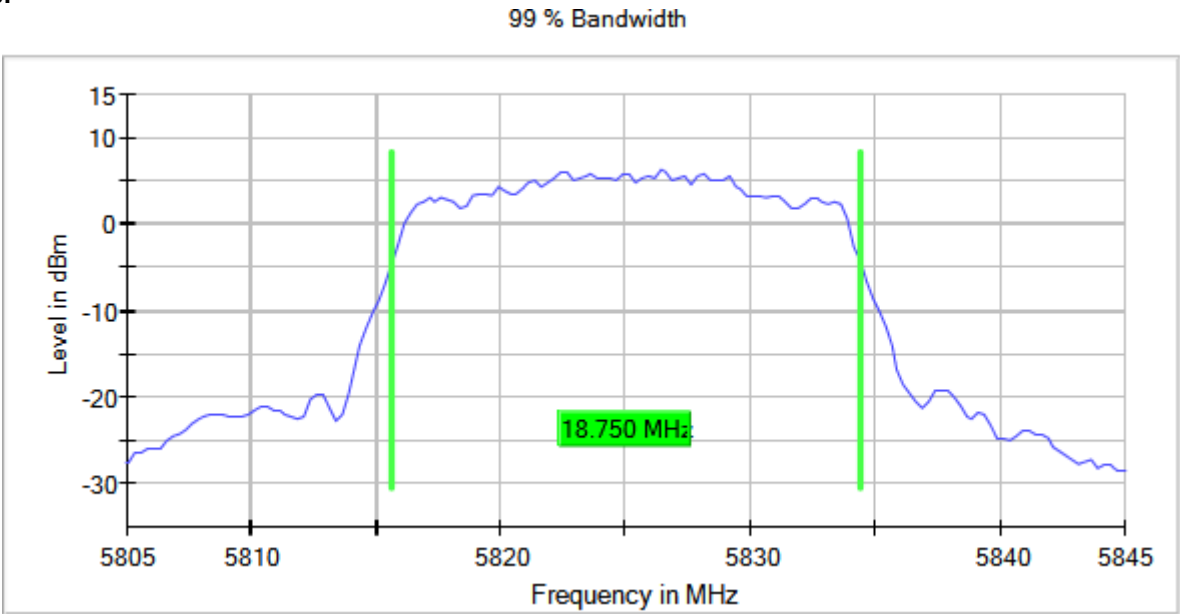
Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5785.00000 Modulation = 802.11ac VHT20 (OFDM MCS0)
MIMO Mode = SISO

Images:



Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5825.00000 Modulation = 802.11ac VHT20 (OFDM MCS0)
MIMO Mode = SISO

Images:



Modulation: 802.11ac VHT40 (OFDM MCS0)

MIMO Mode: SISO

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5150, 5250]	1	5190.00000	36.500
		5230.00000	36.500
[5725, 5850]		5755.00000	36.500
		5795.00000	37.000

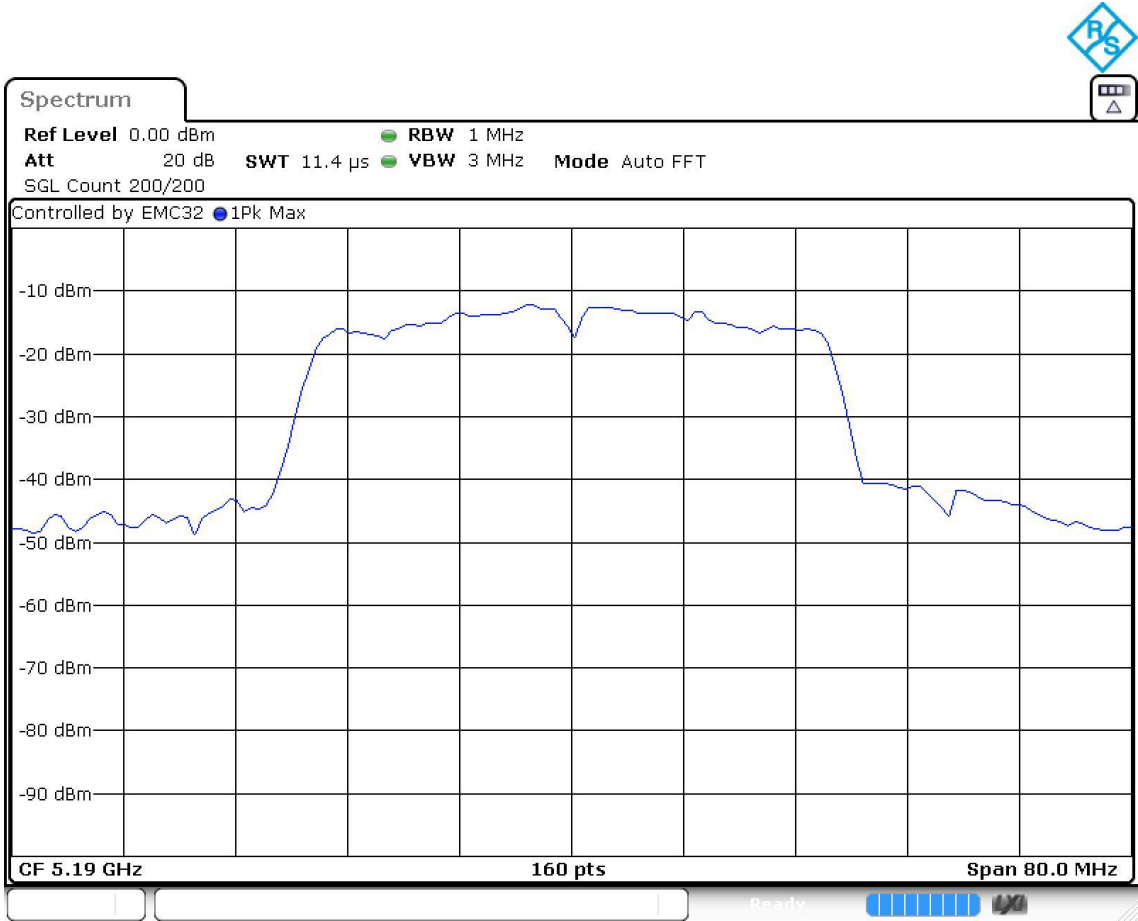
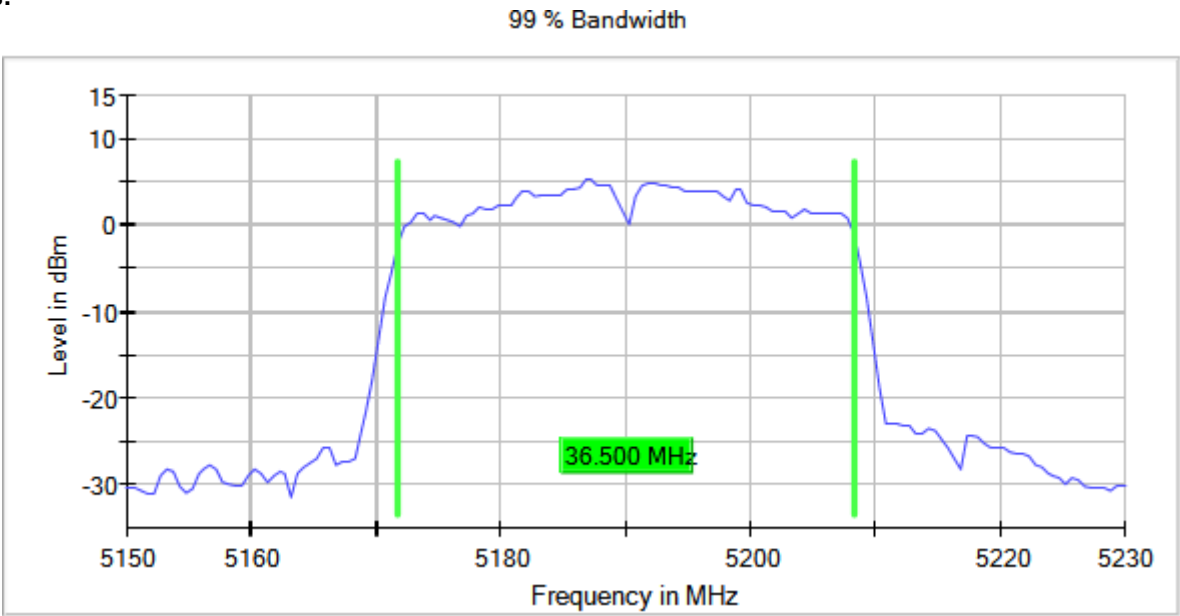
Verdict

Pass

Attachments

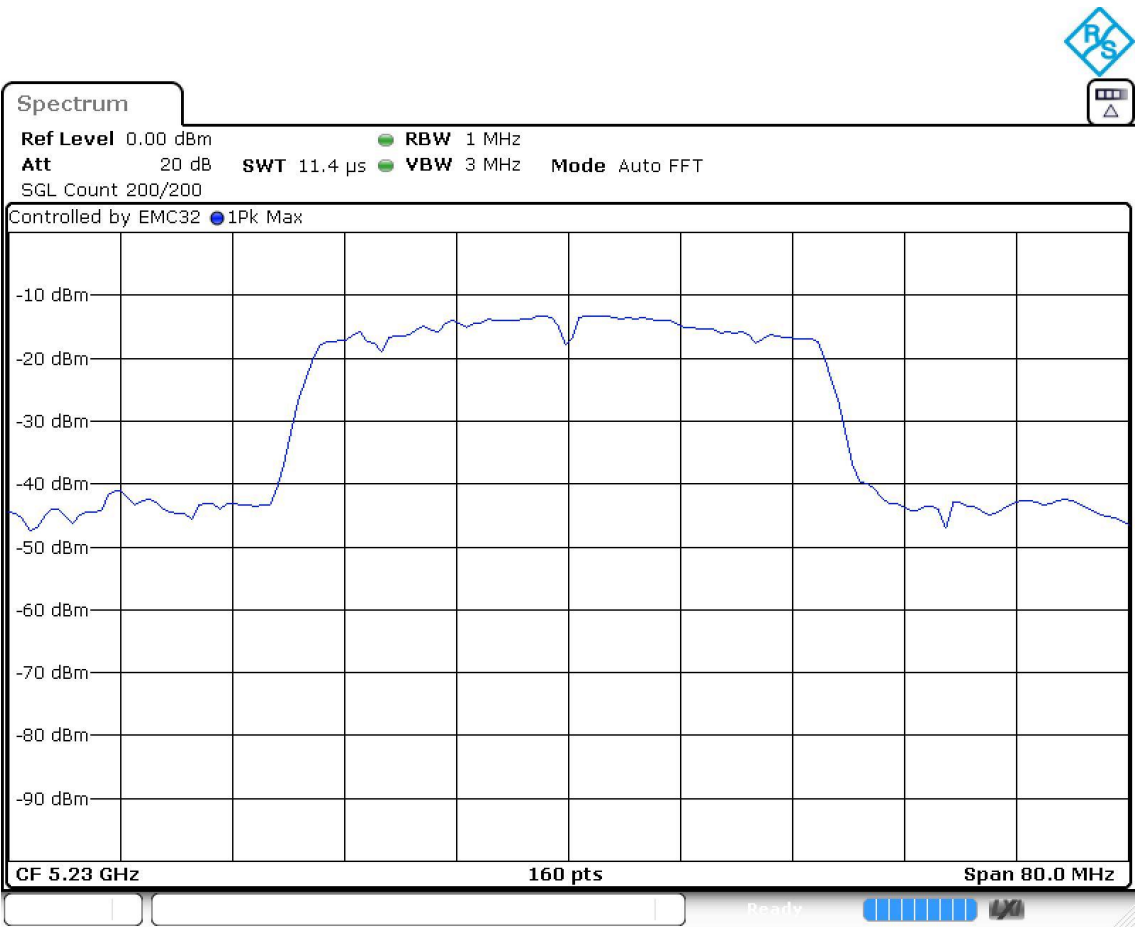
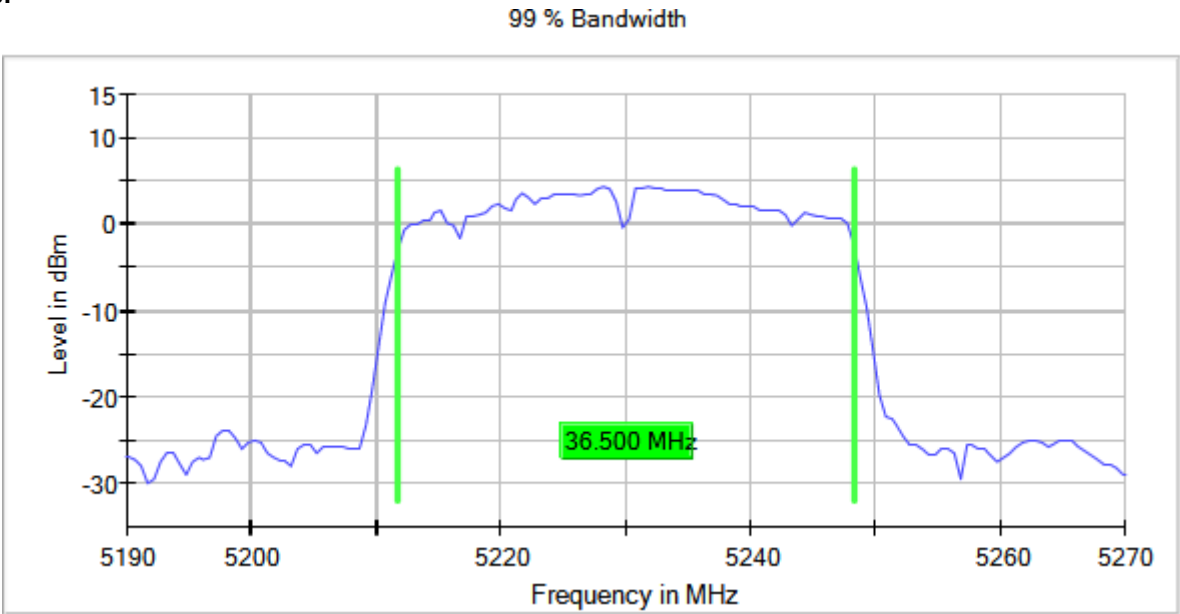
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5190.00000 Modulation = 802.11ac VHT40 (OFDM MCS0)
MIMO Mode = SISO

Images:



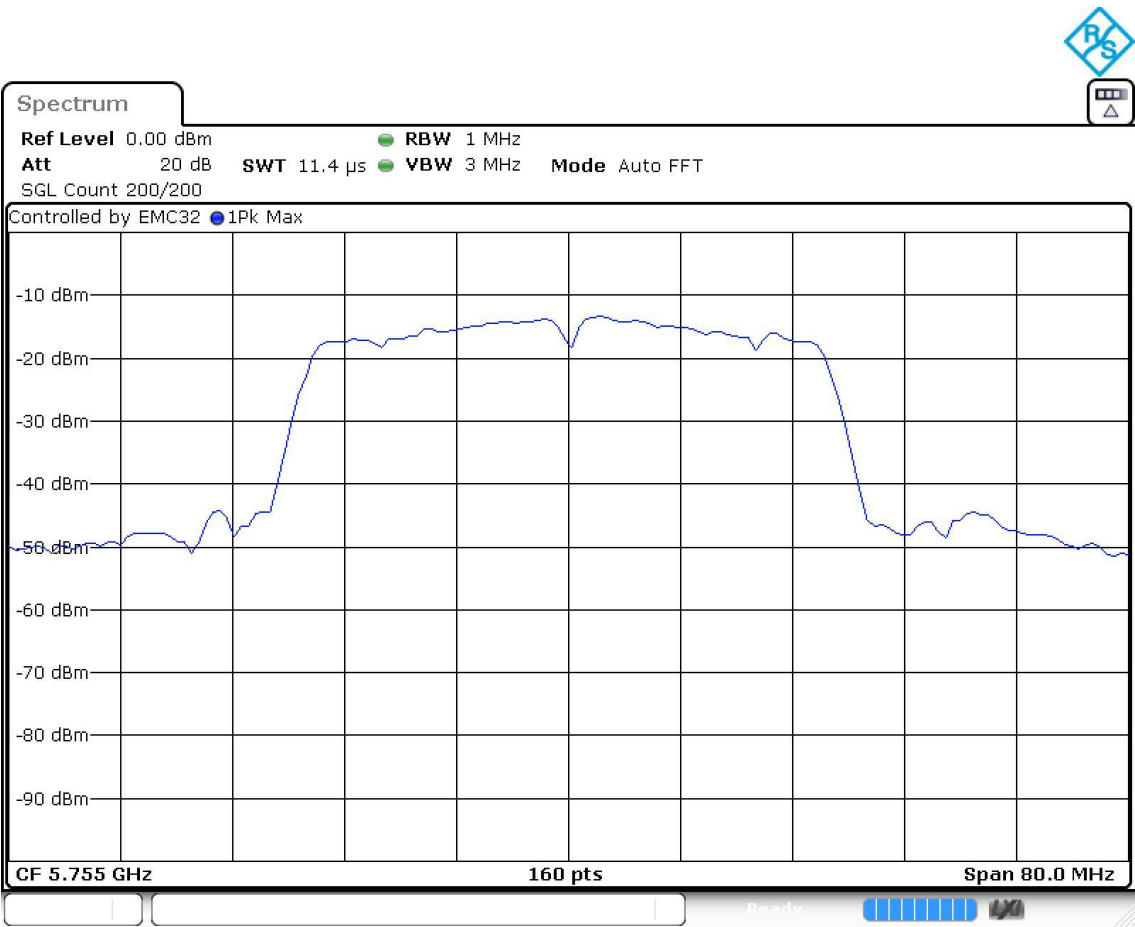
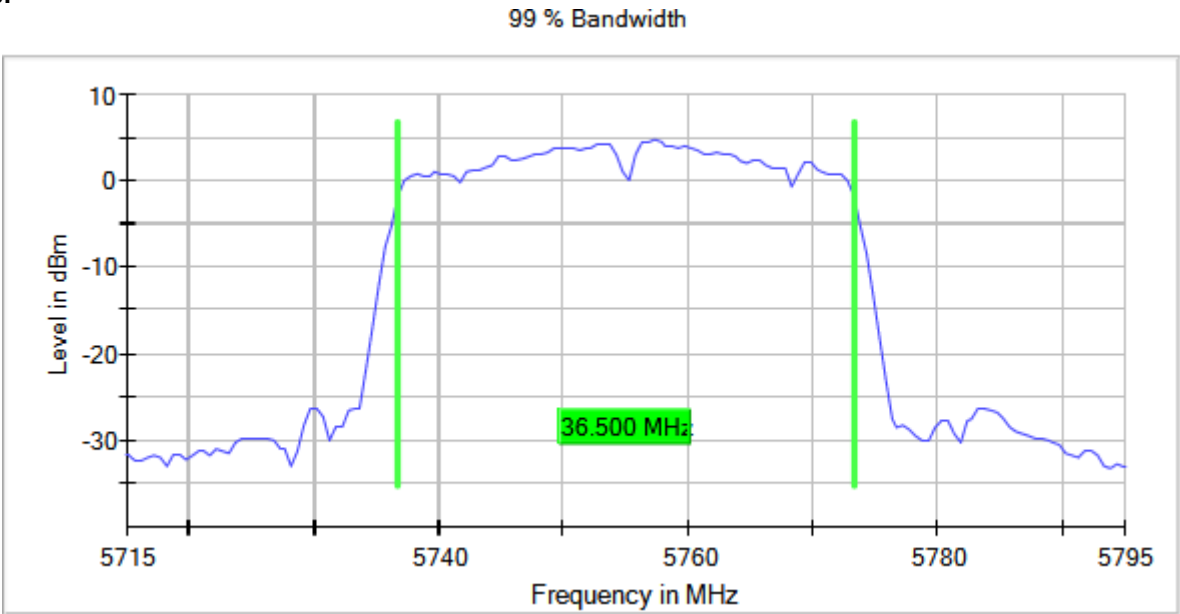
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5230.00000 Modulation = 802.11ac VHT40 (OFDM MCS0)
MIMO Mode = SISO

Images:



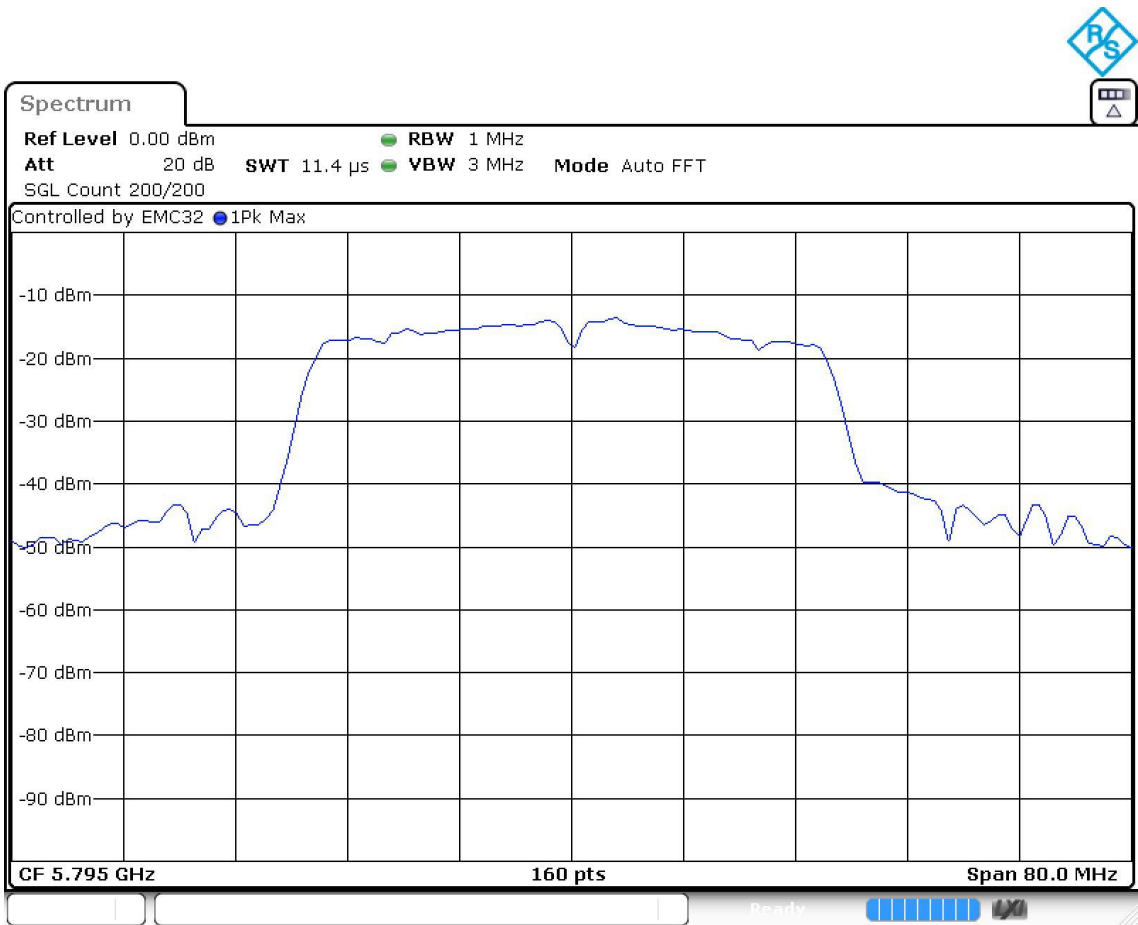
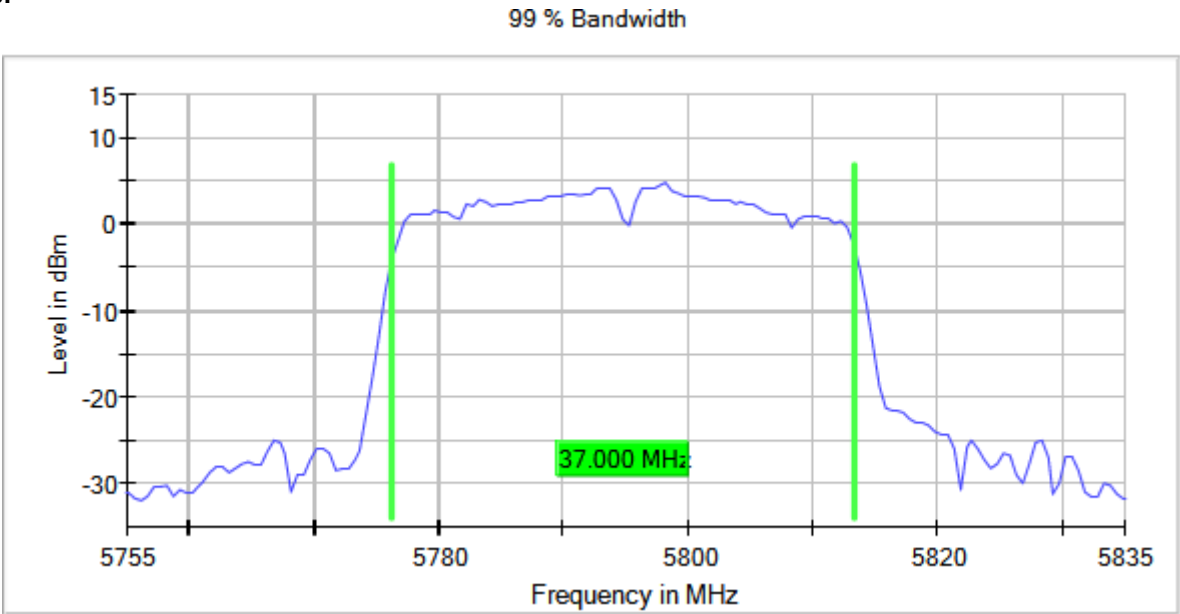
Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5755.00000 Modulation = 802.11ac VHT40 (OFDM MCS0)
MIMO Mode = SISO

Images:



Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5795.00000 Modulation = 802.11ac VHT40 (OFDM MCS0)
MIMO Mode = SISO

Images:



Modulation: 802.11ac VHT80 (OFDM MCS0)

MIMO Mode: SISO

Results

Operation Band (MHz)	Port	Freq (MHz)	Occ Ch BW (MHz)
[5150, 5250]	1	5210.00000	76.000
[5725, 5850]		5775.00000	77.000

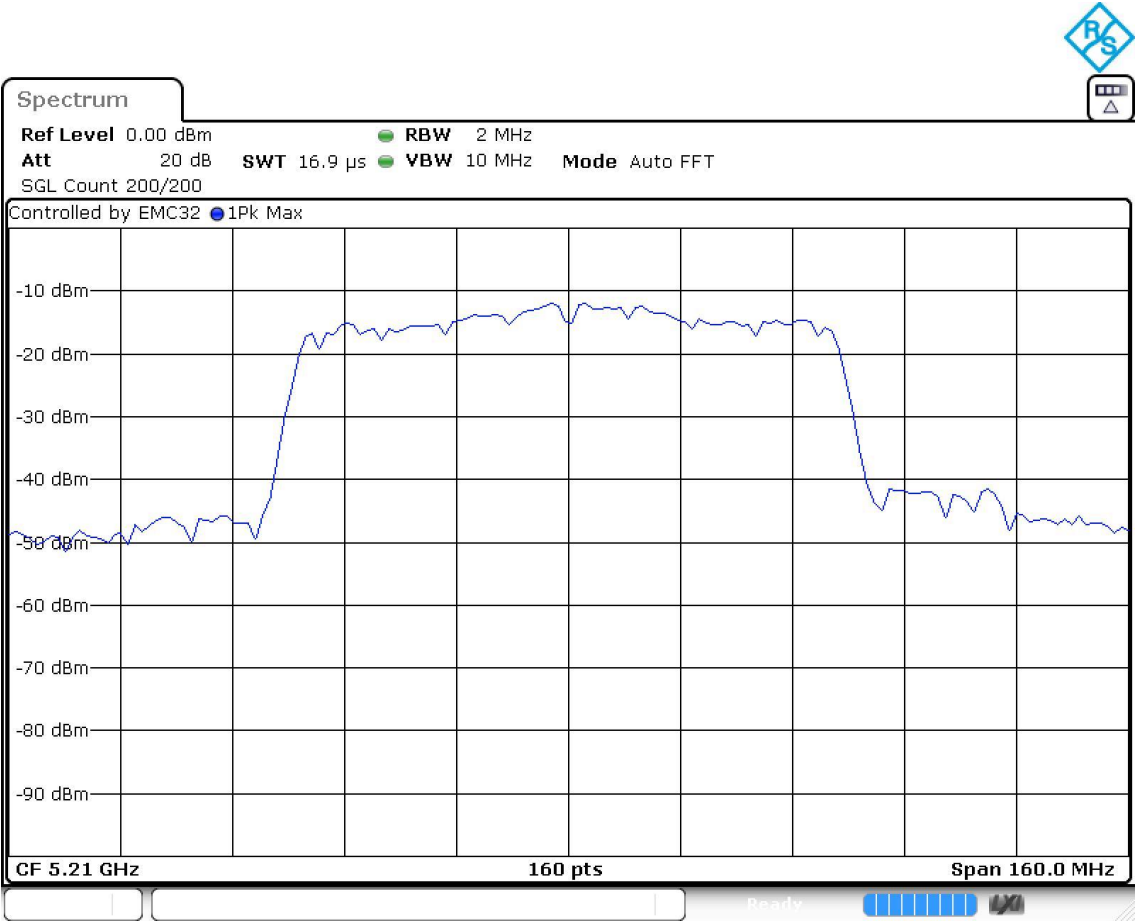
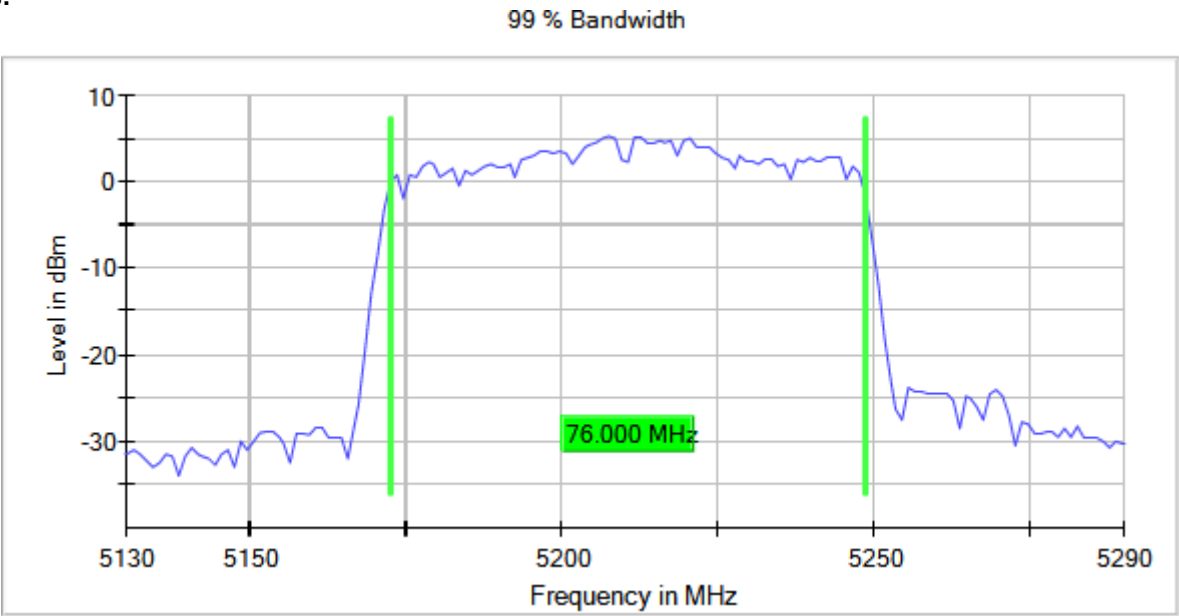
Verdict

Pass

Attachments

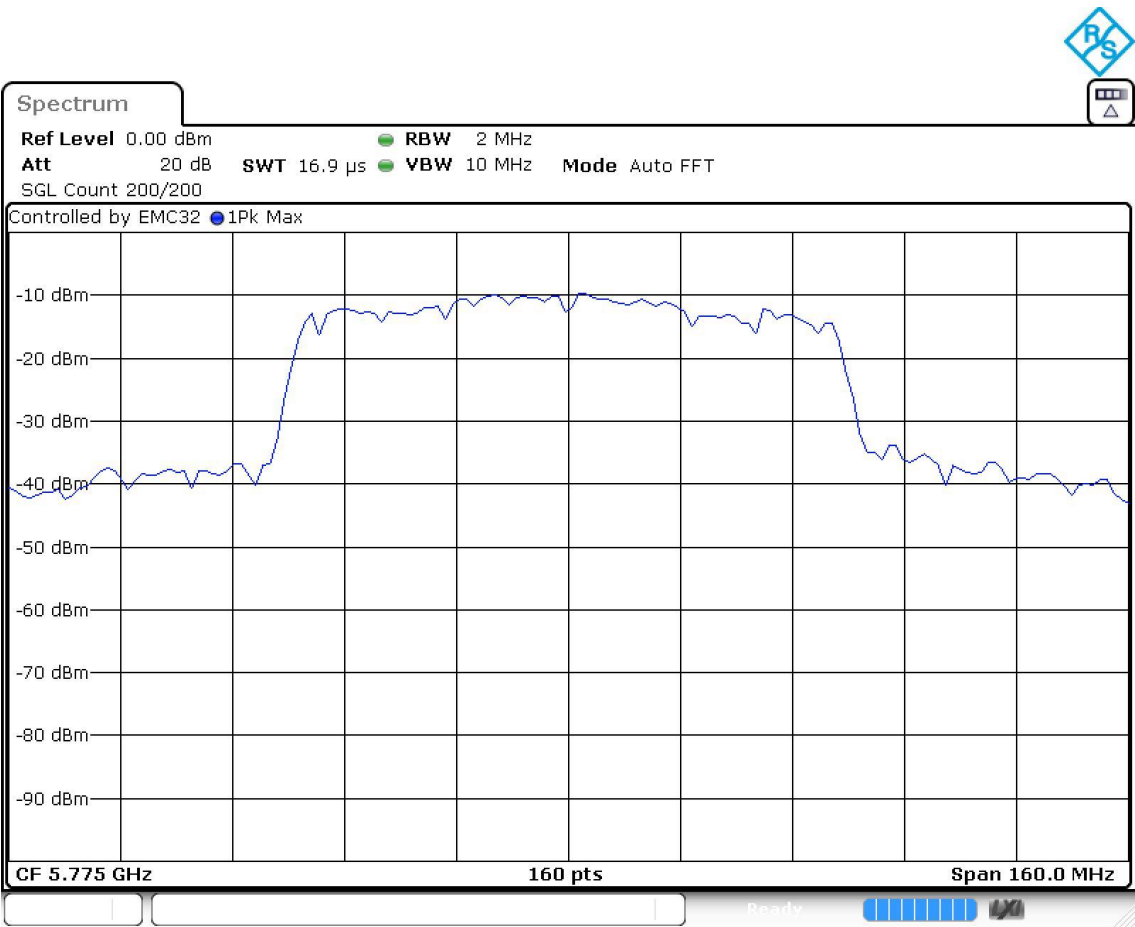
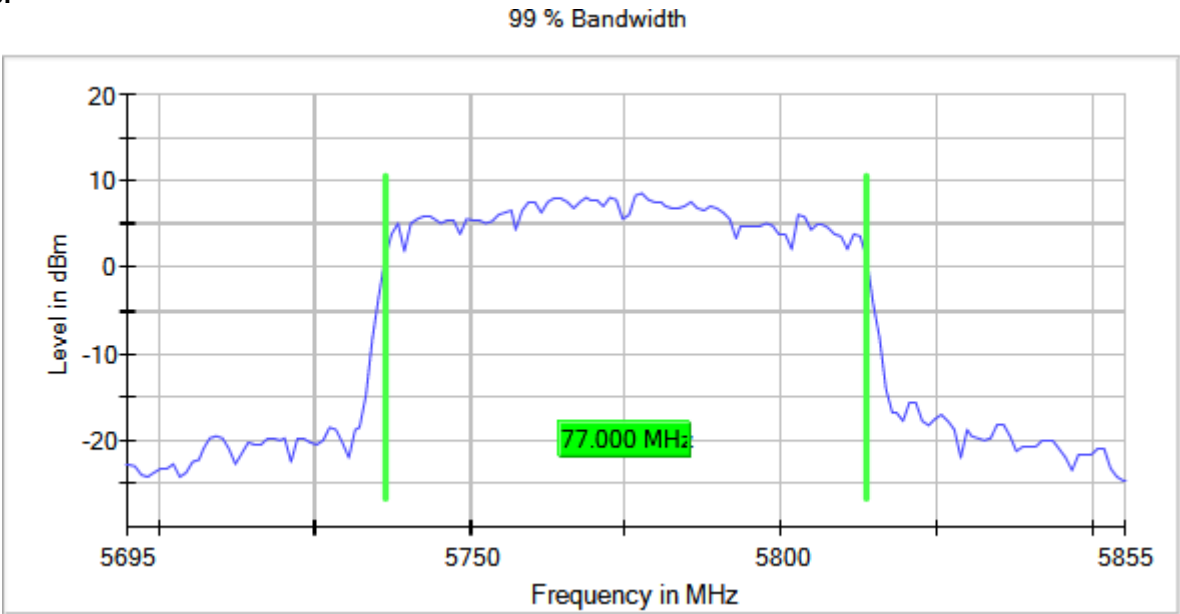
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5210.00000 Modulation = 802.11ac VHT80 (OFDM MCS0)
MIMO Mode = SISO

Images:



Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5775.00000 Modulation = 802.11ac VHT80 (OFDM MCS0)
MIMO Mode = SISO

Images:



RSS-Gen 6.10. / Section 15.35 Subclause (c) [DC] 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.

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

MIMO Mode: SISO

Results

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	1	5180.00000	98.62
		5220.00000	98.52
		5240.00000	98.61
[5725, 5850]		5745.00000	98.53
		5785.00000	98.53
		5825.00000	98.53

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

MIMO Mode: SISO

Results

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	1	5190.00000	97.09
		5230.00000	97.10
[5725, 5850]		5755.00000	97.11
		5795.00000	97.11

Modulation: 802.11a (OFDM 6 Mbit/s)

MIMO Mode: SISO

Results

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	1	5180.00000	98.51
		5220.00000	98.62
		5240.00000	98.62
[5725, 5850]		5745.00000	98.62
		5785.00000	98.62
		5825.00000	98.62

Modulation: 802.11ac VHT20 (OFDM MCS0)

MIMO Mode: SISO

Results

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	1	5180.00000	97.30
		5220.00000	97.31
		5240.00000	97.30
[5725, 5850]		5745.00000	98.54
		5785.00000	98.54
		5825.00000	98.54

Modulation: 802.11ac VHT40 (OFDM MCS0)

MIMO Mode: SISO

Results

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	1	5190.00000	97.10
		5230.00000	97.12
[5725, 5850]		5755.00000	97.13
		5795.00000	97.14

Results

Operation Band (MHz)	Port	Freq (MHz)	DC (%)
[5150, 5250]	1	5210.00000	94.32
[5725, 5850]		5775.00000	94.40

Verdict

Pass

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.

This test was performed on all the supported modes of the EUT, in the worst data rates after preliminary testing.

Preliminary tests determined the SISO worst case: Chain 1.

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

MIMO Mode: SISO

Operation Band (MHz)	Port	Freq (MHz)	Ebw (MHz)
[5150, 5250]	1	5180.00000	21.500
		5220.00000	21.700
		5240.00000	21.300
[5725, 5850]		5745.00000	27.700
		5785.00000	29.400
		5825.00000	29.000

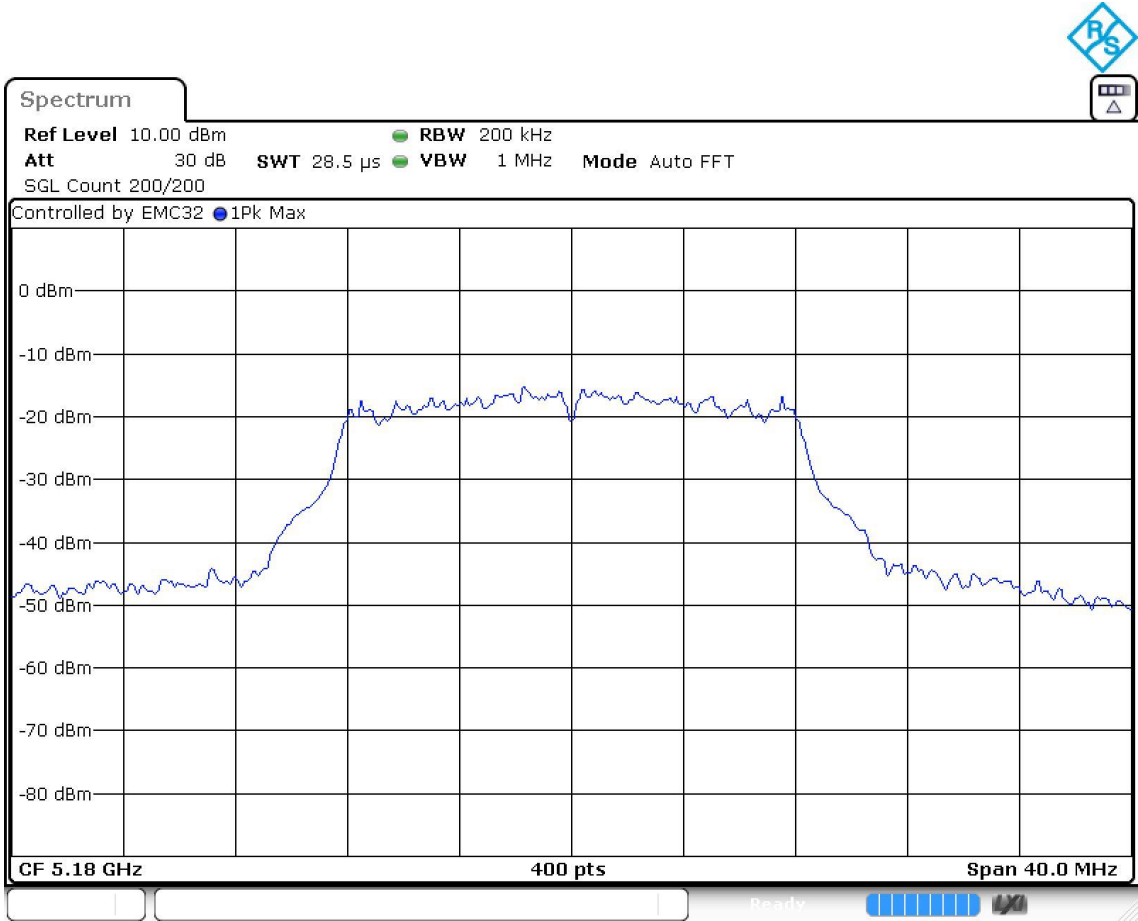
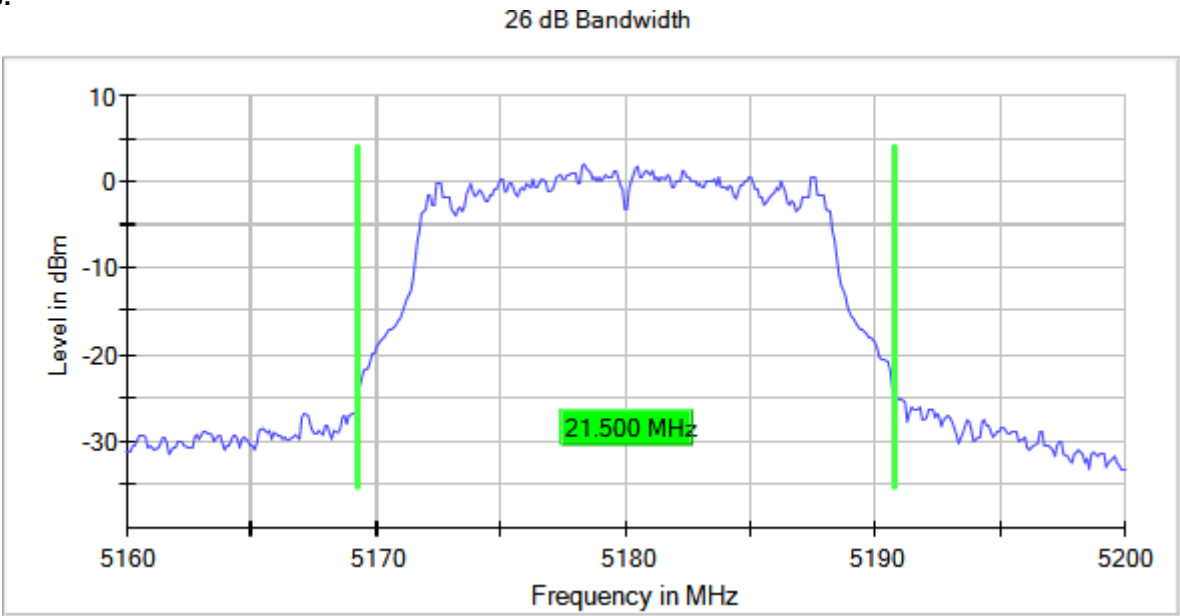
Verdict

Pass

Attachments

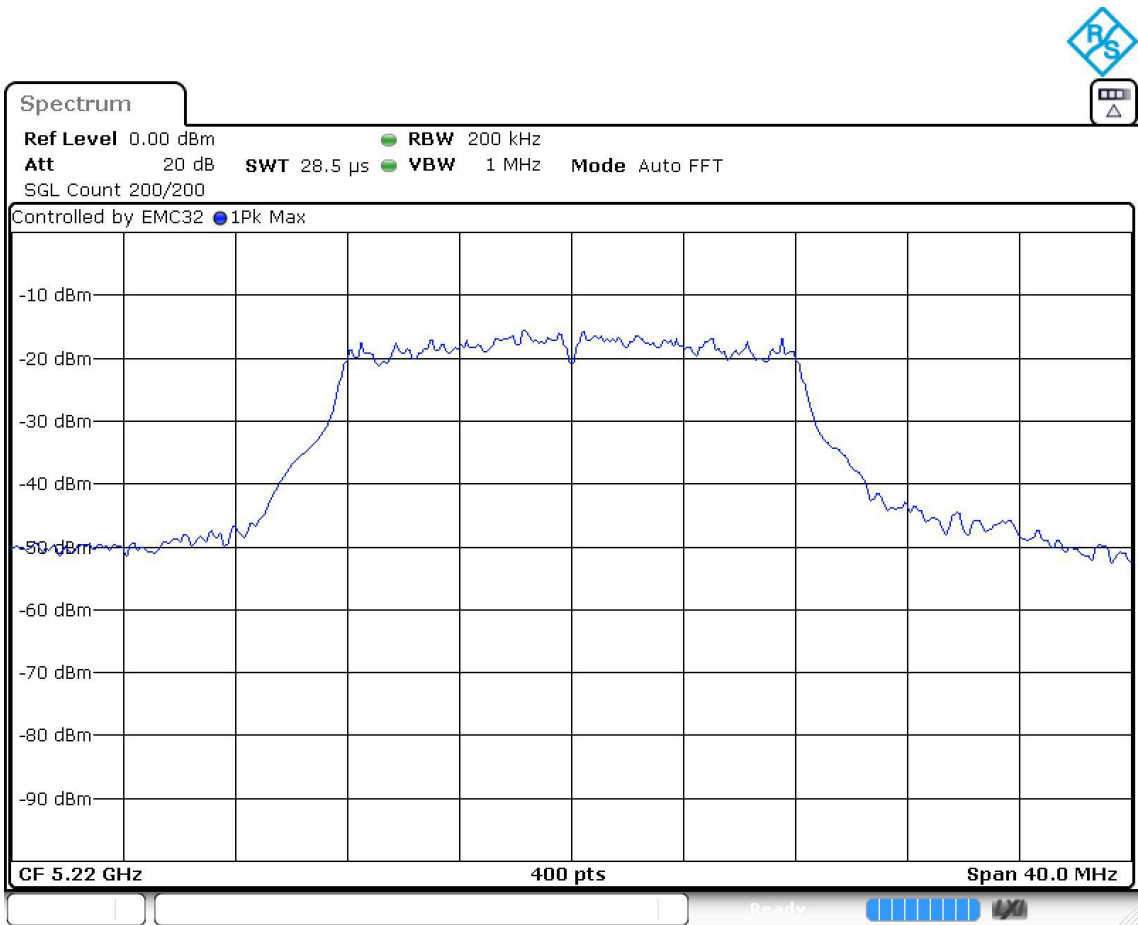
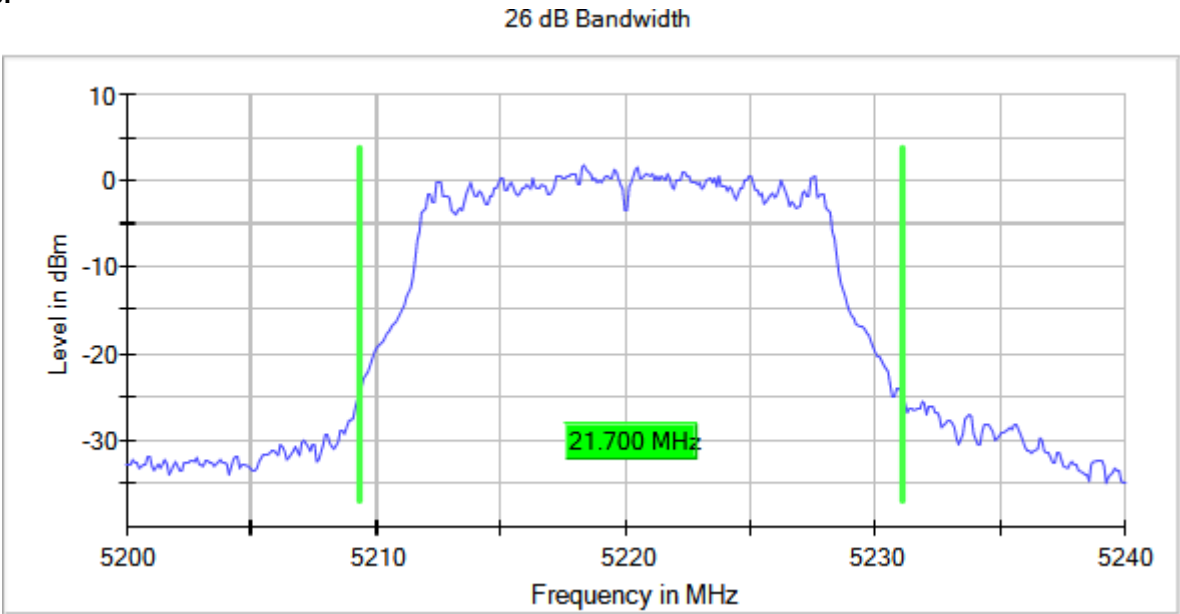
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5180.00000 Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)
MIMO Mode = SISO

Images:



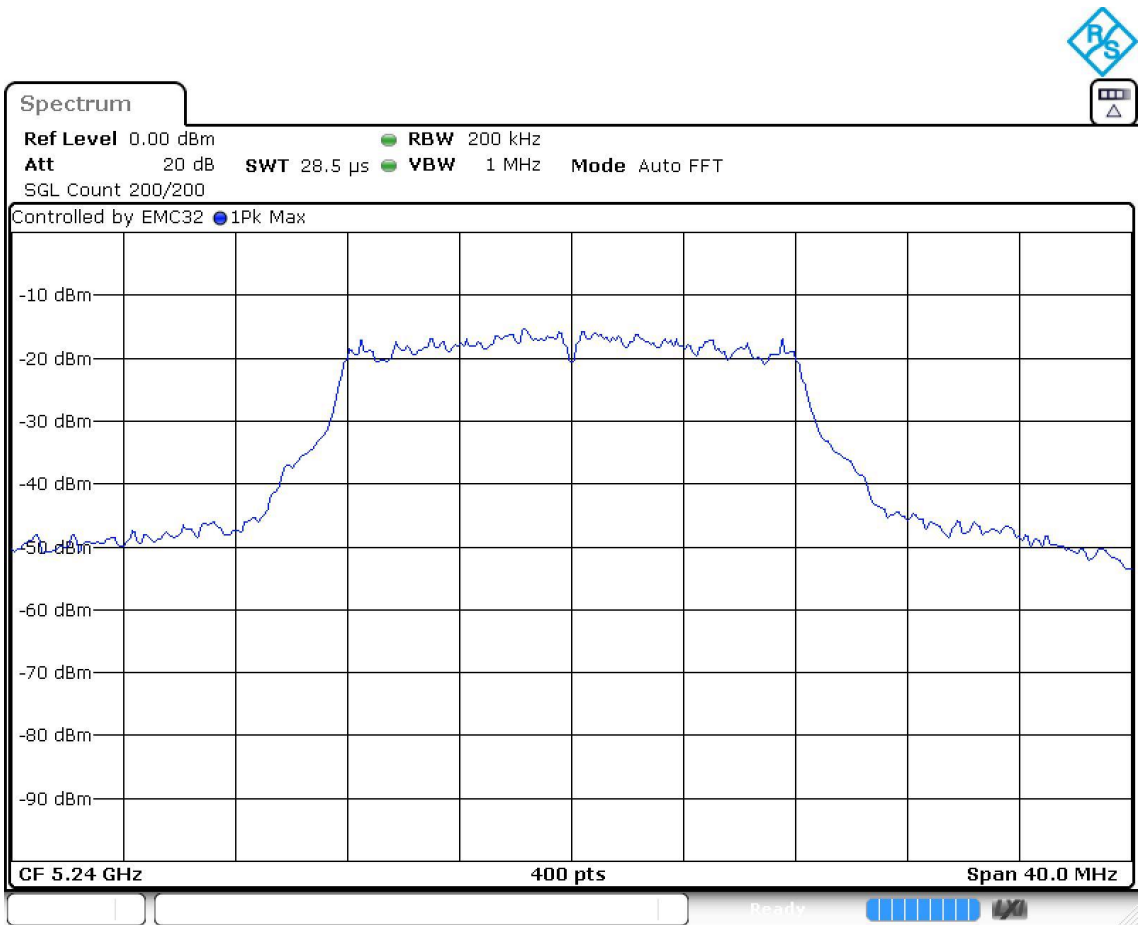
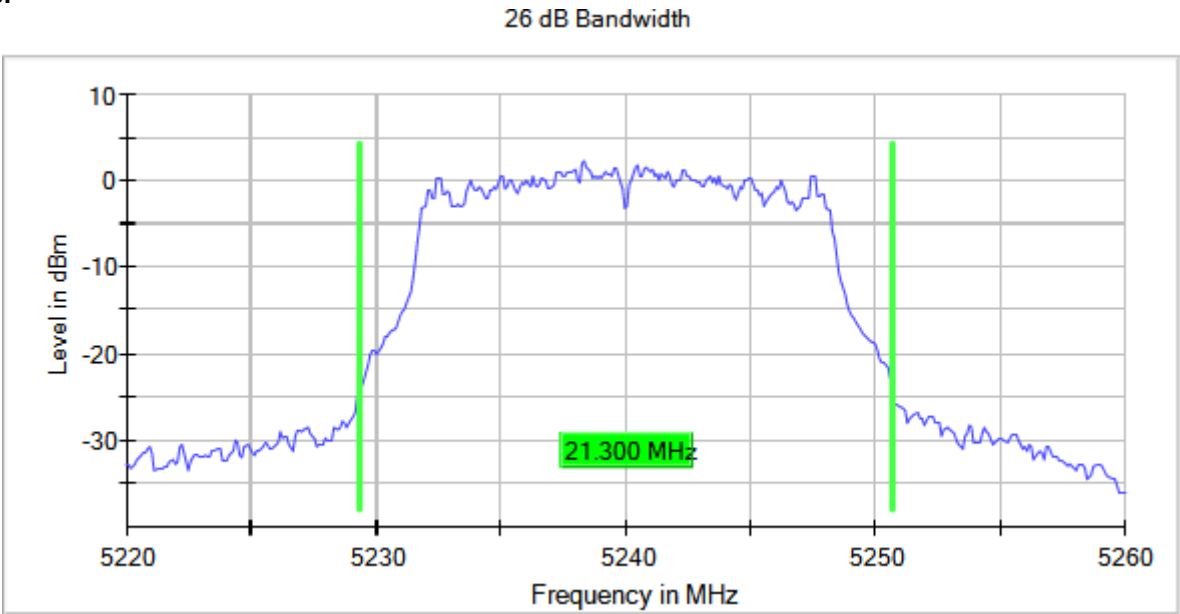
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5220.00000 Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)
MIMO Mode = SISO

Images:



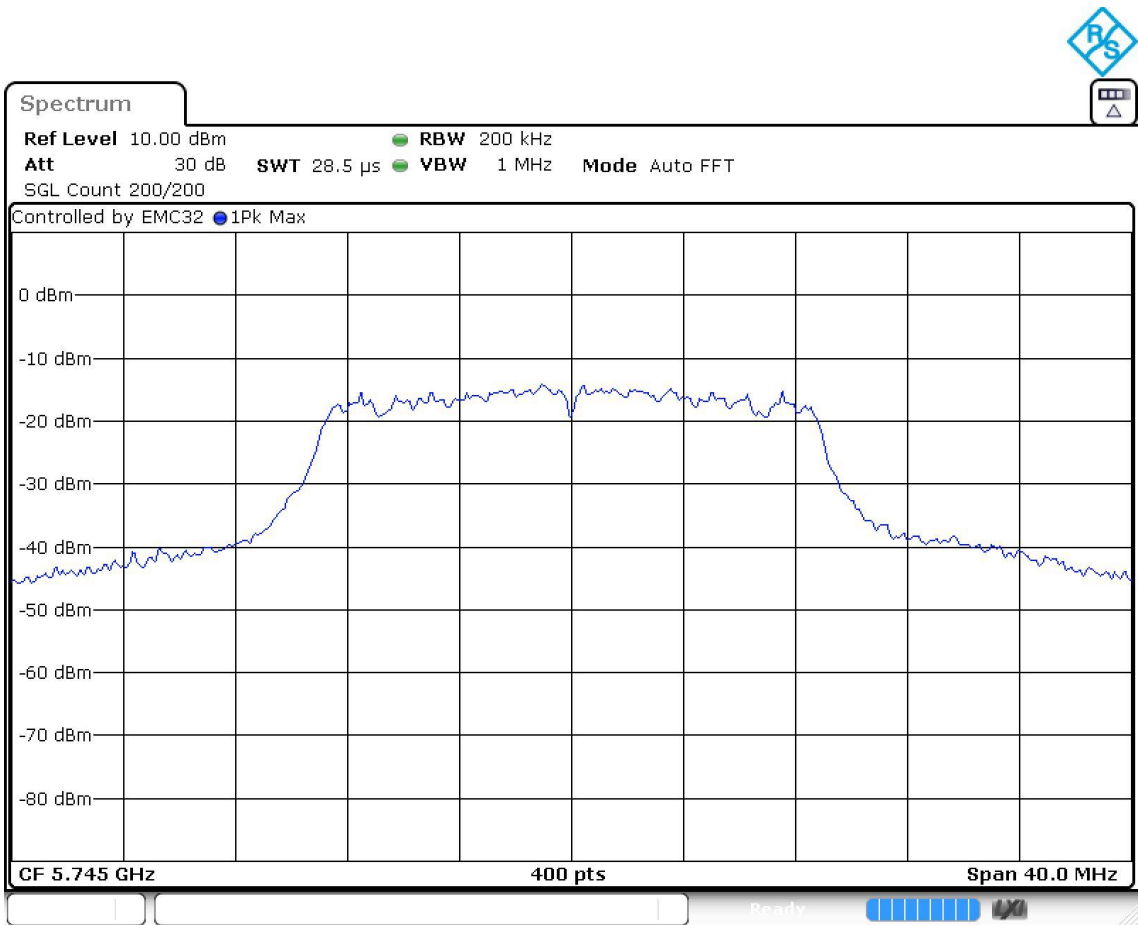
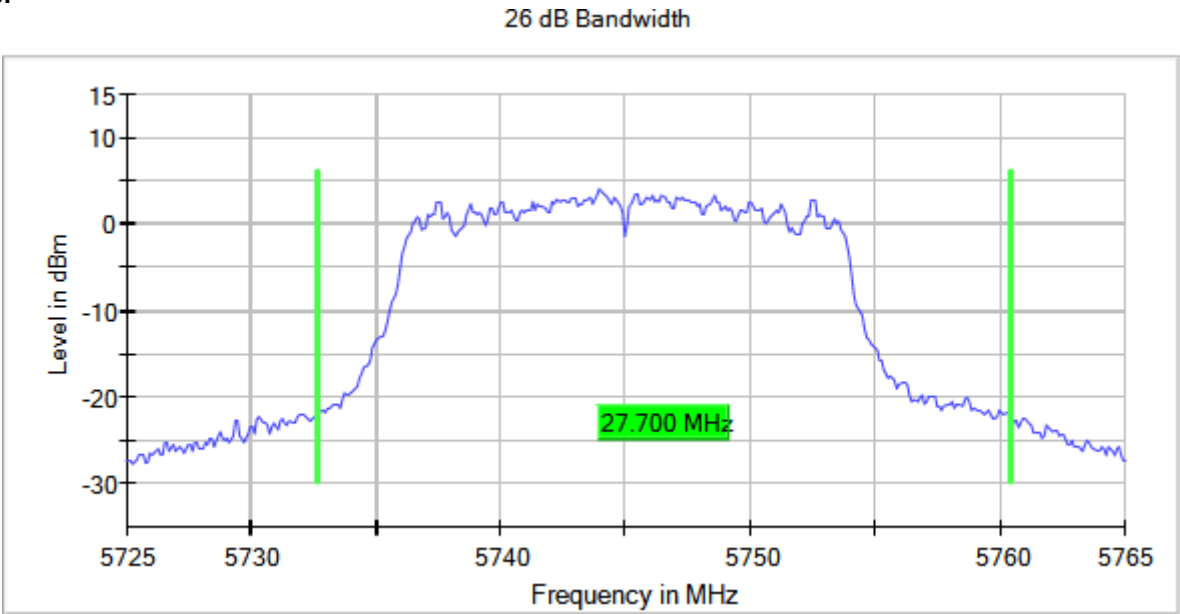
Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5240.00000 Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)
MIMO Mode = SISO

Images:



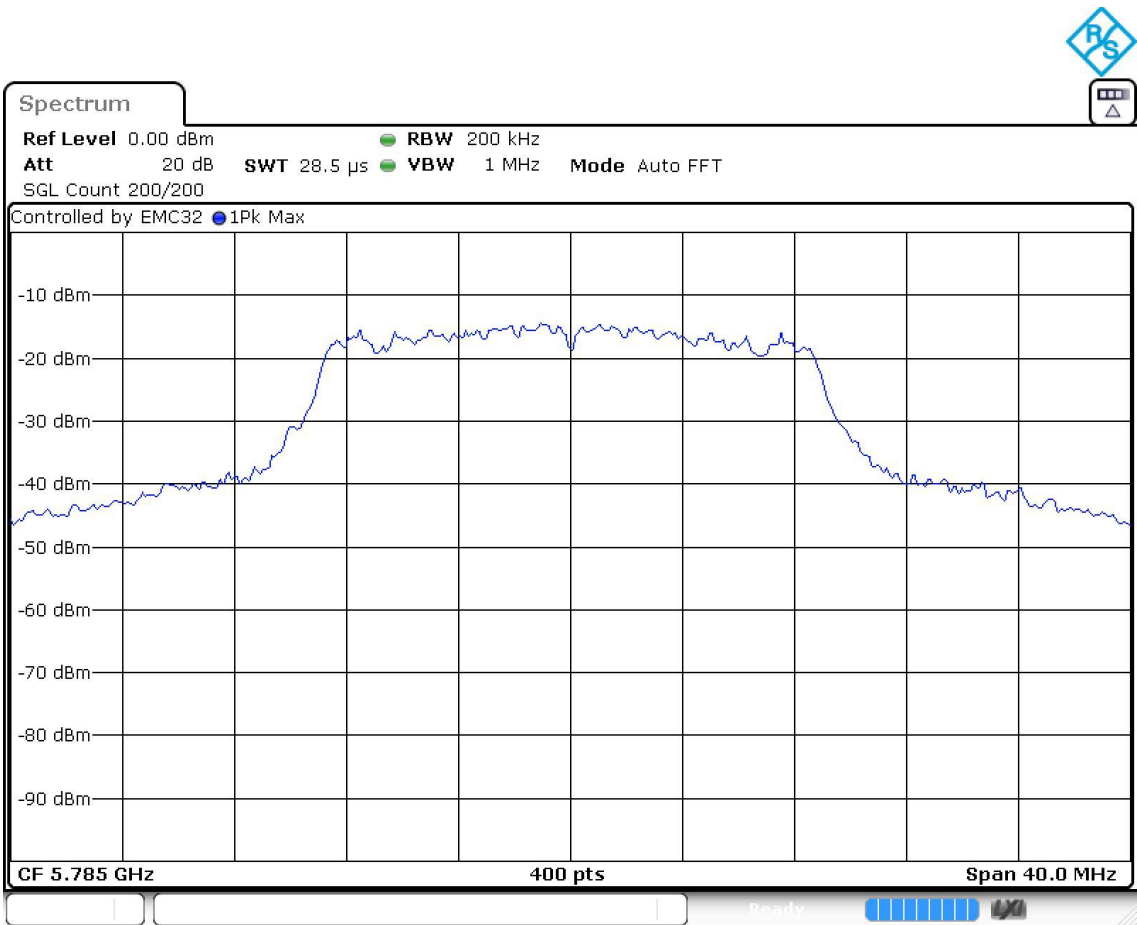
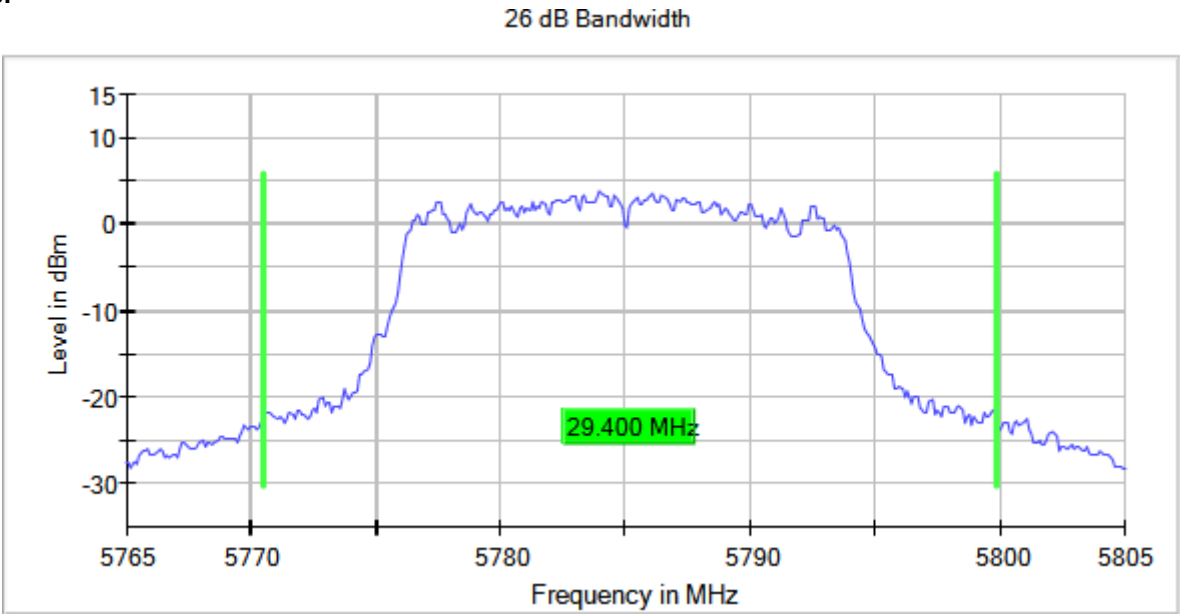
Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5745.00000 Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)
MIMO Mode = SISO

Images:



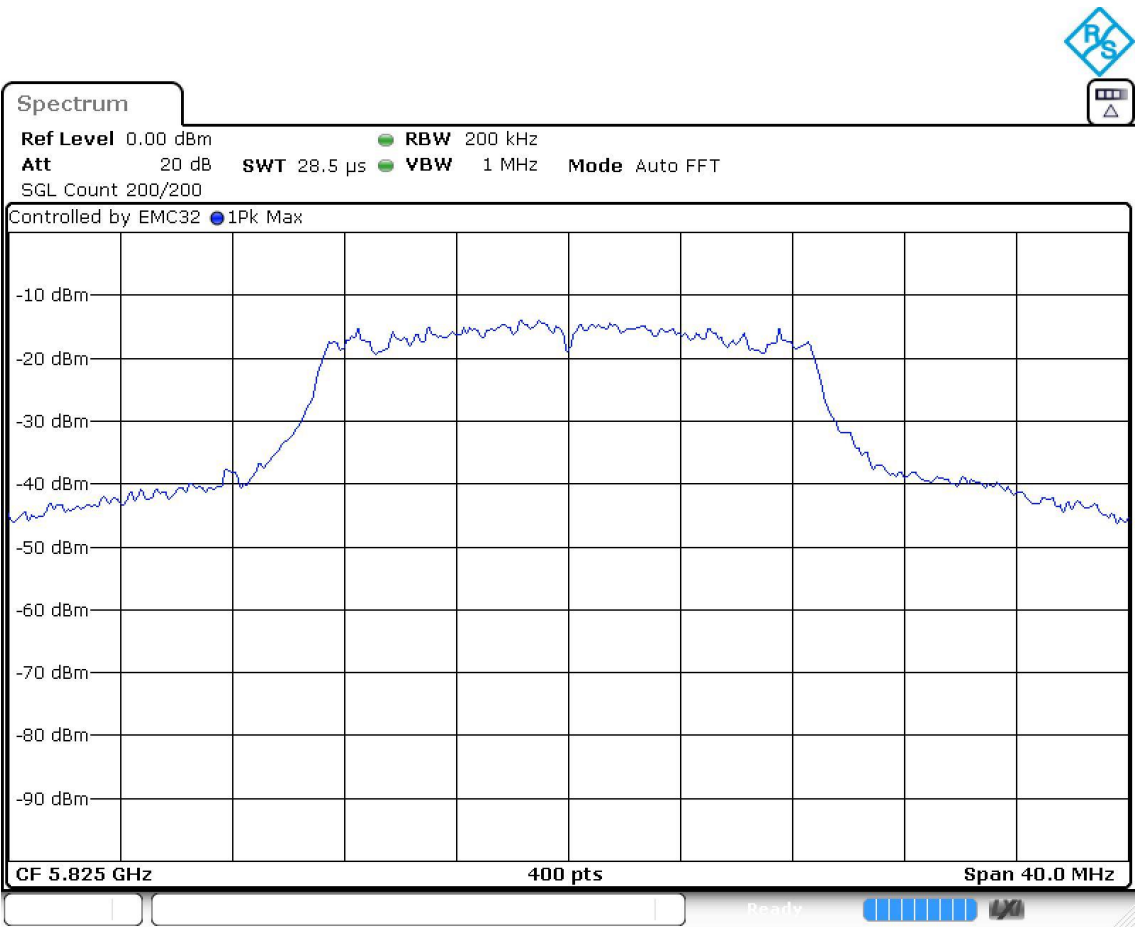
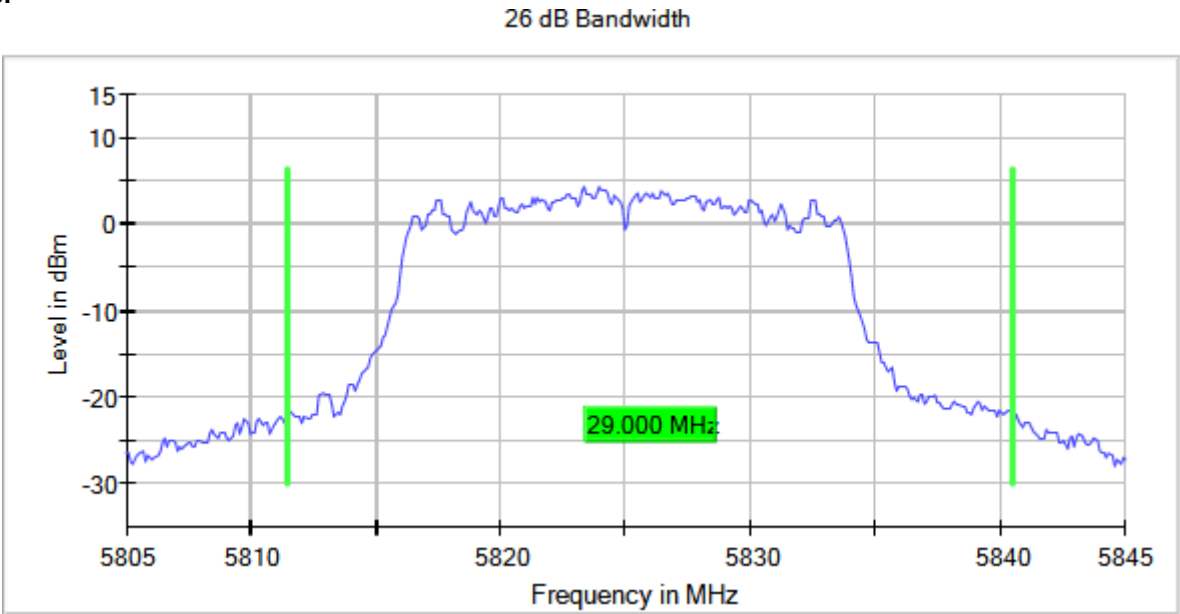
Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5785.00000 Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)
MIMO Mode = SISO

Images:



Operation Band MHz = [5725, 5850] Active Port = 1
Frequency MHz = 5825.00000 Modulation = 802.11n HT20 (OFDM MCS0 6.5 Mbit/s)
MIMO Mode = SISO

Images:



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

MIMO Mode: SISO

Results

Operation Band (MHz)	Port	Freq (MHz)	Ebw (MHz)
[5150, 5250]	1	5190.00000	40.075
		5230.00000	39.925
[5725, 5850]		5755.00000	65.441
		5795.00000	65.441

Verdict

Pass

Attachments

Operation Band MHz = [5150, 5250] Active Port = 1
Frequency MHz = 5190.00000 Modulation = 802.11n HT40 (OFDM MCS0 13.5 Mbit/s)
MIMO Mode = SISO

Images:

