



FCC LISTED, REGISTRATION
 NUMBER: 2764.01
 ISED LISTED REGISTRATION
 NUMBER: 23595-1

Test Report No:
3853ERM.012A1

Test report

USA FCC Part 15.407 (U-NII), 15.209; & CANADA RSS-210, RSS-Gen
 Unlicensed National Information Infrastructure Devices. General technical requirements.
 Licence-Exempt Radio Apparatus (All Frequency Bands): Category I Equipment.
 General Requirements and Information for the Certification of Radio Apparatus.

(*) Identification of item tested	CIVIC (Central In-Vehicle Infotainment Computer)
(*) Trademark	BOSCH
(*) Model and /or type reference	MBCI2LS3PN1
Other identification of the product	FCC ID: 2AUXS-MBCI2LS3PN1 (NA) IC: 25847-MBCI2LS3PN1 (NA) HVIN: MBCI2LS3PN1
(*) Features	AM/FM/DAB/SIRIUS, GNSS, 2.4/5GHz WLAN, Bluetooth 5.1, Video/Audio etc
Manufacturer	Robert Bosch GmbH Robert-Bosch-Strasse 200, 31139 Hildesheim Germany
Test method requested, standard	USA FCC Part 15.407 10-1-21 Edition : Unlicensed National Information Infrastructure Devices. General technical requirements. USA FCC Part 15.209 10-1-21 Edition: Radiated emission limits; general requirements. CANADA RSS-247 Issue 2 (February 2017). CANADA RSS-Gen Issue 5 (April 2018). 789033 D02 General UNII Test Procedures New Rules v02r01 Guidance for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices.
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Domingo Galvez EMC&RF Lab Manager
Date of issue	12-01-2022-
Report template No	FDT08_23 (*) "Data provided by the client"

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Acronyms

Acronym ID	Acronym Description
# of Tx Chains	Number of Transmission Chains
26Ebw	Emission Bandwidth
Avg Power	Maximum Average Conducted Output Power
DC	Duty Cycle
Detector	Detector used
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
Occ Ch BW	Occupied Channel Bandwidth
Operation Band	Operation Band
PSD	Power Spectrum Density
Pol	Polarization
Port	Active Port
TPC	TPC
Unwanted Freq	Unwanted Emissions Frequency
Unwanted Lvl	Unwanted Emissions Level

Competences and guarantees

DEKRA Certification Inc. is a testing laboratory accredited by A2LA (The American Association for Laboratory Accreditation), to perform the tests indicated in the Certificate 2764.01

DEKRA Certification Inc. is a testing laboratory competent to carry out the tests described in this report.

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

DEKRA Certification Inc. 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 Certification at the time of performance of the test.

DEKRA Certification Inc. 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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General conditions

1. This report is only referred to the item that has undergone the test.
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 Certification Inc.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Certification Inc. and the Accreditation Bodies.

Uncertainty

Uncertainty (factor $k=2$) was calculated according to the DEKRA Certification internal document PODT000.

Test case	Frequency (MHz)	U (k=2)	Units
RF Power and PSD	5150-5850	0.88	dB
Occupied Bandwidth		1.87	%
Band Edge		0.64	dB
Radiated Spurious Emission	30-180	4.27	dB
	180-1000	3.14	dB
	1000-18000	3.30	dB
	18000-40000	3.49	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 a CIVIC Central In-Vehicle Infotainment Computer, including WLAN/ Bluetooth, GPS, AM/FM/DAB receiver.

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Usage of samples

Samples undergoing test have been selected by: The client.

Sample S/01 is composed of the following elements, accessories and auxiliary equipment:

Id	Control Number	Description	Manufacturer / Model	Serial N°	Date of Reception	Application
S/01	3853/08	Central In-Vehicle Infotainment Computer	Bosch / MBCI2LS3PN1	CM0427N0006010	09/09/2022	Element Under Test
S/01	3853/16	Harness – Main connector A	-	-	09/09/2022	Accessory
S/01	3853/19	Antenna	Bosch / A1779052902/002	057577	09/09/2022	Element Under Test
S/01	3853/20	Antenna	Bosch / A1779052902/002	008686	09/09/2022	Element Under Test
S/01	3853/21	Antenna	Bosch / A1779052902/002	057584	09/09/2022	Element Under Test
S/01	3853/22	Antenna	Bosch / A1779052902/002	008733	09/09/2022	Element Under Test
S/01	3853/51	Cable – GNSS Connector	-	-	09/09/2022	Accessory
S/01	3853/55	Cable 4 in 1 – BT/Wi-Fi connector	-	-	09/09/2022	Accessory
S/01	3853/73	Cable – USB MMB Connector	-	-	09/09/2022	Accessory
S/01	3853/73.1	USB Load (dongle)	-	-	09/09/2022	Accessory
S/01	3853/75	Harness – Main connector B	-	-	09/09/2022	Accessory

1. Sample S/01 was used for the test(s): All Radiated tests indicated in appendix A, B, and C.

Test sample description

Test Sample description (compulsory information for EMC and RF testing services)

Ports..... :	Port name and description	Cable				
		Specified length [m]	Attached during test	Shielded	Coupled to patient	
	Main Connector A	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Main Connector B	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Fakra Quad Connector AM/FM/DAB		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	Fakra Single Connector GPS		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Fakra Quad Connector WLAN/BT		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Supplementary information to the ports..... :	No Data Provided					
Rated power supply	Voltage and Frequency	Reference poles				
		L1	L2	L3	N	PE
	<input type="checkbox"/>	AC:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	AC:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input checked="" type="checkbox"/>	DC: 9-16V nominal 12 VDC by vehicle battery				
<input type="checkbox"/>	DC:					
Rated Power	3.8 A					
Clock frequencies..... :	No Data Provided					
Other parameters	No Data Provided					
Software version	E030.6					
Hardware version	D1.1					
Dimensions in cm (W x H x D)	No Data Provided					
Mounting position	<input type="checkbox"/>	Table top equipment				
	<input type="checkbox"/>	Wall/Ceiling mounted equipment				
	<input type="checkbox"/>	Floor standing equipment				
	<input type="checkbox"/>	Hand-held equipment				
	<input checked="" type="checkbox"/>	Other: Cluster in the car				

Modules/parts	Module/parts of test item	Type	Manufacturer
	Antennas		
	HUD		
	SA2 Panel		
	Cameras		
Accessories (not part of the test item)	Description	Type	Manufacturer
	No Data Provided		
Documents as provided by the applicant.....	Description	File name	Issue date
	Declaration Equipment Data	LS3_Plus_FDT30_18 Declaration Equipment Data_V1_signed	11/09/2022

Copy of marking plate:



Identification of the client

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

Testing period and place

Test Location	DEKRA Certification Inc.
Date (start)	2022-10-10
Date (finish)	2022-10-12

Document history

Report number	Date	Description
3853ERM.012	11-07-2022	First release.
3853ERM.012A1	12-01-2022	Second release. Added the antenna gain MIMO calculations and plots missing. This modification of the test report cancels and replaces the test report 3853ERM.012

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: Ernesto Morales.

List of equipment used during the test

Conducted Measurements

CONTROL NUMBER	DESCRIPTION	Serial No	LAST CALIBRATION	NEXT CALIBRATION
897	AMETEK PROG DC Power supply	1707A01906	N/A	N/A
1014	FSV40 Signal Analyzer 40GHz	101626	2021-05-19	2023-05-19
1107	Ethernet SNMP Thermometer-RF1 Room	60038026952	2022-10-18	2024-10-18
1313	Wireless Measurement Software R&S EMC32	-	N/A	N/A

Radiated Measurements

CONTROL NUMBER	DESCRIPTION	Serial No	LAST CALIBRATION	NEXT CALIBRATION
878	AMETEK PROG DC Power supply	1707A01783	N/A	N/A
981	Low Noise Preamplifier	1711156B	2020-11-10	2022-11-10
1012	ESR26 EMI Test Receiver	101478	2022-04-12	2024-04-12
1014	FSV40 Signal Analyzer 40GHz	101626	2021-05-19	2023-05-19
1056	3116C Double-Ridged Waveguide Horn Antenna 19-40 GHz	213179	2020-01-10	2023-01-10
1057	3115 Double-Ridged Waveguide Horn Antenna 1-18 GHz	211373	2020-06-03	2023-06-03
1065	Ethernet SNMP Thermometer-CR Room	208587	2020-08-13	2023-08-13
1108	Ethernet SNMP Thermometer-SAC	60038026954	2022-10-18	2024-10-18
1111	Semi anechoic Absorber Lined Chamber	60038026577	2022-10-18	2024-10-18
1179	Wireless Measurement Software R&S EMC32	F169021	N/A	N/A
1314	Low Noise Preamplifier	1040-OT102236	N/A	N/A

Testing verdicts

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

Summary

FCC PART 15 PARAGRAPH / RSS-247			
Requirement	Test case	Verdict	Remark
FCC 15.407 (a) / RSS-247 6.2	Power Limits. Maximum Output Power	P	
FCC 15.407 (a) / RSS-247 6.2	Maximum Power Spectral Density	P	
FCC 2.1049 / RSS-Gen 6.7	99% Occupied Bandwidth	P	
FCC 15.403 / RSS-Gen 6.7	26 dB Emission Bandwidth	P	
FCC 15.407 (b) / RSS-247 6.2	Band-edge Conducted Emissions	P	
FCC 15.407 (e) / RSS 247 6.2.4.1	6 dB Emission Bandwidth	P	Refer 1
FCC 15.407 (b), 15.205 & 15.209 / RSS-Gen 8.9 & 8.10	Undesirable radiated emissions	P	
<p><u>Supplementary information and remarks:</u></p> <p>1. Only applicable to sub-band U-NII-3: 5.725 - 5.85 GHz.</p> <p>Appendix B.1: SISO Appendix B.2: MIMO</p>			

Appendix A: DUT Description

PRODUCT INFORMATION

Information	Description
Equipment type	Wi-Fi 5GHz
DFS Operating Mode	--
TPC Function	Yes
Antenna Specification	External
Operating Frequency Range	U-NII-1: 5150 - 5250 MHz U-NII-3: 5725 - 5825 MHz
Nominal Channel Bandwidth	20/ 40/ 80 MHz
Antenna type	SISO: Radio A SISO Radio B MIMO Radio A+ Radio B
RF Output Power	9 dBm
Antenna gain	5.0 dBi
Supply Voltage	12 Vdc
Modulation:	OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Communication Mode:	
Transmit Data Rate:	802 .11 a/n/ac/ax Rates: IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, & 54 Mbps (SISO, or MIMO with CDD) IEEE 802.11n: HT20 (OFDM MCS0-MCS23) HT40 (OFDM MCS0-MCS23) IEEE 802.11ac: VHT20 SS1 (OFDM MCS0-MCS9) VHT40 SS1 (OFDM MCS0-MCS9) VHT80 SS1 (OFDM MCS0-MCS9) IEEE 802.11ax: HE20 (OFDMA MCS0-MCS11) HE40 SS1 (OFDMA MCS0-MCS11) HE80 SS1 (OFDM MCS0-MCS11)

Appendix B: Tests results. Wi-Fi 5GHz

Appendix B

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<i>RSS-Gen 6.6 / RSS-247 6.2. [99dBW] Transmitter 99% Occupied Bandwidth</i>	102
<i>FCC 15.403 / RSS-Gen 6.7 26 dB Emission Bandwidth</i>	140
<i>FCC 15.407 (b) / RSS-247 6.2 Band-edge Conducted Emissions</i>	178
<i>FCC 15.407 (e) / RSS 247 6.2.4.1 6 dB Emission Bandwidth</i>	233
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<i>RSS-Gen 6.6 / RSS-247 6.2. [99dBW] Transmitter 99% Occupied Bandwidth</i>	353
<i>FCC 15.403 / RSS-Gen 6.7 26 dB Emission Bandwidth</i>	391
<i>FCC 15.407 (b) / RSS-247 6.2 Band-edge Conducted Emissions</i>	429
<i>FCC 15.407 (e) / RSS 247 6.2.4.1 6 dB Emission Bandwidth</i>	493
<i>FCC 15.407 (b), 15.205 & 15.209 / RSS-Gen 8.9 & 8.10 Undesirable radiated emissions</i>	522

TEST CONDITIONS

(*): Data provided by the client.

TEST CONDITIONS	DESCRIPTION																		
<p>TC#01⁽¹⁾ (a mode)</p>	<p><u>Power supply (V):</u> $V_{\text{nominal}} = 12 \text{ Vdc}$ <u>Channel Bandwidth:</u> 20 MHz <u>Test Frequencies for Conducted/Radiated tests: (Radio A, Radio B and Radio A+B)</u></p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: center;"><u>U-NII-1</u></td> <td style="text-align: center;"><u>U-NII-3</u></td> </tr> <tr> <td style="text-align: center;">Lowest range: 5180 MHz</td> <td style="text-align: center;">Lowest range: 5745 MHz</td> </tr> <tr> <td style="text-align: center;">Middle channel: 5200 MHz</td> <td style="text-align: center;">Middle channel: 5785 MHz</td> </tr> <tr> <td style="text-align: center;">Highest range: 5240 MHz</td> <td style="text-align: center;">Highest range: 5825 MHz</td> </tr> </table>	<u>U-NII-1</u>	<u>U-NII-3</u>	Lowest range: 5180 MHz	Lowest range: 5745 MHz	Middle channel: 5200 MHz	Middle channel: 5785 MHz	Highest range: 5240 MHz	Highest range: 5825 MHz										
<u>U-NII-1</u>	<u>U-NII-3</u>																		
Lowest range: 5180 MHz	Lowest range: 5745 MHz																		
Middle channel: 5200 MHz	Middle channel: 5785 MHz																		
Highest range: 5240 MHz	Highest range: 5825 MHz																		
<p>TC#02⁽¹⁾ (n mode)</p>	<p><u>Power supply (V):</u> $V_{\text{nominal}} = 12 \text{ Vdc}$ <u>Channel Bandwidth:</u> 20 MHz <u>Test Frequencies for Conducted/Radiated tests: (Radio A, Radio B and Radio A+B)</u></p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: center;"><u>U-NII-1</u></td> <td style="text-align: center;"><u>U-NII-3</u></td> </tr> <tr> <td style="text-align: center;">Lowest range: 5180 MHz</td> <td style="text-align: center;">Lowest range: 5745 MHz</td> </tr> <tr> <td style="text-align: center;">Middle channel: 5200 MHz</td> <td style="text-align: center;">Middle channel: 5785 MHz</td> </tr> <tr> <td style="text-align: center;">Highest range: 5240 MHz</td> <td style="text-align: center;">Highest range: 5825 MHz</td> </tr> </table> <p><u>Channel Bandwidth:</u> 40 MHz <u>Test Frequencies for Conducted/Radiated tests: (Radio A, Radio B and Radio A+B)</u></p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: center;"><u>U-NII-1</u></td> <td style="text-align: center;"><u>U-NII-3</u></td> </tr> <tr> <td style="text-align: center;">Lowest range: 5190 MHz</td> <td style="text-align: center;">Lowest range: 5755 MHz</td> </tr> <tr> <td style="text-align: center;">Highest range: 5230 MHz</td> <td style="text-align: center;">Highest range: 5795 MHz</td> </tr> </table>	<u>U-NII-1</u>	<u>U-NII-3</u>	Lowest range: 5180 MHz	Lowest range: 5745 MHz	Middle channel: 5200 MHz	Middle channel: 5785 MHz	Highest range: 5240 MHz	Highest range: 5825 MHz	<u>U-NII-1</u>	<u>U-NII-3</u>	Lowest range: 5190 MHz	Lowest range: 5755 MHz	Highest range: 5230 MHz	Highest range: 5795 MHz				
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Lowest range: 5190 MHz	Lowest range: 5755 MHz																		
Highest range: 5230 MHz	Highest range: 5795 MHz																		
<p>TC#03⁽¹⁾ (ac mode)</p>	<p><u>Power supply (V):</u> $V_{\text{nominal}} = 12 \text{ Vdc}$ <u>Channel Bandwidth:</u> 20 MHz <u>Test Frequencies for Conducted/Radiated tests: (Radio A, Radio B and Radio A+B)</u></p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: center;"><u>U-NII-1</u></td> <td style="text-align: center;"><u>U-NII-3</u></td> </tr> <tr> <td style="text-align: center;">Lowest range: 5180 MHz</td> <td style="text-align: center;">Lowest range: 5745 MHz</td> </tr> <tr> <td style="text-align: center;">Middle channel: 5200 MHz</td> <td style="text-align: center;">Middle channel: 5785 MHz</td> </tr> <tr> <td style="text-align: center;">Highest range: 5240 MHz</td> <td style="text-align: center;">Highest range: 5825 MHz</td> </tr> </table> <p><u>Channel Bandwidth:</u> 40 MHz <u>Test Frequencies for Conducted/Radiated tests: (Radio A, Radio B and Radio A+B)</u></p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: center;"><u>U-NII-1</u></td> <td style="text-align: center;"><u>U-NII-3</u></td> </tr> <tr> <td style="text-align: center;">Lowest range: 5190 MHz</td> <td style="text-align: center;">Lowest range: 5755 MHz</td> </tr> <tr> <td style="text-align: center;">Highest range: 5230 MHz</td> <td style="text-align: center;">Highest range: 5795 MHz</td> </tr> </table> <p><u>Channel Bandwidth:</u> 80 MHz <u>Test Frequencies for Conducted/Radiated tests: (Radio A, Radio B and Radio A+B)</u></p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: center;"><u>U-NII-1</u></td> <td style="text-align: center;"><u>U-NII-3</u></td> </tr> <tr> <td style="text-align: center;">Single range: 5210 MHz</td> <td style="text-align: center;">Single range: 5755 MHz</td> </tr> </table>	<u>U-NII-1</u>	<u>U-NII-3</u>	Lowest range: 5180 MHz	Lowest range: 5745 MHz	Middle channel: 5200 MHz	Middle channel: 5785 MHz	Highest range: 5240 MHz	Highest range: 5825 MHz	<u>U-NII-1</u>	<u>U-NII-3</u>	Lowest range: 5190 MHz	Lowest range: 5755 MHz	Highest range: 5230 MHz	Highest range: 5795 MHz	<u>U-NII-1</u>	<u>U-NII-3</u>	Single range: 5210 MHz	Single range: 5755 MHz
<u>U-NII-1</u>	<u>U-NII-3</u>																		
Lowest range: 5180 MHz	Lowest range: 5745 MHz																		
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Highest range: 5240 MHz	Highest range: 5825 MHz																		
<u>U-NII-1</u>	<u>U-NII-3</u>																		
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Highest range: 5230 MHz	Highest range: 5795 MHz																		
<u>U-NII-1</u>	<u>U-NII-3</u>																		
Single range: 5210 MHz	Single range: 5755 MHz																		

TEST CONDITIONS	DESCRIPTION
TC#04 ⁽¹⁾⁽²⁾ (ax mode)	<u>Power supply (V):</u>
	$V_{nominal} = 12 \text{ Vdc}$
	<u>Channel Bandwidth: 20 MHz</u>
	<u>Test Frequencies for Conducted/Radiated tests: (Radio A, Radio B and Radio A+B)</u>
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <u>U-NII-1</u> Lowest range: 5180 MHz Middle channel: 5200 MHz Highest range: 5240 MHz </div> <div style="text-align: center;"> <u>U-NII-3</u> Lowest range: 5745 MHz Middle channel: 5785 MHz Highest range: 5825 MHz </div> </div>
	<u>Channel Bandwidth: 40 MHz</u>
<u>Test Frequencies for Conducted/Radiated tests: (Radio A, Radio B and Radio A+B)</u>	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <u>U-NII-1</u> Lowest range: 5190 MHz Highest range: 5230 MHz </div> <div style="text-align: center;"> <u>U-NII-3</u> Lowest range: 5755 MHz Highest range: 5795 MHz </div> </div>	
<u>Channel Bandwidth: 80 MHz</u>	
<u>Test Frequencies for Conducted/Radiated tests: (Radio A, Radio B and Radio A+B)</u>	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <u>U-NII-1</u> Single range: 5210 MHz </div> <div style="text-align: center;"> <u>U-NII-3</u> Single range: 5755 MHz </div> </div>	

(1) 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/modulation types.
- Preliminary tests determined the SISO worst case: Port 2.

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 SISO/MIMO 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 a20: 6 Mbps - SISO/MIMO
- 802.11 n HT20/40: MCS0 - SISO/MIMO
- 802.11 ac VHT20/40/80: MCS0 - SISO/MIMO
- 802.11 ax HE20/40/80: MCS0 - SISO/MIMO

The worst cases for SISO/MIMO testing were identified for Unwanted Spurious emissions which were selected based on preliminary testing that correspond to next modes:

- 802.11 a20: 6 Mbps - MIMO
- 802.11 ac VHT40: MCS0 - MIMO
- 802.11 ac VHT80: MCS0 - MIMO

(2) Preliminary measurements determined the PSD levels of partial RU is higher than the full RU in ax mode. RU 26 tone was identified as the worst-case RU (Resource Unit) carrier allocation for all ax mode testing. The worst case RU combinations used in the measurement are indicated as follows:

- 20 MHz BW - Low channel: RU26 offset 0, Mid channel: RU26 offset 4, and High channel: RU26 offset 8
- 40 MHz BW
U-NII-1 - Low channel: RU26 offset 9 and High channel: RU26 offset 17
U-NII-3 - Low channel: RU26 offset 0 and High channel: RU26 offset 17
- 80 MHz BW - RU26 offset 0

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)i), directional gain was calculated as follows:

- For power spectral density (PSD) measurements:
Directional gain_{PSD} = $G_{ANT} + 10 \log(N_{ANT}/N_{SS})$ dBi

 $N_{SS} = 1$ (worst case), $N_{ANT} = 2$, $G_{ANT} = +5$ dBi

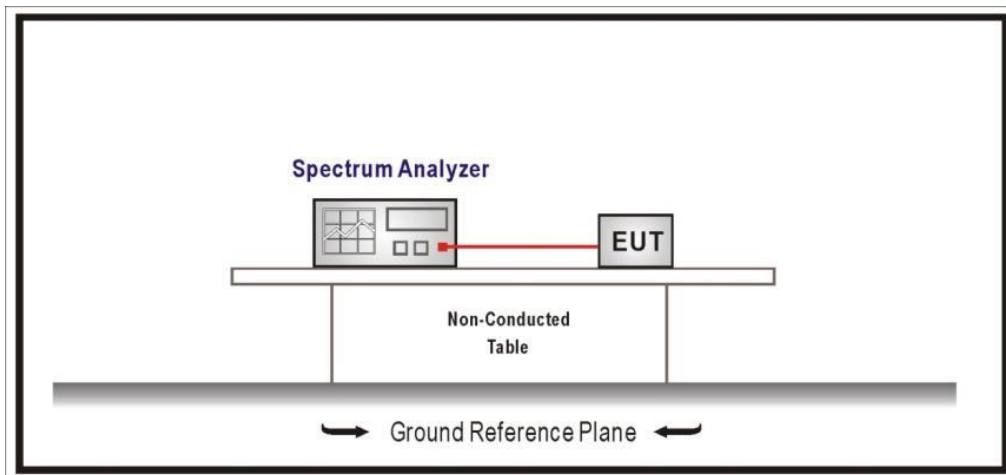
Directional gain_{PSD} = $2 + 10 \log(2/1) = 2 + 10\log(2) = 5 + 3.01 = + 8.01$ dBi

PSD Antenna Gain MIMO Chain 0 & 1: + 8.01 dBi
- For power measurements:
Directional gain_{POWER} = G_{ANT} dBi ($N_{ANT} < 4$)

Directional gain_{POWER} = $G_{ANT} = + 5$ dBi

Power Antenna Gain MIMO Chain 0 & 1: + 5 dBi

CONDUCTED MEASUREMENTS:



RADIATED MEASUREMENTS:

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at 3 m for the frequency range 30-1000 MHz (Bilog antenna) and 1-18 GHz Double ridge horn antennas, and 1m for the frequency range 18 GHz- 26 GHz Double ridge horn antenna.

For radiated emissions in the range 18 - 26 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

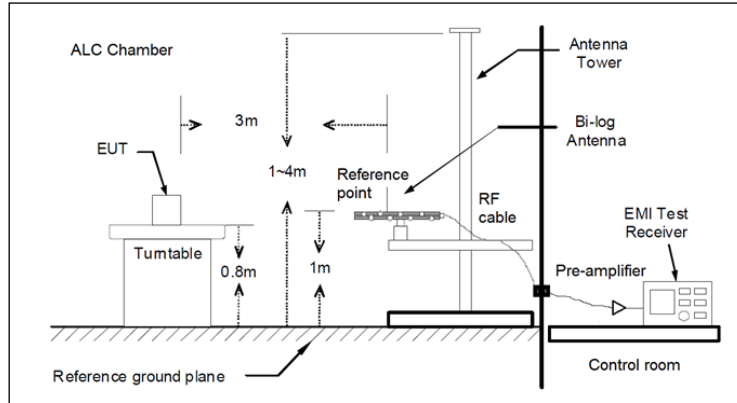


Fig A1: Radiated measurements Setup $f < 1$ GHz

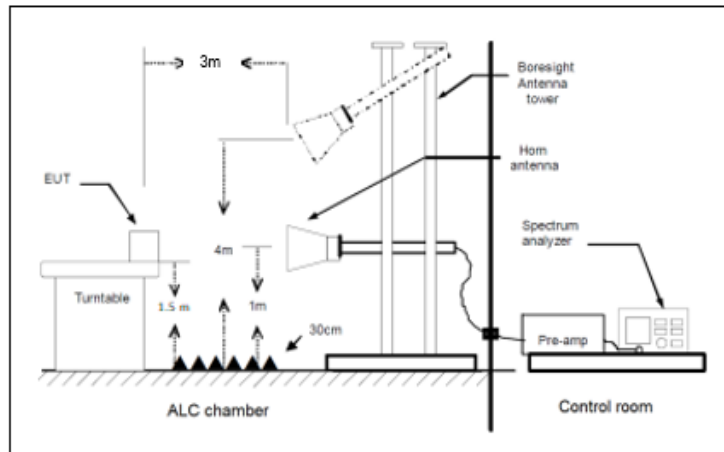


Fig A2: Radiated measurements setup $f > 1-18$ GHz

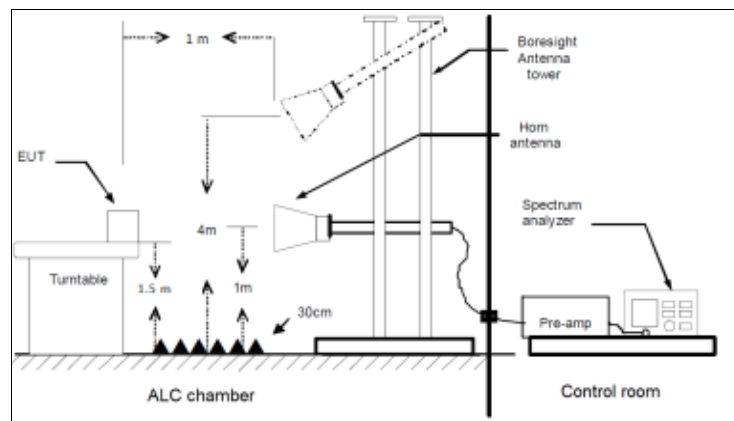


Fig A3: Radiated measurements setup $f > 18$ GHz

Appendix B.1: SISO

TEST CASES DETAILS

FCC 15.407 (a) / RSS-247 6.2 Power Limits. Maximum Output Power

Limits

FCC 15.407:

For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.850 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

RSS-247:

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or $1.76 + 10 \log_{10} B$, dBm, whichever is less. Devices shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For devices other than devices installed in vehicles:

For the band 5.15-5.25 GHz, the maximum e.i.r.p. shall not exceed 200 mW (23 dBm) or $10 + 10 \log_{10} B$, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.

For the 5.25-5.35 GHz, 5.470-5.6 GHz, and 5.650-5.725 GHz bands, the maximum conducted output power shall not exceed 250 mW (24 dBm) or $11 + 10 \log_{10} B$, dBm, whichever power is less. The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less

For the band 5.725-5.850 GHz, the maximum conducted output power shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Maximum declared antenna gain: 5 dBi

Note: The following test results are shown based on KDB 662911 D01 Multiple Transmitter Output v02r01 E) 1) In-Band Power Measurements.

Mode: SISO worst

Modulation: 802.11a (OFDM 6 Mbit/s)

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Avg Power (dBm)	Max EIRP (dBm)
2	5180.00000	No	1	7.2	12.2
2	5200.00000	No	1	7.5	12.5
2	5240.00000	No	1	7.6	12.6
2	5745.00000	No	1	6.2	11.2
2	5785.00000	No	1	6.5	11.5
2	5825.00000	No	1	6.5	11.5

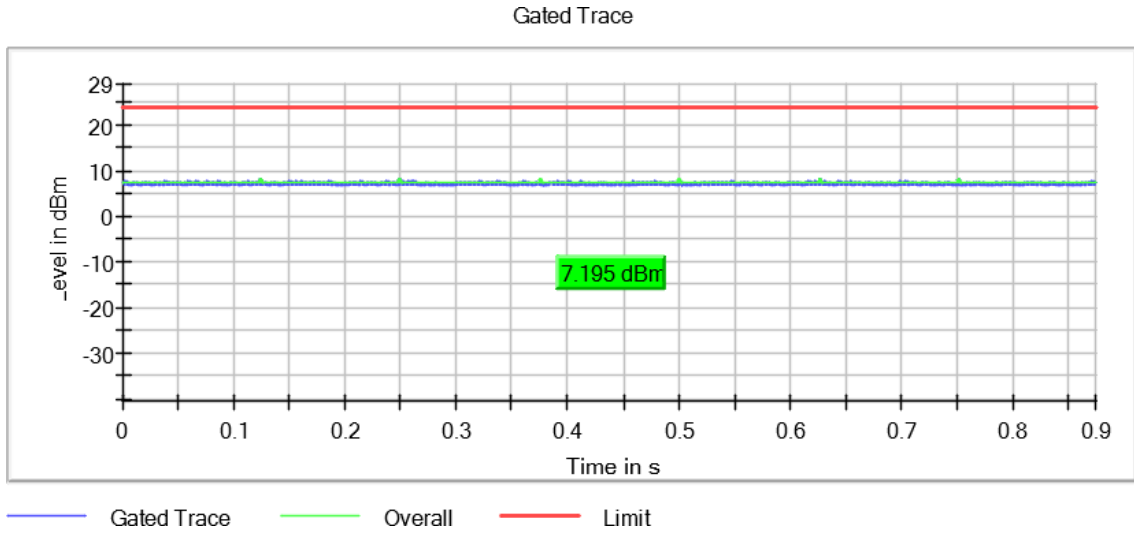
Verdict

Pass

Attachments

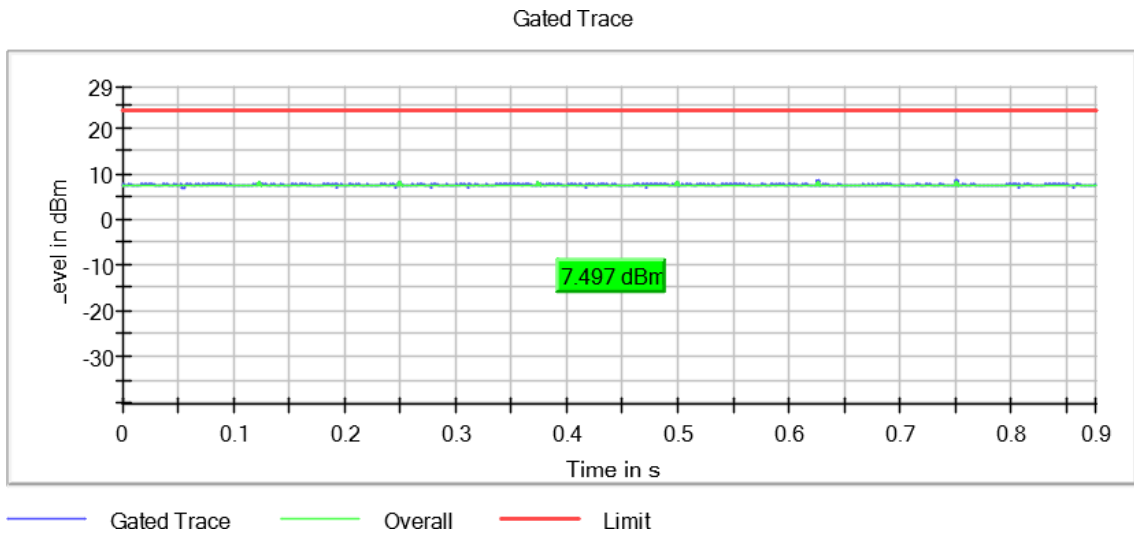
Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11a (OFDM 6 Mbit/s), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



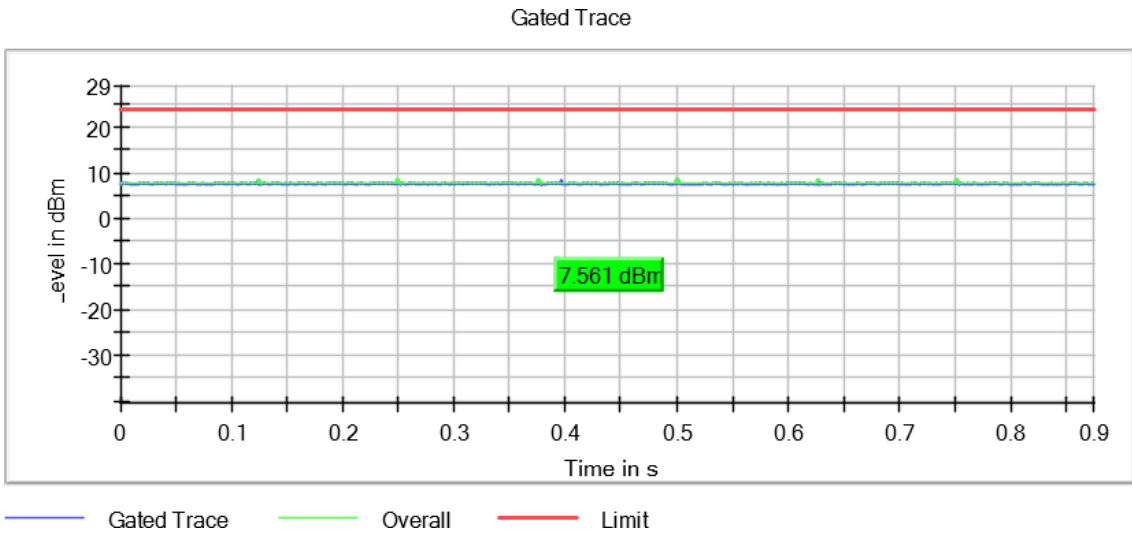
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Images:



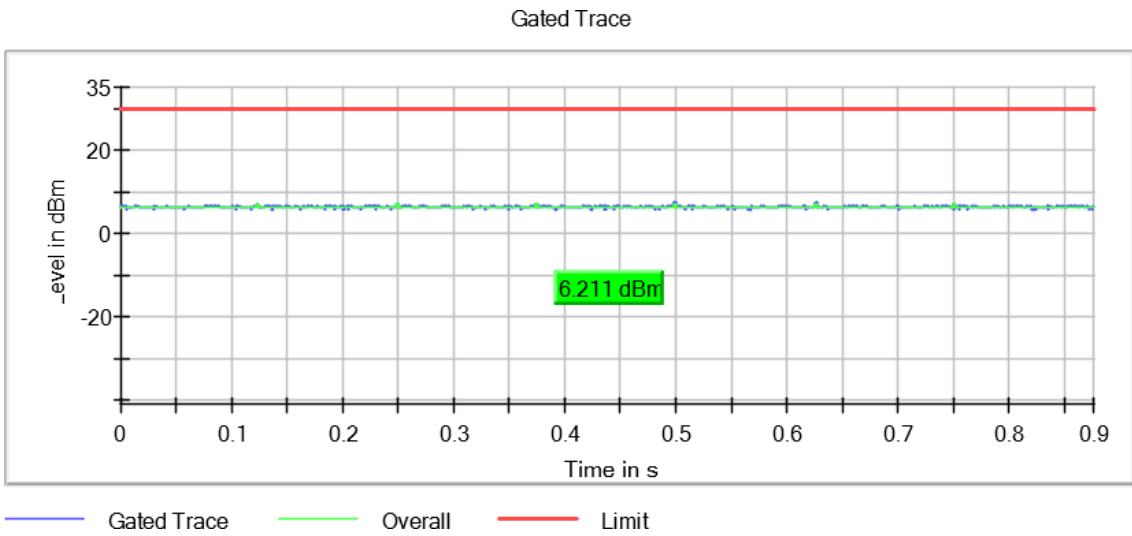
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Images:



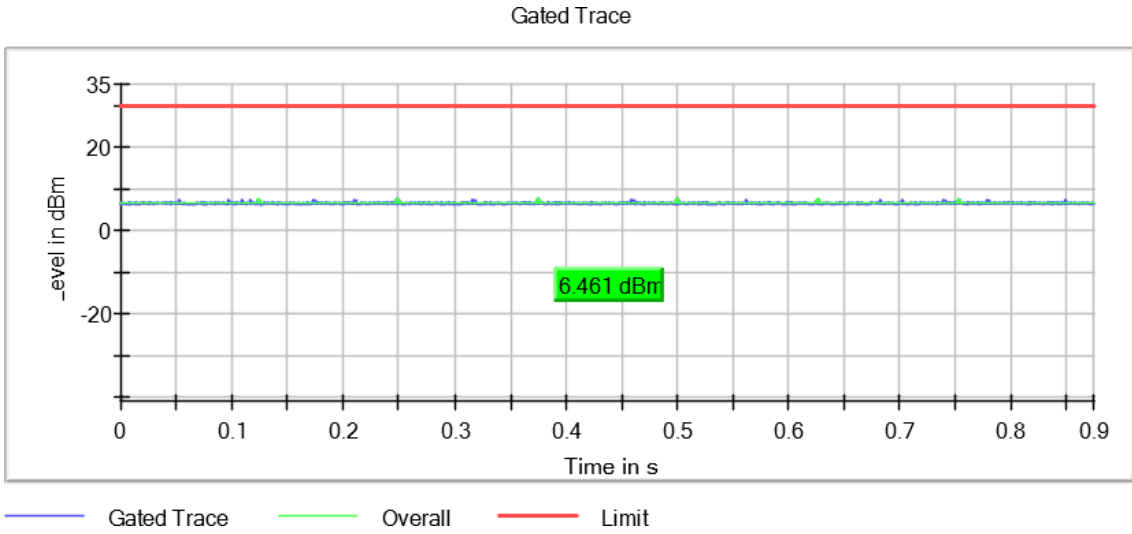
Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11a (OFDM 6 Mbit/s), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



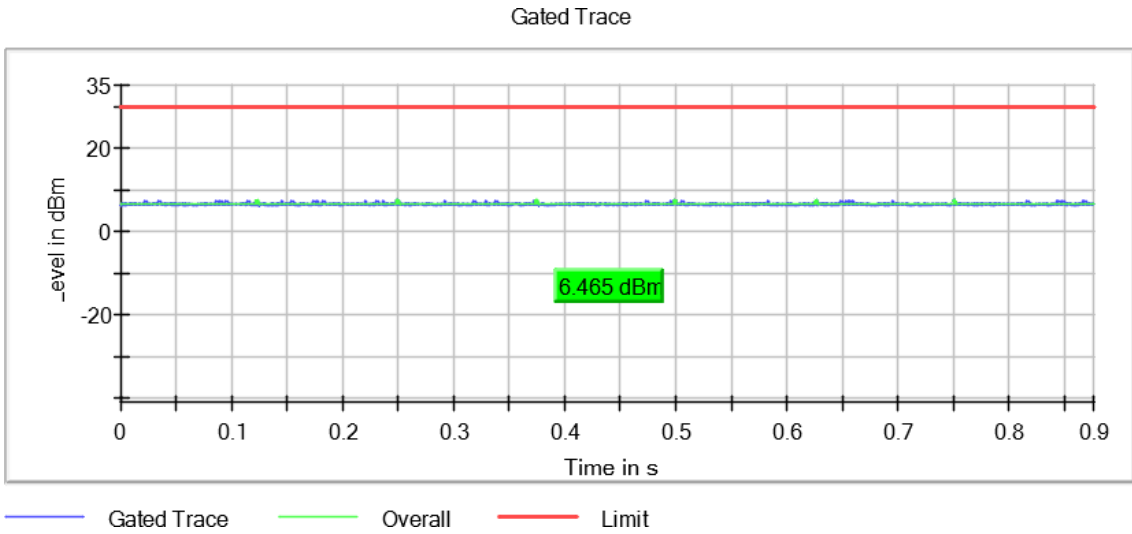
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11a (OFDM 6 Mbit/s), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11a (OFDM 6 Mbit/s), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

Modulation: 802.11n HT20 (OFDM MCS0)

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Avg Power (dBm)	Max EIRP (dBm)
2	5180.00000	No	1	7.4	12.4
2	5200.00000	No	1	7.6	12.6
2	5240.00000	No	1	7.7	12.7
2	5745.00000	No	1	6.2	11.2
2	5785.00000	No	1	6.6	11.6
2	5825.00000	No	1	6.5	11.5

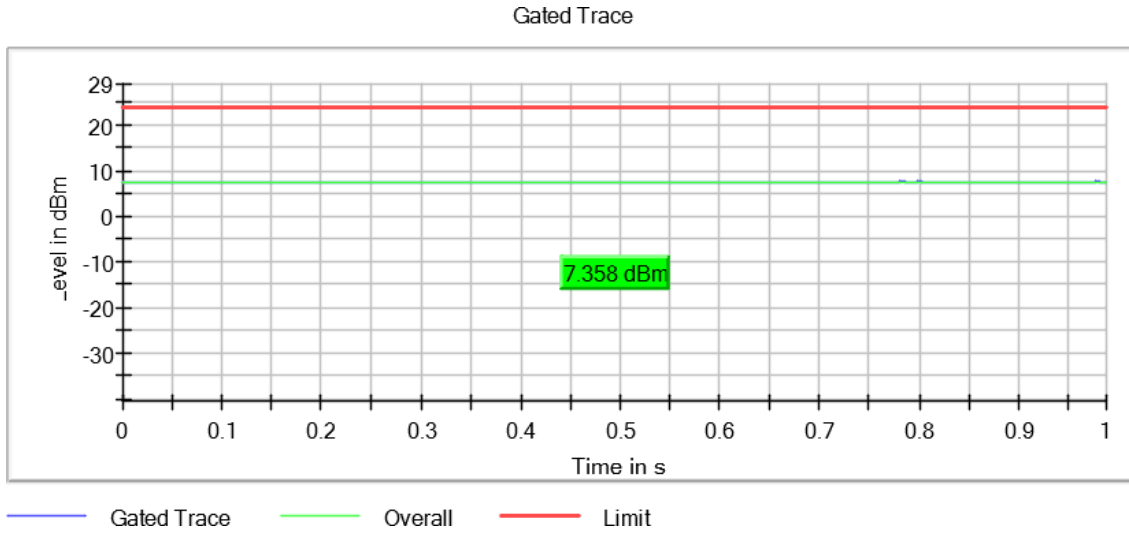
Verdict

Pass

Attachments

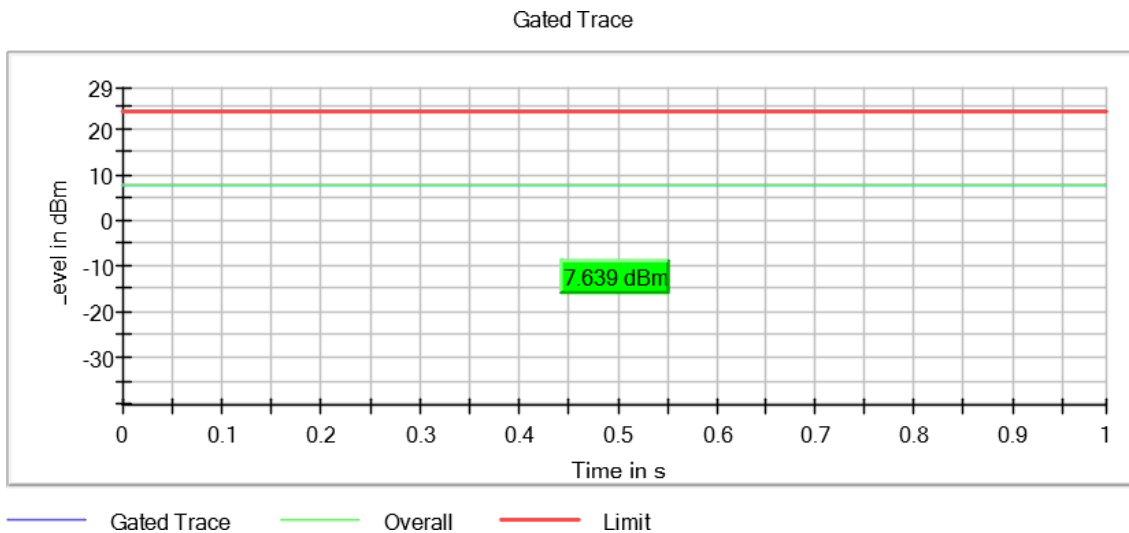
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Images:



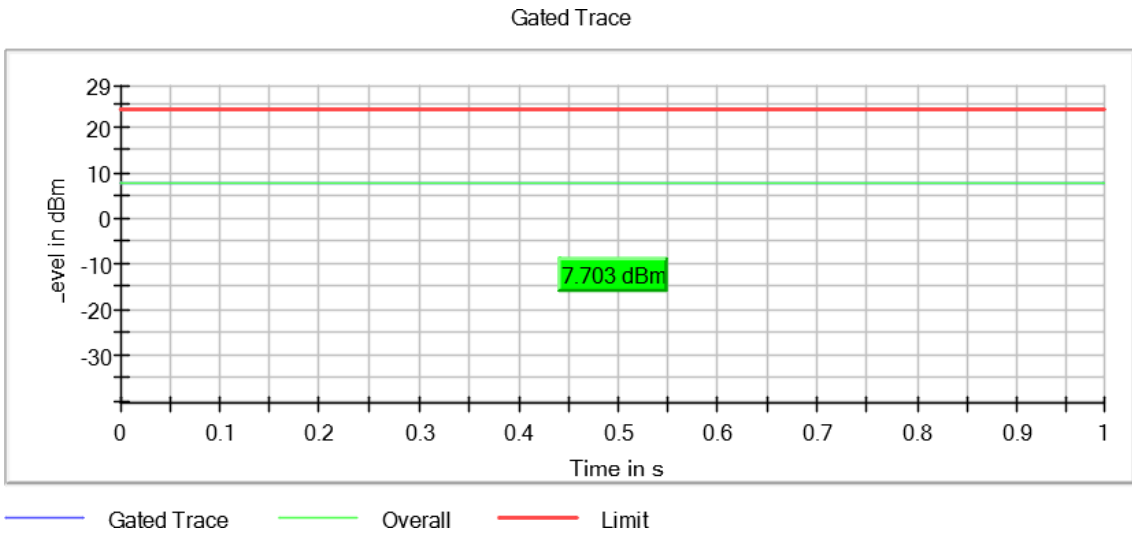
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Images:



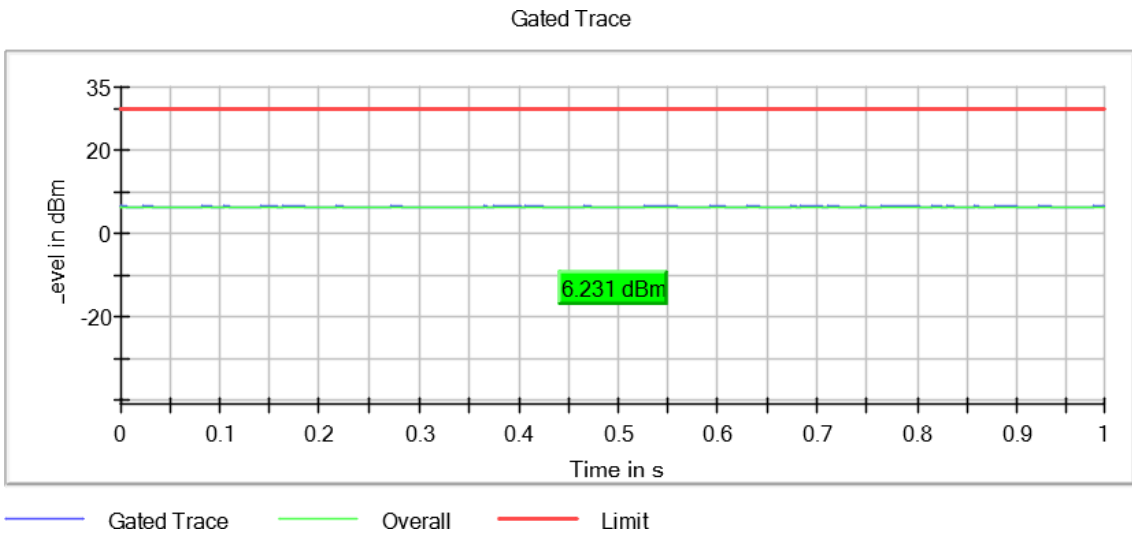
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Images:



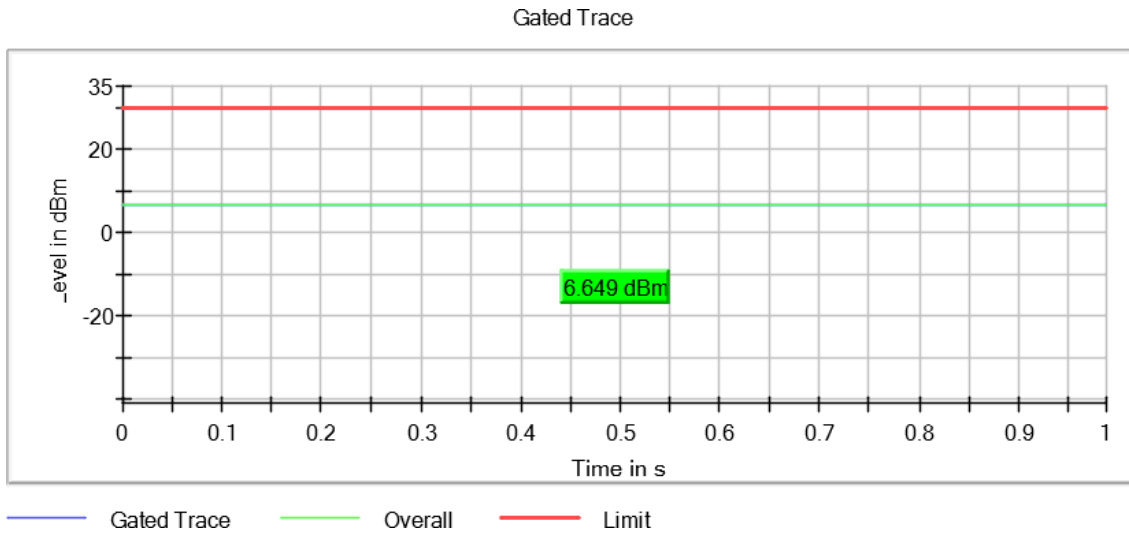
Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11n HT20 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



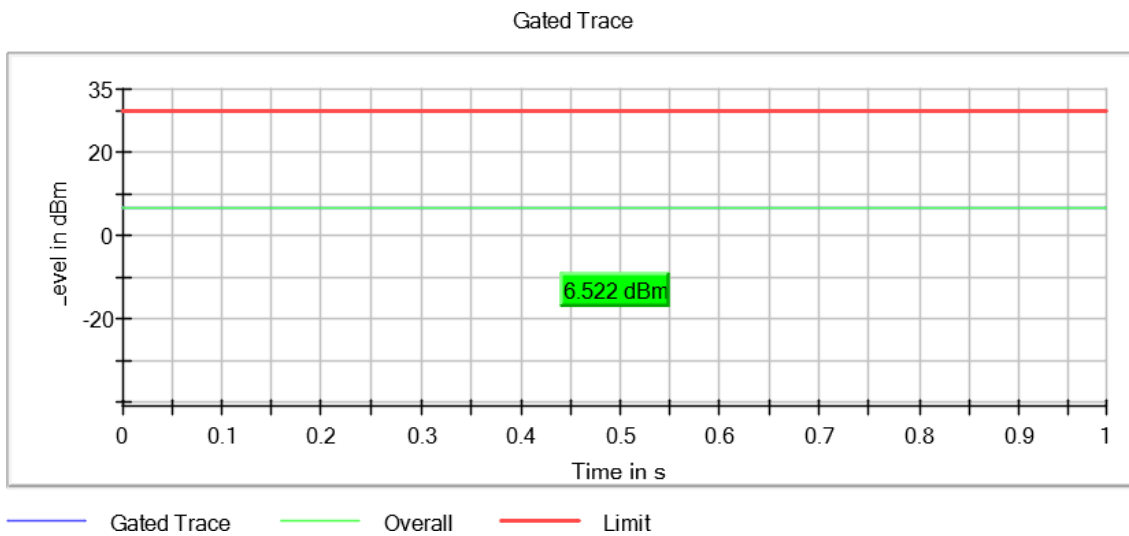
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11n HT20 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11n HT20 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

Mode: SISO worst

Modulation: **802.11n HT40 (OFDM MCS0)**

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Avg Power (dBm)	Max EIRP (dBm)
2	5190.00000	No	1	7.7	12.7
2	5230.00000	No	1	7.8	12.8
2	5755.00000	No	1	6.3	11.3
2	5795.00000	No	1	6.5	11.5

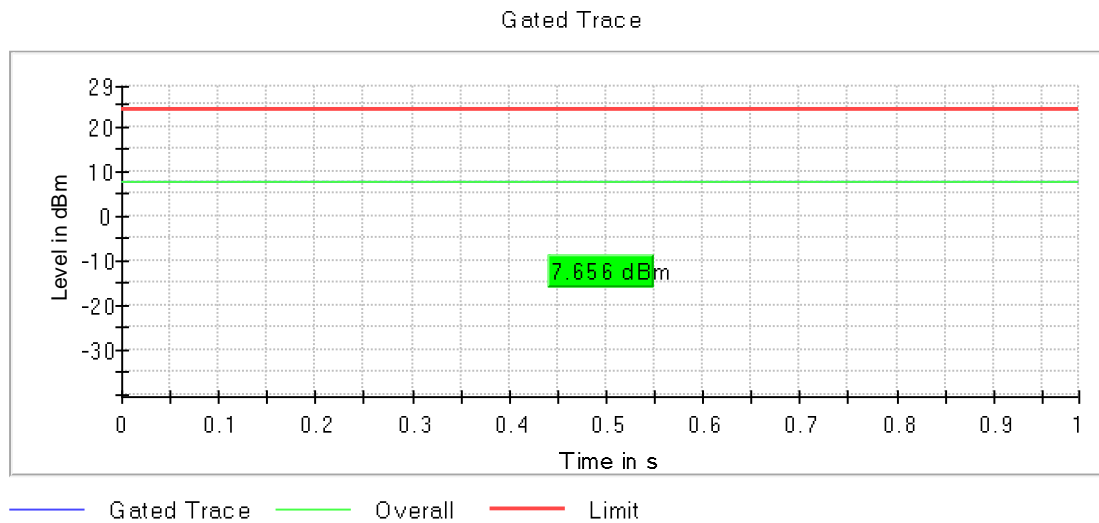
Verdict

Pass

Attachments

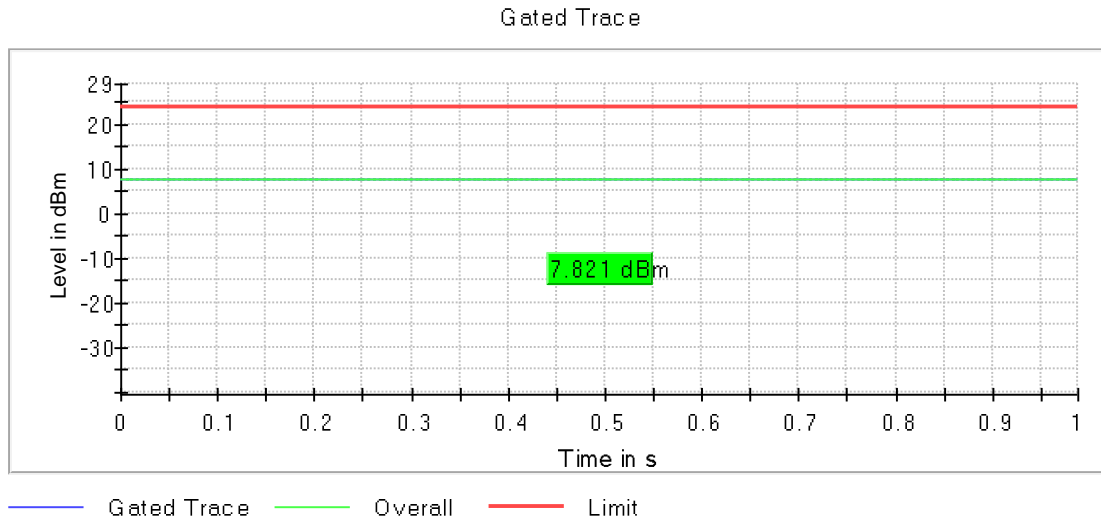
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Images:



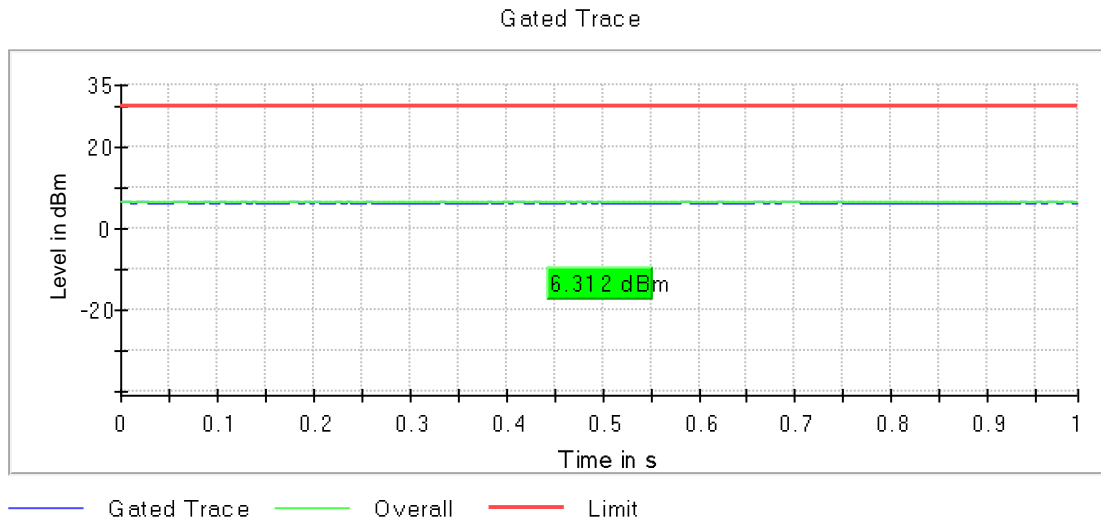
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Images:



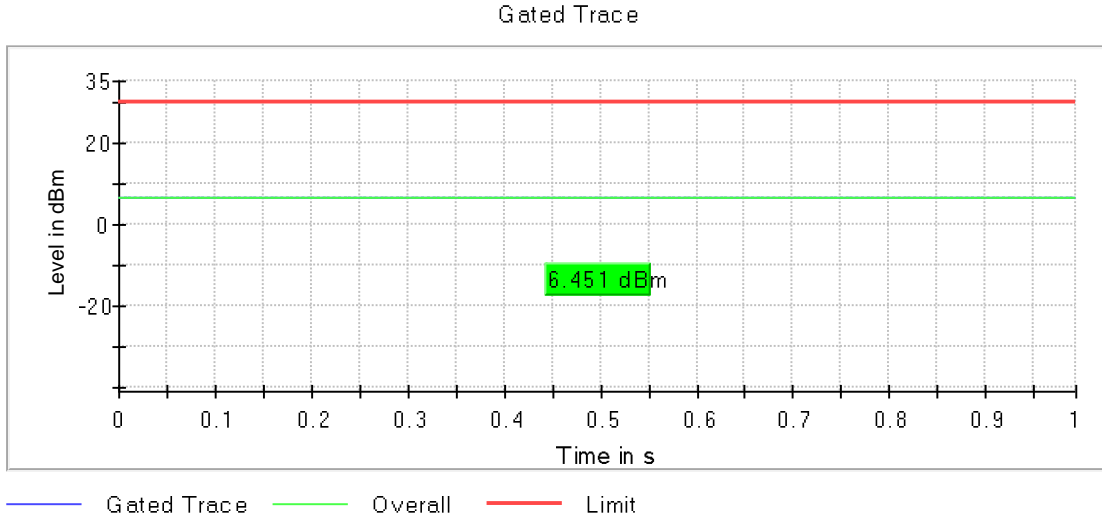
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Images:



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11n HT40 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

Mode: SISO worst

Modulation: 802.11ac VHT20 SS1 (OFDM MCS0)

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Avg Power (dBm)	Max EIRP (dBm)
2	5180.00000	No	1	7.2	12.2
2	5200.00000	No	1	7.4	12.4
2	5240.00000	No	1	7.6	12.6
2	5745.00000	No	1	6.1	11.1
2	5785.00000	No	1	6.4	11.4
2	5825.00000	No	1	6.3	12.2

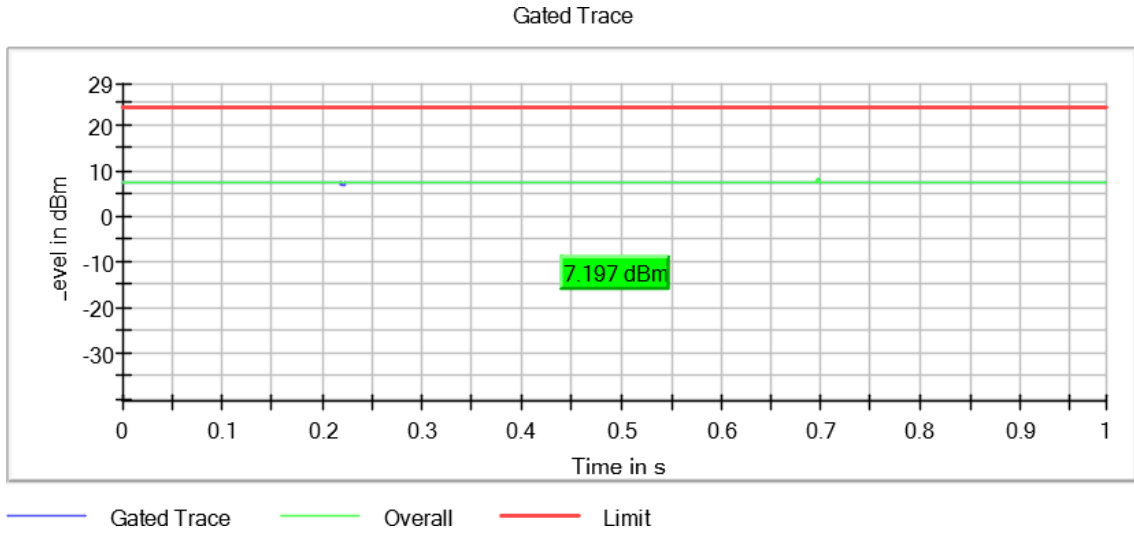
Verdict

Pass

Attachments

Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

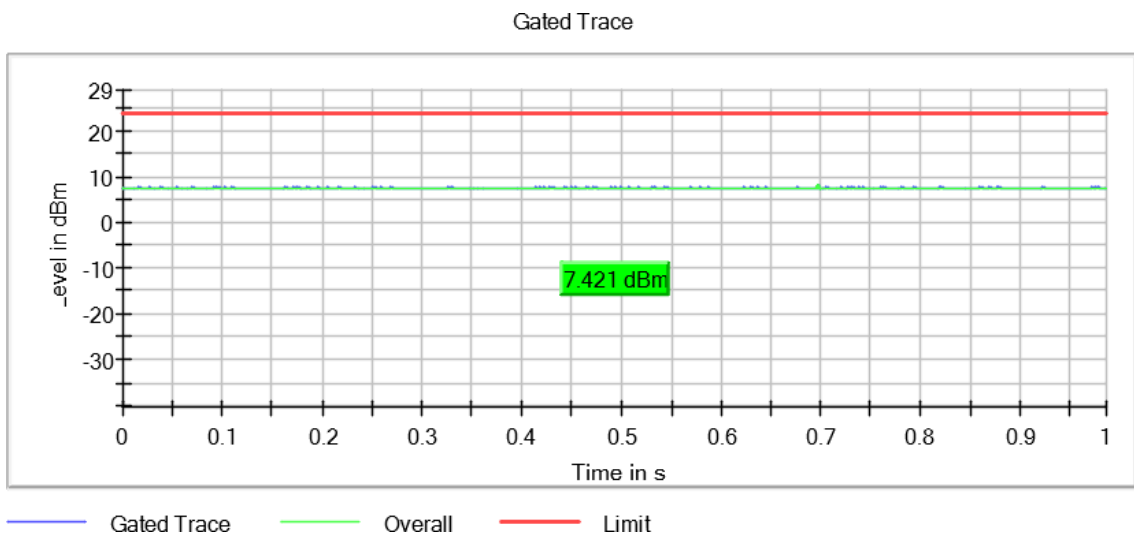


Tables:

Spectrum Analyzer Parameters

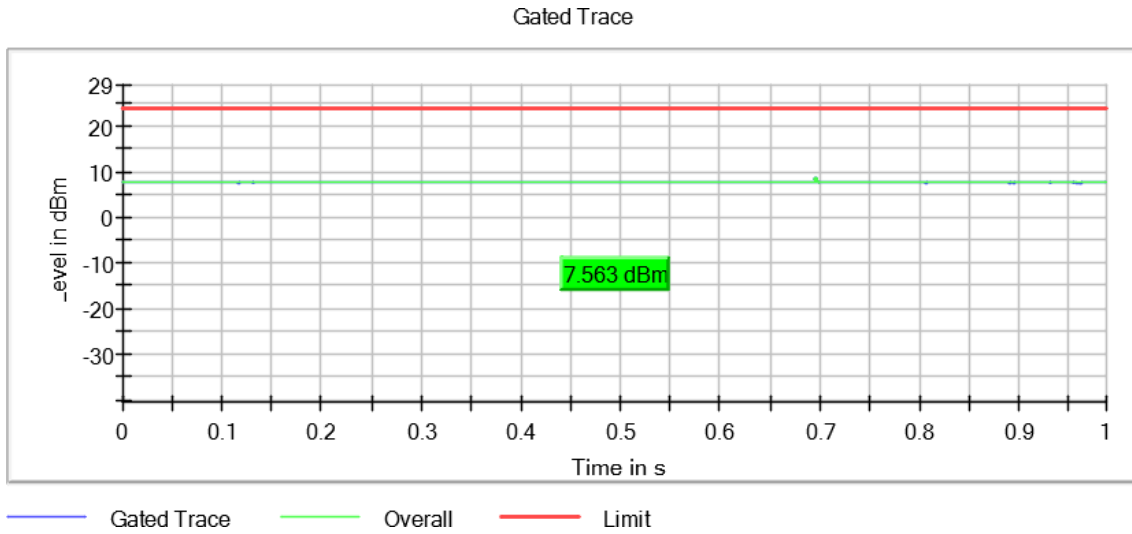
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Images:



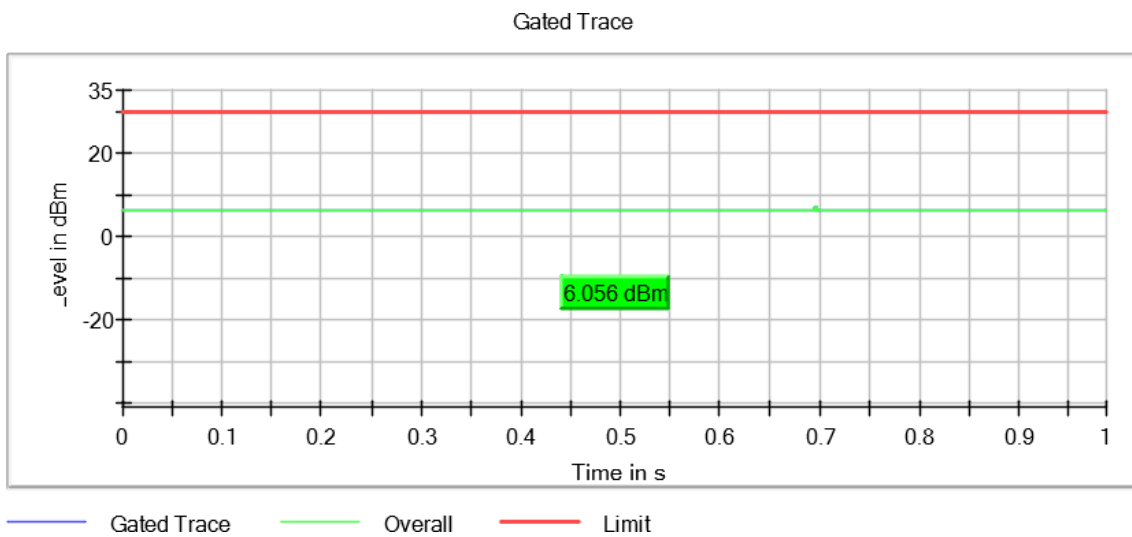
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Images:



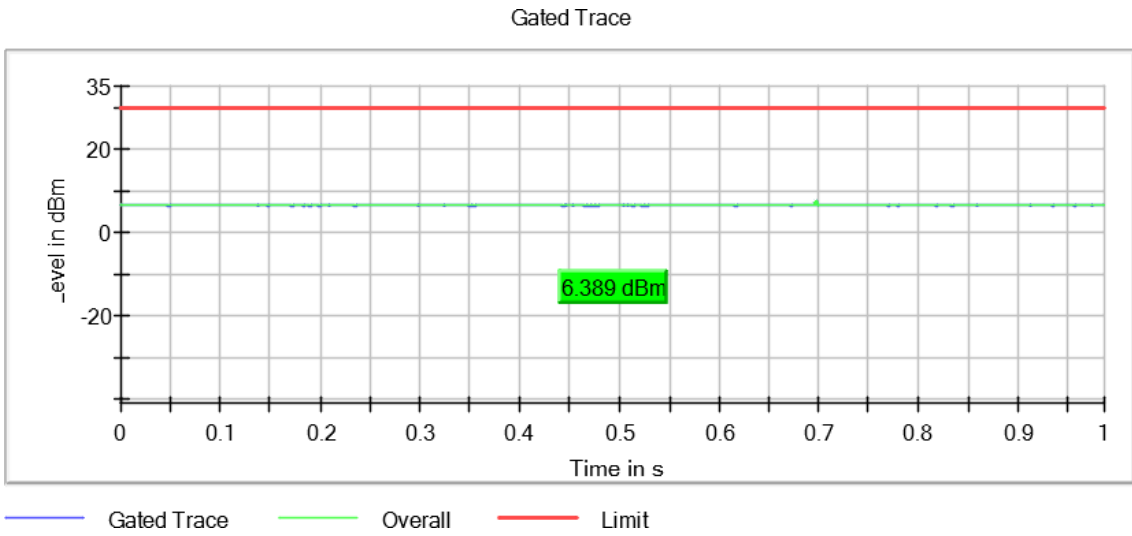
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Images:



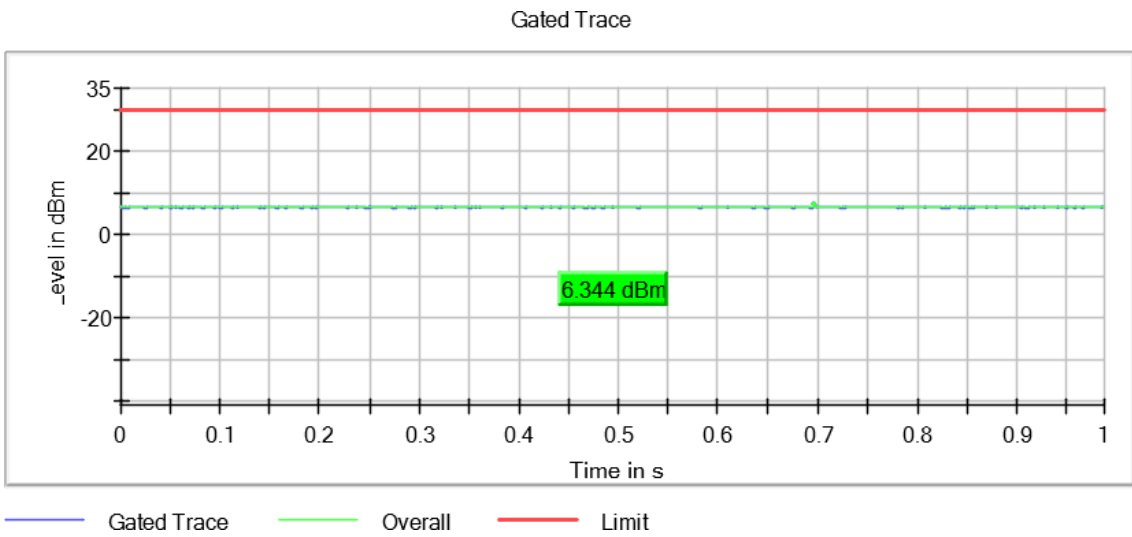
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

Mode: SISO worst

Modulation: 802.11ac VHT40 SS1 (OFDM MCS0)

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Avg Power (dBm)	Max EIRP (dBm)
2	5190.00000	No	1	7.6	12.6
2	5230.00000	No	1	7.8	12.8
2	5755.00000	No	1	6.3	11.3
2	5795.00000	No	1	6.4	11.4

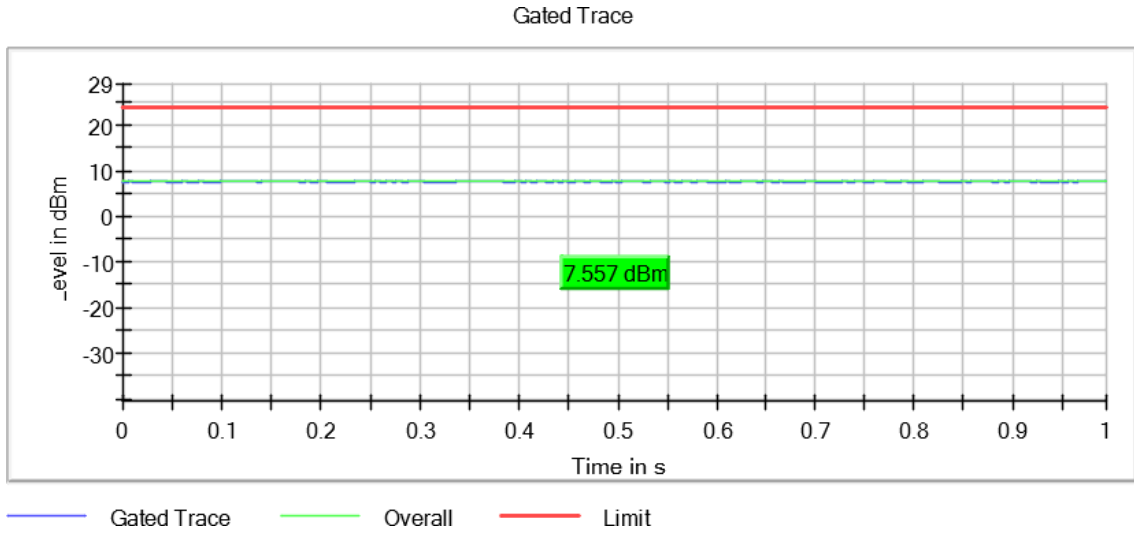
Verdict

Pass

Attachments

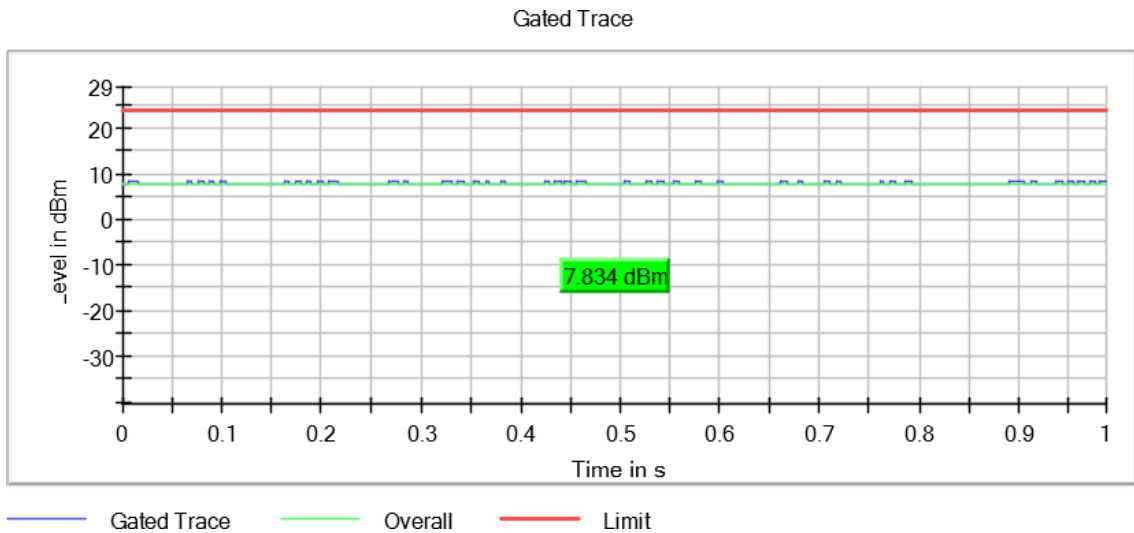
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Images:



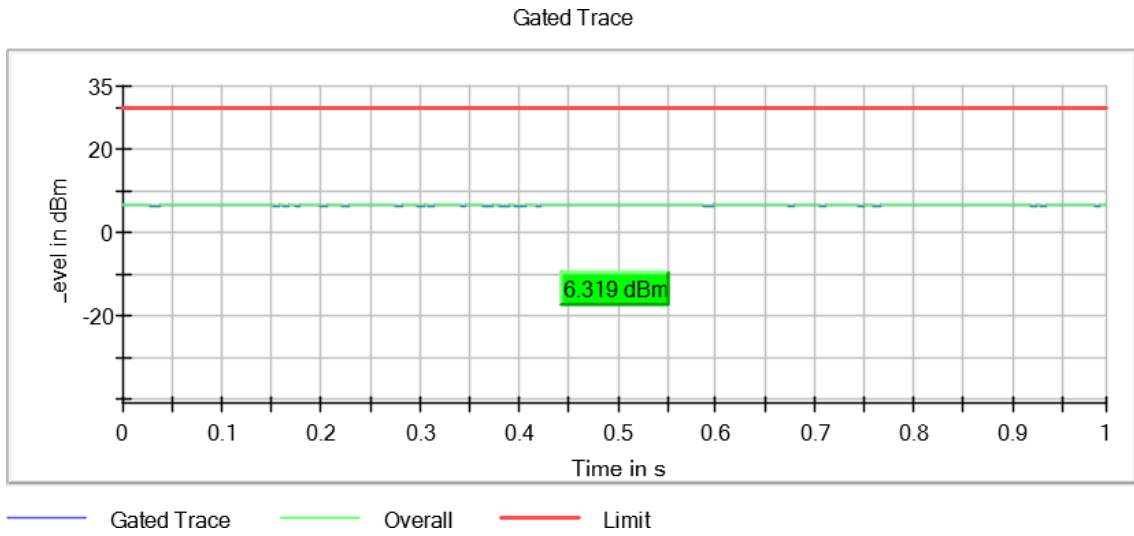
Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



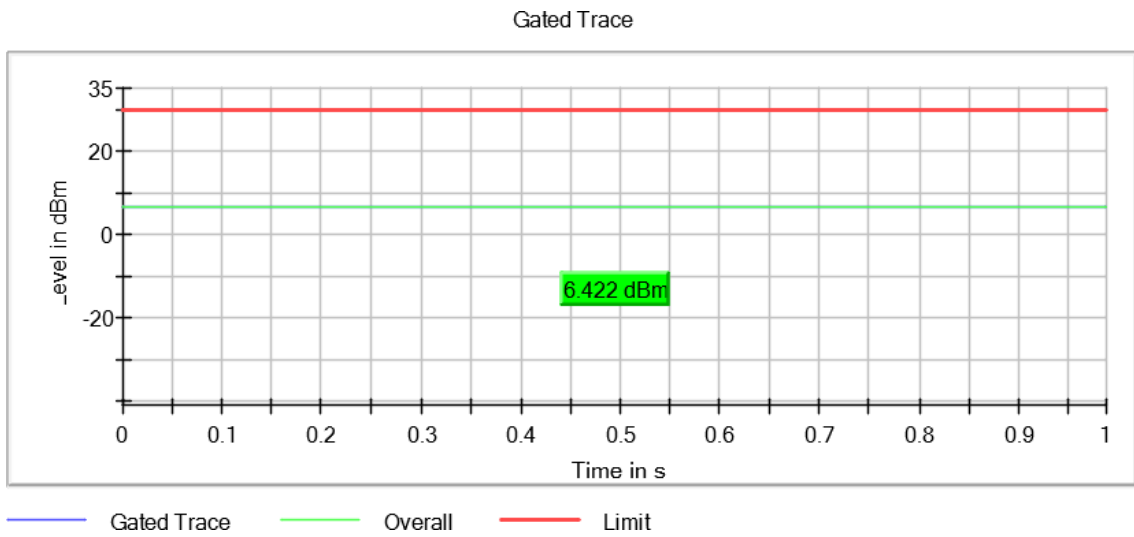
Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

Mode: SISO worst

Modulation: 802.11ac VHT80 SS1 (OFDM MCS0)

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Avg Power (dBm)	Max EIRP (dBm)
2	5210.00000	No	1	7.1	12.1
2	5775.00000	No	1	6.4	11.4

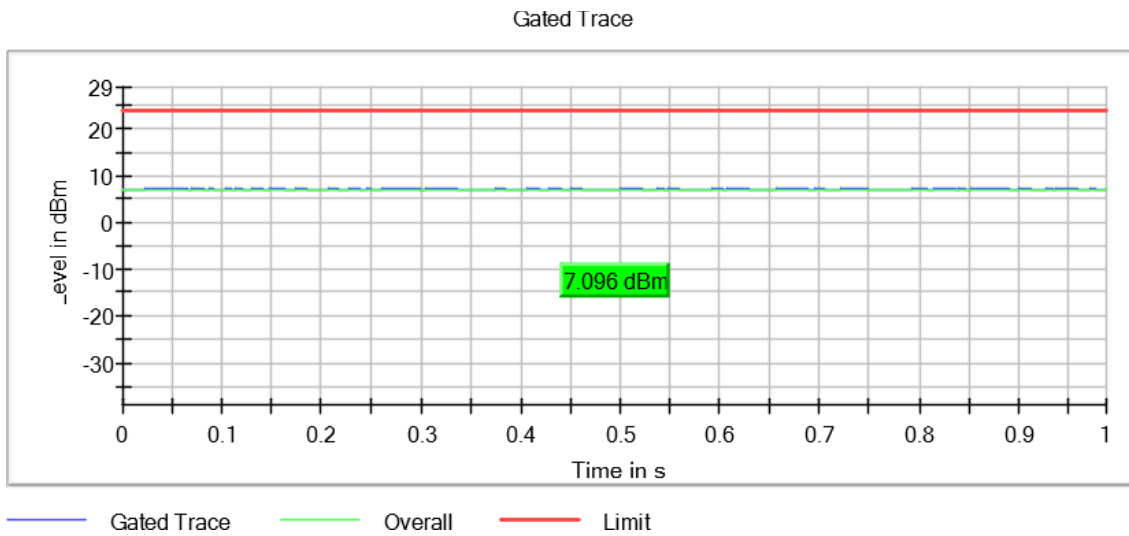
Verdict

Pass

Attachments

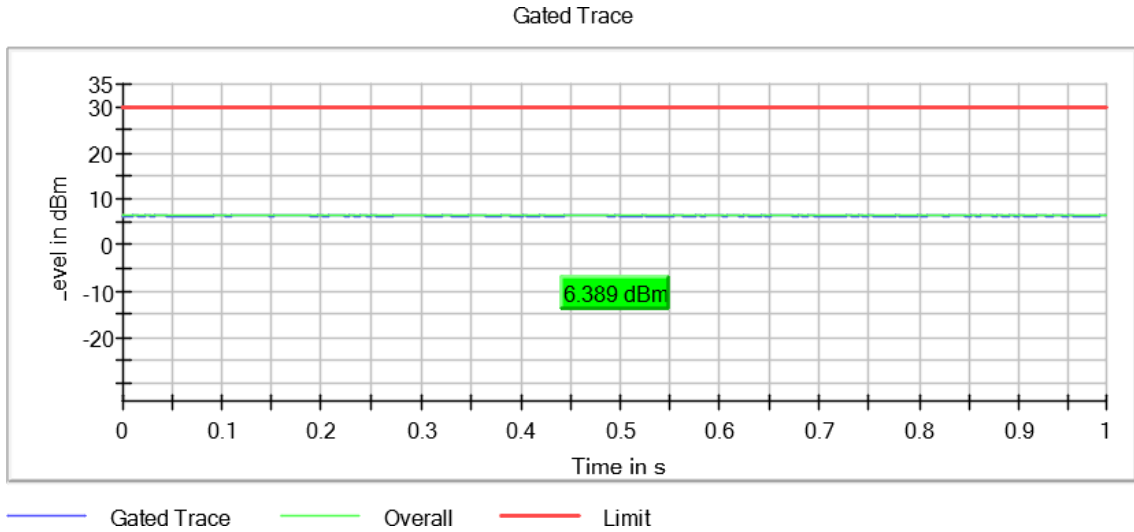
Active Port = 2, Frequency MHz = 5210.00000, Modulation = 802.11ac VHT80 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5775.00000, Modulation = 802.11ac VHT80 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

Mode: SISO worst

Modulation: 802.11ax HE20 (OFDMA MCS0) – Full RU

Results

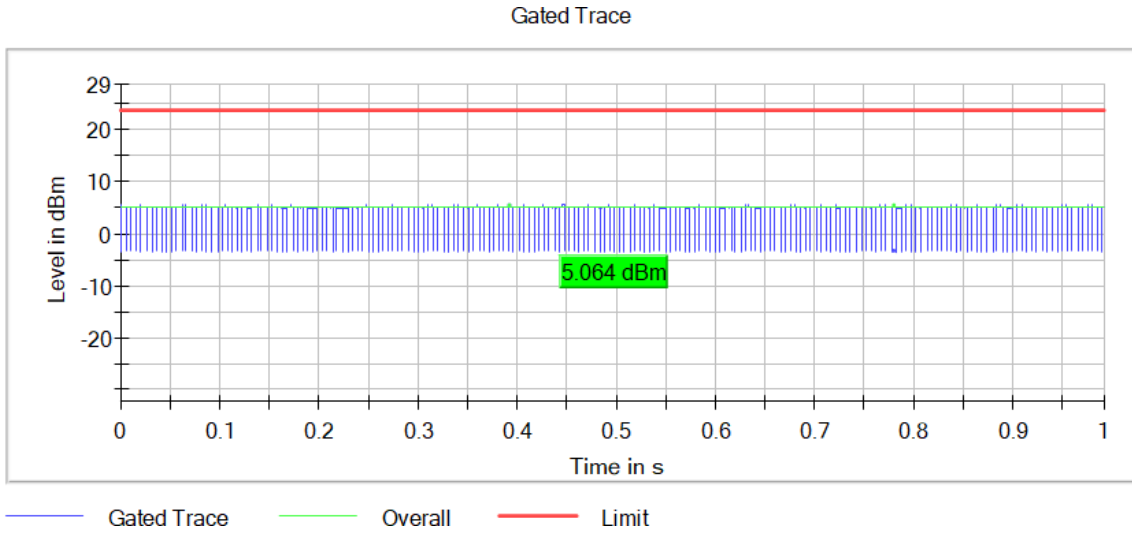
Port	Freq (MHz)	TPC	# of Tx Chains	Avg Power (dBm)	Max EIRP (dBm)
2	5180.00000	No	1	5.1	10.1
2	5200.00000	No	1	4.7	9.7
2	5240.00000	No	1	5.4	10.4
2	5745.00000	No	1	3.9	8.9
2	5785.00000	No	1	3.6	8.6
2	5825.00000	No	1	3.9	8.9

Verdict

Pass

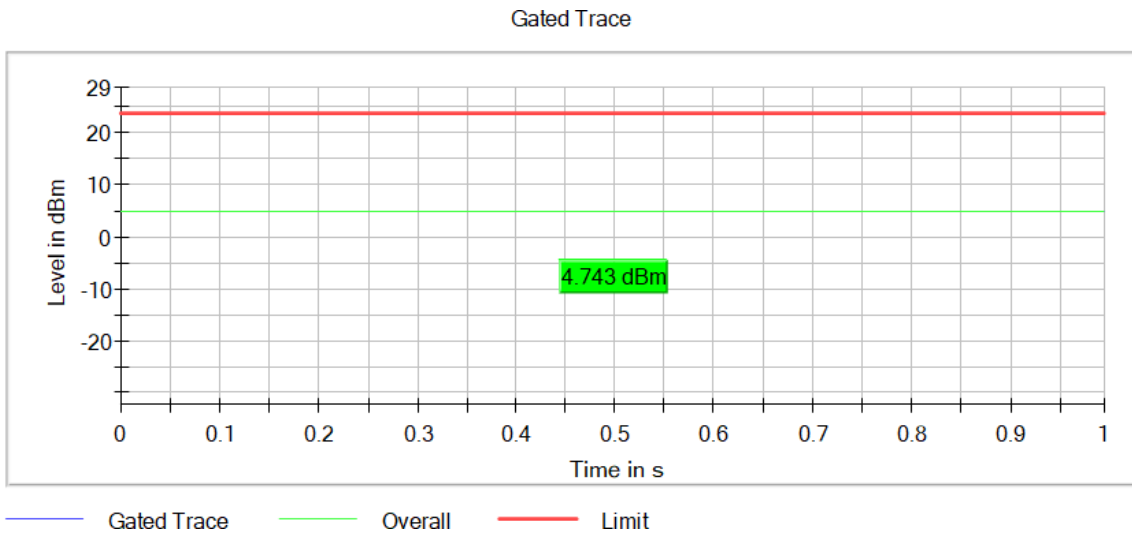
**Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No,
MIMO Mode = SISO, Number of Transmission Chains = 1**

Images:



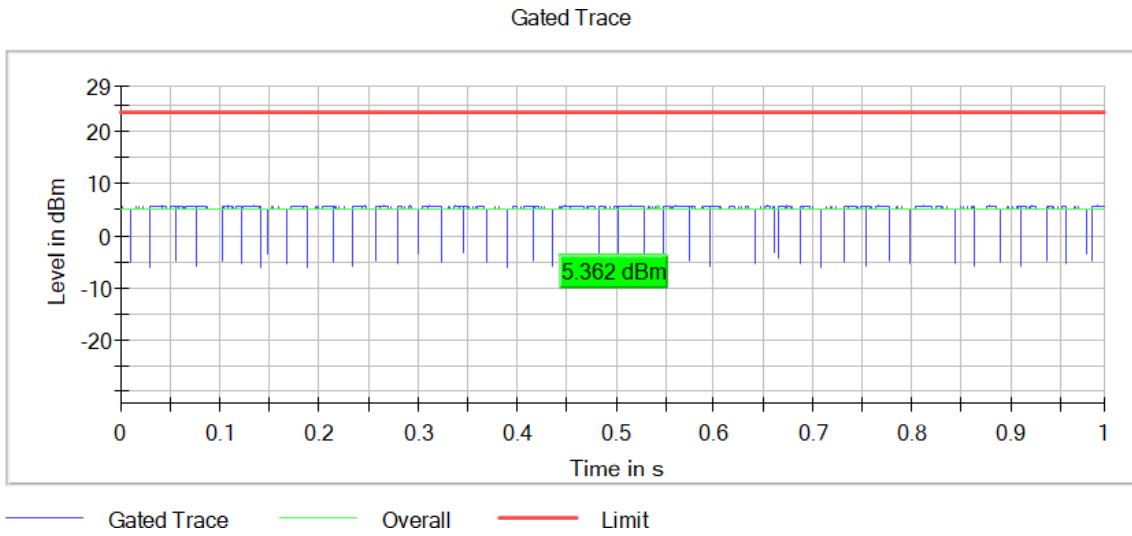
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MIMO Mode = SISO, Number of Transmission Chains = 1**

Images:



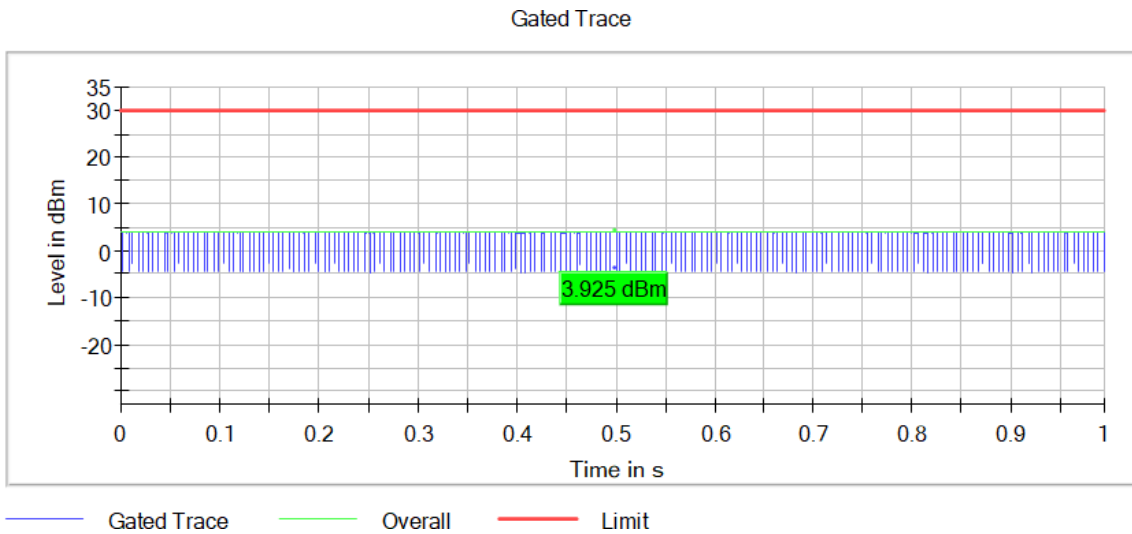
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MIMO Mode = SISO, Number of Transmission Chains = 1**

Images:



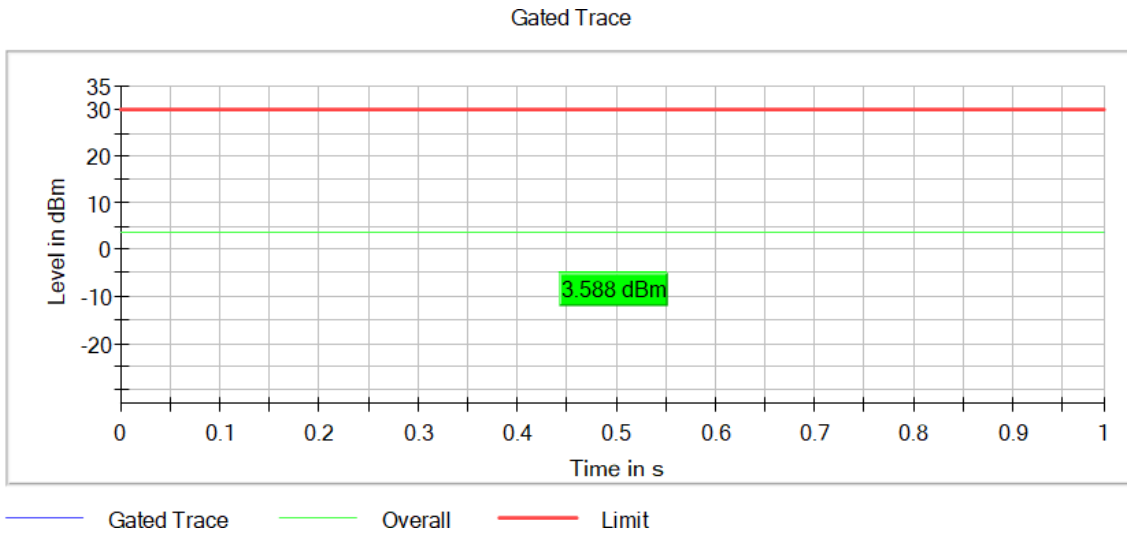
**Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No,
MIMO Mode = SISO, Number of Transmission Chains = 1**

Images:



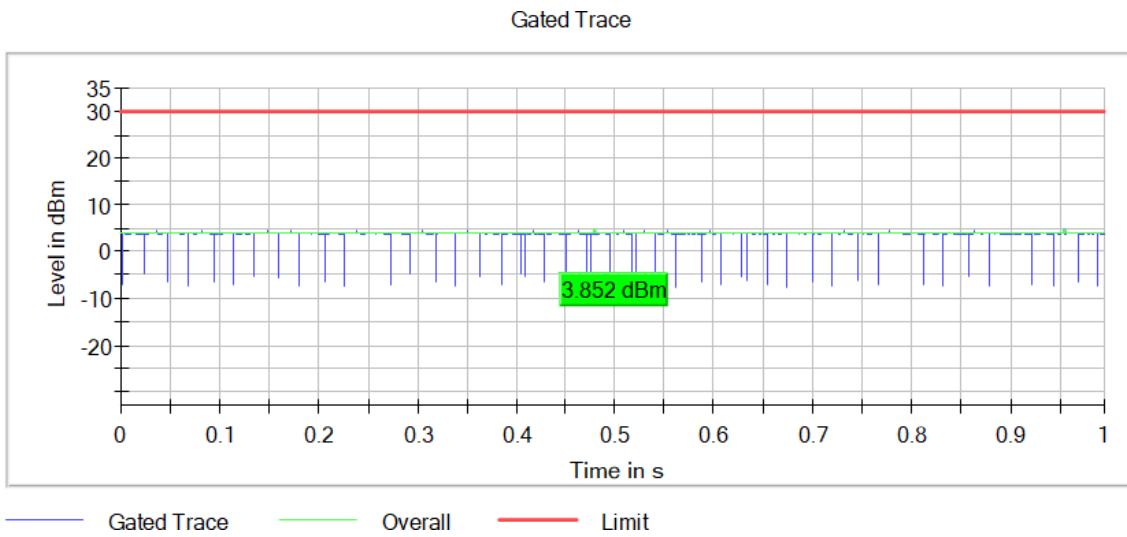
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

Mode: SISO worst

Modulation: 802.11ax HE20 (OFDMA MCS0) – Partial RU

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Avg Power (dBm)	Max EIRP (dBm)
2	5180.00000	No	1	6.8	11.8
2	5200.00000	No	1	5.3	10.3
2	5240.00000	No	1	6.7	11.7
2	5745.00000	No	1	6.1	11.1
2	5785.00000	No	1	5.4	10.4
2	5825.00000	No	1	6.4	11.4

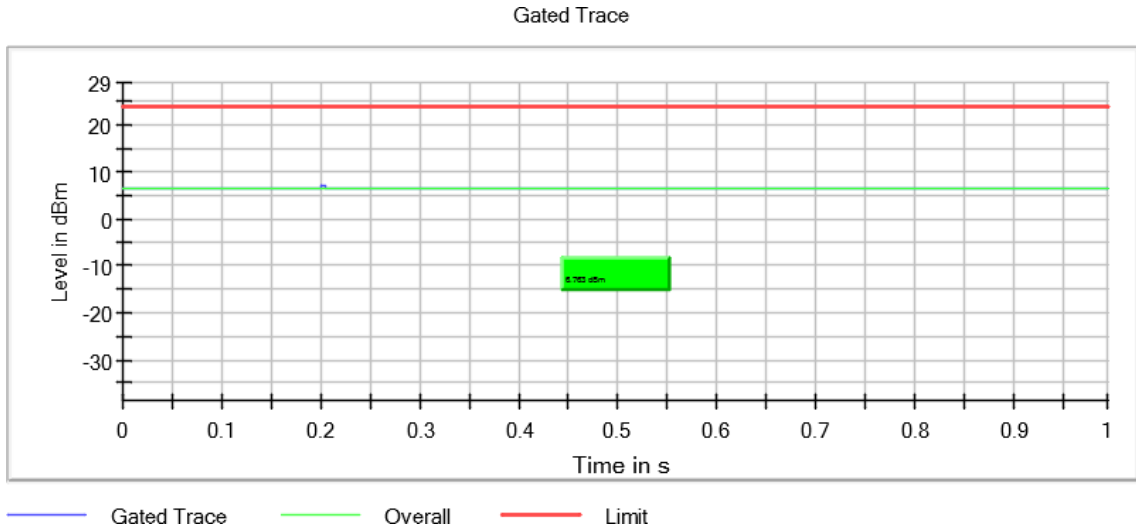
Verdict

Pass

Attachments

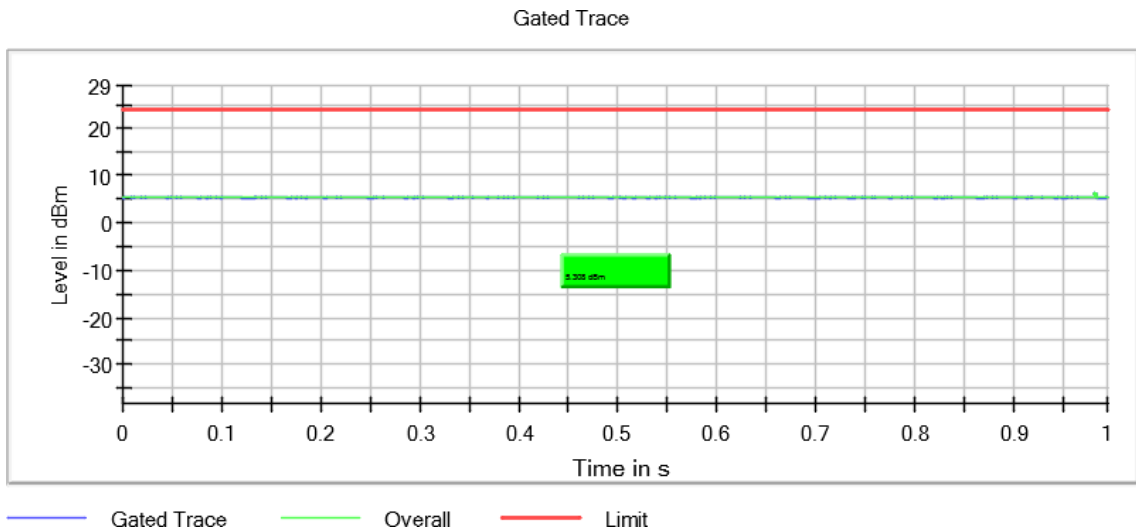
Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



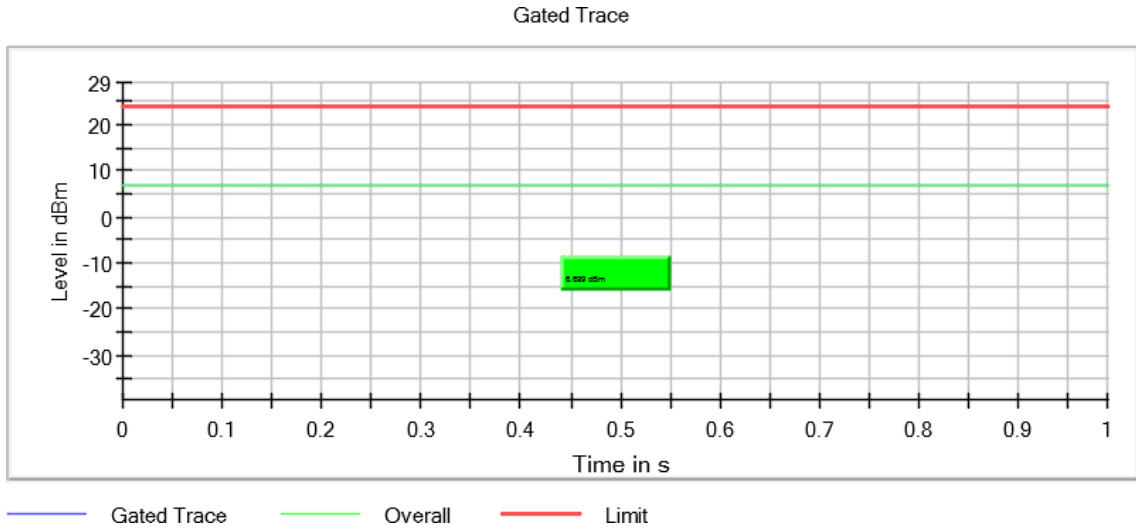
Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



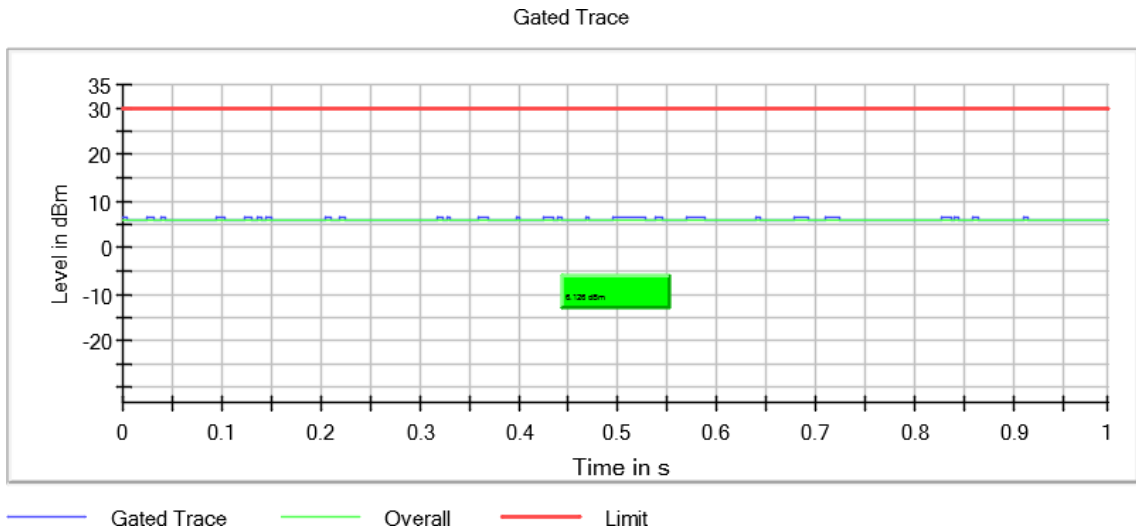
**Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No,
MIMO Mode = SISO, Number of Transmission Chains = 1**

Images:



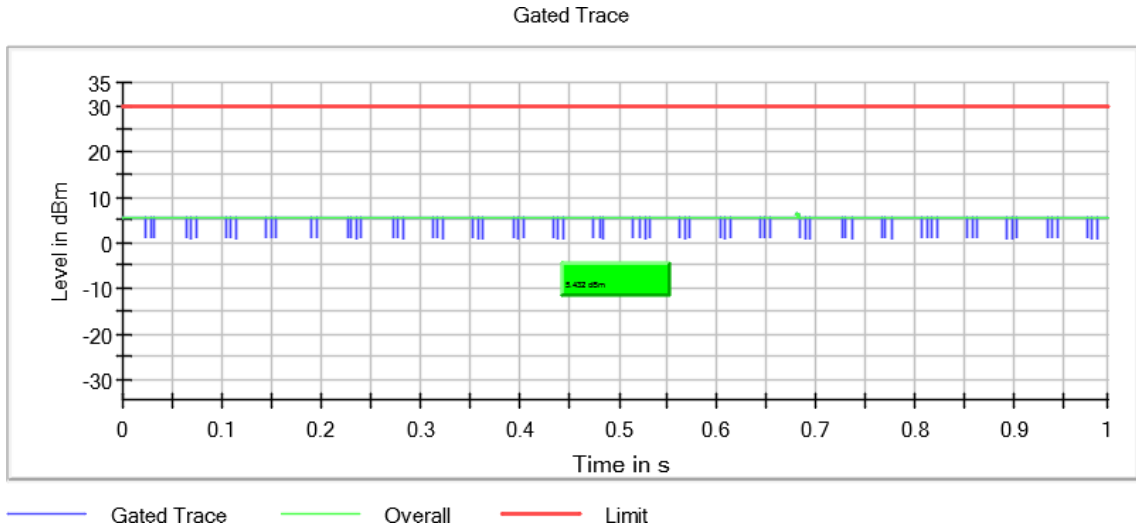
**Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No,
MIMO Mode = SISO, Number of Transmission Chains = 1**

Images:



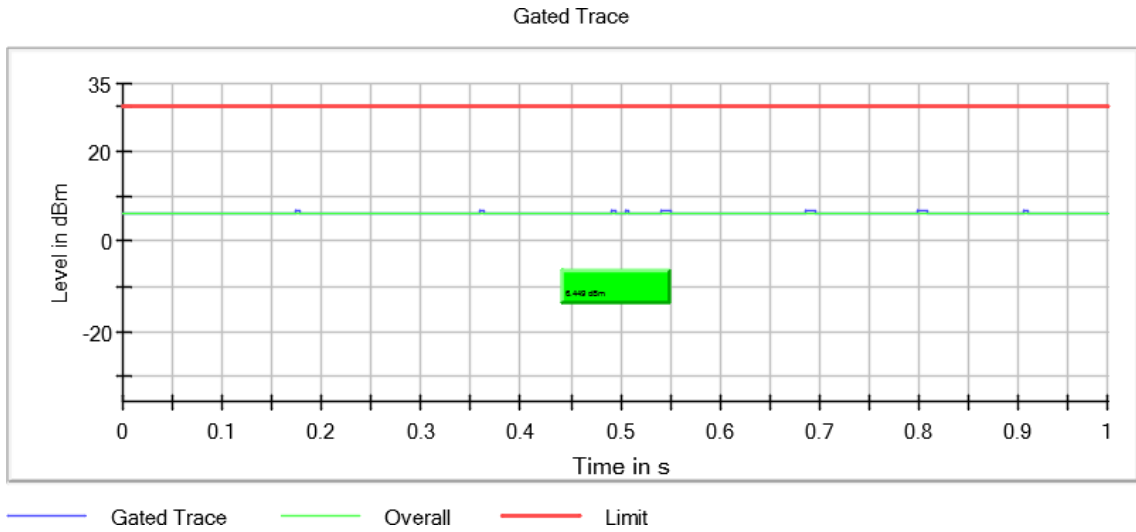
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μs	1.000 μs

Mode: SISO worst

Modulation: 802.11ax HE40 SS1 (OFDMA MCS0) – Full RU

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Avg Power (dBm)	Max EIRP (dBm)
2	5190.00000	No	1	6.5	11.5
2	5230.00000	No	1	6.7	11.7
2	5755.00000	No	1	6.0	11.0
2	5795.00000	No	1	6.3	11.3

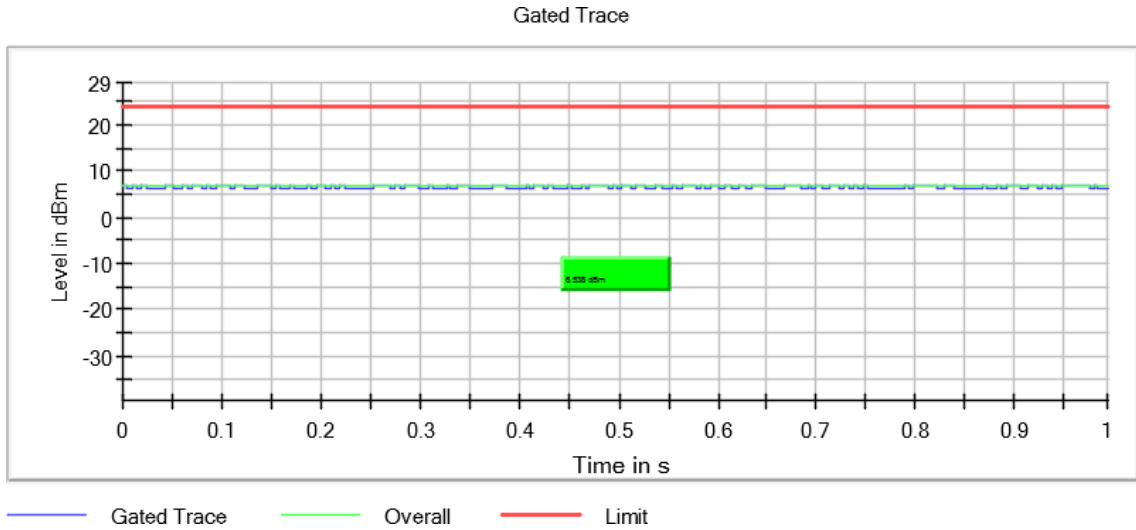
Verdict

Pass

Attachments

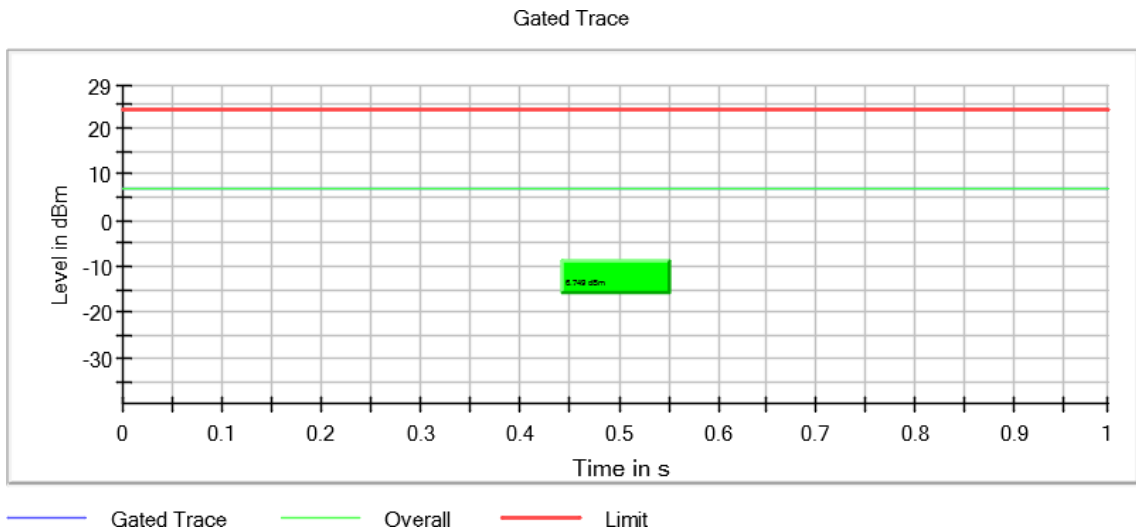
Active Port = 2, Frequency MHz = 5190.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



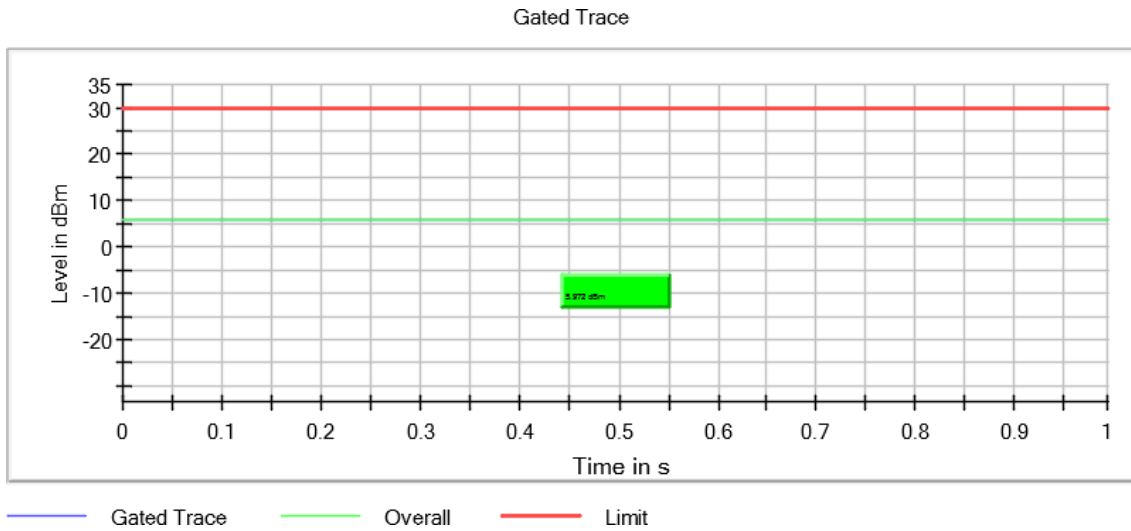
Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



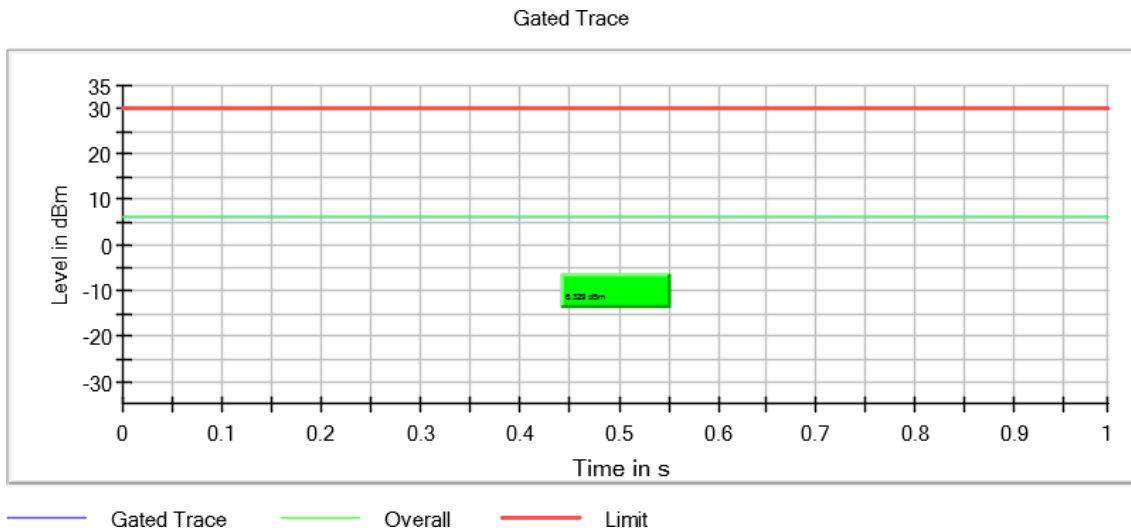
Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

Mode: SISO worst

Modulation: 802.11ax HE40 (OFDMA MCS0) – Partial RU

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Avg Power (dBm)	Max EIRP (dBm)
2	5190.00000	No	1	8.0	13.0
2	5230.00000	No	1	8.3	13.3
2	5755.00000	No	1	6.8	11.8
2	5795.00000	No	1	6.9	11.9

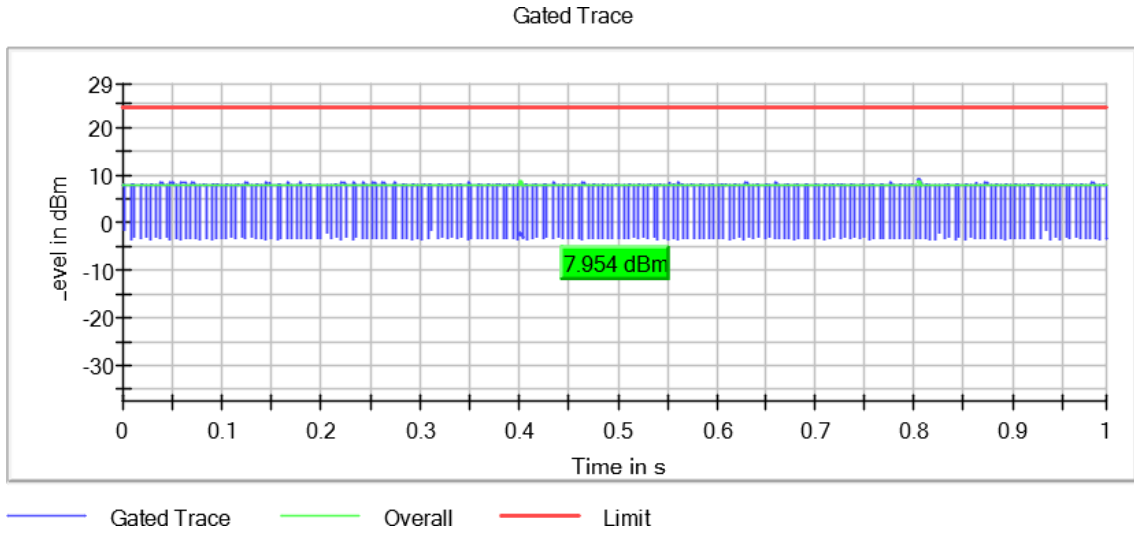
Verdict

Pass

Attachments

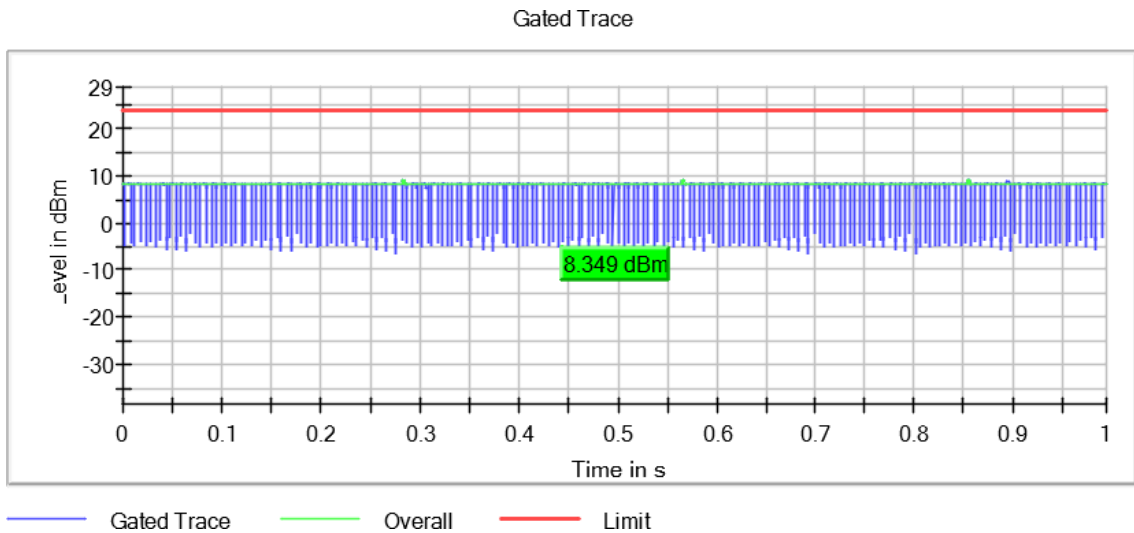
Active Port = 2, Frequency MHz = 5190.00000, Modulation = 802.11ax HE40 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



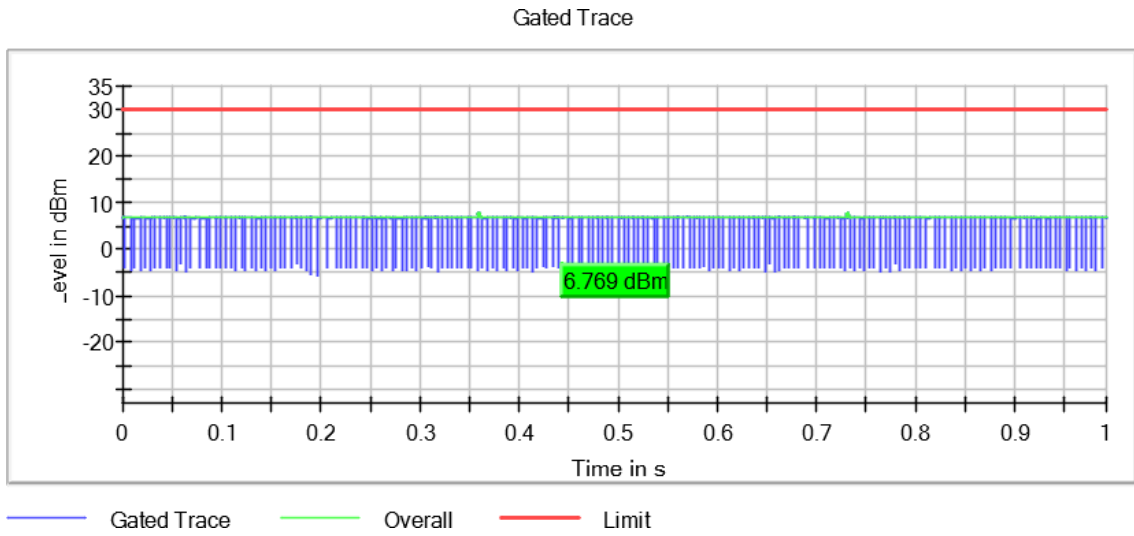
Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11ax HE40 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



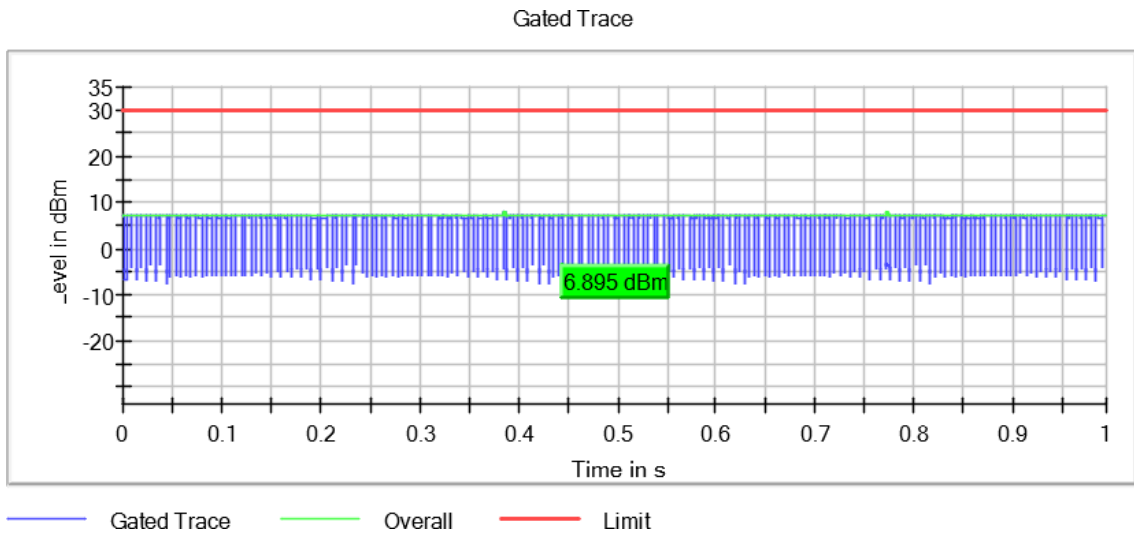
Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11ax HE40 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11ax HE40 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

Mode: SISO worst

Modulation: 802.11ax HE80 SS1 (OFDM MCS0) – Full RU

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Max EIRP (dBm)	Avg Power (dBm)
2	5210.00000	No	1	6.4	11.4
2	5775.00000	No	1	6.1	11.1

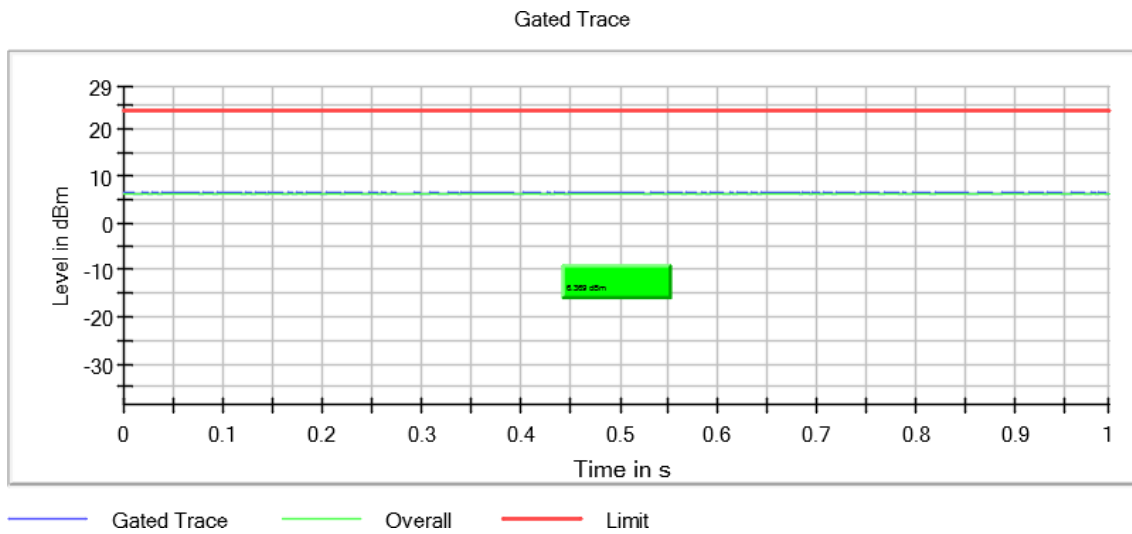
Verdict

Pass

Attachments

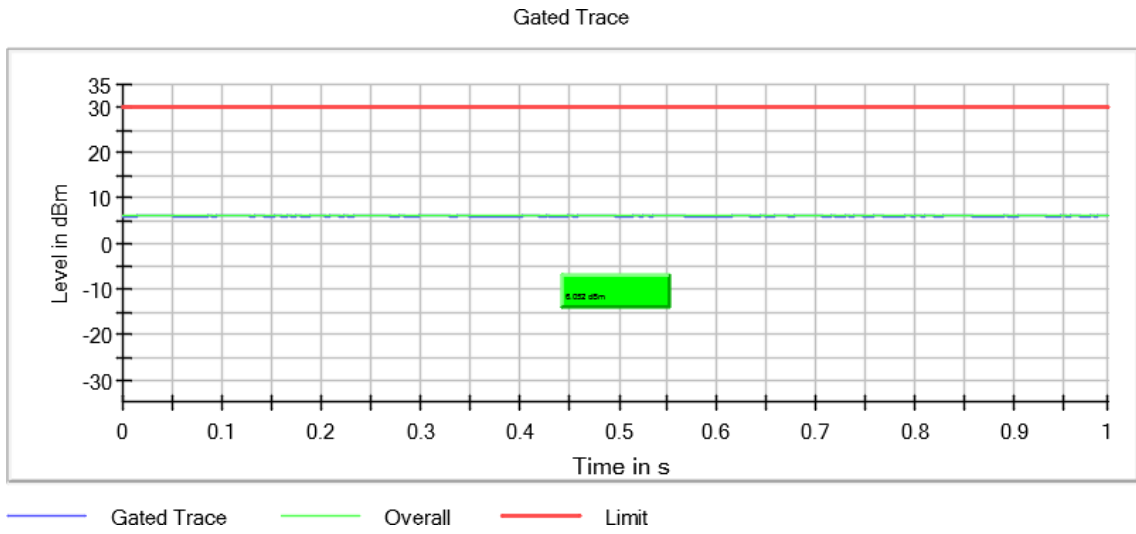
Active Port = 2, Frequency MHz = 5210.00000, Modulation = 802.11ax HE80 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5775.00000, Modulation = 802.11ax HE80 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

Mode: SISO worst

Modulation: 802.11ax HE80 SS1 (OFDMA MCS0) – Partial RU

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Avg Power (dBm)	Max EIRP (dBm)
2	5210.00000	No	1	7.6	12.6
2	5775.00000	No	1	6.8	11.8

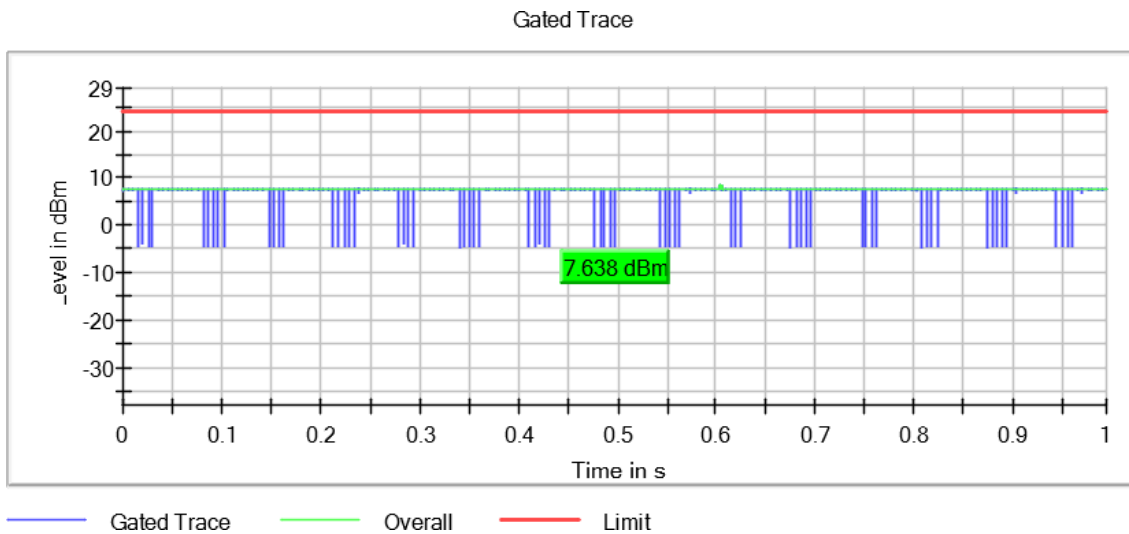
Verdict

Pass

Attachments

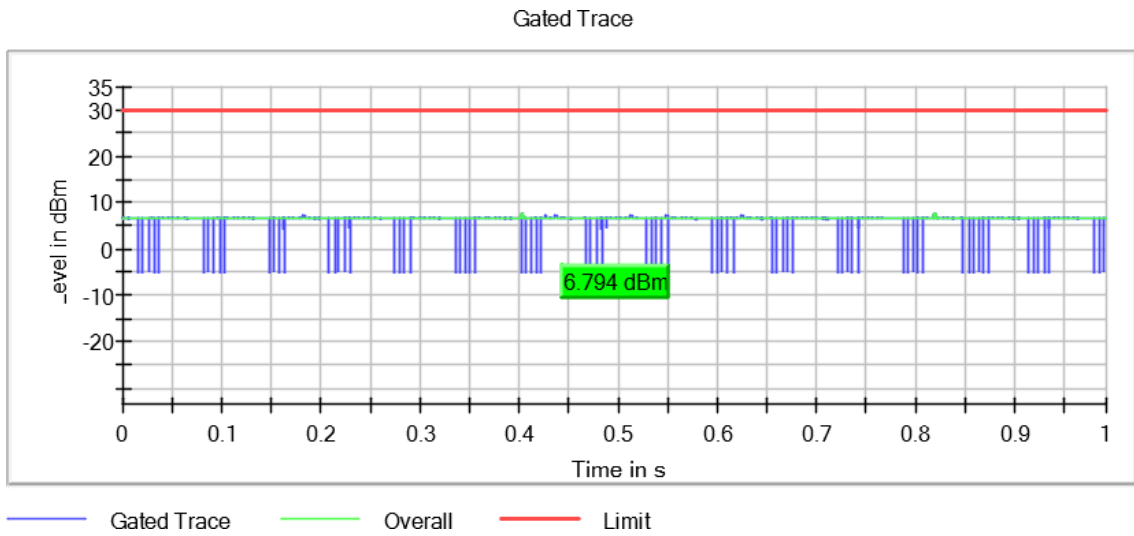
Active Port = 2, Frequency MHz = 5210.00000, Modulation = 802.11ax HE80 SS1 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5775.00000, Modulation = 802.11ax HE80 SS1 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Measurement Time	1.000 s	1.000 s
Points	1000000	1000000
Time resolution	1.000 μ s	1.000 μ s

FCC 15.407 (a) / RSS-247 6.2 Maximum Power Spectral Density

Limits

FCC 15.407:

The maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

RSS-247:

For the 5.25-5.35 GHz, 5.470-5.6 GHz, and 5.650-5.725 GHz bands, the power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

For the band 5.725-5.850 GHz, the output power spectral density shall not exceed 30 dBm in any 500 kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note: The following test results are shown based on KDB 662911 D01 Multiple Transmitter Output v02r01 E) 3) a) (ii) Measure and sum spectral maxima across the outputs as described in section E)2)b).

Mode: SISO worst

Modulation: 802.11a (OFDM 6 Mbit/s)

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Freq (MHz)	PSD (dBm)
2	5180.00000	No	1	5185.940594	-2.80
2	5200.00000	No	1	5205.940594	-2.27
2	5240.00000	No	1	5245.940594	-2.41
2	5745.00000	No	1	5739.455446	-6.12
2	5785.00000	No	1	5779.455446	-5.65
2	5825.00000	No	1	5829.950495	-6.12

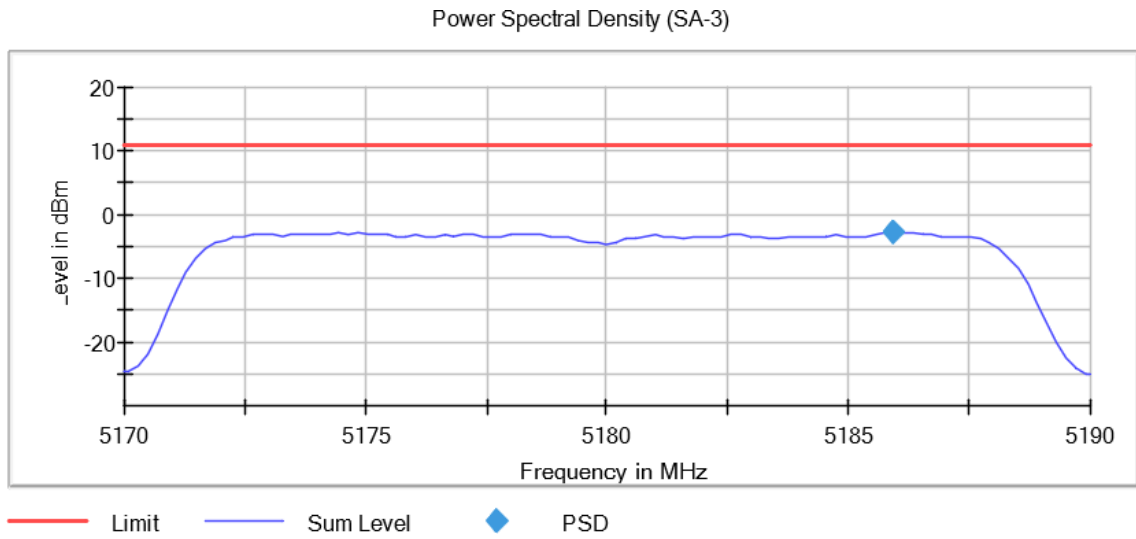
Verdict

Pass

Attachments

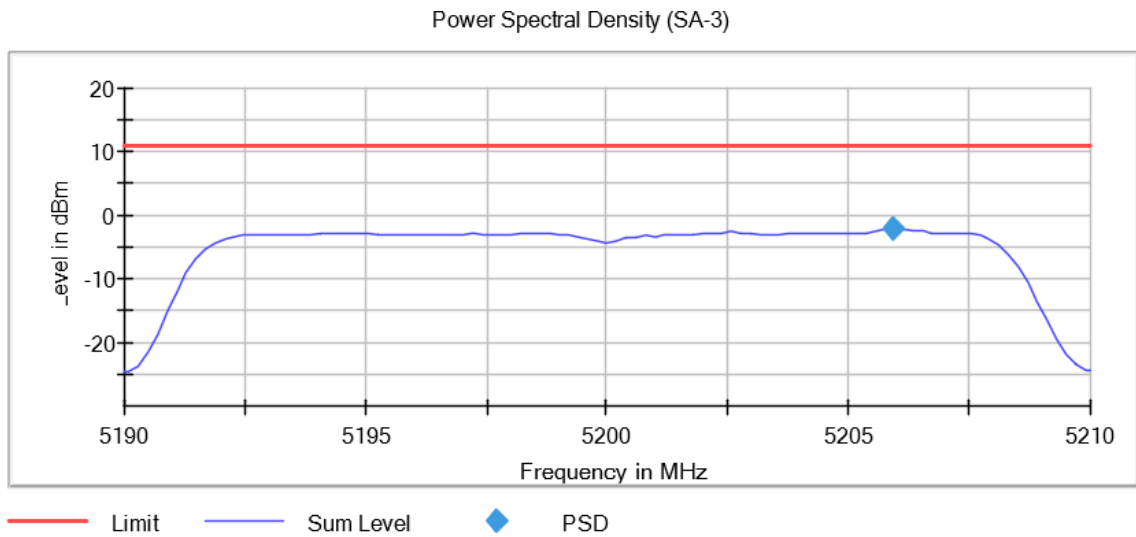
Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11a (OFDM 6 Mbit/s), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



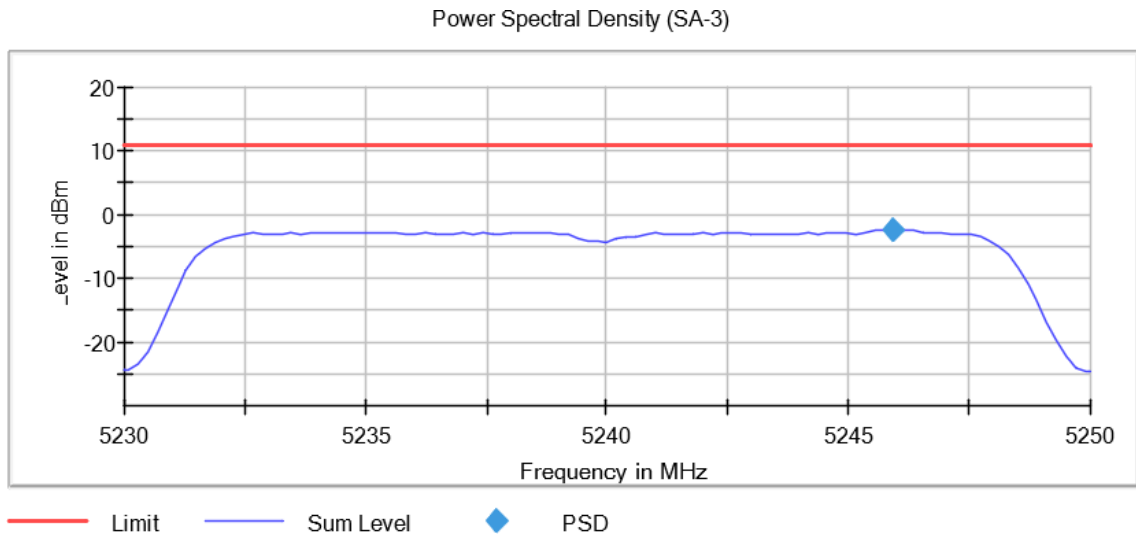
Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11a (OFDM 6 Mbit/s), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



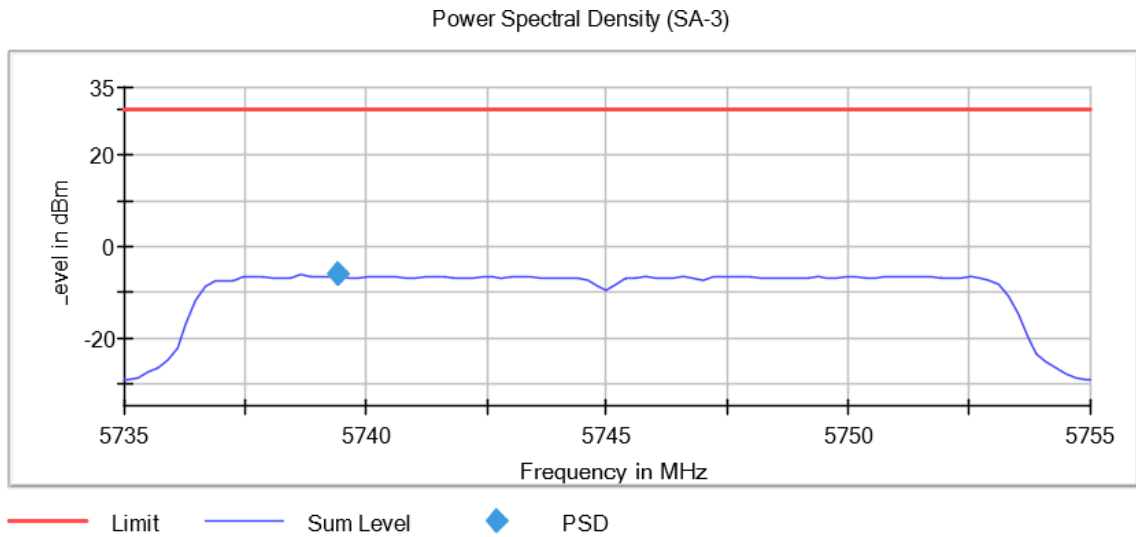
Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11a (OFDM 6 Mbit/s), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



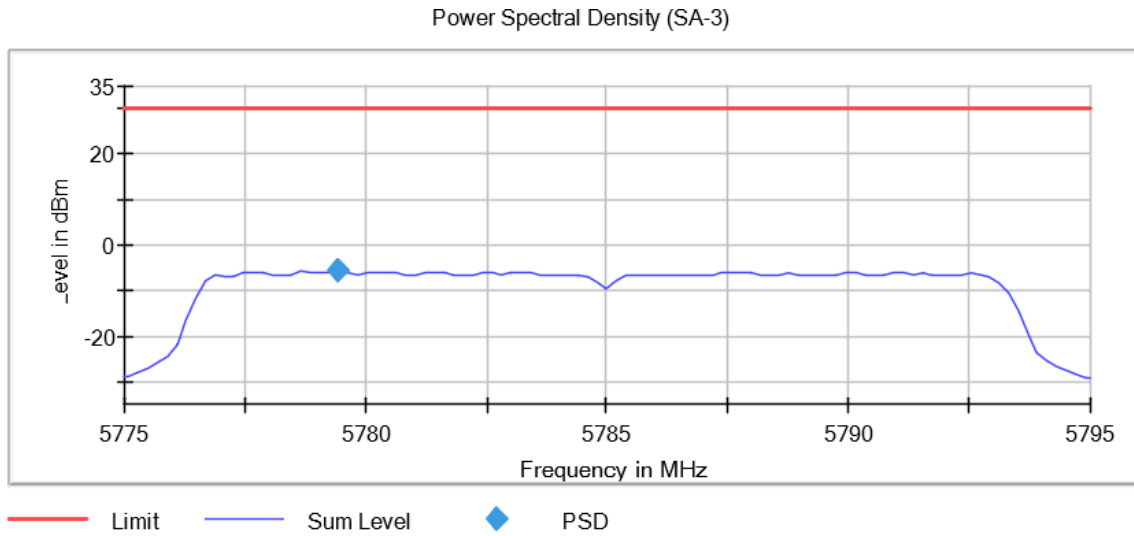
Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11a (OFDM 6 Mbit/s), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



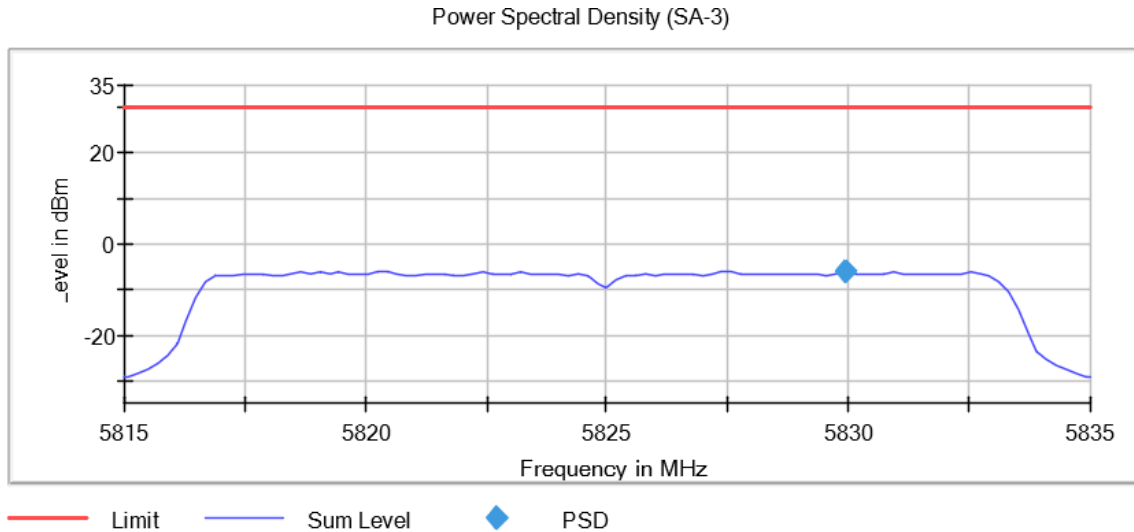
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11a (OFDM 6 Mbit/s), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11a (OFDM 6 Mbit/s), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:
 Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	20.000 MHz	20.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 40
Sweeptime	2.020 ms	2.020 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	RMS	RMS
SweepCount	29703	29703
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.26 dB	0.50 dB

Mode: SISO worst

Modulation: 802.11n HT20 (OFDM MCS0)

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Freq (MHz)	PSD (dBm)
2	5180.00000	No	1	5175.643564	-2.79
2	5200.00000	No	1	5205.742574	-2.53
2	5240.00000	No	1	5235.643564	-2.46
2	5745.00000	No	1	5740.643564	-6.13
2	5785.00000	No	1	5780.643564	-5.55
2	5825.00000	No	1	5820.643564	-5.89

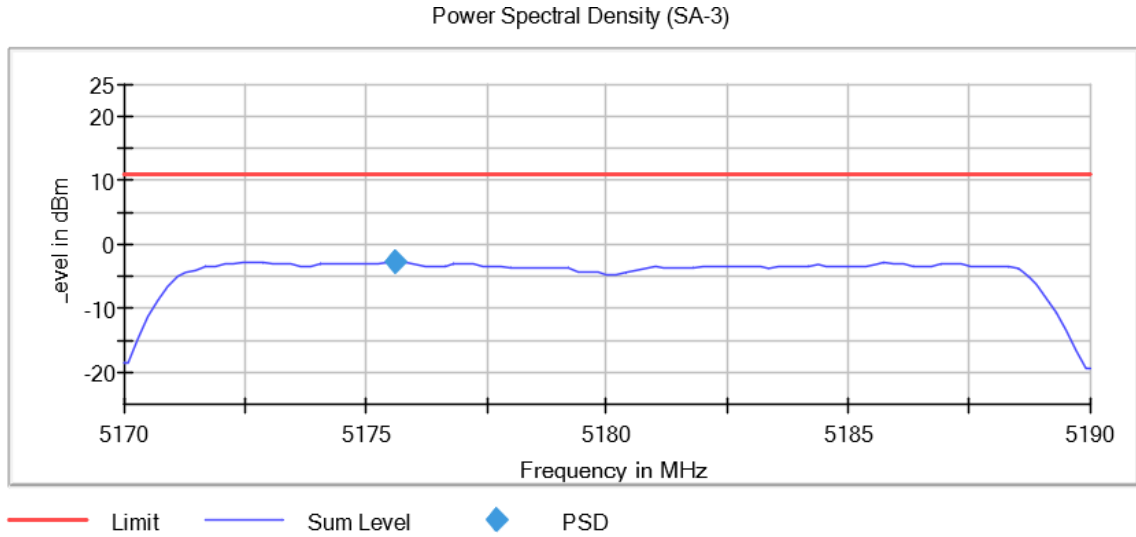
Verdict

Pass

Attachments

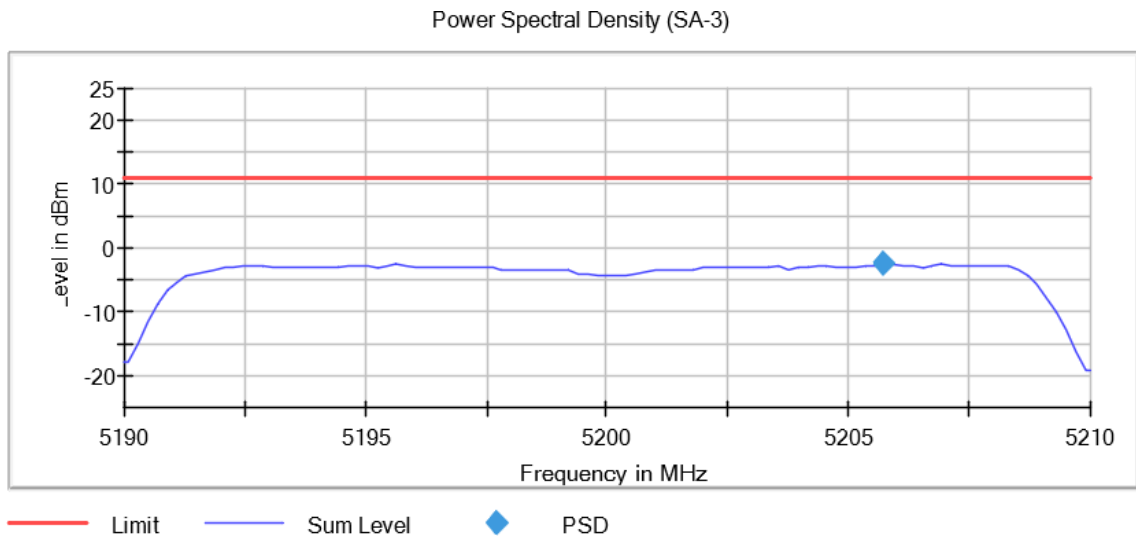
Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11n HT20 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



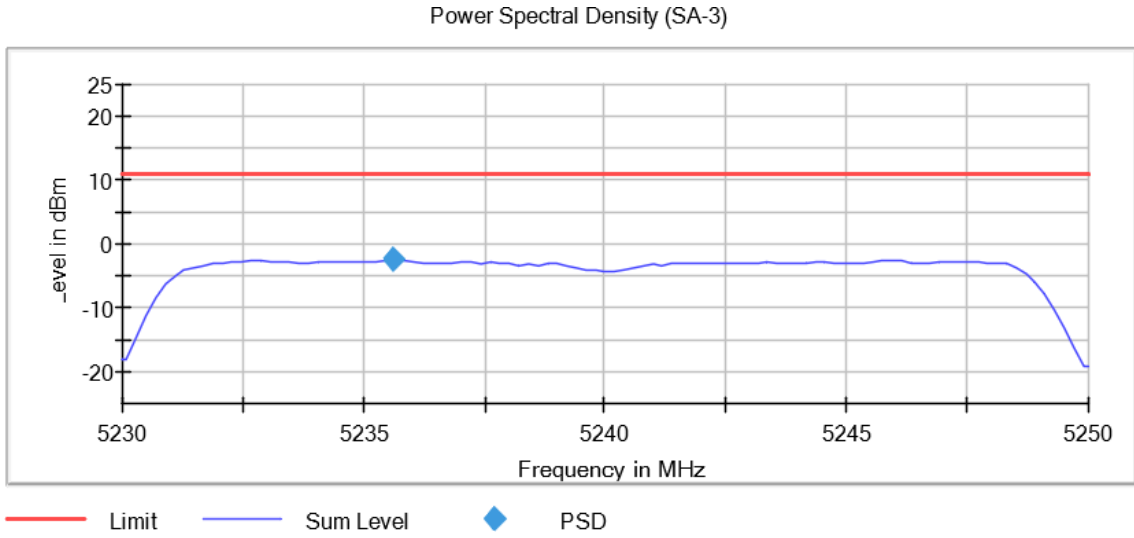
Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11n HT20 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



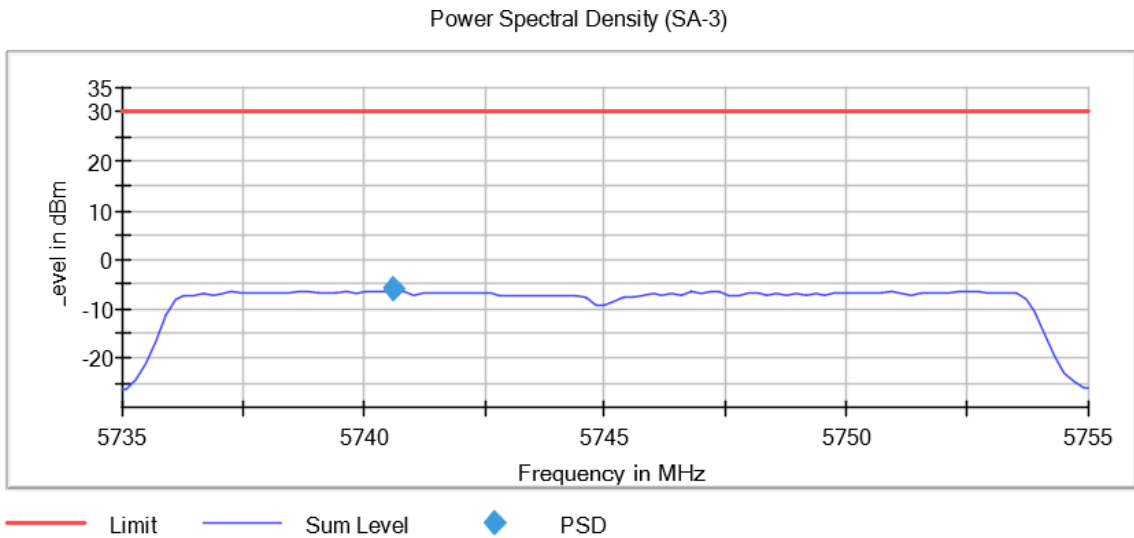
Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11n HT20 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



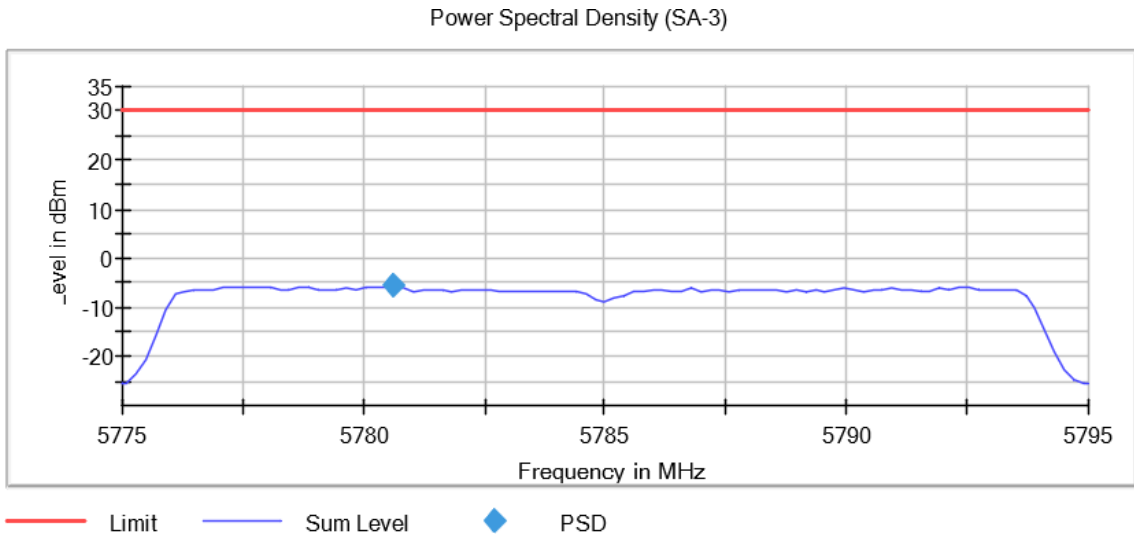
Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11n HT20 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



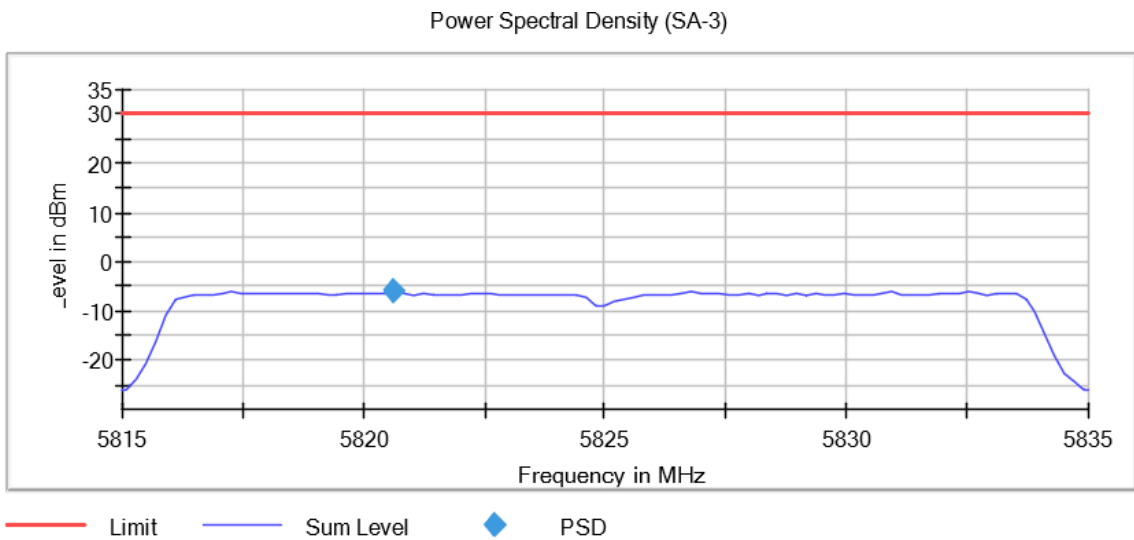
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11n HT20 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11n HT20 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:
 Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	20.000 MHz	20.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 40
Sweeptime	2.020 ms	2.020 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	RMS	RMS
SweepCount	29703	29703
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.24 dB	0.50 dB

Mode: SISO worst

Modulation: 802.11n HT40 (OFDM MCS0)

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Freq (MHz)	PSD (dBm)
2	5190.00000	No	1	5202.277228	-5.50
2	5230.00000	No	1	5232.772277	-5.70
2	5755.00000	No	1	5758.125000	-9.30
2	5795.00000	No	1	5786.375000	-8.87

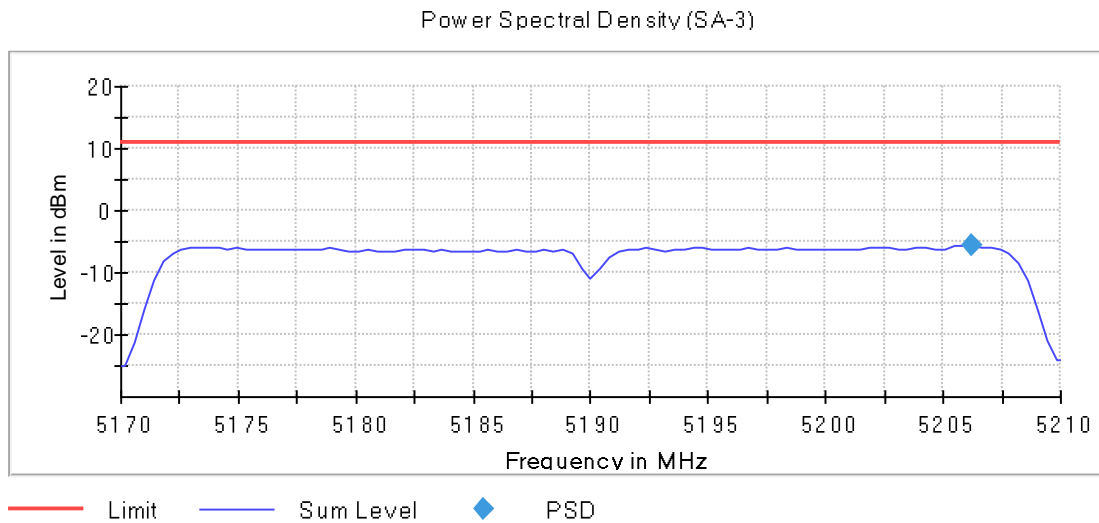
Verdict

Pass

Attachments

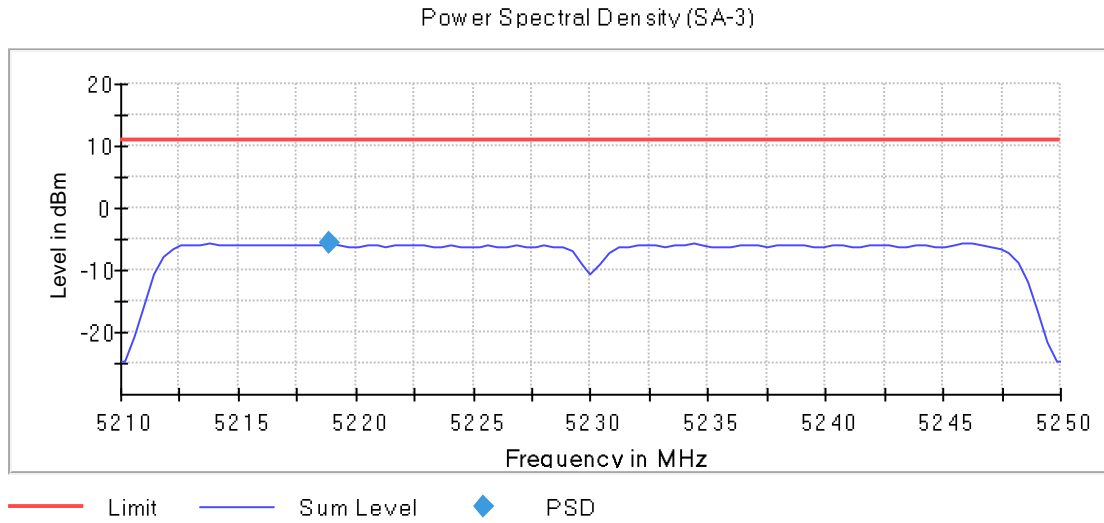
Active Port = 2, Frequency MHz = 5190.00000, 802.11n HT40 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



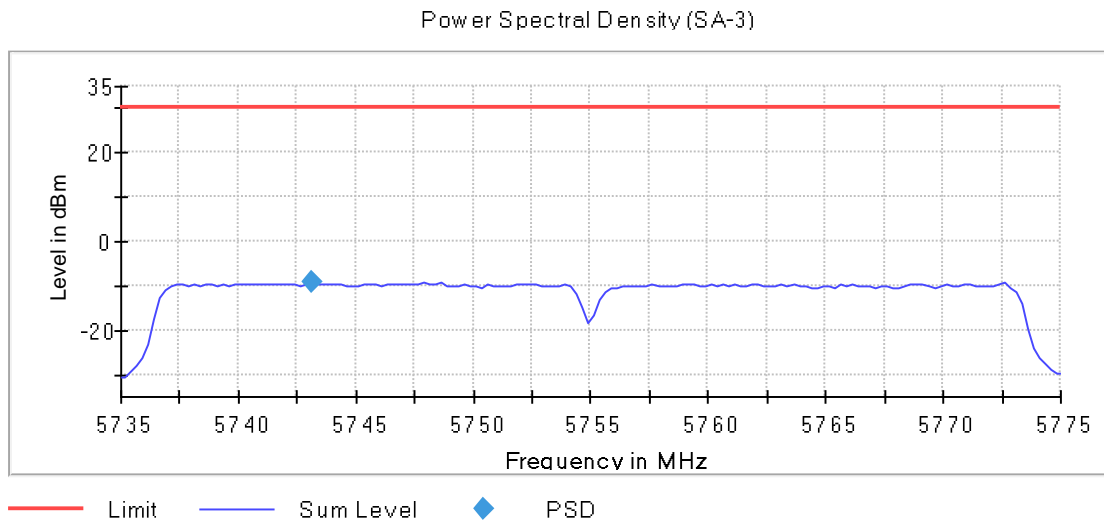
Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11n HT40 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



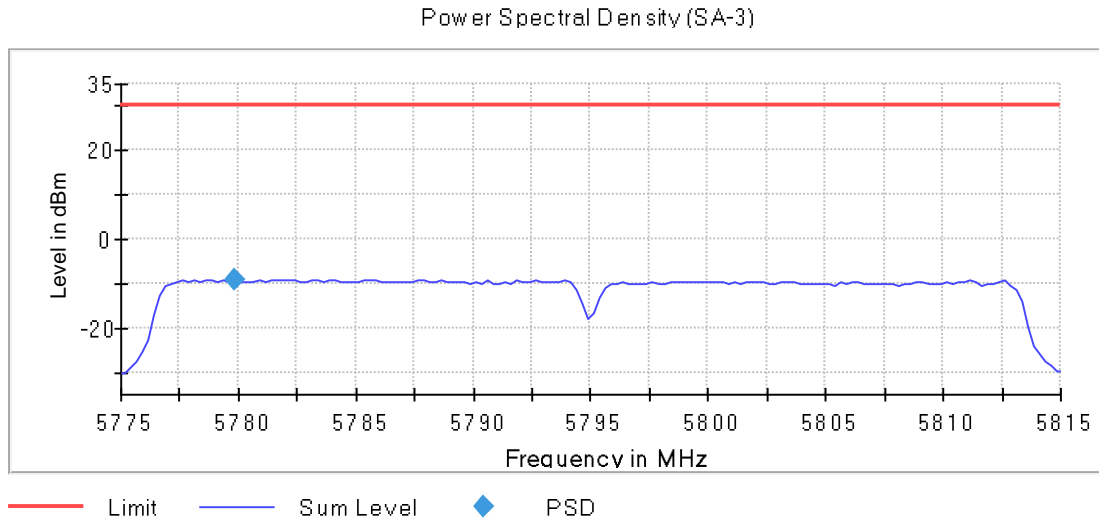
Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11n HT40 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11n HT40 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	40.000 MHz	40.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 80
Sweeptime	2.020 ms	2.020 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	RMS	RMS
SweepCount	29703	29703
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.19 dB	0.50 dB

Mode: SISO worst

Modulation: 802.11ac VHT20 SS1 (OFDM MCS0)

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Freq (MHz)	PSD (dBm)
2	5180.00000	No	1	5178.217822	-2.97
2	5200.00000	No	1	5200.990099	-2.67
2	5240.00000	No	1	5238.019802	-2.67
2	5745.00000	No	1	5747.376238	-6.21
2	5785.00000	No	1	5783.019802	-5.82
2	5825.00000	No	1	5823.019802	-6.01

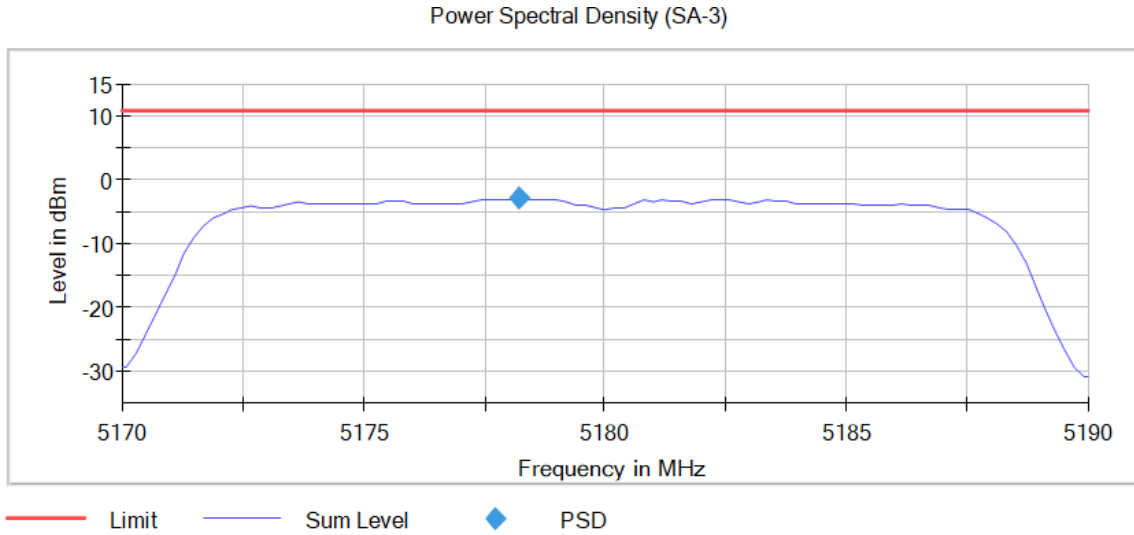
Verdict

Pass

Attachments

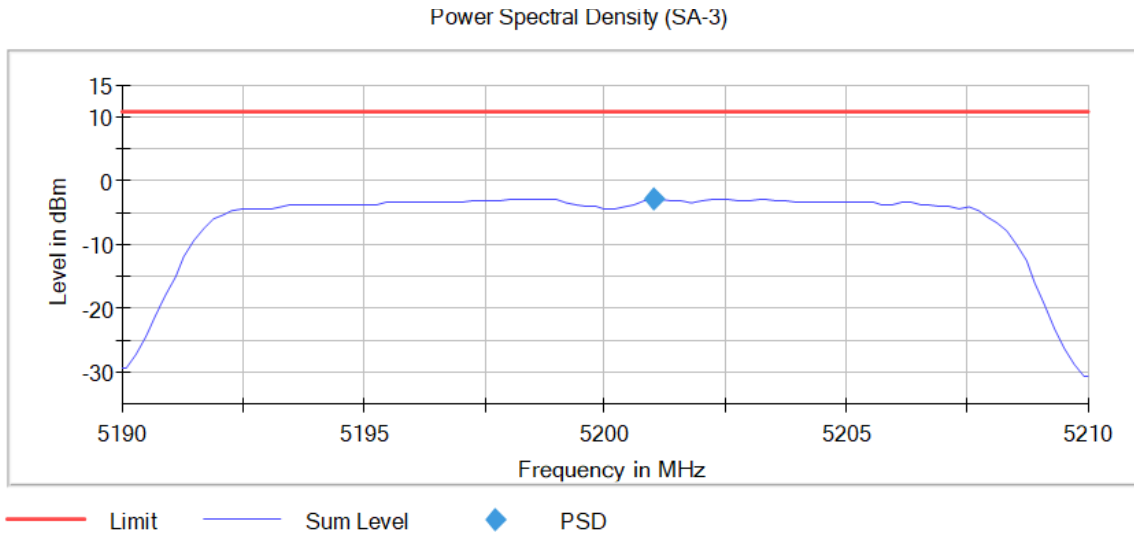
Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



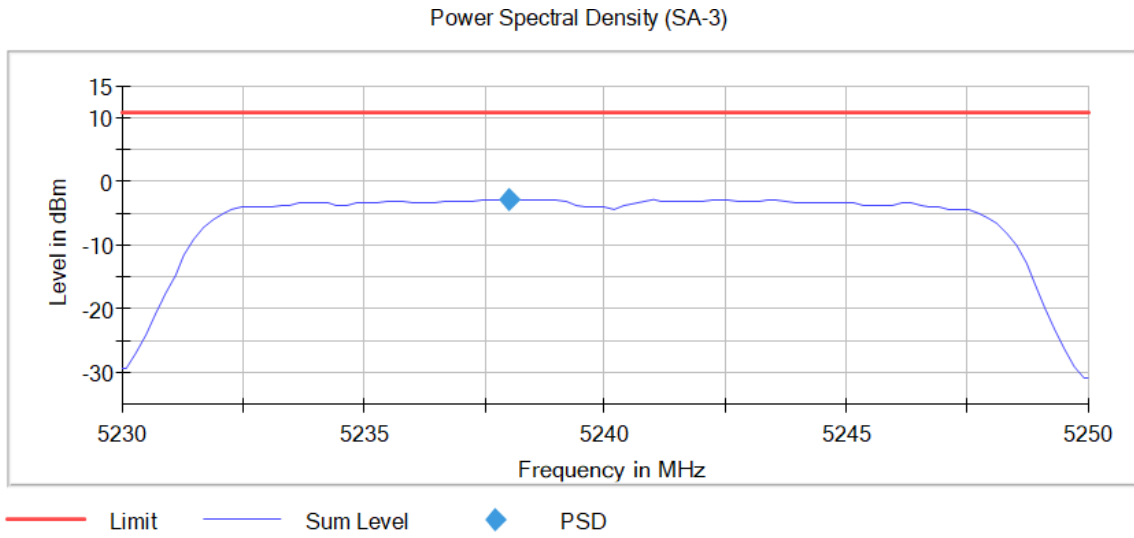
Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



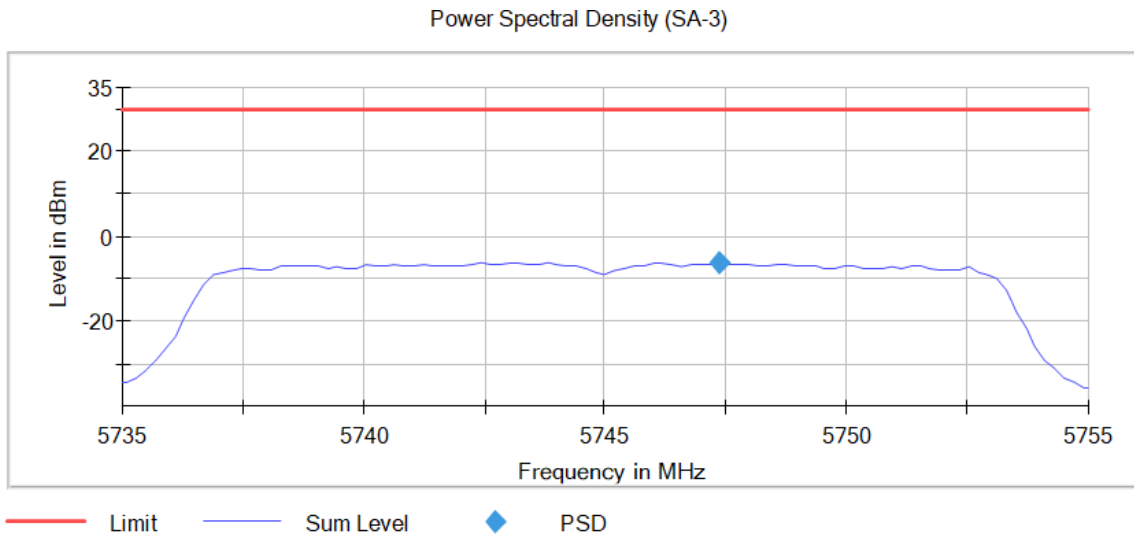
Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



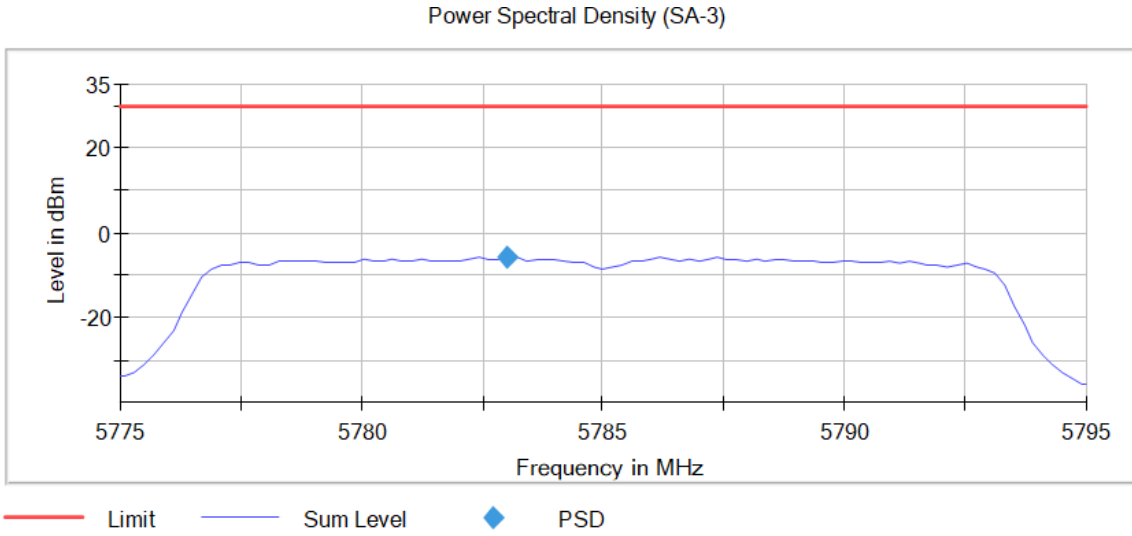
Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



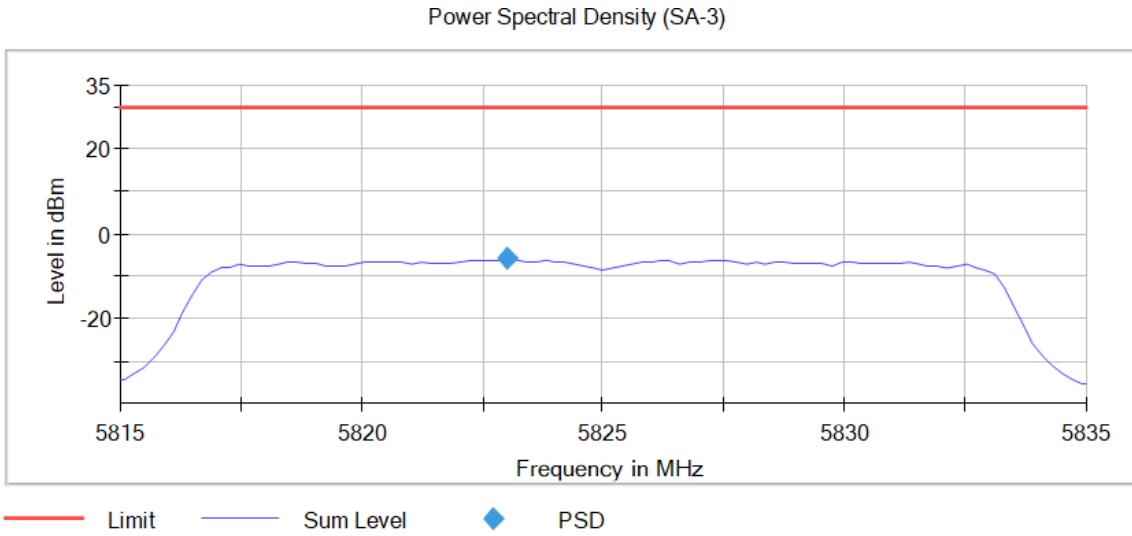
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:
 Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	20.000 MHz	20.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 40
Sweeptime	2.020 ms	2.020 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	RMS	RMS
SweepCount	29703	29703
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	3 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.33 dB	0.50 dB

Mode: SISO worst

Modulation: 802.11ac VHT40 SS1 (OFDM MCS0)

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Freq (MHz)	PSD (dBm)
2	5190.00000	No	1	5202.277228	-5.70
2	5230.00000	No	1	5232.772277	-5.47
2	5755.00000	No	1	5758.125000	-9.14
2	5795.00000	No	1	5786.375000	-8.87

Verdict

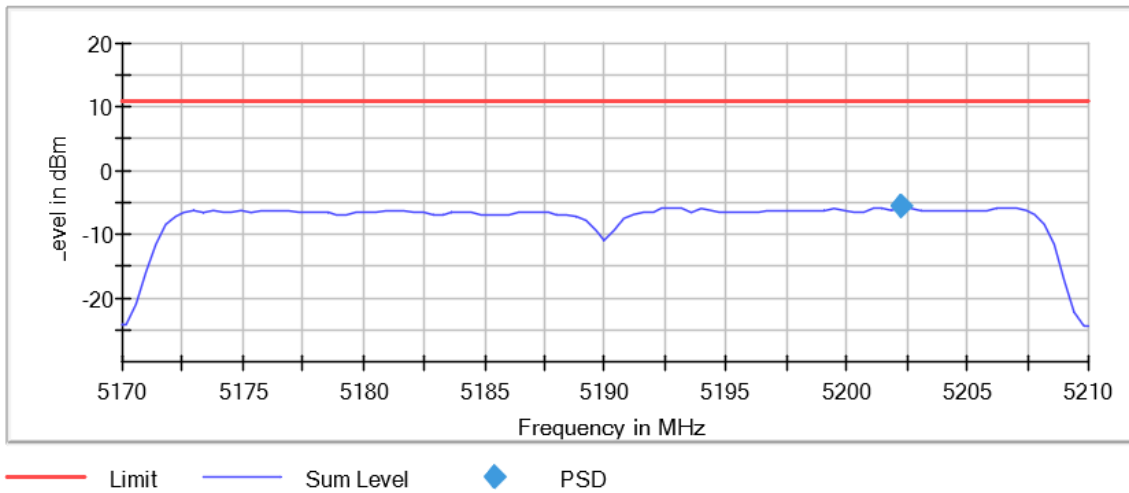
Pass

Attachments

Active Port = 2, Frequency MHz = 5190.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

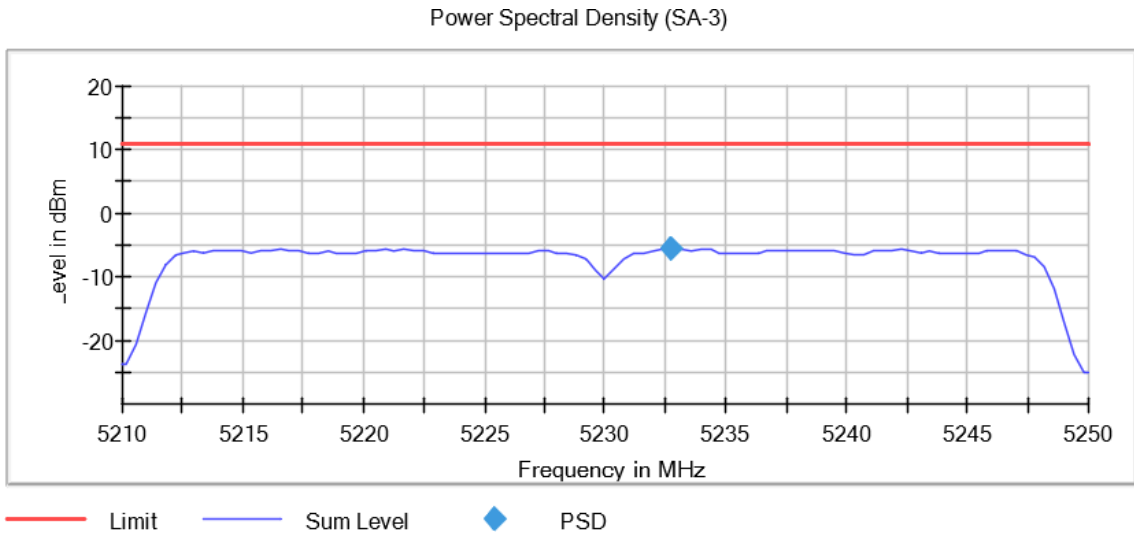
Images:

Power Spectral Density (SA-3)



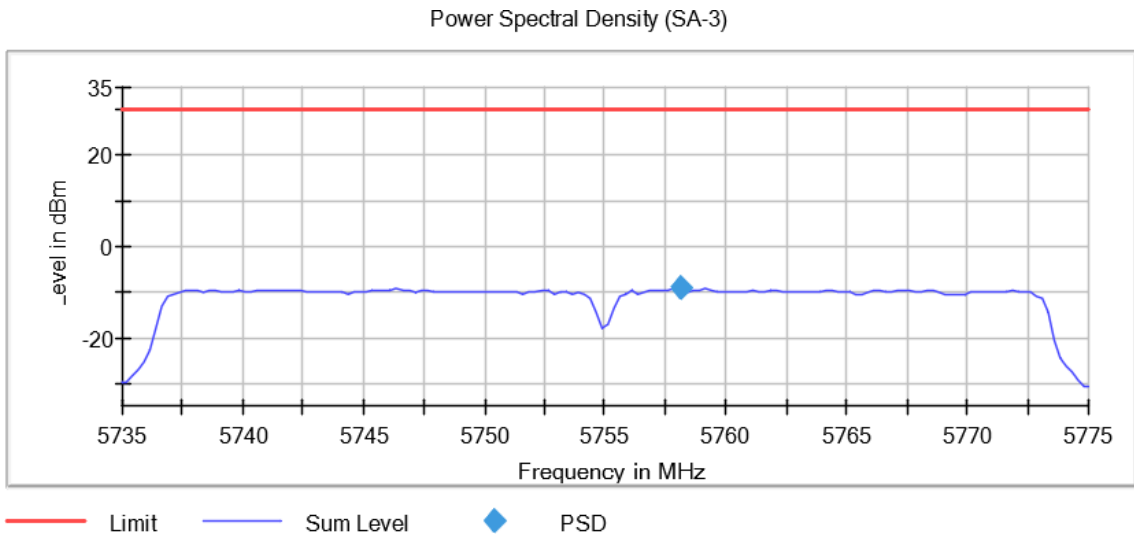
Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



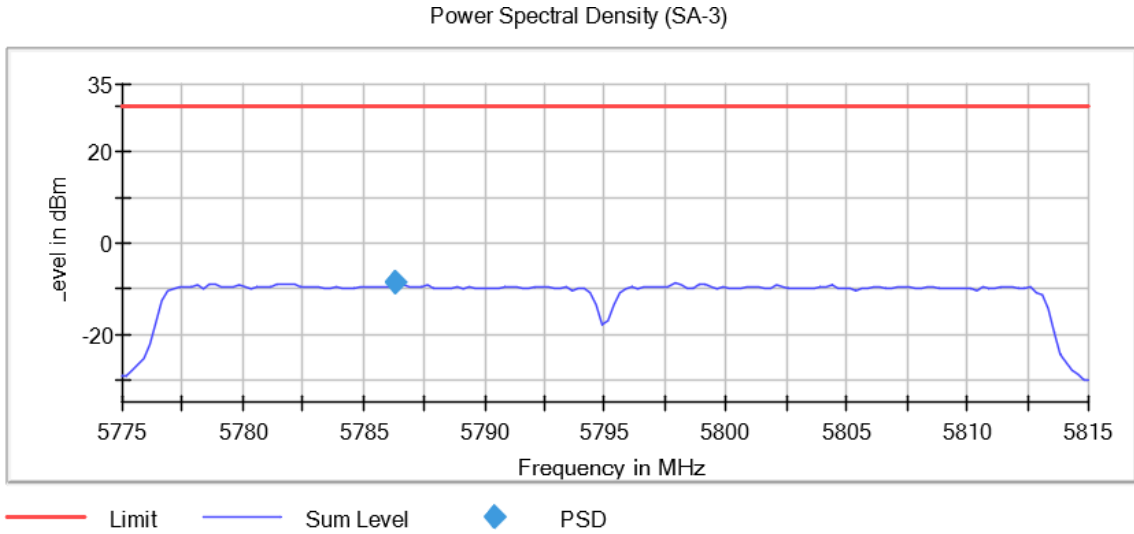
Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	40.000 MHz	40.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 80
Sweeptime	2.020 ms	2.020 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	RMS	RMS
SweepCount	29703	29703
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.21 dB	0.50 dB

Mode: SISO worst

Modulation: 802.11ac VHT80 SS1 (OFDM MCS0)

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Freq (MHz)	PSD (dBm)
2	5210.00000	No	1	5185.250000	-9.30
2	5775.00000	No	1	5804.125000	-12.31

Verdict

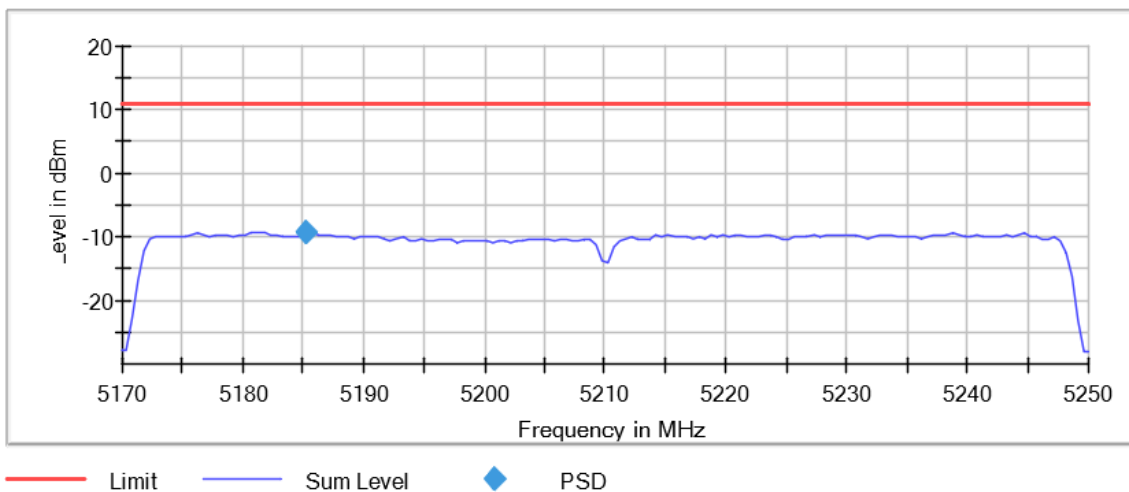
Pass

Attachments

Active Port = 2, Frequency MHz = 5210.00000, Modulation = 802.11ac VHT80 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

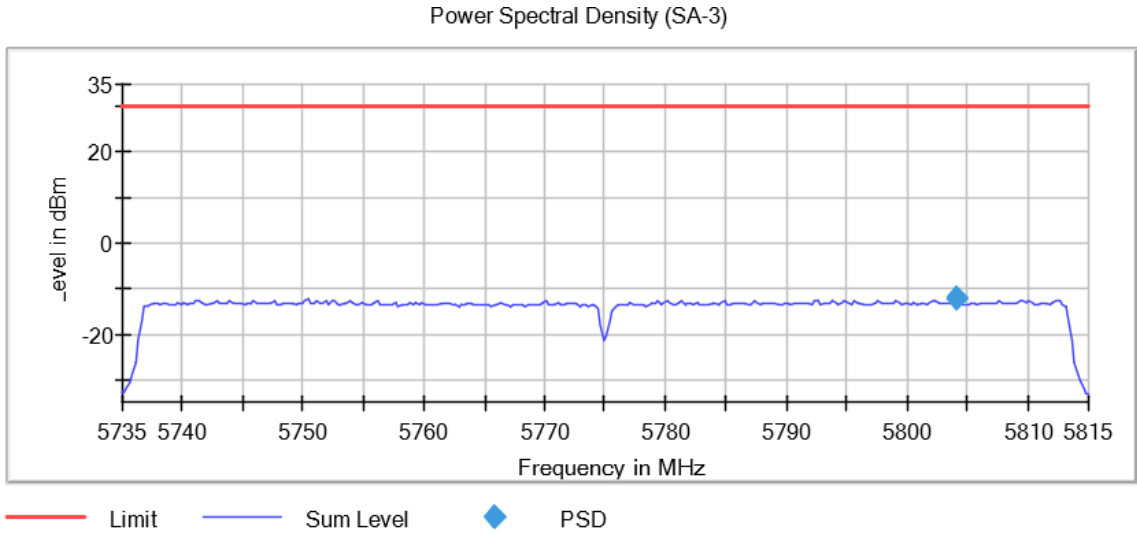
Images:

Power Spectral Density (SA-3)



Active Port = 2, Frequency MHz = 5775.00000, Modulation = 802.11ac VHT80 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	80.000 MHz	80.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	160	~ 160
Sweeptime	3.200 ms	3.200 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	18750	18750
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.13 dB	0.50 dB

Mode: SISO worst

Modulation: 802.11ax HE20 (OFDMA MCS0) – Full RU

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Freq (MHz)	PSD (dBm)
2	5180.00000	No	1	5183.762376	-4.62
2	5200.00000	No	1	5199.207921	-2.72
2	5240.00000	No	1	5246.336634	-4.54
2	5745.00000	No	1	5752.524752	-7.18
2	5785.00000	No	1	5785.990099	-5.17
2	5825.00000	No	1	5818.663366	-6.67

Verdict

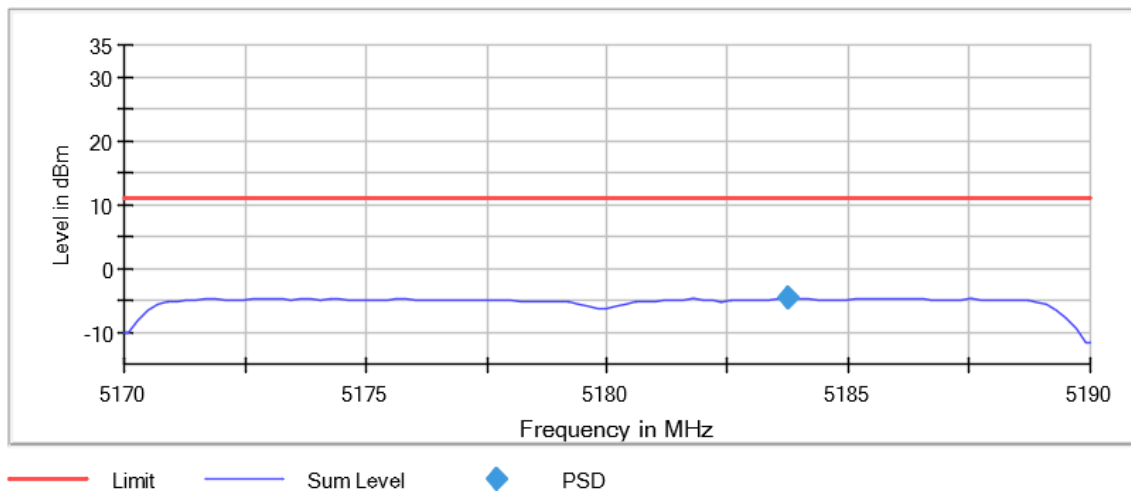
Pass

Attachments

Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

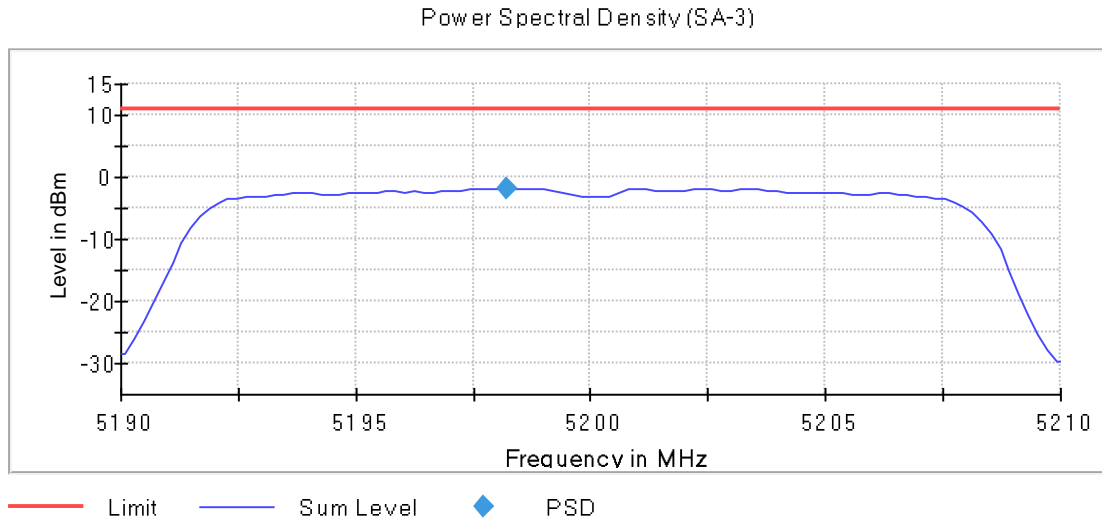
Images:

Power Spectral Density (SA-3)



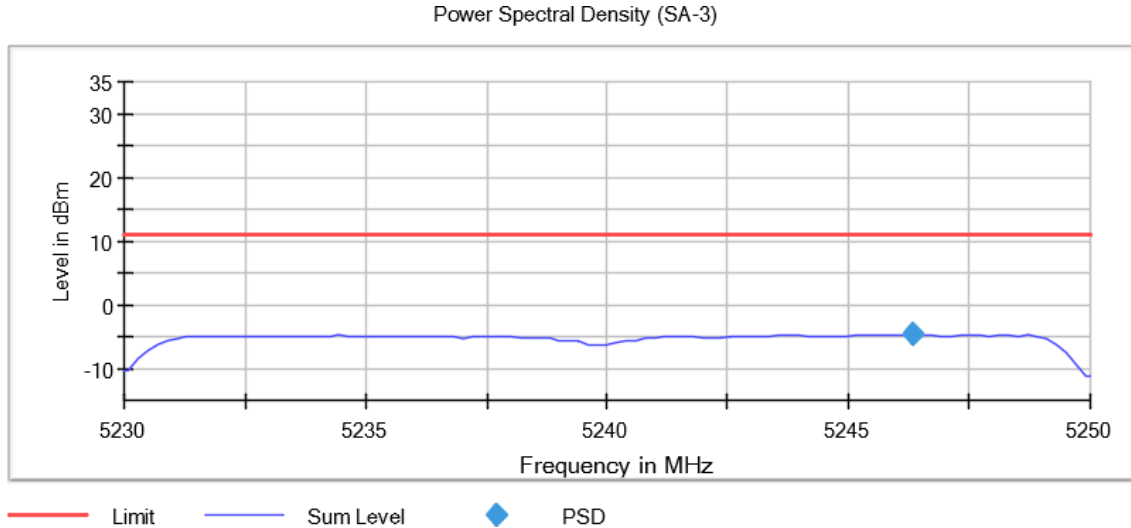
Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No,
MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



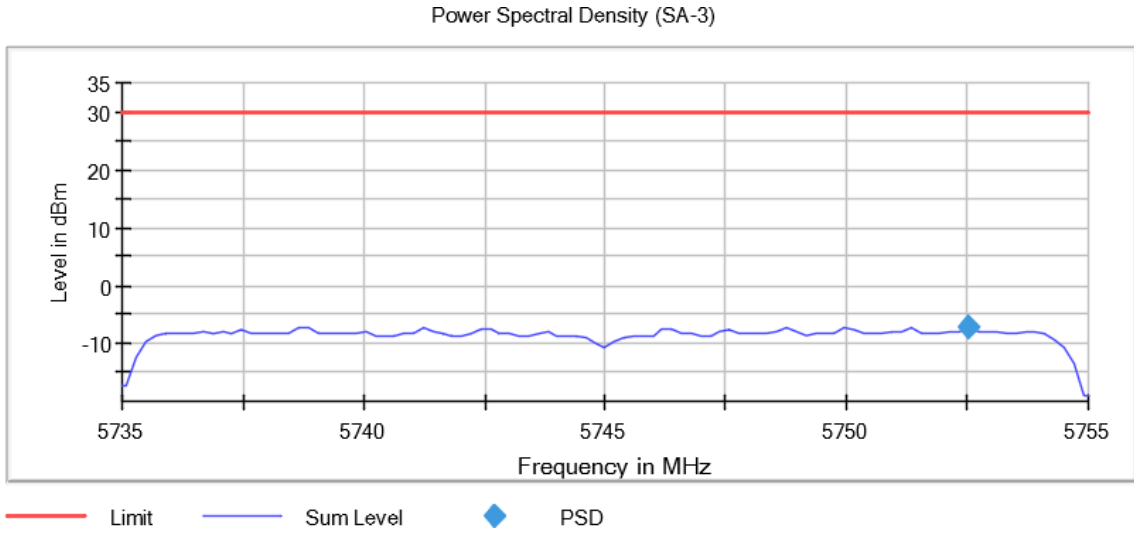
Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No,
MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



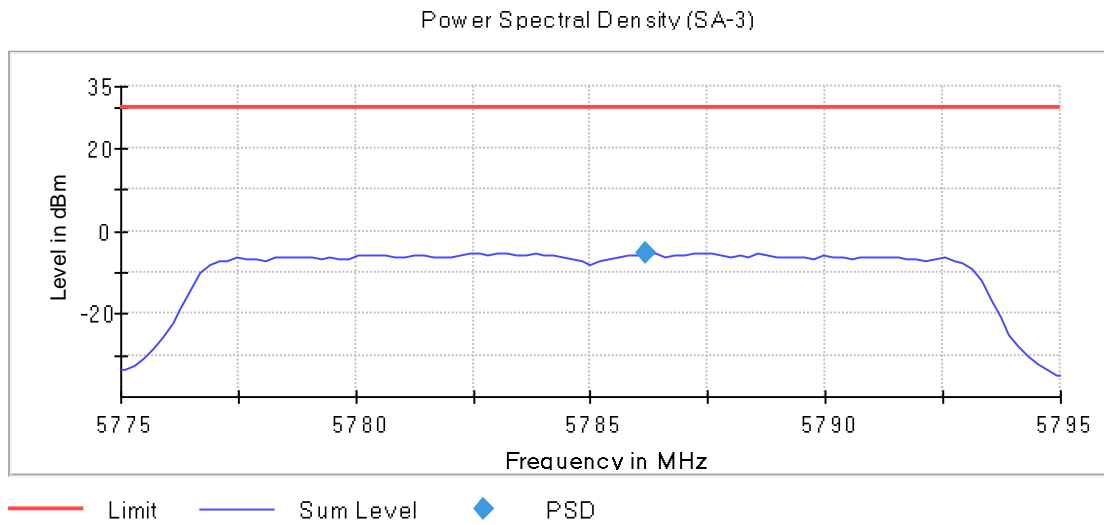
Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No,
MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



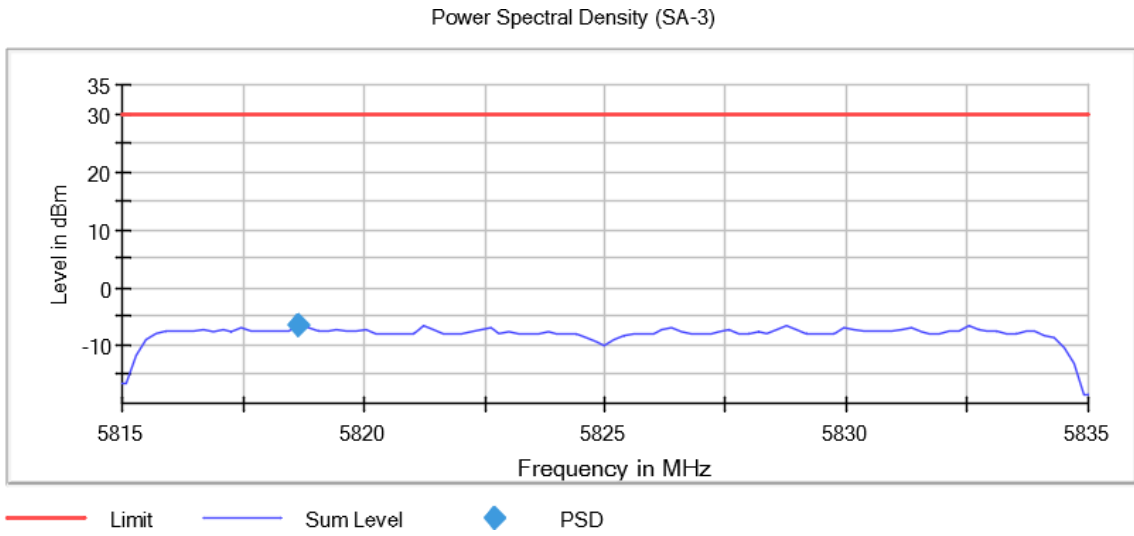
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No,
MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No,
 MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	20.000 MHz	20.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 40
Sweeptime	2.020 ms	2.020 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	29703	29703
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

Mode: SISO worst

Modulation: 802.11ax HE20 (OFDMA MCS0) – Partial RU

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Freq (MHz)	PSD (dBm)
2	5180.00000	No	1	5171.485149	3.60
2	5200.00000	No	1	5199.207921	2.38
2	5240.00000	No	1	5248.514851	4.04
2	5745.00000	No	1	5736.287129	-0.18
2	5785.00000	No	1	5785.594059	-0.58
2	5825.00000	No	1	5832.920792	-0.13

Verdict

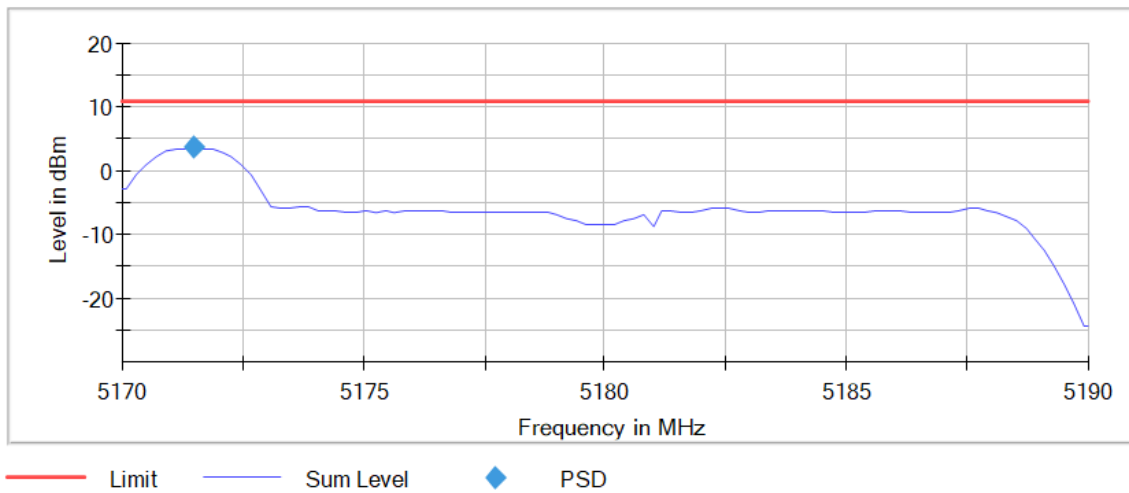
Pass

Attachments

Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

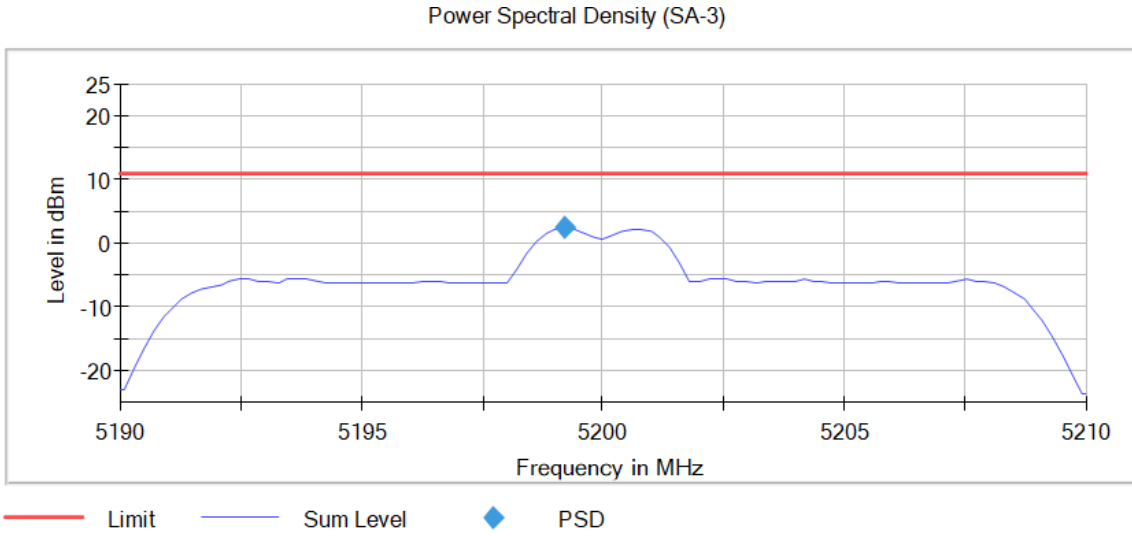
Images:

Power Spectral Density (SA-3)



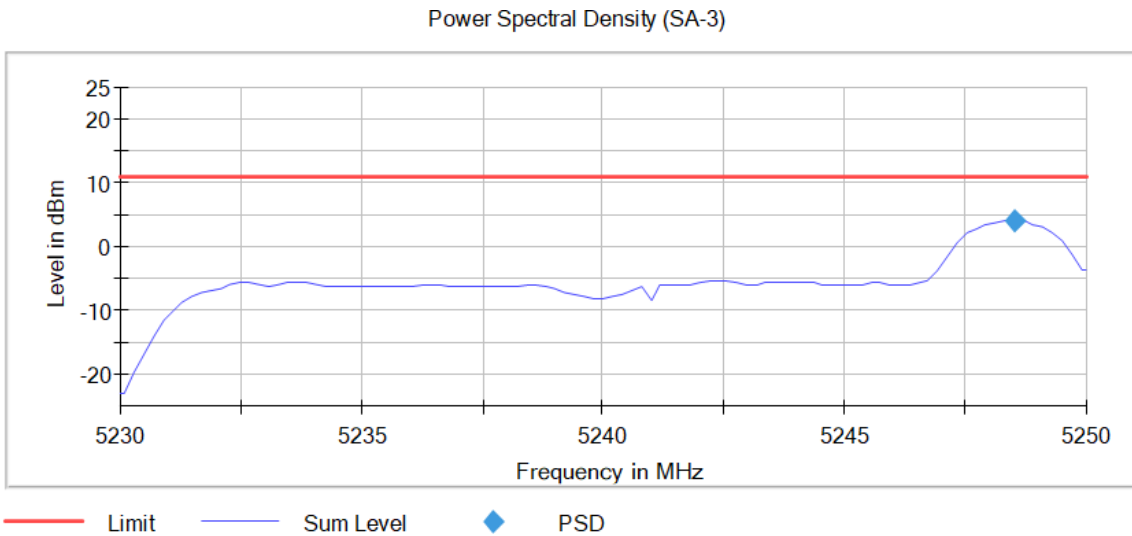
Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



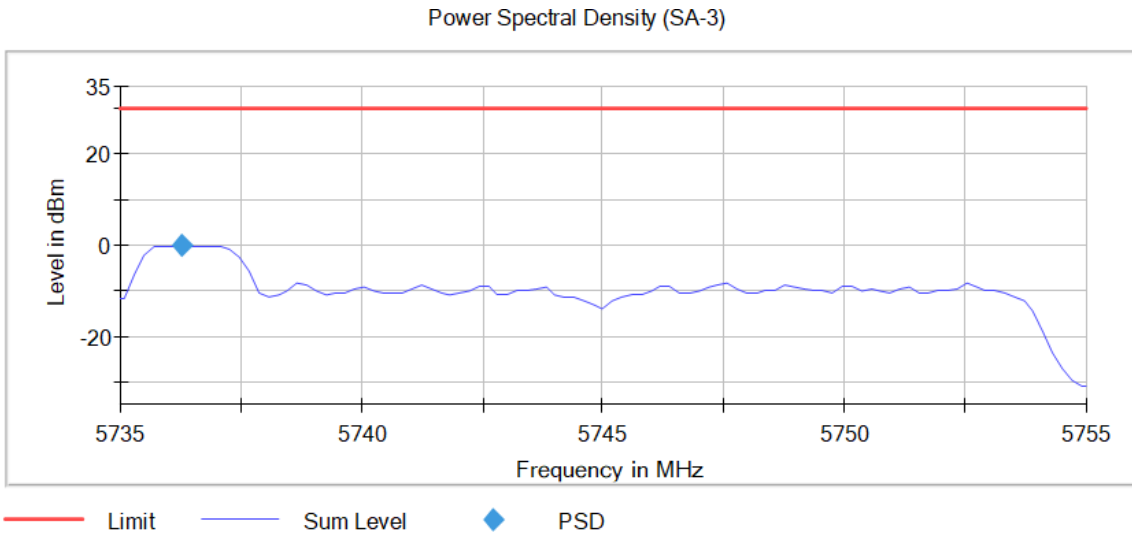
Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



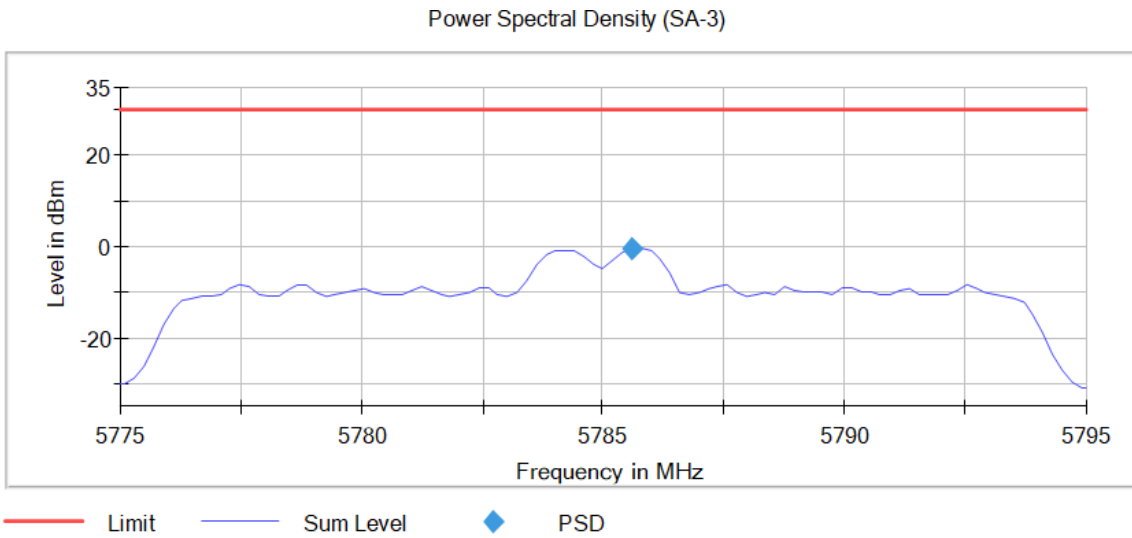
Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



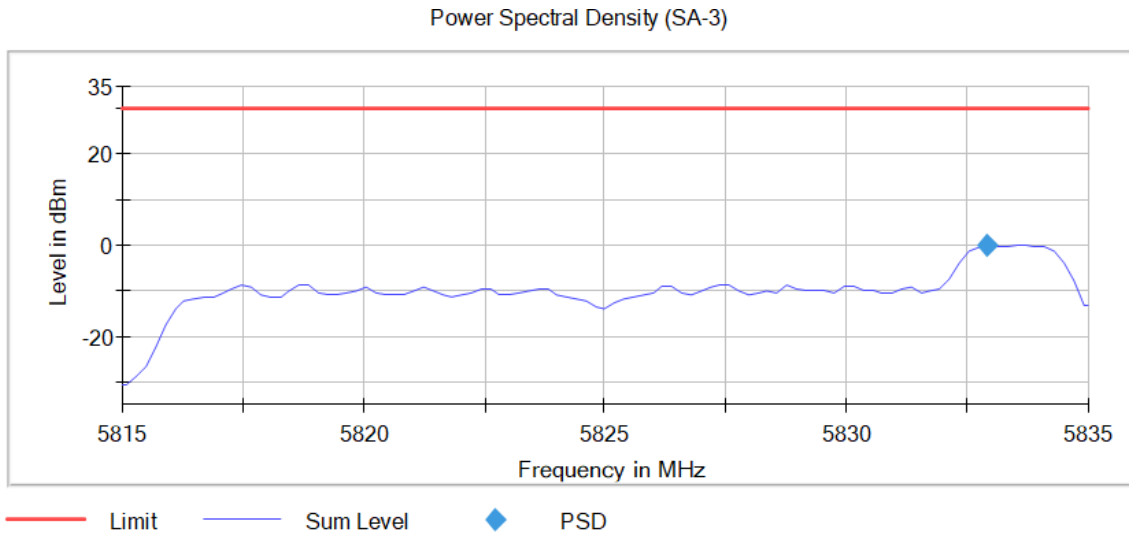
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	20.000 MHz	20.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 40
Sweeptime	2.020 ms	2.020 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	RMS	RMS
SweepCount	29703	29703
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.02 dB	0.50 dB

Mode: SISO worst

Modulation: 802.11ax HE40 SS1 (OFDMA MCS0) – Full RU

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Freq (MHz)	PSD (dBm)
2	5190.00000	No	1	5178.118812	-7.56
2	5230.00000	No	1	5241.485149	-7.53
2	5755.00000	No	1	5747.625000	-10.49
2	5795.00000	No	1	5807.625000	-9.92

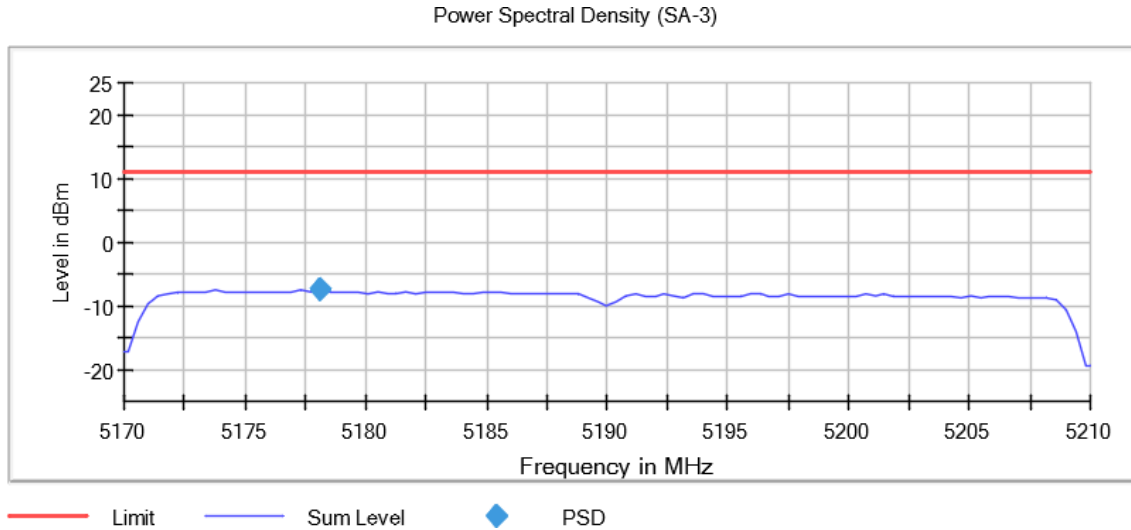
Verdict

Pass

Attachments

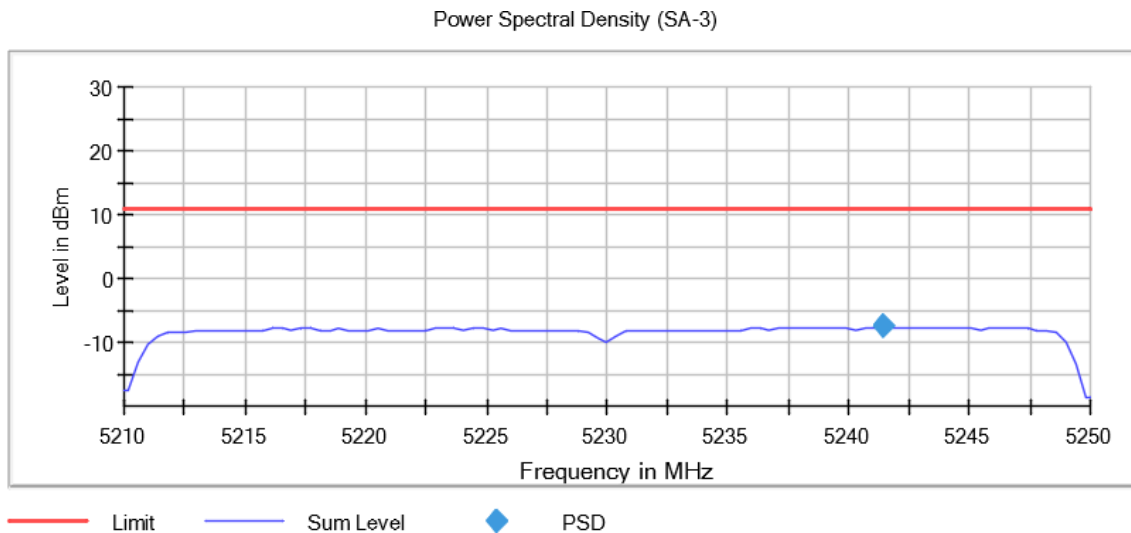
Active Port = 2, Frequency MHz = 5190.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

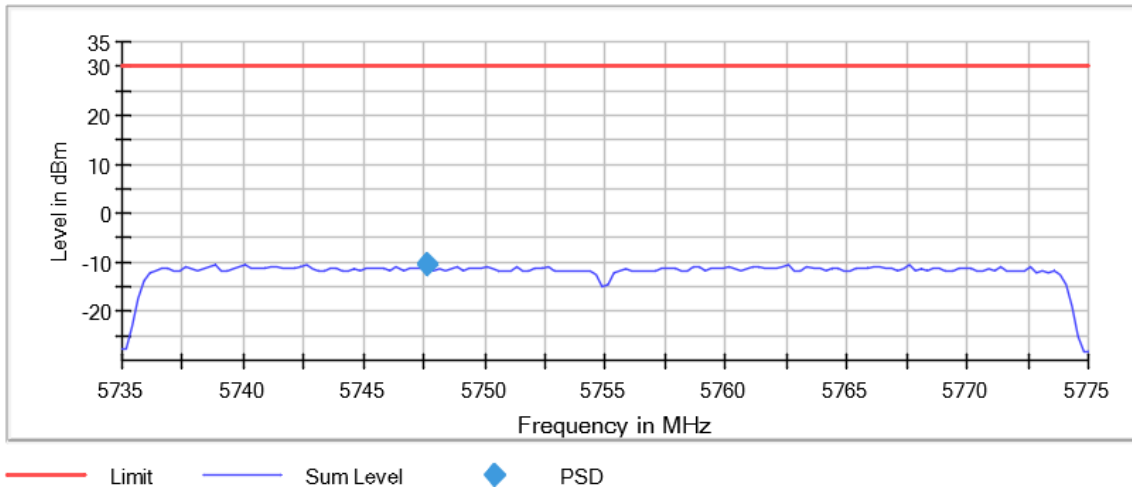
Images:



Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

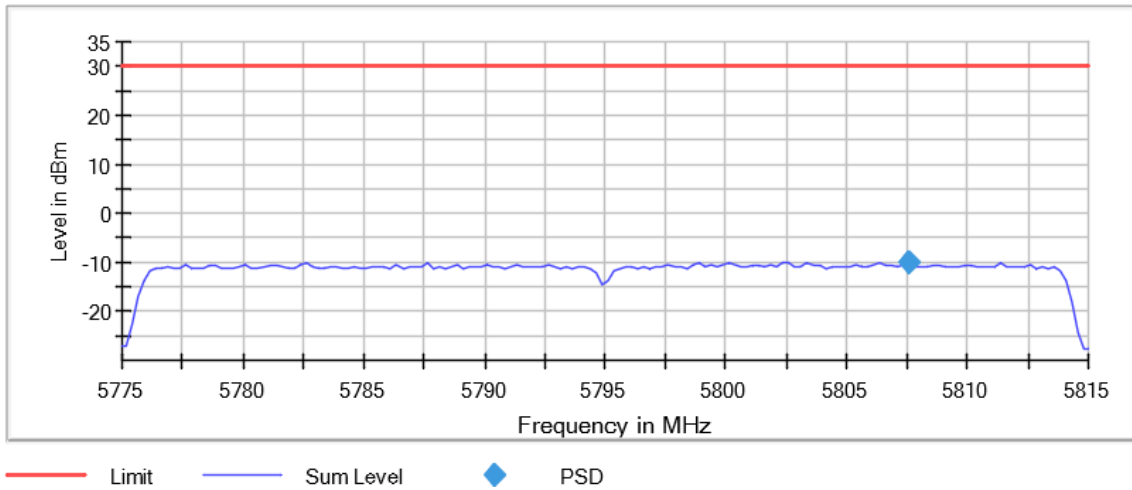
Power Spectral Density (SA-3)



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

Power Spectral Density (SA-3)



Tables:
 Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	40.000 MHz	40.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	101	~ 80
Sweeptime	2.020 ms	2.020 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	29703	29703
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

Mode: SISO worst

Modulation: 802.11ax HE40 (OFDMA MCS0) – Partial RU

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Freq (MHz)	PSD (dBm)
2	5190.00000	No	1	5191.188119	4.91
2	5230.00000	No	1	5247.821782	5.56
2	5755.00000	No	1	5737.375000	1.61
2	5795.00000	No	1	5813.125000	1.43

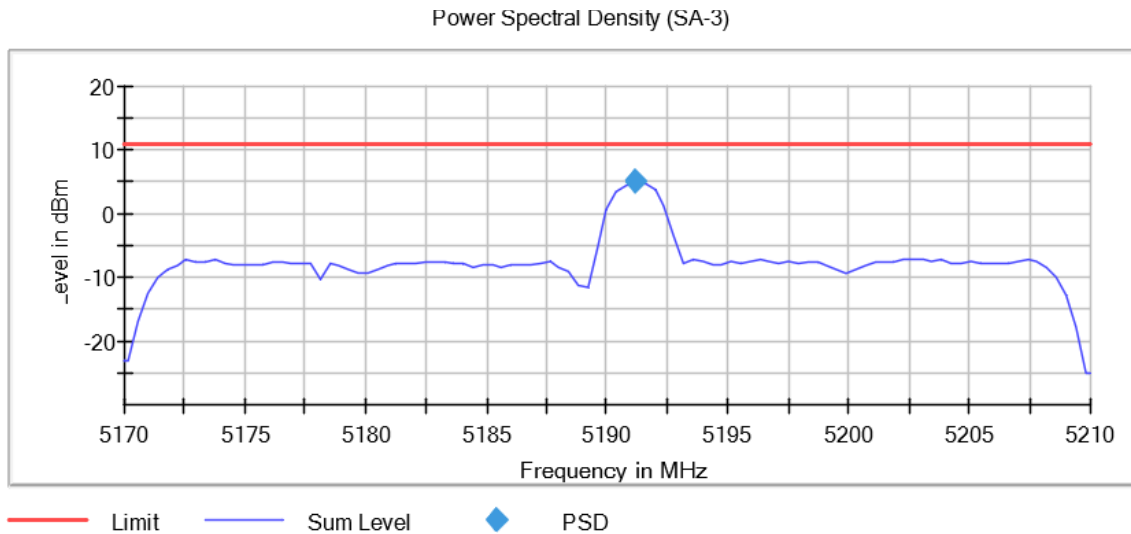
Verdict

Pass

Attachments

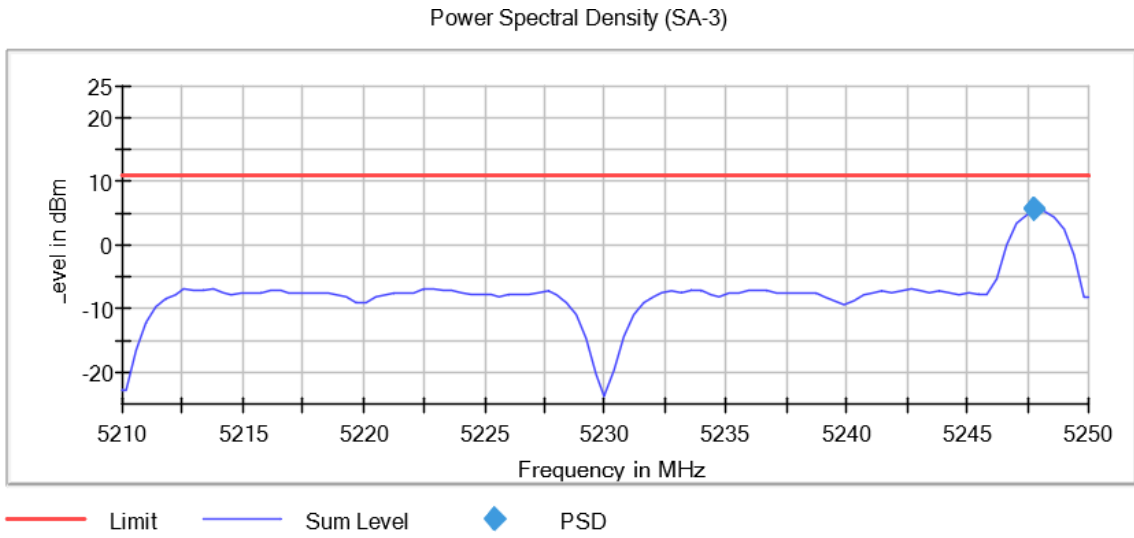
Active Port = 2, Frequency MHz = 5190.00000, Modulation = 802.11ax HE40 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



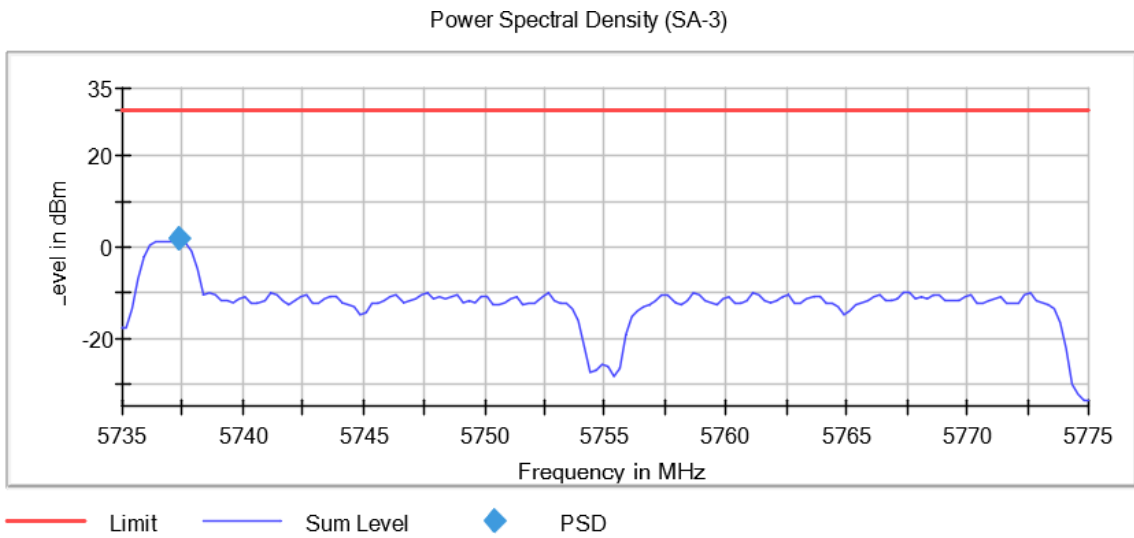
Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11ax HE40 (OFDMA MCS0), TPC = No,
MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



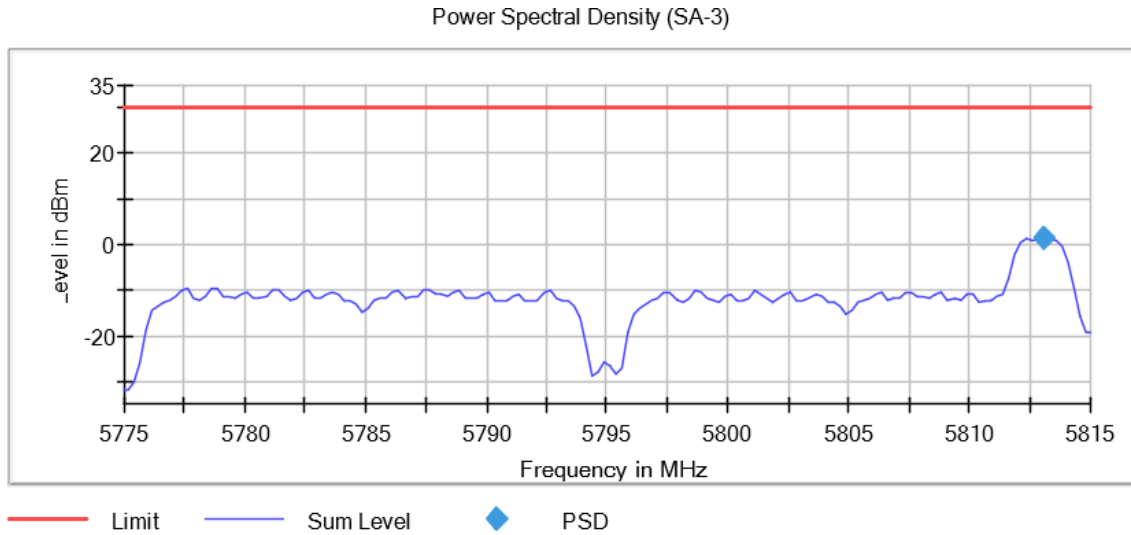
Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11ax HE40 (OFDMA MCS0), TPC = No,
MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11ax HE40 (OFDMA MCS0), TPC = No,
 MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Setting	Instrument Value	Target Value
Span	80.000 MHz	80.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	160	~ 160
Sweeptime	3.200 ms	3.200 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	18750	18750
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	2 / max. 15	max. 15
Stable	1 / 1	1

Mode: SISO worst

Modulation: 802.11ax HE80 SS1 (OFDM MCS0) – Full RU

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Freq (MHz)	PSD (dBm)
2	5210.00000	No	1	5181.250000	-10.70
2	5775.00000	No	1	5806.375000	-12.83

Verdict

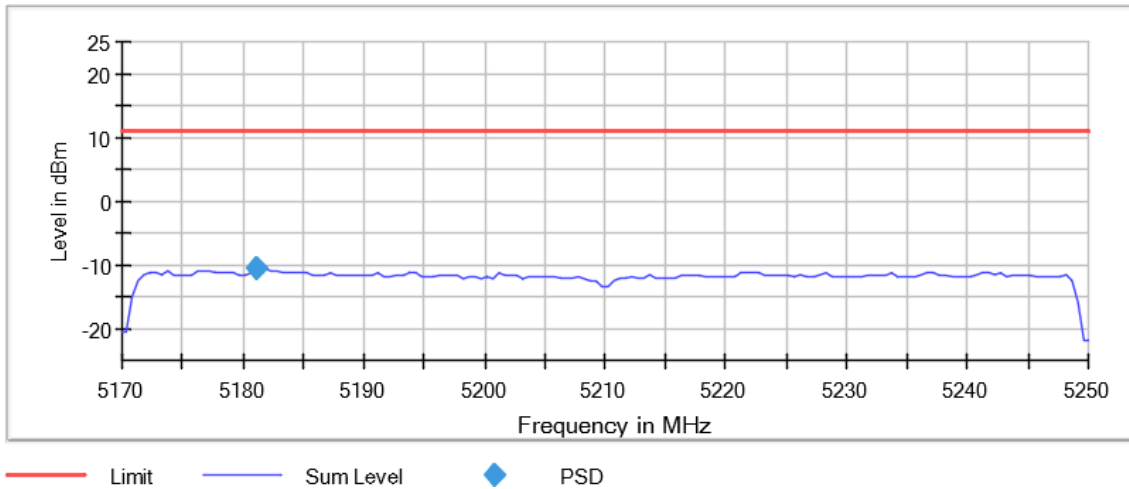
Pass

Attachments

Active Port = 2, Frequency MHz = 5210.00000, Modulation = 802.11ax HE80 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

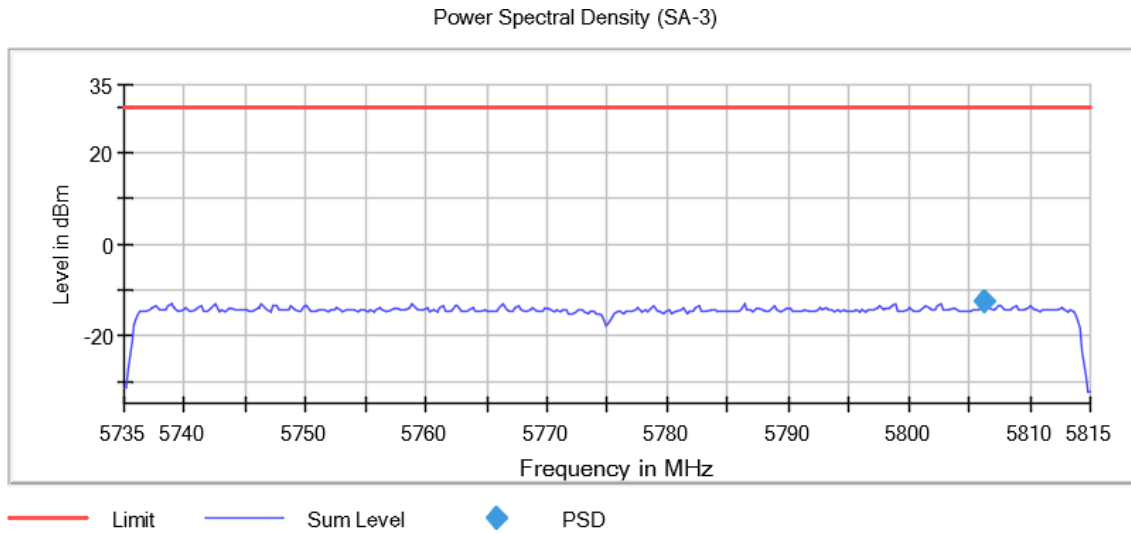
Images:

Power Spectral Density (SA-3)



Active Port = 2, Frequency MHz = 5775.00000, Modulation = 802.11ax HE80 SS1 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	80.000 MHz	80.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	160	~ 160
Sweeptime	3.200 ms	3.200 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	18750	18750
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

Mode: SISO worst

Modulation: 802.11ax HE80 SS1 (OFDMA MCS0) – Partial RU

Results

Port	Freq (MHz)	TPC	# of Tx Chains	Freq (MHz)	PSD (dBm)
2	5210.00000	No	1	5171.750000	4.64
2	5775.00000	No	1	5737.375000	1.67

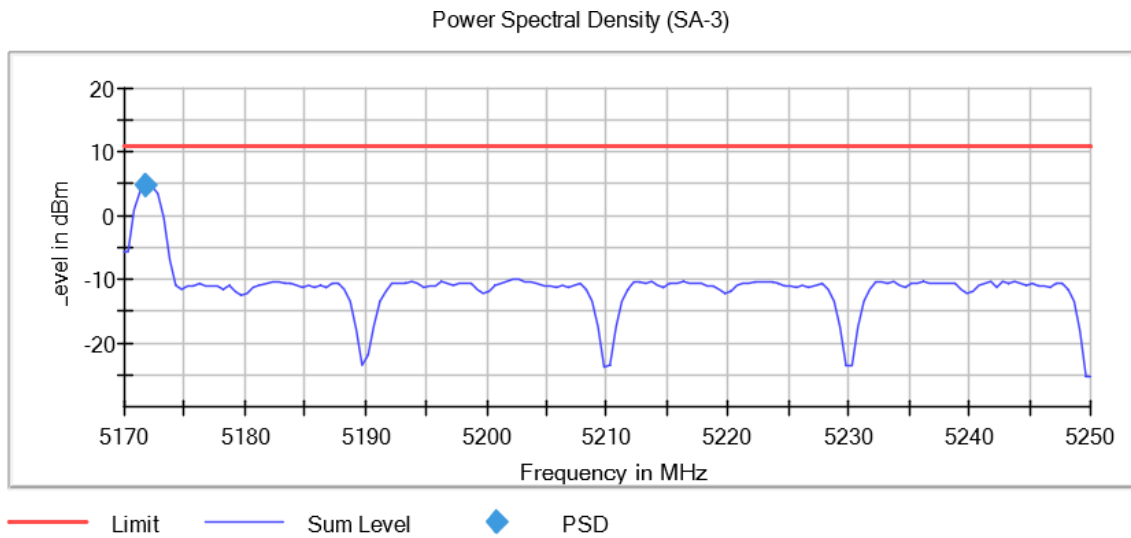
Verdict

Pass

Attachments

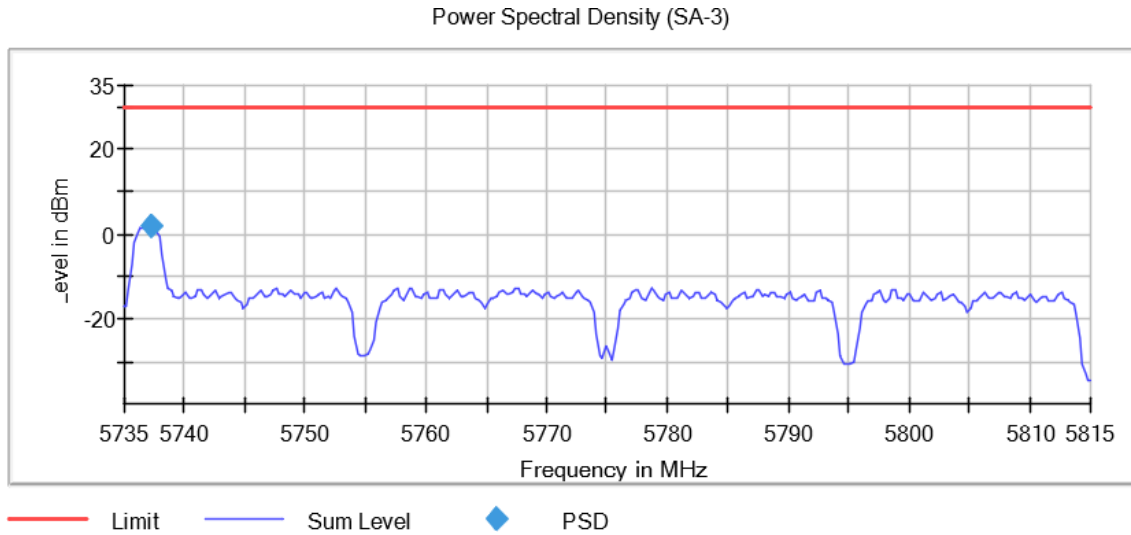
Active Port = 2, Frequency MHz = 5210.00000, Modulation = 802.11ax HE80 SS1 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5775.00000, Modulation = 802.11ax HE80 SS1 (OFDMA MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	80.000 MHz	80.000 MHz
RBW	1.000 MHz	<= 1.000 MHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	160	~ 160
Sweeptime	3.200 ms	3.200 ms
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	RMS	RMS
SweepCount	18750	18750
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	2 / max. 15	max. 15
Stable	1 / 1	1
Max Stable Difference	0.00 dB	0.50 dB

RSS-Gen 6.6 / RSS-247 6.2. [99dBW] Transmitter 99% Occupied Bandwidth

Limits

No Limit has been set to this test case

Mode: SISO worst

Modulation: 802.11a (OFDM 6 Mbit/s)

Results

Port	Freq (MHz)	# of Tx Chains	Occ Ch BW (MHz)
2	5180.00000	1	16.600
2	5200.00000	1	16.600
2	5240.00000	1	16.600
2	5745.00000	1	16.600
2	5785.00000	1	16.600
2	5825.00000	1	16.600

Verdict

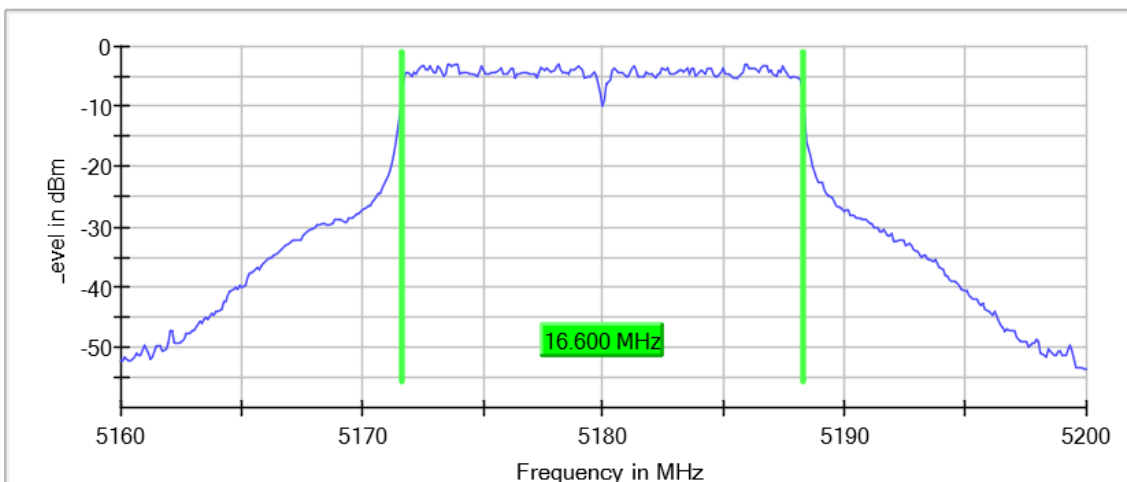
Pass

Attachments

Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11a (OFDM 6 Mbit/s), MIMO Mode = SISO, Number of Transmission Chains = 1

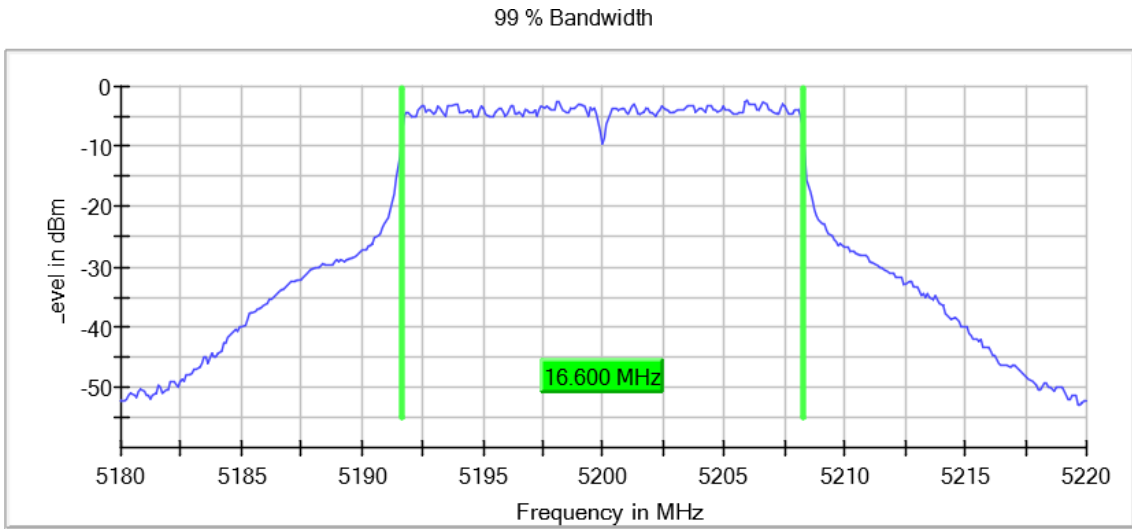
Images:

99 % Bandwidth



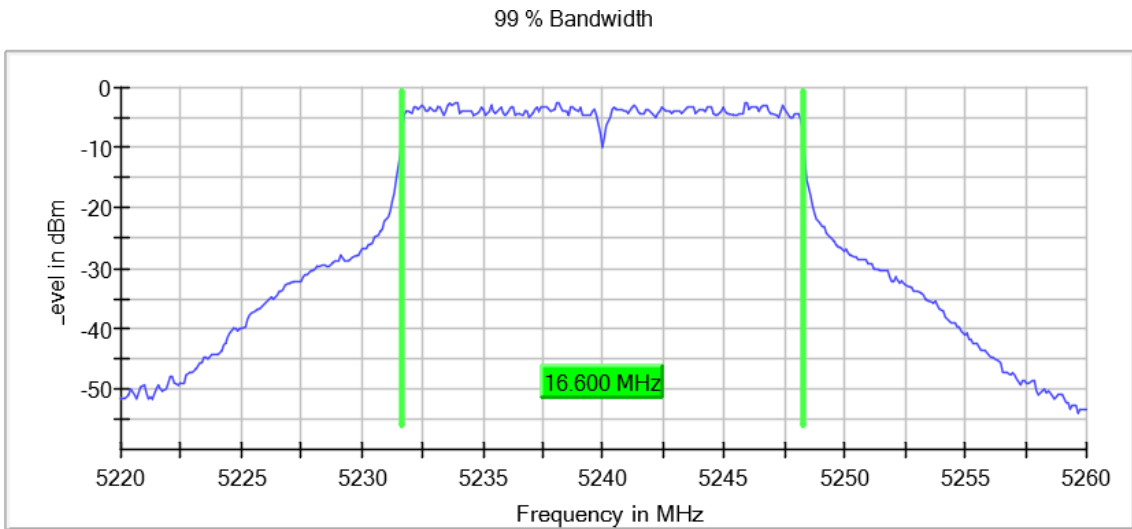
**Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11a (OFDM 6 Mbit/s), MIMO Mode = SISO,
Number of Transmission Chains = 1**

Images:



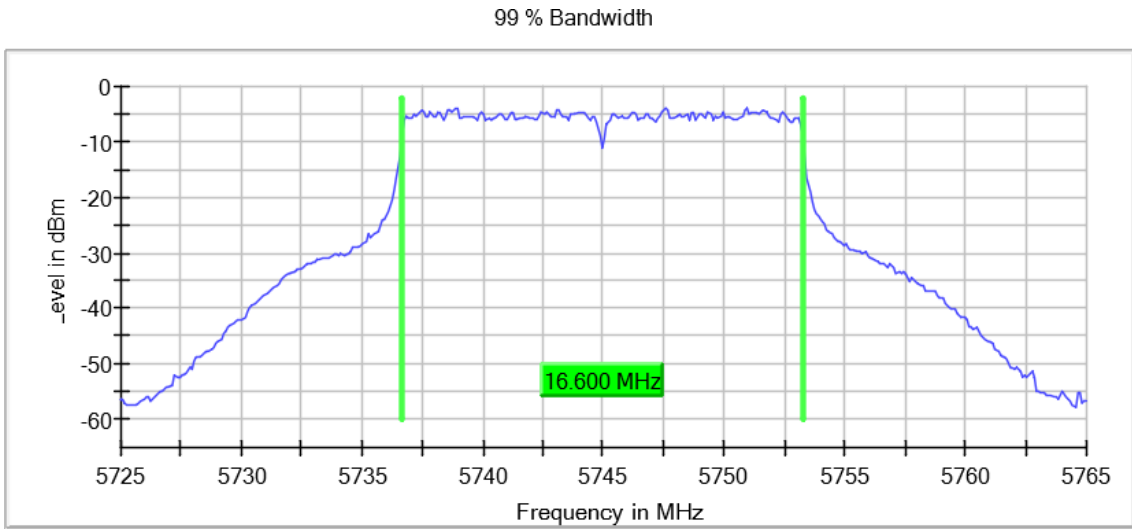
**Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11a (OFDM 6 Mbit/s), MIMO Mode = SISO,
Number of Transmission Chains = 1**

Images:



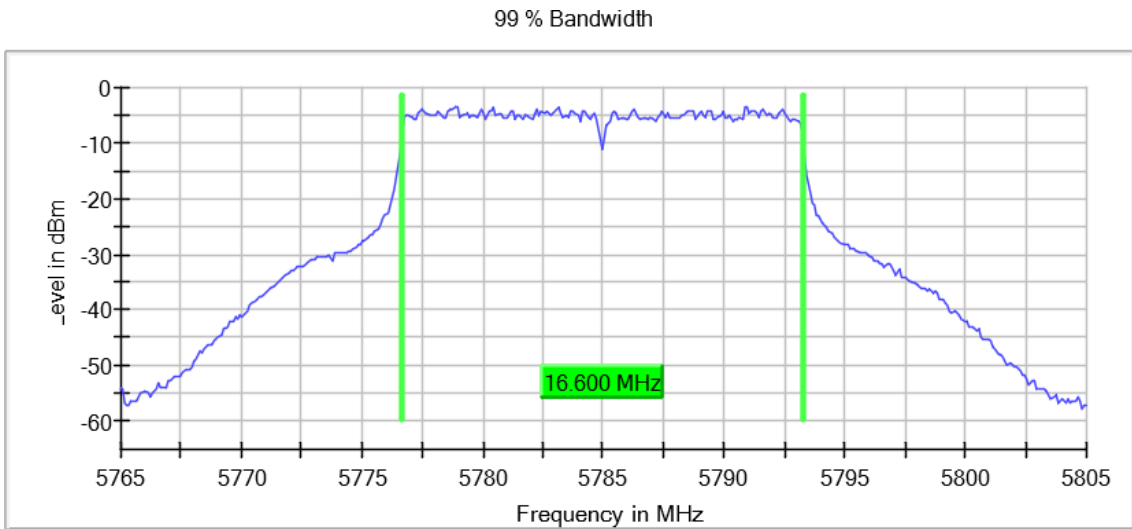
**Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11a (OFDM 6 Mbit/s), MIMO Mode = SISO,
Number of Transmission Chains = 1**

Images:



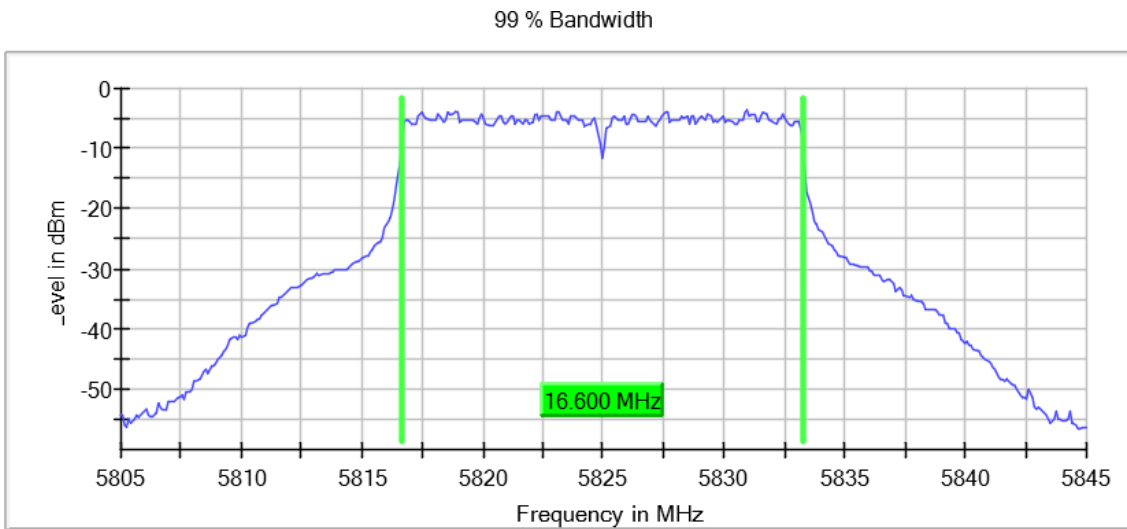
**Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11a (OFDM 6 Mbit/s), MIMO Mode = SISO,
Number of Transmission Chains = 1**

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11a (OFDM 6 Mbit/s), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	>= 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	400	~ 400
Sweeptime	1.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	54 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.01 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11n HT20 (OFDM MCS0)

Results

Port	Freq (MHz)	# of Tx Chains	Occ Ch BW (MHz)
2	5180.00000	1	17.800
2	5200.00000	1	17.800
2	5240.00000	1	17.800
2	5745.00000	1	17.800
2	5785.00000	1	17.800
2	5825.00000	1	17.800

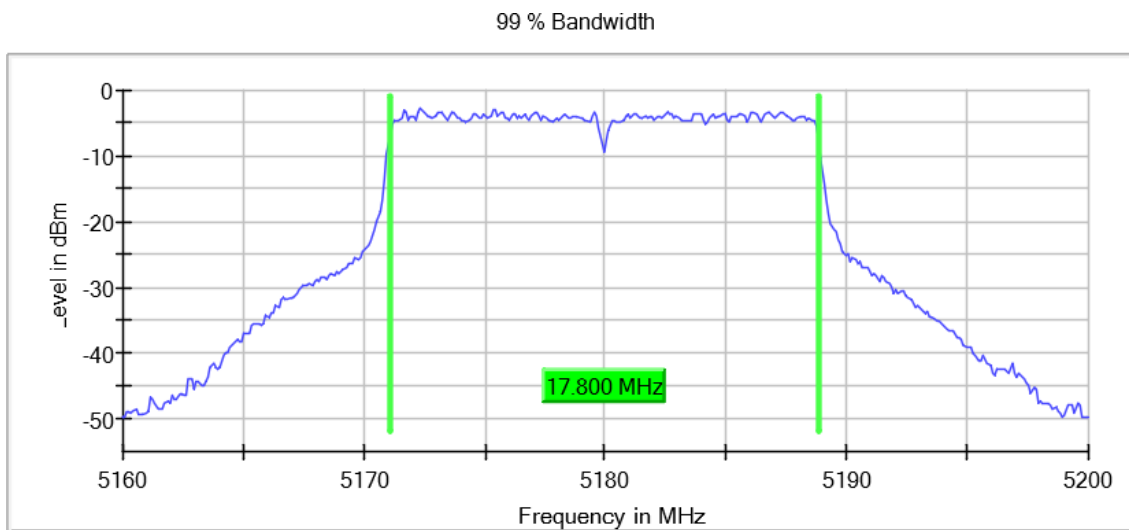
Verdict

Pass

Attachments

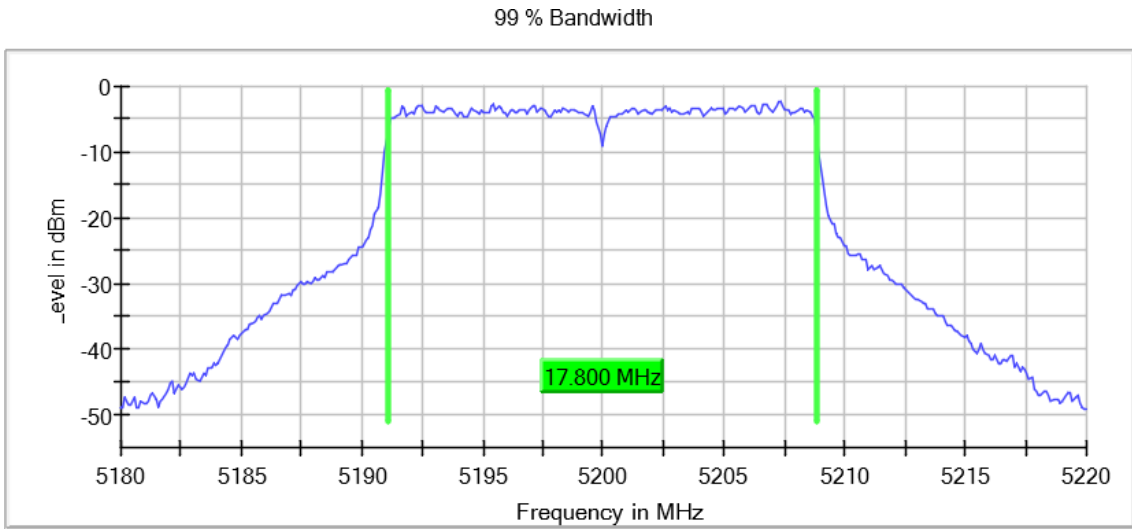
Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11n HT20 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



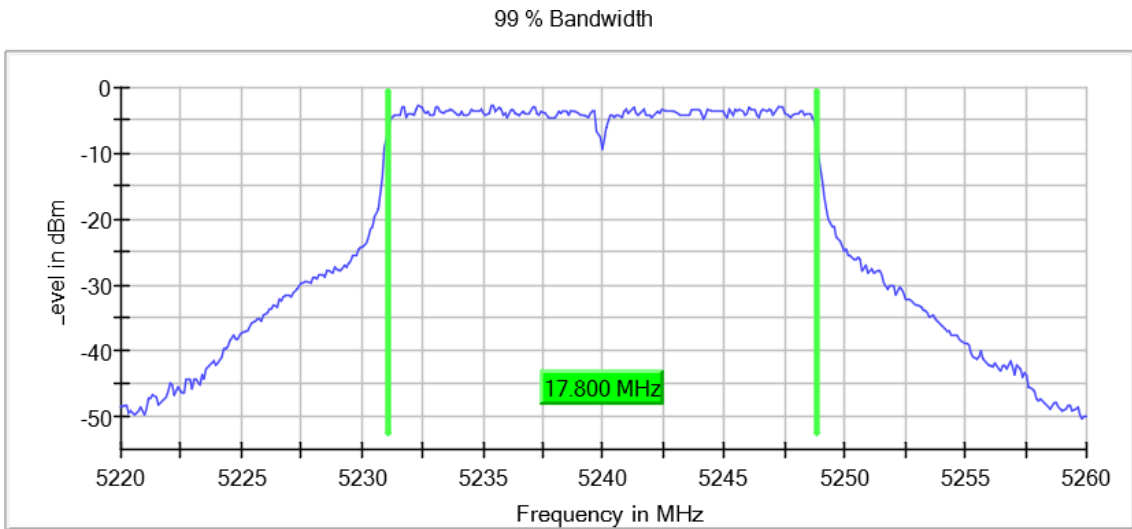
Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11n HT20 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



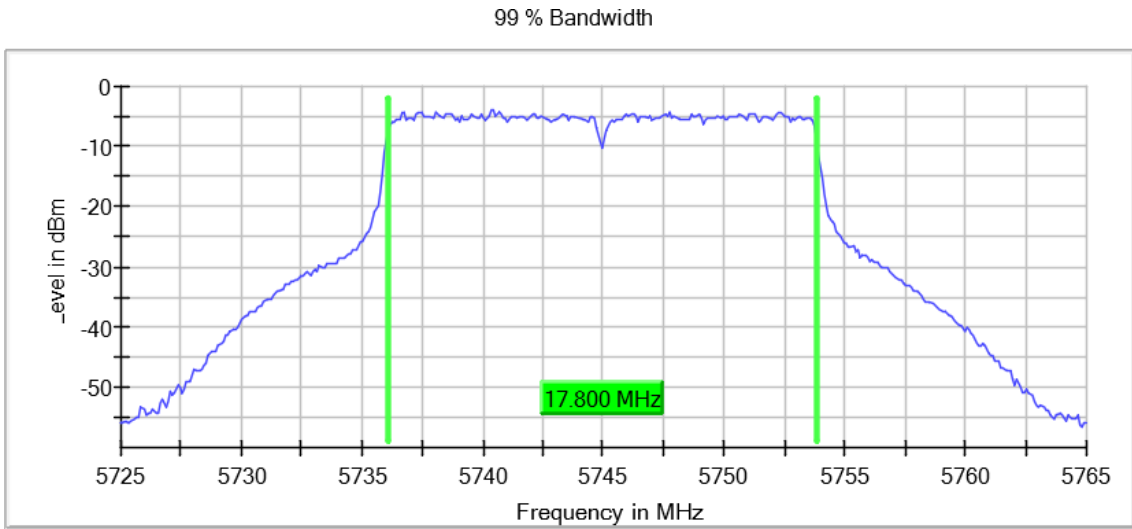
Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11n HT20 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



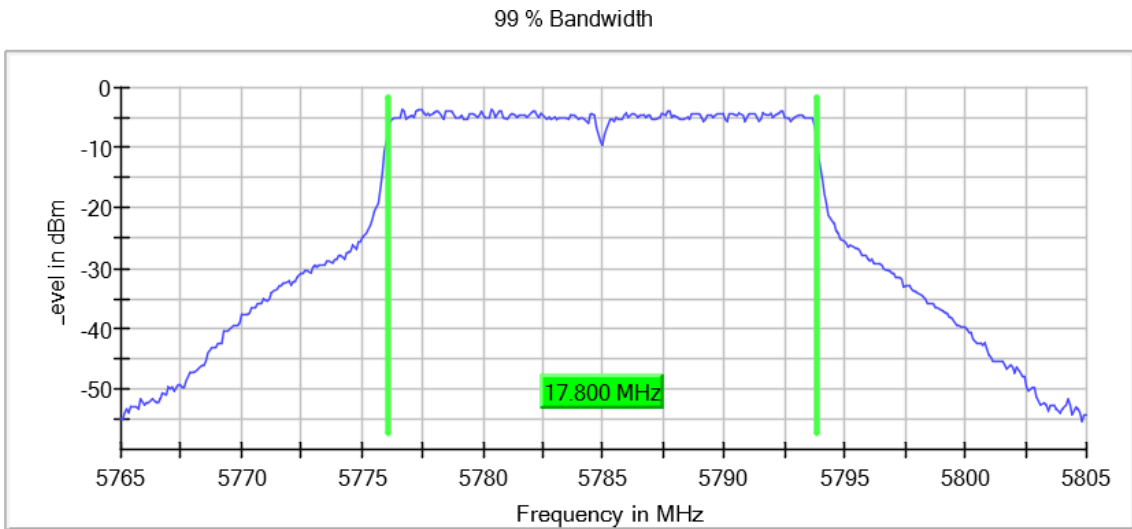
Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11n HT20 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



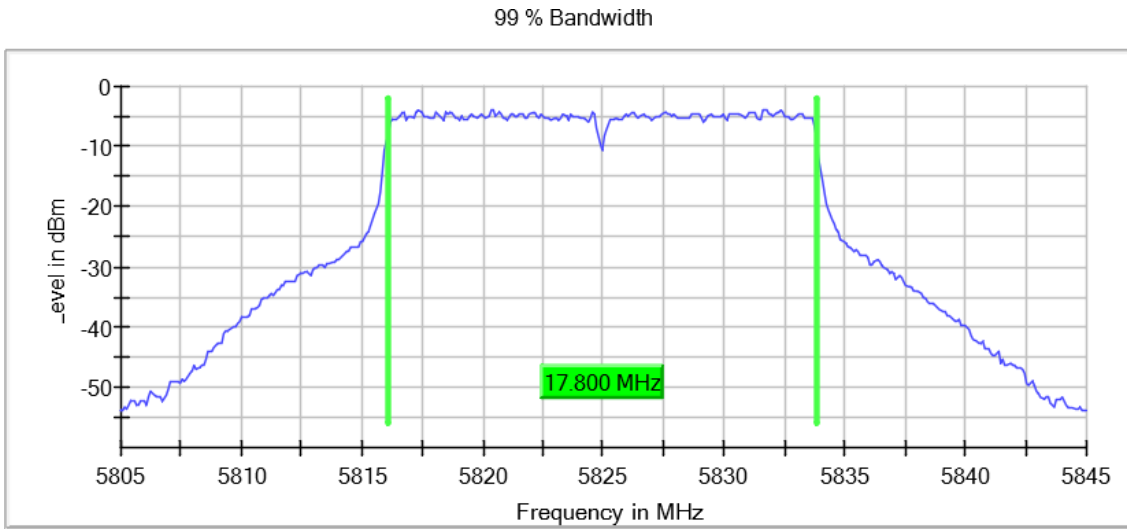
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11n HT20 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11n HT20 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	>= 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	400	~ 400
Sweeptime	1.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	49 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.24 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11n HT40 (OFDM MCS0)

Results

Port	Freq (MHz)	# of Tx Chains	Occ Ch BW (MHz)
2	5190.00000	1	36.750
2	5230.00000	1	36.750
2	5755.00000	1	36.750
2	5795.00000	1	36.750

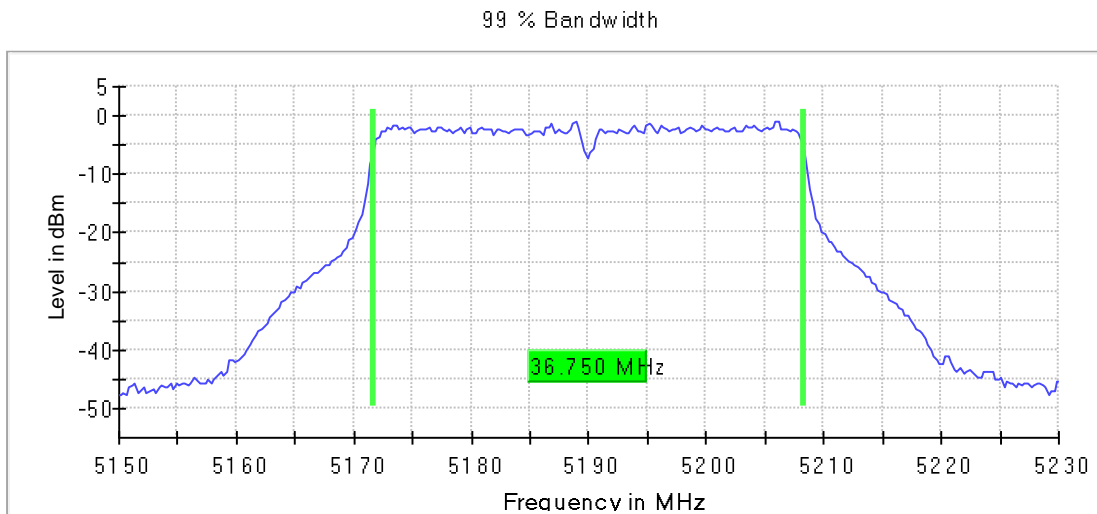
Verdict

Pass

Attachments

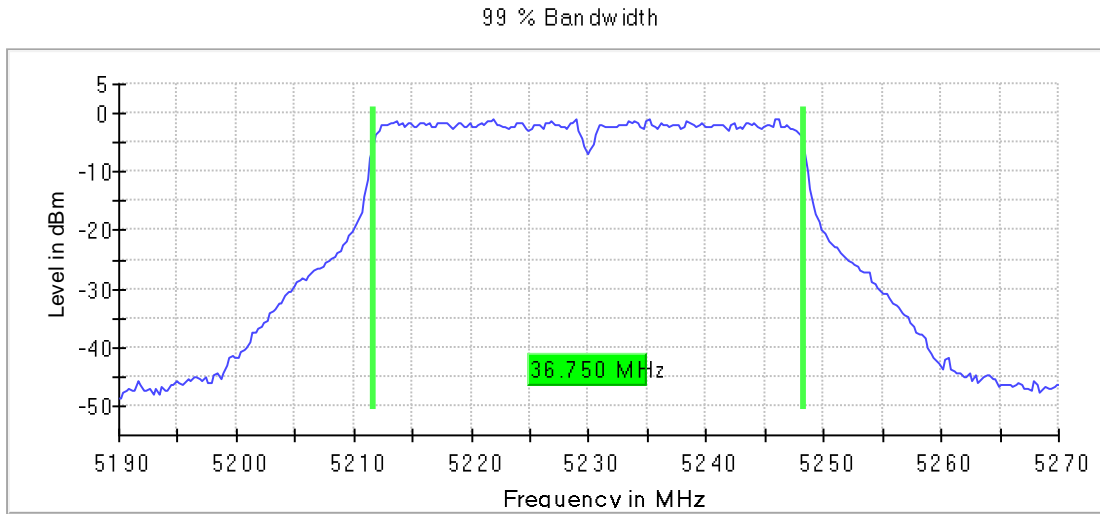
Active Port = 2, Frequency MHz = 5190.00000, 802.11n HT40 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



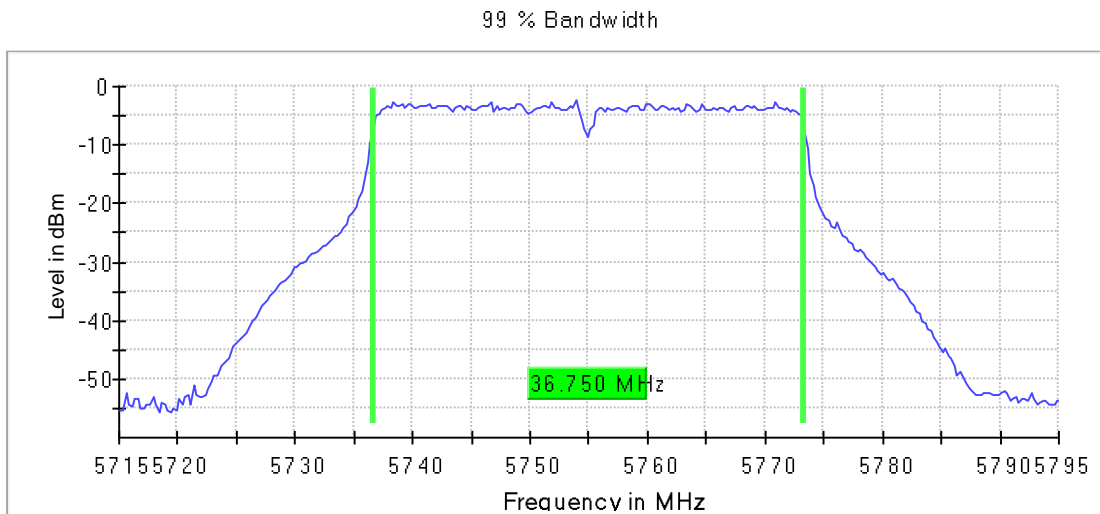
Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11n HT40 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



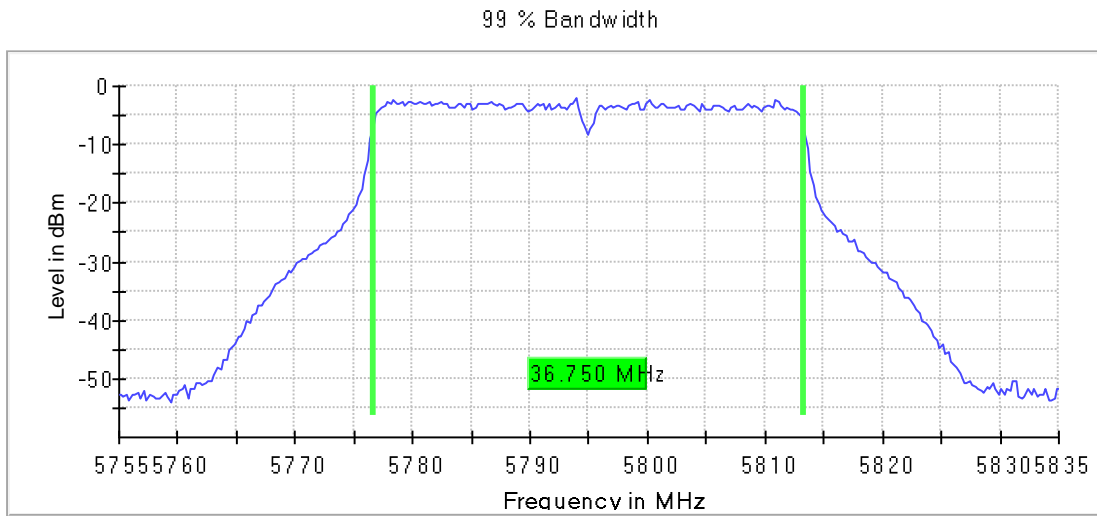
Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11n HT40 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11n HT40 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	80.000 MHz	80.000 MHz
RBW	500.000 kHz	>= 400.000 kHz
VBW	2.000 MHz	>= 1.500 MHz
SweepPoints	320	~ 320
Sweeptime	1.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	36 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.25 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ac VHT20 SS1 (OFDM MCS0)

Results

Port	Freq (MHz)	# of Tx Chains	Occ Ch BW (MHz)
2	5180.00000	1	16.400
2	5200.00000	1	16.400
2	5240.00000	1	16.400
2	5745.00000	1	16.400
2	5785.00000	1	16.400
2	5825.00000	1	16.400

Verdict

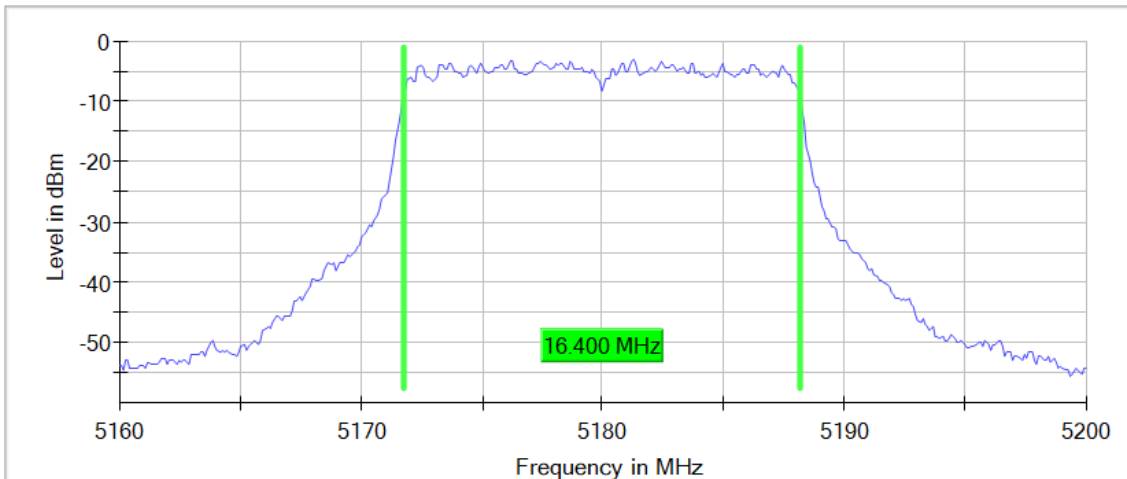
Pass

Attachments

Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

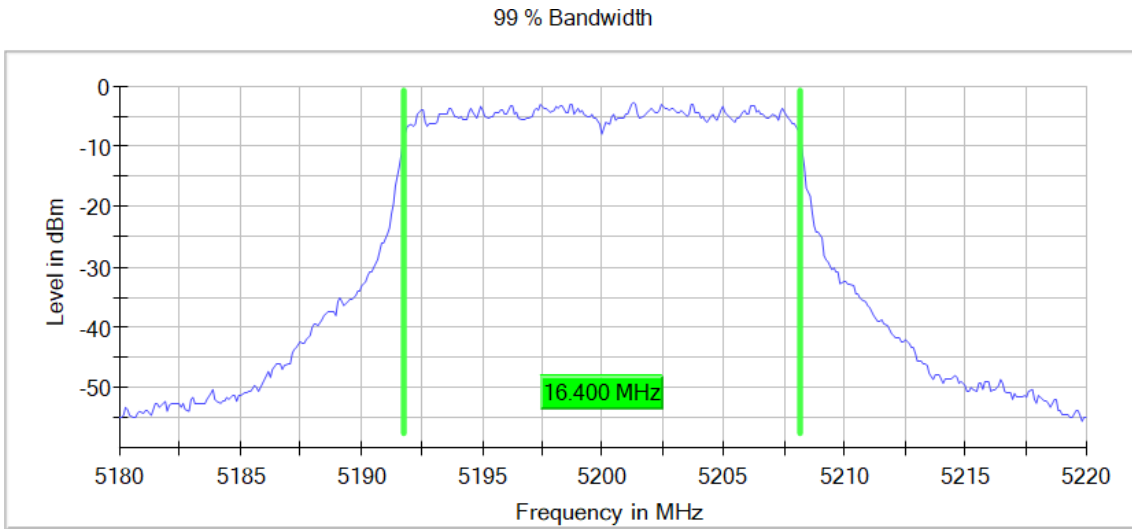
Images:

99 % Bandwidth



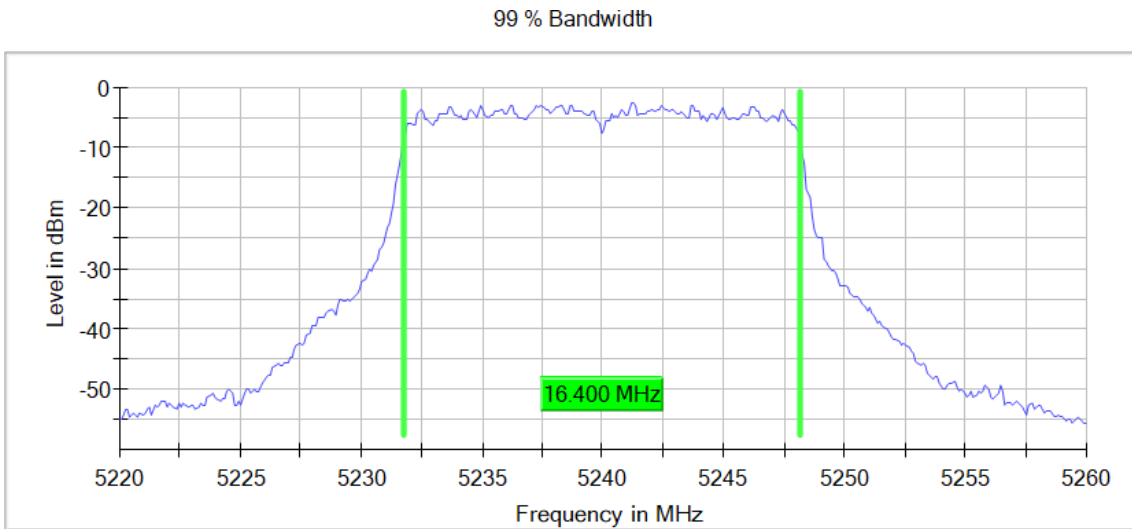
Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

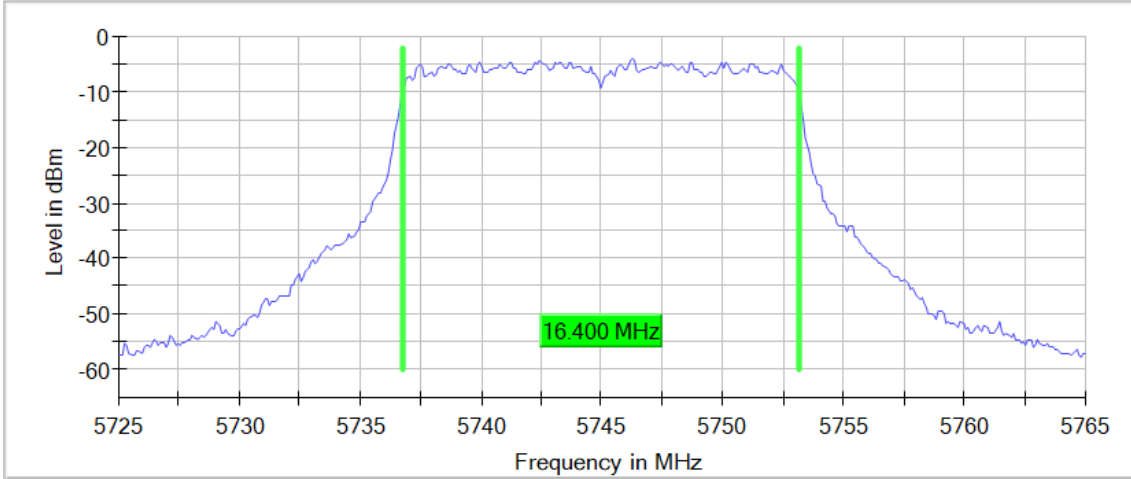
Images:



Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

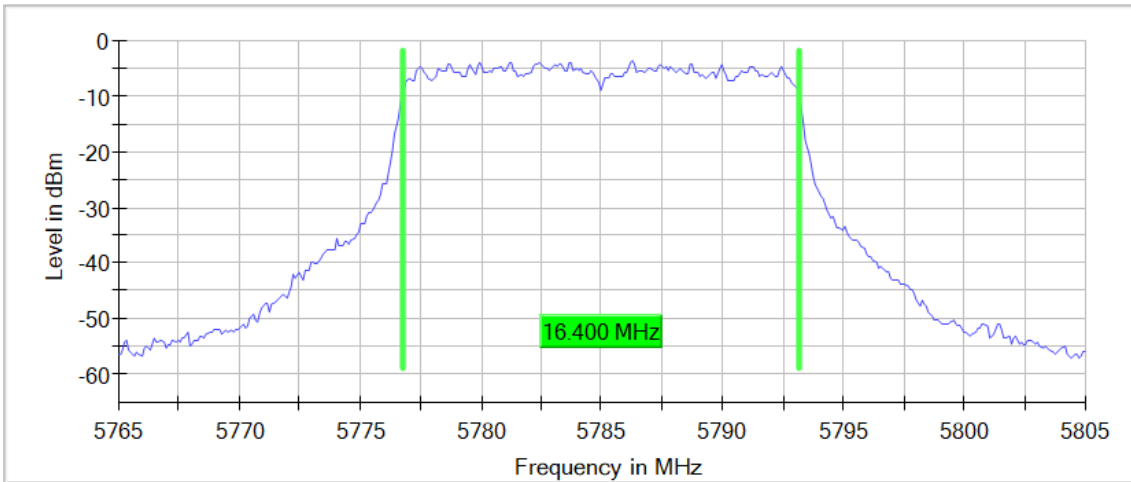
99 % Bandwidth



Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

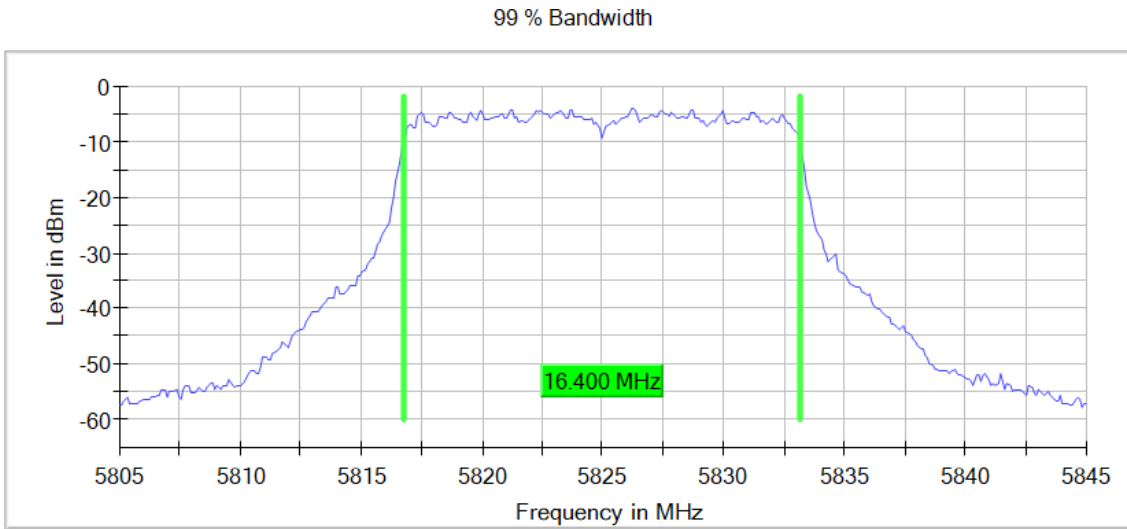
Images:

99 % Bandwidth



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	>= 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	400	~ 400
Sweeptime	1.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	35 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.19 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ac VHT40 SS1 (OFDM MCS0)

Results

Port	Freq (MHz)	# of Tx Chains	Occ Ch BW (MHz)
2	5190.00000	1	37.000
2	5230.00000	1	37.000
2	5755.00000	1	37.000
2	5795.00000	1	37.000

Verdict

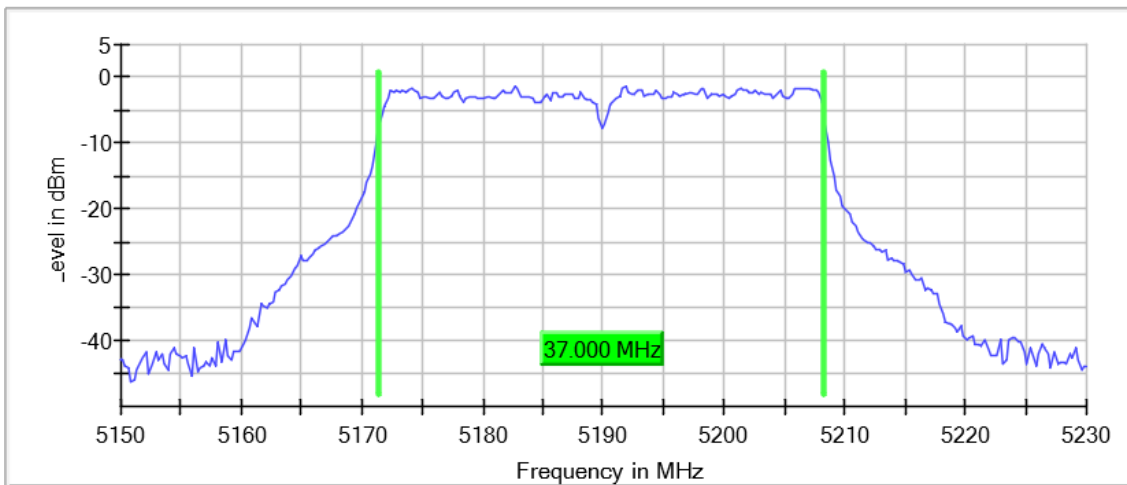
Pass

Attachments

Active Port = 2, Frequency MHz = 5190.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

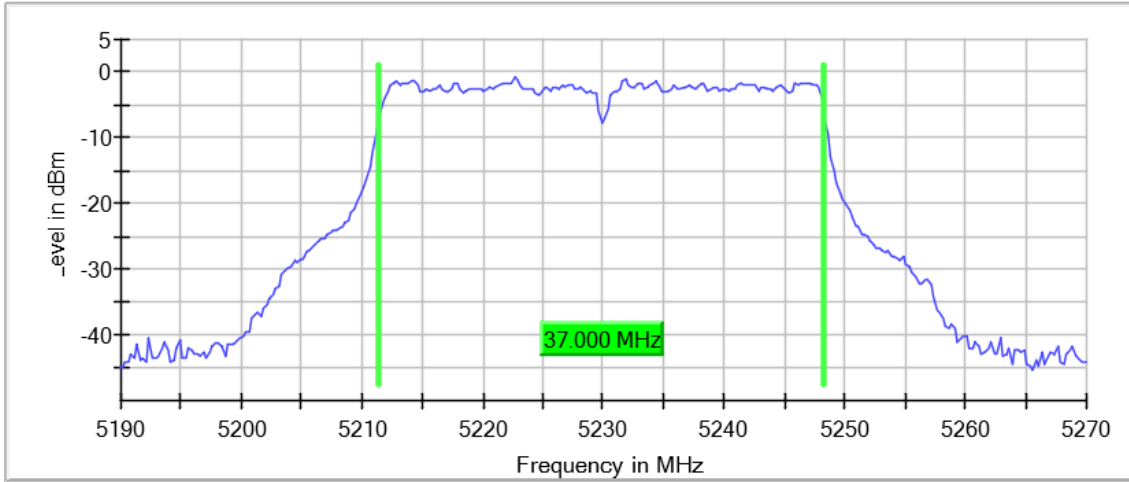
99 % Bandwidth



Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

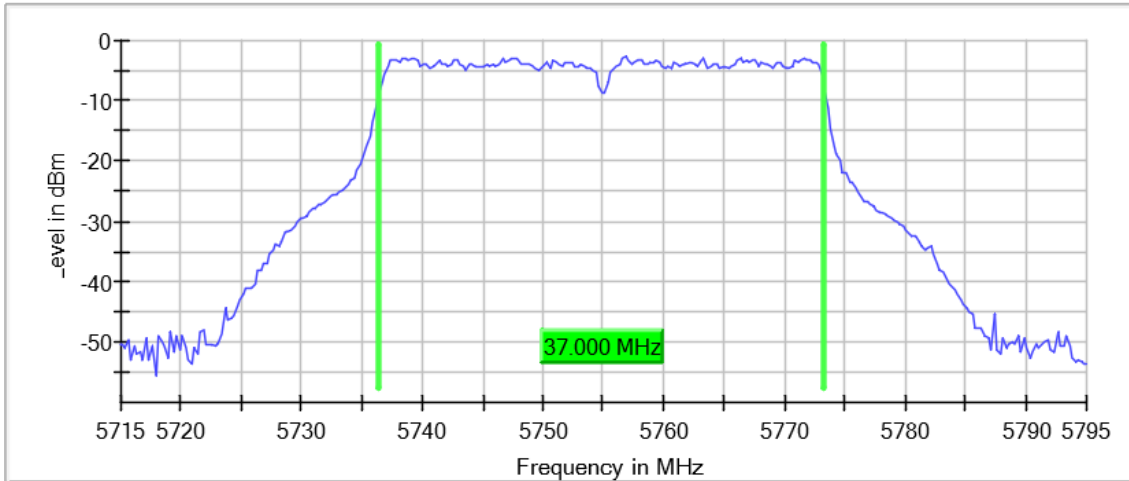
99 % Bandwidth



Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

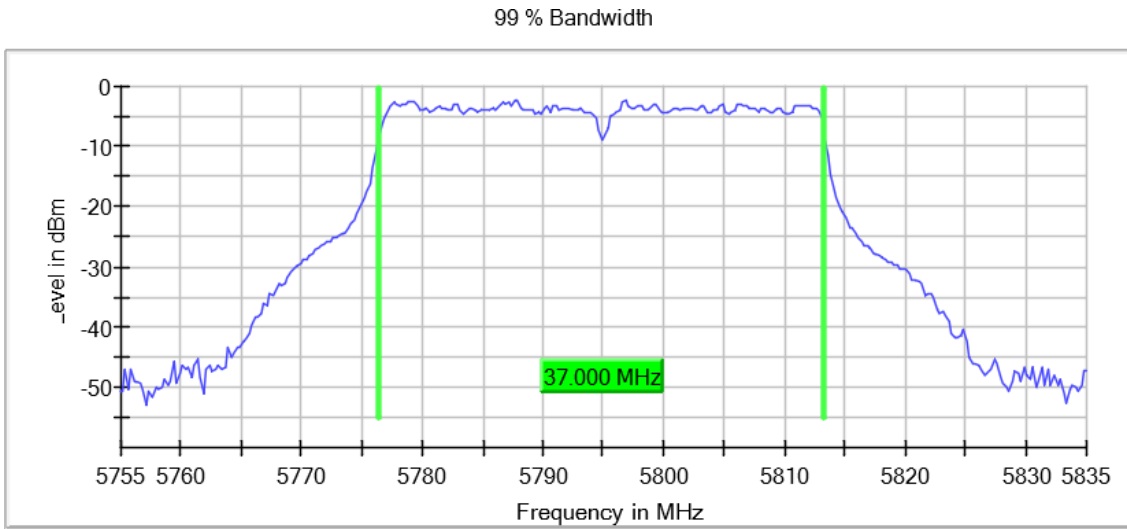
Images:

99 % Bandwidth



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	80.000 MHz	80.000 MHz
RBW	500.000 kHz	>= 400.000 kHz
VBW	2.000 MHz	>= 1.500 MHz
SweepPoints	320	~ 320
Sweeptime	1.000 ms	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	10.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	35 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.20 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ac VHT80 SS1 (OFDM MCS0)

Results

Port	Freq (MHz)	# of Tx Chains	Occ Ch BW (MHz)
1	5210.00000	1	76.500
1	5775.00000	1	76.500

Verdict

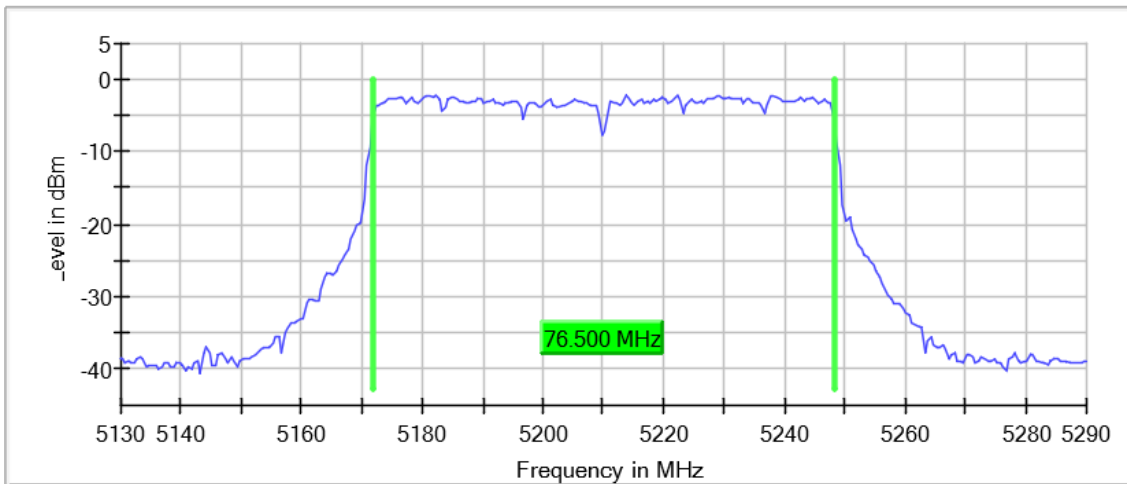
Pass

Attachments

Active Port = 2, Frequency MHz = 5210.00000, Modulation = 802.11ac VHT80 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

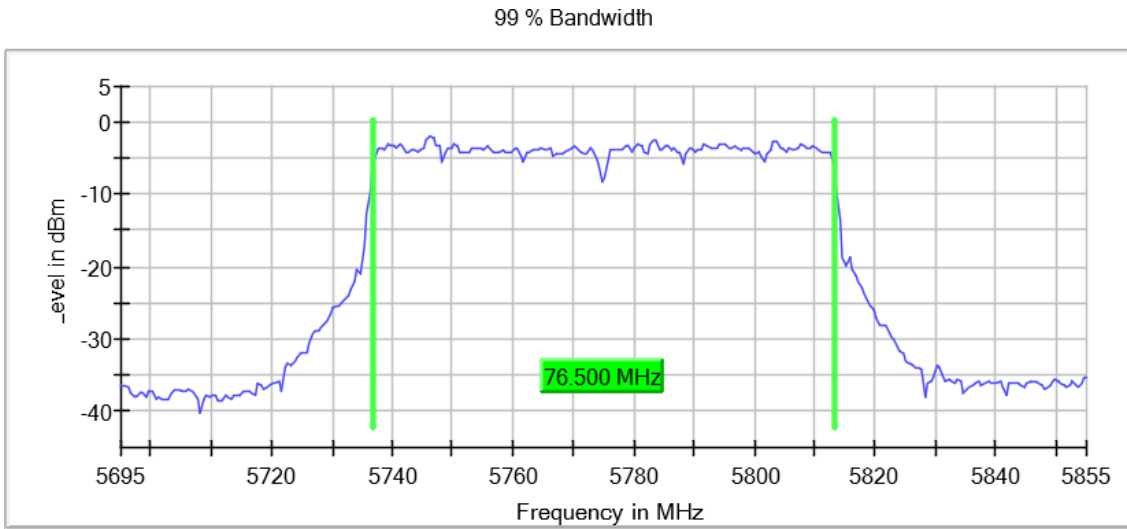
Images:

99 % Bandwidth



Active Port = 2, Frequency MHz = 5775.00000, Modulation = 802.11ac VHT80 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	160.000 MHz	160.000 MHz
RBW	1.000 MHz	>= 800.000 kHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	320	~ 320
Sweeptime	22.875 µs	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	56 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.09 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ax HE20 (OFDMA MCS0) – Full RU

Results

Port	Freq (MHz)	# of Tx Chains	Occ Ch BW (MHz)
2	5180.00000	1	19.200
2	5200.00000	1	16.600
2	5240.00000	1	19.200
2	5745.00000	1	19.200
2	5785.00000	1	17.800
2	5825.00000	1	19.200

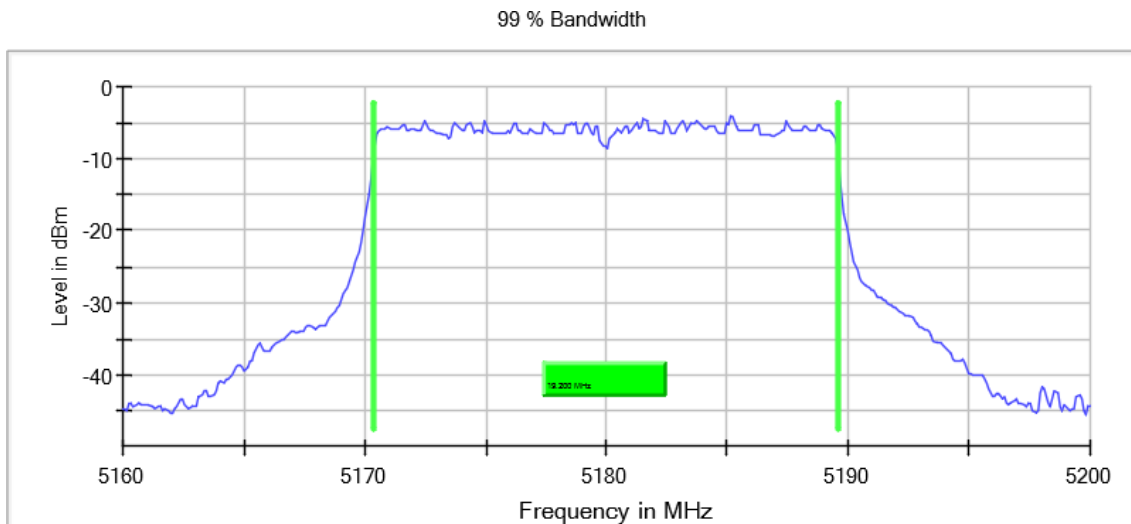
Verdict

Pass

Attachments

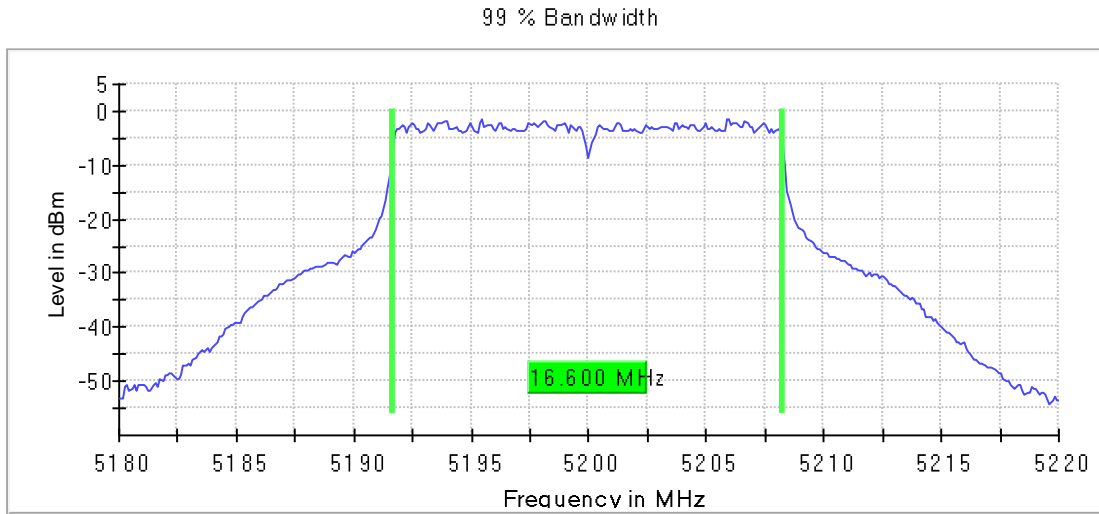
Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



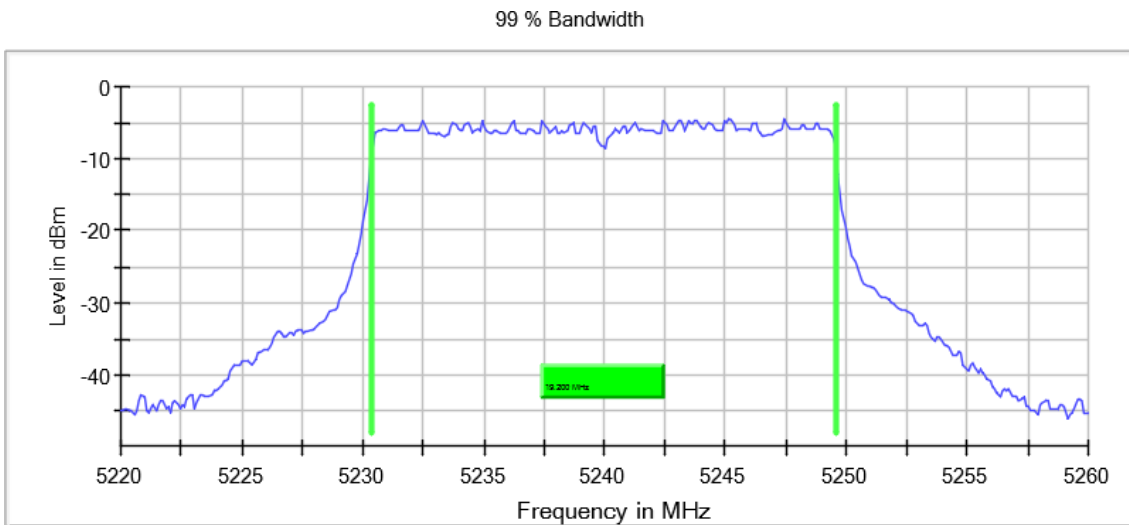
Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



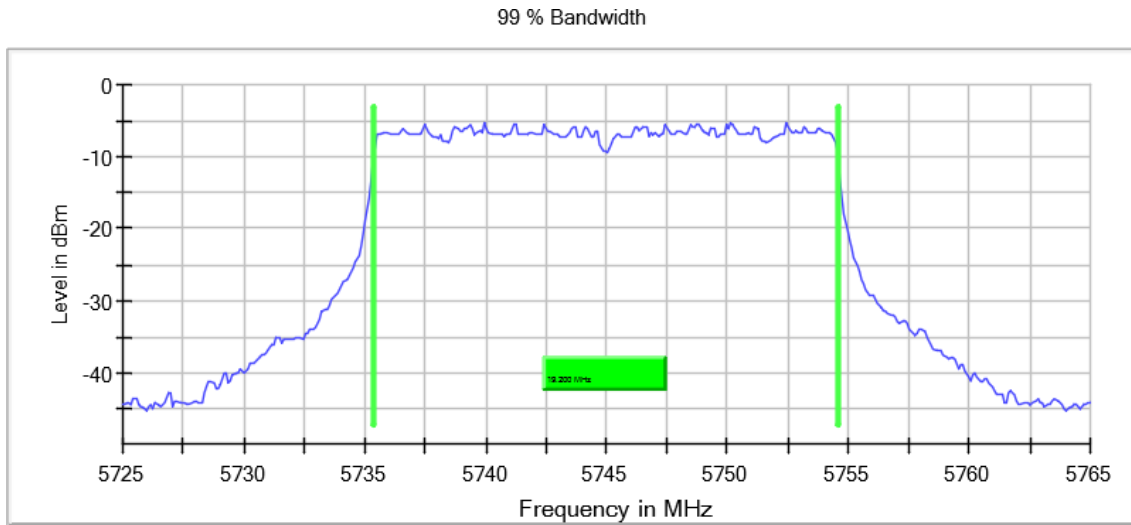
Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

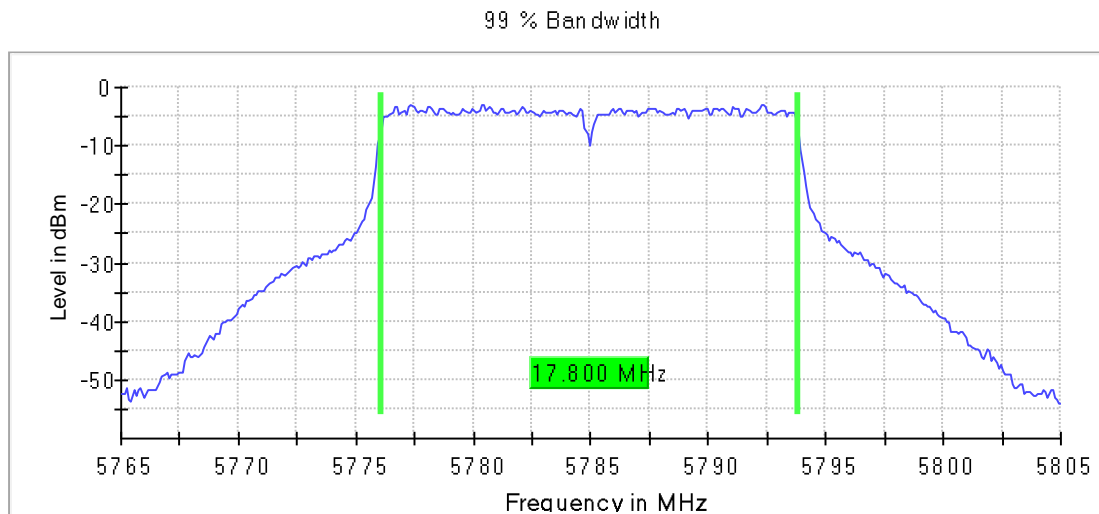
Images:



Tables:

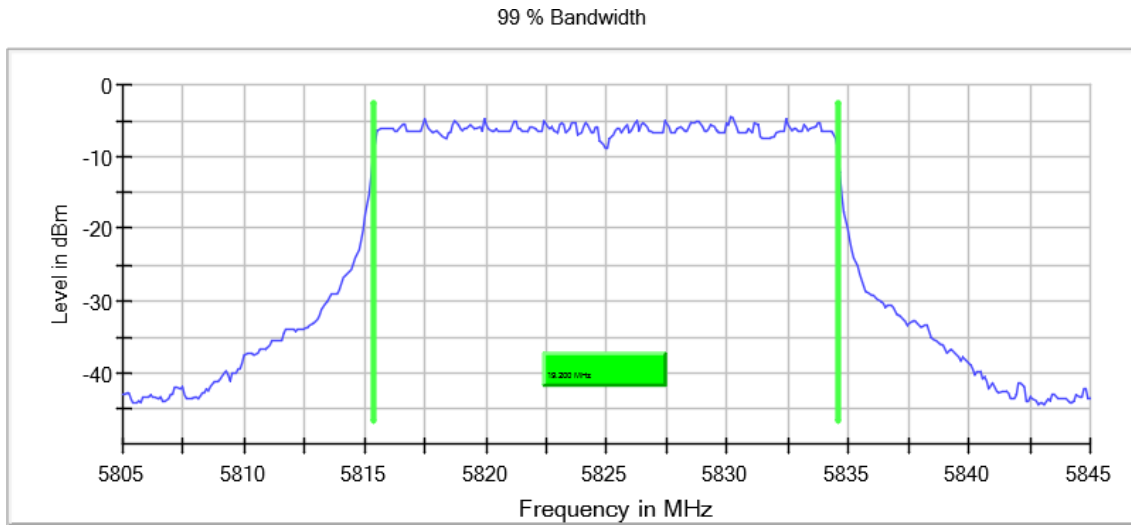
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	>= 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	400	~ 400
Sweeptime	28.477 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	53 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.27 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ax HE20 (OFDMA MCS0) – Partial RU

Results

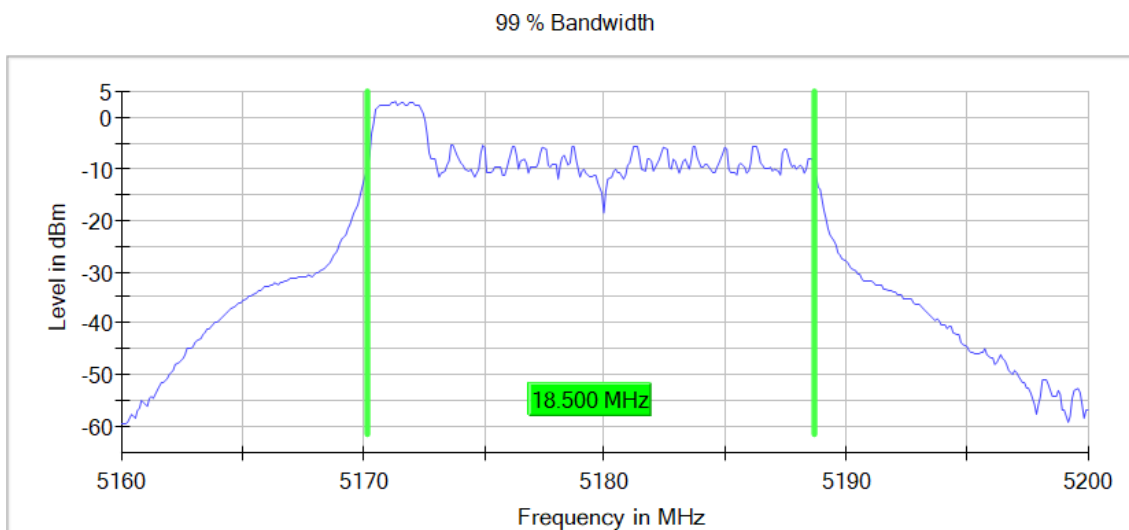
Port	Freq (MHz)	# of Tx Chains	Occ Ch BW (MHz)
2	5180.00000	1	18.500
2	5200.00000	1	17.400
2	5240.00000	1	18.500
2	5745.00000	1	18.500
2	5785.00000	1	17.400
2	5825.00000	1	18.600

Verdict

Pass

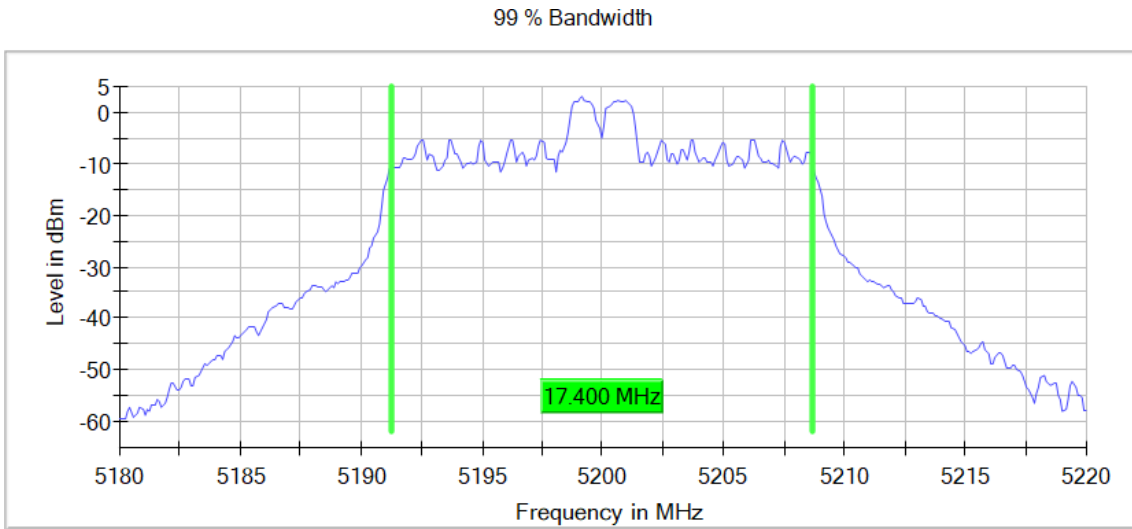
Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



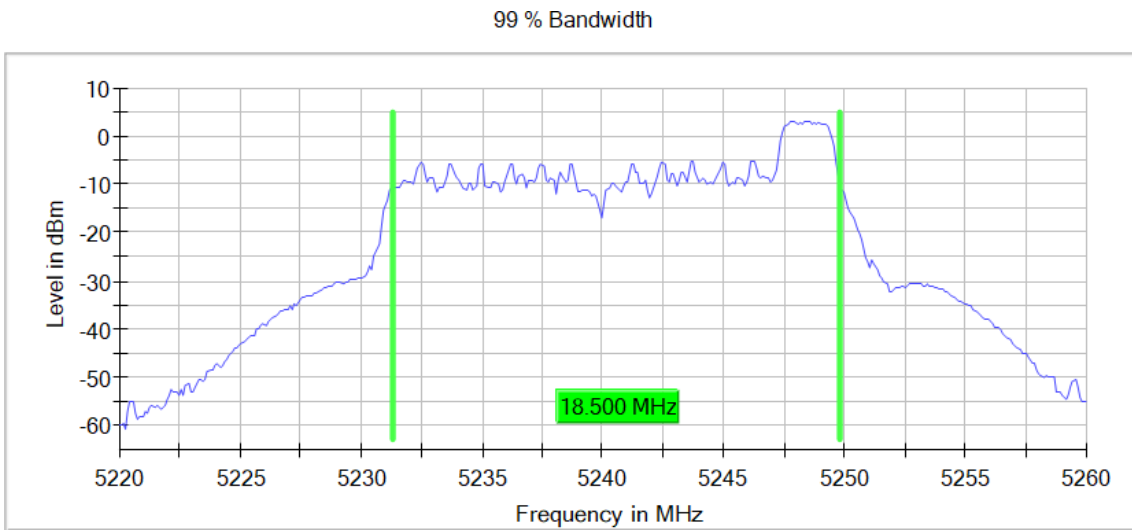
Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



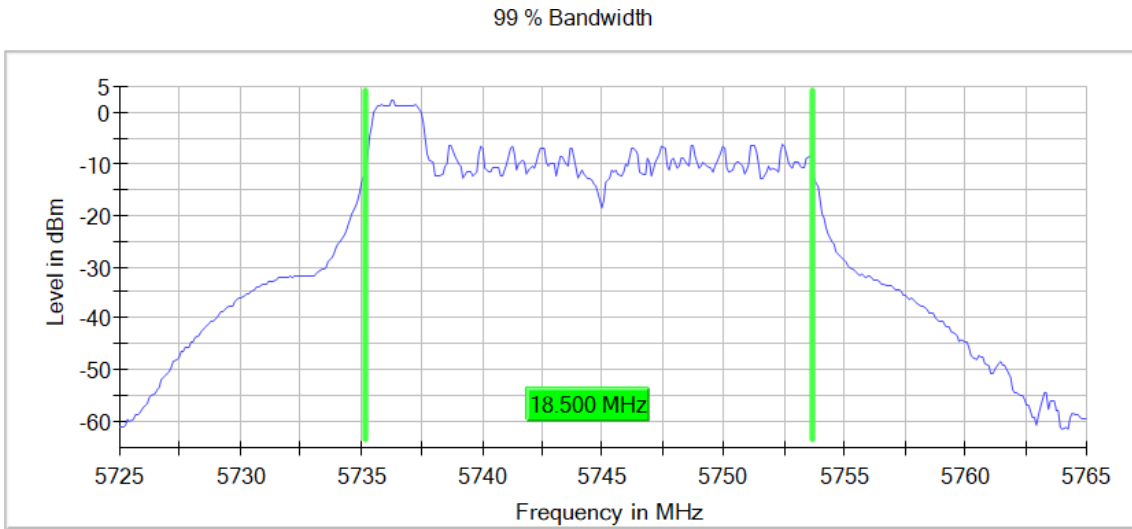
Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



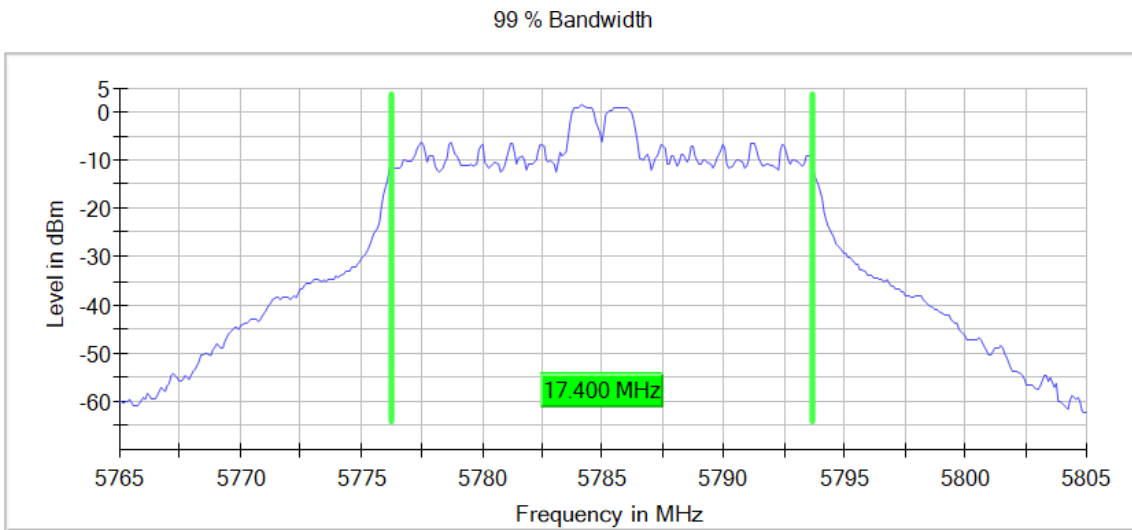
Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



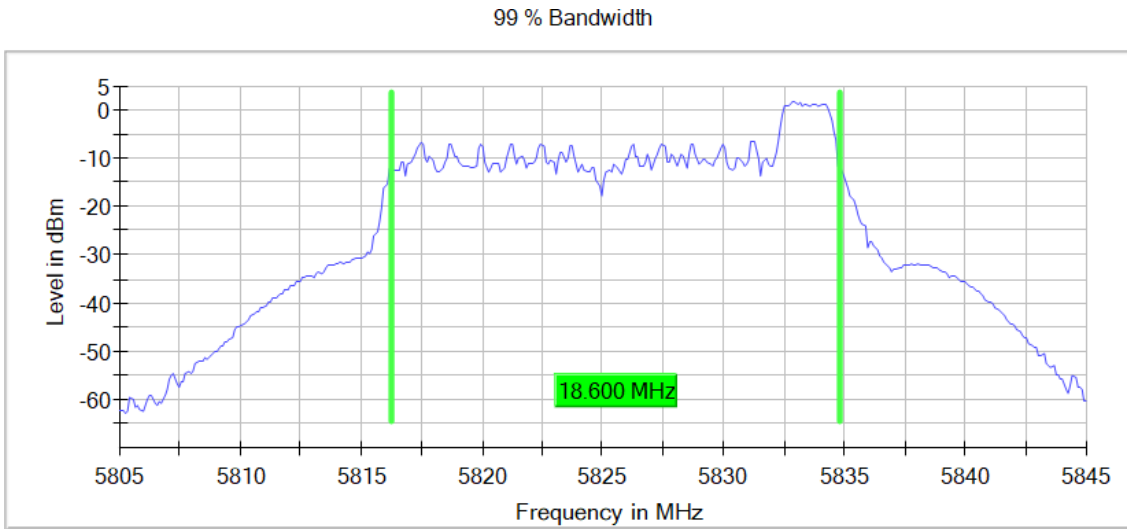
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	>= 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	400	~ 400
Sweeptime	28.477 µs	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	53 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.27 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ax HE40 SS1 (OFDMA MCS0) – Full RU

Results

Port	Freq (MHz)	# of Tx Chains	Occ Ch BW (MHz)
2	5190.00000	1	38.250
2	5230.00000	1	38.250
2	5755.00000	1	38.250
2	5795.00000	1	38.250

Verdict

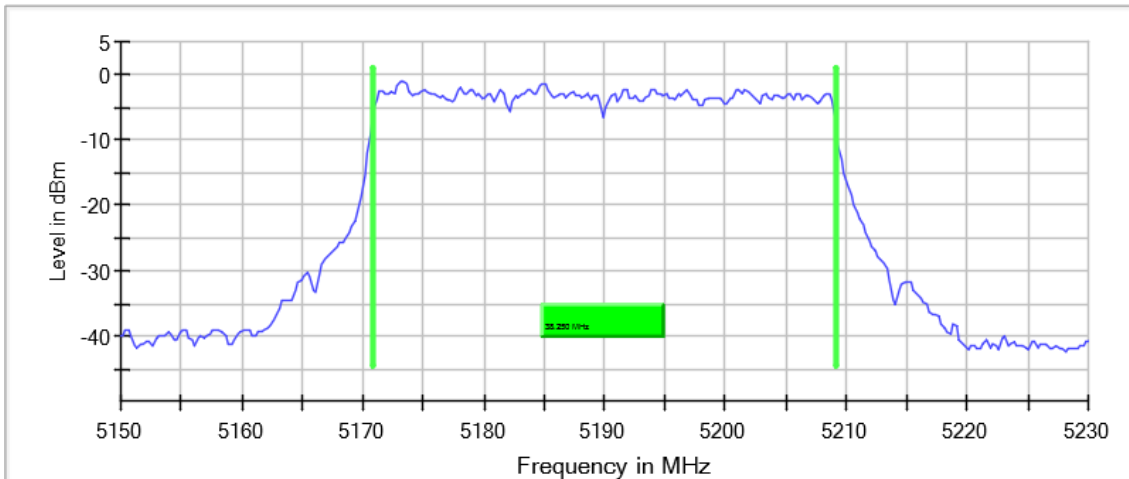
Pass

Attachments

Active Port = 2, Frequency MHz = 5190.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

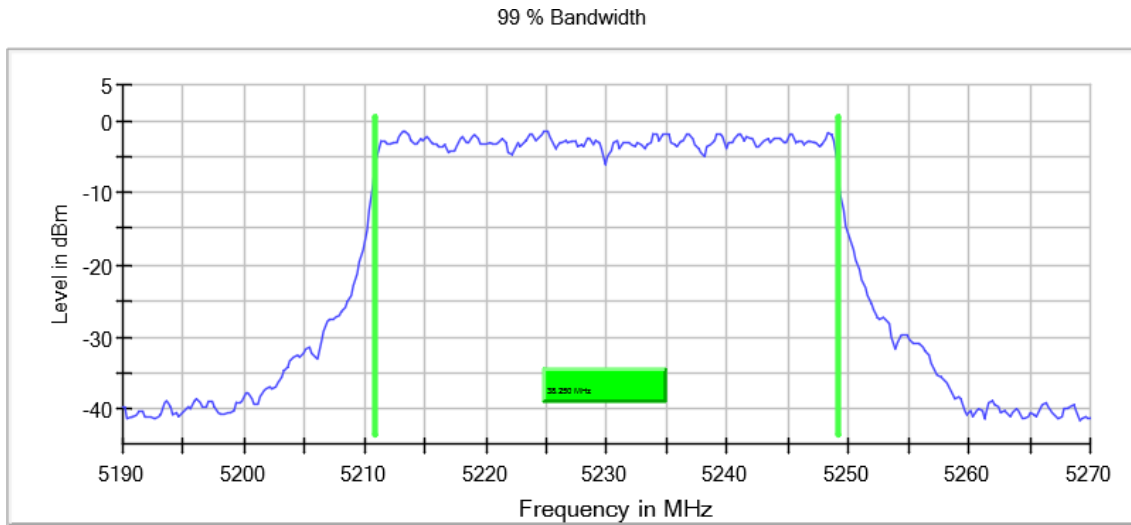
Images:

99 % Bandwidth



Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

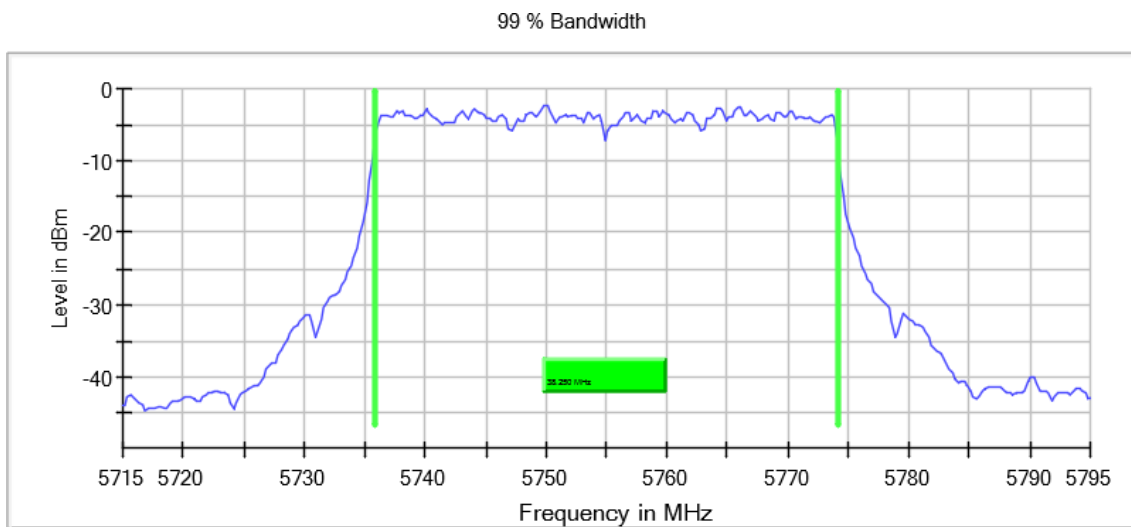
Images:



Tables:

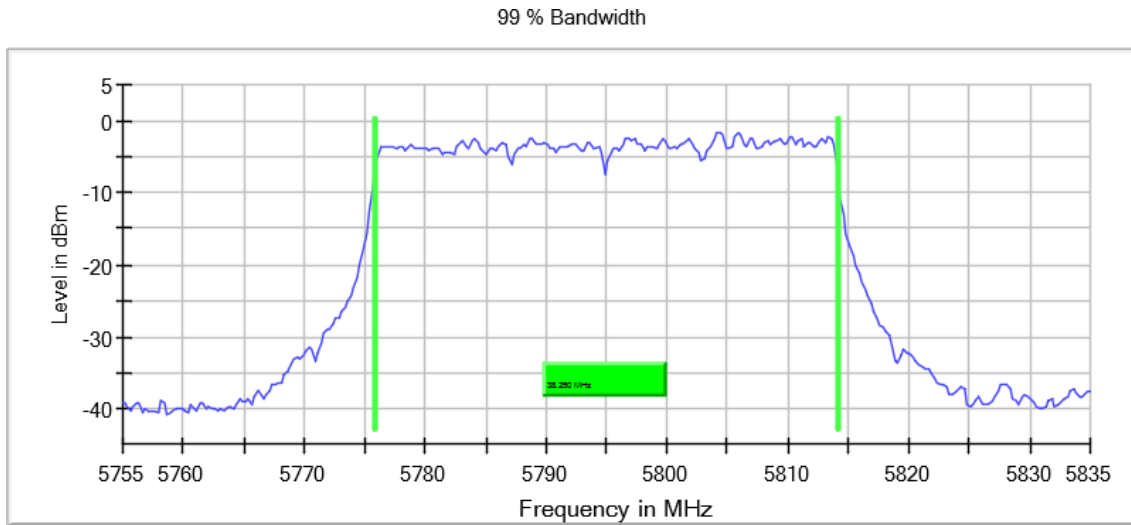
Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	80.000 MHz	80.000 MHz
RBW	500.000 kHz	>= 400.000 kHz
VBW	2.000 MHz	>= 1.500 MHz
SweepPoints	320	~ 320
Sweeptime	18.906 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	53 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.16 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ax HE40 SS1 (OFDMA MCS0) – Partial RU

Results

Port	Freq (MHz)	# of Tx Chains	Occ Ch BW (MHz)
2	5190.00000	1	36.500
2	5230.00000	1	38.000
2	5755.00000	1	38.250
2	5795.00000	1	38.500

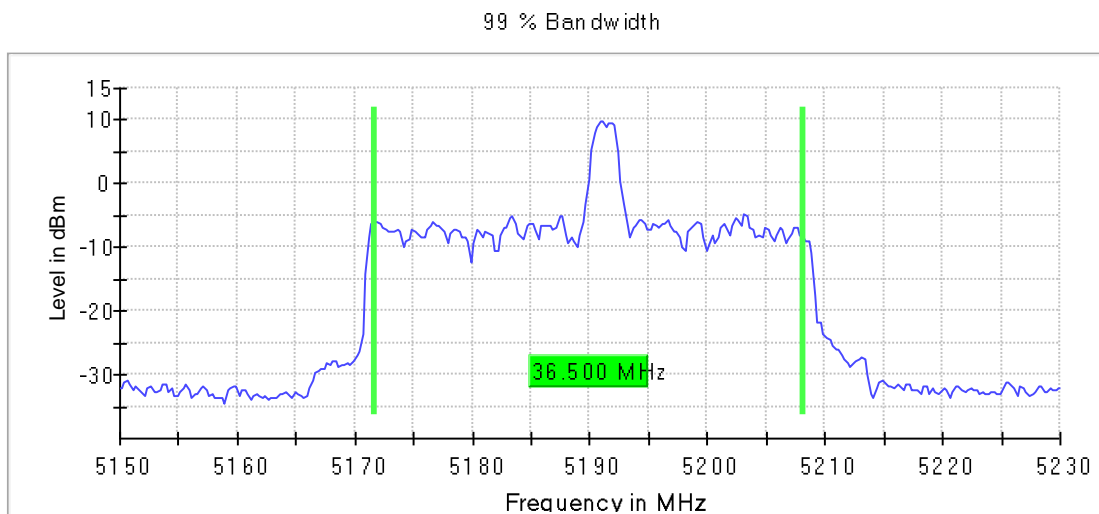
Verdict

Pass

Attachments

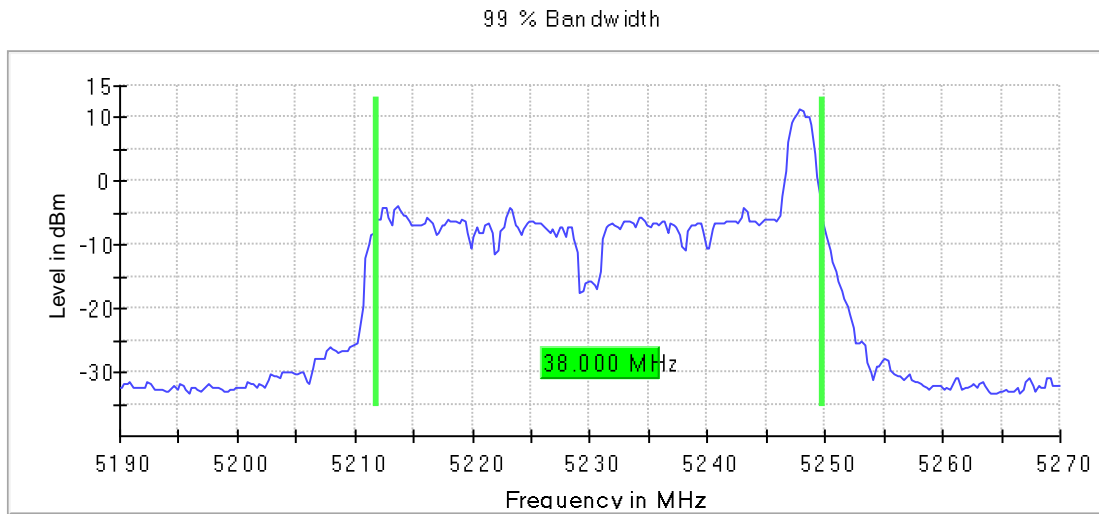
Active Port = 2, Frequency MHz = 5190.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

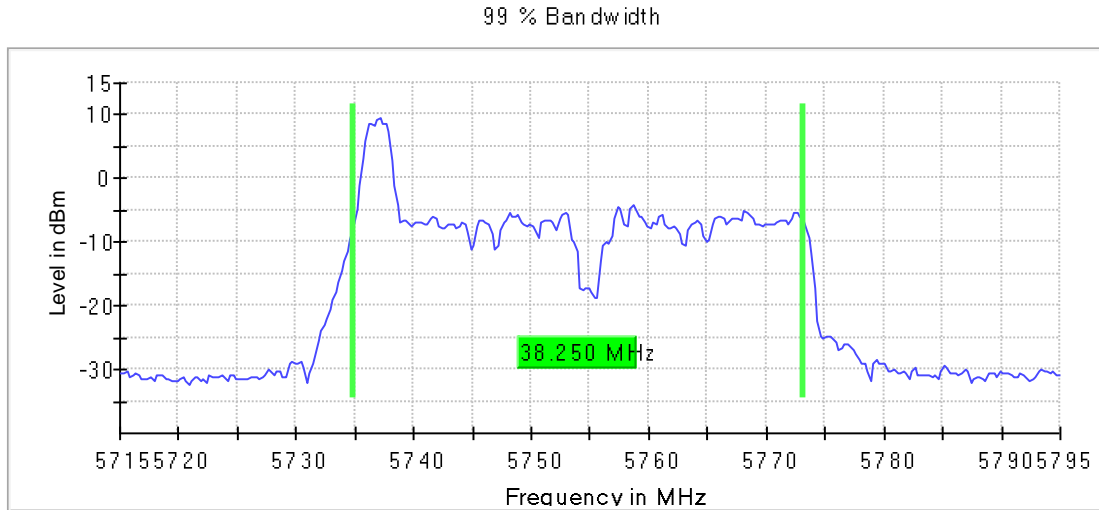
Images:



Tables:

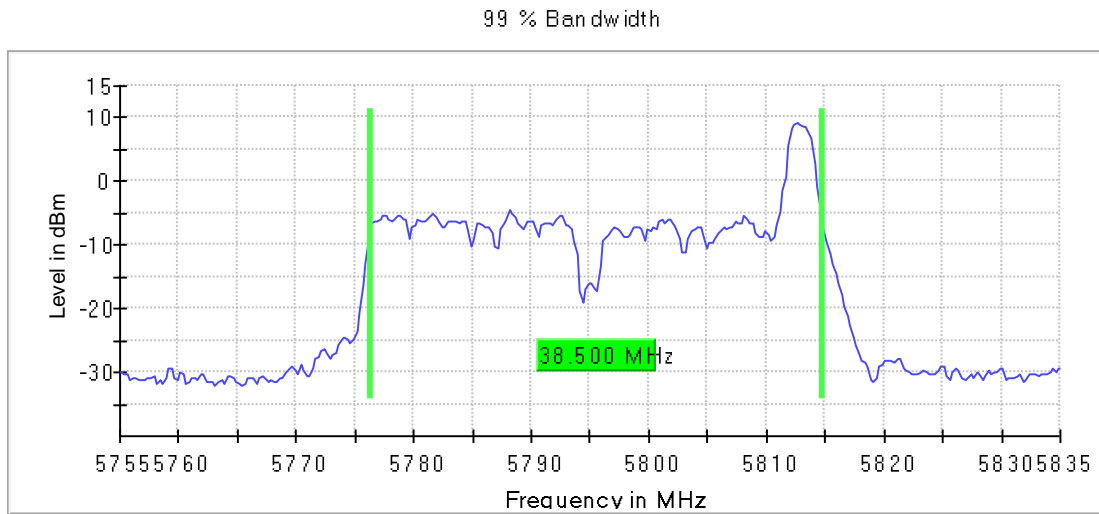
Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	80.000 MHz	80.000 MHz
RBW	500.000 kHz	>= 400.000 kHz
VBW	2.000 MHz	>= 1.500 MHz
SweepPoints	320	~ 320
Sweeptime	18.906 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	53 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.16 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ax HE80 SS1 (OFDM MCS0) – Full RU

Results

Port	Freq (MHz)	# of Tx Chains	Occ Ch BW (MHz)
2	5210.00000	1	78.500
2	5775.00000	1	78.000

Verdict

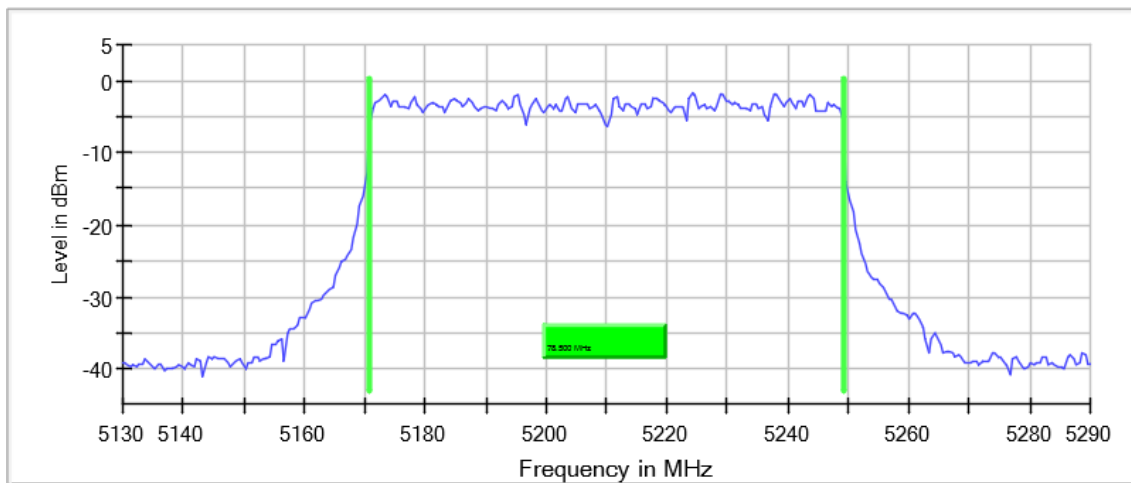
Pass

Attachments

Active Port = 2, Frequency MHz = 5210.00000, Modulation = 802.11ax HE80 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

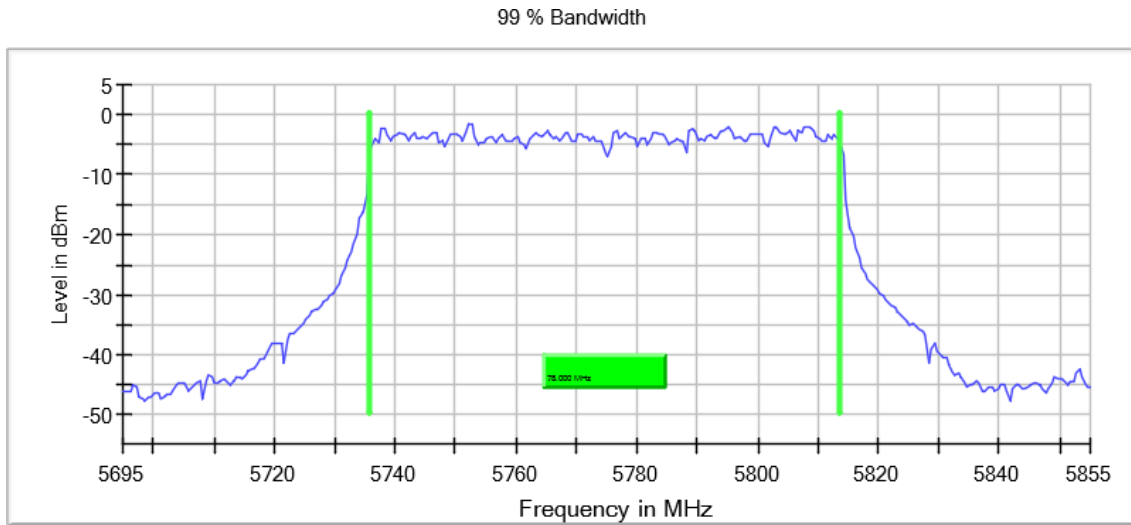
Images:

99 % Bandwidth



Active Port = 2, Frequency MHz = 5775.00000, Modulation = 802.11ax HE80 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Start Frequency	5.13000 GHz	5.13000 GHz
Stop Frequency	5.29000 GHz	5.29000 GHz
Span	160.000 MHz	160.000 MHz
RBW	1.000 MHz	>= 800.000 kHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	320	~ 320
Sweeptime	22.875 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	71 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.14 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ax HE80 SS1 (OFDM MCS0) – Partial RU

Results

Port	Freq (MHz)	# of Tx Chains	Occ Ch BW (MHz)
2	5210.00000	1	79.000
2	5775.00000	1	79.000

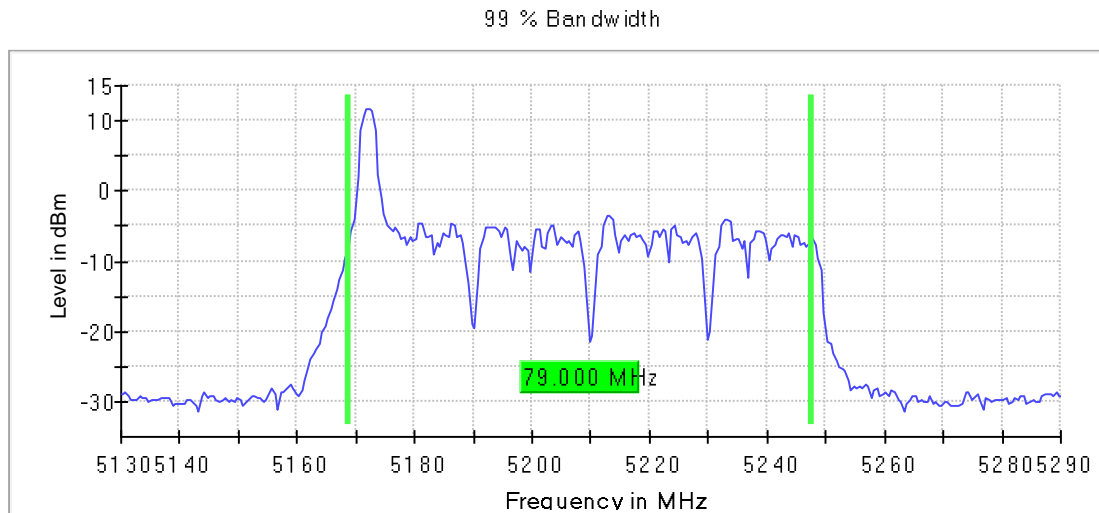
Verdict

Pass

Attachments

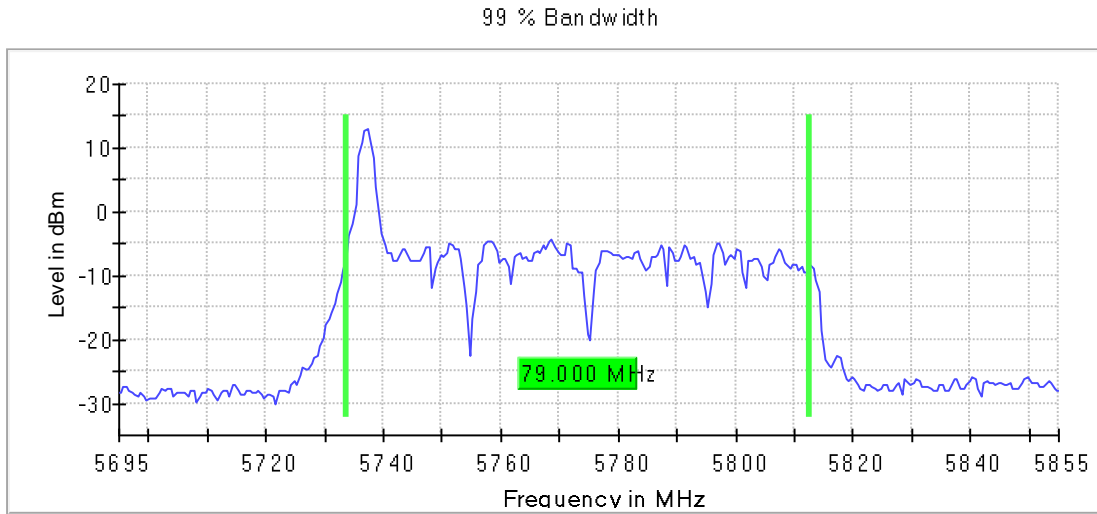
Active Port = 2, Frequency MHz = 5210.00000, Modulation = 802.11ax HE80 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5775.00000, Modulation = 802.11ax HE80 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Start Frequency	5.13000 GHz	5.13000 GHz
Stop Frequency	5.29000 GHz	5.29000 GHz
Span	160.000 MHz	160.000 MHz
RBW	1.000 MHz	>= 800.000 kHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	320	~ 320
Sweeptime	22.875 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	71 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.14 dB	0.30 dB

FCC 15.403 / RSS-Gen 6.7 26 dB Emission Bandwidth

Limits

No Limit has been set to this test case

Mode: SISO worst

Modulation: 802.11a (OFDM 6 Mbit/s)

Results

Port	Freq (MHz)	# of Tx Chains	26Ebw (MHz)
2	5180.00000	1	22.200
2	5200.00000	1	21.400
2	5240.00000	1	21.500
2	5745.00000	1	21.400
2	5785.00000	1	21.400
2	5825.00000	1	21.600

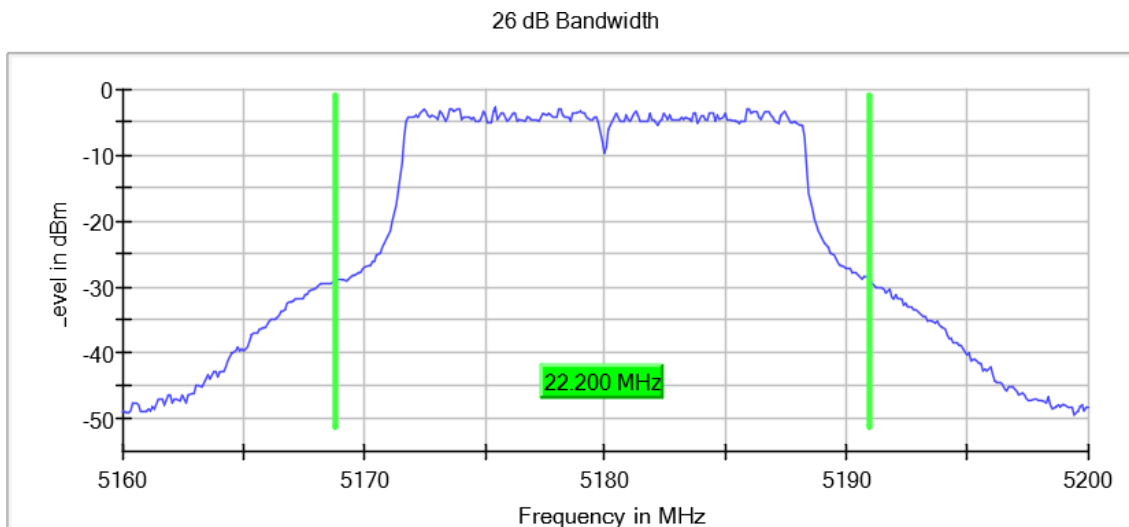
Verdict

Pass

Attachments

Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11a (OFDM 6 Mbit/s), MIMO Mode = SISO, Number of Transmission Chains = 1

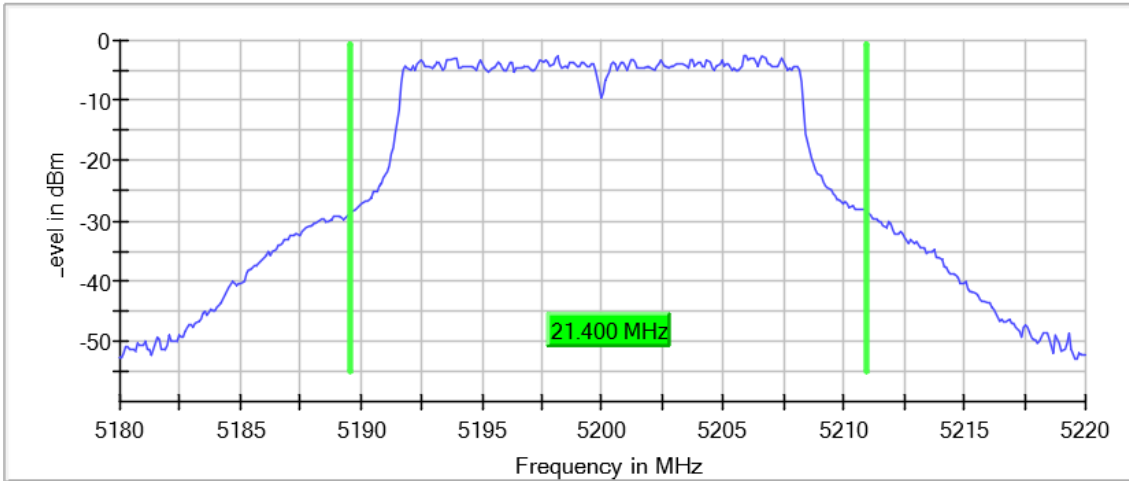
Images:



**Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11a (OFDM 6 Mbit/s), MIMO Mode = SISO,
Number of Transmission Chains = 1**

Images:

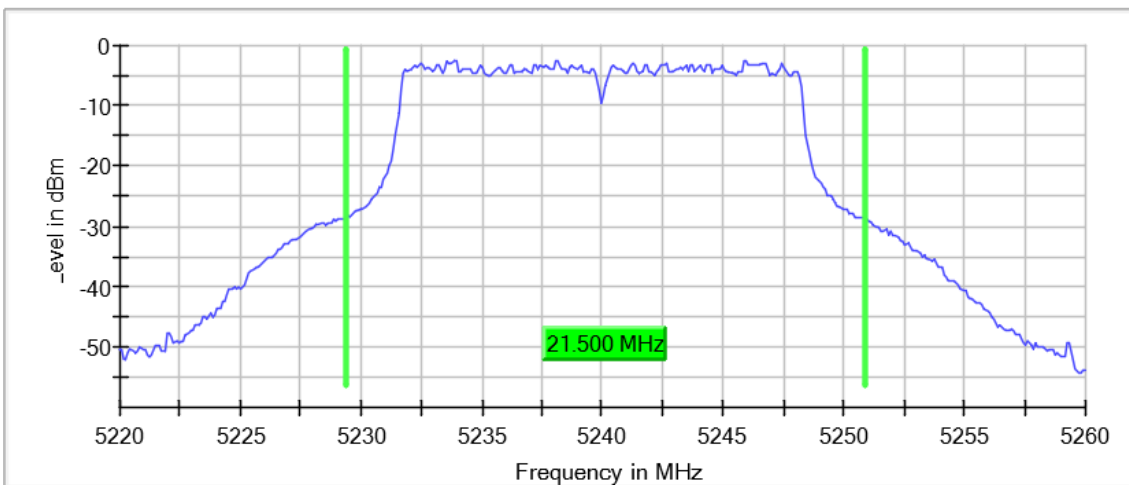
26 dB Bandwidth



**Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11a (OFDM 6 Mbit/s), MIMO Mode = SISO,
Number of Transmission Chains = 1**

Images:

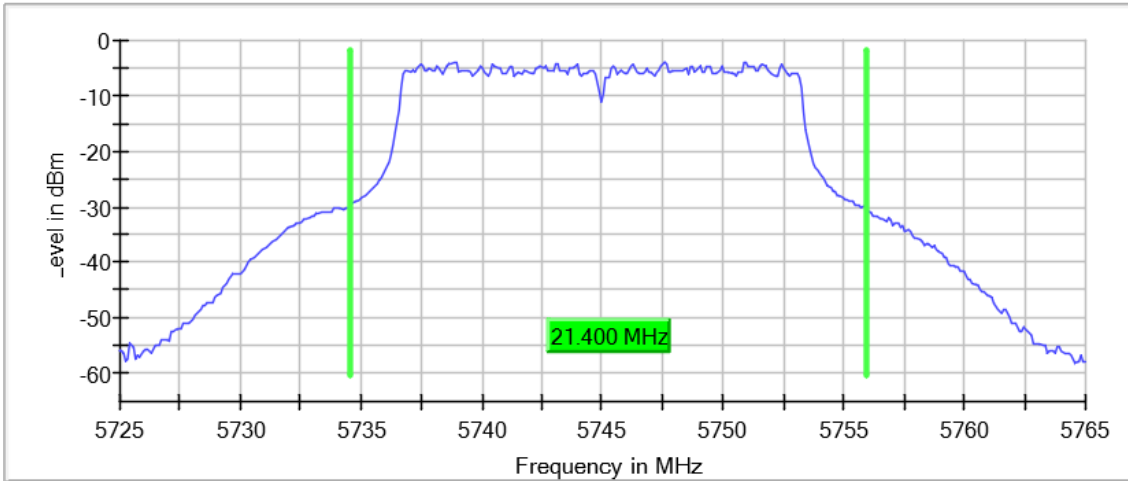
26 dB Bandwidth



**Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11a (OFDM 6 Mbit/s), MIMO Mode = SISO,
Number of Transmission Chains = 1**

Images:

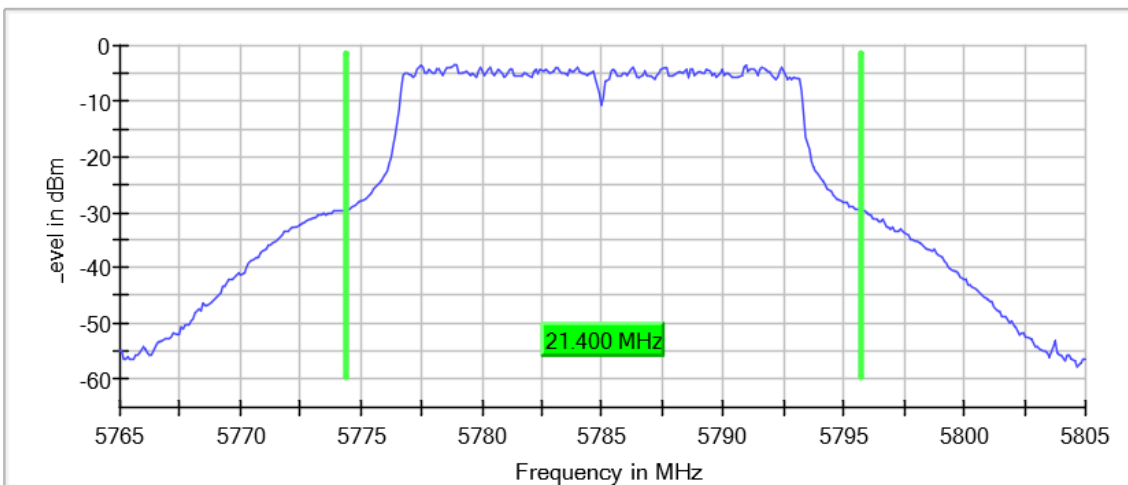
26 dB Bandwidth



**Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11a (OFDM 6 Mbit/s), MIMO Mode = SISO,
Number of Transmission Chains = 1**

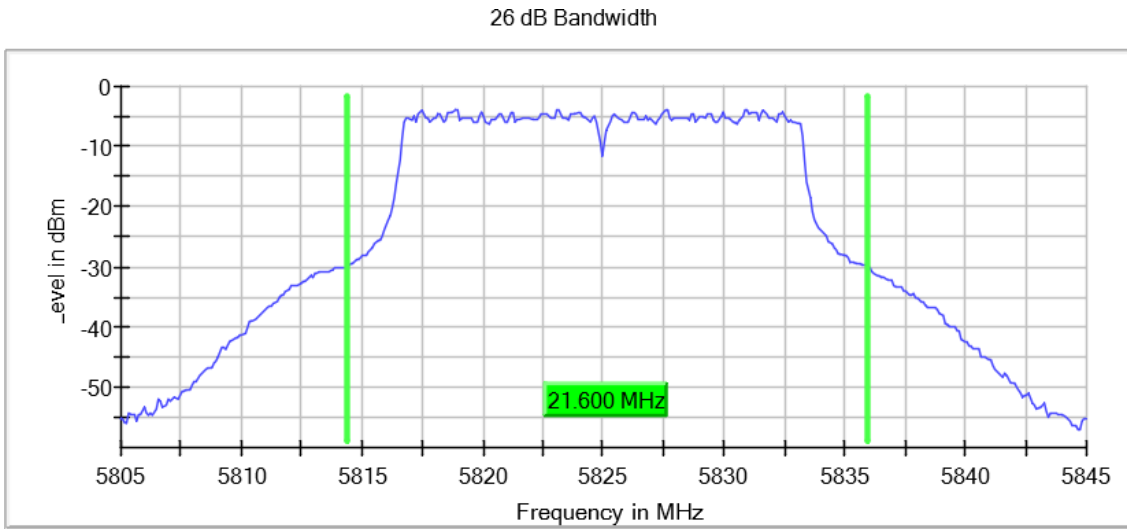
Images:

26 dB Bandwidth



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11a (OFDM 6 Mbit/s), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	~ 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	400	~ 400
Sweeptime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	84 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.02 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11n HT20 (OFDM MCS0)

Results

Port	Freq (MHz)	# of Tx Chains	26Ebw (MHz)
2	5180.00000	1	23.400
2	5200.00000	1	23.400
2	5240.00000	1	23.500
2	5745.00000	1	23.500
2	5785.00000	1	23.300
2	5825.00000	1	23.500

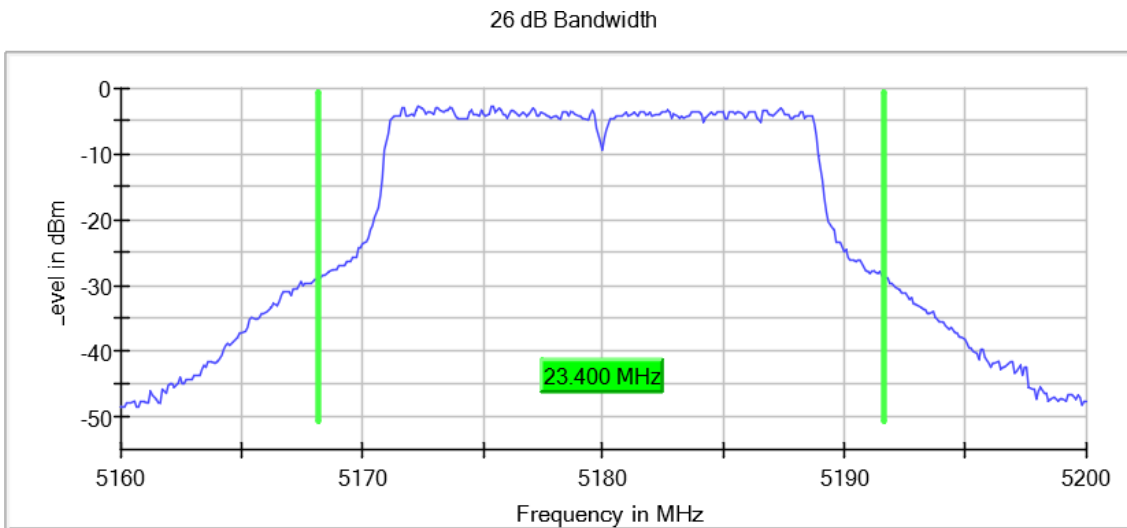
Verdict

Pass

Attachments

Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11n HT20 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

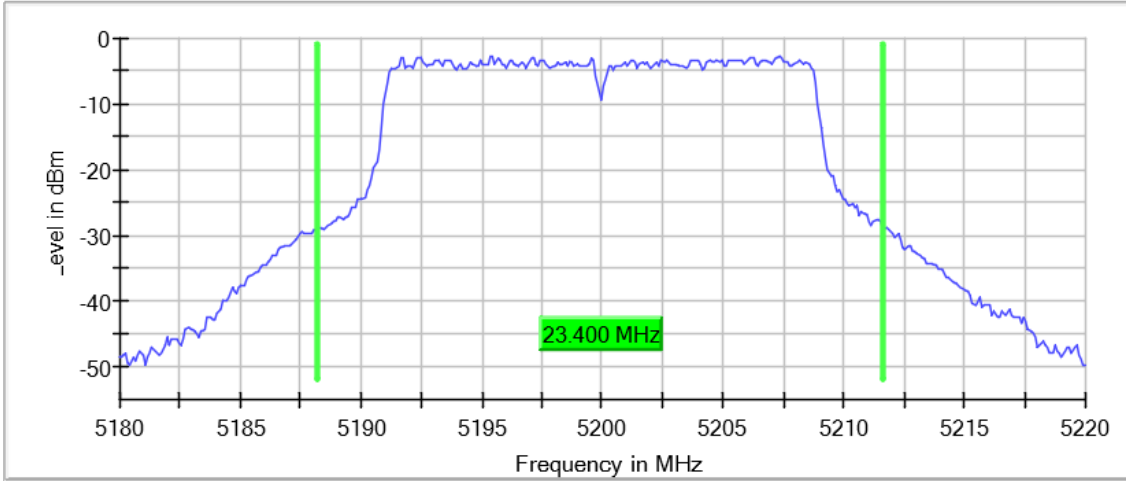
Images:



Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11n HT20 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

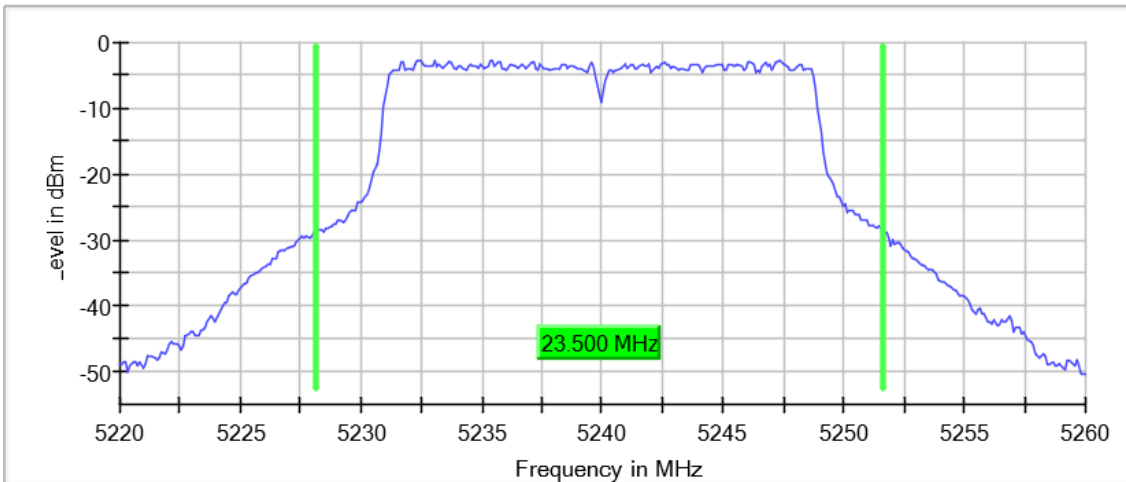
26 dB Bandwidth



Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11n HT20 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

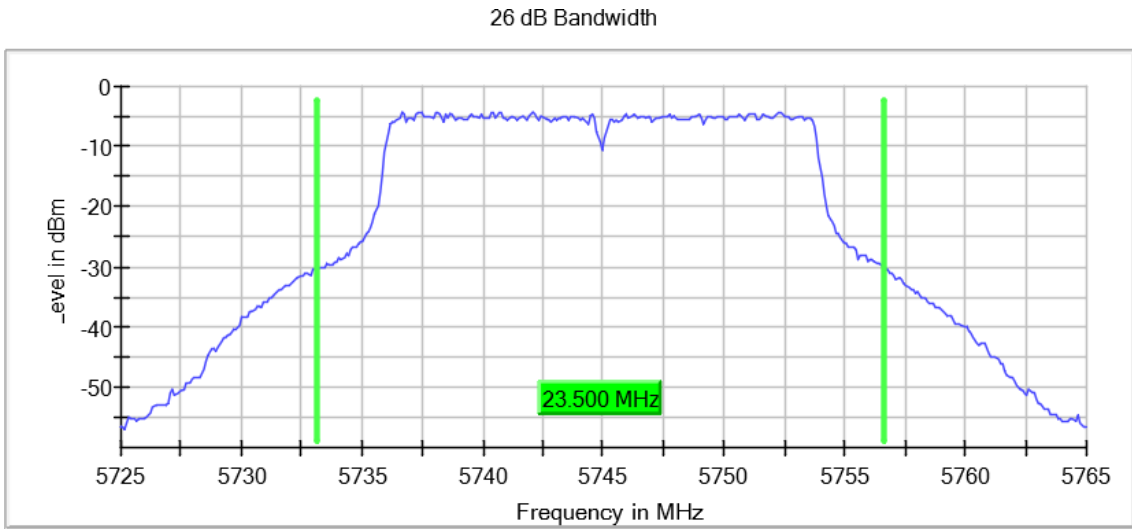
Images:

26 dB Bandwidth



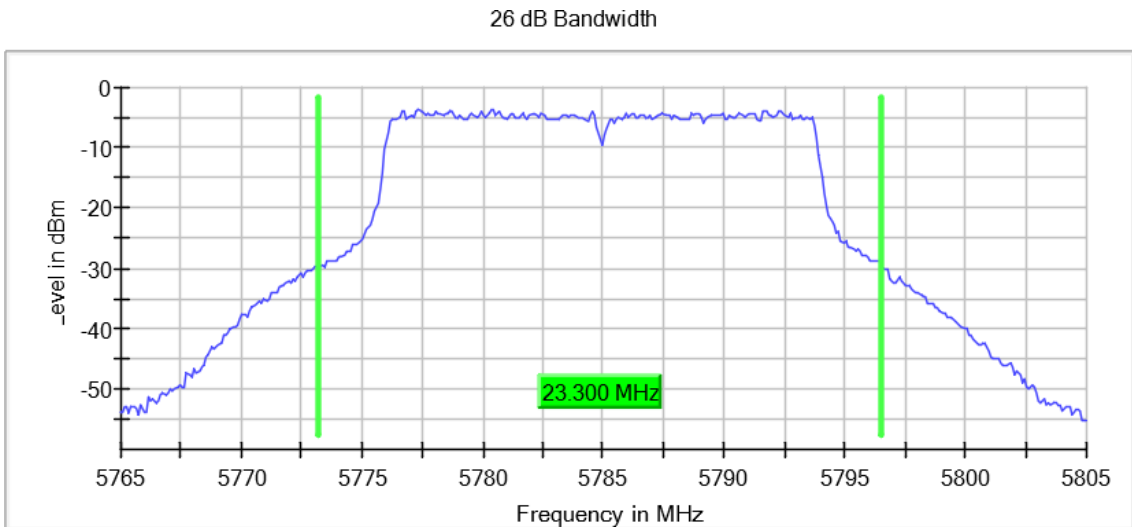
Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11n HT20 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11n HT20 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

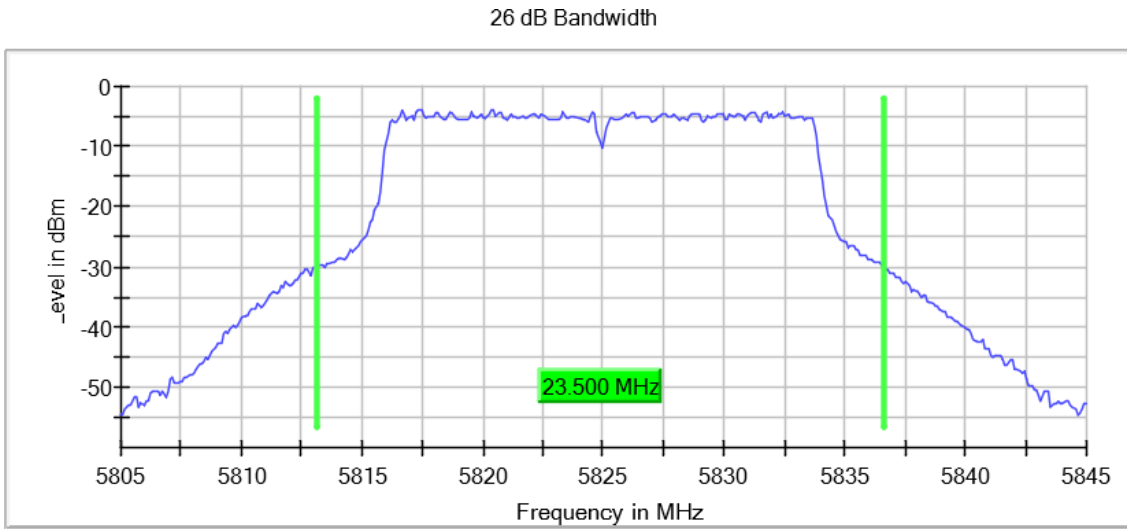
Images:



Tables:

Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11n HT20 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	~ 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	400	~ 400
Sweeptime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	55 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.25 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11n HT40 (OFDM MCS0)

Results

Port	Freq (MHz)	# of Tx Chains	26Ebw (MHz)
2	5190.00000	1	43.827
2	5230.00000	1	43.677
2	5755.00000	1	43.827
2	5795.00000	1	43.377

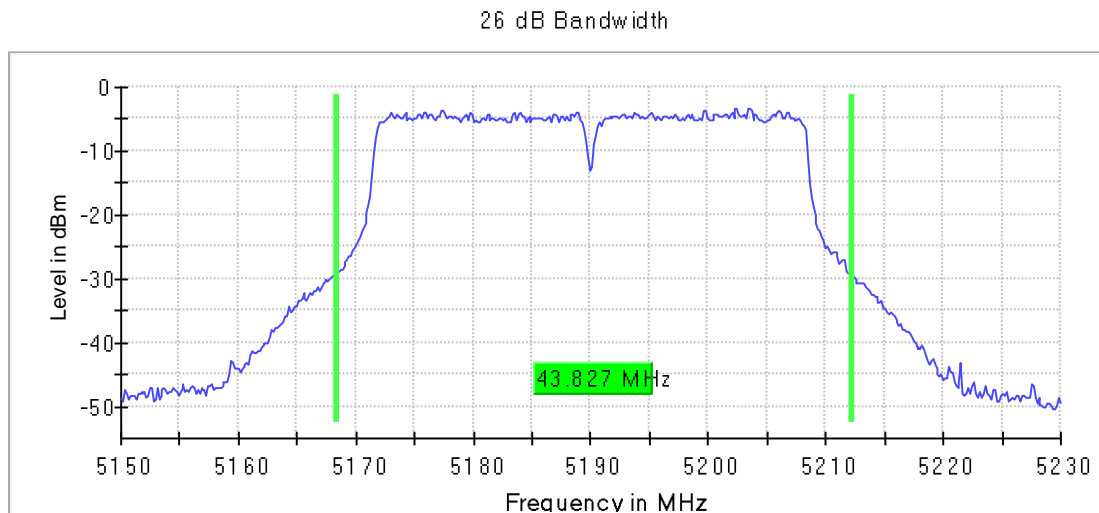
Verdict

Pass

Attachments

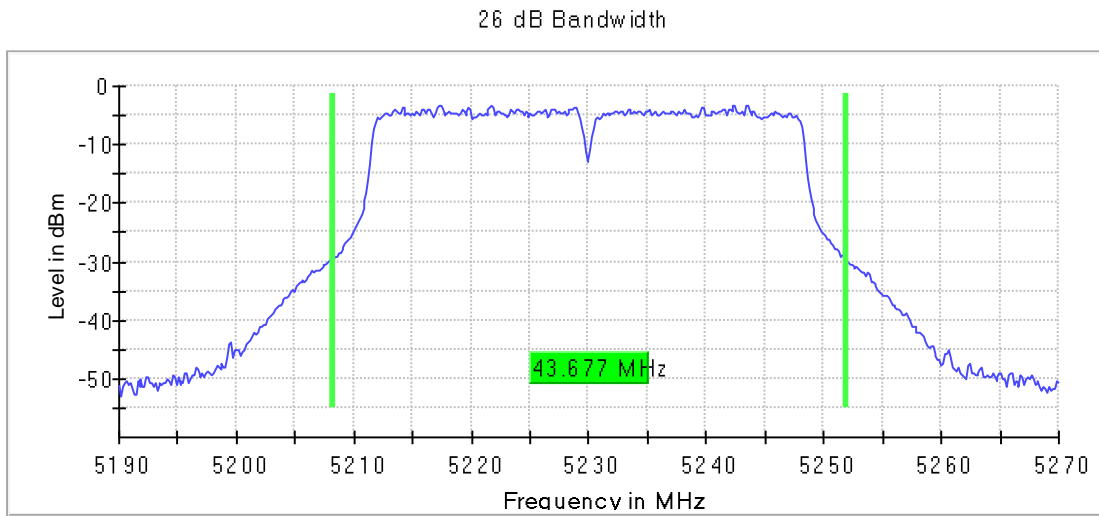
Active Port = 2, Frequency MHz = 5190.00000, 802.11n HT40 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



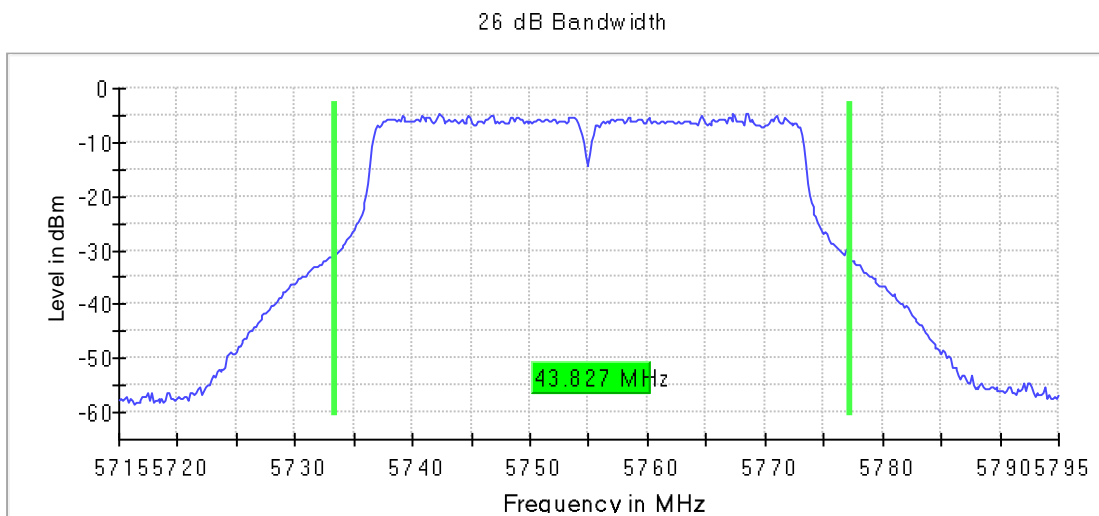
Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11n HT40 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



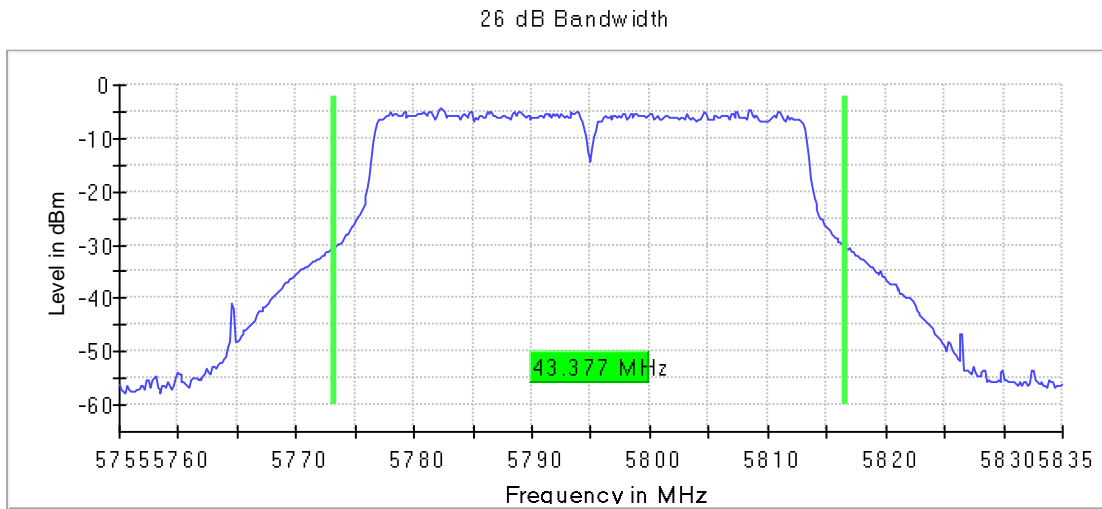
Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11n HT40 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11n HT40 (OFDM MCS0), TPC = No, MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	80.000 MHz	80.000 MHz
RBW	300.000 kHz	~ 400.000 kHz
VBW	1.000 MHz	>= 900.000 kHz
SweepPoints	533	~ 533
Sweeptime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	44 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.21 dB	0.50 dB

Mode: SISO worst

Modulation: 802.11ac VHT20 SS1 (OFDM MCS0)

Results

Port	Freq (MHz)	# of Tx Chains	26Ebw (MHz)
2	5180.00000	1	18.700
2	5200.00000	1	18.900
2	5240.00000	1	19.200
2	5745.00000	1	18.700
2	5785.00000	1	18.700
2	5825.00000	1	18.700

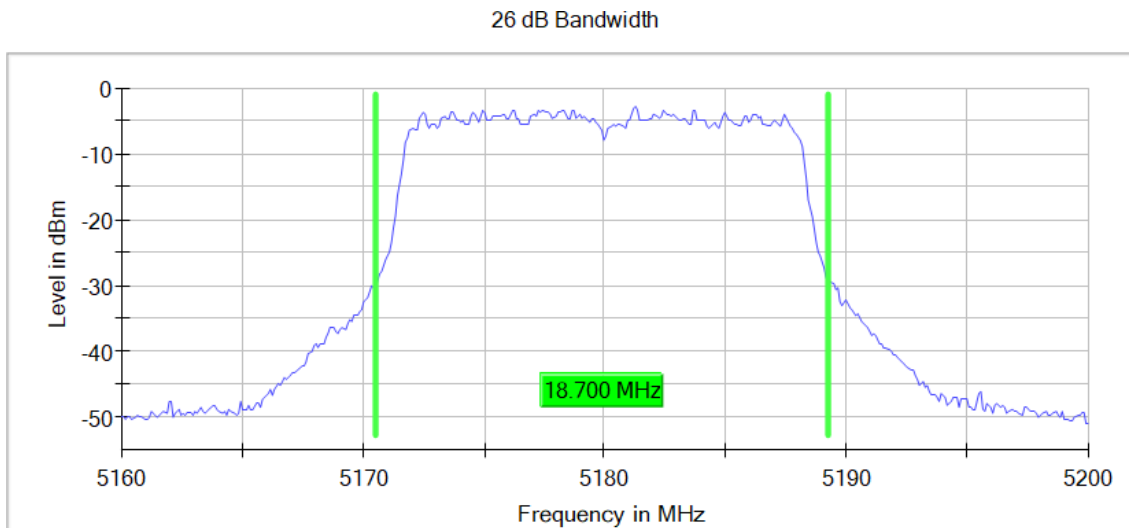
Verdict

Pass

Attachments

Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

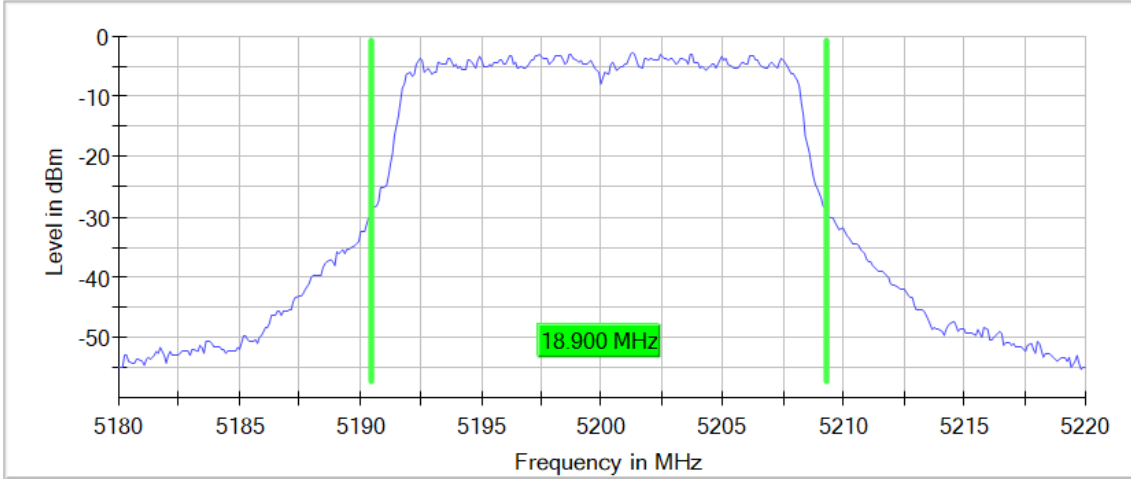
Images:



Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

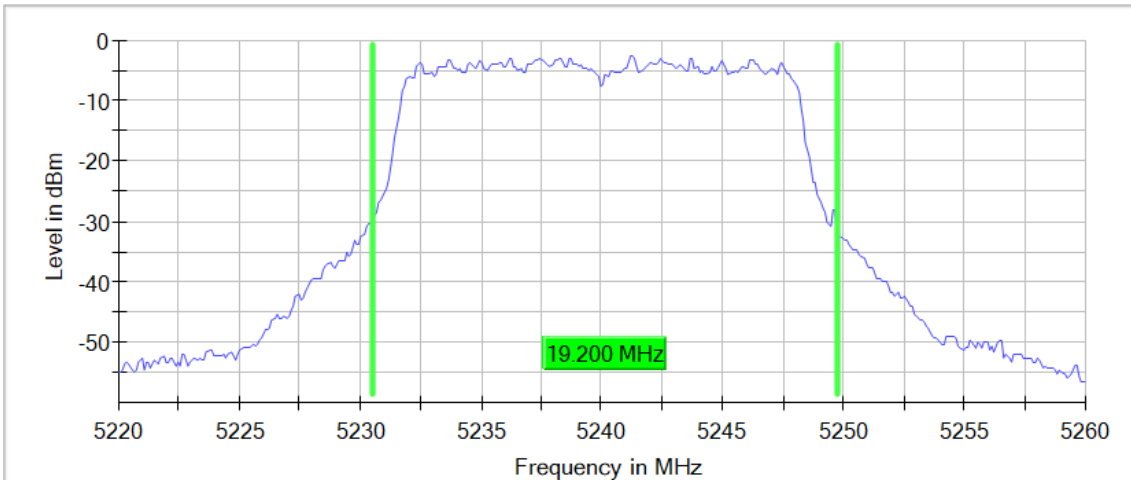
26 dB Bandwidth



Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

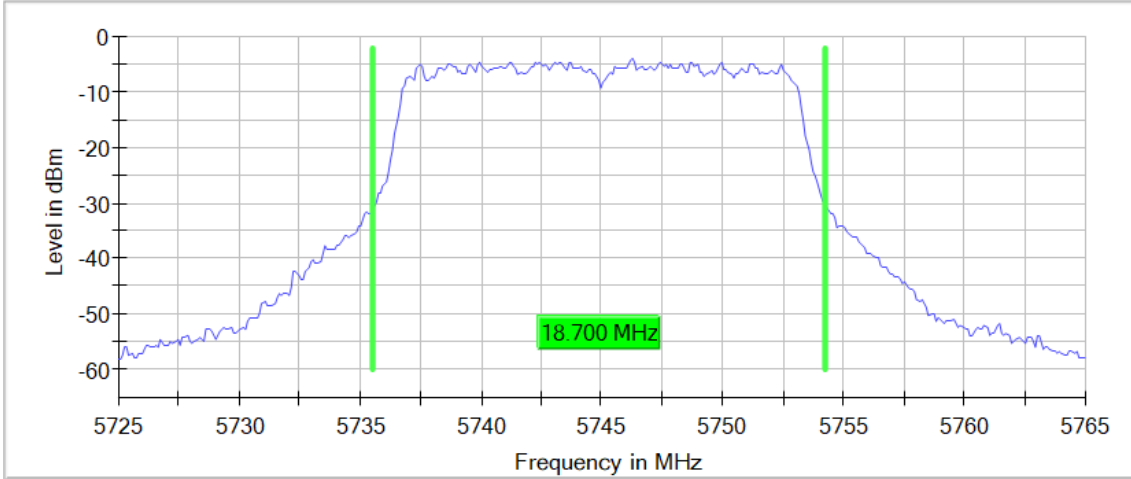
26 dB Bandwidth



Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

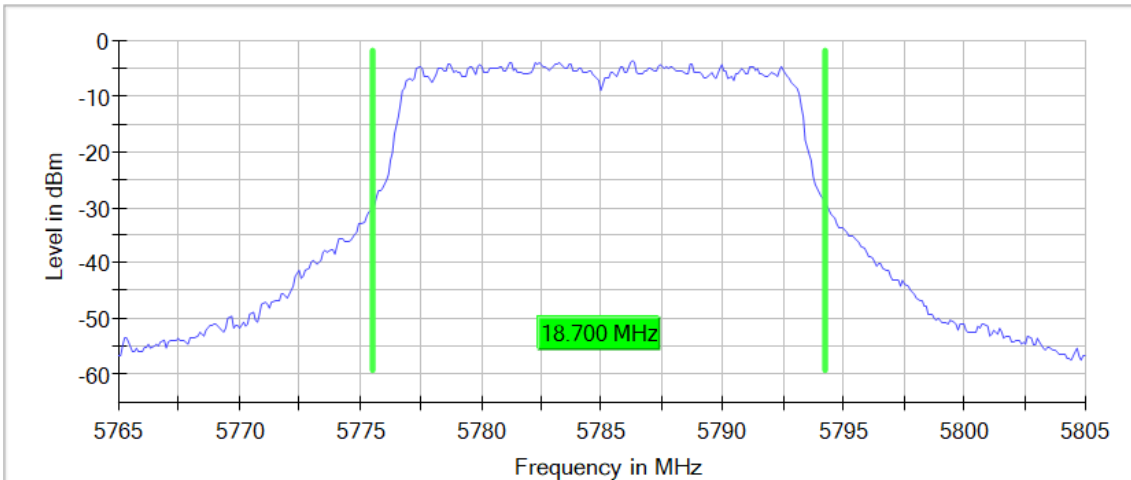
26 dB Bandwidth



Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

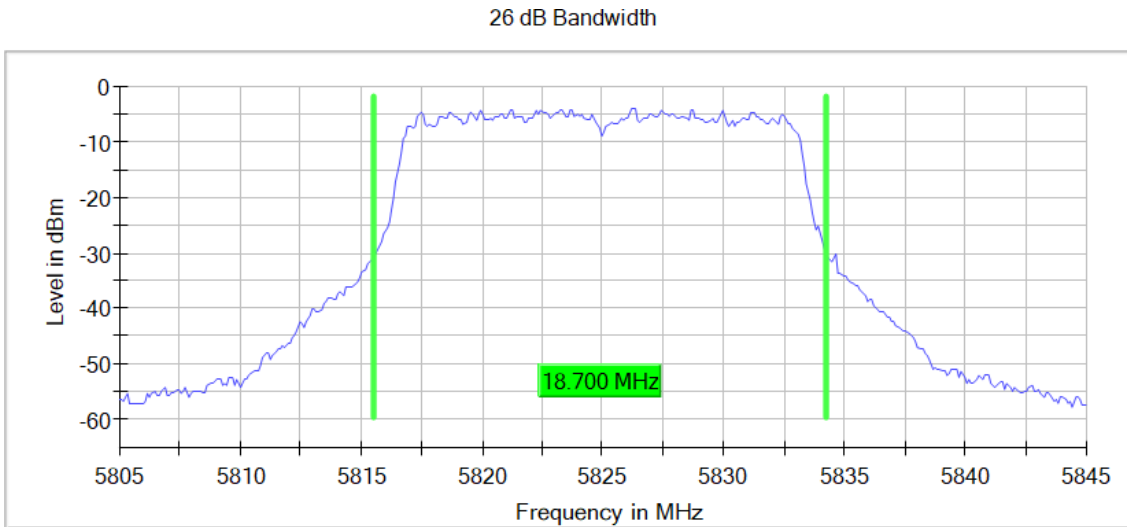
Images:

26 dB Bandwidth



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11ac VHT20 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	~ 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	400	~ 400
Sweeptime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	31 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.11 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ac VHT40 SS1 (OFDM MCS0)

Results

Port	Freq (MHz)	# of Tx Chains	26Ebw (MHz)
2	5190.00000	1	43.977
2	5230.00000	1	43.527
2	5755.00000	1	43.827
2	5795.00000	1	43.827

Verdict

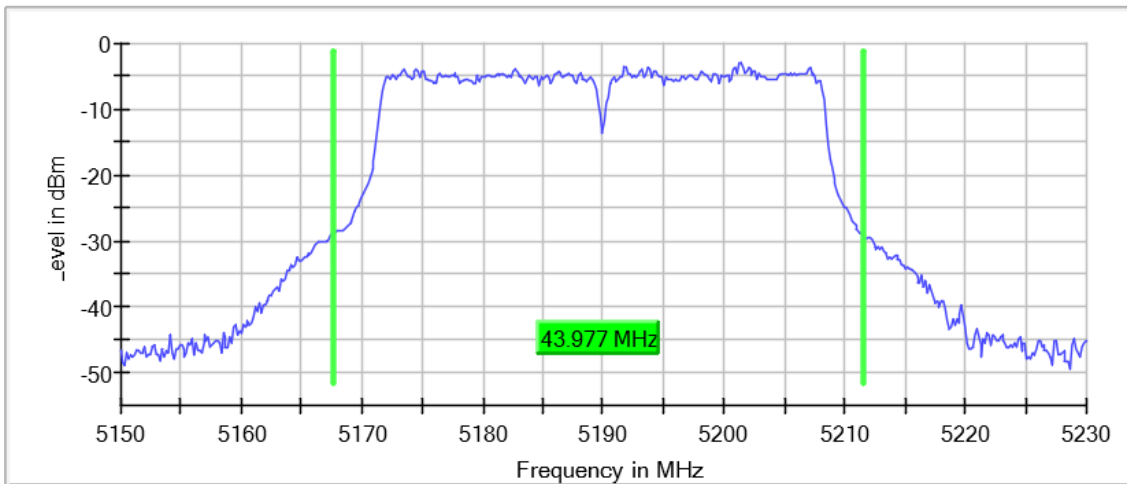
Pass

Attachments

Active Port = 2, Frequency MHz = 5190.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

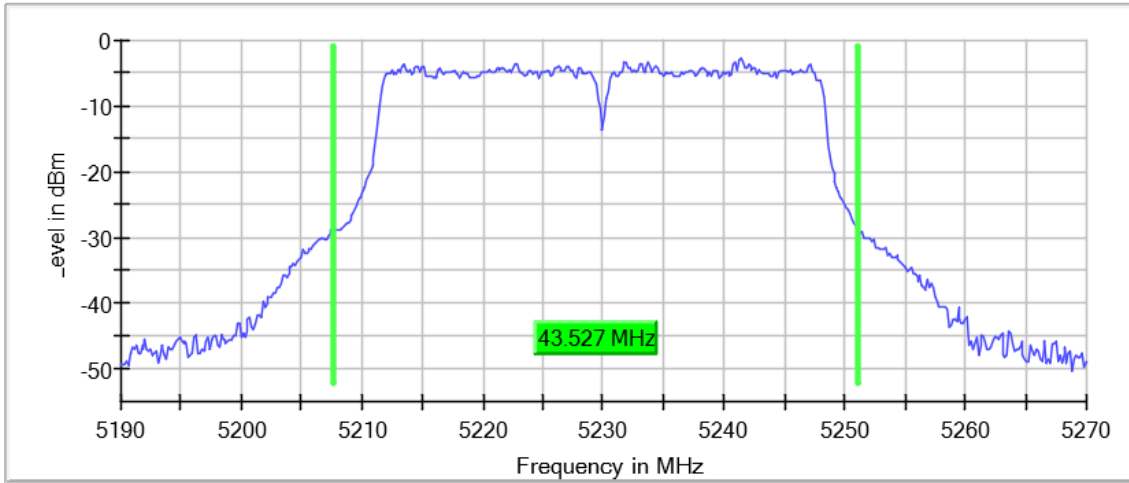
26 dB Bandwidth



Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

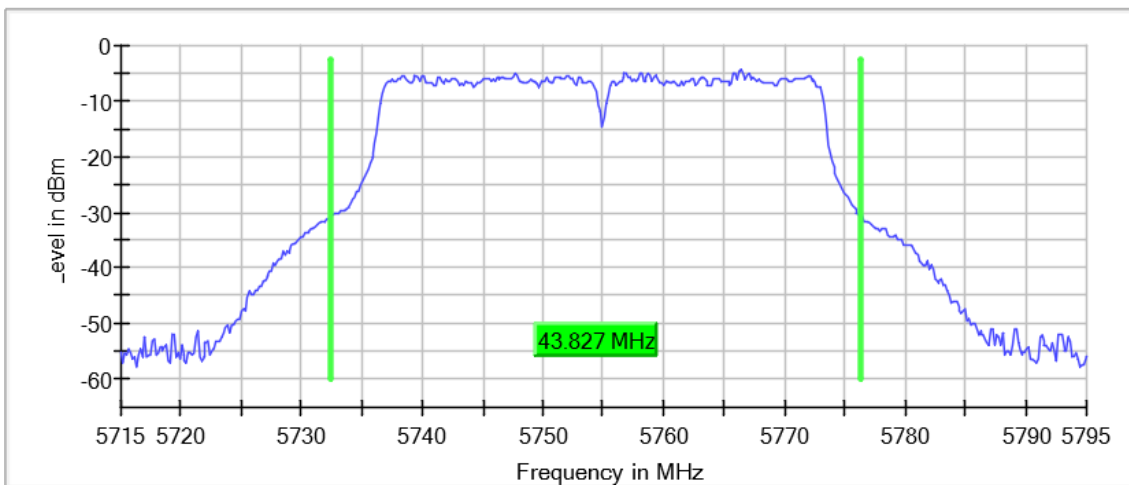
26 dB Bandwidth



Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

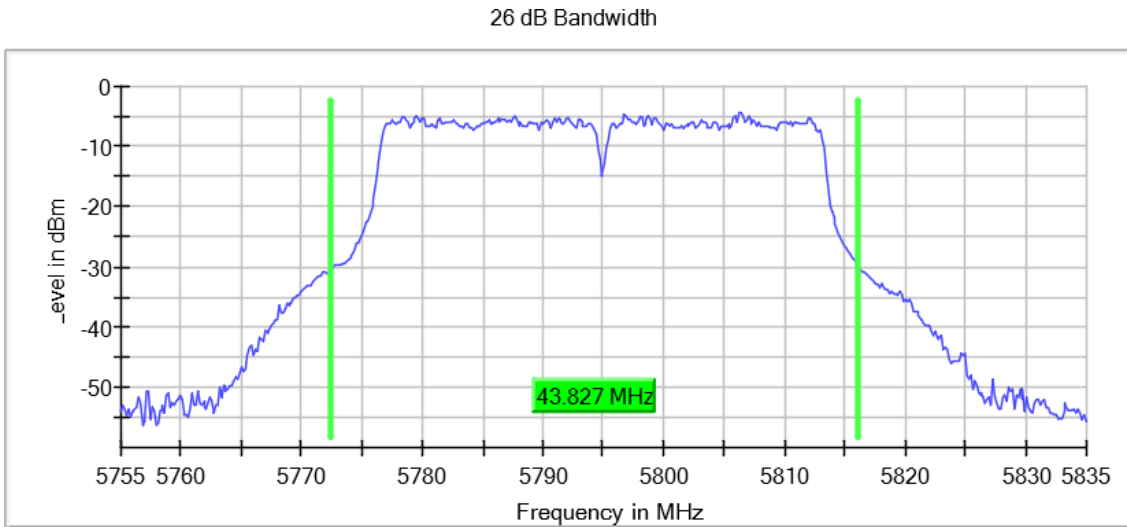
Images:

26 dB Bandwidth



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11ac VHT40 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	80.000 MHz	80.000 MHz
RBW	300.000 kHz	~ 400.000 kHz
VBW	1.000 MHz	>= 900.000 kHz
SweepPoints	533	~ 533
Sweeptime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	52 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.08 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ac VHT80 SS1 (OFDM MCS0)

Results

Port	Freq (MHz)	# of Tx Chains	26Ebw (MHz)
2	5210.00000	1	104.000
2	5775.00000	1	93.000

Verdict

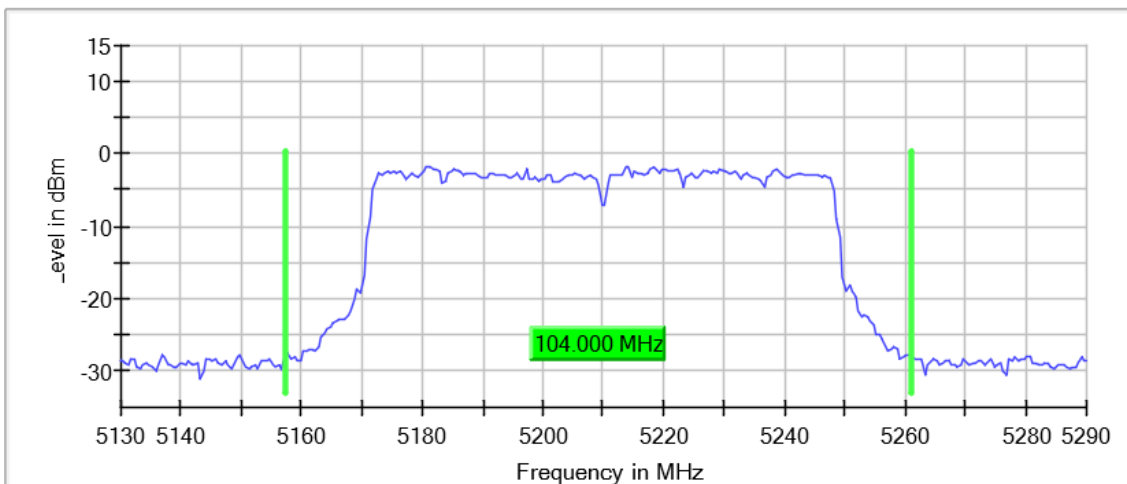
Pass

Attachments

Active Port = 2, Frequency MHz = 5210.00000, Modulation = 802.11ac VHT80 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

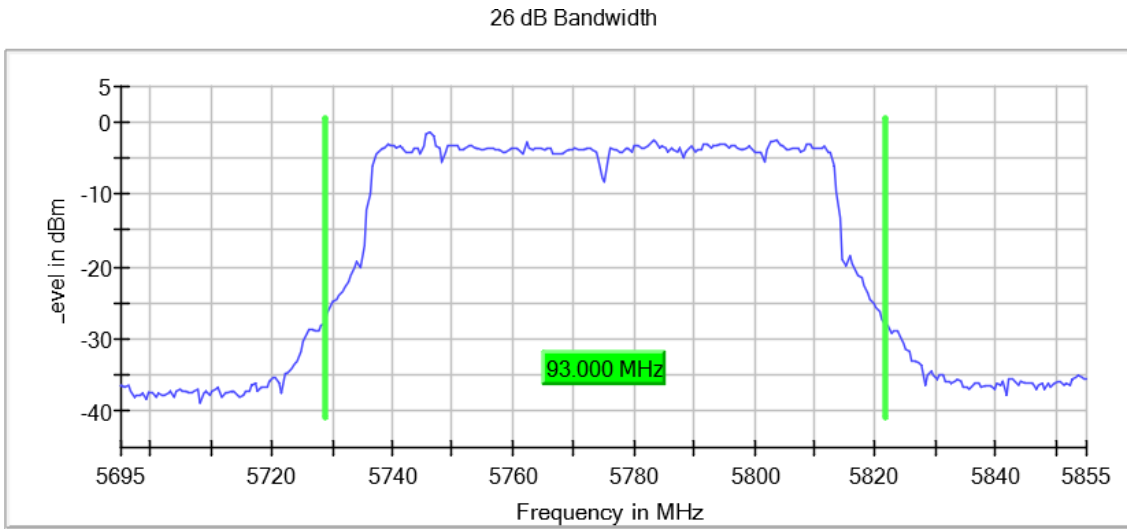
Images:

26 dB Bandwidth



Active Port = 2, Frequency MHz = 5775.00000, Modulation = 802.11ac VHT80 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	160.000 MHz	160.000 MHz
RBW	1.000 MHz	~ 800.000 kHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	320	~ 320
Sweeptime	22.875 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	75 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.02 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ax HE20 (OFDMA MCS0)- Full RU

Results

Port	Freq (MHz)	# of Tx Chains	26Ebw (MHz)
2	5180.00000	1	24.500
2	5200.00000	1	21.500
2	5240.00000	1	23.200
2	5745.00000	1	22.900
2	5785.00000	1	23.500
2	5825.00000	1	23.100

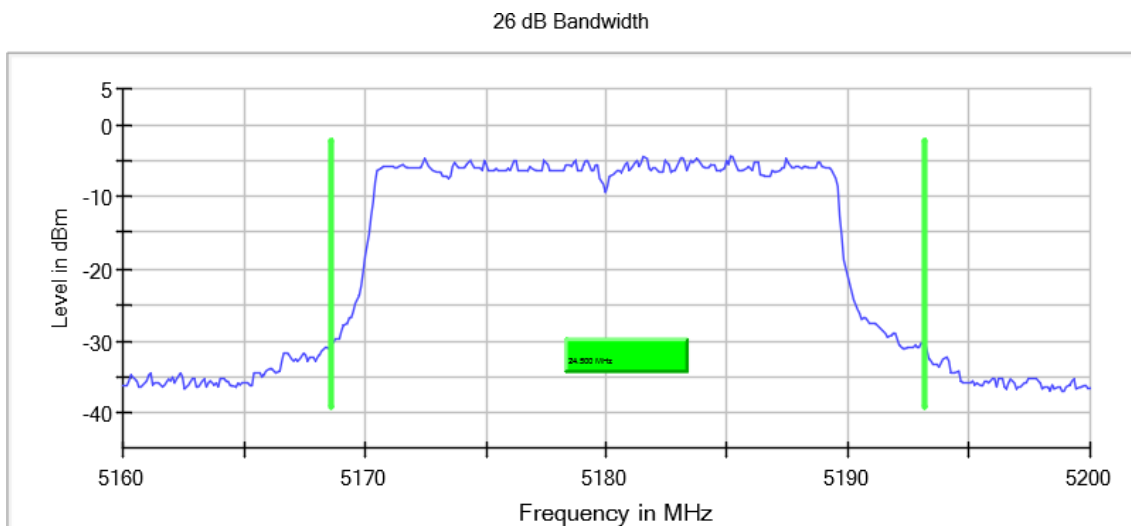
Verdict

Pass

Attachments

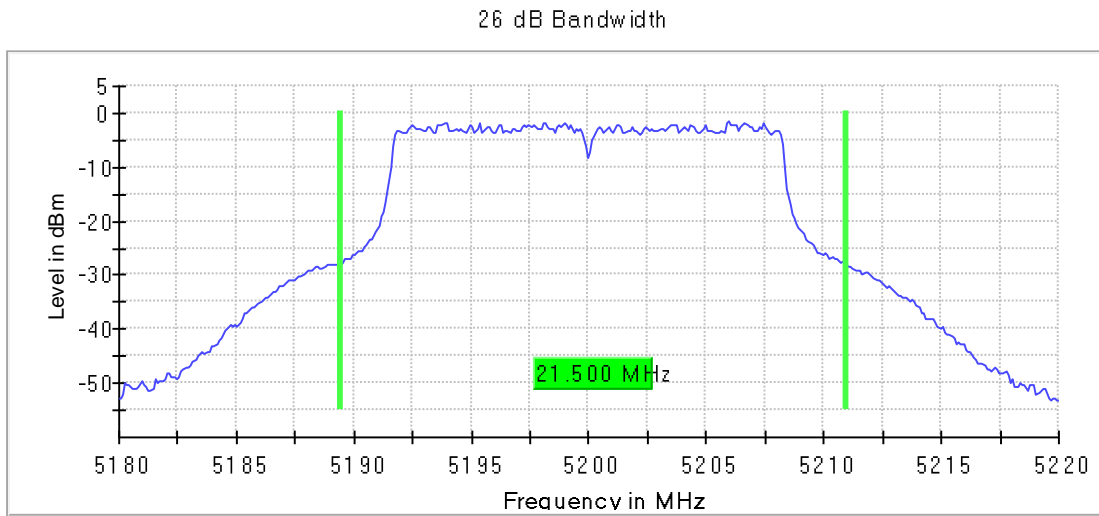
Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



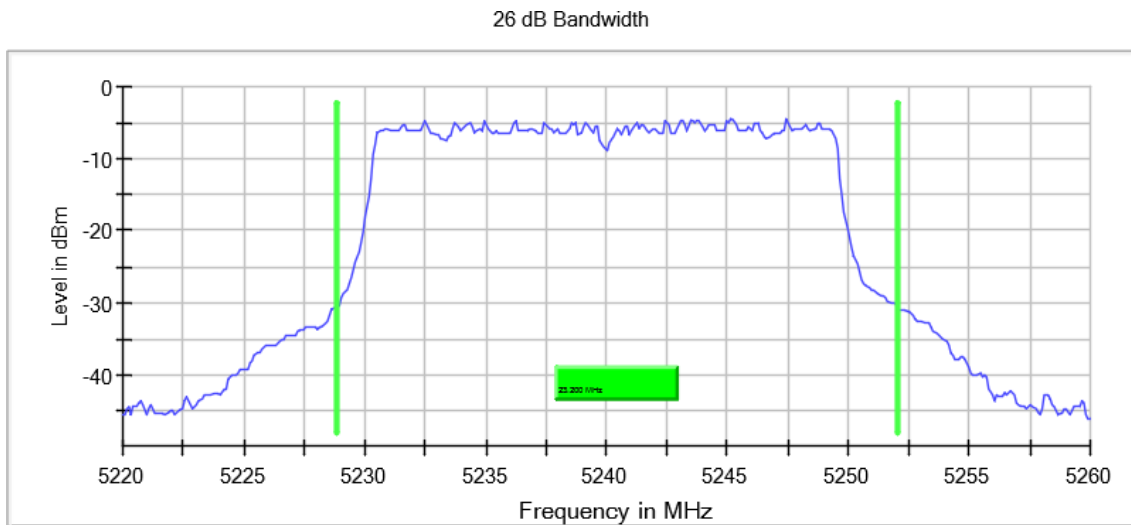
Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



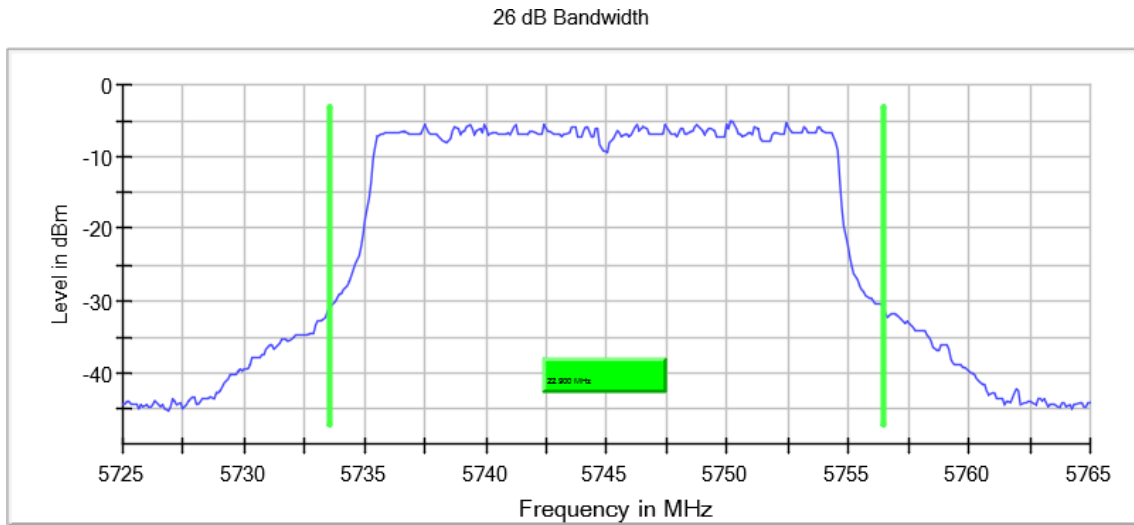
Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



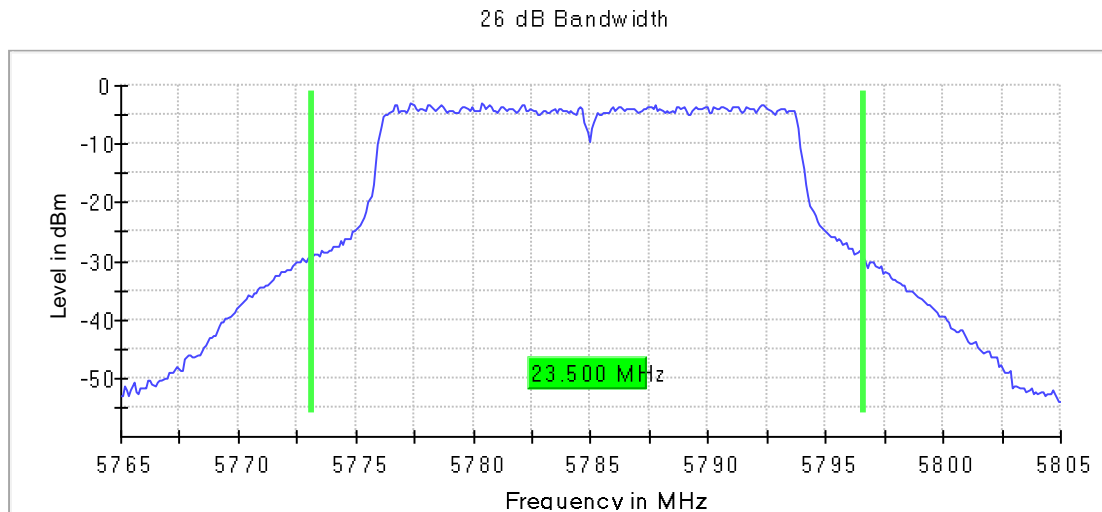
Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



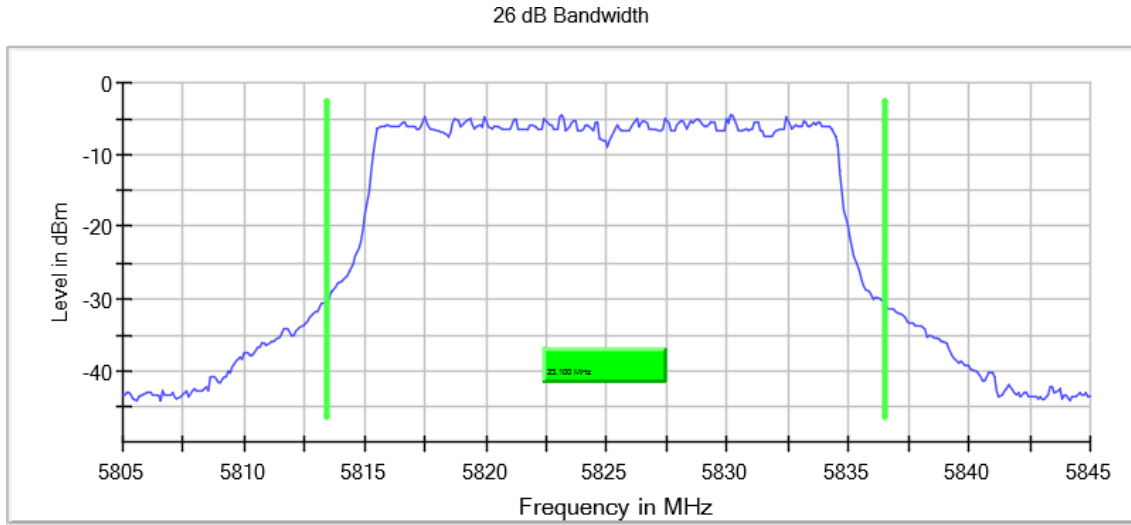
Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	~ 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	400	~ 400
Sweeptime	28.477 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	31 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.04 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ax HE20 (OFDMA MCS0)- Partial RU

Results

Port	Freq (MHz)	# of Tx Chains	26Ebw (MHz)
2	5180.00000	1	20.200
2	5200.00000	1	18.900
2	5240.00000	1	20.300
2	5745.00000	1	20.300
2	5785.00000	1	18.900
2	5825.00000	1	20.200

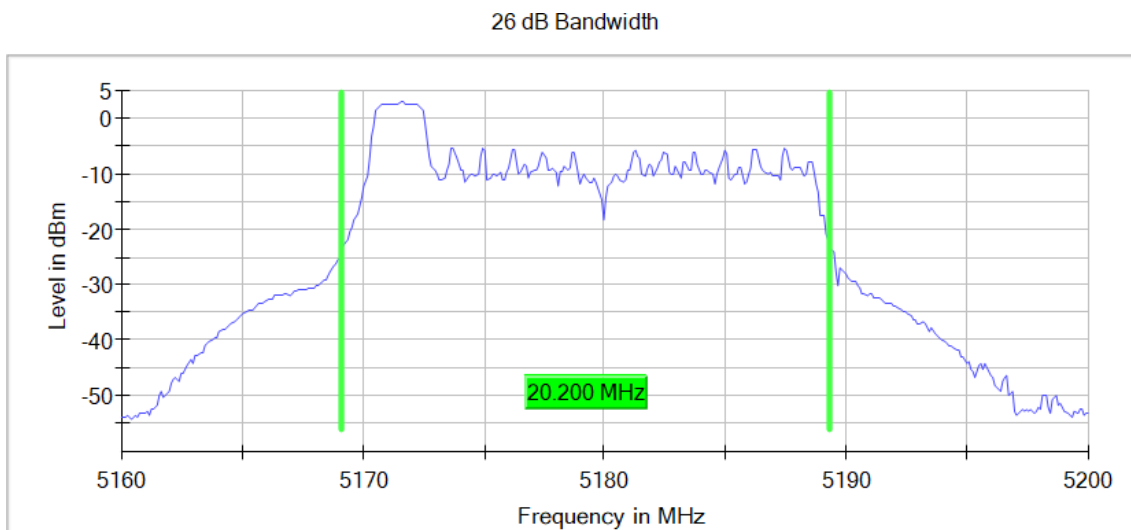
Verdict

Pass

Attachments

Active Port = 2, Frequency MHz = 5180.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

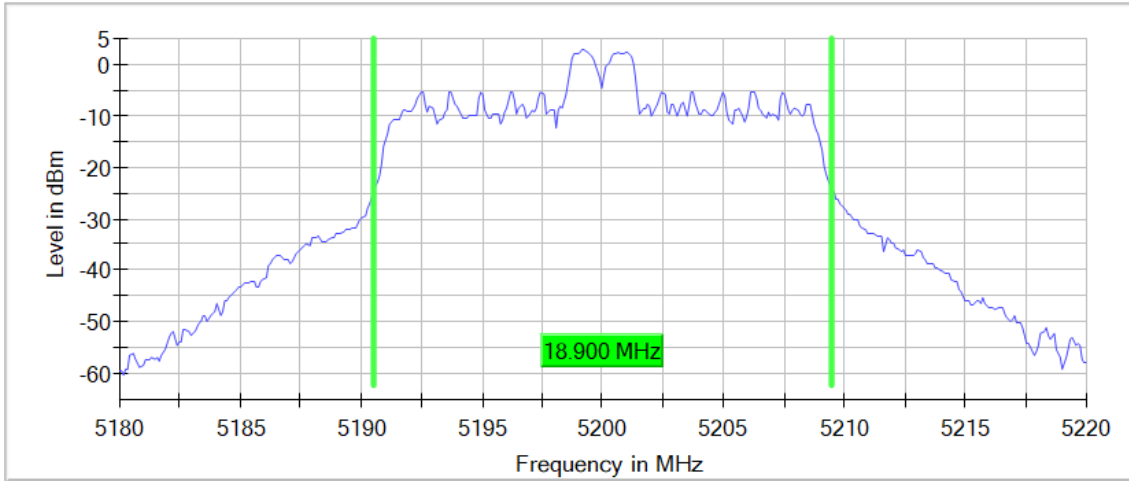
Images:



Active Port = 2, Frequency MHz = 5200.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

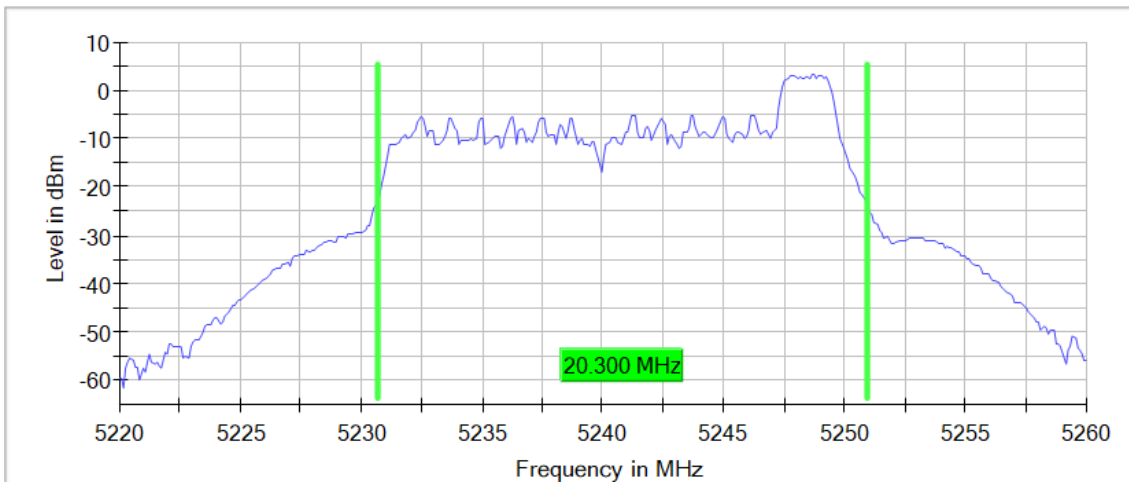
26 dB Bandwidth



Active Port = 2, Frequency MHz = 5240.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

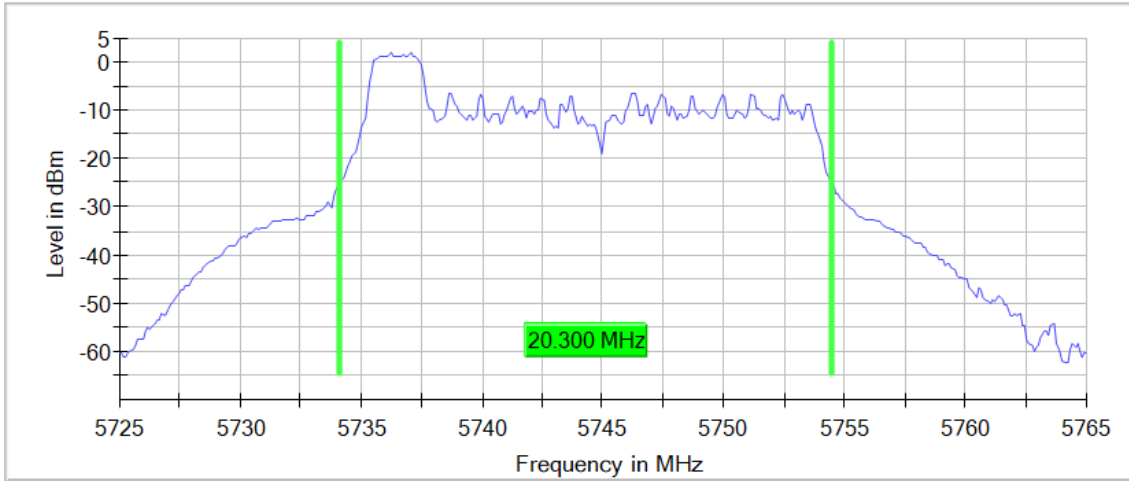
26 dB Bandwidth



Active Port = 2, Frequency MHz = 5745.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

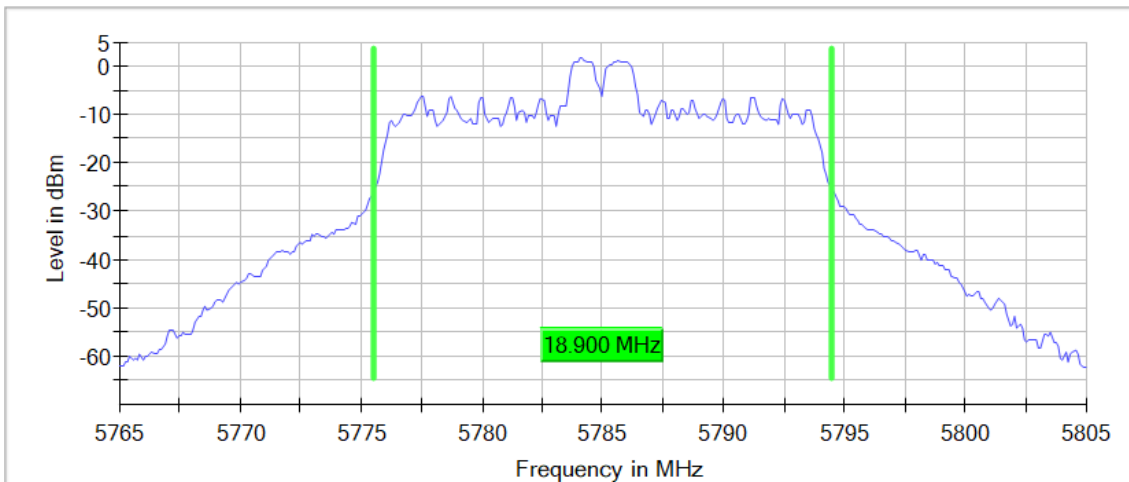
26 dB Bandwidth



Active Port = 2, Frequency MHz = 5785.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

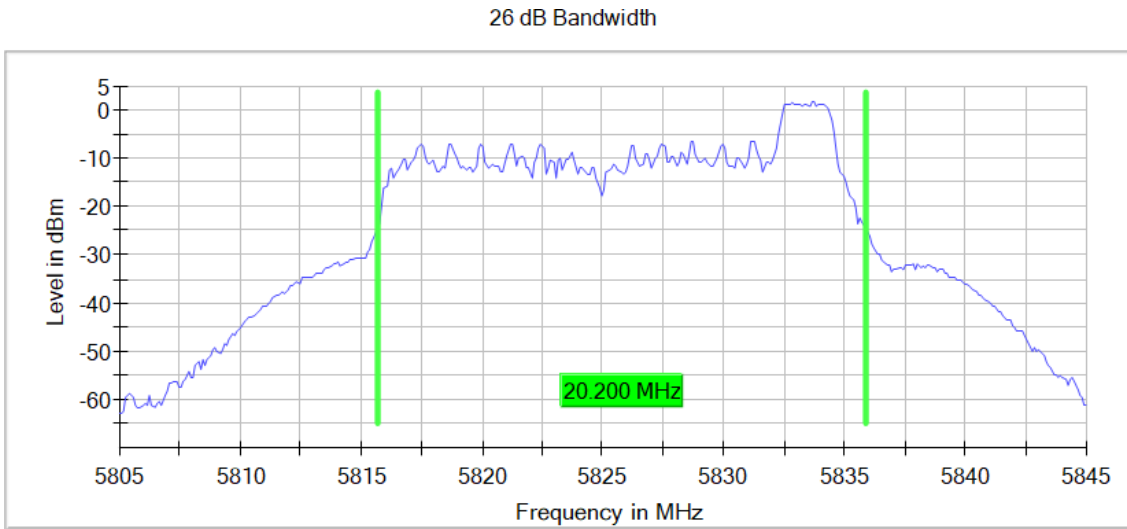
Images:

26 dB Bandwidth



Active Port = 2, Frequency MHz = 5825.00000, Modulation = 802.11ax HE20 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	40.000 MHz	40.000 MHz
RBW	200.000 kHz	~ 200.000 kHz
VBW	1.000 MHz	>= 600.000 kHz
SweepPoints	400	~ 400
Sweeptime	1.000 ms	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	19 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.04 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ax HE40 SS1 (OFDMA MCS0) – Full RU

Results

Port	Freq (MHz)	# of Tx Chains	26Ebw (MHz)
2	5190.00000	1	51.482
2	5230.00000	1	45.178
2	5755.00000	1	45.028
2	5795.00000	1	45.629

Verdict

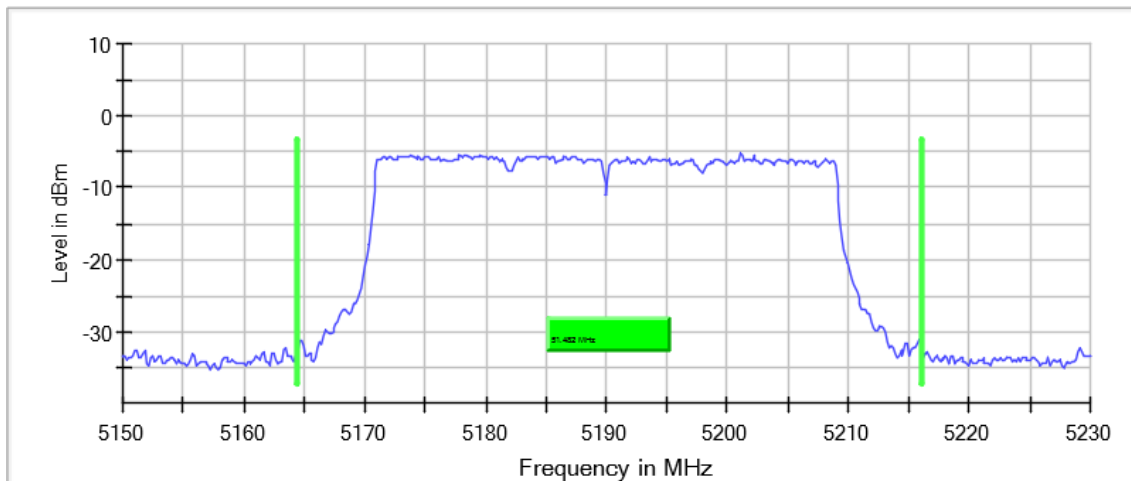
Pass

Attachments

Active Port = 2, Frequency MHz = 5190.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

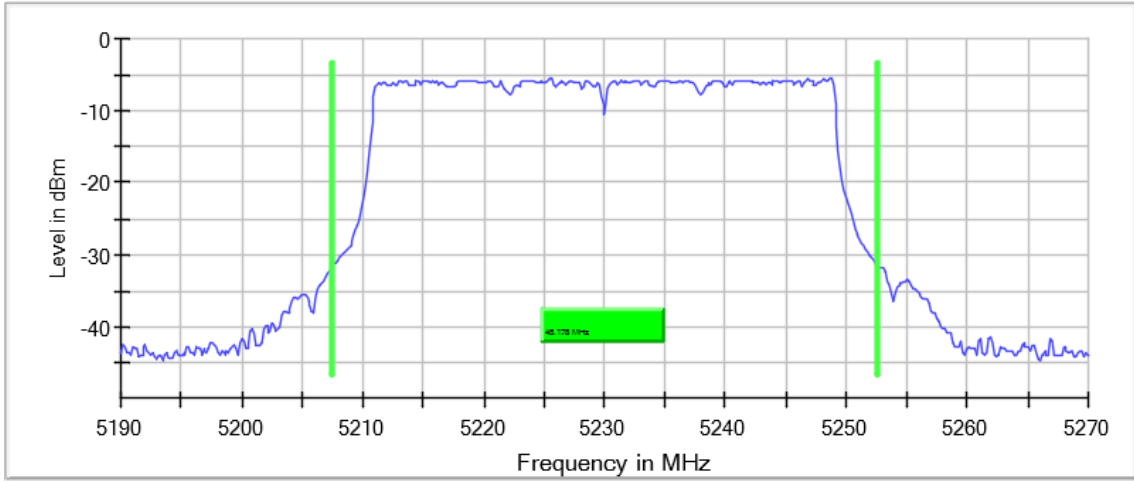
26 dB Bandwidth



Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:

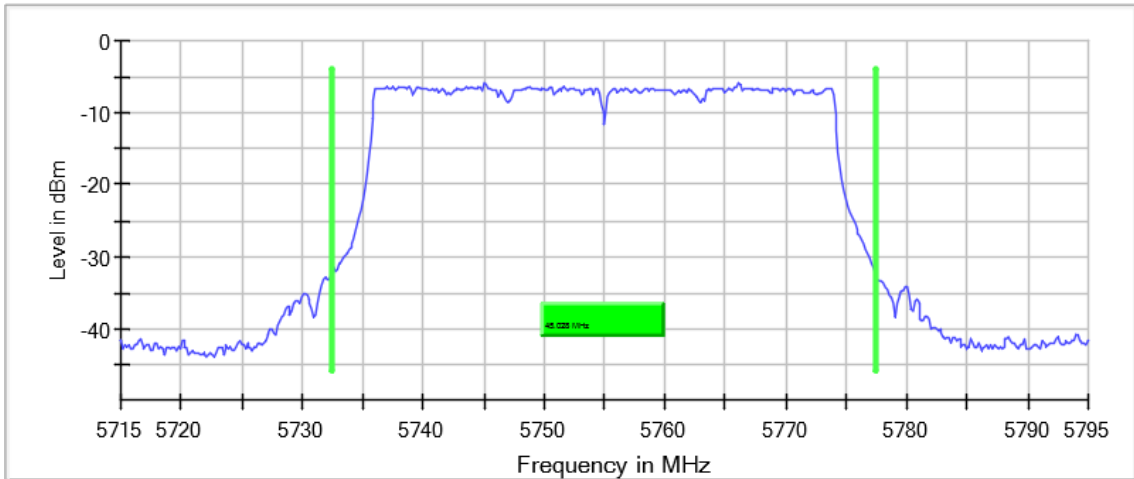
26 dB Bandwidth



Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

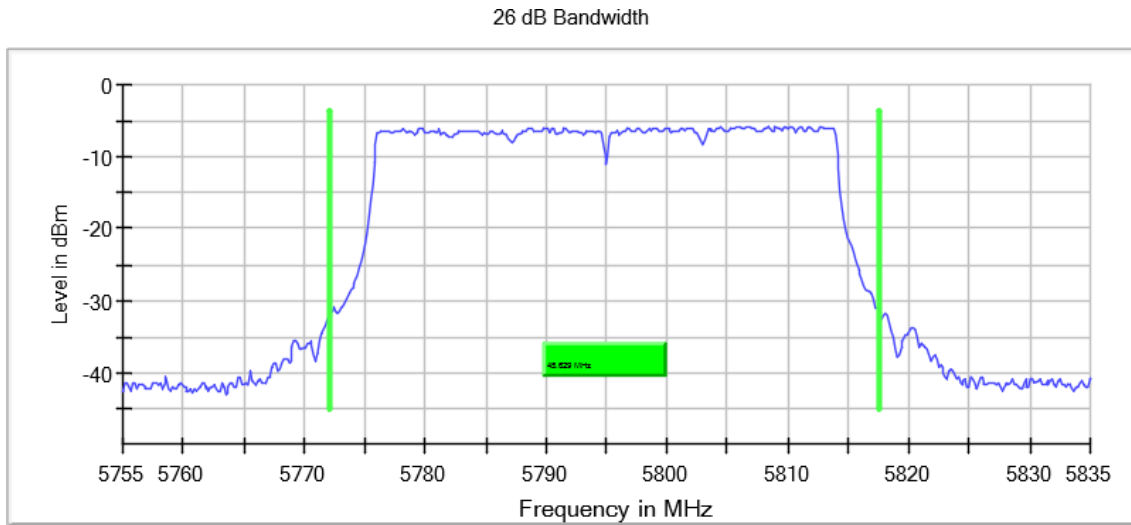
Images:

26 dB Bandwidth



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	80.000 MHz	80.000 MHz
RBW	300.000 kHz	~ 400.000 kHz
VBW	1.000 MHz	>= 900.000 kHz
SweepPoints	533	~ 533
Sweeptime	31.621 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	60 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.04 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ax HE40 SS1 (OFDMA MCS0) – Partial RU

Results

Port	Freq (MHz)	# of Tx Chains	26Ebw (MHz)
2	5190.00000	1	38.274
2	5230.00000	1	40.225
2	5755.00000	1	40.225
2	5795.00000	1	40.375

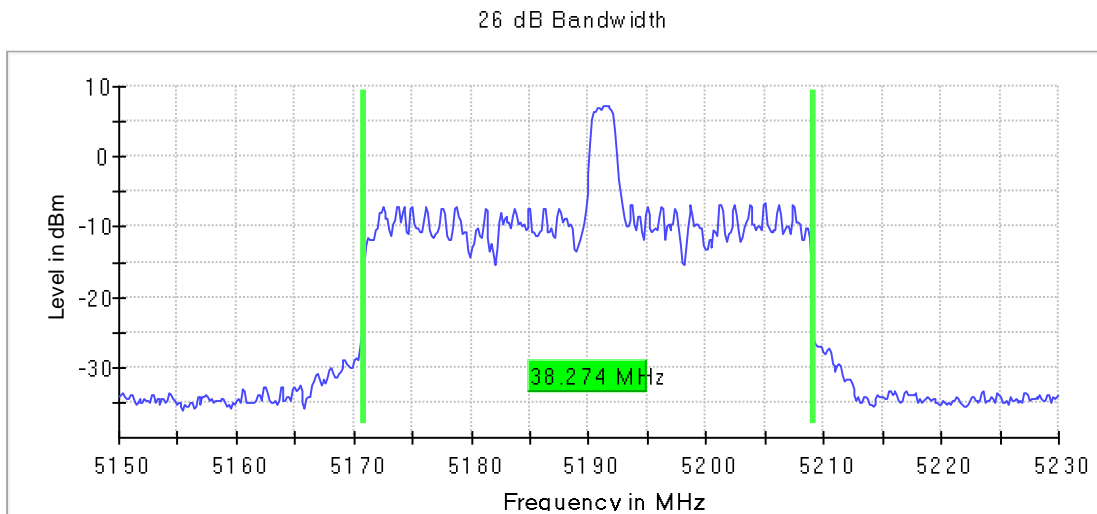
Verdict

Pass

Attachments

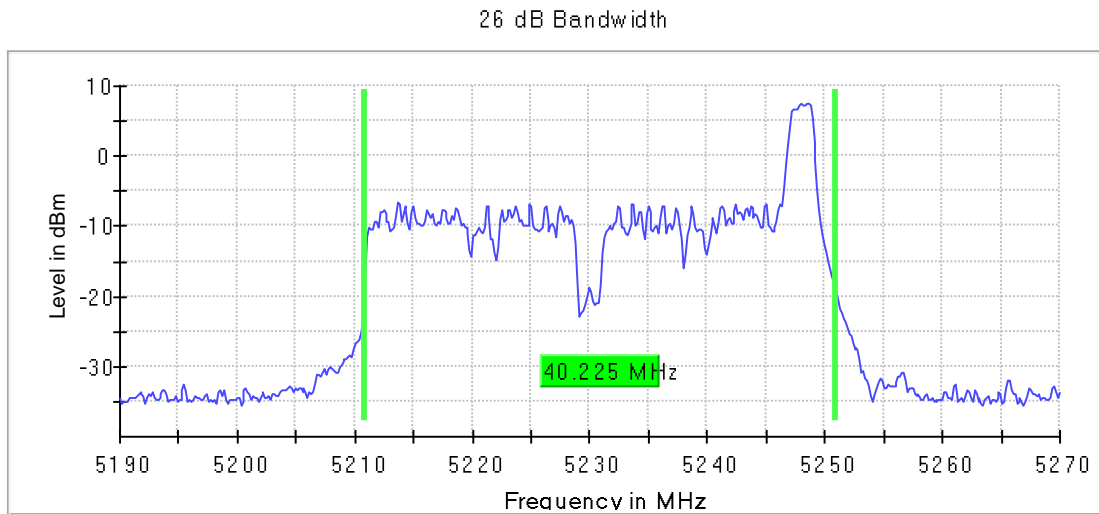
Active Port = 2, Frequency MHz = 5190.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



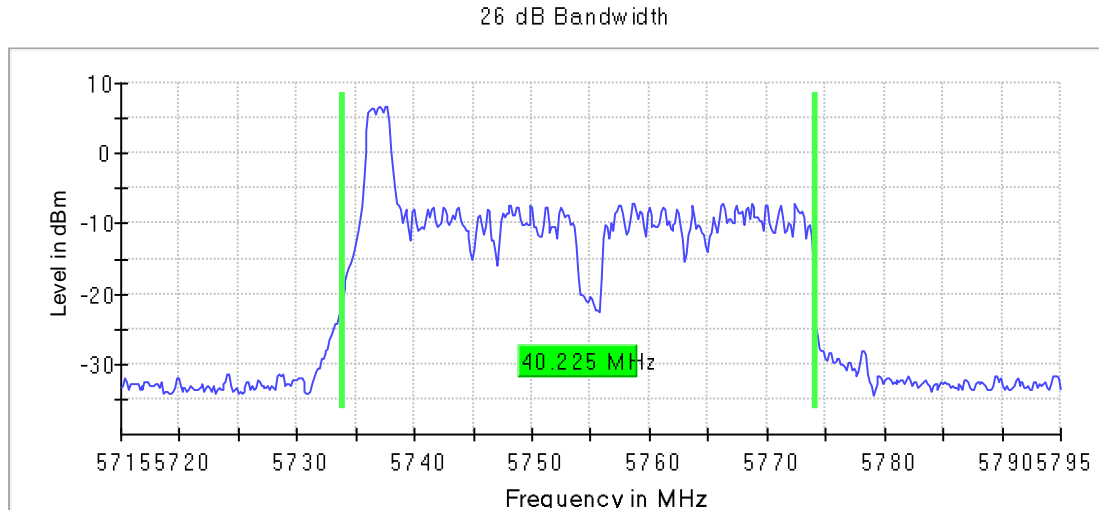
Active Port = 2, Frequency MHz = 5230.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



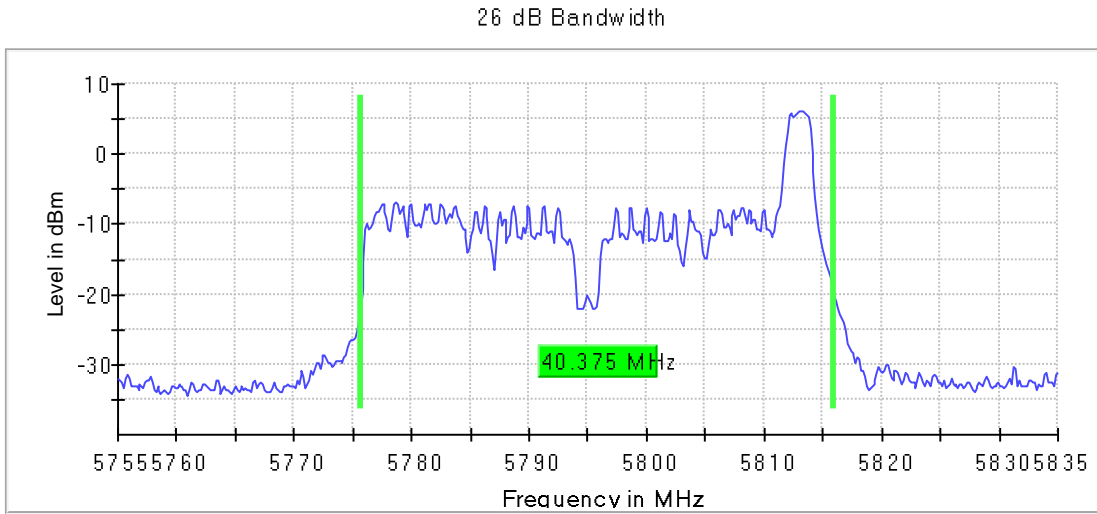
Active Port = 2, Frequency MHz = 5755.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Active Port = 2, Frequency MHz = 5795.00000, Modulation = 802.11ax HE40 SS1 (OFDMA MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	80.000 MHz	80.000 MHz
RBW	300.000 kHz	~ 400.000 kHz
VBW	1.000 MHz	>= 900.000 kHz
SweepPoints	533	~ 533
Sweeptime	31.621 μ s	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	60 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.04 dB	0.30 dB

Mode: SISO worst

Modulation: 802.11ax HE80 SS1 (OFDM MCS0) – Full RU

Results

Port	Freq (MHz)	# of Tx Chains	26Ebw (MHz)
2	5210.00000	1	92.500
2	5775.00000	1	89.000

Verdict

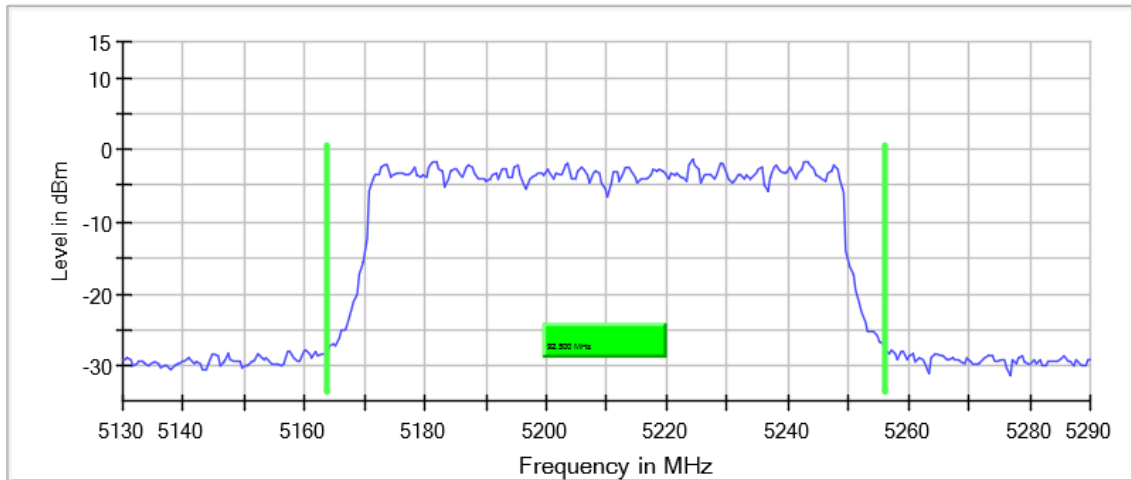
Pass

Attachments

Active Port = 2, Frequency MHz = 5210.00000, Modulation = 802.11ax HE80 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

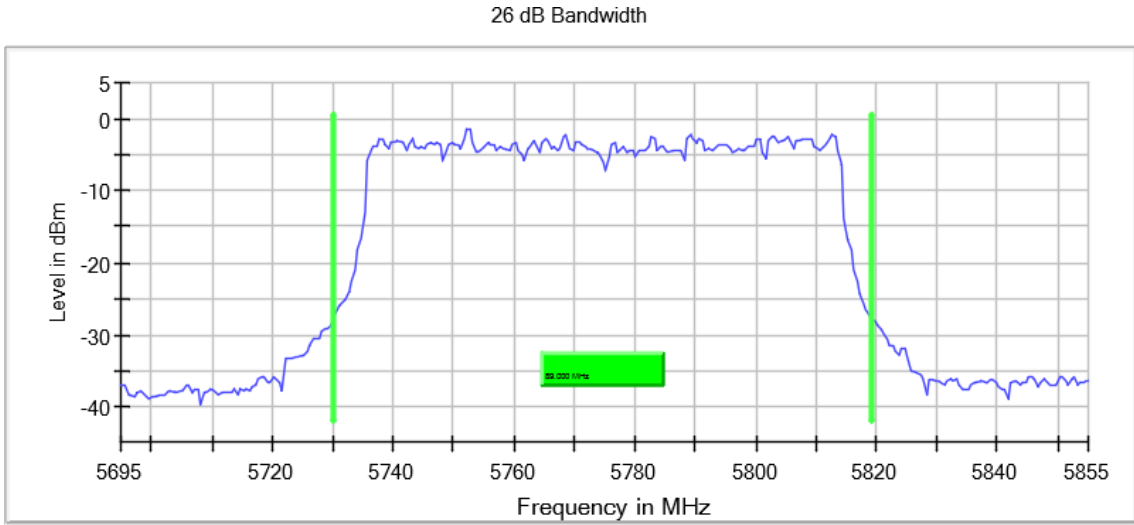
Images:

26 dB Bandwidth



Active Port = 2, Frequency MHz = 5775.00000, Modulation = 802.11ax HE80 SS1 (OFDM MCS0), MIMO Mode = SISO, Number of Transmission Chains = 1

Images:



Tables:

Spectrum Analyzer Parameters

Setting	Instrument Value	Target Value
Span	160.000 MHz	160.000 MHz
RBW	1.000 MHz	~ 800.000 kHz
VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	320	~ 320
Sweeptime	22.875 µs	AUTO
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	79 / max. 150	max. 150
Stable	5 / 5	5
Max Stable Difference	0.00 dB	0.30 dB