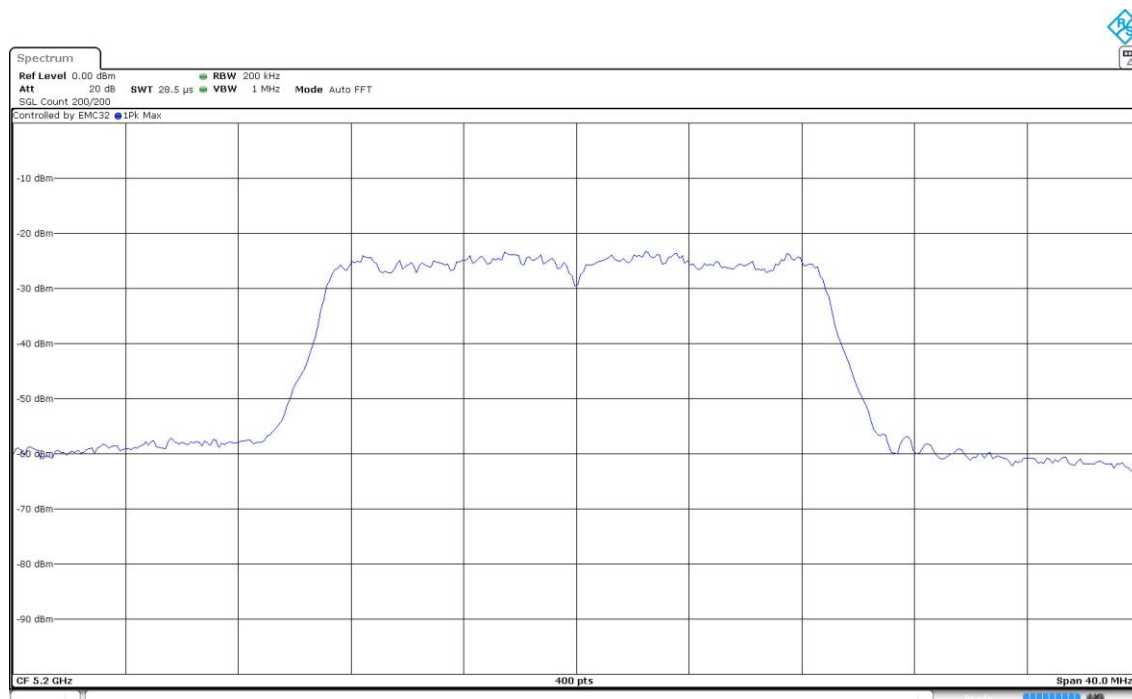
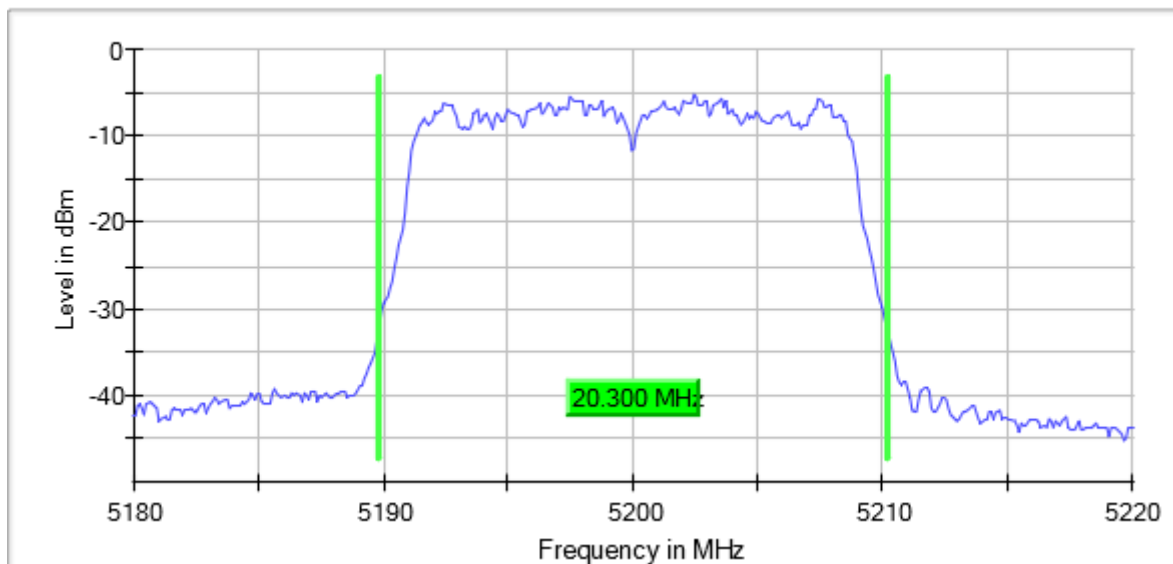


Frequency MHz = 5200.00000

MIMO Mode = SISO

Images:

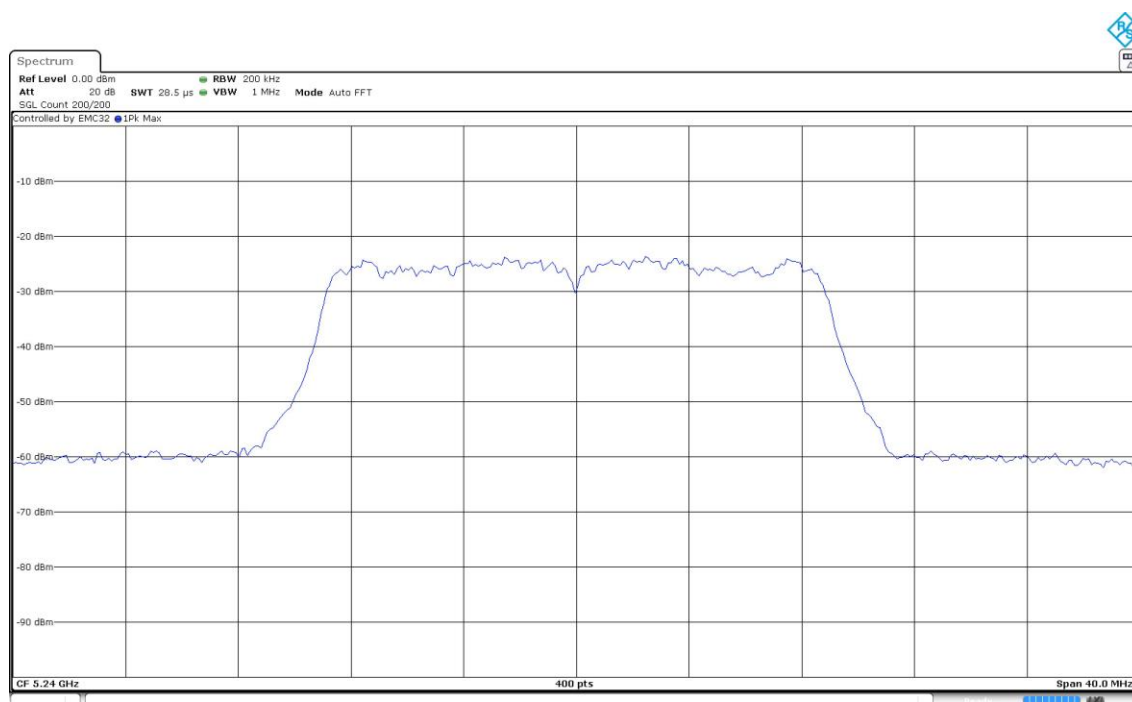
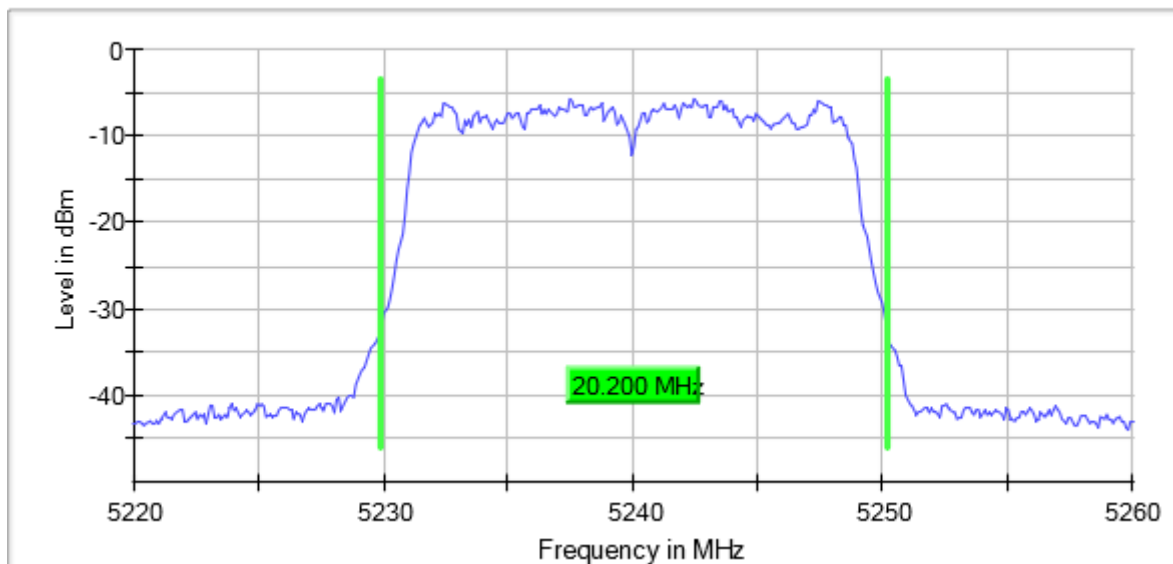
26 dB Bandwidth



Frequency MHz = 5240.00000

MIMO Mode = SISO

26 dB Bandwidth



Modulation: 802.11n HT40 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	Ebw (MHz)
1	5190.00000	39.470
	5230.00000	40.525

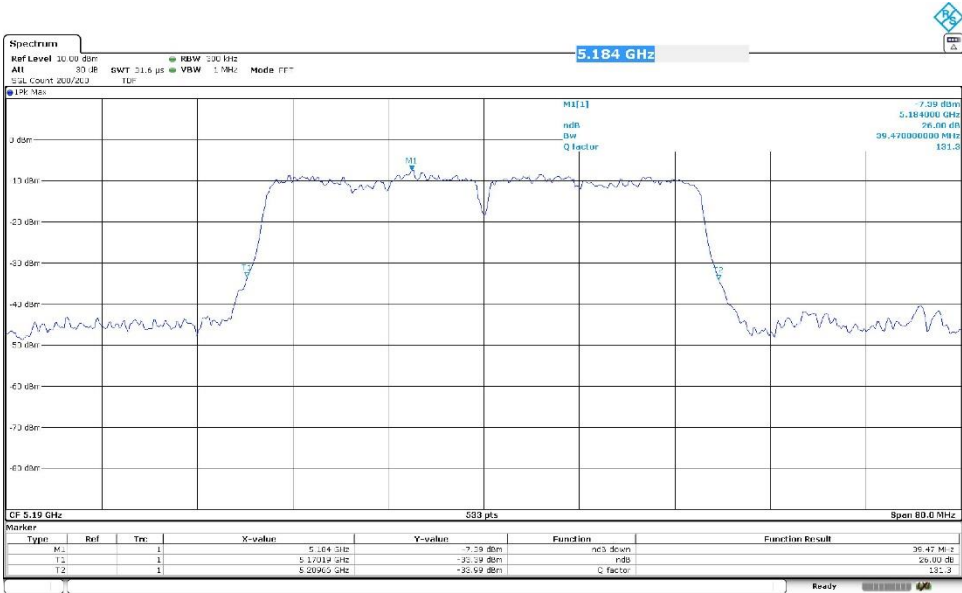
Verdict

Pass

Attachments

Active Port = 1
Frequency MHz = 5190.00000
Modulation = 802.11n HT40 (OFDM MCS0) MIMO Mode = SISO

Images:

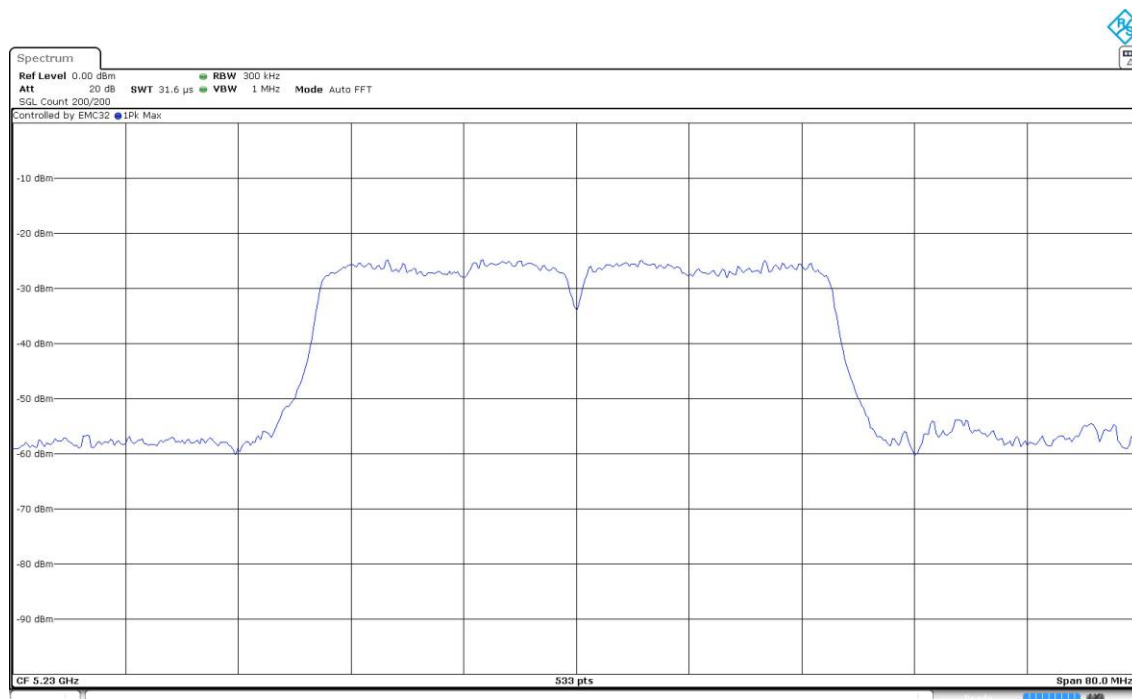
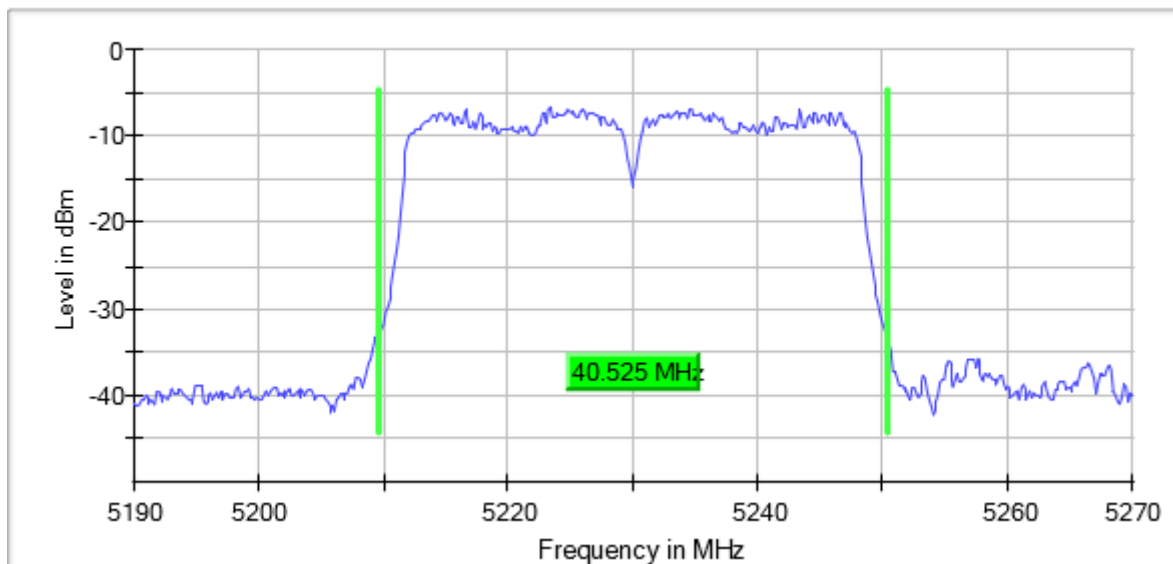


Frequency MHz = 5230.00000

MIMO Mode = SISO

Images:

26 dB Bandwidth



Modulation: 802.11a (OFDM 6 Mbit/s)

MIMO Mode: SISO

Results

Port	Freq (MHz)	Ebw (MHz)
1	5180.00000	20.200
	5200.00000	19.800
	5240.00000	19.700

Verdict

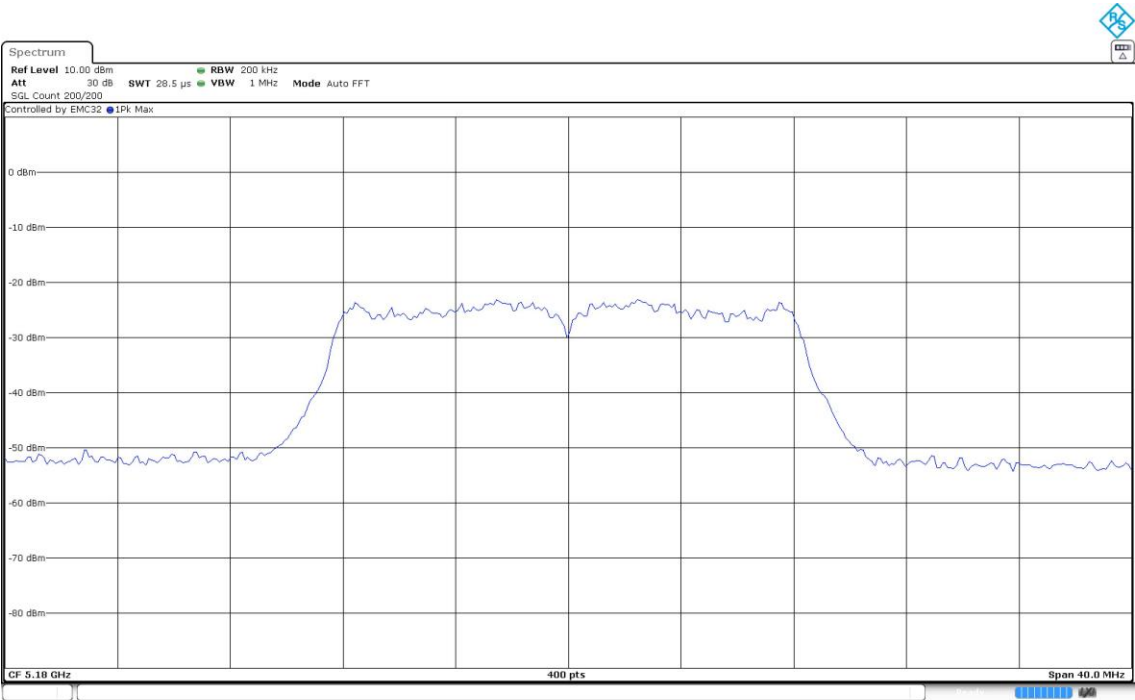
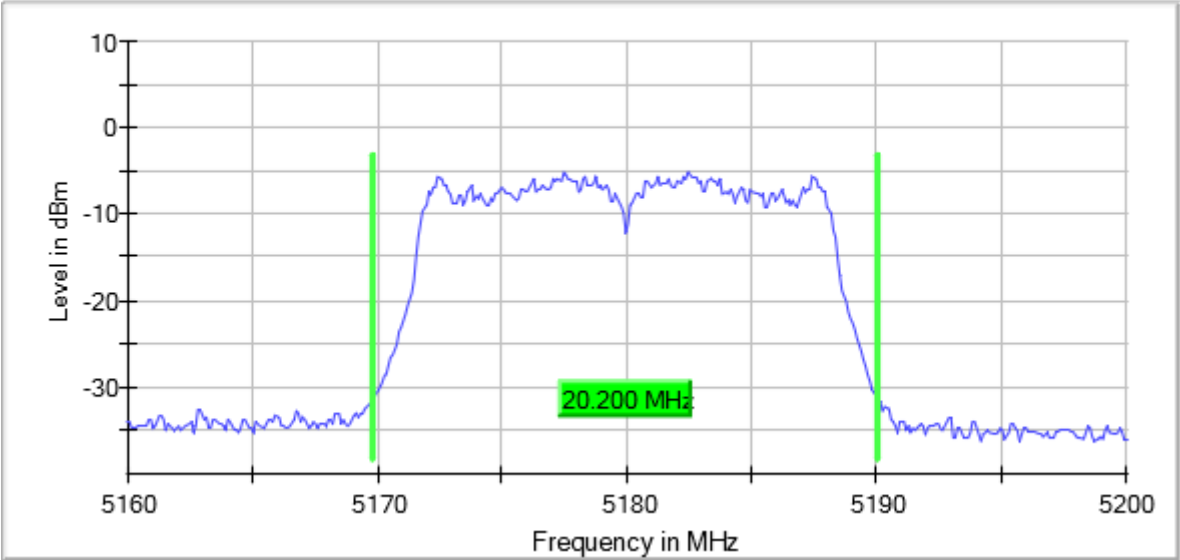
Pass

Attachments

Active Port = 1 Frequency MHz = 5180.00000
Modulation = 802.11a (OFDM 6 Mbit/s) MIMO Mode = SISO

Images:

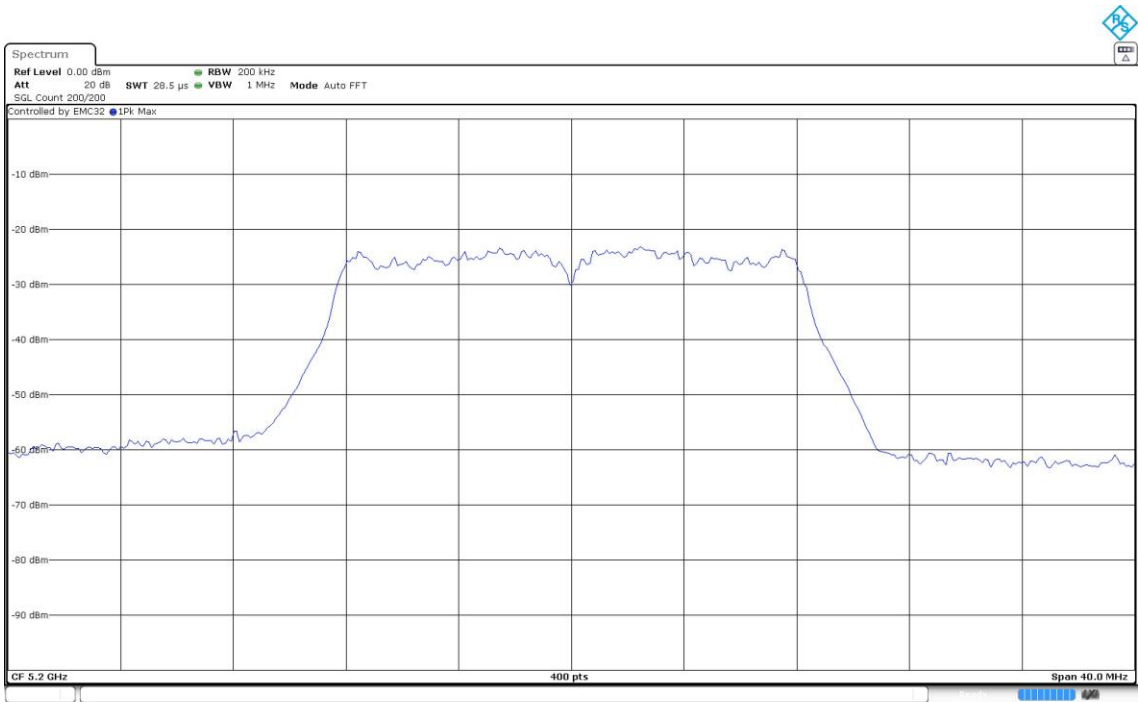
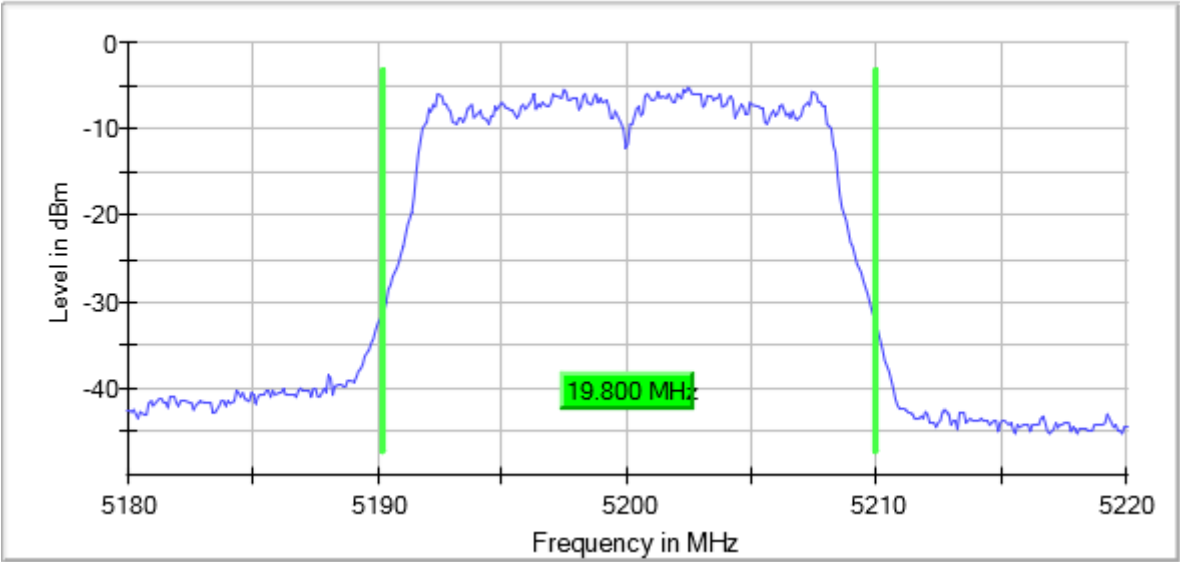
26 dB Bandwidth



Active Port = 1 Frequency MHz = 5200.00000
Modulation = 802.11a (OFDM 6 Mbit/s) MIMO Mode = SISO

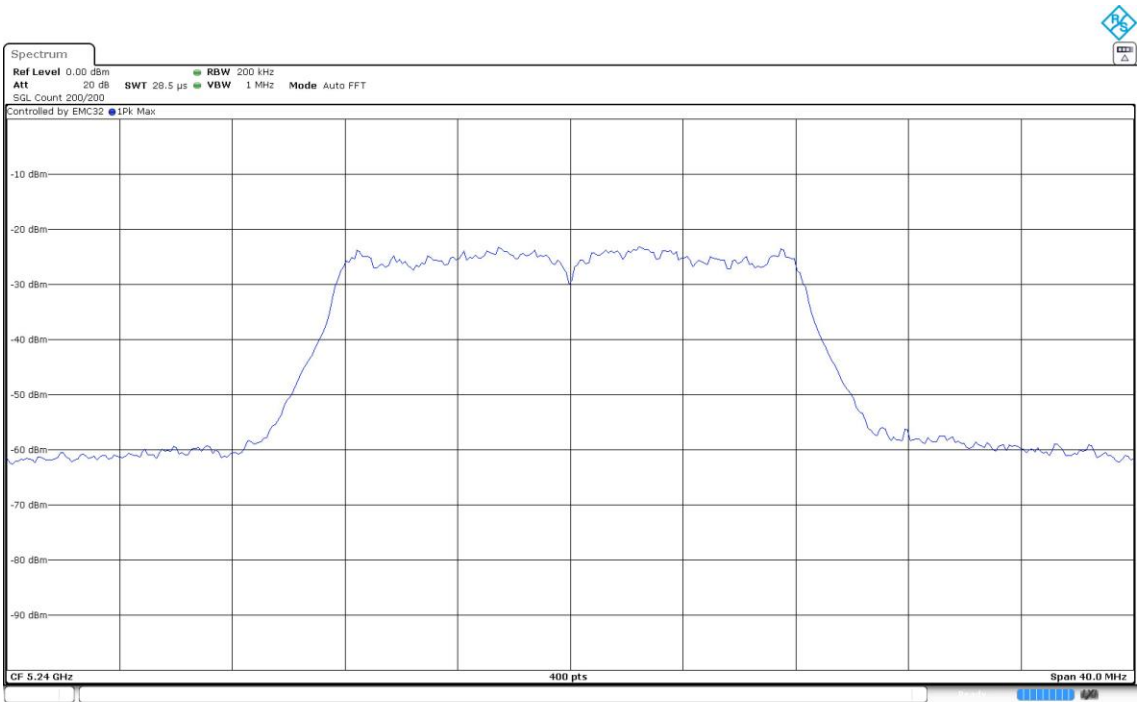
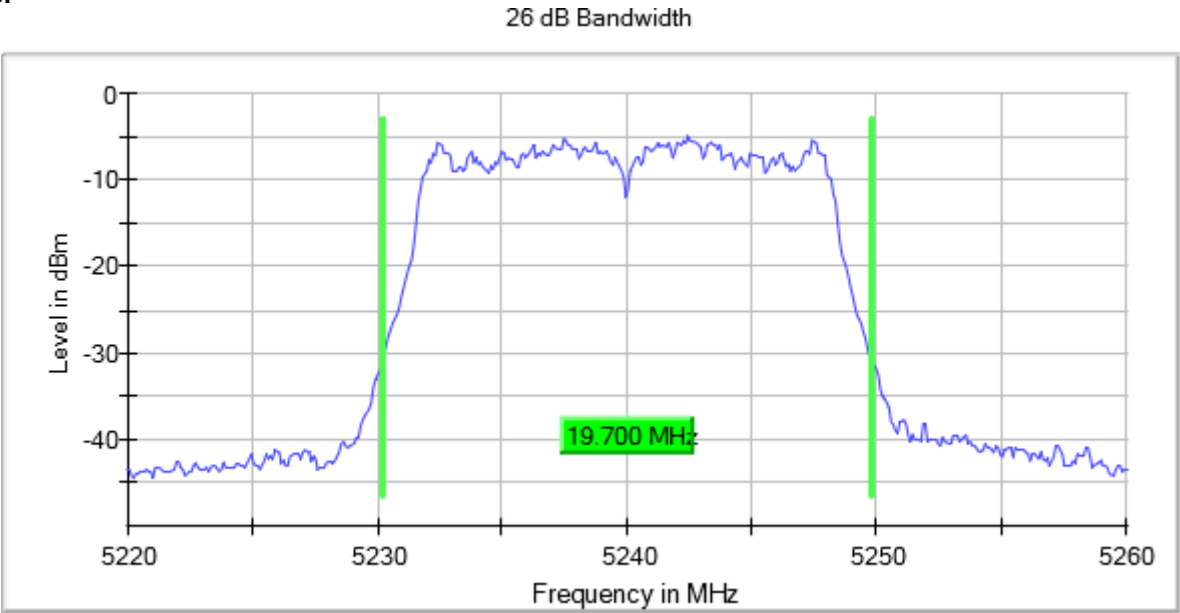
Images:

26 dB Bandwidth



Active Port = 1 Frequency MHz = 5240.00000
Modulation = 802.11a (OFDM 6 Mbit/s) MIMO Mode = SISO

Images:



Modulation: 802.11ac VHT20 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	Ebw (MHz)
1	5180.00000	19.900
	5200.00000	20.400
	5240.00000	20.100

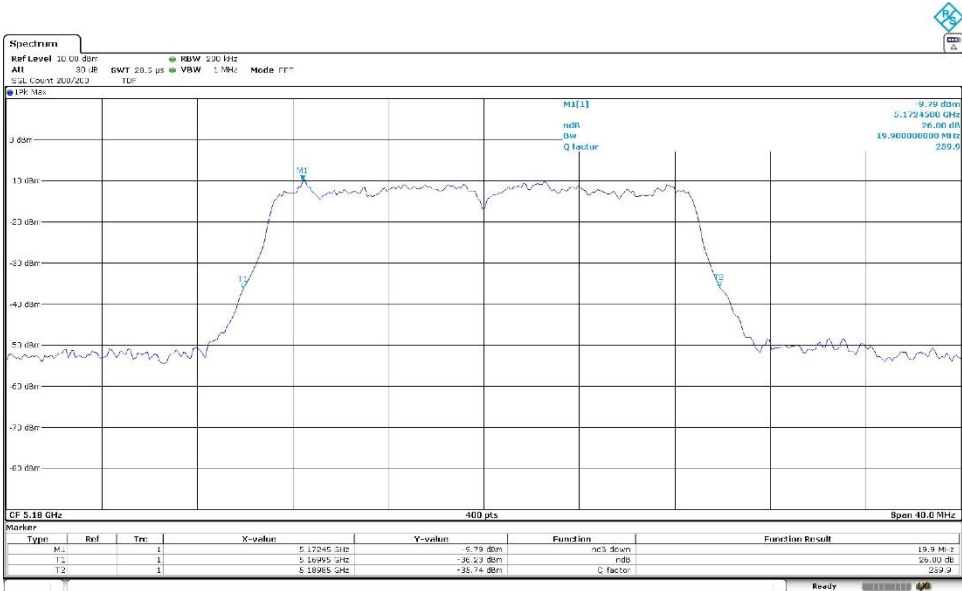
Verdict

Pass

Attachments

Active Port = 1
Frequency MHz = 5180.00000
Modulation = 802.11ac VHT20 (OFDM MCS0) MIMO Mode = SISO

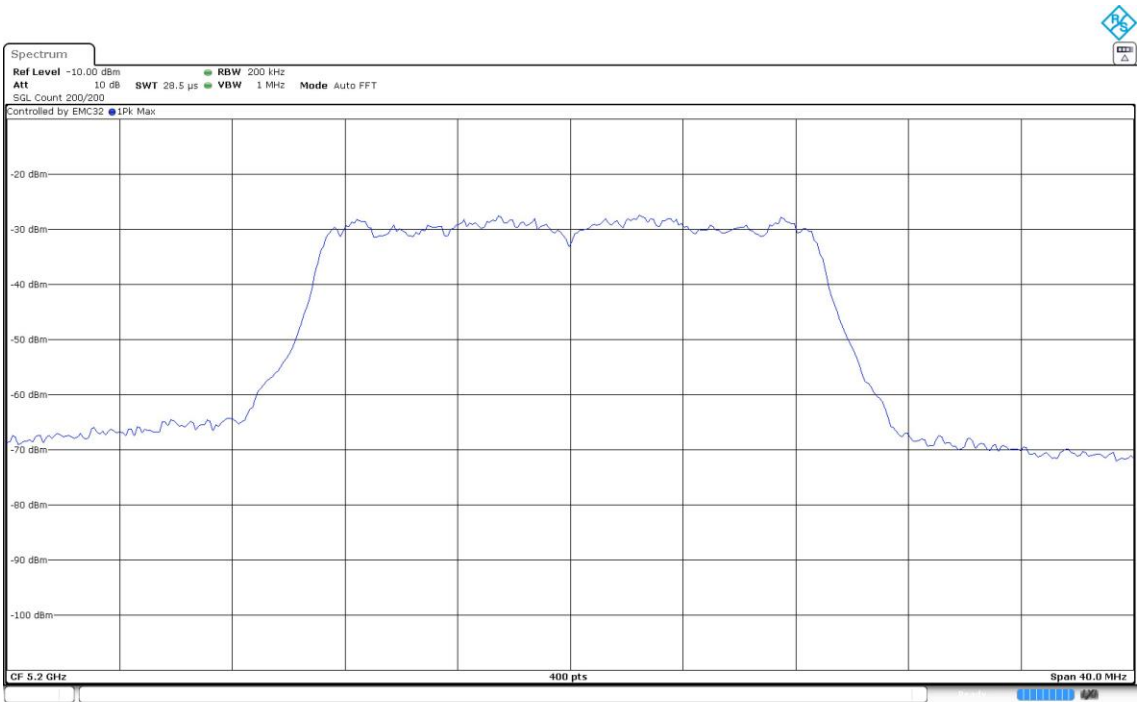
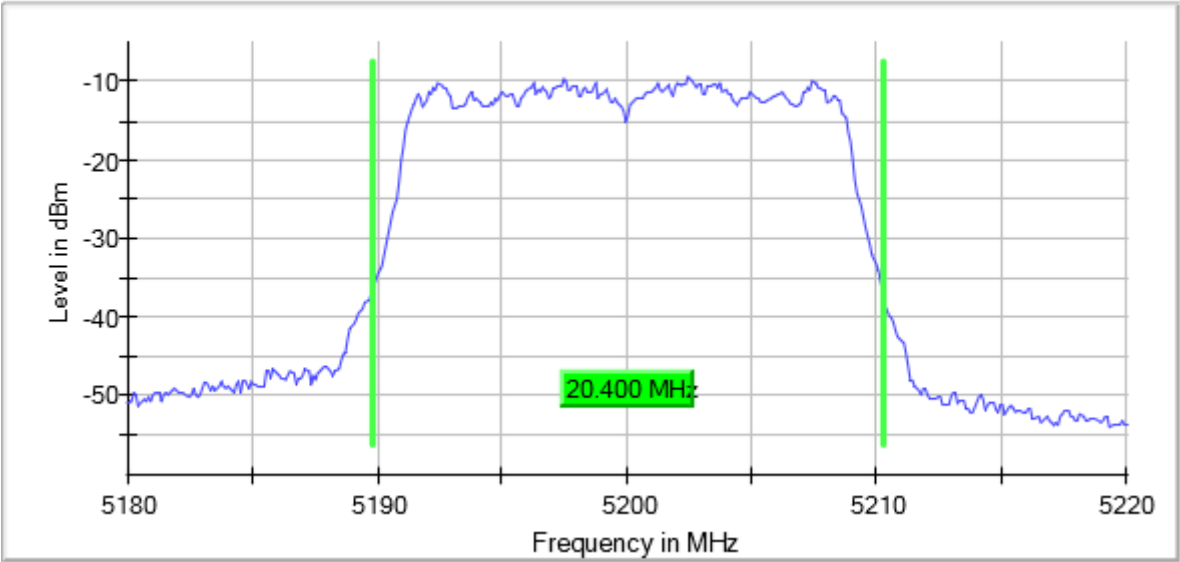
Images:



Active Port = 1
Modulation = 802.11ac VHT20 (OFDM MCS0) MIMO Mode = SISO
Frequency MHz = 5200.00000

Images:

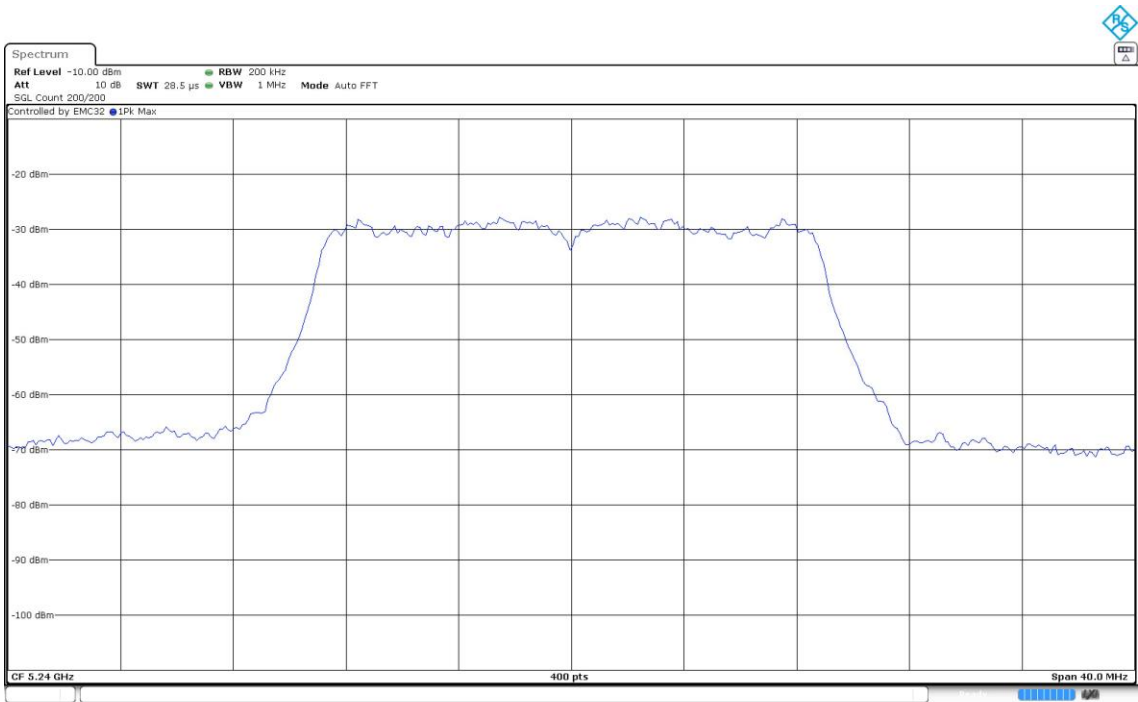
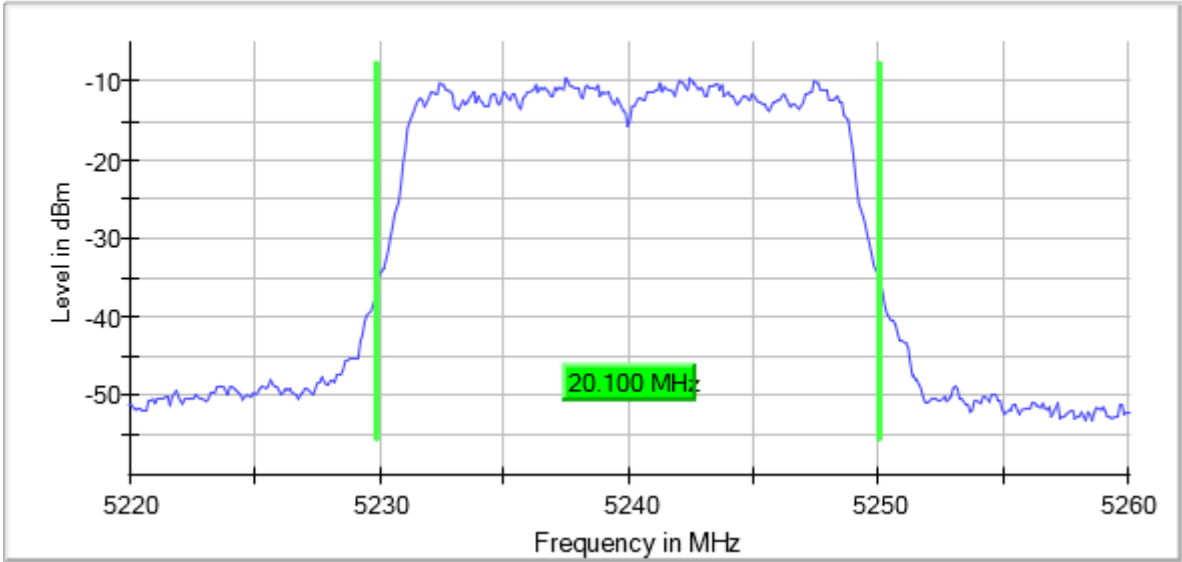
26 dB Bandwidth



Active Port = 1
Modulation = 802.11ac VHT20 (OFDM MCS0) MIMO Mode = SISO
Frequency MHz = 5240.00000

Images:

26 dB Bandwidth



Modulation: 802.11ac VHT40 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	Ebw (MHz)
1	5190.00000	39.47
	5230.00000	40.525

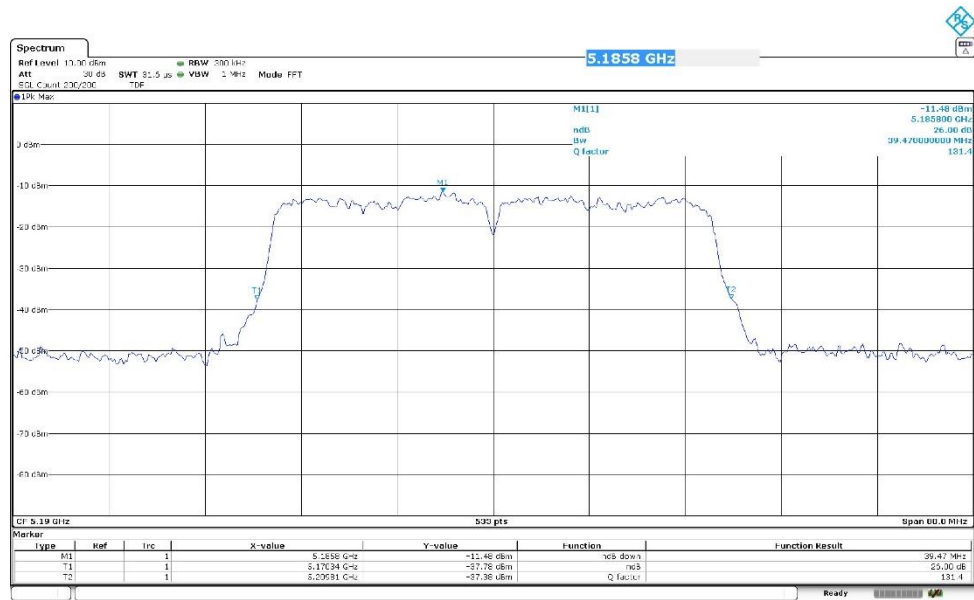
Verdict

Pass

Attachments

Active Port = 1
Modulation = 802.11ac VHT40 (OFDM MCS0) MIMO Mode = SISO
Frequency MHz = 5190.00000

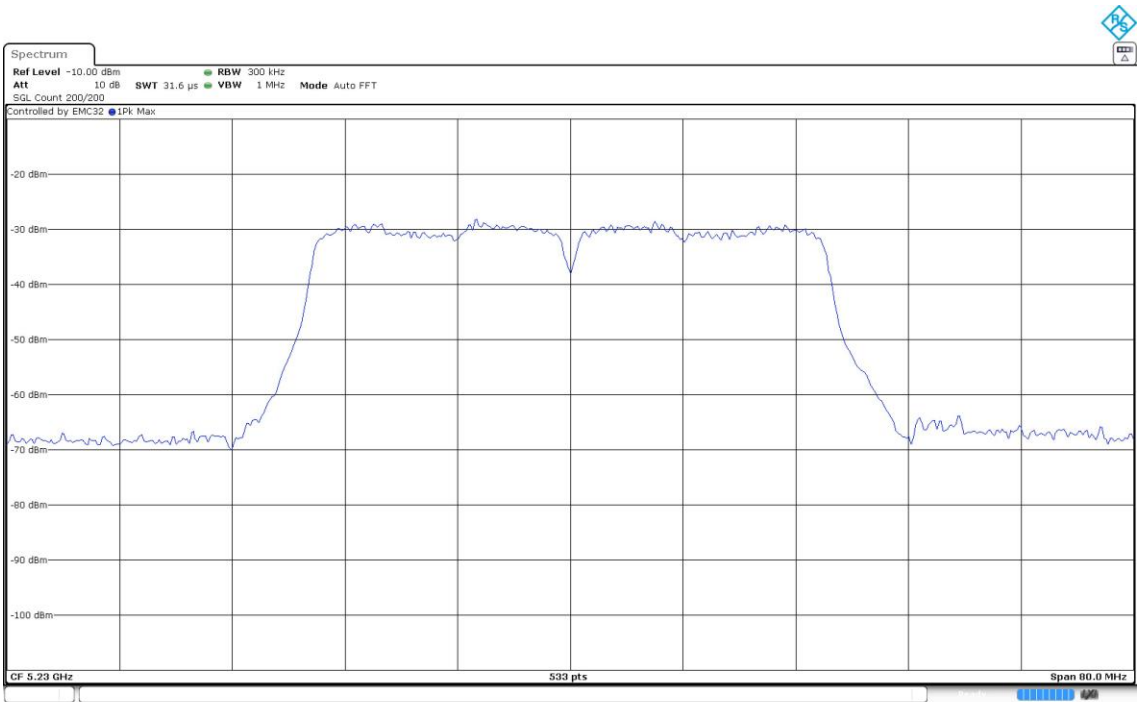
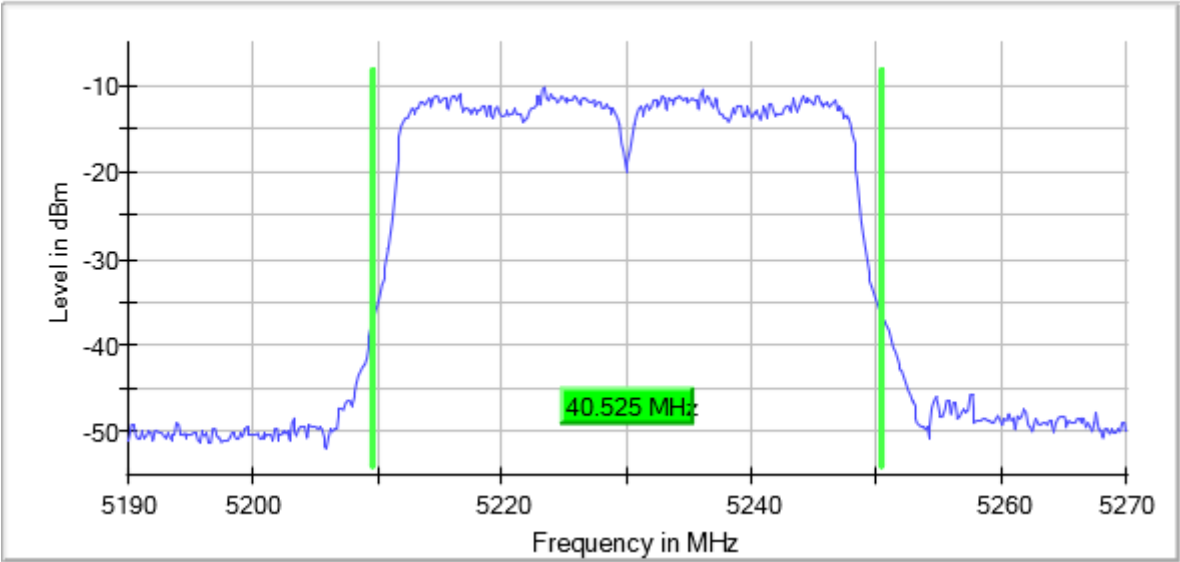
Images:



Active Port = 1
Frequency MHz = 5230.00000
Modulation = 802.11ac VHT40 (OFDM MCS0) MIMO Mode = SISO

Images:

26 dB Bandwidth



Modulation: 802.11ac VHT80 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	Ebw (MHz)
1	5210.00000	82.000

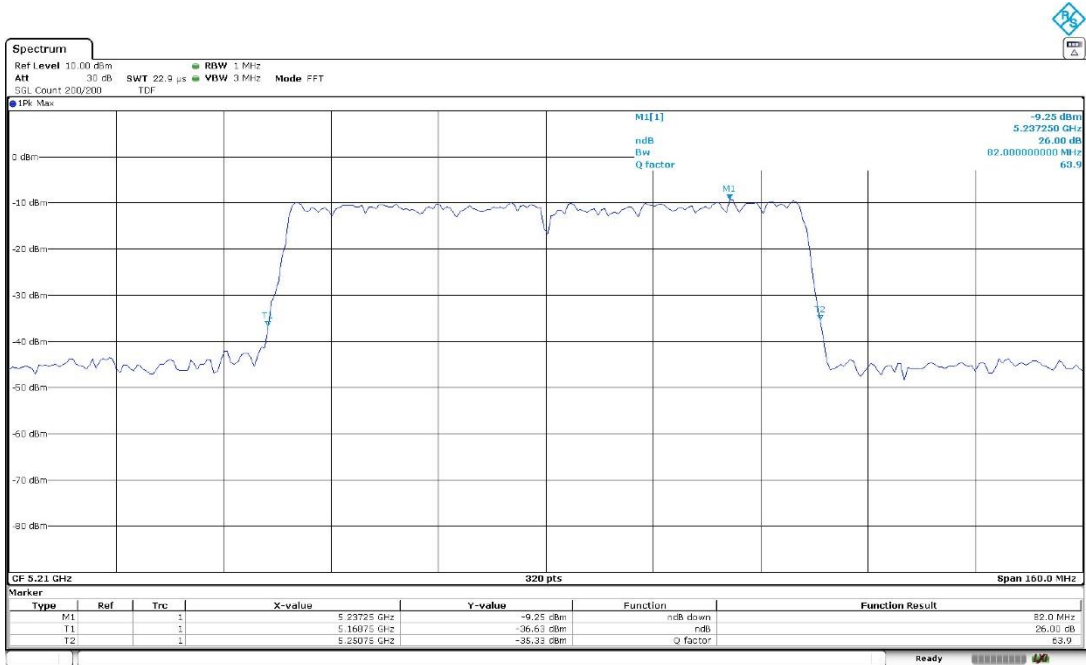
Verdict

Pass

Attachments

Active Port = 1
Frequency MHz = 5210.00000
Modulation = 802.11ac VHT80 (OFDM MCS0) MIMO Mode = SISO

Images:



RSS-247 6.2.1.2 / FCC 15.407 (b) (1) (6) [Rse] Transmitter Out of Band Radiated Emissions For transmitters operating in the 5.15–5.25 GHz

Limits

* FCC 15.407: For transmitters operating in the 5.725–5.85 GHz band: All emissions shall be limited to a level of –27 dBm/MHz (68.23 dBμV/m at 3 m distance) at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)):

Frequency Range (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	30
1.705 - 30.0	30	-	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
960 - 40000	500	54	3

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

* RSS-247:

Attenuation below the general field strength limits specified in RSS-Gen is not required.

Frequency range tested for Radiated emissions:

Start frequency: no radiofrequency signal generated in the device found below 10th sub-harmonic, no further investigation required.

Stop frequency: it has been performed the radiated spurious emissions until 10th harmonic.

MIMO Mode: SISO

Tests results for worst-case 20MHz Modulation: 802.11a (OFDM 6 Mbit/s)

Tests results for worst-case 40MHz Modulation: 802.11n HT40 (OFDM MCS0)

Tests results for worst-case 80MHz Modulation: 802.11ac VHT80 (OFDM MCS0)

Duty Cycle correction: +0.21dB

Frequency Range GHz = [0.03, 1]

The spurious frequencies detected do not depend on the channel neither the modulation

Results

Port	Freq Rng (GHz)	Unwanted Freq (MHz)	Unwanted Lvl (dBµV/m)	Unwanted Lvl Corrected (dBµV/m)	Pol	Detector
1	[0.03, 1]	43.793	30.50	30.71	H	QP
		43.793	32.59	32.80	H	PK
		54.910	31.59	31.80	H	PK
		54.910	27.70	27.91	H	QP
		58.663	32.68	32.89	H	PK
		58.663	28.99	29.20	H	QP
		59.294	30.12	30.33	H	PK
		59.294	26.61	26.82	H	QP
		60.235	30.52	30.73	H	QP
		60.235	32.42	32.63	H	PK
		66.288	32.41	32.62	H	PK
		66.288	30.49	30.70	H	QP

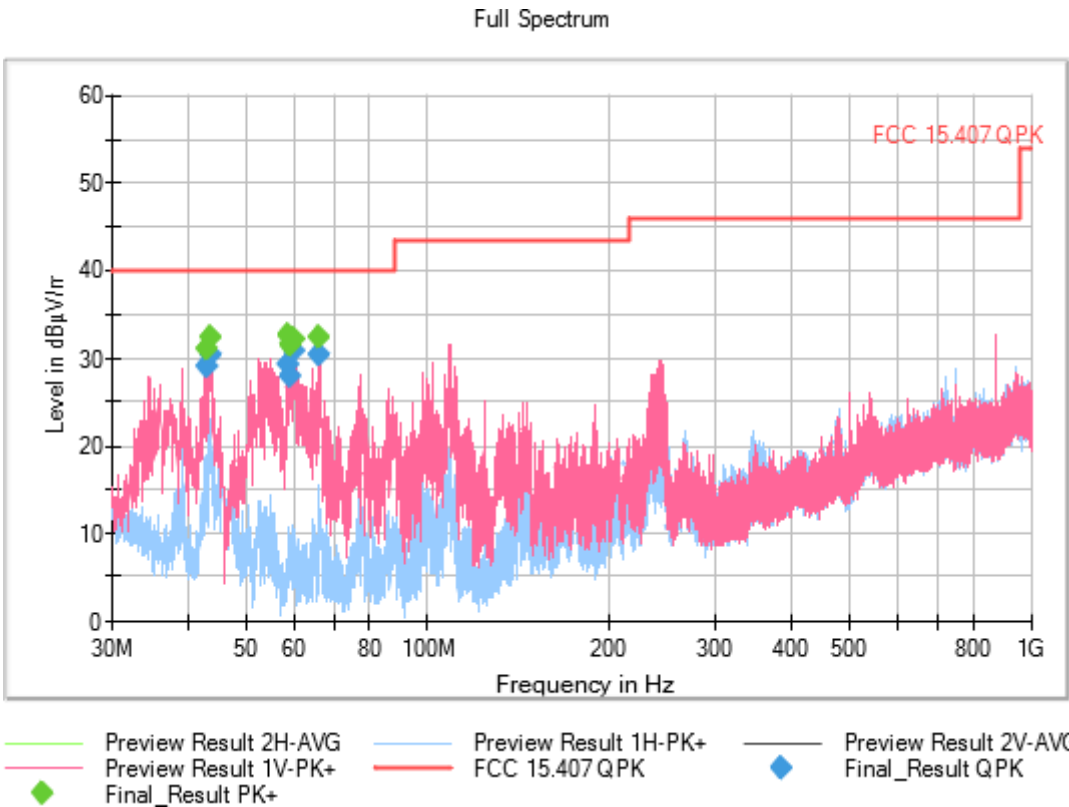
Verdict

Pass

Attachments

Active Port = 1
Frequency Range GHz = [0.03, 1]
The spurious frequencies detected do not depend on the transmission Band or the Modulation
MIMO Mode = SISO

Images:



Frequency Range GHz = [1, 17]

Modulation: 802.11a (OFDM 6 Mbit/s)

Results

No spurious frequencies detected at less than 20 dB below the limit.

Modulation: 802.11n HT20 (OFDM MCS0)

Results

No spurious frequencies detected at less than 20 dB below the limit.

Modulation: 802.11n HT40 (OFDM MCS0)

Results

No spurious frequencies detected at less than 20 dB below the limit.

Modulation: 802.11ac VHT20 (OFDM MCS0)

Results

No spurious frequencies detected at less than 20 dB below the limit.

Modulation: 802.11ac VHT40 (OFDM MCS0)

Results

No spurious frequencies detected at less than 20 dB below the limit.

Modulation: 802.11ac VHT80 (OFDM MCS0)

Results

No spurious frequencies detected at less than 20 dB below the limit.

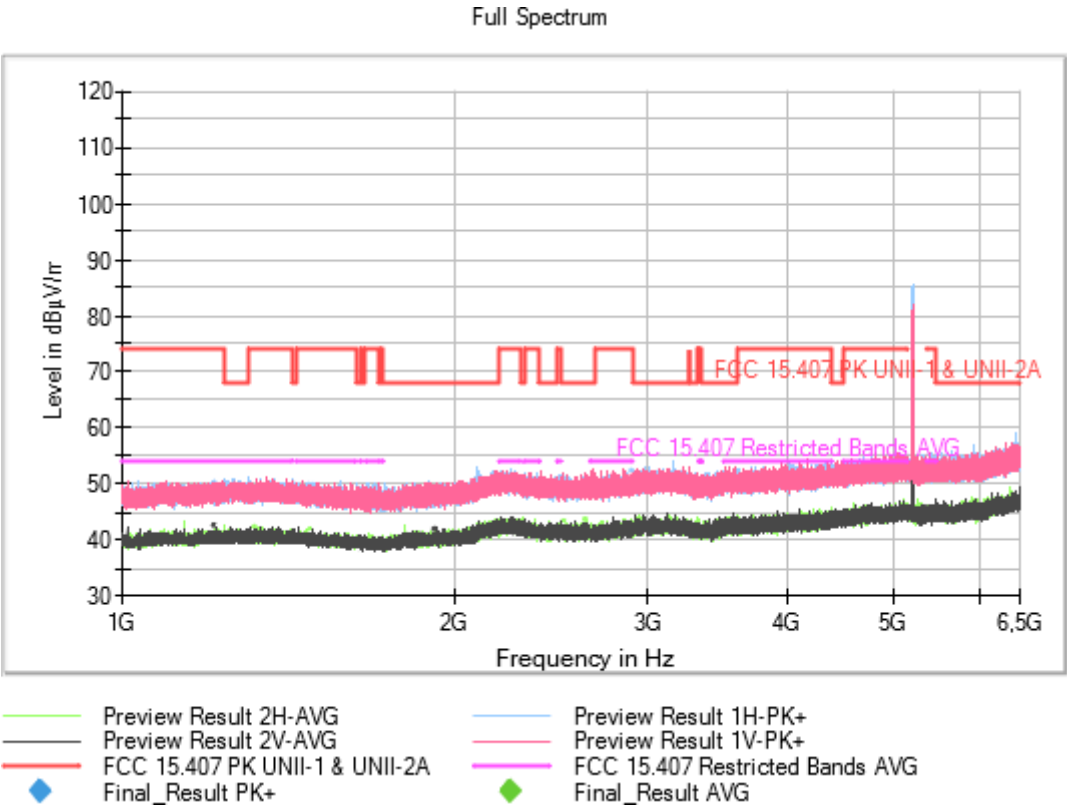
Verdict

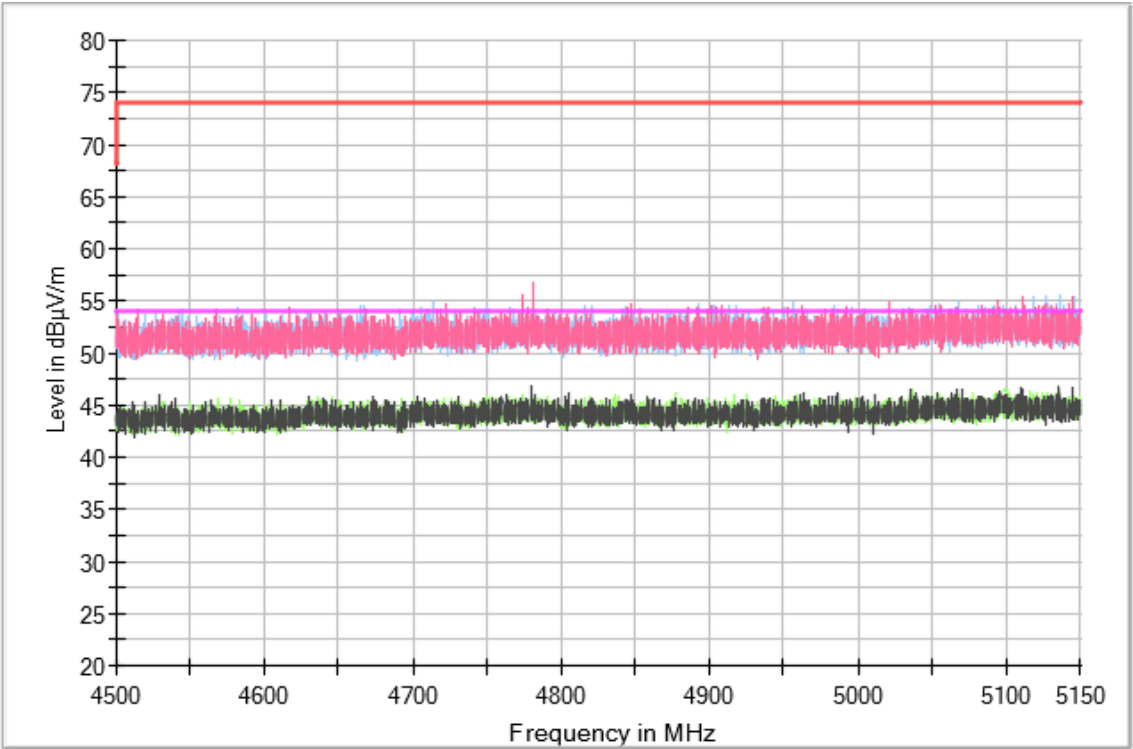
Pass

Attachments

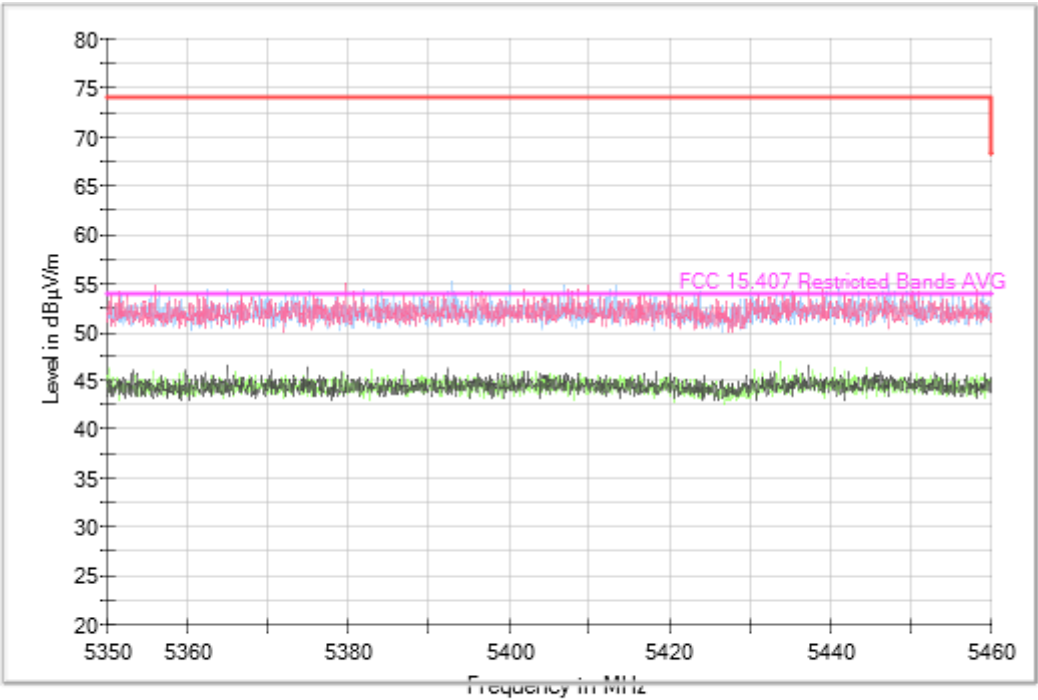
Active Port = 1 Frequency Range GHz = [1, 6.5]
Frequency MHz = 5180.00000 Modulation = 802.11a (OFDM 6 Mbit/s)
MIMO Mode = SISO

Images:





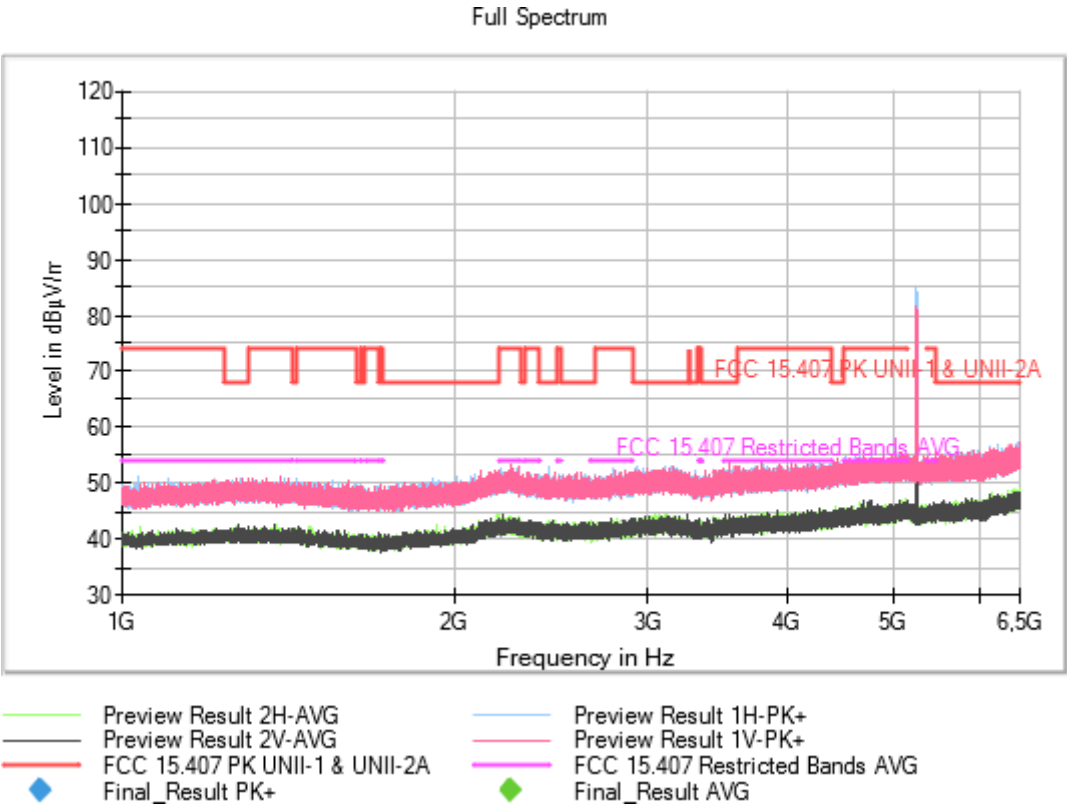
- Preview Result 2H-AVG
- Preview Result 2V-AVG
- FCC 15.407 PK UNII-1 & UNII-2A
- Final_Result PK+
- Preview Result 1H-PK+
- Preview Result 1V-PK+
- FCC 15.407 Restricted Bands AVG
- Final_Result AVG

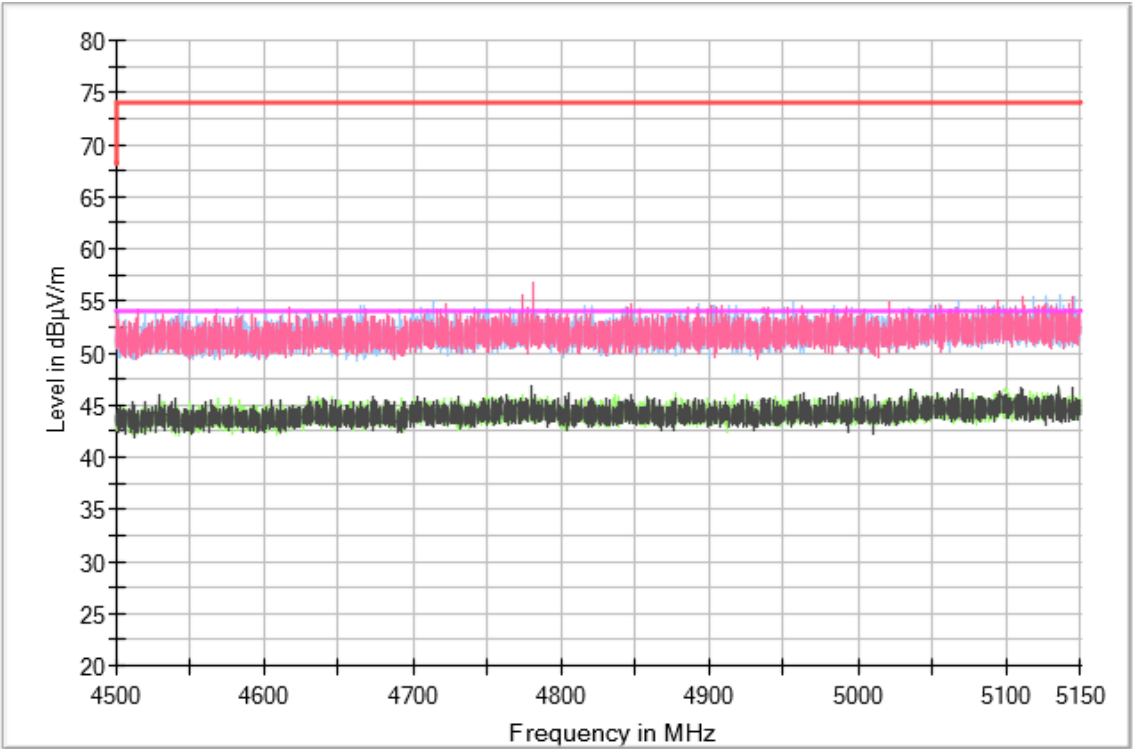


- Preview Result 2H-AVG
- Preview Result 2V-AVG
- FCC 15.407 PK UNII-1 & UNII-2A
- Final_Result PK+
- Preview Result 1H-PK+
- Preview Result 1V-PK+
- FCC 15.407 Restricted Bands AVG
- Final_Result AVG

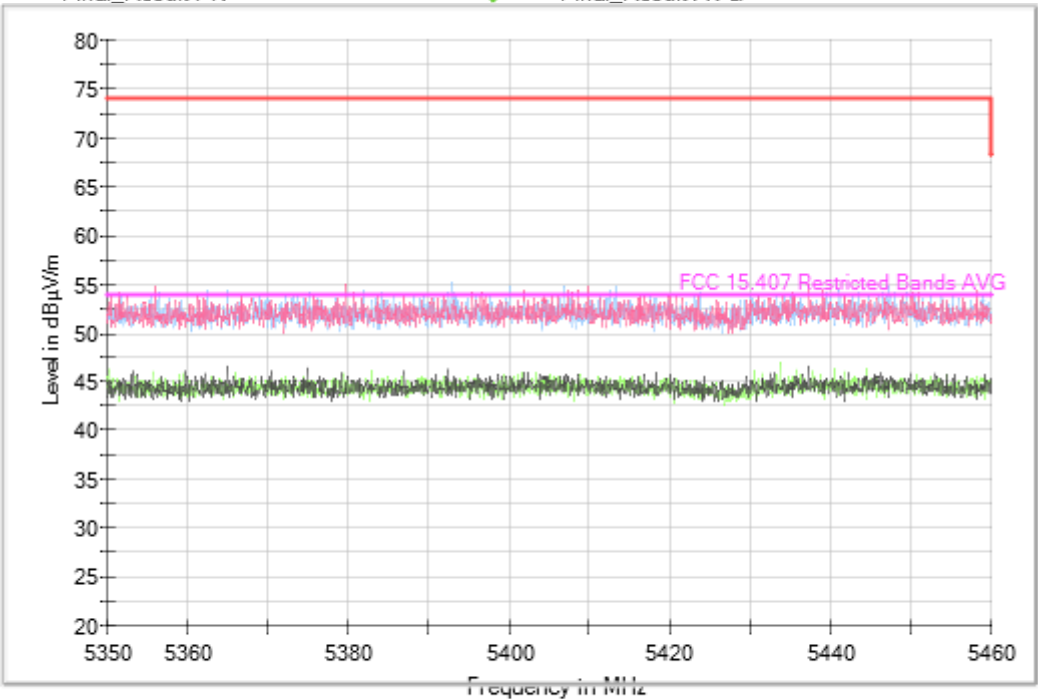
Active Port = 1 Frequency Range GHz = [1, 6.5]
Frequency MHz = 5200.00000 Modulation = 802.11a (OFDM 6 Mbit/s)
MIMO Mode = SISO

Images:





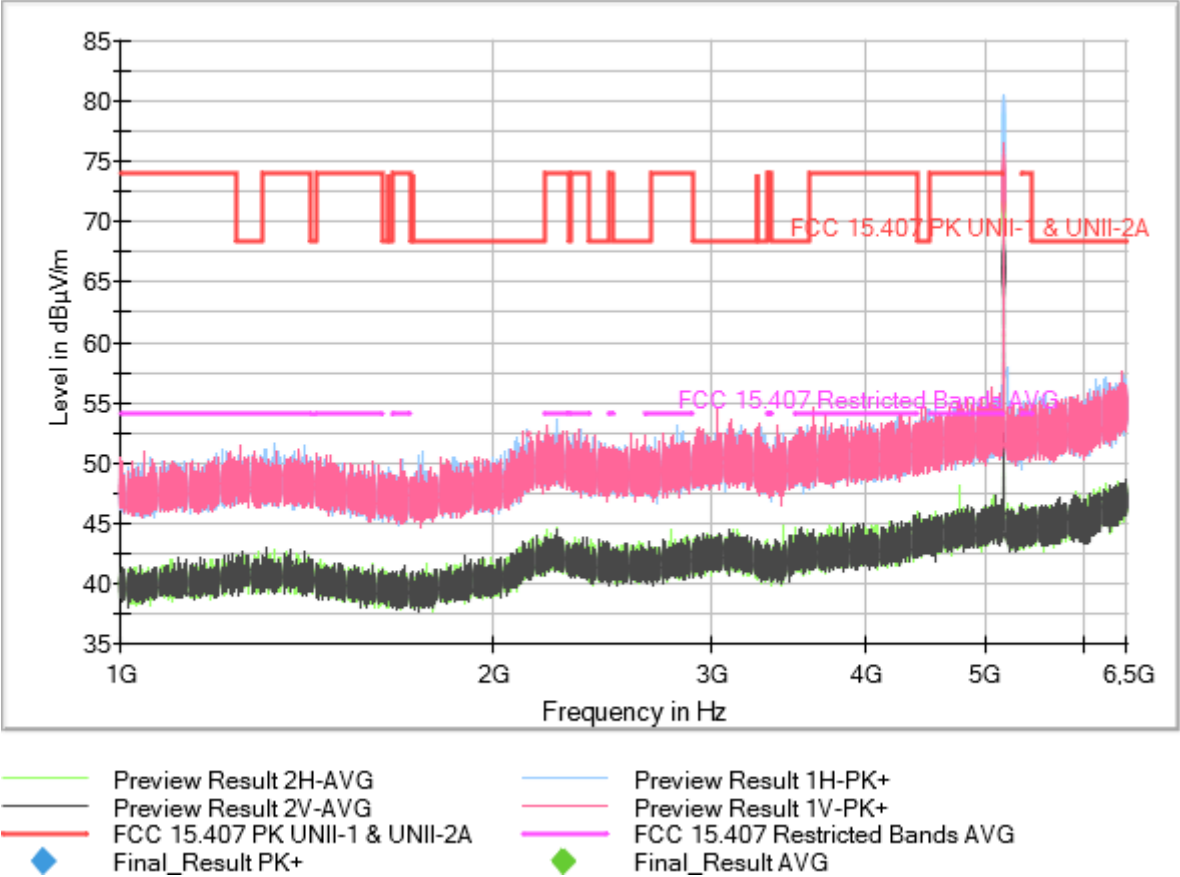
- Preview Result 2H-AVG
- Preview Result 2V-AVG
- FCC 15.407 PK UNII-1 & UNII-2A
- Final_Result PK+
- Preview Result 1H-PK+
- Preview Result 1V-PK+
- FCC 15.407 Restricted Bands AVG
- Final_Result AVG

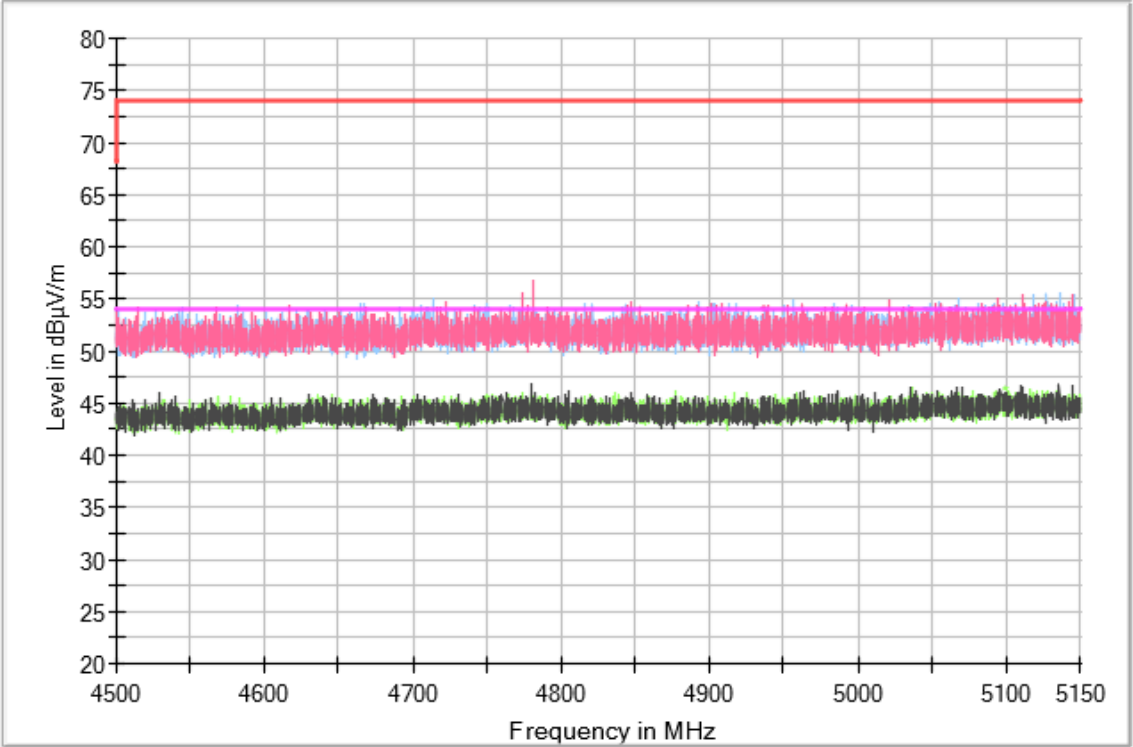


- Preview Result 2H-AVG
- Preview Result 2V-AVG
- FCC 15.407 PK UNII-1 & UNII-2A
- Final_Result PK+
- Preview Result 1H-PK+
- Preview Result 1V-PK+
- FCC 15.407 Restricted Bands AVG
- Final_Result AVG

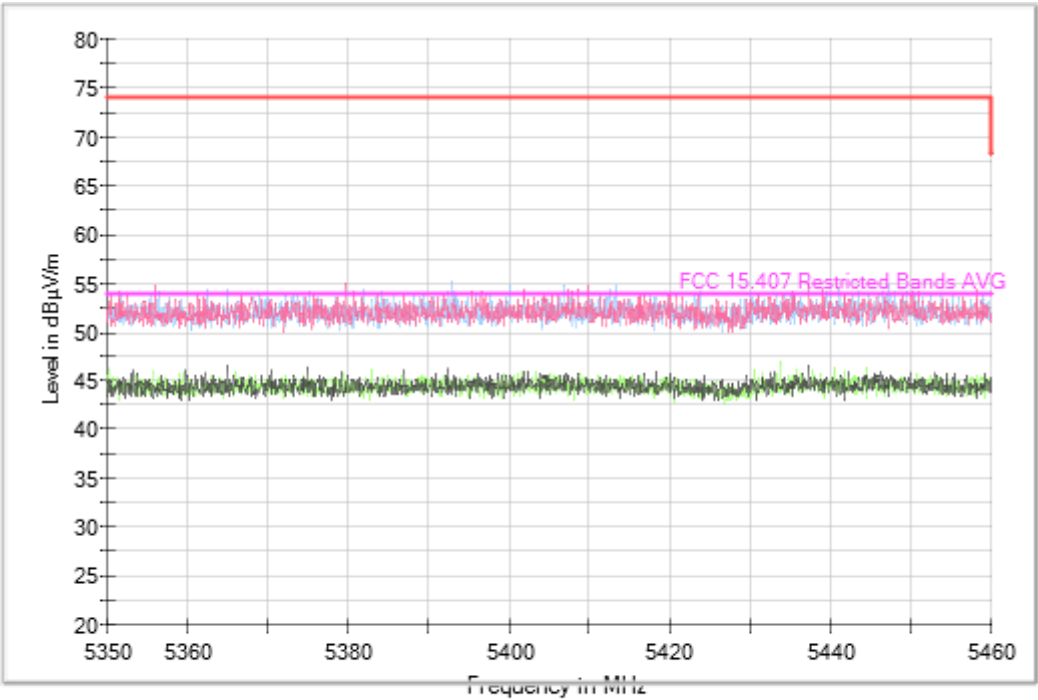
Active Port = 1 Frequency Range GHz = [1, 6.5]
Frequency MHz = 5240.00000 Modulation = 802.11a (OFDM 6 Mbit/s)
MIMO Mode = SISO

Images:





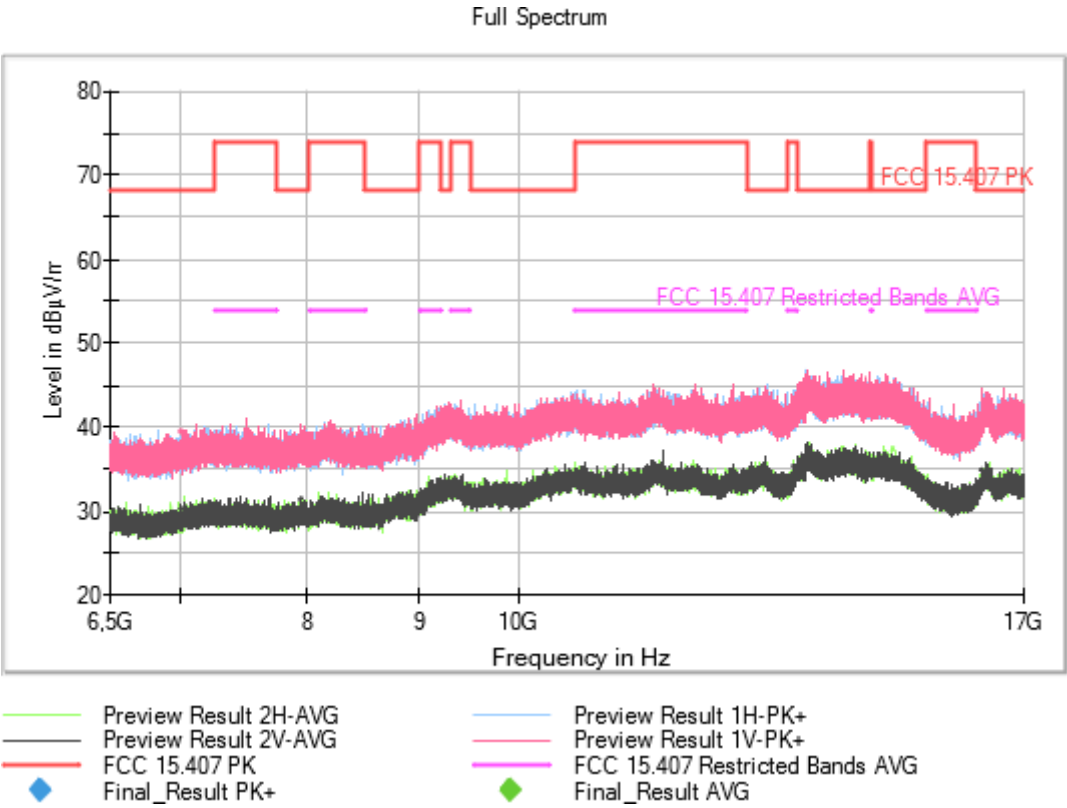
- | | |
|--------------------------------|---------------------------------|
| Preview Result 2H-AVG | Preview Result 1H-PK+ |
| Preview Result 2V-AVG | Preview Result 1V-PK+ |
| FCC 15.407 PK UNII-1 & UNII-2A | FCC 15.407 Restricted Bands AVG |
| Final_Result PK+ | Final_Result AVG |



- | | |
|--------------------------------|---------------------------------|
| Preview Result 2H-AVG | Preview Result 1H-PK+ |
| Preview Result 2V-AVG | Preview Result 1V-PK+ |
| FCC 15.407 PK UNII-1 & UNII-2A | FCC 15.407 Restricted Bands AVG |
| Final_Result PK+ | Final_Result AVG |

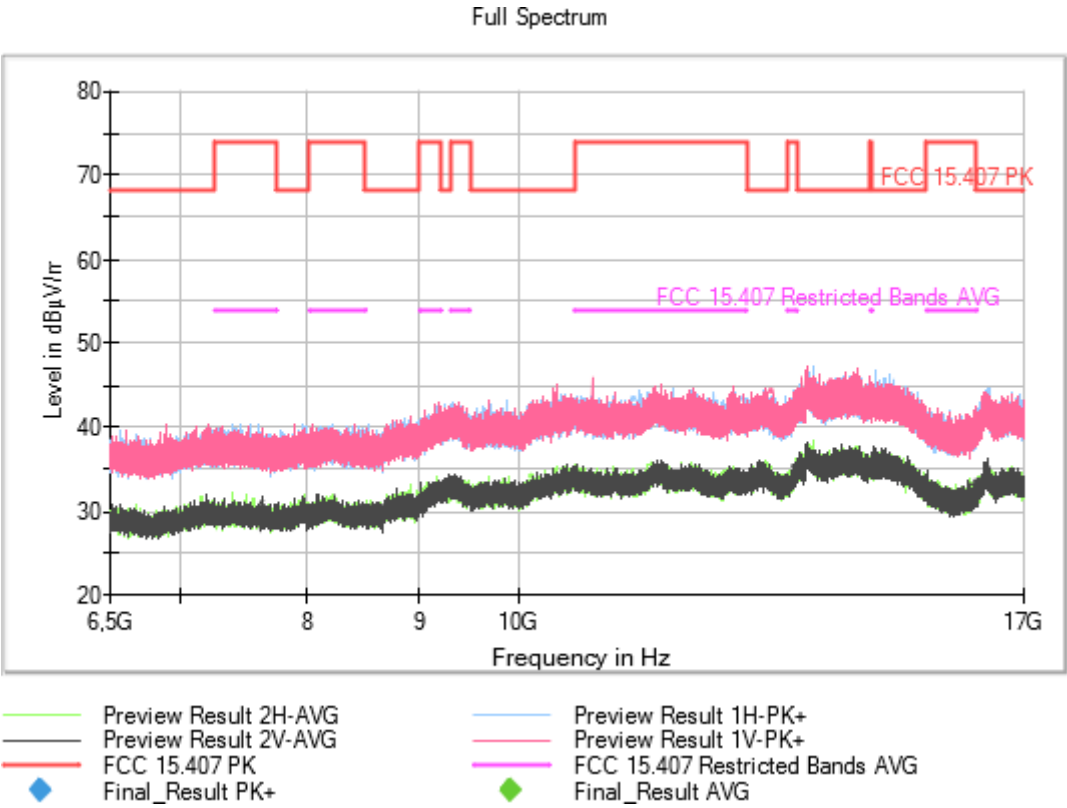
Active Port = 1 Frequency Range GHz = [6.5, 17]
Frequency MHz = 5180.00000 Modulation = 802.11a (OFDM 6 Mbit/s)
MIMO Mode = SISO

Images:



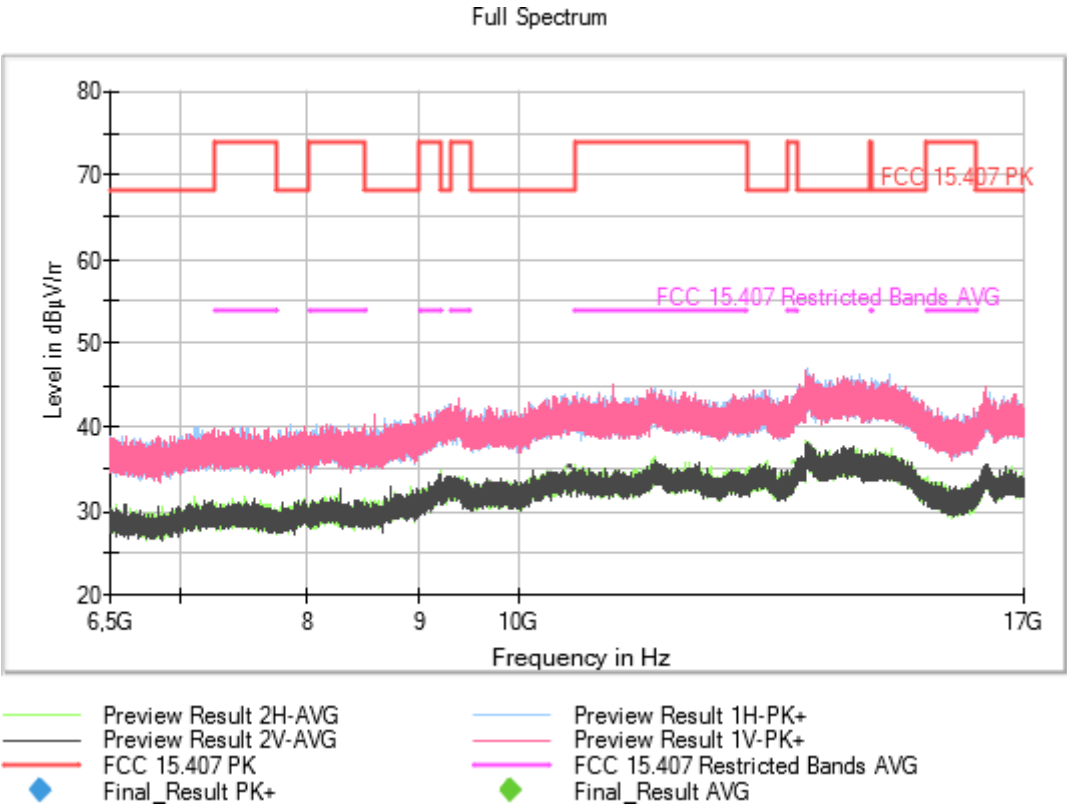
Active Port = 1 Frequency Range GHz = [6.5, 17]
Frequency MHz = 5200.00000 Modulation = 802.11a (OFDM 6 Mbit/s)
MIMO Mode = SISO

Images:



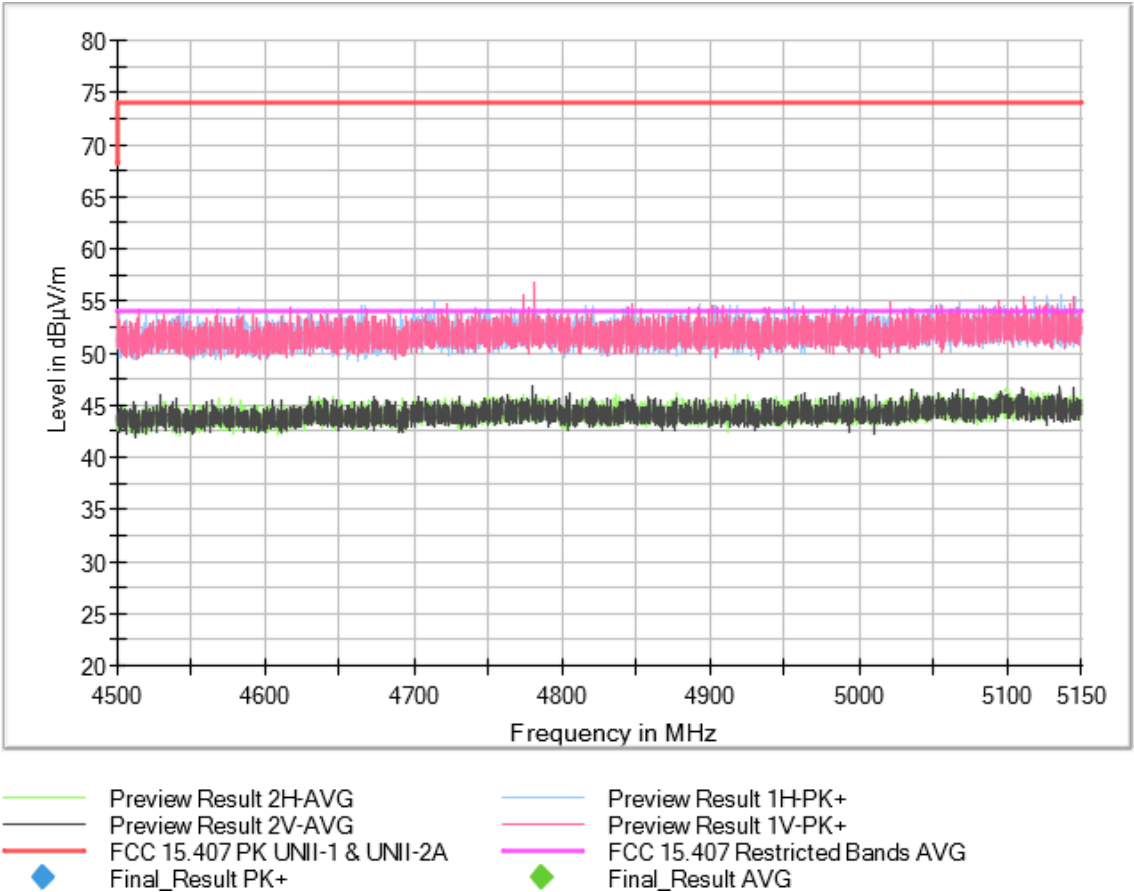
Active Port = 1 Frequency Range GHz = [6.5, 17]
Frequency MHz = 5240.00000 Modulation = 802.11a (OFDM 6 Mbit/s)
MIMO Mode = SISO

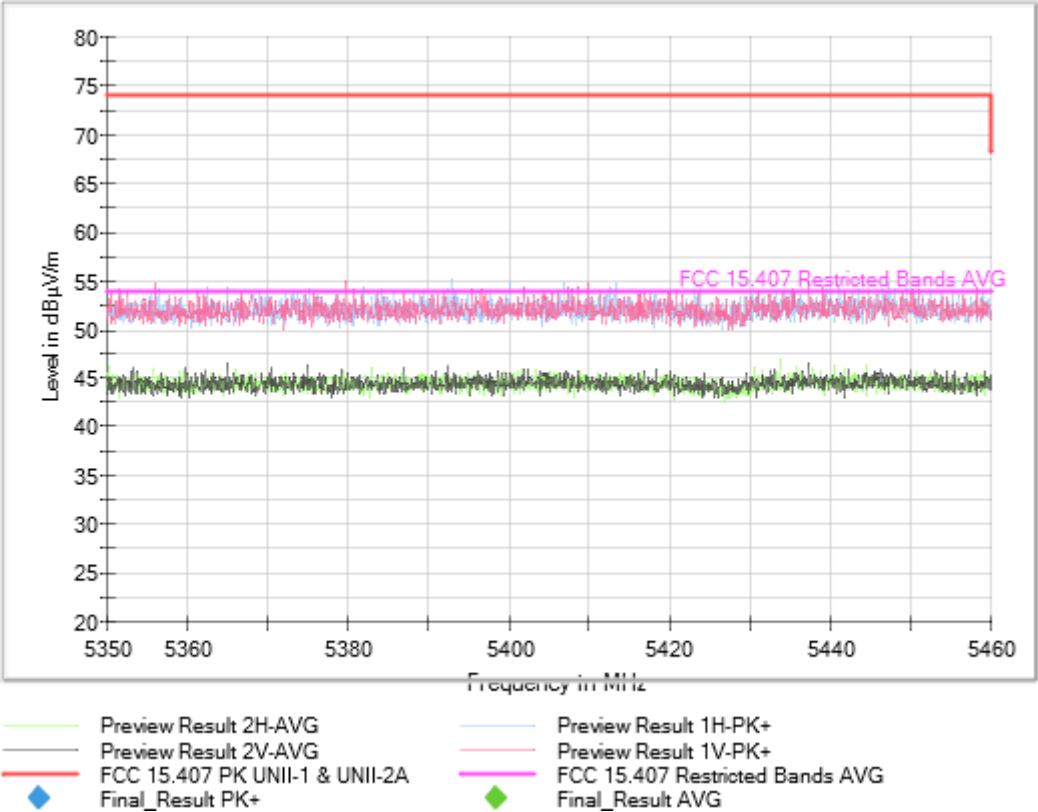
Images:



Active Port = 1 Frequency Range GHz = [1, 6.5]
Frequency MHz = 5180.00000 Modulation = 802.11n HT20 (OFDM MCS0)
MIMO Mode = SISO

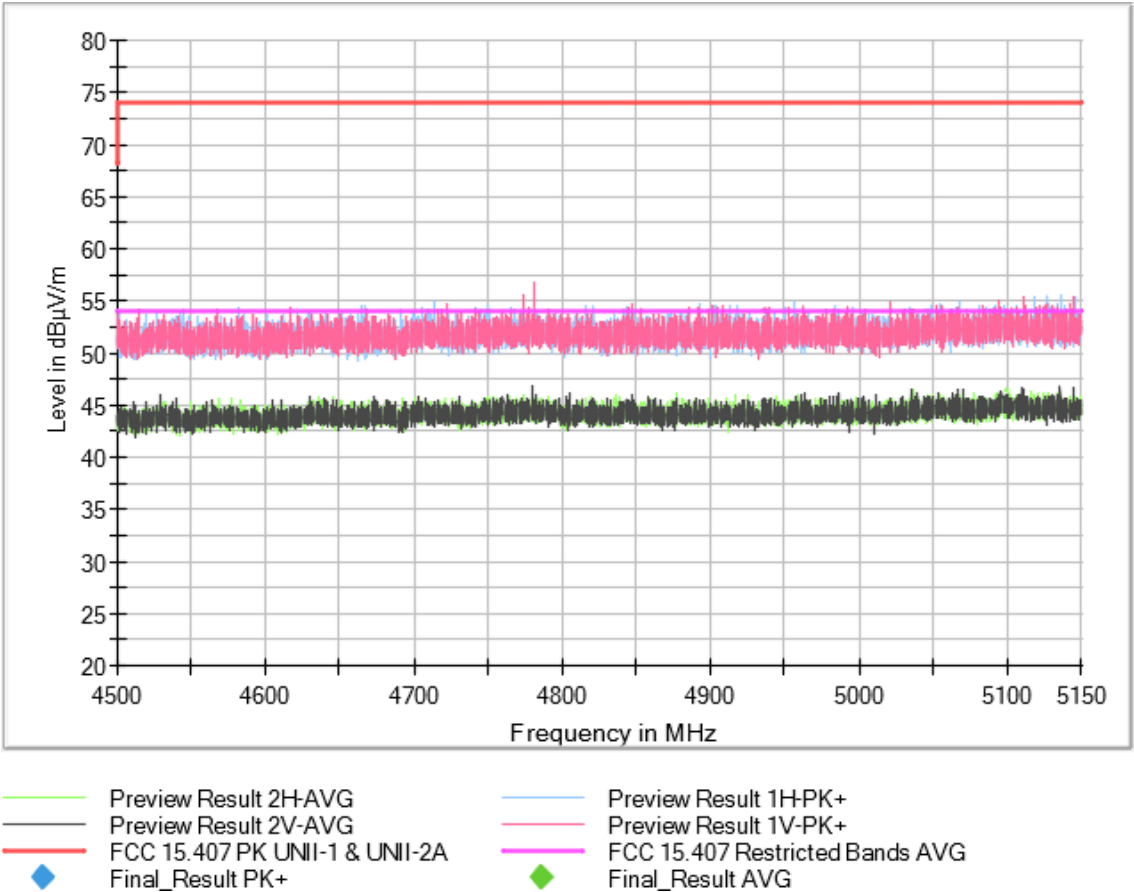
Images:

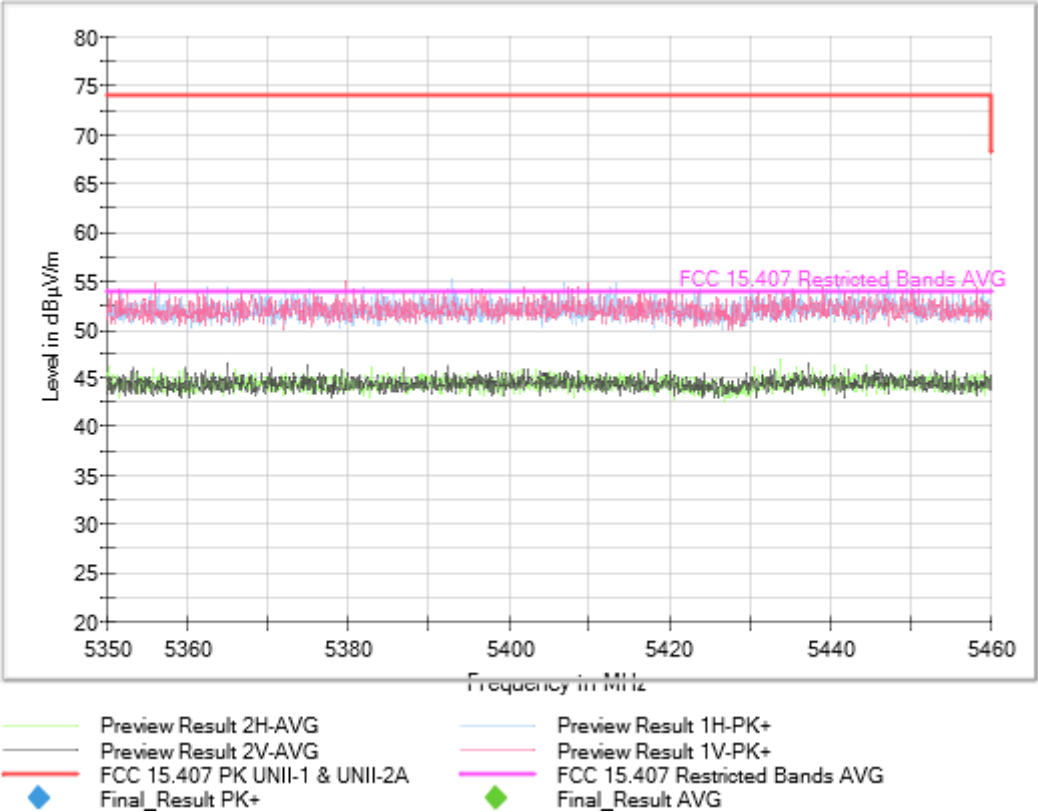




Active Port = 1 Frequency Range GHz = [1, 6.5]
Frequency MHz = 5200.00000 Modulation = 802.11n HT20 (OFDM MCS0)
MIMO Mode = SISO

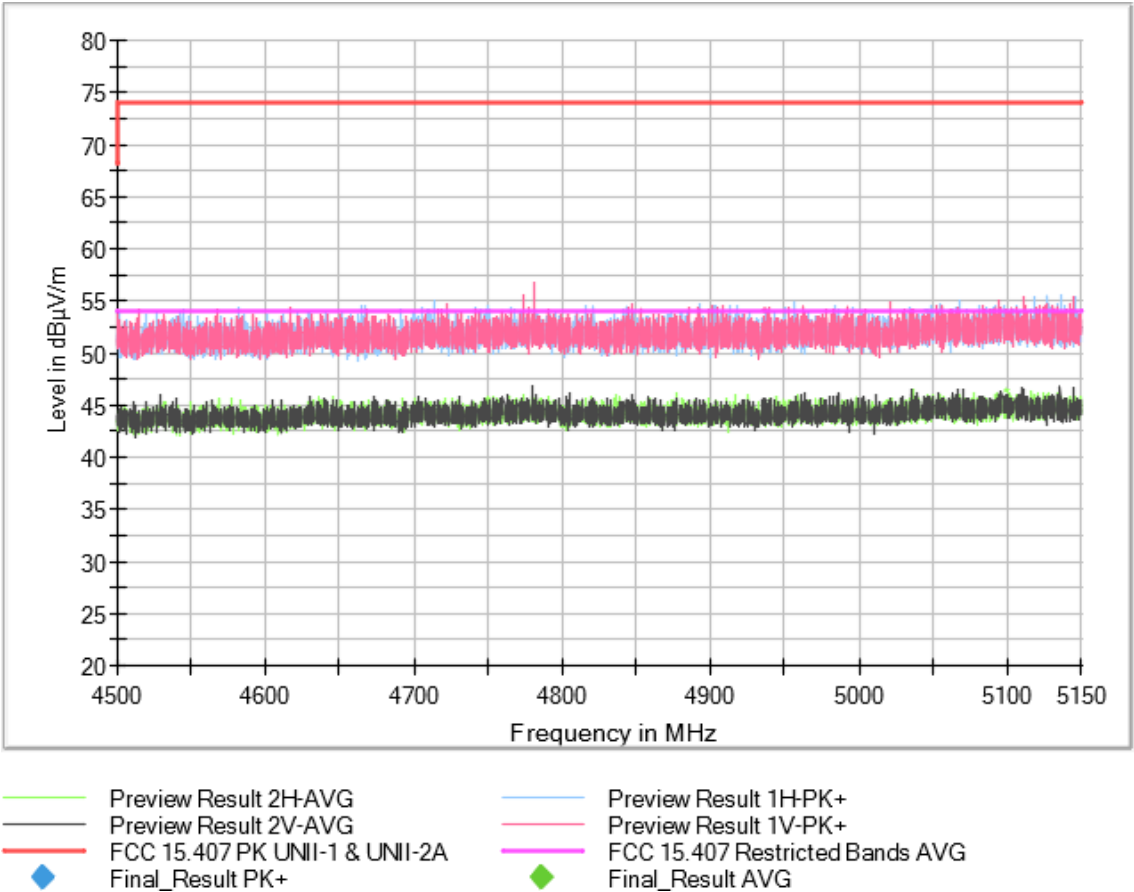
Images:

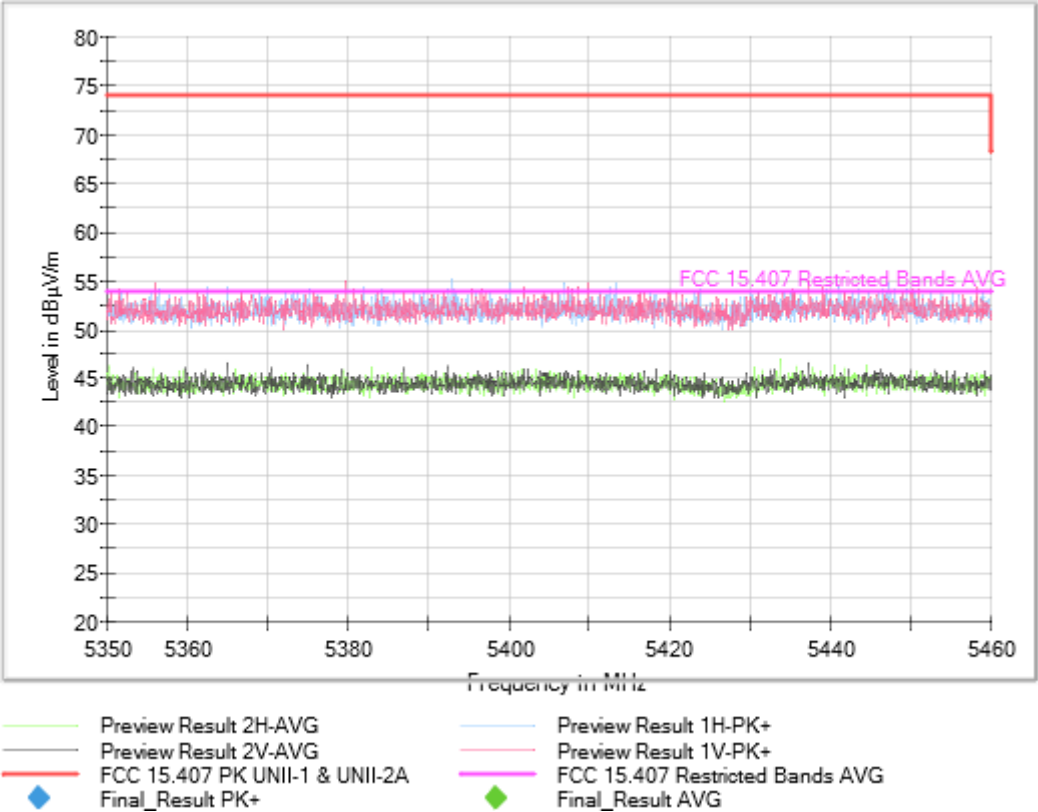




Active Port = 1 Frequency Range GHz = [1, 6.5]
Frequency MHz = 5240.00000 Modulation = 802.11n HT20 (OFDM MCS0)
MIMO Mode = SISO

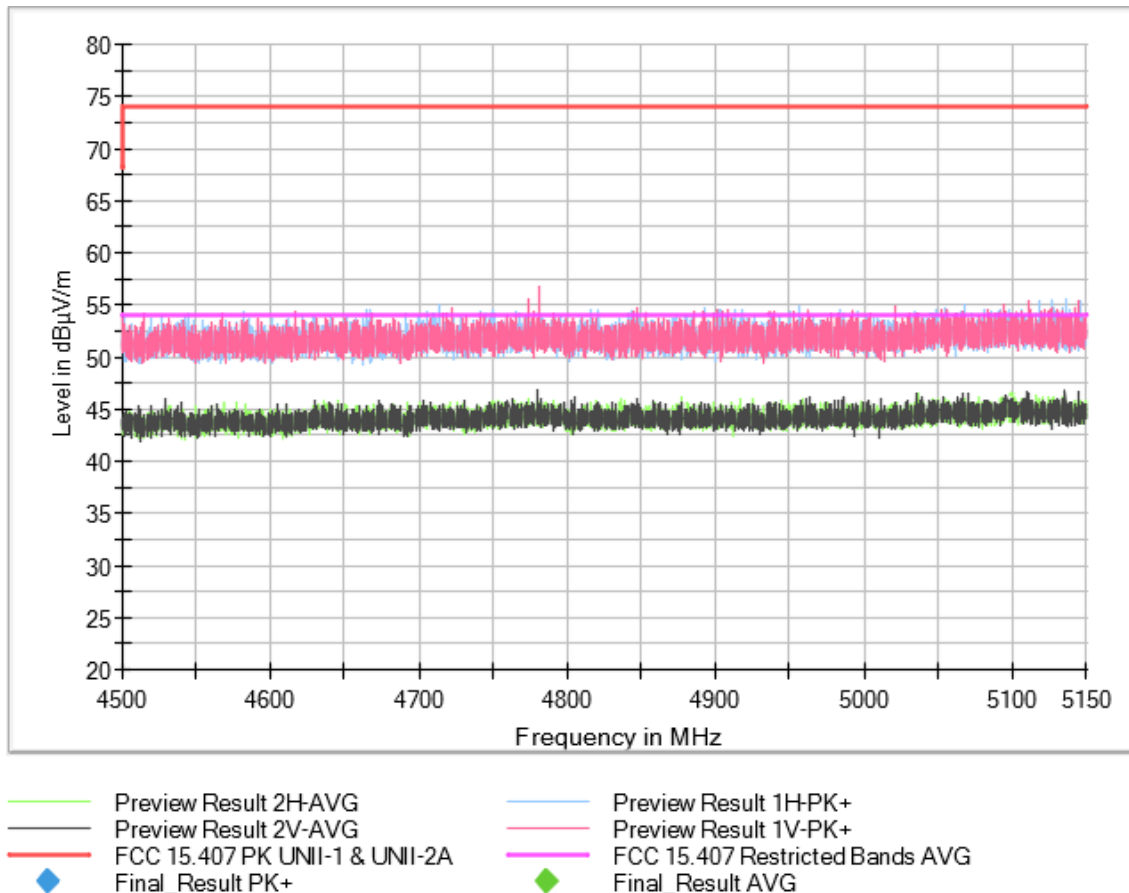
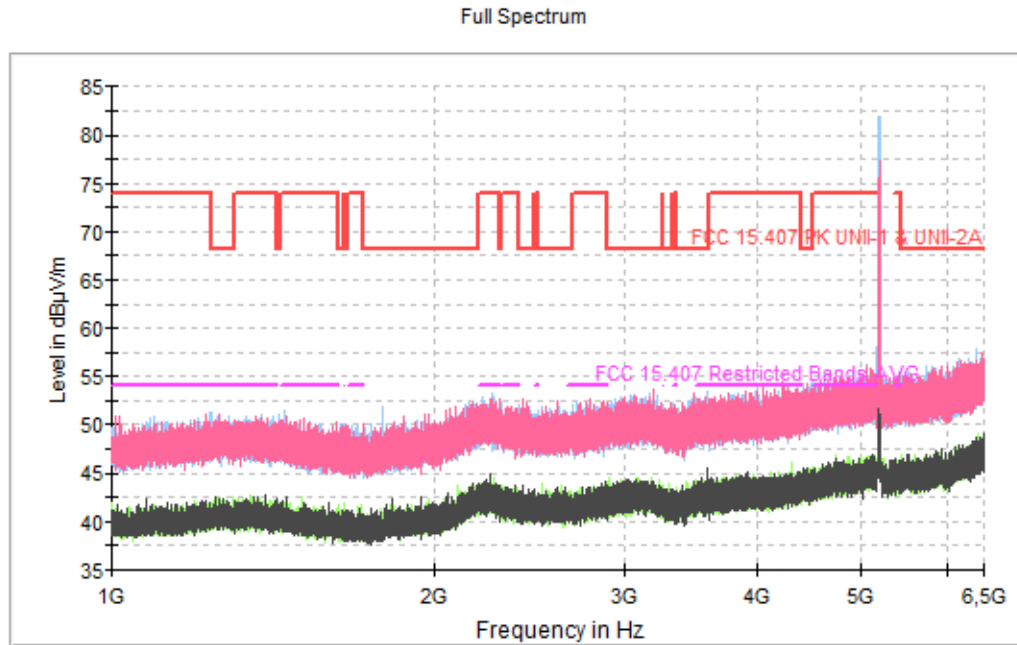
Images:

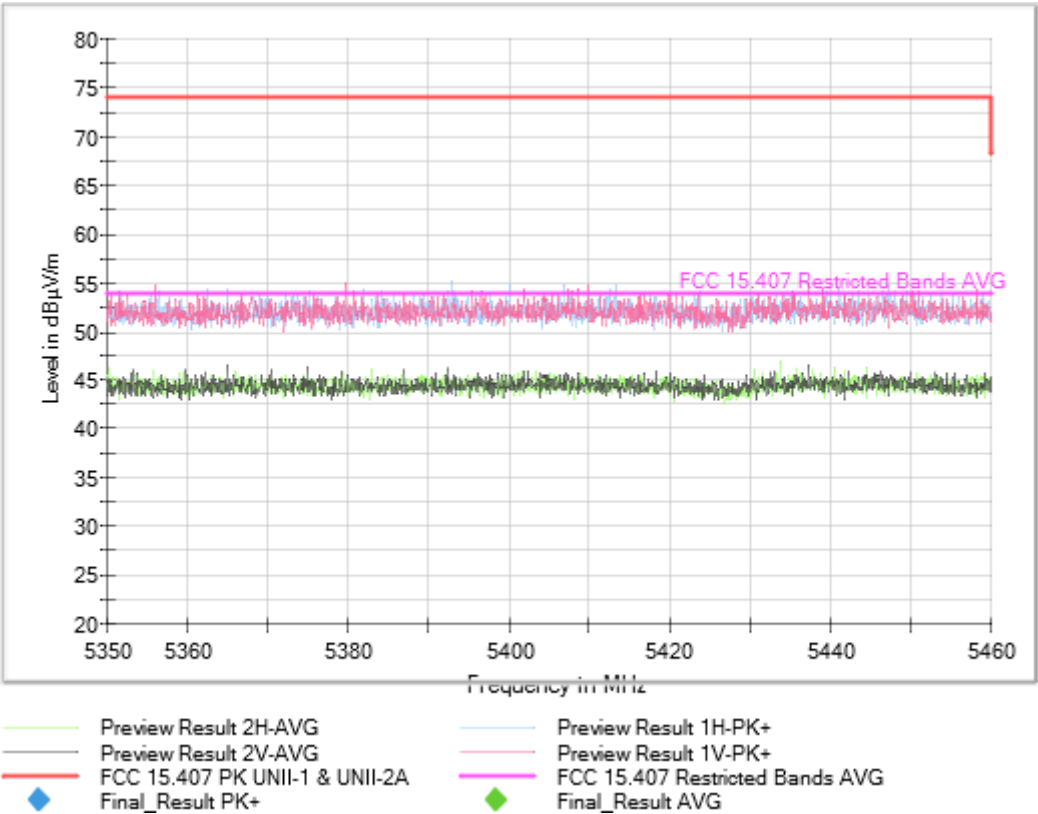




Active Port = 1 Frequency Range GHz = [1, 6.5]
Frequency MHz = 5190.00000 Modulation = 802.11n HT40 (OFDM MCS0)
MIMO Mode = SISO

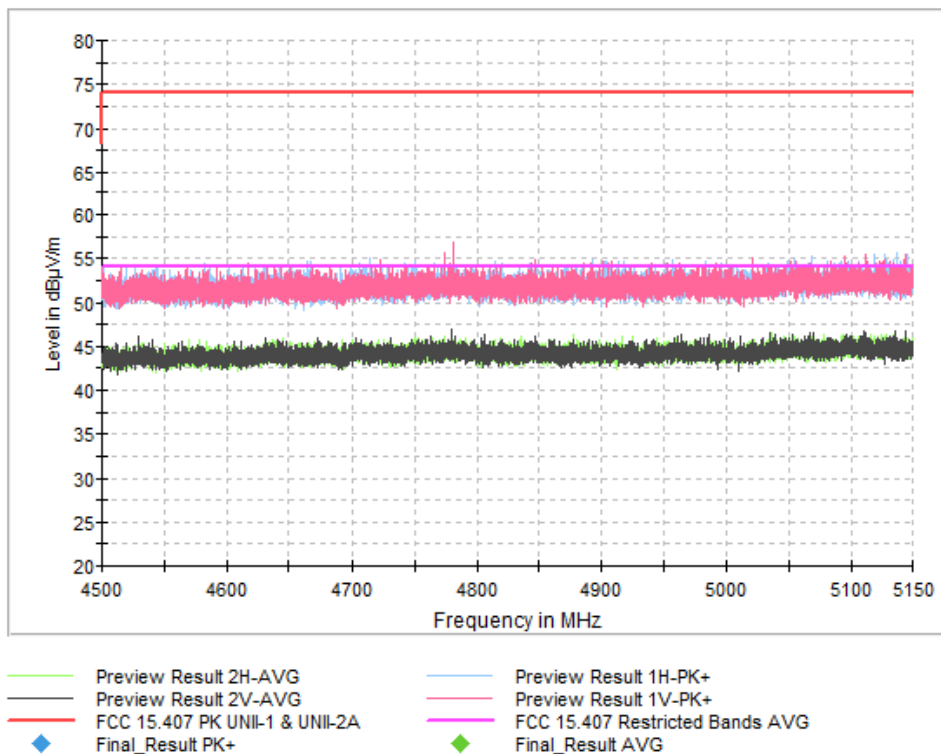
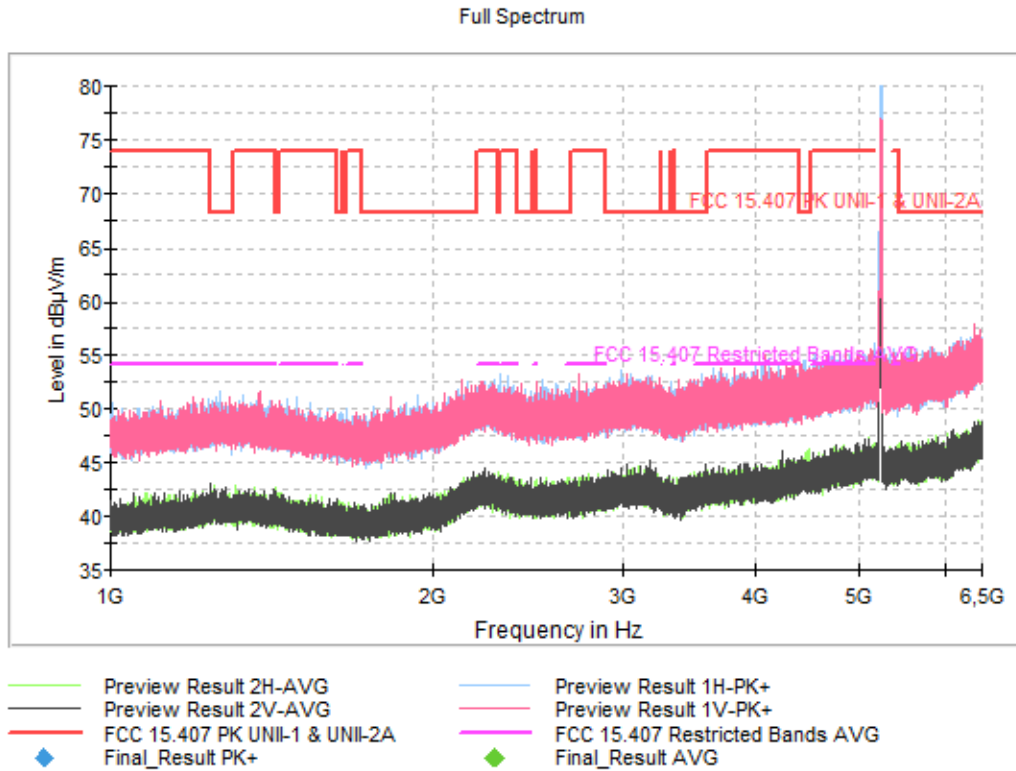
Images:

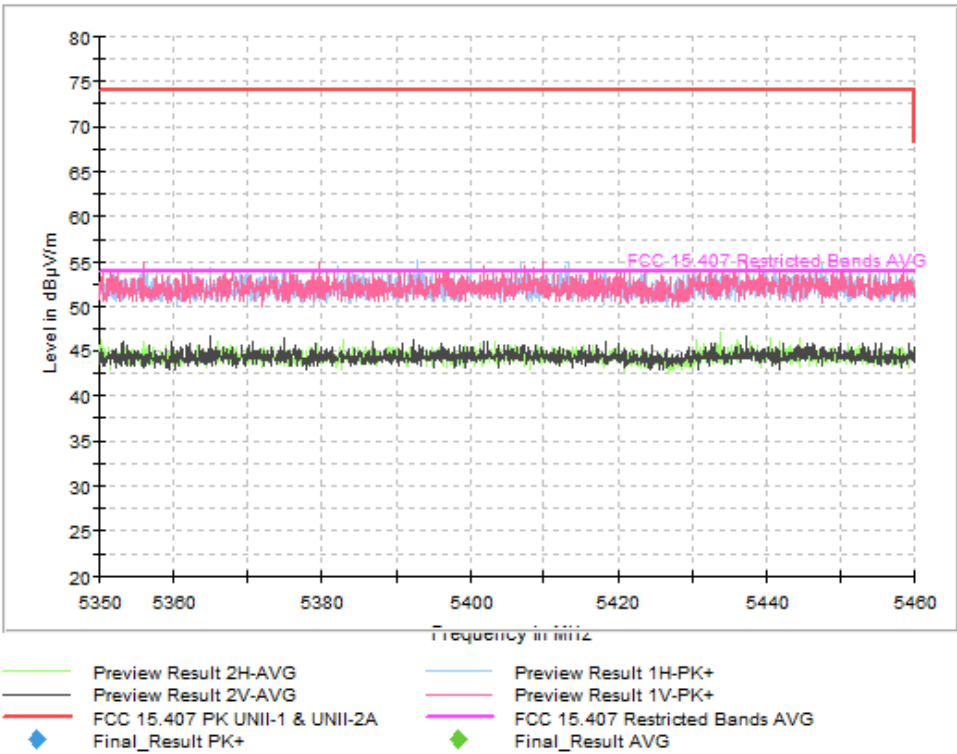




Active Port = 1
Frequency Range GHz = [1, 6.5]
Frequency MHz = 5230.00000 Modulation = 802.11n HT40 (OFDM MCS0)
MIMO Mode = SISO

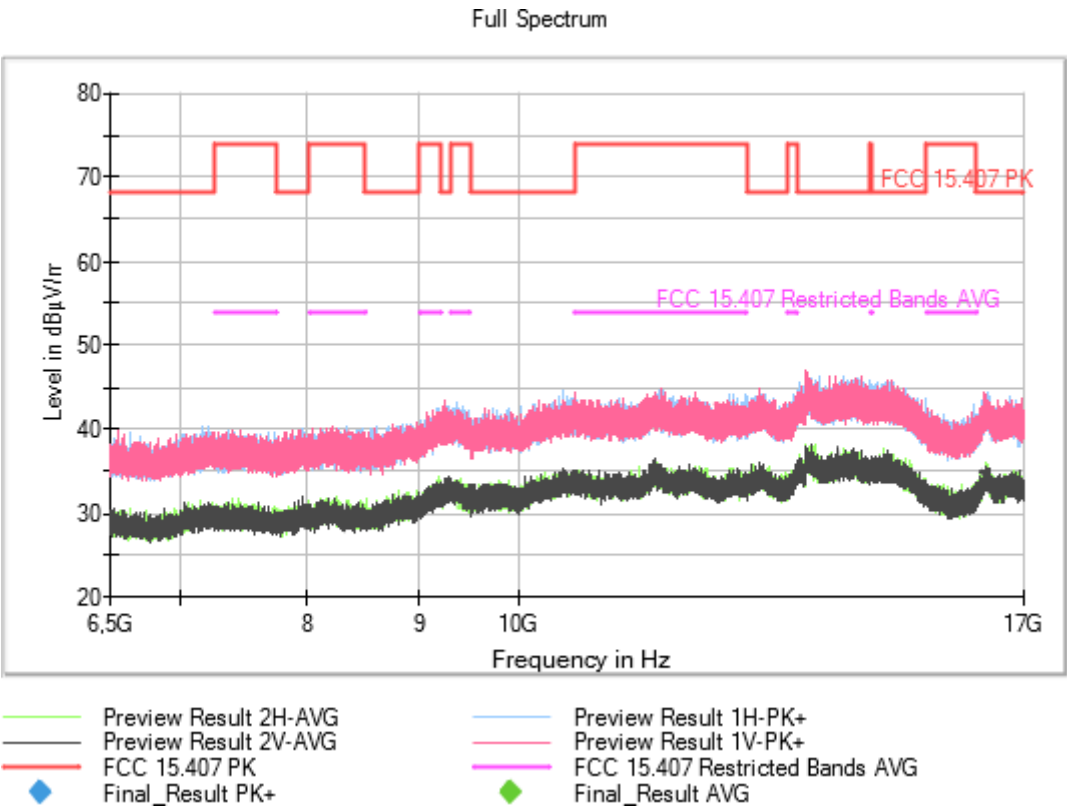
Images:





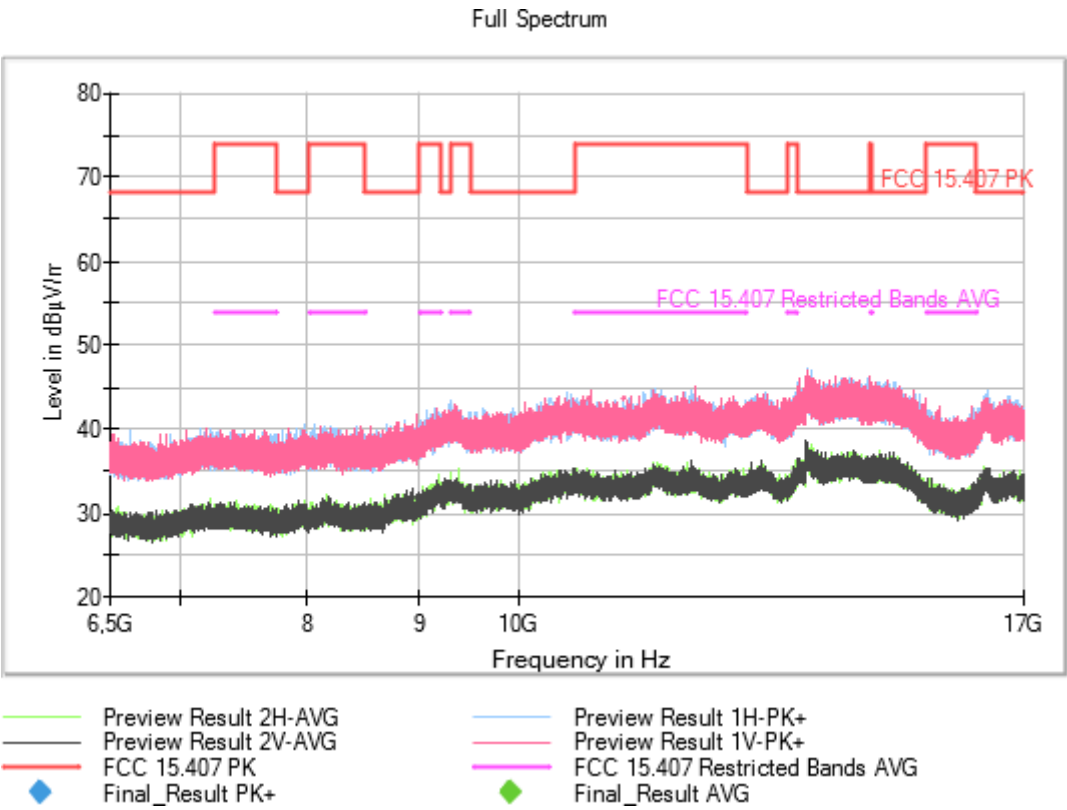
Active Port = 1 Frequency Range GHz = [6.5, 17]
Frequency MHz = 5190.00000 Modulation = 802.11n HT40 (OFDM MCS0)
MIMO Mode = SISO

Images:



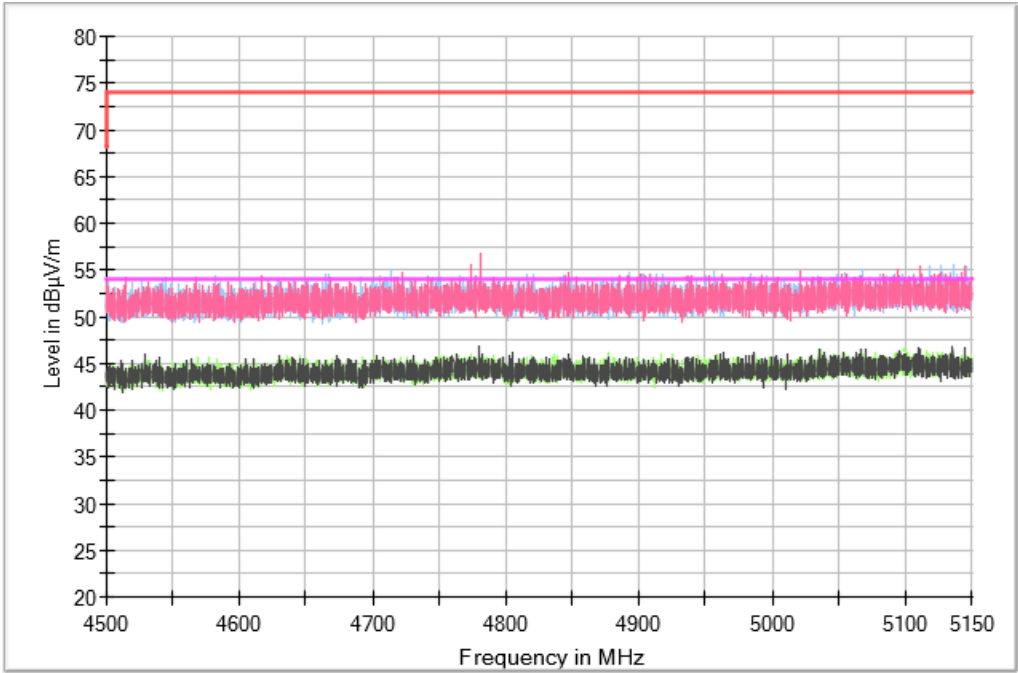
Active Port = 1 Frequency Range GHz = [6.5, 17]
Frequency MHz = 5230.00000 Modulation = 802.11n HT40 (OFDM MCS0)
MIMO Mode = SISO

Images:

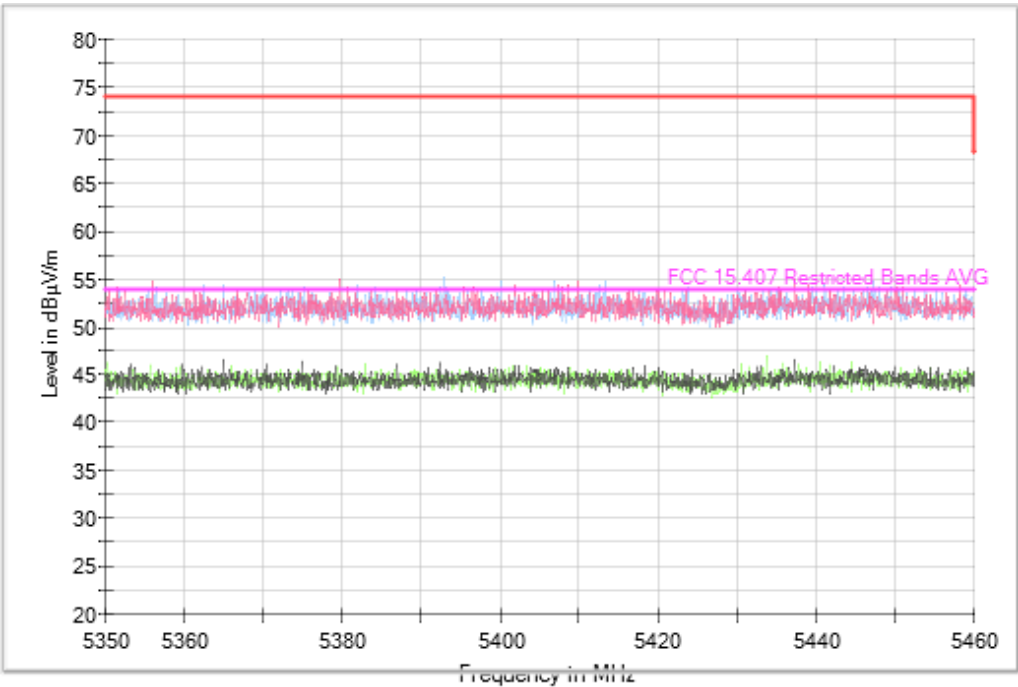


Active Port = 1 Frequency Range GHz = [1, 6.5]
Frequency MHz = 5180.00000 Modulation = 802.11ac VHT20 (OFDM MCS0)
MIMO Mode = SISO

Images:



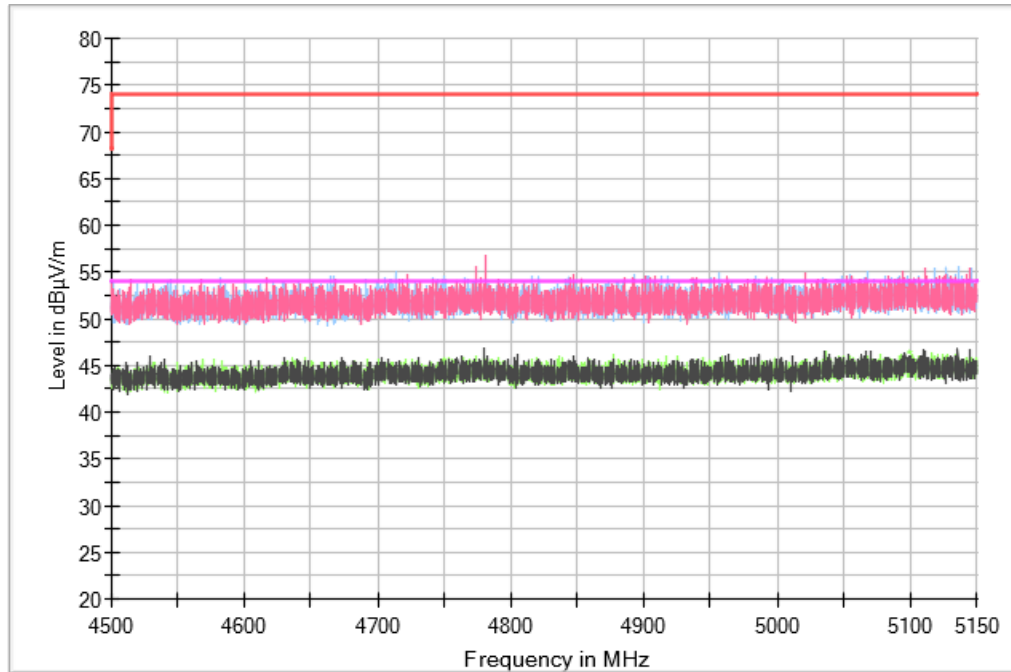
Preview Result 2H-AVG Preview Result 1H-PK+
Preview Result 2V-AVG Preview Result 1V-PK+
FCC 15.407 PK UNII-1 & UNII-2A FCC 15.407 Restricted Bands AVG
Final_Result PK+ Final_Result AVG



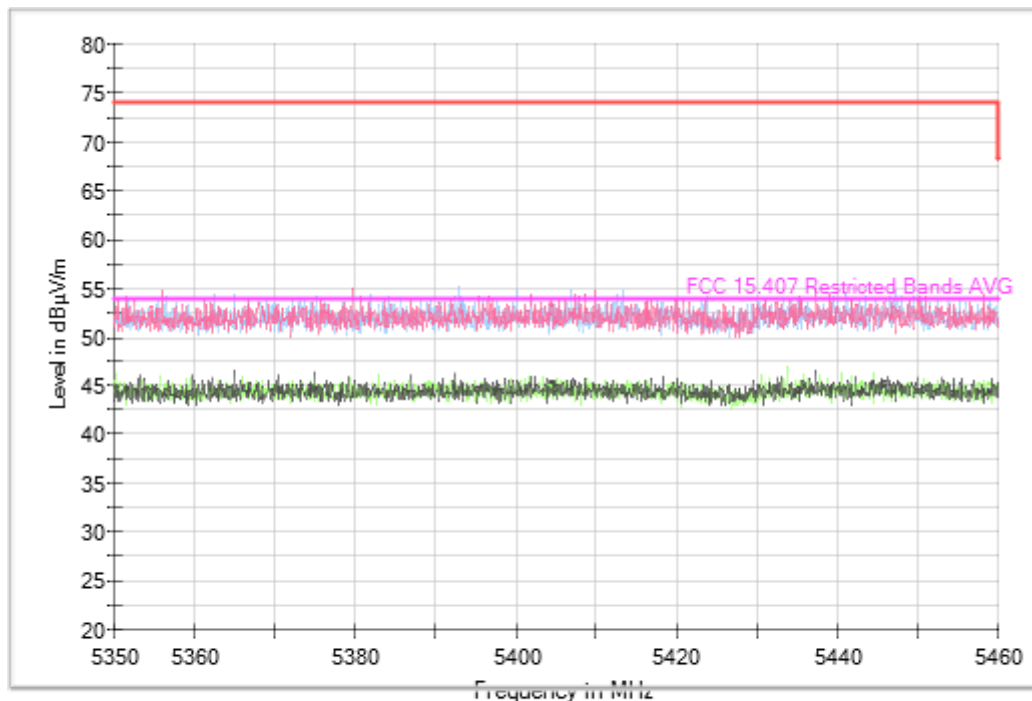
Preview Result 2H-AVG Preview Result 1H-PK+
Preview Result 2V-AVG Preview Result 1V-PK+
FCC 15.407 PK UNII-1 & UNII-2A FCC 15.407 Restricted Bands AVG
Final_Result PK+ Final_Result AVG

Active Port = 1 Frequency Range GHz = [1, 6.5]
 Frequency MHz = 5200.00000 Modulation = 802.11ac VHT20 (OFDM MCS0)
 MIMO Mode = SISO

Images:



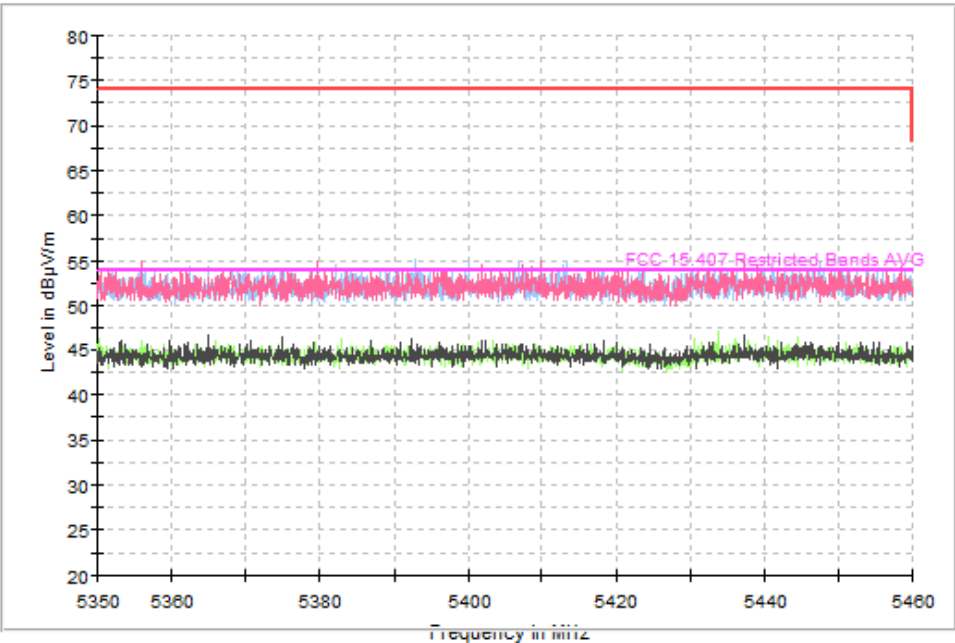
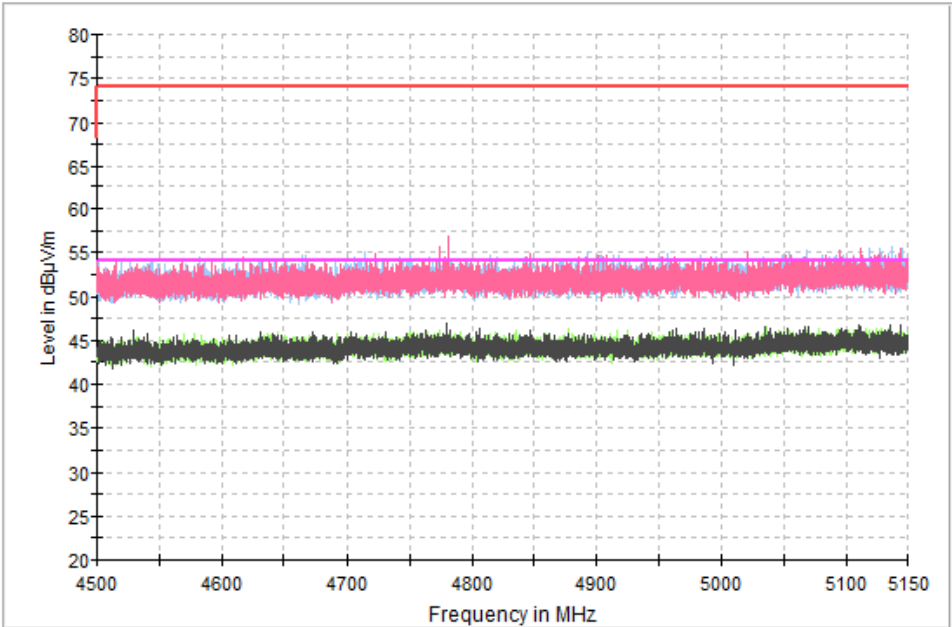
— Preview Result 2H-AVG — Preview Result 1H-PK+
— Preview Result 2V-AVG — Preview Result 1V-PK+
— FCC 15.407 PK UNII-1 & UNII-2A — FCC 15.407 Restricted Bands AVG
◆ Final_Result PK+ ◆ Final_Result AVG



— Preview Result 2H-AVG — Preview Result 1H-PK+
— Preview Result 2V-AVG — Preview Result 1V-PK+
— FCC 15.407 PK UNII-1 & UNII-2A — FCC 15.407 Restricted Bands AVG
◆ Final_Result PK+ ◆ Final_Result AVG

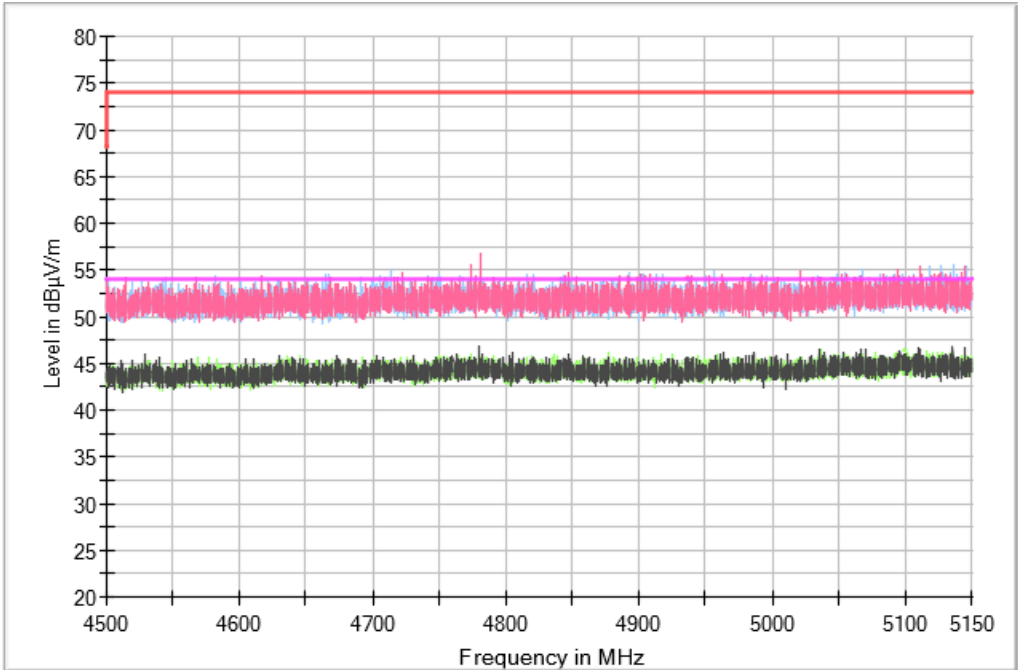
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MIMO Mode = SISO

Images:

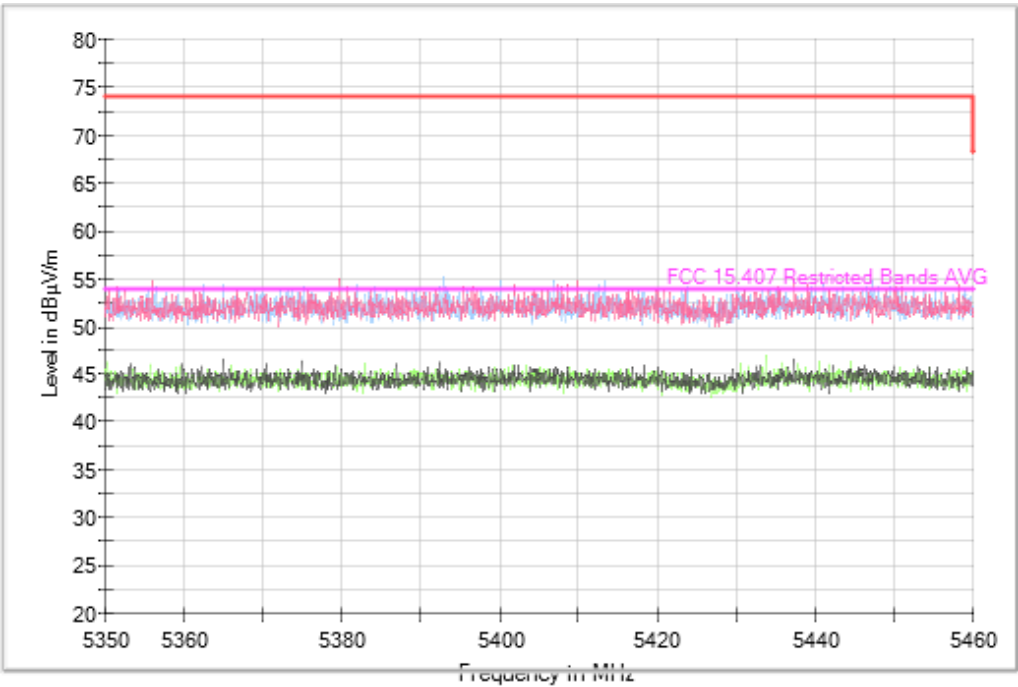


Active Port = 1 Frequency Range GHz = [1, 6.5]
Frequency MHz = 5190.00000 Modulation = 802.11ac VHT40 (OFDM MCS0)
MIMO Mode = SISO

Images:



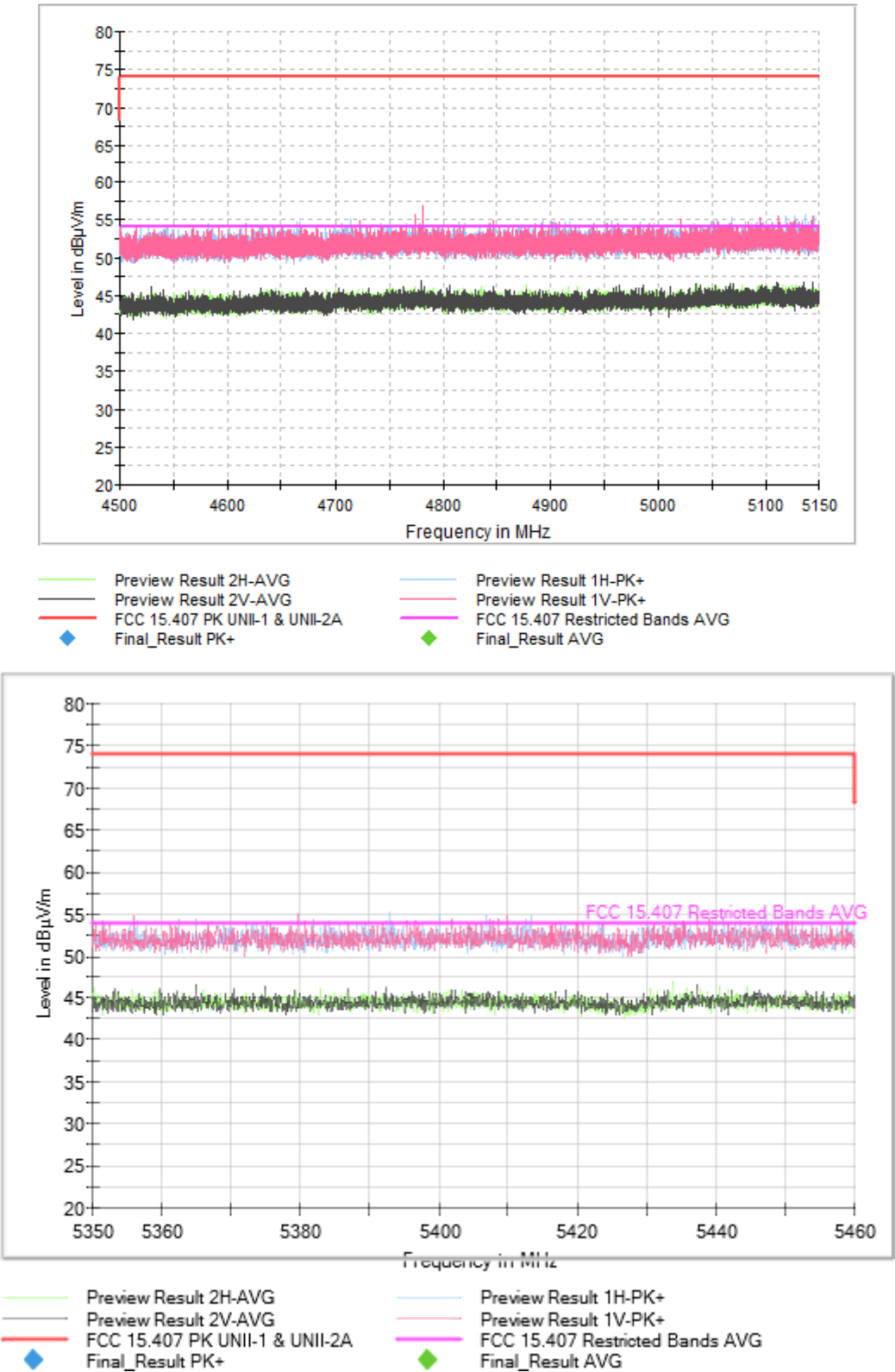
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Preview Result 2V-AVG Preview Result 1V-PK+
FCC 15.407 PK UNII-1 & UNII-2A FCC 15.407 Restricted Bands AVG
Final_Result PK+ Final_Result AVG



Preview Result 2H-AVG Preview Result 1H-PK+
Preview Result 2V-AVG Preview Result 1V-PK+
FCC 15.407 PK UNII-1 & UNII-2A FCC 15.407 Restricted Bands AVG
Final_Result PK+ Final_Result AVG

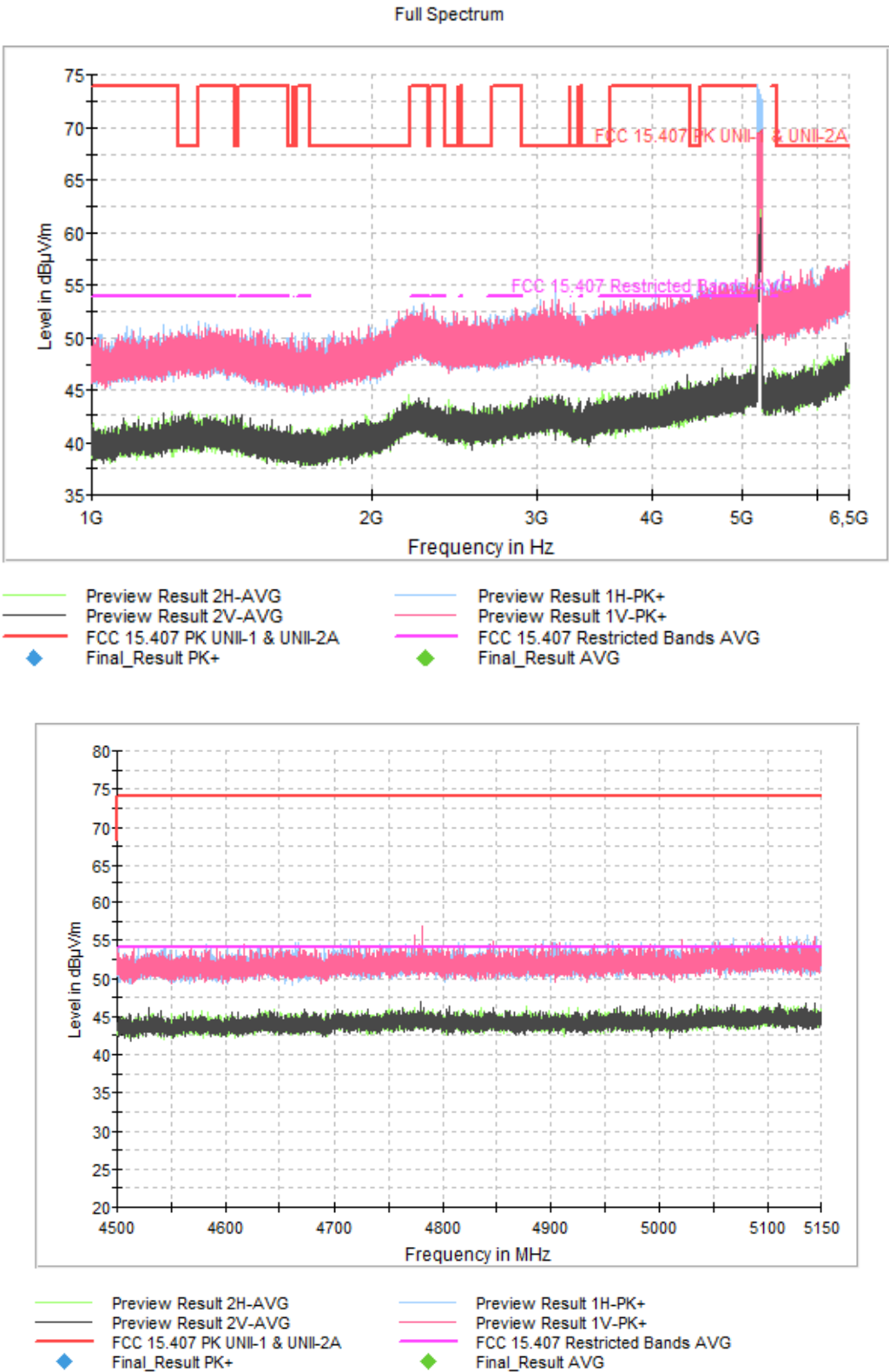
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Frequency MHz = 5230.00000 Modulation = 802.11ac VHT40 (OFDM MCS0)
MIMO Mode = SISO

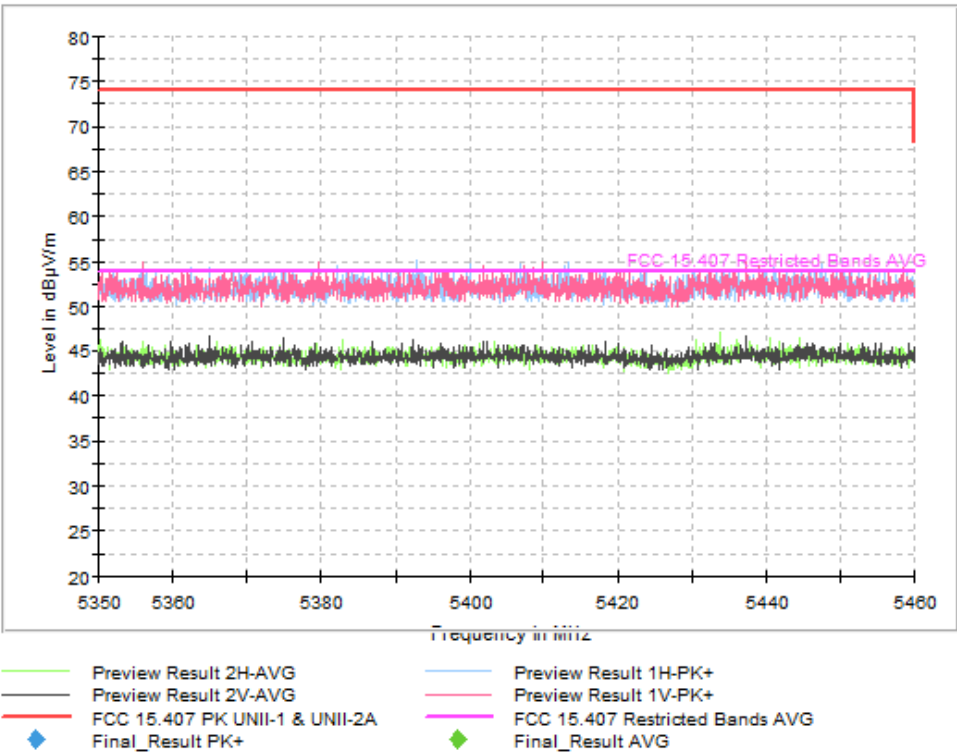
Images:



Active Port = 1 Frequency Range GHz = [1, 6.5]
Frequency MHz = 5210.00000 Modulation = 802.11ac VHT80 (OFDM MCS0)
MIMO Mode = SISO

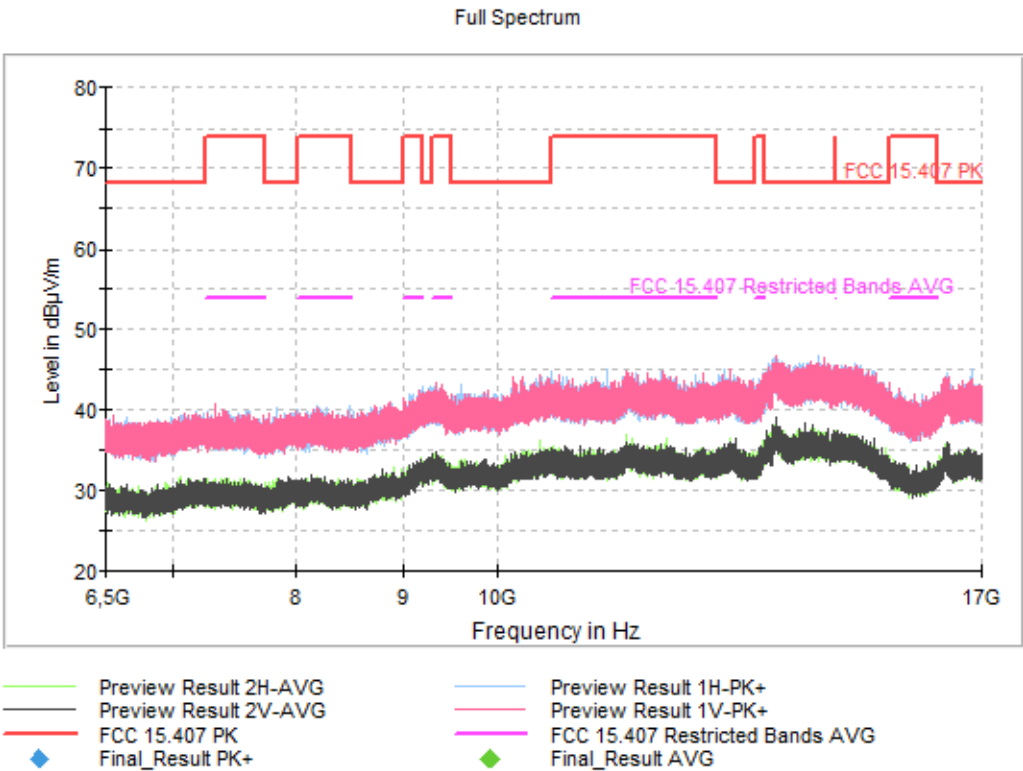
Images:





Active Port = 1 Frequency Range GHz = [6.5, 17]
Frequency MHz = 5210.00000 Modulation = 802.11ac VHT80 (OFDM MCS0)
MIMO Mode = SISO

Images:



Appendix B: Test result for 5.25 GHz - 5.35 GHz

INDEX

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<i>RSS-247 6.2.2.2 / FCC 15.407 (b) (2) [Bndedge] Transmitter Band Edge Radiated Emissions for U-NII-2A.</i>	<i>177</i>
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TEST CONDITIONS

(*): Data provided by the client.

POWER SUPPLY (*):

Vnominal: 12 V DC
Type of Power Supply: External power supply

ANTENNA (*):

Type of Antenna: External
Maximum Declared Antenna Gain: 3.26

TEST FREQUENCIES (*):

Technology Tested:	WLAN (IEEE 802.11 n2040 / ac80 1x1) / U-NII-2A	
	802.11 n HT20: MCS0 to MCS23 (SISO)	
	802.11 n HT40: MCS0 to MCS23 (SISO)	
	802.11 ac VHT80: MCS0 to MCS9 (SISO)	
Setting of cores / ports:	WLAN1	
Beamforming:	No.	
Frequency Range:	5250 - 5350 MHz	
Power Settings:	Conducted tests: 19 dBm. Radiated tests: 13 dBm.	
Operating Channel Bandwidth:	20 MHz	
Transmission Channels:	Channels	Channel Frequency (MHz)
	Low: 52	5260
	Middle: 60	5300
	High: 64	5320
Operating Channel Bandwidth:	40 MHz	
Transmission Channels:	Channels	Channel Frequency (MHz)
	Low: 54	5270
	High: 62	5310
Operating Channel Bandwidth:	80 MHz	
Transmission Channels:	Channels	Channel Frequency (MHz)
	Single: 58	5290

POWER SETTING (*):

For 802.11 a, the power level is always 10 dBm and the modulation group is 1.
For 802.11 n, the power level is always 10 dBm and the modulation group is 1.
For 802.11 ac, the power level is always 6 dBm and the modulation group is 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/modulations types.

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

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

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

- 802.11 a20: 6 Mbps
- 802.11 n HT20: MCS0
- 802.11 n HT40: MCS0
- 802.11 ac VHT20: MCS0
- 802.11 ac VHT40: MCS0
- 802.11 ac VHT80: MCS0

CONDUCTED MEASUREMENTS:

The equipment under test was set up in a shielded room and it is connected to the TS8997 using a low loss RF cable. The reading of the spectrum analyser is corrected taking into account the cable loss.



RADIATED MEASUREMENTS:

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna (Bilog antenna for the range between 30 MHz to 1000 MHz and 1 GHz-17 GHz Double ridge horn antenna) is situated at a distance of 3 m and at a distance of 1.5 m for the frequency range 17 GHz-26 GHz (17 GHz-40 GHz horn antenna).

For radiated emissions in the range 17 GHz-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.

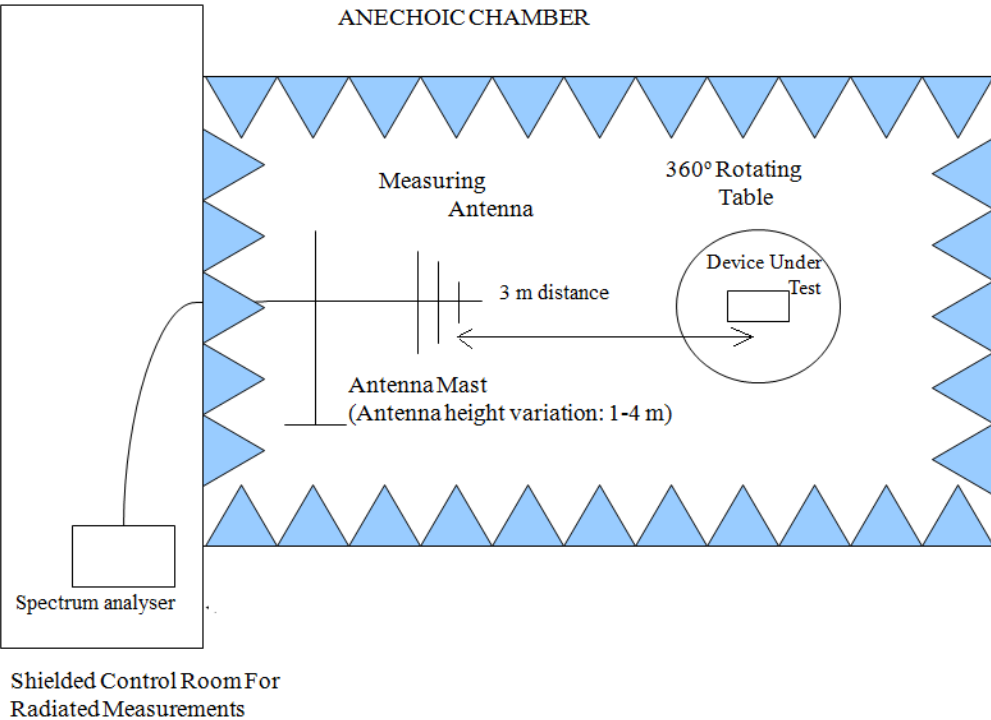
The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° and the antenna height (Bilog antenna and Double ridge horn antenna) was varied from 1 to 4 meters to find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

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

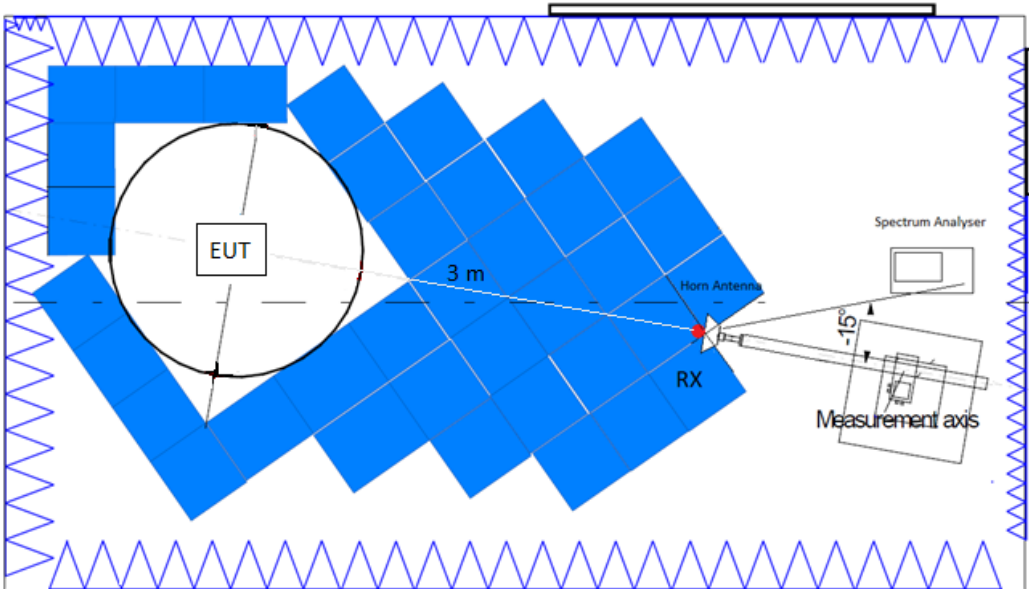
The final measured value, for the given emission, in the tables below incorporates the calibrated antenna factor and cable loss.

A resolution bandwidth/video bandwidth of 100 kHz / 300 kHz was used for frequencies below 1 GHz and 1 MHz / 3 MHz for frequencies above 1 GHz.

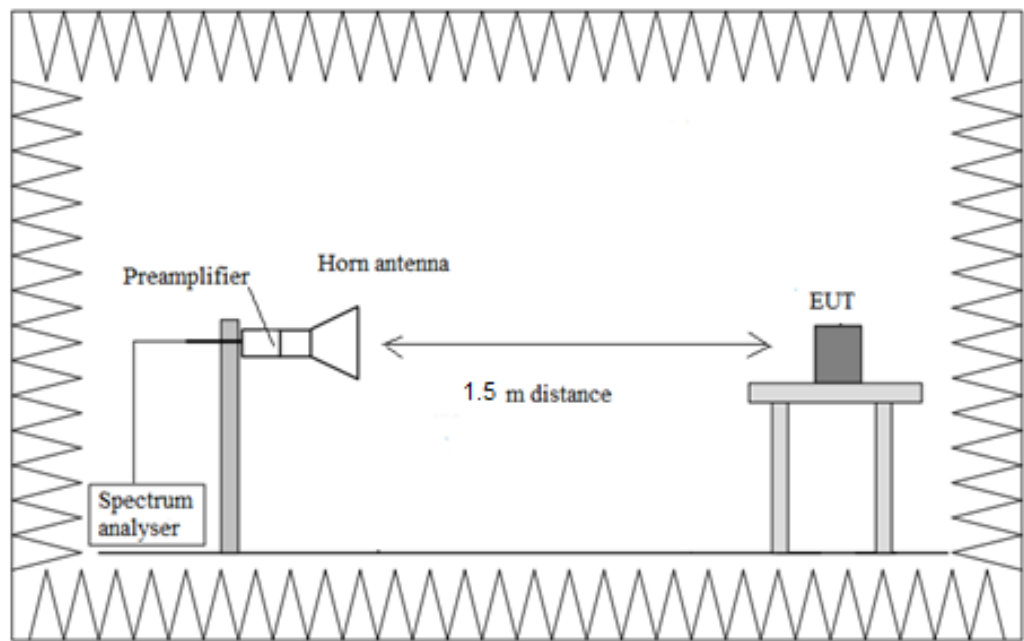
Radiated measurements setup from 30 MHz to 1 GHz:



Radiated measurements setup from 1 GHz to 17 GHz:



Radiated measurements setup $f > 17\text{ GHz}$:



RSS-247 6.2.2.1 / FCC 15.407 (a) (2) [Avcp] Maximum Conducted output power U-NII-2A

Limits

FCC 15.407 (a)(2): For the 5.25-5.35 GHz band, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 + 10 \log_{10} B$, dBm, 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.

RSS-247 6.2.2.1: Devices, other than devices installed in vehicles, shall comply with the following:

- The maximum conducted output power shall not exceed 250 mW or $11 + 10 \log_{10} B$, dBm, whichever is less;
- The maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log_{10} B$, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Modulation: 802.11n HT20 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	TPC	Avg Power (dBm)	Max EIRP (dBm)
1	5260.00000	No	4.82	8.08
	5280.00000		4.59	7.86
	5320.00000		4.97	8.23

Modulation: 802.11n HT40 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	TPC	Avg Power (dBm)	Max EIRP (dBm)
1	5270.00000	No	4.72	7.98
	5310.00000		4.69	7.95

Modulation: 802.11a (OFDM 6 Mbit/s)

MIMO Mode: SISO

Results

Port	Freq (MHz)	TPC	Avg Power (dBm)	Max EIRP (dBm)
1	5260.00000	No	5.12	8.38
	5280.00000		4.50	7.76
	5320.00000		4.82	8.08

Modulation: 802.11ac VHT20 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	TPC	Avg Power (dBm)	Max EIRP (dBm)
1	5260.00000	No	0.92	4.18
	5280.00000		0.69	3.95
	5320.00000		0.56	3.82

Modulation: 802.11ac VHT40 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	TPC	Avg Power (dBm)	Max EIRP (dBm)
1	5270.00000	No	0.66	3.92
	5310.00000		0.68	3.94

Modulation: 802.11ac VHT80 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	TPC	Avg Power (dBm)	Max EIRP (dBm)
1	5290.00000	No	0.73	3.99

Verdict

Pass

RSS-247 6.2.2.1 / FCC 15.407 (a) (2) [Psd] Transmitter Maximum Power Spectral Density U-NII-2

Limits

FCC 15.407 (a)(2): For the 5.25-5.35 GHz band, the maximum power spectral density shall not exceed 11 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 6.2.2.1: Devices, other than devices installed in vehicles, shall comply with the following:

- a. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band;
- b. The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10B, dBm, whichever is less. B is the 99% emission bandwidth in megahertz. Note that devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

Modulation: 802.11n HT20 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	TPC	Freq (MHz)	PSD (dBm)
1	5260.00000	No	5262.574257	-7.18
	5280.00000		5277.425743	-7.31
	5320.00000		5317.623762	-7.03

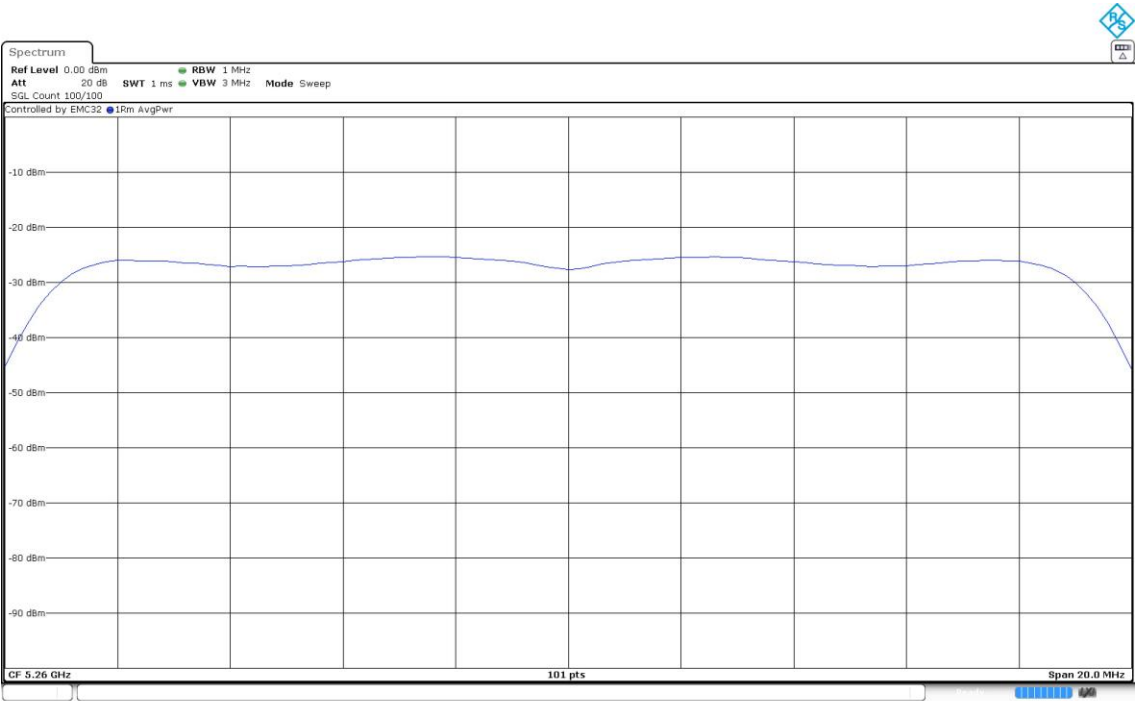
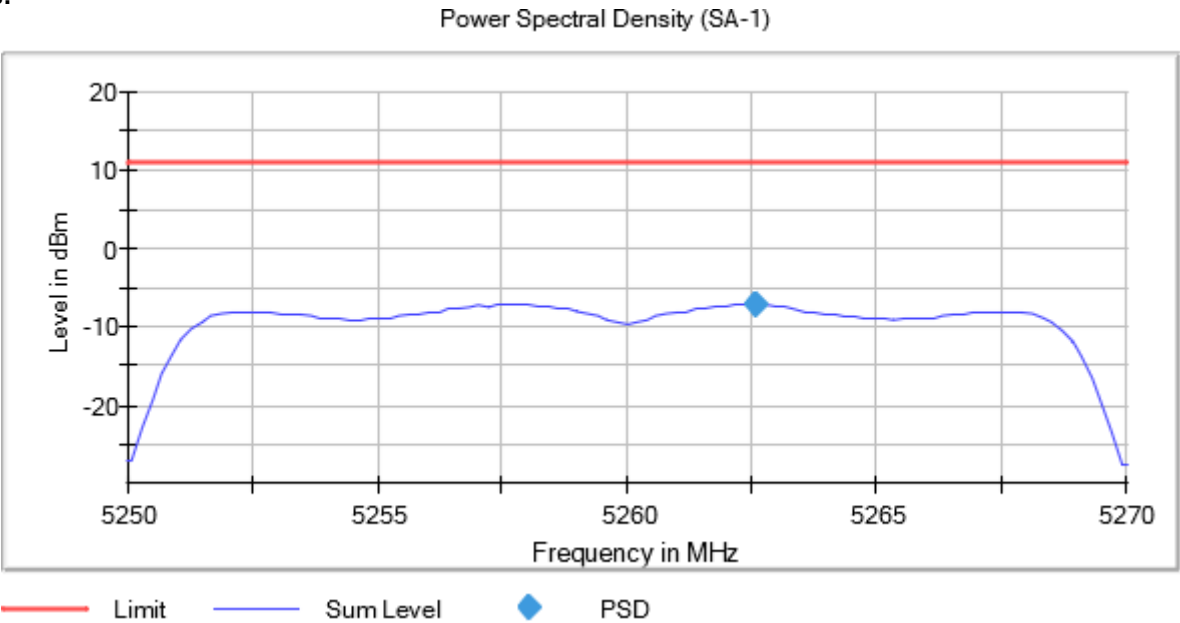
Verdict

Pass

Attachments

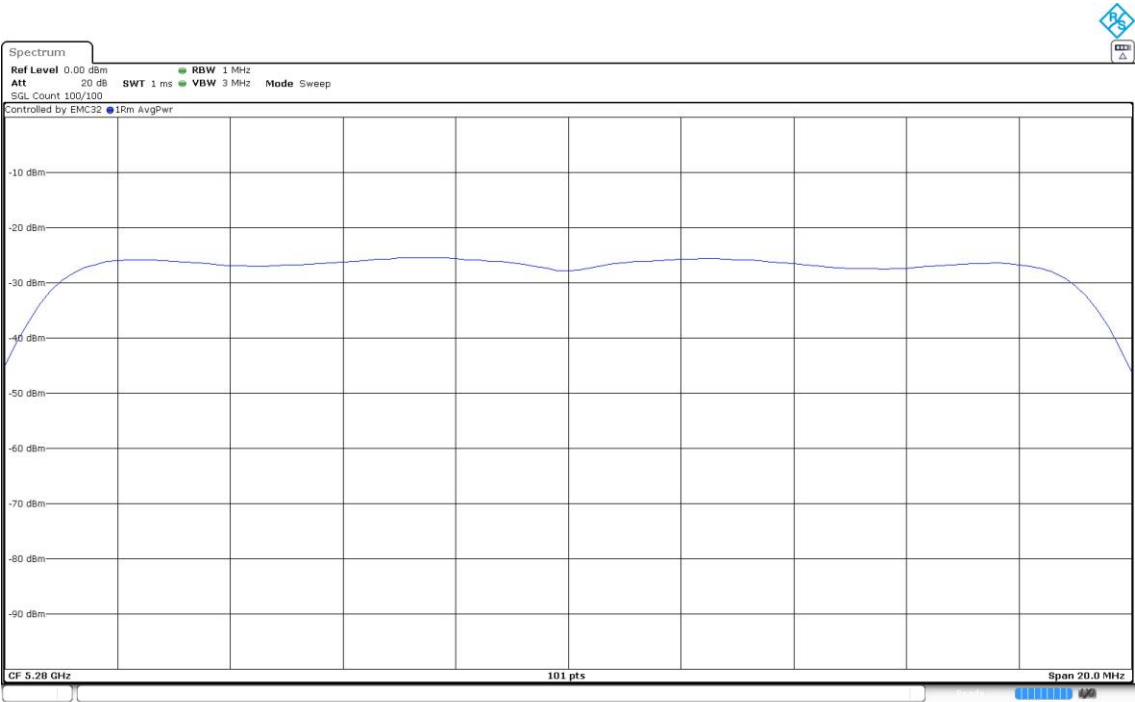
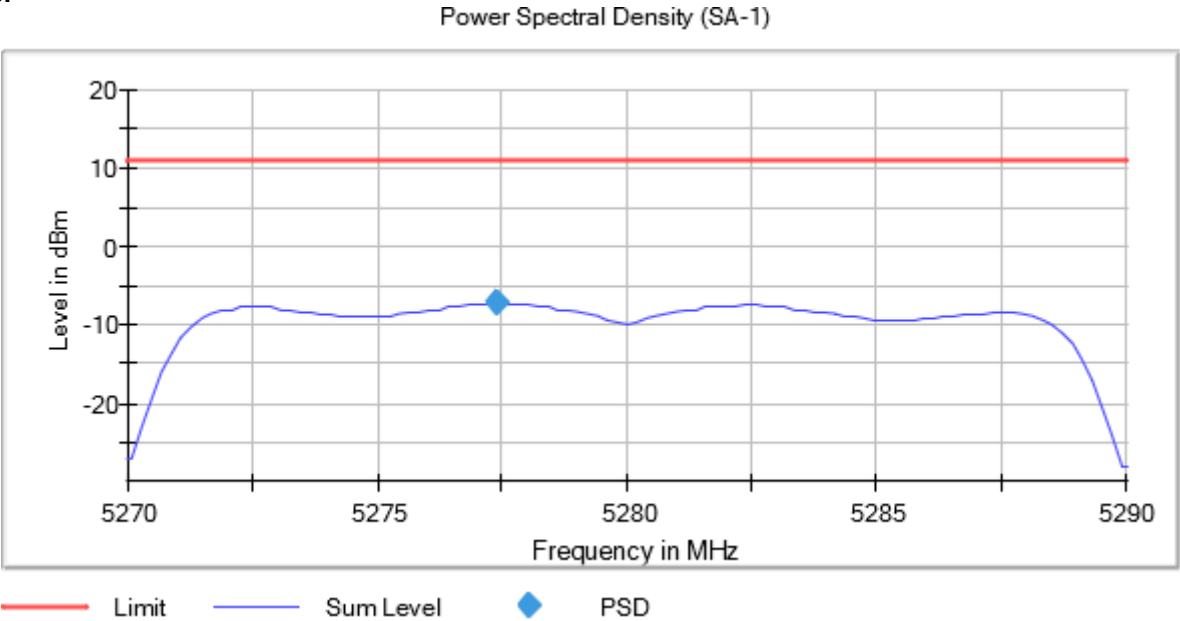
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Modulation = 802.11n HT20 (OFDM MCS0) TPC = No
MIMO Mode = SISO

Images:



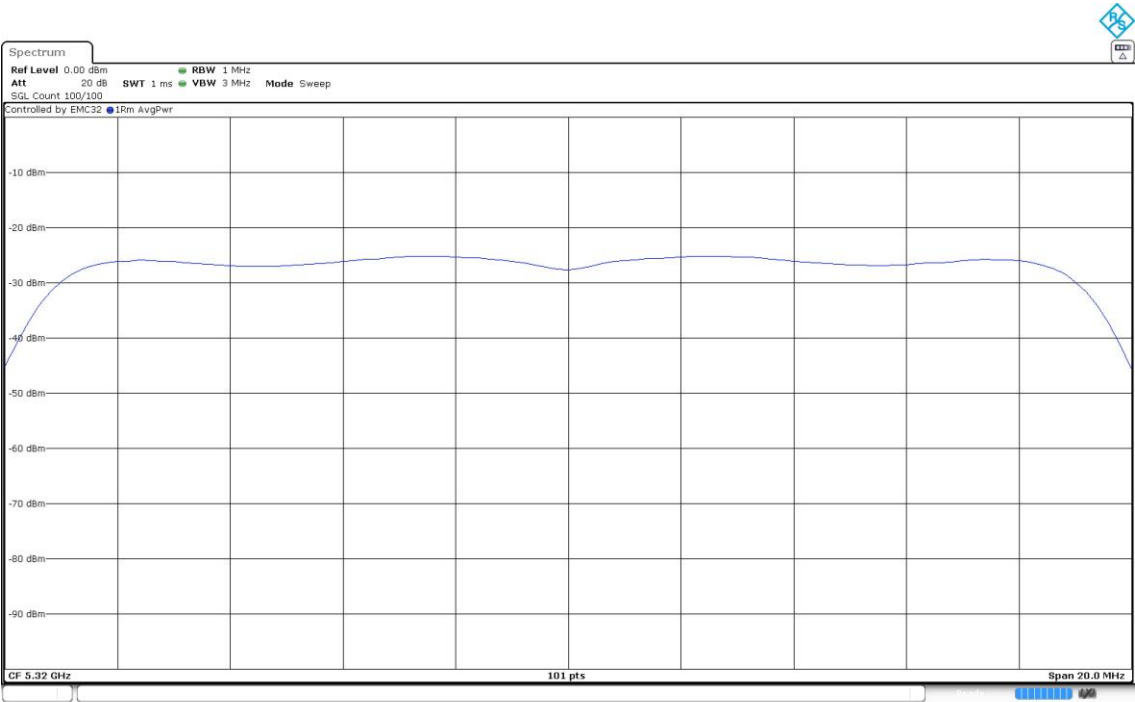
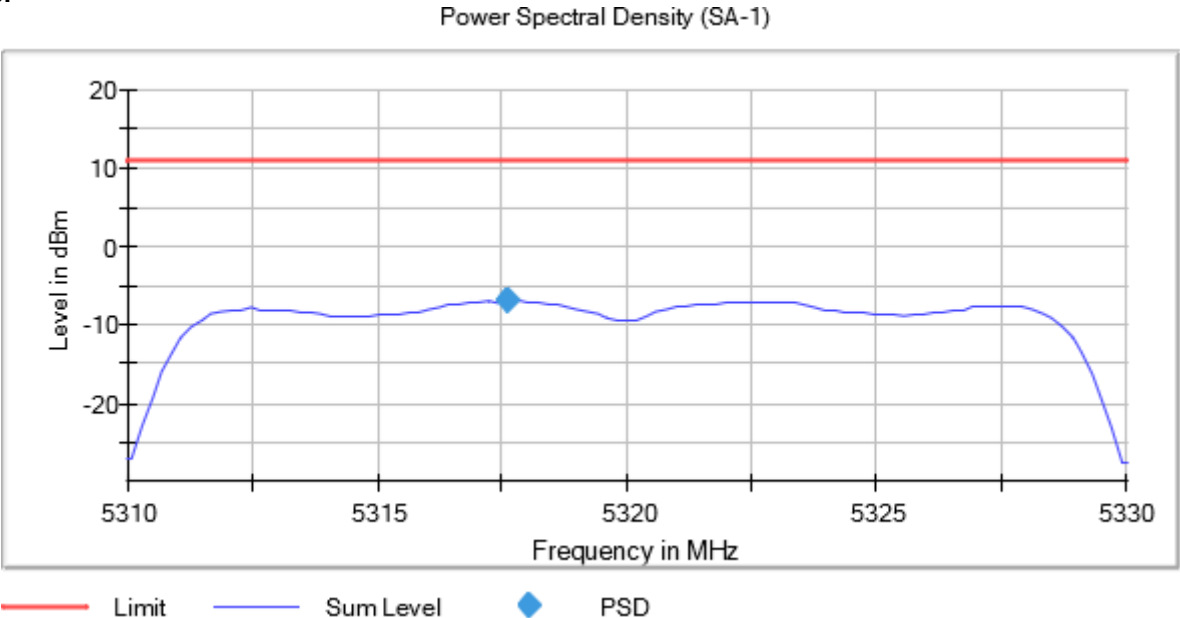
Active Port = 1
Frequency MHz = 5280.00000
Modulation = 802.11n HT20 (OFDM MCS0) TPC = No
MIMO Mode = SISO

Images:



Active Port = 1
Frequency MHz = 5320.00000
Modulation = 802.11n HT20 (OFDM MCS0) TPC = No
MIMO Mode = SISO

Images:



Modulation: 802.11n HT40 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	TPC	Freq (MHz)	PSD (dBm)
1	5270.00000	No	5264.851485	-10.28
	5310.00000		5313.960396	-10.58

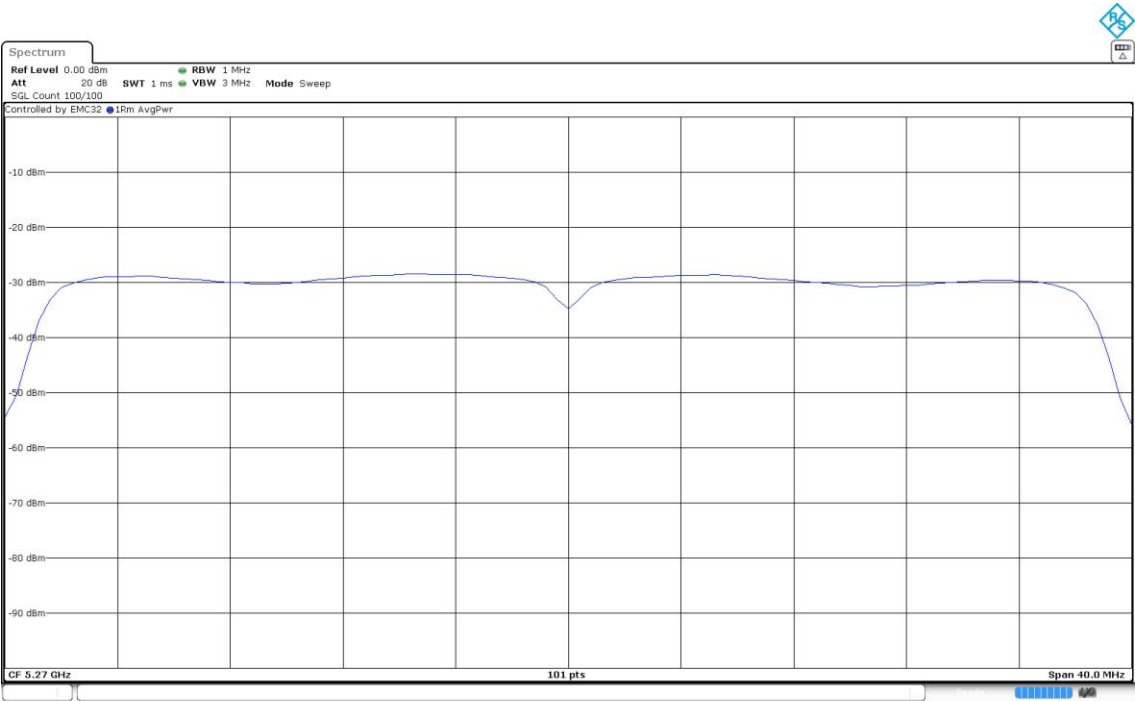
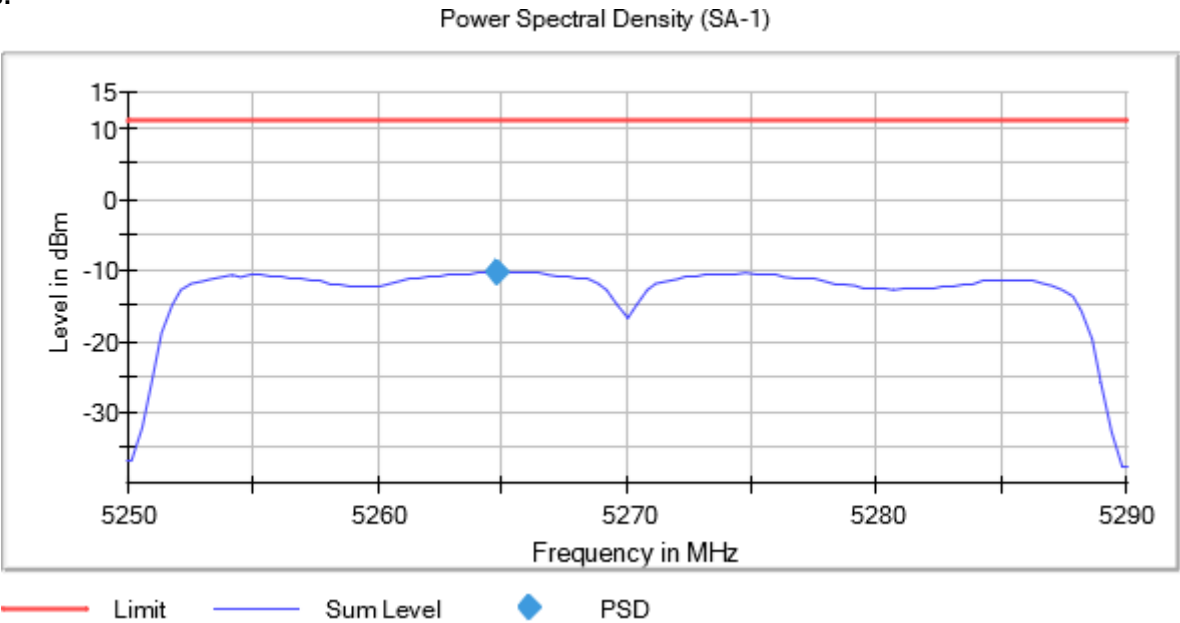
Verdict

Pass

Attachments

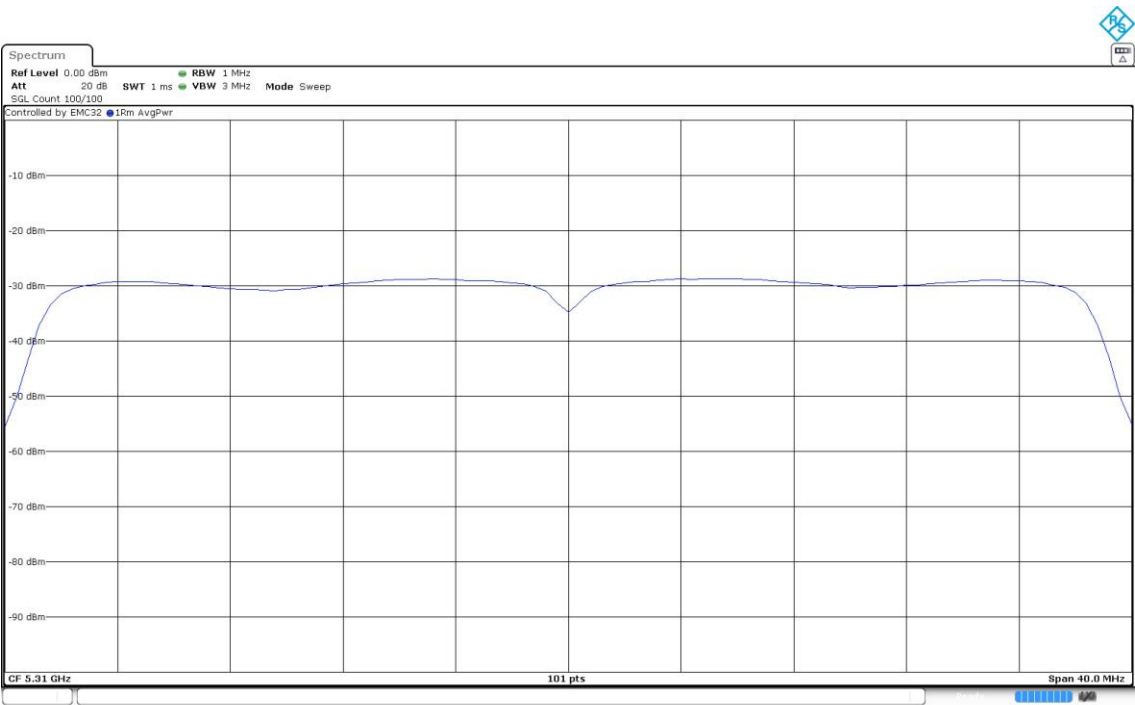
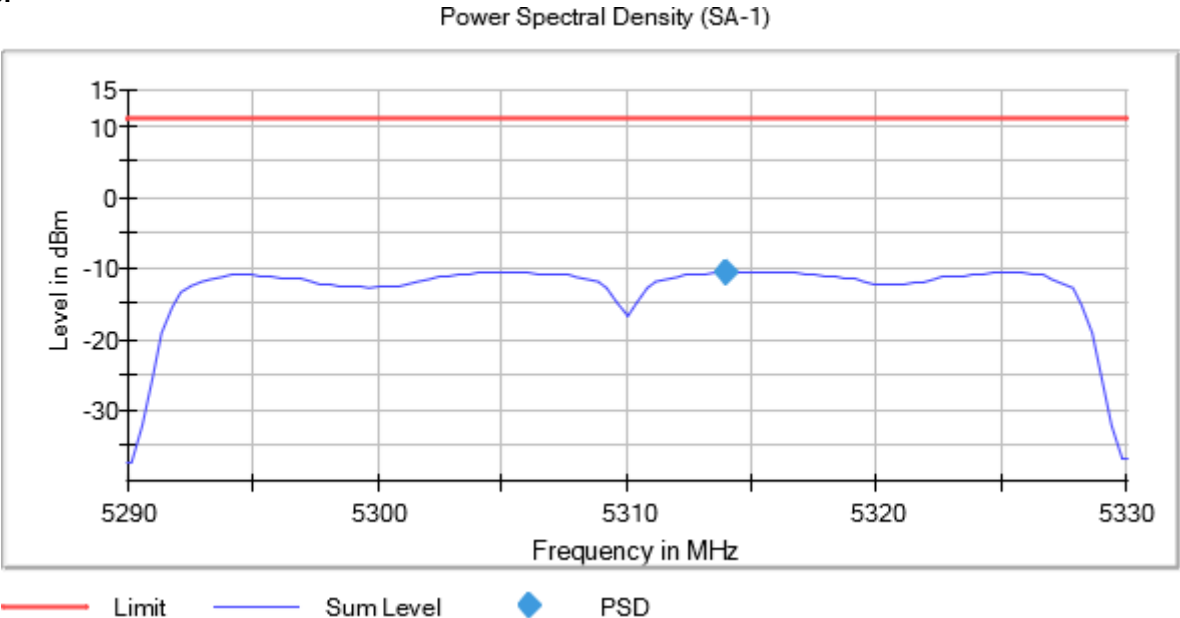
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Modulation = 802.11n HT40 (OFDM MCS0) TPC = No
MIMO Mode = SISO

Images:



Active Port = 1
Frequency MHz = 5310.00000
Modulation = 802.11n HT40 (OFDM MCS0) TPC = No
MIMO Mode = SISO

Images:



Modulation: 802.11a (OFDM 6 Mbit/s)

MIMO Mode: SISO

Results

Port	Freq (MHz)	TPC	Freq (MHz)	PSD (dBm)
1	5260.00000	No	5262.178218	-6.71
	5280.00000		5277.821782	-7.04
	5320.00000		5322.376238	-7.06

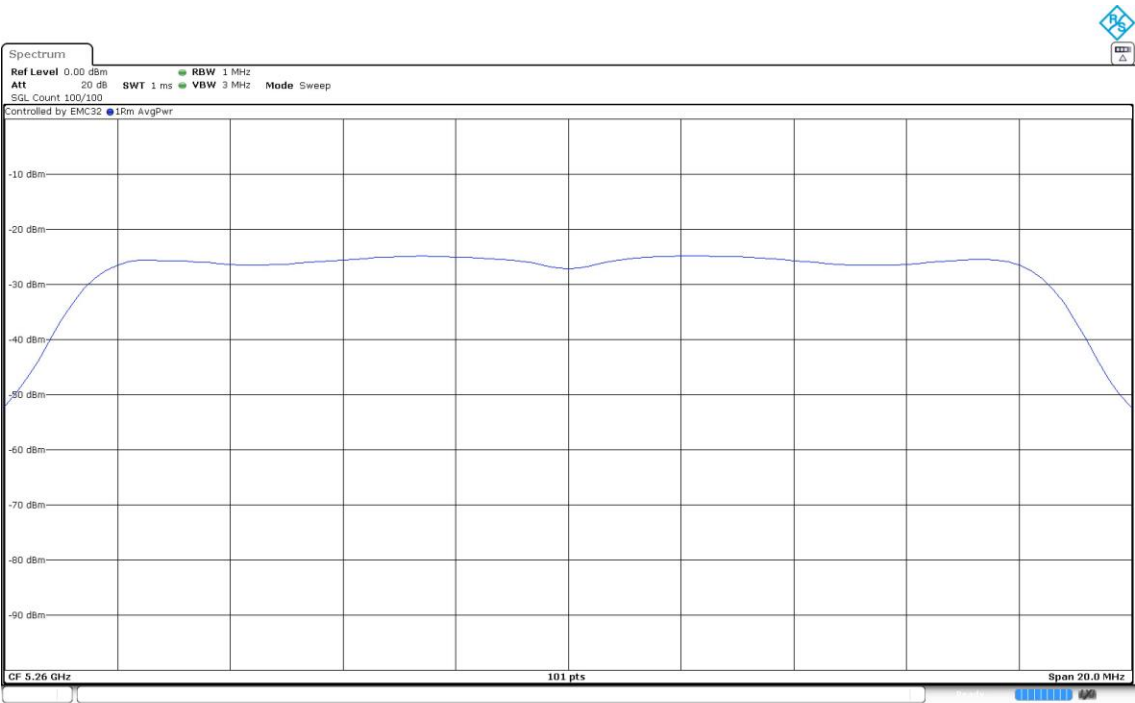
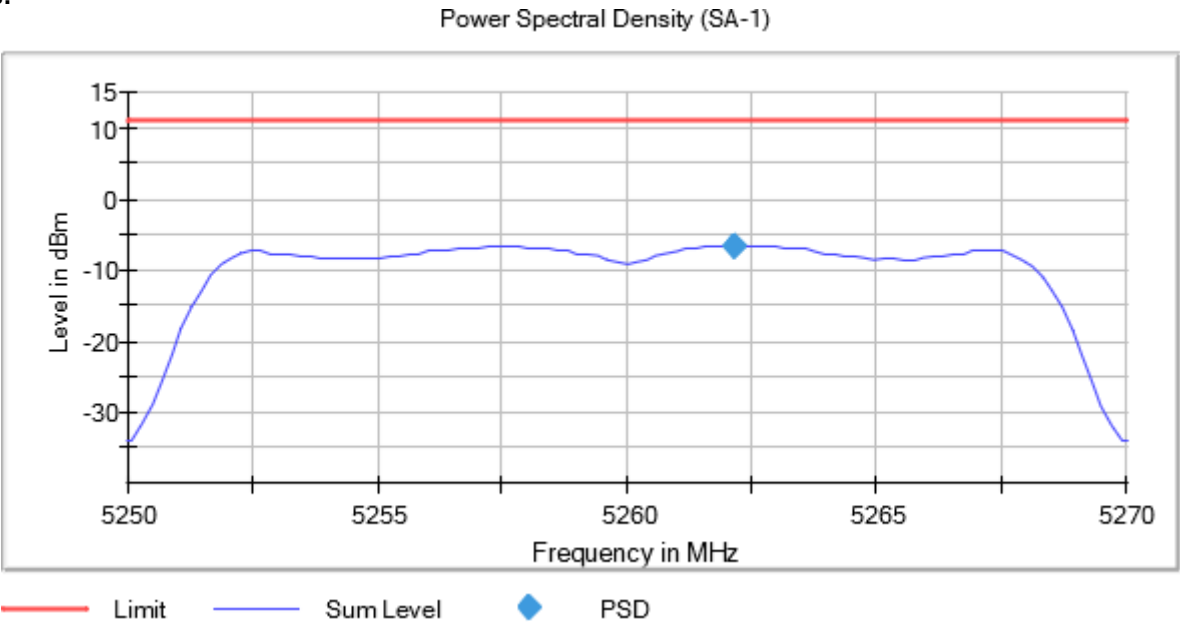
Verdict

Pass

Attachments

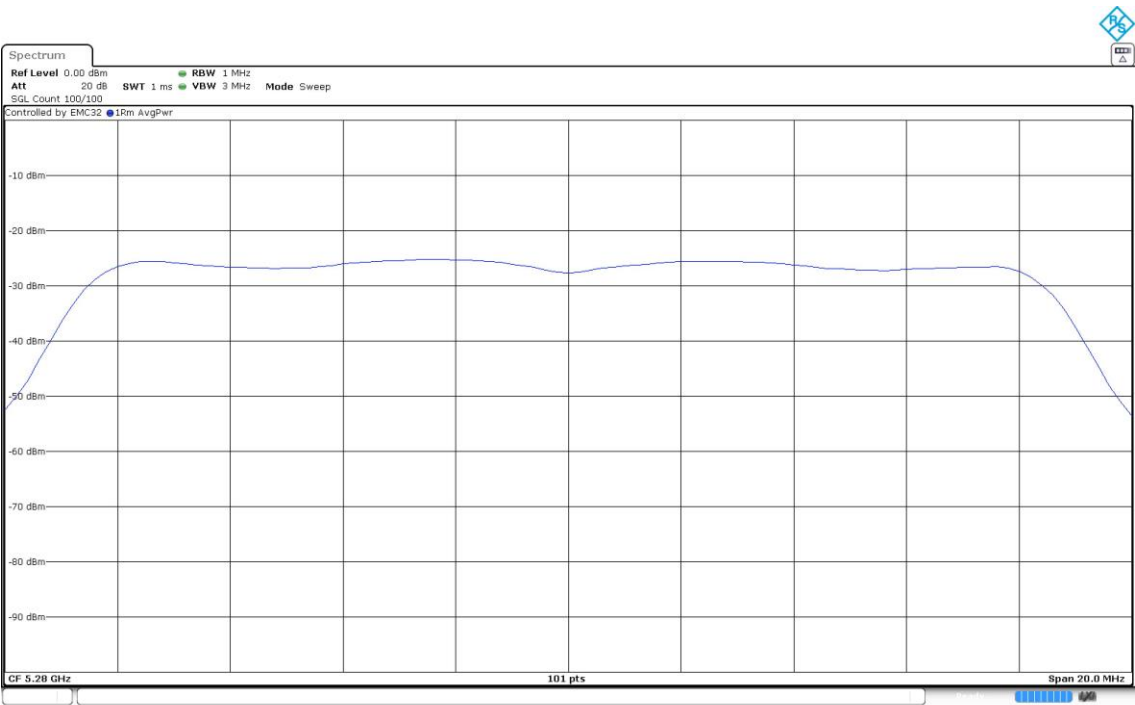
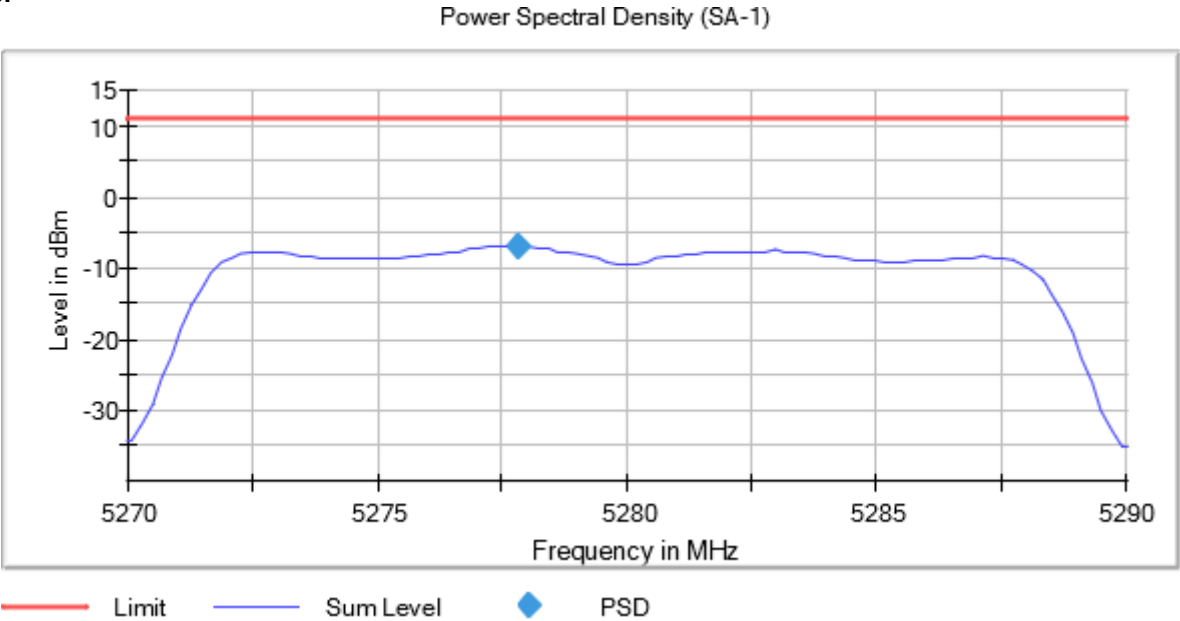
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Modulation = 802.11a (OFDM 6 Mbit/s) TPC = No
MIMO Mode = SISO

Images:



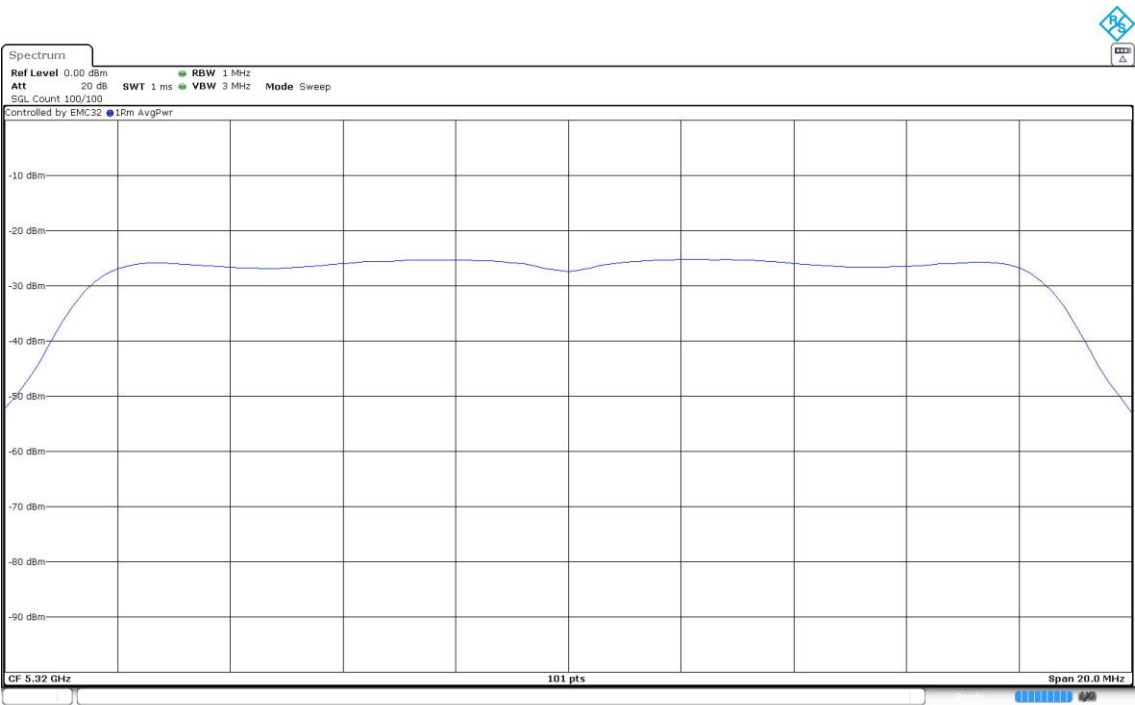
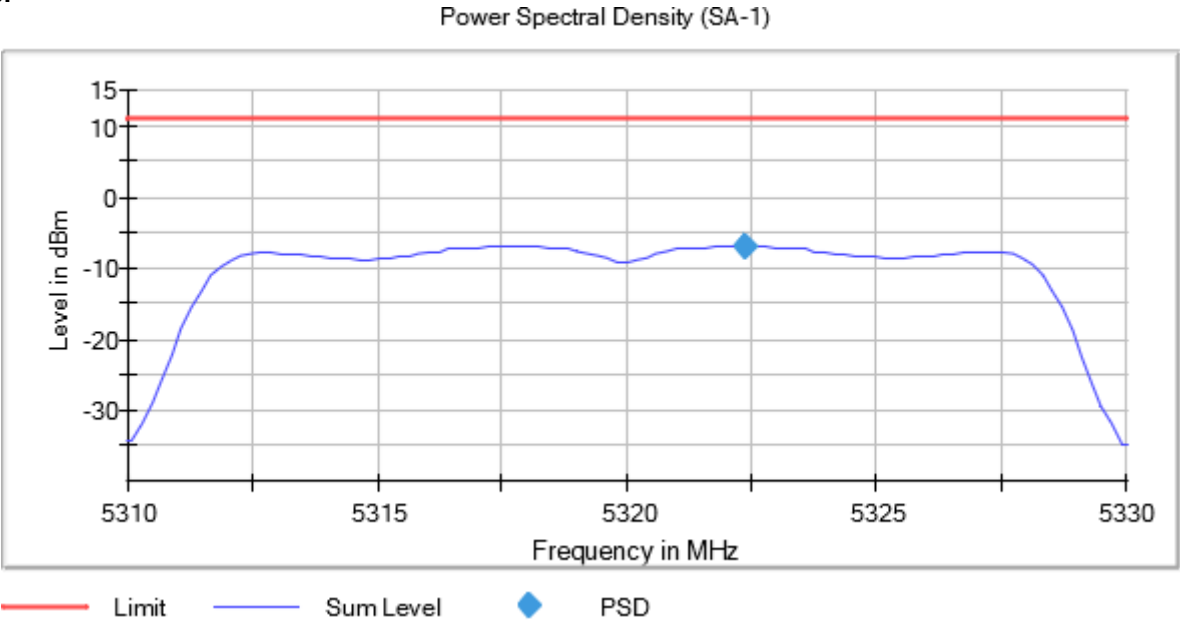
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Modulation = 802.11a (OFDM 6 Mbit/s) TPC = No
MIMO Mode = SISO

Images:



Active Port = 1 Frequency MHz = 5320.00000
Modulation = 802.11a (OFDM 6 Mbit/s) TPC = No
MIMO Mode = SISO

Images:



Modulation: 802.11ac VHT20 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	TPC	Freq (MHz)	PSD (dBm)
1	5260.00000	No	5262.376238	-11.14
	5280.00000		5277.425743	-11.14
	5320.00000		5322.772277	-10.94

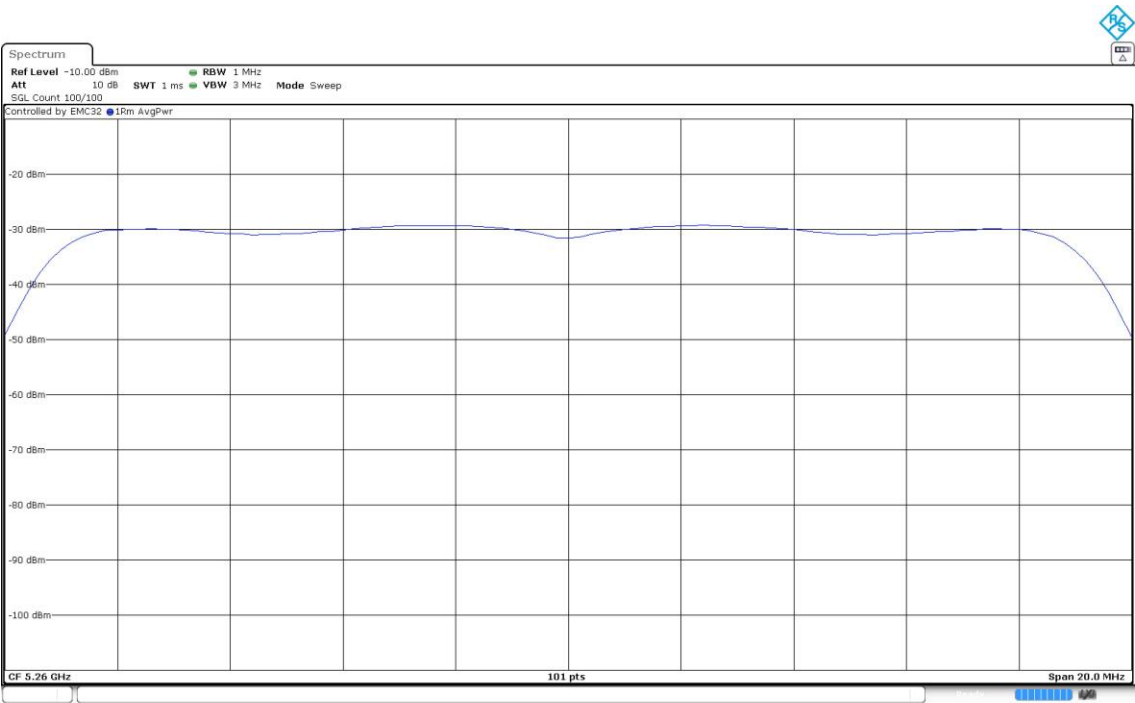
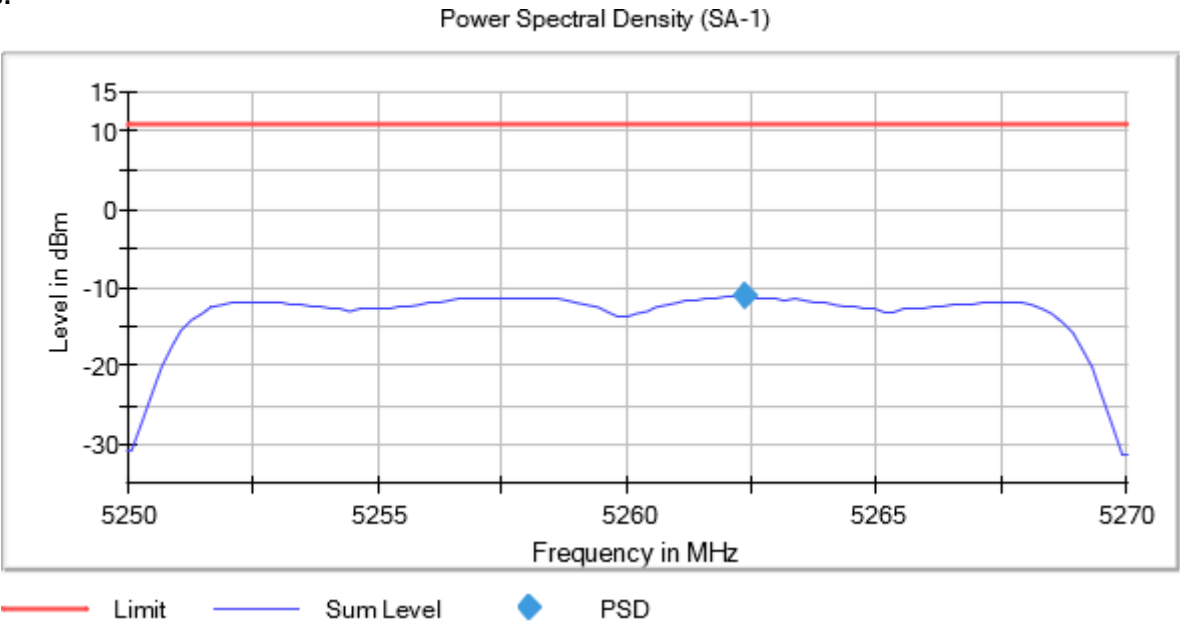
Verdict

Pass

Attachments

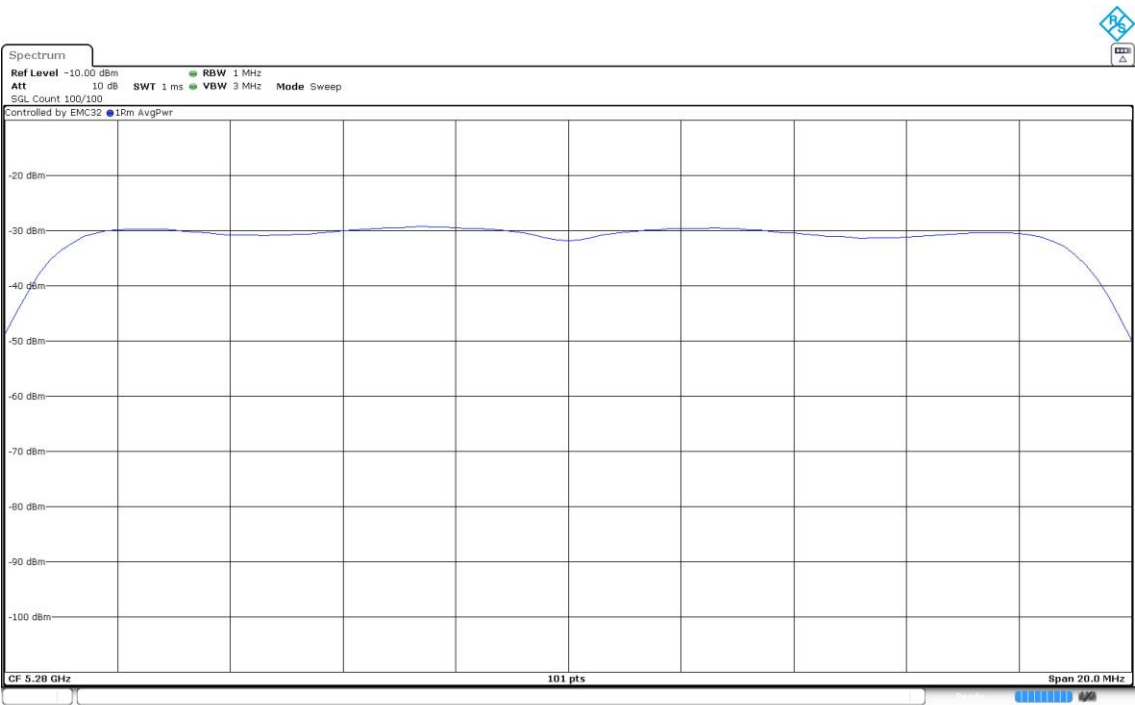
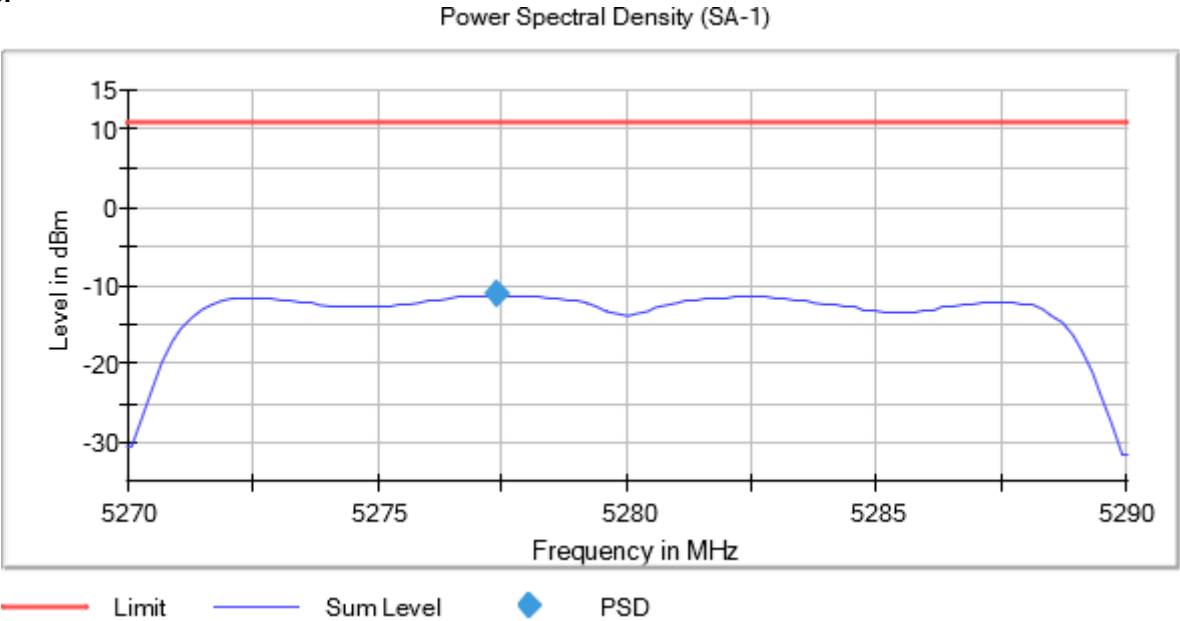
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MIMO Mode = SISO

Images:



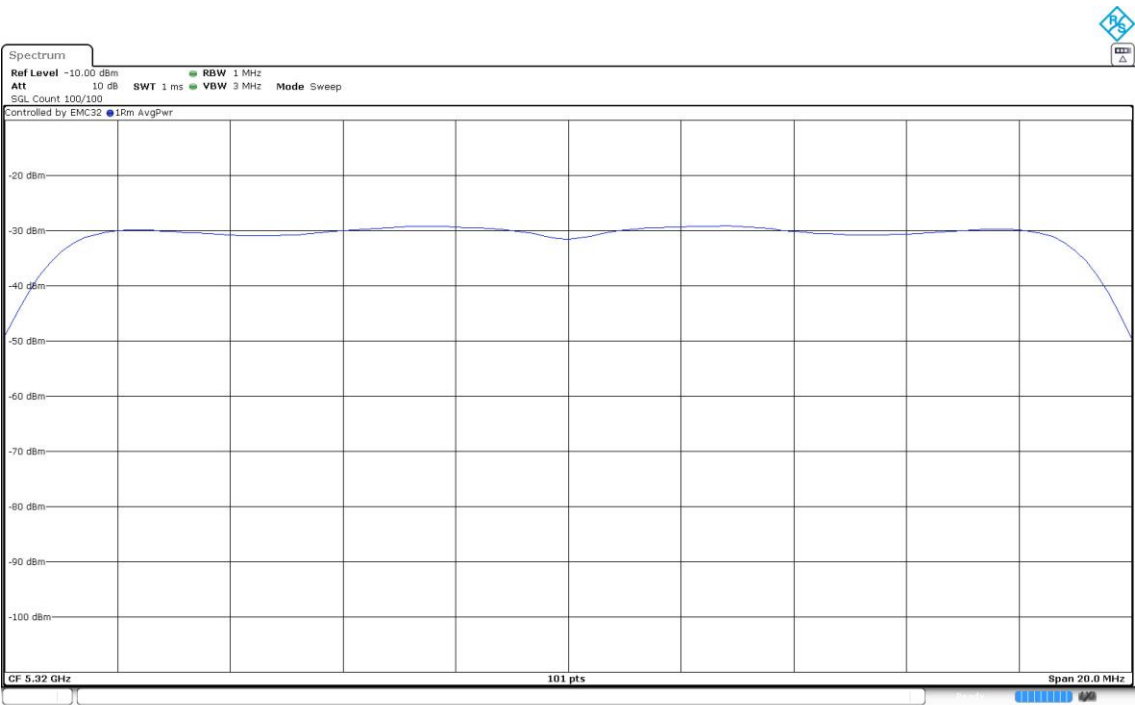
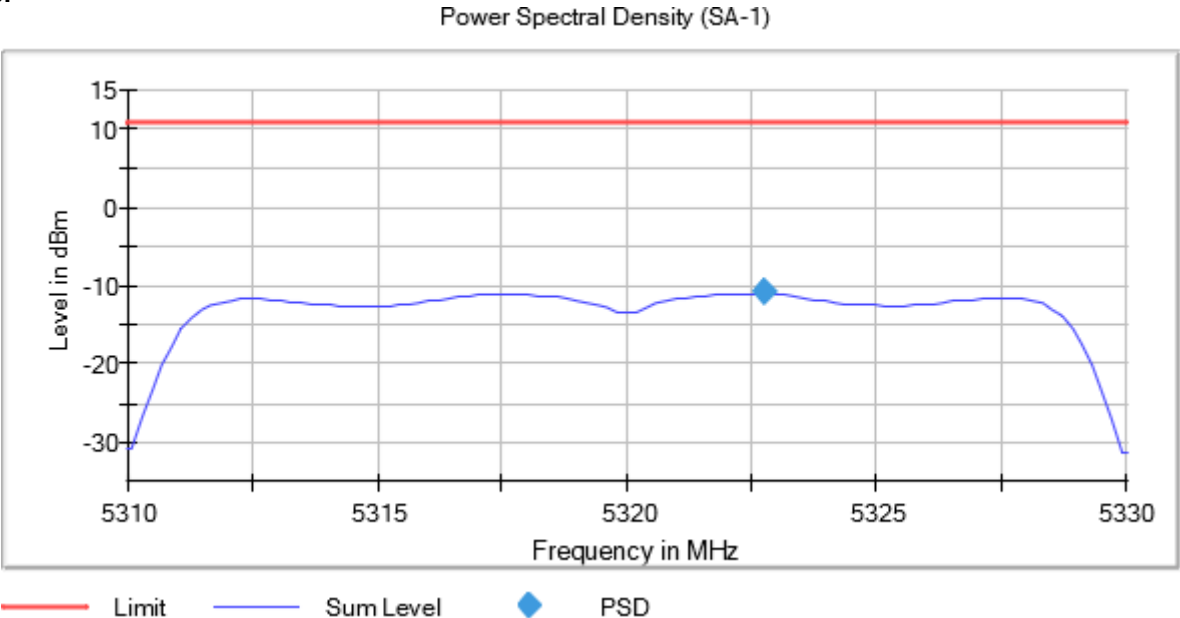
Active Port = 1
Frequency MHz = 5280.00000
Modulation = 802.11ac VHT20 (OFDM MCS0) TPC = No
MIMO Mode = SISO

Images:



Active Port = 1
Frequency MHz = 5320.00000
Modulation = 802.11ac VHT20 (OFDM MCS0) TPC = No
MIMO Mode = SISO

Images:



Modulation: 802.11ac VHT40 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	TPC	Freq (MHz)	PSD (dBm)
1	5270.00000	No	5265.643564	-14.28
	5310.00000		5314.356436	-14.42

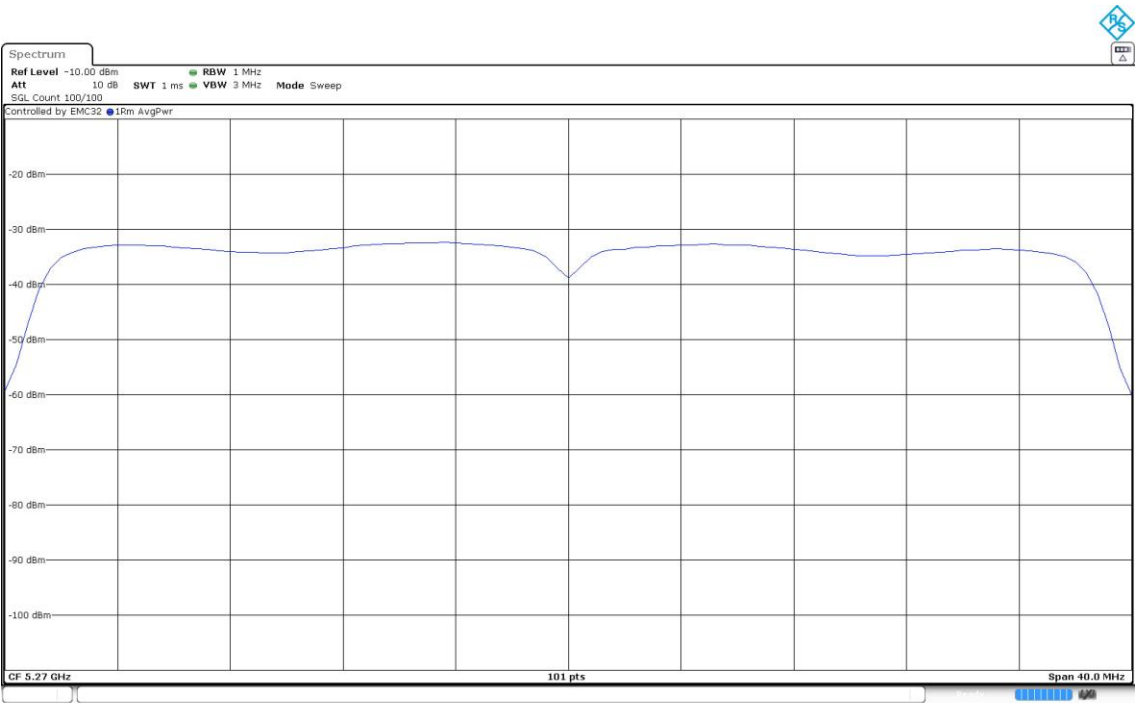
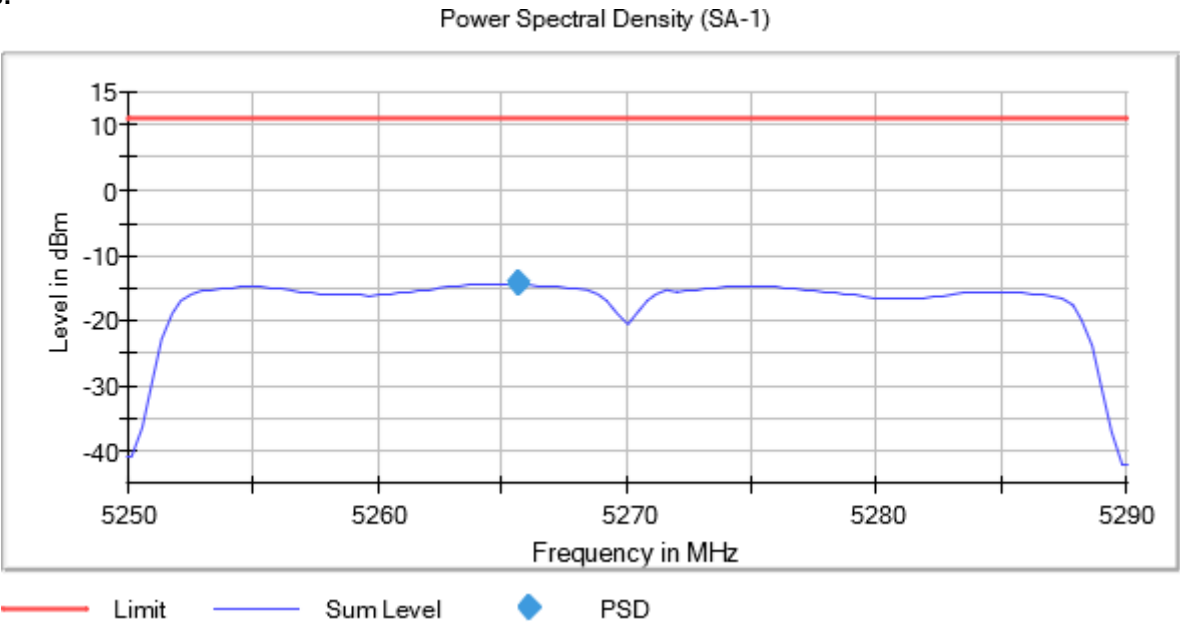
Verdict

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Attachments

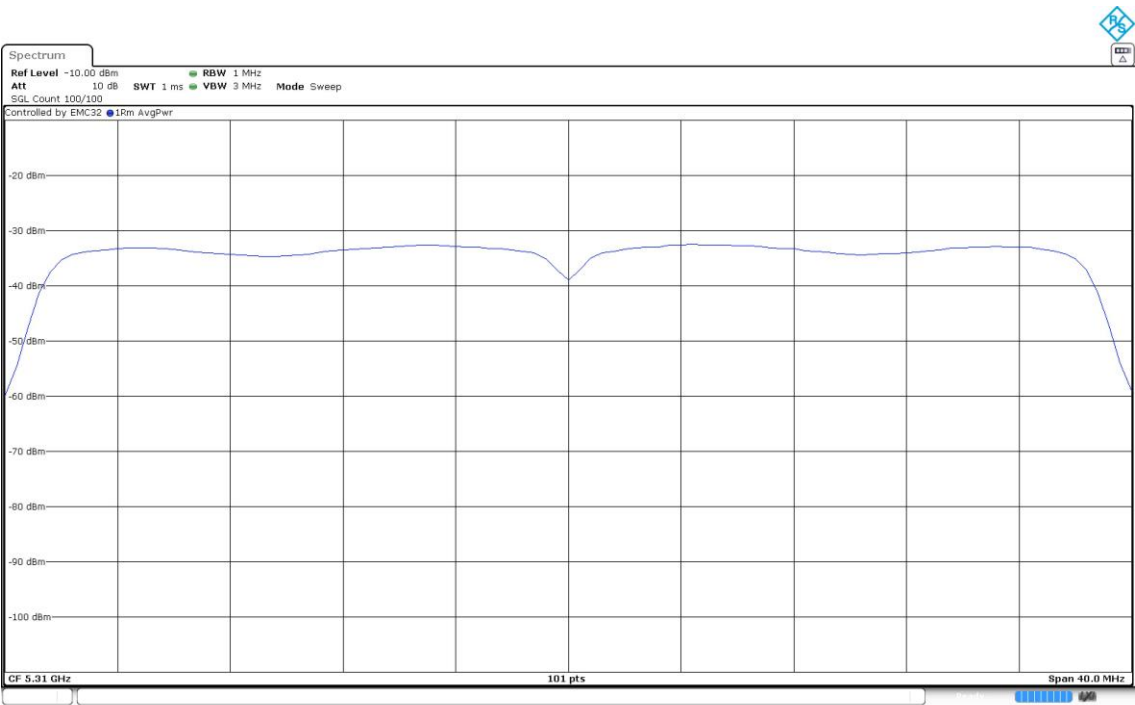
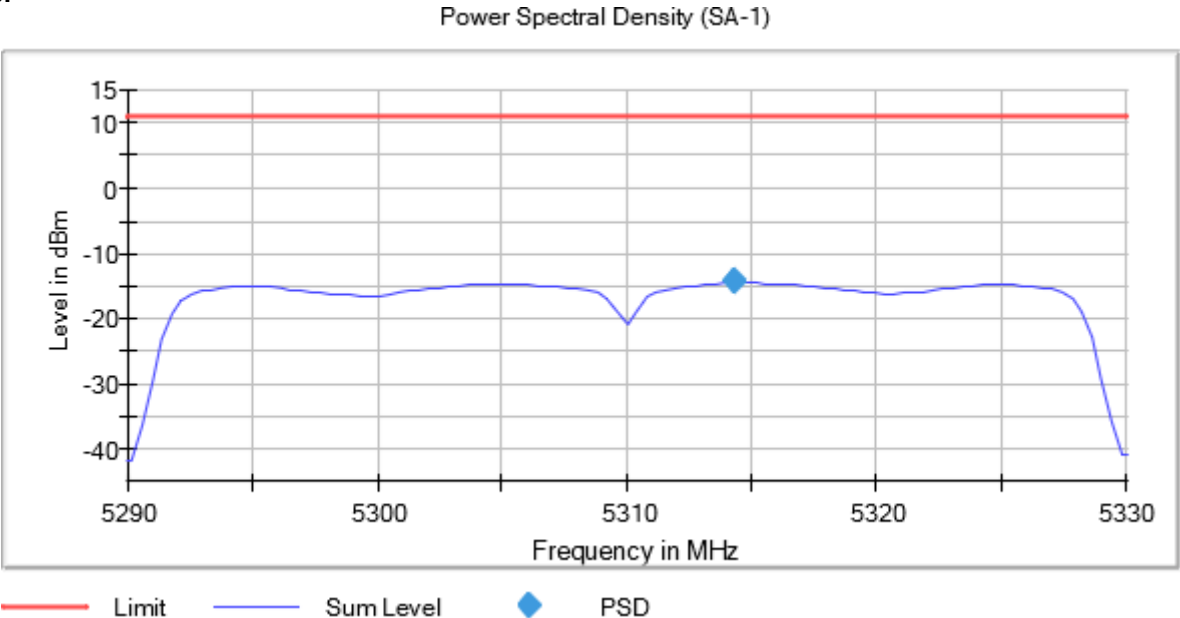
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Frequency MHz = 5270.00000
Modulation = 802.11ac VHT40 (OFDM MCS0) TPC = No
MIMO Mode = SISO

Images:



Active Port = 1
Frequency MHz = 5310.00000
Modulation = 802.11ac VHT40 (OFDM MCS0) TPC = No
MIMO Mode = SISO

Images:



Modulation: 802.11ac VHT80 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	TPC	Freq (MHz)	PSD (dBm)
1	5290.00000	No	5256.250000	-18.25

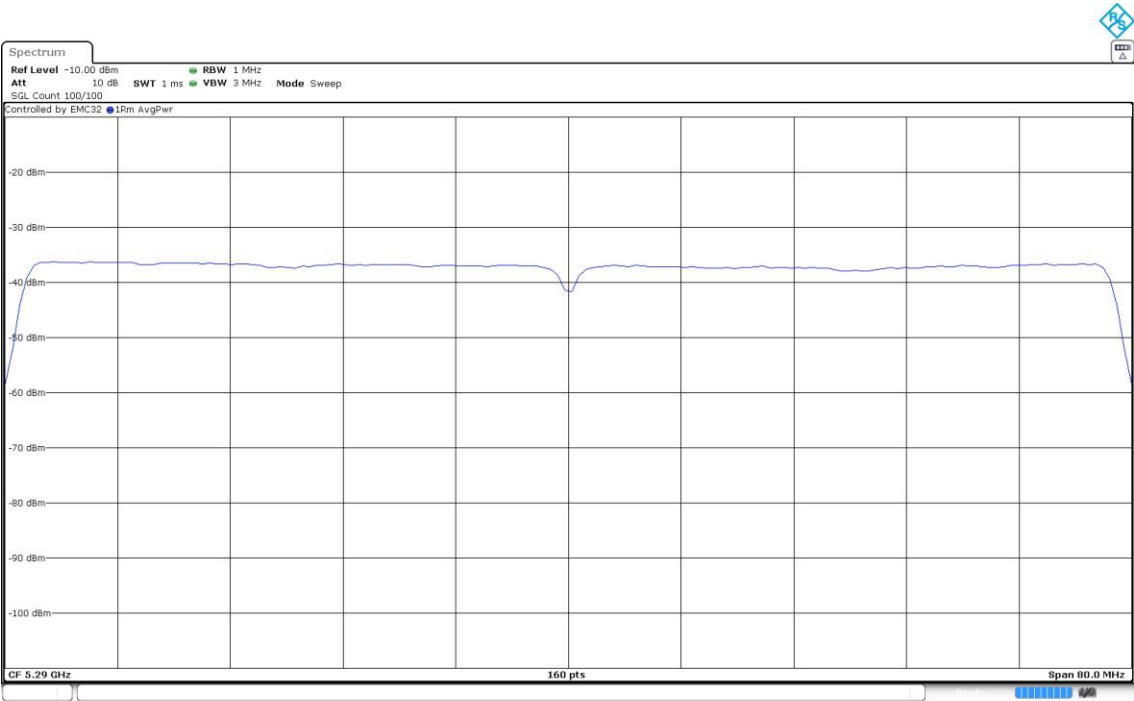
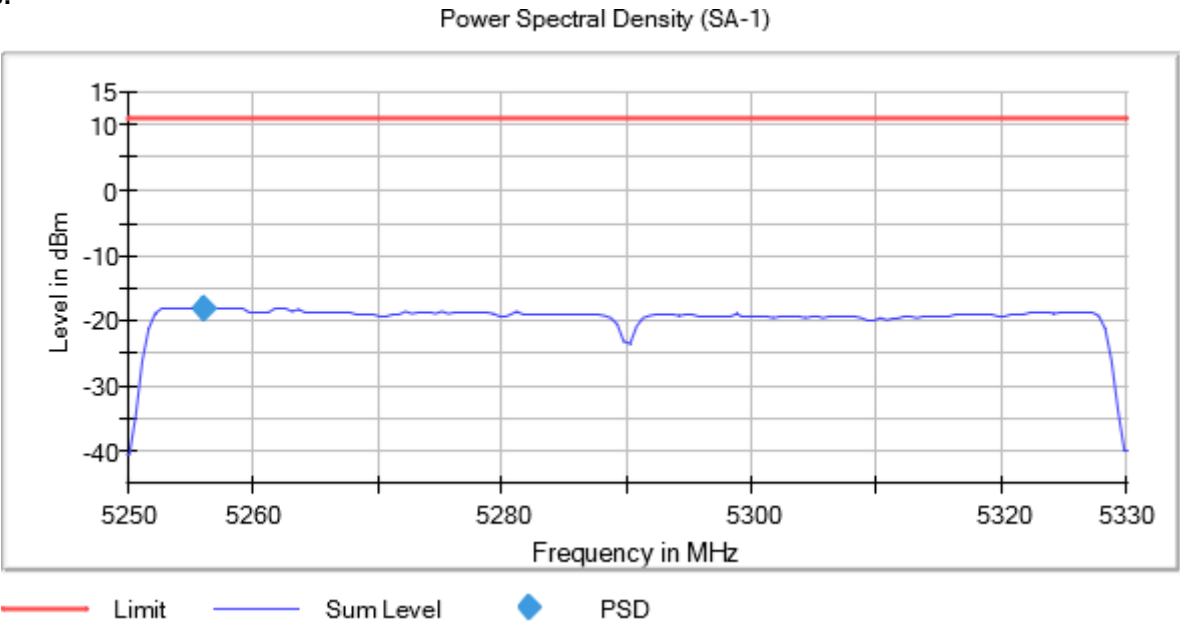
Verdict

Pass

Attachments

Active Port = 1
Frequency MHz = 5290.00000
Modulation = 802.11ac VHT80 (OFDM MCS0) TPC = No
MIMO Mode = SISO

Images:



RSS-247 6.2.2.2 / FCC 15.407 (b) (2) [Bndedge] Transmitter Band Edge Radiated Emissions for U-NII-2A

Limits

For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.20 dBµV/m at 3 m distance).

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)):

Frequency Range (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	300
1.705 - 30.0	30	-	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
960 - 40000	500	54	3

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

Modulation: 802.11n HT20 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	Freq (MHz)	Lvl (dBm)
1	5260.00000	5108.750000	-55.9
1	5260.00000	5109.250000	-56.0
1	5260.00000	5106.750000	-56.0
1	5260.00000	5116.750000	-56.1
1	5260.00000	5102.250000	-56.3
1	5260.00000	5086.750000	-56.4
1	5260.00000	5133.250000	-56.4
1	5260.00000	5118.250000	-56.4
1	5260.00000	5105.750000	-56.4
1	5260.00000	5109.750000	-56.5
1	5260.00000	5103.750000	-56.6
1	5260.00000	5114.250000	-56.6
1	5260.00000	5112.250000	-56.6
1	5260.00000	5107.750000	-56.6

Port	Freq (MHz)	Freq (MHz)	Lvl (dBm)
1	5260.00000	5080.250000	-56.7
1	5320.00000	5354.750000	-46.0
1	5320.00000	5350.250000	-46.2
1	5320.00000	5350.750000	-46.3
1	5320.00000	5353.750000	-46.4
1	5320.00000	5352.250000	-46.5
1	5320.00000	5353.250000	-46.5
1	5320.00000	5351.750000	-46.6
1	5320.00000	5355.250000	-46.9
1	5320.00000	5351.250000	-47.1
1	5320.00000	5354.250000	-47.5
1	5320.00000	5352.750000	-47.8
1	5320.00000	5355.750000	-48.6
1	5320.00000	5356.250000	-48.7
1	5320.00000	5360.250000	-49.1
1	5320.00000	5356.750000	-50.1
1	5500.00000	5466.750000	-46.2
1	5500.00000	5468.250000	-46.4
1	5500.00000	5469.750000	-46.4
1	5500.00000	5467.750000	-46.5
1	5500.00000	5469.250000	-46.6
1	5500.00000	5468.750000	-46.9
1	5500.00000	5466.250000	-46.9
1	5500.00000	5465.750000	-48.0
1	5500.00000	5467.250000	-48.2
1	5500.00000	5465.250000	-48.2
1	5500.00000	5464.750000	-49.1
1	5500.00000	5463.750000	-49.1
1	5500.00000	5461.250000	-49.4
1	5500.00000	5463.250000	-49.6
1	5500.00000	5464.250000	-49.7
1	5720.00000	5864.750000	-56.5
1	5720.00000	5876.750000	-56.8
1	5720.00000	5873.250000	-56.9
1	5720.00000	5873.750000	-56.9
1	5720.00000	5862.250000	-57.1
1	5720.00000	5877.750000	-57.2
1	5720.00000	5863.750000	-57.2
1	5720.00000	5876.250000	-57.2
1	5720.00000	5861.750000	-57.3
1	5720.00000	5866.750000	-57.3

Port	Freq (MHz)	Freq (MHz)	Lvl (dBm)
1	5720.00000	5860.750000	-57.4
1	5720.00000	5869.250000	-57.5
1	5720.00000	5862.750000	-57.5
1	5720.00000	5870.750000	-57.5
1	5720.00000	5871.750000	-57.6

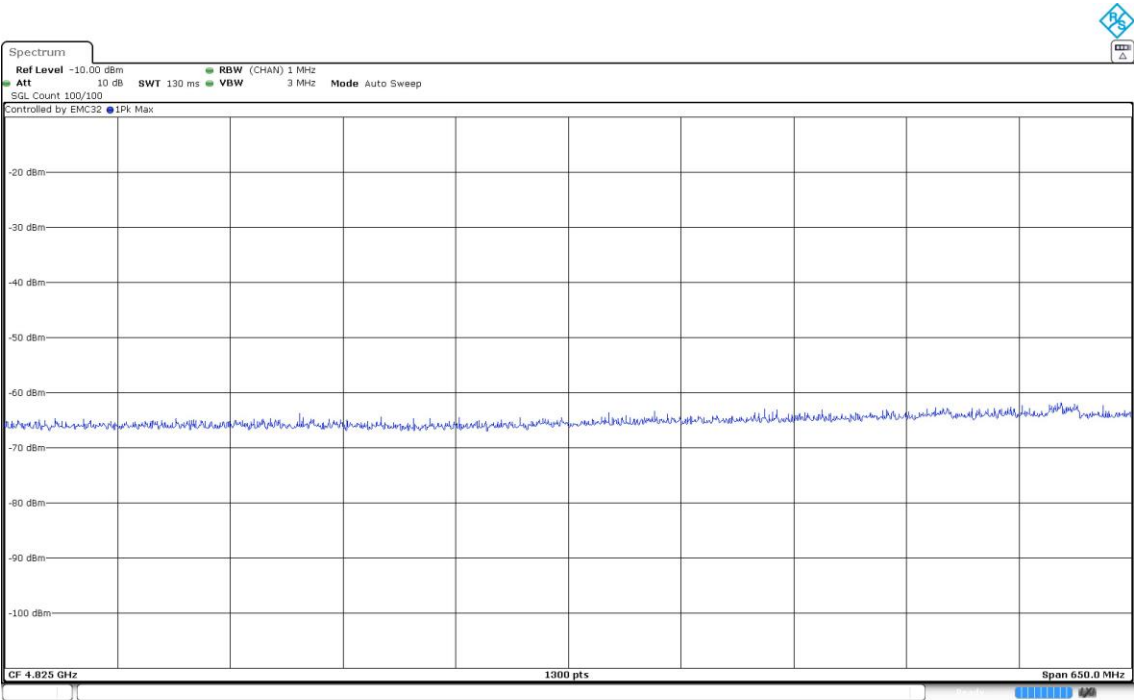
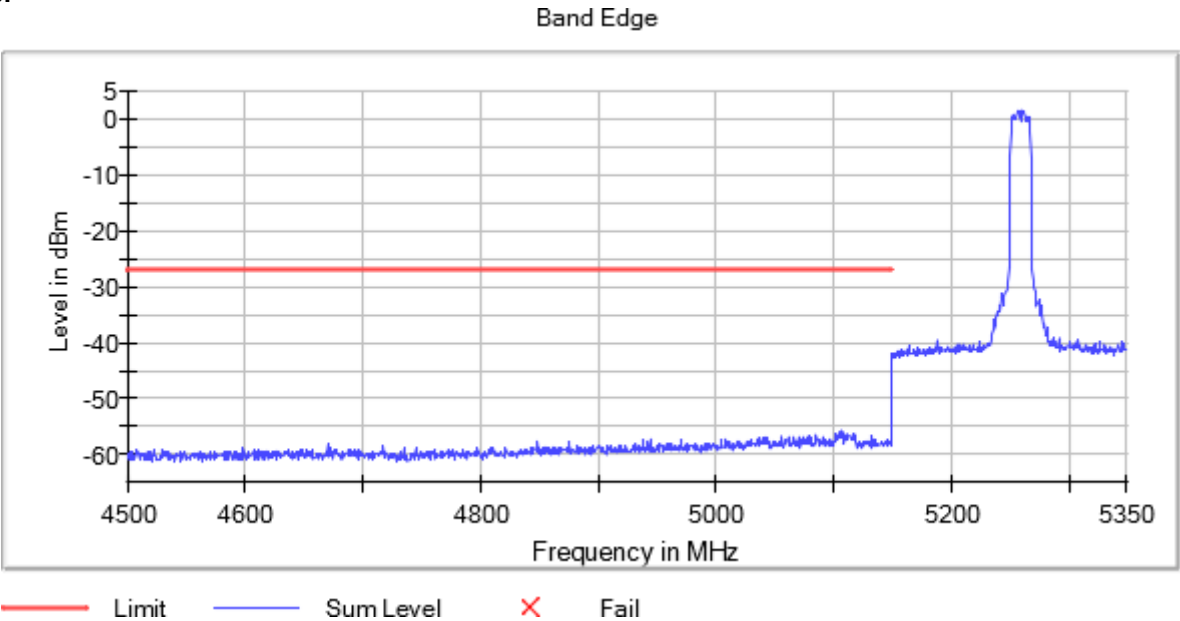
Verdict

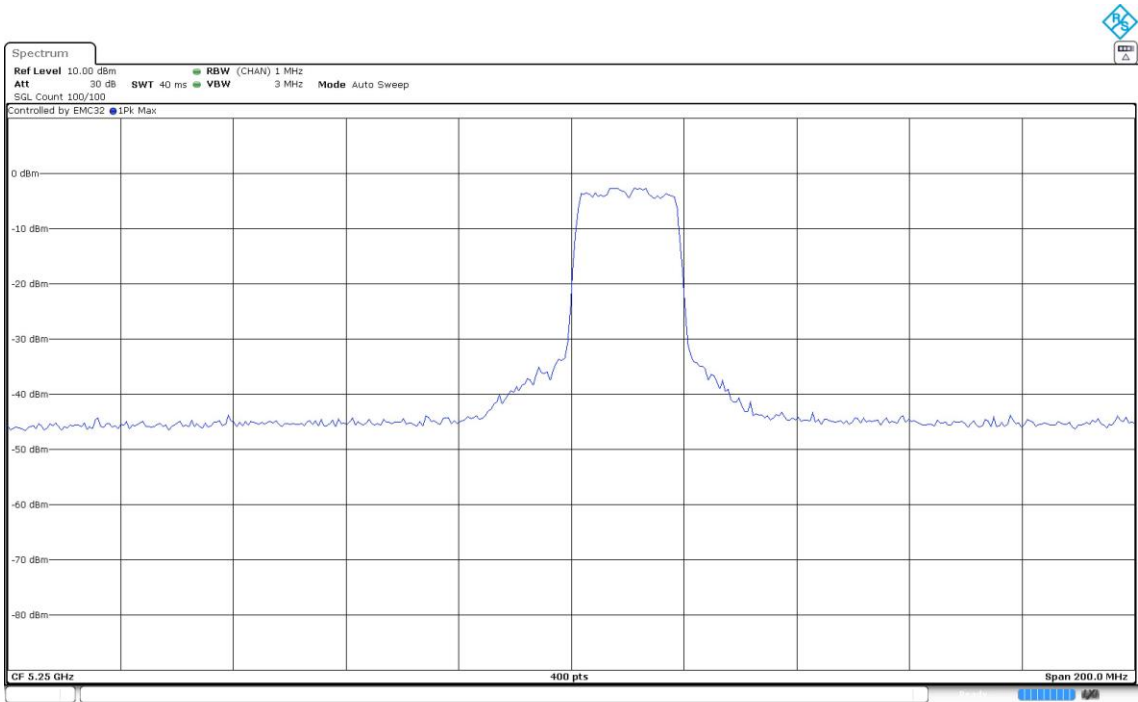
Pass

Attachments

Active Port = 1
Frequency MHz = 5260.00000
Modulation = 802.11n HT20 (OFDM MCS0) MIMO Mode = SISO

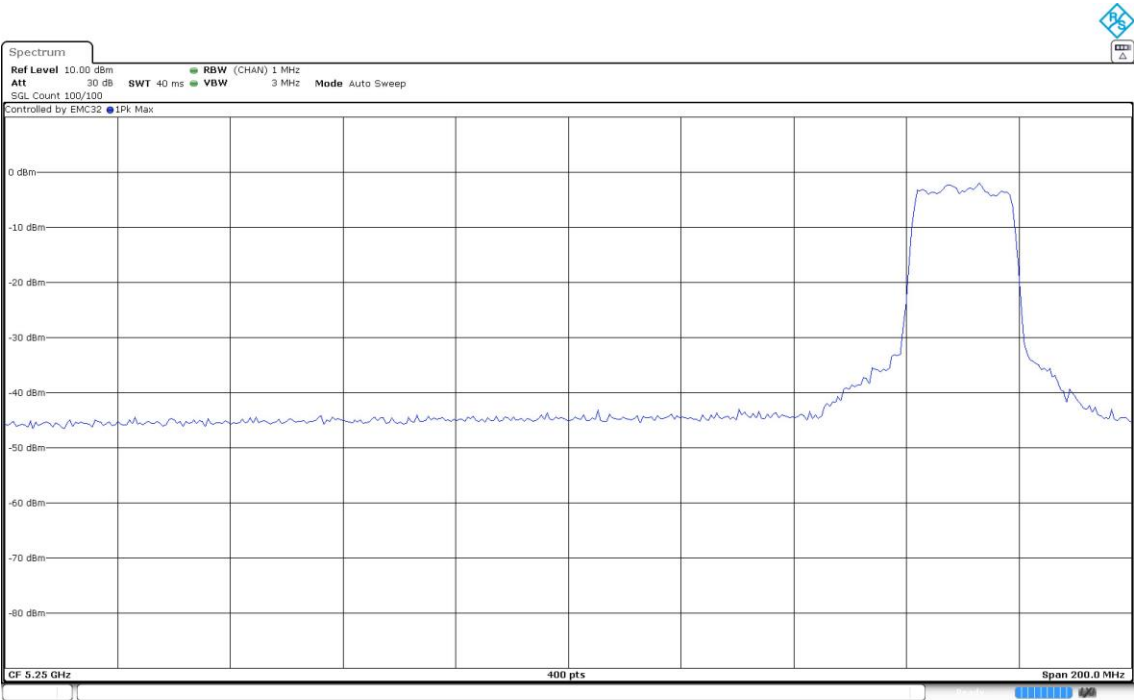
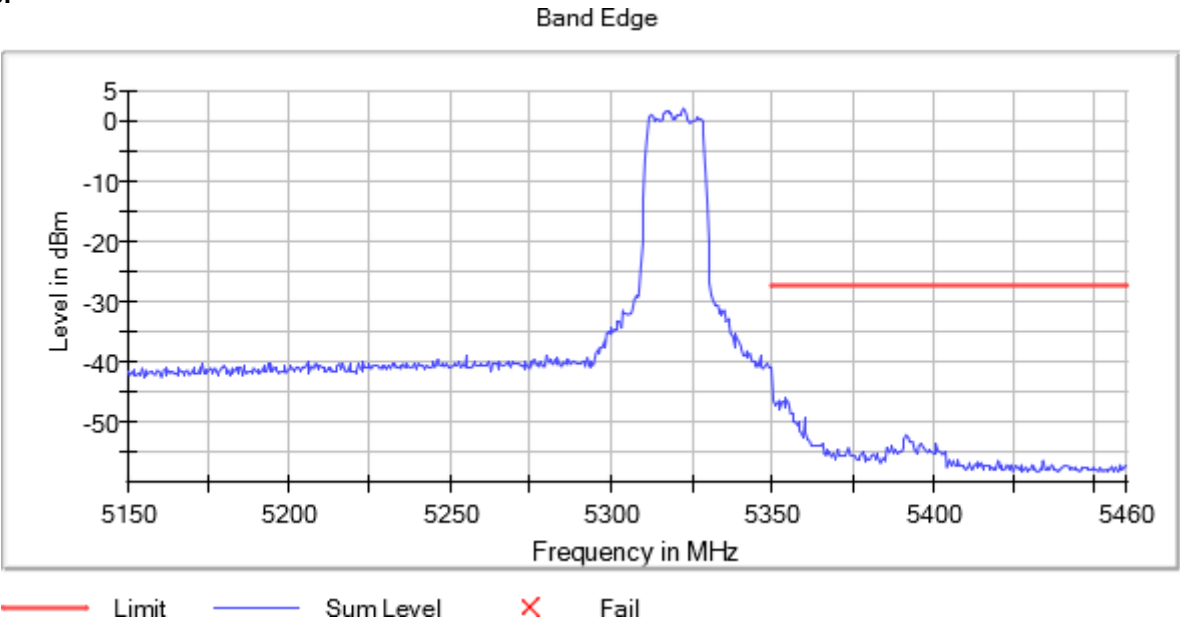
Images:

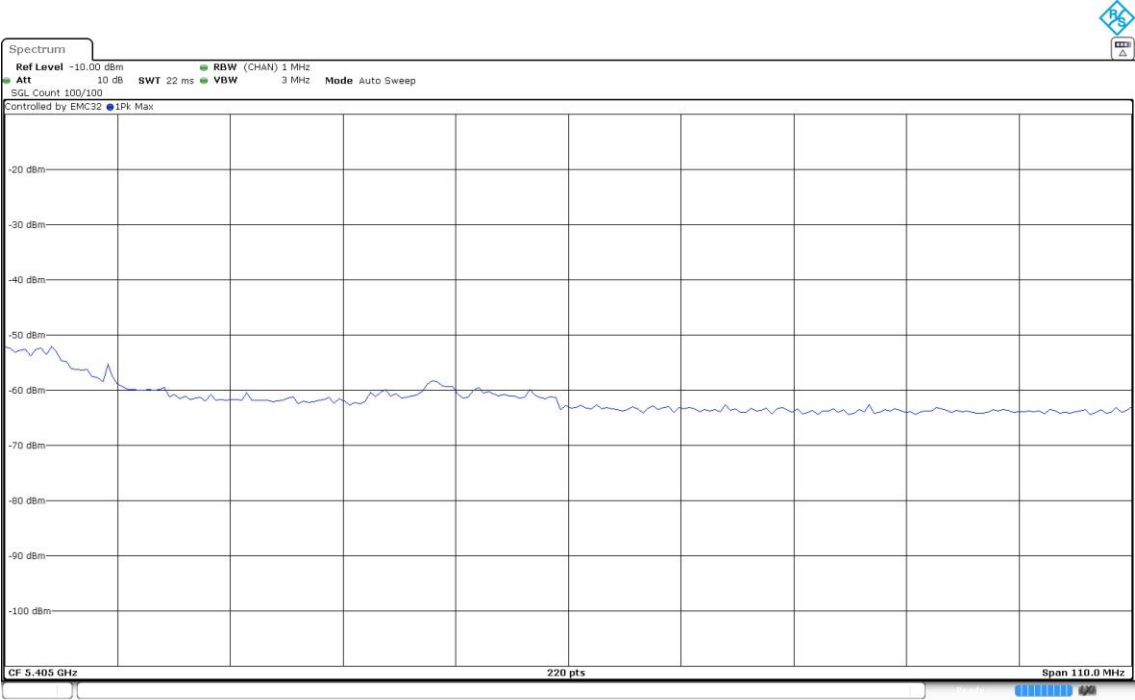




Active Port = 1 Frequency MHz = 5320.00000
Modulation = 802.11n HT20 (OFDM MCS0) MIMO Mode = SISO

Images:





Modulation: 802.11n HT40 (OFDM MCS0)

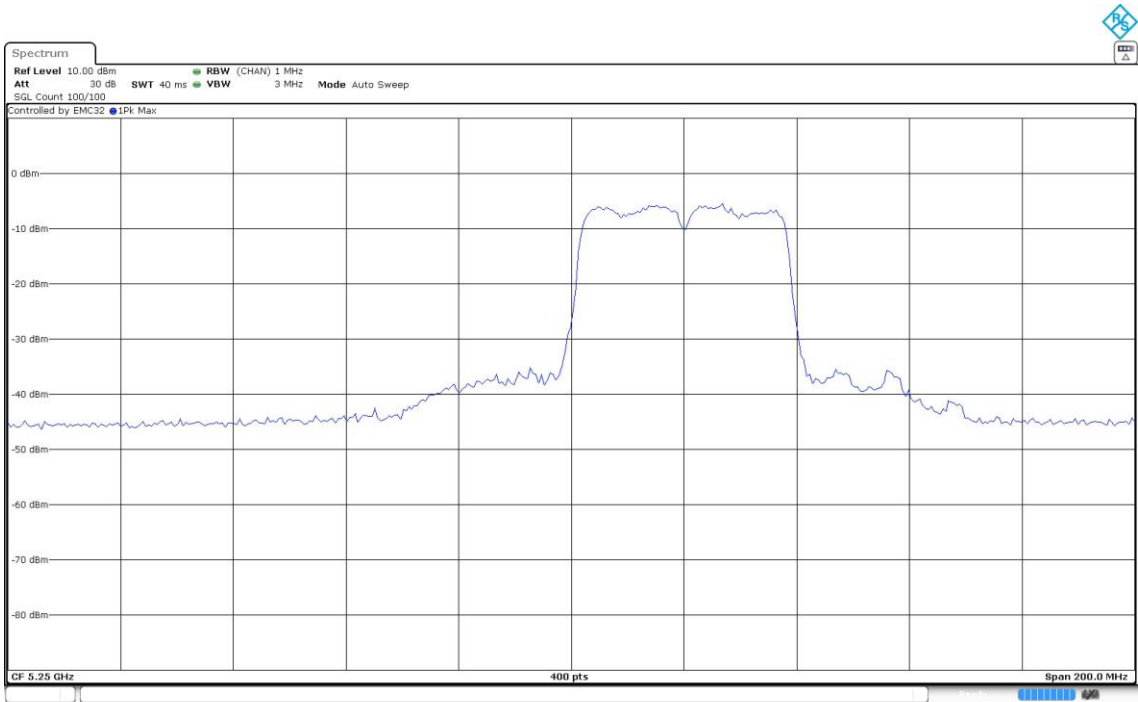
MIMO Mode: SISO

Results

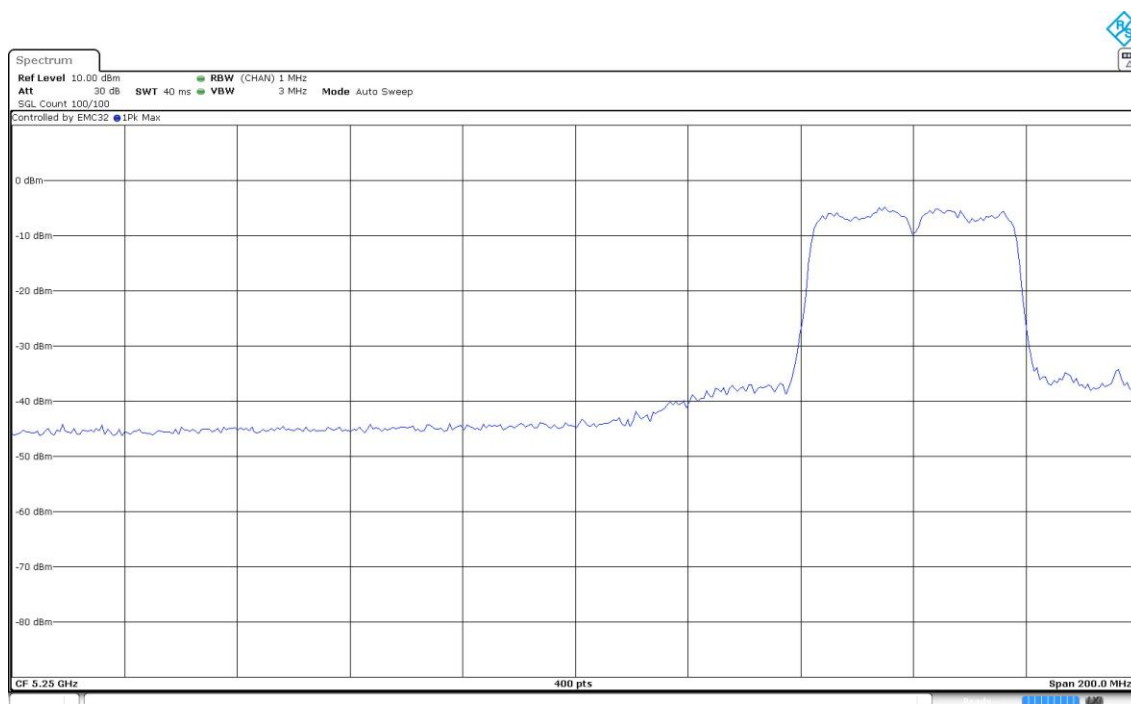
Port	Freq (MHz)	Freq (MHz)	Lvl (dBm)
1	5270.00000	5127.250000	-56.7
1	5270.00000	5126.750000	-56.8
1	5270.00000	5125.250000	-57.0
1	5270.00000	5127.750000	-57.2
1	5270.00000	5126.250000	-57.2
1	5270.00000	5125.750000	-57.3
1	5270.00000	5124.250000	-57.3
1	5270.00000	5124.750000	-57.4
1	5270.00000	5128.250000	-57.8
1	5270.00000	5123.250000	-57.9
1	5270.00000	5123.750000	-58.2
1	5270.00000	5122.750000	-58.6
1	5270.00000	5128.750000	-58.8
1	5270.00000	5116.750000	-58.8
1	5270.00000	5122.250000	-59.2
1	5310.00000	5350.250000	-33.6
1	5310.00000	5351.250000	-34.5
1	5310.00000	5351.750000	-34.6
1	5310.00000	5352.250000	-35.0
1	5310.00000	5353.250000	-35.6
1	5310.00000	5350.750000	-35.6
1	5310.00000	5357.250000	-36.1
1	5310.00000	5354.750000	-36.4
1	5310.00000	5356.750000	-36.8
1	5310.00000	5357.750000	-36.8
1	5310.00000	5352.750000	-36.8
1	5310.00000	5358.750000	-37.1
1	5310.00000	5354.250000	-37.5
1	5310.00000	5358.250000	-37.5
1	5310.00000	5356.250000	-37.6

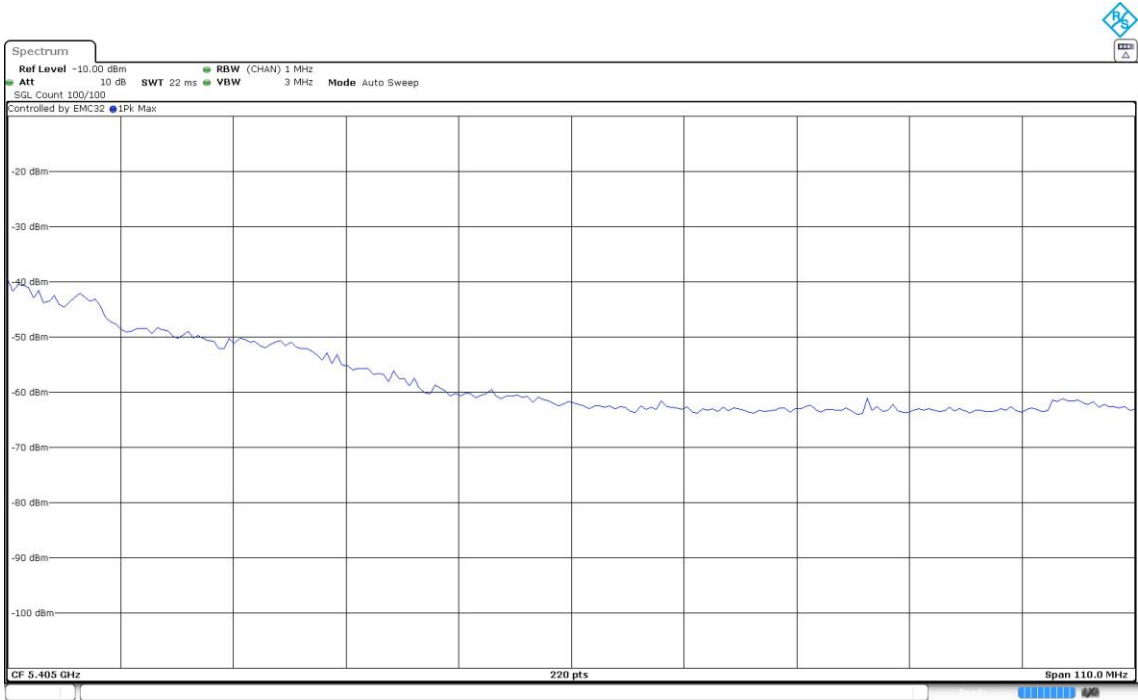
Verdict

Pass



Images:





Modulation: 802.11a (OFDM 6 Mbit/s)

MIMO Mode: SISO

Results

Port	Freq (MHz)	Freq (MHz)	Lvl (dBm)
1	5260.00000	5110.250000	-55.8
1	5260.00000	5111.750000	-55.9
1	5260.00000	5111.250000	-56.1
1	5260.00000	5112.750000	-56.1
1	5260.00000	5117.750000	-56.1
1	5260.00000	5106.250000	-56.2
1	5260.00000	5102.250000	-56.2
1	5260.00000	5107.250000	-56.2
1	5260.00000	5115.750000	-56.4
1	5260.00000	5114.750000	-56.4
1	5260.00000	5110.750000	-56.4
1	5260.00000	5102.750000	-56.4
1	5260.00000	5117.250000	-56.4
1	5260.00000	5044.750000	-56.5
1	5260.00000	5109.250000	-56.5
1	5320.00000	5354.250000	-49.6
1	5320.00000	5350.250000	-49.9
1	5320.00000	5353.250000	-50.1
1	5320.00000	5352.750000	-50.2
1	5320.00000	5352.250000	-50.4
1	5320.00000	5350.750000	-50.5
1	5320.00000	5351.250000	-50.7
1	5320.00000	5354.750000	-50.8
1	5320.00000	5355.750000	-50.8
1	5320.00000	5353.750000	-51.0
1	5320.00000	5351.750000	-51.1
1	5320.00000	5356.250000	-51.3
1	5320.00000	5355.250000	-51.4
1	5320.00000	5392.750000	-52.5
1	5320.00000	5357.250000	-52.5

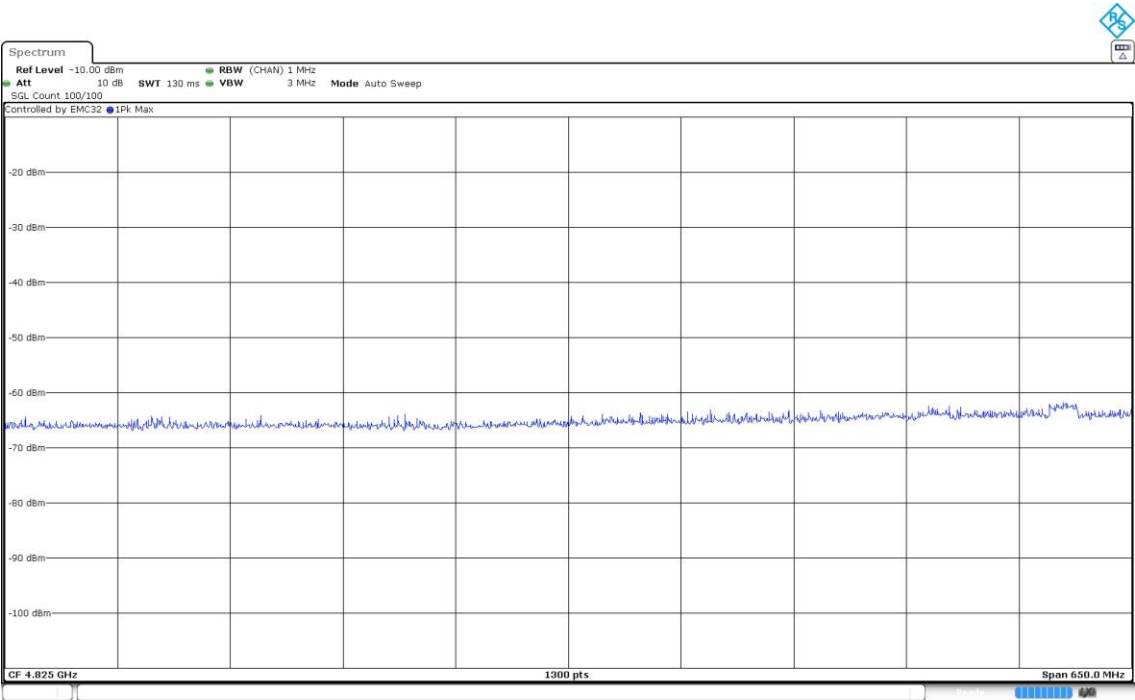
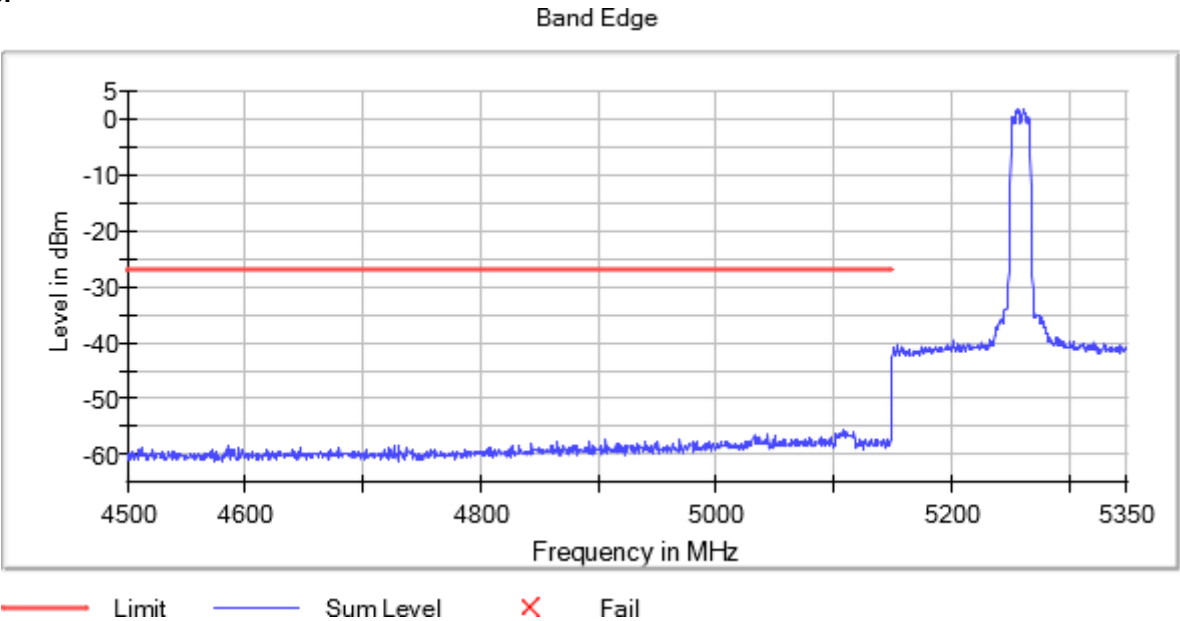
Verdict

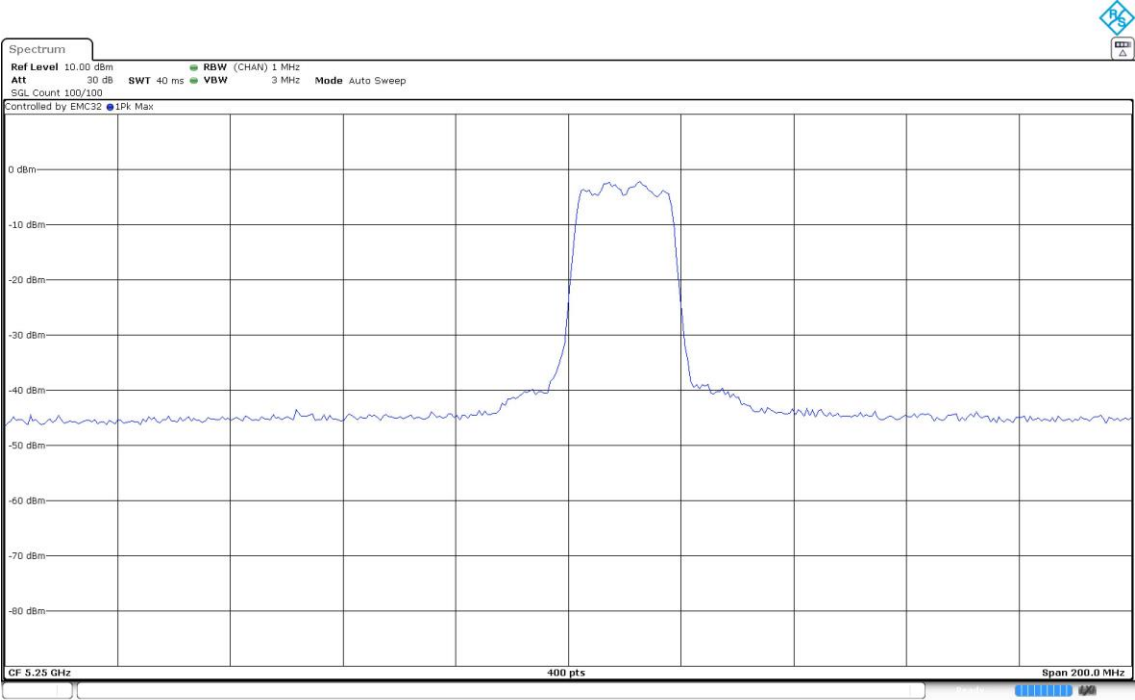
Pass

Attachments

Active Port = 1 Frequency MHz = 5260.00000
Modulation = 802.11a (OFDM 6 Mbit/s) MIMO Mode = SISO

Images:



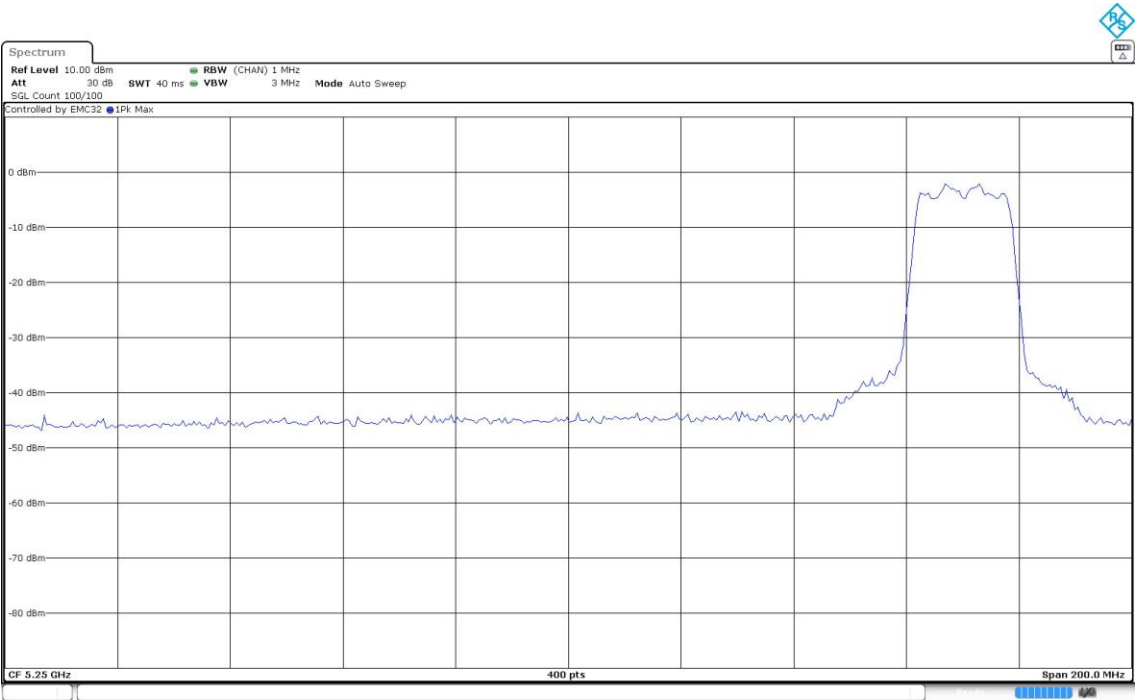
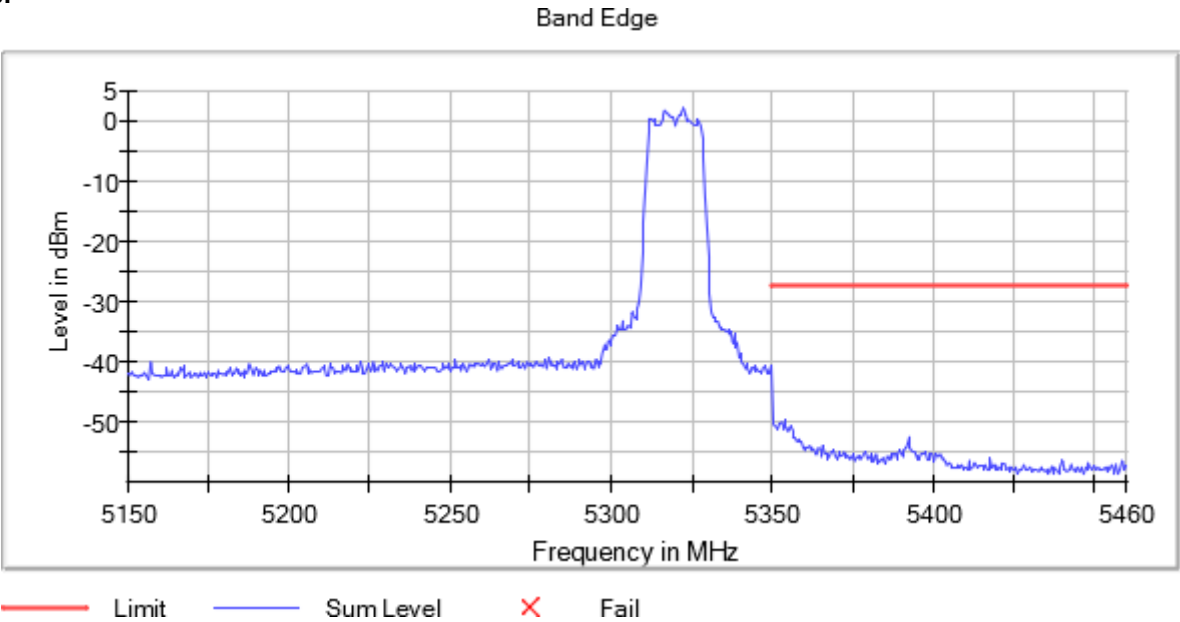


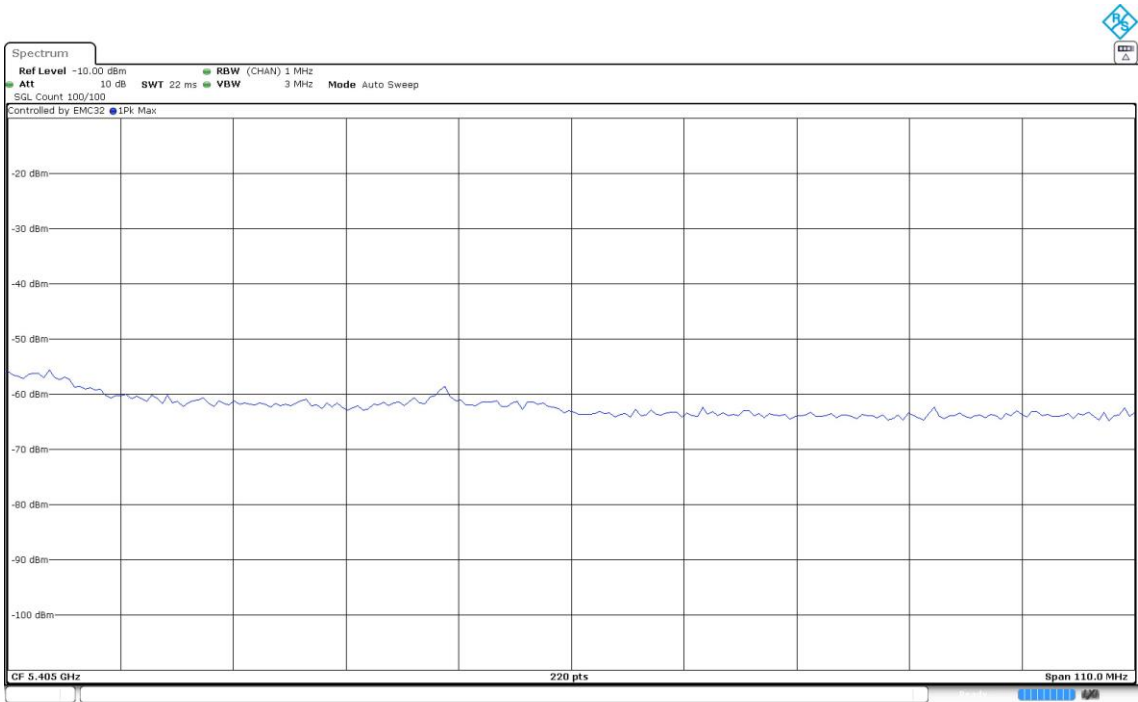
Tables:
Spectrum Analyzer Parameters

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
5110.250000	-55.824	28.8	-27.000	PASS
5111.750000	-55.912	28.9	-27.000	PASS
5111.250000	-56.071	29.1	-27.000	PASS
5112.750000	-56.089	29.1	-27.000	PASS
5117.750000	-56.102	29.1	-27.000	PASS
5106.250000	-56.172	29.2	-27.000	PASS
5102.250000	-56.181	29.2	-27.000	PASS
5107.250000	-56.243	29.2	-27.000	PASS
5115.750000	-56.354	29.4	-27.000	PASS
5114.750000	-56.375	29.4	-27.000	PASS
5110.750000	-56.377	29.4	-27.000	PASS
5102.750000	-56.405	29.4	-27.000	PASS
5117.250000	-56.409	29.4	-27.000	PASS
5044.750000	-56.496	29.5	-27.000	PASS
5109.250000	-56.502	29.5	-27.000	PASS

Active Port = 1 Frequency MHz = 5320.00000
Modulation = 802.11a (OFDM 6 Mbit/s) MIMO Mode = SISO

Images:





Modulation: 802.11ac VHT20 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	Freq (MHz)	Lvl (dBm)
1	5260.00000	5107.750000	-60.2
1	5260.00000	5113.250000	-60.4
1	5260.00000	5032.750000	-60.5
1	5260.00000	5109.750000	-60.5
1	5260.00000	5103.750000	-60.5
1	5260.00000	5106.750000	-60.5
1	5260.00000	5118.750000	-60.6
1	5260.00000	5114.750000	-60.6
1	5260.00000	5113.750000	-60.6
1	5260.00000	5105.750000	-60.6
1	5260.00000	5115.250000	-60.7
1	5260.00000	5103.250000	-60.7
1	5260.00000	5108.250000	-60.8
1	5260.00000	5115.750000	-60.8
1	5260.00000	5114.250000	-60.8
1	5320.00000	5350.750000	-51.8
1	5320.00000	5352.250000	-51.9
1	5320.00000	5351.750000	-51.9
1	5320.00000	5351.250000	-52.0
1	5320.00000	5353.250000	-52.1
1	5320.00000	5353.750000	-52.1
1	5320.00000	5350.250000	-52.2
1	5320.00000	5355.250000	-52.2
1	5320.00000	5352.750000	-52.4
1	5320.00000	5354.750000	-52.4
1	5320.00000	5354.250000	-52.7
1	5320.00000	5355.750000	-53.2
1	5320.00000	5356.250000	-53.7
1	5320.00000	5357.250000	-53.9
1	5320.00000	5356.750000	-54.3

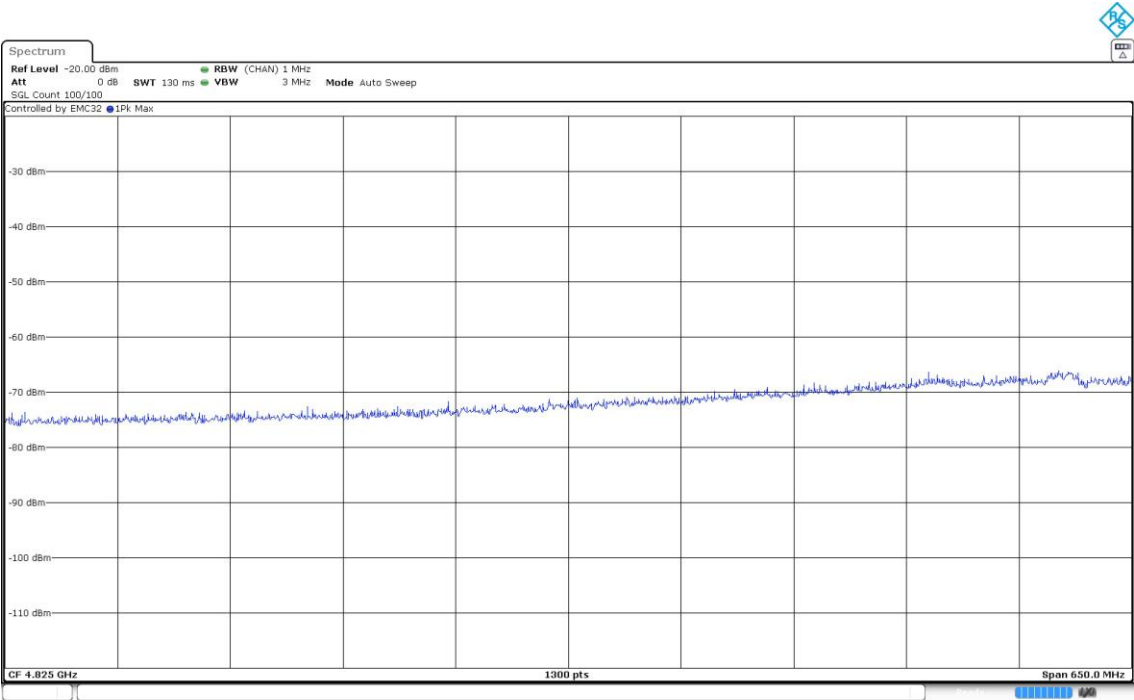
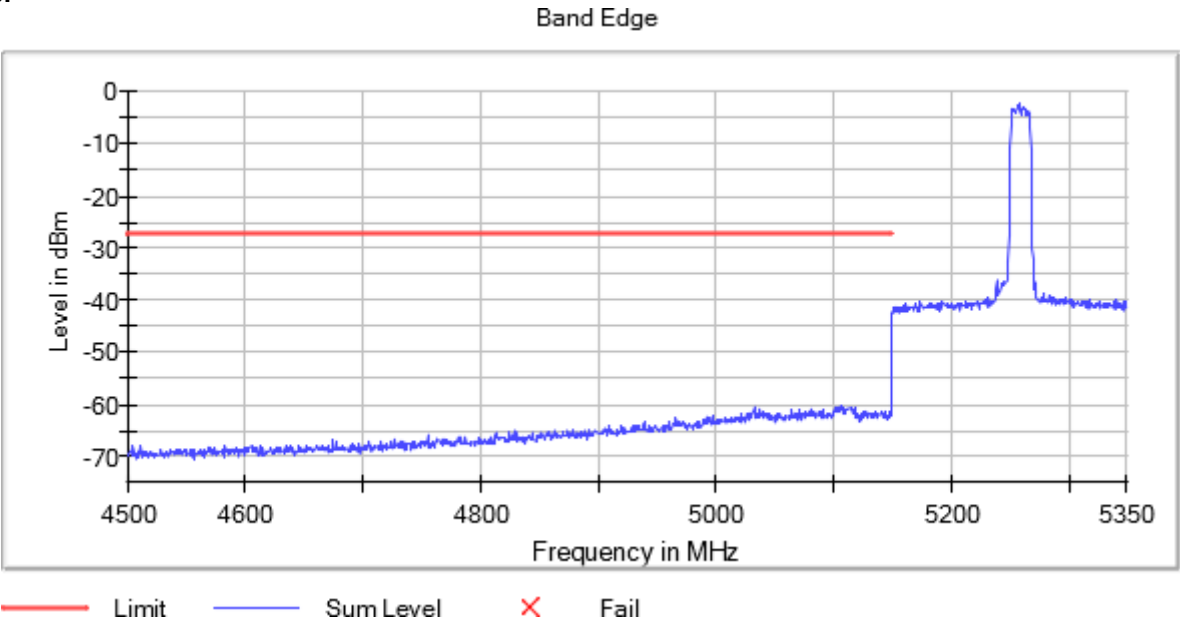
Verdict

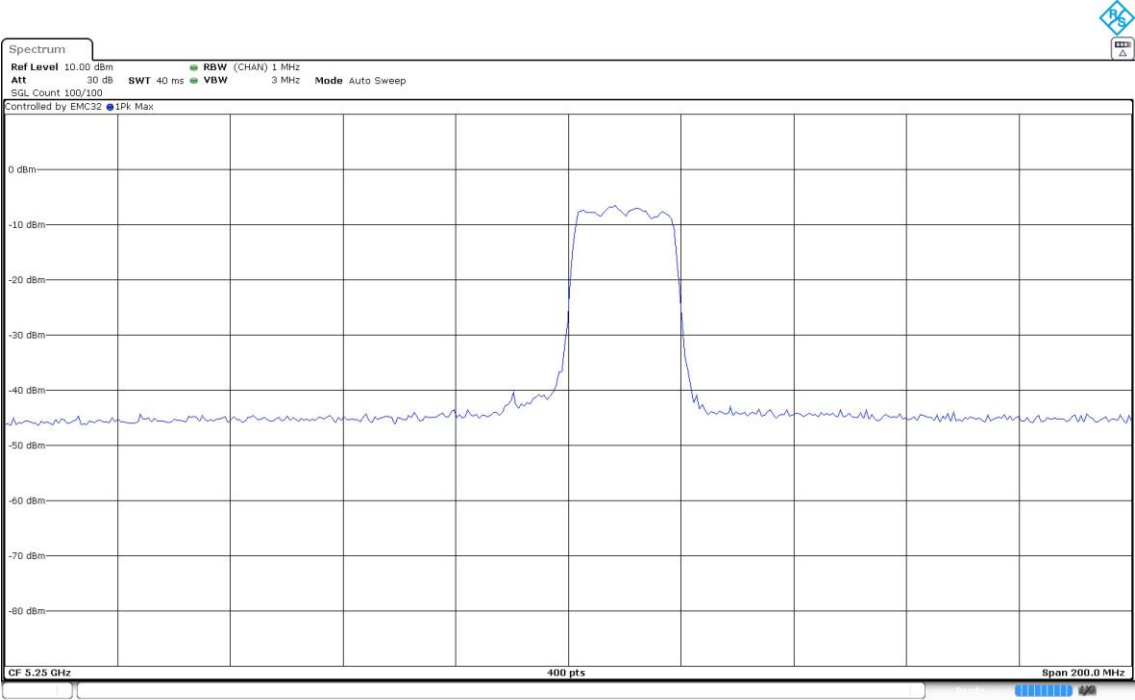
Pass

Attachments

Active Port = 1
Frequency MHz = 5260.00000
Modulation = 802.11ac VHT20 (OFDM MCS0) MIMO Mode = SISO

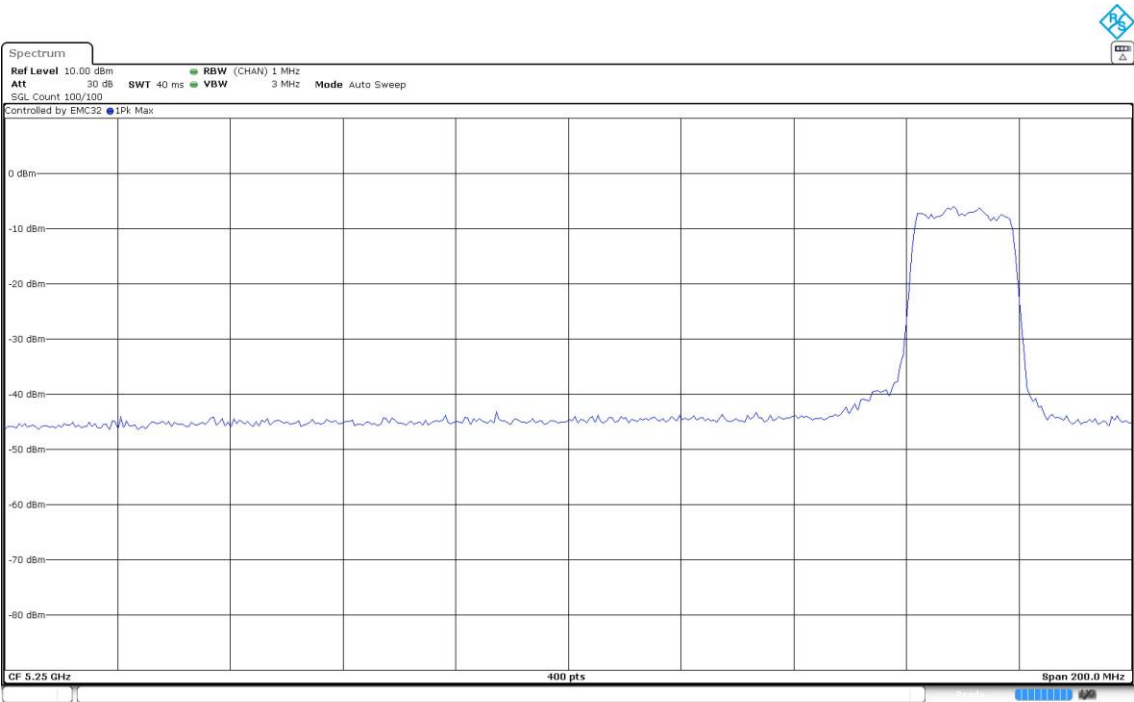
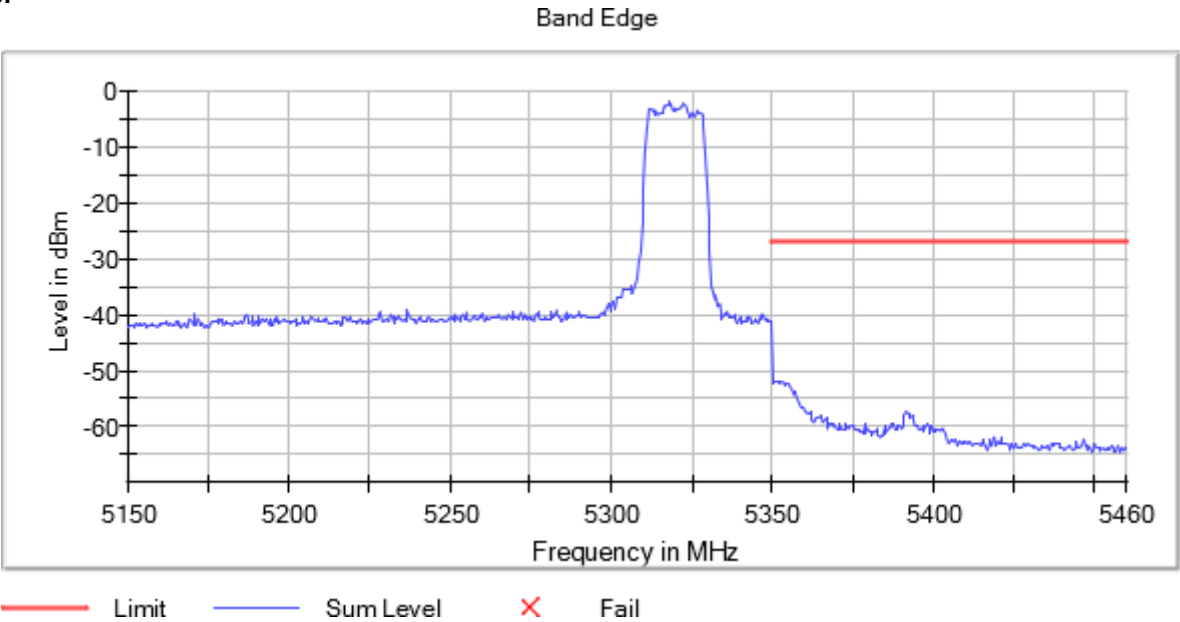
Images:

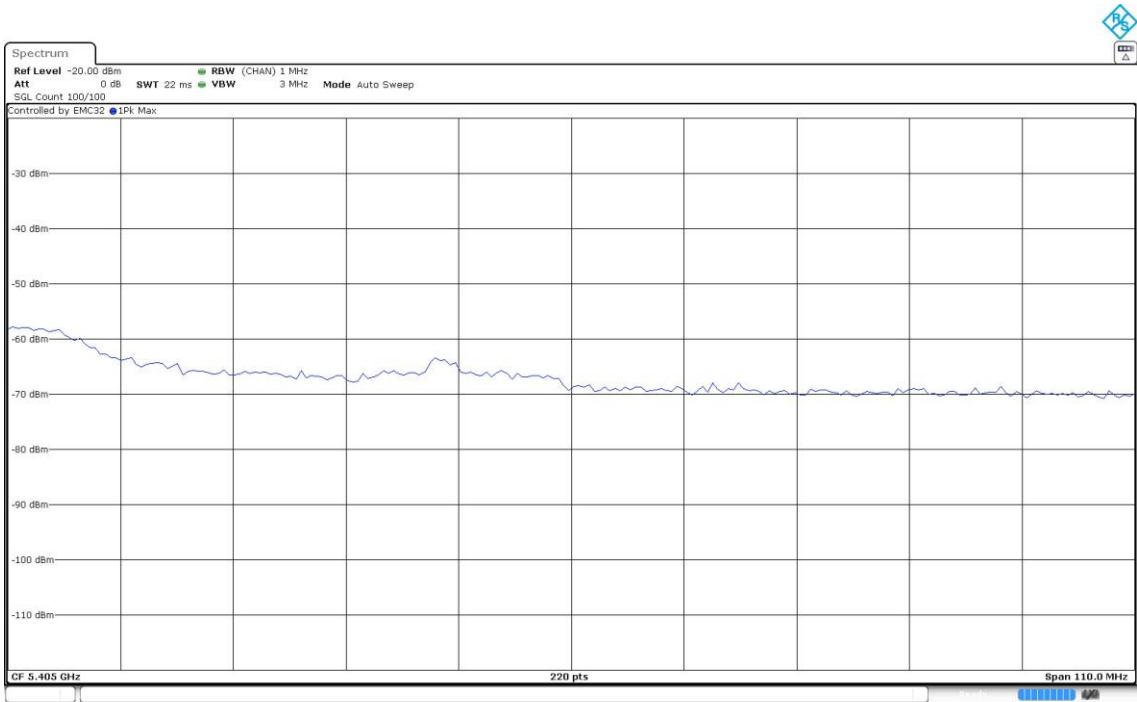




Active Port = 1
Modulation = 802.11ac VHT20 (OFDM MCS0) MIMO Mode = SISO
Frequency MHz = 5320.00000

Images:





Modulation: 802.11ac VHT40 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	Freq (MHz)	Lvl (dBm)
1	5270.00000	5124.750000	-58.5
1	5270.00000	5126.250000	-58.8
1	5270.00000	5127.750000	-59.0
1	5270.00000	5126.750000	-59.1
1	5270.00000	5127.250000	-59.3
1	5270.00000	5125.250000	-59.4
1	5270.00000	5125.750000	-59.6
1	5270.00000	5123.250000	-59.8
1	5270.00000	5123.750000	-59.8
1	5270.00000	5124.250000	-59.9
1	5270.00000	5128.250000	-60.3
1	5270.00000	5132.250000	-60.4
1	5270.00000	5122.750000	-60.4
1	5270.00000	5119.250000	-60.4
1	5270.00000	5103.750000	-60.5
1	5310.00000	5354.750000	-45.2
1	5310.00000	5353.250000	-45.2
1	5310.00000	5355.750000	-45.2
1	5310.00000	5357.750000	-45.8
1	5310.00000	5353.750000	-45.9
1	5310.00000	5358.250000	-46.1
1	5310.00000	5352.250000	-46.2
1	5310.00000	5354.250000	-46.3
1	5310.00000	5356.750000	-46.4
1	5310.00000	5351.750000	-46.6
1	5310.00000	5351.250000	-46.7
1	5310.00000	5357.250000	-46.7
1	5310.00000	5352.750000	-46.8
1	5310.00000	5358.750000	-47.0
1	5310.00000	5356.250000	-47.1

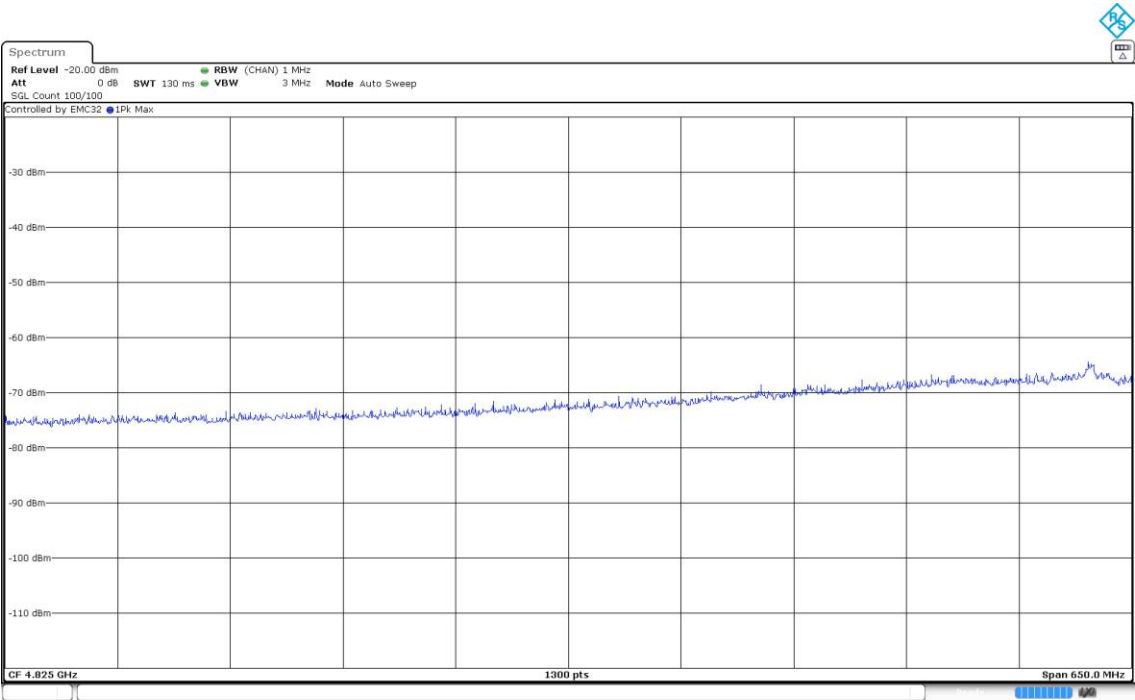
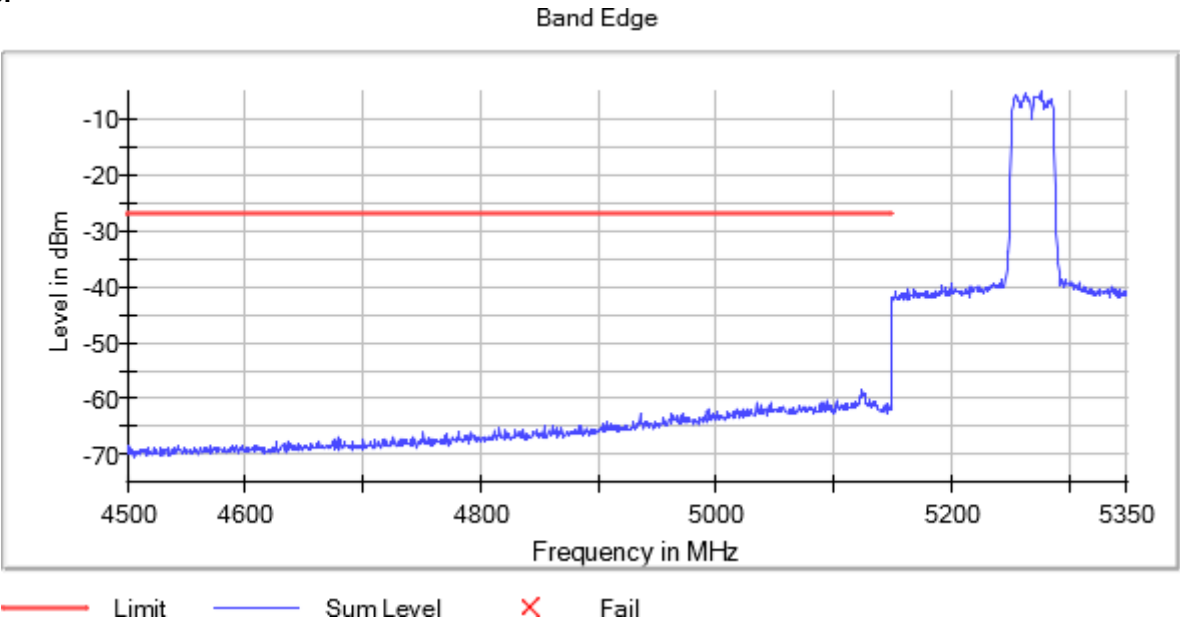
Verdict

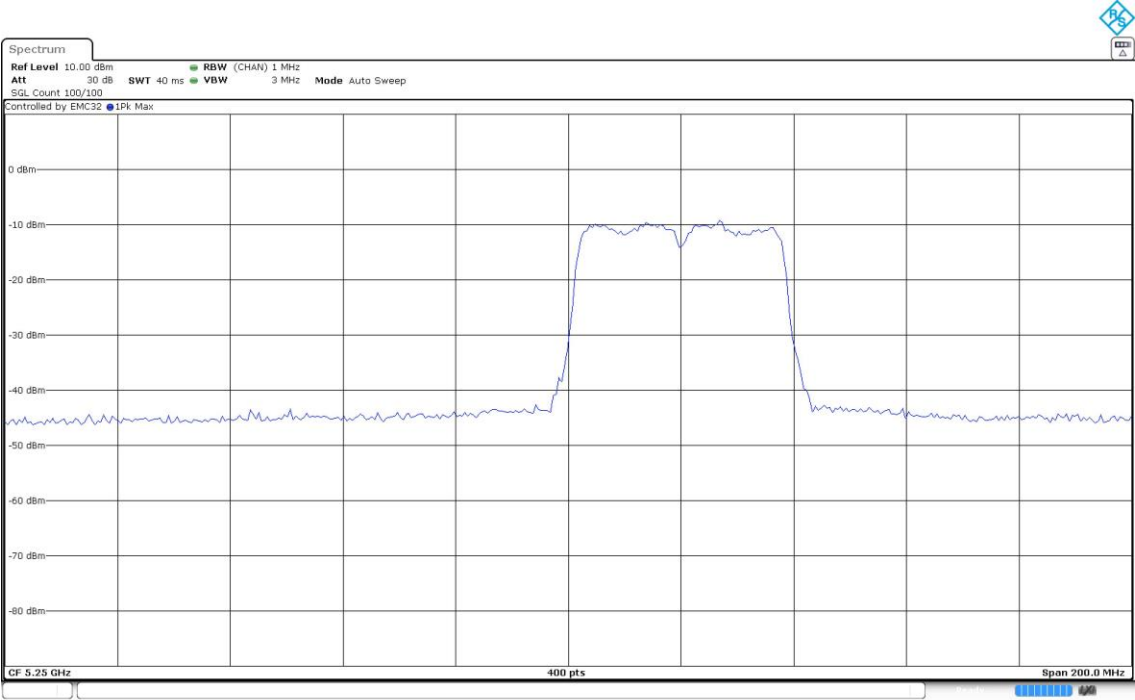
Pass

Attachments

Active Port = 1
Modulation = 802.11ac VHT40 (OFDM MCS0) MIMO Mode = SISO
Frequency MHz = 5270.00000

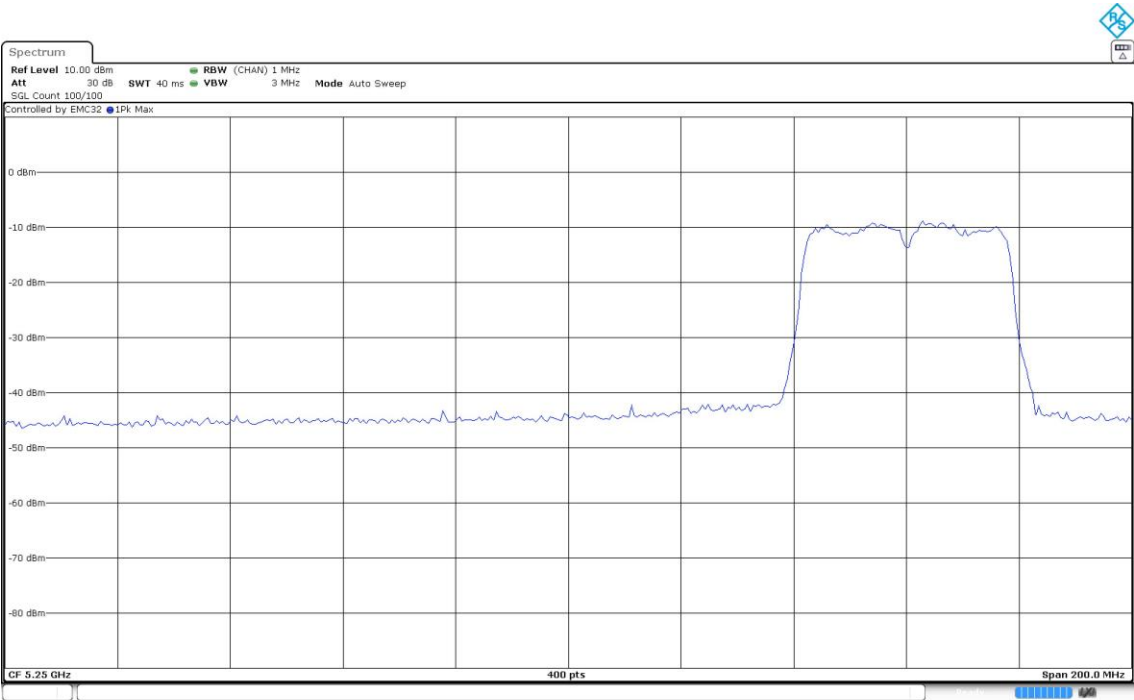
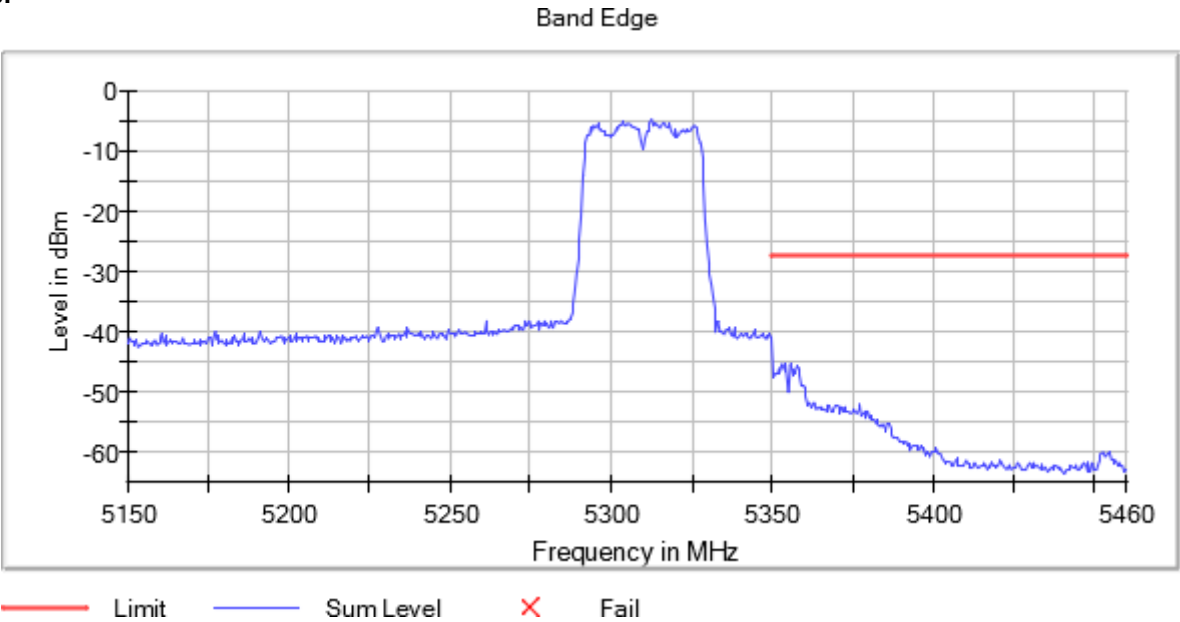
Images:

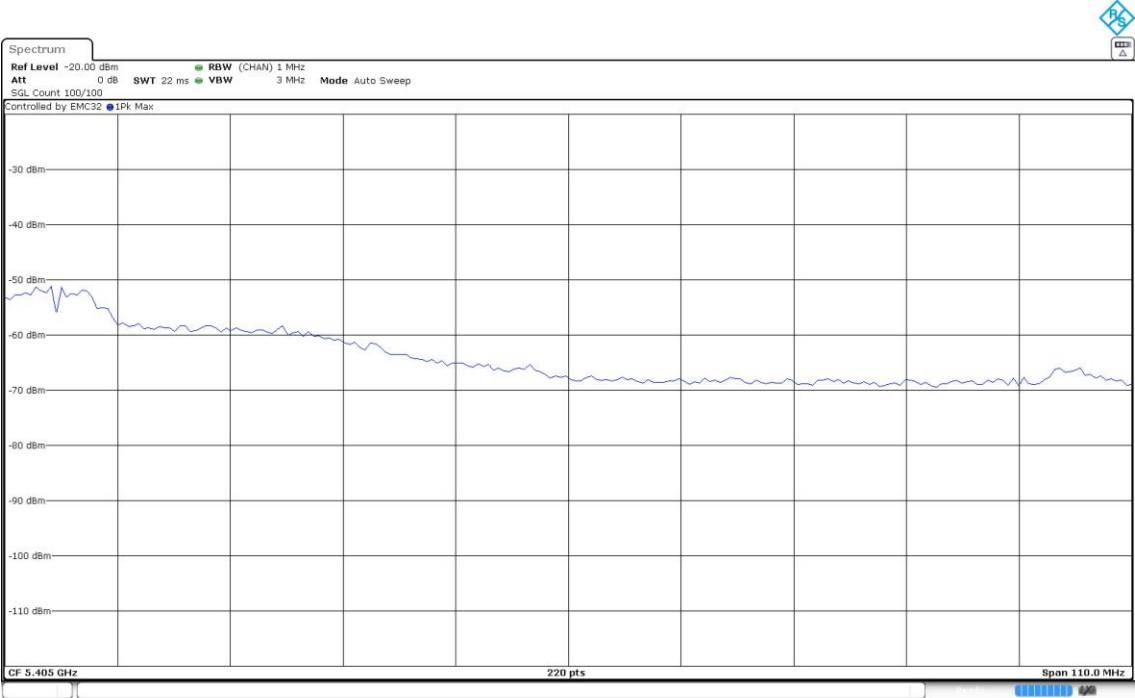




Active Port = 1
Modulation = 802.11ac VHT40 (OFDM MCS0) MIMO Mode = SISO
Frequency MHz = 5310.00000

Images:





Modulation: 802.11ac VHT80 (OFDM MCS0)

MIMO Mode: SISO

Results

Port	Freq (MHz)	Freq (MHz)	Lvl (dBm)
1	5290.00000	5107.250000	-61.1
1	5290.00000	5138.250000	-61.3
1	5290.00000	5365.750000	-40.3
1	5290.00000	5365.250000	-40.7
1	5290.00000	5118.750000	-61.3
1	5290.00000	5373.750000	-41.2
1	5290.00000	5142.750000	-61.4
1	5290.00000	5374.250000	-41.4
1	5290.00000	5121.750000	-61.6
1	5290.00000	5364.750000	-41.5
1	5290.00000	5137.750000	-61.7
1	5290.00000	5135.250000	-61.9
1	5290.00000	5364.250000	-41.5
1	5290.00000	5110.250000	-61.9
1	5290.00000	5357.750000	-41.8
1	5290.00000	5356.250000	-41.9
1	5290.00000	5101.750000	-61.9
1	5290.00000	5112.750000	-62.0
1	5290.00000	5362.750000	-41.9
1	5290.00000	5366.250000	-42.0
1	5290.00000	5130.250000	-62.0
1	5290.00000	5361.250000	-42.0
1	5290.00000	5128.250000	-62.0
1	5290.00000	5363.750000	-42.1
1	5290.00000	5132.750000	-62.0
1	5290.00000	5081.750000	-62.1
1	5290.00000	5354.250000	-42.3
1	5290.00000	5368.750000	-42.4
1	5290.00000	5114.250000	-62.1
1	5290.00000	5359.250000	-42.4

Verdict

Pass

Attachments

Active Port = 1
Modulation = 802.11ac VHT80 (OFDM MCS0) MIMO Mode = SISO
Frequency MHz = 5290.00000

Images:

