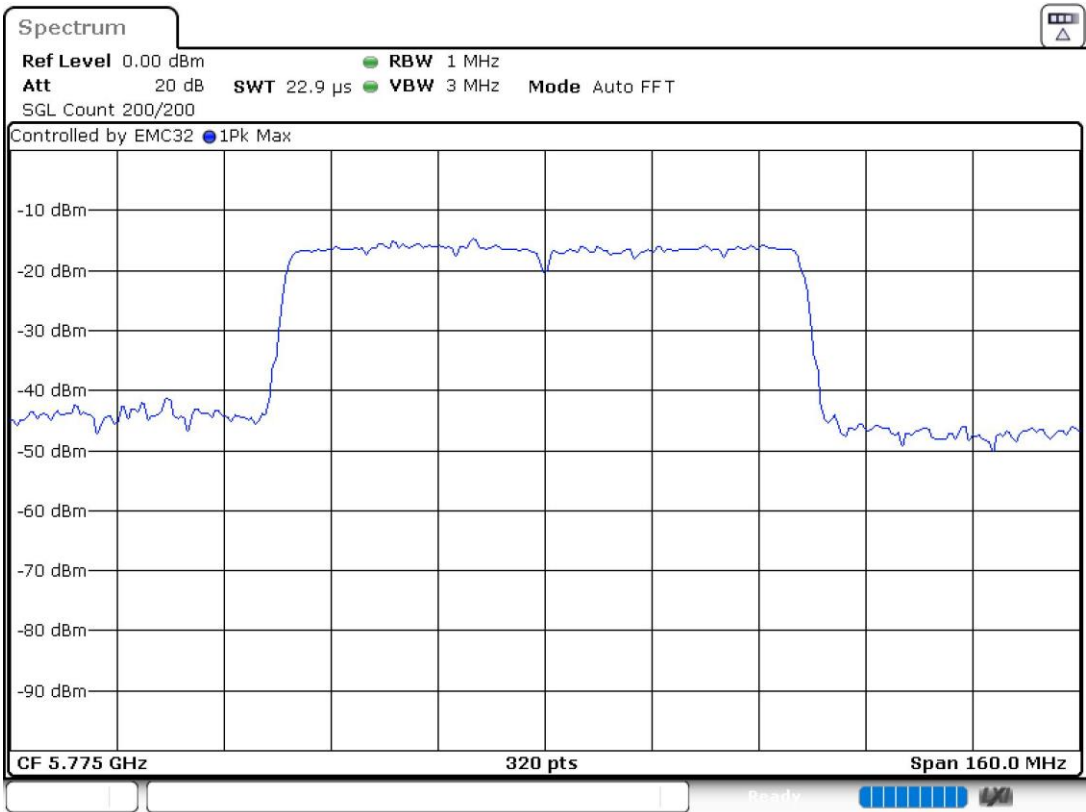
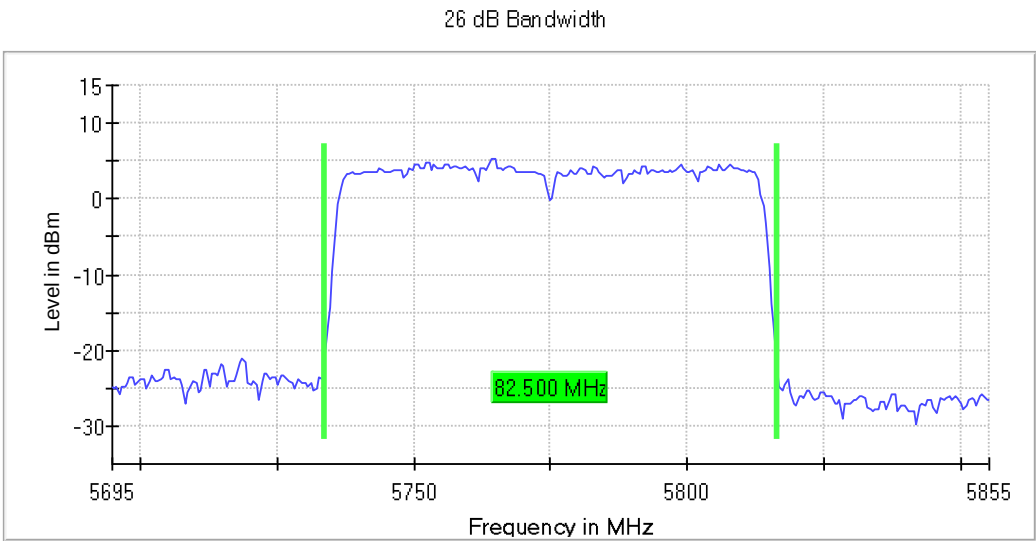


U-NII-3 (5725-5850 MHz)

- Single Channel 155 (5775 MHz):



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

INDEX

TEST CONDITIONS.....120

FCC 15.407 (a)(1)(ii), (a)(1)(iv) / RSS 6.2.1.1 Transmitter Maximum Conducted Output Power.....125

FCC 15.407 (a)(1)(ii), (a)(1)(iv) / RSS 6.2.1.1 Transmitter Maximum Power Spectral Density.....130

FCC 15.407 (b)(1) / RSS-247 6.2.1.2 Transmitter Out of Band Radiated Emissions.....162

FCC 15.407 (b)(1) / RSS-247 6.2.1.2 Transmitter Band Edge Radiated Emissions.....175

TEST CONDITIONS

(*) Declared by the Client.

POWER SUPPLY (*):

Vnominal: 12 Vdc
Type of Power Supply: External DC (Vehicle Battery).

ANTENNA (*):

Type of Antenna: External.
Maximum Declared Antenna Gain U-NII-1: +2.38 dBi

TEST FREQUENCIES (*):

Technology Tested:	WLAN (IEEE 802.11 a20 / n2040 / ac204080 1x1) U-NII-1	
Modes:	802.11a: 6, 9, 12, 18, 24, 36, 48 & 54 Mbps (SISO, with CDD)	
	802.11n HT20: MCS0 to MCS23 (SISO, 1 spatial stream)	
	802.11n HT40: MCS0 to MCS23 (SISO, 1 spatial stream)	
	802.11ac VHT20: MCS0 to MCS9 (SISO, 1 spatial stream)	
	802.11ac VHT40: MCS0 to MCS9 (SISO, 1 spatial stream)	
	802.11ac VHT80: MCS0 to MCS9 (SISO, 1 spatial stream)	
Setting of cores / ports:	One.	
Beamforming:	No.	
Frequency Range:	5150 - 5250 MHz	
Operating Channel Bandwidth:	20 MHz	
Transmission Channels:	Channels	Channel Frequency (MHz)
	Low (36)	5180
	40	5200
	High (48)	5240
Operating Channel Bandwidth:	40 MHz	
Transmission Channels:	Channels	Channel Frequency (MHz)
	Low (38)	5190
	High (46)	5230
Operating Channel Bandwidth:	80 MHz	
Transmission Channels:	Channels	Channel Frequency (MHz)
	Single (42)	5210

POWER SETTINGS (*):

The next power settings were used to configure the sample for the tests.

U-NII-1. FCC:

Channel	Frequency	a	n	ac
36	5180 MHz	17	17	17
40	5200 MHz	17	17	17
48	5240 MHz	17	17	17
38	5190 MHz		17	17
46	5230 MHz		17	17
42	5210 MHz			17

U-NII-1. RSS:

Channel	Frequency	a	n	ac
36	5180 MHz	13	13	13
40	5200 MHz	13	13	13
48	5240 MHz	13	13	13
38	5190 MHz		13	13
46	5230 MHz		13	13
42	5210 MHz			13

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. They correspond to the next data rates:

- 802.11a: 6 Mbps SISO 1Tx.
- 802.11n HT20: MCS0 SISO 1Tx.
- 802.11n HT40: MCS0 SISO 1Tx.
- 802.11ac VHT20: MCS0 SISO 1Tx.
- 802.11ac VHT40: MCS0 SISO 1Tx.
- 802.11ac VHT80: MCS0 SISO 1Tx.

CONDUCTED MEASUREMENTS:

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

For all modes:



RADIATED MEASUREMENTS:

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna (Bilog antenna for the range from 30 MHz to 1000 MHz) and 1 GHz-18 GHz Double ridge horn antenna is situated at a distance of 3 m and a distance of 1.5 m for the frequency range 17 GHz-40 GHz (18 GHz-40 GHz horn antenna).

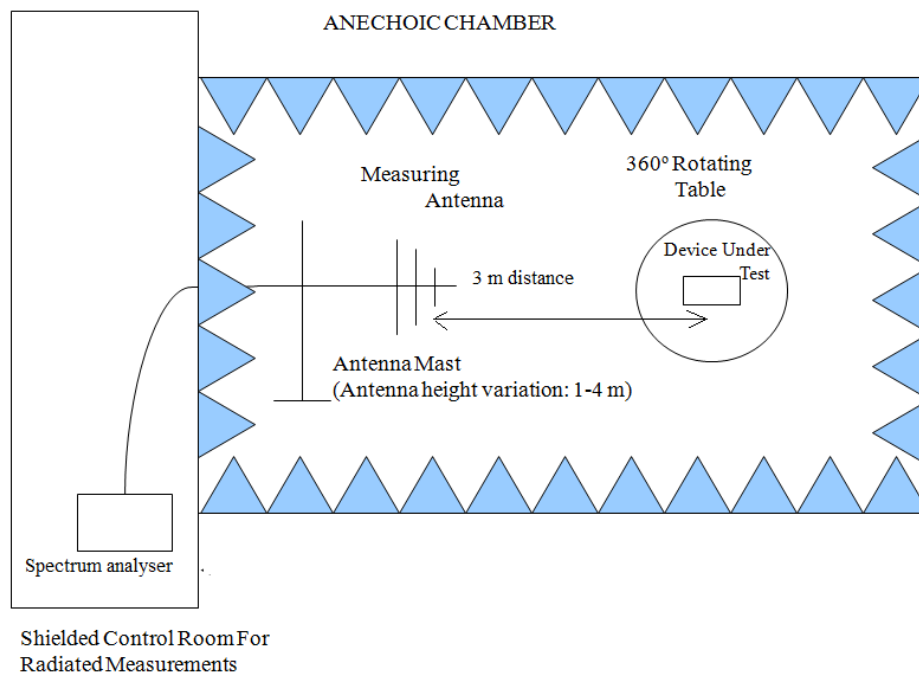
For radiated emissions in the range 17 GHz-40 GHz performed at a distance closer than the distance specified in the standard, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

The equipment under test was set up on a non-conductive platform above the ground plane and its situation and orientation were 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 (up to 17 GHz).

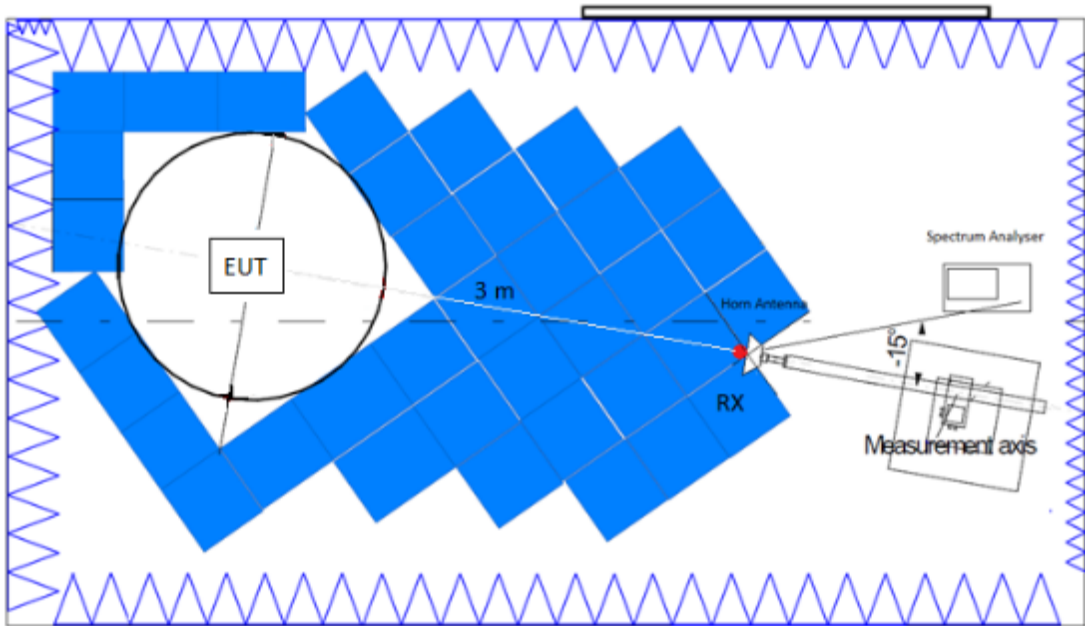
Measurements were made in both horizontal and vertical planes of polarization.

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.

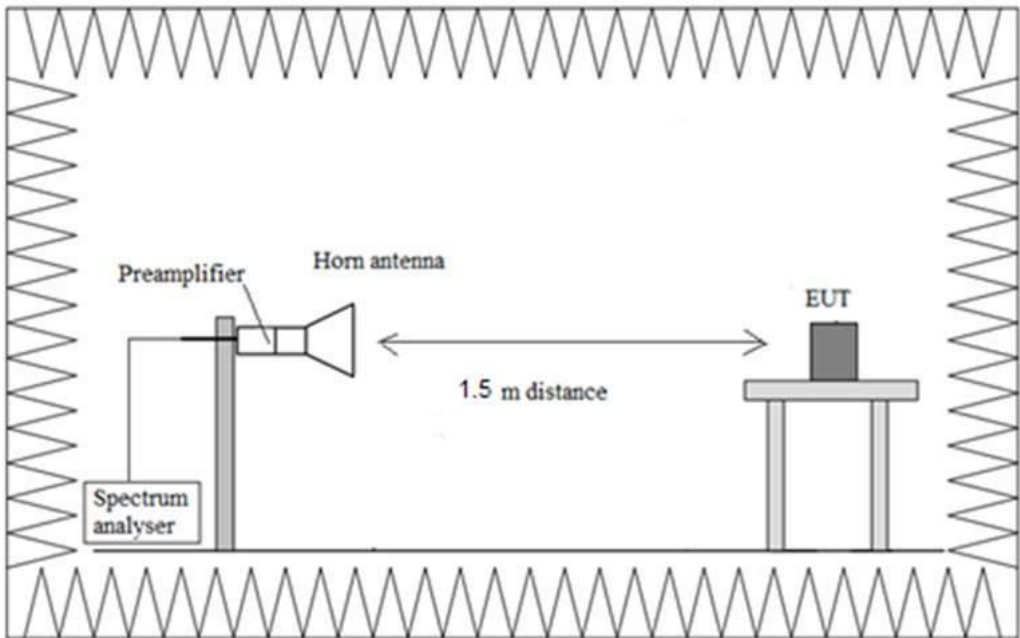
Radiated measurements setup $f < 1$ GHz:



Radiated measurements setup from 1 GHz to 17 GHz:



Radiated measurements setup $f > 17$ GHz:



FCC 15.407 (a)(1)(ii), (a)(1)(iv) / RSS 6.2.1.1 Transmitter Maximum Conducted Output Power

Limits

FCC 15.407:

For an indoor 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.

For client devices in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW (24 dBm) provided the maximum antenna gain does not exceed 6 dBi.

If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power 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 transmitter power control (TPC) in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

Results

The maximum conducted output power was measured using the method according to clause II.E.3.b) (Method PM-G) of 789033 D02 General UNII Test Procedures New Rules v02r01.

The e.i.r.p. levels are calculated by adding the declared maximum antenna gain (dBi).

For all modes of operation, the antenna gain is less than 6 dBi.

Maximum Declared Antenna Gain: +2.38 dBi

FCC power setting

SISO 802.11 a20:

Channels	Low Channel 36 (5180 MHz)	Channel 40 (5200 MHz)	High Channel 48 (5240 MHz)
Maximum Conducted Power (dBm)	14.348	14.831	15.076
Maximum Power EIRP (dBm)	16.728	17.211	17.456
Measurement uncertainty (dB)	< ±1 dB		

SISO 802.11 n20 (HT20):

Channels	Low Channel 36 (5180 MHz)	Channel 40 (5200 MHz)	High Channel 48 (5240 MHz)
Maximum Conducted Power (dBm)	14.368	14.843	15.085
Maximum Power EIRP (dBm)	16.748	17.223	17.465
Measurement uncertainty (dB)	< ±1 dB		

SISO 802.11 ac20 (VHT20):

Channels	Low Channel 36 (5180 MHz)	Channel 40 (5200 MHz)	High Channel 48 (5240 MHz)
Maximum Conducted Power (dBm)	14.422	14.835	15.094
Maximum Power EIRP (dBm)	16.802	17.215	17.474
Measurement uncertainty (dB)	< ±1 dB		

SISO 802.11 n40 (HT40):

Channels	Low Channel 38 (5190 MHz)	High Channel 46 (5230 MHz)
Maximum Conducted Power (dBm)	14.499	14.941
Maximum Power EIRP (dBm)	16.879	17.321
Measurement uncertainty (dB)	< ±1 dB	

SISO 802.11 ac40 (VHT40):

Channels	Low Channel 38 (5190 MHz)	High Channel 46 (5230 MHz)
Maximum Conducted Power (dBm)	14.458	14.991
Maximum Power EIRP (dBm)	16.838	17.371
Measurement uncertainty (dB)	< ±1 dB	

SISO 802.11 ac80 (VHT80):

Channel	Single Channel 42 (5210 MHz)
Maximum Conducted Power (dBm)	14.898
Maximum Power EIRP (dBm)	17.278
Measurement uncertainty (dB)	< ±1 dB

Verdict

Pass

RSS power setting

SISO 802.11 a20:

Channels	Low Channel 36 (5180 MHz)	Channel 40 (5200 MHz)	High Channel 48 (5240 MHz)
Maximum Conducted Power (dBm)	10.175	10.169	10.492
Maximum Power EIRP (dBm)	12.555	12.549	12.872
Measurement uncertainty (dB)	< ±1 dB		

SISO 802.11 n20 (HT20):

Channels	Low Channel 36 (5180 MHz)	Channel 40 (5200 MHz)	High Channel 48 (5240 MHz)
Maximum Conducted Power (dBm)	10.176	10.175	10.502
Maximum Power EIRP (dBm)	12.556	12.555	12.882
Measurement uncertainty (dB)	< ±1 dB		

SISO 802.11 ac20 (VHT20):

Channels	Low Channel 36 (5180 MHz)	Channel 40 (5200 MHz)	High Channel 48 (5240 MHz)
Maximum Conducted Power (dBm)	10.227	10.211	10.478
Maximum Power EIRP (dBm)	12.607	12.591	12.858
Measurement uncertainty (dB)	< ±1 dB		

SISO 802.11 n40 (HT40):

Channels	Low Channel 38 (5190 MHz)	High Channel 46 (5230 MHz)
Maximum Conducted Power (dBm)	10.143	10.399
Maximum Power EIRP (dBm)	12.523	12.779
Measurement uncertainty (dB)	< ±1 dB	

SISO 802.11 ac40 (VHT40):

Channels	Low Channel 38 (5190 MHz)	High Channel 46 (5230 MHz)
Maximum Conducted Power (dBm)	10.115	10.391
Maximum Power EIRP (dBm)	12.495	12.771
Measurement uncertainty (dB)	< ±1 dB	

SISO 802.11 ac80 (VHT80):

Channel	Single Channel 42 (5210 MHz)
Maximum Conducted Power (dBm)	10.379
Maximum Power EIRP (dBm)	12.759
Measurement uncertainty (dB)	< ±1 dB

Verdict

Pass

FCC 15.407 (a)(1)(ii), (a)(1)(iv) / RSS 6.2.1.1 Transmitter Maximum Power Spectral Density

Limits

FCC 15.407:

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.

For client devices in the 5.15-5.25 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:

The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.

Results

The maximum power spectral density (PSD) was measured using the method according to clause II.F) referencing clauses II.E.2.b) (Method SA-1) and E.2.d) (Method SA-2) of Guidance 789033 D02 General UNII Test Procedures New Rules v02r01.

The result of PSD was measured by setting a marker on the peak of the signal on the spectrum analyzer.

Duty cycle correction factor is added to the conducted measured PSD value when applicable (duty cycle < 98%).

The e.i.r.p. levels are calculated by adding the declared maximum antenna gain (dBi).

For all modes of operation, the antenna gain is less than 6 dBi.

Maximum Declared Antenna Gain: +2.38 dBi

FCC power setting:

SISO 802.11 a20:

Channels	Low Channel 36 (5180 MHz)	Channel 40 (5200 MHz)	High Channel 48 (5240 MHz)
Maximum Conducted PSD (dBm/MHz)	2.429	3.153	3.422
Measurement uncertainty (dB)	< ±1.3		

SISO 802.11 n20 (HT20):

Channels	Low Channel 36 (5180 MHz)	Channel 40 (5200 MHz)	High Channel 48 (5240 MHz)
Maximum Conducted PSD (dBm/MHz)	2.184	2.830	3.160
Measurement uncertainty (dB)	< ±1.3		

SISO 802.11 ac20 (VHT20):

Channels	Low Channel 36 (5180 MHz)	Channel 40 (5200 MHz)	High Channel 48 (5240 MHz)
Maximum Conducted PSD (dBm/MHz)	2.260	2.897	3.099
Measurement uncertainty (dB)	< ±1.3		

SISO 802.11 n40 (HT40):

Channels	Low Channel 38 (5190 MHz)	High Channel 46 (5230 MHz)
Maximum Conducted PSD (dBm/MHz)	-0.405	0.042
Measurement uncertainty (dB)	< ±1.3	

SISO 802.11 ac40 (VHT40):

Channels	Low Channel 38 (5190 MHz)	High Channel 46 (5230 MHz)
Maximum Conducted PSD (dBm/MHz)	-0.372	0.147
Measurement uncertainty (dB)	< ±1.3	

SISO 802.11 ac80 (VHT80):

Duty Cycle Correction Factor: 0.21 dB

Channel	Single Channel 42 (5210 MHz)
Maximum Conducted PSD (dBm/MHz)	-3.491
Maximum Corrected Conducted PSD (dBm/MHz)	-3.281
Measurement uncertainty (dB)	< ±1.3

Verdict

Pass

RSS power setting:

SISO 802.11 a20:

Channels	Low Channel 36 (5180 MHz)	Channel 40 (5200 MHz)	High Channel 48 (5240 MHz)
Maximum Conducted PSD (dBm/MHz)	-1.586	-1.543	-1.085
Maximum PSD EIRP (dBm/MHz)	0.794	0.837	1.295
Measurement uncertainty (dB)	< ±1.3		

SISO 802.11 n20 (HT20):

Channels	Low Channel 36 (5180 MHz)	Channel 40 (5200 MHz)	High Channel 48 (5240 MHz)
Maximum Conducted PSD (dBm/MHz)	-1.833	-1.786	-1.335
Maximum PSD EIRP (dBm/MHz)	0.547	0.594	1.045
Measurement uncertainty (dB)	< ±1.3		

SISO 802.11 ac20 (VHT20):

Channels	Low Channel 36 (5180 MHz)	Channel 40 (5200 MHz)	High Channel 48 (5240 MHz)
Maximum Conducted PSD (dBm/MHz)	-1.770	-1.772	-1.456
Maximum PSD EIRP (dBm/MHz)	0.610	0.608	0.924
Measurement uncertainty (dB)	< ±1.3		

SISO 802.11 n40 (HT40):

Channels	Low Channel 38 (5190 MHz)	High Channel 46 (5230 MHz)
Maximum Conducted PSD (dBm/MHz)	-4.822	-4.421
Maximum PSD EIRP (dBm/MHz)	-2.442	-2.041
Measurement uncertainty (dB)	< ±1.3	

SISO 802.11 ac40 (VHT40):

Channels	Low Channel 38 (5190 MHz)	High Channel 46 (5230 MHz)
Maximum Conducted PSD (dBm/MHz)	-4.918	-4.426
Maximum PSD EIRP (dBm/MHz)	-2.538	-2.046
Measurement uncertainty (dB)	< ±1.3	

SISO 802.11 ac80 (VHT80):

Duty Cycle Correction Factor: 0.21 dB

Channel	Single Channel 42 (5210 MHz)
Maximum Conducted PSD (dBm/MHz)	-8.085
Maximum Corrected Conducted PSD (dBm/MHz)	-7.875
Maximum PSD EIRP (dBm/MHz)	-5.495
Measurement uncertainty (dB)	< ±1.3

Verdict

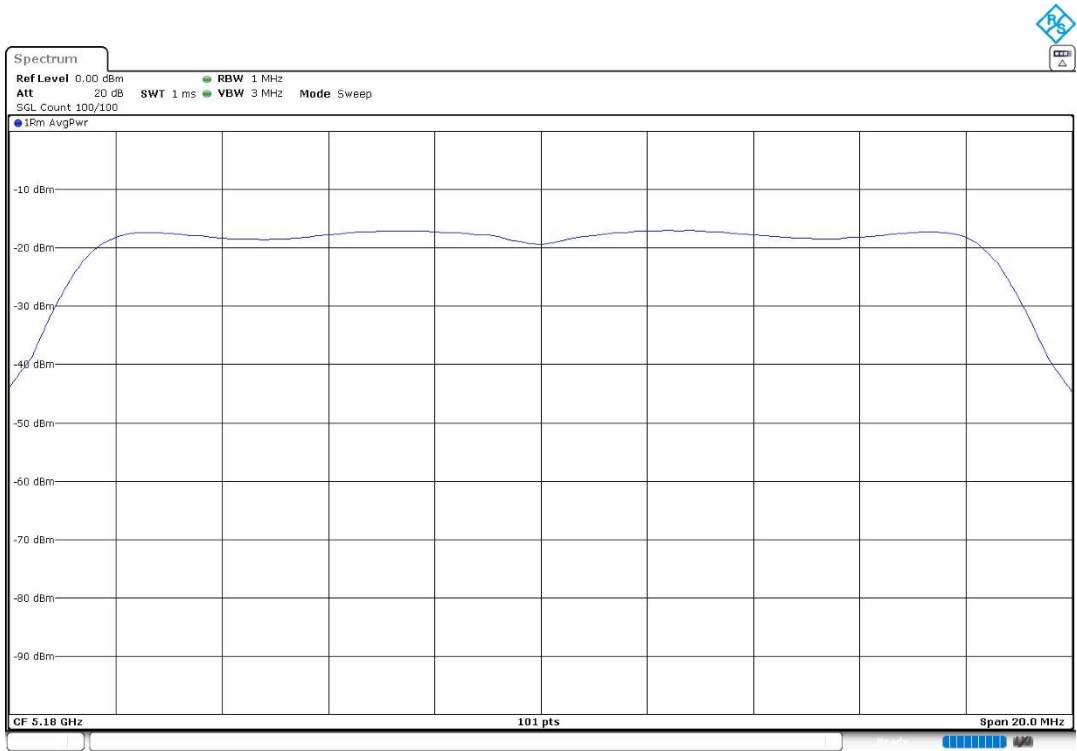
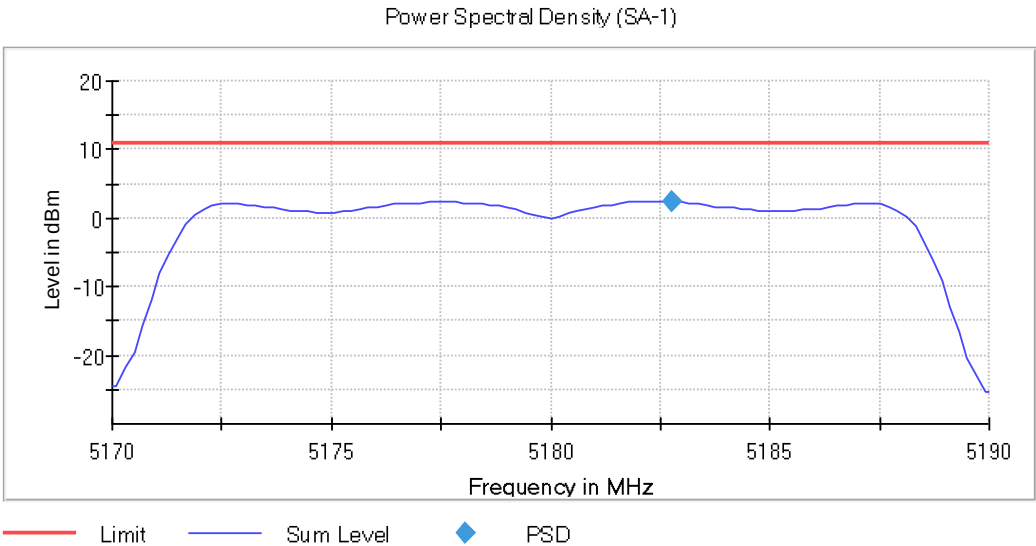
Pass

Attachments

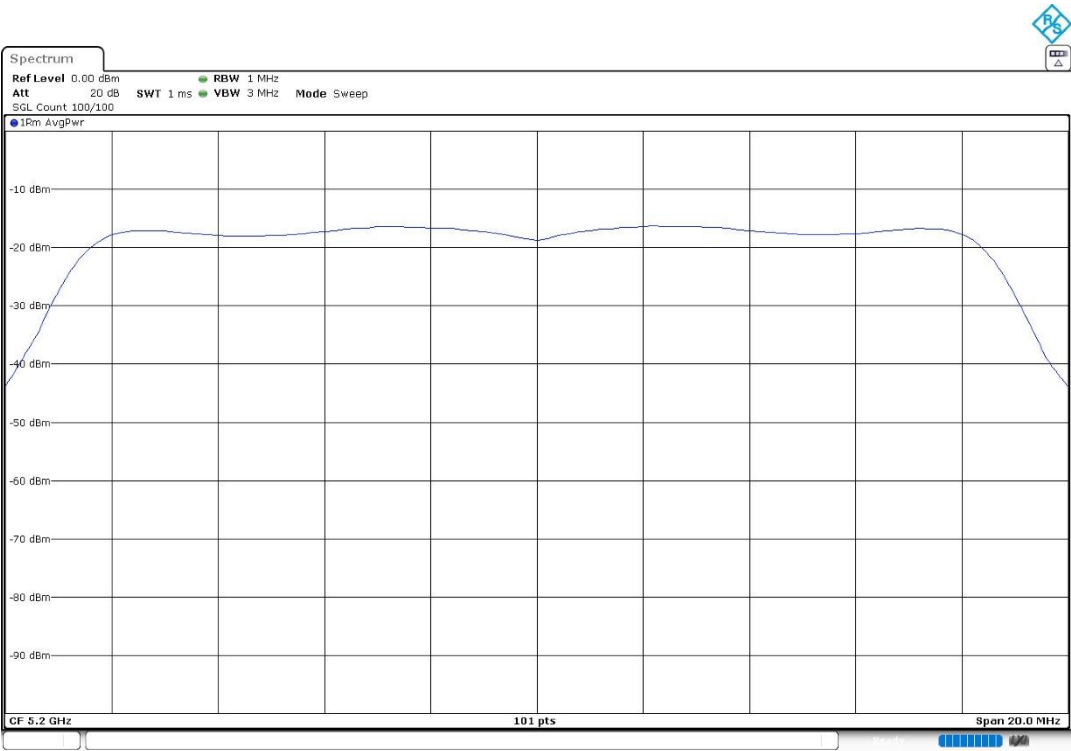
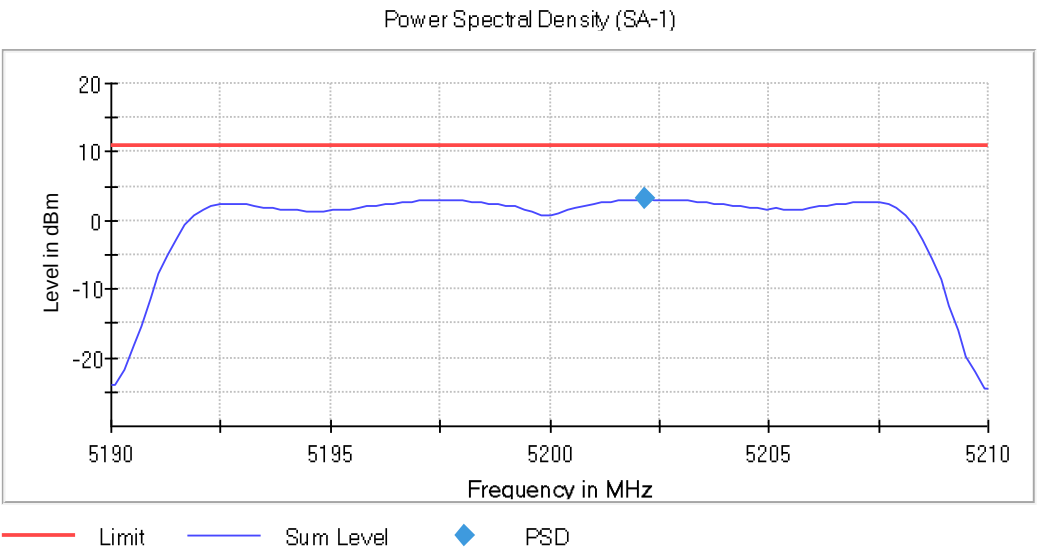
SISO 802.11 a20

U-NII-1 FCC (5150-5250 MHz)

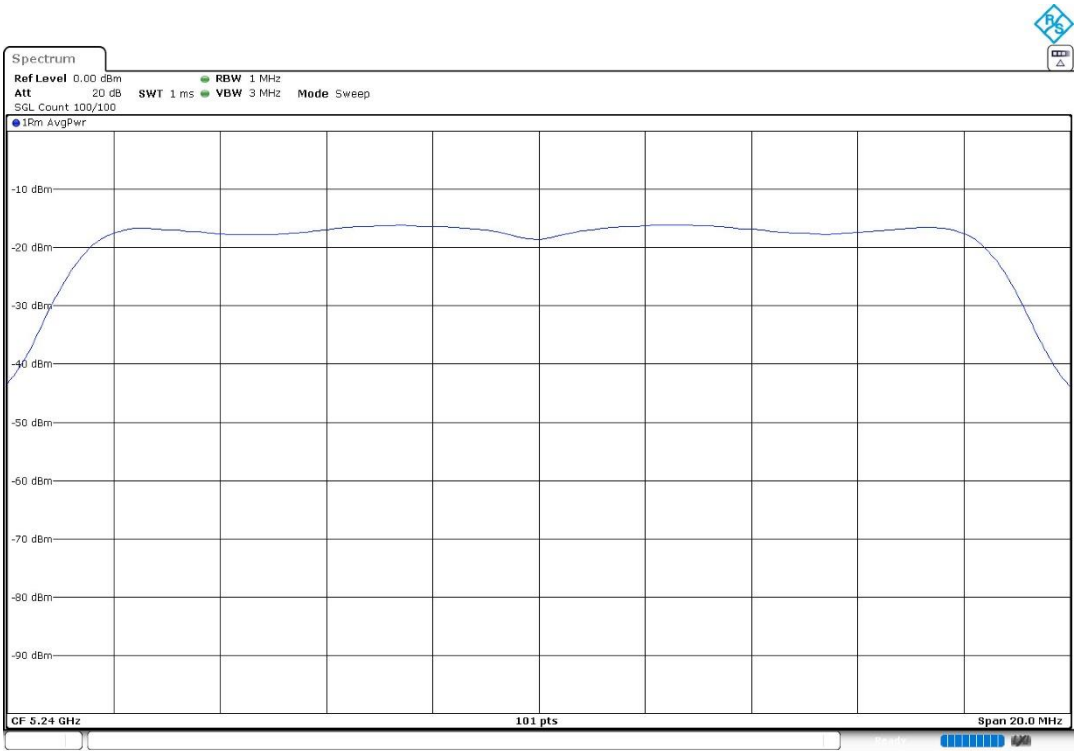
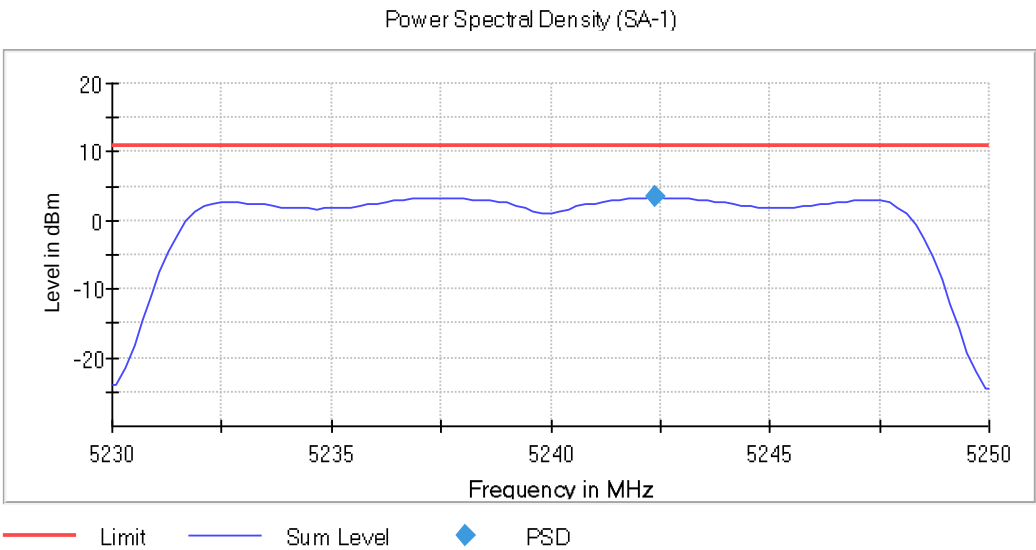
- Low Channel 36 (5180 MHz):



- Channel 40 (5200 MHz):

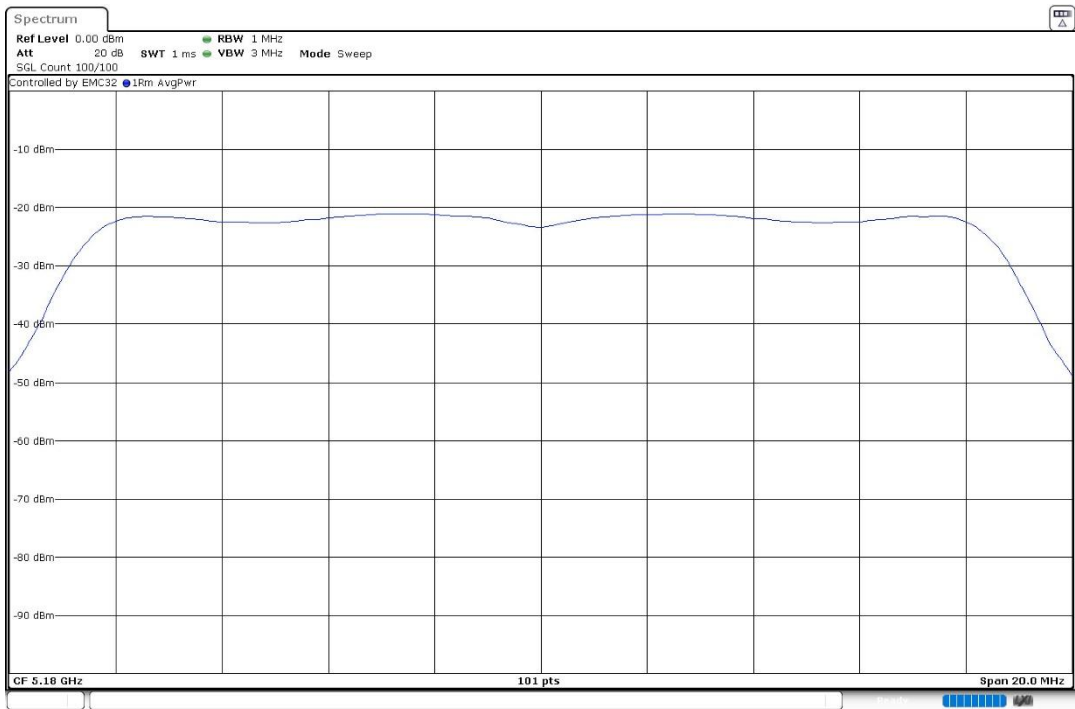
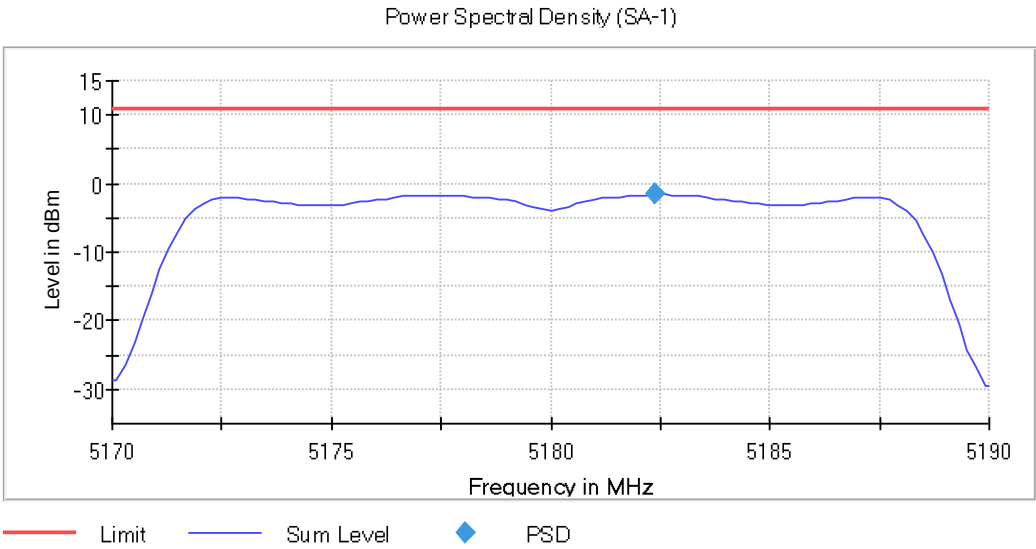


- High Channel 48 (5240 MHz):

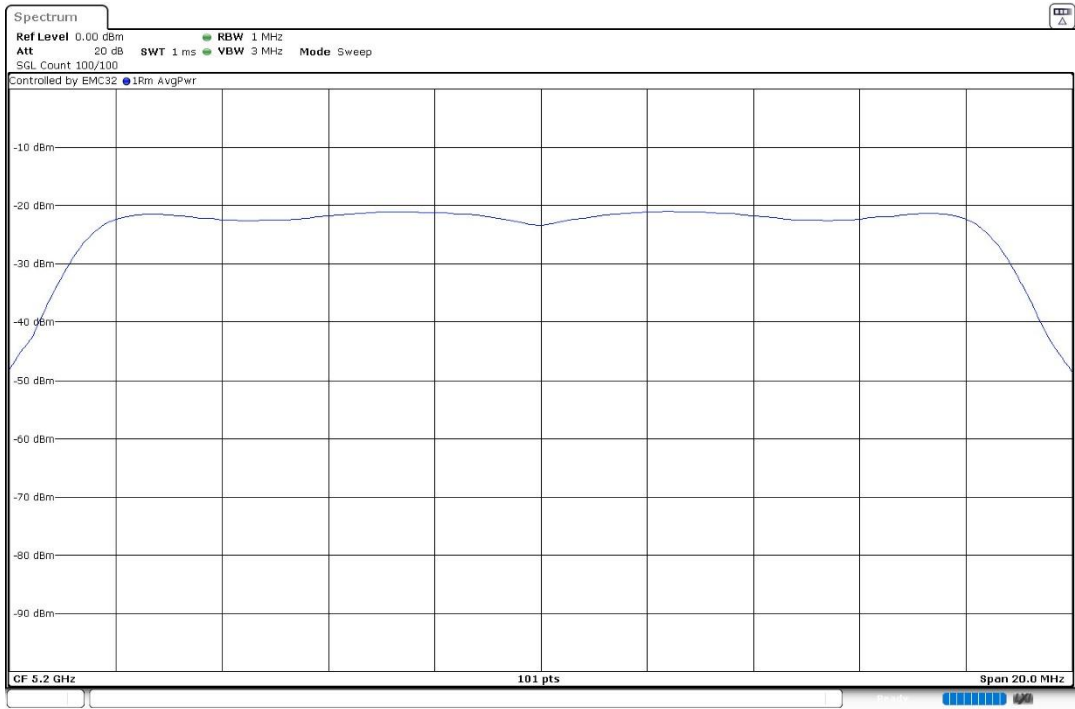
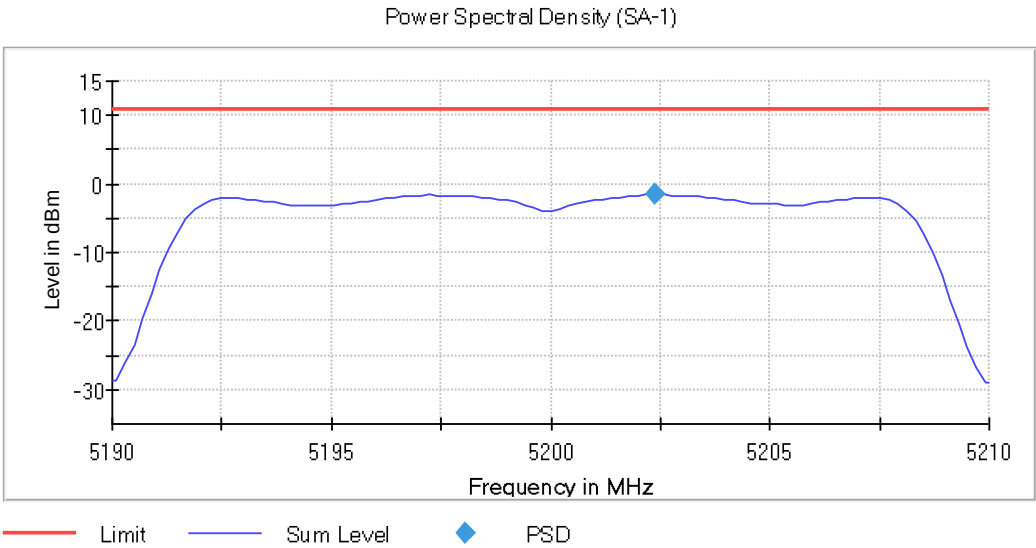


U-NII-1 RSS (5150-5250 MHz)

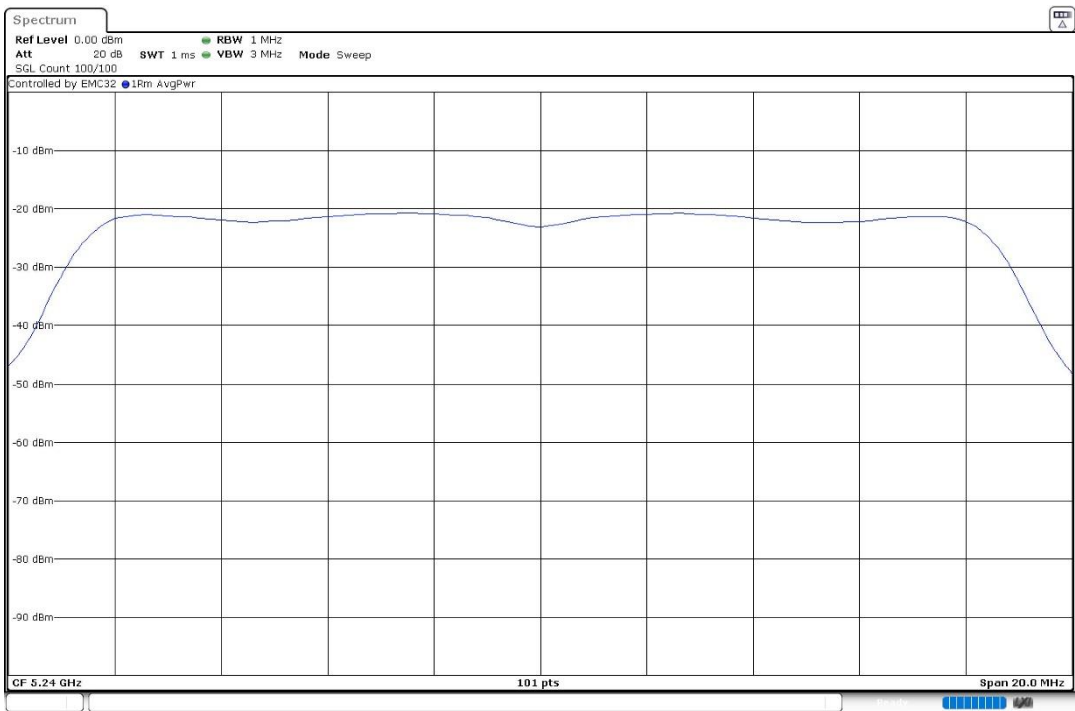
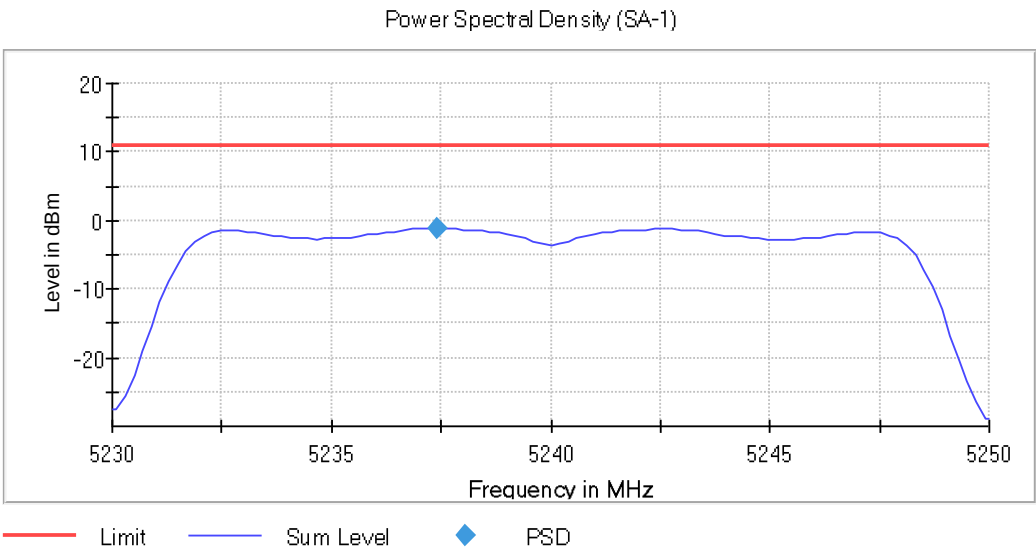
- Low Channel 36 (5180 MHz):



- Channel 40 (5200 MHz):



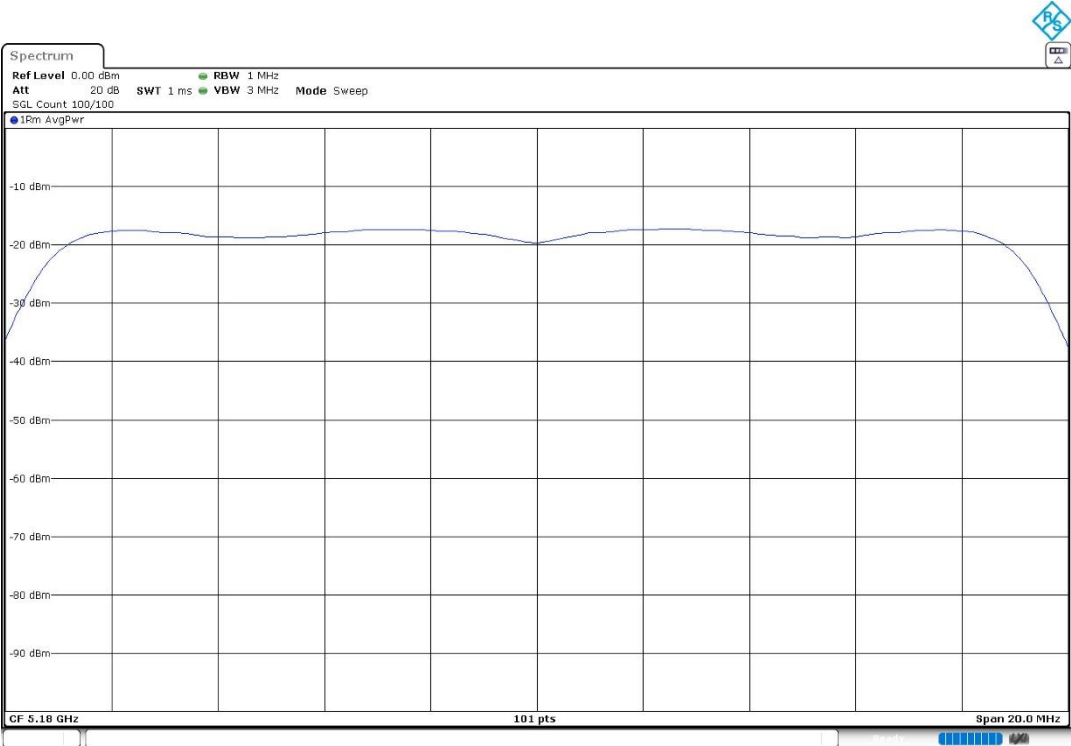
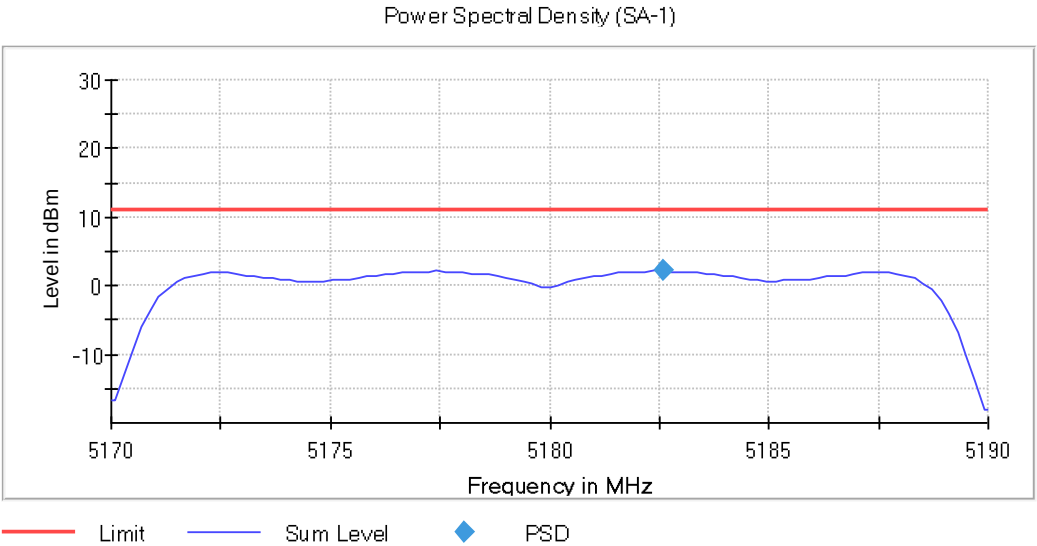
- High Channel 48 (5240 MHz):



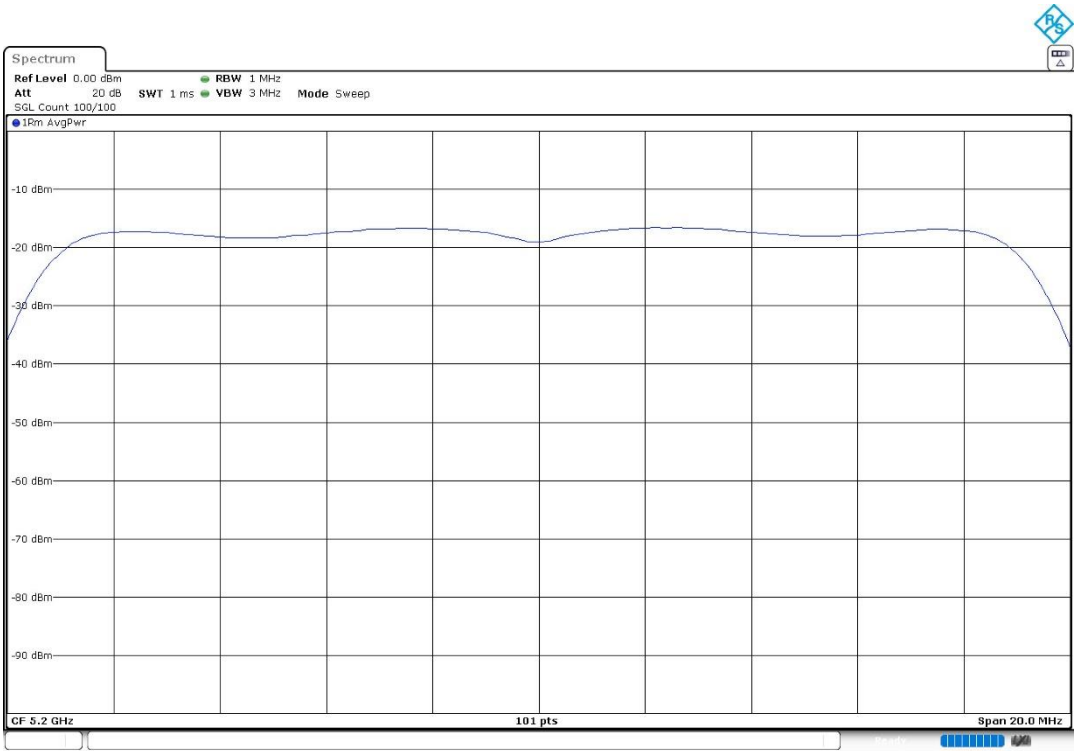
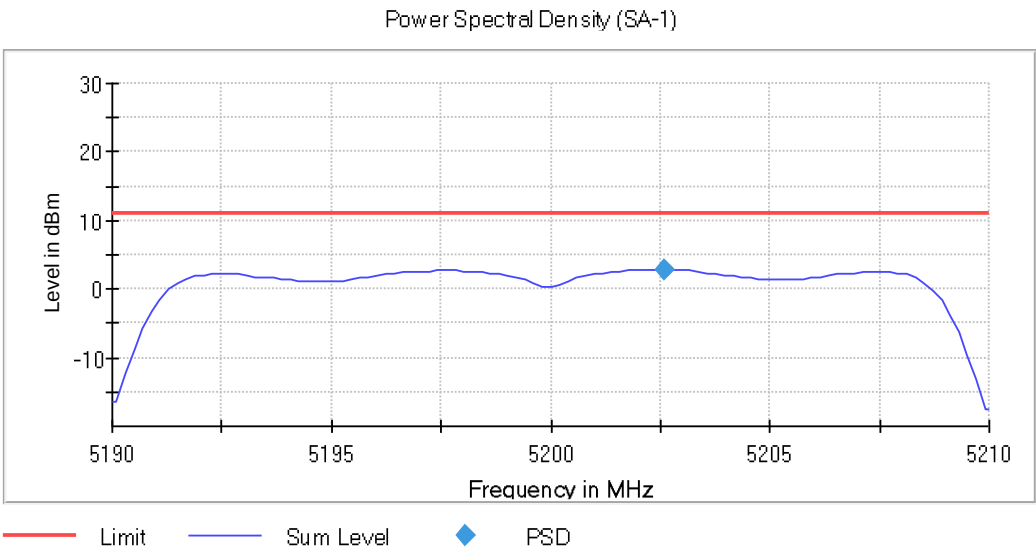
SISO 802.11 n20 (HT20)

U-NII-1 FCC (5150-5250 MHz)

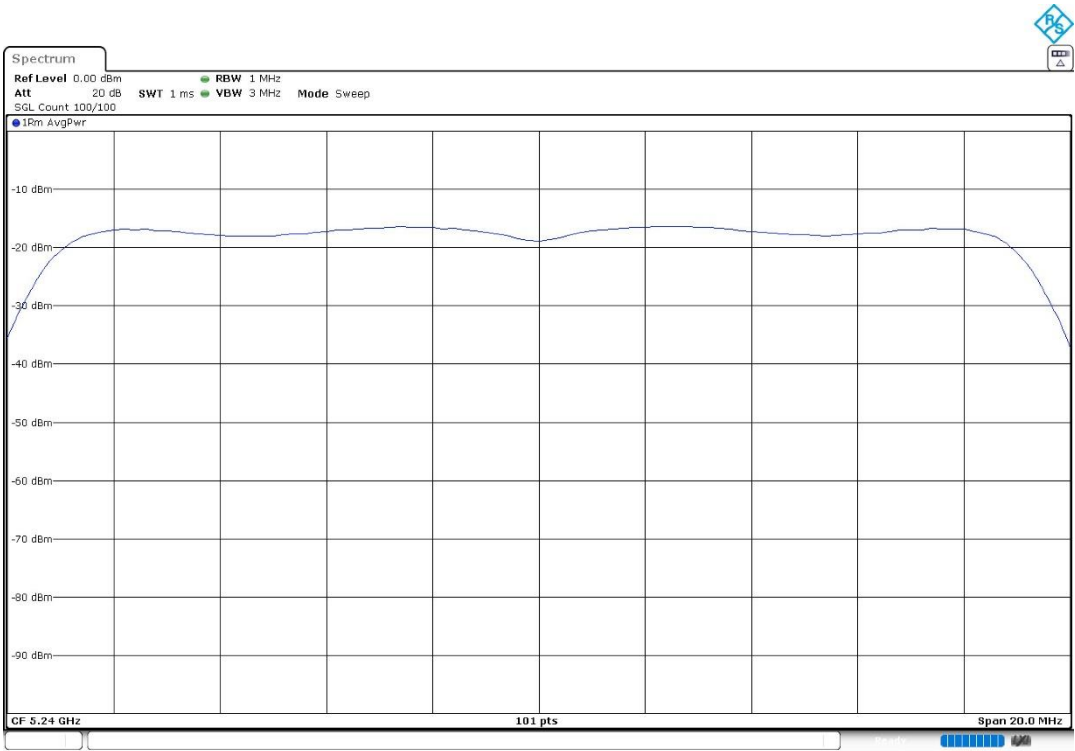
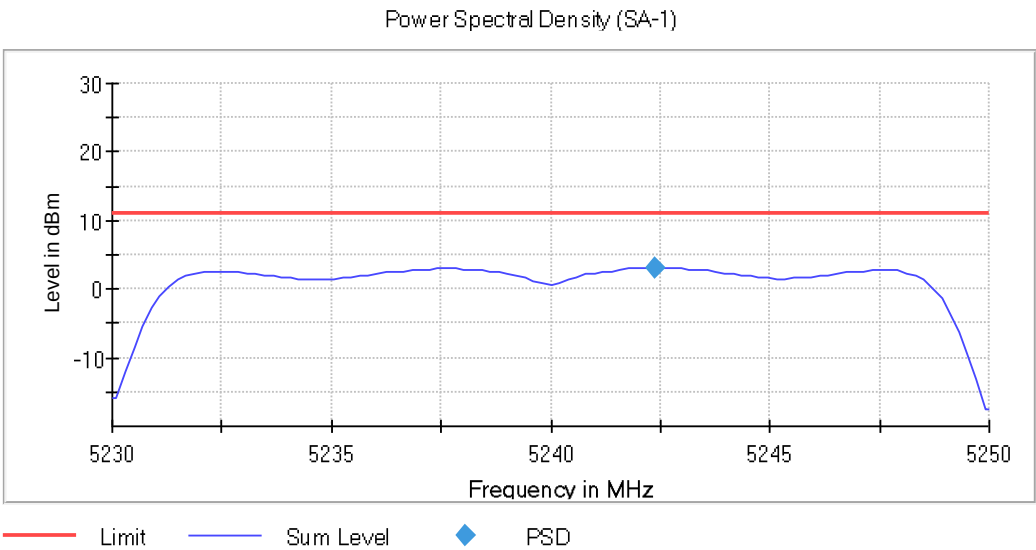
- Low Channel 36 (5180 MHz):



- Middle Channel 40 (5200 MHz):

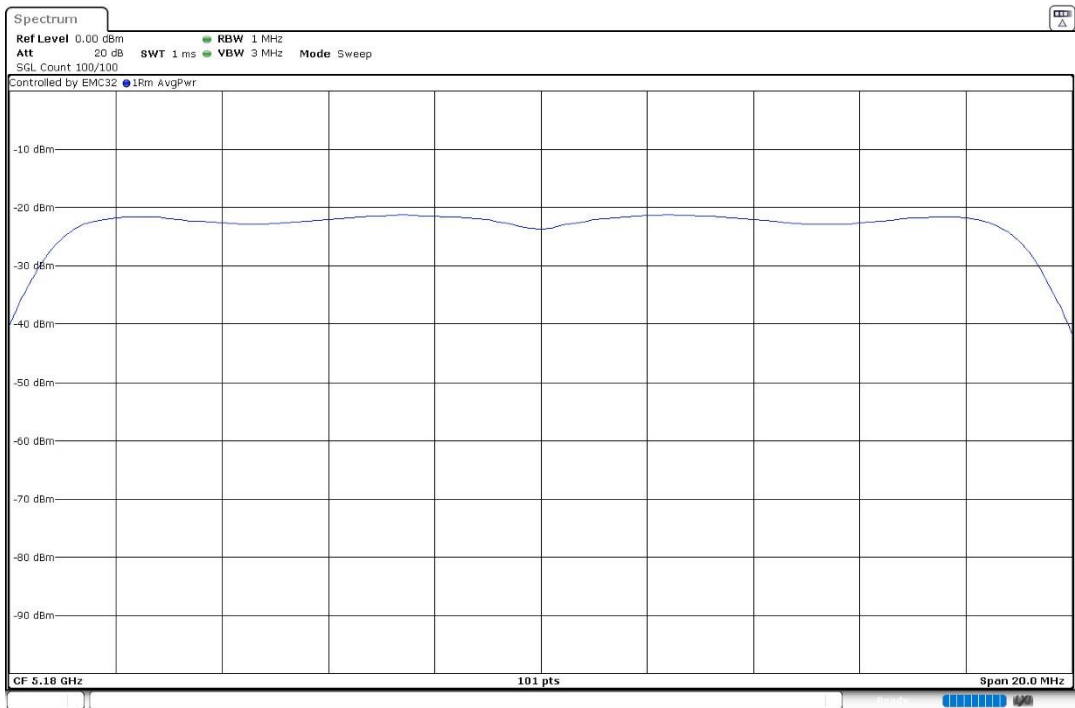
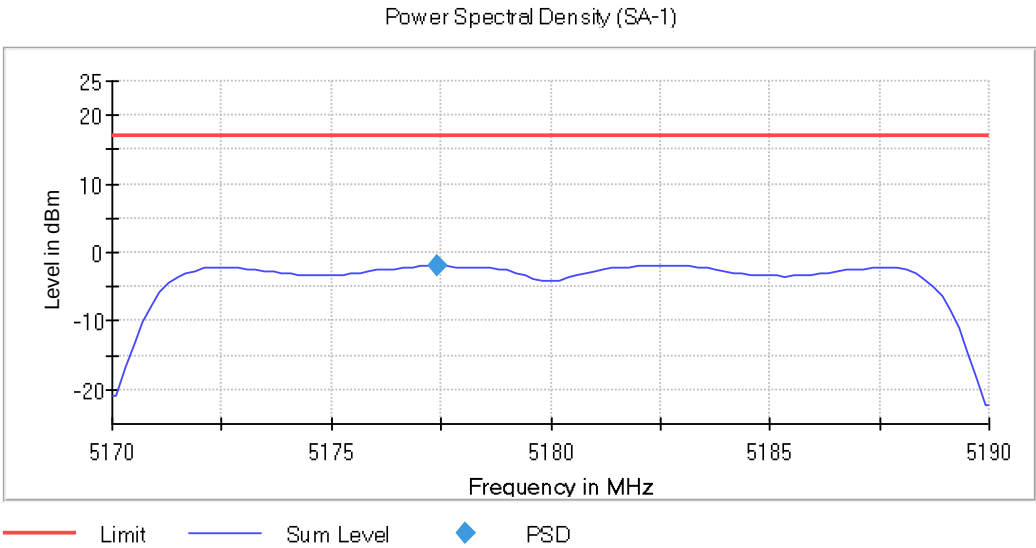


- High Channel 48 (5240 MHz):

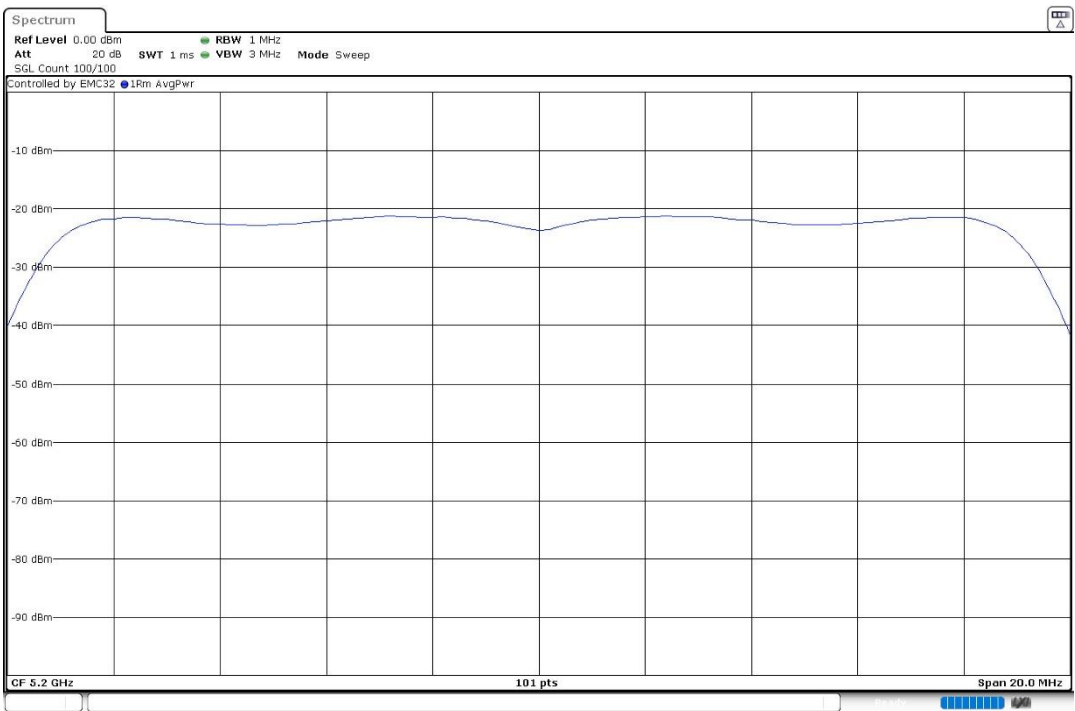
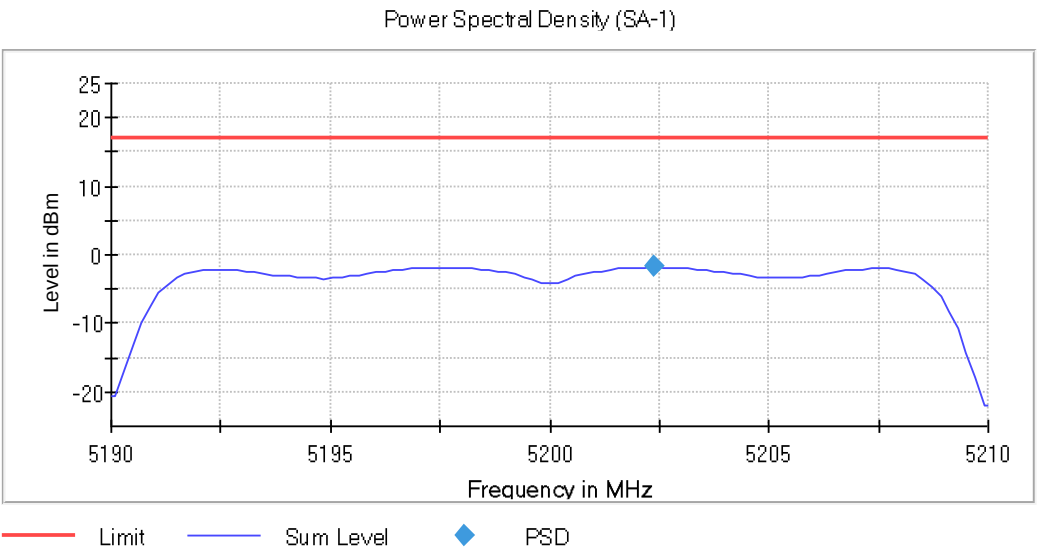


U-NII-1 RSS (5150-5250 MHz)

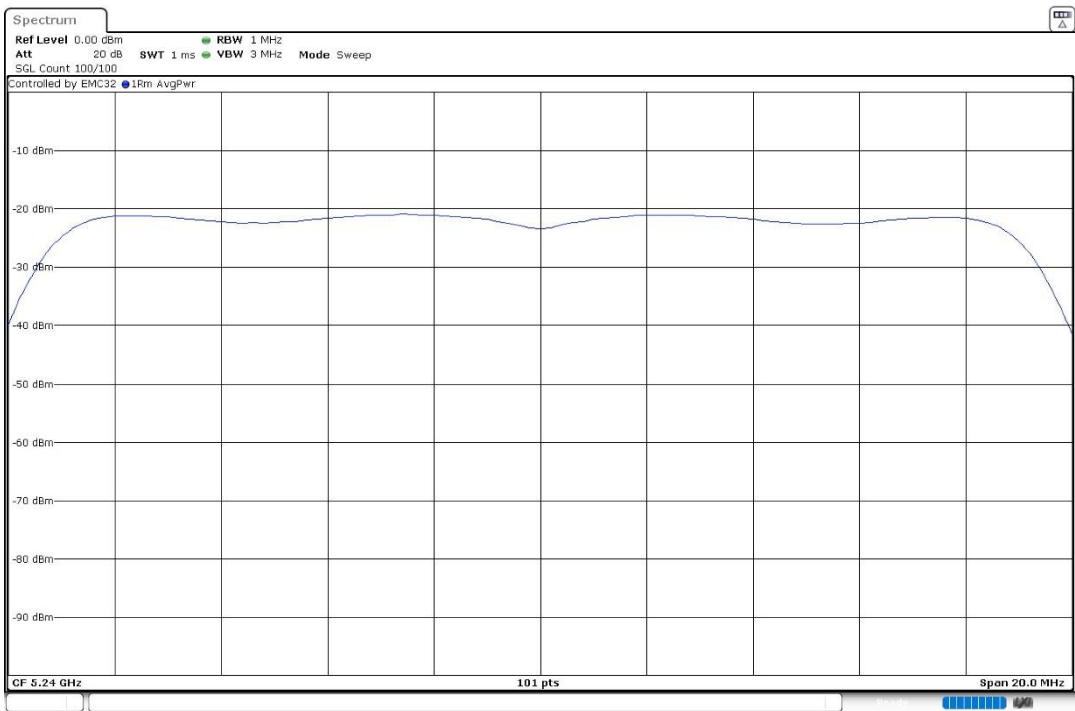
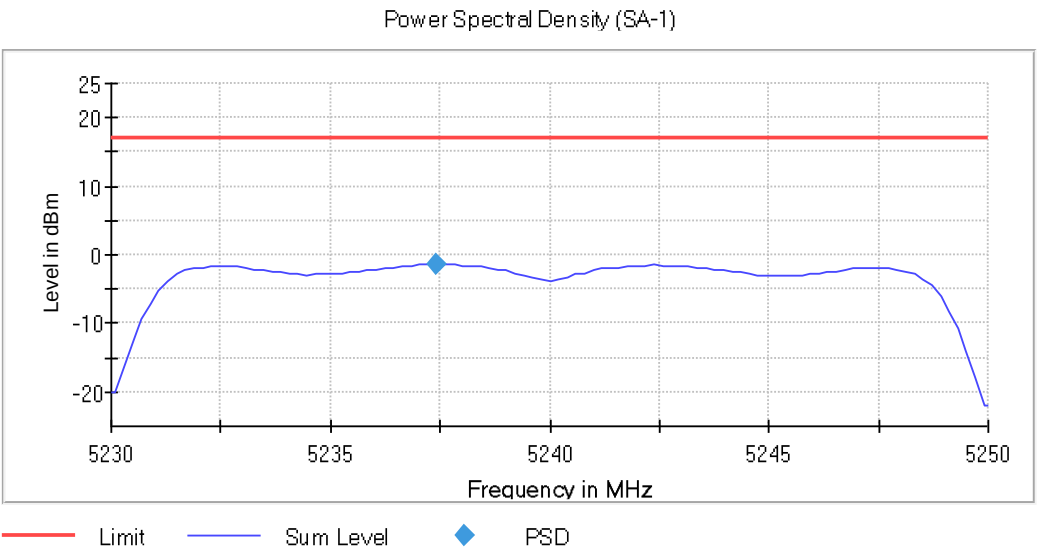
- Low Channel 36 (5180 MHz):



- Channel 40 (5200 MHz):



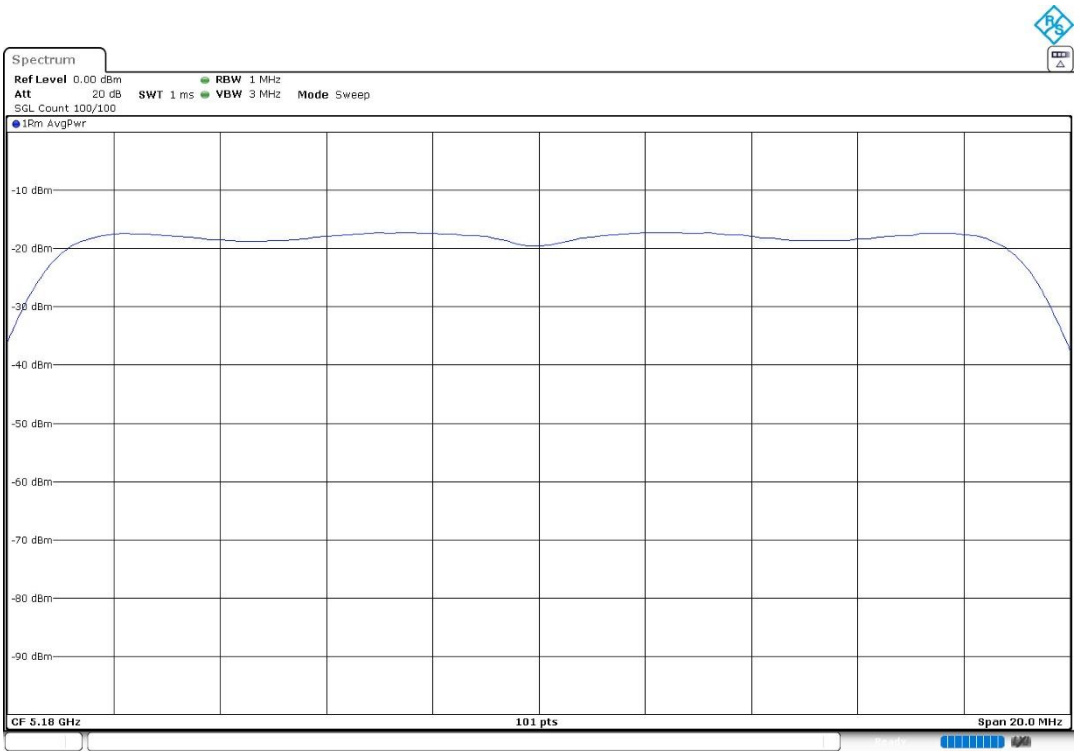
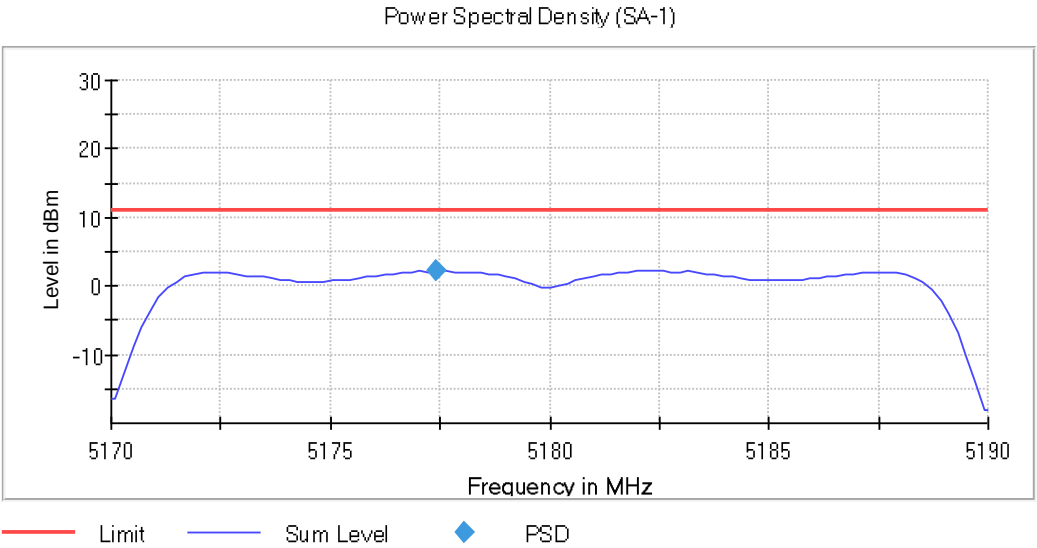
- High Channel 48 (5240 MHz):



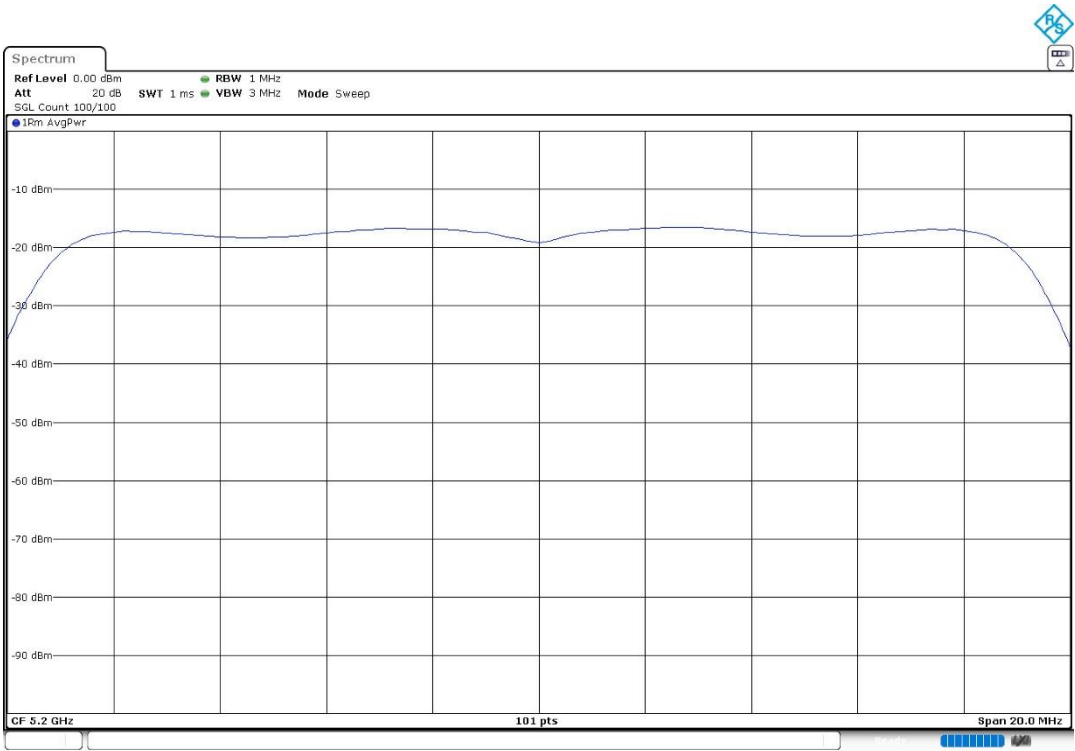
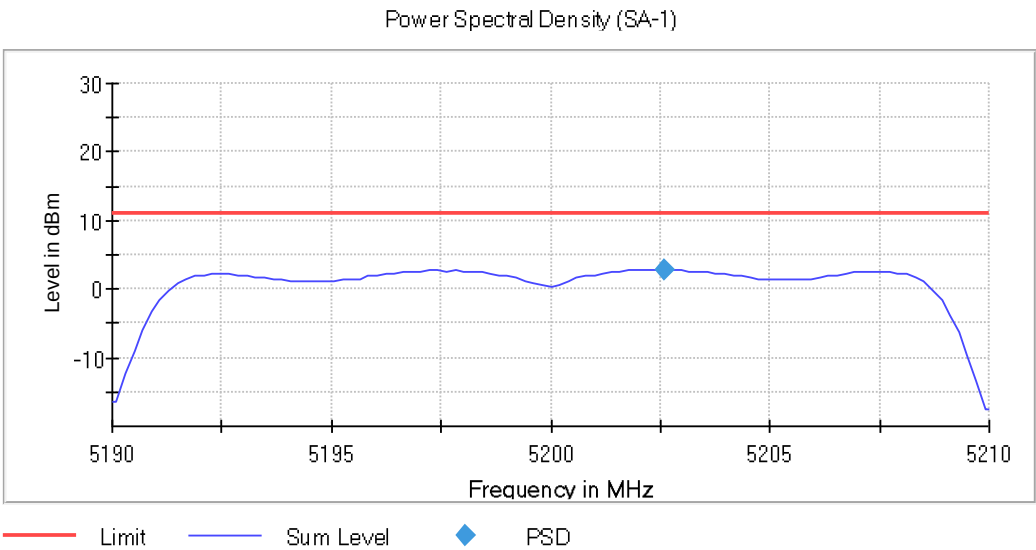
SISO 802.11 ac20 (VHT20)

U-NII-1 FCC (5150-5250 MHz)

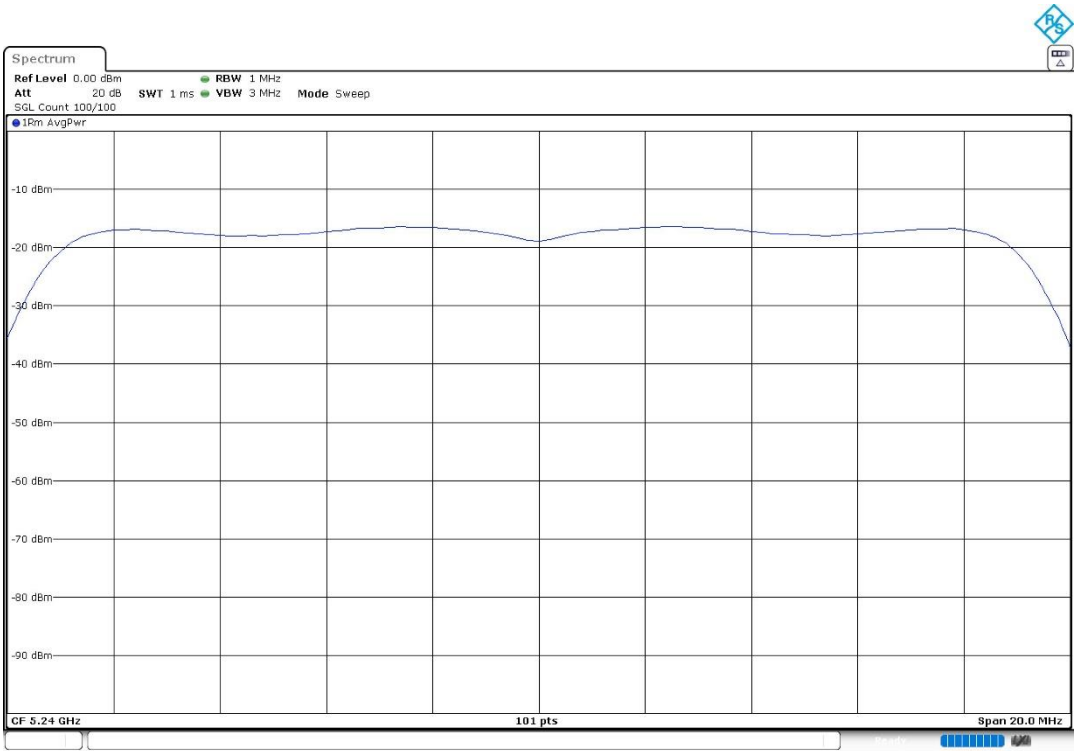
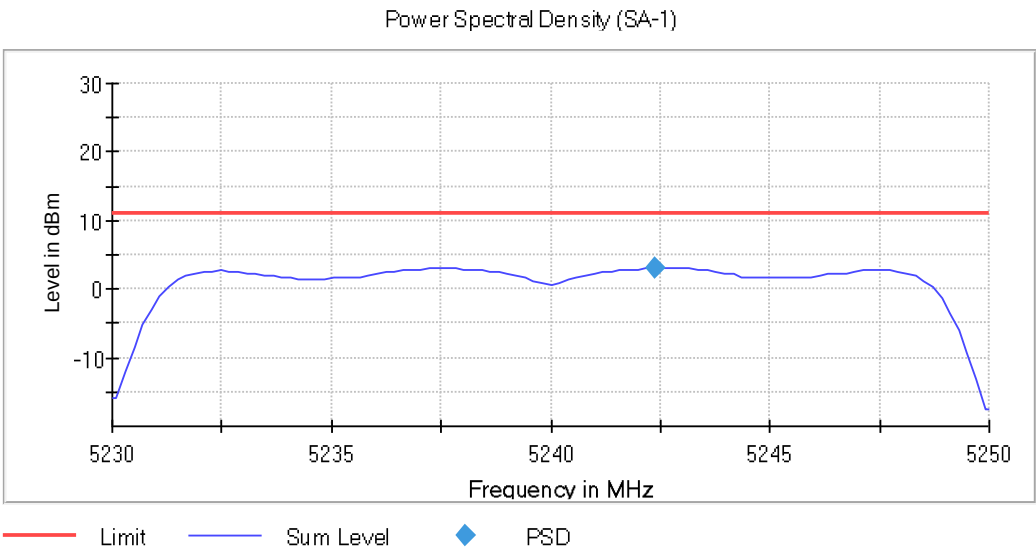
- Low Channel 36 (5180 MHz):



- Middle Channel 40 (5200 MHz):

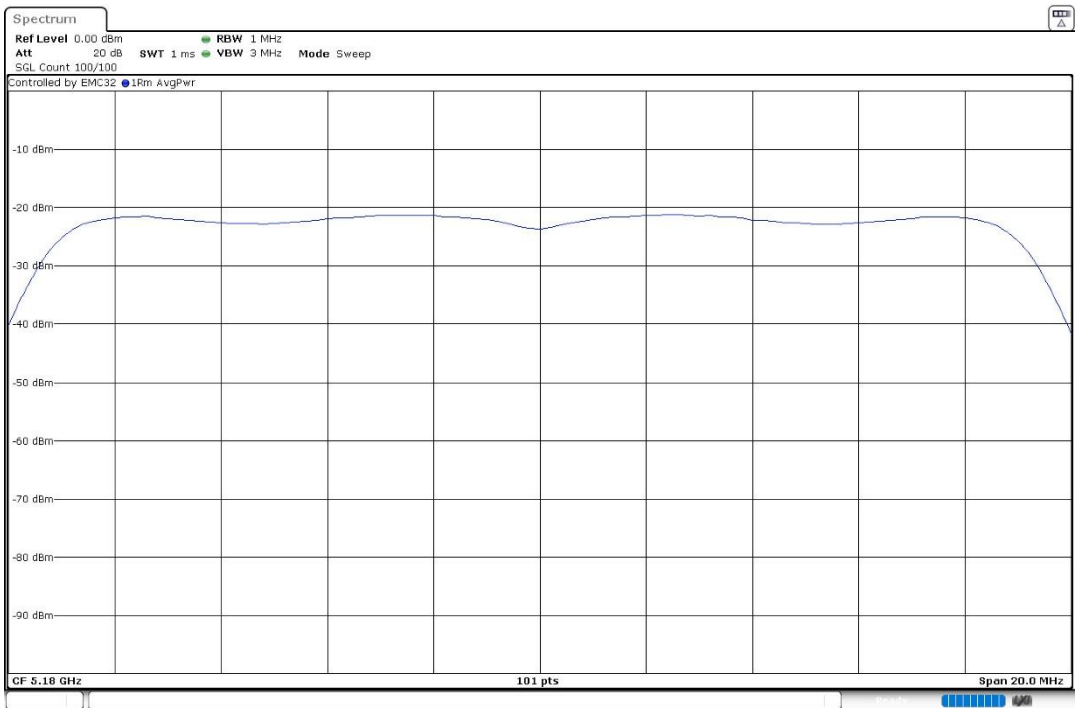
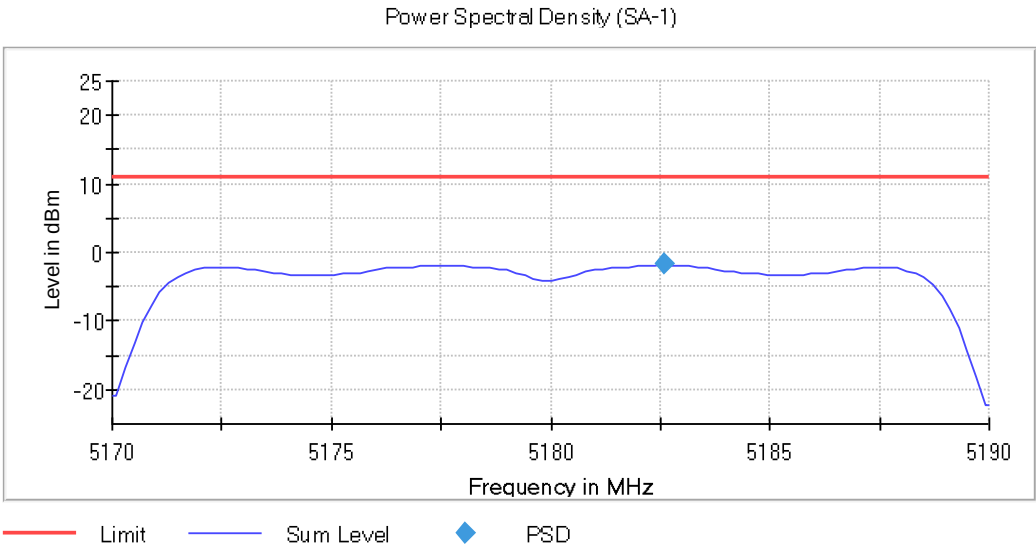


- High Channel 48 (5240 MHz):

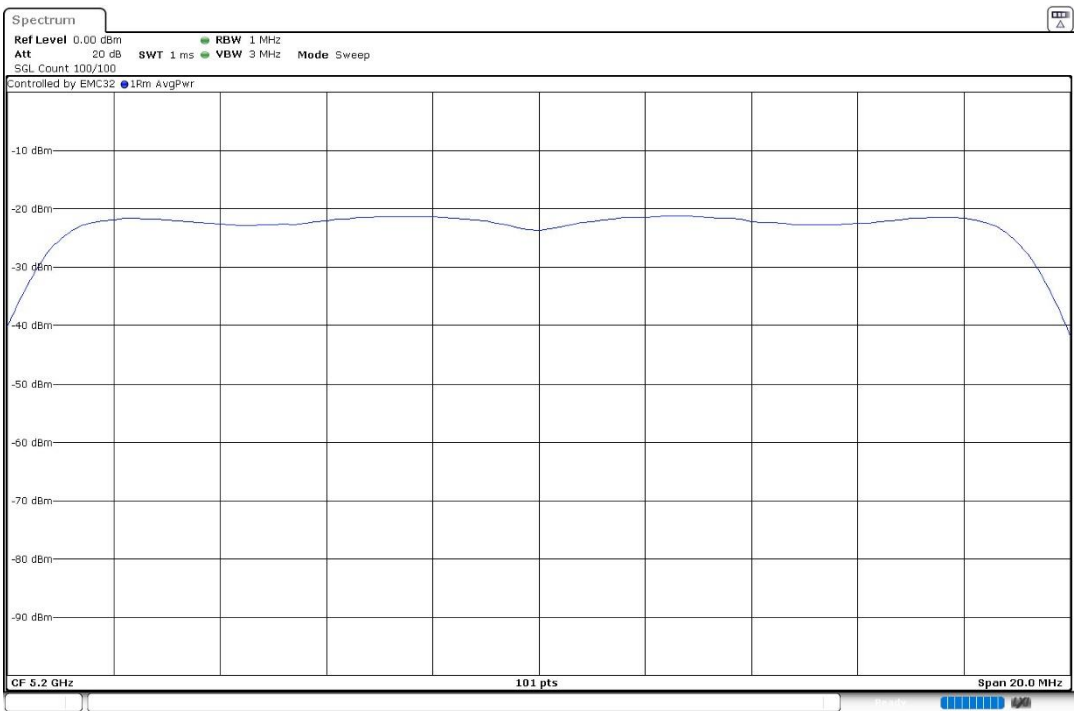
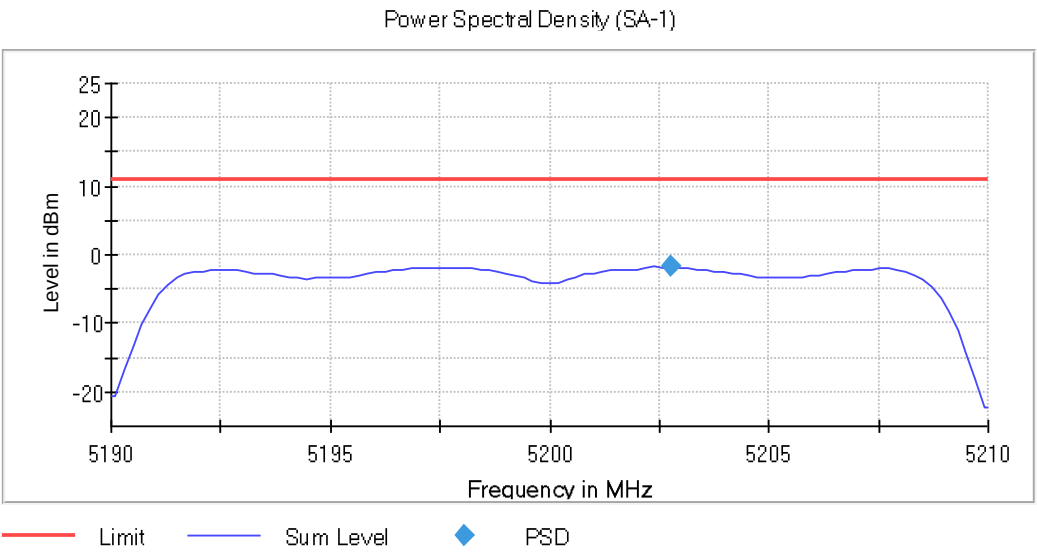


U-NII-1 RSS (5150-5250 MHz)

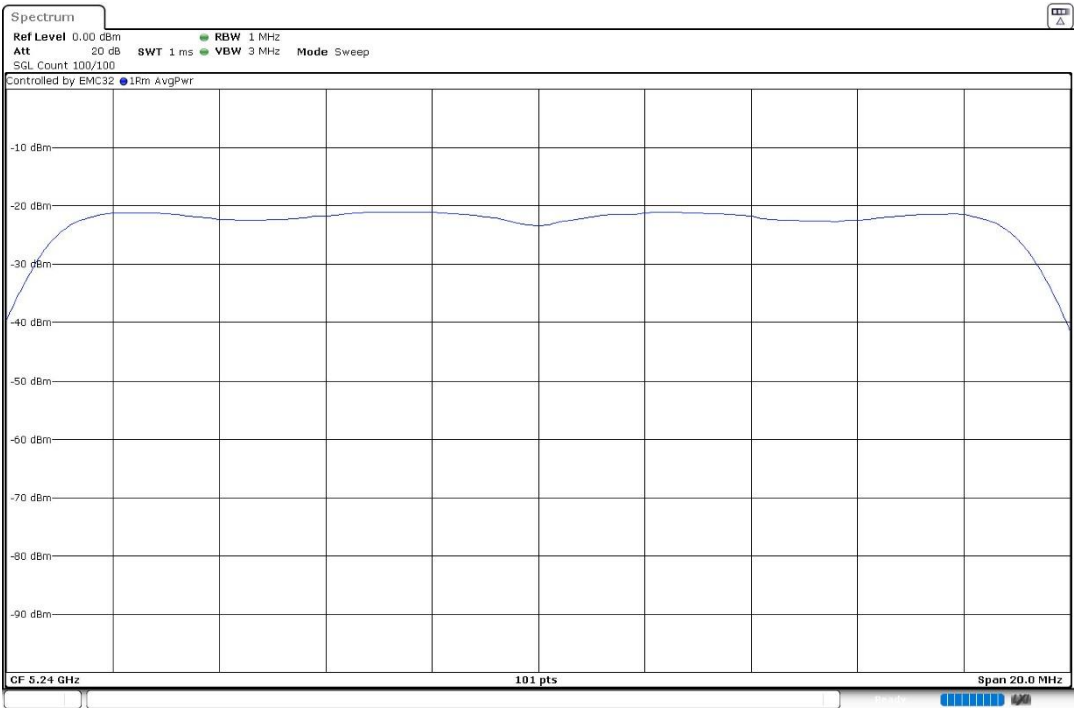
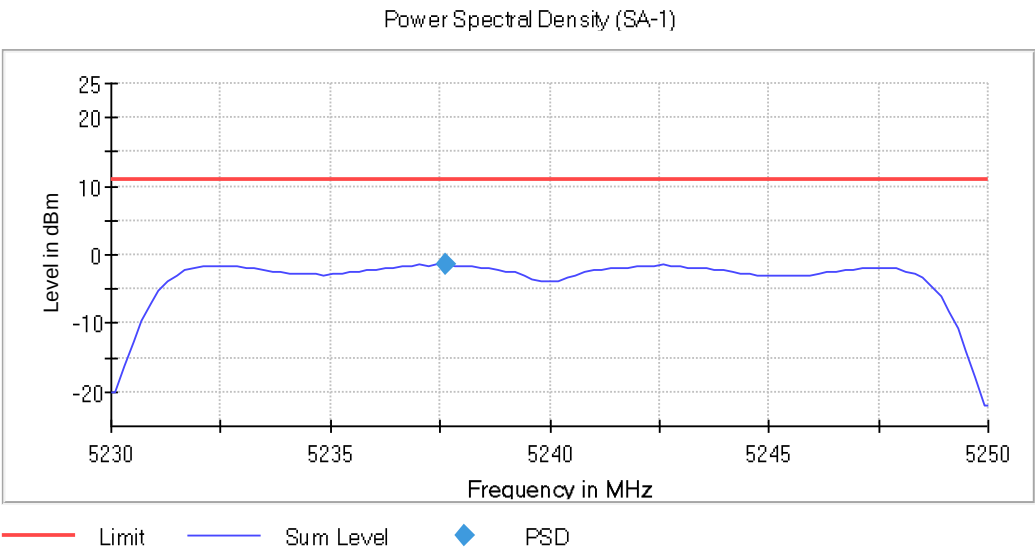
- Low Channel 36 (5180 MHz):



- Channel 40 (5200 MHz):



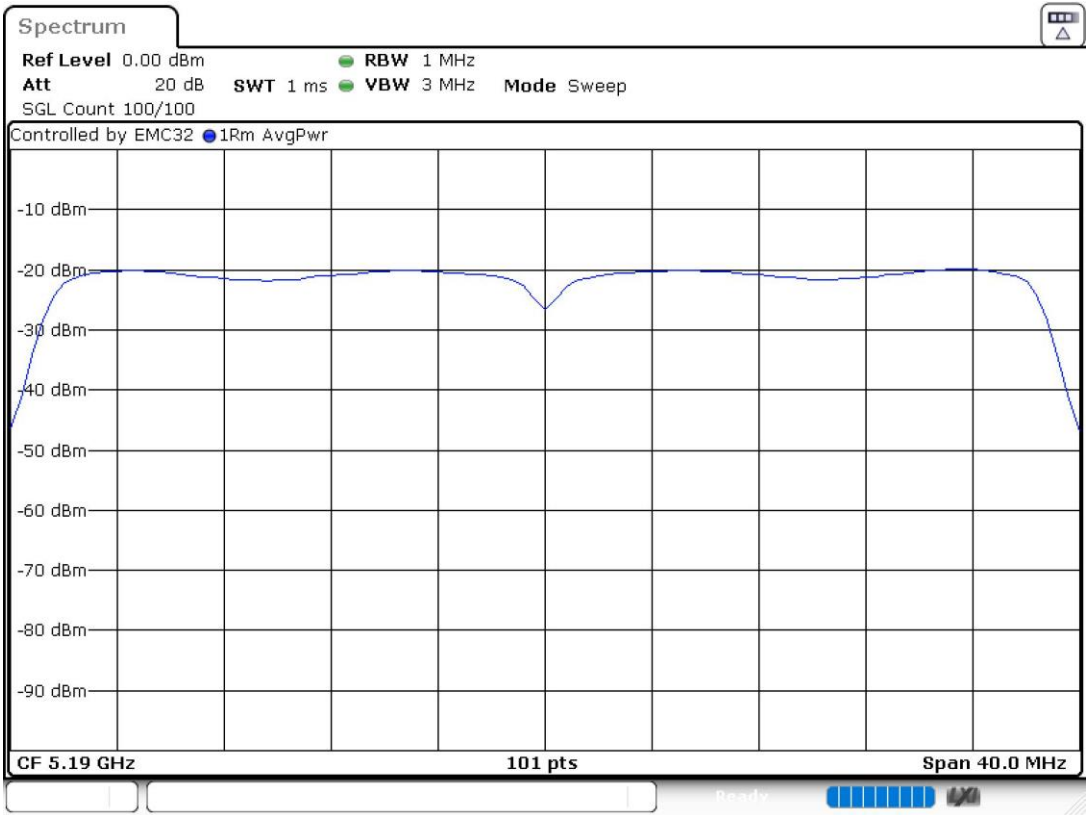
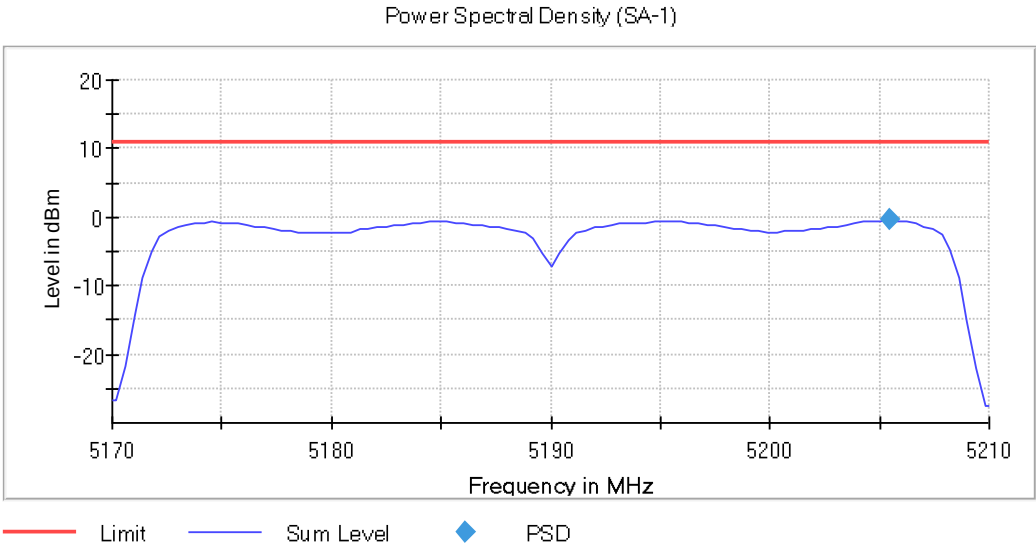
- High Channel 48 (5240 MHz):



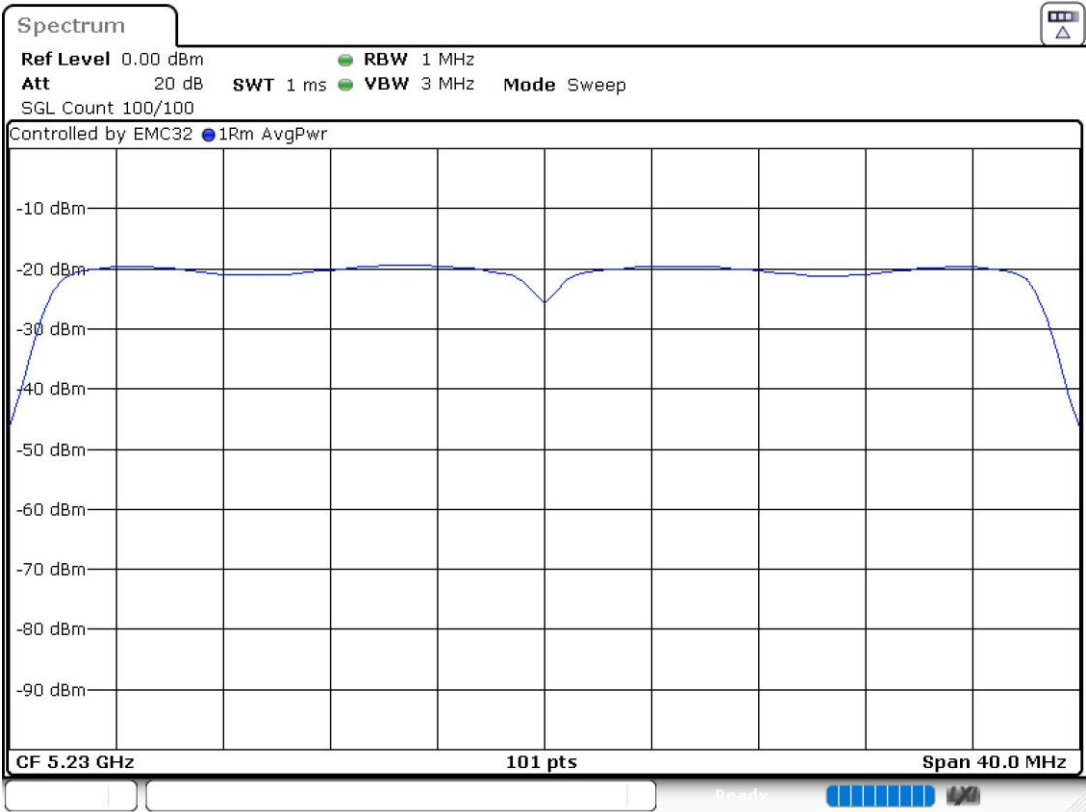
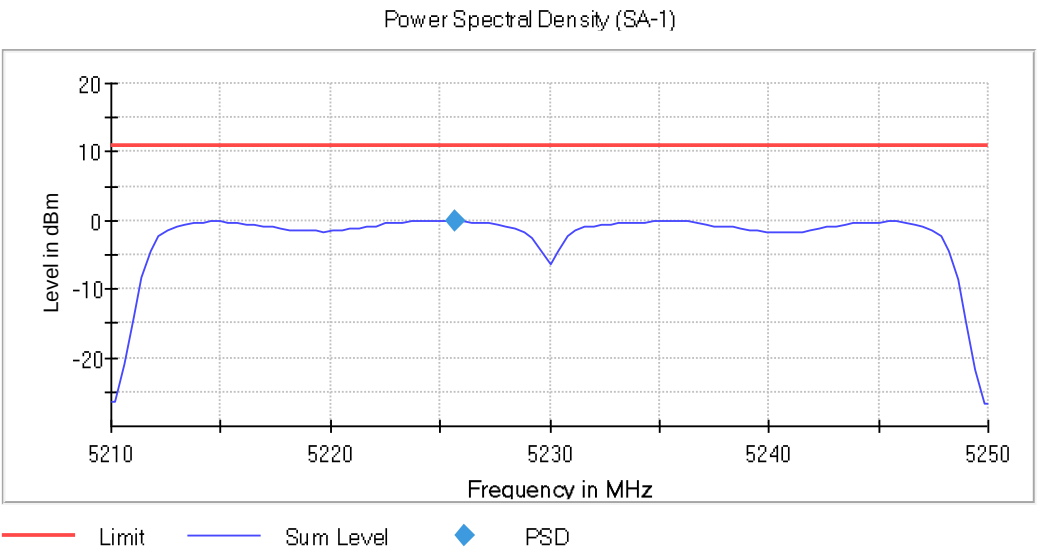
SISO 802.11 n40 (HT40)

U-NII-1 FCC (5150-5250 MHz)

- Low Channel 38 (5190 MHz):

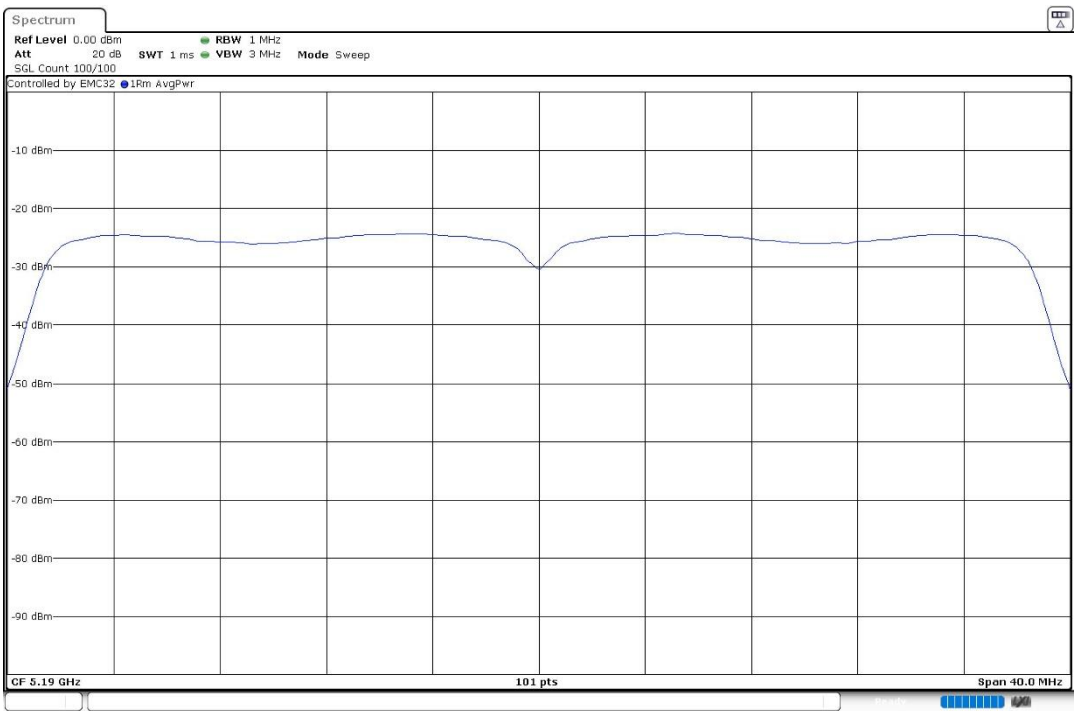
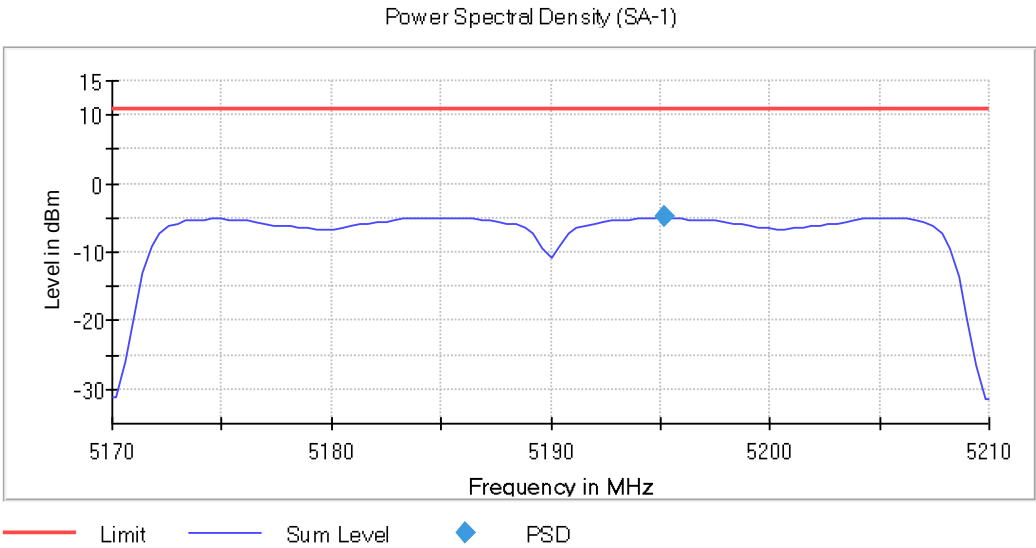


- High Channel 46 (5230 MHz):

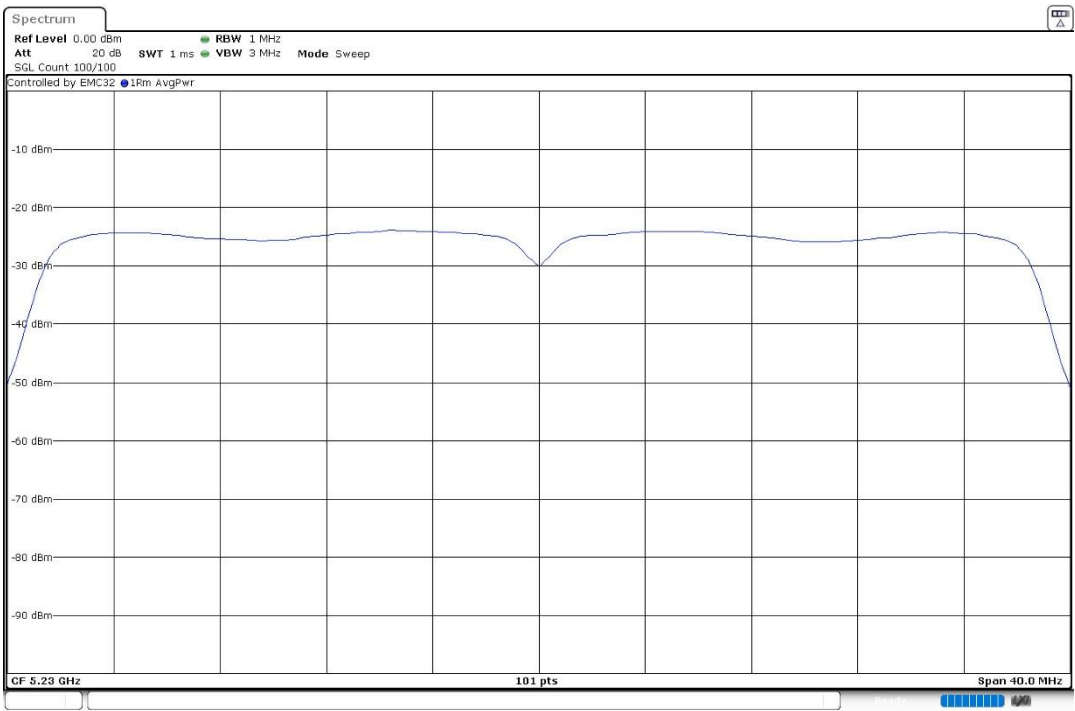
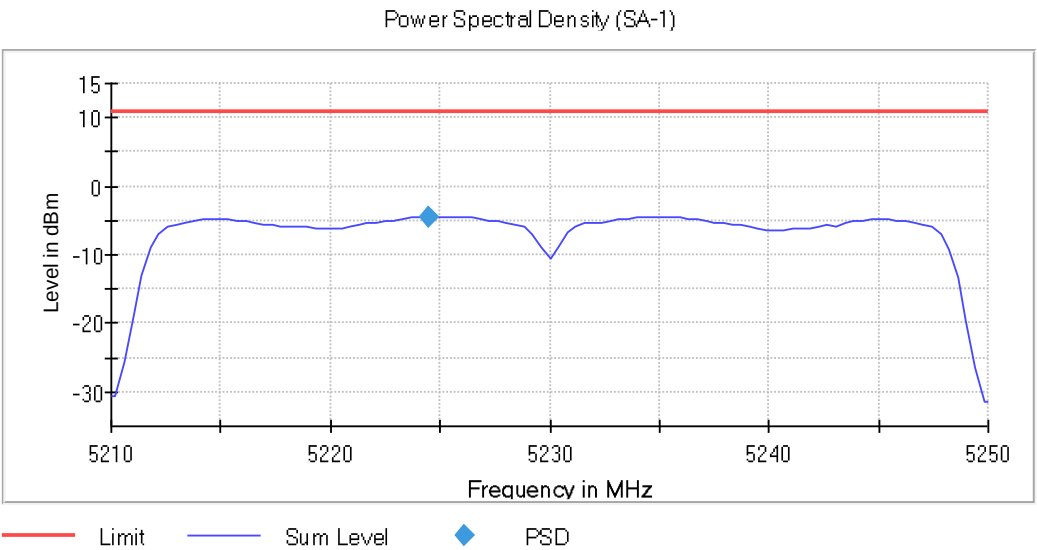


U-NII-1 RSS (5150-5250 MHz)

- Low Channel 38 (5190 MHz):



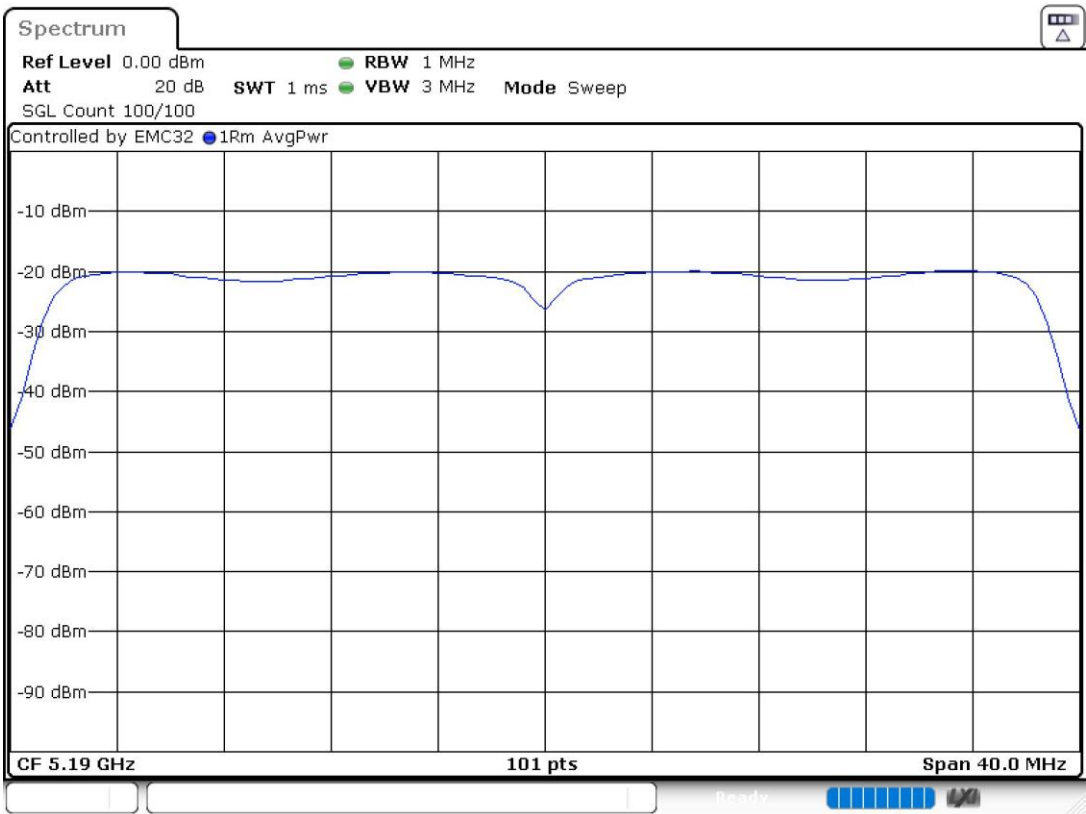
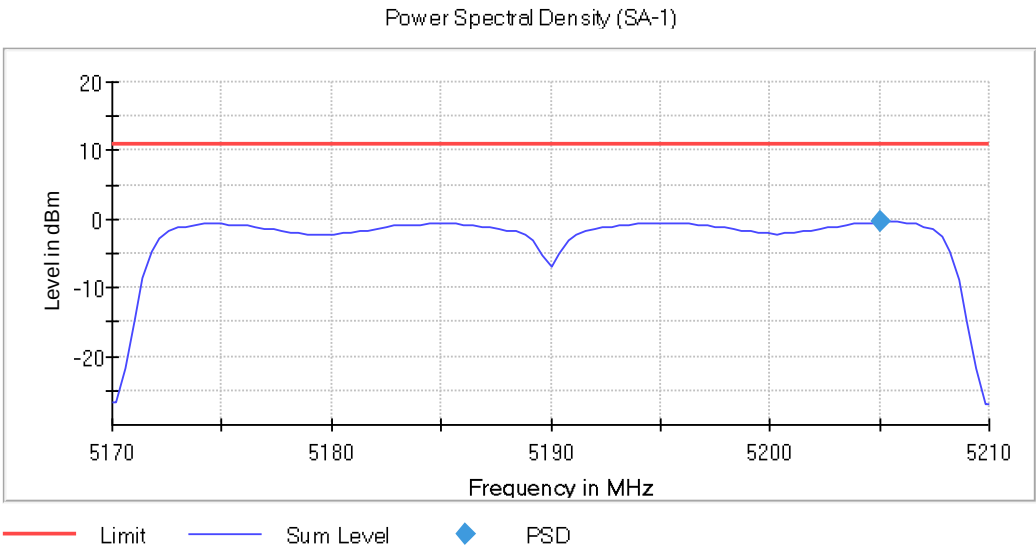
- High Channel 46 (5230 MHz):



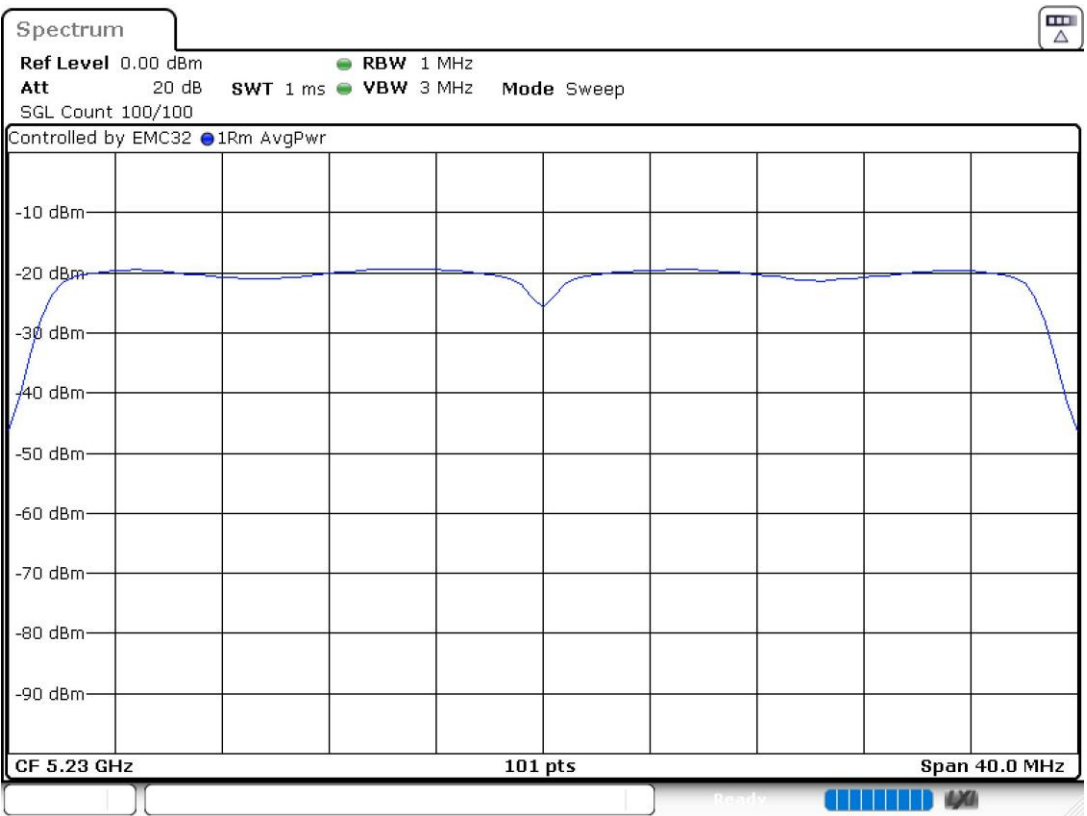
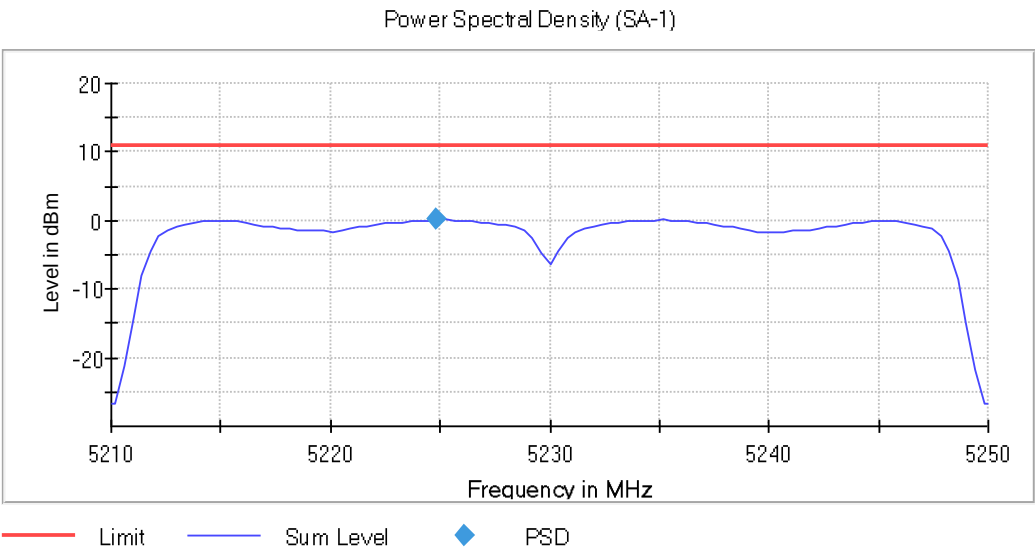
SISO 802.11 ac40 (VHT40)

U-NII-1 FCC (5150-5250 MHz)

- Low Channel 38 (5190 MHz):

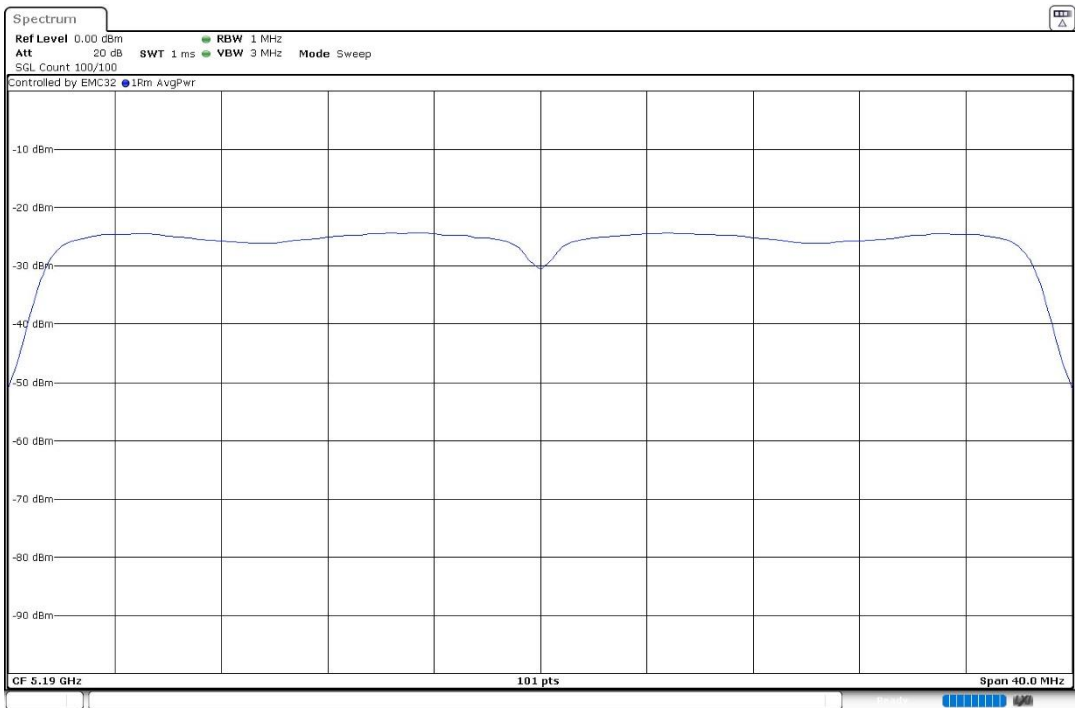
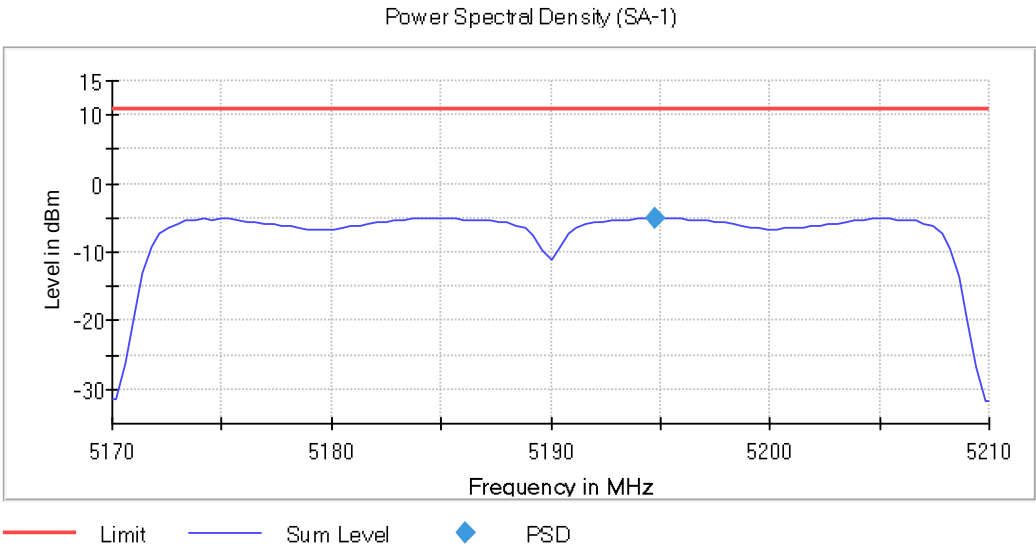


- High Channel 46 (5230 MHz):

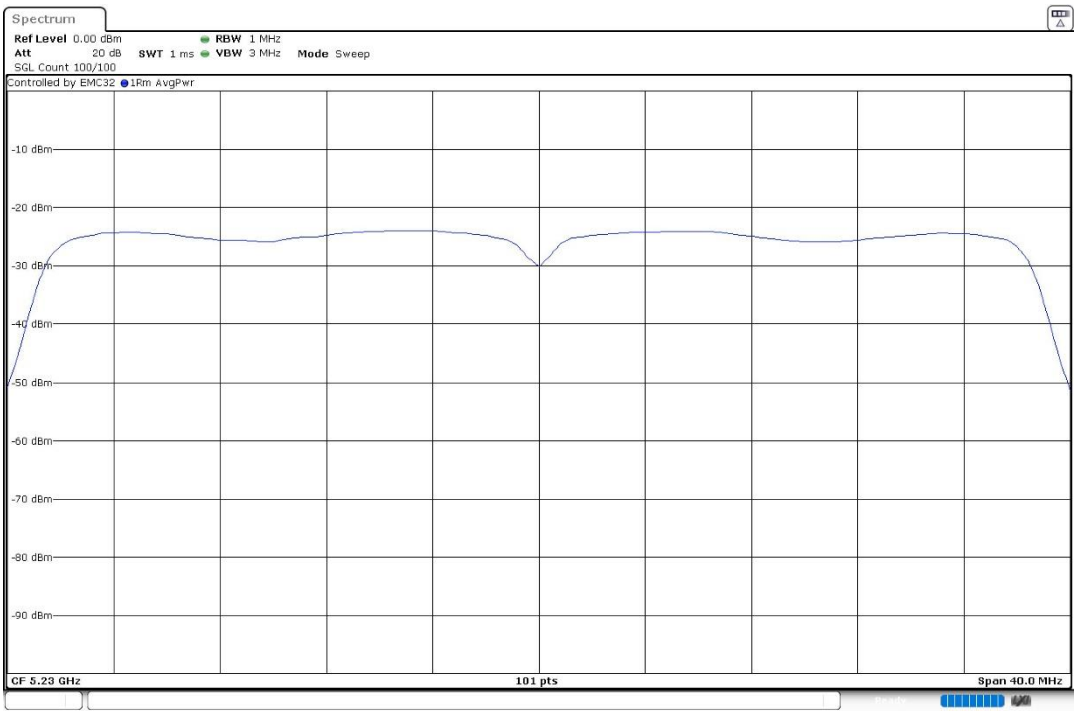
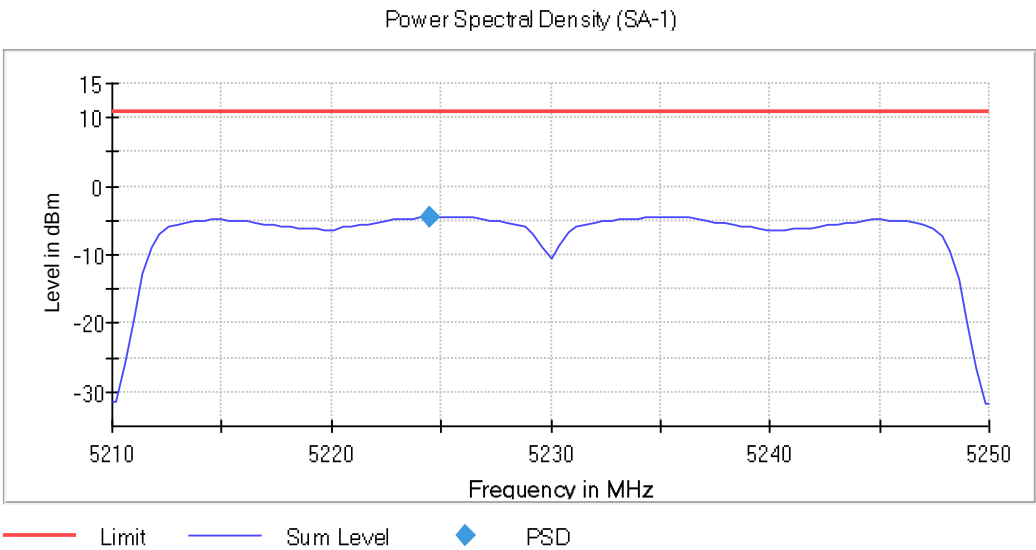


U-NII-1 RSS (5150-5250 MHz)

- Low Channel 38 (5190 MHz):



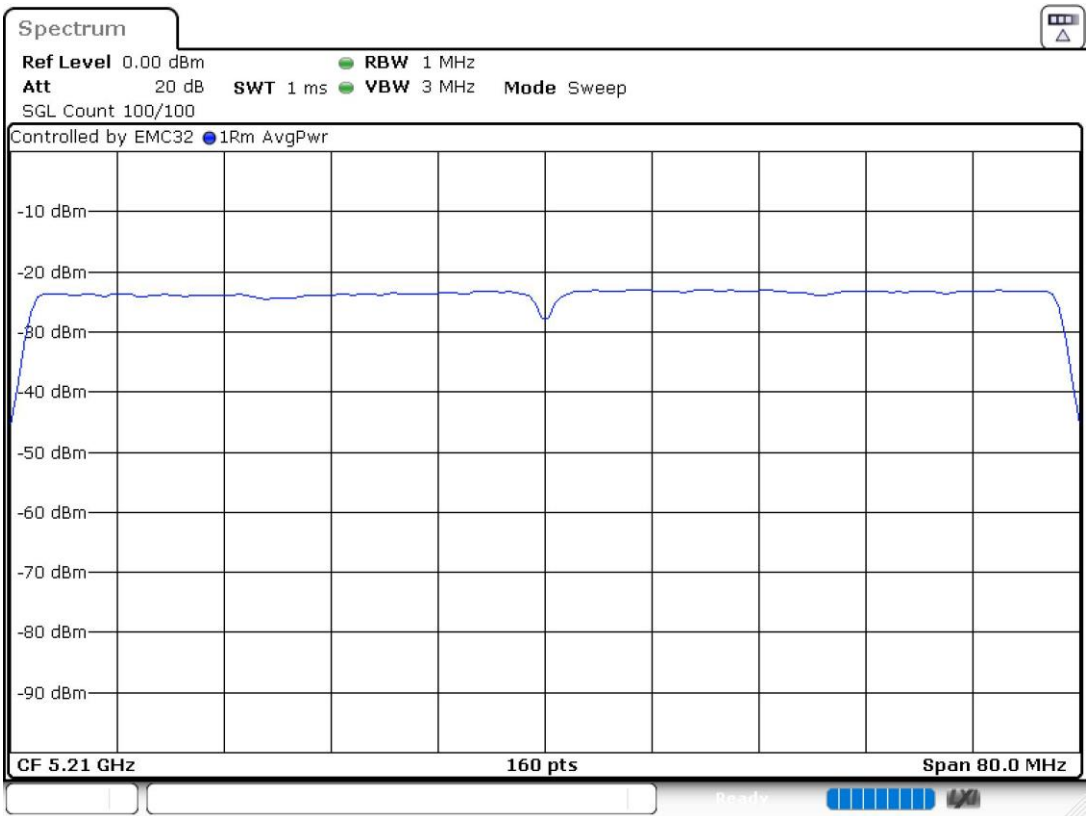
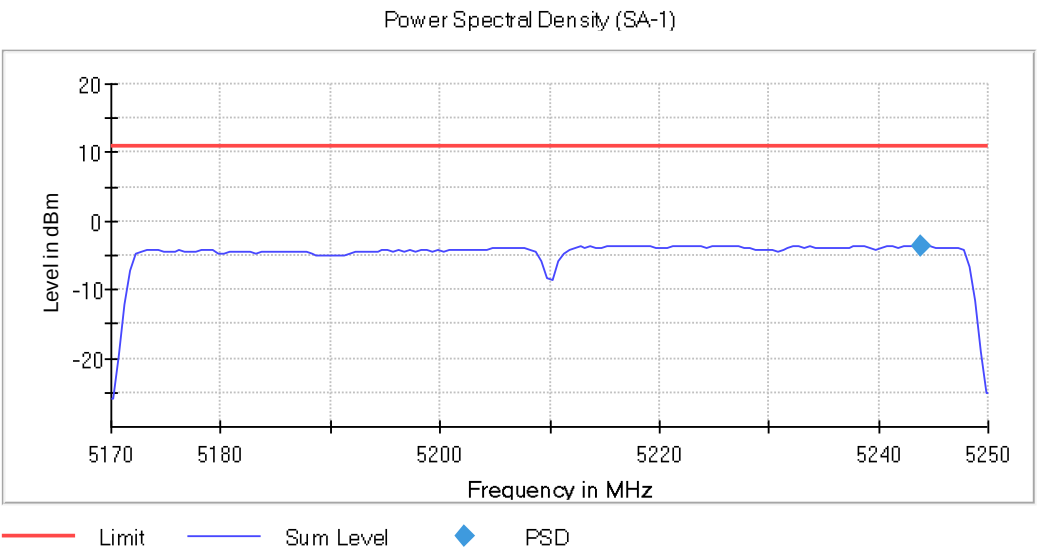
- High Channel 46 (5230 MHz):



SISO 802.11 ac80 (VHT80)

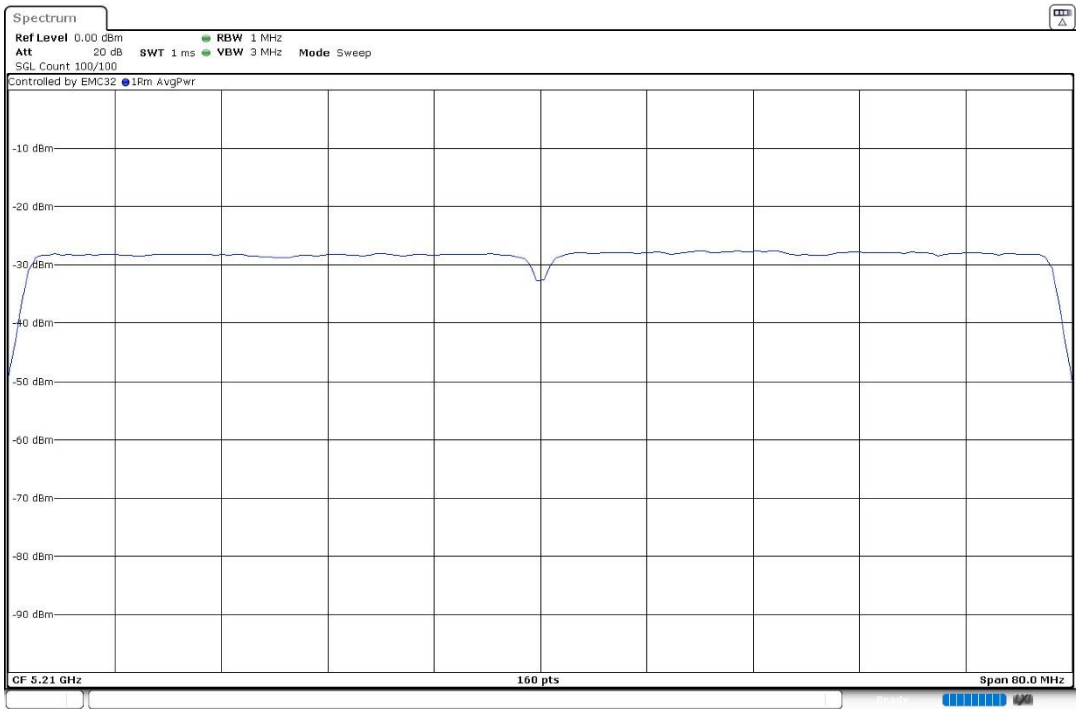
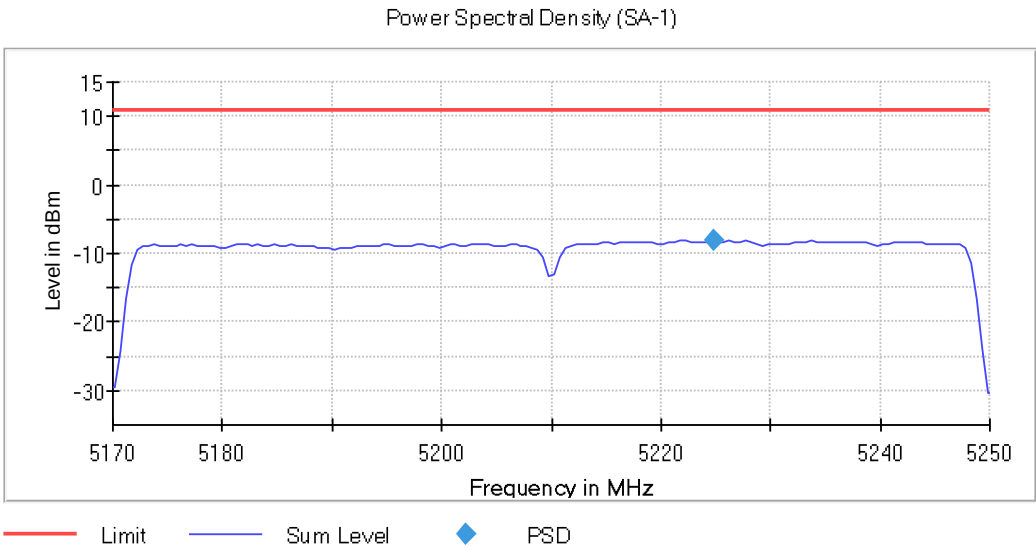
U-NII-1 FCC (5150-5250 MHz)

- Single Channel 42 (5210 MHz):



U-NII-1 RSS (5150-5250 MHz)

- Single Channel 42 (5210 MHz):



FCC 15.407 (b)(1) / RSS-247 6.2.1.2 Transmitter Out of Band Radiated Emissions

Limits

For transmitters with operating frequencies in the band 5150-5250 MHz, all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz e.i.r.p (68.23 dBµV/m at 3 m distance).

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

Frequency Range (MHz)	Magnetic field strength (µA/m)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
0.009 - 0.490	6.37/F (F in kHz)	--	-	300
0.490 - 1.705	63.7/F (F in kHz)	--	-	30
1.705 - 30.000	0.08	--	-	30
30 - 88	--	100	40	3
88 - 216	--	150	43.5	3
216 - 960	--	200	46	3
Above 960	--	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 specified when measuring with peak detector function.

RSS-247:

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

Results

The field strength is calculated by adding a correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss, pre-amplifiers gain and the distance correction factor for measurements above 17 GHz performed at 1.5-meter distance.

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

The worst-case mode was determined by measuring the e.i.r.p density (radiated). This worst-case mode is reported below.

Worst case: 802.11 a20 (6 Mbps)

U-NII-1 FCC (5150-5250 MHz)

Frequency range 30 MHz - 1 GHz (worst case):

The spurious emissions below 1 GHz do not depend on either the operating channel or the modulation mode selected in the EUT.

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Emission Level (dBμV/m)	Polarization	Detector
33.334375	23.40	V	Quasi-Peak
99.930938	23.53	V	Quasi-Peak
285.958750	26.97	H	Quasi-Peak
349.978750	29.95	H	Quasi-Peak
374.986563	28.51	H	Quasi-Peak
399.994375	26.12	H	Quasi-Peak

Measurement Uncertainty (dB) < ±5.35

Frequency range 1 - 40 GHz (worst case):

Low, Middle and High Channels were measured for out-of-band emissions for the worst-case mode.

Spurious frequencies with peak levels above the average limit (54 dBμV/m at 3 m) are measured with an average detector for checking compliance with the average limit.

- Low Channel: No spurious frequencies detected at less than 20 dB below the limit.
- Channel 40: No spurious frequencies detected at less than 20 dB below the limit.
- High Channel: Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Emission Level (dBμV/m)	Polarization	Detector
10482.965000	53.11	V	Peak

Measurement uncertainty (dB) < ±4.32 for f ≥ 1 GHz up to 17 GHz
< ±5.51 for f ≥ 17 GHz up to 26.5 GHz
< ±5.72 for f ≥ 26.5 GHz up to 40 GHz

Verdict

Pass

U-NII-1 RSS (5150-5250 MHz)

Frequency range 30 MHz - 1 GHz (worst case):

The spurious emissions below 1 GHz do not depend on either the operating channel or the modulation mode selected in the EUT.

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Emission Level (dB μ V/m)	Polarization	Detector
33.364688	20.35	V	Quasi-Peak

Measurement Uncertainty (dB) < ± 5.35

Frequency range 1 - 40 GHz (worst case):

Low, Middle and High Channels were measured for out-of-band emissions for the worst-case mode.

Spurious frequencies with peak levels above the average limit (54 dB μ V/m at 3 m) are measured with an average detector for checking compliance with the average limit.

- Low Channel: No spurious frequencies detected at less than 20 dB below the limit.
- Channel 40: No spurious frequencies detected at less than 20 dB below the limit.
- High Channel: No spurious frequencies detected at less than 20 dB below the limit.

Measurement uncertainty (dB) < ± 4.32 for $f \geq 1$ GHz up to 17 GHz
 < ± 5.51 for $f \geq 17$ GHz up to 26.5 GHz
 < ± 5.72 for $f \geq 26.5$ GHz up to 40 GHz

Verdict

Pass

Attachments

Worst case: 802.11 a20 (6 Mbps)

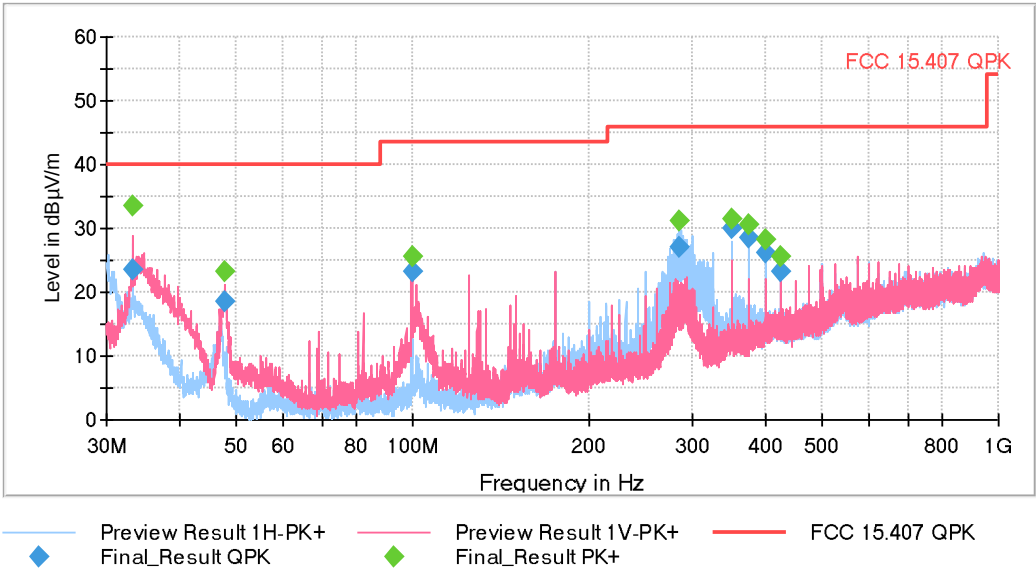
Measurement settings:

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [ESW 44] 30 MHz - 1 GHz	30,312 kHz	PK+	100 kHz	1 s	30 dB
Receiver: [ESW 44] 1 GHz - 6,5 GHz	100 kHz	PK+ ; AVG	1 MHz	1 s	0 dB
Receiver: [ESW 44] 6,5 GHz - 17 GHz	105 kHz	PK+ ; AVG	1 MHz	1 s	30 dB
Receiver: [ESW 44] 17 GHz - 40 GHz	766,667 kHz	PK+ ; AVG	1 MHz	1 s	0 dB

FREQUENCY RANGE 30 MHz - 1 GHz

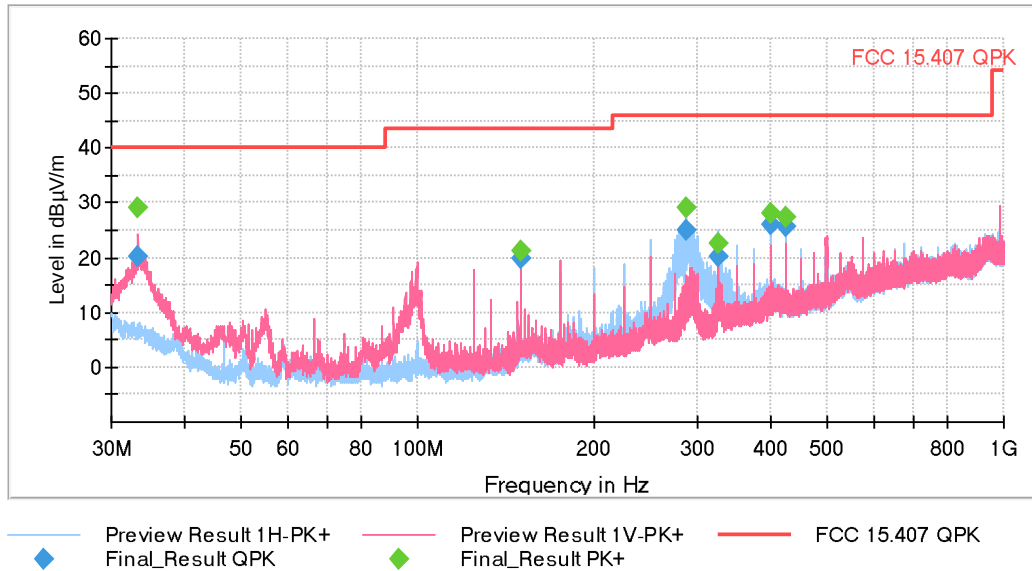
U-NII-1 FCC (5150-5250 MHz)

This plot is valid for Low, Middle and High Channels and all the modulation modes and bandwidths.



U-NII-1 RSS (5150-5250 MHz)

This plot is valid for Low, Middle and High Channels and all the modulation modes and bandwidths.

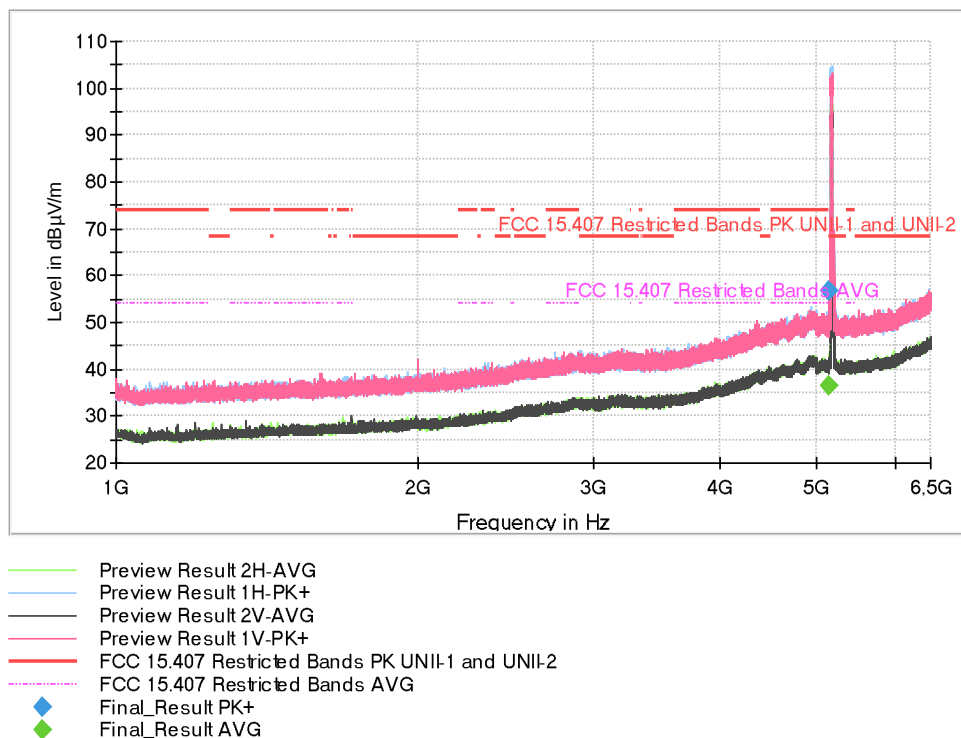


FREQUENCY RANGE 1 - 6.5 GHz

U-NII-1 FCC (5150-5250 MHz)

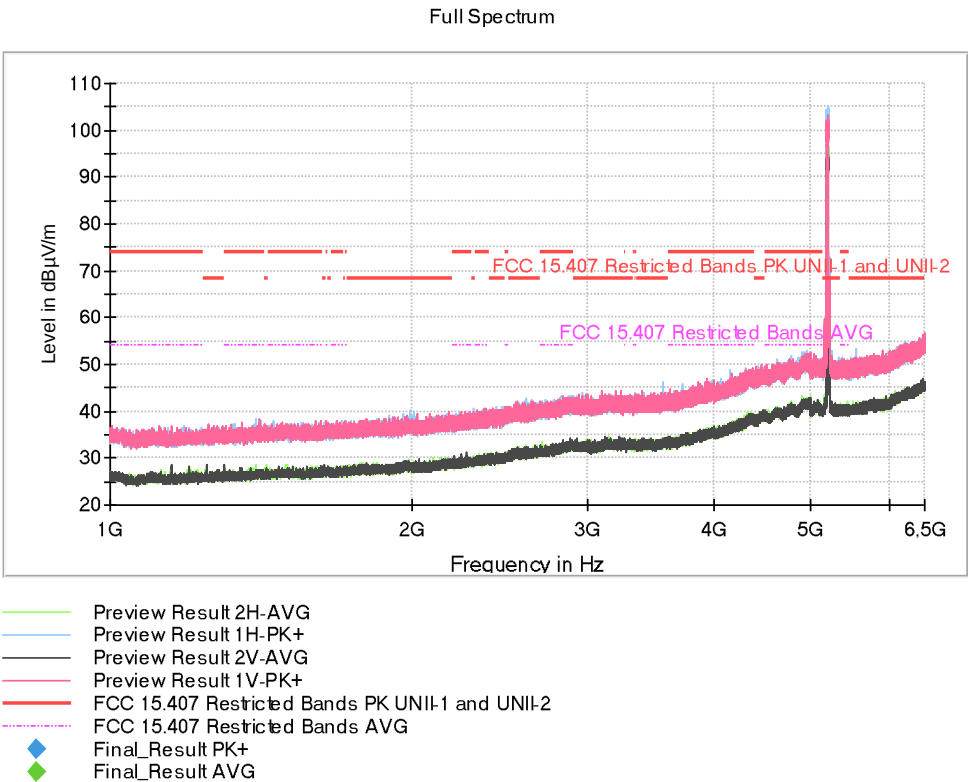
- Low Channel:

Full Spectrum



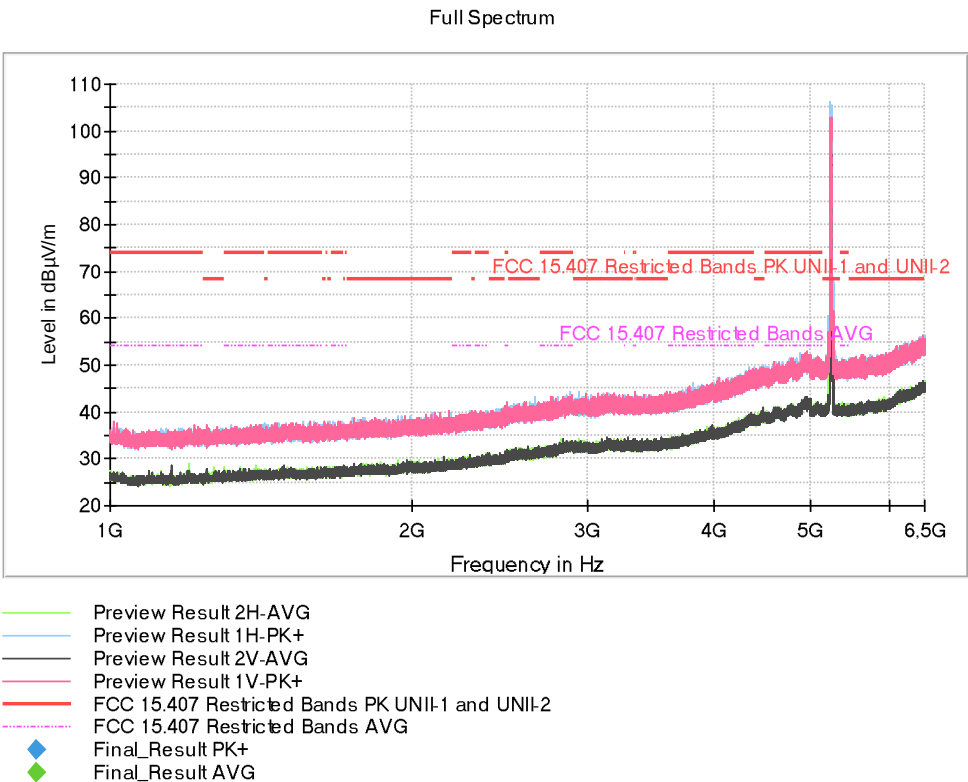
The peak shown on the plot above the limit is the carrier frequency.

- Channel 40:



The peak shown on the plot above the limit is the carrier frequency.

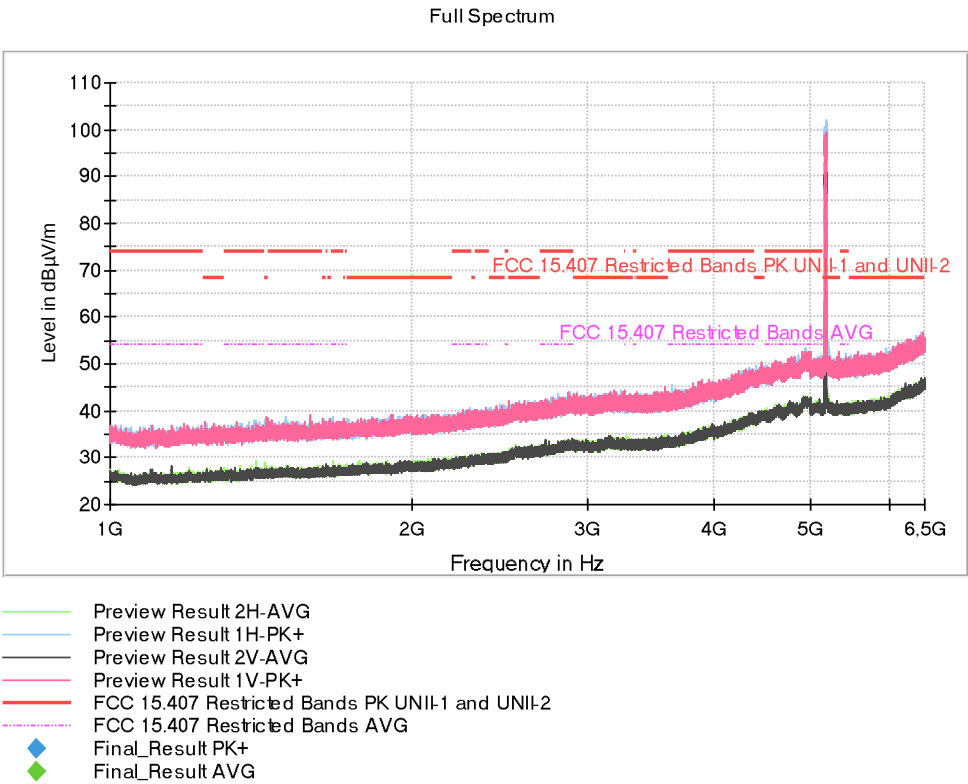
- High Channel:



The peak shown on the plot above the limit is the carrier frequency.

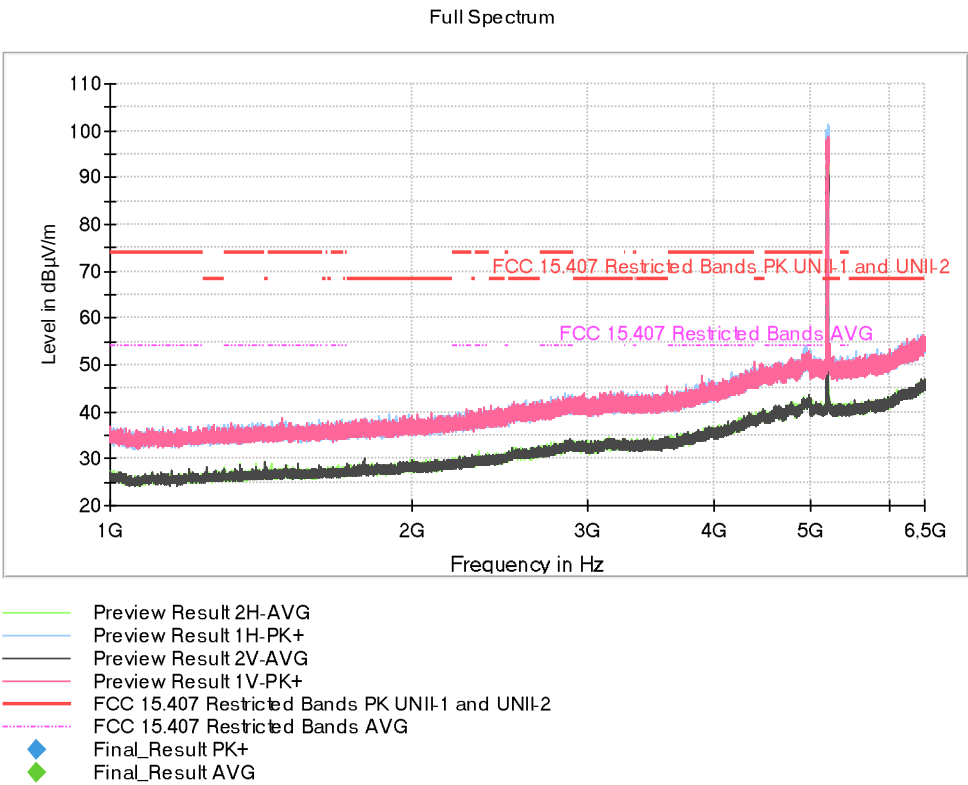
U-NII-1 RSS (5150-5250 MHz)

- Low Channel:



The peak shown on the plot above the limit is the carrier frequency.

- Channel 40:



The peak shown on the plot above the limit is the carrier frequency.