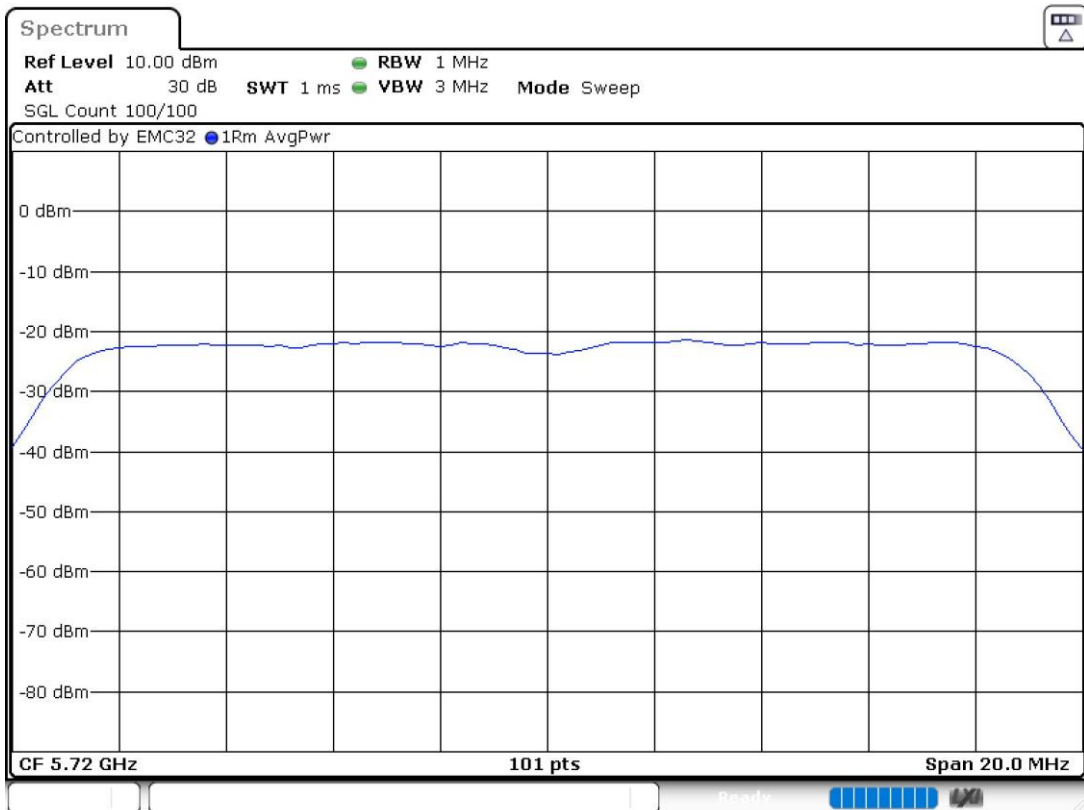


PSD Connector 1

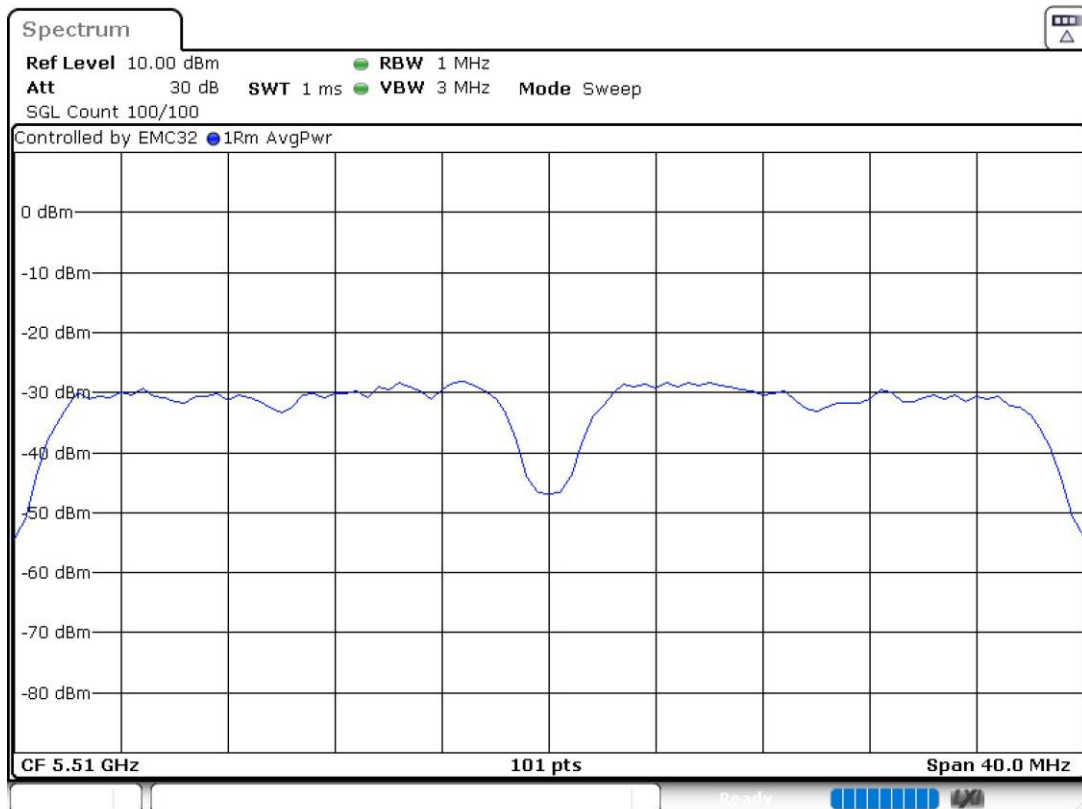
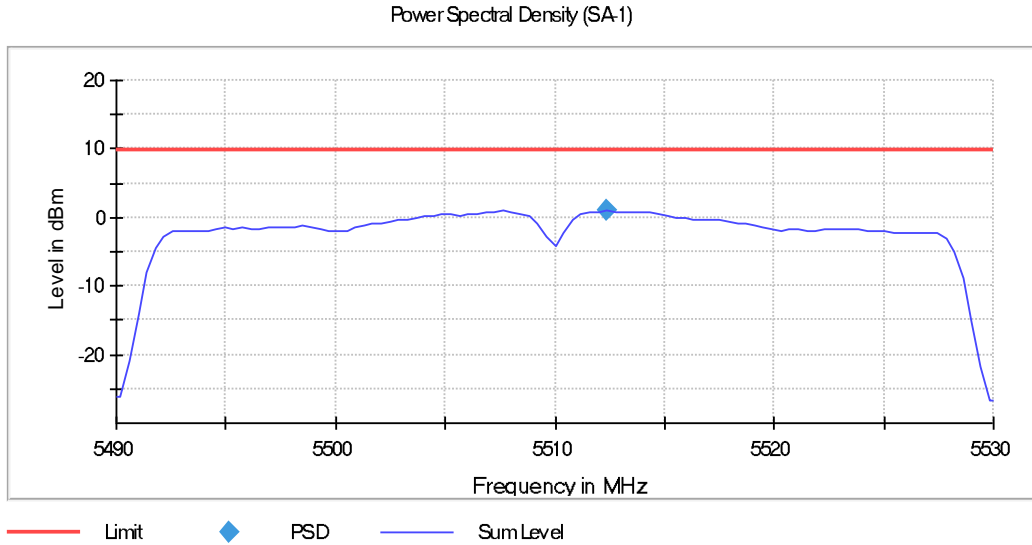


PSD Connector 2

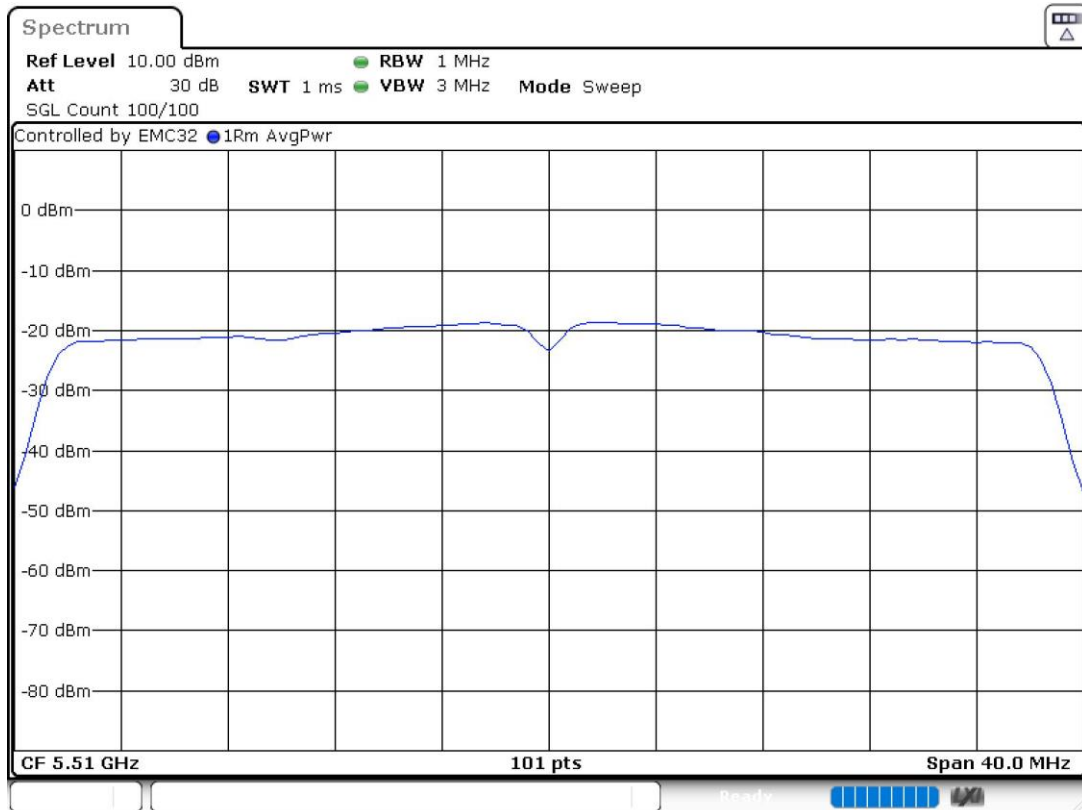
MIMO 802.11 n40 (HT40):

U-NII-2C (5470-5725 MHz)

- Low Channel 102 (5510 MHz):



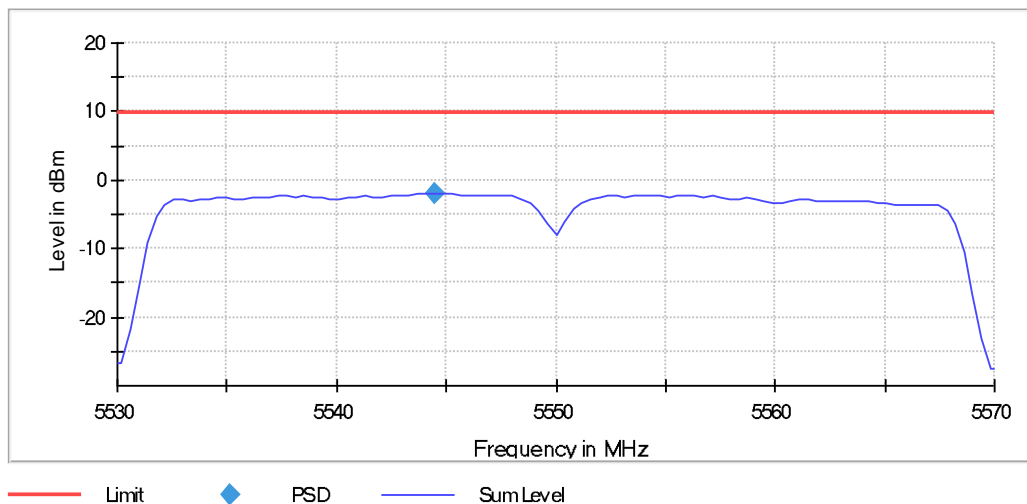
PSD Connector 1

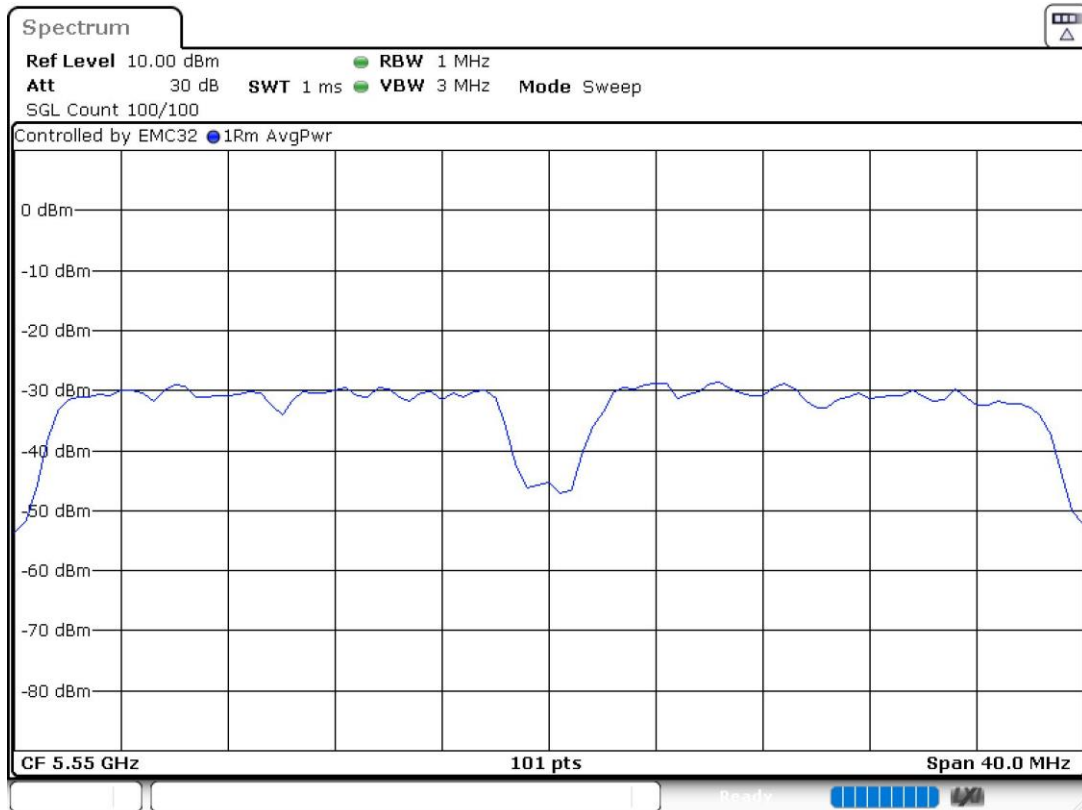


PSD Connector 2

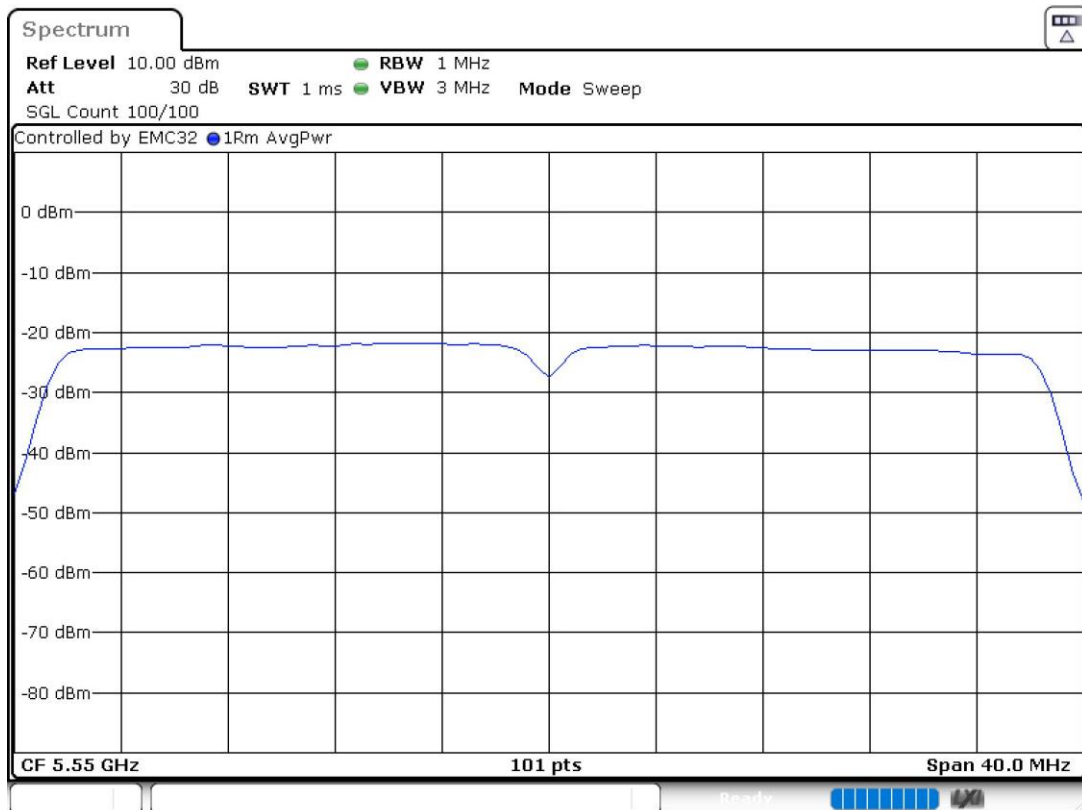
- Low+1 Channel 110 (5550 MHz):

Power Spectral Density (SA-1)





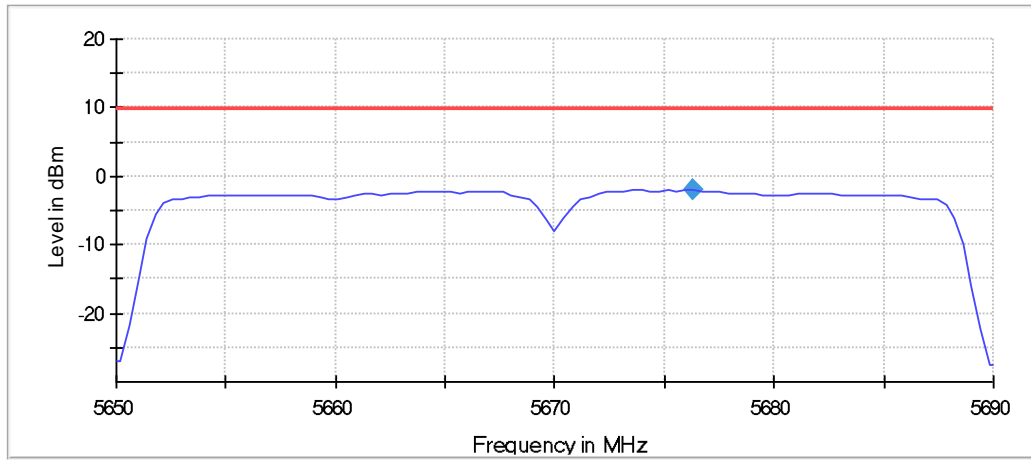
PSD Connector 1



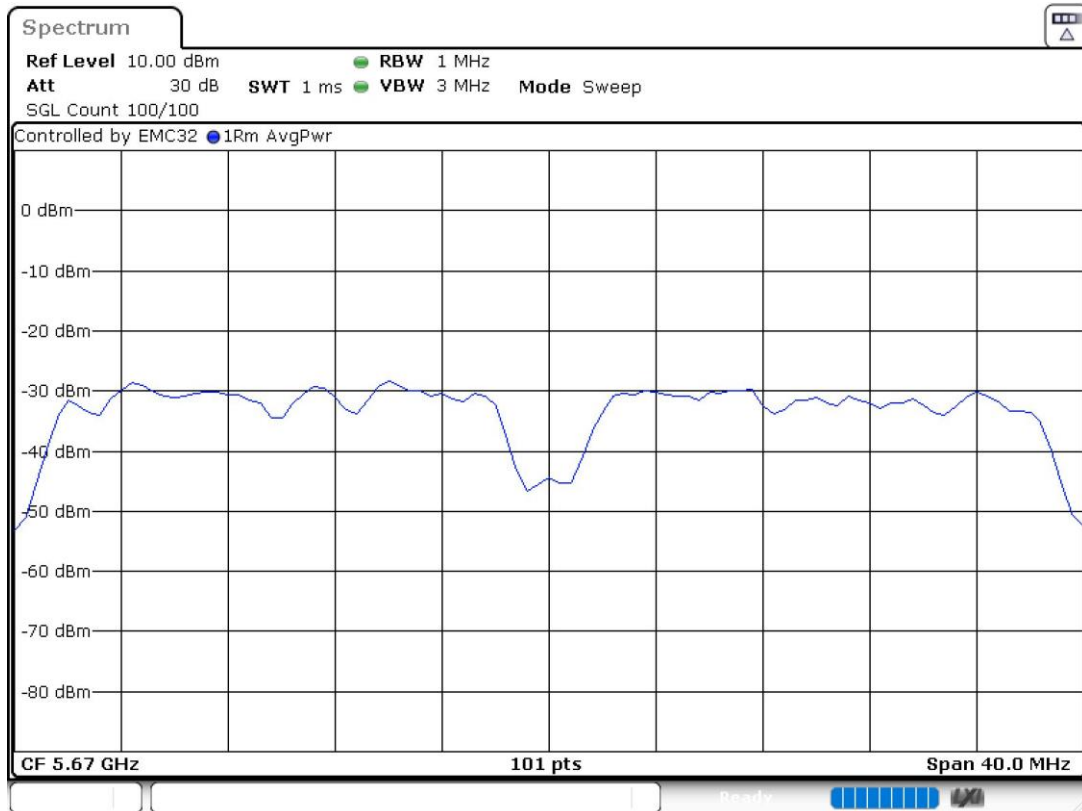
PSD Connector 2

- High Channel 134 (5670 MHz):

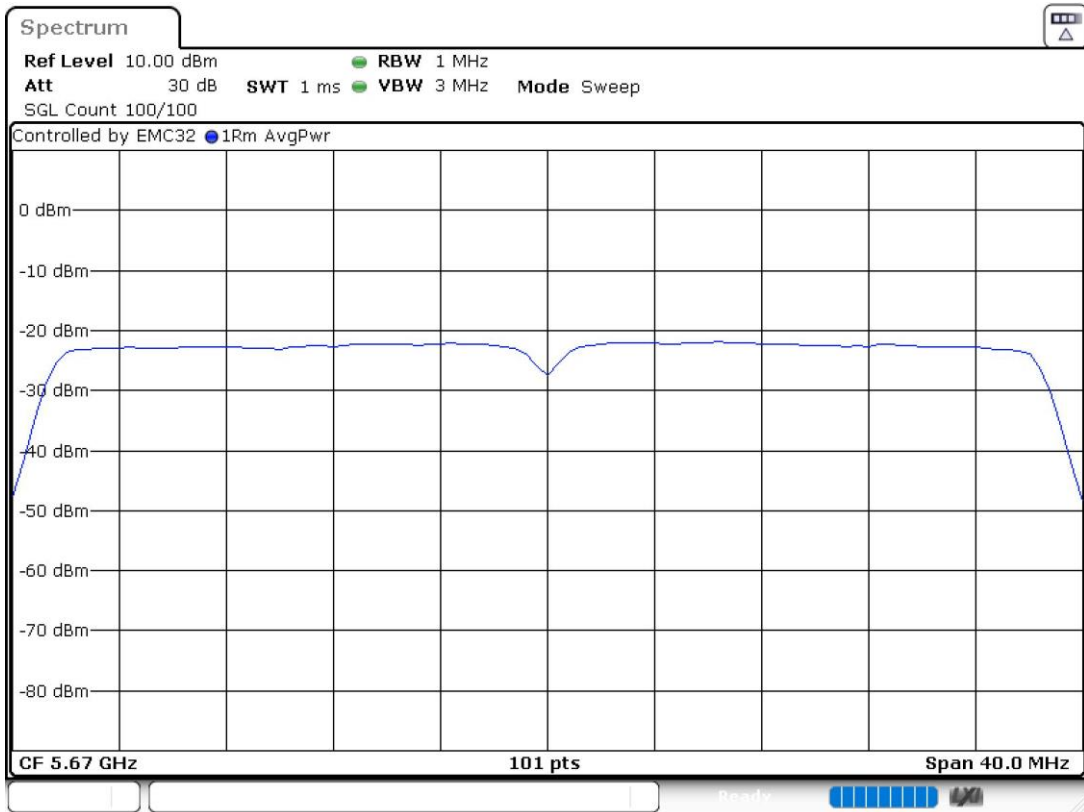
Power Spectral Density (SA-1)



— Limit ◆ PSD — Sum Level



PSD Connector 1

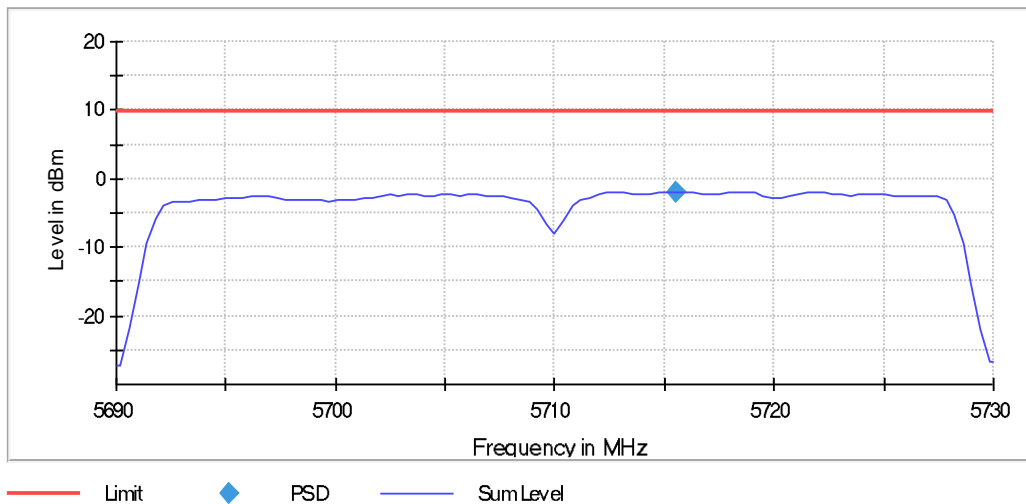


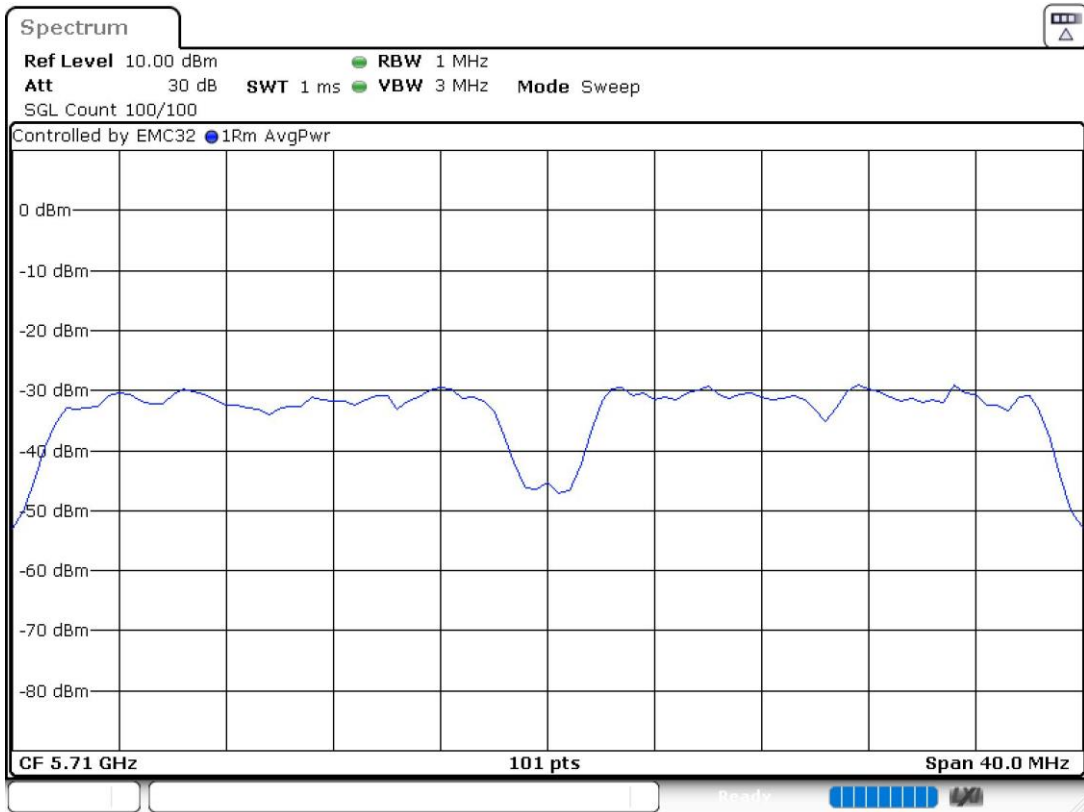
PSD Connector 2

STRADDLE CHANNEL

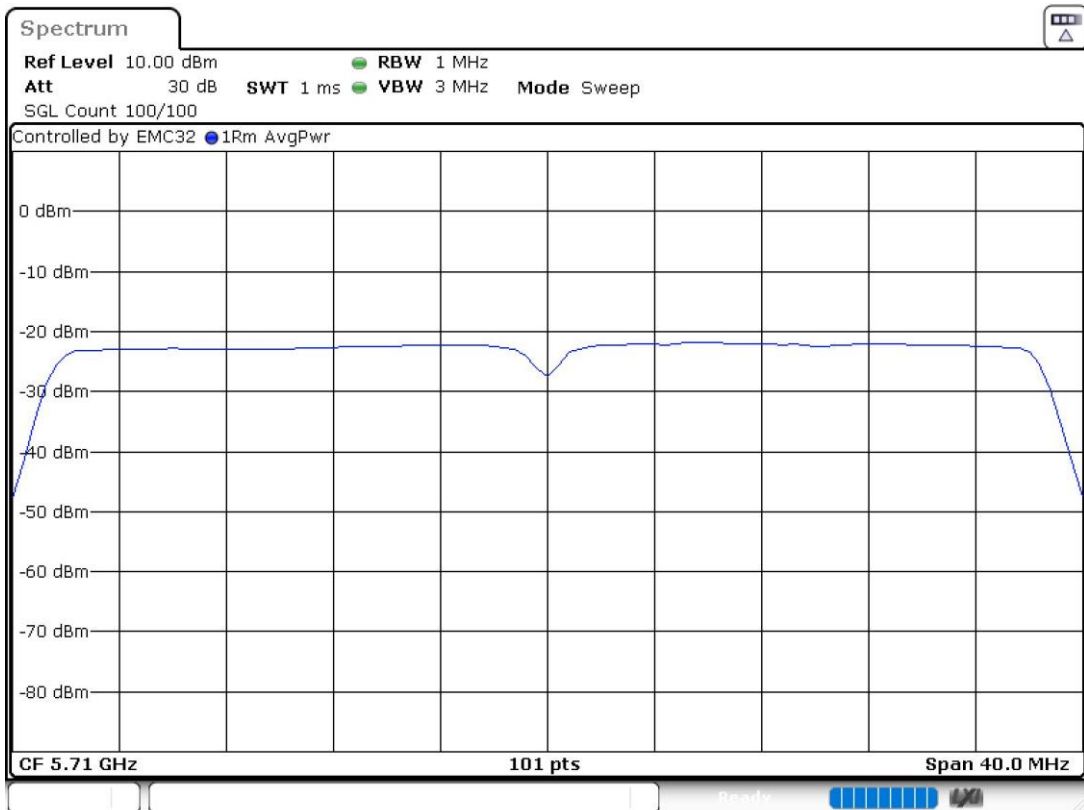
- Straddle Channel 142 (5710 MHz):

Power Spectral Density (SA-1)





PSD Connector 1

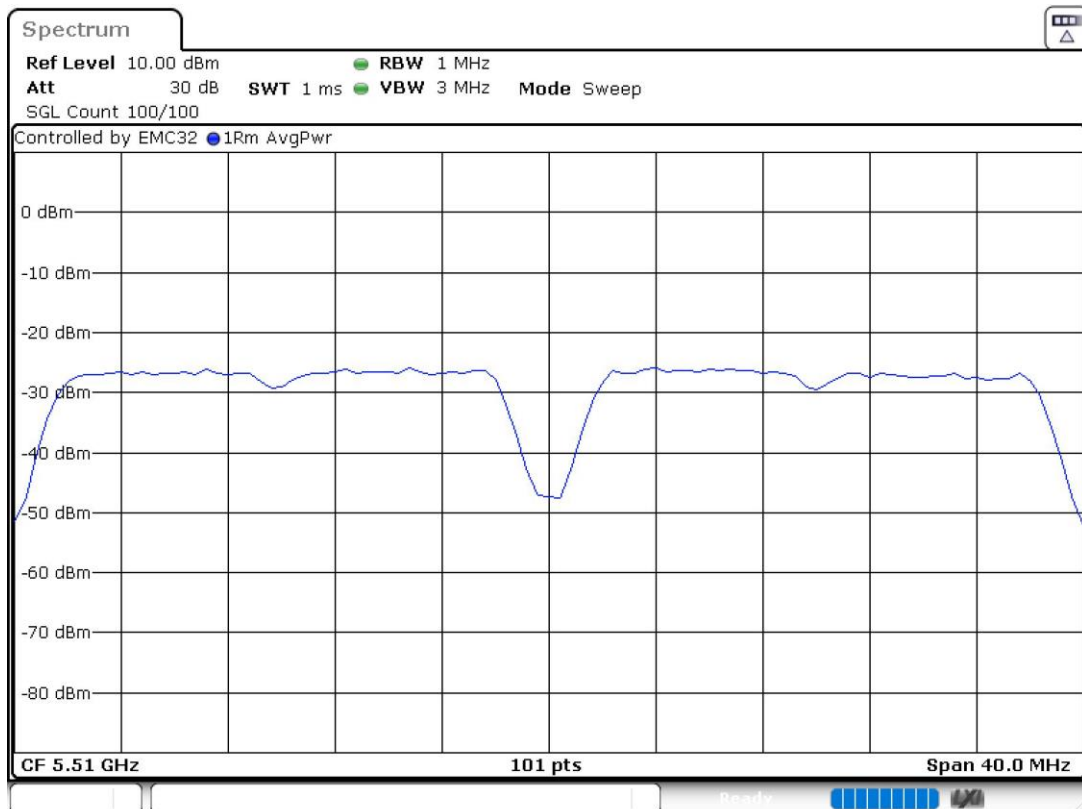
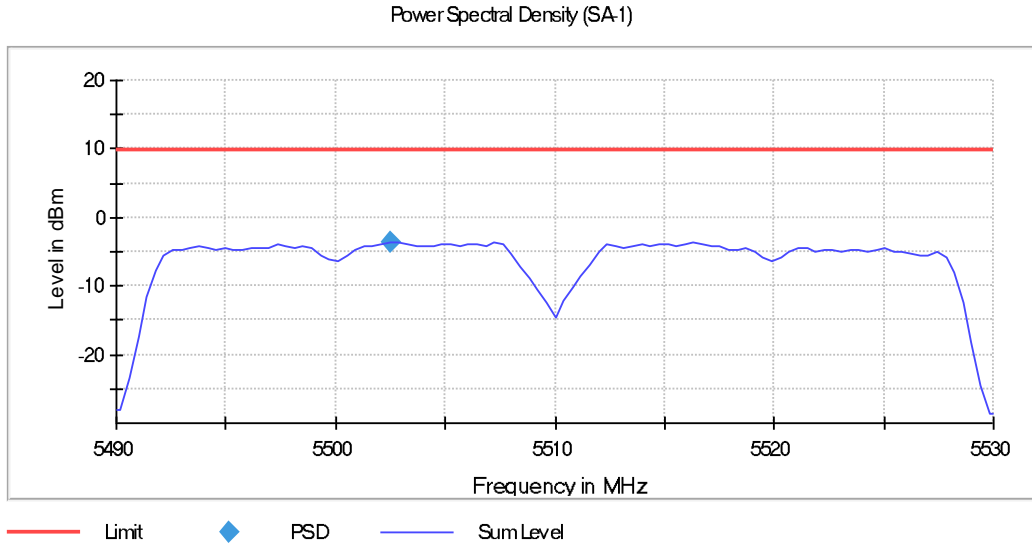


PSD Connector 2

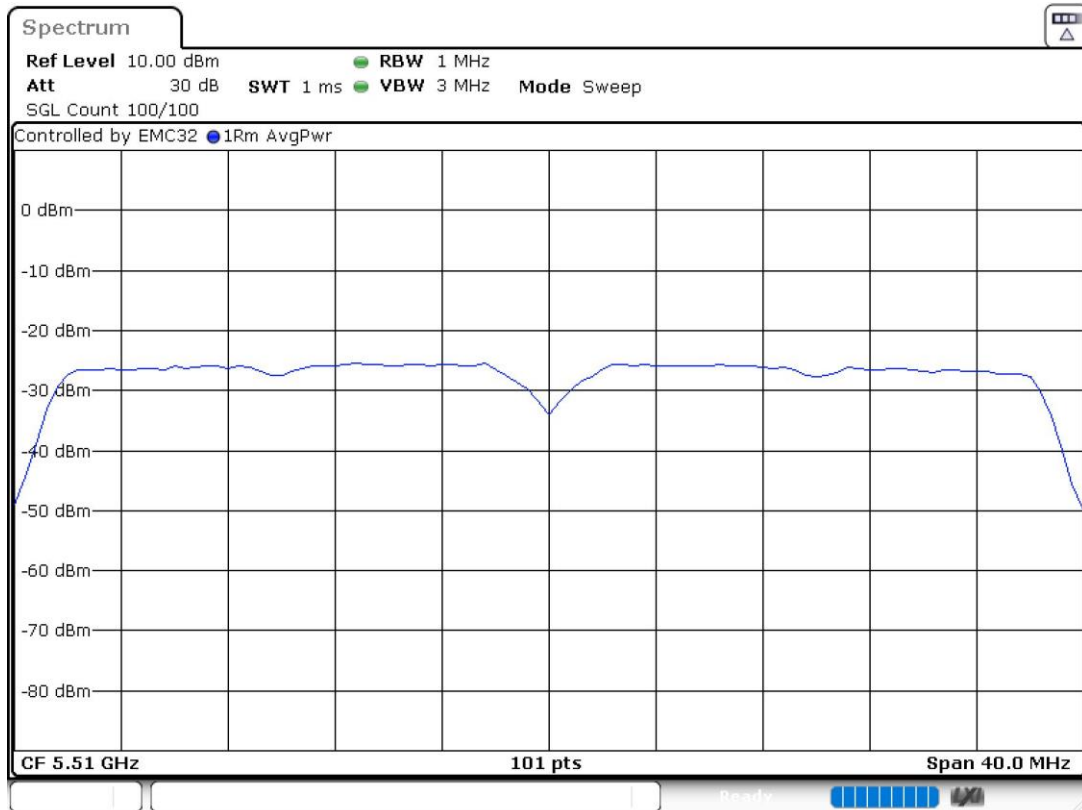
MIMO 802.11 ac40 (VHT40):

U-NII-2C (5470-5725 MHz)

- Low Channel 102 (5510 MHz):



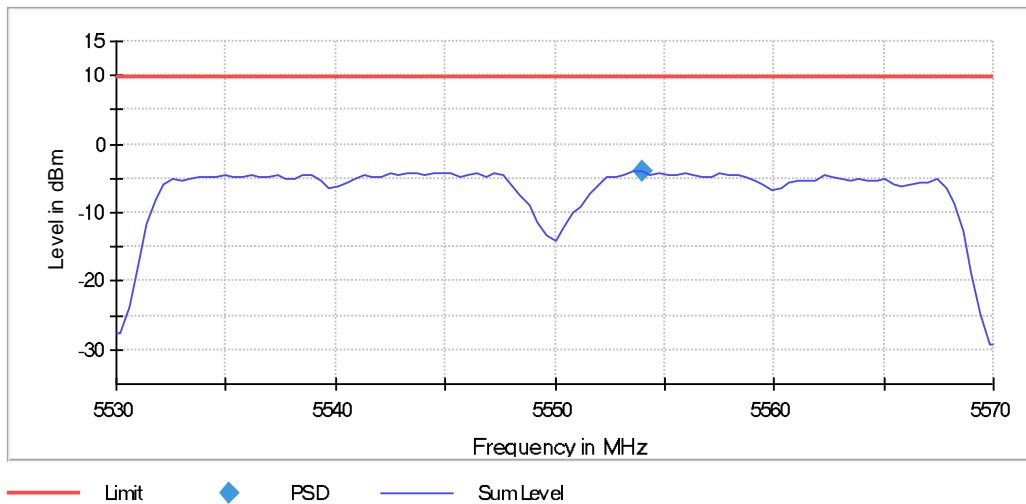
PSD Connector 1

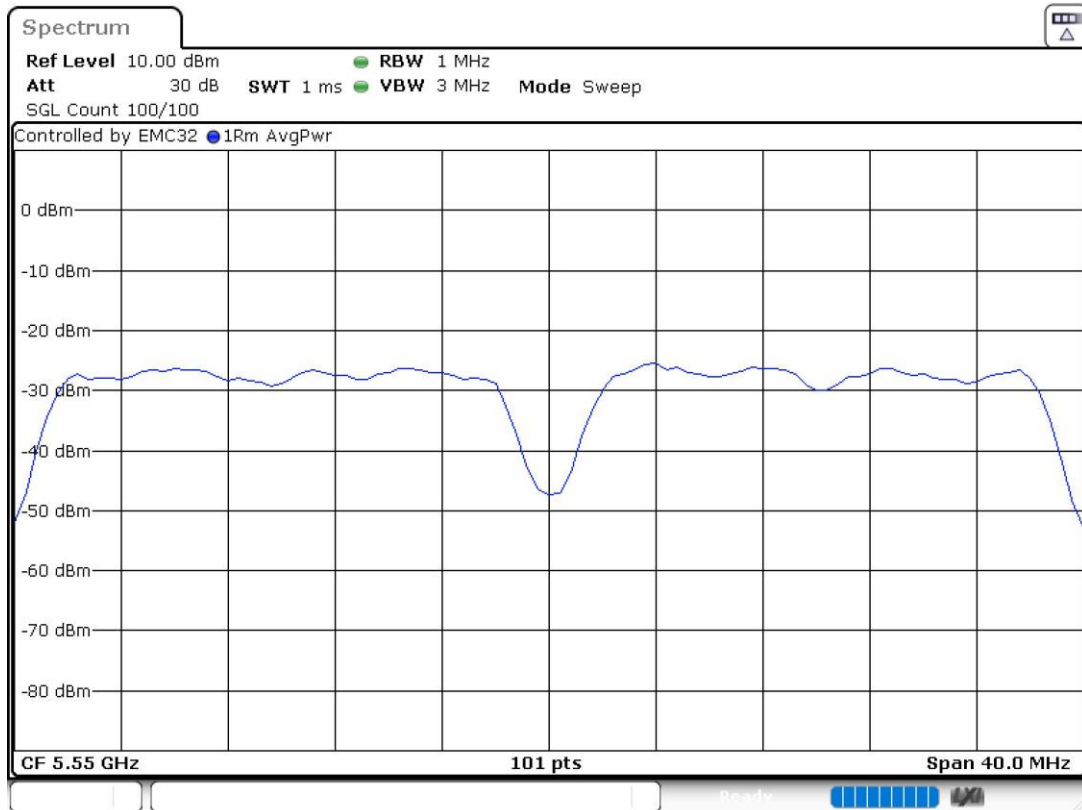


PSD Connector 2

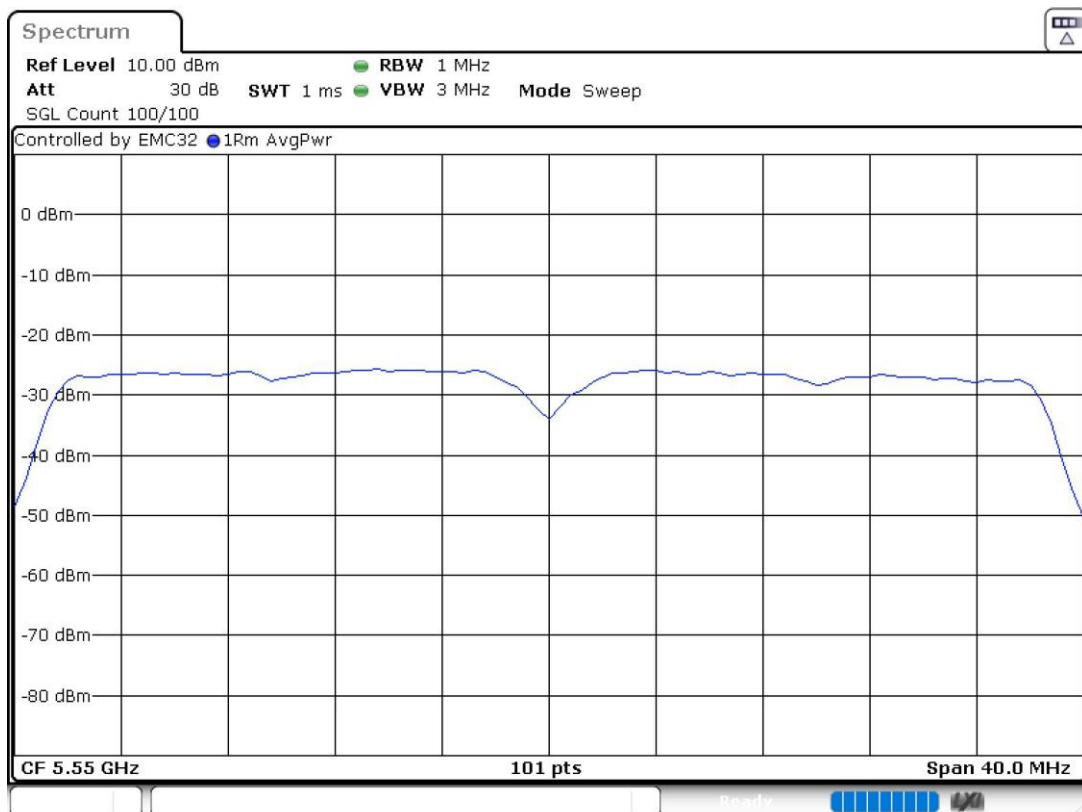
- Low+1 Channel 110 (5550 MHz):

Power Spectral Density (SA-1)





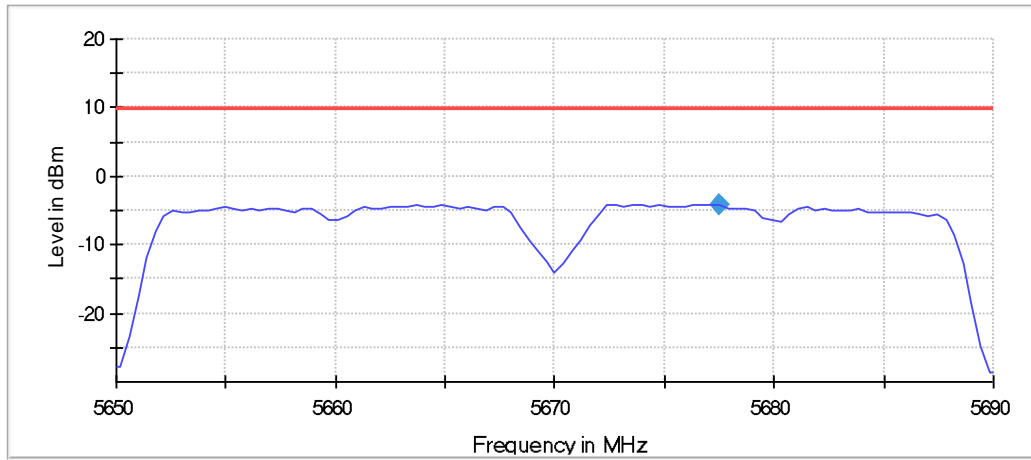
PSD Connector 1



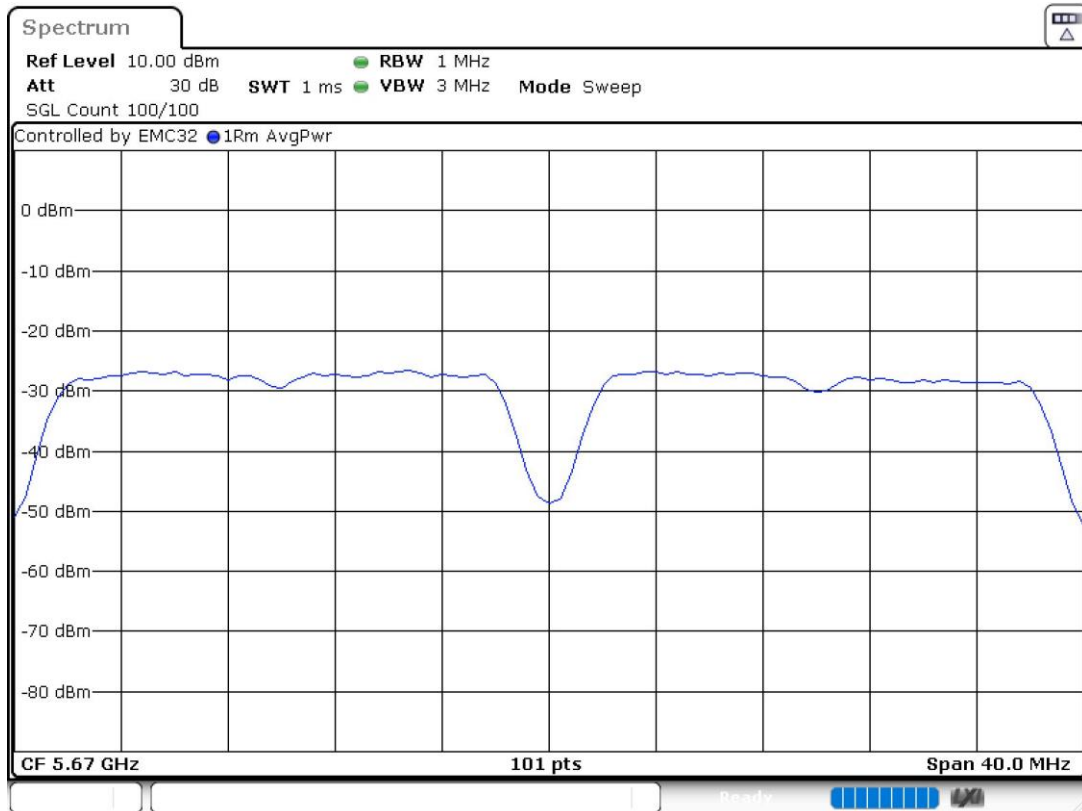
PSD Connector 2

- High Channel 134 (5670 MHz):

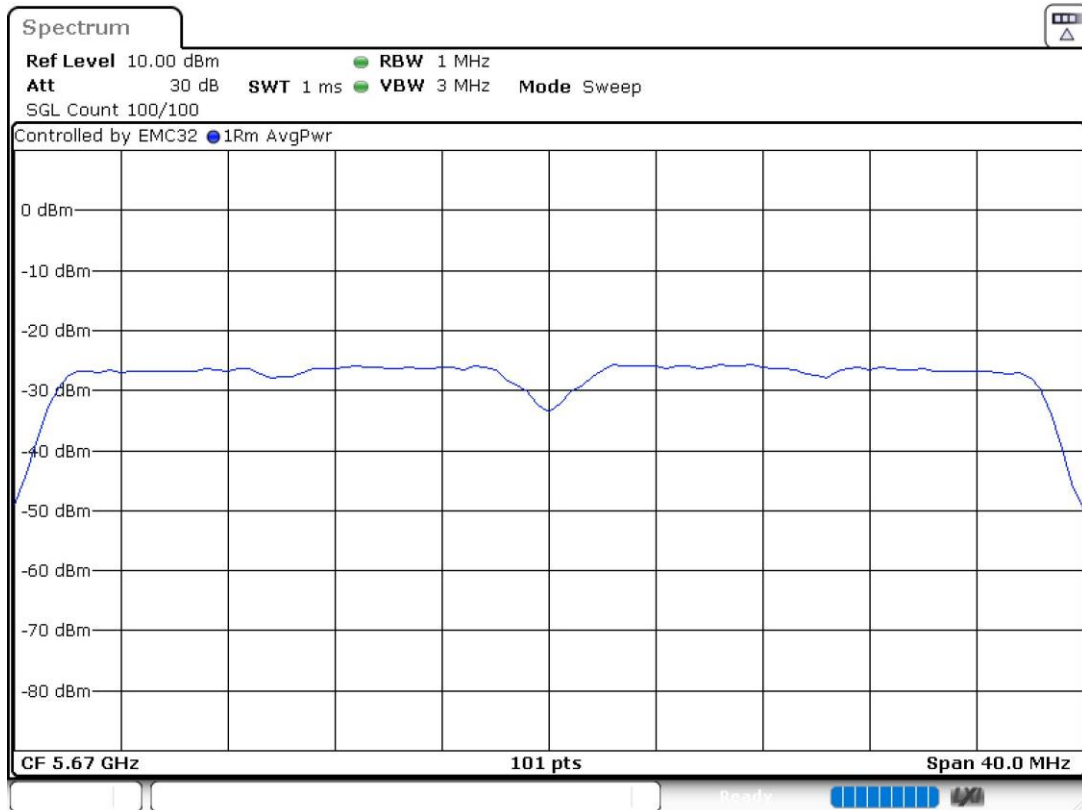
Power Spectral Density (SA-1)



— Limit ◆ PSD — Sum Level



PSD Connector 1

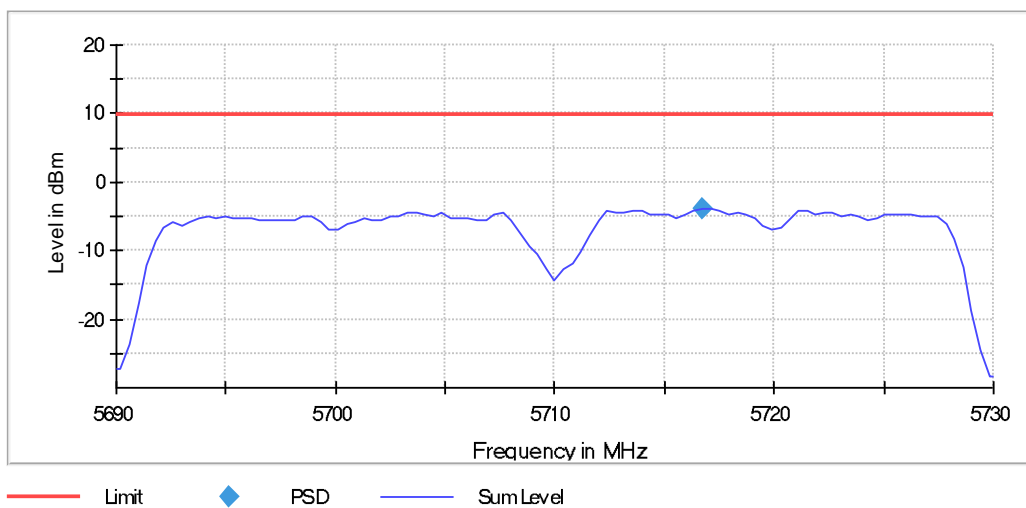


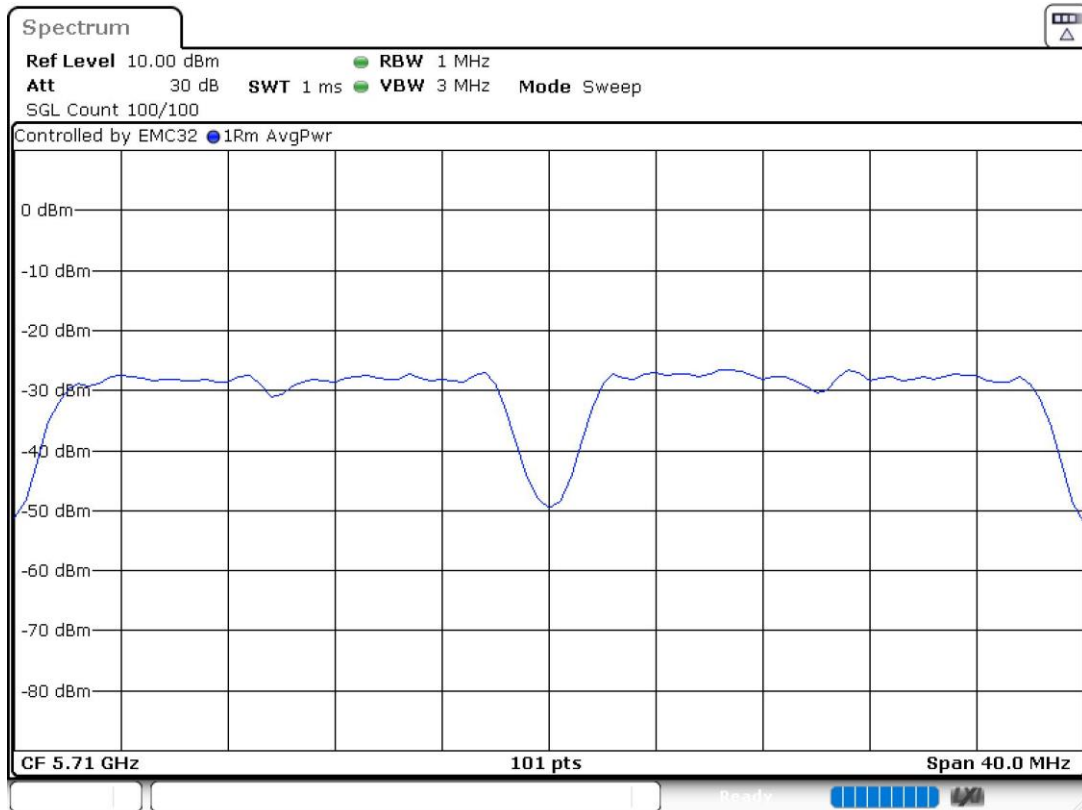
PSD Connector 2

STRADDLE CHANNEL

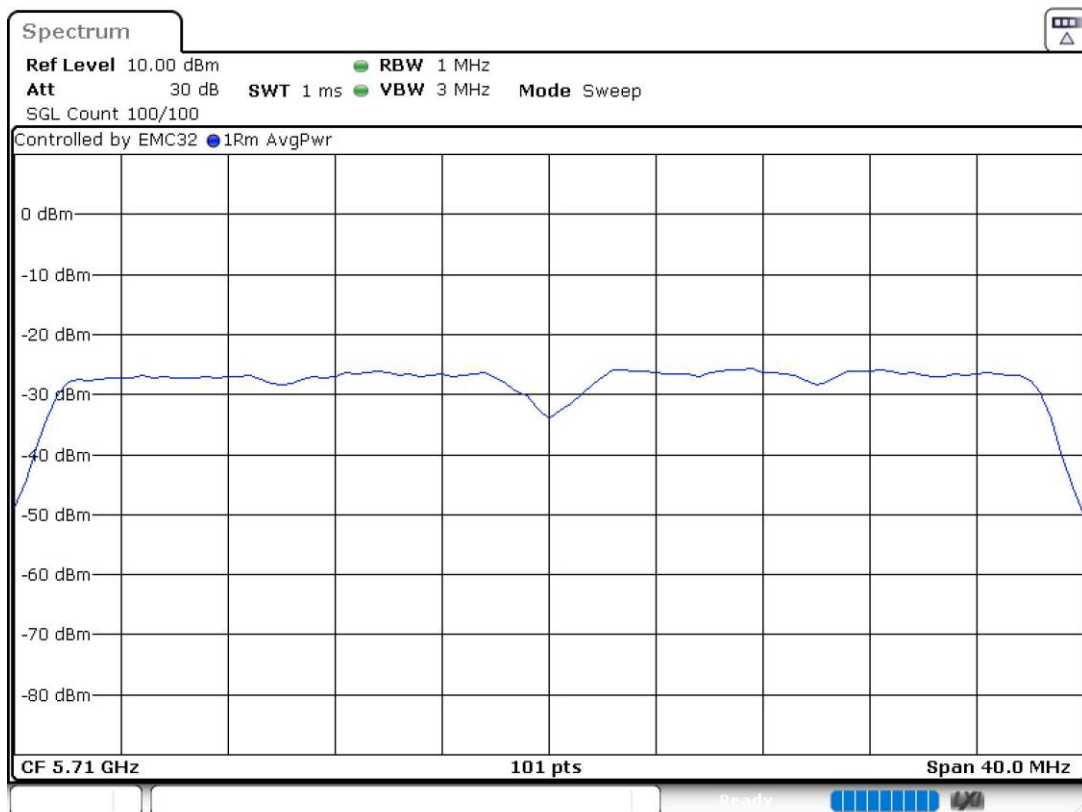
- Straddle Channel 142 (5710 MHz):

Power Spectral Density (SA-1)





PSD Connector 1



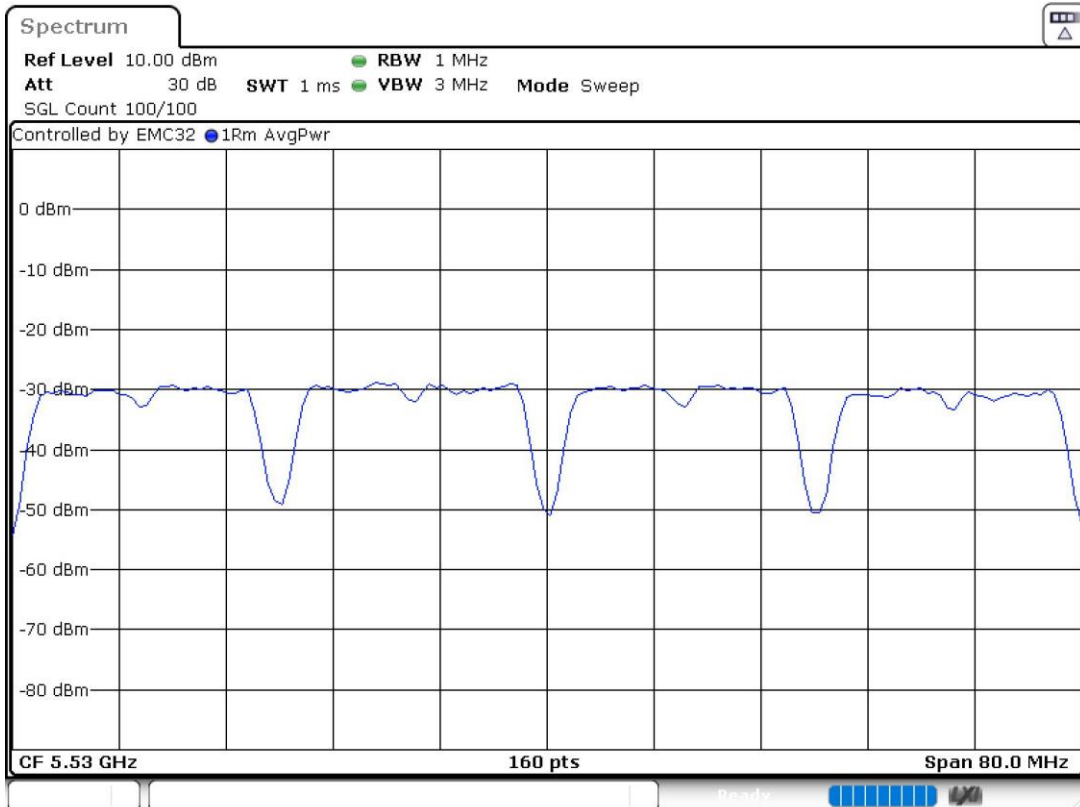
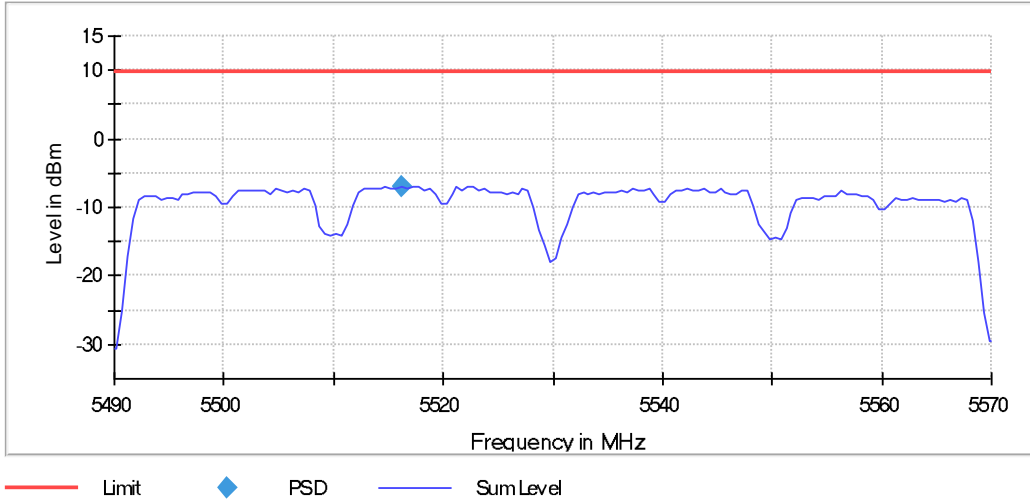
PSD Connector 2

MIMO 802.11 ac80 (VHT80):

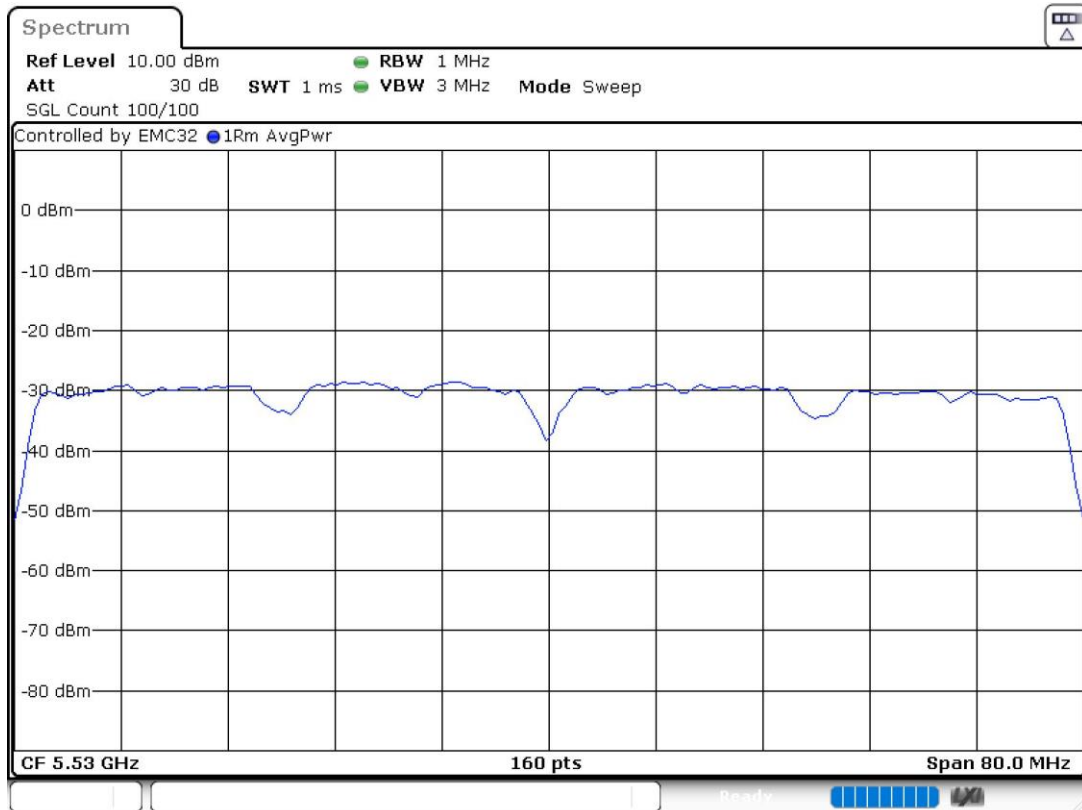
U-NII-2C (5470-5725 MHz)

- Low Channel 106 (5530 MHz):

Power Spectral Density (SA-1)



PSD Connector 1

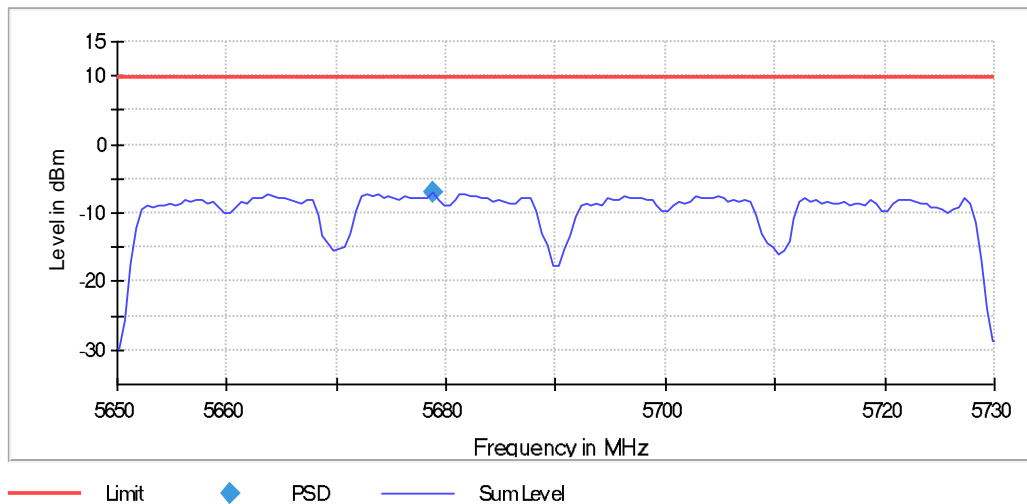


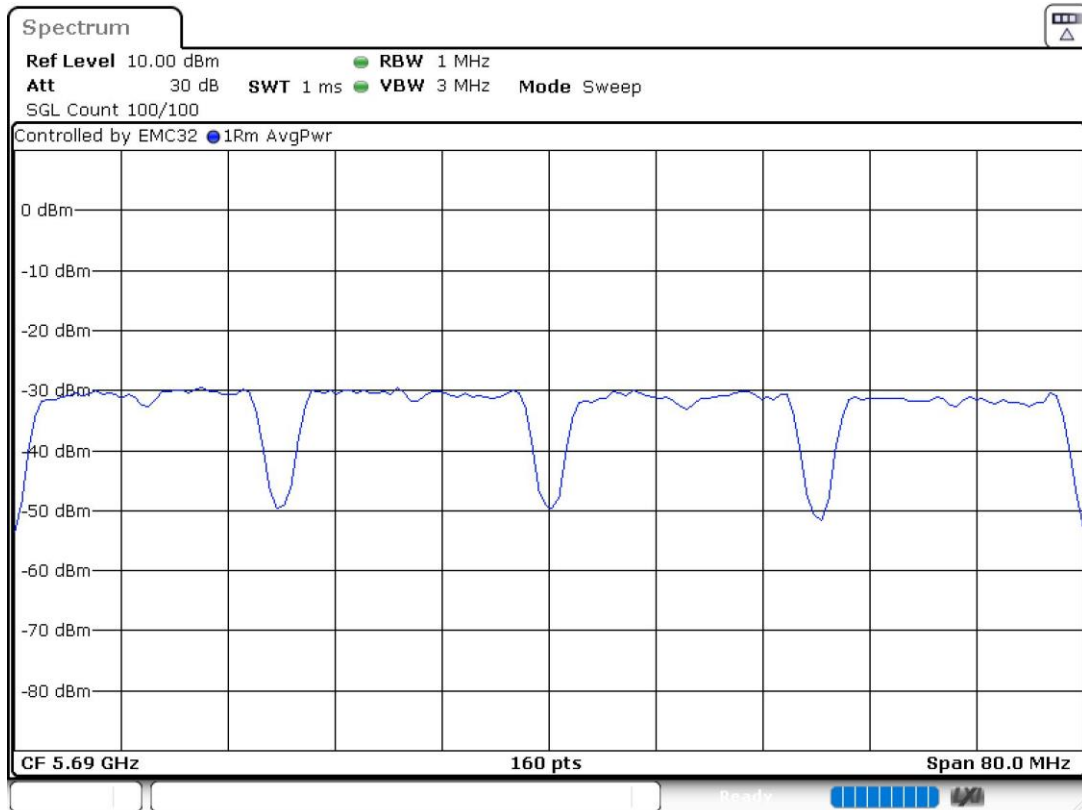
PSD Connector 2

STRADDLE CHANNEL

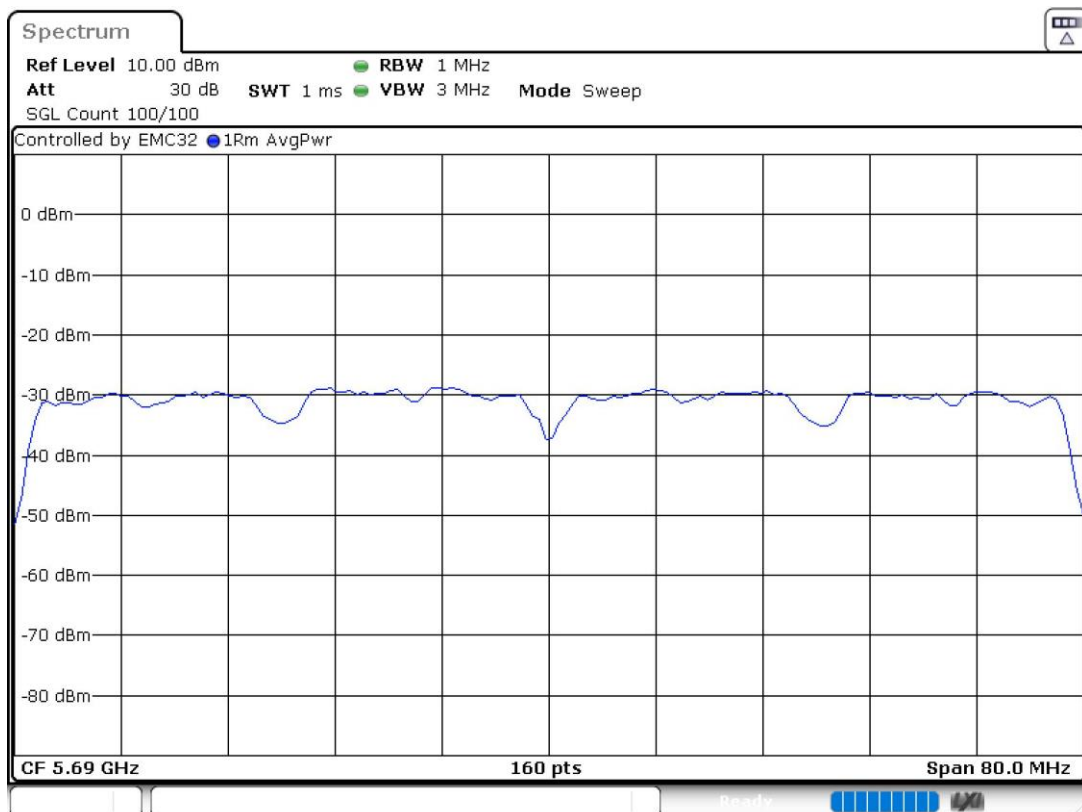
- Straddle Channel 138 (5690 MHz):

Power Spectral Density (SA-1)





PSD Connector 1



PSD Connector 2

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

SPECIFICATION:

For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.20 dB μ V/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 (μ V/m)	Field strength (dB μ V/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.

RESULTS:

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.

All tests were performed in a semi-anechoic chamber at a distance of 1m for the frequency range 1 GHz-40 GHz and a distance of 3m for frequency range 30MHz-1GHz.

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.

The worst-case was determined by measuring the eirp density (radiated). Test performed on the worst-case:

SISO worst-case:

- Preliminary tests determined the SISO worst-case: Chain 0.

Worst-case: **802.11 a20** (bit rate of 6 Mbps).

Frequency range 30 MHz - 1 GHz (SISO 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
32.576563	30.73	V	Peak
	23.99		QP
37.487188	29.56	V	Peak
	23.15		QP
43.792188	36.49	V	Peak
	34.14		QP
45.247188	36.87	V	Peak
	34.41		QP
50.430625	35.92	V	Peak
	34.57		QP
55.917188	36.29	V	Peak
	32.21		QP
64.768438	30.91	V	Peak
	26.72		QP
90.321875	37.95	V	Peak
	34.72		QP
104.750625	32.91	V	Peak
	28.39		QP
141.186250	35.04	V	Peak
	31.33		QP
192.596250	24.65	V	Peak
	17.26		QP
209.450000	28.67	V	Peak
	21.49		QP
333.488750	40.38	H	Peak
	36.46		QP

Frequency range 1 - 40 GHz (SISO worst-case):

The results in the next tables show the maximum measured levels in the 1-40 GHz frequency range.

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

- **SISO 802.11 n20 (SISO worst-case):**

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

Verdict: PASS

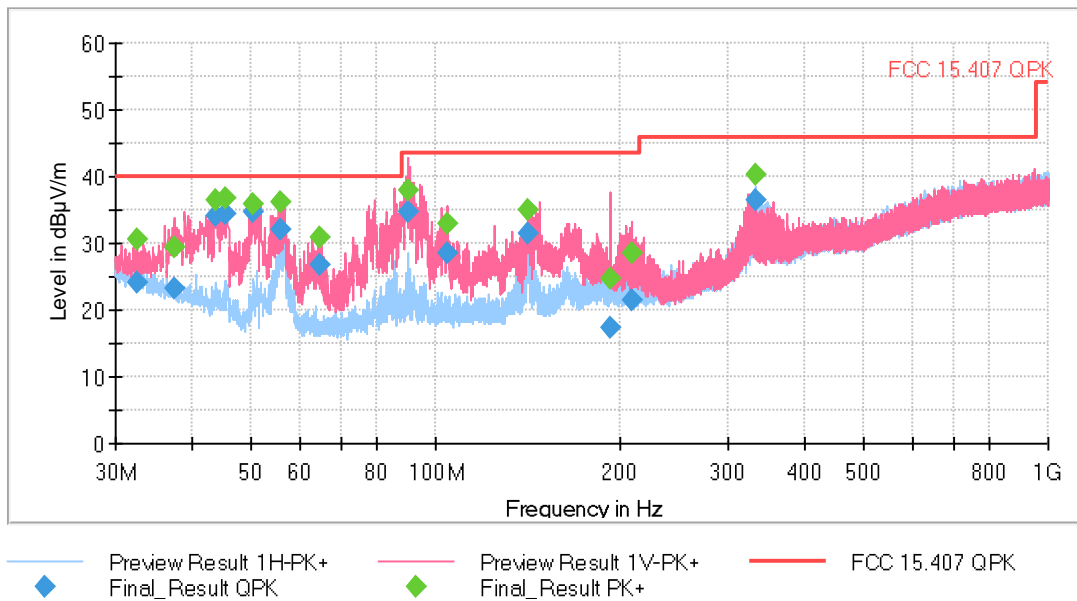
The measurement settings for each range of frequency is as follows:

Subrange	Step Size	Detectors	Bandwidth	Sweep Time	Preamp
Receiver: [ESW 44] 30 MHz - 1 GHz	30,312 kHz	PK+	100 kHz	1 s	0 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

SISO worst-case:

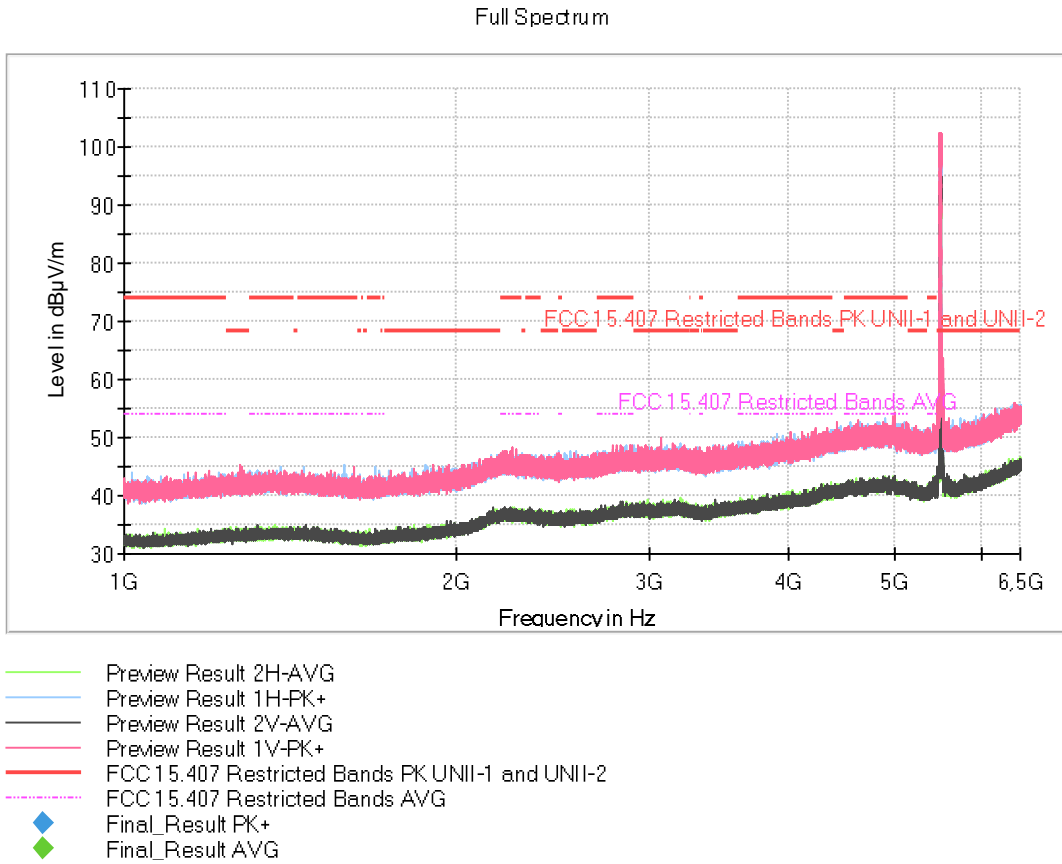
FREQUENCY RANGE 30 MHz - 1 GHz (SISO worst-case):

This plot is valid for all the Channels and all the modulation modes and bandwidths.



FREQUENCY RANGE 1 – 6.5 GHz (SISO worst-case):

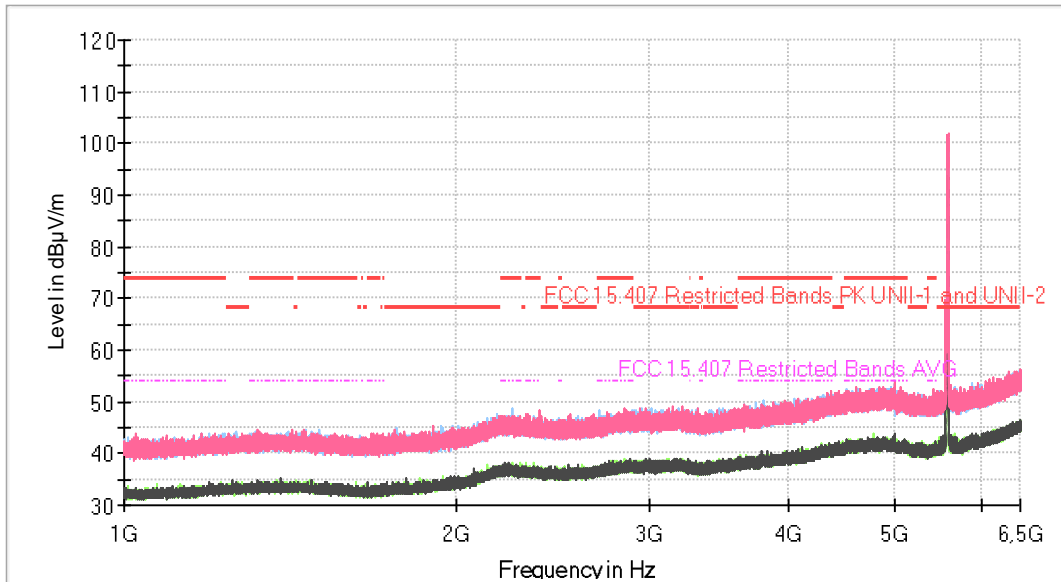
- Low Channel:



Note: The peak shown in the plot above the limit is the carrier frequency.

- Middle Channel:

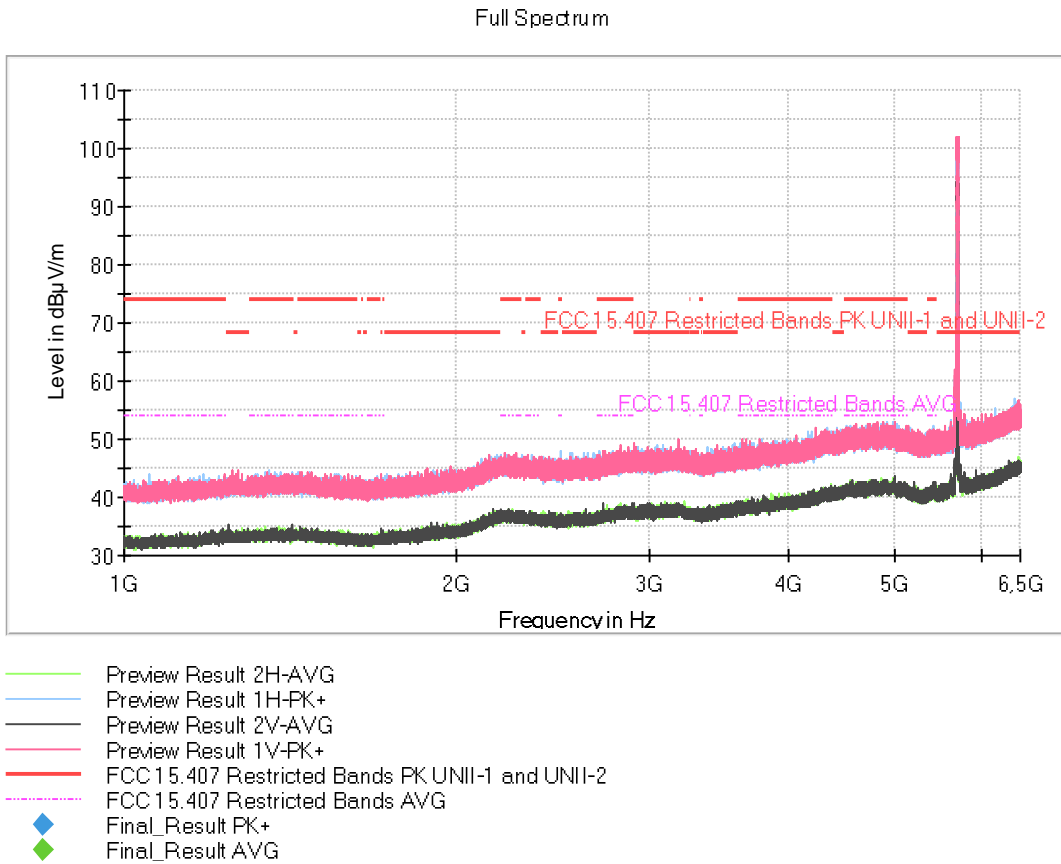
Full Spectrum



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

Note: The peak shown in the plot above the limit is the carrier frequency.

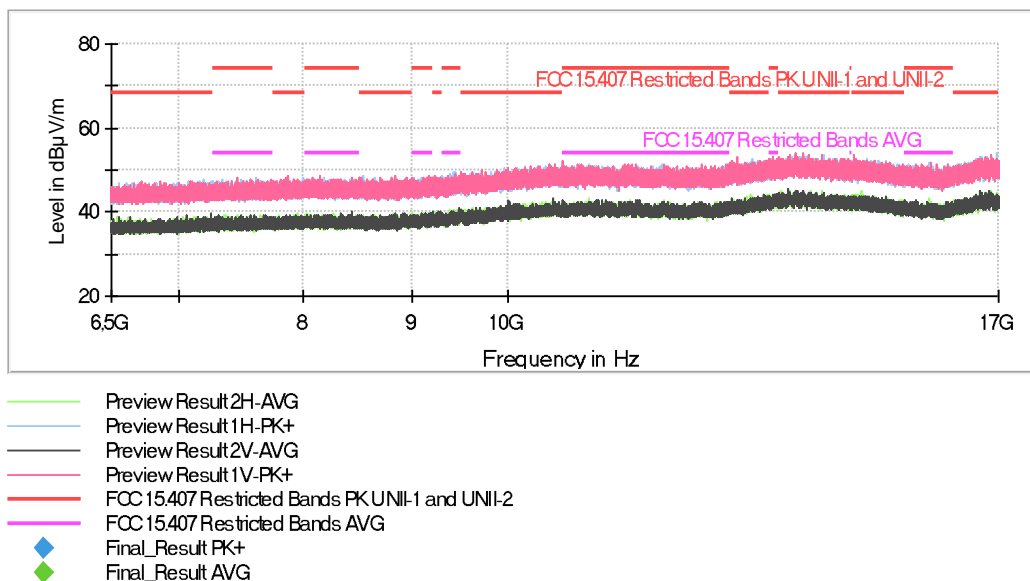
- High Channel:



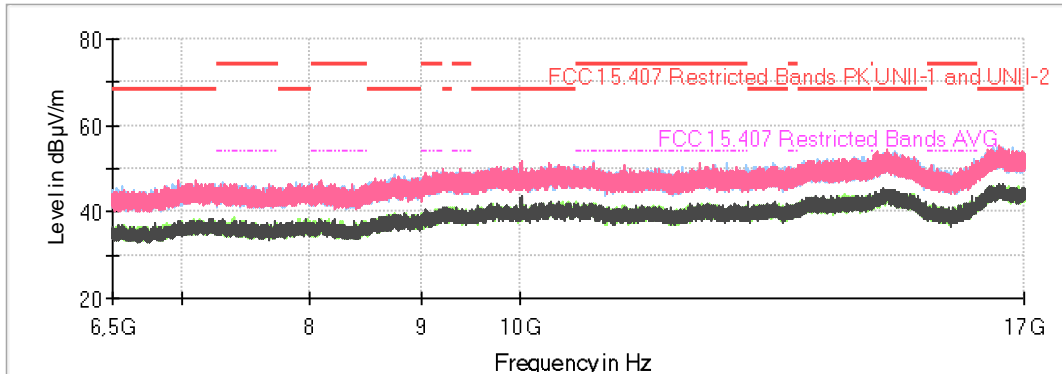
Note: The peak shown in the plot above the limit is the carrier frequency.

FREQUENCY RANGE 6.5 - 17 GHz (SISO worst-case):

- Low Channel:

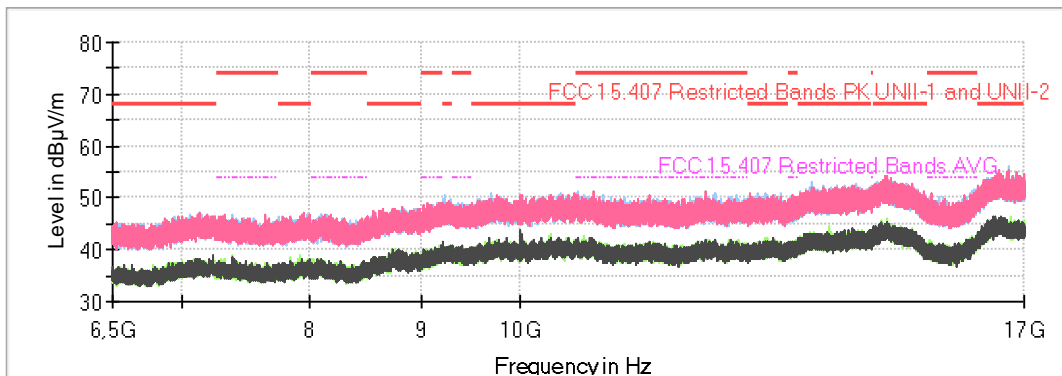


- Middle Channel:



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

- High Channel:



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