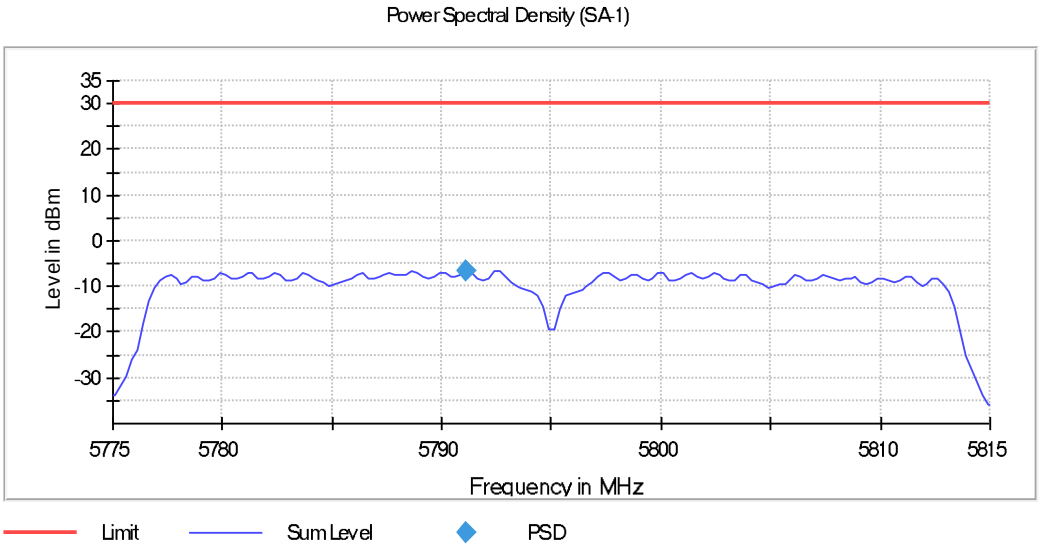
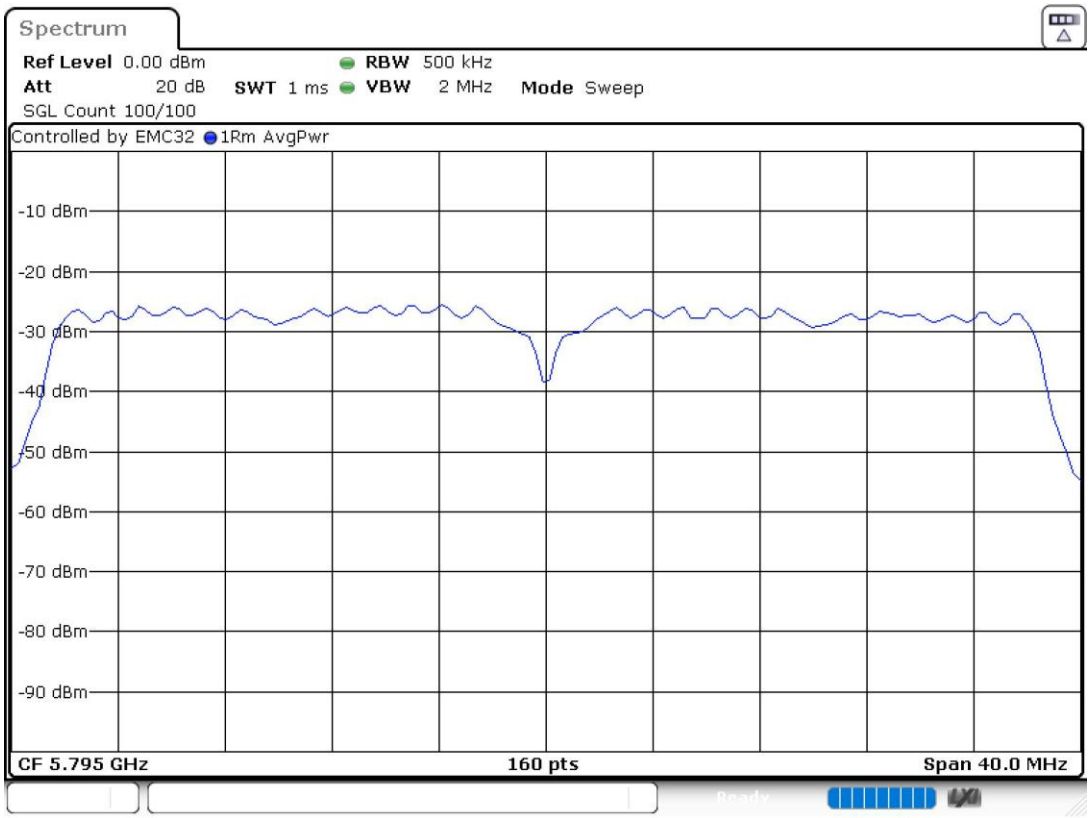
- High Channel 159 (5795 MHz):

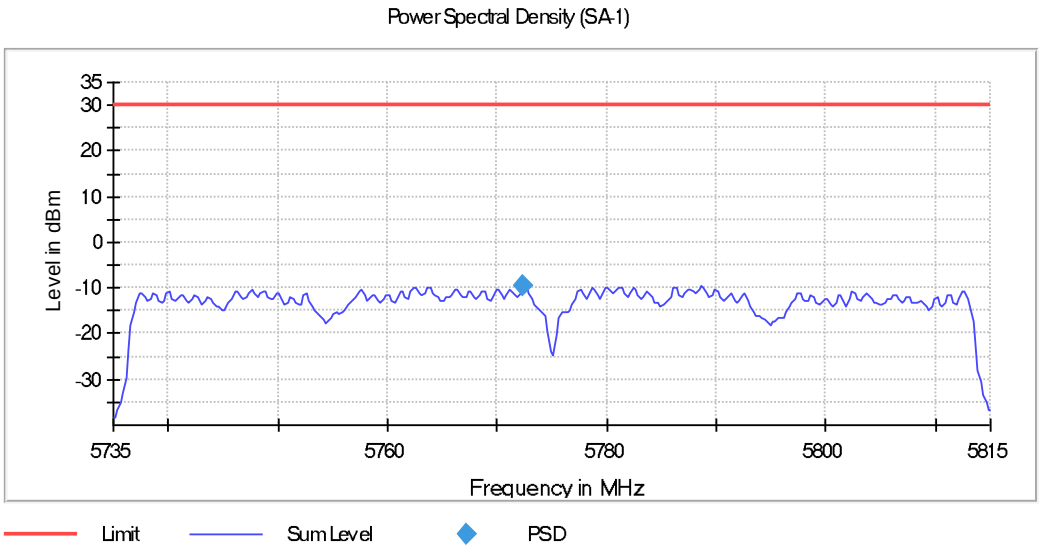


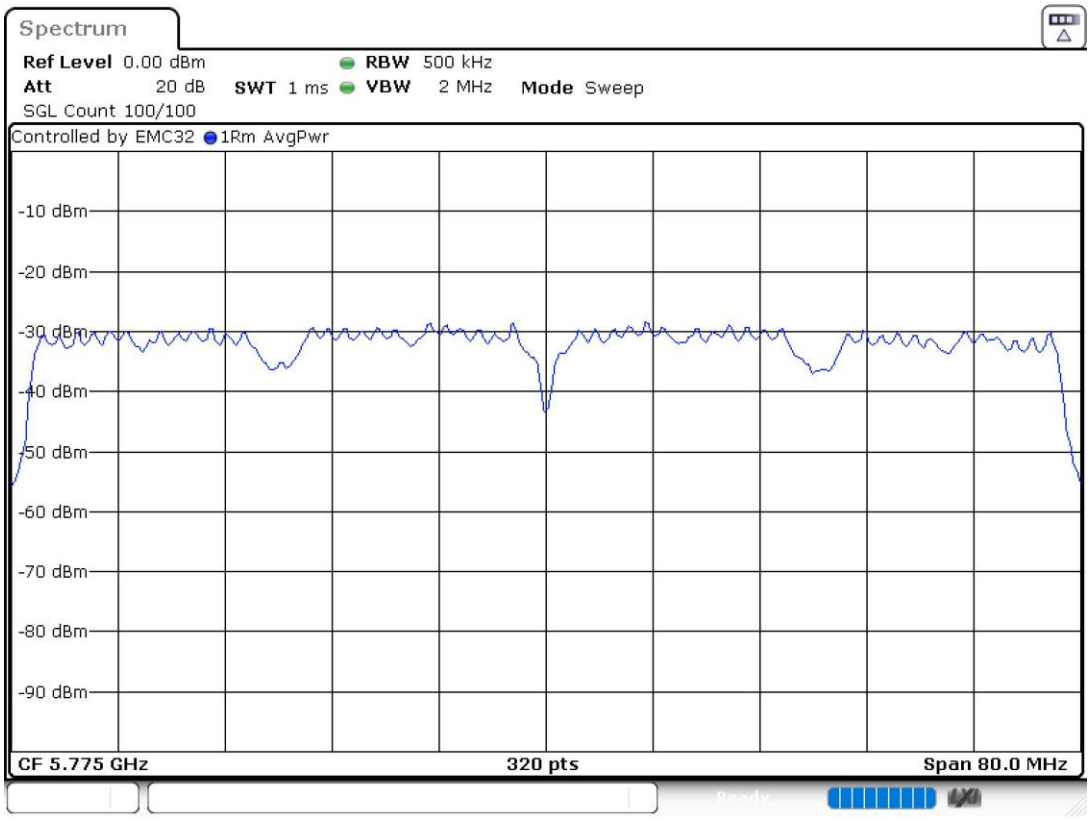


SISO 802.11 ac80 (VHT80):

U-NII-3 (5725-5850 MHz)

- Single Channel 155 (5775 MHz):





MIMO worst-case:

MIMO 802.11 n20 (HT20):

U-NII-3 (5725-5850 MHz):

Channels	Low Channel 149 (5745 MHz)	Middle Channel 157 (5785 MHz)	High Channel 165 (5825 MHz)
Maximum Conducted PSD (dBm)	-1.14	-1.63	-1.18

MIMO 802.11 ac20 (VHT20):

U-NII-3 (5725-5850 MHz):

Channels	Low Channel 149 (5745 MHz)	Middle Channel 157 (5785 MHz)	High Channel 165 (5825 MHz)
Maximum Conducted PSD (dBm)	-2.92	-3.33	-2.94

MIMO 802.11 n40 (HT40):

U-NII-3 (5725-5850 MHz):

Channels	Low Channel 151 (5755 MHz)	High Channel 159 (5795 MHz)
Maximum Conducted PSD (dBm)	-4.11	-4.08

MIMO 802.11 ac40 (VHT40):

U-NII-3 (5725-5850 MHz):

Channels	Low Channel 151 (5755 MHz)	High Channel 159 (5795 MHz)
Maximum Corrected Conducted PSD (dBm)	-5.99	-5.67

MIMO 802.11 ac80 (VHT80):

U-NII-3 (5725-5850 MHz):

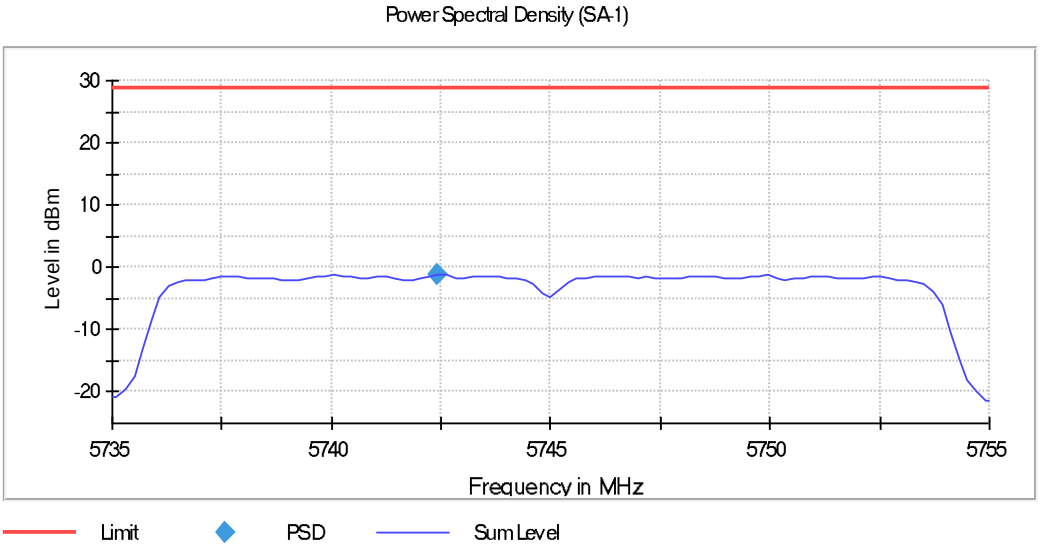
Channel	Single Channel 155 (5775 MHz)
Maximum Conducted PSD (dBm)	-8.33

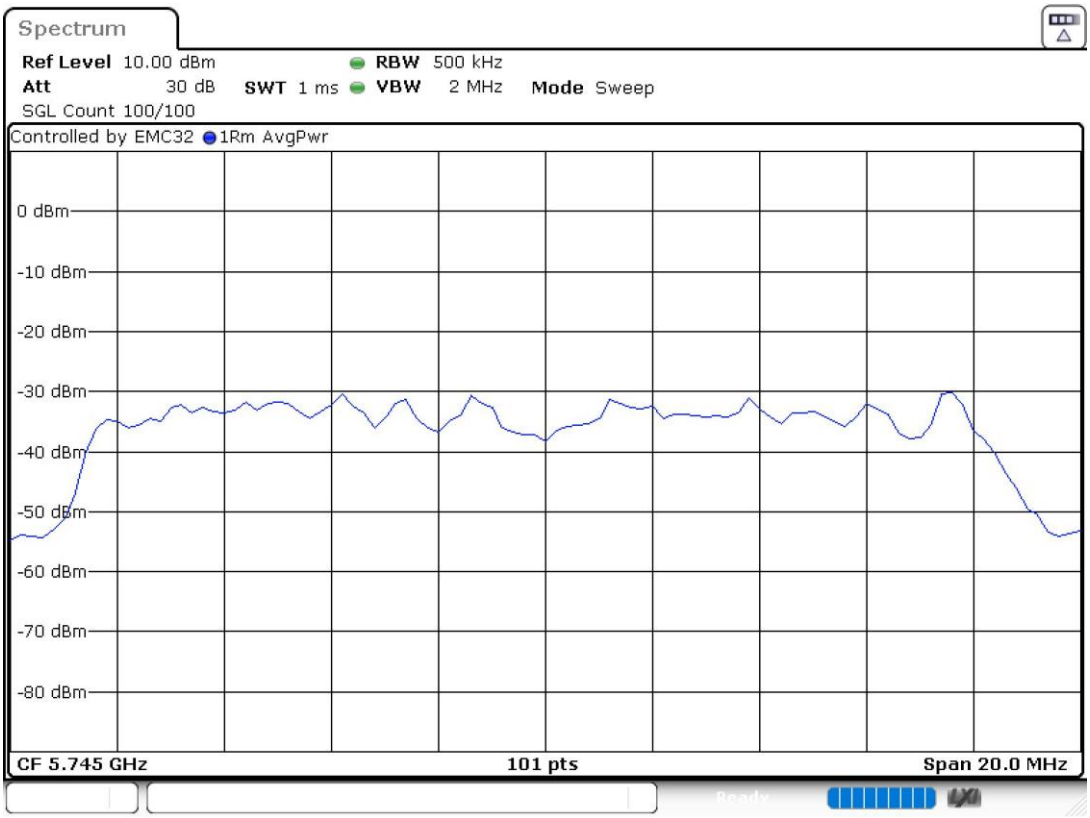
Verdict: PASS

MIMO 802.11 n20 (HT20):

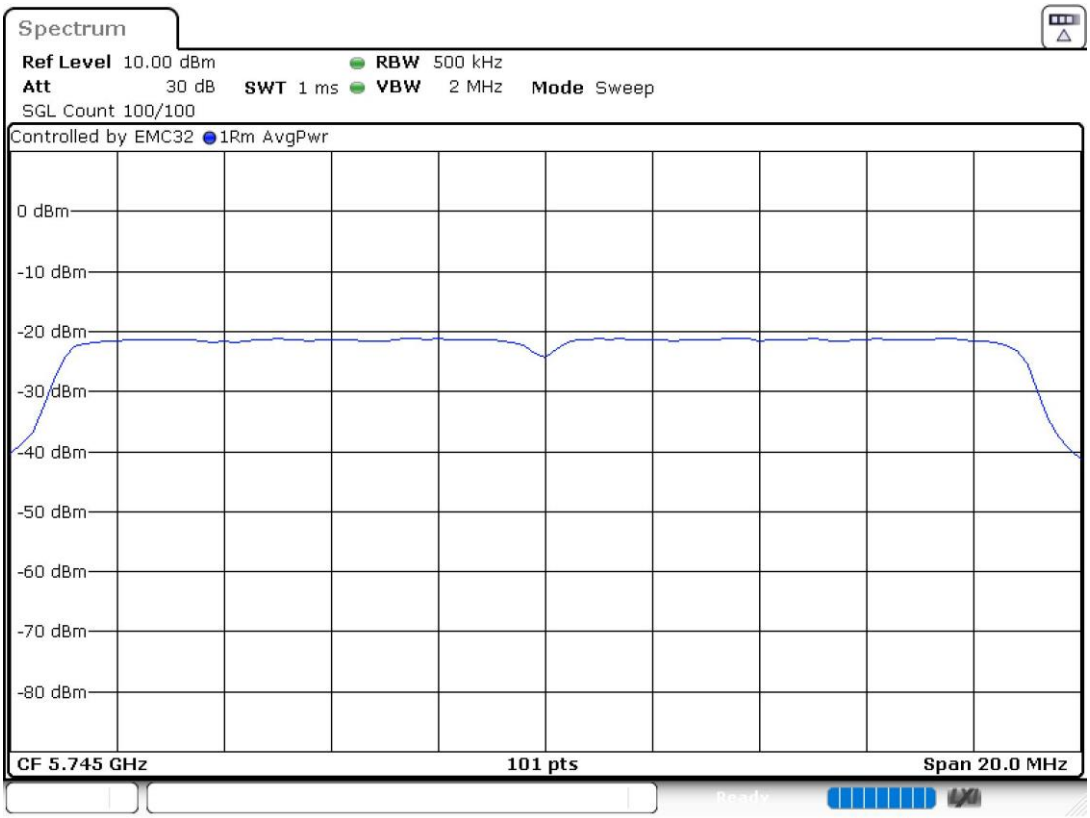
U-NII-3 (5725-5850 MHz)

- Low Channel 149 (5745 MHz):



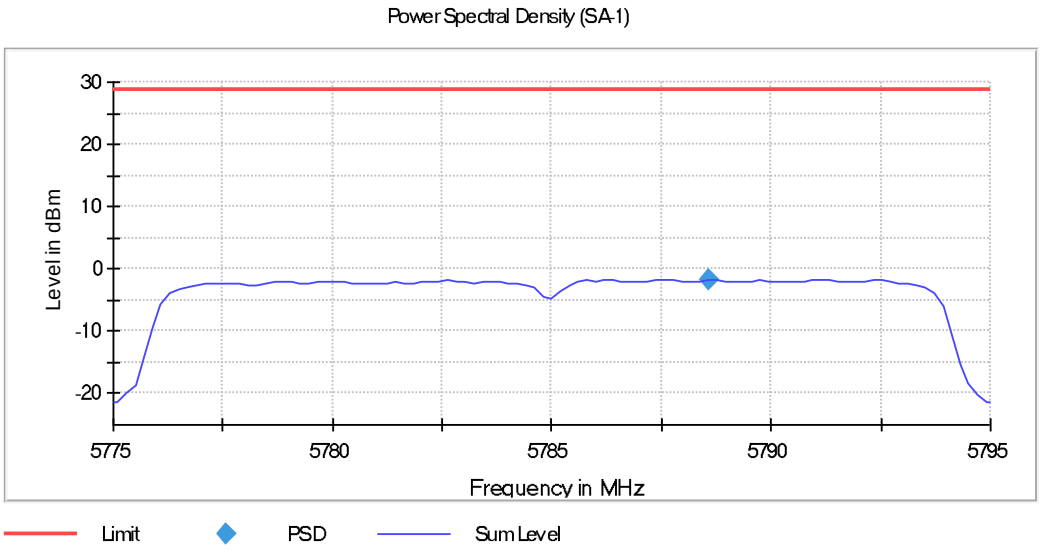


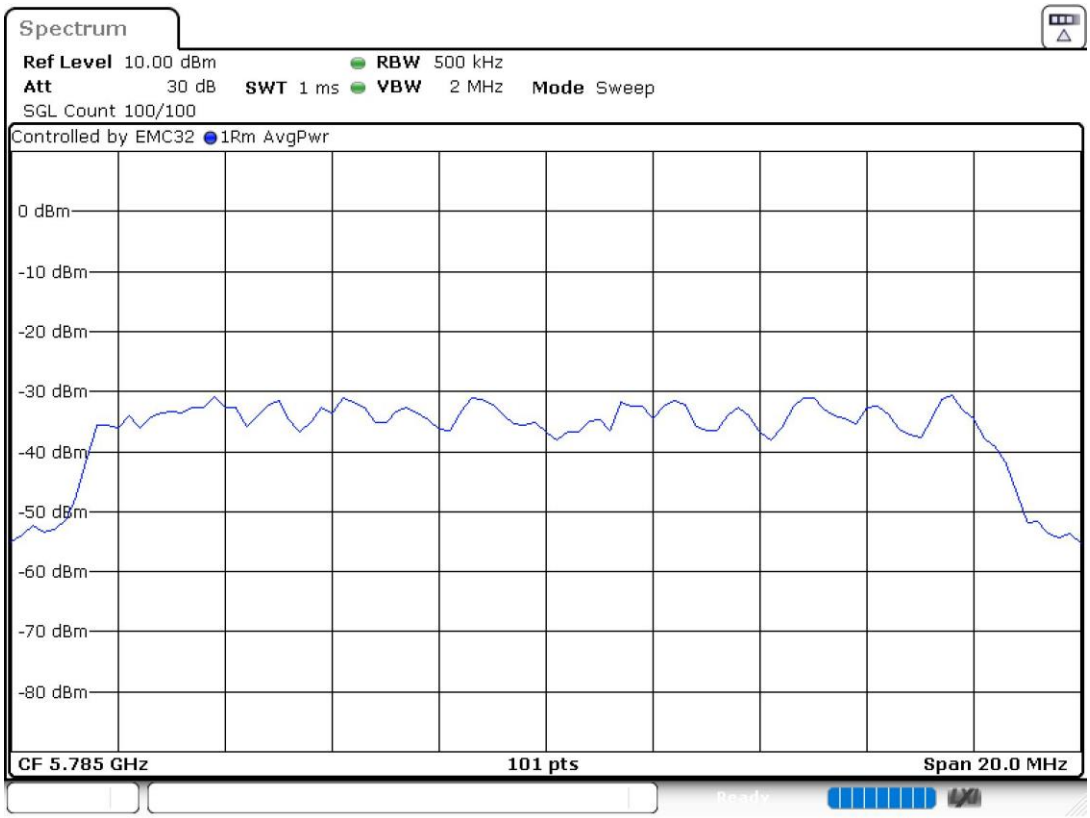
PSD Connector 1



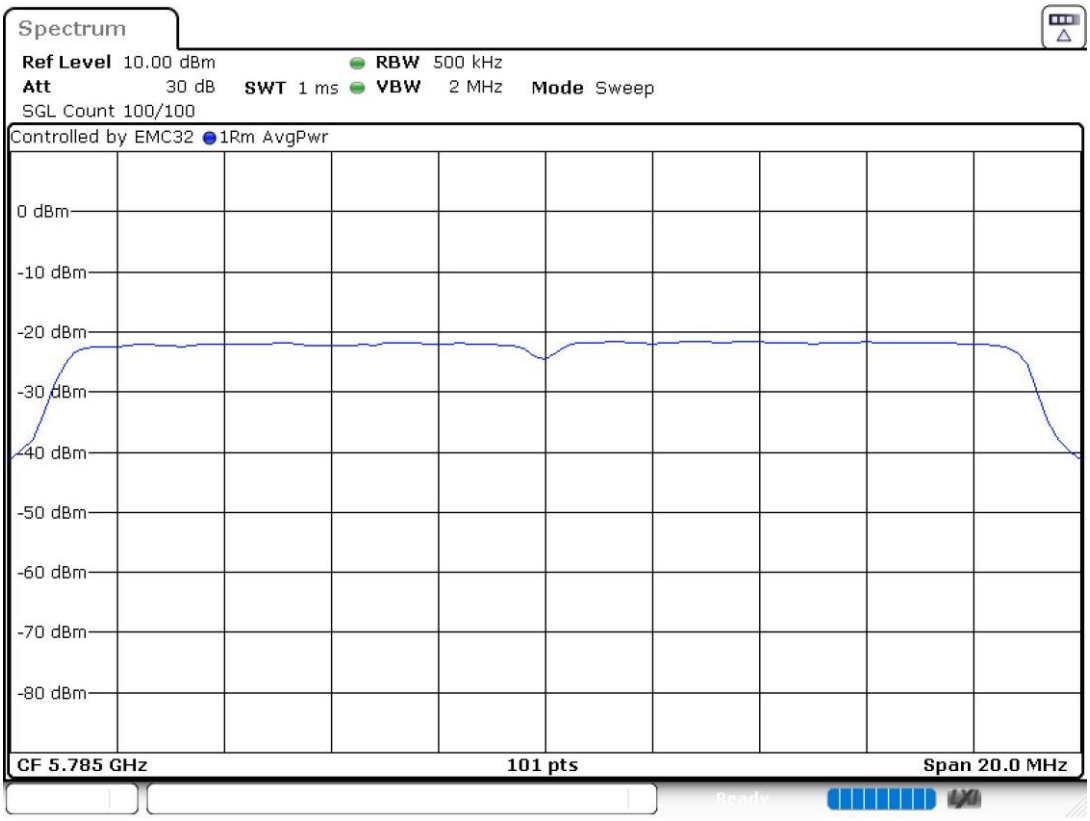
PSD Connector 2

- Middle Channel 157 (5785 MHz):



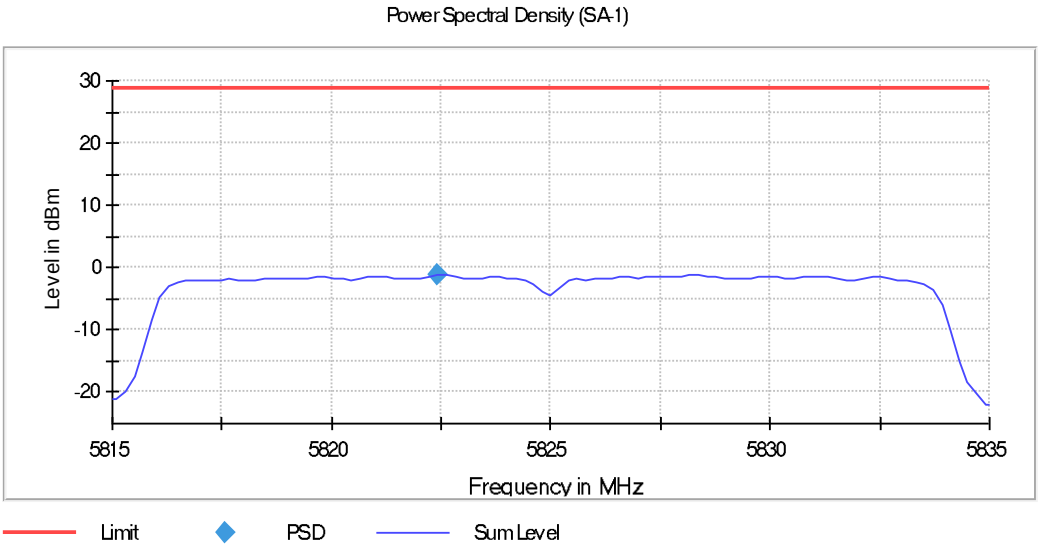


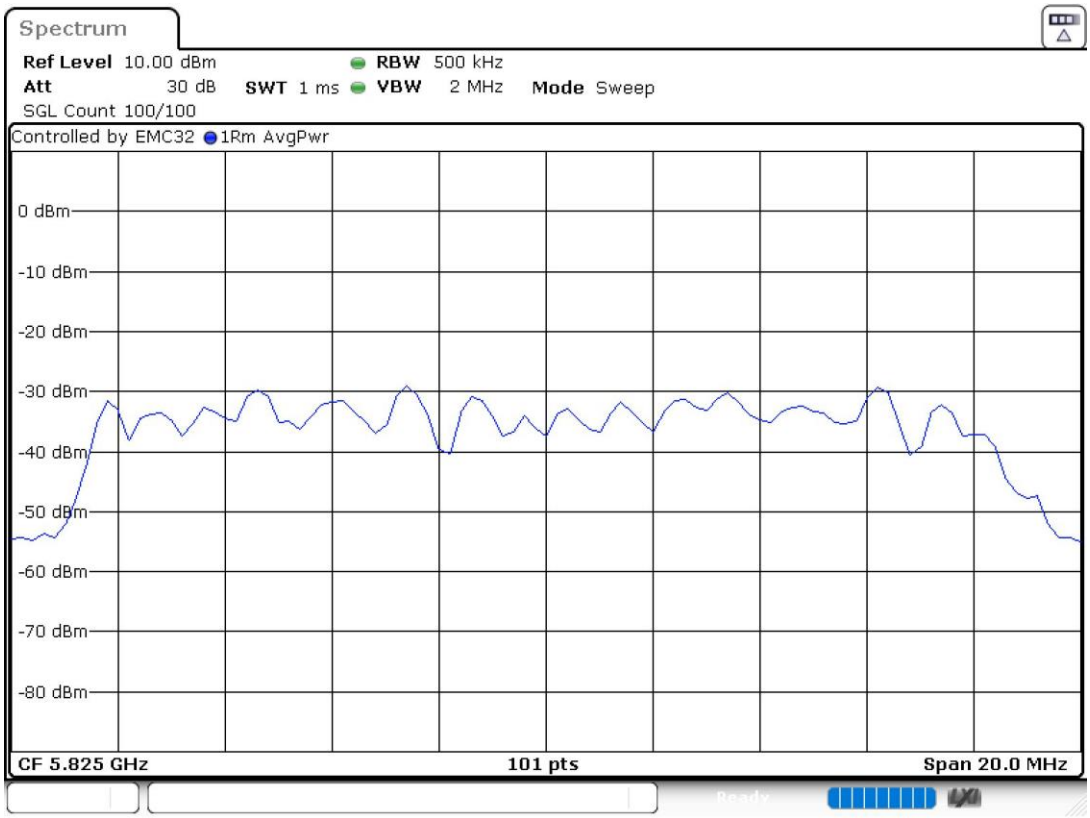
PSD Connector 1



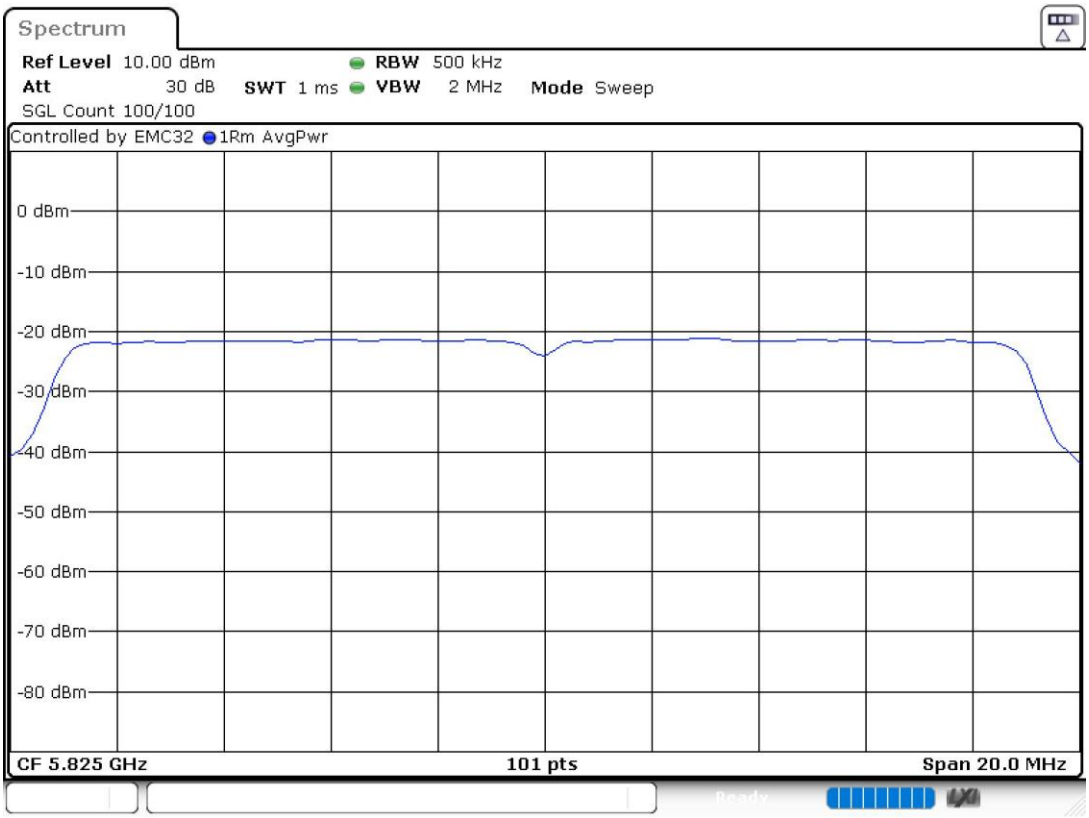
PSD Connector 2

- High Channel 165 (5825 MHz):





PSD Connector 1

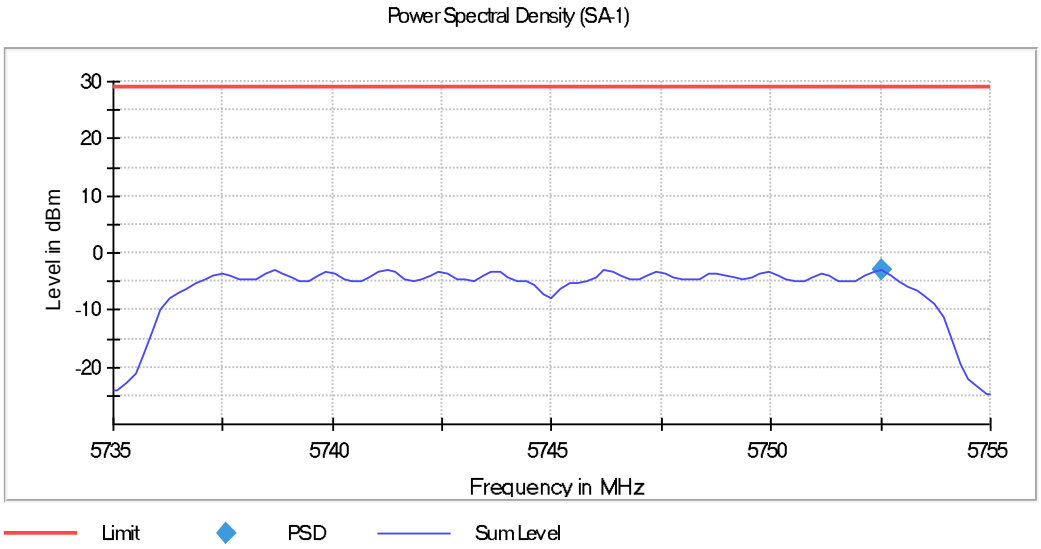


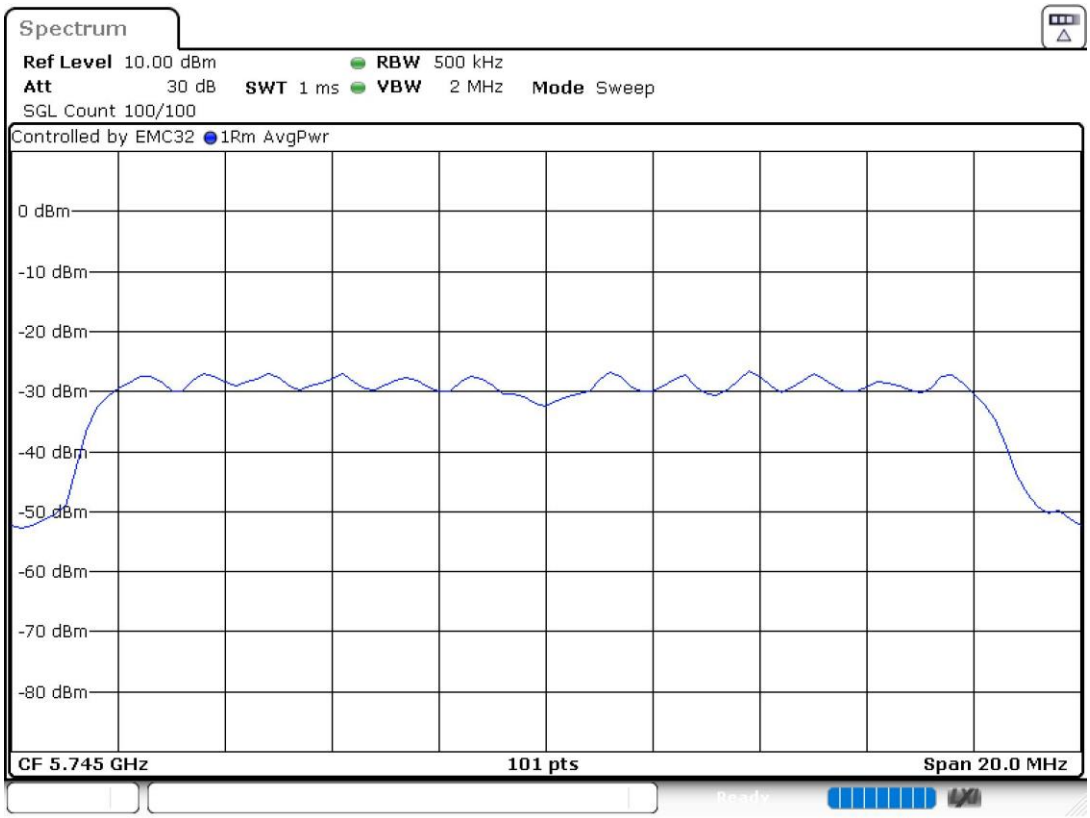
PSD Connector 2

MIMO 802.11 ac20 (VHT20):

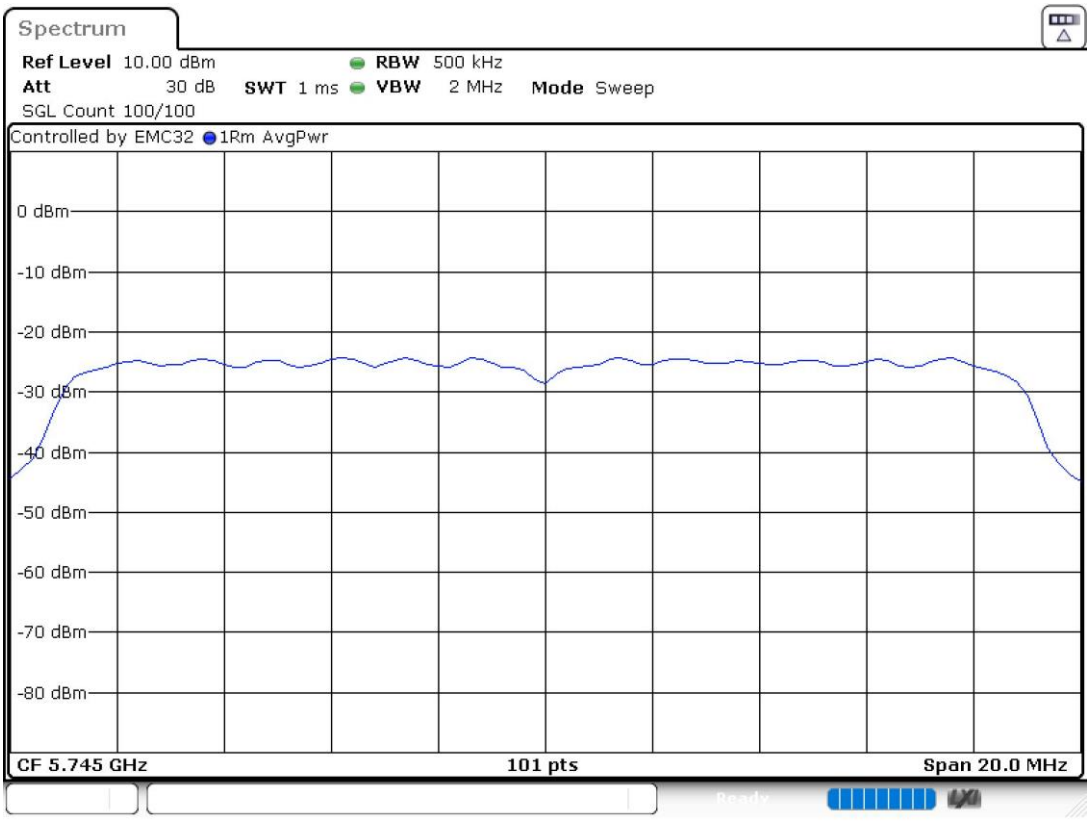
U-NII-3 (5725-5850 MHz)

- Low Channel 149 (5745 MHz):



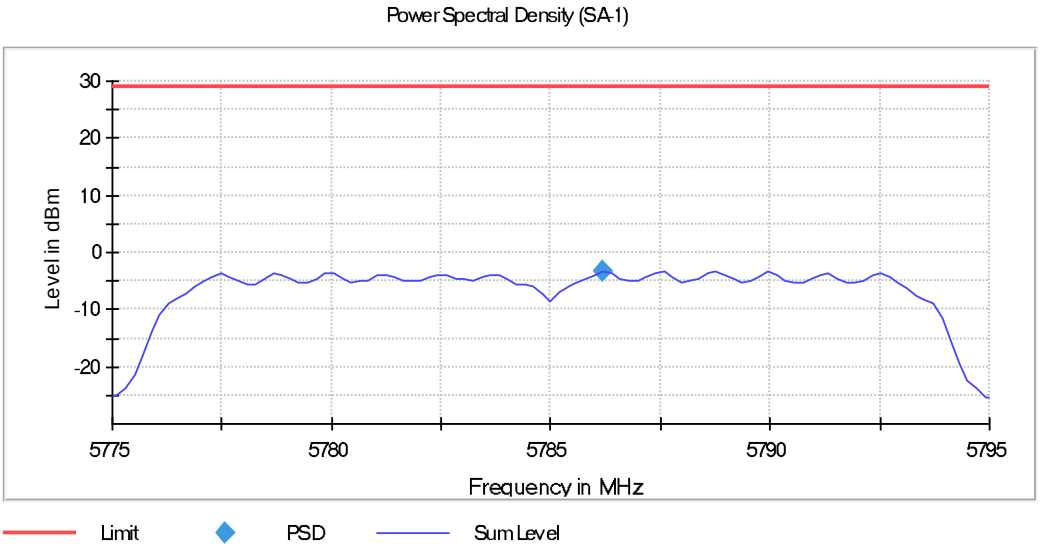


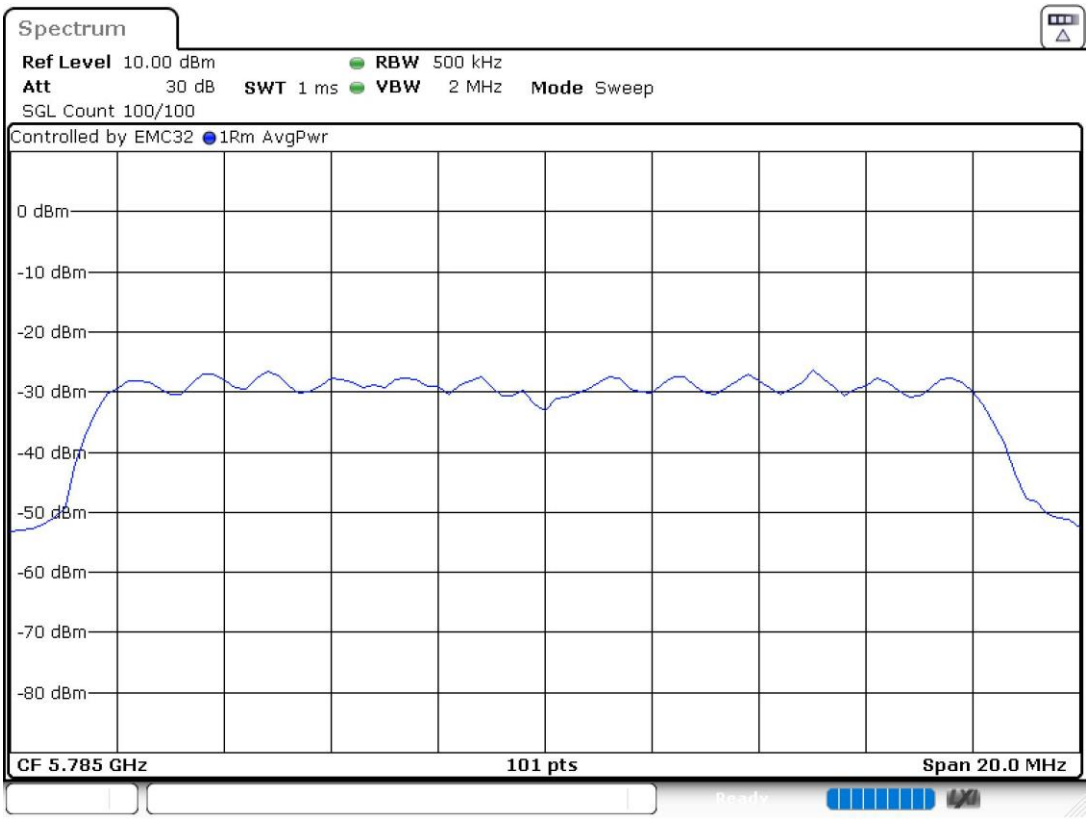
PSD Connector 1



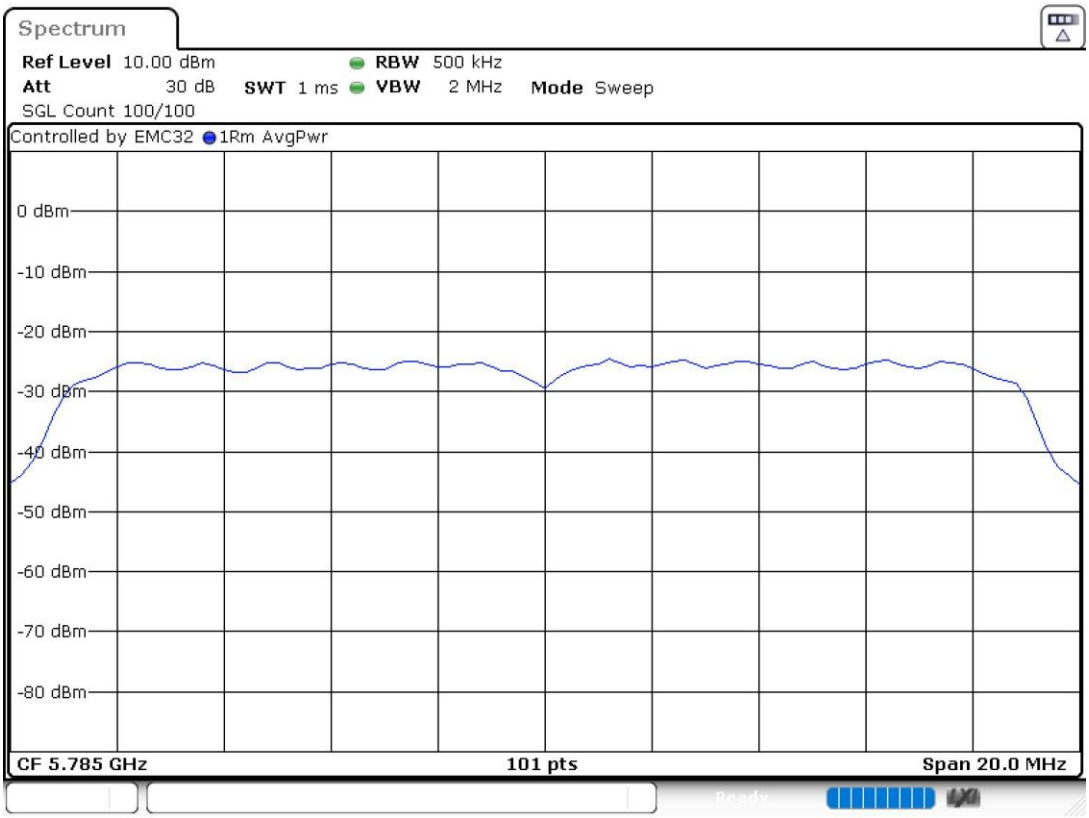
PSD Connector 2

- Middle Channel 157 (5785 MHz):



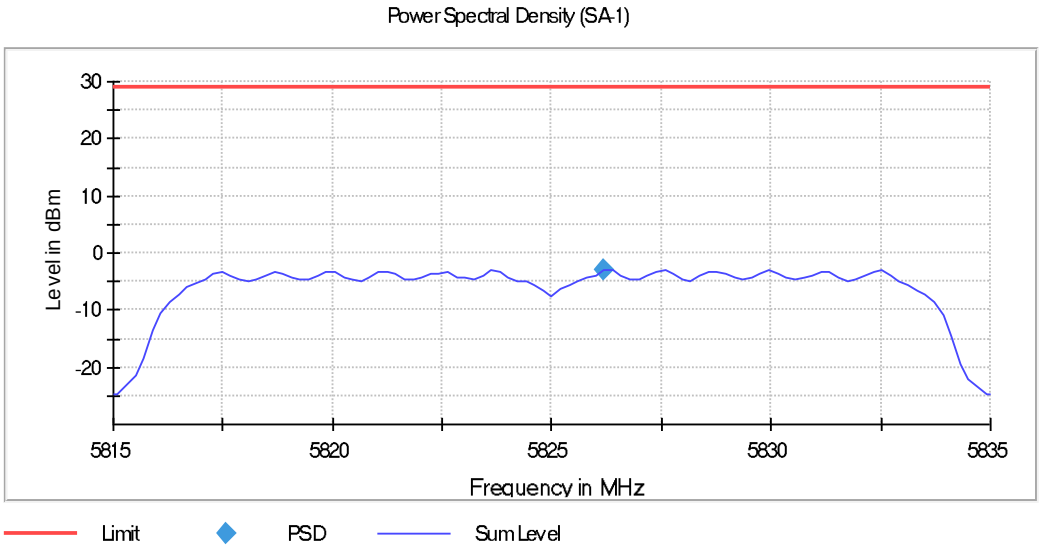


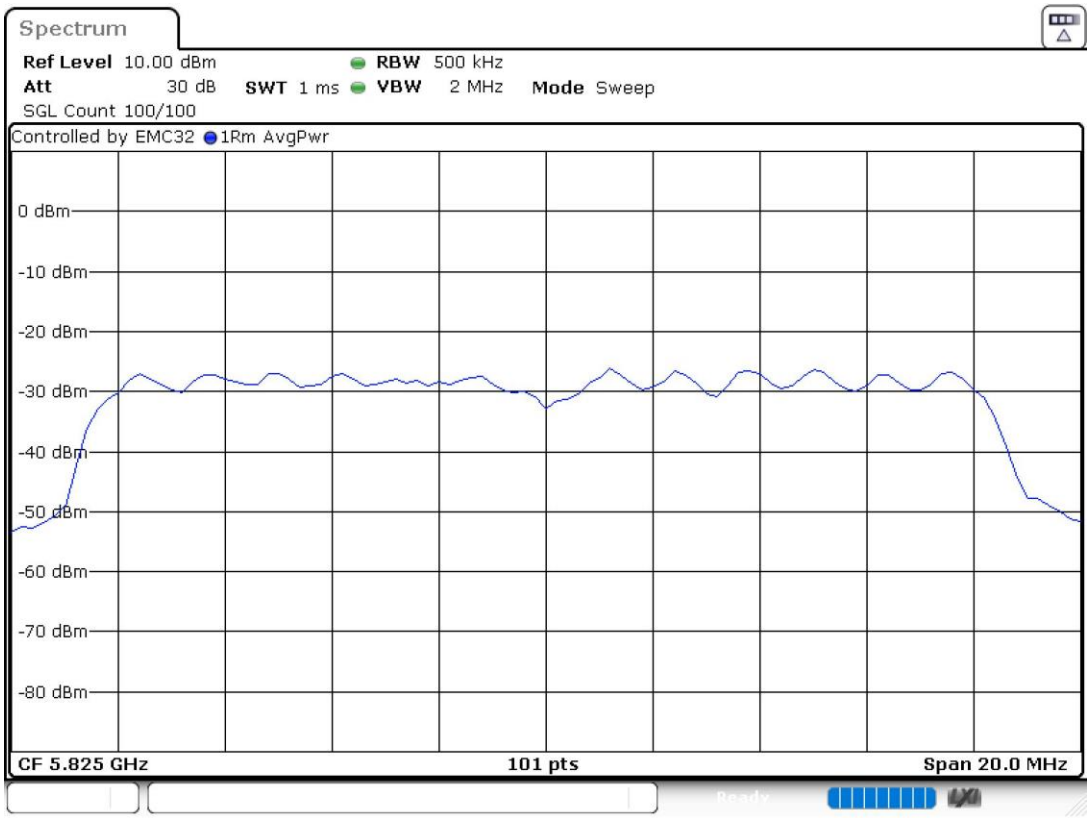
PSD Connector 1



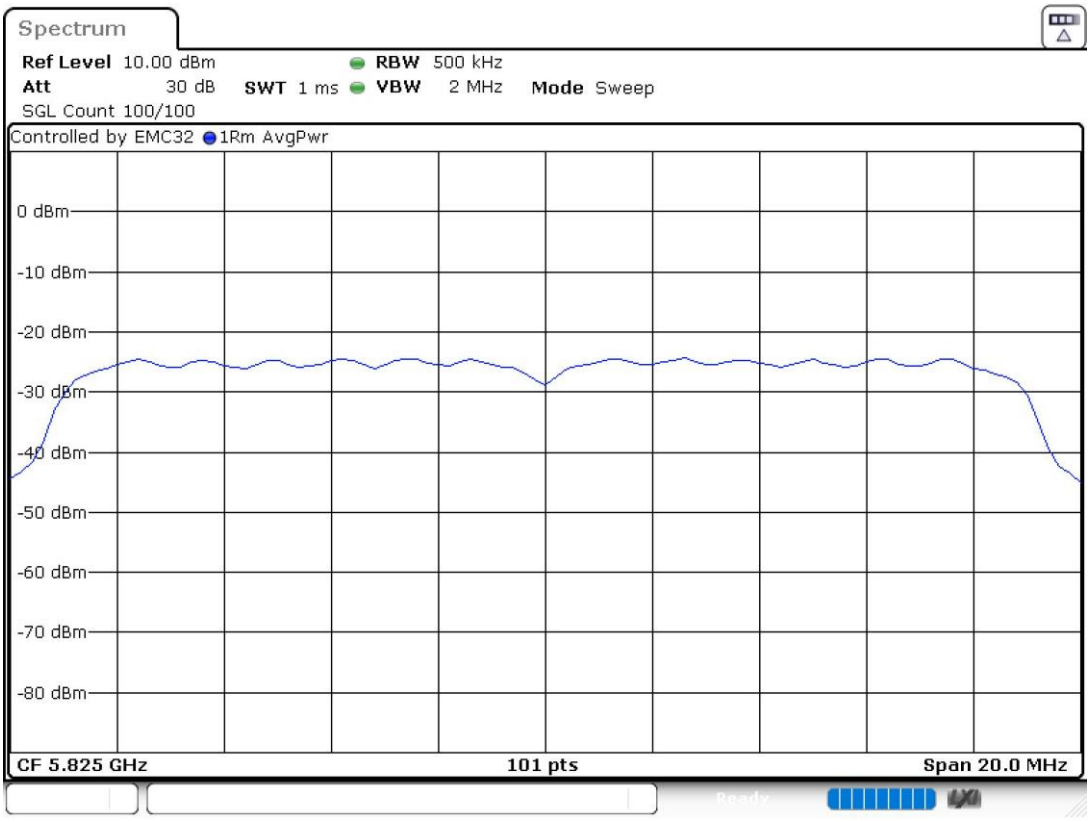
PSD Connector 2

- High Channel 165 (5825 MHz):





PSD Connector 1

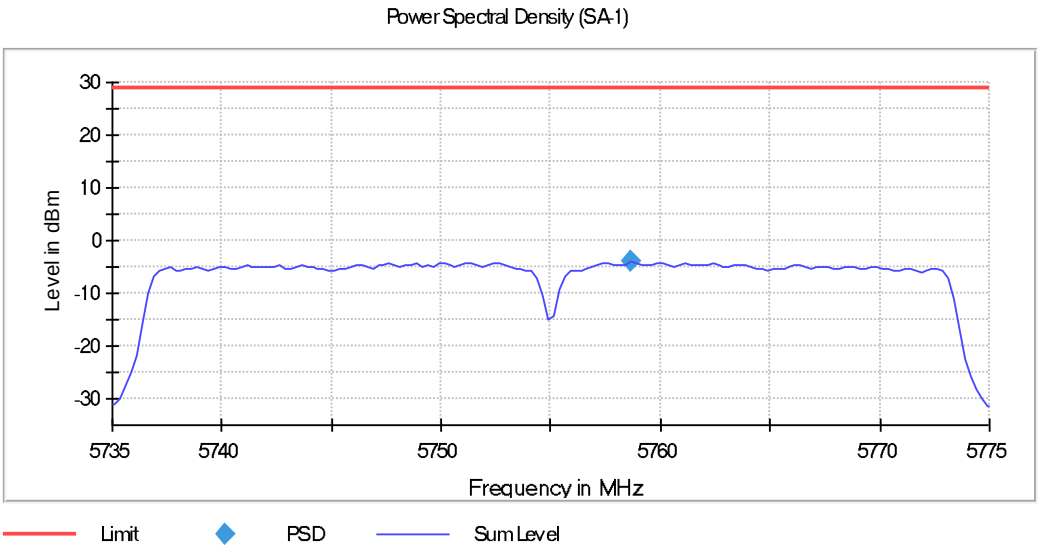


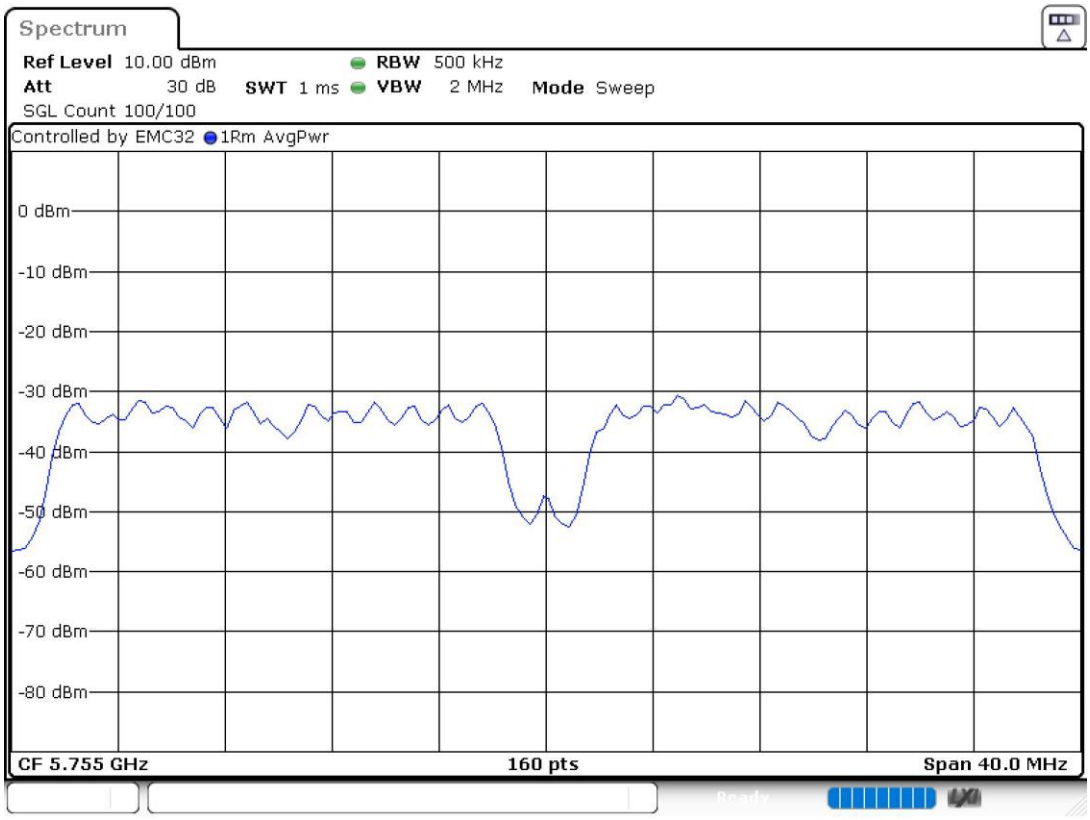
PSD Connector 2

MIMO 802.11 n40 (HT40):

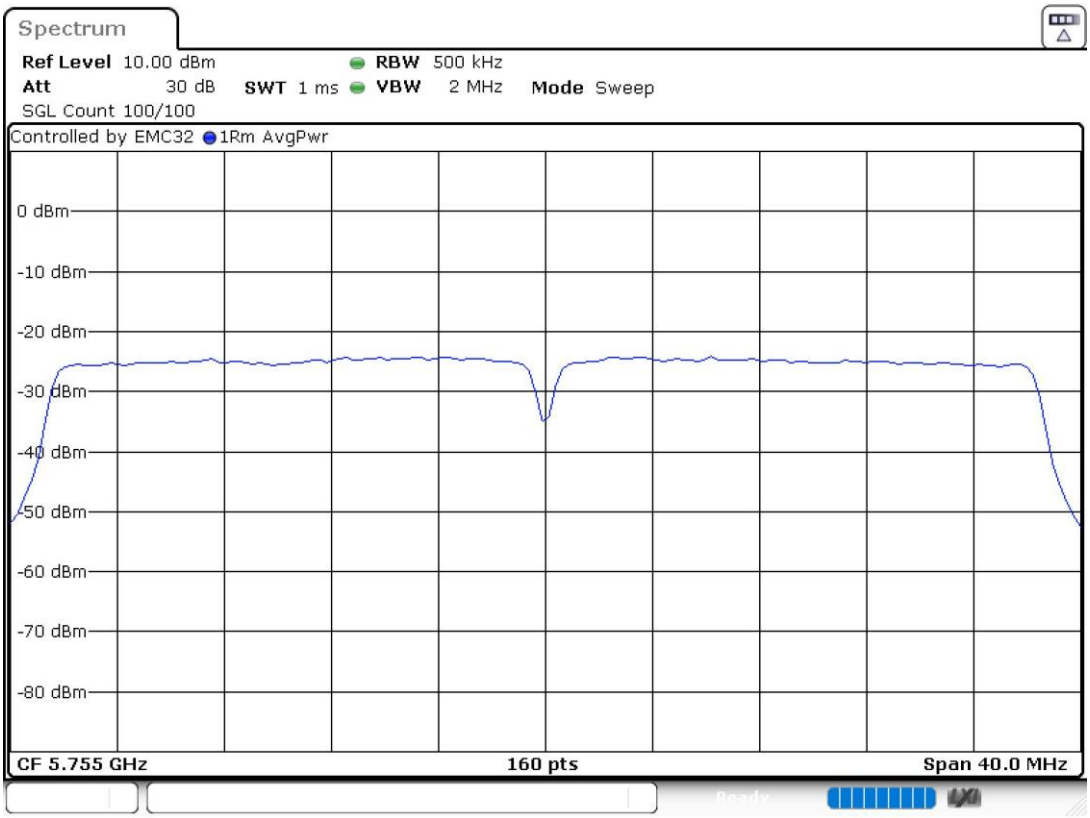
U-NII-3 (5725-5850 MHz)

- Low Channel 151 (5755 MHz):



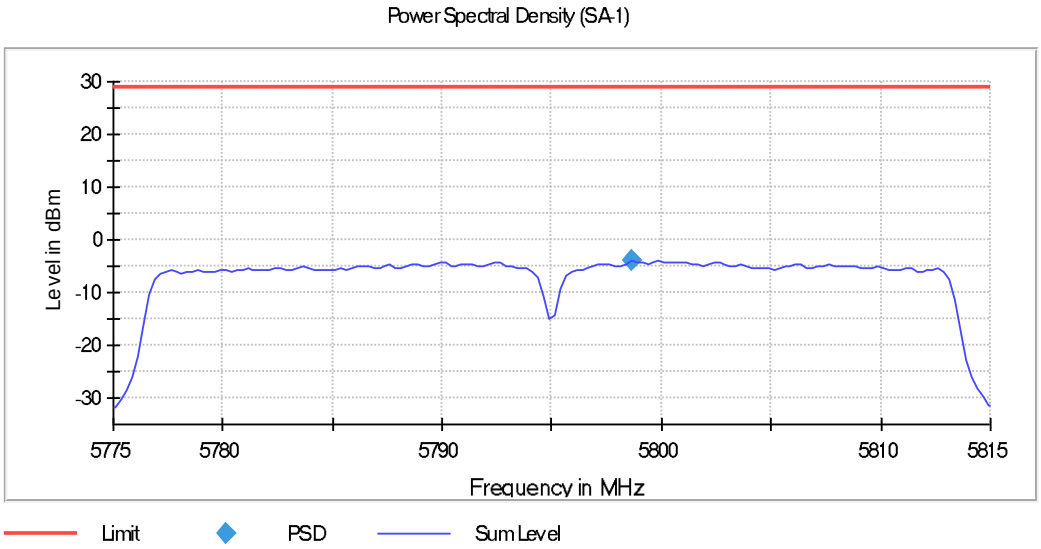


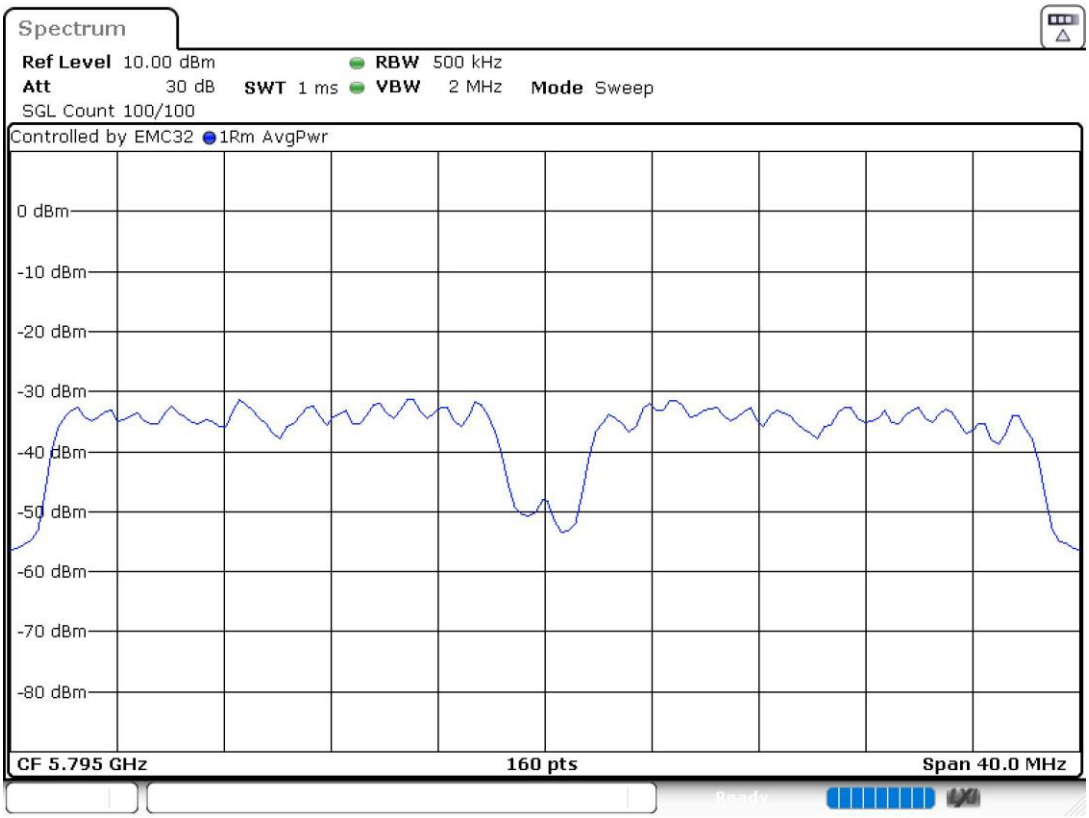
PSD Connector 1



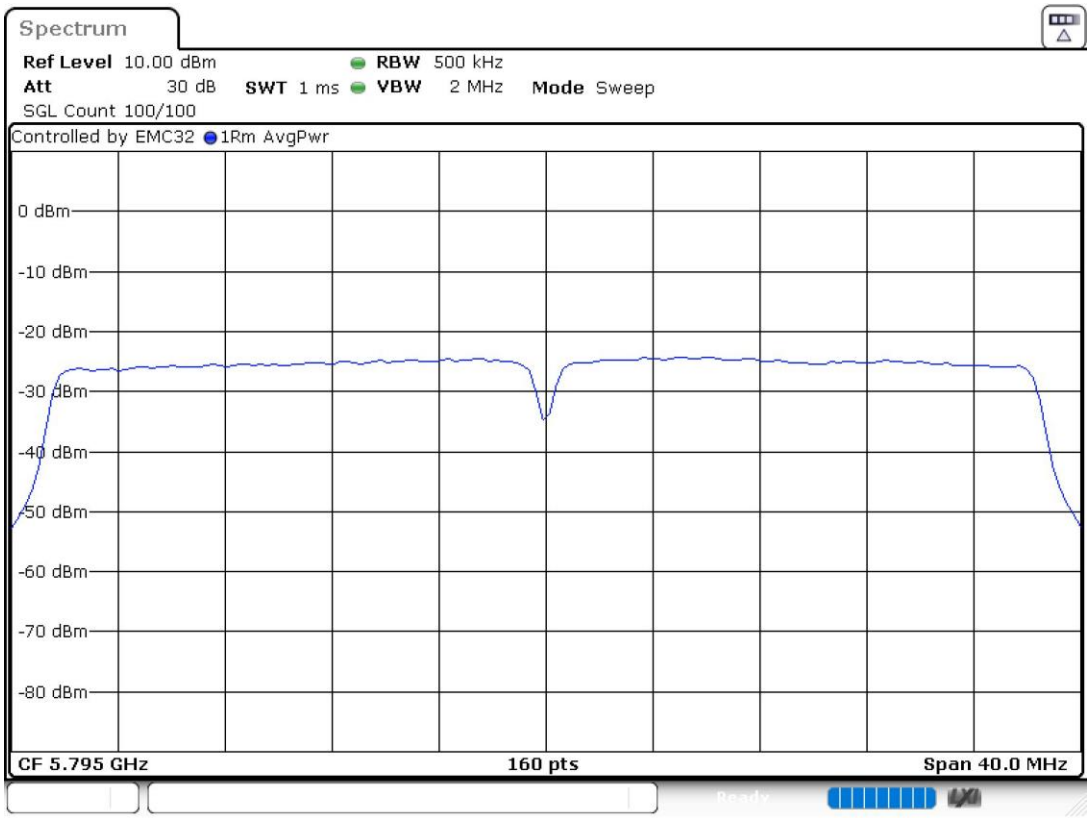
PSD Connector 2

- High Channel 159 (5795 MHz):





PSD Connector 1

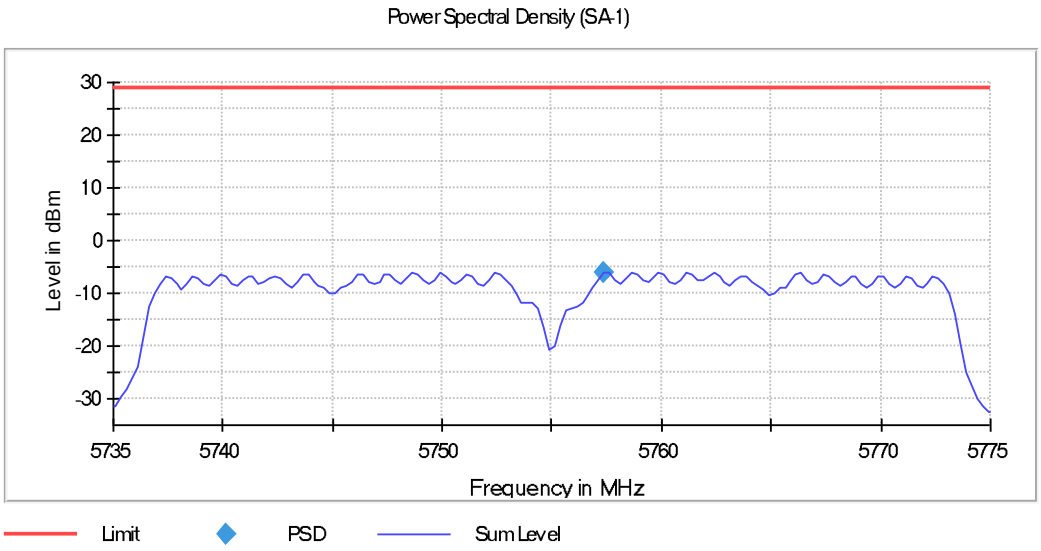


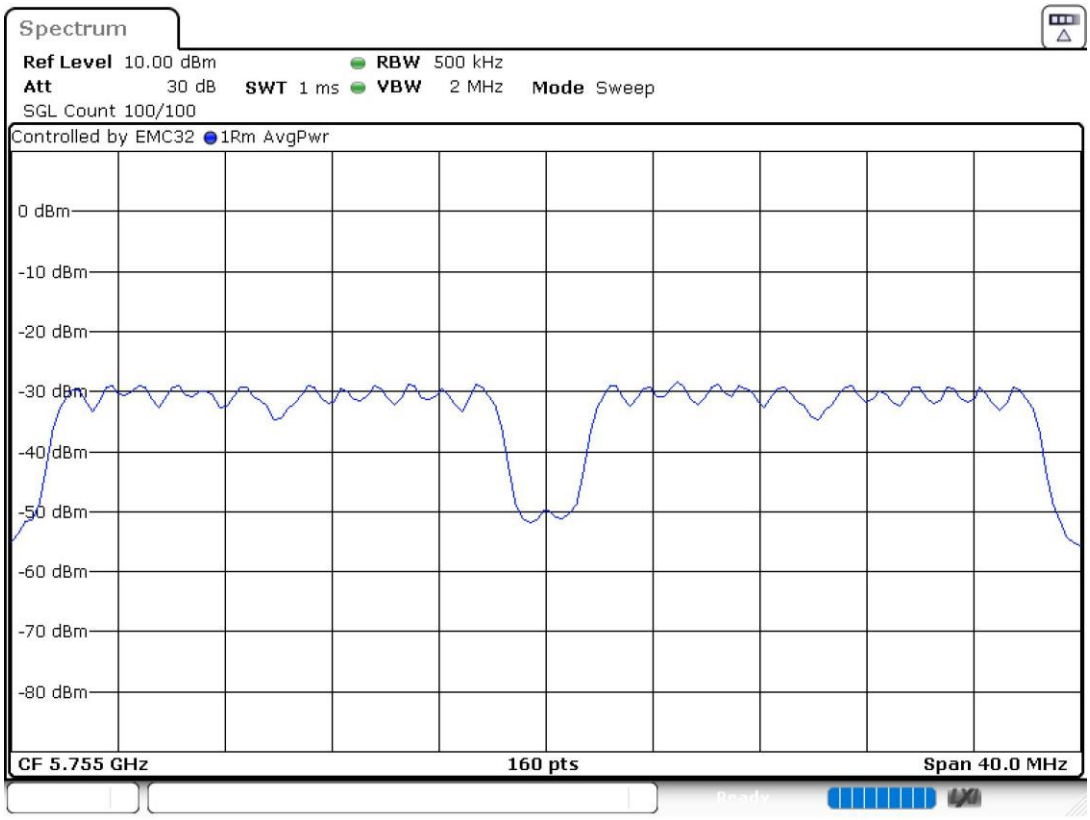
PSD Connector 2

MIMO 802.11 ac40 (VHT40):

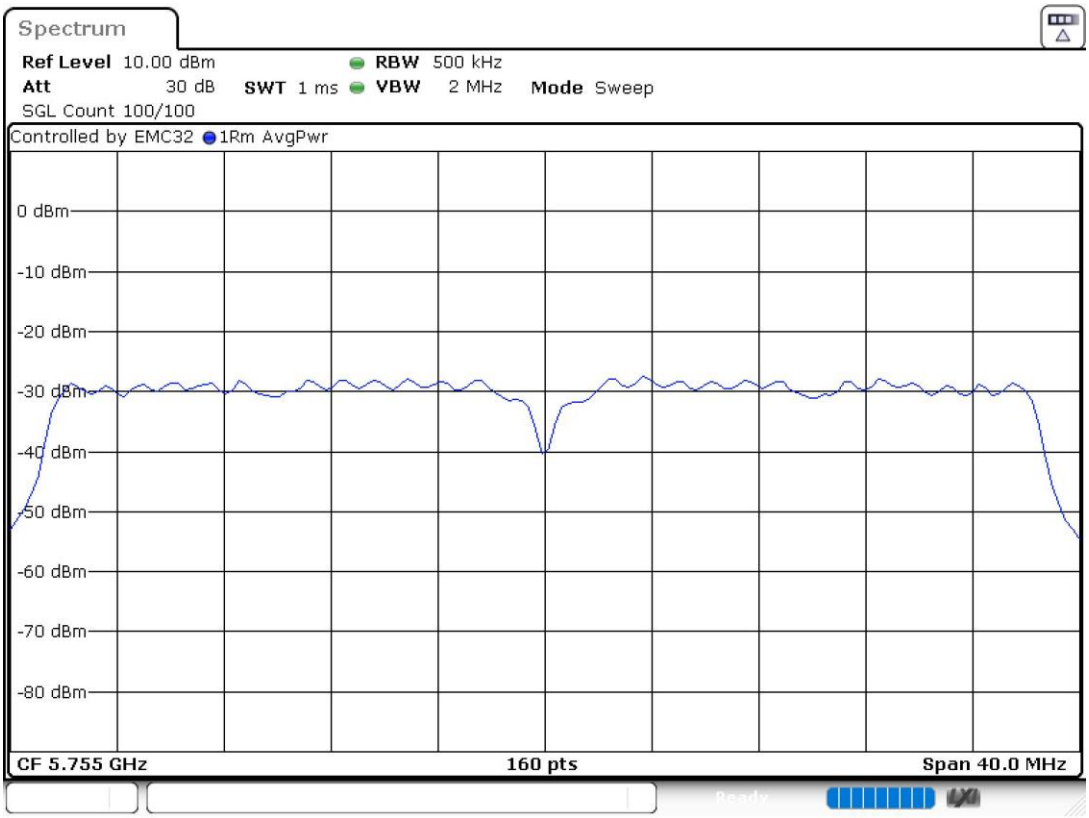
U-NII-3 (5725-5850 MHz)

- Low Channel 151 (5755 MHz):



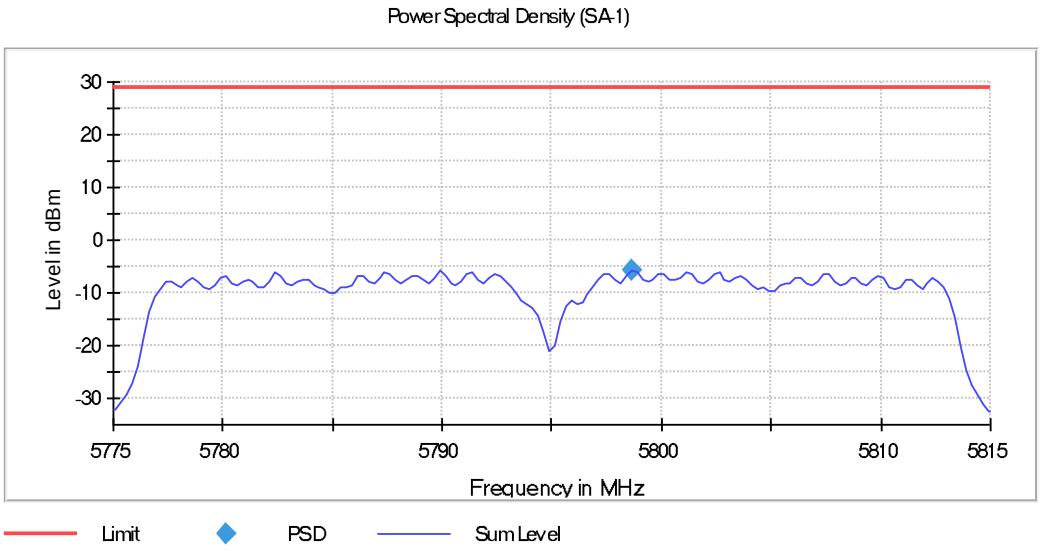


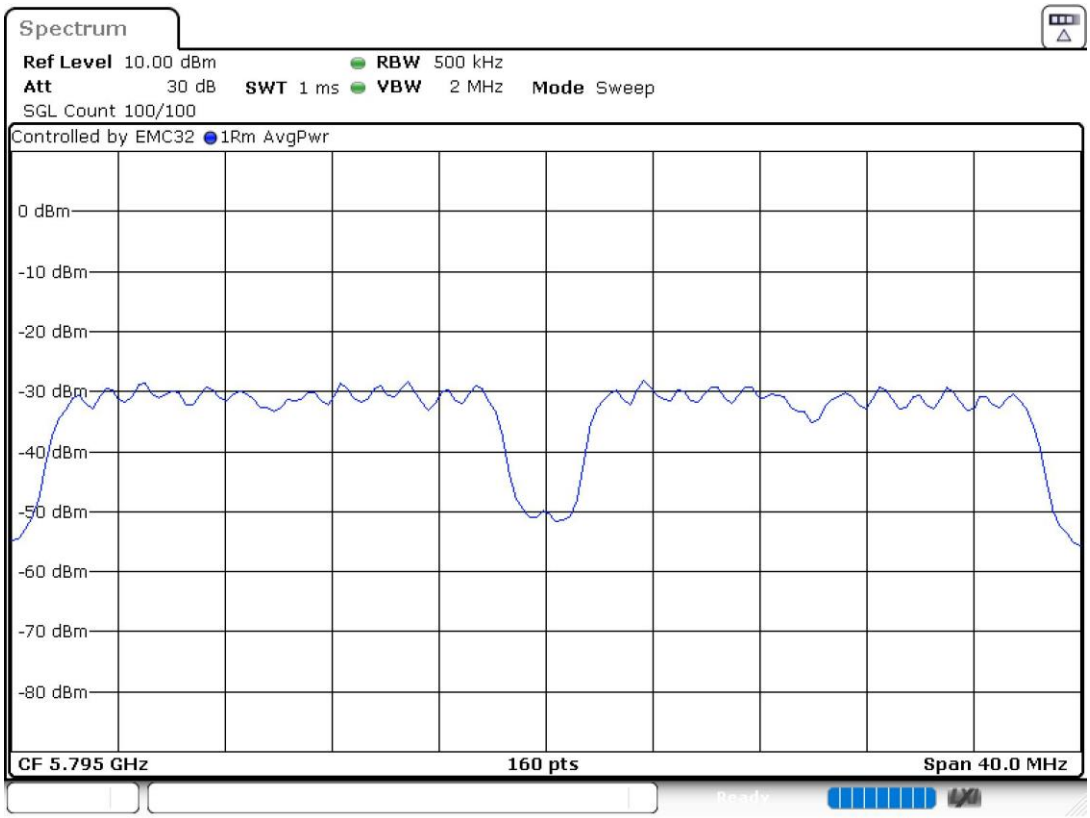
PSD Connector 1



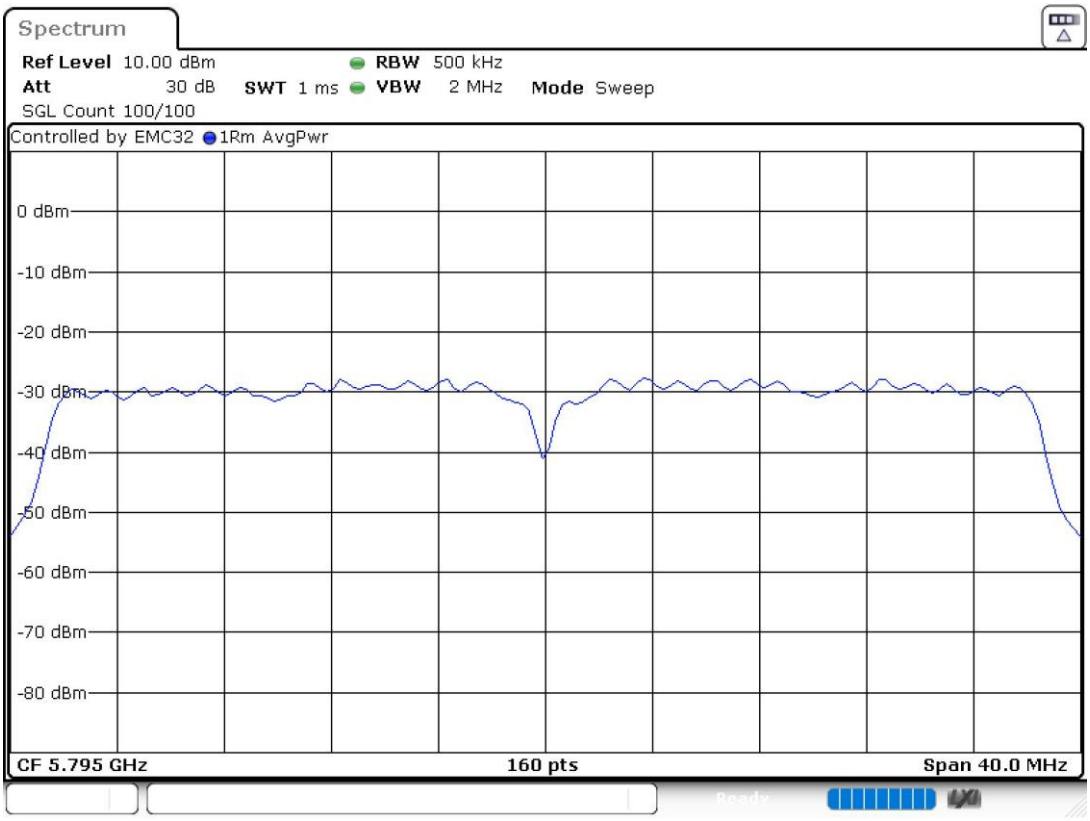
PSD Connector 2

- High Channel 159 (5795 MHz):





PSD Connector 1

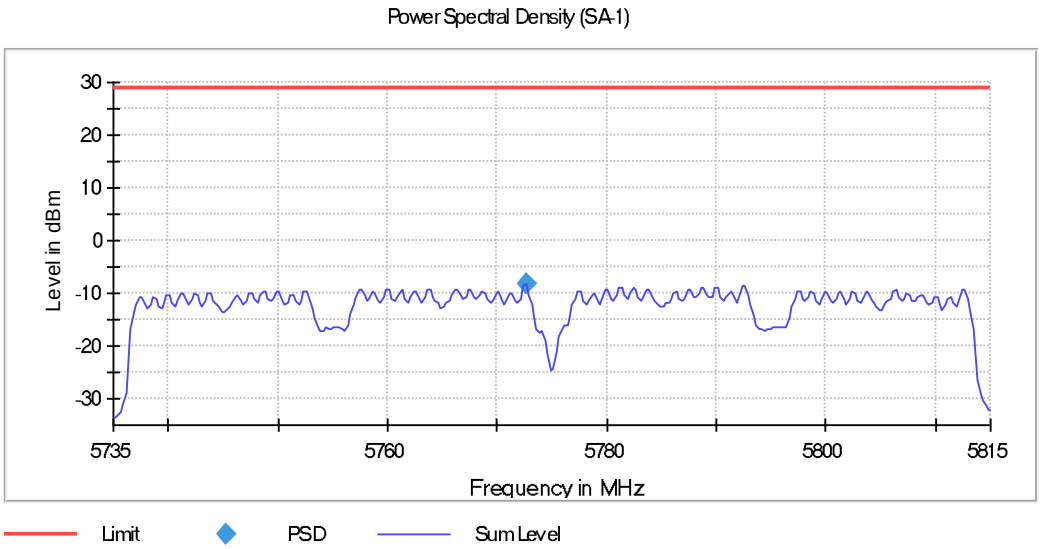


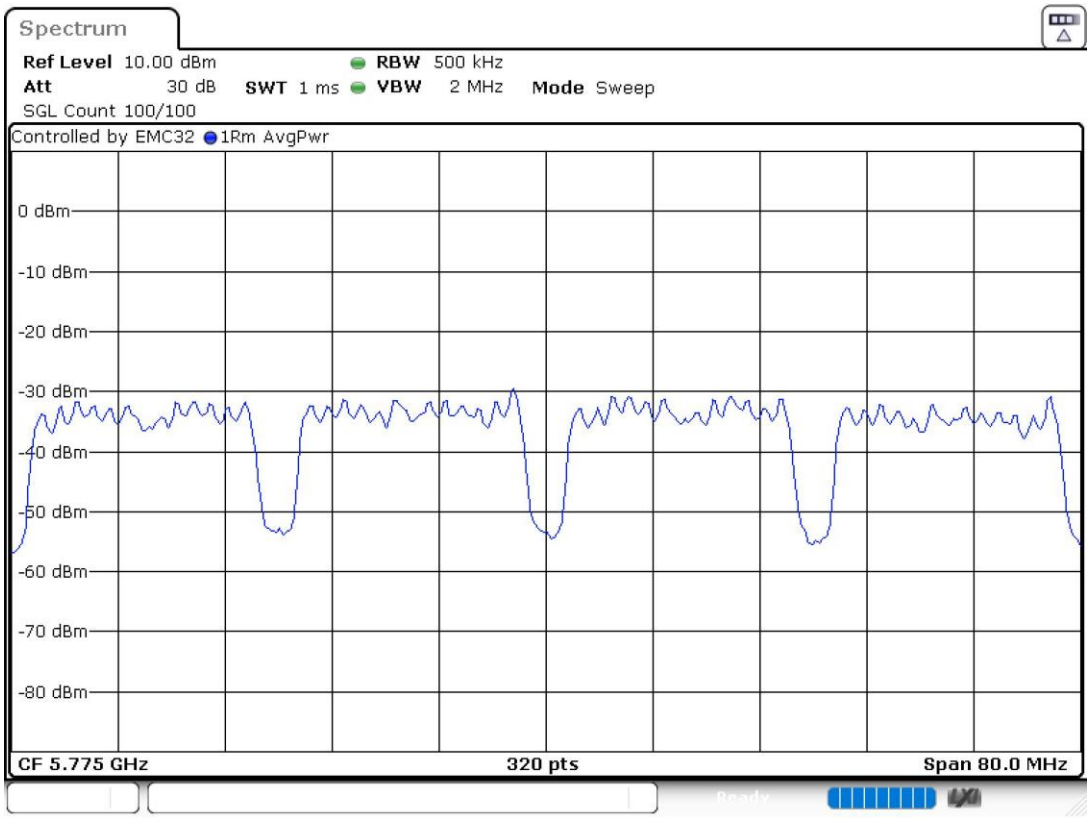
PSD Connector 2

MIMO 802.11 ac80 (VHT80):

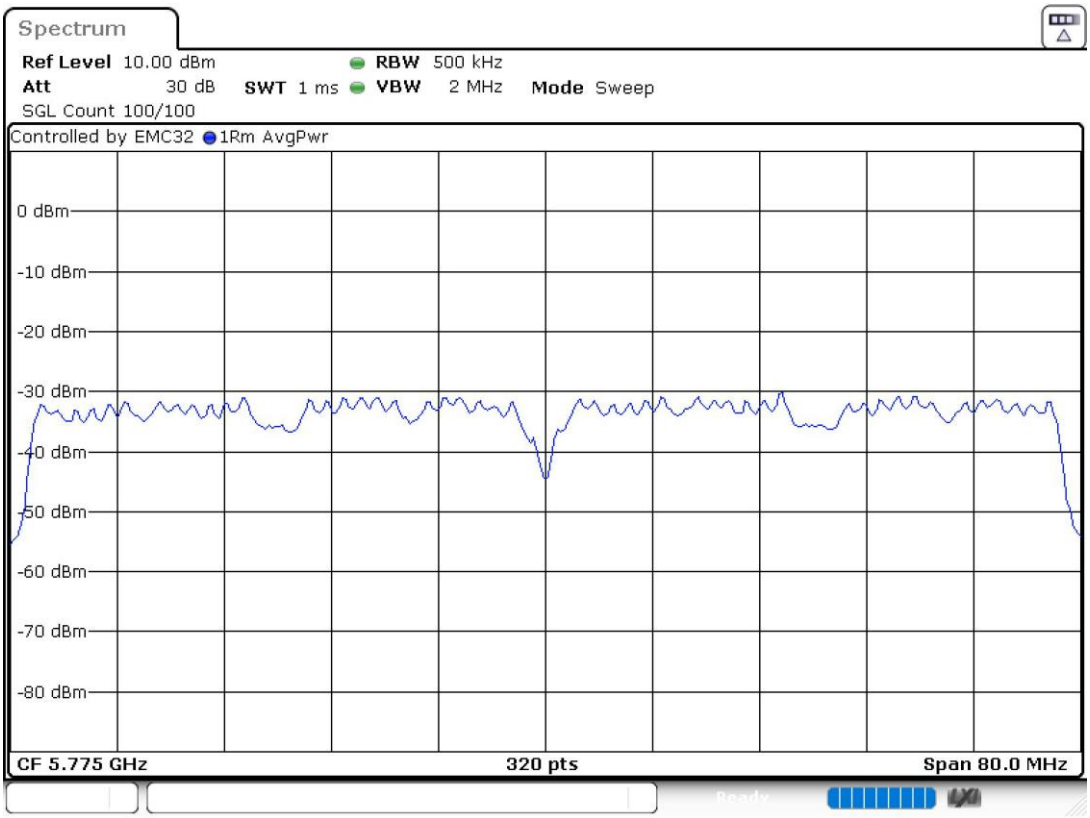
U-NII-3 (5725-5850 MHz)

- Single Channel 155 (5775 MHz):





PSD Connector 1



PSD Connector 2

FCC 15.407(b)(4)(6) /RSS-247 6.2.4.2. Transmitter Out of Band Radiated Emissions and Transmitter Band Edge Radiated Emissions.

SPECIFICATION:

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.

RESULTS:

The situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º 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 648nalyser. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

OUT OF BAND EMISSIONS: For spurious emissions outside of the U-NII-3 band edge mask of 5.65-5.925 GHz, the worst-case was determined after preliminary measurements of the E.I.R.P. density (radiated).

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**

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 (dBµV/m)	Polarization	Detector
34.637813	28.48	V	Peak
	21.32		QP
39.487813	32.81	V	Peak
	28.54		QP
45.732188	30.25	V	Peak
	25.70		QP
53.855938	34.25	V	Peak
	30.10		QP
64.768438	27.99	V	Peak
	23.53		QP
86.047813	36.46	V	Peak
	33.62		QP
101.870938	33.65	V	Peak
	29.72		QP
108.812500	33.91	V	Peak
	30.37		QP
143.277813	33.55	V	Peak
	29.80		QP
162.495938	30.58	V	Peak
	23.60		QP
332.852188	38.65	V	Peak
	33.21		QP
841.344375	39.28	V	Peak
	31.08		QP

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

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.

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

Verdict: PASS

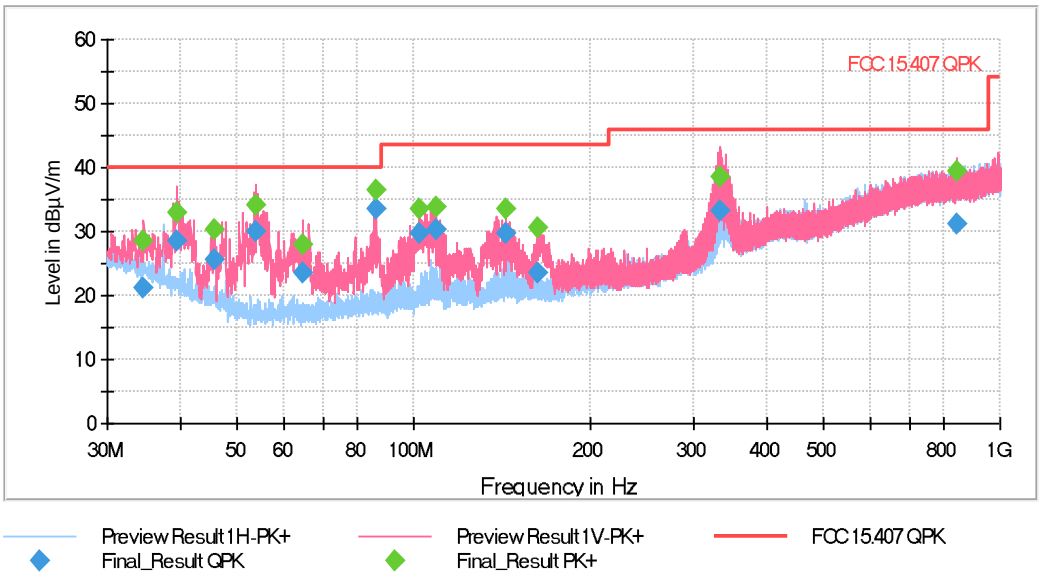
The measurement settings for each range of frequency is as follows:

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

SISO worst-case:

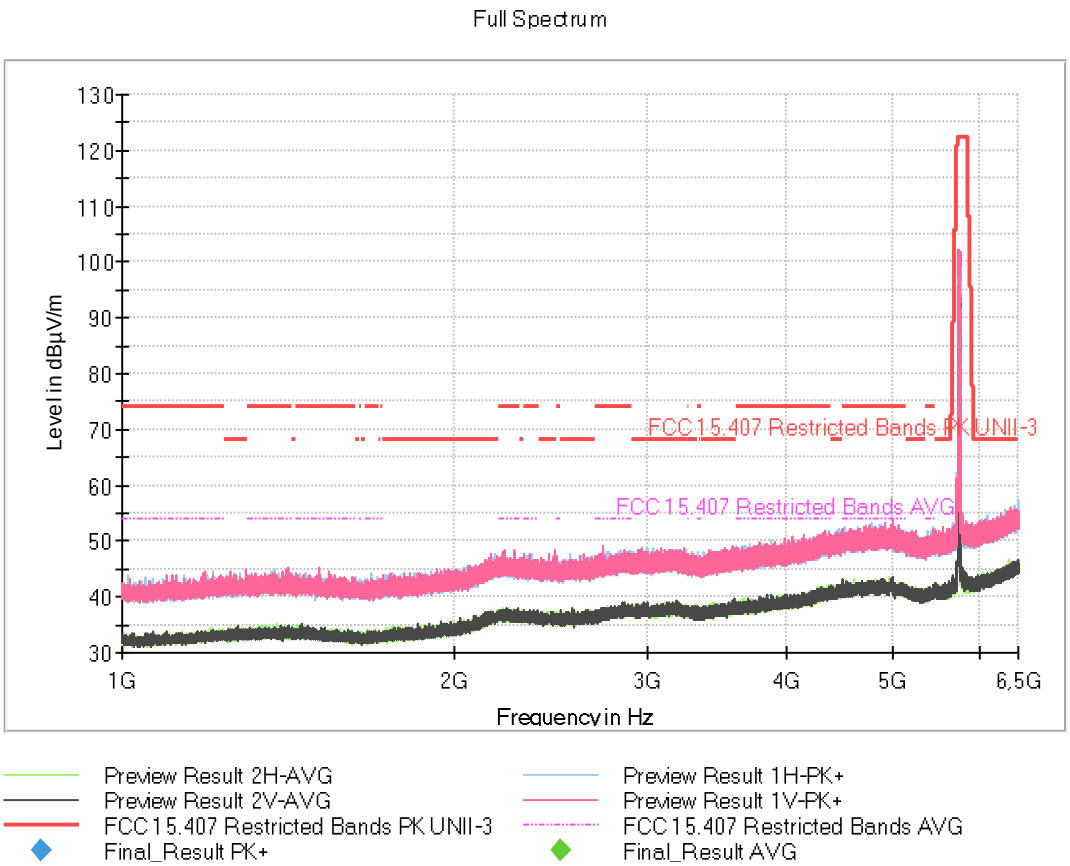
FREQUENCY RANGE 30 MHz - 1 GHz (SISO worst-case):

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



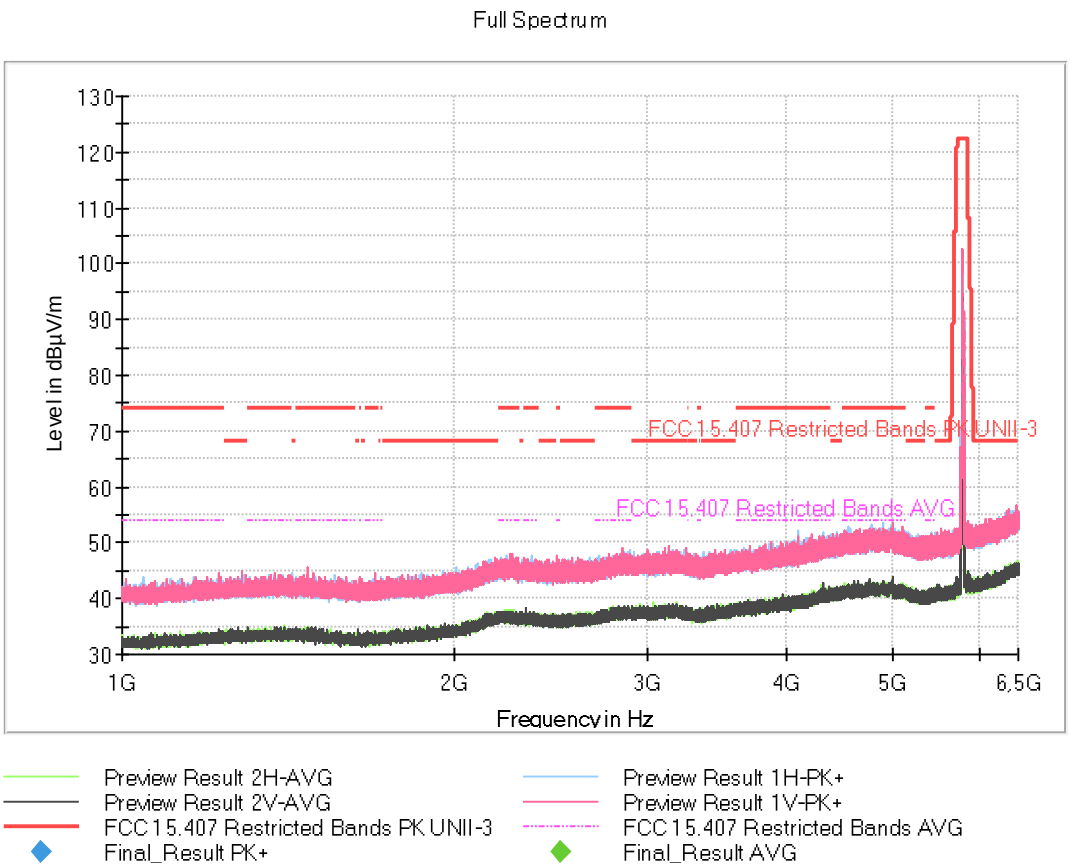
FREQUENCY RANGE 1 – 6.5 GHz (SISO worst-case):

- Low Channel:



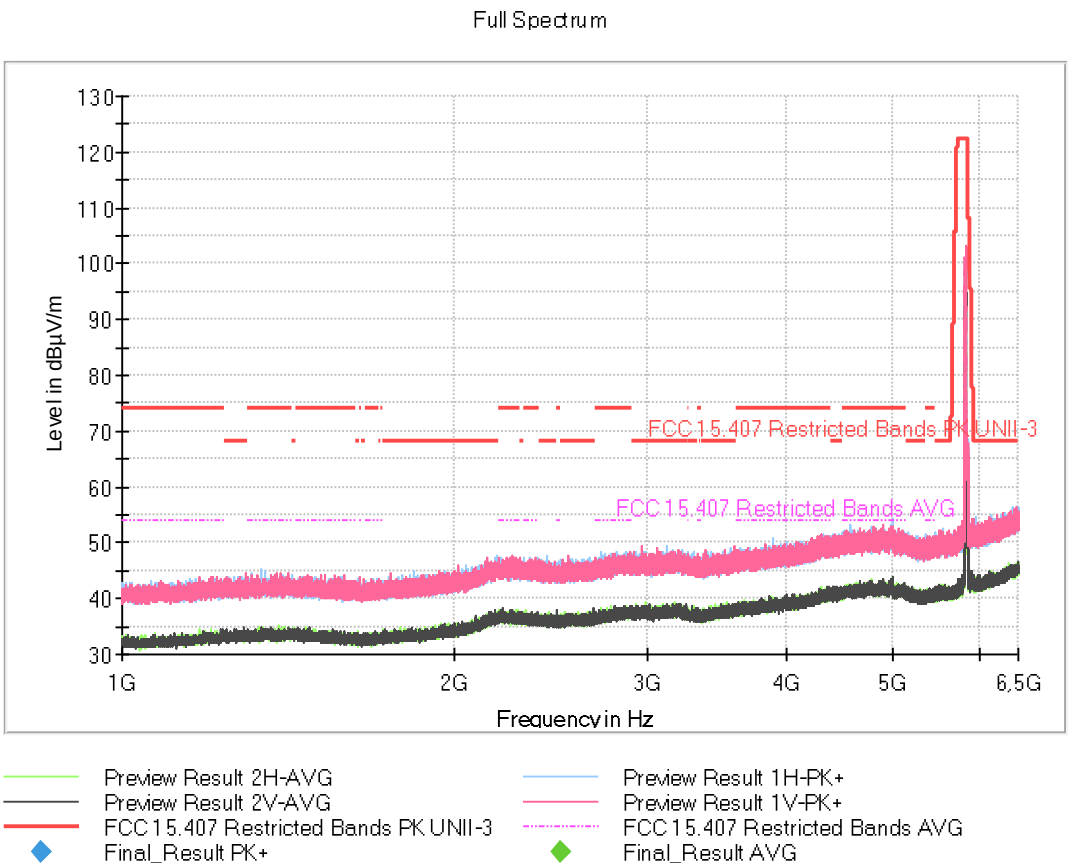
Note: The highest peak is the carrier frequency.

- Middle Channel:

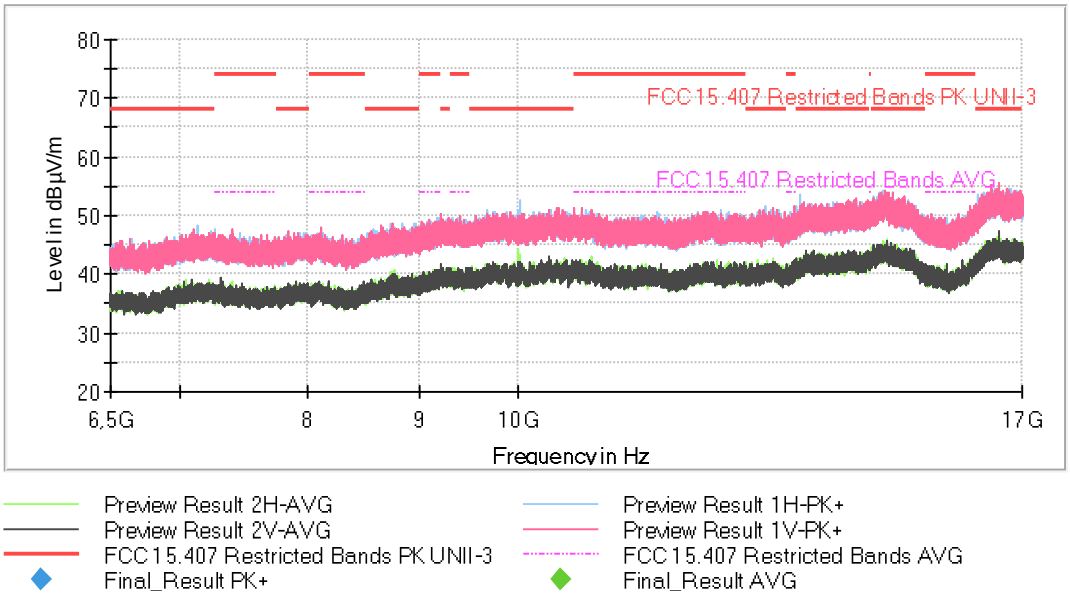


Note: The highest peak is the carrier frequency.

- High Channel:



Note: The highest peak is the carrier frequency.

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

- Low Channel: