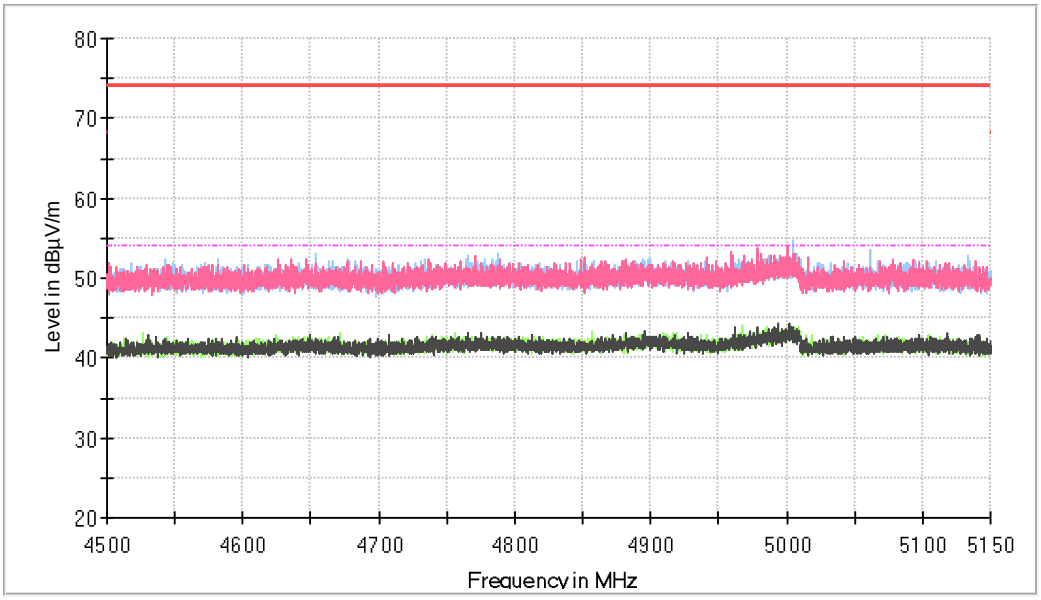
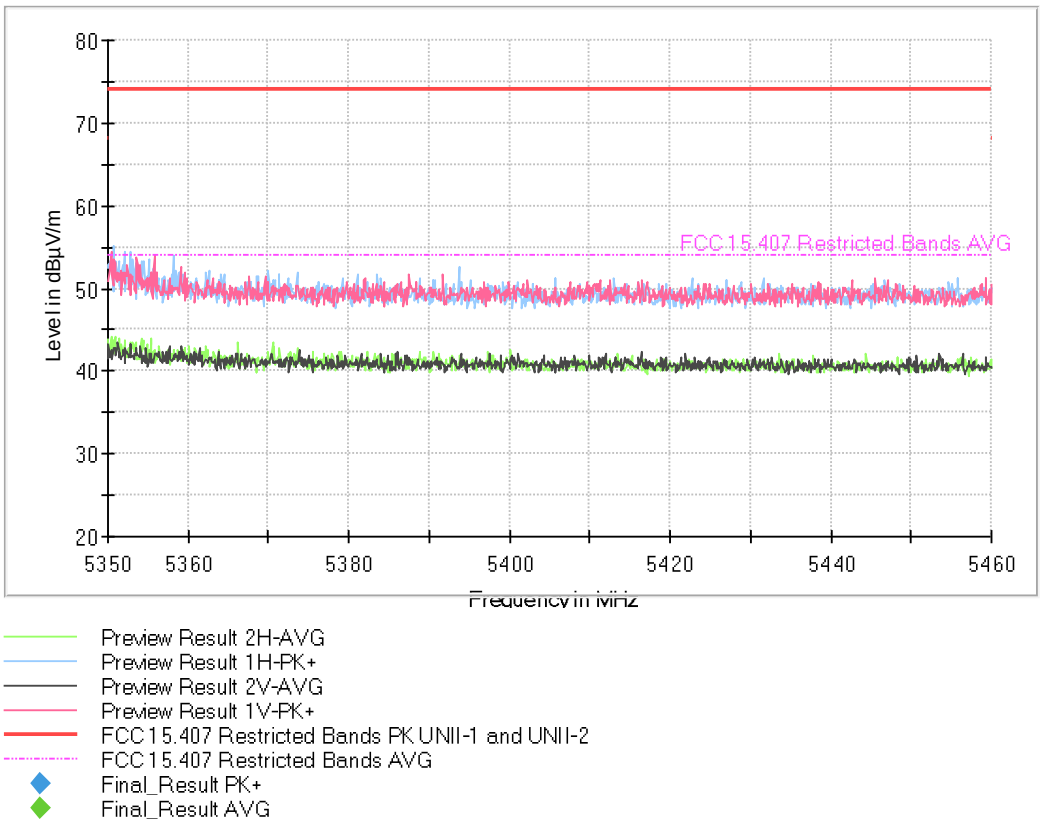
- **SISO 802.11 n40:**

  - Lower Band Edge Channel 54 (Restricted Band 4.50-5.15 GHz)

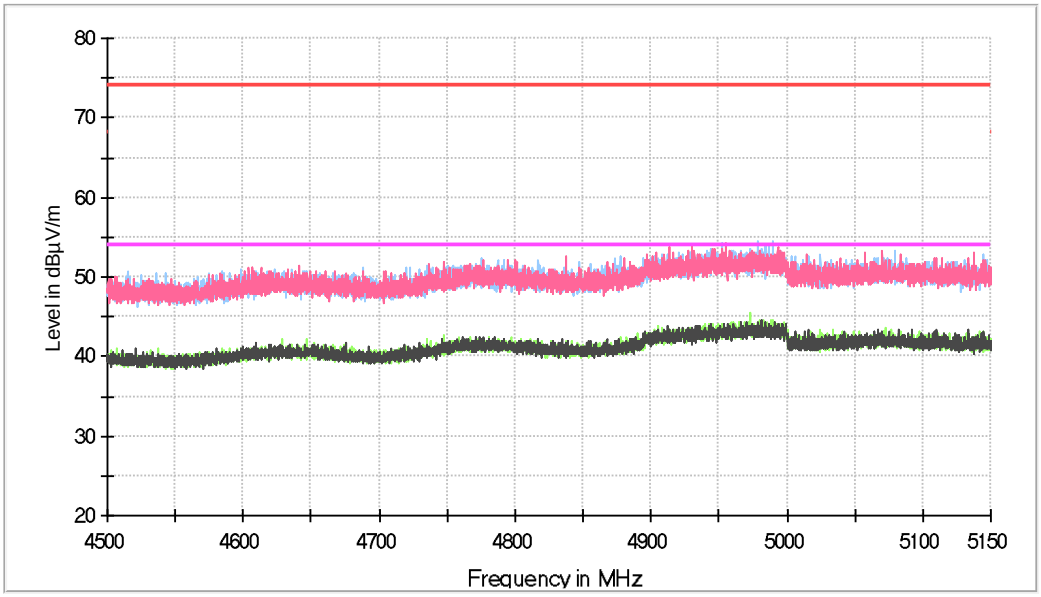


- Upper Band Edge Channel 62 (Restricted Band 5.35-5.46 GHz)

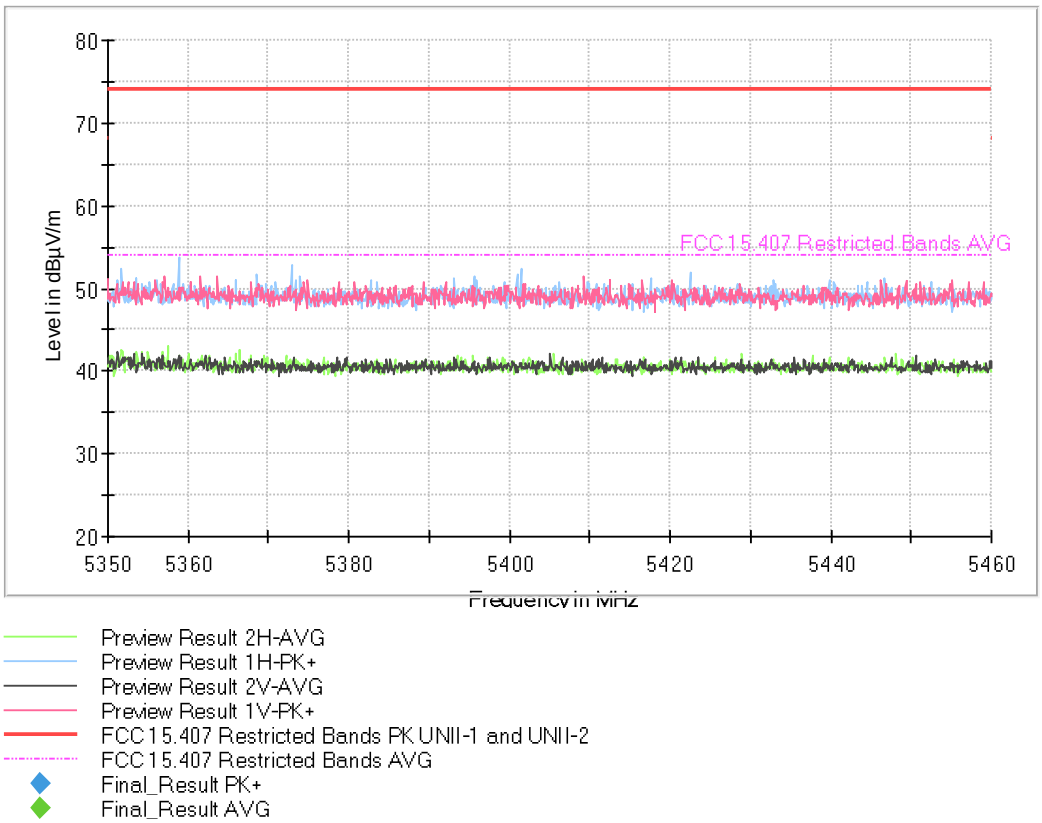


- **SISO 802.11 ac40:**

  - Lower Band Edge Channel 54 (Restricted Band 4.50-5.15 GHz)

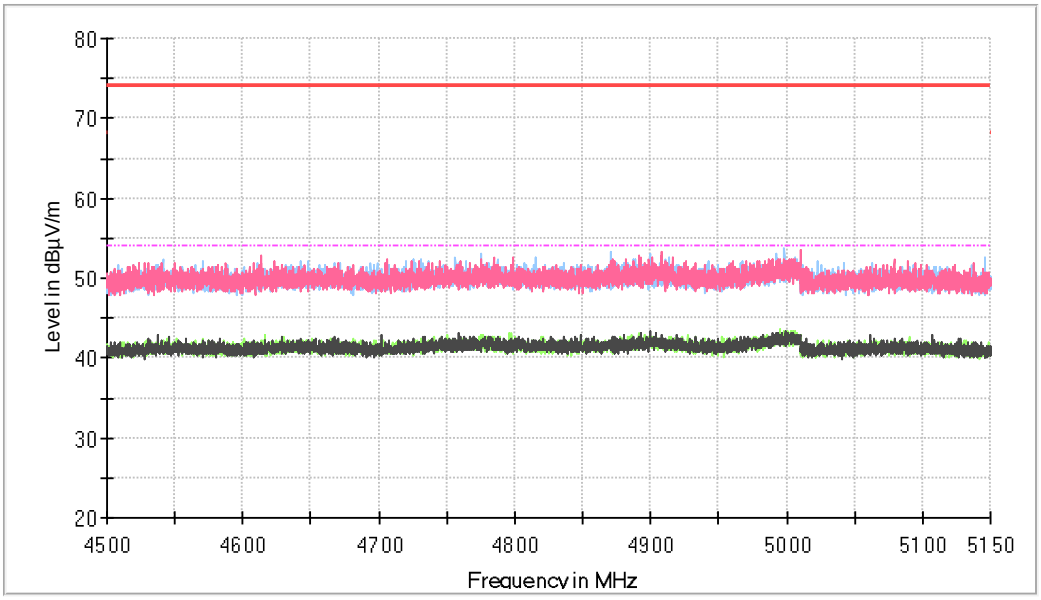


- Upper Band Edge Channel 62 (Restricted Band 5.35-5.46 GHz)

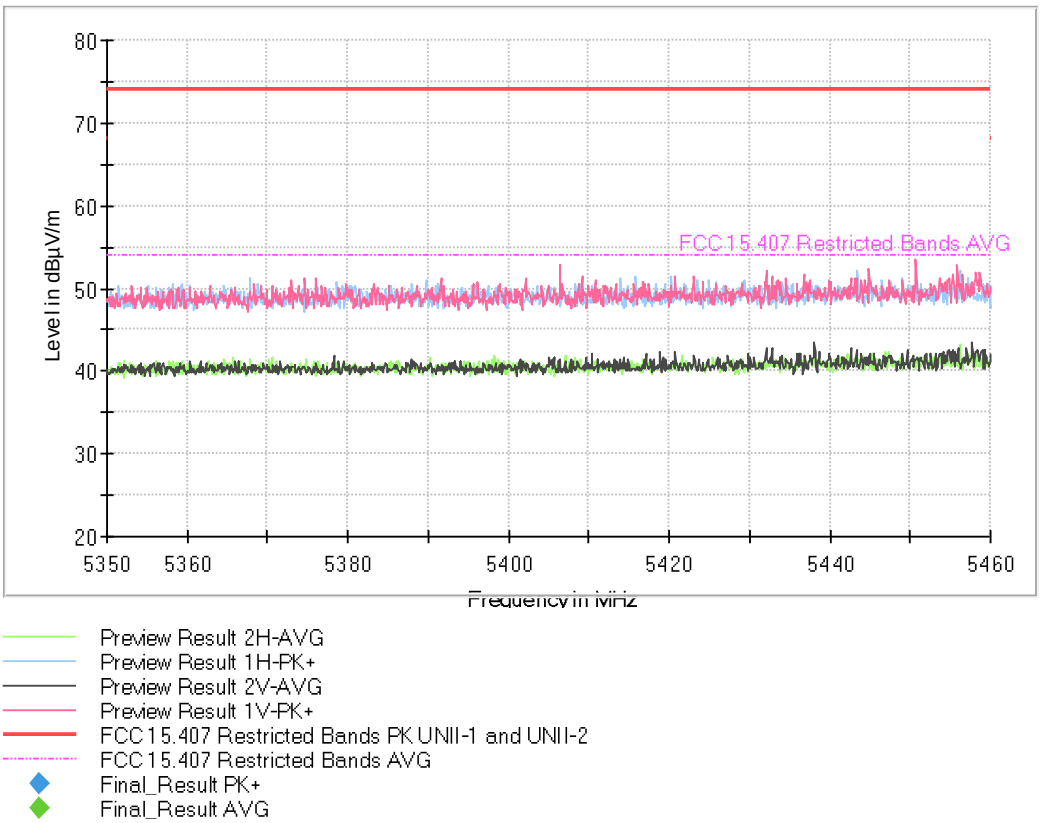


- **SISO 802.11 ac80:**

  - Lower Band Edge Channel 58 (Restricted Band 4.50-5.15 GHz)



- Upper Band Edge Channel 58 (Restricted Band 5.35-5.46 GHz)



MIMO worst-case:

- **MIMO 802.11 n20:**

- Lower Band Edge Channel 52 (5260 MHz). No spurious emissions found inside the Restricted Band 4.50-5.15 GHz.

- Upper Band Edge Channel 64 (5320 MHz). No spurious emissions found inside the Restricted Band 5.35-5.46 GHz.

- **MIMO 802.11 ac20:**

- Lower Band Edge Channel 52 (5260 MHz). No spurious emissions found inside the Restricted Band 4.50-5.15 GHz.

- Upper Band Edge Channel 64 (5320 MHz). No spurious emissions found inside the Restricted Band 5.35-5.46 GHz.

- **MIMO 802.11 n40:**

- Lower Band Edge Channel 52 (5260 MHz). No spurious emissions found inside the Restricted Band 4.50-5.15 GHz.

- Upper Band Edge Channel 64 (5320 MHz). Spurious emissions inside the Restricted Band 5.35-5.46 GHz:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Polarization	Detector
5354.400000	63.39	V	Peak
	45.68		Average

- **MIMO 802.11 ac40:**

- Lower Band Edge Channel 52 (5260 MHz). No spurious emissions found inside the Restricted Band 4.50-5.15 GHz.

- Upper Band Edge Channel 64 (5320 MHz). Spurious emissions inside the Restricted Band 5.35-5.46 GHz:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Polarization	Detector
5352.700000	57.86	H	Peak
	42.61		Average

- **MIMO 802.11 ac80:**

- Lower Band Edge Channel 52 (5260 MHz). No spurious emissions found inside the Restricted Band 4.50-5.15 GHz.

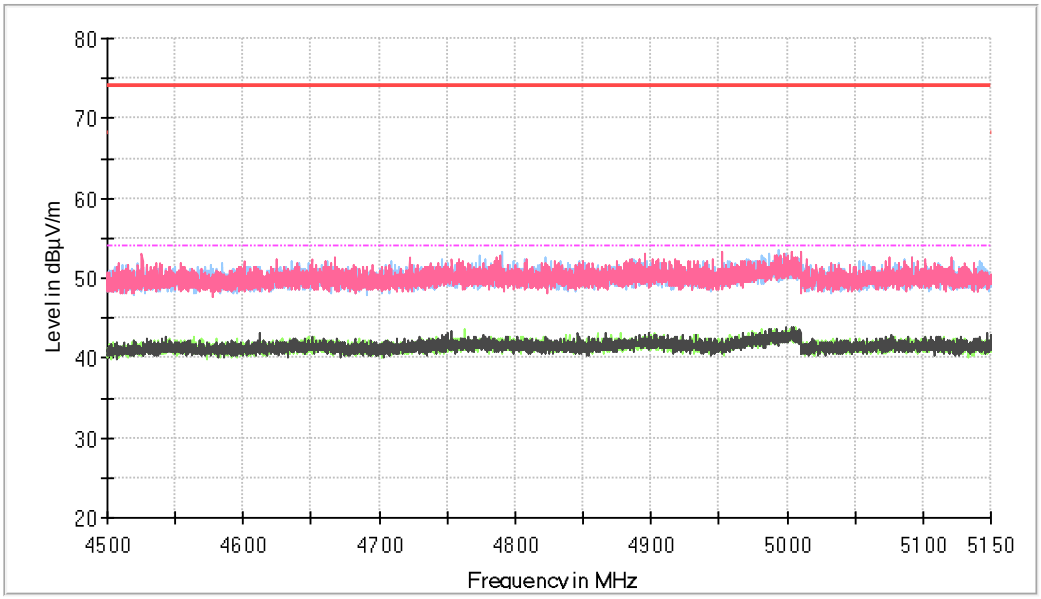
- Upper Band Edge Channel 64 (5320 MHz). Spurious emissions inside the Restricted Band 5.35-5.46 GHz:

Spurious frequency (MHz)	Emission Level (dBµV/m)	Polarization	Detector
5365.269800	60.10	V	Peak
	43.54		Average

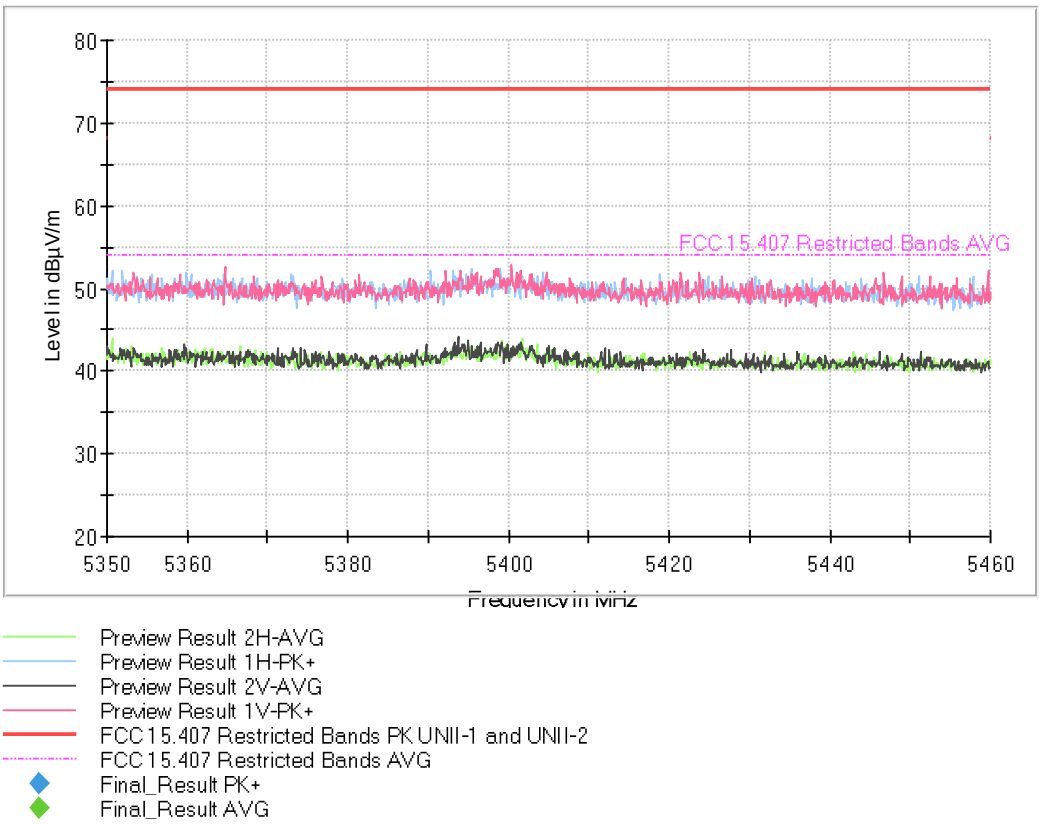
Verdict: PASS

- **MIMO 802.11 n20:**

  - Lower Band Edge Channel 52 (Restricted Band 4.50-5.15 GHz)

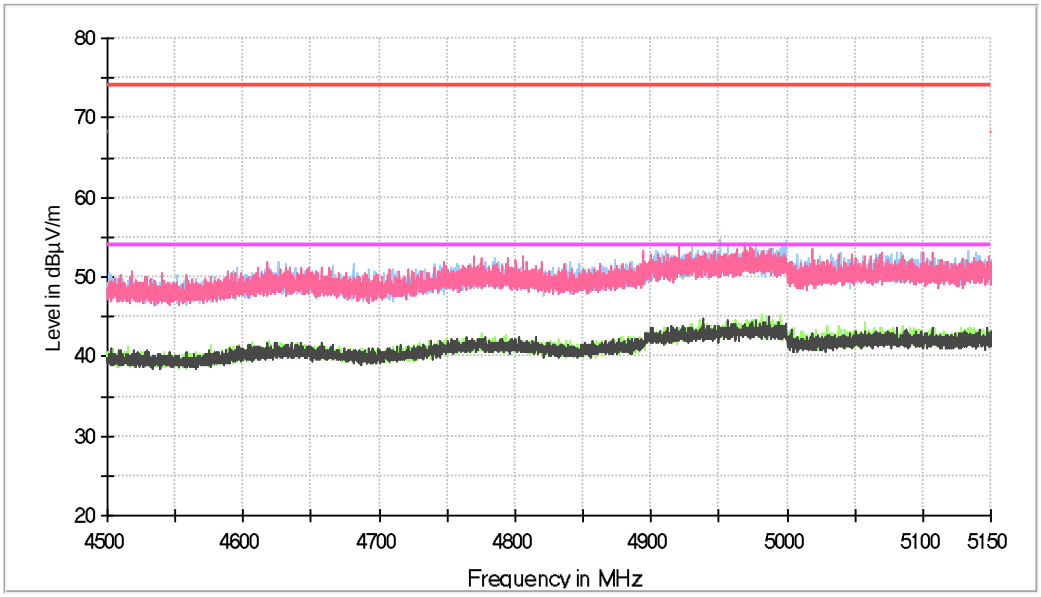


- Upper Band Edge Channel 64 (Restricted Band 5.35-5.46 GHz)

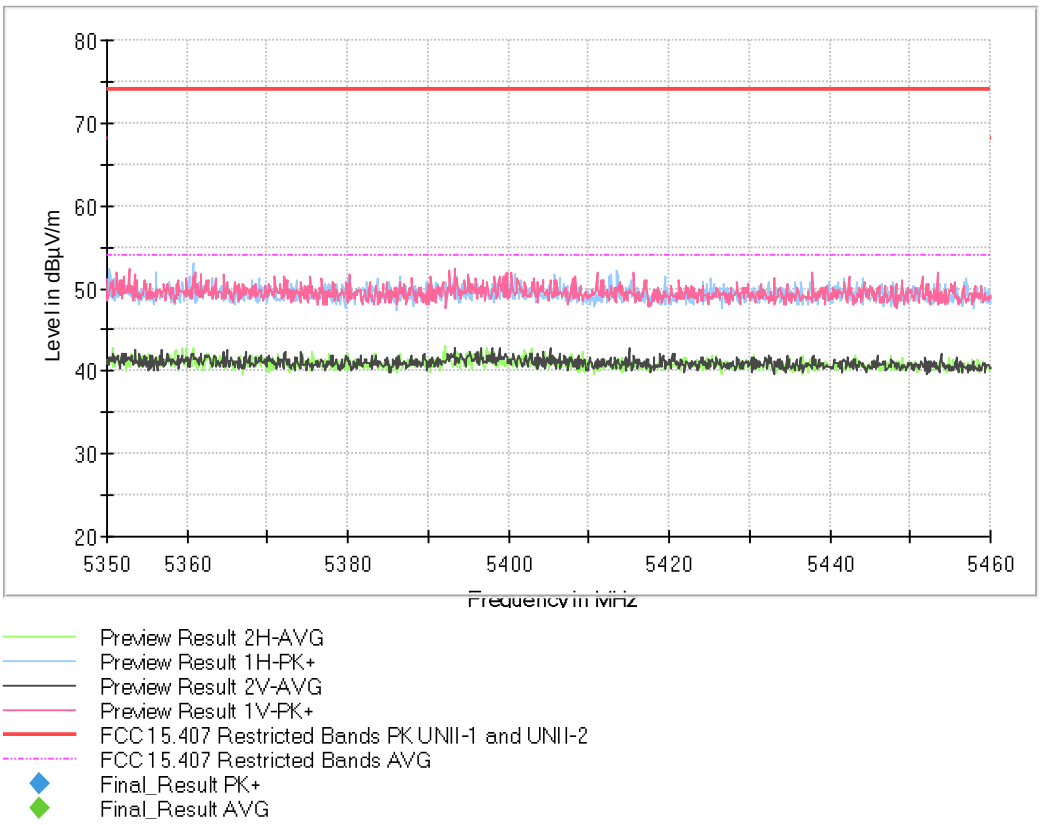


- **MIMO 802.11 ac20:**

  - Lower Band Edge Channel 52 (Restricted Band 4.50-5.15 GHz)

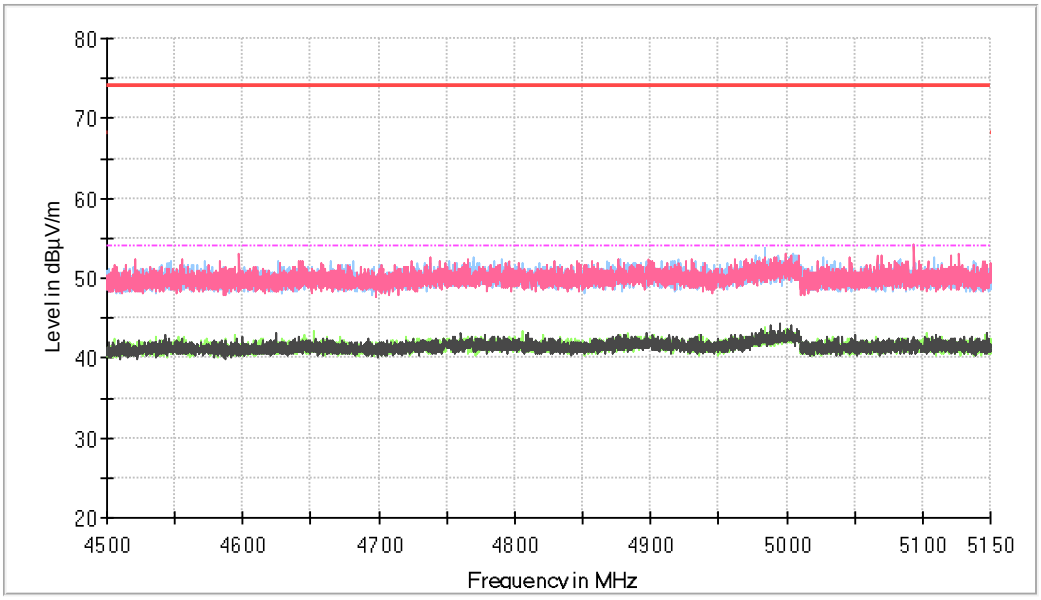


- Upper Band Edge Channel 64 (Restricted Band 5.35-5.46 GHz)

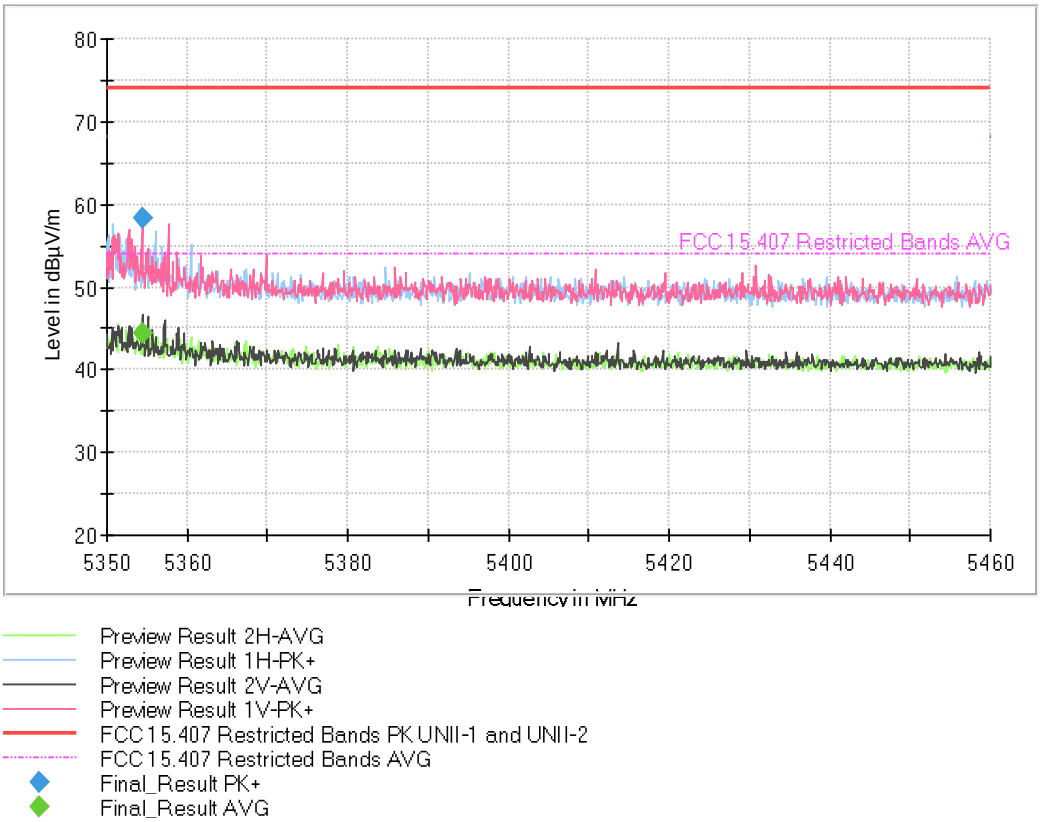


- **MIMO 802.11 n40:**

  - Lower Band Edge Channel 54 (Restricted Band 4.50-5.15 GHz)

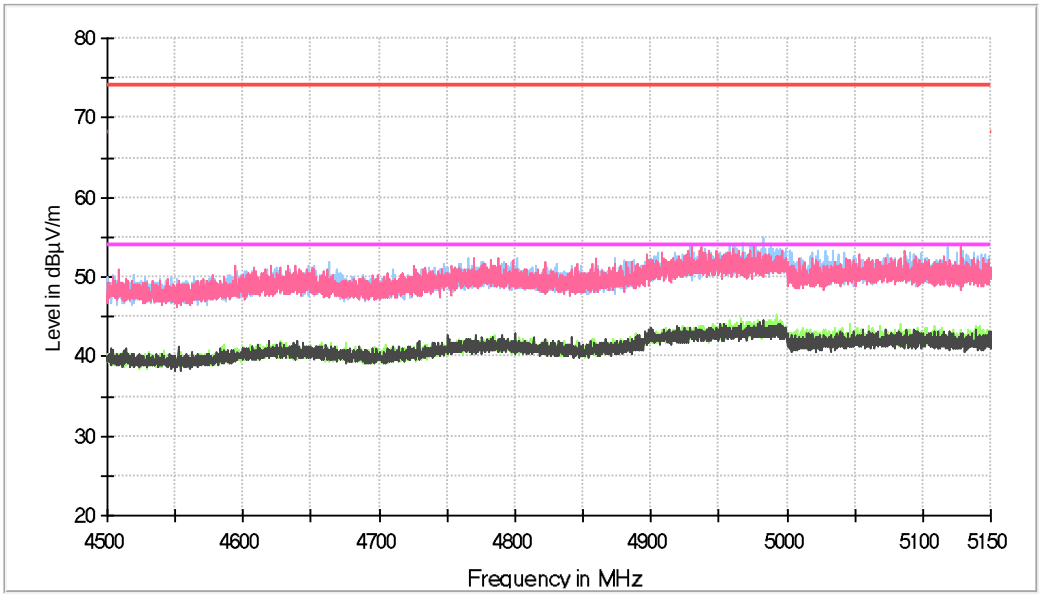


- Upper Band Edge Channel 62 (Restricted Band 5.35-5.46 GHz)

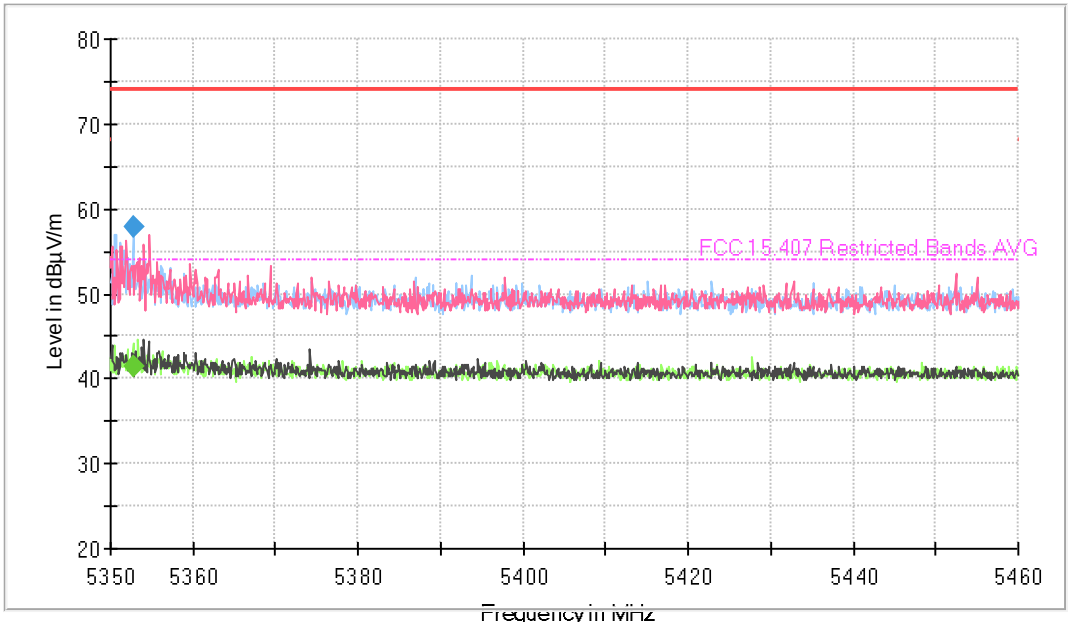


- **MIMO 802.11 ac40:**

  - Lower Band Edge Channel 54 (Restricted Band 4.50-5.15 GHz)



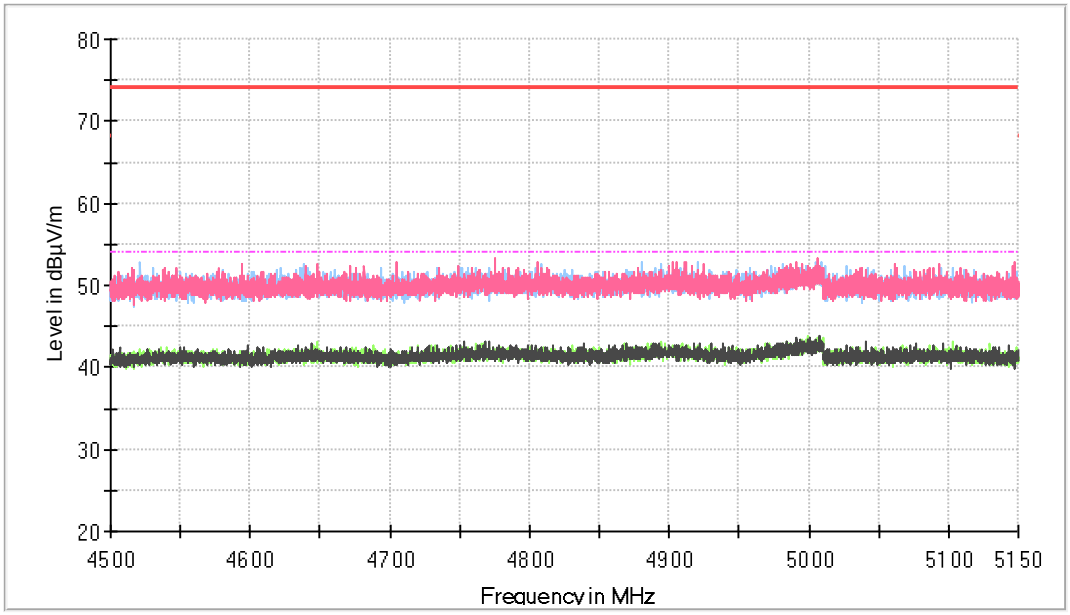
- Upper Band Edge Channel 62 (Restricted Band 5.35-5.46 GHz)



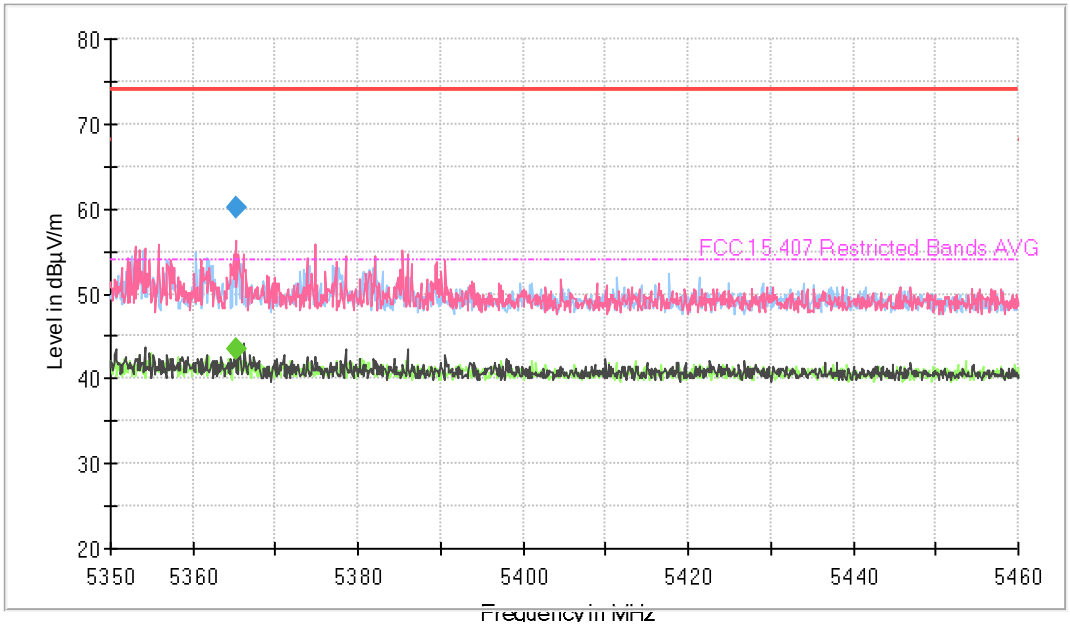
Preview Result 2H-AVG
Preview Result 1H-PK+
Preview Result 2V-AVG
Preview Result 1V-PK+
FCC 15.407 Restricted Bands PK UNII-1 and UNII-2
FCC 15.407 Restricted Bands AVG
Final_Result PK+
Final_Result AVG

- **MIMO 802.11 ac80:**

  - Lower Band Edge Channel 58 (Restricted Band 4.50-5.15 GHz)



- Upper Band Edge Channel 58 (Restricted Band 5.35-5.46 GHz)



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

Appendix D: Tests results for the U-NII-2C: 5.47 GHz – 5.725 GHz Band

INDEX

TEST CONDITIONS

(*) Declared by the Applicant.

POWER SUPPLY (*):

Vnominal:	115 Vac
Type of Power Supply:	AC power

ANTENNA (*):

Type of Antennas:	Monopoles (printed on PCB). 2 antennas.
Maximum Declared Antenna Gain Chain 0:	+3.1 dBi
Maximum Declared Antenna Gain Chain 1:	+5.0 dBi

Directional Antenna Gain Calculations for CDD MIMO In-Band Measurements:

U-NII-1, U-NII-2A, U-NII-2C & U-NII-3:

For 2Tx CDD MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii) y F)2)e)ii), directional gain, directional gain was calculated as follows:

$N_{ss} = 1$, $N_{ANT} = 2$, $G_{ANT0} = +3.1$ dBi, $G_{ANT1} = +5.0$ dBi

$$\text{Directional Gain} = 10\log\left[\frac{\sum_{j=1}^{N_{SS}}\left(\sum_{k=1}^{N_{ANT}} g_{j,k}\right)^2}{N_{ANT}}\right] = 10\log\left[\frac{\sum_{j=1}^{1}\left(\sum_{k=1}^{2} g_{j,k}\right)^2}{2}\right]$$

$$= 10\log\left[\frac{(g_{1,1}+g_{1,2})^2}{2}\right] = 10\log\left[\frac{\left(10^{\frac{G_1}{20}}+10^{\frac{G_2}{20}}\right)^2}{2}\right] = 10\log\left[\frac{\left(10^{\frac{3.1}{20}}+10^{\frac{5.0}{20}}\right)^2}{2}\right] = 7.12 \text{ dBi}$$

TEST FREQUENCIES (*):

Technology Tested:	WLAN (IEEE 802.11 a20 / n2040 / ac204080 1x1 & 2x2)
Modes:	802.11a: 6, 9, 12, 18, 24, 36, 48 & 54 Mbps (SISO)
	802.11n HT20: MCS0 to MCS23 (1 or 2 spatial stream with either SISO or 2 chain MIMO CDD).
	802.11n HT40: MCS0 to MCS23 (1 or 2 spatial stream with either SISO or 2 chain MIMO CDD).
	802.11ac VHT20: MCS0 to MCS9 (1 or 2 spatial stream) (SISO, or MIMO with CDD without TxBF).
	802.11ac VHT40: MCS0 to MCS9 (1 or 2 spatial stream) (SISO, or MIMO with CDD without TxBF).
	802.11ac VHT80: MCS0 to MCS9 (1 or 2 spatial stream) (SISO, or MIMO with CDD without TxBF).
Setting of cores / ports:	Chain 0, Chain 1, Chain 0 & 1
Beamforming:	No.

Band U-NII-2C:

Operating Channel Bandwidth:	20 MHz	
Transmission Channels:	Channels	Channel Frequency (MHz)
	Low (100)	5500
	Middle (116)	5580
	High (140)	5700
Straddle Channel U-NII-2C / U-NII-3	Straddle (144)	5720
Operating Channel Bandwidth:	40 MHz	
Transmission Channels:	Channels	Channel Frequency (MHz)
	Low (102)	5510
	Low+1 (110)	5550
	High (134)	5670
Straddle Channel U-NII-2C / U-NII-3	Straddle (142)	5710
Operating Channel Bandwidth:	80 MHz	
Transmission Channels:	Channels	Channel Frequency (MHz)
	Single (106)	5530
Straddle Channel U-NII-2C / U-NII-3	Straddle (138)	5690

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:

- 802.11a: 6 Mbps SISO 1Tx on Chain 0 and 1Tx on Chain 1.
- 802.11n HT20: MCS0 SISO 1Tx on Chain 0 and 1Tx on Chain 1 / MIMO 2Tx on Chain 0 & 1.
- 802.11n HT40: MCS0 SISO 1Tx on Chain 0 and 1Tx on Chain 1 / MIMO 2Tx on Chain 0 & 1.
- 802.11ac VHT20: MCS0 SISO 1Tx on Chain 0 and 1Tx on Chain 1 / MIMO 2Tx on Chain 0 & 1.
- 802.11ac VHT40: MCS0 SISO 1Tx on Chain 0 and 1Tx on Chain 1 / MIMO 2Tx on Chain 0 & 1.
- 802.11ac VHT80: MCS0 SISO 1Tx on Chain 0 and 1Tx on Chain 1 / MIMO 2Tx on Chain 0 & 1.

CONDUCTED MEASUREMENTS:

The equipment under test was set up in a shielded room and connected to the TS8997 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 between 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).

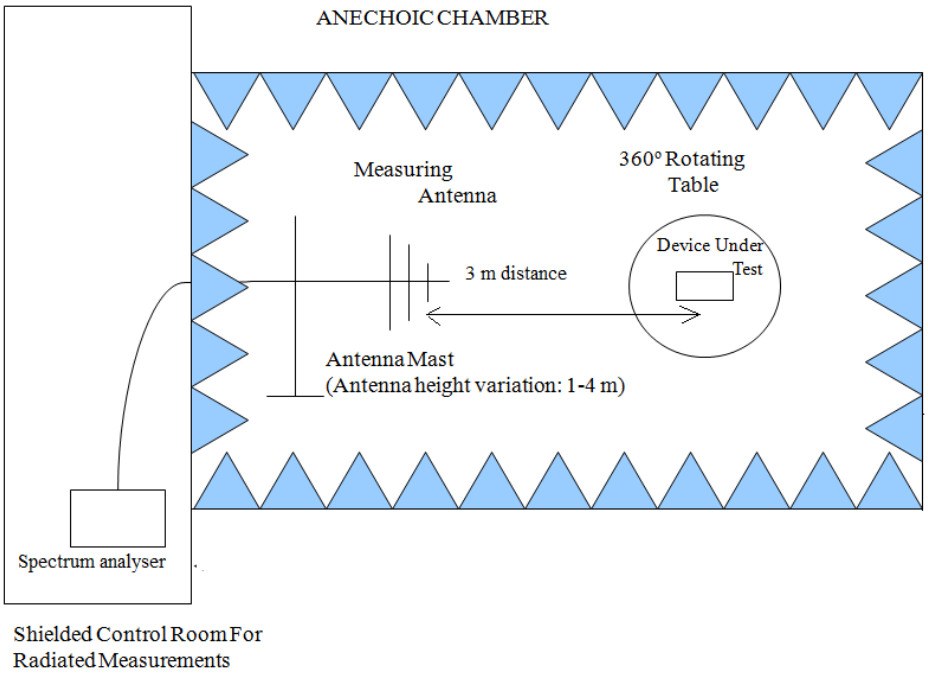
For radiated emissions in the range 17 GHz-40 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

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 360º and the antenna height (Bilog antenna and Double ridge horn antenna) was varied from 1 to 4 meters to find the maximum radiated emission.

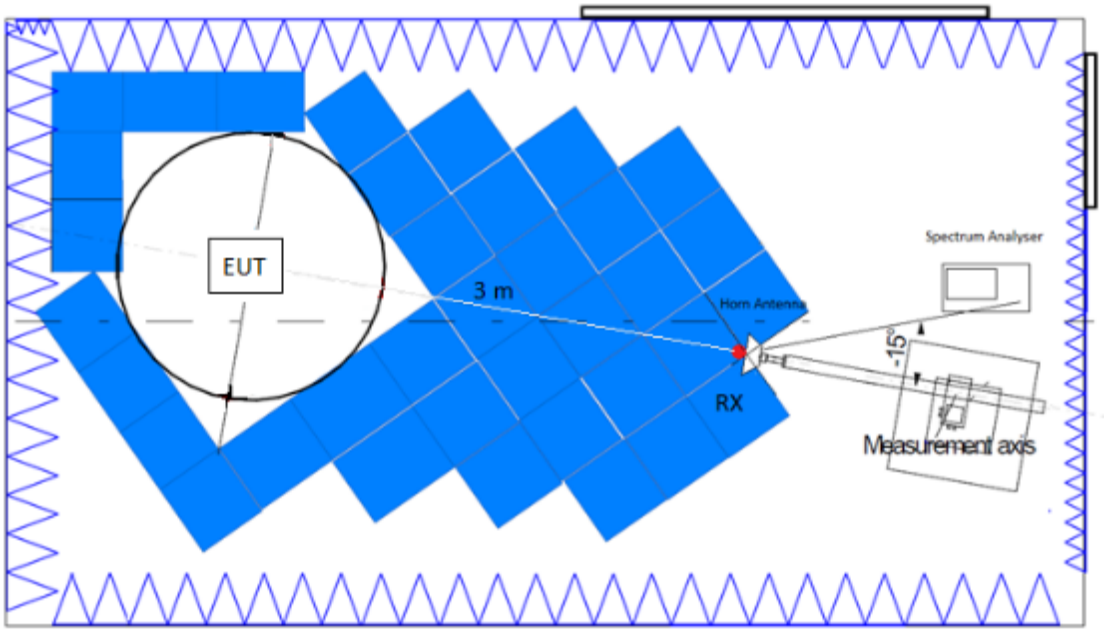
Measurements were made in both horizontal and vertical planes of polarization.

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

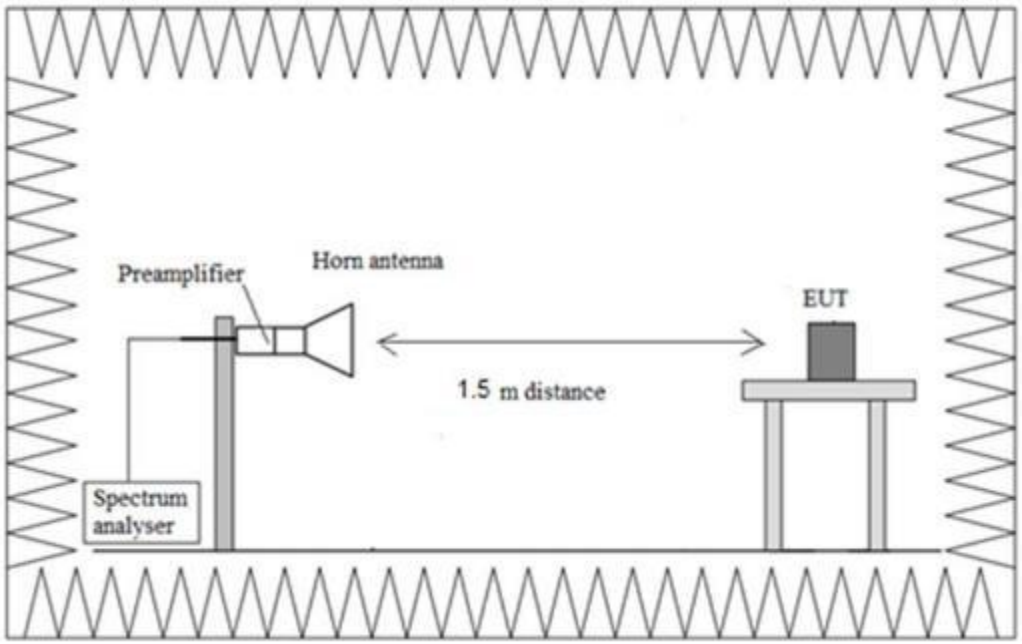
Radiated measurements setup f < 1 GHz:



Radiated measurements setup from 1 GHz to 17 GHz:



Radiated measurements setup f > 17 GHz:



FCC 15.407 (a)(2) Transmitter Maximum Conducted Output Power / RSS-247 6.2.3.1 Transmitter Maximum Equivalent Isotropically Radiated Power

SPECIFICATION:

* FCC 15.407 (a)(2): For the 5.47-5.725 GHz band, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

* RSS-247 6.2.3.1: 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.

RESULTS:

The maximum conducted output power was measured using the channel power integration method according to point E.2.b) (Method SA-1) of 789033 D02 General UNII Test Procedures New Rules v02r01. When the duty cycle is >98% and the channel power integration method according to point E.2.d) (Method SA-2) of 789033 D02 General UNII Test Procedures New Rules v02r01 when the duty cycle is <98%.

For data rates where the EUT was transmitting at <98% duty cycle, the duty cycle was added to the measured power in order to calculate the total average power during the actual transmission time.

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

Preliminary tests determined the SISO worst case: Chain 1.

Antenna Gain:

- SISO Antenna – Chain 0: +3.1 dBi
- SISO Antenna – Chain 1: +5.0 dBi
- MIMO Antennas – Chain 0 & 1: +7.12 dBi

For the SISO technique, the antenna gain is less than 6 dBi.
For the MIMO technique, the antenna gain is higher than 6 dBi.

SISO worst-case:

- Preliminary tests determined the SISO worst-case: Chain 1.

SISO 802.11 a20:

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

Channels	Low Channel 100 (5500 MHz)	Middle-1 Channel 116 (5580 MHz)	High Channel 140 (5700 MHz)
Maximum Corrected Conducted Power (dBm)	15.11	14.92	14.51
Maximum EIRP Corrected Conducted Power (dBm)	20.11	19.81	19.51

Straddle Channel (5720 MHz):

Channel	Straddle Channel 144 (5720 MHz)
Maximum Corrected Conducted Power (dBm)	14.64
Maximum EIRP Corrected Conducted Power (dBm)	19.64

SISO 802.11 n20 (HT20):

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

Channels	Low Channel 100 (5500 MHz)	Middle-1 Channel 116 (5580 MHz)	High Channel 140 (5700 MHz)
Maximum Corrected Conducted Power (dBm)	15.06	15.02	14.71
Maximum EIRP Corrected Conducted Power (dBm)	20.06	20.02	19.71

Straddle Channel (5720 MHz):

Channel	Straddle Channel 144 (5720 MHz)
Maximum Corrected Conducted Power (dBm)	14.81
Maximum EIRP Corrected Conducted Power (dBm)	19.81

SISO 802.11 ac20 (VHT20):

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

Channels	Low Channel 100 (5500 MHz)	Middle-1 Channel 116 (5580 MHz)	High Channel 140 (5700 MHz)
Maximum Corrected Conducted Power (dBm)	12.75	12.55	12.22
Maximum EIRP Corrected Conducted Power (dBm)	17.75	17.55	17.22

Straddle Channel (5720 MHz):

Channel	Straddle Channel 144 (5720 MHz)
Maximum Corrected Conducted Power (dBm)	12.50
Maximum EIRP Corrected Conducted Power (dBm)	17.50

SISO 802.11 n40 (HT40):

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

Channels	Low Channel 102 (5510 MHz)	Low+1 Channel 110 (5550 MHz)	High Channel 134 (5670 MHz)
Maximum Corrected Conducted Power (dBm)	15.24	15.07	14.80
Maximum EIRP Corrected Conducted Power (dBm)	20.24	20.07	19.80

Straddle Channel (5710 MHz):

Channel	Straddle Channel 142 (5710 MHz)
Maximum Corrected Conducted Power (dBm)	14.84
Maximum EIRP Corrected Conducted Power (dBm)	19.84

SISO 802.11 ac40 (VHT40):

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

Channels	Low Channel 102 (5510 MHz)	Low+1 Channel 110 (5550 MHz)	High Channel 134 (5670 MHz)
Maximum Corrected Conducted Power (dBm)	13.10	12.95	12.81
Maximum EIRP Corrected Conducted Power (dBm)	18.10	17.95	17.81

Straddle Channel (5710 MHz):

Channel	Straddle Channel 142 (5710 MHz)
Maximum Corrected Conducted Power (dBm)	12.87
Maximum EIRP Corrected Conducted Power (dBm)	17.87

SISO 802.11 ac80 (VHT80):

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

Channels	Low Channel 106 (5530 MHz)
Maximum Corrected Conducted Power (dBm)	12.41
Maximum EIRP Corrected Conducted Power (dBm)	17.41

(**): Channel not allowed in Canada.

Straddle Channel (5690 MHz):

Channel	Straddle Channel 138 (5690 MHz)
Maximum Corrected Conducted Power (dBm)	12.14
Maximum EIRP Corrected Conducted Power (dBm)	17.14

Verdict: PASS

MIMO worst-case:

- Preliminary tests determined the MIMO worst-case: Chain0+1.

MIMO 802.11 n20 (HT20):

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

Channels	Low Channel 100 (5500 MHz)	Middle-1 Channel 116 (5580 MHz)	High Channel 140 (5700 MHz)
Maximum Corrected Conducted Power (dBm)	15.42	15.70	15.49
Maximum EIRP Corrected Conducted Power (dBm)	22.54	22.82	22.61

Straddle Channel (5720 MHz):

Channel	Straddle Channel 144 (5720 MHz)
Maximum Corrected Conducted Power (dBm)	15.43
Maximum EIRP Corrected Conducted Power (dBm)	22.55

MIMO 802.11 ac20 (VHT20):

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

Channels	Low Channel 100 (5500 MHz)	Middle-1 Channel 116 (5580 MHz)	High Channel 140 (5700 MHz)
Maximum Corrected Conducted Power (dBm)	14.36	12.73	12.81
Maximum EIRP Corrected Conducted Power (dBm)	21.48	19.85	19.93

Straddle Channel (5720 MHz):

Channel	Straddle Channel 144 (5720 MHz)
Maximum Corrected Conducted Power (dBm)	13.00
Maximum EIRP Corrected Conducted Power (dBm)	20.12

MIMO 802.11 n40 (HT40):

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

Channels	Low Channel 102 (5510 MHz)	Low+1 Channel 110 (5550 MHz)	High Channel 134 (5670 MHz)
Maximum Corrected Conducted Power (dBm)	13.74	13.55	13.53
Maximum EIRP Corrected Conducted Power (dBm)	20.86	20.67	20.65

Straddle Channel (5710 MHz):

Channel	Straddle Channel 142 (5710 MHz)
Maximum Corrected Conducted Power (dBm)	13.85
Maximum EIRP Corrected Conducted Power (dBm)	20.97

MIMO 802.11 ac40 (VHT40):

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

Channels	Low Channel 102 (5510 MHz)	Low+1 Channel 110 (5550 MHz)	High Channel 134 (5670 MHz)
Maximum Corrected Conducted Power (dBm)	13.02	12.85	12.83
Maximum EIRP Corrected Conducted Power (dBm)	20.14	19.97	19.95

(**): Channel not allowed in Canada.

Straddle Channel (5710 MHz):

Channel	Straddle Channel 142 (5710 MHz)
Maximum Corrected Conducted Power (dBm)	12.84
Maximum EIRP Corrected Conducted Power (dBm)	19.96

MIMO 802.11 ac80 (VHT80):

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

Channels	Low Channel 106 (5530 MHz)
Maximum Corrected Conducted Power (dBm)	12.99
Maximum EIRP Corrected Conducted Power (dBm)	20.11

Straddle Channel (5690 MHz):

Channel	Straddle Channel 138 (5690 MHz)
Maximum Corrected Conducted Power (dBm)	12.89
Maximum EIRP Corrected Conducted Power (dBm)	20.01

Verdict: PASS

FCC 15.407 (a)(2) Transmitter Maximum Power Spectral Density / RSS-247 6.2.3.1. Transmitter EIRP Spectral Density

SPECIFICATION:

* FCC 15.407 (a)(2): For the 5.47-5.725 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 6.2.3.1: The power spectral density shall not exceed 11 dBm in any 1.0 MHz band.

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.

RESULTS:

The maximum Power Spectral Density (PSD) was measured using the method according to point F) referencing E.2.b) (Method SA-1) and E.2.b) (Method SA-2) of Guidance 789033 D02 General UNII Test Procedures New Rules v02r01.

The PSD test uses the same setup as the transmitter maximum conducted output power test.

The result of the Peak PSD was measured by colocating a marker on the peak of the signal and the results are in the tables below.

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

Preliminary tests determined the SISO worst case: Chain 1.
Preliminary tests determined the MIMO worst case: Chain 0+1.

Antenna Gain:

- SISO Antenna – Chain 0: +3.1 dBi
- SISO Antenna – Chain 1: +5.0 dBi
- MIMO Antennas – Chain 0 & 1: +7.12 dBi

For the SISO technique, the antenna gain is less than 6 dBi.
For the MIMO technique, the antenna gain is higher than 6 dBi.

SISO worst-case:

- Preliminary tests determined the SISO worst-case: Chain 1.

SISO 802.11 a20:

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

Channels	Low Channel 100 (5500 MHz)	Middle-1 Channel 116 (5580 MHz)	High Channel 140 (5700 MHz)
Maximum Corrected Conducted PSD (dBm)	3.85	2.73	1.78

Straddle Channel (5720 MHz):

Channel	Straddle Channel 144 (5720 MHz)
Maximum Corrected Conducted PSD (dBm)	2.20

SISO 802.11 n20 (HT20):

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

Channels	Low Channel 100 (5500 MHz)	Middle-1 Channel 116 (5580 MHz)	High Channel 140 (5700 MHz)
Maximum Corrected Conducted PSD (dBm)	3.74	2.46	1.64

Straddle Channel (5720 MHz):

Channel	Straddle Channel 144 (5720 MHz)
Maximum Corrected Conducted PSD (dBm)	2.15

SISO 802.11 ac20 (VHT20):

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

Channels	Low Channel 100 (5500 MHz)	Middle-1 Channel 116 (5580 MHz)	High Channel 140 (5700 MHz)
Maximum Corrected Conducted PSD (dBm)	-0.96	-0.68	-1.81

Straddle Channel (5720 MHz):

Channel	Straddle Channel 144 (5720 MHz)
Maximum Corrected Conducted PSD (dBm)	-1.45

SISO 802.11 n40 (HT40):

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

Channels	Low Channel 102 (5510 MHz)	Low+1 Channel 110 (5550 MHz)	High Channel 134 (5670 MHz)
Maximum Corrected Conducted PSD (dBm)	0.99	-0.73	-0.72

Straddle Channel (5710 MHz):

Channel	Straddle Channel 142 (5710 MHz)
Maximum Corrected Conducted PSD (dBm)	-0.91

SISO 802.11 ac40 (VHT40):

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

Channels	Low Channel 102 (5510 MHz)	Low+1 Channel 110 (5550 MHz)	High Channel 134 (5670 MHz)
Maximum Corrected Conducted PSD (dBm)	-3.43	-4.06	-3.80

Straddle Channel (5710 MHz):

Channel	Straddle Channel 142 (5710 MHz)
Maximum Corrected Conducted PSD (dBm)	-4.41

SISO 802.11 ac80 (VHT80):

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

Channels	Low Channel 106 (5530 MHz)
Maximum Corrected Conducted PSD (dBm)	-7.21

Straddle Channel (5690 MHz):

Channel	Straddle Channel 138 (5690 MHz)
Maximum Corrected Conducted PSD (dBm)	-7.54

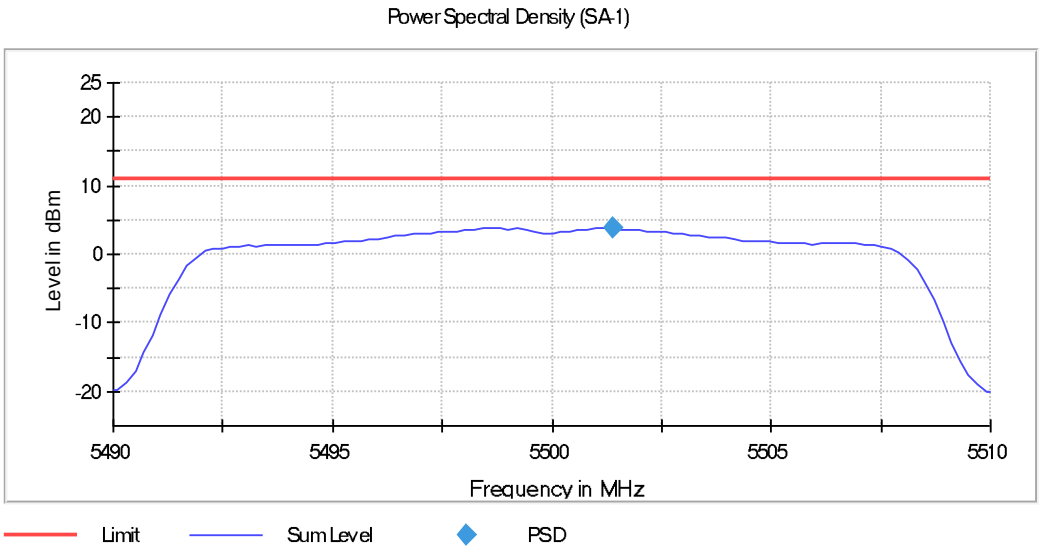
Verdict: PASS

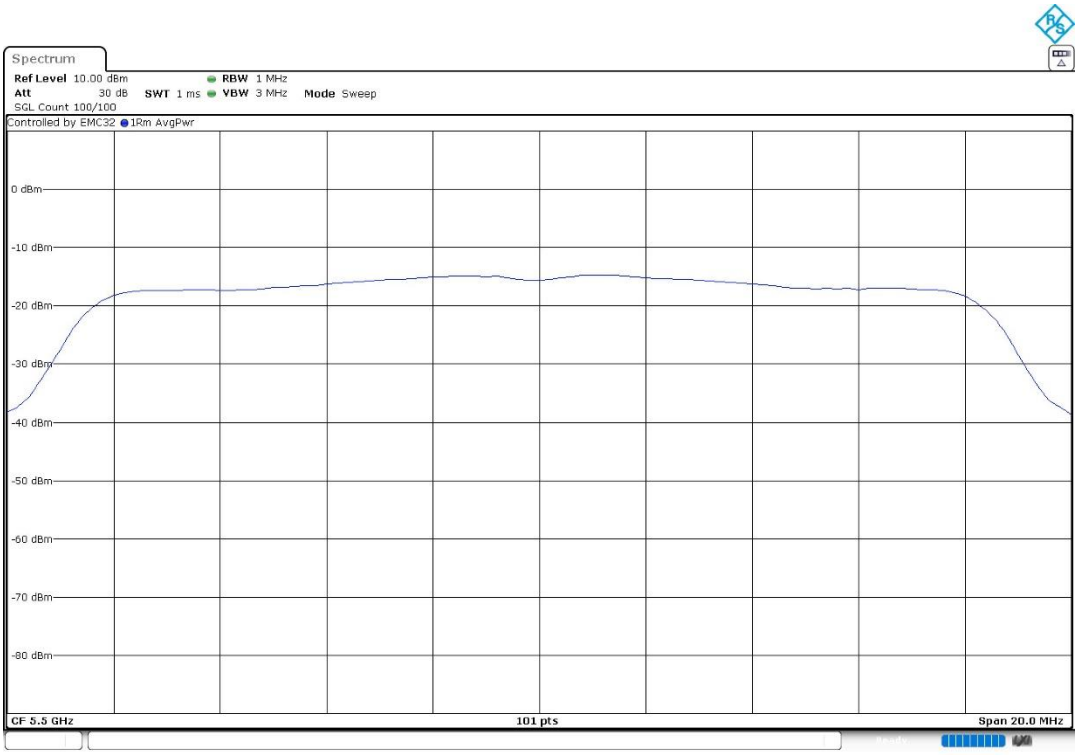
SISO worst-case:

SISO 802.11 a20:

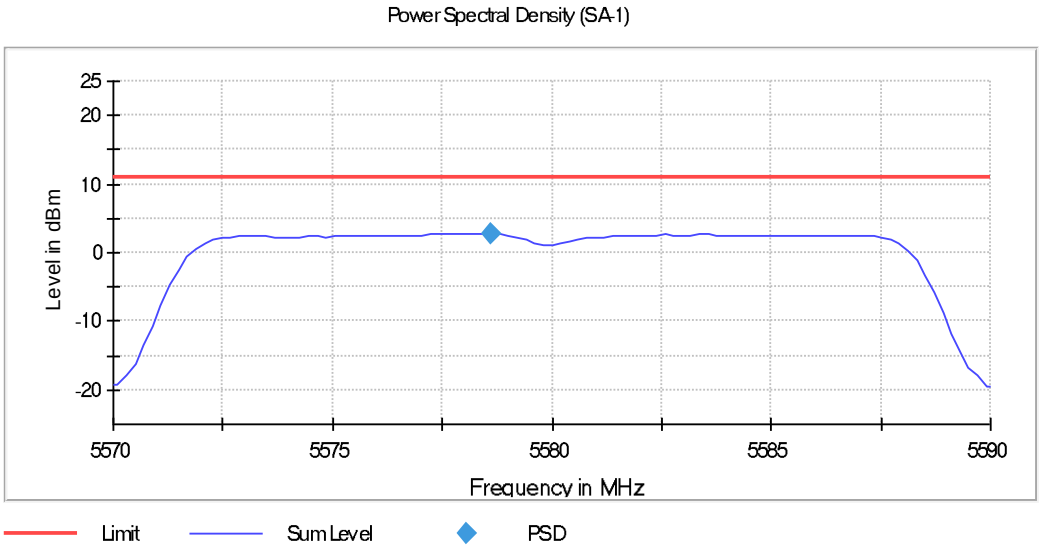
U-NII-2C (5250-5350 MHz)

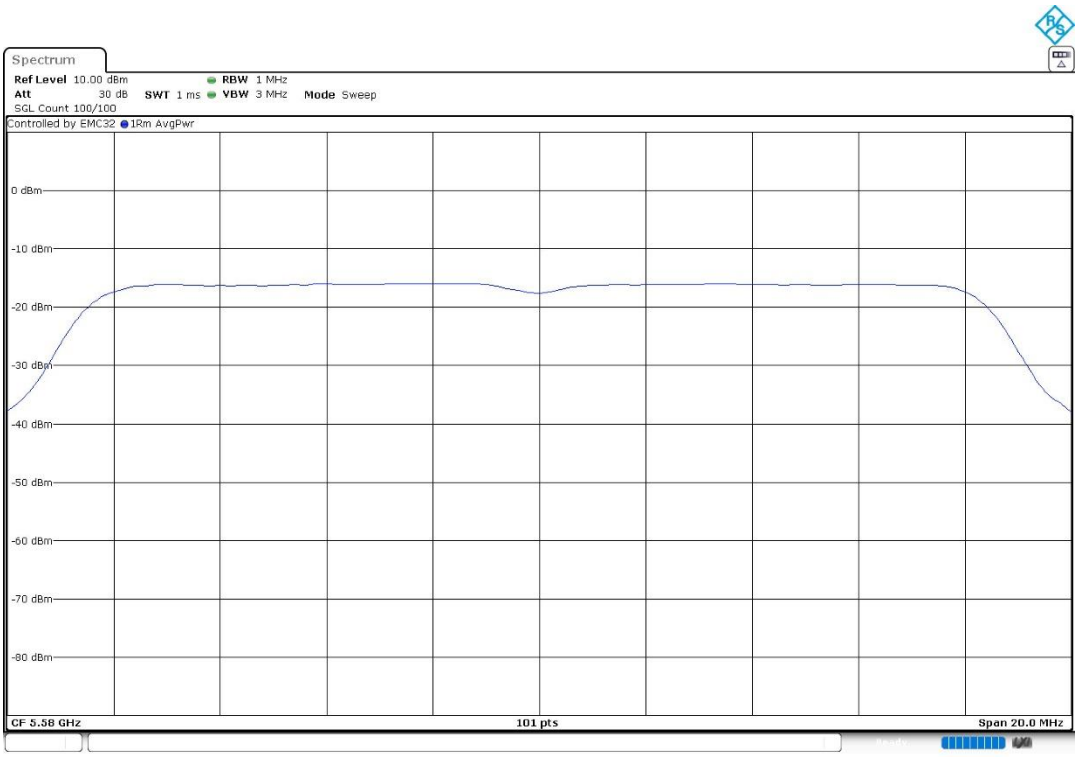
- Low Channel 100 (5500 MHz):



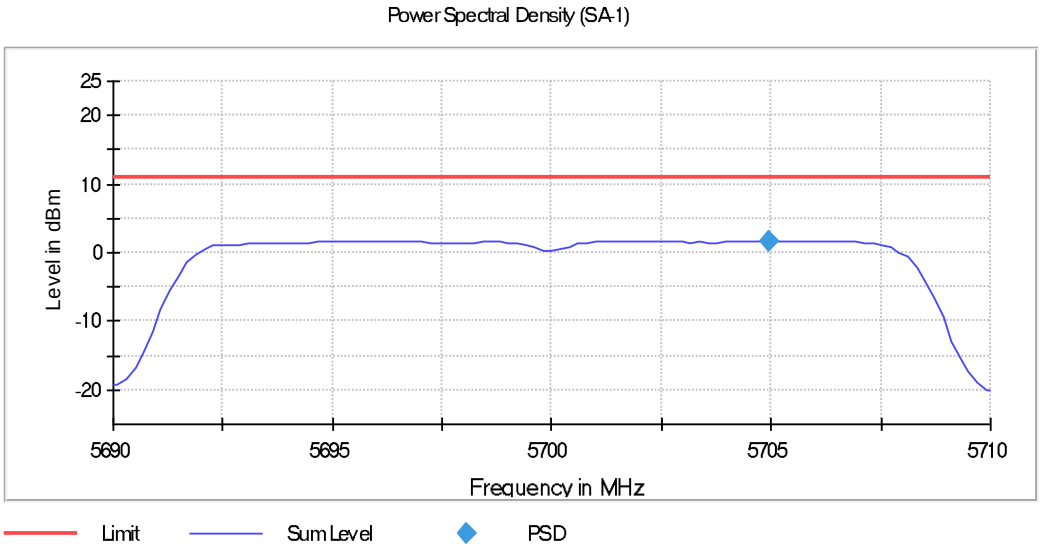


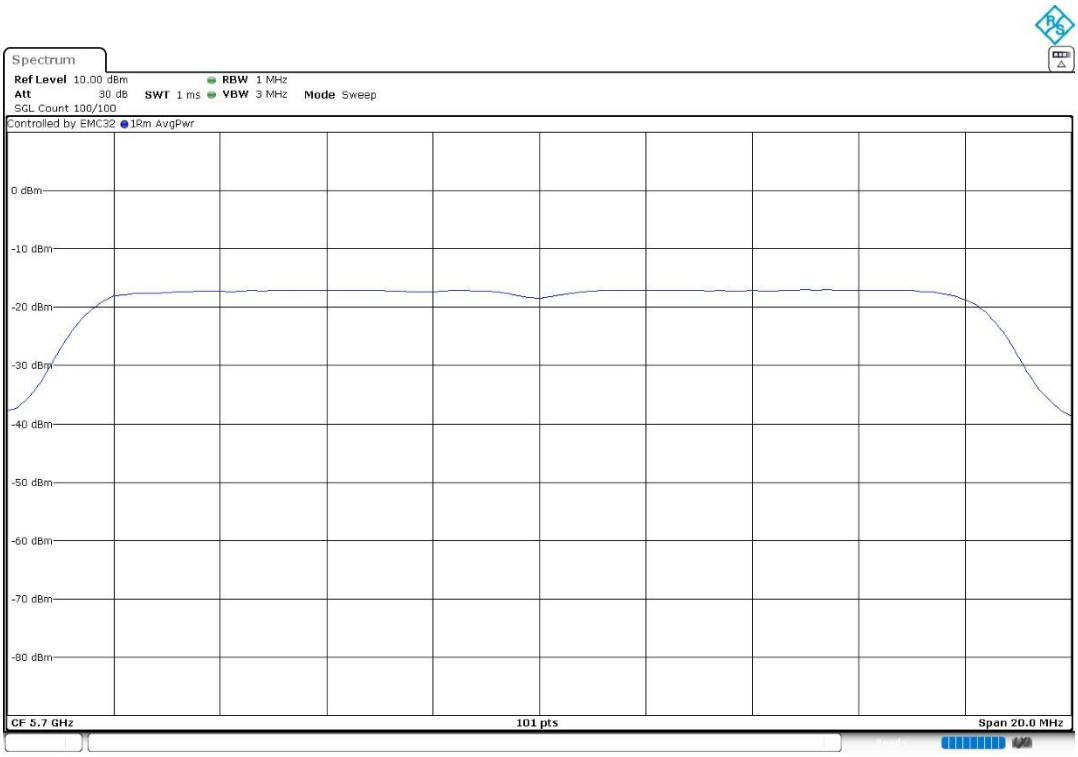
- Middle-1 Channel 116 (5580 MHz):





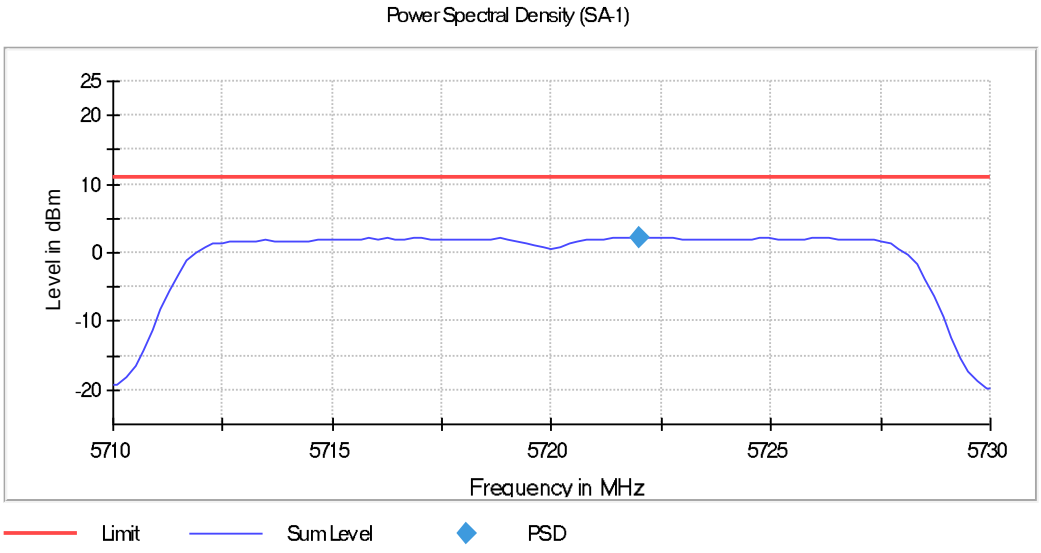
- High Channel 140 (5700 MHz):

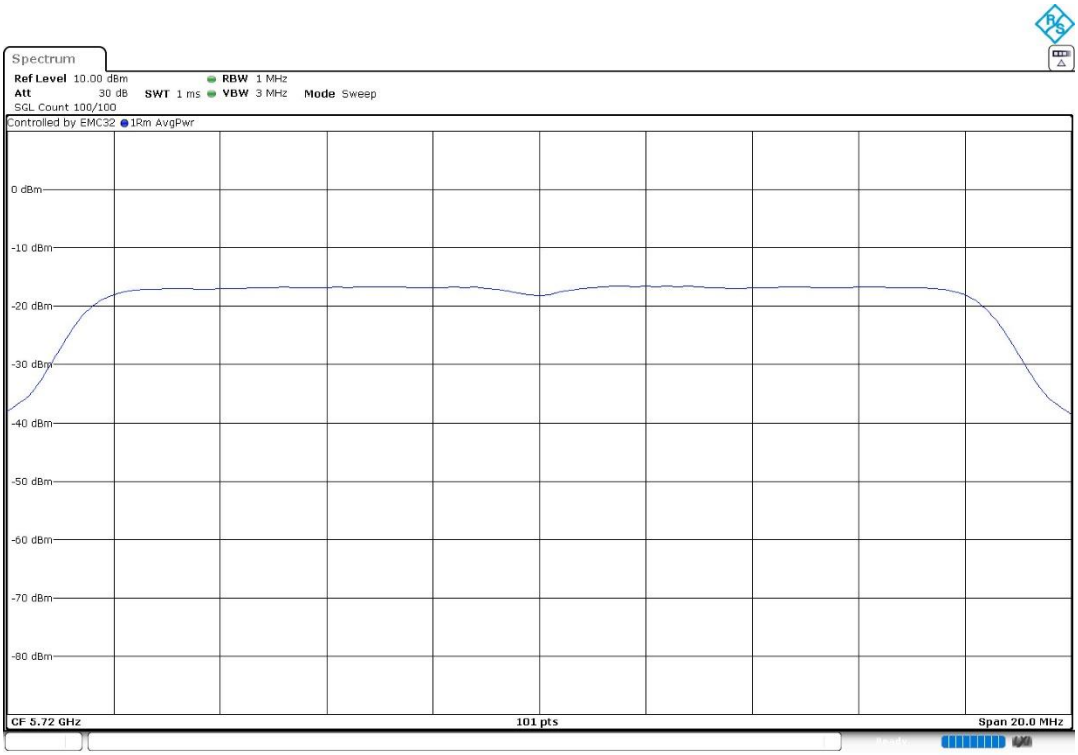




STRADDLE CHANNEL

- Straddle Channel 144 (5720 MHz):

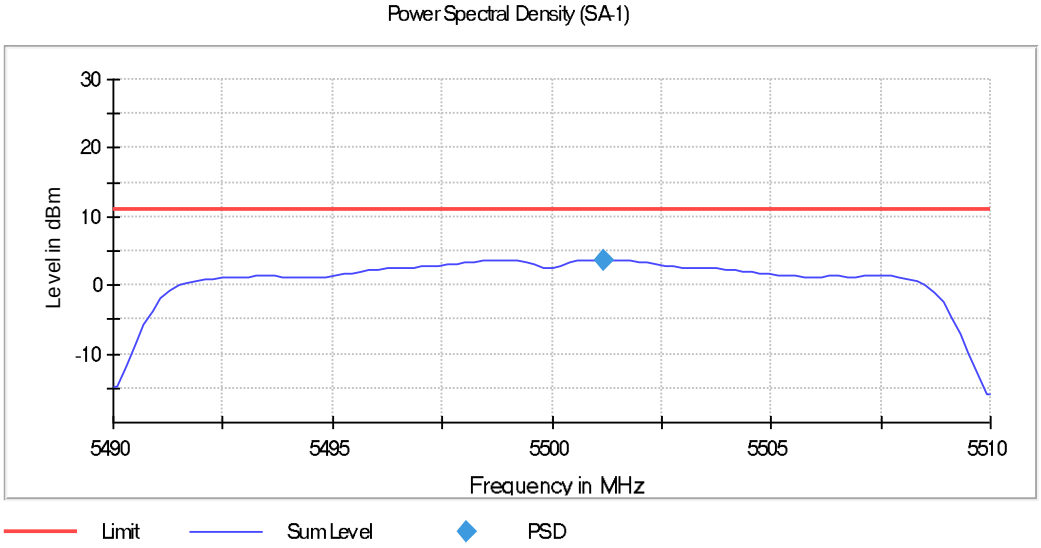


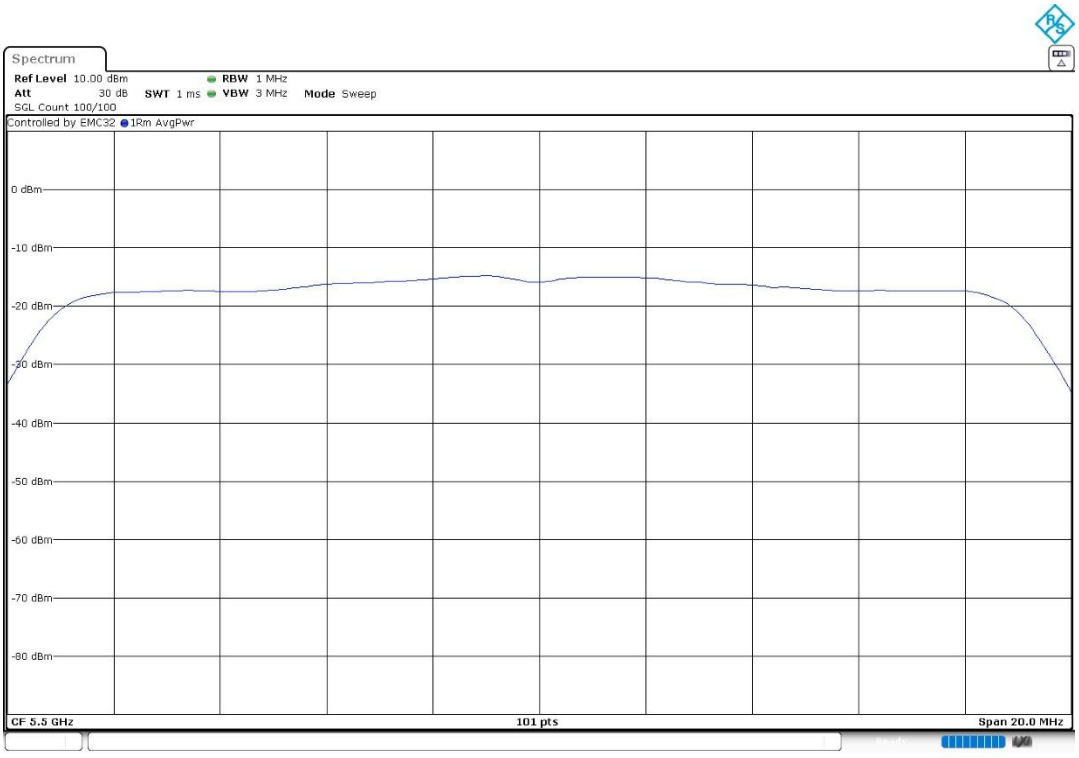


SISO 802.11 n20 (HT20):

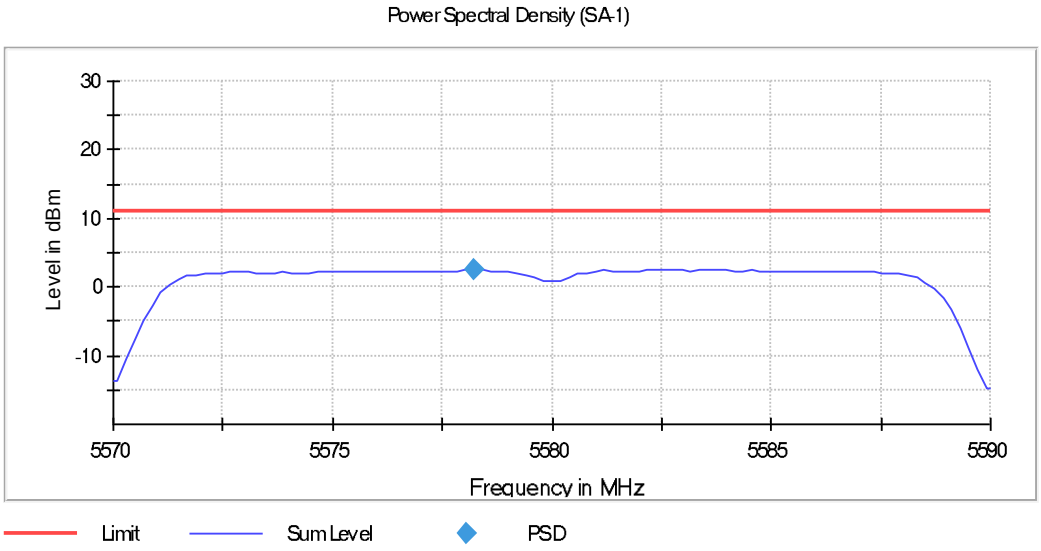
U-NII-2C (5250-5350 MHz)

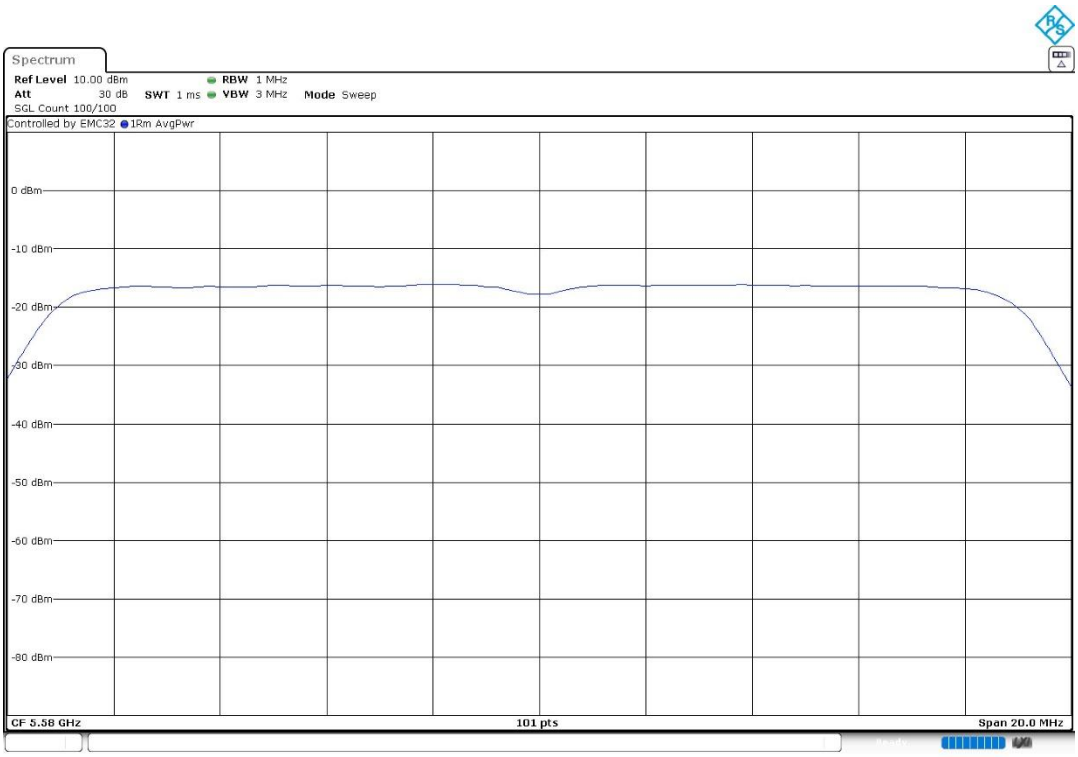
- Low Channel 100 (5500 MHz):



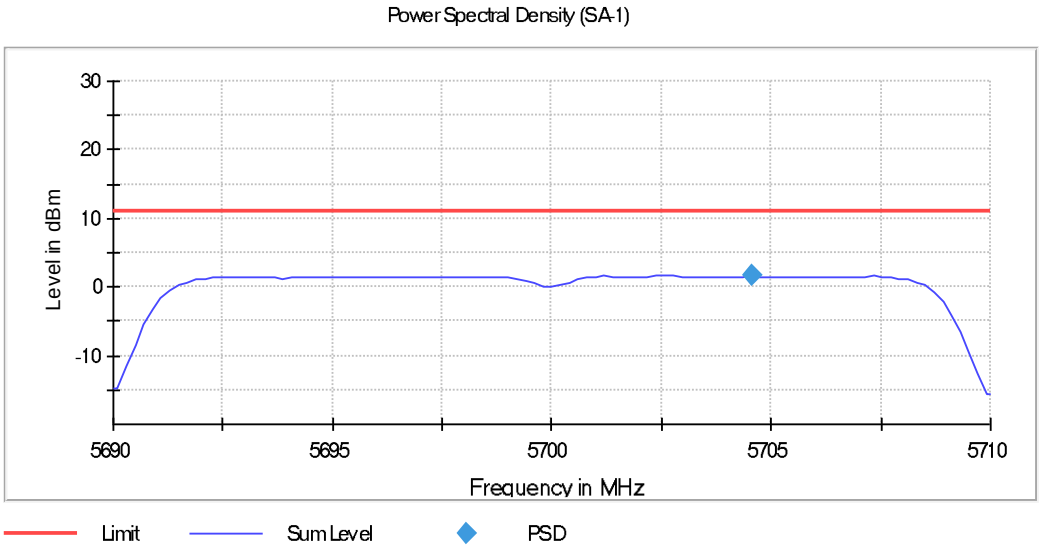


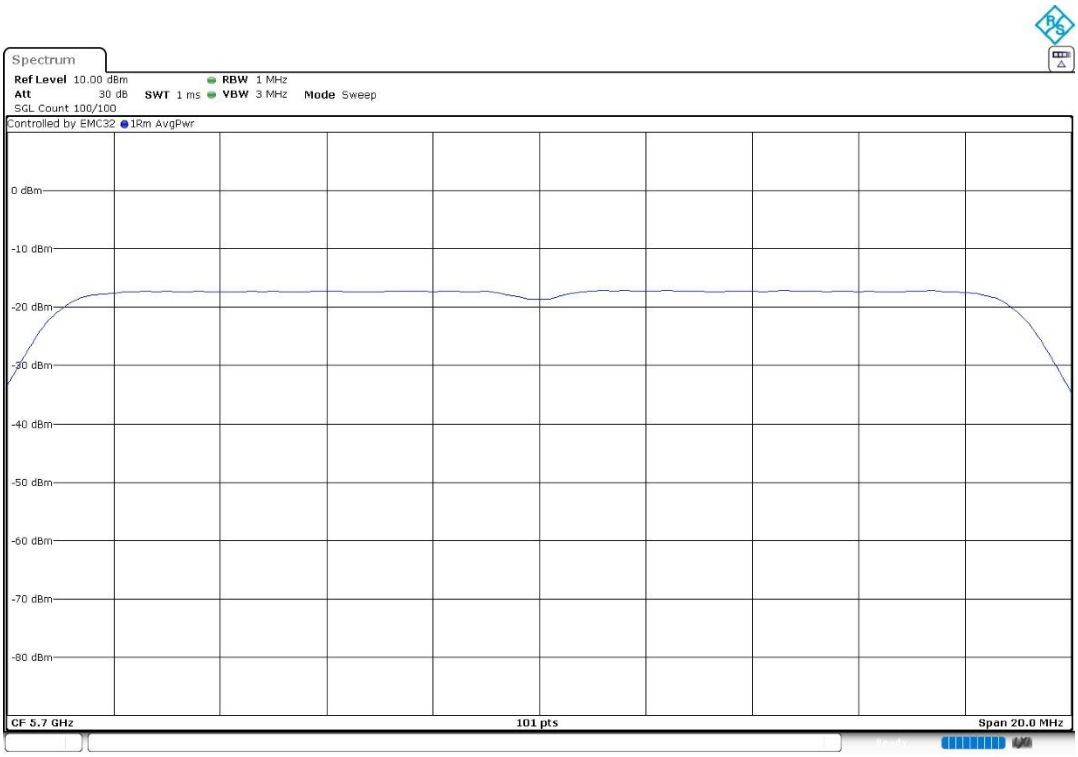
- Middle-1 Channel 116 (5580 MHz):





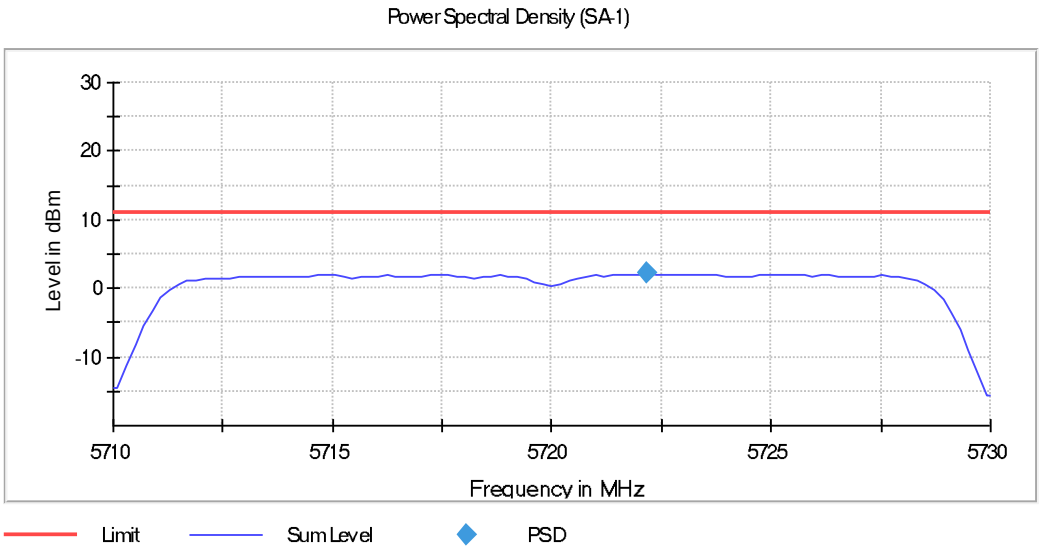
- High Channel 140 (5700 MHz):

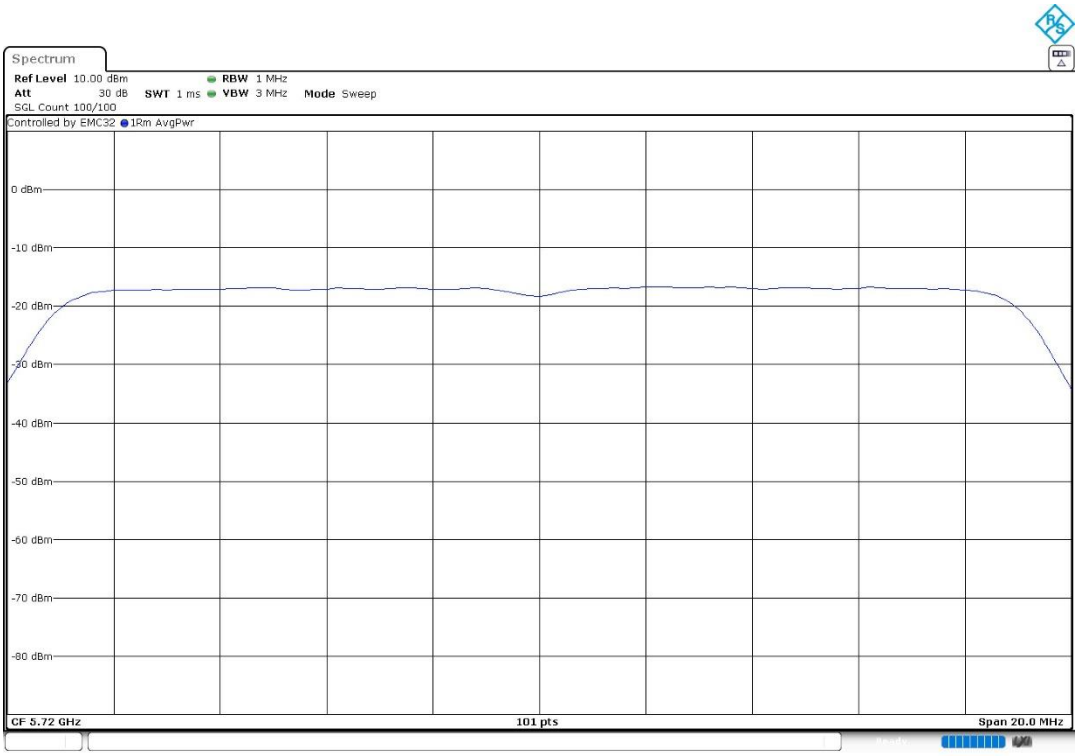




STRADDLE CHANNEL

- Straddle Channel 144 (5720 MHz):

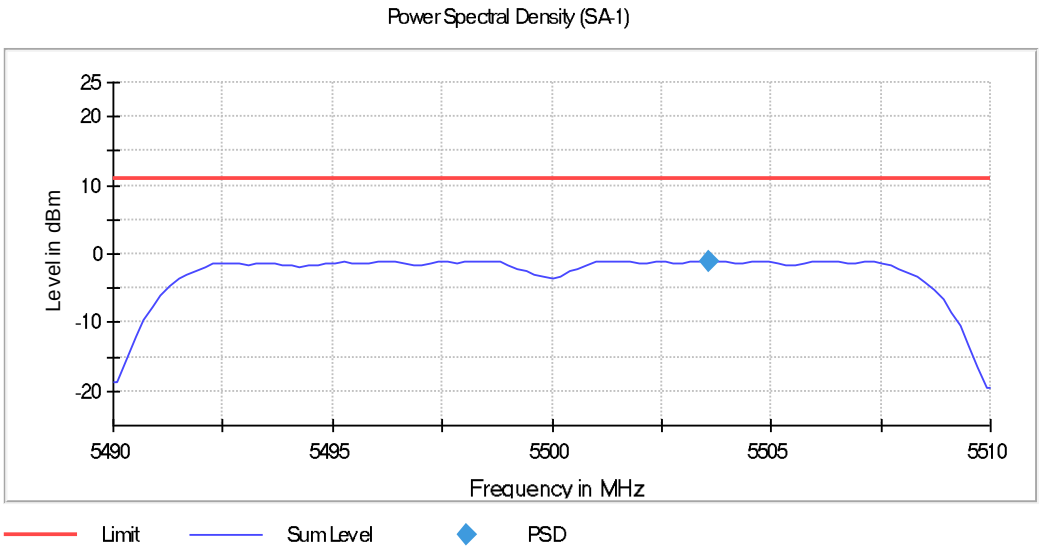


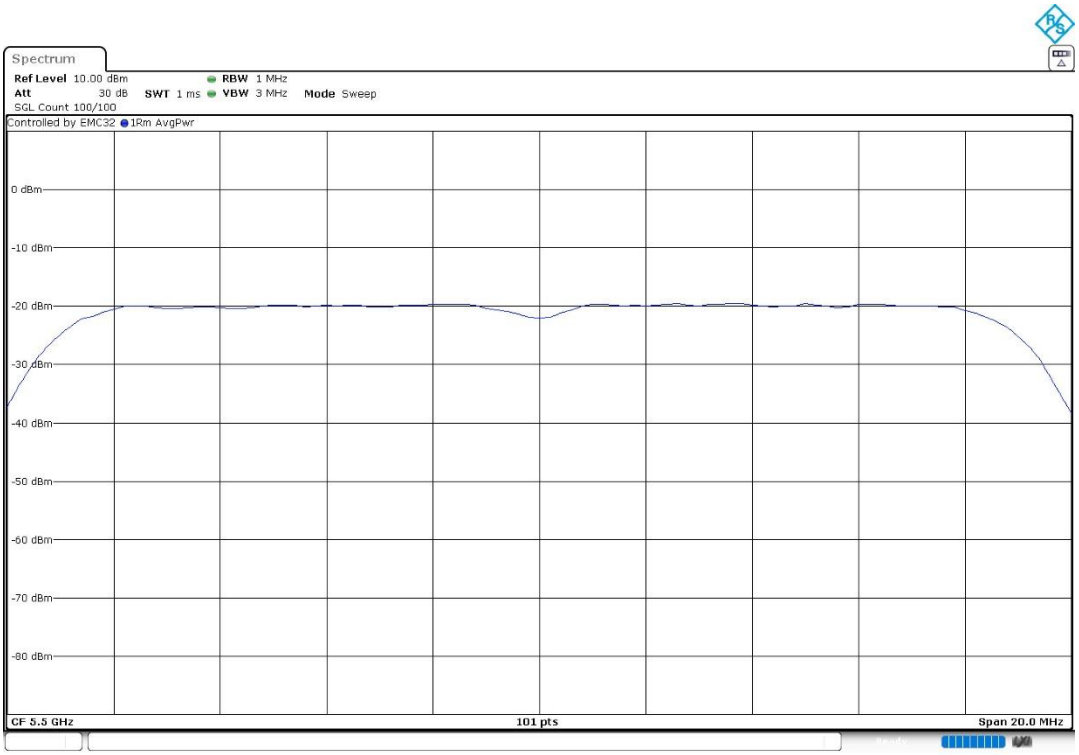


SISO 802.11 ac20 (VHT20):

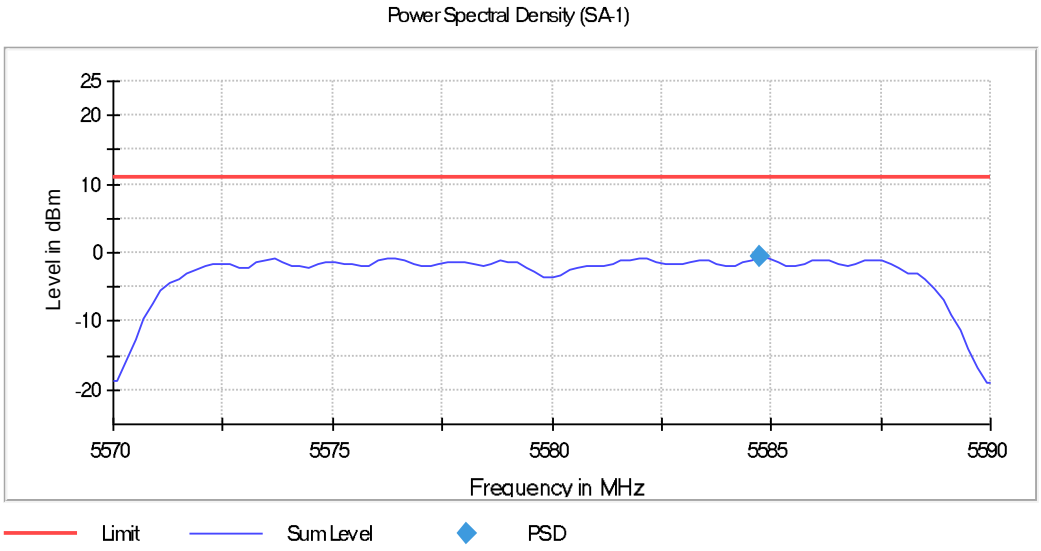
U-NII-2C (5250-5350 MHz)

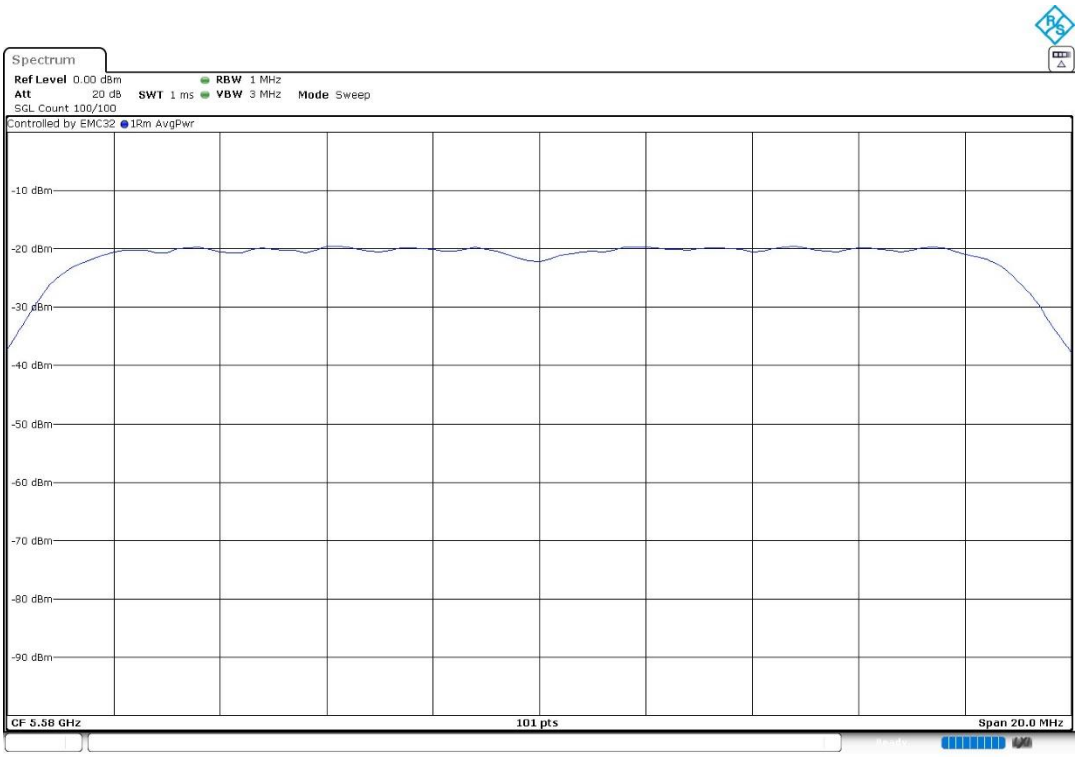
- Low Channel 100 (5500 MHz):



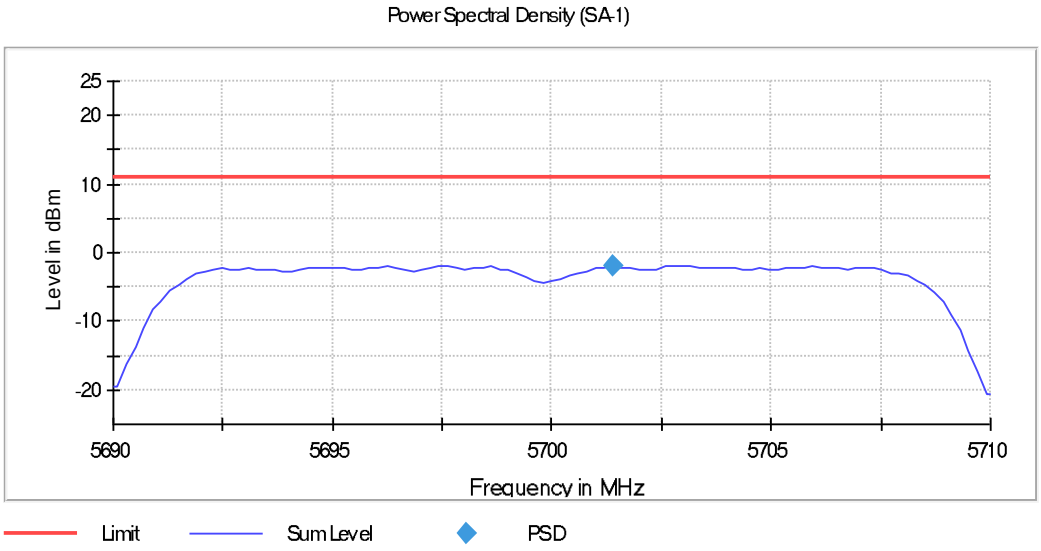


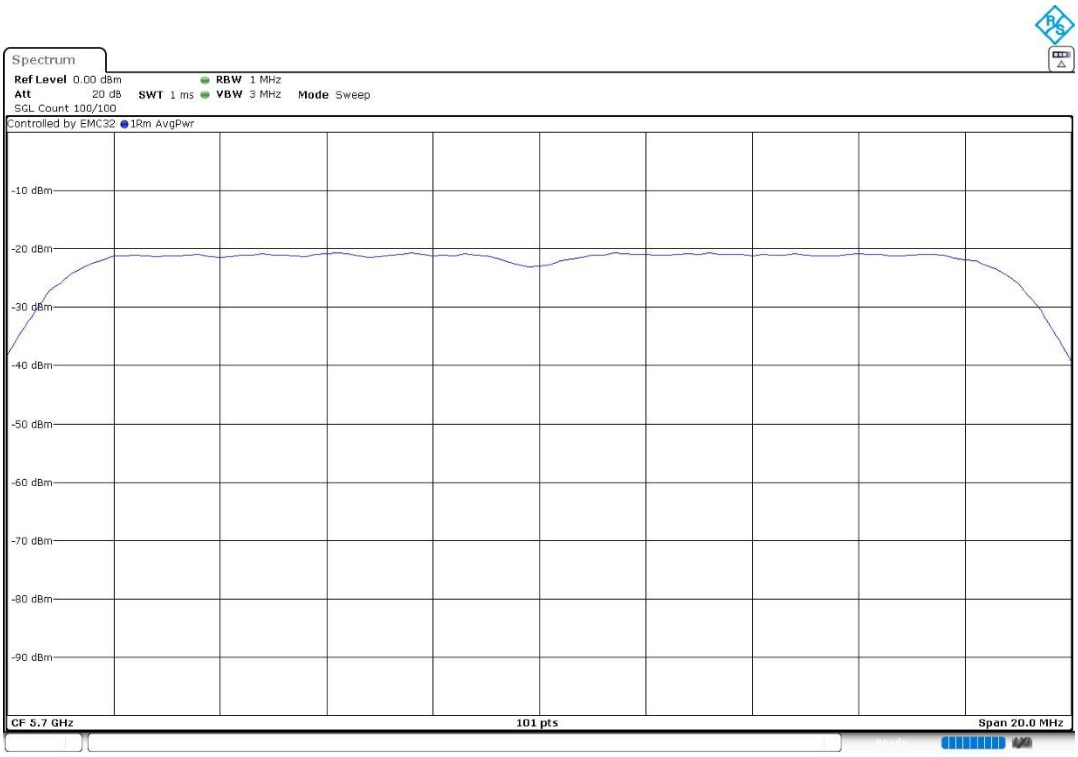
- Middle-1 Channel 116 (5580 MHz):





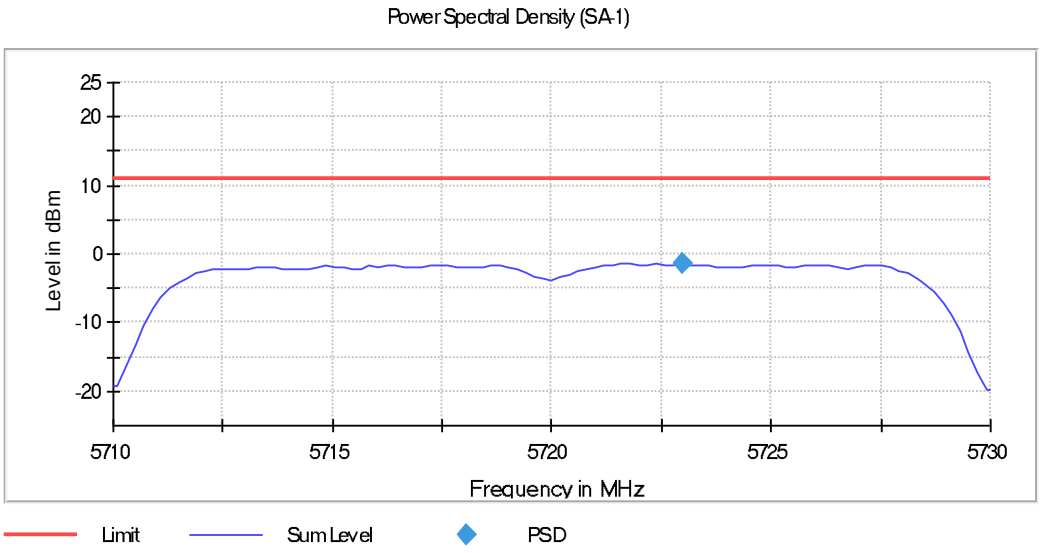
- High Channel 140 (5700 MHz):

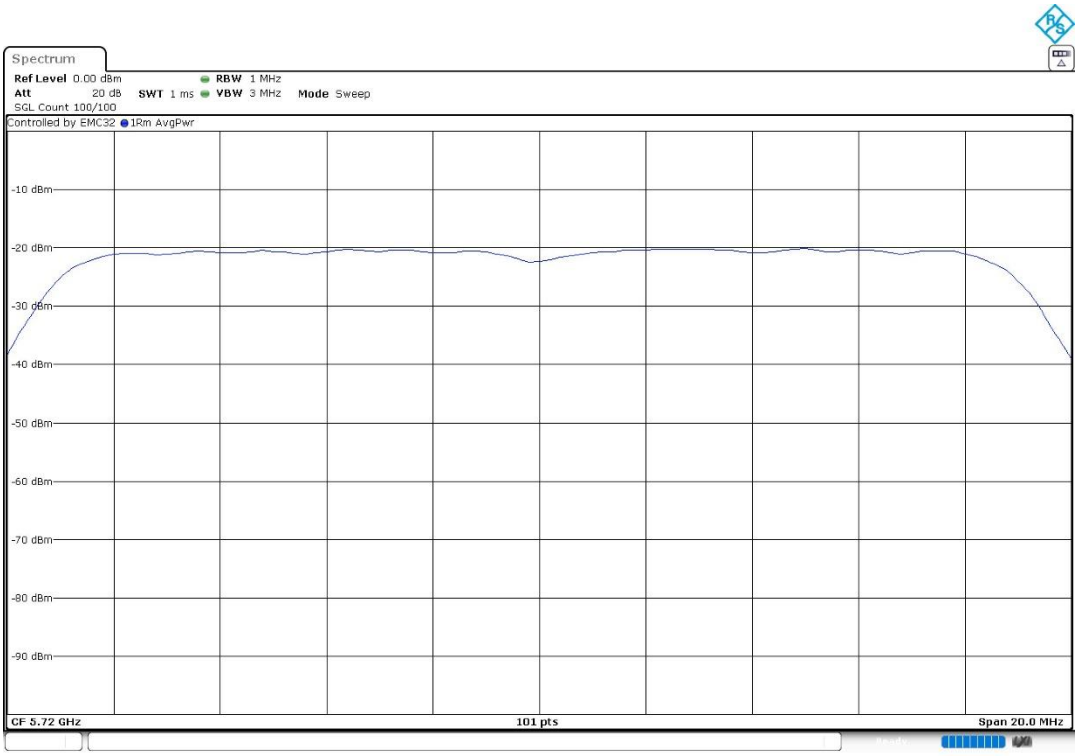




STRADDLE CHANNEL

- Straddle Channel 144 (5720 MHz):

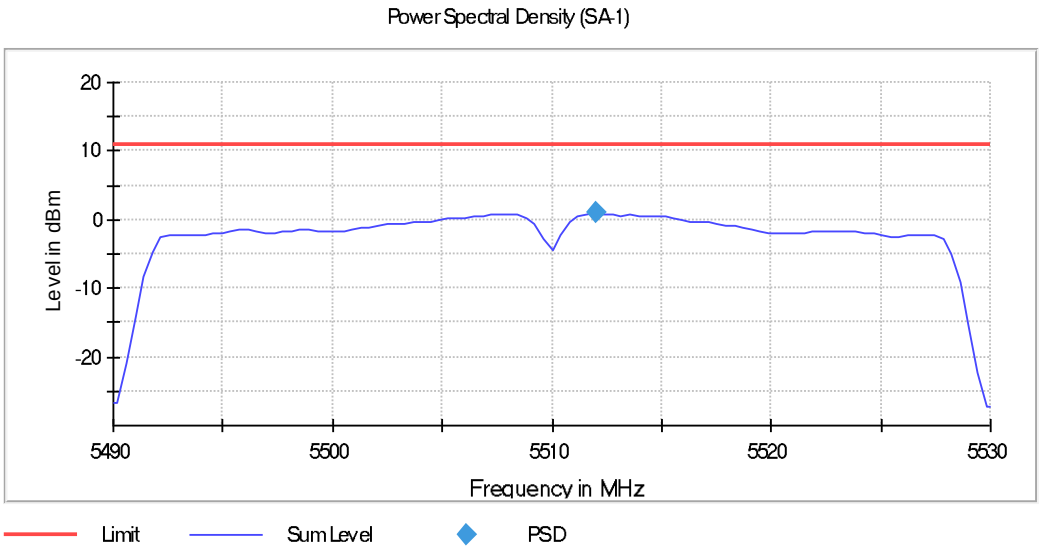


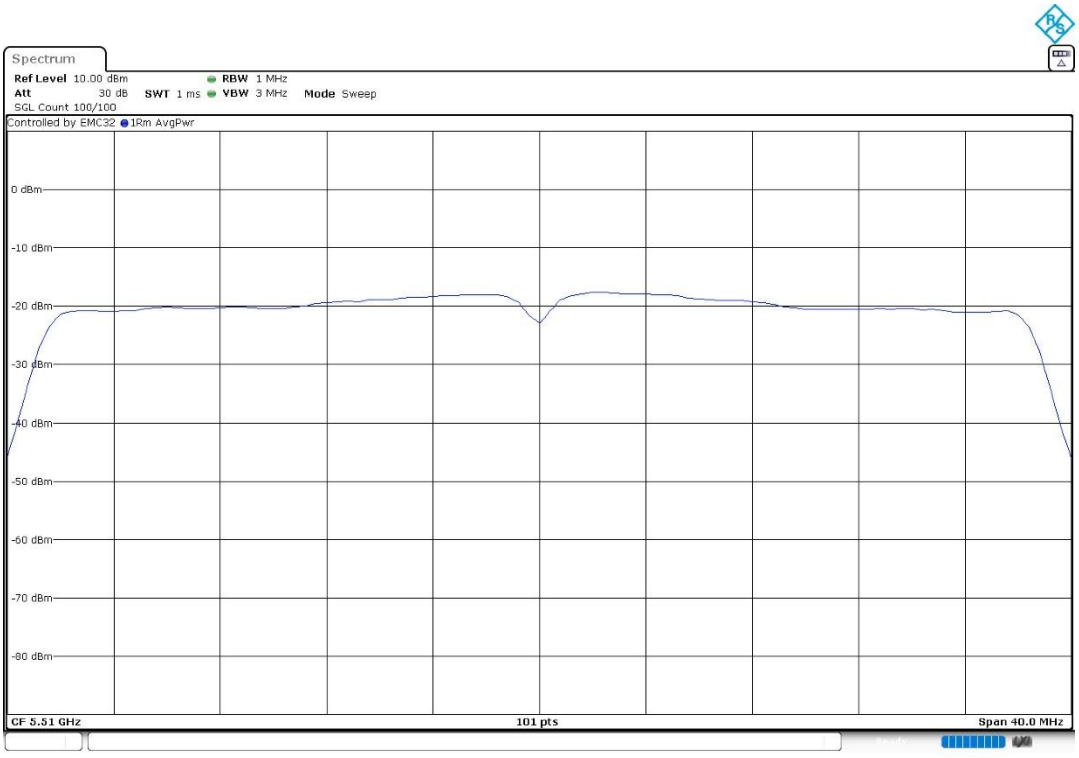


SISO 802.11 n40 (HT40):

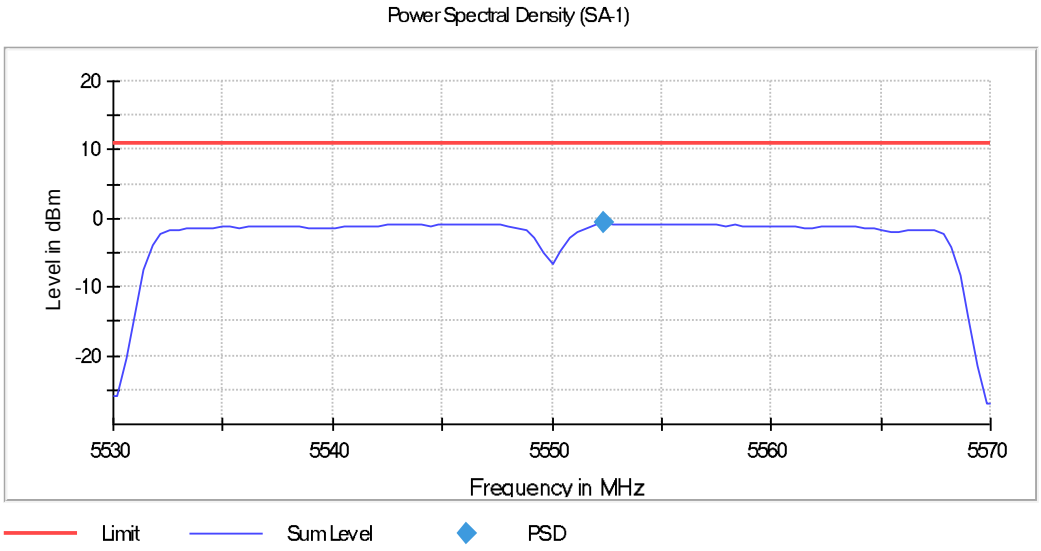
U-NII-2C (5470-5725 MHz)

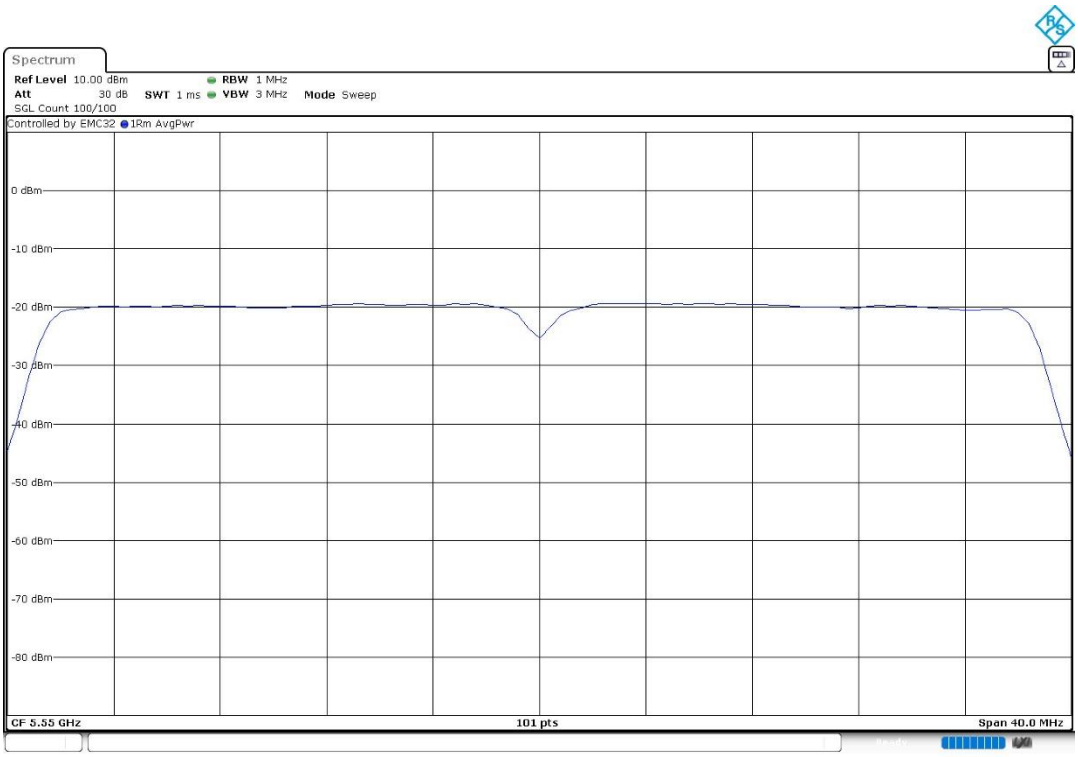
- Low Channel 102 (5510 MHz):



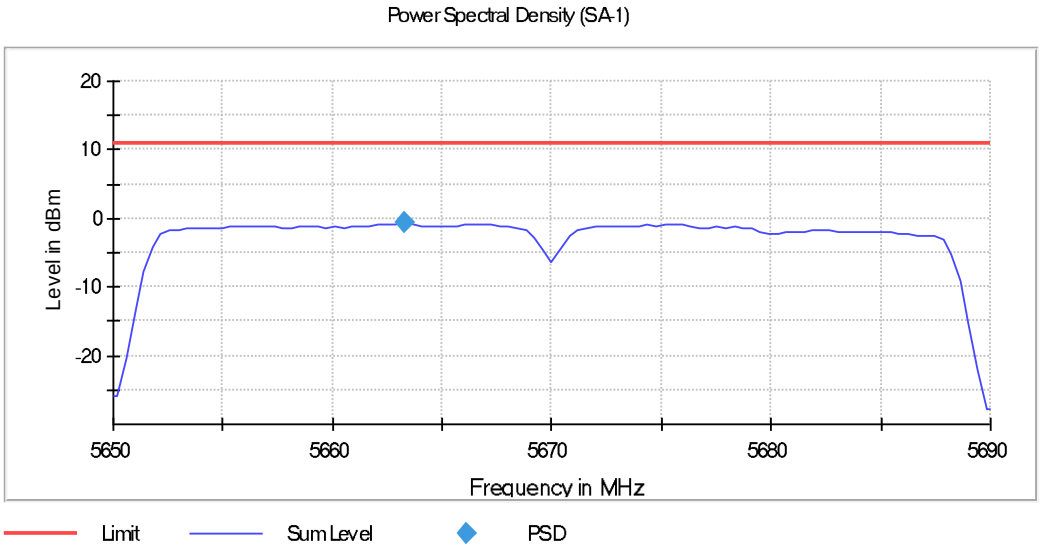


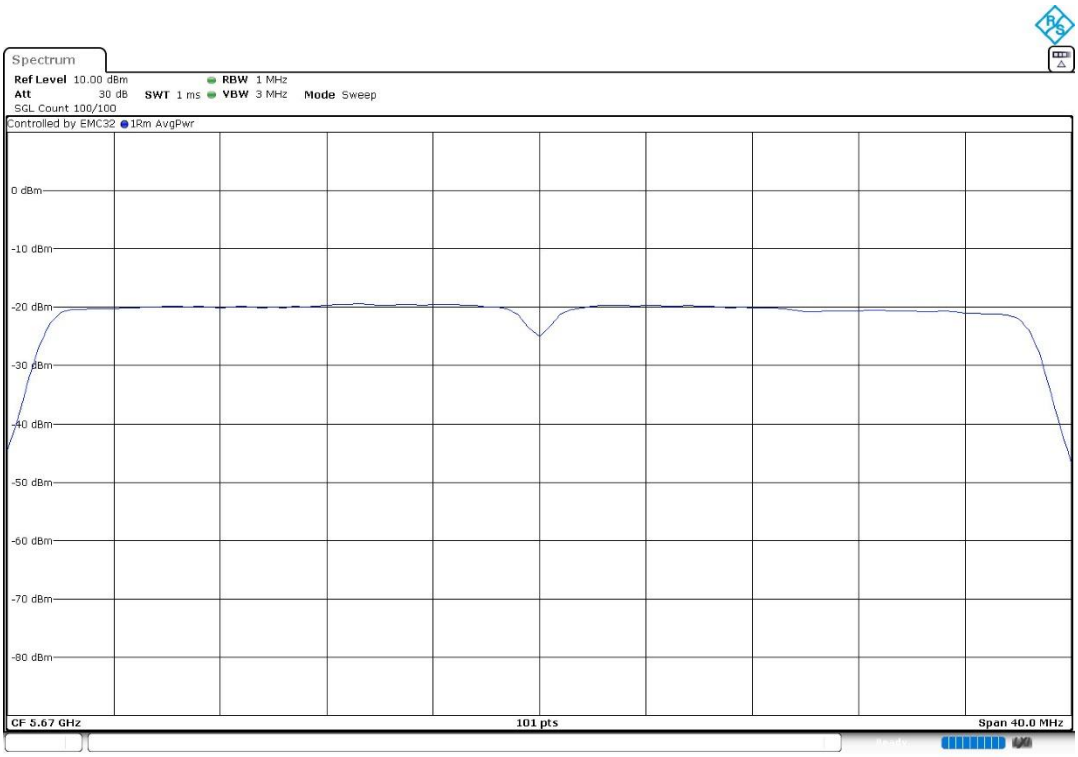
- Low+1 Channel 110 (5550 MHz):





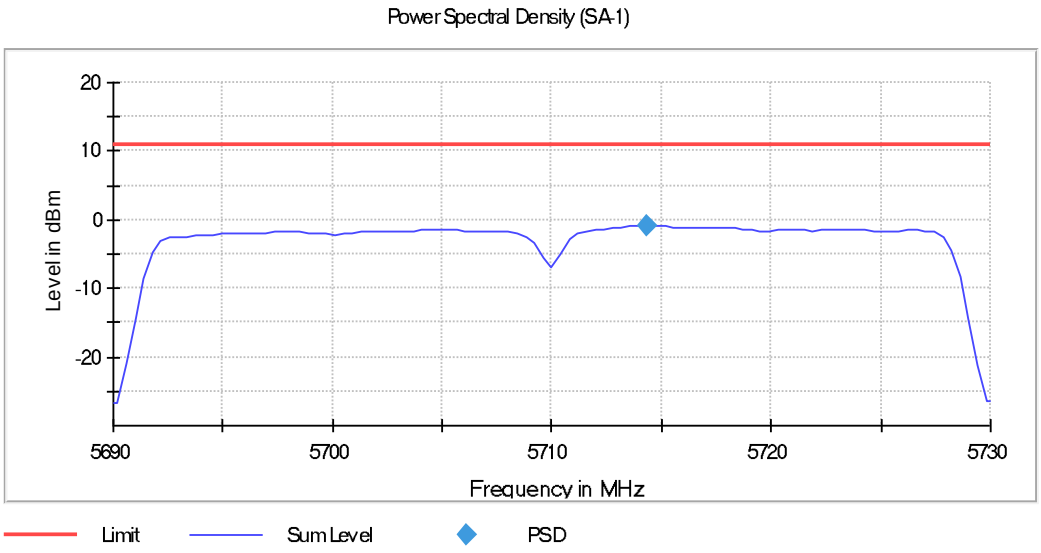
- High Channel 134 (5670 MHz):

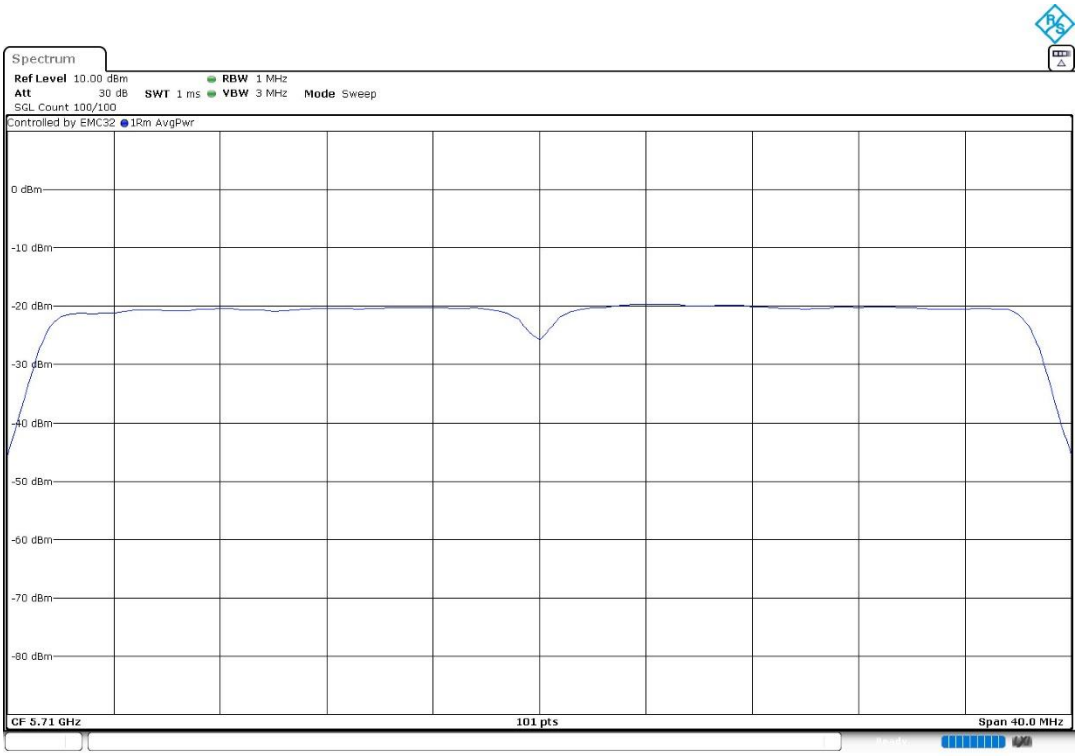




STRADDLE CHANNEL

- Straddle Channel 142 (5710 MHz):

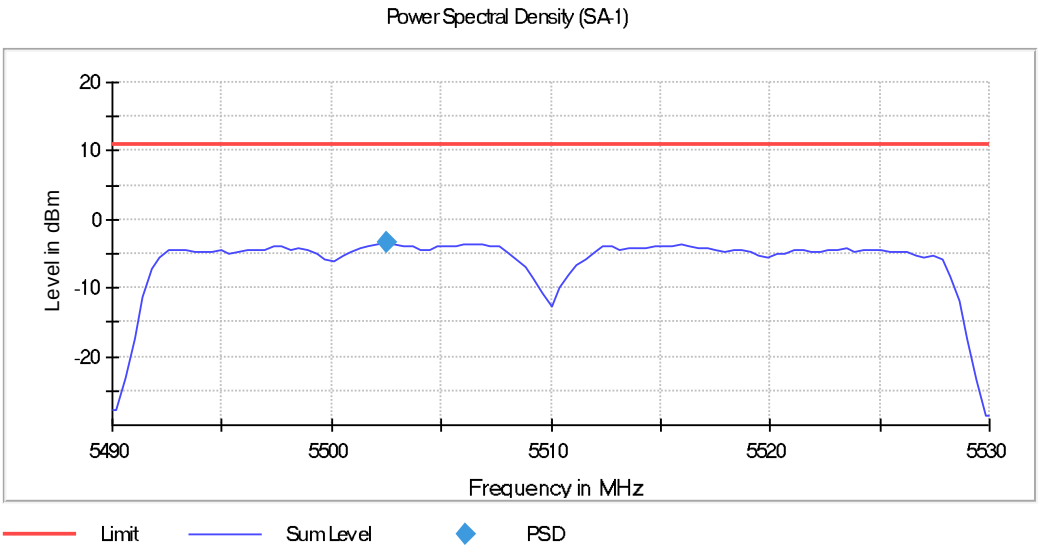


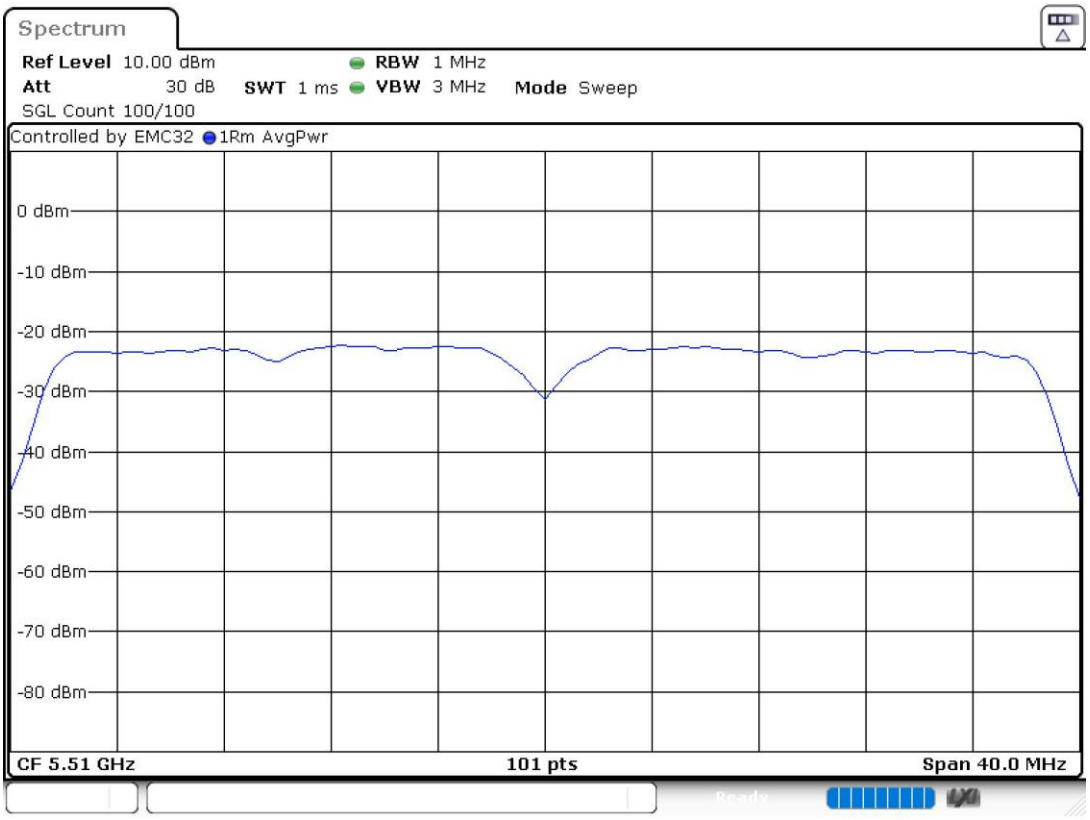


SISO 802.11 ac40 (VHT40):

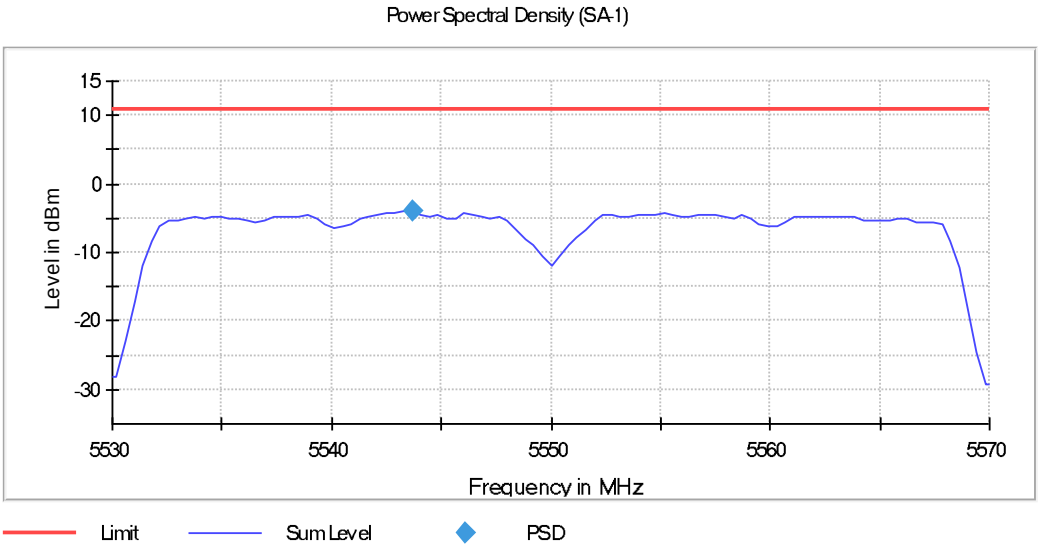
U-NII-2C (5470-5725 MHz)

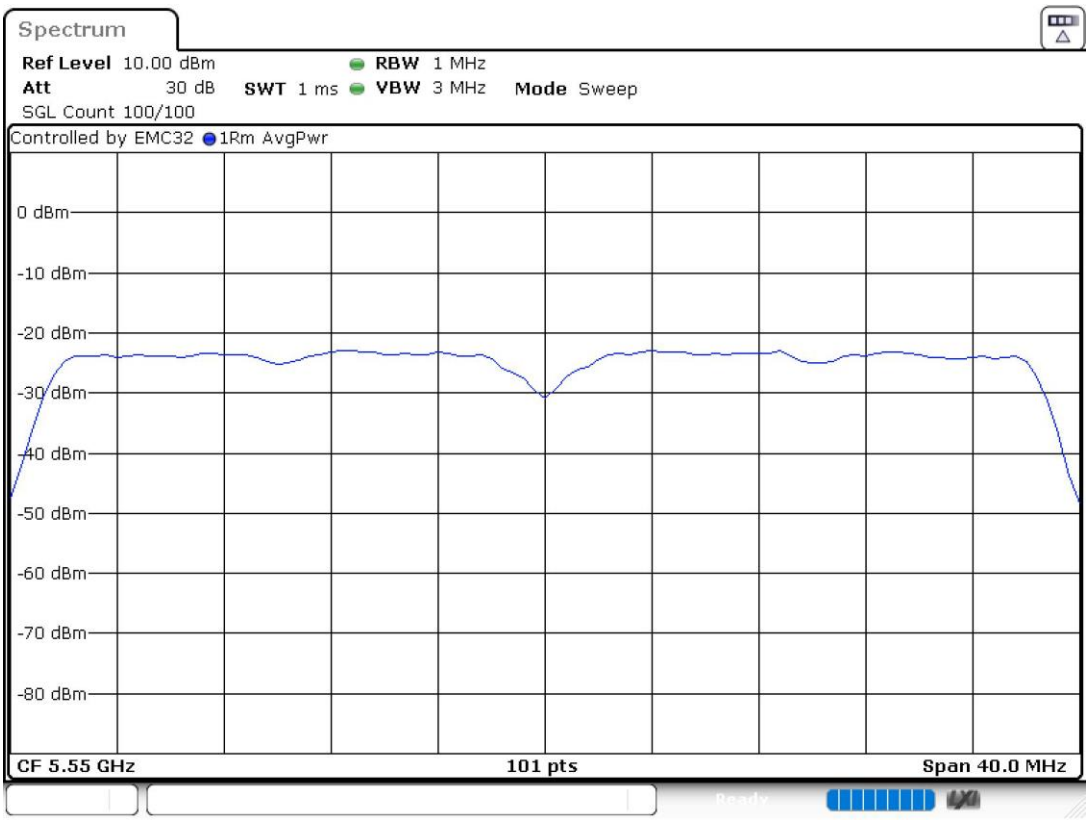
- Low Channel 102 (5510 MHz):



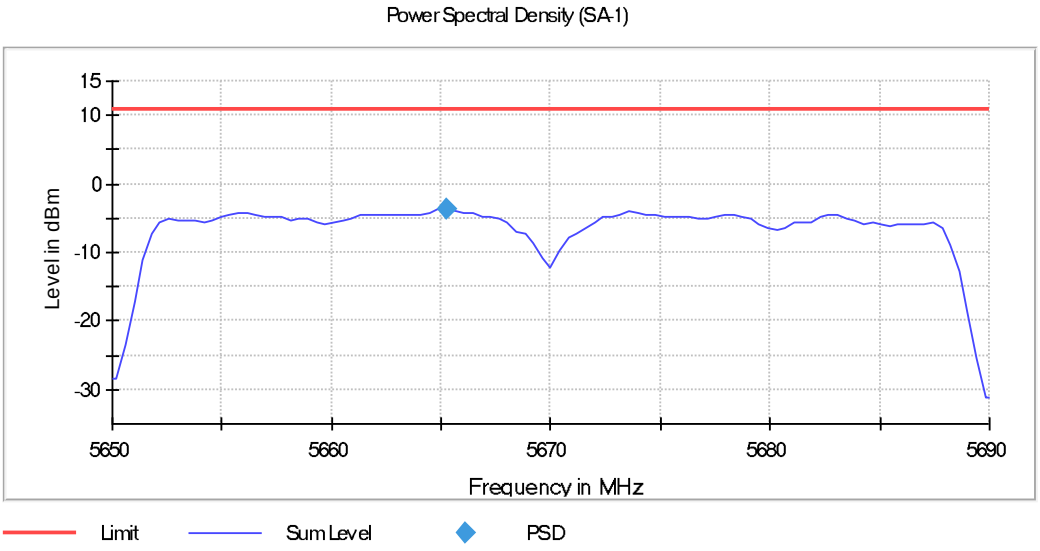


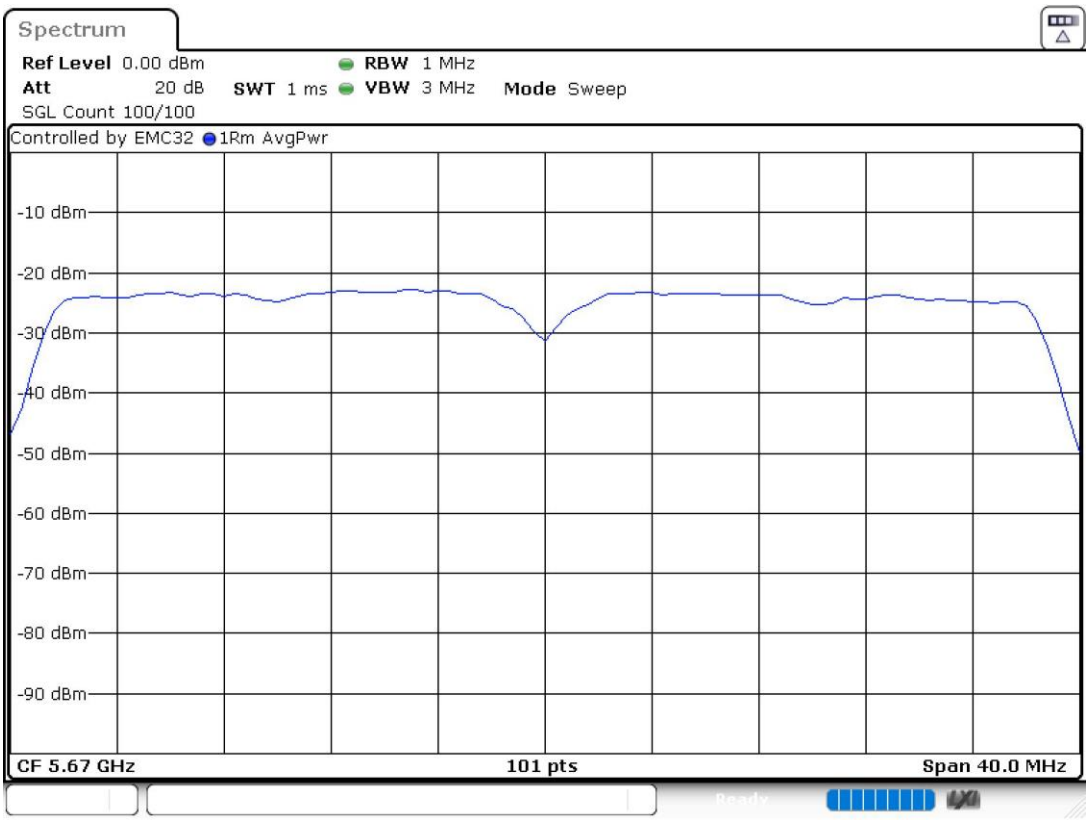
- Low+1 Channel 110 (5550 MHz):





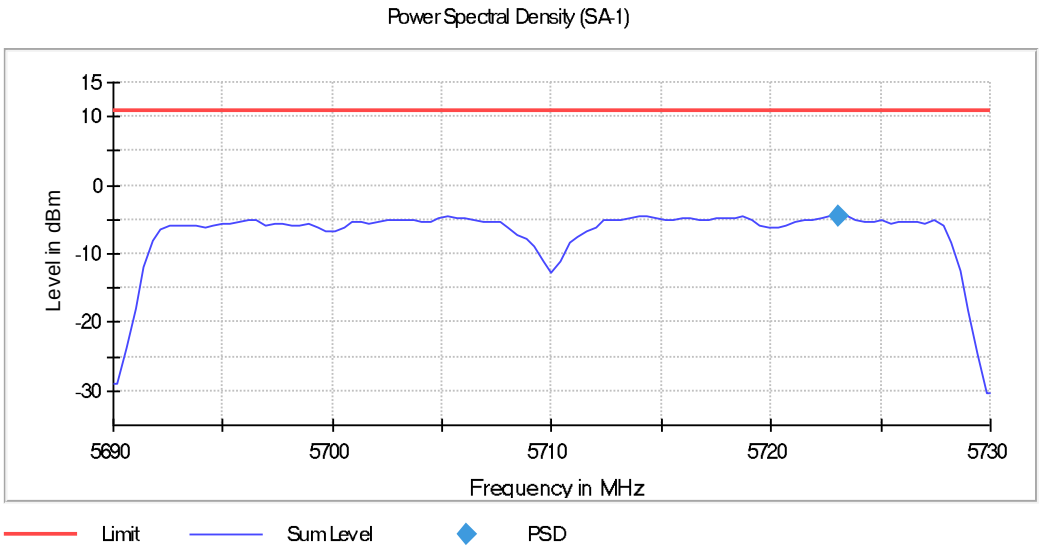
- High Channel 134 (5670 MHz):

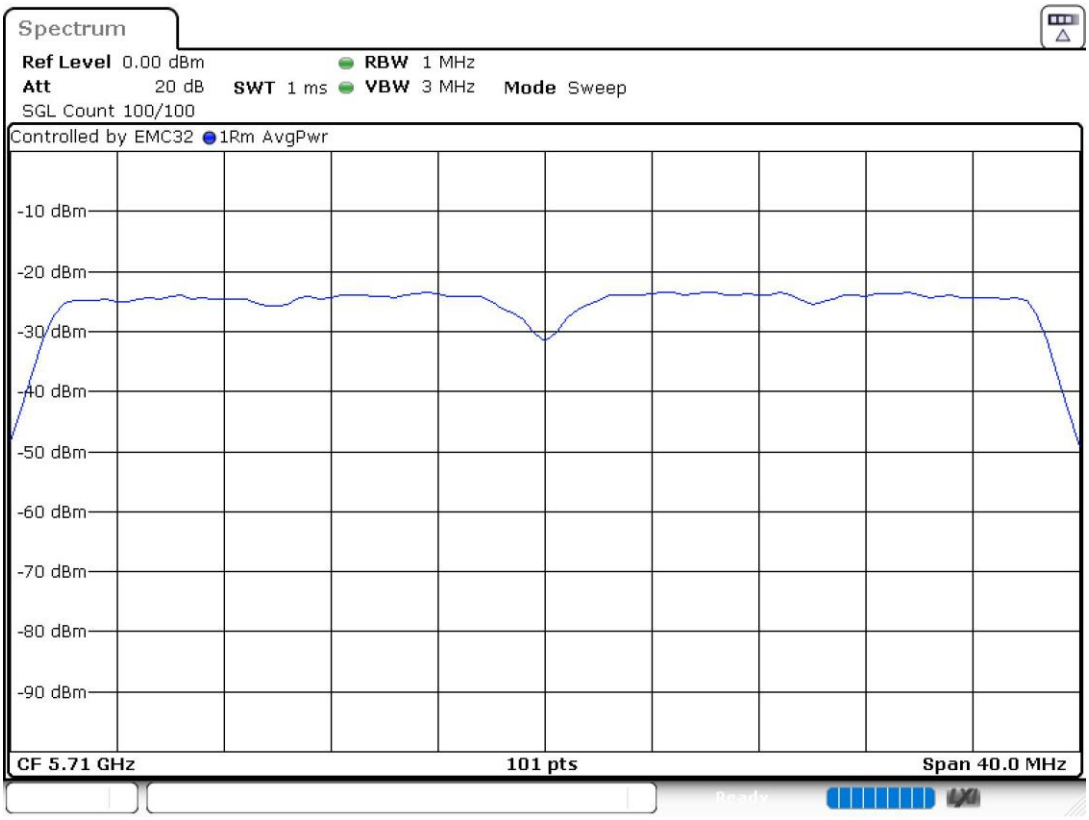




STRADDLE CHANNEL

- Straddle Channel 142 (5710 MHz):

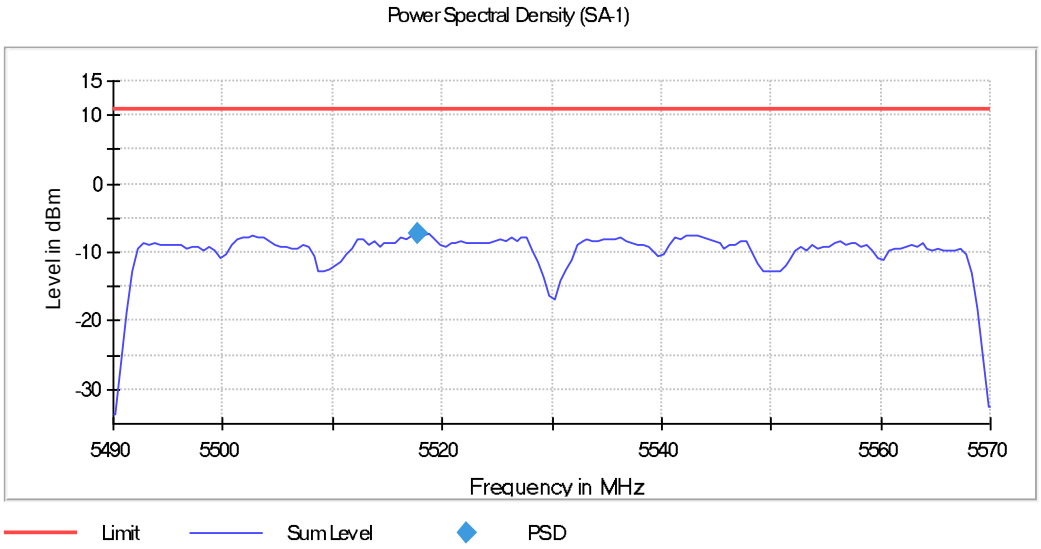


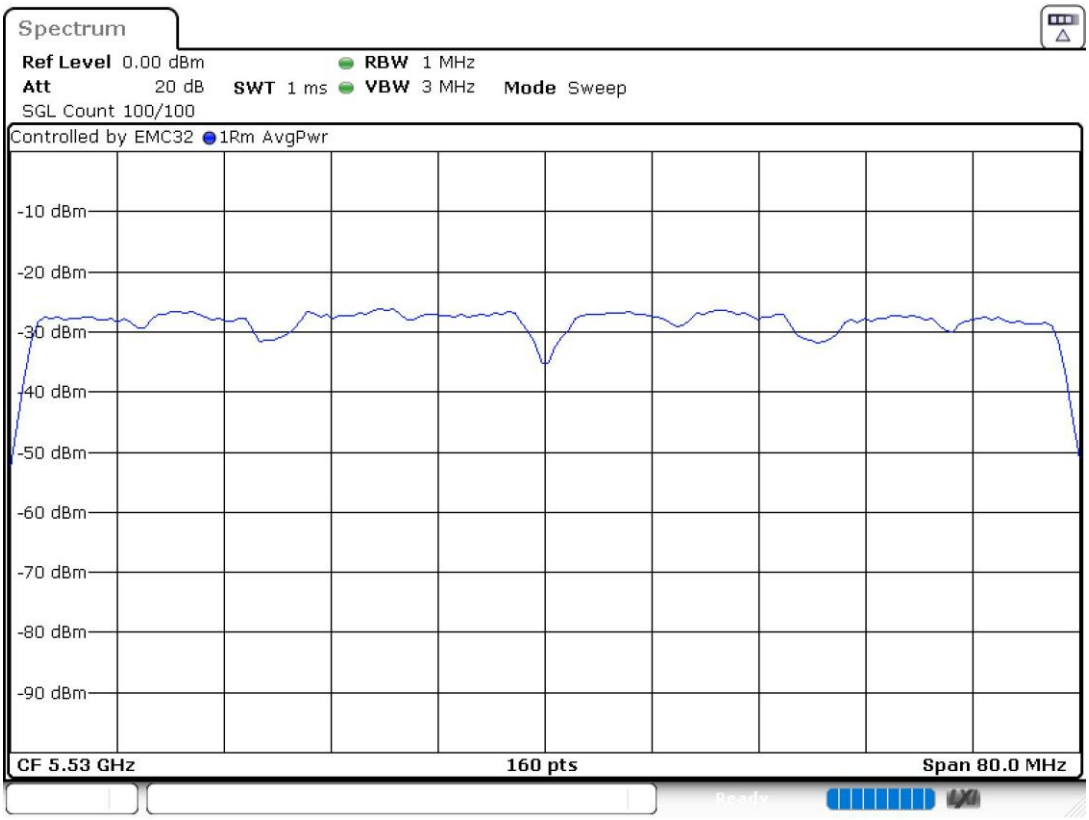


SISO 802.11 ac80 (VHT80):

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

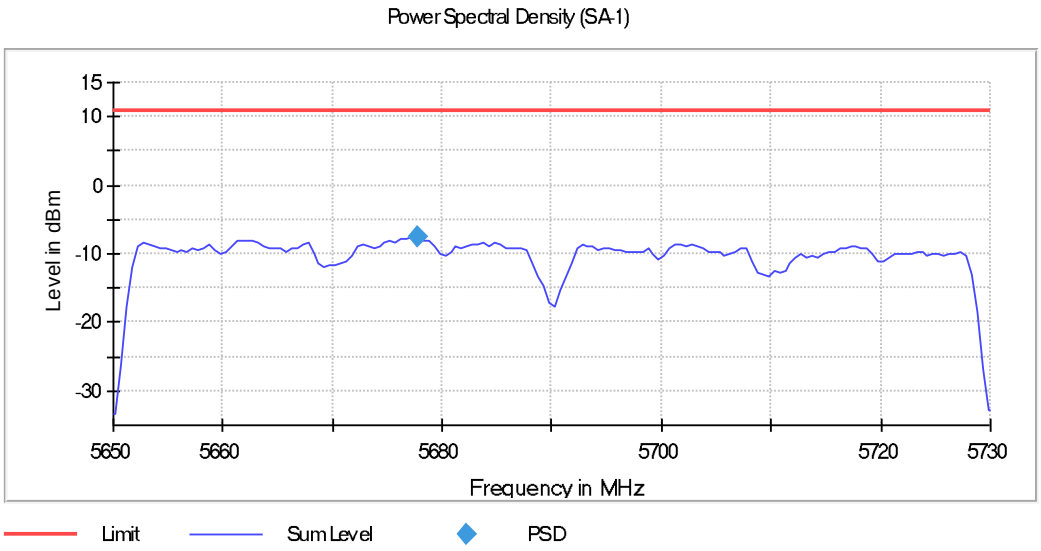
- Low Channel 106 (5530 MHz):

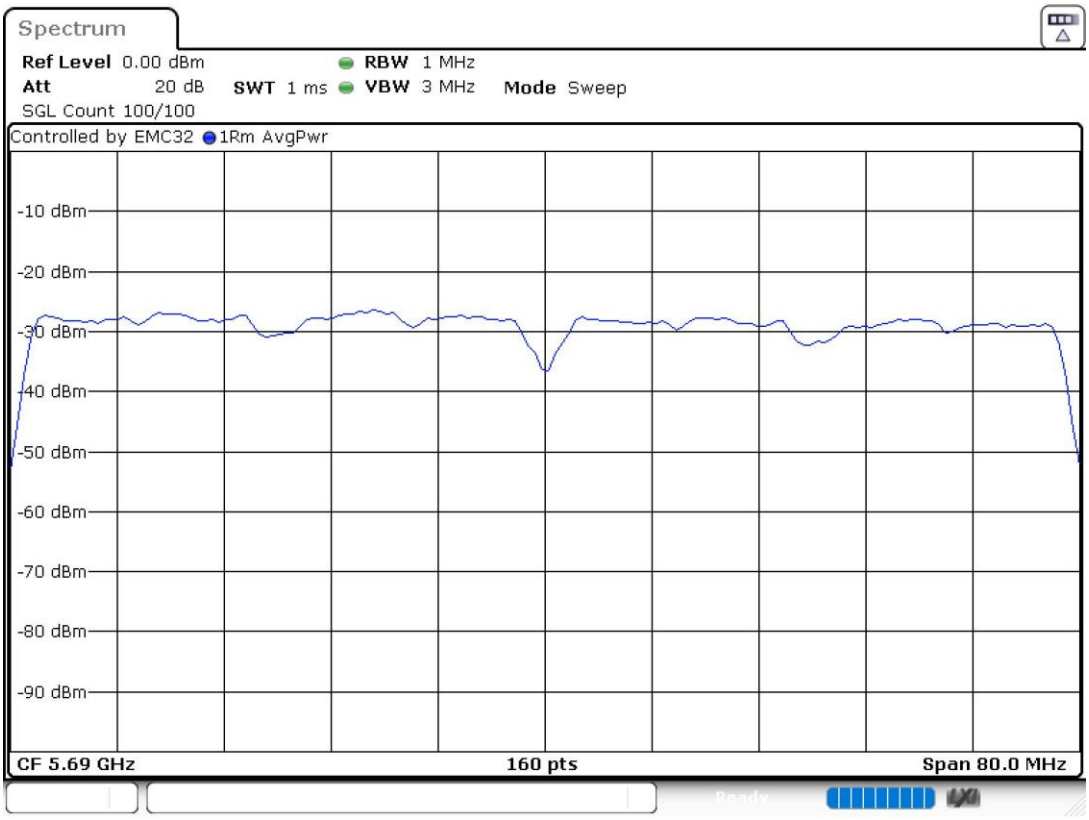




STRADDLE CHANNEL

- Straddle Channel 138 (5690 MHz):





MIMO worst-case:

- Preliminary tests determined the MIMO worst-case: Chain 0+1.

MIMO 802.11 n20 (HT20):

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

Channels	Low Channel 100 (5500 MHz)	Middle-1 Channel 116 (5580 MHz)	High Channel 140 (5700 MHz)
Maximum Corrected Conducted PSD (dBm)	4.25	3.19	2.52

Straddle Channel (5720 MHz):

Channel	Straddle Channel 144 (5720 MHz)
Maximum Corrected Conducted PSD (dBm)	2.75

MIMO 802.11 ac20 (VHT20):

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

Channels	Low Channel 100 (5500 MHz)	Middle-1 Channel 116 (5580 MHz)	High Channel 140 (5700 MHz)
Maximum Corrected Conducted PSD (dBm)	0.80	-0.76	-1.09

Straddle Channel (5720 MHz):

Channel	Straddle Channel 144 (5720 MHz)
Maximum Corrected Conducted PSD (dBm)	-0.65

MIMO 802.11 n40 (HT40):

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

Channels	Low Channel 102 (5510 MHz)	Low+1 Channel 110 (5550 MHz)	High Channel 134 (5670 MHz)
Maximum Corrected Conducted PSD (dBm)	0.96	-1.89	-2.00

Straddle Channel (5710 MHz):

Channel	Straddle Channel 142 (5710 MHz)
Maximum Corrected Conducted PSD (dBm)	-1.85

MIMO 802.11 ac40 (VHT40):

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

Channels	Low Channel 102 (5510 MHz)	Low+1 Channel 110 (5550 MHz)	High Channel 134 (5670 MHz)
Maximum Corrected Conducted PSD (dBm)	-3.60	-3.89	-4.05

Straddle Channel (5710 MHz):

Channel	Straddle Channel 142 (5710 MHz)
Maximum Corrected Conducted PSD (dBm)	-3.95

MIMO 802.11 ac80 (VHT80):

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

Channels	Low Channel 106 (5530 MHz)
Maximum Corrected Conducted PSD (dBm)	-6.96

Straddle Channel (5690 MHz):

Channel	Straddle Channel 138 (5690 MHz)
Maximum Corrected Conducted PSD (dBm)	-6.94

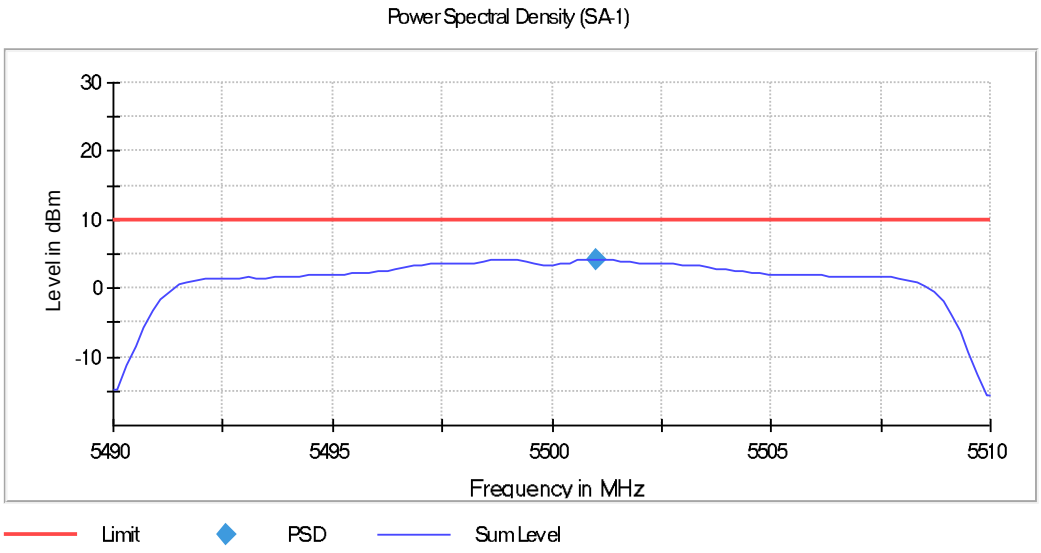
Verdict: PASS

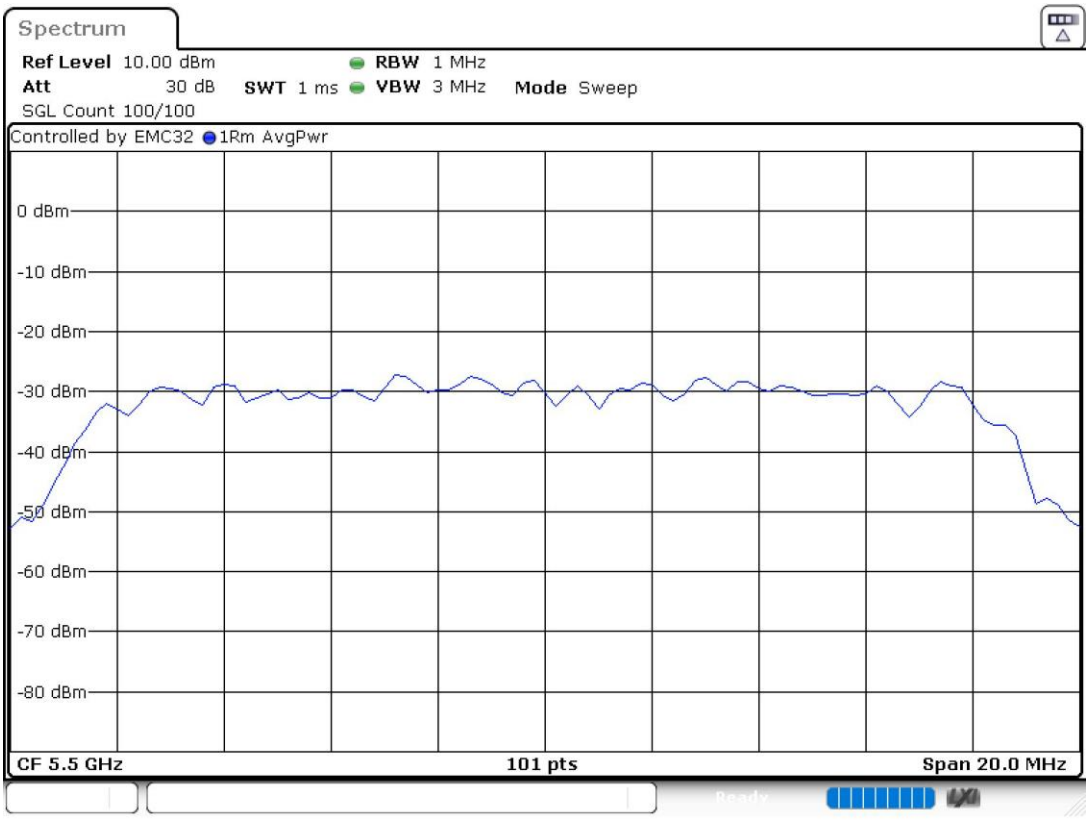
MIMO worst-case:

MIMO 802.11 n20 (HT20):

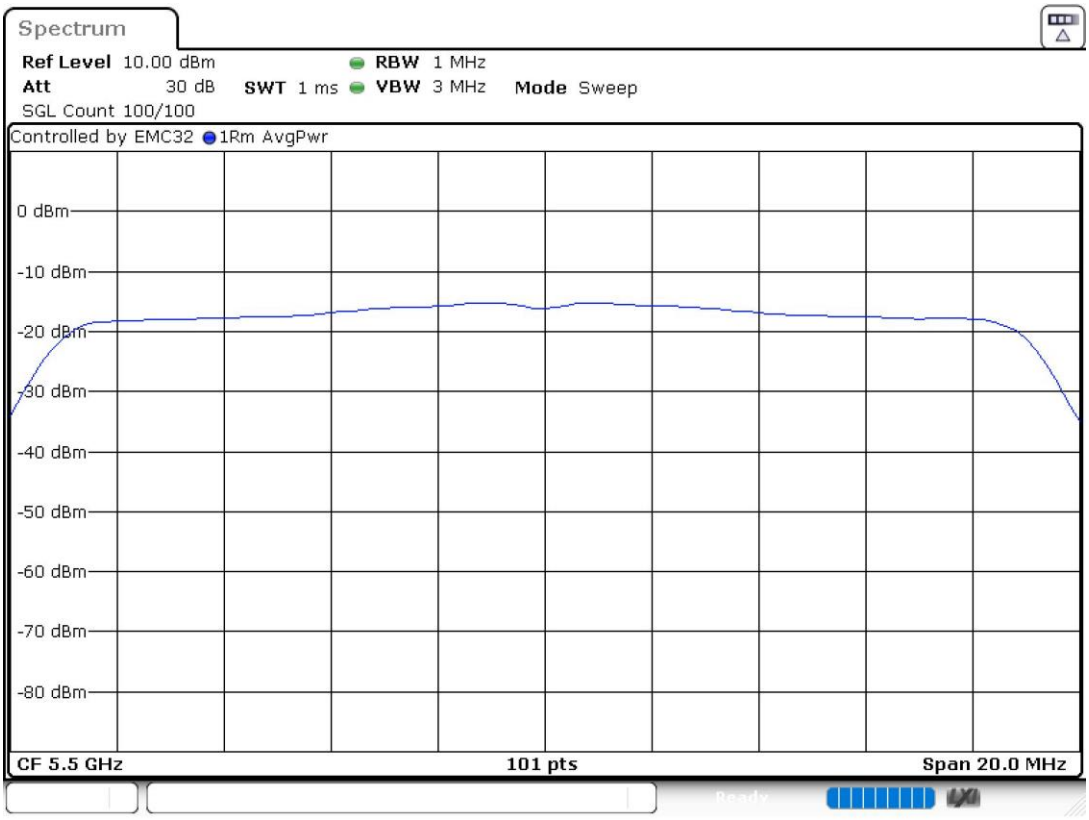
U-NII-2C (5250-5350 MHz)

- Low Channel 100 (5500 MHz):



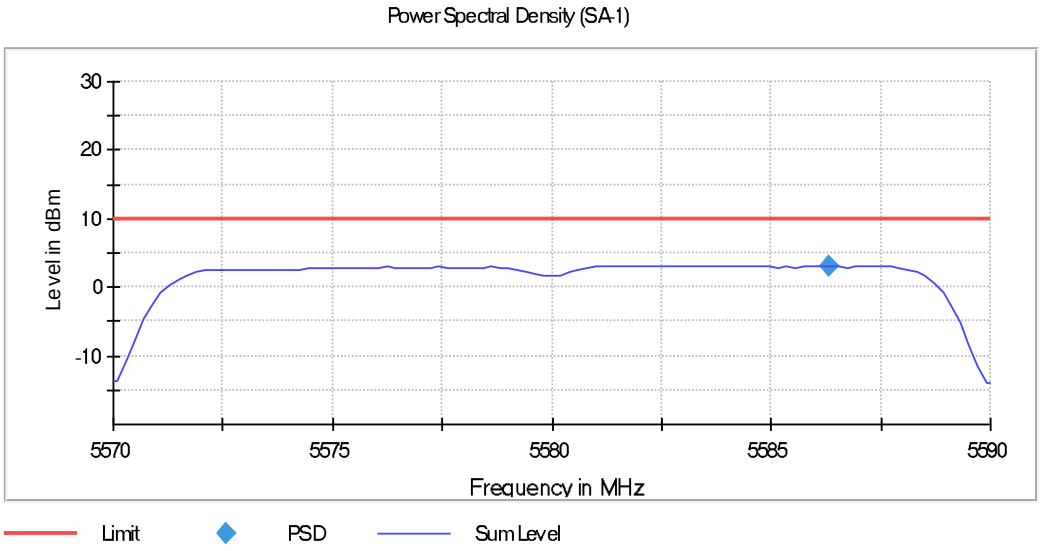


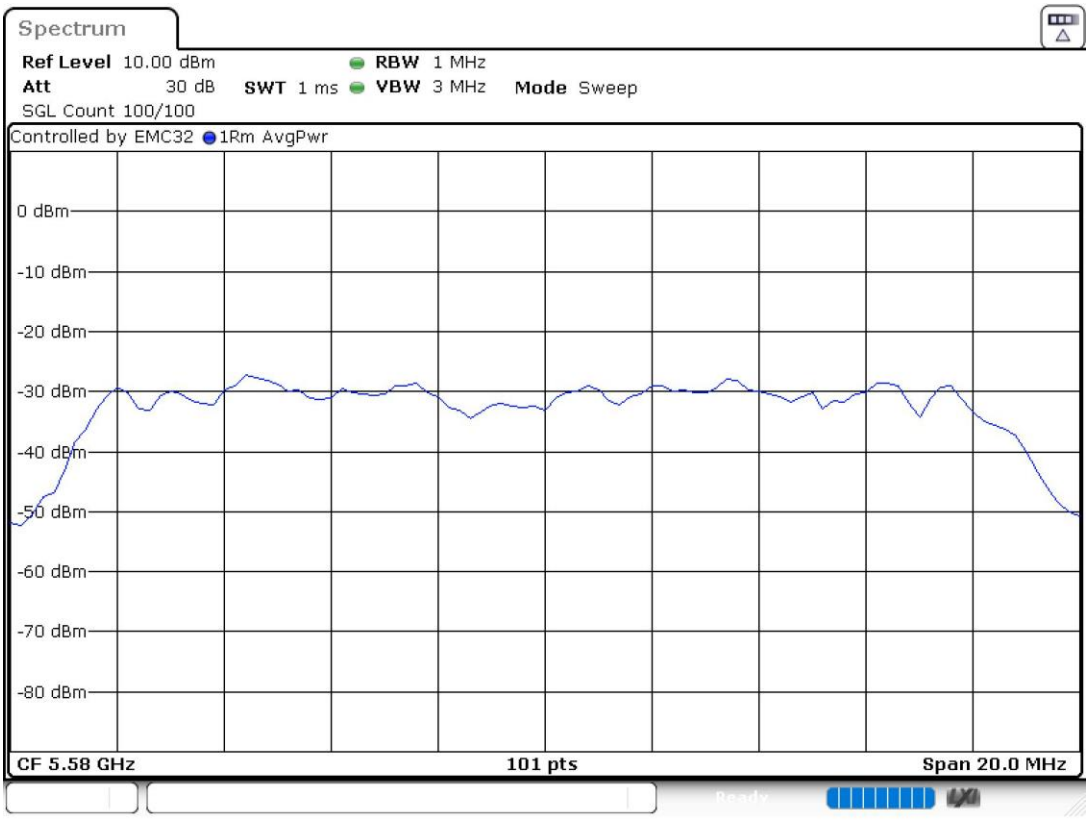
PSD Connector 1



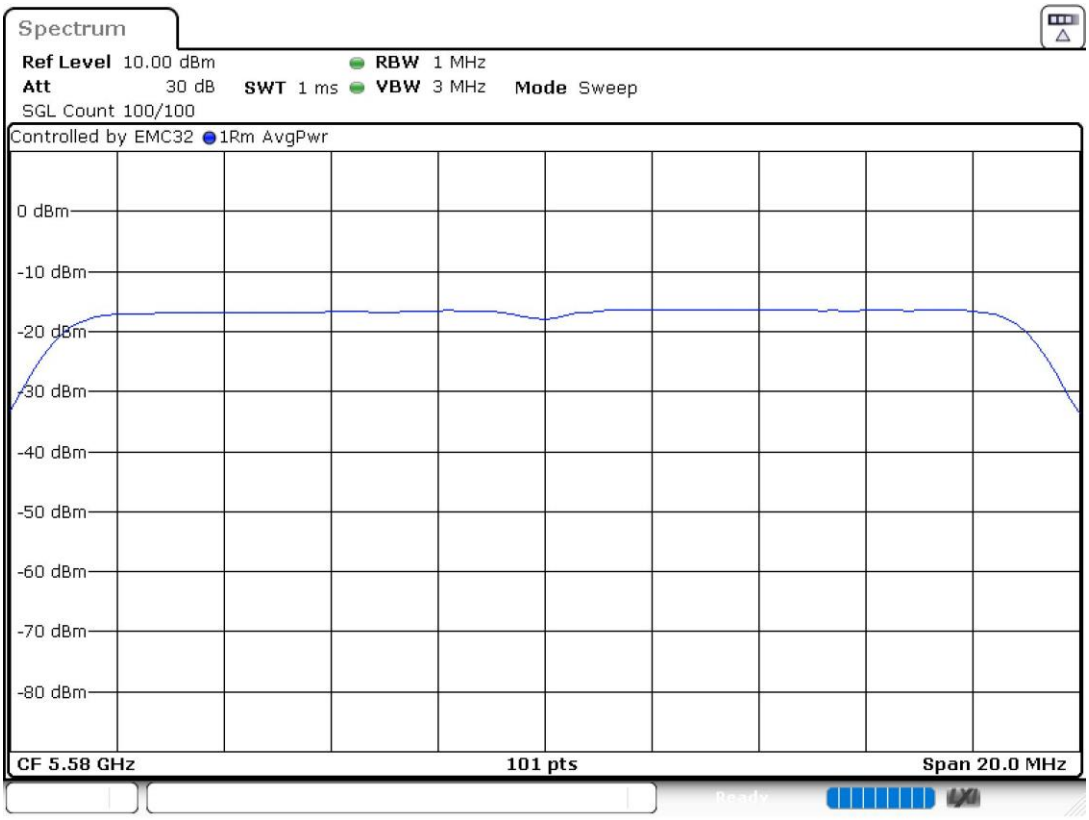
PSD Connector 2

- Middle-1 Channel 116 (5580 MHz):



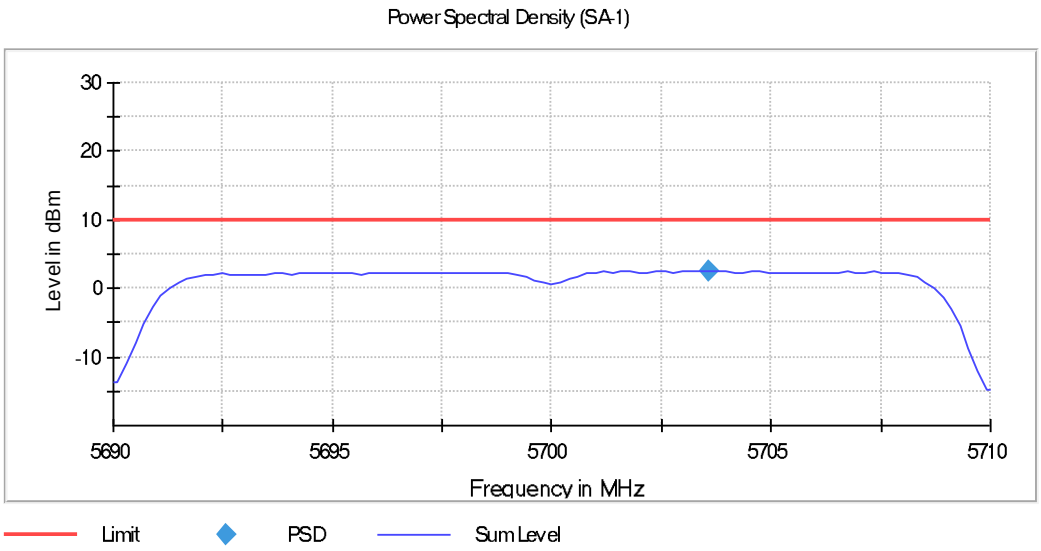


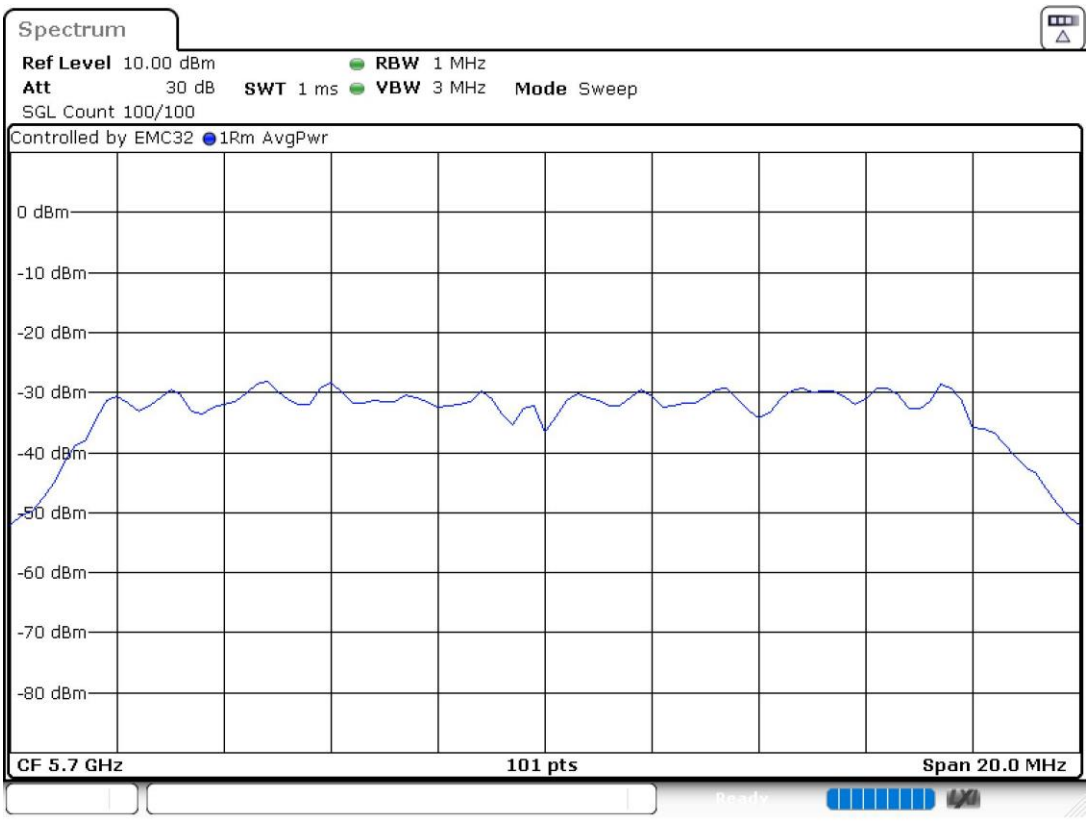
PSD Connector 1



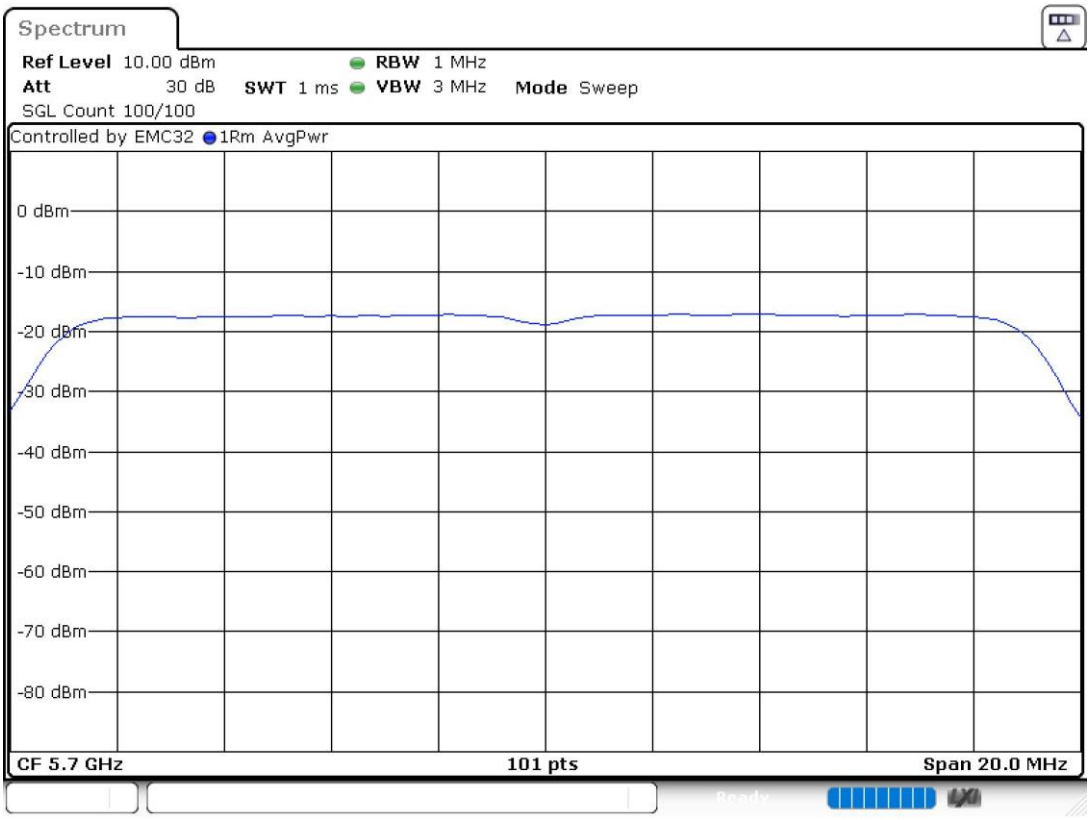
PSD Connector 2

- High Channel 140 (5700 MHz):





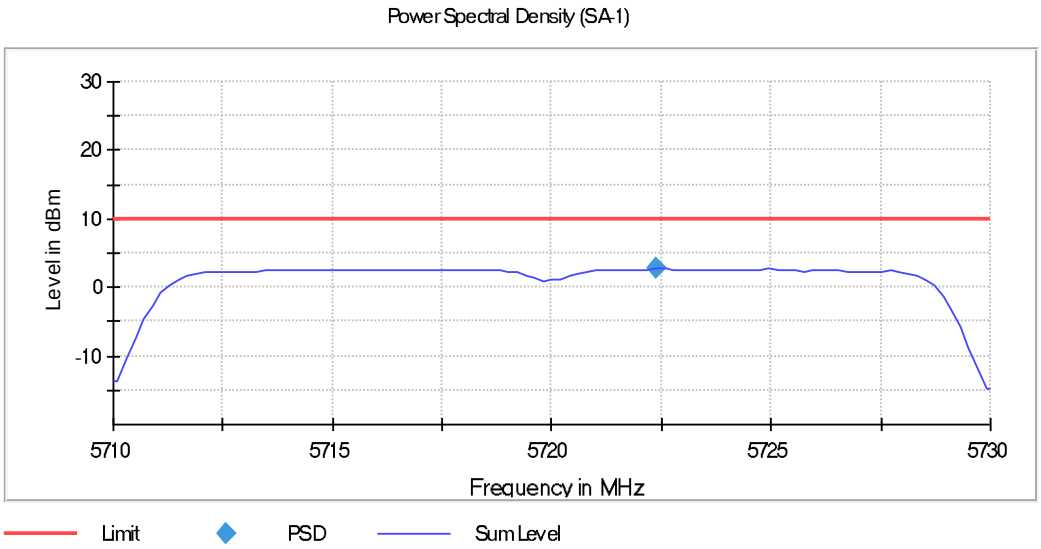
PSD Connector 1

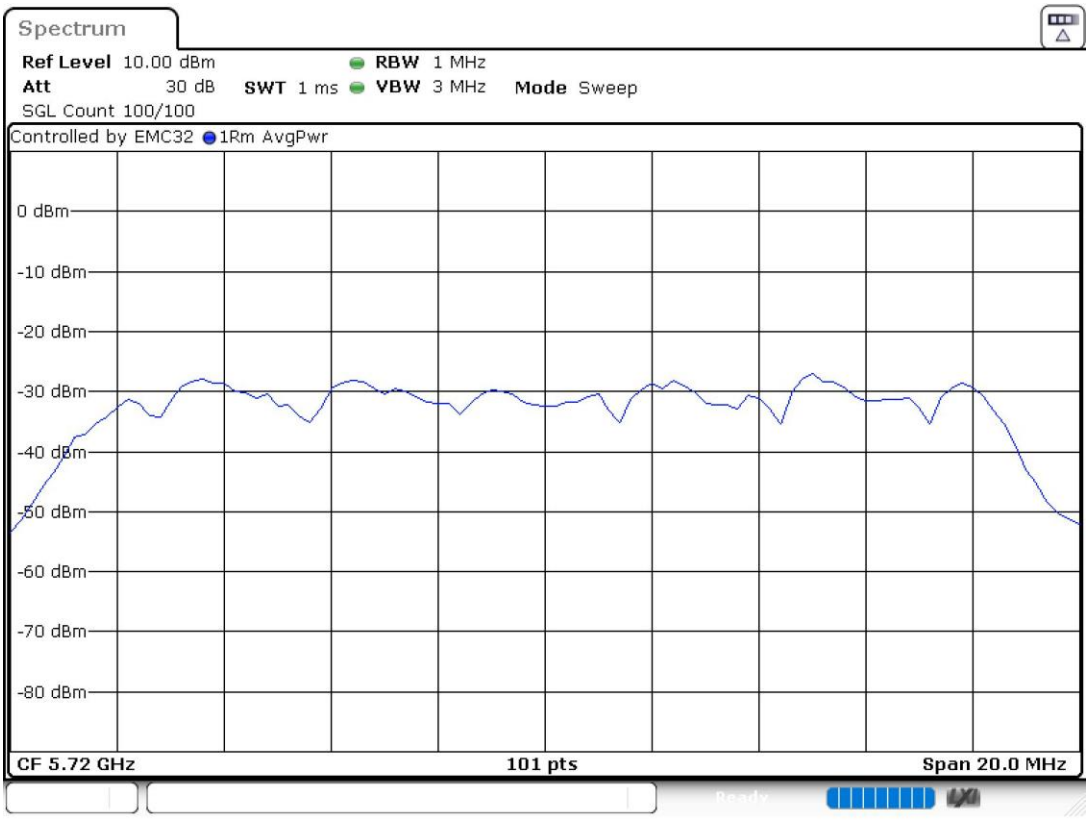


PSD Connector 2

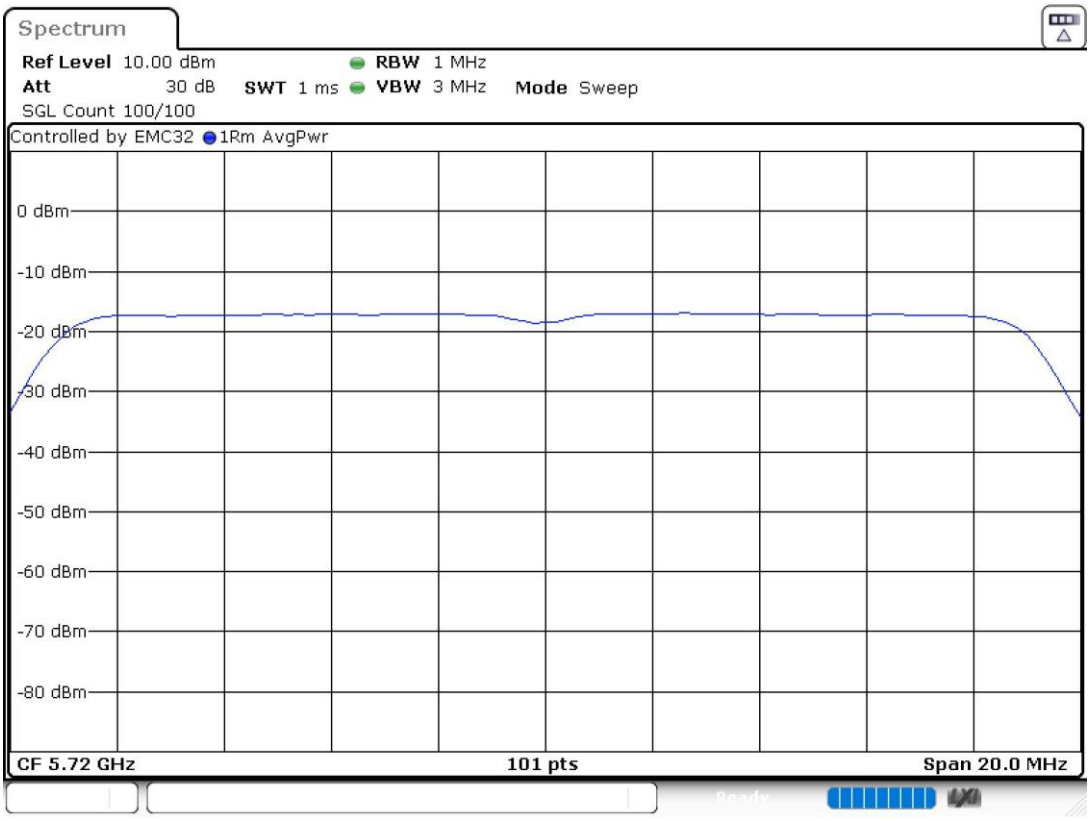
STRADDLE CHANNEL

- Straddle Channel 144 (5720 MHz):





PSD Connector 1

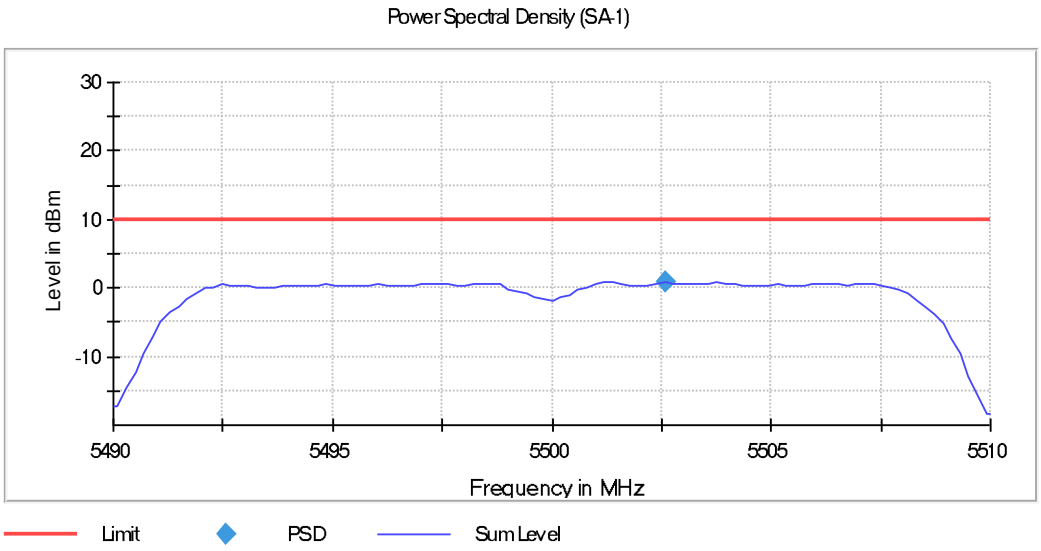


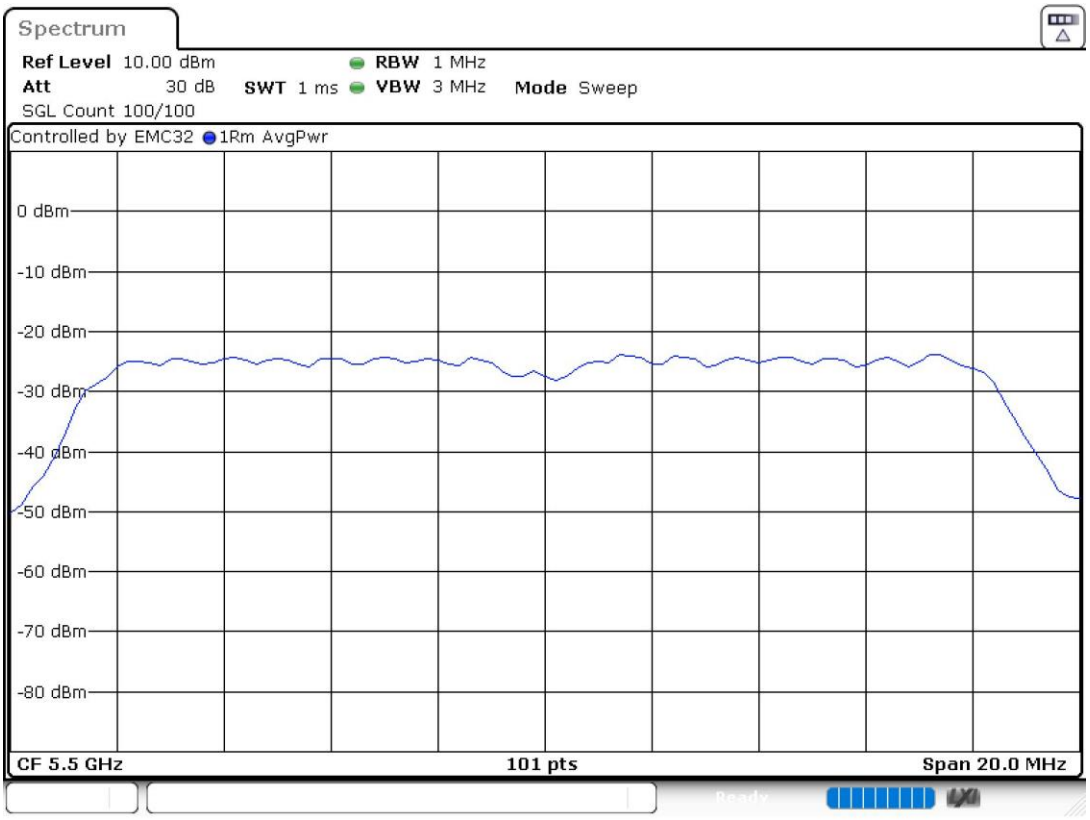
PSD Connector 2

MIMO 802.11 ac20 (VHT20):

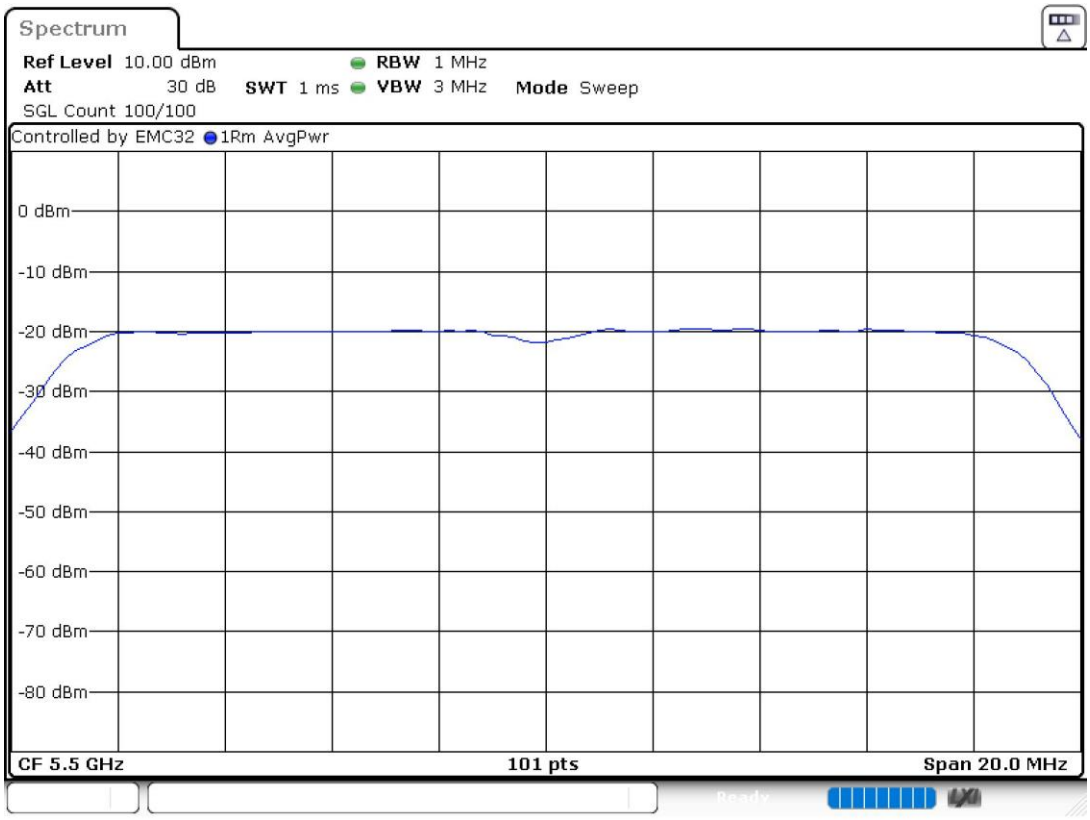
U-NII-2C (5250-5350 MHz)

- Low Channel 100 (5500 MHz):



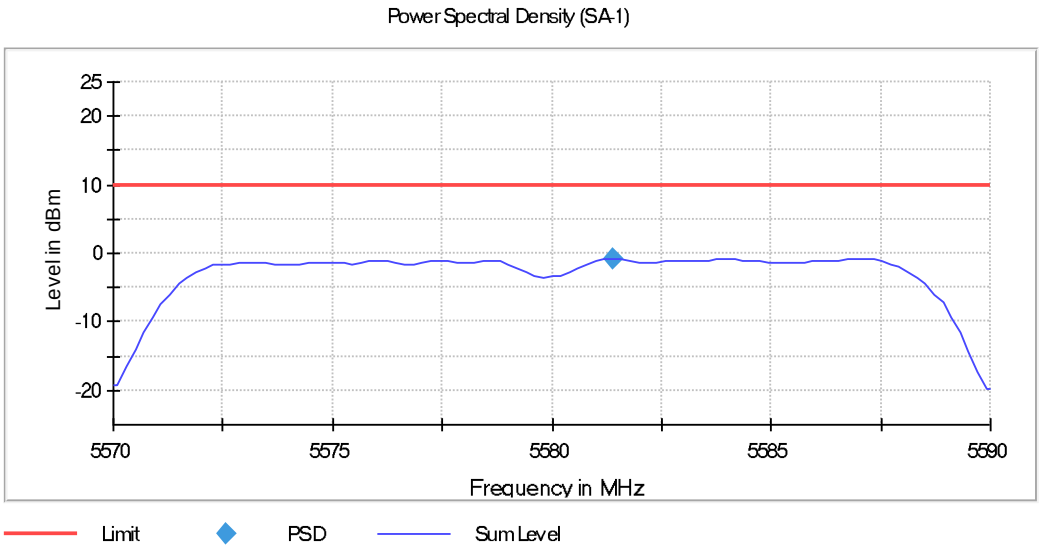


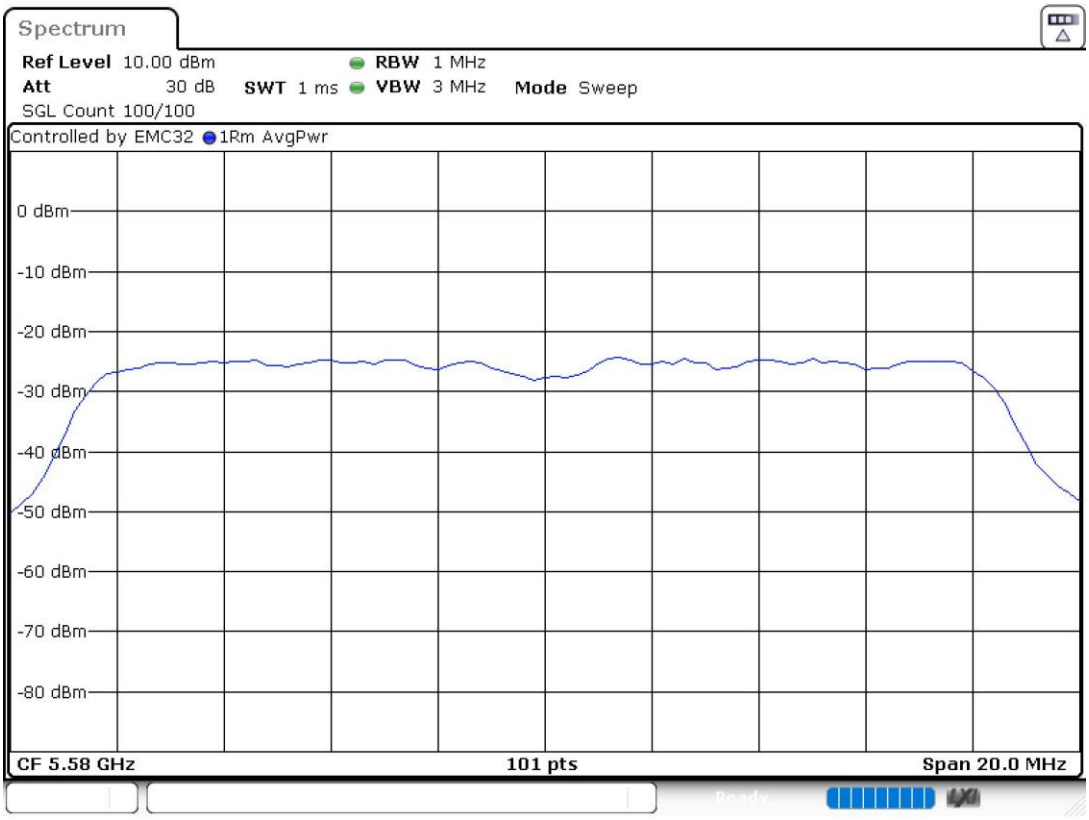
PSD Connector 1



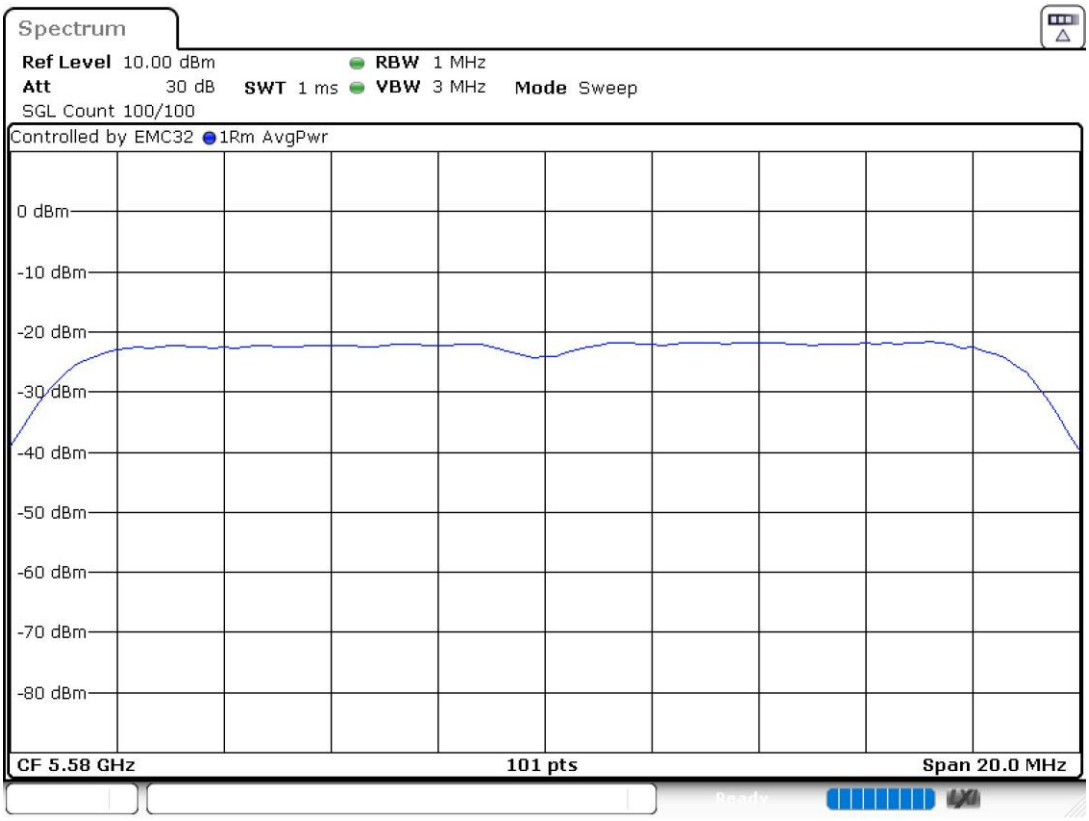
PSD Connector 2

- Middle-1 Channel 116 (5580 MHz):



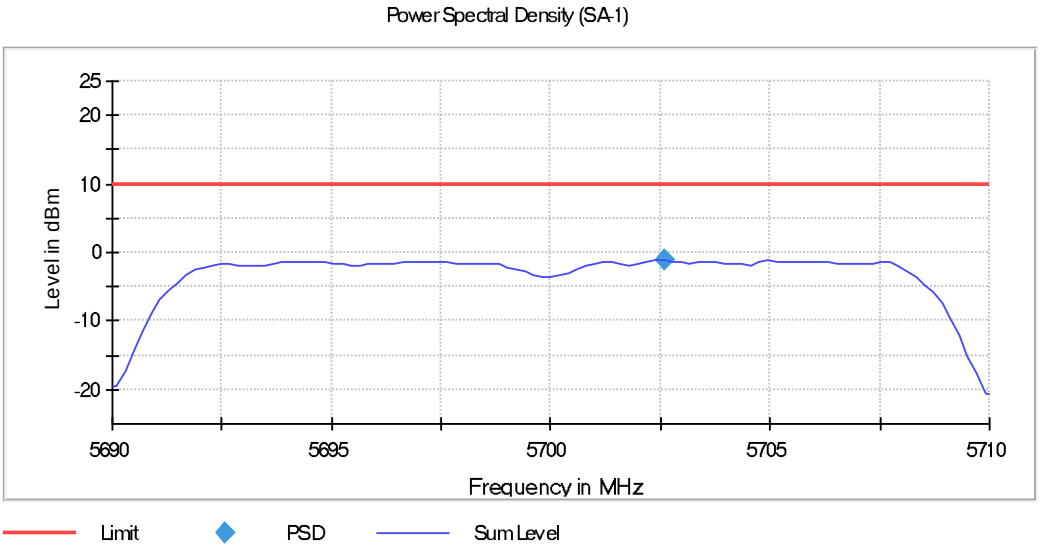


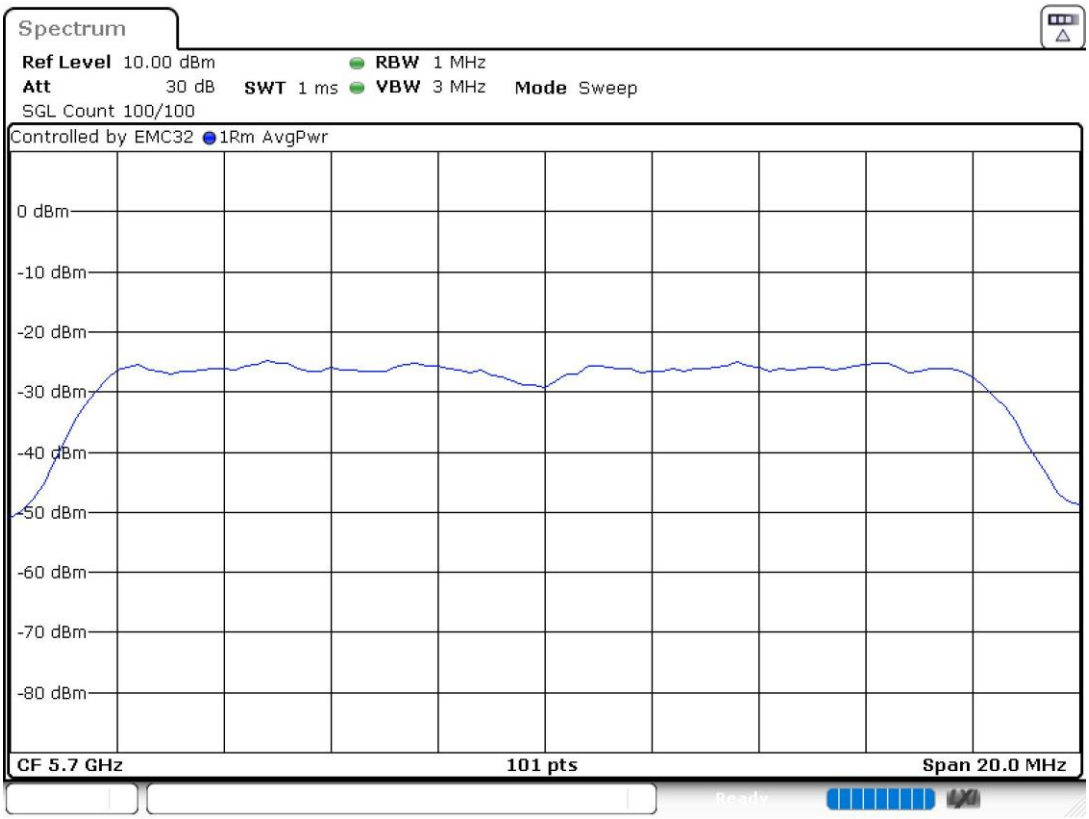
PSD Connector 1



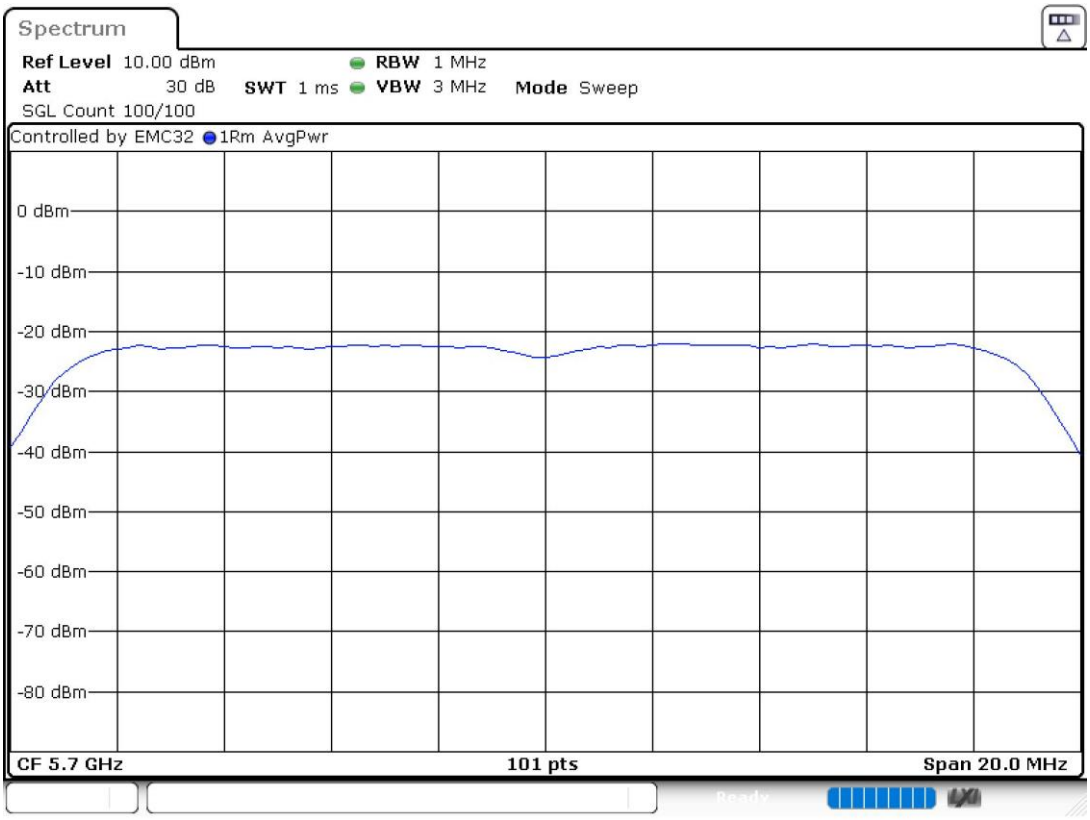
PSD Connector 2

- High Channel 140 (5700 MHz):





PSD Connector 1



PSD Connector 2

STRADDLE CHANNEL

- Straddle Channel 144 (5720 MHz):