

FCC Section 15.407 Subclause (b) (4) / RSS-247 6.2.4.2. 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 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 ($\mu\text{V/m}$)	Field strength (dB $\mu\text{V/m}$)	Measurement distance (m)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	300
1.705 - 30.0	30	-	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
960 - 40000	500	54	3

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

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

RESULTS:

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.

Test performed on the following worst cases modes in all relevant tests channels:

- 802.11a: 6 Mbit/s / SISO on WLAN0-Core 0 – Antenna RF Port 2
- 802.11n HT20: MCS0 / SISO on WLAN0-Core 0 – Antenna RF Port 2
- 802.11n HT40: MCS0 / SISO on WLAN0-Core 0 – Antenna RF Port 2
- 802.11ac VHT80: MCS0 / SISO on WLAN0-Core 0 – Antenna RF Port 2
- 802.11n HT20: MCS0 / SISO on WLAN1 CORE2 (CORE0+CORE1) – MIMO Antenna Port 1 - 4
- 802.11n HT40: MCS0 / SISO on WLAN1 CORE2 (CORE0+CORE1) – MIMO Antenna Port 1 - 4
- 802.11ac VHT80: MCS0 / SISO on WLAN1 CORE2 (CORE0+CORE1) – MIMO Antenna Port 1 - 4

Mode: 802.11a - 20MHz Antenna RF 2

Results: Peak / Channel 149

No radiated spurious signals were detected at less than 20 dB respect to the limit.

Results: Peak / Channel 157

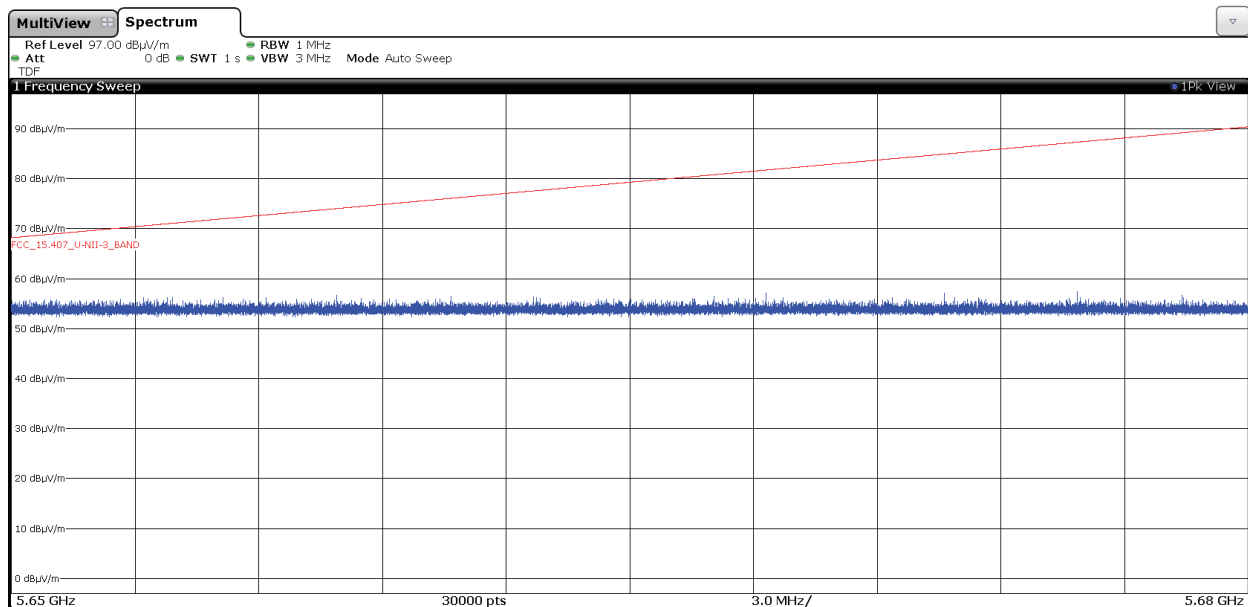
No radiated spurious signals were detected at less than 20 dB respect to the limit.

Results: Peak / Channel 165

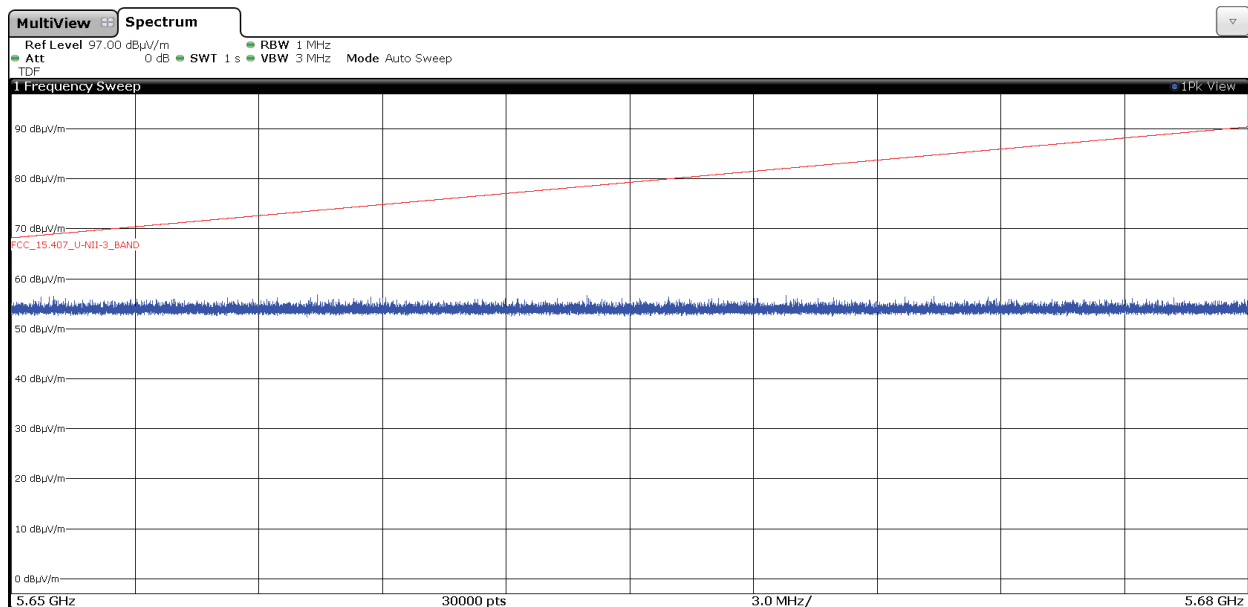
No radiated spurious signals were detected at less than 20 dB respect to the limit.

Radiated spurious emissions at band-edges and inside adjacent band 5.65 – 5.68 GHz.

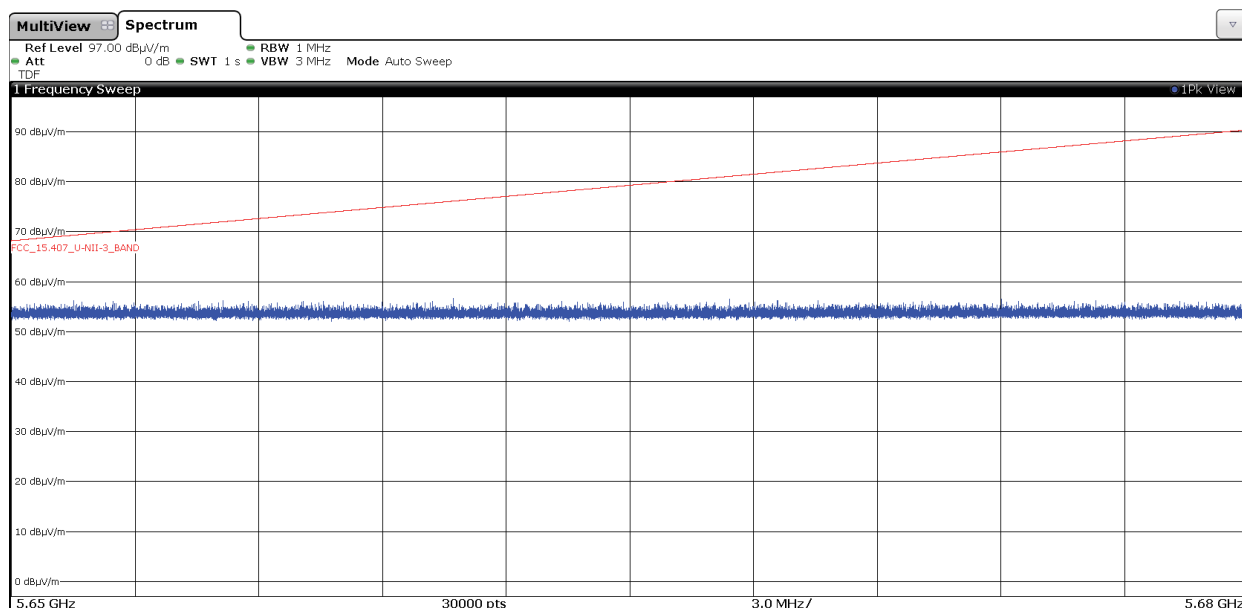
Channel 149 (5745MHz):



Channel 157 (5785MHz):

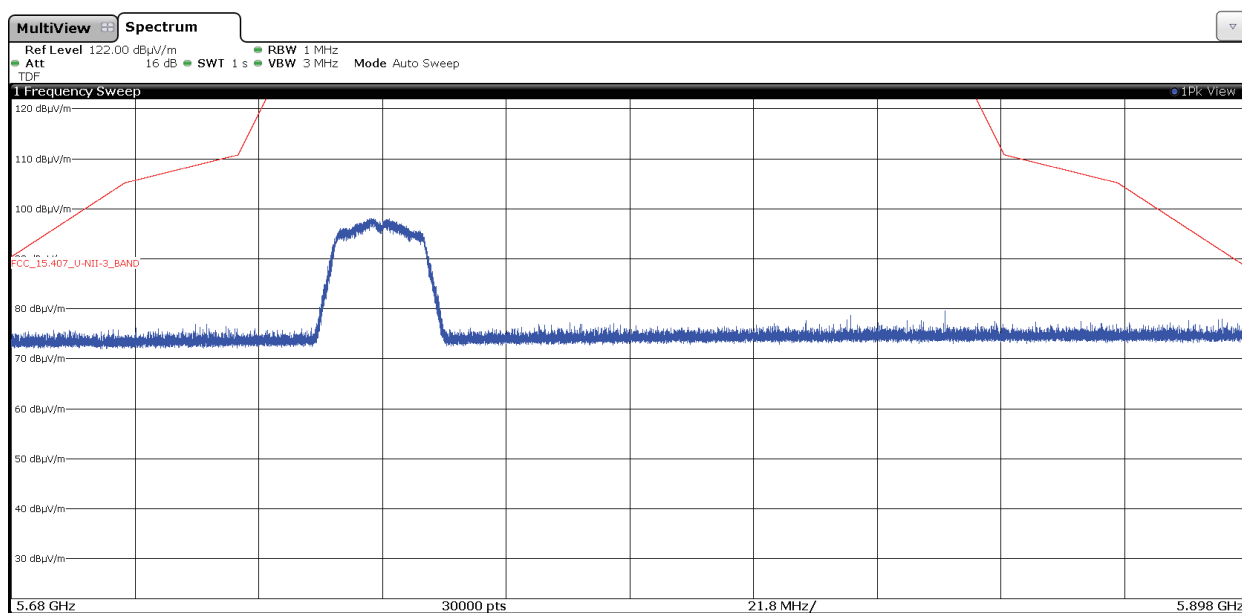


Channel 165 (5825MHz):

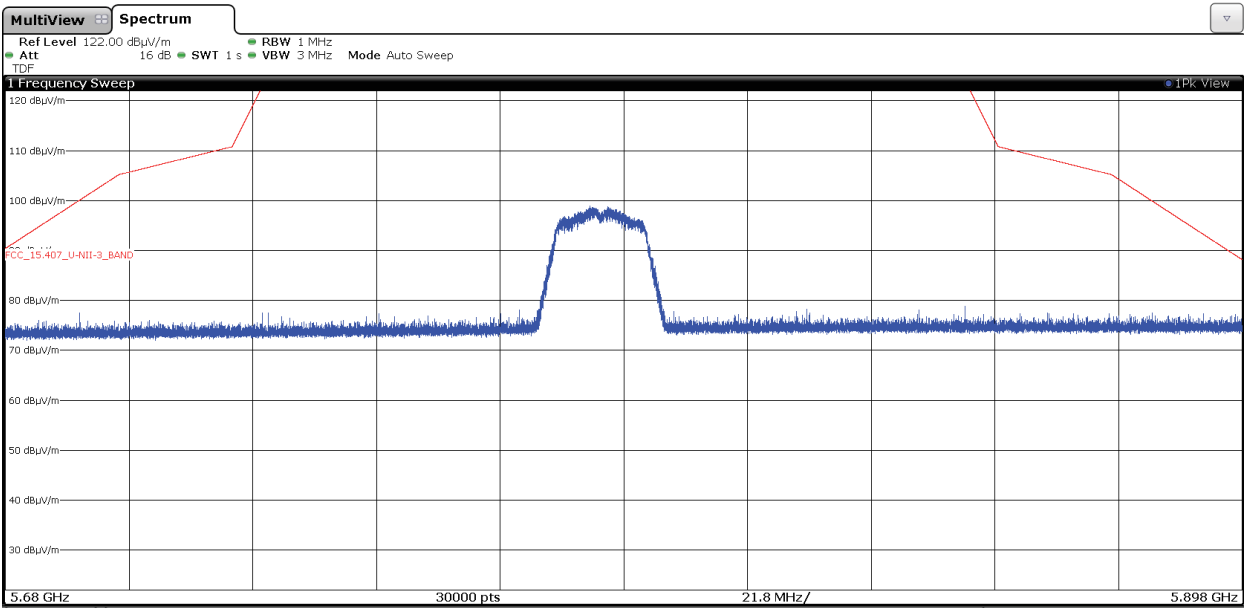


Radiated spurious emissions at band-edges and inside adjacent band 5.68 – 5.898 GHz.

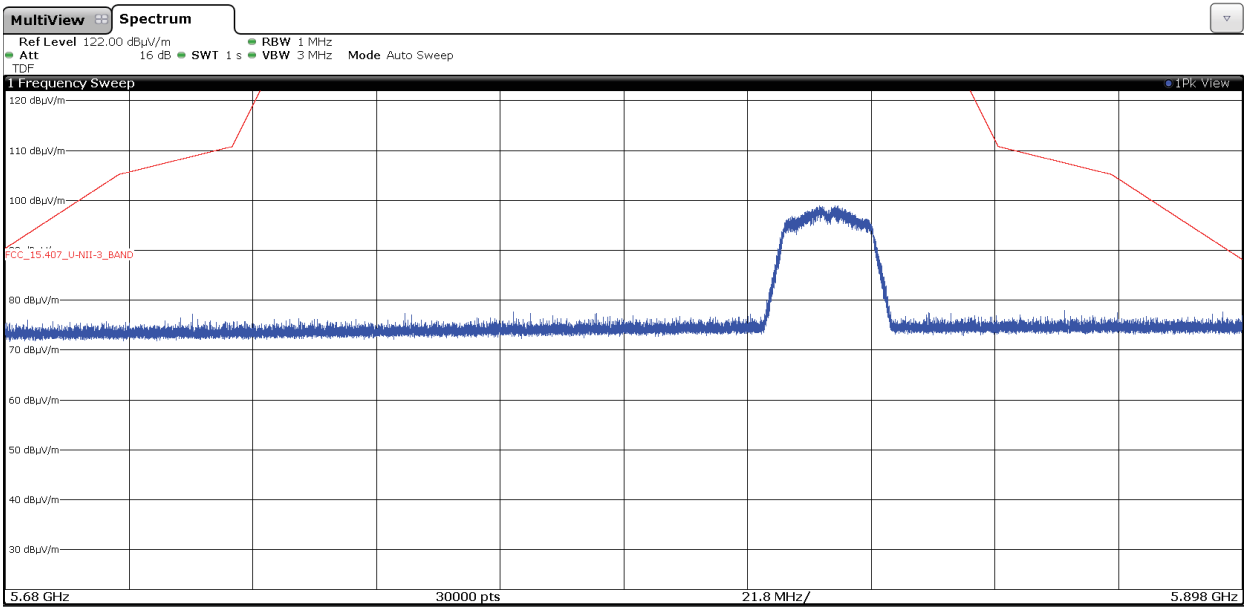
Channel 149 (5745MHz):



Channel 157 (5785MHz):

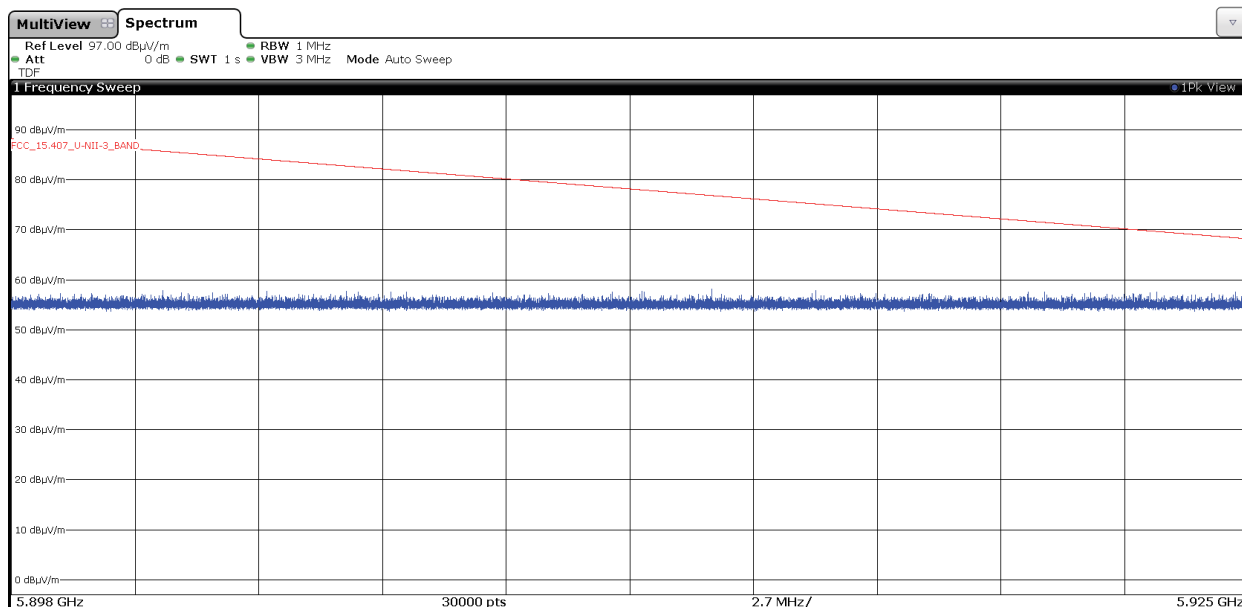


Channel 165 (5825MHz):

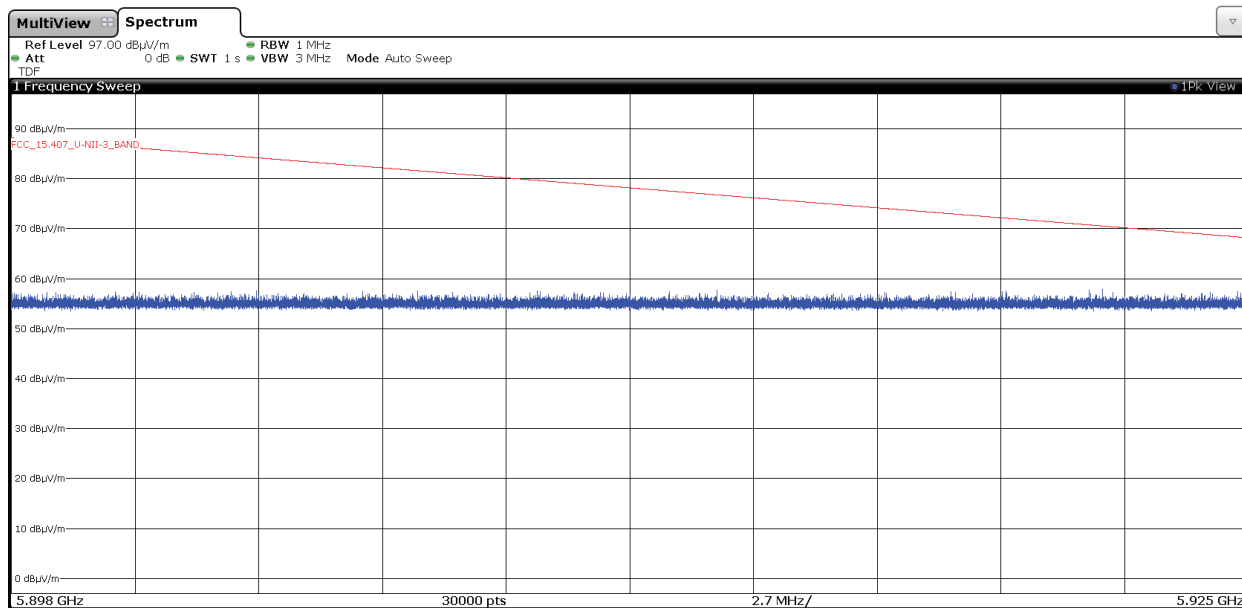


Radiated spurious emissions at band-edges and inside adjacent band 5.898 – 5.925 GHz.

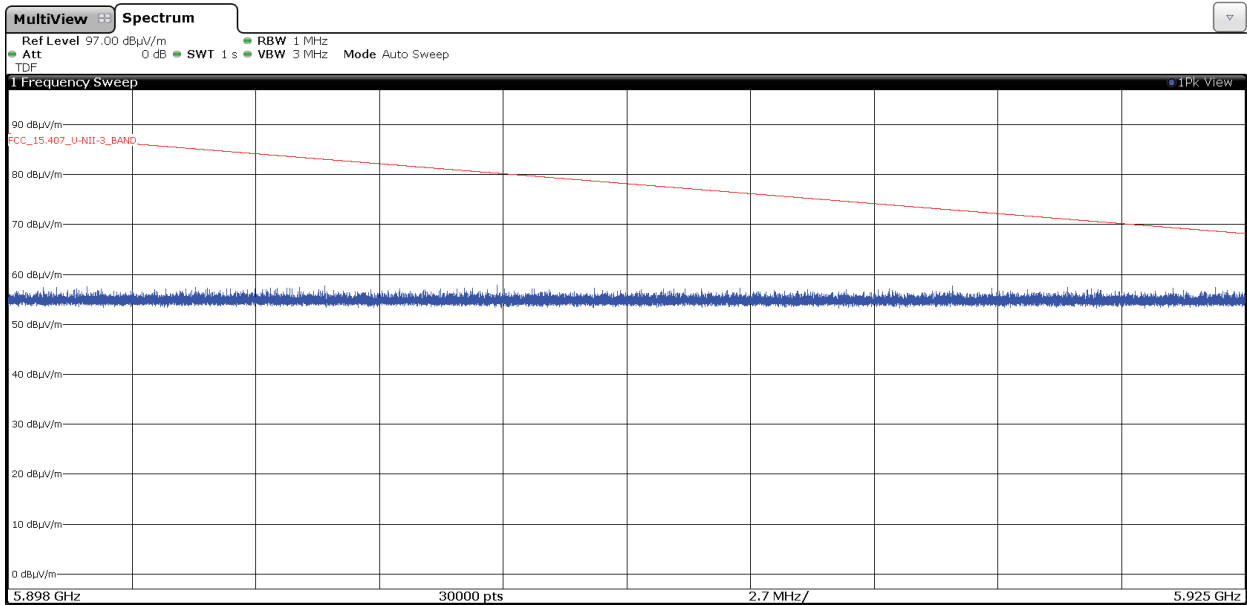
Channel 149 (5745MHz):



Channel 157 (5785MHz):



Channel 165 (5825MHz):



Mode: 802.11n HT20 – 20MHz – Antenna RF 2

Results: Peak / Channel 149

No radiated spurious signals were detected at less than 20 dB respect to the limit.

Results: Peak / Channel 157

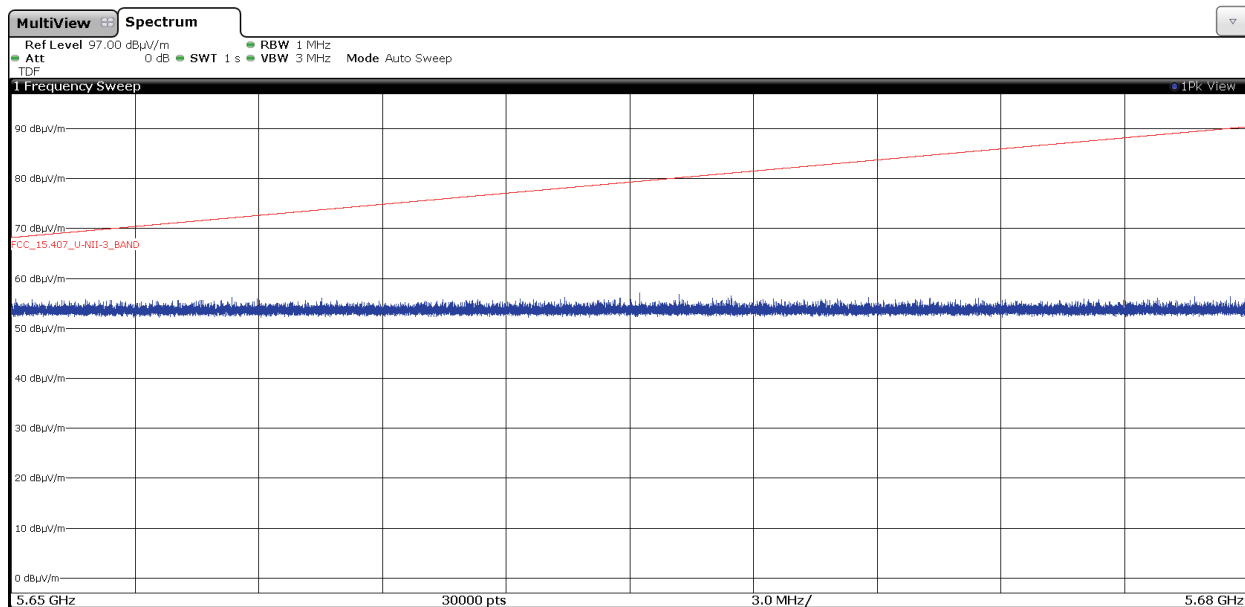
No radiated spurious signals were detected at less than 20 dB respect to the limit.

Results: Peak / Channel 165

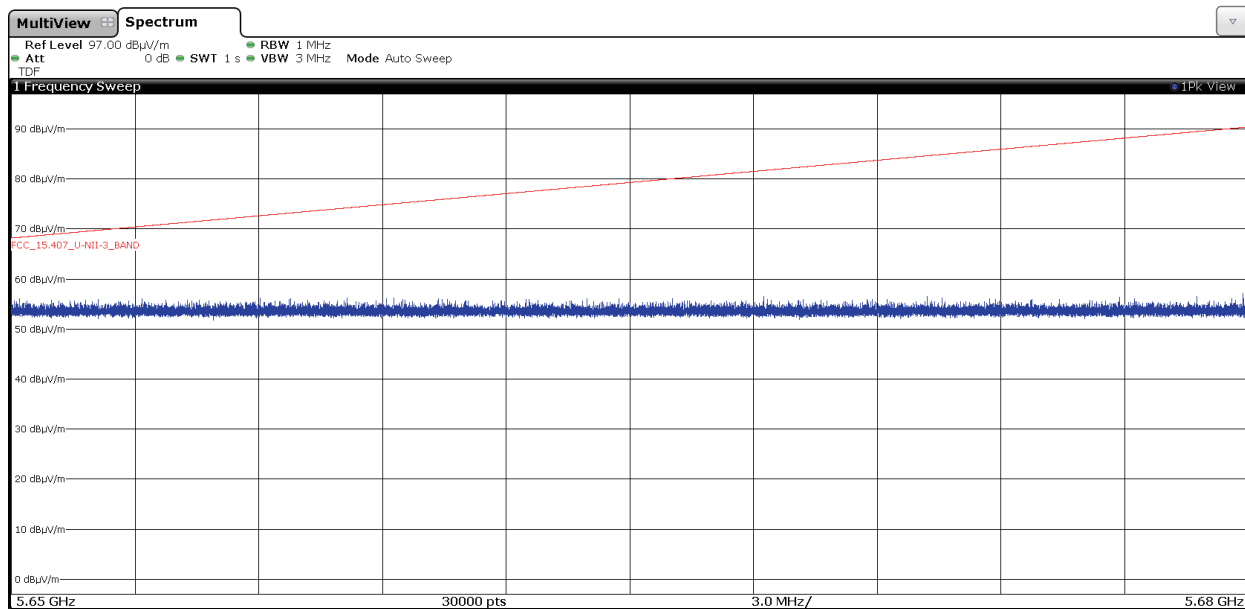
No radiated spurious signals were detected at less than 20 dB respect to the limit.

Radiated spurious emissions at band-edges and inside adjacent band 5.65 – 5.68 GHz.

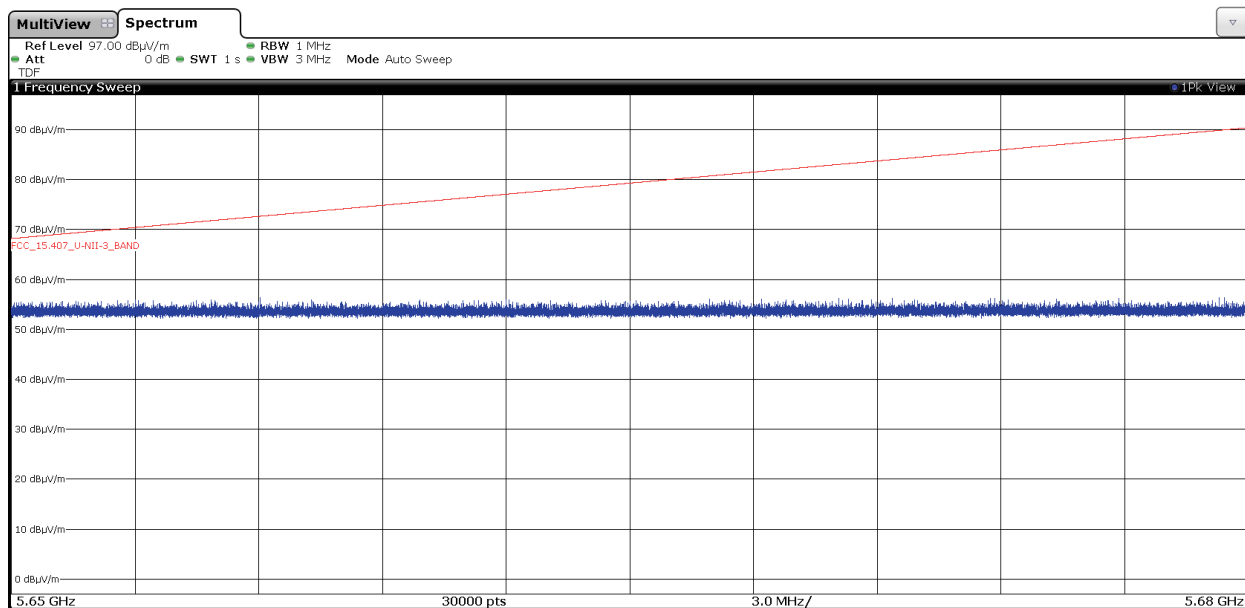
Channel 149 (5745MHz):



Channel 157 (5785MHz):

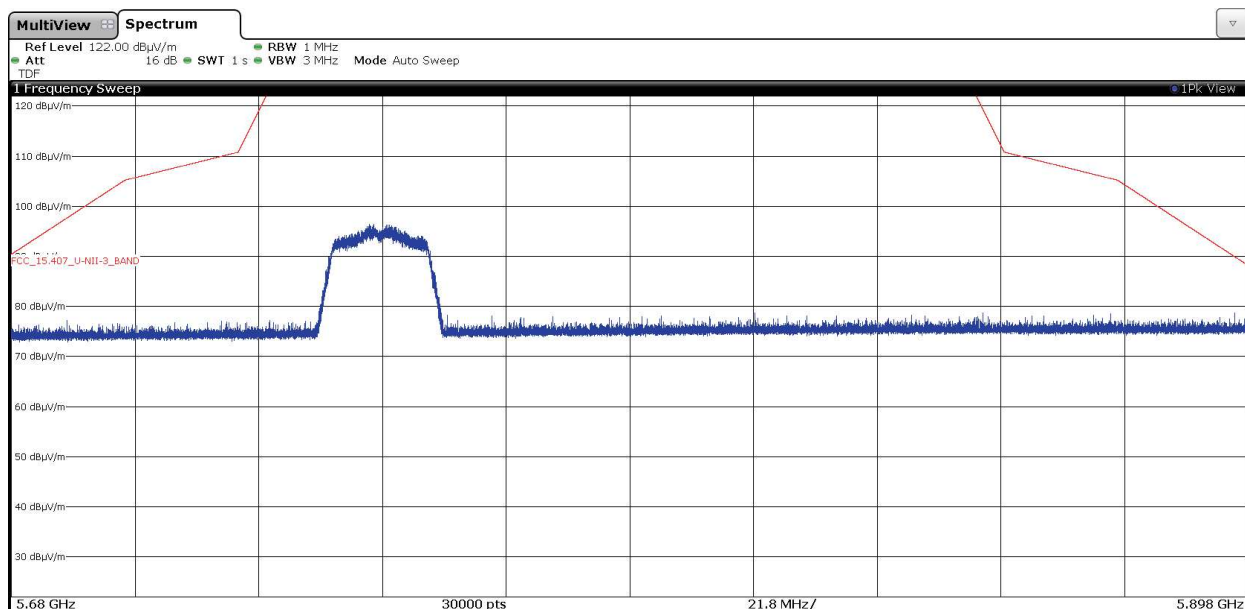


Channel 165 (5825MHz):

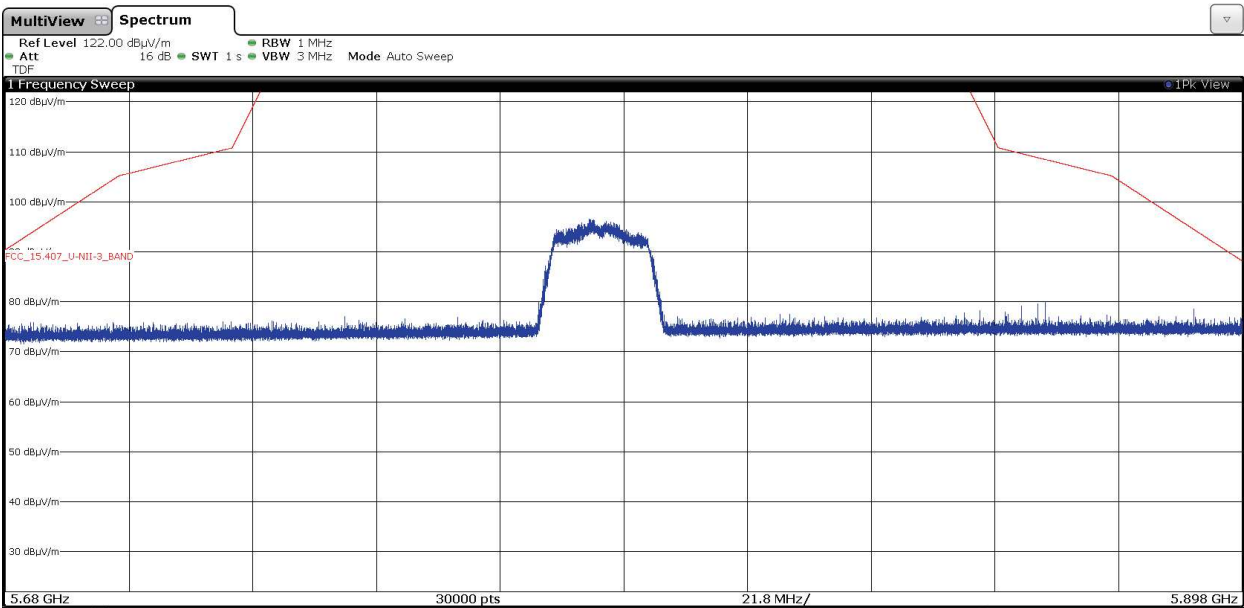


Radiated spurious emissions at band-edges and inside adjacent band 5.68 – 5.898 GHz.

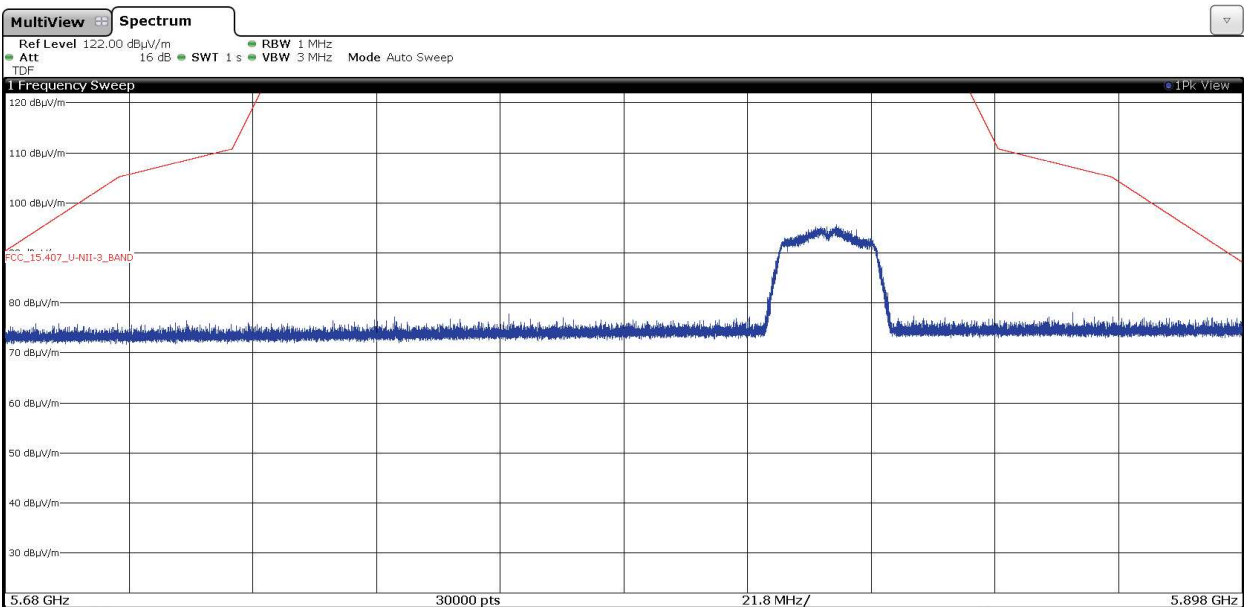
Channel 149 (5745MHz):



Channel 157 (5785MHz):

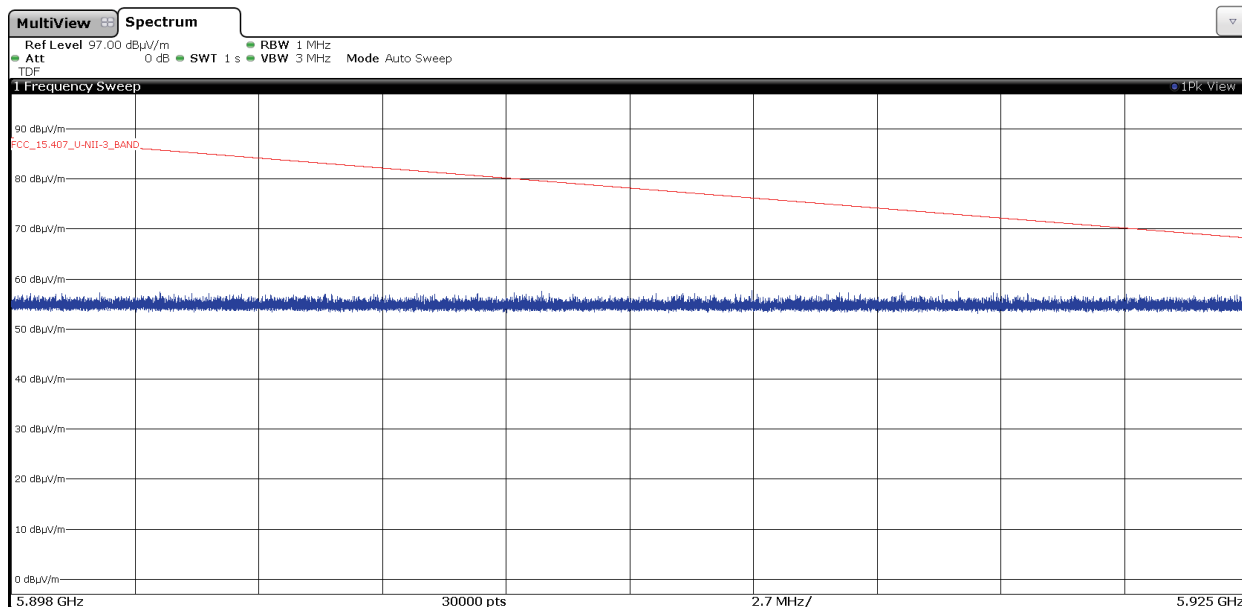


Channel 165 (5825MHz):

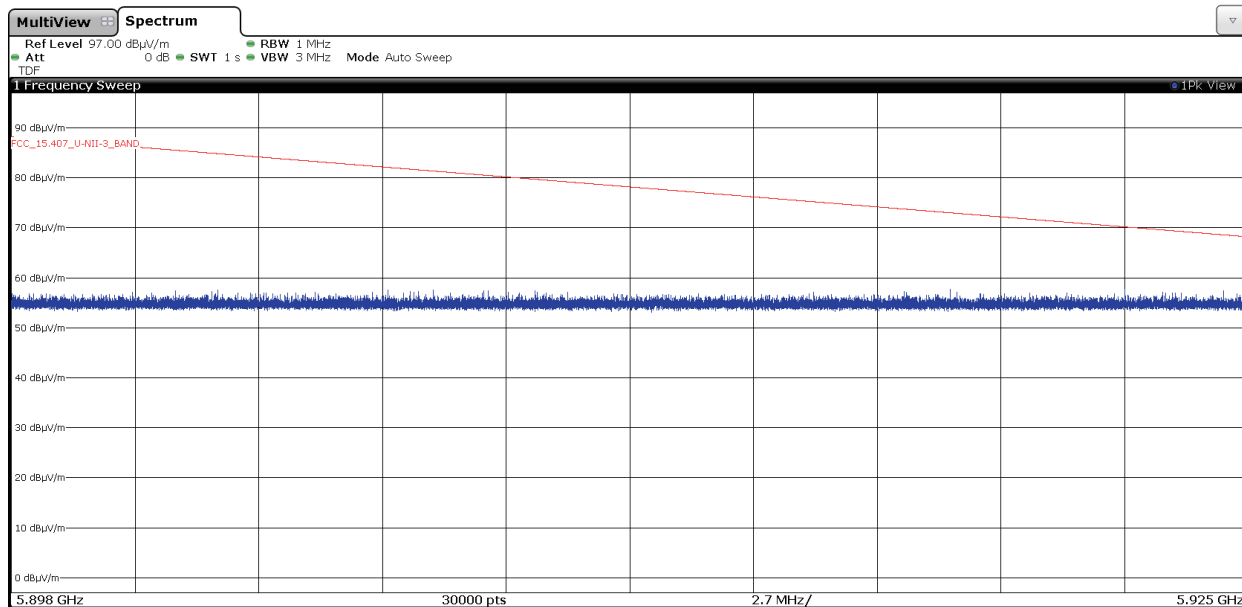


Radiated spurious emissions at band-edges and inside adjacent band 5.898 – 5.925 GHz.

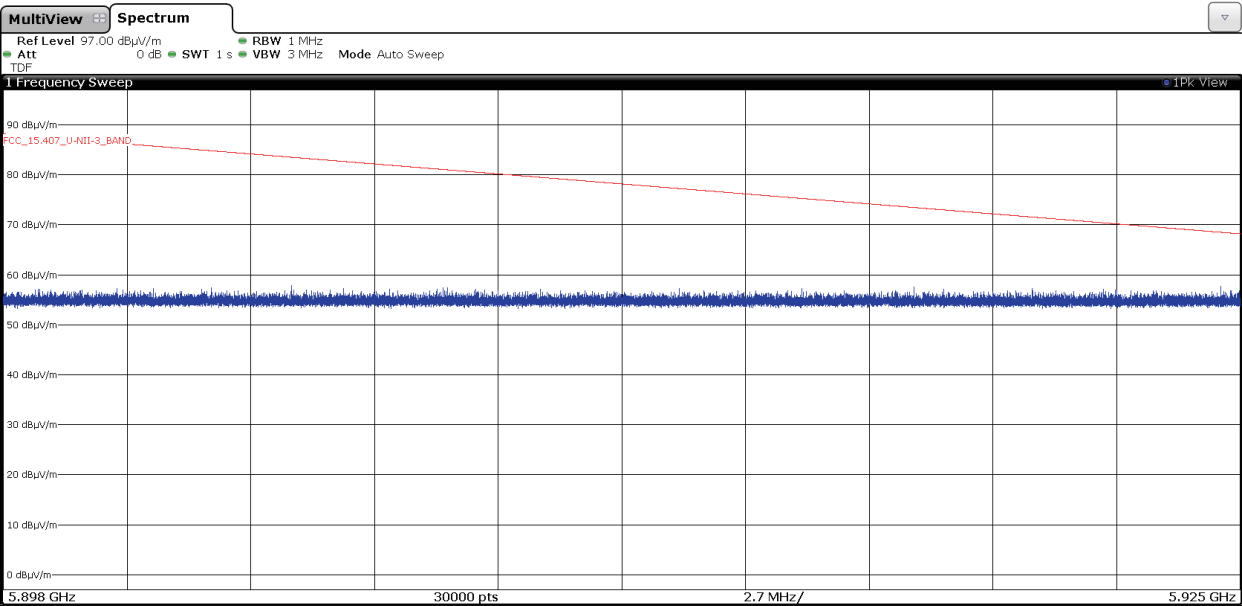
Channel 149 (5745MHz):



Channel 157 (5785MHz):



Channel 165 (5825MHz):



Mode: 802.11n HT20 – 20MHz – Mimo Antenna RF 1 + 4

Results: Peak / Channel 149

No radiated spurious signals were detected at less than 20 dB respect to the limit.

Results: Peak / Channel 157

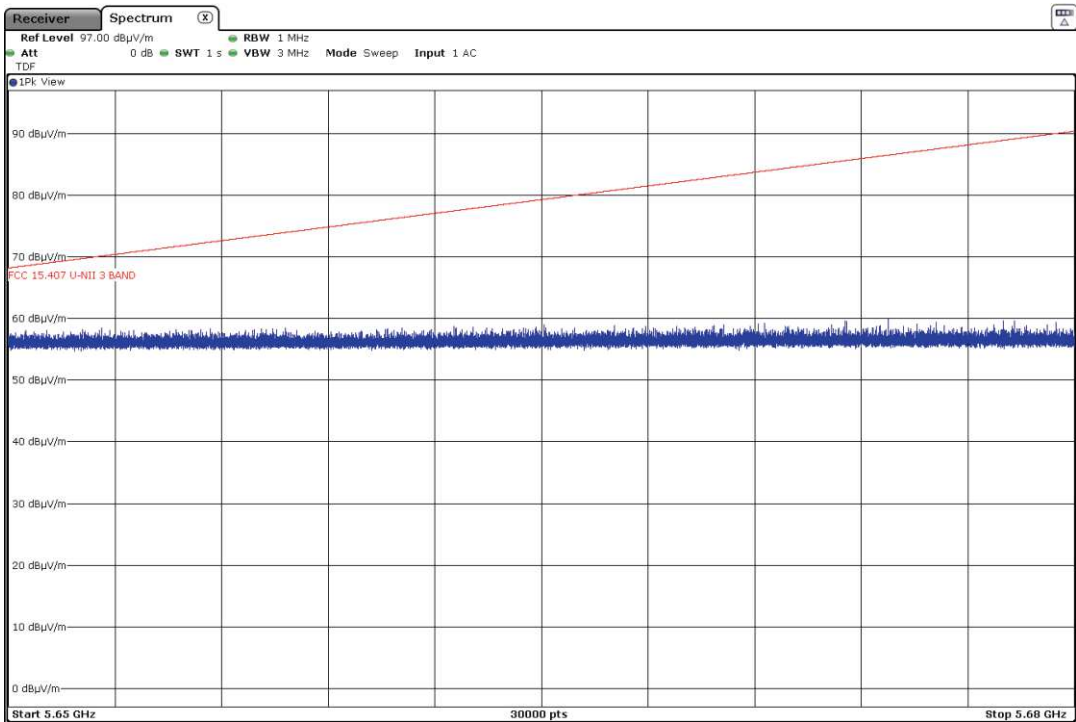
No radiated spurious signals were detected at less than 20 dB respect to the limit.

Results: Peak / Channel 165

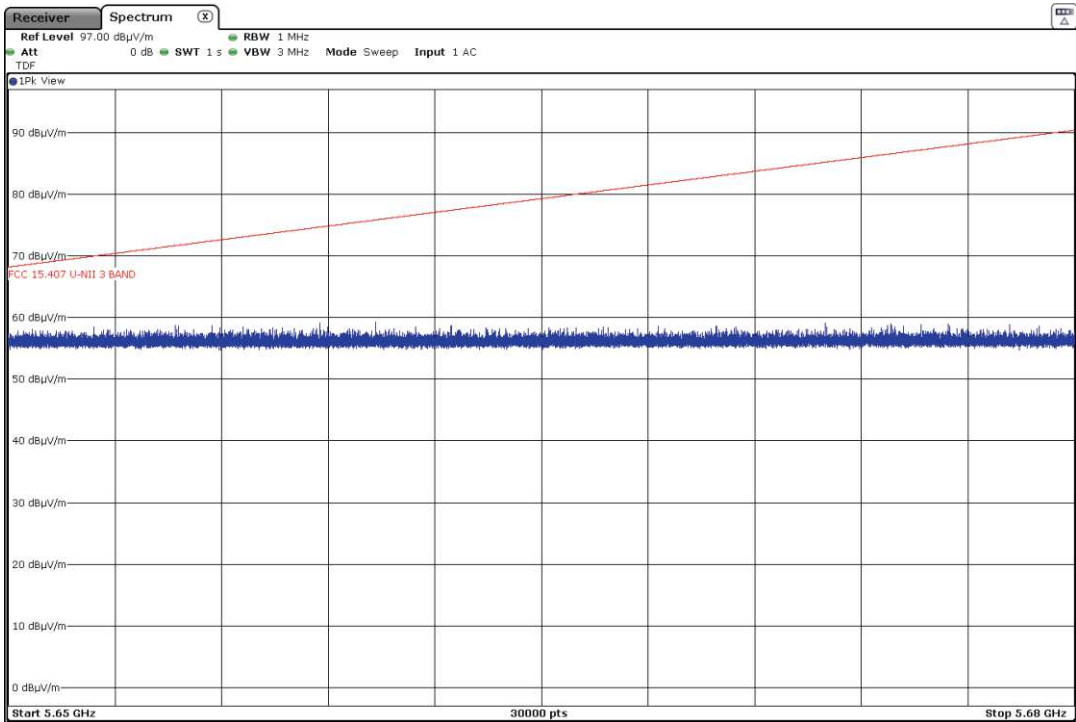
No radiated spurious signals were detected at less than 20 dB respect to the limit.

Radiated spurious emissions at band-edges and inside adjacent band 5.65 – 5.68 GHz.

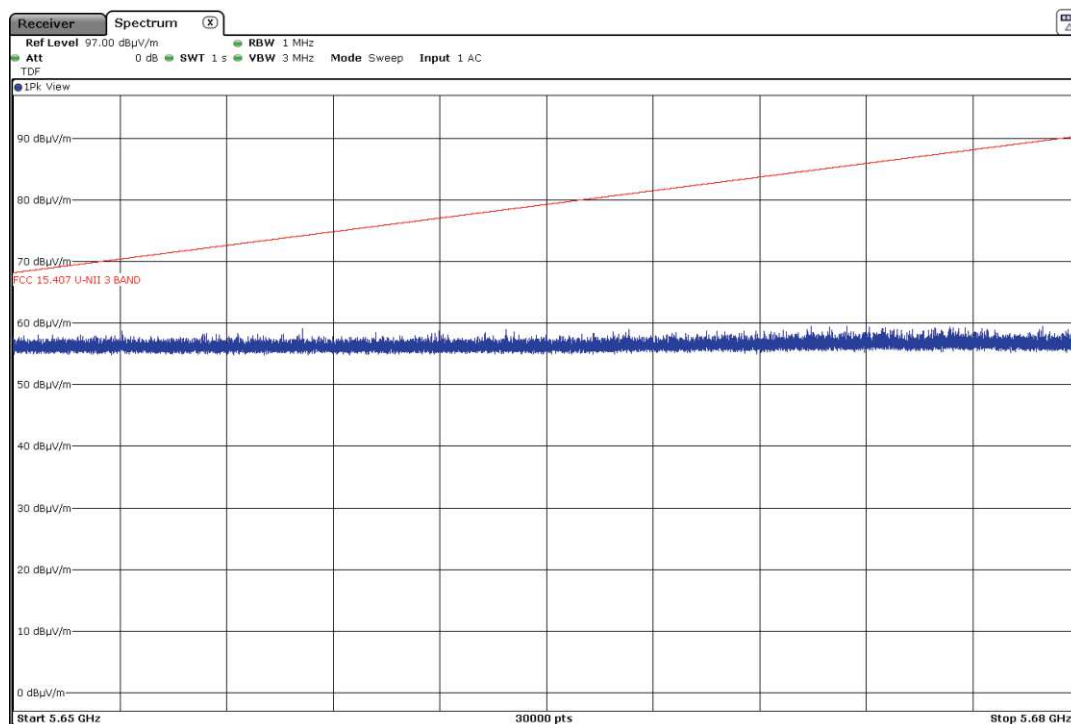
Channel 149 (5745MHz):



Channel 157 (5785MHz):

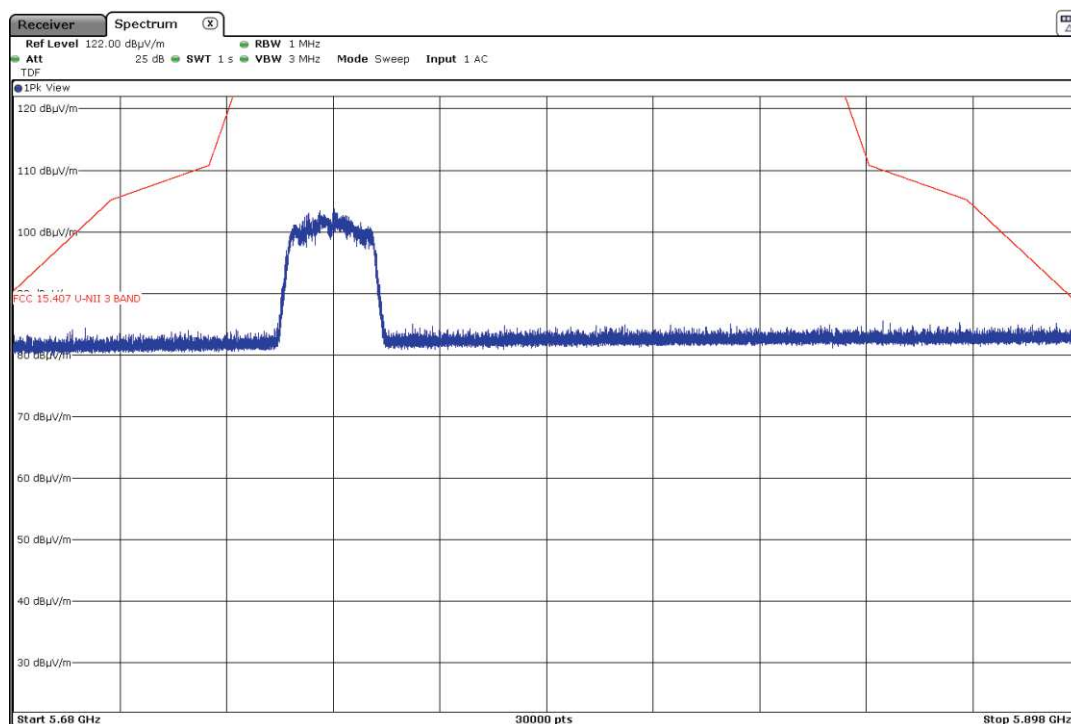


Channel 165 (5825MHz):

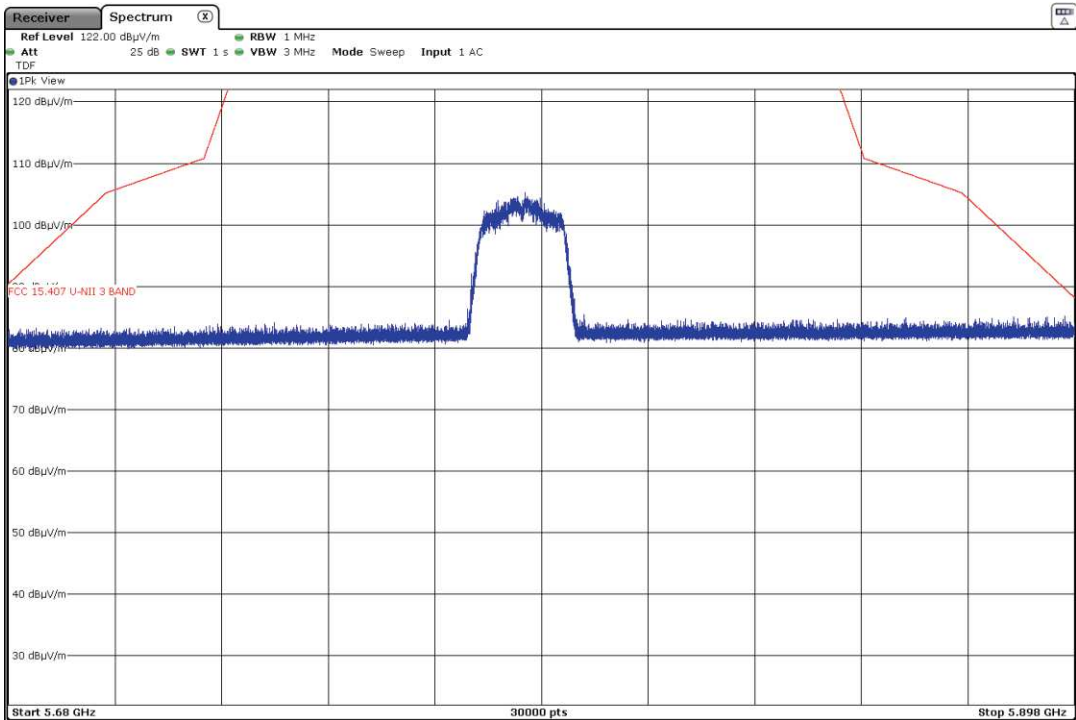


Radiated spurious emissions at band-edges and inside adjacent band 5.68 – 5.898 GHz.

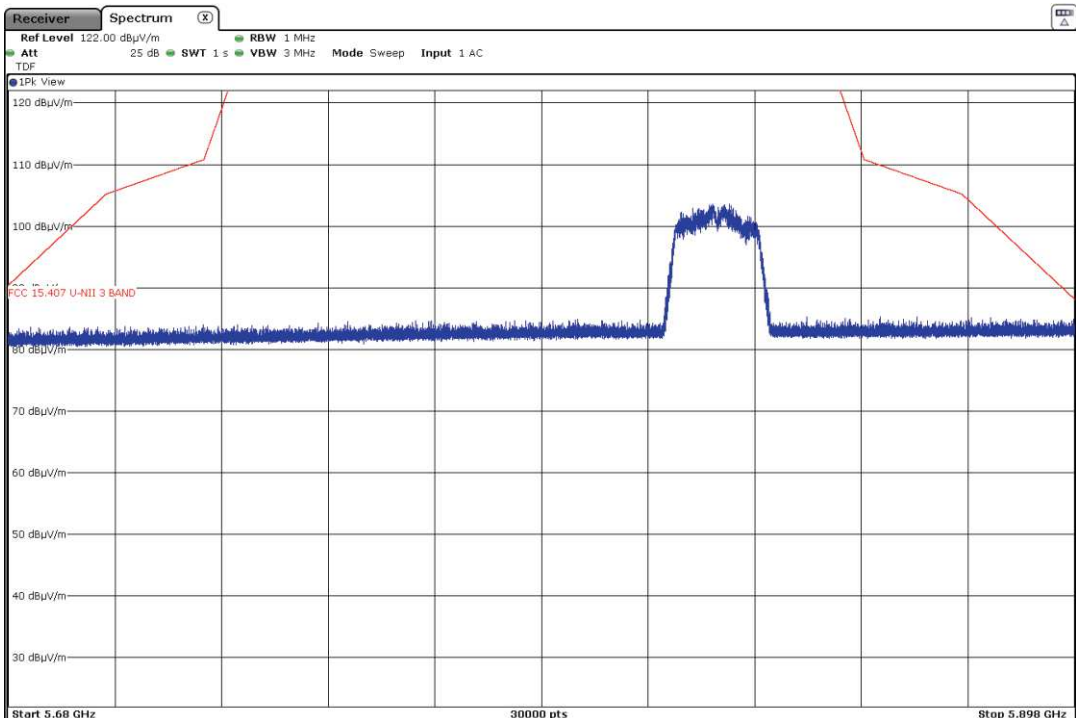
Channel 149 (5745MHz):



Channel 157 (5785MHz):

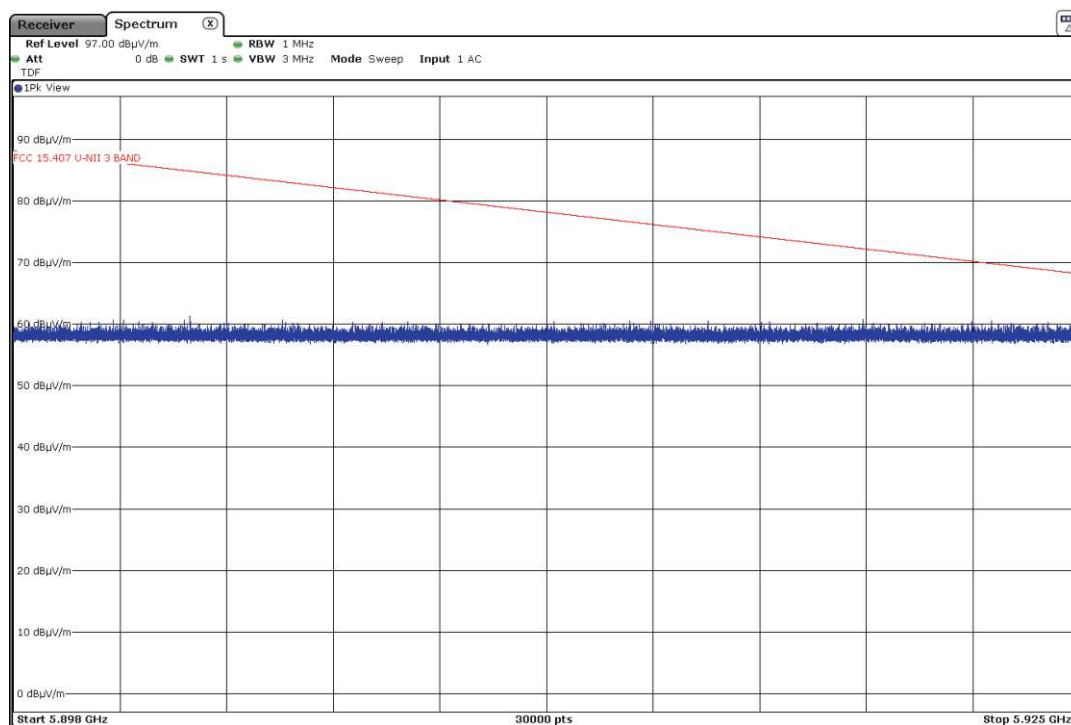


Channel 165 (5825MHz):

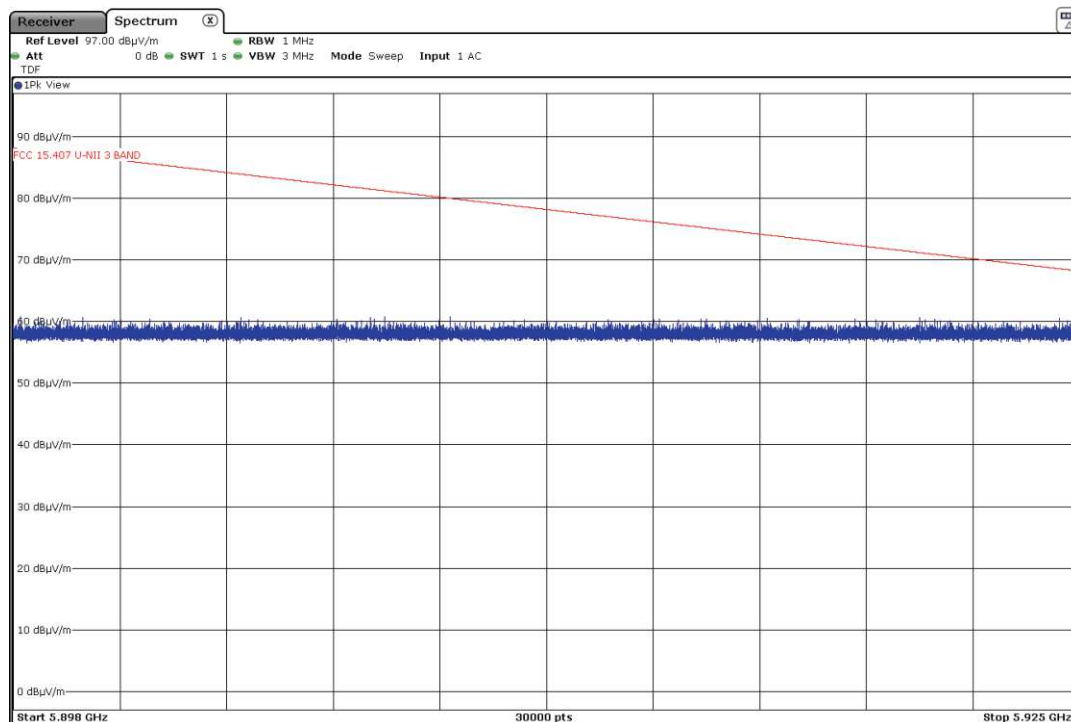


Radiated spurious emissions at band-edges and inside adjacent band 5.898 – 5.925 GHz.

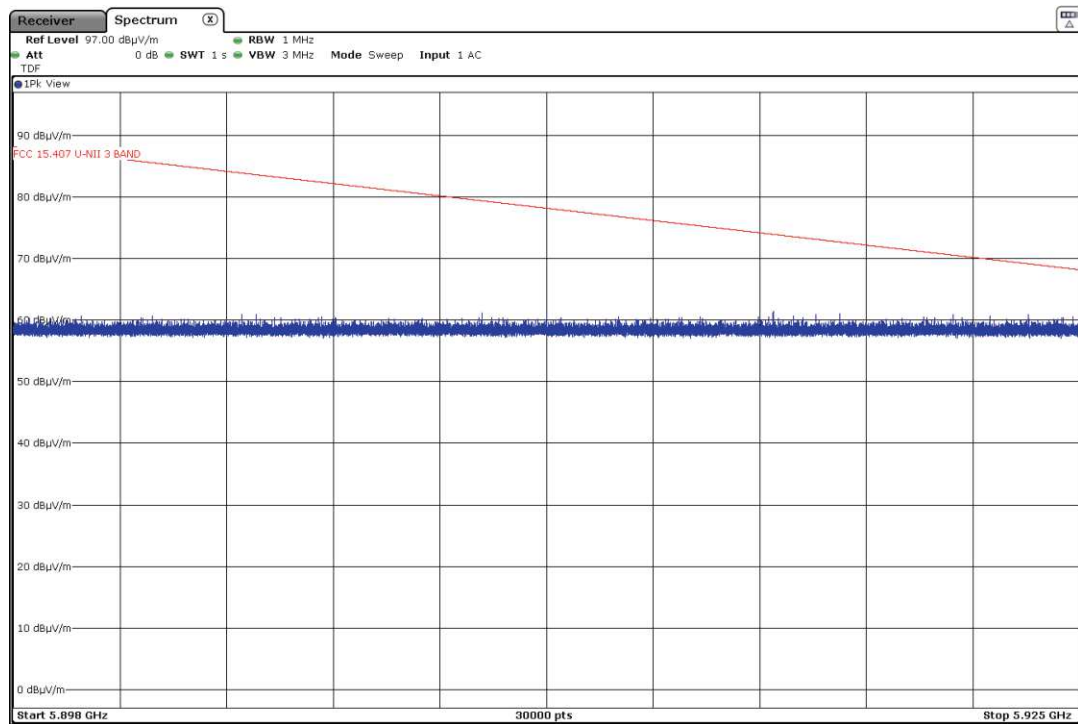
Channel 149 (5745MHz):



Channel 157 (5785MHz):



Channel 165 (5825MHz):



Mode: 802.11n HT40 - 40MHz – Antenna RF 2

Results: Channel 151

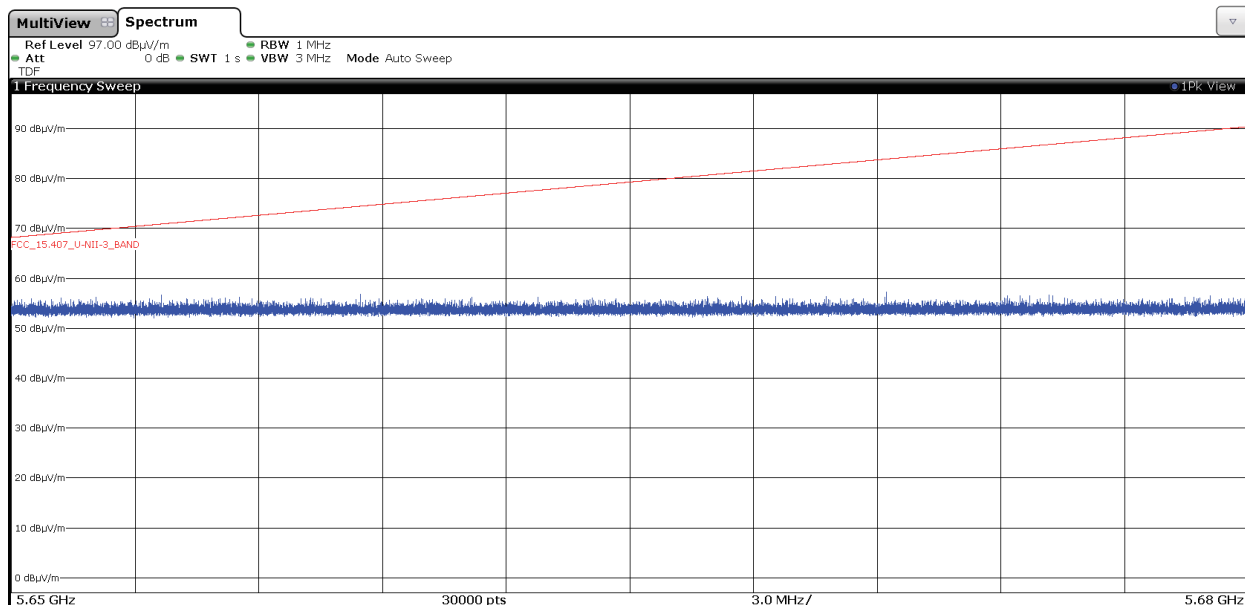
No radiated spurious signals were detected at less than 20 dB respect to the limit.

Results: Channel 159

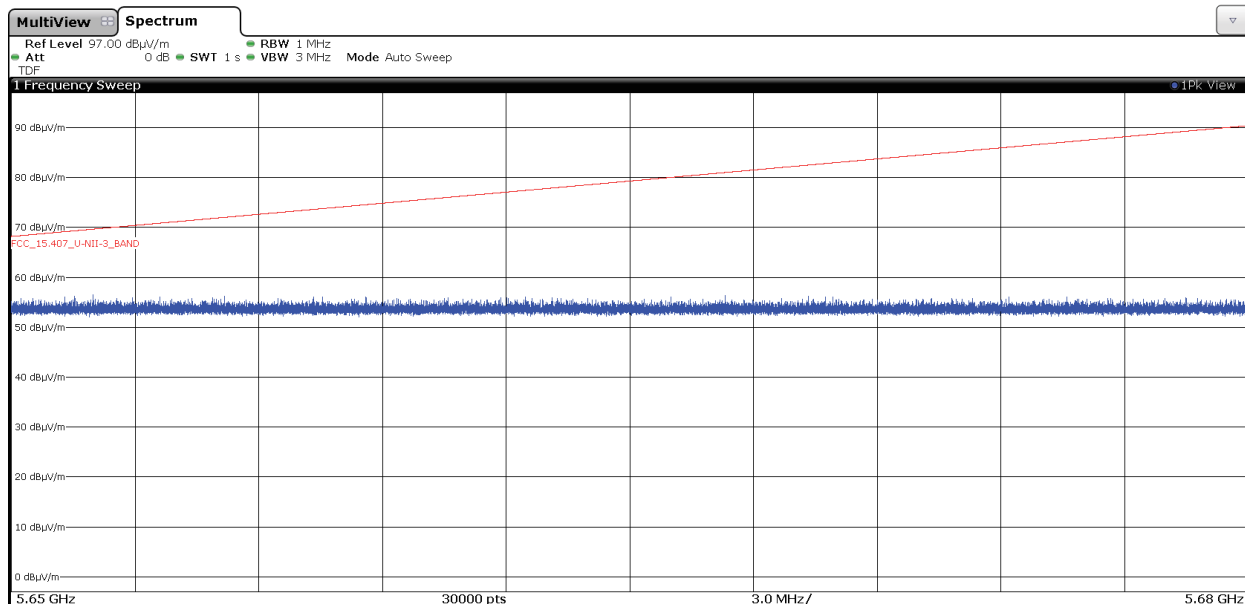
No radiated spurious signals were detected at less than 20 dB respect to the limit.

Radiated spurious emissions at band-edges and inside adjacent band 5.65 – 5.68 GHz.

Channel 151 (5755MHz):

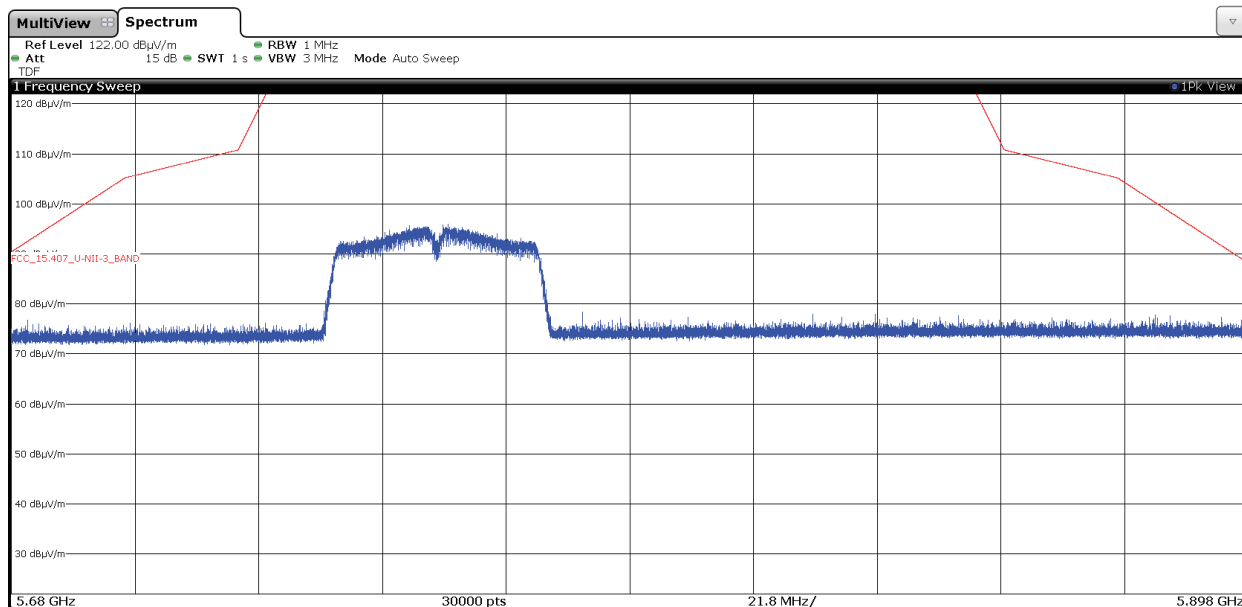


Channel 159 (5795MHz):

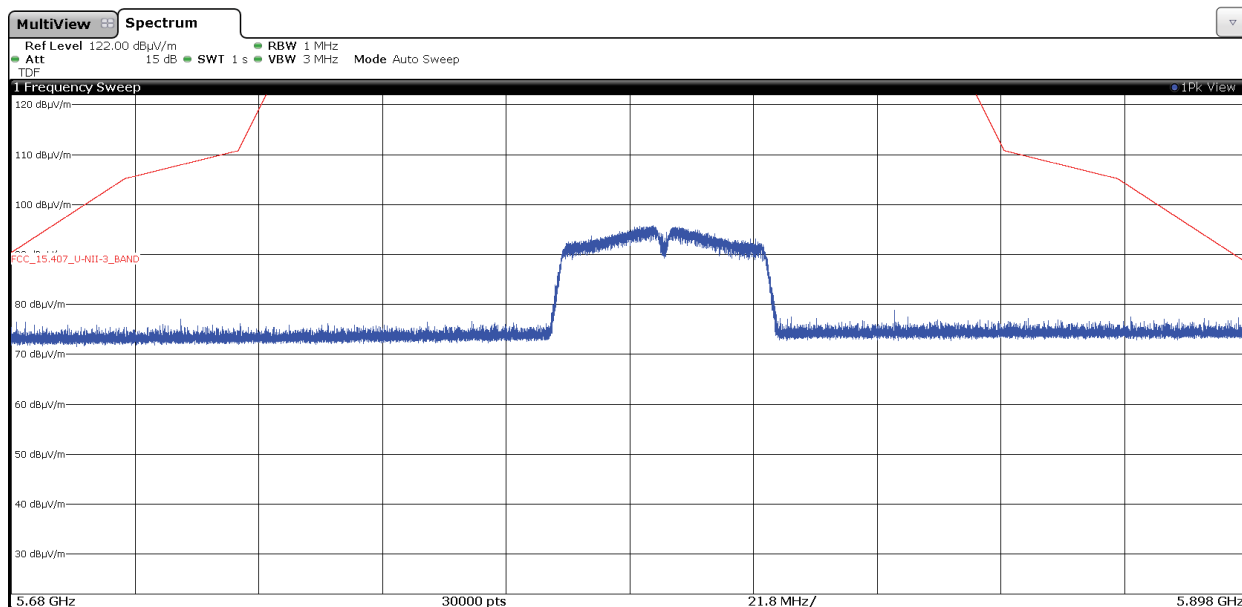


Radiated spurious emissions at band-edges and inside adjacent band 5.68 – 5.898 GHz.

Channel 151 (5755MHz):

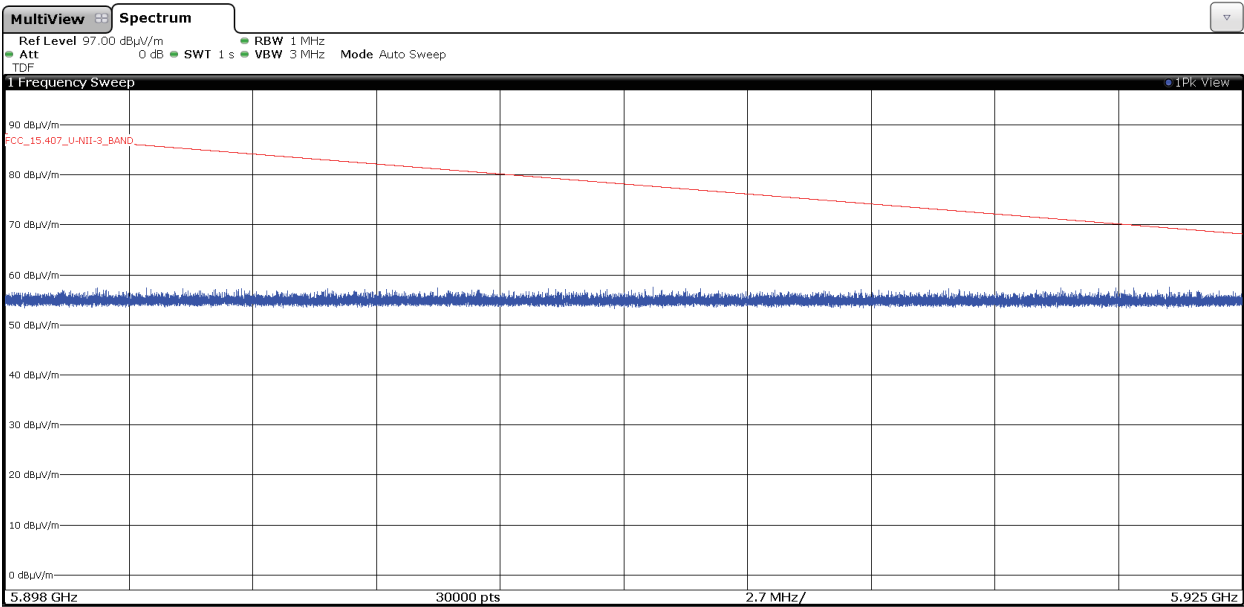


Channel 159 (5795MHz):

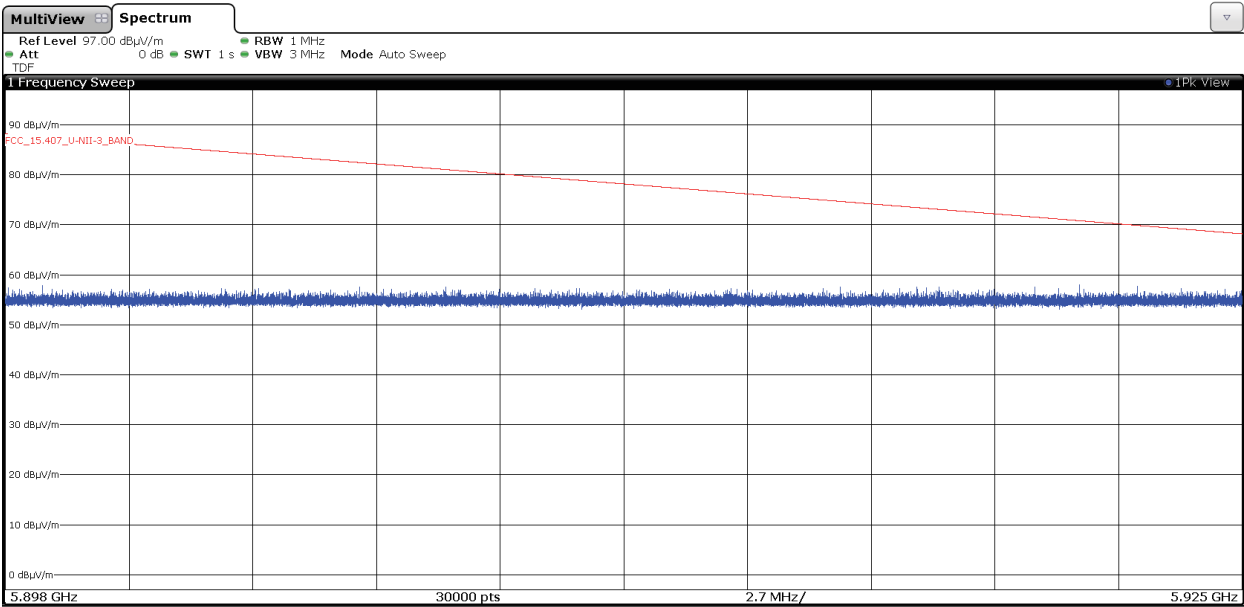


Radiated spurious emissions at band-edges and inside adjacent band 5.898 – 5.925 GHz.

Channel 151 (5755MHz):



Channel 159 (5795MHz):



Mode: 802.11n HT40 - 40MHz – Mimo Antenna RF 1 + 4

Results: Channel 151

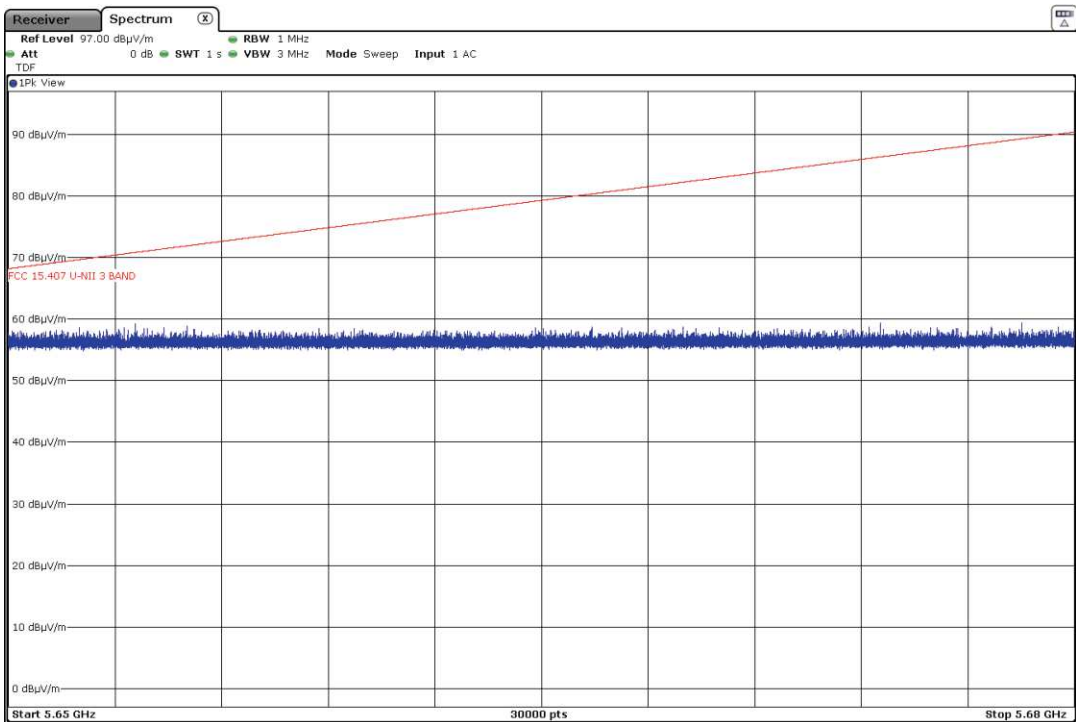
No radiated spurious signals were detected at less than 20 dB respect to the limit.

Results: Channel 159

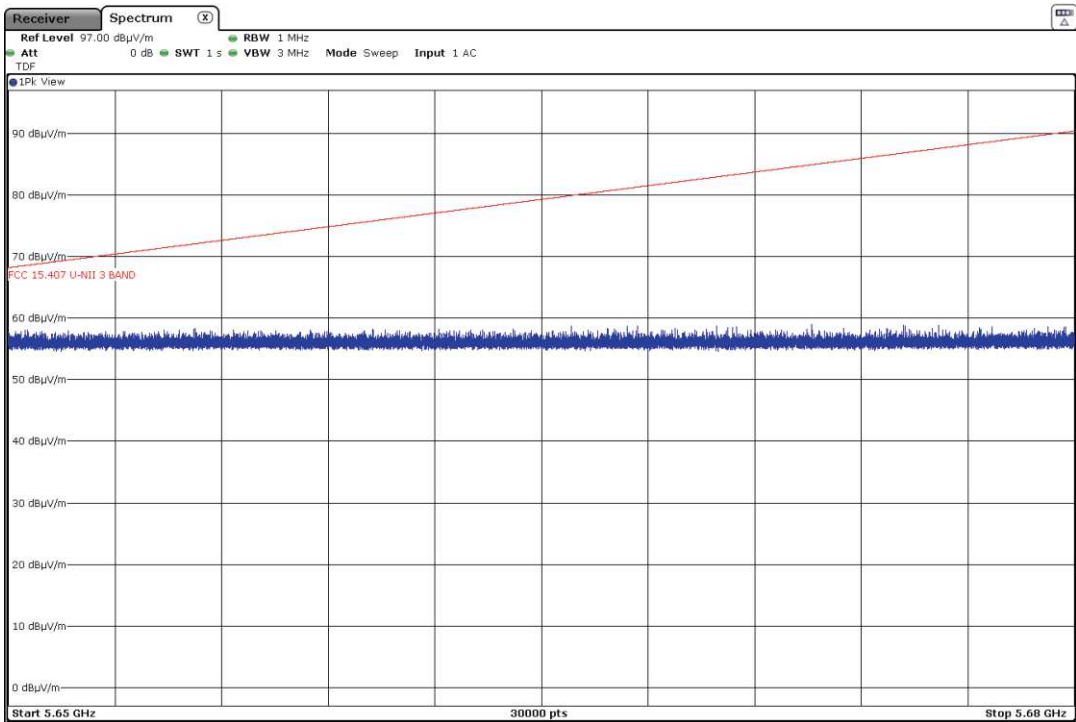
No radiated spurious signals were detected at less than 20 dB respect to the limit.

Radiated spurious emissions at band-edges and inside adjacent band 5.65 – 5.68 GHz.

Channel 151 (5755MHz):

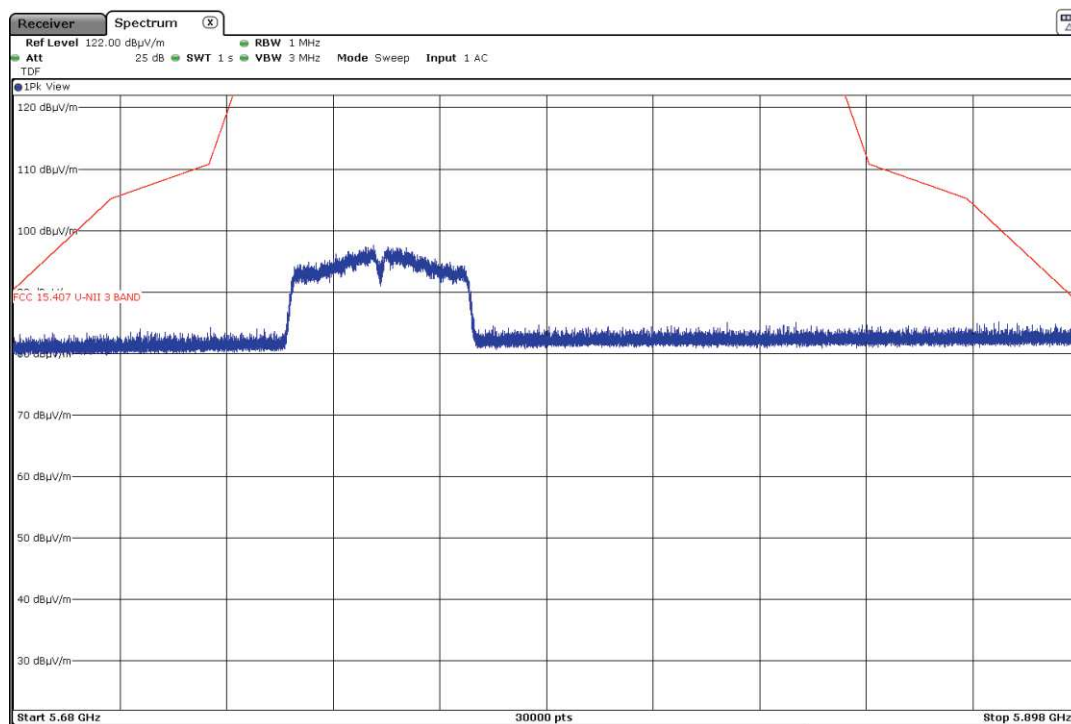


Channel 159 (5795MHz):

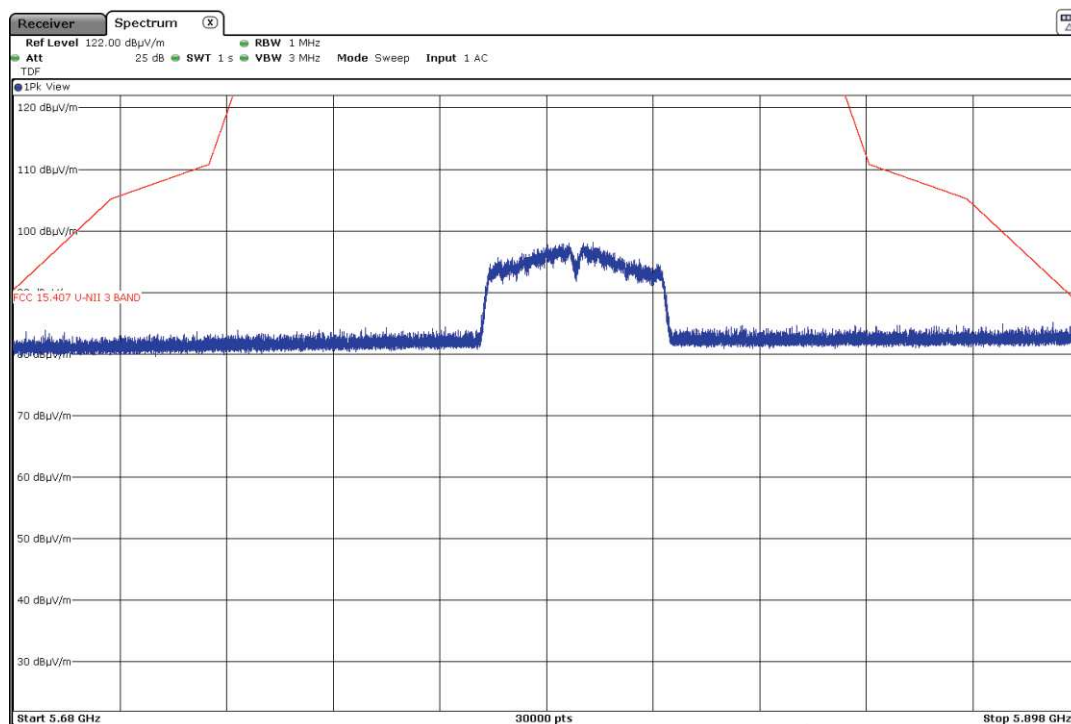


Radiated spurious emissions at band-edges and inside adjacent band 5.68 – 5.898 GHz.

Channel 151 (5755MHz):

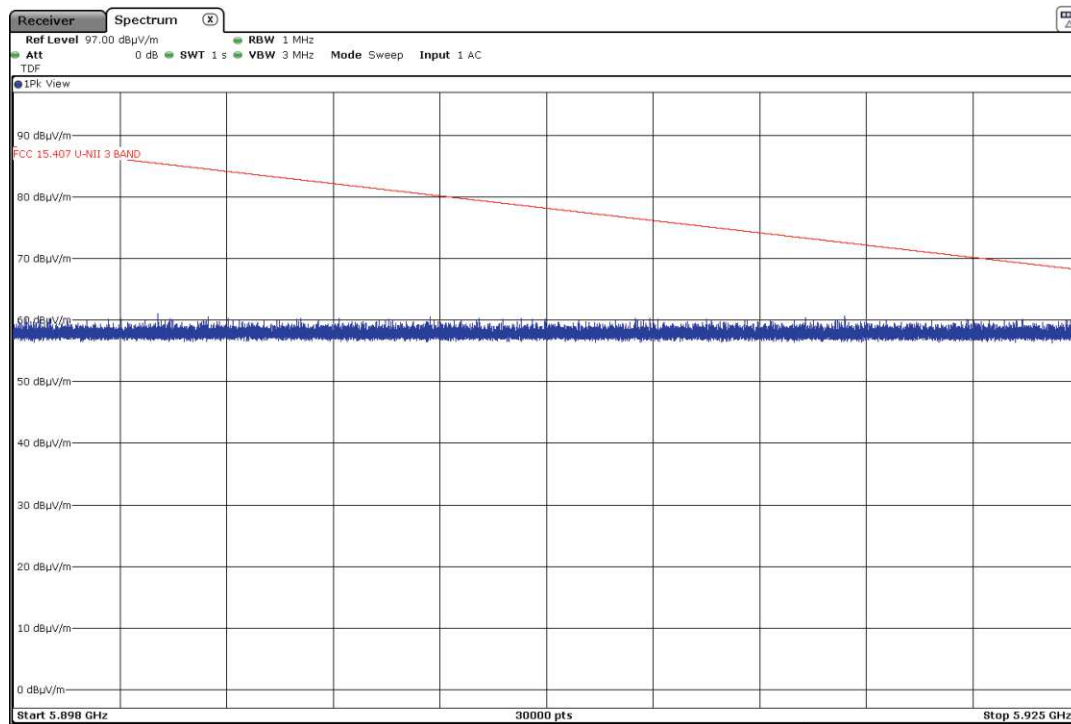


Channel 159 (5795MHz):

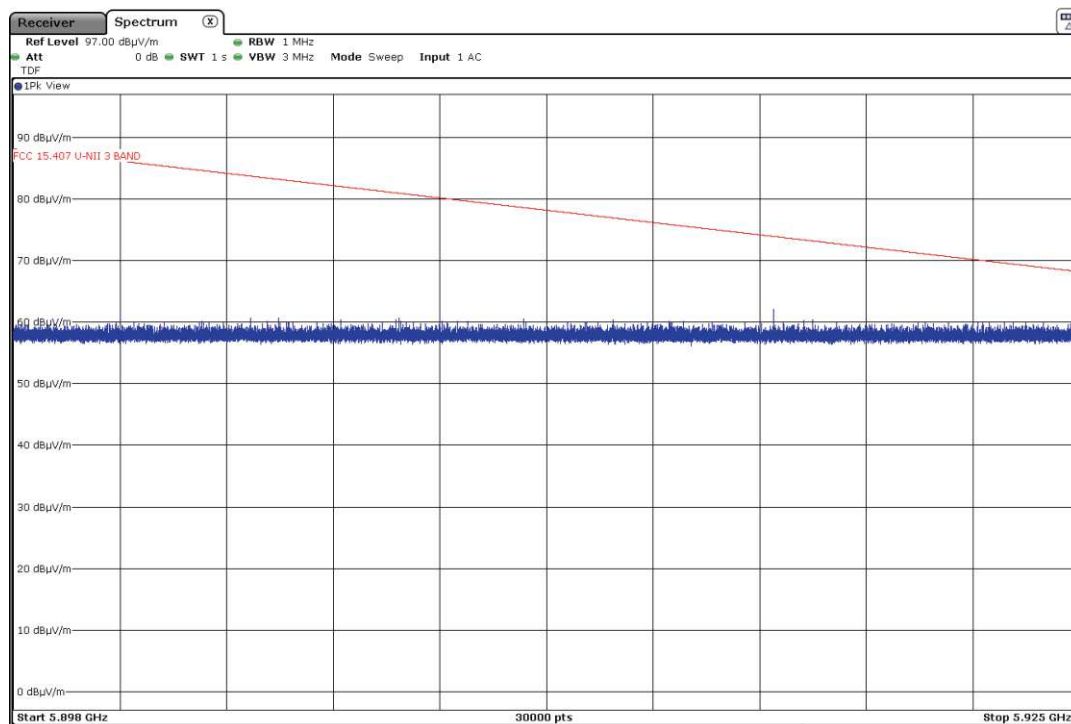


Radiated spurious emissions at band-edges and inside adjacent band 5.898 – 5.925 GHz.

Channel 151 (5755MHz):



Channel 159 (5795MHz):



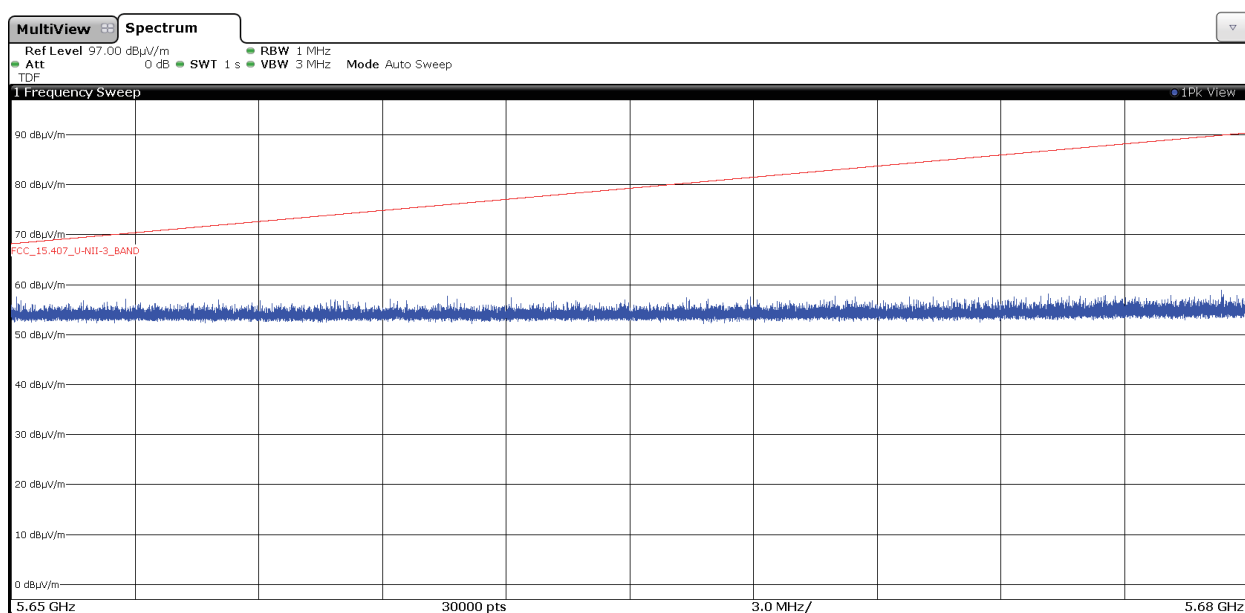
Mode: 802.11ac VHT80 - 80MHz – Antenna RF 2 (worst case)

Results: Channel 155

No radiated spurious signals were detected at less than 20 dB respect to the limit.

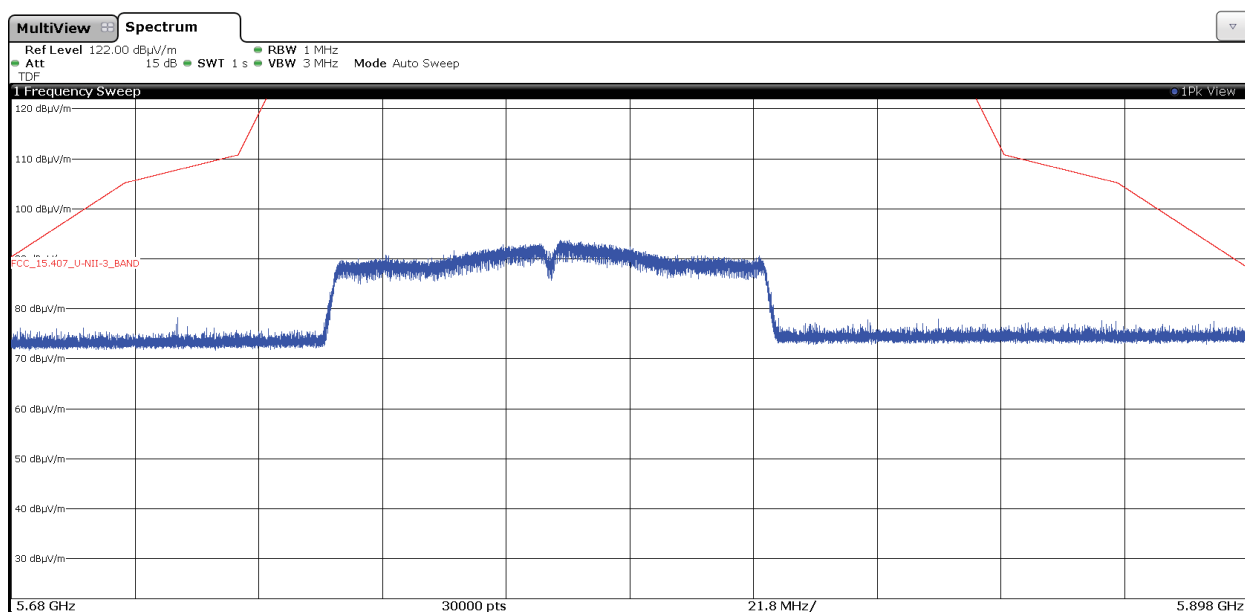
Radiated spurious emissions at band-edges and inside adjacent band 5.65 – 5.68 GHz.

Channel 155 (5775MHz):



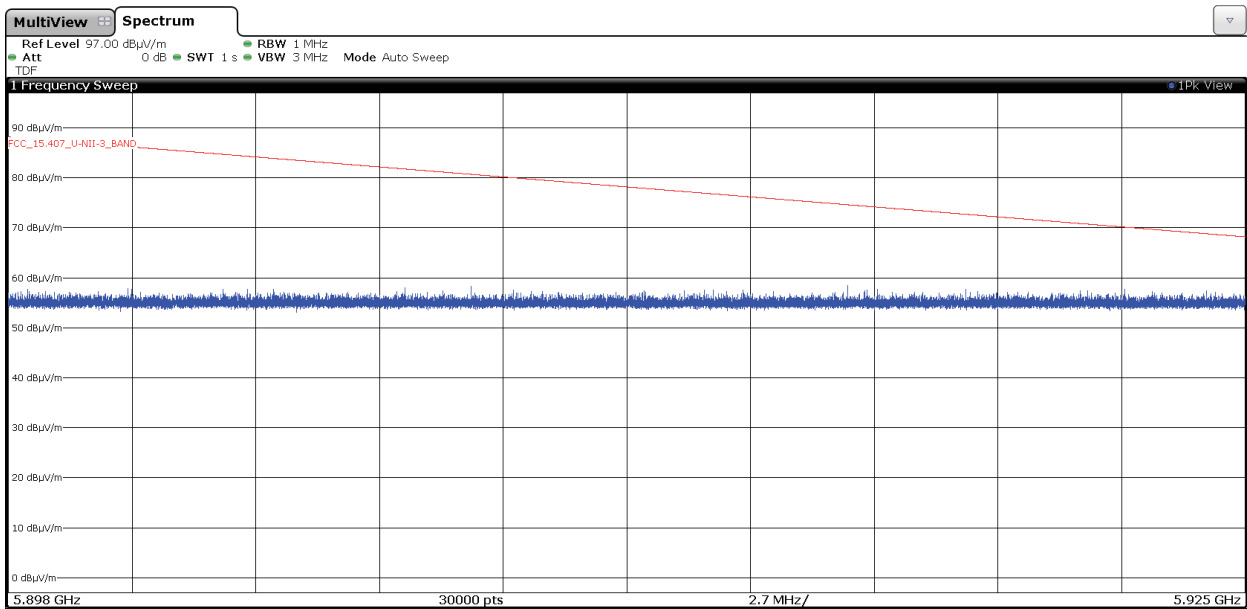
Radiated spurious emissions at band-edges and inside adjacent band 5.68 – 5.898 GHz.

Channel 155 (5775MHz):



Radiated spurious emissions at band-edges and inside adjacent band 5.898 – 5.925 GHz.

Channel 155 (5775MHz):



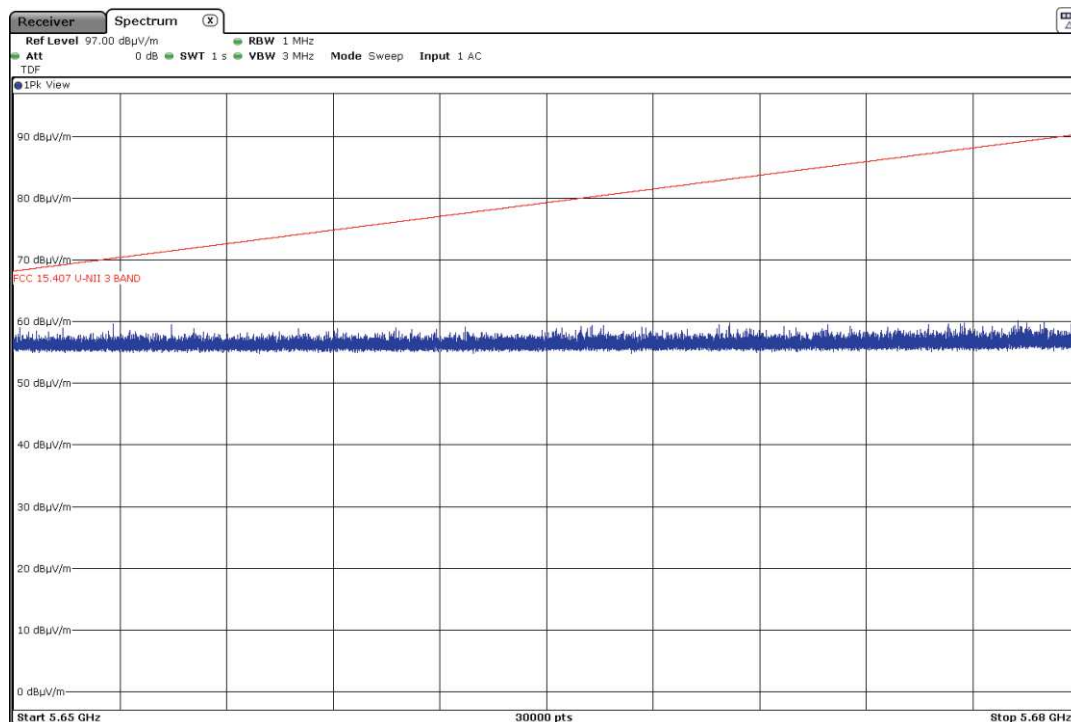
Mode: 802.11ac VHT80 - 80MHz – Mimo Antenna RF 1 + 4

Results: Channel 155

No radiated spurious signals were detected at less than 20 dB respect to the limit.

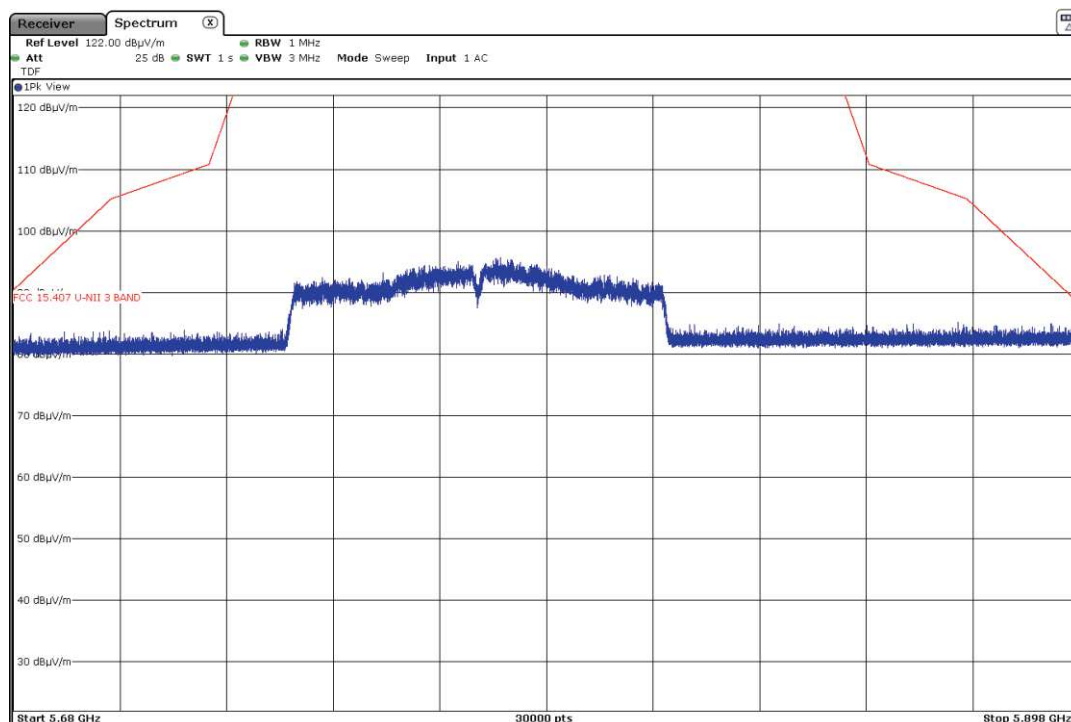
Radiated spurious emissions at band-edges and inside adjacent band 5.65 – 5.68 GHz.

Channel 155 (5775MHz):



Radiated spurious emissions at band-edges and inside adjacent band 5.68 – 5.898 GHz.

Channel 155 (5775MHz):



Radiated spurious emissions at band-edges and inside adjacent band 5.898 – 5.925 GHz.

Channel 155 (5775MHz):

