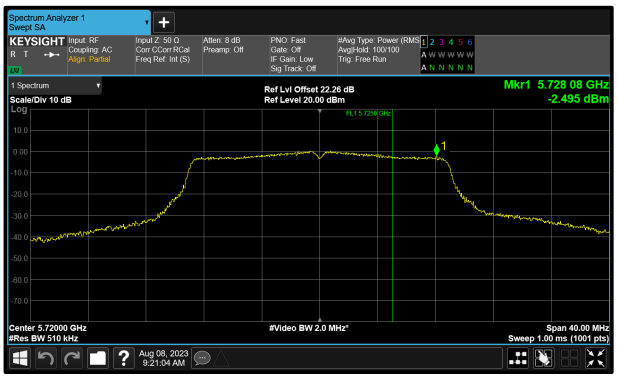
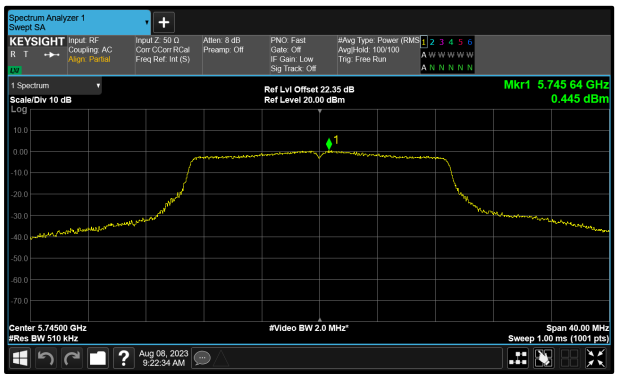
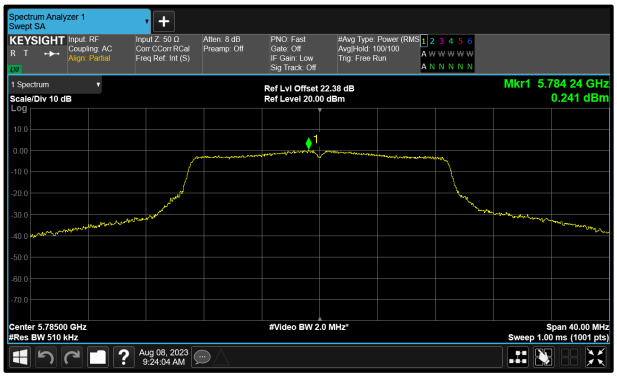
Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)



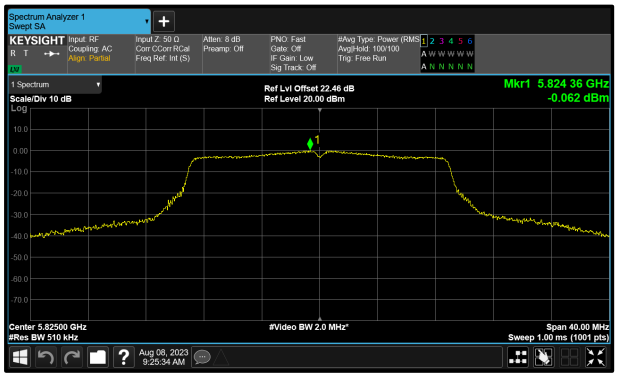
SP1-C0 5720 MHz (CH144)



SP1-C0 5745 MHz (CH149)



SP1-C0 5785 MHz (CH157)



SP1-C0 5825 MHz (CH165)

Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)

Frequency Range:	5.725-5.850 GHz	**Band:**	U-NII-3
Limit Clause:	15.407 (a)(3) RSS-247 6.2.4.1	**Test Method:**	C63.10 12.3.2.4 C63.10 12.5
Note:	DCCF was added to the spectrum analyser reference level offset.		

Antenna Configuration:	SISO	**Mode:**	802.11n HT40
Test Port:	1 (SP1-C0)	**Modulation/Rate:**	MCS0 (BPSK)

Burst Tx	Stability: < ±2%	Duty Cycle (%): 97.97	Period (ms): 0.965	Width (ms): 0.945

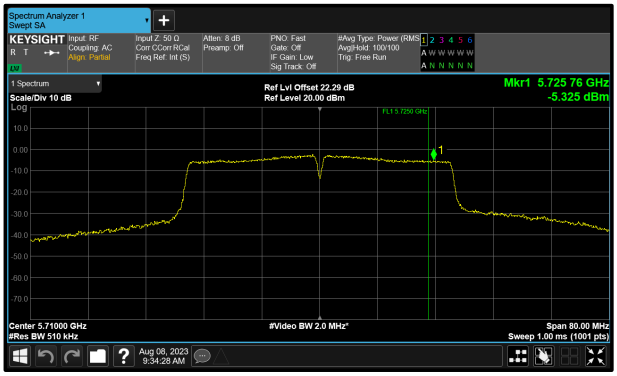
Test Frequency (MHz)	**PSD (dBm / 500 kHz)**					**Limit (dBm)**	**Margin (dB)**
	1	**2**	**3**	**4**	∑		
5710 (CH142)	-5.33	-	-	-	-	30.00	35.33
5755 (CH151)	-2.66	-	-	-	-	30.00	32.66
5795 (CH159)	-3.05	-	-	-	-	30.00	33.05

FCC Maximum Power Spectral Density Results

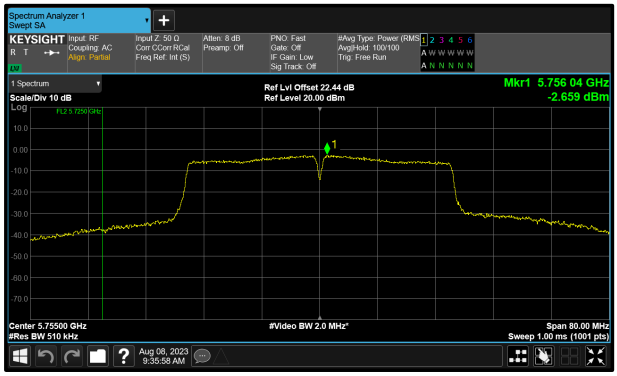
Test Frequency (MHz)	**PSD (dBm / 500 kHz)**					**Limit (dBm)**	**Margin (dB)**
	1	**2**	**3**	**4**	∑		
5710 (CH142)	-5.33	-	-	-	-	30.00	35.33
5755 (CH151)	-2.66	-	-	-	-	30.00	32.66
5795 (CH159)	-3.05	-	-	-	-	30.00	33.05

ISED Maximum Power Spectral Density Results

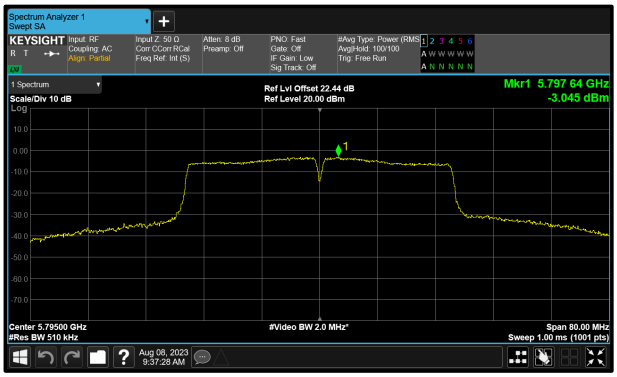
Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)



SP1-C0 5710 MHz (CH142)



SP1-C0 5755 MHz (CH151)



SP1-C0 5795 MHz (CH159)

Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)

Frequency Range:	5.725-5.850 GHz	**Band:**	U-NII-3
Limit Clause:	15.407 (a)(3) RSS-247 6.2.4.1	**Test Method:**	C63.10 12.3.2.4 C63.10 12.5
Note:	DCCF was added to the spectrum analyser reference level offset.		

Antenna Configuration:	SISO	**Mode:**	802.11ac VHT80
Test Port:	1 (SP1-C0)	**Modulation/Rate:**	MCS0x1 (BPSK)

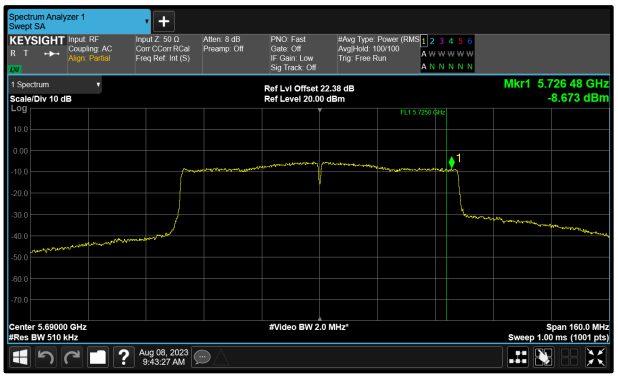
Burst Tx	Stability: < ±2%	Duty Cycle (%): 95.98	Period (ms): 0.481	Width (ms): 0.462

Test Frequency (MHz)	**PSD (dBm / 500 kHz)**					**Limit (dBm)**	**Margin (dB)**
	1	**2**	**3**	**4**	∑		
5690 (CH138)	-8.67	-	-	-	-	30.00	38.67
5775 (CH155)	-5.66	-	-	-	-	30.00	35.66

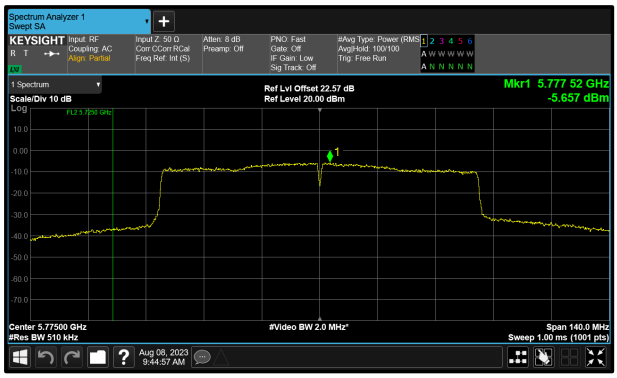
FCC Maximum Power Spectral Density Results

Test Frequency (MHz)	**PSD (dBm / 500 kHz)**					**Limit (dBm)**	**Margin (dB)**
	1	**2**	**3**	**4**	∑		
5690 (CH138)	-8.67	-	-	-	-	30.00	38.67
5775 (CH155)	-5.66	-	-	-	-	30.00	35.66

ISED Maximum Power Spectral Density Results



SP1-C0 5690 MHz (CH138)



SP1-C0 5775 MHz (CH155)

5 Radiated Test Results

5.1 Transmitter Out of Band Radiated Emissions <1 GHz

Test Summary:

Test Engineer:	Andrew Harding	**Test Dates:**	23 May 2023 & 01 June 2023
Test Sample Serial Number:	R29		

FCC Reference:	Parts 15.407(b)(9) & 15.209(a)
Test Method Used:	ANSI C63.10 Sections 6.3, 6.4, 6.5 & 12.7
Frequency Range:	9 kHz to 1000 MHz

Environmental Conditions:

Temperature (°C):	23 to 24
Relative Humidity (%):	38 to 41

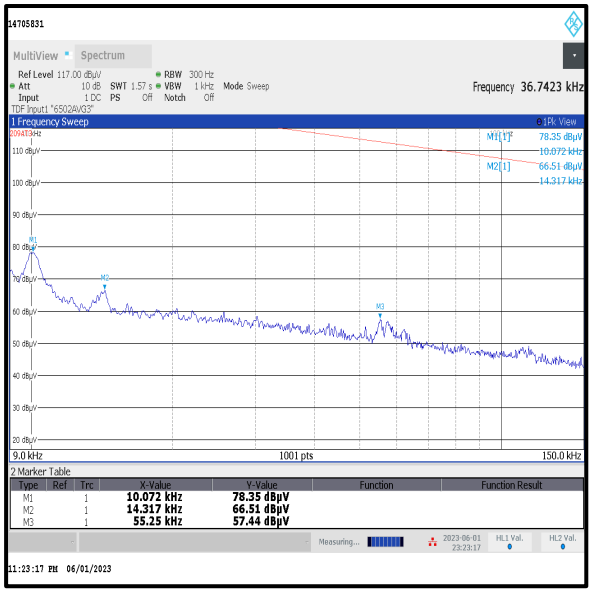
Note(s):

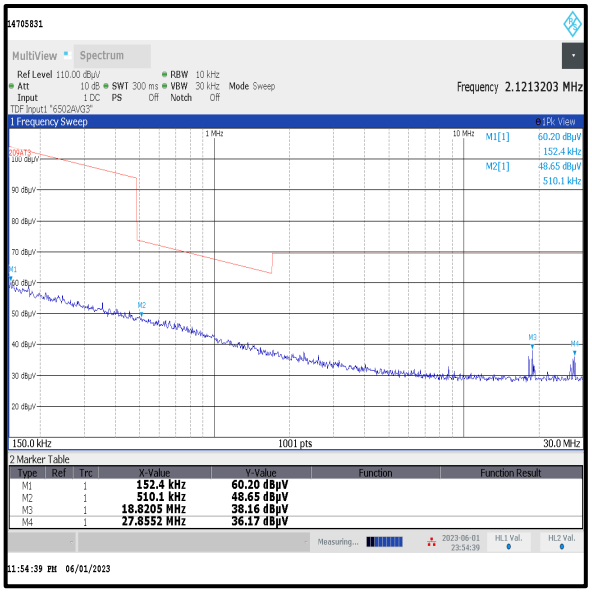
1. The final measured value, for the given emission in the field strength result tables, incorporates the calibrated antenna factor and cable loss.
2. Pre-scans were performed with the EUT transmitting in the band 5.47 to 5.725 GHz band with a data rate of 802.11n / HT20 / MCS0 as it produced the highest output power and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
3. The preliminary scans showed similar emission levels below 1 GHz, for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the middle channel only.
4. All other emissions shown on the pre-scan were investigated and found to be ambient, or >20 dB below the applicable limit or below the measurement system noise floor.
5. Measurements below 1 GHz were performed in a semi-anechoic chamber (Asset Number K0001/K0017) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.
6. The limits in CFR 47, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-Gen Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377Ω. For example, the measurement frequency X kHz resulted in a level of Y dBµV/m, which is equivalent to Y - 51.5 = Z dBµA/m, which has the same margin, W dB, to the corresponding RSS-Gen Table 6 limit as it has to the 15.209(a) limit.
7. Pre-scans were performed and markers placed on the highest measured levels. The test receiver was configured as follows: For 9 kHz to 150 kHz, the resolution bandwidth was set to 300 Hz and video bandwidth 1 kHz. A peak detector was used and trace mode was Max Hold. For 150 kHz to 30 MHz, the resolution bandwidth was set to 10 kHz and video bandwidth 30 kHz, trace mode was Max Hold. For 30 MHz to 1 GHz, the resolution bandwidth was set to 120 kHz and video bandwidth 500 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold.
8. Final measurements were performed on the marker frequencies and the results entered into the table below. The test receiver resolution bandwidth was set to 120 kHz, using a CISPR quasi-peak detector and span wide enough to see the whole emission.

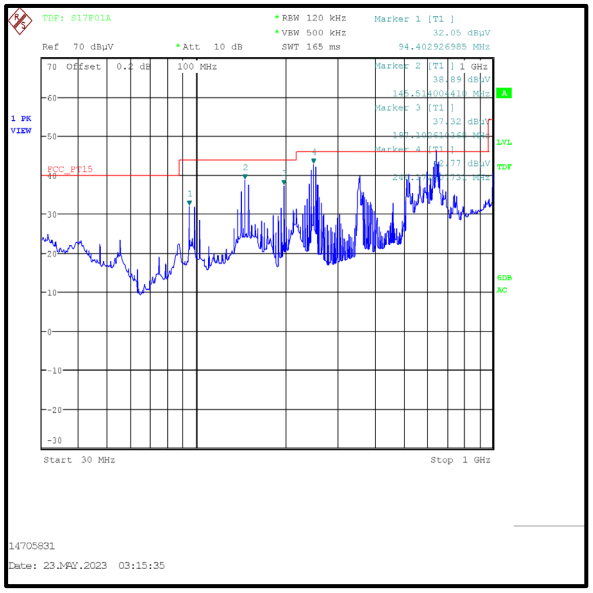
Transmitter Out of Band Radiated Emissions <1 GHz (continued)

Results: Quasi-Peak / Middle Channel / 802.11n / 20 MHz / SISO / MCS0

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
145.439	Horizontal	28.9	43.5	14.6	Complied
196.486	Horizontal	39.7	43.5	3.8	Complied
247.768	Horizontal	44.0	46.0	2.0	Complied
353.695	Vertical	34.2	46.0	11.8	Complied
510.679	Horizontal	33.2	46.0	12.8	Complied
599.405	Vertical	37.7	46.0	8.3	Complied
644.866	Vertical	37.1	46.0	8.9	Complied







Note: This plot is a pre-scan for indication purposes only. For final measurements, see accompanying table.

5.2 Transmitter Out of Band Radiated Emissions >1 GHz

5.2.1 5.15-5.25 GHz band

Transmitter Out of Band Radiated Emissions (5.15-5.25 GHz band operation)

Test Summary:

Test Engineer:	Andrew Harding	**Test Dates:**	18 May 2023 to 24 May 2023
Test Sample Serial Number:	R29		

FCC Reference:	Part 15.407(b)(1),(7) & 15.209(a)
ISED Canada Reference:	RSS-Gen 6.13 & 8.9, RSS-247 6.2.1.2
Test Method Used:	ANSI C63.10 Sections 6.3, 6.6 & 12.7
Frequency Range:	1 GHz to 40 GHz

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	37 to 38

Note(s):

1. FCC Part 15.407(b)(1) states for transmitters operating in the band 5.15 to 5.25 GHz: all emissions outside of the 5.15 to 5.35 GHz band will not exceed -27 dBm/MHz. Part(b)(7) states the provisions of 15.205 apply e.g. restricted bands of operation.
2. Pre-scans were performed with the EUT transmitting in the band 5.47 to 5.725 GHz band with a data rate of 802.11n / HT20 / MCS0 as it produced the highest output power and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
3. All emissions shown on the pre-scan plots were investigated and found to be unrelated to the channel under test. Final measurements were therefore performed in the 5.47 to 5.725 GHz band on middle channel only.

5.2.2 5.25-5.35 GHz band

Transmitter Out of Band Radiated Emissions (5.25-5.35 GHz band operation)

Test Summary:

Test Engineer:	Andrew Harding	**Test Dates:**	18 May 2023 to 24 May 2023
Test Sample Serial Number:	R29		

FCC Reference:	Part 15.407(b)(2),(7) & 15.209(a)
ISED Canada Reference:	RSS-Gen 6.13 & 8.9, RSS-247 6.2.2.2
Test Method Used:	ANSI C63.10 Sections 6.3, 6.6 & 12.7
Frequency Range:	1 GHz to 40 GHz

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	37 to 38

Note(s):

1. FCC Part 15.407(b)(2) states for transmitters operating in the band 5.25 to 5.35 GHz: all emissions outside of the 5.15-5.35 GHz band will not exceed -27 dBm/MHz. Part(b)(7) states the provisions of 15.205 apply e.g. restricted bands of operation.
2. Pre-scans were performed with the EUT transmitting in the band 5.47 to 5.725 GHz band with a data rate of 802.11n / HT20 / MCS0 as it produced the highest output power and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
3. All emissions shown on the pre-scan plots were investigated and found to be unrelated to the channel under test. Final measurements were therefore performed in the 5.47 to 5.725 GHz band on middle channel only.

5.2.3 5.47-5.725 GHz band

Transmitter Out of Band Radiated Emissions (5.47-5.725 GHz band operation)

Test Summary:

Test Engineer:	Andrew Harding	**Test Dates:**	18 May 2023 to 24 May 2023
Test Sample Serial Number:	R29		

FCC Reference:	Part 15.407(b)(3),(7) & 15.209(a)
ISED Canada Reference:	RSS-Gen 6.13 & 8.9, RSS-247 6.2.3.2
Test Method Used:	ANSI C63.10 Sections 6.3, 6.6 & 12.7
Frequency Range:	1 GHz to 40 GHz

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	37 to 38

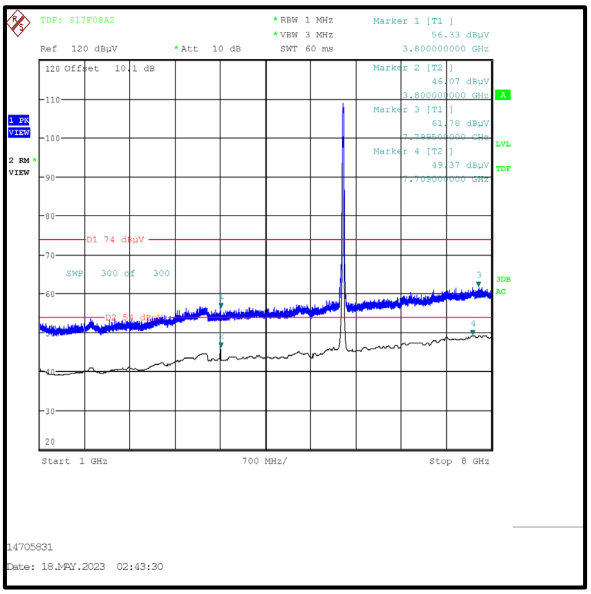
Note(s):

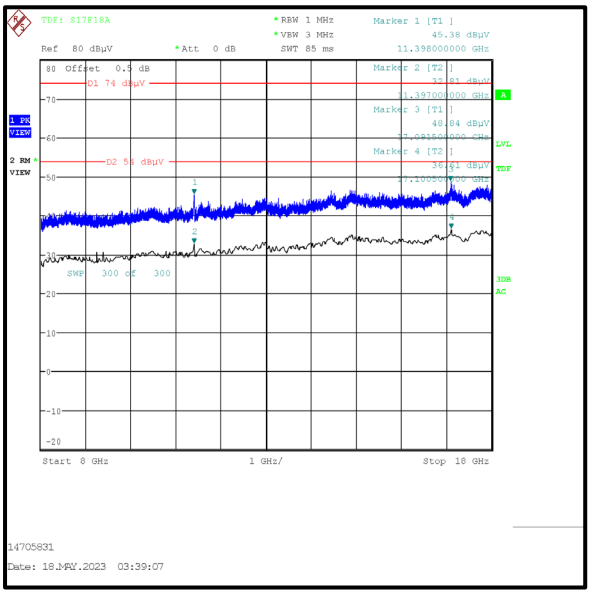
1. FCC Part 15.407(b)(3) states for transmitters operating in the band 5.47 to 5.725 GHz: all emissions outside of the band will not exceed -27 dBm/MHz. Part(b)(7) states the provisions of 15.205 apply e.g. restricted bands of operation.
2. Pre-scans were performed with the EUT transmitting in the band 5.47 to 5.725 GHz band with a data rate of 802.11n / HT20 / MCS0 as it produced the highest output power and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
3. All emissions shown on the pre-scan plots were investigated and found to be unrelated to the channel under test. Final measurements were therefore performed in the 5.47 to 5.725 GHz band on middle channel only.
4. In accordance with ANSI C63.10-2013 Section 6.5.4, emissions more than 20 dB below the limit do not need to be reported.
5. The final measured value, for the given emission in the field strength result tables, incorporates the calibrated antenna factor and cable loss.
6. Appropriate RF filters and attenuators were used during pre-scans and final measurements. Insertion losses were entered on the spectrum analyser as RF levels offsets.
7. In accordance with KDB 789033 Section II.G.1.c) if the peak measurement is below the average limit, it is not necessary to perform a separate average measurement.
8. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0017) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

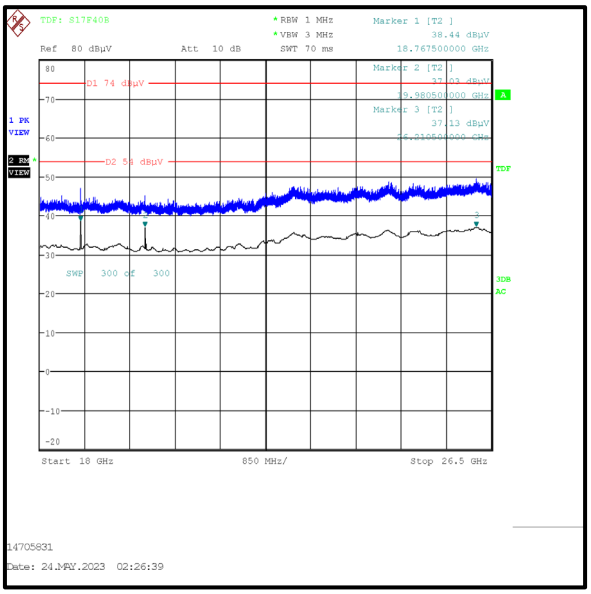
Transmitter Out of Band Radiated Emissions (5.47-5.725 GHz band operation) (continued)

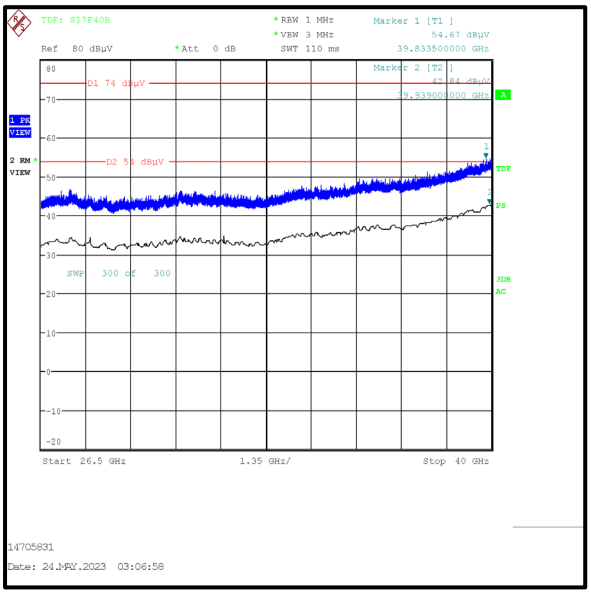
Results: Middle Channel / Field Strength

Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
3799.970	Horizontal	46.9	54.0	7.1	Complied
18760.700	Horizontal	48.8	54.0	5.2	Complied
19980.000	Horizontal	46.1	54.0	7.9	Complied









5.2.4 5.725-5.85 GHz band

Transmitter Out of Band Radiated Emissions (5.725-5.85 GHz band operation)

Test Summary:

Test Engineer:	Andrew Harding	**Test Dates:**	18 May 2023 to 24 May 2023
Test Sample Serial Number:	R29		

FCC Reference:	Part 15.407(b)(4)(i),(7) & 15.209(a)
ISED Canada Reference:	RSS-Gen 6.13 & 8.9, RSS-247 6.2.4.2
Test Method Used:	ANSI C63.10 Sections 6.3, 6.6 & 12.7
Frequency Range:	1 GHz to 40 GHz

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	37 to 38

Note(s):

1. FCC Part 15.407(b)(4)(i) states for transmitters operating in the band 5.725 to 5.85 GHz: 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. Part(b)(7) states the provisions of 15.205 apply e.g. restricted bands of operation.
2. Pre-scans were performed with the EUT transmitting in the band 5.47 to 5.725 GHz band with a data rate of 802.11n / HT20 / MCS0 as it produced the highest output power and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
3. All emissions shown on the pre-scan plots were investigated and found to be unrelated to the channel under test. Final measurements were therefore performed in the 5.47 to 5.725 GHz band on middle channel only.

5.3 Transmitter Band Edge Radiated Emissions

5.3.1 5.15-5.25 GHz band

Test Summary:

Test Engineers:	John Ferdinand & Andrew Harding	**Test Dates:**	16 May 2023 & 17 May 2023
Test Sample Serial Number:	R29		

FCC Reference:	Parts 15.407(b)(1),(7), 15.205 & 15.209(a)
ISED Canada Reference:	RSS-Gen 6.13 & 8.9, RSS-247 6.2.1.2
Test Method Used:	ANSI C63.10 Sections 6.10 & 12.7

Environmental Conditions:

Temperature (°C):	22 to 24
Relative Humidity (%):	36 to 43

Note(s):

1. Lower band edge measurements were performed with the EUT transmitting on the bottom channel. The EUT power is uniform across the 5.15-5.25 GHz and 5.25-5.35 GHz bands. Top channel in the 5.15-5.25 GHz band was therefore not tested against the upper band edge at 5.35 GHz. This was confirmed to be acceptable to the FCC via KDB inquiry.
2. Where bottom channel used a lower power setting than the adjacent channel, the adjacent channel was also tested.
3. For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. However, there are restricted bands of operation below the lower band edge at 4.5-5.15 GHz and also above the upper band edge at 5.35-5.46 GHz therefore the provisions of FCC Part 15.205 apply.
4. Field strength measurements using peak and average detectors were performed in the restricted band below 5.15 GHz. Field strength and EIRP results were found to be compliant with the restricted band limits and Part 15.407 out-of-band limits.
5. For all average measurments if this section, 300 sweeps were used. This satisfies the requirement for the minimum number of sweeps, as stated in KDB 789033 Section II.G.6.c) Method AD (vi).
6. In accordance with KDB 789033 Section II.G.6.c) Method AD (vii), for average measurements, data rates where the EUT was transmitting <98% duty cycle, the duty cycle correction factor calculated in section 4.1 was added to the measured result.

Transmitter Band Edge Radiated Emissions (5.15-5.25 GHz band operation) (continued)

Results: 802.11a / 20 MHz / SISO / 6 Mbps

Results: Lower Band Edge (CH36) / Peak

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5149.103	70.7	74.0	3.3	Complied
5150	69.0	74.0	5.0	Complied

Results: Lower Band Edge (CH40) / Peak

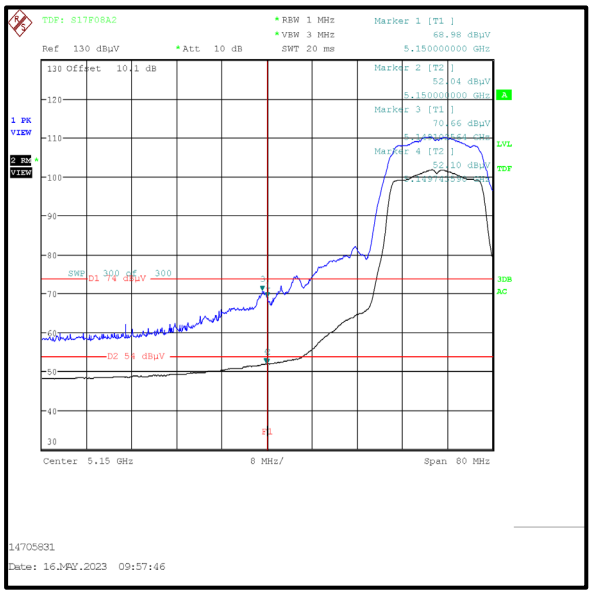
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5150	61.9	74.0	12.1	Complied

Results: Lower Band Edge (CH36) / Average

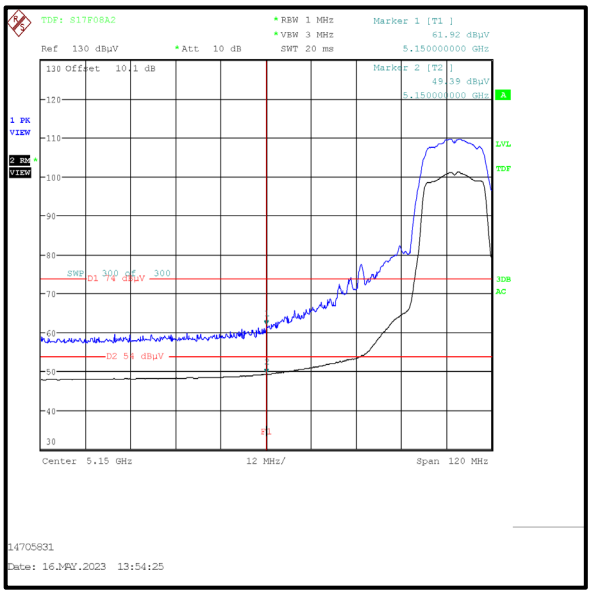
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5149.744	52.0	54.0	2.0	Complied
5150	52.1	54.0	1.9	Complied

Results: Lower Band Edge (CH40) / Average

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5150	49.4	54.0	4.6	Complied



Lower Band Edge (CH36)



Lower Band Edge (CH40)

Transmitter Band Edge Radiated Emissions (5.15-5.25 GHz band operation) (continued)

Results: 802.11n / 20 MHz / SISO / MCS0

Results: Lower Band Edge (CH36) / Peak

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5148.077	72.0	74.0	2.0	Complied
5150	69.7	74.0	4.3	Complied

Results: Lower Band Edge (CH40) / Peak

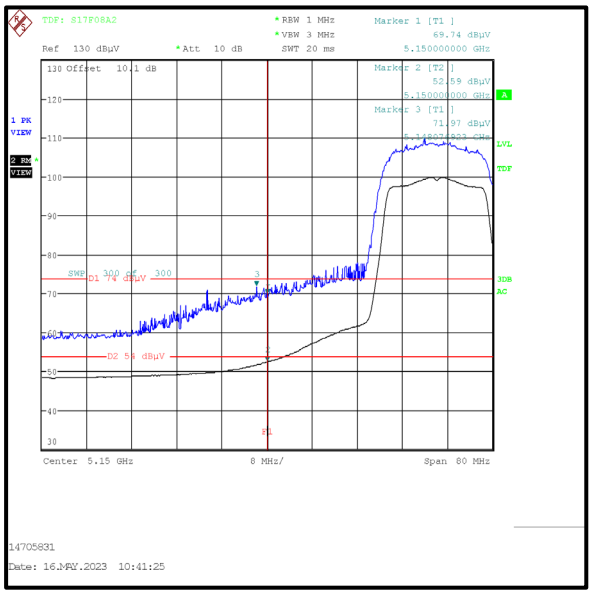
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5148.462	65.1	74.0	8.9	Complied
5150	63.4	74.0	10.6	Complied

Results: Lower Band Edge (CH36) / Average

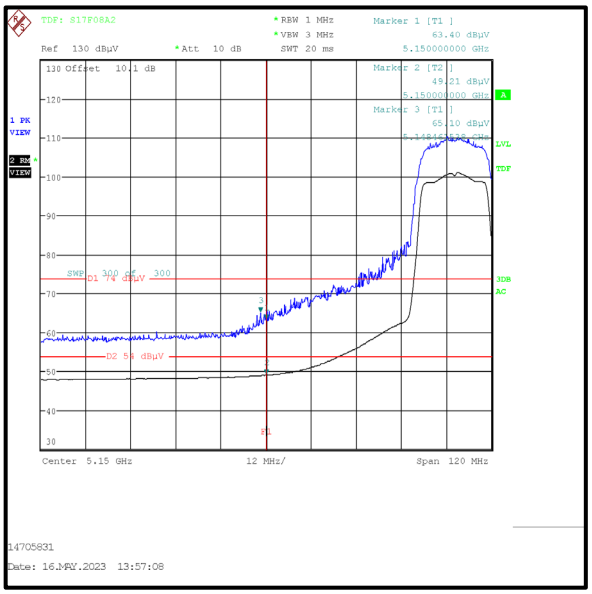
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5150	52.6	54.0	1.4	Complied

Results: Lower Band Edge (CH40) / Average

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5150	49.2	54.0	4.8	Complied



Lower Band Edge (CH36)



Lower Band Edge (CH40)

Transmitter Band Edge Radiated Emissions (5.15-5.25 GHz band operation) (continued)

Results: 802.11n / 40 MHz / SISO / MCS0

Results: Lower Band Edge (CH38) / Peak

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5149.231	68.0	74.0	6.0	Complied
5150	66.4	74.0	7.6	Complied

Results: Lower Band Edge (CH46) / Peak

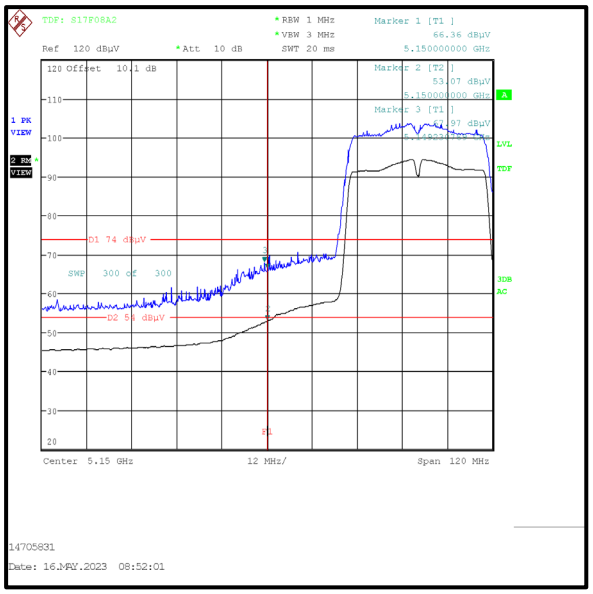
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5149.679	62.6	74.0	11.4	Complied
5150	62.0	74.0	12.0	Complied

Results: Lower Band Edge (CH38) / Average

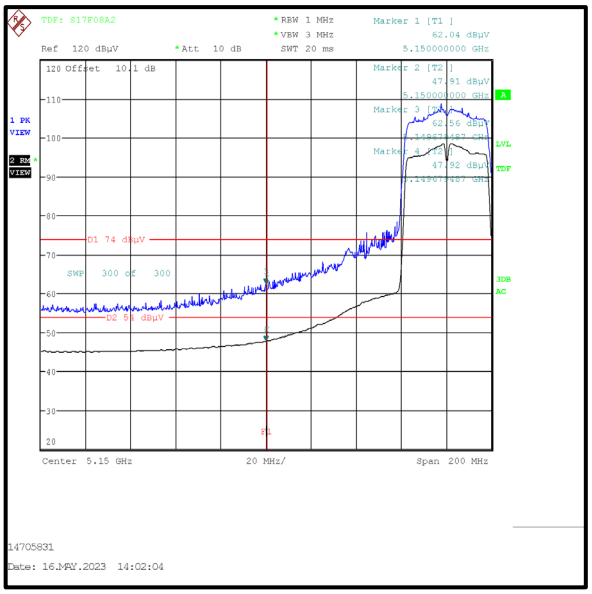
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5150	53.1	54.0	0.9	Complied

Results: Lower Band Edge (CH46) / Average

Frequency (MHz)	Level (dBµV/m)	Duty Cycle correction (dB)	Corrected Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5150	47.9	0.1	48.0	54.0	6.0	Complied



Lower Band Edge (CH38)



Lower Band Edge (CH46)

Transmitter Band Edge Radiated Emissions (5.15-5.25 GHz band operation) (continued)

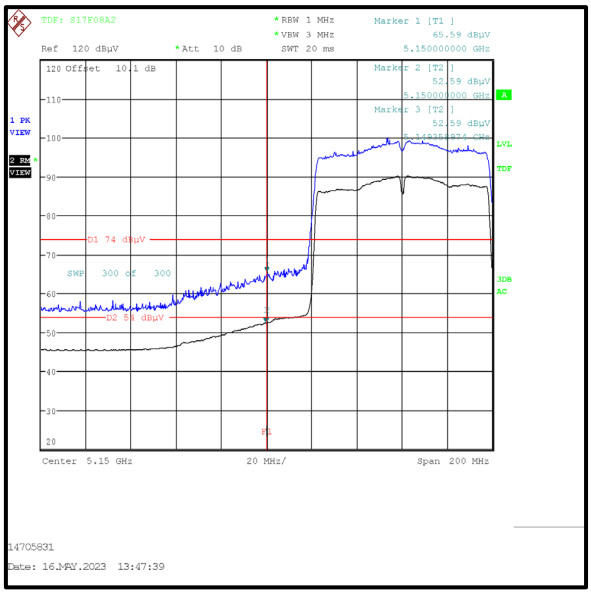
Results: 802.11ac / 80 MHz / SISO / MCS0x1

Results: Lower Band Edge / Peak

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5150	65.6	74.0	8.4	Complied

Results: Lower Band Edge / Average

Frequency (MHz)	Level (dBµV/m)	Duty Cycle correction (dB)	Corrected Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5150	52.6	0.2	52.8	54.0	1.2	Complied



Lower Band Edge

Transmitter Band Edge Radiated Emissions (5.25-5.35 GHz band)

5.3.2 5.25-5.35 GHz band

Test Summary:

Test Engineers:	John Ferdinand & Andrew Harding	**Test Dates:**	16 May 2023 & 17 May 2023
Test Sample Serial Number:	R29		

FCC Reference:	Parts 15.407(b)(2),(7), 15.205 & 15.209(a)
ISED Canada Reference:	RSS-Gen 6.13 & 8.9, RSS-247 6.2.2.2
Test Method Used:	ANSI C63.10 Sections 6.10 & 12.7

Environmental Conditions:

Temperature (°C):	22 to 24
Relative Humidity (%):	36 to 43

Note(s):

1. Upper band edge measurements were performed with the EUT transmitting on the top channel. The EUT power is uniform across the 5.15-5.25 GHz and 5.25-5.35 GHz bands. Bottom channel in the 5.25-5.35 GHz band was therefore not tested against the lower band edge at 5.15 GHz. This was confirmed to be acceptable to the FCC via KDB inquiry.
2. For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. However, there are restricted bands of operation below the lower band edge at 4.5-5.15 GHz and also above the upper band edge at 5.35-5.46 GHz therefore the provisions of FCC Part 15.205 apply.
3. Field strength measurements using peak and average detectors were performed in the restricted band above 5.35 GHz. Field strength and EIRP results were found to be compliant with the restricted band limits and Part 15.407 out-of-band limits.
4. For all average measurments if this section, 300 sweeps were used. This satisfies the requirement for the minimum number of sweeps, as stated in KDB 789033 Section II.G.6.c) Method AD (vi).
5. In accordance with KDB 789033 Section II.G.6.c) Method AD (vii), for average measurements, data rates where the EUT was transmitting <98% duty cycle, the duty cycle correction factor calculated in section 4.1 was added to the measured result.

Transmitter Band Edge Radiated Emissions (5.25-5.35 GHz band operation) (continued)

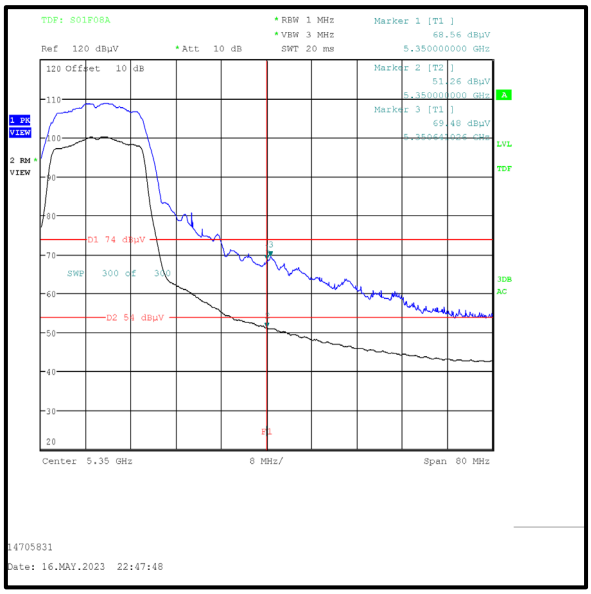
Results: 802.11a / 20 MHz / SISO / 6 Mbps

Results: Upper Band Edge / Peak

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5350	68.6	74.0	5.4	Complied
5350.641	69.5	74.0	4.5	Complied

Results: Upper Band Edge / Average

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5350	51.3	54.0	2.7	Complied



Upper Band Edge

Transmitter Band Edge Radiated Emissions (5.25-5.35 GHz band operation) (continued)

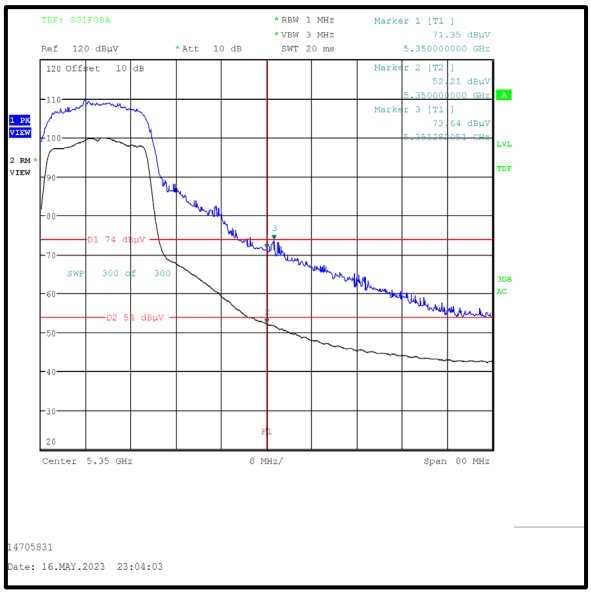
Results: 802.11n / 20 MHz / SISO / MCS0

Results: Upper Band Edge / Peak

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5350	71.4	74.0	2.6	Complied
5351.282	73.6	74.0	0.4	Complied

Results: Upper Band Edge / Average

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5350	52.2	54.0	1.8	Complied



Upper Band Edge

Transmitter Band Edge Radiated Emissions (5.25-5.35 GHz band operation) (continued)

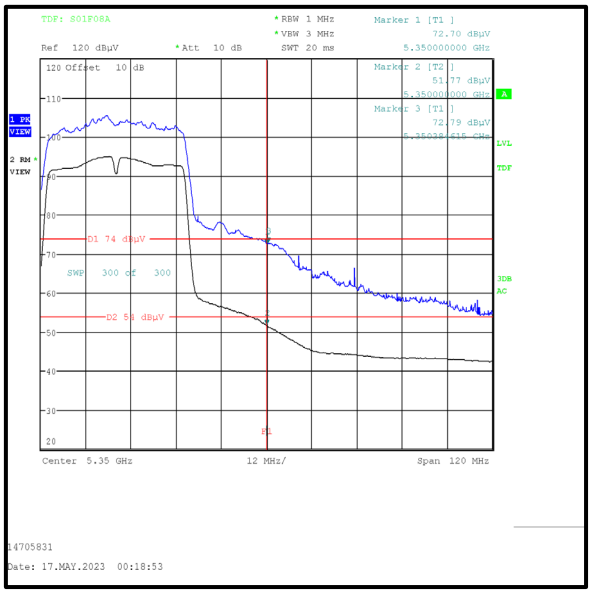
Results: 802.11n / 40 MHz / SISO / MCS0

Results: Upper Band Edge / Peak

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5350	72.7	74.0	1.3	Complied
5350.385	72.8	74.0	1.2	Complied

Results: Upper Band Edge / Average

Frequency (MHz)	Level (dBµV/m)	Duty Cycle correction (dB)	Corrected Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5350	51.8	0.1	51.9	54.0	2.1	Complied



Upper Band Edge

Transmitter Band Edge Radiated Emissions (5.25-5.35 GHz band operation) (continued)

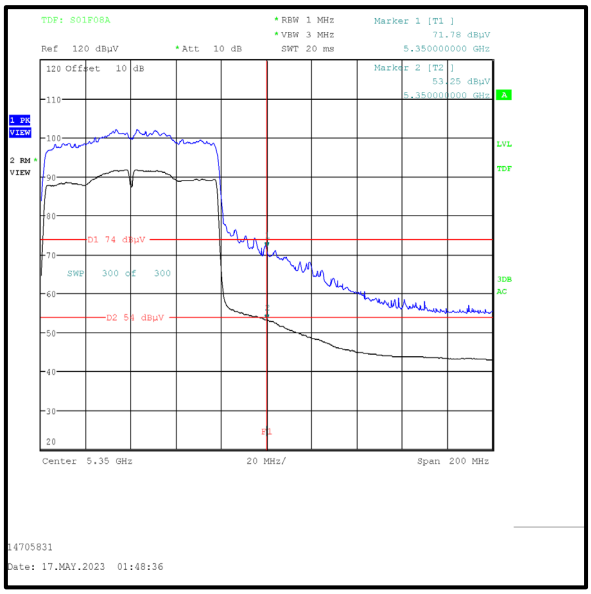
Results: 802.11ac / 80 MHz / SISO / MCS0x1

Results: Upper Band Edge / Peak

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5350	71.8	74.0	2.2	Complied

Results: Upper Band Edge / Average

Frequency (MHz)	Level (dBµV/m)	Duty Cycle correction (dB)	Corrected Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5350	53.3	0.2	53.5	54.0	0.5	Complied



Upper Band Edge

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band)

5.3.3 5.47-5.725 GHz band

Test Summary:

Test Engineers:	John Ferdinand & Andrew Harding	**Test Date:**	17 May 2023
Test Sample Serial Number:	R29		

FCC Reference:	Parts 15.407(b)(3),(7), 15.205 & 15.209(a)
ISED Canada Reference:	RSS-Gen 6.13 & 8.9, RSS-247 6.2.3.2
Test Method Used:	ANSI C63.10 Sections 6.10 & 12.7

Environmental Conditions:

Temperature (°C):	22 to 24
Relative Humidity (%):	36 to 43

Note(s):

1. Lower band edge measurements were performed with the EUT transmitting on the bottom channel. Upper band edge measurements were performed with the EUT transmitting on the top channel.
2. Where bottom / top channel used a lower power setting than the adjacent channel, the adjacent channel was also tested.
3. 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. However, there are restricted bands of operation below the lower band edge at 4.5-5.15 GHz and also at 5.35-5.46 GHz therefore the provisions of FCC Part 15.205 apply.
4. For completeness, results are also shown as EIRP in dBm and also as field strength in dBµV/m. Measured field strength was converted to EIRP in accordance with KDB 789033 II.G.2.c)(iii) using a conversion factor of 95.2.

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

Results: 802.11a / 20 MHz / SISO / 6 Mbps

Results: Lower Band Edge (CH100) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5469.872	-28.7	-27.0	1.7	Complied
5470	-29.2	-27.0	2.2	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5469.872	66.5	68.2	1.7	Complied
5470	66.0	68.2	2.2	Complied

Results: Lower Band Edge (CH104) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5469.423	-37.5	-27.0	10.5	Complied
5470	-38.8	-27.0	11.8	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5469.423	57.7	68.2	10.5	Complied
5470	56.4	68.2	11.8	Complied

Results: Upper Band Edge (CH136) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5725	-33.1	-27.0	6.1	Complied
5725.529	-32.7	-27.0	5.7	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5725	62.1	68.2	6.1	Complied
5725.529	62.5	68.2	5.7	Complied

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

Results: 802.11a / 20 MHz / SISO / 6 Mbps

Results: Upper Band Edge (CH140) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5725	-29.5	-27.0	2.5	Complied
5727.019	-28.7	-27.0	1.7	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5725	65.7	68.2	2.5	Complied
5727.019	66.5	68.2	1.7	Complied

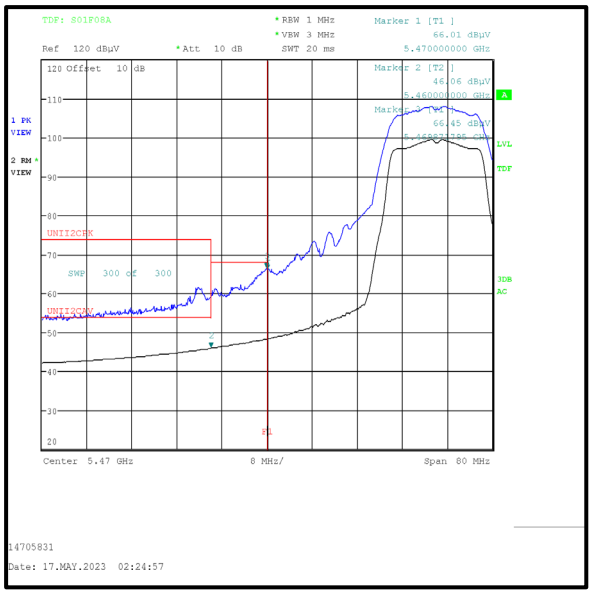
Results: Straddle Channel / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5850	-36.9	-27.0	9.9	Complied
5949.167	-34.8	-27.0	7.8	Complied

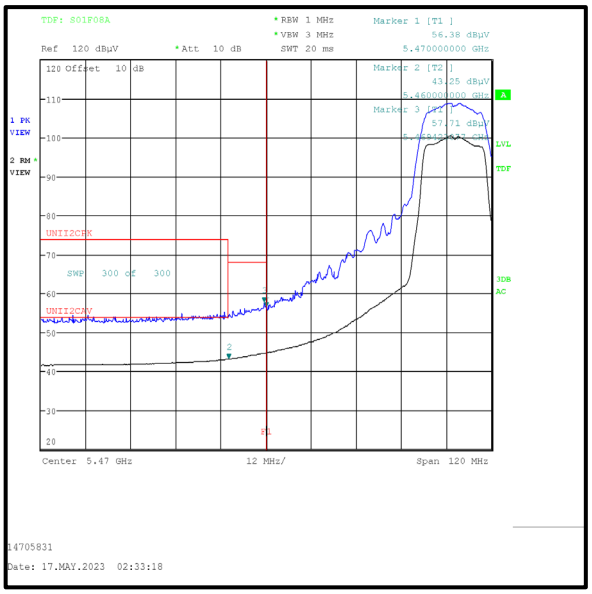
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5850	58.3	68.2	9.9	Complied
5949.167	60.4	68.2	7.8	Complied

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

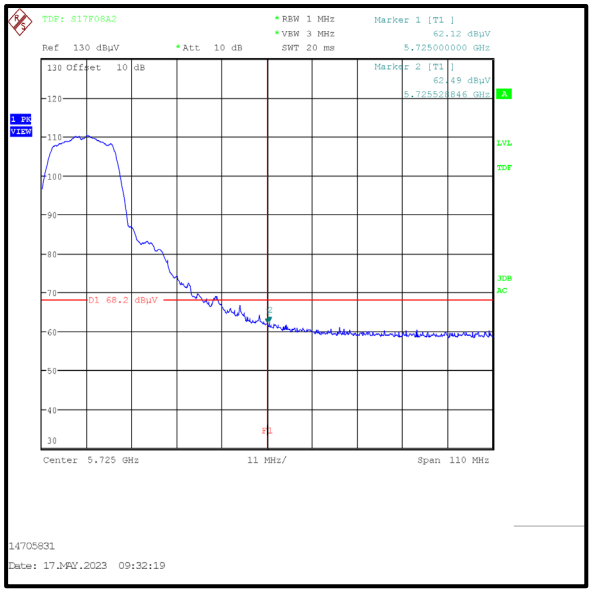
Results: 802.11a / 20 MHz / SISO / 6 Mbps



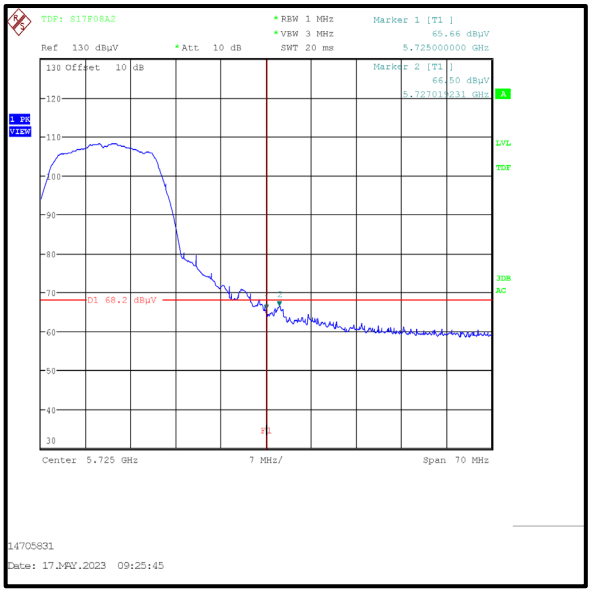
Lower Band Edge (CH100)



Lower Band Edge (CH104)



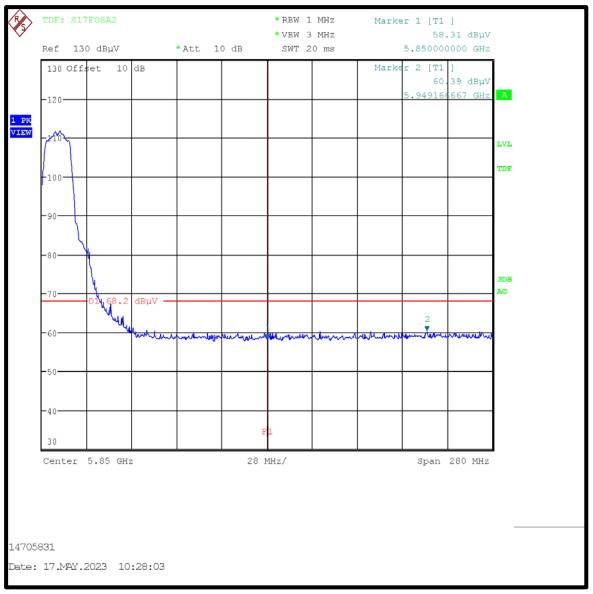
Upper Band Edge (CH136)



Upper Band Edge (CH140)

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

Results: 802.11a / 20 MHz / SISO / 6 Mbps



Straddle Channel emission level at 5850 MHz

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

Results: 802.11n / 20 MHz / SISO / MCS0

Results: Lower Band Edge (CH100) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5468.590	-28.7	-27.0	1.7	Complied
5470	-30.9	-27.0	3.9	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5468.590	66.5	68.2	1.7	Complied
5470	64.3	68.2	3.9	Complied

Results: Lower Band Edge (CH104) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5469.231	-38.0	-27.0	11.0	Complied
5470	-38.7	-27.0	11.7	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5469.231	57.2	68.2	11.0	Complied
5470	56.5	68.2	11.7	Complied

Results: Upper Band Edge (CH136) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5725	-33.1	-27.0	6.1	Complied
5725.176	-31.9	-27.0	4.9	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5725	62.1	68.2	6.1	Complied
5725.176	63.3	68.2	4.9	Complied

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

Results: 802.11n / 20 MHz / SISO / MCS0

Results: Upper Band Edge (CH140) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5725	-29.1	-27.0	2.1	Complied

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5725	66.1	68.2	2.1	Complied

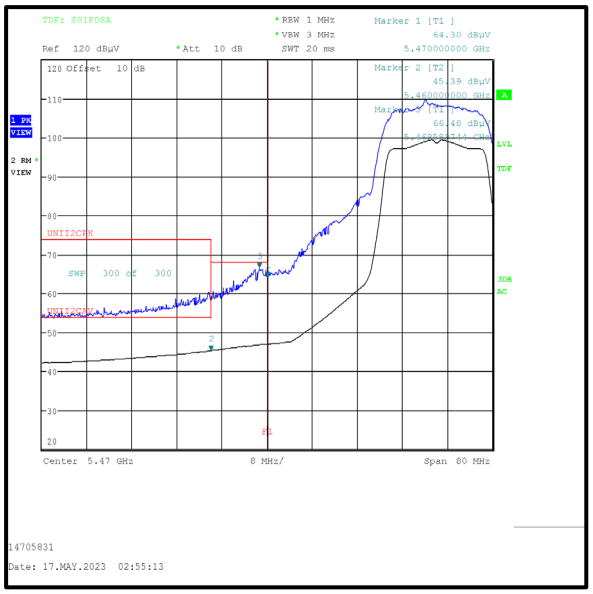
Results: Straddle Channel / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5850	-34.3	-27.0	7.3	Complied
5949.615	-36.5	-27.0	9.5	Complied

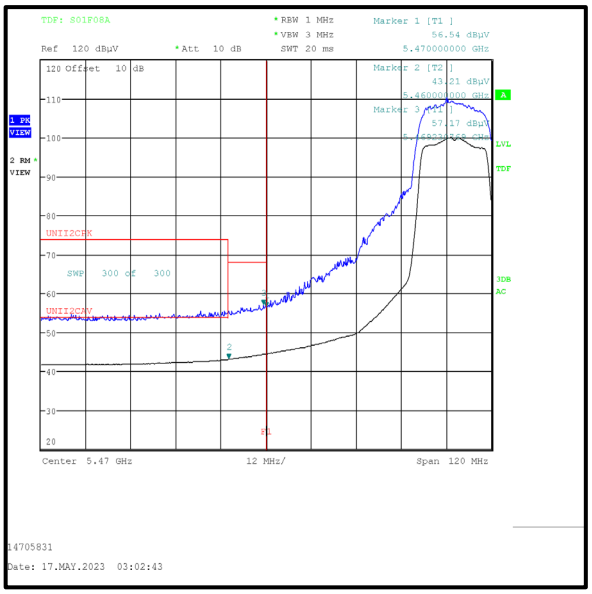
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5850	60.9	68.2	7.3	Complied
5949.615	58.7	68.2	9.5	Complied

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

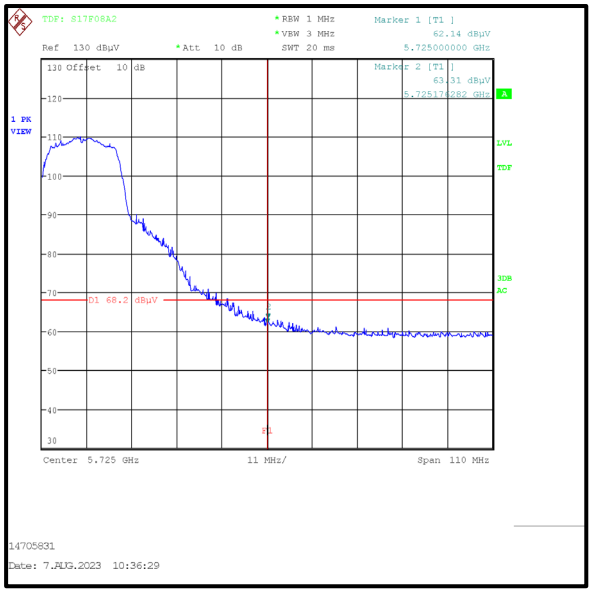
Results: 802.11n / 20 MHz / SISO / MCS0



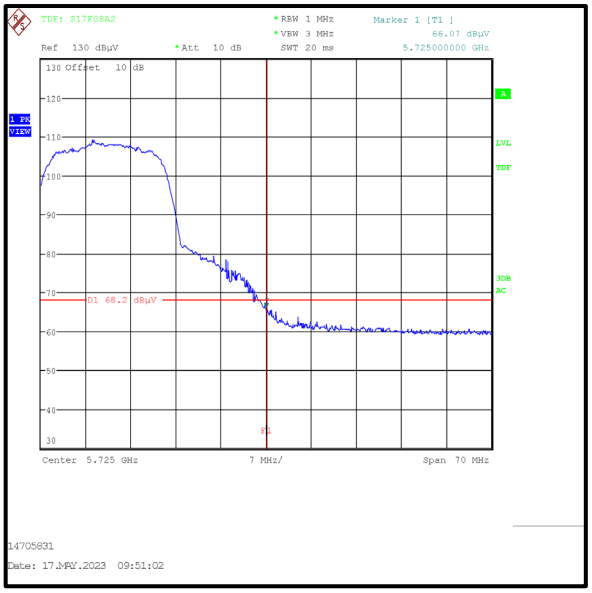
Lower Band Edge (CH100)



Lower Band Edge (CH104)



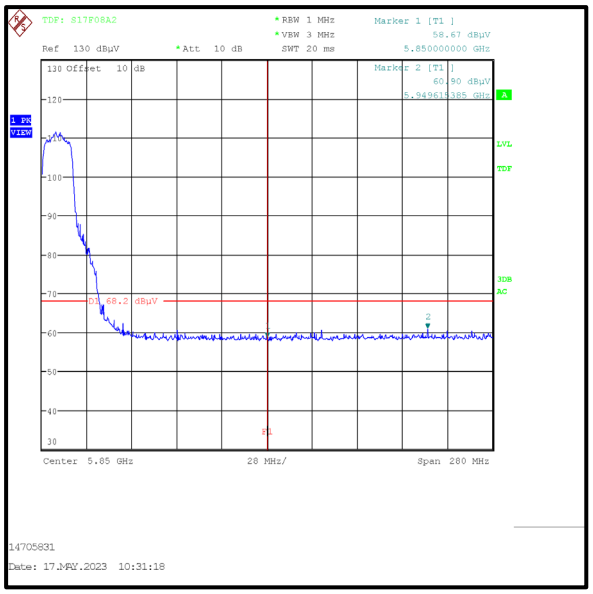
Upper Band Edge (CH136)



Upper Band Edge (CH140)

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

Results: 802.11n / 20 MHz / SISO / MCS0



Straddle Channel emission level at 5850 MHz

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

Results: 802.11n / 40 MHz / SISO / MCS0

Results: Lower Band Edge (CH102) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5470	-29.4	-27.0	2.4	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5470	65.8	68.2	2.4	Complied

Results: Lower Band Edge (CH110) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5466.474	-36.3	-27.0	9.3	Complied
5470	-38.0	-27.0	11.0	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5466.474	58.9	68.2	9.3	Complied
5470	57.2	68.2	11.0	Complied

Results: Upper Band Edge (CH134) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5725	-28.9	-27.0	1.9	Complied
5731.010	-30.4	-27.0	3.4	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5725	66.3	68.2	1.9	Complied
5731.010	64.8	68.2	3.4	Complied

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

Results: 802.11n / 40 MHz / SISO / MCS0

Results: Straddle Channel / Peak

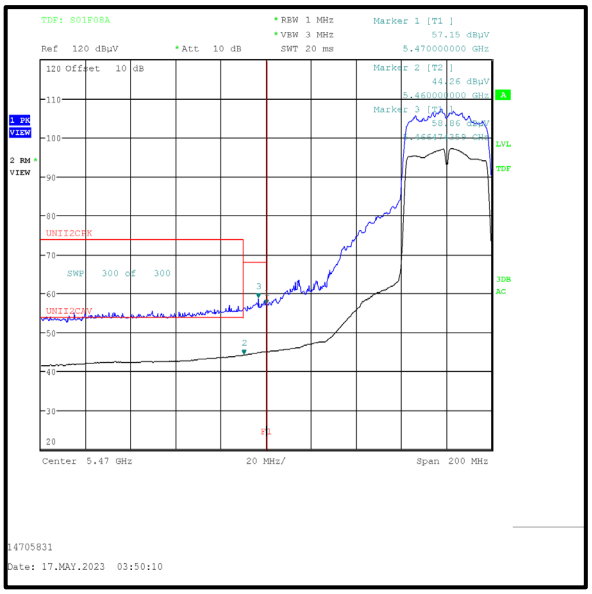
Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5850	-33.4	-27.0	6.4	Complied
5993.590	-35.0	-27.0	8.0	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5850	61.8	68.2	6.4	Complied
5993.590	60.2	68.2	8.0	Complied

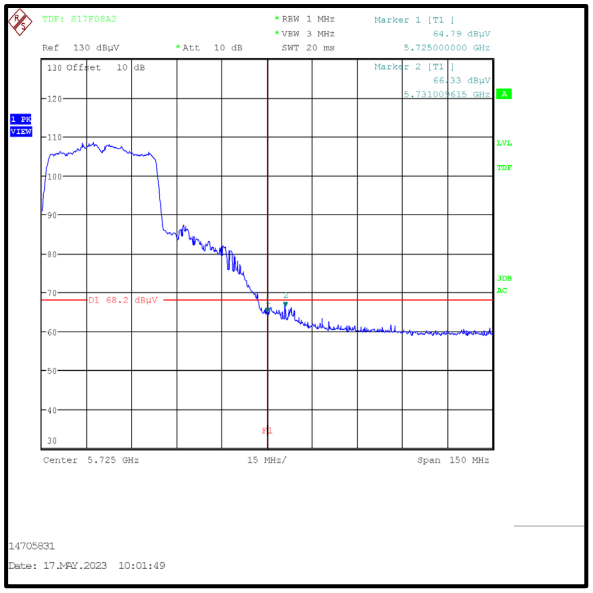
Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

Results: 802.11n / 40 MHz / SISO / MCS0

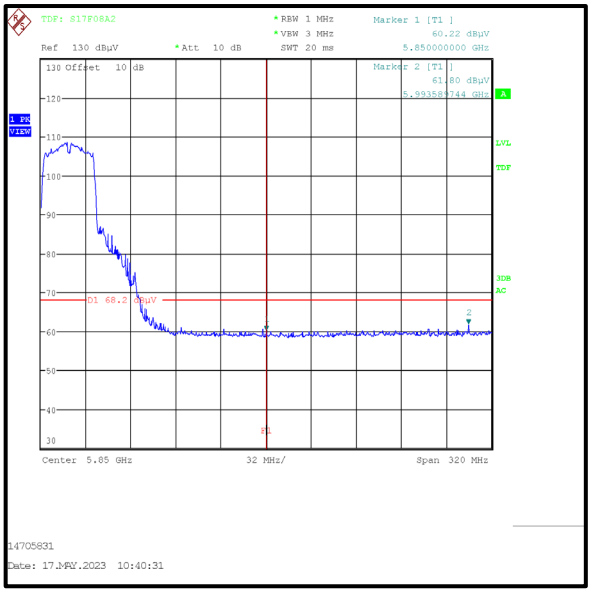
Lower Band Edge (CH102)



Lower Band Edge (CH110)



Upper Band Edge



Straddle Channel emission level at 5850 MHz

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

Results: 802.11ac / 80 MHz / SISO / MCS0x1

Results: Lower Band Edge (CH106) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5470	-28.9	-27.0	1.9	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5470	66.3	68.2	1.9	Complied

Results: Lower Band Edge (CH122) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5466.538	-34.2	-27.0	7.2	Complied
5470	-35.2	-27.0	8.2	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5466.538	61.0	68.2	7.2	Complied
5470	60.0	68.2	8.2	Complied

Results: Upper Band Edge (CH122) / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5725	-35.8	-27.0	8.8	Complied
5750.833	-34.6	-27.0	7.6	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5725	59.4	68.2	8.8	Complied
5750.833	60.6	68.2	7.6	Complied

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

Results: 802.11ac / 80 MHz / SISO / MCS0x1

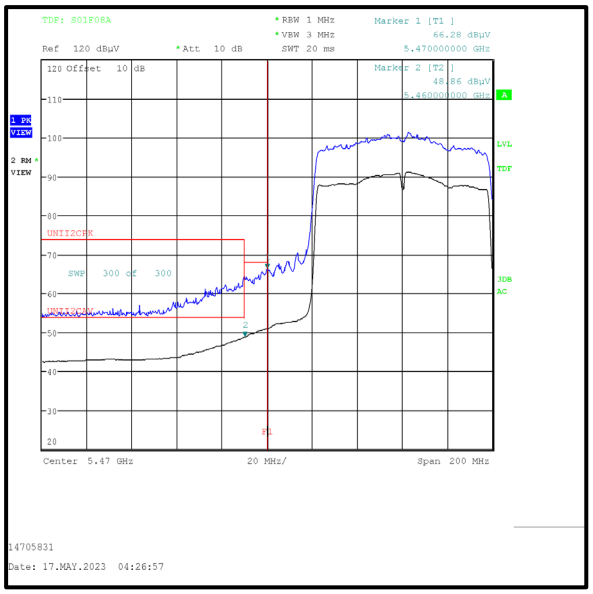
Results: Straddle Channel / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5850	-35.7	-27.0	8.7	Complied
5954.487	-34.0	-27.0	7.0	Complied

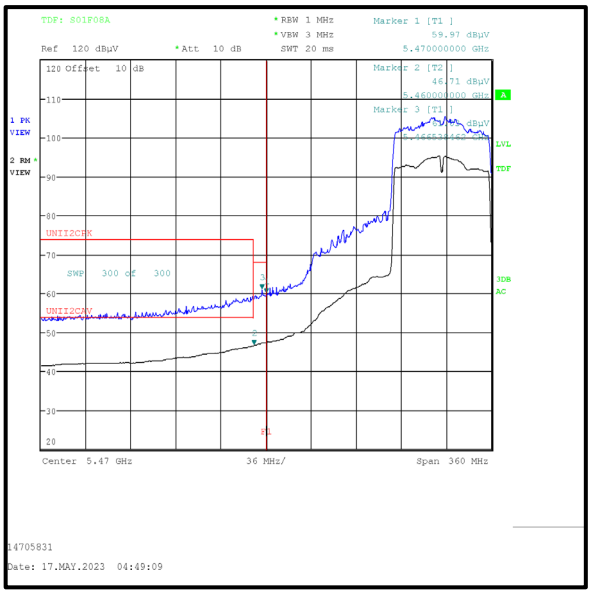
Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5850	59.5	68.2	8.7	Complied
5954.487	61.2	68.2	7.0	Complied

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)

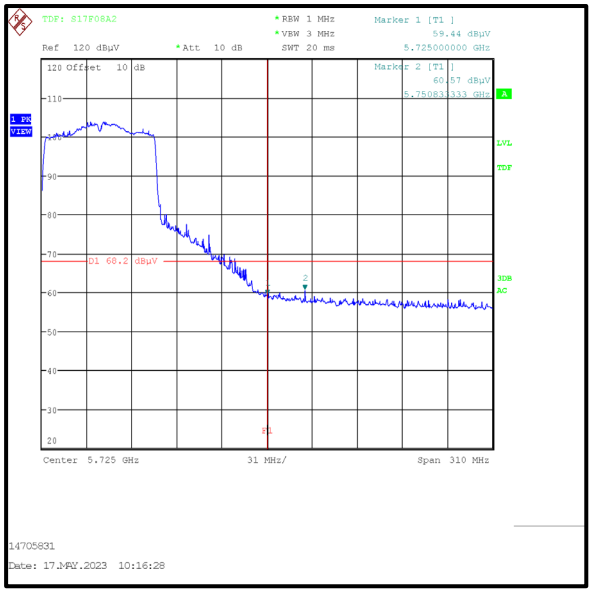
Results: 802.11ac / 80 MHz / SISO / MCS0x1



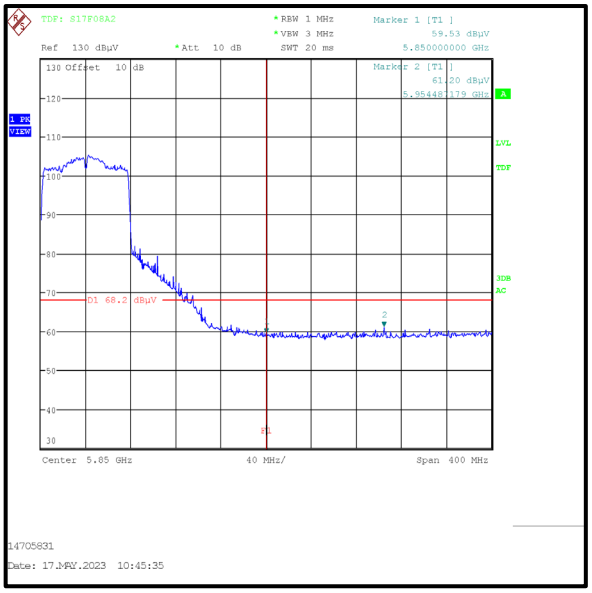
Lower Band Edge



Lower Band Edge



Upper Band Edge



Straddle Channel emission level at 5850 MHz

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band)

5.3.4 5.725-5.85 GHz band

Test Summary:

Test Engineer:	John Ferdinand	**Test Date:**	17 May 2023
Test Sample Serial Number:	R29		

FCC Reference:	Parts 15.407(b)(4)(i),(7), 15.205 & 15.209(a)
ISED Canada Reference:	RSS-Gen 6.13 & 8.9, RSS-247 6.2.4.2
Test Method Used:	ANSI C63.10 Sections 6.10 & 12.7

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	36

Note(s):

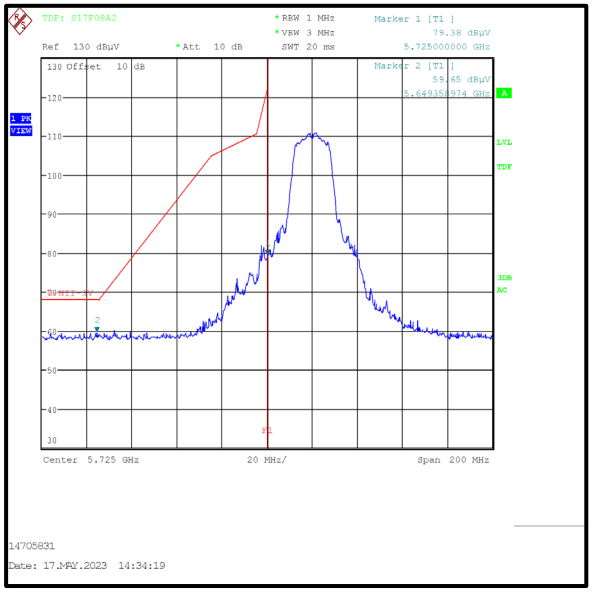
1. Lower band edge measurements were performed with the EUT transmitting on the bottom channel. Upper band edge measurements were performed with the EUT transmitting on the top channel.
2. For completeness, results are also shown as EIRP in dBm and also as field strength in dBµV/m. Measured field strength was converted to EIRP in accordance with KDB 789033 G.2.c)(iii) using a conversion factor of 95.2.

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)

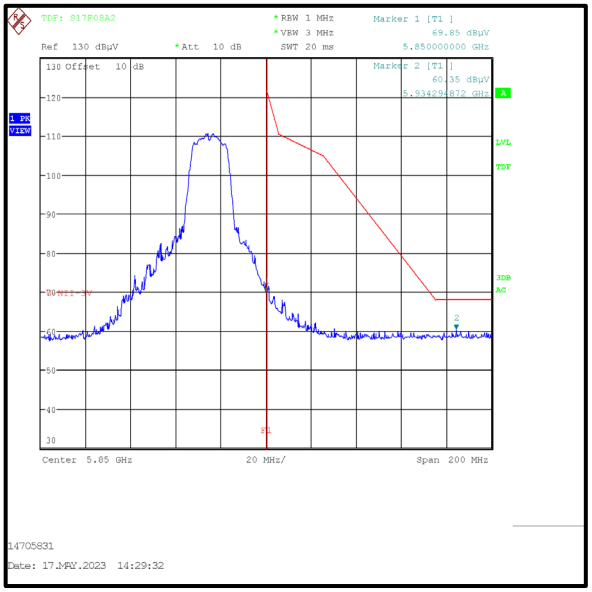
Results: 802.11a / 20 MHz / SISO / 6 Mbps

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5649.359	-35.5	-27.0	8.5	Complied
5725	-15.8	27.0	42.8	Complied
5850	-25.3	27.0	52.3	Complied
5934.295	-34.8	-27.0	7.8	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5649.359	59.7	68.2	8.5	Complied
5725	79.4	122.2	42.8	Complied
5850	69.9	122.2	52.3	Complied
5934.295	60.4	68.2	7.8	Complied



Lower Band Edge



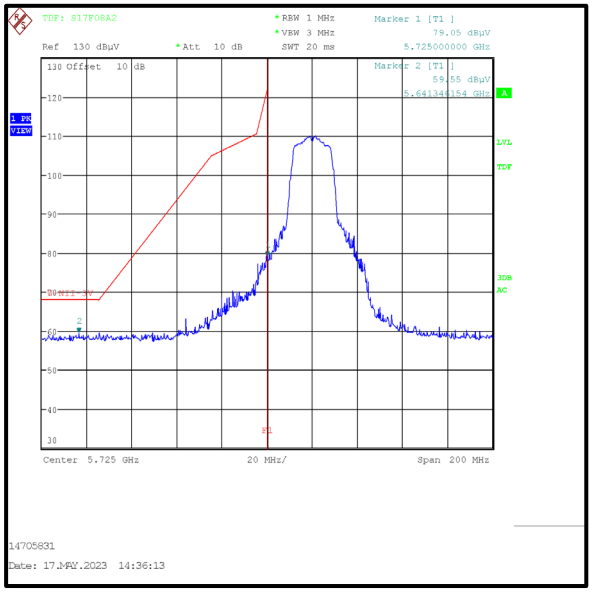
Upper Band Edge

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)

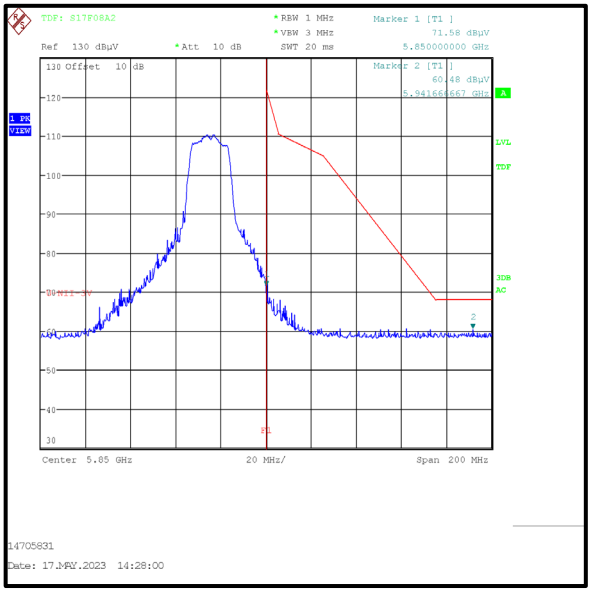
Results: 802.11n / 20 MHz / SISO / MCS0

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5641.346	-35.6	-27.0	8.6	Complied
5725	-16.1	27.0	43.1	Complied
5850	-23.6	27.0	50.6	Complied
5941.667	-34.7	-27.0	7.7	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5641.346	59.6	68.2	8.6	Complied
5725	79.1	122.2	43.1	Complied
5850	71.6	122.2	50.6	Complied
5941.667	60.5	68.2	7.7	Complied



Lower Band Edge



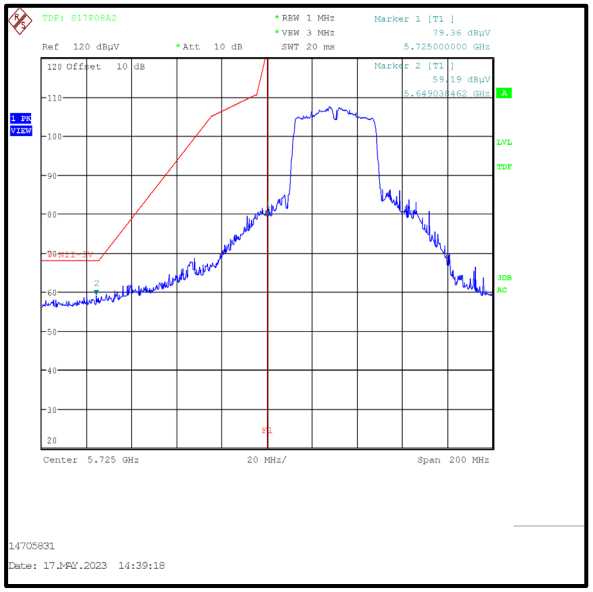
Upper Band Edge

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)

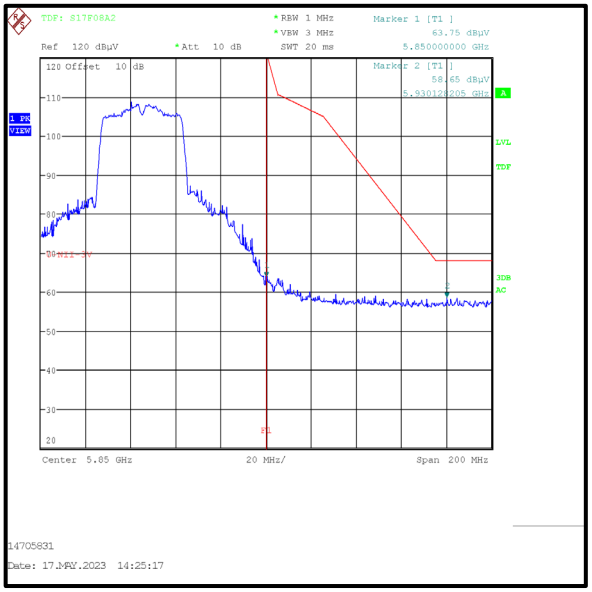
Results: 802.11n / 40 MHz / SISO / MCS0

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5649.038	-36.0	-27.0	9.0	Complied
5725	-15.8	27.0	42.8	Complied
5850	-31.4	27.0	58.4	Complied
5930.128	-36.5	-27.0	9.5	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5649.038	59.2	68.2	9.0	Complied
5725	79.4	122.2	42.8	Complied
5850	63.8	122.2	58.4	Complied
5930.128	58.7	68.2	9.5	Complied



Lower Band Edge



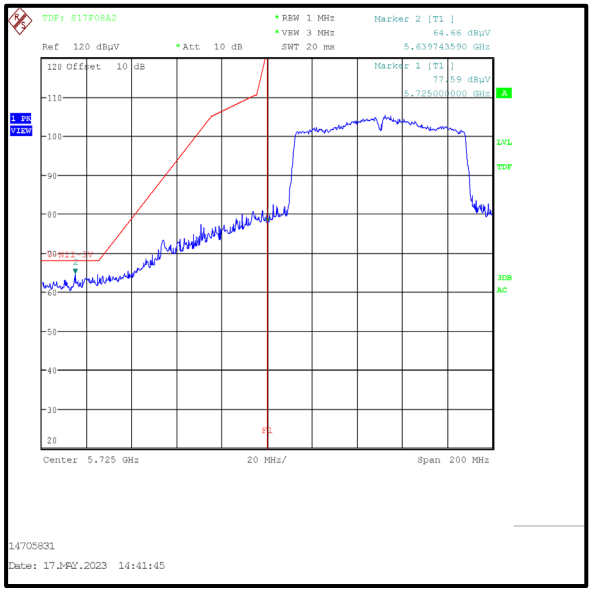
Upper Band Edge

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)

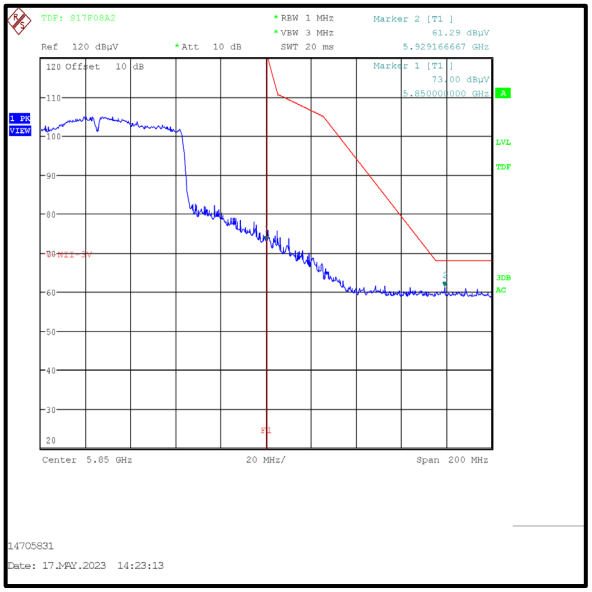
Results: 802.11ac / 80 MHz / SISO / MCS0

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5639.744	-30.5	-27.0	3.5	Complied
5725	-17.6	27.0	44.6	Complied
5850	-22.2	27.0	49.2	Complied
5929.167	-33.9	-27.0	6.9	Complied

Frequency (MHz)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
5639.744	64.7	68.2	3.5	Complied
5725	77.6	122.2	44.6	Complied
5850	73.0	122.2	49.2	Complied
5929.167	61.3	68.2	6.9	Complied



Lower Band Edge



Upper Band Edge

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