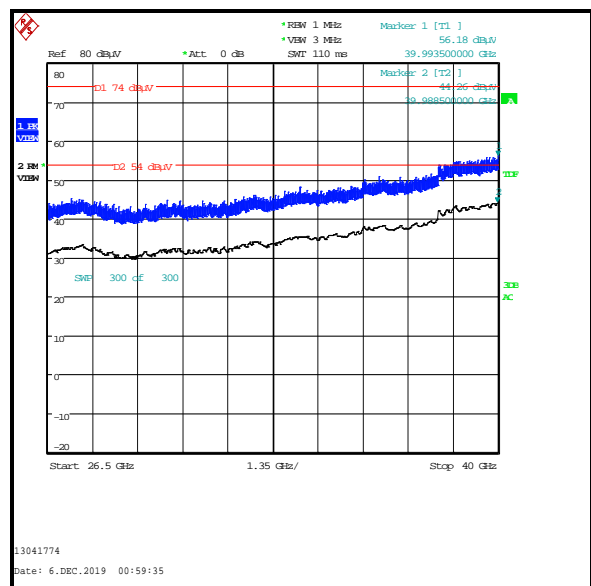
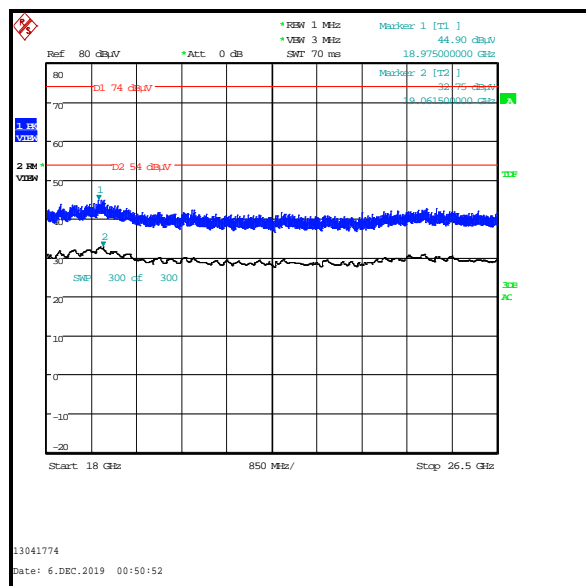
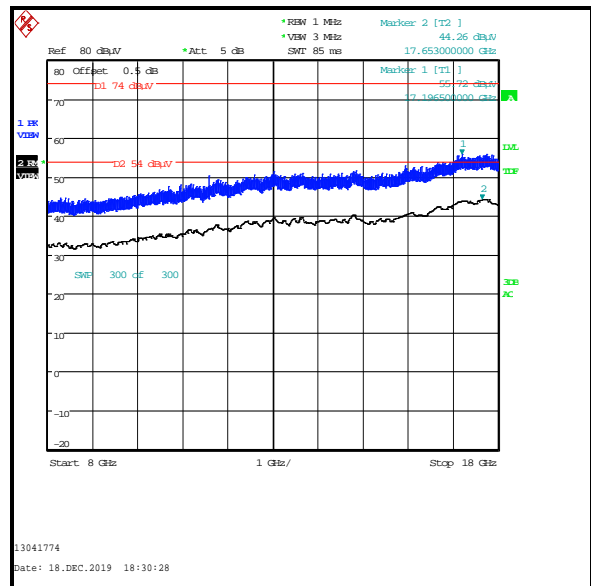
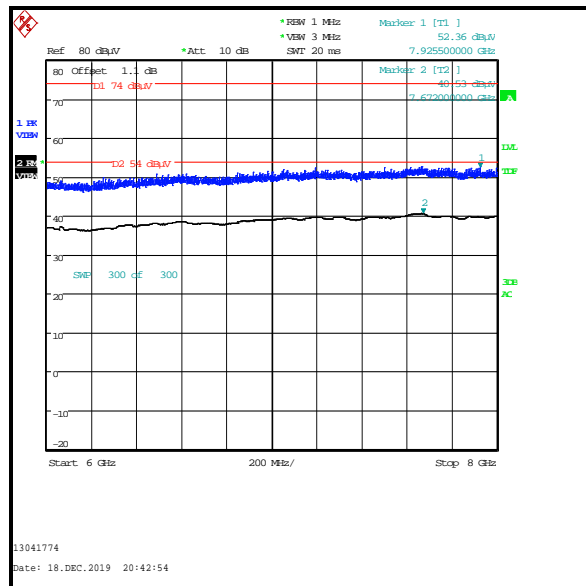


Transmitter Out of Band Radiated Emissions (5.15-5.25 GHz band operation) (continued)

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 Engineers:	John Ferdinand, Andrew Harding & Mohamed Toubella	Test Dates:	06 December 2019, 18 December 2019 & 10 January 2020
Test Sample Serial Numbers:	C02ZG00KP22J & C02ZG00UP22J		

FCC Reference:	Part 15.407(b)(2),(7) & 15.209(a)
Test Method Used:	KDB 789033 II.G. & ANSI C63.10 Sections 6.3 and 6.6
Frequency Range:	1 GHz to 40 GHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	35 to 41

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 on middle channel in the band 5.15 to 5.25 GHz. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest output power and all final measurements should be performed on any emissions seen in each band.
3. In accordance with ANSI section 5.6.2.2, radiated emissions measurements were performed on the mode which had the highest power (802.11n / HT20 / MCS0) and the mode with the highest PSD (802.11a / 6 Mbps). Pre-scans were performed on both modes. Plots in the report are for 802.11n HT20 and the pre-scans for 802.11a are stored on the company IT server and are available upon request.
4. The final measured value, for the given emission in the field strength result tables, incorporates the calibrated antenna factor and cable loss.
5. All emissions shown on the pre-scan plots were investigated and found to be ambient, or >20 dB below the applicable limit or below the measurement system noise floor. Therefore the highest peak and average noise floor readings of the measuring receiver were recorded in the 5.15 to 5.25 GHz results section of this report.
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. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001 or 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.

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 Engineers:	John Ferdinand, Andrew Harding & Mohamed Toubella	Test Dates:	06 December 2019, 18 December 2019 & 10 January 2020
Test Sample Serial Numbers:	C02ZG00KP22J & C02ZG00UP22J		

FCC Reference:	Part 15.407(b)(3),(7) & 15.209(a)
Test Method Used:	KDB 789033 II.G. & ANSI C63.10 Sections 6.3 and 6.6
Frequency Range:	1 GHz to 40 GHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	35 to 36

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 on middle channel in the band 5.15 to 5.25 GHz. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest output power and all final measurements should be performed on any emissions seen in each band.
3. In accordance with ANSI section 5.6.2.2, radiated emissions measurements were performed on the mode which had the highest power (802.11n / HT20 / MCS0) and the mode with the highest PSD (802.11a / 6 Mbps). Pre-scans were performed on both modes. Plots in the report are for 802.11n HT20 and the pre-scans for 802.11a are stored on the company IT server and are available upon request.
4. The final measured value, for the given emission in the field strength result tables, incorporates the calibrated antenna factor and cable loss.
5. All emissions shown on the pre-scan plots were investigated and found to be ambient, or >20 dB below the applicable limit or below the measurement system noise floor. Therefore the highest peak and average noise floor readings of the measuring receiver were recorded in the 5.15 to 5.25 GHz results section of this report.
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. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001 or 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.

5.2.4. Channels that straddle the U-NII-2C and U-NII-3 bands at 5725 MHz**Transmitter Out of Band Radiated Emissions (Channels that straddle the U-NII-2C and U-NII-3 bands at 5725 MHz)****Test Summary:**

Test Engineers:	John Ferdinand, Andrew Harding & Mohamed Toubella	Test Dates:	06 December 2019, 18 December 2019 & 10 January 2020
Test Sample Serial Numbers:	C02ZG00KP22J & C02ZG00UP22J		

FCC Reference:	Part 15.407(b)(3),(4)(i),(7) & 15.209(a)
Test Method Used:	KDB 789033 II.G. & ANSI C63.10 Sections 6.3 and 6.6
Frequency Range:	1 GHz to 40 GHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	35 to 36

Note(s):

1. KDB 789033 Section III.B.2.b)(iii) states "Straddle channels are considered to be operating in both U-NII-2C and U-NII-3. The worst case out of band emission i.e. -27 dBm/MHz peak EIRP, applies at the band edges. The band edges are considered to be 5.47 GHz and 5.85 GHz."
2. Pre-scans were performed with the EUT transmitting on middle channel in the band 5.15 to 5.25 GHz. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest output power and all final measurements should be performed on any emissions seen in each band.
3. In accordance with ANSI section 5.6.2.2, radiated emissions measurements were performed on the mode which had the highest power (802.11n / HT20 / MCS0) and the mode with the highest PSD (802.11a / 6 Mbps). Pre-scans were performed on both modes. Plots in the report are for 802.11n HT20 and the pre-scans for 802.11a are stored on the company IT server and are available upon request.
4. The final measured value, for the given emission in the field strength result tables, incorporates the calibrated antenna factor and cable loss.
5. All emissions shown on the pre-scan plots were investigated and found to be ambient, or >20 dB below the applicable limit or below the measurement system noise floor. Therefore the highest peak and average noise floor readings of the measuring receiver were recorded in the 5.15 to 5.25 GHz results section of this report.
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. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001 or 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.

5.2.5. 5.725-5.85 GHz band**Transmitter Out of Band Radiated Emissions (5.725-5.85 GHz band operation)****Test Summary:**

Test Engineers:	John Ferdinand, Andrew Harding & Mohamed Toubella	Test Dates:	06 December 2019, 18 December 2019 & 10 January 2020
Test Sample Serial Numbers:	C02ZG00KP22J & C02ZG00UP22J		

FCC Reference:	Part 15.407(b)(4)(i),(7) & 15.209(a)
Test Method Used:	KDB 789033 II.G. & ANSI C63.10 Sections 6.3 and 6.6
Frequency Range:	1 GHz to 40 GHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	35 to 36

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 on middle channel in the band 5.15 to 5.25 GHz. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest output power and all final measurements should be performed on any emissions seen in each band.
3. In accordance with ANSI section 5.6.2.2, radiated emissions measurements were performed on the mode which had the highest power (802.11n / HT20 / MCS0) and the mode with the highest PSD (802.11a / 6 Mbps). Pre-scans were performed on both modes. Plots in the report are for 802.11n HT20 and the pre-scans for 802.11a are stored on the company IT server and are available upon request.
4. The final measured value, for the given emission in the field strength result tables, incorporates the calibrated antenna factor and cable loss.
5. All emissions shown on the pre-scan plots were investigated and found to be ambient, or >20 dB below the applicable limit or below the measurement system noise floor. Therefore the highest peak and average noise floor readings of the measuring receiver were recorded in the 5.15 to 5.25 GHz results section of this report.
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. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001 or 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.

5.3. Transmitter Band Edge Radiated Emissions

5.3.1. 5.15-5.25 GHz band

Test Summary:

Test Engineers:	Marco Zunarelli, Mohamed Toubella & Andrew Harding	Test Dates:	24 October 2019 to 18 December 2019
Test Sample Serial Number:	C02ZG00FP22J		

FCC Reference:	Parts 15.407(b)(1),(7), 15.205 & 15.209(a)
Test Method Used:	ANSI C63.10 Section 6.10 & KDB 789033 II.G.

Environmental Conditions:

Temperature (°C):	22 to 25
Relative Humidity (%):	35 to 45

Note(s):

1. The following modes were tested:
 - o 802.11a / SISO - BPSK / 6 Mbps / Core 2
 - o 802.11n HT20 / SISO - BPSK / MCS0 / Core 2
 - o 802.11n HT40 / SISO - BPSK / MCS0 / Core 2
 - o 802.11ac VHT80 / SISO – BPSK / MCS0x1 / Core 2
2. 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.
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. Tests were performed in these restricted bands of operation; the results are included in the transmitter 5.15-5.25 GHz band radiated spurious emission section of this test report.
4. Field strength measurements using peak and average detectors were performed in the restricted bands below 5.15 GHz and 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.
5. For all average measurements in this section, 300 sweeps were used. This satisfies the requirement for the minimum number of sweep points, 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 / BPSK / 6 Mbps / Core 2****Results: Lower Band Edge / Peak**

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5146.026	62.0	74.0	12.0	Complied
5150	61.5	74.0	12.5	Complied

Results: Upper Band Edge / Peak

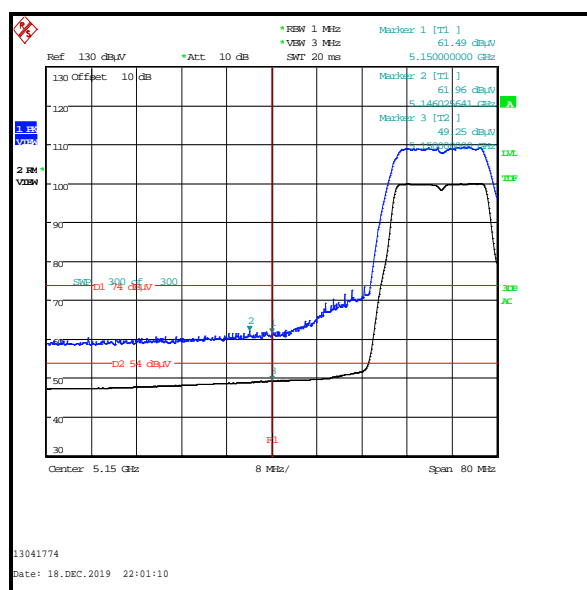
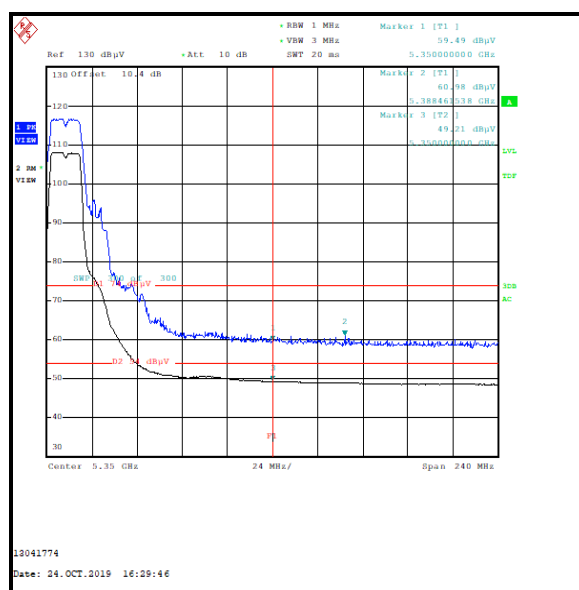
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	59.5	74.0	14.5	Complied
5388.462	61.0	74.0	13.0	Complied

Results: Lower Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5150	49.3	54.0	4.7	Complied

Results: Upper Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	49.2	54.0	4.8	Complied

**Lower Band Edge****Upper Band Edge**

Transmitter Band Edge Radiated Emissions (5.15-5.25 GHz band operation) (continued)**Results: 802.11n / 20 MHz / SISO / BPSK / MCS0 / Core 2****Results: Lower Band Edge / Peak**

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5149.487	65.3	74.0	8.7	Complied
5150	63.8	74.0	10.2	Complied

Results: Upper Band Edge / Peak

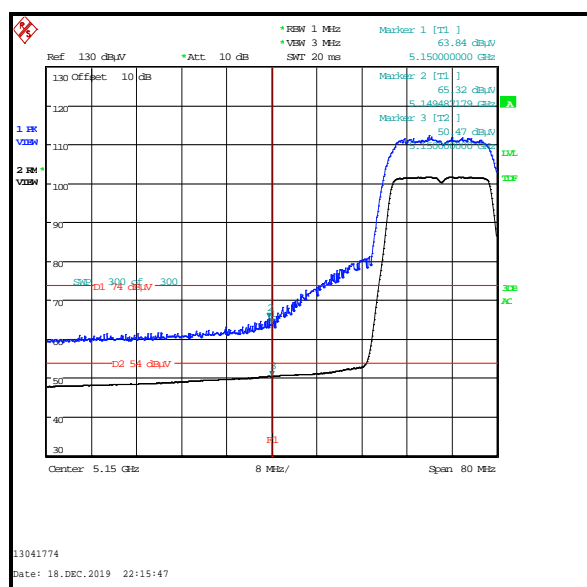
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	59.1	74.0	14.9	Complied
5352.692	60.6	74.0	13.4	Complied

Results: Lower Band Edge / Average

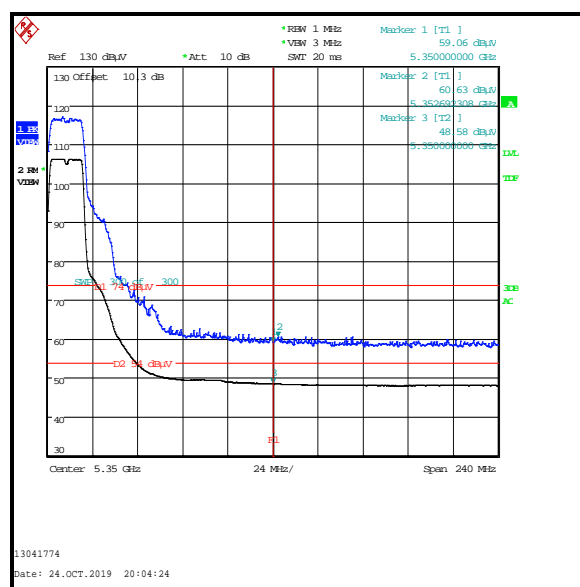
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5150	50.5	54.0	3.5	Complied

Results: Upper Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	48.6	54.0	5.4	Complied



Lower Band Edge



Upper Band Edge

Transmitter Band Edge Radiated Emissions (5.15-5.25 GHz band operation) (continued)**Results: 802.11n / 40 MHz / SISO / BPSK / MCS0 / Core 2****Results: Lower Band Edge / Peak**

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5149.615	71.0	74.0	3.0	Complied
5150	70.9	74.0	3.1	Complied

Results: Upper Band Edge / Peak

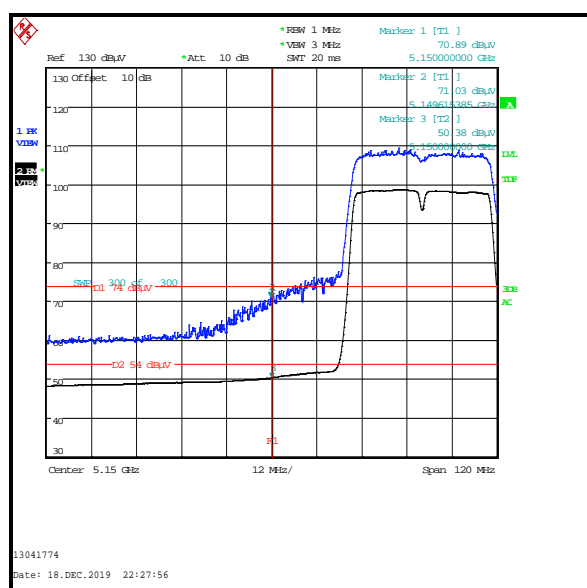
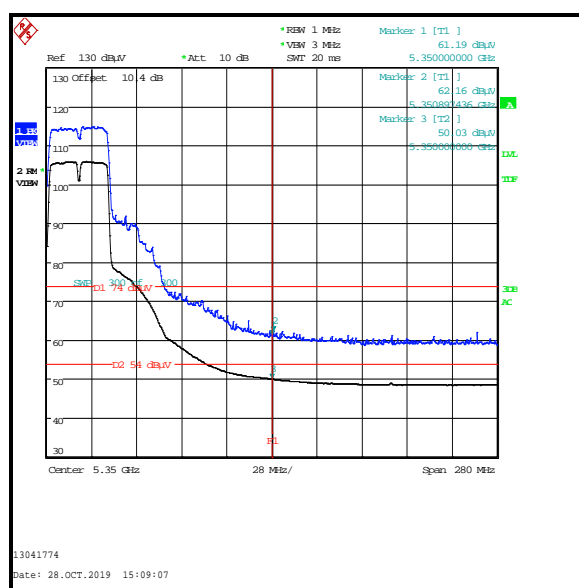
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	61.2	74.0	12.8	Complied
5350.897	62.2	74.0	11.8	Complied

Results: Lower Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Duty Cycle correction (dB)	Corrected Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5150	50.4	0.1	50.5	54.0	3.5	Complied

Results: Upper Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Duty Cycle correction (dB)	Corrected Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	50.0	0.1	50.1	54.0	3.9	Complied

**Lower Band Edge****Upper Band Edge**

Transmitter Band Edge Radiated Emissions (5.15-5.25 GHz band operation) (continued)**Results: 802.11ac / 80 MHz / SISO / BPSK / MCS0 / Core 2****Results: Lower Band Edge / Peak**

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5145.192	69.3	74.0	4.7	Complied
5150	68.2	74.0	5.8	Complied

Results: Upper Band Edge / Peak

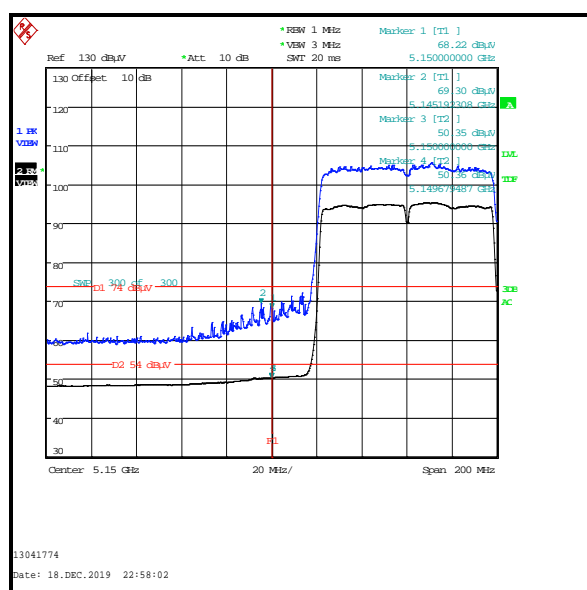
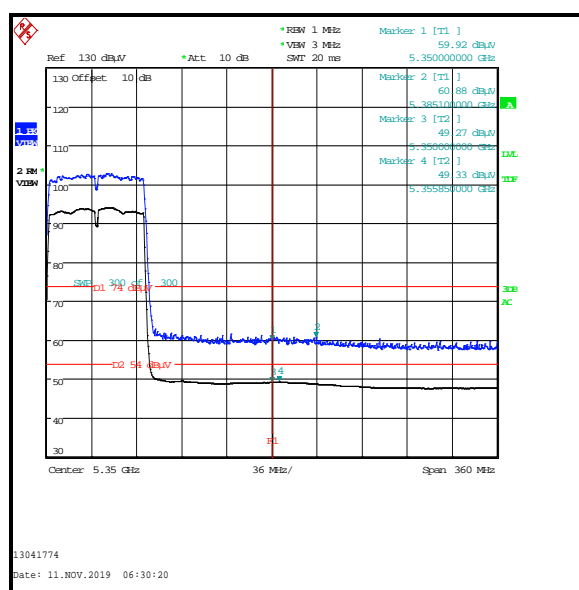
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	59.9	74.0	14.1	Complied
5385.100	60.9	74.0	13.1	Complied

Results: Lower Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Duty Cycle correction (dB)	Corrected Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5150	50.4	0.2	50.6	54.0	3.4	Complied

Results: Upper Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Duty Cycle correction (dB)	Corrected Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	49.3	0.2	49.5	54.0	4.5	Complied

**Lower Band Edge****Upper 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:	Marco Zunarelli, Nick Steele, Mohamed Toubella & Andrew Harding	Test Dates:	24 October 2019 to 19 December 2019
Test Sample Serial Numbers:	C02ZG00FP22J & C02ZH00BP1YX		

FCC Reference:	Parts 15.407(b)(2),(7), 15.205 & 15.209(a)
Test Method Used:	ANSI C63.10 Section 6.10 & KDB 789033 II.G.

Environmental Conditions:

Temperature (°C):	22 to 24
Relative Humidity (%):	36 to 45

Note(s):

- The following modes were tested:
 - 802.11a / SISO - BPSK / 6 Mbps / Core 2
 - 802.11n HT20 / SISO - BPSK / MCS0 / Core 2
 - 802.11n HT40 / SISO - BPSK / MCS0 / Core 2
 - 802.11ac VHT80 / SISO – BPSK / MCS0x1 / Core 2
- 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.
- 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. Tests were performed in these restricted bands of operation with the EUT transmitting on the bottom and top channels within 5.25-5.35 GHz band, the results are included in the transmitter 5.15-5.25 GHz band radiated spurious emissions section of this test report.
- Field strength measurements using peak and average detectors were performed in the restricted bands below 5.15 GHz and 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.
- For all average measurements if this section, 300 sweeps were used. This satisfies the requirement for the minimum number of sweep points, as stated in KDB 789033 Section II.G.6.c) Method AD (vi).
- 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 / BPSK / 6 Mbps / Core 2****Results: Lower Band Edge / Peak**

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5147.692	60.8	74.0	13.2	Complied
5150	59.1	74.0	14.9	Complied

Results: Upper Band Edge / Peak

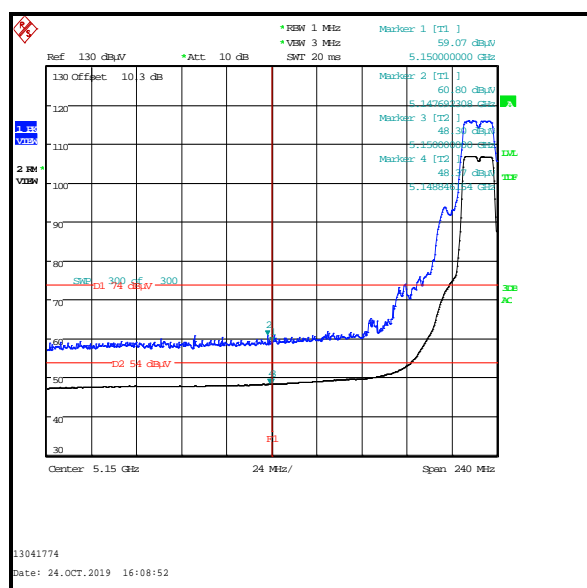
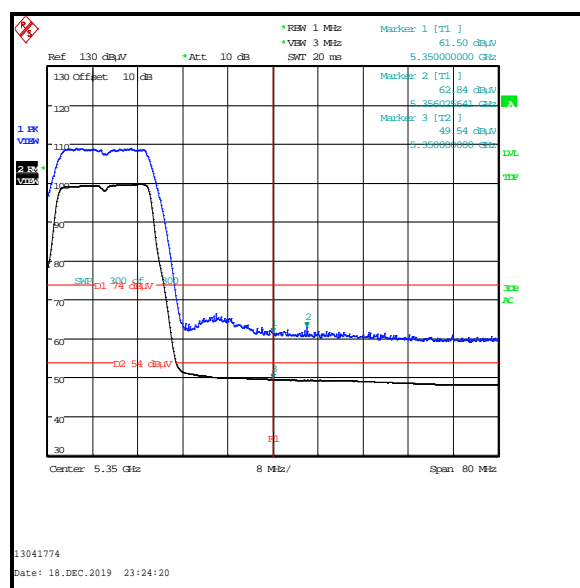
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	61.5	74.0	12.5	Complied
5356.026	62.8	74.0	11.2	Complied

Results: Lower Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5148.846	48.4	54.0	5.6	Complied
5150	48.3	54.0	5.7	Complied

Results: Upper Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	49.5	54.0	4.5	Complied

**Lower Band Edge****Upper Band Edge**

Transmitter Band Edge Radiated Emissions (5.25-5.35 GHz band operation) (continued)**Results: 802.11n / 20 MHz / SISO / BPSK / MCS0 / Core 2****Results: Lower Band Edge / Peak**

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5145.769	60.4	74.0	13.6	Complied
5150	58.7	74.0	15.3	Complied

Results: Upper Band Edge / Peak

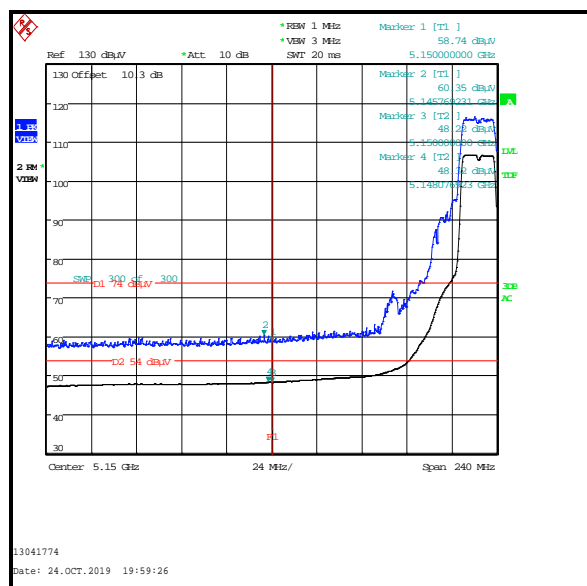
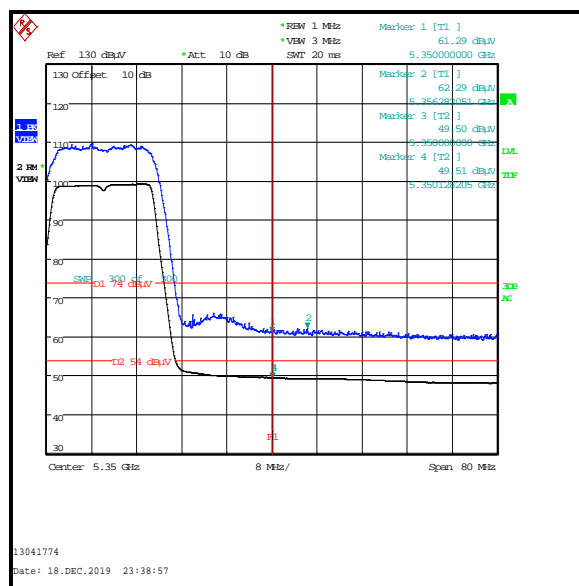
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	61.3	74.0	12.7	Complied
5356.282	62.3	74.0	11.7	Complied

Results: Lower Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5148.077	48.3	54.0	5.7	Complied
5150	48.2	54.0	5.8	Complied

Results: Upper Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	49.5	54.0	4.5	Complied

**Lower Band Edge****Upper Band Edge**

Transmitter Band Edge Radiated Emissions (5.25-5.35 GHz band operation) (continued)**Results: 802.11n / 40 MHz / SISO / BPSK / MCS0 / Core 2****Results: Lower Band Edge / Peak**

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5132.949	61.0	74.0	13.0	Complied
5150	60.6	74.0	13.4	Complied

Results: Upper Band Edge / Peak

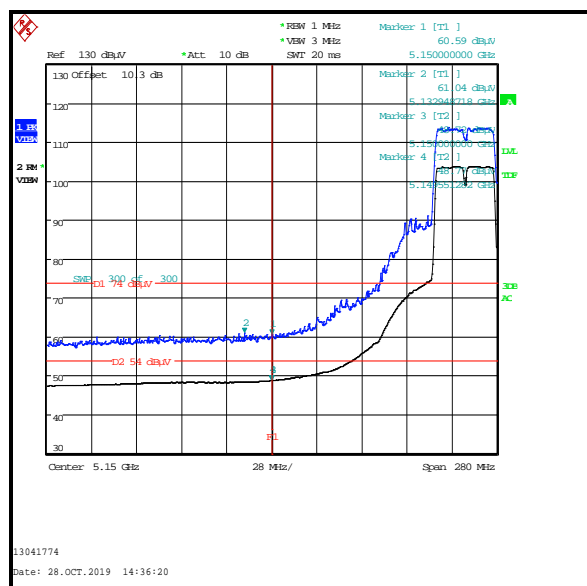
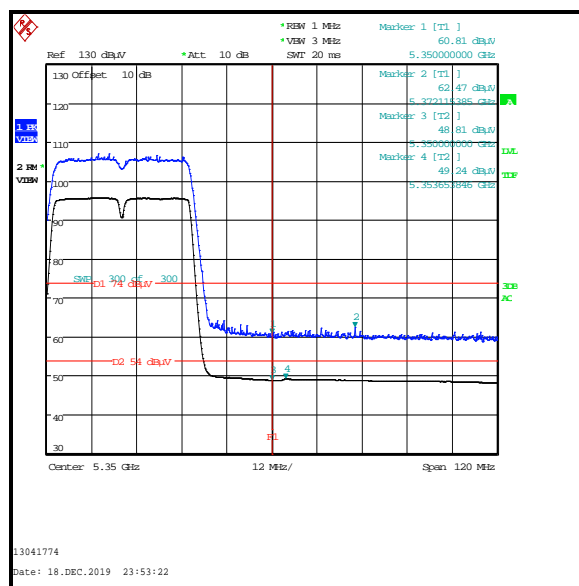
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	60.8	74.0	13.2	Complied
5372.115	62.5	74.0	11.5	Complied

Results: Lower Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Duty Cycle correction (dB)	Corrected Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5149.551	48.8	0.1	48.9	54.0	5.1	Complied
5150	48.7	0.1	48.8	54.0	5.2	Complied

Results: Upper Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Duty Cycle correction (dB)	Corrected Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	48.8	0.1	48.9	54.0	5.1	Complied
5353.653	49.2	0.1	49.3	54.0	4.7	Complied

**Lower Band Edge****Upper Band Edge**

Transmitter Band Edge Radiated Emissions (5.25-5.35 GHz band operation) (continued)**Results: 802.11ac / 80 MHz / SISO / BPSK / MCS0 / Core 2****Results: Lower Band Edge / Peak**

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5150	61.2	74.0	12.8	Complied

Results: Upper Band Edge / Peak

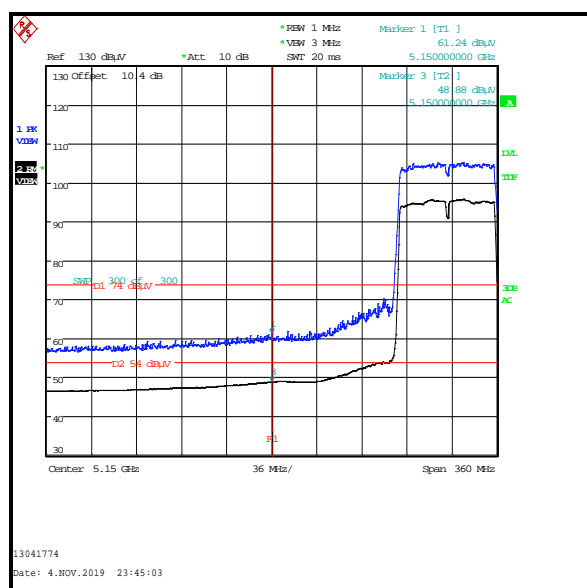
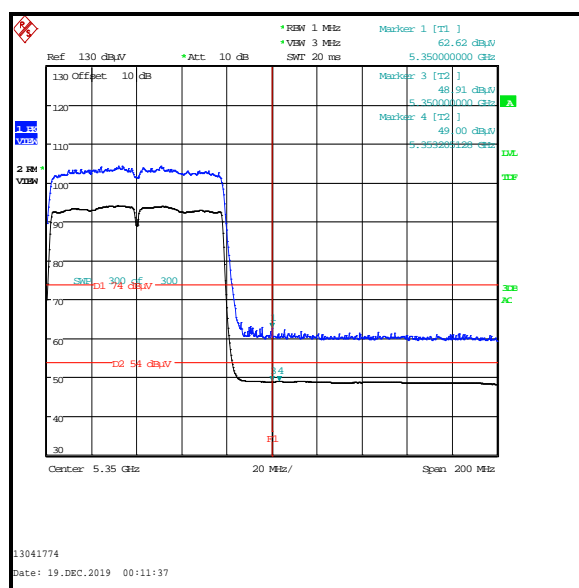
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	62.6	74.0	11.4	Complied

Results: Lower Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Duty Cycle correction (dB)	Corrected Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5150	48.9	0.2	49.1	54.0	4.9	Complied

Results: Upper Band Edge / Average

Frequency (MHz)	Level (dB μ V/m)	Duty Cycle correction (dB)	Corrected Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5350	48.9	0.2	49.1	54.0	4.9	Complied
5353.205	49.0	0.2	49.2	54.0	4.8	Complied

**Lower Band Edge****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:	Marco Zunarelli, Mohamed Toubella & Andrew Harding	Test Dates:	23 October 2019 to 03 January 2020
Test Sample Serial Number:	C02ZG00FP22J		

FCC Reference:	Parts 15.407(b)(3),(7), 15.205 & 15.209(a)
Test Method Used:	ANSI C63.10 Section 6.10 & KDB 789033 II.G.

Environmental Conditions:

Temperature (°C):	22 to 24
Relative Humidity (%):	36 to 45

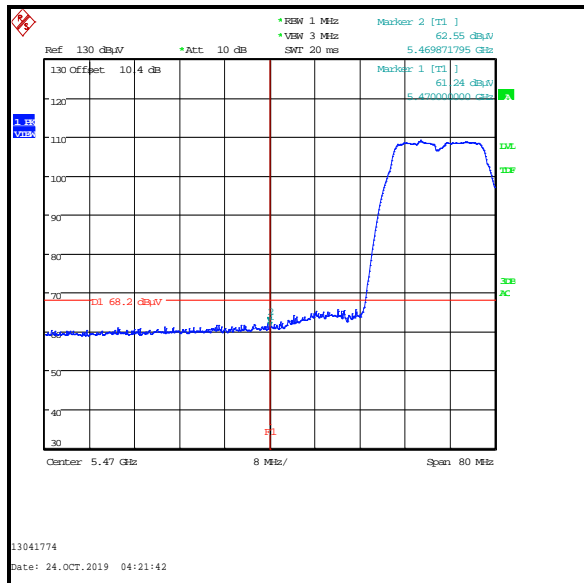
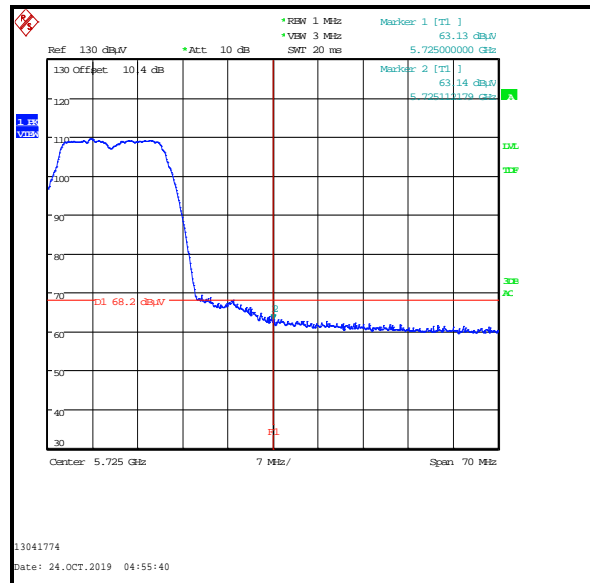
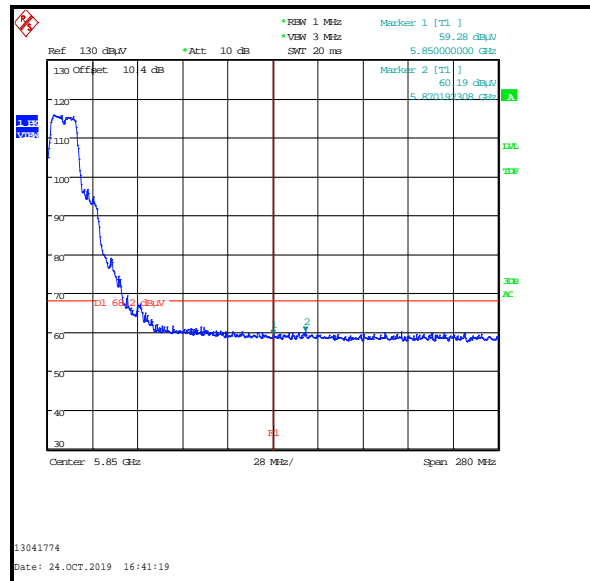
Note(s):

- The following modes were tested:
 - 802.11a / SISO - BPSK / 6 Mbps / Core 2
 - 802.11n HT20 / SISO - BPSK / MCS0 / Core 2
 - 802.11n HT40 / SISO - BPSK / MCS0 / Core 2
 - 802.11ac VHT80 / SISO – BPSK / MCS0x1 / Core 2
- 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.
- 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. Tests were performed in these restricted bands of operation with the EUT transmitting on the bottom and top channels within 5.47-5.725 GHz band, the results are included in the transmitter 5.15-5.25 GHz band radiated spurious emissions section of this test report.
- 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.
- As straddle channels overlap the upper band edge at 5725 MHz, additional testing was performed in accordance with KDB 789033 III.B.2.b)(iii) which required compliance of overlapping channels to an unwanted emission level of -27 dBm/MHz at 5850 MHz instead of 5725 MHz.

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11a / 20 MHz / SISO / BPSK / 6 Mbps / Core 2 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5469.872	-32.6	-27.0	5.6	Complied
5470	-34.0	-27.0	7.0	Complied
5725	-32.1	-27.0	5.1	Complied
5850	-35.9	-27.0	8.9	Complied
5870.192	-35.0	-27.0	8.0	Complied

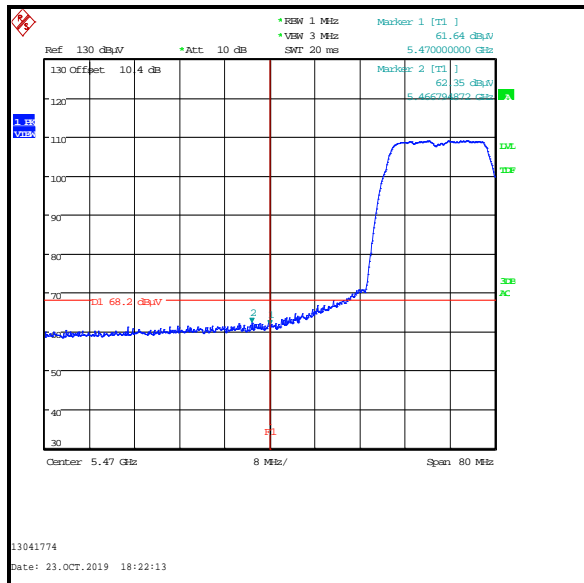
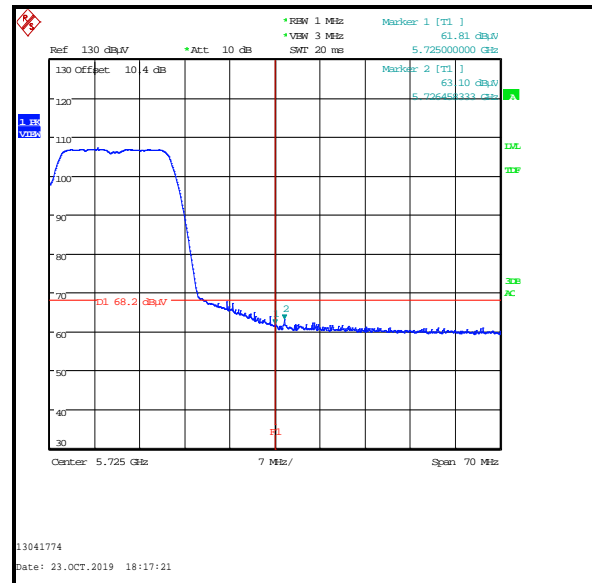
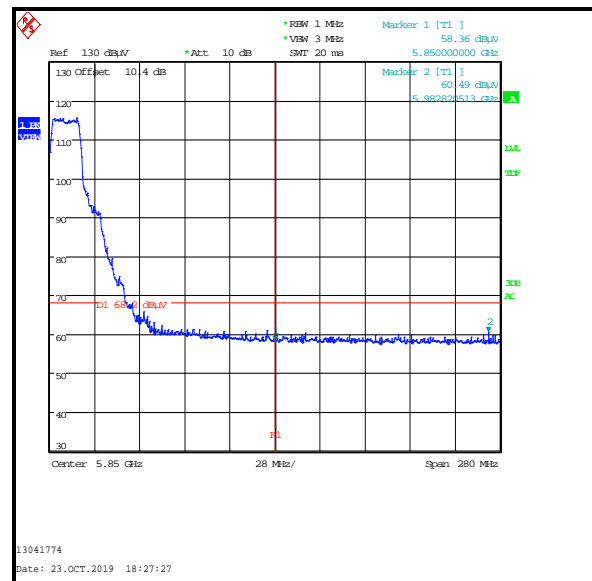
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5469.872	62.6	68.2	5.6	Complied
5470	61.2	68.2	7.0	Complied
5725	63.1	68.2	5.1	Complied
5850	59.3	68.2	8.9	Complied
5870.192	60.2	68.2	8.0	Complied

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11a / 20 MHz / SISO / BPSK / 6 Mbps / Core 2 / Peak****Lower Band Edge****Upper Band Edge****Straddle Channel emission level at 5850 MHz**

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11n / 20 MHz / SISO / BPSK / MCS0 / Core 2 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5466.795	-32.8	-27.0	5.8	Complied
5470	-33.6	-27.0	6.6	Complied
5725	-33.4	-27.0	6.4	Complied
5726.458	-32.1	-27.0	5.1	Complied
5850	-36.8	-27.0	9.8	Complied
5982.821	-34.7	-27.0	7.7	Complied

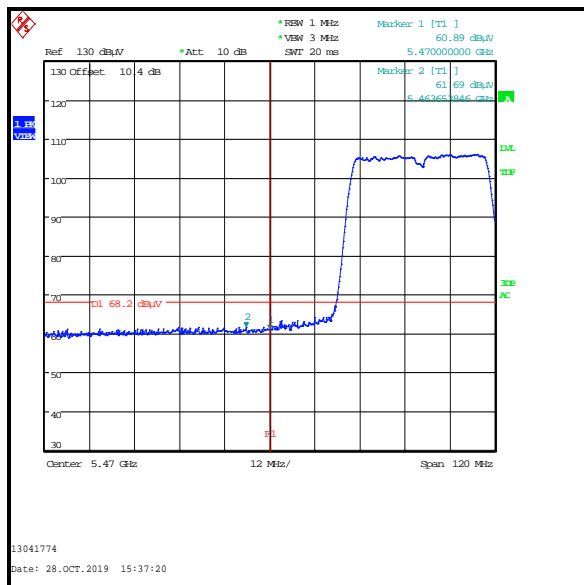
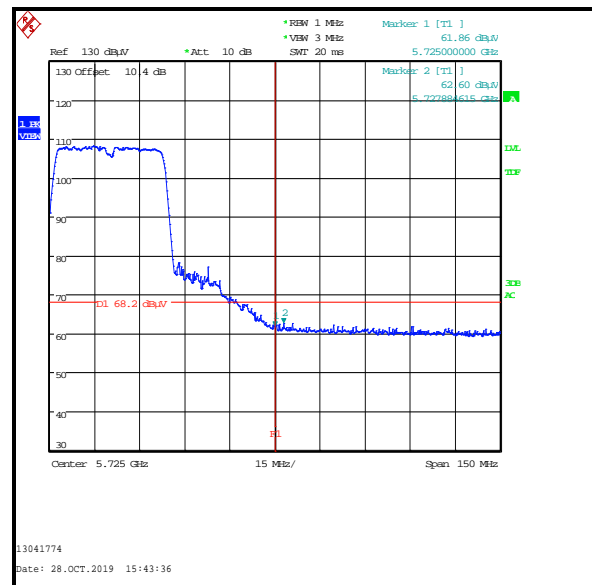
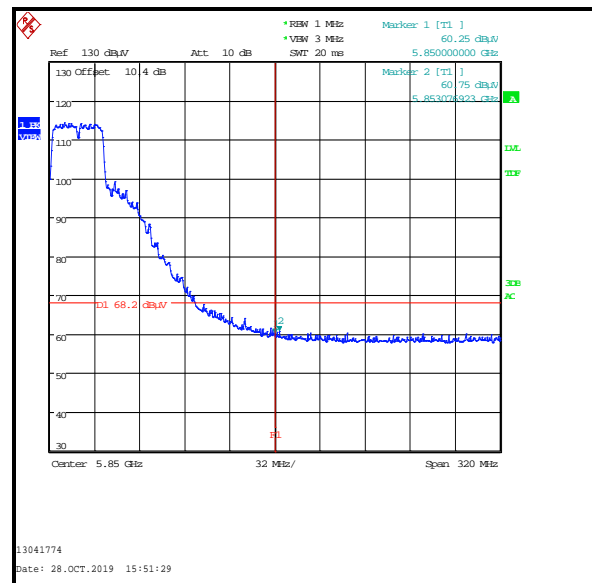
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5466.795	62.4	68.2	5.8	Complied
5470	61.6	68.2	6.6	Complied
5725	61.8	68.2	6.4	Complied
5726.458	63.1	68.2	5.1	Complied
5850	58.4	68.2	9.8	Complied
5982.821	60.5	68.2	7.7	Complied

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11n / 20 MHz / SISO / BPSK / MCS0 / Core 2 / Peak****Lower Band Edge****Upper Band Edge****Straddle Channel emission level at 5850 MHz**

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11n / 40 MHz / SISO / BPSK / MCS0 / Core 2 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5463.654	-33.5	-27.0	6.5	Complied
5470	-34.3	-27.0	7.3	Complied
5725	-33.3	-27.0	6.3	Complied
5727.885	-32.6	-27.0	5.6	Complied
5850	-34.9	-27.0	7.9	Complied
5853.077	-34.4	-27.0	7.4	Complied

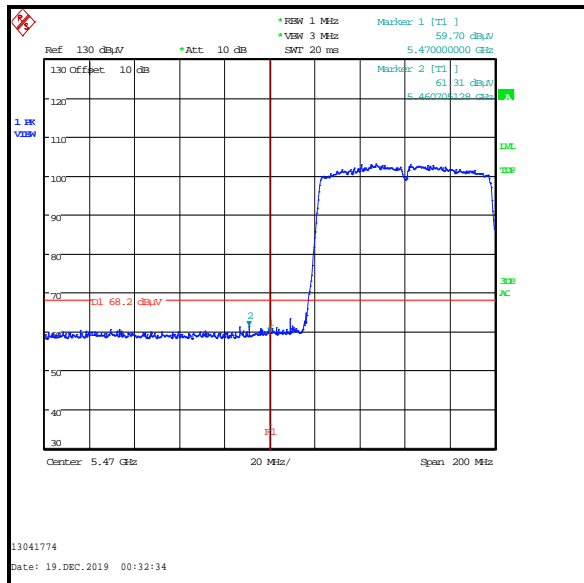
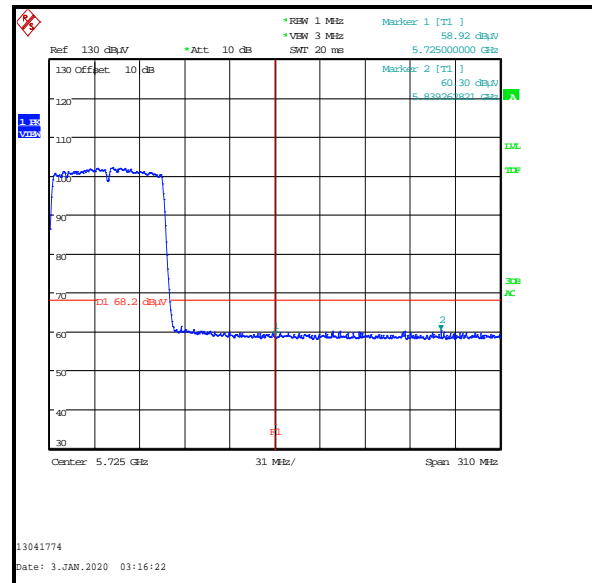
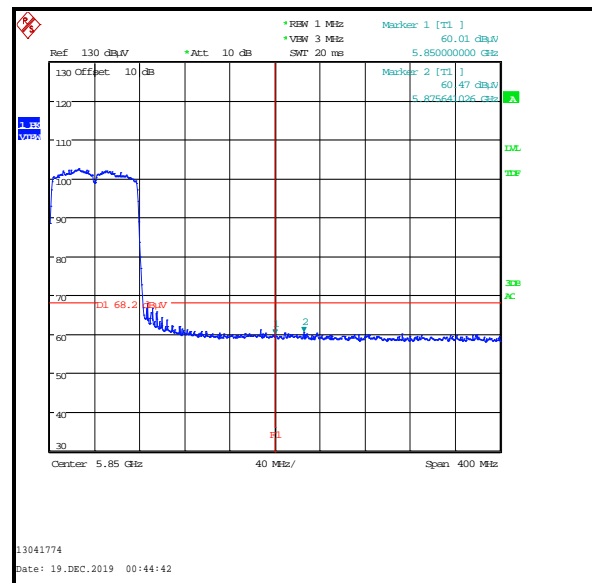
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5463.654	61.7	68.2	6.5	Complied
5470	60.9	68.2	7.3	Complied
5725	61.9	68.2	6.3	Complied
5727.885	62.6	68.2	5.6	Complied
5850	60.3	68.2	7.9	Complied
5853.077	60.8	68.2	7.4	Complied

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11n / 40 MHz / SISO / BPSK / MCS0 / Core 2 / Peak****Lower Band Edge****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 / BPSK / MCS0 / Core 2 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5460.705	-33.9	-27.0	6.9	Complied
5470	-35.5	-27.0	8.5	Complied
5725	-36.3	-27.0	9.3	Complied
5839.263	-34.9	-27.0	7.9	Complied
5850	-35.2	-27.0	8.2	Complied
5875.641	-34.7	-27.0	7.7	Complied

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5460.705	61.3	68.2	6.9	Complied
5470	59.7	68.2	8.5	Complied
5725	58.9	68.2	9.3	Complied
5839.263	60.3	68.2	7.9	Complied
5850	60.0	68.2	8.2	Complied
5875.641	60.5	68.2	7.7	Complied

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11ac / 80 MHz / SISO / BPSK / MCS0 / Core 2 / Peak****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 Engineers:	Marco Zunarelli, Mohamed Toubella & Andrew Harding	Test Dates:	23 October 2019 to 19 December 2019
Test Sample Serial Number:	C02ZG00FP22J		

FCC Reference:	Parts 15.407(b)(4)(i),(7), 15.205 & 15.209(a)
Test Method Used:	ANSI C63.10 Section 6.10 & KDB 789033 II.G.

Environmental Conditions:

Temperature (°C):	22 to 24
Relative Humidity (%):	40 to 45

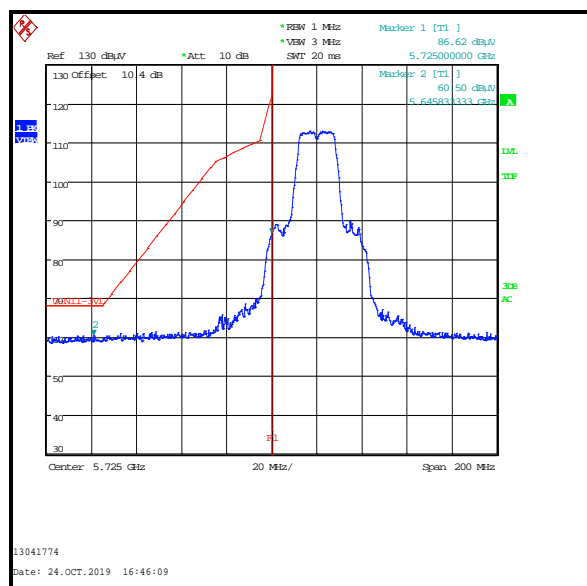
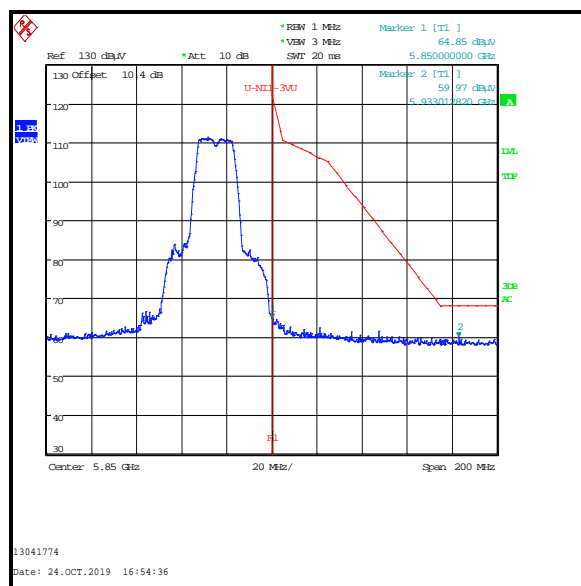
Note(s):

- The following modes were tested:
 - 802.11a / SISO - BPSK / 6 Mbps / Core 2
 - 802.11n HT20 / SISO - BPSK / MCS0 / Core 2
 - 802.11n HT40 / SISO - BPSK / MCS0 / Core 2
 - 802.11ac VHT80 / SISO – BPSK / MCS0x1 / Core 2
- 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.
- 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 / BPSK / 6 Mbps / Core 2 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5645.833	-34.7	-27.0	7.7	Complied
5725	-8.6	27.0	35.6	Complied
5850	-30.3	27.0	57.3	Complied
5933.013	-35.2	-27.0	8.2	Complied

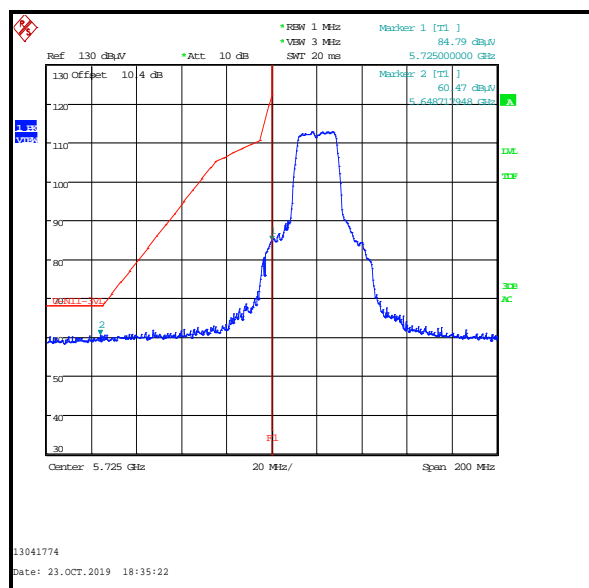
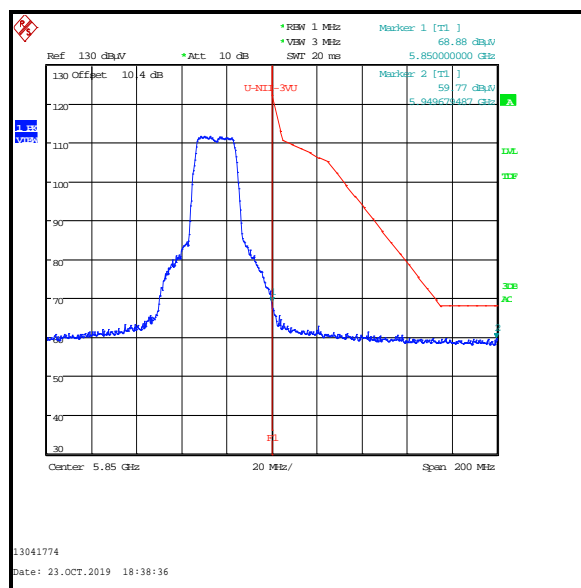
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5645.833	60.5	68.2	7.7	Complied
5725	86.6	122.2	35.6	Complied
5850	64.9	122.2	57.3	Complied
5933.013	60.0	68.2	8.2	Complied

**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 / BPSK / MCS0 / Core 2 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5648.718	-34.7	-27.0	7.7	Complied
5725	-10.4	27.0	37.4	Complied
5850	-26.3	27.0	53.3	Complied
5949.679	-35.4	-27.0	8.4	Complied

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5648.718	60.5	68.2	7.7	Complied
5725	84.8	122.2	37.4	Complied
5850	68.9	122.2	53.3	Complied
5949.679	59.8	68.2	8.4	Complied

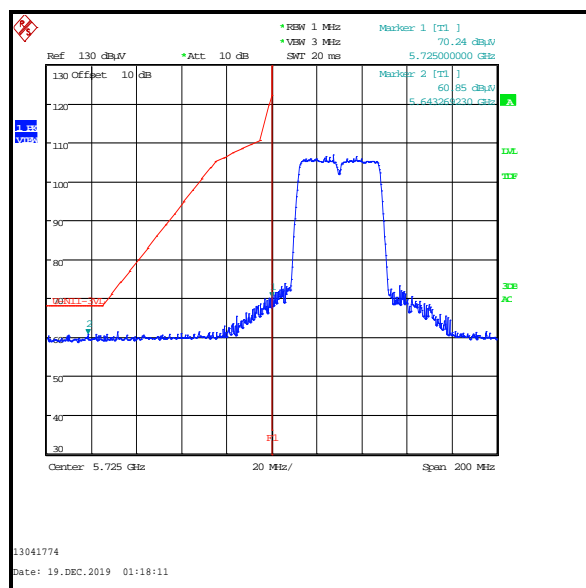
**Lower Band Edge****Upper Band Edge**

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

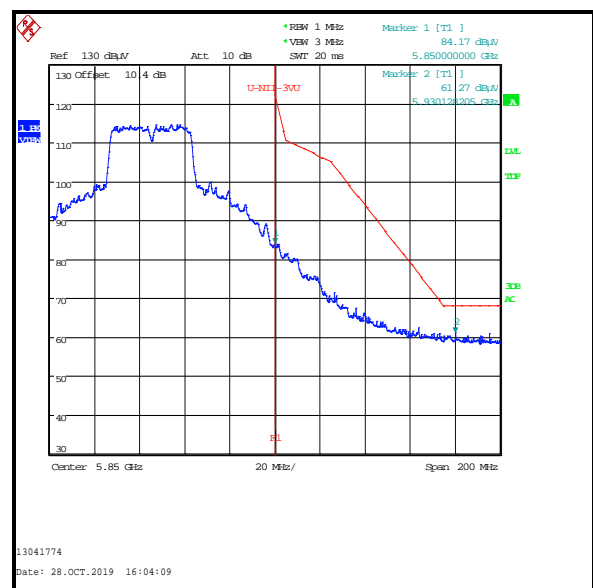
Results: 802.11n / 40 MHz / SISO / BPSK / MCS0 / Core 2 / Peak

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5643.269	-34.3	-27.0	7.3	Complied
5725	-25.0	27.0	52.0	Complied
5850	-11.0	27.0	38.0	Complied
5930.128	-33.9	-27.0	6.9	Complied

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5643.269	60.9	68.2	7.3	Complied
5725	70.2	122.2	52.0	Complied
5850	84.2	122.2	38.0	Complied
5930.128	61.3	68.2	6.9	Complied



Lower Band Edge

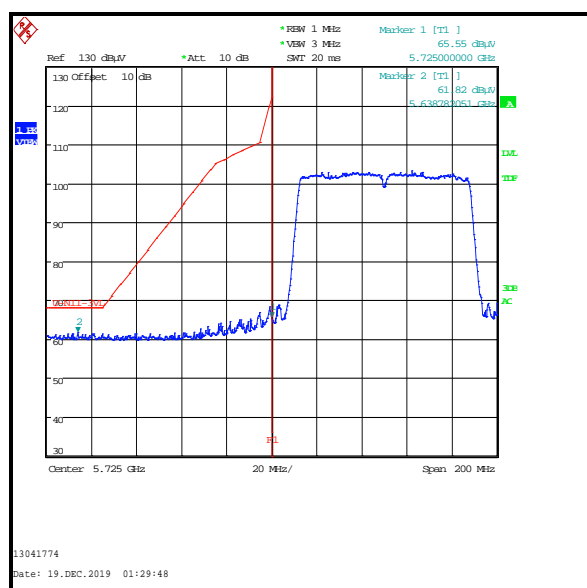
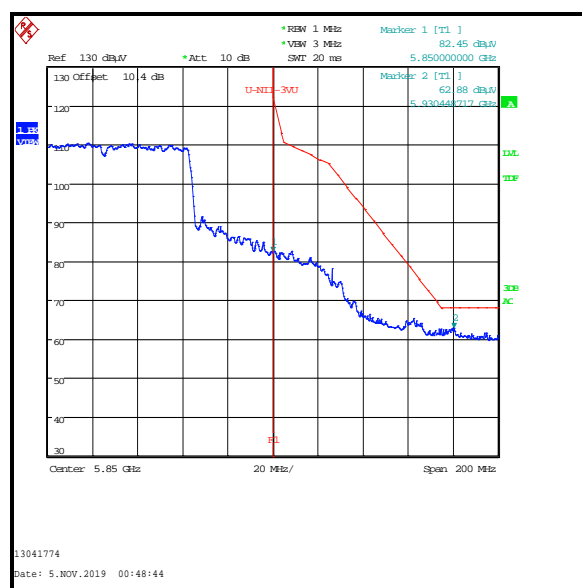


Upper Band Edge

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11ac / 80 MHz / SISO / BPSK / MCS0 / Core 2 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5638.782	-33.4	-27.0	6.4	Complied
5725	-29.6	27.0	56.6	Complied
5850	-12.7	27.0	39.7	Complied
5930.449	-32.3	-27.0	5.3	Complied

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5638.782	61.8	68.2	6.4	Complied
5725	65.6	122.2	56.6	Complied
5850	82.5	122.2	39.7	Complied
5930.449	62.9	68.2	5.3	Complied

**Lower Band Edge****Upper Band Edge****--- END OF REPORT ---**