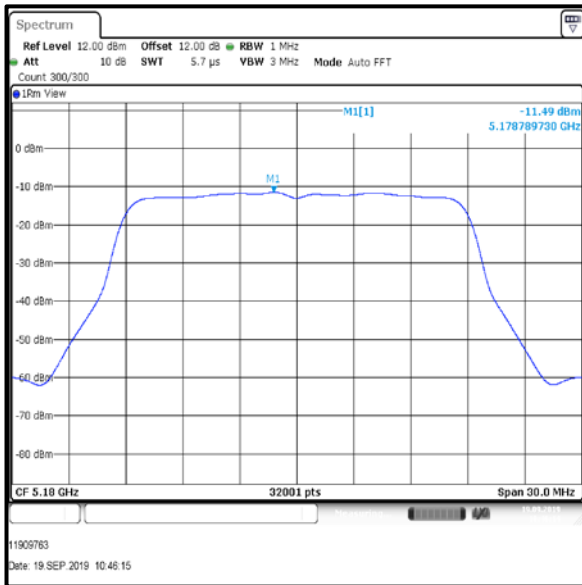
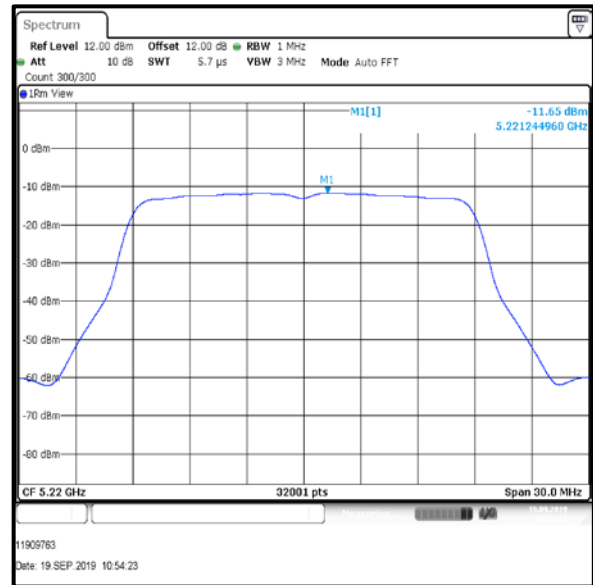
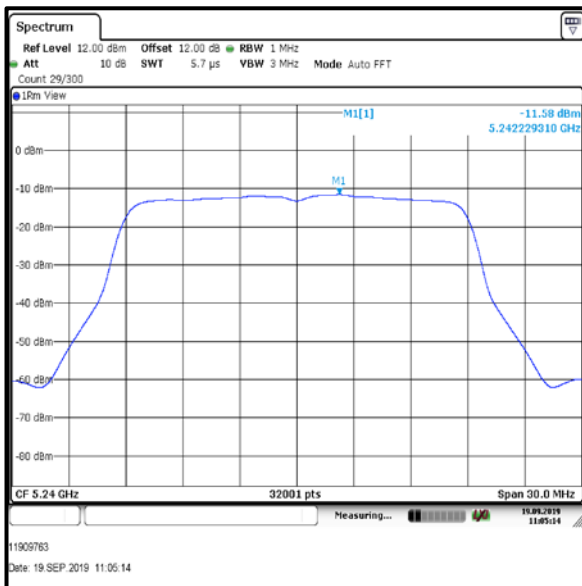
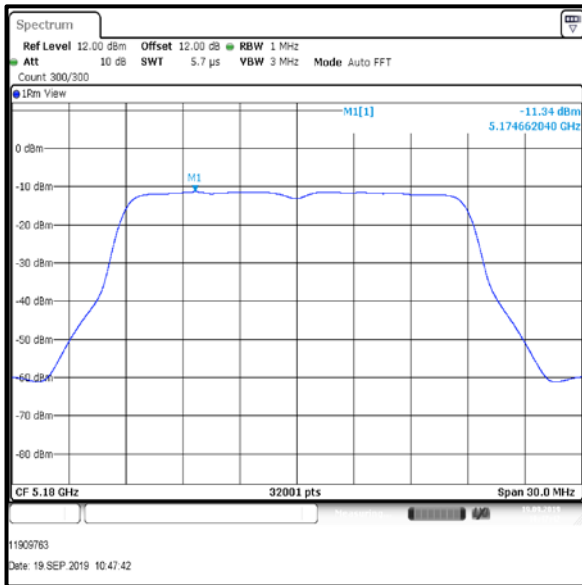
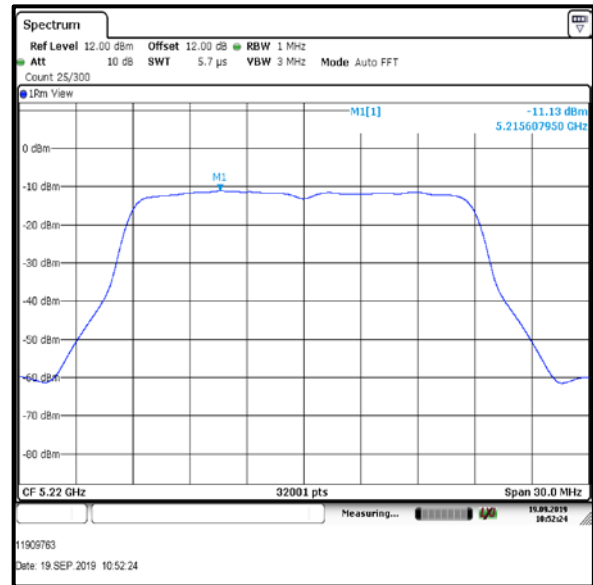
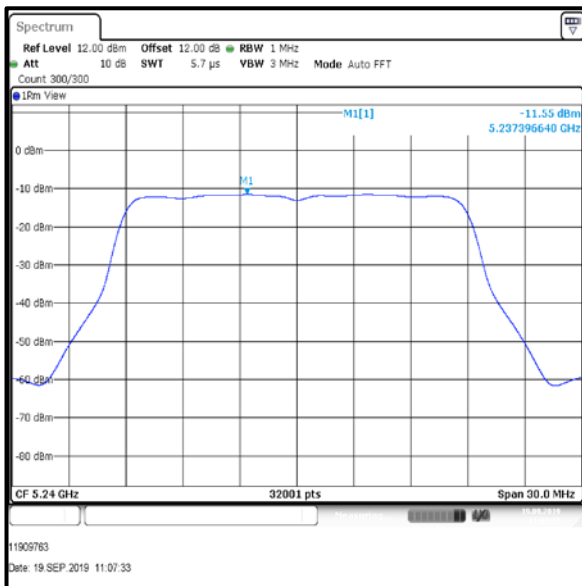


Transmitter Maximum Power Spectral Density (continued)**Results: 802.11n / 20 MHz / MCS0 / MIMO / Port 3 / PWL 7 / 23 dBi Antenna Group****Bottom Channel****Middle Channel****Top Channel**

Transmitter Maximum Power Spectral Density (continued)**Results: 802.11n / 20 MHz / MCS0 / MIMO / Port 4 / PWL 7 / 23 dBi Antenna Group****Bottom Channel****Middle Channel****Top Channel**

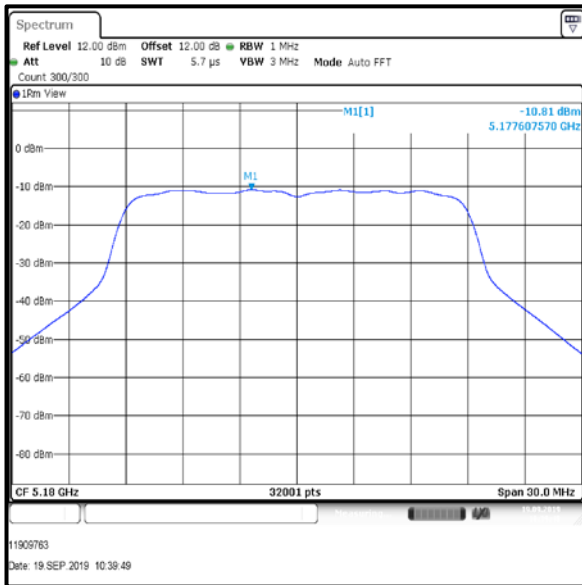
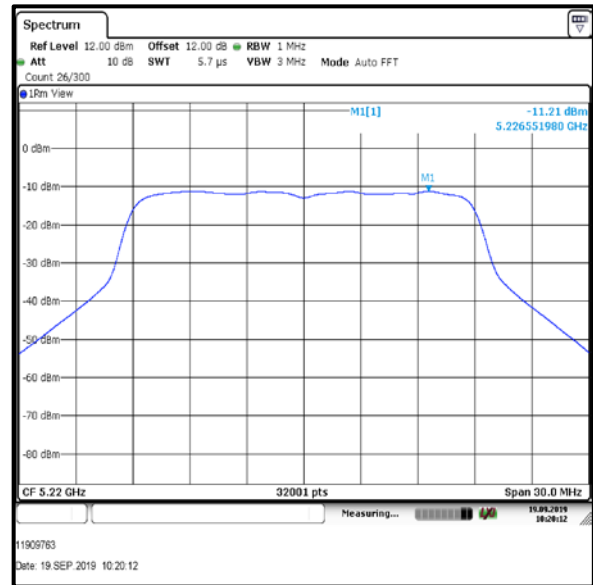
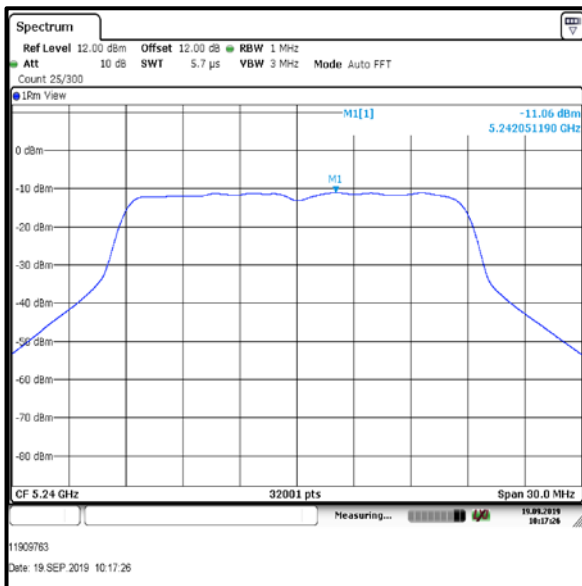
Transmitter Maximum Power Spectral Density (continued)**Results: 802.11ac / 20 MHz / MCS0 / MIMO / Port 1+2+3+4 / PWL 7 / 23 dBi Antenna Group**

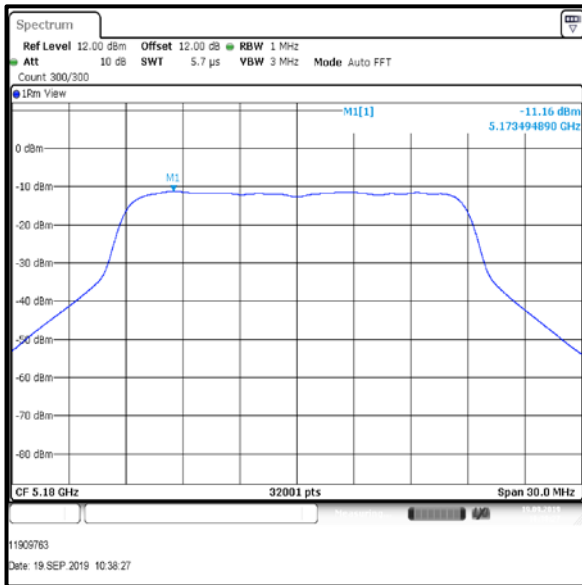
Channel	Port 1			Port 2		
	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)
Bottom	-10.8	0.4	-10.4	-11.2	0.4	-10.8
Middle	-11.2	0.4	-10.8	-11.3	0.4	-10.9
Top	-11.1	0.4	-10.7	-10.7	0.4	-10.3

Channel	Port 3			Port 4		
	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)
Bottom	-11.4	0.4	-11.0	-10.9	0.4	-10.5
Middle	-12.0	0.4	-11.6	-10.6	0.4	-10.2
Top	-11.9	0.4	-11.5	-10.8	0.4	-10.4

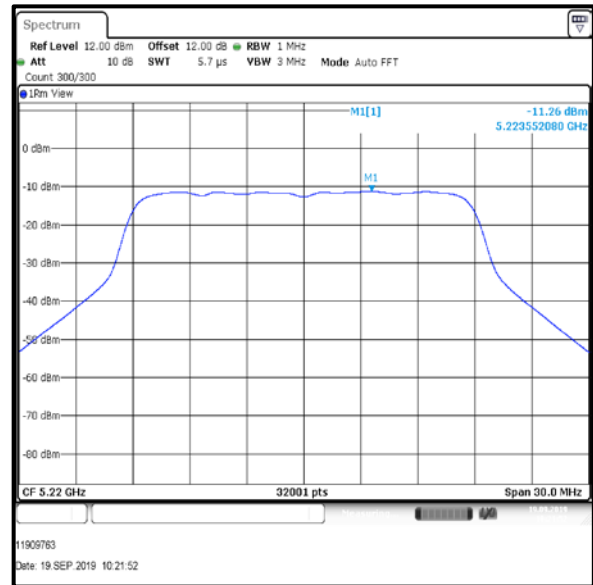
Channel	Corrected PSD Port 1 (dBm /MHz)	Corrected PSD Port 2 (dBm /MHz)	Corrected PSD Port 3 (dBm /MHz)	Corrected PSD Port 4 (dBm /MHz)	Combined PSD (dBm /MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	-10.4	-10.8	-11.0	-10.5	-4.6	-3.3	1.3	Complied
Middle	-10.8	-10.9	-11.6	-10.2	-4.8	-3.3	1.5	Complied
Top	-10.7	-10.3	-11.5	-10.4	-4.7	-3.3	1.4	Complied

Result: Pass

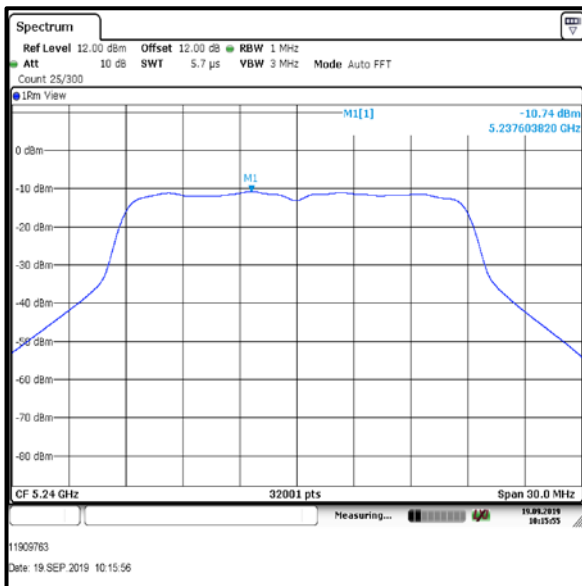
Transmitter Maximum Power Spectral Density (continued)**Results: 802.11ac / 20 MHz / MCS0 / MIMO / Port 1 / PWL 7 / 23 dBi Antenna Group****Bottom Channel****Middle Channel****Top Channel**

Transmitter Maximum Power Spectral Density (continued)**Results: 802.11ac / 20 MHz / MCS0 / MIMO / Port 2 / PWL 7 / 23 dBi Antenna Group**

Bottom Channel



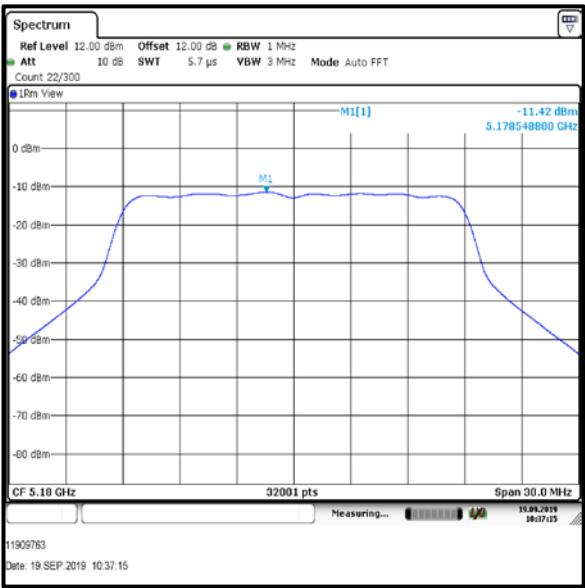
Middle Channel



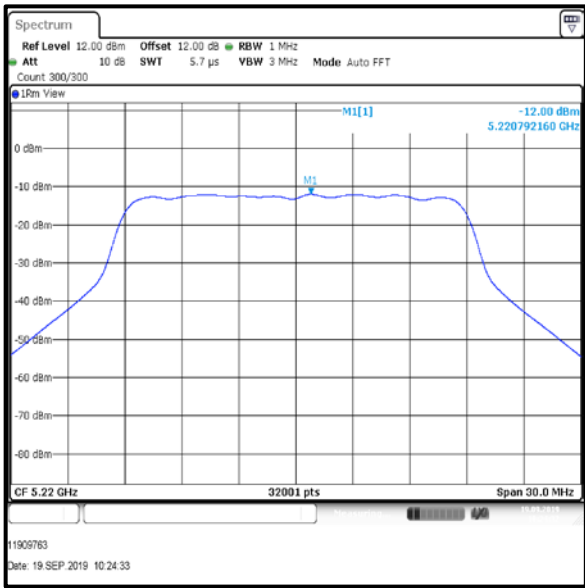
Top Channel

Transmitter Maximum Power Spectral Density (continued)

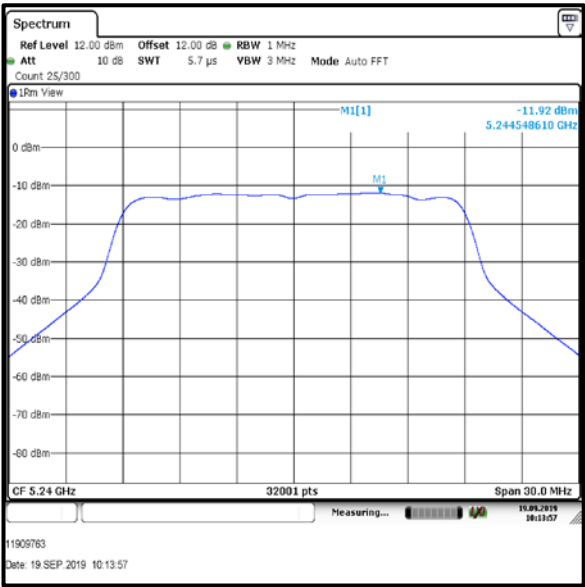
Results: 802.11ac / 20 MHz / MCS0 / MIMO / Port 3 / PWL 7 / 23 dBi Antenna Group



Bottom Channel



Middle Channel

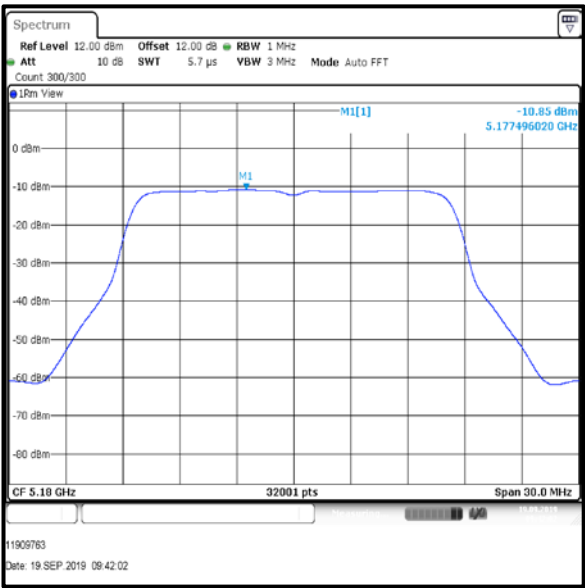


Top Channel

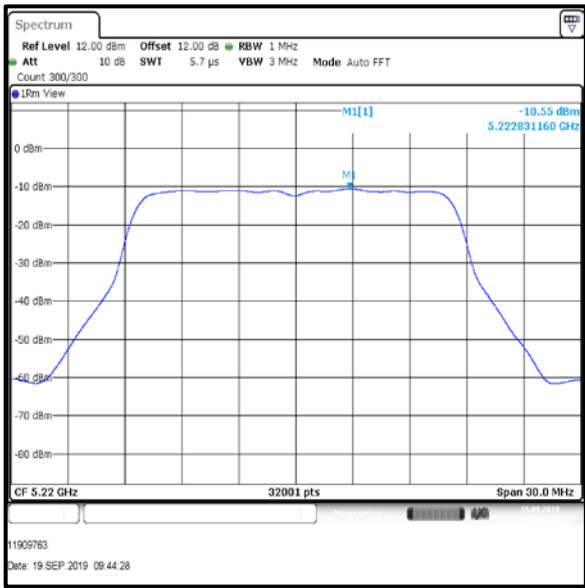
y

Transmitter Maximum Power Spectral Density (continued)

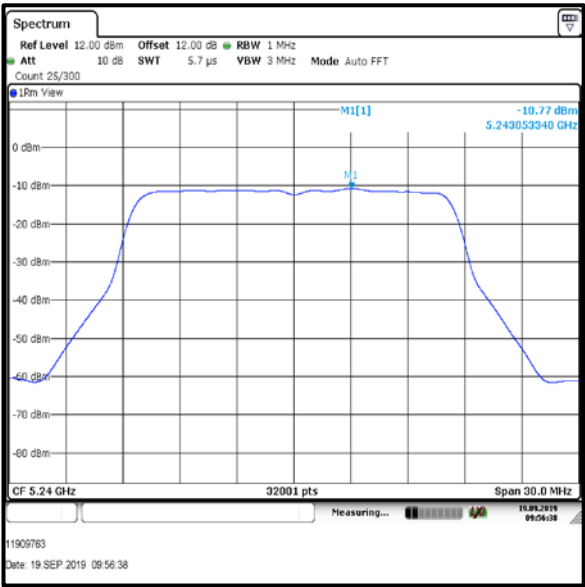
Results: 802.11ac / 20 MHz / MCS0 / MIMO / Port 4 / PWL 7 / 23 dBi Antenna Group



Bottom Channel



Middle Channel



Top Channel



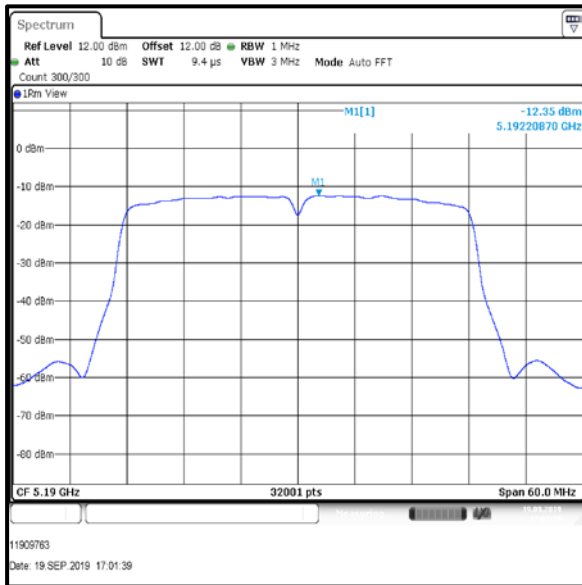
Transmitter Maximum Power Spectral Density (continued)**Results: 802.11n / HT40 / MCS0 / MIMO / Port 1+2+3+4 / PWL 9 / 23 dBi Antenna Group**

Channel	Port 1			Port 2		
	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)
Bottom	-12.4	0.4	-12.0	-12.1	0.4	-11.7
Top	-12.3	0.4	-11.9	-12.5	0.4	-12.1

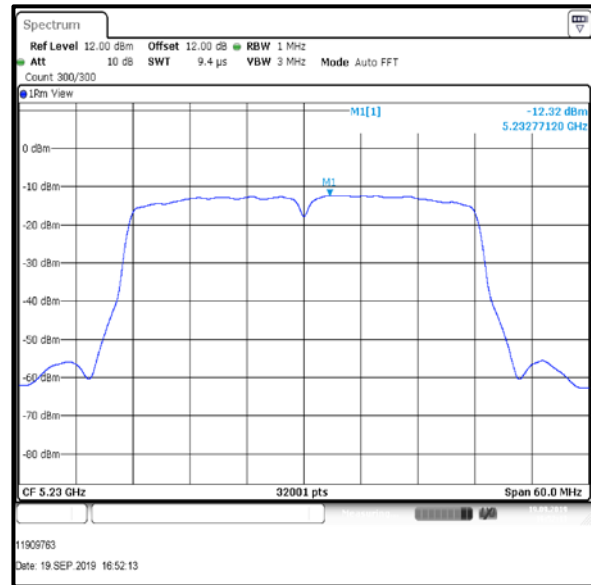
Channel	Port 3			Port 4		
	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)
Bottom	-12.7	0.4	-12.3	-12.2	0.4	-11.8
Top	-12.9	0.4	-12.5	-12.7	0.4	-12.3

Channel	Corrected PSD Port 1 (dBm /MHz)	Corrected PSD Port 2 (dBm /MHz)	Corrected PSD Port 3 (dBm /MHz)	Corrected PSD Port 4 (dBm /MHz)	Combined PSD (dBm /MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	-12.0	-11.7	-12.3	-11.8	-5.9	-3.3	2.6	Complied
Top	-11.9	-12.1	-12.5	-12.3	-6.2	-3.3	2.9	Complied

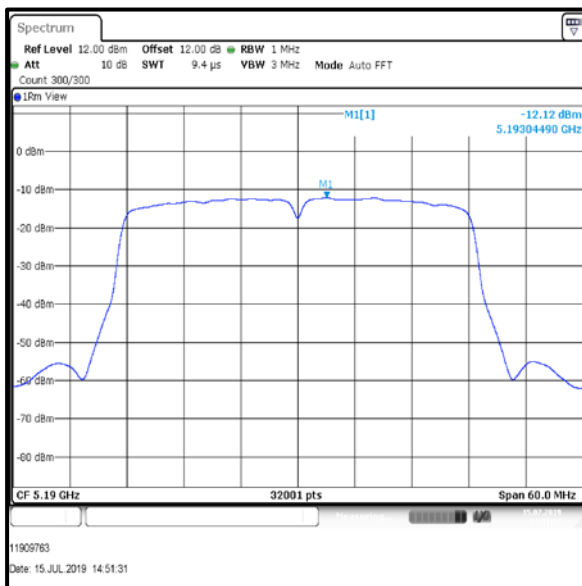
Result: Pass

Transmitter Maximum Power Spectral Density (continued)**Results: 802.11n / HT40 / MCS0 / MIMO / Port 1 / PWL 9 / 23 dBi Antenna Group**

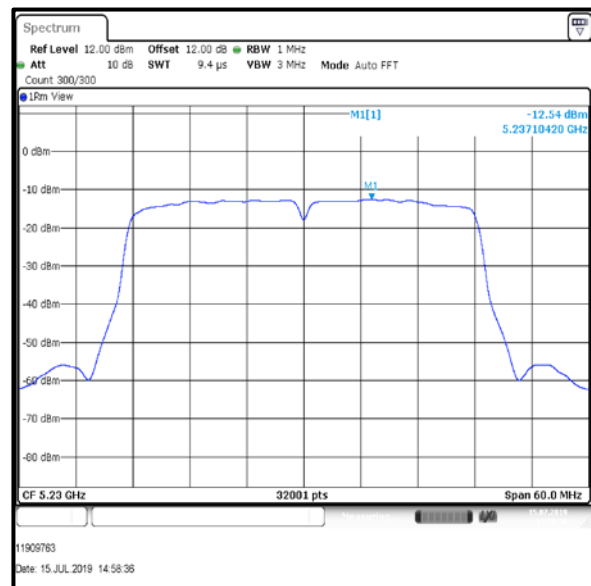
Bottom Channel



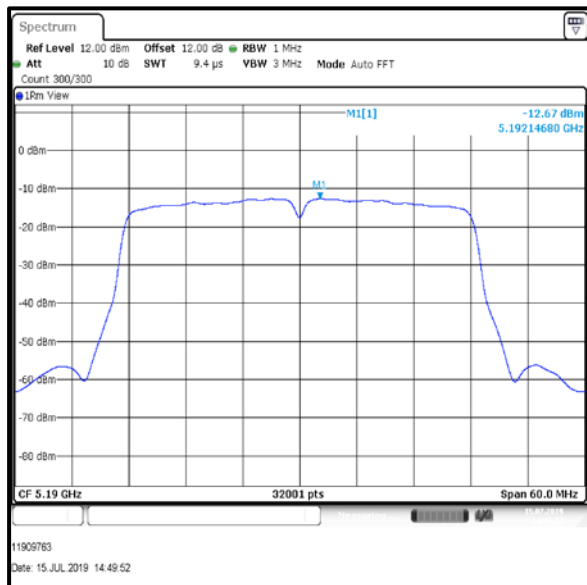
Top Channel

Results: 802.11n / HT40 / MCS0 / MIMO / Port 2 / PWL 9 / 23 dBi Antenna Group

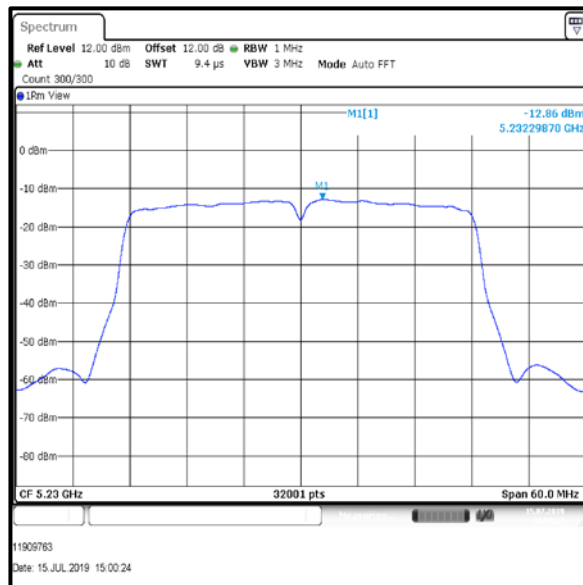
Bottom Channel



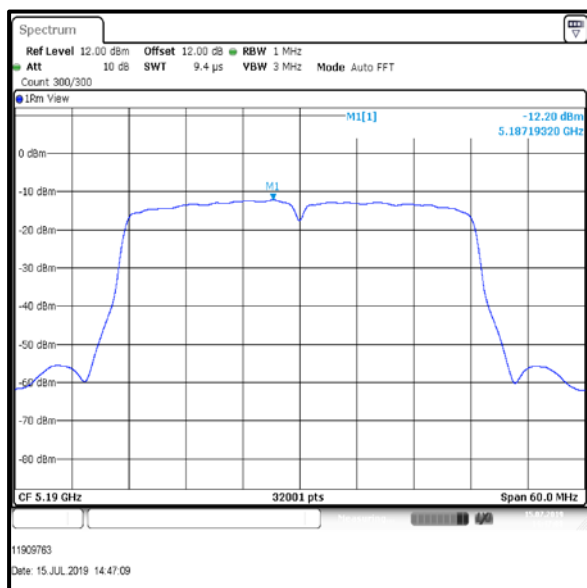
Top Channel

Transmitter Maximum Power Spectral Density (continued)**Results: 802.11n / HT40 / MCS0 / MIMO / Port 3 / PWL 9 / 23 dBi Antenna Group**

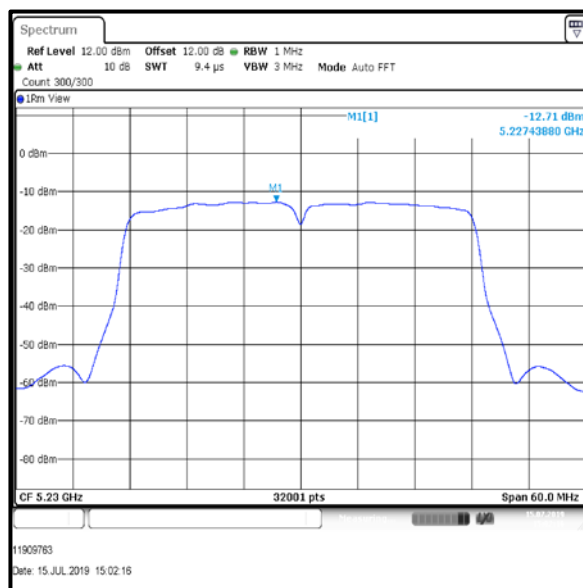
Bottom Channel



Top Channel

Results: 802.11n / HT40 / MCS0 / MIMO / Port 4 / PWL 9 / 23 dBi Antenna Group

Bottom Channel



Top Channel

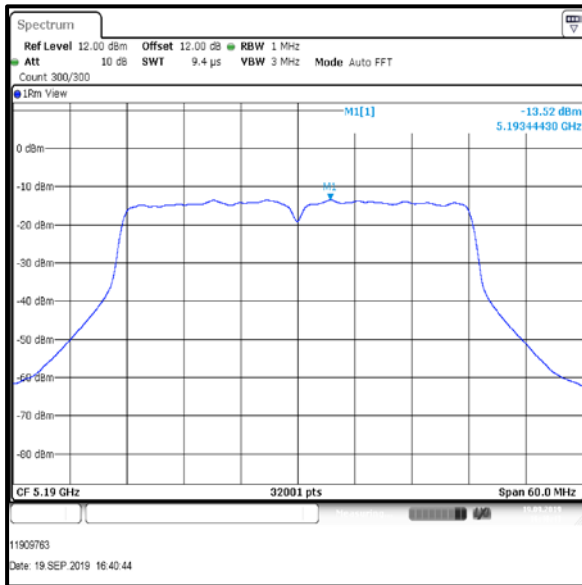
Transmitter Maximum Power Spectral Density (continued)**Results: 802.11ac / HT40 / MCS0 / MIMO / Port 1+2+3+4 / PWL 9 / 23 dBi Antenna Group**

Channel	Port 1			Port 2		
	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)
Bottom	-13.5	0.4	-13.1	-13.5	0.4	-13.1
Top	-13.5	0.4	-13.1	-13.6	0.4	-13.2

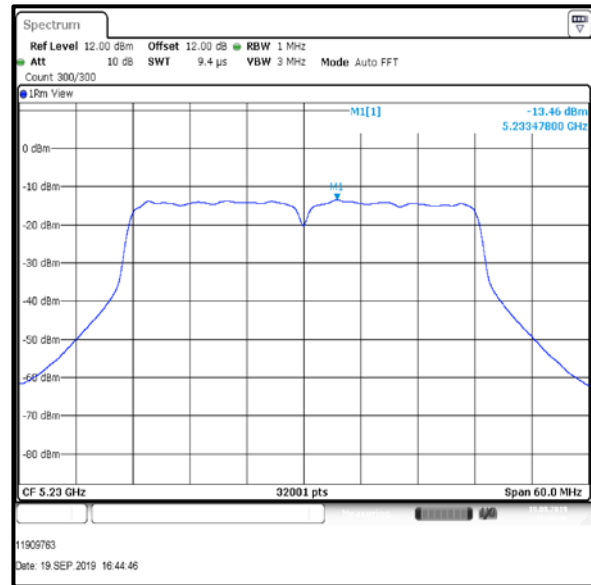
Channel	Port 3			Port 4		
	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)
Bottom	-14.4	0.4	-14.0	-14.1	0.4	-13.7
Top	-14.6	0.4	-14.2	-14.3	0.4	-13.9

Channel	Corrected PSD Port 1 (dBm /MHz)	Corrected PSD Port 2 (dBm /MHz)	Corrected PSD Port 3 (dBm /MHz)	Corrected PSD Port 4 (dBm /MHz)	Combined PSD (dBm /MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	-13.1	-13.1	-14.0	-13.7	-7.4	-3.3	4.1	Complied
Top	-13.1	-13.2	-14.2	-13.9	-7.6	-3.3	4.3	Complied

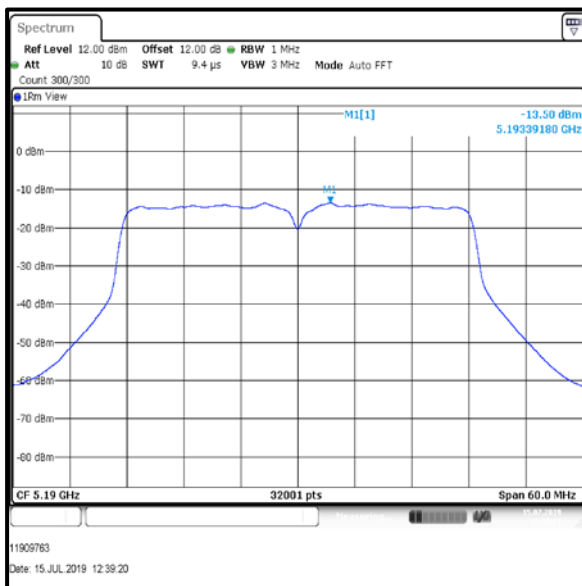
Result: Pass

Transmitter Maximum Power Spectral Density (continued)**Results: 802.11ac / HT40 / MCS0 / MIMO / Port 1 / PWL 9 / 23 dBi Antenna Group**

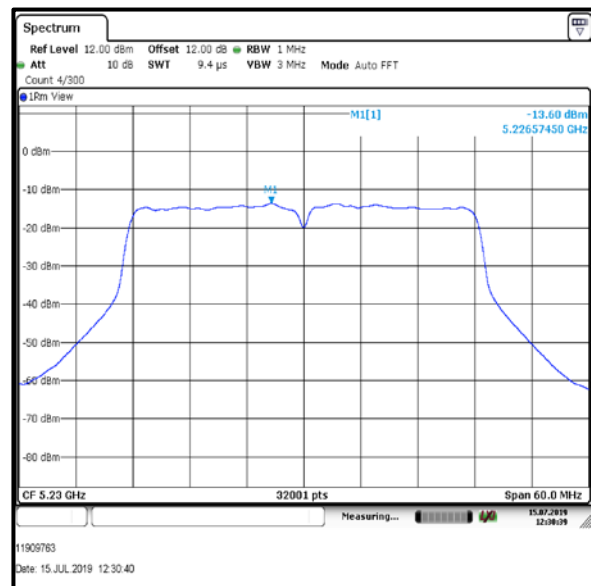
Bottom Channel



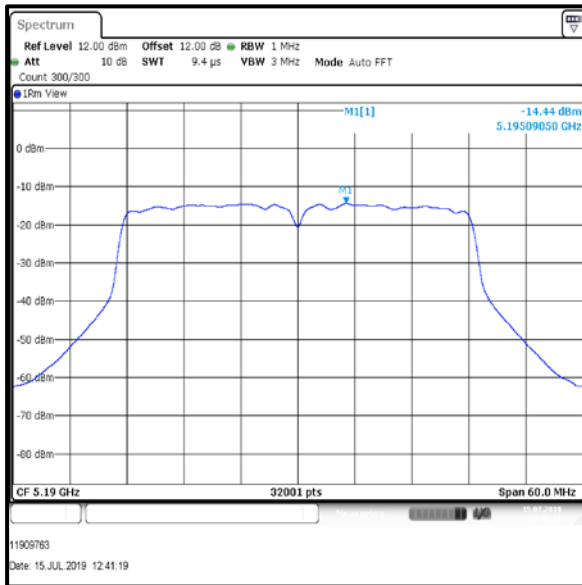
Top Channel

Results: 802.11ac / HT40 / MCS0 / MIMO / Port 2 / PWL 9 / 23 dBi Antenna Group

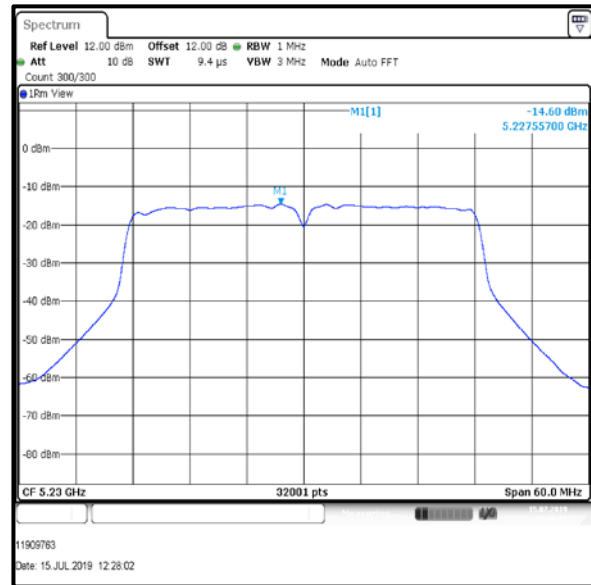
Bottom Channel



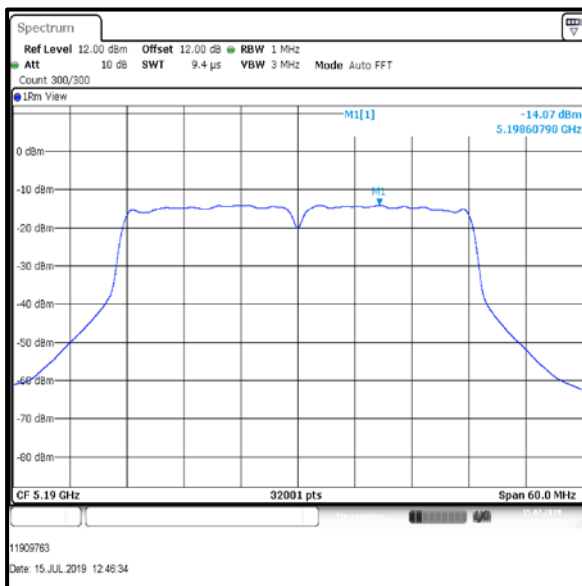
Top Channel

Transmitter Maximum Power Spectral Density (continued)**Results: 802.11ac / HT40 / MCS0 / MIMO / Port 3 / PWL 9 / 23 dBi Antenna Group**

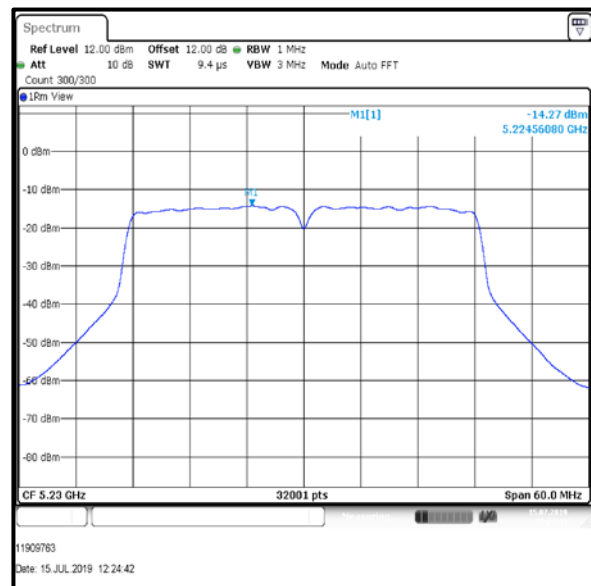
Bottom Channel



Top Channel

Results: 802.11ac / HT40 / MCS0 / MIMO / Port 4 / PWL 9 / 23 dBi Antenna Group

Bottom Channel



Top Channel

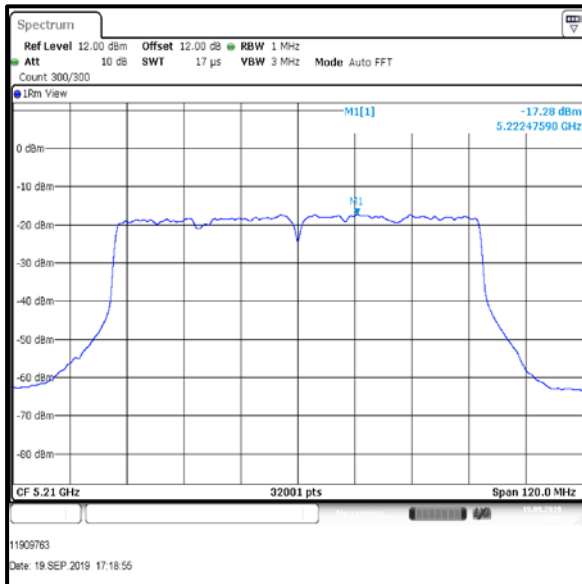
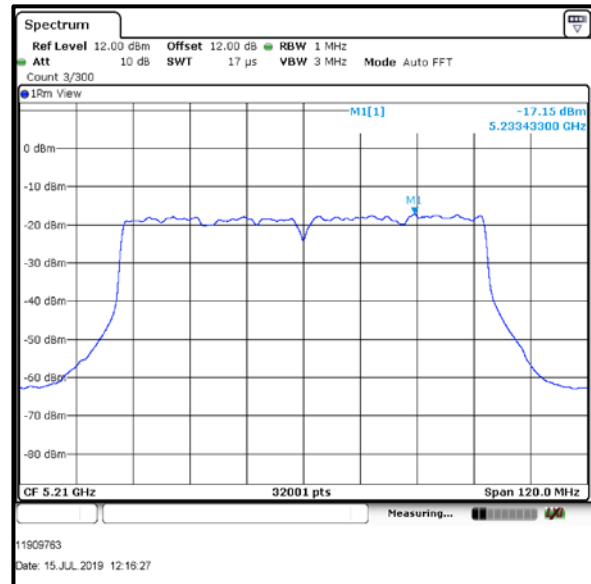
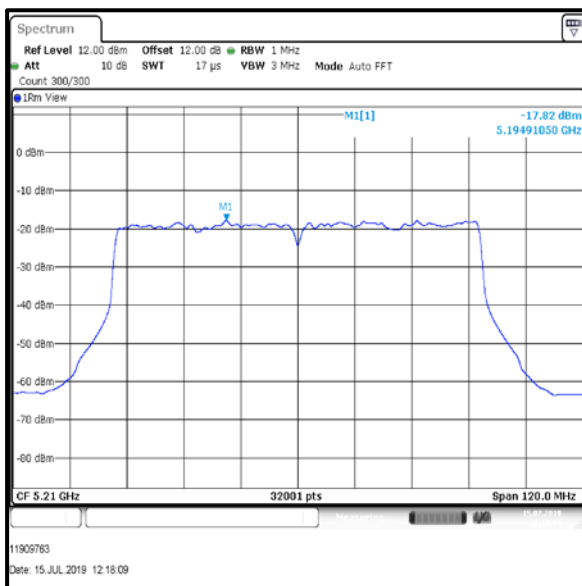
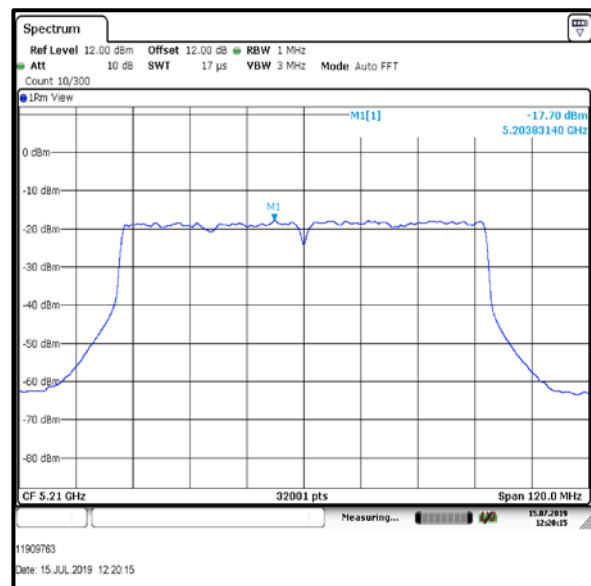
Transmitter Maximum Power Spectral Density (continued)**Results: 802.11ac / HT80 / MCS0 / MIMO / Port 1+2+3+4 / PWL 9 / 23 dBi Antenna Group**

Channel	Port 1			Port 2		
	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)
Single	-17.3	0.5	-16.8	-17.2	0.5	-16.7

Channel	Port 3			Port 4		
	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)	PSD (dBm /MHz)	Duty Cycle Correction (dB)	Corrected PSD (dBm /MHz)
Single	-17.8	0.5	-17.3	-17.7	0.5	-17.2

Channel	Corrected PSD Port 1 (dBm /MHz)	Corrected PSD Port 2 (dBm /MHz)	Corrected PSD Port 3 (dBm /MHz)	Corrected PSD Port 4 (dBm /MHz)	Combined PSD (dBm /MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	-16.8	-16.7	-17.3	-17.2	-11.0	-3.3	7.7	Complied

Result: Pass

Transmitter Maximum Power Spectral Density (continued)**Results: 802.11ac / HT80 / MCS0 / MIMO / Port 1+2+3+4 / PWL 9 / 23 dBi Antenna Group****Single Channel Port 1****Single Channel Port 2****Single Channel Port 3****Single Channel Port 4**

5.2.6. Transmitter Cabinet Radiated Emissions**Test Summary:**

Test Engineer:	Krume Ivanov	Test Date:	17 April 2019
Test Sample Serial Number:	192.168.0.80		
Test Site Identification	SR 1/2		

FCC Reference:	Part 15.407(b)(1),(6),(7) & 15.209(a)
Test Method Used:	FCC KDB 789033 D02 Section II.G.1, II.G.2, II.G.3 & II.G.4 ANSI C63.10 Sections 6.3 and 6.4
Frequency Range	9 kHz to 30 MHz

Environmental Conditions:

Temperature (°C):	20
Relative Humidity (%):	30

Notes:

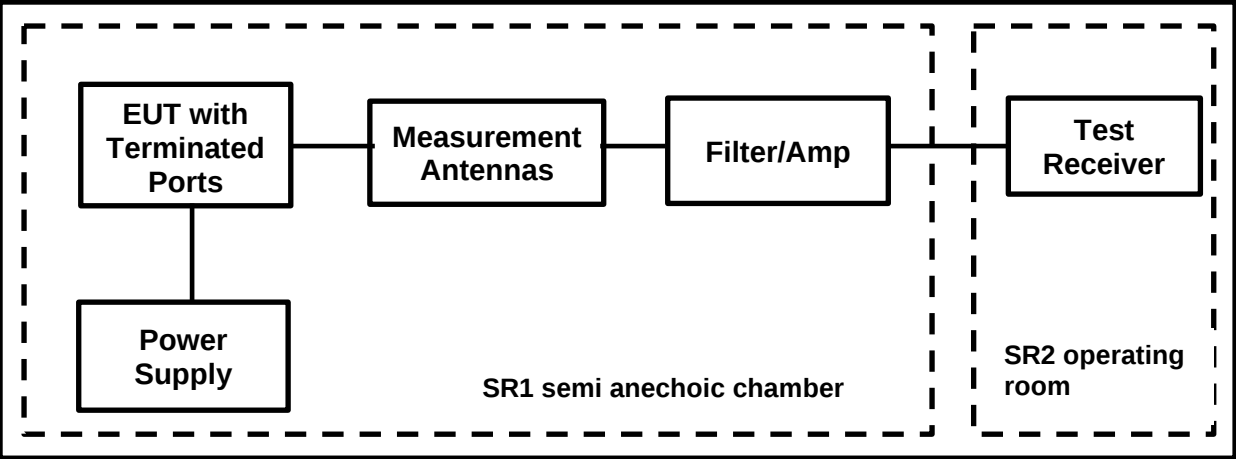
- In accordance with FCC KDB 414788, an alternative test site may be used for the measurement below 30 MHz (The OATS / SAC comparison data is available upon request). Therefore the result from the semi-anechoic chamber tests is shown in this section of the test report.
- In accordance with FCC KDB 789033 D02 Section II.G.3.b)(i) & (ii) Transmitter Cabinet Radiated Emissions were performed by terminating EUT's all 4-MIMO Ports with 50 Ω (nominal impedance of antennas).
- Maximum power setting (PWL) amongst all supported SISO & MIMO modes & listed antenna groups has been used.
- Therefore, transmitter cabinet radiated emissions are valid for all supported Bandwidths, SISO- MIMO modes & listed antenna groups in this report.
- The preliminary scans showed similar emission levels below 30 MHz, amongst all supported Bandwidths, SISO & MIMO modes and channel of operations. Therefore final Transmitter Cabinet Radiated Emissions measurements were performed with the EUT set to the worst case modes.
 - Terminated Ports 1+2+3+4 | a Mode | 6 Mbps | B.W. 20 MHz | PWL 18 | CH 36
 - Terminated Ports 1+2+3+4 | n Mode | MCS0 | B.W. 20 MHz | PWL 18 | CH 44
 - Terminated Ports 1+2+3+4 | ac Mode | MCS0 | B.W. 20 MHz | PWL 18 | CH 48
- Measurements below 30 MHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) at a distance of 3 m. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. The measurement loop antenna height was 1 m.
- Pre-scans were performed and markers placed on the highest measured levels. The test receiver was set to:
 - Frequency range: 9 kHz-150kHz : RBW: 300 Hz /VBW: 1 kHz
 - Frequency range: 150 kHz – 30 MHz: RBW: 10 kHz /VBW: 30 kHz
 - Detector: Max-Peak detector
 - Trace Mode: Max Hold
- Final measurements were performed on the marker frequencies and the results entered into the table below. All other emissions were greater than 20 dB below the applicable limit, below the noise floor of the measurement system or ambient.

Transmitter Cabinet Radiated Emissions (continued)

Notes (continued):

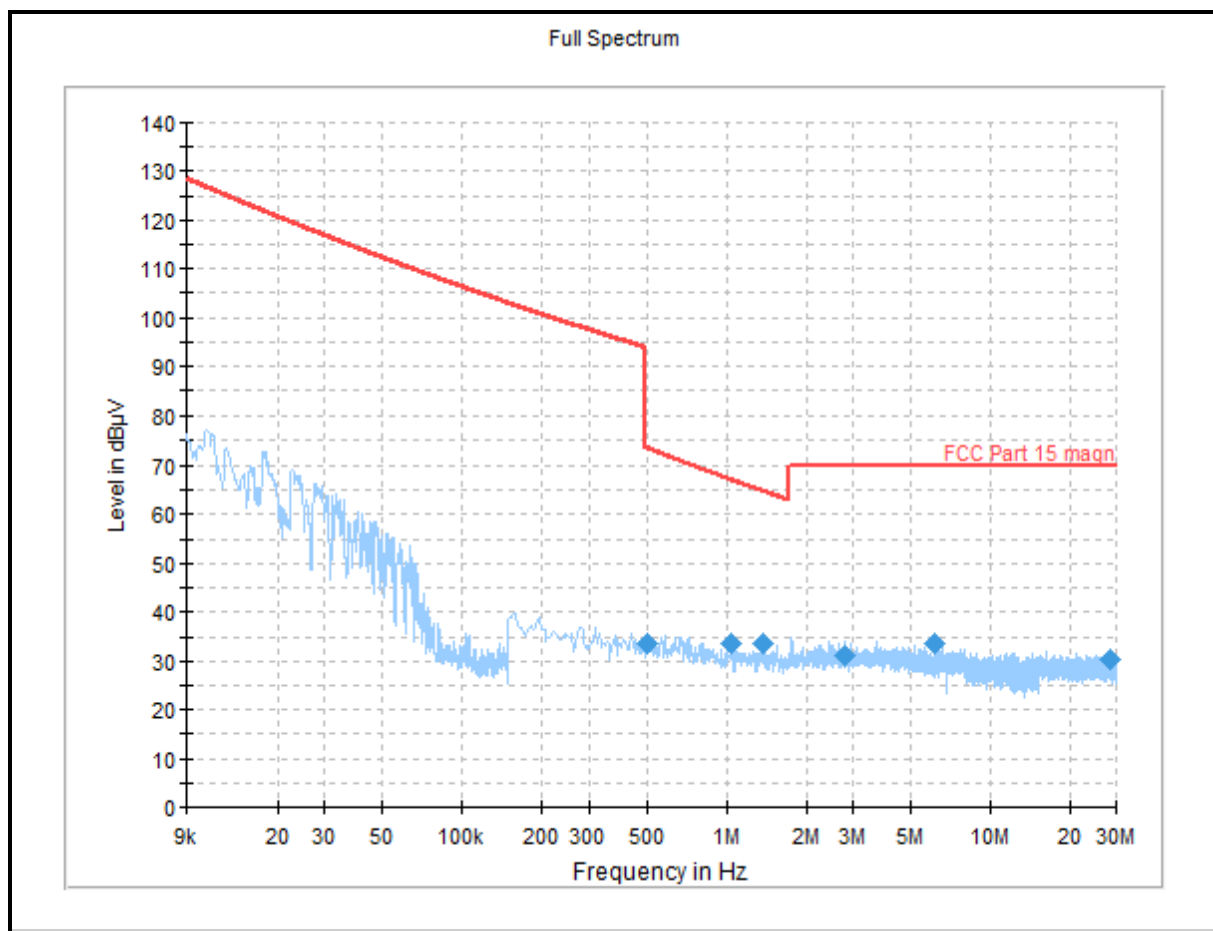
9. Final measurements were performed on the marker frequencies and the results entered into the table below. The test receiver resolution bandwidth was set to 9 kHz, using a max-peak detector and span big enough to see the whole emission.
10. The final measured value, for the given emission, in the table below incorporates the measured cabinet radiated emission level, distance extrapolation factor, calibrated antenna factor and cable loss.
11. In accordance with ANSI C63.10 Section 12.7.5 Compliance is determined using max-peak detector, as an alternative to quasi-peak detector.
12. EMC32 V10.1.0 Software was used for these measurements.

Test Setup:



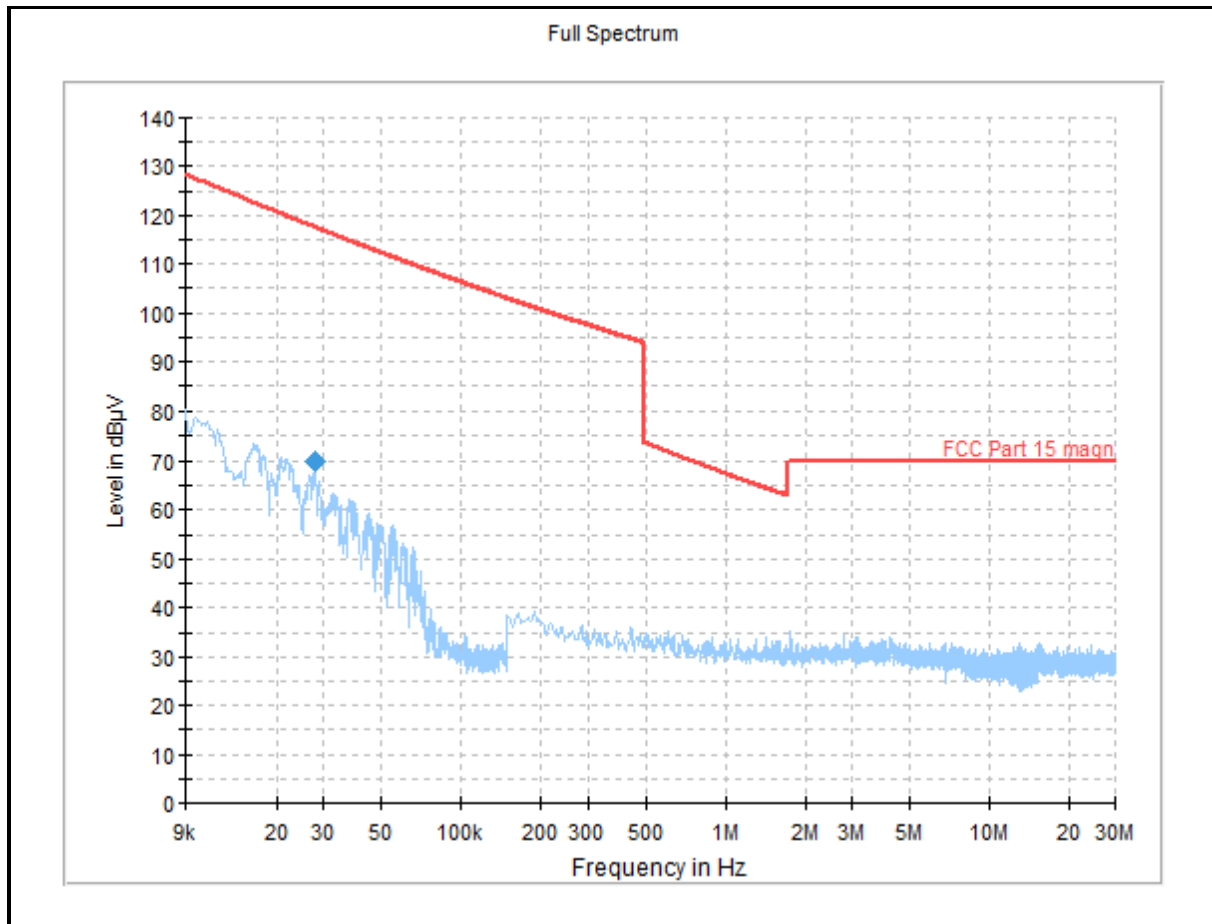
Transmitter Cabinet Radiated Emissions (continued)**Results: 802.11a / 20 MHz / 6 Mbps / Terminated Ports 1+2+3+4 / PWL 18 / CH 36**

Frequency (MHz)	Antenna Polarization	MaxPeak Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
0.497	Horizontal	33.48	73.66	40.18	Complied
1.029	Horizontal	33.48	67.14	33.66	Complied
1.360	Horizontal	33.49	64.81	31.32	Complied
2.796	Vertical	31.08	70.00	38.92	Complied
6.100	Horizontal	33.48	70.00	36.52	Complied
28.295	Vertical	30.26	70.00	39.74	Complied

Plot : 9 k HZ to 30 MHz**Result: Pass**

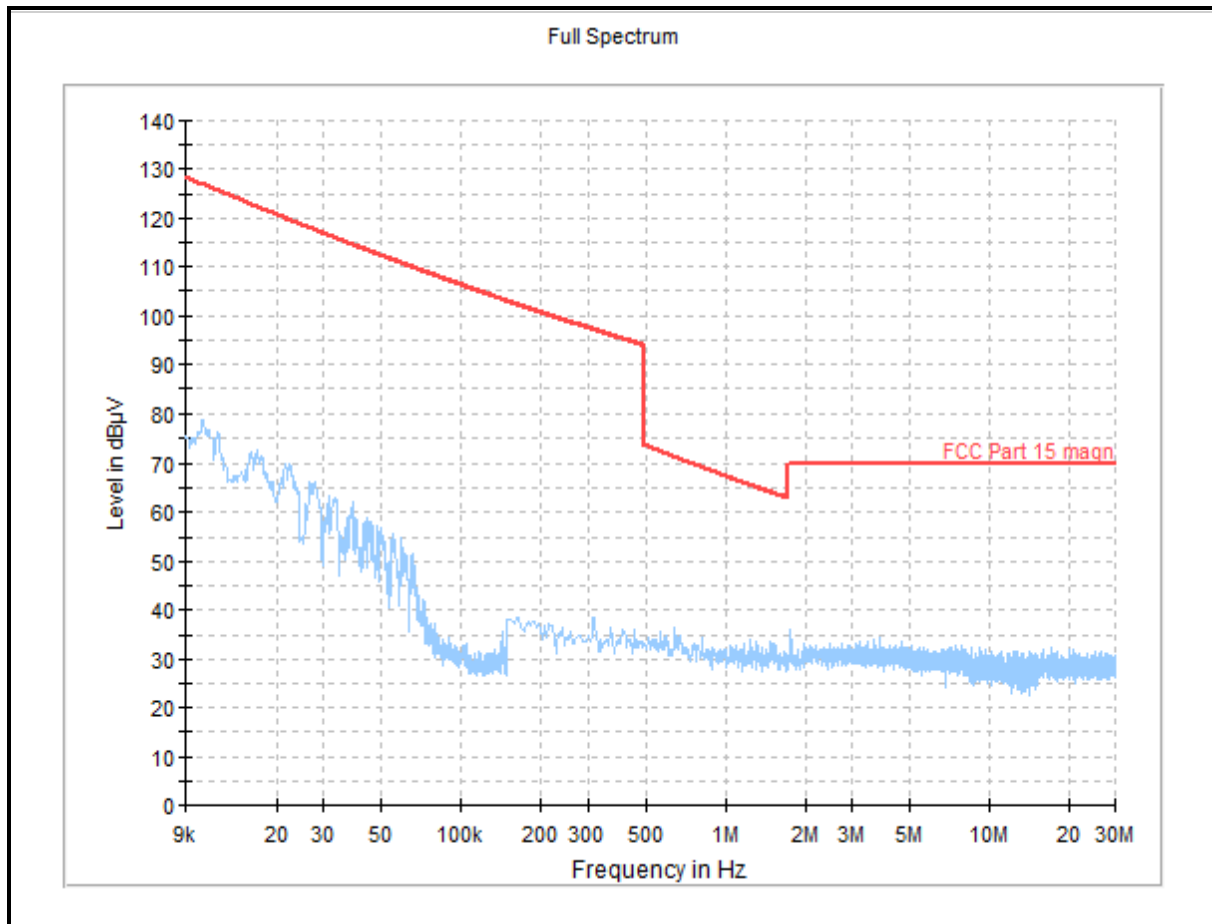
Transmitter Cabinet Radiated Emissions (continued)**Results: 802.11n / 20 MHz / MCS0 / Terminated Ports 1+2+3+4 / PWL 18 / CH 44**

Frequency (MHz)	Antenna Polarization	MaxPeak Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
0.027	Horizontal	69.85	117.60	47.75	Complied

Plot : 9 k HZ to 30 MHz**Result: Pass**

Transmitter Cabinet Radiated Emissions (continued)**Results: 802.11ac / 20 MHz / MCS0 / Terminated Ports 1+2+3+4 / PWL 18 / CH 48**

Frequency (MHz)	Antenna Polarization	Peak Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
No criticals spurious emissions was found					

Plot : 9 k HZ to 30 MHz**Result: Pass**

Transmitter Cabinet Radiated Emissions (continued)**Test Summary:**

Test Engineer:	Krume Ivanov	Test Date:	17 April 2019
Test Sample Serial Number:	192.168.0.80		
Test Site Identification	SR 1/2		

FCC Reference:	Part 15.407 (b)(1),(6),(7) & 15.209(a)
Test Method Used:	FCC KDB 789033 D02 Section II.G.1, II.G.2, II.G.3 & II.G.4 ANSI C63.10 Sections 6.3 and 6.5
Frequency Range	30 MHz to 1000 MHz

Environmental Conditions:

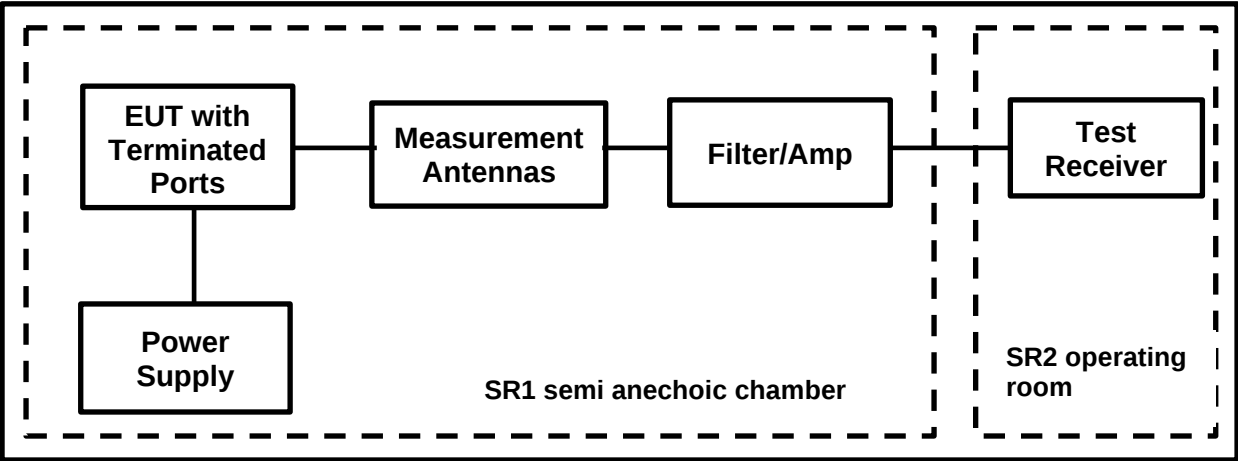
Temperature (°C):	20
Relative Humidity (%):	30

Notes:

- In accordance with FCC KDB 789033 D02 Section II.G.3.b)(i) & (ii) Transmitter Cabinet Radiated Emissions were performed by terminating EUT's all 4-MIMO Ports with 50 Ω (nominal impedance of antennas).
- Maximum power setting (PWL) amongst all supported SISO & MIMO modes & listed antenna groups has been used.
- The preliminary scans showed similar emission levels below 1 GHz, amongst all supported Bandwidths, SISO & MIMO modes and channel of operations. Therefore final Transmitter Cabinet Radiated Emissions measurements were performed with the EUT set to the worst case modes.
 - Terminated Ports 1+2+3+4 | a Mode | 6 Mbps | B.W. 20 MHz | PWL 18 | CH 36
 - Terminated Ports 1+2+3+4 | n Mode | MCS0 | B.W. 20 MHz | PWL 18 | CH 44
 - Terminated Ports 1+2+3+4 | ac Mode | MCS0 | B.W. 20 MHz | PWL 18 | CH 48
- Therefore, transmitter cabinet radiated emissions are valid for all supported Bandwidths, SISO- MIMO modes & listed antenna groups in this report.
- Measurements below 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) at a distance of 3 m. 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 m to 4 m.
- Pre-scans were performed and markers placed on the highest measured levels. The test receiver resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold.
- 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 max-peak detector and span big enough to see the whole emission.
- In accordance with ANSI C63.10 Section 12.7.5 Compliance is determined using max-peak detector, as an alternative to quasi-peak detector.
- The measured value, for the given emission, in the table below incorporates the measured cabinet radiated emission level, calibrated antenna factor and cable loss.
- EMC32 V10.1.0 Software was used for these measurements.

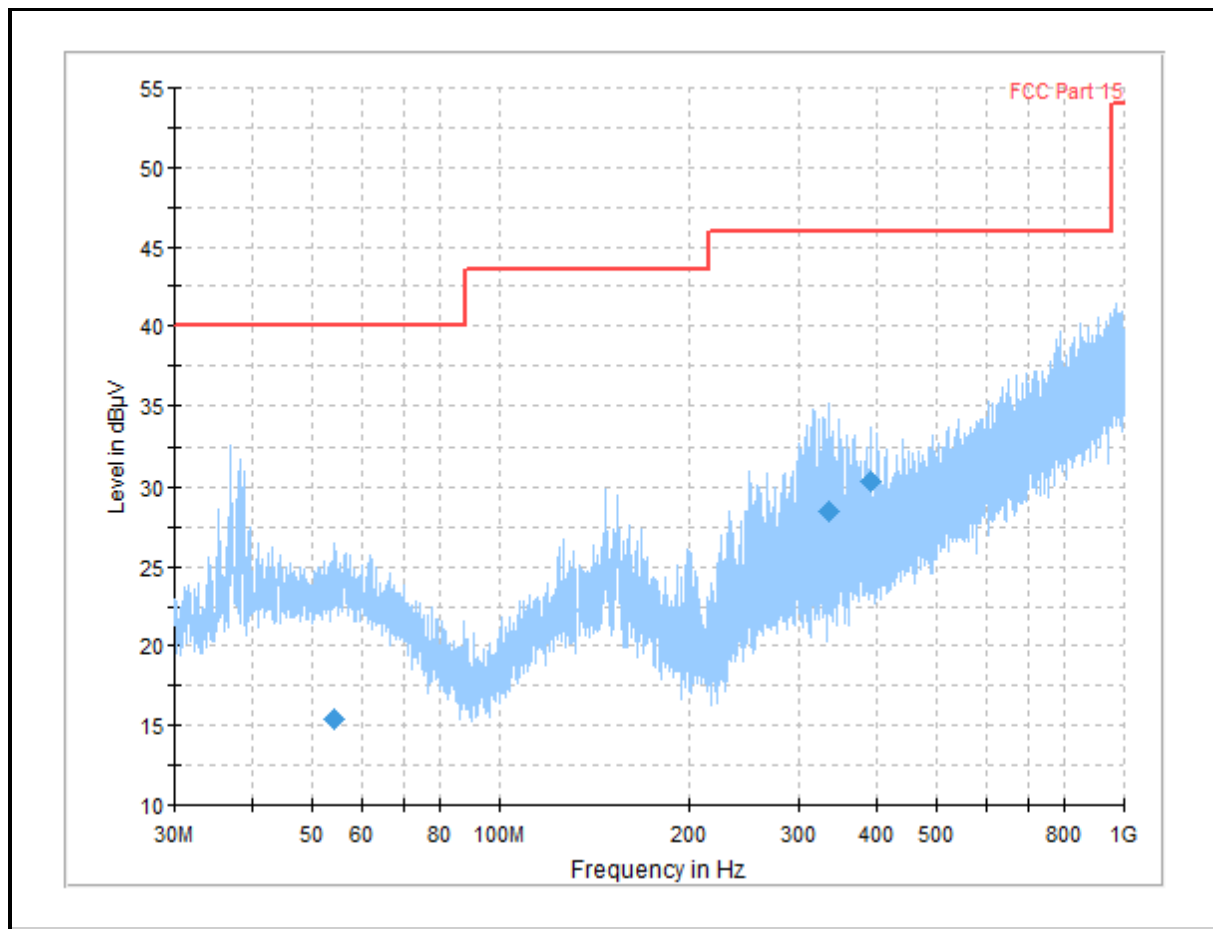
Transmitter Cabinet Radiated Emissions (continued)

Test Setup:



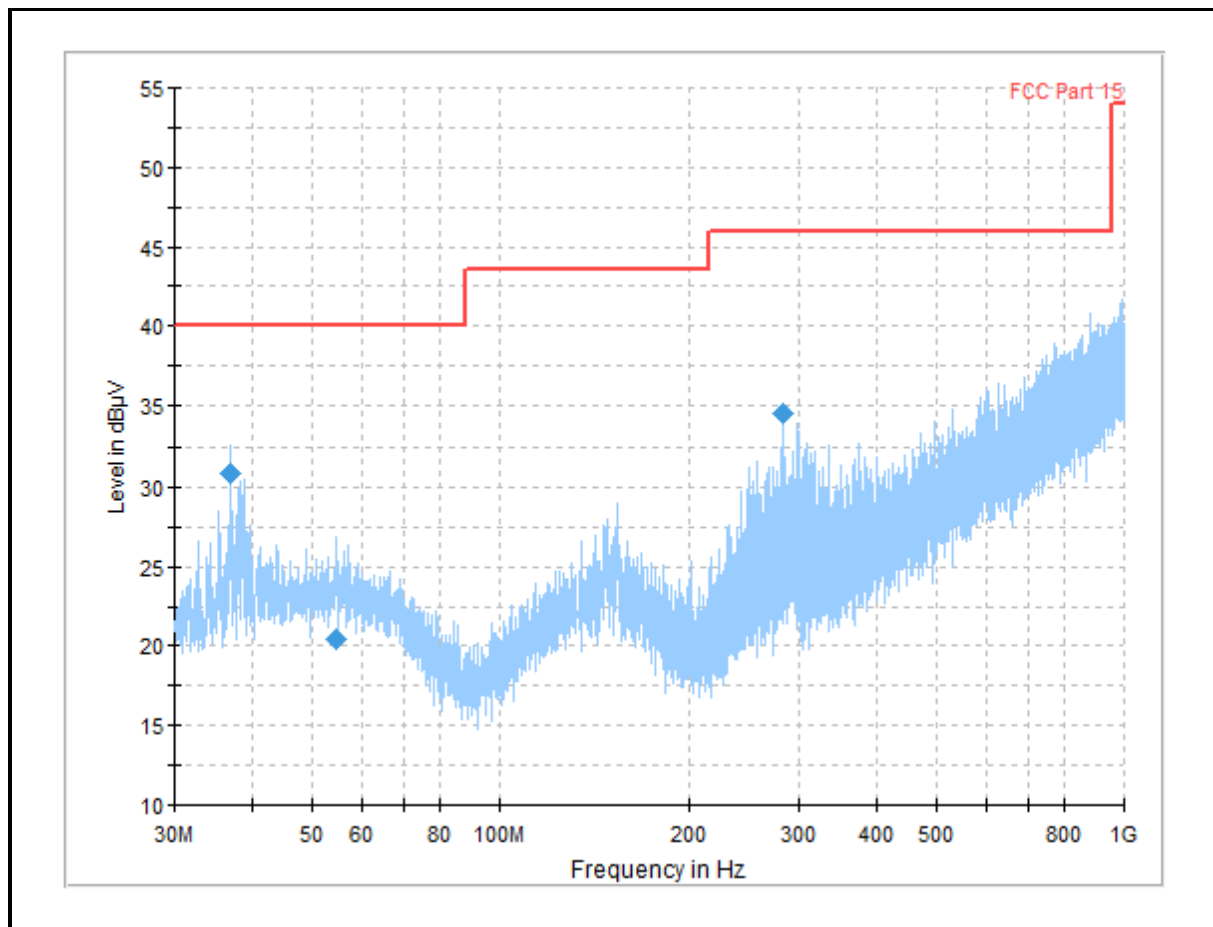
Transmitter Cabinet Radiated Emissions (continued)**Results: 802.11a / 20 MHz / 6 Mbps / Terminated Ports 1+2+3+4 / PWL 18 / CH 36**

Frequency (MHz)	Antenna Polarization	MaxPeak Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
54.165	Vertical	15.43	40.00	24.57	Complied
334.733	Horizontal	28.46	46.00	17.54	Complied
392.600	Horizontal	30.32	46.00	15.68	Complied

Plot : 30 MHz to 1 GHz**Result: Pass**

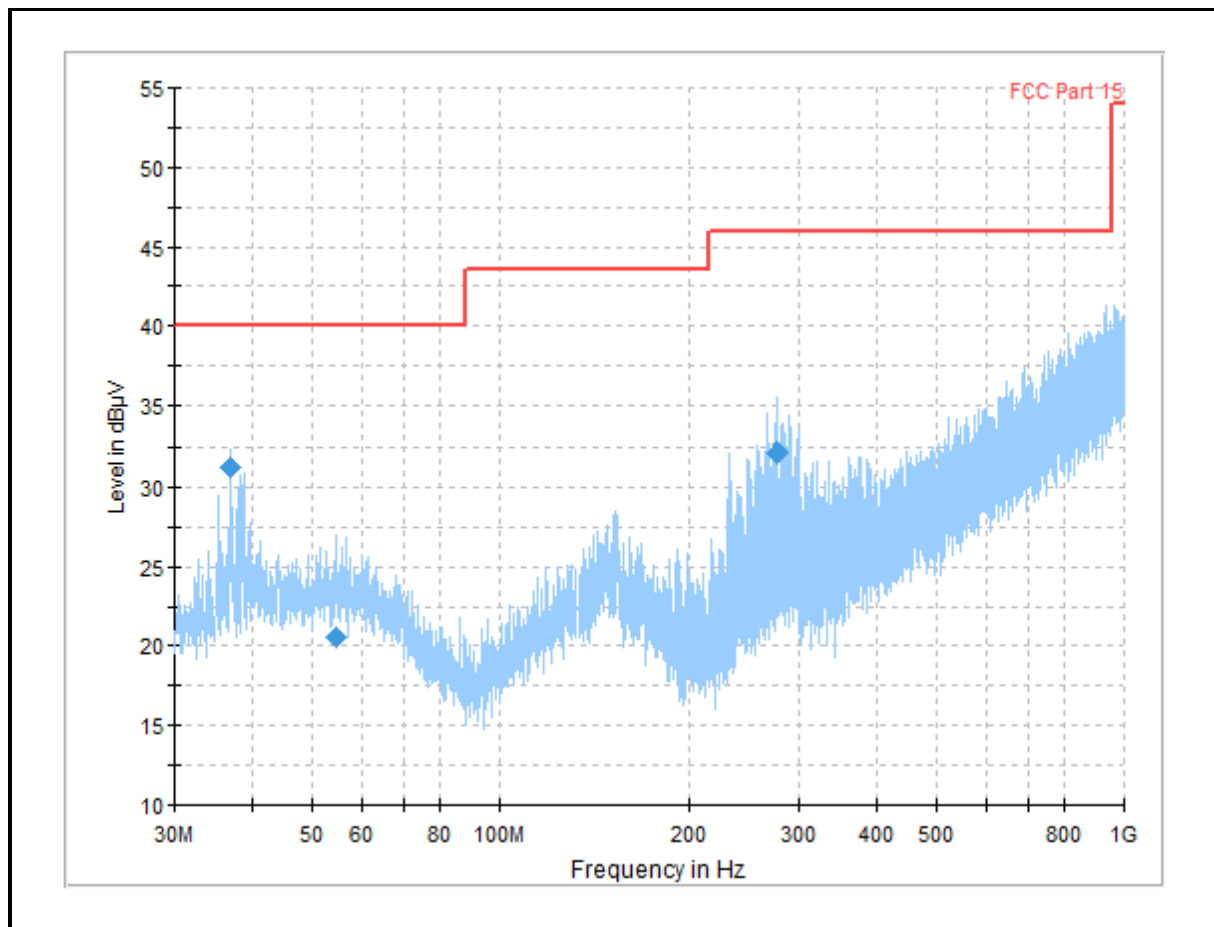
Transmitter Cabinet Radiated Emissions (continued)**Results: 802.11n / 20 MHz / MCS0 / Terminated Ports 1+2+3+4 / PWL 18 / CH 44**

Frequency (MHz)	Antenna Polarization	MaxPeak Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
36.930	Vertical	30.85	40.00	9.15	Complied
54.570	Vertical	20.39	40.00	19.61	Complied
283.755	Horizontal	34.45	46.00	11.55	Complied

Plot : 30 MHz to 1 GHz**Result: Pass**

Transmitter Cabinet Radiated Emissions (continued)**Results: 802.11ac / 20 MHz / MCS0 / Terminated Ports 1+2+3+4 / PWL 18 / CH 48**

Frequency (MHz)	Antenna Polarization	MaxPeak Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
36.930	Vertical	31.24	40.00	8.76	Complied
54.570	Vertical	20.50	40.00	19.5	Complied
276.555	Horizontal	32.07	46.00	13.93	Complied

Plot : 30 MHz to 1 GHz**Result: Pass**

Transmitter Cabinet Radiated Emissions (continued)**Test Summary:**

Test Engineer:	Krume Ivanov	Test Dates:	04 April 2019 & 21 October 2019
Test Sample Serial Number:	192.168.0.80		
Test Site Identification	SR 1/2		

FCC Reference:	Part 15.407 (b)(4),(6),(7) & 15.209(a)
Test Method Used:	FCC KDB 789033 D02 Section II.G.1, II.G.2, II.G.3, II.G.5 & II.G.6 ANSI C63.10 Sections 6.3 and 6.6
Frequency Range	1 GHz to 40 GHz

Environmental Conditions:

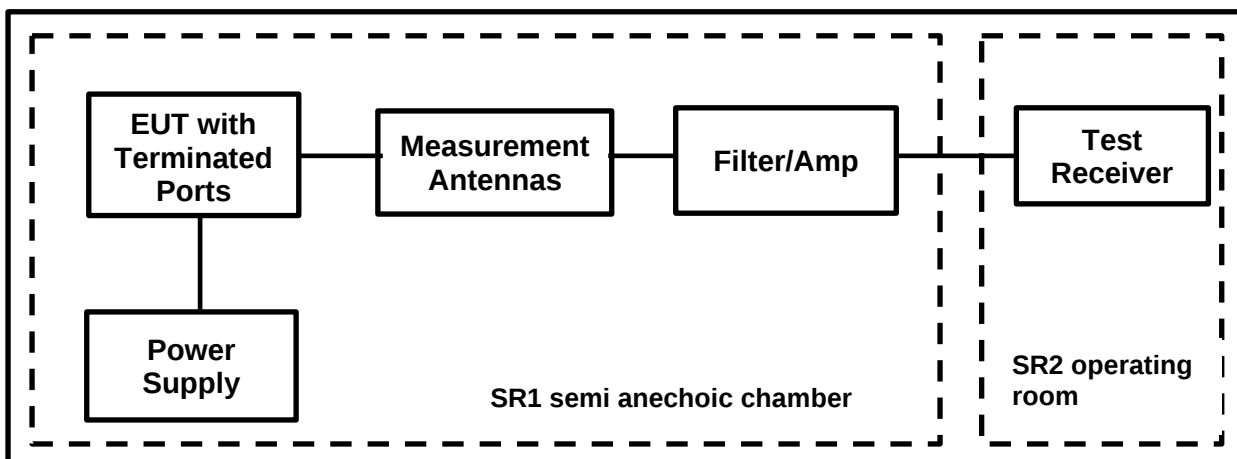
Temperature (°C):	20 to 22
Relative Humidity (%):	30 to 51

Notes:

- In accordance with FCC KDB 789033 D02 Section II.G.3.b)(i) & (ii) Transmitter Cabinet Radiated Emissions were performed by terminating EUT's all 4-MIMO Ports with 50 Ω (nominal impedance of antennas).
- Maximum power setting (PWL) amongst all supported SISO & MIMO modes & listed antenna groups has been used.
- Therefore, transmitter cabinet radiated emissions are valid for all supported Bandwidths, SISO- MIMO modes & listed antenna groups in this report.
- The preliminary scans showed similar emission levels above 1 GHz, amongst all supported Bandwidths, SISO & MIMO modes and channel of operations. Therefore final Transmitter Cabinet Radiated Emissions measurements were performed with the EUT set to the worst case modes.
 - Terminated Ports 1+2+3+4 | a Mode | 6 Mbps | B.W. 20 MHz | PWL 18 | CH 36
 - Terminated Ports 1+2+3+4 | n Mode | MCS0 | B.W. 20 MHz | PWL 18 | CH 44
 - Terminated Ports 1+2+3+4 | ac Mode | MCS0 | B.W. 20 MHz | PWL 18 | CH 48
- Therefore, transmitter cabinet radiated emissions are valid for all supported Bandwidths, SISO- MIMO modes & listed antenna groups in this report.
- Pre-scans above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) with absorber on the floor at a distance of 3 m. The EUT was placed at a height of 1.5 m above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 m above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) with absorber on the floor at a distance of 3 m. The EUT was placed at a height of 1.5 m 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 m to 4 m.
- Pre-scans were performed and a marker placed on the highest measured level of the appropriate plot. The test receiver resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. The sweep time was set to auto.

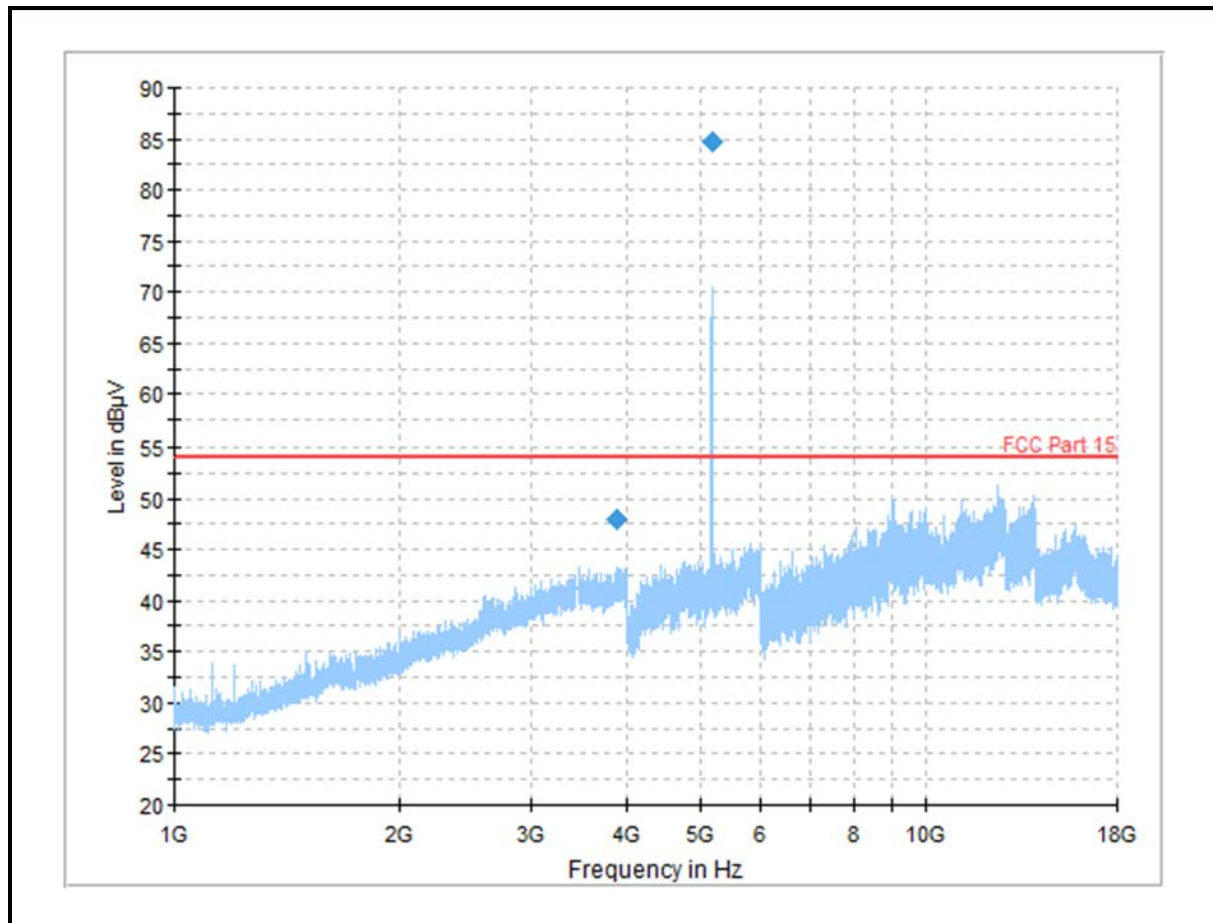
Transmitter Cabinet Radiated Emissions (continued)**Notes (continued):**

8. The emissions shown at frequencies approximately 5.1 GHz to 5.3 GHz on the 1 GHz to 18 GHz are the EUT fundamental for the tested channel.
9. 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 max-peak detector and span big enough to see the whole emission.
10. In accordance with ANSI C63.10 Section 6.6.4.3 (Note 1), if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.
11. The final measured value, for the given emission, in the table below incorporates the measured cabinet radiated emission level, calibrated antenna factor and cable loss.
12. EMC32 V10.1.0 Software was used for these measurements.
13. The preliminary scans showed similar emission levels above 18 GHz, for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to:
 - Terminated Ports 1+2+3+4 | a Mode | 6 Mbps | B.W. 20 MHz | PWL 18 | CH 36
 - Terminated Ports 1+2+3+4 | ac Mode | MCS0 | B.W. 20 MHz | PWL 18 | CH 48
14. Pre-scans above 18 GHz were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) at a distance of 1 metres. The EUT was placed at a height of 1.5 m above the test chamber floor in the centre of the chamber turntable. All measurement antenna was placed at a fixed height of 1.5 m above the test chamber floor, in line with the EUT.
15. Pre-scans were performed and a marker placed on the highest measured level of the appropriate plot. The test receiver resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. The sweep time was set to auto.
16. In accordance with ANSI C63.10 Section 6.6.4.3 (Note 1), if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.
17. The final measured value, for the given emission, in the table below incorporates the measured cabinet radiated emission level, calibrated antenna factor and cable loss.
18. The final measured values at 1 meter distance are then compared with extrapolated limits values (3 to 1 m) by adding relevant distance extrapolation factor of 9.54 dB to FCC 15.209 (3 m) limits.
19. Toyo EMI | RE measurement software EP5/RE Ver 4.0.1 Software was used for these measurements.

Test Setup:

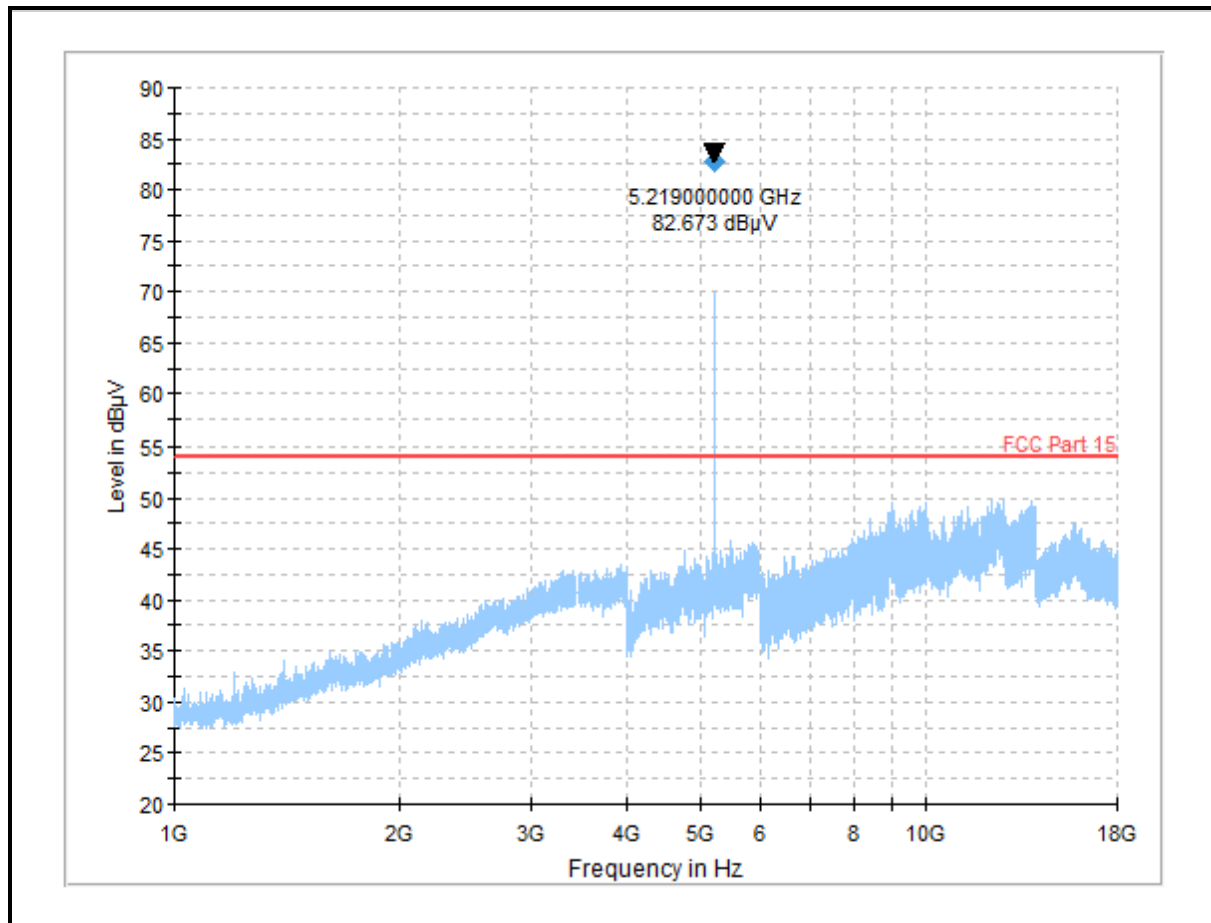
Transmitter Cabinet Radiated Emissions (continued)**Results: 802.11a / 20 MHz / 6 Mbps / Terminated Ports 1+2+3+4 / PWL 18 / CH 36**

Frequency (MHz)	Antenna Polarization	MaxPeak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
3869.100	Vertical	47.97	54.00	6.03	Complied

Plot: 1 GHz to 18 GHz**Result: Pass**

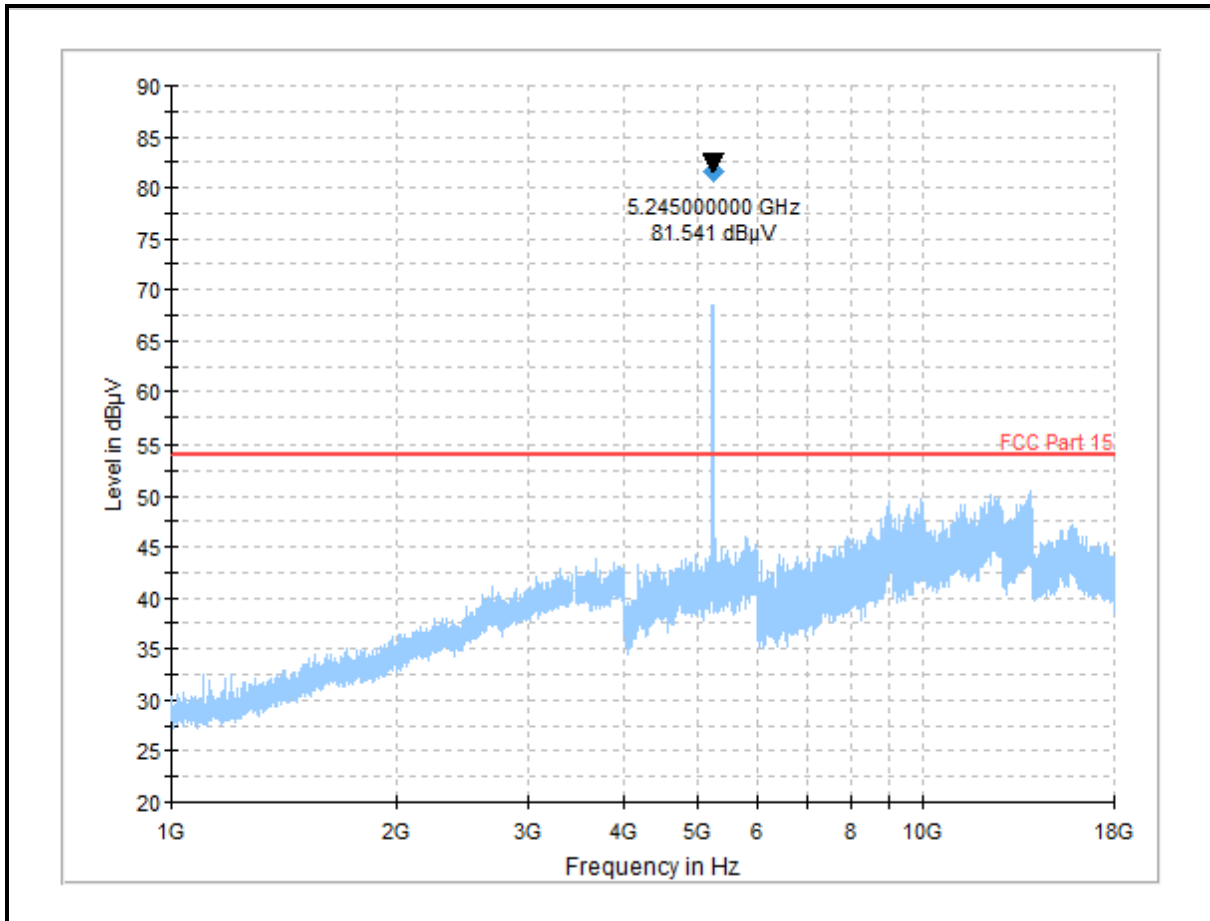
Transmitter Cabinet Radiated Emissions (continued)**Results: 802.11n / 20 MHz / MCS0 / Terminated Ports 1+2+3+4 / PWL 18 / CH 44**

Frequency (MHz)	Antenna Polarization	MaxPeak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
No spurious emissions were detected					

Plot: 1 GHz to 18 GHz**Result: Pass**

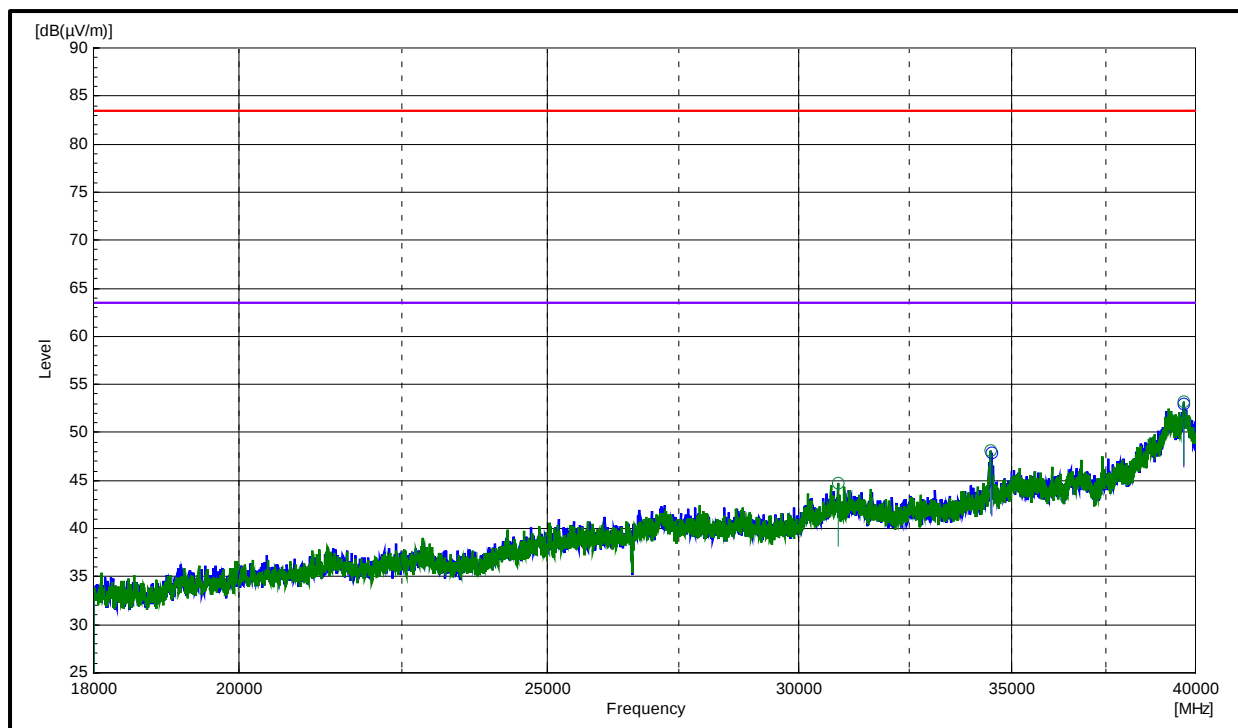
Transmitter Cabinet Radiated Emissions (continued)**Results: 802.11ac / 20 MHz / MCS0 / Terminated Ports 1+2+3+4 / PWL 18 / CH 48**

Frequency (MHz)	Antenna Polarization	MaxPeak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
No spurious emissions were detected					

Plot: 1 GHz to 18 GHz**Result: Pass**

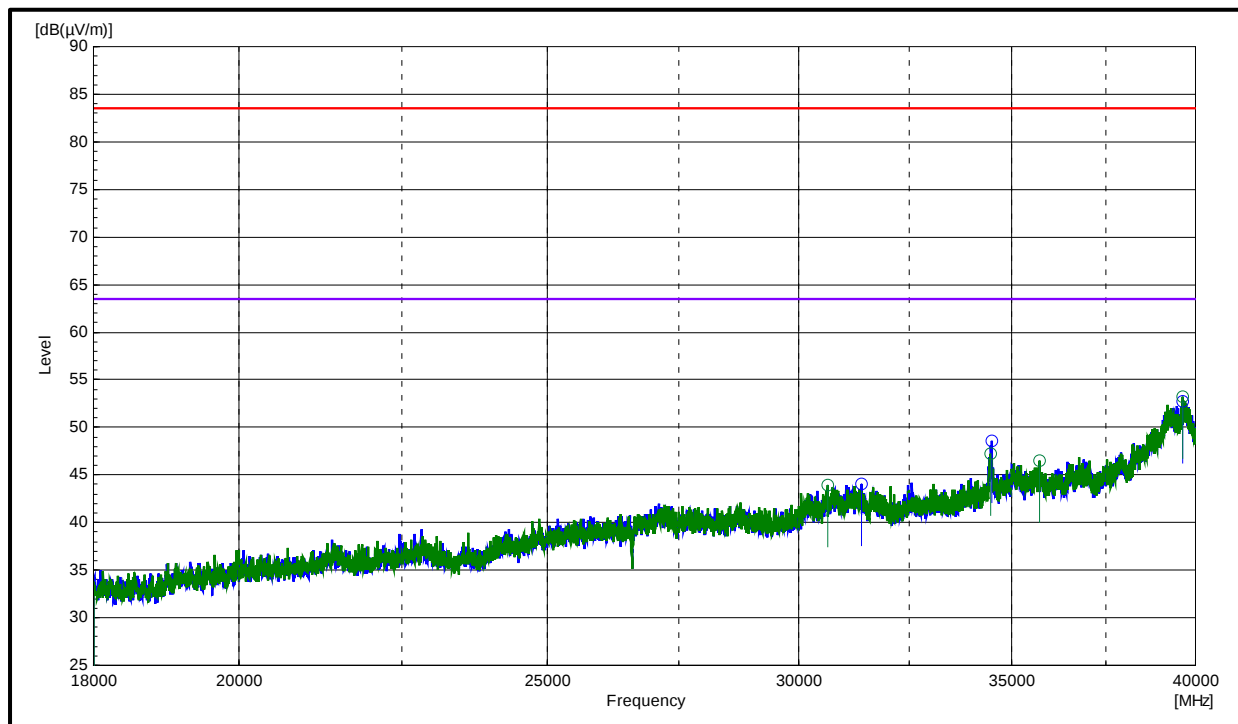
Transmitter Cabinet Radiated Emissions (continued)**Results: 802.11a / 20 MHz / 6 Mbps / Terminated Ports 1+2+3+4 / PWL 18 / CH 36**

Frequency (MHz)	Antenna Polarization	MaxPeak Level @1m (dB μ V/m)	Average Limit @1m (dB μ V/m)	Margin (dB)	Result
30865.386	Vertical	44.80	63.54	18.74	Complied
34479.168	Vertical	48.10	63.54	15.44	Complied
34511.216	Horizontal	47.90	63.54	15.64	Complied
39667.468	Horizontal	53.00	63.54	10.54	Complied
39671.476	Vertical	53.20	63.54	10.34	Complied

Plot: 18 GHz to 40 GHz**Result: Pass**

Transmitter Cabinet Radiated Emissions (continued)**Results: 802.11ac / 20 MHz / MCS0 / Terminated Ports 1+2+3+4 / PWL 18 / CH 48**

Frequency (MHz)	Antenna Polarization	MaxPeak Level @1m (dB μ V/m)	Average Limit @1m (dB μ V/m)	Margin (dB)	Result
30633.014	Vertical	43.90	63.54	19.64	Complied
31414.264	Horizontal	44.10	63.54	19.44	Complied
34479.168	Vertical	47.30	63.54	16.24	Complied
34503.204	Horizontal	48.50	63.54	15.04	Complied
35721.152	Vertical	46.50	63.54	17.04	Complied
39623.396	Vertical	53.30	63.54	10.24	Complied

Plot: 18 GHz to 40 GHz**Result: Pass**

5.2.7. Transmitter Conducted Spurious Emissions**Test Summary:**

Test Engineer:	Abdoufataou Salifou	Test Date:	02 August 2019
Test Sample Serial Number:	192.168.0.60		
Test Site Identification	SR 9		

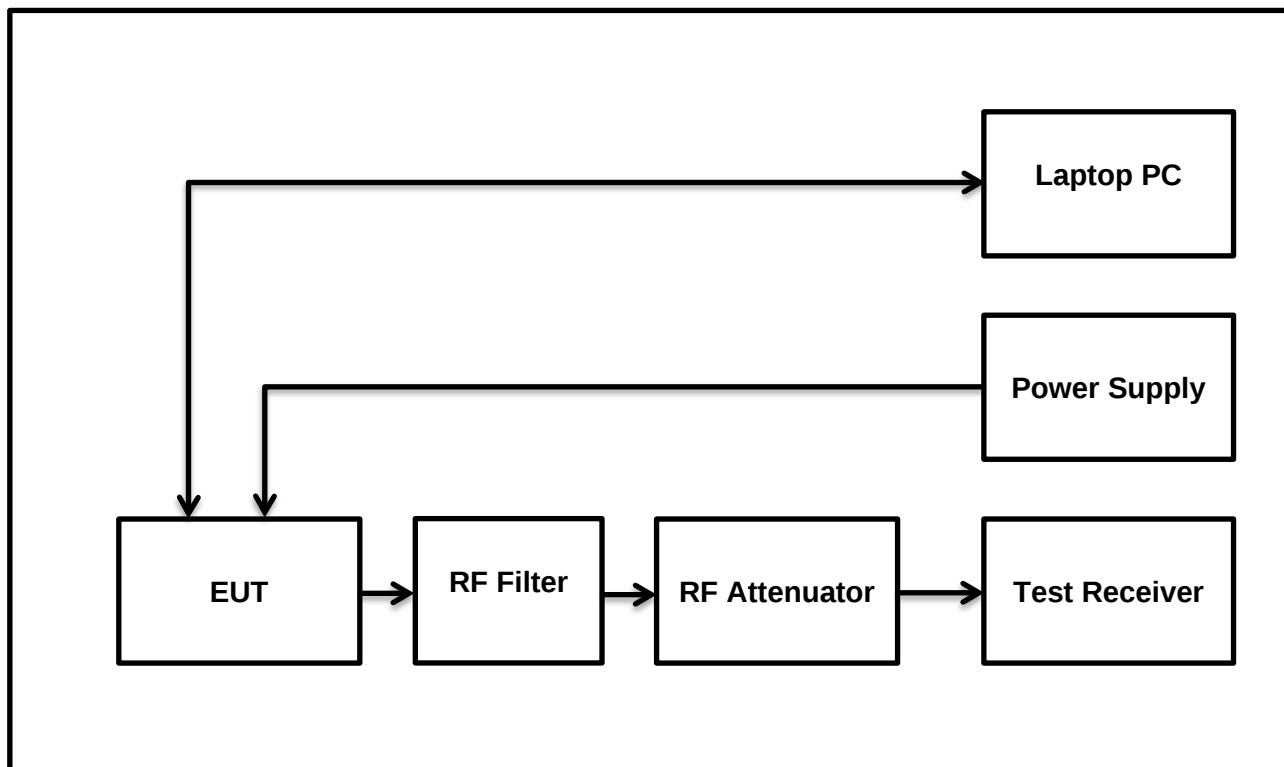
FCC Reference:	Parts 15.407(b)(1),(6),(7) & 15.209(a)
Test Method Used:	FCC KDB 789033 D02 Section II.G.1, II.G.2, II.G.3 & II.G.4 FCC KDB 662911 D01 Section E)3)(iii) referring Section E)2)c)
Frequency Range:	9 kHz to 1000 MHz

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	45

Notes:

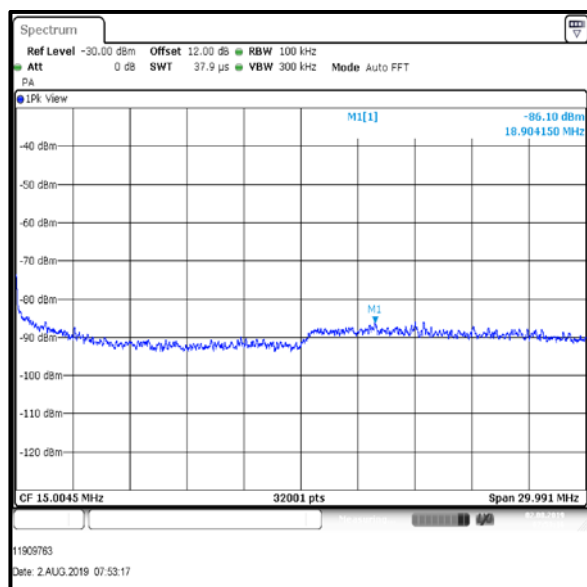
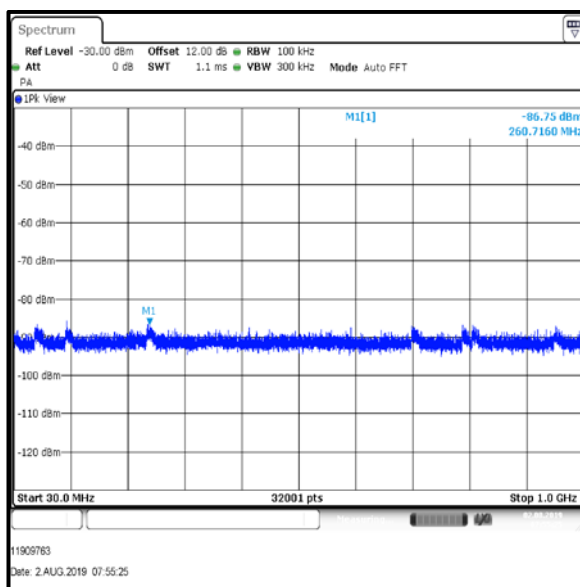
1. According to FCC KDB 789033 D02 Section II.G.3.b) to compliance of Transmitter Cabinet Radiated Emissions additional transmitter conducted spurious emissions were performed.
2. Maximum power setting (PWL) amongst all supported SISO & MIMO modes & listed antenna groups has been used.
3. Therefore, transmitter cabinet radiated emissions are valid for all supported Bandwidths, SISO- MIMO modes & listed antenna groups in this report.
4. During initial investigations amongst all supported Bandwidths, SISO & MIMO modes a HT20 SISO mode showed worst case results. Therefore final transmitter conducted spurious emissions measurements were performed with the EUT set to the worst case a | SISO mode.
5. The preliminary scans showed similar emission levels below 1 GHz, amongst each test channel of operations. Therefore final transmitter conducted spurious emissions measurements were performed with the EUT set to the top channel only and PWL as refer to section 4.3.
6. The RF port on the EUT was connected to the spectrum analyser using suitable attenuation and RF cable. The measured values takes into consideration the external attenuation correction factors. The RF cable attenuation (maximum 2.0 dB@5GHz) from the EUT to Analyzer including the 10 dB attenuation at the Spectrum Analyzer input was added as a reference level offset (12.0 dB) to each of the conducted plots.
7. Pre-scans were performed and markers placed on the highest measured levels. The test receiver resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold
8. The observed emissions levels (in dBm) on SISO Port are reported into the table.
9. According to FCC KDB 789033 D02 Section II.G.1e) a ground reflection factor was added.
 - Frequencies below 30 MHz: ground reflection factor of 4.7 dB
 - Frequencies between 30 MHz to 1000 MHz: ground reflection factor of 6.0 dB
10. Relevant directional Antenna Gain was added for each type of listed Antenna Groups.
11. According to FCC KDB 662911 D01 Section E)3)(iii) referring Section E)2)c); a factor $10 \log(N_{\text{ANT}})$ dB, (where N_{ANT} is the number of outputs) was added. Since the EUT has 4 MIMO ports a factor 6.02 dB was added.
12. In accordance with KDB 789033 G.2.d)(iii); transmitter conducted spurious emissions dBm levels have been converted to dBμV/m levels by adding a conversion factor of 95.2.
13. As per applicant's declaration 23 dBi Antenna shall be only used with RF cable of length 10 m having 8.8 dB Attenuation @ 5 GHz bands. Therefore Effective Antenna Gain = 23 dBi – 8.8 dB = 14.2 dBi.

Transmitter Conducted Spurious Emissions (continued)**Test Setup:**

Transmitter Conducted Spurious Emissions (continued)**8 dBi Antenna Group****Results: 802.11a / HT20 / 6 MBits / Port 1 / PWL 18 / CH 48 / 8 dBi Antenna Group**

Frequency (MHz)	Analyzer Peak Level (dBm)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected Peak Level (dBm)
No spurious emissions were detected					

Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
No spurious emissions were detected						

Results: 802.11a / HT20 / 6 MBits / Port 1 / PWL 18 / CH 48 / 8 dBi Antenna Group**Plot:9 kHz to 30 MHz****Plot:30 MHz to 1 GHz**

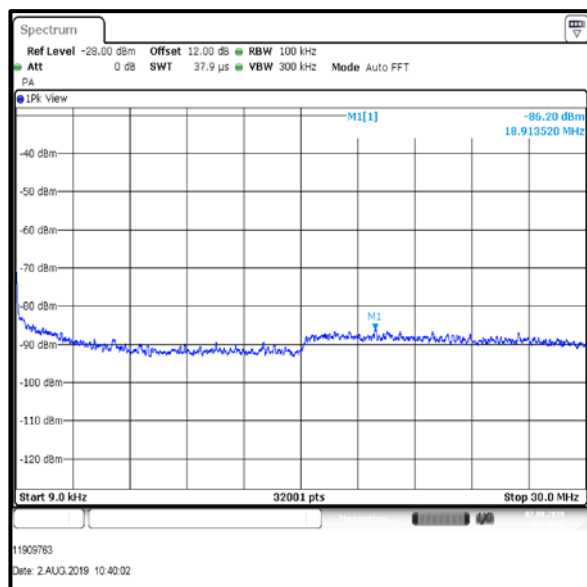
Note: This plot is a pre-scan and for indication purposes only. For final measurements, see table above.

Result: Pass

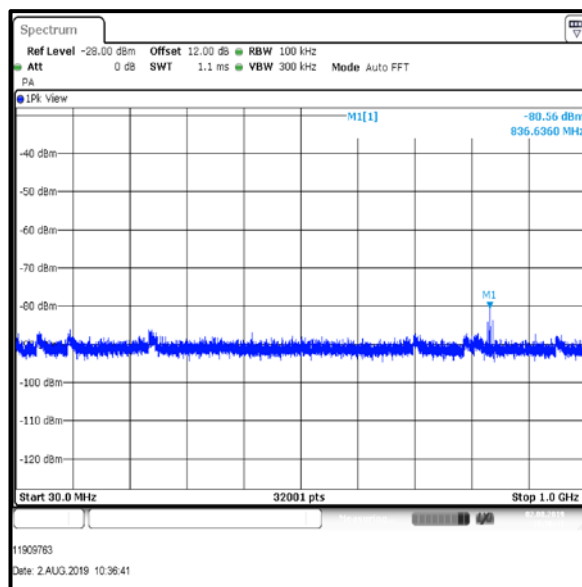
Transmitter Conducted Spurious Emissions (continued)**9 dBi Antenna Group****Results: 802.11a / HT20 / 6 Mbits / Port 1 / PWL 17 / CH 48 / 9 dBi Antenna Group**

Frequency (MHz)	Analyzer Peak Level (dBm)	Ground reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected Peak Level (dBm)
836.600	-80.32	4.7	9.0	6.02	-60.60

Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
836.600	-60.60	95.20	34.60	46.0	11.40	Complied

Results: 802.11a / HT20 / 6 Mbits / Port 1 / PWL 17 / CH 48 / 9 dBi Antenna Group

Plot: 9 kHz to 30 MHz



Plot: 30 MHz to 1 GHz

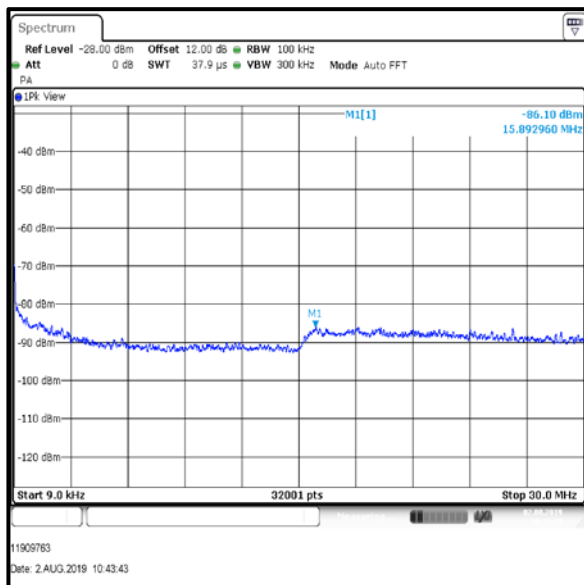
Note: This plot is a pre-scan and for indication purposes only. For final measurements, see table above.

Result: Pass

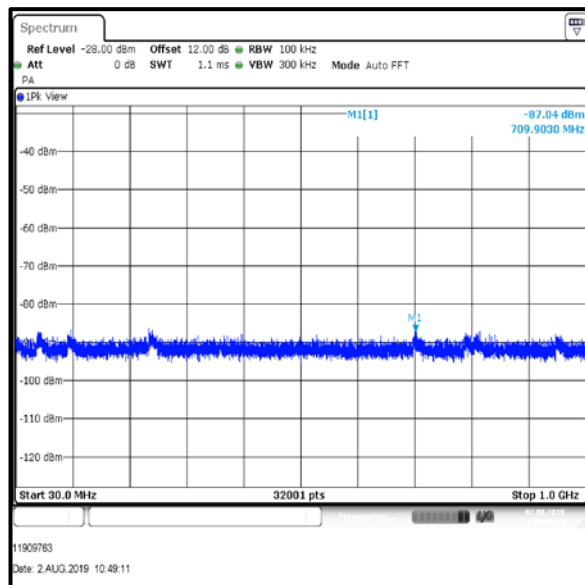
Transmitter Conducted Spurious Emissions (continued)**23 dBi Antenna Group****Results: 802.11a / HT20 / 6 Mbits / Port 1 / PWL 13 / Ch 48 / 23 dBi Antenna Group**

Frequency (MHz)	Analyzer Peak Level (dBm)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected Peak Level (dBm)
No spurious emissions were detected					

Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
No spurious emissions were detected						

Results: 802.11a / HT20 / 6 Mbits / Port 1 / PWL 13 / Ch 48 / 23 dBi Antenna Group

Plot: 9 kHz to 30 MHz



Plot: 30 MHz to 1 GHz

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

Result: Pass

Transmitter Conducted Spurious Emissions (continued)**Test Summary:**

Test Engineer:	Abdoufataou Salifou	Test Date:	2 August 2019
Test Sample Serial Number:	192.168.0.60		
Test Site Identification	SR 9		

FCC Reference:	Parts 15.407(b)(1),(6),(7) & 15.209(a)
Test Method Used:	FCC KDB 789033 D02 Section II.G.1, II.G.2, II.G.3, II.G.5 & II.G.6 FCC KDB 662911 D01 Section E)3)(iii) referring Section E)2)c)
Frequency Range:	1 GHz to 40 GHz

Environmental Conditions:

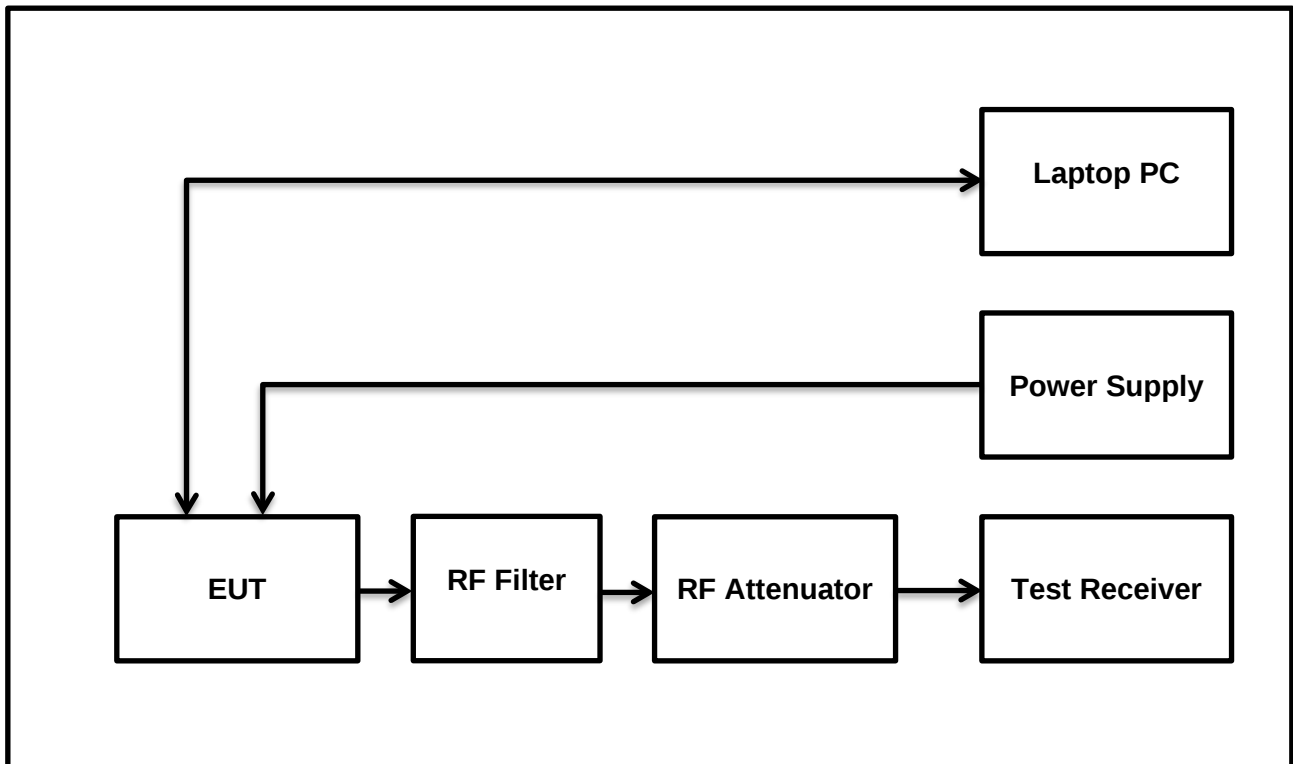
Temperature (°C):	23
Relative Humidity (%):	44

Notes:

1. According to FCC KDB 789033 D02 Section II.G.3.b) to compliance of Transmitter Cabinet Radiated Emissions additional transmitter conducted spurious emissions were performed.
2. Maximum power setting (PWL) amongst all supported SISO & MIMO modes & listed antenna groups has been used.
3. Therefore, transmitter cabinet radiated emissions are valid for all supported Bandwidths, SISO- MIMO modes & listed antenna groups in this report.
4. During initial investigations amongst all supported Bandwidths, SISO & MIMO modes a HT20 SISO mode showed worst case results. Therefore final Transmitter Cabinet Radiated Emissions measurements were performed with the EUT set to the worst case a | SISO mode.
5. The final transmitter conducted spurious emissions were performed with the EUT set to the bottom, middle & top channels and PWL as refer to section 4.3.
6. The RF port on the EUT was connected to the spectrum analyser using suitable attenuation and RF cable. The measured values takes into consideration the external attenuation correction factors. The RF cable attenuation (maximum 2.0 dB@5GHz) from the EUT to Analyzer including the 10 dB attenuation at the Spectrum Analyzer input was added as a reference level offset (12.0 dB) to each of the conducted plots.
7. Pre-scans were performed and markers placed on the highest measured levels. The test receiver resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold. A rms detector was used, sweep time was set to auto and trace mode was average for at least 100 traces.
8. The observed emissions levels (in dBm) on SISO Port are reported into the table.
9. Since the EUT was transmitting at <98% duty cycle, the calculated duty cycle correction factor in section 5.2.3 was added to unwanted emissions measured with RMS detector compute the average power during the actual transmission time.
10. According to FCC KDB 789033 D02 Section II.G.1e) a no ground reflection factor is required.
11. Relevant directional Antenna Gain was added for each type of listed Antenna Groups.
12. According to FCC KDB 662911 D01 Section E)3)(iii) referring Section E)2)c); a factor $10 \log(N_{\text{ANT}})$ dB, (where N_{ANT} is the number of outputs) was added. As the EUT has 4 MIMO ports a factor 6.02 dB was added.
13. In accordance with KDB 789033 G.2.d)(iii); transmitter conducted spurious emissions dBm levels have been converted to dBμV/m levels by adding a conversion factor of 95.2.

Transmitter Conducted Spurious Emissions (continued)**Notes (continued):**

14. For unwanted emissions measured with Peak detector there are two limit possibilities:
- According to FCC 15.209 peak limit (above 1 GHz) is 74 dB μ V/m (restricted band limit)
 - According to FCC 15.407(b)(4)(i) peak limit is 68.2 dB μ V/m (non-restricted band limit)
15. Therefore unwanted emissions in restricted as well non restricted bands, measured with Peak detector lowest limit 68.2 dB μ V/m has been applied.

Test Setup:

Transmitter Conducted Spurious Emissions (continued)**8 dBi Antenna Group****Results: 802.11a / HT20 / 6MBits / SISO / Port 1 / PWL 18 / 8 dBi Antenna Group****Peak Detector / CH 36**

Frequency (MHz)	Analyzer Peak Level (dBm)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected Peak Level (dBm)
6907.000	-54.89	0.0	8.0	6.02	-40.87
20165.600	-55.46	0.0	8.0	6.02	-41.44

Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
6907.000	-40.87	95.20	54.33	68.2	13.87	Complied

Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
20165.600	-41.44	95.20	53.76	54.0	0.24	Complied

RMS Detector/ CH 36

Frequency (MHz)	Analyzer RMS Level (dBm)	Duty Cycle Correction (dB)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected RMS Level (dBm)
6906.675	-59.36	0.3	0.0	8.0	6.02	-45.04

Frequency (MHz)	Corrected RMS Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength RMS Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
6906.770	-45.04	95.2	50.16	54	3.84	Complied

Result: Pass

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11a / HT20 / 6 MBits / SISO / Port 1 / PWL 18 / 8 dBi Antenna Group****Peak Detector/ CH 44**

Frequency (MHz)	Analyzer Peak Level (dBm)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected Peak Level (dBm)
6959.920	-56.45	0.0	8.0	6.02	-42.43
20157.450	-55.56	0.0	8.0	6.02	-41.54

Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
6959.920	-42.43	95.20	52.77	68.2	15.43	Complied

Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
20157.450	-41.54	95.20	53.66	54.0	0.34	Complied

RMS Detector / CH 44

Frequency (MHz)	Analyzer RMS Level (dBm)	Duty Cycle Correction (dB)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected RMS Level (dBm)
6960.000	-64.12	0.3	0.0	8.0	6.02	-49.80

Frequency (MHz)	Corrected RMS Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength RMS Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
6960.000	-49.80	95.2	45.40	54	8.6	Complied

Result: Pass

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11a / HT20 / 6MBits / SISO / Port 1 / PWL 18 / 8 dBi Antenna Group****Peak Detector/ CH 48**

Frequency (MHz)	Analyzer Peak Level (dBm)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected Peak Level (dBm)
6986.710	-56.93	0.0	8.0	6.02	-42.91
15725.370	-52.19	0.0	8.0	6.02	-38.16

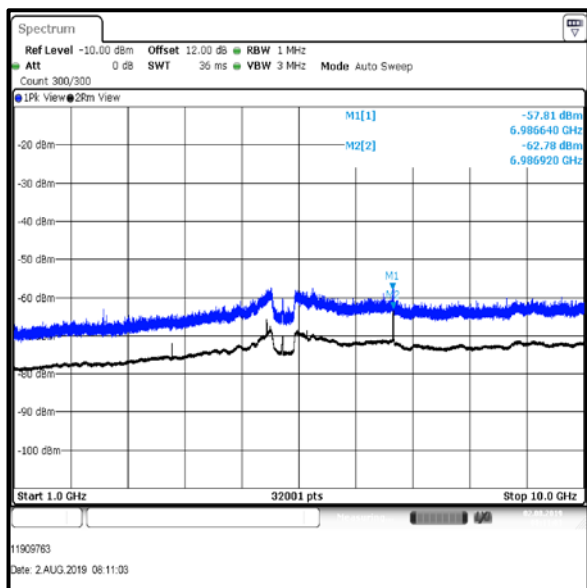
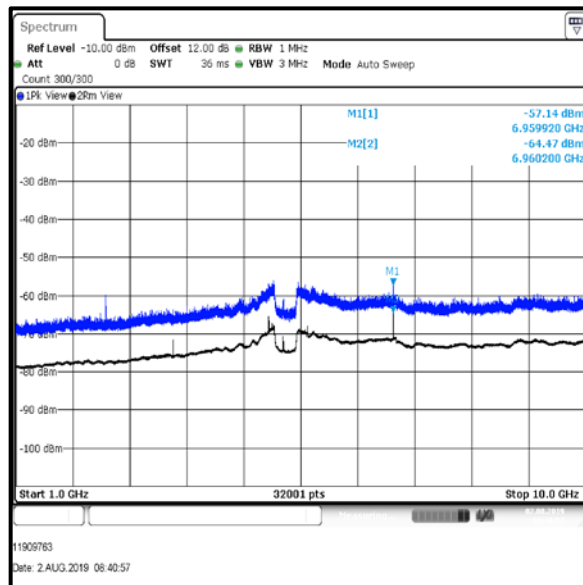
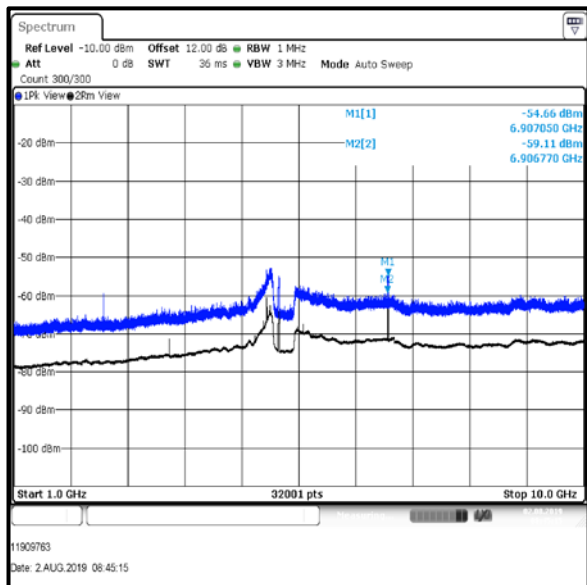
Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
6986.710	-42.91	95.20	52.29	68.2	15.91	Complied
15725.375	-38.16	95.20	57.02	68.2	11.18	Complied

RMS Detector/ CH 48

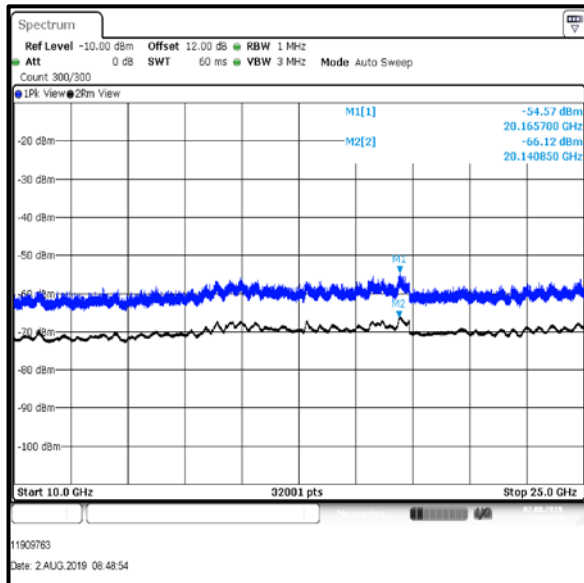
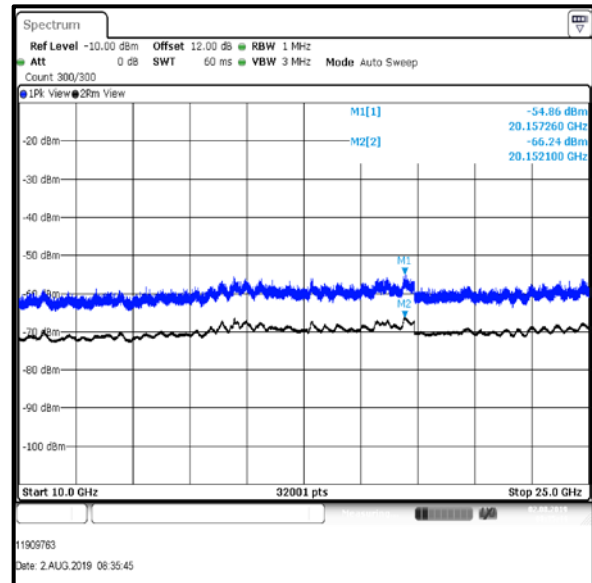
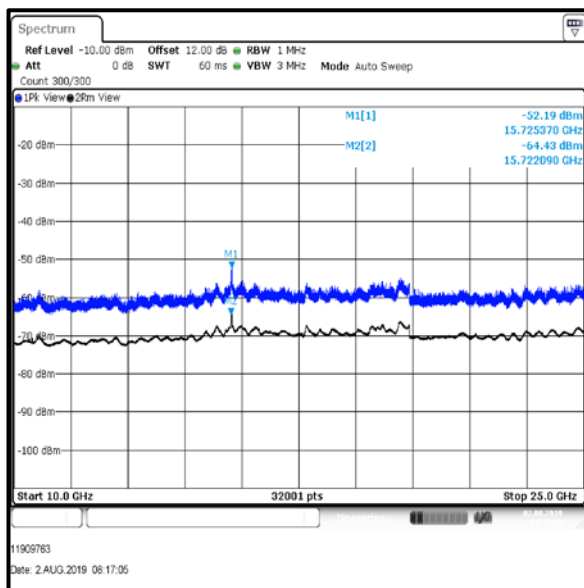
Frequency (MHz)	Analyzer RMS Level (dBm)	Duty Cycle Correction (dB)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected RMS Level (dBm)
6986.710	-63.30	0.3	0.0	8.0	6.02	-48.98
15722.115	-63.90	0.3	0.0	8.0	6.02	-49.58

Frequency (MHz)	Corrected RMS Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength RMS Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
6986.710	-48.98	95.2	46.22	54	7.78	Complied
15722.115	-49.58	95.2	45.62	54	8.38	Complied

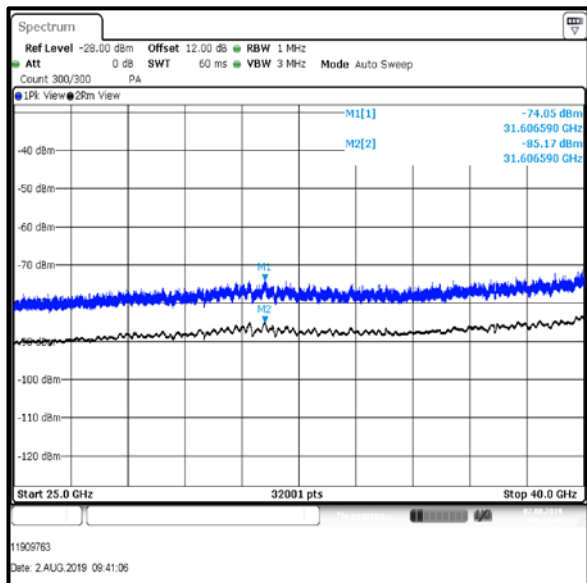
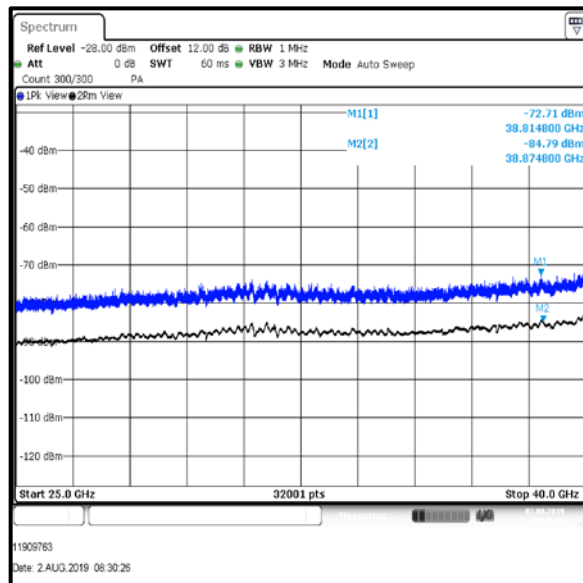
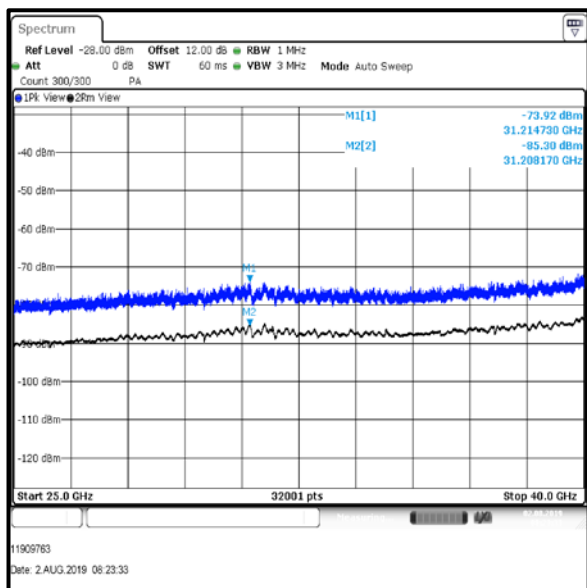
Result: Pass

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11 a / HT20 / 6 MBits / SISO / Port 1 / PWL 18 / 8 dBi Antenna Group****Plots: 1 GHz to 10 GHz**

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

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11a / HT20 / 6 MBits / SISO / Port 1 / PWL 18 / 8 dBi Antenna Group****Plots: 10 GHz to 25 GHz****Bottom Channel (CH 36)****Middle Channel (CH 44)****Top Channel (CH 48)**

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

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11a / HT20 / 6 MBits / SISO / Port 1 / PWL 18 / 8 dBi Antenna Group****Plots: 25 GHz to 40 GHz****Bottom Channel (CH 36)****Middle Channel (CH 44)****Top Channel (CH 48)**

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

Transmitter Conducted Spurious Emissions (continued)**9 dBi group****Results: 802.11a / HT20 / 6MBits / SISO / Port 1 / PWL 17 / 9 dBi Antenna Group****Peak Detector / CH 36**

Frequency (MHz)	Analyzer Peak Level (dBm)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected Peak Level (dBm)
6906.770	-57.00	0.0	9.0	6.02	-41.97

Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
6906.770	-41.97	95.20	53.23	68.2	14.97	Complied

RMS Detector/ CH 36

Frequency (MHz)	Analyzer RMS Level (dBm)	Duty Cycle Correction (dB)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected RMS Level (dBm)
6906.770	-63.25	0.3	0.0	9.0	6.02	-47.93

Frequency (MHz)	Corrected RMS Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength RMS Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
6906.770	-47.93	95.2	47.27	54	6.73	Complied

Result: Pass

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11a / HT20 / 6 Mbits / SISO / Port 1 / PWL 17 / 9 dBi Antenna Group****Peak Detector/ CH 44**

Frequency (MHz)	Analyzer Peak Level (dBm)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected Peak Level (dBm)
6960.200	-56.95	0.0	9.0	6.02	-41.93

Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
6960.200	-41.93	95.20	53.27	68.2	14.93	Complied

RMS Detector / CH 44

Frequency (MHz)	Analyzer RMS Level (dBm)	Duty Cycle Correction (dB)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected RMS Level (dBm)
6960.200	-64.66	0.3	0.0	9.0	6.02	-49.34

Frequency (MHz)	Corrected RMS Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength RMS Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
6960.200	-49.34	95.2	45.86	54	8.14	Complied

Result: Pass

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11a / HT20 / 6MBits / SISO / Port 1 / PWL 17 / 9 dBi Antenna Group****Peak Detector/ CH 48**

Frequency (MHz)	Analyzer Peak Level (dBm)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected Peak Level (dBm)
6986.920	-55.88	0.0	9.0	6.02	-40.86
15723.510	-54.23	0.0	9.0	6.02	-39.21

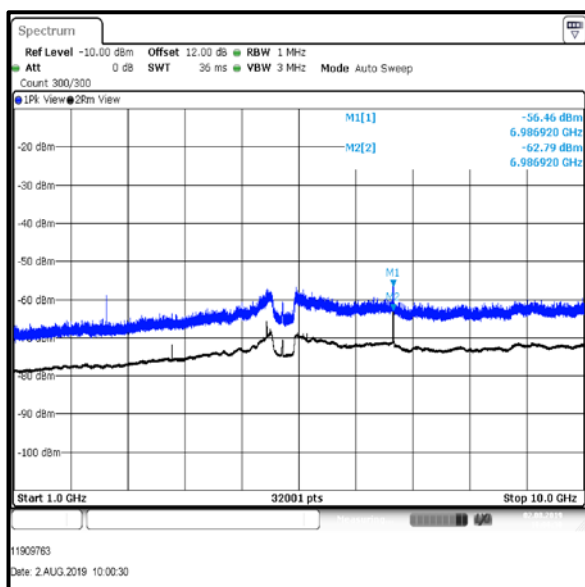
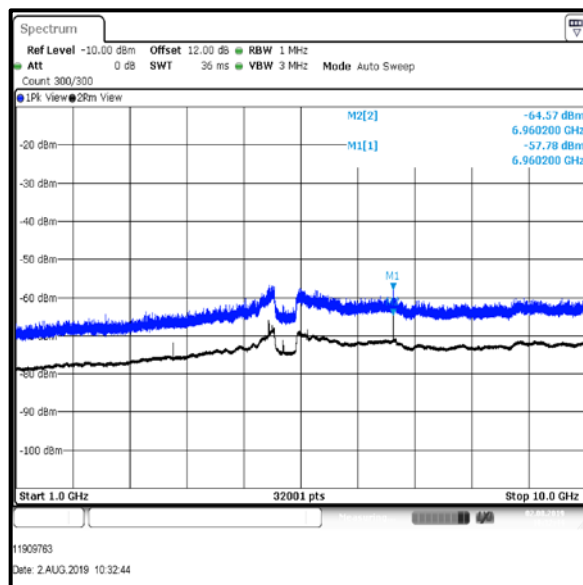
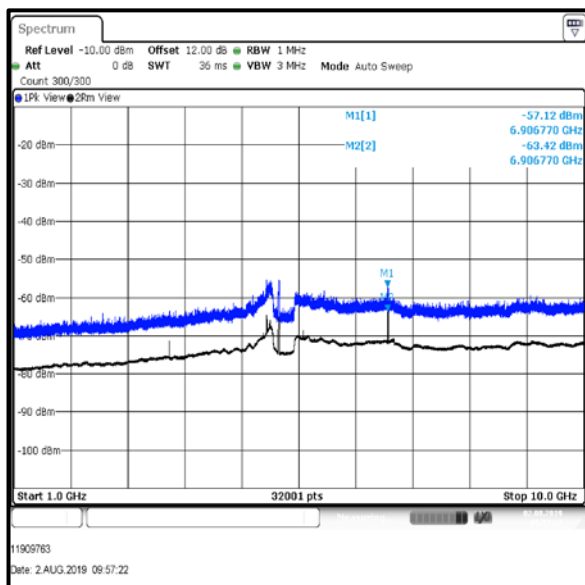
Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
6986.920	-40.86	95.20	54.34	68.2	13.86	Complied
15723.510	-39.21	95.20	55.99	68.2	12.21	Complied

RMS Detector/ CH 48

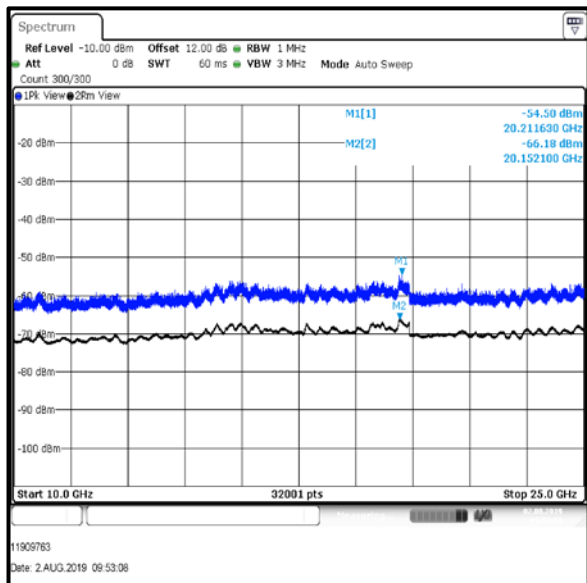
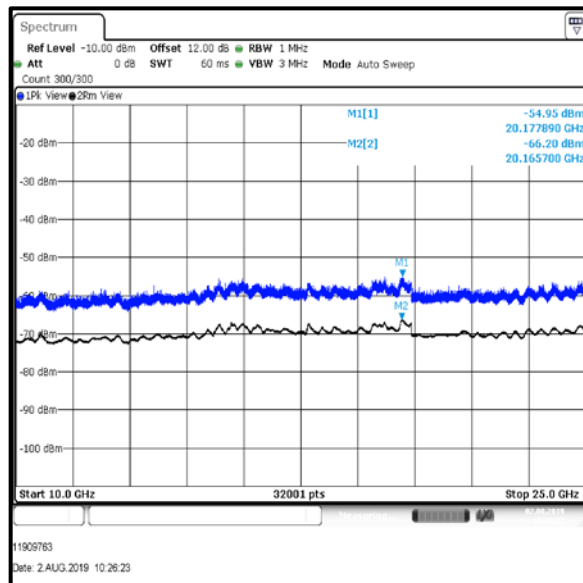
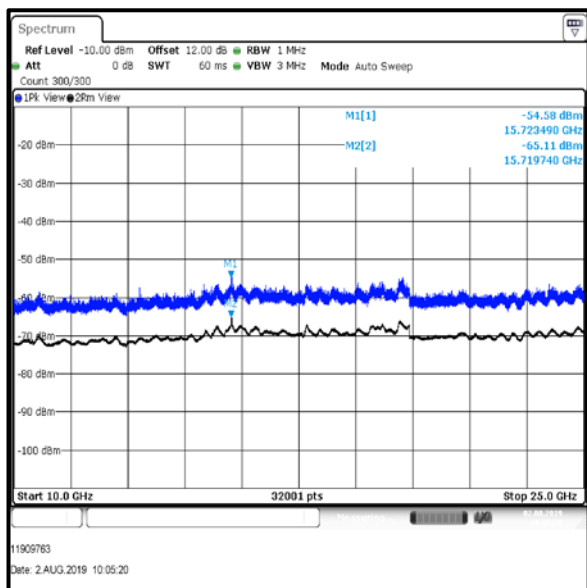
Frequency (MHz)	Analyzer RMS Level (dBm)	Duty Cycle Correction (dB)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected RMS Level (dBm)
6986.920	-62.75	0.3	0.0	8.0	6.02	-47.43
15719.700	-64.69	0.3	0.0	8.0	6.02	-49.37

Frequency (MHz)	Corrected RMS Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength RMS Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
6986.920	-47.43	95.2	47.77	54	6.23	Complied
15719.700	-49.37	95.2	45.83	54	8.17	Complied

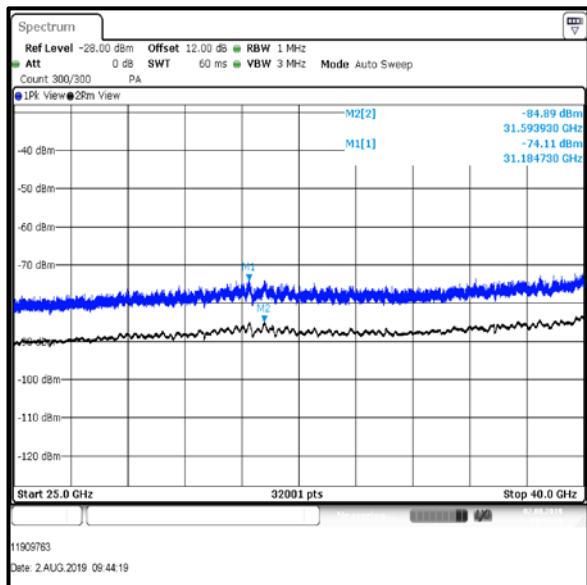
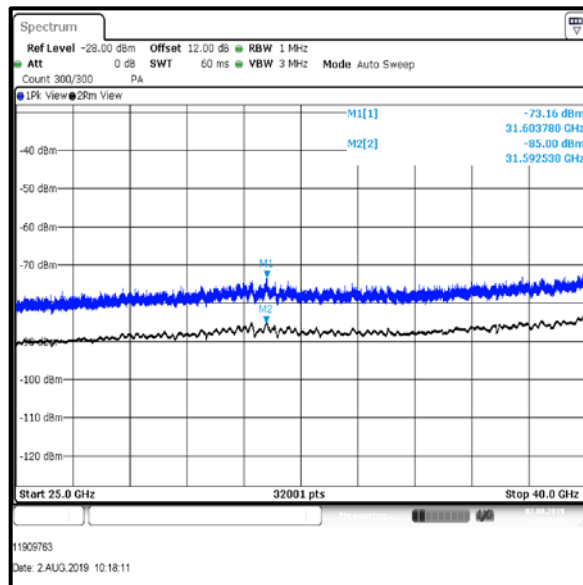
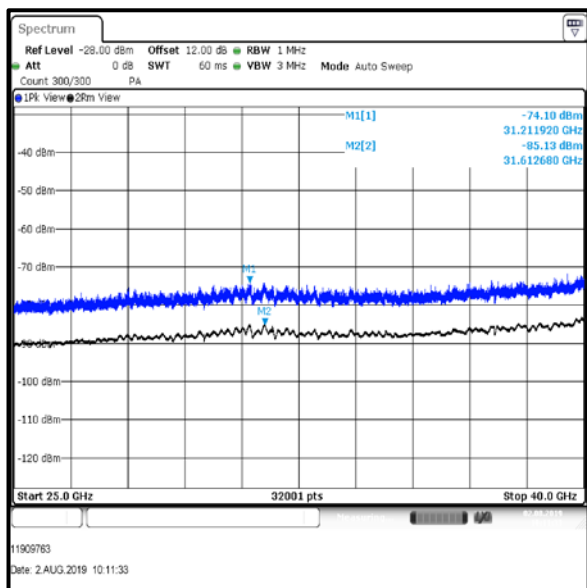
Result: Pass

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11 a / HT20 / 6 MBits / SISO / Port 1 / PWL 17 / 9 dBi Antenna Group****Plots: 1 GHz to 10 GHz**

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

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11a / HT20 / 6 MBits / SISO / Port 1 / PWL 17 / 9 dBi Antenna Group****Plots: 10 GHz to 25 GHz****Bottom Channel (CH 36)****Middle Channel (CH 44)****Top Channel (CH 48)**

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

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11a / HT20 / 6 MBits / SISO / Port 1 / PWL 17 / 9 dBi Antenna Group****Plots: 25 GHz to 40 GHz****Bottom Channel (CH 36)****Middle Channel (CH 44)****Top Channel (CH 48)**

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

Transmitter Conducted Spurious Emissions (continued)**23 dBi Antenna Group****Results: 802.11a / HT20 / 6MBits / SISO / Port 1 / PWL 13 / 23 dBi Antenna Group****Peak Detector / CH 36**

Frequency (MHz)	Analyzer Peak Level (dBm)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected Peak Level (dBm)
6906.770	-56.85	0.0	14.2	6.02	-36.63

Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
6906.770	-36.63	95.20	58.57	68.2	9.63	Complied

RMS Detector/ CH 36

Frequency (MHz)	Analyzer RMS Level (dBm)	Duty Cycle Correction (dB)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected RMS Level (dBm)
6906.770	-65.65	0.3	0.0	14.2	6.02	-45.13

Frequency (MHz)	Corrected RMS Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength RMS Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
6906.770	-45.13	95.2	50.07	54	3.93	Complied

Result: Pass

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11a / HT20 / 6MBits / SISO / Port 1 / PWL 13 / 23 dBi Antenna Group****Peak Detector/ CH 44**

Frequency (MHz)	Analyzer Peak Level (dBm)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected Peak Level (dBm)
6959.920	-58.56	0.0	14.2	6.02	-38.34

Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
6959.920	-38.34	95.20	56.86	68.2	11.34	Complied

RMS Detector / CH 44

Frequency (MHz)	Analyzer RMS Level (dBm)	Duty Cycle Correction (dB)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected RMS Level (dBm)
6960.000	-66.23	0.3	0.0	14.2	6.02	-45.71

Frequency (MHz)	Corrected RMS Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength RMS Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
6960.000	-45.71	95.2	49.49	54	4.51	Complied

Result: Pass

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11a / HT20 / 6MBits / SISO / Port 1 / PWL 13 / 23 dBi Antenna Group****Peak Detector/ CH 48**

Frequency (MHz)	Analyzer Peak Level (dBm)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected Peak Level (dBm)
6986.770	-57.14	0.0	14.2	6.02	-36.92

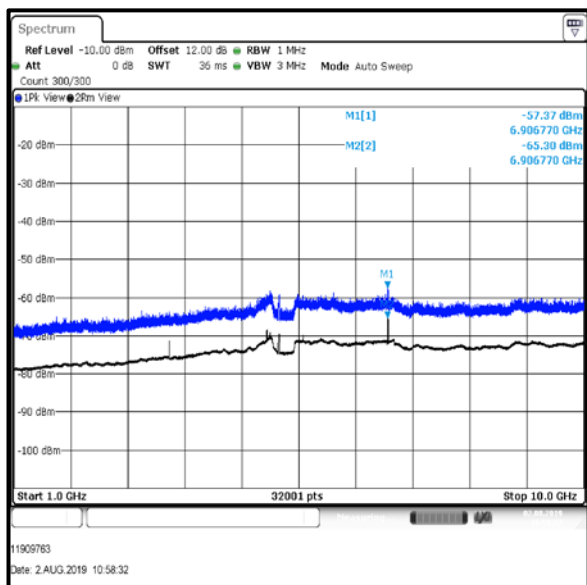
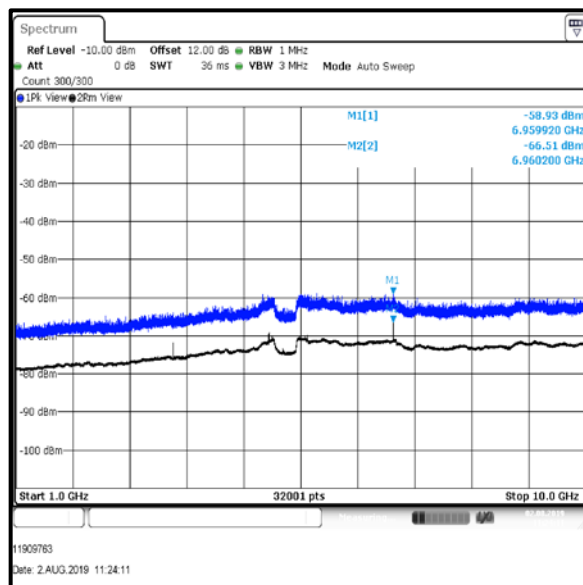
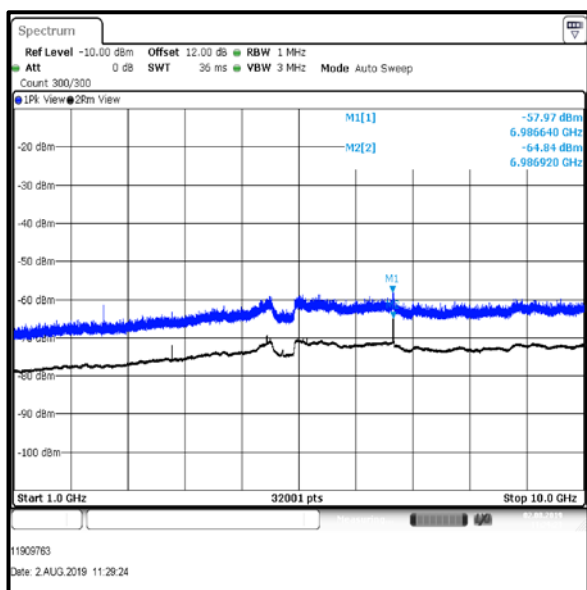
Frequency (MHz)	Corrected Peak Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
6986.770	-36.92	95.20	58.28	68.2	9.92	Complied

RMS Detector/ CH 48

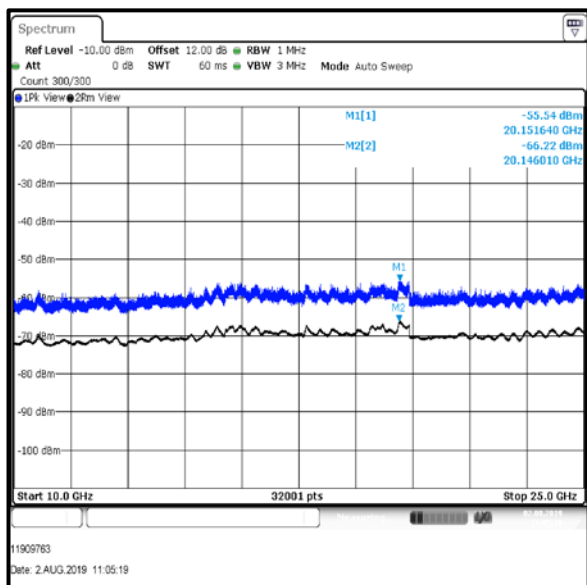
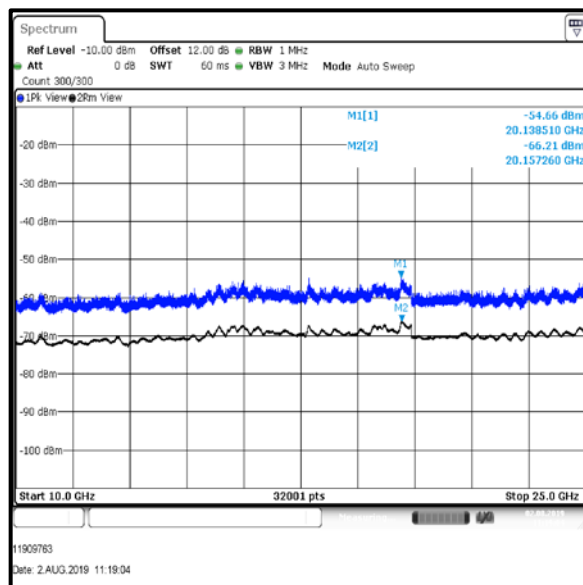
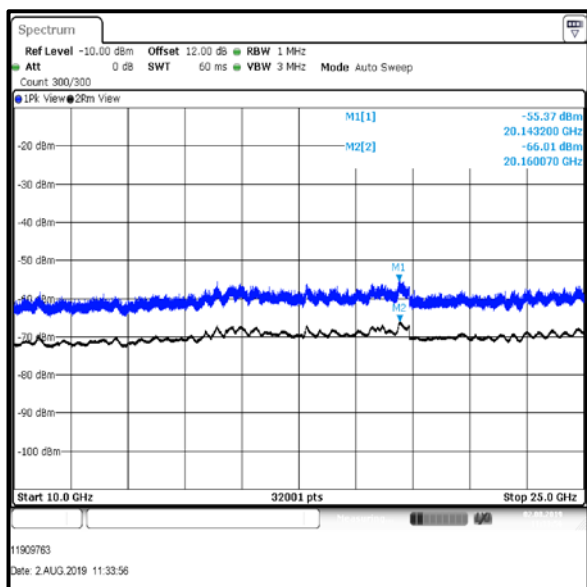
Frequency (MHz)	Analyzer RMS Level (dBm)	Duty Cycle Correction (dB)	Ground Reflection Factor (dB)	Antenna Gain (dBi)	4-Port MIMO Antenna Factor (dB)	Corrected RMS Level (dBm)
6986.920	-64.96	0.3	0.0	14.2	6.02	-44.44

Frequency (MHz)	Corrected RMS Level (dBm)	EIRP(dBm) to EIRP (dBμV/m) Factor	Converted Field Strength RMS Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
6986.920	-44.44	95.2	50.76	54	3.24	Complied

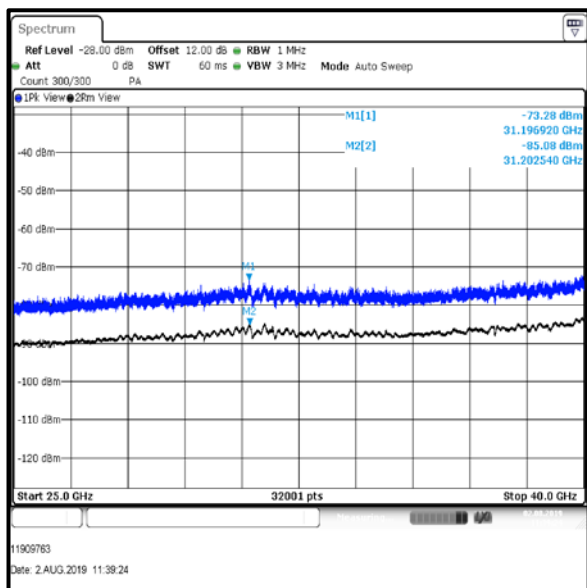
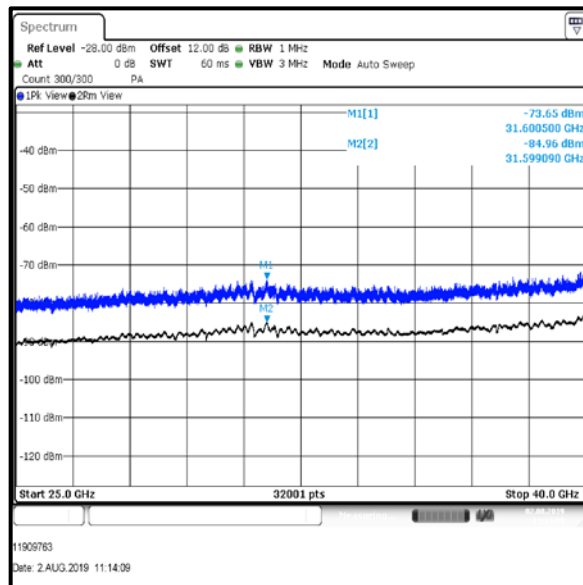
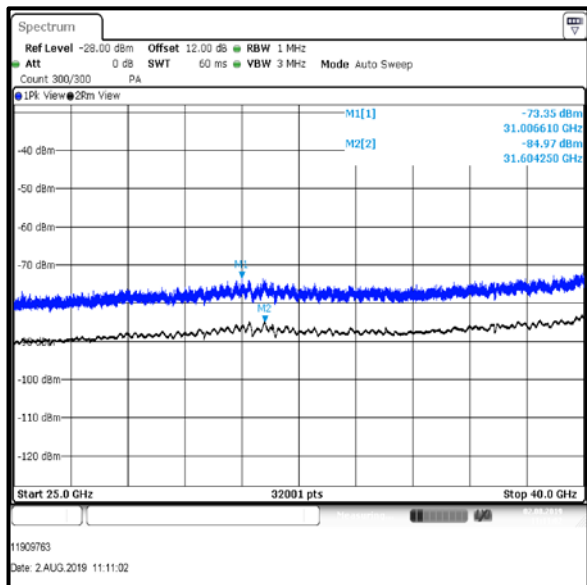
Result: Pass

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11 a / HT20 / 6Mbits / SISO / Port 1 / PWL 13 / 23 dBi Antenna Group****Plots: 1 GHz to 10 GHz****Bottom Channel (CH 36)****Middle Channel (CH 44)****Top Channel (CH 48)**

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

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11 a / HT20 / 6MBits / SISO / Port 1 / PWL 13 / 23 dBi Antenna Group****Plots: 10 GHz to 25 GHz****Bottom Channel (CH 36)****Middle Channel (CH 44)****Top Channel (CH 48)**

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

Transmitter Conducted Spurious Emissions (continued)**Results: 802.11 a / HT20 / 6Mbits / SISO / Port 1 / PWL 13 / 23 dBi Antenna Group****Plots: 25 GHz to 40 GHz**

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

5.2.8. Transmitter Band Edge Radiated Emissions**Test Summary:**

Test Engineers:	Krume Ivanov & Segun Adeniji	Test Dates:	22 February 2019 to 20 September 2019
Test Sample Serial Number:	192.168.0.80		
Test Site Identification	SR 1/2		

FCC Reference:	Parts 15.407(b)(1),(6),(7), 15.205 & 15.209(a)
Test Method Used:	FCC KDB 789033 D02 Section II.G.1, II.G.2, II.G.3, II.G.5 & II.G.6 ANSI C63.10 Sections 6.3 and 6.6

Environmental Conditions:

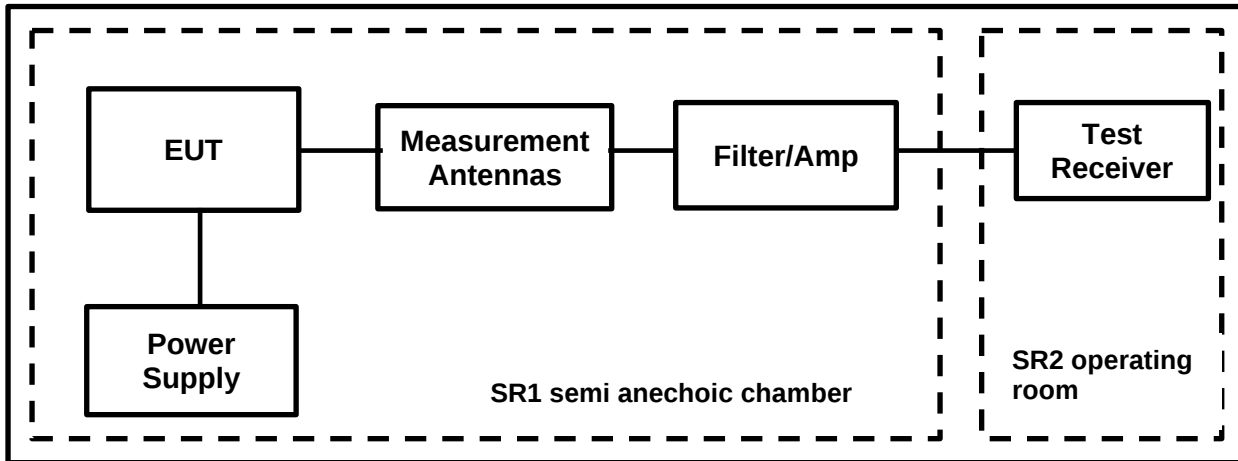
Temperature (°C):	22 to 24
Relative Humidity (%):	29 to 33

Notes:

- According to FCC KDB 789033 D02 Section II.G.5 & II.G.6 Transmitter Band Edge Radiated Emissions were performed.
- Transmitter Band Edge Radiated Emissions were performed with :
 - each type of listed Antenna Groups.
 - maximum power setting (PWL) for each supported Bandwidth
 - maximum power setting (PWL) for each supported SISO & MIMO modes
- As EUT uses different power levels (PWL's) for 20 MHz Bandwidth. The EUT was configured in following test modes
 - Reduced Power Level (PWL) :
 - Lower band edge measured with EUT transmitting on the Bottom channel (CH 36).
 - Upper band edge measured with EUT transmitting on the Top channel (CH 48)
 - Maximum Power Level (PWL) :
 - Lower band edge measured with EUT transmitting on the Bottom +1 channel (CH 40)
 - Upper band edge measured with EUT transmitting on the Top -1 channel (CH 44)
- The test receiver was set to RBW: 1 MHZ | VBW: 3 MHz | Sweep time: Auto | Trace mode: max hold | Span: large enough to capture unwanted band edge emissions with trace stabilizations. Regarding the reference level settings an Inquiry was made to the FCC and the response confirmed that this test method was acceptable. With those reference level settings test receiver input was not overloaded due to fundamental signal being measured.
- In accordance with KDB 789033 Section II.D.v), Method AD (vi), the average measurements were performed using an increased number of sweeps A value of 300 was used for all measurements as this number ensured that the requirement $\text{Sweep} \geq 2 \times \text{Span} / \text{RBW}$ is met.
- Transmitter Band Edge Radiated Emissions were performed in a semi-anechoic chamber SR1/ 2 (Asset Number 1603665) with absorbers on the ground at a distance of 3 meters. The EUT was placed at a height of 1.5 meters above the test chamber floor in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna with tilting function enabled over the range 1 meter to 4 meters above the test chamber floor, in line with the EUT.
- The maximum emissions around band edges were searched & are indicated with a marker placed on them.

Transmitter Band Edge Radiated Emissions (continued)**Notes (continued):**

8. 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.
9. As all radiated band edge measurements have been performed with R.B.W. 1 MHz; the limits in dBm / MHz can be converted to dBμV/m by adding a conversion factor of 95.2 (in accordance with KDB 789033 G.2.d)(iii)).
10. Field strength measurements using peak and average detectors were performed in the restricted bands below 5.15 GHz and above 5.35 GHz.
11. In accordance with KDB 789033 Section II.G.1.c) If all peak measurements satisfy the average limit, then average measurements are not required.
12. For unwanted emissions measured with Peak detector there are two limit possibilities:
 - According to FCC 15.209 peak limit (above 1 GHz) is 74 dBμV/m (restricted band limit)
 - According to FCC 15.407(b)(4)(i) peak limit is 68.2 dBμV/m (non-restricted band limit)
13. Therefore unwanted emissions in restricted as well non restricted bands, measured with Peak detector lowest limit 68.2 dBμV/m has been applied.
14. In accordance with ANSI C63.10 Section 12.7.7.2 Method AD g), for average measurements, data rates where the EUT was transmitting <98% duty cycle, the duty cycle correction factor calculated in section 5.2.3 was added to the measured result.

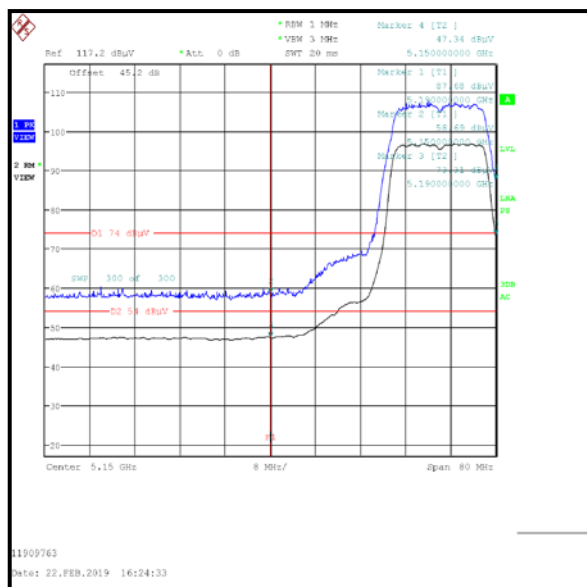
Test Setup:

Transmitter Band Edge Radiated Emissions (continued)**8 dBi Antenna Group****Results: 802.11a / 20 MHz / 6 Mbps / SISO / Port 1 / PWL 15 / 8 dBi Antenna Group****Results: CH36 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5150.0	58.69	68.2	9.51	Complied

Results: CH36 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5150.0	47.34	0.3	47.64	54.0	6.36	Complied

**Lower Band Edge Measurement****Result: Pass**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11a / 20 MHz / 6 Mbps / SISO / Port 1 / PWL 18 / 8 dBi Antenna Group****Results: CH40 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5108.462	59.84	68.2	8.36	Complied
5150.0	57.95	68.2	10.25	Complied

Results: CH40 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5150.0	47.30	0.3	47.60	54.0	6.4	Complied

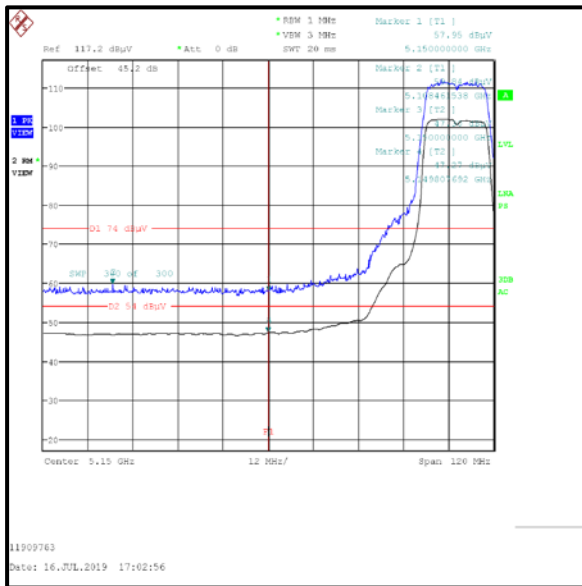
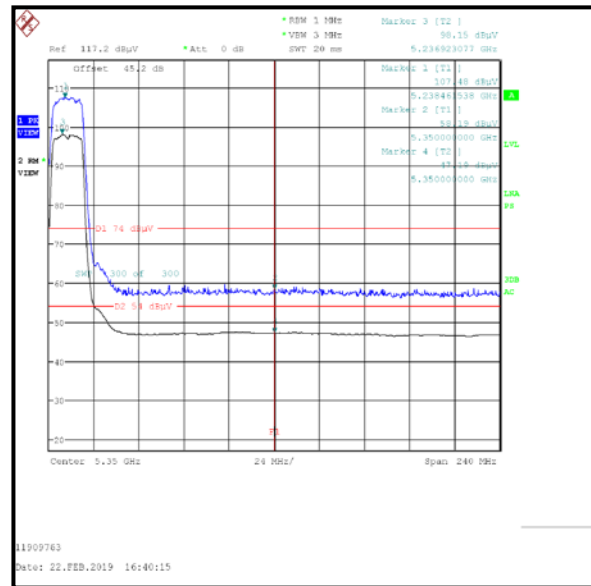
Results: CH48 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5350.0	58.19	68.2	10.01	Complied

Results: CH48 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5350.0	47.19	0.3	47.49	54.0	6.51	Complied

Result: Pass

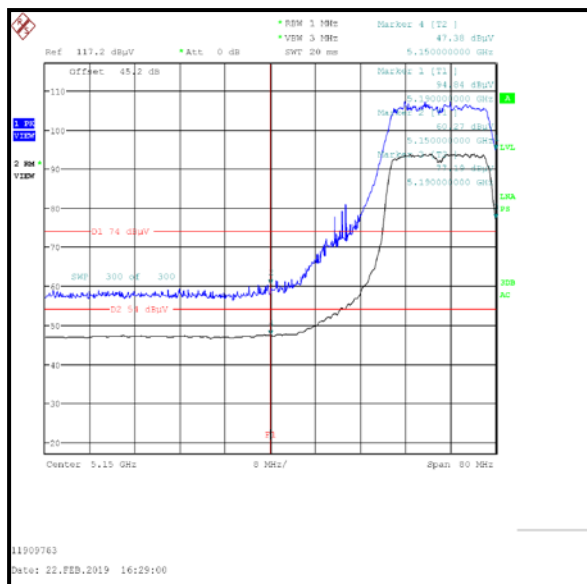
Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11a / 20 MHz / 6 Mbps / SISO / Port 1 / PWL 18 / 8 dBi Antenna Group****Lower Band Edge Measurement****Upper Band Edge Measurement****Result: Pass**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n / 20 MHz / MCS0 / SISO / Port 1 / PWL 15 / 8 dBi Antenna Group****Results: CH36 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5150.0	60.27	68.2	7.93	Complied

Results: CH36 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5150.0	47.38	0.5	47.88	54.0	6.12	Complied

**Lower Band Edge Measurement****Result: Pass**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n / 20 MHz / MCS0 / SISO / Port 1 / PWL 18 / 8 dBi Antenna Group****Results: CH40 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5150.0	58.1	68.2	10.1	Complied
5105.577	59.67	68.2	8.53	Complied

Results: CH40 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5150.0	47.3	0.5	47.8	54.0	6.2	Complied

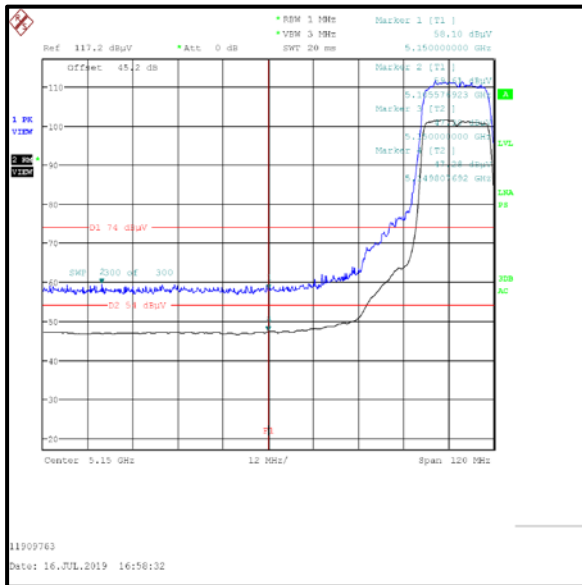
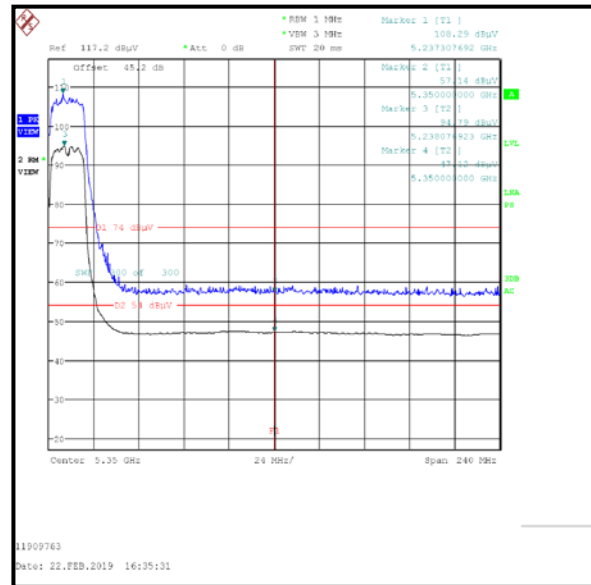
Results: CH48 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5350.0	57.14	68.2	11.06	Complied

Results: CH48 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5350.0	47.12	0.5	47.62	54.0	6.38	Complied

Result: Pass

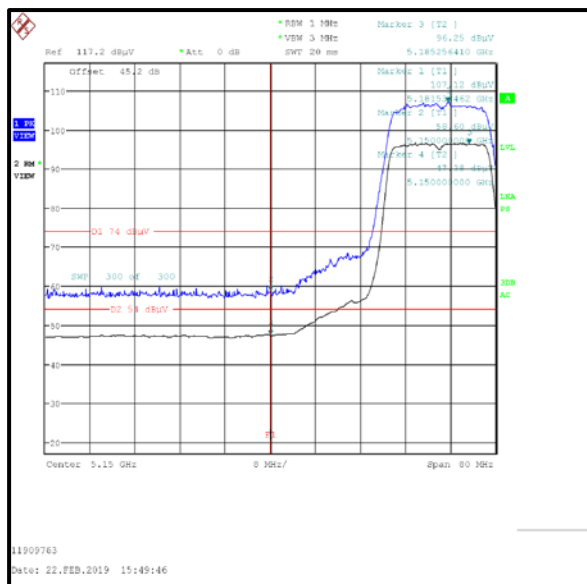
Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n / 20 MHz / MCS0 / SISO / Port 1 / PWL 18 / 8 dBi Antenna Group****Lower Band Edge Measurement****Upper Band Edge Measurement****Result: Pass**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11ac / 20 MHz / MCS0 / SISO / Port 1 / PWL 15 / 8 dBi Antenna Group****Results: CH36 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5150.0	58.60	68.2	9.60	Complied

Results: CH36 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5150.0	47.38	0.4	47.78	54.0	6.22	Complied

**Lower Band Edge Measurement****Result: Pass**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11ac / 20 MHz / MCS0 / SISO / Port 1 / PWL 18 / 8 dBi Antenna Group****Results: CH40 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5119.615	59.75	68.2	8.45	Complied
5150.0	58.7	68.2	9.5	Complied

Results: CH40 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5150.0	47.3	0.4	47.7	54.0	6.3	Complied

Results: CH48 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5350.0	57.92	68.2	10.28	Complied

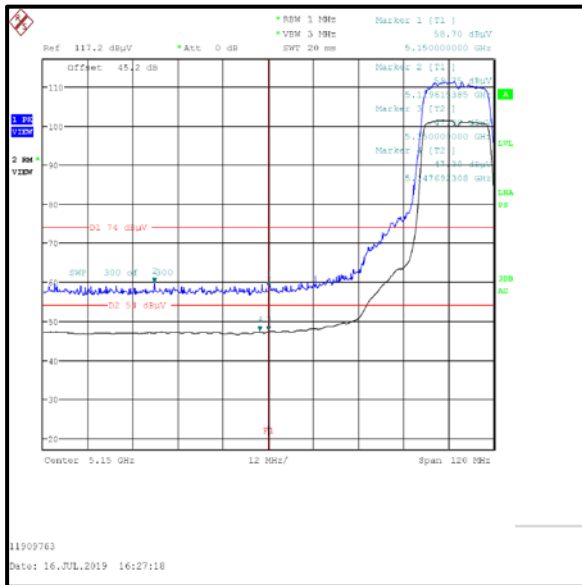
Results: CH48 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5350.0	47.15	0.4	47.55	54.0	6.45	Complied

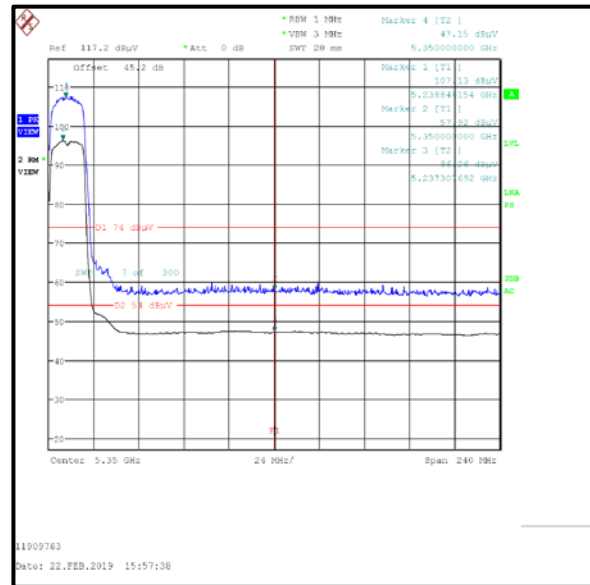
Result: Pass

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11ac / 20 MHz / MCS0 / SISO / Port 1 / PWL 18 / 8 dBi Antenna Group



Lower Band Edge Measurement



Upper Band Edge Measurement

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n / 40 MHz / MCS0 / SISO / Port 1 / PWL 15 / 8 dBi Antenna Group****Results: CH38 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
5150.0	63.87	68.2	4.33	Complied

Results: CH38 / Lower Band Edge / Average

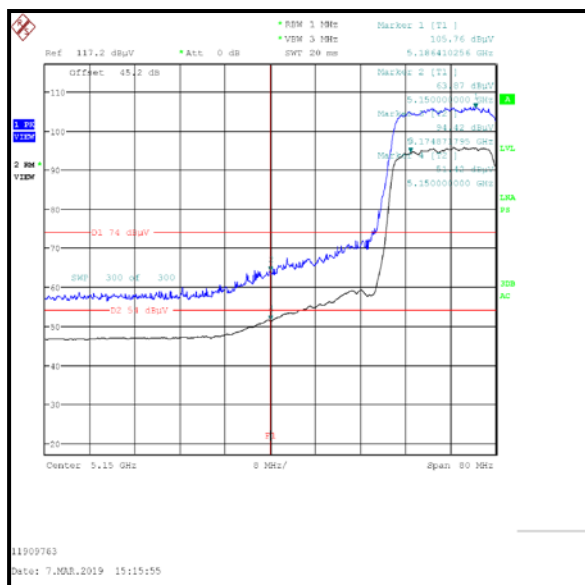
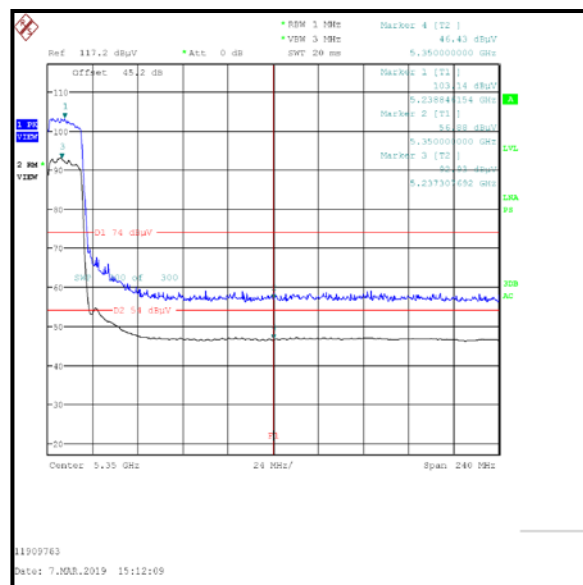
Frequency (MHz)	Average Level (dBμV/m)	Duty Cycle Correction (dB)	Corrected Average Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
5150.0	51.42	0.4	51.82	54.0	2.18	Complied

Results: CH46 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
5350.0	56.88	68.2	11.32	Complied

Results: CH46 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dBμV/m)	Duty Cycle Correction (dB)	Corrected Average Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
5350.0	46.43	0.4	46.83	54.0	7.17	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement****Result: Pass**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11ac / 40 MHz / MCS0 / SISO / Port 1 / PWL 15 / 8 dBi Antenna Group****Results: CH38 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
5150.0	63.32	68.2	4.88	Complied

Results: CH38 / Lower Band Edge / Average

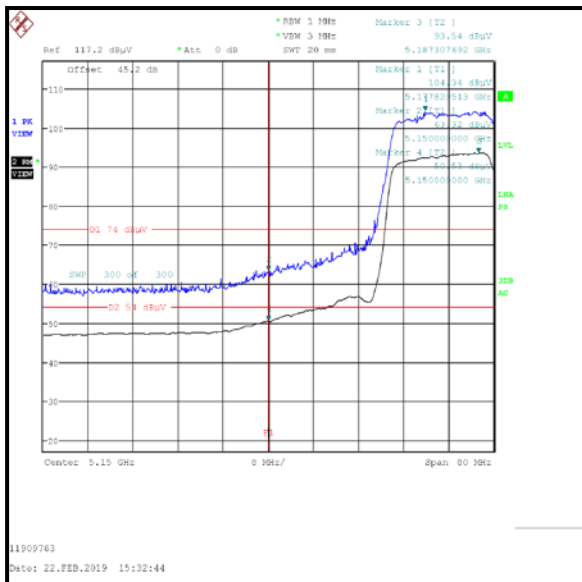
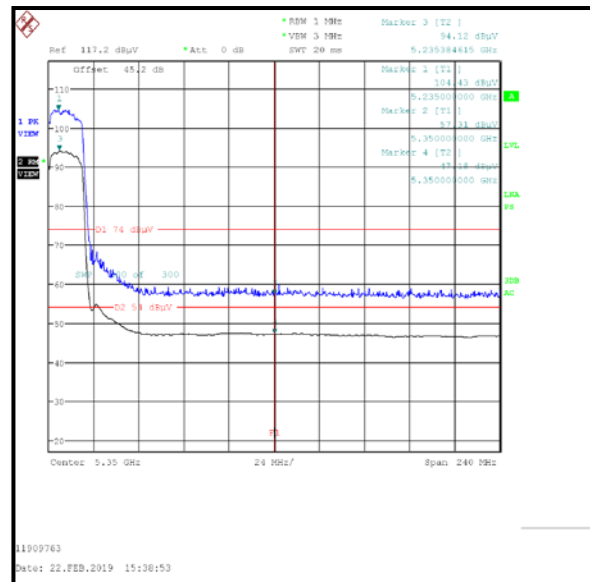
Frequency (MHz)	Average Level (dBμV/m)	Duty Cycle Correction (dB)	Corrected Average Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
5150.0	50.53	0.4	50.93	54.0	3.07	Complied

Results: CH46 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
5350.0	57.31	68.2	10.89	Complied

Results: CH46 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dBμV/m)	Duty Cycle Correction (dB)	Corrected Average Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
5350.0	47.18	0.4	47.58	54.0	6.42	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement****Result: Pass**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11ac / 80 MHz / MCS0 / SISO / Port 1 / PWL 15 / 8 dBi Antenna Group****Results: CH42 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
5150.0	64.89	68.2	3.31	Complied

Results: CH42 / Lower Band Edge / Average

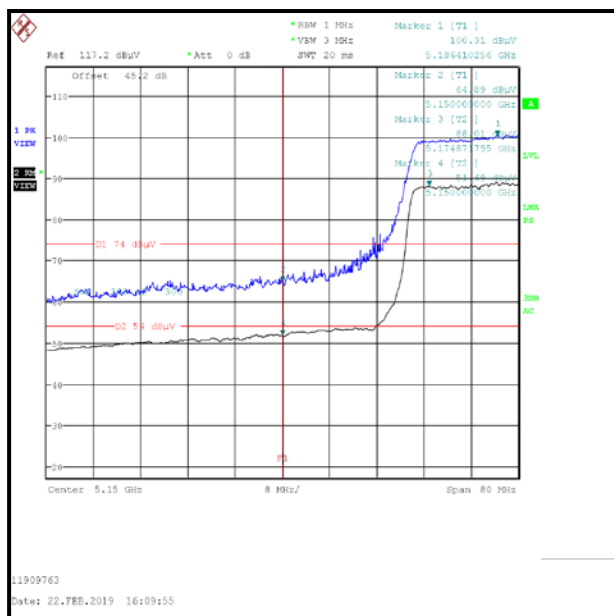
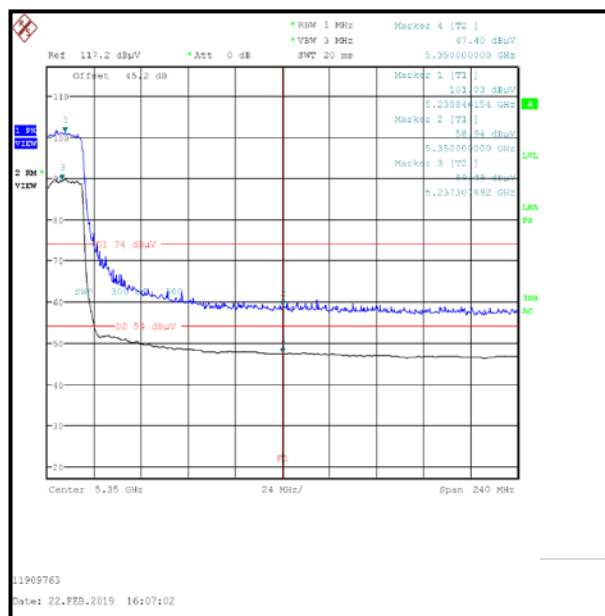
Frequency (MHz)	Average Level (dBμV/m)	Duty Cycle Correction (dB)	Corrected Average Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
5150.0	51.69	0.5	52.19	54.0	1.81	Complied

Results: CH42 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dBμV/m)	Peak Limit (dBμV/m)	Margin (dB)	Result
5350.0	58.94	68.2	9.26	Complied

Results: CH42 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dBμV/m)	Duty Cycle Correction (dB)	Corrected Average Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
5350.0	47.40	0.5	47.90	54.0	6.1	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement****Result: Pass**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11a / 20 MHz / 6Mbit / MIMO / Port 1+2 / PWL 16 / 8 dBi Antenna Group****Results: CH36 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5127.051	59.11	68.2	9.09	Complied
5150.0	57.12	68.2	11.08	Complied

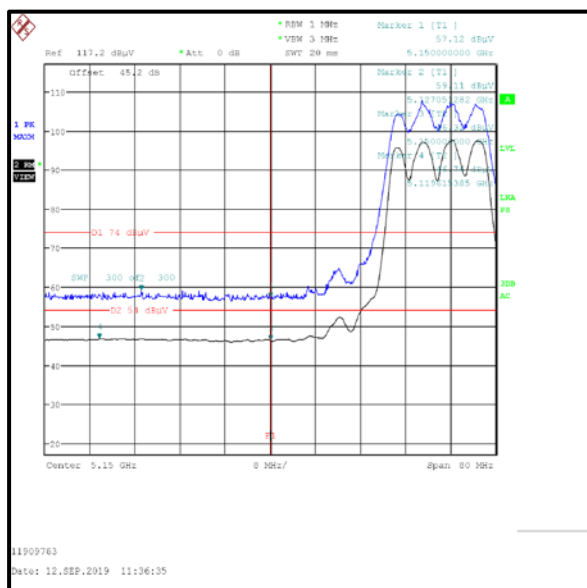
Results: CH36 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5119.615	46.76	0.3	47.06	54.0	6.94	Complied
5150.0	46.32	0.3	46.62	54.0	7.38	Complied

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11a / 20 MHz / 6Mbit / MIMO / Port 1+2 / PWL 16 / 8 dBi Antenna Group



Lower Band Edge Measurement

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11a / 20 MHz / 6Mbit / MIMO / Port 1+2 / PWL 17 / 8 dBi Antenna Group****Results: CH40 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5096.923	63.82	68.2	4.38	Complied
5150.0	61.81	68.2	6.39	Complied

Results: CH40 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5090.0	51.49	0.3	51.79	54.0	2.21	Complied
5150.0	50.73	0.3	51.03	54.0	2.97	Complied

Results: CH48 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5350.0	61.88	68.2	6.32	Complied
5384.615	64.24	68.2	3.96	Complied

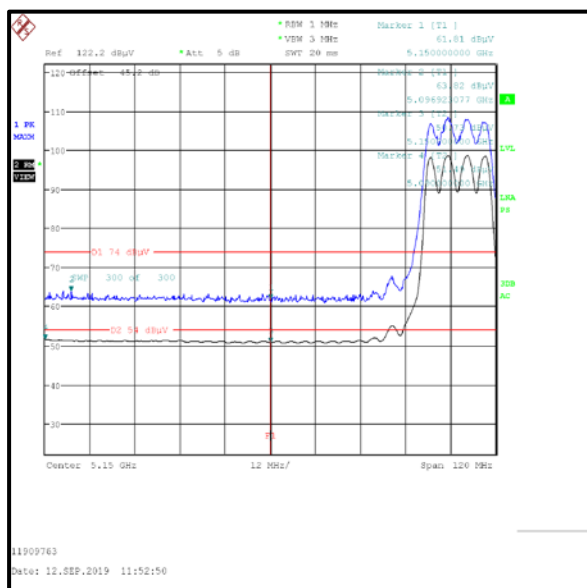
Results: CH48 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5350.0	51.42	0.3	51.72	54.0	2.28	Complied
5358.461	51.68	0.3	51.98	54.0	2.02	Complied

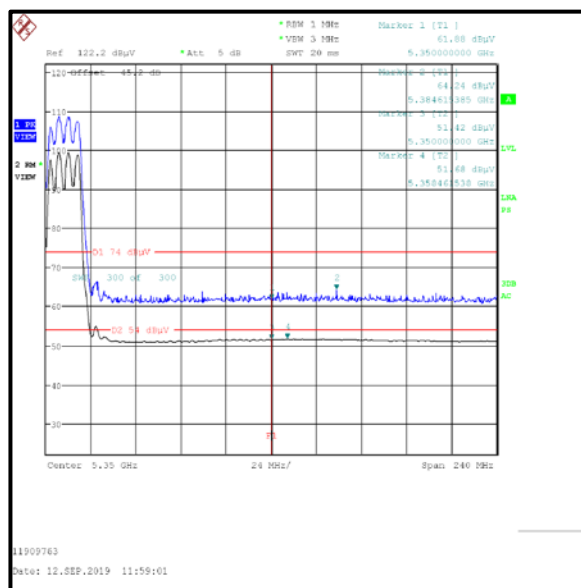
Result: Pass

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11a / 20 MHz / 6Mbit / MIMO / Port 1+2 / PWL 17 / 8 dBi Antenna Group



Lower Band Edge Measurement



Upper Band Edge Measurement

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n / 20 MHz / MCS0 / MIMO / Port 1+2 / PWL 16 / 8 dBi Antenna Group****Results: CH36 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5148.589	58.73	68.2	9.47	Complied
5150.0	57.41	68.2	10.79	Complied

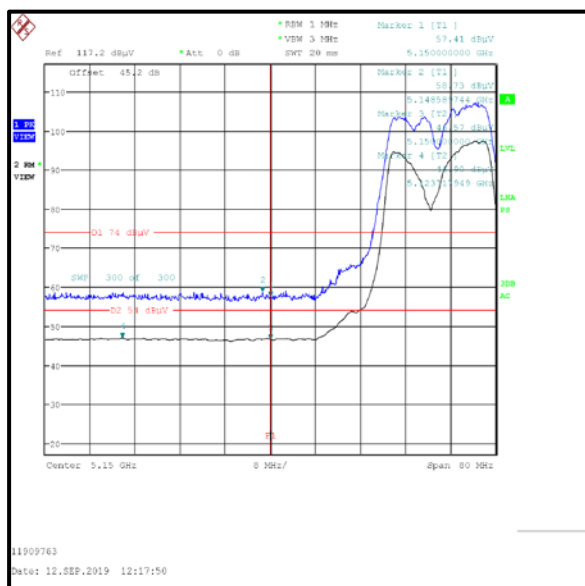
Results: CH36 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5123.717	46.90	0.5	47.40	54.0	6.6	Complied
5150.0	46.57	0.5	47.07	54.0	6.93	Complied

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11n / 20 MHz / MCS0 / MIMO / Port 1+2 / PWL 16 / 8 dBi Antenna Group



Lower Band Edge Measurement

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n / 20 MHz / MCS0 / MIMO / Port 1+2 / PWL 17 / 8 dBi Antenna Group****Results: CH40 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5110.576	63.52	68.2	4.68	Complied
5150.0	62.18	68.2	6.02	Complied

Results: CH40 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5090.384	51.54	0.5	52.04	54.0	1.96	Complied
5150.0	50.92	0.5	51.42	54.0	2.58	Complied

Results: CH48 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5350.0	61.64	68.2	6.56	Complied
5422.307	63.72	68.2	4.48	Complied

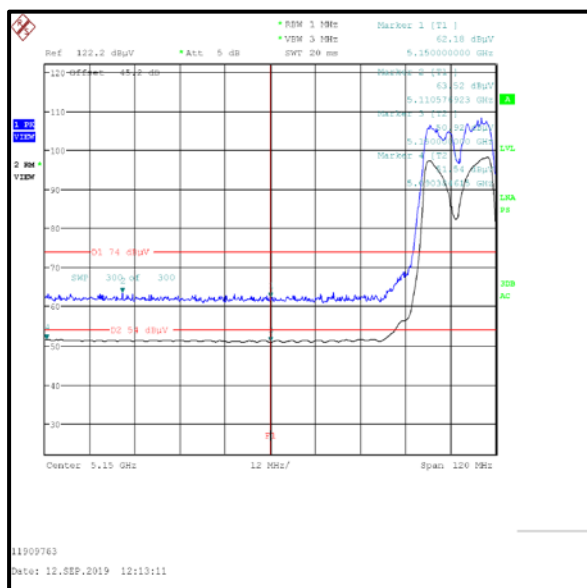
Results: CH48 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5350.0	51.41	0.5	51.91	54.0	2.09	Complied
5373.461	51.68	0.5	52.18	54.0	1.82	Complied

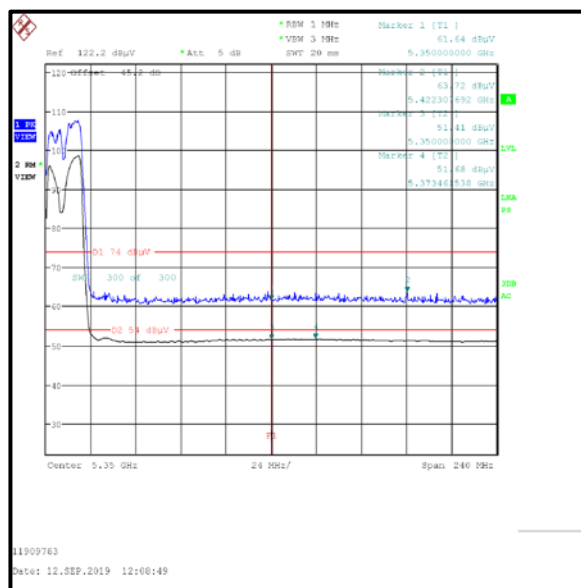
Result: Pass

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11n / 20 MHz / MCS0 / MIMO / Port 1+2 / PWL 17 / 8 dBi Antenna Group



Lower Band Edge Measurement



Upper Band Edge Measurement

Result: Pass

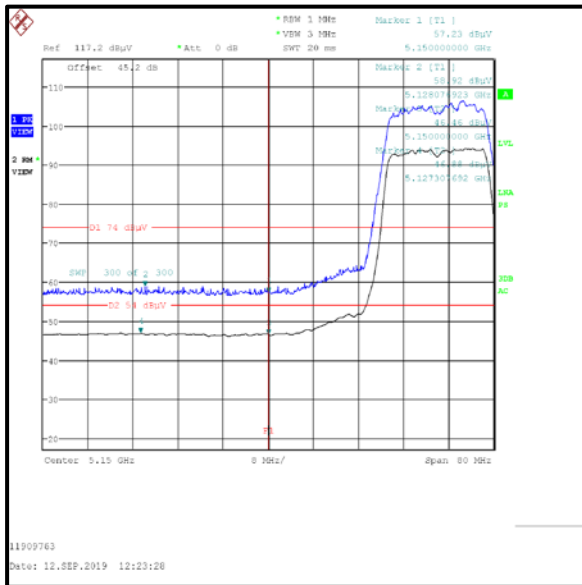
Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11ac / 20 MHz / MCS0 / MIMO / Port 1+2 / PWL 16 / 8 dBi Antenna Group****Results: CH36 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)	Result
5128.076	58.92	68.2	9.28	Complied
5150.0	57.23	68.2	10.97	Complied

Results: CH36 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dBµV/m)	Duty Cycle Correction (dB)	Corrected Average Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
5127.307	46.88	0.4	47.28	54.0	6.72	Complied
5150.0	46.46	0.4	46.87	54.0	7.13	Complied

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11ac / 20 MHz / MCS0 / MIMO / Port 1+2 / PWL 16 / 8 dBi Antenna Group****Lower Band Edge Measurement****Result: Pass**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11ac / 20 MHz / MCS0 / MIMO / Port 1+2 / PWL 17 / 8 dBi Antenna Group****Results: CH40 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5119.423	63.85	68.2	4.35	Complied
5150.0	61.44	68.2	6.76	Complied

Results: CH40 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5090.384	51.50	0.4	51.90	54.0	2.1	Complied
5150.0	50.91	0.4	51.31	54.0	2.69	Complied

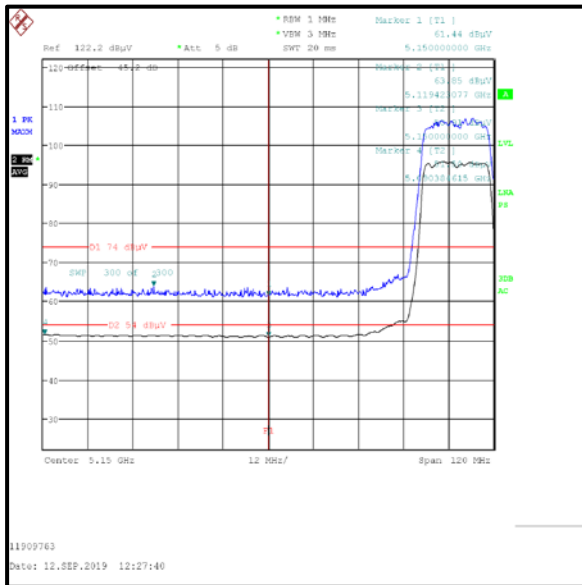
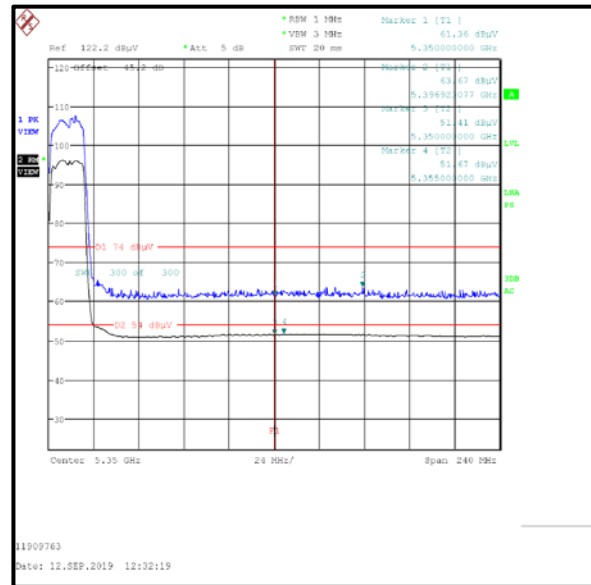
Results: CH48 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5350.0	61.36	68.2	6.84	Complied
5396.923	63.67	68.2	4.53	Complied

Results: CH48 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5350.0	51.41	0.4	51.81	54.0	2.19	Complied
5355.0	51.67	0.4	52.07	54.0	1.93	Complied

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11ac / 20 MHz / MCS0 / MIMO / Port 1+2 / PWL 17 / 8 dBi Antenna Group****Lower Band Edge Measurement****Upper Band Edge Measurement****Result: Pass**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n / 40 MHz / MCS0 / MIMO / Port 1+2 / PWL 18 / 8 dBi Antenna Group****Results: CH38 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5147.692	62.67	68.2	5.53	Complied
5150.0	60.44	68.2	7.76	Complied

Results: CH38 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5150.0	49.08	0.4	49.48	54.0	4.52	Complied

Results: CH46 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5350.0	57.89	68.2	10.31	Complied
5362.115	59.81	68.2	8.39	Complied

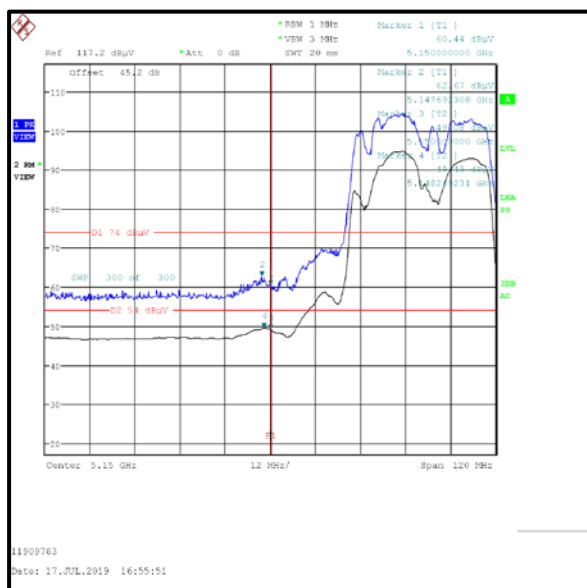
Results: CH46 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5350.0	46.94	0.4	47.34	54.0	6.66	Complied

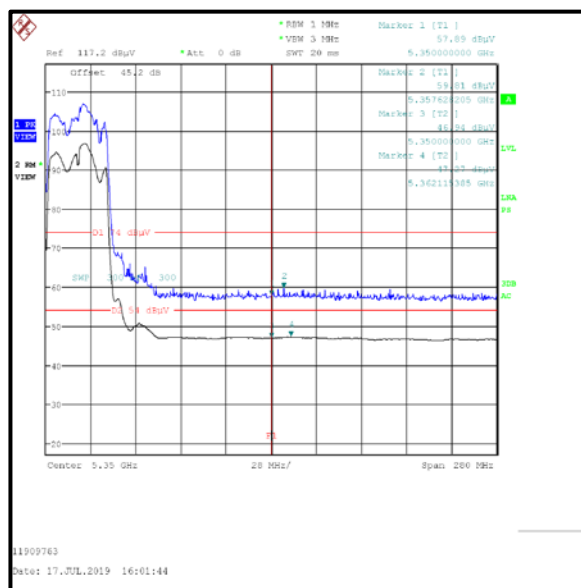
Result: Pass

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11n / 40 MHz / MCS0 / MIMO / Port 1+2 / PWL 18 / 8 dBi Antenna Group



Lower Band Edge Measurement



Upper Band Edge Measurement

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11ac / 40 MHz / MCS0 / MIMO / Port 1+2 / PWL 18 / 8 dBi Antenna Group****Results: CH38 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5150.0	63.59	68.2	4.61	Complied

Results: CH38 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5150.0	51.02	0.4	52.42	54.0	1.58	Complied

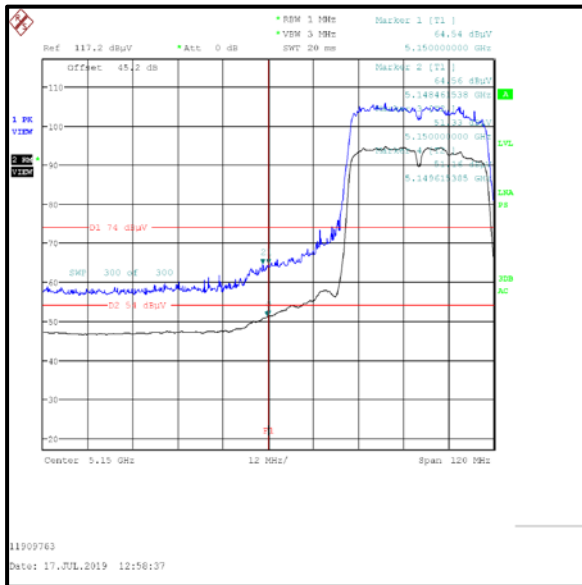
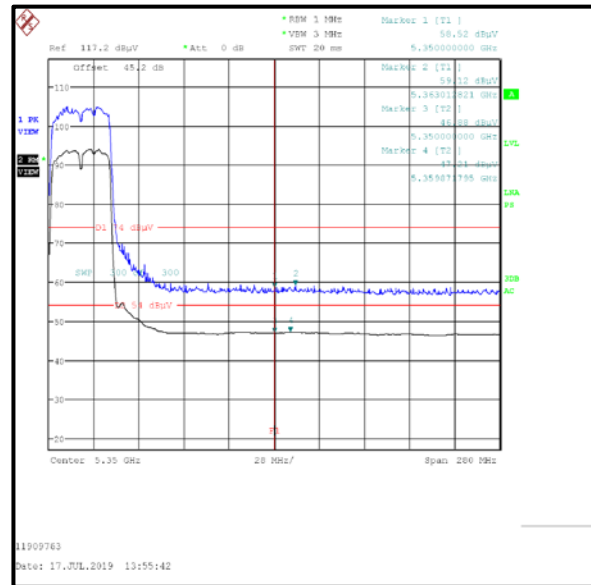
Results: CH46 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5350.0	58.52	68.2	9.68	Complied
5363.013	59.12	68.2	9.08	Complied

Results: CH46 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5350.0	46.88	0.4	47.28	54.0	6.72	Complied

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11ac / 40 MHz / MCS0 / MIMO / Port 1+2 / PWL 18 / 8 dBi Antenna Group****Lower Band Edge Measurement****Upper Band Edge Measurement****Result: Pass**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11ac / 80 MHz / MCS0 / MIMO / Port 1+2 / PWL 18 / 8 dBi Antenna Group****Results: CH42 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5150.0	65.20	68.2	3.00	Complied

Results: CH42 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5150.0	51.86	0.5	52.36	54.0	1.64	Complied

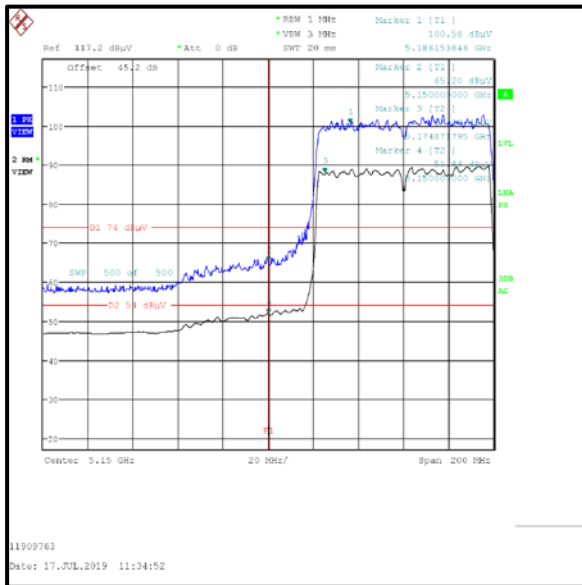
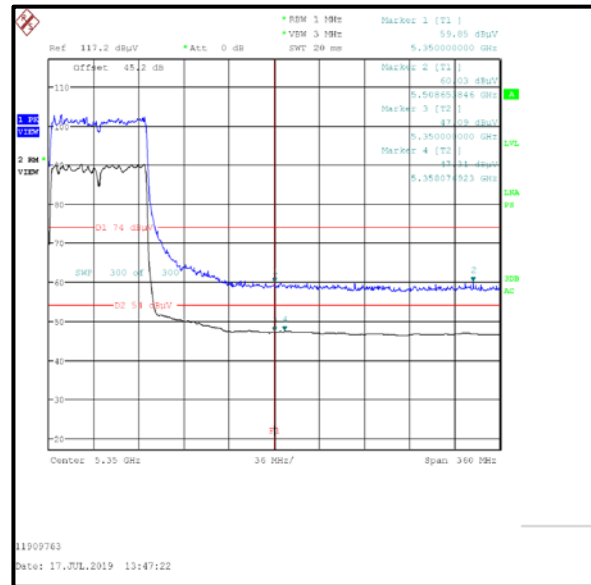
Results: CH42 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5350.0	59.85	68.2	8.35	Complied
5508.654	60.03	68.2	8.17	Complied

Results: CH42 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5350.0	47.09	0.5	47.59	54.0	6.41	Complied

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11ac / 80 MHz / MCS0 / MIMO / Port 1+2 / PWL 18 / 8 dBi Antenna Group****Lower Band Edge Measurement****Upper Band Edge Measurement****Result: Pass**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11a / 20 MHz / 6Mbit / MIMO / Port 1+2+3 / PWL 13 / 8 dBi Antenna Group****Results: CH36 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5119.358	59.43	68.2	8.77	Complied
5150.0	56.36	68.2	11.84	Complied

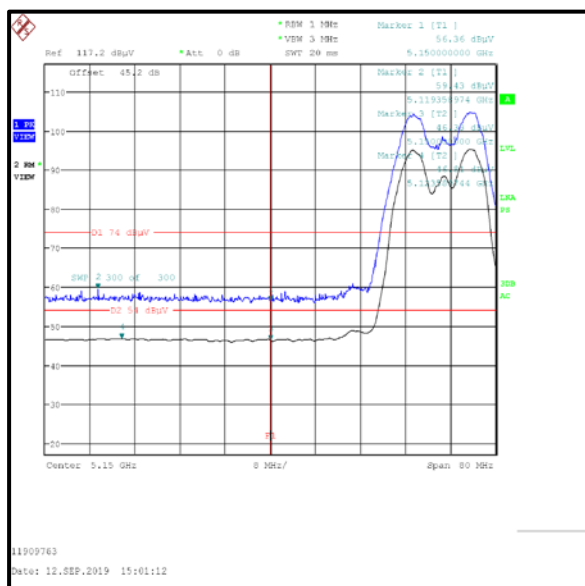
Results: CH36 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5123.589	46.81	0.3	47.11	54.0	6.89	Complied
5150.0	46.33	0.3	46.63	54.0	7.37	Complied

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11a / 20 MHz / 6Mbit / MIMO / Port 1+2+3 / PWL 13 / 8 dBi Antenna Group



Lower Band Edge Measurement

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11a / 20 MHz / 6Mbit / MIMO / Port 1+2+3 / PWL 15 / 8 dBi Antenna Group****Results: CH40 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5115.576	63.76	68.2	4.44	Complied
5150.0	61.12	68.2	7.08	Complied

Results: CH40 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5090.762	51.54	0.3	51.84	54.0	2.16	Complied
5150.0	50.94	0.3	51.24	54.0	2.76	Complied

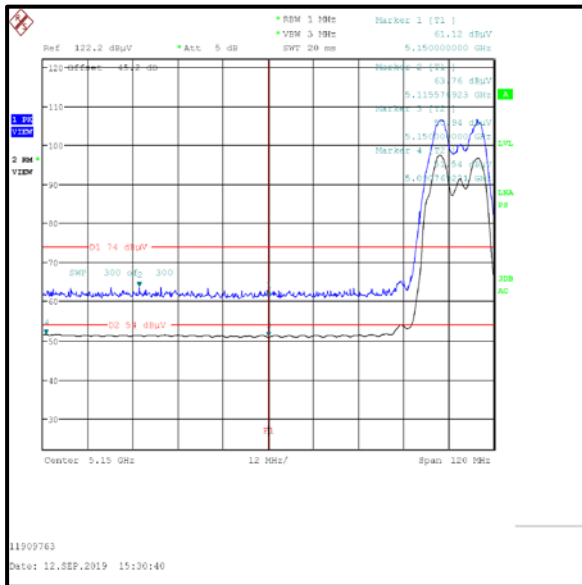
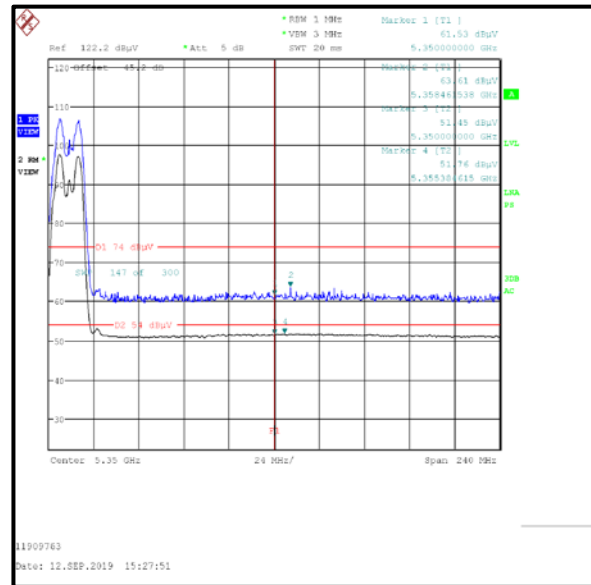
Results: CH48 / Upper Band Edge / Peak

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5350.0	57.74	68.2	10.46	Complied
5449.2	59.59	68.2	8.61	Complied

Results: CH48 / Upper Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5350.0	51.45	0.3	51.75	54.0	2.25	Complied
5355.384	51.76	0.3	52.06	54.0	1.94	Complied

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11a / 20 MHz / 6Mbit / MIMO / Port 1+2+3 / PWL 15 / 8 dBi Antenna Group****Lower Band Edge Measurement****Upper Band Edge Measurement****Result: Pass**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n / 20 MHz / MCS0 / MIMO / Port 1+2+3 / PWL 13 / 8 dBi Antenna Group****Results: CH36 / Lower Band Edge / Peak**

Frequency (MHz)	Peak Level (dB μ V/m)	Peak Limit (dB μ V/m)	Margin (dB)	Result
5120.769	58.90	68.2	9.3	Complied
5150.0	57.27	68.2	10.93	Complied

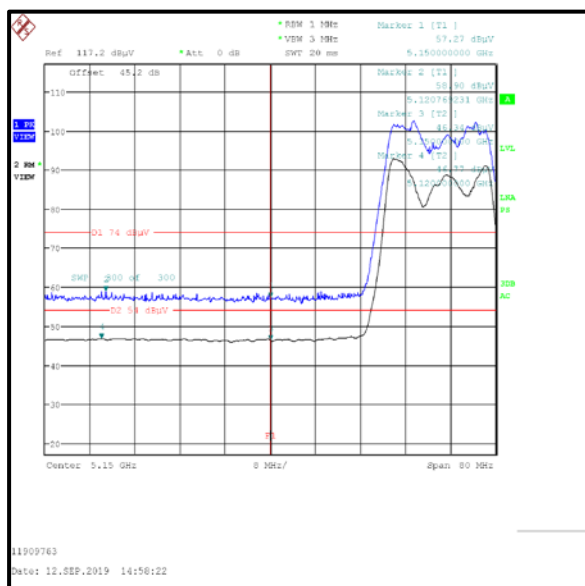
Results: CH36 / Lower Band Edge / Average

Frequency (MHz)	Average Level (dB μ V/m)	Duty Cycle Correction (dB)	Corrected Average Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
5120.0	46.77	0.5	47.27	54.0	6.73	Complied
5150.0	46.34	0.5	46.84	54.0	7.16	Complied

Result: Pass

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11n / 20 MHz / MCS0 / MIMO / Port 1+2+3 / PWL 13 / 8 dBi Antenna Group



Lower Band Edge Measurement

Result: Pass