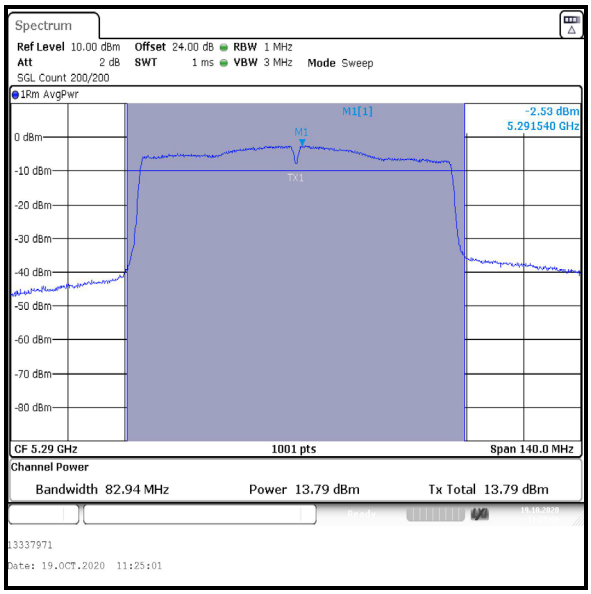
Transmitter Maximum Conducted Output Power (5.25-5.35 GHz band) (continued)

Results: 802.11ac / 80 MHz / BPSK / MCS0x1

Channel	Frequency (MHz)	Conducted Power (dBm)	Duty cycle correction factor (dB)	Corrected Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Single	5290	13.8	0.2	14.0	24.0	10.0	Complied



Single Channel

Transmitter Maximum Conducted Output Power (5.47-5.725 GHz band)

4.4.3. 5.47-5.725 GHz band

Test Summary:

Test Engineer:	Max Passell	**Test Date:**	19 October 2020
Test Sample Serial Number:	3157589		

FCC Reference:	Part 15.407(a)(2)
Test Method Used:	KDB 789033 D02 Section II.E.2.b) and II.E.2.d)

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	42

Note(s):

1. For conducted power tests where the duty cycle is >98%, the measurements were performed using a signal analyser in accordance with KDB 789033 II.E.2.b) Method SA-1. Where the duty cycle is <98%, the measurements were performed in accordance with KDB 789033 II.E.2.d) Method SA-2. The signal analyser's integration function was used to integrate across the 26 dB emission bandwidth. The resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. An RMS detector was used and sweep time was set to auto and 200 traces performed. The span was set to encompass the entire 26 dB emission bandwidth. The channel power results are recorded in the tables below.
2. For data rates where the EUT was transmitting at <98% duty cycle, the calculated duty cycle in Section 4.1 was added to the measured power in order to compute the average power during the actual transmission time.
3. The FCC Part 15.407(a)(2) limit is the lesser of 250 mW (24.0 dBm) or 11 dBm + 10 $\log_{10}$ B, where B is the previously measured 26 dB emission bandwidth in MHz. For U-NII-2C band, the 26 dB EBW is greater than 20 MHz.

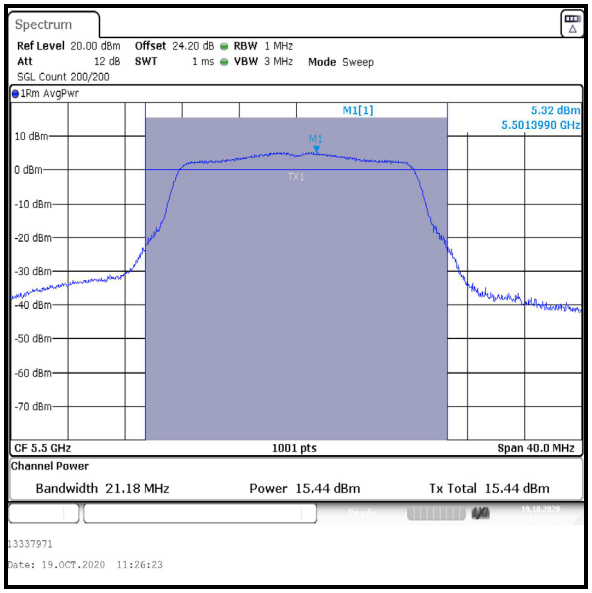
$$\text{For B} > 20\ \text{MHz} \rightarrow$$
$$\rightarrow \log_{10} \text{B} > \log_{10} 20 \rightarrow$$
$$\rightarrow 10 \log_{10} \text{B} > 10 \log_{10} 20 \rightarrow$$
$$\rightarrow 11 + 10 \log_{10} \text{B} > 11 + 10 \log_{10} 20 \rightarrow$$
$$\rightarrow 11 + 10 \log_{10} \text{B} > 24.0\ \text{dBm}$$

   Therefore for measured emission bandwidths greater than 20 MHz, the lesser of the two limits is the fixed limit of 250 mW (24.0 dBm). This was applied to the results.
4. For all modes of operation, the antenna gain is < 6 dBi.
5. The signal analyser was connected to the RF port on the EUT using an RF switch, suitable attenuation and RF cable. An RF level offset was entered on the signal analyser to compensate for the loss of the attenuator and RF cable.

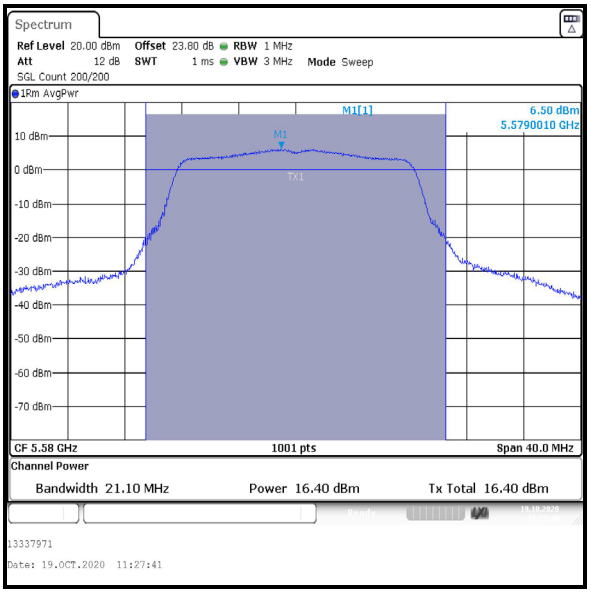
Transmitter Maximum Conducted Output Power (5.47-5.725 GHz band) (continued)

Results: 802.11a / 20 MHz / 6 Mbps

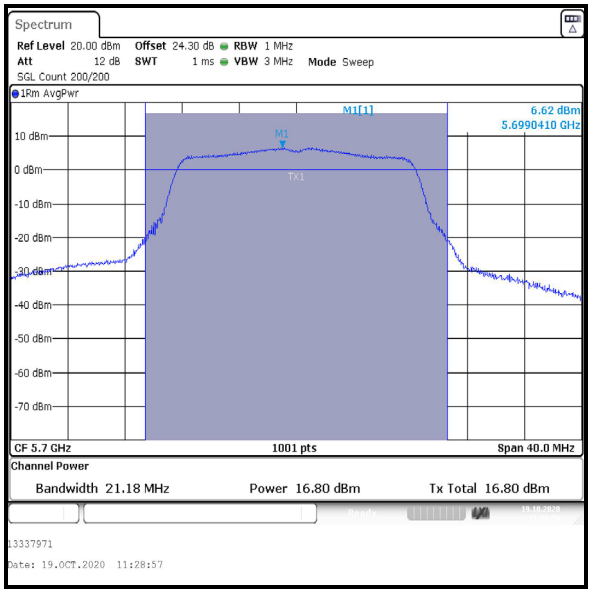
Channel	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5500	15.4	24.0	8.6	Complied
Middle	5580	16.4	24.0	7.6	Complied
Top	5700	16.8	24.0	7.2	Complied



Bottom Channel



Middle Channel

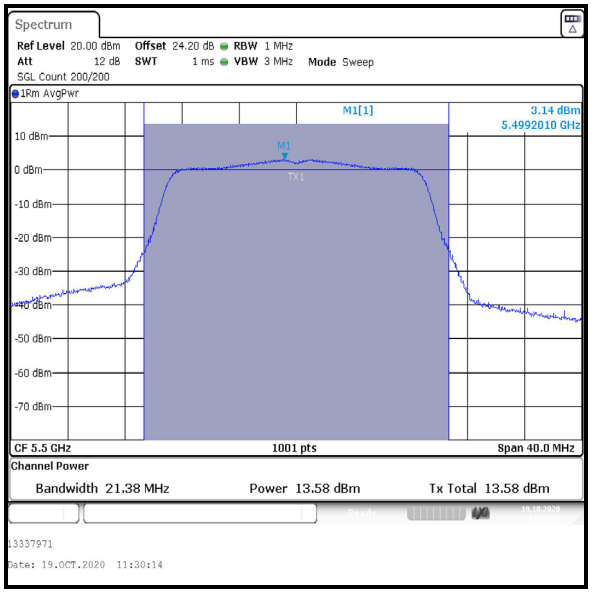


Top Channel

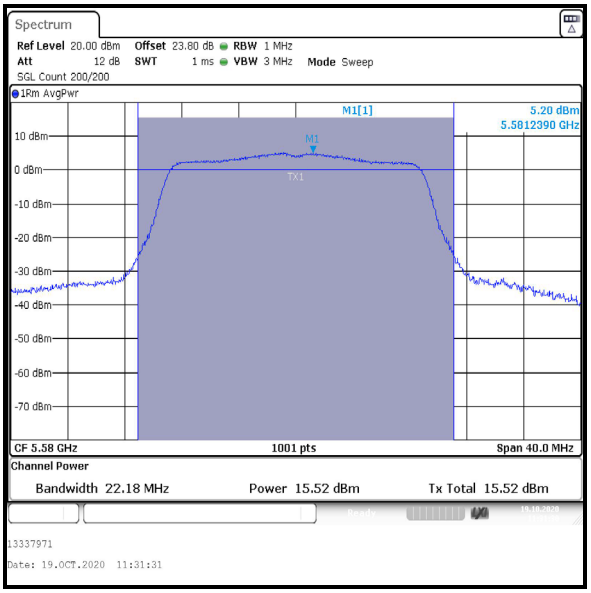
Transmitter Maximum Conducted Output Power (5.47-5.725 GHz band) (continued)

Results: 802.11n / 20 MHz / BPSK / MCS0

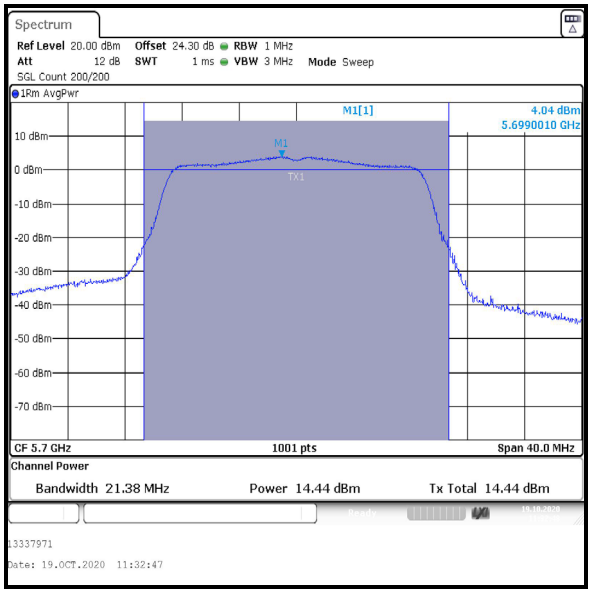
Channel	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5500	13.6	24.0	10.4	Complied
Middle	5580	15.5	24.0	8.5	Complied
Top	5700	14.4	24.0	9.6	Complied



Bottom Channel



Middle Channel

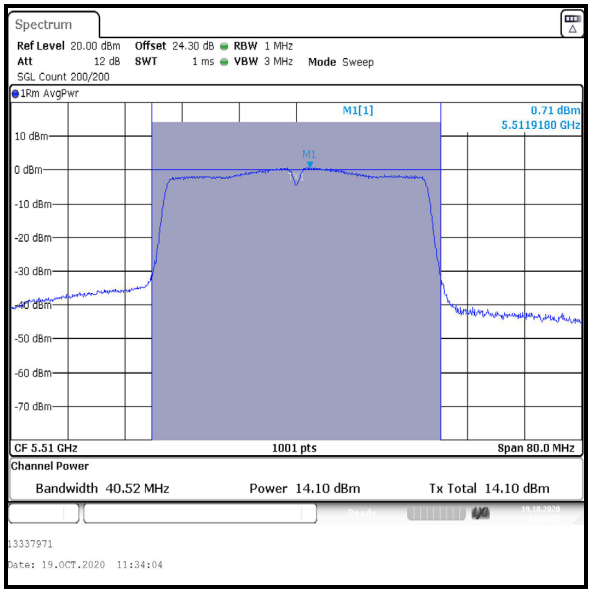


Top Channel

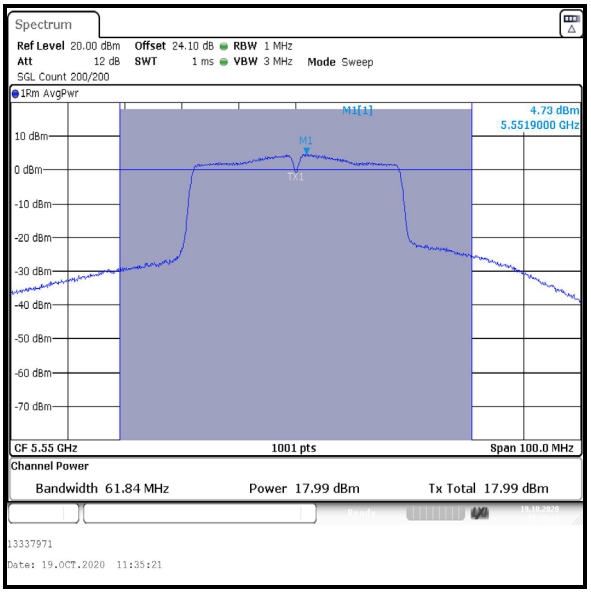
Transmitter Maximum Conducted Output Power (5.47-5.725 GHz band) (continued)

Results: 802.11n / 40 MHz / BPSK / MCS0

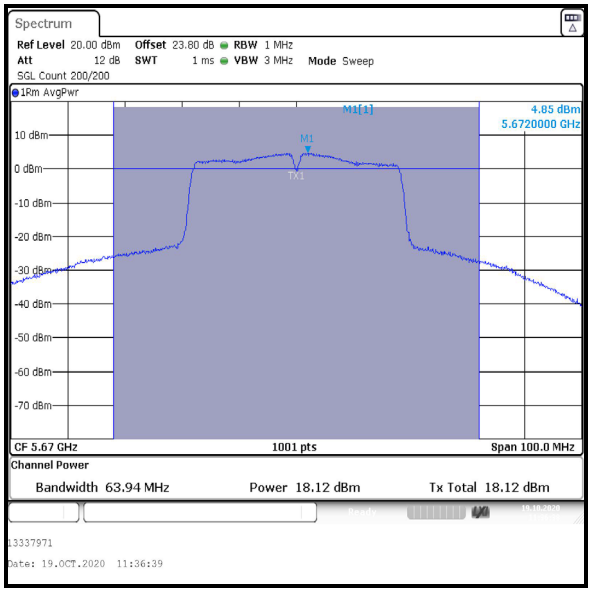
Channel	Frequency (MHz)	Conducted Power (dBm)	Duty cycle correction factor (dB)	Corrected Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5510	14.1	0.1	14.2	24.0	9.8	Complied
Middle	5550	18.0	0.1	18.1	24.0	5.9	Complied
Top	5670	18.1	0.1	18.2	24.0	5.8	Complied



Bottom Channel



Middle Channel

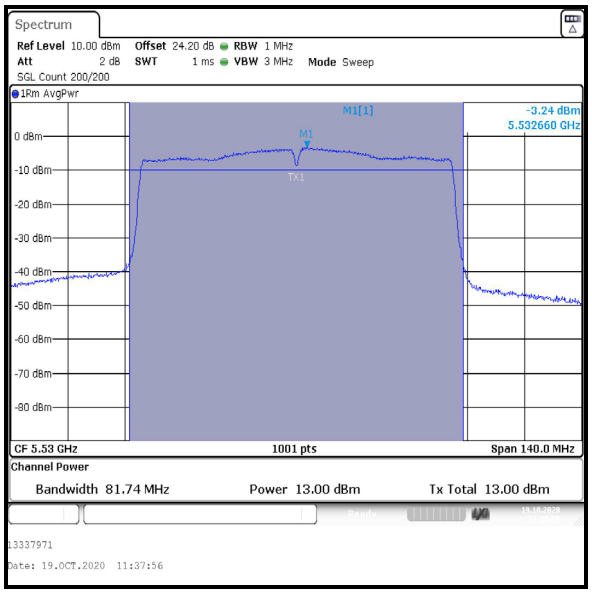


Top Channel

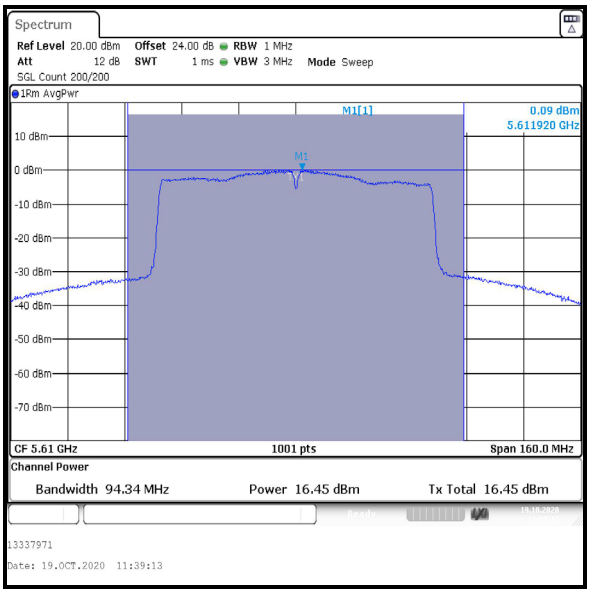
Transmitter Maximum Conducted Output Power (5.47-5.725 GHz band) (continued)

Results: 802.11ac / 80 MHz / BPSK / MCS0x1

Channel	Frequency (MHz)	Conducted Power (dBm)	Duty cycle correction factor (dB)	Corrected Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5530	13.0	0.2	13.2	24.0	10.8	Complied
Top	5610	16.5	0.2	16.7	24.0	7.3	Complied



Bottom Channel



Top Channel

Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band)

4.4.4. 5.725-5.85 GHz band

Test Summary:

Test Engineer:	Max Passell	**Test Date:**	19 October 2020
Test Sample Serial Number:	3157589		

FCC Reference:	Part 15.407(a)(3)
Test Method Used:	KDB 789033 D02 Section II.E.2.b) and II.E.2.d)

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	42

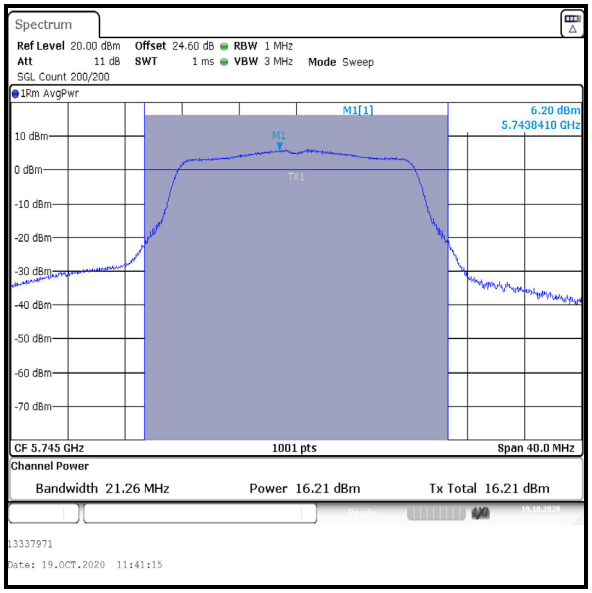
Note(s):

1. For conducted power tests where the duty cycle is >98%, the measurements were performed using a signal analyser in accordance with KDB 789033 II.E.2.b) Method SA-1. Where the duty cycle is <98%, the measurements were performed in accordance with KDB 789033 II.E.2.d) Method SA-2. The signal analyser's integration function was used to integrate across the 26 dB emission bandwidth. The resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. An RMS detector was used and sweep time was set to auto and 200 traces performed. The span was set to encompass the entire 26 dB emission bandwidth. The channel power results are recorded in the tables below.
2. For data rates where the EUT was transmitting at <98% duty cycle, the calculated duty cycle in Section 4.1 was added to the measured power in order to compute the average power during the actual transmission time.
3. The FCC Part 15.407(a)(3) limit shall not exceed 1 W (30.0 dBm).
4. For all modes of operation, the antenna gain is < 6 dBi.
5. The signal analyser was connected to the RF port on the EUT using an RF switch, suitable attenuation and RF cable. An RF level offset was entered on the signal analyser to compensate for the loss of the attenuator and RF cable.

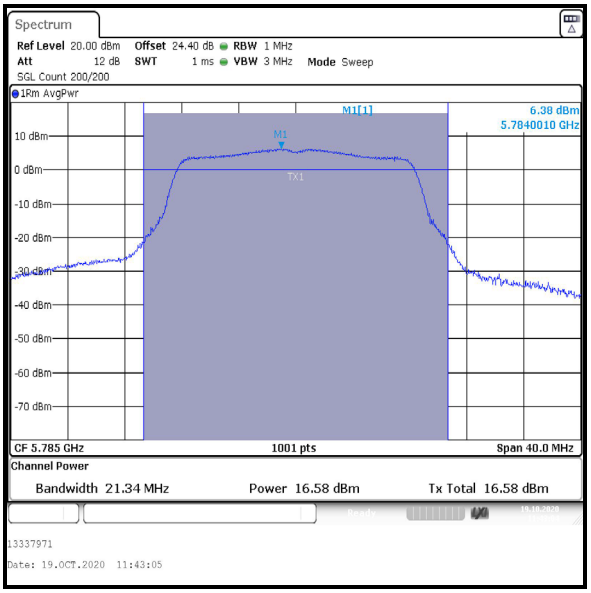
Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)

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

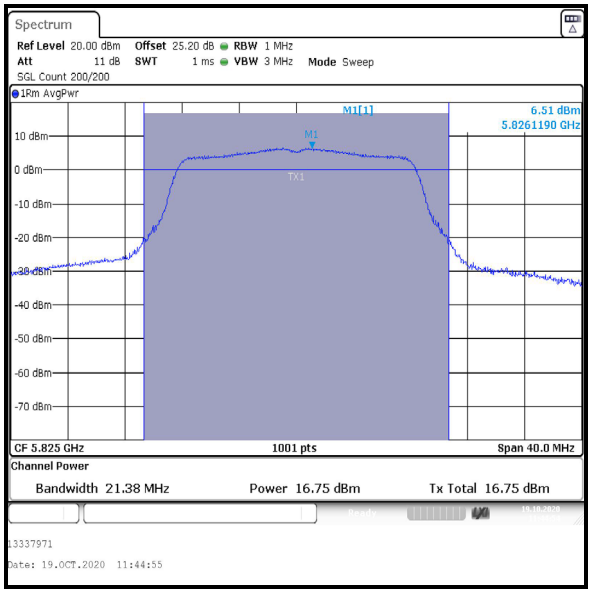
Channel	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5745	16.2	30.0	13.8	Complied
Middle	5785	16.6	30.0	13.4	Complied
Top	5825	16.8	30.0	13.2	Complied



Bottom Channel



Middle Channel

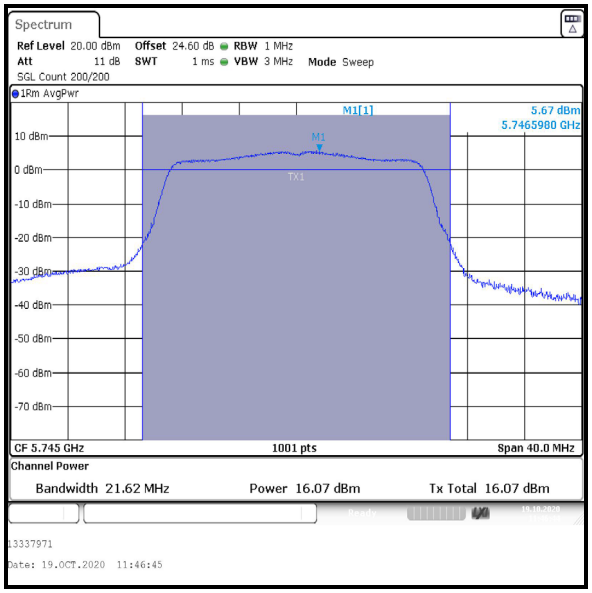


Top Channel

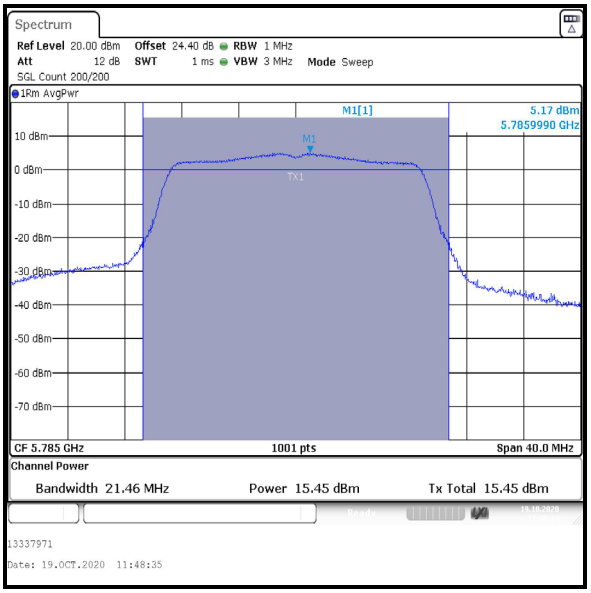
Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)

Results: 802.11n / 20 MHz / BPSK / MCS0

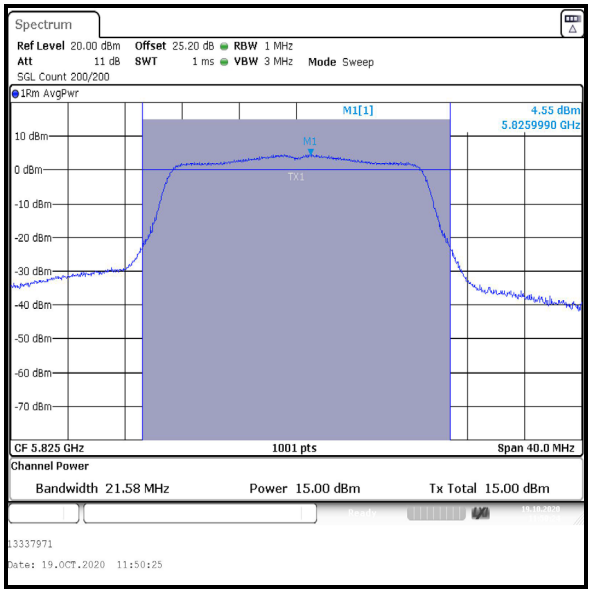
Channel	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5745	16.1	30.0	13.9	Complied
Middle	5785	15.5	30.0	14.5	Complied
Top	5825	15.0	30.0	15.0	Complied



Bottom Channel



Middle Channel

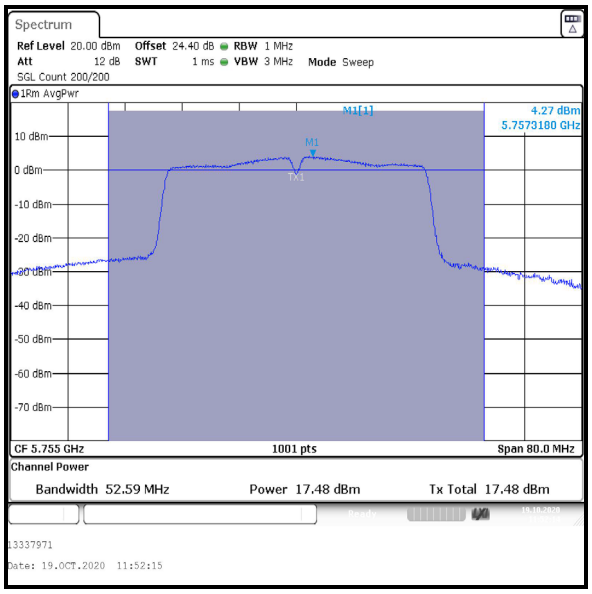


Top Channel

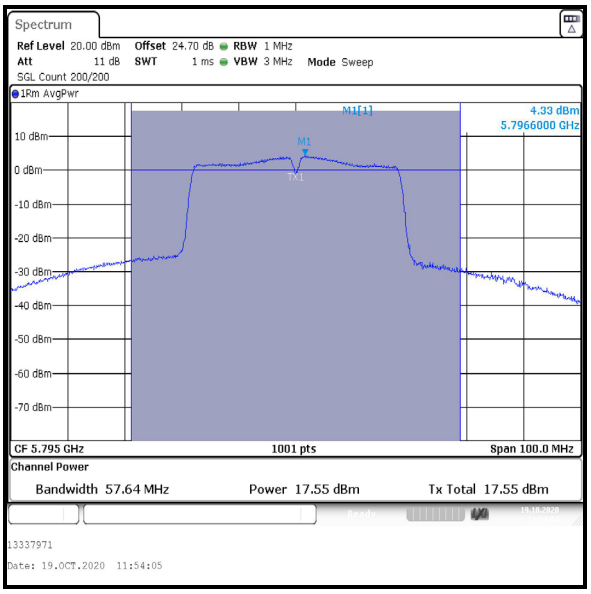
Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)

Results: 802.11n / 40 MHz / BPSK / MCS0

Channel	Frequency (MHz)	Conducted Power (dBm)	Duty cycle correction factor (dB)	Corrected Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5755	17.5	0.1	17.6	30.0	12.4	Complied
Top	5795	17.6	0.1	17.7	30.0	12.3	Complied



Bottom Channel

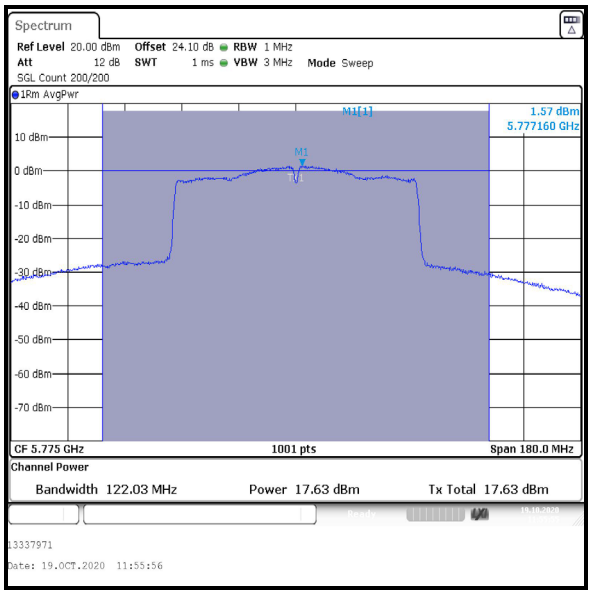


Top Channel

Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)

Results: 802.11ac / 80 MHz / BPSK / MCS0x1

Channel	Frequency (MHz)	Conducted Power (dBm)	Duty cycle correction factor (dB)	Corrected Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Single	5775	17.6	0.2	17.8	30.0	12.2	Complied



Single Channel

4.5. Transmitter Maximum Power Spectral Density

4.5.1. 5.15-5.25 GHz band

Test Summary:

Test Engineer:	Max Passell	**Test Date:**	19 October 2020
Test Sample Serial Number:	3157589		

FCC Reference:	Part 15.407(a)(1)(iv)
Test Method Used:	KDB 789033 D02 Section II.F. referencing II.E.2.b) and II.E.2.d)

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	42

Note(s):

1. Transmitter Maximum Power Spectral Density tests in all bands were performed using a signal analyser in accordance with KDB 789033 II. F referencing II.E.2.b) Method SA-1 where the duty cycle is >98% and II.E.2.d) Method SA-2 where the duty cycle was <98%.
2. For data rates where the EUT was transmitting at <98% duty cycle, the calculated duty cycle in Section 4.1 was added to the measured maximum power spectral density in order to compute the average maximum power spectral density during the actual transmission time.
3. FCC Part 15.407(a)(1)(iv) limit for PSD is <11 dBm/MHz.
4. For all modes of operation, the antenna gain is < 6 dBi.
5. The signal analyser was connected to the RF port on the EUT using an RF switch, suitable attenuation and RF cable. An RF level offset was entered on the signal analyser to compensate for the loss of the attenuator and RF cable.
6. As the power spectral density test uses the same test method as the output power test, before the power is integrated across the 26 dB bandwidth, the conducted power spectral density plots are located in the conducted output power section 4.4 of this test report. The peak spectral density was measured by placing a marker on the peak of the signal and the results entered in the tables below.

Transmitter Maximum Power Spectral Density (5.15-5.25 GHz band) (continued)

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

Channel	Frequency (MHz)	PSD (dBm /MHz)	Limit (dBm /MHz)	Margin (dB)	Result
Bottom	5180	4.6	11.0	6.4	Complied
Middle	5200	6.7	11.0	4.3	Complied
Top	5240	6.2	11.0	4.8	Complied

Results: 802.11n / 20 MHz / BPSK / MCS0

Channel	Frequency (MHz)	PSD (dBm /MHz)	Limit (dBm /MHz)	Margin (dB)	Result
Bottom	5180	1.9	11.0	9.1	Complied
Middle	5200	2.3	11.0	8.7	Complied
Top	5240	2.2	11.0	8.8	Complied

Results: 802.11n / 40 MHz / BPSK / MCS0

Channel	Frequency (MHz)	PSD (dBm /MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm /MHz)	Limit (dBm /MHz)	Margin (dB)	Result
Bottom	5190	-0.6	0.1	-0.5	11.0	11.5	Complied
Top	5230	2.2	0.1	2.3	11.0	8.7	Complied

Results: 802.11ac / 80 MHz / BPSK / MCS0x1

Channel	Frequency (MHz)	PSD (dBm /MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm /MHz)	Limit (dBm /MHz)	Margin (dB)	Result
Single	5210	-2.4	0.2	-2.2	11.0	13.2	Complied

Transmitter Maximum Power Spectral Density (5.25-5.35 GHz band)

4.5.2. 5.25-5.35 GHz band

Test Summary:

Test Engineer:	Max Passell	**Test Date:**	19 October 2020
Test Sample Serial Number:	3157589		

FCC Reference:	Part 15.407(a)(2)
Test Method Used:	KDB 789033 D02 Section II.F. referencing II.E.2.b) and II.E.2.d)

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	42

Note(s):

1. Transmitter Maximum Power Spectral Density tests in all bands were performed using a signal analyser in accordance with KDB 789033 II. F referencing II.E.2.b) Method SA-1 where the duty cycle is >98% and II.E.2.d) Method SA-2 where the duty cycle was <98%.
2. For data rates where the EUT was transmitting at <98% duty cycle, the calculated duty cycle in Section 4.1 was added to the measured maximum power spectral density in order to compute the average maximum power spectral density during the actual transmission time.
3. FCC Part 15.407(a)(2) limit for PSD in the 5.25-5.35 GHz band is <11 dBm/MHz.
4. For all modes of operation, the antenna gain is < 6 dBi.
5. The signal analyser was connected to the RF port on the EUT using an RF switch, suitable attenuation and RF cable. An RF level offset was entered on the signal analyser to compensate for the loss of the attenuator and RF cable.
6. As the power spectral density test uses the same test method as the output power test, before the power is integrated across the 26 dB bandwidth, the conducted power spectral density plots are located in the conducted output power section 4.4 of this test report. The peak spectral density was measured by placing a marker on the peak of the signal and the results entered in the tables below.

Transmitter Maximum Power Spectral Density (5.25-5.35 GHz band) (continued)

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

Channel	Frequency (MHz)	PSD (dBm /MHz)	Limit (dBm /MHz)	Margin (dB)	Result
Bottom	5260	6.6	11.0	4.4	Complied
Middle	5280	6.6	11.0	4.4	Complied
Top	5320	6.2	11.0	4.8	Complied

Results: 802.11n / 20 MHz / BPSK / MCS0

Channel	Frequency (MHz)	PSD (dBm /MHz)	Limit (dBm /MHz)	Margin (dB)	Result
Bottom	5260	4.3	11.0	6.7	Complied
Middle	5280	5.2	11.0	5.8	Complied
Top	5320	4.8	11.0	6.2	Complied

Results: 802.11n / 40 MHz / BPSK / MCS0

Channel	Frequency (MHz)	PSD (dBm /MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm /MHz)	Limit (dBm /MHz)	Margin (dB)	Result
Bottom	5270	3.9	0.1	4.0	11.0	7.0	Complied
Top	5310	1.9	0.1	2.0	11.0	9.0	Complied

Results: 802.11ac / 80 MHz / BPSK / MCS0x1

Channel	Frequency (MHz)	PSD (dBm /MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm /MHz)	Limit (dBm /MHz)	Margin (dB)	Result
Single	5290	-2.5	0.2	-2.3	11.0	13.3	Complied

Transmitter Maximum Power Spectral Density (5.47-5.725 GHz band)

4.5.3. 5.47-5.725 GHz band

Test Summary:

Test Engineer:	Max Passell	**Test Date:**	19 October 2020
Test Sample Serial Number:	3157589		

FCC Reference:	Part 15.407(a)(2)
Test Method Used:	KDB 789033 D02 Section II.F. referencing II.E.2.b) and II.E.2.d)

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	42

Note(s):

1. Transmitter Maximum Power Spectral Density tests in all bands were performed using a signal analyser in accordance with KDB 789033 II. F referencing II.E.2.b) Method SA-1 where the duty cycle is >98% and II.E.2.d) Method SA-2 where the duty cycle was <98%.
2. For data rates where the EUT was transmitting at <98% duty cycle, the calculated duty cycle in Section 4.1 was added to the measured maximum power spectral density in order to compute the average maximum power spectral density during the actual transmission time.
3. FCC Part 15.407(a)(2) limit for PSD in the 5.47-5.725 GHz band is <11 dBm/MHz.
4. For all modes of operation, the antenna gain is < 6 dBi.
5. The signal analyser was connected to the RF port on the EUT using an RF switch, suitable attenuation and RF cable. An RF level offset was entered on the signal analyser to compensate for the loss of the attenuator and RF cable.
6. As the power spectral density test uses the same test method as the output power test, before the power is integrated across the 26 dB bandwidth, the conducted power spectral density plots are located in the conducted output power section 4.4 of this test report. The peak spectral density was measured by placing a marker on the peak of the signal and the results entered in the tables below.

Transmitter Maximum Power Spectral Density (5.47-5.725 GHz band) (continued)

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

Channel	Frequency (MHz)	PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5500	5.3	11.0	5.7	Complied
Middle	5580	6.5	11.0	4.5	Complied
Top	5700	6.6	11.0	4.4	Complied

Results: 802.11n / 20 MHz / BPSK / MCS0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5500	3.1	11.0	7.9	Complied
Middle	5580	5.2	11.0	5.8	Complied
Top	5700	4.0	11.0	7.0	Complied

Results: 802.11n / 40 MHz / BPSK / MCS0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5510	0.7	0.1	0.8	11.0	10.2	Complied
Middle	5590	4.7	0.1	4.8	11.0	6.2	Complied
Top	5670	4.9	0.1	5.0	11.0	6.0	Complied

Results: 802.11ac / 80 MHz / BPSK / MCS0x1

Channel	Frequency (MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5530	-3.2	0.2	-3.0	11.0	14.0	Complied
Top	5610	0.1	0.2	0.3	11.0	10.7	Complied

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

4.5.4. 5.725-5.85 GHz band

Test Summary:

Test Engineer:	Max Passell	**Test Date:**	19 October 2020
Test Sample Serial Number:	3157589		

FCC Reference:	Part 15.407(a)(3)
Test Method Used:	KDB 789033 D02 Section II.F. referencing II.E.2.b) and II.E.2.d)

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	42

Note(s):

1. Transmitter Maximum Power Spectral Density tests in all bands were performed using a signal analyser in accordance with KDB 789033 II. F referencing II.E.2.b) Method SA-1 where the duty cycle is >98% and II.E.2.d) Method SA-2 where the duty cycle was <98%.
2. For data rates where the EUT was transmitting at <98% duty cycle, the calculated duty cycle in Section 4.1 was added to the measured maximum power spectral density in order to compute the average maximum power spectral density during the actual transmission time.
3. FCC Part 15.407(a)(3) limit for PPSD in the 5.725-5.85 GHz operating band is <30 dBm/500 kHz.
4. In accordance with ANSI C63.10 Section 4.1.4.1, use of bandwidths greater than those specified can produce higher readings. Compliance against the applicable limits is shown using a 1 MHz resolution bandwidth. This was deemed worst case.
5. For all modes of operation, the antenna gain is < 6 dBi.
6. The signal analyser was connected to the RF port on the EUT using an RF switch, suitable attenuation and RF cable. An RF level offset was entered on the signal analyser to compensate for the loss of the attenuator and RF cable.
7. As the power spectral density test uses the same test method as the output power test, before the power is integrated across the 26 dB bandwidth, the conducted power spectral density plots are located in the conducted output power section 4.4 of this test report. The peak spectral density was measured by placing a marker on the peak of the signal and the results entered in the tables below.

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

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

Channel	Frequency (MHz)	PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5745	6.2	30.0	23.8	Complied
Middle	5785	6.4	30.0	23.6	Complied
Top	5825	6.5	30.0	23.5	Complied

Results: 802.11n / 20 MHz / BPSK / MCS0

Channel	Frequency (MHz)	PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5745	5.7	30.0	24.3	Complied
Middle	5785	5.2	30.0	24.8	Complied
Top	5825	4.6	30.0	25.4	Complied

Results: 802.11n / 40 MHz / BPSK / MCS0

Channel	Frequency (MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5755	4.3	0.1	4.4	30.0	25.6	Complied
Top	5795	4.3	0.1	4.4	30.0	25.6	Complied

Results: 802.11ac / 80 MHz / BPSK / MCS0x1

Channel	Frequency (MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Single	5775	1.6	0.2	1.8	30.0	28.2	Complied

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