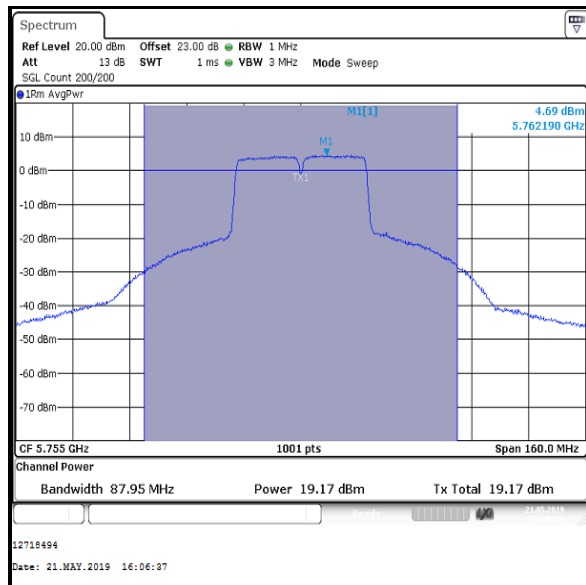
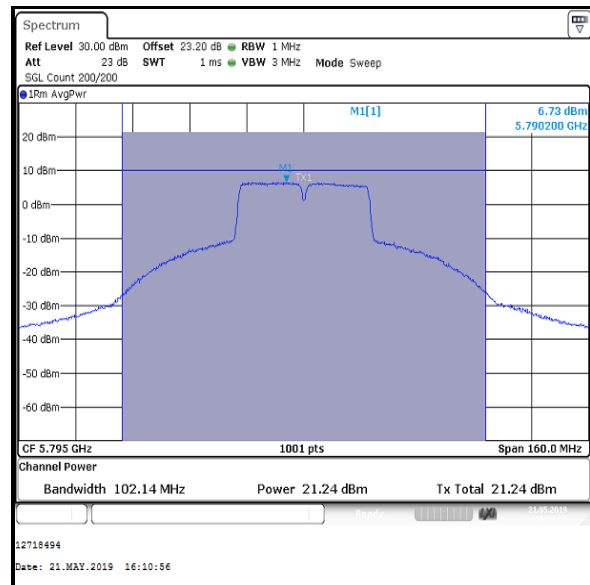


Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 2Tx SDM / BPSK / MCS8**

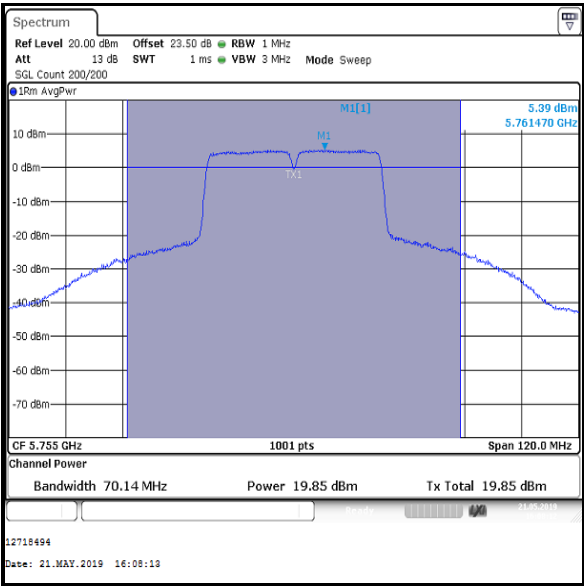
Channel	Frequency (MHz)	Core 0			Core 1		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)
Bottom	5755	19.2	0.1	19.3	19.9	0.1	20.0
Top	5795	21.2	0.1	21.3	21.5	0.1	21.6

Channel	Frequency (MHz)	Corrected Conducted Power Core 0 (dBm)	Corrected Conducted Power Core 1 (dBm)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5755	19.3	20.0	22.7	30.0	7.3	Complied
Top	5795	21.3	21.6	24.5	30.0	5.5	Complied

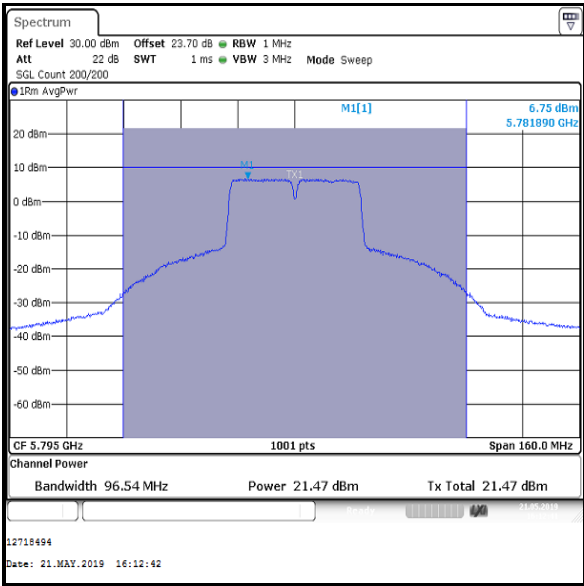
Results: 802.11n / 40 MHz / MIMO / 2Tx SDM / BPSK / MCS8 / Core 0**Bottom Channel****Top Channel**

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

Results: 802.11n / 40 MHz / MIMO / 2Tx SDM / BPSK / MCS8 / Core 1



Bottom Channel

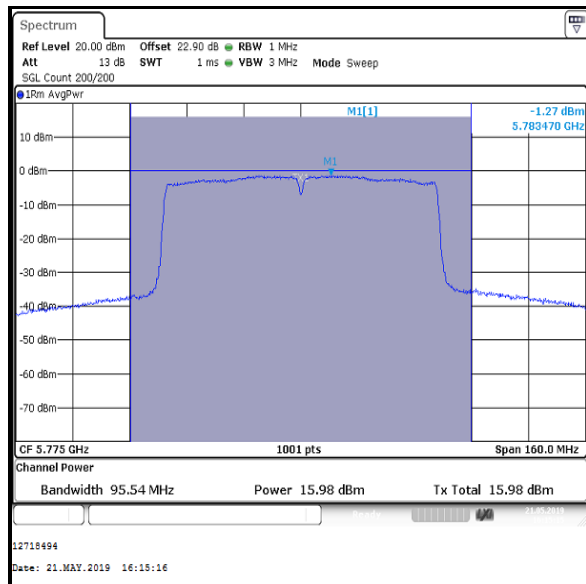


Top Channel

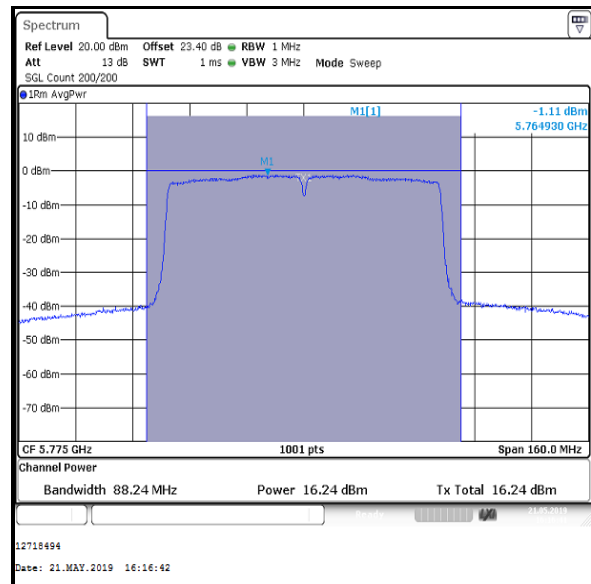
Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11ac / 80 MHz / MIMO / 2Tx SDM / BPSK / MCS0x2**

Channel	Frequency (MHz)	Core 0			Core 1		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)
Single	5775	16.0	0.2	16.2	16.2	0.2	16.4

Channel	Frequency (MHz)	Corrected Conducted Power Core 0 (dBm)	Corrected Conducted Power Core 1 (dBm)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Single	5775	16.2	16.4	19.3	30.0	10.7	Complied



Single Channel / Core 0



Single Channel / Core 1

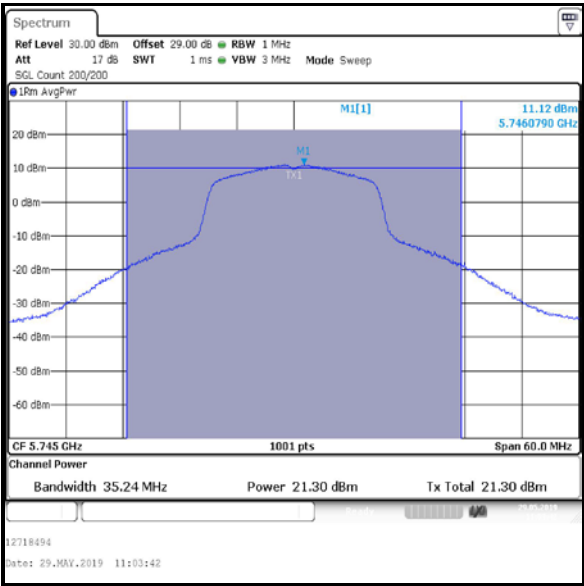
Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11n / 20 MHz / MIMO / 2Tx TXBF / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)
Bottom	5745	21.3	0.1	21.4	21.6	0.1	21.7
Middle	5785	20.0	0.1	20.1	21.4	0.1	21.5
Top	5825	20.0	0.1	20.1	21.6	0.1	21.7

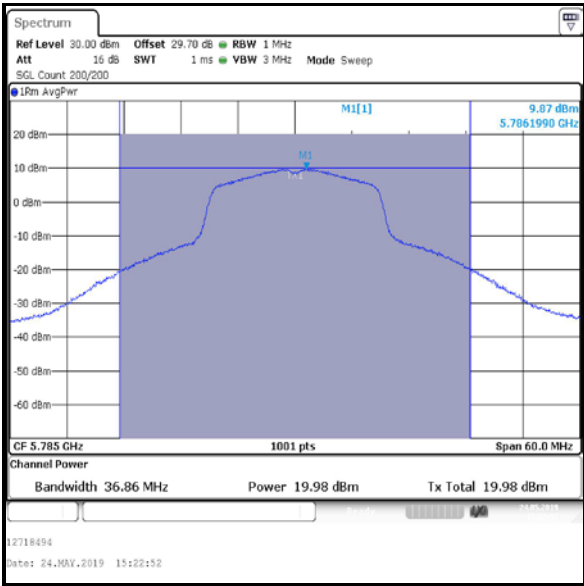
Channel	Frequency (MHz)	Corrected Conducted Power Core 0 (dBm)	Corrected Conducted Power Core 1 (dBm)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5745	21.4	21.7	24.6	27.1	2.5	Complied
Middle	5785	20.1	21.5	23.9	27.1	3.2	Complied
Top	5825	20.1	21.7	24.0	27.1	3.1	Complied

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

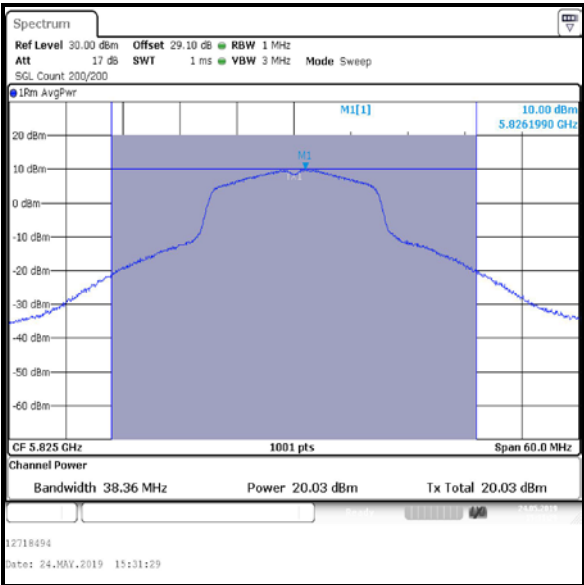
Results: 802.11n / 20 MHz / MIMO / 2Tx TXBF / BPSK / MCS0 / Core 0



Bottom Channel



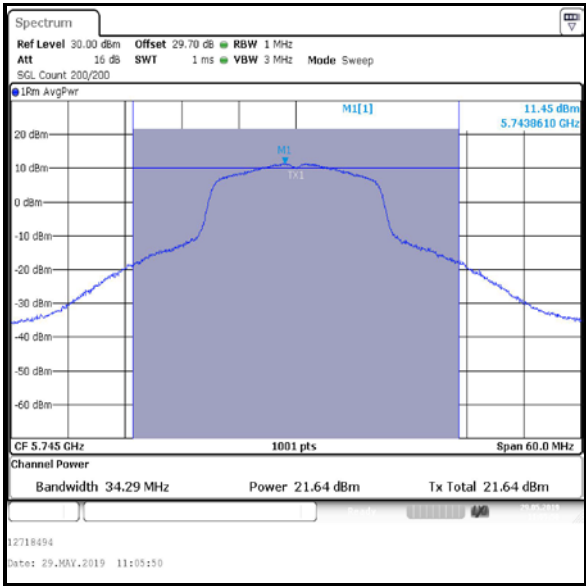
Middle Channel



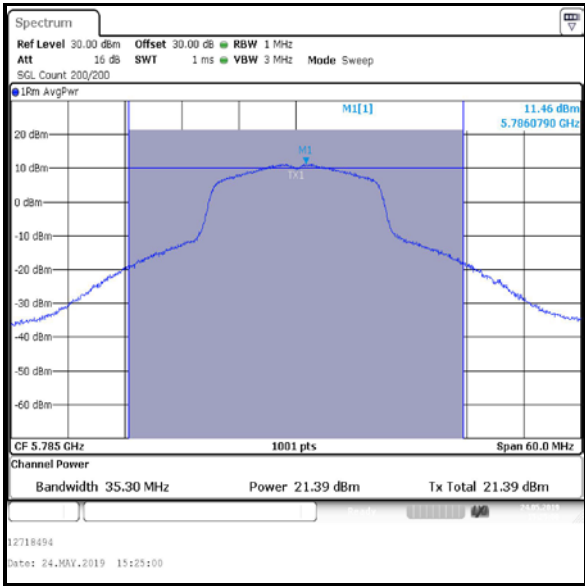
Top Channel

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

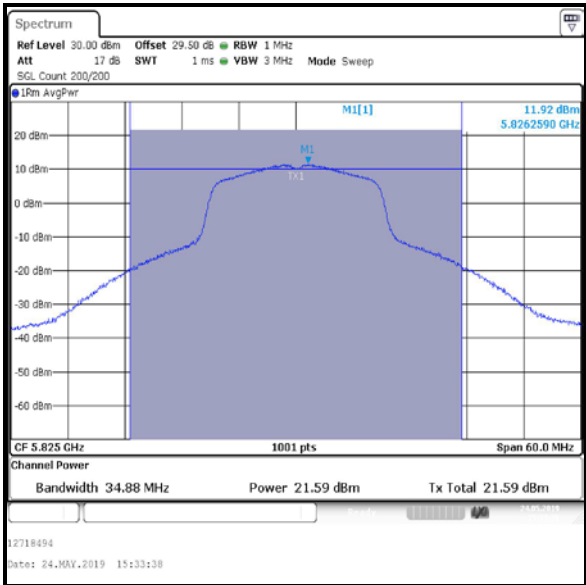
Results: 802.11n / 20 MHz / MIMO / 2Tx TXBF / BPSK / MCS0 / Core 1



Bottom Channel



Middle Channel

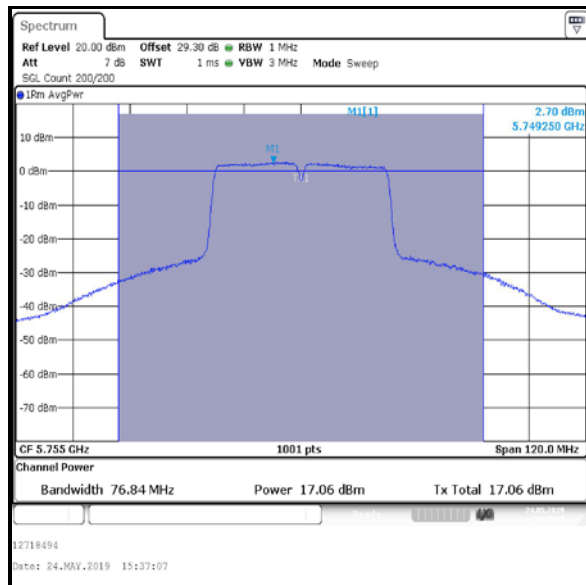
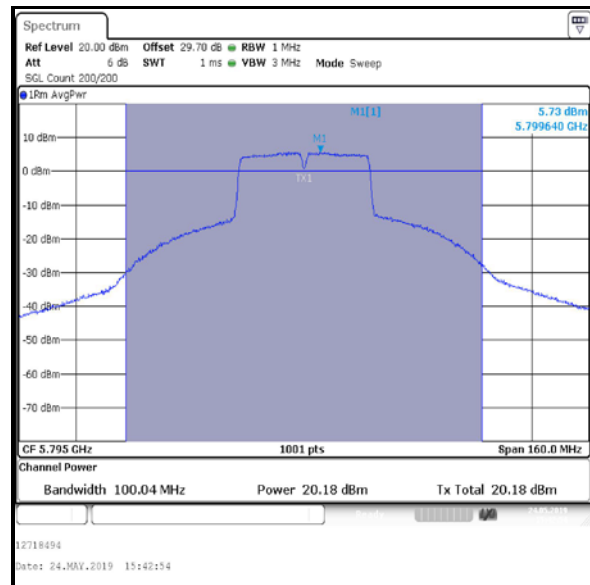


Top Channel

Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 2Tx TXBF / BPSK / MCS0**

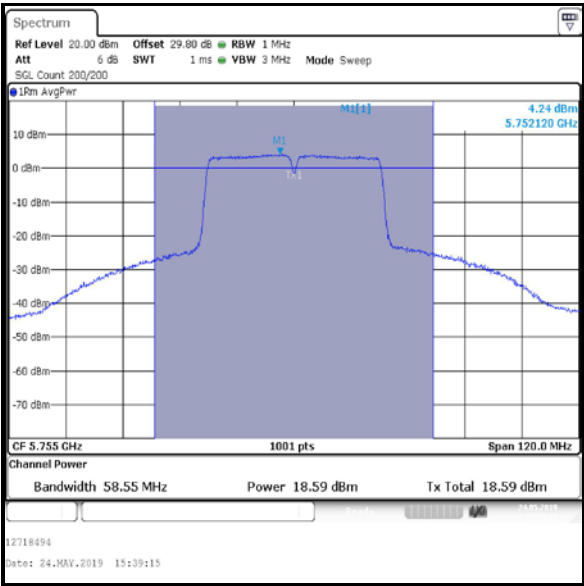
Channel	Frequency (MHz)	Core 0			Core 1		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)
Bottom	5755	17.1	0.1	17.2	18.6	0.1	18.7
Top	5795	20.2	0.1	20.3	21.5	0.1	21.6

Channel	Frequency (MHz)	Corrected Conducted Power Core 0 (dBm)	Corrected Conducted Power Core 1 (dBm)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5755	17.2	18.7	21.0	27.1	6.1	Complied
Top	5795	20.3	21.6	24.0	27.1	3.1	Complied

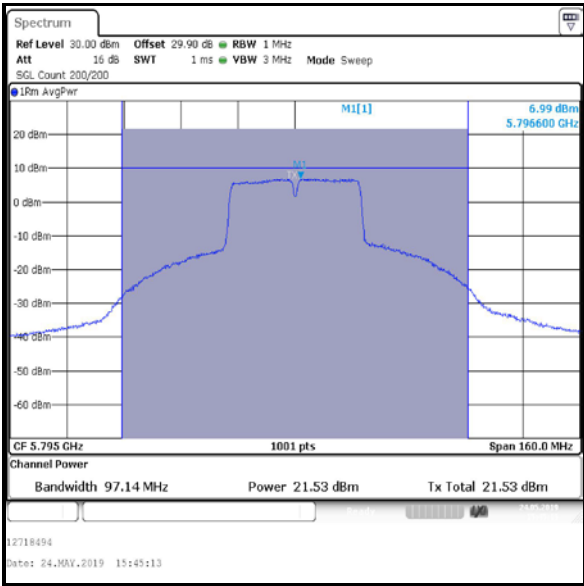
Results: 802.11n / 40 MHz / MIMO / 2Tx TXBF / BPSK / MCS0 / Core 0**Bottom Channel****Top Channel**

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

Results: 802.11n / 40 MHz / MIMO / 2Tx TXBF / BPSK / MCS0 / Core 1



Bottom Channel

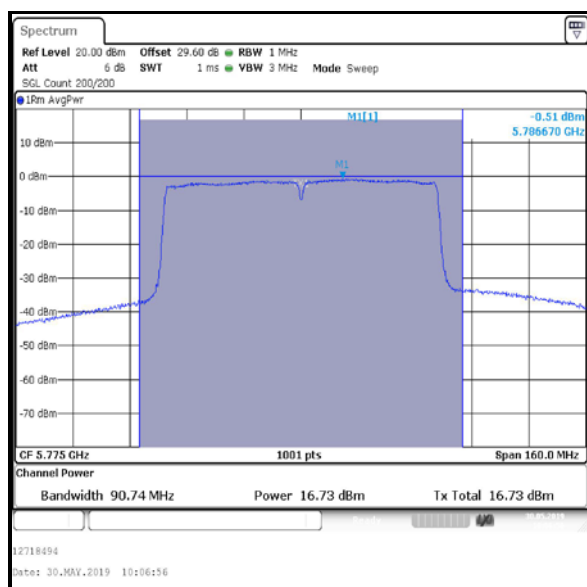


Top Channel

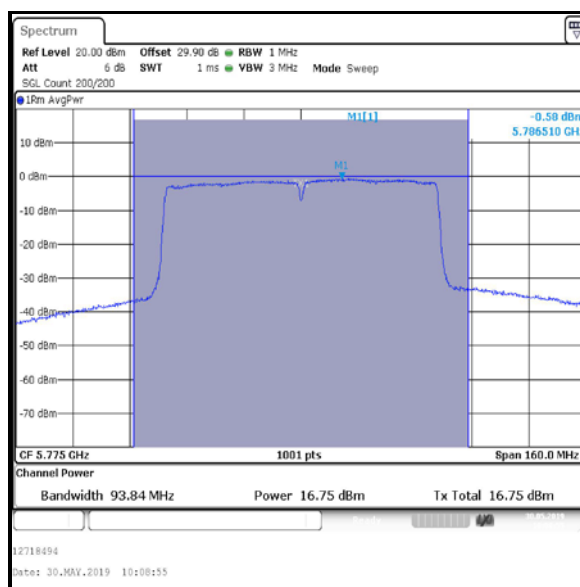
Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11ac / 80 MHz / MIMO / 2Tx TXBF / BPSK / MCS0x1**

Channel	Frequency (MHz)	Core 0			Core 1		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)
Single	5775	16.7	0.1	16.8	16.8	0.1	16.9

Channel	Frequency (MHz)	Corrected Conducted Power Core 0 (dBm)	Corrected Conducted Power Core 1 (dBm)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Single	5775	16.8	16.9	19.9	27.1	7.2	Complied



Single Channel / Core 0



Single Channel / Core 1

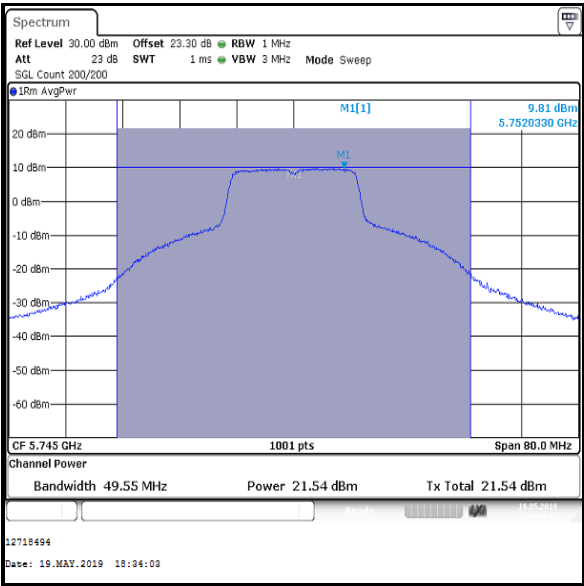
Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11n / 20 MHz / MIMO / 3Tx CDD / BPSK / MCS0**

Channel	Frequency (MHz)	Conducted Power Core 0 (dBm)	Conducted Power Core 1 (dBm)	Conducted Power Core 2 (dBm)	Combined Conducted Power (dBm)
Bottom	5745	21.5	19.8	22.3	26.1
Middle	5785	21.3	19.8	22.0	25.9
Top	5825	21.5	20.7	22.3	26.3

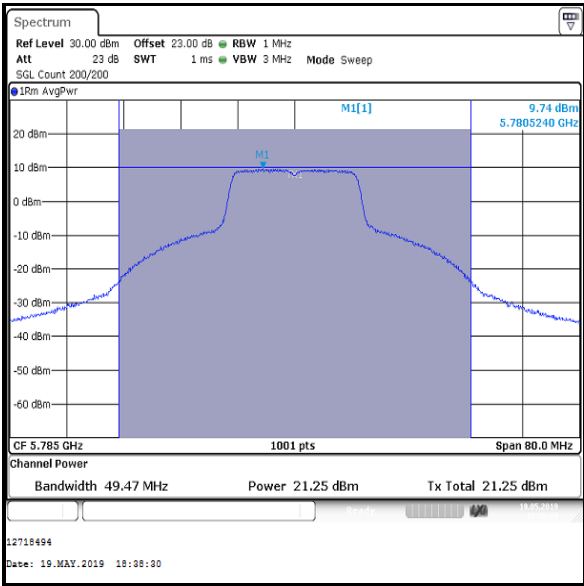
Channel	Frequency (MHz)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5745	26.1	29.9	3.8	Complied
Middle	5785	25.9	29.9	4.0	Complied
Top	5825	26.3	29.9	3.6	Complied

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

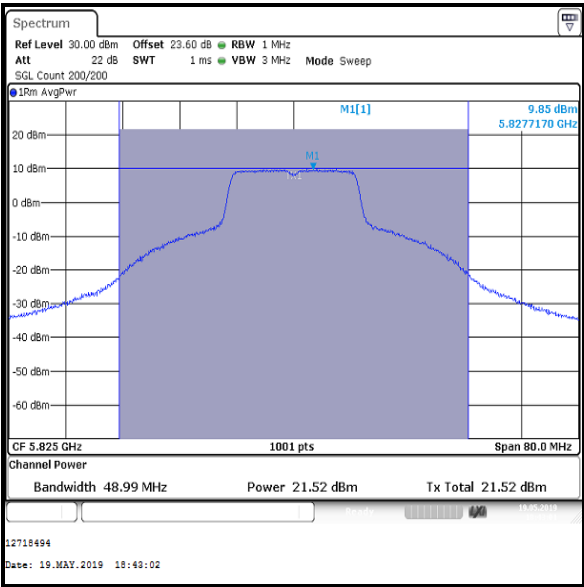
Results: 802.11n / 20 MHz / MIMO / 3Tx CDD / BPSK / MCS0 / Core 0



Bottom Channel



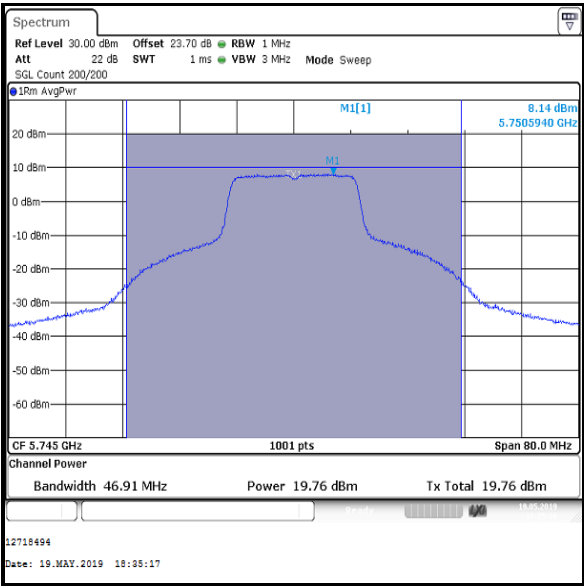
Middle Channel



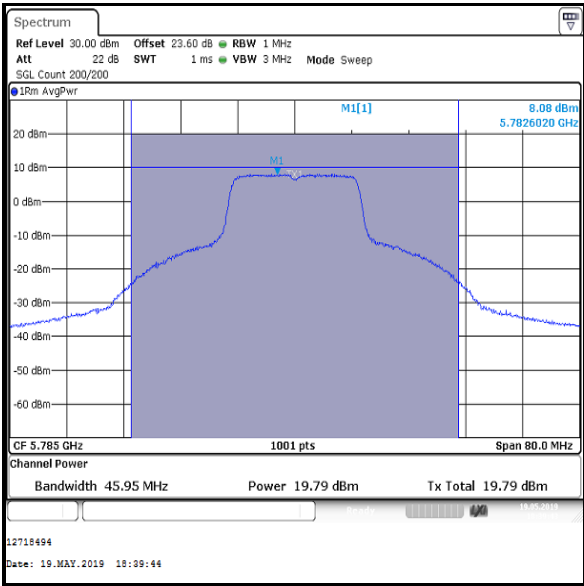
Top Channel

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

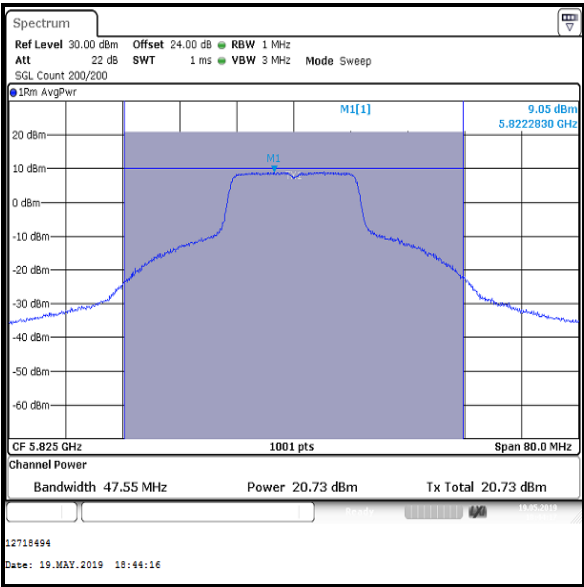
Results: 802.11n / 20 MHz / MIMO / 3Tx CDD / BPSK / MCS0 / Core 1



Bottom Channel



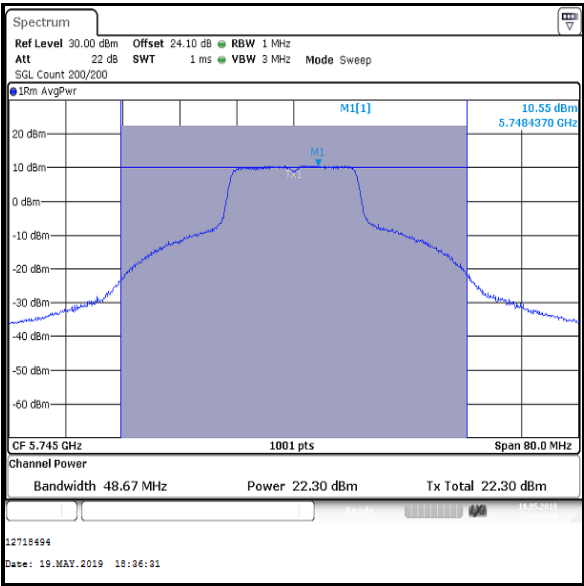
Middle Channel



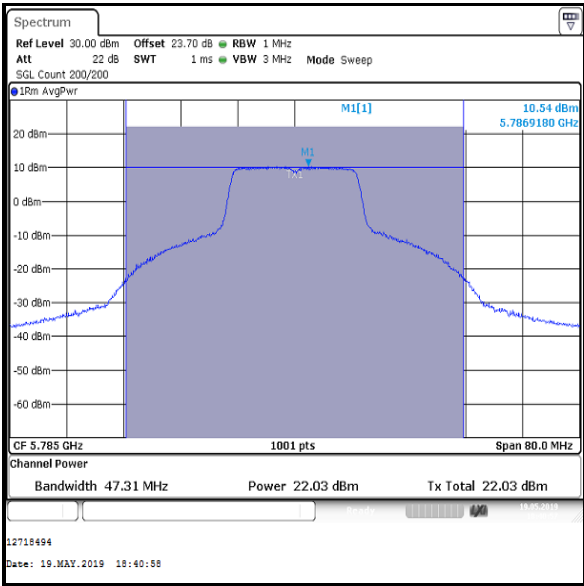
Top Channel

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

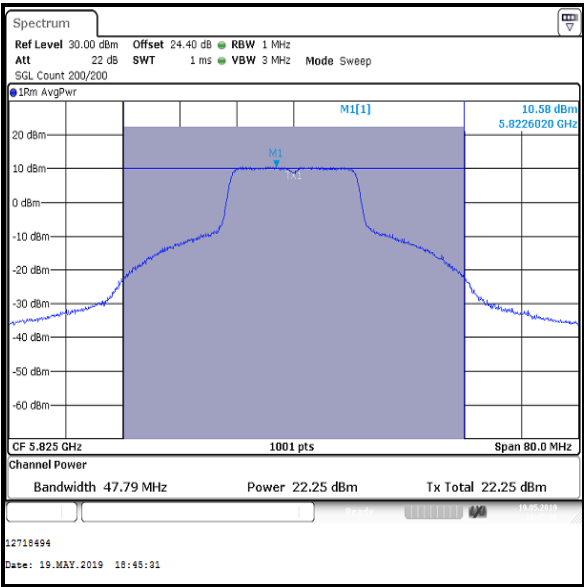
Results: 802.11n / 20 MHz / MIMO / 3Tx CDD / BPSK / MCS0 / Core 2



Bottom Channel



Middle Channel



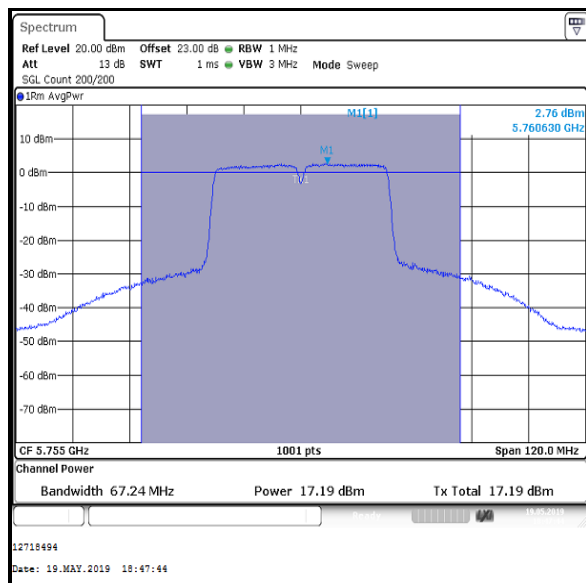
Top Channel

Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx CDD / BPSK / MCS0**

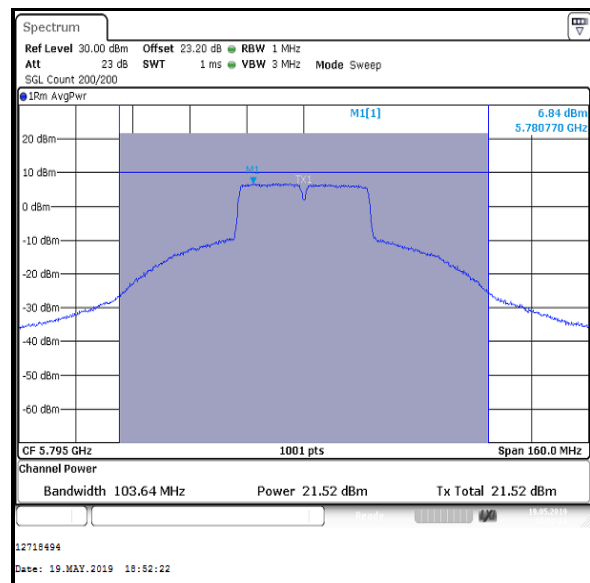
Channel	Frequency (MHz)	Core 0			Core 1		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)
Bottom	5755	17.2	0.1	17.3	15.5	0.1	15.6
Top	5795	21.5	0.1	21.6	20.0	0.1	20.1

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Corrected Conducted Power Core 0 (dBm)	Corrected Conducted Power Core 1 (dBm)	Corrected Conducted Power Core 2 (dBm)
Bottom	5755	18.2	0.1	18.3	17.3	15.6	18.3
Top	5795	21.9	0.1	22.0	21.6	20.1	22.0

Channel	Frequency (MHz)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5755	22.0	29.9	7.9	Complied
Top	5795	26.1	29.9	3.8	Complied

Results: 802.11n / 40 MHz / MIMO / 3Tx CDD / BPSK / MCS0 / Core 0

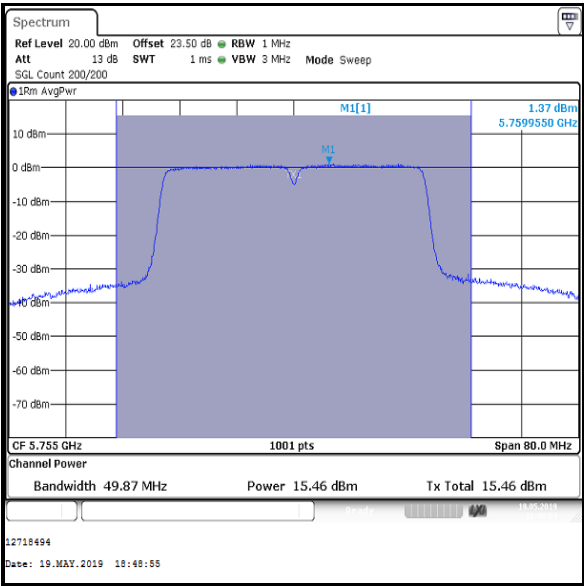
Bottom Channel



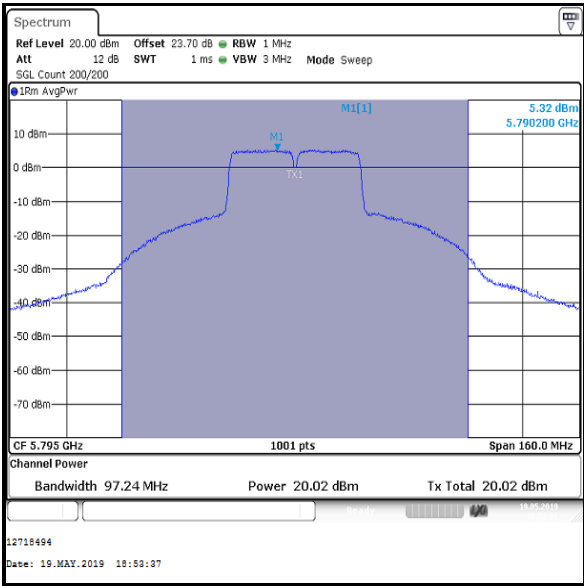
Top Channel

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

Results: 802.11n / 40 MHz / MIMO / 3Tx CDD / BPSK / MCS0 / Core 1

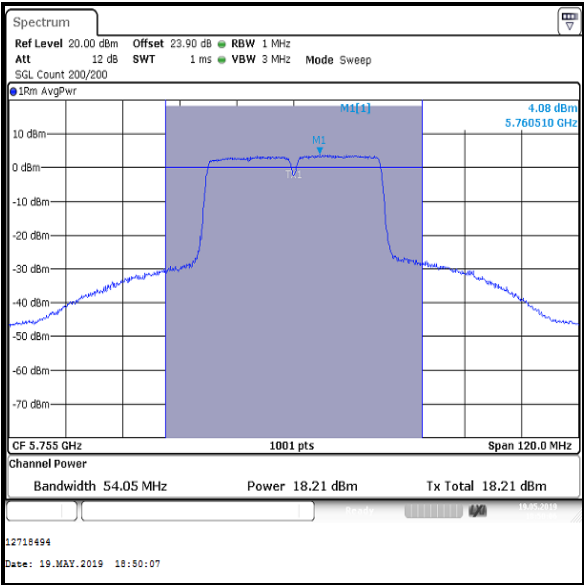


Bottom Channel

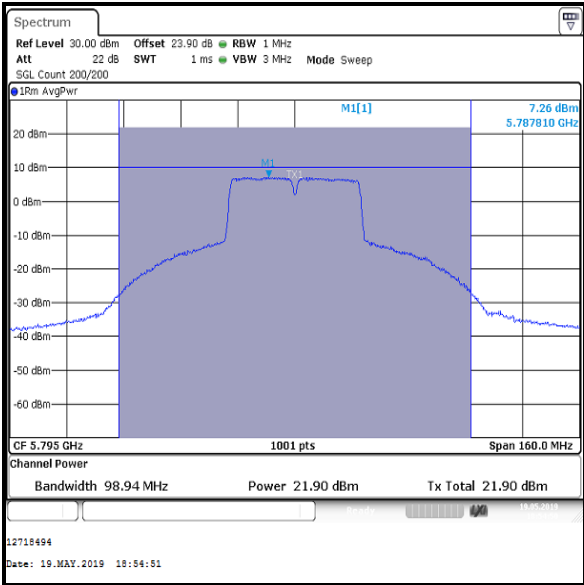


Top Channel

Results: 802.11n / 40 MHz / MIMO / 3Tx CDD / BPSK / MCS0 / Core 2



Bottom Channel



Top Channel

Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11ac / 80 MHz / MIMO / 3Tx CDD / BPSK / MCS0x1**

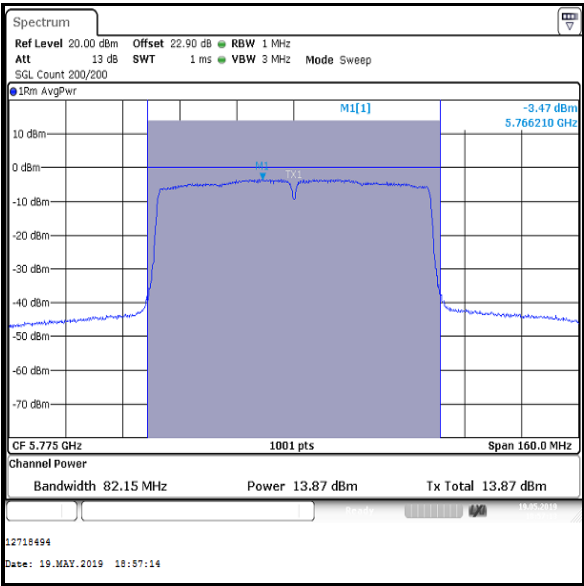
Channel	Frequency (MHz)	Core 0			Core 1		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)
Single	5775	13.9	0.2	14.1	12.2	0.2	12.4

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Corrected Conducted Power Core 0 (dBm)	Corrected Conducted Power Core 1 (dBm)	Corrected Conducted Power Core 2 (dBm)
Single	5775	14.8	0.2	15.0	14.1	12.4	15.0

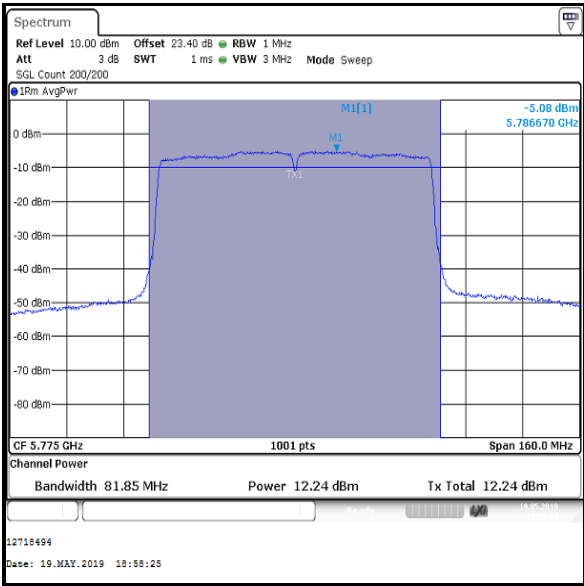
Channel	Frequency (MHz)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Single	5775	18.7	29.9	11.2	Complied

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

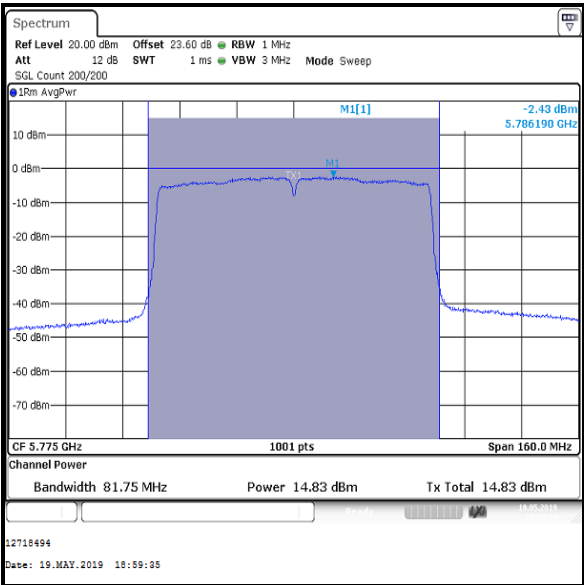
Results: 802.11ac / 80 MHz / MIMO / 3Tx CDD / BPSK / MCS0x1



Single Channel / Core 0



Single Channel / Core 1



Single Channel / Core 2

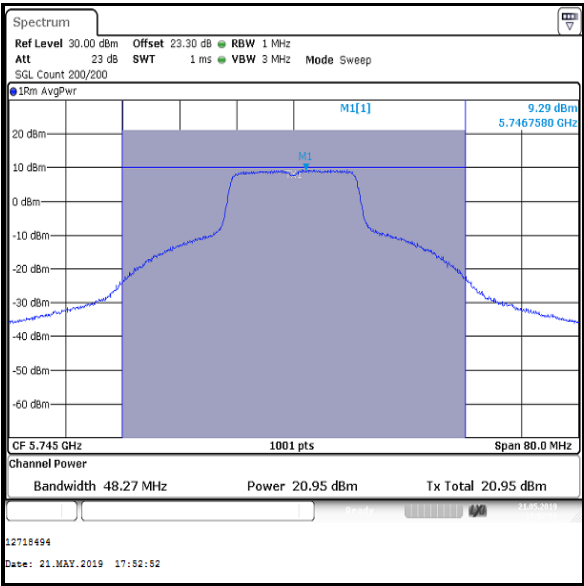
Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11n / 20 MHz / MIMO / 3Tx SDM / BPSK / MCS16**

Channel	Frequency (MHz)	Conducted Power Core 0 (dBm)	Conducted Power Core 1 (dBm)	Conducted Power Core 2 (dBm)	Combined Conducted Power (dBm)
Bottom	5745	21.0	21.7	21.6	26.2
Middle	5785	21.0	21.5	21.5	26.1
Top	5825	21.3	21.7	21.8	26.4

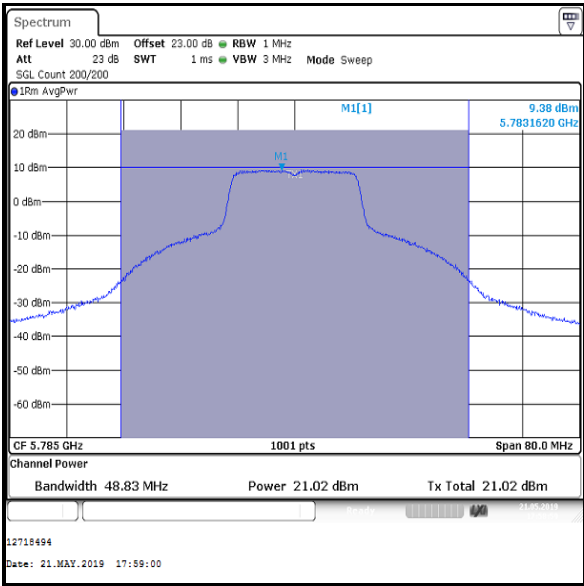
Channel	Frequency (MHz)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5745	26.2	30.0	3.8	Complied
Middle	5785	26.1	30.0	3.9	Complied
Top	5825	26.4	30.0	3.6	Complied

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

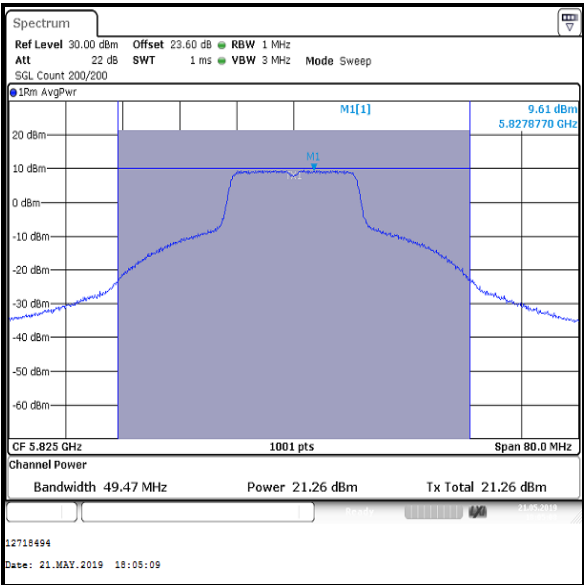
Results: 802.11n / 20 MHz / MIMO / 3Tx SDM / BPSK / MCS16 / Core 0



Bottom Channel



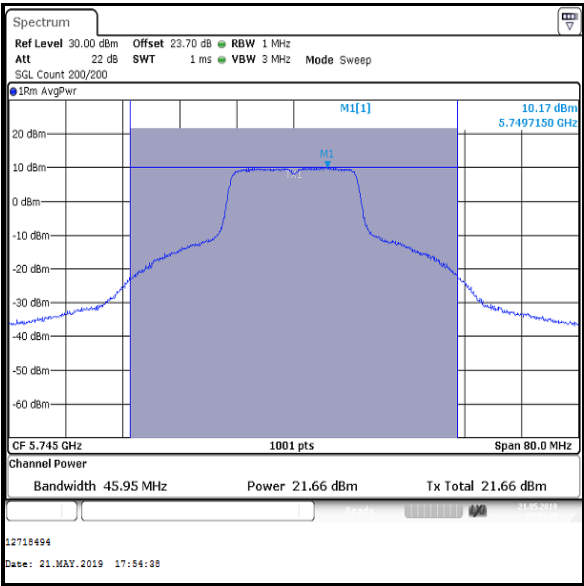
Middle Channel



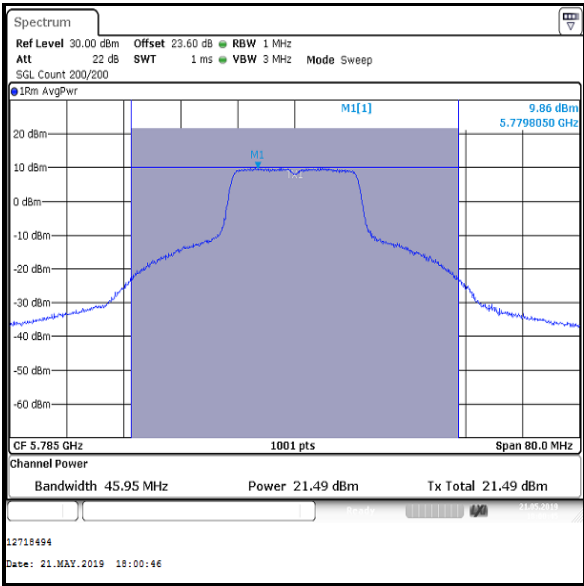
Top Channel

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

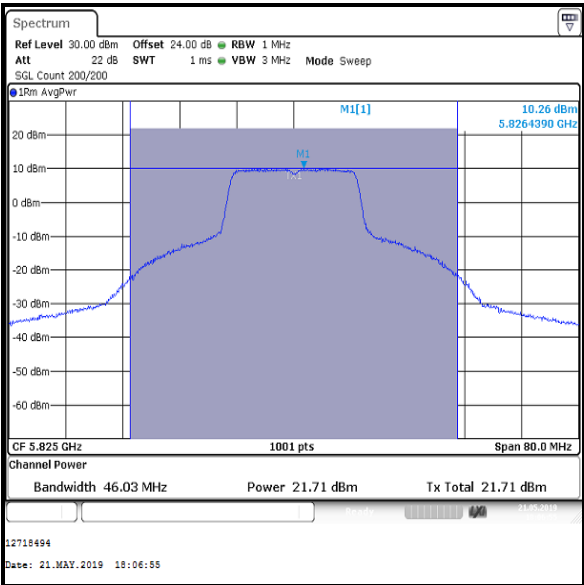
Results: 802.11n / 20 MHz / MIMO / 3Tx SDM / BPSK / MCS16 / Core 1



Bottom Channel



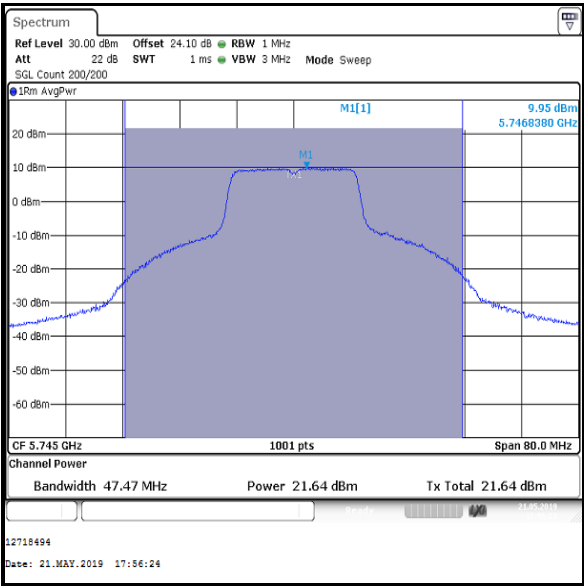
Middle Channel



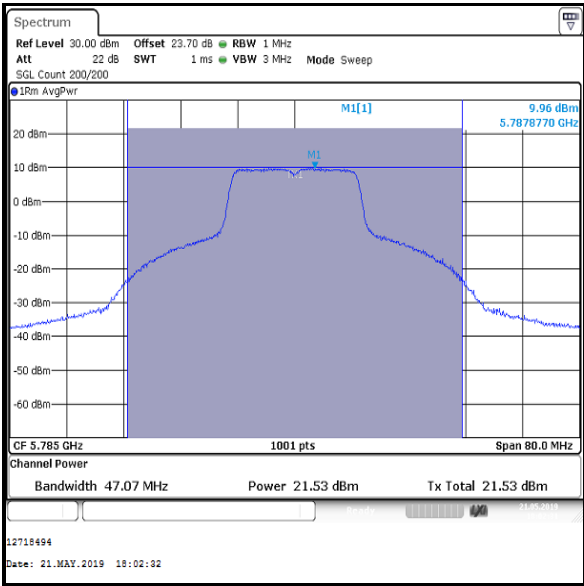
Top Channel

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

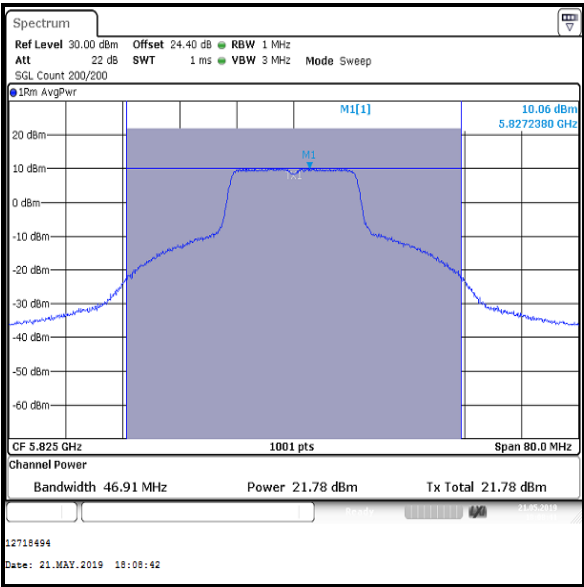
Results: 802.11n / 20 MHz / MIMO / 3Tx SDM / BPSK / MCS16 / Core 2



Bottom Channel



Middle Channel



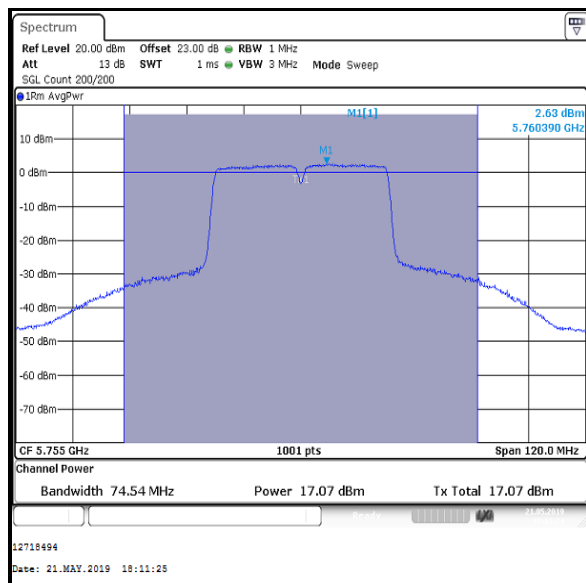
Top Channel

Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx SDM / BPSK / MCS16**

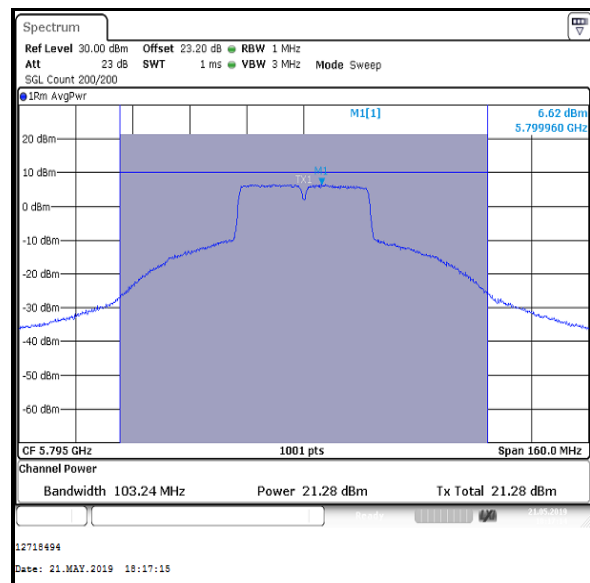
Channel	Frequency (MHz)	Core 0			Core 1		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)
Bottom	5755	17.1	0.1	17.2	17.7	0.1	17.8
Top	5795	21.3	0.1	21.4	21.5	0.1	21.6

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Corrected Conducted Power Core 0 (dBm)	Corrected Conducted Power Core 1 (dBm)	Corrected Conducted Power Core 2 (dBm)
Bottom	5755	18.0	0.1	18.1	17.2	17.8	18.1
Top	5795	21.4	0.1	21.5	21.4	21.6	21.5

Channel	Frequency (MHz)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5755	22.5	30.0	7.5	Complied
Top	5795	26.3	30.0	3.7	Complied

Results: 802.11n / 40 MHz / MIMO / 3Tx SDM / BPSK / MCS16 / Core 0

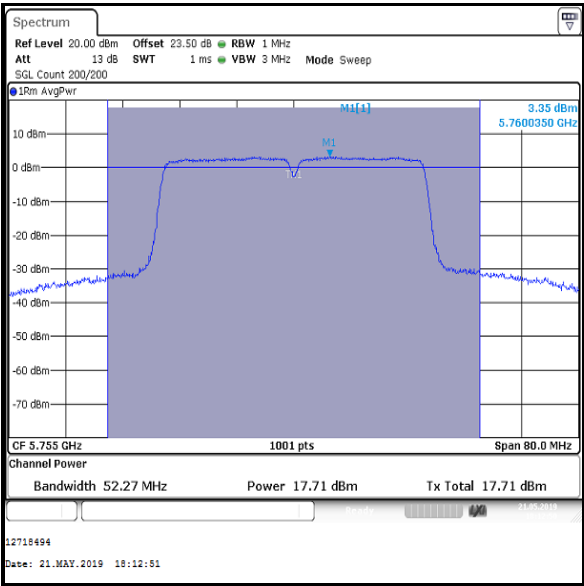
Bottom Channel



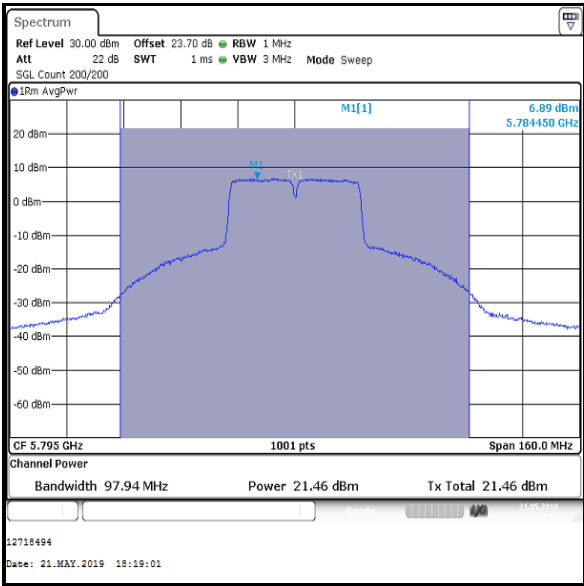
Top Channel

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

Results: 802.11n / 40 MHz / MIMO / 3Tx SDM / BPSK / MCS16 / Core 1

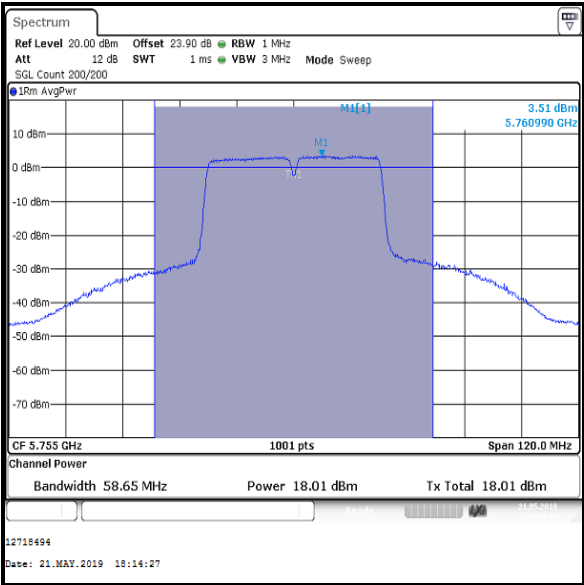


Bottom Channel

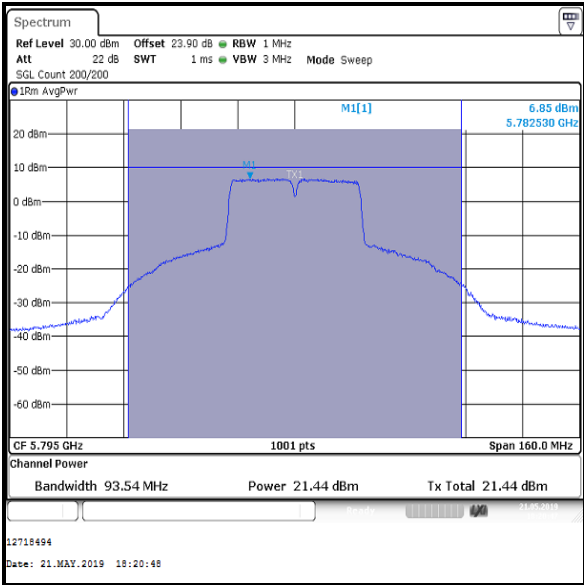


Top Channel

Results: 802.11n / 40 MHz / MIMO / 3Tx SDM / BPSK / MCS16 / Core 2



Bottom Channel



Top Channel

Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11ac / 80 MHz / MIMO / 3Tx SDM / BPSK / MCS0x3**

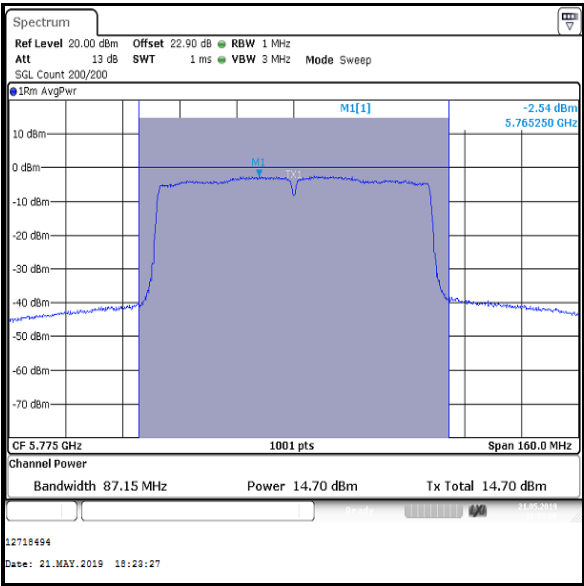
Channel	Frequency (MHz)	Core 0			Core 1		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)
Single	5775	14.7	0.2	14.9	14.9	0.2	15.1

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Corrected Conducted Power Core 0 (dBm)	Corrected Conducted Power Core 1 (dBm)	Corrected Conducted Power Core 2 (dBm)
Single	5775	15.4	0.2	15.6	14.9	15.1	15.6

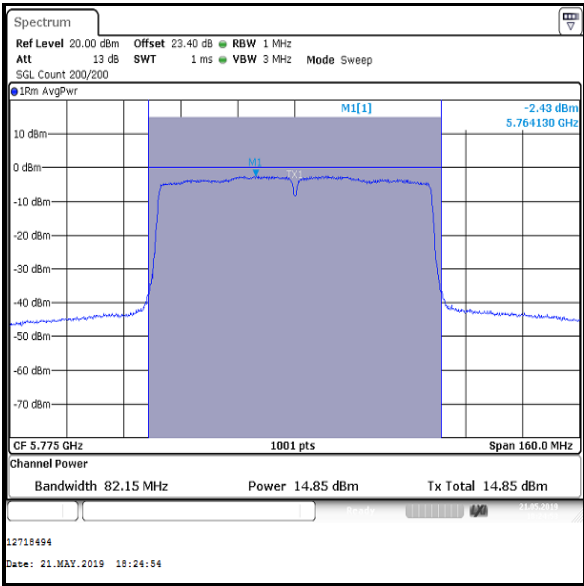
Channel	Frequency (MHz)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Single	5775	20.0	30.0	10.0	Complied

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

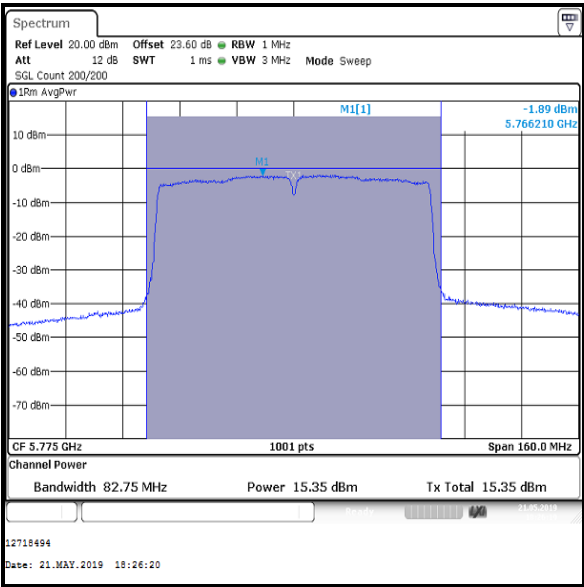
Results: 802.11ac / 80 MHz / MIMO / 3Tx SDM / BPSK / MCS0x3



Single Channel / Core 0



Single Channel / Core 1



Single Channel / Core 2

Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11n / 20 MHz / MIMO / 3Tx TXBF / BPSK / MCS0**

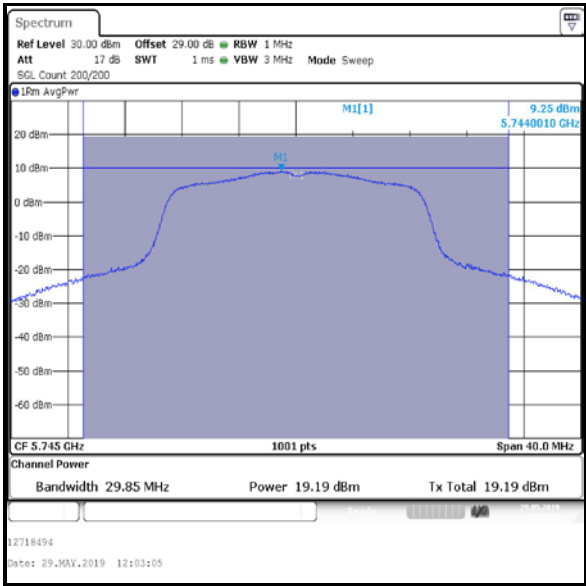
Channel	Frequency (MHz)	Core 0			Core 1		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)
Bottom	5745	19.2	0.1	19.3	19.5	0.1	19.6
Middle	5785	19.3	0.1	19.4	19.1	0.1	19.2
Top	5825	19.8	0.1	19.9	19.7	0.1	19.8

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Corrected Conducted Power Core 0 (dBm)	Corrected Conducted Power Core 1 (dBm)	Corrected Conducted Power Core 2 (dBm)
Bottom	5745	18.6	0.1	18.7	19.3	19.6	18.7
Middle	5785	18.3	0.1	18.4	19.4	19.2	18.4
Top	5825	19.2	0.1	19.3	19.9	19.8	19.3

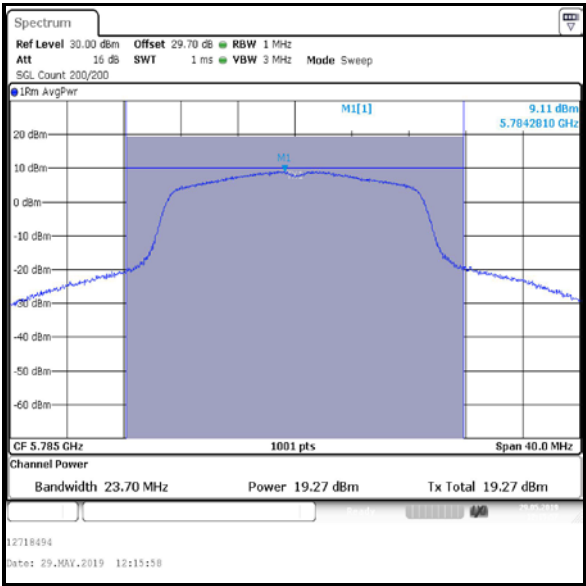
Channel	Frequency (MHz)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5745	24.0	25.7	1.7	Complied
Middle	5785	23.8	25.7	1.9	Complied
Top	5825	24.4	25.7	1.3	Complied

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

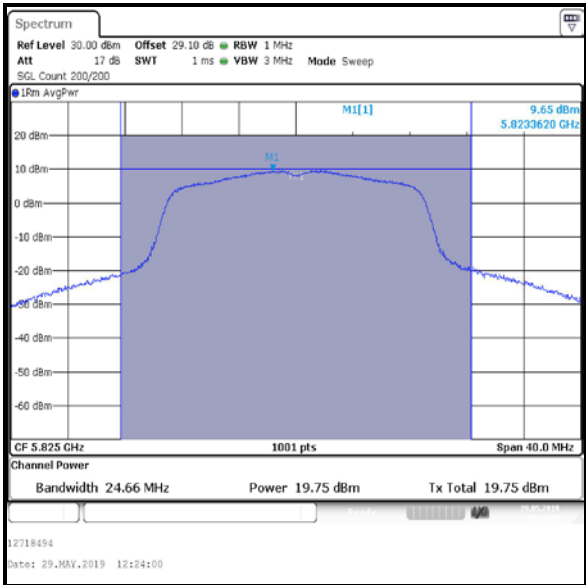
Results: 802.11n / 20 MHz / MIMO / 3Tx TXBF / BPSK / MCS0 / Core 0



Bottom Channel



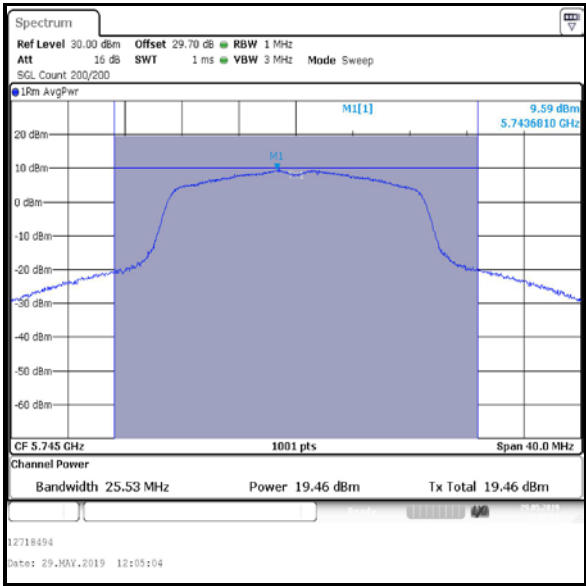
Middle Channel



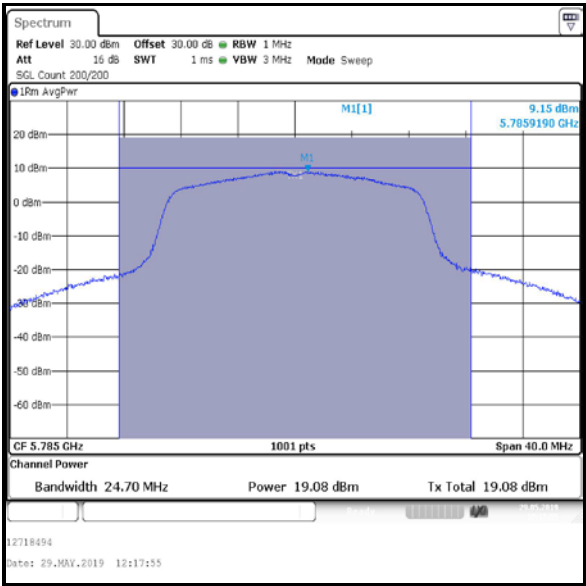
Top Channel

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

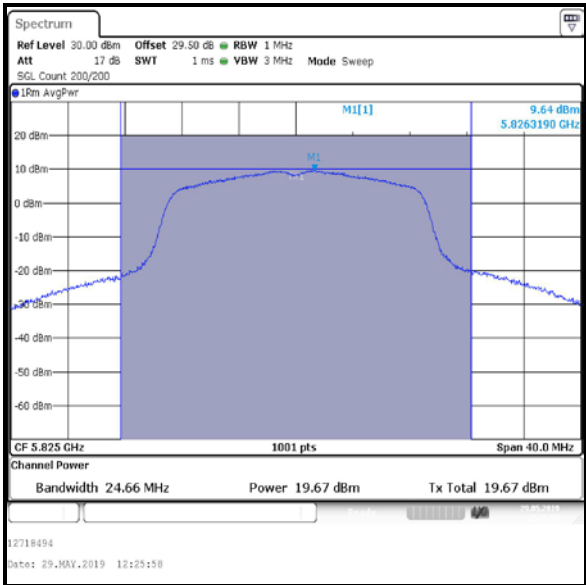
Results: 802.11n / 20 MHz / MIMO / 3Tx TXBF / BPSK / MCS0 / Core 1



Bottom Channel



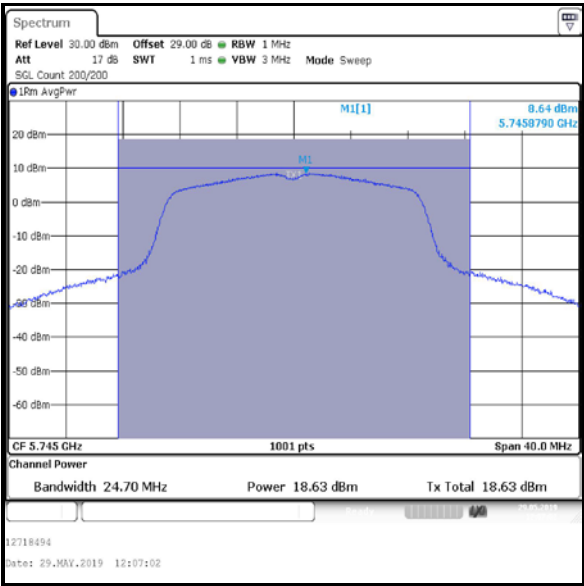
Middle Channel



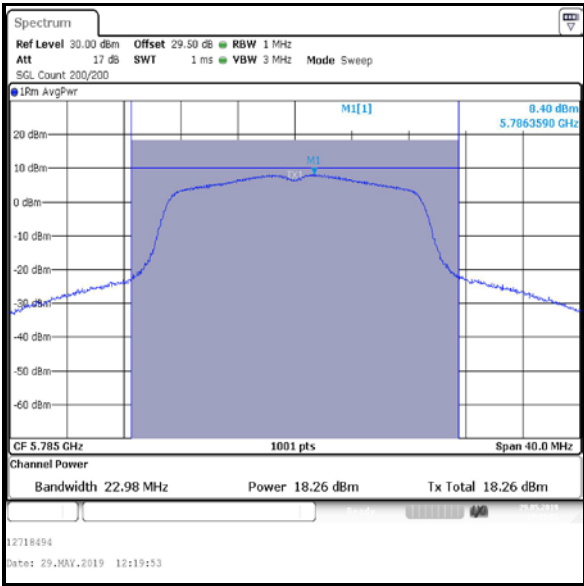
Top Channel

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

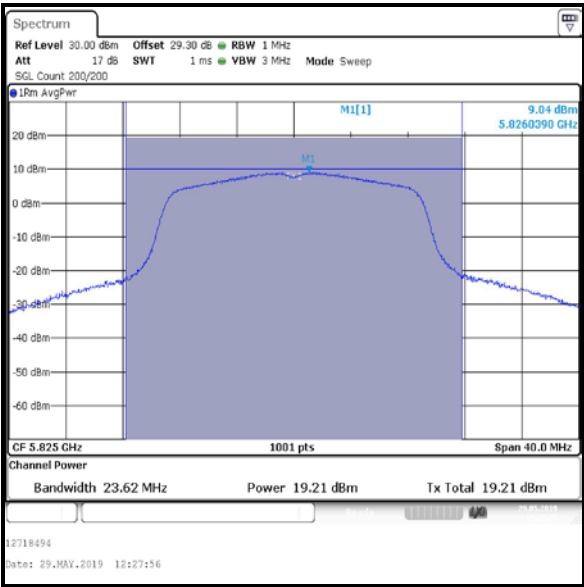
Results: 802.11n / 20 MHz / MIMO / 3Tx TXBF / BPSK / MCS0 / Core 2



Bottom Channel



Middle Channel



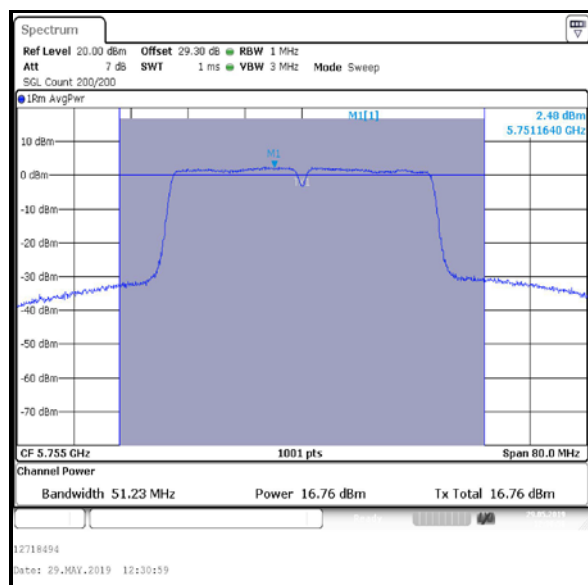
Top Channel

Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx TXBF / BPSK / MCS0**

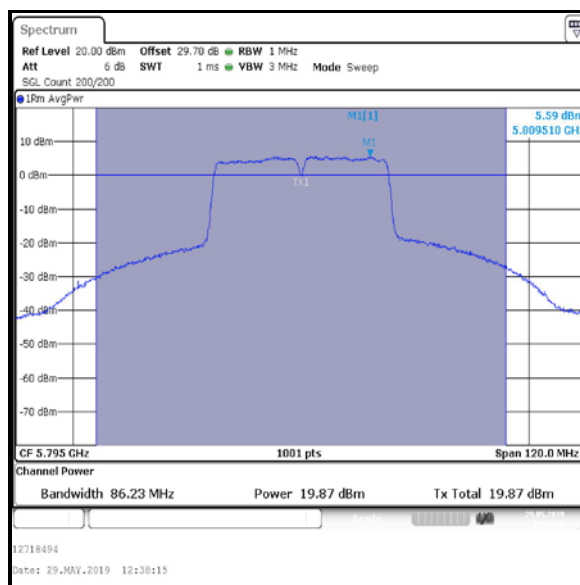
Channel	Frequency (MHz)	Core 0			Core 1		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)
Bottom	5755	16.8	0.1	16.9	17.1	0.1	17.2
Top	5795	19.9	0.1	20.0	20.3	0.1	20.4

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Corrected Conducted Power Core 0 (dBm)	Corrected Conducted Power Core 1 (dBm)	Corrected Conducted Power Core 2 (dBm)
Bottom	5755	16.4	0.1	16.5	16.9	17.2	16.5
Top	5795	18.9	0.1	19.0	20.0	20.4	19.0

Channel	Frequency (MHz)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Bottom	5755	21.6	25.7	4.1	Complied
Top	5795	24.6	25.7	1.1	Complied

Results: 802.11n / 40 MHz / MIMO / 3Tx TXBF / BPSK / MCS0 / Core 0

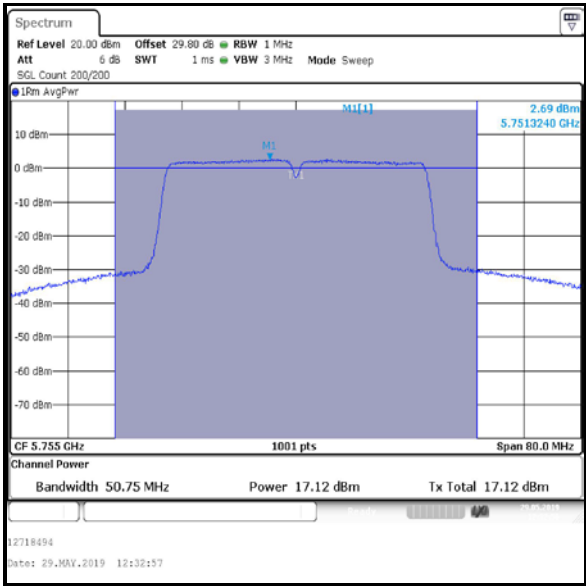
Bottom Channel



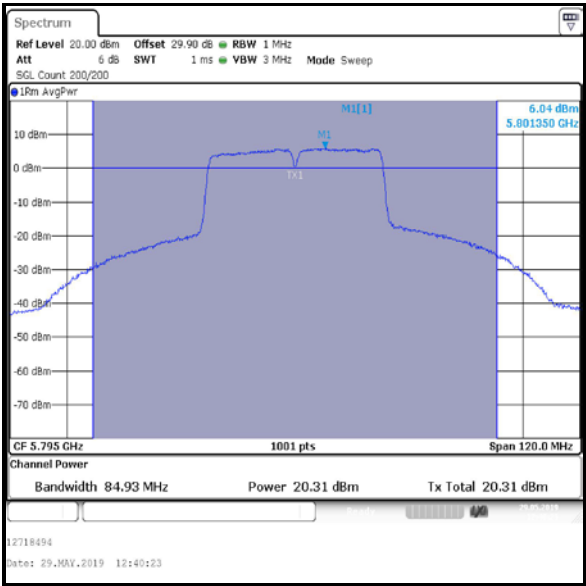
Top Channel

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

Results: 802.11n / 40 MHz / MIMO / 3Tx TXBF / BPSK / MCS0 / Core 1

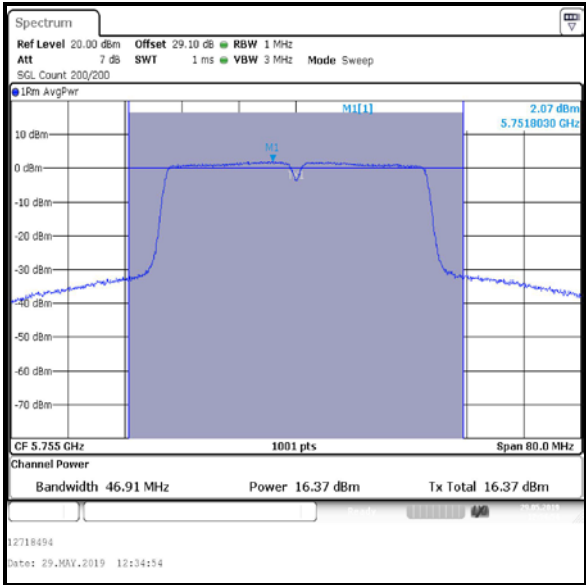


Bottom Channel

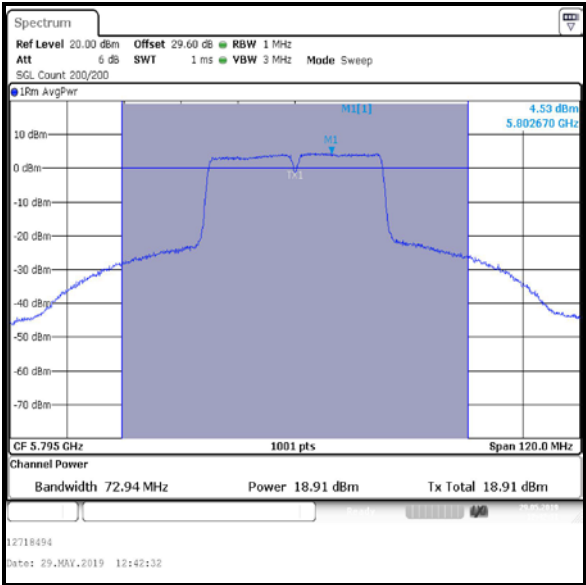


Top Channel

Results: 802.11n / 40 MHz / MIMO / 3Tx TXBF / BPSK / MCS0 / Core 2



Bottom Channel



Top Channel

Transmitter Maximum Conducted Output Power (5.725-5.85 GHz band) (continued)**Results: 802.11ac / 80 MHz / MIMO / 3Tx TXBF / BPSK / MCS0x1**

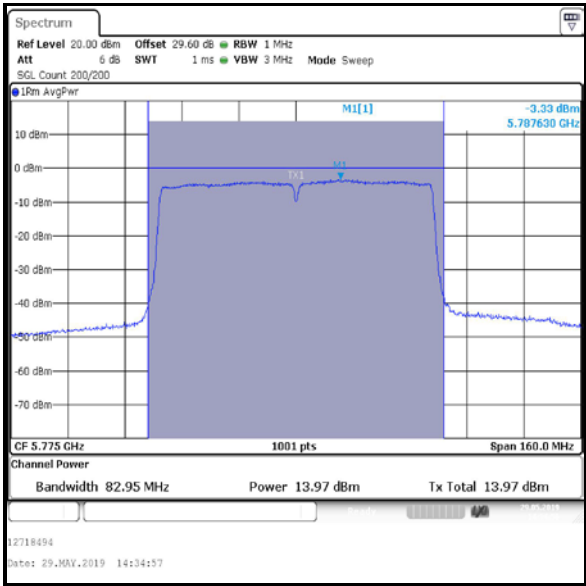
Channel	Frequency (MHz)	Core 0			Core 1		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)
Single	5775	14.0	0.1	14.1	14.8	0.1	14.9

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		Conducted Power (dBm)	Duty Cycle correction factor (dB)	Corrected Conducted Power (dBm)	Corrected Conducted Power Core 0 (dBm)	Corrected Conducted Power Core 1 (dBm)	Corrected Conducted Power Core 2 (dBm)
Single	5775	13.9	0.1	14.0	14.1	14.9	14.0

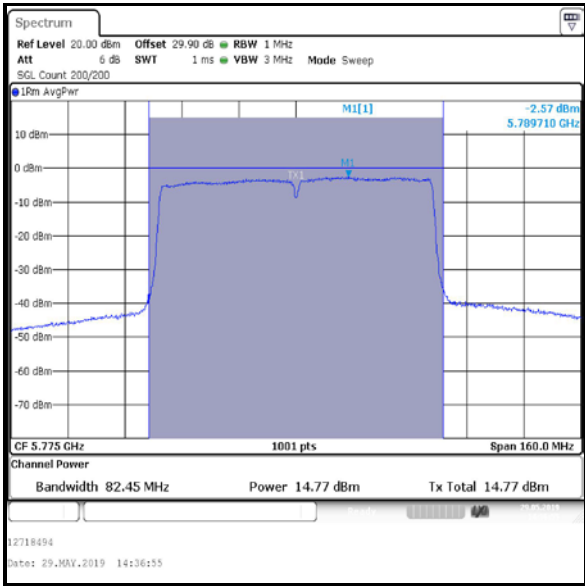
Channel	Frequency (MHz)	Combined Conducted Power (dBm)	Limit (dBm)	Margin (dB)	Result
Single	5775	19.1	25.7	6.6	Complied

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

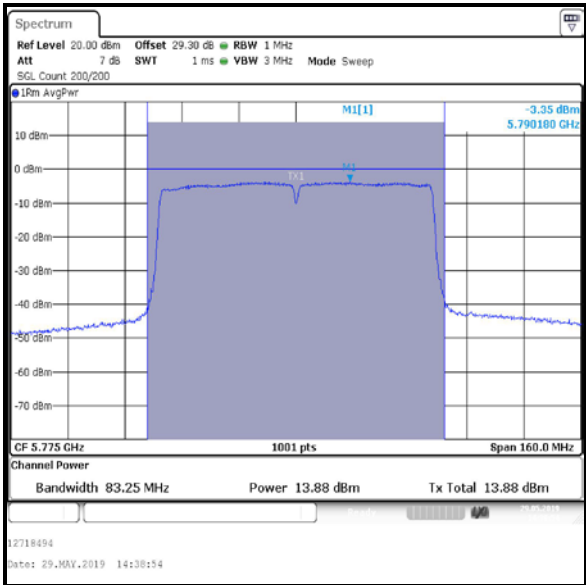
Results: 802.11ac / 80 MHz / MIMO / 3Tx TXBF / BPSK / MCS0x1



Single Channel / Core 0



Single Channel / Core 1



Single Channel / Core 2

4.5. Transmitter Maximum Power Spectral Density**4.5.1. 5.15-5.25 GHz band****Test Summary:**

Test Engineers:	Max Passell, Victor Carmon & Matthew Botfield	Test Dates:	19 May 2019 to 30 May 2019
Test Sample Serial Numbers:	C02YF007MFLF & C02YD003MFLQ		

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):	20 to 23
Relative Humidity (%):	40 to 54

Transmitter Maximum Power Spectral Density (5.15-5.25 GHz band) (continued)**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 and II.E.2.d) Method SA-2.
2. Measurements were performed using configurations detailed in Section 3.5 of this test report on the relevant channels.
3. 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.
4. FCC Part 15.407(a)(1)(iv) limit for PSD is <11 dBm/MHz.
5. For MIMO CDD and MIMO SDM modes, PSD was measured on both ports and then combined using the *measure and sum the spectra across the outputs* technique, stated in FCC KDB 662911 D01 Section E)2)a).
6. For MIMO TXBF modes, PSD was measured on both ports and then combined using the *measure and sum spectral maxima across the outputs* technique, stated in FCC KDB 662911 D01 Section E)2)b).
7. For SISO and MIMO SDM modes of operation, the antenna gain is < 6 dBi.
8. For 2Tx CDD and 2Tx TXBF modes of operation presented in this section of the test report, the EUT has a directional antenna gain of 7.8 dBi. In accordance with Part 15.407(a)(1)(iv), the limit was reduced by the amount in dB the antenna gain exceeds 6 dBi. Therefore the limit of 11.0 dBm has been reduced by 1.8 dB to 9.2 dBm.
9. For 3Tx CDD and 3Tx TXBF modes of operation presented in this section of the test report, the EUT has a directional antenna gain of 9.4 dBi. In accordance with Part 15.407(a)(1)(iv), the limit was reduced by the amount in dB the antenna gain exceeds 6 dBi. Therefore the limit of 11.0 dBm has been reduced by 3.4 dB to 7.6 dBm.
10. For details on antenna gains refer to Section 3.4 of this test report.
11. 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.
12. 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.
13. The EUT with serial number C02YF007MFLF was used for non-TXBF tests, the EUT with serial C02YD003MFLQ number was used for TXBF tests.

Transmitter Maximum Power Spectral Density (5.15-5.25 GHz band) (continued)**Results: 802.11a / 20 MHz / SISO / BPSK / 6 Mbps / Core 0**

Channel	Frequency (MHz)	PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5180	4.8	11.0	6.2	Complied
Middle	5200	9.1	11.0	1.9	Complied
Top	5240	9.0	11.0	2.0	Complied

Results: 802.11n / 20 MHz / SISO / BPSK / MCS0 / Core 0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5180	4.5	11.0	6.5	Complied
Middle	5200	8.3	11.0	2.7	Complied
Top	5240	8.5	11.0	2.5	Complied

Results: 802.11n / 40 MHz / SISO / BPSK / MCS0 / Core 0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5190	-0.5	0.1	-0.4	11.0	11.4	Complied
Top	5230	5.5	0.1	5.6	11.0	5.4	Complied

Results: 802.11ac / 80 MHz / SISO / BPSK / MCS0 / Core 0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5210	-3.3	0.2	-3.1	11.0	14.1	Complied

Results: 802.11n / 20 MHz / MIMO / 2Tx CDD / BPSK / MCS0

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm)	Margin (dB)	Result
Bottom	5180	4.1	3.7	6.8	9.2	2.4	Complied
Middle	5200	4.1	1.7	6.0	9.2	3.2	Complied
Top	5240	4.3	1.8	6.1	9.2	3.1	Complied

Transmitter Maximum Power Spectral Density (5.15-5.25 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 2Tx CDD / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5190	-1.0	0.1	-0.9	-3.4	0.1	-3.3
Top	5230	4.2	0.1	4.3	1.7	0.1	1.8

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5190	-0.9	-3.3	0.9	9.2	8.3	Complied
Top	5230	4.3	1.8	6.1	9.2	3.1	Complied

Results: 802.11ac / 80 MHz / MIMO / 2Tx CDD / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5210	-4.2	0.2	-4.0	-6.3	0.2	-6.1

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5210	-4.0	-6.1	-2.1	9.2	11.3	Complied

Results: 802.11n / 20 MHz / MIMO / 2Tx SDM / BPSK / MCS8

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm)	Margin (dB)	Result
Bottom	5180	4.1	4.0	6.9	11.0	4.1	Complied
Middle	5200	6.4	5.6	8.8	11.0	2.2	Complied
Top	5240	6.2	6.3	9.1	11.0	1.9	Complied

Transmitter Maximum Power Spectral Density (5.15-5.25 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 2Tx SDM / BPSK / MCS8**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5190	-0.8	0.1	-0.7	-1.3	0.1	-1.2
Top	5230	5.0	0.1	5.1	5.0	0.1	5.1

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5190	-0.7	-1.2	2.0	11.0	9.0	Complied
Top	5230	5.1	5.1	7.8	11.0	3.2	Complied

Results: 802.11ac / 80 MHz / MIMO / 2Tx SDM / BPSK / MCS0x2

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5210	-4.4	0.2	-4.2	-4.1	0.2	-3.9

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5210	-4.2	-3.9	-1.2	11.0	12.2	Complied

Results: 802.11n / 20 MHz / MIMO / 2Tx TXBF / BPSK / MCS0

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5180	5.4	0.1	5.5	4.1	0.1	4.2
Middle	5200	5.1	0.1	5.2	3.6	0.1	3.7
Top	5240	5.1	0.1	5.2	3.4	0.1	3.5

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5180	5.5	4.2	7.9	9.2	1.3	Complied
Middle	5200	5.2	3.7	7.5	9.2	1.7	Complied
Top	5240	5.2	3.5	7.4	9.2	1.8	Complied

Transmitter Maximum Power Spectral Density (5.15-5.25 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 2Tx TXBF / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5190	-1.5	0.1	-1.4	-2.4	0.1	-2.3
Top	5230	2.6	0.1	2.7	1.9	0.1	2.0

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5190	-1.4	-2.3	1.2	9.2	8.0	Complied
Top	5230	2.7	2.0	5.4	9.2	3.8	Complied

Results: 802.11ac / 80 MHz / MIMO / 2Tx TXBF / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5210	-4.3	0.1	-4.2	-5.4	0.1	-5.3

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5210	-4.2	-5.3	-1.7	9.2	10.9	Complied

Results: 802.11n / 20 MHz / MIMO / 3Tx CDD / BPSK / MCS0

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)
Bottom	5180	0.8	-1.5	1.2	4.9
Middle	5200	0.7	-1.8	1.0	4.7
Top	5240	0.6	-1.9	1.1	4.7

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5180	4.9	7.6	2.7	Complied
Middle	5200	4.7	7.6	2.9	Complied
Top	5240	4.7	7.6	2.9	Complied

Transmitter Maximum Power Spectral Density (5.15-5.25 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx CDD / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5190	-1.3	0.1	-1.2	-3.5	0.1	-3.4
Top	5230	0.7	0.1	0.8	-1.9	0.1	-1.8

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5190	-0.5	0.1	-0.4	-1.2	-3.4	-0.4
Top	5230	1.0	0.1	1.1	0.8	-1.8	1.1

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5190	3.0	7.6	4.6	Complied
Top	5230	4.8	7.6	2.8	Complied

Results: 802.11ac / 80 MHz / MIMO / 3Tx CDD / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5210	-4.4	0.2	-4.2	-6.5	0.2	-6.3

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Single	5210	-3.9	0.2	-3.7	-4.2	-6.3	-3.7

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5210	0.0	7.6	7.6	Complied

Transmitter Maximum Power Spectral Density (5.15-5.25 GHz band) (continued)**Results: 802.11n / 20 MHz / MIMO / 3Tx SDM / BPSK / MCS16**

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)
Bottom	5180	2.6	2.7	3.1	7.4
Middle	5200	3.9	3.8	4.3	8.5
Top	5240	3.8	3.5	3.7	8.2

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5180	7.4	11.0	3.6	Complied
Middle	5200	8.5	11.0	2.5	Complied
Top	5240	8.2	11.0	2.8	Complied

Results: 802.11n / 40 MHz / MIMO / 3Tx SDM / BPSK / MCS16

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5190	-0.8	0.1	-0.7	-1.3	0.1	-1.2
Top	5230	3.2	0.1	3.3	2.8	0.1	2.9

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5190	-0.7	0.1	-0.6	-0.7	-1.2	-0.6
Top	5230	3.0	0.1	3.1	3.3	2.9	3.1

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5190	3.9	11.0	7.1	Complied
Top	5230	7.6	11.0	3.4	Complied

Transmitter Maximum Power Spectral Density (5.15-5.25 GHz band) (continued)**Results: 802.11ac / 80 MHz / MIMO / 3Tx SDM / BPSK / MCS0x3**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5210	-4.2	0.2	-4.0	-4.2	0.2	-4.0

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Single	5210	-3.7	0.2	-3.5	-4.0	-4.0	-3.5

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5210	0.8	11.0	10.2	Complied

Results: 802.11n / 20 MHz / MIMO / 3Tx TXBF / BPSK / MCS0

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5180	1.7	0.1	1.8	0.6	0.1	0.7
Middle	5200	1.3	0.1	1.4	-0.1	0.1	0.0
Top	5240	1.0	0.1	1.1	-0.3	0.1	-0.2

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5180	1.1	0.1	1.2	1.8	0.7	1.2
Middle	5200	0.6	0.1	0.7	1.4	0.0	0.7
Top	5240	0.3	0.1	0.4	1.1	-0.2	0.4

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5180	6.0	7.6	1.6	Complied
Middle	5200	5.5	7.6	2.1	Complied
Top	5240	5.2	7.6	2.4	Complied

Transmitter Maximum Power Spectral Density (5.15-5.25 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx TXBF / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5190	-2.0	0.1	-1.9	-3.0	0.1	-2.9
Top	5230	-1.0	0.1	-0.9	-2.0	0.1	-1.9

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5190	-2.1	0.1	-2.0	-1.9	-2.9	-2.0
Top	5230	-1.1	0.1	-1.0	-0.9	-1.9	-1.0

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5190	2.5	7.6	5.1	Complied
Top	5230	3.5	7.6	4.1	Complied

Results: 802.11ac / 80 MHz / MIMO / 3Tx TXBF / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5210	-4.4	0.1	-4.3	-6.2	0.1	-6.1

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Single	5210	-5.5	0.1	-5.4	-4.3	-6.1	-5.4

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5210	-0.4	7.6	8.0	Complied

Transmitter Maximum Power Spectral Density (5.25-5.35 GHz band)**4.5.2. 5.25-5.35 GHz band****Test Summary:**

Test Engineers:	Max Passell, Victor Carmon & Matthew Botfield	Test Dates:	19 May 2019 to 30 May 2019
Test Sample Serial Numbers:	C02YF007MFLF & C02YD003MFLQ		

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):	20 to 23
Relative Humidity (%):	40 to 54

Transmitter Maximum Power Spectral Density (5.25-5.35 GHz band) (continued)**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 and II.E.2.d) Method SA-2.
2. Measurements were performed using configurations detailed in Section 3.5 of this test report on the relevant channels.
3. 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.
4. FCC Part 15.407(a)(2) limit for PSD in the 5.25-5.35 GHz band is <11 dBm/MHz.
5. For MIMO CDD and MIMO SDM modes, PSD was measured on both ports and then combined using the *measure and sum spectral maxima across the outputs* technique, stated in FCC KDB 662911 D01 Section E)2)a).
6. For MIMO TXBF modes, PSD was measured on both ports and then combined using the *measure and sum spectral maxima across the outputs* technique, stated in FCC KDB 662911 D01 Section E)2)b).
7. For SISO and MIMO SDM modes of operation, the antenna gain is < 6 dBi.
8. For 2Tx CDD and 2Tx TXBF modes of operation presented in this section of the test report, the EUT has a directional antenna gain of 7.8 dBi. In accordance with Part 15.407(a)(2), the limit was reduced by the amount in dB the antenna gain exceeds 6 dBi. Therefore the limit of 11.0 dBm has been reduced by 1.8 dB to 9.2 dBm.
9. For 3Tx CDD and 3Tx TXBF modes of operation presented in this section of the test report, the EUT has a directional antenna gain of 9.2 dBi. In accordance with Part 15.407(a)(2), the limit was reduced by the amount in dB the antenna gain exceeds 6 dBi. Therefore the limit of 11.0 dBm has been reduced by 3.2 dB to 7.8 dBm.
10. For details on antenna gains refer to Section 3.4 of this test report.
11. 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.
12. 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.
13. The EUT with serial number C02YF007MFLF was used for non-TxBF tests, the EUT with serial C02YD003MFLQ number was used for TxBF tests.

Transmitter Maximum Power Spectral Density (5.25-5.35 GHz band) (continued)**Results: 802.11a / 20 MHz / SISO / BPSK / 6 Mbps / Core 0**

Channel	Frequency (MHz)	PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5260	8.7	11.0	2.3	Complied
Middle	5280	8.7	11.0	2.3	Complied
Top	5320	5.6	11.0	5.4	Complied

Results: 802.11n / 20 MHz / SISO / BPSK / MCS0 / Core 0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5260	8.4	11.0	2.6	Complied
Middle	5280	8.3	11.0	2.7	Complied
Top	5320	5.2	11.0	5.8	Complied

Results: 802.11n / 40 MHz / SISO / BPSK / MCS0 / Core 0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5270	5.9	0.1	6.0	11.0	5.0	Complied
Top	5310	0.2	0.1	0.3	11.0	10.7	Complied

Results: 802.11ac / 80 MHz / SISO / BPSK / MCS0 / Core 0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5290	-4.5	0.2	-4.3	11.0	15.3	Complied

Results: 802.11n / 20 MHz / MIMO / 2Tx CDD / BPSK / MCS0

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5260	4.1	4.4	7.1	9.2	2.1	Complied
Middle	5280	3.9	4.5	7.0	9.2	2.2	Complied
Top	5320	3.9	5.0	7.4	9.2	1.8	Complied

Transmitter Maximum Power Spectral Density (5.25-5.35 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 2Tx CDD / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5270	4.1	0.1	4.2	4.6	0.1	4.7
Top	5310	-1.6	0.1	-1.5	-0.4	0.1	-0.3

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5270	4.2	4.7	7.5	9.2	1.7	Complied
Top	5310	-1.5	-0.3	2.0	9.2	7.2	Complied

Results: 802.11ac / 80 MHz / MIMO / 2Tx CDD / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5290	-5.5	0.2	-5.3	-4.6	0.2	-4.4

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5290	-5.3	-4.4	-1.9	9.2	11.1	Complied

Results: 802.11n / 20 MHz / MIMO / 2Tx SDM / BPSK / MCS8

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5260	5.9	6.3	9.0	11.0	2.0	Complied
Middle	5280	5.5	5.9	8.6	11.0	2.4	Complied
Top	5320	3.6	4.4	6.9	11.0	4.1	Complied

Transmitter Maximum Power Spectral Density (5.25-5.35 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 2Tx SDM / BPSK / MCS8**

Channel	Frequency (MHz)	Core 0			Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5270	4.1	0.1	4.2	4.2	0.1	4.3
Top	5310	-1.6	0.1	-1.5	-0.9	0.1	-0.8

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5270	4.2	4.3	7.2	11.0	3.8	Complied
Top	5310	-1.5	-0.8	1.7	11.0	9.3	Complied

Results: 802.11ac / 80 MHz / MIMO / 2Tx SDM / BPSK / MCS0x2

Channel	Frequency (MHz)	Core 0			Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5290	-4.9	0.2	-4.7	-4.5	0.2	-4.3

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5290	-4.7	-4.3	-1.6	11.0	12.6	Complied

Results: 802.11n / 20 MHz / MIMO / 2Tx TXBF / BPSK / MCS0

Channel	Frequency (MHz)	Core 0			Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5260	5.0	0.1	5.1	4.9	0.1	5.0
Middle	5280	5.2	0.1	5.3	5.1	0.1	5.2
Top	5320	4.5	0.1	4.6	5.3	0.1	5.4

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5260	5.1	5.0	8.1	9.2	1.1	Complied
Middle	5280	5.3	5.2	8.3	9.2	0.9	Complied
Top	5320	4.6	5.4	8.0	9.2	1.2	Complied

Transmitter Maximum Power Spectral Density (5.25-5.35 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 2Tx TXBF / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5270	2.8	0.1	2.9	2.8	0.1	2.9
Top	5310	-2.2	0.1	-2.1	-1.5	0.1	-1.4

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5270	2.9	2.9	5.9	9.2	3.3	Complied
Top	5310	-2.1	-1.4	1.3	9.2	7.9	Complied

Results: 802.11ac / 80 MHz / MIMO / 2Tx TXBF / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5290	-5.7	0.1	-5.6	-5.6	0.1	-5.5

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5290	-5.6	-5.5	-2.5	9.2	11.7	Complied

Results: 802.11n / 20 MHz / MIMO / 3Tx CDD / BPSK / MCS0

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)
Bottom	5260	1.4	-1.3	1.4	5.2
Middle	5280	0.8	-1.7	0.9	4.7
Top	5320	0.9	-1.4	1.9	5.2

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5260	5.2	7.8	2.6	Complied
Middle	5280	4.7	7.8	3.1	Complied
Top	5320	5.2	7.8	2.6	Complied

Transmitter Maximum Power Spectral Density (5.25-5.35 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx CDD / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5270	1.3	0.1	1.4	-1.2	0.1	-1.1
Top	5310	-1.8	0.1	-1.7	-4.0	0.1	-3.9

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5270	1.6	0.1	1.7	1.4	-1.1	1.7
Top	5310	-0.9	0.1	-0.8	-1.7	-3.9	-0.8

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5270	5.4	7.8	2.4	Complied
Top	5310	2.6	7.8	5.2	Complied

Results: 802.11ac / 80 MHz / MIMO / 3Tx CDD / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5290	-5.5	0.2	-5.3	-7.8	0.2	-7.6

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Single	5290	-5.2	0.2	-5.0	-5.3	-7.6	-5.0

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5290	-1.3	7.8	9.1	Complied

Transmitter Maximum Power Spectral Density (5.25-5.35 GHz band) (continued)**Results: 802.11n / 20 MHz / MIMO / 3Tx SDM / BPSK / MCS16**

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)
Bottom	5260	3.9	3.9	3.6	8.4
Middle	5280	3.6	3.7	3.4	8.2
Top	5320	1.7	2.1	2.2	6.6

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5260	8.4	11.0	2.6	Complied
Middle	5280	8.2	11.0	2.8	Complied
Top	5320	6.6	11.0	4.4	Complied

Results: 802.11n / 40 MHz / MIMO / 3Tx SDM / BPSK / MCS16

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5270	3.1	0.1	3.2	3.0	0.1	3.1
Top	5310	-2.1	0.1	-2.0	-1.6	0.1	-1.5

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5270	3.1	0.1	3.2	3.2	3.1	3.2
Top	5310	-1.3	0.1	-1.2	-2.0	-1.5	-1.2

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5270	7.7	11.0	3.3	Complied
Top	5310	3.1	11.0	7.9	Complied

Transmitter Maximum Power Spectral Density (5.25-5.35 GHz band) (continued)**Results: 802.11ac / 80 MHz / MIMO / 3Tx SDM / BPSK / MCS0x3**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5290	-5.2	0.2	-5.0	-4.8	0.2	-4.6

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Single	5290	-5.0	0.2	-4.8	-5.0	-4.6	-4.8

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5290	-0.1	11.0	11.1	Complied

Results: 802.11n / 20 MHz / MIMO / 3Tx TXBF / BPSK / MCS0

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5260	1.8	0.1	1.9	0.8	0.1	0.9
Middle	5280	1.7	0.1	1.8	1.5	0.1	1.6
Top	5320	1.4	0.1	1.5	2.3	0.1	2.4

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5260	1.1	0.1	1.2	1.9	0.9	1.2
Middle	5280	1.8	0.1	1.9	1.8	1.6	1.9
Top	5320	1.6	0.1	1.7	1.5	2.4	1.7

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5260	6.1	7.8	1.7	Complied
Middle	5280	6.5	7.8	1.3	Complied
Top	5320	6.7	7.8	1.1	Complied

Transmitter Maximum Power Spectral Density (5.25-5.35 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx TXBF / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5270	-0.6	0.1	-0.5	-0.7	0.1	-0.6
Top	5310	-1.9	0.1	-1.8	-1.6	0.1	-1.5

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5270	-1.0	0.1	-0.9	-0.5	-0.6	-0.9
Top	5310	-2.0	0.1	-1.9	-1.8	-1.5	-1.9

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5270	4.1	7.8	3.7	Complied
Top	5310	3.0	7.8	4.8	Complied

Results: 802.11ac / 80 MHz / MIMO / 3Tx TXBF / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5290	-5.8	0.1	-5.7	-5.3	0.1	-5.2

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Single	5290	-6.2	0.1	-6.1	-5.7	-5.2	-6.1

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5290	-0.9	7.8	8.7	Complied

Transmitter Maximum Power Spectral Density (5.47-5.725 GHz band)**4.5.3. 5.47-5.725 GHz band****Test Summary:**

Test Engineers:	Max Passell, Victor Carmon & Matthew Botfield	Test Dates:	19 May 2019 to 30 May 2019
Test Sample Serial Numbers:	C02YF007MFLF & C02YD003MFLQ		

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):	20 to 23
Relative Humidity (%):	40 to 54

Transmitter Maximum Power Spectral Density (5.47-5.725 GHz band) (continued)**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 and II.E.2.d) Method SA-2.
2. Measurements were performed using configurations detailed in Section 3.5 of this test report on the relevant channels.
3. 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.
4. FCC Part 15.407(a)(2) limit for PSD in the 5.47-5.725 GHz band is <11 dBm/MHz.
5. For MIMO CDD and MIMO SDM modes, PSD was measured on both ports and then combined using the *measure and sum spectral maxima across the outputs* technique, stated in FCC KDB 662911 D01 Section E)2)a).
6. For MIMO TXBF modes, PSD was measured on both ports and then combined using the *measure and sum spectral maxima across the outputs* technique, stated in FCC KDB 662911 D01 Section E)2)b).
7. For SISO and MIMO SDM modes of operation, the antenna gain is < 6 dBi.
8. For 2Tx CDD and 2 Tx TXBF modes of operation presented in this section of the test report, the EUT has a directional antenna gain of 8.6 dBi. In accordance with Part 15.407(a)(2), the limit was reduced by the amount in dB the antenna gain exceeds 6 dBi. Therefore the limit of 11.0 dBm has been reduced by 2.6 dB to 8.4 dBm.
9. For 3Tx CDD and 3Tx TXBF modes of operation presented in this section of the test report, the EUT has a directional antenna gain of 10.1 dBi. In accordance with Part 15.407(a)(2), the limit was reduced by the amount in dB the antenna gain exceeds 6 dBi. Therefore the limit of 11.0 dBm has been reduced by 4.1 dB to 6.9 dBm.
10. For details on antenna gains refer to Section 3.4 of this test report.
11. 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.
12. 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.
13. The EUT with serial number C02YF007MFLF was used for non-TxBF tests, the EUT with serial C02YD003MFLQ number was used for TxBF tests.

Transmitter Maximum Power Spectral Density (5.47-5.725 GHz band) (continued)**Results: 802.11a / 20 MHz / SISO / BPSK / 6 Mbps / Core 0**

Channel	Frequency (MHz)	PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5500	3.2	11.0	7.8	Complied
Middle	5580	8.4	11.0	2.6	Complied
Top	5700	1.5	11.0	9.5	Complied

Results: 802.11n / 20 MHz / SISO / BPSK / MCS0 / Core 0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5500	3.0	11.0	8.0	Complied
Middle	5580	8.0	11.0	3.0	Complied
Top	5700	1.3	11.0	9.7	Complied

Results: 802.11n / 40 MHz / SISO / BPSK / MCS0 / Core 0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5510	-1.2	0.1	-1.1	11.0	12.1	Complied
Middle	5590	6.7	0.1	6.8	11.0	4.2	Complied
Top	5670	-0.3	0.1	-0.2	11.0	11.2	Complied

Results: 802.11ac / 80 MHz / SISO / BPSK / MCS0 / Core 0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5530	-4.6	0.2	-4.4	11.0	15.4	Complied
Top	5610	0.6	0.2	0.8	11.0	10.2	Complied

Results: 802.11n / 20 MHz / MIMO / 2Tx CDD / BPSK / MCS0

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5500	2.2	2.9	5.4	8.4	3.0	Complied
Middle	5580	2.9	0.8	4.9	8.4	3.5	Complied
Top	5700	0.2	-1.9	2.1	8.4	6.3	Complied

Transmitter Maximum Power Spectral Density (5.47-5.725 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 2Tx CDD / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5510	-1.9	0.1	-1.8	-3.6	0.1	-3.5
Middle	5590	2.8	0.1	2.9	1.1	0.1	1.2
Top	5670	-0.9	0.1	-0.8	-3.2	0.1	-3.1

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5510	-1.8	-3.5	0.2	8.4	8.2	Complied
Middle	5590	2.9	1.2	4.9	8.4	3.5	Complied
Top	5670	-0.8	-3.1	1.1	8.4	7.3	Complied

Results: 802.11ac / 80 MHz / MIMO / 2Tx CDD / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5530	-6.1	0.2	-5.9	-7.6	0.2	-7.4
Top	5610	-0.5	0.2	-0.3	-2.7	0.2	-2.5

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5530	-5.9	-7.4	-3.7	8.4	12.1	Complied
Top	5610	-0.3	-2.5	1.5	8.4	6.9	Complied

Results: 802.11n / 20 MHz / MIMO / 2Tx SDM / BPSK / MCS8

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5500	2.1	2.8	5.5	11.0	5.5	Complied
Middle	5580	5.2	5.6	8.2	11.0	2.8	Complied
Top	5700	-0.6	0.1	2.6	11.0	8.4	Complied

Transmitter Maximum Power Spectral Density (5.47-5.725 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 2Tx SDM / BPSK / MCS8**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5510	-2.6	0.1	-2.5	-2.2	0.1	-2.1
Middle	5590	4.3	0.1	4.4	4.7	0.1	4.8
Top	5670	-2.1	0.1	-2.0	-1.1	0.1	-1.0

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5510	-2.5	-2.1	0.7	11.0	10.3	Complied
Middle	5590	4.4	4.8	7.5	11.0	3.5	Complied
Top	5670	-2.0	-1.0	1.4	11.0	9.6	Complied

Results: 802.11ac / 80 MHz / MIMO / 2Tx SDM / BPSK / MCS0x2

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5530	-7.0	0.2	-6.8	-6.3	0.2	-6.1
Top	5610	0.1	0.2	0.3	0.7	0.2	0.9

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5530	-6.8	-6.1	-3.5	11.0	14.5	Complied
Top	5610	0.3	0.9	3.5	11.0	7.5	Complied

Transmitter Maximum Power Spectral Density (5.47-5.725 GHz band) (continued)**Results: 802.11n / 20 MHz / MIMO / 2Tx TXBF / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5500	4.1	0.1	4.2	4.2	0.1	4.3
Middle	5580	3.9	0.1	4.0	4.3	0.1	4.4
Top	5700	1.3	0.1	1.4	1.7	0.1	1.8

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5500	4.2	4.3	7.3	8.4	1.1	Complied
Middle	5580	4.0	4.4	7.2	8.4	1.2	Complied
Top	5700	1.4	1.8	4.6	8.4	3.8	Complied

Results: 802.11n / 40 MHz / MIMO / 2Tx TXBF / BPSK / MCS0

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5510	-2.2	0.1	-2.1	-2.0	0.1	-1.9
Middle	5590	2.1	0.1	2.2	2.5	0.1	2.6
Top	5670	0.5	0.1	0.6	0.2	0.1	0.3

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5510	-2.1	-1.9	1.0	8.4	7.4	Complied
Middle	5590	2.2	2.6	5.4	8.4	3.0	Complied
Top	5670	0.6	0.3	3.5	8.4	4.9	Complied

Transmitter Maximum Power Spectral Density (5.47-5.725 GHz band) (continued)**Results: 802.11ac / 80 MHz / MIMO / 2Tx TXBF / BPSK / MCS0x1**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5530	-6.2	0.1	-6.1	-6.1	0.1	-6.0
Top	5610	-0.4	0.1	-0.3	-0.5	0.1	-0.4

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5530	-6.1	-6.0	-3.0	8.4	11.4	Complied
Top	5610	-0.3	-0.4	2.7	8.4	5.7	Complied

Results: 802.11n / 20 MHz / MIMO / 3Tx CDD / BPSK / MCS0

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)
Bottom	5500	-0.1	-1.5	0.8	4.5
Middle	5580	-0.2	-2.5	0.2	3.9
Top	5700	-0.6	-2.5	0.5	4.0

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5500	4.5	6.9	2.4	Complied
Middle	5580	3.9	6.9	3.0	Complied
Top	5700	4.0	6.9	2.9	Complied

Transmitter Maximum Power Spectral Density (5.47-5.725 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx CDD / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5510	-2.5	0.1	-2.4	-4.5	0.1	-4.4
Middle	5590	-0.7	0.1	-0.6	-2.7	0.1	-2.6
Top	5670	-1.8	0.1	-1.7	-4.0	0.1	-3.9

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5510	-2.1	0.1	-2.0	-2.4	-4.4	-2.0
Middle	5590	0.3	0.1	0.4	-0.6	-2.6	0.4
Top	5670	-0.4	0.1	-0.3	-1.7	-3.9	-0.3

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5510	1.8	6.9	5.1	Complied
Middle	5590	3.9	6.9	3.0	Complied
Top	5670	2.8	6.9	4.1	Complied

Results: 802.11ac / 80 MHz / MIMO / 3Tx CDD / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5530	-6.3	0.2	-6.1	-7.7	0.2	-7.5
Top	5610	-1.0	0.2	-0.8	-3.2	0.2	-3.0

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5530	-5.5	0.2	-5.3	-6.1	-7.5	-5.3
Top	5610	0.5	0.2	0.7	-0.8	-3.0	0.7

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5530	-1.8	6.9	8.7	Complied
Top	5610	3.7	6.9	3.2	Complied

Transmitter Maximum Power Spectral Density (5.47-5.725 GHz band) (continued)**Results: 802.11n / 20 MHz / MIMO / 3Tx SDM / BPSK / MCS16**

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)
Bottom	5500	1.5	2.0	2.0	6.4
Middle	5580	3.7	3.9	4.2	8.5
Top	5700	-1.1	-0.6	-0.4	3.7

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5500	6.4	11.0	4.6	Complied
Middle	5580	8.5	11.0	2.5	Complied
Top	5700	3.7	11.0	7.3	Complied

Results: 802.11n / 40 MHz / MIMO / 3Tx SDM / BPSK / MCS16

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5510	-2.7	0.1	-2.6	-2.2	0.1	-2.1
Middle	5590	2.5	0.1	2.6	2.9	0.1	3.0
Top	5670	-1.8	0.1	-1.7	-0.8	0.1	-0.7

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5510	-2.4	0.1	-2.3	-2.6	-2.1	-2.3
Middle	5590	3.3	0.1	3.4	2.6	3.0	3.4
Top	5670	-0.2	0.1	-0.1	-1.7	-0.7	-0.1

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5510	2.2	11.0	8.8	Complied
Middle	5590	7.6	11.0	3.4	Complied
Top	5670	3.7	11.0	7.3	Complied

Transmitter Maximum Power Spectral Density (5.47-5.725 GHz band) (continued)**Results: 802.11ac / 80 MHz / MIMO / 3Tx SDM / BPSK / MCS0x3**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5530	-6.9	0.2	-6.7	-6.3	0.2	-6.1
Top	5610	-0.5	0.2	-0.3	0.1	0.2	0.3

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5530	-6.3	0.2	-6.1	-6.7	-6.1	-6.1
Top	5610	0.7	0.2	0.9	-0.3	0.3	0.9

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5530	-1.7	11.0	12.7	Complied
Top	5610	4.9	11.0	6.1	Complied

Results: 802.11n / 20 MHz / MIMO / 3Tx TXBF / BPSK / MCS0

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5500	0.9	0.1	1.0	1.0	0.1	1.1
Middle	5580	0.4	0.1	0.5	1.0	0.1	1.1
Top	5700	-0.4	0.1	-0.3	0.7	0.1	0.8

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5500	0.7	0.1	0.8	1.0	1.1	0.8
Middle	5580	0.5	0.1	0.6	0.5	1.1	0.6
Top	5700	0.7	0.1	0.8	-0.3	0.8	0.8

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5500	5.7	6.9	1.2	Complied
Middle	5580	5.5	6.9	1.4	Complied
Top	5700	5.2	6.9	1.7	Complied

Transmitter Maximum Power Spectral Density (5.47-5.725 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx TXBF / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5510	-2.9	0.1	-2.8	-2.8	0.1	-2.7
Middle	5590	-1.6	0.1	-1.5	-0.9	0.1	-0.8
Top	5670	-0.6	0.1	-0.5	-0.8	0.1	-0.7

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5510	-2.9	0.1	-2.8	-2.8	-2.7	-2.8
Middle	5590	-1.4	0.1	-1.3	-1.5	-0.8	-1.3
Top	5670	-0.8	0.1	-0.7	-0.5	-0.7	-0.7

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5510	2.0	6.9	4.9	Complied
Middle	5590	3.6	6.9	3.3	Complied
Top	5670	4.1	6.9	2.8	Complied

Results: 802.11ac / 80 MHz / MIMO / 3Tx TXBF / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Bottom	5530	-6.4	0.1	-6.3	-6.6	0.1	-6.5
Top	5610	-3.9	0.1	-3.8	-3.7	0.1	-3.6

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Bottom	5530	-6.8	0.1	-6.7	-6.3	-6.5	-6.7
Top	5610	-4.2	0.1	-4.1	-3.8	-3.6	-4.1

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	5530	-1.7	6.9	8.6	Complied
Top	5610	0.9	6.9	6.0	Complied

Transmitter Maximum Power Spectral Density (Straddle channels)**4.5.4. Channels that straddle the U-NII-2C and U-NII-3 bands****Test Summary:**

Test Engineers:	Max Passell, Victor Carmon & Matthew Botfield	Test Dates:	19 May 2019 to 30 May 2019
Test Sample Serial Numbers:	C02YF007MFLF & C02YD003MFLQ		

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):	20 to 23
Relative Humidity (%):	40 to 54

Transmitter Maximum Power Spectral Density (Straddle channels) (continued)**Note(s):**

1. Channels that straddle the U-NII-2C and U-NII-3 bands at 5725 MHz, need to meet requirements of both U-NII bands. Due to maximum power spectral density limit being more stringent on U-NII-2C, compliance is shown against the limits of U-NII-2C. By default the EUT also complied on U-NII-3.
2. 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 and II.E.2.d) Method SA-2.
3. Measurements were performed using configurations detailed in Section 3.5 of this test report on the relevant channels.
4. 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.
5. FCC Part 15.407(a)(2) limit for PPSD in the 5.47-5.725 GHz band is <11 dBm/MHz.
6. For MIMO CDD and MIMO SDM modes, PSD was measured on both ports and then combined using the *measure and sum spectral maxima across the outputs* technique, stated in FCC KDB 662911 D01 Section E)2)a).
7. For MIMO TXBF modes, PSD was measured on both ports and then combined using the *measure and sum spectral maxima across the outputs* technique, stated in FCC KDB 662911 D01 Section E)2)b).
8. For SISO and MIMO SDM modes of operation, the antenna gain is < 6 dBi.
9. For 2Tx CDD and 2 Tx TXBF modes of operation presented in this section of the test report, the EUT has a directional antenna gain of 8.6 dBi. In accordance with Part 15.407(a)(2), the limit was reduced by the amount in dB the antenna gain exceeds 6 dBi. Therefore the limit of 11.0 dBm has been reduced by 2.6 dB to 8.4 dBm.
10. For 3Tx CDD and 3Tx TXBF modes of operation presented in this section of the test report, the EUT has a directional antenna gain of 10.1 dBi. In accordance with Part 15.407(a)(2), the limit was reduced by the amount in dB the antenna gain exceeds 6 dBi. Therefore the limit of 11.0 dBm has been reduced by 4.1 dB to 6.9 dBm.
11. For details on antenna gains refer to Section 3.4 of this test report.
12. 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.
13. 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.
14. The EUT with serial number C02YF007MFLF was used for non-TXBF tests, the EUT with serial C02YD003MFLQ number was used for TXBF tests.

Transmitter Maximum Power Spectral Density (Straddle channels) (continued)**Results: 802.11a / 20 MHz / SISO / BPSK / 6 Mbps / Core 0**

Channel	Frequency (MHz)	PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5720	8.3	11.0	2.7	Complied

Results: 802.11n / 20 MHz / SISO / BPSK / MCS0 / Core 0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5720	8.1	11.0	2.9	Complied

Results: 802.11n / 40 MHz / SISO / BPSK / MCS0 / Core 0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5710	6.5	0.1	6.6	11.0	4.4	Complied

Results: 802.11ac / 80 MHz / SISO / BPSK / MCS0 / Core 0

Channel	Frequency (MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5690	2.7	0.2	2.9	11.0	8.1	Complied

Results: 802.11n / 20 MHz / MIMO / 2Tx CDD / BPSK / MCS0

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5720	2.7	0.8	4.7	8.4	3.7	Complied

Results: 802.11n / 40 MHz / MIMO / 2Tx CDD / BPSK / MCS0

Channel	Frequency (MHz)	Core 0			Core1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5710	2.2	0.1	2.3	0.2	0.1	0.3

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5710	2.3	0.3	4.2	8.4	4.2	Complied

Transmitter Maximum Power Spectral Density (Straddle channels) (continued)**Results: 802.11ac / 80 MHz / MIMO / 2Tx CDD / BPSK / MCS0x1**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5690	1.6	0.2	1.8	-0.6	0.2	-0.4

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5690	1.8	-0.4	3.7	8.4	4.7	Complied

Results: 802.11n / 20 MHz / MIMO / 2Tx SDM / BPSK / MCS8

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5720	4.9	5.6	8.1	11.0	2.9	Complied

Results: 802.11n / 40 MHz / MIMO / 2Tx SDM / BPSK / MCS8

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5710	3.8	0.1	3.9	4.7	0.1	4.8

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5710	3.9	4.8	7.2	11.0	3.8	Complied

Results: 802.11ac / 80 MHz / MIMO / 2Tx SDM / BPSK / MCS0x2

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5690	1.1	0.2	1.3	1.8	0.2	2.0

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5690	1.3	2.0	4.5	11.0	6.5	Complied

Transmitter Maximum Power Spectral Density (Straddle channels) (continued)**Results: 802.11n / 20 MHz / MIMO / 2Tx TXBF / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5720	4.5	0.1	4.6	4.3	0.1	4.4

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5720	4.6	4.4	7.5	8.4	0.9	Complied

Results: 802.11n / 40 MHz / MIMO / 2Tx TXBF / BPSK / MCS0

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5710	1.8	0.1	1.9	2.5	0.1	2.6

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5710	1.9	2.6	5.3	8.4	3.1	Complied

Results: 802.11ac / 80 MHz / MIMO / 2Tx TXBF / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5690	0.0	0.1	0.1	-0.3	0.1	-0.2

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5690	0.1	-0.2	3.0	8.4	5.4	Complied

Transmitter Maximum Power Spectral Density (Straddle channels) (continued)**Results: 802.11n / 20 MHz / MIMO / 3Tx CDD / BPSK / MCS0**

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)
Single	5720	-0.4	-2.4	0.6	3.9

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5720	3.9	6.9	3.0	Complied

Results: 802.11n / 40 MHz / MIMO / 3Tx CDD / BPSK / MCS0

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5710	-1.0	0.1	-0.9	-3.0	0.1	-2.9

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Single	5710	0.2	0.1	0.3	-0.9	-2.9	0.3

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5710	3.6	6.9	3.3	Complied

Results: 802.11ac / 80 MHz / MIMO / 3Tx CDD / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5690	-0.6	0.2	-0.4	-3.1	0.2	-2.9

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Single	5690	0.6	0.2	0.8	-0.4	-2.9	0.8

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5690	4.0	6.9	2.9	Complied

Transmitter Maximum Power Spectral Density (Straddle channels) (continued)**Results: 802.11n / 20 MHz / MIMO / 3Tx SDM / BPSK / MCS16**

Channel	Frequency (MHz)	PSD Core 0 (dBm/MHz)	PSD Core 1 (dBm/MHz)	PSD Core 2 (dBm/MHz)	Combined PSD (dBm/MHz)
Single	5720	3.2	4.1	4.2	8.3

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5720	8.3	11.0	2.7	Complied

Results: 802.11n / 40 MHz / MIMO / 3Tx SDM / BPSK / MCS16

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5710	2.1	0.1	2.2	3.0	0.1	3.1

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Single	5710	3.3	0.1	3.4	2.2	3.1	3.4

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5710	7.4	11.0	3.6	Complied

Results: 802.11ac / 80 MHz / MIMO / 3Tx SDM / BPSK / MCS0x3

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5690	-0.4	0.2	-0.2	0.2	0.2	0.4

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Single	5690	0.7	0.2	0.9	-0.2	0.4	0.9

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5690	4.9	11.0	6.1	Complied

Transmitter Maximum Power Spectral Density (Straddle channels) (continued)**Results: 802.11n / 20 MHz / MIMO / 3Tx TXBF / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5720	0.0	0.1	0.1	1.0	0.1	1.1

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Single	5720	0.6	0.1	0.7	0.1	1.1	0.7

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5720	5.4	6.9	1.5	Complied

Results: 802.11n / 40 MHz / MIMO / 3Tx TXBF / BPSK / MCS0

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5710	-2.4	0.1	-2.3	-1.3	0.1	-1.2

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Single	5710	-1.8	0.1	-1.7	-2.3	-1.2	-1.7

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5720	3.1	6.9	3.8	Complied

Transmitter Maximum Power Spectral Density (Straddle channels) (continued)**Results: 802.11ac / 80 MHz / MIMO / 3Tx TXBF / BPSK / MCS0x1**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)
Single	5690	-4.4	0.1	-4.3	-4.4	0.1	-4.3

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm/MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm/MHz)	Corrected PSD Core 0 (dBm/MHz)	Corrected PSD Core 1 (dBm/MHz)	Corrected PSD Core 2 (dBm/MHz)
Single	5690	-4.3	0.1	-4.2	-4.3	-4.3	-4.2

Channel	Frequency (MHz)	Combined PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Single	5690	0.5	6.9	6.4	Complied

Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band)**4.5.5. 5.725-5.85 GHz band****Test Summary:**

Test Engineers:	Max Passell, Victor Carmon & Matthew Botfield	Test Dates:	19 May 2019 to 30 May 2019
Test Sample Serial Numbers:	C02YF007MFLF & C02YD003MFLQ		

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):	20 to 23
Relative Humidity (%):	40 to 54

Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)**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 and II.E.2.d) Method SA-2.
2. Measurements were performed using configurations detailed in Section 3.5 of this test report on the relevant channels.
3. 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.
4. FCC Part 15.407(a)(3) limit for PPSD in the 5.725-5.85 GHz operating band is <30 dBm/500 kHz.
5. For MIMO CDD and MIMO SDM modes, PSD was measured on both ports and then combined using the *measure and sum spectral maxima across the outputs* technique, stated in FCC KDB 662911 D01 Section E)2)a).
6. For MIMO TXBF modes, PSD was measured on both ports and then combined using the *measure and sum spectral maxima across the outputs* technique, stated in FCC KDB 662911 D01 Section E)2)b).
7. 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.
8. For MIMO SDM modes of operation, the antenna gain is < 6 dBi.
9. For SISO modes of operation presented in this section of the test report, the EUT has a directional antenna gain of 6.1 dBi. In accordance with Part 15.407(a)(3), the limit was reduced by the amount in dB the antenna gain exceeds 6 dBi. Therefore the limit of 30 dBm/500 kHz has been reduced by 0.1 dB to 29.9 dBm/500 kHz.
10. For 2Tx CDD and 2Tx TXBF modes of operation presented in this section of the test report, the EUT has a directional antenna gain of 8.9 dBi. In accordance with Part 15.407(a)(3), the limit was reduced by the amount in dB the antenna gain exceeds 6 dBi. Therefore the limit of 30 dBm/500 kHz has been reduced by 2.9 dB to 27.1 dBm/500 kHz.
11. For 3Tx CDD and 3Tx TXBF modes of operation presented in this section of the test report, the EUT has a directional antenna gain of 10.3 dBi. In accordance with Part 15.407(a)(3), the limit was reduced by the amount in dB the antenna gain exceeds 6 dBi. Therefore the limit of 30 dBm/500 kHz has been reduced by 4.3 dB to 25.7 dBm/500 kHz.
12. For details on antenna gains refer to Section 3.4 of this test report.
13. 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.
14. 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.
15. The EUT with serial number C02YF007MFLF was used for non-TXBF tests, the EUT with serial C02YD003MFLQ number was used for TXBF tests.

Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)**Results: 802.11a / 20 MHz / SISO / BPSK / 6 Mbps / Core 0**

Channel	Frequency (MHz)	PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5745	10.1	29.9	19.8	Complied
Middle	5785	9.7	29.9	20.2	Complied
Top	5825	10.0	29.9	19.9	Complied

Results: 802.11n / 20 MHz / SISO / BPSK / MCS0 / Core 0

Channel	Frequency (MHz)	PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5745	9.7	29.9	20.2	Complied
Middle	5785	9.4	29.9	20.5	Complied
Top	5825	9.5	29.9	20.4	Complied

Results: 802.11n / 40 MHz / SISO / BPSK / MCS0 / Core 0

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	5.3	0.1	5.4	29.9	24.5	Complied
Top	5795	6.9	0.1	7.0	29.9	22.9	Complied

Results: 802.11ac / 80 MHz / SISO / BPSK / MCS0 / Core 0

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	0.5	0.2	0.7	29.9	29.2	Complied

Results: 802.11n / 20 MHz / MIMO / 2Tx CDD / BPSK / MCS0

Channel	Frequency (MHz)	PSD Core 0 (dBm / 1 MHz)	PSD Core 1 (dBm / 1 MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5745	10.0	8.3	12.2	27.1	14.9	Complied
Middle	5785	9.6	8.2	11.9	27.1	15.2	Complied
Top	5825	9.8	8.9	12.2	27.1	14.9	Complied

Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 2Tx CDD / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Bottom	5755	5.0	0.1	5.1	3.4	0.1	3.5
Top	5795	6.8	0.1	6.9	5.4	0.1	5.5

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5755	5.1	3.5	7.2	27.1	19.9	Complied
Top	5795	6.9	5.5	9.1	27.1	18.0	Complied

Results: 802.11ac / 80 MHz / MIMO / 2Tx CDD / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Single	5775	-0.6	0.2	-0.4	-2.3	0.2	-2.1

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Single	5775	-0.4	-2.1	1.8	27.1	25.3	Complied

Results: 802.11n / 20 MHz / MIMO / 2Tx SDM / BPSK / MCS8

Channel	Frequency (MHz)	PSD Core 0 (dBm / 1 MHz)	PSD Core 1 (dBm / 1 MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5745	9.2	9.8	12.4	30.0	17.6	Complied
Middle	5785	9.4	10.0	12.5	30.0	17.5	Complied
Top	5825	9.8	10.2	12.8	30.0	17.2	Complied

Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 2Tx SDM / BPSK / MCS8**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Bottom	5755	4.7	0.1	4.8	5.4	0.1	5.5
Top	5795	6.7	0.1	6.8	6.8	0.1	6.9

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5755	4.8	5.5	7.9	30.0	22.1	Complied
Top	5795	6.8	6.9	9.7	30.0	20.3	Complied

Results: 802.11ac / 80 MHz / MIMO / 2Tx SDM / BPSK / MCS0x2

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Single	5775	-1.3	0.2	-1.1	-1.1	0.2	-0.9

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Single	5775	-1.1	-0.9	1.9	30.0	28.1	Complied

Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)**Results: 802.11n / 20 MHz / MIMO / 2Tx TXBF / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Bottom	5745	11.1	0.1	11.2	11.5	0.1	11.6
Middle	5785	9.9	0.1	10.0	11.5	0.1	11.6
Top	5825	10.0	0.1	10.1	11.9	0.1	12.0

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5745	11.2	11.6	14.4	27.1	12.7	Complied
Middle	5785	10.0	11.6	13.9	27.1	13.2	Complied
Top	5825	10.1	12.0	14.2	27.1	12.9	Complied

Results: 802.11n / 40 MHz / MIMO / 2Tx TXBF / BPSK / MCS0

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Bottom	5755	2.7	0.1	2.8	4.2	0.1	4.3
Top	5795	5.7	0.1	5.8	7.0	0.1	7.1

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5755	2.8	4.3	6.6	27.1	20.5	Complied
Top	5795	5.8	7.1	9.5	27.1	17.6	Complied

Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)**Results: 802.11ac / 80 MHz / MIMO / 2Tx TXBF / BPSK / MCS0x1**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Single	5775	-0.5	0.1	-0.4	-0.6	0.1	-0.5

Channel	Frequency (MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Single	5775	-0.4	-0.5	2.6	27.1	24.5	Complied

Results: 802.11n / 20 MHz / MIMO / 3Tx CDD / BPSK / MCS0

Channel	Frequency (MHz)	PSD Core 0 (dBm / 1 MHz)	PSD Core 1 (dBm / 1 MHz)	PSD Core 2 (dBm / 1 MHz)	Combined PSD (dBm/MHz)
Bottom	5745	9.8	8.1	10.6	14.2
Middle	5785	9.7	8.1	10.5	14.0
Top	5825	9.9	9.1	10.6	14.4

Channel	Frequency (MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5745	14.2	25.7	11.5	Complied
Middle	5785	14.0	25.7	11.7	Complied
Top	5825	14.4	25.7	11.3	Complied

Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx CDD / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Bottom	5755	2.8	0.1	2.9	1.4	0.1	1.5
Top	5795	6.8	0.1	6.9	5.3	0.1	5.4

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Corrected PSD Core 2 (dBm / 1 MHz)
Bottom	5755	4.1	0.1	4.2	2.9	1.5	4.2
Top	5795	7.3	0.1	7.4	6.9	5.4	7.4

Channel	Frequency (MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5755	7.4	25.7	18.3	Complied
Top	5795	11.3	25.7	14.4	Complied

Results: 802.11ac / 80 MHz / MIMO / 3Tx CDD / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Single	5775	-3.5	0.2	-3.3	-5.1	0.2	-4.9

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Corrected PSD Core 2 (dBm / 1 MHz)
Single	5775	-2.4	0.2	-2.2	-3.3	-4.9	-2.2

Channel	Frequency (MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Single	5775	1.2	25.7	24.5	Complied

Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)**Results: 802.11n / 20 MHz / MIMO / 3Tx SDM / BPSK / MCS16**

Channel	Frequency (MHz)	PSD Core 0 (dBm / 1 MHz)	PSD Core 1 (dBm / 1 MHz)	PSD Core 2 (dBm / 1 MHz)	Combined PSD (dBm/MHz)
Bottom	5745	9.3	10.2	10.0	14.4
Middle	5785	9.4	9.9	10.0	14.3
Top	5825	9.6	10.3	10.1	14.5

Channel	Frequency (MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5745	14.4	30.0	15.6	Complied
Middle	5785	14.3	30.0	15.7	Complied
Top	5825	14.5	30.0	15.5	Complied

Results: 802.11n / 40 MHz / MIMO / 3Tx SDM / BPSK / MCS16

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Bottom	5755	2.6	0.1	2.7	3.4	0.1	3.5
Top	5795	6.6	0.1	6.7	6.9	0.1	7.0

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Corrected PSD Core 2 (dBm / 1 MHz)
Bottom	5755	3.5	0.1	3.6	2.7	3.5	3.6
Top	5795	6.9	0.1	7.0	6.7	7.0	7.0

Channel	Frequency (MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5755	7.9	30.0	22.1	Complied
Top	5795	11.5	30.0	18.5	Complied

Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)**Results: 802.11ac / 80 MHz / MIMO / 3Tx SDM / BPSK / MCS0x3**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Single	5775	-2.5	0.2	-2.3	-2.4	0.2	-2.2

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Corrected PSD Core 2 (dBm / 1 MHz)
Single	5775	-1.9	0.2	-1.7	-2.3	-2.2	-1.7

Channel	Frequency (MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Single	5775	2.5	30.0	27.5	Complied

Results: 802.11n / 20 MHz / MIMO / 3Tx TXBF / BPSK / MCS0

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Bottom	5745	9.3	0.1	9.4	9.6	0.1	9.7
Middle	5785	9.1	0.1	9.2	9.2	0.1	9.3
Top	5825	9.7	0.1	9.8	9.6	0.1	9.7

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Corrected PSD Core 2 (dBm / 1 MHz)
Bottom	5745	8.6	0.1	8.7	9.4	9.7	8.7
Middle	5785	8.4	0.1	8.5	9.2	9.3	8.5
Top	5825	9.0	0.1	9.1	9.8	9.7	9.1

Channel	Frequency (MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5745	14.1	25.7	11.6	Complied
Middle	5785	13.8	25.7	11.9	Complied
Top	5825	14.3	25.7	11.4	Complied

Transmitter Maximum Power Spectral Density (5.725-5.85 GHz band) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx TXBF / BPSK / MCS0**

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Bottom	5755	2.5	0.1	2.6	2.7	0.1	2.8
Top	5795	5.6	0.1	5.7	6.0	0.1	6.1

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Corrected PSD Core 2 (dBm / 1 MHz)
Bottom	5755	2.1	0.1	2.2	2.6	2.8	2.2
Top	5795	4.5	0.1	4.6	5.7	6.1	4.6

Channel	Frequency (MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Bottom	5755	7.3	25.7	18.4	Complied
Top	5795	10.3	25.7	15.4	Complied

Results: 802.11ac / 80 MHz / MIMO / 3Tx TXBF / BPSK / MCS0x1

Channel	Frequency (MHz)	Core 0			Core 1		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)
Single	5775	-3.3	0.1	-3.2	-2.6	0.1	-2.5

Channel	Frequency (MHz)	Core 2			Core 0, Core 1 & Core 2		
		PSD (dBm / 1 MHz)	Duty cycle correction factor (dB)	Corrected PSD (dBm / 1 MHz)	Corrected PSD Core 0 (dBm / 1 MHz)	Corrected PSD Core 1 (dBm / 1 MHz)	Corrected PSD Core 2 (dBm / 1 MHz)
Single	5775	-3.4	0.1	-3.3	-3.2	-2.5	-3.3

Channel	Frequency (MHz)	Combined PSD (dBm / 1 MHz)	Limit (dBm / 500 kHz)	Margin (dB)	Result
Single	5775	1.8	25.7	23.9	Complied

5. Radiated Test Results

5.1. Transmitter Out of Band Radiated Emissions <1 GHz

Test Summary:

Test Engineers:	Andrew Harding	Test Date:	25 May 2019
Test Sample Serial Number:	C02YD006MFLQ		

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

Environmental Conditions:

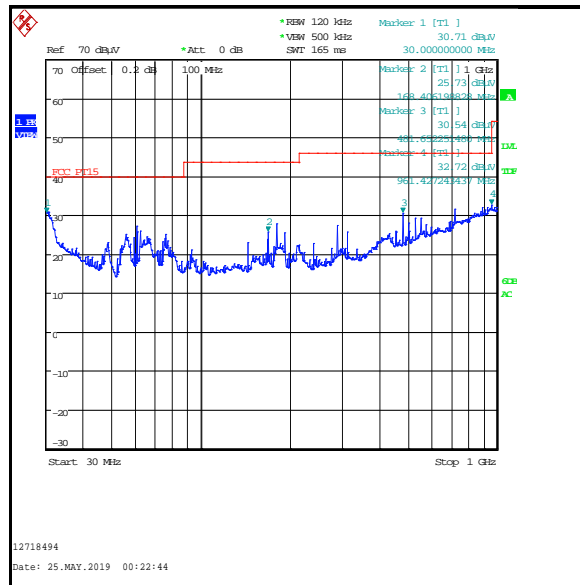
Temperature (°C):	23
Relative Humidity (%):	35

Note(s):

1. The final measured value, for the given emission in the field strength result tables, incorporates the calibrated antenna factor and cable loss.
2. Pre-scans were performed with the EUT transmitting in the band 5.725 to 5.85 GHz band with a configuration of 802.11n / HT20 / MCS0 / MIMO on middle channel in this band as it produced the highest power spectral density and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
3. The preliminary scans showed similar emission levels below 1 GHz, for each channel of operation. Therefore final radiated emissions measurements were performed with the EUT set to the middle channel only.
4. The emissions stated below were found to be independent of wireless technology.
5. All other emissions shown on the pre-scan were investigated and found to be ambient, or >20 dB below the applicable limit or below the measurement system noise floor.
6. Measurements below 1 GHz were performed in a semi-anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.
7. Pre-scans were performed and markers placed on the highest measured levels. The test receiver resolution bandwidth was set to 120 kHz and video bandwidth 500 kHz. The sweep time was set to auto. A peak detector was used, sweep time was set to auto and trace mode was Max Hold.
8. Final measurements were performed on the marker frequencies and the results entered into the table below. The test receiver resolution bandwidth was set to 120 kHz, using a peak detector with max hold enabled. Span was wide enough to see the whole emission.

Transmitter Out of Band Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: Peak / Middle Channel / 802.11n / 20 MHz / MCS0**

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
74.390	Horizontal	28.4	40.0	11.6	Complied
167.981	Horizontal	26.1	43.5	17.4	Complied
240.005	Horizontal	31.0	46.0	15.0	Complied
263.949	Horizontal	26.6	46.0	19.4	Complied



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

5.2. Transmitter Out of Band Radiated Emissions >1 GHz**5.2.1. 5.15-5.25 GHz band****Transmitter Out of Band Radiated Emissions (5.15-5.25 GHz band operation)****Test Summary:**

Test Engineers:	John Ferdinand, Mark Perry, Mohamed Toubella, James O'Reilly, Andrew Harding, Marco Zunarelli, Nicholas Steele & Andrew Edwards	Test Dates:	12 May 2019 to 07 June 2019
Test Sample Serial Numbers:	C02YF00CMFLF & C02YD006MFLQ		

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

Environmental Conditions:

Temperature (°C):	22 to 23
Relative Humidity (%):	35 to 46

Note(s):

1. FCC Part 15.407(b)(1) states for transmitters operating in the band 5.15 to 5.25 GHz: all emissions outside of the 5.15 to 5.35 GHz band will not exceed -27 dBm/MHz. Part (b)(7) states the provisions of 15.205 apply e.g. restricted bands of operation.
2. Pre-scans were performed with the EUT transmitting in the band 5.725 to 5.85 GHz band with a data rate of 802.11n / HT20 / MCS0 / MIMO on middle channel in this band as it produced the highest power spectral density and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
3. The final measured value, for the given emission in the field strength result tables, incorporates the calibrated antenna factor and cable loss.
4. All other emissions shown on the pre-scan plots were investigated and found to be ambient or >20 dB below the applicable limit or below the measurement system noise floor.
5. Appropriate RF filters and attenuators were used during pre-scans and final measurements. Insertion losses were entered on the spectrum analyser as RF levels offsets.
6. *In accordance with KDB 789033 Section II.G.1.c) if the peak measurement is below the average limit, it is not necessary to perform a separate average measurement.
7. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

Transmitter Out of Band Radiated Emissions (5.15-5.25 GHz band operation) (continued)**Results: Bottom Channel / EIRP**

Frequency (MHz)	Antenna Polarity	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5611.744	Vertical	-35.1	-27.0	8.1	Complied
15923.462	Vertical	-38.0	-27.0	11.0	Complied
23819.000	Vertical	-43.7	-27.0	16.7	Complied

Results: Bottom Channel / Field Strength / Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15923.462	Vertical	57.2	74.0	16.8	Complied
23819.000	Vertical	51.5*	54.0	2.5	Complied

Results: Bottom Channel / Field Strength / Average

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15997.5000	Vertical	38.6	54.0	15.4	Complied

Results: Middle Channel / EIRP

Frequency (MHz)	Antenna Polarity	Level (dBm)	Limit (dBm)	Margin (dB)	Result
15923.462	Vertical	-38.0	-27.0	11.0	Complied
23819.000	Vertical	-43.7	-27.0	16.7	Complied

Results: Middle Channel / Field Strength / Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15923.462	Vertical	57.2	74.0	16.8	Complied
23819.000	Vertical	51.5*	54.0	2.5	Complied

Results: Middle Channel / Field Strength / Average

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15997.5000	Vertical	38.6	54.0	15.4	Complied

Transmitter Out of Band Radiated Emissions (5.15-5.25 GHz band operation) (continued)**Results: Top Channel / EIRP**

Frequency (MHz)	Antenna Polarity	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5676.81	Vertical	-36.3	-27.0	9.3	Complied
15923.462	Vertical	-38.0	-27.0	11.0	Complied
23819.000	Vertical	-43.7	-27.0	16.7	Complied

Results: Top Channel / Field Strength / Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15923.462	Vertical	57.2	74.0	16.8	Complied
23819.000	Vertical	51.5*	54.0	2.5	Complied

Results: Top Channel / Field Strength / Average

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15997.5000	Vertical	38.6	54.0	15.4	Complied

5.2.2. 5.25-5.35 GHz band**Transmitter Out of Band Radiated Emissions (5.25-5.35 GHz band operation)****Test Summary:**

Test Engineers:	John Ferdinand, Mark Perry, Mohamed Toubella, James O'Reilly, Andrew Harding, Marco Zunarelli, Nicholas Steele & Andrew Edwards	Test Dates:	12 May 2019 to 07 June 2019
Test Sample Serial Numbers:	C02YF00CMFLF & C02YD006MFLQ		

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

Environmental Conditions:

Temperature (°C)	22 to 23
Relative Humidity (%):	35 to 46

Note(s):

1. FCC Part 15.407(b)(2) states for transmitters operating in the band 5.25 to 5.35 GHz: all emissions outside of the 5.15-5.35 GHz band will not exceed -27 dBm/MHz. Part(b)(7) states the provisions of 15.205 apply e.g. restricted bands of operation.
2. Pre-scans were performed with the EUT transmitting in the band 5.725 to 5.85 GHz band with a data rate of 802.11n / HT20 / MCS0 / MIMO on middle channel in this band as it produced the highest power spectral density and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
3. The final measured value, for the given emission in the field strength result tables, incorporates the calibrated antenna factor and cable loss.
4. All other emissions shown on the pre-scan plot were investigated and found to be ambient or >20 dB below the applicable limit or below the measurement system noise floor.
5. Appropriate RF filters and attenuators were used during pre-scans and final measurements. Insertion losses were entered on the spectrum analyser as RF levels offsets.
6. *In accordance with KDB 789033 Section II.G.1.c) if the peak measurement is below the average limit, it is not necessary to perform a separate average measurement.
7. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

Transmitter Out of Band Radiated Emissions (5.25-5.35 GHz band operation) (continued)**Results: Bottom Channel / EIRP**

Frequency (MHz)	Antenna Polarity	Level (dBm)	Limit (dBm)	Margin (dB)	Result
4821.609	Vertical	-38.2	-27.0	11.2	Complied
5698.267	Vertical	-37.1	-27.0	10.1	Complied
15923.462	Vertical	-38.0	-27.0	11.0	Complied
23819.000	Vertical	-43.7	-27.0	16.7	Complied

Results: Bottom Channel / Field Strength / Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
4821.609	Vertical	57.0	74.0	17.0	Complied
15923.462	Vertical	57.2	74.0	16.8	Complied
23819.000	Vertical	51.5*	54.0	2.5	Complied

Results: Bottom Channel / Field Strength / Average

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
4821.595	Vertical	45.6	54.0	8.4	Complied
15997.5000	Vertical	38.6	54.0	15.4	Complied

Results: Middle Channel / EIRP

Frequency (MHz)	Antenna Polarity	Level (dBm)	Limit (dBm)	Margin (dB)	Result
15923.462	Vertical	-38.0	-27.0	11.0	Complied
23819.000	Vertical	-43.7	-27.0	16.7	Complied

Results: Middle Channel / Field Strength / Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15923.462	Vertical	57.2	74.0	16.8	Complied
23819.000	Vertical	51.5*	54.0	2.5	Complied

Results: Middle Channel / Field Strength / Average

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15997.5000	Vertical	38.6	54.0	15.4	Complied

Transmitter Out of Band Radiated Emissions (5.25-5.35 GHz band operation) (continued)**Results: Top Channel / EIRP**

Frequency (MHz)	Antenna Polarity	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5586.068	Vertical	-35.2	-27.0	8.2	Complied
7559.500	Vertical	-36.0	-27.0	9.0	Complied
15923.462	Vertical	-38.0	-27.0	11.0	Complied
23819.000	Vertical	-43.7	-27.0	16.7	Complied

Results: Top Channel / Field Strength / Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
7559.500	Vertical	59.2	74.0	14.8	Complied
15923.462	Vertical	57.2	74.0	16.8	Complied
23819.000	Vertical	51.5*	54.0	2.5	Complied

Results: Top Channel / Field Strength / Average

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
7551.340	Vertical	49.1	54.0	4.9	Complied
15997.5000	Vertical	38.6	54.0	15.4	Complied

5.2.3. 5.47-5.725 GHz band**Transmitter Out of Band Radiated Emissions (5.47-5.725 GHz band operation)****Test Summary:**

Test Engineers:	John Ferdinand, Mark Perry, Mohamed Toubella, James O'Reilly, Andrew Harding, Marco Zunarelli, Nicholas Steele & Andrew Edwards	Test Dates:	12 May 2019 to 07 June 2019
Test Sample Serial Numbers:	C02YF00CMFLF & C02YD006MFLQ		

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

Environmental Conditions:

Temperature (°C):	22 to 23
Relative Humidity (%):	35 to 46

Note(s):

1. FCC Part 15.407(b)(3) states for transmitters operating in the band 5.47 to 5.725 GHz: all emissions outside of the band will not exceed -27 dBm/MHz. Part(b)(7) states the provisions of 15.205 apply e.g. restricted bands of operation.
2. Pre-scans were performed with the EUT transmitting in the band 5.725 to 5.85 GHz band with a data rate of 802.11n / HT20 / MCS0 / MIMO on middle channel in this band as it produced the highest power spectral density and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
3. The final measured value, for the given emission in the field strength result tables, incorporates the calibrated antenna factor and cable loss.
4. All other emissions shown on the pre-scan plot were investigated and found to be ambient or >20 dB below the applicable limit or below the measurement system noise floor.
5. Appropriate RF filters and attenuators were used during pre-scans and final measurements. Insertion losses were entered on the spectrum analyser as RF levels offsets.
6. *In accordance with KDB 789033 Section II.G.1.c) if the peak measurement is below the average limit, it is not necessary to perform a separate average measurement.
7. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

Transmitter Out of Band Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: Bottom Channel / EIRP**

Frequency (MHz)	Antenna Polarity	Level (dBm)	Limit (dBm)	Margin (dB)	Result
7377.256	Vertical	-34.2	-27.0	7.2	Complied
15923.462	Vertical	-38.0	-27.0	11.0	Complied
23819.000	Vertical	-43.7	-27.0	16.7	Complied

Results: Bottom Channel / Field Strength / Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
7377.256	Vertical	61.0	74.0	13.0	Complied
15923.462	Vertical	57.2	74.0	16.8	Complied
23819.000	Vertical	51.5*	54.0	2.5	Complied

Results: Bottom Channel / Field Strength / Average

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
7376.416	Vertical	48.7	54.0	5.3	Complied
15997.5000	Vertical	38.6	54.0	15.4	Complied

Results: Middle Channel / EIRP

Frequency (MHz)	Antenna Polarity	Level (dBm)	Limit (dBm)	Margin (dB)	Result
7705.968	Vertical	-33.2	-27.0	6.2	Complied
15923.462	Vertical	-38.0	-27.0	11.0	Complied
23819.000	Vertical	-43.7	-27.0	16.7	Complied

Results: Middle Channel / Field Strength / Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
7705.968	Vertical	62.0	74.0	12.0	Complied
15923.462	Vertical	57.2	74.0	16.8	Complied
23819.000	Vertical	51.5*	54.0	2.5	Complied

Results: Middle Channel / Field Strength / Average

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
7706.200	Vertical	48.8	54.0	5.2	Complied
15997.5000	Vertical	38.6	54.0	15.4	Complied

Transmitter Out of Band Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: Top Channel / EIRP**

Frequency (MHz)	Antenna Polarity	Level (dBm)	Limit (dBm)	Margin (dB)	Result
7941.500	Vertical	-34.1	-27.0	7.1	Complied
15923.462	Vertical	-38.0	-27.0	11.0	Complied
23819.000	Vertical	-43.7	-27.0	16.7	Complied

Results: Top Channel / Field Strength / Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15923.462	Vertical	57.2	74.0	16.8	Complied
23819.000	Vertical	51.5*	54.0	2.5	Complied

Results: Top Channel / Field Strength / Average

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15997.5000	Vertical	38.6	54.0	15.4	Complied

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

Test Engineers:	John Ferdinand, Mark Perry, Mohamed Toubella, James O'Reilly, Andrew Harding, Marco Zunarelli, Nicholas Steele & Andrew Edwards	Test Dates:	12 May 2019 to 07 June 2019
Test Sample Serial Numbers:	C02YF00CMFLF & C02YD006MFLQ		

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

Environmental Conditions:

Temperature (°C):	22 to 23
Relative Humidity (%):	35 to 46

Note(s):

1. KDB 789033 Section III.B.2.b)(iii) states "Straddle channels are considered to be operating in both U-NII-2C and U-NII-3. The worst case out of band emission i.e. -27 dBm/MHz peak EIRP, applies at the band edges. The band edges are considered to be 5.47 GHz and 5.85 GHz."
2. Pre-scans were performed with the EUT transmitting in the band 5.725 to 5.85 GHz band with a data rate of 802.11n / HT20 / MCS0 / MIMO on middle channel in this band as it produced the highest power spectral density and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
3. The final measured value, for the given emission in the field strength result tables, incorporates the calibrated antenna factor and cable loss.
4. All other emissions shown on the pre-scan plot were investigated and found to be ambient or >20 dB below the applicable limit or below the measurement system noise floor.
5. Appropriate RF filters and attenuators were used during pre-scans and final measurements. Insertion losses were entered on the spectrum analyser as RF levels offsets.
6. *In accordance with KDB 789033 Section II.G.1.c) if the peak measurement is below the average limit, it is not necessary to perform a separate average measurement.
7. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

Transmitter Out of Band Radiated Emissions (Channels that straddle the U-NII-2C and U-NII-3 bands at 5725 MHz) (continued)**Results: Bottom Channel / EIRP**

Frequency (MHz)	Antenna Polarity	Level (dBm)	Limit (dBm)	Margin (dB)	Result
7607.500	Vertical	-34.8	-27.0	7.8	Complied
15923.462	Vertical	-38.0	-27.0	11.0	Complied
23819.000	Vertical	-43.7	-27.0	16.7	Complied

Results: Straddle Channel / Field Strength / Peak

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
7607.500	Vertical	60.4	74.0	13.6	Complied
15923.462	Vertical	57.2	74.0	16.8	Complied
23819.000	Vertical	51.5*	54.0	2.5	Complied

Results: Straddle Channel / Field Strength / Average

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
7616.000	Vertical	48.9	54.0	5.1	Complied
15997.5000	Vertical	38.6	54.0	15.4	Complied

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

Test Engineers:	John Ferdinand, Mark Perry, Mohamed Toubella, James O'Reilly, Andrew Harding, Marco Zunarelli, Nicholas Steele & Andrew Edwards	Test Dates:	12 May 2019 to 07 June 2019
Test Sample Serial Numbers:	C02YF00CMFLF & C02YD006MFLQ		

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

Environmental Conditions:

Temperature (°C):	22 to 23
Relative Humidity (%):	35 to 46

Transmitter Out of Band Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Note(s):**

1. FCC Part 15.407(b)(4)(i) states for transmitters operating in the band 5.725 to 5.85 GHz: all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. Part(b)(7) states the provisions of 15.205 apply e.g. restricted bands of operation.
2. Pre-scans were performed with the EUT transmitting in the band 5.725 to 5.85 GHz band with a data rate of 802.11n / HT20 / MCS0 / MIMO on middle channel in this band as it produced the highest power spectral density and was therefore deemed worst case. An inquiry was made to the FCC and the response was pre-scans could be performed in the band with the highest power spectral density and all final measurements should be performed on any emissions seen in each band.
3. The final measured value, for the given emission in the field strength result tables, incorporates the calibrated antenna factor and cable loss.
4. All other emissions shown on the pre-scan plot were investigated and found to be ambient or >20 dB below the applicable limit or below the measurement system noise floor.
5. The emission shown on the 1 GHz to 8 GHz plot is the EUT fundamental.
6. Appropriate RF filters and attenuators were used during pre-scans and final measurements. Insertion losses were entered on the spectrum analyser as RF levels offsets.
7. *In accordance with KDB 789033 Section II.G.1.c) if the peak measurement is below the average limit, it is not necessary to perform a separate average measurement.
8. Measurements were performed across the two restricted bands closest to the bands of operation with the EUT transmitting on the bottom channel in the 5.15 to 5.25 GHz band and top channel 5.25 to 5.35 GHz range. Plots are included in this section of the test report. Peak and average measurements were made.
9. Measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

Transmitter Out of Band Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: Bottom Channel / EIRP**

Frequency (MHz)	Antenna Polarity	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5319.252	Vertical	-36.0	-27.0	9.0	Complied
5540.508	Vertical	-33.8	-27.0	6.8	Complied
15923.462	Vertical	-38.0	-27.0	11.0	Complied
23819.000	Vertical	-43.7	-27.0	16.7	Complied

Results: Bottom Channel / Field Strength / Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15923.462	Vertical	57.2	74.0	16.8	Complied
23819.000	Vertical	51.5*	54.0	2.5	Complied

Results: Bottom Channel / Field Strength / Average

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15997.5000	Vertical	38.6	54.0	15.4	Complied

Results: Middle Channel / EIRP

Frequency (MHz)	Antenna Polarity	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5565.028	Vertical	-34.9	-27.0	7.9	Complied
15923.462	Vertical	-38.0	-27.0	11.0	Complied
23819.000	Vertical	-43.7	-27.0	16.7	Complied

Results: Middle Channel / Field Strength / Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15923.462	Vertical	57.2	74.0	16.8	Complied
23819.000	Vertical	51.5*	54.0	2.5	Complied

Results: Middle Channel / Field Strength / Average

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
15997.5000	Vertical	38.6	54.0	15.4	Complied