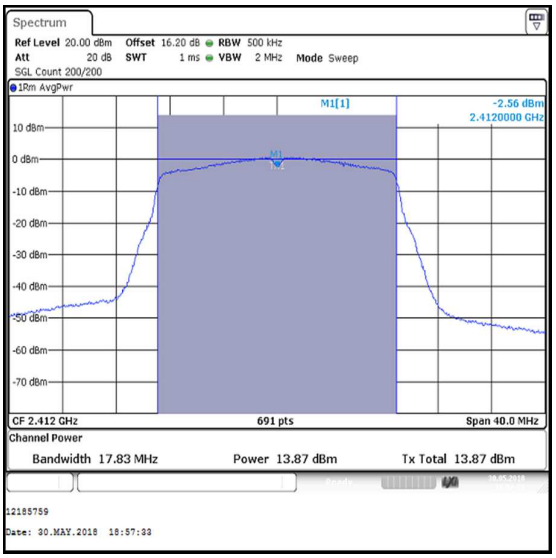
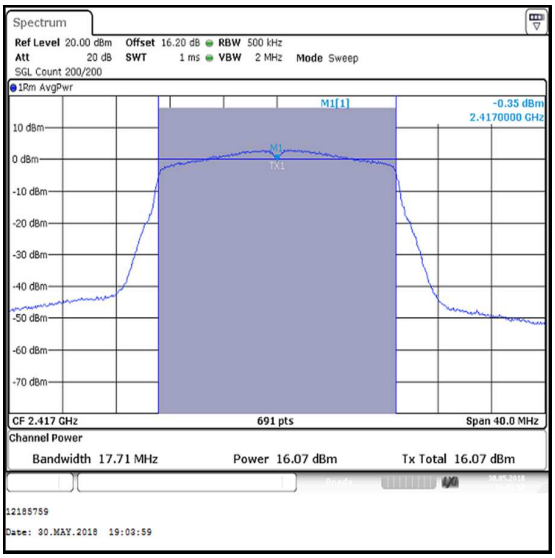
Transmitter Maximum (Average) Output Power (continued)

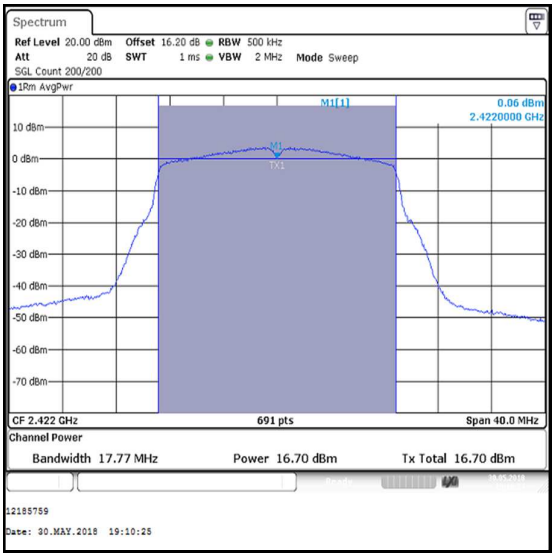
Results: 802.11n / HT20 / MIMO / 2Tx CDD / BPSK / MCS0 / Core 0



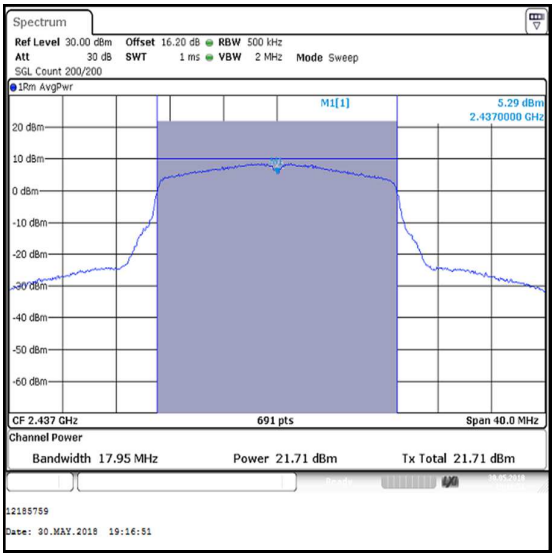
Channel 1



Channel 2



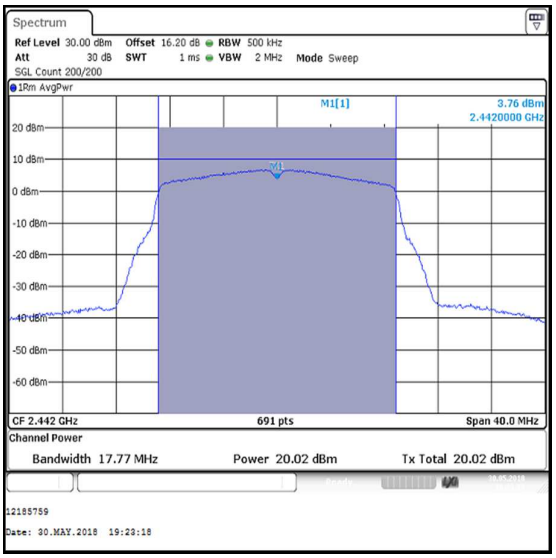
Channel 3



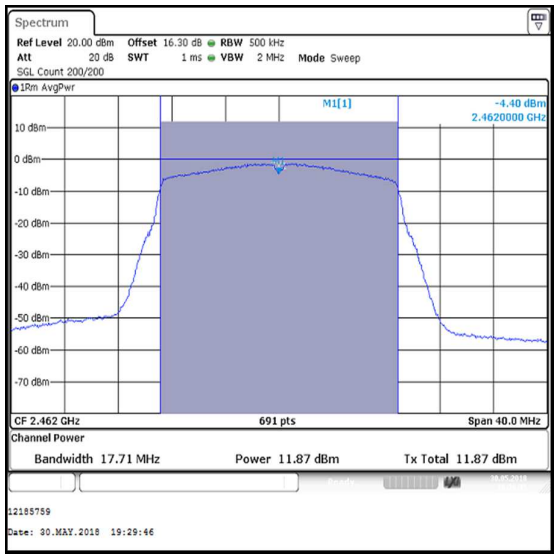
Channel 6

Transmitter Maximum (Average) Output Power (continued)

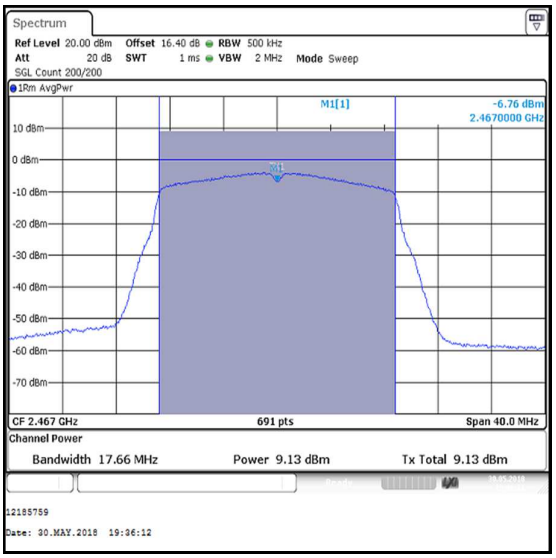
Results: 802.11n / HT20 / MIMO / 2Tx CDD / BPSK / MCS0 / Core 0



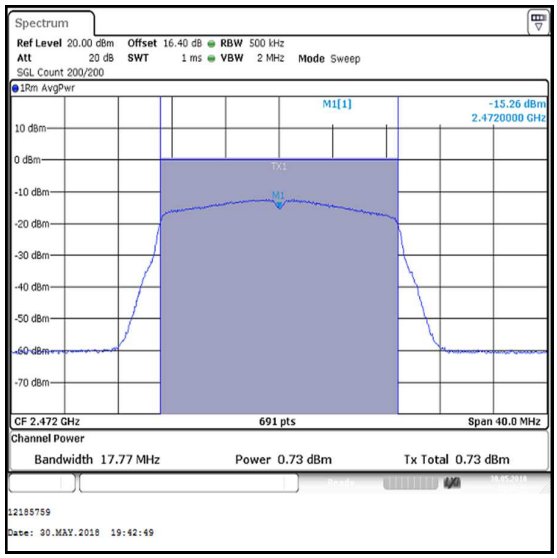
Channel 7



Channel 11



Channel 12



Channel 13

Transmitter Maximum (Average) Output Power (continued)

Results: 802.11n / HT20 / MIMO / 3Tx CDD / BPSK / MCS0

Conducted Peak Limit Comparison

Channel	Conducted Peak Power Core 1 (dBm)	Conducted Peak Power Core 0 (dBm)	Conducted Peak Power Core 2 (dBm)
1	12.9	12.9	13.0
2	15.3	15.4	15.4
3	15.9	16.3	16.2
6	18.5	18.8	18.9
7	18.8	18.7	19.0
11	10.5	10.7	10.9
12	8.8	9.0	9.0
13	-1.7	-1.9	-1.8

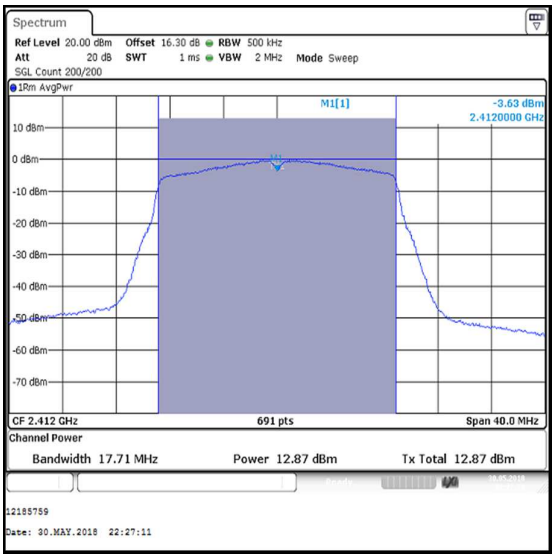
Channel	Combined Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
1	17.7	30.0	12.3	Complied
2	20.1	30.0	9.9	Complied
3	20.9	30.0	9.1	Complied
6	23.5	30.0	6.5	Complied
7	23.6	30.0	6.4	Complied
11	15.5	30.0	14.5	Complied
12	13.7	30.0	16.3	Complied
13	3.0	30.0	27.0	Complied

EIRP Limit Comparison

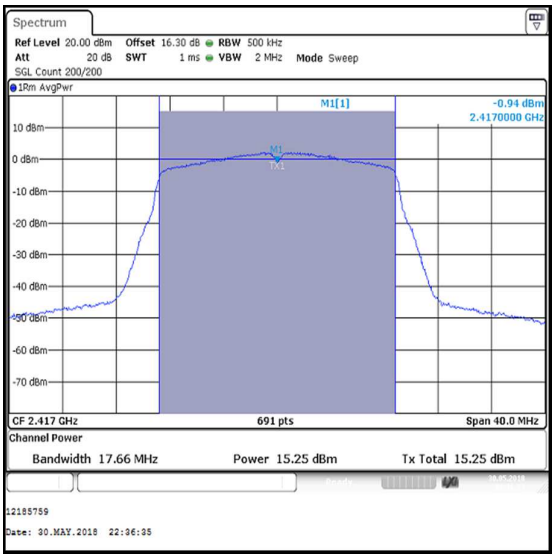
Channel	Combined Conducted Peak Power (dBm)	Directional Antenna Gain (dBi)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
1	17.7	7.3	25.0	36.0	11.0	Complied
2	20.1	7.3	27.4	36.0	8.6	Complied
3	20.9	7.3	28.2	36.0	7.8	Complied
6	23.5	7.3	30.8	36.0	5.2	Complied
7	23.6	7.3	30.9	36.0	5.1	Complied
11	15.5	7.3	22.8	36.0	13.2	Complied
12	13.7	7.3	21.0	36.0	15.0	Complied
13	3.0	7.3	10.3	36.0	25.7	Complied

Transmitter Maximum (Average) Output Power (continued)

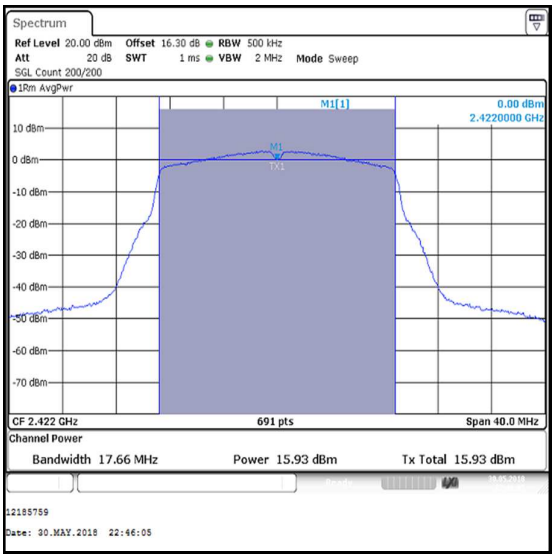
Results: 802.11n / HT20 / MIMO / 3Tx CDD / BPSK / MCS0 / Core 1



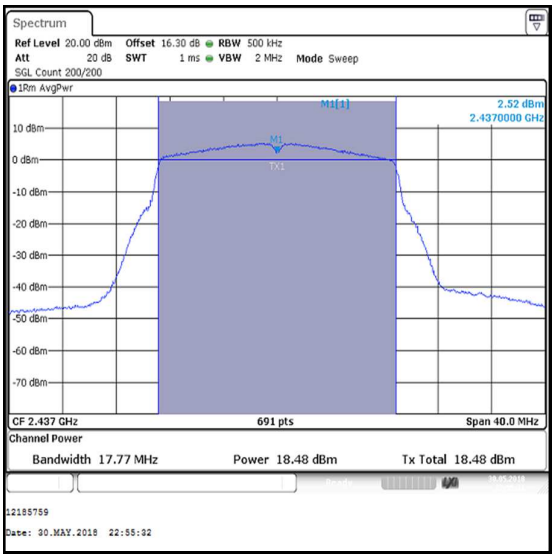
Channel 1



Channel 2



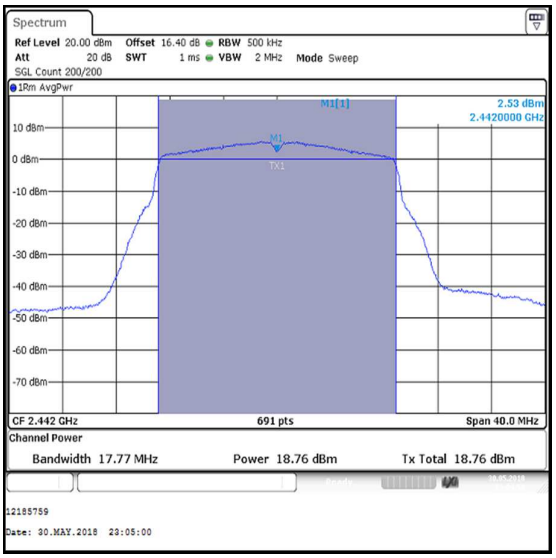
Channel 3



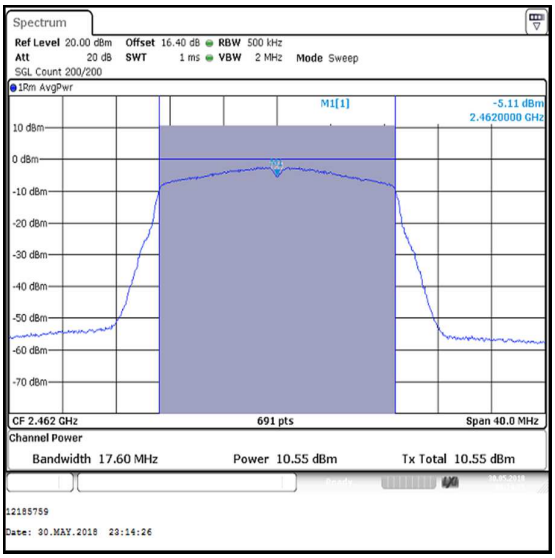
Channel 6

Transmitter Maximum (Average) Output Power (continued)

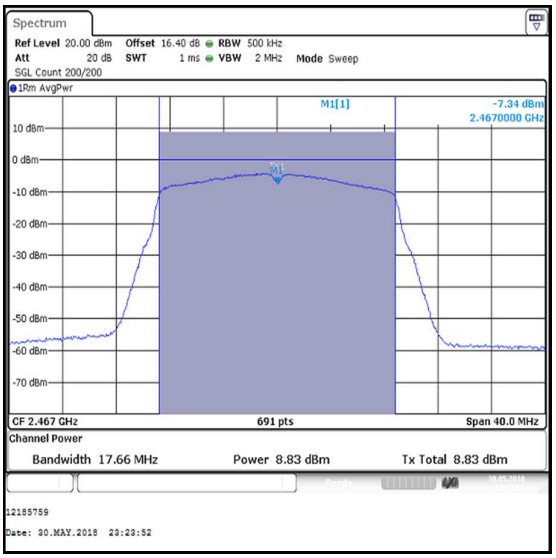
Results: 802.11n / HT20 / MIMO / 3Tx CDD / BPSK / MCS0 / Core 1



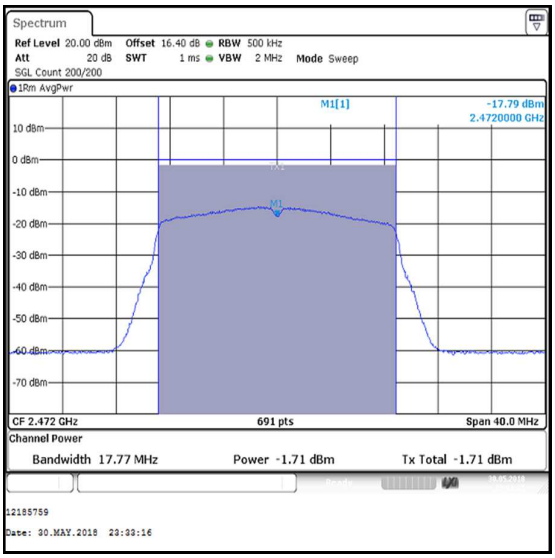
Channel 7



Channel 11



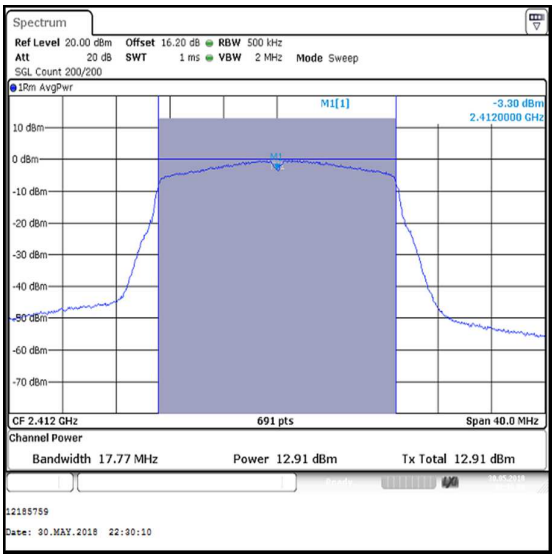
Channel 12



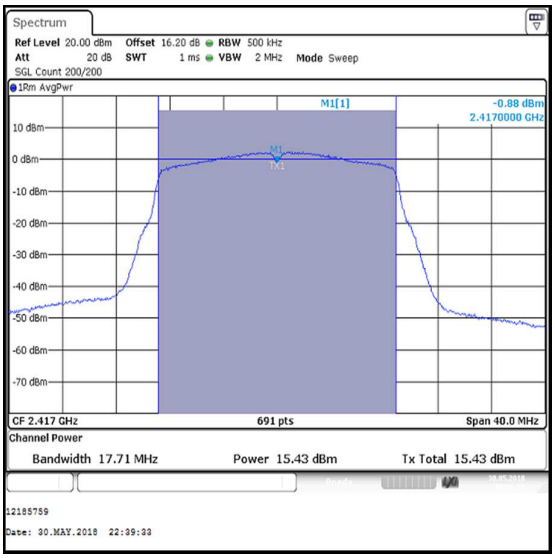
Channel 13

Transmitter Maximum (Average) Output Power (continued)

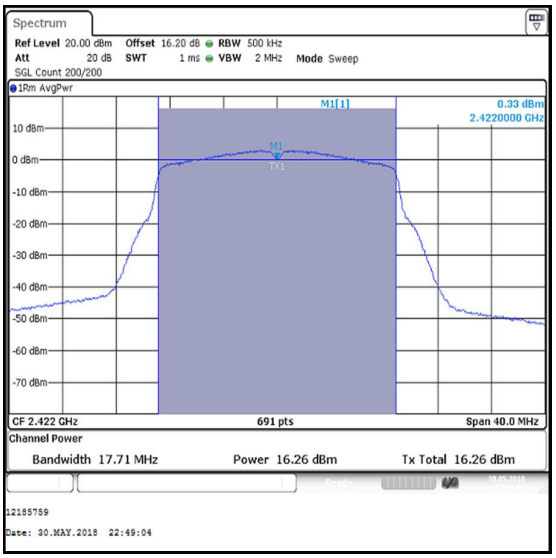
Results: 802.11n / HT20 / MIMO / 3Tx CDD / BPSK / MCS0 / Core 0



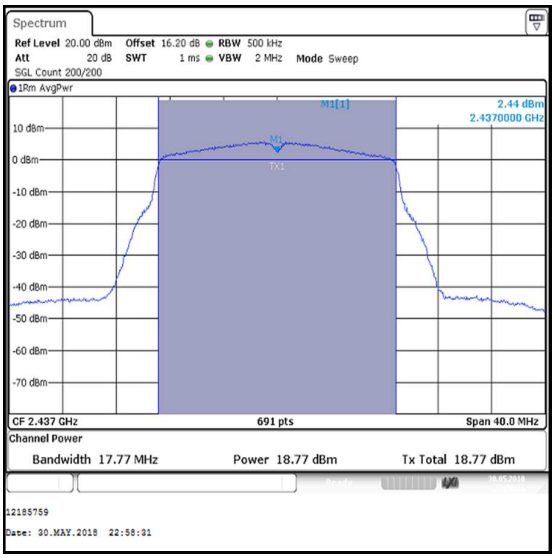
Channel 1



Channel 2



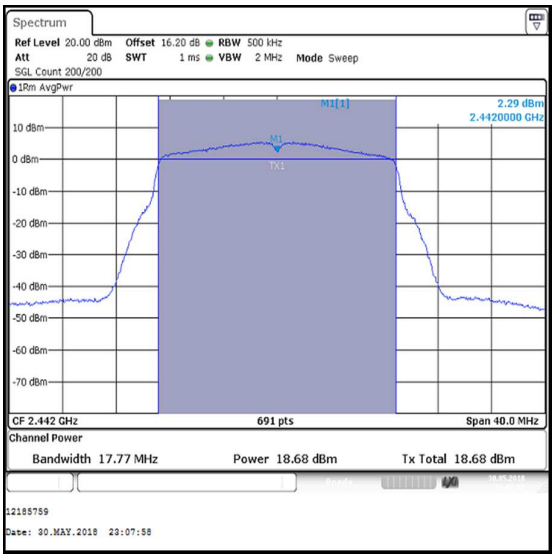
Channel 3



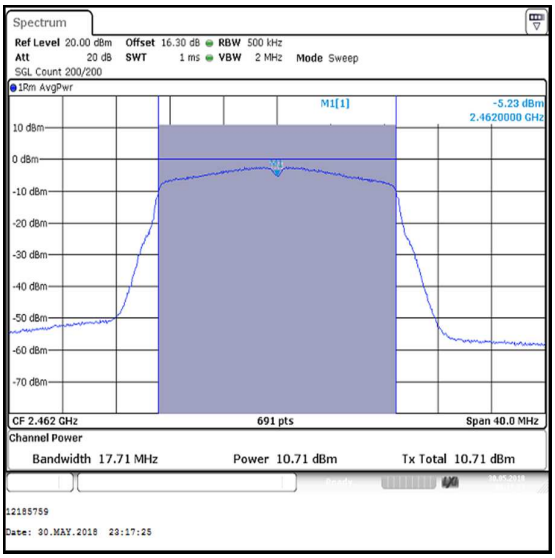
Channel 6

Transmitter Maximum (Average) Output Power (continued)

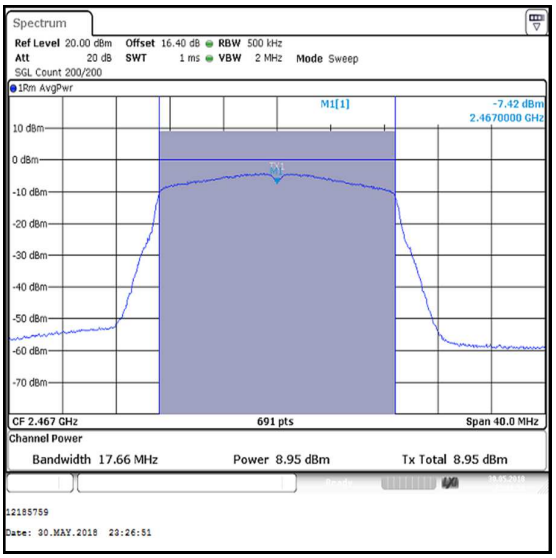
Results: 802.11n / HT20 / MIMO / 3Tx CDD / BPSK / MCS0 / Core 1



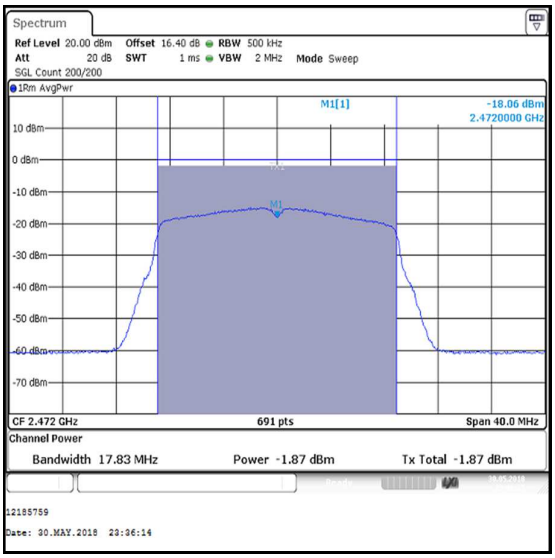
Channel 7



Channel 11



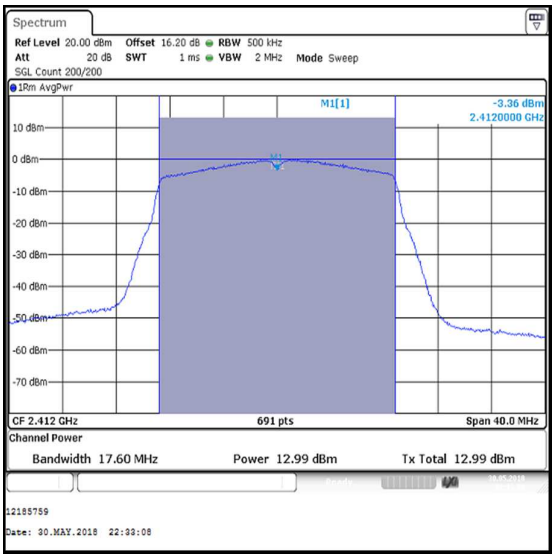
Channel 12



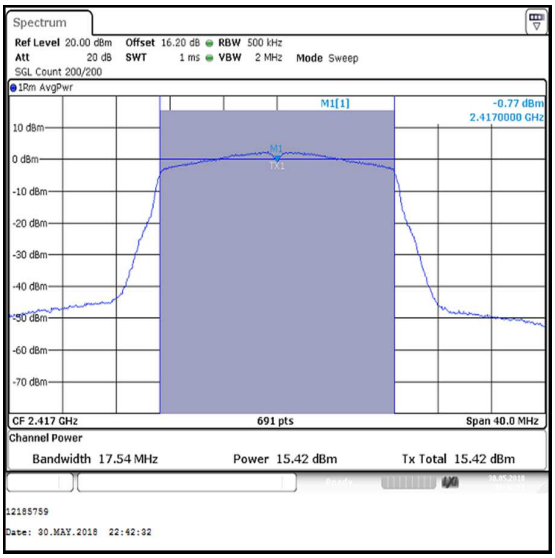
Channel 13

Transmitter Maximum (Average) Output Power (continued)

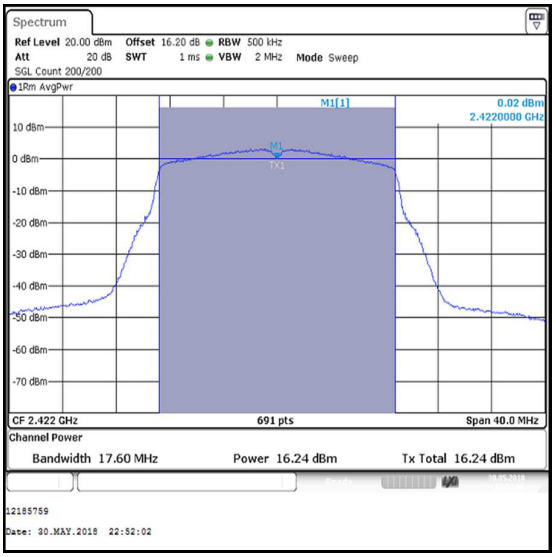
Results: 802.11n / HT20 / MIMO / 3Tx CDD / BPSK / MCS0 / Core 2



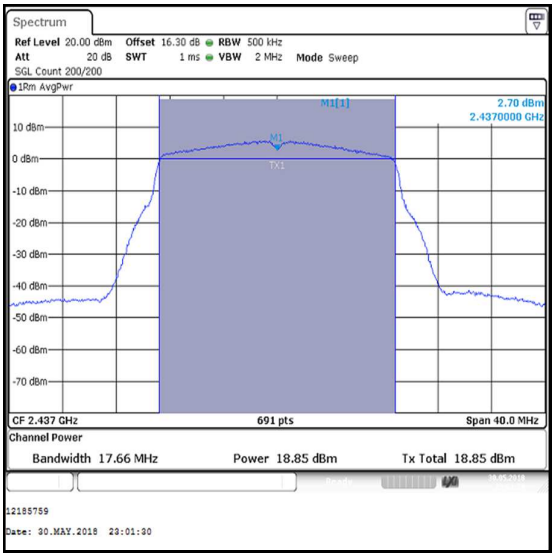
Channel 1



Channel 2



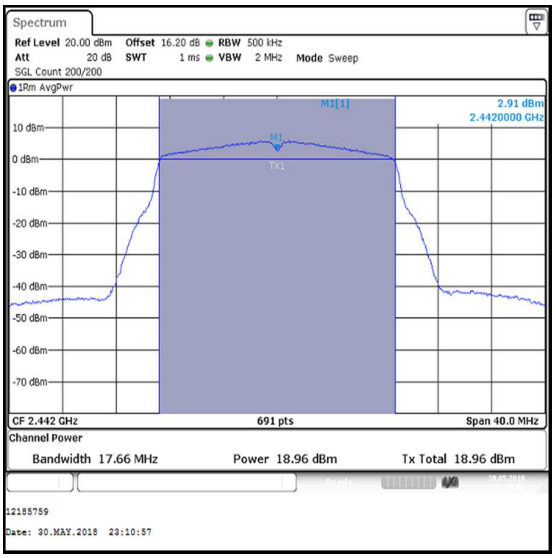
Channel 3



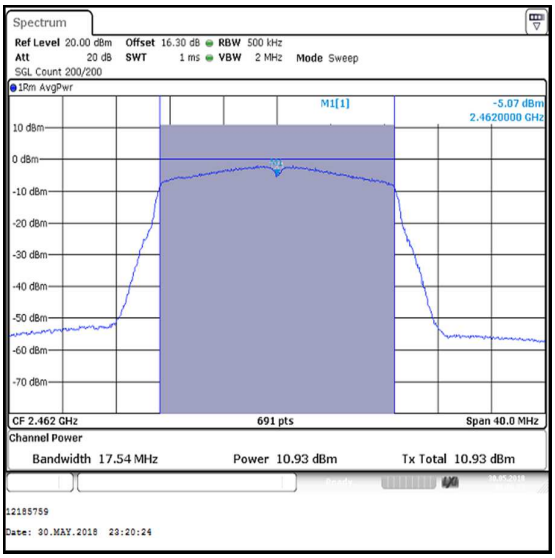
Channel 6

Transmitter Maximum (Average) Output Power (continued)

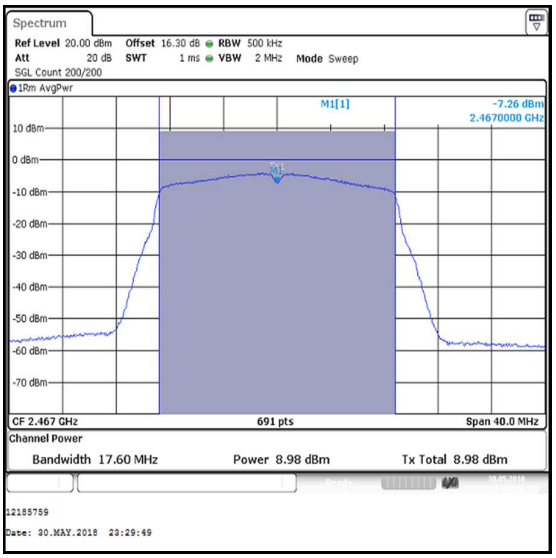
Results: 802.11n / HT20 / MIMO / 3Tx CDD / BPSK / MCS0 / Core 2



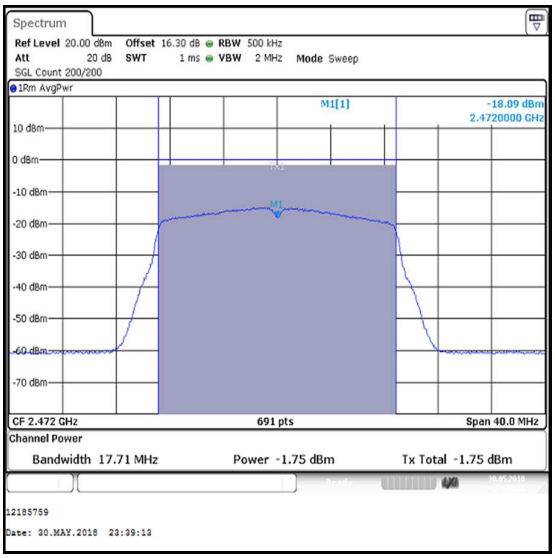
Channel 7



Channel 11



Channel 12



Channel 13

Transmitter Maximum (Average) Output Power (continued)

Results: 802.11n / HT20 / MIMO / 2Tx TXBF / BPSK / MCS0

Conducted Peak Limit Comparison

Channel	Core 0			Core 1		
	Conducted Peak Power (dBm)	Duty Cycle Correction (dB)	Corrected Conducted Peak Power (dBm)	Conducted Peak Power (dBm)	Duty Cycle Correction (dB)	Corrected Conducted Peak Power (dBm)
1	13.7	0.2	13.9	13.6	0.2	13.8
2	15.0	0.2	15.2	15.1	0.2	15.3
3	16.4	0.2	16.6	16.5	0.2	16.7
6	20.2	0.2	20.4	19.9	0.2	20.1
7	18.1	0.2	18.3	18.3	0.2	18.5
11	11.1	0.2	11.3	10.9	0.2	11.1
12	8.3	0.2	8.5	8.4	0.2	8.6
13	0.4	0.2	0.6	0.7	0.2	0.9

Channel	Corrected Conducted Peak Power Core 0 (dBm)	Corrected Conducted Peak Power Core 1 (dBm)	Combined Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
1	13.9	13.8	16.9	30.0	13.1	Complied
2	15.2	15.3	18.3	30.0	11.7	Complied
3	16.6	16.7	19.7	30.0	10.3	Complied
6	20.4	20.1	23.3	30.0	6.7	Complied
7	18.3	18.5	21.4	30.0	8.6	Complied
11	11.3	11.1	14.2	30.0	15.8	Complied
12	8.5	8.6	11.6	30.0	18.4	Complied
13	0.6	0.9	3.8	30.0	26.2	Complied

Transmitter Maximum (Average) Output Power (continued)

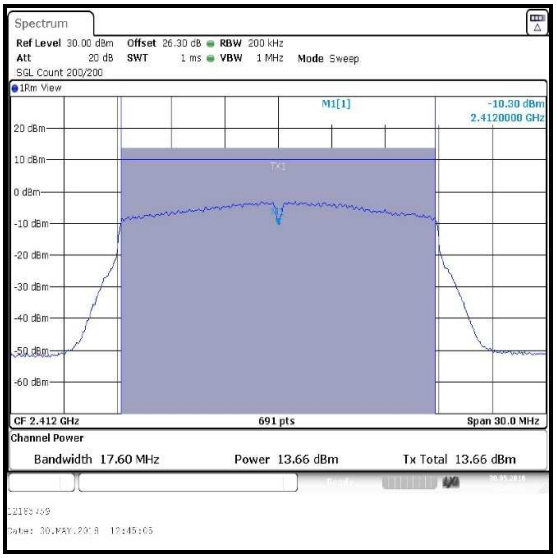
Results: 802.11n / HT20 / MIMO / 2Tx TXBF / BPSK / MCS0

EIRP Limit Comparison

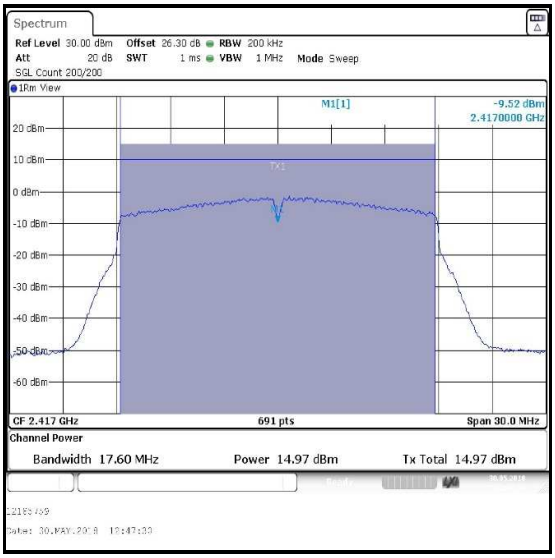
Channel	Combined Conducted Peak Power (dBm)	Directional Antenna Gain (dBi)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
1	16.9	5.7	22.6	36.0	13.4	Complied
2	18.3	5.7	24.0	36.0	12.0	Complied
3	19.7	5.7	25.4	36.0	10.6	Complied
6	23.3	5.7	29.0	36.0	7.0	Complied
7	21.4	5.7	27.1	36.0	8.9	Complied
11	14.2	5.7	19.9	36.0	16.1	Complied
12	11.6	5.7	17.3	36.0	18.7	Complied
13	3.8	5.7	9.5	36.0	26.5	Complied

Transmitter Maximum (Average) Output Power (continued)

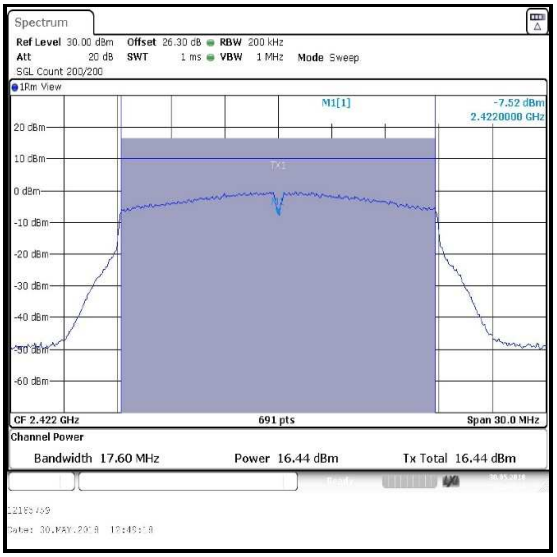
Results: 802.11n / HT20 / MIMO / 2Tx TXBF / BPSK / MCS0 / Core 0



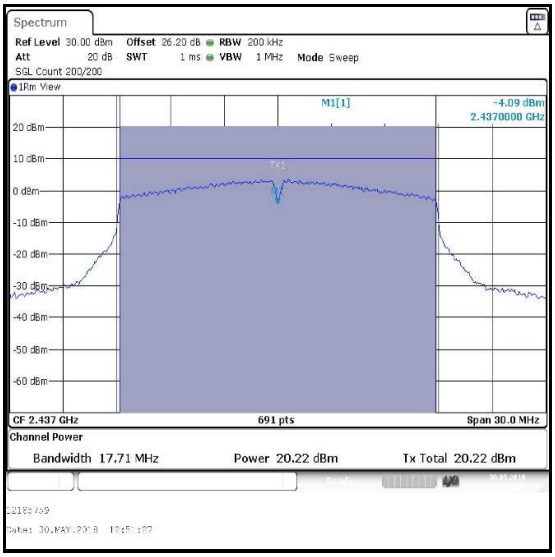
Channel 1



Channel 2



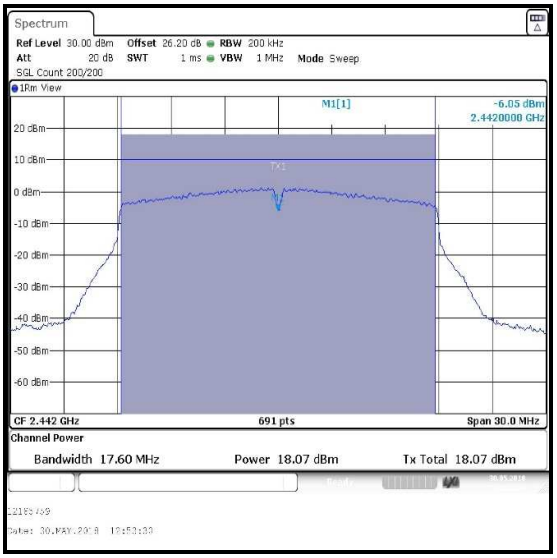
Channel 3



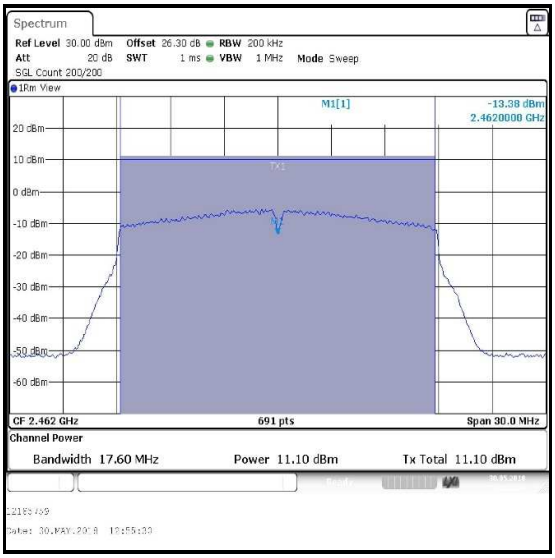
Channel 6

Transmitter Maximum (Average) Output Power (continued)

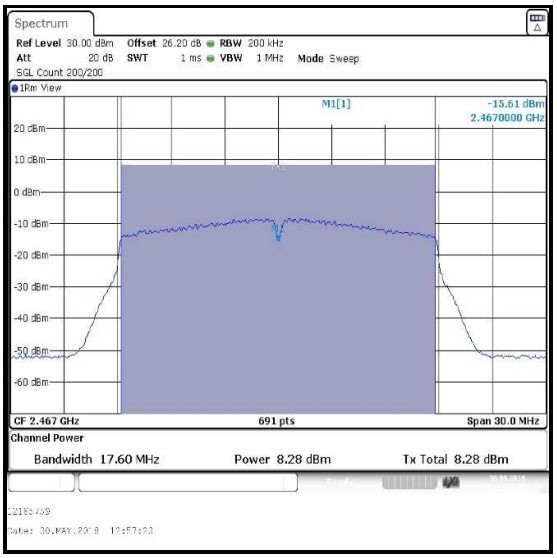
Results: 802.11n / HT20 / MIMO / 2Tx TXBF / BPSK / MCS0 / Core 0



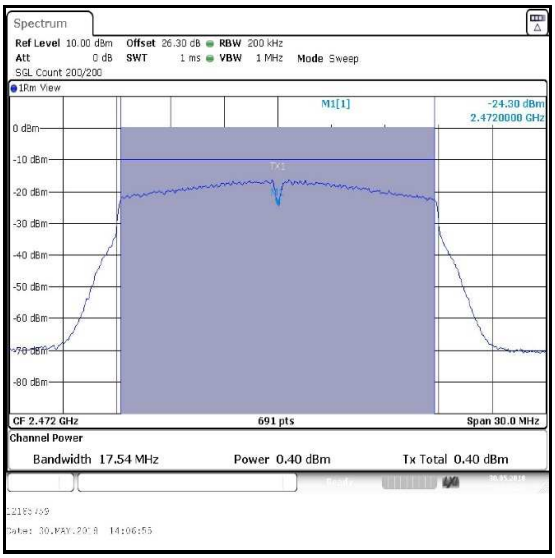
Channel 7



Channel 11



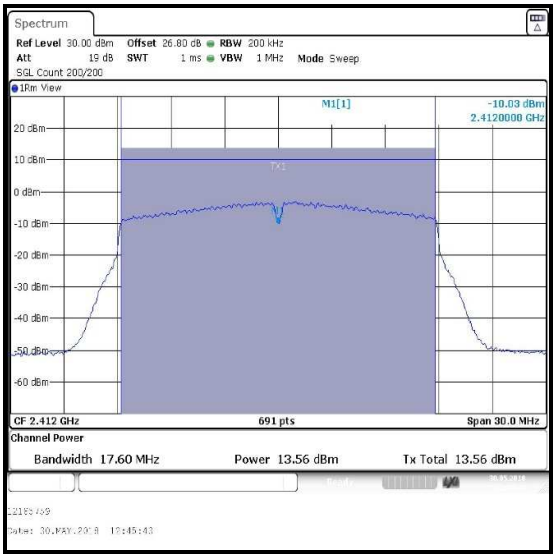
Channel 12



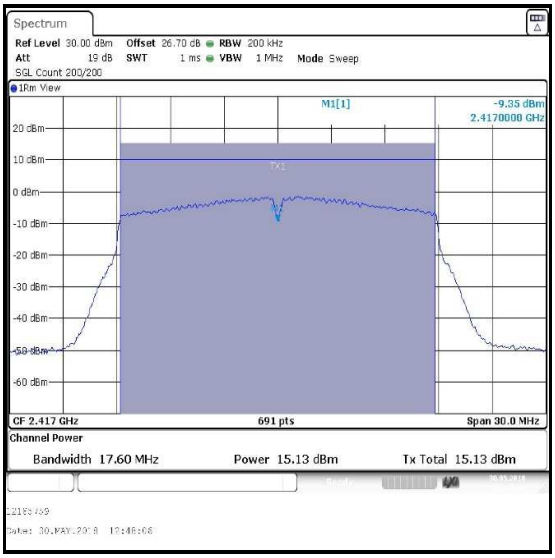
Channel 13

Transmitter Maximum (Average) Output Power (continued)

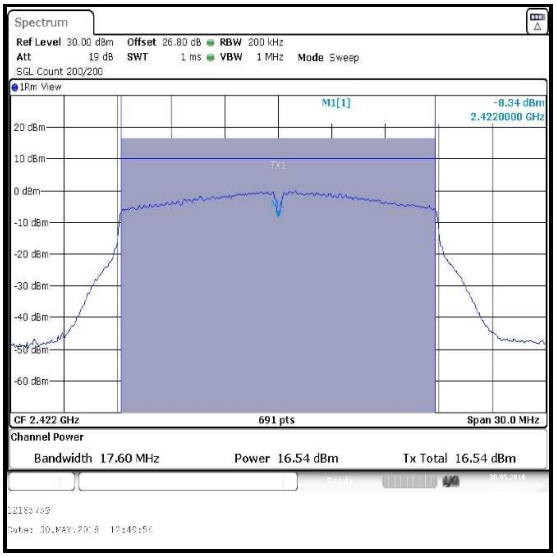
Results: 802.11n / HT20 / MIMO / 2Tx TXBF / BPSK / MCS0 / Core 1



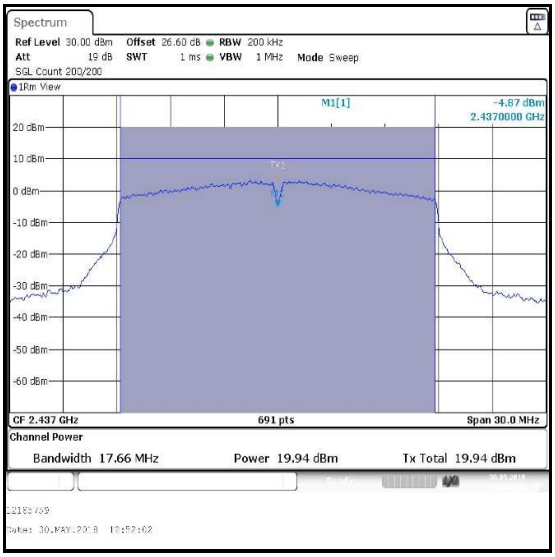
Channel 1



Channel 2



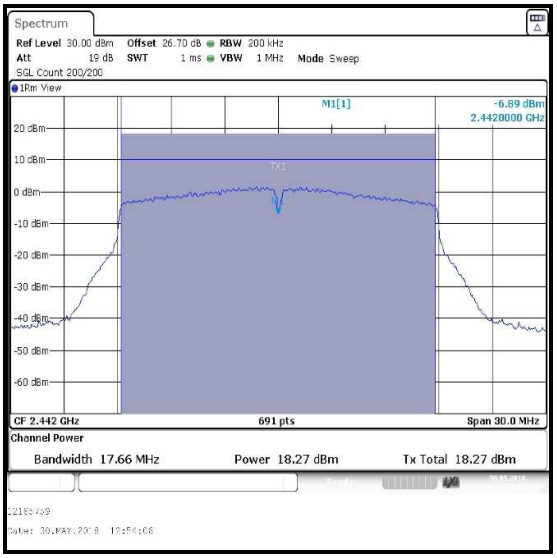
Channel 3



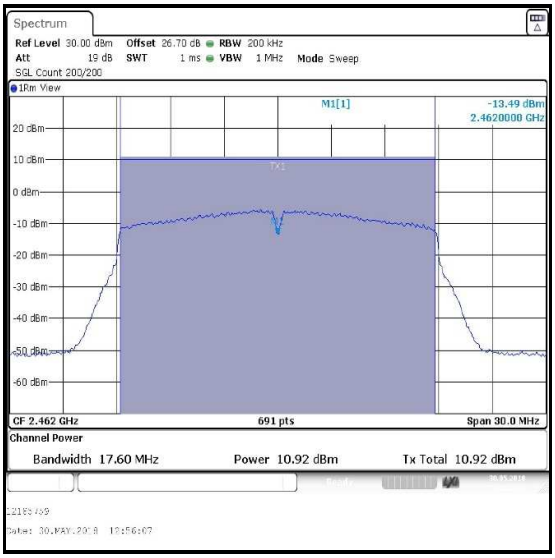
Channel 6

Transmitter Maximum (Average) Output Power (continued)

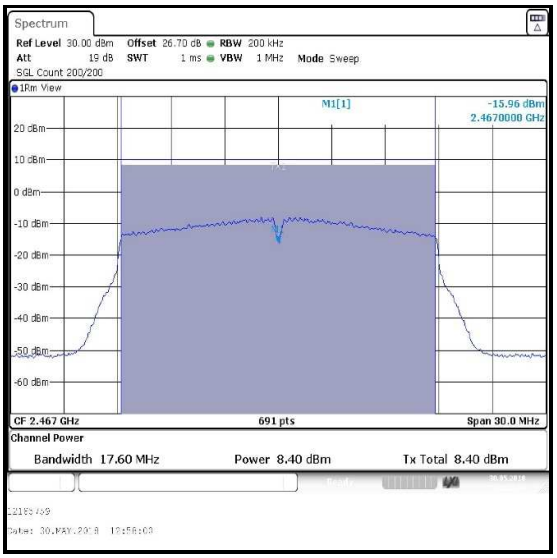
Results: 802.11n / HT20 / MIMO / 2Tx TXBF / BPSK / MCS0 / Core 1



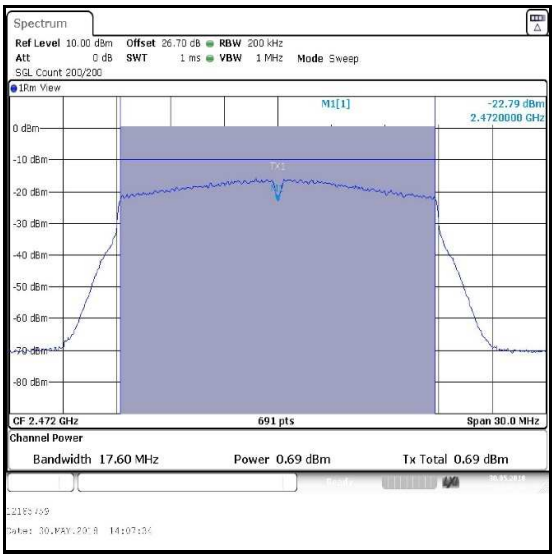
Channel 7



Channel 11



Channel 12



Channel 13

Transmitter Maximum (Average) Output Power (continued)

Results: 802.11n / HT20 / MIMO / 3Tx TXBF / BPSK / MCS0

Conducted Peak Limit Comparison

Channel	Core 0			Core 1		
	Conducted Peak Power (dBm)	Duty Cycle Correction (dB)	Corrected Conducted Peak Power (dBm)	Conducted Peak Power (dBm)	Duty Cycle Correction (dB)	Corrected Conducted Peak Power (dBm)
1	12.4	0.2	12.6	12.1	0.2	12.3
2	14.9	0.2	15.1	14.2	0.2	14.4
3	15.6	0.2	15.8	15.3	0.2	15.5
6	18.2	0.2	18.4	18.3	0.2	18.5
7	16.2	0.2	16.4	16.5	0.2	16.7
11	10.9	0.2	11.1	10.8	0.2	11.0
12	7.3	0.2	7.5	7.3	0.2	7.5
13	-0.5	0.2	-0.3	-0.8	0.2	-0.6

Channel	Core 2			Cores 0, 1 & 2		
	Conducted Peak Power (dBm)	Duty Cycle Correction (dB)	Corrected Conducted Peak Power (dBm)	Corrected Conducted Peak Power Core 0 (dBm)	Corrected Conducted Peak Power Core 1 (dBm)	Corrected Conducted Peak Power Core 2 (dBm)
1	12.4	0.2	12.6	12.6	12.3	12.6
2	14.2	0.2	14.4	15.1	14.4	14.4
3	15.2	0.2	15.4	15.8	15.5	15.4
6	18.3	0.2	18.5	18.4	18.5	18.5
7	16.3	0.2	16.5	16.4	16.7	16.5
11	10.9	0.2	11.1	11.1	11.0	11.1
12	7.4	0.2	7.6	7.5	7.5	7.6
13	-0.9	0.2	-0.7	-0.3	-0.6	-0.7

Transmitter Maximum (Average) Output Power (continued)

Results: 802.11n / HT20 / MIMO / 3Tx TXBF / BPSK / MCS0

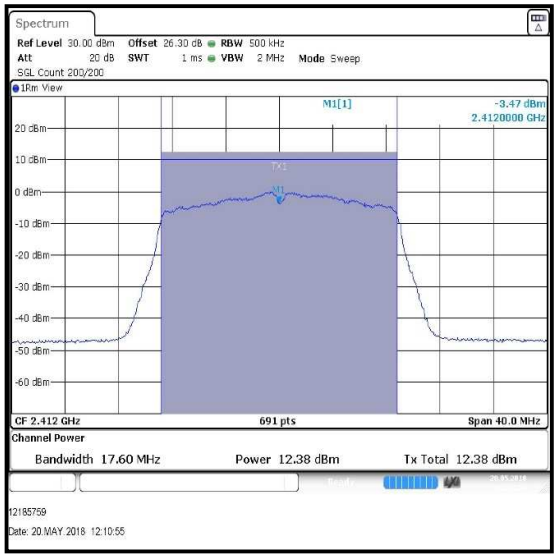
Channel	Combined Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
1	17.3	30.0	12.7	Complied
2	19.4	30.0	10.6	Complied
3	20.3	30.0	9.7	Complied
6	23.2	30.0	6.8	Complied
7	21.3	30.0	8.7	Complied
11	15.8	30.0	14.2	Complied
12	12.3	30.0	17.7	Complied
13	4.2	30.0	25.8	Complied

EIRP Limit Comparison

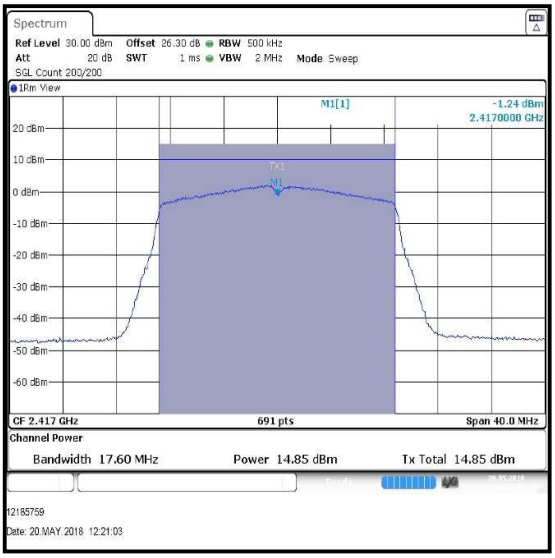
Channel	Combined Conducted Peak Power (dBm)	Directional Antenna Gain (dBi)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
1	17.3	7.3	24.6	36.0	11.4	Complied
2	19.4	7.3	26.7	36.0	9.3	Complied
3	20.3	7.3	27.6	36.0	8.4	Complied
6	23.2	7.3	30.5	36.0	5.5	Complied
7	21.3	7.3	28.6	36.0	7.4	Complied
11	15.8	7.3	23.1	36.0	12.9	Complied
12	12.3	7.3	19.3	36.0	16.7	Complied
13	4.2	7.3	11.5	36.0	24.5	Complied

Transmitter Maximum (Average) Output Power (continued)

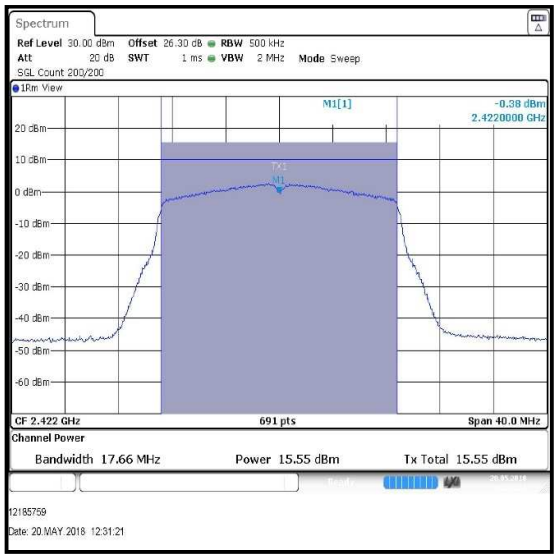
Results: 802.11n / HT20 / MIMO / 3Tx TXBF / BPSK / MCS0 / Core 0



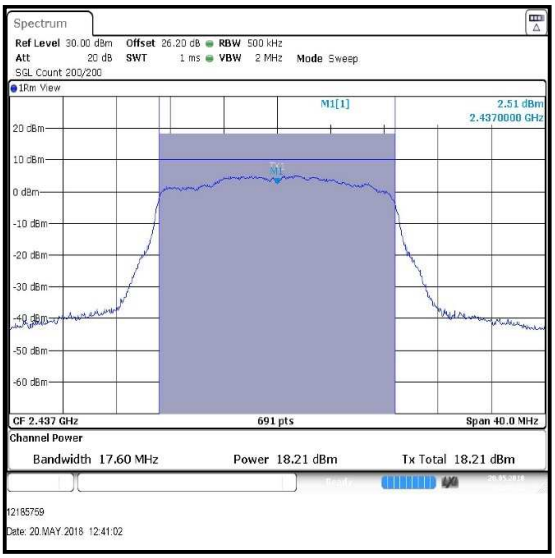
Channel 1



Channel 2



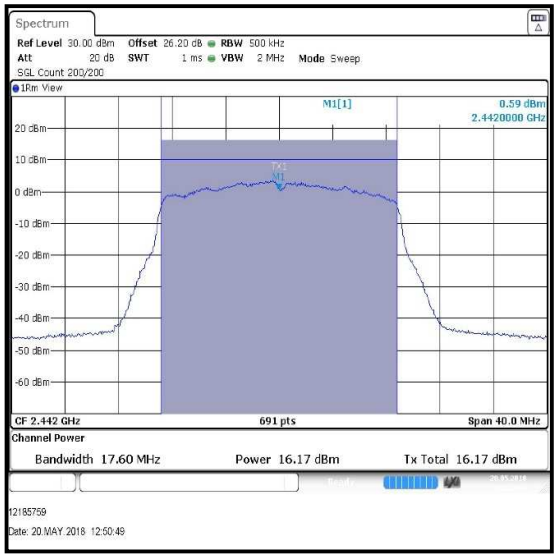
Channel 3



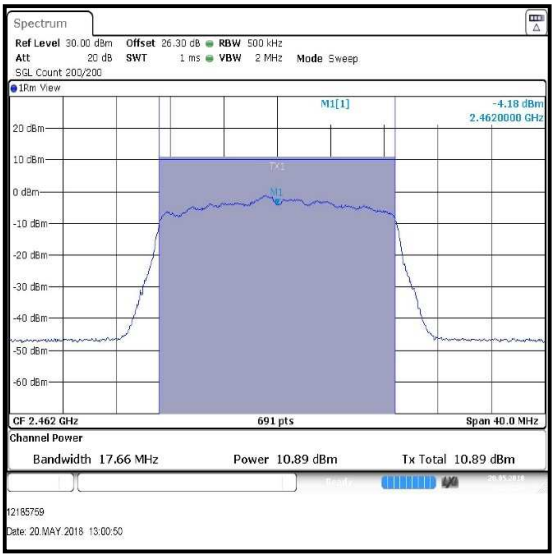
Channel 6

Transmitter Maximum (Average) Output Power (continued)

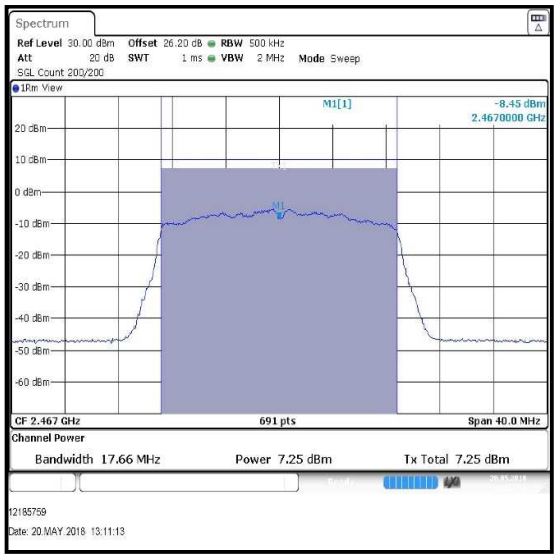
Results: 802.11n / HT20 / MIMO / 3Tx TXBF / BPSK / MCS0 / Core 0



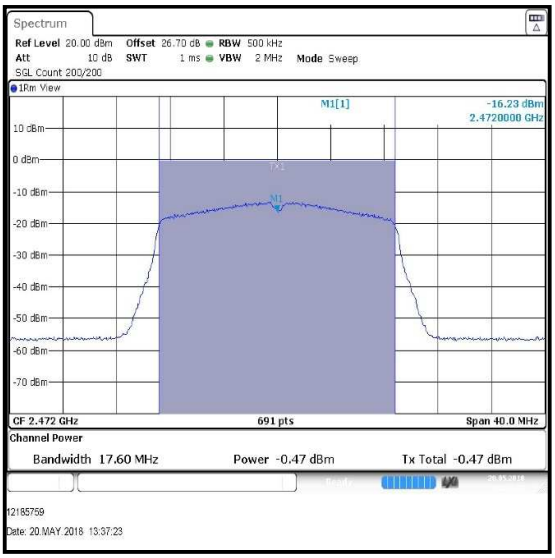
Channel 7



Channel 11



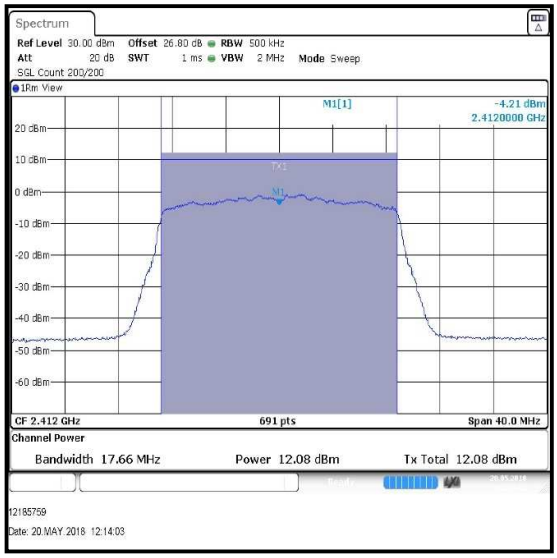
Channel 12



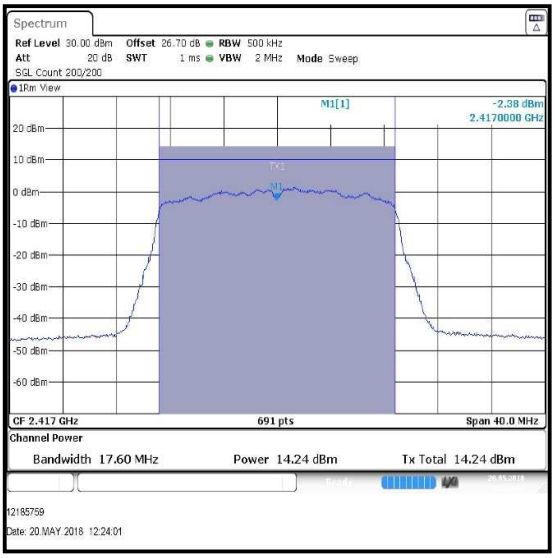
Channel 13

Transmitter Maximum (Average) Output Power (continued)

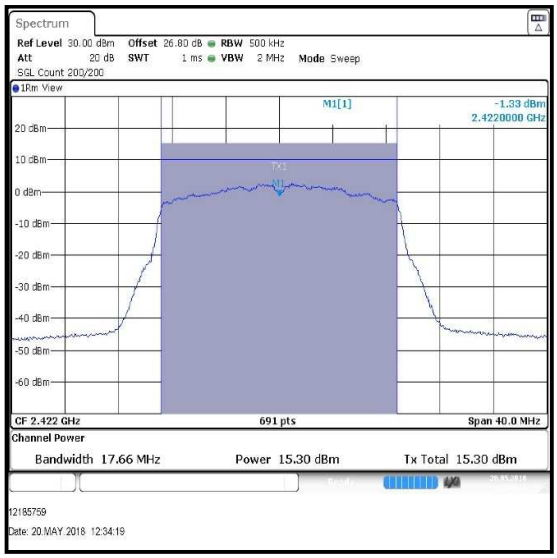
Results: 802.11n / HT20 / MIMO / 3Tx TXBF / BPSK / MCS0 / Core 1



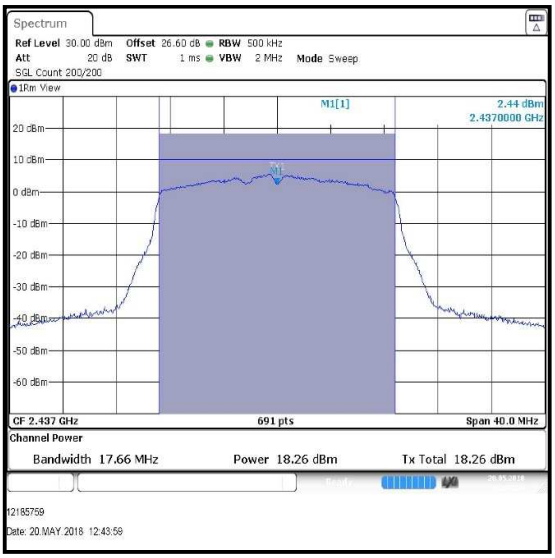
Channel 1



Channel 2



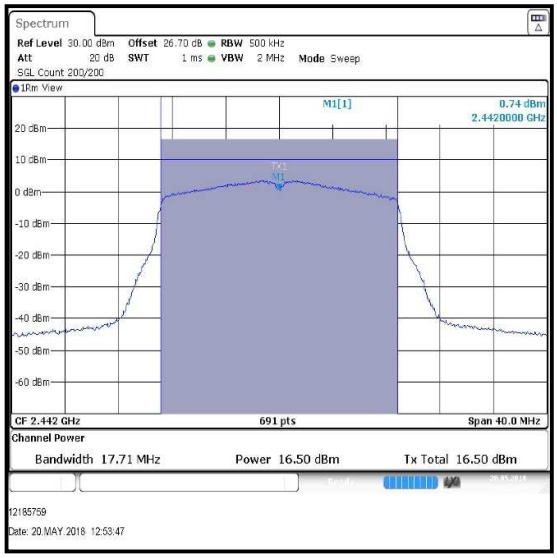
Channel 3



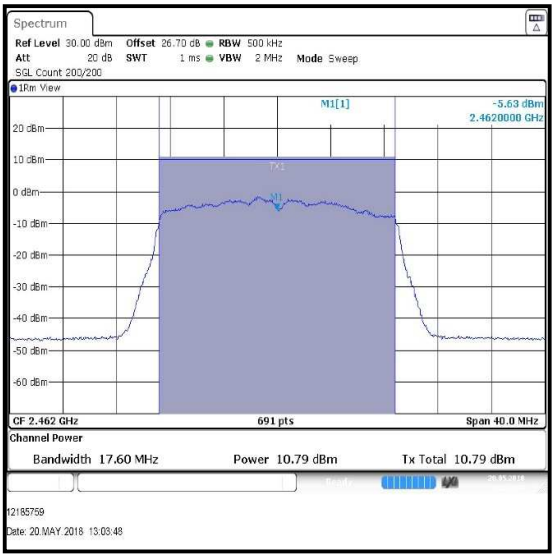
Channel 6

Transmitter Maximum (Average) Output Power (continued)

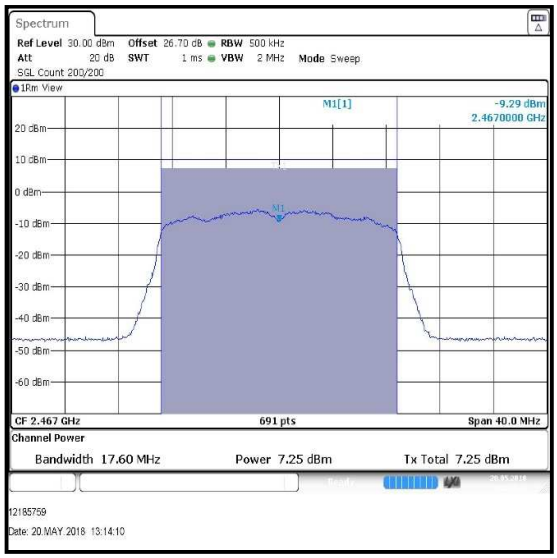
Results: 802.11n / HT20 / MIMO / 3Tx TXBF / BPSK / MCS0 / Core 1



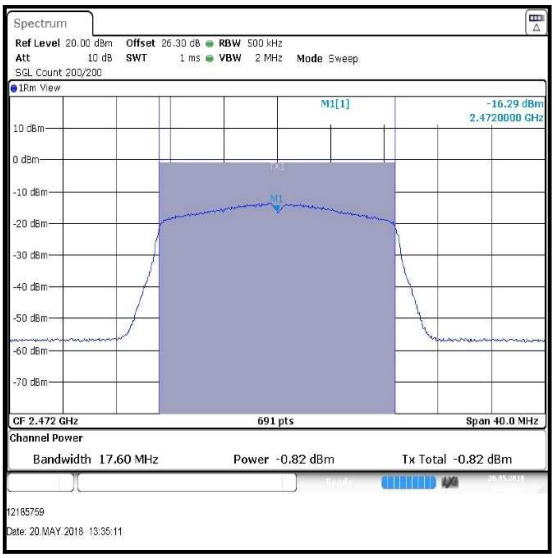
Channel 7



Channel 11



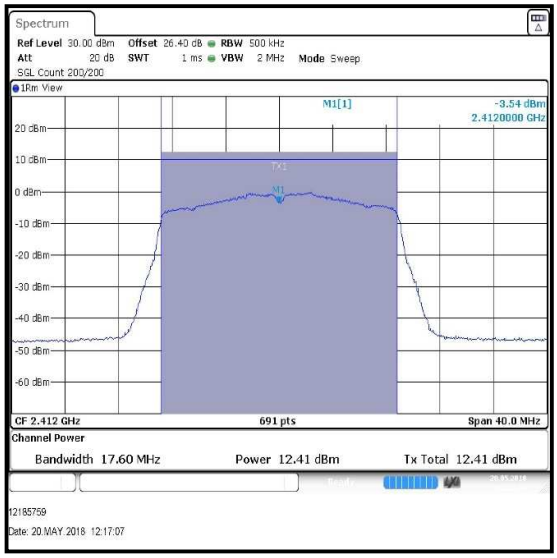
Channel 12



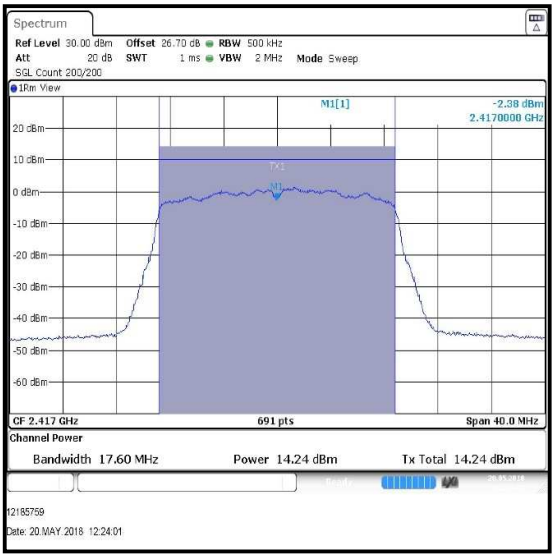
Channel 13

Transmitter Maximum (Average) Output Power (continued)

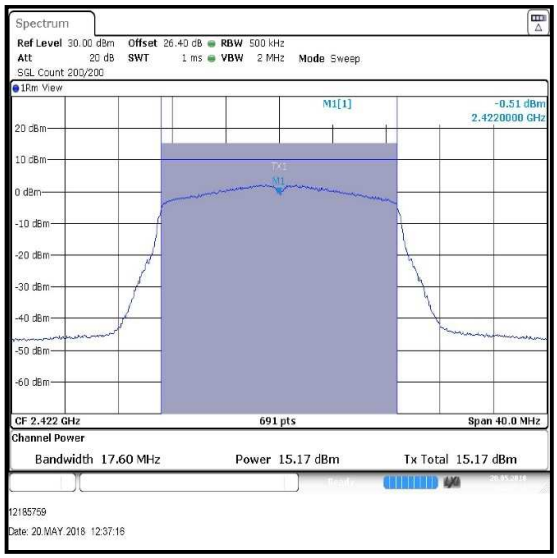
Results: 802.11n / HT20 / MIMO / 3Tx TXBF / BPSK / MCS0 / Core 2



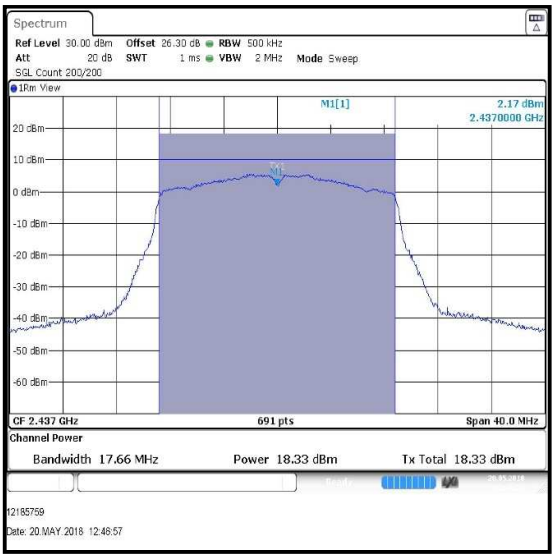
Channel 1



Channel 2



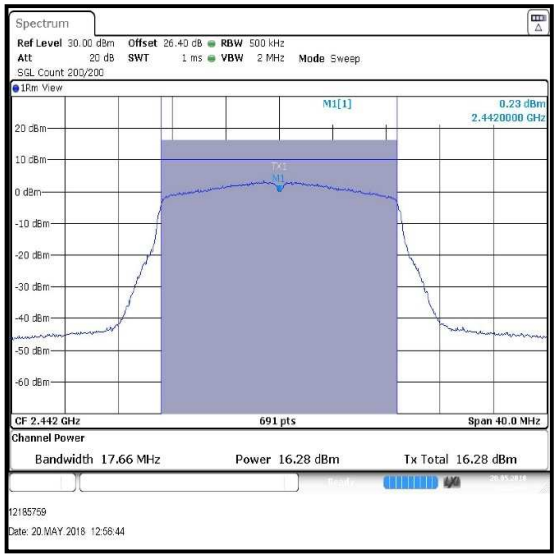
Channel 3



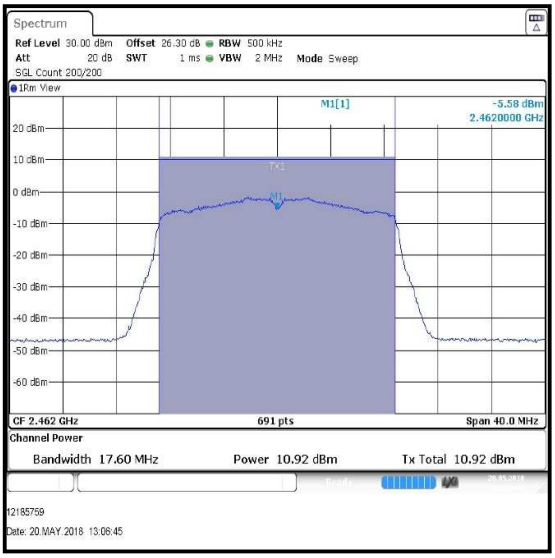
Channel 6

Transmitter Maximum (Average) Output Power (continued)

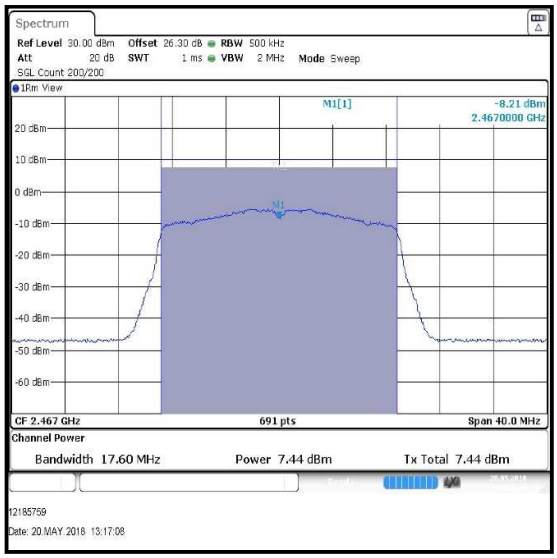
Results: 802.11n / HT20 / MIMO / 3Tx TXBF / BPSK / MCS0 / Core 2



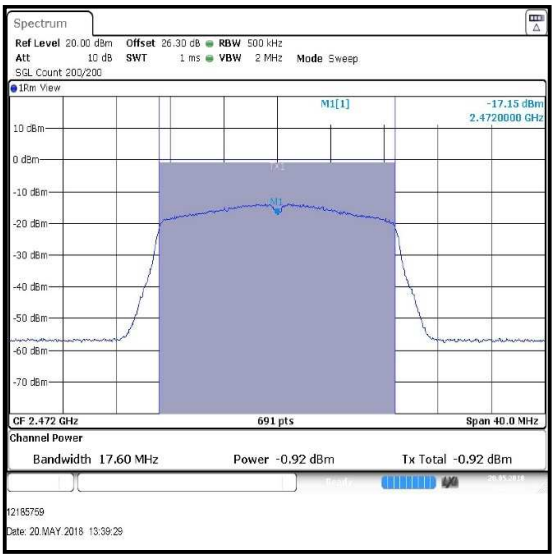
Channel 7



Channel 11



Channel 12



Channel 13

5. Radiated Test Results

5.1. Transmitter Radiated Emissions <1 GHz

Test Summary:

Test Engineer:	Alan Withers	**Test Date:**	15 May 2018
Test Sample Serial Number:	C02WC006JTGW		

FCC Reference:	Parts 15.247(d) & 15.209(a)
Test Method Used:	ANSI C63.10 Sections 6.3 and 6.5
Frequency Range	30 MHz to 1000 MHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	39

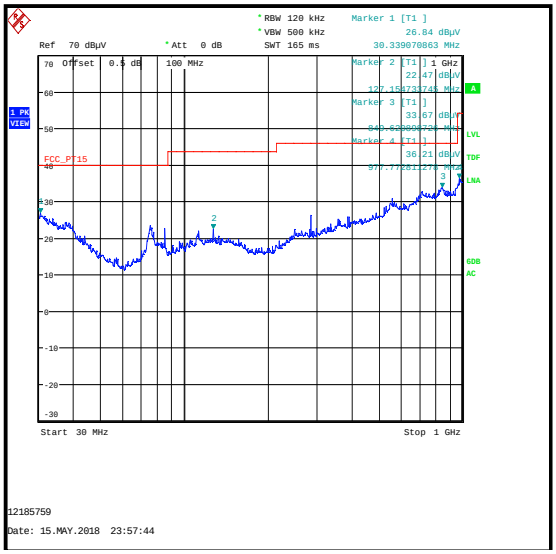
Note(s):

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. 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.
3. All emissions shown on the pre-scan plots were investigated and found to be ambient, or >20 dB below the applicable limit or below the measurement system noise floor. Therefore the highest peak noise floor reading of the measuring receiver was recorded in the table below.
4. Measurements below 1 GHz were performed in a semi-anechoic chamber (Asset Number K0017) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.
5. 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. A peak detector was used, sweep time was set to auto and trace mode was Max Hold.
6. Testing was performed with the EUT transmitting 802.11b / 1 Mbps / MIMO 3Tx CDD.

Transmitter Radiated Emissions (continued)

Results: Middle Channel / 802.11b / 1 Mbps / MIMO / 3Tx CDD

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
977.772	Vertical	36.2	54.0	17.8	Complied



5.2. Transmitter Radiated Emissions >1 GHz

Test Summary:

Test Engineers:	Mark Perry & Alan Withers	**Test Dates:**	14 May 2018 to 06 June 2018
Test Sample Serial Number:	C02WC006JTGW		

FCC Reference:	Parts 15.247(d) & 15.209(a)
Test Method Used:	ANSI C63.10 Sections 6.3 and 6.6 & FCC KDB 558074 Sections 11, 12.2.4 & 12.2.5.2
Frequency Range	1 GHz to 25 GHz

Environmental Conditions:

Temperature (°C):	23 to 25
Relative Humidity (%):	39 to 49

Note(s):

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. All other emissions shown on the pre-scan plots were investigated and found to be ambient or >20 dB below the appropriate limit or below the measurement system noise floor.
3. The emission shown approximately at 2442 MHz on the 1 GHz to 3 GHz plot is the EUT fundamental.
4. Pre-scans above 1 GHz were performed in a fully anechoic chamber (Asset Number K0002 and K0017) 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. Final measurements above 1 GHz were performed in a fully anechoic chamber (Asset Number K0017) at a distance of 3 metres. The EUT was placed at a height of 1.5 m above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.
5. Pre-scans were performed and a marker placed on the highest measured level of the appropriate plot. The test receiver resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. The sweep time was set to auto.
6. **-30 dBc limit applies in non-restricted bands as the conducted average maximum output power was previously measured.
7. The reference level for emissions in non-restricted bands was established following KDB 558074 Section 11.2 procedure.
8. Testing was performed with the EUT transmitting 802.11b / 1 Mbps / MIMO 3Tx CDD.

Transmitter Radiated Emissions (continued)

802.11b / 20 MHz / DBPSK / 1 Mbps / Core 0, Core 1 & Core 2

Results: Peak / Bottom Channel

Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)	Result
9647.921	Vertical	48.3	81.4**	33.1	Complied

Results: Peak / Middle Channel

Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)	Result
9767.941	Vertical	51.4	83.7**	32.3	Complied

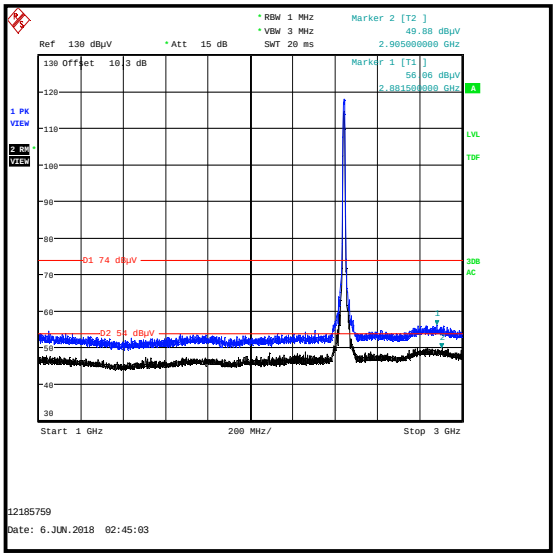
Results: Peak / Top Channel

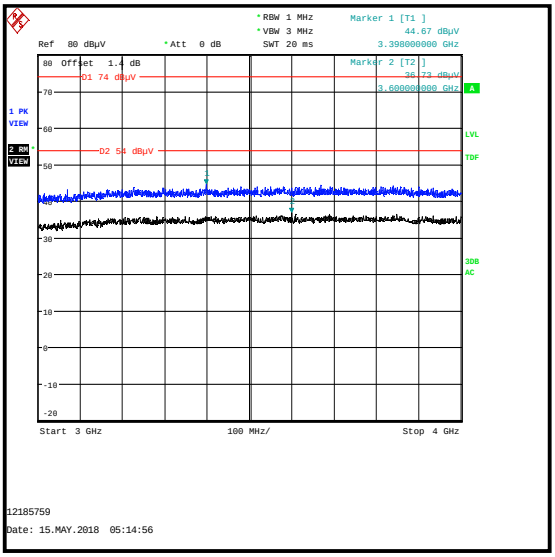
Frequency (MHz)	Antenna Polarity	Peak Level (dBµV/m)	Peak Limit (dBµV/m)	Margin (dB)	Result
12646.618	Vertical	44.6	74.0	29.4	Complied

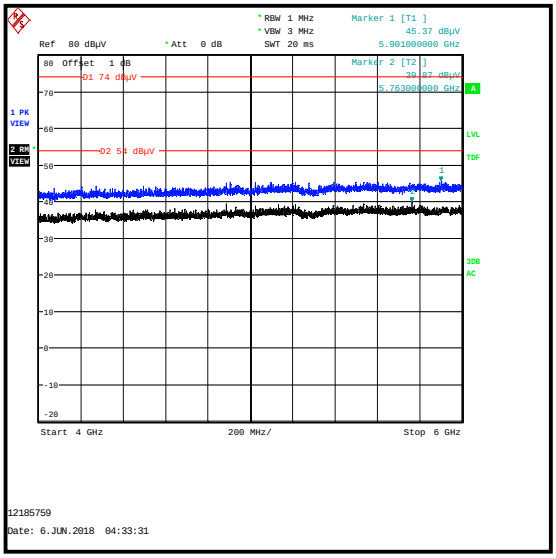
Results: Average / Top Channel

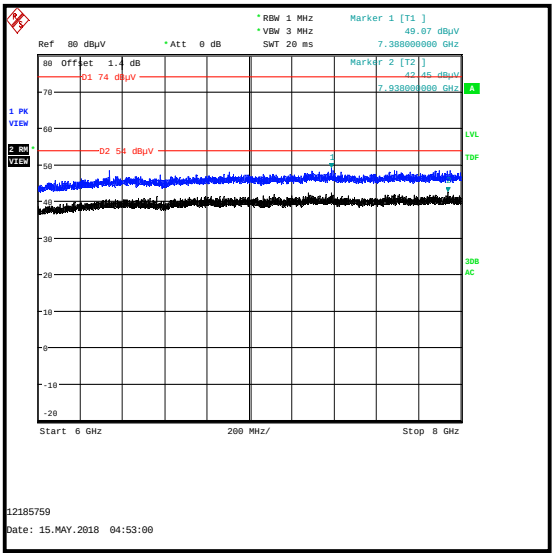
Frequency (MHz)	Antenna Polarity	Average Level (dBµV/m)	Average Limit (dBµV/m)	Margin (dB)	Result
12626.500	Vertical	38.9	54.0	15.1	Complied

Transmitter Radiated Emissions (continued

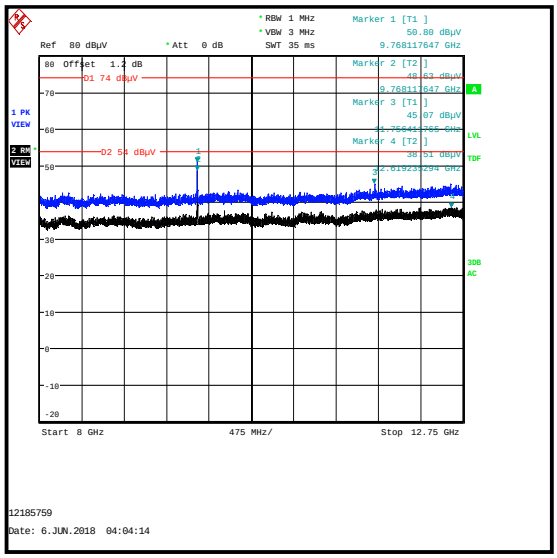


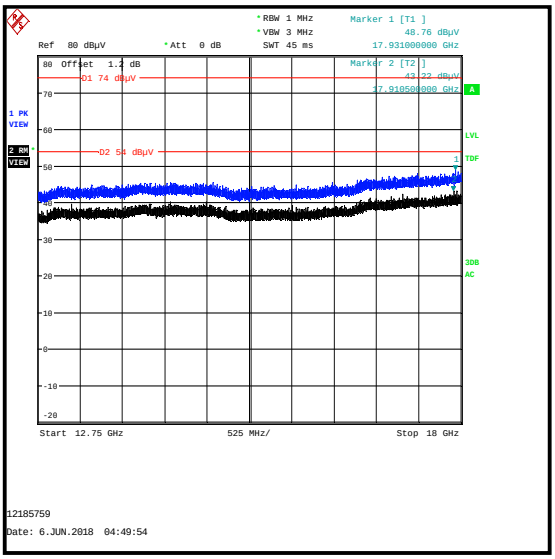


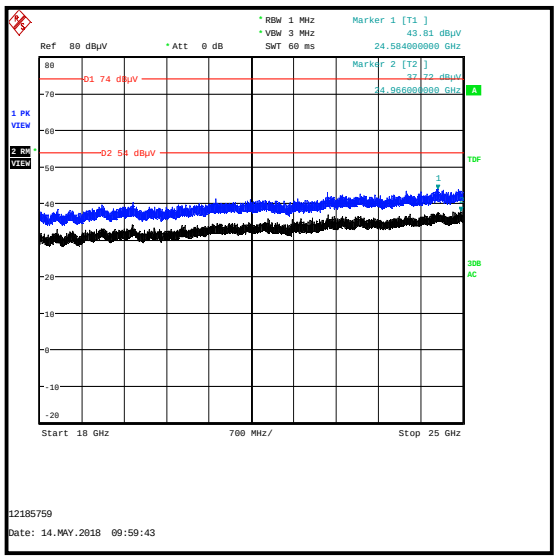




Transmitter Radiated Emissions (continued)







Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

5.3. Transmitter Band Edge Radiated Emissions

Test Summary:

Test Engineers:	Alan Withers, Andrew Edwards & John Ferdinand	**Test Dates:**	21 December 2017 to 19 April 2018
Test Sample Serial Numbers:	C02VT01FJLG2 & C02WC006JTGW		

FCC Reference:	Parts 15.247(d) & 15.209(a)
Test Method Used:	ANSI C63.10 Section 6.10 & FCC KDB 558074 Sections 11 & 12

Environmental Conditions:

Temperature (°C):	20 to 24
Relative Humidity (%):	38 to 45

Transmitter Band Edge Radiated Emissions (continued)

Note(s):

1. The customer declared the following data rates to be used for all measurements as:
    - 802.11b – DBPSK / 1 Mbps / SISO / Core 1
    - 802.11g – BPSK / 6 Mbps / SISO / Core 1
    - 802.11n HT20 – BPSK / MCS0 / SISO / Core 1
    - 802.11b – MIMO / 2Tx CDD / DBPSK / 1 Mbps / Core 0 & Core 1
    - 802.11b – MIMO / 3Tx CDD / DBPSK / 1 Mbps / Core 0, Core 1 & Core 2
    - 802.11n HT20 / MIMO / 2Tx CDD / BPSK / MCS0 / Core 0 & Core 1
    - 802.11n HT20 / MIMO / 3Tx CDD / BPSK / MCS0 / Core 0, Core 1 & Core 2
    - 802.11n HT20 / MIMO / 2Tx CDD with TxBF / BPSK / MCS0 / Core 0 & Core 1
    - 802.11n HT20 / MIMO / 3Tx CDD with TxBF / BPSK / MCS0 / Core 0, Core 1 & Core 2

    Final measurements were performed with the above configurations.
2. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
3. The maximum conducted (average) output power was previously measured. In accordance with FCC KDB 558074 Section 11.1(b), the lower band edge measurement should be performed with a peak detector and the -30 dBc limit applied.
4. As the lower band edge is adjacent to a non-restricted band, only peak measurements are required. In accordance with FCC KDB 558074 Section 11.1, the test method in Section 11.3 was followed: the test receiver resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold. The test receiver was left to sweep for a sufficient length of time in order to maximise the carrier level and out-of-band emissions. A marker and corresponding reference level line were placed on the peak of the carrier. As the maximum conducted (average) output power was measured using an RMS detector in accordance with FCC KDB 558074 Section 9.2.2.4 an out-of-band limit line was placed 30 dB (FCC KDB 558074 Section 11.1(b)) below the peak level. A marker was placed on the band edge spot frequencies and a second marker placed on the highest emission level in the adjacent non-restricted band of operation (where a higher level emission was present). Marker frequencies and levels were recorded.
5. As the upper band edge is adjacent to a restricted band both peak and average measurements were recorded by placing a marker at the edge of the band. For peak measurements the test receiver resolution bandwidth was set to 1 MHz and the video bandwidth 3 MHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold. For average measurements the test receiver resolution bandwidth was set to 1 MHz and the video bandwidth 3 MHz. An RMS detector was used, sweep time was set to auto and trace mode was trace averaging over 300 sweeps. A marker was placed on the band edge spot frequencies and a second marker placed on the highest emission level in the adjacent restricted band of operation (where a higher level emission was present). Marker frequencies and levels were recorded.
6. There is a restricted band 10 MHz below the lower band edge. The test receiver was set up as follows: the RBW set to 1 MHz, the VBW set to 3 MHz, with the sweep time set to auto couple. Peak and average measurements were performed with their respective detectors. Markers were placed on the highest point on each trace.

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11b / 20 MHz / DBPSK / 1 Mbps / Core 1

Results: Lower Band Edge / Channel 1

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	-30 dBc Limit (dBµV/m)	Margin (dB)	Result
2398.958	Vertical	63.0	78.9	15.9	Complied
2400	Vertical	60.5	78.9	18.4	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	58.7	74.0	15.3	Complied
2484.622	Vertical	59.1	74.0	14.9	Complied

Results: Upper Band Edge / Average / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	50.6	54.0	3.4	Complied

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	60.5	74.0	13.5	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	51.1	54.0	2.9	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	60.5	74.0	13.5	Complied
2484.221	Vertical	61.5	74.0	12.5	Complied

Results: Upper Band Edge / Average / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	46.5	54.0	7.5	Complied
2485.904	Vertical	50.9	54.0	3.1	Complied

Transmitter Band Edge Radiated Emissions (continued)

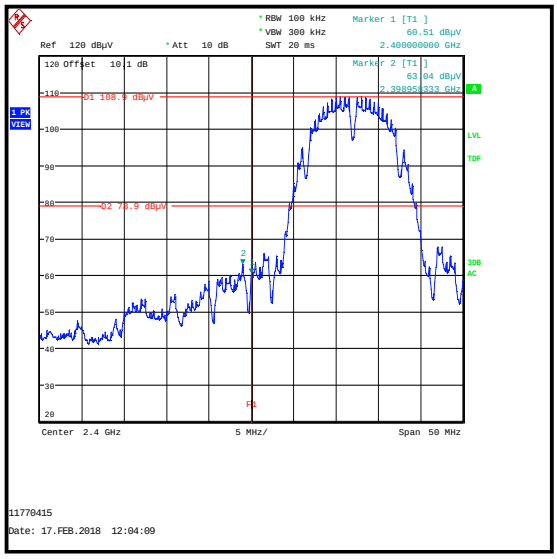
Results: 802.11b / 20 MHz / DBPSK / 1 Mbps / Core 1

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

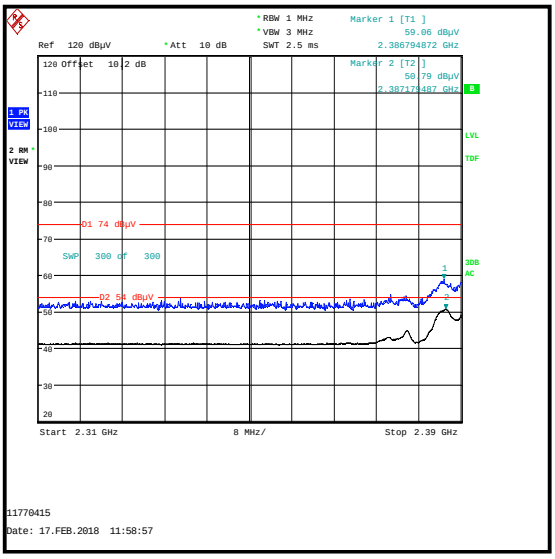
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2386.795	Vertical	59.1	74.0	14.9	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2387.179	Vertical	50.8	54.0	3.2	Complied



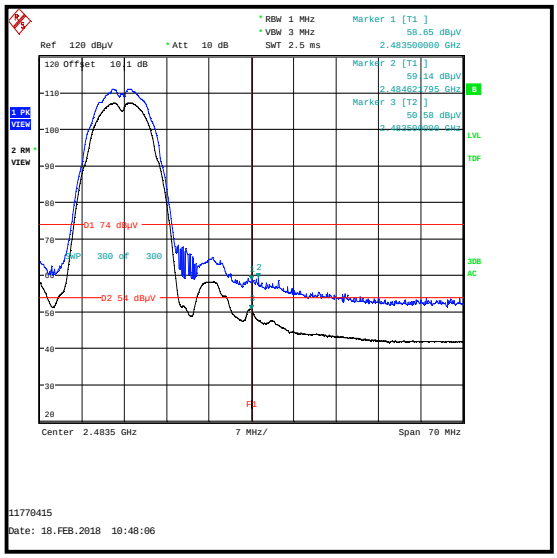
Lower Band Edge Channel 1



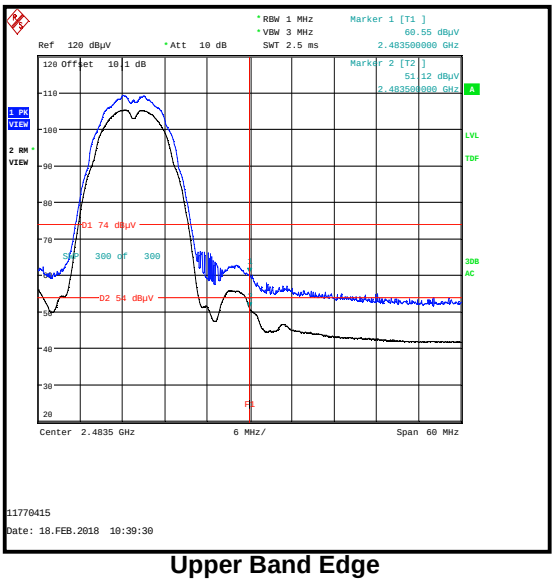
2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

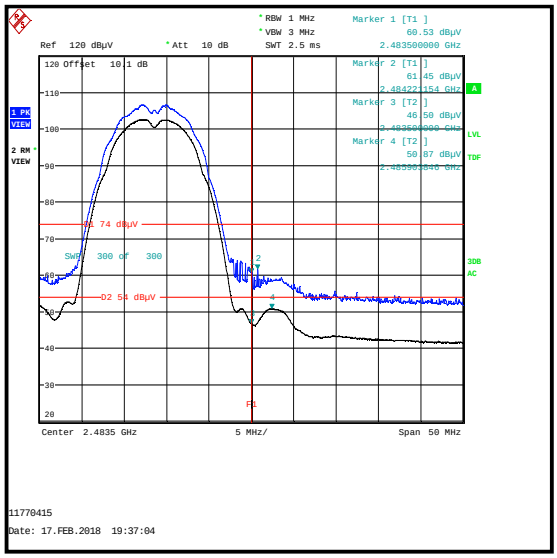
Results: 802.11b / 20 MHz / DBPSK / 1 Mbps / Core 1



Upper Band Edge
Channel 11



Upper Band Edge
Channel 12



Upper Band Edge Peak
Channel 13

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11g / 20 MHz / BPSK / 6 Mbps / Core 1

Results: Lower Band Edge / Channel 1

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	-30 dBc Limit (dBµV/m)	Margin (dB)	Result
2396.955	Vertical	59.1	73.9	14.8	Complied
2400	Vertical	56.2	73.9	17.7	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	63.0	74.0	11.0	Complied
2484.397	Vertical	63.2	74.0	10.8	Complied

Results: Upper Band Edge / Average / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	51.0	54.0	3.0	Complied

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	61.8	74.0	12.2	Complied
2483.692	Vertical	62.5	74.0	11.5	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	51.0	54.0	3.0	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	68.7	74.0	5.3	Complied

Results: Upper Band Edge / Average / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	50.9	54.0	3.1	Complied

Transmitter Band Edge Radiated Emissions (continued)

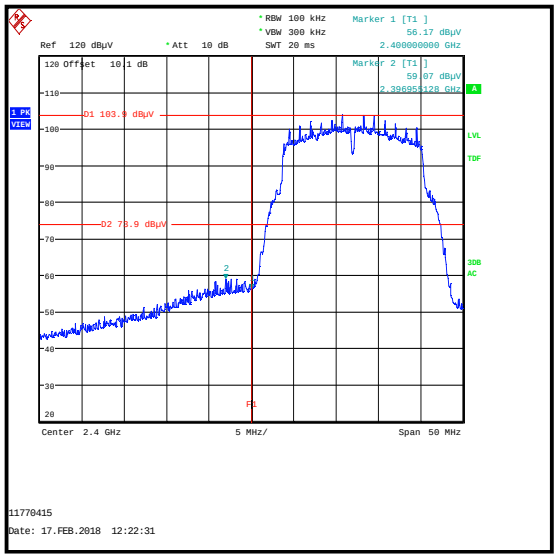
Results: 802.11g / 20 MHz / BPSK / 6 Mbps / Core 1

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

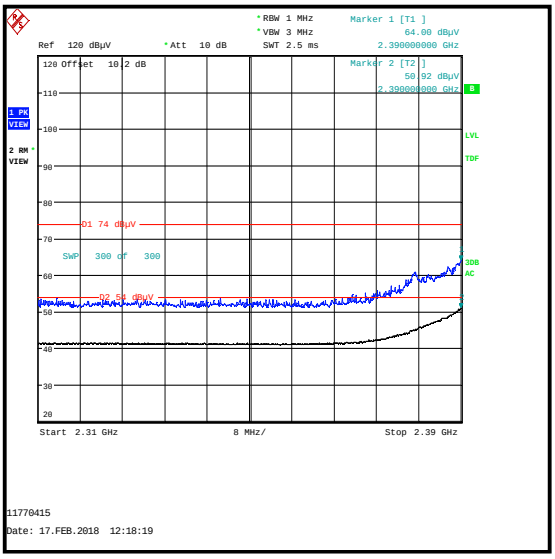
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2390.000	Vertical	64.0	74.0	10.0	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2390.000	Vertical	50.9	54.0	3.1	Complied



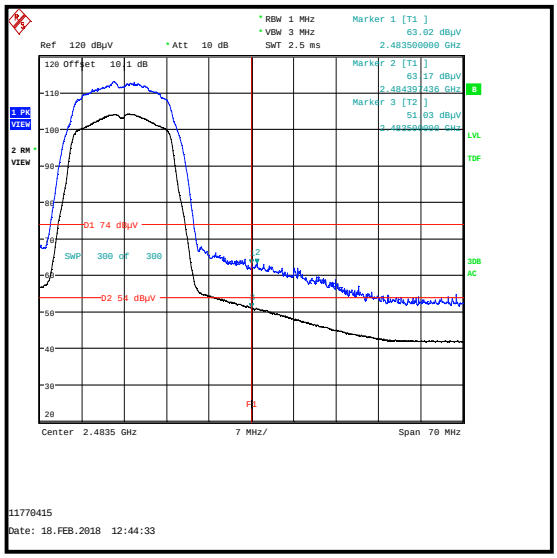
Lower Band Edge Peak
Channel 1



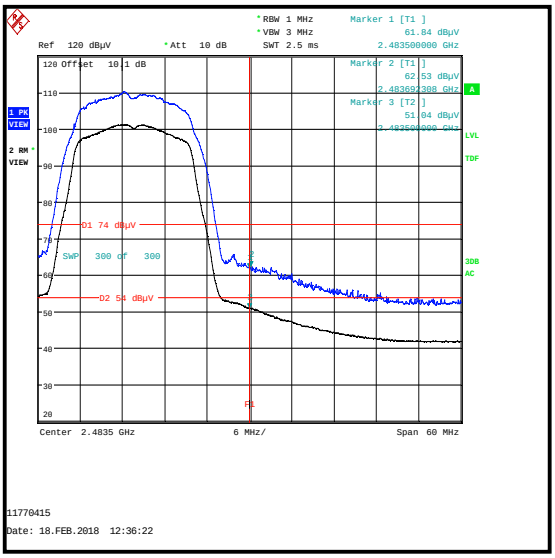
2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

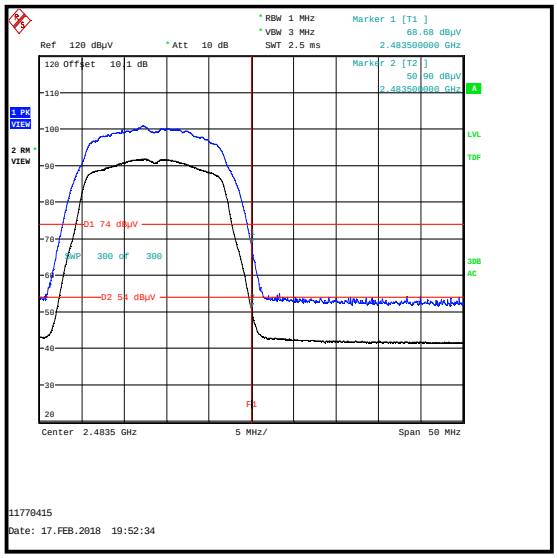
Results: 802.11g / 20 MHz / BPSK / 6 Mbps / Core 1



Upper Band Edge
Channel 11



Upper Band Edge
Channel 12



Upper Band Edge
Channel 13

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11n HT20 / SISO / BPSK / MCS0 / Core 1

Results: Lower Band Edge / Channel 1

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	-30 dBc Limit (dBµV/m)	Margin (dB)	Result
2396.955	Vertical	58.9	73.2	14.3	Complied
2400	Vertical	55.2	73.2	18.0	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	65.0	74.0	9.0	Complied

Results: Upper Band Edge / Average / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	50.8	54.0	3.2	Complied

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	62.6	74.0	11.4	Complied
2485.135	Vertical	63.5	74.0	10.5	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	51.1	54.0	2.9	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	65.8	74.0	8.2	Complied

Results: Upper Band Edge / Average / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	50.8	54.0	3.2	Complied

Transmitter Band Edge Radiated Emissions (continued)

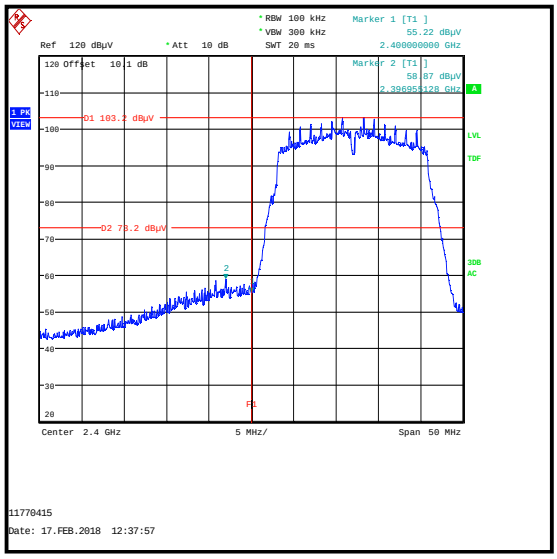
Results: 802.11n HT20 / SISO / BPSK / MCS0 / Core 1

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

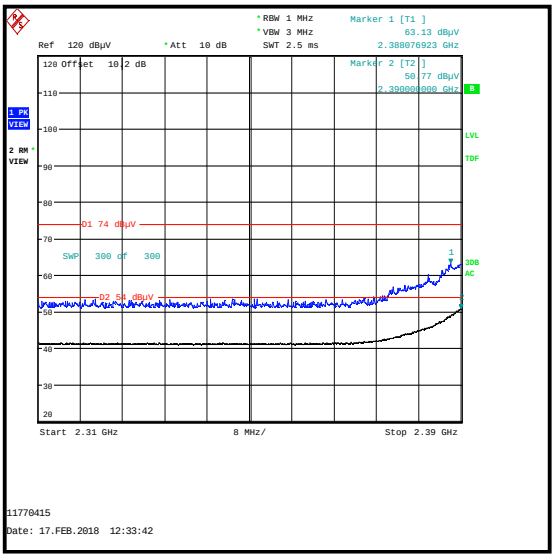
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2388.077	Vertical	63.1	74.0	10.9	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2390.000	Vertical	50.8	54.0	3.2	Complied



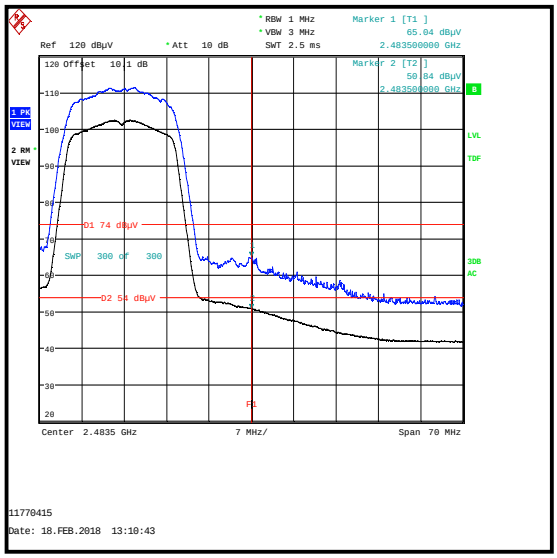
Lower Band Edge Peak
Channel 1



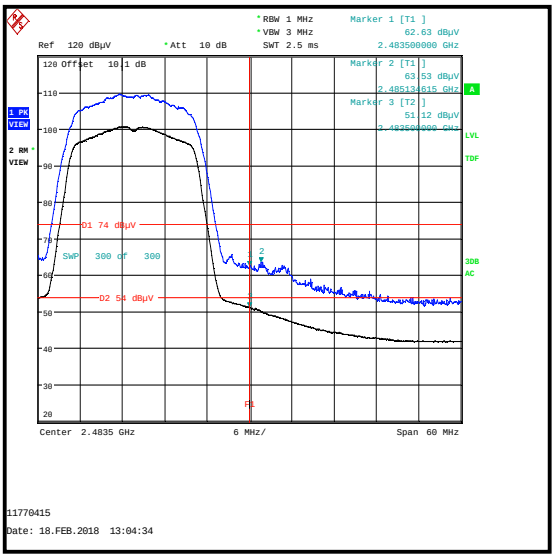
2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

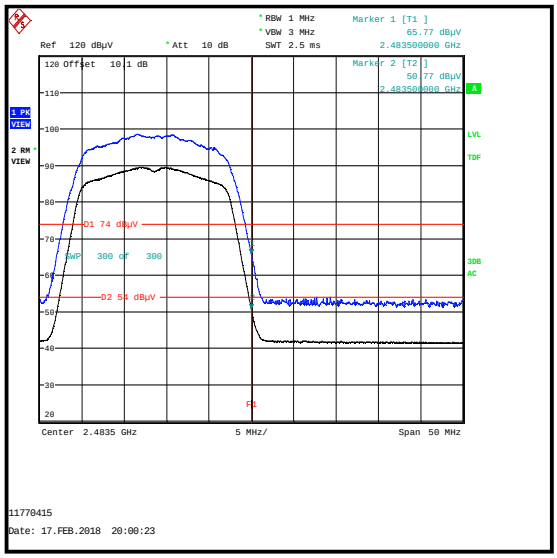
Results: 802.11n HT20 / SISO / BPSK / MCS0 / Core 1



Upper Band Edge
Channel 11



Upper Band Edge
Channel 12



Upper Band Edge Peak
Channel 13

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11b / 20 MHz / MIMO / 2Tx CDD / 1 Mbps / Core 0 & Core 1

Results: Lower Band Edge / Channel 1

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	-30 dBc Limit (dBµV/m)	Margin (dB)	Result
2400	Vertical	73.1	84.5	11.4	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	60.2	74.0	13.8	Complied
2485.856	Vertical	63.6	74.0	10.4	Complied

Results: Upper Band Edge / Average / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	51.1	54.0	2.9	Complied

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	59.3	74.0	14.7	Complied
2490.519	Vertical	60.9	74.0	13.1	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	49.1	54.0	4.9	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	59.7	74.0	14.3	Complied
2494.878	Vertical	59.0	74.0	15.0	Complied

Results: Upper Band Edge / Average / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	51.2	54.0	2.8	Complied

Transmitter Band Edge Radiated Emissions (continued)

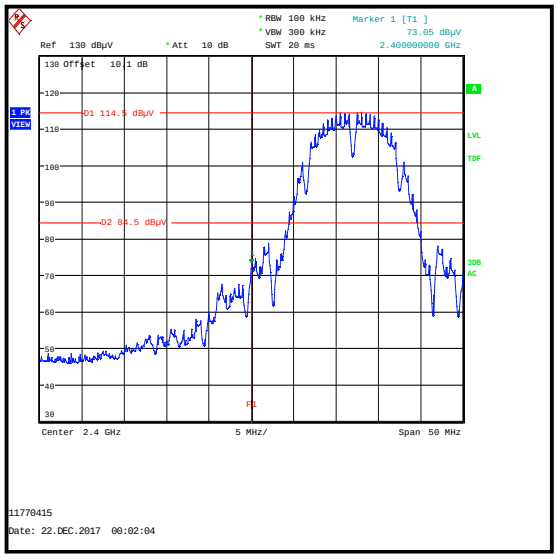
Results: 802.11b / 20 MHz / MIMO / 2Tx CDD / 1 Mbps / Core 0 & Core 1

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

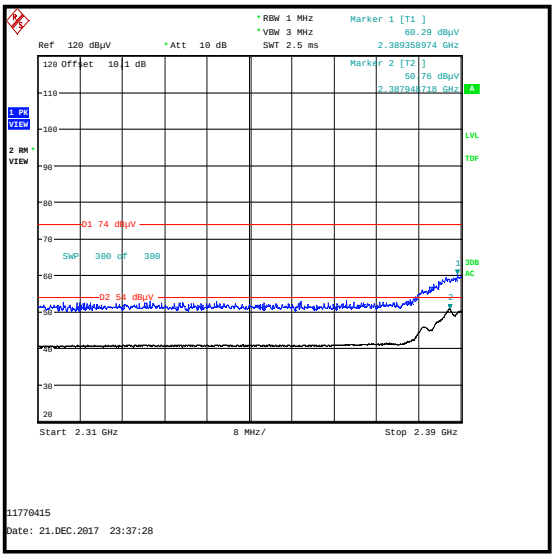
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2389.359	Vertical	60.3	74.0	13.7	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2387.949	Vertical	50.8	54.0	3.2	Complied



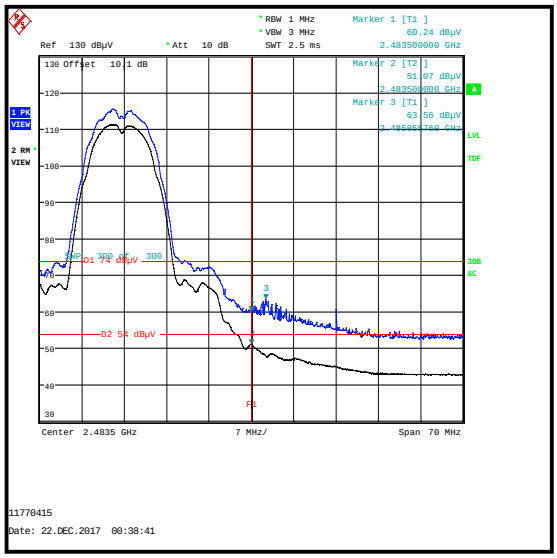
Lower Band Edge Peak
Channel 1



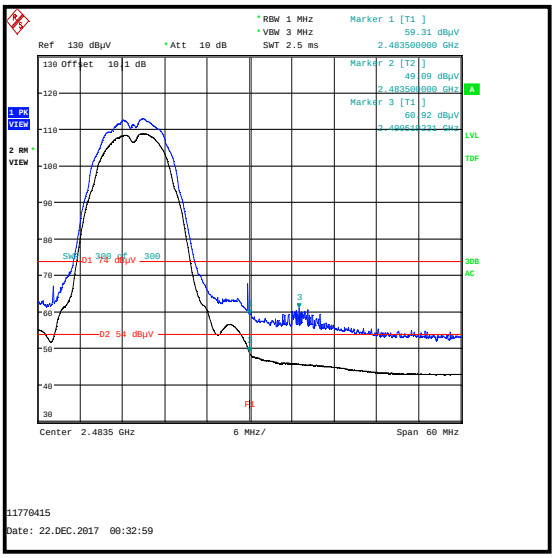
2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

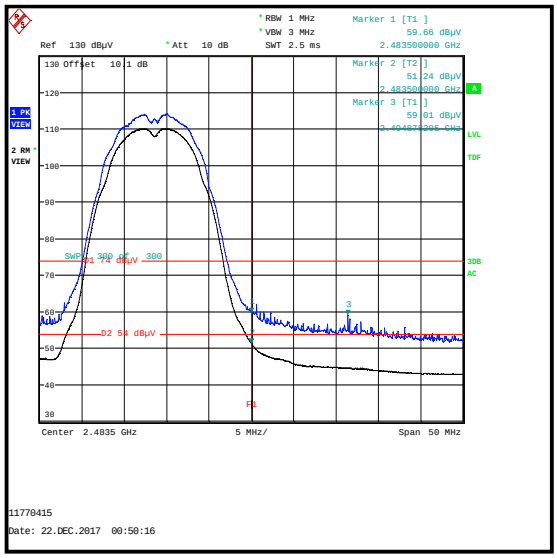
Results: 802.11b / 20 MHz / MIMO / 2Tx CDD / 1 Mbps / Core 0 & Core 1



Upper Band Edge
Channel 11



Upper Band Edge
Channel 12



Upper Band Edge
Channel 13

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11b / 20 MHz / MIMO / 3Tx CDD / 1 Mbps / Core 0, Core 1 & Core 2

Results: Lower Band Edge / Channel 1

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	-30 dBc Limit (dBµV/m)	Margin (dB)	Result
2396.474	Vertical	67.9	81.7	13.8	Complied
2400	Vertical	67.8	81.7	13.9	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	63.3	74.0	10.7	Complied
2488.094	Vertical	67.5	74.0	6.5	Complied

Results: Upper Band Edge / Average / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	48.4	54.0	5.6	Complied

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	59.9	74.0	14.1	Complied
2490.327	Vertical	67.7	74.0	6.3	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	49.5	54.0	4.5	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	64.6	74.0	9.4	Complied
2493.356	Vertical	67.7	74.0	6.3	Complied

Results: Upper Band Edge / Average / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	48.3	54.0	5.7	Complied
2485.984	Vertical	50.8	54.0	3.2	Complied

Transmitter Band Edge Radiated Emissions (continued)

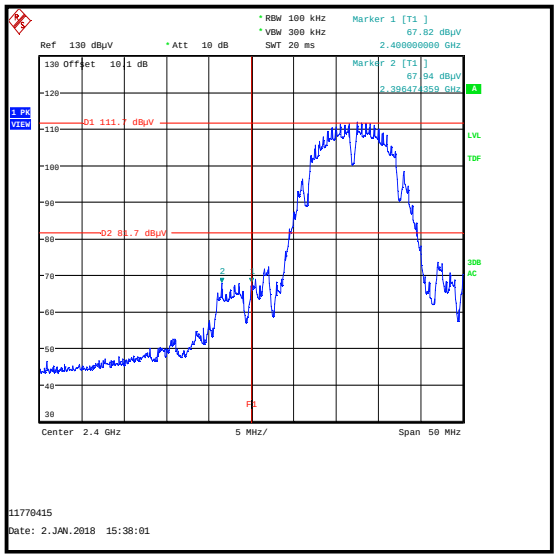
Results: 802.11b / 20 MHz / MIMO / 3Tx CDD / 1 Mbps / Core 0, Core 1 & Core 2

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

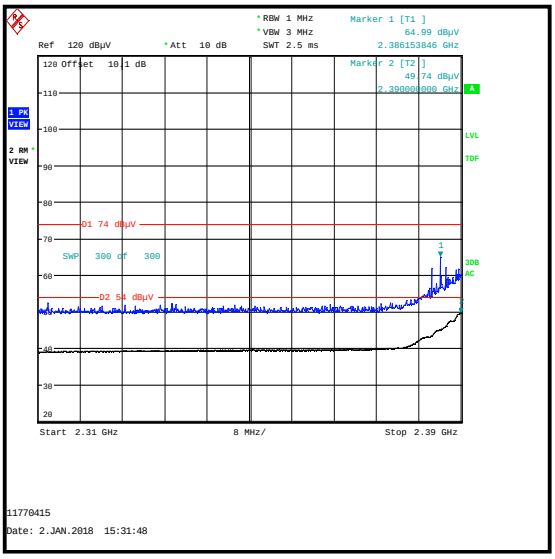
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2386.153	Vertical	65.0	74.0	9.0	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2390.000	Vertical	49.7	54.0	4.3	Complied



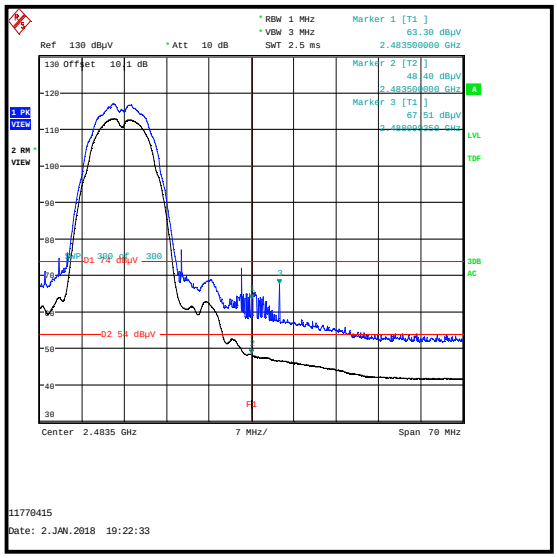
Lower Band Edge Peak
Channel 1



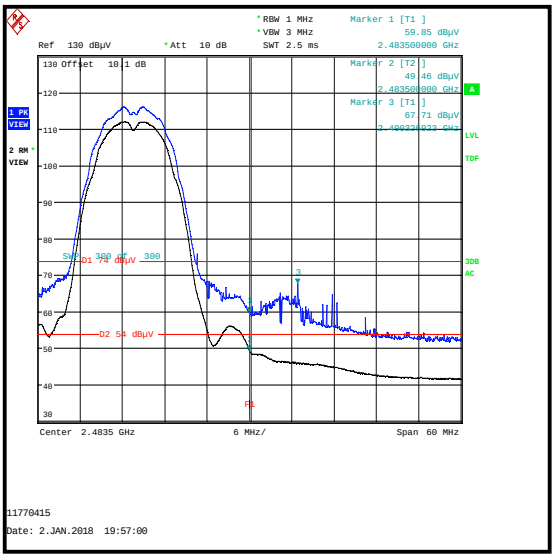
2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

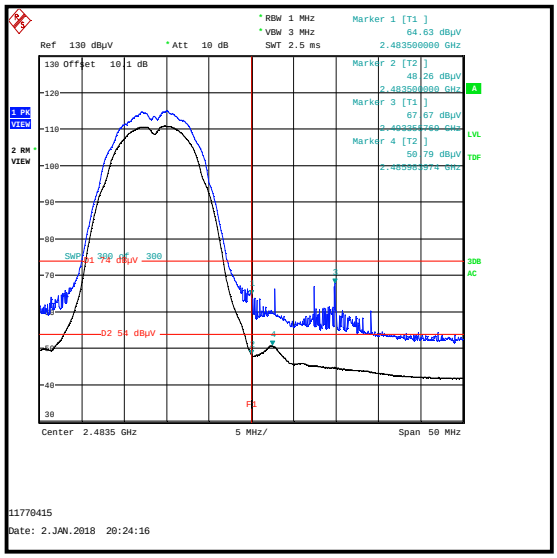
Results: 802.11b / 20 MHz / MIMO / 3Tx CDD / 1 Mbps / Core 0, Core 1 & Core 2



Upper Band Edge
Channel 11



Upper Band Edge
Channel 12



Upper Band Edge
Channel 13

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11n HT20 / MIMO / 2Tx CDD / MCS0 / Core 0 & Core 1

Results: Lower Band Edge / Channel 1

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	-30 dBc Limit (dBµV/m)	Margin (dB)	Result
2396.955	Vertical	60.2	79.6	19.4	Complied
2400	Vertical	57.4	79.6	22.2	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	64.0	74.0	10.0	Complied
2483.724	Vertical	64.4	74.0	9.6	Complied

Results: Upper Band Edge / Average / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	51.2	54.0	2.8	Complied

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	61.8	74.0	12.2	Complied
2484.942	Vertical	63.2	74.0	10.8	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	50.5	54.0	3.5	Complied
2484.942	Vertical	50.9	54.0	3.1	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	67.5	74.0	6.5	Complied

Results: Upper Band Edge / Average / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	51.2	54.0	2.8	Complied

Transmitter Band Edge Radiated Emissions (continued)

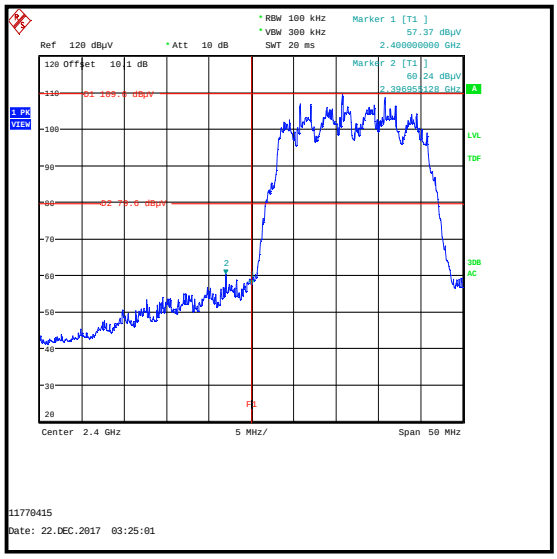
Results: 802.11n HT20 / MIMO / 2Tx CDD / MCS0 / Core 0 & Core 1

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

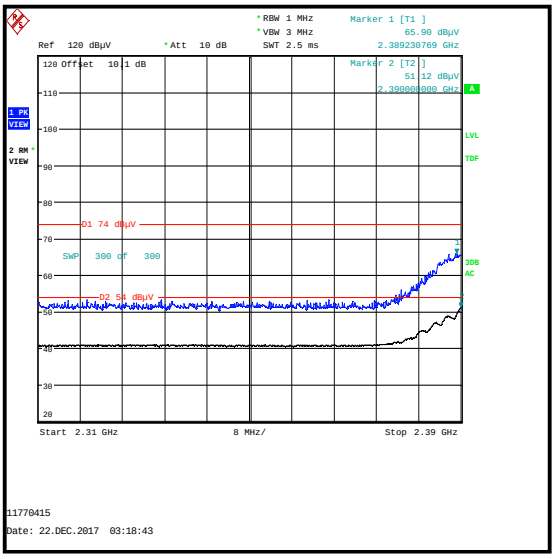
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2389.231	Vertical	65.9	74.0	8.1	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2390	Vertical	51.1	54.0	2.9	Complied



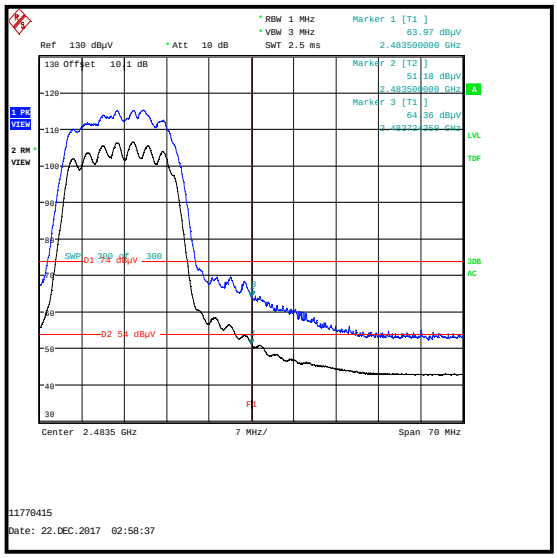
Lower Band Edge Peak
Channel 1



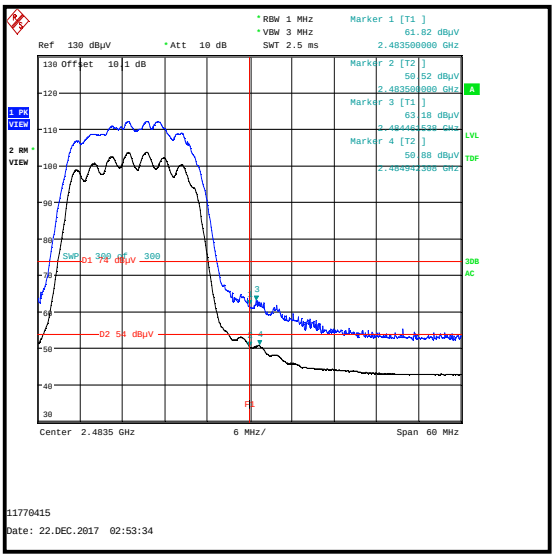
2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

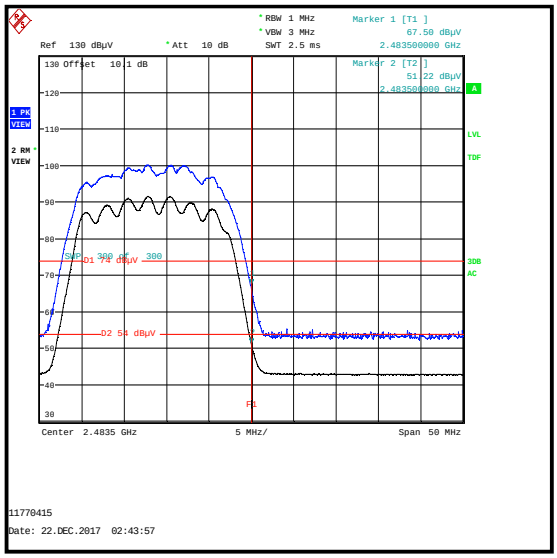
Results: 802.11n HT20 / MIMO / 2Tx CDD / MCS0 / Core 0 & Core 1



Upper Band Edge
Channel 11



Upper Band Edge
Channel 12



Upper Band Edge
Channel 13

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11n HT20 / MIMO / 3Tx CDD / MCS0 / Core 0, Core 1 & Core 2

Results: Lower Band Edge / Channel 1

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	-30 dBc Limit (dBµV/m)	Margin (dB)	Result
2396.955	Vertical	62.4	79.5	17.1	Complied
2400	Vertical	60.4	79.5	19.1	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	65.0	74.0	9.0	Complied

Results: Upper Band Edge / Average / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	51.1	54.0	2.9	Complied

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	62.6	74.0	11.4	Complied
2487.442	Vertical	63.9	74.0	10.1	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	50.9	54.0	3.1	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	67.4	74.0	6.6	Complied

Results: Upper Band Edge / Average / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	51.1	54.0	2.9	Complied

Transmitter Band Edge Radiated Emissions (continued)

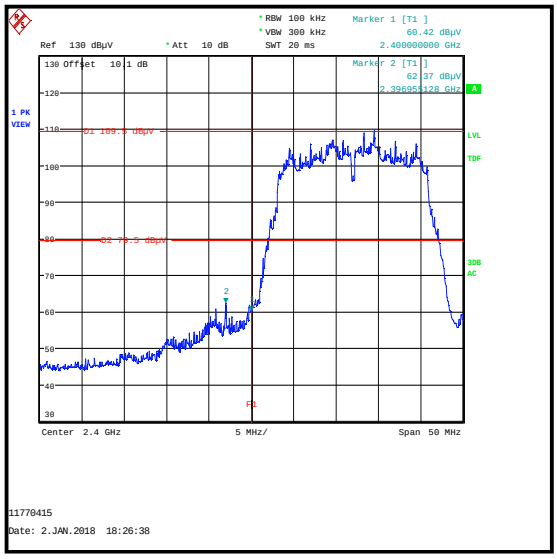
Results: 802.11n HT20 / MIMO / 3Tx CDD / MCS0 / Core 0, Core 1 & Core 2

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

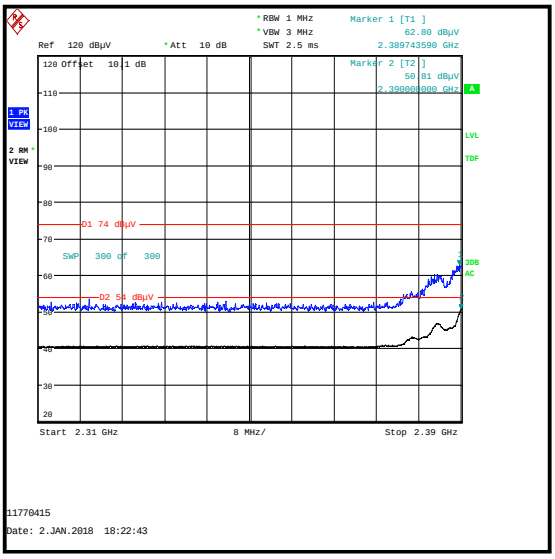
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2389.744	Vertical	62.8	74.0	11.2	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2390	Vertical	50.8	54.0	3.2	Complied



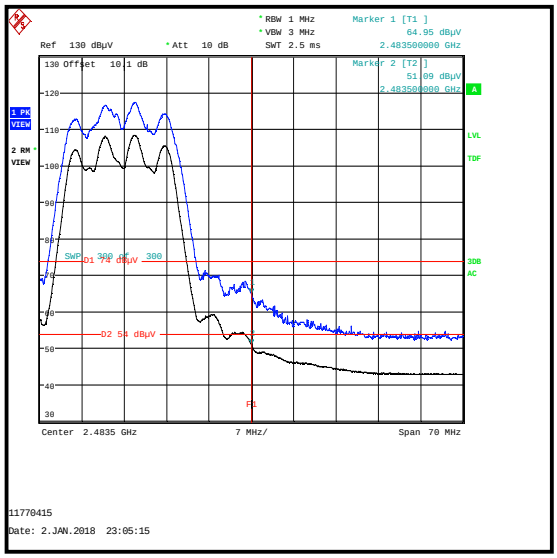
Lower Band Edge Peak Channel 1



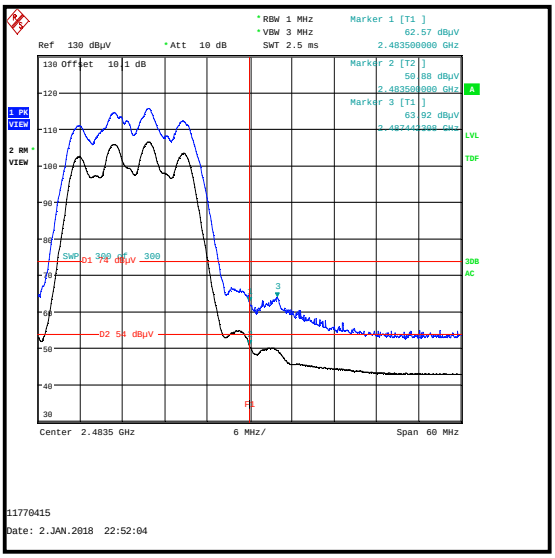
2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

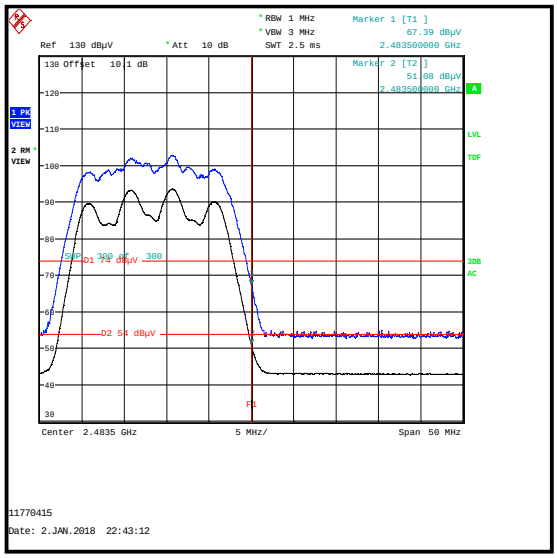
Results: 802.11n HT20 / MIMO / 3Tx CDD / MCS0 / Core 0, Core 1 & Core 2



Upper Band Edge
Channel 11



Upper Band Edge
Channel 12



Upper Band Edge
Channel 13

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11n HT20 / MIMO / 2Tx TxBF / MCS0 / Core 0 & Core 1

Results: Lower Band Edge / Channel 1

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	-30 dBc Limit (dBµV/m)	Margin (dB)	Result
2396.950	Vertical	60.2	73.0	12.8	Complied
2400	Vertical	58.6	73.0	14.4	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	56.7	74.0	17.3	Complied
2488.324	Vertical	57.5	74.0	16.5	Complied

Results: Upper Band Edge / Average / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Duty Cycle Correction (dB)	Corrected Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	44.3	0.2	44.5	54.0	9.5	Complied

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	57.0	74.0	17.0	Complied
2483.692	Vertical	59.3	74.0	14.7	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Duty Cycle Correction (dB)	Corrected Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	44.1	0.2	44.3	54.0	9.7	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	69.0	74.0	5.0	Complied

Results: Upper Band Edge / Average / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Duty Cycle Correction (dB)	Corrected Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	50.9	0.2	51.1	54.0	2.9	Complied

Transmitter Band Edge Radiated Emissions (continued)

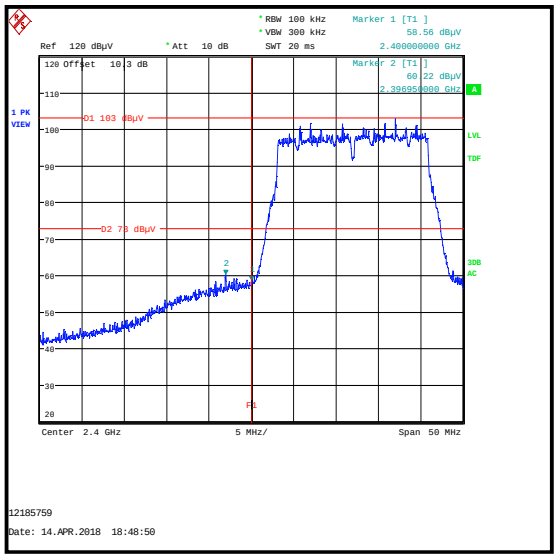
Results: 802.11n HT20 / MIMO / 2Tx TxBF / MCS0 / Core 0 & Core 1

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

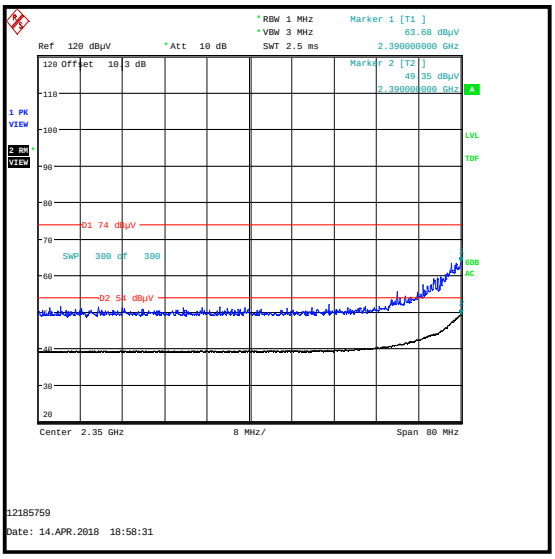
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2390	Vertical	63.7	74.0	10.3	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Duty Cycle Correction (dB)	Corrected Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2390	Vertical	49.4	0.2	49.6	54.0	4.4	Complied



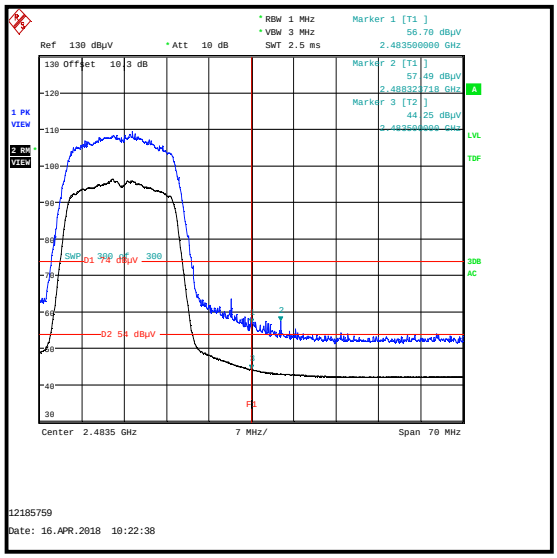
Lower Band Edge Peak
Channel 1



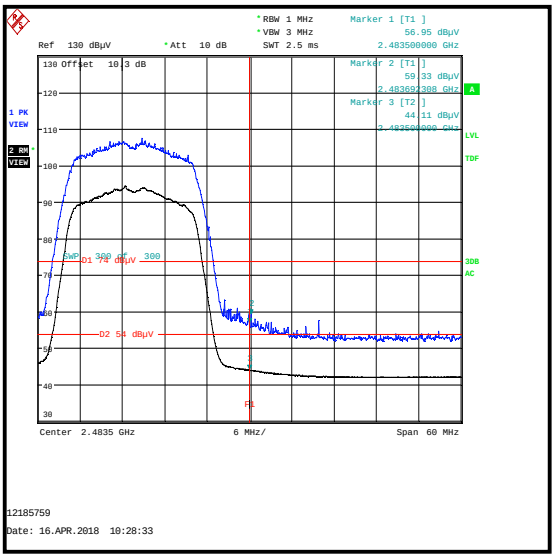
2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

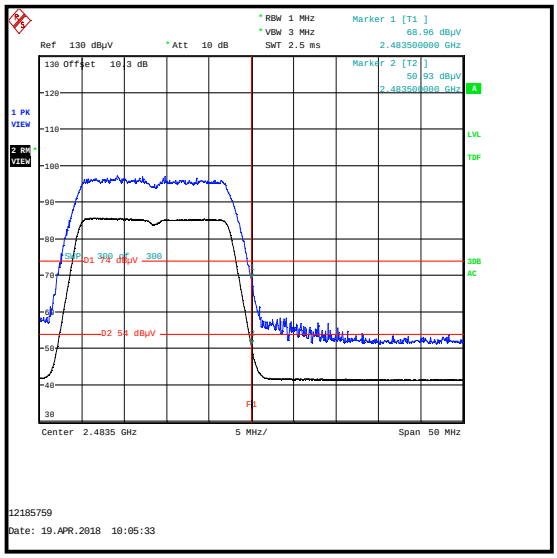
Results: 802.11n HT20 / MIMO / 2Tx TxBF / MCS0 / Core 0 & Core 1



Upper Band Edge
Channel 11



Upper Band Edge
Channel 12



Upper Band Edge
Channel 13

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11n HT20 / MIMO / 3Tx TxBF / MCS0 / Core 0, Core 1 & Core 2

Results: Lower Band Edge / Channel 1

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	-30 dBc Limit (dBµV/m)	Margin (dB)	Result
2399.834	Vertical	62.4	75.8	13.4	Complied
2400	Vertical	60.1	75.8	15.7	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	60.3	74.0	13.7	Complied
2484.510	Vertical	61.6	74.0	12.4	Complied

Results: Upper Band Edge / Average / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Duty Cycle Correction (dB)	Corrected Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	45.6	0.2	45.8	54.0	8.2	Complied

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	59.2	74.0	14.8	Complied
2484.269	Vertical	62.3	74.0	11.7	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Duty Cycle Correction (dB)	Corrected Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	44.9	0.2	45.1	54.0	8.9	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	59.3	74.0	14.7	Complied

Transmitter Band Edge Radiated Emissions (continued)

Results: 802.11n HT20 / MIMO / 3Tx TxBF / MCS0 / Core 0, Core 1 & Core 2

Results: Upper Band Edge / Average / Channel 13

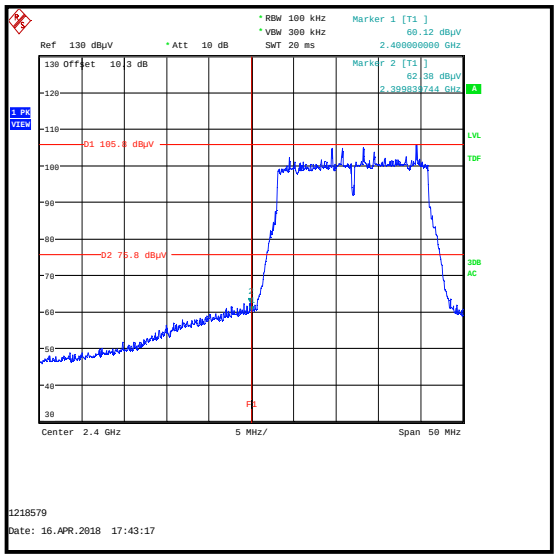
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Duty Cycle Correction (dB)	Corrected Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	45.1	0.2	45.3	54.0	8.7	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Peak

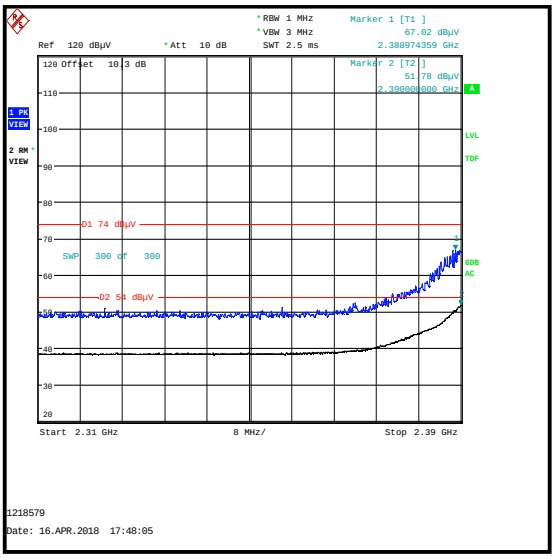
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2388.974	Vertical	67.0	74.0	7.0	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Duty Cycle Correction (dB)	Corrected Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2390	Vertical	51.8	0.2	52.0	54.0	2.0	Complied



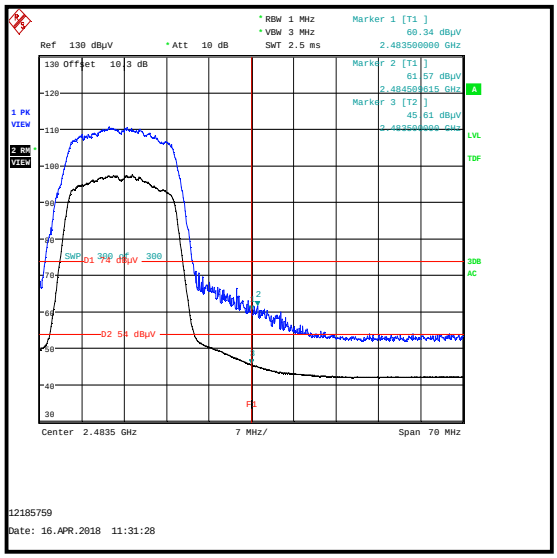
Lower Band Edge Peak Channel 1



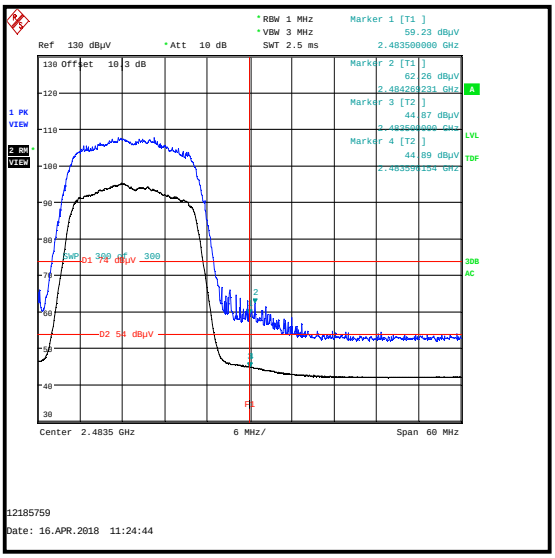
2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)

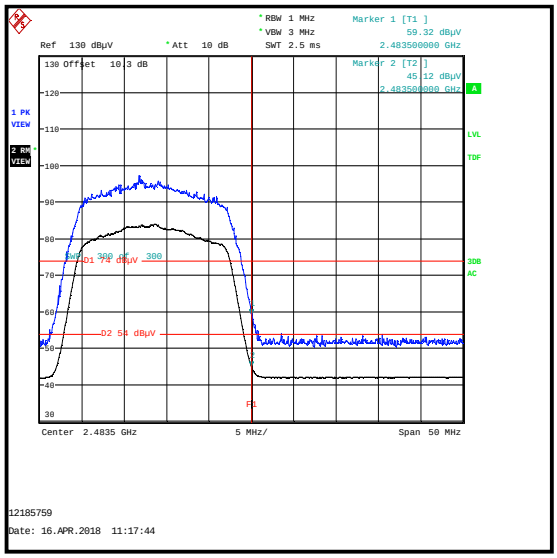
Results: 802.11n HT20 / MIMO / 3Tx TxBF / MCS0 / Core 0, Core 1 & Core 2



Upper Band Edge
Channel 11



Upper Band Edge
Channel 12



Upper Band Edge
Channel 13

Appendix 1

Directional Antenna Gain Calculations for CDD MIMO

For 2Tx CDD MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii), directional gain was calculated as:

1. N_{SS} = 1, N_{ANT} = 2, G_{WF1} = 2.1 dBi, G_{WF2} = 3.3 dBi

$$\text{Directional Gain} = 10\log\left[\frac{\sum_{j=1}^{N_{SS}}\left(\sum_{k=1}^{N_{ANT}} g_{j,k}\right)^2}{N_{ANT}}\right] = 10\log\left[\frac{\sum_{j=1}^{1}\left(\sum_{k=1}^{3} g_{j,k}\right)^2}{2}\right]$$

$$= 10\log\left[\frac{\left(g_{1,1}+g_{1,2}\right)^2}{2}\right] = 10\log\left[\frac{\left(10^{\frac{G_1}{20}}+10^{\frac{G_2}{20}}\right)^2}{2}\right] = 10\log\left[\frac{\left(10^{\frac{2.1}{20}}+10^{\frac{3.3}{20}}\right)^2}{2}\right] = 5.7 \text{ dBi}$$

For 3Tx CDD MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii), directional gain was calculated as:

2. N_{SS} = 1, N_{ANT} = 3, G_{WF1} = 2.1 dBi, G_{WF2} = 3.3 dBi, G_{WF3} = 2.1 dBi

$$\text{Directional Gain} = 10\log\left[\frac{\sum_{j=1}^{N_{SS}}\left(\sum_{k=1}^{N_{ANT}} g_{j,k}\right)^2}{N_{ANT}}\right] = 10\log\left[\frac{\sum_{j=1}^{1}\left(\sum_{k=1}^{3} g_{j,k}\right)^2}{3}\right]$$

$$= 10\log\left[\frac{\left(g_{1,1}+g_{1,2}+g_{1,3}\right)^2}{3}\right] = 10\log\left[\frac{\left(10^{\frac{G_1}{20}}+10^{\frac{G_2}{20}}+10^{\frac{G_3}{20}}\right)^2}{3}\right] = 10\log\left[\frac{\left(10^{\frac{2.1}{20}}+10^{\frac{3.3}{20}}+10^{\frac{2.1}{20}}\right)^2}{2}\right] = 7.3 \text{ dBi}$$

Appendix 1 (continued)

Directional Antenna Gain Calculations for TxBF MIMO

For 2Tx TxBF MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(i), directional gain was calculated as:

3. N_{SS} = 1, N_{ANT} = 2, G_{WF1} = 2.1 dBi, G_{WF2} = 3.3 dBi

$$\text{Directional Gain} = 10\log\left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + \cdots + 10^{\frac{G_N}{20}}\right)^2}{N_{ANT}}\right] = 10\log\left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}}\right)^2}{2}\right] = 10\log\left[\frac{\left(10^{\frac{2.1}{20}} + 10^{\frac{3.3}{20}}\right)^2}{2}\right] =$$

$$5.7 \text{ dBi}$$

For 3Tx TxBF MIMO modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(i), directional gain was calculated as:

4. N_{SS} = 1, N_{ANT} = 3, G_{WF1} = 2.1 dBi, G_{WF2} = 3.3 dBi, G_{WF3} = 2.1 dBi

$$\text{Directional Gain} = 10\log\left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + \cdots + 10^{\frac{G_N}{20}}\right)^2}{N_{ANT}}\right] = 10\log\left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + 10^{\frac{G_3}{20}}\right)^2}{3}\right] =$$

$$= 10\log\left[\frac{\left(10^{\frac{2.1}{20}} + 10^{\frac{3.3}{20}} + 10^{\frac{2.1}{20}}\right)^2}{3}\right] = 7.3 \text{ dBi}$$

--- END OF REPORT ---