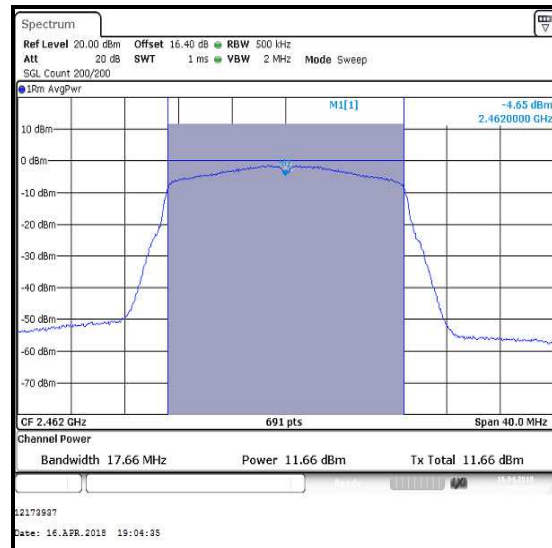
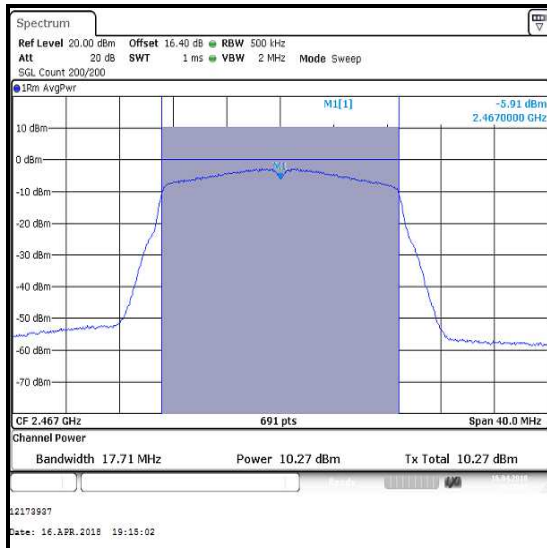


Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 3Tx CDD / BPSK / MCS0 / Port WF2**

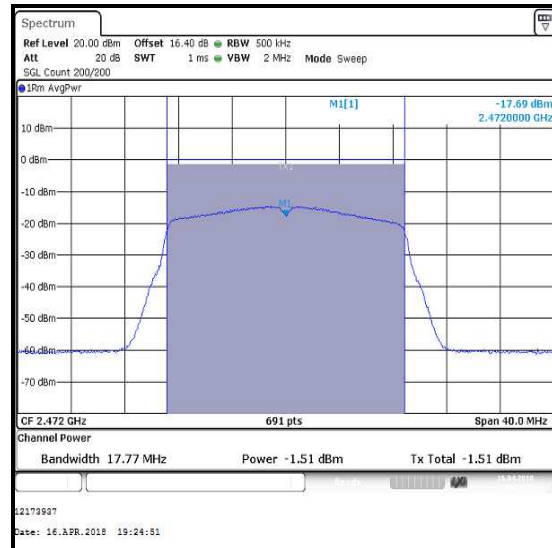
Channel 7



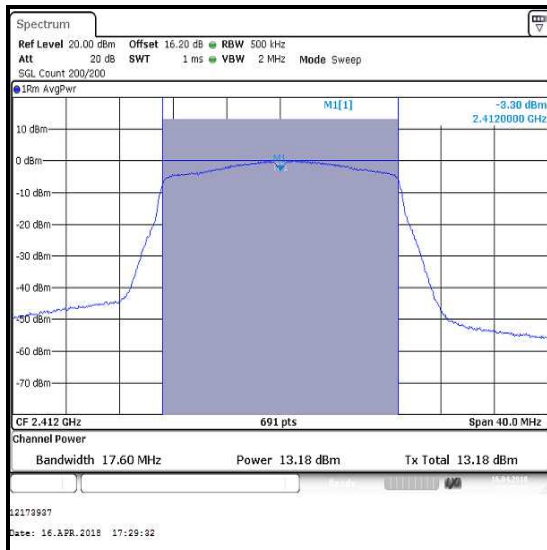
Channel 11



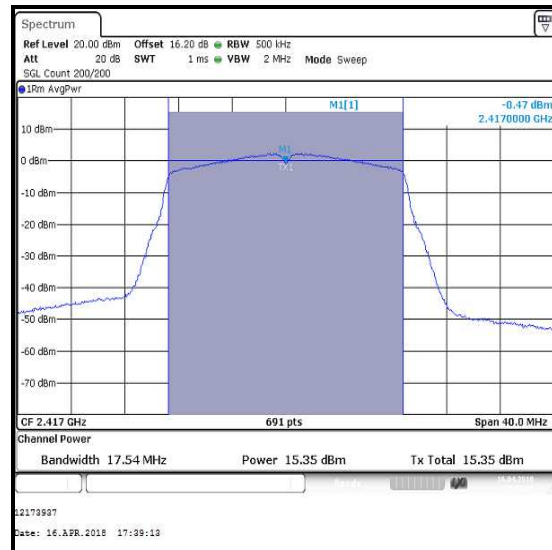
Channel 12



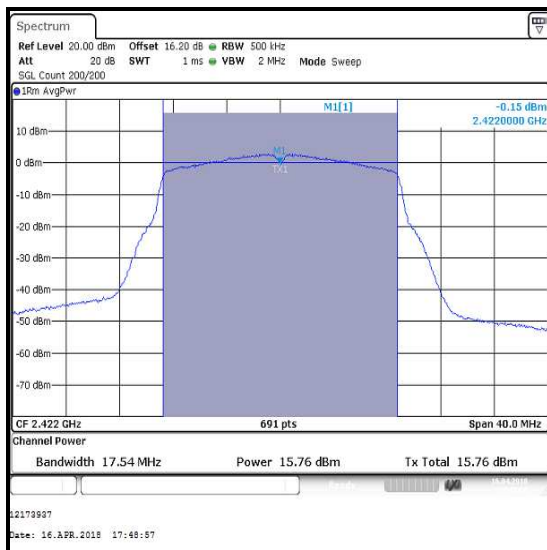
Channel 13

Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 3Tx CDD / BPSK / MCS0 / Port WF3**

Channel 1



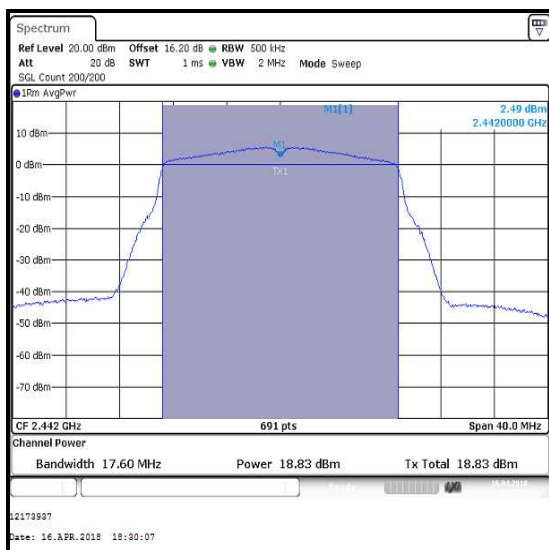
Channel 2



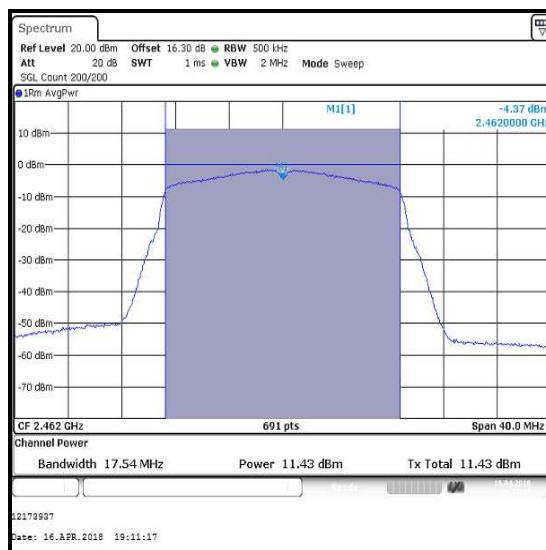
Channel 3



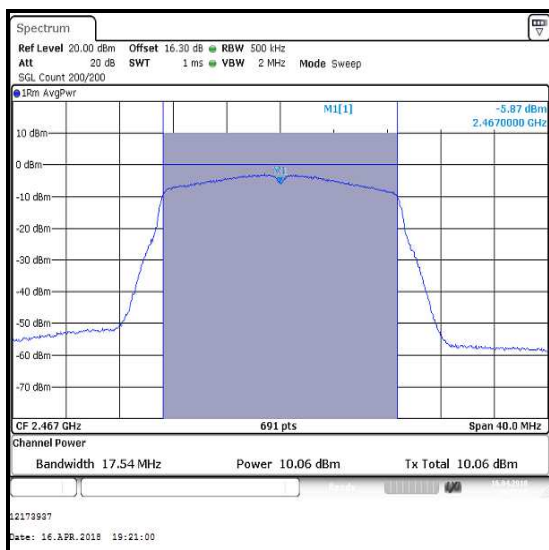
Channel 6

Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 3Tx CDD / BPSK / MCS0 / Port WF3**

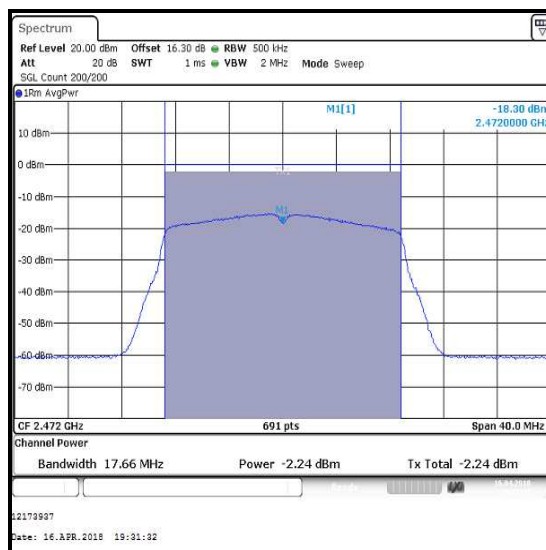
Channel 7



Channel 11



Channel 12



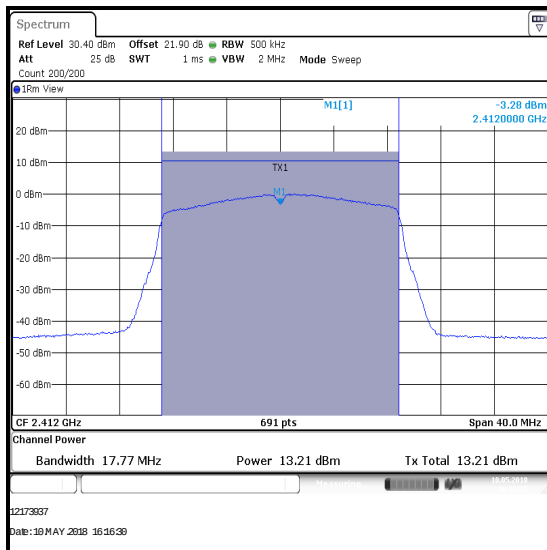
Channel 13

Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 2Tx TxBF / BPSK / MCS0****Conducted Peak Limit Comparison**

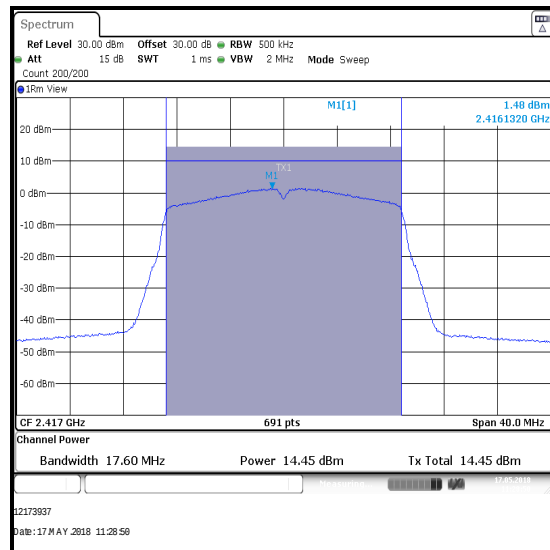
Channel	Conducted Peak Power Port WF1 (dBm)	Conducted Peak Power Port WF2 (dBm)	Combined Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
1	13.2	13.1	16.2	30.0	13.8	Complied
2	14.5	14.7	17.6	30.0	12.4	Complied
3	15.4	15.5	18.5	30.0	11.5	Complied
6	19.7	20.3	23.0	30.0	7.0	Complied
7	16.8	17.3	20.1	30.0	9.9	Complied
11	10.7	11.1	13.9	30.0	16.1	Complied
12	7.7	8.0	10.9	30.0	19.1	Complied
13	-3.1	-3.2	-0.1	30.0	30.1	Complied

EIRP Limit Comparison

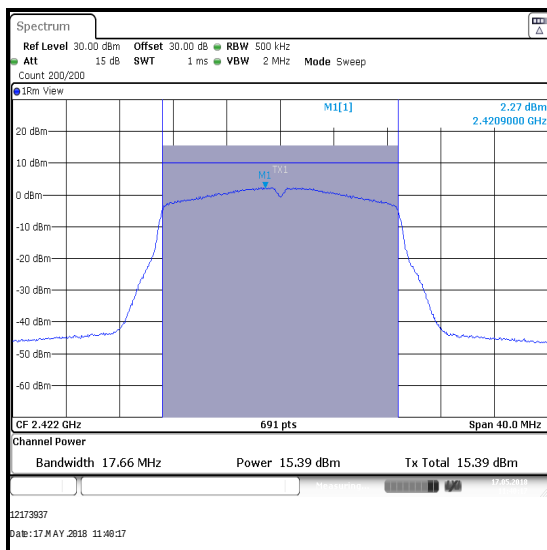
Channel	Combined Conducted Peak Power (dBm)	Directional Antenna Gain (dBi)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
1	16.2	5.8	22.0	36.0	14.0	Complied
2	17.6	5.8	23.4	36.0	12.6	Complied
3	18.5	5.8	24.3	36.0	11.7	Complied
6	23.0	5.8	28.8	36.0	7.2	Complied
7	20.1	5.8	25.9	36.0	10.1	Complied
11	13.9	5.8	19.7	36.0	16.3	Complied
12	10.9	5.8	16.7	36.0	19.3	Complied
13	-0.1	5.8	5.7	36.0	30.3	Complied

Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 2Tx TxBF / BPSK / MCS0 / Port WF1**

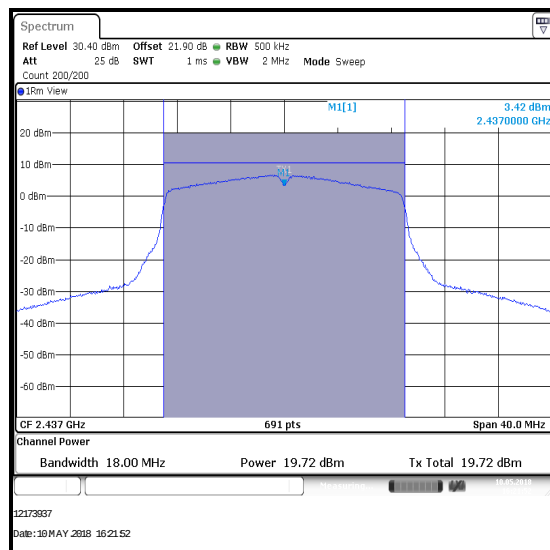
Channel 1



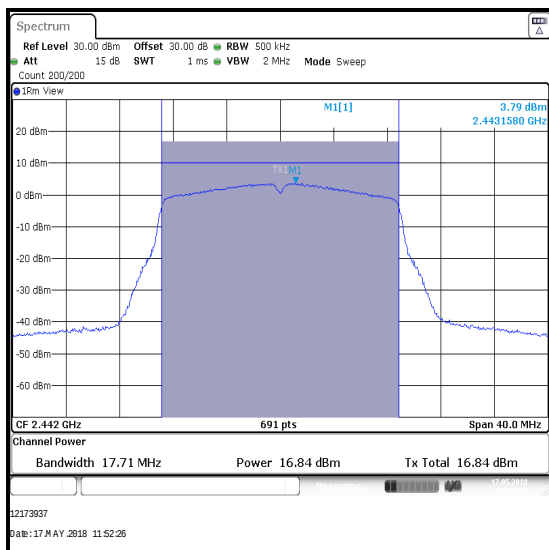
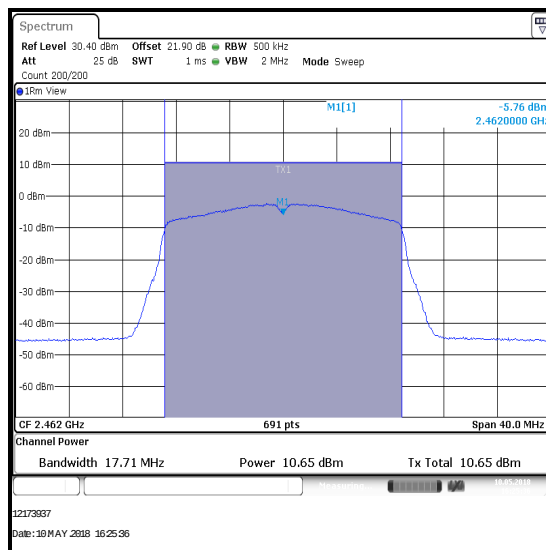
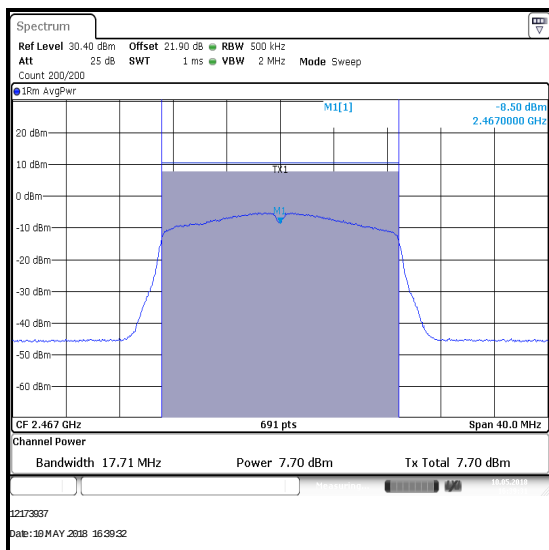
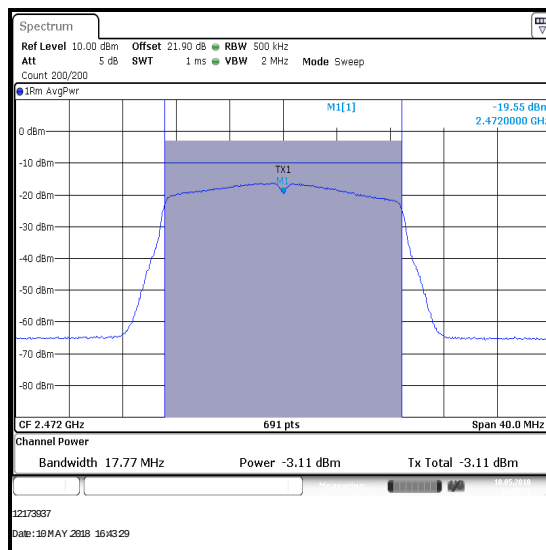
Channel 2

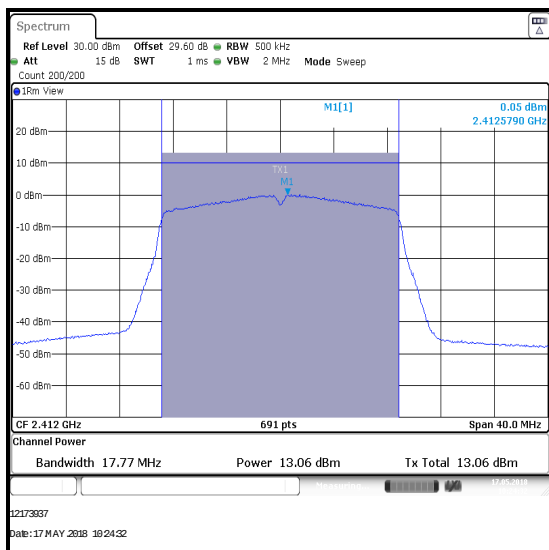


Channel 3

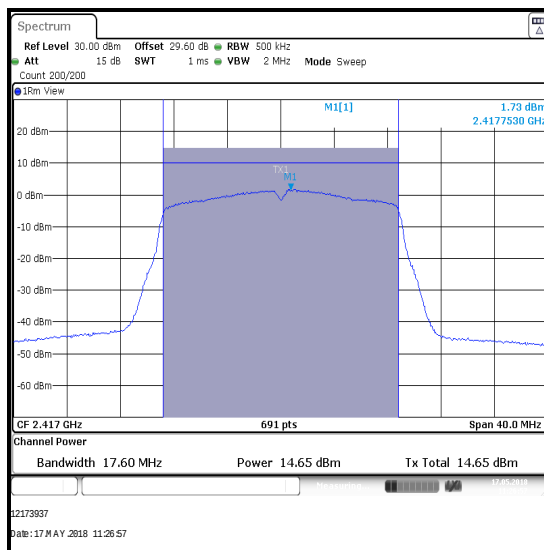


Channel 6

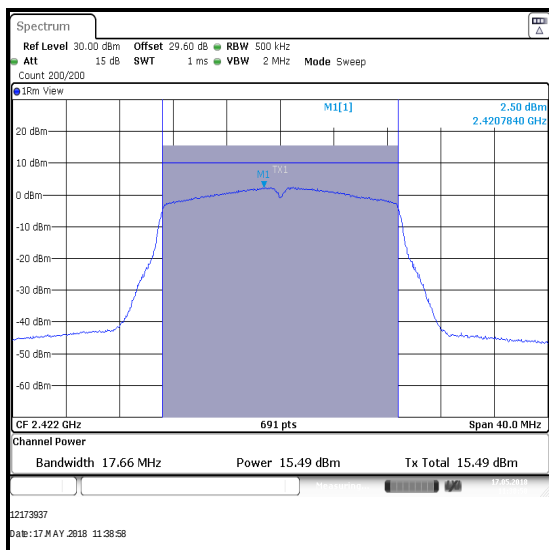
Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 2Tx TxBF / BPSK / MCS0 / Port WF1****Channel 7****Channel 11****Channel 12****Channel 13**

Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 2Tx TxBF / BPSK / MCS0 / Port WF2**

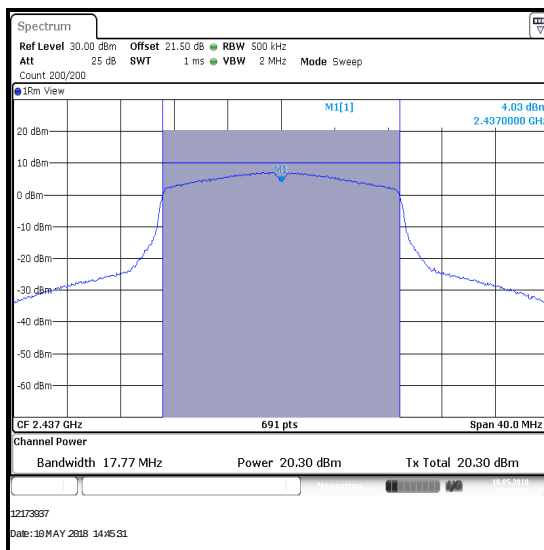
Channel 1



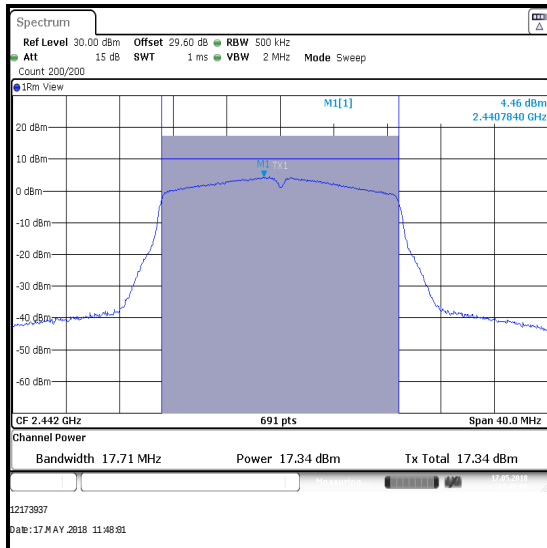
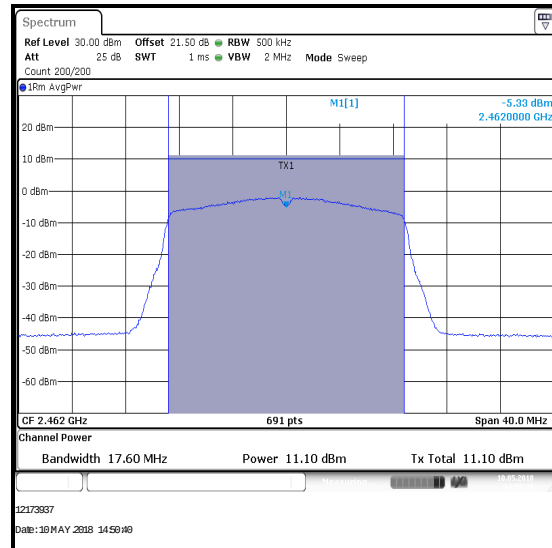
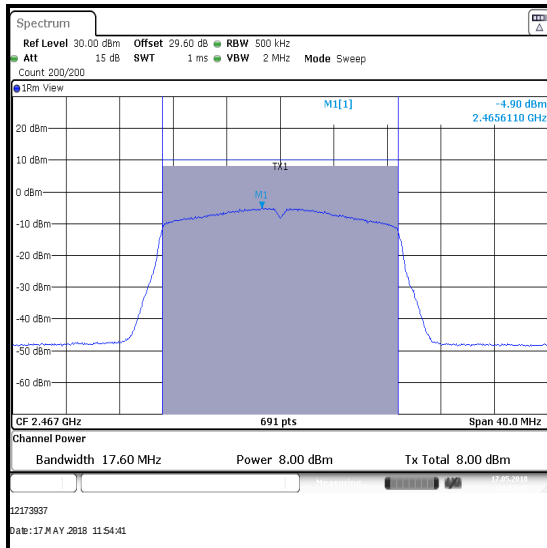
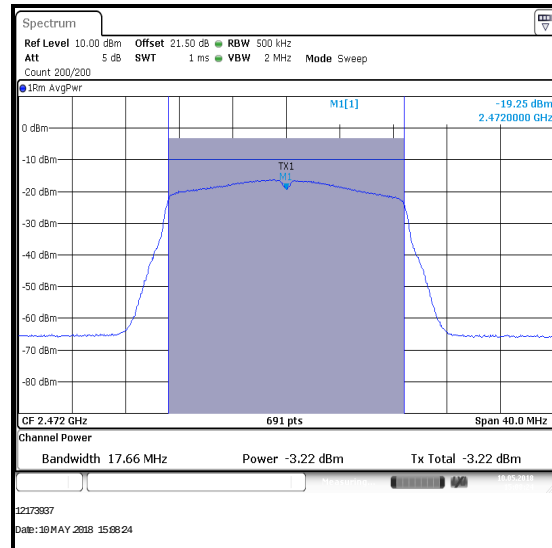
Channel 2



Channel 3



Channel 6

Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 2Tx TxBF / BPSK / MCS0 / Port WF2****Channel 7****Channel 11****Channel 12****Channel 13**

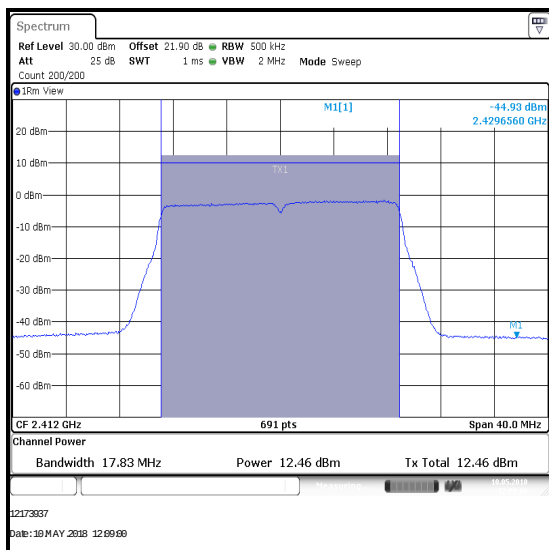
Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 3Tx TxBF / BPSK / MCS0****Conducted Peak Limit Comparison**

Channel	Conducted Peak Power Port WF1 (dBm)	Conducted Peak Power Port WF2 (dBm)	Conducted Peak Power Port WF3 (dBm)
1	12.5	12.9	12.8
2	14.8	14.8	14.3
3	15.1	15.0	14.3
6	17.6	15.3	15.5
7	17.5	17.3	16.7
11	10.2	11.1	10.3
12	7.2	7.6	7.5
13	-3.0	-2.6	-3.0

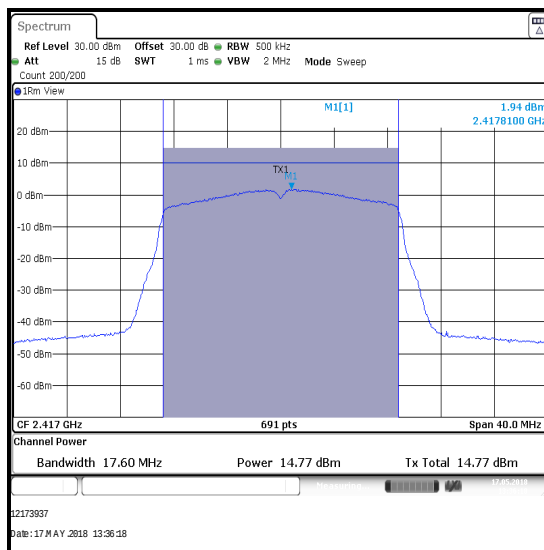
Channel	Combined Conducted Peak Power (dBm)	Conducted Peak Power Limit (dBm)	Margin (dB)	Result
1	17.5	28.7	11.2	Complied
2	19.4	28.7	9.3	Complied
3	19.6	28.7	9.1	Complied
6	21.0	28.7	7.7	Complied
7	22.0	28.7	6.7	Complied
11	15.3	28.7	13.4	Complied
12	12.2	28.7	16.5	Complied
13	1.9	28.7	26.8	Complied

EIRP Limit Comparison

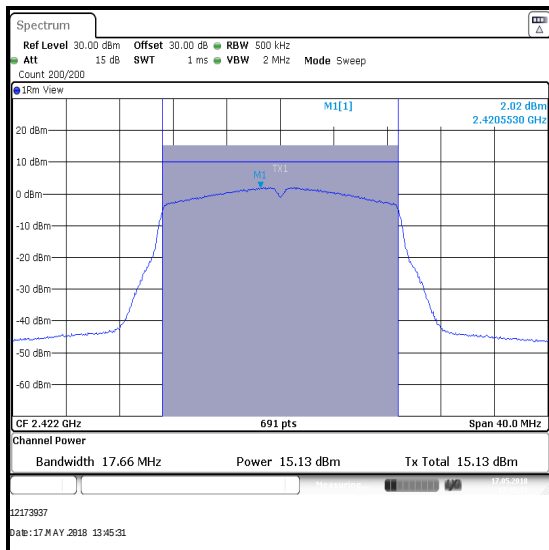
Channel	Combined Conducted Peak Power (dBm)	Directional Antenna Gain (dBi)	EIRP (dBm)	De Facto EIRP Limit (dBm)	Margin (dB)	Result
1	17.5	7.3	24.8	36.0	11.2	Complied
2	19.4	7.3	26.7	36.0	9.3	Complied
3	19.6	7.3	26.9	36.0	9.1	Complied
6	21.0	7.3	28.3	36.0	7.7	Complied
7	22.0	7.3	29.3	36.0	6.7	Complied
11	15.3	7.3	22.6	36.0	13.4	Complied
12	12.2	7.3	19.5	36.0	16.5	Complied
13	1.9	7.3	9.2	36.0	26.8	Complied

Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 3Tx TxBF / BPSK / MCS0 / Port WF1**

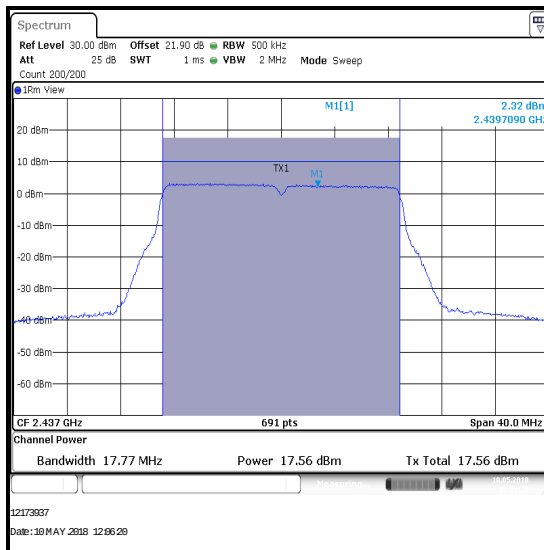
Channel 1



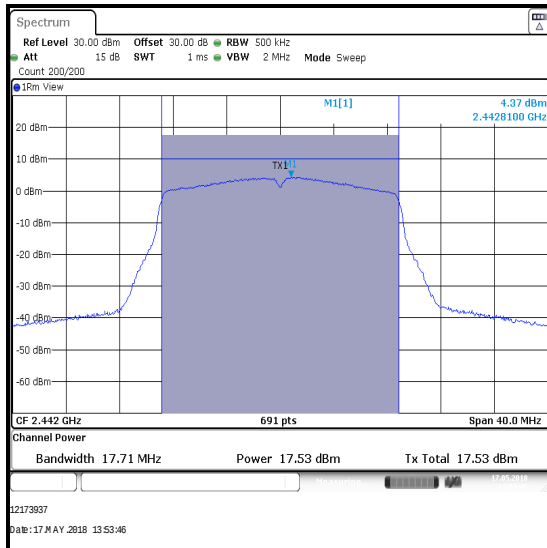
Channel 2



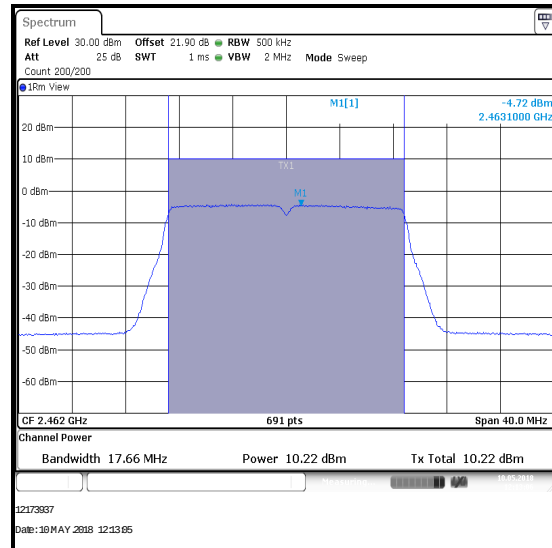
Channel 3



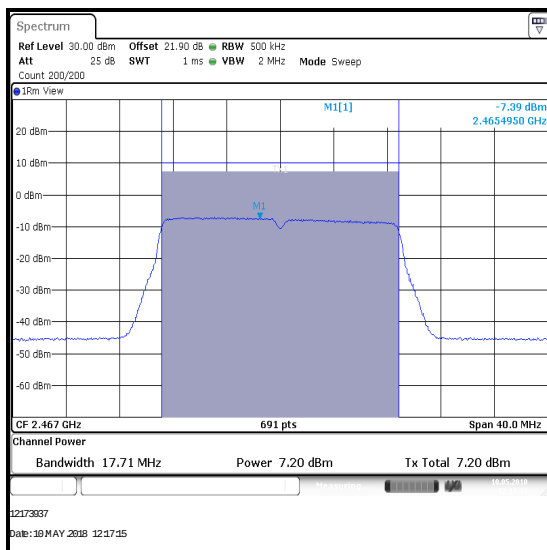
Channel 6

Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 3Tx TxBF / BPSK / MCS0 / Port WF1**

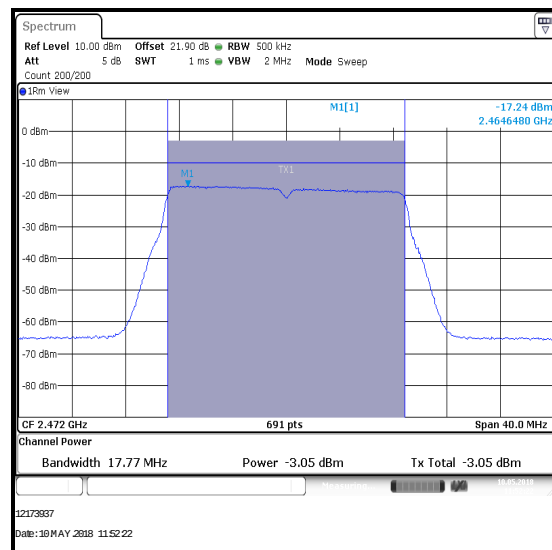
Channel 7



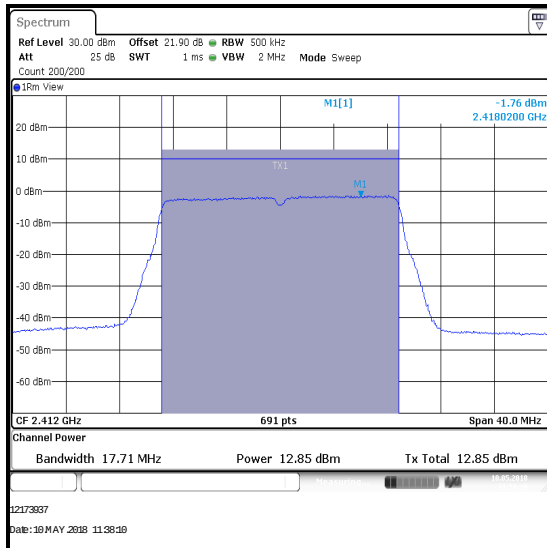
Channel 11



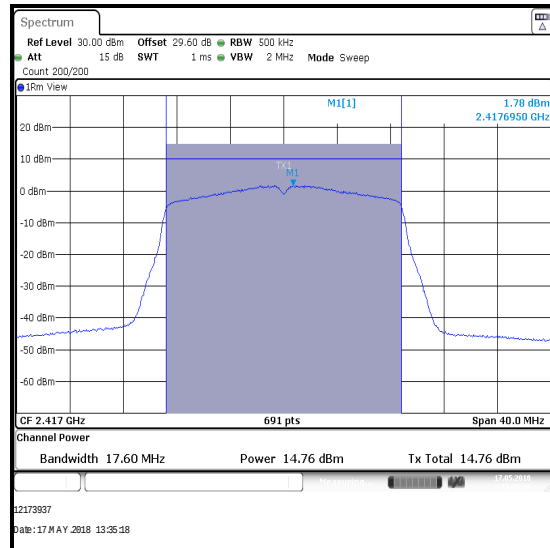
Channel 12



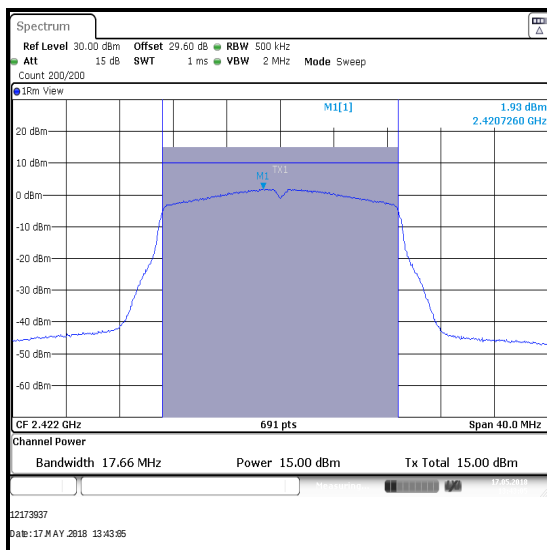
Channel 13

Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 3Tx TxBF / BPSK / MCS0 / Port WF2**

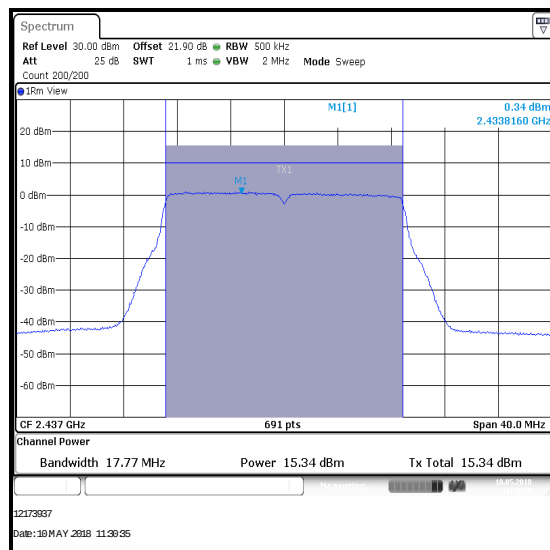
Channel 1



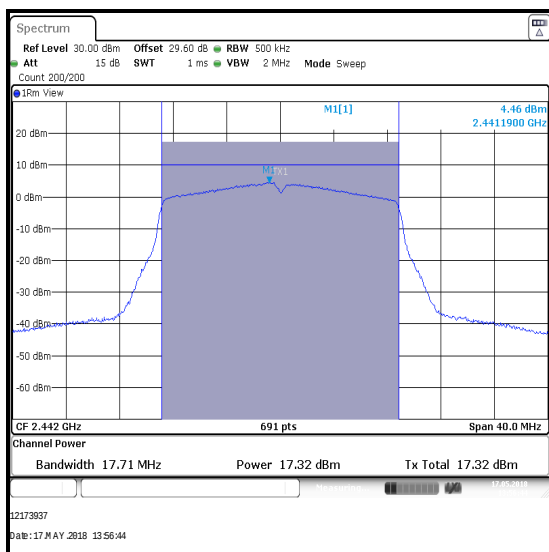
Channel 2



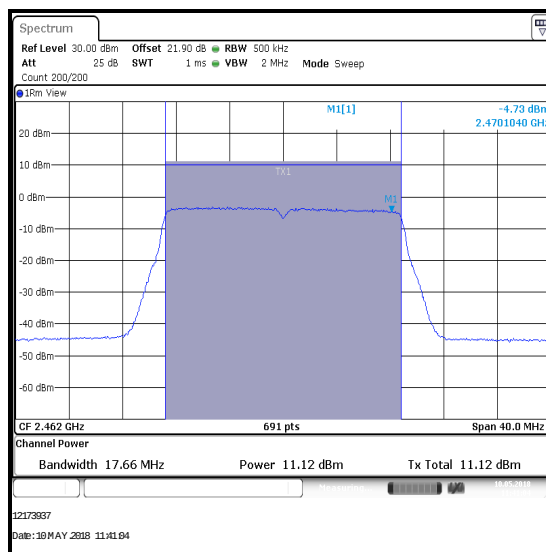
Channel 3



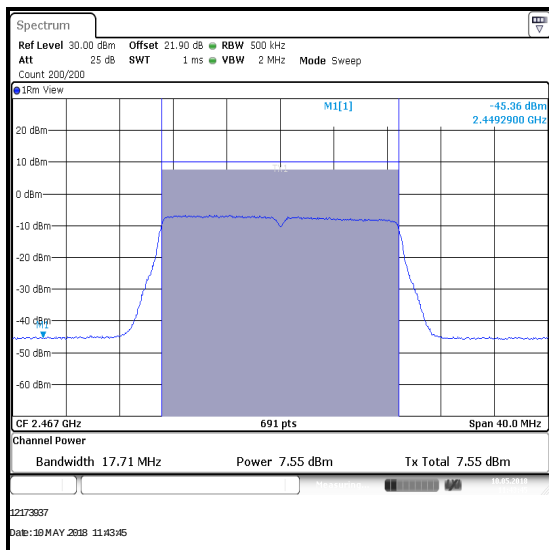
Channel 6

Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 3Tx TxBF / BPSK / MCS0 / Port WF2**

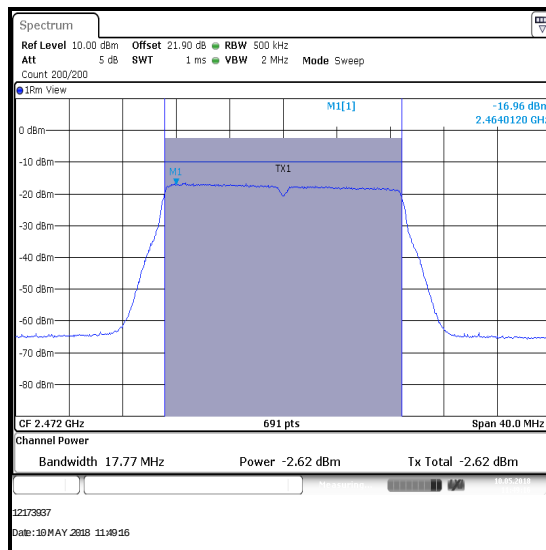
Channel 7



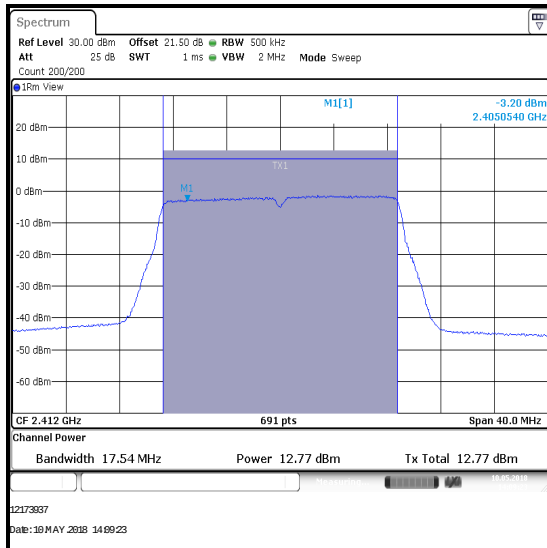
Channel 11



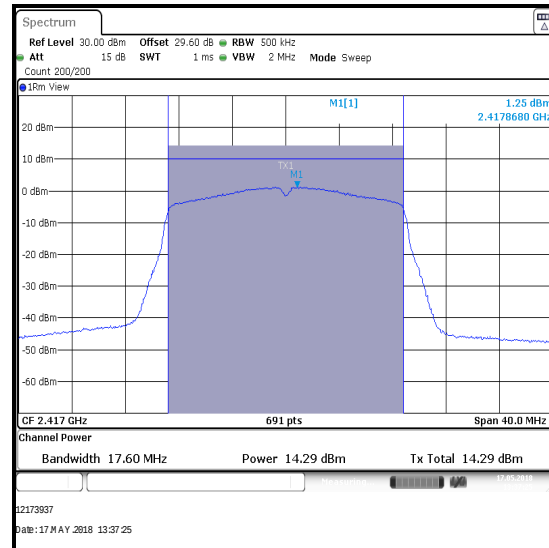
Channel 12



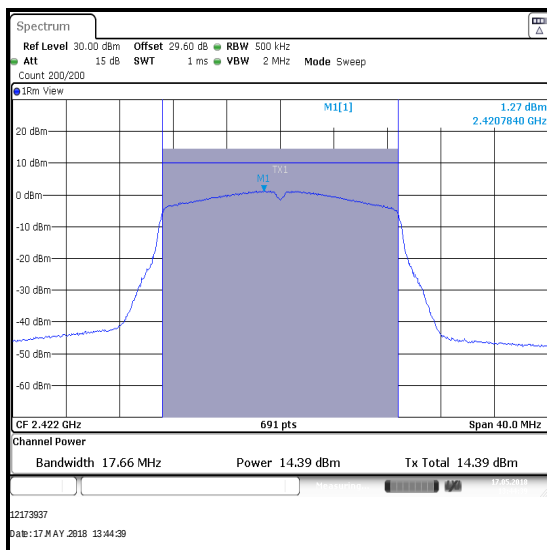
Channel 13

Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 3Tx TxBF / BPSK / MCS0 / Port WF3**

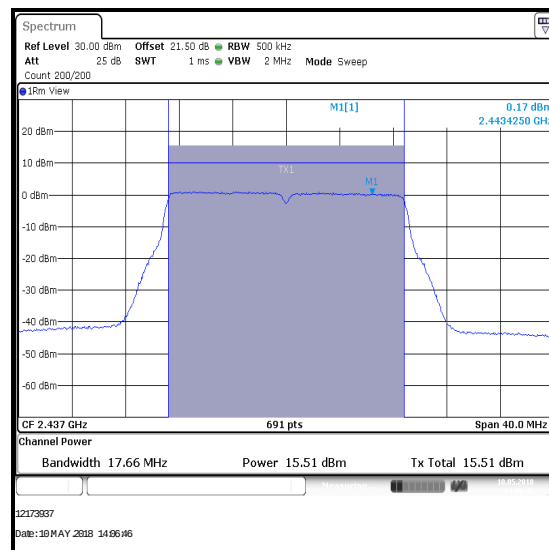
Channel 1



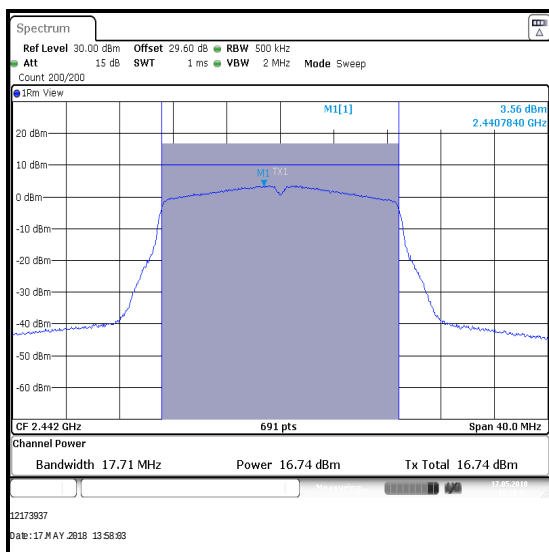
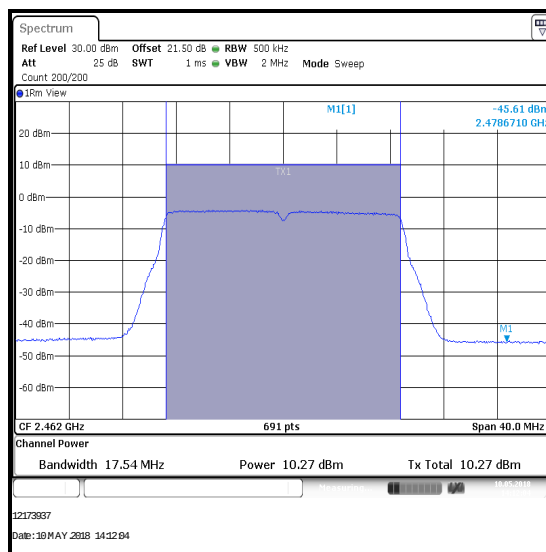
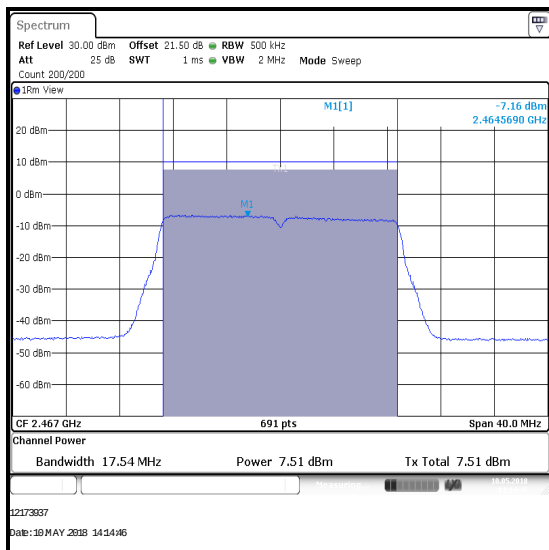
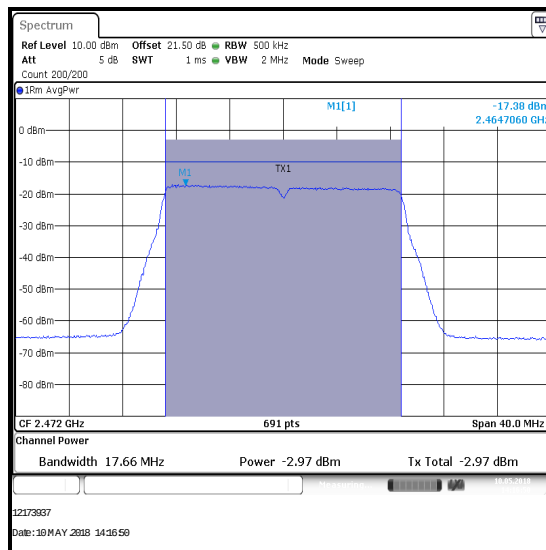
Channel 2



Channel 3



Channel 6

Transmitter Maximum (Average) Output Power (continued)**Results: 802.11n / HT20 / MIMO / 3Tx TxBF / BPSK / MCS0 / Port WF3****Channel 7****Channel 11****Channel 12****Channel 13**

5. Radiated Test Results

5.1. Transmitter Radiated Emissions <1 GHz

Test Summary:

Test Engineer:	James O'Reilly	Test Date:	29 April 2018
Test Sample Serial Number:	C02VR00RJH93		

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:

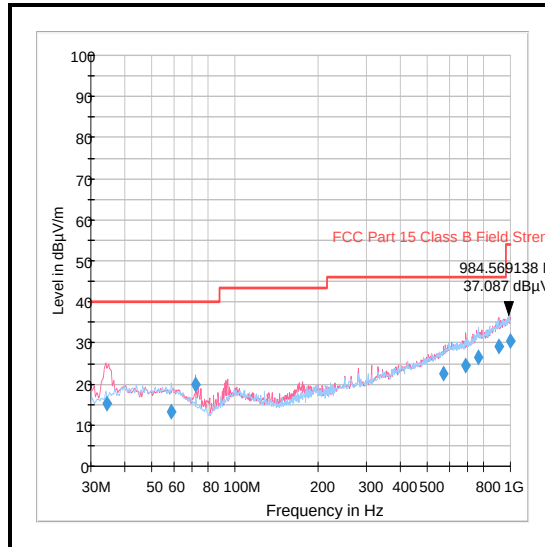
Temperature (°C):	23
Relative Humidity (%):	42

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 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.
5. Pre-scans were performed and markers placed on the highest measured levels. The test receiver resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. A peak detector was used, sweep time was set to auto and trace mode was Max Hold.

Transmitter Radiated Emissions (continued)**Results: Middle Channel 802.11b / 20 MHz / 1 Mbps / MIMO / 3Tx CDD**

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
984.569	Vertical	37.1	54.0	16.9	Complied



5.2. Transmitter Radiated Emissions >1 GHz**Test Summary:**

Test Engineers:	Mohamed Toubella, Marco Zunarelli & Nick Steele	Test Dates:	19 April 2018 to 26 April 2018
Test Sample Serial Number:	C02W6011JTF2		

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 24
Relative Humidity (%):	44 to 45

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 plot 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. In accordance with ANSI C63.10 Section 6.6.4.3 (Note 1), if the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.
5. Pre-scans above 1 GHz were performed in a fully anechoic chamber (Asset Number K0002) 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 semi-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.
6. Pre-scans were performed and a marker placed on the highest measured level of the appropriate plot. The test receiver resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. The sweep time was set to auto.

Transmitter Radiated Emissions (continued)**802.11b / 1 Mbps / MIMO / 3Tx CDD****Results: Bottom Channel / Peak**

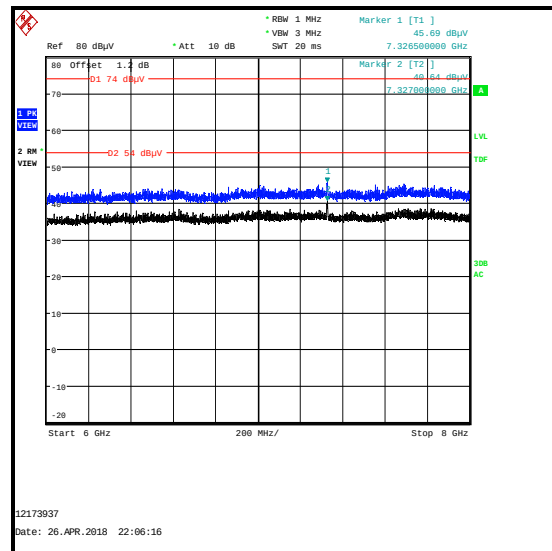
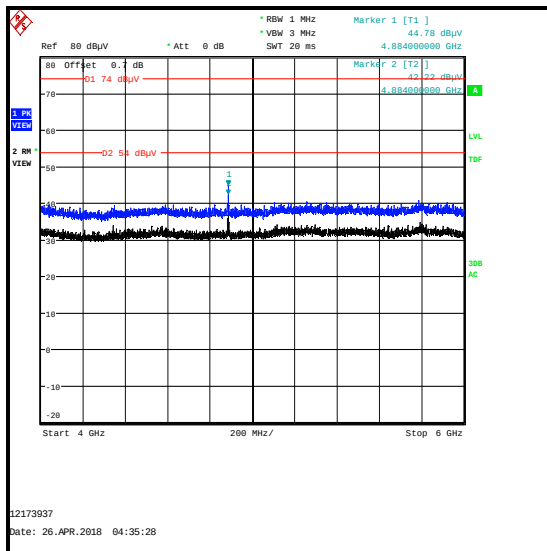
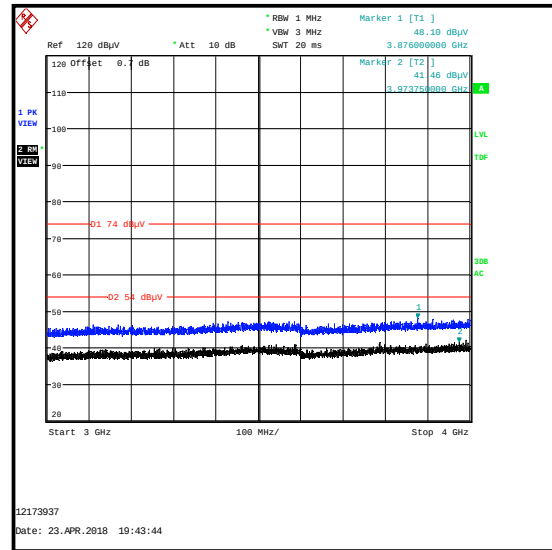
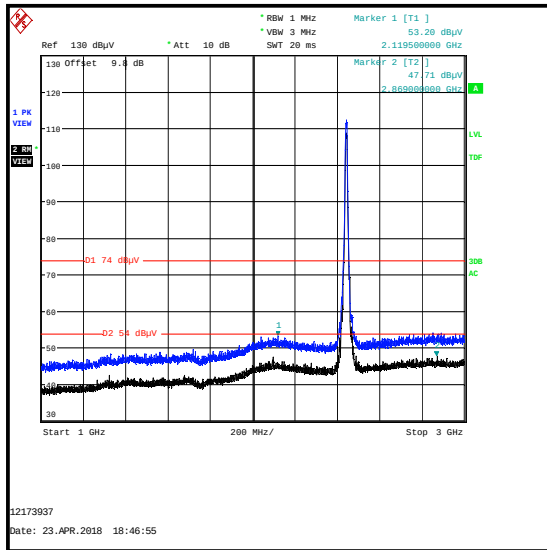
Frequency (MHz)	Antenna Polarity	Peak Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
4823.982	Vertical	44.4	54.0	9.6	Complied

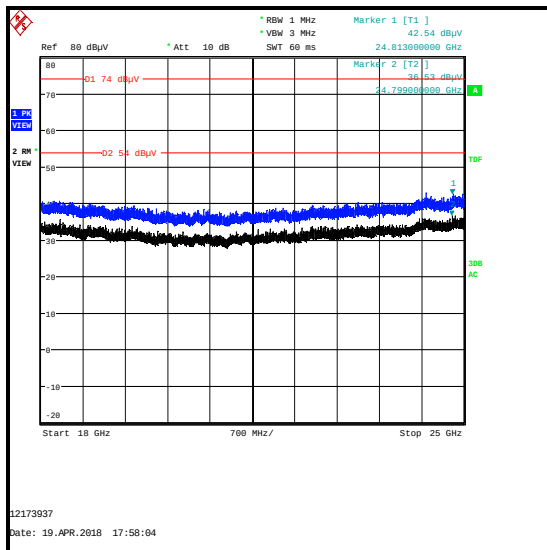
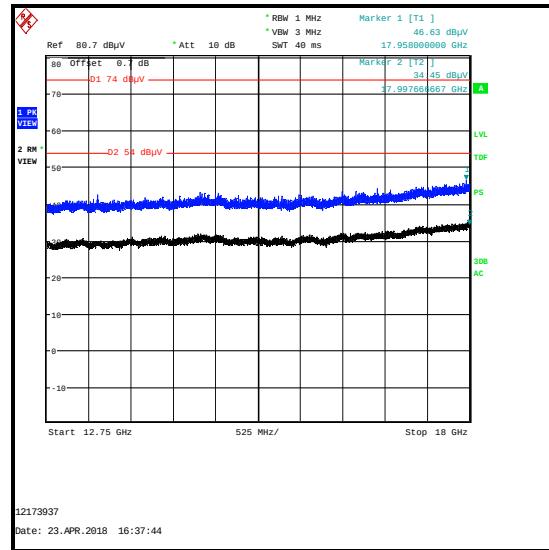
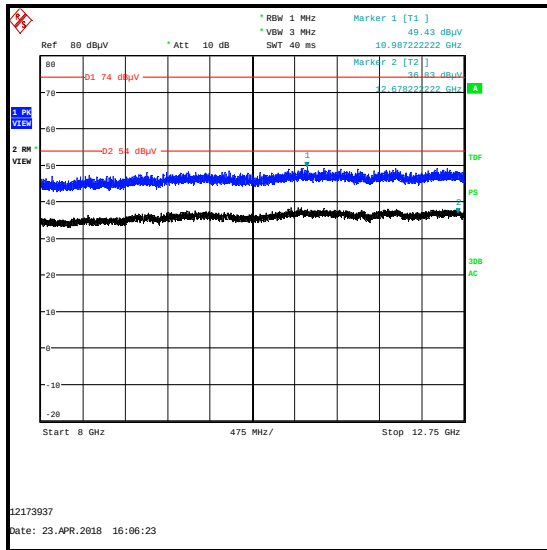
Results: Middle Channel / Peak

Frequency (MHz)	Antenna Polarity	Peak Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
4883.875	Vertical	46.3	54.0	7.7	Complied
7325.986	Vertical	48.1	54.0	5.9	Complied

Results: Top Channel / Peak

Frequency (MHz)	Antenna Polarity	Peak Level (dBμV/m)	Average Limit (dBμV/m)	Margin (dB)	Result
4993.846	Vertical	40.2	54.0	13.8	Complied
7415.535	Vertical	45.2	54.0	8.8	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:	John Ferdinand, Alan Withers & Andrew Edwards	Test Dates:	27 January 2018 to 22 March 2018
Test Sample Serial Numbers:	C02VR00RJH93 & C02W6011JTF2		

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):	21 to 23
Relative Humidity (%):	38 to 42

Transmitter Band Edge Radiated Emissions (continued)**Note(s):**

1. The customer declared the following data rates to be used for all measurements as:

- o 802.11b – DBPSK / 1 Mbps / SISO / Port WF2
- o 802.11g – BPSK / 6 Mbps / SISO / Port WF2
- o 802.11n HT20 – BPSK / MCS0 / SISO / Port WF2
- o 802.11b – MIMO / 2Tx CDD / DBPSK / 1 Mbps / Ports WF1 & WF2
- o 802.11b – MIMO / 3Tx CDD / DBPSK / 1 Mbps / Ports WF1, WF2 & WF3
- o 802.11n HT20 / MIMO / 2Tx CDD / BPSK / MCS0 / Ports WF1 & WF2
- o 802.11n HT20 / MIMO / 3Tx CDD / BPSK / MCS0 / Ports WF1, WF2 & WF3
- o 802.11n HT20 / MIMO / 2Tx TxBF / BPSK / MCS0 / Ports WF1 & WF2
- o 802.11n HT20 / MIMO / 3Tx TxBF / BPSK / MCS0 / Ports WF1, WF2 & WF3

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 / Port WF2****Results: Lower Band Edge / Channel 1**

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	-30 dBc Limit (dBμV/m)	Margin (dB)	Result
2400	Vertical	65.8	78.5	12.7	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	59.2	74.0	14.8	Complied
2492.026	Vertical	62.9	74.0	11.1	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	59.8	74.0	14.2	Complied
2483.596	Vertical	59.9	74.0	14.1	Complied

Results: Upper Band Edge / Average / Channel 12

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

Results: Upper Band Edge / Average / Channel 13

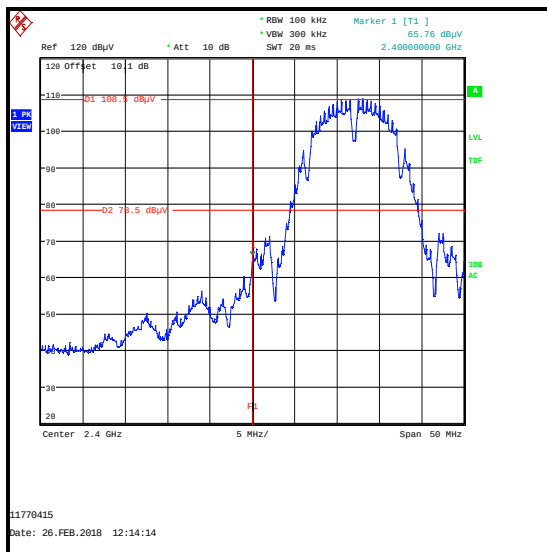
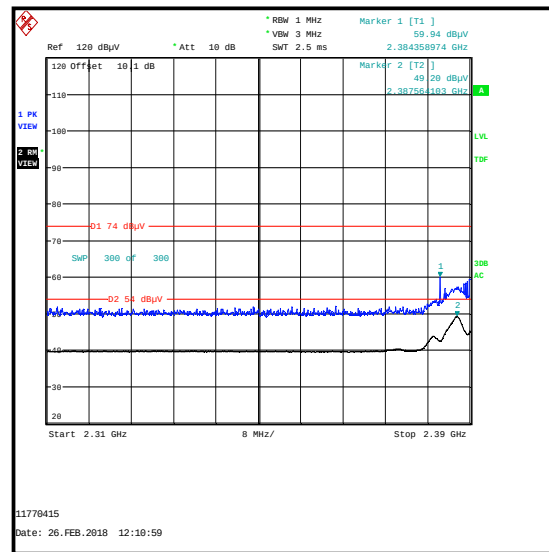
Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	50.8	54.0	3.2	Complied

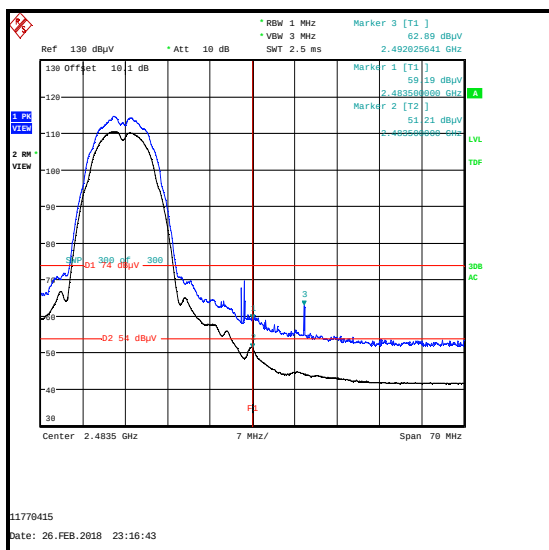
Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11b / 20 MHz / DBPSK / 1 Mbps / Port WF2****Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2384.359	Vertical	59.9	74.0	14.1	Complied

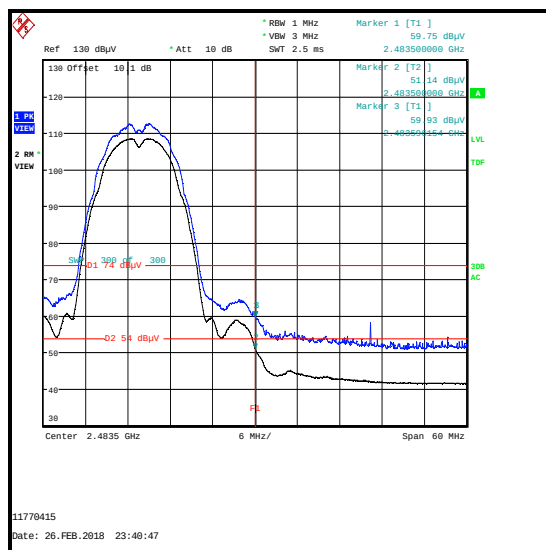
Results: 2310 MHz to 2390 MHz Restricted Band / Average

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2387.564	Vertical	49.2	54.0	4.8	Complied

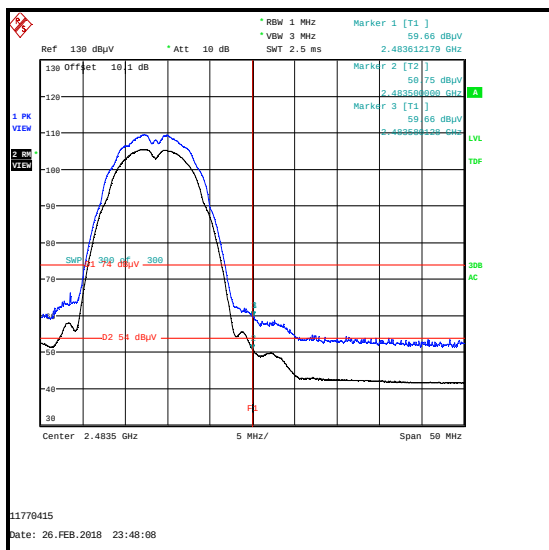
**Lower Band Edge
Channel 1****2310 MHz to 2390 MHz Restricted Band**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11b / 20 MHz / DBPSK / 1 Mbps / Port WF2**

**Upper Band Edge
Channel 11**



**Upper Band Edge
Channel 12**



**Upper Band Edge
Channel 13**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11g / 20 MHz / BPSK / 6 Mbps / Port WF2****Results: Lower Band Edge / Channel 1**

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	-30 dBc Limit (dBμV/m)	Margin (dB)	Result
2397.035	Vertical	62.2	75.0	12.8	Complied
2400	Vertical	60.1	75.0	14.9	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	64.5	74.0	9.5	Complied
2483.612	Vertical	64.7	74.0	9.3	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	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	50.6	54.0	3.4	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	68.2	74.0	5.8	Complied

Results: Upper Band Edge / Average / Channel 13

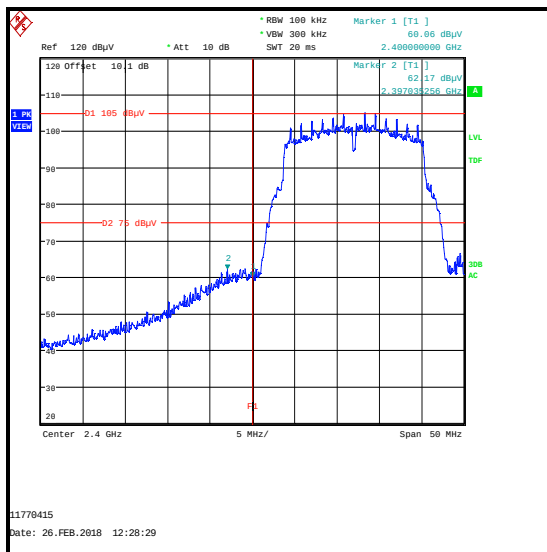
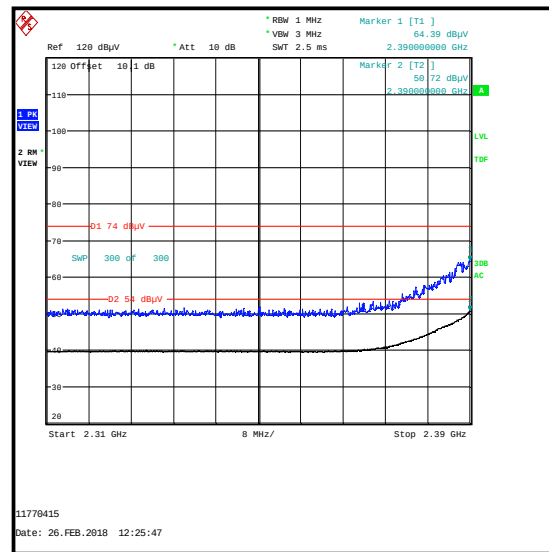
Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	50.9	54.0	3.1	Complied

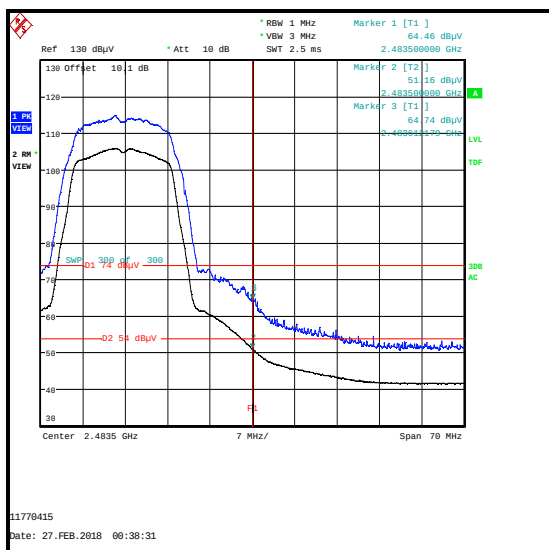
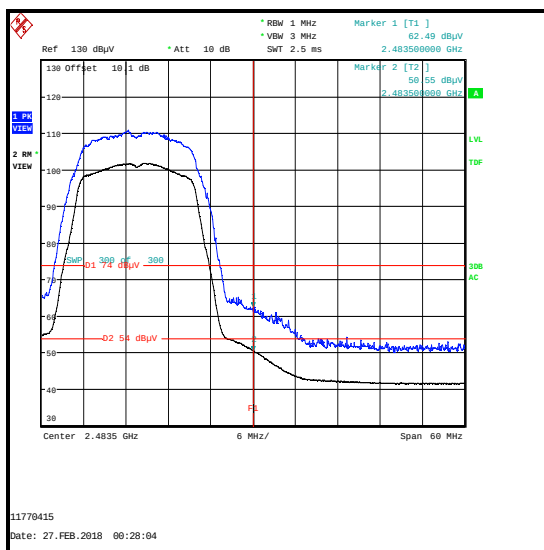
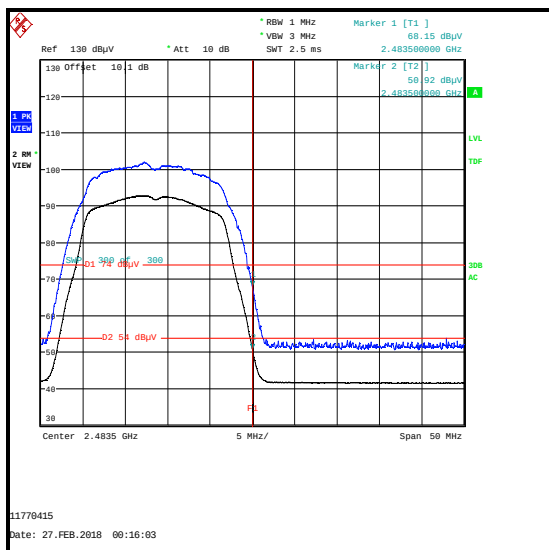
Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11g / 20 MHz / BPSK / 6 Mbps / Port WF2****Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2390.000	Vertical	64.4	74.0	9.6	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	50.7	54.0	3.3	Complied

**Lower Band Edge
Channel 1****2310 MHz to 2390 MHz Restricted Band**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11g / 20 MHz / BPSK / 6 Mbps / Port WF2****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 / Port WF2****Results: Lower Band Edge / Channel 1**

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	-30 dBc Limit (dB μ V/m)	Margin (dB)	Result
2399.760	Vertical	62.9	75.3	12.4	Complied
2400	Vertical	60.4	75.3	14.9	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2483.5	Vertical	65.5	74.0	8.5	Complied

Results: Upper Band Edge / Average / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/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 (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2483.5	Vertical	63.0	74.0	11.0	Complied
2483.596	Vertical	63.9	74.0	10.1	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2483.5	Vertical	50.9	54.0	3.1	Complied
2483.596	Vertical	51.0	54.0	3.0	Complied

Results: Upper Band Edge / Peak / Channel 13

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

Results: Upper Band Edge / Average / Channel 13

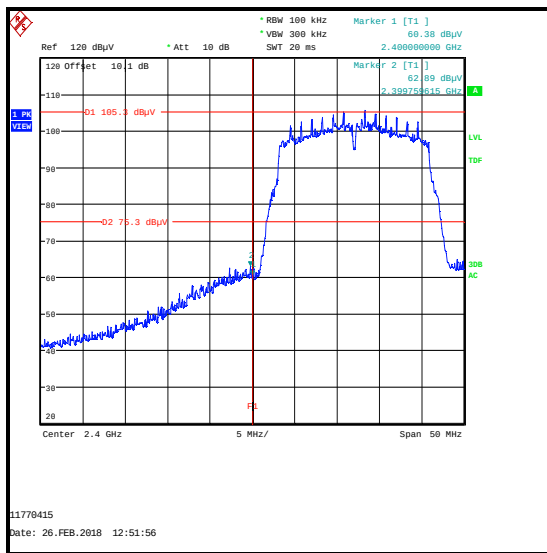
Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2483.5	Vertical	51.2	54.0	2.8	Complied

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n HT20 / SISO / BPSK / MCS0 / Port WF2****Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

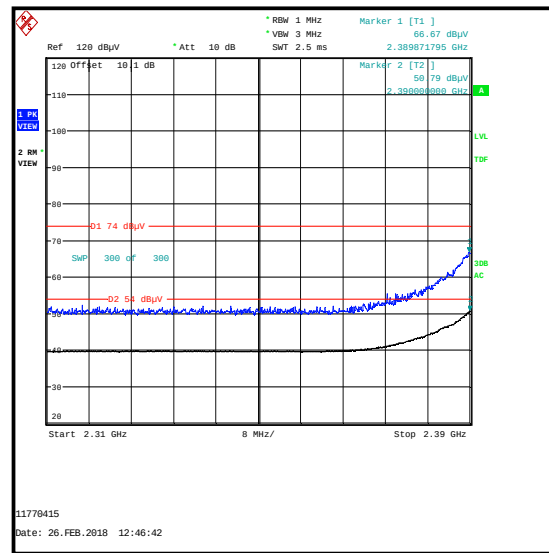
Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2389.872	Vertical	66.7	74.0	7.3	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

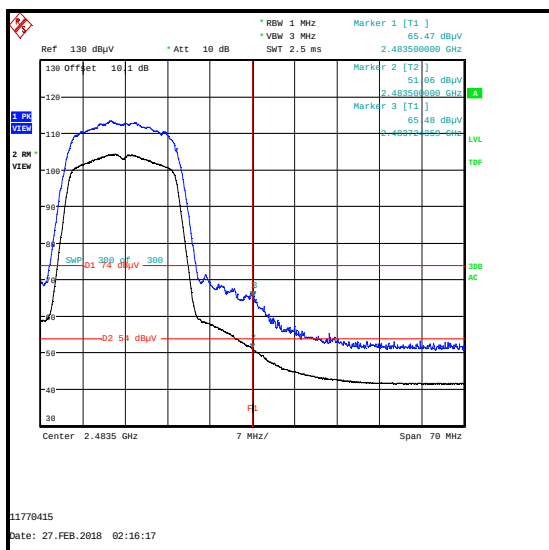
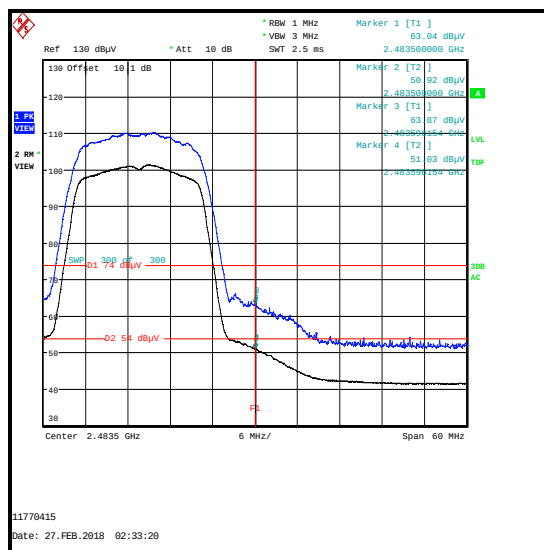
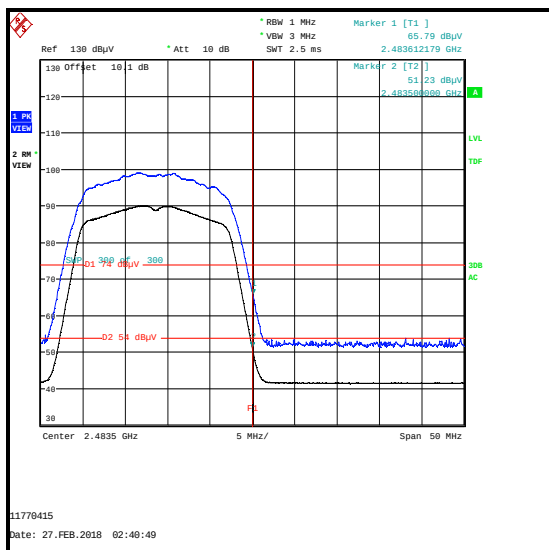
Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2390.000	Vertical	50.8	54.0	3.2	Complied



**Lower Band Edge
Channel 1**



2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n HT20 / SISO / BPSK / MCS0 / Port WF2****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 / 2Tx CDD / 1 Mbps / Ports WF1 & WF2****Results: Lower Band Edge / Channel 1**

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	-30 dBc Limit (dBμV/m)	Margin (dB)	Result
2400	Vertical	68.9	83.7	14.8	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	58.5	74.0	15.5	Complied
2484.061	Vertical	62.3	74.0	11.7	Complied

Results: Upper Band Edge / Average / Channel 11

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

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	59.5	74.0	14.5	Complied
2489.269	Vertical	62.8	74.0	11.2	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	50.7	54.0	3.3	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	60.8	74.0	13.2	Complied
2484.141	Vertical	63.4	74.0	10.6	Complied

Results: Upper Band Edge / Average / Channel 13

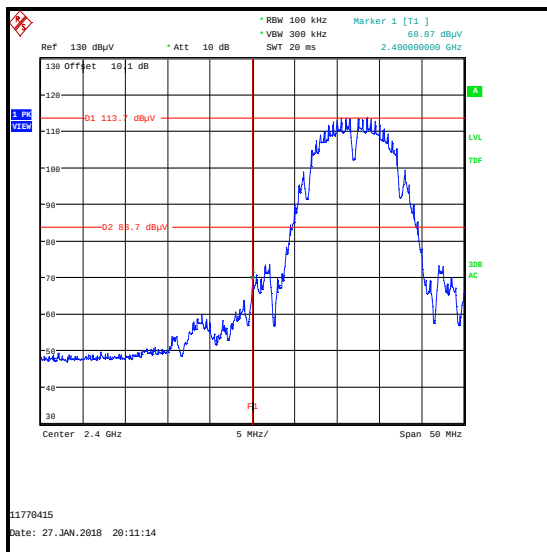
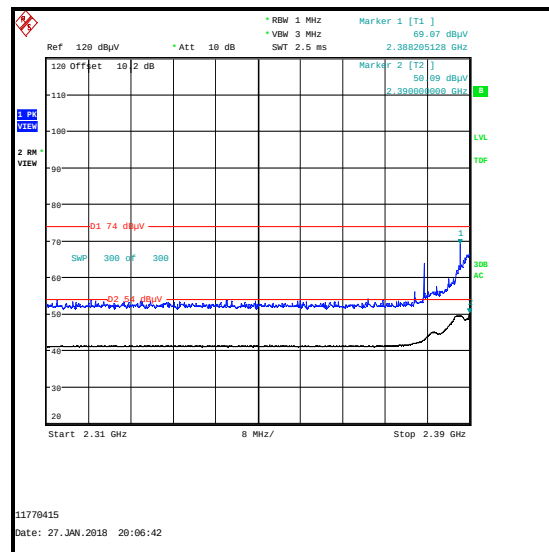
Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	51.0	54.0	3.0	Complied

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11b / 20 MHz / MIMO / 2Tx CDD / 1 Mbps / Ports WF1 & WF2****Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2388.205	Vertical	69.1	74.0	4.9	Complied

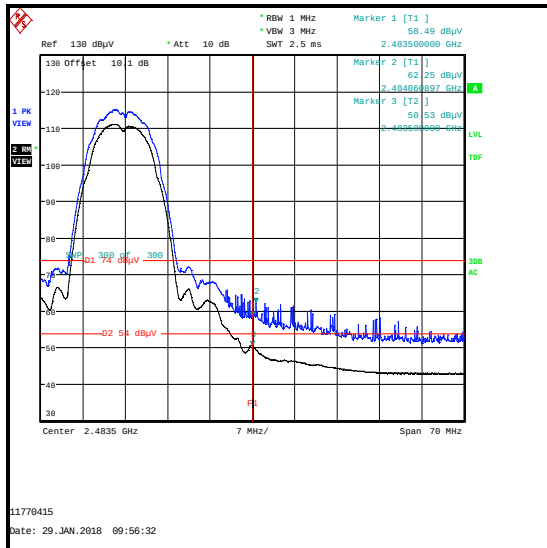
Results: 2310 MHz to 2390 MHz Restricted Band / Average

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2390.000	Vertical	50.1	54.0	3.9	Complied

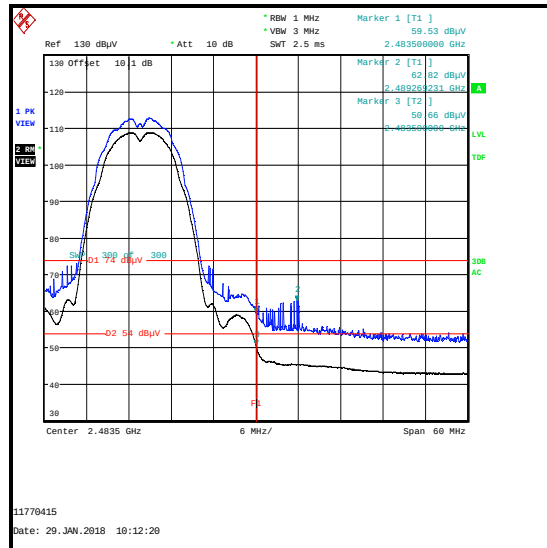
**Lower Band Edge
Channel 1****2310 MHz to 2390 MHz Restricted Band**

Transmitter Band Edge Radiated Emissions (continued)

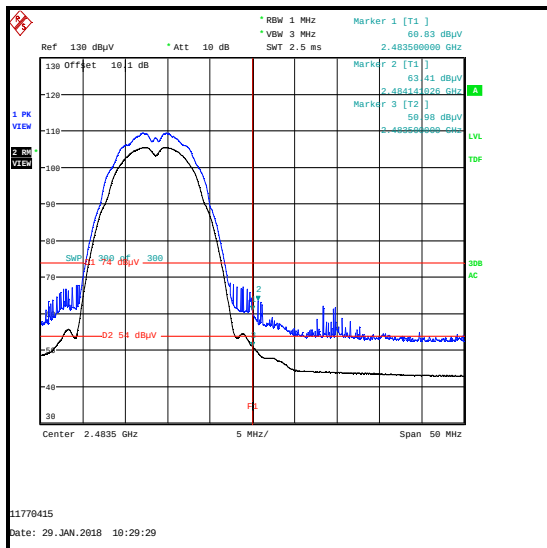
Results: 802.11b / 20 MHz / MIMO / 2Tx CDD / 1 Mbps / Ports WF1 & WF2



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 / Ports WF1, WF2 & WF3****Results: Lower Band Edge / Channel 1**

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	-30 dBc Limit (dBµV/m)	Margin (dB)	Result
2400	Vertical	67.5	85.1	17.6	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	63.9	74.0	10.1	Complied
2484.397	Vertical	68.9	74.0	5.1	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	60.4	74.0	13.6	Complied
2483.596	Vertical	68.4	74.0	5.6	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	50.4	54.0	3.6	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
2485.183	Vertical	62.9	74.0	11.1	Complied

Results: Upper Band Edge / Average / Channel 13

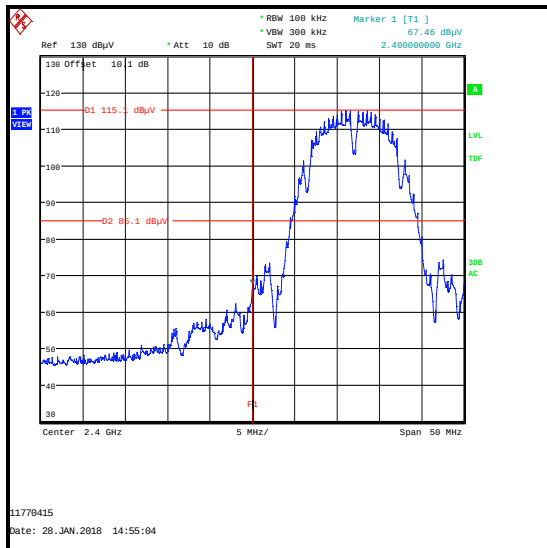
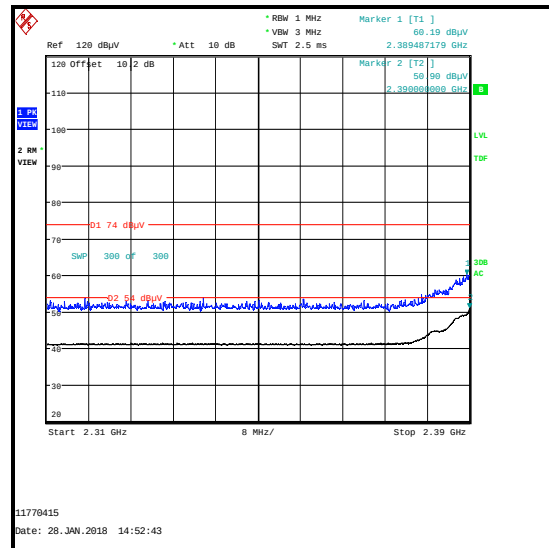
Frequency (MHz)	Antenna Polarity	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Result
2483.5	Vertical	50.8	54.0	3.2	Complied

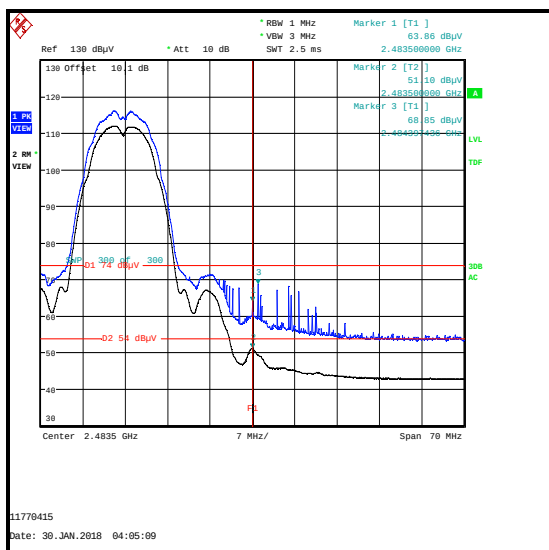
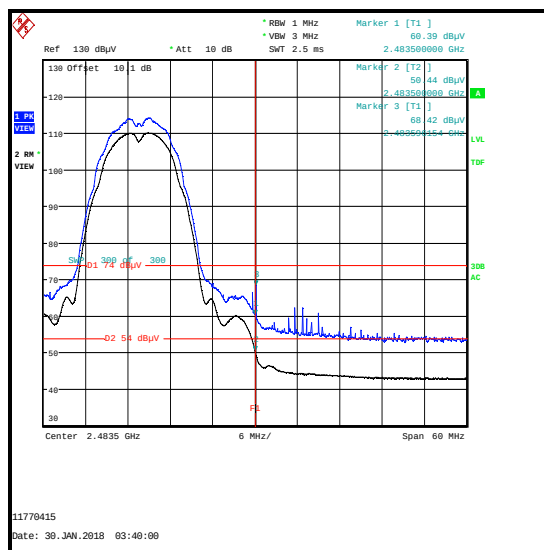
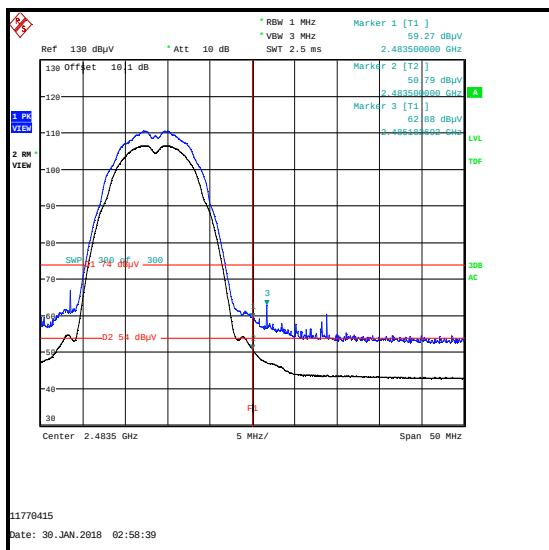
Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11b / 20 MHz / MIMO / 3Tx CDD / 1 Mbps / Ports WF1, WF2 & WF3****Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2389.487	Vertical	60.2	74.0	13.8	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
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 / Ports WF1, WF2 & WF3****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 / Ports WF1 & WF2****Results: Lower Band Edge / Channel 1**

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	-30 dBc Limit (dBμV/m)	Margin (dB)	Result
2398.237	Vertical	63.1	78.5	15.4	Complied
2400	Vertical	60.9	78.5	17.6	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	62.1	74.0	11.9	Complied
2484.285	Vertical	63.1	74.0	10.9	Complied

Results: Upper Band Edge / Average / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	49.7	54.0	4.3	Complied
2483.837	Vertical	50.2	54.0	3.8	Complied

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	61.3	74.0	12.7	Complied
2483.981	Vertical	62.1	74.0	11.9	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	49.6	54.0	4.4	Complied
2483.981	Vertical	50.2	54.0	3.8	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	65.6	74.0	8.4	Complied

Results: Upper Band Edge / Average / Channel 13

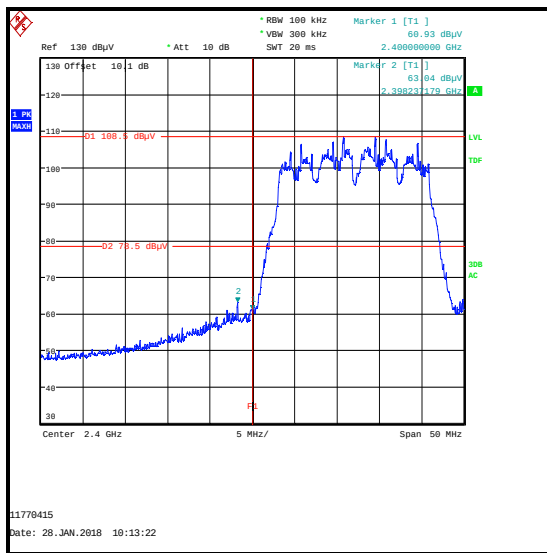
Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	50.6	54.0	3.4	Complied

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n HT20 / MIMO / 2Tx CDD / MCS0 / Ports WF1 & WF2****Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

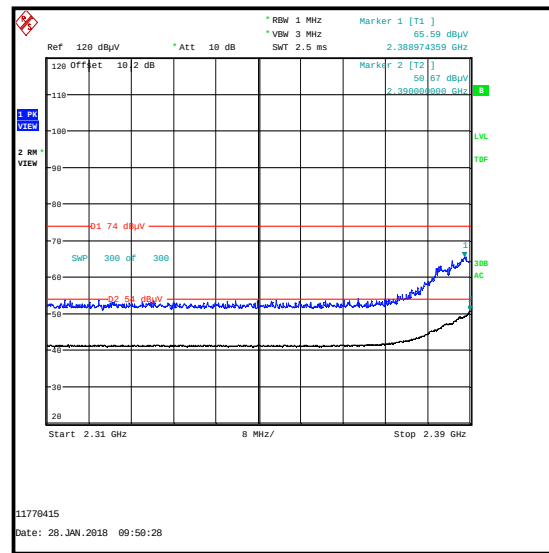
Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2388.974	Vertical	65.6	74.0	8.4	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

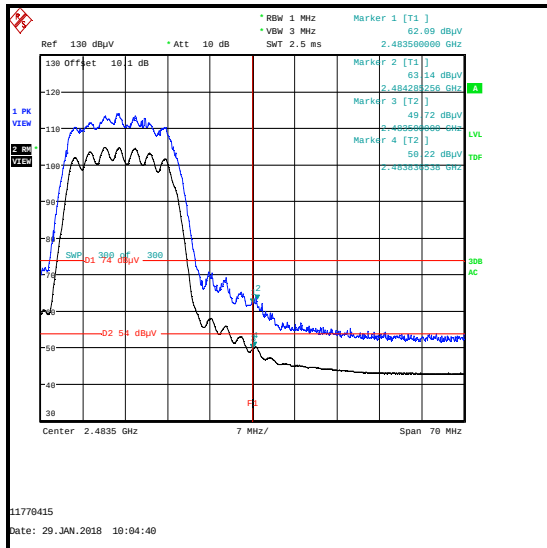
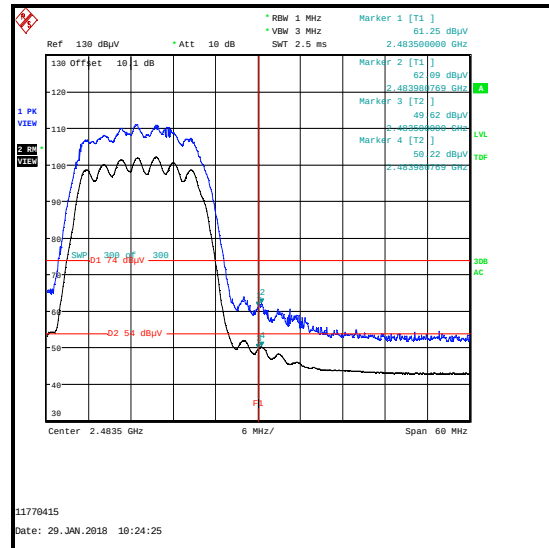
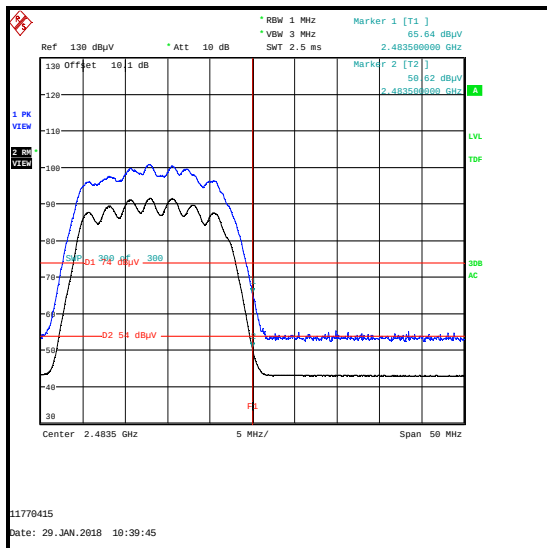
Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2390.000	Vertical	50.7	54.0	3.3	Complied



**Lower Band Edge
Channel 1**



2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n HT20 / MIMO / 2Tx CDD / MCS0 / Ports WF1 & WF2****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 / Ports WF1, WF2 & WF3****Results: Lower Band Edge / Channel 1**

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	-30 dBc Limit (dBμV/m)	Margin (dB)	Result
2398.237	Vertical	63.6	80.5	16.9	Complied
2400.0	Vertical	57.4	80.5	23.1	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	64.1	74.0	9.9	Complied
2483.837	Vertical	64.8	74.0	9.2	Complied

Results: Upper Band Edge / Average / Channel 11

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

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	62.9	74.0	11.1	Complied
2483.596	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	50.3	54.0	3.7	Complied
2483.598	Vertical	50.4	54.0	3.6	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	64.3	74.0	9.7	Complied

Results: Upper Band Edge / Average / Channel 13

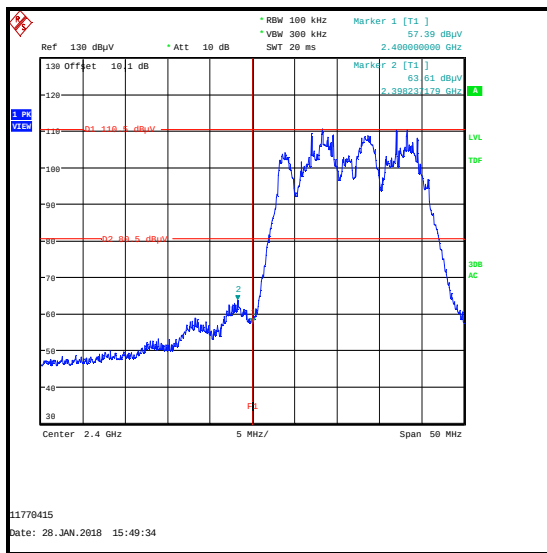
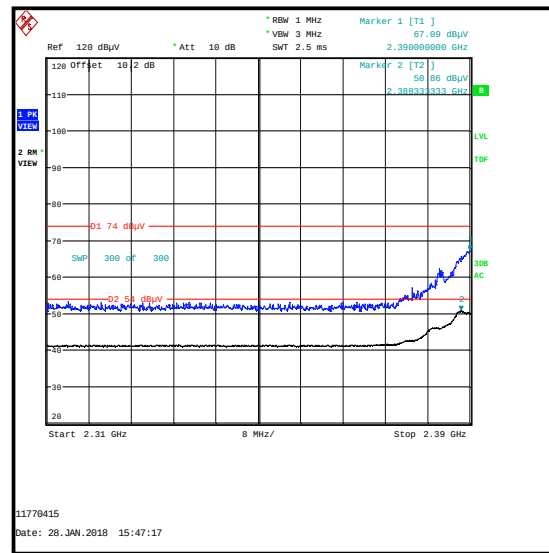
Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	50.0	54.0	4.0	Complied

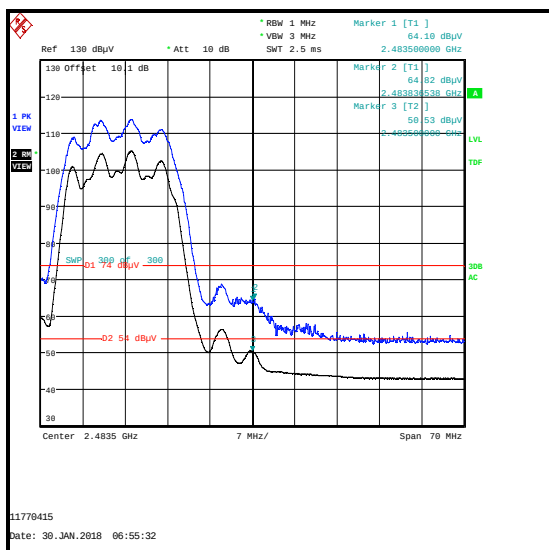
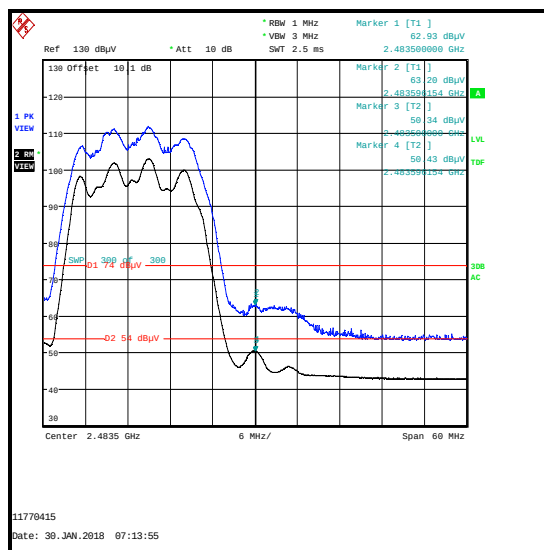
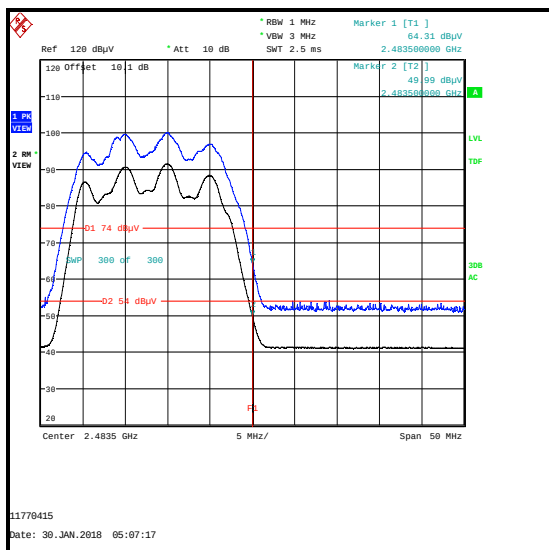
Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n HT20 / MIMO / 3Tx CDD / MCS0 / Ports WF1, WF2 & WF3****Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2390.000	Vertical	67.1	74.0	6.9	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2388.333	Vertical	50.9	54.0	3.1	Complied

**Lower Band Edge
Channel 1****2310 MHz to 2390 MHz Restricted Band**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n HT20 / MIMO / 3Tx CDD / MCS0 / Ports WF1, WF2 & WF3****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 / BPSK / MCS0****Results: Lower Band Edge / Channel 1**

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	-30 dBc Limit (dBμV/m)	Margin (dB)	Result
2398.237	Vertical	54.9	72.8	17.9	Complied
2400.0	Vertical	53.1	72.8	19.7	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	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	43.1	54.0	10.9	Complied
2483.612	Vertical	43.4	54.0	10.6	Complied

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	63.5	74.0	10.5	Complied
2486.385	Vertical	66.4	74.0	7.6	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	42.8	54.0	11.2	Complied
2484.077	Vertical	42.9	54.0	11.1	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	66.8	74.0	7.2	Complied

Results: Upper Band Edge / Average / Channel 13

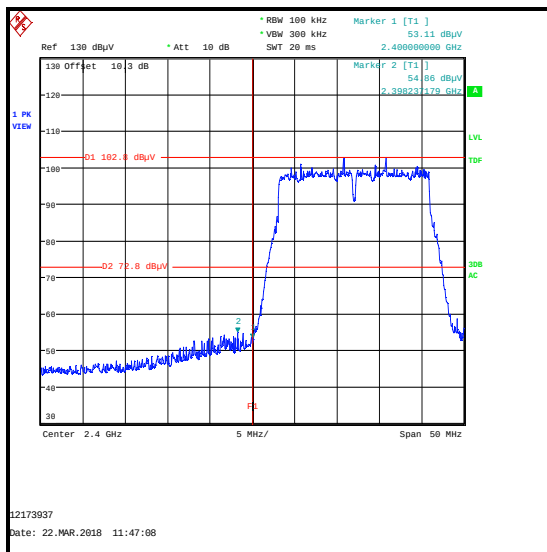
Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2483.5	Vertical	49.7	54.0	4.3	Complied

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n HT20 / MIMO / 2Tx TxBF / BPSK / MCS0****Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

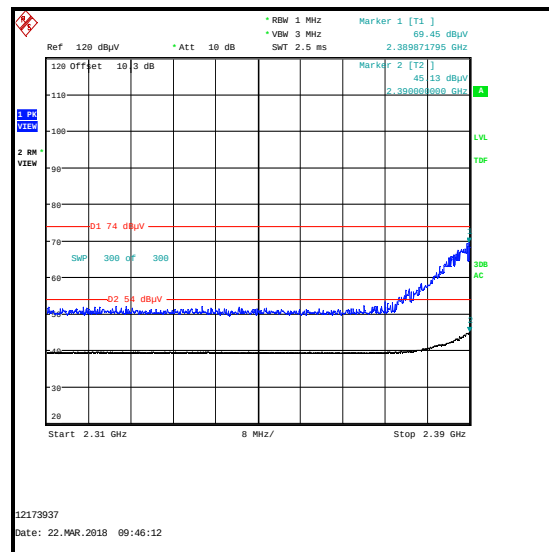
Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2389.872	Vertical	69.5	74.0	4.5	Complied

Results: 2310 MHz to 2390 MHz Restricted Band / Average

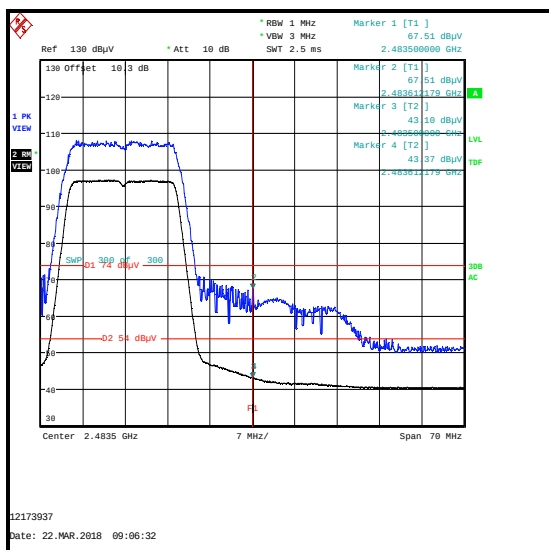
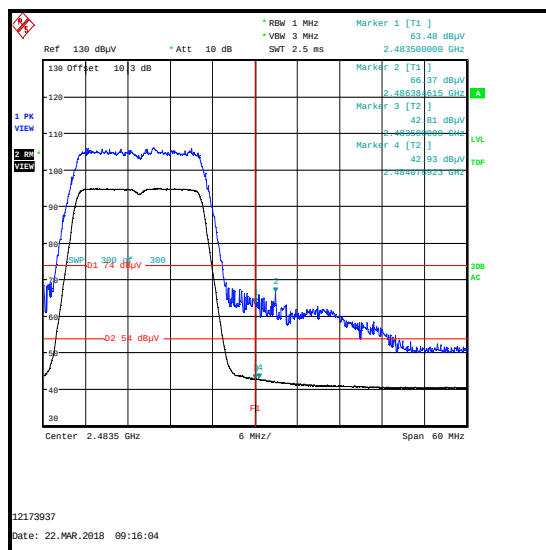
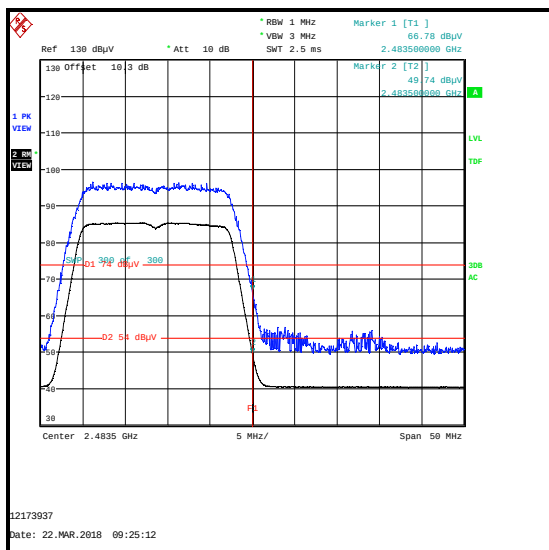
Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2390.000	Vertical	45.1	54.0	8.9	Complied



**Lower Band Edge
Channel 1**



2310 MHz to 2390 MHz Restricted Band

Transmitter Band Edge Radiated Emissions (continued)**Results: Results: 802.11n HT20 / MIMO / 2Tx TxBF / BPSK / MCS0****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 / BPSK / MCS0****Results: Lower Band Edge / Channel 1**

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	-30 dBc Limit (dB μ V/m)	Margin (dB)	Result
2396.554	Vertical	56.7	75.5	18.8	Complied
2400.0	Vertical	55.9	75.5	19.6	Complied

Results: Upper Band Edge / Peak / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2483.5	Vertical	61.5	74.0	12.5	Complied
2483.724	Vertical	69.4	74.0	4.6	Complied

Results: Upper Band Edge / Average / Channel 11

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2483.5	Vertical	44.4	54.0	9.6	Complied

Results: Upper Band Edge / Peak / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2483.5	Vertical	59.6	74.0	14.4	Complied
2483.788	Vertical	67.3	74.0	6.7	Complied

Results: Upper Band Edge / Average / Channel 12

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2483.5	Vertical	43.6	54.0	10.4	Complied

Results: Upper Band Edge / Peak / Channel 13

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2483.5	Vertical	58.6	74.0	15.4	Complied

Results: Upper Band Edge / Average / Channel 13

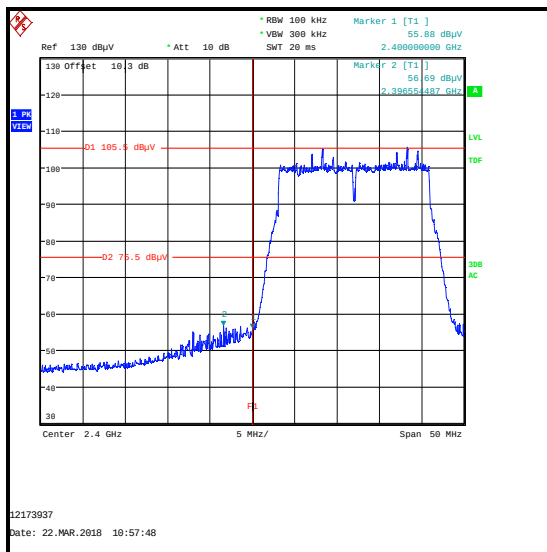
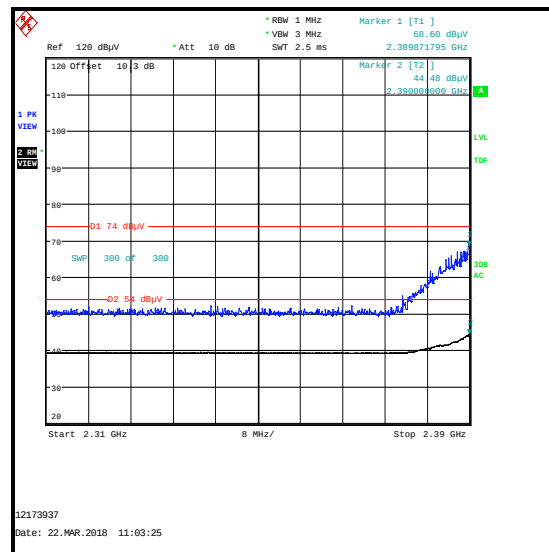
Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
2483.5	Vertical	45.0	54.0	9.0	Complied

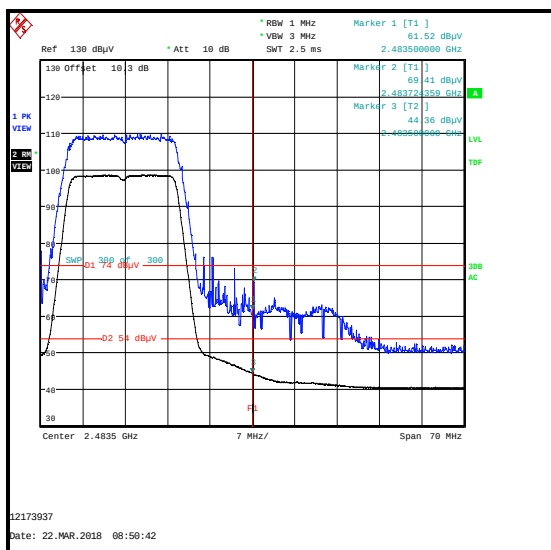
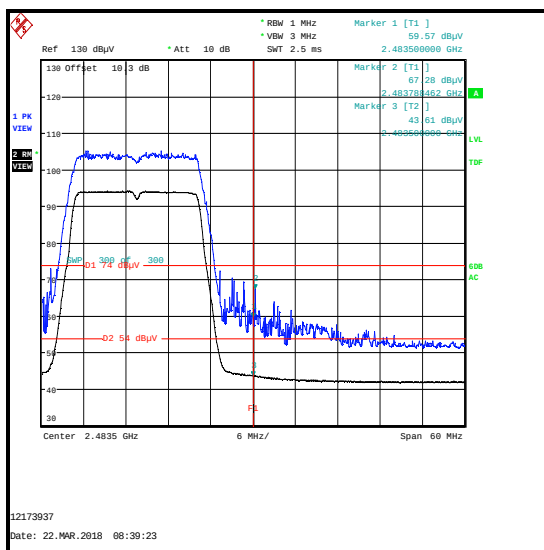
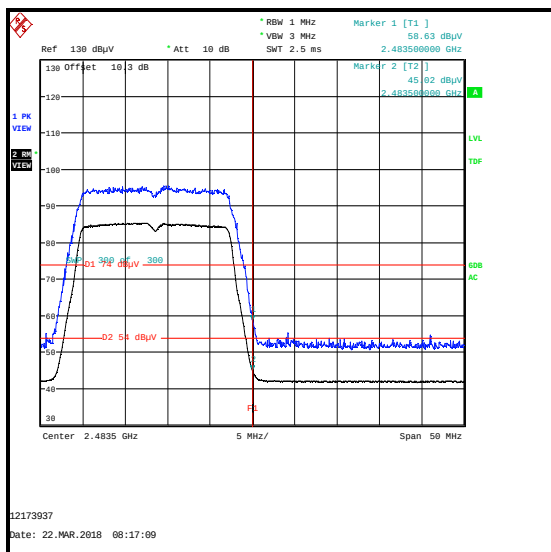
Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n HT20 / MIMO / 3Tx TxBF / BPSK / MCS0****Results: 2310 MHz to 2390 MHz Restricted Band / Peak**

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
2389.872	Vertical	68.6	74.0	5.4	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	44.5	54.0	9.5	Complied

**Lower Band Edge
Channel 1****2310 MHz to 2390 MHz Restricted Band**

Transmitter Band Edge Radiated Emissions (continued)**Results: 802.11n HT20 / MIMO / 3Tx TxBF / BPSK / MCS0****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:

- $N_{SS} = 1, N_{ANT} = 2, G_{WF1} = 2.3 \text{ dBi}, G_{WF2} = 3.3 \text{ dBi}$

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^2 g_{j,k} \right)^2}{2} \right] \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2})^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{2.3}{10}} + 10^{\frac{3.3}{10}} \right)^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{2.3}{10}} + 10^{\frac{3.3}{10}} \right)^2}{2} \right] = 5.8 \text{ dBi} \end{aligned}$$

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

- $N_{SS} = 1, N_{ANT} = 3, G_{WF1} = 2.3 \text{ dBi}, G_{WF2} = 3.3 \text{ dBi}, G_{WF3} = 2.0 \text{ dBi}$

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^3 g_{j,k} \right)^2}{3} \right] \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2} + g_{1,3})^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{2.3}{10}} + 10^{\frac{3.3}{10}} + 10^{\frac{2.0}{10}} \right)^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{2.3}{10}} + 10^{\frac{3.3}{10}} + 10^{\frac{2.0}{10}} \right)^2}{3} \right] = 7.3 \text{ dBi} \end{aligned}$$

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:

- $N_{ANT} = 2$, $G_{WF1} = 2.3$ dBi, $G_{WF2} = 3.3$ dBi

$$\text{Directional Gain} = 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + \dots + 10^{\frac{G_N}{20}} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} \right)^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{2.3}{20}} + 10^{\frac{3.3}{20}} \right)^2}{2} \right] =$$

5.8 dBi

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

- $N_{ANT} = 3$, $G_{WF1} = 2.3$ dBi, $G_{WF2} = 3.3$ dBi, $G_{WF3} = 2.0$ dBi

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + \dots + 10^{\frac{G_N}{20}} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + 10^{\frac{G_3}{20}} \right)^2}{3} \right] = \\ &= 10 \log \left[\frac{\left(10^{\frac{2.3}{20}} + 10^{\frac{3.3}{20}} + 10^{\frac{2.0}{20}} \right)^2}{3} \right] = 7.3 \text{ dBi} \end{aligned}$$

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