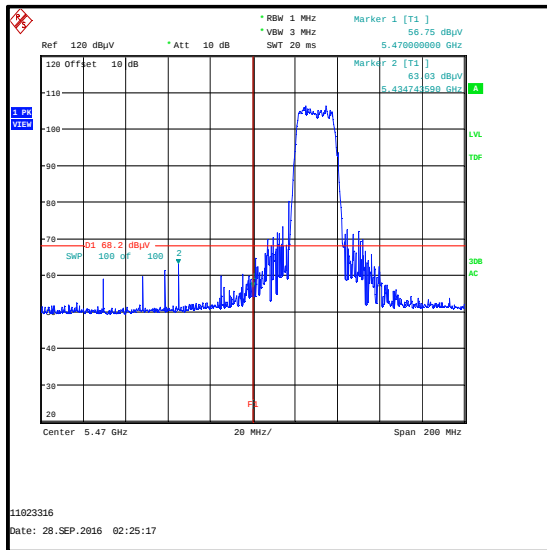
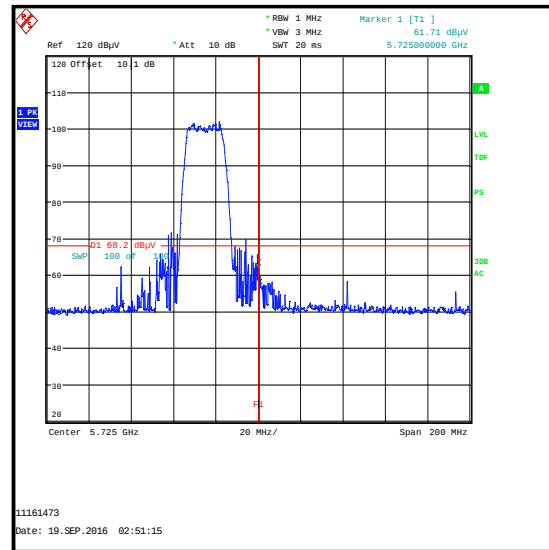


Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11n / HT20 / MIMO / 2Tx CDD / MCS0 / Ports 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5434.744	-32.2	-27.0	5.2	Complied
5470	-38.4	-27.0	11.4	Complied
5725	-33.5	-27.0	6.5	Complied

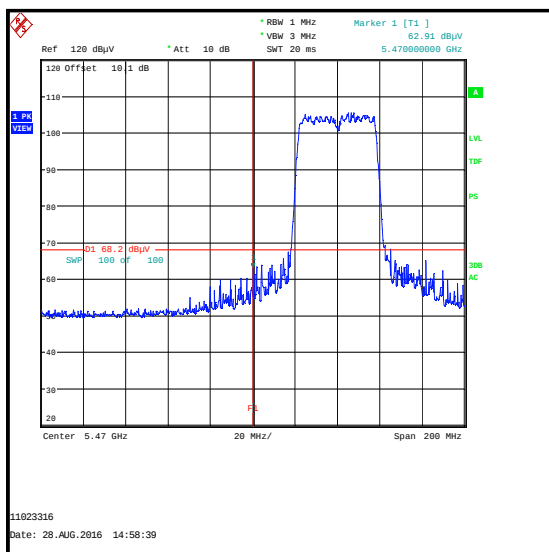
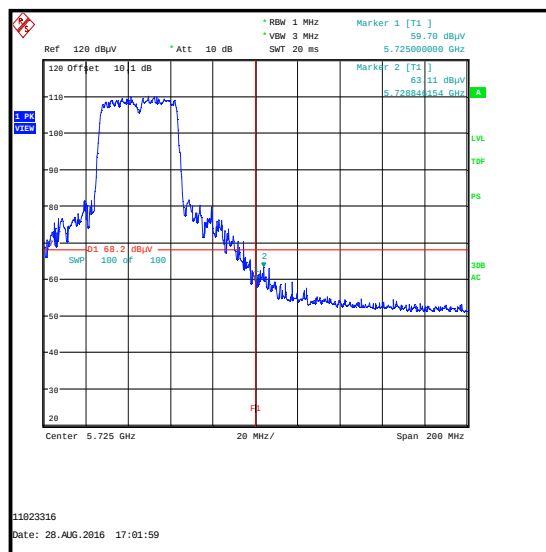
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5434.744	63.0	68.2	5.2	Complied
5470	56.8	68.2	11.4	Complied
5725	61.7	68.2	6.5	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11n / HT40 / MIMO / 2Tx CDD / MCS0 / Ports 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5470	-32.3	-27.0	5.3	Complied
5725	-35.5	-27.0	8.5	Complied
5728.846	-32.1	-27.0	5.1	Complied

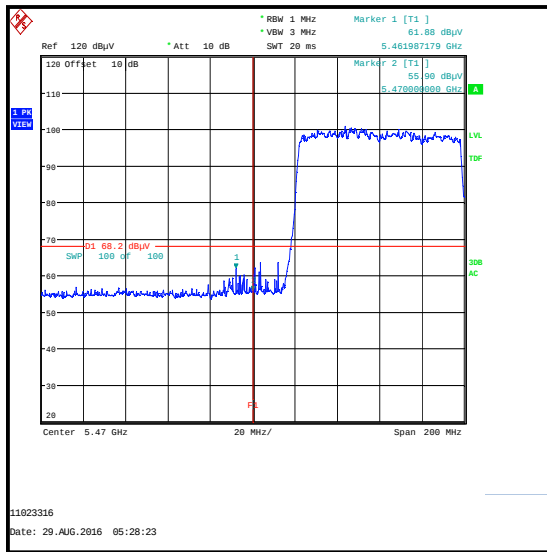
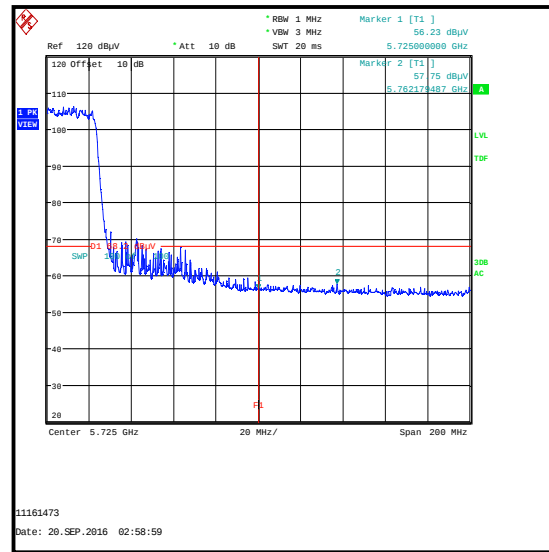
Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
5470	62.9	68.2	5.3	Complied
5725	59.7	68.2	8.5	Complied
5728.846	63.1	68.2	5.1	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11ac / VHT80 / MIMO / 2Tx CDD / MCS0x1 / Ports 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5461.987	-33.3	-27.0	6.3	Complied
5470	-39.3	-27.0	12.3	Complied
5725	-39.0	-27.0	12.0	Complied
5762.179	-37.4	-27.0	10.4	Complied

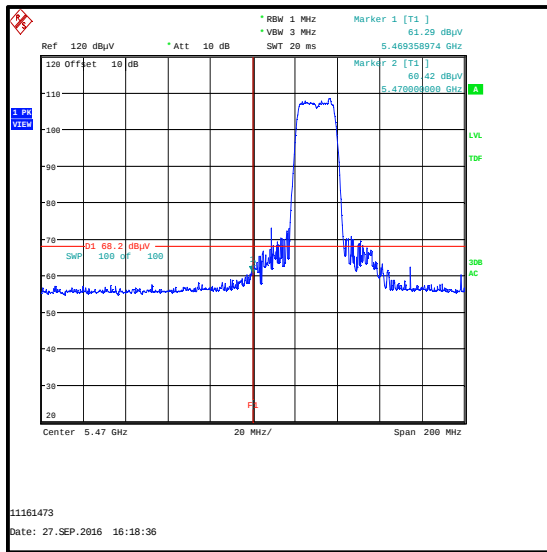
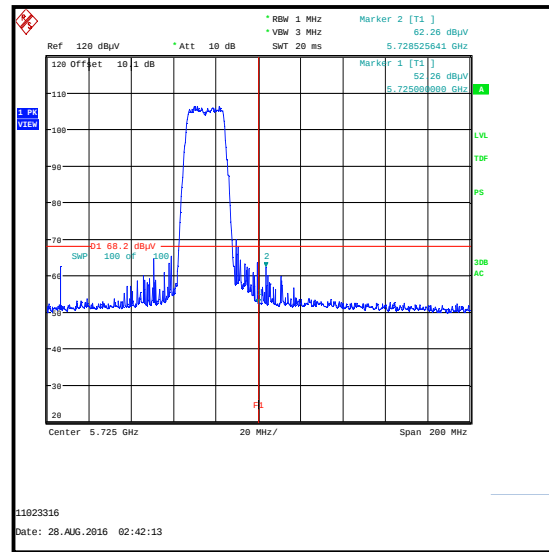
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5461.987	61.9	68.2	6.3	Complied
5470	55.9	68.2	12.3	Complied
5725	56.2	68.2	12.0	Complied
5762.179	57.8	68.2	10.4	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11n / HT20 / MIMO / 2Tx STBC / MCS0 / Ports 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5469.359	-33.9	-27.0	6.9	Complied
5470	-34.8	-27.0	7.8	Complied
5725	-42.9	-27.0	15.9	Complied
5728.526	-32.9	-27.0	5.9	Complied

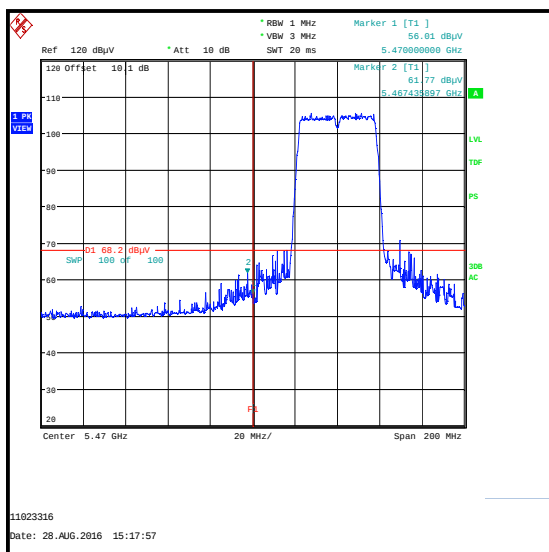
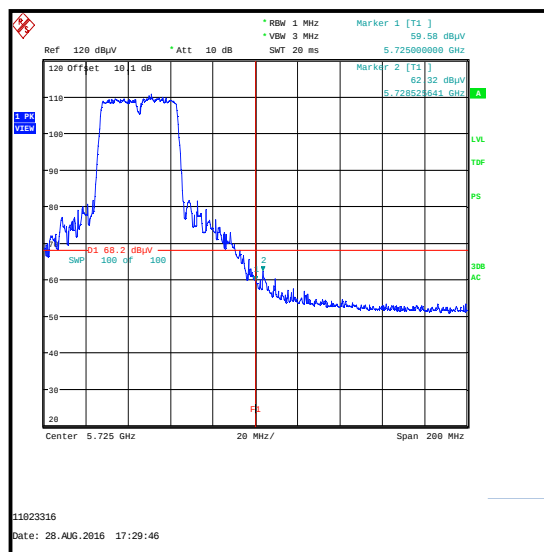
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5469.359	61.3	68.2	6.9	Complied
5470	60.4	68.2	7.8	Complied
5725	52.3	68.2	15.9	Complied
5728.526	62.3	68.2	5.9	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11n / HT40 / MIMO / 2Tx STBC / MCS0 / Ports 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5467.436	-33.4	-27.0	6.4	Complied
5470	-39.2	-27.0	12.2	Complied
5725	-35.6	-27.0	8.6	Complied
5728.526	-32.9	-27.0	5.9	Complied

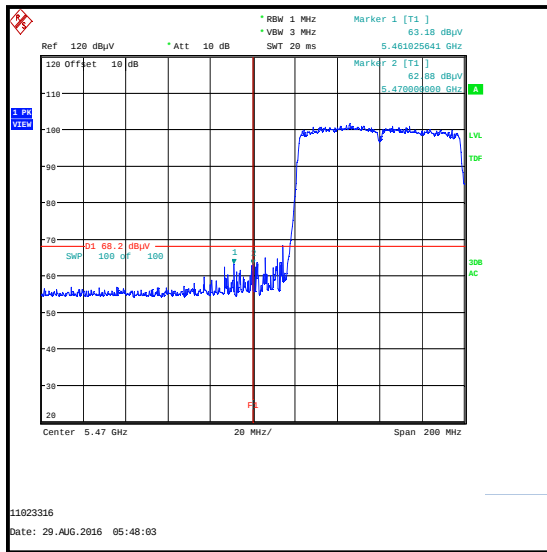
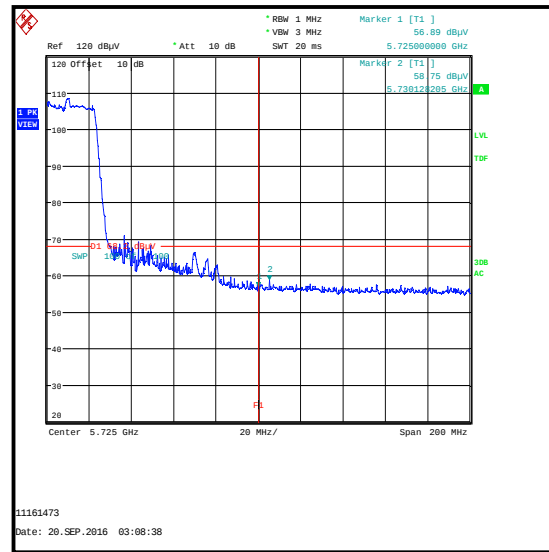
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5467.436	61.8	68.2	6.4	Complied
5470	56.0	68.2	12.2	Complied
5725	59.6	68.2	8.6	Complied
5728.526	62.3	68.2	5.9	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11ac / VHT80 / MIMO / 2Tx STBC / MCS0x1 / Ports 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5461.026	-32.0	-27.0	5.0	Complied
5470	-32.3	-27.0	5.3	Complied
5725	-38.3	-27.0	11.3	Complied
5730.128	-36.4	-27.0	9.4	Complied

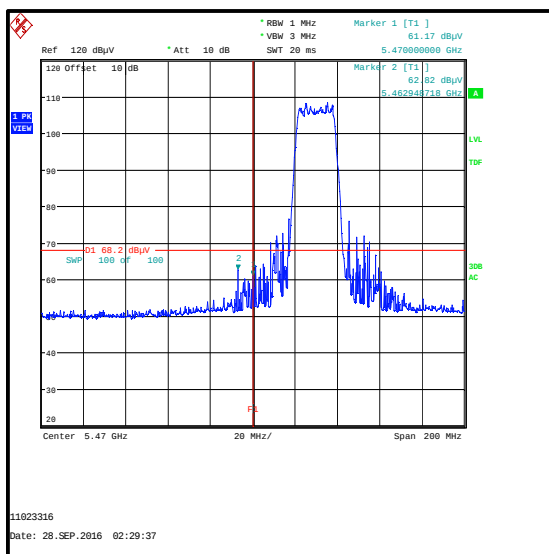
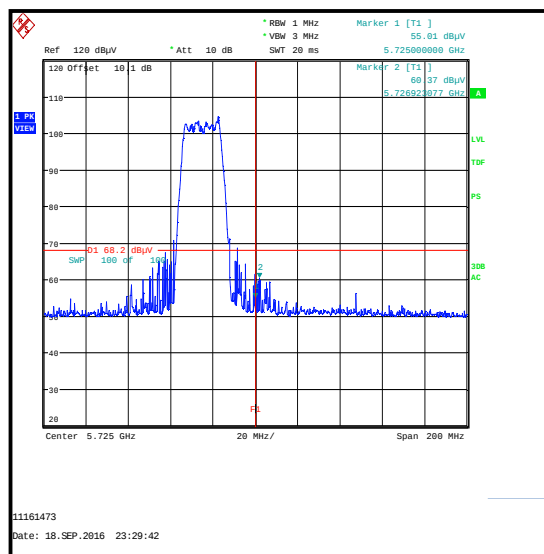
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5461.026	63.2	68.2	5.0	Complied
5470	62.9	68.2	5.3	Complied
5725	56.9	68.2	11.3	Complied
5730.128	58.8	68.2	9.4	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11n / HT20 / MIMO / 3Tx CDD / MCS0 / Ports 1, 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5462.949	-32.4	-27.0	5.4	Complied
5470	-34.0	-27.0	7.0	Complied
5725	-40.2	-27.0	13.2	Complied
5726.923	-34.8	-27.0	7.8	Complied

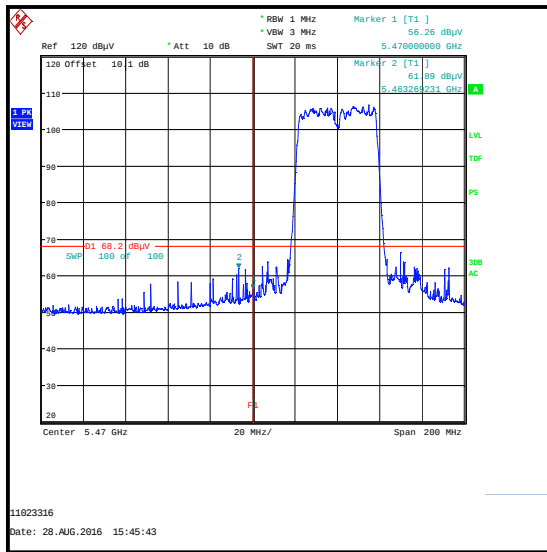
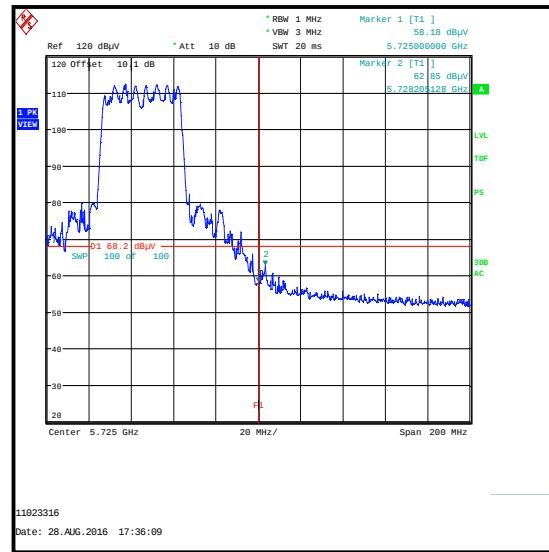
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5462.949	62.8	68.2	5.4	Complied
5470	61.2	68.2	7.0	Complied
5725	55.0	68.2	13.2	Complied
5726.923	60.4	68.2	7.8	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11n / HT40 / MIMO / 3Tx CDD / MCS0 / Ports 1, 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5463.269	-33.3	-27.0	6.3	Complied
5470	-38.9	-27.0	11.9	Complied
5725	-37.0	-27.0	10.0	Complied
5728.205	-32.3	-27.0	5.3	Complied

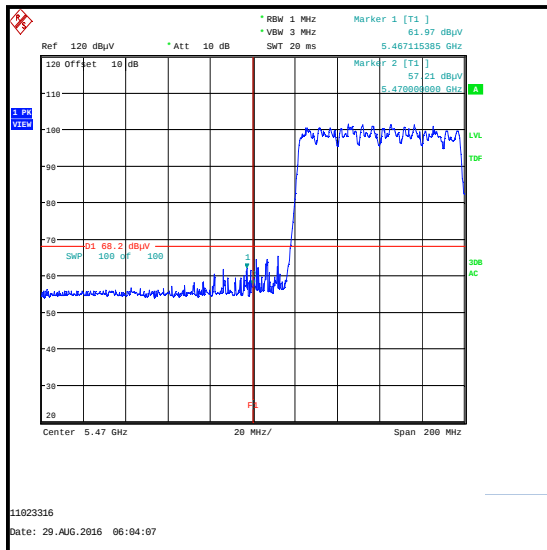
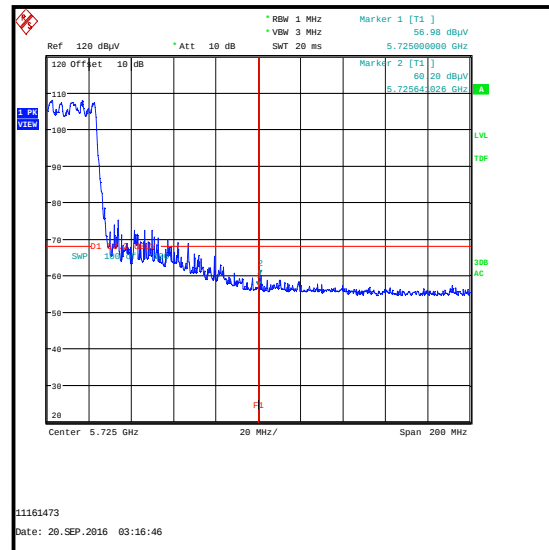
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5463.269	61.9	68.2	6.3	Complied
5470	56.3	68.2	11.9	Complied
5725	58.2	68.2	10.0	Complied
5728.205	62.9	68.2	5.3	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11ac / VHT80 / MIMO / 3Tx CDD / MCS0x1 / Ports 1, 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5467.115	-33.2	-27.0	6.2	Complied
5470	-38.0	-27.0	11.0	Complied
5725	-38.2	-27.0	11.2	Complied
5725.641	-35.0	-27.0	8.0	Complied

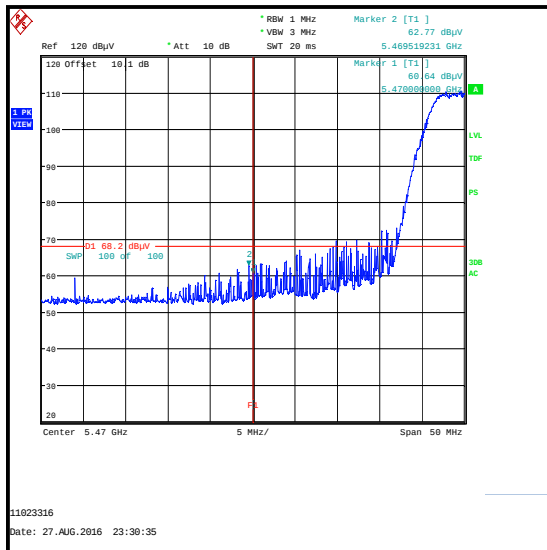
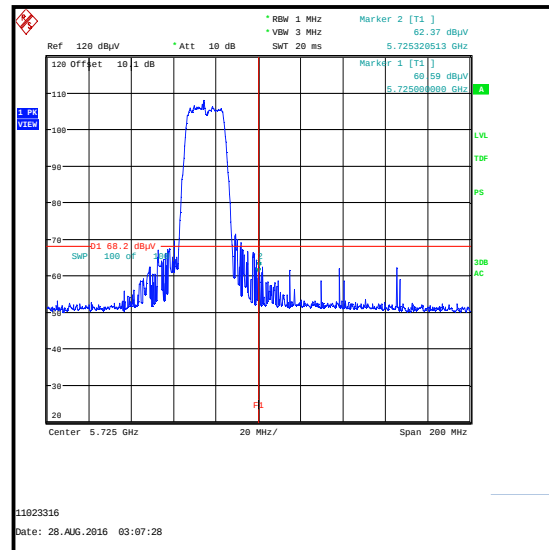
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5467.115	62.0	68.2	6.2	Complied
5470	57.2	68.2	11.0	Complied
5725	57.0	68.2	11.2	Complied
5725.641	60.2	68.2	8.0	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11n / HT20 / MIMO / 3Tx STBC / MCS0 / Ports 1, 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5469.519	-32.4	-27.0	5.4	Complied
5470	-34.6	-27.0	7.6	Complied
5725	-34.6	-27.0	7.6	Complied
5725.321	-32.8	-27.0	5.8	Complied

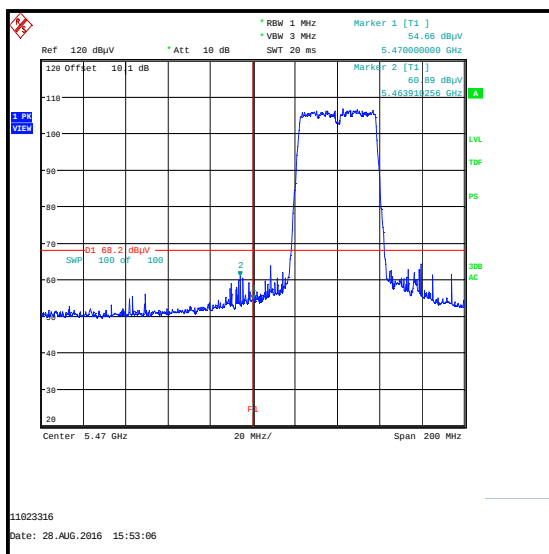
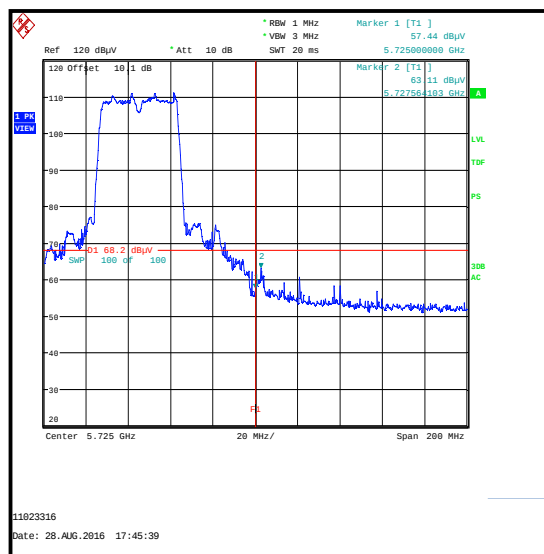
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5469.519	62.8	68.2	5.4	Complied
5470	60.6	68.2	7.6	Complied
5725	60.6	68.2	7.6	Complied
5725.321	62.4	68.2	5.8	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11n / HT40 / MIMO / 3Tx STBC / MCS0 / Ports 1, 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5463.910	-34.3	-27.0	7.3	Complied
5470	-40.5	-27.0	13.5	Complied
5725	-37.8	-27.0	10.8	Complied
5727.564	-32.1	-27.0	5.1	Complied

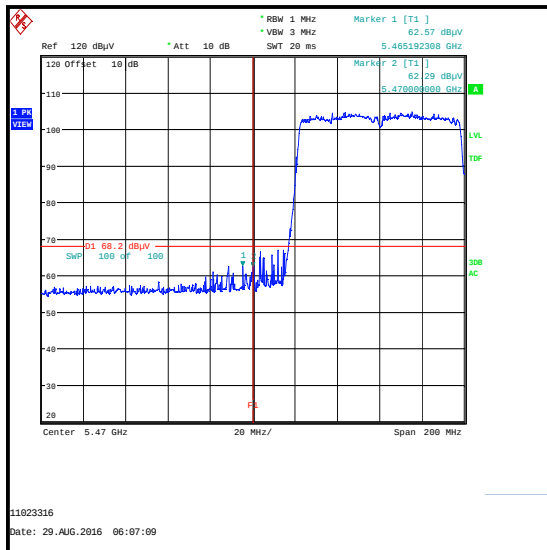
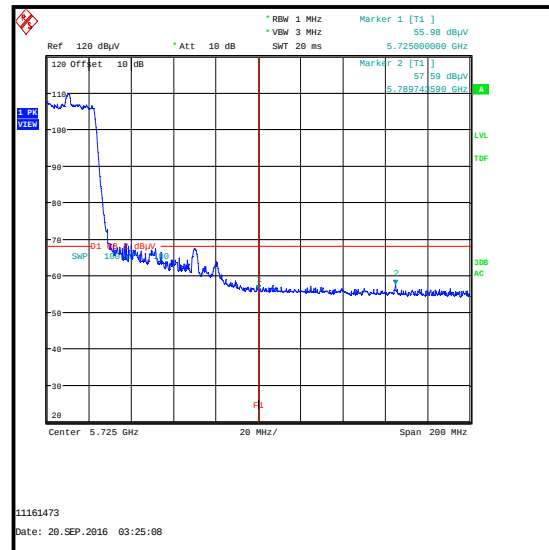
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5463.910	60.9	68.2	7.3	Complied
5470	54.7	68.2	13.5	Complied
5725	57.4	68.2	10.8	Complied
5727.564	63.1	68.2	5.1	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.47-5.725 GHz band operation) (continued)**Results: 802.11ac / VHT80 / MIMO / 3Tx STBC / MCS0x1 / Ports 1, 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5465.192	-32.6	-27.0	5.6	Complied
5470	-32.9	-27.0	5.9	Complied
5725	-39.2	-27.0	12.2	Complied
5789.744	-37.6	-27.0	10.6	Complied

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5465.192	62.6	68.2	5.6	Complied
5470	62.3	68.2	5.9	Complied
5725	56.0	68.2	12.2	Complied
5789.744	57.6	68.2	10.6	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band)**Test Summary:**

Test Engineers:	Andrew Edwards, Stuart Martin & Georgios Vrezas	Test Dates:	28 August 2016 to 20 September 2016
Test Sample Serial Numbers:	C02S2003HH5Y, C02S200EHH5Q & C02S200CHH5W		

FCC Reference:	Parts 15.407(b)(4)(i),(7), 15.205 & 15.209(a)
Test Method Used:	ANSI C63.10 Section 6.10 & KDB 789033 II.G.

Environmental Conditions:

Temperature (°C):	21 to 24
Relative Humidity (%):	44 to 47

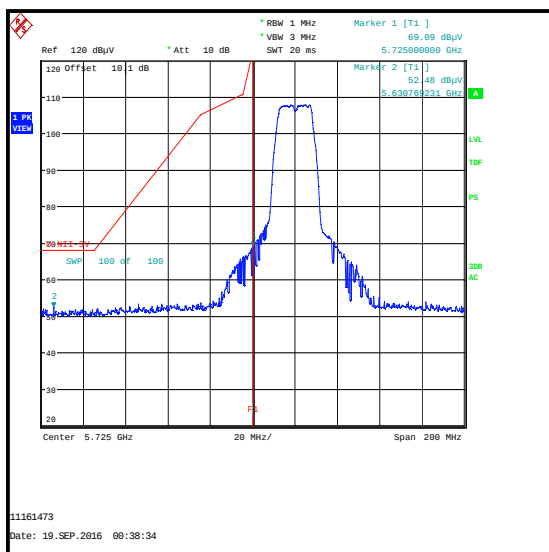
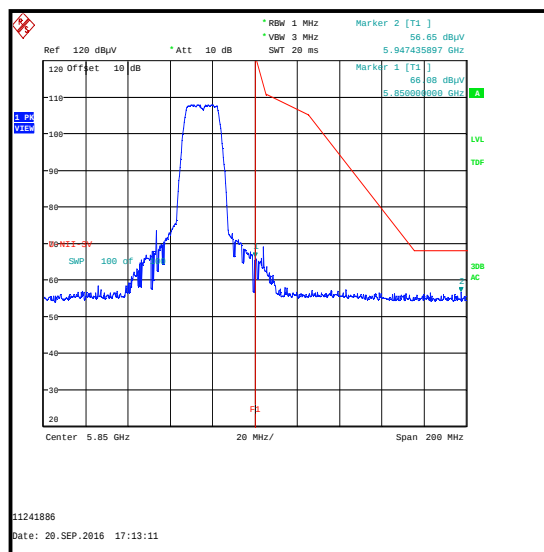
Note(s):

1. Measurements were performed on data rates detailed in section 4.2 on the relevant channels.
2. Lower band edge measurements were performed with the EUT transmitting on the bottom or single channel. Upper band edge measurements were performed with the EUT transmitting on the top or single channel.
3. For completeness, results are also shown as EIRP in dBm and also as field strength in dB μ V/m. Measured field strength was converted to EIRP in accordance with KDB 789033 G.2.d)(iii) using a conversion factor of 95.2.
4. Radiated band edge measurements were performed under different UL VS LTD job numbers. The job number appears on the bottom left of the result plots.

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11a SISO / 6 Mbps / Port 2**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5630.769	-42.7	-27.0	15.7	Complied
5725	-26.1	27.0	53.1	Complied
5850	-29.1	27.0	56.1	Complied
5947.436	-38.5	-27.0	11.5	Complied

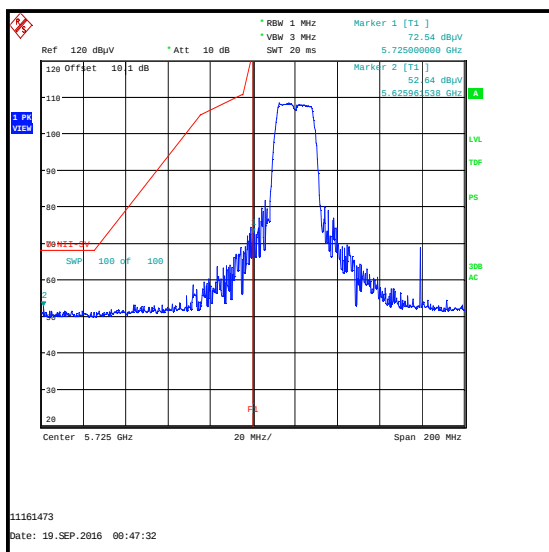
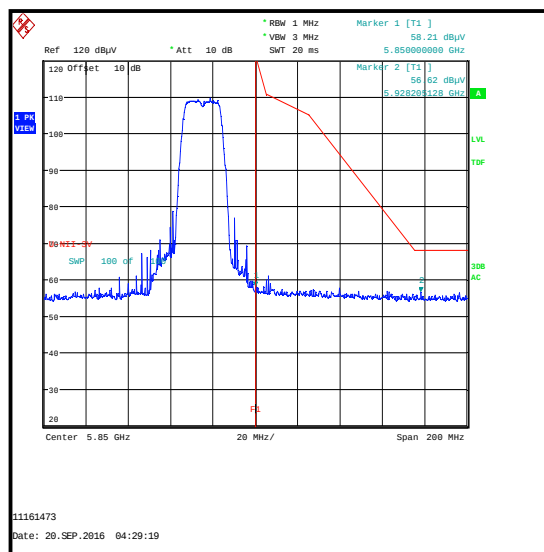
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5630.769	52.5	68.2	15.7	Complied
5725	69.1	122.2	53.1	Complied
5850	66.1	122.2	56.1	Complied
5947.436	56.7	68.2	11.5	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / HT20 / SISO / MCS0 / Port 2**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5625.962	-42.6	-27.0	15.6	Complied
5725	-22.7	27.0	49.7	Complied
5850	-37.0	27.0	64.0	Complied
5928.205	-38.6	-27.0	11.6	Complied

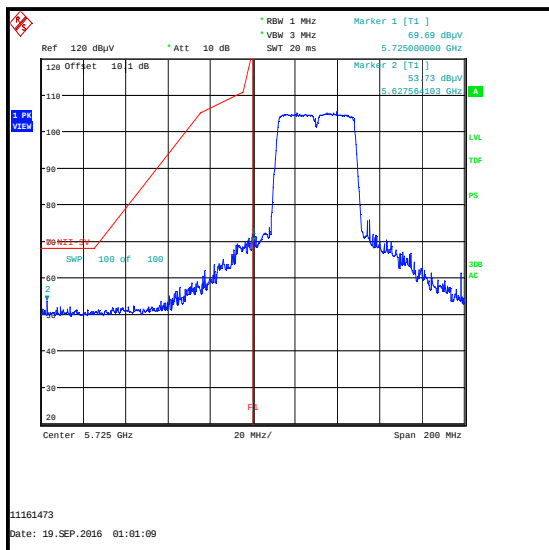
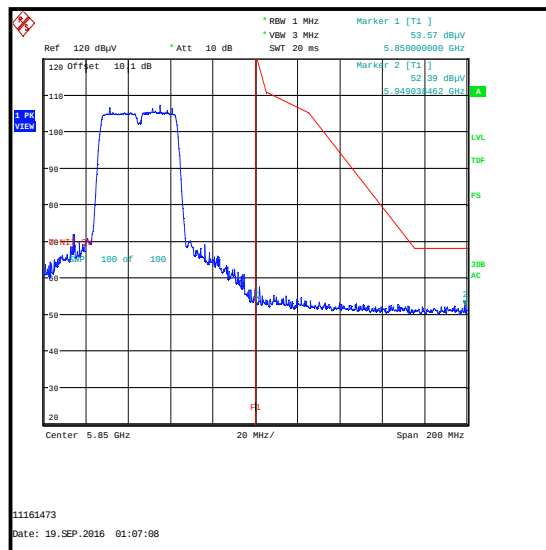
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5625.962	52.6	68.2	15.6	Complied
5725	72.5	122.2	49.7	Complied
5850	58.2	122.2	64.0	Complied
5928.205	56.6	68.2	11.6	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / HT40 / SISO / MCS0 / Port 2**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5627.564	-41.5	-27.0	14.5	Complied
5725	-25.5	27.0	52.5	Complied
5850	-41.6	27.0	68.6	Complied
5949.038	-42.8	-27.0	15.8	Complied

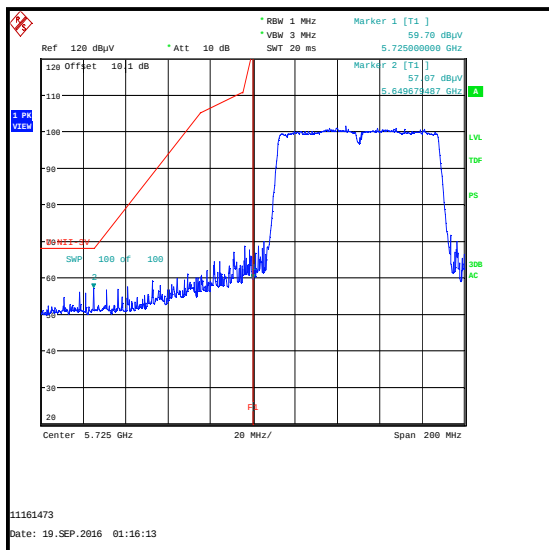
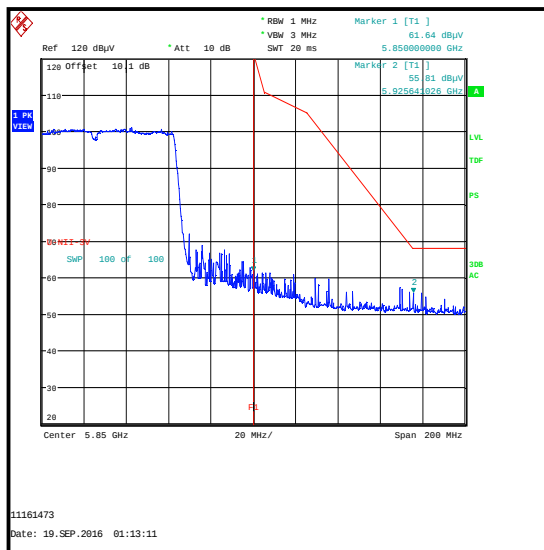
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5627.564	53.7	68.2	14.5	Complied
5725	69.7	122.2	52.5	Complied
5850	53.6	122.2	68.6	Complied
5949.038	52.4	68.2	15.8	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11ac / VHT80 / SISO / MCS0 / Port 2**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5649.679	-38.1	-27.0	11.1	Complied
5725	-35.5	27.0	62.5	Complied
5850	-33.6	27.0	60.6	Complied
5925.641	-39.4	-27.0	12.4	Complied

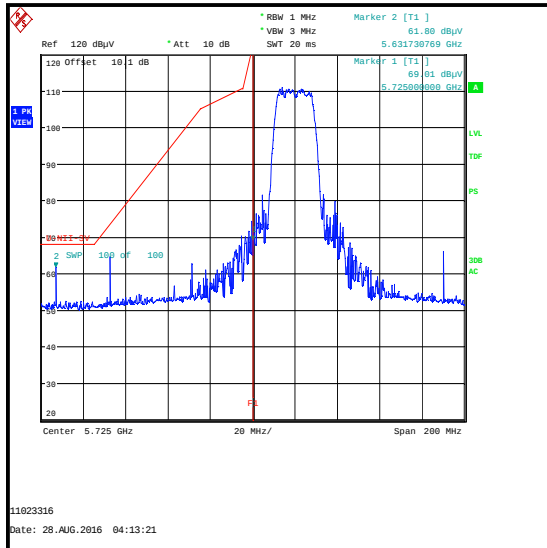
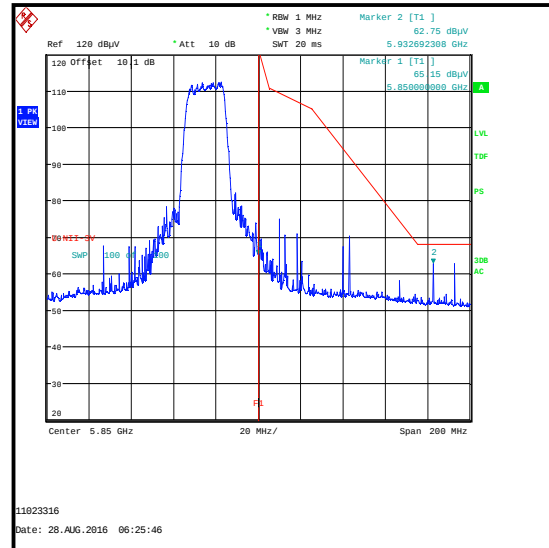
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5649.679	57.1	68.2	11.1	Complied
5725	59.7	122.2	62.5	Complied
5850	61.6	122.2	60.6	Complied
5925.641	55.8	68.2	12.4	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / HT20 / MIMO / 2Tx CDD / MCS0 / Ports 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5631.731	-33.4	-27.0	6.4	Complied
5725	-26.2	27.0	53.2	Complied
5850	-30.0	27.0	57.0	Complied
5932.692	-32.4	-27.0	5.4	Complied

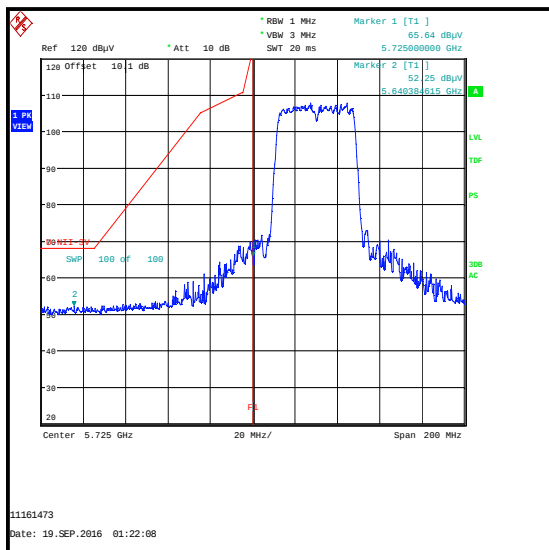
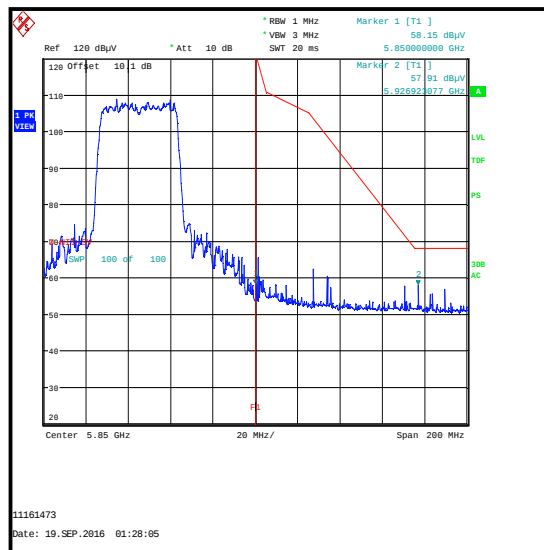
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5631.731	61.8	68.2	6.4	Complied
5725	69.0	122.2	53.2	Complied
5850	65.2	122.2	57.0	Complied
5932.692	62.8	68.2	5.4	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / HT40 / MIMO / 2Tx CDD / MCS0 / Ports 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5640.385	-42.9	-27.0	15.9	Complied
5725	-29.6	27.0	56.6	Complied
5850	-37.0	27.0	64.0	Complied
5926.923	-37.3	-27.0	10.3	Complied

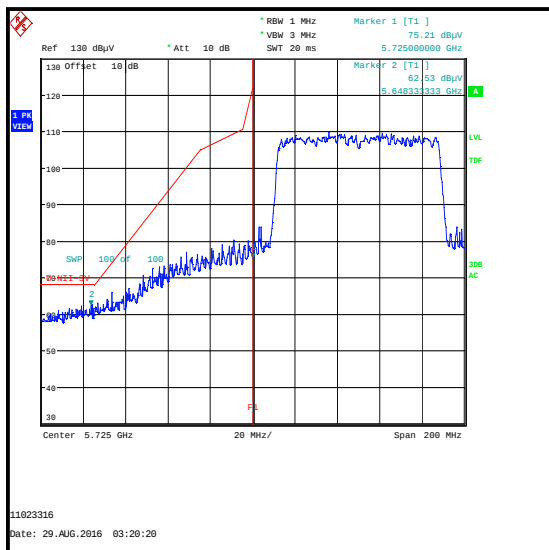
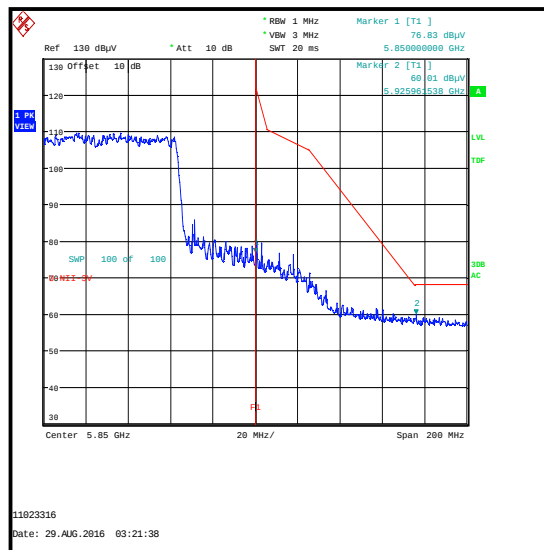
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5640.385	52.3	68.2	15.9	Complied
5725	65.6	122.2	56.6	Complied
5850	58.2	122.2	64.0	Complied
5926.923	57.9	68.2	10.3	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11ac / VHT80 / MIMO / 2Tx CDD / MCS0x1 / Ports 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5648.333	-32.7	-27.0	5.7	Complied
5725	-20.0	27.0	47.0	Complied
5850	-18.4	27.0	45.4	Complied
5925.962	-35.2	-27.0	8.2	Complied

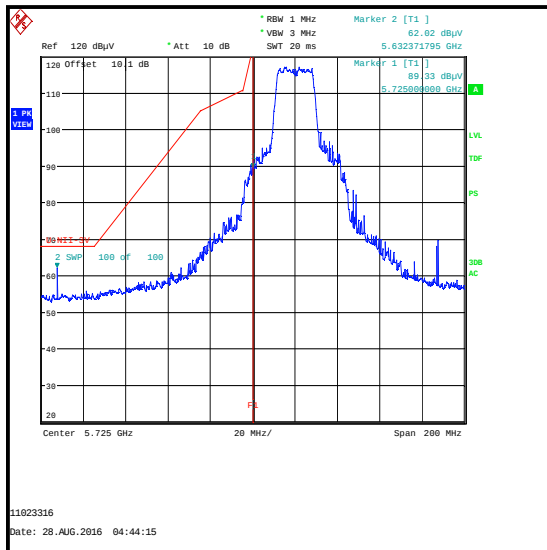
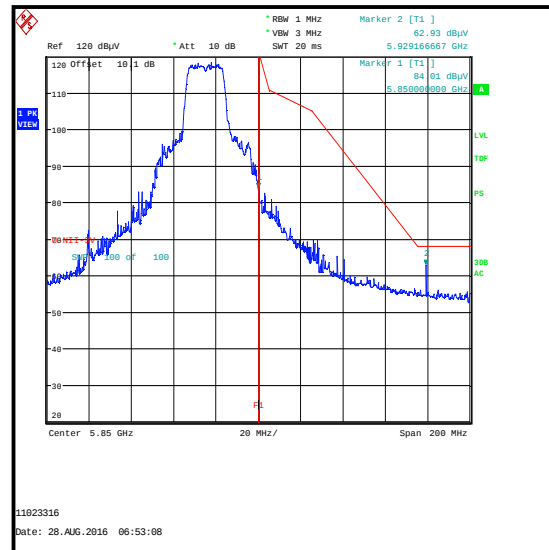
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5648.333	62.5	68.2	5.7	Complied
5725	75.2	122.2	47.0	Complied
5850	76.8	122.2	45.4	Complied
5925.962	60.0	68.2	8.2	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / HT20 / MIMO / 2Tx STBC / MCS0 / Ports 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5632.372	-33.2	-27.0	6.2	Complied
5725	-5.9	27.0	32.9	Complied
5850	-11.2	27.0	38.2	Complied
5929.167	-32.3	-27.0	5.3	Complied

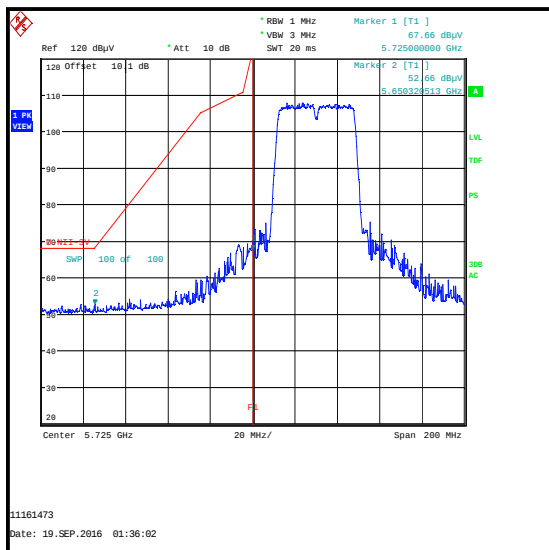
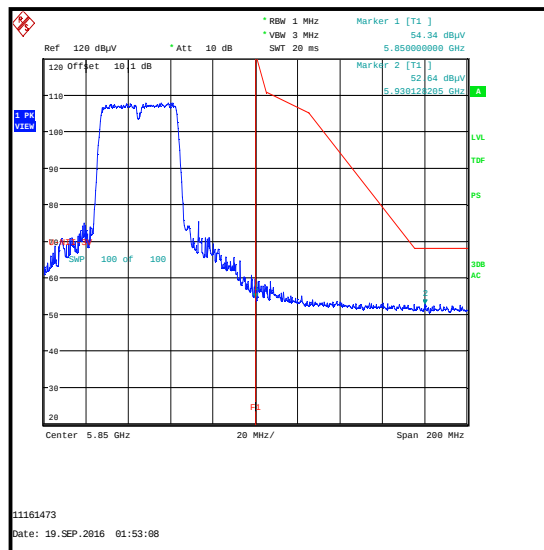
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5632.372	62.0	68.2	6.2	Complied
5725	89.3	122.2	32.9	Complied
5850	84.0	122.2	38.2	Complied
5929.167	62.9	68.2	5.3	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / HT40 / MIMO / 2Tx STBC / MCS0 / Ports 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5650.321	-42.5	-26.8	15.7	Complied
5725	-27.5	27.0	54.5	Complied
5850	-40.9	27.0	67.9	Complied
5930.128	-42.6	-27.0	15.6	Complied

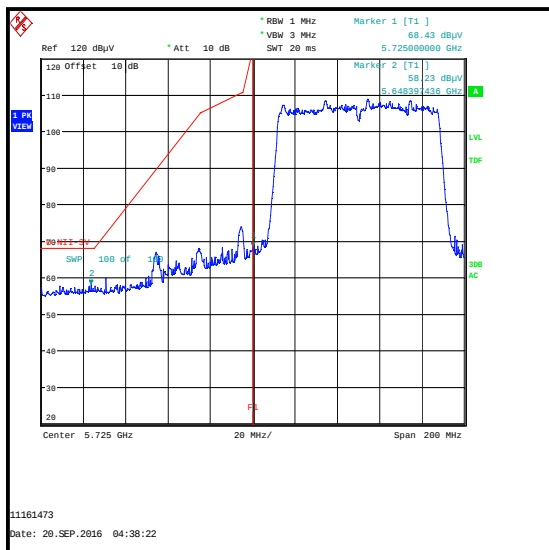
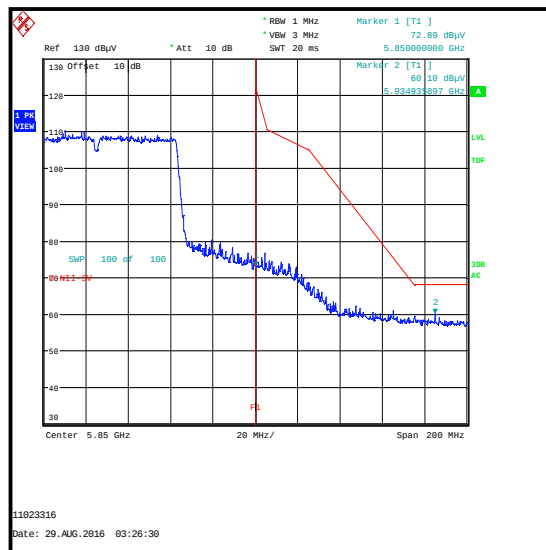
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5650.321	52.7	68.4	15.7	Complied
5725	67.7	122.2	54.5	Complied
5850	54.3	122.2	67.9	Complied
5930.128	52.6	68.2	15.6	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11ac / VHT80 / MIMO / 2Tx STBC / MCS0x1 / Ports 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5648.397	-37.0	-27.0	10.0	Complied
5725	-26.8	27.0	53.8	Complied
5850	-22.3	27.0	49.3	Complied
5934.936	-35.1	-27.0	8.1	Complied

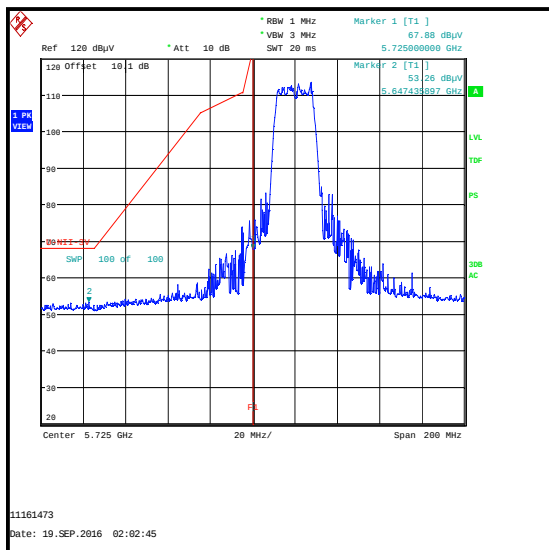
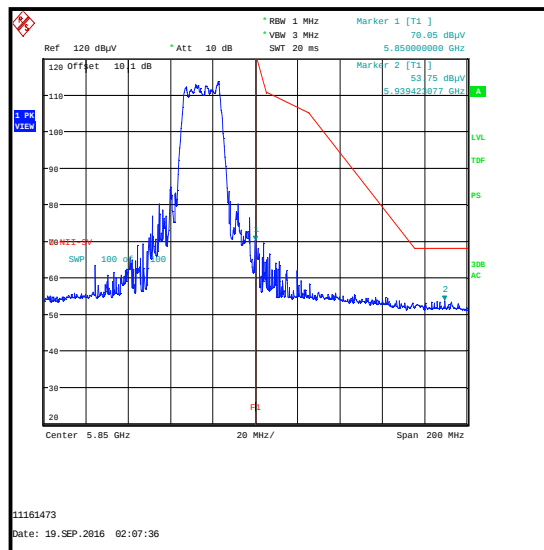
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5648.397	58.2	68.2	10.0	Complied
5725	68.4	122.2	53.8	Complied
5850	72.9	122.2	49.3	Complied
5934.936	60.1	68.2	8.1	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / HT20 / MIMO / 3Tx CDD / MCS0 / Ports 1, 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5647.436	-41.9	-27.0	14.9	Complied
5725	-27.3	27.0	54.3	Complied
5850	-25.1	27.0	52.1	Complied
5939.423	-41.4	-27.0	14.4	Complied

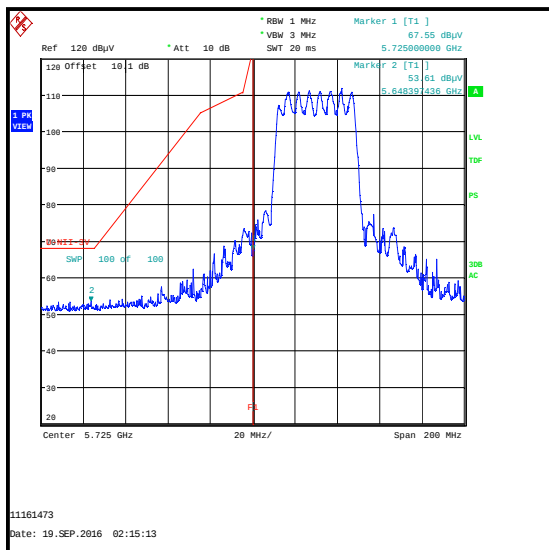
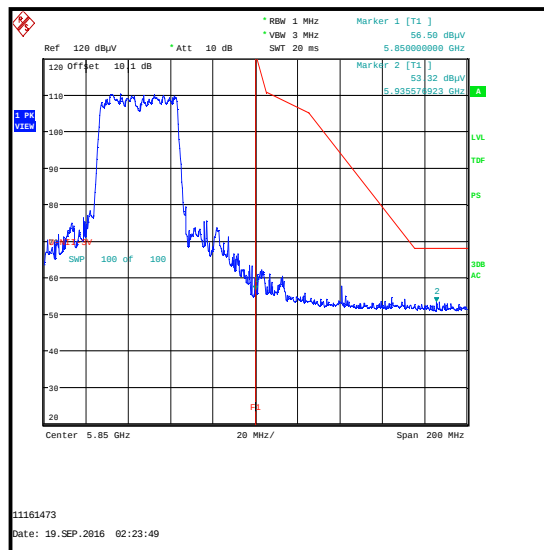
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5647.436	53.3	68.2	14.9	Complied
5725	67.9	122.2	54.3	Complied
5850	70.1	122.2	52.1	Complied
5939.423	53.8	68.2	14.4	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / HT40 / MIMO / 3Tx CDD / MCS0 / Ports 1, 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5648.397	-41.6	-27.0	14.6	Complied
5725	-27.6	27.0	54.6	Complied
5850	-38.7	27.0	65.7	Complied
5935.577	-41.9	-27.0	14.9	Complied

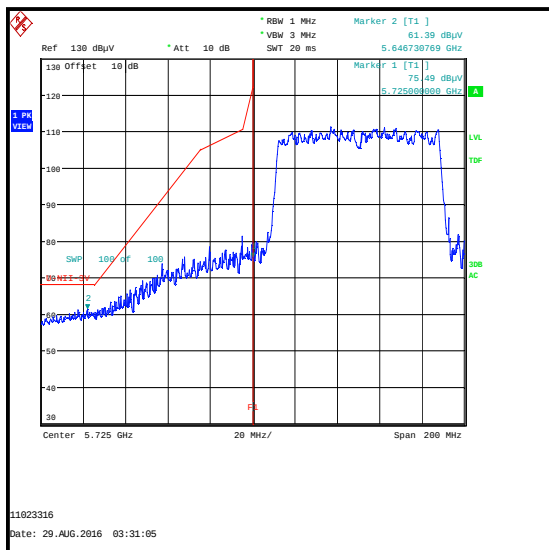
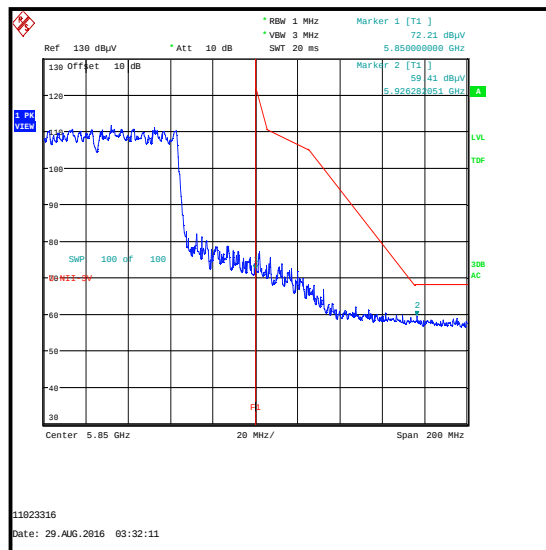
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5648.397	53.6	68.2	14.6	Complied
5725	67.6	122.2	54.6	Complied
5850	56.5	122.2	65.7	Complied
5935.577	53.3	68.2	14.9	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11ac / VHT80 / MIMO / 3Tx CDD / MCS0x1 / Ports 1, 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5646.731	-33.8	-27.0	6.8	Complied
5725	-19.7	27.0	46.7	Complied
5850	-23.0	27.0	50.0	Complied
5926.282	-35.8	-27.0	8.8	Complied

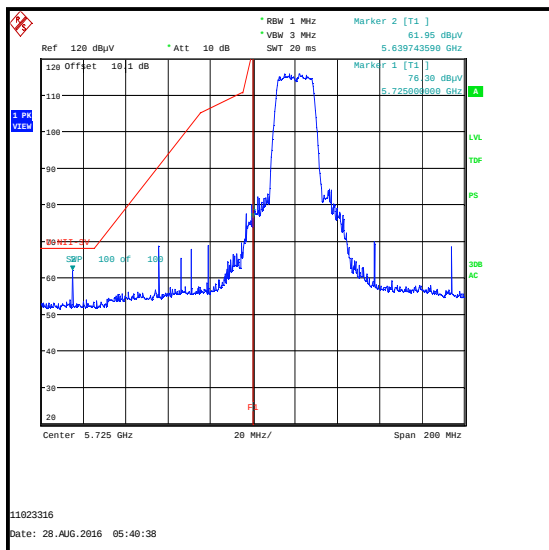
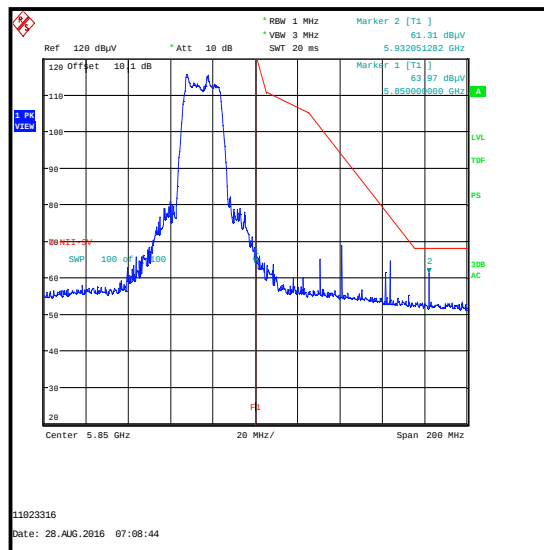
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5646.731	61.4	68.2	6.8	Complied
5725	75.5	122.2	46.7	Complied
5850	72.2	122.2	50.0	Complied
5926.282	59.4	68.2	8.8	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / HT20 / MIMO / 3Tx STBC / MCS0 / Ports 1, 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5639.744	-33.2	-27.0	6.2	Complied
5725	-18.9	27.0	45.9	Complied
5850	-31.2	27.0	58.2	Complied
5932.051	-33.9	-27.0	6.9	Complied

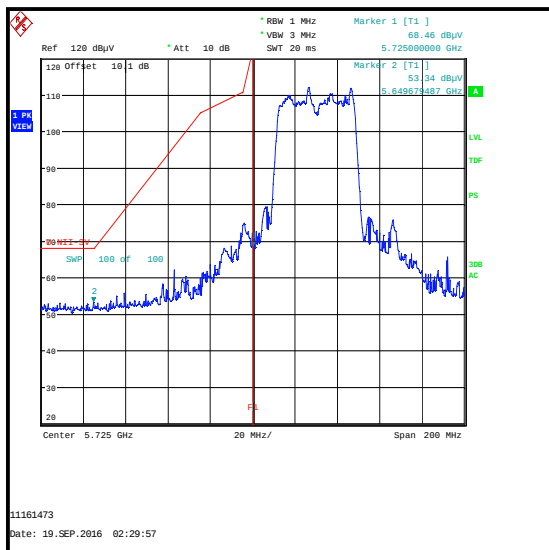
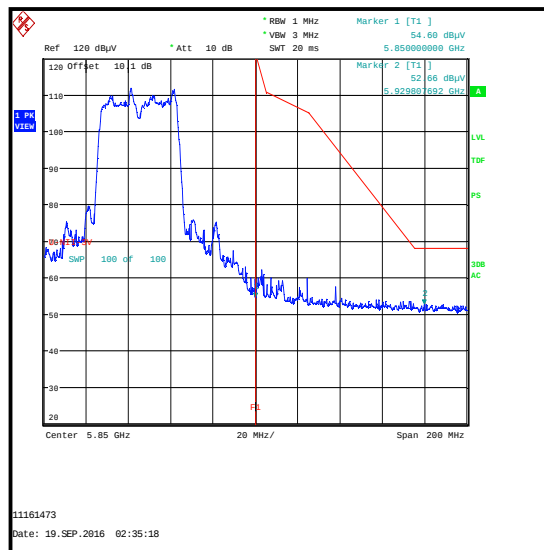
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5639.744	62.0	68.2	6.2	Complied
5725	76.3	122.2	45.9	Complied
5850	64.0	122.2	58.2	Complied
5932.051	61.3	68.2	6.9	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / HT40 / MIMO / 3Tx STBC / MCS0 / Ports 1, 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5649.679	-41.9	-27.0	14.9	Complied
5725	-26.7	27.0	53.7	Complied
5850	-40.6	27.0	67.6	Complied
5929.808	-42.5	-27.0	15.5	Complied

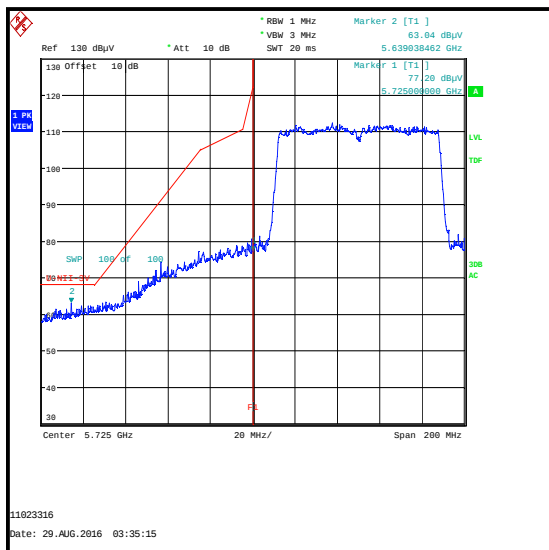
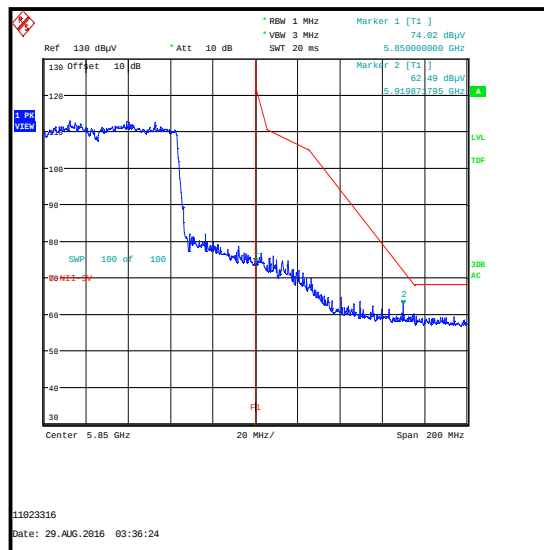
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5649.679	53.3	68.2	14.9	Complied
5725	68.5	122.2	53.7	Complied
5850	54.6	122.2	67.6	Complied
5929.808	52.7	68.2	15.5	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11ac / VHT80 / MIMO / 3Tx STBC / MCS0x1 / Ports 1, 2, 3**

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)	Result
5639.038	-32.2	-27.0	5.2	Complied
5725	-18.0	27.0	45.0	Complied
5850	-21.2	27.0	48.2	Complied
5919.872	-32.7	-23.2	9.5	Complied

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5639.038	63.0	68.2	5.2	Complied
5725	77.2	122.2	45.0	Complied
5850	74.0	122.2	48.2	Complied
5919.872	62.5	72.0	9.5	Complied

**Lower Band Edge Measurement****Upper Band Edge Measurement**

Transmitter Band Edge Radiated Emissions (continued)**Test Equipment Used:**

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M2003	Thermohygrometer	Testo	608-H1	45046641	22 Apr 2017	12
K0017	3m RSE Chamber	Rainford EMC	N/A	N/A	17 May 2017	12
M1995	Test Receiver	Rohde & Schwarz	ESU40	100428	21 Mar 2017	12
A2863	Pre Amplifier	Hewlett Packard	8449B	3008A02100	07 Jan 2017	12
A2889	Antenna	Schwarzbeck	BBHA 9120 B	BBHA 9120 B 653	07 Apr 2017	12
M1656	Thermohygrometer	JM Handelpunkt	30.5015.13	Not stated	07 Apr 2017	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	21 Dec 2016	12
M1886	Test Receiver	Rohde & Schwarz	ESU26	100554	21 Mar 2017	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	19 Dec 2016	12
A253	Antenna	Flann Microwave	12240-20	128	17 Dec 2016	12
A1396	Attenuator	Huber & Suhner	6810.17.B	757987	26 Apr 2017	12
A2916	Attenuator	AtlanTecRF	AN18W5-10	832827#1	19 Mar 2017	12

5.2.8. Transmitter Power Control**Test Summary:**

Test Engineer:	Andrew Edwards	Test Date:	18 September 2016
Test Sample Serial Number:	C02S2007HH5Y		

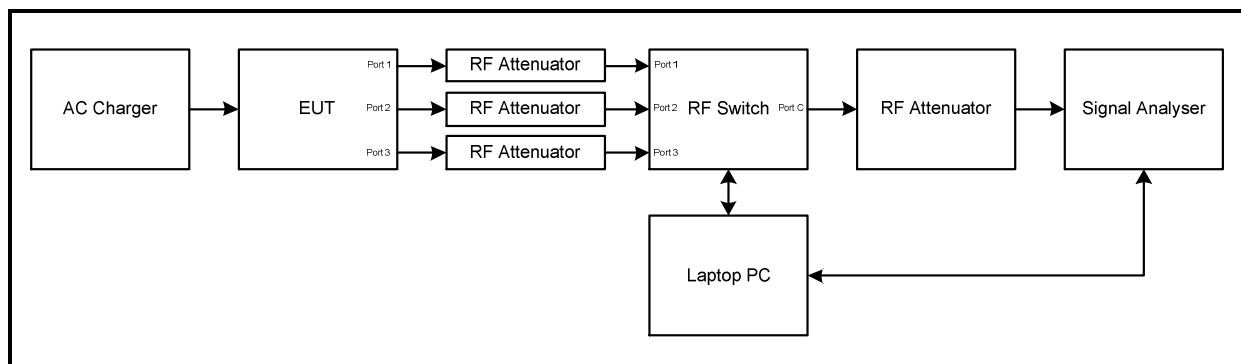
FCC Reference:	Part 15.407(h)(1)
Test Method Used:	KDB 789033 D02 Section II.E.2.d)

Environmental Conditions:

Temperature (°C):	24
Relative Humidity (%):	41

Note(s):

1. Transmitter power control tests were performed as the maximum E.I.R.P. is greater than 500 mW.
2. Tests were performed with the EUT transmitting on Channel 102 (802.11n / MIMO / 3Tx CDD / MCS0) from the highest configurable RF power to the lowest configurable RF power. Customer supplied a document with test instructions, titled *WLAN_CPM_v2.0.docx*. These were followed to configure the power in step increments of 1 dB.
3. Measurements were performed using a signal analyser in accordance with ANSI C63.10 Section 12.3.2.4 Method SA-2. The signal analyser's integration function was used to integrate across the 26 dB emission bandwidth. The resolution bandwidth was set to 1 MHz and video bandwidth 3 MHz. An RMS detector was used and sweep time was set to auto and 300 traces performed. The span was set to encompass the entire 26 dB occupied bandwidth. The channel power results are recorded in the tables below.
4. Conducted power was measured on all ports and then combined using the measure-and-sum method stated in FCC KDB 662911.
5. The calculated duty cycle in section 5.2.3 was added to the measured power in order to compute the average power during the actual transmission time.
6. The signal analyser was connected to the RF port on the EUT using an RF switch, suitable attenuation and RF cables. An RF level offset was entered on the signal analyser to compensate for the loss of the switch, attenuators and RF cables.
7. Plots for power and 99% emission bandwidth are archived on the Company server and are available for inspection upon request.
8. This test has no limit. The test was performed to prove control of the RF output power.

Test setup:

Transmitter Power Control (continued)**Results: 802.11n / 40 MHz / MCS0 / 5.25-5.35 GHz band / Bottom Channel**

Power Setting (q Value)	Conducted Power Port 1 (dBm)	Conducted Power Port 2 (dBm)	Conducted Power Port 3 (dBm)	Combined Conducted Power (dBm)
56	14.0	13.9	13.9	18.7
52	13.2	13.4	13.2	18.0
48	12.2	12.4	12.2	17.0
44	10.9	11.3	11.3	15.9
40	10.1	10.5	10.1	15.0
36	9.0	9.4	9.1	13.9
32	7.9	8.4	8.1	12.9
28	6.8	7.1	7.0	11.7
24	5.7	6.2	6.1	10.8
20	4.8	5.1	4.8	9.7
16	3.3	3.9	3.8	8.4
12	2.3	2.9	2.6	7.4
8	1.0	1.7	1.3	6.1

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M2002	Thermohygrometer	Testo	608-H1	45041825	02 Apr 2017	12
M1835	Signal Analyser	Rohde & Schwarz	FSV30	103050	27 Feb 2017	12
A1374	Attenuator	Pasternack Enterprises	PE7013-10	Not stated	Calibrated before use	-
A2847	Attenuator	Radiall	R411.820.121	24671450	Calibrated before use	-
A2929	Attenuator	AtlanTecRF	AB18W5-03	011019-21#1	Calibrated before use	-
A2930	Attenuator	AtlanTecRF	AB18W5-10	000907-18#1	Calibrated before use	-
A2931	Attenuator	AtlanTecRF	AB18W5-20	970994#1	Calibrated before use	-
A2952	RF Switch	Pickering Interfaces	64-102-002 & 40-881-001	XZ361012 & X361507	Calibrated before use	-
M1252	Signal Generator	Hewlett Packard	83640A	3119A00489	26 Oct 2017	24

6. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor such that a confidence level of approximately 95% is maintained. For the purposes of this document "approximately" is interpreted as meaning "effectively" or "for most practical purposes".

Measurement Type	Range	Confidence Level (%)	Calculated Uncertainty
Maximum Conducted Output Power	5.15 GHz to 5.850 GHz	95%	±1.13 dB
Maximum Power Spectral Density	5.15 GHz to 5.850 GHz	95%	±1.13 dB
Minimum 6 dB Emission Bandwidth	5.15 GHz to 5.850 GHz	95%	4.59 %
26 dB Emission Bandwidth	5.15 GHz to 5.850 GHz	95%	4.59 %
Radiated Spurious Emissions	30 MHz to 1 GHz	95%	±5.65 dB
Radiated Spurious Emissions	1 GHz to 40 GHz	95%	±2.94 dB

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty the published guidance of the appropriate accreditation body is followed.

7. Report Revision History

Version Number	Revision Details		
	Page No(s)	Clause	Details
1.0	-	-	Initial Version
2.0	-	-	Front page updated
3.0	-	-	Updates as requested by the TCB

Appendix 1.

Directional Antenna Gain Calculations

Frequency Band 5150-5250 MHz

For 2Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section 2)f)(ii) and for $N_{SS}=1$, $N_{ANT}=2$, $G_1 = G_{ANTENNA\ 1} = 5.5$ dBi, $G_2 = G_{ANTENNA\ 3} = 5.7$ dBi:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^2 g_{j,k} \right)^2}{2} \right] = \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2})^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{5.5}{10}} + 10^{\frac{5.7}{10}} \right)^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{5.5}{20}} + 10^{\frac{5.7}{20}} \right)^2}{2} \right] = 8.6 \text{ dBi} \end{aligned}$$

For 3Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section 2)f)(ii) and for $N_{SS}=1$, $N_{ANT}=3$, $G_1 = G_{ANTENNA\ 1} = 5.5$ dBi, $G_2 = G_{ANTENNA\ 2} = 5.3$ dBi, $G_3 = G_{ANTENNA\ 3} = 5.7$ dBi:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^3 g_{j,k} \right)^2}{3} \right] = \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2} + g_{1,3})^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{5.5}{10}} + 10^{\frac{5.3}{10}} + 10^{\frac{5.7}{10}} \right)^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{5.5}{20}} + 10^{\frac{5.3}{20}} + 10^{\frac{5.7}{20}} \right)^2}{3} \right] = 10.3 \text{ dBi} \end{aligned}$$

For 2Tx STBC modes, in accordance with KDB 662911 D01 v02r01 Section 2)d)(ii) and for $N_{ANT}=2$, $G_1 = G_{ANTENNA\ 1} = 5.5$ dBi, $G_2 = G_{ANTENNA\ 3} = 5.7$ dBi:

$$\text{Directional Gain} = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}}}{2} \right] = 10 \log \left[\frac{10^{\frac{5.5}{10}} + 10^{\frac{5.7}{10}}}{2} \right] = 5.6 \text{ dBi}$$

For 3Tx STBC modes, in accordance with KDB 662911 D01 v02r01 Section 2)d)(ii) and for $N_{ANT}=3$, $G_1 = G_{ANTENNA\ 1} = 5.5$ dBi, $G_2 = G_{ANTENNA\ 2} = 5.3$ dBi, $G_3 = G_{ANTENNA\ 3} = 5.7$ dBi:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + 10^{\frac{G_3}{10}}}{3} \right] = \\ &= 10 \log \left[\frac{10^{\frac{5.5}{10}} + 10^{\frac{5.3}{10}} + 10^{\frac{5.7}{10}}}{3} \right] = 5.5 \text{ dB} \end{aligned}$$

Appendix 1. Directional Antenna Gain Calculations (continued)**Frequency Band 5250-5350 MHz**

For 2Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section 2)f)(ii) and for $N_{SS}=1$, $N_{ANT}=2$, $G_1 = G_{ANTENNA\ 1} = 6.3$ dBi, $G_2 = G_{ANTENNA\ 3} = 6.5$ dBi:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^2 g_{j,k} \right)^2}{2} \right] = \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2})^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{6.3}{20}} + 10^{\frac{6.5}{20}} \right)^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{6.3}{20}} + 10^{\frac{6.5}{20}} \right)^2}{2} \right] = 9.4 \text{ dBi} \end{aligned}$$

For 3Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section 2)f)(ii) and for $N_{SS}=1$, $N_{ANT}=3$, $G_1 = G_{ANTENNA\ 1} = 6.3$ dBi, $G_2 = G_{ANTENNA\ 2} = 6.0$ dBi, $G_3 = G_{ANTENNA\ 3} = 6.5$ dBi:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^3 g_{j,k} \right)^2}{3} \right] = \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2} + g_{1,3})^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{6.3}{20}} + 10^{\frac{6.0}{20}} + 10^{\frac{6.5}{20}} \right)^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{6.3}{20}} + 10^{\frac{6.0}{20}} + 10^{\frac{6.5}{20}} \right)^2}{3} \right] = 11.0 \text{ dBi} \end{aligned}$$

For 2Tx STBC modes, in accordance with KDB 662911 D01 v02r01 Section 2)d)(ii) and for $N_{ANT}=2$, $G_1 = G_{ANTENNA\ 1} = 6.3$ dBi, $G_2 = G_{ANTENNA\ 3} = 6.5$ dBi:

$$\text{Directional Gain} = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{6.3}{10}} + 10^{\frac{6.5}{10}}}{2} \right] = 10 \log \left[\frac{10^{\frac{6.3}{10}} + 10^{\frac{6.5}{10}}}{2} \right] = 6.4 \text{ dBi}$$

For 3Tx STBC modes, in accordance with KDB 662911 D01 v02r01 Section 2)d)(ii) and for $N_{ANT}=3$, $G_1 = G_{ANTENNA\ 1} = 6.3$ dBi, $G_2 = G_{ANTENNA\ 2} = 6.0$ dBi, $G_3 = G_{ANTENNA\ 3} = 6.5$ dBi:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{6.3}{10}} + 10^{\frac{6.0}{10}} + 10^{\frac{6.5}{10}}}{3} \right] = \\ &= 10 \log \left[\frac{10^{\frac{6.3}{10}} + 10^{\frac{6.0}{10}} + 10^{\frac{6.5}{10}}}{3} \right] = 6.3 \text{ dBi} \end{aligned}$$

Appendix 1. Directional Antenna Gain Calculations (continued)**Frequency Band 5470-5725 MHz**

For 2Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section 2)f)(ii) and for $N_{SS}=1$, $N_{ANT}=2$, $G_1 = G_{ANTENNA\ 2} = 5.2$ dBi, $G_2 = G_{ANTENNA\ 3} = 5.1$ dBi:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^2 g_{j,k} \right)^2}{2} \right] = \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2})^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{5.2}{20}} + 10^{\frac{5.1}{20}} \right)^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{5.2}{20}} + 10^{\frac{5.1}{20}} \right)^2}{2} \right] = 8.2 \text{ dBi} \end{aligned}$$

For 3Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section 2)f)(ii) and for $N_{SS}=1$, $N_{ANT}=3$, $G_1 = G_{ANTENNA\ 1} = 5.0$ dBi, $G_2 = G_{ANTENNA\ 2} = 5.2$ dBi, $G_3 = G_{ANTENNA\ 3} = 5.1$ dBi:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^3 g_{j,k} \right)^2}{3} \right] = \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2} + g_{1,3})^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{5.0}{20}} + 10^{\frac{5.2}{20}} + 10^{\frac{5.1}{20}} \right)^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{5.0}{20}} + 10^{\frac{5.2}{20}} + 10^{\frac{5.1}{20}} \right)^2}{3} \right] = 9.9 \text{ dBi} \end{aligned}$$

For 2Tx STBC modes, in accordance with KDB 662911 D01 v02r01 Section 2)d)(ii) and for $N_{ANT}=2$, $G_1 = G_{ANTENNA\ 2} = 5.2$ dBi, $G_2 = G_{ANTENNA\ 3} = 5.1$ dBi:

$$\text{Directional Gain} = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{5.2}{10}} + 10^{\frac{5.1}{10}}}{2} \right] = 10 \log \left[\frac{10^{\frac{5.2}{10}} + 10^{\frac{5.1}{10}}}{2} \right] = 5.2 \text{ dBi}$$

For 3Tx STBC modes, in accordance with KDB 662911 D01 v02r01 Section 2)d)(ii) and for $N_{ANT}=3$, $G_1 = G_{ANTENNA\ 1} = 5.0$ dBi, $G_2 = G_{ANTENNA\ 2} = 5.2$ dBi, $G_3 = G_{ANTENNA\ 3} = 5.1$ dBi:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{5.0}{10}} + 10^{\frac{5.2}{10}} + 10^{\frac{5.1}{10}}}{3} \right] = \\ &= 10 \log \left[\frac{10^{\frac{5.0}{10}} + 10^{\frac{5.2}{10}} + 10^{\frac{5.1}{10}}}{3} \right] = 5.1 \text{ dBi} \end{aligned}$$

Appendix 1. Directional Antenna Gain Calculations (continued)**Frequency Band 5725-5850 MHz**

For 2Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section 2)f)(ii) and for $N_{SS}=1$, $N_{ANT}=2$, $G_1 = G_{ANTENNA\ 2} = 5.2$ dBi, $G_2 = G_{ANTENNA\ 3} = 4.6$ dBi:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^2 g_{j,k} \right)^2}{2} \right] = \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2})^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{5.2}{20}} + 10^{\frac{4.6}{20}} \right)^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{5.2}{20}} + 10^{\frac{4.6}{20}} \right)^2}{2} \right] = 7.9 \text{ dBi} \end{aligned}$$

For 3Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section 2)f)(ii) and for $N_{SS}=1$, $N_{ANT}=3$, $G_1 = G_{ANTENNA\ 1} = 4.5$ dBi, $G_2 = G_{ANTENNA\ 2} = 5.2$ dBi, $G_3 = G_{ANTENNA\ 3} = 4.6$ dBi:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^3 g_{j,k} \right)^2}{3} \right] = \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2} + g_{1,3})^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{4.5}{20}} + 10^{\frac{5.2}{20}} + 10^{\frac{4.6}{20}} \right)^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{4.5}{20}} + 10^{\frac{5.2}{20}} + 10^{\frac{4.6}{20}} \right)^2}{3} \right] = 9.5 \text{ dBi} \end{aligned}$$

For 2Tx STBC modes, in accordance with KDB 662911 D01 v02r01 Section 2)d)(ii) and for $N_{ANT}=2$, $G_1 = G_{ANTENNA\ 2} = 5.2$ dBi, $G_2 = G_{ANTENNA\ 3} = 4.6$ dBi:

$$\text{Directional Gain} = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{5.2}{10}} + 10^{\frac{4.6}{10}}}{2} \right] = 10 \log \left[\frac{10^{\frac{5.2}{10}} + 10^{\frac{4.6}{10}}}{2} \right] = 4.9 \text{ dBi}$$

For 3Tx STBC modes, in accordance with KDB 662911 D01 v02r01 Section 2)d)(ii) and for $N_{ANT}=3$, $G_1 = G_{ANTENNA\ 1} = 4.5$ dBi, $G_2 = G_{ANTENNA\ 2} = 5.2$ dBi, $G_3 = G_{ANTENNA\ 3} = 4.6$ dBi:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{4.5}{10}} + 10^{\frac{5.2}{10}} + 10^{\frac{4.6}{10}}}{3} \right] = \\ &= 10 \log \left[\frac{10^{\frac{4.5}{10}} + 10^{\frac{5.2}{10}} + 10^{\frac{4.6}{10}}}{3} \right] = 4.8 \text{ dBi} \end{aligned}$$

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