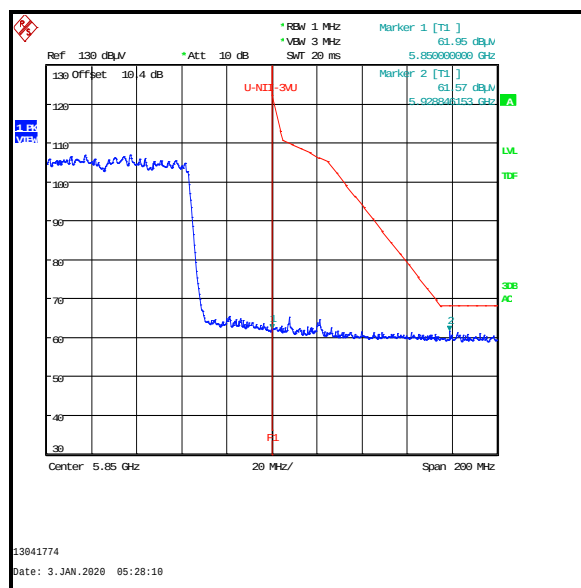


Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11ac / 80 MHz / MIMO / 2Tx SDM / BPSK / MCS0x2 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5633.654	-33.6	-27.0	6.6	Complied
5725	-29.6	27.0	56.6	Complied
5850	-33.2	27.0	60.2	Complied
5928.846	-33.6	-27.0	6.6	Complied

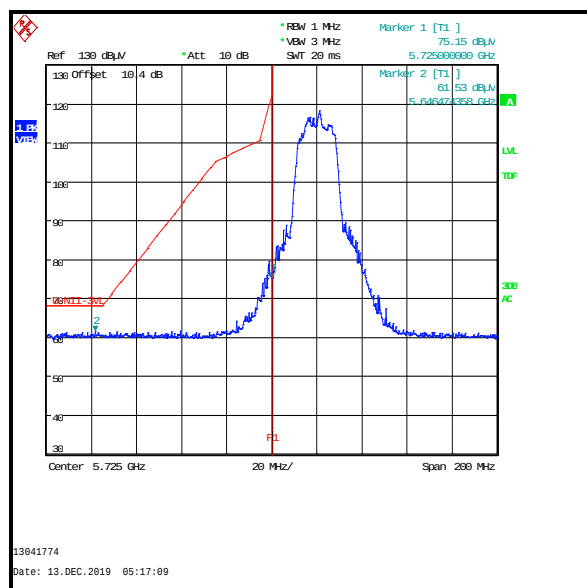
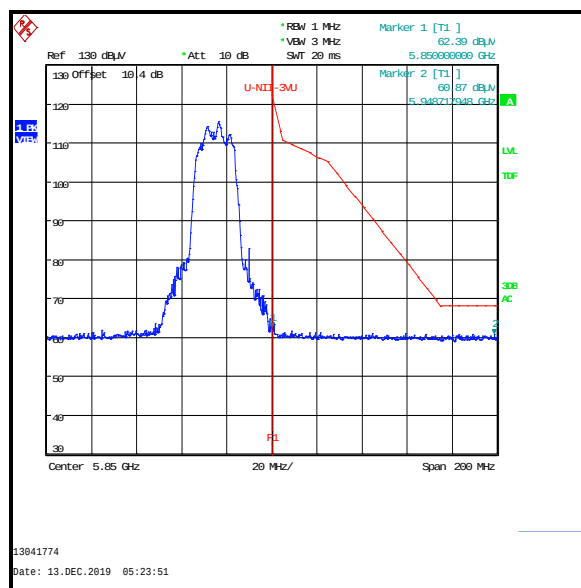
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5633.654	61.6	68.2	6.6	Complied
5725	65.6	122.2	56.6	Complied
5850	62.0	122.2	60.2	Complied
5928.846	61.6	68.2	6.6	Complied

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

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / 20 MHz / MIMO / 2Tx TXBF / BPSK / MCS0 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5646.474	-33.7	-27.0	6.7	Complied
5725	-20.0	27.0	47.0	Complied
5850	-32.8	27.0	59.8	Complied
5948.718	-34.3	-27.0	7.3	Complied

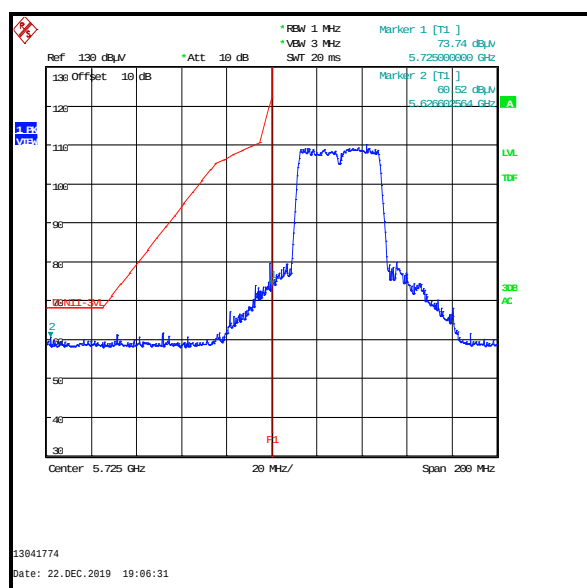
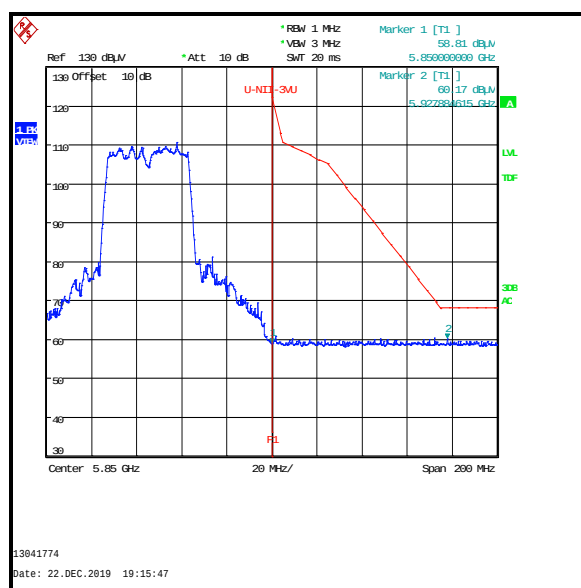
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5646.474	61.5	68.2	6.7	Complied
5725	75.2	122.2	47.0	Complied
5850	62.4	122.2	59.8	Complied
5948.718	60.9	68.2	7.3	Complied

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

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / 40 MHz / MIMO / 2Tx TXBF / BPSK / MCS0 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5626.603	-34.7	-27.0	7.7	Complied
5725	-21.5	27.0	48.5	Complied
5850	-36.4	27.0	63.4	Complied
5927.885	-35.0	-27.0	8.0	Complied

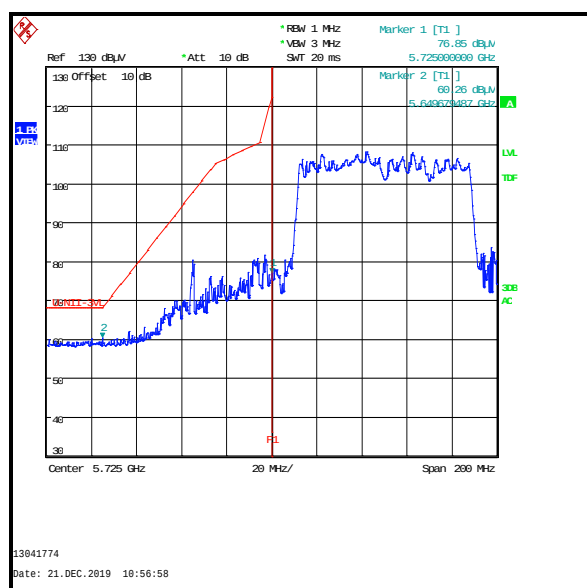
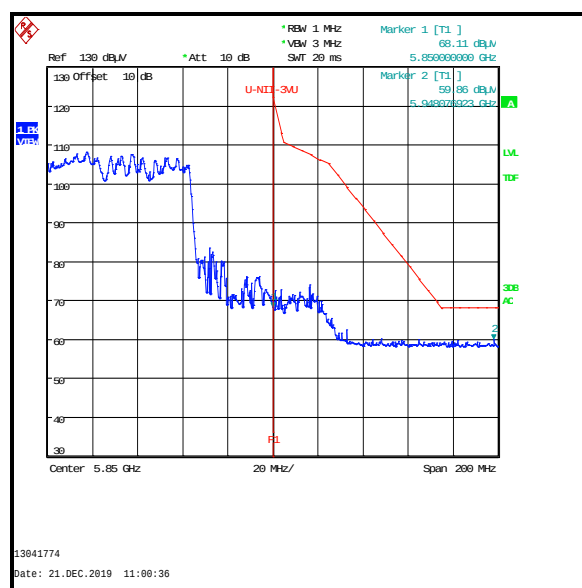
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5626.603	60.5	68.2	7.7	Complied
5725	73.7	122.2	48.5	Complied
5850	58.8	122.2	63.4	Complied
5927.885	60.2	68.2	8.0	Complied

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

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11ac / 80 MHz / MIMO / 2Tx TXBF / BPSK / MCS0x1 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5649.679	-34.9	-27.0	7.9	Complied
5725	-18.3	27.0	45.3	Complied
5850	-27.1	27.0	54.1	Complied
5948.077	-35.3	-27.0	8.3	Complied

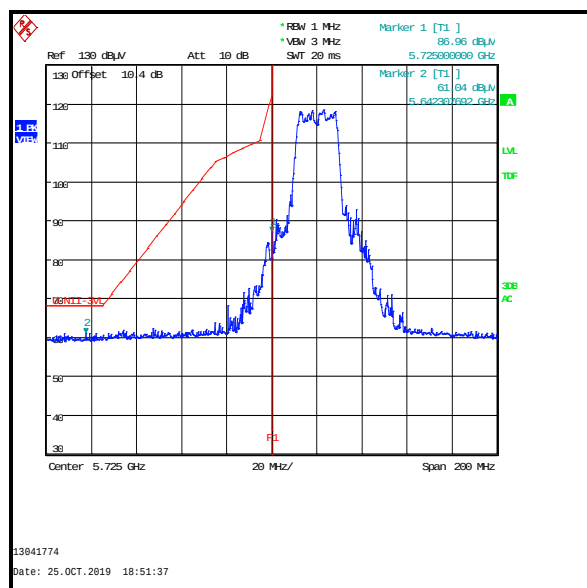
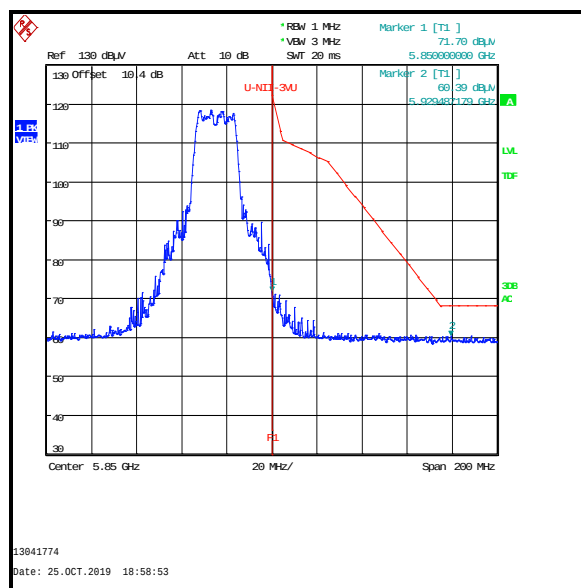
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5649.679	60.3	68.2	7.9	Complied
5725	76.9	122.2	45.3	Complied
5850	68.1	122.2	54.1	Complied
5948.077	59.9	68.2	8.3	Complied

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

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / 20 MHz / MIMO / 3Tx CDD / BPSK / MCS0 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5642.308	-34.2	-27.0	7.2	Complied
5725	-8.2	27.0	35.2	Complied
5850	-23.5	27.0	50.5	Complied
5929.487	-34.8	-27.0	7.8	Complied

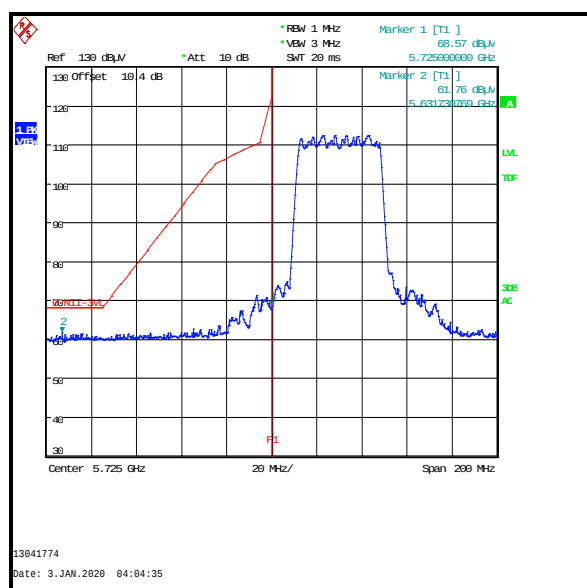
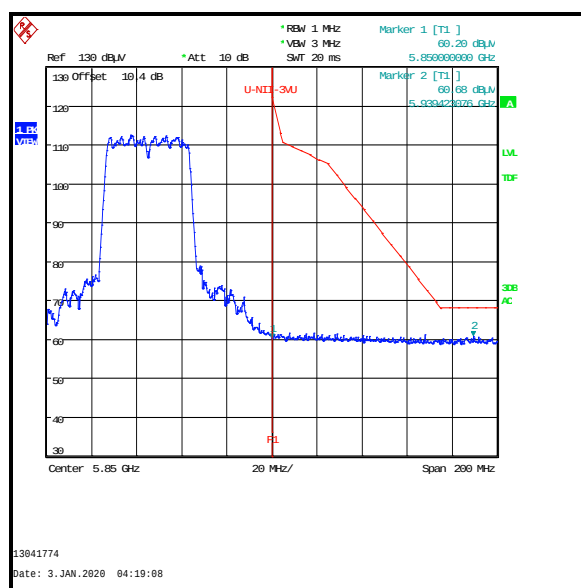
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5642.308	61.0	68.2	7.2	Complied
5725	87.0	122.2	35.2	Complied
5850	71.7	122.2	50.5	Complied
5929.487	60.4	68.2	7.8	Complied

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

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx CDD / BPSK / MCS0 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5631.731	-33.4	-27.0	6.4	Complied
5725	-26.6	27.0	53.6	Complied
5850	-35.0	27.0	62.0	Complied
5939.423	-34.5	-27.0	7.5	Complied

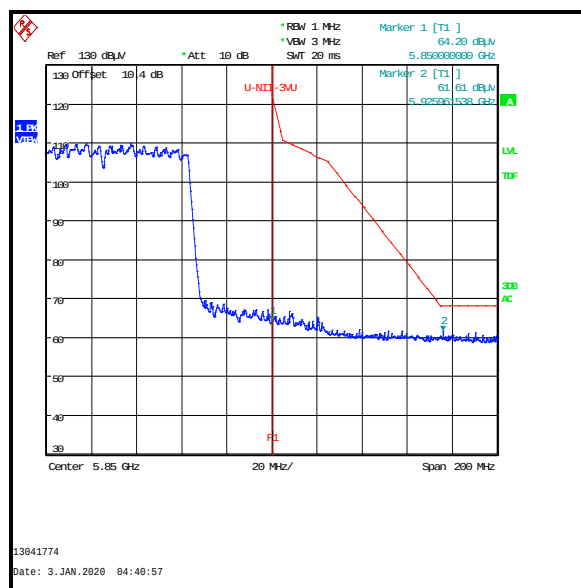
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5631.731	61.8	68.2	6.4	Complied
5725	68.6	122.2	53.6	Complied
5850	60.2	122.2	62.0	Complied
5939.423	60.7	68.2	7.5	Complied

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

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11ac / 80 MHz / MIMO / 3Tx CDD / BPSK / MCS0x1 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5626.923	-33.6	-27.0	6.6	Complied
5725	-28.6	27.0	55.6	Complied
5850	-31.0	27.0	58.0	Complied
5927.564	-33.6	-27.0	6.6	Complied

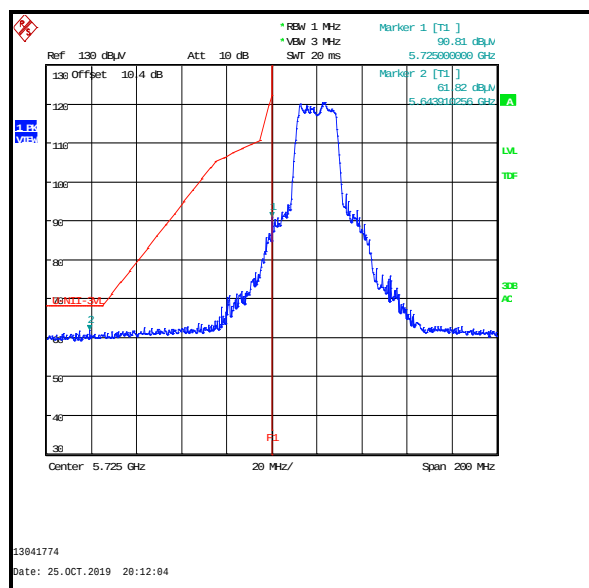
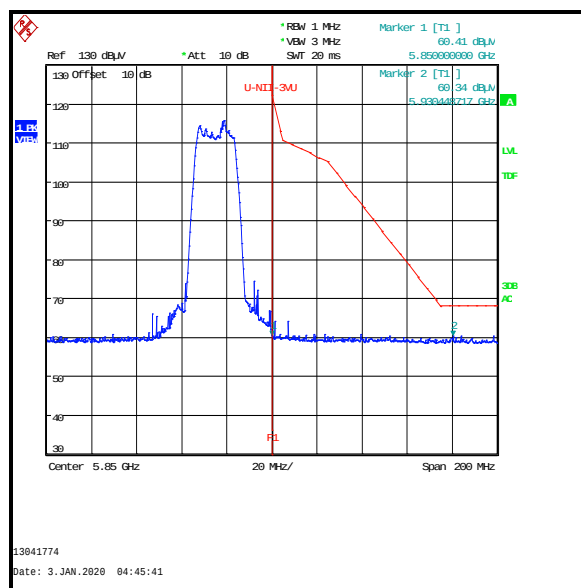
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5626.923	61.6	68.2	6.6	Complied
5725	66.6	122.2	55.6	Complied
5850	64.2	122.2	58.0	Complied
5925.962	61.6	68.2	6.6	Complied

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

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / 20 MHz / MIMO / 3Tx SDM / BPSK / MCS16 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5643.910	-33.4	-27.0	6.4	Complied
5725	-4.4	27.0	31.4	Complied
5850	-34.8	27.0	61.8	Complied
5930.449	-34.9	-27.0	7.9	Complied

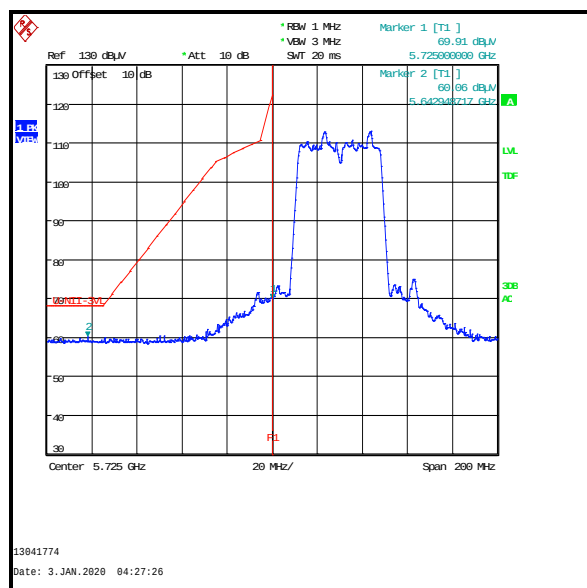
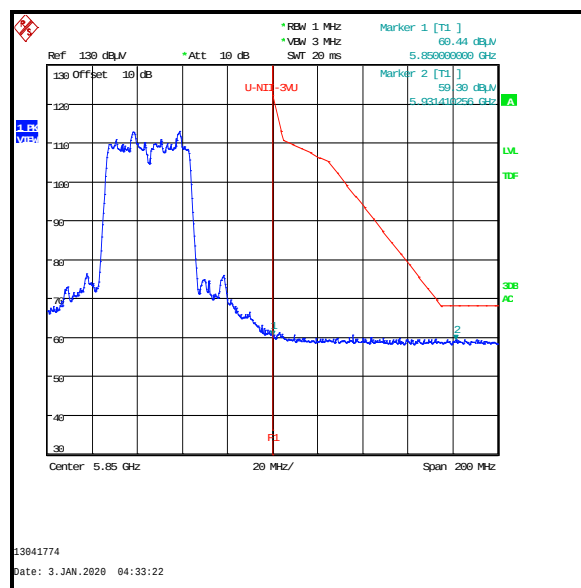
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5643.910	61.8	68.2	6.4	Complied
5725	90.8	122.2	31.4	Complied
5850	60.4	122.2	61.8	Complied
5930.449	60.3	68.2	7.9	Complied

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

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx SDM / BPSK / MCS16 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5642.949	-35.1	-27.0	8.1	Complied
5725	-25.3	27.0	52.3	Complied
5850	-34.8	27.0	61.8	Complied
5931.410	-35.9	-27.0	8.9	Complied

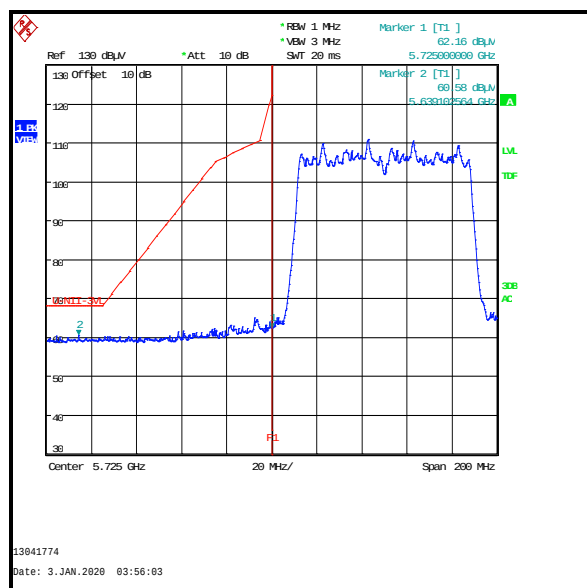
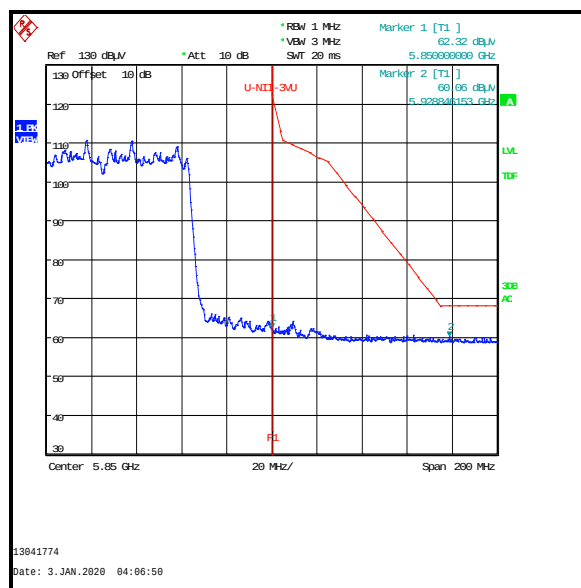
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5642.949	60.1	68.2	8.1	Complied
5725	69.9	122.2	52.3	Complied
5850	60.4	122.2	61.8	Complied
5931.410	59.3	68.2	8.9	Complied

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

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11ac / 80 MHz / MIMO / 3Tx SDM / BPSK / MCS0x3 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5639.103	-34.6	-27.0	7.6	Complied
5725	-33.0	27.0	60.0	Complied
5850	-32.9	27.0	59.9	Complied
5928.846	-35.1	-27.0	8.1	Complied

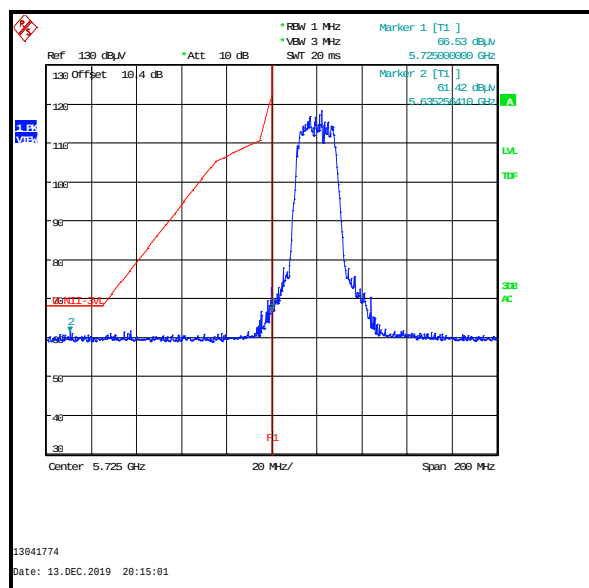
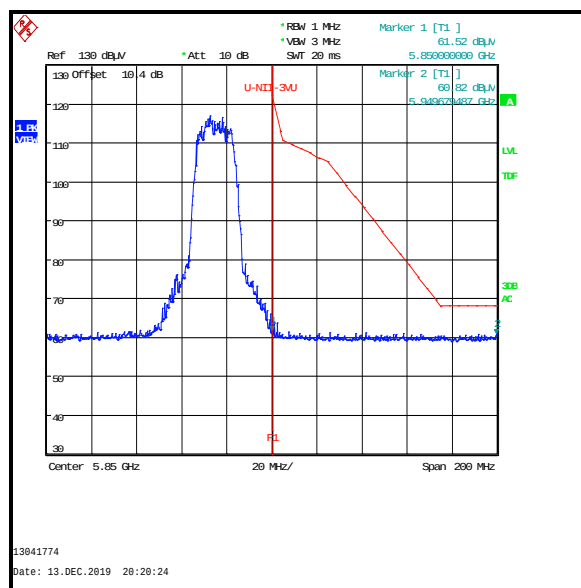
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5639.103	60.6	68.2	7.6	Complied
5725	62.2	122.2	60.0	Complied
5850	62.3	122.2	59.9	Complied
5928.846	60.1	68.2	8.1	Complied

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

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / 20 MHz / MIMO / 3Tx TXBF / BPSK / MCS0 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5635.256	-33.8	-27.0	6.8	Complied
5725	-28.7	27.0	55.7	Complied
5850	-33.7	27.0	60.7	Complied
5949.679	-34.4	-27.0	7.4	Complied

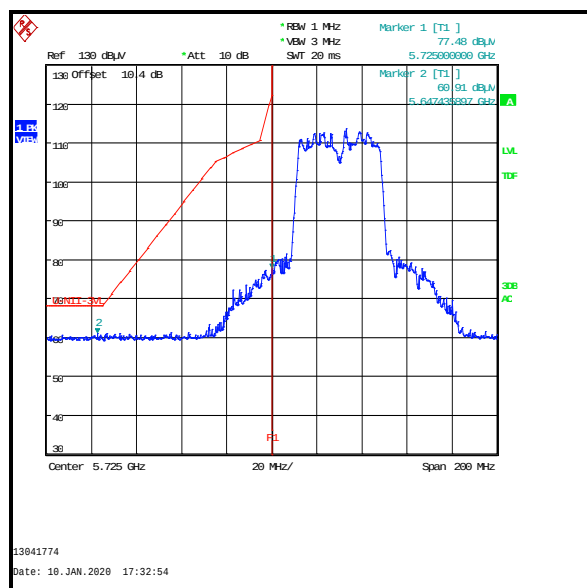
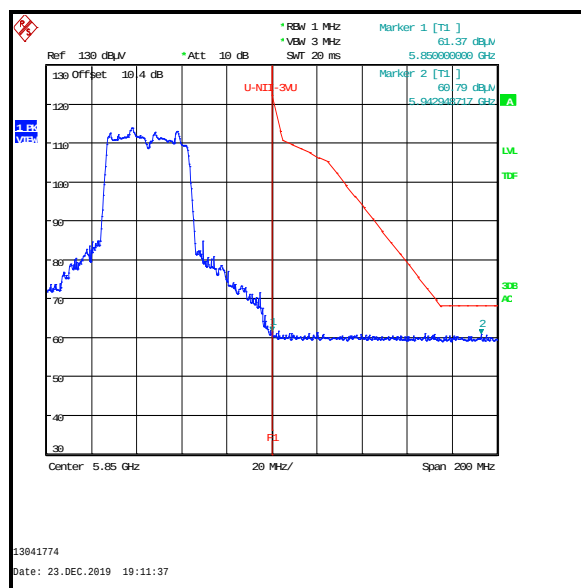
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5635.256	61.4	68.2	6.8	Complied
5725	66.5	122.2	55.7	Complied
5850	61.5	122.2	60.7	Complied
5949.679	60.8	68.2	7.4	Complied

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

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11n / 40 MHz / MIMO / 3Tx TXBF / BPSK / MCS0 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5647.436	-34.3	-27.0	7.3	Complied
5725	-17.7	27.0	44.7	Complied
5850	-33.8	27.0	60.8	Complied
5942.949	-34.4	-27.0	7.4	Complied

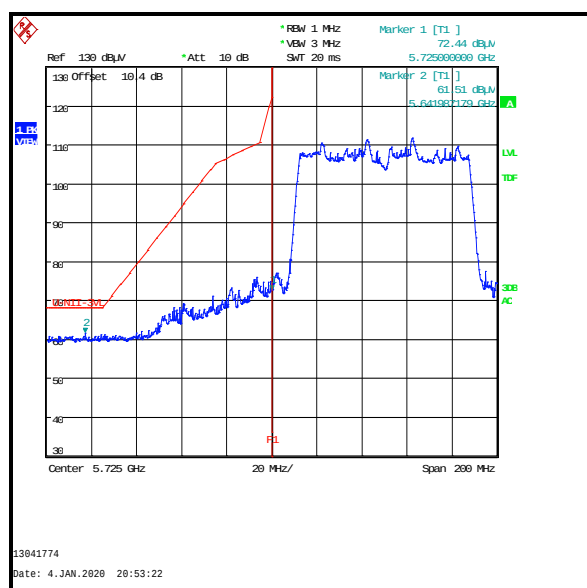
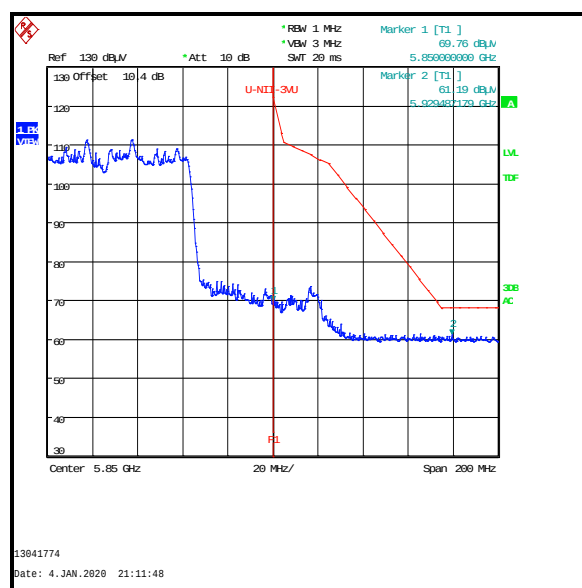
Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5647.436	60.9	68.2	7.3	Complied
5725	77.5	122.2	44.7	Complied
5850	61.4	122.2	60.8	Complied
5942.949	60.8	68.2	7.4	Complied

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

Transmitter Band Edge Radiated Emissions (5.725-5.85 GHz band operation) (continued)**Results: 802.11ac / 80 MHz / MIMO / 3Tx TXBF / BPSK / MCS0x1 / Peak**

Frequency (MHz)	Level (dBm)	Limit (dBm/MHz)	Margin (dB)	Result
5641.987	-33.7	-27.0	6.7	Complied
5725	-22.8	27.0	49.8	Complied
5850	-25.4	27.0	52.4	Complied
5929.487	-34.0	-27.0	7.0	Complied

Frequency (MHz)	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
5641.987	61.5	68.2	6.7	Complied
5725	72.4	122.2	49.8	Complied
5850	69.8	122.2	52.4	Complied
5929.487	61.2	68.2	7.0	Complied

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

Appendix 1

Directional Antenna Gain Calculations – 2Tx CDD / Output Power Measurements

Frequency Band 5150-5250 MHz

For 2Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f(ii) directional antenna gain was calculated using the formula applicable to equal antenna gains. G_{ANT} was set equal to the gain of the antenna having the highest gain. In accordance with KDB 662911 D01 v02r01 Section F)2)f(i) and for $N_{ANT}=2$:

$$Directional\ gain = G_{ANT} + Array\ Gain = 5.6\ dBi + 0\ dB = 5.6\ dBi$$

Frequency Band 5250-5350 MHz

For 2Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f(ii) directional antenna gain was calculated using the formula applicable to equal antenna gains. G_{ANT} was set equal to the gain of the antenna having the highest gain. In accordance with KDB 662911 D01 v02r01 Section F)2)f(i) and for $N_{ANT}=2$:

$$Directional\ gain = G_{ANT} + Array\ Gain = 5.2\ dBi + 0\ dB = 5.2\ dBi$$

Frequency Band 5470-5725 MHz

For 2Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f(ii) directional antenna gain was calculated using the formula applicable to equal antenna gains. G_{ANT} was set equal to the gain of the antenna having the highest gain. In accordance with KDB 662911 D01 v02r01 Section F)2)f(i) and for $N_{ANT}=2$:

$$Directional\ gain = G_{ANT} + Array\ Gain = 4.3\ dBi + 0\ dB = 4.3\ dBi$$

Frequency Band 5725-5850 MHz

For 2Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f(ii) directional antenna gain was calculated using the formula applicable to equal antenna gains. G_{ANT} was set equal to the gain of the antenna having the highest gain. In accordance with KDB 662911 D01 v02r01 Section F)2)f(i) and for $N_{ANT}=2$:

$$Directional\ gain = G_{ANT} + Array\ Gain = 4.4\ dBi + 0\ dB = 4.4\ dBi$$

Appendix 1 (continued)**Directional Antenna Gain Calculations – 3Tx CDD / Output Power Measurements****Frequency Band 5150-5250 MHz**

For 3Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii) directional antenna gain was calculated using the formula applicable to equal antenna gains. G_{ANT} was set equal to the gain of the antenna having the highest gain. In accordance with KDB 662911 D01 v02r01 Section F)2)f)(i) and for $N_{ANT}=3$:

$$\text{Directional gain} = G_{ANT} + \text{Array Gain} = 5.6 \text{ dBi} + 0 \text{ dB} = 5.6 \text{ dBi}$$

Frequency Band 5250-5350 MHz

For 3Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii) directional antenna gain was calculated using the formula applicable to equal antenna gains. G_{ANT} was set equal to the gain of the antenna having the highest gain. In accordance with KDB 662911 D01 v02r01 Section F)2)f)(i) and for $N_{ANT}=3$:

$$\text{Directional gain} = G_{ANT} + \text{Array Gain} = 5.2 \text{ dBi} + 0 \text{ dB} = 5.2 \text{ dBi}$$

Frequency Band 5470-5725 MHz

For 3Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii) directional antenna gain was calculated using the formula applicable to equal antenna gains. G_{ANT} was set equal to the gain of the antenna having the highest gain. In accordance with KDB 662911 D01 v02r01 Section F)2)f)(i) and for $N_{ANT}=3$:

$$\text{Directional gain} = G_{ANT} + \text{Array Gain} = 4.3 \text{ dBi} + 0 \text{ dB} = 4.3 \text{ dBi}$$

Frequency Band 5725-5850 MHz

For 3Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii) directional antenna gain was calculated using the formula applicable to equal antenna gains. G_{ANT} was set equal to the gain of the antenna having the highest gain. In accordance with KDB 662911 D01 v02r01 Section F)2)f)(i) and for $N_{ANT}=3$:

$$\text{Directional gain} = G_{ANT} + \text{Array Gain} = 4.4 \text{ dBi} + 0 \text{ dB} = 4.4 \text{ dBi}$$

Appendix 1 (continued)**Directional Antenna Gain Calculations – 2Tx CDD / PSD Measurements****Frequency Band 5150-5250 MHz**

For 2Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii) and for $N_{SS}=1$, $N_{ANT}=2$,
 $G_1 = G_{ANTENNA \text{ Core } 0} = 5.6 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 5.0 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^2 g_{j,k} \right)^2}{2} \right] \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2})^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{5.6}{20}} + 10^{\frac{5.0}{20}} \right)^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{5.6}{20}} + 10^{\frac{5.0}{20}} \right)^2}{2} \right] = 8.3 \text{ dBi} \end{aligned}$$

Frequency Band 5250-5350 MHz

For 2Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii) and for $N_{SS}=1$, $N_{ANT}=2$,
 $G_1 = G_{ANTENNA \text{ Core } 0} = 5.2 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 4.2 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^2 g_{j,k} \right)^2}{2} \right] \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2})^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{5.2}{20}} + 10^{\frac{4.2}{20}} \right)^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{5.2}{20}} + 10^{\frac{4.2}{20}} \right)^2}{2} \right] = 7.7 \text{ dBi} \end{aligned}$$

Frequency Band 5470-5725 MHz

For 2Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii) and for $N_{SS}=1$, $N_{ANT}=2$,
 $G_1 = G_{ANTENNA \text{ Core } 0} = 4.3 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 3.2 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^2 g_{j,k} \right)^2}{2} \right] \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2})^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{4.3}{20}} + 10^{\frac{3.2}{20}} \right)^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{4.3}{20}} + 10^{\frac{3.2}{20}} \right)^2}{2} \right] = 6.8 \text{ dBi} \end{aligned}$$

Frequency Band 5725-5850 MHz

For 2Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f)(ii) and for $N_{SS}=1$, $N_{ANT}=2$,
 $G_1 = G_{ANTENNA \text{ Core } 0} = 4.4 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 3.2 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^2 g_{j,k} \right)^2}{2} \right] \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2})^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{4.4}{20}} + 10^{\frac{3.2}{20}} \right)^2}{2} \right] = 10 \log \left[\frac{\left(10^{\frac{4.4}{20}} + 10^{\frac{3.2}{20}} \right)^2}{2} \right] = 6.8 \text{ dBi} \end{aligned}$$

Appendix 1 (continued)**Directional Antenna Gain Calculations – 3Tx CDD / PSD Measurements****Frequency Band 5150-5250 MHz**

For 3Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f(ii) and for $N_{SS}=1$, $N_{ANT}=3$,
 $G_1 = G_{\text{ANTENNA Core 0}} = 5.6 \text{ dBi}$, $G_2 = G_{\text{ANTENNA Core 1}} = 5.0 \text{ dBi}$, $G_{\text{ANTENNA Core 2}} = 4.0 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^3 g_{j,k} \right)^2}{3} \right] \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2} + g_{1,3})^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{5.6}{20}} + 10^{\frac{5.0}{20}} + 10^{\frac{4.0}{20}} \right)^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{5.6}{20}} + 10^{\frac{5.0}{20}} + 10^{\frac{4.0}{20}} \right)^2}{3} \right] = 9.7 \text{ dBi} \end{aligned}$$

Frequency Band 5250-5350 MHz

For 3Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f(ii) and for $N_{SS}=1$, $N_{ANT}=3$,
 $G_1 = G_{\text{ANTENNA Core 0}} = 5.2 \text{ dBi}$, $G_2 = G_{\text{ANTENNA Core 1}} = 4.2 \text{ dBi}$, $G_{\text{ANTENNA Core 2}} = 3.3 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^3 g_{j,k} \right)^2}{3} \right] \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2} + g_{1,3})^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{5.2}{20}} + 10^{\frac{4.2}{20}} + 10^{\frac{3.3}{20}} \right)^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{5.2}{20}} + 10^{\frac{4.2}{20}} + 10^{\frac{3.3}{20}} \right)^2}{3} \right] = 9.0 \text{ dBi} \end{aligned}$$

Frequency Band 5470-5725 MHz

For 3Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f(ii) and for $N_{SS}=1$, $N_{ANT}=3$,
 $G_1 = G_{\text{ANTENNA Core 0}} = 4.3 \text{ dBi}$, $G_2 = G_{\text{ANTENNA Core 1}} = 3.2 \text{ dBi}$, $G_{\text{ANTENNA Core 2}} = 3.0 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^3 g_{j,k} \right)^2}{3} \right] \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2} + g_{1,3})^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{4.3}{20}} + 10^{\frac{3.2}{20}} + 10^{\frac{3.0}{20}} \right)^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{4.3}{20}} + 10^{\frac{3.2}{20}} + 10^{\frac{3.0}{20}} \right)^2}{3} \right] = 8.3 \text{ dBi} \end{aligned}$$

Frequency Band 5725-5850 MHz

For 3Tx CDD modes, in accordance with KDB 662911 D01 v02r01 Section F)2)f(ii) and for $N_{SS}=1$, $N_{ANT}=3$,
 $G_1 = G_{\text{ANTENNA Core 0}} = 4.4 \text{ dBi}$, $G_2 = G_{\text{ANTENNA Core 1}} = 3.2 \text{ dBi}$, $G_{\text{ANTENNA Core 2}} = 3.0 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left(\sum_{k=1}^{N_{ANT}} g_{j,k} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\sum_{j=1}^1 \left(\sum_{k=1}^3 g_{j,k} \right)^2}{3} \right] \\ &= 10 \log \left[\frac{(g_{1,1} + g_{1,2} + g_{1,3})^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{4.4}{20}} + 10^{\frac{3.2}{20}} + 10^{\frac{3.0}{20}} \right)^2}{3} \right] = 10 \log \left[\frac{\left(10^{\frac{4.4}{20}} + 10^{\frac{3.2}{20}} + 10^{\frac{3.0}{20}} \right)^2}{3} \right] = 8.3 \text{ dBi} \end{aligned}$$

Appendix 1 (continued)**Directional Antenna Gain Calculations – 2Tx SDM****Frequency Band 5150-5250 MHz**

For 2Tx SDM modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(ii) and for $N_{SS}=1$, $N_{ANT}=2$, $G_1 = G_{\text{ANTENNA Core 0}} = 5.6 \text{ dBi}$, $G_2 = G_{\text{ANTENNA Core 1}} = 5.0 \text{ dBi}$:

$$\text{Directional Gain} = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{5.6}{10}} + 10^{\frac{5.0}{10}}}{2} \right] = 5.3 \text{ dBi}$$

Frequency Band 5250-5350 MHz

For 2Tx SDM modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(ii) and for $N_{SS}=1$, $N_{ANT}=2$, $G_1 = G_{\text{ANTENNA Core 0}} = 5.2 \text{ dBi}$, $G_2 = G_{\text{ANTENNA Core 1}} = 4.2 \text{ dBi}$:

$$\text{Directional Gain} = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{5.2}{10}} + 10^{\frac{4.2}{10}}}{2} \right] = 4.7 \text{ dBi}$$

Frequency Band 5470-5725 MHz

For 2Tx SDM modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(ii) and for $N_{SS}=1$, $N_{ANT}=2$, $G_1 = G_{\text{ANTENNA Core 0}} = 4.3 \text{ dBi}$, $G_2 = G_{\text{ANTENNA Core 1}} = 3.2 \text{ dBi}$:

$$\text{Directional Gain} = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{4.3}{10}} + 10^{\frac{3.2}{10}}}{2} \right] = 3.8 \text{ dBi}$$

Frequency Band 5725-5850 MHz

For 2Tx SDM modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(ii) and for $N_{SS}=1$, $N_{ANT}=2$, $G_1 = G_{\text{ANTENNA Core 0}} = 4.4 \text{ dBi}$, $G_2 = G_{\text{ANTENNA Core 1}} = 3.2 \text{ dBi}$:

$$\text{Directional Gain} = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{4.4}{10}} + 10^{\frac{3.2}{10}}}{2} \right] = 3.8 \text{ dBi}$$

Appendix 1 (continued)**Directional Antenna Gain Calculations – 3Tx SDM****Frequency Band 5150-5250 MHz**

For 3Tx SDM modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(ii) and for $N_{SS}=1$, $N_{ANT}=3$, $G_1 = G_{ANTENNA \text{ Core } 0} = 5.6 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 5.0 \text{ dBi}$, $G_{ANTENNA \text{ Core } 2} = 4.0 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + 10^{\frac{G_3}{10}}}{N_{ANT}} \right] \\ &= 10 \log \left[\frac{10^{\frac{5.6}{10}} + 10^{\frac{5.0}{10}} + 10^{\frac{4.0}{10}}}{3} \right] = 4.9 \text{ dBi} \end{aligned}$$

Frequency Band 5250-5350 MHz

For 3Tx SDM modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(ii) and for $N_{SS}=1$, $N_{ANT}=3$, $G_1 = G_{ANTENNA \text{ Core } 0} = 5.2 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 4.2 \text{ dBi}$, $G_{ANTENNA \text{ Core } 2} = 3.3 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + 10^{\frac{G_3}{10}}}{N_{ANT}} \right] \\ &= 10 \log \left[\frac{10^{\frac{5.2}{10}} + 10^{\frac{4.2}{10}} + 10^{\frac{3.3}{10}}}{3} \right] = 4.3 \text{ dBi} \end{aligned}$$

Frequency Band 5470-5725 MHz

For 3Tx SDM modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(ii) and for $N_{SS}=1$, $N_{ANT}=3$, $G_1 = G_{ANTENNA \text{ Core } 0} = 4.3 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 3.2 \text{ dBi}$, $G_{ANTENNA \text{ Core } 2} = 3.0 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + 10^{\frac{G_3}{10}}}{N_{ANT}} \right] \\ &= 10 \log \left[\frac{10^{\frac{4.3}{10}} + 10^{\frac{3.2}{10}} + 10^{\frac{3.0}{10}}}{3} \right] = 3.5 \text{ dBi} \end{aligned}$$

Frequency Band 5725-5850 MHz

For 3Tx SDM modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(ii) and for $N_{SS}=1$, $N_{ANT}=3$, $G_1 = G_{ANTENNA \text{ Core } 0} = 4.4 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 3.2 \text{ dBi}$, $G_{ANTENNA \text{ Core } 2} = 3.0 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + \dots + 10^{\frac{G_N}{10}}}{N_{ANT}} \right] = 10 \log \left[\frac{10^{\frac{G_1}{10}} + 10^{\frac{G_2}{10}} + 10^{\frac{G_3}{10}}}{N_{ANT}} \right] \\ &= 10 \log \left[\frac{10^{\frac{4.4}{10}} + 10^{\frac{3.2}{10}} + 10^{\frac{3.0}{10}}}{3} \right] = 3.6 \text{ dBi} \end{aligned}$$

Appendix 1 (continued)**Directional Antenna Gain Calculations – 2Tx TxBF****Frequency Band 5150-5250 MHz**

For 2Tx TxBF modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(i) and for $N_{SS}=1$, $N_{ANT}=2$, $G_1 = G_{ANTENNA \text{ Core } 0} = 5.6 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 5.0 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + \dots + 10^{\frac{G_N}{20}} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} \right)^2}{2} \right] \\ &= 10 \log \left[\frac{\left(10^{\frac{5.6}{20}} + 10^{\frac{5.0}{20}} \right)^2}{2} \right] = 8.3 \text{ dBi} \end{aligned}$$

Frequency Band 5250-5350 MHz

For 2Tx TxBF modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(i) and for $N_{SS}=1$, $N_{ANT}=2$, $G_1 = G_{ANTENNA \text{ Core } 0} = 5.2 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 4.2 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + \dots + 10^{\frac{G_N}{20}} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} \right)^2}{2} \right] \\ &= 10 \log \left[\frac{\left(10^{\frac{5.2}{20}} + 10^{\frac{4.2}{20}} \right)^2}{2} \right] = 7.7 \text{ dBi} \end{aligned}$$

Frequency Band 5470-5725 MHz

For 2Tx TxBF modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(i) and for $N_{SS}=1$, $N_{ANT}=2$, $G_1 = G_{ANTENNA \text{ Core } 0} = 4.3 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 3.2 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + \dots + 10^{\frac{G_N}{20}} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} \right)^2}{2} \right] \\ &= 10 \log \left[\frac{\left(10^{\frac{4.3}{20}} + 10^{\frac{3.2}{20}} \right)^2}{2} \right] = 6.8 \text{ dBi} \end{aligned}$$

Frequency Band 5725-5850 MHz

For 2Tx TxBF modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(i) and for $N_{SS}=1$, $N_{ANT}=2$, $G_1 = G_{ANTENNA \text{ Core } 0} = 4.4 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 3.2 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + \dots + 10^{\frac{G_N}{20}} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} \right)^2}{2} \right] \\ &= 10 \log \left[\frac{\left(10^{\frac{4.4}{20}} + 10^{\frac{3.2}{20}} \right)^2}{2} \right] = 6.8 \text{ dBi} \end{aligned}$$

Appendix 1 (continued)**Directional Antenna Gain Calculations – 3Tx TxBF****Frequency Band 5150-5250 MHz**

For 3Tx TxBF modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(i) and for $N_{SS}=1$, $N_{ANT}=3$, $G_1 = G_{ANTENNA \text{ Core } 0} = 5.6 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 5.0 \text{ dBi}$, $G_{ANTENNA \text{ Core } 2} = 4.0 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + \dots + 10^{\frac{G_N}{20}} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + 10^{\frac{G_3}{20}} \right)^2}{3} \right] \\ &= 10 \log \left[\frac{\left(10^{\frac{5.6}{20}} + 10^{\frac{5.0}{20}} + 10^{\frac{4.0}{20}} \right)^2}{3} \right] = 9.7 \text{ dBi} \end{aligned}$$

Frequency Band 5250-5350 MHz

For 3Tx TxBF modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(i) and for $N_{SS}=1$, $N_{ANT}=3$, $G_1 = G_{ANTENNA \text{ Core } 0} = 5.2 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 4.2 \text{ dBi}$, $G_{ANTENNA \text{ Core } 2} = 3.3 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + \dots + 10^{\frac{G_N}{20}} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + 10^{\frac{G_3}{20}} \right)^2}{3} \right] \\ &= 10 \log \left[\frac{\left(10^{\frac{5.2}{20}} + 10^{\frac{4.2}{20}} + 10^{\frac{3.3}{20}} \right)^2}{3} \right] = 9.0 \text{ dBi} \end{aligned}$$

Frequency Band 5470-5725 MHz

For 3Tx TxBF modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(i) and for $N_{SS}=1$, $N_{ANT}=3$, $G_1 = G_{ANTENNA \text{ Core } 0} = 4.3 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 3.2 \text{ dBi}$, $G_{ANTENNA \text{ Core } 2} = 3.0 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + \dots + 10^{\frac{G_N}{20}} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + 10^{\frac{G_3}{20}} \right)^2}{3} \right] \\ &= 10 \log \left[\frac{\left(10^{\frac{4.3}{20}} + 10^{\frac{3.2}{20}} + 10^{\frac{3.0}{20}} \right)^2}{3} \right] = 8.3 \text{ dBi} \end{aligned}$$

Frequency Band 5725-5850 MHz

For 3Tx TxBF modes, in accordance with KDB 662911 D01 v02r01 Section F)2)d)(i) and for $N_{SS}=1$, $N_{ANT}=3$, $G_1 = G_{ANTENNA \text{ Core } 0} = 4.4 \text{ dBi}$, $G_2 = G_{ANTENNA \text{ Core } 1} = 3.2 \text{ dBi}$, $G_{ANTENNA \text{ Core } 2} = 3.0 \text{ dBi}$:

$$\begin{aligned} \text{Directional Gain} &= 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + \dots + 10^{\frac{G_N}{20}} \right)^2}{N_{ANT}} \right] = 10 \log \left[\frac{\left(10^{\frac{G_1}{20}} + 10^{\frac{G_2}{20}} + 10^{\frac{G_3}{20}} \right)^2}{3} \right] \\ &= 10 \log \left[\frac{\left(10^{\frac{4.4}{20}} + 10^{\frac{3.2}{20}} + 10^{\frac{3.0}{20}} \right)^2}{3} \right] = 8.3 \text{ dBi} \end{aligned}$$

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