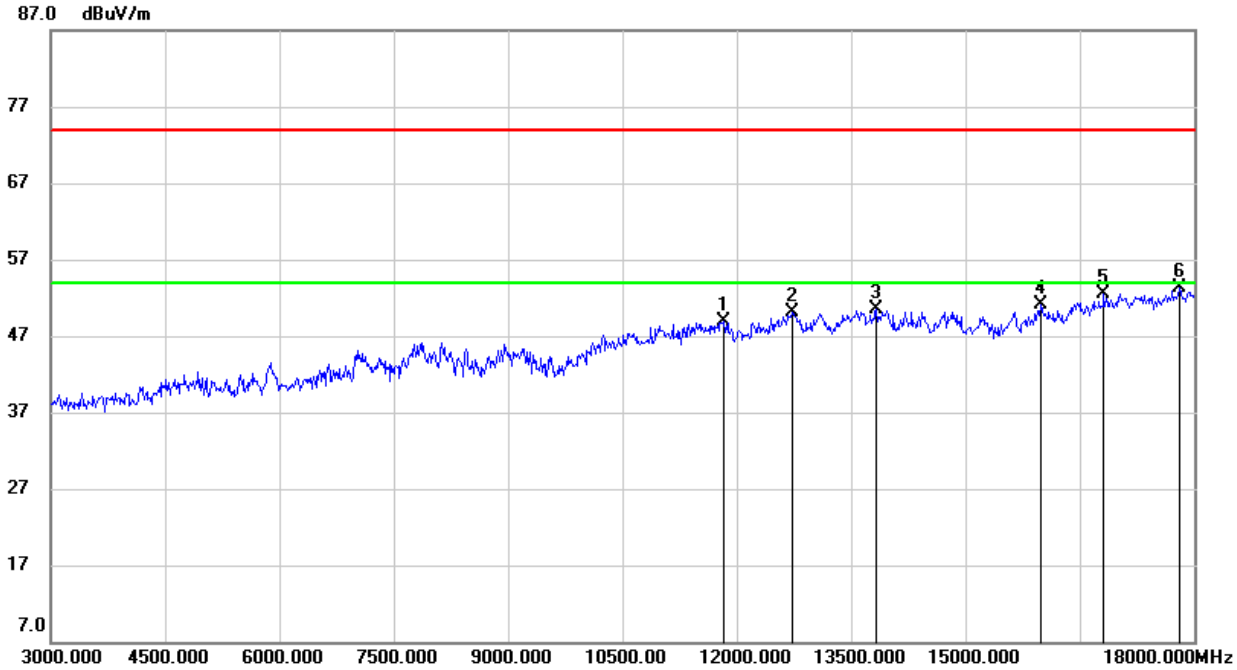
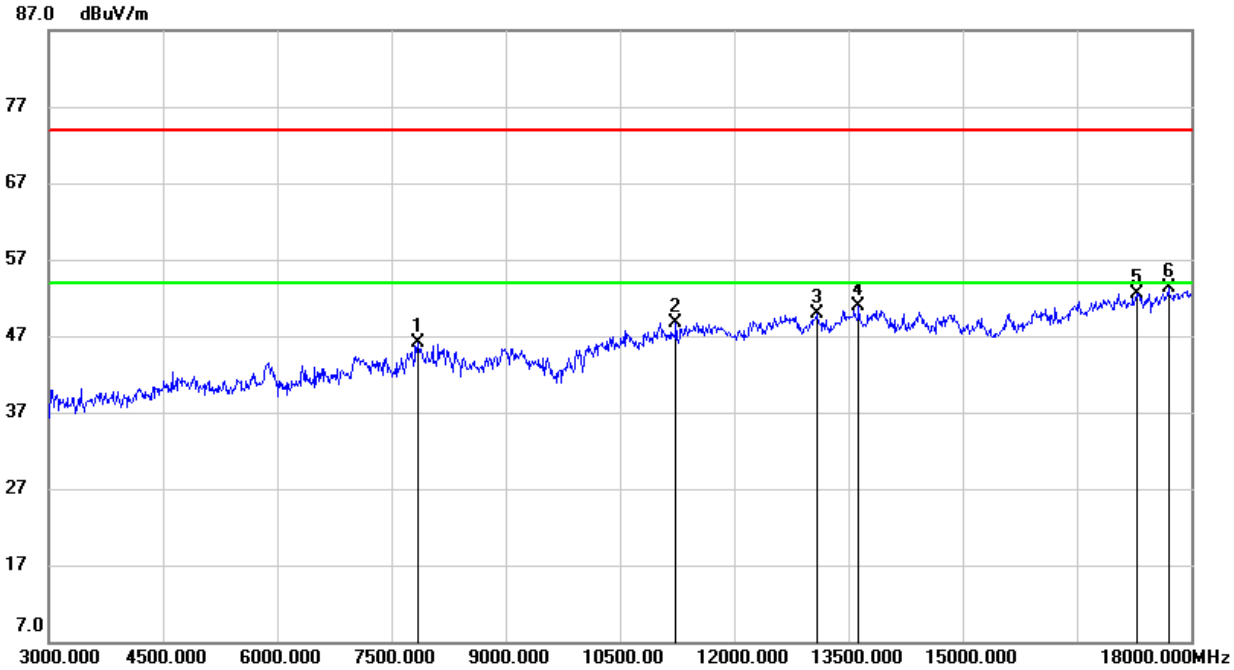
## HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, HORIZONTAL)




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 11835.000 | 35.76 | 13.21 | 48.97 | 74.00 | -25.03 | peak |
| 2 | 12735.000 | 35.39 | 14.77 | 50.16 | 74.00 | -23.84 | peak |
| 3 | 13830.000 | 33.67 | 16.84 | 50.51 | 74.00 | -23.49 | peak |
| 4 | 15990.000 | 33.44 | 17.68 | 51.12 | 74.00 | -22.88 | peak |
| 5 | 16815.000 | 32.61 | 19.96 | 52.57 | 74.00 | -21.43 | peak |
| 6 | 17805.000 | 29.93 | 23.31 | 53.24 | 74.00 | -20.76 | peak |

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

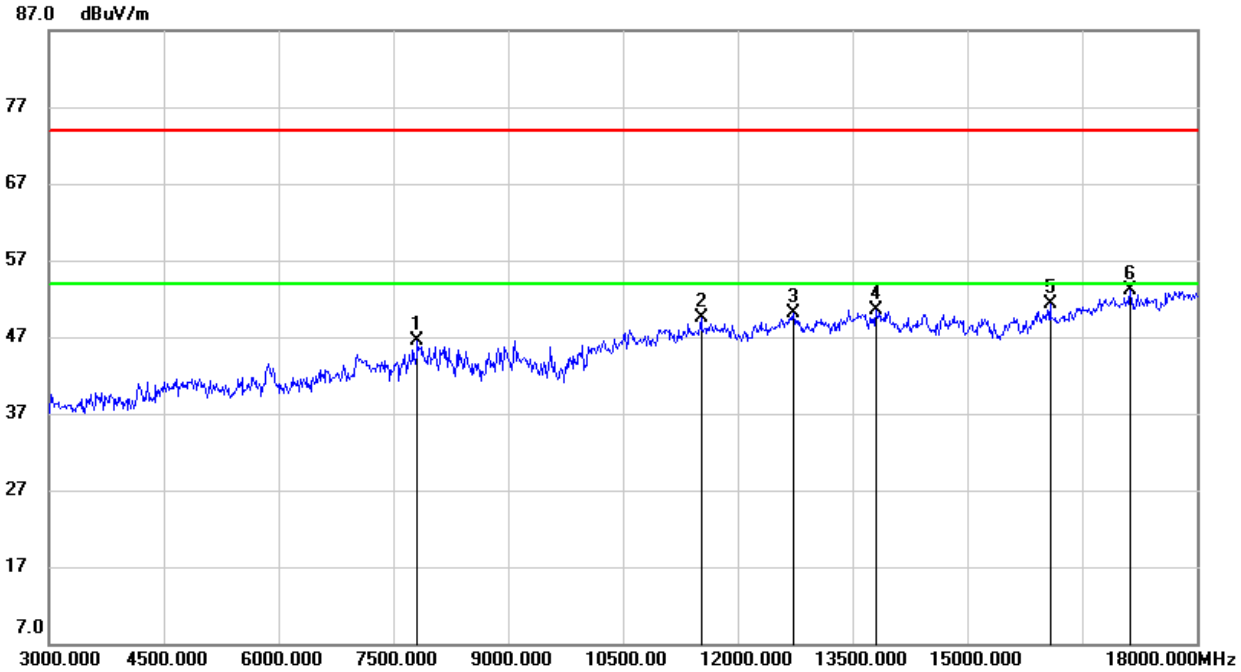
## HARMONICS AND SPURIOUS EMISSIONS (HIGH CHANNEL, VERTICAL)




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 7845.000 | 38.41 | 7.62 | 46.03 | 74.00 | -27.97 | peak |
| 2 | 11235.000 | 36.31 | 12.46 | 48.77 | 74.00 | -25.23 | peak |
| 3 | 13095.000 | 34.71 | 15.20 | 49.91 | 74.00 | -24.09 | peak |
| 4 | 13635.000 | 34.89 | 15.97 | 50.86 | 74.00 | -23.14 | peak |
| 5 | 17295.000 | 30.73 | 21.71 | 52.44 | 74.00 | -21.56 | peak |
| 6 | 17700.000 | 30.92 | 22.43 | 53.35 | 74.00 | -20.65 | peak |

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

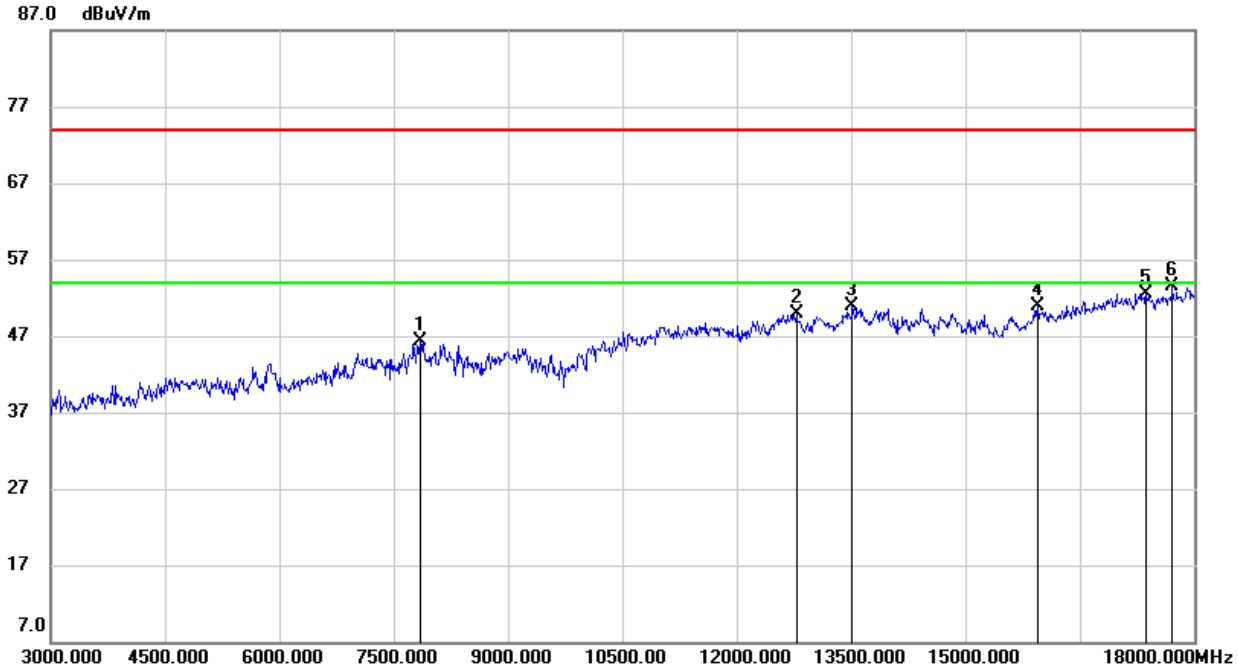
## HARMONICS AND SPURIOUS EMISSIONS (2457 MHz CHANNEL, HORIZONTAL)




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 7815.000 | 38.70 | 7.83 | 46.53 | 74.00 | -27.47 | peak |
| 2 | 11520.000 | 36.19 | 13.38 | 49.57 | 74.00 | -24.43 | peak |
| 3 | 12720.000 | 35.62 | 14.57 | 50.19 | 74.00 | -23.81 | peak |
| 4 | 13800.000 | 33.45 | 17.10 | 50.55 | 74.00 | -23.45 | peak |
| 5 | 16080.000 | 33.25 | 18.04 | 51.29 | 74.00 | -22.71 | peak |
| 6 | 17130.000 | 32.29 | 20.72 | 53.01 | 74.00 | -20.99 | peak |

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

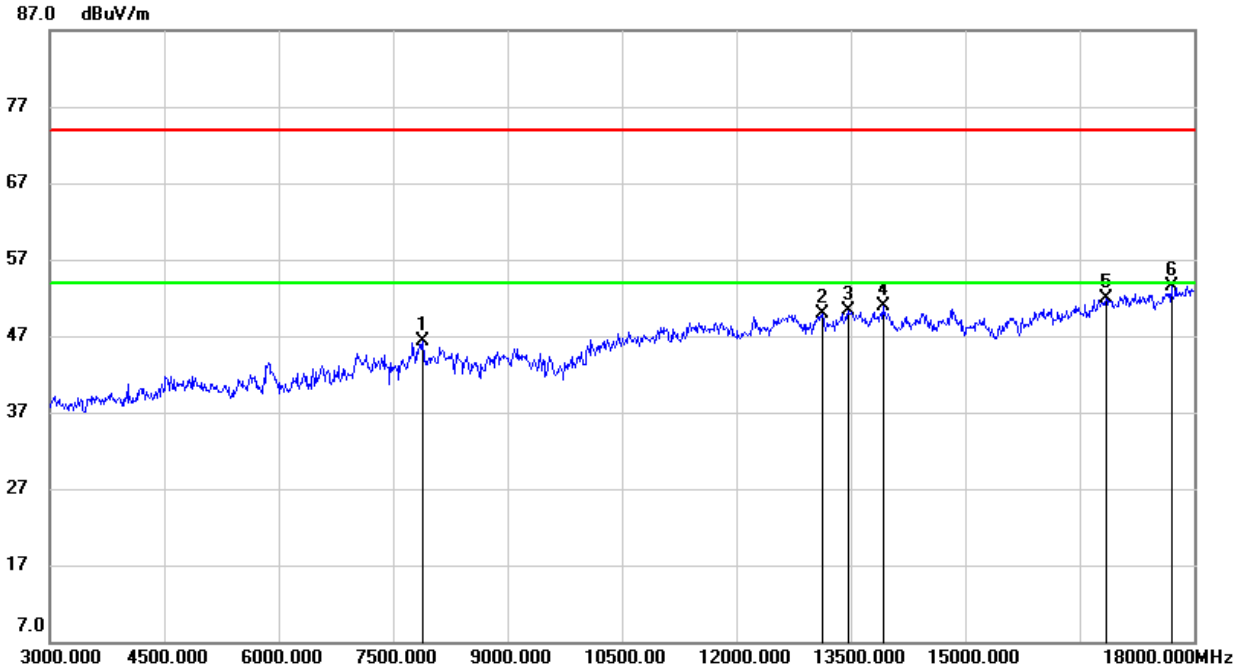
## HARMONICS AND SPURIOUS EMISSIONS (2457 MHz CHANNEL, VERTICAL)




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 7845.000 | 38.75 | 7.62 | 46.37 | 74.00 | -27.63 | peak |
| 2 | 12780.000 | 34.44 | 15.38 | 49.82 | 74.00 | -24.18 | peak |
| 3 | 13515.000 | 35.15 | 15.81 | 50.96 | 74.00 | -23.04 | peak |
| 4 | 15945.000 | 33.38 | 17.61 | 50.99 | 74.00 | -23.01 | peak |
| 5 | 17370.000 | 31.01 | 21.52 | 52.53 | 74.00 | -21.47 | peak |
| 6 | 17715.000 | 30.91 | 22.56 | 53.47 | 74.00 | -20.53 | peak |

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

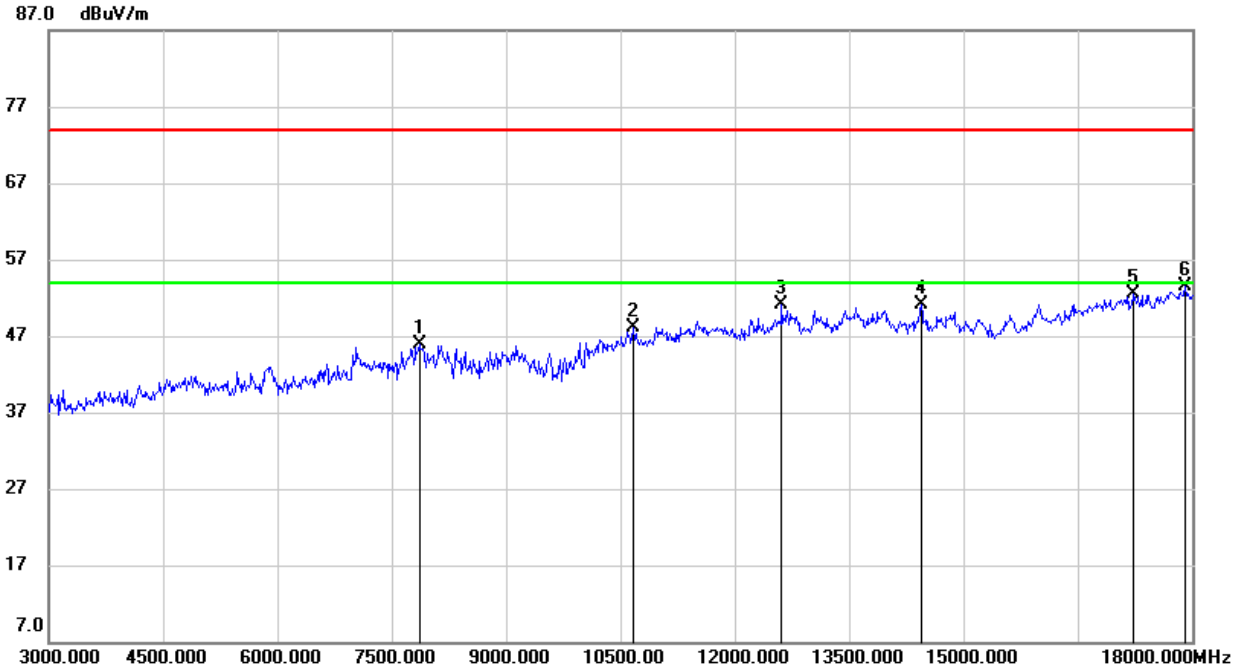
## HARMONICS AND SPURIOUS EMISSIONS (2462 MHz CHANNEL, HORIZONTAL)




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 7890.000 | 38.96 | 7.30 | 46.26 | 74.00 | -27.74 | peak |
| 2 | 13125.000 | 34.64 | 15.17 | 49.81 | 74.00 | -24.19 | peak |
| 3 | 13470.000 | 34.37 | 15.87 | 50.24 | 74.00 | -23.76 | peak |
| 4 | 13920.000 | 34.66 | 16.17 | 50.83 | 74.00 | -23.17 | peak |
| 5 | 16845.000 | 32.01 | 19.96 | 51.97 | 74.00 | -22.03 | peak |
| 6 | 17700.000 | 31.17 | 22.43 | 53.60 | 74.00 | -20.40 | peak |

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

## HARMONICS AND SPURIOUS EMISSIONS (2462 MHz CHANNEL, VERTICAL)




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 7860.000 | 38.45 | 7.51 | 45.96 | 74.00 | -28.04 | peak |
| 2 | 10665.000 | 36.39 | 11.75 | 48.14 | 74.00 | -25.86 | peak |
| 3 | 12615.000 | 37.06 | 14.03 | 51.09 | 74.00 | -22.91 | peak |
| 4 | 14445.000 | 34.71 | 16.36 | 51.07 | 74.00 | -22.93 | peak |
| 5 | 17220.000 | 31.35 | 21.08 | 52.43 | 74.00 | -21.57 | peak |
| 6 | 17910.000 | 30.07 | 23.35 | 53.42 | 74.00 | -20.58 | peak |

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

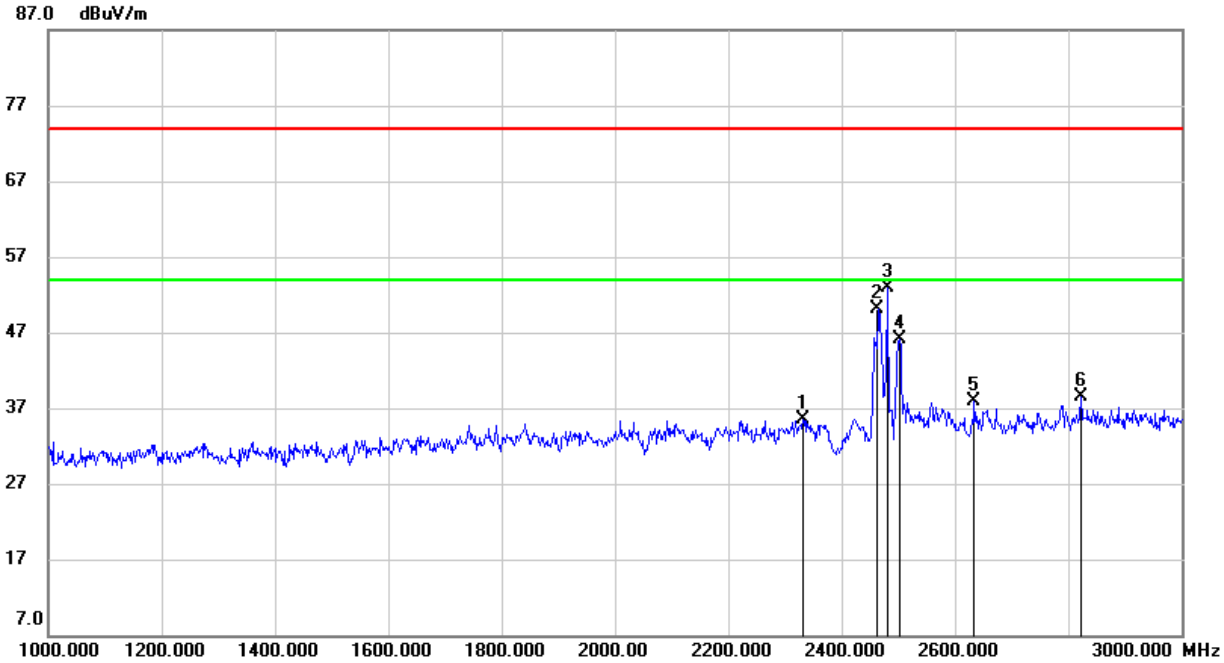
# 8.4. SPURIOUS EMISSIONS FOR SIMULTANEOUS TRANSMISSION

## 8.4.1. BT GFSK MODE AND 802.11b SISO MODE

**ANTENNA 2 TEST RESULTS (WORST CASE)**

**SPURIOUS EMISSIONS (BT GFSK HIGH CHANNEL, 802.11b 2.4G HIGH CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)**

**1-3GHz**

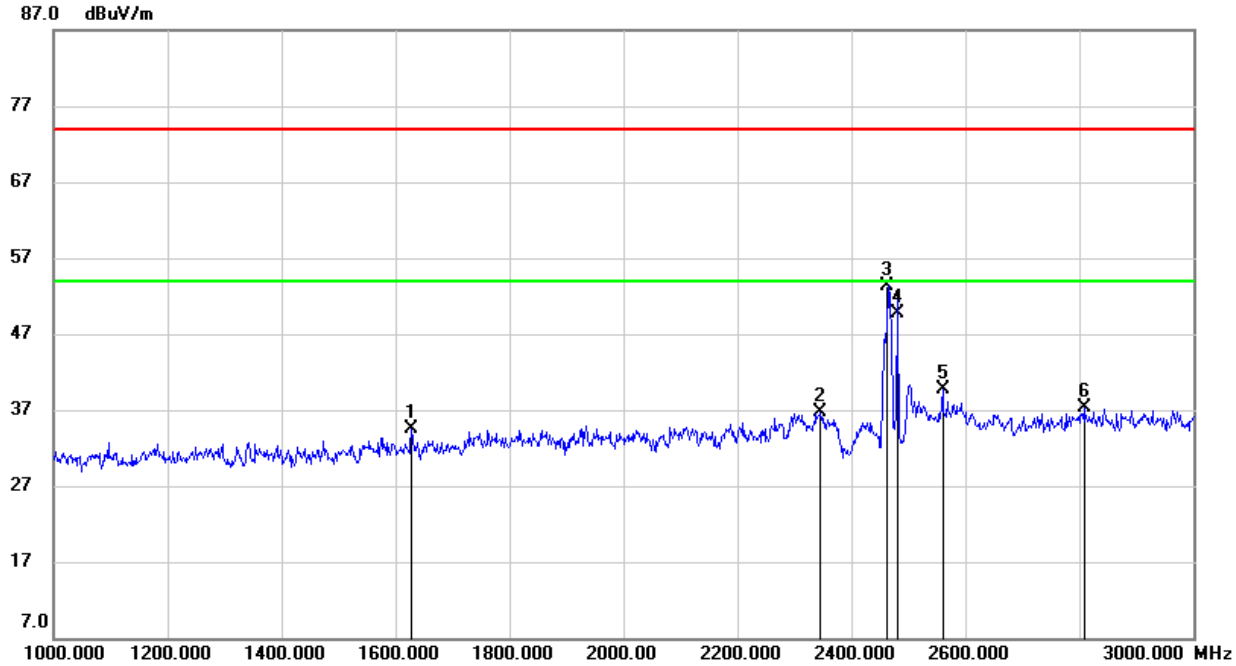



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 2332.000 | 43.55 | -8.08 | 35.47 | 74.00 | -38.53 | peak |
| 2 | 2462.000 | 57.54 | -7.43 | 50.11 | / | / | fundamental |
| 3 | 2480.000 | 60.18 | -7.31 | 52.87 | / | / | fundamental |
| 4 | 2502.000 | 53.32 | -7.17 | 46.15 | 74.00 | -27.85 | peak |
| 5 | 2634.000 | 45.47 | -7.51 | 37.96 | 74.00 | -36.04 | peak |
| 6 | 2822.000 | 44.34 | -5.93 | 38.41 | 74.00 | -35.59 | peak |

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band reject filter losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**SPURIOUS EMISSIONS (BT GFSK HIGH CHANNEL, 802.11b 2.4G HIGH CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)**

**1-3GHz**

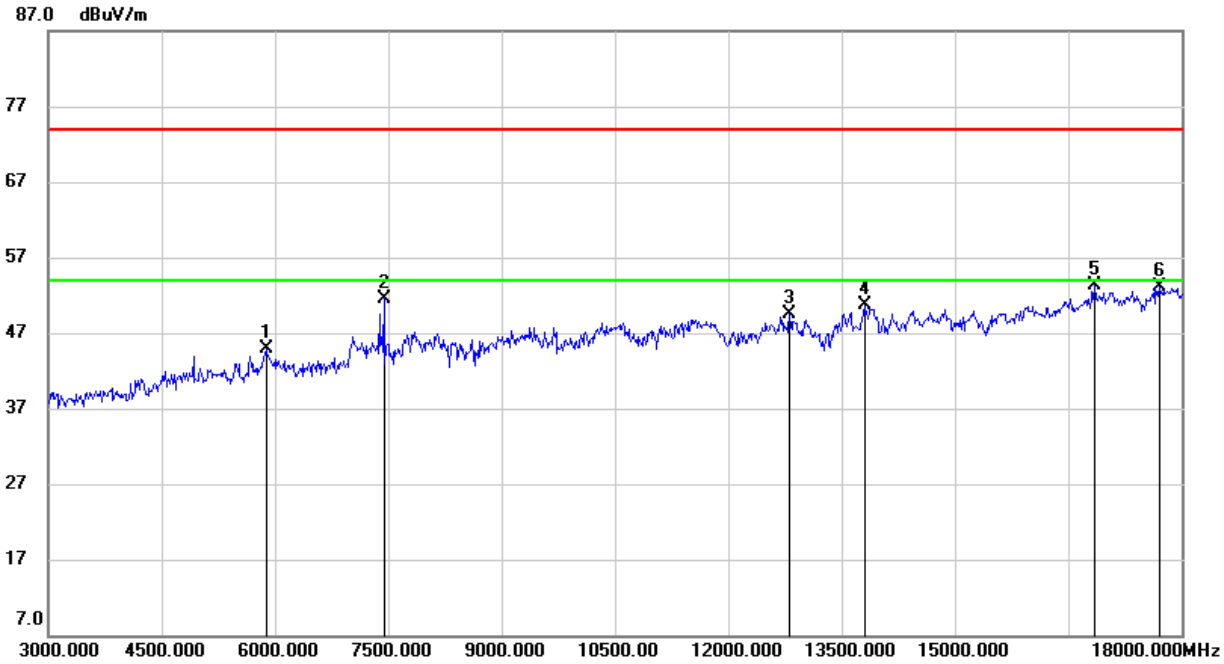



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 1628.000 | 45.80 | -11.25 | 34.55 | 74.00 | -39.45 | peak |
| 2 | 2346.000 | 44.65 | -8.04 | 36.61 | 74.00 | -37.39 | peak |
| 3 | 2462.000 | 60.75 | -7.43 | 53.32 | / | / | fundamental |
| 4 | 2480.000 | 57.00 | -7.31 | 49.69 | / | / | fundamental |
| 5 | 2560.000 | 47.11 | -7.48 | 39.63 | 74.00 | -34.37 | peak |
| 6 | 2808.000 | 43.39 | -6.01 | 37.38 | 74.00 | -36.62 | peak |

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
5. For the transmitting duration, please refer to clause 7.1.
6. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for High Pass Filter losses.
7. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**SPURIOUS EMISSIONS (BT GFSK HIGH CHANNEL, 802.11b HIGH CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)**

**3-18GHz**

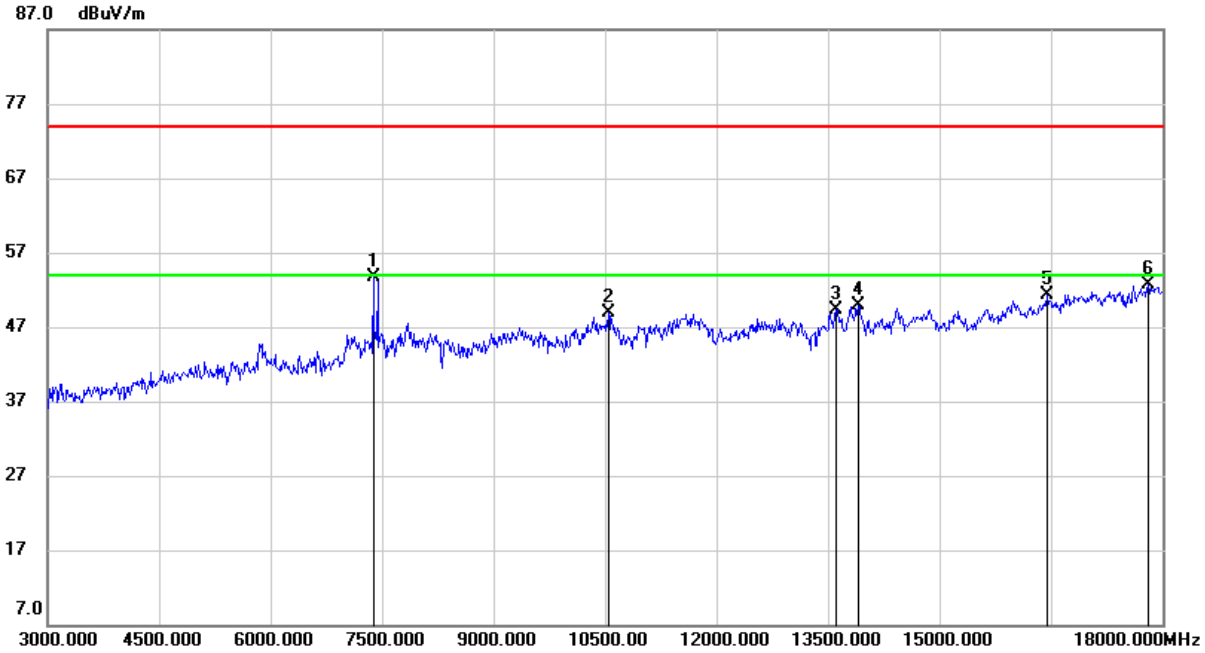



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 5880.000 | 40.37 | 4.59 | 44.96 | 74.00 | -29.04 | peak |
| 2 | 7440.000 | 45.28 | 6.32 | 51.60 | 74.00 | -22.40 | peak |
| 3 | 12810.000 | 33.98 | 15.59 | 49.57 | 74.00 | -24.43 | peak |
| 4 | 13800.000 | 33.70 | 17.10 | 50.80 | 74.00 | -23.20 | peak |
| 5 | 16845.000 | 33.28 | 19.96 | 53.24 | 74.00 | -20.76 | peak |
| 6 | 17700.000 | 30.60 | 22.43 | 53.03 | 74.00 | -20.97 | peak |

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**SPURIOUS EMISSIONS (BT GFSK HIGH CHANNEL, 802.11b HIGH CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)**

**3-18GHz**

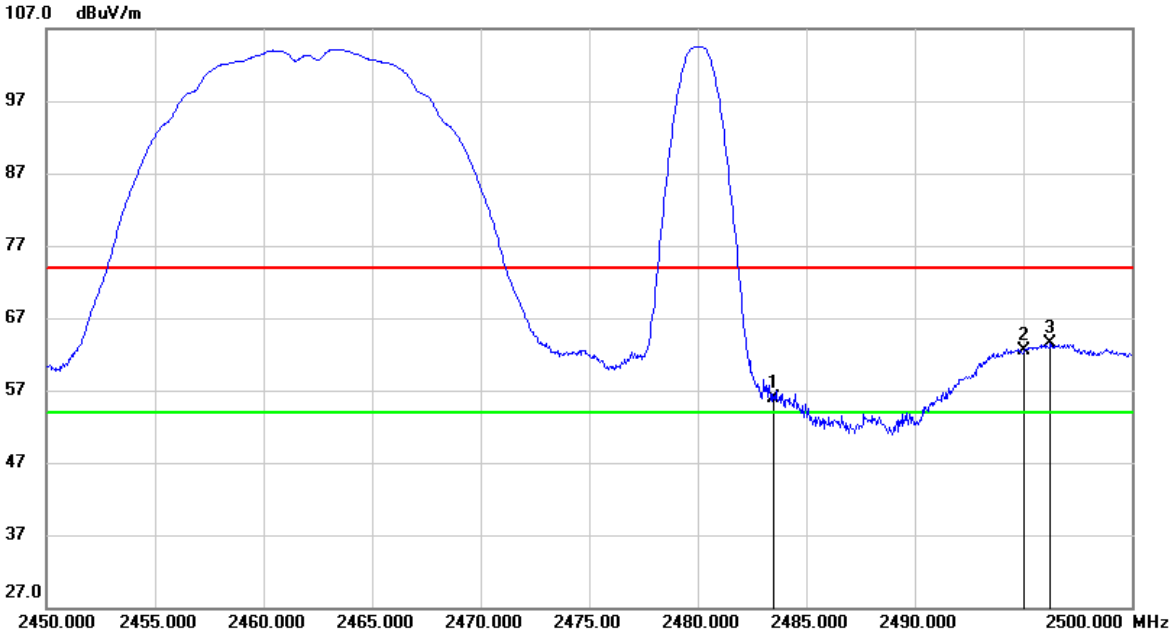



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 7380.000 | 47.32 | 6.41 | 53.73 | 74.00 | -20.27 | peak |
| 2 | 10545.000 | 37.17 | 11.64 | 48.81 | 74.00 | -25.19 | peak |
| 3 | 13605.000 | 33.33 | 16.02 | 49.35 | 74.00 | -24.65 | peak |
| 4 | 13905.000 | 33.65 | 16.20 | 49.85 | 74.00 | -24.15 | peak |
| 5 | 16440.000 | 32.33 | 18.94 | 51.27 | 74.00 | -22.73 | peak |
| 6 | 17805.000 | 29.38 | 23.31 | 52.69 | 74.00 | -21.31 | peak |

Note: 1. Peak Result = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.
5. Proper operation of the transmitter prior to adding the filter to the measurement chain.

**RESTRICTED BANDEDGE (BT GFSK HIGH CHANNEL, 802.11b 2.4G HIGH CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)**

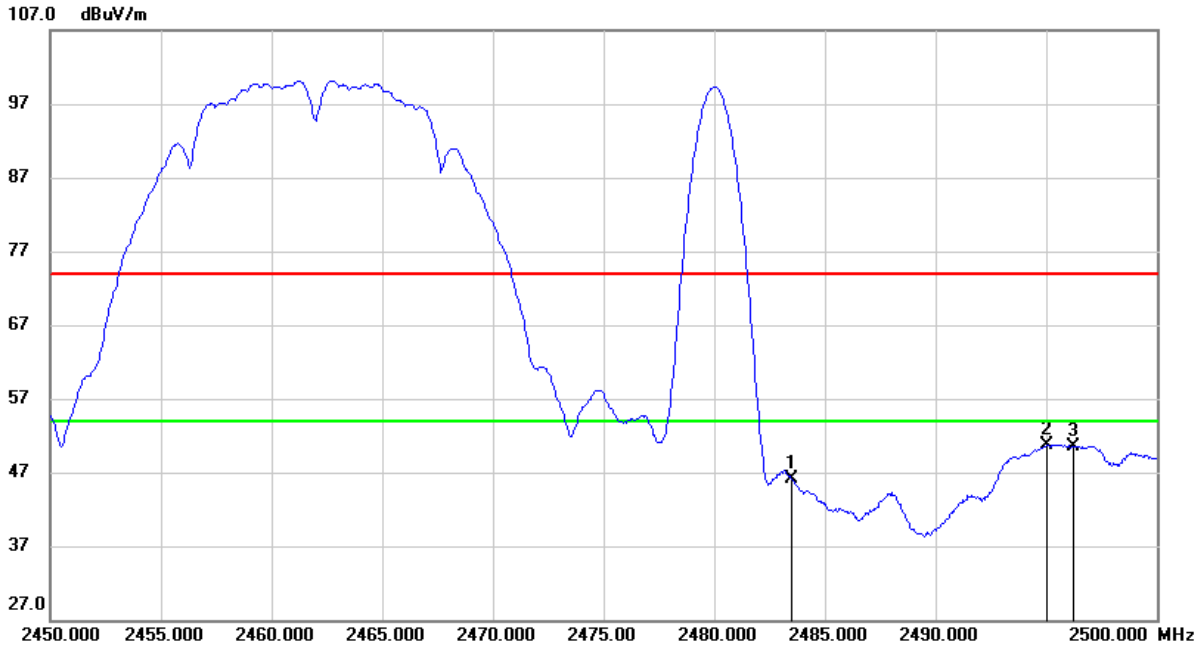
**PEAK**




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 2483.500 | 22.42 | 33.58 | 56.00 | 74.00 | -18.00 | peak |
| 2 | 2495.050 | 28.87 | 33.66 | 62.53 | 74.00 | -11.47 | peak |
| 3 | 2496.250 | 29.74 | 33.67 | 63.41 | 74.00 | -10.59 | peak |

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

**AVG**

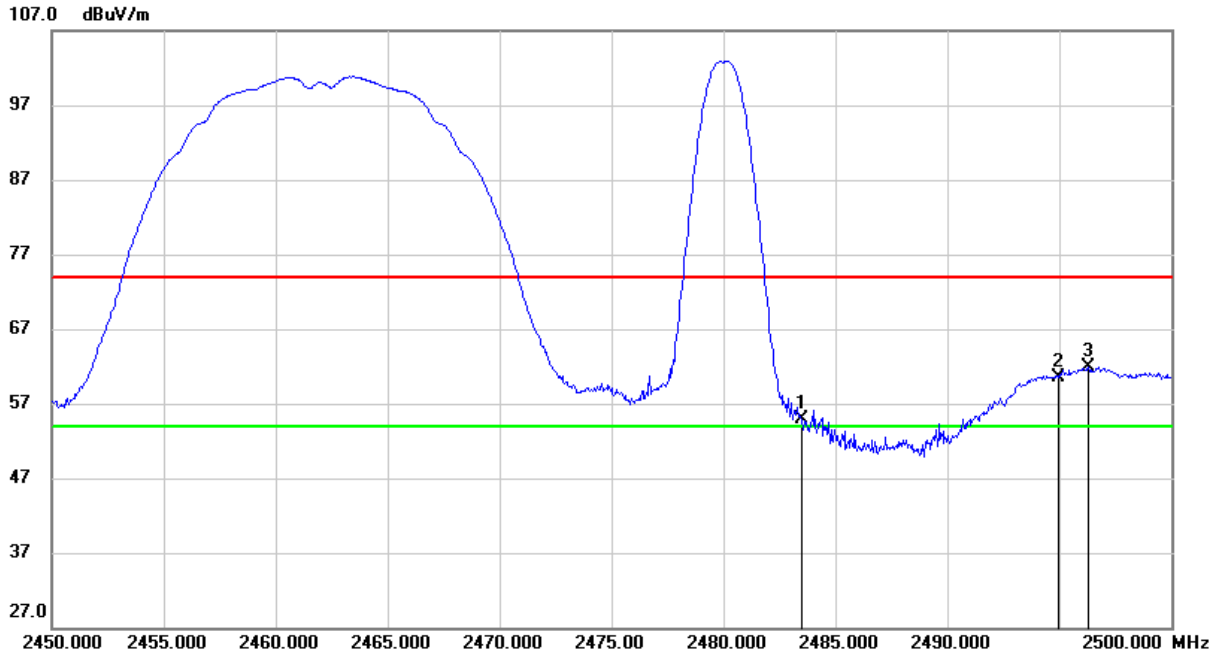



| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 2483.500 | 12.51 | 33.58 | 46.09 | 54.00 | -7.91 | AVG |
| 2 | 2495.050 | 17.03 | 33.66 | 50.69 | 54.00 | -3.31 | AVG |
| 3 | 2496.250 | 16.75 | 33.67 | 50.42 | 54.00 | -3.58 | AVG |

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
4. For the transmitting duration, please refer to clause 7.1.
5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

**RESTRICTED BANDEDGE (BT GFSK HIGH CHANNEL, 802.11b 2.4G HIGH CHANNEL, VERTICAL)**

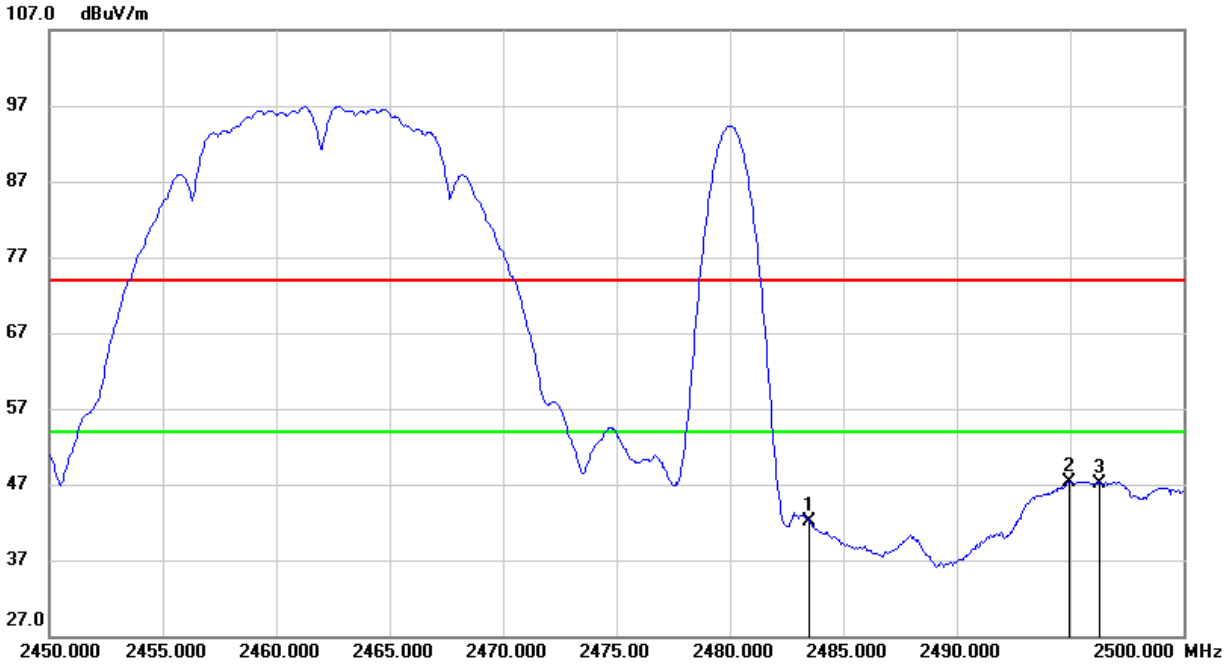
**PEAK**




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 2483.500 | 21.37 | 33.58 | 54.95 | 74.00 | -19.05 | peak |
| 2 | 2494.950 | 26.91 | 33.66 | 60.57 | 74.00 | -13.43 | peak |
| 3 | 2496.300 | 28.20 | 33.67 | 61.87 | 74.00 | -12.13 | peak |

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

**AVG**




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 2483.500 | 8.61 | 33.58 | 42.19 | 54.00 | -11.81 | AVG |
| 2 | 2494.950 | 13.70 | 33.66 | 47.36 | 54.00 | -6.64 | AVG |
| 3 | 2496.300 | 13.51 | 33.67 | 47.18 | 54.00 | -6.82 | AVG |

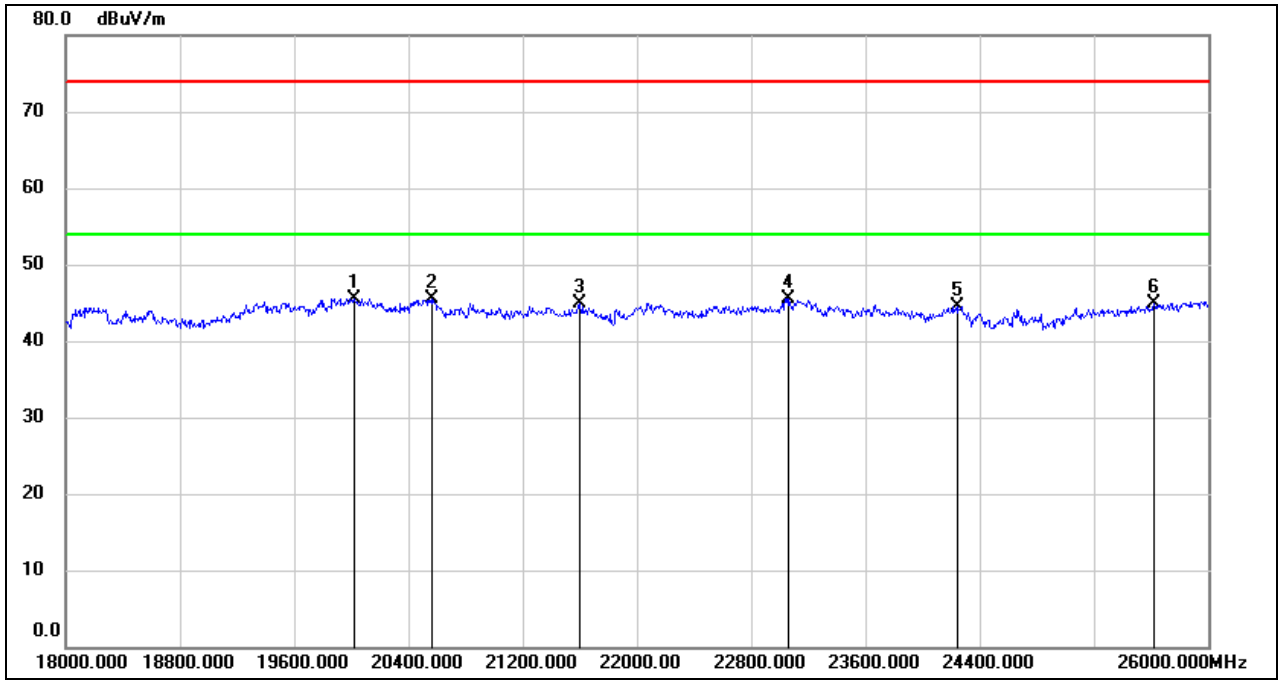
Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. AVG: VBW=1/Ton, where: Ton is the transmitting duration.
4. For the transmitting duration, please refer to clause 7.1.
5. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

Note: All the modes had been tested, but only the worst data was recorded in the report.

## 8.5. SPURIOUS EMISSIONS (18 GHz ~ 26 GHz)

### 8.5.1. 802.11n HT20 CDD MIMO MODE

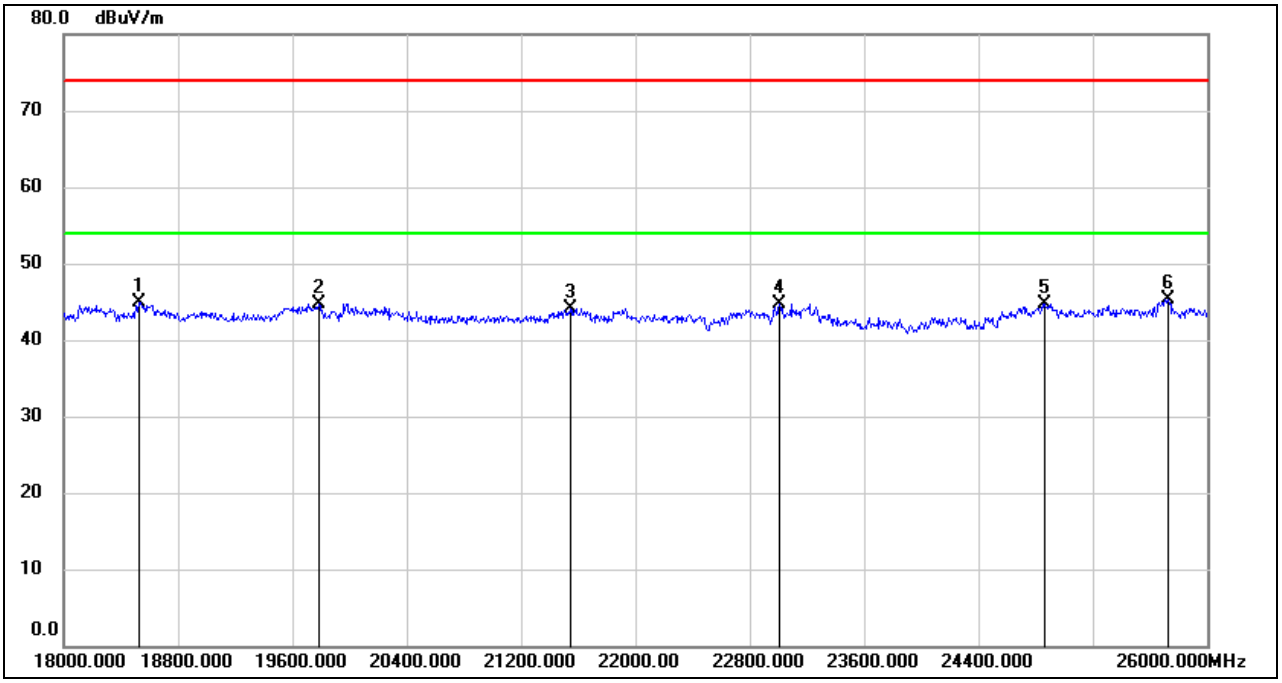
**SPURIOUS EMISSIONS (MID CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)**




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 20016.000 | 51.06 | -5.47 | 45.59 | 74.00 | -28.41 | peak |
| 2 | 20560.000 | 50.73 | -5.30 | 45.43 | 74.00 | -28.57 | peak |
| 3 | 21600.000 | 49.52 | -4.54 | 44.98 | 74.00 | -29.02 | peak |
| 4 | 23064.000 | 48.99 | -3.42 | 45.57 | 74.00 | -28.43 | peak |
| 5 | 24248.000 | 47.32 | -2.83 | 44.49 | 74.00 | -29.51 | peak |
| 6 | 25616.000 | 46.18 | -1.24 | 44.94 | 74.00 | -29.06 | peak |

Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The preamplifier only effect to the above 18GHz signal and no filter added to the measurement chain.

**SPURIOUS EMISSIONS (MID CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)**




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 18528.000 | 50.11 | -5.26 | 44.85 | 74.00 | -29.15 | peak |
| 2 | 19784.000 | 50.07 | -5.28 | 44.79 | 74.00 | -29.21 | peak |
| 3 | 21544.000 | 48.76 | -4.63 | 44.13 | 74.00 | -29.87 | peak |
| 4 | 23008.000 | 48.10 | -3.44 | 44.66 | 74.00 | -29.34 | peak |
| 5 | 24864.000 | 47.03 | -2.23 | 44.80 | 74.00 | -29.20 | peak |
| 6 | 25728.000 | 46.11 | -0.72 | 45.39 | 74.00 | -28.61 | peak |

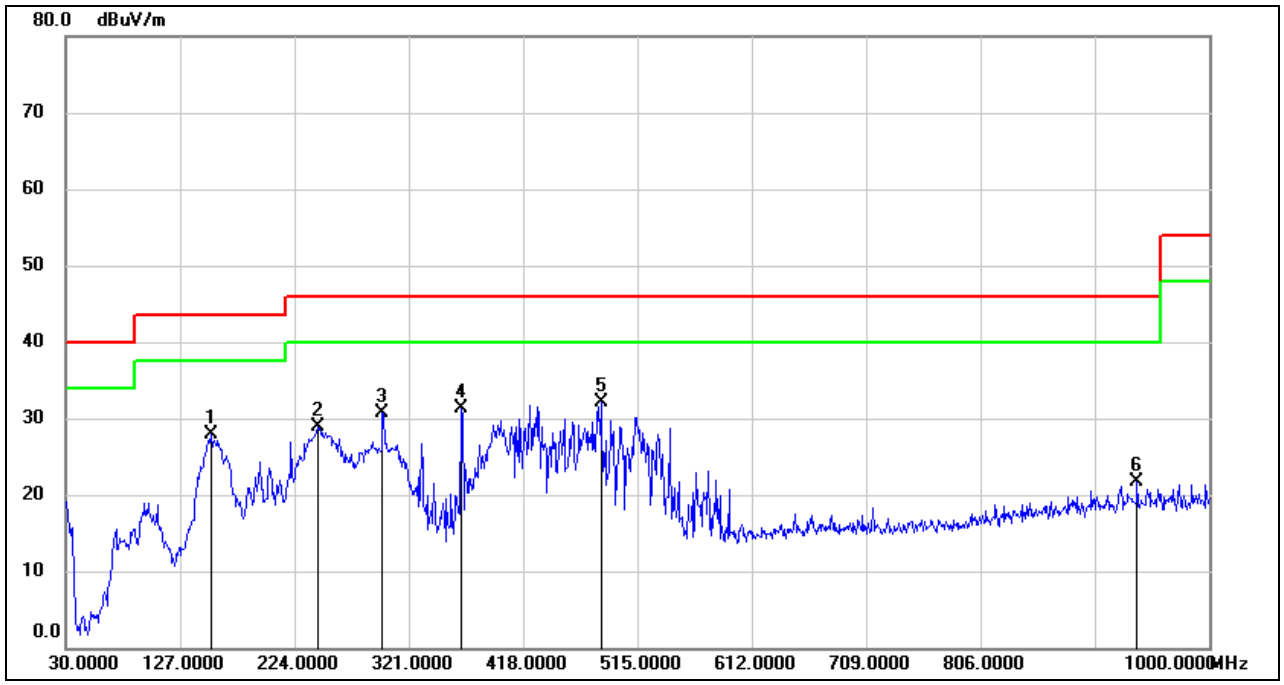
Note: 1. Measurement = Reading Level + Correct Factor.
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. The preamplifier only effect to the above 18GHz signal and no filter added to the measurement chain.

Note: All the modes had been tested, but only the worst data was recorded in the report.

## 8.6. SPURIOUS EMISSIONS (30 MHz ~ 1 GHz)

### 8.6.1. 802.11n HT20 CDD MIMO MODE

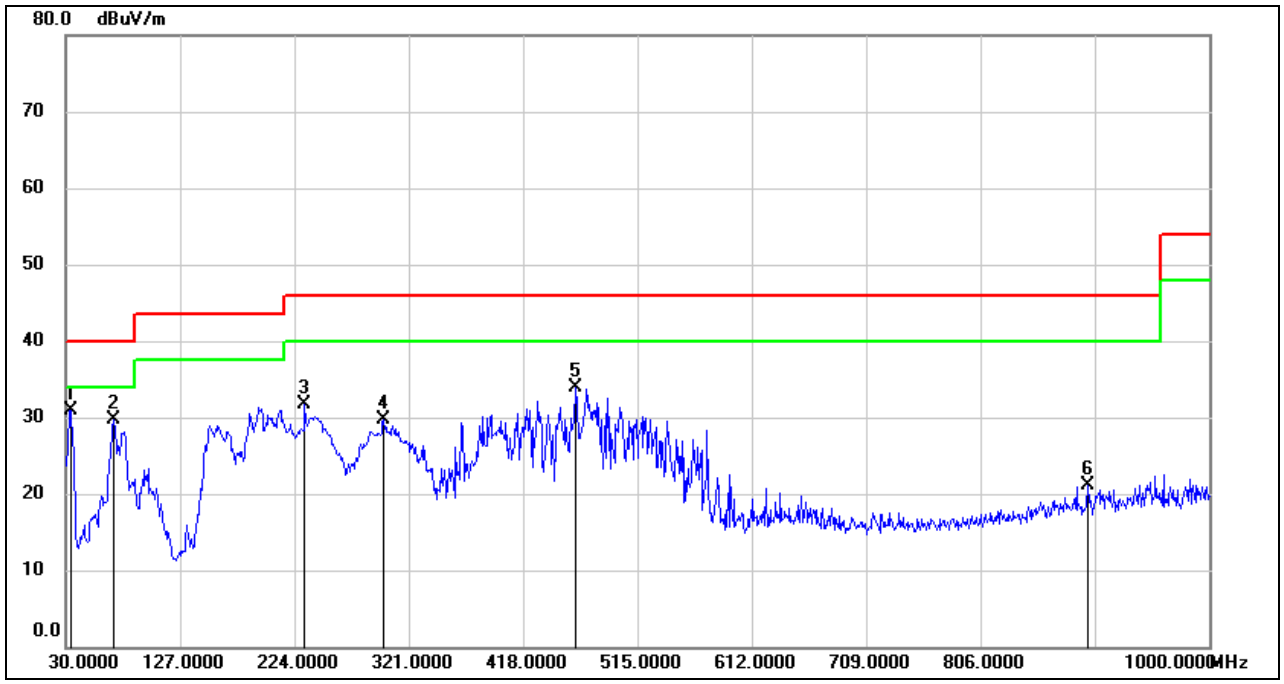
**SPURIOUS EMISSIONS (MID CHANNEL, WORST-CASE CONFIGURATION, HORIZONTAL)**




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 153.1900 | 46.15 | -18.32 | 27.83 | 43.50 | -15.67 | QP |
| 2 | 244.3700 | 48.27 | -19.39 | 28.88 | 46.00 | -17.12 | QP |
| 3 | 298.6900 | 46.44 | -15.67 | 30.77 | 46.00 | -15.23 | QP |
| 4 | 365.6200 | 45.39 | -14.17 | 31.22 | 46.00 | -14.78 | QP |
| 5 | 483.9600 | 43.95 | -11.86 | 32.09 | 46.00 | -13.91 | QP |
| 6 | 938.8900 | 27.02 | -5.33 | 21.69 | 46.00 | -24.31 | QP |

Note: 1. Result Level = Read Level + Correct Factor.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

**SPURIOUS EMISSIONS (MID CHANNEL, WORST-CASE CONFIGURATION, VERTICAL)**




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB/m) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 33.8800 | 50.29 | -19.38 | 30.91 | 40.00 | -9.09 | QP |
| 2 | 70.7400 | 50.44 | -20.69 | 29.75 | 40.00 | -10.25 | QP |
| 3 | 232.7300 | 50.75 | -19.06 | 31.69 | 46.00 | -14.31 | QP |
| 4 | 299.6600 | 45.31 | -15.60 | 29.71 | 46.00 | -16.29 | QP |
| 5 | 462.6200 | 46.13 | -12.30 | 33.83 | 46.00 | -12.17 | QP |
| 6 | 897.1800 | 26.83 | -5.73 | 21.10 | 46.00 | -24.90 | QP |

Note: 1. Result Level = Read Level + Correct Factor.
2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto

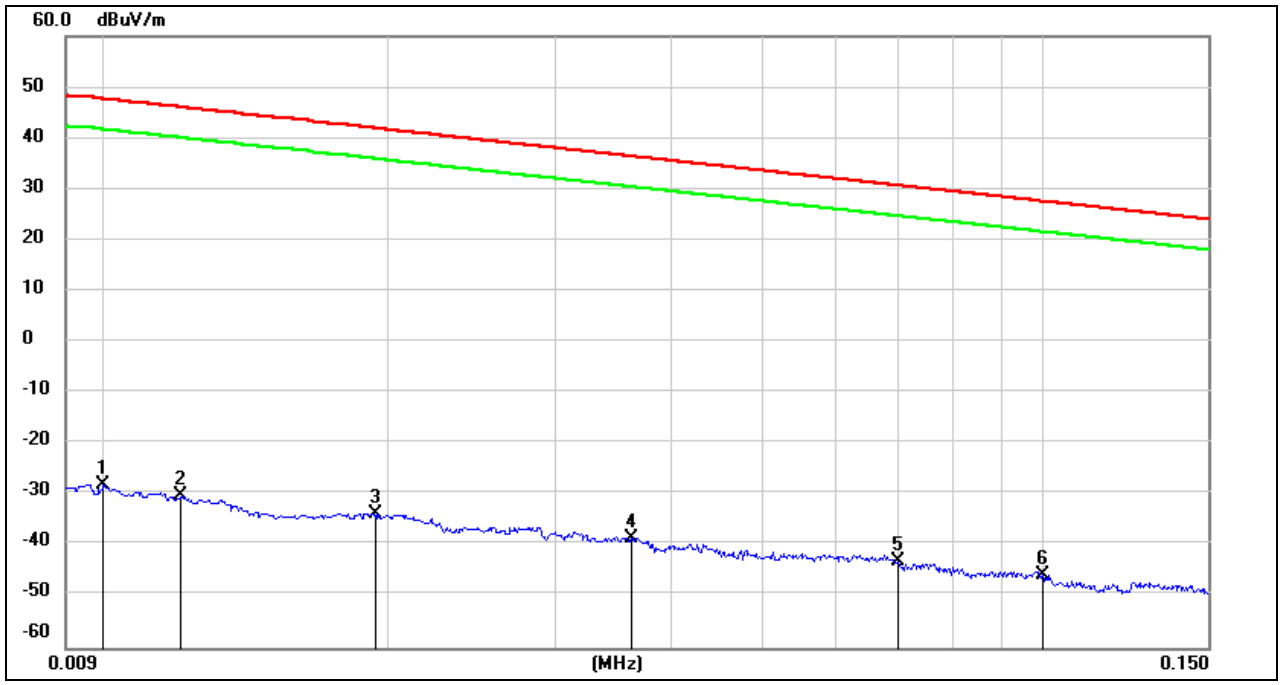
Note: All the modes had been tested, but only the worst data was recorded in the report.

## 8.7. SPURIOUS EMISSIONS BELOW 30 MHz

### 8.7.1. 802.11n HT20 CDD MIMO MODE

**SPURIOUS EMISSIONS (MID CHANNEL, LOOP ANTENNA FACE ON TO THE EUT, WORST-CASE CONFIGURATION)**

**9kHz~ 150kHz**



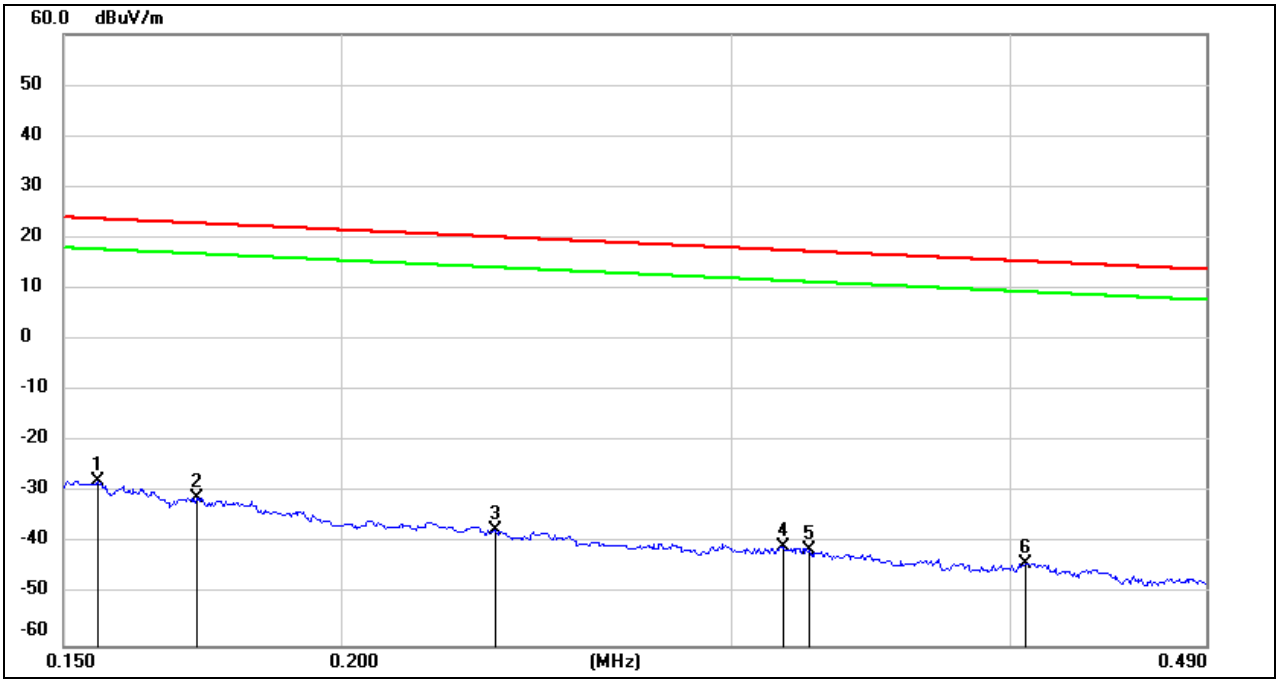

| No. | Frequency | Reading | Correct | FCC Result | FCC Limit | ISED Result | ISED Limit | Margin | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | (MHz) | (dBuV) | (dB/m) | (dBuV/m) | (dBuV/m) | (dBuA/m) | (dBuA/m) | (dB) | |
| 1 | 0.0100 | 73.22 | -101.40 | -28.18 | 47.60 | -79.68 | -3.90 | -75.78 | peak |
| 2 | 0.0120 | 71.16 | -101.39 | -30.23 | 46.02 | -81.73 | -5.48 | -76.25 | peak |
| 3 | 0.0193 | 67.65 | -101.35 | -33.70 | 41.89 | -85.20 | -9.61 | -75.59 | peak |
| 4 | 0.0362 | 63.01 | -101.42 | -38.41 | 36.43 | -89.91 | -15.07 | -74.84 | peak |
| 5 | 0.0700 | 58.41 | -101.57 | -43.16 | 30.70 | -94.66 | -20.80 | -73.86 | peak |
| 6 | 0.1000 | 56.17 | -101.80 | -45.63 | 27.60 | -97.13 | -23.90 | -73.23 | peak |

Note: 1. Measurement = Reading Level + Correct Factor (dBuA/m= dBuV/m- 20Log10[120π] = dBuV/m- 51.5).

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

**150kHz ~ 490kHz**



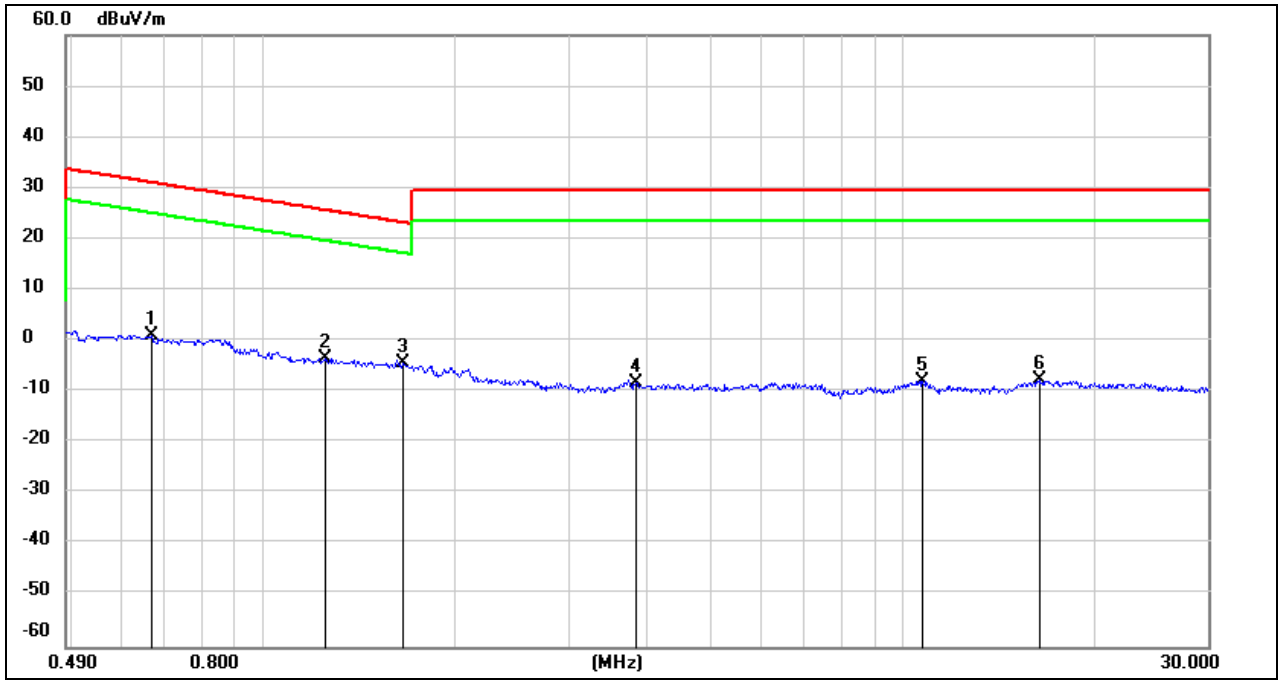

| No. | Frequency | Reading | Correct | FCC Result | FCC Limit | ISED Result | ISED Limit | Margin | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | (MHz) | (dBuV) | (dB/m) | (dBuV/m) | (dBuV/m) | (dBuA/m) | (dBuA/m) | (dB) | |
| 1 | 0.1554 | 73.77 | -101.65 | -27.88 | 23.77 | -79.38 | -27.73 | -51.65 | peak |
| 2 | 0.1720 | 70.69 | -101.67 | -30.98 | 22.90 | -82.48 | -28.60 | -53.88 | peak |
| 3 | 0.2346 | 64.35 | -101.77 | -37.42 | 20.19 | -88.92 | -31.31 | -57.61 | peak |
| 4 | 0.3163 | 61.20 | -101.87 | -40.67 | 17.60 | -92.17 | -33.90 | -58.27 | peak |
| 5 | 0.3251 | 60.71 | -101.88 | -41.17 | 17.36 | -92.67 | -34.14 | -58.53 | peak |
| 6 | 0.4062 | 58.14 | -101.96 | -43.82 | 15.43 | -95.32 | -36.07 | -59.25 | peak |

Note: 1. Measurement = Reading Level + Correct Factor (dBuA/m= dBuV/m- 20Log10[120π] = dBuV/m- 51.5).

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

**490kHz ~ 30MHz**




| No. | Frequency | Reading | Correct | FCC Result | FCC Limit | ISED Result | ISED Limit | Margin | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | (MHz) | (dBuV) | (dB/m) | (dBuV/m) | (dBuV/m) | (dBuA/m) | (dBuA/m) | (dB) | |
| 1 | 0.6671 | 63.25 | -62.10 | 1.15 | 31.12 | -50.35 | -20.38 | -29.97 | peak |
| 2 | 1.2460 | 58.75 | -62.16 | -3.41 | 25.70 | -54.91 | -25.80 | -29.11 | peak |
| 3 | 1.6491 | 57.55 | -61.98 | -4.43 | 23.26 | -55.93 | -28.24 | -27.69 | peak |
| 4 | 3.8246 | 53.20 | -61.38 | -8.18 | 29.54 | -59.68 | -21.96 | -37.72 | peak |
| 5 | 10.7299 | 52.98 | -60.83 | -7.85 | 29.54 | -59.35 | -21.96 | -37.39 | peak |
| 6 | 16.3959 | 53.17 | -60.96 | -7.79 | 29.54 | -59.29 | -21.96 | -37.33 | peak |

Note: 1. Measurement = Reading Level + Correct Factor (dBuA/m= dBuV/m- 20Log10[120π] = dBuV/m- 51.5).

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations (Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.

Note: All the modes had been tested, but only the worst data was recorded in the report.

# 9. AC POWER LINE CONDUCTED EMISSIONS

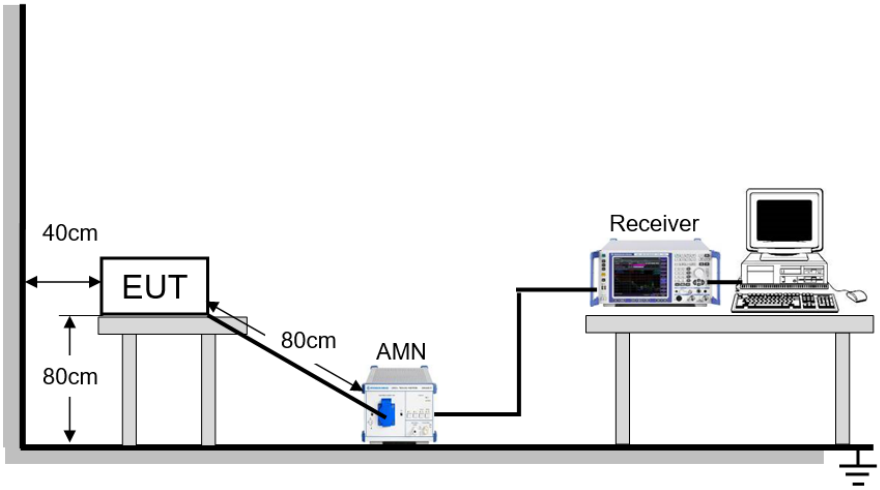
**LIMITS**

Please refer to CFR 47 FCC §15.207 (a) and ISED RSS-Gen Clause 8.8

| FREQUENCY (MHz) | Quasi-peak | Average |
|---|---|---|
| 0.15 -0.5 | 66 - 56 * | 56 - 46 * |
| 0.50 -5.0 | 56.00 | 46.00 |
| 5.0 -30.0 | 60.00 | 50.00 |

**TEST SETUP AND PROCEDURE**

Refer to ANSI C63.10-2013 clause 6.2.




The EUT is put on a table of non-conducting material that is 80cm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

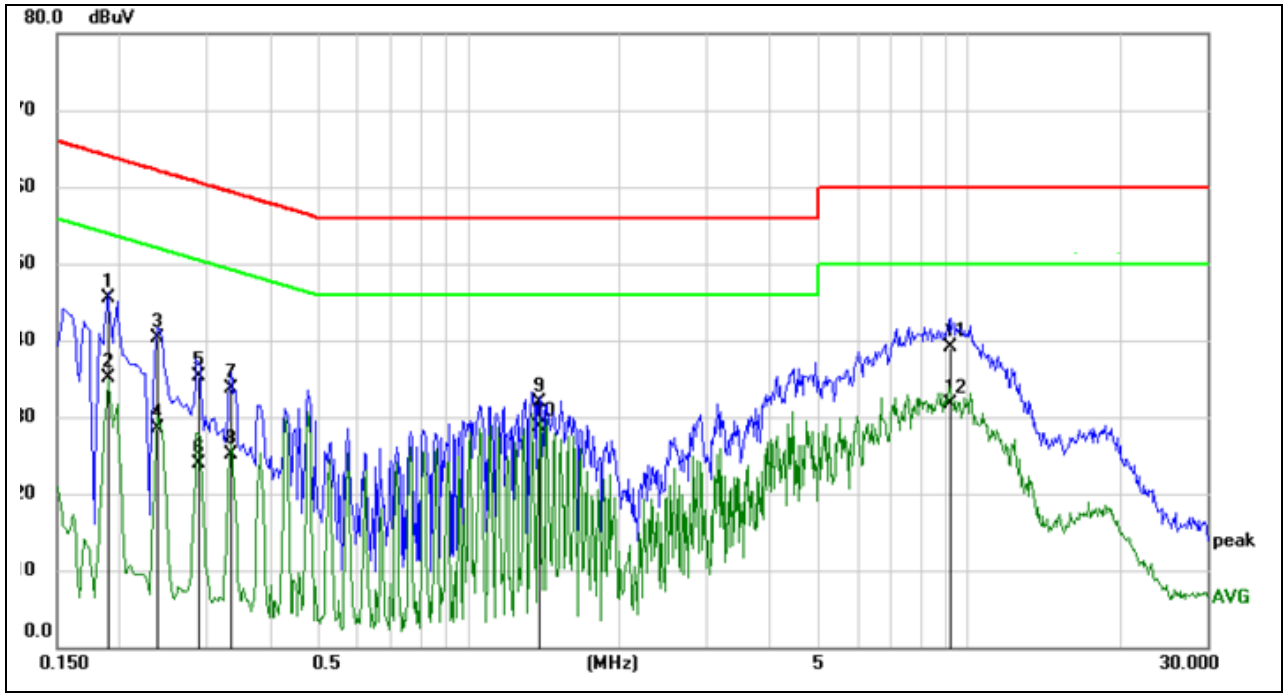
**TEST ENVIRONMENT**

| | | | |
|---|---|---|---|
| Temperature | 25 °C | Relative Humidity | 72.1 % |
| Atmosphere Pressure | 101 kPa | Test Voltage | DC 11.55 V |

**RESULTS**

## 9.1. 802.11n HT20 CDD MIMO MODE

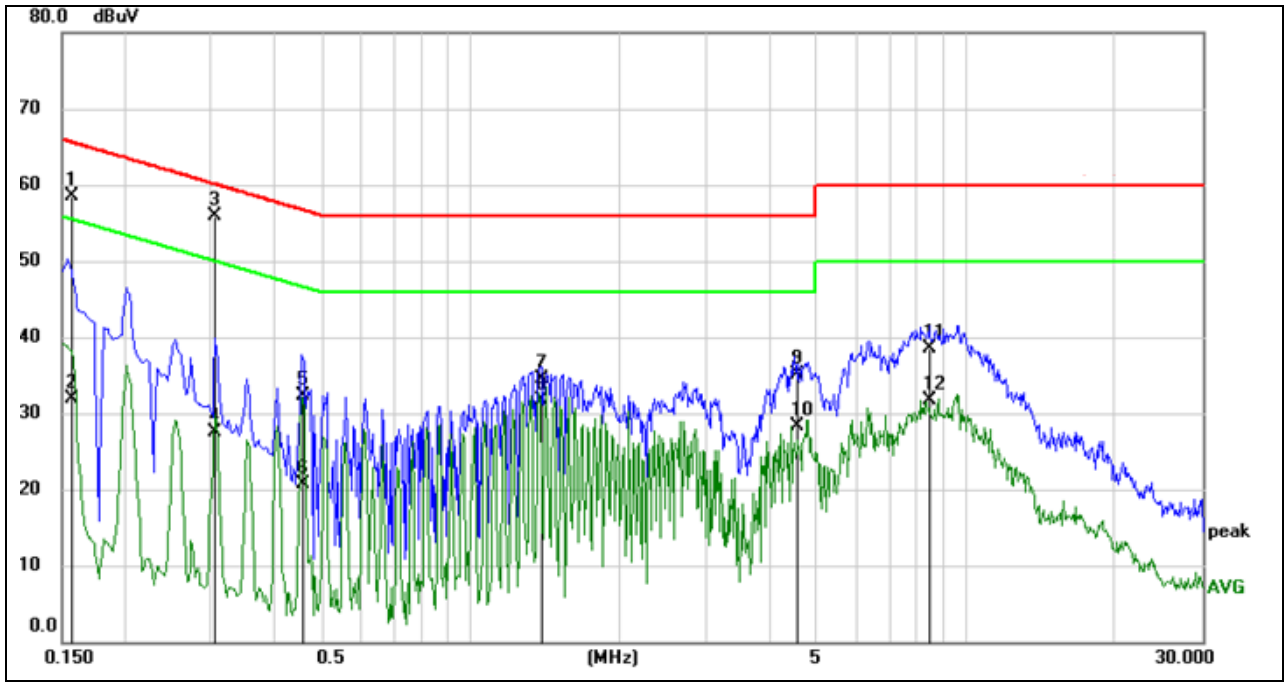
**LINE N RESULTS (MID CHANNEL, WORST-CASE CONFIGURATION)**




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB) | Result (dBuV) | Limit (dBuV) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 0.1911 | 35.85 | 9.60 | 45.45 | 63.99 | -18.54 | QP |
| 2 | 0.1911 | 25.51 | 9.60 | 35.11 | 53.99 | -18.88 | AVG |
| 3 | 0.2385 | 30.77 | 9.60 | 40.37 | 62.15 | -21.78 | QP |
| 4 | 0.2385 | 18.86 | 9.60 | 28.46 | 52.15 | -23.69 | AVG |
| 5 | 0.2893 | 25.79 | 9.60 | 35.39 | 60.54 | -25.15 | QP |
| 6 | 0.2893 | 14.21 | 9.60 | 23.81 | 50.54 | -26.73 | AVG |
| 7 | 0.3349 | 24.18 | 9.60 | 33.78 | 59.33 | -25.55 | QP |
| 8 | 0.3349 | 15.44 | 9.60 | 25.04 | 49.33 | -24.29 | AVG |
| 9 | 1.3783 | 22.37 | 9.61 | 31.98 | 56.00 | -24.02 | QP |
| 10 | 1.3783 | 19.15 | 9.61 | 28.76 | 46.00 | -17.24 | AVG |
| 11 | 9.2061 | 29.26 | 9.75 | 39.01 | 60.00 | -20.99 | QP |
| 12 | 9.2061 | 22.01 | 9.75 | 31.76 | 50.00 | -18.24 | AVG |

Note: 1. Result = Reading +Correct Factor.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009 MHz-0.15 MHz), 4 kHz (0.15 MHz-30 MHz), Scan time: auto.

## LINE L RESULTS (MID CHANNEL, WORST-CASE CONFIGURATION)




| No. | Frequency (MHz) | Reading (dBuV) | Correct (dB) | Result (dBuV) | Limit (dBuV) | Margin (dB) | Remark |
|---|---|---|---|---|---|---|---|
| 1 | 0.1581 | 48.96 | 9.61 | 58.57 | 65.56 | -6.99 | QP |
| 2 | 0.1581 | 22.38 | 9.61 | 31.99 | 55.56 | -23.57 | AVG |
| 3 | 0.3042 | 46.27 | 9.60 | 55.87 | 60.13 | -4.26 | QP |
| 4 | 0.3042 | 17.95 | 9.60 | 27.55 | 50.13 | -22.58 | AVG |
| 5 | 0.4592 | 22.65 | 9.60 | 32.25 | 56.71 | -24.46 | QP |
| 6 | 0.4592 | 11.19 | 9.60 | 20.79 | 46.71 | -25.92 | AVG |
| 7 | 1.4081 | 24.99 | 9.61 | 34.60 | 56.00 | -21.40 | QP |
| 8 | 1.4081 | 22.07 | 9.61 | 31.68 | 46.00 | -14.32 | AVG |
| 9 | 4.5731 | 25.45 | 9.67 | 35.12 | 56.00 | -20.88 | QP |
| 10 | 4.5731 | 18.60 | 9.67 | 28.27 | 46.00 | -17.73 | AVG |
| 11 | 8.3880 | 28.69 | 9.72 | 38.41 | 60.00 | -21.59 | QP |
| 12 | 8.3880 | 21.91 | 9.72 | 31.63 | 50.00 | -18.37 | AVG |

Note: 1. Result = Reading +Correct Factor.
2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
4. Step size: 80Hz (0.009 MHz-0.15 MHz), 4 kHz (0.15 MHz-30 MHz), Scan time: auto.

Note: All the modes had been tested, but only the worst data was recorded in the report.

# 10. ANTENNA REQUIREMENTS

**APPLICABLE REQUIREMENTS**

Please refer to FCC §15.203
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Please refer to FCC §15.247(b)(4)
The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

**RESULTS**

Complies

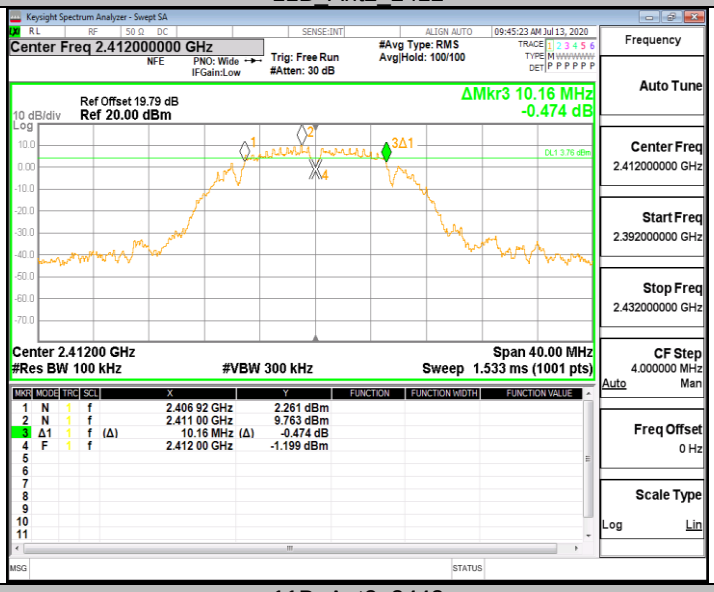
# Appendix A: 6dB DTS Bandwidth

## Test Result

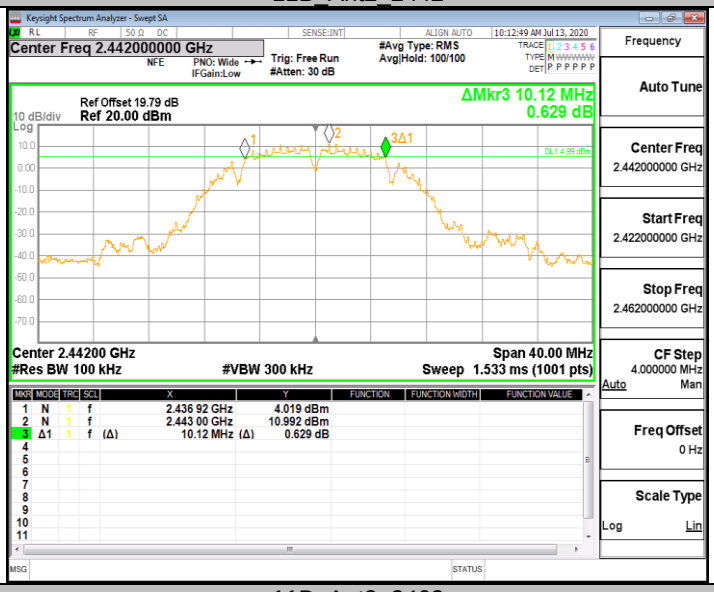
| Test Mode | Antenna | Channel | DTS BW [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|---|---|---|---|---|---|---|---|
| 11B | Ant2 | 2412 | 10.160 | 2406.920 | 2417.080 | 0.5 | PASS |
| | | 2442 | 10.120 | 2436.920 | 2447.040 | 0.5 | PASS |
| | | 2462 | 10.160 | 2456.920 | 2467.080 | 0.5 | PASS |
| | | 2467 | 10.160 | 2461.920 | 2472.080 | 0.5 | PASS |
| | | 2472 | 10.160 | 2466.920 | 2477.080 | 0.5 | PASS |
| 11G | Ant2 | 2412 | 16.400 | 2403.800 | 2420.200 | 0.5 | PASS |
| | | 2442 | 16.400 | 2433.800 | 2450.200 | 0.5 | PASS |
| | | 2462 | 16.440 | 2453.760 | 2470.200 | 0.5 | PASS |
| | | 2467 | 16.400 | 2458.800 | 2475.200 | 0.5 | PASS |
| | | 2472 | 16.440 | 2463.760 | 2480.200 | 0.5 | PASS |
| 11N20MIMO | Ant1 | 2412 | 17.640 | 2403.200 | 2420.840 | 0.5 | PASS |
| | Ant2 | 2412 | 17.640 | 2403.200 | 2420.840 | 0.5 | PASS |
| | Ant1 | 2442 | 17.680 | 2433.160 | 2450.840 | 0.5 | PASS |
| | Ant2 | 2442 | 17.600 | 2433.200 | 2450.800 | 0.5 | PASS |
| | Ant1 | 2462 | 17.640 | 2453.200 | 2470.840 | 0.5 | PASS |
| | Ant2 | 2462 | 17.640 | 2453.200 | 2470.840 | 0.5 | PASS |
| | Ant1 | 2467 | 17.640 | 2458.200 | 2475.840 | 0.5 | PASS |
| | Ant2 | 2467 | 17.640 | 2458.200 | 2475.840 | 0.5 | PASS |
| | Ant1 | 2472 | 17.640 | 2463.200 | 2480.840 | 0.5 | PASS |
| | Ant2 | 2472 | 17.640 | 2463.200 | 2480.840 | 0.5 | PASS |
| 11N40MIMO | Ant1 | 2422 | 36.480 | 2403.760 | 2440.240 | 0.5 | PASS |
| | Ant2 | 2422 | 36.400 | 2403.840 | 2440.240 | 0.5 | PASS |
| | Ant1 | 2442 | 36.480 | 2423.760 | 2460.240 | 0.5 | PASS |
| | Ant2 | 2442 | 36.240 | 2424.000 | 2460.240 | 0.5 | PASS |
| | Ant1 | 2452 | 36.400 | 2433.840 | 2470.240 | 0.5 | PASS |
| | Ant2 | 2452 | 36.160 | 2434.080 | 2470.240 | 0.5 | PASS |
| | Ant1 | 2457 | 36.480 | 2438.760 | 2475.240 | 0.5 | PASS |
| | Ant2 | 2457 | 36.480 | 2438.760 | 2475.240 | 0.5 | PASS |
| | Ant1 | 2462 | 36.480 | 2443.760 | 2480.240 | 0.5 | PASS |
| | Ant2 | 2462 | 36.080 | 2444.160 | 2480.240 | 0.5 | PASS |

## Test Graphs

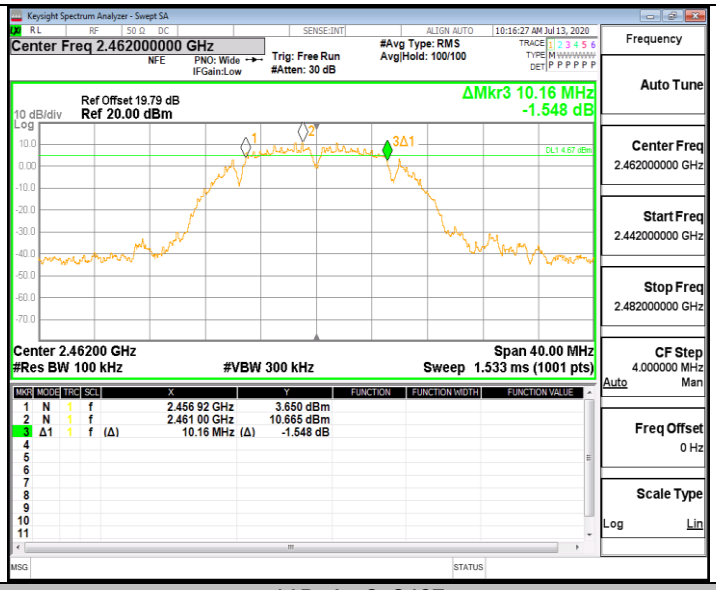
11B_Ant2_2412



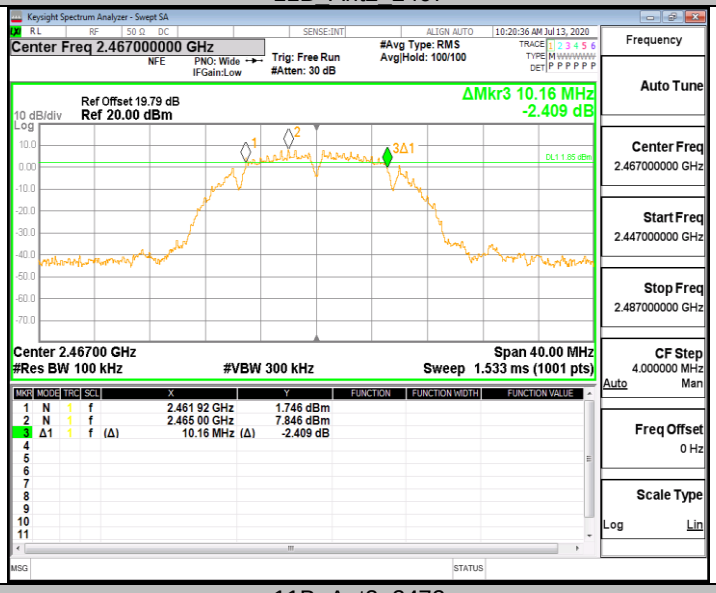

11B_Ant2_2442



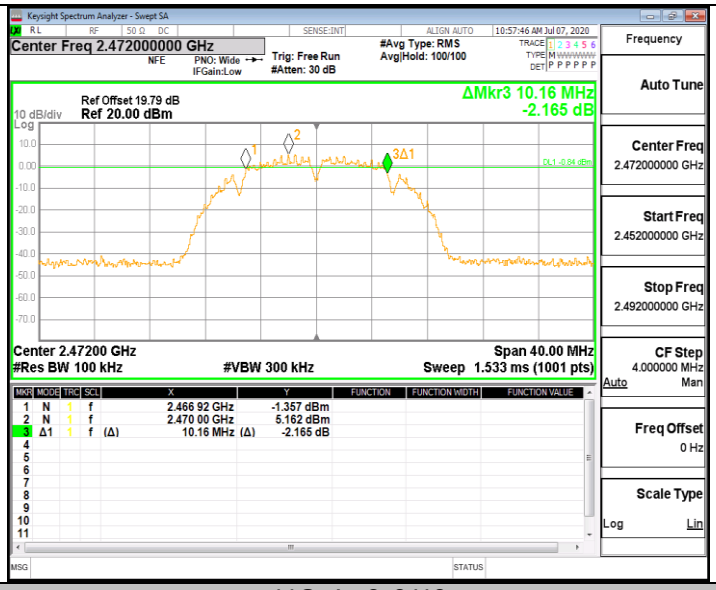

11B_Ant2_2462



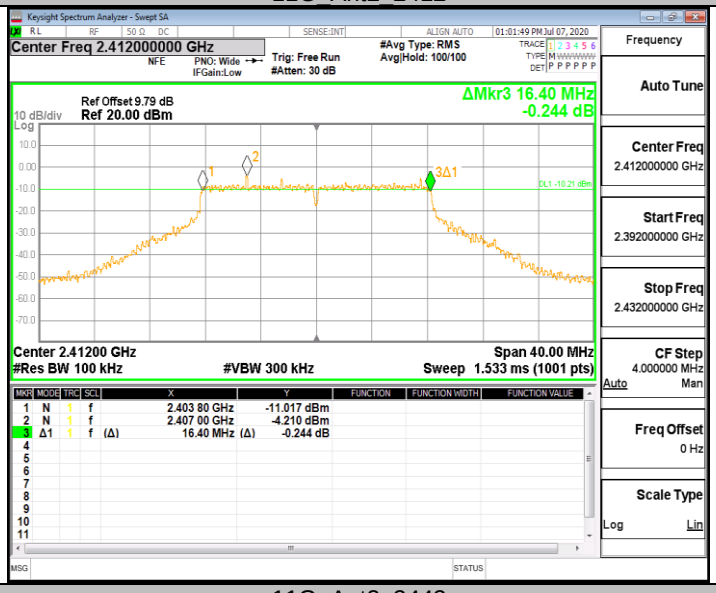

11B_Ant2_2467



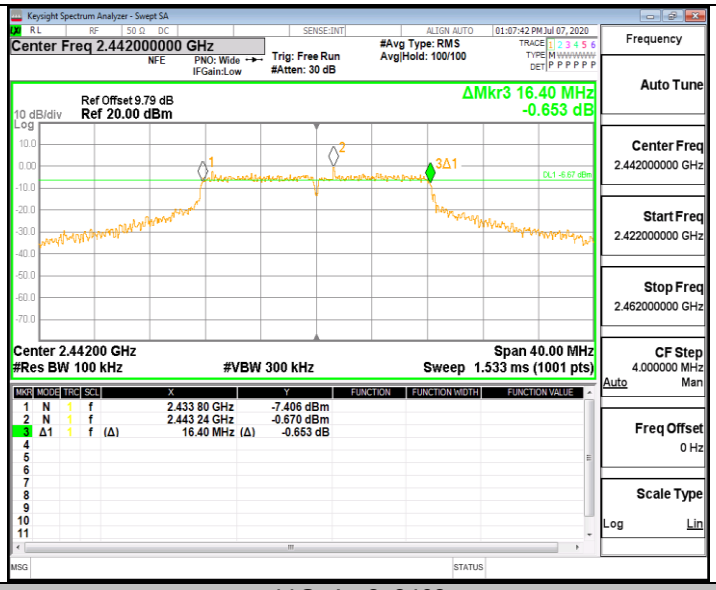

11B_Ant2_2472



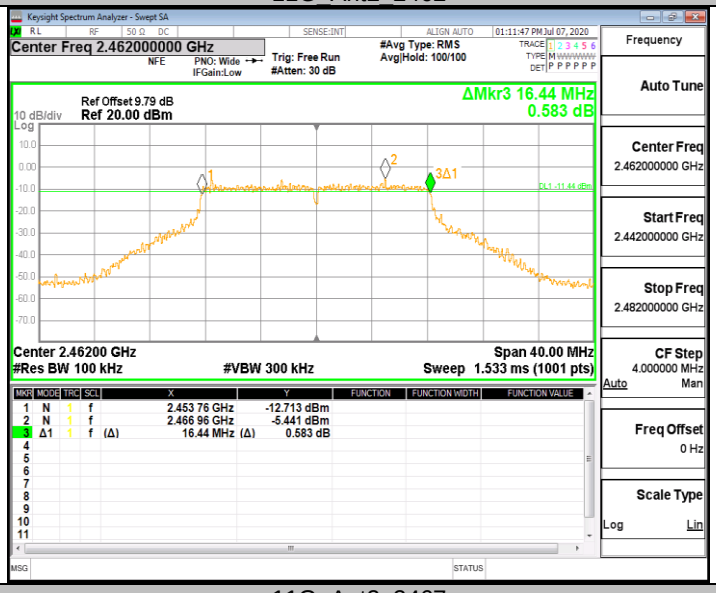

11G_Ant2_2412




11G_Ant2_2442

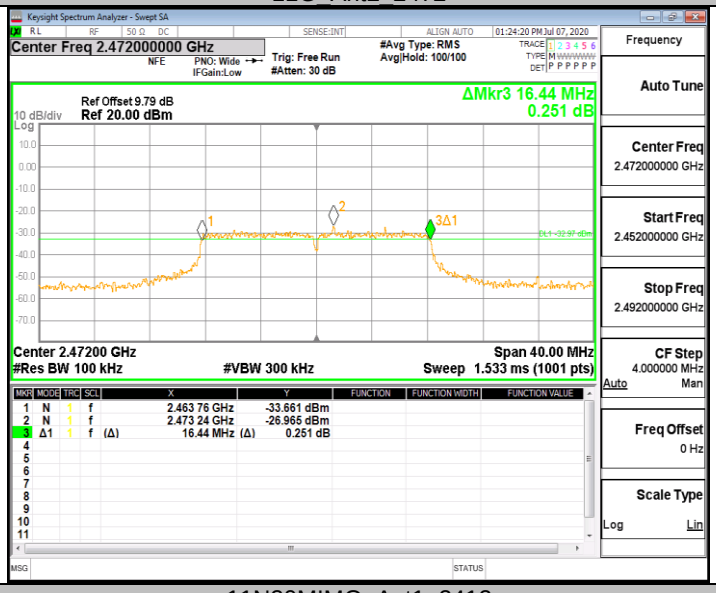



11G_Ant2_2462

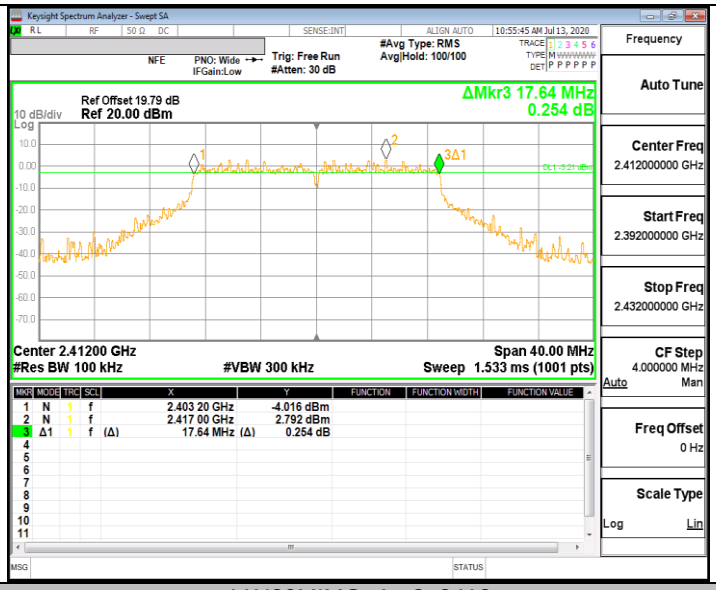



11G_Ant2_2467

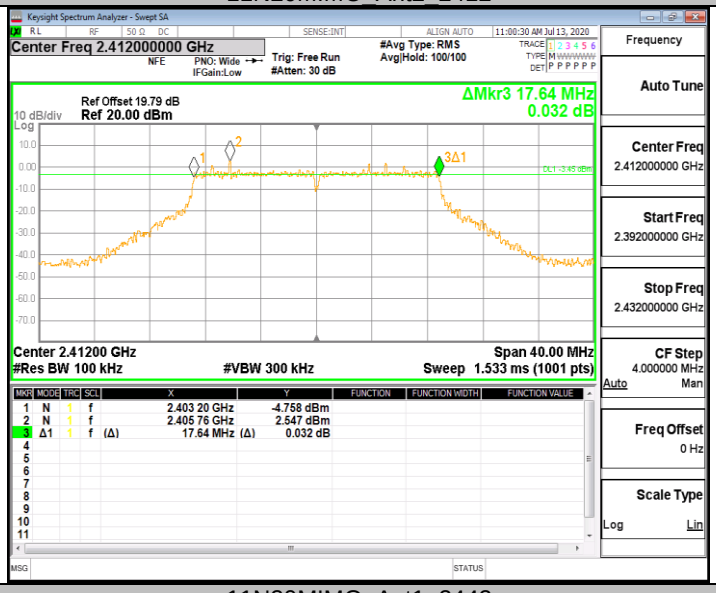

11G_Ant2_2472



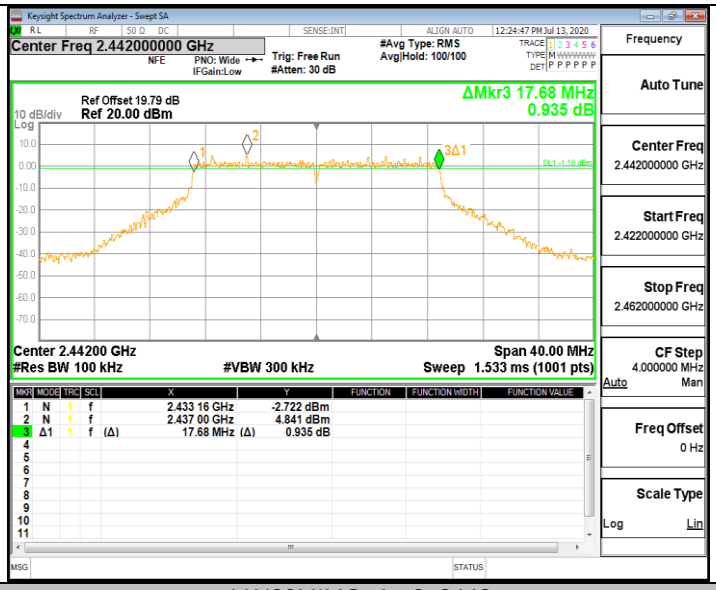

11N20MIMO_Ant1_2412



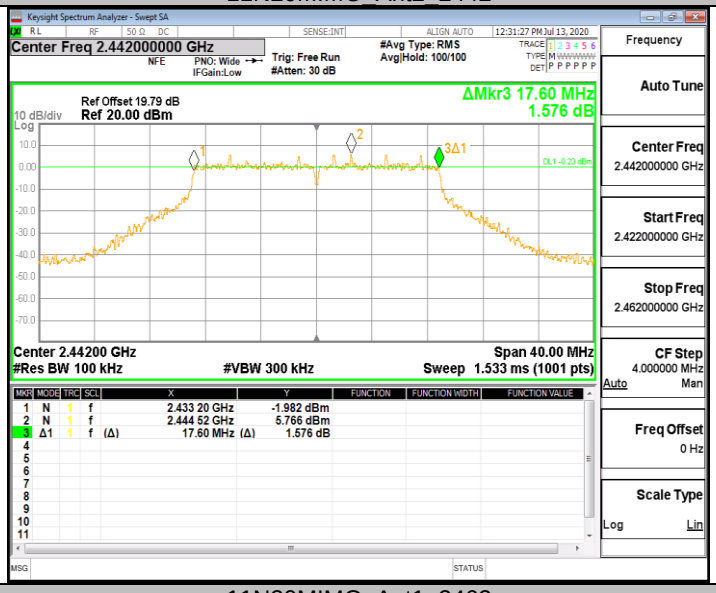

11N20MIMO_Ant2_2412



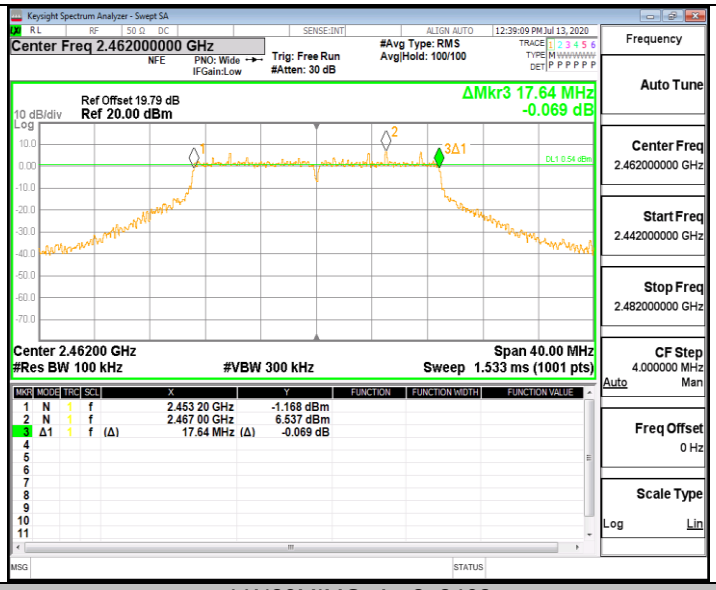

11N20MIMO_Ant1_2442



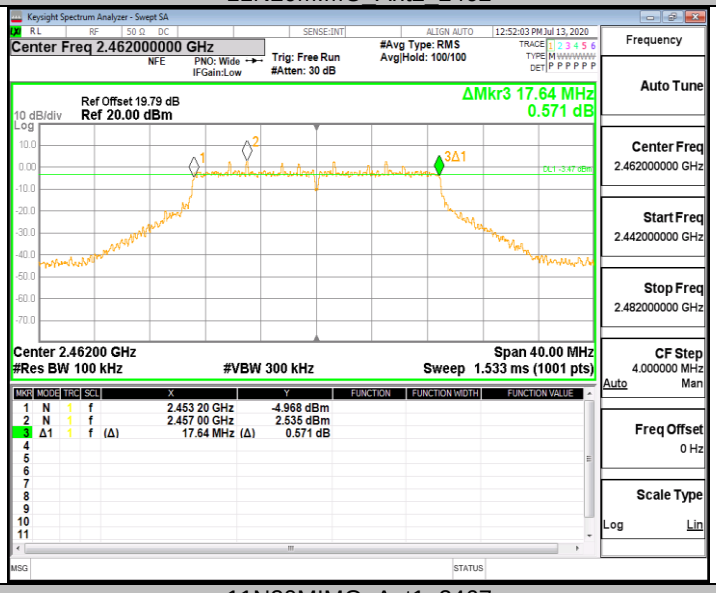

11N20MIMO_Ant2_2442



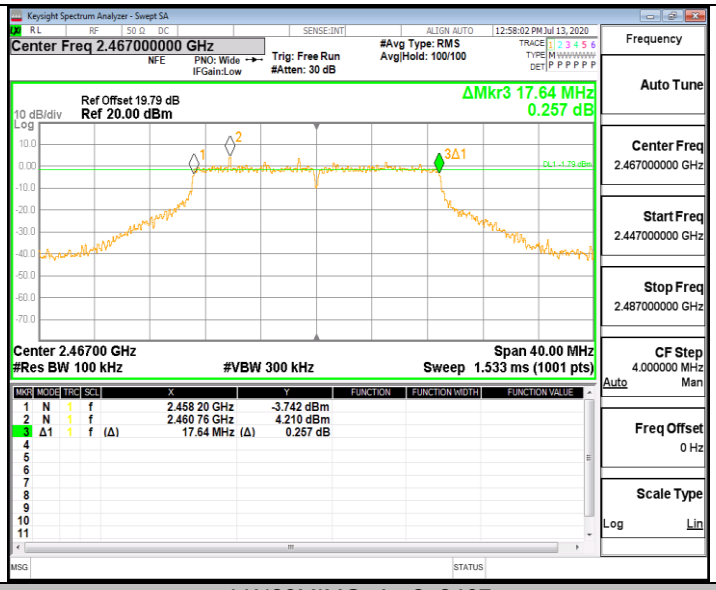

11N20MIMO_Ant1_2462



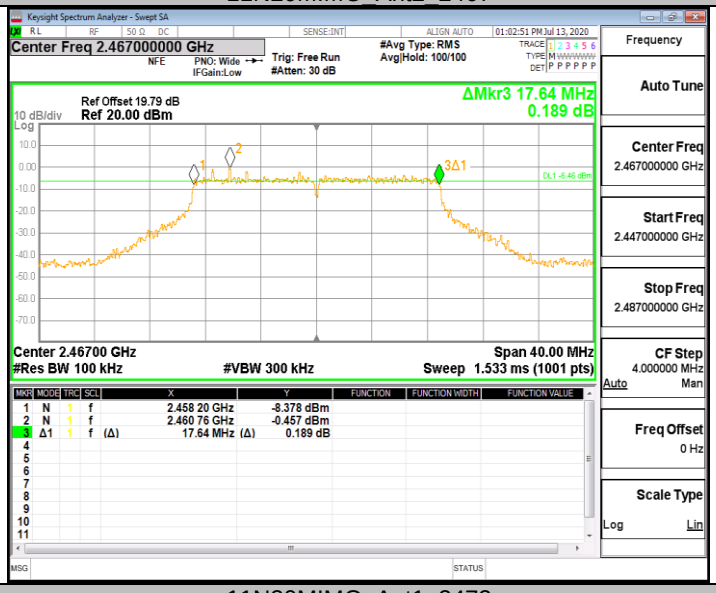

11N20MIMO_Ant2_2462



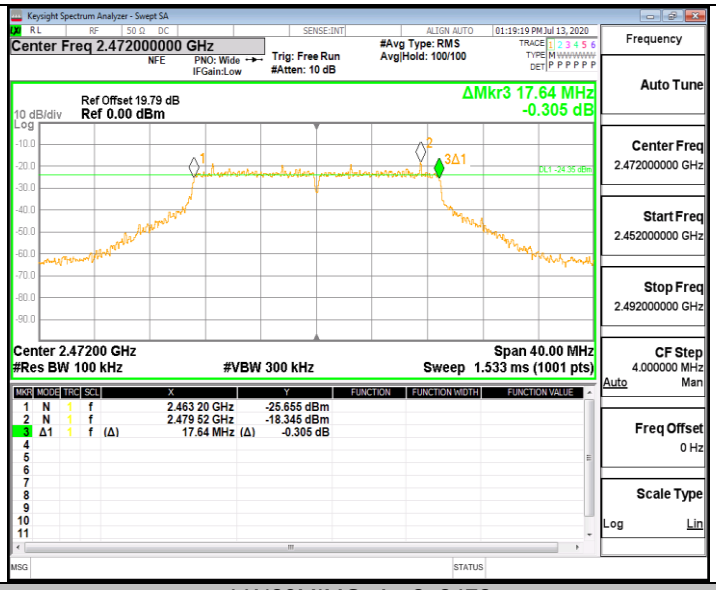

11N20MIMO_Ant1_2467



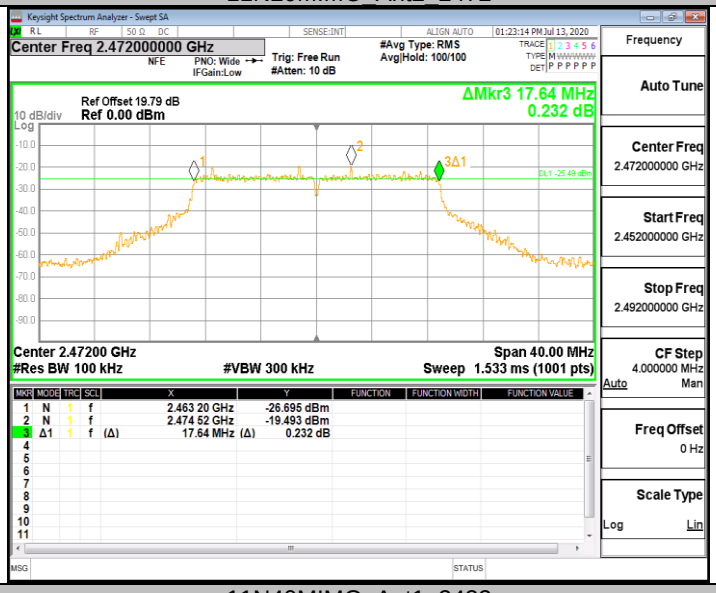

11N20MIMO_Ant2_2467



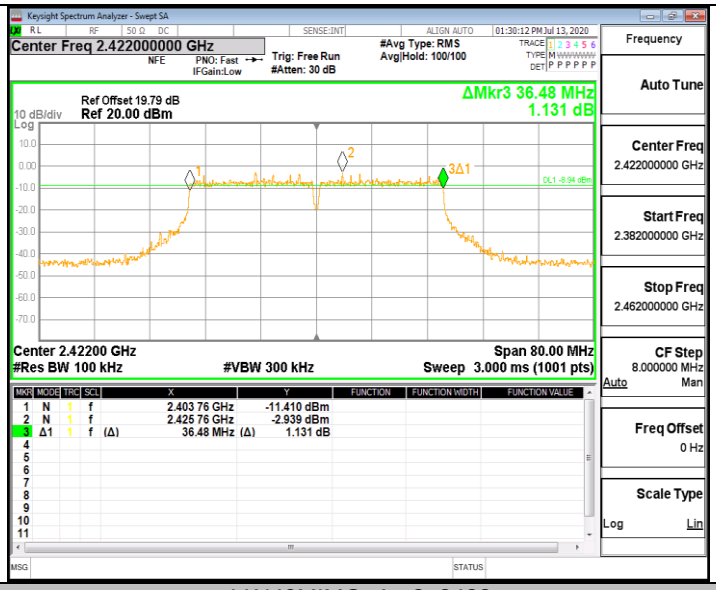

11N20MIMO_Ant1_2472



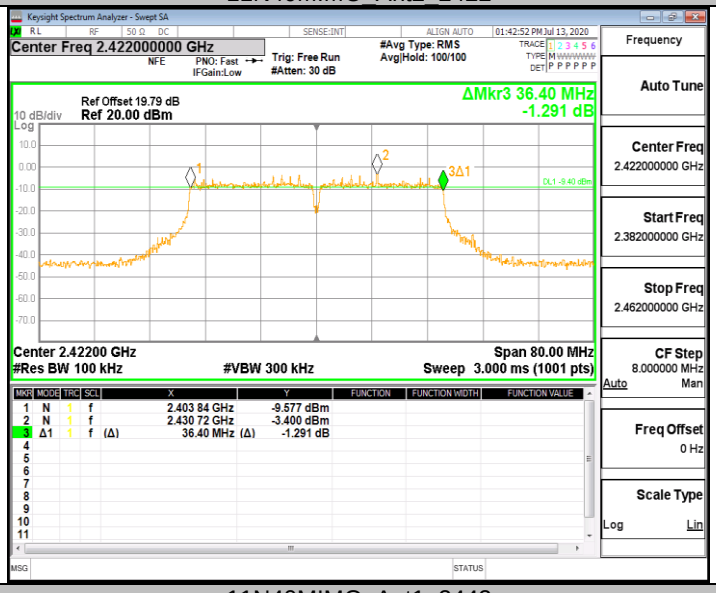

11N20MIMO_Ant2_2472



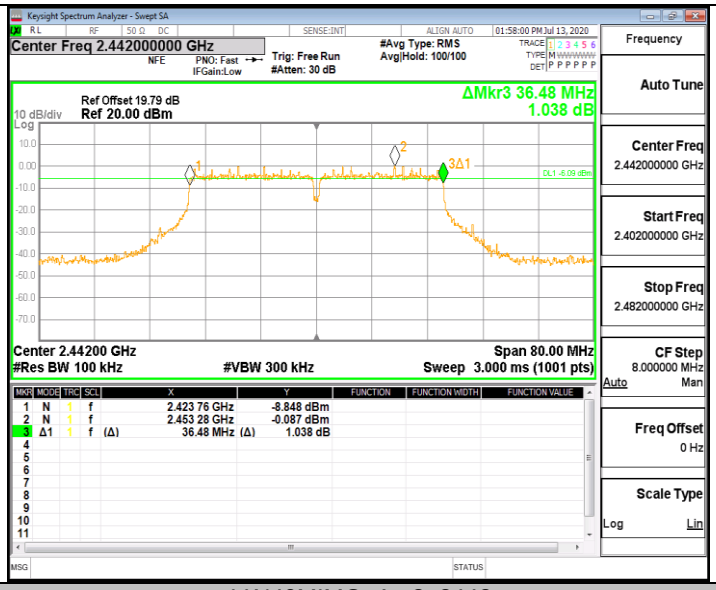

11N40MIMO_Ant1_2422




11N40MIMO_Ant2_2422




11N40MIMO_Ant1_2442

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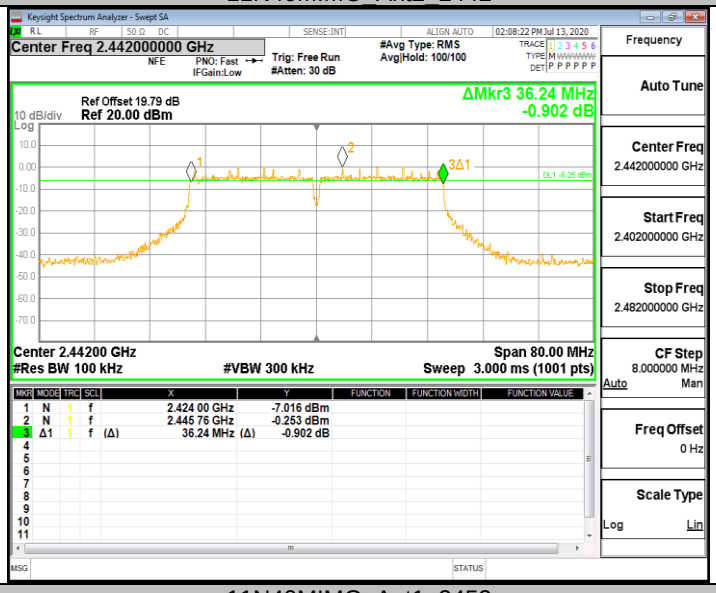
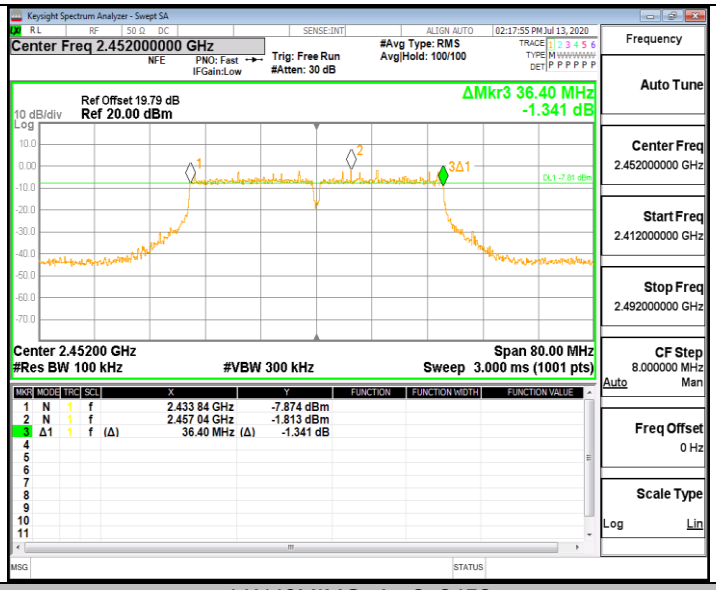
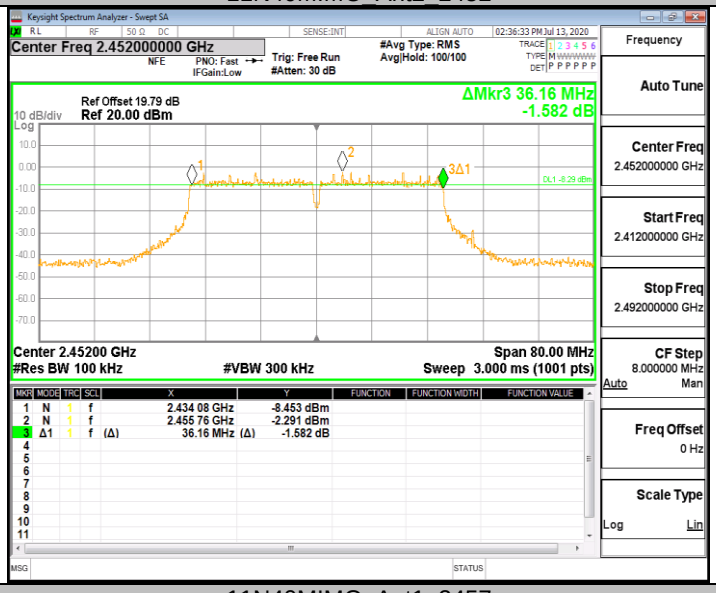


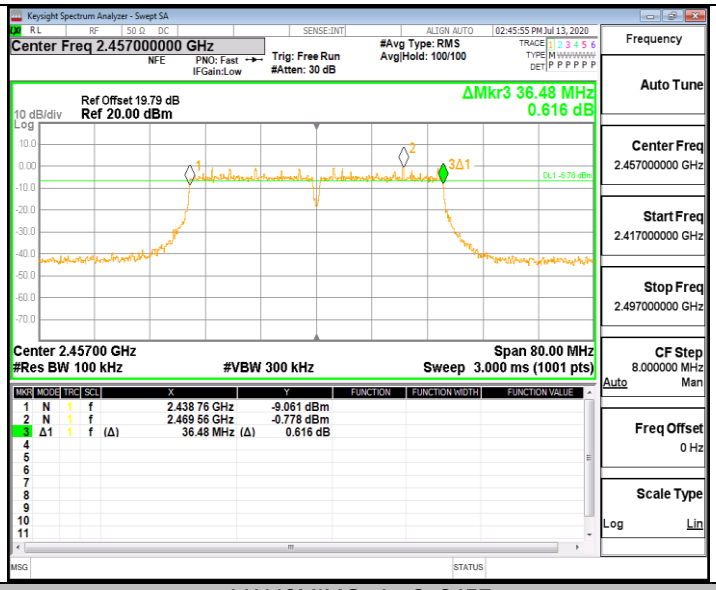

11N40MIMO_Ant1_2452



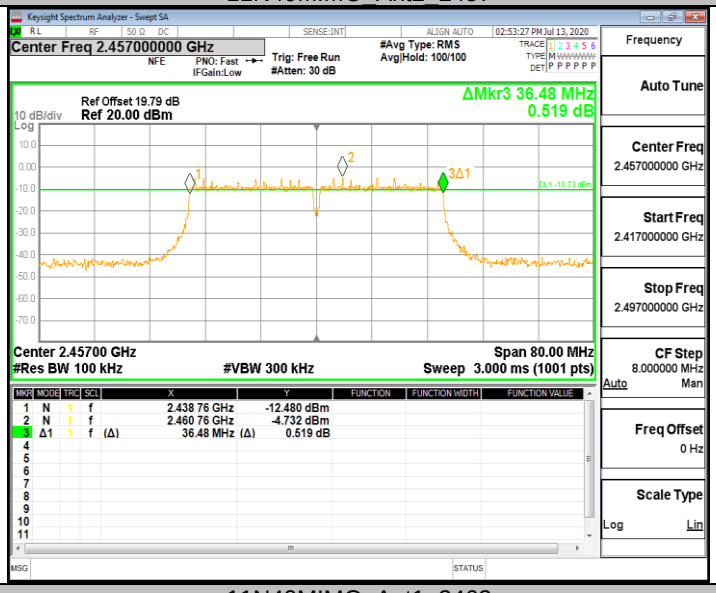

11N40MIMO_Ant2_2452



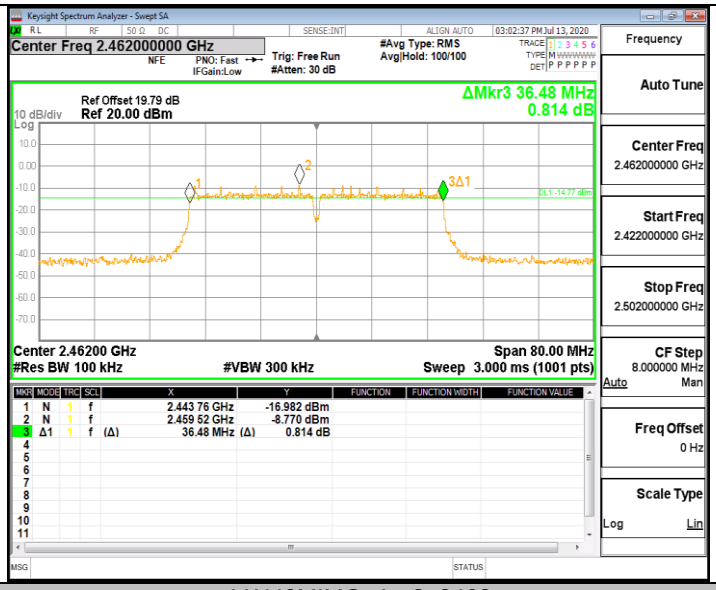

11N40MIMO_Ant1_2457



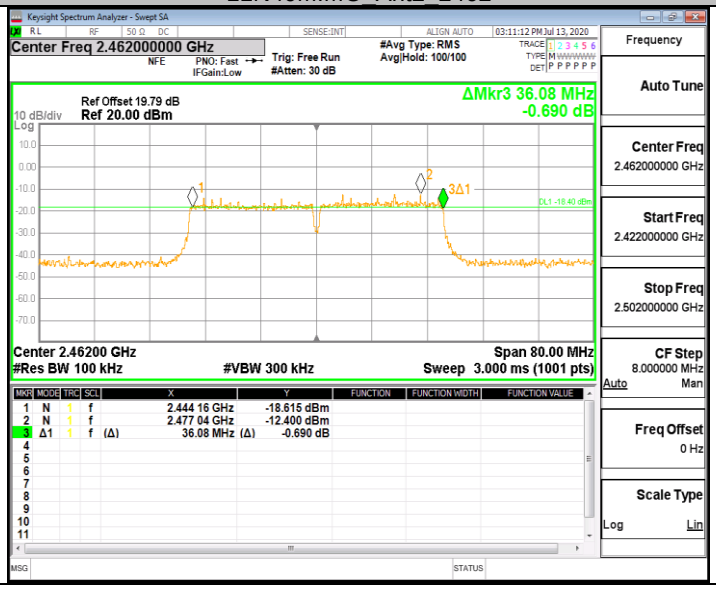

11N40MIMO_Ant2_2457




11N40MIMO_Ant1_2462




11N40MIMO_Ant2_2462



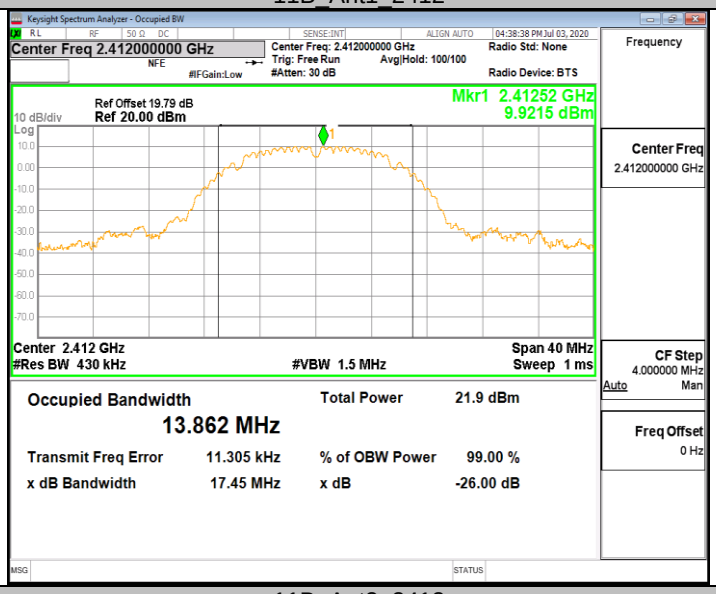
# Appendix B: Occupied Channel Bandwidth

## Test Result

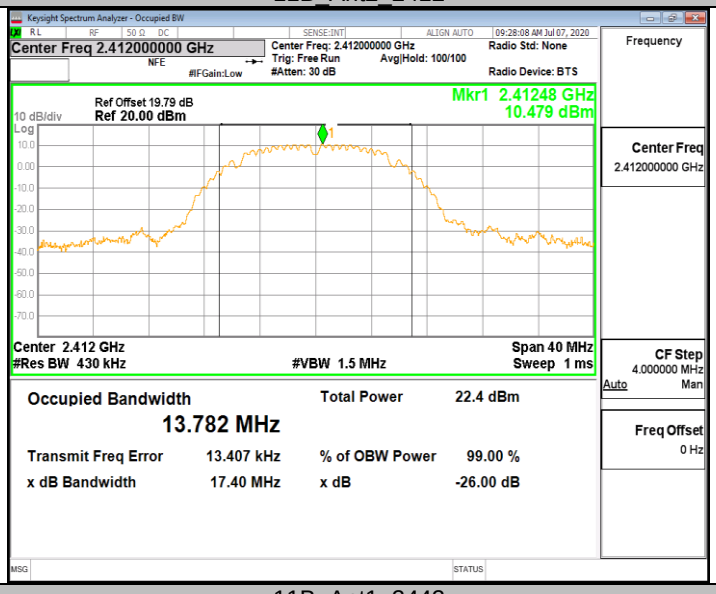
| Test Mode | Antenna | Channel | OCB [MHz] | FL[MHz] | FH[MHz] | Limit[MHz] | Verdict |
|---|---|---|---|---|---|---|---|
| 11B | Ant1 | 2412 | 13.862 | 2405.080 | 2418.942 | --- | PASS |
| | Ant2 | 2412 | 13.782 | 2405.122 | 2418.904 | --- | PASS |
| | Ant1 | 2442 | 14.213 | 2434.904 | 2449.117 | --- | PASS |
| | Ant2 | 2442 | 13.835 | 2435.066 | 2448.901 | --- | PASS |
| | Ant1 | 2462 | 13.914 | 2455.003 | 2468.917 | --- | PASS |
| | Ant2 | 2462 | 13.750 | 2455.123 | 2468.873 | --- | PASS |
| | Ant1 | 2467 | 13.851 | 2460.040 | 2473.891 | --- | PASS |
| | Ant2 | 2467 | 13.718 | 2460.137 | 2473.855 | --- | PASS |
| | Ant1 | 2472 | 13.508 | 2465.215 | 2478.723 | --- | PASS |
| | Ant2 | 2472 | 13.493 | 2465.259 | 2478.752 | --- | PASS |
| 11G | Ant1 | 2412 | 17.293 | 2403.336 | 2420.629 | --- | PASS |
| | Ant2 | 2412 | 17.147 | 2403.411 | 2420.558 | --- | PASS |
| | Ant1 | 2442 | 18.163 | 2432.864 | 2451.027 | --- | PASS |
| | Ant2 | 2442 | 17.225 | 2433.345 | 2450.570 | --- | PASS |
| | Ant1 | 2462 | 17.296 | 2453.321 | 2470.617 | --- | PASS |
| | Ant2 | 2462 | 17.244 | 2453.363 | 2470.607 | --- | PASS |
| | Ant1 | 2467 | 17.199 | 2458.355 | 2475.554 | --- | PASS |
| | Ant2 | 2467 | 17.190 | 2458.398 | 2475.588 | --- | PASS |
| | Ant1 | 2472 | 18.500 | 2462.771 | 2481.271 | --- | PASS |
| | Ant2 | 2472 | 18.528 | 2462.892 | 2481.420 | --- | PASS |
| 11N20MIMO | Ant1 | 2412 | 18.259 | 2402.902 | 2421.161 | --- | PASS |
| | Ant2 | 2412 | 18.251 | 2402.922 | 2421.173 | --- | PASS |
| | Ant1 | 2442 | 18.209 | 2432.925 | 2451.134 | --- | PASS |
| | Ant2 | 2442 | 18.286 | 2432.886 | 2451.172 | --- | PASS |
| | Ant1 | 2462 | 18.319 | 2452.874 | 2471.193 | --- | PASS |
| | Ant2 | 2462 | 18.242 | 2452.927 | 2471.169 | --- | PASS |
| | Ant1 | 2467 | 18.222 | 2457.904 | 2476.126 | --- | PASS |
| | Ant2 | 2467 | 18.235 | 2457.945 | 2476.180 | --- | PASS |
| | Ant1 | 2472 | 18.295 | 2462.899 | 2481.194 | --- | PASS |
| | Ant2 | 2472 | 18.352 | 2462.888 | 2481.240 | --- | PASS |
| 11N40MIMO | Ant1 | 2422 | 36.627 | 2403.779 | 2440.406 | --- | PASS |
| | Ant2 | 2422 | 36.623 | 2403.740 | 2440.363 | --- | PASS |
| | Ant1 | 2442 | 36.580 | 2423.792 | 2460.372 | --- | PASS |
| | Ant2 | 2442 | 36.592 | 2423.833 | 2460.425 | --- | PASS |
| | Ant1 | 2452 | 36.567 | 2433.804 | 2470.371 | --- | PASS |
| | Ant2 | 2452 | 36.534 | 2433.815 | 2470.349 | --- | PASS |
| | Ant1 | 2457 | 36.589 | 2438.795 | 2475.384 | --- | PASS |
| | Ant2 | 2457 | 36.670 | 2438.730 | 2475.400 | --- | PASS |
| | Ant1 | 2462 | 36.606 | 2443.784 | 2480.390 | --- | PASS |
| | Ant2 | 2462 | 36.868 | 2443.686 | 2480.554 | --- | PASS |

## Test Graphs

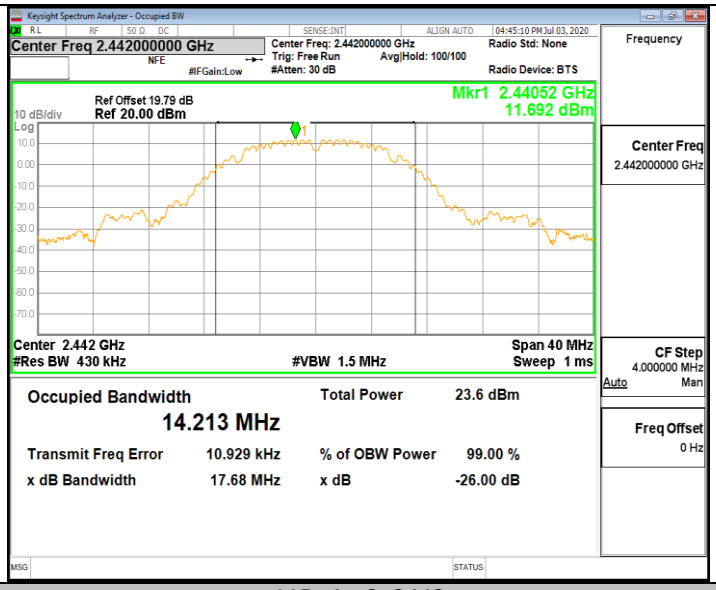
11B_Ant1_2412



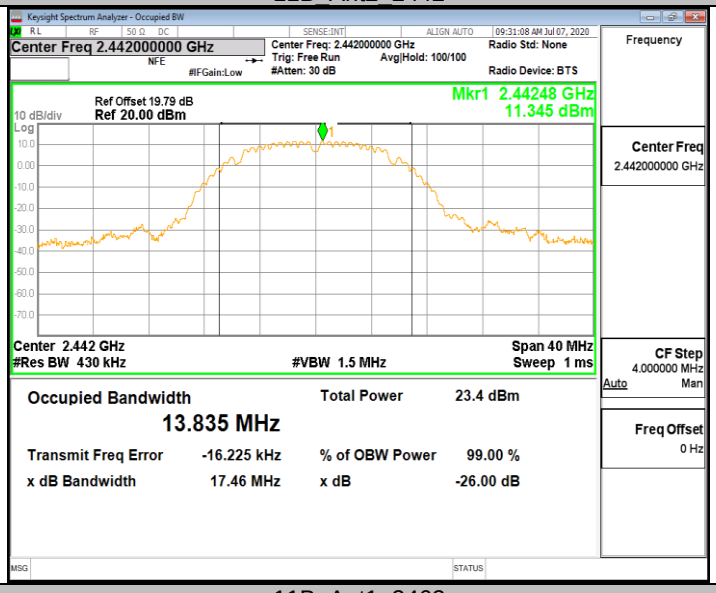

11B_Ant2_2412



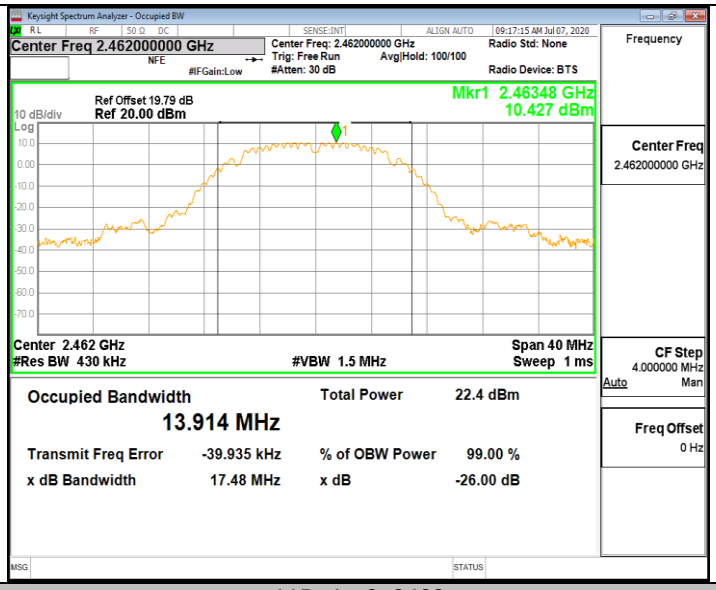

11B_Ant1_2442



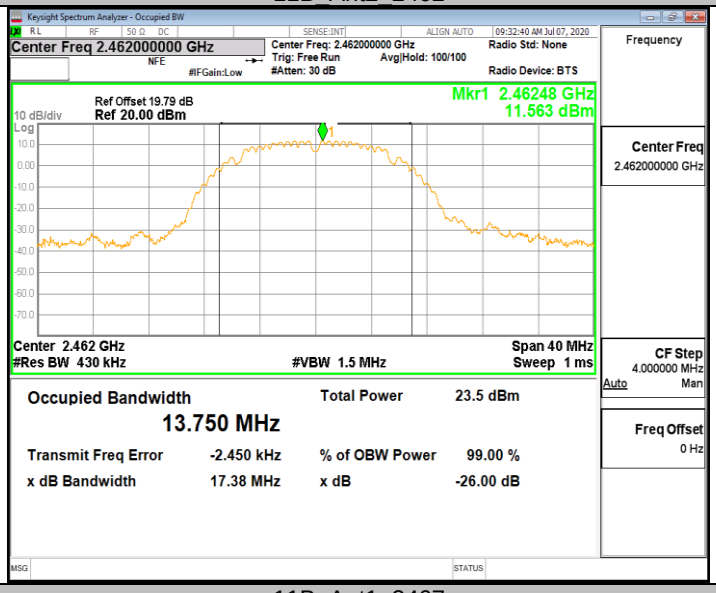

11B_Ant2_2442



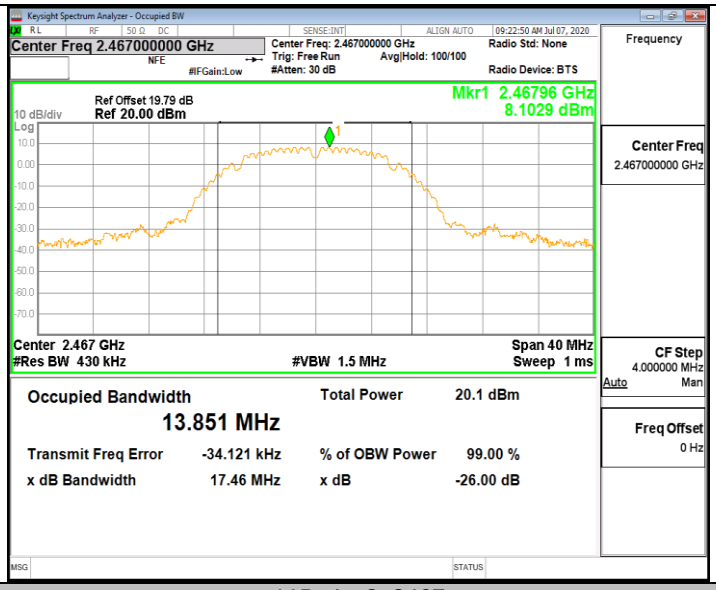

11B_Ant1_2462



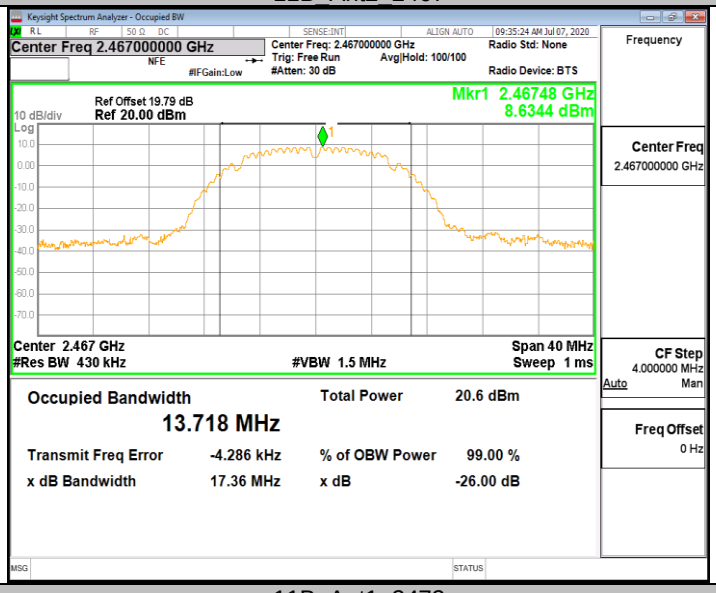

11B_Ant2_2462



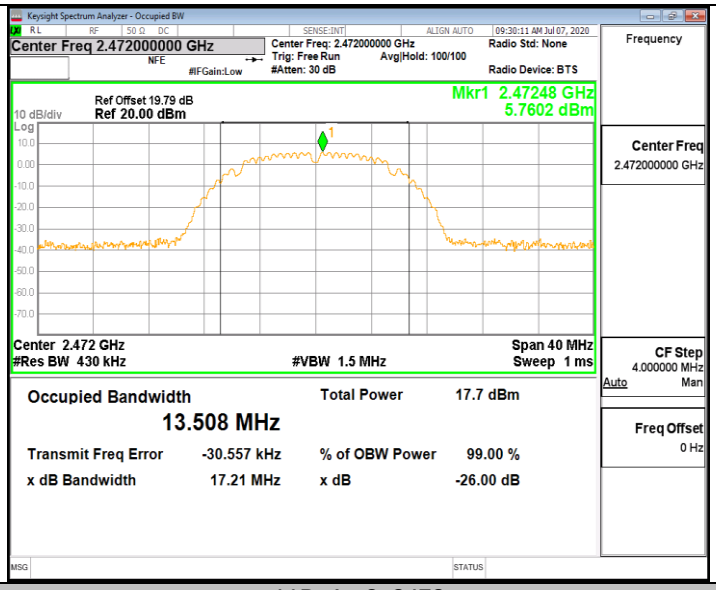

11B_Ant1_2467



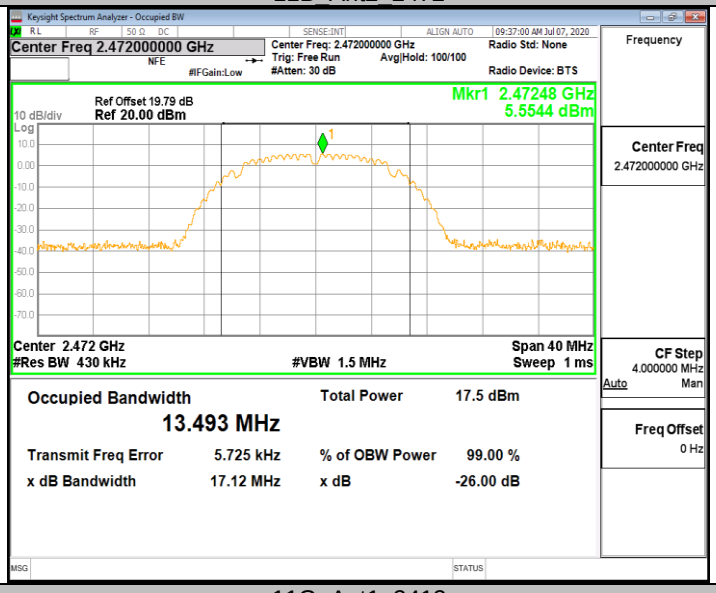

11B_Ant2_2467



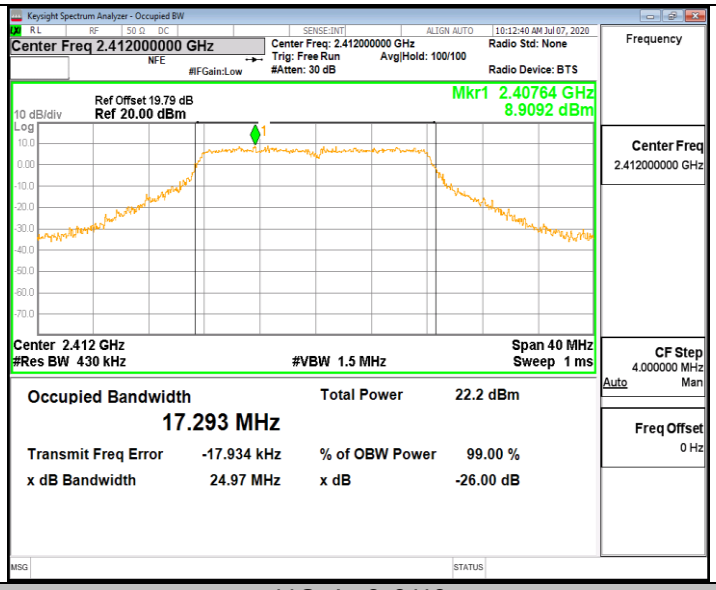

11B_Ant1_2472



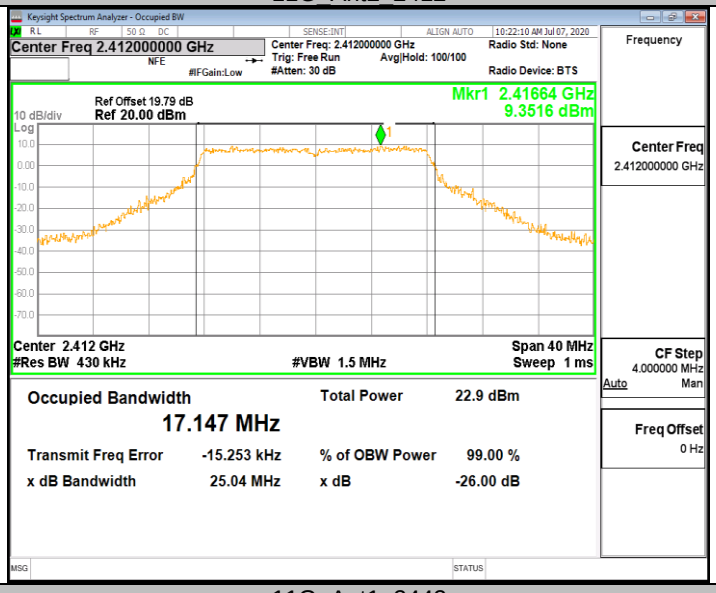

11B_Ant2_2472




11G_Ant1_2412




11G_Ant2_2412




11G_Ant1_2442