

|                     |               |
|---------------------|---------------|
| Band :              | UNII 2A       |
| Operation Mode:     | 802.11n_ HT40 |
| Transfer MCS Index: | 0             |
| Operating Frequency | 5310 MHz      |
| Channel No.         | 62 Ch         |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 10620              | 57.00             | -3.42                         | V                 | 53.58             | 73.98             | 20.40          | PK                  |
| 10620              | 49.07             | -3.42                         | V                 | 45.65             | 53.98             | 8.33           | AV                  |
| 15930              | 51.51             | -3.29                         | V                 | 48.22             | 73.98             | 25.76          | PK                  |
| 15930              | 39.15             | -3.29                         | V                 | 35.86             | 53.98             | 18.12          | AV                  |
| 10620              | 56.78             | -3.42                         | H                 | 53.36             | 73.98             | 20.62          | PK                  |
| 10620              | 48.84             | -3.42                         | H                 | 45.42             | 53.98             | 8.56           | AV                  |
| 15930              | 52.55             | -3.29                         | H                 | 49.26             | 73.98             | 24.72          | PK                  |
| 15930              | 39.56             | -3.29                         | H                 | 36.27             | 53.98             | 17.71          | AV                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n\_ HT40. Worst case is MCS0 in 802.11n\_ HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |          |
|---------------------|----------|
| Band :              | UNII 2C  |
| Operation Mode:     | 802.11 a |
| Transfer Rate:      | 6 Mbps   |
| Operating Frequency | 5500 MHz |
| Channel No.         | 100 Ch   |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11000              | 57.61             | -1.80                         | V                 | 55.81             | 73.98             | 18.17          | PK                  |
| 11000              | 47.20             | -1.80                         | V                 | 45.40             | 53.98             | 8.58           | AV                  |
| 16500              | 52.47             | -2.03                         | V                 | 50.44             | 68.20             | 17.76          | PK                  |
| 11000              | 57.28             | -1.80                         | H                 | 55.48             | 73.98             | 18.50          | PK                  |
| 11000              | 46.62             | -1.80                         | H                 | 44.82             | 53.98             | 9.16           | AV                  |
| 16500              | 51.83             | -2.03                         | H                 | 49.80             | 68.20             | 18.40          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |          |
|---------------------|----------|
| Band :              | UNII 2C  |
| Operation Mode:     | 802.11 a |
| Transfer Rate:      | 6 Mbps   |
| Operating Frequency | 5600 MHz |
| Channel No.         | 120 Ch   |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11200              | 58.54             | -2.80                         | V                 | 55.74             | 73.98             | 18.24          | PK                  |
| 11200              | 48.17             | -2.80                         | V                 | 45.37             | 53.98             | 8.61           | AV                  |
| 16800              | 52.23             | -0.15                         | V                 | 52.08             | 68.20             | 16.12          | PK                  |
| 11200              | 58.01             | -2.80                         | H                 | 55.21             | 73.98             | 18.77          | PK                  |
| 11200              | 47.63             | -2.80                         | H                 | 44.83             | 53.98             | 9.15           | AV                  |
| 16800              | 52.88             | -0.15                         | H                 | 52.73             | 68.20             | 15.47          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |          |
|---------------------|----------|
| Band :              | UNII 2C  |
| Operation Mode:     | 802.11 a |
| Transfer Rate:      | 6 Mbps   |
| Operating Frequency | 5720 MHz |
| Channel No.         | 144 Ch   |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11440              | 57.80             | -1.80                         | V                 | 56.00             | 73.98             | 17.98          | PK                  |
| 11440              | 47.75             | -1.80                         | V                 | 45.95             | 53.98             | 8.03           | AV                  |
| 17160              | 51.46             | 1.09                          | V                 | 52.55             | 68.20             | 15.65          | PK                  |
| 11440              | 57.44             | -1.80                         | H                 | 55.64             | 73.98             | 18.34          | PK                  |
| 11440              | 47.21             | -1.80                         | H                 | 45.41             | 53.98             | 8.57           | AV                  |
| 17160              | 52.04             | 1.09                          | H                 | 53.13             | 68.20             | 15.07          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |               |
|---------------------|---------------|
| Band :              | UNII 2C       |
| Operation Mode:     | 802.11 n_HT20 |
| Transfer MCS Index: | 0             |
| Operating Frequency | 5500 MHz      |
| Channel No.         | 100 Ch        |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11000              | 56.98             | -1.80                         | V                 | 55.18             | 73.98             | 18.80          | PK                  |
| 11000              | 47.27             | -1.80                         | V                 | 45.47             | 53.98             | 8.51           | AV                  |
| 16500              | 51.78             | -2.03                         | V                 | 49.75             | 68.20             | 18.45          | PK                  |
| 11000              | 56.67             | -1.80                         | H                 | 54.87             | 73.98             | 19.11          | PK                  |
| 11000              | 47.02             | -1.80                         | H                 | 45.22             | 53.98             | 8.76           | AV                  |
| 16500              | 52.49             | -2.03                         | H                 | 50.46             | 68.20             | 17.74          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n\_HT20. Worst case is MCS0 in 802.11n\_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |                |
|---------------------|----------------|
| Band :              | UNII 2C        |
| Operation Mode:     | 802.11 n_ HT20 |
| Transfer MCS Index: | 0              |
| Operating Frequency | 5600 MHz       |
| Channel No.         | 120 Ch         |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11200              | 58.30             | -2.80                         | V                 | 55.50             | 73.98             | 18.48          | PK                  |
| 11200              | 48.13             | -2.80                         | V                 | 45.33             | 53.98             | 8.65           | AV                  |
| 16800              | 52.18             | -0.15                         | V                 | 52.03             | 68.20             | 16.17          | PK                  |
| 11200              | 58.02             | -2.80                         | H                 | 55.22             | 73.98             | 18.76          | PK                  |
| 11200              | 47.84             | -2.80                         | H                 | 45.04             | 53.98             | 8.94           | AV                  |
| 16800              | 52.90             | -0.15                         | H                 | 52.75             | 68.20             | 15.45          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n\_ HT20. Worst case is MCS0 in 802.11n\_ HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |                |
|---------------------|----------------|
| Band :              | UNII 2C        |
| Operation Mode:     | 802.11 n_ HT20 |
| Transfer MCS Index: | 0              |
| Operating Frequency | 5720 MHz       |
| Channel No.         | 144 Ch         |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11440              | 57.68             | -1.80                         | V                 | 55.88             | 73.98             | 18.10          | PK                  |
| 11440              | 47.68             | -1.80                         | V                 | 45.88             | 53.98             | 8.10           | AV                  |
| 17160              | 51.41             | 1.09                          | V                 | 52.50             | 68.20             | 15.70          | PK                  |
| 11440              | 57.44             | -1.80                         | H                 | 55.64             | 73.98             | 18.34          | PK                  |
| 11440              | 47.39             | -1.80                         | H                 | 45.59             | 53.98             | 8.39           | AV                  |
| 17160              | 52.06             | 1.09                          | H                 | 53.15             | 68.20             | 15.05          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n\_ HT20. Worst case is MCS0 in 802.11n\_ HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |              |
|---------------------|--------------|
| Band :              | UNII 2C      |
| Operation Mode:     | 802.11n_HT40 |
| Transfer MCS Index: | 0            |
| Operating Frequency | 5510 MHz     |
| Channel No.         | 102 Ch       |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11020              | 57.05             | -1.80                         | V                 | 55.25             | 73.98             | 18.73          | PK                  |
| 11020              | 49.58             | -1.80                         | V                 | 47.78             | 53.98             | 6.20           | AV                  |
| 16530              | 51.95             | -0.22                         | V                 | 51.73             | 68.20             | 16.47          | PK                  |
| 11020              | 56.88             | -1.80                         | H                 | 55.08             | 73.98             | 18.90          | PK                  |
| 11020              | 49.31             | -1.80                         | H                 | 47.51             | 53.98             | 6.47           | AV                  |
| 16530              | 52.72             | -0.22                         | H                 | 52.50             | 68.20             | 15.70          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n\_HT40. Worst case is MCS0 in 802.11n\_HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |               |
|---------------------|---------------|
| Band :              | UNII 2C       |
| Operation Mode:     | 802.11n_ HT40 |
| Transfer MCS Index: | 0             |
| Operating Frequency | 5710 MHz      |
| Channel No.         | 142 Ch        |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11420              | 57.17             | -1.80                         | V                 | 55.37             | 73.98             | 18.61          | PK                  |
| 11420              | 48.43             | -1.80                         | V                 | 46.63             | 53.98             | 7.35           | AV                  |
| 17130              | 52.47             | 1.09                          | V                 | 53.56             | 68.20             | 14.64          | PK                  |
| 11420              | 57.01             | -1.80                         | H                 | 55.21             | 73.98             | 18.77          | PK                  |
| 11420              | 48.23             | -1.80                         | H                 | 46.43             | 53.98             | 7.55           | AV                  |
| 17130              | 52.64             | 1.09                          | H                 | 53.73             | 68.20             | 14.47          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n\_ HT40. Worst case is MCS0 in 802.11n\_ HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |          |
|---------------------|----------|
| Band :              | UNII 3   |
| Operation Mode:     | 802.11 a |
| Transfer Rate:      | 6 Mbps   |
| Operating Frequency | 5745MHz  |
| Channel No.         | 149 Ch   |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11490              | 58.02             | -2.31                         | V                 | 55.71             | 73.98             | 18.27          | PK                  |
| 11490              | 47.21             | -2.31                         | V                 | 44.90             | 53.98             | 9.08           | AV                  |
| 17235              | 51.82             | 2.26                          | V                 | 54.08             | 68.20             | 14.12          | PK                  |
| 11490              | 58.26             | -2.31                         | H                 | 55.95             | 73.98             | 18.03          | PK                  |
| 11490              | 47.50             | -2.31                         | H                 | 45.19             | 53.98             | 8.79           | AV                  |
| 17235              | 52.47             | 2.26                          | H                 | 54.73             | 68.20             | 13.47          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |          |
|---------------------|----------|
| Band :              | UNII 3   |
| Operation Mode:     | 802.11 a |
| Transfer Rate:      | 6 Mbps   |
| Operating Frequency | 5785 MHz |
| Channel No.         | 157 Ch   |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11570              | 58.20             | -2.57                         | V                 | 55.63             | 73.98             | 18.35          | PK                  |
| 11570              | 47.23             | -2.57                         | V                 | 44.66             | 53.98             | 9.32           | AV                  |
| 17355              | 50.27             | 1.68                          | V                 | 51.95             | 68.20             | 16.25          | PK                  |
| 11570              | 58.29             | -2.57                         | H                 | 55.72             | 73.98             | 18.26          | PK                  |
| 11570              | 47.48             | -2.57                         | H                 | 44.91             | 53.98             | 9.07           | AV                  |
| 17355              | 51.68             | 1.68                          | H                 | 53.36             | 68.20             | 14.84          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |          |
|---------------------|----------|
| Band :              | UNII 3   |
| Operation Mode:     | 802.11 a |
| Transfer Rate:      | 6 Mbps   |
| Operating Frequency | 5825 MHz |
| Channel No.         | 165 Ch   |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11650              | 58.61             | -2.83                         | V                 | 55.78             | 73.98             | 18.20          | PK                  |
| 11650              | 46.63             | -2.83                         | V                 | 43.80             | 53.98             | 10.18          | AV                  |
| 17475              | 50.62             | 4.48                          | V                 | 55.10             | 68.20             | 13.10          | PK                  |
| 11650              | 58.87             | -2.83                         | H                 | 56.04             | 73.98             | 17.94          | PK                  |
| 11650              | 46.97             | -2.83                         | H                 | 44.14             | 53.98             | 9.84           | AV                  |
| 17475              | 51.52             | 4.48                          | H                 | 56.00             | 68.20             | 12.20          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11a. Worst case is 6 Mbps in 802.11a.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |               |
|---------------------|---------------|
| Band :              | UNII 3        |
| Operation Mode:     | 802.11 n_HT20 |
| Transfer MCS Index: | 0             |
| Operating Frequency | 5745 MHz      |
| Channel No.         | 149 Ch        |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11490              | 57.89             | -2.31                         | V                 | 55.58             | 73.98             | 18.40          | PK                  |
| 11490              | 47.51             | -2.31                         | V                 | 45.20             | 53.98             | 8.78           | AV                  |
| 17235              | 51.77             | 2.26                          | V                 | 54.03             | 68.20             | 14.17          | PK                  |
| 11490              | 58.14             | -2.31                         | H                 | 55.83             | 73.98             | 18.15          | PK                  |
| 11490              | 47.73             | -2.31                         | H                 | 45.42             | 53.98             | 8.56           | AV                  |
| 17235              | 52.49             | 2.26                          | H                 | 54.75             | 68.20             | 13.45          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n\_HT20. Worst case is MCS0 in 802.11n\_HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |                |
|---------------------|----------------|
| Band :              | UNII 3         |
| Operation Mode:     | 802.11 n_ HT20 |
| Transfer MCS Index: | 0              |
| Operating Frequency | 5785 MHz       |
| Channel No.         | 157 Ch         |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11570              | 58.53             | -2.57                         | V                 | 55.96             | 73.98             | 18.02          | PK                  |
| 11570              | 46.93             | -2.57                         | V                 | 44.36             | 53.98             | 9.62           | AV                  |
| 17355              | 50.22             | 1.68                          | V                 | 51.90             | 68.20             | 16.30          | PK                  |
| 11570              | 58.74             | -2.57                         | H                 | 56.17             | 73.98             | 17.81          | PK                  |
| 11570              | 47.11             | -2.57                         | H                 | 44.54             | 53.98             | 9.44           | AV                  |
| 17355              | 51.70             | 1.68                          | H                 | 53.38             | 68.20             | 14.82          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n\_ HT20. Worst case is MCS0 in 802.11n\_ HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |                |
|---------------------|----------------|
| Band :              | UNII 3         |
| Operation Mode:     | 802.11 n_ HT20 |
| Transfer MCS Index: | 0              |
| Operating Frequency | 5825 MHz       |
| Channel No.         | 165 Ch         |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11650              | 58.76             | -2.83                         | V                 | 55.93             | 73.98             | 18.05          | PK                  |
| 11650              | 46.73             | -2.83                         | V                 | 43.90             | 53.98             | 10.08          | AV                  |
| 17475              | 50.57             | 4.48                          | V                 | 55.05             | 68.20             | 13.15          | PK                  |
| 11650              | 59.07             | -2.83                         | H                 | 56.24             | 73.98             | 17.74          | PK                  |
| 11650              | 47.06             | -2.83                         | H                 | 44.23             | 53.98             | 9.75           | AV                  |
| 17475              | 51.54             | 4.48                          | H                 | 56.02             | 68.20             | 12.18          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n\_ HT20. Worst case is MCS0 in 802.11n\_ HT20.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |               |
|---------------------|---------------|
| Band :              | UNII3         |
| Operation Mode:     | 802.11n_ HT40 |
| Transfer MCS Index: | 0             |
| Operating Frequency | 5755 MHz      |
| Channel No.         | 151 Ch        |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11510              | 57.02             | -2.31                         | V                 | 54.71             | 73.98             | 19.27          | PK                  |
| 11510              | 47.86             | -2.31                         | V                 | 45.55             | 53.98             | 8.43           | AV                  |
| 17265              | 51.26             | 1.64                          | V                 | 52.90             | 68.20             | 15.30          | PK                  |
| 11510              | 57.25             | -2.31                         | H                 | 54.94             | 73.98             | 19.04          | PK                  |
| 11510              | 48.04             | -2.31                         | H                 | 45.73             | 53.98             | 8.25           | AV                  |
| 17265              | 51.79             | 1.64                          | H                 | 53.43             | 68.20             | 14.77          | PK                  |

\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n\_ HT40. Worst case is MCS0 in 802.11n\_ HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

|                     |               |
|---------------------|---------------|
| Band :              | UNII 3        |
| Operation Mode:     | 802.11n_ HT40 |
| Transfer MCS Index: | 0             |
| Operating Frequency | 5795 MHz      |
| Channel No.         | 159 Ch        |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL-Amp<br>G.+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|-------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 11590              | 57.78             | -2.57                         | V                 | 55.21             | 73.98             | 18.77          | PK                  |
| 11590              | 48.03             | -2.57                         | V                 | 45.46             | 53.98             | 8.52           | AV                  |
| 17385              | 51.16             | 3.54                          | V                 | 54.70             | 68.20             | 13.50          | PK                  |
| 11590              | 57.93             | -2.57                         | H                 | 55.36             | 73.98             | 18.62          | PK                  |
| 11590              | 48.26             | -2.57                         | H                 | 45.69             | 53.98             | 8.29           | AV                  |
| 17385              | 51.81             | 3.54                          | H                 | 55.35             | 68.20             | 12.85          | PK                  |

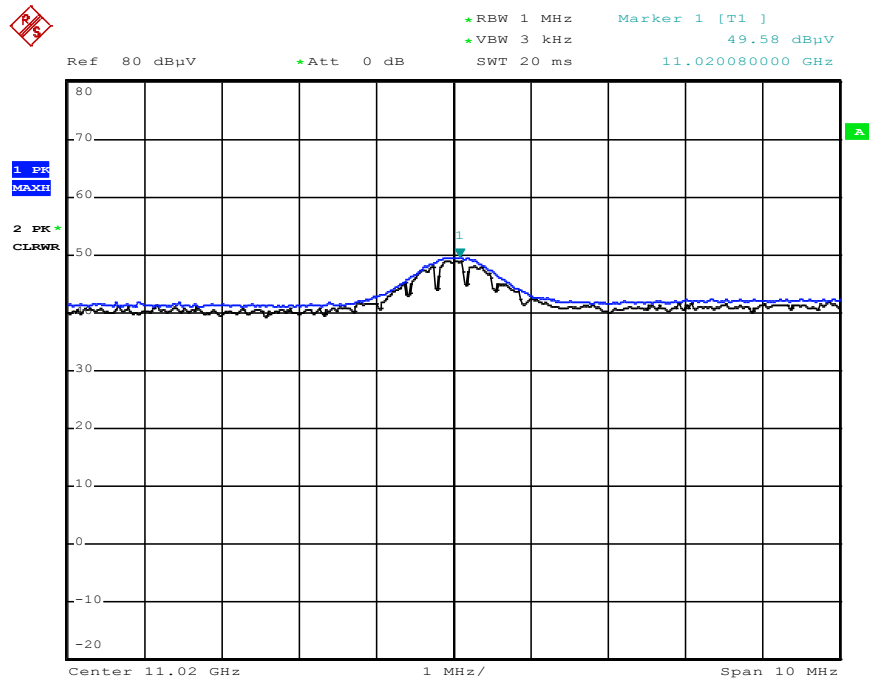
\*AN. : Antenna Factor / CL : Cable Loss / Amp.G. : Amplifier Gain / D.F. : Distance Factor

#### Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done all data rate in 802.11n\_ HT40. Worst case is MCS0 in 802.11n\_ HT40.
6. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
7. Distance extrapolation factor =  $20 \log (\text{test distance} / \text{specific distance})$  (dB)

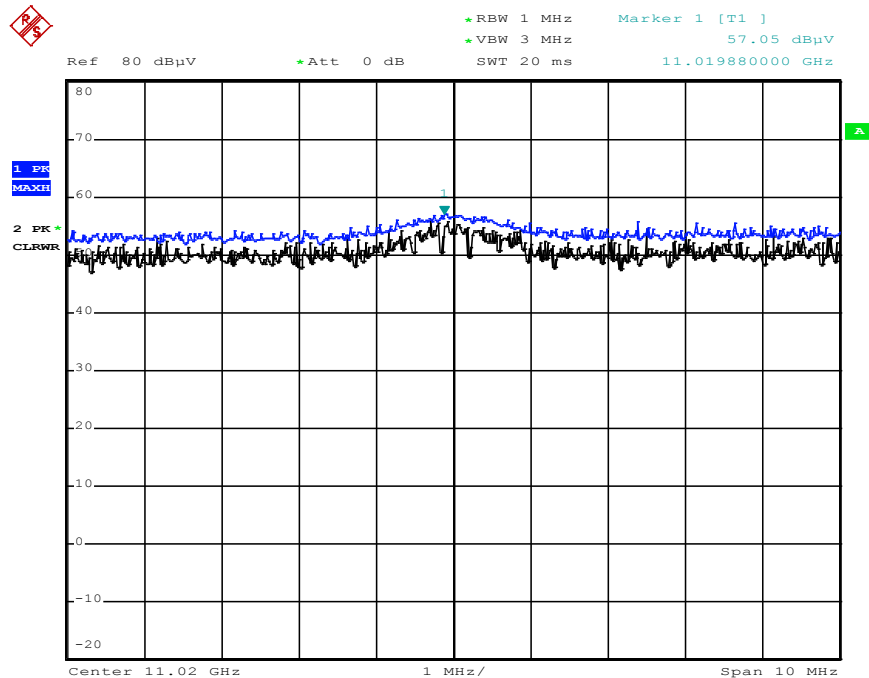
■ **RESULT PLOTS(Worst case : X-V)**

**Radiated Spurious Emissions plot –Average Reading (802.11\_HT40, Ch.102 2nd Harmonic)**



Date: 27.JUN.2017 08:48:11

**Radiated Spurious Emissions plot – Peak Reading(802.11n\_HT40, Ch.102 2nd Harmonic)**



Date: 27.JUN.2017 08:47:14

**Note : Only the worst case plots for Radiated Spurious Emissions.**

## 9.6.2 RADIATED RESTRICTED BAND EDGE MEASUREMENTS

### Test Requirements and limit, §15.247(d) §15.205, §15.209

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (See section 15.205(c)).

|                     |          |
|---------------------|----------|
| Band :              | UNII 1   |
| Operation Mode:     | 802.11 a |
| Transfer Rate:      | 6 Mbps   |
| Operating Frequency | 5180 MHz |
| Channel No.         | 36 Ch    |

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL+AMP+ATT.<br>+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|----------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 5150               | 58.61             | 2.63                             | H                 | 61.24             | 73.98             | 12.74          | PK                  |
| 5150               | 40.70             | 2.63                             | H                 | 43.33             | 53.98             | 10.65          | AV                  |
| 5150               | 58.03             | 2.63                             | V                 | 60.66             | 73.98             | 13.32          | PK                  |
| 5150               | 39.89             | 2.63                             | V                 | 42.52             | 53.98             | 11.46          | AV                  |

Band : UNII 1  
Operation Mode: 802.11 n\_HT20  
Transfer MCS Index: 0  
Operating Frequency 5180 MHz  
Channel No. 36 Ch

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL+AMP+ATT.<br>+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|----------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 5150               | 61.72             | 2.63                             | H                 | 64.35             | 73.98             | 9.63           | PK                  |
| 5150               | 42.75             | 2.63                             | H                 | 45.38             | 53.98             | 8.60           | AV                  |
| 5150               | 60.97             | 2.63                             | V                 | 63.6              | 73.98             | 10.38          | PK                  |
| 5150               | 41.93             | 2.63                             | V                 | 44.56             | 53.98             | 9.42           | AV                  |

Band : UNII 1  
Operation Mode: 802.11 n\_HT40  
Transfer MCS Index: 0  
Operating Frequency 5190 MHz  
Channel No. 38 Ch

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL+AMP+ATT.<br>+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|----------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 5150               | 59.70             | 2.63                             | H                 | 62.33             | 73.98             | 11.65          | PK                  |
| 5150               | 43.63             | 2.63                             | H                 | 46.26             | 53.98             | 7.72           | AV                  |
| 5150               | 59.14             | 2.63                             | V                 | 61.77             | 73.98             | 12.21          | PK                  |
| 5150               | 42.89             | 2.63                             | V                 | 45.52             | 53.98             | 8.46           | AV                  |

Band : UNII 2A  
Operation Mode: 802.11 a  
Transfer Rate: 6 Mbps  
Operating Frequency 5320 MHz  
Channel No. 64 Ch

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL+AMP+ATT.<br>+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|----------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 5350               | 61.31             | 3.34                             | H                 | 64.65             | 73.98             | 9.33           | PK                  |
| 5350               | 42.30             | 3.34                             | H                 | 45.64             | 53.98             | 8.34           | AV                  |
| 5350               | 60.77             | 3.34                             | V                 | 64.11             | 73.98             | 9.87           | PK                  |
| 5350               | 41.58             | 3.34                             | V                 | 44.92             | 53.98             | 9.06           | AV                  |

Band : UNII 2A  
Operation Mode: 802.11 n\_ HT20  
Transfer MCS Index: 0  
Operating Frequency 5320 MHz  
Channel No. 64 Ch

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL+AMP+ATT.<br>+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|----------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 5350               | 60.93             | 3.34                             | H                 | 64.27             | 73.98             | 9.71           | PK                  |
| 5350               | 42.22             | 3.34                             | H                 | 45.56             | 53.98             | 8.42           | AV                  |
| 5350               | 60.20             | 3.34                             | V                 | 63.54             | 73.98             | 10.44          | PK                  |
| 5350               | 41.48             | 3.34                             | V                 | 44.82             | 53.98             | 9.16           | AV                  |

Band : UNII 2A  
Operation Mode: 802.11 n\_HT40  
Transfer MCS Index: 0  
Operating Frequency 5310 MHz  
Channel No. 62 Ch

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL+AMP+ATT.<br>+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|----------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 5350               | 63.67             | 3.34                             | H                 | 67.01             | 73.98             | 6.97           | PK                  |
| 5350               | 44.55             | 3.34                             | H                 | 47.89             | 53.98             | 6.09           | AV                  |
| 5350               | 63.12             | 3.34                             | V                 | 66.46             | 73.98             | 7.52           | PK                  |
| 5350               | 43.76             | 3.34                             | V                 | 47.1              | 53.98             | 6.88           | AV                  |

Band : UNII 2C  
Operation Mode: 802.11 a  
Transfer Rate: 6 Mbps  
Operating Frequency 5500 MHz  
Channel No. 100 Ch

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL+AMP+ATT.<br>+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|----------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 5460               | 55.84             | 4.91                             | H                 | 60.75             | 73.98             | 13.23          | PK                  |
| 5460               | 38.14             | 4.91                             | H                 | 43.05             | 53.98             | 10.93          | AV                  |
| *5470              | 61.48             | 4.98                             | H                 | 66.46             | 73.98             | 7.52           | PK                  |
| *5470              | 42.98             | 4.98                             | H                 | 47.96             | 53.98             | 6.02           | AV                  |
| 5460               | 55.18             | 4.91                             | V                 | 60.09             | 73.98             | 13.89          | PK                  |
| 5460               | 37.34             | 4.91                             | V                 | 42.25             | 53.98             | 11.73          | AV                  |
| *5470              | 60.74             | 4.98                             | V                 | 65.72             | 73.98             | 8.26           | PK                  |
| *5470              | 42.11             | 4.98                             | V                 | 47.09             | 53.98             | 6.89           | AV                  |

Band : UNII 2C  
Operation Mode: 802.11 n\_ HT20  
Transfer MCS Index: 0  
Operating Frequency 5500 MHz  
Channel No. 100 Ch

| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL+AMP+ATT.<br>+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|----------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 5460               | 57.00             | 4.91                             | H                 | 61.91             | 73.98             | 12.07          | PK                  |
| 5460               | 38.23             | 4.91                             | H                 | 43.14             | 53.98             | 10.84          | AV                  |
| *5470              | 62.96             | 4.98                             | H                 | 67.94             | 73.98             | 6.04           | PK                  |
| *5470              | 43.73             | 4.98                             | H                 | 48.71             | 53.98             | 5.27           | AV                  |
| 5460               | 56.33             | 4.91                             | V                 | 61.24             | 73.98             | 12.74          | PK                  |
| 5460               | 37.64             | 4.91                             | V                 | 42.55             | 53.98             | 11.43          | AV                  |
| *5470              | 62.41             | 4.98                             | V                 | 67.39             | 73.98             | 6.59           | PK                  |
| *5470              | 43.05             | 4.98                             | V                 | 48.03             | 53.98             | 5.95           | AV                  |

Band : UNII 2C  
Operation Mode: 802.11 n\_ HT40  
Transfer MCS Index: 0  
Operating Frequency 5510 MHz  
Channel No. 102 Ch

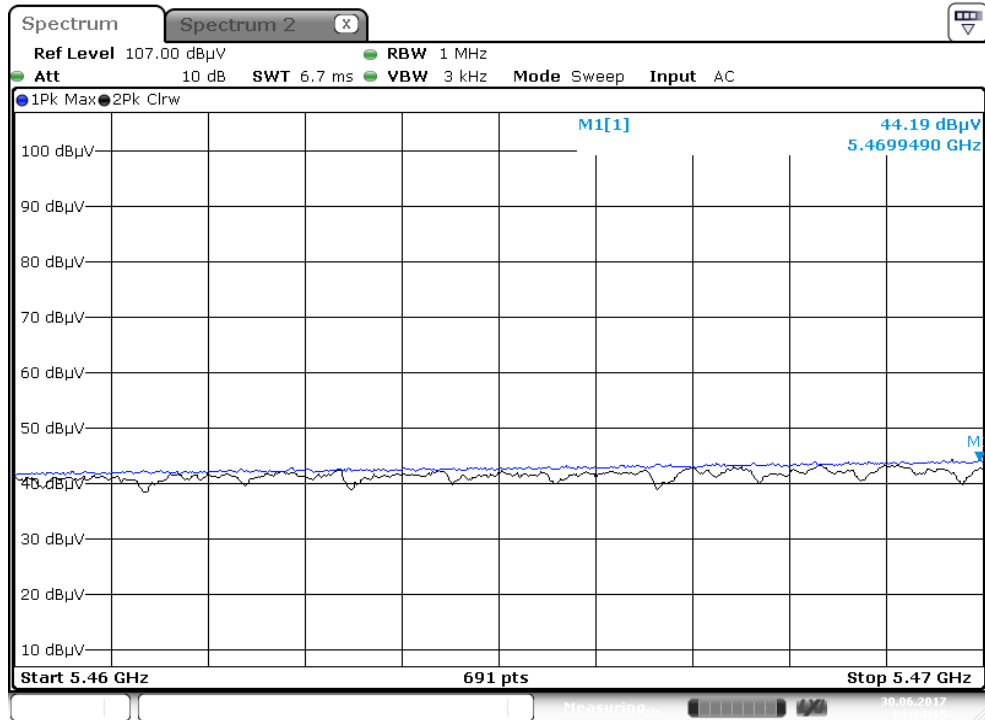
| Frequency<br>[MHz] | Reading<br>[dBuV] | AN.+CL+AMP+ATT.<br>+D.F.<br>[dB] | ANT. POL<br>[H/V] | Total<br>[dBuV/m] | Limit<br>[dBuV/m] | Margin<br>[dB] | Measurement<br>Type |
|--------------------|-------------------|----------------------------------|-------------------|-------------------|-------------------|----------------|---------------------|
| 5460               | 56.47             | 4.91                             | H                 | 61.38             | 73.98             | 12.60          | PK                  |
| 5460               | 39.73             | 4.91                             | H                 | 44.64             | 53.98             | 9.34           | AV                  |
| *5470              | 63.84             | 4.98                             | H                 | 68.82             | 73.98             | 5.16           | PK                  |
| *5470              | 44.17             | 4.98                             | H                 | 49.15             | 53.98             | 4.83           | AV                  |
| 5460               | 54.46             | 4.91                             | V                 | 59.37             | 73.98             | 14.61          | PK                  |
| 5460               | 39.28             | 4.91                             | V                 | 44.19             | 53.98             | 9.79           | AV                  |
| *5470              | 62.93             | 4.98                             | V                 | 67.91             | 73.98             | 6.07           | PK                  |
| *5470              | 43.54             | 4.98                             | V                 | 48.52             | 53.98             | 5.46           | AV                  |

**Notes:**

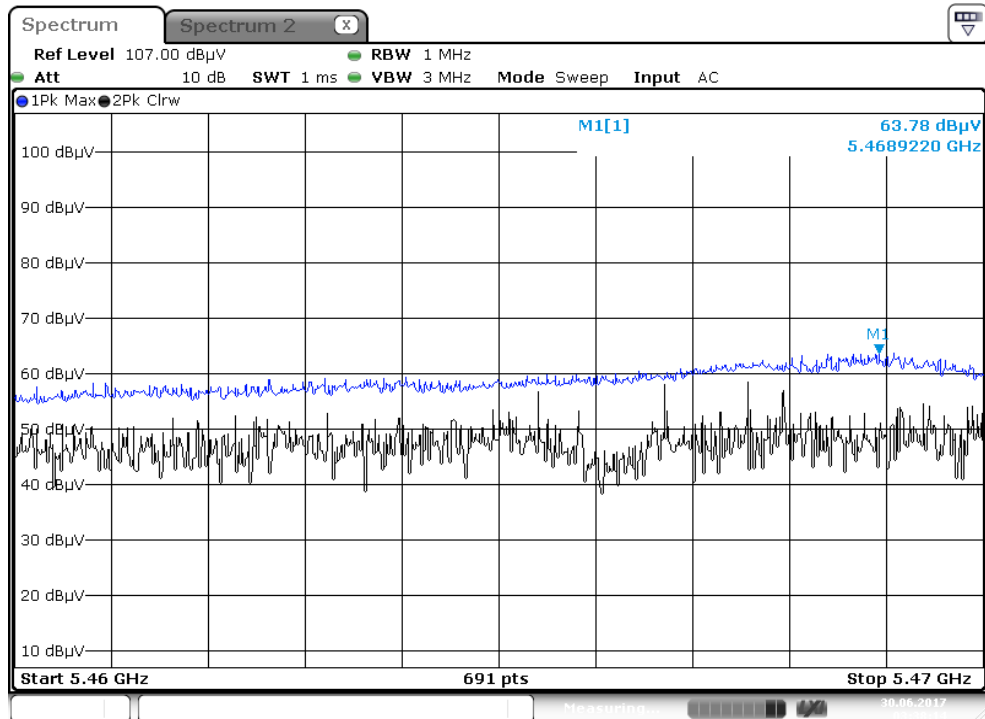
1. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + ATT + D.F.
2. We have done all data rate in 802.11a/n mode test. . Worst case of EUT is lowest data rate in 802.11a/n.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
4. '\*' is radiated band edge test frequency.(not restricted band emissions)
5. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain + Distance Factor
6. The worst limit for UNII 3 according to 15.407(4)(i) is -27 dBm(68.2 dBuV/m).  
The band edge results at 5850 MHz comply to the worst limit.

■ **RESULT PLOTS(Worst case : X-H)**

**Radiated Restricted Band Edges plot –Average Reading (802.11n\_HT40, Ch.102)**



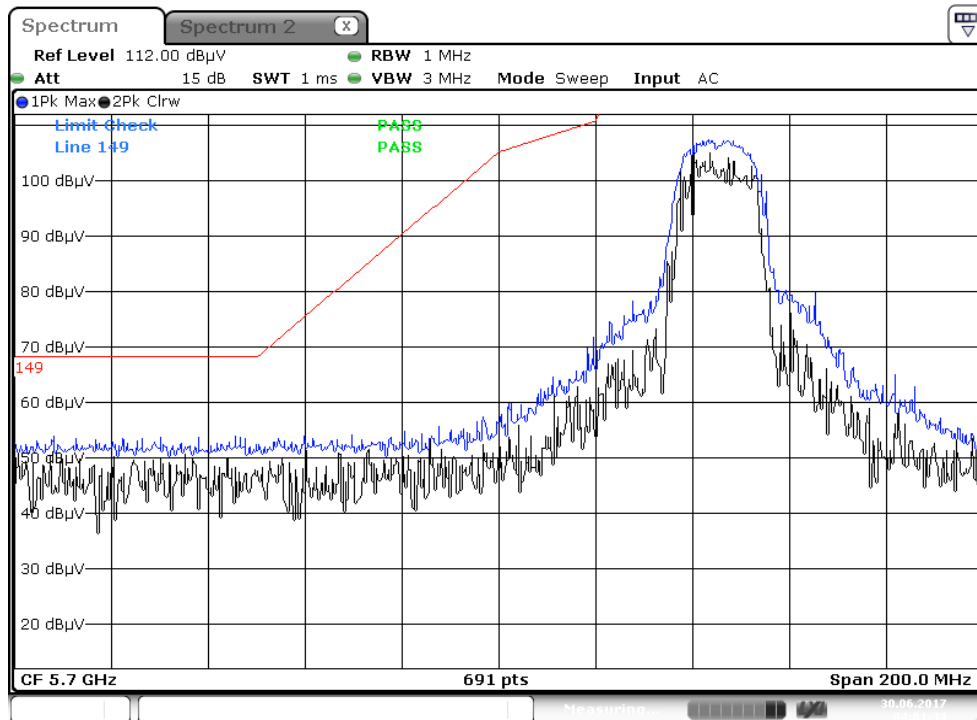
**Radiated Restricted Band Edges plot – Peak Reading (802.11n\_HT40, Ch.102)**



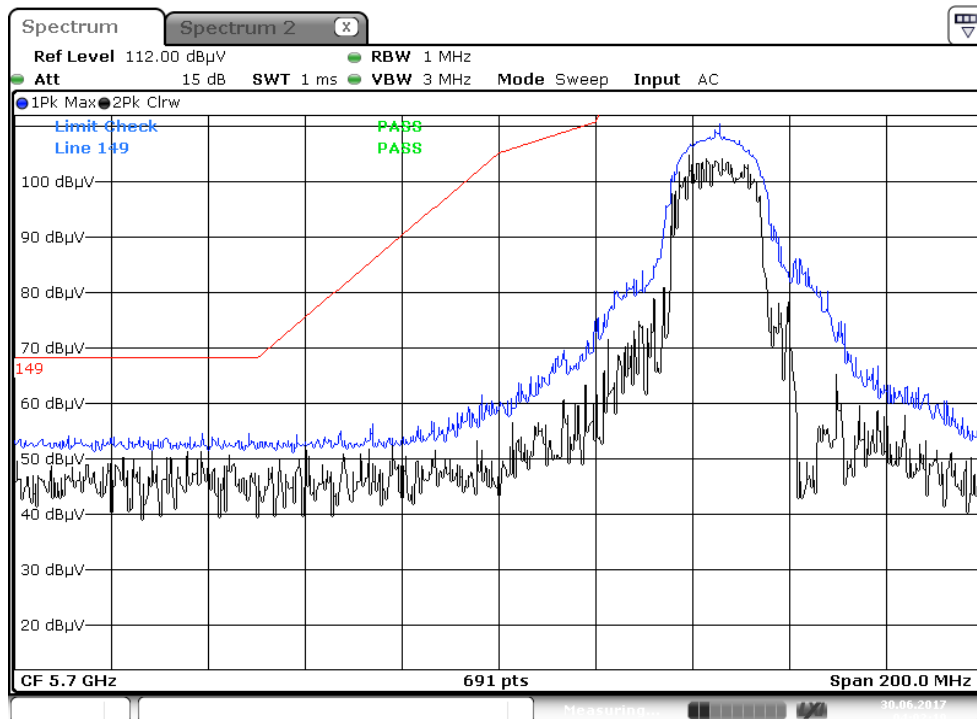
**Note : Only the worst case plots for Radiated Restricted Band Edges.**

■ **RESULT PLOTS (UNII 3) – 149 channel**

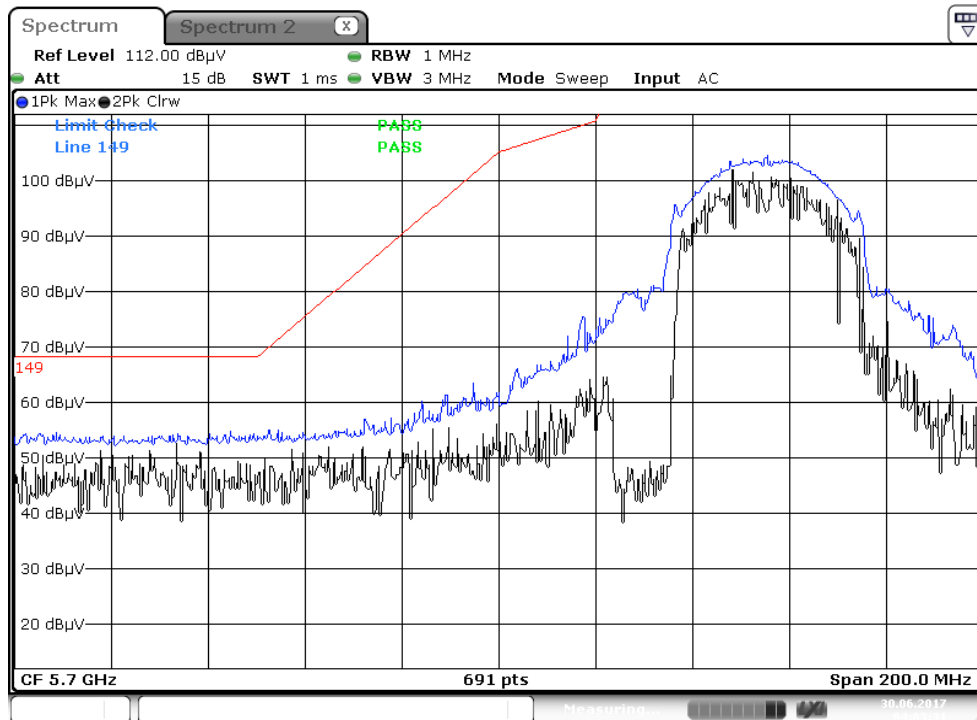
**Radiated Restricted Band Edges plot – Peak Reading (802.11a)**



**Radiated Restricted Band Edges plot – Peak Reading (802.11n\_HT20)**

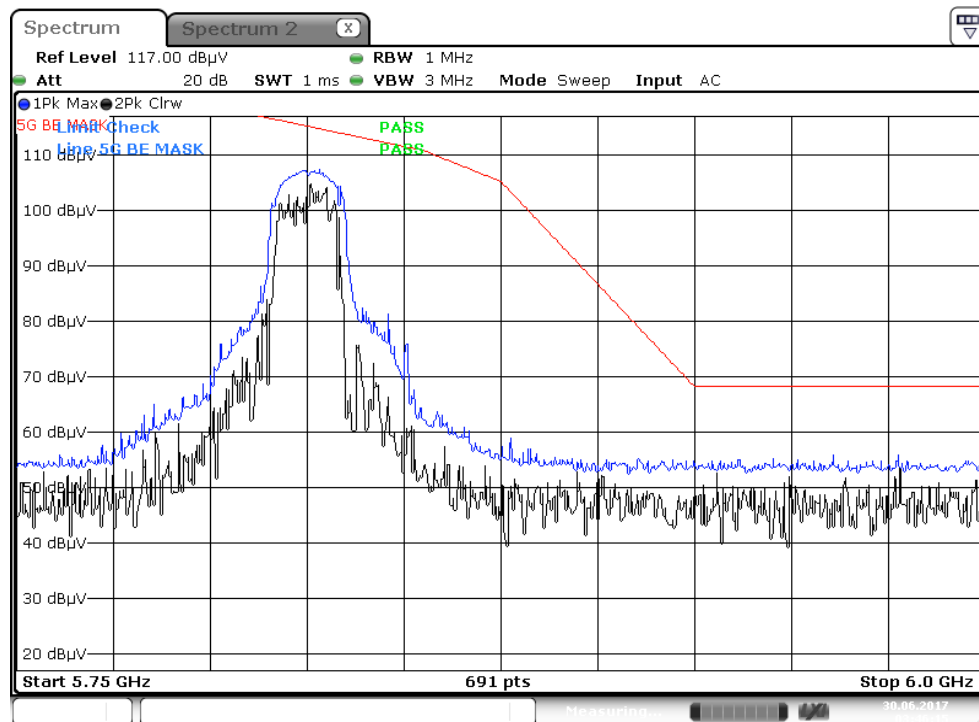


**Radiated Restricted Band Edges plot – Peak Reading (802.11n\_HT40)**

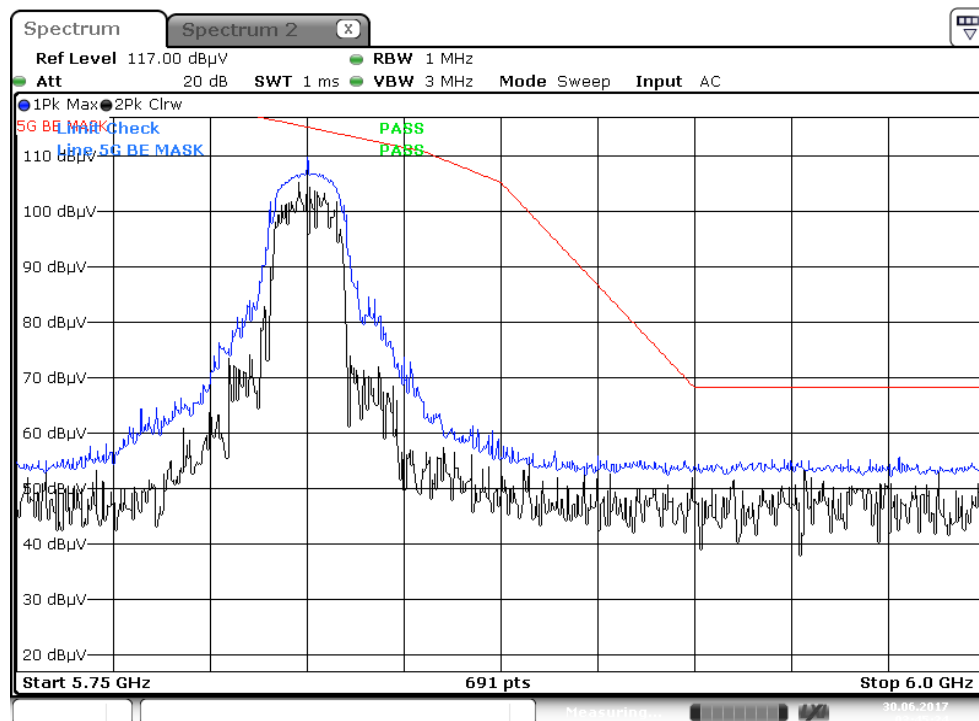


■ RESULT PLOTS (UNII 3) – 165 channel

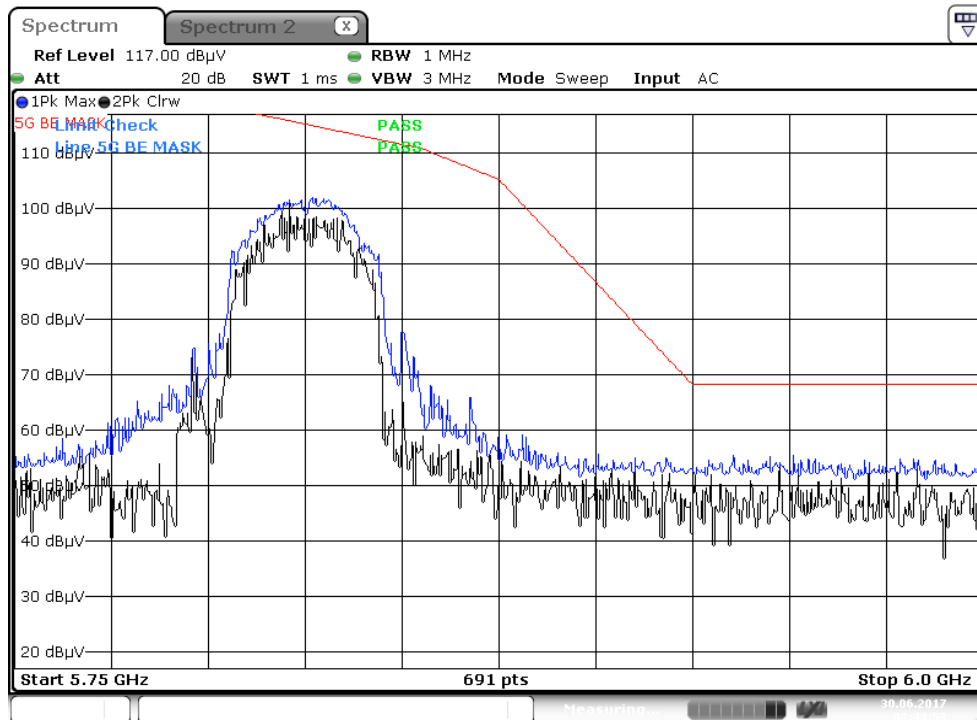
**Radiated Restricted Band Edges plot – Peak Reading (802.11a)**



**Radiated Restricted Band Edges plot – Peak Reading (802.11n\_HT20)**



**Radiated Restricted Band Edges plot – Peak Reading (802.11n\_HT40)**



## 9.7 POWERLINE CONDUCTED EMISSIONS

### Test Requirements and limit, §15.207

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

| Frequency Range (MHz) | Limits (dB $\mu$ V) |          |
|-----------------------|---------------------|----------|
|                       | Quasi-peak          | Average  |
| 0.15 to 0.50          | 66 to 56            | 56 to 46 |
| 0.50 to 5             | 56                  | 46       |
| 5 to 30               | 60                  | 50       |

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

### Test Configuration

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

### TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference groundplane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.

### Sample Calculation

Quasi-peak(Final Result) = Reading Value + Correction Factor

## RESULT PLOTS

### Conducted Emissions (Line 1)

EMI Auto Test(13)

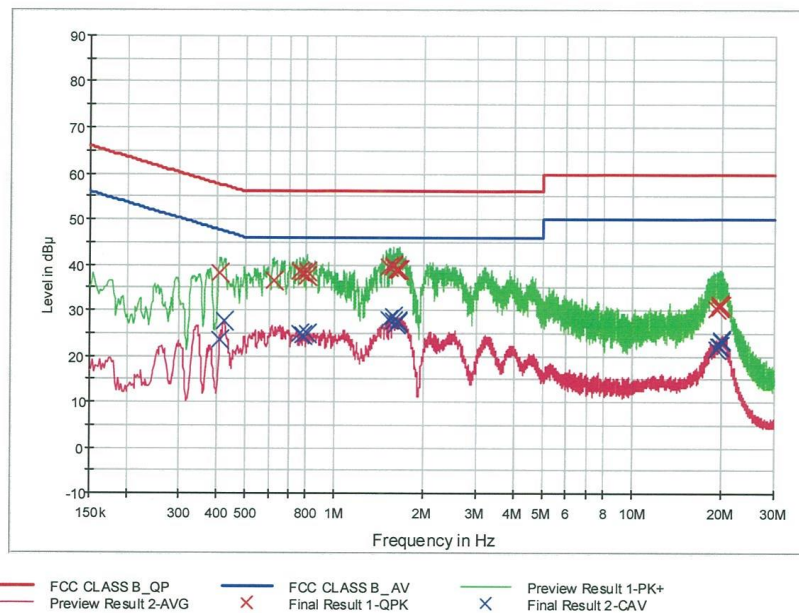
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## HCT TEST Report

### Common Information

EUT: SM-J330L  
Manufacturer: SAMSUNG  
Test Site: SHIELD ROOM  
Operating Conditions: WLAN 5GHz MODE

FCC CLASS B



### Final Result 1

| Frequency (MHz) | QuasiPeak (dBμV) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|------------------|-----------------|--------|------|------------|-------------|--------------|
| 0.410000        | 38.3             | 9.000           | Off    | L1   | 9.7        | 19.4        | 57.6         |
| 0.622000        | 36.6             | 9.000           | Off    | L1   | 9.7        | 19.4        | 56.0         |
| 0.764000        | 38.5             | 9.000           | Off    | L1   | 9.7        | 17.5        | 56.0         |
| 0.784000        | 38.2             | 9.000           | Off    | L1   | 9.7        | 17.8        | 56.0         |
| 0.804000        | 37.4             | 9.000           | Off    | L1   | 9.7        | 18.6        | 56.0         |
| 0.810000        | 38.5             | 9.000           | Off    | L1   | 9.7        | 17.5        | 56.0         |
| 1.528000        | 39.6             | 9.000           | Off    | L1   | 9.8        | 16.4        | 56.0         |
| 1.568000        | 39.6             | 9.000           | Off    | L1   | 9.8        | 16.4        | 56.0         |
| 1.576000        | 39.9             | 9.000           | Off    | L1   | 9.8        | 16.1        | 56.0         |
| 1.608000        | 38.9             | 9.000           | Off    | L1   | 9.8        | 17.1        | 56.0         |
| 1.622000        | 38.8             | 9.000           | Off    | L1   | 9.8        | 17.2        | 56.0         |
| 1.656000        | 38.8             | 9.000           | Off    | L1   | 9.8        | 17.2        | 56.0         |
| 19.236000       | 30.2             | 9.000           | Off    | L1   | 10.3       | 29.8        | 60.0         |
| 19.602000       | 30.7             | 9.000           | Off    | L1   | 10.3       | 29.3        | 60.0         |
| 19.606000       | 31.3             | 9.000           | Off    | L1   | 10.3       | 28.7        | 60.0         |
| 19.612000       | 31.1             | 9.000           | Off    | L1   | 10.3       | 28.9        | 60.0         |
| 19.938000       | 31.1             | 9.000           | Off    | L1   | 10.3       | 28.9        | 60.0         |
| 19.976000       | 31.1             | 9.000           | Off    | L1   | 10.3       | 28.9        | 60.0         |

### Final Result 2

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| Frequency<br>(MHz) | CAverage<br>(dBμV) | Bandwidth<br>(kHz) | Filter | Line | Corr.<br>(dB) | Margin<br>(dB) | Limit<br>(dBμV) |
|--------------------|--------------------|--------------------|--------|------|---------------|----------------|-----------------|
| 0.412000           | 23.6               | 9.000              | Off    | L1   | 9.7           | 24.0           | 47.6            |
| 0.426000           | 27.7               | 9.000              | Off    | L1   | 9.7           | 19.6           | 47.3            |
| 0.764000           | 24.8               | 9.000              | Off    | L1   | 9.7           | 21.2           | 46.0            |
| 0.784000           | 24.4               | 9.000              | Off    | L1   | 9.7           | 21.6           | 46.0            |
| 0.806000           | 24.8               | 9.000              | Off    | L1   | 9.7           | 21.2           | 46.0            |
| 0.810000           | 25.0               | 9.000              | Off    | L1   | 9.7           | 21.0           | 46.0            |
| 1.528000           | 28.0               | 9.000              | Off    | L1   | 9.8           | 18.0           | 46.0            |
| 1.568000           | 27.7               | 9.000              | Off    | L1   | 9.8           | 18.3           | 46.0            |
| 1.576000           | 28.7               | 9.000              | Off    | L1   | 9.8           | 17.3           | 46.0            |
| 1.608000           | 27.1               | 9.000              | Off    | L1   | 9.8           | 18.9           | 46.0            |
| 1.622000           | 27.7               | 9.000              | Off    | L1   | 9.8           | 18.3           | 46.0            |
| 1.626000           | 27.3               | 9.000              | Off    | L1   | 9.8           | 18.7           | 46.0            |
| 19.236000          | 21.6               | 9.000              | Off    | L1   | 10.3          | 28.4           | 50.0            |
| 19.394000          | 22.2               | 9.000              | Off    | L1   | 10.3          | 27.8           | 50.0            |
| 19.602000          | 22.3               | 9.000              | Off    | L1   | 10.3          | 27.7           | 50.0            |
| 19.606000          | 22.3               | 9.000              | Off    | L1   | 10.3          | 27.7           | 50.0            |
| 19.976000          | 23.4               | 9.000              | Off    | L1   | 10.3          | 26.6           | 50.0            |
| 19.986000          | 23.5               | 9.000              | Off    | L1   | 10.3          | 26.5           | 50.0            |

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## Conducted Emissions (Line 2)

EMI Auto Test(13)

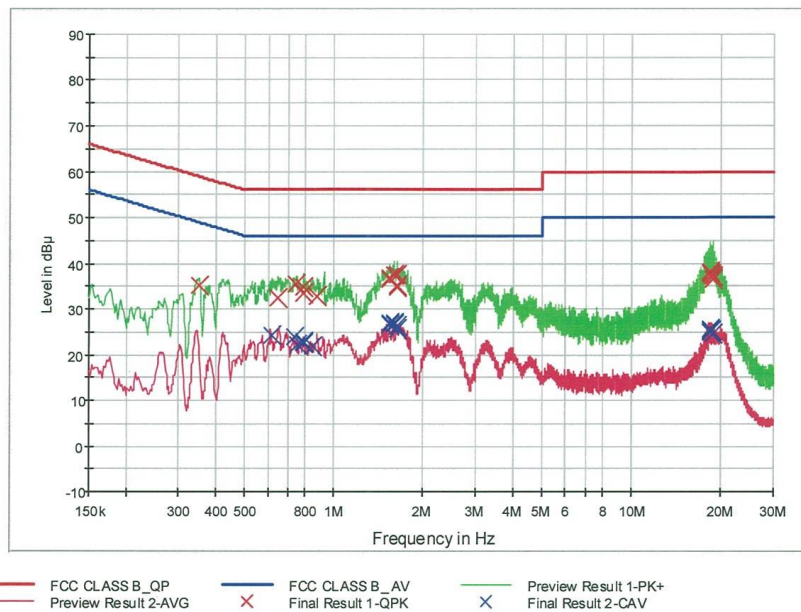
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# HCT TEST Report

## Common Information

EUT: SM-J330L  
Manufacturer: SAMSUNG  
Test Site: SHIELD ROOM  
Operating Conditions: WLAN 5GHz MODE

FCC CLASS B



## Final Result 1

| Frequency (MHz) | QuasiPeak (dBμV) | Bandwidth (kHz) | Filter | Line | Corr. (dB) | Margin (dB) | Limit (dBμV) |
|-----------------|------------------|-----------------|--------|------|------------|-------------|--------------|
| 0.352000        | 35.0             | 9.000           | Off    | N    | 9.7        | 24.0        | 58.9         |
| 0.648000        | 32.2             | 9.000           | Off    | N    | 9.7        | 23.8        | 56.0         |
| 0.748000        | 35.3             | 9.000           | Off    | N    | 9.7        | 20.7        | 56.0         |
| 0.790000        | 33.3             | 9.000           | Off    | N    | 9.7        | 22.7        | 56.0         |
| 0.794000        | 34.8             | 9.000           | Off    | N    | 9.7        | 21.2        | 56.0         |
| 0.880000        | 32.8             | 9.000           | Off    | N    | 9.7        | 23.2        | 56.0         |
| 1.538000        | 36.5             | 9.000           | Off    | N    | 9.7        | 19.5        | 56.0         |
| 1.544000        | 36.9             | 9.000           | Off    | N    | 9.7        | 19.2        | 56.0         |
| 1.586000        | 37.5             | 9.000           | Off    | N    | 9.7        | 18.5        | 56.0         |
| 1.624000        | 35.2             | 9.000           | Off    | N    | 9.7        | 20.8        | 56.0         |
| 1.632000        | 37.6             | 9.000           | Off    | N    | 9.7        | 18.4        | 56.0         |
| 1.638000        | 34.8             | 9.000           | Off    | N    | 9.7        | 21.2        | 56.0         |
| 18.382000       | 37.7             | 9.000           | Off    | N    | 10.3       | 22.3        | 60.0         |
| 18.394000       | 38.1             | 9.000           | Off    | N    | 10.3       | 21.9        | 60.0         |
| 18.400000       | 38.3             | 9.000           | Off    | N    | 10.3       | 21.7        | 60.0         |
| 18.544000       | 37.4             | 9.000           | Off    | N    | 10.3       | 22.6        | 60.0         |
| 18.728000       | 36.6             | 9.000           | Off    | N    | 10.3       | 23.4        | 60.0         |
| 18.786000       | 37.1             | 9.000           | Off    | N    | 10.3       | 22.9        | 60.0         |

## Final Result 2

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| Frequency<br>(MHz) | CAverage<br>(dBμV) | Bandwidth<br>(kHz) | Filter | Line | Corr.<br>(dB) | Margin<br>(dB) | Limit<br>(dBμV) |
|--------------------|--------------------|--------------------|--------|------|---------------|----------------|-----------------|
| 0.618000           | 24.3               | 9.000              | Off    | N    | 9.7           | 21.7           | 46.0            |
| 0.732000           | 24.0               | 9.000              | Off    | N    | 9.7           | 22.0           | 46.0            |
| 0.750000           | 22.3               | 9.000              | Off    | N    | 9.7           | 23.7           | 46.0            |
| 0.790000           | 22.9               | 9.000              | Off    | N    | 9.7           | 23.1           | 46.0            |
| 0.794000           | 22.6               | 9.000              | Off    | N    | 9.7           | 23.4           | 46.0            |
| 0.848000           | 21.7               | 9.000              | Off    | N    | 9.7           | 24.3           | 46.0            |
| 1.538000           | 26.9               | 9.000              | Off    | N    | 9.7           | 19.1           | 46.0            |
| 1.544000           | 26.6               | 9.000              | Off    | N    | 9.7           | 19.4           | 46.0            |
| 1.584000           | 26.8               | 9.000              | Off    | N    | 9.7           | 19.2           | 46.0            |
| 1.588000           | 26.6               | 9.000              | Off    | N    | 9.7           | 19.4           | 46.0            |
| 1.634000           | 26.4               | 9.000              | Off    | N    | 9.7           | 19.6           | 46.0            |
| 1.638000           | 25.5               | 9.000              | Off    | N    | 9.7           | 20.5           | 46.0            |
| 18.382000          | 25.7               | 9.000              | Off    | N    | 10.3          | 24.3           | 50.0            |
| 18.400000          | 25.2               | 9.000              | Off    | N    | 10.3          | 24.8           | 50.0            |
| 18.404000          | 24.9               | 9.000              | Off    | N    | 10.3          | 25.1           | 50.0            |
| 18.454000          | 24.8               | 9.000              | Off    | N    | 10.3          | 25.2           | 50.0            |
| 18.544000          | 25.3               | 9.000              | Off    | N    | 10.3          | 24.7           | 50.0            |
| 18.728000          | 24.5               | 9.000              | Off    | N    | 10.3          | 25.5           | 50.0            |

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## 10. LIST OF TEST EQUIPMENT

### 10.1 LIST OF TEST EQUIPMENT(Conducted Test)

| Manufacturer    | Model / Equipment            | Calibration<br>Date | Calibration<br>Interval | Serial No. |
|-----------------|------------------------------|---------------------|-------------------------|------------|
| Rohde & Schwarz | ENV216 / LISN                | 12/23/2016          | Annual                  | 100073     |
| Rohde & Schwarz | ESCI / Test Receiver         | 12/23/2016          | Annual                  | 100584     |
| Agilent         | N9020A / Signal Analyzer     | 06/13/2017          | Annual                  | MY51110085 |
| Agilent         | N9030A / Signal Analyzer     | 11/30/2016          | Annual                  | MY49431210 |
| Agilent         | N1911A / Power Meter         | 04/17/2017          | Annual                  | MY45100523 |
| Agilent         | N1921A / Power Sensor        | 04/17/2017          | Annual                  | MY52260025 |
| Agilent         | 87300B / Directional Coupler | 11/23/2016          | Annual                  | 3116A03621 |
| Hewlett Packard | 11667B / Power Splitter      | 06/12/2017          | Annual                  | 05001      |
| Hewlett Packard | E3632A / DC Power Supply     | 07/07/2016          | Annual                  | KR75303960 |
| Agilent         | 8493C / Attenuator(10 dB)    | 07/15/2016          | Annual                  | 07560      |
| Rohde & Schwarz | EMC32 / Software             | -                   | -                       | -          |

## 10.2 LIST OF TEST EQUIPMENT(Radiated Test)

| Manufacturer           | Model / Equipment                                          | Calibration Date | Calibration Interval | Serial No.  |
|------------------------|------------------------------------------------------------|------------------|----------------------|-------------|
| Audix                  | AM4000 / Antenna Position Tower                            | N/A              | N/A                  | N/A         |
| Audix                  | Turn Table                                                 | N/A              | N/A                  | N/A         |
| Audix                  | EM1000 / Controller                                        | N/A              | N/A                  | 060520      |
| Rohde & Schwarz        | Loop Antenna                                               | 04/19/2017       | Biennial             | 1513-175    |
| Schwarzbeck            | VULB 9168 / Hybrid Antenna                                 | 04/06/2017       | Biennial             | 760         |
| Schwarzbeck            | BBHA 9120D / Horn Antenna                                  | 08/25/2016       | Biennial             | 9120D-1300  |
| Schwarzbeck            | BBHA9170 /<br>Horn Antenna(15 GHz ~ 40 GHz)                | 09/04/2015       | Biennial             | BBHA9170541 |
| Rohde & Schwarz        | FSP / Spectrum Analyzer                                    | 09/10/2016       | Annual               | 100688      |
| Rohde & Schwarz        | FSV40-N / Spectrum Analyzer                                | 09/23/2016       | Annual               | 101068-SZ   |
| Wainwright Instruments | WHK3.0/18G-10EF / High Pass Filter                         | 06/12/2017       | Annual               | 8           |
| Wainwright Instruments | WHFX7.0/18G-8SS / High Pass Filter                         | 05/15/2017       | Annual               | 29          |
| Wainwright Instruments | WRCJV2400/2483.5-2370/2520-60/12SS /<br>Band Reject Filter | 07/06/2016       | Annual               | 2           |
| Wainwright Instruments | WRCJV5100/5850-40/50-8EEK /<br>Band Reject Filter          | 01/24/2017       | Annual               | 2           |
| Agilent                | 8493C-10 / Attenuator(10 dB)                               | 08/11/2016       | Annual               | 76649       |
| CERNEX                 | CBLU1183540 / Power Amplifier                              | 07/15/2016       | Annual               | 22964       |
| CERNEX                 | CBL06185030 / Power Amplifier                              | 07/15/2016       | Annual               | 22965       |
| CERNEX                 | CBL18265035 / Power Amplifier                              | 01/23/2017       | Annual               | 22966       |
| CERNEX                 | CBL26405040 / Power Amplifier                              | 07/11/2016       | Annual               | 25956       |