

## ANNEX A: Test Result

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the loop antenna is vertical, the others are vertical and horizontal. and the worst case was recorded.

# 1. Unwanted Emission

## 1.1. Wi-Fi 2.4GHz / Thread

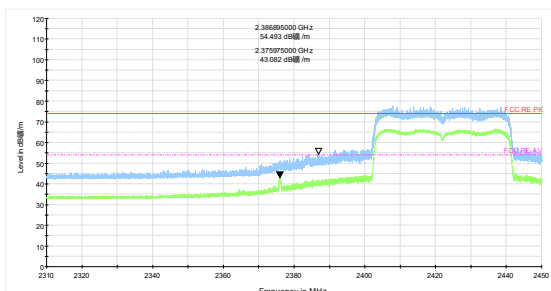
The following graphs display the maximum values of horizontal and vertical by software.  
Blue trace uses the peak detection, Green trace uses the average detection.

A symbol ( $\text{dB}\mu\text{V/m}$ ) in the test plot below means ( $\text{dB}\mu\text{V/m}$ )

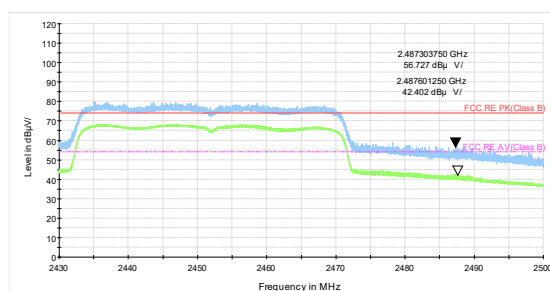
A symbol ( $\text{dB}\mu\text{V}$ ) in the test plot below means ( $\text{dB}\mu\text{V}$ )

The signal beyond the limit is carrier.

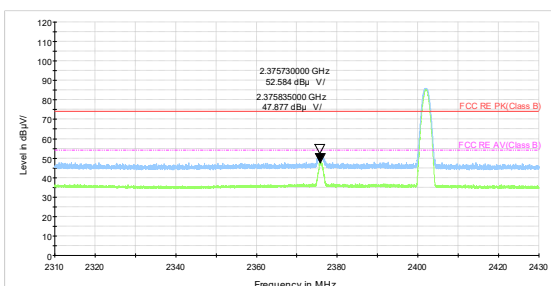
### Variant



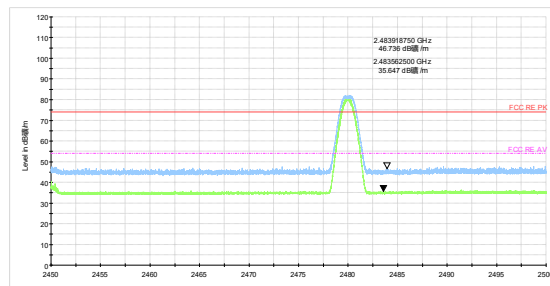
802.11ax HE40-Channel 3 Peak+ Average



802.11ax HE40 CH9 Peak+ Average



Thread-Channel 11 Peak+ Average



Thread-Channel 26 Peak+ Average

## Result of RE

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier. The Radiates Emission from 9kHz to 30MHz and 18GHz to 26.5GHz are more than 20dB below the limit are not reported.

## Remark:

1. **Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)**
2. **Margin = Limit – Quasi-Peak/ MAX Peak/ Average**
3. **A symbol (  $\text{dB}\mu\text{V/}$  ) in the test plot below means (  $\text{dB}\mu\text{V/m}$  )**
4. **The following graphs display the maximum values of coaxial and coplanar for 9k-30MHz; horizontal and vertical for above 30MHz by software.**
5. **For below 1GHz**

 QP Level @Spectrum Overview H
  QP Level @Spectrum Overview V
  QP Level @Final Results
  QP Limit

### For above 1GHz

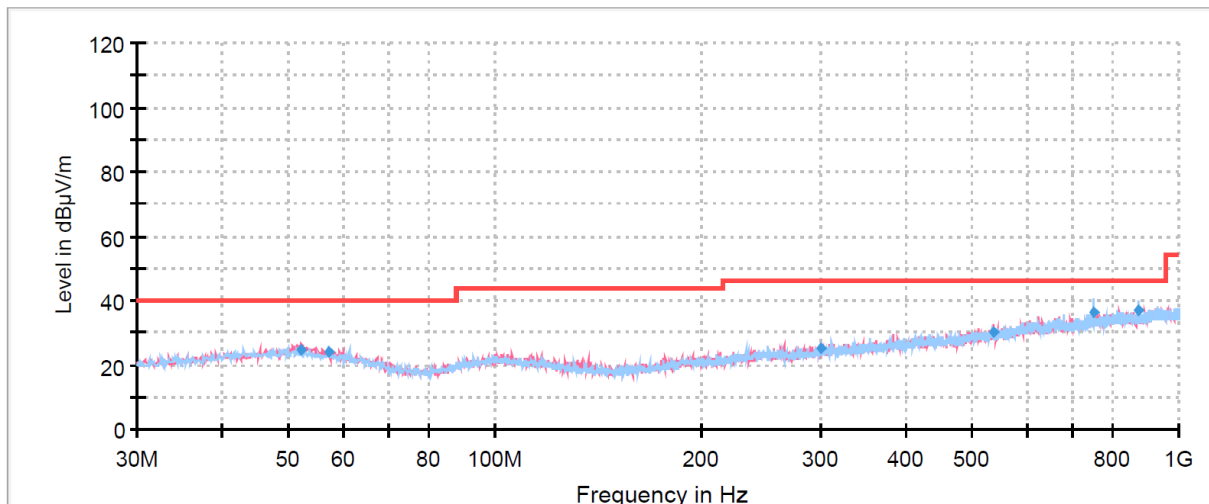
 PK Level @Spectrum Overview H
  PK Level @Spectrum Overview V
  PK Level @Final Results
  PK Limit

 AVG Level @Spectrum Overview H
  AVG Level @Spectrum Overview V
  AVG Level @Final Results
  AVG Limit

### Continuous TX mode:

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels. The test data of the worst-case condition (**802.11ax HE40 CH6**) was recorded in this report.

### Variant

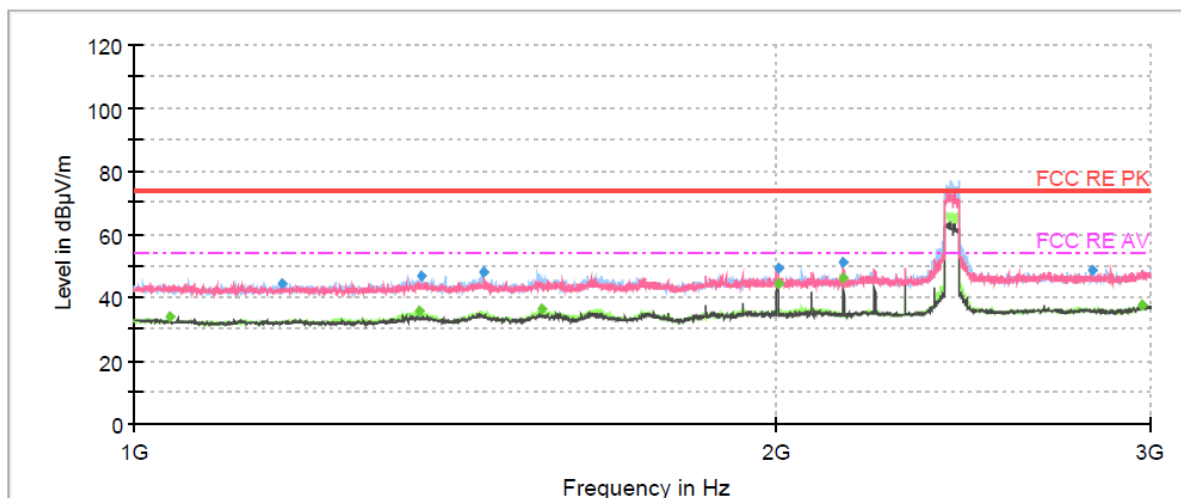


Radiates Emission from 30MHz to 1GHz

## Final Result

| Frequency (MHz) | QuasiPeak (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|--------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 52.19           | 24.89              | 40.00          | 15.11       | 1000.00         | 100.0       | V   | 8.00          | 20           |
| 57.40           | 23.82              | 40.00          | 16.18       | 1000.00         | 100.0       | H   | 353.00        | 19           |
| 299.90          | 25.33              | 46.00          | 20.67       | 1000.00         | 100.0       | H   | 31.00         | 21           |
| 536.46          | 30.35              | 46.00          | 15.65       | 1000.00         | 100.0       | V   | 317.00        | 26           |
| 750.10          | 36.43              | 46.00          | 9.57        | 1000.00         | 100.0       | H   | 20.00         | 29           |
| 875.11          | 37.01              | 46.00          | 8.99        | 1000.00         | 100.0       | H   | 73.00         | 30           |

## 802.11ax HE40 CH3

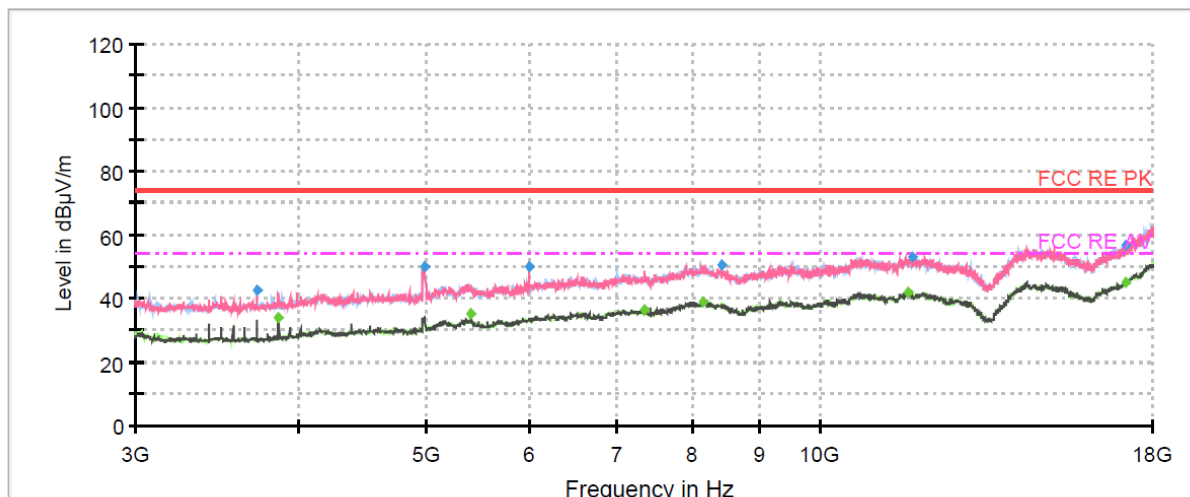


Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

## Final Result

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 1039.00         | ---              | 33.57            | 54.00          | 20.43       | 500.00          | 200.0       | H   | 302.00        | -13          |
| 1173.75         | 44.22            | ---              | 74.00          | 29.78       | 500.00          | 200.0       | V   | 302.00        | -13          |
| 1359.75         | ---              | 35.55            | 54.00          | 18.45       | 500.00          | 100.0       | H   | 138.00        | -12          |
| 1363.25         | 47.07            | ---              | 74.00          | 26.93       | 500.00          | 200.0       | H   | 312.00        | -12          |
| 1458.50         | 48.16            | ---              | 74.00          | 25.84       | 500.00          | 100.0       | H   | 220.00        | -12          |
| 1552.75         | ---              | 36.31            | 54.00          | 17.69       | 500.00          | 100.0       | H   | 234.00        | -12          |
| 2004.50         | 49.14            | ---              | 74.00          | 24.86       | 500.00          | 200.0       | V   | 259.00        | -9           |
| 2004.50         | ---              | 44.15            | 54.00          | 9.85        | 500.00          | 100.0       | V   | 290.00        | -9           |
| 2153.00         | 51.16            | ---              | 74.00          | 22.84       | 500.00          | 100.0       | V   | 250.00        | -8           |
| 2153.25         | ---              | 46.39            | 54.00          | 7.61        | 500.00          | 200.0       | V   | 302.00        | -8           |
| 2820.00         | 48.84            | ---              | 74.00          | 25.16       | 500.00          | 100.0       | H   | 48.00         | -5           |
| 2970.75         | ---              | 37.42            | 54.00          | 16.58       | 500.00          | 100.0       | H   | 0.00          | -4           |

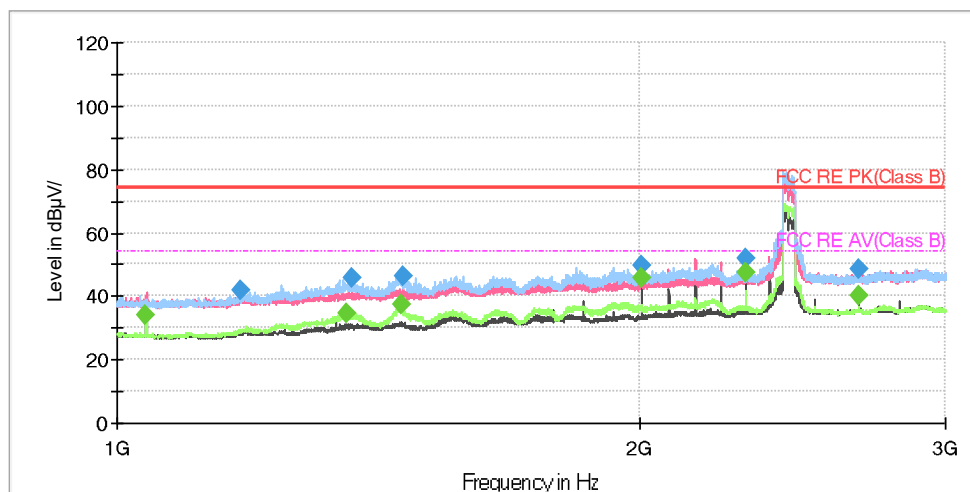


Radiates Emission from 3GHz to 18GHz

## Final Result

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 3710.63         | 42.46            | ---              | 74.00          | 31.54       | 500.00          | 200.0       | V   | 124.00        | -13          |
| 3860.63         | ---              | 33.83            | 54.00          | 20.17       | 500.00          | 200.0       | V   | 124.00        | -13          |
| 4995.00         | 49.64            | ---              | 74.00          | 24.36       | 500.00          | 200.0       | V   | 91.00         | -10          |
| 5418.75         | ---              | 35.22            | 54.00          | 18.78       | 500.00          | 200.0       | V   | 188.00        | -8           |
| 5990.63         | 49.61            | ---              | 74.00          | 24.39       | 500.00          | 200.0       | V   | 62.00         | -7           |
| 7342.50         | ---              | 36.04            | 54.00          | 17.96       | 500.00          | 200.0       | V   | 62.00         | -3           |
| 8158.13         | ---              | 38.99            | 54.00          | 15.01       | 500.00          | 100.0       | H   | 3.00          | 0            |
| 8411.25         | 50.50            | ---              | 74.00          | 23.50       | 500.00          | 200.0       | V   | 3.00          | 0            |
| 11688.75        | ---              | 41.94            | 54.00          | 12.06       | 500.00          | 200.0       | H   | 0.00          | 3            |
| 11782.50        | 53.03            | ---              | 74.00          | 20.97       | 500.00          | 100.0       | V   | 0.00          | 3            |
| 17152.50        | ---              | 45.04            | 54.00          | 8.96        | 500.00          | 200.0       | H   | 338.00        | 10           |
| 17158.13        | 56.81            | ---              | 74.00          | 17.19       | 500.00          | 200.0       | V   | 222.00        | 10           |

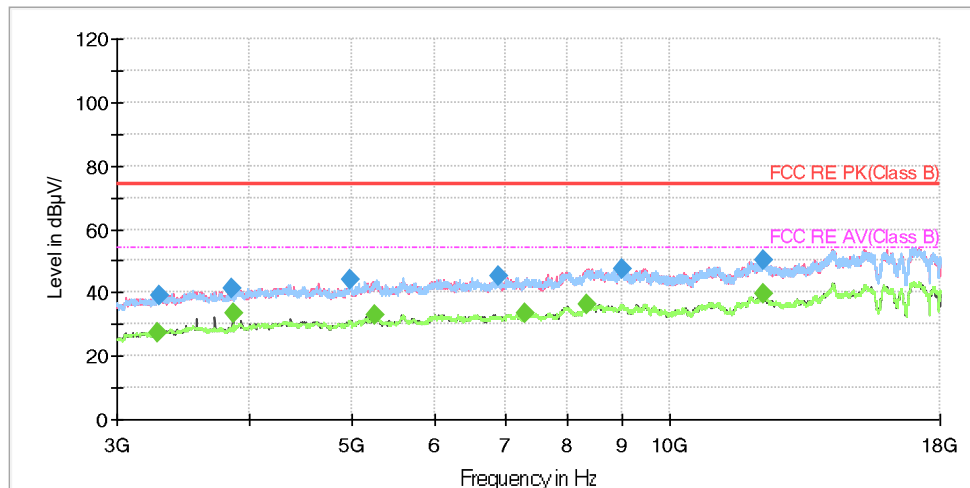
## 802.11ax HE40 CH6



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

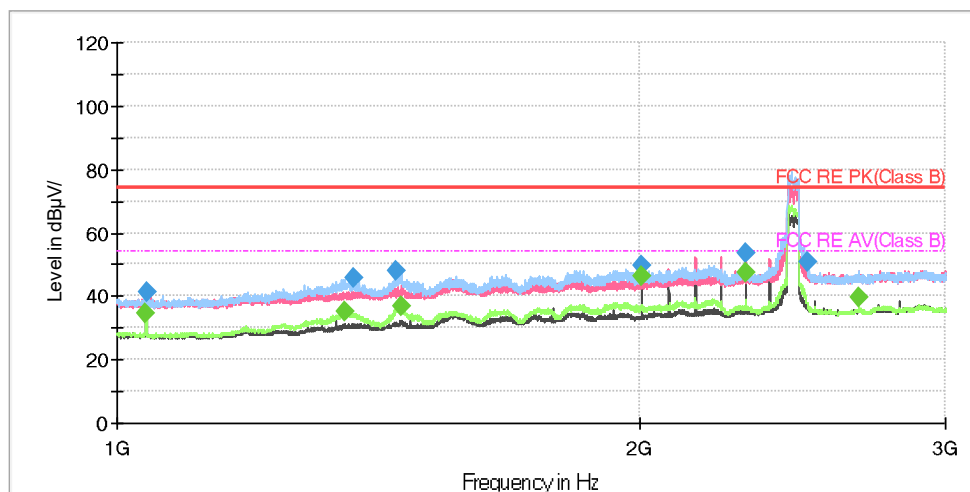
| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 1039.250000     | ---              | 33.93            | 54.00          | 20.07       | 500.0           | 200.0       | V   | 45.0          | -15.8        |
| 1177.500000     | 41.73            | ---              | 74.00          | 32.27       | 500.0           | 100.0       | H   | 198.0         | -14.7        |
| 1356.250000     | ---              | 34.77            | 54.00          | 19.23       | 500.0           | 100.0       | H   | 213.0         | -13.5        |
| 1364.000000     | 45.99            | ---              | 74.00          | 28.01       | 500.0           | 200.0       | H   | 222.0         | -13.3        |
| 1457.000000     | ---              | 37.53            | 54.00          | 16.47       | 500.0           | 100.0       | H   | 326.0         | -12.6        |
| 1462.000000     | 46.43            | ---              | 74.00          | 27.57       | 500.0           | 100.0       | H   | 326.0         | -12.7        |
| 2004.500000     | 49.60            | ---              | 74.00          | 24.40       | 500.0           | 100.0       | V   | 0.0           | -8.7         |
| 2004.750000     | ---              | 45.77            | 54.00          | 8.23        | 500.0           | 200.0       | V   | 1.0           | -8.7         |
| 2301.500000     | 52.16            | ---              | 74.00          | 21.84       | 500.0           | 200.0       | V   | 1.0           | -6.5         |
| 2301.750000     | ---              | 47.70            | 54.00          | 6.30        | 500.0           | 200.0       | V   | 21.0          | -6.5         |
| 2673.000000     | ---              | 40.05            | 54.00          | 13.95       | 500.0           | 100.0       | V   | 359.0         | -4.7         |
| 2673.250000     | 48.66            | ---              | 74.00          | 25.34       | 500.0           | 100.0       | V   | 359.0         | -4.7         |



Radiates Emission from 3GHz to 18GHz

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 3273.750000     | ---              | 27.29            | 54.00          | 26.71       | 500.0           | 100.0       | V   | 131.0         | -12.1        |
| 3292.500000     | 39.10            | ---              | 74.00          | 34.90       | 500.0           | 200.0       | V   | 269.0         | -12.0        |
| 3858.750000     | 41.41            | ---              | 74.00          | 32.59       | 500.0           | 200.0       | H   | 358.0         | -10.9        |
| 3860.625000     | ---              | 33.27            | 54.00          | 20.73       | 500.0           | 200.0       | V   | 27.0          | -10.9        |
| 4980.000000     | 44.25            | ---              | 74.00          | 29.75       | 500.0           | 200.0       | V   | 128.0         | -7.6         |
| 5266.875000     | ---              | 32.66            | 54.00          | 21.34       | 500.0           | 100.0       | H   | 50.0          | -5.3         |
| 6873.750000     | 45.06            | ---              | 74.00          | 28.94       | 500.0           | 200.0       | H   | 232.0         | -2.8         |
| 7305.000000     | ---              | 33.53            | 54.00          | 20.47       | 500.0           | 100.0       | V   | 231.0         | -1.5         |
| 8349.375000     | ---              | 36.53            | 54.00          | 17.47       | 500.0           | 200.0       | V   | 103.0         | 1.6          |
| 9016.875000     | 47.52            | ---              | 74.00          | 26.48       | 500.0           | 200.0       | H   | 321.0         | 0.8          |
| 12256.875000    | 50.41            | ---              | 74.00          | 23.59       | 500.0           | 200.0       | V   | 65.0          | 3.2          |
| 12264.375000    | ---              | 39.37            | 54.00          | 14.63       | 500.0           | 100.0       | V   | 206.0         | 3.2          |

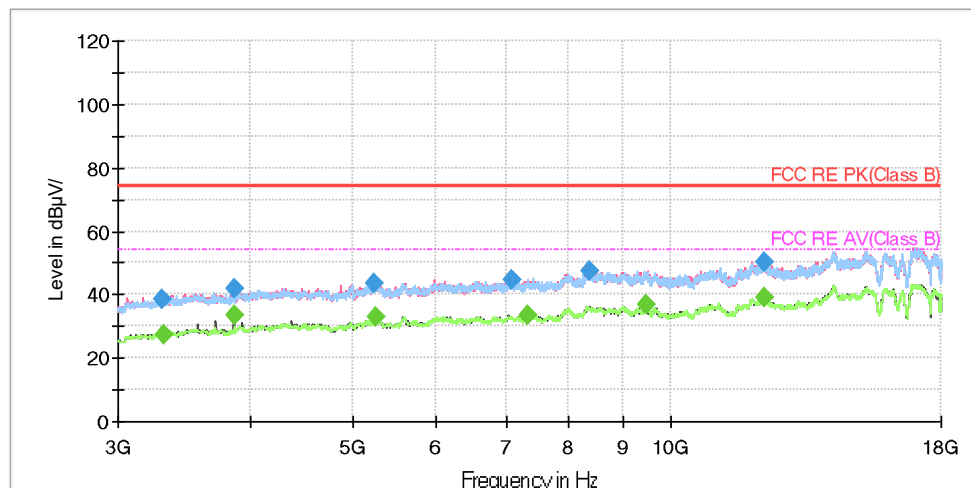
## 802.11ax HE40 CH9



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

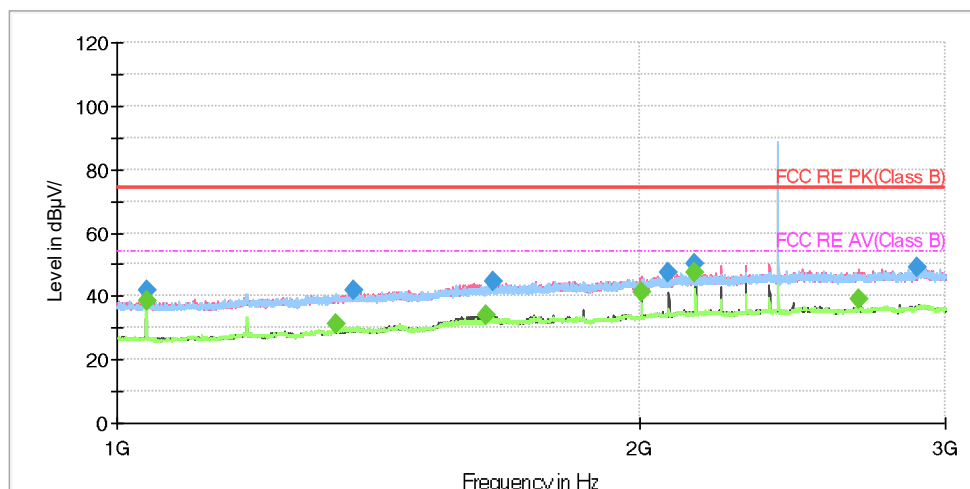
| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 1039.250000     | ---              | 34.39            | 54.00          | 19.61       | 500.0           | 200.0       | H   | 34.0          | -15.8        |
| 1039.500000     | 41.24            | ---              | 74.00          | 32.76       | 500.0           | 100.0       | V   | 5.0           | -15.8        |
| 1352.500000     | ---              | 34.89            | 54.00          | 19.11       | 500.0           | 100.0       | H   | 215.0         | -13.5        |
| 1367.250000     | 45.71            | ---              | 74.00          | 28.29       | 500.0           | 200.0       | H   | 224.0         | -13.3        |
| 1449.000000     | 48.05            | ---              | 74.00          | 25.95       | 500.0           | 100.0       | H   | 326.0         | -12.6        |
| 1459.000000     | ---              | 36.76            | 54.00          | 17.24       | 500.0           | 100.0       | H   | 326.0         | -12.6        |
| 2004.750000     | ---              | 46.27            | 54.00          | 7.73        | 500.0           | 200.0       | V   | 344.0         | -8.7         |
| 2004.750000     | 49.80            | ---              | 74.00          | 24.20       | 500.0           | 200.0       | V   | 344.0         | -8.7         |
| 2301.750000     | ---              | 47.26            | 54.00          | 6.74        | 500.0           | 200.0       | V   | 22.0          | -6.5         |
| 2302.000000     | 53.45            | ---              | 74.00          | 20.55       | 500.0           | 200.0       | V   | 9.0           | -6.5         |
| 2499.000000     | 51.06            | ---              | 74.00          | 22.94       | 500.0           | 100.0       | H   | 167.0         | -5.4         |
| 2673.000000     | ---              | 39.36            | 54.00          | 14.64       | 500.0           | 100.0       | V   | 26.0          | -4.7         |



Radiates Emission from 3GHz to 18GHz

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 3303.750000     | 38.28            | ---              | 74.00          | 35.72       | 500.0           | 100.0       | V   | 264.0         | -12.0        |
| 3309.375000     | ---              | 27.13            | 54.00          | 26.87       | 500.0           | 200.0       | V   | 99.0          | -12.1        |
| 3860.625000     | ---              | 33.54            | 54.00          | 20.46       | 500.0           | 200.0       | V   | 35.0          | -10.9        |
| 3860.625000     | 41.93            | ---              | 74.00          | 32.07       | 500.0           | 200.0       | V   | 35.0          | -10.9        |
| 5246.250000     | 43.64            | ---              | 74.00          | 30.36       | 500.0           | 200.0       | V   | 74.0          | -5.9         |
| 5268.750000     | ---              | 32.80            | 54.00          | 21.20       | 500.0           | 100.0       | H   | 70.0          | -5.2         |
| 7061.250000     | 44.80            | ---              | 74.00          | 29.20       | 500.0           | 200.0       | V   | 203.0         | -2.3         |
| 7321.875000     | ---              | 33.53            | 54.00          | 20.47       | 500.0           | 100.0       | H   | 18.0          | -1.4         |
| 8370.000000     | 47.55            | ---              | 74.00          | 26.45       | 500.0           | 100.0       | H   | 271.0         | 1.5          |
| 9463.125000     | ---              | 36.60            | 54.00          | 17.40       | 500.0           | 200.0       | V   | 216.0         | 1.0          |
| 12243.750000    | 50.39            | ---              | 74.00          | 23.61       | 500.0           | 100.0       | V   | 0.0           | 3.1          |
| 12270.000000    | ---              | 39.33            | 54.00          | 14.67       | 500.0           | 100.0       | H   | 56.0          | 3.3          |

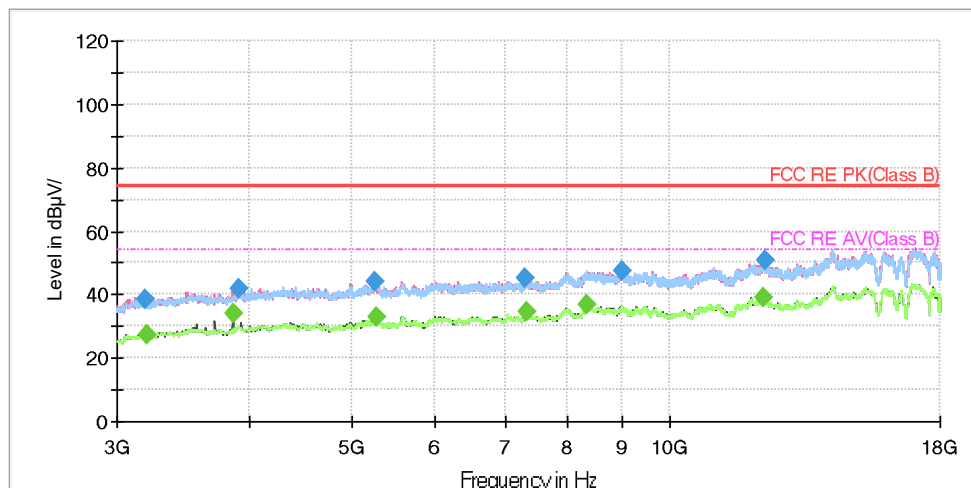
# Thread CH11



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

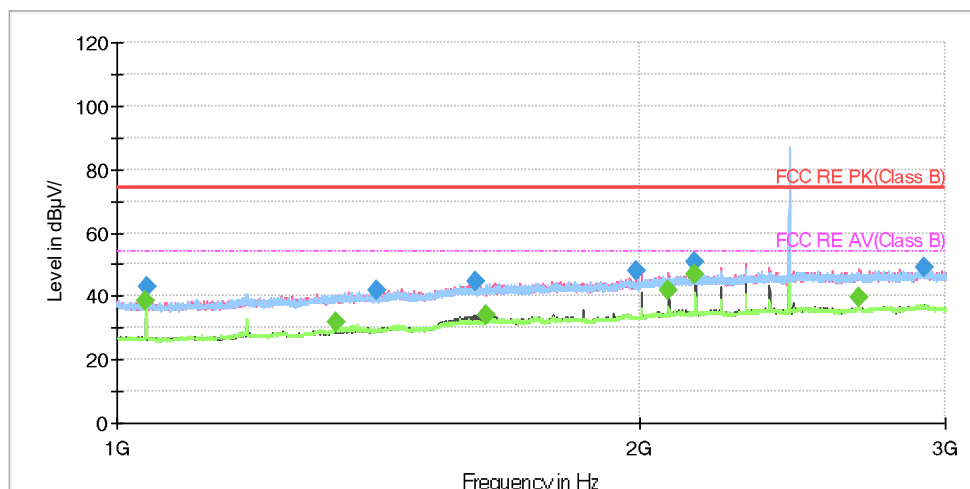
| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 1039.500000     | ---              | 38.45            | 54.00          | 15.55       | 500.0           | 200.0       | H   | 246.0         | -15.8        |
| 1039.500000     | 42.14            | ---              | 74.00          | 31.86       | 500.0           | 100.0       | H   | 231.0         | -15.8        |
| 1336.500000     | ---              | 31.29            | 54.00          | 22.71       | 500.0           | 200.0       | V   | 222.0         | -13.5        |
| 1369.500000     | 41.85            | ---              | 74.00          | 32.15       | 500.0           | 200.0       | V   | 345.0         | -13.2        |
| 1633.500000     | ---              | 33.92            | 54.00          | 20.08       | 500.0           | 200.0       | V   | 144.0         | -11.5        |
| 1648.500000     | 44.56            | ---              | 74.00          | 29.44       | 500.0           | 200.0       | V   | 133.0         | -11.1        |
| 2004.750000     | ---              | 41.17            | 54.00          | 12.83       | 500.0           | 200.0       | V   | 44.0          | -8.7         |
| 2078.750000     | 47.37            | ---              | 74.00          | 26.63       | 500.0           | 200.0       | V   | 133.0         | -8.0         |
| 2153.250000     | ---              | 47.22            | 54.00          | 6.78        | 500.0           | 200.0       | V   | 44.0          | -7.3         |
| 2153.500000     | 50.37            | ---              | 74.00          | 23.63       | 500.0           | 200.0       | V   | 44.0          | -7.3         |
| 2673.000000     | ---              | 39.12            | 54.00          | 14.88       | 500.0           | 100.0       | V   | 40.0          | -4.7         |
| 2893.000000     | 48.86            | ---              | 74.00          | 25.14       | 500.0           | 200.0       | H   | 77.0          | -3.4         |



Radiates Emission from 3GHz to 18GHz

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 3193.125000     | 38.77            | ---              | 74.00          | 35.23       | 500.0           | 200.0       | H   | 332.0         | -12.7        |
| 3206.250000     | ---              | 27.30            | 54.00          | 26.70       | 500.0           | 200.0       | H   | 0.0           | -12.8        |
| 3860.625000     | ---              | 33.84            | 54.00          | 20.16       | 500.0           | 200.0       | V   | 26.0          | -10.9        |
| 3916.875000     | 41.91            | ---              | 74.00          | 32.09       | 500.0           | 200.0       | V   | 113.0         | -9.4         |
| 5255.625000     | 44.18            | ---              | 74.00          | 29.82       | 500.0           | 100.0       | H   | 3.0           | -5.6         |
| 5276.250000     | ---              | 32.85            | 54.00          | 21.15       | 500.0           | 100.0       | H   | 65.0          | -5.4         |
| 7282.500000     | 45.03            | ---              | 74.00          | 28.97       | 500.0           | 100.0       | H   | 166.0         | -1.8         |
| 7321.875000     | ---              | 34.86            | 54.00          | 19.14       | 500.0           | 100.0       | V   | 52.0          | -1.4         |
| 8355.000000     | ---              | 36.60            | 54.00          | 17.40       | 500.0           | 100.0       | H   | 203.0         | 1.6          |
| 9005.625000     | 47.68            | ---              | 74.00          | 26.32       | 500.0           | 100.0       | H   | 115.0         | 0.7          |
| 12253.125000    | ---              | 39.33            | 54.00          | 14.67       | 500.0           | 200.0       | H   | 0.0           | 3.2          |
| 12279.375000    | 50.55            | ---              | 74.00          | 23.45       | 500.0           | 200.0       | H   | 232.0         | 3.2          |

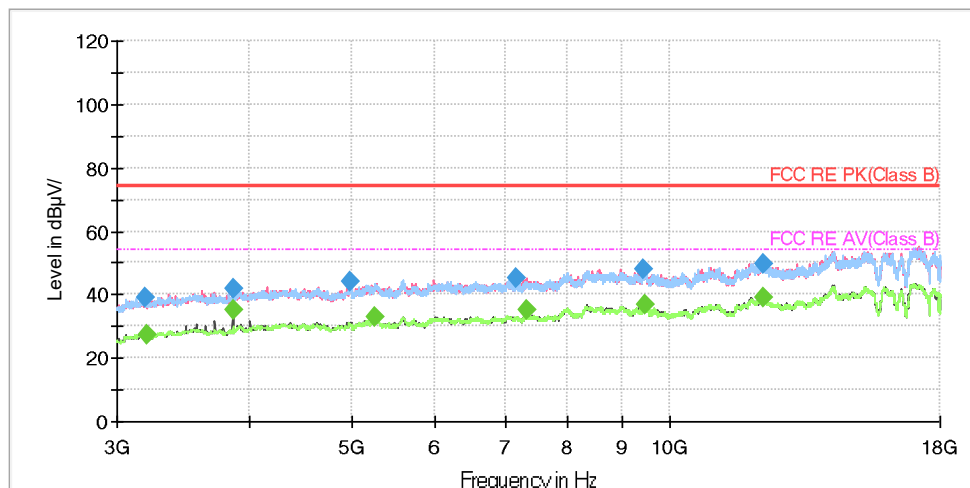
# Thread CH18



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

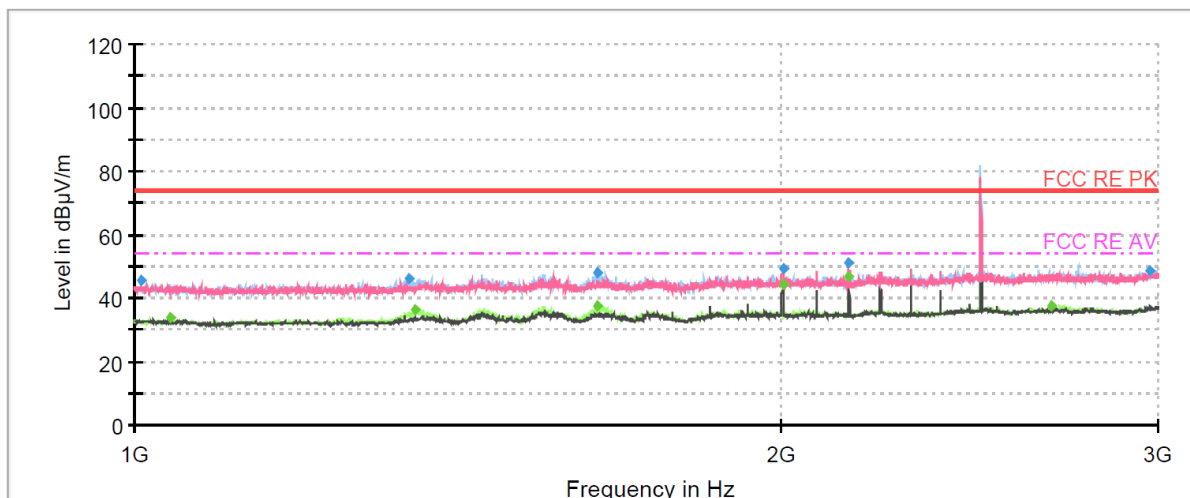
| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 1039.250000     | ---              | 38.51            | 54.00          | 15.49       | 500.0           | 200.0       | H   | 249.0         | -15.8        |
| 1039.500000     | 42.82            | ---              | 74.00          | 31.18       | 500.0           | 200.0       | H   | 249.0         | -15.8        |
| 1336.500000     | ---              | 31.58            | 54.00          | 22.42       | 500.0           | 200.0       | H   | 272.0         | -13.5        |
| 1410.250000     | 41.67            | ---              | 74.00          | 32.33       | 500.0           | 200.0       | V   | 0.0           | -13.1        |
| 1608.250000     | 44.39            | ---              | 74.00          | 29.61       | 500.0           | 200.0       | V   | 150.0         | -11.4        |
| 1633.250000     | ---              | 33.93            | 54.00          | 20.07       | 500.0           | 200.0       | V   | 139.0         | -11.6        |
| 1990.750000     | 47.73            | ---              | 74.00          | 26.27       | 500.0           | 200.0       | V   | 150.0         | -9.0         |
| 2079.000000     | ---              | 41.89            | 54.00          | 12.11       | 500.0           | 200.0       | V   | 139.0         | -8.0         |
| 2153.000000     | ---              | 46.68            | 54.00          | 7.32        | 500.0           | 200.0       | V   | 48.0          | -7.3         |
| 2153.500000     | 50.81            | ---              | 74.00          | 23.19       | 500.0           | 200.0       | V   | 48.0          | -7.3         |
| 2673.000000     | ---              | 39.37            | 54.00          | 14.63       | 500.0           | 200.0       | V   | 184.0         | -4.7         |
| 2920.250000     | 48.85            | ---              | 74.00          | 25.15       | 500.0           | 200.0       | V   | 93.0          | -3.3         |



Radiates Emission from 3GHz to 18GHz

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 3185.625000     | 39.02            | ---              | 74.00          | 34.98       | 500.0           | 100.0       | V   | 11.0          | -12.7        |
| 3208.125000     | ---              | 27.25            | 54.00          | 26.75       | 500.0           | 200.0       | V   | 255.0         | -12.9        |
| 3860.625000     | ---              | 34.99            | 54.00          | 19.01       | 500.0           | 200.0       | V   | 29.0          | -10.9        |
| 3860.625000     | 42.05            | ---              | 74.00          | 31.95       | 500.0           | 200.0       | V   | 29.0          | -10.9        |
| 4978.125000     | 44.10            | ---              | 74.00          | 29.90       | 500.0           | 200.0       | V   | 129.0         | -7.6         |
| 5266.875000     | ---              | 32.82            | 54.00          | 21.18       | 500.0           | 200.0       | V   | 104.0         | -5.3         |
| 7143.750000     | 45.21            | ---              | 74.00          | 28.79       | 500.0           | 100.0       | V   | 333.0         | -1.7         |
| 7321.875000     | ---              | 35.43            | 54.00          | 18.57       | 500.0           | 200.0       | V   | 29.0          | -1.4         |
| 9435.000000     | 47.96            | ---              | 74.00          | 26.04       | 500.0           | 200.0       | H   | 118.0         | 0.4          |
| 9466.875000     | ---              | 36.71            | 54.00          | 17.29       | 500.0           | 200.0       | V   | 116.0         | 1.0          |
| 12262.500000    | ---              | 39.35            | 54.00          | 14.65       | 500.0           | 200.0       | H   | 51.0          | 3.2          |
| 12271.875000    | 49.90            | ---              | 74.00          | 24.10       | 500.0           | 100.0       | V   | 269.0         | 3.3          |

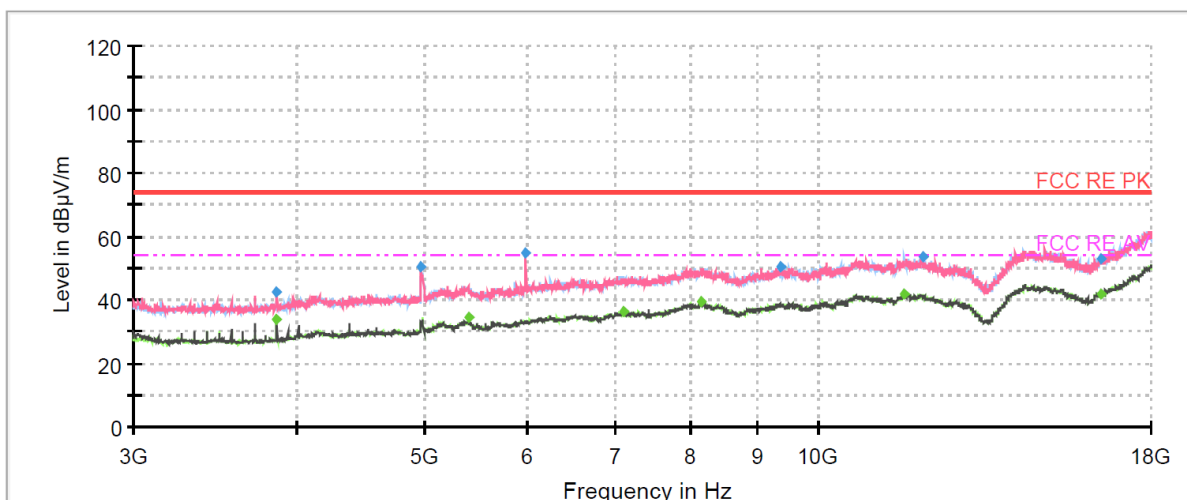
## Thread CH26



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 1006.00         | 45.33            | ---              | 74.00          | 28.67       | 500.00          | 100.0       | H   | 81.00         | -13          |
| 1039.50         | ---              | 33.68            | 54.00          | 20.32       | 500.00          | 200.0       | V   | 0.00          | -13          |
| 1341.25         | 46.23            | ---              | 74.00          | 27.77       | 500.00          | 100.0       | H   | 148.00        | -12          |
| 1352.50         | ---              | 36.11            | 54.00          | 17.89       | 500.00          | 100.0       | H   | 148.00        | -12          |
| 1641.25         | ---              | 37.80            | 54.00          | 16.20       | 500.00          | 100.0       | H   | 232.00        | -11          |
| 1642.50         | 47.94            | ---              | 74.00          | 26.06       | 500.00          | 100.0       | H   | 232.00        | -11          |
| 2004.75         | 49.32            | ---              | 74.00          | 24.68       | 500.00          | 100.0       | V   | 285.00        | -9           |
| 2004.75         | ---              | 44.19            | 54.00          | 9.81        | 500.00          | 100.0       | V   | 285.00        | -9           |
| 2153.25         | 50.89            | ---              | 74.00          | 23.11       | 500.00          | 200.0       | V   | 126.00        | -8           |
| 2153.25         | ---              | 46.51            | 54.00          | 7.49        | 500.00          | 200.0       | V   | 126.00        | -8           |
| 2672.75         | ---              | 37.76            | 54.00          | 16.24       | 500.00          | 200.0       | V   | 141.00        | -5           |
| 2971.25         | 48.74            | ---              | 74.00          | 25.26       | 500.00          | 200.0       | V   | 6.00          | -4           |



Radiates Emission from 3GHz to 18GHz

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 3860.63         | ---              | 34.15            | 54.00          | 19.85       | 500.00          | 200.0       | V   | 220.00        | -13          |
| 3860.63         | 42.52            | ---              | 74.00          | 31.48       | 500.00          | 200.0       | V   | 220.00        | -13          |
| 4978.13         | 50.45            | ---              | 74.00          | 23.55       | 500.00          | 200.0       | V   | 89.00         | -10          |
| 5418.75         | ---              | 34.42            | 54.00          | 19.58       | 500.00          | 100.0       | V   | 355.00        | -8           |
| 5981.25         | 54.99            | ---              | 74.00          | 19.01       | 500.00          | 100.0       | V   | 0.00          | -7           |
| 7111.88         | ---              | 36.23            | 54.00          | 17.77       | 500.00          | 100.0       | H   | 11.00         | -2           |
| 8146.88         | ---              | 39.08            | 54.00          | 14.92       | 500.00          | 200.0       | V   | 206.00        | 0            |
| 9358.13         | 50.38            | ---              | 74.00          | 23.62       | 500.00          | 200.0       | V   | 305.00        | 0            |
| 11658.75        | ---              | 41.92            | 54.00          | 12.08       | 500.00          | 100.0       | V   | 91.00         | 3            |
| 12039.38        | 53.56            | ---              | 74.00          | 20.44       | 500.00          | 100.0       | H   | 0.00          | 4            |
| 16453.13        | ---              | 42.12            | 54.00          | 11.88       | 500.00          | 100.0       | H   | 4.00          | 5            |
| 16466.25        | 53.16            | ---              | 74.00          | 20.84       | 500.00          | 200.0       | H   | 118.00        | 5            |

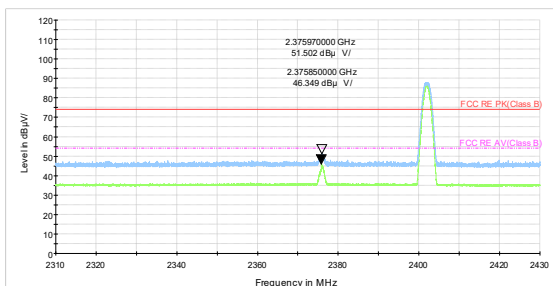
## 1.2. Bluetooth LE

The following graphs display the maximum values of horizontal and vertical by software.  
Blue trace uses the peak detection, Green trace uses the average detection.

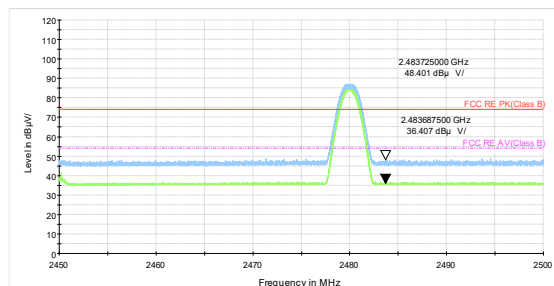
A symbol ( $\text{dB}\mu\text{V}/$ ) in the test plot below means ( $\text{dB}\mu\text{V}/\text{m}$ )

**The signal beyond the limit is carrier.**

**Variant**



Bluetooth LE Channel 0 Peak+ Average



Bluetooth LE Channel 39 Peak+Average

## Result of RE

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier.  
The Radiates Emission from 18GHz to 26.5GHz are more than 20dB below the limit are not reported.

## Remark:

1. **Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)**
2. **Margin = Limit – Quasi-Peak/ MAX Peak/ Average**
3. **The following graphs display the maximum values of coaxial and coplanar for 9k-30MHz; horizontal and vertical for above 30MHz by software.**
4. **For below 1GHz**

 QP Level @Spectrum Overview H
  QP Level @Spectrum Overview V
  QP Level @Final Results
  QP Limit

### For above 1GHz

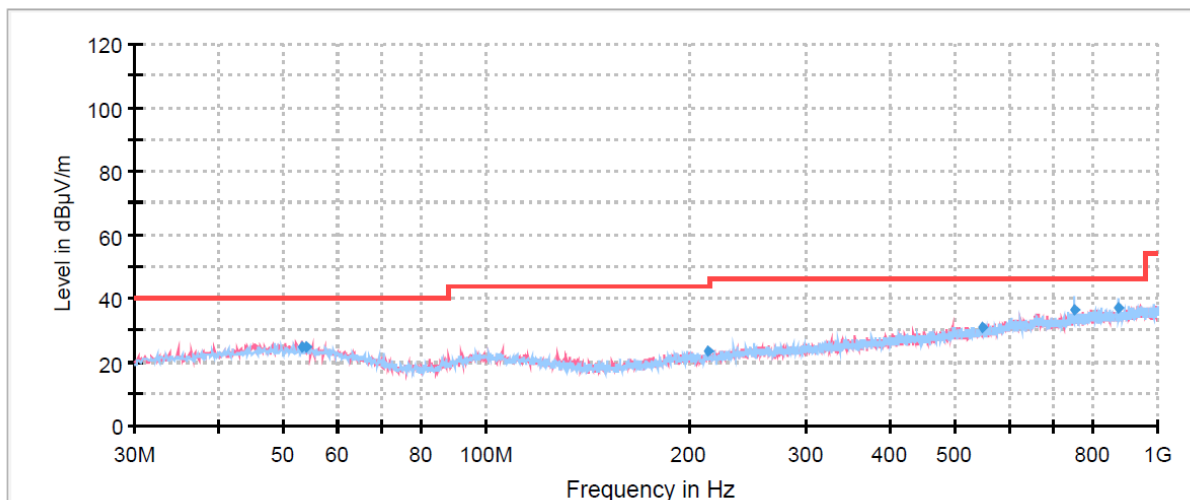
 PK Level @Spectrum Overview H
  PK Level @Spectrum Overview V
  PK Level @Final Results
  PK Limit

 AVG Level @Spectrum Overview H
  AVG Level @Spectrum Overview V
  AVG Level @Final Results
  AVG Limit

## Variant

### Continuous TX mode:

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels. The test data of the worst-case condition (**Bluetooth LE CH0**) was recorded in this report.

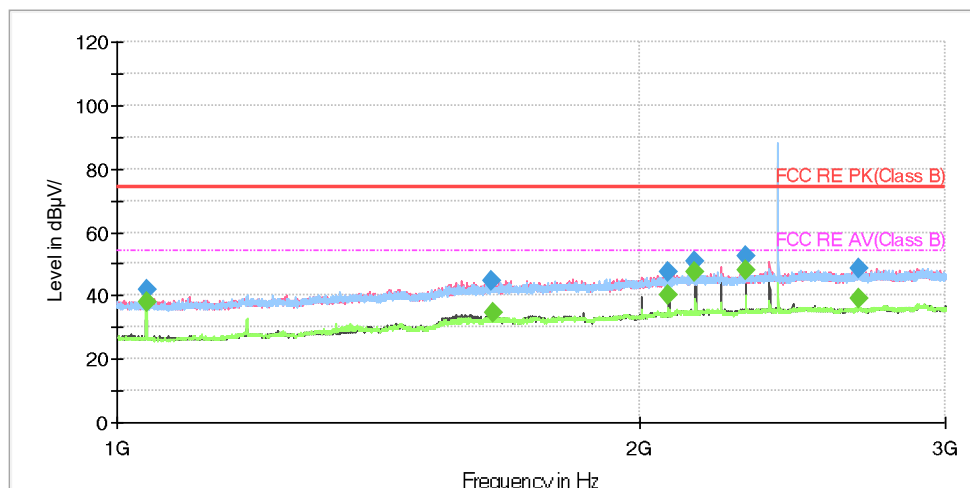


Radiates Emission from 30MHz to 1GHz

## Final Result

| Frequency (MHz) | QuasiPeak (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|--------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 53.16           | 24.58              | 40.00          | 15.42       | 1000.00         | 200.0       | V   | 0.00          | 20           |
| 54.01           | 24.45              | 40.00          | 15.55       | 1000.00         | 100.0       | V   | 326.00        | 20           |
| 214.54          | 23.55              | 43.50          | 19.95       | 1000.00         | 100.0       | V   | 296.00        | 18           |
| 547.98          | 30.61              | 46.00          | 15.39       | 1000.00         | 101.0       | H   | 15.00         | 26           |
| 750.10          | 36.48              | 46.00          | 9.52        | 1000.00         | 101.0       | H   | 21.00         | 29           |
| 875.11          | 36.91              | 46.00          | 9.09        | 1000.00         | 101.0       | H   | 65.00         | 30           |

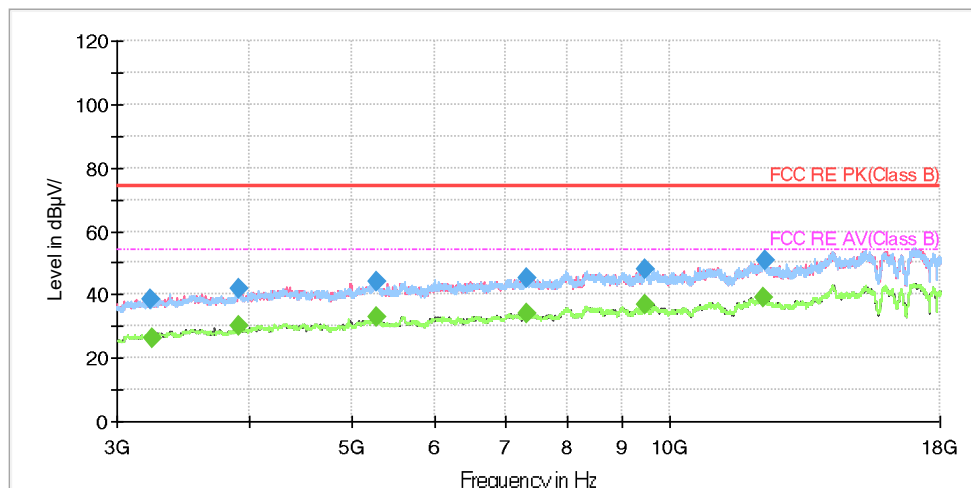
# Bluetooth LE CH0



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

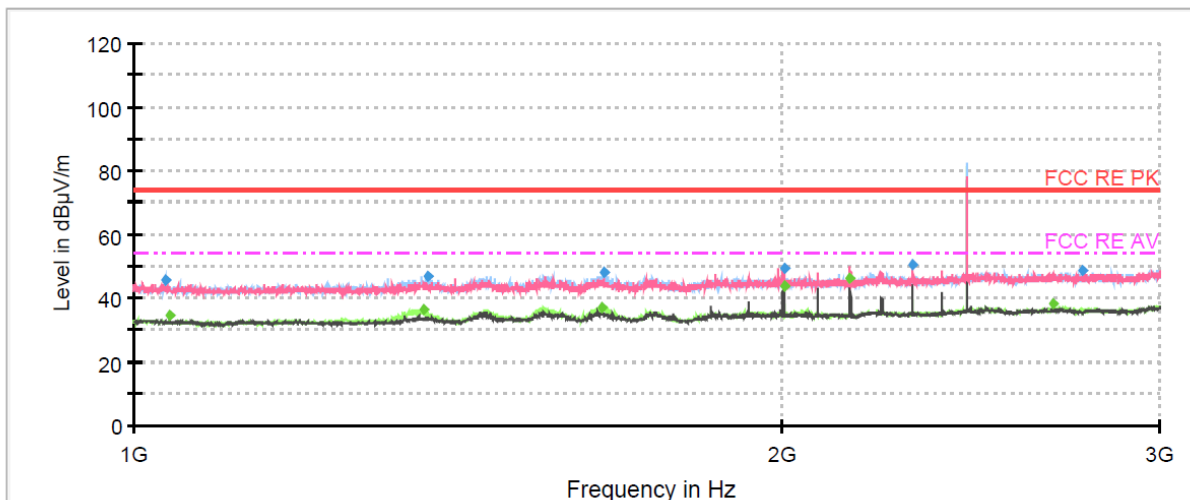
| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 1039.500000     | ---              | 37.80            | 54.00          | 16.20       | 500.0           | 200.0       | H   | 244.0         | -15.8        |
| 1039.500000     | 41.98            | ---              | 74.00          | 32.02       | 500.0           | 200.0       | H   | 244.0         | -15.8        |
| 1643.250000     | 44.83            | ---              | 74.00          | 29.17       | 500.0           | 200.0       | V   | 147.0         | -11.2        |
| 1647.250000     | ---              | 34.39            | 54.00          | 19.61       | 500.0           | 200.0       | V   | 147.0         | -11.1        |
| 2079.000000     | ---              | 40.18            | 54.00          | 13.82       | 500.0           | 200.0       | V   | 46.0          | -8.0         |
| 2079.000000     | 47.43            | ---              | 74.00          | 26.57       | 500.0           | 200.0       | V   | 46.0          | -8.0         |
| 2153.250000     | 50.83            | ---              | 74.00          | 23.17       | 500.0           | 200.0       | V   | 46.0          | -7.3         |
| 2153.250000     | ---              | 47.44            | 54.00          | 6.56        | 500.0           | 200.0       | V   | 46.0          | -7.3         |
| 2301.750000     | 52.21            | ---              | 74.00          | 21.79       | 500.0           | 200.0       | V   | 46.0          | -6.5         |
| 2301.750000     | ---              | 47.94            | 54.00          | 6.06        | 500.0           | 200.0       | V   | 46.0          | -6.5         |
| 2673.000000     | ---              | 38.91            | 54.00          | 15.09       | 500.0           | 200.0       | V   | 224.0         | -4.7         |
| 2673.000000     | 48.75            | ---              | 74.00          | 25.25       | 500.0           | 100.0       | V   | 0.0           | -4.7         |



Radiates Emission from 3GHz to 18GHz

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 3223.125000     | 38.72            | ---              | 74.00          | 35.28       | 500.0           | 200.0       | V   | 0.0           | -12.9        |
| 3234.375000     | ---              | 26.33            | 54.00          | 27.67       | 500.0           | 100.0       | V   | 112.0         | -13.0        |
| 3907.500000     | 41.85            | ---              | 74.00          | 32.15       | 500.0           | 100.0       | H   | 217.0         | -9.2         |
| 3913.125000     | ---              | 30.23            | 54.00          | 23.77       | 500.0           | 200.0       | V   | 158.0         | -9.3         |
| 5272.500000     | ---              | 33.03            | 54.00          | 20.97       | 500.0           | 200.0       | V   | 247.0         | -5.3         |
| 5274.375000     | 43.98            | ---              | 74.00          | 30.02       | 500.0           | 100.0       | H   | 0.0           | -5.4         |
| 7310.625000     | 44.94            | ---              | 74.00          | 29.06       | 500.0           | 100.0       | V   | 48.0          | -1.4         |
| 7327.500000     | ---              | 34.15            | 54.00          | 19.85       | 500.0           | 200.0       | V   | 234.0         | -1.4         |
| 9472.500000     | 48.21            | ---              | 74.00          | 25.79       | 500.0           | 200.0       | H   | 0.0           | 1.2          |
| 9485.625000     | ---              | 36.76            | 54.00          | 17.24       | 500.0           | 100.0       | H   | 205.0         | 1.1          |
| 12264.375000    | ---              | 39.35            | 54.00          | 14.65       | 500.0           | 200.0       | V   | 92.0          | 3.2          |
| 12286.875000    | 50.67            | ---              | 74.00          | 23.33       | 500.0           | 100.0       | V   | 149.0         | 3.1          |

## Bluetooth LE CH19

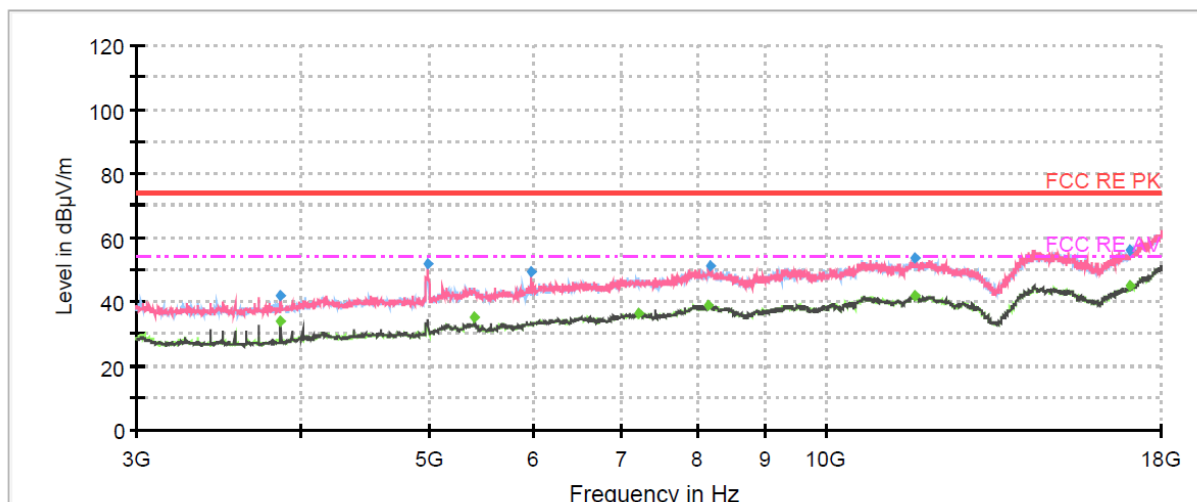


Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

## Final Result

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 1033.25         | 45.76            | ---              | 74.00          | 28.24       | 500.00          | 200.0       | H   | 359.00        | -13          |
| 1039.50         | ---              | 34.41            | 54.00          | 19.59       | 500.00          | 100.0       | H   | 42.00         | -13          |
| 1363.75         | ---              | 36.50            | 54.00          | 17.50       | 500.00          | 100.0       | H   | 142.00        | -12          |
| 1368.75         | 46.95            | ---              | 74.00          | 27.05       | 500.00          | 100.0       | H   | 142.00        | -12          |
| 1651.00         | ---              | 37.21            | 54.00          | 16.79       | 500.00          | 100.0       | H   | 233.00        | -11          |
| 1653.00         | 47.70            | ---              | 74.00          | 26.30       | 500.00          | 100.0       | H   | 233.00        | -11          |
| 2004.75         | 49.15            | ---              | 74.00          | 24.85       | 500.00          | 200.0       | V   | 259.00        | -9           |
| 2004.75         | ---              | 43.47            | 54.00          | 10.53       | 500.00          | 100.0       | V   | 289.00        | -9           |
| 2153.00         | ---              | 46.22            | 54.00          | 7.78        | 500.00          | 200.0       | V   | 289.00        | -8           |
| 2301.75         | 50.16            | ---              | 74.00          | 23.84       | 500.00          | 200.0       | V   | 134.00        | -7           |
| 2673.00         | ---              | 38.08            | 54.00          | 15.92       | 500.00          | 200.0       | V   | 162.00        | -5           |
| 2761.50         | 48.53            | ---              | 74.00          | 25.47       | 500.00          | 200.0       | V   | 0.00          | -5           |

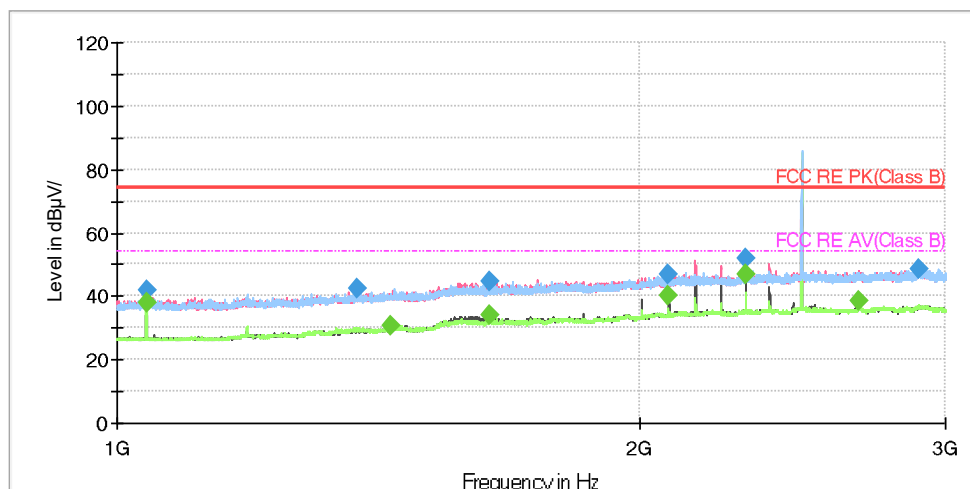


Radiates Emission from 3GHz to 18GHz

## Final Result

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 3858.75         | 42.00            | ---              | 74.00          | 32.00       | 500.00          | 200.0       | V   | 142.00        | -13          |
| 3860.63         | ---              | 33.93            | 54.00          | 20.07       | 500.00          | 200.0       | V   | 142.00        | -13          |
| 4991.25         | 51.55            | ---              | 74.00          | 22.45       | 500.00          | 200.0       | V   | 87.00         | -10          |
| 5418.75         | ---              | 35.11            | 54.00          | 18.89       | 500.00          | 100.0       | V   | 309.00        | -8           |
| 5979.38         | 48.95            | ---              | 74.00          | 25.05       | 500.00          | 200.0       | V   | 258.00        | -7           |
| 7203.75         | ---              | 36.23            | 54.00          | 17.77       | 500.00          | 100.0       | H   | 169.00        | -3           |
| 8148.75         | ---              | 38.88            | 54.00          | 15.12       | 500.00          | 200.0       | H   | 104.00        | 0            |
| 8167.50         | 50.84            | ---              | 74.00          | 23.16       | 500.00          | 100.0       | V   | 235.00        | 0            |
| 11692.50        | 53.25            | ---              | 74.00          | 20.75       | 500.00          | 100.0       | H   | 47.00         | 3            |
| 11696.25        | ---              | 41.87            | 54.00          | 12.13       | 500.00          | 100.0       | H   | 202.00        | 3            |
| 17030.63        | 56.08            | ---              | 74.00          | 17.92       | 500.00          | 100.0       | H   | 89.00         | 9            |
| 17034.38        | ---              | 44.87            | 54.00          | 9.13        | 500.00          | 100.0       | H   | 4.00          | 9            |

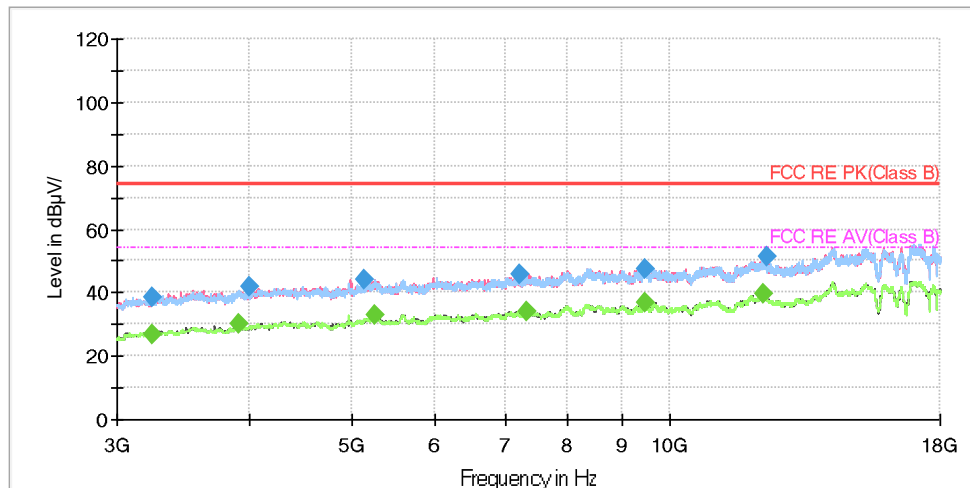
## Bluetooth LE CH39



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 1039.500000     | ---              | 37.77            | 54.00          | 16.23       | 500.0           | 100.0       | H   | 262.0         | -15.8        |
| 1039.500000     | 42.10            | ---              | 74.00          | 31.90       | 500.0           | 200.0       | H   | 248.0         | -15.8        |
| 1376.750000     | 42.18            | ---              | 74.00          | 31.82       | 500.0           | 200.0       | H   | 48.0          | -13.1        |
| 1438.250000     | ---              | 30.42            | 54.00          | 23.58       | 500.0           | 200.0       | V   | 268.0         | -12.6        |
| 1640.500000     | ---              | 33.79            | 54.00          | 20.21       | 500.0           | 200.0       | V   | 144.0         | -11.3        |
| 1640.750000     | 44.85            | ---              | 74.00          | 29.15       | 500.0           | 200.0       | V   | 144.0         | -11.3        |
| 2078.500000     | 46.99            | ---              | 74.00          | 27.01       | 500.0           | 200.0       | V   | 55.0          | -8.0         |
| 2078.750000     | ---              | 40.13            | 54.00          | 13.87       | 500.0           | 200.0       | V   | 45.0          | -8.0         |
| 2301.750000     | 51.88            | ---              | 74.00          | 22.12       | 500.0           | 200.0       | V   | 45.0          | -6.5         |
| 2302.000000     | ---              | 46.86            | 54.00          | 7.14        | 500.0           | 200.0       | V   | 55.0          | -6.5         |
| 2673.000000     | ---              | 38.55            | 54.00          | 15.45       | 500.0           | 100.0       | V   | 77.0          | -4.7         |
| 2897.250000     | 48.71            | ---              | 74.00          | 25.29       | 500.0           | 200.0       | H   | 125.0         | -3.2         |



Radiates Emission from 3GHz to 18GHz

| Frequency (MHz) | MaxPeak (dBμV/m) | Average (dBμV/m) | Limit (dBμV/m) | Margin (dB) | Meas. Time (ms) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) |
|-----------------|------------------|------------------|----------------|-------------|-----------------|-------------|-----|---------------|--------------|
| 3240.000000     | ---              | 26.71            | 54.00          | 27.29       | 500.0           | 100.0       | H   | 331.0         | -12.9        |
| 3240.000000     | 38.33            | ---              | 74.00          | 35.67       | 500.0           | 200.0       | V   | 0.0           | -12.9        |
| 3911.250000     | ---              | 30.19            | 54.00          | 23.81       | 500.0           | 200.0       | V   | 275.0         | -9.2         |
| 4008.750000     | 41.83            | ---              | 74.00          | 32.17       | 500.0           | 100.0       | V   | 51.0          | -9.9         |
| 5146.875000     | 44.35            | ---              | 74.00          | 29.65       | 500.0           | 200.0       | V   | 337.0         | -6.8         |
| 5268.750000     | ---              | 33.20            | 54.00          | 20.80       | 500.0           | 200.0       | H   | 204.0         | -5.2         |
| 7205.625000     | 46.02            | ---              | 74.00          | 27.98       | 500.0           | 100.0       | H   | 225.0         | -1.9         |
| 7321.875000     | ---              | 34.11            | 54.00          | 19.89       | 500.0           | 200.0       | V   | 12.0          | -1.4         |
| 9466.875000     | 47.72            | ---              | 74.00          | 26.28       | 500.0           | 200.0       | H   | 56.0          | 1.0          |
| 9480.000000     | ---              | 36.91            | 54.00          | 17.09       | 500.0           | 200.0       | V   | 337.0         | 1.2          |
| 12273.750000    | ---              | 39.51            | 54.00          | 14.49       | 500.0           | 100.0       | H   | 214.0         | 3.3          |
| 12330.000000    | 51.38            | ---              | 74.00          | 22.62       | 500.0           | 200.0       | V   | 146.0         | 2.6          |

## 2. Conducted Emission

### 2.1. Wi-Fi 2.4GHz / Thread

During the test, the Conducted Emission was performed in all modes with all channels. The test data of the worst-case condition was recorded in this report.

**Variant**

**Wi-Fi 2.4GHz**



| Frequency [MHz] | QPK Level [dBμV] | QPK Limit [dBμV] | QPK Margin [dB] | AVG Level [dBμV] | AVG: CAV Limit [dBμV] | AVG Margin [dB] | Correction [dB] | Line | Meas. BW [kHz] | Meas. Time [s] |
|-----------------|------------------|------------------|-----------------|------------------|-----------------------|-----------------|-----------------|------|----------------|----------------|
| 0.353           | --               | --               | --              | 26.87            | 48.90                 | 22.03           | 21.26           | L1   | 9.000          | 1.000          |
| 0.359           | 39.08            | 58.75            | 19.66           | --               | --                    | --              | 21.25           | L1   | 9.000          | 1.000          |
| 0.364           | 38.64            | 58.64            | 20.00           | --               | --                    | --              | 21.25           | L1   | 9.000          | 1.000          |
| 0.373           | --               | --               | --              | 24.60            | 48.44                 | 23.84           | 21.24           | L1   | 9.000          | 1.000          |
| 0.924           | 28.04            | 56.00            | 27.96           | --               | --                    | --              | 20.53           | L1   | 9.000          | 1.000          |
| 1.075           | --               | --               | --              | 15.53            | 46.00                 | 30.47           | 20.40           | L1   | 9.000          | 1.000          |
| 3.476           | 16.90            | 56.00            | 39.10           | --               | --                    | --              | 19.80           | L1   | 9.000          | 1.000          |
| 4.983           | --               | --               | --              | 11.90            | 46.00                 | 34.10           | 19.74           | L1   | 9.000          | 1.000          |
| 6.839           | --               | --               | --              | 16.94            | 50.00                 | 33.06           | 19.71           | L1   | 9.000          | 1.000          |
| 12.404          | 26.29            | 60.00            | 33.71           | --               | --                    | --              | 19.75           | L1   | 9.000          | 1.000          |
| 12.408          | --               | --               | --              | 15.66            | 50.00                 | 34.34           | 19.75           | L1   | 9.000          | 1.000          |
| 12.410          | 27.15            | 60.00            | 32.85           | --               | --                    | --              | 19.75           | L1   | 9.000          | 1.000          |

**Remark: Correct factor=cable loss + LISN factor**

L line Conducted Emission from 150 kHz to 30 MHz



| Frequency [MHz] | QPK Level [dBµV] | QPK Limit [dBµV] | QPK Margin [dB] | AVG Level [dBµV] | AVG: CAV Limit [dBµV] | AVG Margin [dB] | Correction [dB] | Line | Meas. BW [kHz] | Meas. Time [s] |
|-----------------|------------------|------------------|-----------------|------------------|-----------------------|-----------------|-----------------|------|----------------|----------------|
| 0.353           | --               | --               | --              | 27.08            | 48.90                 | 21.83           | 21.20           | N    | 9.000          | 1.000          |
| 0.362           | 38.85            | 58.69            | 19.84           | --               | --                    | --              | 21.19           | N    | 9.000          | 1.000          |
| 0.364           | 38.65            | 58.64            | 19.99           | --               | --                    | --              | 21.19           | N    | 9.000          | 1.000          |
| 0.375           | --               | --               | --              | 23.86            | 48.39                 | 24.53           | 21.18           | N    | 9.000          | 1.000          |
| 0.890           | 28.06            | 56.00            | 27.94           | --               | --                    | --              | 20.59           | N    | 9.000          | 1.000          |
| 1.093           | --               | --               | --              | 15.66            | 46.00                 | 30.34           | 20.43           | N    | 9.000          | 1.000          |
| 2.342           | 18.51            | 56.00            | 37.49           | --               | --                    | --              | 19.89           | N    | 9.000          | 1.000          |
| 4.799           | --               | --               | --              | 12.02            | 46.00                 | 33.98           | 19.80           | N    | 9.000          | 1.000          |
| 6.819           | --               | --               | --              | 16.87            | 50.00                 | 33.13           | 19.72           | N    | 9.000          | 1.000          |
| 12.381          | 26.08            | 60.00            | 33.92           | --               | --                    | --              | 19.73           | N    | 9.000          | 1.000          |
| 12.413          | --               | --               | --              | 15.68            | 50.00                 | 34.32           | 19.73           | N    | 9.000          | 1.000          |
| 12.543          | 25.98            | 60.00            | 34.02           | --               | --                    | --              | 19.74           | N    | 9.000          | 1.000          |

Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 kHz to 30 MHz

# Thread



| Frequency [MHz] | QPK Level [dBμV] | QPK Limit [dBμV] | QPK Margin [dB] | AVG Level [dBμV] | AVG: CAV Limit [dBμV] | AVG Margin [dB] | Correction [dB] | Line | Meas. BW [kHz] | Meas. Time [s] |
|-----------------|------------------|------------------|-----------------|------------------|-----------------------|-----------------|-----------------|------|----------------|----------------|
| 0.355           | --               | --               | --              | 27.16            | 48.85                 | 21.69           | 21.25           | L1   | 9.000          | 1.000          |
| 0.357           | 39.19            | 58.80            | 19.61           | --               | --                    | --              | 21.25           | L1   | 9.000          | 1.000          |
| 0.364           | 38.27            | 58.64            | 20.38           | 23.60            | 48.64                 | 25.04           | 21.25           | L1   | 9.000          | 1.000          |
| 0.938           | 28.17            | 56.00            | 27.83           | --               | --                    | --              | 20.51           | L1   | 9.000          | 1.000          |
| 1.073           | --               | --               | --              | 15.99            | 46.00                 | 30.01           | 20.40           | L1   | 9.000          | 1.000          |
| 2.330           | 17.99            | 56.00            | 38.01           | --               | --                    | --              | 19.93           | L1   | 9.000          | 1.000          |
| 4.880           | --               | --               | --              | 12.10            | 46.00                 | 33.90           | 19.74           | L1   | 9.000          | 1.000          |
| 6.878           | --               | --               | --              | 16.89            | 50.00                 | 33.11           | 19.71           | L1   | 9.000          | 1.000          |
| 11.931          | 24.89            | 60.00            | 35.11           | --               | --                    | --              | 19.75           | L1   | 9.000          | 1.000          |
| 12.419          | 26.44            | 60.00            | 33.56           | --               | --                    | --              | 19.75           | L1   | 9.000          | 1.000          |
| 12.422          | --               | --               | --              | 16.04            | 50.00                 | 33.96           | 19.75           | L1   | 9.000          | 1.000          |

Remark: Correct factor=cable loss + LISN factor

L line Conducted Emission from 150 kHz to 30 MHz



| Frequency [MHz] | QPK Level [dBµV] | QPK Limit [dBµV] | QPK Margin [dB] | AVG Level [dBµV] | AVG: CAV Limit [dBµV] | AVG Margin [dB] | Correction [dB] | Line | Meas. BW [kHz] | Meas. Time [s] |
|-----------------|------------------|------------------|-----------------|------------------|-----------------------|-----------------|-----------------|------|----------------|----------------|
| 0.353           | --               | --               | --              | 27.39            | 48.90                 | 21.51           | 21.20           | N    | 9.000          | 1.000          |
| 0.362           | 38.76            | 58.69            | 19.94           | --               | --                    | --              | 21.19           | N    | 9.000          | 1.000          |
| 0.364           | --               | --               | --              | 23.65            | 48.64                 | 25.00           | 21.19           | N    | 9.000          | 1.000          |
| 0.368           | 37.55            | 58.54            | 20.99           | --               | --                    | --              | 21.19           | N    | 9.000          | 1.000          |
| 1.070           | --               | --               | --              | 15.72            | 46.00                 | 30.28           | 20.44           | N    | 9.000          | 1.000          |
| 1.167           | 27.57            | 56.00            | 28.43           | --               | --                    | --              | 20.37           | N    | 9.000          | 1.000          |
| 2.632           | 16.99            | 56.00            | 39.01           | --               | --                    | --              | 19.86           | N    | 9.000          | 1.000          |
| 4.821           | --               | --               | --              | 12.25            | 46.00                 | 33.75           | 19.80           | N    | 9.000          | 1.000          |
| 6.810           | --               | --               | --              | 16.94            | 50.00                 | 33.06           | 19.72           | N    | 9.000          | 1.000          |
| 12.289          | 26.21            | 60.00            | 33.79           | --               | --                    | --              | 19.73           | N    | 9.000          | 1.000          |
| 12.424          | --               | --               | --              | 16.02            | 50.00                 | 33.98           | 19.73           | N    | 9.000          | 1.000          |
| 12.577          | 26.28            | 60.00            | 33.72           | --               | --                    | --              | 19.74           | N    | 9.000          | 1.000          |

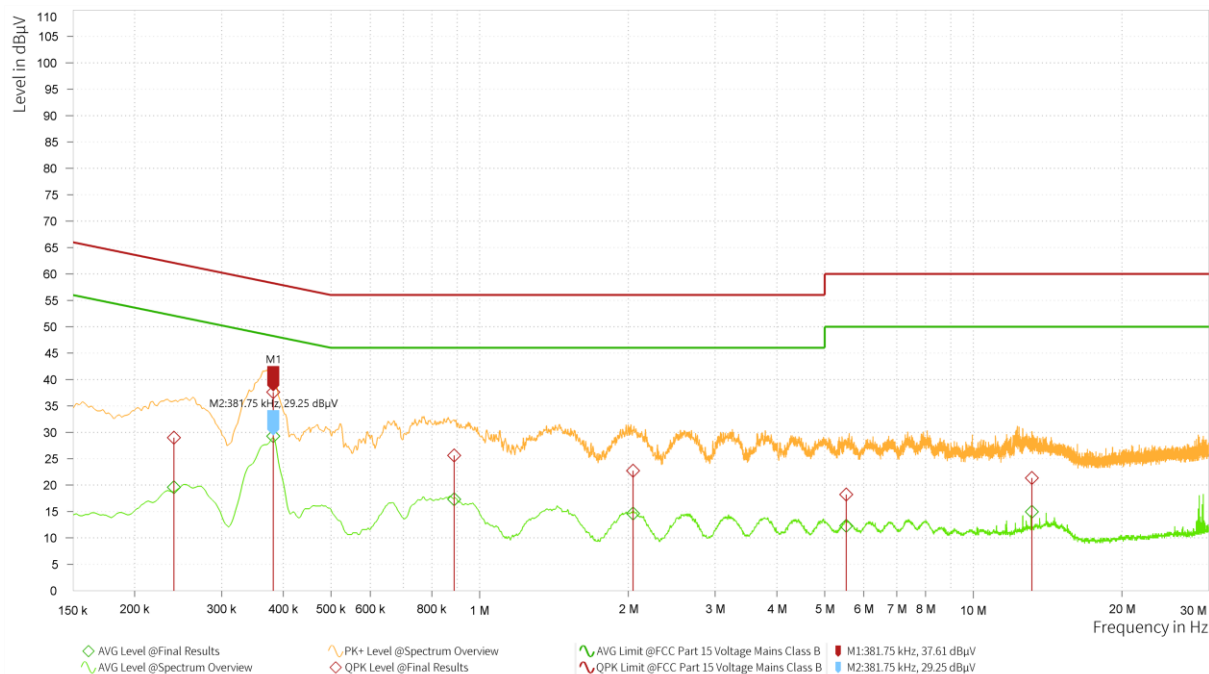
Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 kHz to 30 MHz

## 2.2. Bluetooth LE

During the test, the Conducted Emission was performed in all modes with all channels. The test data of the worst-case condition was recorded in this report.

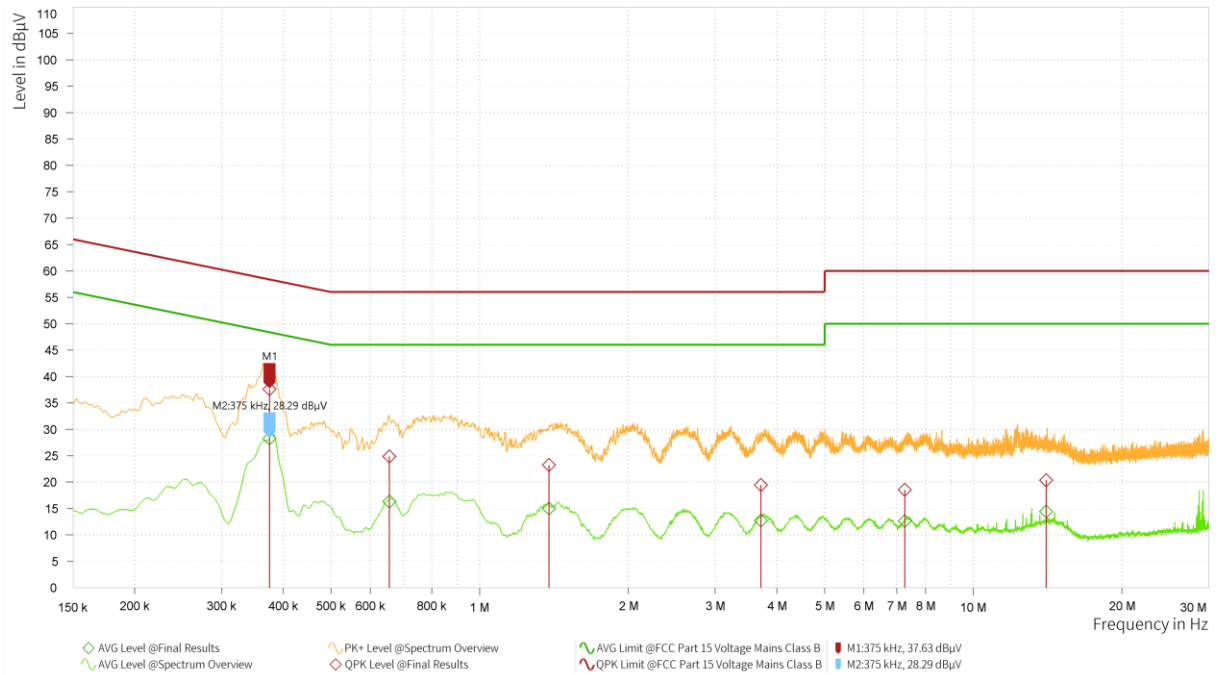
### Variant



| Frequency [MHz] | QPK Level [dBμV] | QPK Limit [dBμV] | QPK Margin [dB] | AVG Level [dBμV] | AVG Limit [dBμV] | AVG Margin [dB] | Correction [dB] | Line | Meas. BW [kHz] | Meas. Time [s] |
|-----------------|------------------|------------------|-----------------|------------------|------------------|-----------------|-----------------|------|----------------|----------------|
| 0.240           | 28.99            | 62.10            | 33.11           | 19.58            | 52.10            | 32.52           | 21.31           | L1   | 9.000          | 1.000          |
| 0.382           | 37.61            | 58.24            | 20.63           | 29.25            | 48.24            | 18.99           | 21.23           | L1   | 9.000          | 1.000          |
| 0.888           | 25.61            | 56.00            | 30.39           | 17.30            | 46.00            | 28.70           | 20.56           | L1   | 9.000          | 1.000          |
| 2.045           | 22.74            | 56.00            | 33.26           | 14.61            | 46.00            | 31.39           | 20.00           | L1   | 9.000          | 1.000          |
| 5.525           | 18.20            | 60.00            | 41.80           | 12.27            | 50.00            | 37.73           | 19.73           | L1   | 9.000          | 1.000          |
| 13.144          | 21.34            | 60.00            | 38.66           | 14.96            | 50.00            | 35.04           | 19.75           | L1   | 9.000          | 1.000          |

**Remark: Correct factor=cable loss + LISN factor**

L line Conducted Emission from 150 kHz to 30 MHz



| Frequency [MHz] | QPK Level [dBμV] | QPK Limit [dBμV] | QPK Margin [dB] | AVG Level [dBμV] | AVG Limit [dBμV] | AVG Margin [dB] | Correction [dB] | Line | Meas. BW [kHz] | Meas. Time [s] |
|-----------------|------------------|------------------|-----------------|------------------|------------------|-----------------|-----------------|------|----------------|----------------|
| 0.375           | 37.63            | 58.39            | 20.76           | 28.29            | 48.39            | 20.10           | 21.18           | N    | 9.000          | 1.000          |
| 0.656           | 24.88            | 56.00            | 31.12           | 16.34            | 46.00            | 29.66           | 20.94           | N    | 9.000          | 1.000          |
| 1.381           | 23.26            | 56.00            | 32.74           | 14.99            | 46.00            | 31.01           | 20.23           | N    | 9.000          | 1.000          |
| 3.714           | 19.46            | 56.00            | 36.54           | 12.70            | 46.00            | 33.30           | 19.81           | N    | 9.000          | 1.000          |
| 7.265           | 18.55            | 60.00            | 41.45           | 12.64            | 50.00            | 37.36           | 19.72           | N    | 9.000          | 1.000          |
| 14.051          | 20.34            | 60.00            | 39.66           | 14.41            | 50.00            | 35.59           | 19.77           | N    | 9.000          | 1.000          |

**Remark: Correct factor=cable loss + LISN factor**

N line Conducted Emission from 150 kHz to 30 MHz