

## A.7 Band Edge (Restricted-band band-edge)

Note <sup>1</sup>: The lowest and highest channels are tested to verify the band edge emissions. Please refer to the following the plots for emissions values.

Note <sup>2</sup>: The test data all are tested in the vertical and horizontal antenna which the trace is max hold. So these plots have shown the worst case.

Note <sup>3</sup>: According the ANSI C63.10-2013, where limits are specified for both average and peak (or quasi-peak) detector functions, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.

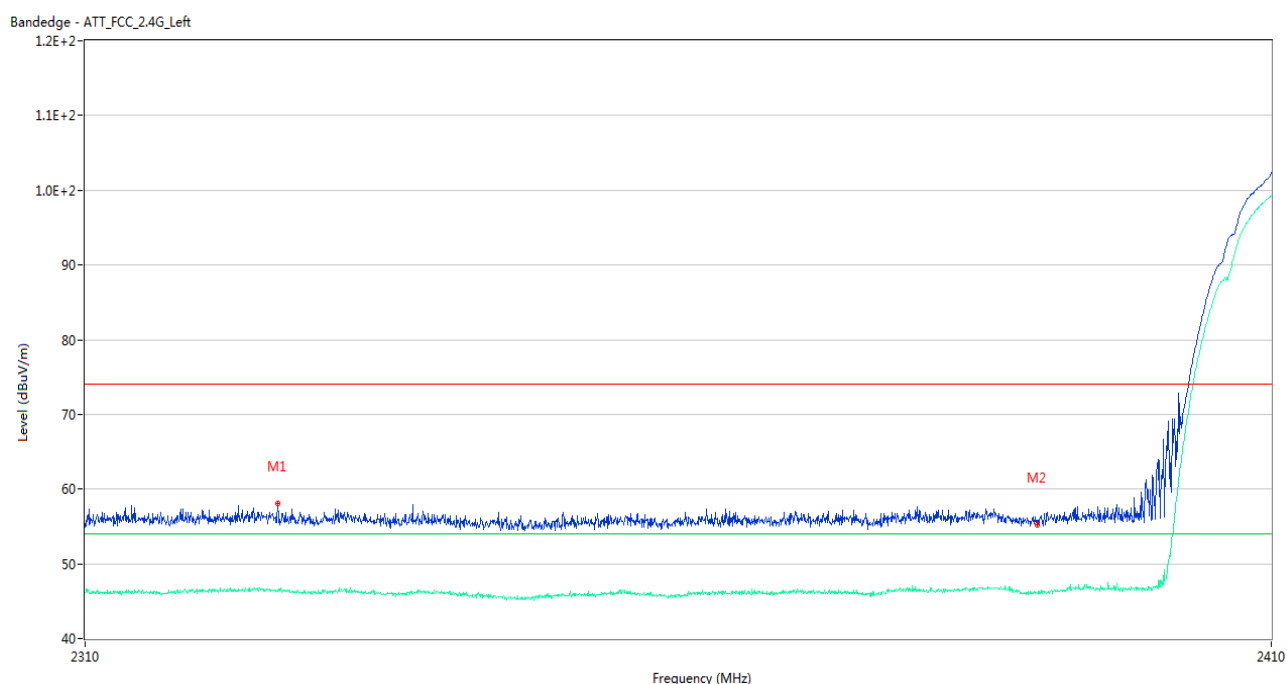
Note <sup>4</sup>: All antenna were tested, but only the worst case has been reported in this report.

Note <sup>5</sup>: All the configurations were pre tested, only the worst configuration has been reported in this report.

### Test Data and Plots

#### SISO-Main Antenna

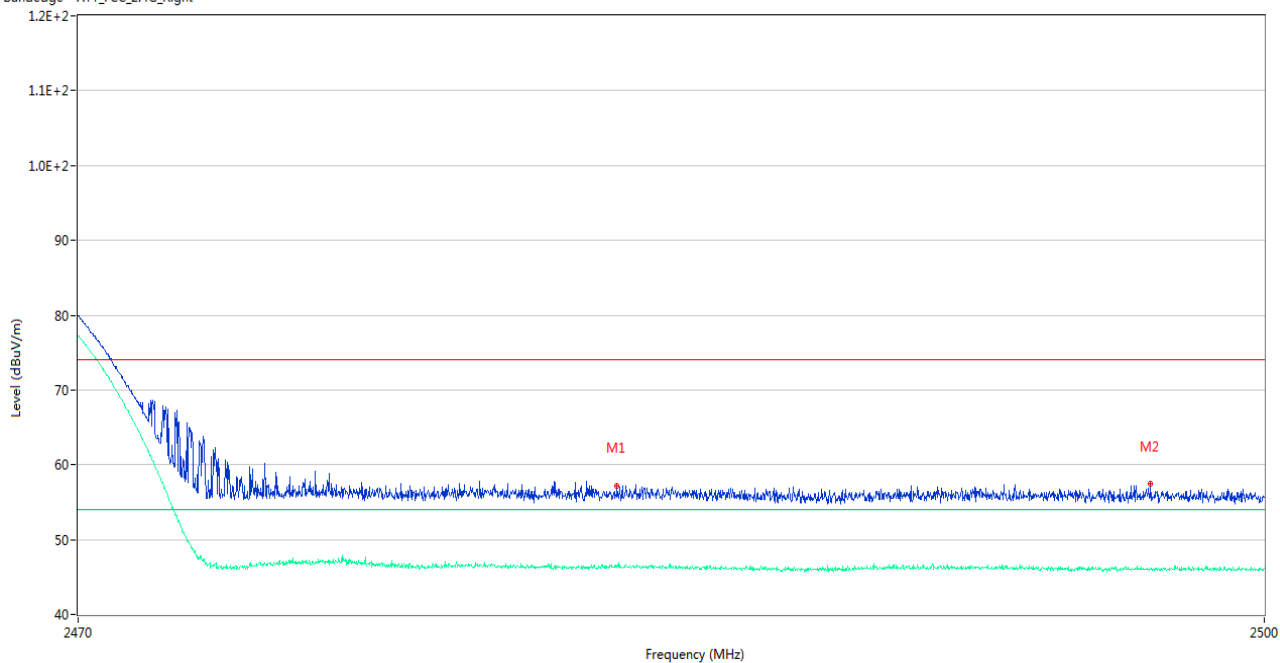
##### 802.11b LOW CHANNEL



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2325.950        | 58.12            | 1.58        | 74.0           | 15.88       | Peak     | 165.00         | 200         | Horizontal | Pass    |
| 1** | 2325.950        | 46.35            | 1.58        | 54.0           | 7.65        | AV       | 165.00         | 200         | Horizontal | Pass    |
| 2   | 2389.950        | 55.19            | 1.92        | 74.0           | 18.81       | Peak     | 98.00          | 150         | Horizontal | Pass    |
| 2** | 2389.950        | 45.99            | 1.92        | 54.0           | 8.01        | AV       | 98.00          | 150         | Horizontal | Pass    |

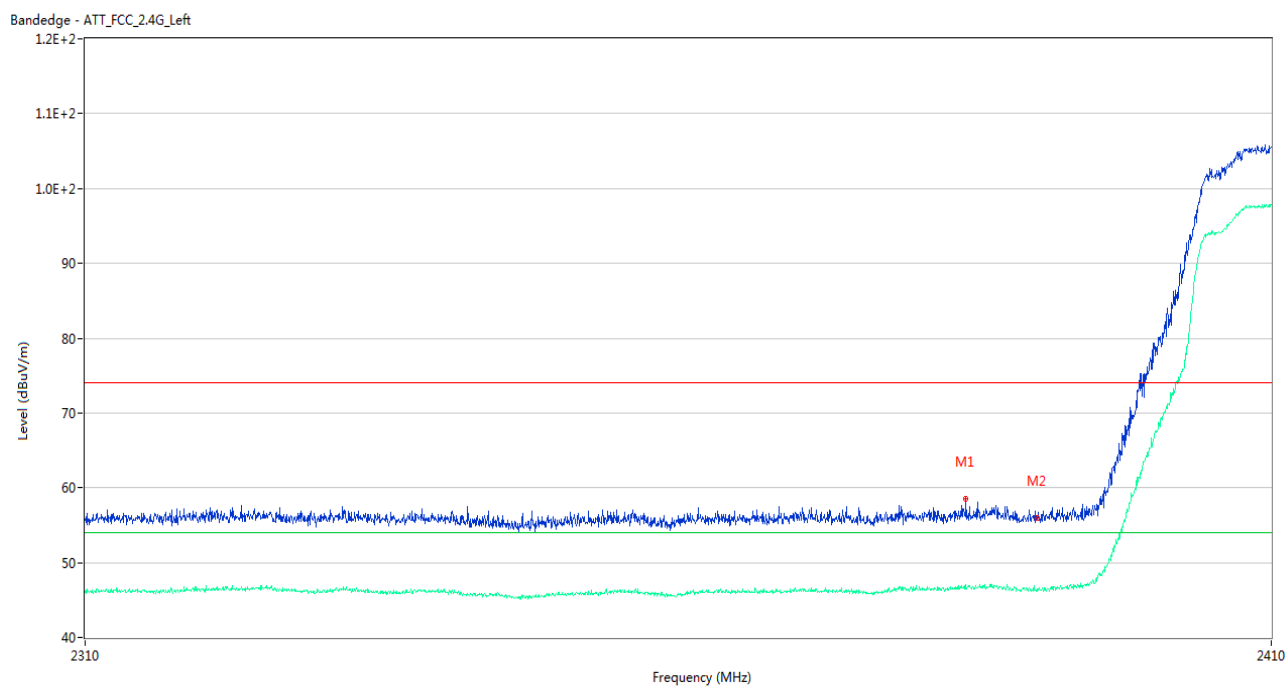
## 802.11b HIGH CHANNEL

Bandedge - ATT\_FCC\_2.4G\_Right



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2483.590        | 57.23            | 2.11        | 74.0           | 16.77       | Peak     | 269.00         | 150         | Horizontal | Pass    |
| 1** | 2483.590        | 46.40            | 2.11        | 54.0           | 7.60        | AV       | 269.00         | 150         | Horizontal | Pass    |
| 2   | 2497.105        | 57.49            | 1.69        | 74.0           | 16.51       | Peak     | 226.00         | 150         | Horizontal | Pass    |
| 2** | 2497.105        | 46.19            | 1.69        | 54.0           | 7.81        | AV       | 226.00         | 150         | Horizontal | Pass    |

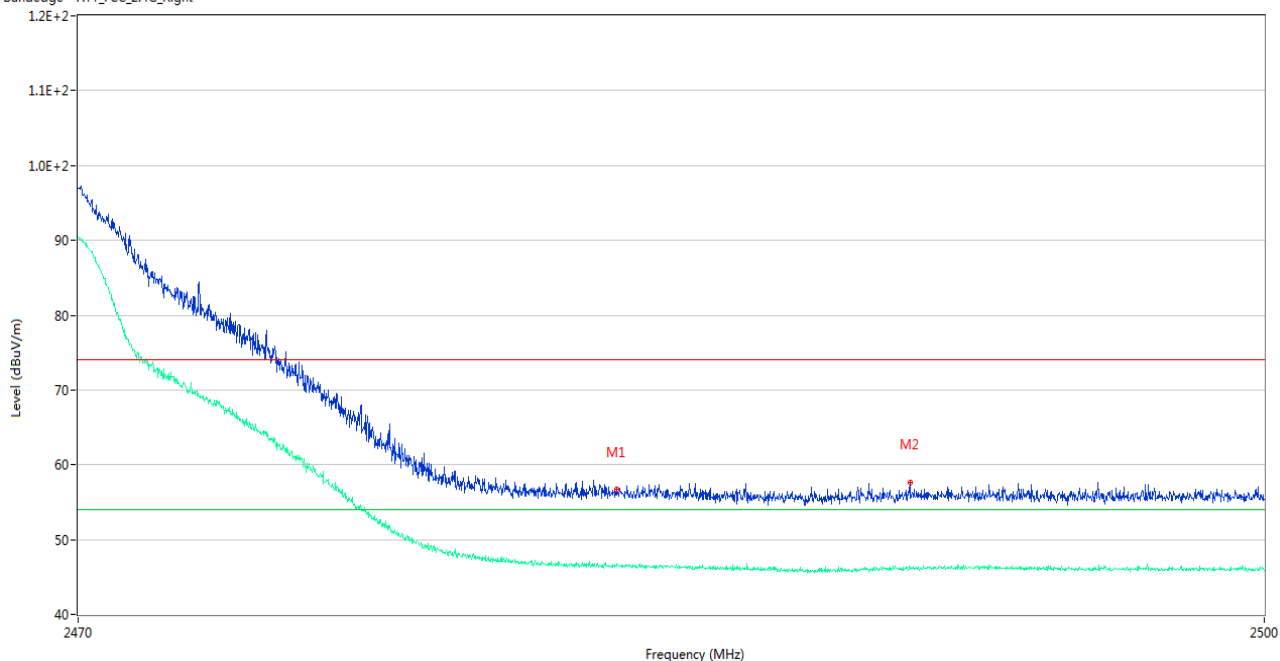
## 802.11g LOW CHANNEL



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2383.850        | 58.50            | 2.34        | 74.0           | 15.50       | Peak     | 301.00         | 150         | Horizontal | Pass    |
| 1** | 2383.850        | 46.49            | 2.34        | 54.0           | 7.51        | AV       | 301.00         | 150         | Horizontal | Pass    |
| 2   | 2389.950        | 55.94            | 1.92        | 74.0           | 18.06       | Peak     | 244.00         | 150         | Horizontal | Pass    |
| 2** | 2389.950        | 46.16            | 1.92        | 54.0           | 7.84        | AV       | 244.00         | 150         | Horizontal | Pass    |

## 802.11g HIGH CHANNEL

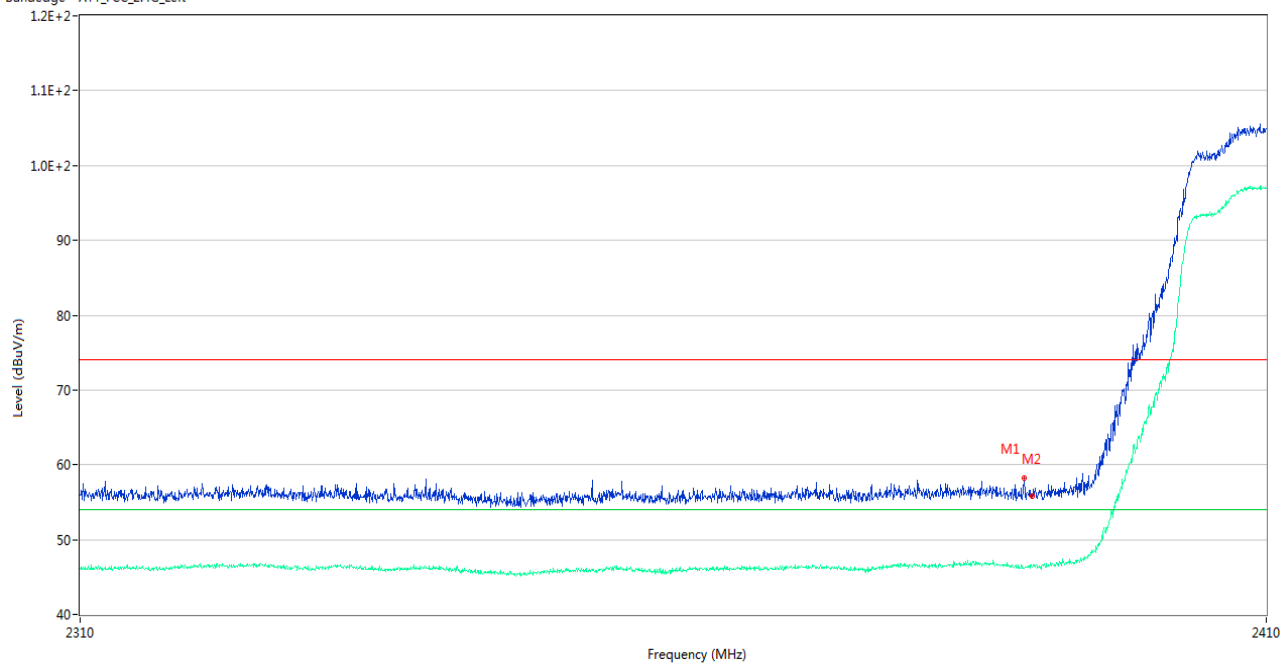
Bandedge - ATT\_FCC\_2.4G\_Right



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2483.590        | 56.74            | 2.11        | 74.0           | 17.26       | Peak     | 93.00          | 150         | Horizontal | Pass    |
| 1** | 2483.590        | 46.76            | 2.11        | 54.0           | 7.24        | AV       | 93.00          | 150         | Horizontal | Pass    |
| 2   | 2491.000        | 57.70            | 1.83        | 74.0           | 16.30       | Peak     | 157.00         | 200         | Horizontal | Pass    |
| 2** | 2491.000        | 46.28            | 1.83        | 54.0           | 7.72        | AV       | 157.00         | 200         | Horizontal | Pass    |

## 802.11n20 LOW CHANNEL

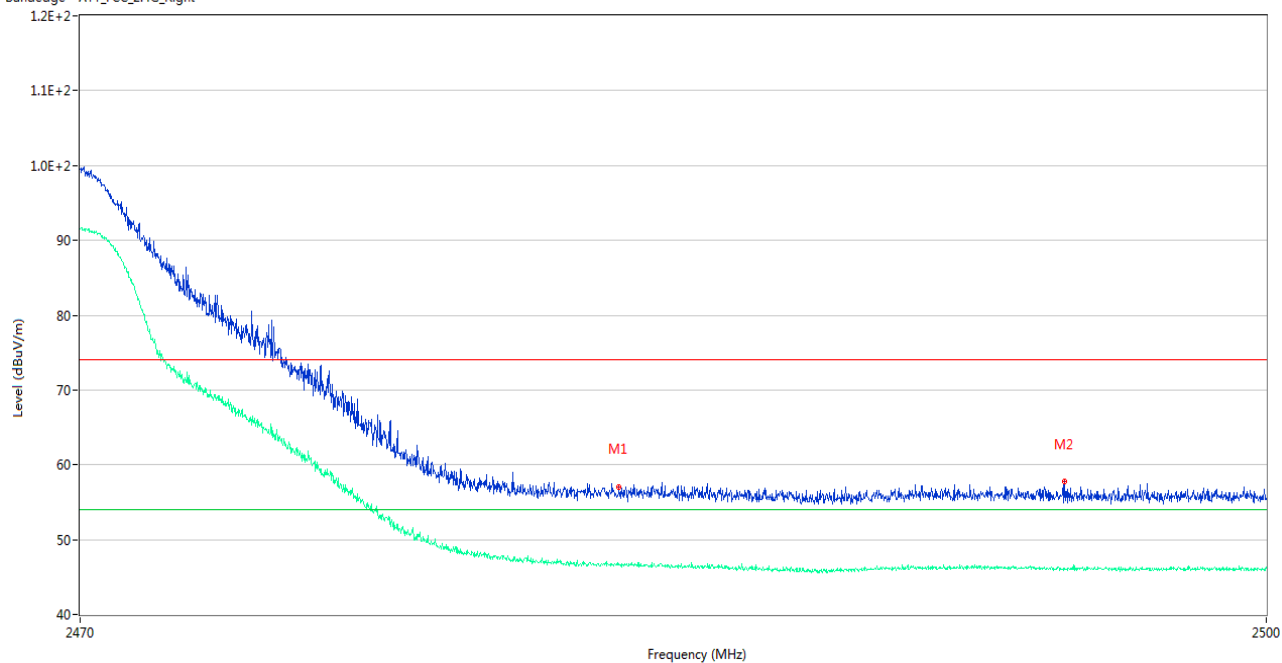
Bandedge - ATT\_FCC\_2.4G\_Left



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2389.250        | 58.21            | 1.91        | 74.0           | 15.79       | Peak     | 207.00         | 150         | Horizontal | Pass    |
| 1** | 2389.250        | 46.23            | 1.91        | 54.0           | 7.77        | AV       | 207.00         | 150         | Horizontal | Pass    |
| 2   | 2389.950        | 55.83            | 1.92        | 74.0           | 18.17       | Peak     | 118.00         | 100         | Horizontal | Pass    |
| 2** | 2389.950        | 46.36            | 1.92        | 54.0           | 7.64        | AV       | 118.00         | 100         | Horizontal | Pass    |

## 802.11n20 HIGH CHANNEL

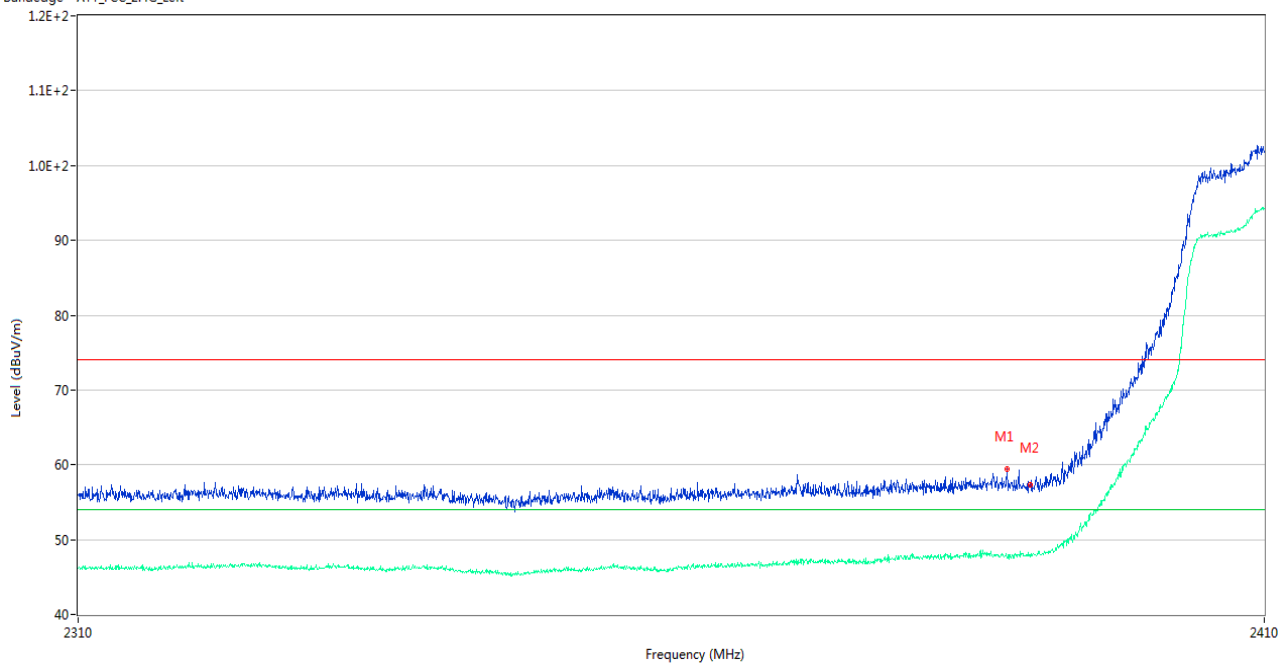
Bandedge - ATT\_FCC\_2.4G\_Right



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2483.590        | 57.08            | 2.11        | 74.0           | 16.92       | Peak     | 234.00         | 150         | Horizontal | Pass    |
| 1** | 2483.590        | 46.81            | 2.11        | 54.0           | 7.19        | AV       | 234.00         | 150         | Horizontal | Pass    |
| 2   | 2494.885        | 57.81            | 1.74        | 74.0           | 16.19       | Peak     | 16.00          | 150         | Horizontal | Pass    |
| 2** | 2494.885        | 46.20            | 1.74        | 54.0           | 7.80        | AV       | 16.00          | 150         | Horizontal | Pass    |

## 802.11n40 LOW CHANNEL

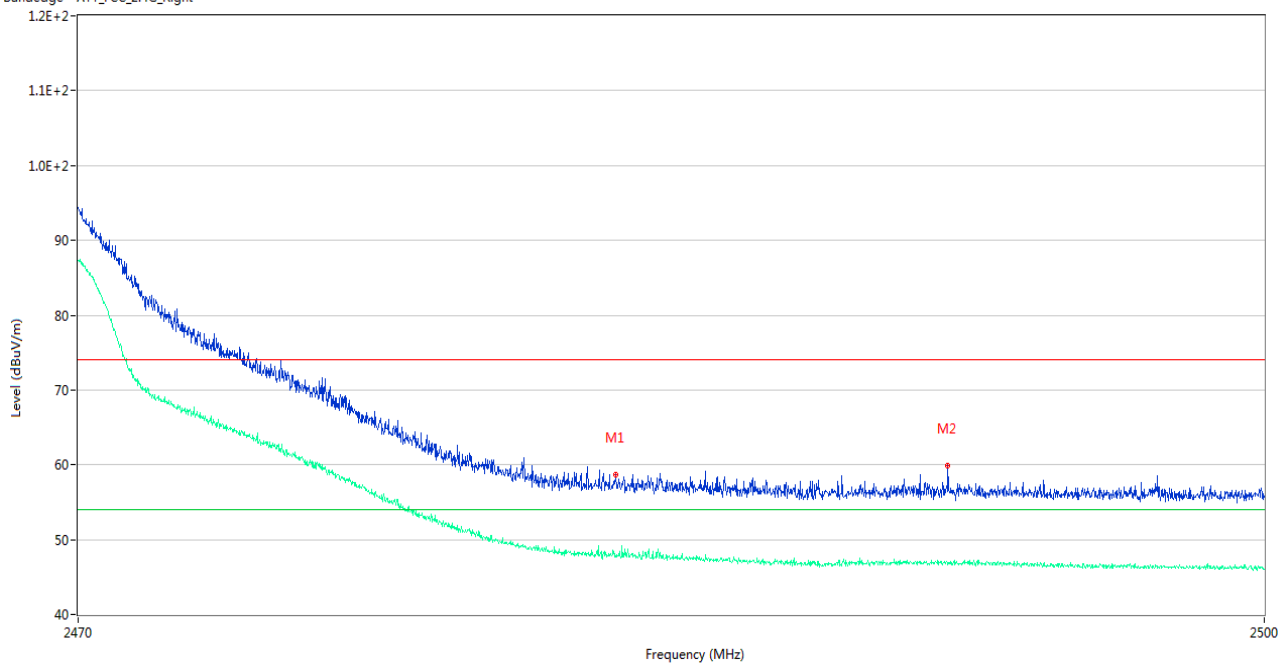
Bandedge - ATT\_FCC\_2.4G\_Left



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2387.950        | 59.51            | 2.08        | 74.0           | 14.49       | Peak     | 211.00         | 200         | Horizontal | Pass    |
| 1** | 2387.950        | 47.52            | 2.08        | 54.0           | 6.48        | AV       | 211.00         | 200         | Horizontal | Pass    |
| 2   | 2389.950        | 57.28            | 1.92        | 74.0           | 16.72       | Peak     | 268.00         | 100         | Horizontal | Pass    |
| 2** | 2389.950        | 47.99            | 1.92        | 54.0           | 6.01        | AV       | 268.00         | 100         | Horizontal | Pass    |

## 802.11n40 HIGH CHANNEL

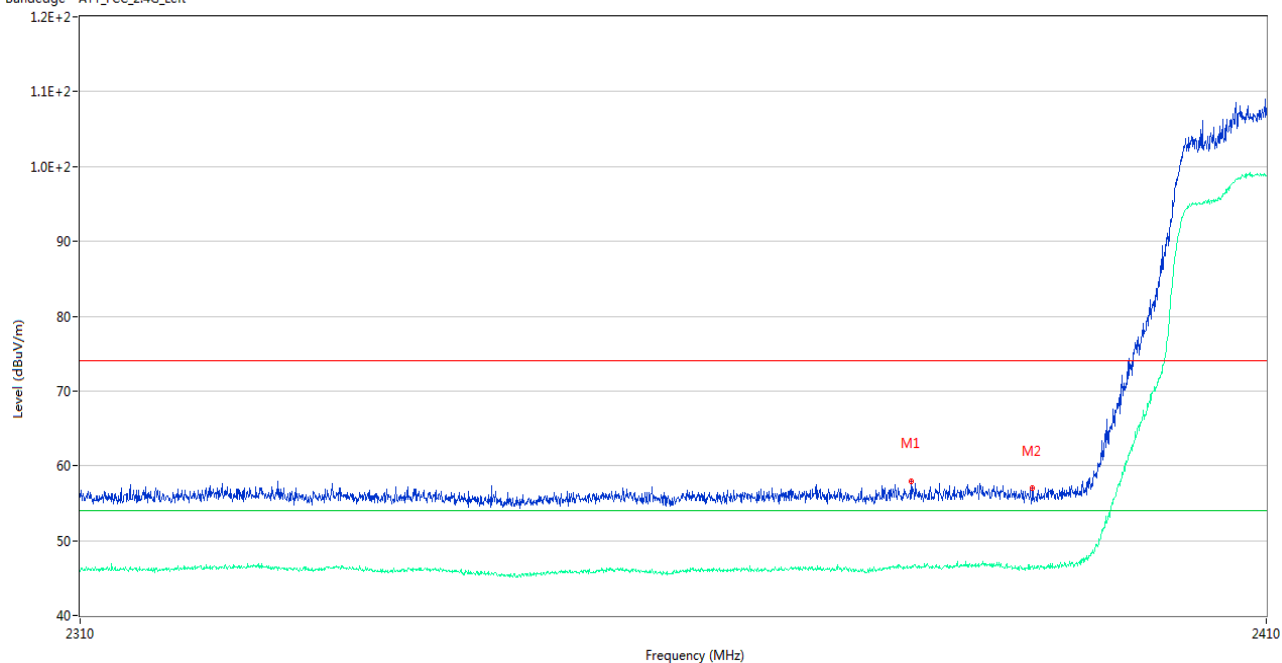
Bandedge - ATT\_FCC\_2.4G\_Right



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2483.560        | 58.64            | 2.11        | 74.0           | 15.36       | Peak     | 204.00         | 100         | Horizontal | Pass    |
| 1** | 2483.560        | 47.71            | 2.11        | 54.0           | 6.29        | AV       | 204.00         | 100         | Horizontal | Pass    |
| 2   | 2491.960        | 59.87            | 1.88        | 74.0           | 14.13       | Peak     | 218.00         | 200         | Horizontal | Pass    |
| 2** | 2491.960        | 46.59            | 1.88        | 54.0           | 7.41        | AV       | 218.00         | 200         | Horizontal | Pass    |

## 802.11ax20(SU) LOW CHANNEL

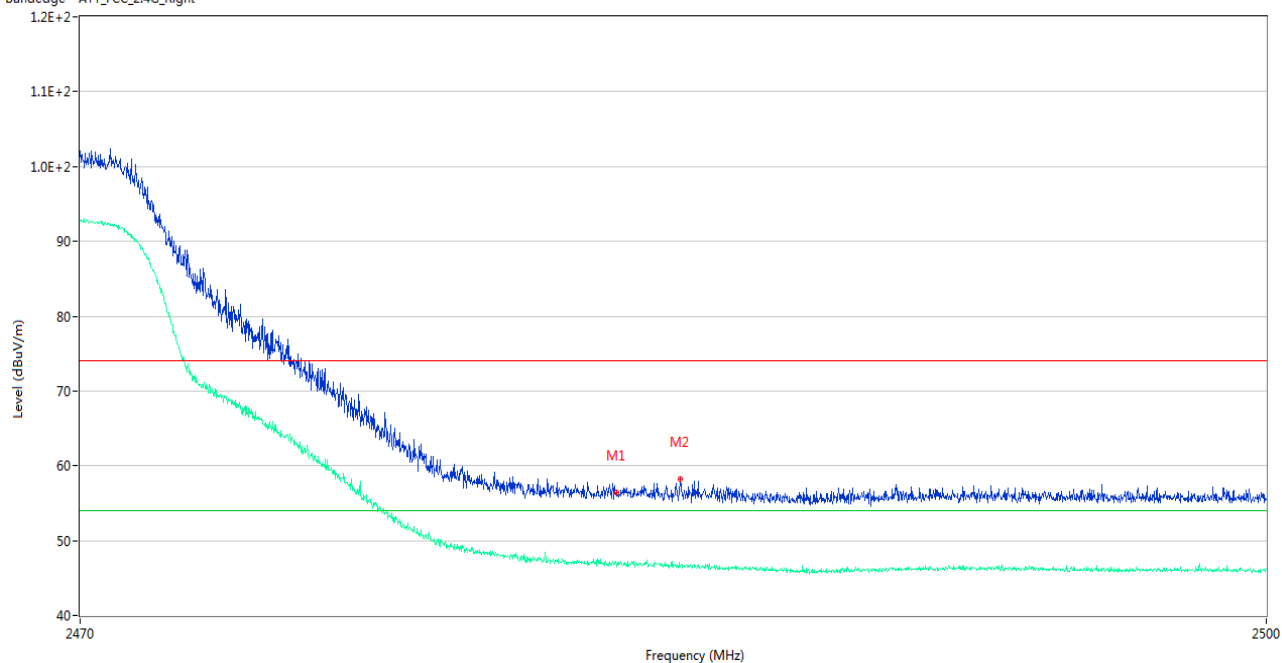
Bandedge - ATT\_FCC\_2.4G\_Left



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2379.600        | 57.99            | 2.24        | 74.0           | 16.01       | Peak     | 222.00         | 100         | Horizontal | Pass    |
| 1** | 2379.600        | 46.27            | 2.24        | 54.0           | 7.73        | AV       | 222.00         | 100         | Horizontal | Pass    |
| 2   | 2389.950        | 56.98            | 1.92        | 74.0           | 17.02       | Peak     | 116.00         | 150         | Horizontal | Pass    |
| 2** | 2389.950        | 46.43            | 1.92        | 54.0           | 7.57        | AV       | 116.00         | 150         | Horizontal | Pass    |

## 802.11ax20(SU) HIGH CHANNEL

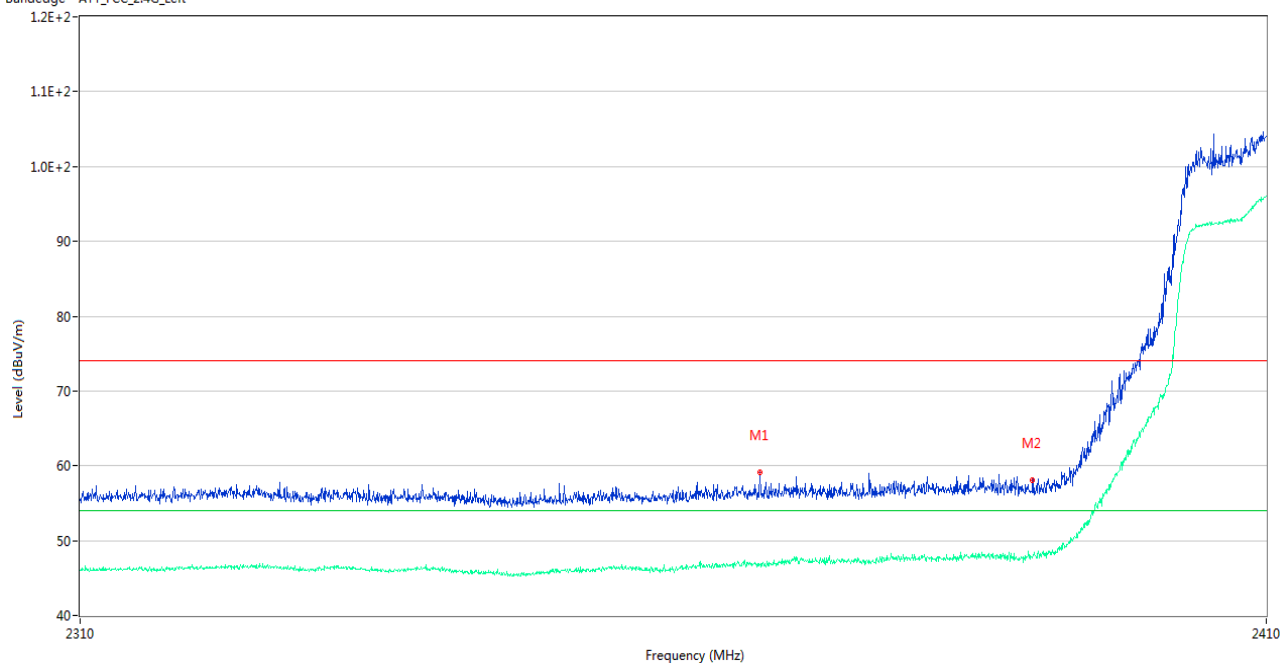
Bandedge - ATT\_FCC\_2.4G\_Right



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2483.530        | 56.37            | 2.11        | 74.0           | 17.63       | Peak     | 338.00         | 100         | Horizontal | Pass    |
| 1** | 2483.530        | 46.50            | 2.11        | 54.0           | 7.50        | AV       | 338.00         | 100         | Horizontal | Pass    |
| 2   | 2485.135        | 58.25            | 2.04        | 74.0           | 15.75       | Peak     | 344.00         | 100         | Horizontal | Pass    |
| 2** | 2485.135        | 46.52            | 2.04        | 54.0           | 7.48        | AV       | 344.00         | 100         | Horizontal | Pass    |

## 802.11ax40(SU) LOW CHANNEL

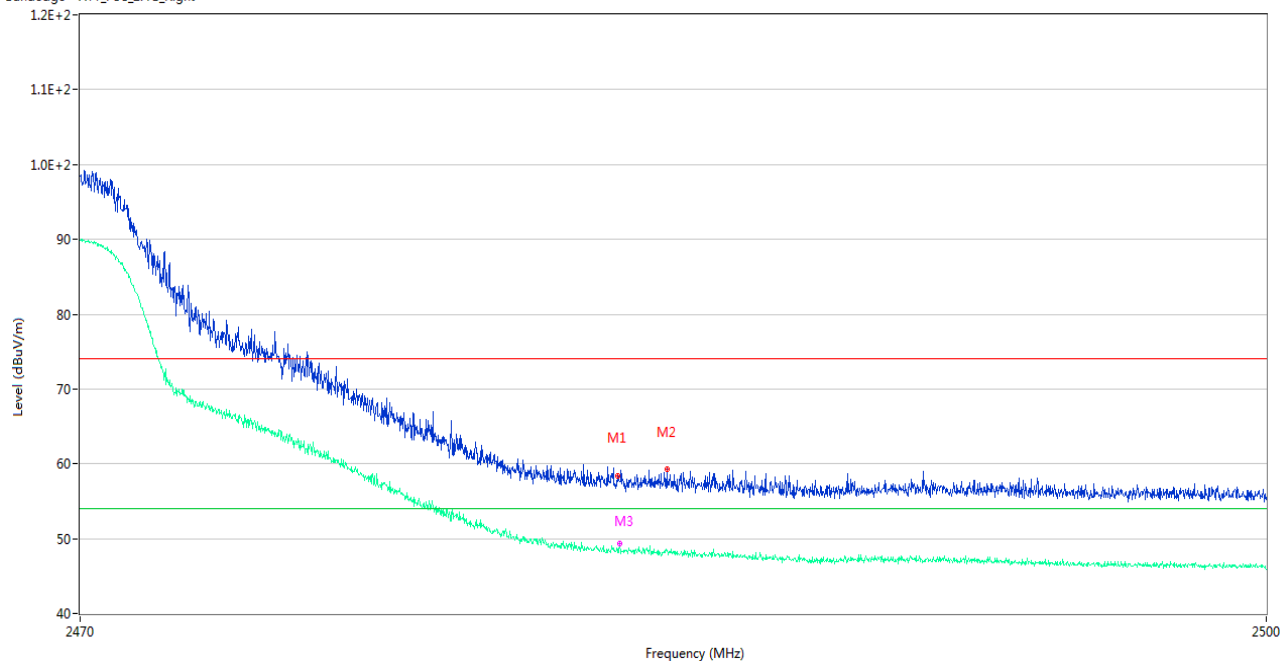
Bandedge - ATT\_FCC\_2.4G\_Left



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2366.800        | 59.14            | 1.74        | 74.0           | 14.86       | Peak     | 240.00         | 150         | Horizontal | Pass    |
| 1** | 2366.800        | 46.74            | 1.74        | 54.0           | 7.26        | AV       | 240.00         | 150         | Horizontal | Pass    |
| 2   | 2389.950        | 58.02            | 1.92        | 74.0           | 15.98       | Peak     | 241.00         | 100         | Horizontal | Pass    |
| 2** | 2389.950        | 47.89            | 1.92        | 54.0           | 6.11        | AV       | 241.00         | 100         | Horizontal | Pass    |

## 802.11ax40(SU) HIGH CHANNEL

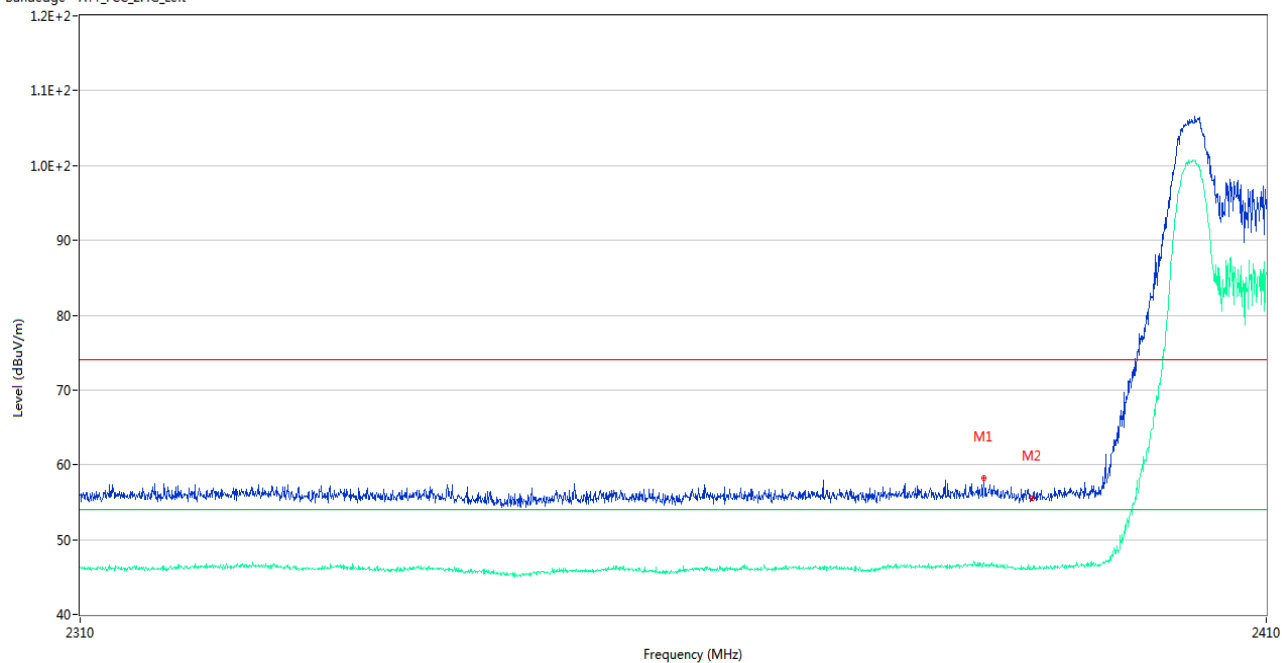
Bandedge - ATT\_FCC\_2.4G\_Right



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2483.560        | 58.45            | 2.11        | 74.0           | 15.55       | Peak     | 236.00         | 200         | Horizontal | Pass    |
| 1** | 2483.560        | 48.48            | 2.11        | 54.0           | 5.52        | AV       | 236.00         | 200         | Horizontal | Pass    |
| 2   | 2484.790        | 59.27            | 2.08        | 74.0           | 14.73       | Peak     | 236.00         | 150         | Horizontal | Pass    |
| 2** | 2484.790        | 48.27            | 2.08        | 54.0           | 5.73        | AV       | 236.00         | 150         | Horizontal | Pass    |
| 3   | 2483.605        | 57.58            | 2.11        | 74.0           | 16.42       | Peak     | 243.00         | 150         | Horizontal | Pass    |
| 3** | 2483.605        | 49.35            | 2.11        | 54.0           | 4.65        | AV       | 243.00         | 150         | Horizontal | Pass    |

## 802.11ax20(RU26) LOW CHANNEL

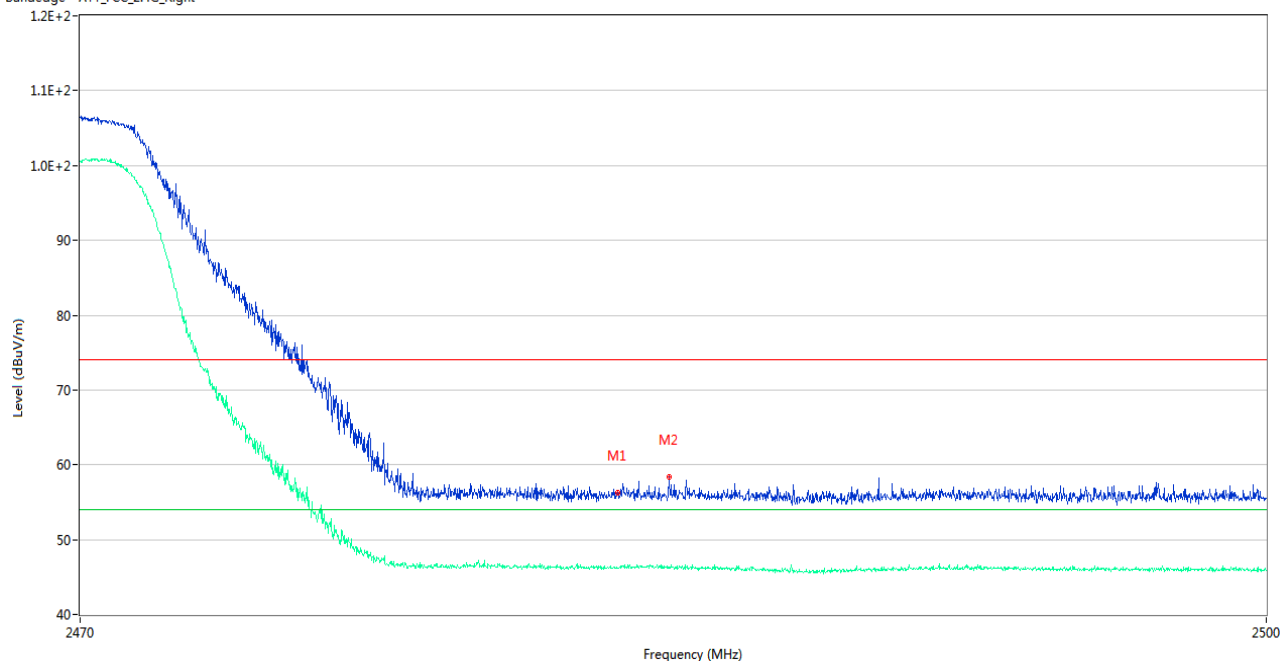
Bandedge - ATT\_FCC\_2.4G\_Left



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2385.800        | 58.21            | 2.41        | 74.0           | 15.79       | Peak     | 32.00          | 100         | Horizontal | Pass    |
| 1** | 2385.800        | 46.88            | 2.41        | 54.0           | 7.12        | AV       | 32.00          | 100         | Horizontal | Pass    |
| 2   | 2389.950        | 55.54            | 1.92        | 74.0           | 18.46       | Peak     | 321.00         | 100         | Horizontal | Pass    |
| 2** | 2389.950        | 46.12            | 1.92        | 54.0           | 7.88        | AV       | 321.00         | 100         | Horizontal | Pass    |

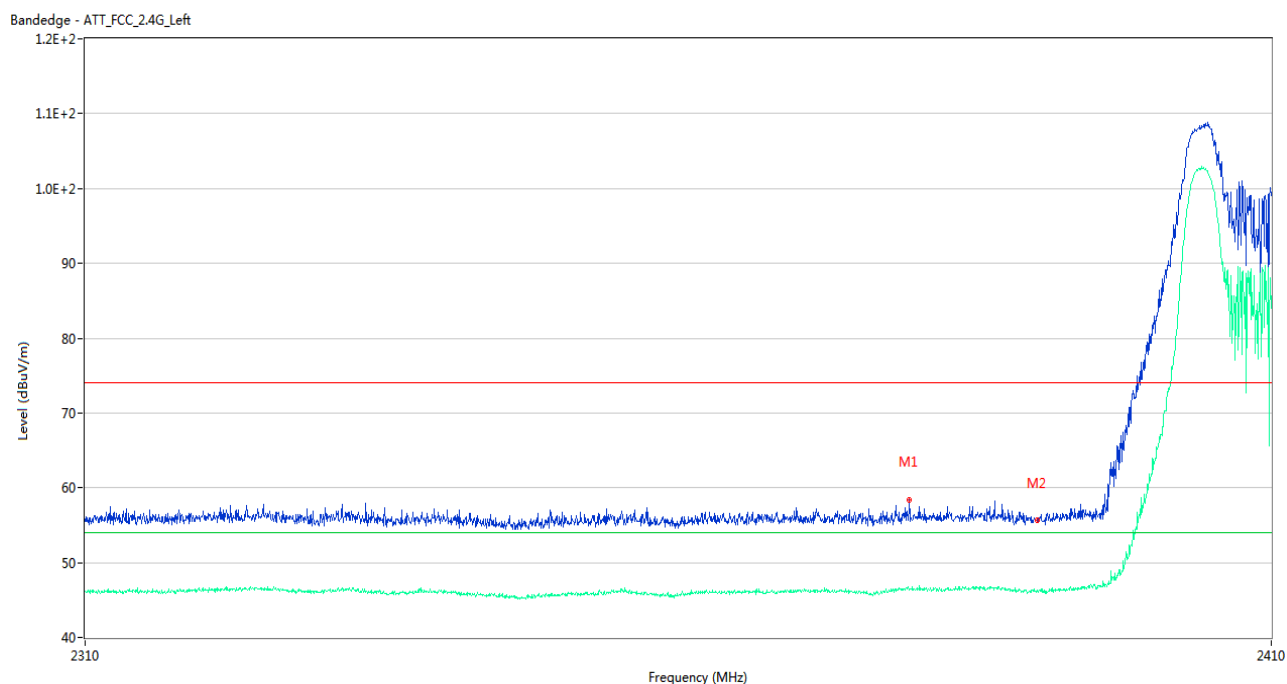
## 802.11ax20(RU26) HIGH CHANNEL

Bandedge - ATT\_FCC\_2.4G\_Right



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2483.560        | 56.31            | 2.11        | 74.0           | 17.69       | Peak     | 123.00         | 100         | Horizontal | Pass    |
| 1** | 2483.560        | 46.17            | 2.11        | 54.0           | 7.83        | AV       | 123.00         | 100         | Horizontal | Pass    |
| 2   | 2484.850        | 58.41            | 2.08        | 74.0           | 15.59       | Peak     | 149.00         | 200         | Horizontal | Pass    |
| 2** | 2484.850        | 46.13            | 2.08        | 54.0           | 7.87        | AV       | 149.00         | 200         | Horizontal | Pass    |

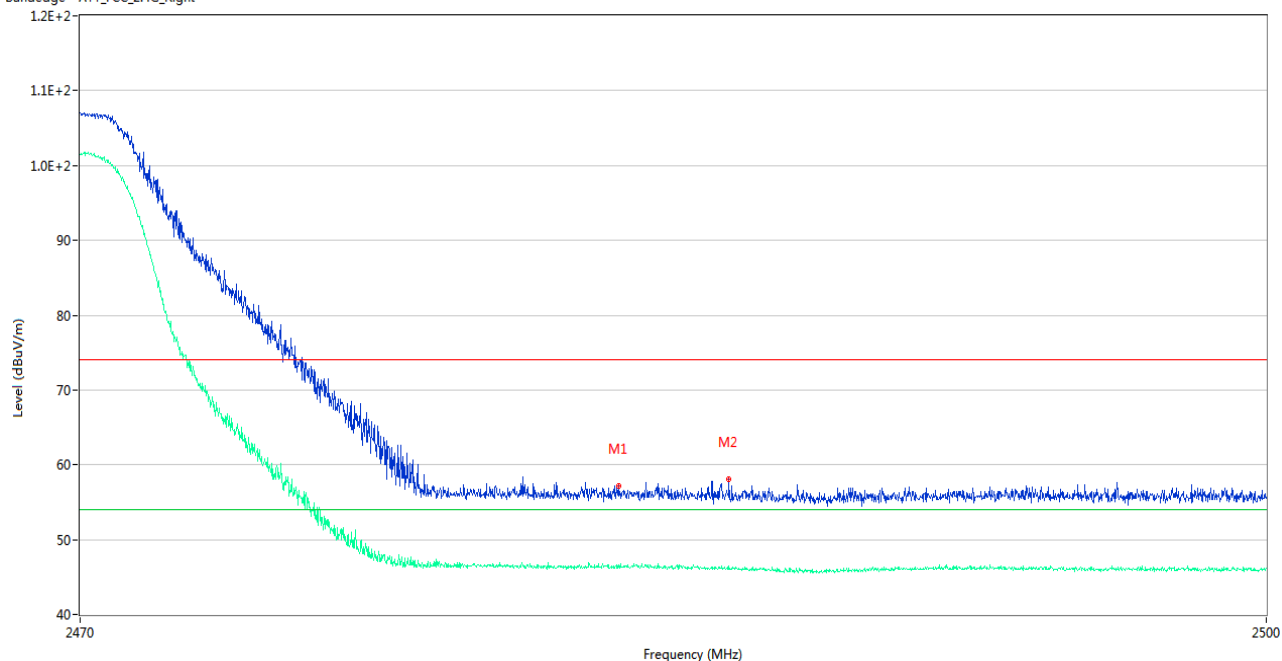
## 802.11ax40(RU26) LOW CHANNEL



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2379.050        | 58.45            | 2.25        | 74.0           | 15.55       | Peak     | 119.00         | 200         | Horizontal | Pass    |
| 1** | 2379.050        | 46.38            | 2.25        | 54.0           | 7.62        | AV       | 119.00         | 200         | Horizontal | Pass    |
| 2   | 2389.950        | 55.68            | 1.92        | 74.0           | 18.32       | Peak     | 38.00          | 150         | Horizontal | Pass    |
| 2** | 2389.950        | 46.35            | 1.92        | 54.0           | 7.65        | AV       | 38.00          | 150         | Horizontal | Pass    |

## 802.11ax40(RU26) HIGH CHANNEL

Bandedge - ATT\_FCC\_2.4G\_Right



| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | Margin (dB) | Detector | Table (Degree) | Height (cm) | Antenna    | Verdict |
|-----|-----------------|------------------|-------------|----------------|-------------|----------|----------------|-------------|------------|---------|
| 1   | 2483.575        | 57.22            | 2.11        | 74.0           | 16.78       | Peak     | 217.00         | 100         | Horizontal | Pass    |
| 1** | 2483.575        | 46.27            | 2.11        | 54.0           | 7.73        | AV       | 217.00         | 100         | Horizontal | Pass    |
| 2   | 2486.365        | 58.04            | 1.89        | 74.0           | 15.96       | Peak     | 45.00          | 200         | Horizontal | Pass    |
| 2** | 2486.365        | 46.43            | 1.89        | 54.0           | 7.57        | AV       | 45.00          | 200         | Horizontal | Pass    |

## A.8 Power Spectral Density (PSD)

Note 1: All antenna were tested, but only the worst case has been reported in this report.

Note 2: All the configurations were pre tested, only the worst configuration has been reported in this report.

### Test Data

#### SISO-Main Antenna

802.11b Mode:

| Channel | Spectral power density<br>(dBm/3kHz) | Limit (dBm/3kHz) |
|---------|--------------------------------------|------------------|
| Low     | -7.58                                | 8                |
| Middle  | -7.66                                | 8                |
| High    | -7.21                                | 8                |

802.11g Mode:

| Channel | Spectral power density<br>(dBm/3kHz) | Limit (dBm/3kHz) |
|---------|--------------------------------------|------------------|
| Low     | -8.62                                | 8                |
| Middle  | -9.58                                | 8                |
| High    | -8.82                                | 8                |

802.11n-20 MHz Mode:

| Channel | Spectral power density<br>(dBm/3kHz) | Limit (dBm/3kHz) |
|---------|--------------------------------------|------------------|
| Low     | -8.93                                | 8                |
| Middle  | -10.06                               | 8                |
| High    | -9.32                                | 8                |

802.11n-40 MHz Mode:

| Channel | Spectral power density<br>(dBm/3kHz) | Limit (dBm/3kHz) |
|---------|--------------------------------------|------------------|
| Low     | -12.92                               | 8                |
| Middle  | -11.65                               | 8                |
| High    | -12.80                               | 8                |

802.11ax-20 MHz(SU) Mode:

| Channel | Spectral power density<br>(dBm/3kHz) | Limit (dBm/3kHz) |
|---------|--------------------------------------|------------------|
| Low     | -10.61                               | 8                |
| Middle  | -11.26                               | 8                |
| High    | -10.38                               | 8                |

## 802.11ax-40 MHz(SU) Mode:

| Channel | Spectral power density<br>(dBm/3kHz) | Limit (dBm/3kHz) |
|---------|--------------------------------------|------------------|
| Low     | -14.35                               | 8                |
| Middle  | -14.07                               | 8                |
| High    | -12.16                               | 8                |

## 802.11ax-20 MHz(RU26) Mode:

| Channel | Spectral power density<br>(dBm/3kHz) | Limit (dBm/3kHz) |
|---------|--------------------------------------|------------------|
| Low     | -4.04                                | 8                |
| Middle  | -5.68                                | 8                |
| High    | -6.13                                | 8                |

## 802.11ax-40 MHz(RU26) Mode:

| Channel | Spectral power density<br>(dBm/3kHz) | Limit (dBm/3kHz) |
|---------|--------------------------------------|------------------|
| Low     | -6.68                                | 8                |
| Middle  | -5.65                                | 8                |
| High    | -6.83                                | 8                |

## Test Plots

## SISO-Main Antenna

## 802.11b LOW CHANNEL



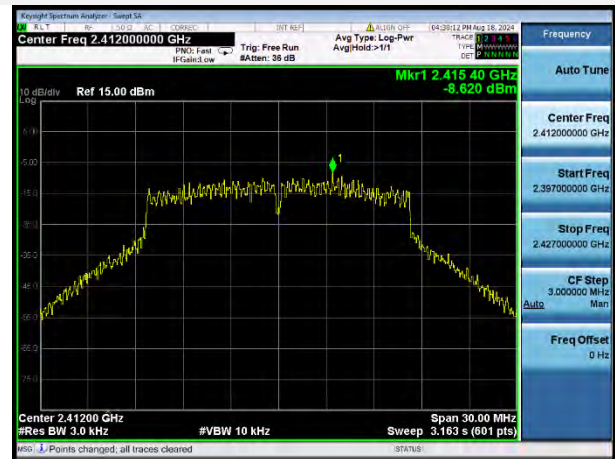
## 802.11b MIDDLE CHANNEL



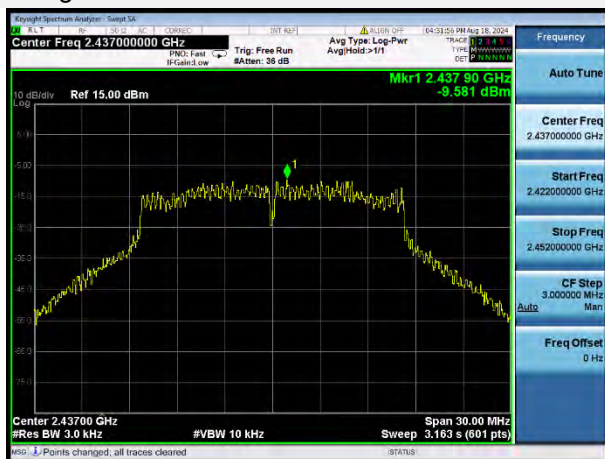
## 802.11b HIGH CHANNEL



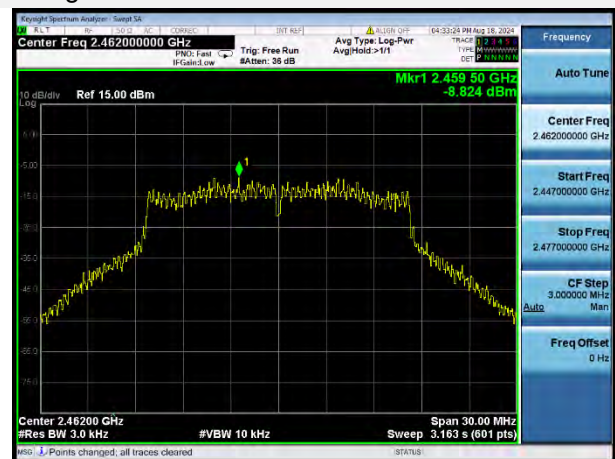
## 802.11g LOW CHANNEL



## 802.11g MIDDLE CHANNEL



## 802.11g HIGH CHANNEL



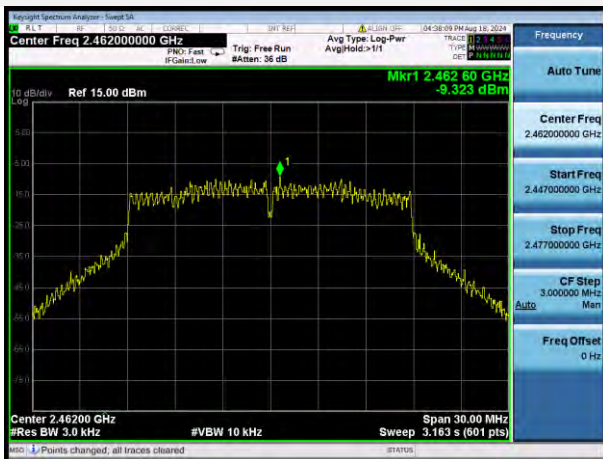
## 802.11n-20 MHz LOW CHANNEL



## 802.11n-20 MHz MIDDLE CHANNEL



## 802.11n-20 MHz HIGH CHANNEL



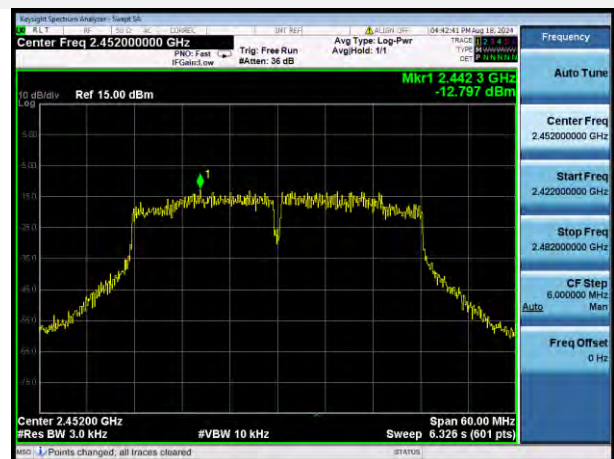
## 802.11n-40 MHz LOW CHANNEL



## 802.11n-40 MHz MIDDLE CHANNEL



## 802.11n-40 MHz HIGH CHANNEL



## 802.11ax-20 MHz(SU) LOW CHANNEL



## 802.11ax-20 MHz(SU) MIDDLE CHANNEL



## 802.11ax-20 MHz(SU) HIGH CHANNEL



## 802.11ax-40 MHz(SU) LOW CHANNEL



## 802.11ax-40 MHz(SU) MIDDLE CHANNEL



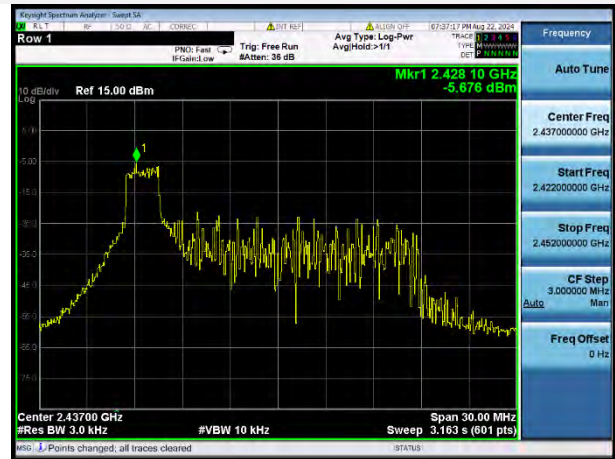
## 802.11ax-40 MHz(SU) HIGH CHANNEL



## 802.11ax-20 MHz(RU26) LOW CHANNEL



## 802.11ax-20 MHz(RU26) MIDDLE CHANNEL



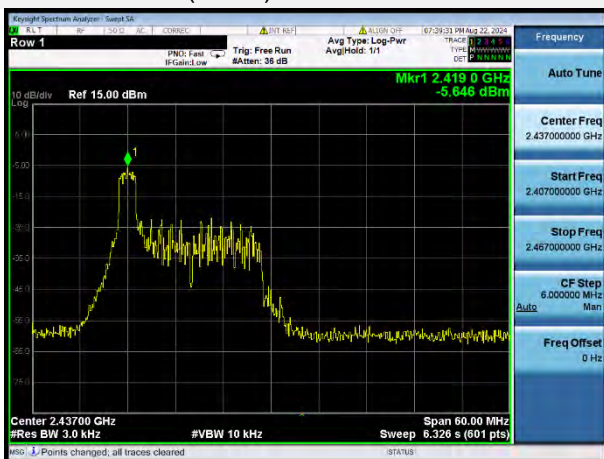
## 802.11ax-20 MHz(RU26) HIGH CHANNEL



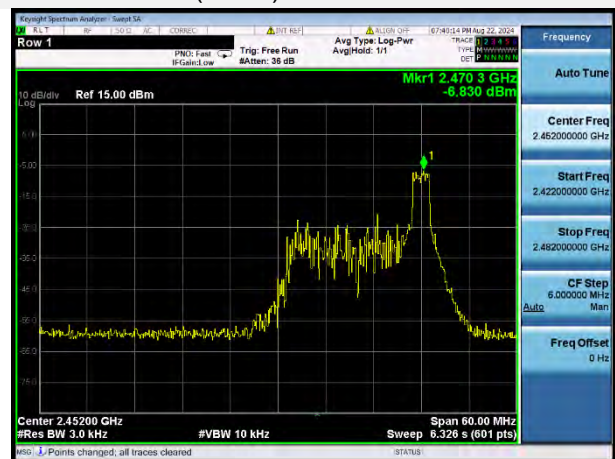
## 802.11ax-40 MHz(RU26) LOW CHANNEL



## 802.11ax-40 MHz(RU26) MIDDLE CHANNEL



## 802.11ax-40 MHz(RU26) HIGH CHANNEL



## **ANNEX B TEST SETUP PHOTOS**

Please refer the document “BL-SZ2480185-AR.PDF”.

## **ANNEX C EUT EXTERNAL PHOTOS**

Please refer the document “BL-SZ2480185-AW.PDF”.

## **ANNEX D EUT INTERNAL PHOTOS**

Please refer the document “BL-SZ2480185-AI.PDF”.

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--END OF REPORT--