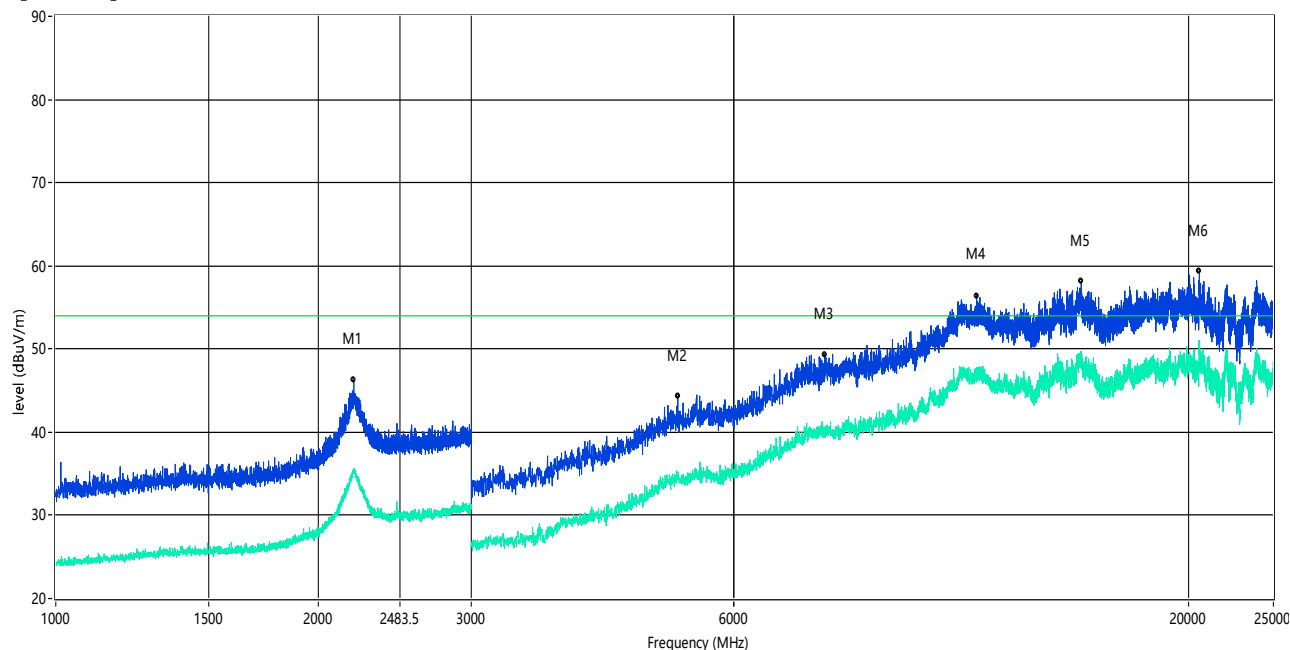




## 802.11n(HT40) Middle Channel

|              |         |                    |            |
|--------------|---------|--------------------|------------|
| Temperature: | 21.7℃   | Relative Humidity: | 68%        |
| Pressure:    | 1010hPa | Phase:             | Horizontal |

RE\_FCC Test Case\_FCC 15C 1GHz-25GHz

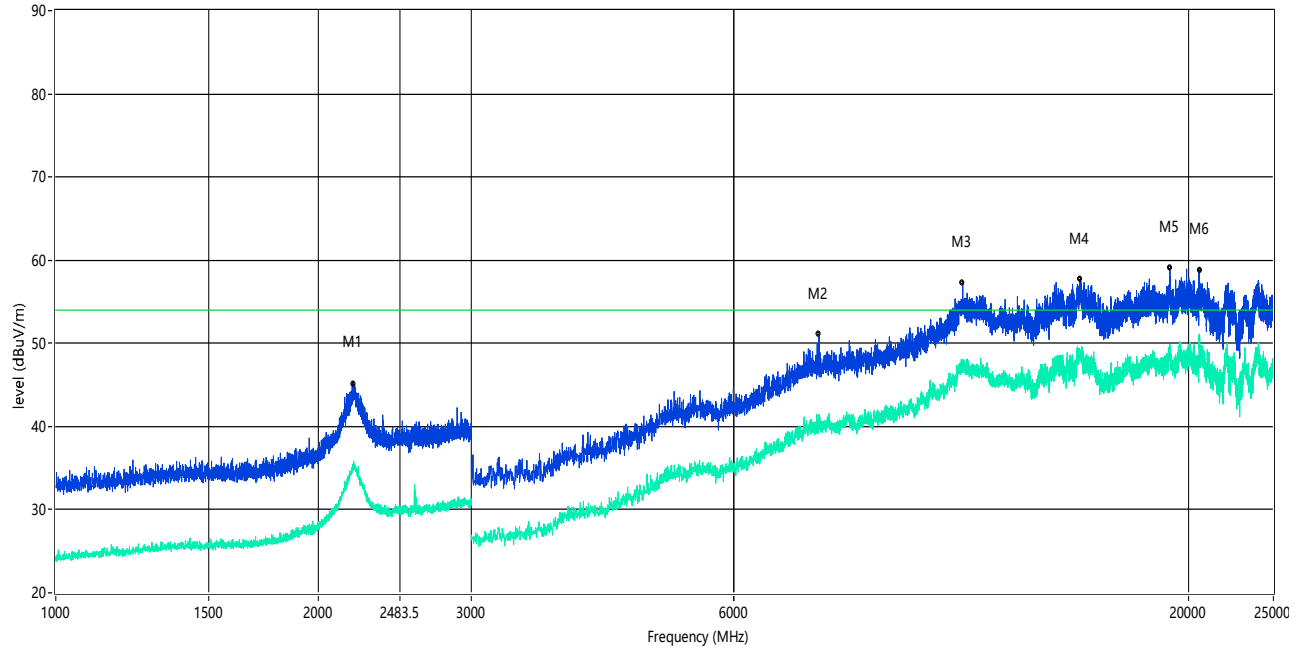


| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | OverLimit (dB) | Detector | ANT | Verdict |
|-----|-----------------|------------------|-------------|----------------|----------------|----------|-----|---------|
| 1** | 2199.000        | 35.34            | -7.26       | 54.0           | -18.66         | AV       | H   | Pass    |
| 1   | 2199.000        | 46.28            | -7.26       | 74.0           | -27.72         | Peak     | H   | Pass    |
| 2** | 5177.500        | 34.59            | -1.83       | 54.0           | -19.41         | AV       | H   | Pass    |
| 2   | 5177.500        | 44.34            | -1.83       | 74.0           | -29.66         | Peak     | H   | Pass    |
| 3** | 7637.500        | 40.06            | 4.83        | 54.0           | -13.94         | AV       | H   | Pass    |
| 3   | 7637.500        | 49.32            | 4.83        | 74.0           | -24.68         | Peak     | H   | Pass    |
| 4** | 11407.500       | 46.04            | 10.87       | 54.0           | -7.96          | AV       | H   | Pass    |
| 4   | 11407.500       | 56.42            | 10.87       | 74.0           | -17.58         | Peak     | H   | Pass    |
| 5** | 15042.500       | 48.80            | 11.66       | 54.0           | -5.20          | AV       | H   | Pass    |
| 5   | 15042.500       | 58.10            | 11.66       | 74.0           | -15.90         | Peak     | H   | Pass    |
| 6** | 20556.751       | 50.31            | 14.11       | 54.0           | -3.69          | AV       | H   | Pass    |
| 6   | 20556.751       | 59.38            | 14.11       | 74.0           | -14.62         | Peak     | H   | Pass    |



|              |         |                    |          |
|--------------|---------|--------------------|----------|
| Temperature: | 21.7°C  | Relative Humidity: | 68%      |
| Pressure:    | 1010hPa | Phase:             | Vertical |

RE\_FCC Test Case\_FCC 15C 1GHz-25GHz



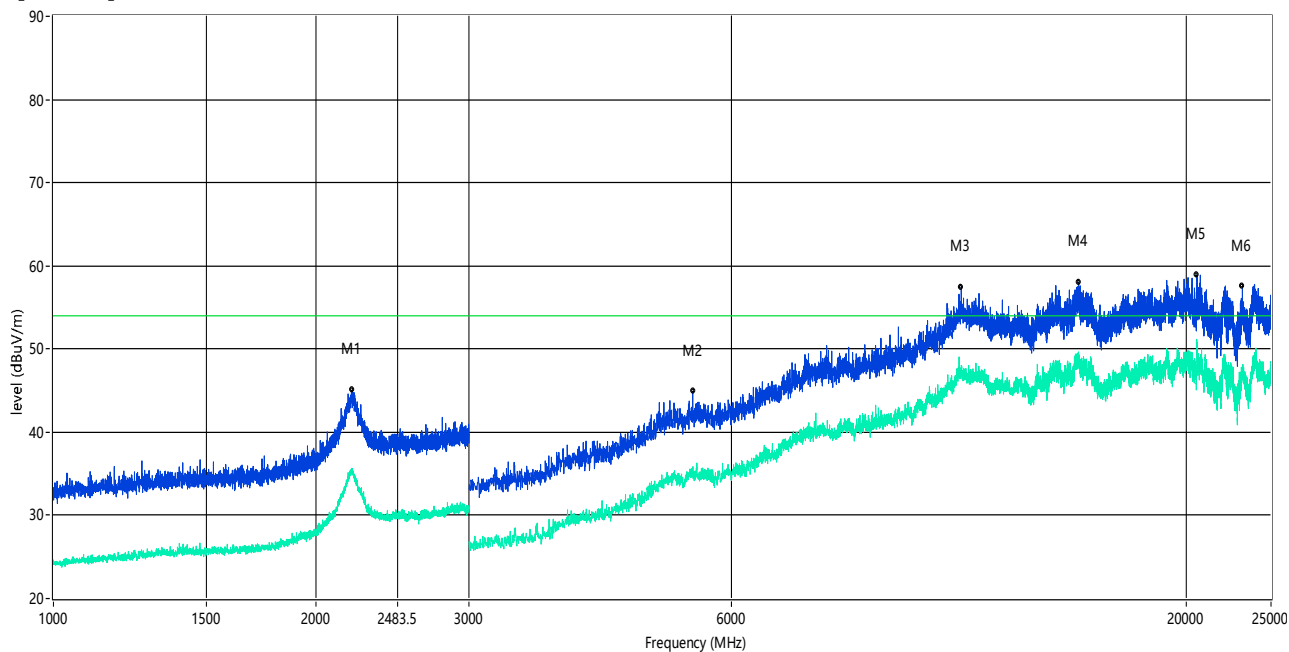
| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | OverLimit (dB) | Detector | ANT | Verdict |
|-----|-----------------|------------------|-------------|----------------|----------------|----------|-----|---------|
| 1** | 2194.000        | 35.16            | -7.53       | 54.0           | -18.84         | AV       | V   | Pass    |
| 1   | 2194.000        | 45.16            | -7.53       | 74.0           | -28.84         | Peak     | V   | Pass    |
| 2** | 7520.000        | 40.54            | 4.57        | 54.0           | -13.46         | AV       | V   | Pass    |
| 2   | 7520.000        | 51.07            | 4.57        | 74.0           | -22.93         | Peak     | V   | Pass    |
| 3** | 10997.500       | 47.51            | 10.96       | 54.0           | -6.49          | AV       | V   | Pass    |
| 3   | 10997.500       | 57.27            | 10.96       | 74.0           | -16.73         | Peak     | V   | Pass    |
| 4** | 14992.500       | 48.11            | 12.37       | 54.0           | -5.89          | AV       | V   | Pass    |
| 4   | 14992.500       | 57.70            | 12.37       | 74.0           | -16.30         | Peak     | V   | Pass    |
| 5** | 19016.749       | 49.20            | 15.25       | 54.0           | -4.80          | AV       | V   | Pass    |
| 5   | 19016.749       | 59.00            | 15.25       | 74.0           | -15.00         | Peak     | V   | Pass    |
| 6** | 20563.751       | 49.72            | 14.12       | 54.0           | -4.28          | AV       | V   | Pass    |
| 6   | 20563.751       | 58.81            | 14.12       | 74.0           | -15.19         | Peak     | V   | Pass    |



## 802.11n(HT40) High Channel

|              |         |                    |            |
|--------------|---------|--------------------|------------|
| Temperature: | 21.7°C  | Relative Humidity: | 68%        |
| Pressure:    | 1010hPa | Phase:             | Horizontal |

RE\_FCC Test Case\_FCC 15C 1GHz-25GHz

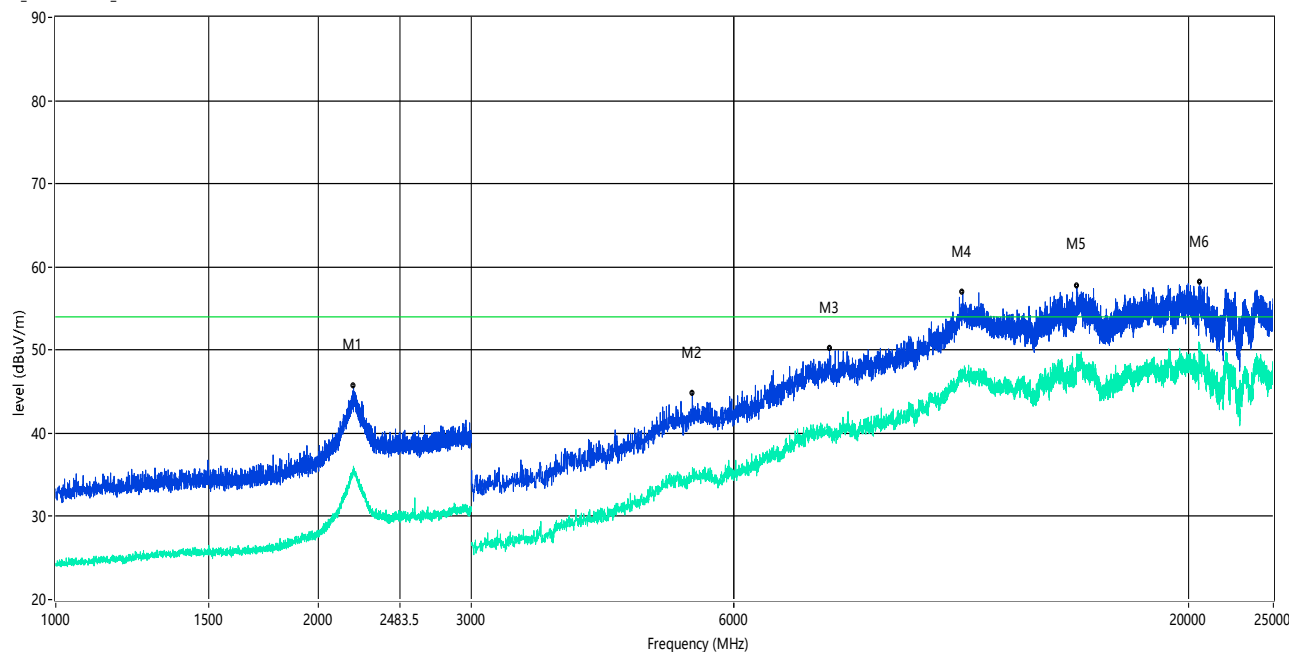


| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | OverLimit (dB) | Detector | ANT | Verdict |
|-----|-----------------|------------------|-------------|----------------|----------------|----------|-----|---------|
| 1** | 2204.000        | 35.18            | -7.40       | 54.0           | -18.82         | AV       | H   | Pass    |
| 1   | 2204.000        | 45.03            | -7.40       | 74.0           | -28.97         | Peak     | H   | Pass    |
| 2** | 5420.000        | 34.96            | -1.38       | 54.0           | -19.04         | AV       | H   | Pass    |
| 2   | 5420.000        | 44.92            | -1.38       | 74.0           | -29.08         | Peak     | H   | Pass    |
| 3** | 11022.500       | 48.03            | 10.87       | 54.0           | -5.97          | AV       | H   | Pass    |
| 3   | 11022.500       | 57.45            | 10.87       | 74.0           | -16.55         | Peak     | H   | Pass    |
| 4** | 15033.750       | 49.04            | 11.80       | 54.0           | -4.96          | AV       | H   | Pass    |
| 4   | 15033.750       | 58.03            | 11.80       | 74.0           | -15.97         | Peak     | H   | Pass    |
| 5** | 20539.251       | 50.27            | 14.09       | 54.0           | -3.73          | AV       | H   | Pass    |
| 5   | 20539.251       | 58.90            | 14.09       | 74.0           | -15.10         | Peak     | H   | Pass    |
| 6** | 23179.999       | 46.71            | 15.08       | 54.0           | -7.29          | AV       | H   | Pass    |
| 6   | 23179.999       | 57.55            | 15.08       | 74.0           | -16.45         | Peak     | H   | Pass    |



|              |         |                    |          |
|--------------|---------|--------------------|----------|
| Temperature: | 21.7°C  | Relative Humidity: | 68%      |
| Pressure:    | 1010hPa | Phase:             | Vertical |

RE\_FCC Test Case\_FCC 15C 1GHz-25GHz



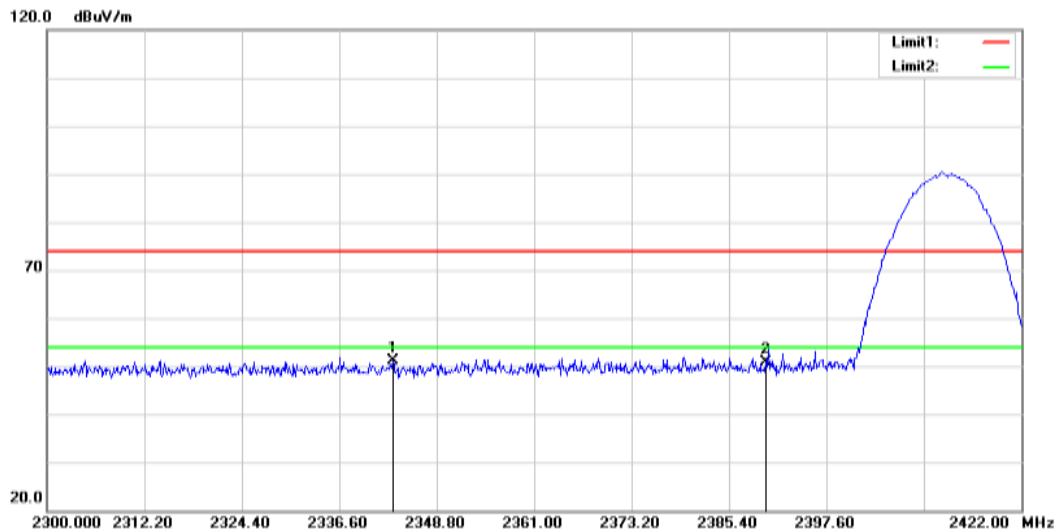
| No. | Frequency (MHz) | Results (dBuV/m) | Factor (dB) | Limit (dBuV/m) | OverLimit (dB) | Detector | ANT | Verdict |
|-----|-----------------|------------------|-------------|----------------|----------------|----------|-----|---------|
| 1** | 2197.500        | 35.01            | -7.34       | 54.0           | -18.99         | AV       | V   | Pass    |
| 1   | 2197.500        | 45.69            | -7.34       | 74.0           | -28.31         | Peak     | V   | Pass    |
| 2** | 5382.500        | 35.88            | -1.47       | 54.0           | -18.12         | AV       | V   | Pass    |
| 2   | 5382.500        | 44.81            | -1.47       | 74.0           | -29.19         | Peak     | V   | Pass    |
| 3** | 7732.500        | 40.36            | 4.71        | 54.0           | -13.64         | AV       | V   | Pass    |
| 3   | 7732.500        | 50.13            | 4.71        | 74.0           | -23.87         | Peak     | V   | Pass    |
| 4** | 10997.500       | 47.50            | 10.96       | 54.0           | -6.50          | AV       | V   | Pass    |
| 4   | 10997.500       | 56.89            | 10.96       | 74.0           | -17.11         | Peak     | V   | Pass    |
| 5** | 14871.250       | 47.96            | 12.25       | 54.0           | -6.04          | AV       | V   | Pass    |
| 5   | 14871.250       | 57.65            | 12.25       | 74.0           | -16.35         | Peak     | V   | Pass    |
| 6** | 20572.500       | 49.62            | 14.13       | 54.0           | -4.38          | AV       | V   | Pass    |
| 6   | 20572.500       | 58.12            | 14.13       | 74.0           | -15.88         | Peak     | V   | Pass    |



## 3.3.7 TEST RESULTS (RESTRICTED BAND)

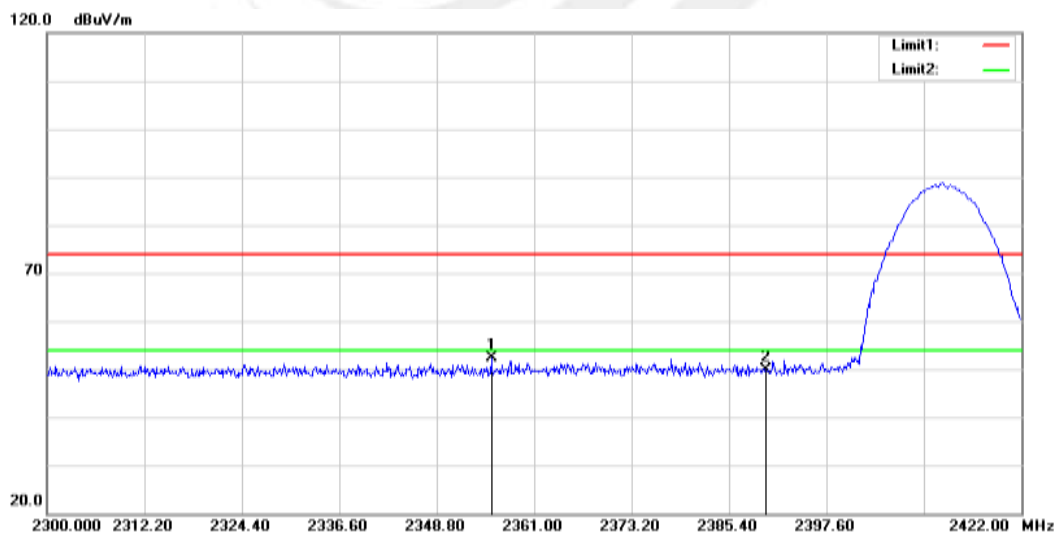
## 802.11b Low Channel

Horizontal



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2343.310           | 24.03             | 27.07                   | 51.10              | 74.00             | -22.90         | peak   |
| 2   | 2390.000           | 23.71             | 27.23                   | 50.94              | 74.00             | -23.06         | peak   |

Vertical

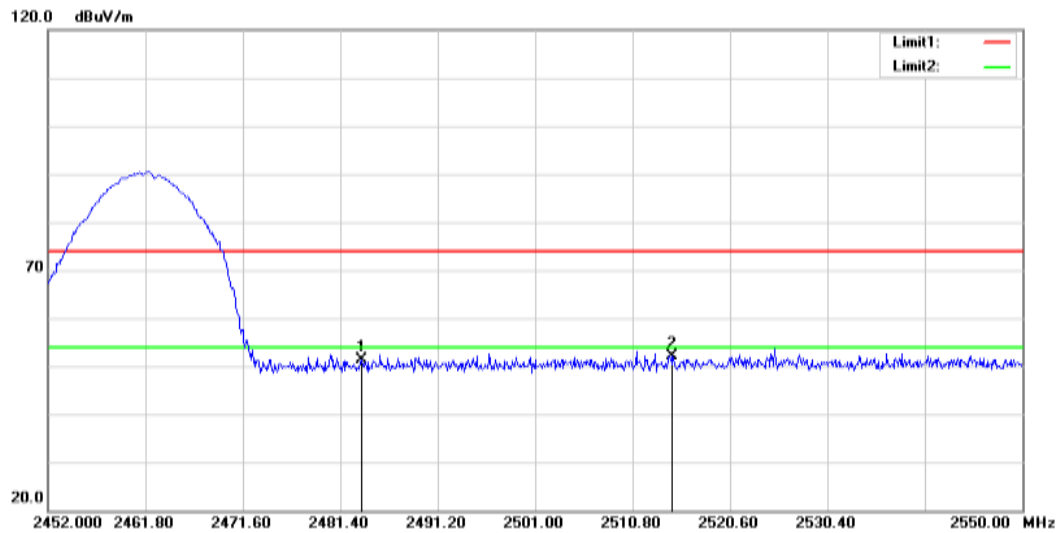


| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2355.632           | 25.32             | 27.11                   | 52.43              | 74.00             | -21.57         | peak   |
| 2   | 2390.000           | 22.60             | 27.23                   | 49.83              | 74.00             | -24.17         | peak   |



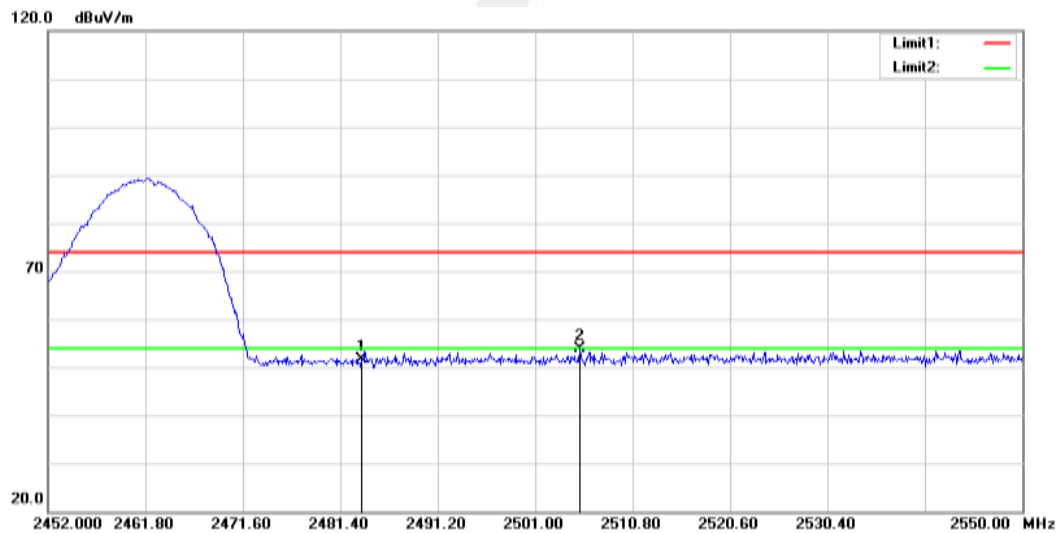
### 802.11b High channel

Horizontal



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2483.500           | 23.87             | 27.54                   | 51.41              | 74.00             | -22.59         | peak   |
| 2   | 2514.818           | 24.55             | 27.62                   | 52.17              | 74.00             | -21.83         | peak   |

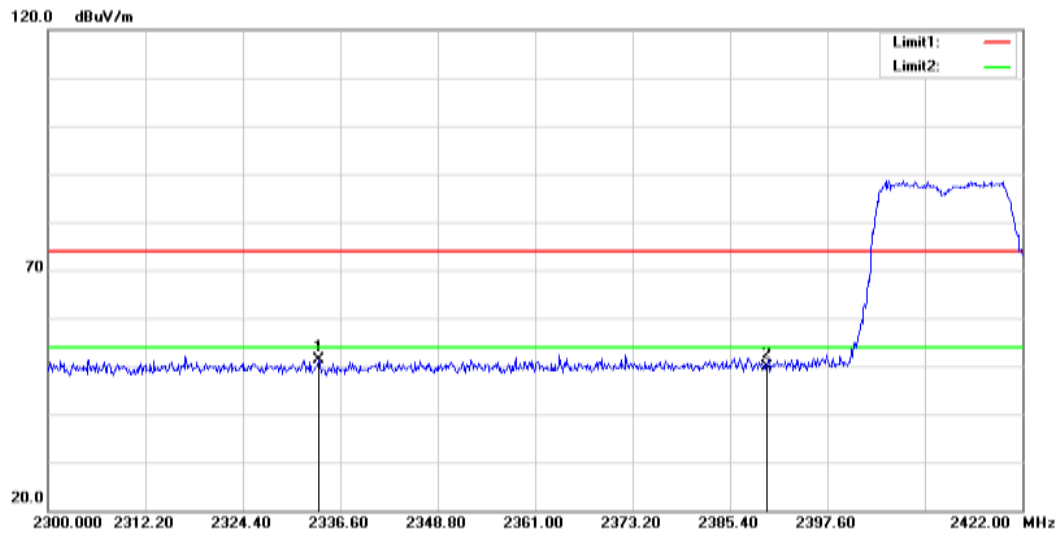
### Vertical



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2483.500           | 24.18             | 27.54                   | 51.72              | 74.00             | -22.28         | peak   |
| 2   | 2505.508           | 26.23             | 27.61                   | 53.84              | 74.00             | -20.16         | peak   |

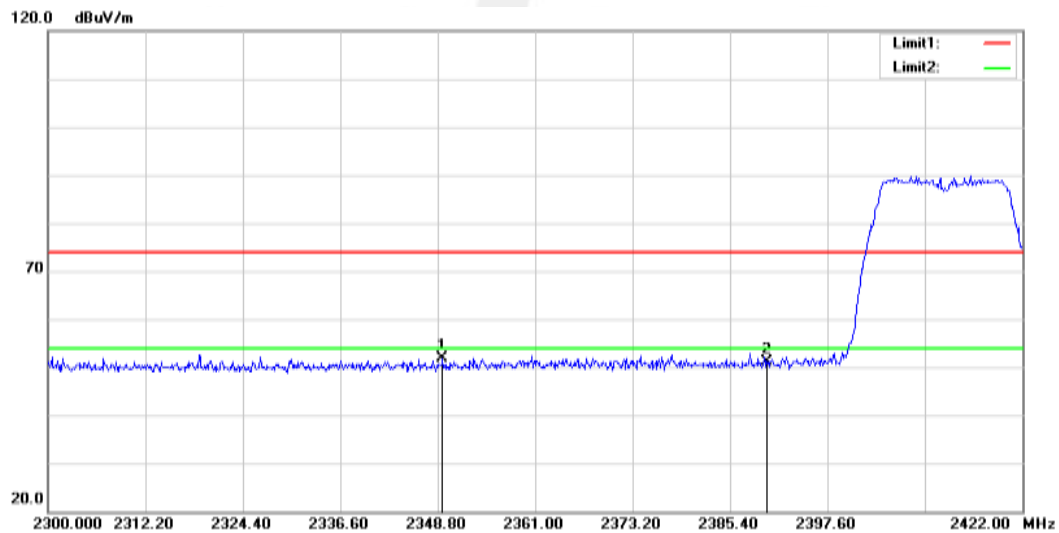


### 802.11g Low Channel Horizontal



| No. | Frequency | Reading | Correct      | Result   | Limit    | Margin | Remark |
|-----|-----------|---------|--------------|----------|----------|--------|--------|
|     | (MHz)     | (dBuV)  | Factor(dB/m) | (dBuV/m) | (dBuV/m) | (dB)   |        |
| 1   | 2333.916  | 24.29   | 27.04        | 51.33    | 74.00    | -22.67 | peak   |
| 2   | 2390.000  | 22.60   | 27.23        | 49.83    | 74.00    | -24.17 | peak   |

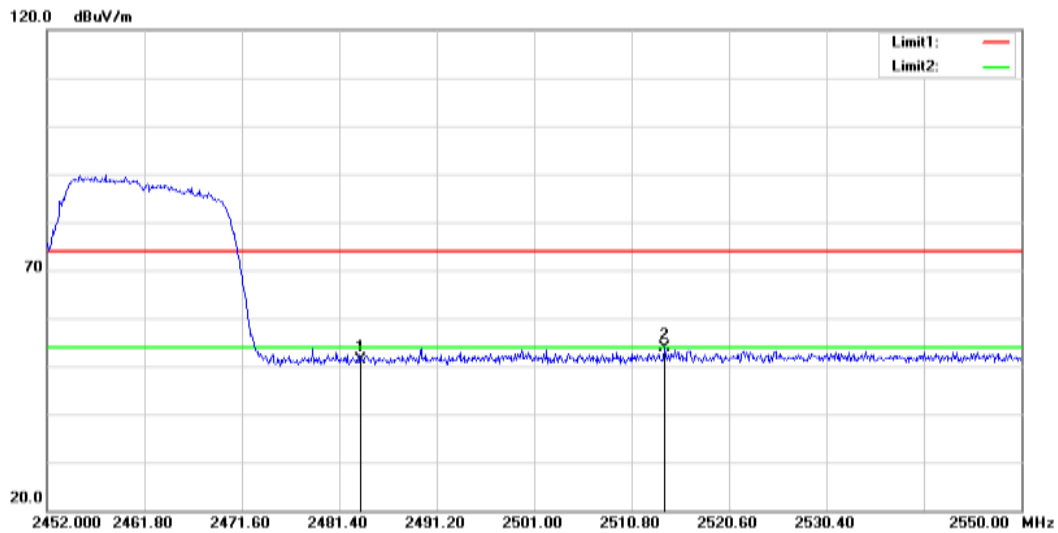
### Vertical



| No. | Frequency | Reading | Correct      | Result   | Limit    | Margin | Remark |
|-----|-----------|---------|--------------|----------|----------|--------|--------|
|     | (MHz)     | (dBuV)  | Factor(dB/m) | (dBuV/m) | (dBuV/m) | (dB)   |        |
| 1   | 2349.410  | 24.78   | 27.09        | 51.87    | 74.00    | -22.13 | peak   |
| 2   | 2390.000  | 23.80   | 27.23        | 51.03    | 74.00    | -22.97 | peak   |

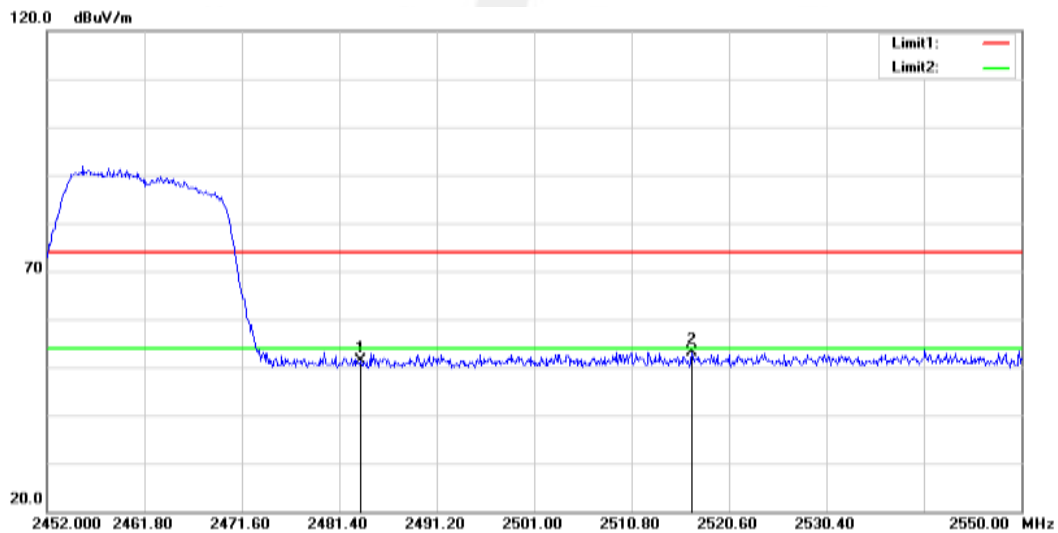


### 802.11g High Channel Horizontal



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2483.500           | 23.87             | 27.54                   | 51.41              | 74.00             | -22.59         | peak   |
| 2   | 2514.132           | 26.14             | 27.62                   | 53.76              | 74.00             | -20.24         | peak   |

### Vertical

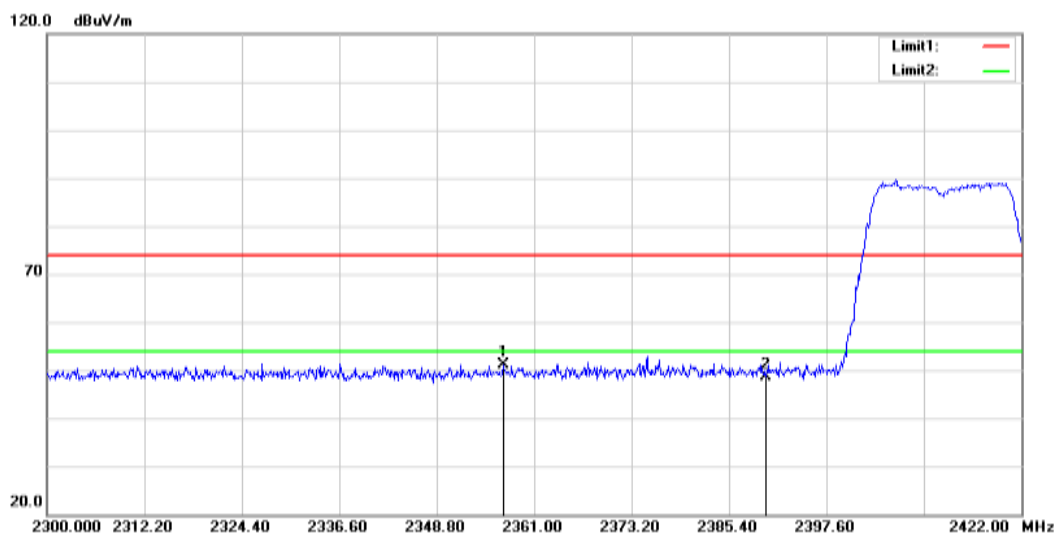


| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2483.500           | 23.95             | 27.54                   | 51.49              | 74.00             | -22.51         | peak   |
| 2   | 2516.876           | 25.43             | 27.62                   | 53.05              | 74.00             | -20.95         | peak   |



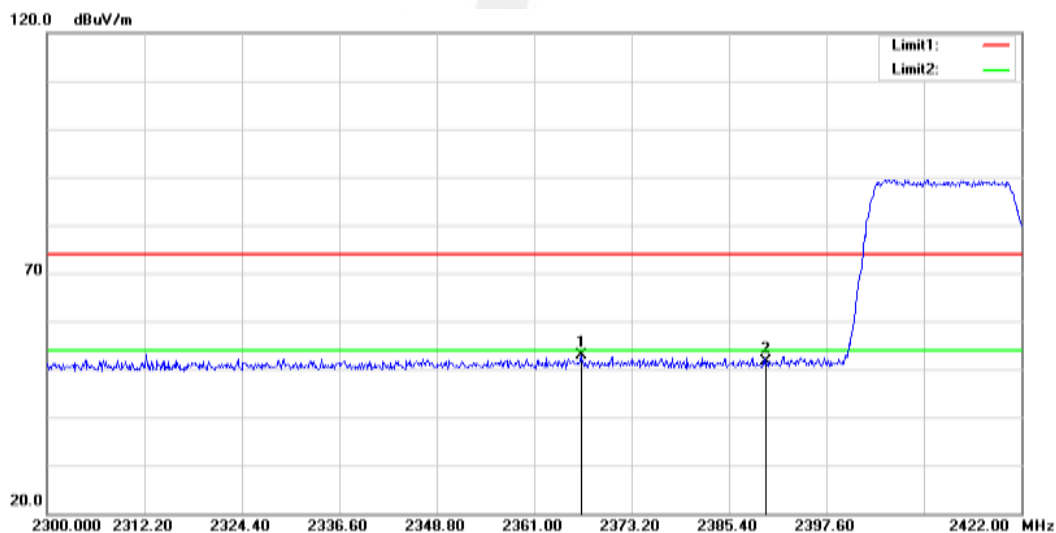
## 802.11n(HT20) Low Channel

Horizontal



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2357.096           | 24.06             | 27.11                   | 51.17              | 74.00             | -22.83         | peak   |
| 2   | 2390.000           | 21.48             | 27.23                   | 48.71              | 74.00             | -25.29         | peak   |

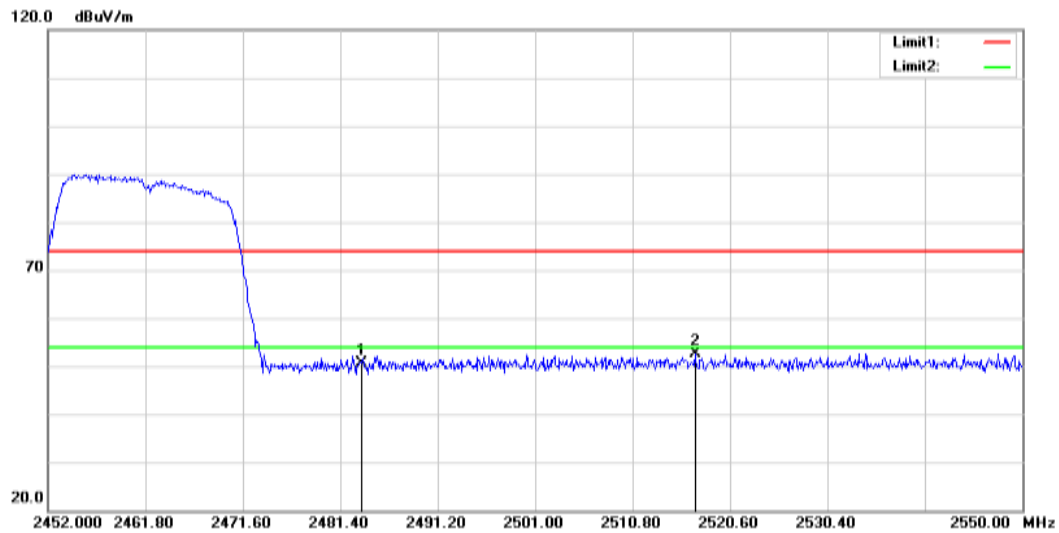
Vertical



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2366.856           | 25.84             | 27.15                   | 52.99              | 74.00             | -21.01         | peak   |
| 2   | 2390.000           | 24.46             | 27.23                   | 51.69              | 74.00             | -22.31         | peak   |

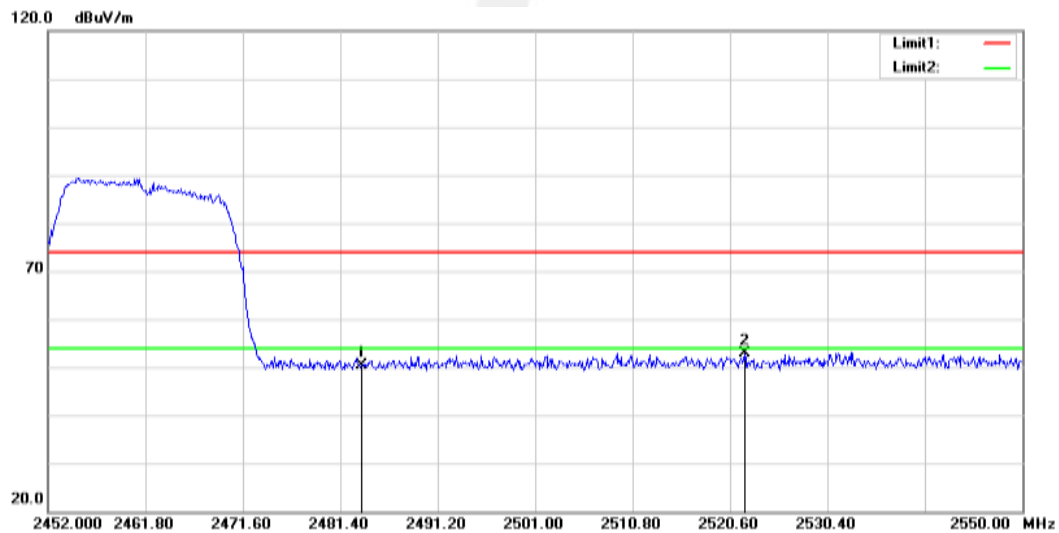


### 802.11n(HT20) High Channel Horizontal



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2483.500           | 23.03             | 27.54                   | 50.57              | 74.00             | -23.43         | peak   |
| 2   | 2517.072           | 25.06             | 27.62                   | 52.68              | 74.00             | -21.32         | peak   |

### Vertical

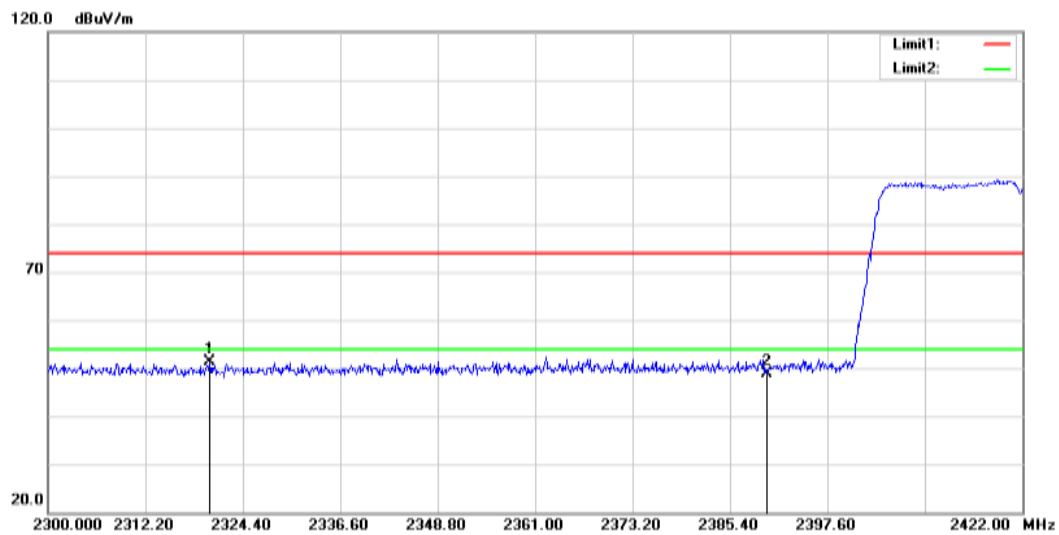


| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2483.500           | 22.91             | 27.54                   | 50.45              | 74.00             | -23.55         | peak   |
| 2   | 2522.070           | 25.21             | 27.63                   | 52.84              | 74.00             | -21.16         | peak   |



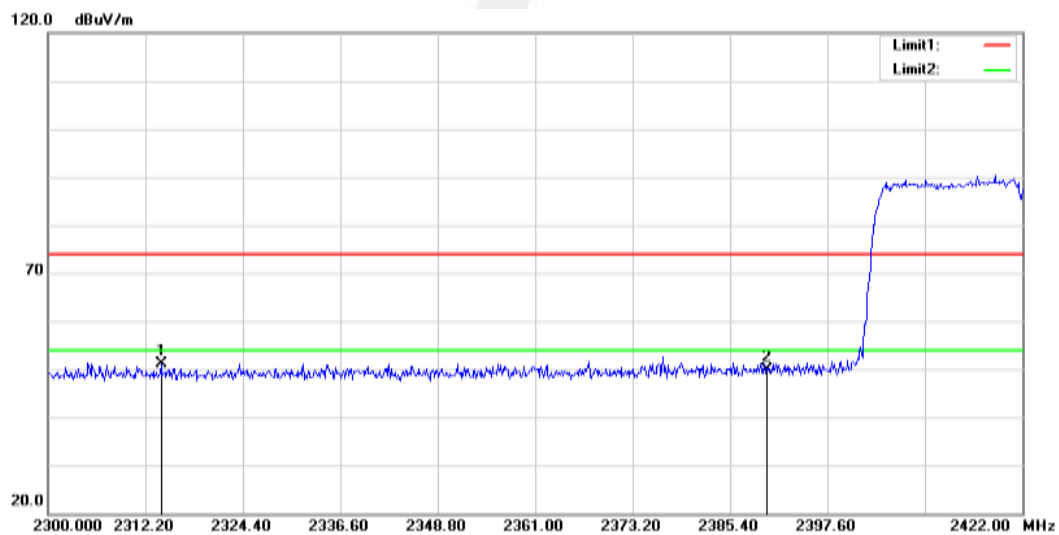
## 802.11n(HT40) Low Channel

Horizontal



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2320.252           | 24.49             | 26.99                   | 51.48              | 74.00             | -22.52         | peak   |
| 2   | 2390.000           | 21.61             | 27.23                   | 48.84              | 74.00             | -25.16         | peak   |

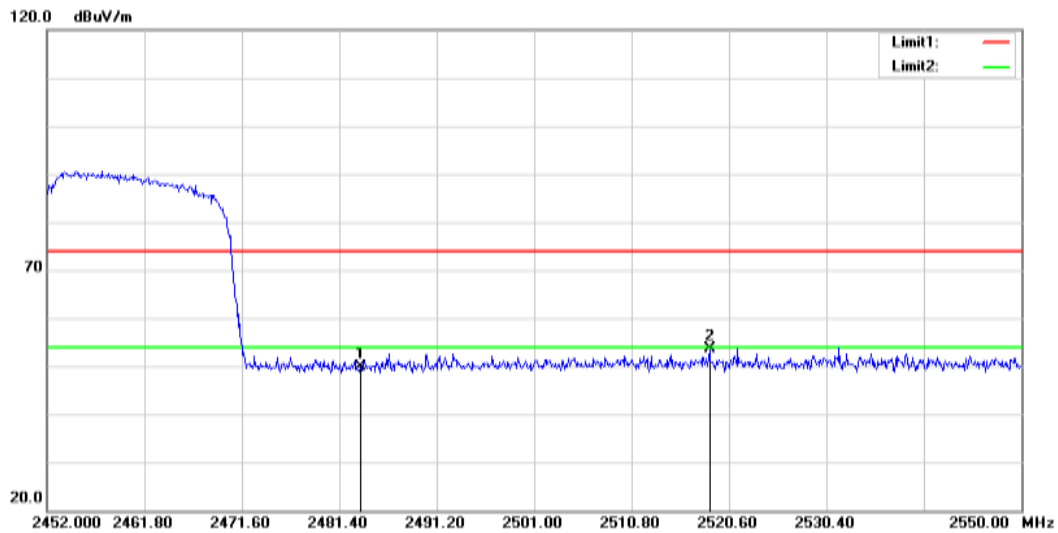
Vertical



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2314.152           | 24.21             | 26.97                   | 51.18              | 74.00             | -22.82         | peak   |
| 2   | 2390.000           | 22.57             | 27.23                   | 49.80              | 74.00             | -24.20         | peak   |

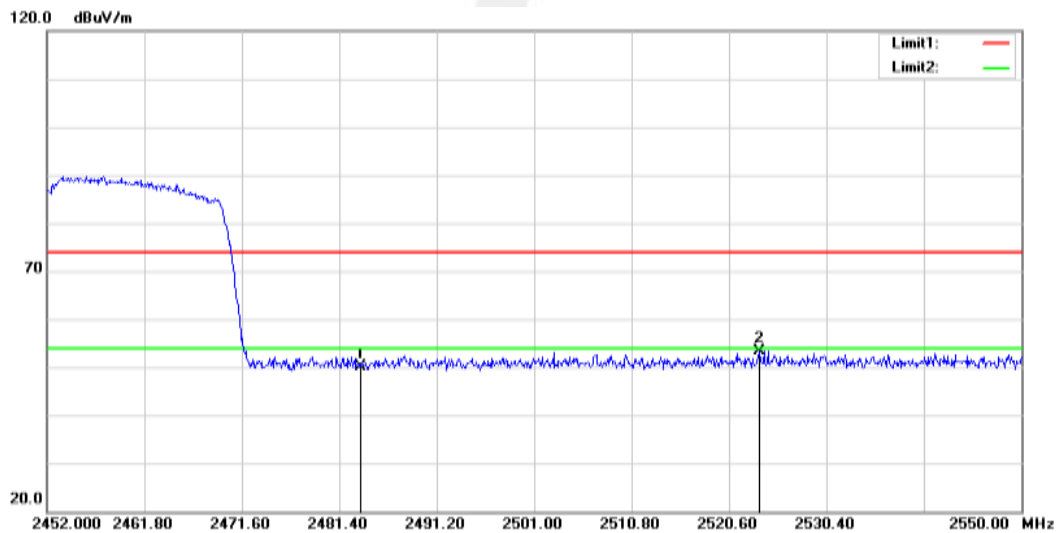


### 802.11n(HT40) High Channel Horizontal



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2483.500           | 22.34             | 27.54                   | 49.88              | 74.00             | -24.12         | peak   |
| 2   | 2518.640           | 25.94             | 27.62                   | 53.56              | 74.00             | -20.44         | peak   |

### Vertical



| No. | Frequency<br>(MHz) | Reading<br>(dBuV) | Correct<br>Factor(dB/m) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dB) | Remark |
|-----|--------------------|-------------------|-------------------------|--------------------|-------------------|----------------|--------|
| 1   | 2483.500           | 22.56             | 27.54                   | 50.10              | 74.00             | -23.90         | peak   |
| 2   | 2523.638           | 25.81             | 27.63                   | 53.44              | 74.00             | -20.56         | peak   |

## 4 CONDUCTED SPURIOUS & BAND EDGE EMISSION

### 4.1 APPLIED PROCEDURES / LIMIT

According to FCC Part 15.247(d) and RSS-247 Clause 5.5, in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

### 4.2 TEST PROCEDURE

| Spectrum Parameter                    | Setting                         |
|---------------------------------------|---------------------------------|
| Detector                              | Peak                            |
| Start/Stop Frequency                  | 30 MHz to 10th carrier harmonic |
| RB / VB (emission in restricted band) | 100 KHz/300 KHz                 |
| Trace-Mode:                           | Max hold                        |

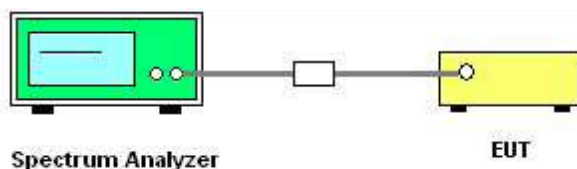
For Band edge

| Spectrum Parameter                    | Setting                                                                |
|---------------------------------------|------------------------------------------------------------------------|
| Detector                              | Peak                                                                   |
| Start/Stop Frequency                  | Lower Band Edge: 2300 to 2422 MHz<br>Upper Band Edge: 2452 to 2500 MHz |
| RB / VB (emission in restricted band) | 100 KHz/300 KHz                                                        |
| Trace-Mode:                           | Max hold                                                               |

### 4.3 DEVIATION FROM STANDARD

No deviation.

### 4.4 TEST SETUP



The EUT which is powered by the Battery, is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50 Ohm; the path loss as the factor is calibrated to correct the reading.

Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW.

### 4.5 EUT OPERATION CONDITIONS

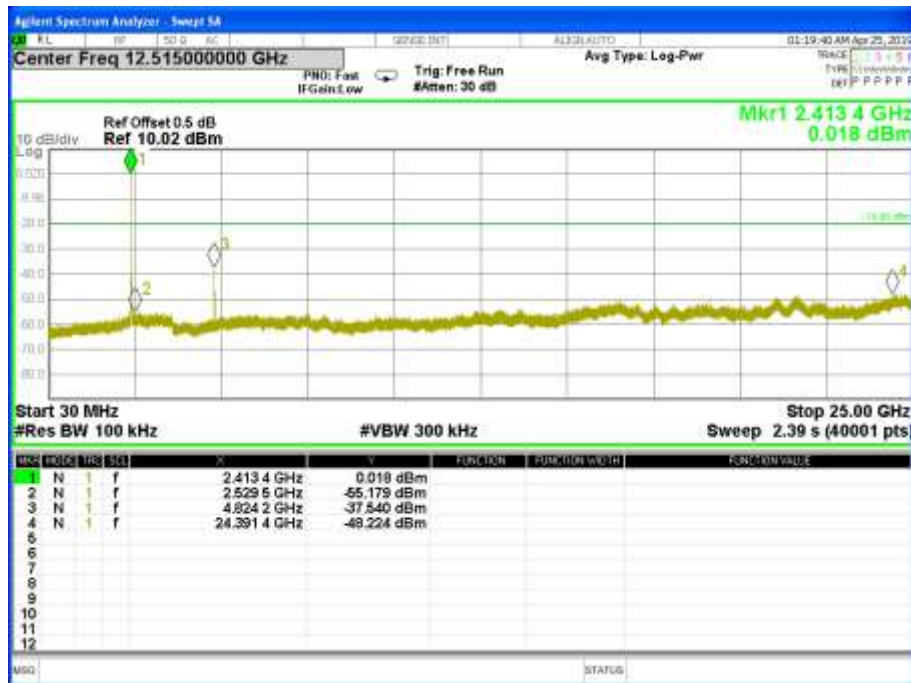
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



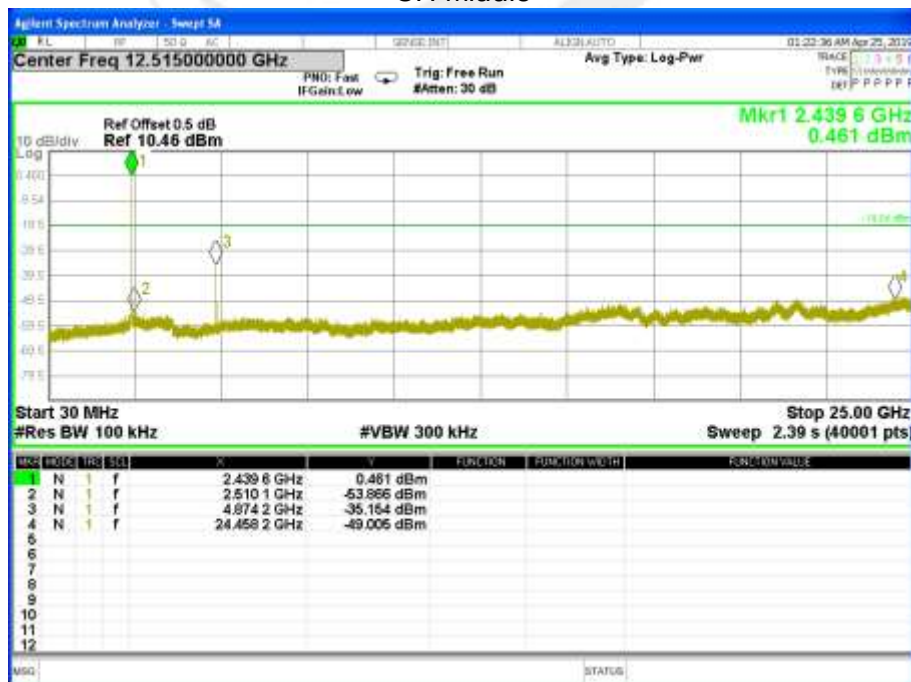
## 4.6 TEST RESULTS

|                |              |                     |           |
|----------------|--------------|---------------------|-----------|
| Temperature :  | 25°C         | Relative Humidity : | 60%       |
| Test Voltage : | AC 120V/60Hz | Test Mode :         | TX b Mode |

## CH Low

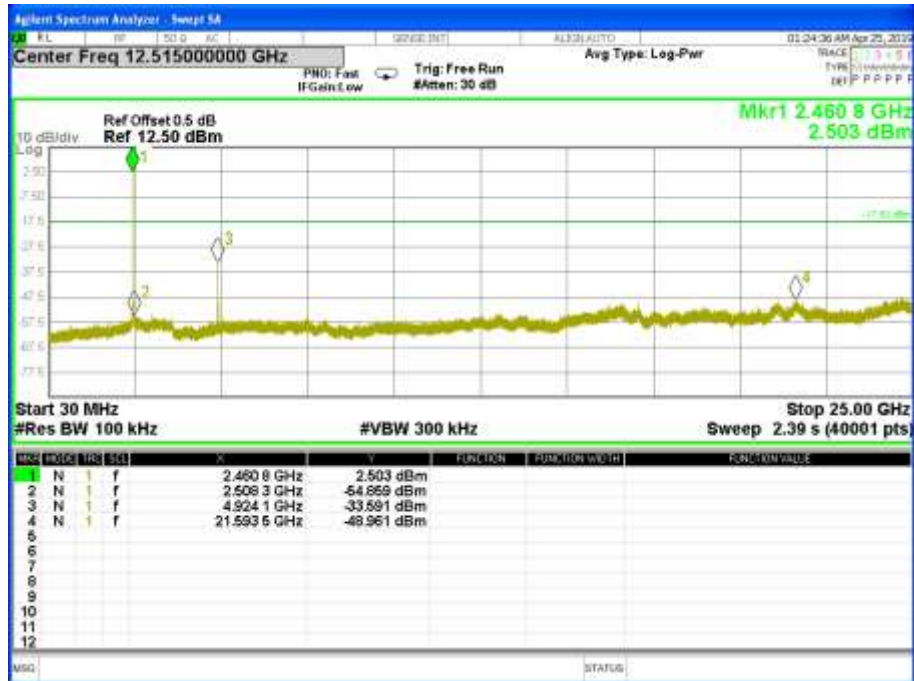


## CH Middle





CH High





Band edge

CH Low



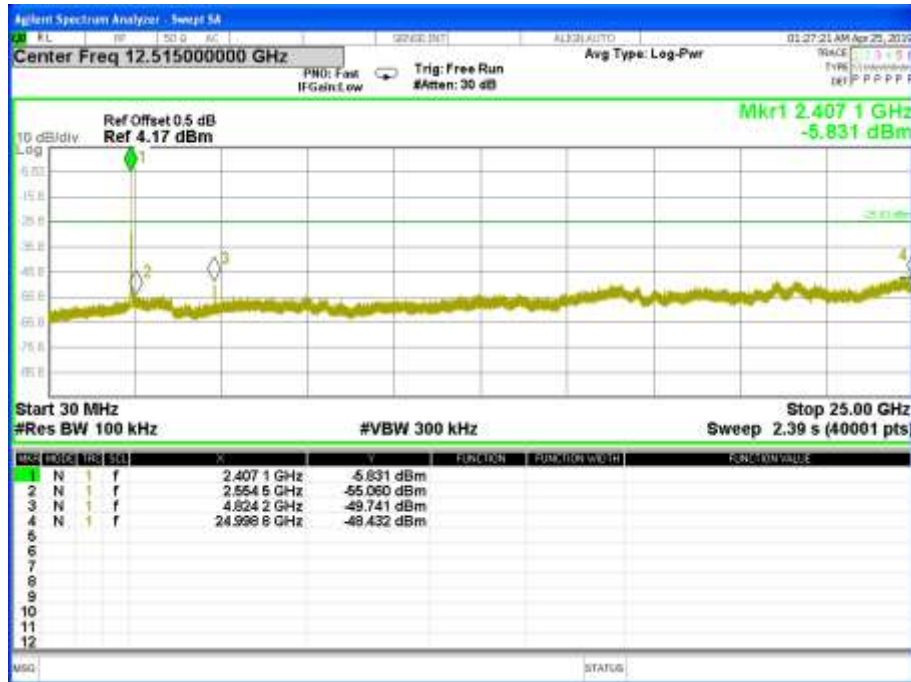
CH High





|                |              |                     |           |
|----------------|--------------|---------------------|-----------|
| Temperature :  | 25°C         | Relative Humidity : | 60%       |
| Test Voltage : | AC 120V/60Hz | Test Mode :         | TX g Mode |

## CH Low

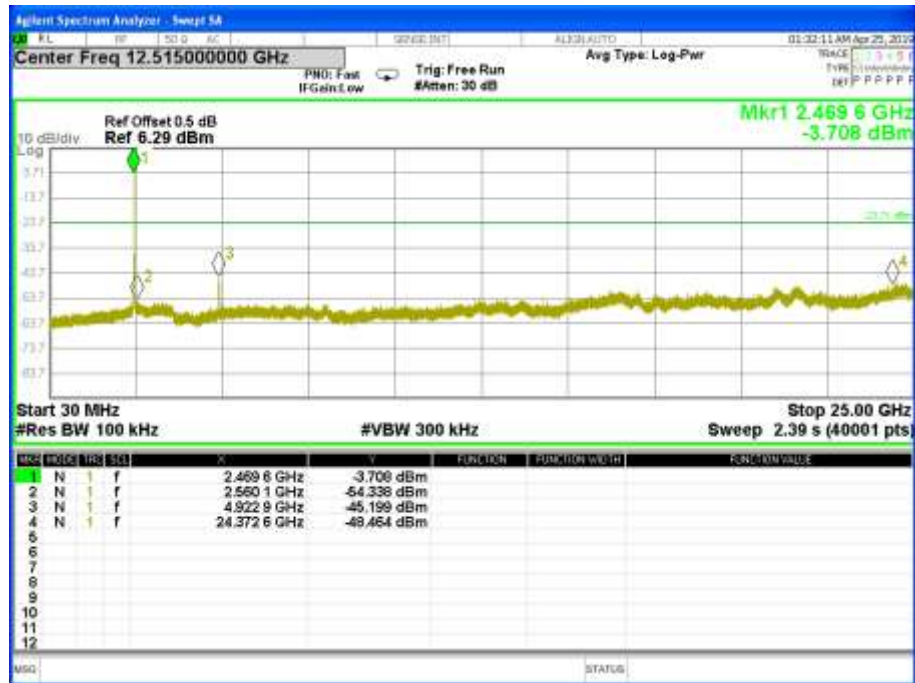


## CH Middle





CH High





Band edge

CH Low



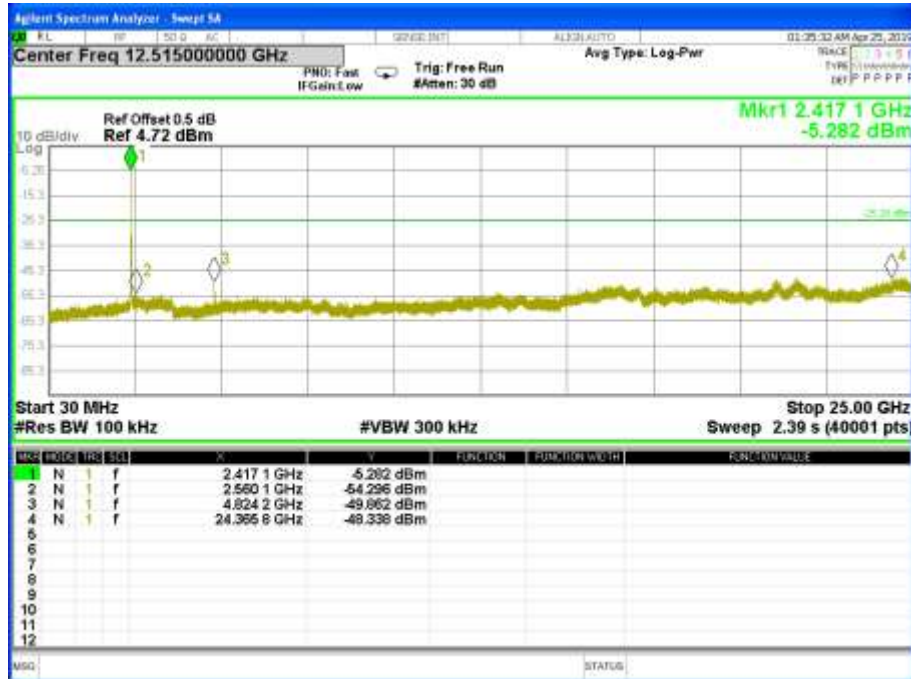
CH High



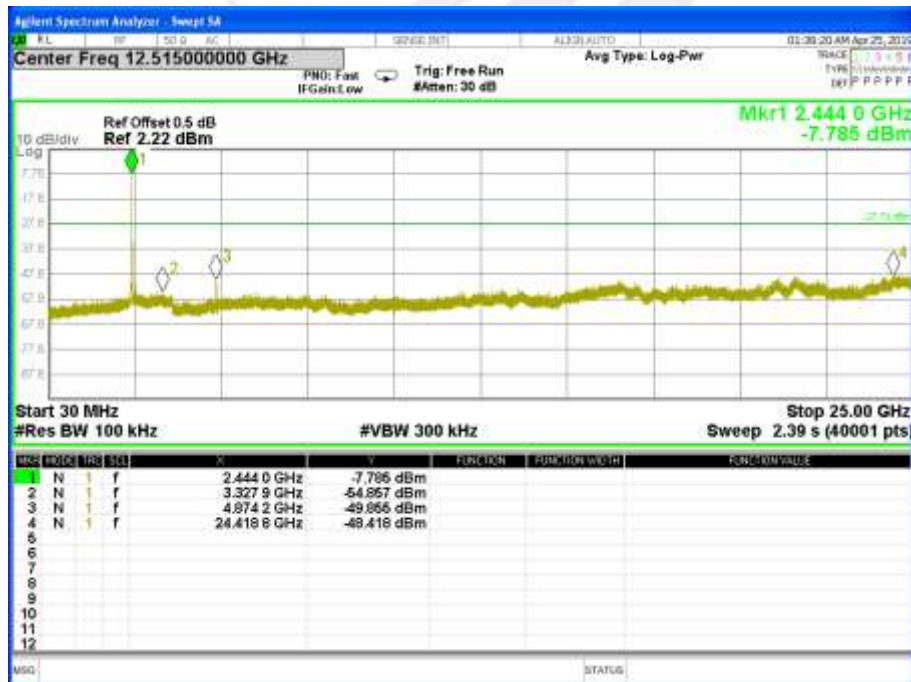


|                |              |                     |                 |
|----------------|--------------|---------------------|-----------------|
| Temperature :  | 25°C         | Relative Humidity : | 60%             |
| Test Voltage : | AC 120V/60Hz | Test Mode:          | TX n(HT20) Mode |

## CH Low

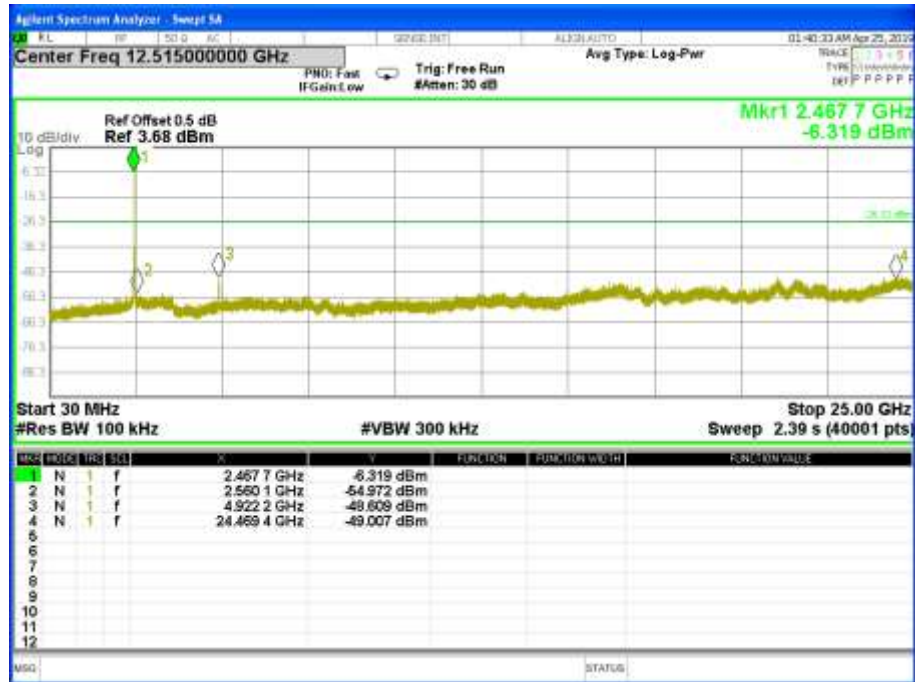


## CH Middle





CH High





Band edge

CH Low



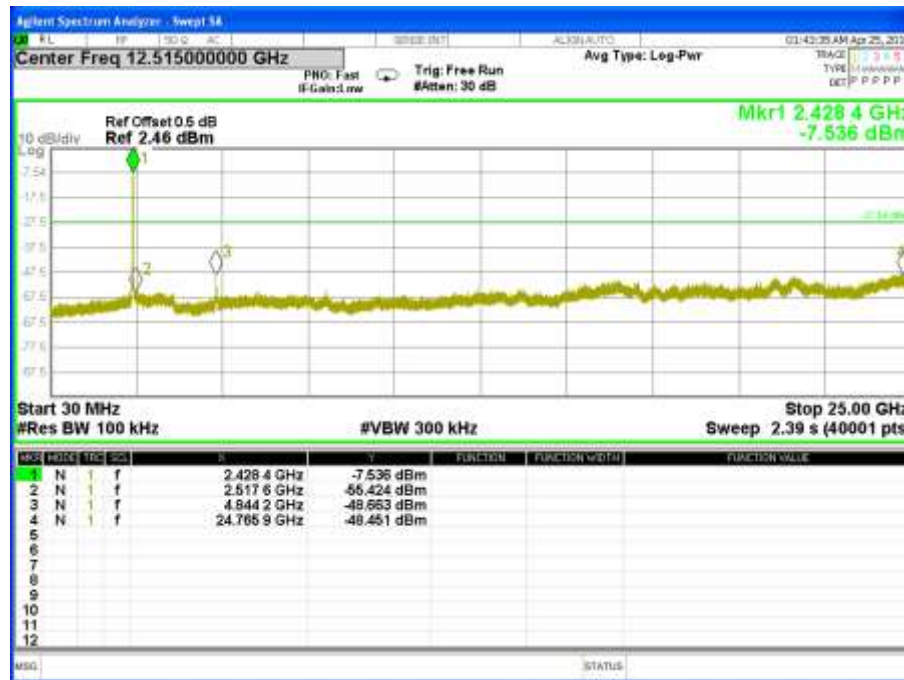
CH High



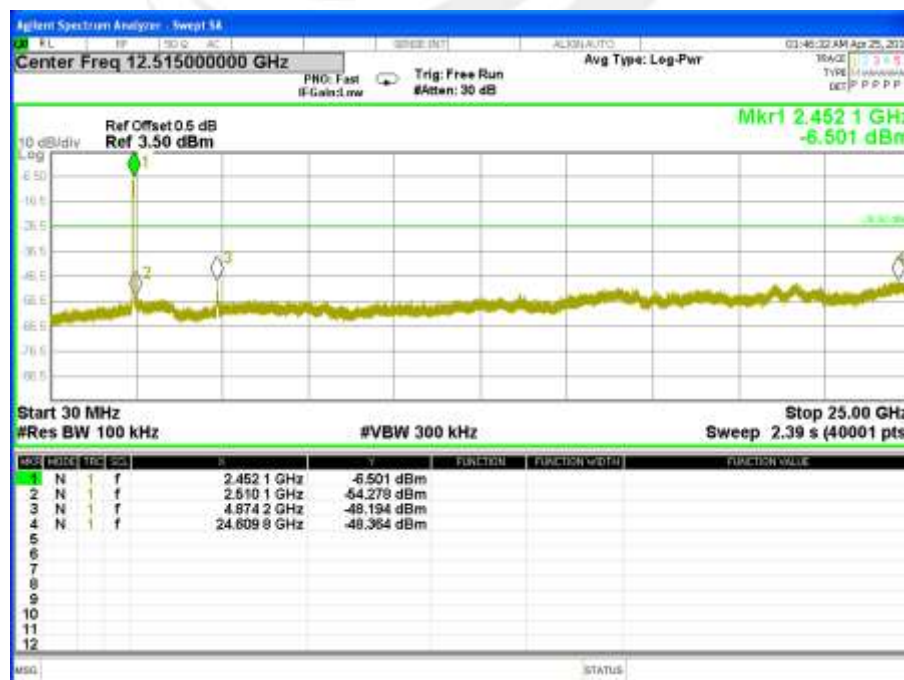


|               |              |                    |                 |
|---------------|--------------|--------------------|-----------------|
| Temperature:  | 25 °C        | Relative Humidity: | 60%             |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX n(HT40) Mode |

## CH Low

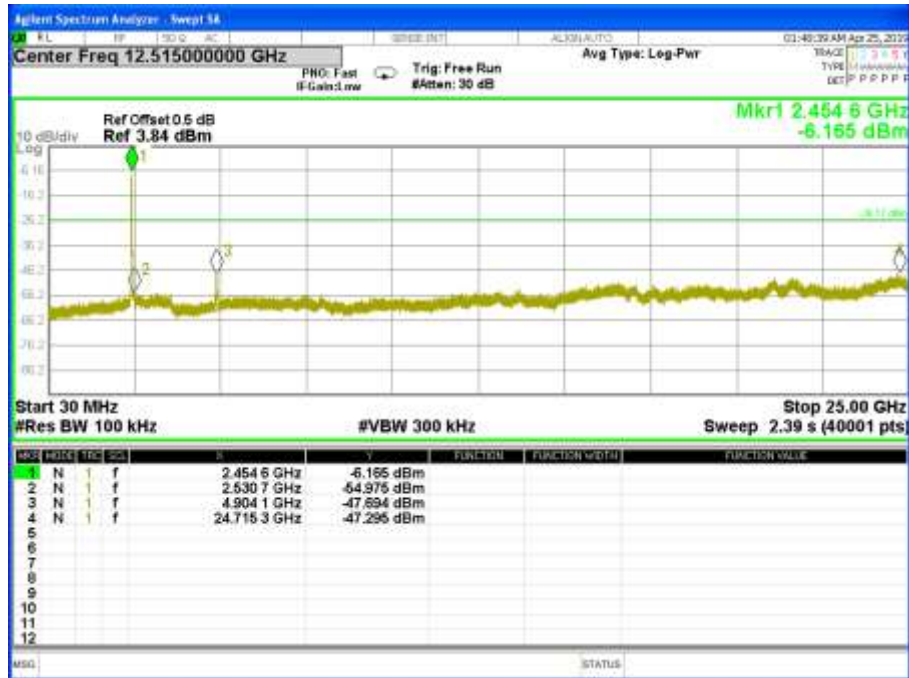


## CH Middle





CH High





Band edge

CH Low



CH High





## 5 POWER SPECTRAL DENSITY TEST

### 5.1 APPLIED PROCEDURES / LIMIT

| FCC Part15.247, Subpart C<br>RSS-247 Issue 2 |                        |                                    |                       |        |
|----------------------------------------------|------------------------|------------------------------------|-----------------------|--------|
| Section                                      | Test Item              | Limit                              | Frequency Range (MHz) | Result |
| 15.247(e)<br>RSS-247 Clause 5.2(b)           | Power Spectral Density | $\leq 8$ dBm<br>(RBW $\geq 3$ kHz) | 2400-2483.5           | PASS   |

### 5.2 TEST PROCEDURE

- 1) Set analyzer center frequency to DTS channel center frequency.
- 2) Set the span to 1.5 times the DTS channel bandwidth.
- 3) Set the  $100 \text{ kHz} \geq \text{RBW} \geq 3 \text{ kHz}$ .
- 4) Set the  $\text{VBW} \geq 3 \times \text{RBW}$ .
- 5) Detector = peak.
- 6) Sweep time = auto couple.
- 7) Trace mode = max hold.
- 8) Allow trace to fully stabilize.
- 9) Use the peak marker function to determine the maximum amplitude level.
- 10) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

### 5.3 DEVIATION FROM STANDARD

No deviation.

### 5.4 TEST SETUP



### 5.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



## 5.6 TEST RESULTS

|               |              |                    |           |
|---------------|--------------|--------------------|-----------|
| Temperature:  | 25°C         | Relative Humidity: | 60%       |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX b Mode |

| Test Mode          | Frequency (MHz) | Power Density (dBm/3kHz) | Limit (dBm/3KHz) | Result |
|--------------------|-----------------|--------------------------|------------------|--------|
| b mode<br>(1 Mbps) | 2412.00         | -13.081                  | $\leq 8.00$      | PASS   |
|                    | 2437.00         | -11.158                  | $\leq 8.00$      | PASS   |
|                    | 2462.00         | -10.903                  | $\leq 8.00$      | PASS   |

TX CH Low





## TX CH Middle



## TX CH High





|               |              |                    |           |
|---------------|--------------|--------------------|-----------|
| Temperature:  | 25°C         | Relative Humidity: | 60%       |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX g Mode |

| Test Mode          | Frequency (MHz) | Power Density (dBm/3kHz) | Limit (dBm/3KHz) | Result |
|--------------------|-----------------|--------------------------|------------------|--------|
| g mode<br>(6 Mbps) | 2412.00         | -15.996                  | ≤ 8.00           | PASS   |
|                    | 2437.00         | -16.964                  | ≤ 8.00           | PASS   |
|                    | 2462.00         | -15.698                  | ≤ 8.00           | PASS   |

## TX CH Low





## TX CH Middle



## TX CH High





|               |              |                    |                 |
|---------------|--------------|--------------------|-----------------|
| Temperature:  | 25°C         | Relative Humidity: | 60%             |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX n(HT20) Mode |

| Test Mode           | Frequency (MHz) | Power Density (dBm/3kHz) | Limit (dBm/3KHz) | Result |
|---------------------|-----------------|--------------------------|------------------|--------|
| n(HT20) mode (MCS0) | 2412.00         | -16.997                  | ≤ 8.00           | PASS   |
|                     | 2437.00         | -16.902                  | ≤ 8.00           | PASS   |
|                     | 2462.00         | -15.95                   | ≤ 8.00           | PASS   |

## TX CH Low





## TX CH Middle



## TX CH High





|               |              |                    |                 |
|---------------|--------------|--------------------|-----------------|
| Temperature:  | 25°C         | Relative Humidity: | 60%             |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX n(HT40) Mode |

| Test Mode           | Frequency (MHz) | Power Density (dBm/3kHz) | Limit (dBm/3KHz) | Result |
|---------------------|-----------------|--------------------------|------------------|--------|
| n(HT40) mode (MCS0) | 2422.00         | -17.539                  | ≤ 8.00           | PASS   |
|                     | 2437.00         | -19.762                  | ≤ 8.00           | PASS   |
|                     | 2452.00         | -17.322                  | ≤ 8.00           | PASS   |

## TX CH Low





## TX CH Middle



## TX CH High





## 6 BANDWIDTH TEST

### 6.1 APPLIED PROCEDURES / LIMIT

| FCC Part15.247, Subpart C<br>RSS-247 Issue 2&RSS-Gen Issue 5 |               |                      |                       |        |
|--------------------------------------------------------------|---------------|----------------------|-----------------------|--------|
| Section                                                      | Test Item     | Limit                | Frequency Range (MHz) | Result |
| 15.247(a)(2)<br>RSS-247 Clause 5.2(b)                        | 6dB Bandwidth | $\geq 500\text{KHz}$ | 2400-2483.5           | PASS   |
| RSS-Gen Clause 6.6                                           | 99%Bandwidth  | -                    | 2400-2483.5           | PASS   |

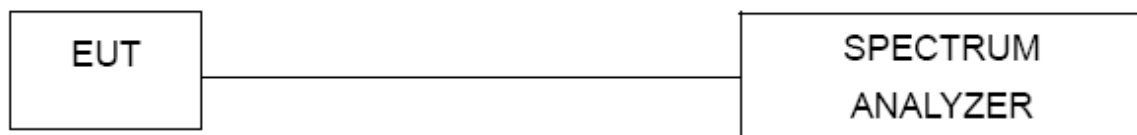
### 6.2 TEST PROCEDURE

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW $\geq$ 3RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be  $\geq 6$  dB.

### 6.3 DEVIATION FROM STANDARD

No deviation.

### 6.4 TEST SETUP



### 6.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



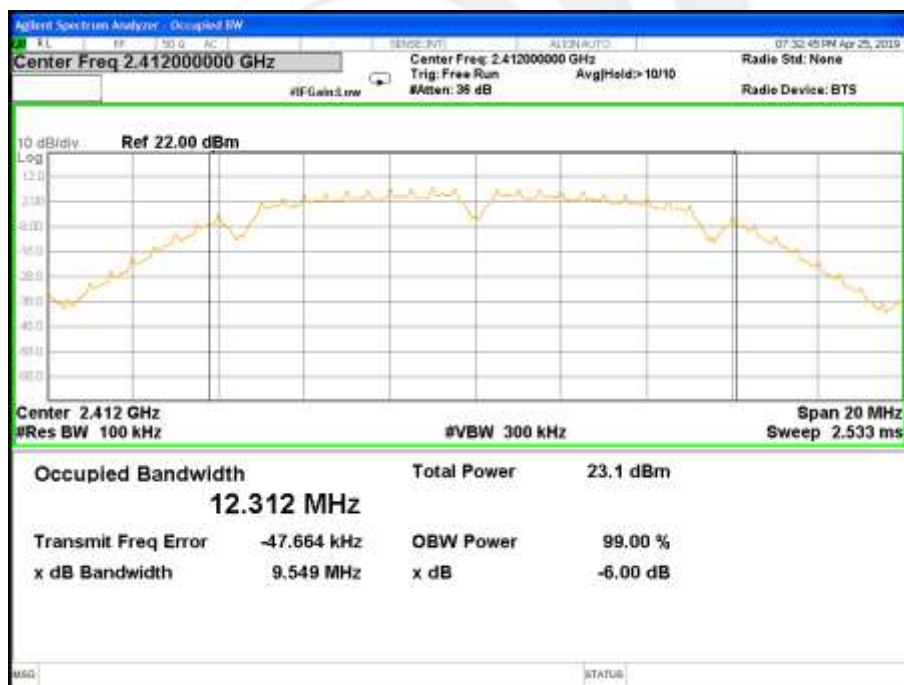
## 6.6 TEST RESULTS

|               |              |                    |           |
|---------------|--------------|--------------------|-----------|
| Temperature:  | 25°C         | Relative Humidity: | 60%       |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX b Mode |

Remark: PEAK DETECTOR IS USED

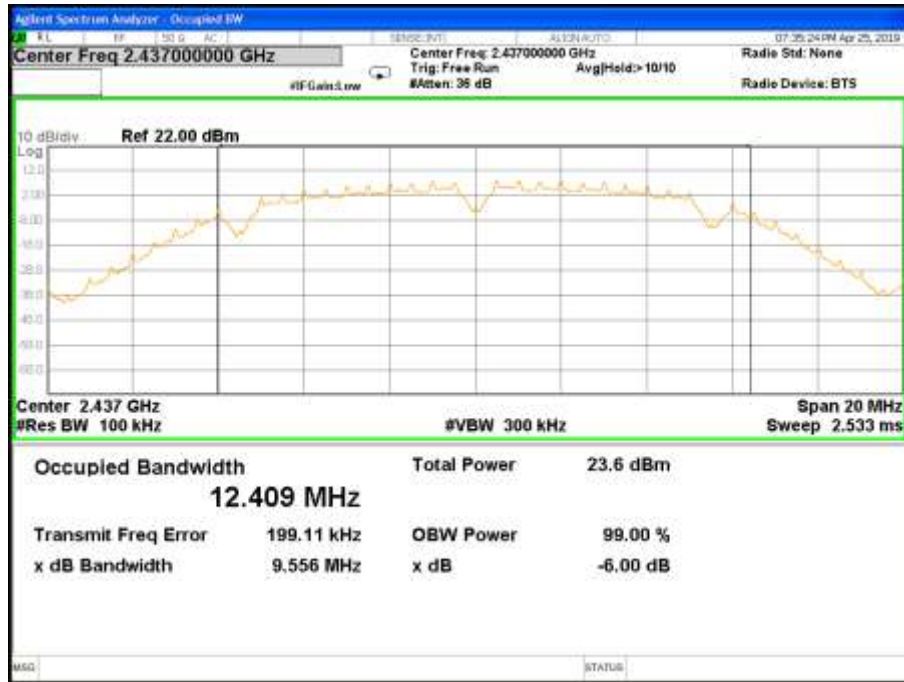
| Test Mode          | Frequency (MHz) | 6dB Bandwidth (MHz) | 99% Bandwidth (MHz) | Limit of 6dB Bandwidth (MHz) | Result |
|--------------------|-----------------|---------------------|---------------------|------------------------------|--------|
| b mode<br>(1 Mbps) | 2412.00         | 9.549               | 13.449              | ≥ 0.50                       | PASS   |
|                    | 2437.00         | 9.556               | 13.441              | ≥ 0.50                       | PASS   |
|                    | 2462.00         | 9.077               | 13.401              | ≥ 0.50                       | PASS   |

6dB Bandwidth CH Low

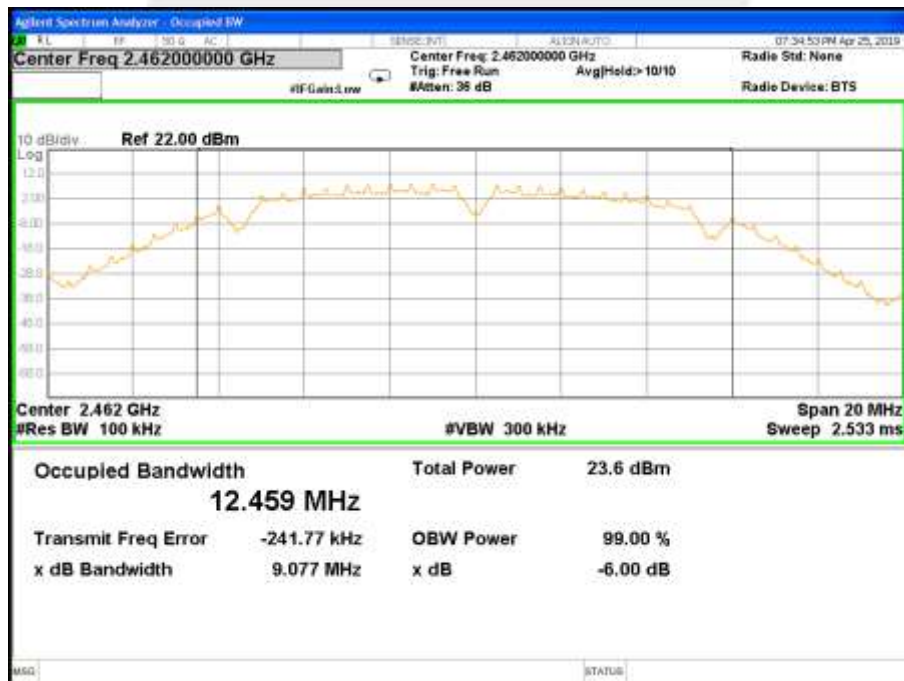




## 6dB Bandwidth CH Middle

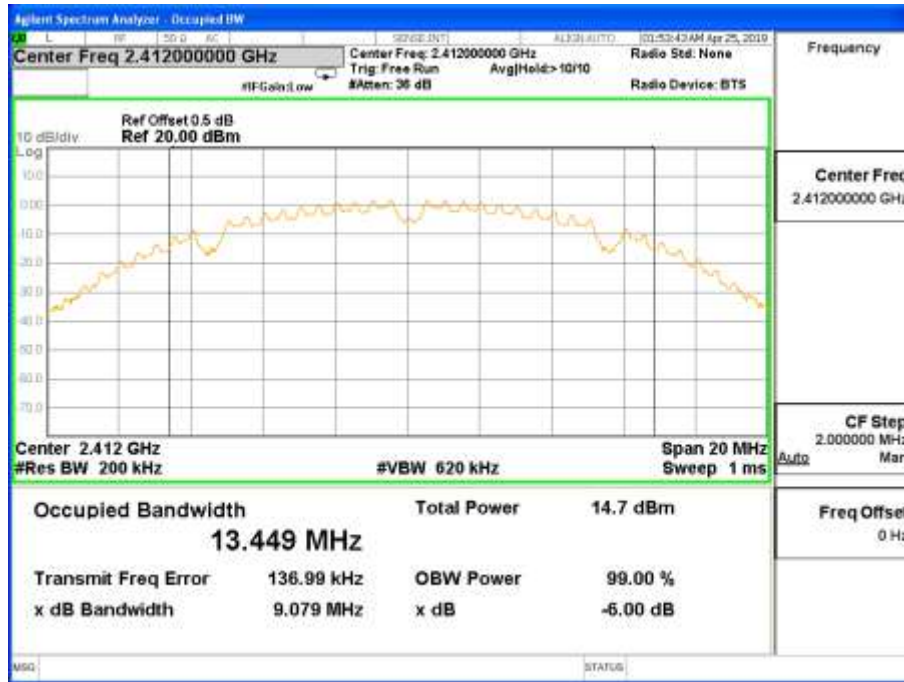


## 6dB Bandwidth CH High

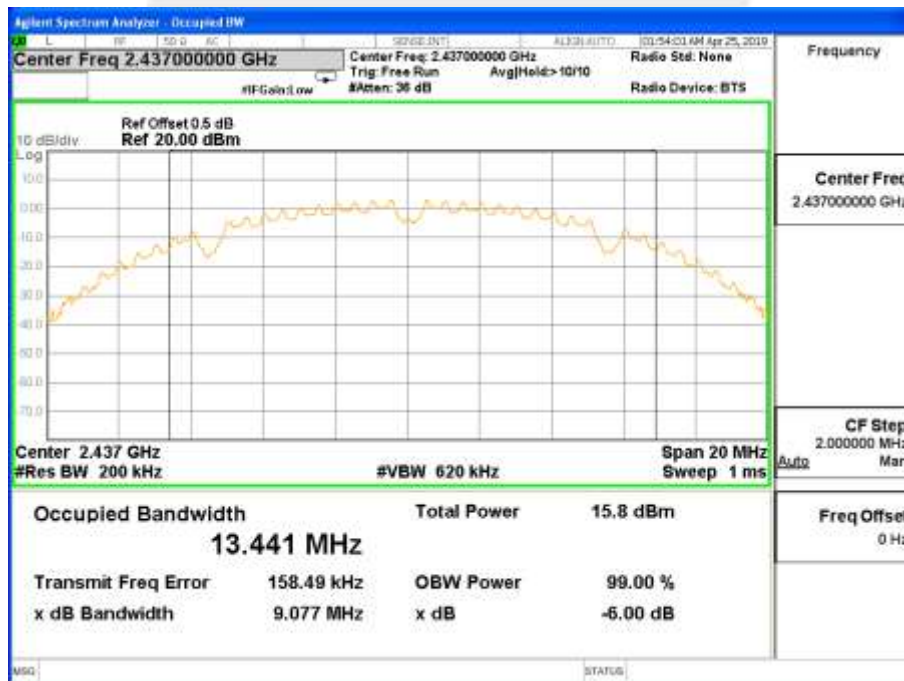




## 99% Bandwidth CH Low

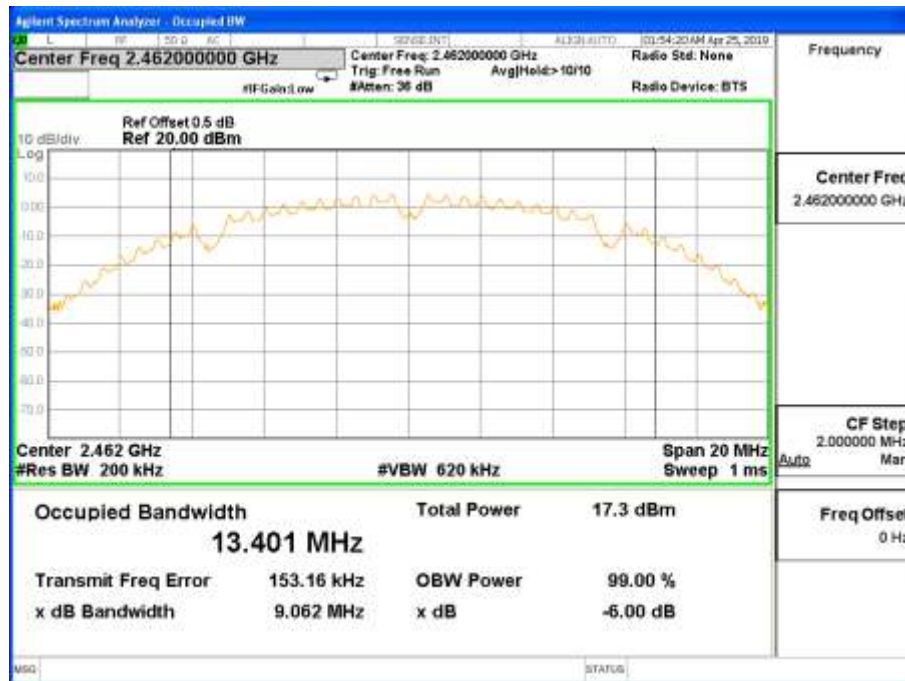


## 99% Bandwidth CH Middle





## 99% Bandwidth CH High





|               |              |                    |           |
|---------------|--------------|--------------------|-----------|
| Temperature:  | 25°C         | Relative Humidity: | 60%       |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX g Mode |

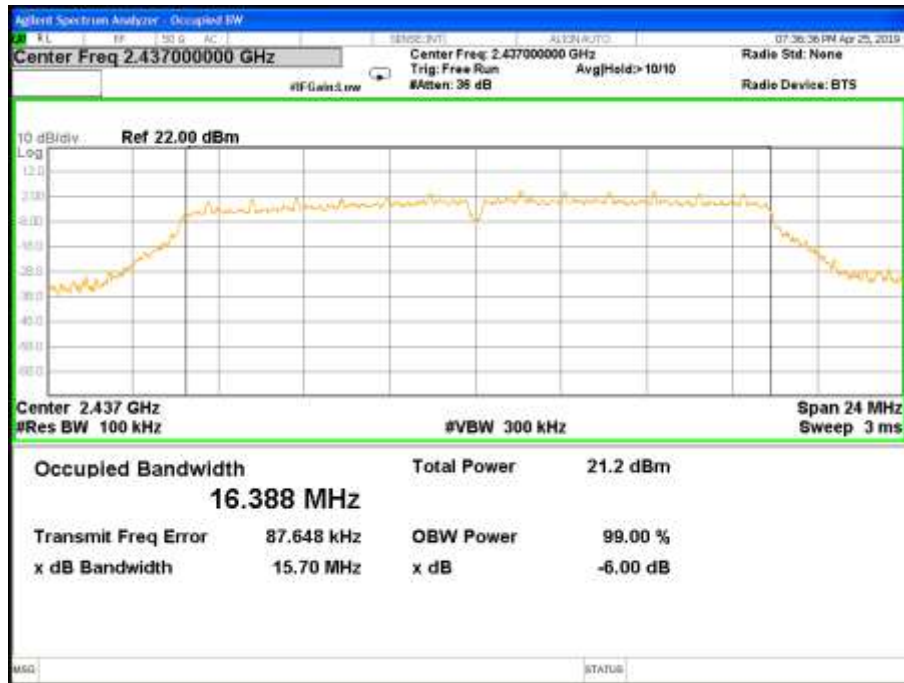
| Test Mode          | Frequency (MHz) | 6dB Bandwidth (MHz) | 99% Bandwidth (MHz) | Limit of 6dB Bandwidth (MHz) | Result |
|--------------------|-----------------|---------------------|---------------------|------------------------------|--------|
| g mode<br>(6 Mbps) | 2412.00         | 15.13               | 16.620              | ≥ 0.50                       | PASS   |
|                    | 2437.00         | 15.70               | 16.610              | ≥ 0.50                       | PASS   |
|                    | 2462.00         | 15.70               | 16.618              | ≥ 0.50                       | PASS   |

### 6dB Bandwidth CH Low

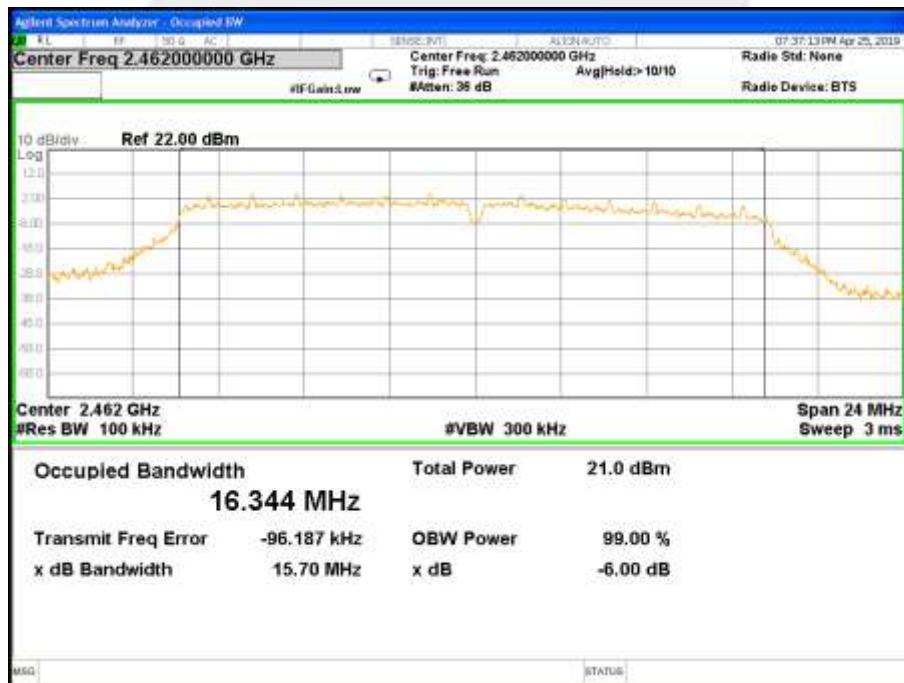




## 6dB Bandwidth CH Middle

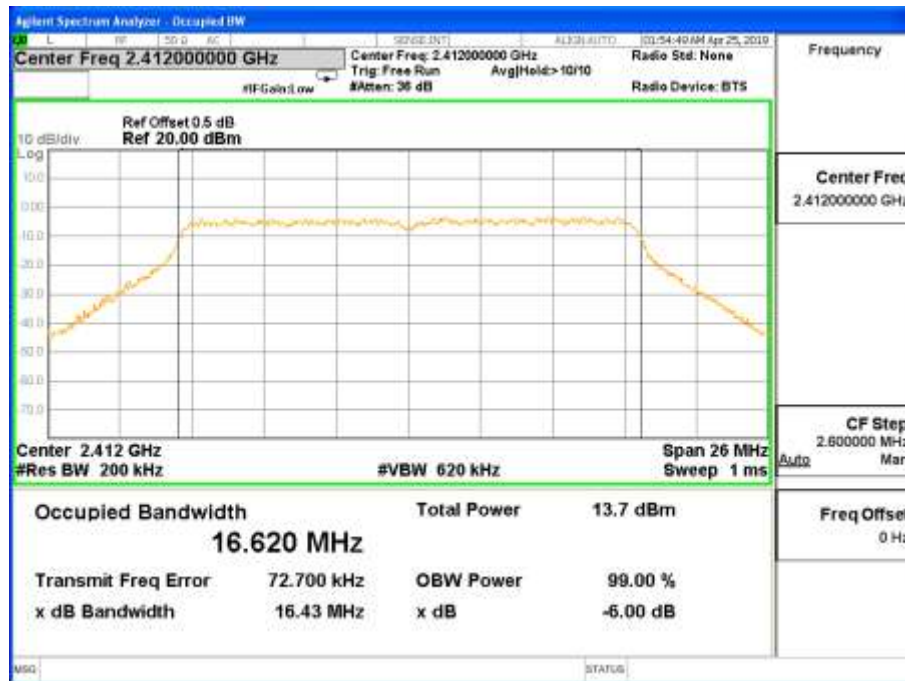


## 6dB Bandwidth CH High

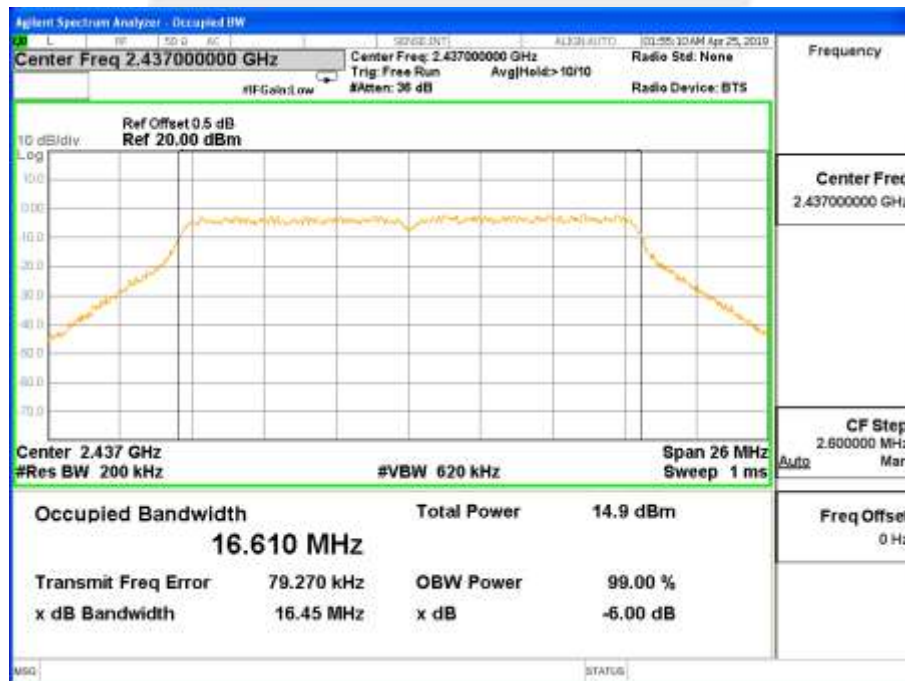




## 99% Bandwidth CH Low

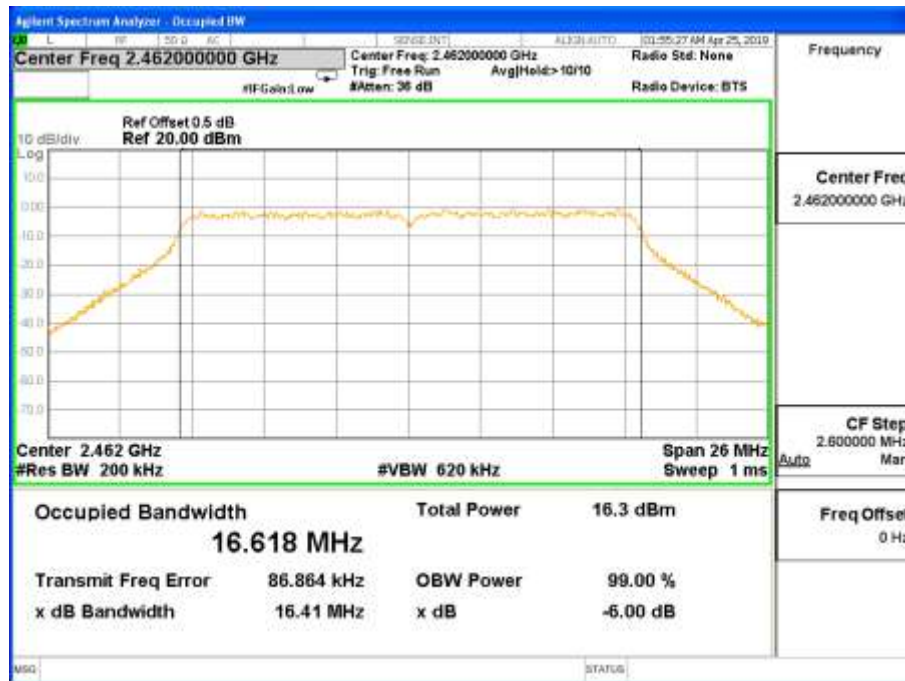


## 99% Bandwidth CH Middle





## 99% Bandwidth CH High

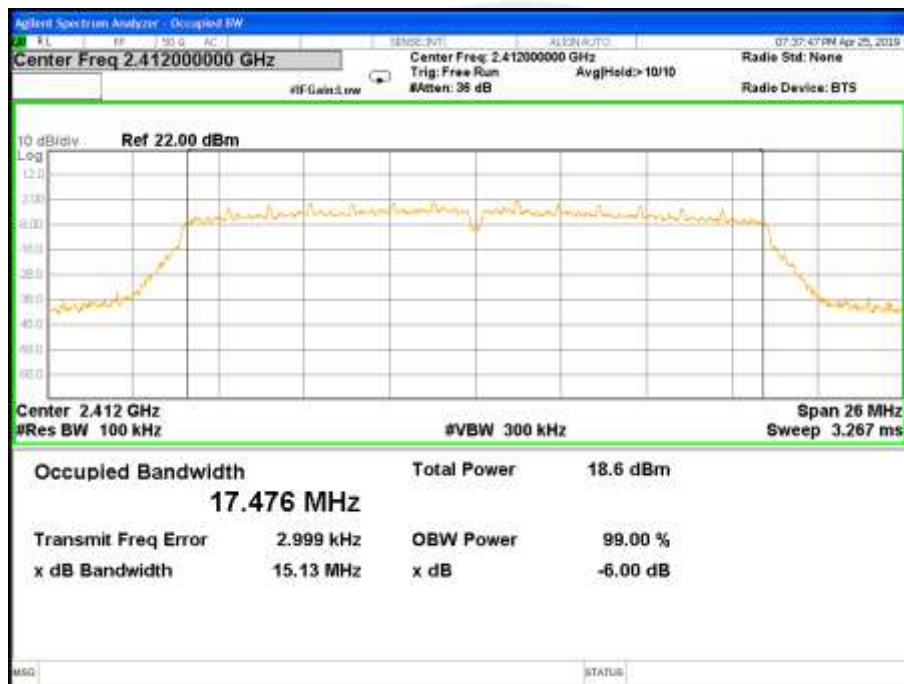




|               |              |                    |                 |
|---------------|--------------|--------------------|-----------------|
| Temperature:  | 25°C         | Relative Humidity: | 60%             |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX n(HT20) Mode |

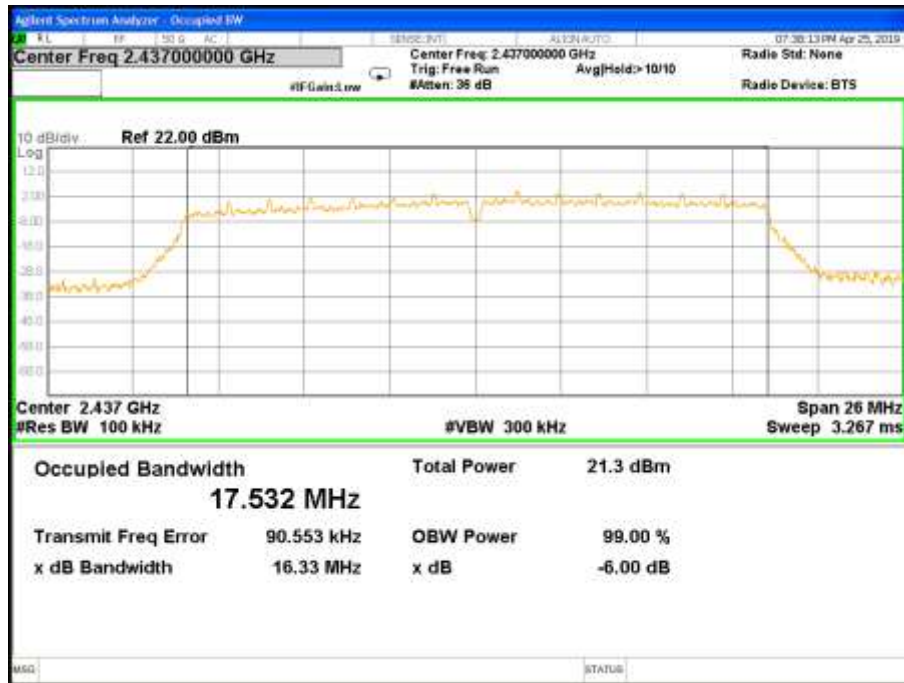
| Test Mode           | Frequency (MHz) | 6dB Bandwidth (MHz) | 99% Bandwidth (MHz) | Limit of 6dB Bandwidth (MHz) | Result |
|---------------------|-----------------|---------------------|---------------------|------------------------------|--------|
| n(HT20) mode (MCS0) | 2412.00         | 15.13               | 17.694              | ≥ 0.50                       | PASS   |
|                     | 2437.00         | 16.33               | 17.686              | ≥ 0.50                       | PASS   |
|                     | 2462.00         | 16.32               | 17.701              | ≥ 0.50                       | PASS   |

### 6dB Bandwidth CH Low

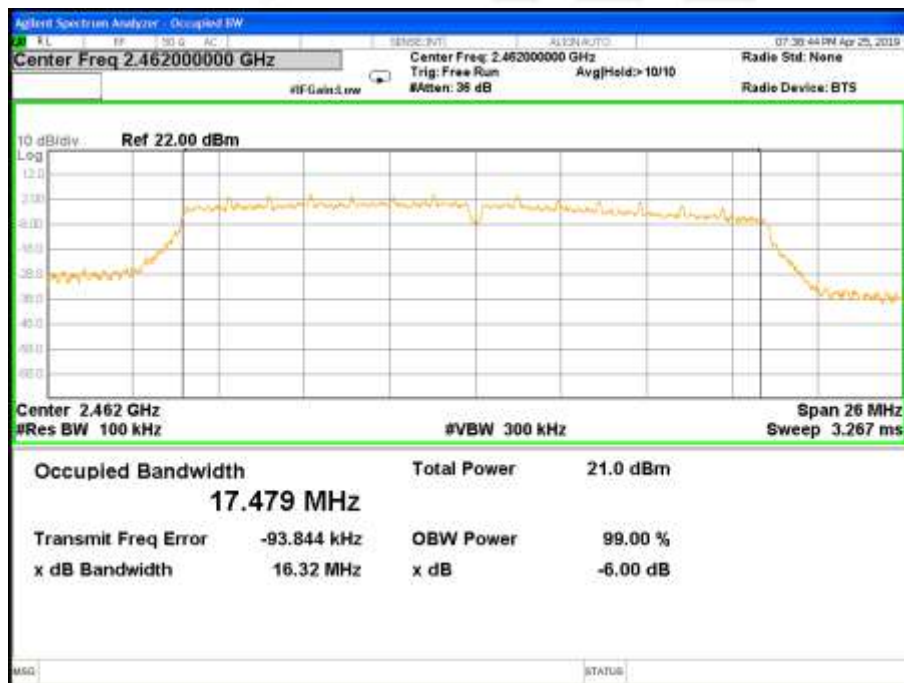




## 6dB Bandwidth CH Middle

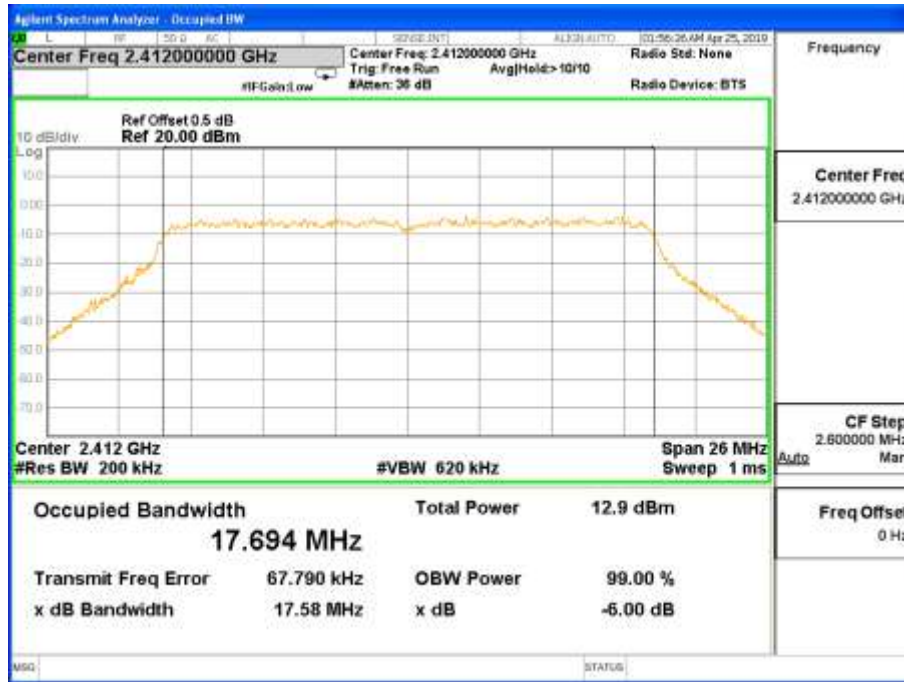


## 6dB Bandwidth CH High

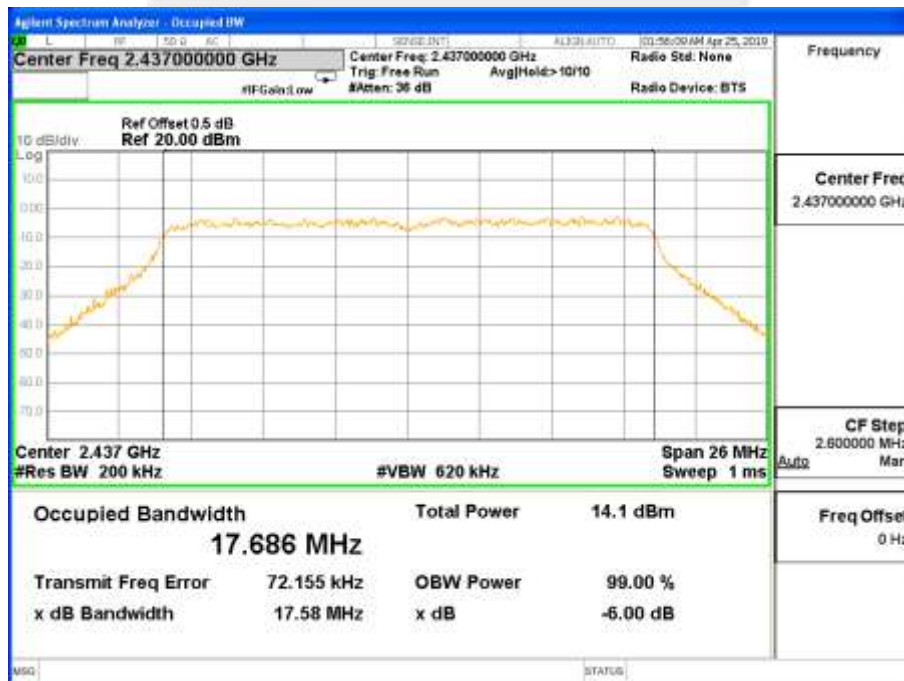




## 99% Bandwidth CH Low

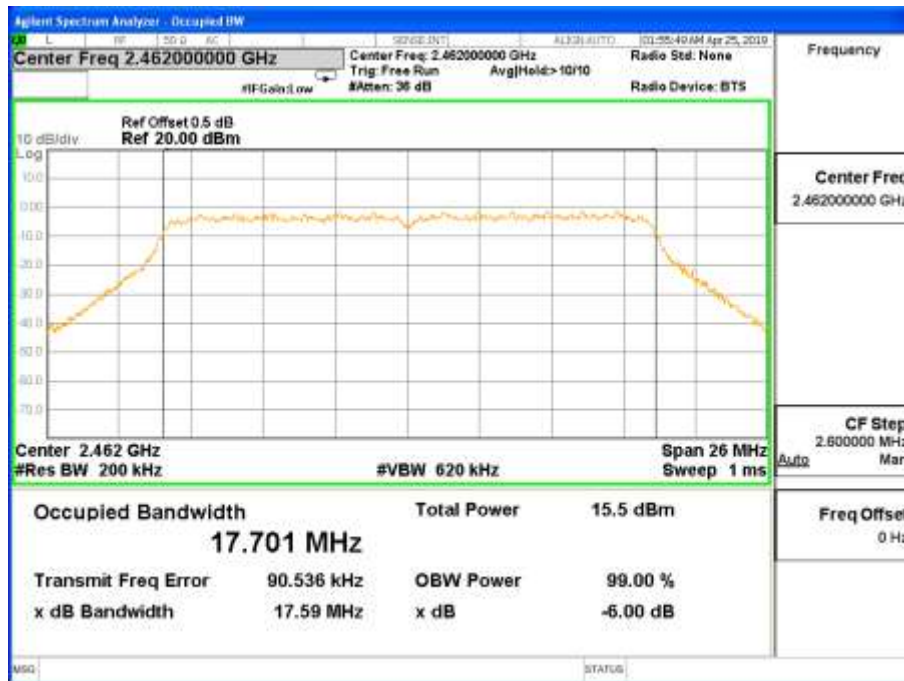


## 99% Bandwidth CH Middle





## 99% Bandwidth CH High

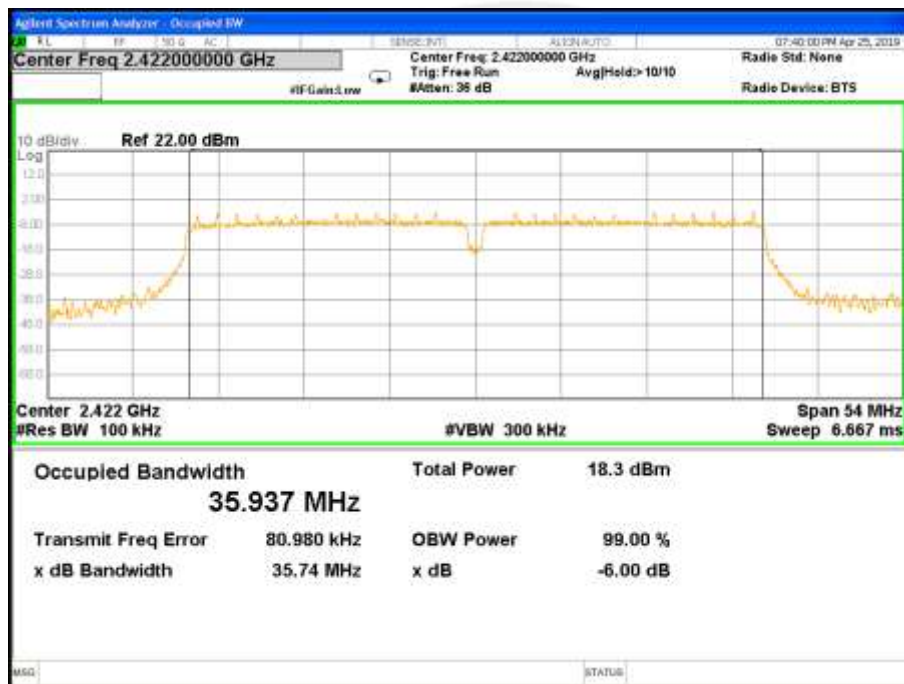




|               |              |                    |                 |
|---------------|--------------|--------------------|-----------------|
| Temperature:  | 25°C         | Relative Humidity: | 60%             |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX n(HT40) Mode |

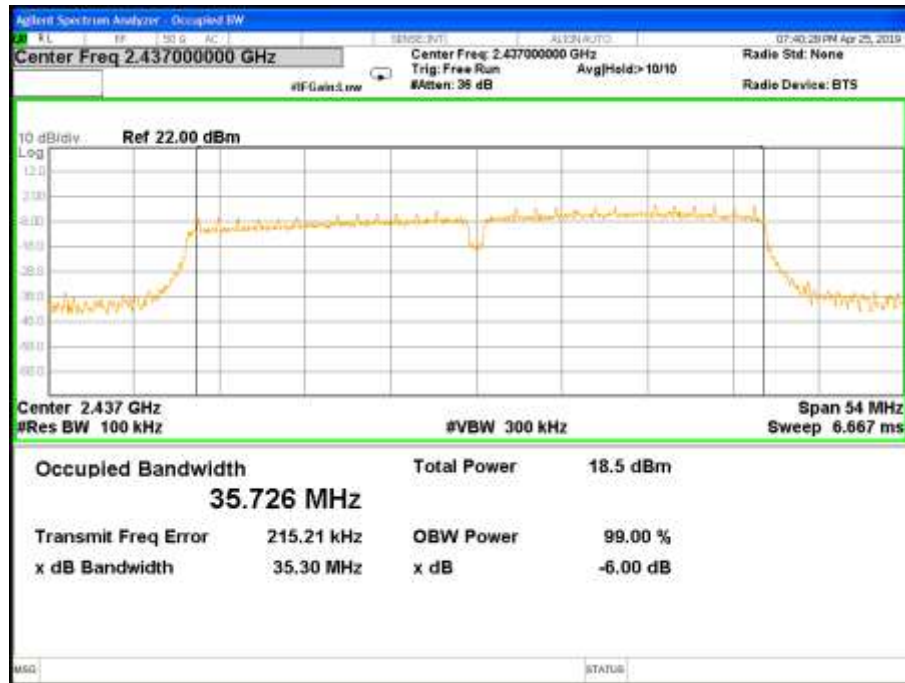
| Test Mode           | Frequency (MHz) | 6dB Bandwidth (MHz) | 99% Bandwidth (MHz) | Limit of 6dB Bandwidth (MHz) | Result |
|---------------------|-----------------|---------------------|---------------------|------------------------------|--------|
| n(HT40) mode (MCS0) | 2422.00         | 35.74               | 36.202              | ≥ 0.50                       | PASS   |
|                     | 2437.00         | 35.30               | 36.203              | ≥ 0.50                       | PASS   |
|                     | 2452.00         | 35.01               | 36.188              | ≥ 0.50                       | PASS   |

### 6dB Bandwidth CH Low

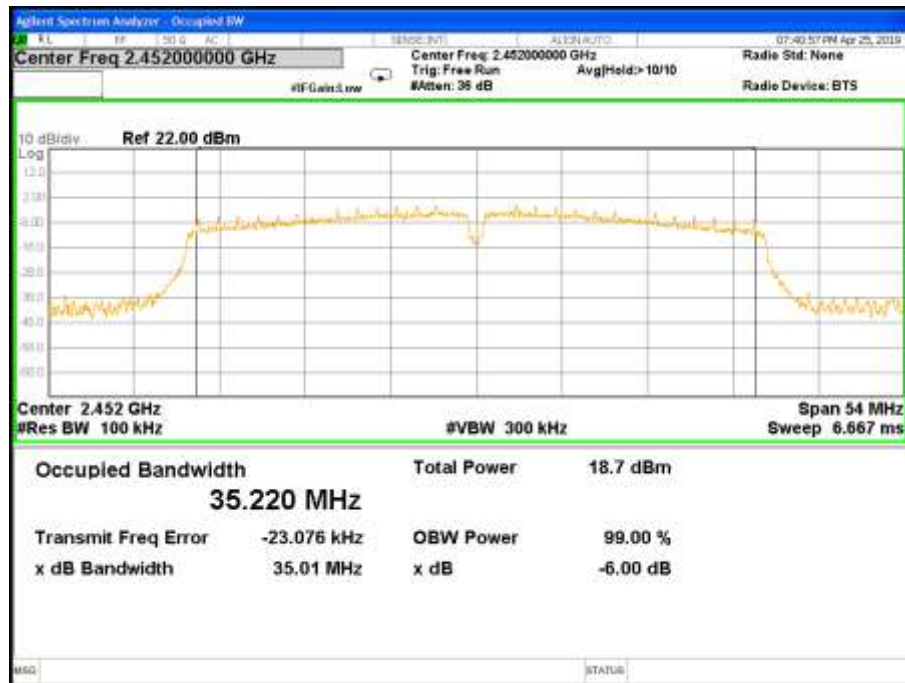




## 6dB Bandwidth CH Middle

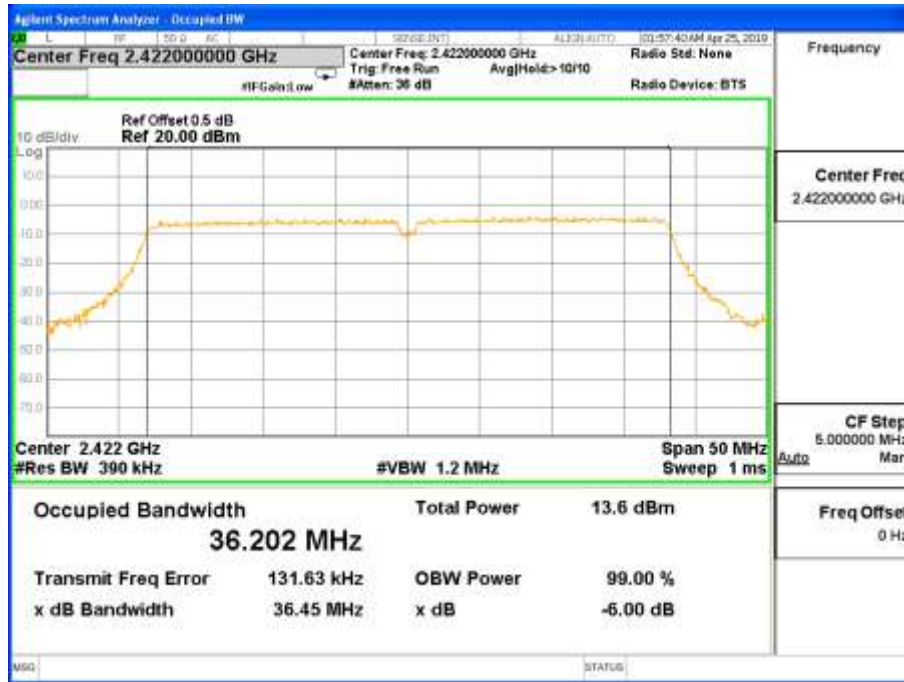


## 6dB Bandwidth CH High

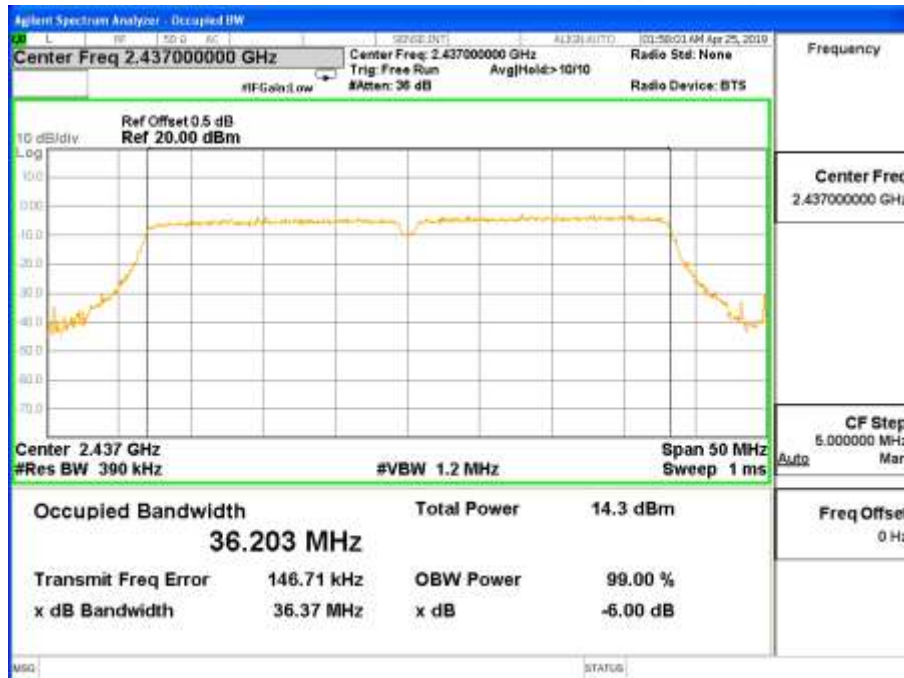




## 99% Bandwidth CH Low

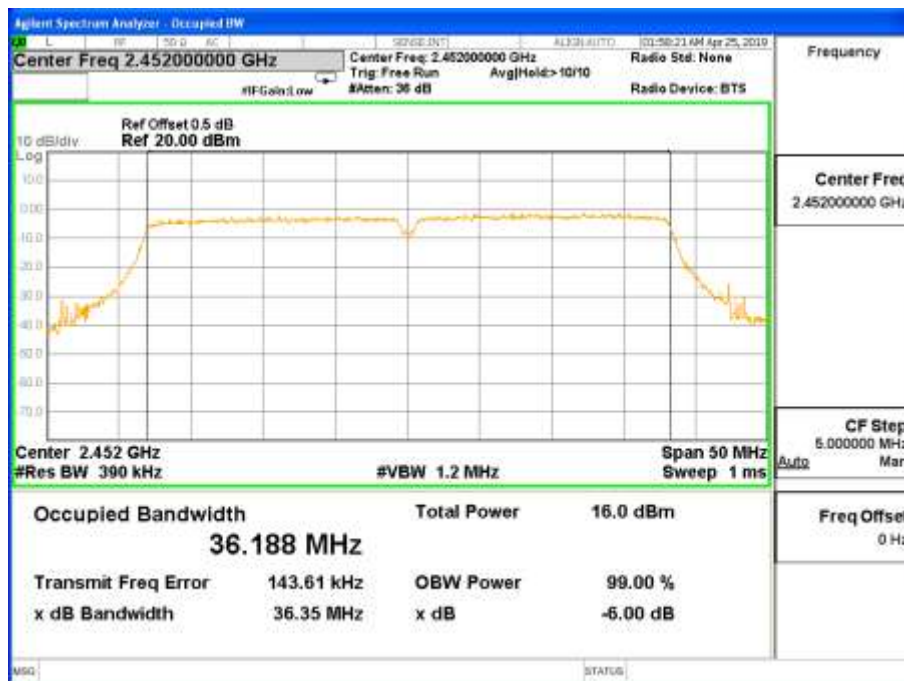


## 99% Bandwidth CH Middle





## 99% Bandwidth CH High





## 7 PEAK OUTPUT POWER TEST

### 7.1 APPLIED PROCEDURES / LIMIT

| FCC Part15.247,Subpart C<br>RSS-247 Issue 2 |              |                    |                          |        |
|---------------------------------------------|--------------|--------------------|--------------------------|--------|
| Section                                     | Test Item    | Limit              | Frequency Range<br>(MHz) | Result |
| 15.247(b)(3)<br>RSS-247 Clause 5.4(d)       | Output Power | 1 watt or 30dBm    | 2400-2483.5              | PASS   |
| RSS-247 Clause 5.4(d)                       | e.i.r.p.     | 4 watt or 36.02dBm | 2400-2483.5              | PASS   |

### 7.2 TEST PROCEDURE

- a. The EUT was directly connected to the Power Sensor&PC

### 7.3 DEVIATION FROM STANDARD

No deviation.

### 7.4 TEST SETUP



### 7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

**7.6 TEST RESULTS**

|                |              |                     |     |
|----------------|--------------|---------------------|-----|
| Temperature :  | 25°C         | Relative Humidity : | 60% |
| Test Voltage : | AC 120V/60Hz |                     |     |

| TX 802.11b Mode       |           |                             |                                |       |
|-----------------------|-----------|-----------------------------|--------------------------------|-------|
| Test Channe           | Frequency | Peak Conducted Output Power | Average Conducted Output Power | LIMIT |
|                       | (MHz)     | (dBm)                       | (dBm)                          | dBm   |
| CH01                  | 2412      | 14.42                       | 11.34                          | 30    |
| CH06                  | 2437      | 15.87                       | 12.79                          | 30    |
| CH11                  | 2462      | 16.80                       | 13.53                          | 30    |
| TX 802.11g Mode       |           |                             |                                |       |
| Test Channe           | Frequency | Peak Conducted Output Power | Average Conducted Output Power | LIMIT |
|                       | (MHz)     | (dBm)                       | (dBm)                          | dBm   |
| CH01                  | 2412      | 18.24                       | 8.22                           | 30    |
| CH06                  | 2437      | 19.48                       | 9.53                           | 30    |
| CH11                  | 2462      | 20.71                       | 10.38                          | 30    |
| TX 802.11n(HT20) Mode |           |                             |                                |       |
| Test Channe           | Frequency | Peak Conducted Output Power | Average Conducted Output Power | LIMIT |
|                       | (MHz)     | (dBm)                       | (dBm)                          | dBm   |
| CH01                  | 2412      | 17.53                       | 7.28                           | 30    |
| CH06                  | 2437      | 18.74                       | 8.64                           | 30    |
| CH11                  | 2462      | 20.09                       | 10.17                          | 30    |
| TX 802.11n(HT40) Mode |           |                             |                                |       |
| Test Channe           | Frequency | Peak Conducted Output Power | Average Conducted Output Power | LIMIT |
|                       | (MHz)     | (dBm)                       | (dBm)                          | dBm   |
| CH03                  | 2422      | 17.25                       | 7.67                           | 30    |
| CH06                  | 2437      | 18.19                       | 8.31                           | 30    |
| CH09                  | 2452      | 18.76                       | 8.89                           | 30    |

Note:

- 1) The cable loss and antenna gain are taken into account in results.
- 2) Antenna gain(G): 2.5 dBi
- 3) The max e.i.r.p = conducted power + antenna gain = 23.21 dBm



## 8 ANTENNA REQUIREMENT

### 8.1 STANDARD REQUIREMENT

15.203 and RSS-Gen Issue 5 requirement: For intentional device, according to 15.203 and RSS-Gen Issue 5: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

### 8.2 EUT ANTENNA

The EUT antenna is Integral Antenna. It complies with the standard requirement.

