

## Appendix for 2.4G WiFi(RSE)

## 1. Appendix H: Radiated Spurious Emission & Spurious in Restricted Band

Note:

1. We tested all modes & antennas, the data presented below is the worst case.
2. The simultaneous transmission has been considered
3. The whole testing range is from “9 KHz to 26.5 GHz (10th harmonics)” is divided into 5 parts according to the test site settings, which are:
  - (Part 1): Test range of “9 KHz to 30 MHz”, RBW =9 kHz, VBW = 30 kHz
  - (Part 2): Test range of “30 GHz to 1 GHz”, RBW = 100 kHz, VBW = 300 kHz.
  - (Part 3): Test range of “1 GHz to 3 GHz”. RBW = 1 MHz, VBW = 3 MHz.
  - (Part 4): Test range of “3 GHz to 18 GHz”, RBW = 1 MHz, VBW = 3 MHz.
  - (Part 5): Test range of “18 GHz to 26.5 GHz”. RBW = 1 MHz, VBW = 3 MHz.

### 1.1. Test Results

#### 1.1.1. 11b20

| Test Mode | Antenna Port | Test Channel | Spurious Emissions Result | Spurious Emissions Limit | Verdict |
|-----------|--------------|--------------|---------------------------|--------------------------|---------|
| 11b20     | Ant1         | 2412         | (see Test Graphs)         | (see Test Graphs)        | PASS    |
|           | Ant1         | 2462         | (see Test Graphs)         | (see Test Graphs)        | PASS    |

#### 1.1.2. 11g20

| Test Mode | Antenna Port | Test Channel | Spurious Emissions Result | Spurious Emissions Limit | Verdict |
|-----------|--------------|--------------|---------------------------|--------------------------|---------|
| 11g20     | Ant1         | 2412         | (see Test Graphs)         | (see Test Graphs)        | PASS    |
|           | Ant1         | 2417         | (see Test Graphs)         | (see Test Graphs)        | PASS    |
| 11g20     | Ant1         | 2422         | (see Test Graphs)         | (see Test Graphs)        | PASS    |
|           | Ant1         | 2427         | (see Test Graphs)         | (see Test Graphs)        | PASS    |

|       |      |      |                   |                   |      |
|-------|------|------|-------------------|-------------------|------|
| 11g20 | Ant1 | 2447 | (see Test Graphs) | (see Test Graphs) | PASS |
|       | Ant1 | 2452 | (see Test Graphs) | (see Test Graphs) | PASS |
| 11g20 | Ant1 | 2457 | (see Test Graphs) | (see Test Graphs) | PASS |
|       | Ant1 | 2462 | (see Test Graphs) | (see Test Graphs) | PASS |

### 1.1.3. 11n20

| Test Mode | Antenna Port | Test Channel | Spurious Emissions Result | Spurious Emissions Limit | Verdict |
|-----------|--------------|--------------|---------------------------|--------------------------|---------|
| 11n20     | Ant1         | 2412         | (see Test Graphs)         | (see Test Graphs)        | PASS    |
|           | Ant1         | 2417         | (see Test Graphs)         | (see Test Graphs)        | PASS    |
| 11n20     | Ant1         | 2422         | (see Test Graphs)         | (see Test Graphs)        | PASS    |
|           | Ant1         | 2427         | (see Test Graphs)         | (see Test Graphs)        | PASS    |
| 11n20     | Ant1         | 2447         | (see Test Graphs)         | (see Test Graphs)        | PASS    |
|           | Ant1         | 2452         | (see Test Graphs)         | (see Test Graphs)        | PASS    |
| 11n20     | Ant1         | 2457         | (see Test Graphs)         | (see Test Graphs)        | PASS    |
|           | Ant1         | 2462         | (see Test Graphs)         | (see Test Graphs)        | PASS    |

### 1.1.4. 11n40

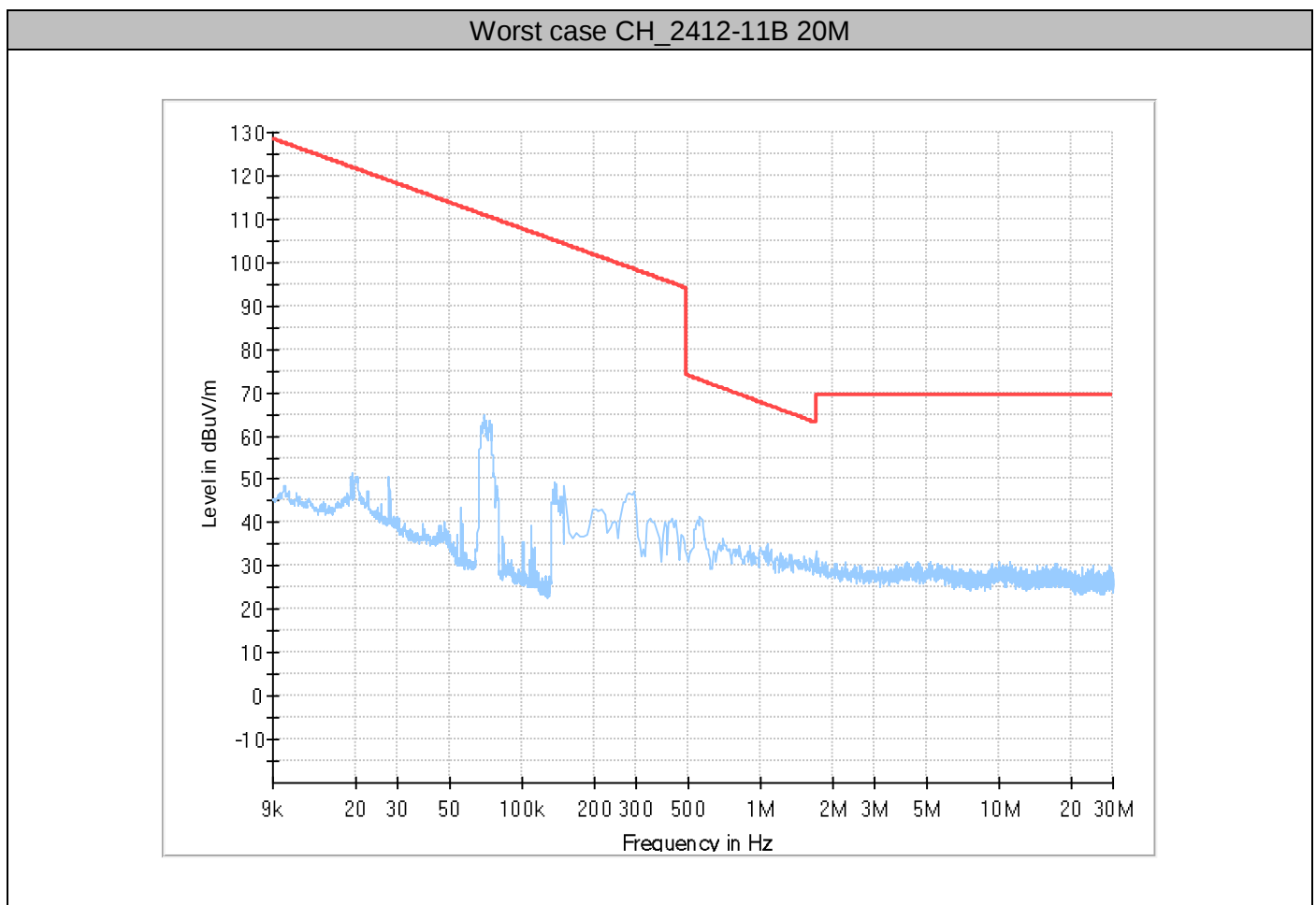
| Test Mode | Antenna Port | Test Channel | Spurious Emissions Result | Spurious Emissions Limit | Verdict     |
|-----------|--------------|--------------|---------------------------|--------------------------|-------------|
| 11n40     | Ant1         | 2422         | (see Test Graphs)         | (see Test Graphs)        | PASS        |
|           | Ant1         | 2427         | (see Test Graphs)         | (see Test Graphs)        | PASS        |
| 11n40     | Ant1         | 2432         | (see Test Graphs)         | (see Test Graphs)        | <b>PASS</b> |
|           | Ant1         | 2442         | (see Test Graphs)         | (see Test Graphs)        | PASS        |

|       |      |      |                   |                   |      |
|-------|------|------|-------------------|-------------------|------|
| 11n40 | Ant1 | 2447 | (see Test Graphs) | (see Test Graphs) | PASS |
|       | Ant1 | 2452 | (see Test Graphs) | (see Test Graphs) | PASS |

## 1.2. Test Graphs

### 1.2.1. Part 1: Testing Range of “9 kHz to 30MHz”

Note 1: The test results and plot for testing range of “9 kHz to 30MHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

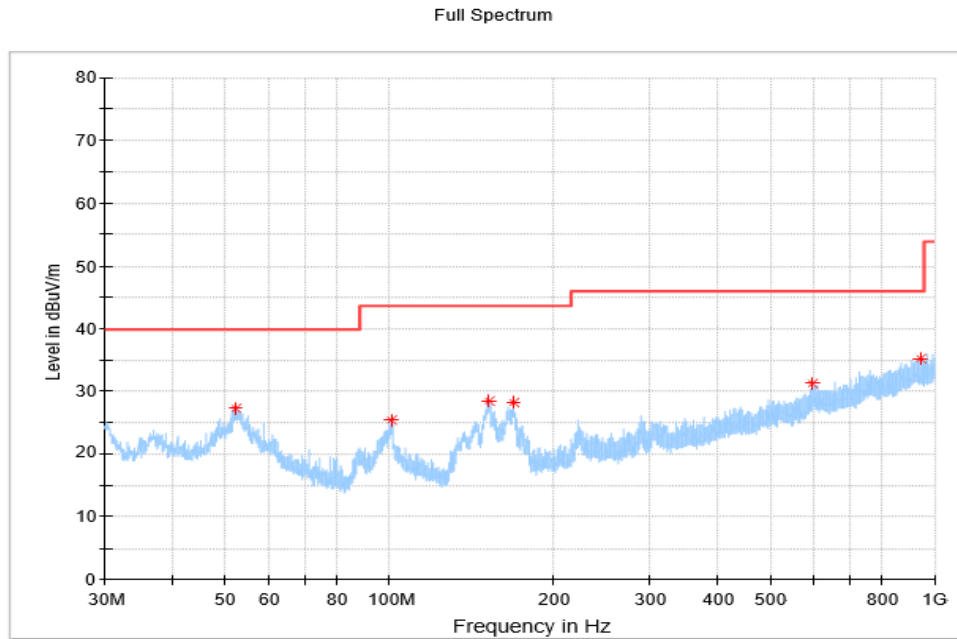


### 1.2.2. Part 2: Testing Range of “30 MHz to 1 GHz”

Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).

Worst case CH\_2412-11B 20M



MEASUREMENT RESULT: QP Detector

| Frequency<br>MHz | Level<br>dB $\mu$ V/m | Transd<br>dB | Limit<br>dB $\mu$ V/m | Margin<br>dB | Height<br>cm | Azimuth<br>deg | Polarisation |
|------------------|-----------------------|--------------|-----------------------|--------------|--------------|----------------|--------------|
| 52.261500        | 27.24                 | 20.5         | 40.00                 | 12.76        | 100.0        | 257.0          | V            |
| 100.422000       | 25.36                 | 18.6         | 43.50                 | 18.14        | 100.0        | 22.0           | V            |
| 151.977500       | 28.46                 | 14.9         | 43.50                 | 15.04        | 100.0        | 237.0          | V            |
| 168.516000       | 28.22                 | 15.7         | 43.50                 | 15.28        | 100.0        | 226.0          | V            |
| 598.080500       | 31.14                 | 27.4         | 46.00                 | 14.86        | 100.0        | 22.0           | H            |
| 940.102500       | 35.20                 | 31.0         | 46.00                 | 10.80        | 100.0        | 184.0          | H            |

### 1.2.3. Part 3: Testing Range of “1 GHz to 3 GHz”

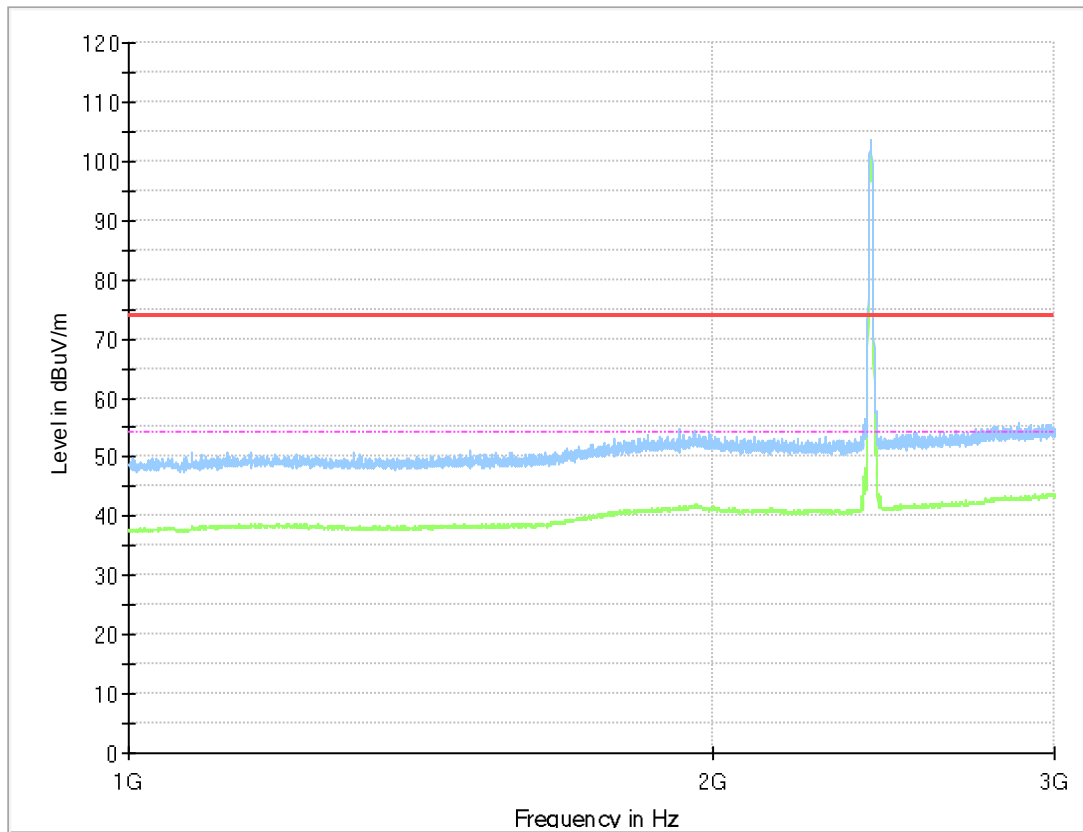
Note 1: The testing range of “1 GHz to 3 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands. The test results and plot for testing range of “1 GHz to 3 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).

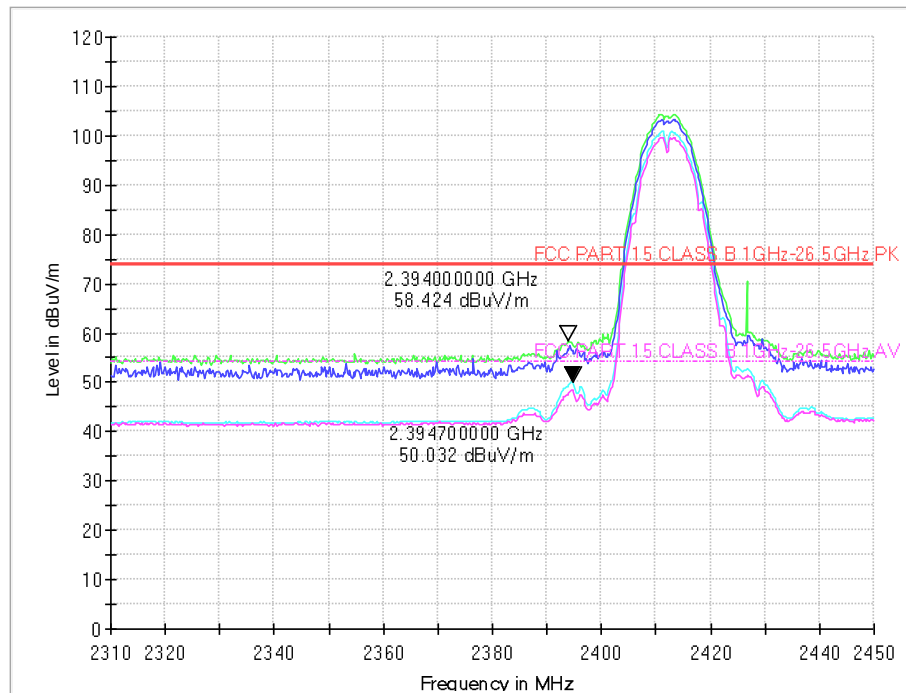
Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.

#### 1.2.3.1. 11b20SISO

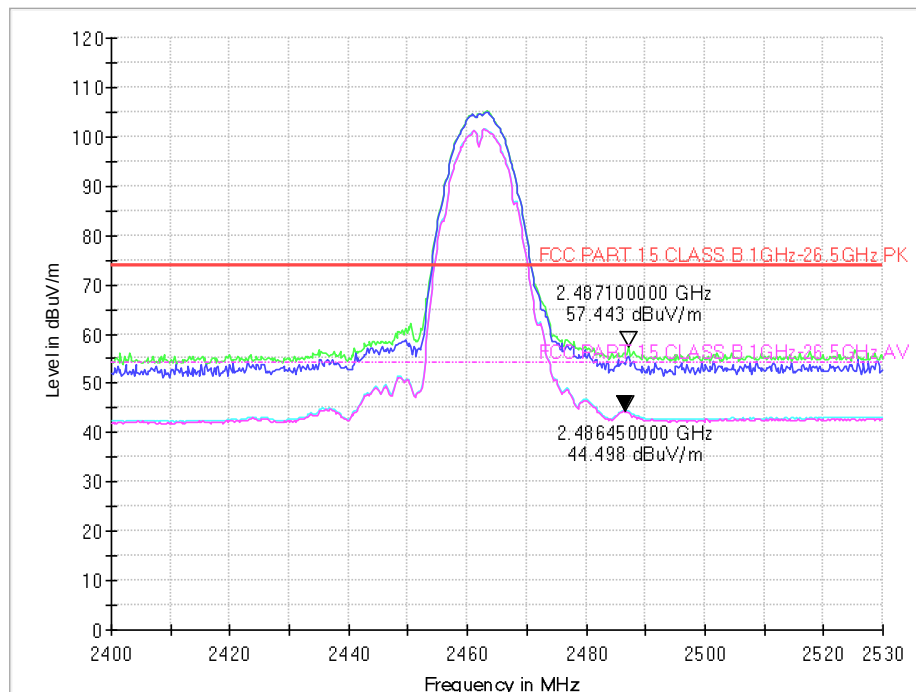
Worst case CH\_2462 (1 GHz to 3 GHz)



### CH\_2412 (Band Edge)

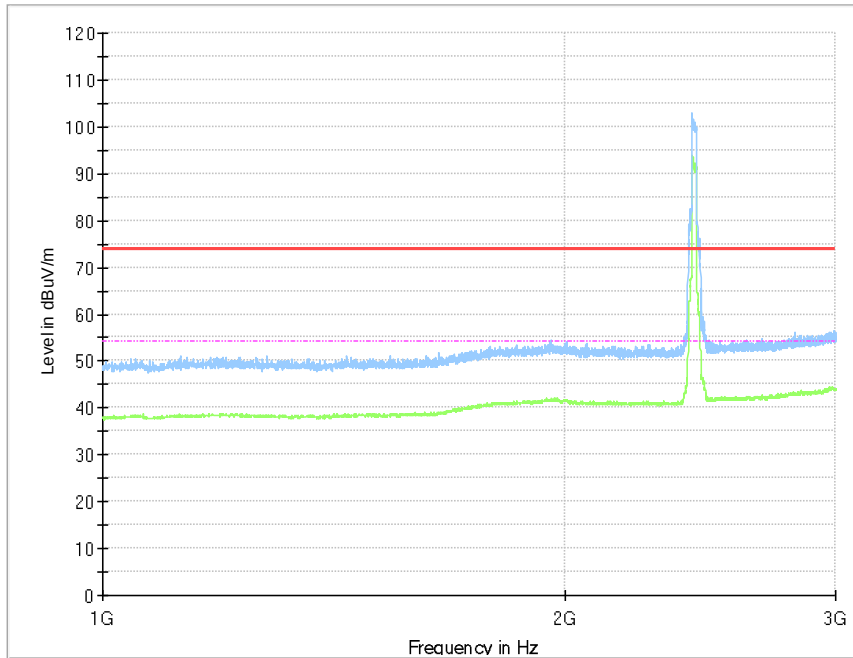


### CH\_2462 (Band Edge)

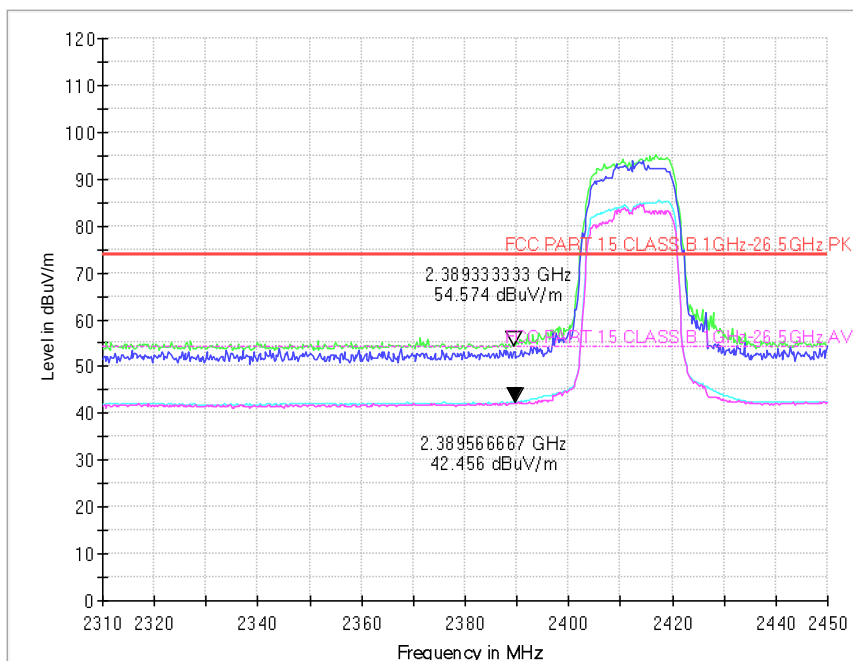


### 1.2.3.2. 11g20SISO

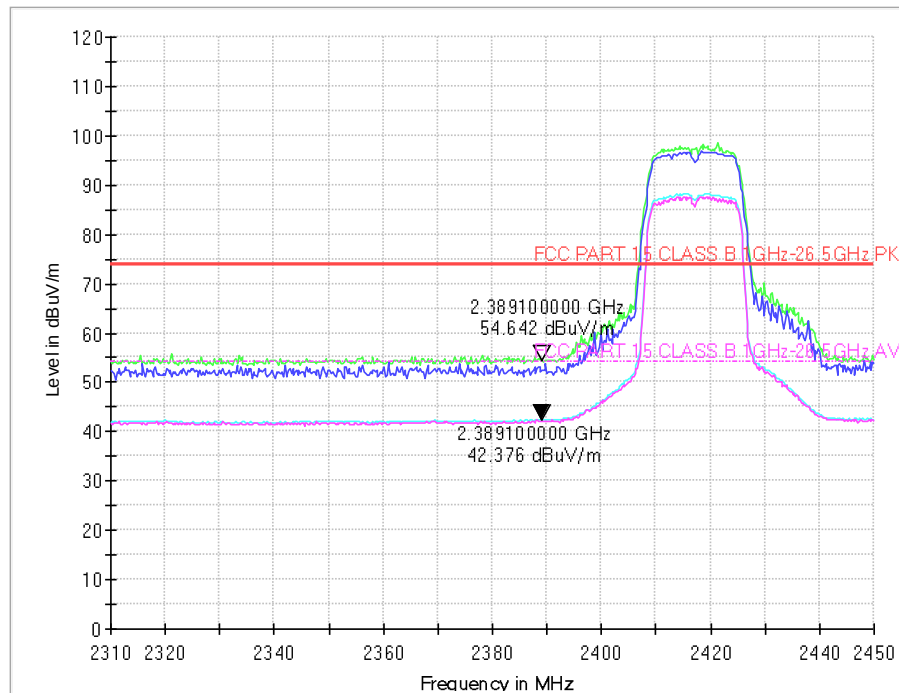
CH\_2427 (1 GHz to 3 GHz)



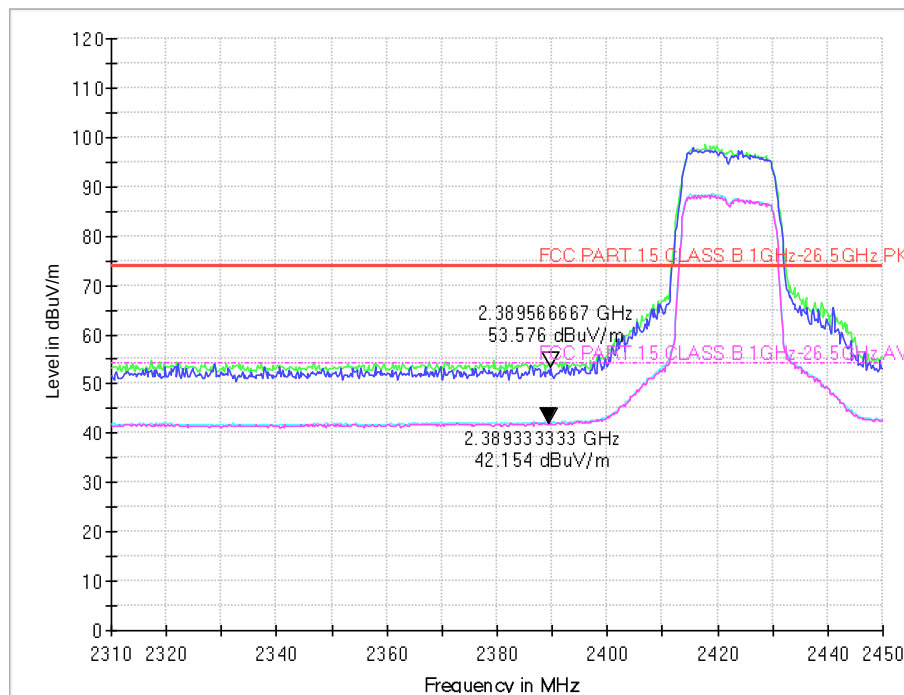
CH\_2412 (Band Edge)



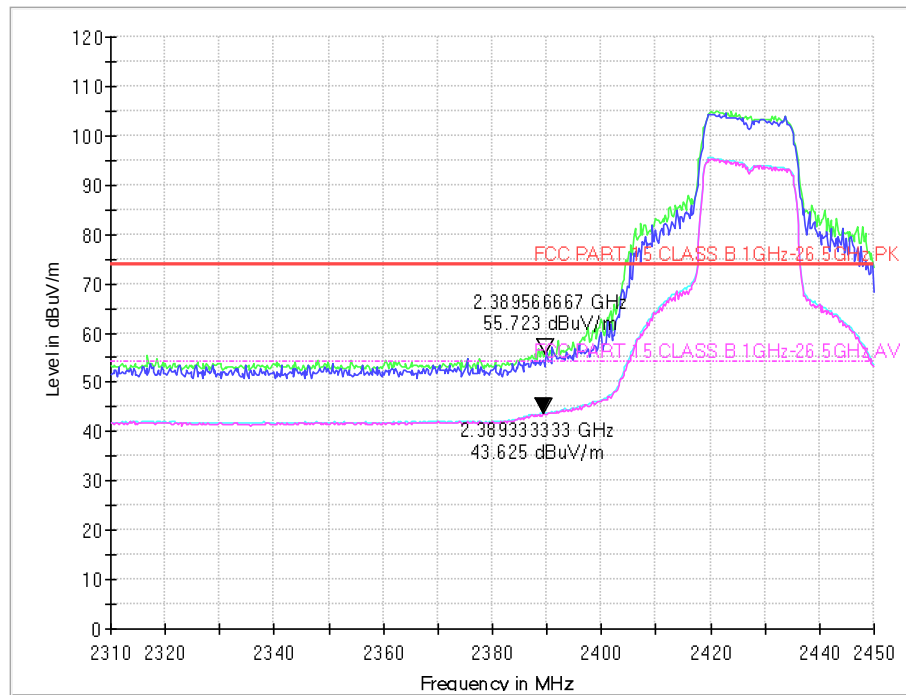
### CH\_2417 (Band Edge)



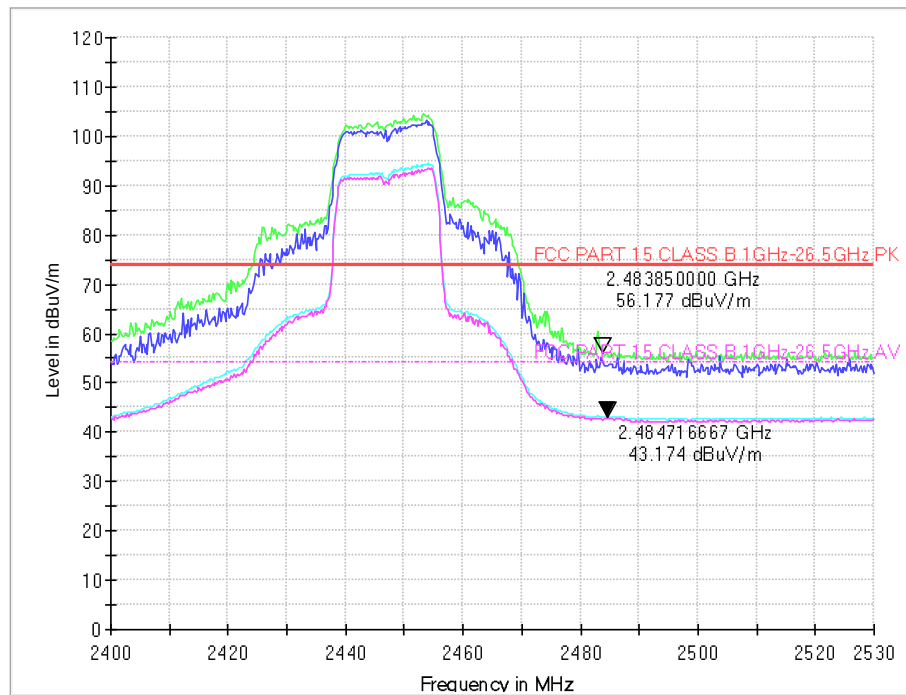
### CH\_2422 (Band Edge)



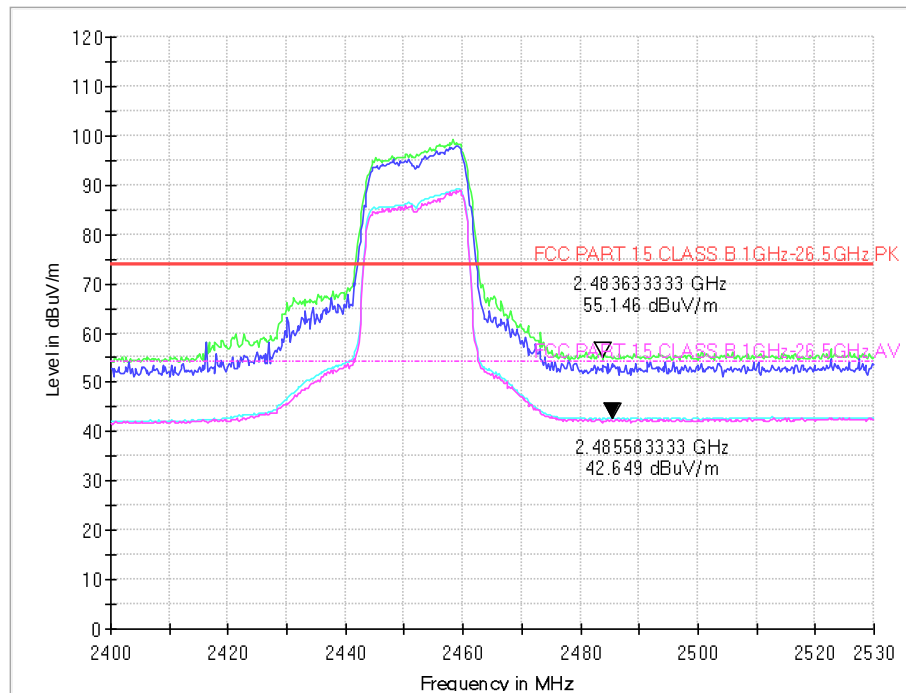
## CH\_2427 (Band Edge)



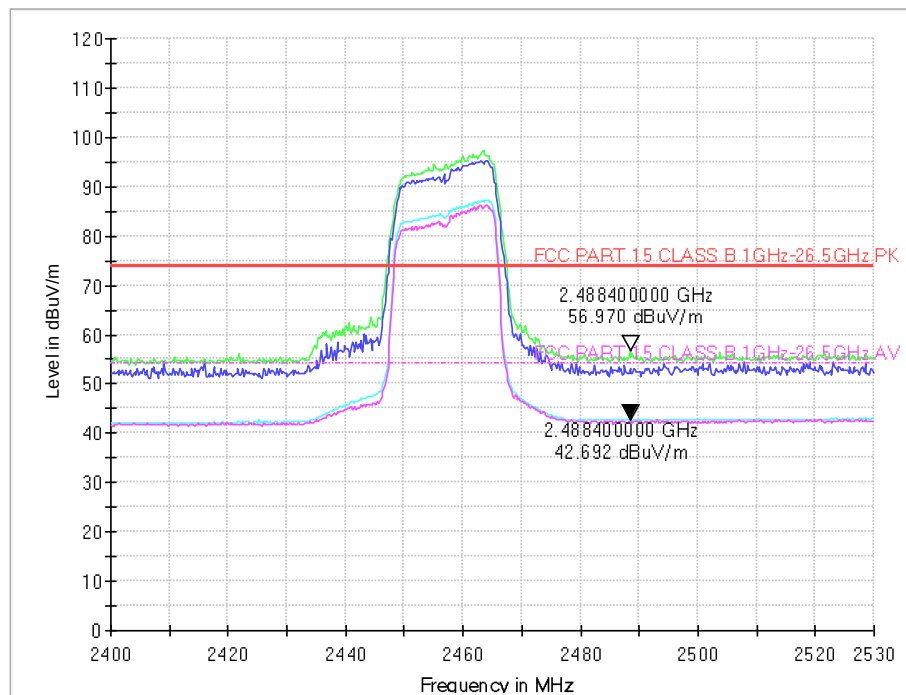
## CH\_2447 (Band Edge)



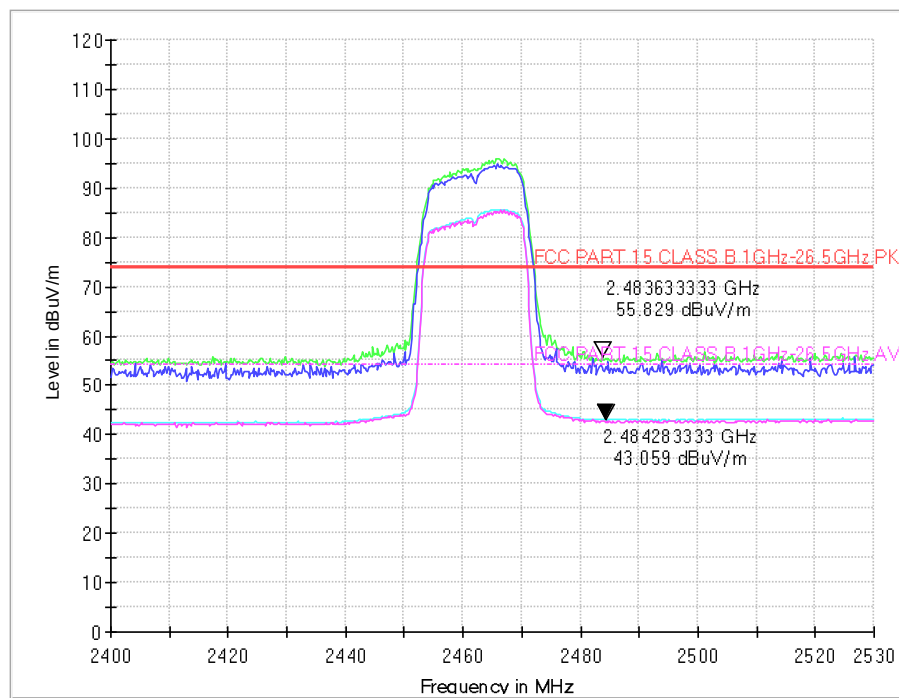
### CH\_2452 (Band Edge)



### CH\_2457 (Band Edge)

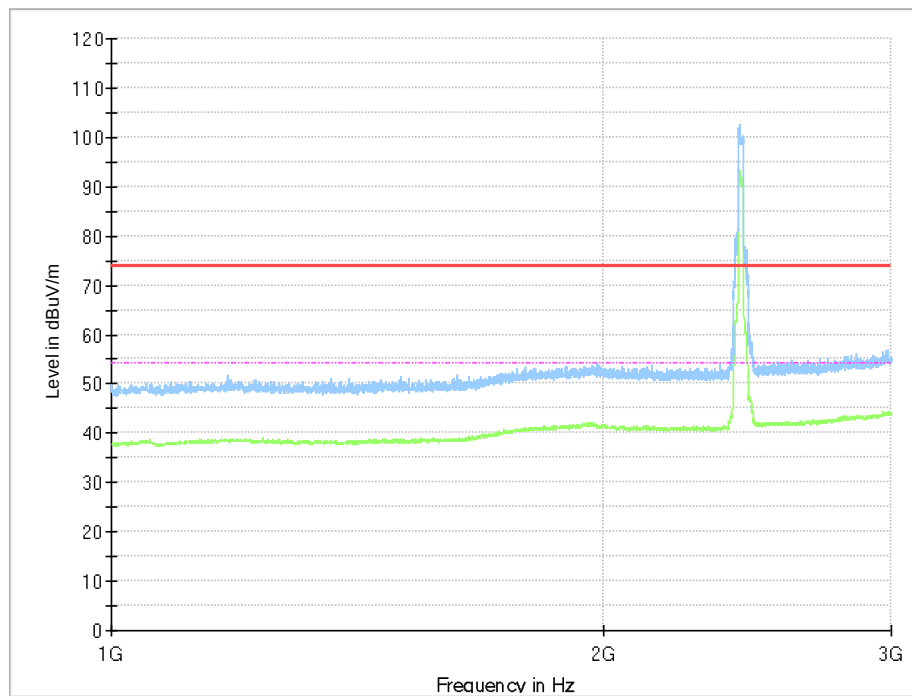


### CH\_2462(Band Edge)

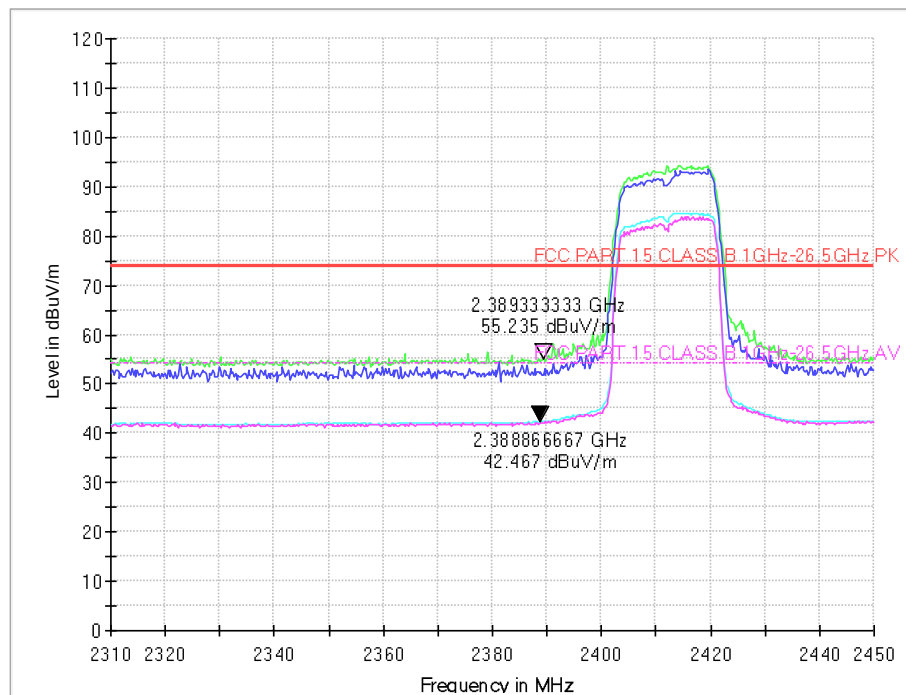


### 1.2.3.3. 11n20SISO

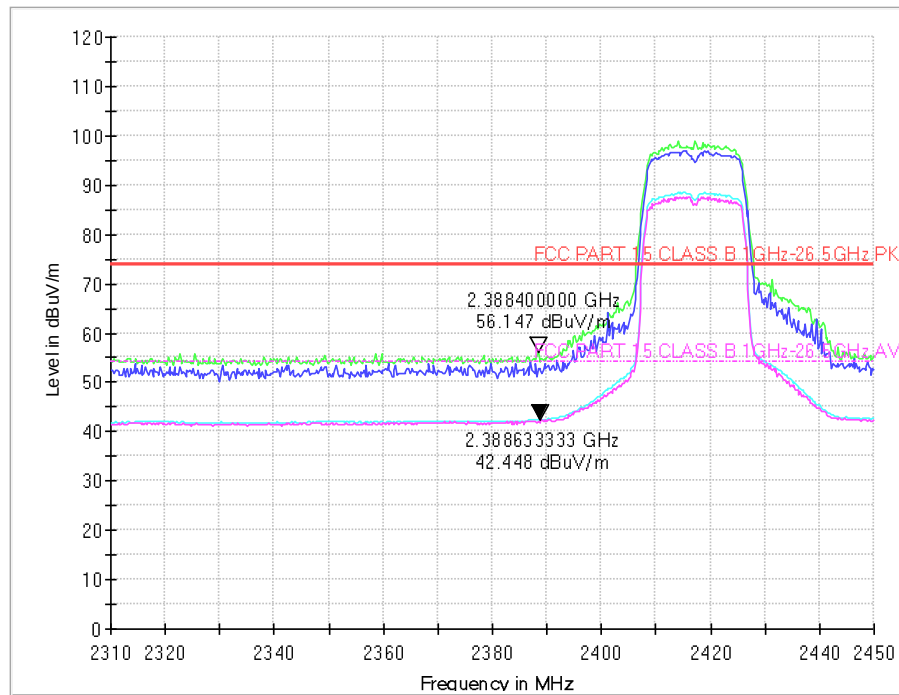
Worst case CH\_2427 (1 GHz to 3 GHz)



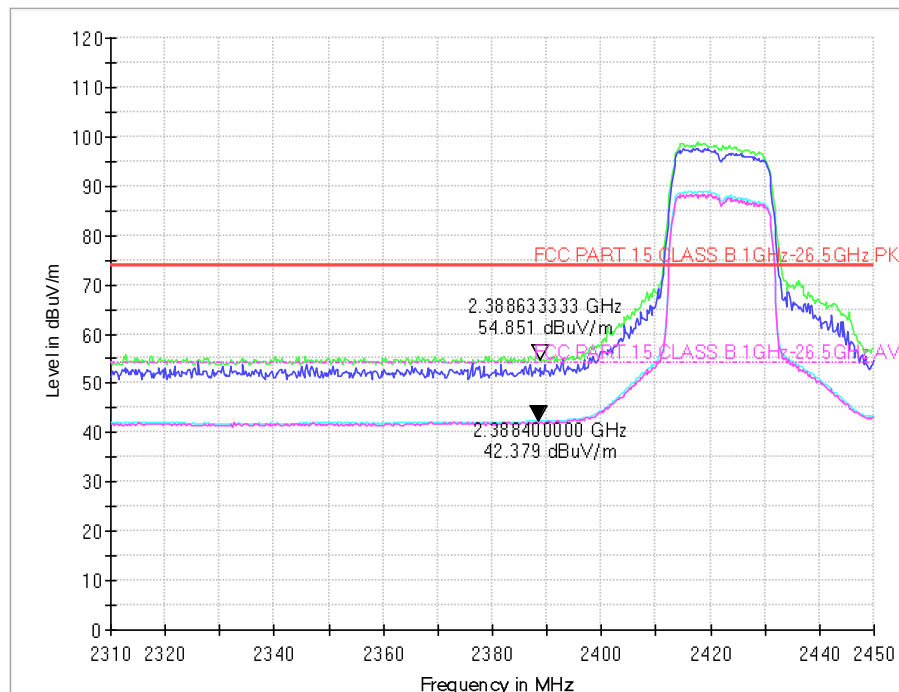
CH\_2412 (Band Edge)



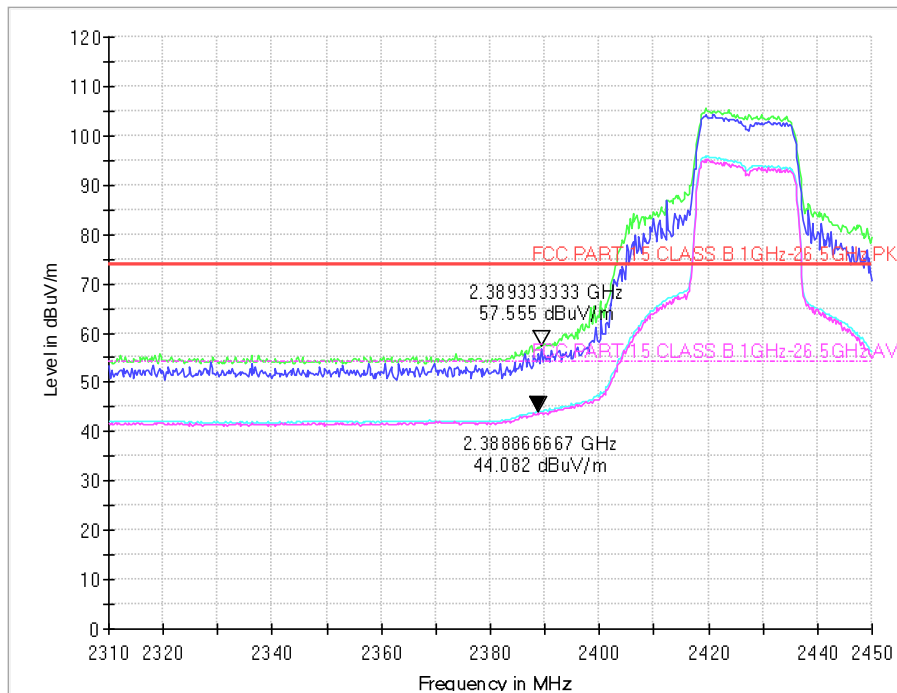
### CH\_2417 (Band Edge)



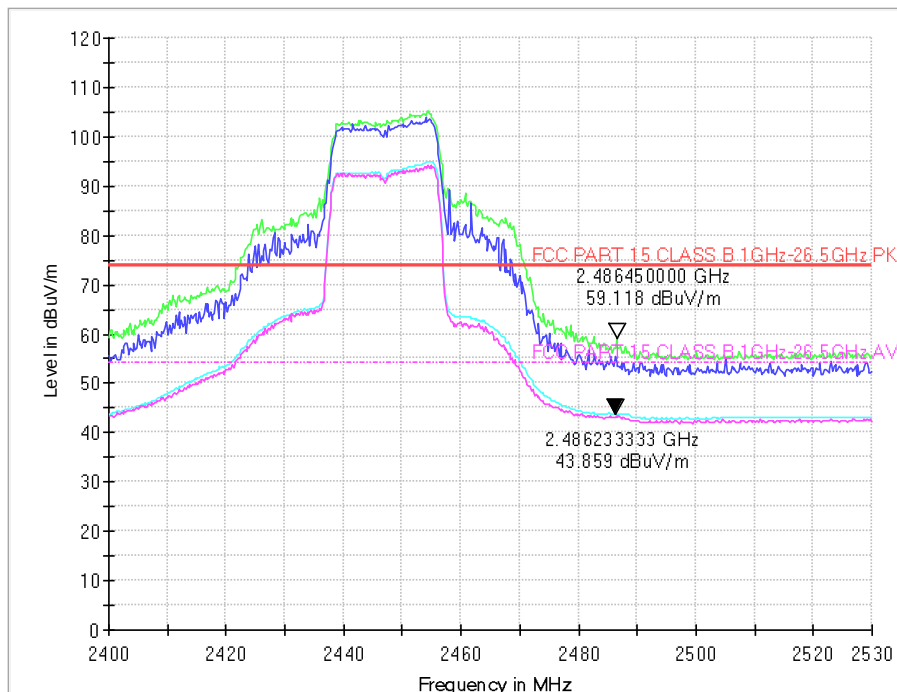
### CH\_2422 (Band Edge)



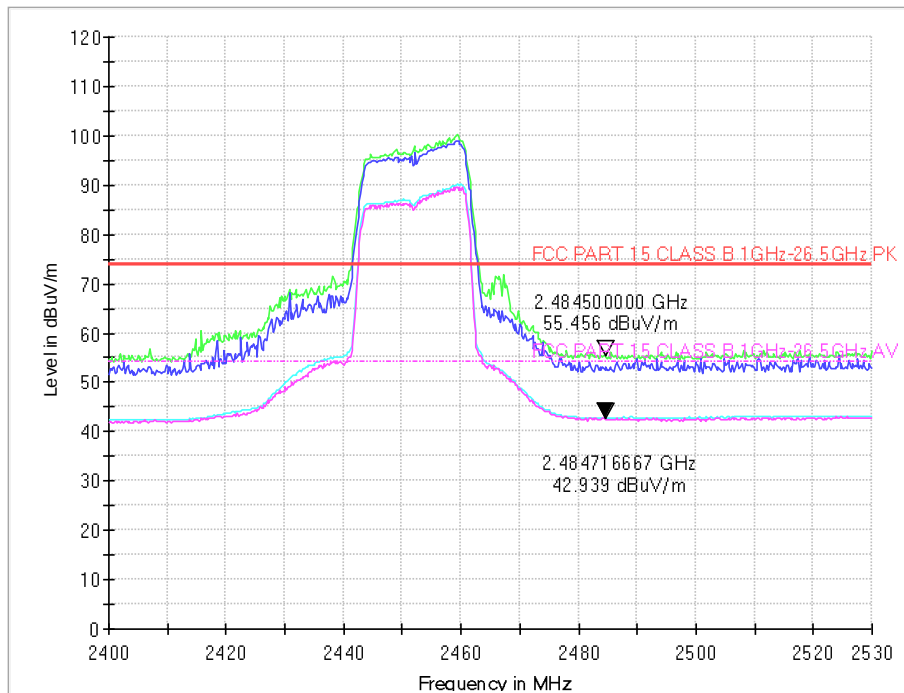
### CH\_2427 (Band Edge)



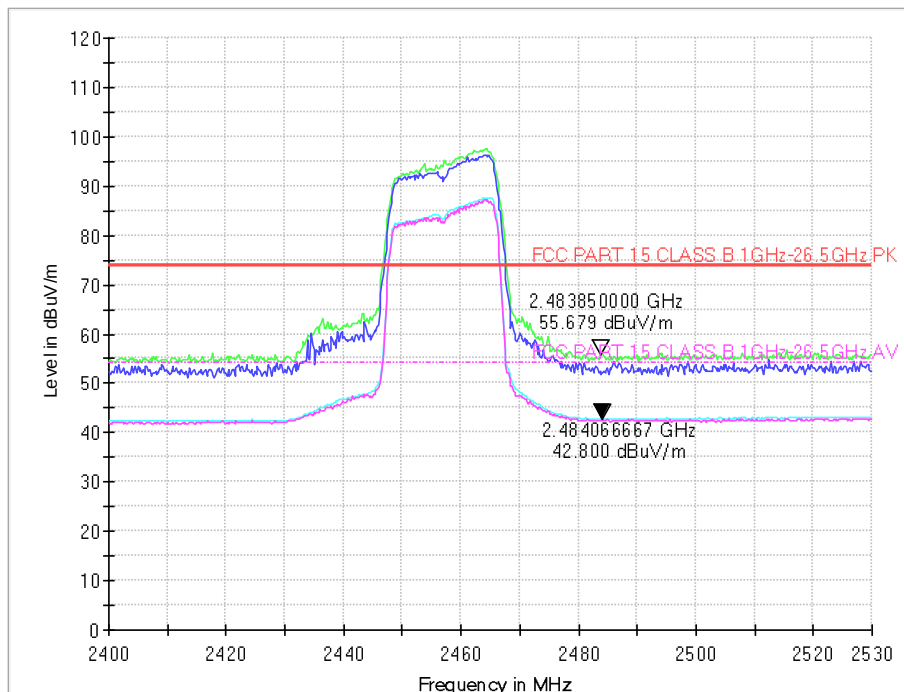
### CH\_2447 (Band Edge)



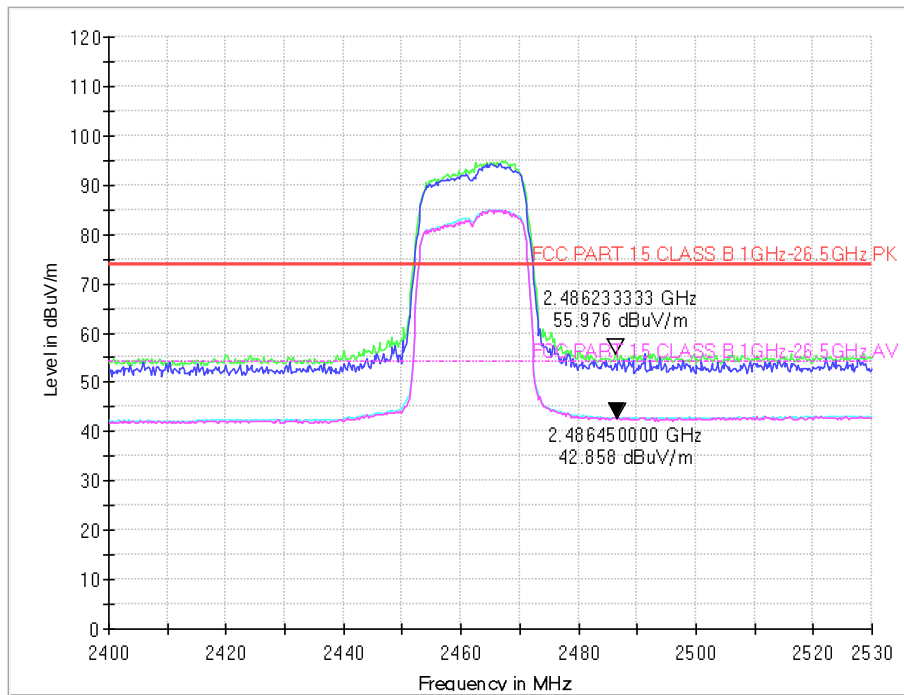
### CH\_2452 (Band Edge)



### CH\_2457 (Band Edge)

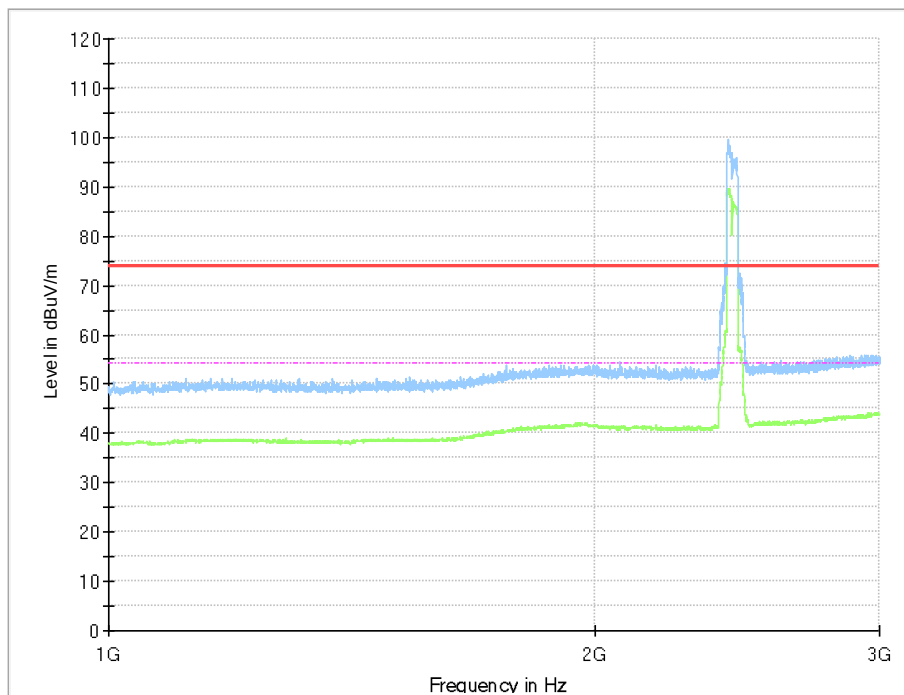


### CH\_2462(Band Edge)

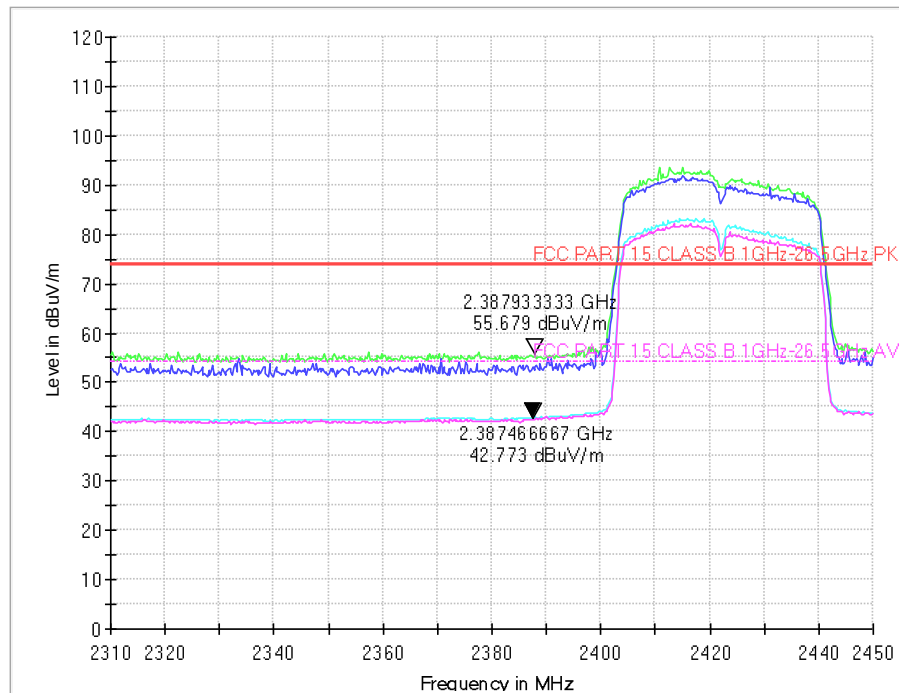


### 1.2.3.4. 11n40SISO

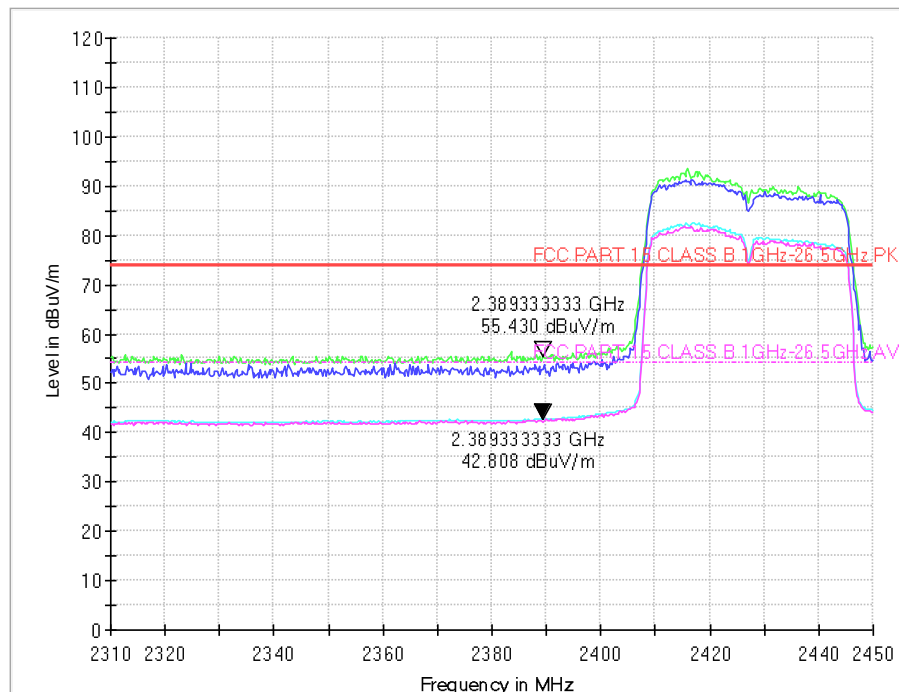
#### Worst case CH\_2432 (1 GHz to 3 GHz)



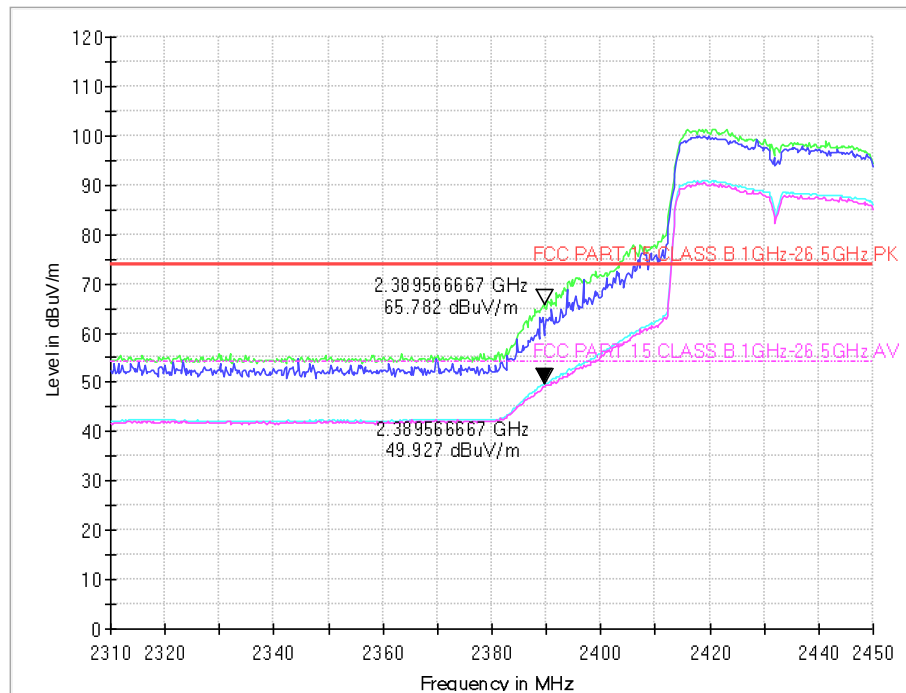
### CH\_2422 (Band Edge)



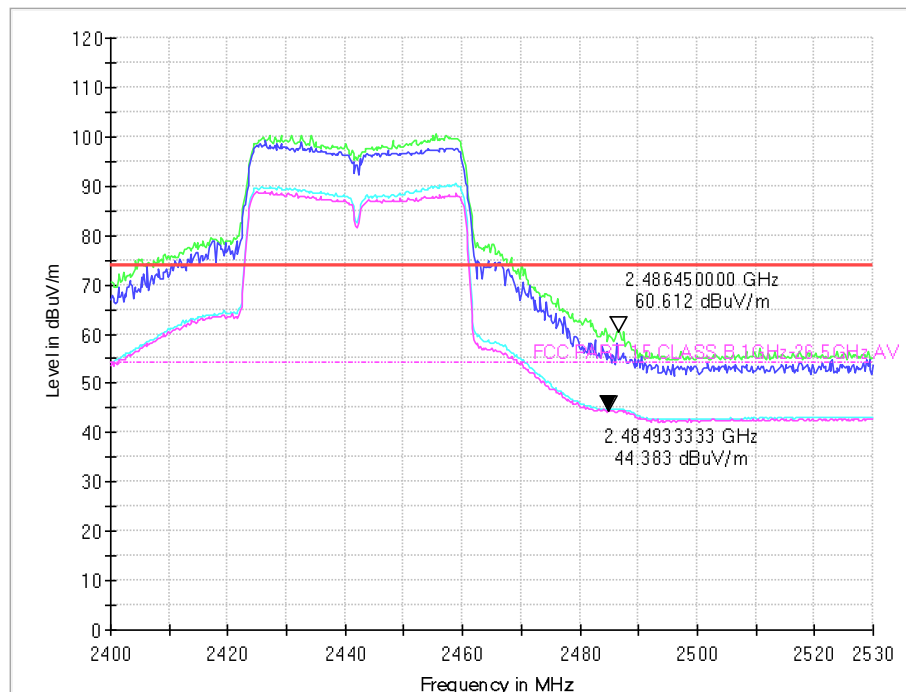
### CH\_2427 (Band Edge)



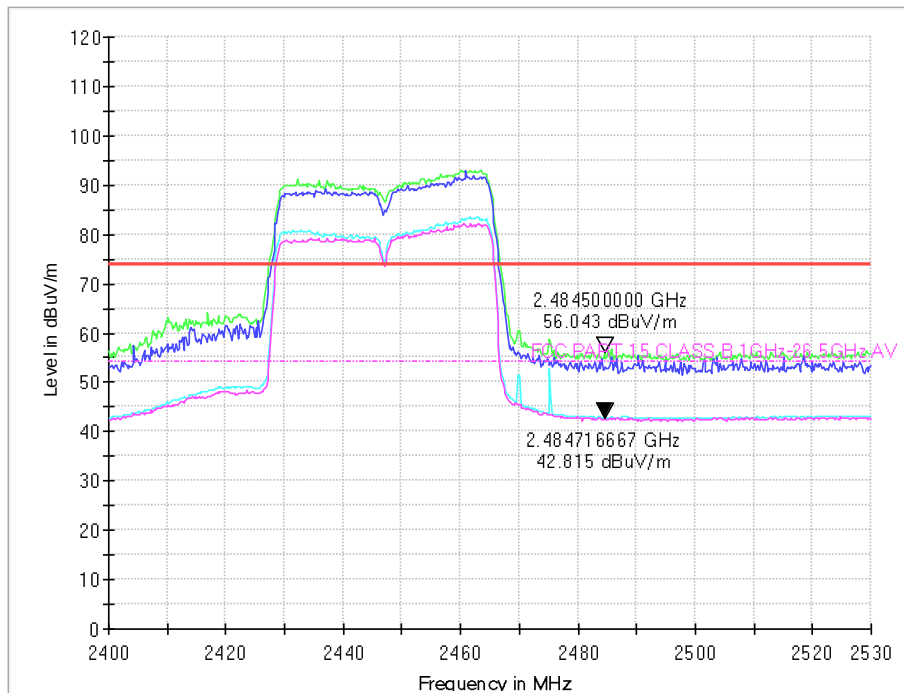
### CH\_2432 (Band Edge)



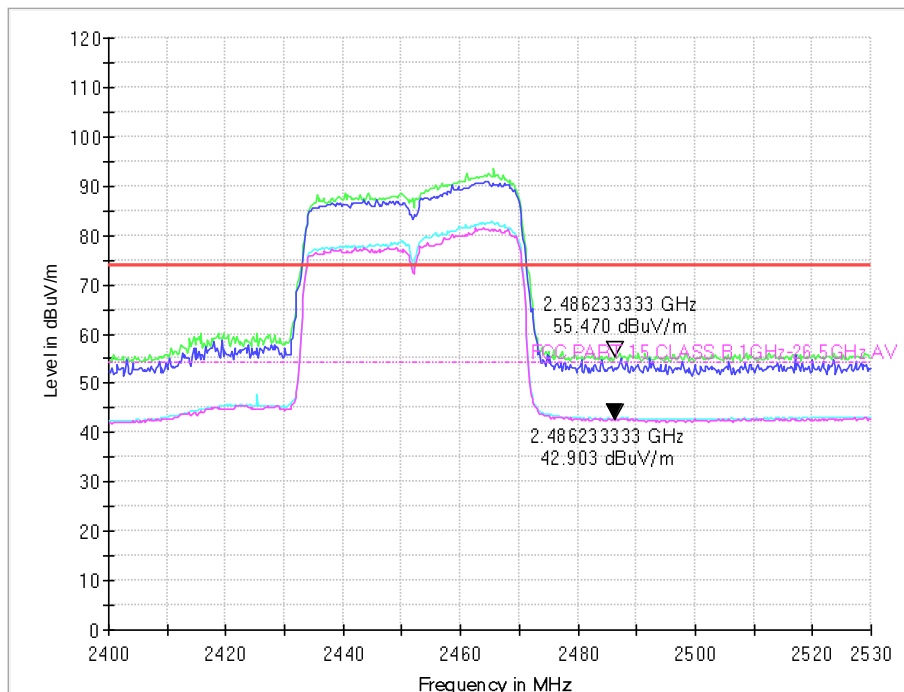
### CH\_2442 (Band Edge)



### CH\_2447 (Band Edge)



### CH\_2452(Band Edge)



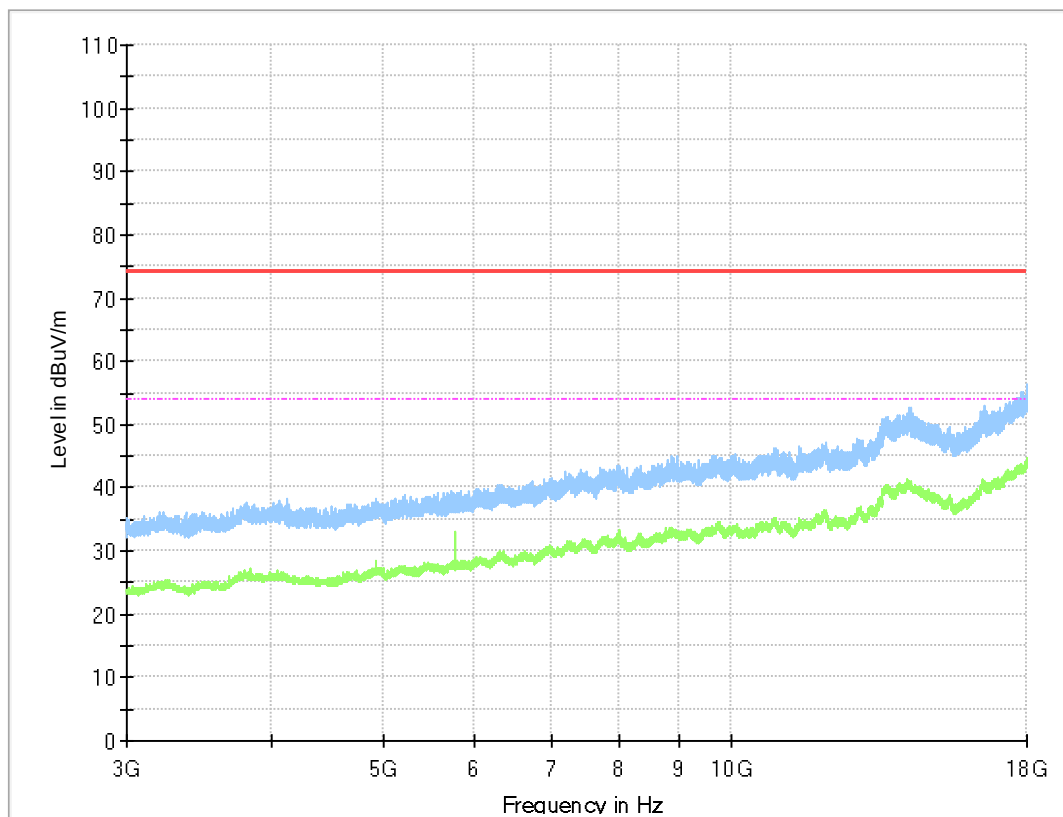
#### 1.2.4. Part 4: Testing Range of “3 GHz to 18 GHz”

Note 1: The test results and plot for testing range of “3 GHz to 18 GHz” showed as below is the worst case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The testing range of “3 GHz to 18 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.

Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).

Worst case CH\_2412-11B 20M

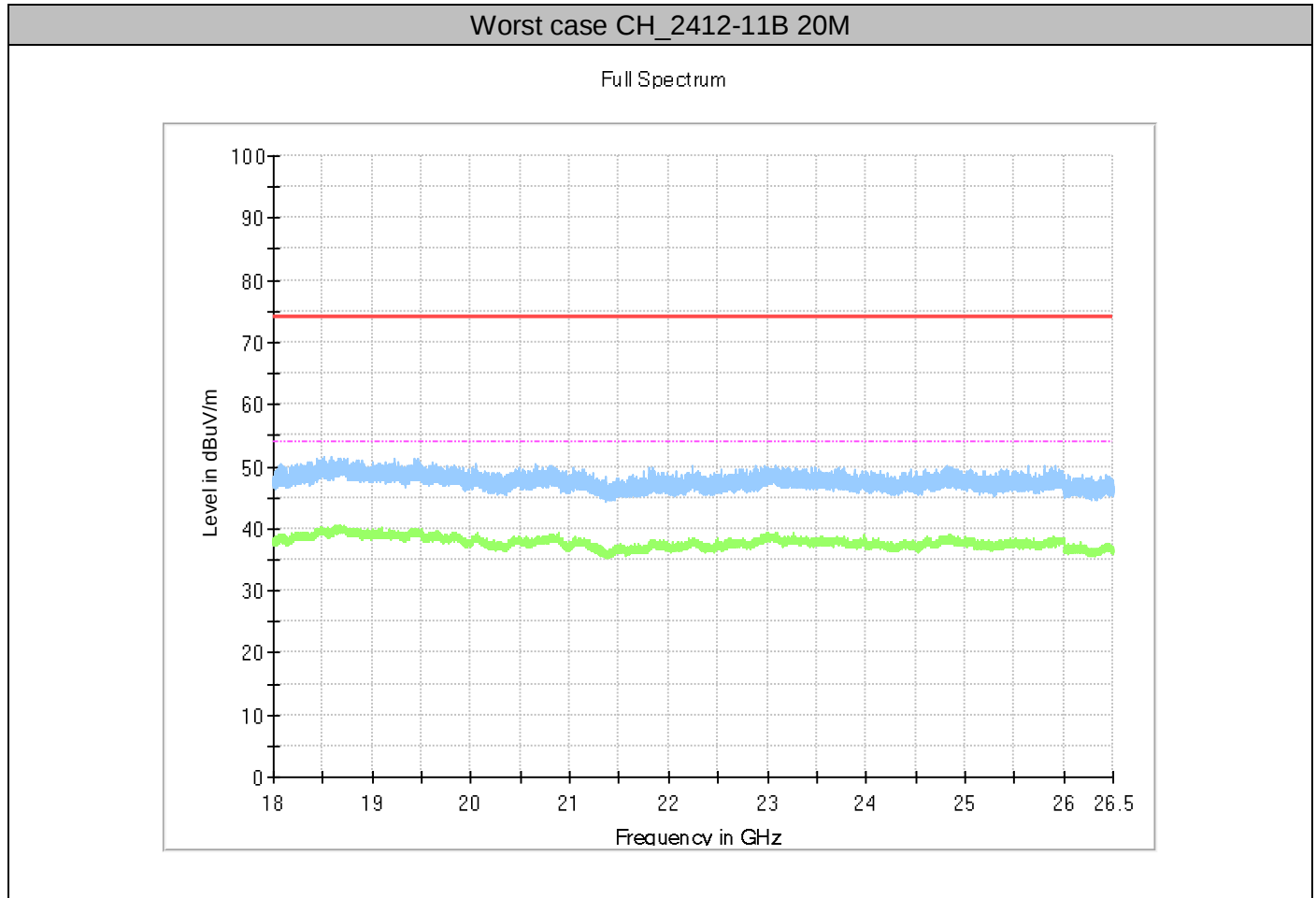


### 1.2.5. Part 5: Testing Range of “18 GHz to 26.5 GHz”

Note 1: The test results and plot for testing range of “18 GHz to 26.5 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The testing range of “18 GHz to 26.5 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.

Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).



## 2. Appendix I: Conducted Emission at Power Port

Note 1: The test results and plot for testing range of “150 kHz to 30 MHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

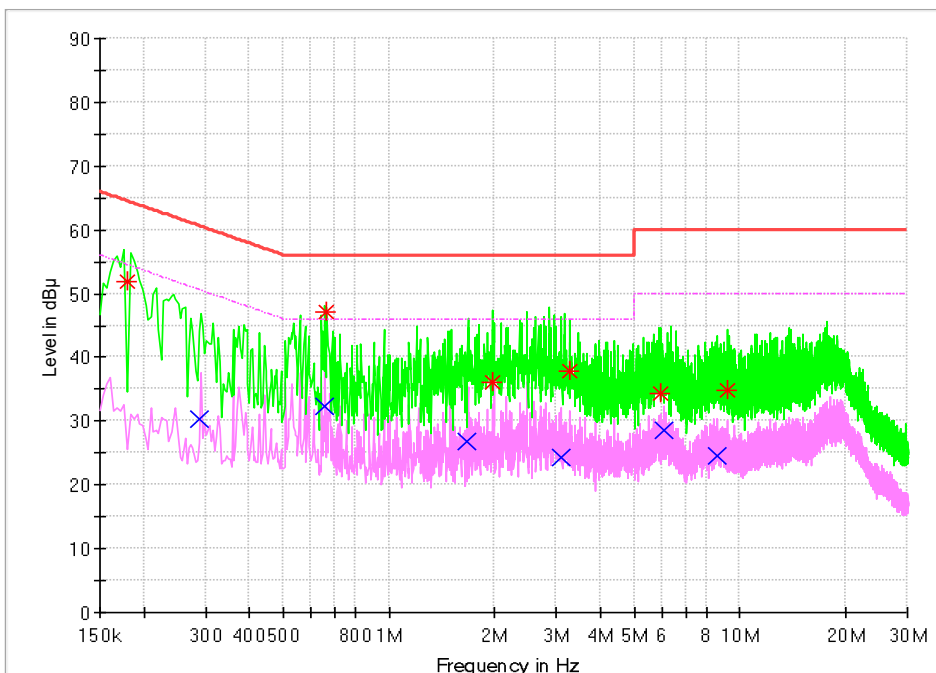
Note 2 : RBW =9 kHz; VBW = 30 kHz

### 2.1. Test Results

| Test Mode | Antenna Port | Test Channel | Maximum Emissions | Limit             | Verdict |
|-----------|--------------|--------------|-------------------|-------------------|---------|
| 11b20SISO | Ant1         | 2412         | (see Test Graphs) | (see Test Graphs) | PASS    |

## 2.2. Test Graphs

Worst case CH\_2412-11B 20M



### MEASUREMENT RESULT: QP Detector

| Frequency (MHz) | Level (dBμV) | Limit (dBμV) | Transd. (dB) | Margin (dB) | Line | PE  |
|-----------------|--------------|--------------|--------------|-------------|------|-----|
| 0.179854        | 51.81        | 64.49        | 9.6          | 12.68       | N    | FLO |
| 0.663201        | 47.01        | 56           | 9.6          | 8.99        | L1   | FLO |
| 1.966909        | 36.18        | 56           | 9.6          | 19.82       | L1   | FLO |
| 3.259563        | 37.87        | 56           | 9.6          | 18.13       | L1   | FLO |
| 5.936198        | 34.24        | 60           | 9.8          | 25.76       | L1   | FLO |
| 9.220272        | 34.92        | 60           | 9.9          | 25.08       | L1   | FLO |

### MEASUREMENT RESULT: AV Detector

| Frequency (MHz) | Level (dBμV) | Limit (dBμV) | Transd. (dB) | Margin (dB) | Line | PE  |
|-----------------|--------------|--------------|--------------|-------------|------|-----|
| 0.287314        | 30.43        | 50.6         | 9.6          | 20.17       | L1   | FLO |
| 0.65844         | 32.37        | 46           | 9.6          | 13.63       | L1   | FLO |
| 1.674669        | 26.78        | 46           | 9.6          | 19.22       | L1   | FLO |
| 3.084073        | 24.21        | 46           | 9.6          | 21.79       | L1   | FLO |
| 6.048512        | 28.68        | 50           | 9.8          | 21.32       | L1   | FLO |
| 8.643799        | 24.45        | 50           | 9.9          | 25.55       | L1   | FLO |

Note:

1, Level = Reading level by receiver + Transd (correcton factor + cable loss)

The reading level is calculated by software which is not shown in the sheet.

2, Margin = Limit - Level

END