

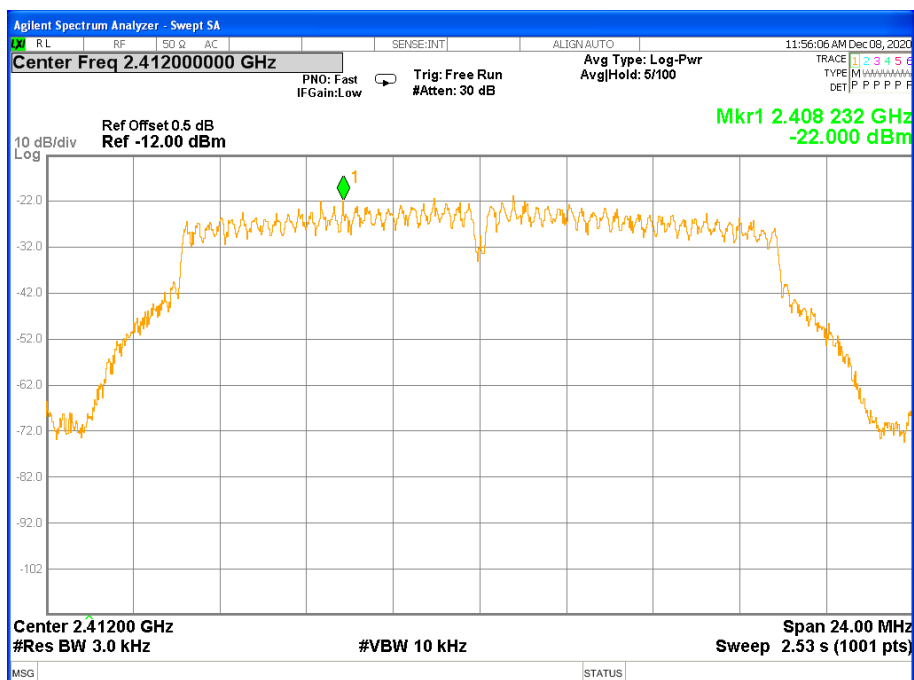


|               |              |                    |                             |
|---------------|--------------|--------------------|-----------------------------|
| Temperature:  | 25°C         | Relative Humidity: | 60%                         |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX g Mode /CH01, CH06, CH11 |

| Frequency | Power Density  |                |                | Limit      | Result |
|-----------|----------------|----------------|----------------|------------|--------|
|           | ANT 1<br>(dBm) | ANT 2<br>(dBm) | TOTAL<br>(dBm) | (dBm/3KHz) |        |
| 2412      | -22.00         | -22.76         | --             | 8          | PASS   |
| 2437      | -22.13         | -24.28         | --             | 8          | PASS   |
| 2462      | -21.83         | -23.64         | --             | 8          | PASS   |

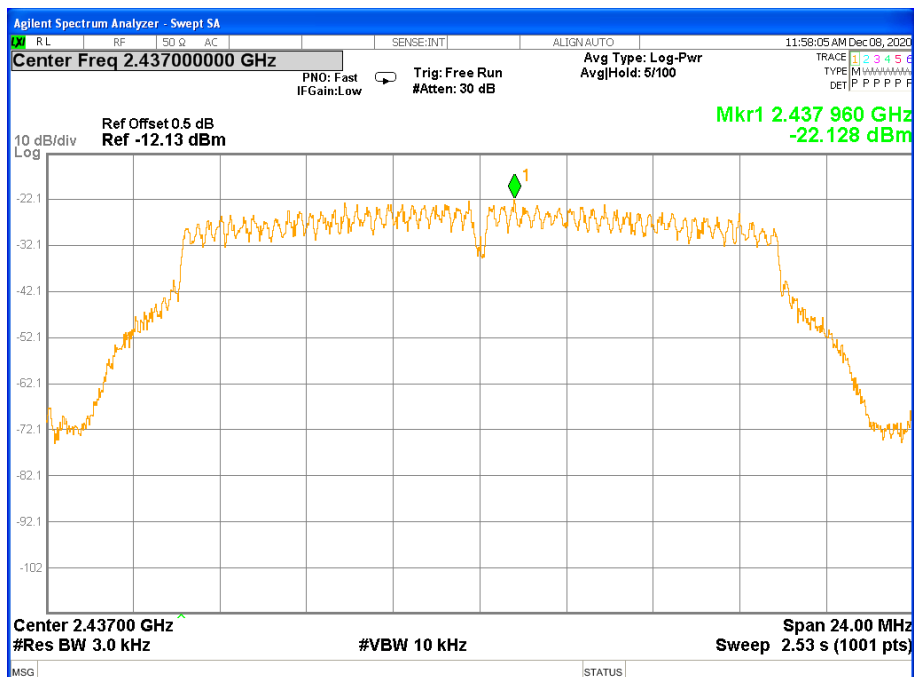
Test plots for ANT 1

TX CH01

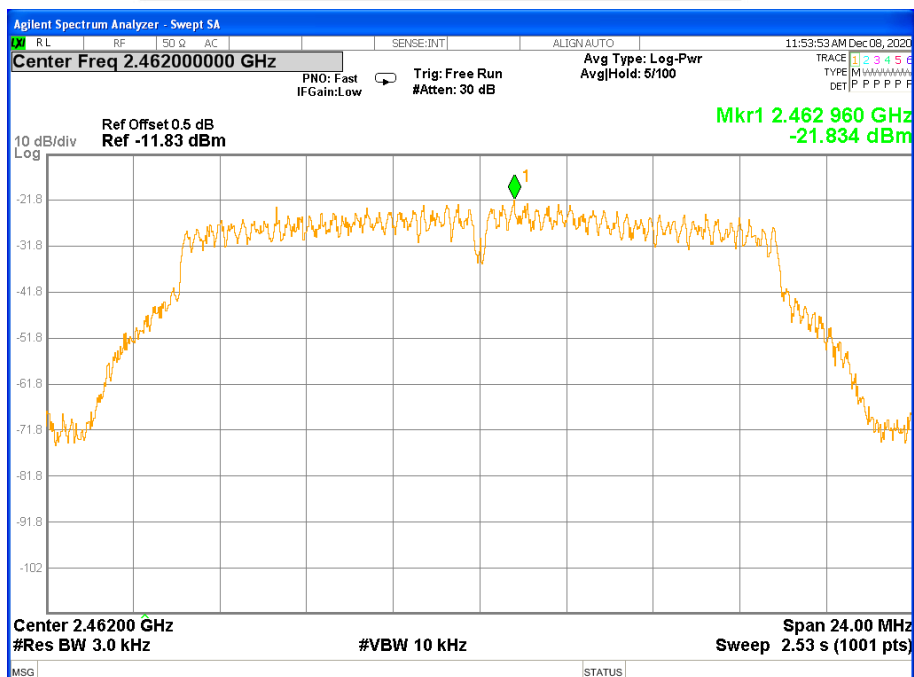




## TX CH06



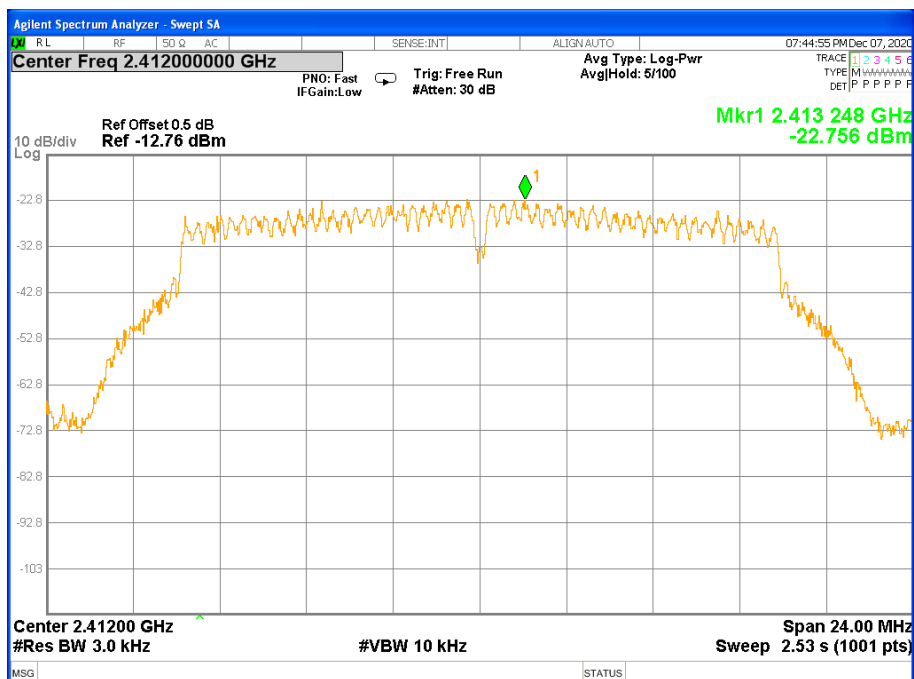
## TX CH11



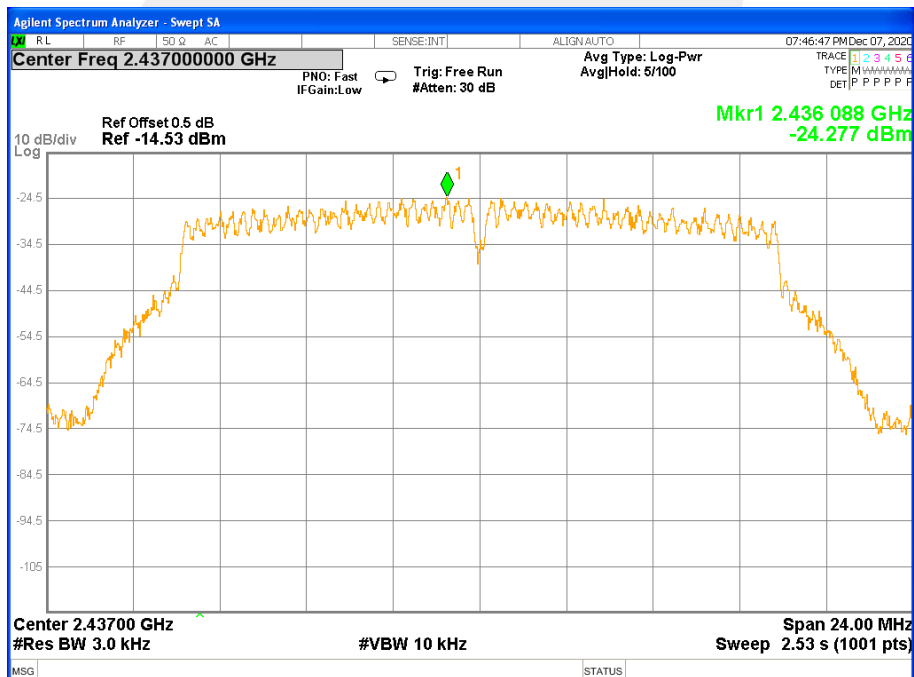


## Test plots for ANT 2

## TX CH01

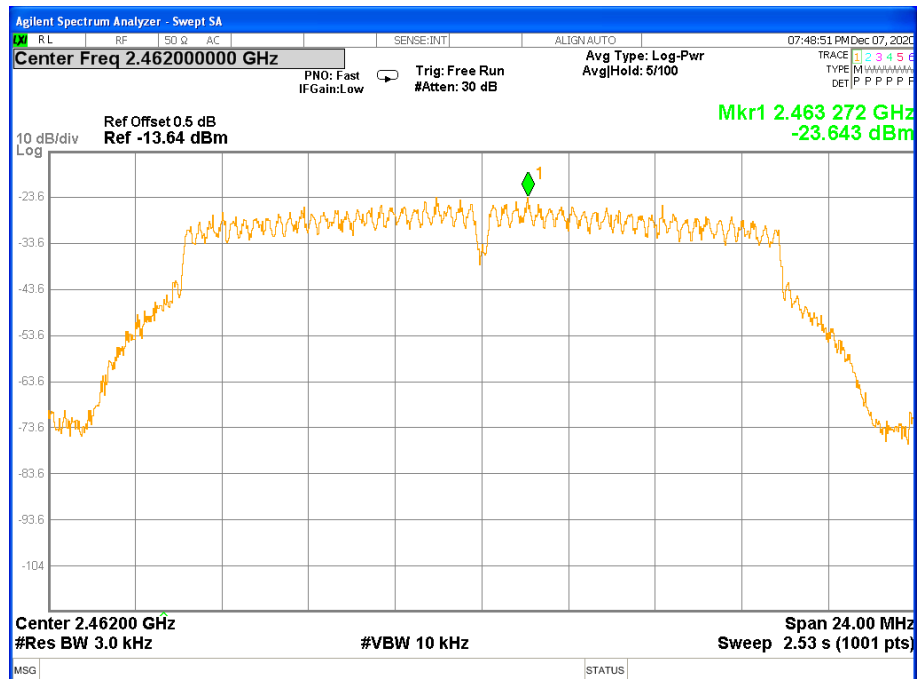


## TX CH06





## TX CH11



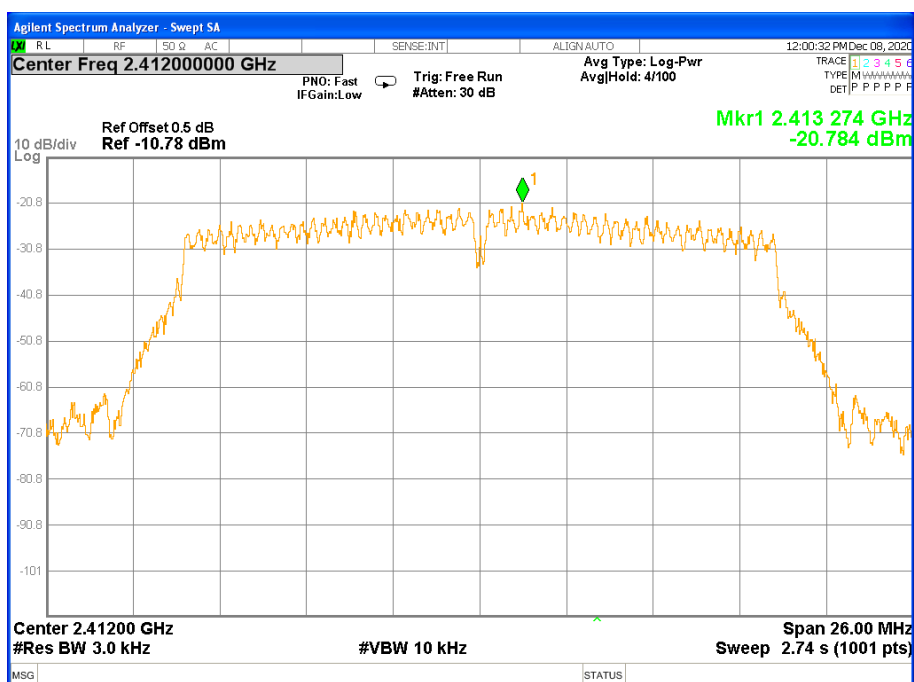


|               |              |                    |                                  |
|---------------|--------------|--------------------|----------------------------------|
| Temperature:  | 25°C         | Relative Humidity: | 60%                              |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX n Mode(20M) /CH01, CH06, CH11 |

| Frequency | Power Density  |                |                | Limit      | Result |
|-----------|----------------|----------------|----------------|------------|--------|
|           | ANT 1<br>(dBm) | ANT 2<br>(dBm) | TOTAL<br>(dBm) | (dBm/3KHz) |        |
| 2412      | -20.78         | -21.69         | -18.20         | 5.99       | PASS   |
| 2437      | -22.17         | -23.71         | -19.86         | 5.99       | PASS   |
| 2462      | -20.53         | -23.29         | -18.68         | 5.99       | PASS   |

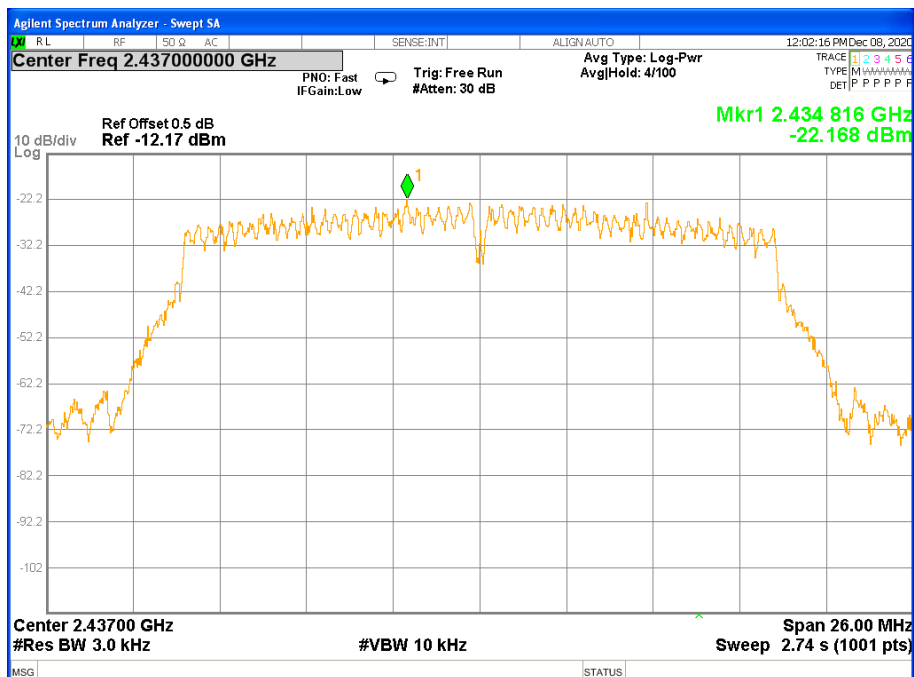
Test plots for ANT 1

## TX CH01

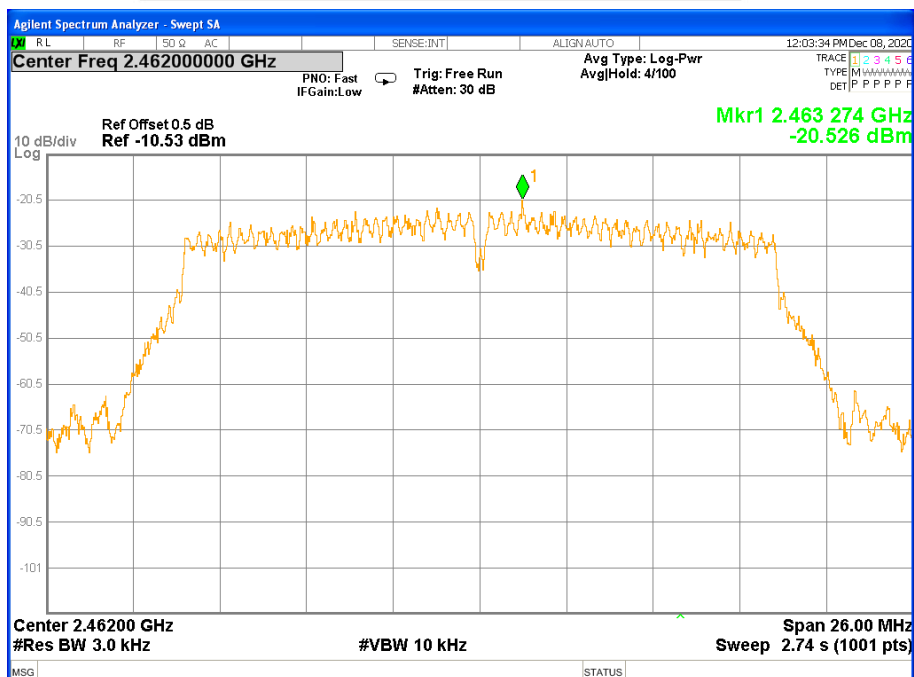




## TX CH06



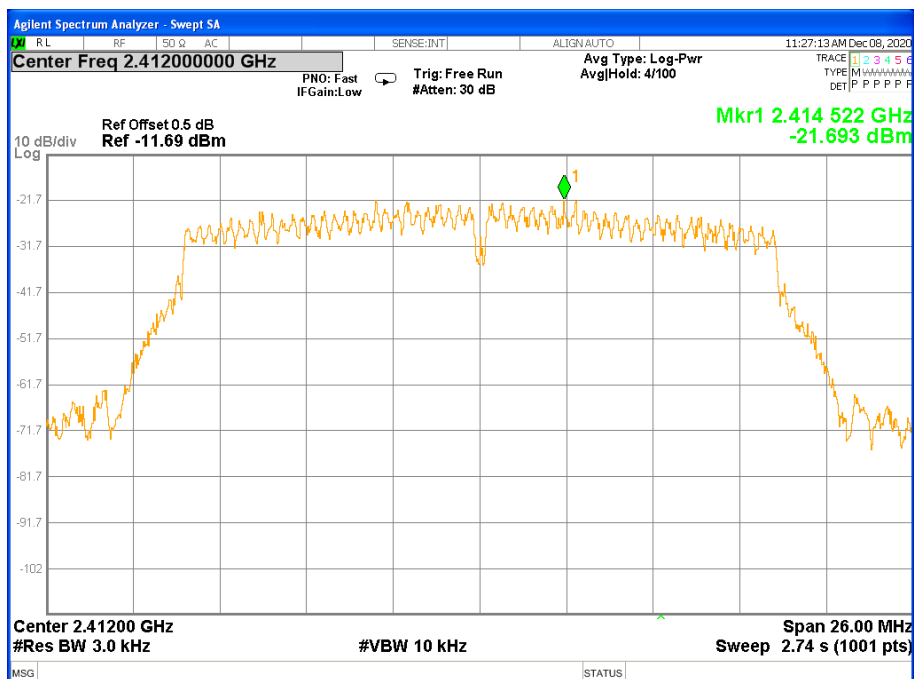
## TX CH11



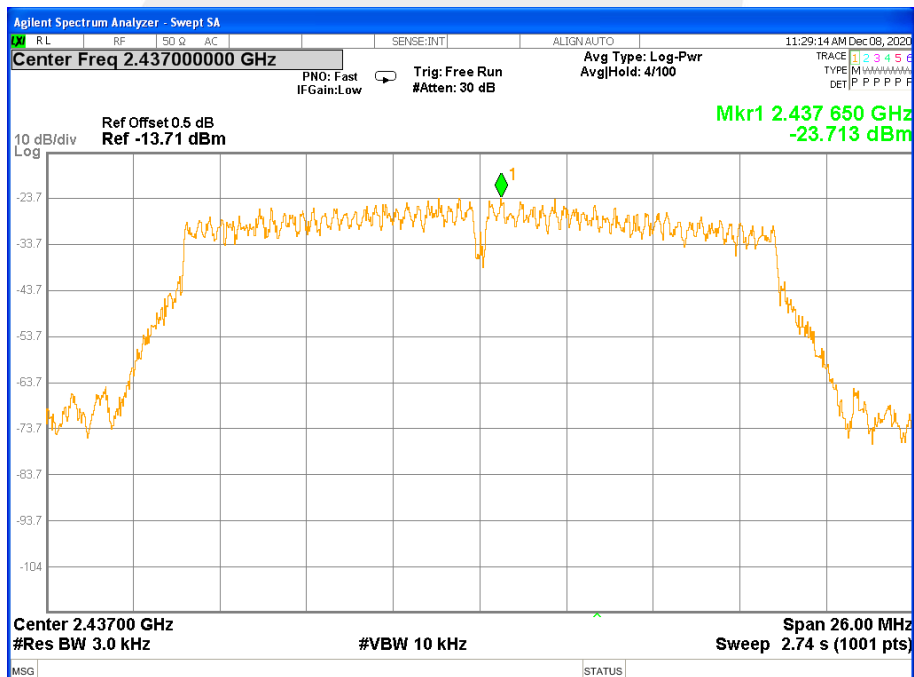


## Test plots for ANT 2

## TX CH01

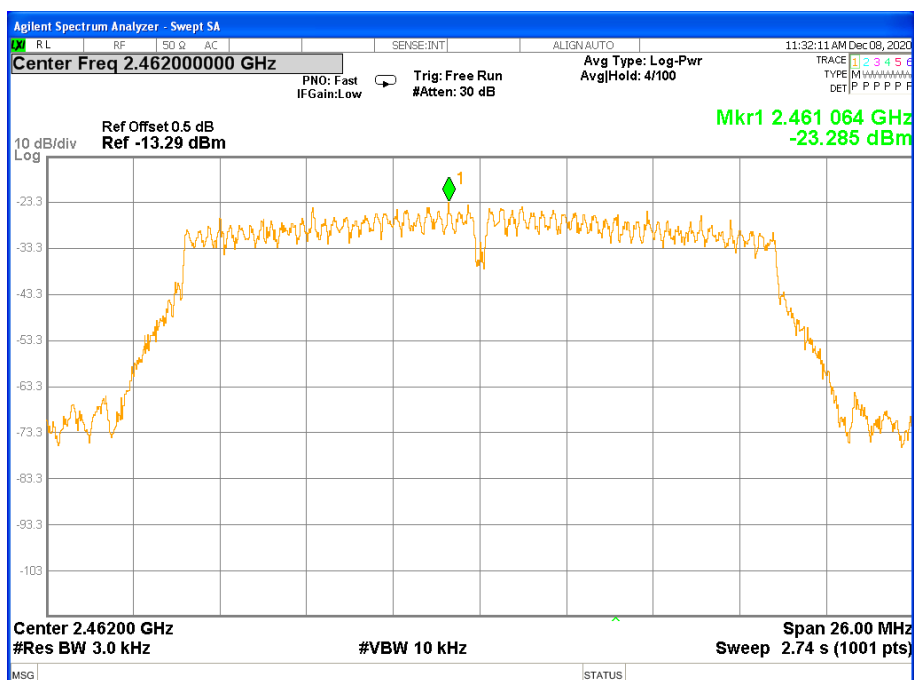


## TX CH06





## TX CH11



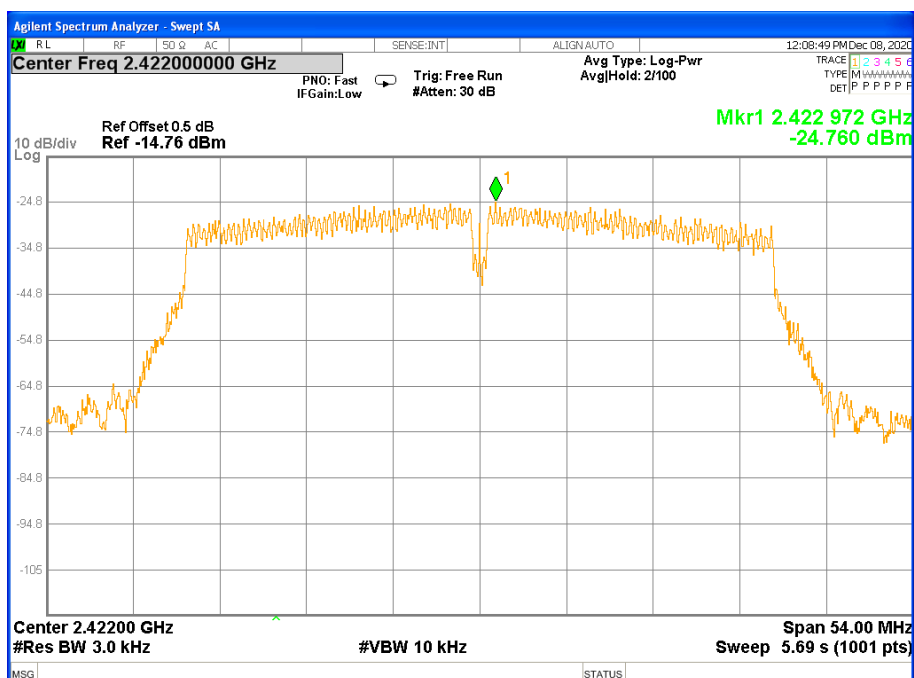


|               |              |                    |                                  |
|---------------|--------------|--------------------|----------------------------------|
| Temperature:  | 25°C         | Relative Humidity: | 60%                              |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX n Mode(40M) /CH03, CH06, CH09 |

| Frequency | Power Density  |                |                | Limit      | Result |
|-----------|----------------|----------------|----------------|------------|--------|
|           | ANT 1<br>(dBm) | ANT 2<br>(dBm) | TOTAL<br>(dBm) | (dBm/3KHz) |        |
| 2422      | -24.76         | -25.70         | -22.19         | 5.99       | PASS   |
| 2437      | -25.14         | -27.09         | -23.00         | 5.99       | PASS   |
| 2452      | -25.19         | -27.19         | -23.07         | 5.99       | PASS   |

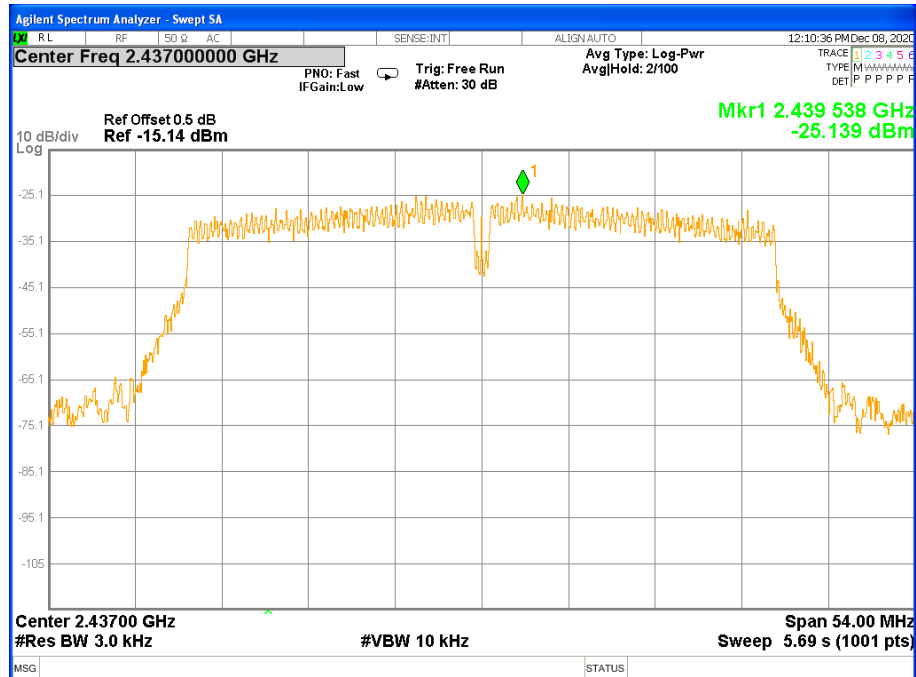
Test plots for ANT 1

## TX CH03

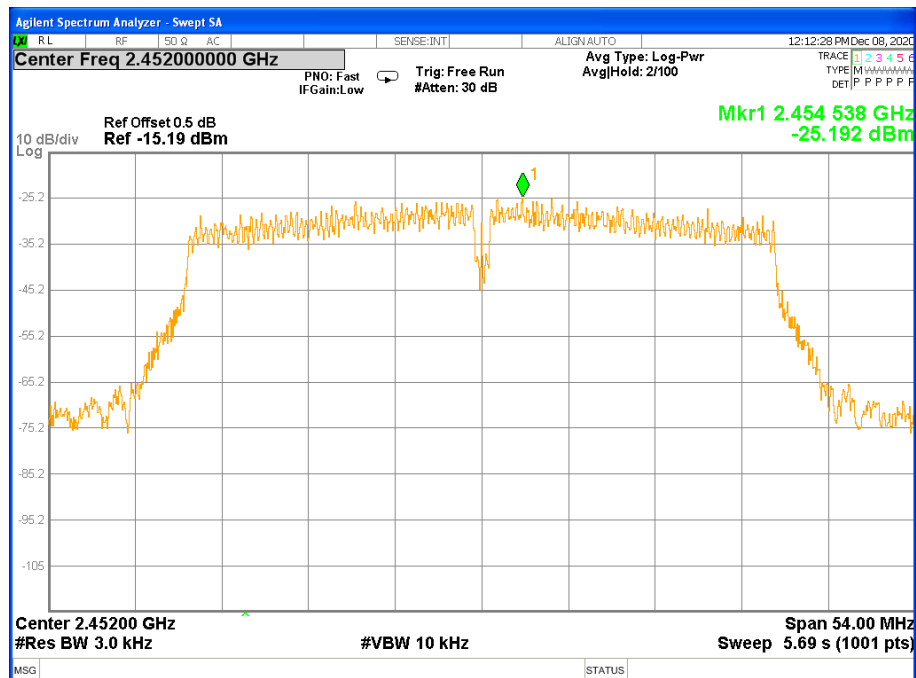




## TX CH06



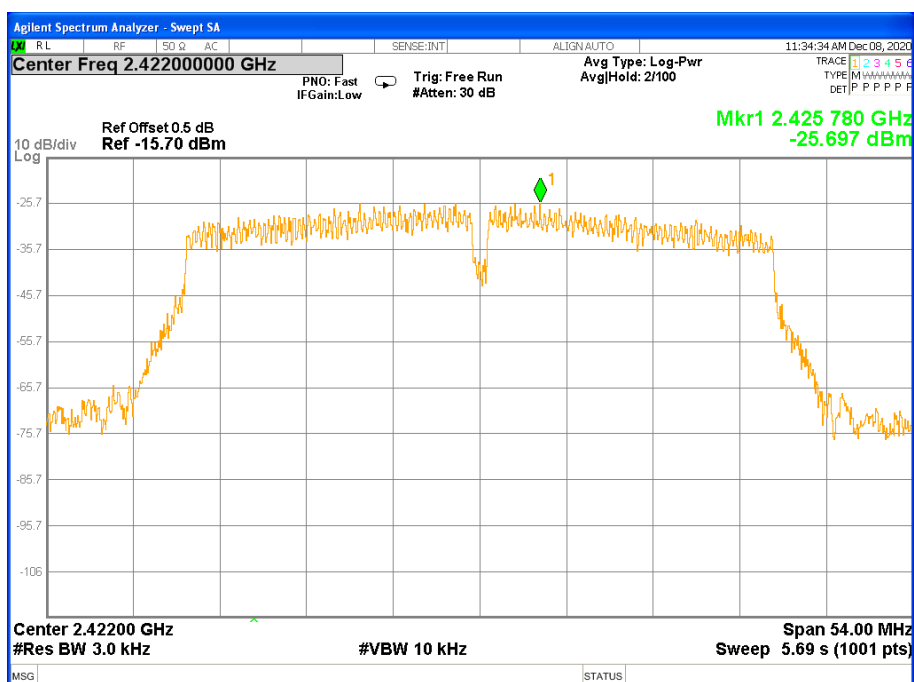
## TX CH09



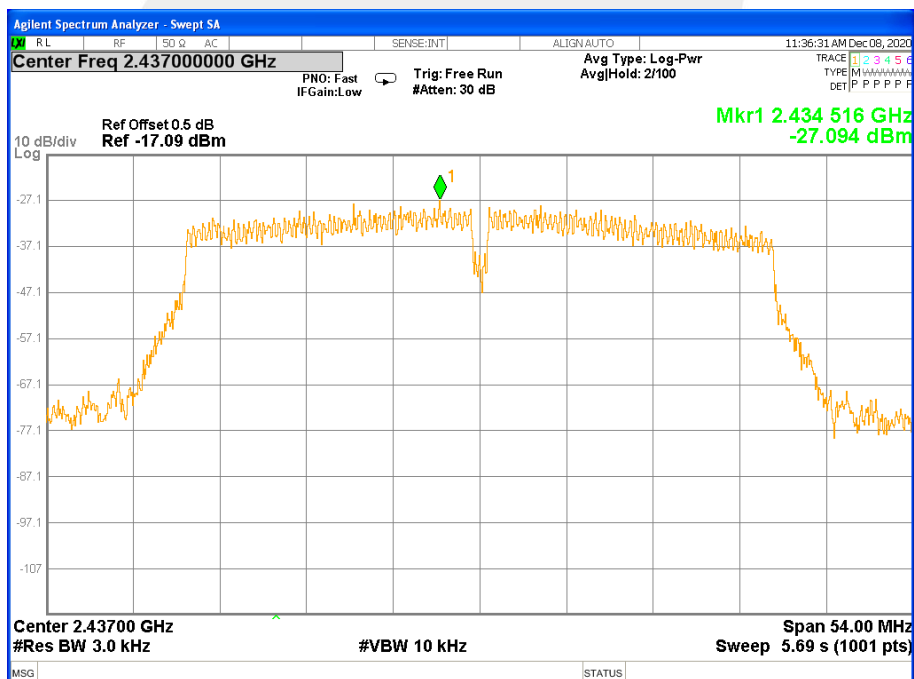


## Test plots for ANT 2

## TX CH03

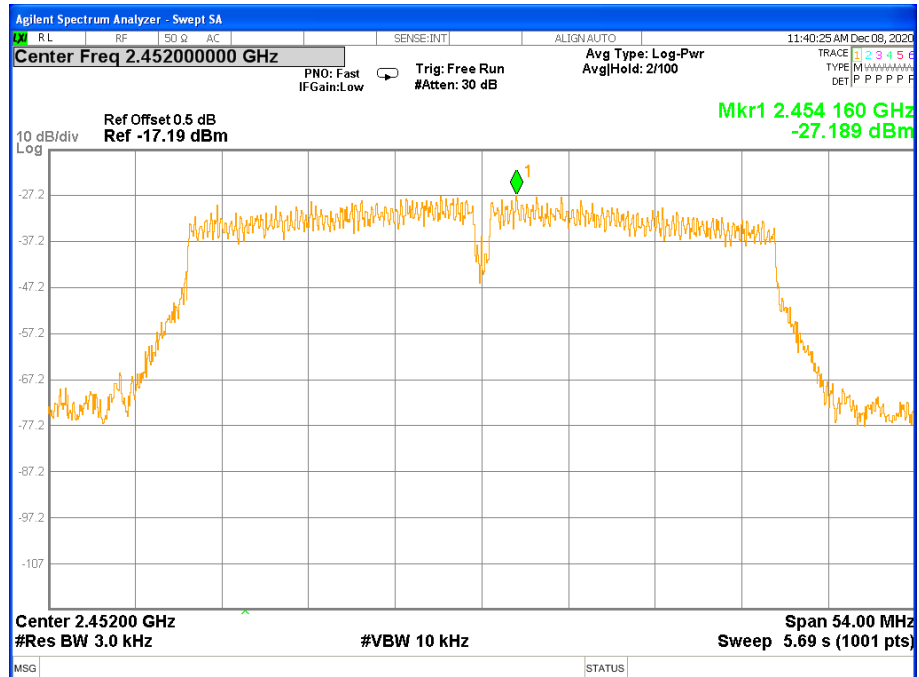


## TX CH06





## TX CH09



## 6. BANDWIDTH TEST

### 6.1 LIMIT

| FCC Part15.247,Subpart C |           |                                         |                       |        |
|--------------------------|-----------|-----------------------------------------|-----------------------|--------|
| Section                  | Test Item | Limit                                   | Frequency Range (MHz) | Result |
| 15.247(a)(2)             | Bandwidth | $\geq 500\text{KHz}$<br>(6dB 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

Please refer to section 3.1.4 of this report.

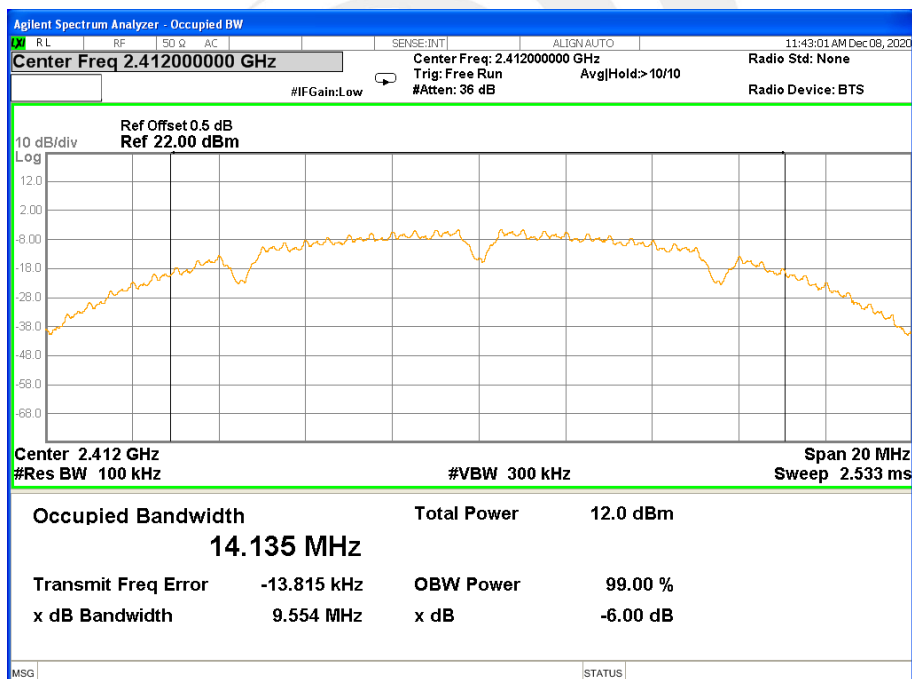


## 6.6 TEST RESULTS

|               |              |                    |                             |
|---------------|--------------|--------------------|-----------------------------|
| Temperature:  | 25℃          | Relative Humidity: | 60%                         |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX b Mode /CH01, CH06, CH11 |

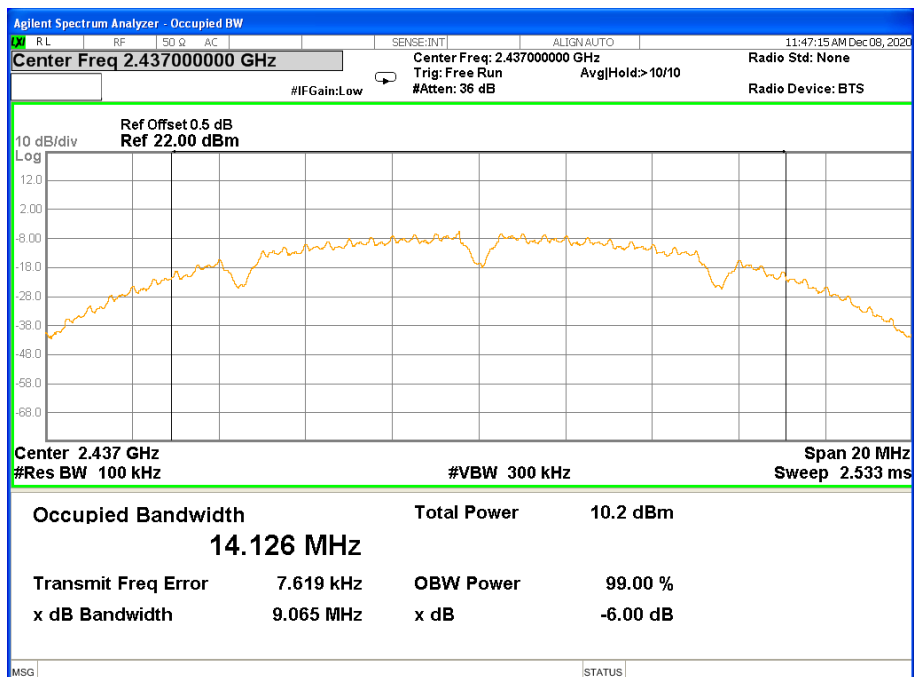
Remark: PEAK DETECTOR IS USED

| Frequency | ANT 1<br>6dB<br>Bandwidth | ANT 2<br>6dB<br>Bandwidth | Limit   | Result |
|-----------|---------------------------|---------------------------|---------|--------|
|           | (MHz)                     | (MHz)                     | (KHz)   |        |
| 2412 MHz  | 9.554                     | 9.537                     | ≥500KHz | PASS   |
| 2437 MHz  | 9.065                     | 9.556                     | ≥500KHz | PASS   |
| 2462 MHz  | 9.559                     | 9.559                     | ≥500KHz | PASS   |

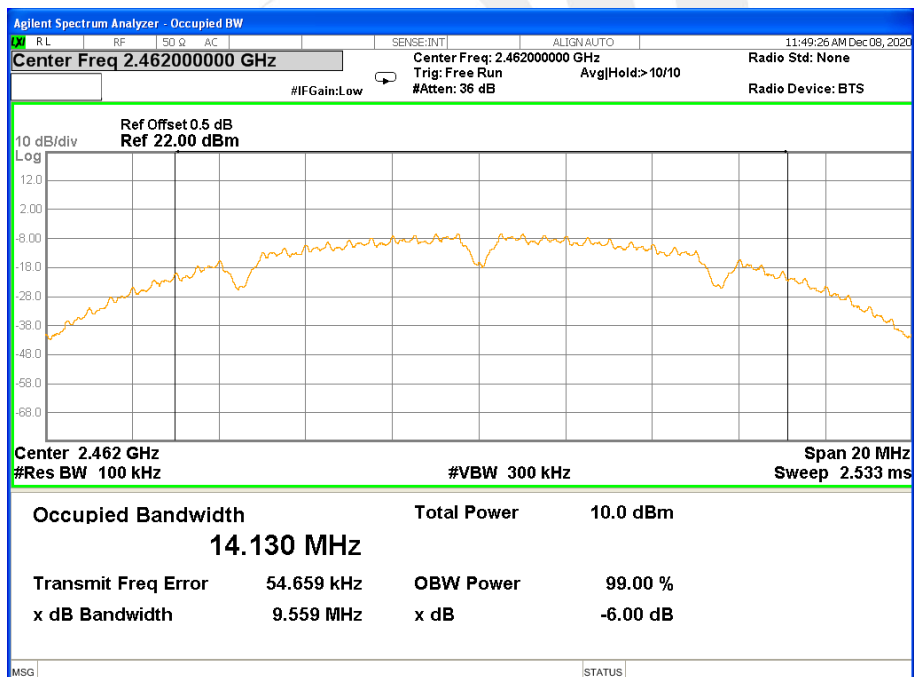
ANT 1  
TX CH 01

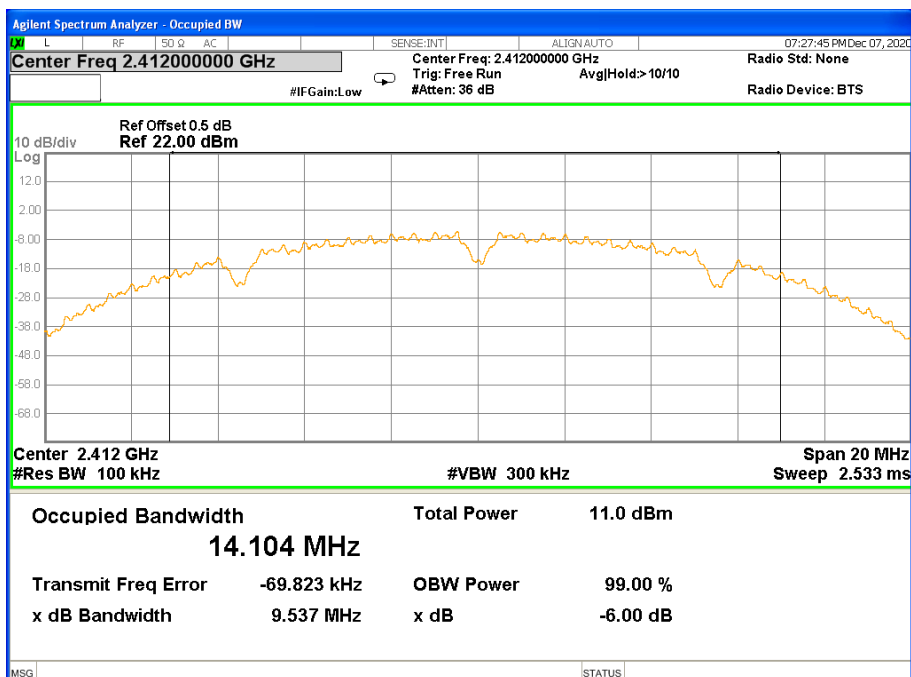


## TX CH 06

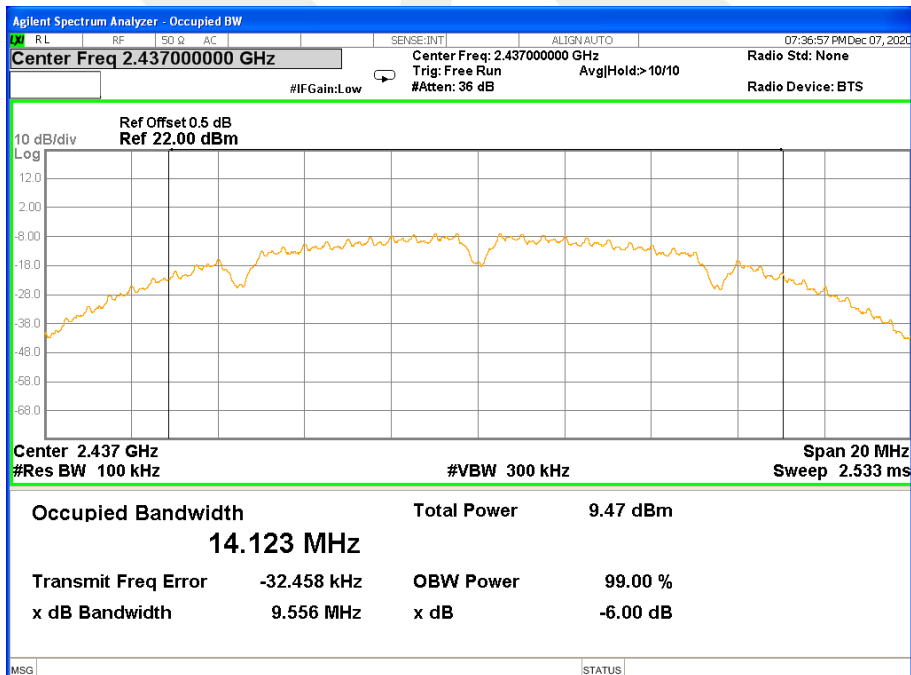


## TX CH 11



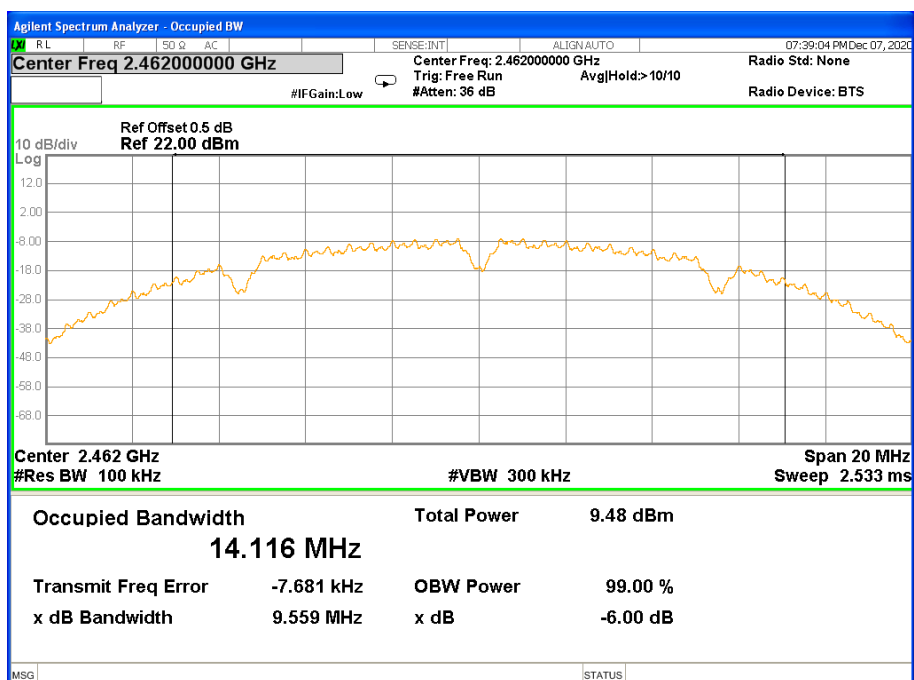
ANT 2  
TX CH 01

## TX CH 06





## TX CH 11



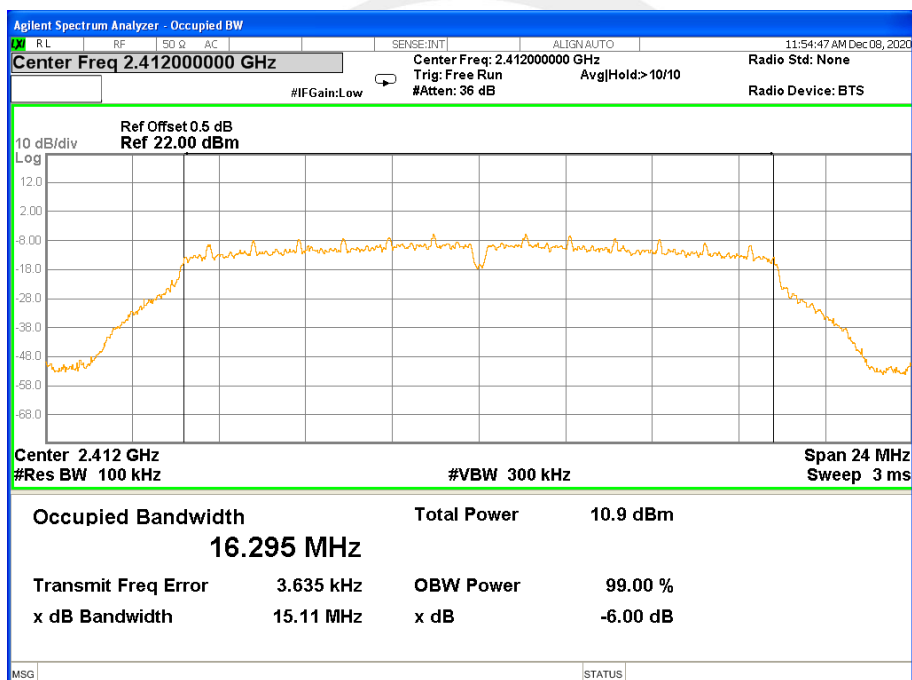


|               |              |                    |                             |
|---------------|--------------|--------------------|-----------------------------|
| Temperature:  | 25°C         | Relative Humidity: | 60%                         |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX g Mode /CH01, CH06, CH11 |

| Frequency | ANT 1<br>6dB<br>Bandwidth | ANT 2<br>6dB<br>Bandwidth | Limit   | Result |
|-----------|---------------------------|---------------------------|---------|--------|
|           | (MHz)                     | (MHz)                     | (KHz)   |        |
| 2412 MHz  | 15.11                     | 15.10                     | ≥500KHz | PASS   |
| 2437 MHz  | 15.09                     | 15.07                     | ≥500KHz | PASS   |
| 2462 MHz  | 15.09                     | 15.10                     | ≥500KHz | PASS   |

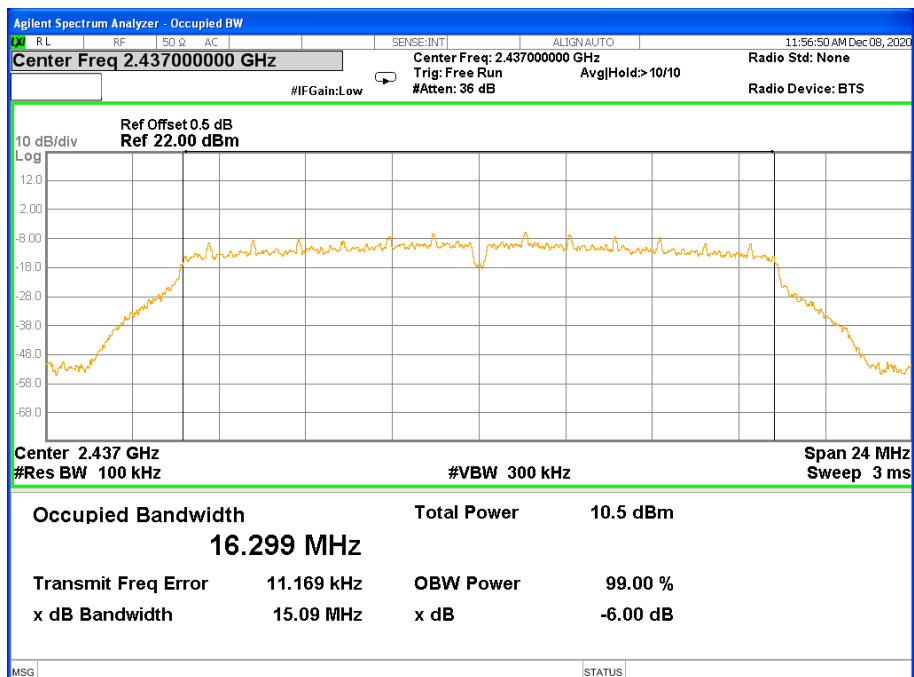
ANT 1

TX CH 01

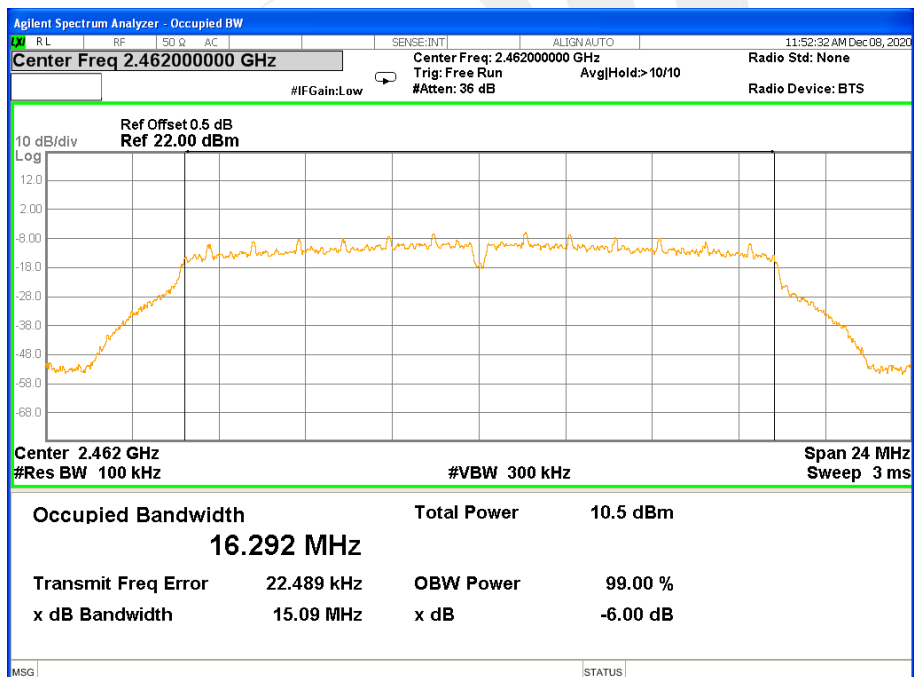




## TX CH 06



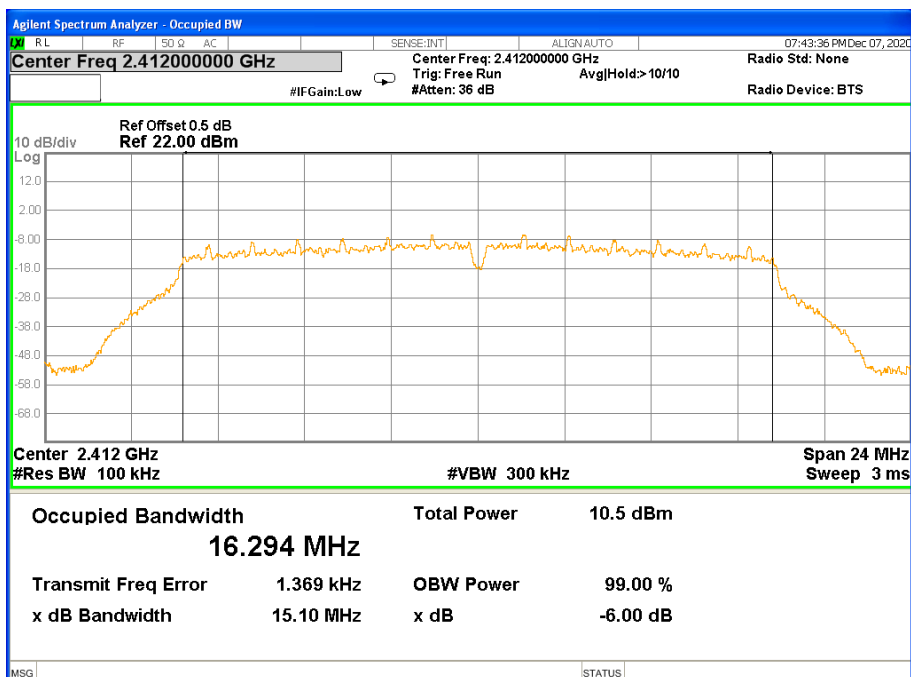
## TX CH 11



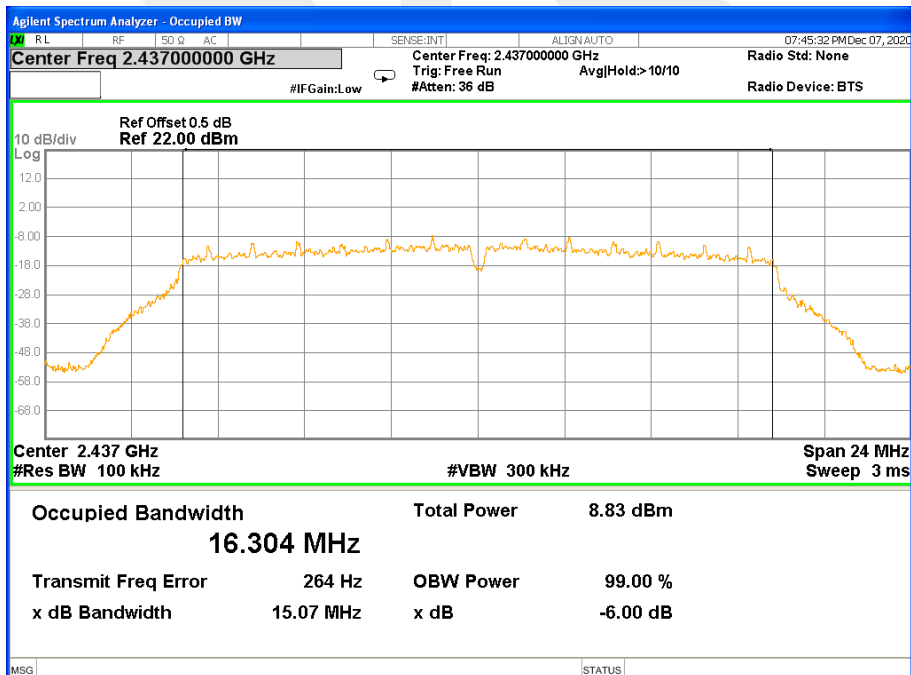


ANT 2

TX CH 01

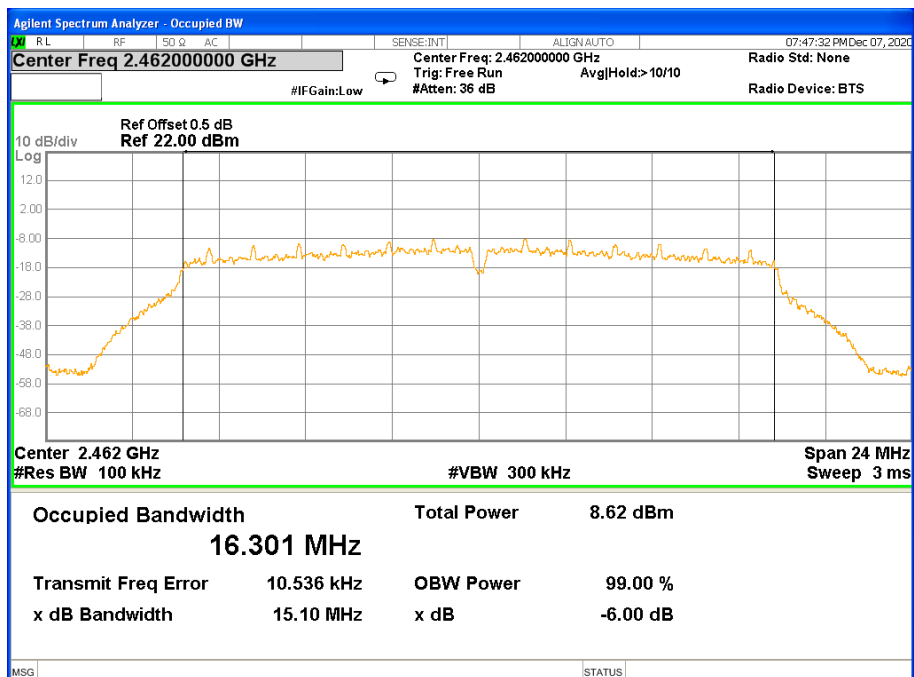


TX CH 06





## TX CH 11



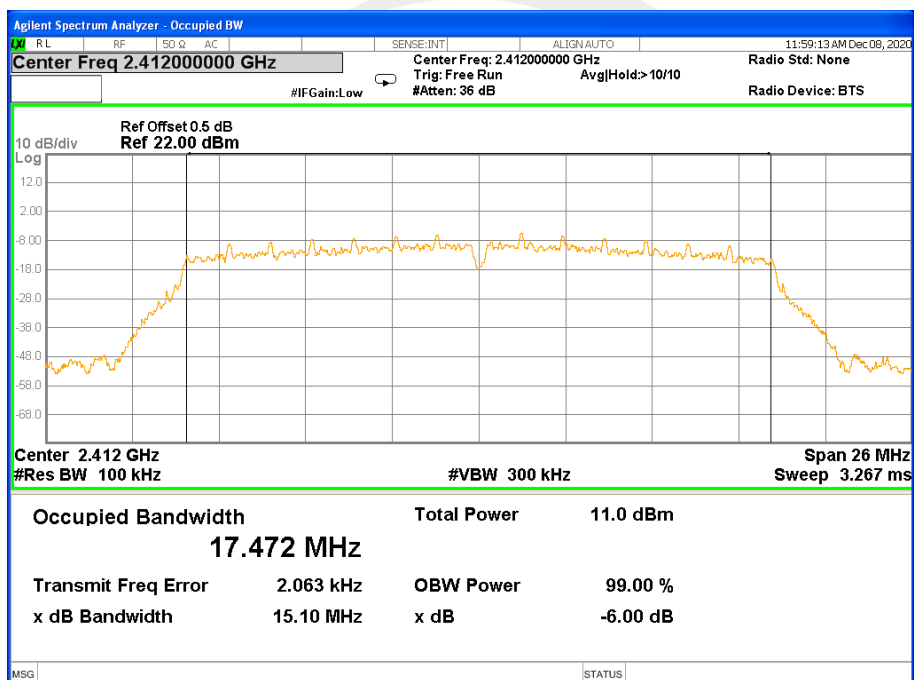


|               |              |                    |                                  |
|---------------|--------------|--------------------|----------------------------------|
| Temperature:  | 25°C         | Relative Humidity: | 60%                              |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX n Mode(20M) /CH01, CH06, CH11 |

| Frequency | ANT 1<br>6dB<br>Bandwidth | ANT 2<br>6dB<br>Bandwidth | Limit   | Result |
|-----------|---------------------------|---------------------------|---------|--------|
|           | (MHz)                     | (MHz)                     | (KHz)   |        |
| 2412 MHz  | 15.10                     | 15.10                     | ≥500KHz | PASS   |
| 2437 MHz  | 15.09                     | 15.07                     | ≥500KHz | PASS   |
| 2462 MHz  | 15.09                     | 15.09                     | ≥500KHz | PASS   |

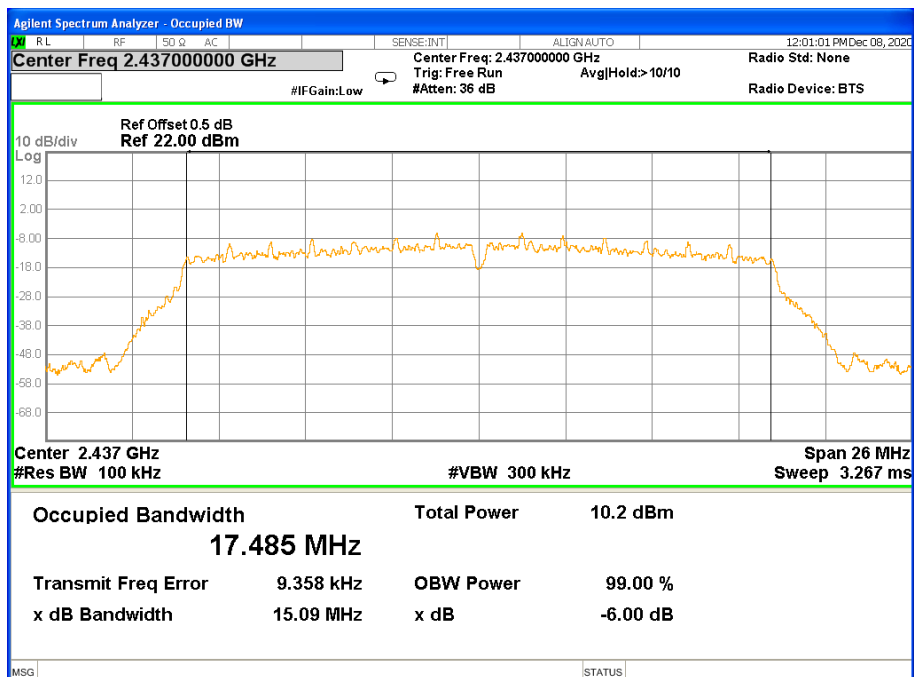
ANT 1

TX CH 01

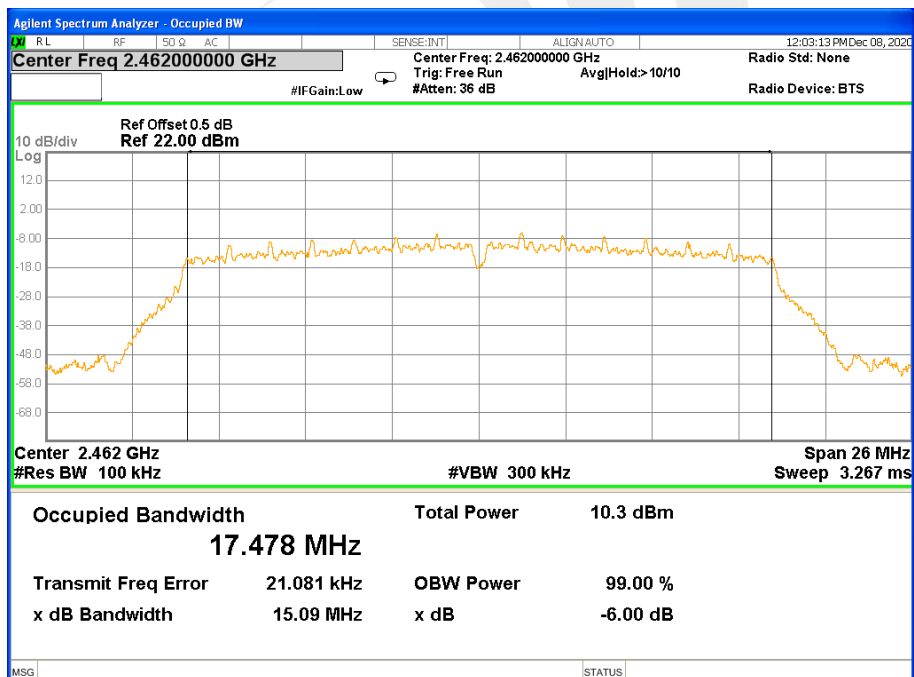




## TX CH 06



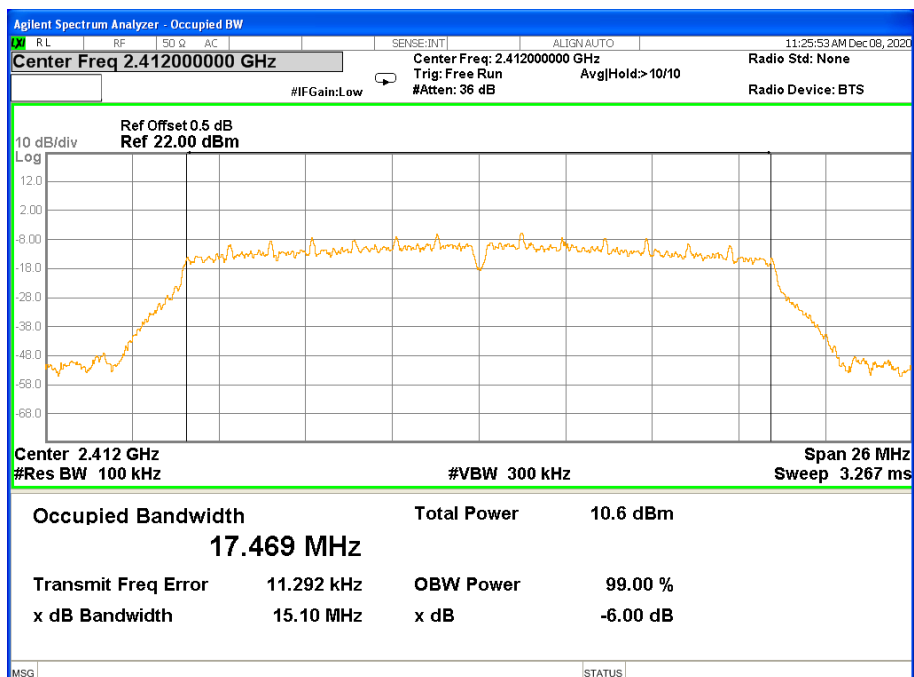
## TX CH 11





ANT 2

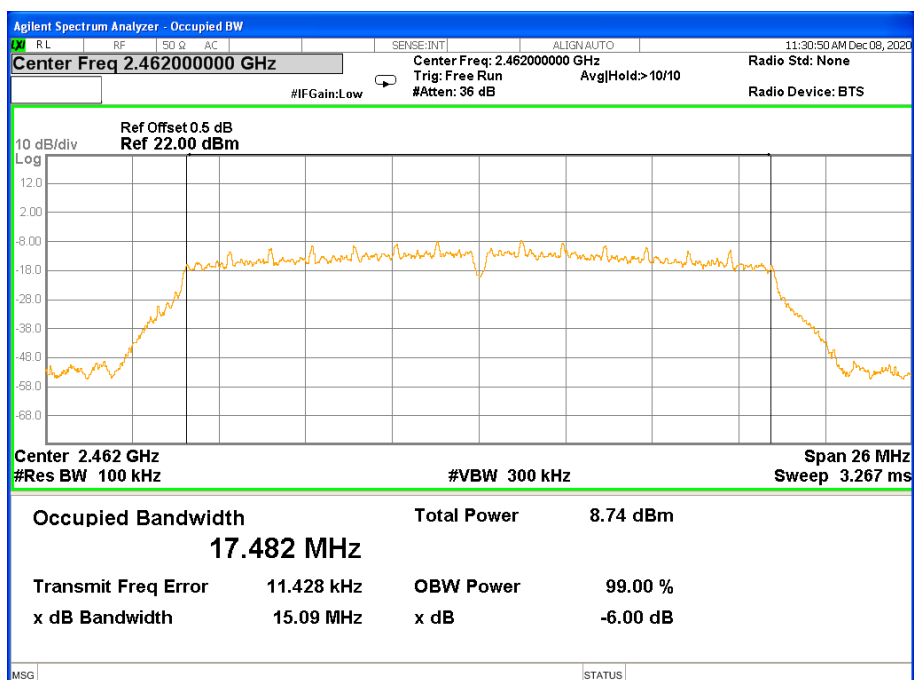
TX CH 01



TX CH 06



## TX CH 11



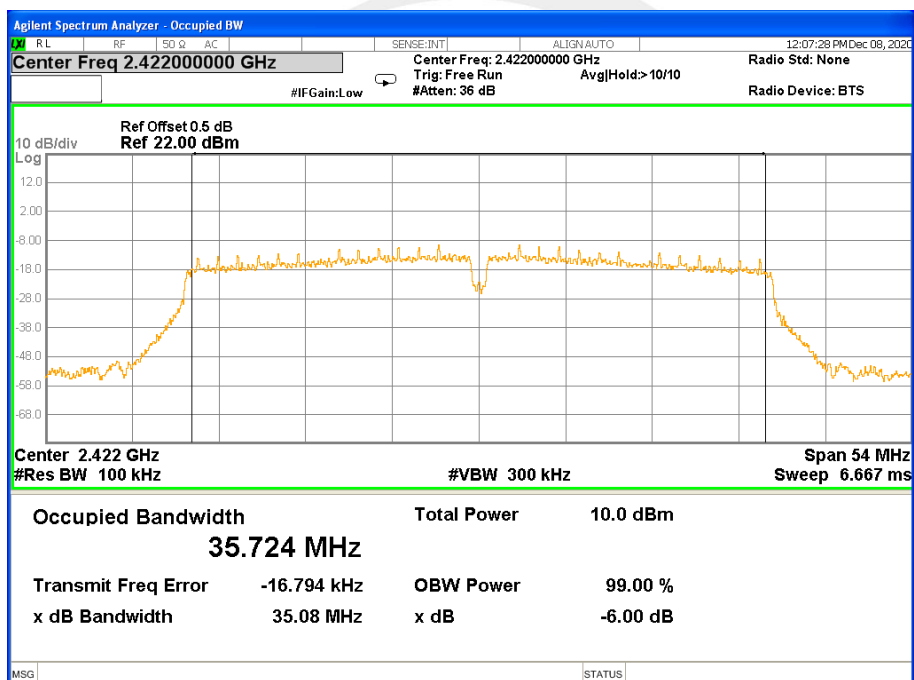


|               |              |                    |                                  |
|---------------|--------------|--------------------|----------------------------------|
| Temperature:  | 25°C         | Relative Humidity: | 60%                              |
| Test Voltage: | AC 120V/60Hz | Test Mode:         | TX n Mode(40M) /CH03, CH06, CH09 |

| Frequency | ANT 1<br>6dB<br>Bandwidth | ANT 2<br>6dB<br>Bandwidth | Limit   | Result |
|-----------|---------------------------|---------------------------|---------|--------|
|           | (MHz)                     | (MHz)                     | (KHz)   |        |
| 2422 MHz  | 35.08                     | 33.83                     | ≥500KHz | PASS   |
| 2437 MHz  | 35.08                     | 35.07                     | ≥500KHz | PASS   |
| 2452 MHz  | 35.07                     | 35.02                     | ≥500KHz | PASS   |

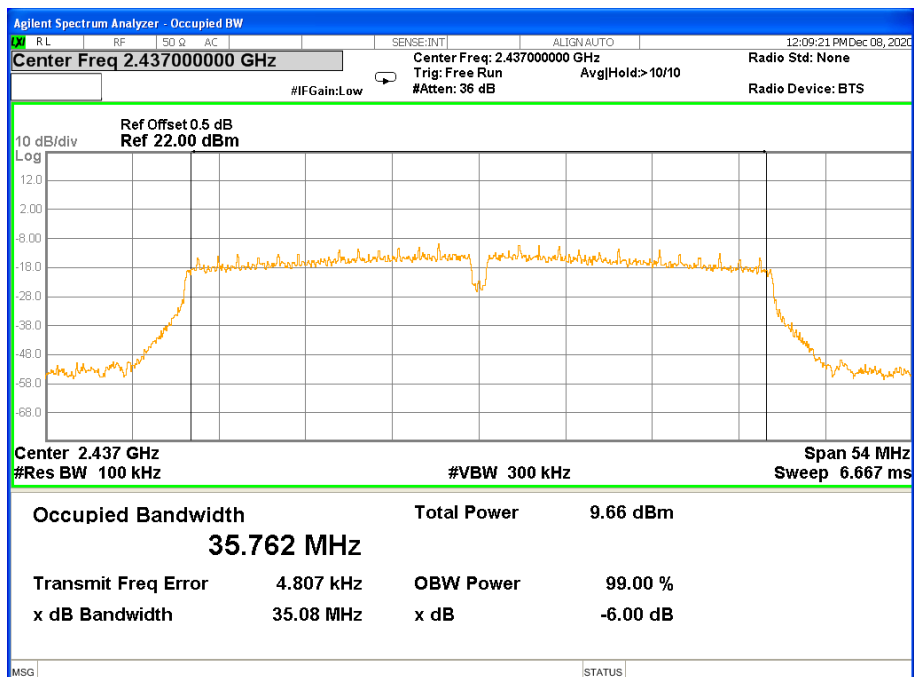
ANT 1

TX CH 03

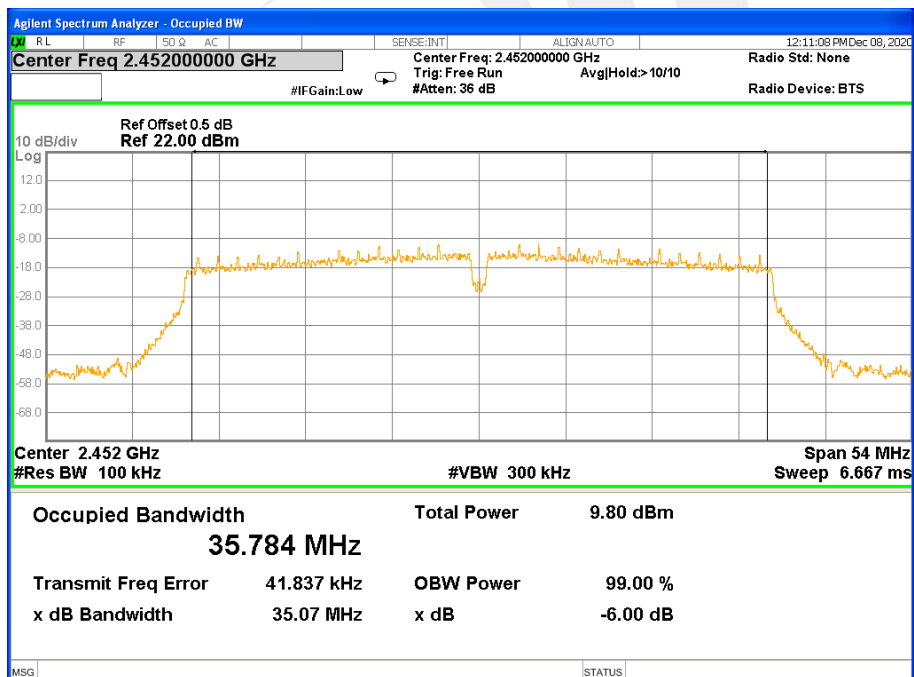




## TX CH 06



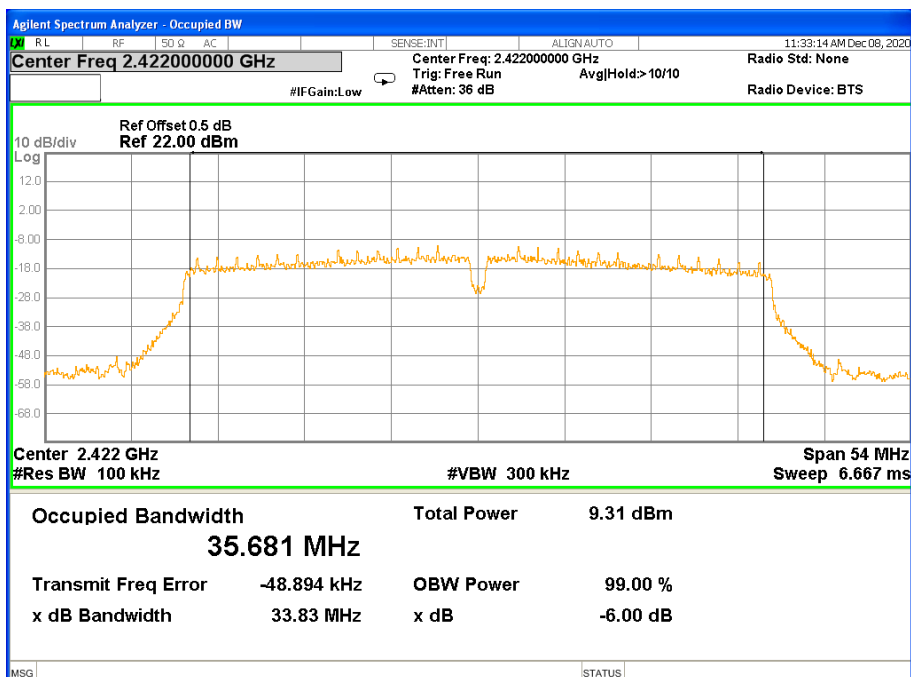
## TX CH 09



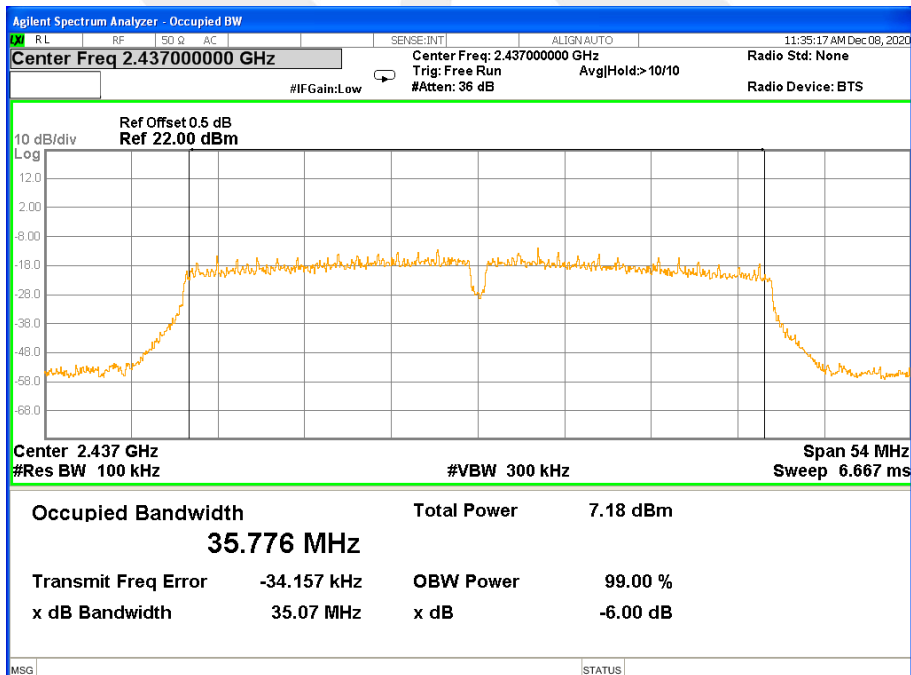


ANT 2

TX CH 03

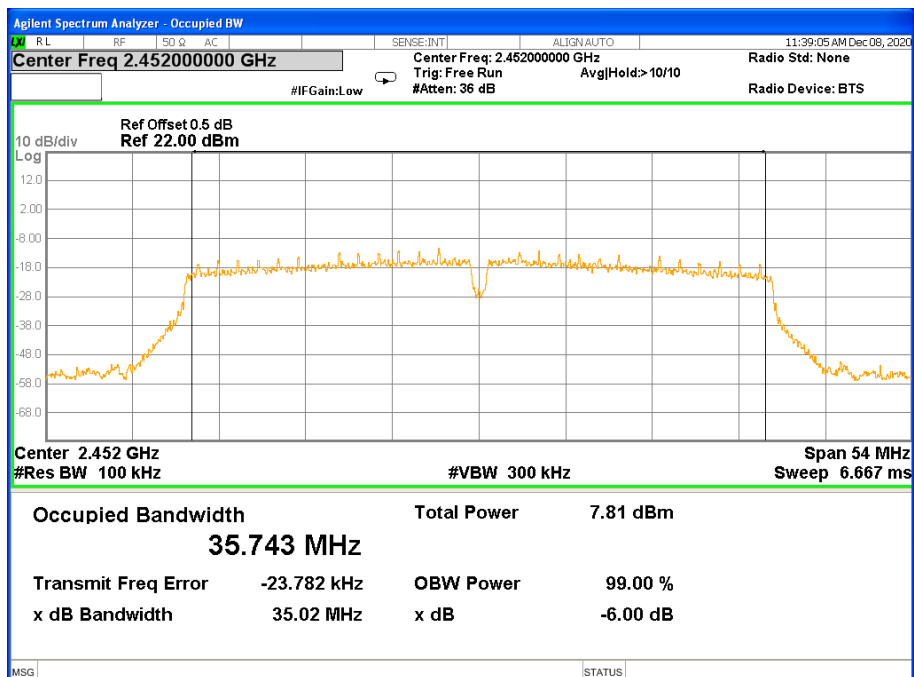


TX CH 06





## TX CH 09





## 7. PEAK OUTPUT POWER TEST

### 7.1 LIMIT

| FCC Part15.247,Subpart C |              |                 |                       |        |
|--------------------------|--------------|-----------------|-----------------------|--------|
| Section                  | Test Item    | Limit           | Frequency Range (MHz) | Result |
| 15.247(b)(3)             | Output Power | 1 watt or 30dBm | 2400-2483.5           | PASS   |

### 7.2 TEST PROCEDURE

One of the following procedures may be used to determine the maximum peak conducted output power of a DTS EUT.

RBW  $\geq$  DTS bandwidth

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

- Set the RBW  $\geq$  DTS bandwidth.
- Set VBW  $\geq$  [3  $\times$  RBW].
- Set span  $\geq$  [3  $\times$  RBW].
- Sweep time = auto couple.
- Detector = peak.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use peak marker function to determine the peak amplitude level.

Integrated band power method:

The following procedure can be used when the maximum available RBW of the instrument is less than the

DTS bandwidth:

- Set the RBW = 1 MHz.
- Set the VBW  $\geq$  [3  $\times$  RBW].
- Set the span  $\geq$  [1.5  $\times$  DTS bandwidth].
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select the peak detector). If the instrument does not have a band power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS channel bandwidth.

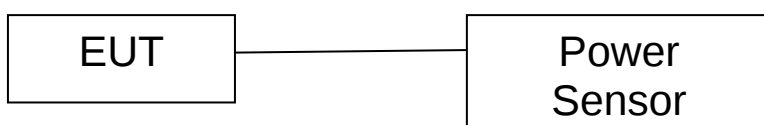
PKPM1 Peak power meter method:

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

### 7.3 DEVIATION FROM STANDARD

No deviation.

### 7.4 TEST SETUP



### 7.5 EUT OPERATION CONDITIONS

Please refer to section 3.1.4 of this report.



## 7.6 TEST RESULTS

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

| TX 802.11b Mode |           |                |                |                      |                |                |                      |       |
|-----------------|-----------|----------------|----------------|----------------------|----------------|----------------|----------------------|-------|
| Test Channe     | Frequency | PK Power ANT 1 | PK Power ANT 2 | PK Power ANT 1+ANT 2 | AV Power ANT 1 | AV Power ANT 2 | AV Power ANT 1+ANT 2 | LIMIT |
|                 | (MHz)     | (dBm)          | (dBm)          | (dBm)                | (dBm)          | (dBm)          | (dBm)                | dBm   |
| CH01            | 2412      | 14.24          | 13.83          | --                   | 12.43          | 11.85          | --                   | 30    |
| CH06            | 2437      | 14.27          | 13.80          | --                   | 12.44          | 11.84          | --                   | 30    |
| CH11            | 2462      | 14.33          | 13.77          | --                   | 12.45          | 11.84          | --                   | 30    |

| TX 802.11g Mode |           |                |                |                      |                |                |                      |       |
|-----------------|-----------|----------------|----------------|----------------------|----------------|----------------|----------------------|-------|
| Test Channe     | Frequency | PK Power ANT 1 | PK Power ANT 2 | PK Power ANT 1+ANT 2 | AV Power ANT 1 | AV Power ANT 2 | AV Power ANT 1+ANT 2 | LIMIT |
|                 | (MHz)     | (dBm)          | (dBm)          | (dBm)                | (dBm)          | (dBm)          | (dBm)                | dBm   |
| CH01            | 2412      | 11.75          | 12.08          | --                   | 1.64           | 1.76           | --                   | 30    |
| CH06            | 2437      | 11.72          | 12.10          | --                   | 1.60           | 1.76           | --                   | 30    |
| CH11            | 2462      | 11.88          | 12.10          | --                   | 1.80           | 1.74           | --                   | 30    |

| TX 802.11n20 Mode |           |                |                |                      |                |                |                      |       |
|-------------------|-----------|----------------|----------------|----------------------|----------------|----------------|----------------------|-------|
| Test Channe       | Frequency | PK Power ANT 1 | PK Power ANT 2 | PK Power ANT 1+ANT 2 | AV Power ANT 1 | AV Power ANT 2 | AV Power ANT 1+ANT 2 | LIMIT |
|                   | (MHz)     | (dBm)          | (dBm)          | (dBm)                | (dBm)          | (dBm)          | (dBm)                | dBm   |
| CH01              | 2412      | 11.91          | 11.87          | 14.90                | 1.75           | 1.69           | 4.73                 | 27.99 |
| CH06              | 2437      | 11.84          | 11.79          | 14.83                | 1.71           | 1.64           | 4.69                 | 27.99 |
| CH11              | 2462      | 11.89          | 11.80          | 14.86                | 1.71           | 1.64           | 4.69                 | 27.99 |



| TX 802.11n40 Mode |           |                      |                      |                                  |                      |                      |                                  |       |
|-------------------|-----------|----------------------|----------------------|----------------------------------|----------------------|----------------------|----------------------------------|-------|
| Test<br>Channe    | Frequency | PK<br>Power<br>ANT 1 | PK<br>Power<br>ANT 2 | PK<br>Power<br>ANT<br>1+ANT<br>2 | AV<br>Power<br>ANT 1 | AV<br>Power<br>ANT 2 | AV<br>Power<br>ANT<br>1+ANT<br>2 | LIMIT |
|                   | (MHz)     | (dBm)                | (dBm)                | (dBm)                            | (dBm)                | (dBm)                | (dBm)                            | dBm   |
| CH03              | 2422      | 11.50                | 11.49                | 14.51                            | 0.69                 | 0.73                 | 3.72                             | 27.99 |
| CH06              | 2437      | 11.42                | 11.48                | 14.46                            | 0.74                 | 0.74                 | 3.75                             | 27.99 |
| CH09              | 2452      | 11.48                | 11.52                | 14.51                            | 0.74                 | 0.76                 | 3.76                             | 27.99 |

Note: The MIMO antenna gain is 8.01dBi, which is greater 6dBi, and the MIMO mode limit will be reduced by 2.01dBi.





## 8. ANTENNA REQUIREMENT

### 8.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: 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 comply with the standard requirement.





## APPENDIX-PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

※※※※※END OF THE REPORT※※※※※

