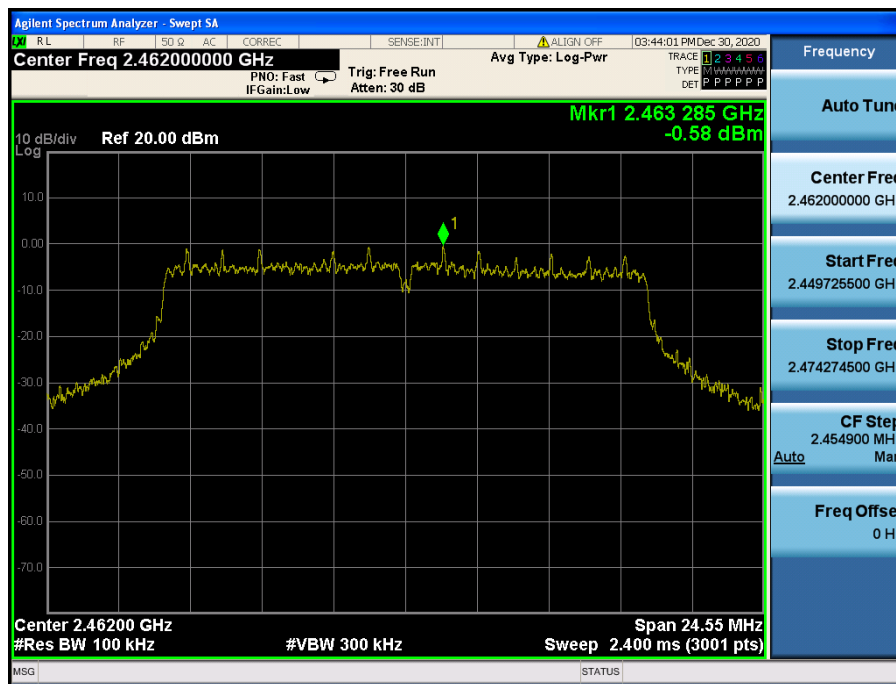
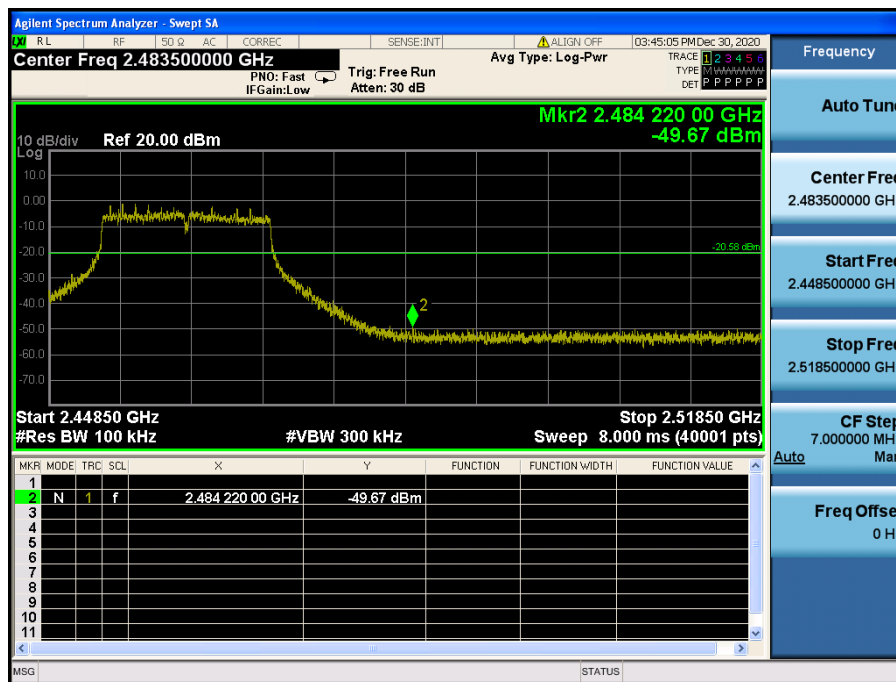


TM 2 & ANT 1 & 2 462

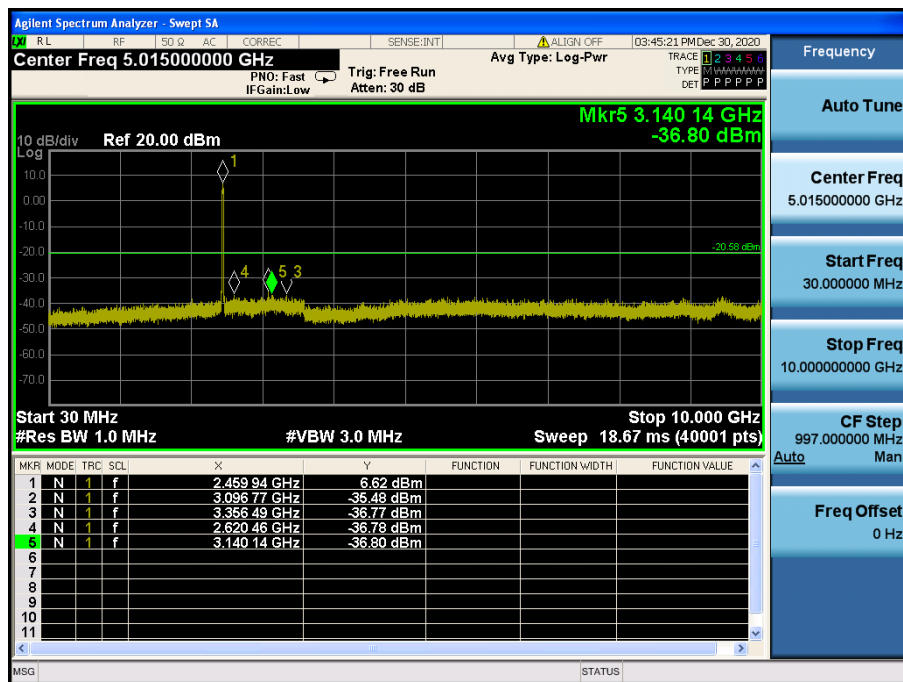
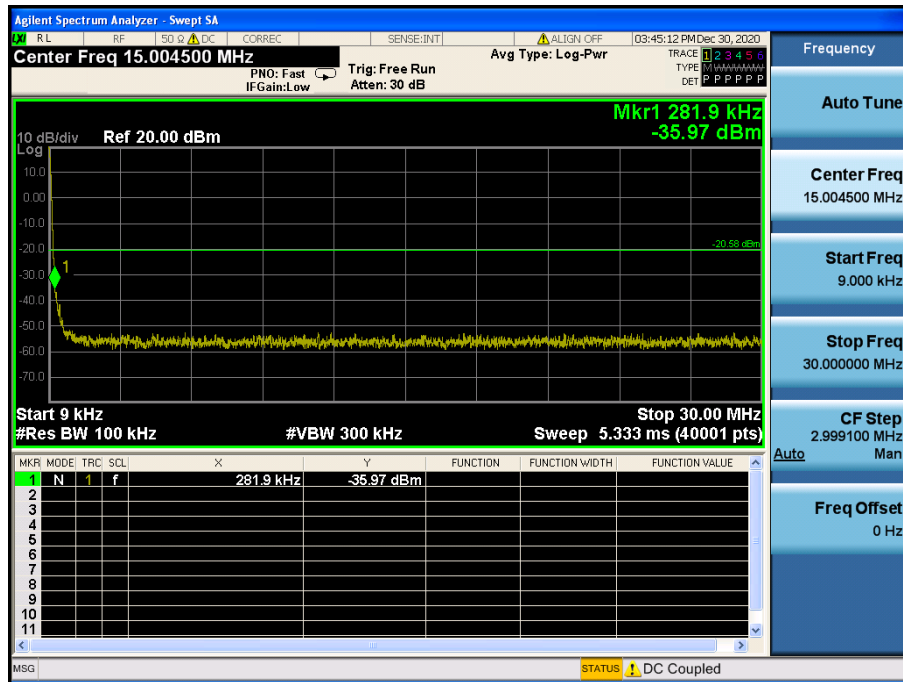
Reference



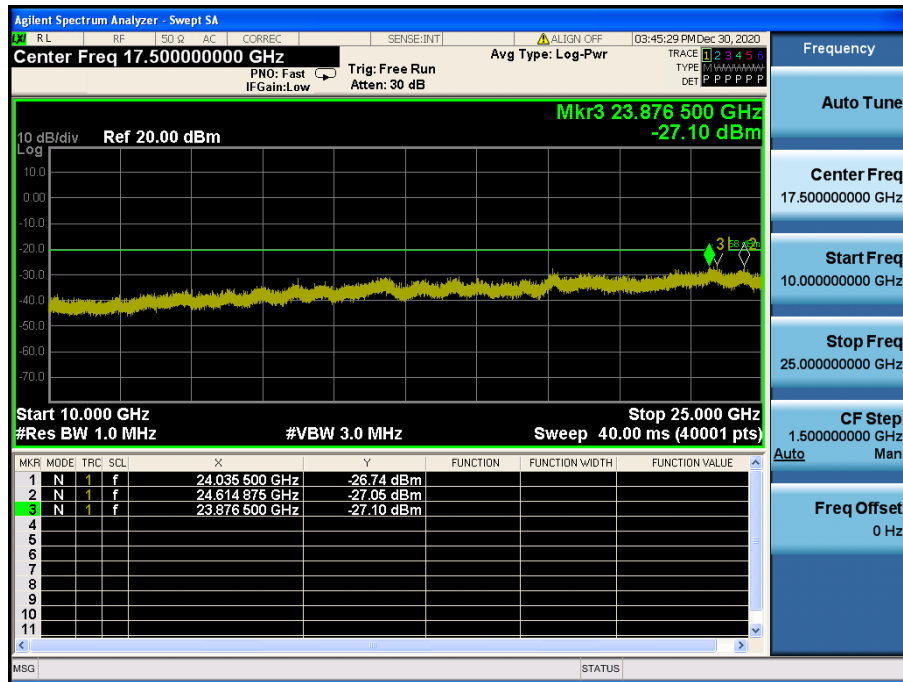
High Band-edge



## Conducted Spurious Emissions

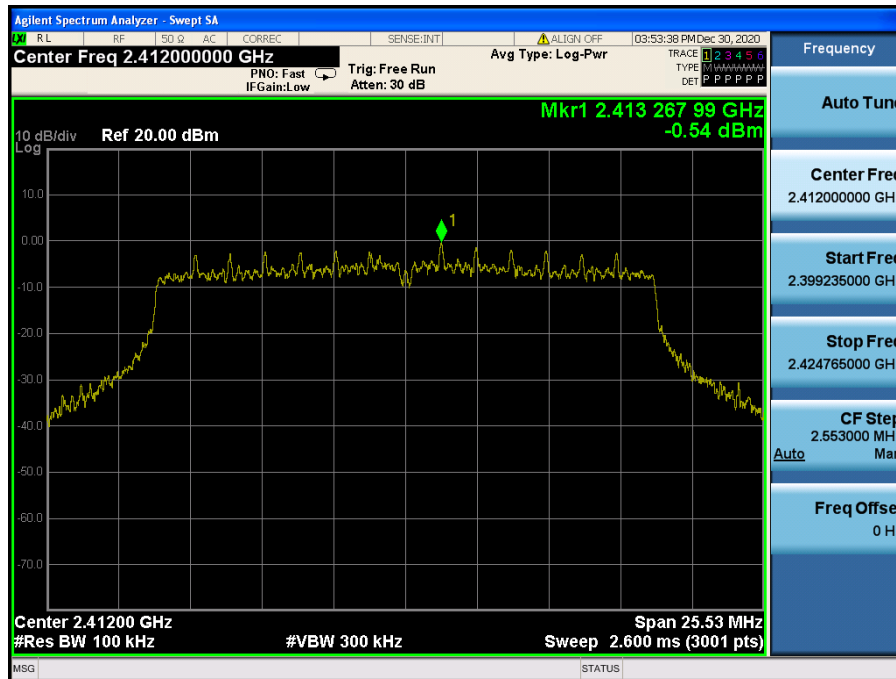


## Conducted Spurious Emissions

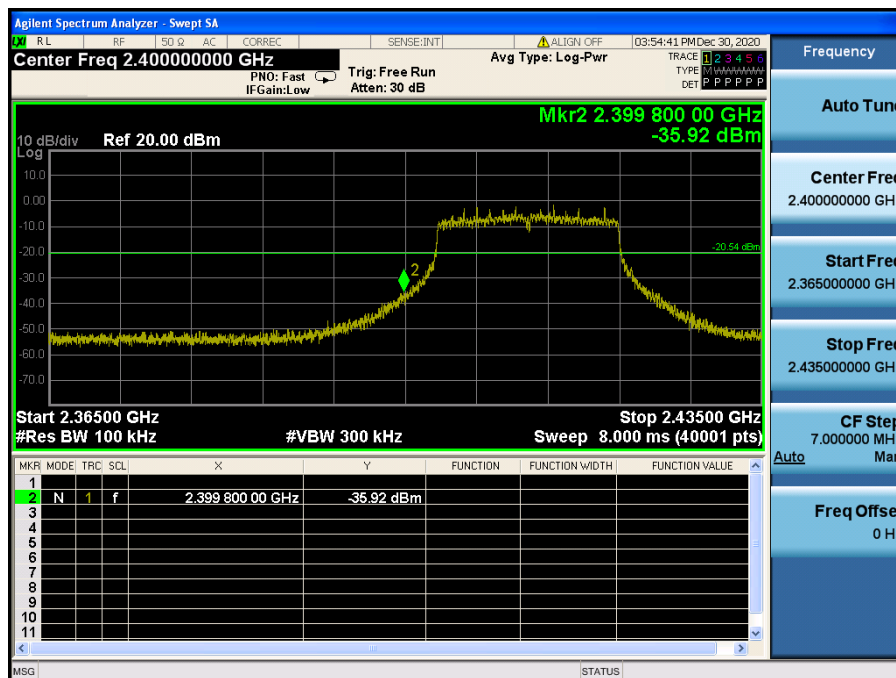


TM 3 & ANT 1 & 2 412

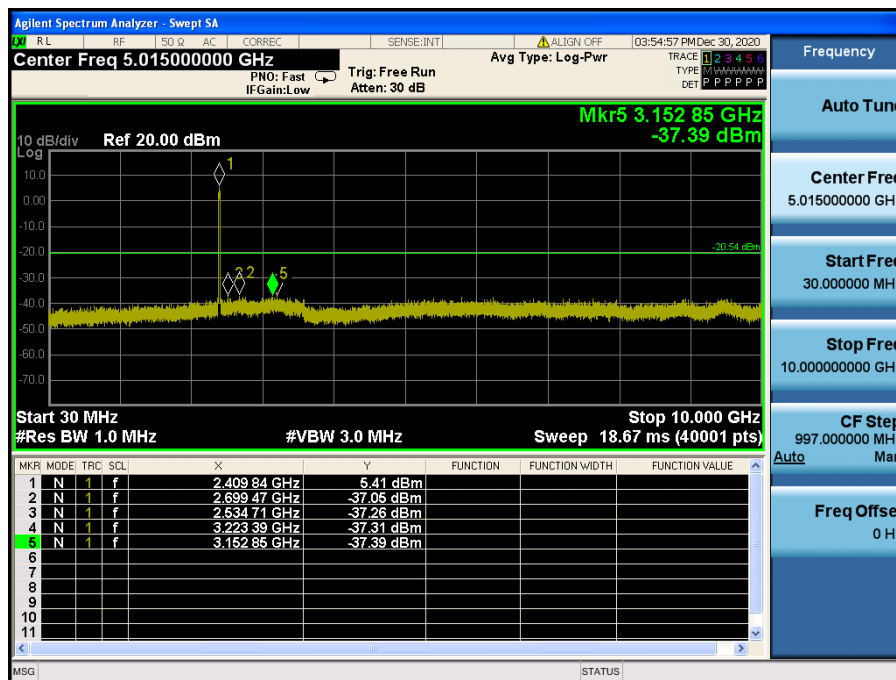
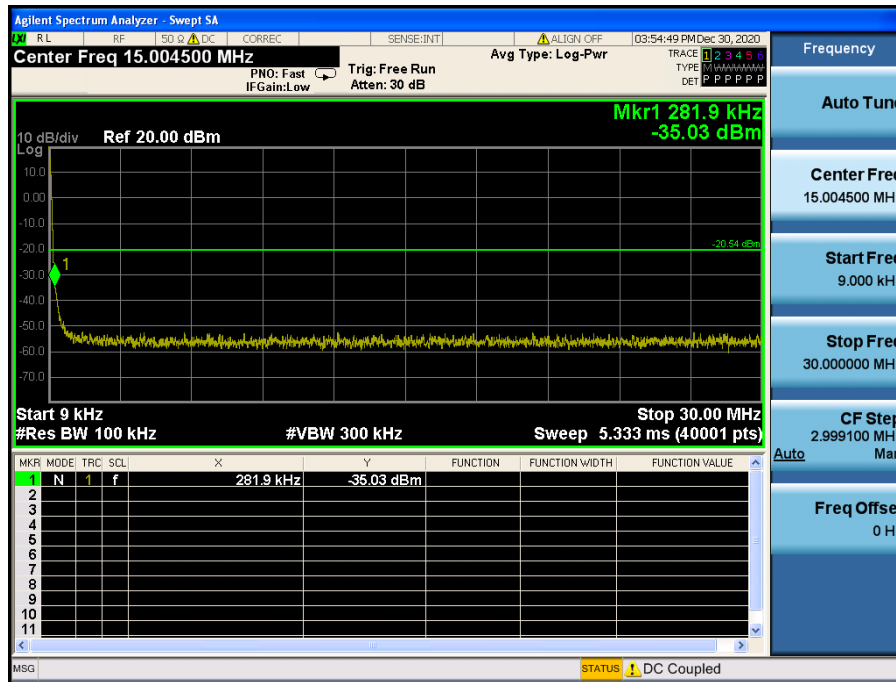
Reference



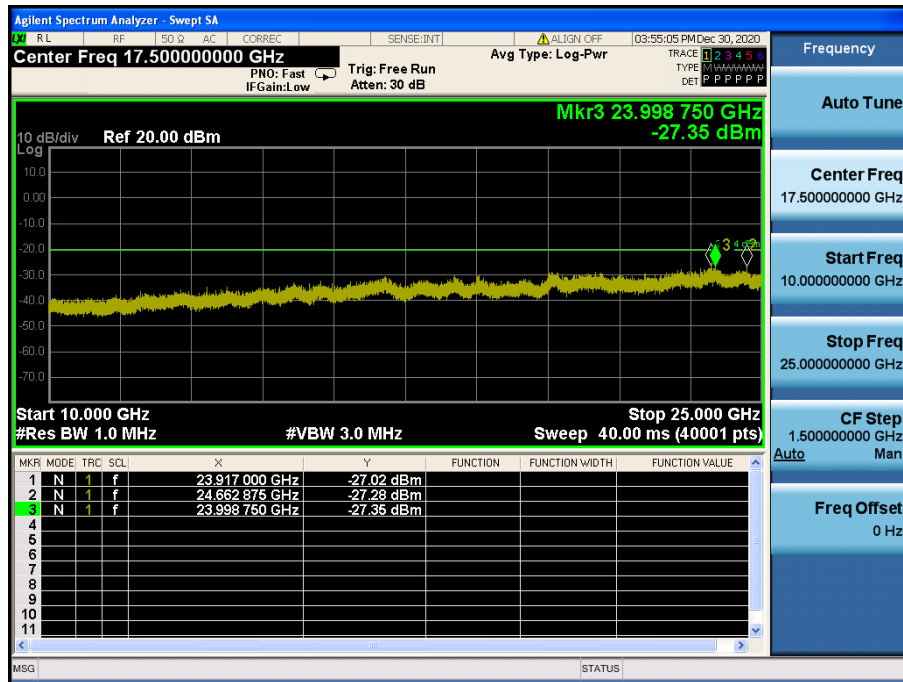
Low Band-edge



## Conducted Spurious Emissions

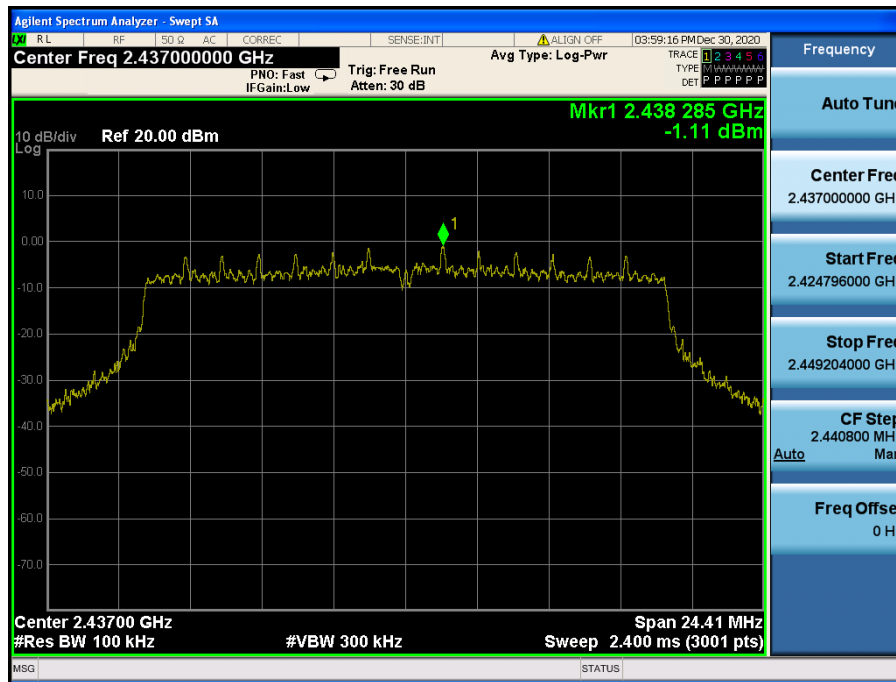


## Conducted Spurious Emissions

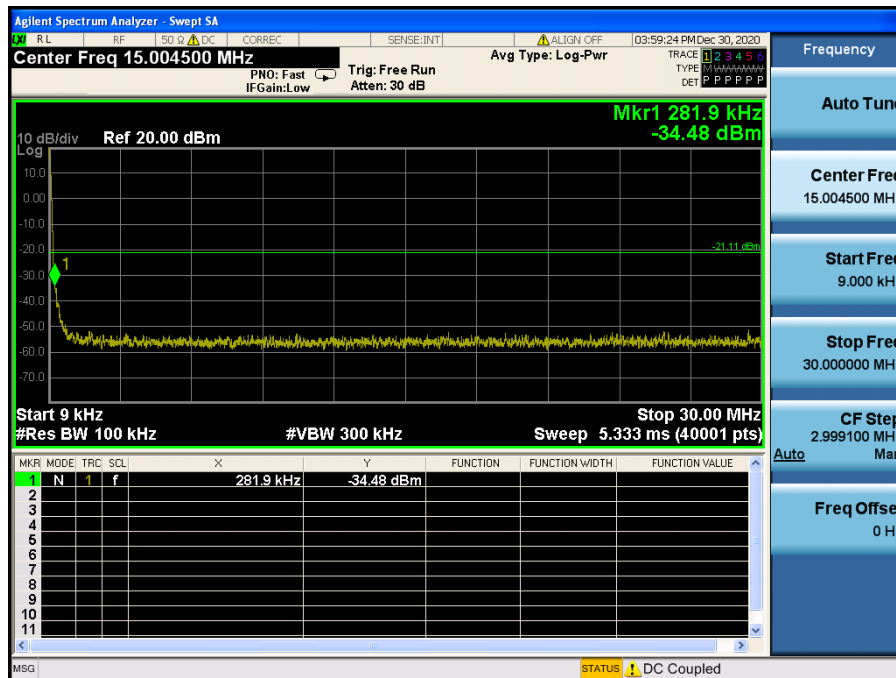


TM 3 & ANT 1 & 2 437

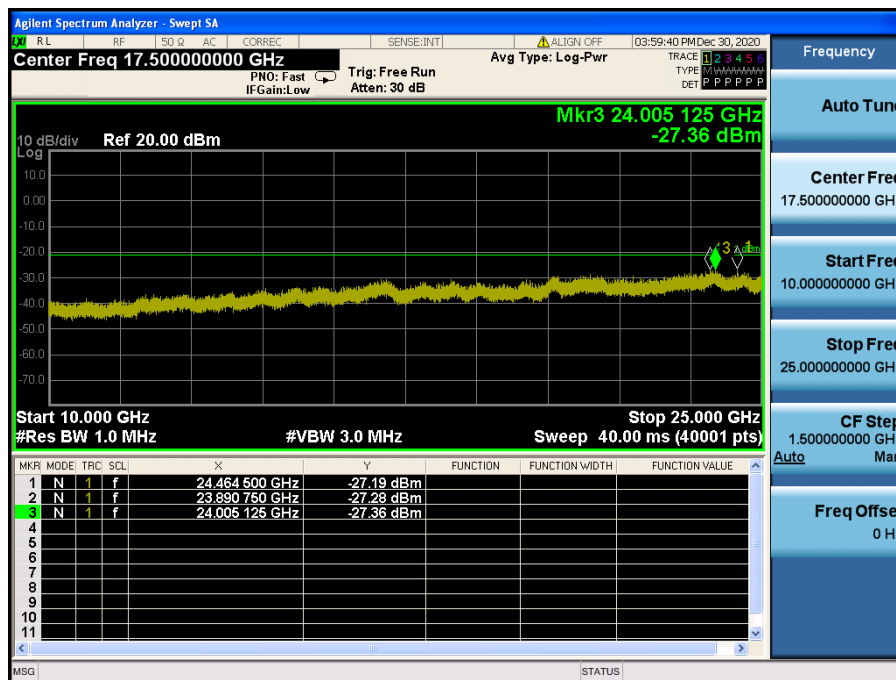
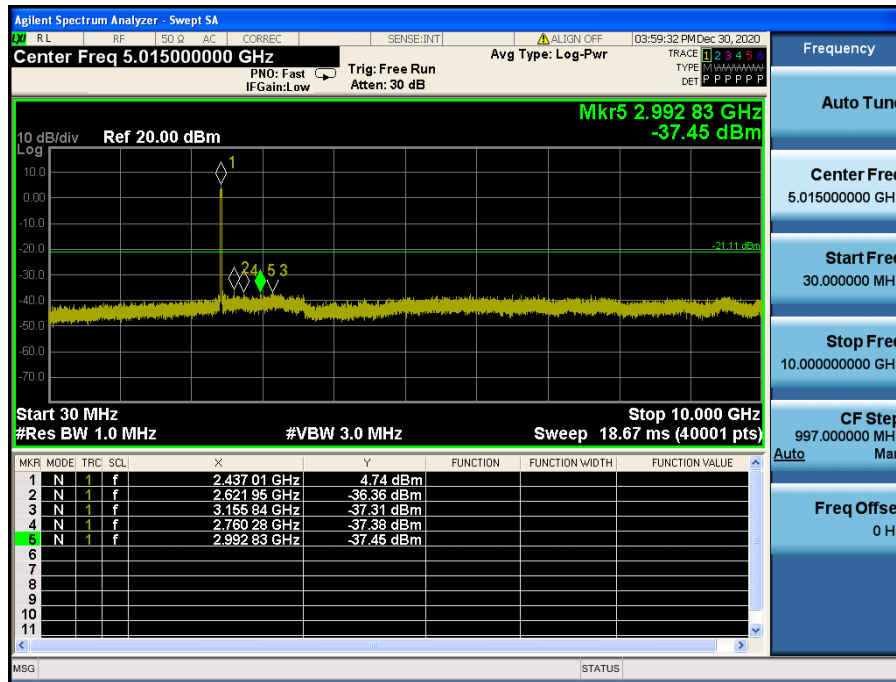
Reference



Conducted Spurious Emissions



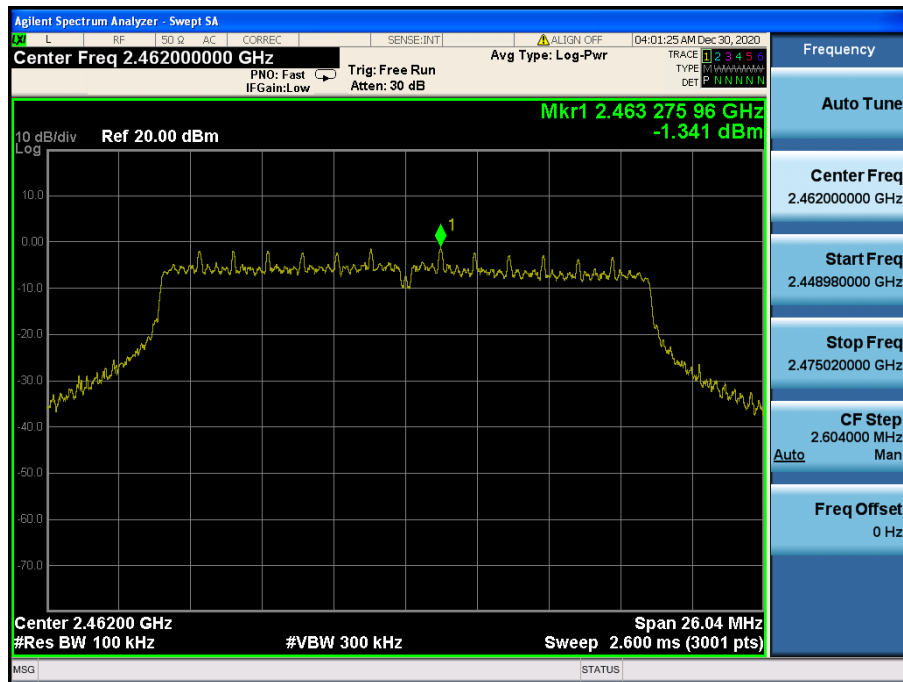
## Conducted Spurious Emissions



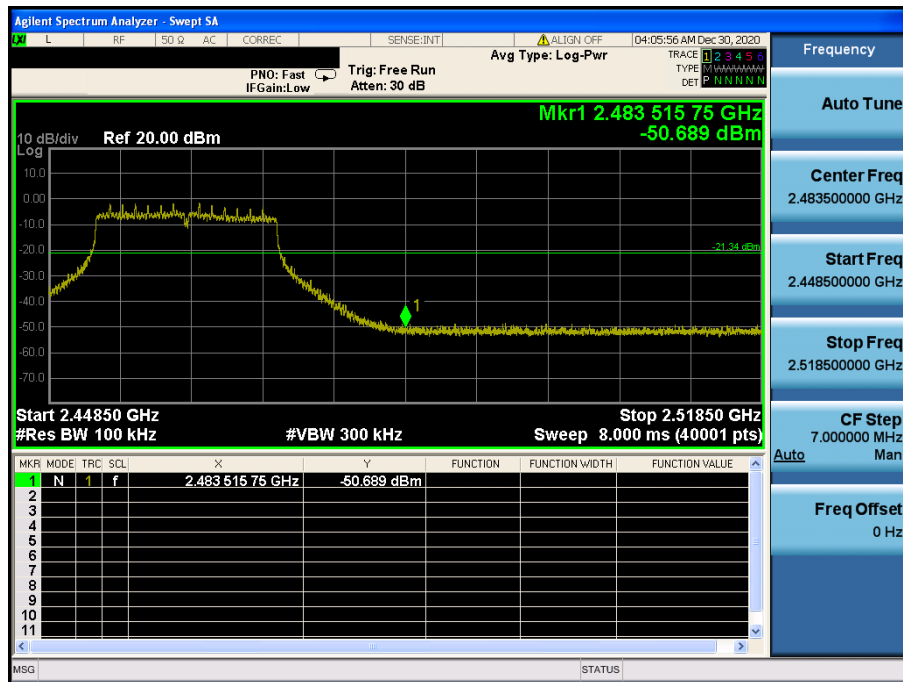


TM 3 & ANT 1 & 2 462

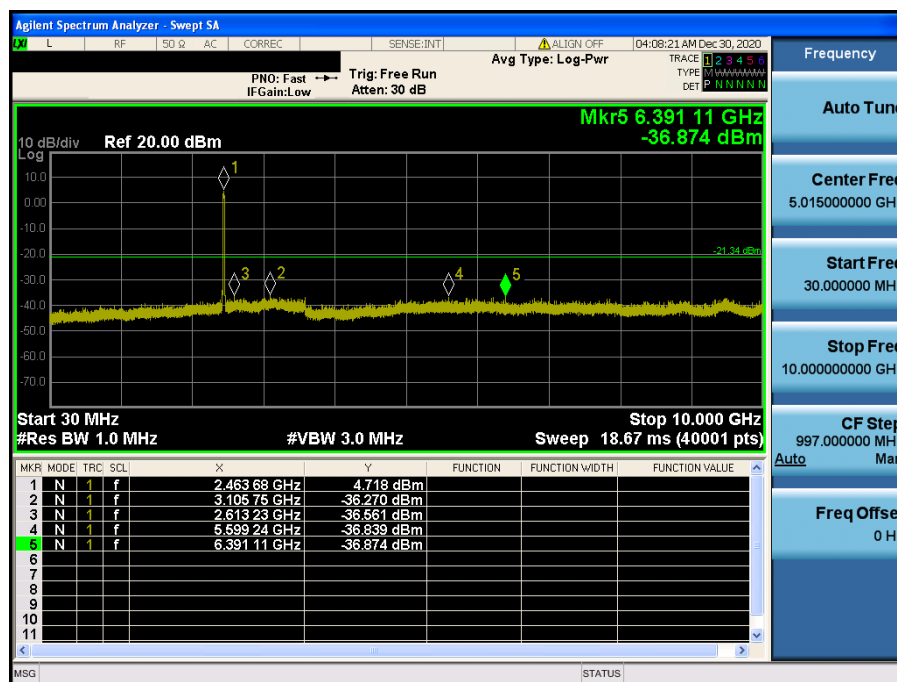
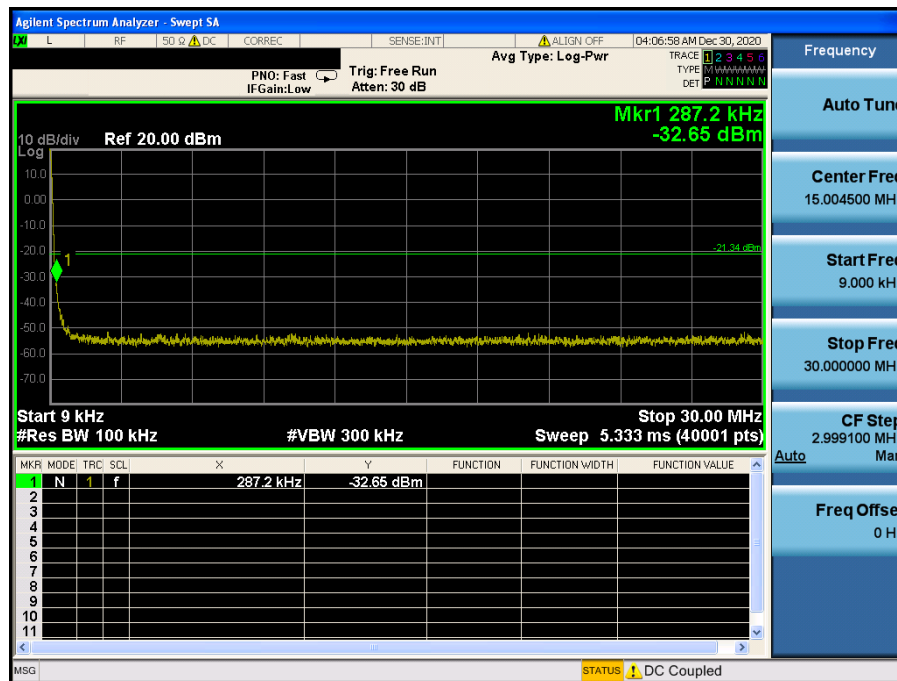
Reference



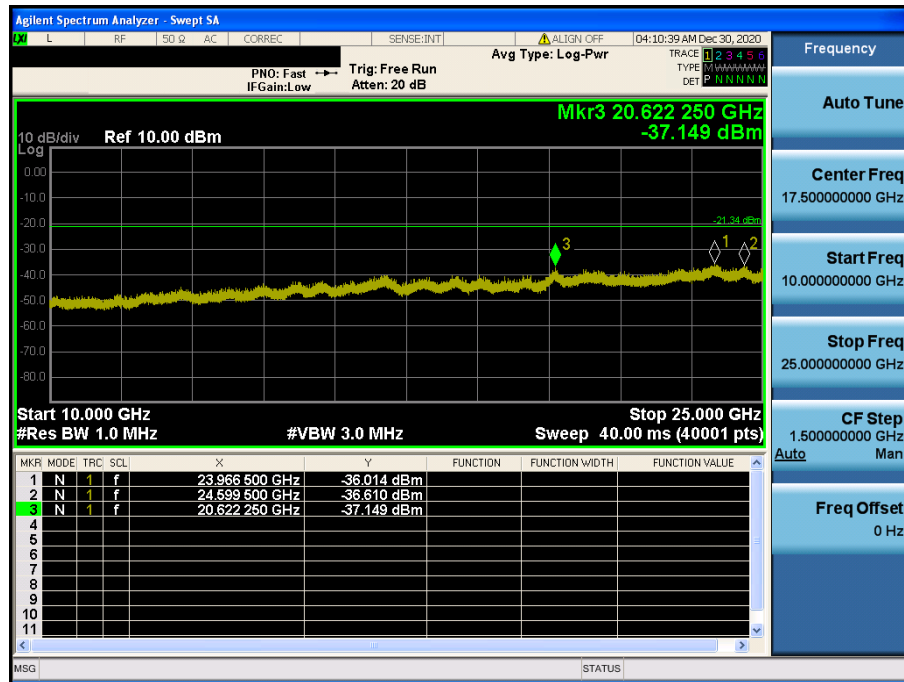
High Band-edge



## Conducted Spurious Emissions

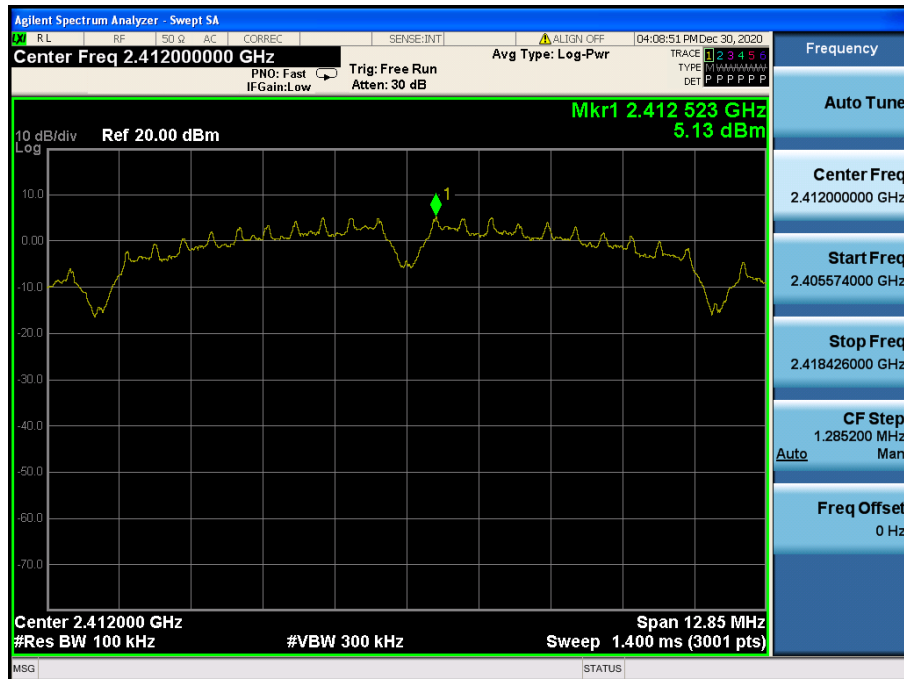


## Conducted Spurious Emissions

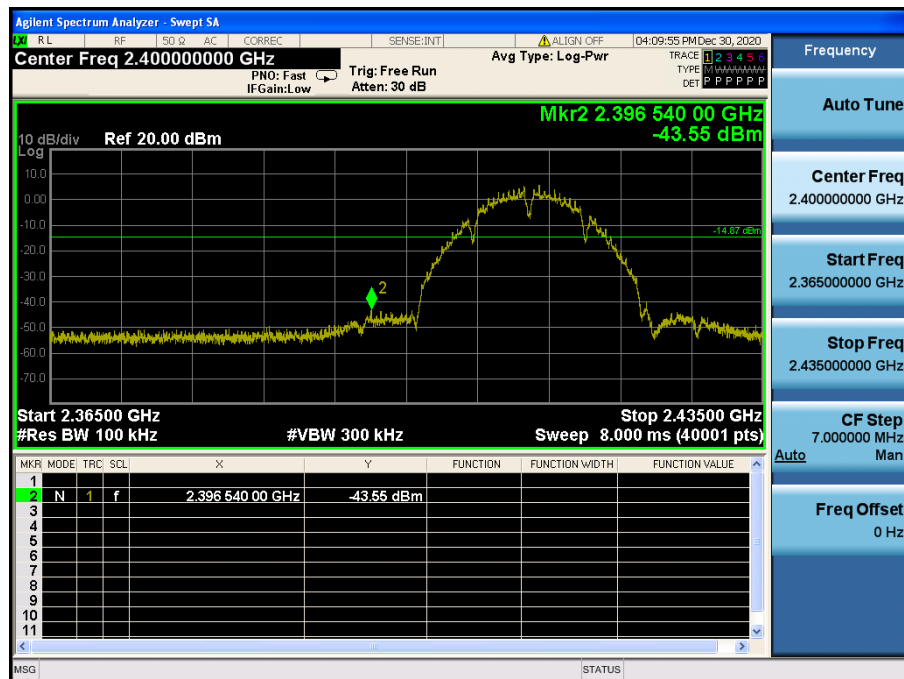


TM 1 & ANT 2 & 2 412

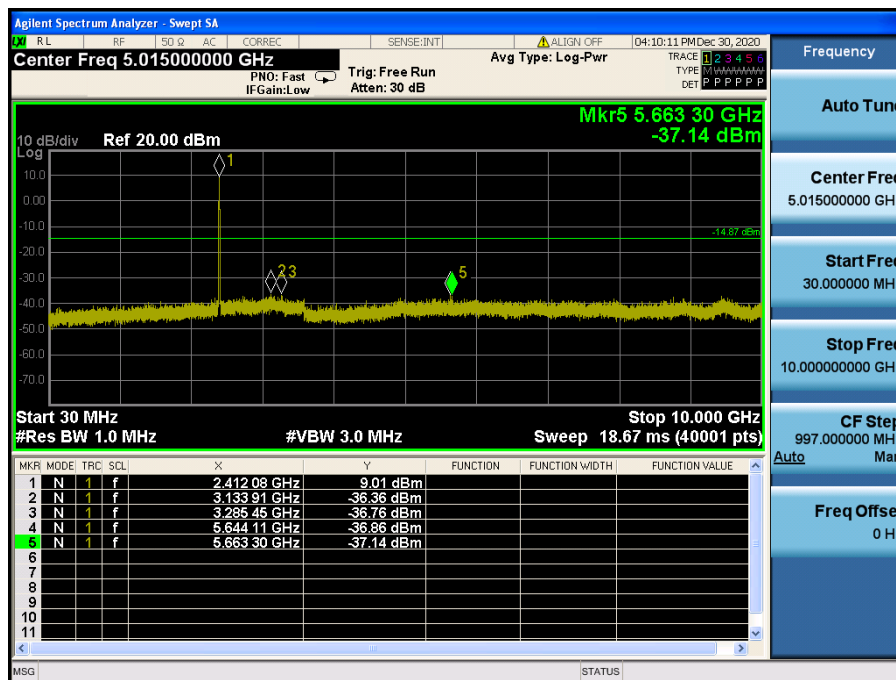
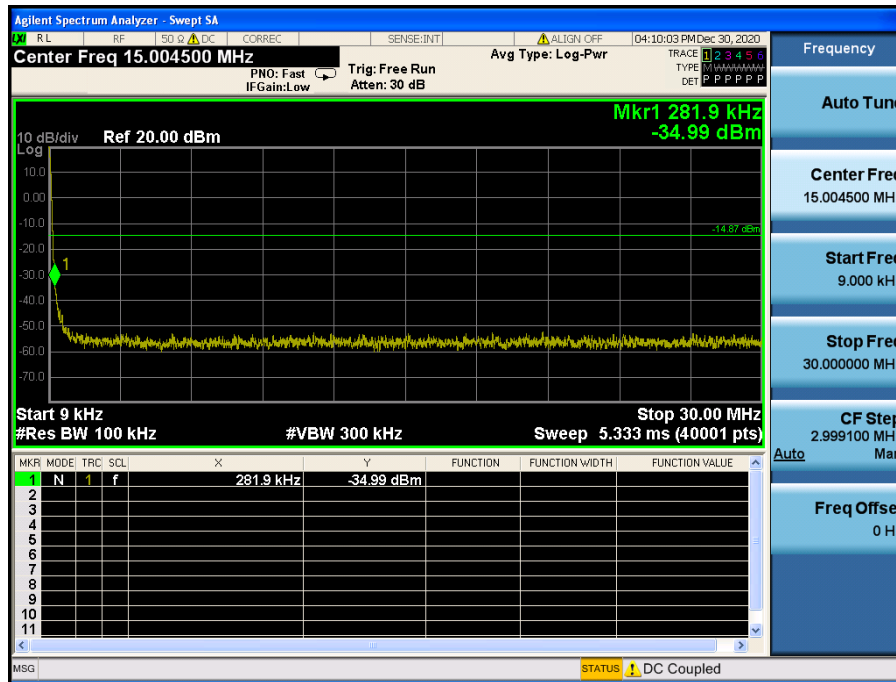
Reference



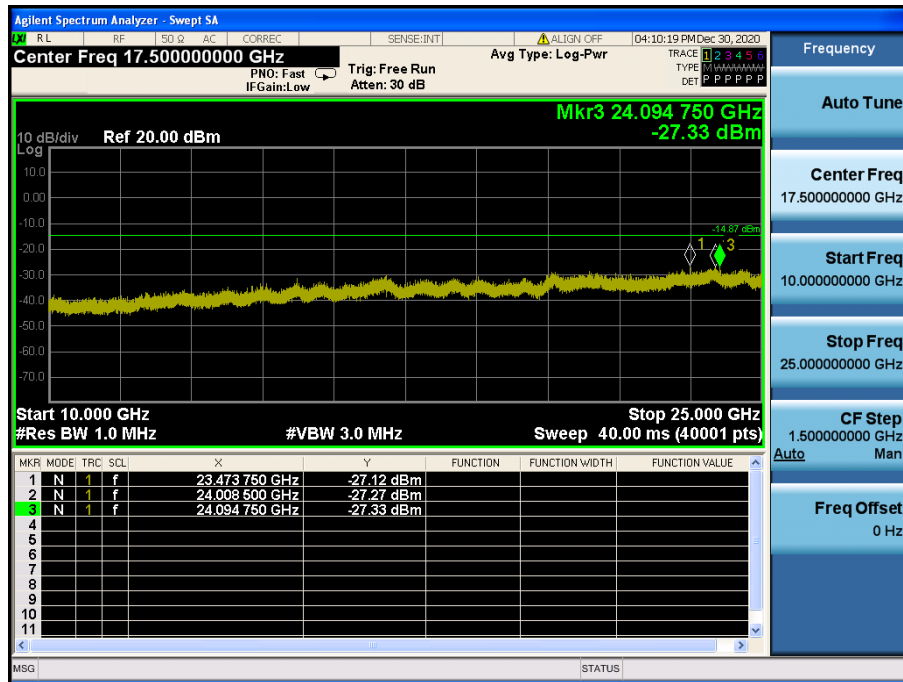
Low Band-edge



## Conducted Spurious Emissions

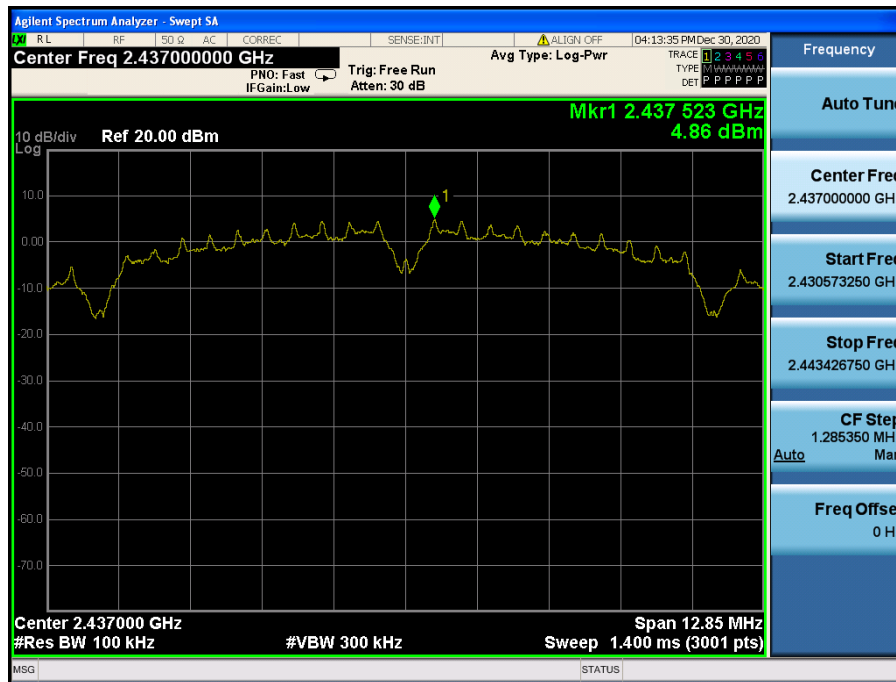


## Conducted Spurious Emissions

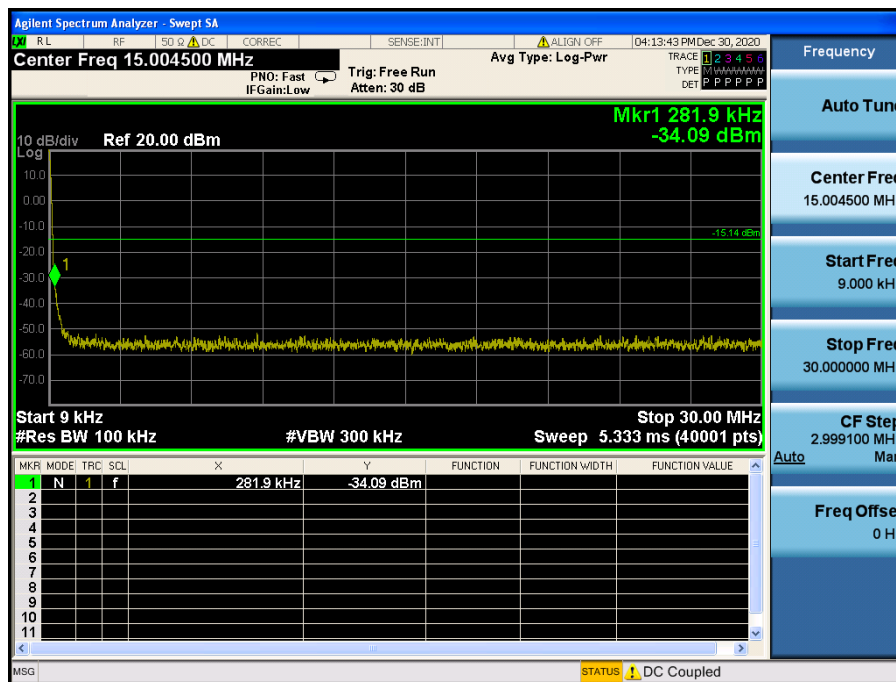


TM 1 & ANT 2 & 2 437

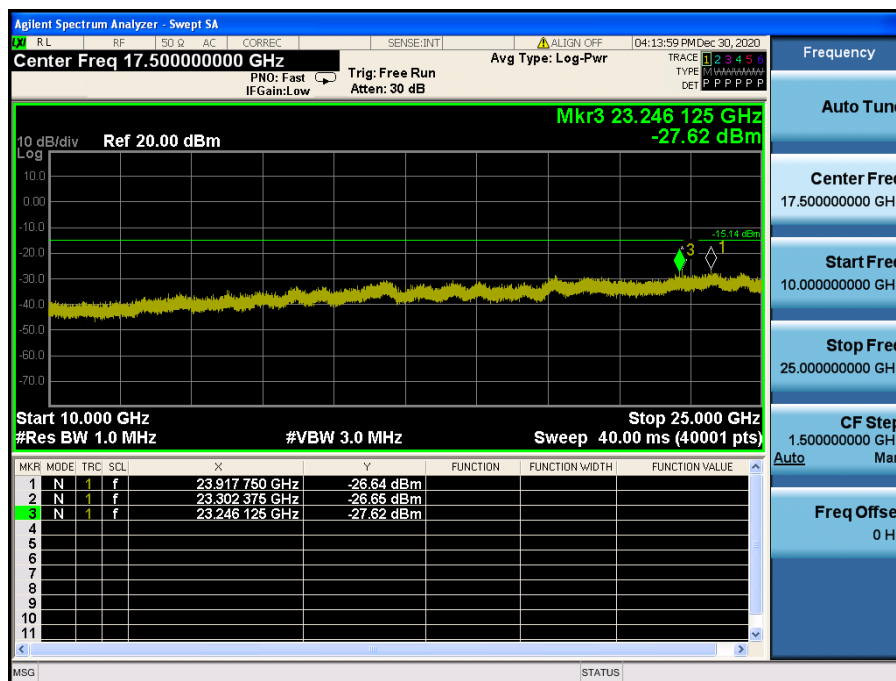
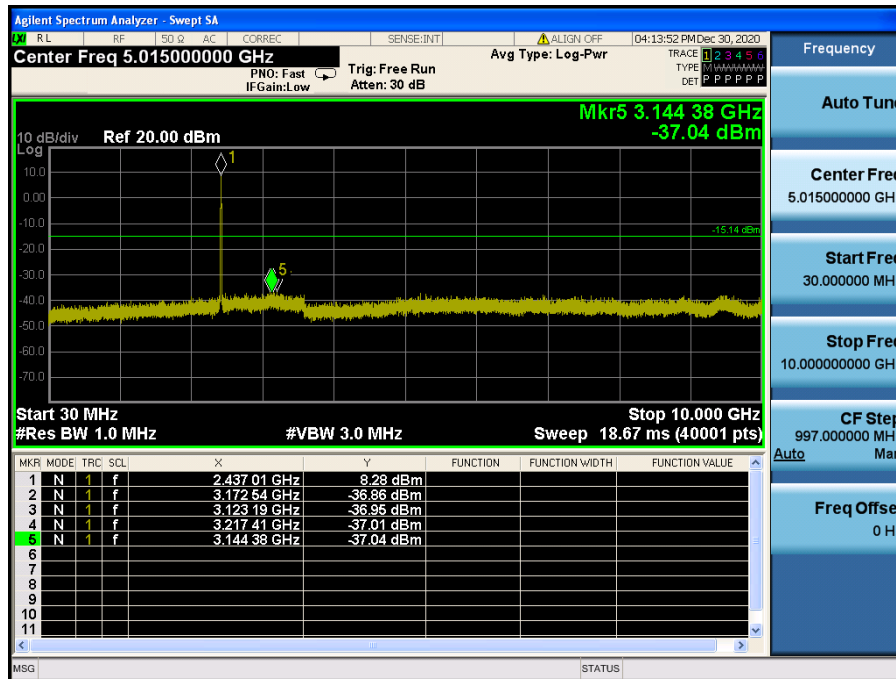
Reference



Conducted Spurious Emissions



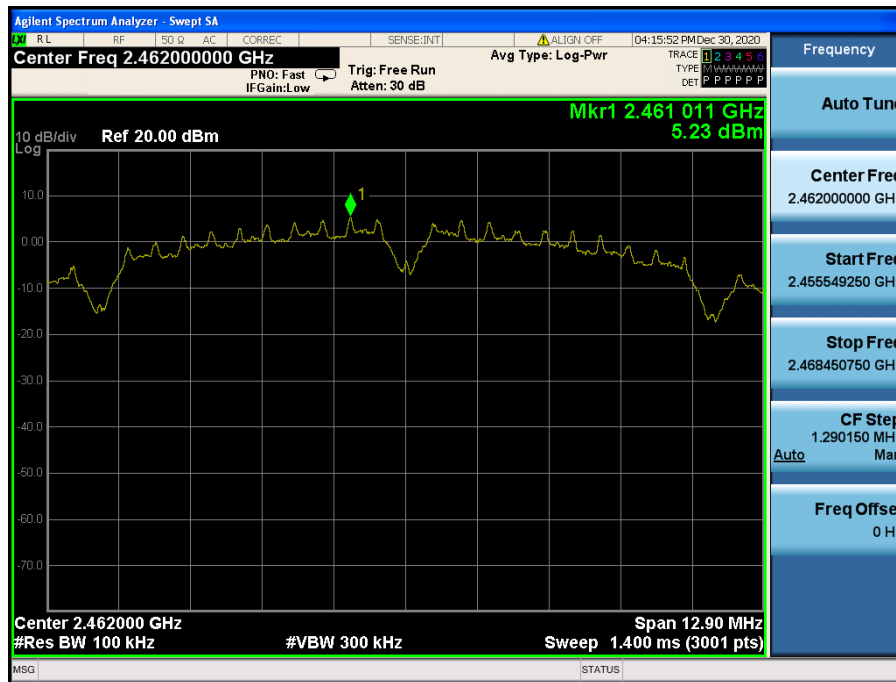
## Conducted Spurious Emissions



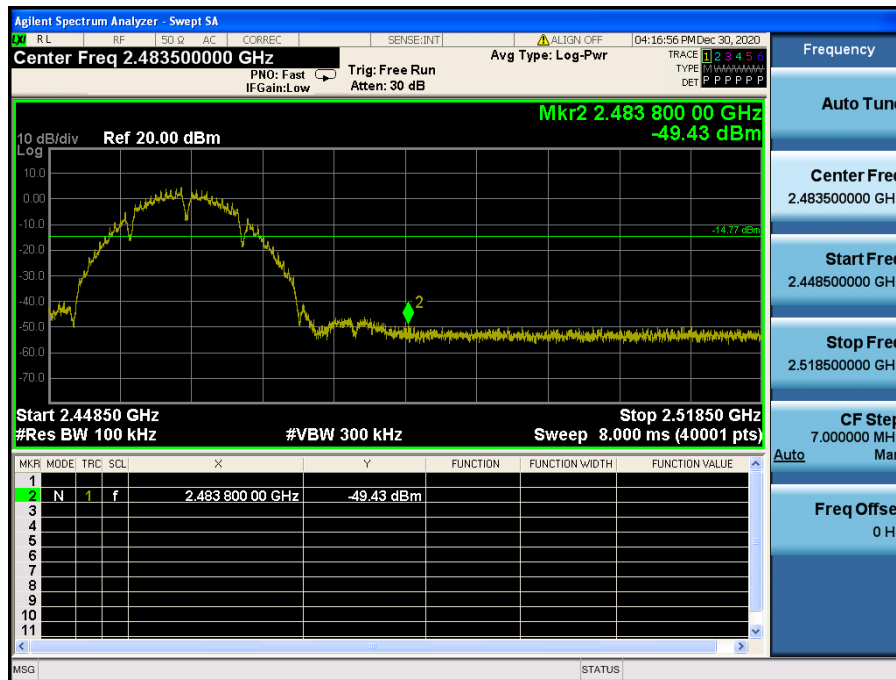


TM 1 & ANT 2 & 2 462

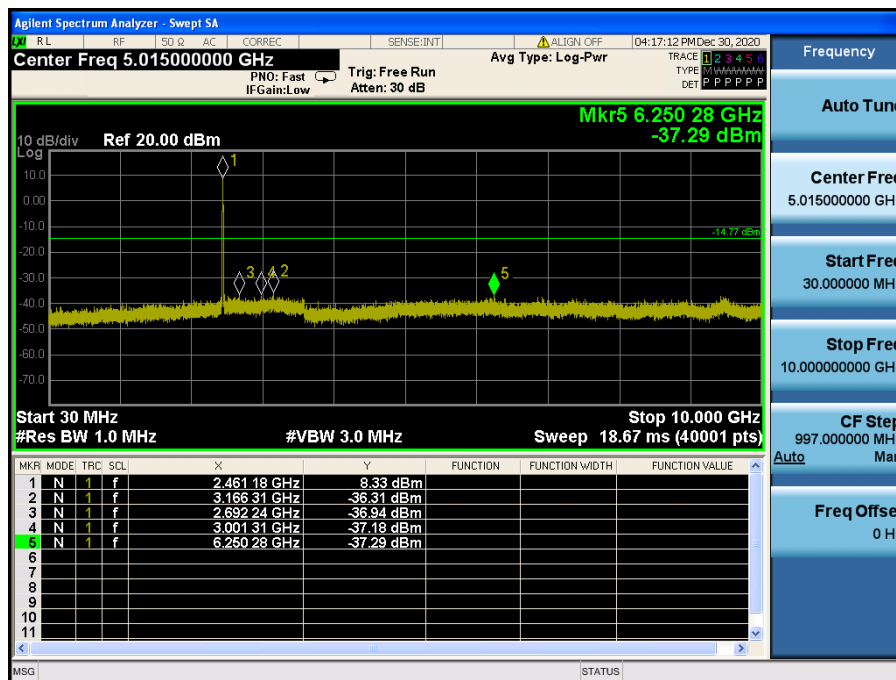
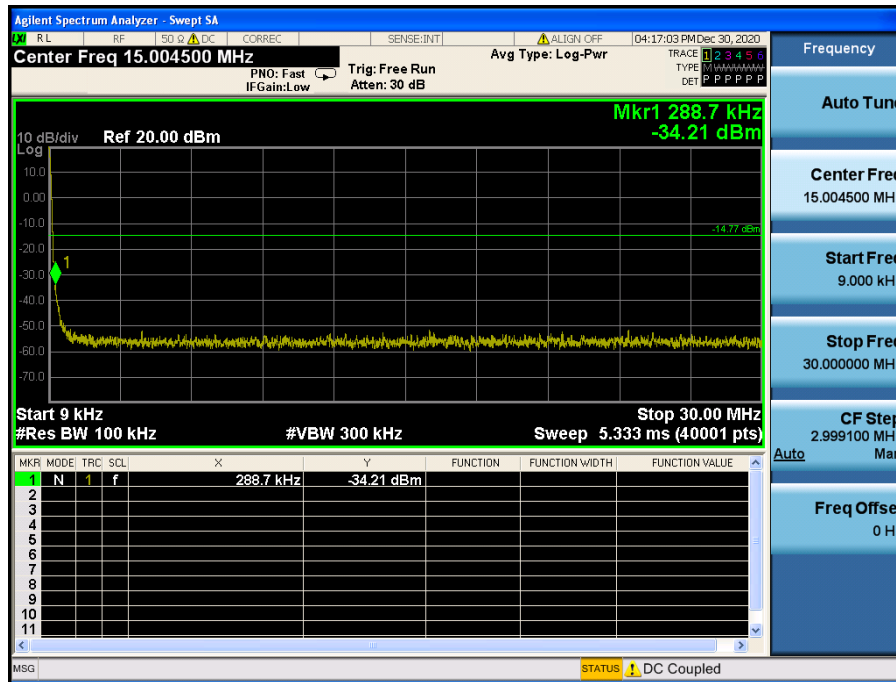
Reference



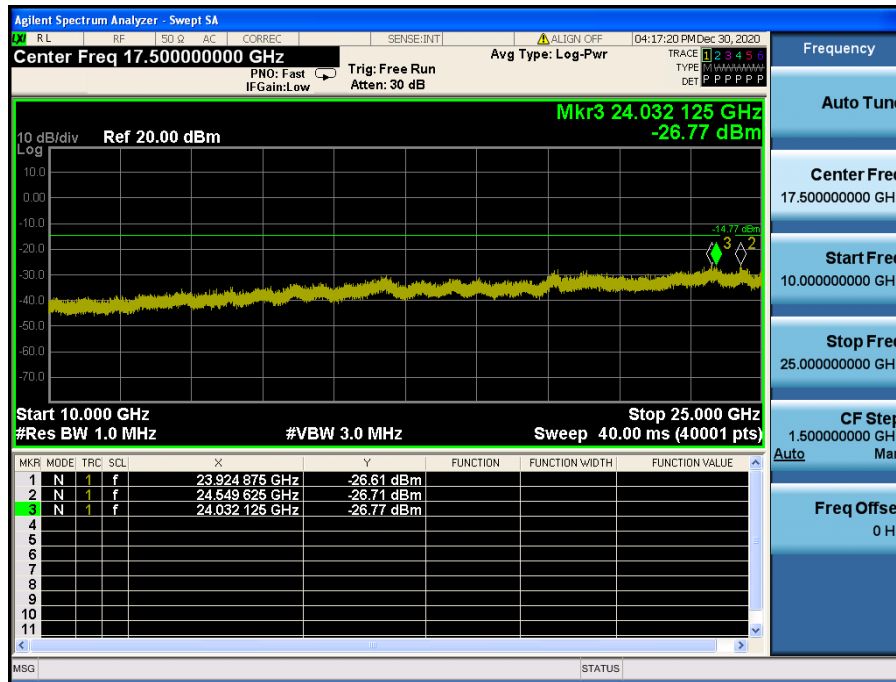
High Band-edge



## Conducted Spurious Emissions

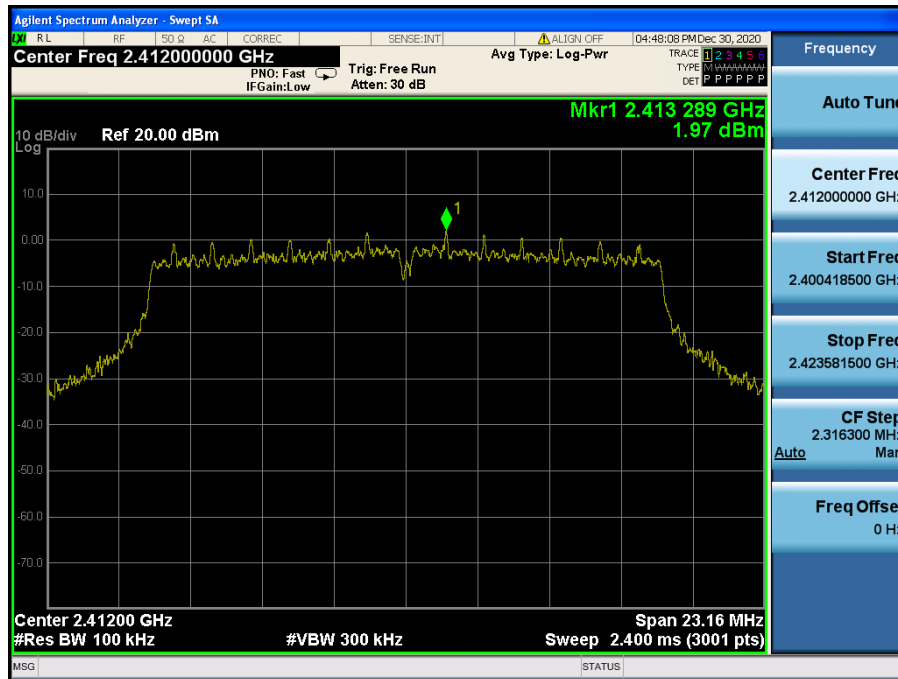


## Conducted Spurious Emissions

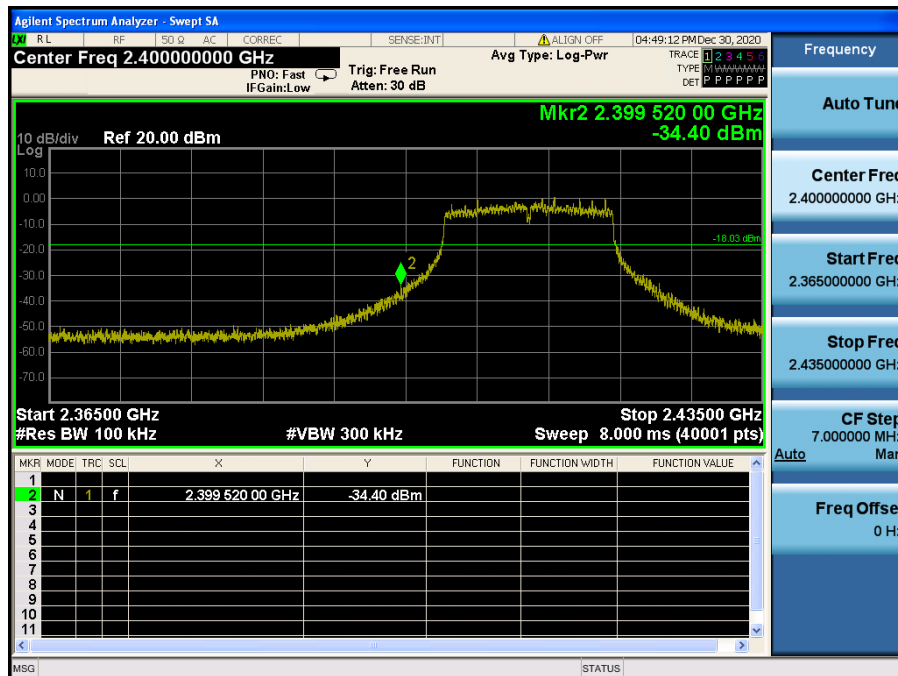


TM 2 & ANT 2 & 2 412

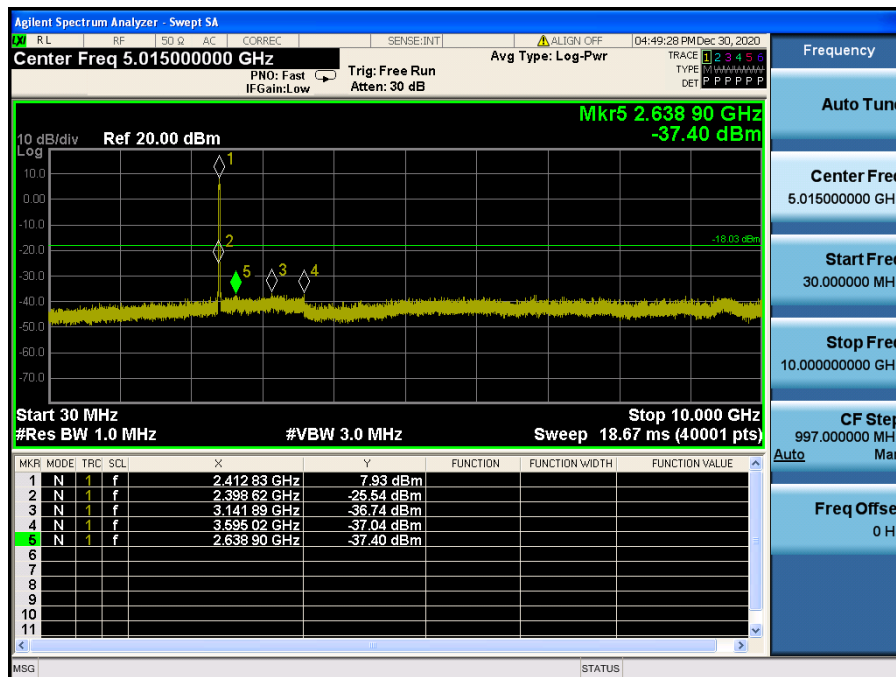
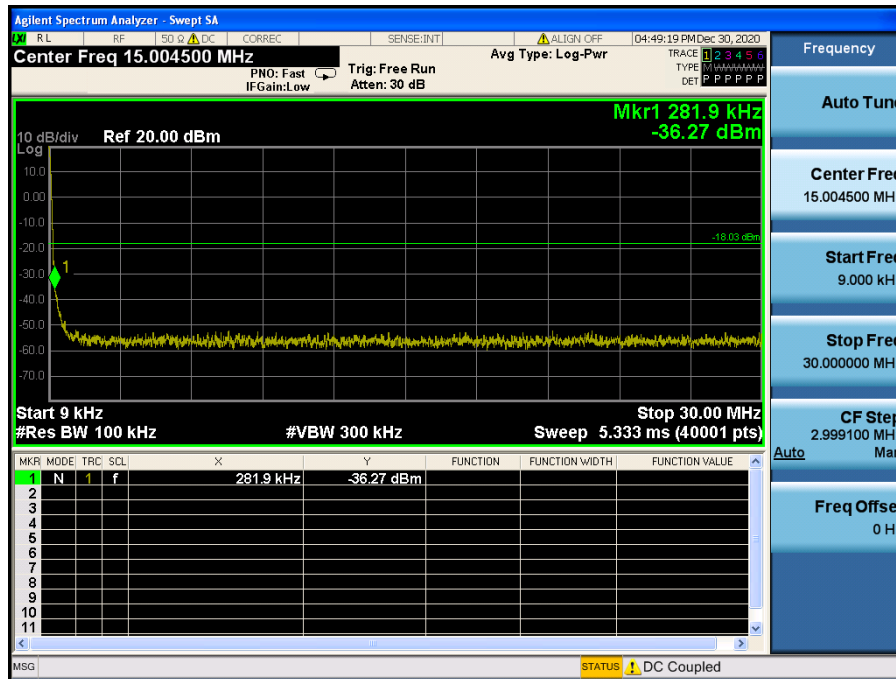
Reference



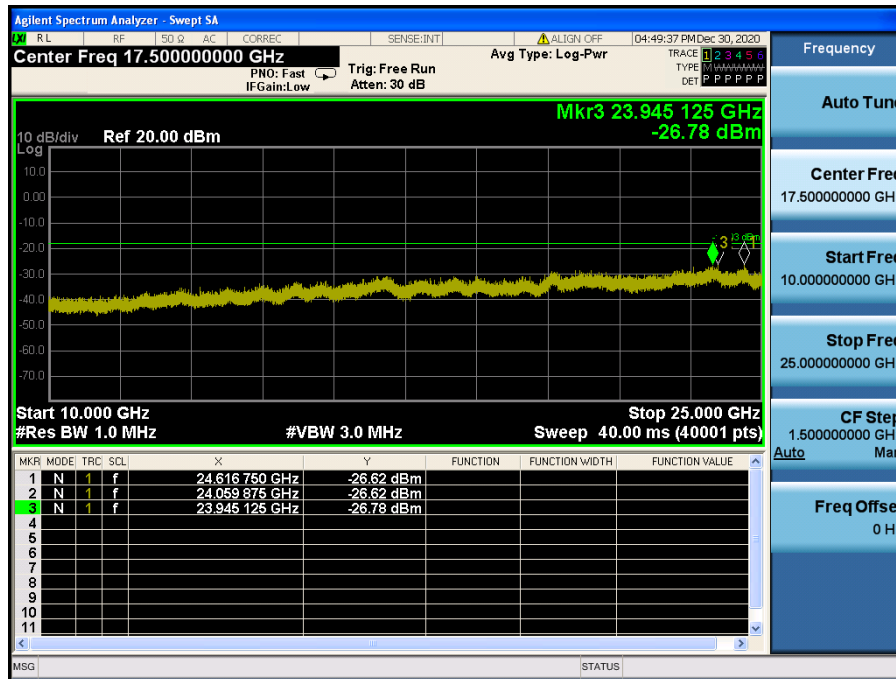
Low Band-edge



## Conducted Spurious Emissions

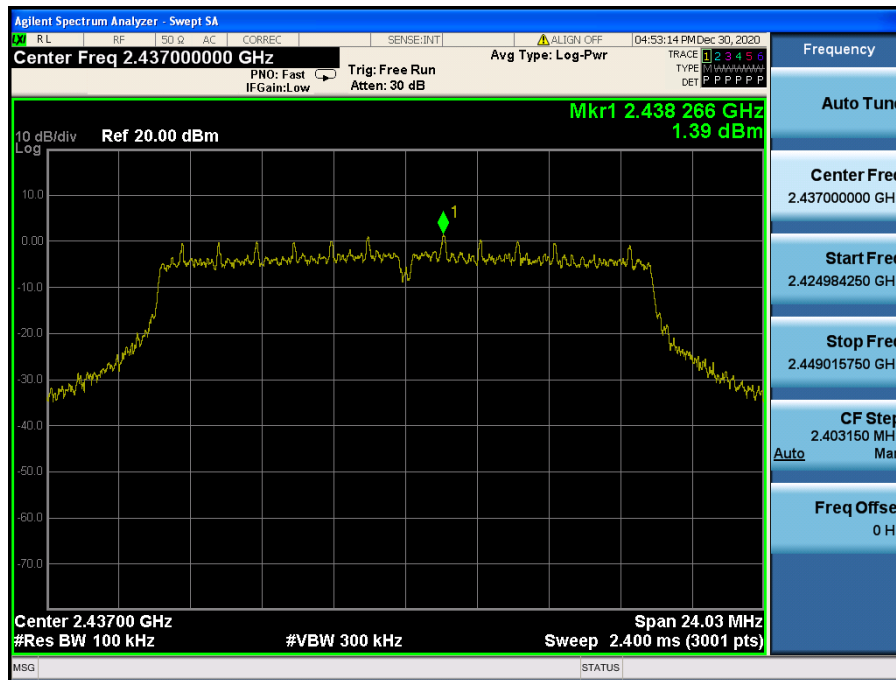


## Conducted Spurious Emissions

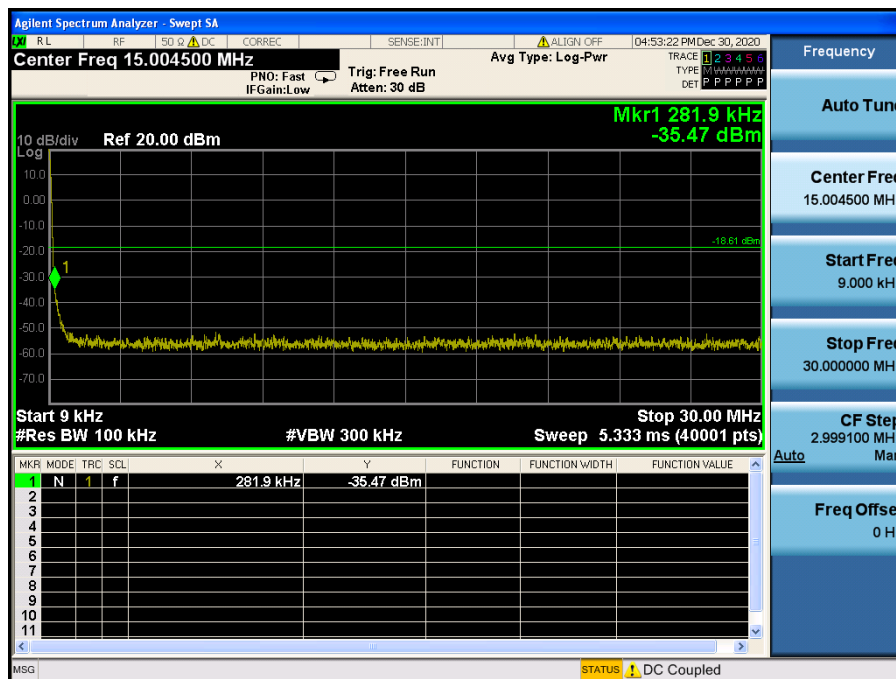


TM 2 & ANT 2 & 2 437

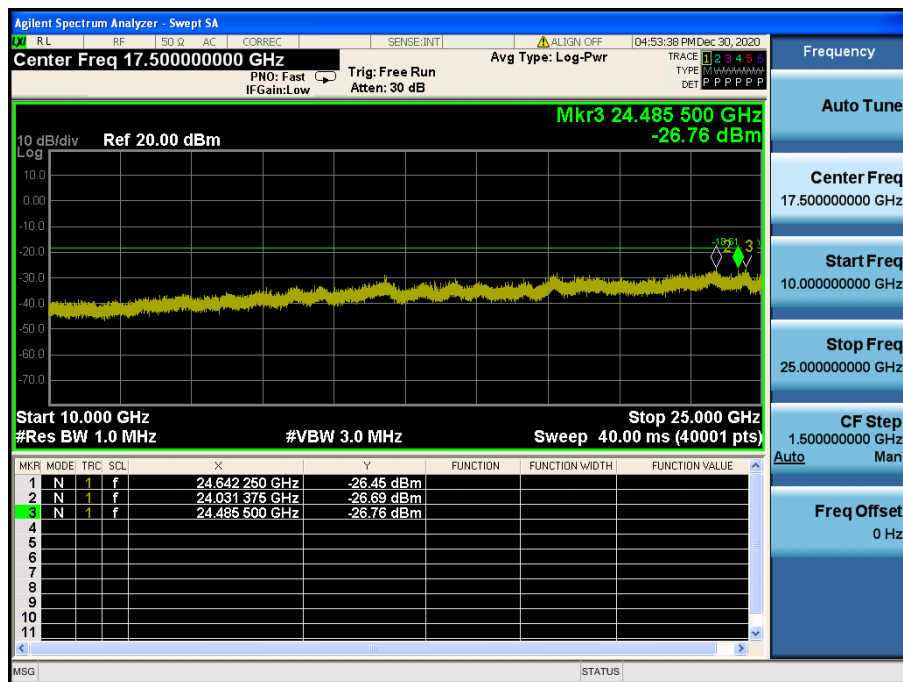
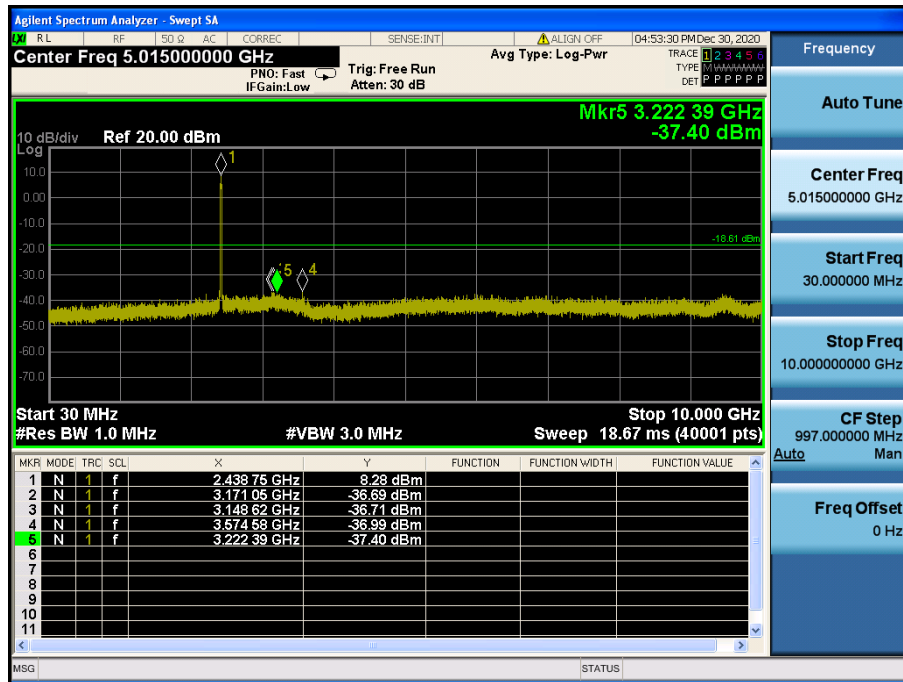
Reference



Conducted Spurious Emissions



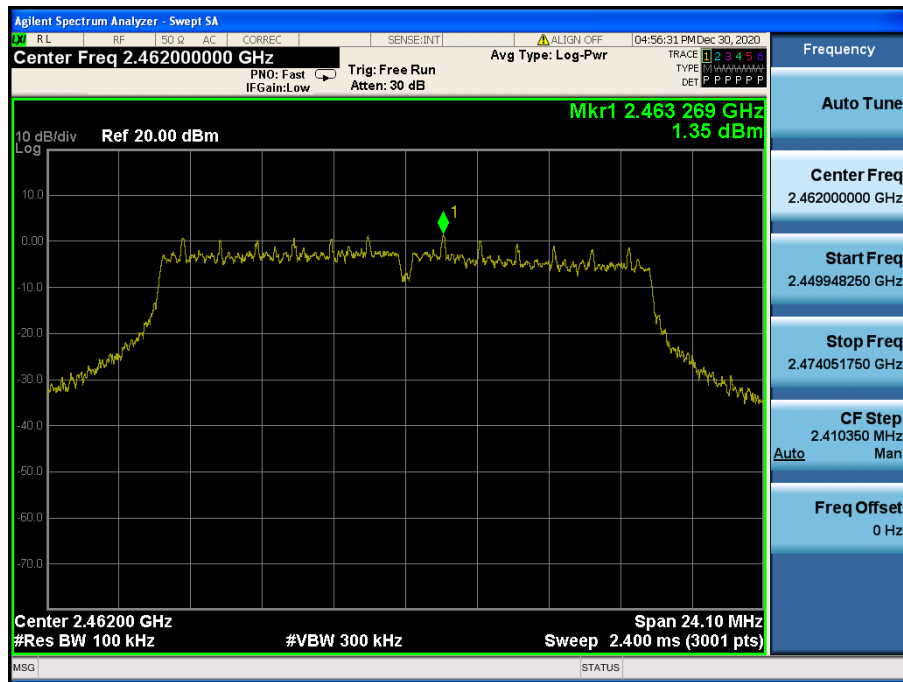
## Conducted Spurious Emissions



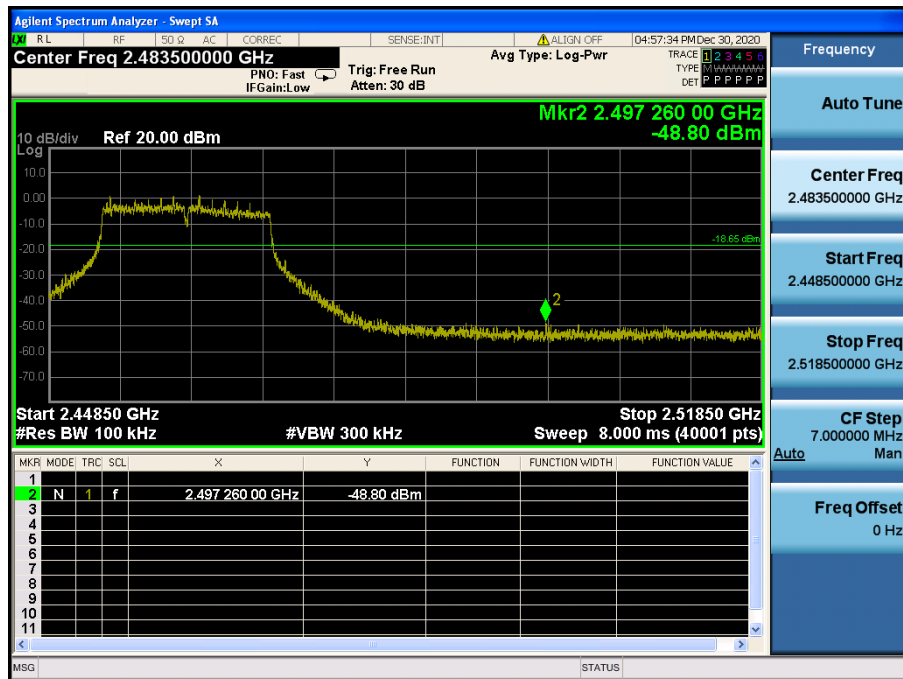


TM 2 & ANT 2 & 2 462

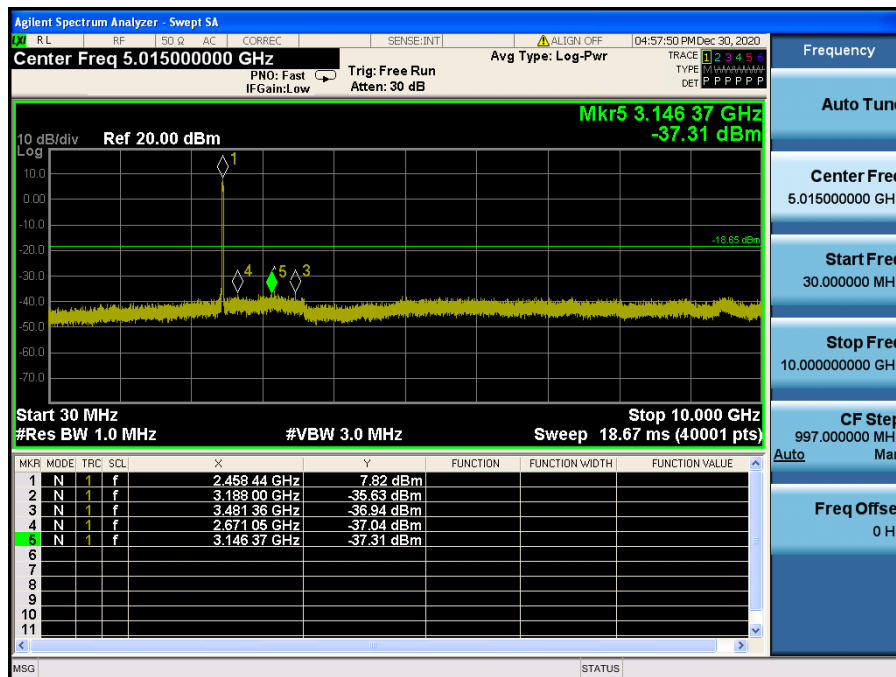
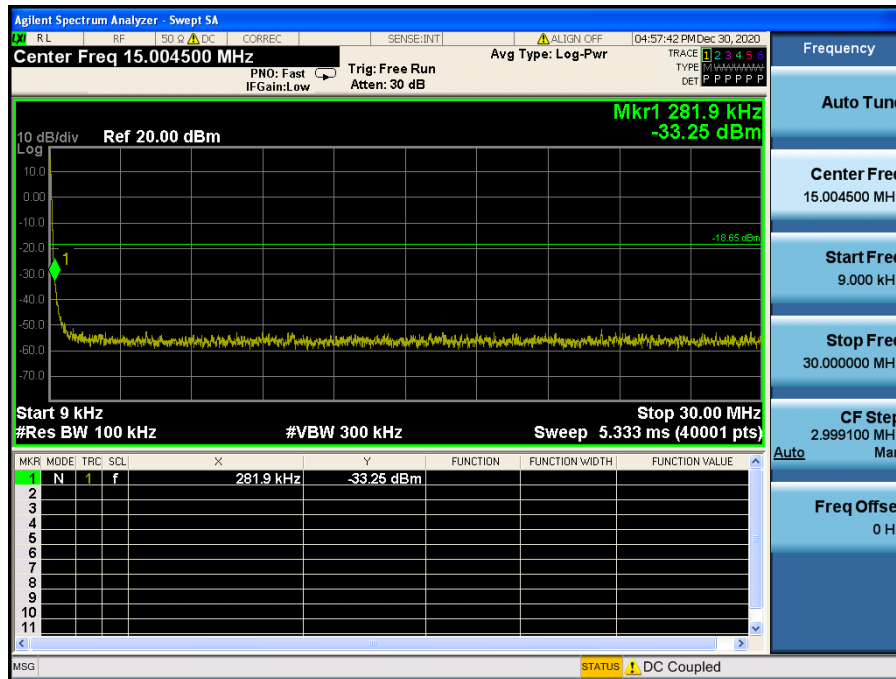
Reference



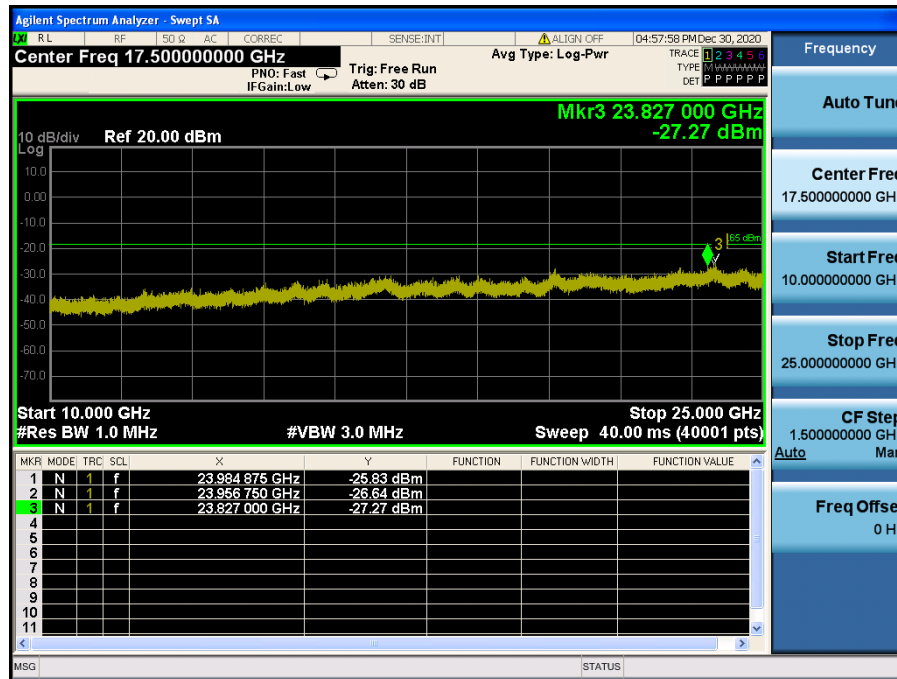
High Band-edge



## Conducted Spurious Emissions

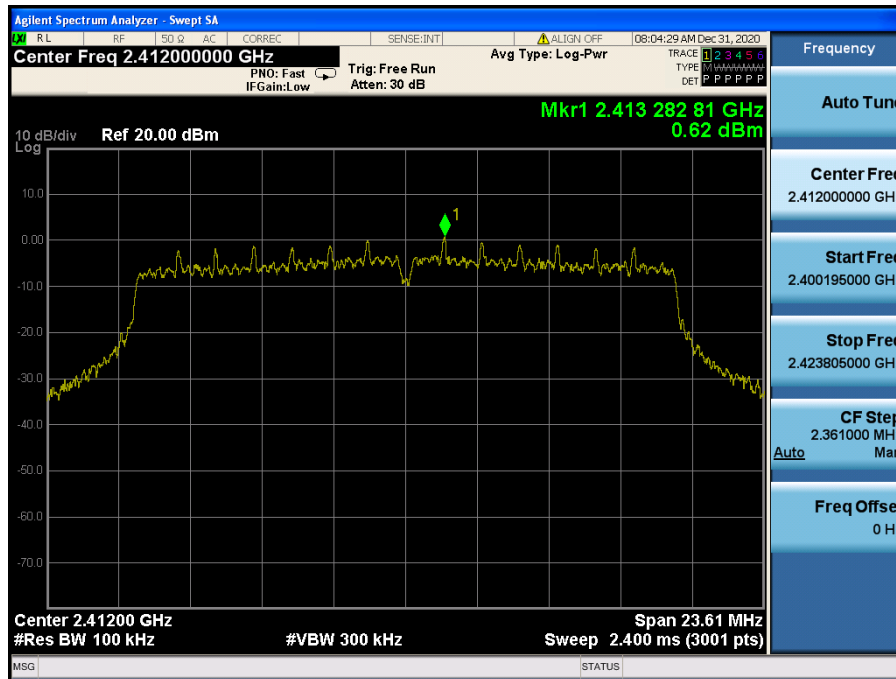


## Conducted Spurious Emissions

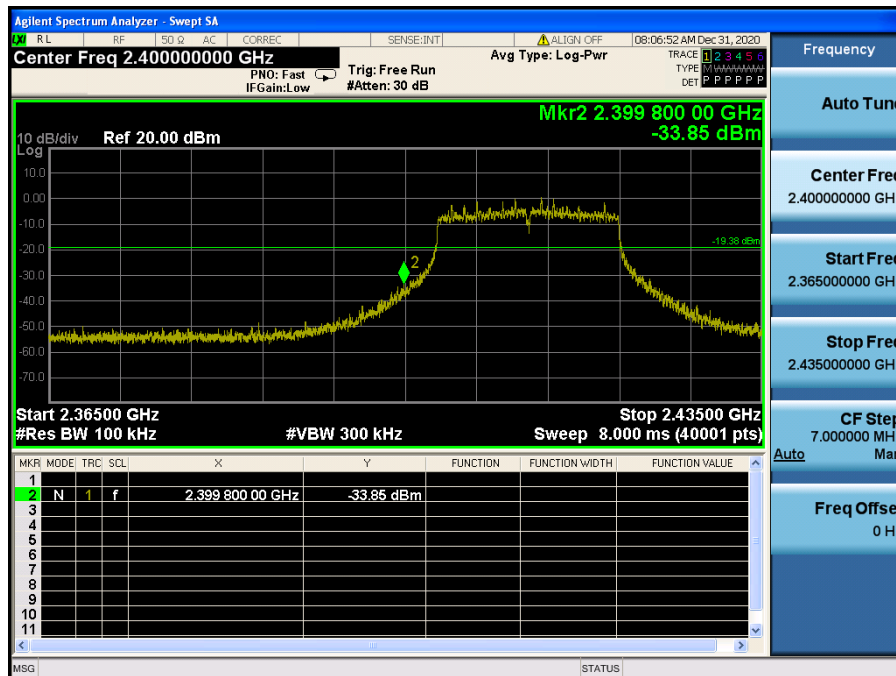


TM 3 & ANT 2 & 2 412

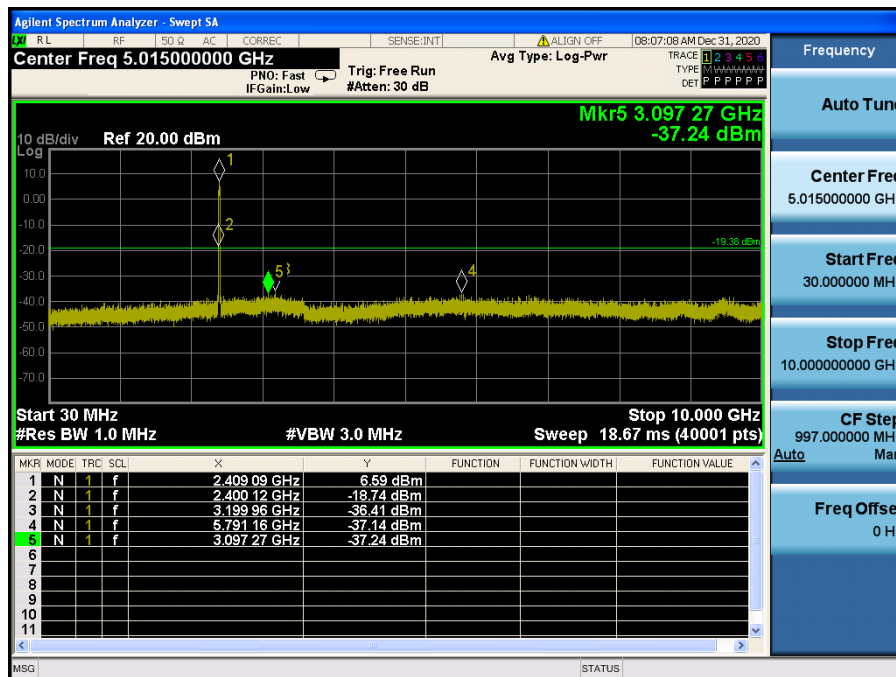
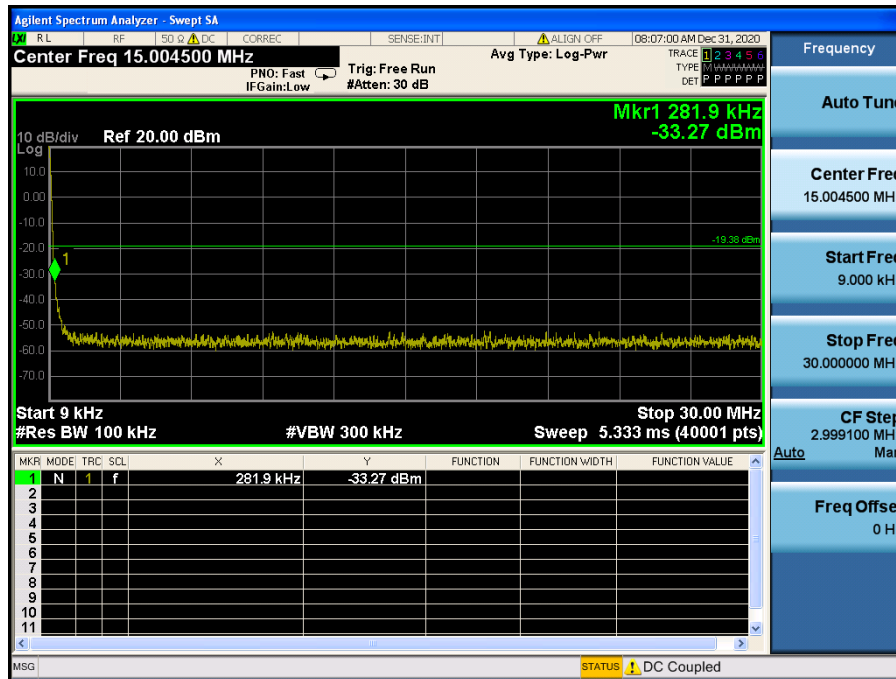
Reference



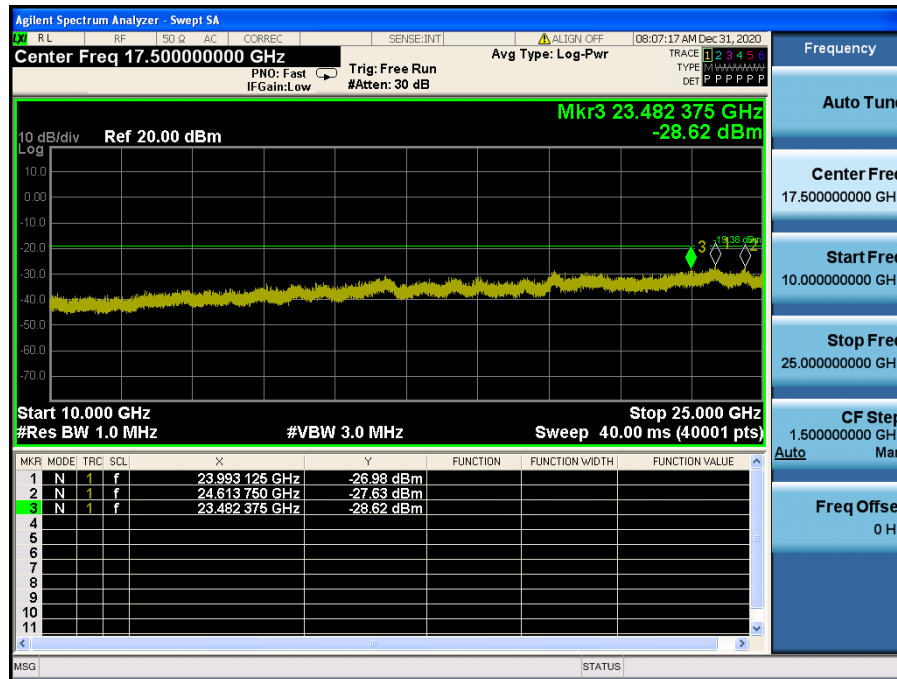
Low Band-edge



## Conducted Spurious Emissions

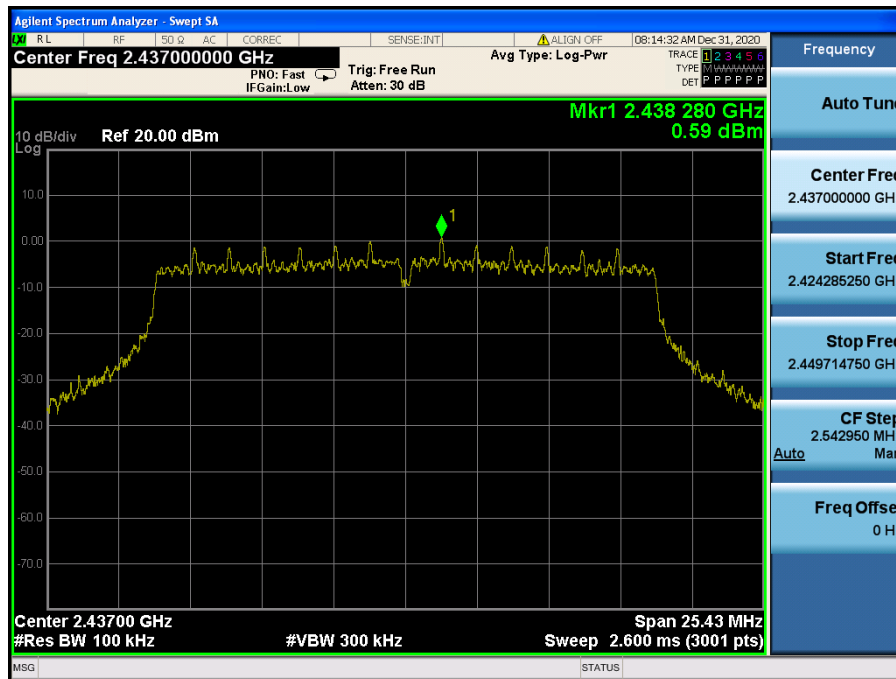


## Conducted Spurious Emissions

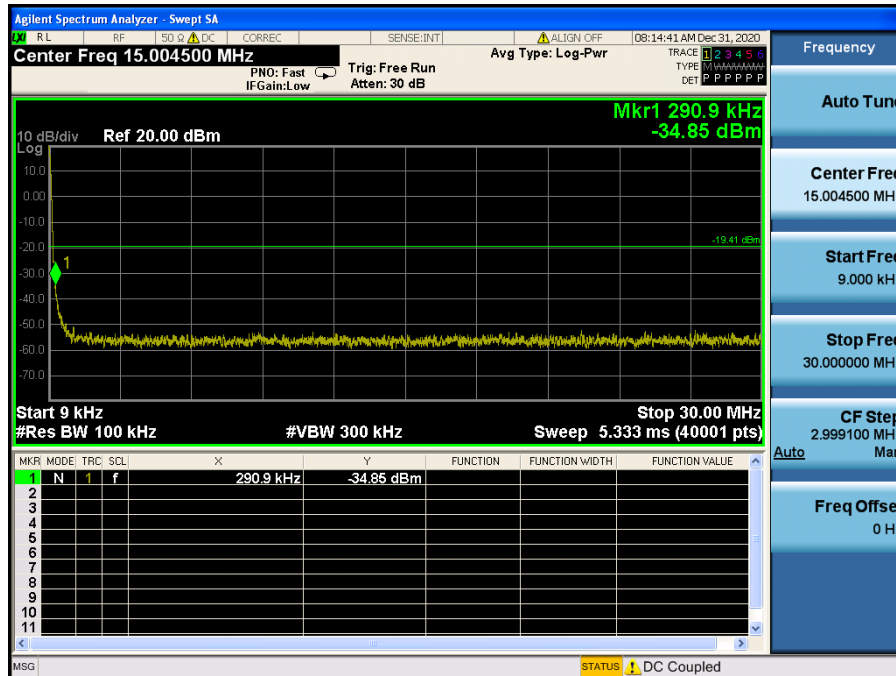


TM 3 & ANT 2 & 2 437

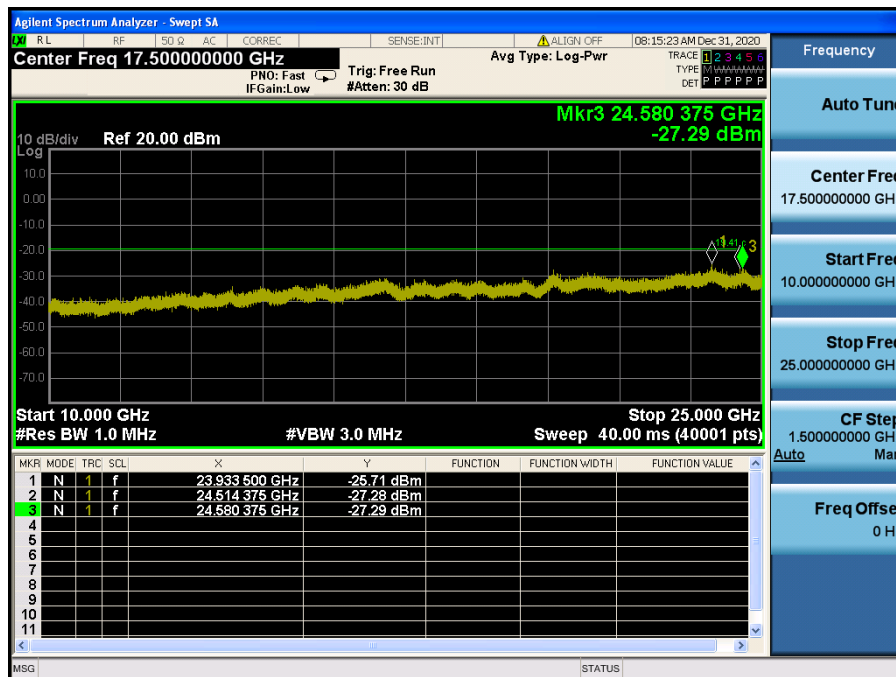
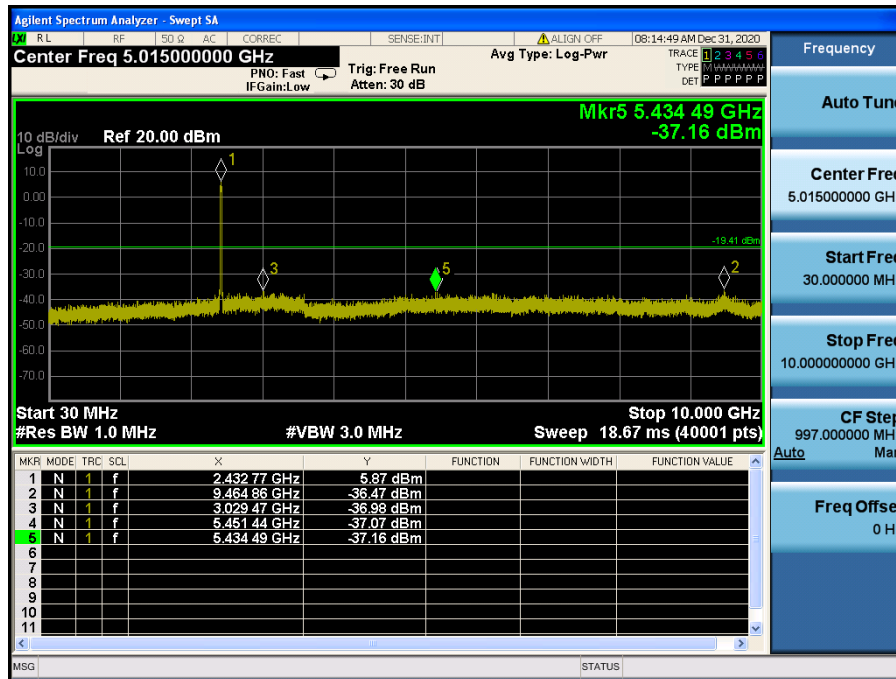
Reference



Conducted Spurious Emissions



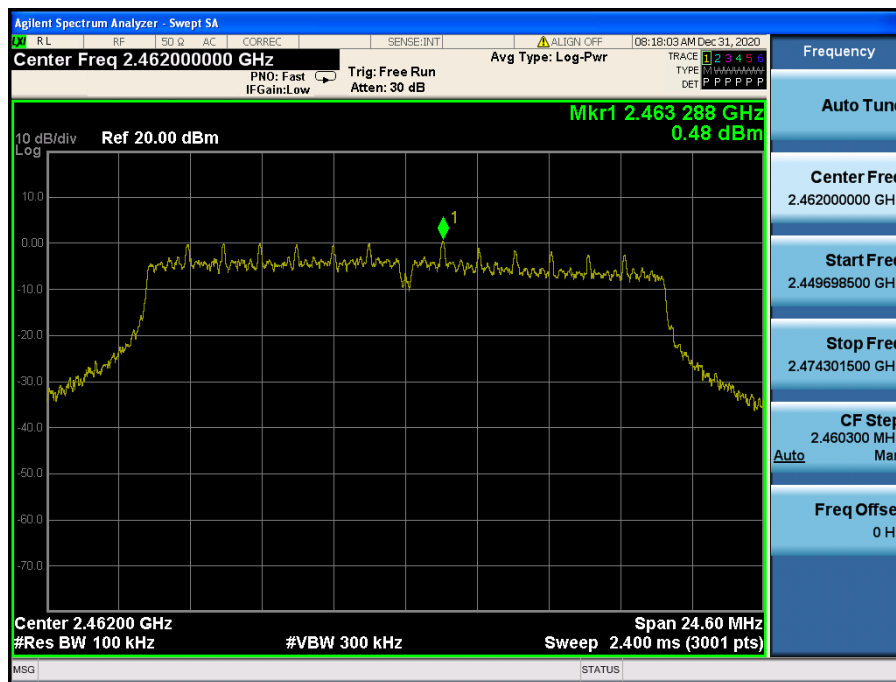
## Conducted Spurious Emissions



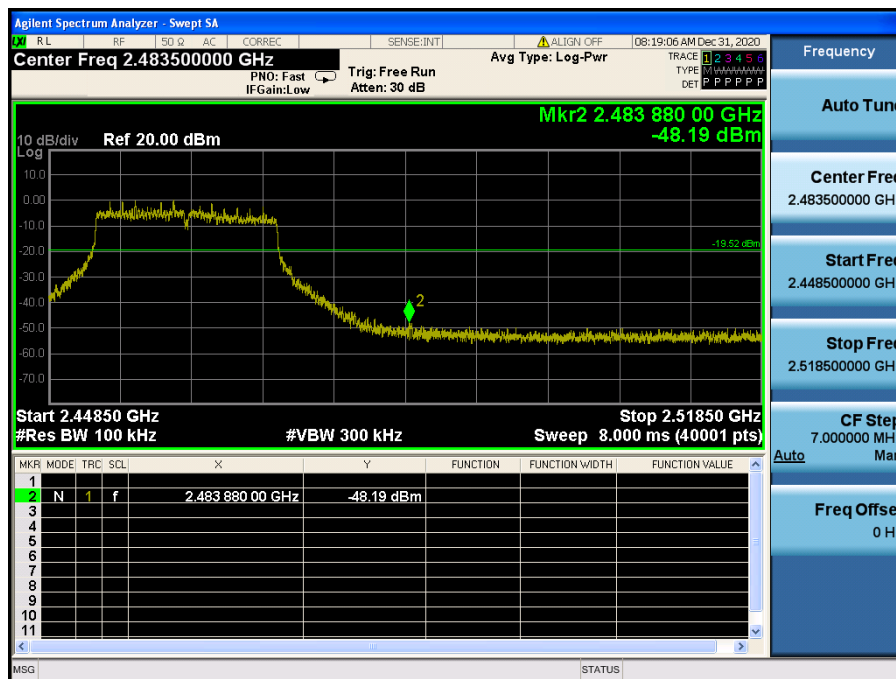


TM 3 & ANT 2 & 2 462

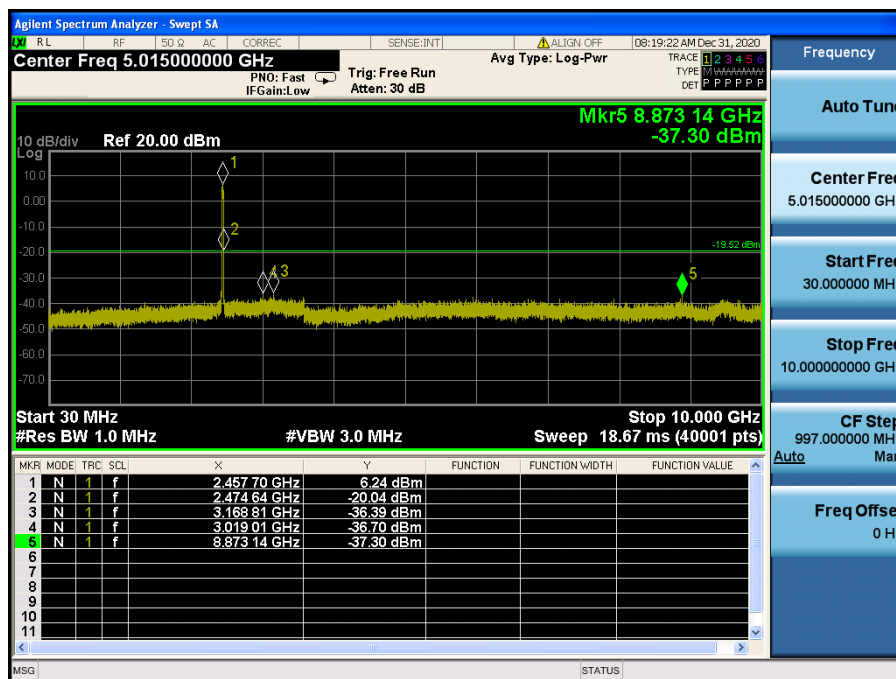
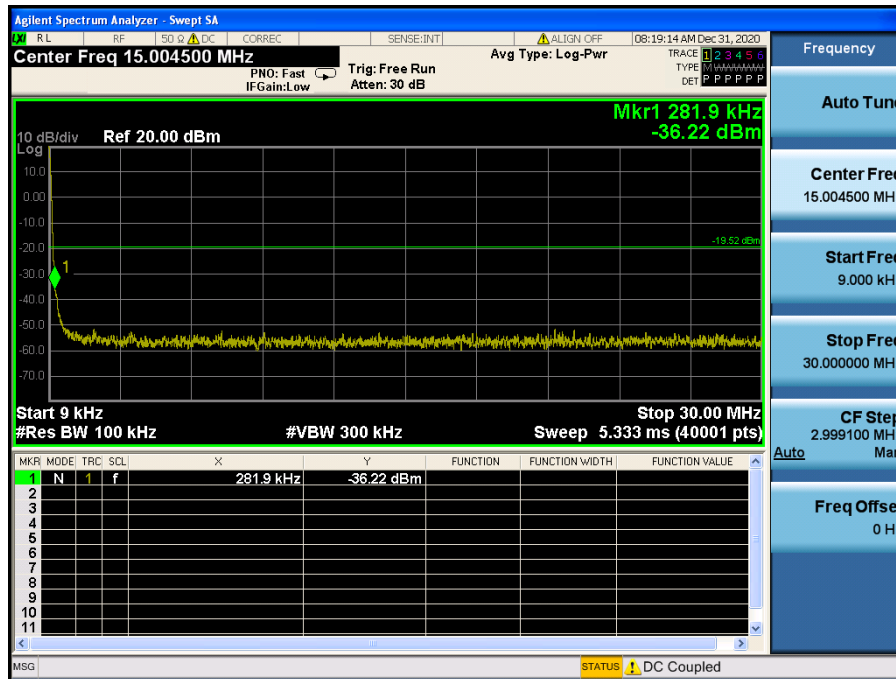
Reference



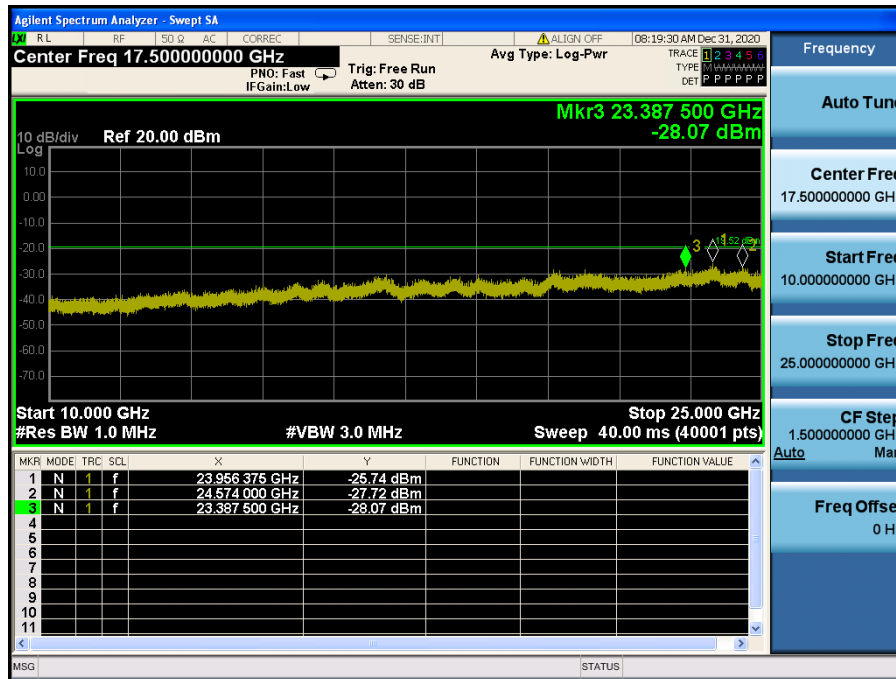
High Band-edge



## Conducted Spurious Emissions



## Conducted Spurious Emissions



## 8.5 Radiated spurious emissions

### ■ Test Requirements and limit, §15.247(d), §15.205, §15.209

In any 100 kHz bandwidth outside the operating frequency band, the radio frequency power that is produced by the radiator shall be at least 20 dB below that in the 100 KHz bandwidth within the band. In case the emission fall within the restricted band specified on 15.205(a) and (b), then the 15.209(a) limit in the table below has to be followed.

#### ▪ FCC Part 15.209(a) and (b)

| Frequency (MHz) | Limit (uV/m)  | Measurement Distance (meter) |
|-----------------|---------------|------------------------------|
| 0.009 – 0.490   | 2400/F (kHz)  | 300                          |
| 0.490 – 1.705   | 24000/F (kHz) | 30                           |
| 1.705 – 30.0    | 30            | 30                           |
| 30 ~ 88         | 100 **        | 3                            |
| 88 ~ 216        | 150 **        | 3                            |
| 216 ~ 960       | 200 **        | 3                            |
| Above 960       | 500           | 3                            |

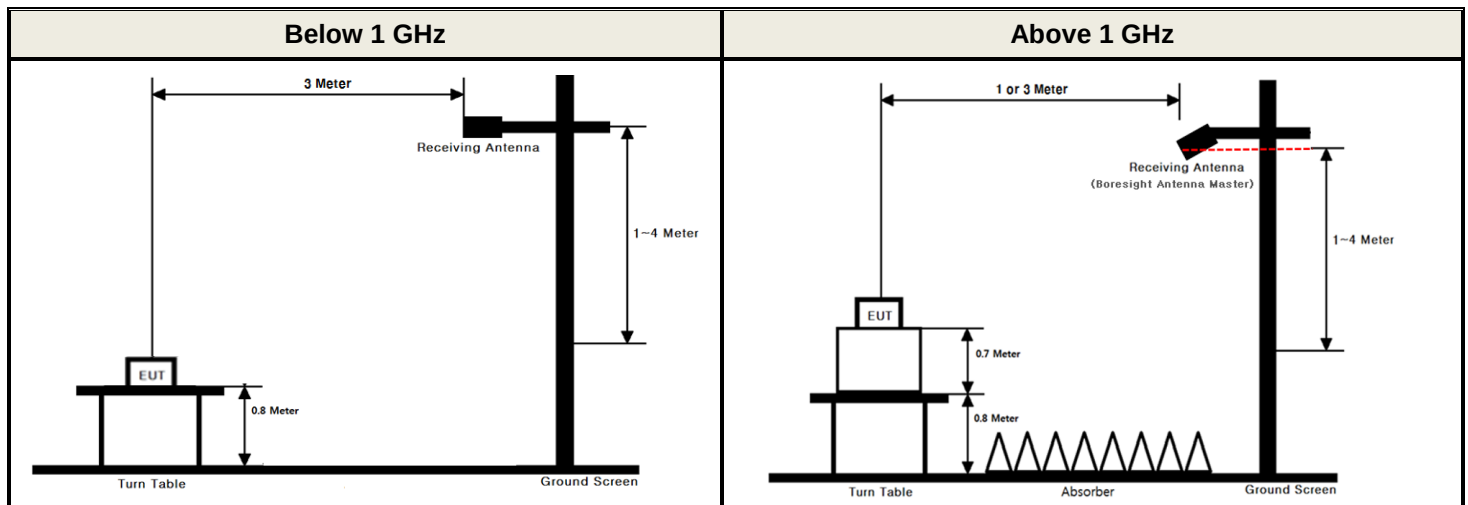
\*\* Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54 MHz - 72 MHz, 76 MHz - 88 MHz, 174 MHz - 216 MHz or 470 MHz - 806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

#### ▪ FCC Part 15.205 (a): Only spurious emissions are permitted in any of the frequency bands listed below:

| MHz                 | MHz                   | MHz                     | MHz               | GHz          | GHz           |
|---------------------|-----------------------|-------------------------|-------------------|--------------|---------------|
| 0.009 ~ 0.110       | 8.414 25 ~ 8.414 75   | 108 ~ 121.94            | 1 300 ~ 1 427     | 4.5 ~ 5.15   | 14.47 ~ 14.5  |
| 0.495 ~ 0.505       | 12.29 ~ 12.293        | 123 ~ 138               | 1 435 ~ 1 626.5   | 5.35 ~ 5.46  | 15.35 ~ 16.2  |
| 2.173 5 ~ 2.190 5   | 12.519 75 ~ 12.520 25 | 149.9 ~ 150.05          | 1 645.5 ~ 1 646.5 | 7.25 ~ 7.75  | 17.7 ~ 21.4   |
| 4.125 ~ 4.128       | 12.576 75 ~ 12.577 25 | 156.524 75 ~ 156.525 25 | 1 660 ~ 1 710     | 8.025 ~ 8.5  | 22.01 ~ 23.12 |
| 4.177 25 ~ 4.177 75 | 13.36 ~ 13.41         | 156.7 ~ 156.9           | 1 718.8 ~ 1 722.2 | 9.0 ~ 9.2    | 23.6 ~ 24.0   |
| 4.207 25 ~ 4.207 75 | 16.42 ~ 16.423        | 162.0125 ~ 167.17       | 2 200 ~ 2 300     | 9.3 ~ 9.5    | 31.2 ~ 31.8   |
| 6.215 ~ 6.218       | 16.694 75 ~ 16.695 25 | 167.72 ~ 173.2          | 2 310 ~ 2 390     | 10.6 ~ 12.7  | 36.43 ~ 36.5  |
| 6.267 75 ~ 6.268 25 | 16.804 25 ~ 16.804 75 | 240 ~ 285               | 2 483.5 ~ 2 500   | 13.25 ~ 13.4 | Above 38.6    |
| 6.311 75 ~ 6.312 25 | 25.5 ~ 25.67          | 322 ~ 335.4             | 2 690 ~ 2 900     |              |               |
| 8.291 ~ 8.294       | 37.5 ~ 38.25          | 399.90 ~ 410            | 3 260 ~ 3 267     |              |               |
| 8.362 ~ 8.366       | 73 ~ 74.6             | 608 ~ 614               | 3 332 ~ 3 339     |              |               |
| 8.376 25 ~ 8.386 75 | 74.8 ~ 75.2           | 960 ~ 1 240             | 3 345.8 ~ 3 358   |              |               |
|                     |                       |                         | 3 600 ~ 4 400     |              |               |

▪ **FCC Part 15.205(b):** The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1 000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1 000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

## ■ Test Configuration



## ■ Test Procedure

1. The EUT is placed on a non-conductive table, emission measurements at below 1 GHz, the table height is 80 cm and above 1 GHz, the table height is 1.5 m.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 1 m or 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.

## ■ Measurement Instrument Setting for Radiated Emission Measurements.

The radiated emission was tested according to the section 6.3, 6.4, 6.5 and 6.6 of the ANSI C63.10-2013 with following settings.

### Peak Measurement

RBW = As specified in below table, VBW  $\geq 3 \times$  RBW, Sweep = Auto, Detector = Peak, Trace mode = Max Hold until the trace stabilizes.

### Average Measurement:

1. RBW = 1 MHz (unless otherwise specified).
2. VBW  $\geq 3 \times$  RBW.
3. Detector = RMS (Number of points  $\geq 2 \times$  Span / RBW)
4. Averaging type = power. (i.e., RMS)
5. Sweep time = auto.
6. Perform a trace average of at least 100 traces.
7. A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:
  - 1) If power averaging (RMS) mode was used in step 4, then the applicable correction factor is  $10 \log(1/D)$ , where x is the duty cycle.
  - 2) If linear voltage averaging mode was used in step 4, then the applicable correction factor is  $20 \log(1/D)$ , where x is the duty cycle.
  - 3) If a specific emission is demonstrated to be continuous ( $\geq 98$  percent duty cycle) rather than turning on and off with the transmit cycle, then no duty cycle correction is required for that emission.

### Duty Cycle Correction factor

| Test Mode | Date rate | T <sub>on</sub> (ms) | T <sub>on+off</sub> (ms) | D = T <sub>on</sub> / (T <sub>on+off</sub> ) | DCCF = 10 log(1/D)<br>(dB) |
|-----------|-----------|----------------------|--------------------------|----------------------------------------------|----------------------------|
| TM 1      | 1 Mbps    | 12.210               | 12.310                   | 0.991 9                                      | NA                         |
| TM 2      | 18 Mbps   | 0.692                | 0.729                    | 0.949 0                                      | 0.23                       |
| TM 3      | MCS 2     | 0.656                | 0.693                    | 0.946 3                                      | 0.24                       |

Note1: Where, T= Transmission duration / D= Duty cycle

Note2: Please refer to the appendix I for duty cycle plots.

## ■ Test Results: **Comply**

Please refer to next page for data table and the appendix I for worst data plots.

### Test Notes.

- The radiated emissions were investigated 9 kHz to 25 GHz. And no other spurious and harmonic emissions were found below listed frequencies.
- Sample Calculation.  
 $\text{Margin} = \text{Limit} - \text{Result}$  /  $\text{Result} = \text{Reading} + \text{T.F} + \text{DCCF} + \text{DCF}$  /  $\text{T.F} = \text{AF} + \text{CL} - \text{AG}$   
Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain,  
DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor
- Information of Distance Factor  
For finding emissions, measurements may be performed at a distance closer than that specified in the regulations.  
In this case, the distance correction factor is applied to the result.  
- Calculation of distance correction factor  
At frequencies below 30 MHz =  $40 \log(\text{tested distance} / \text{specified distance})$   
At frequencies at or above 30 MHz =  $20 \log(\text{tested distance} / \text{specified distance})$   
When distance factor is "N/A", the measurements were performed at the specified distance and distance factor is not applied.

### Radiated Spurious Emissions data(9 kHz ~ 25 GHz) : TM & ANT 2

| Tested Frequency (MHz) | Frequency (MHz) | ANT Pol | EUT Position (Axis) | Detector Mode | Reading (dBuV) | T.F (dB/m) | DCCF (dB) | DCF (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) |
|------------------------|-----------------|---------|---------------------|---------------|----------------|------------|-----------|----------|-----------------|----------------|-------------|
| 2 412                  | 2 389.54        | V       | Y                   | PK            | 50.44          | 4.79       | N/A       | N/A      | 55.23           | 74.00          | 18.77       |
|                        | 2 389.61        | V       | Y                   | AV            | 40.86          | 4.79       | N/A       | N/A      | 45.65           | 54.00          | 8.35        |
|                        | 4 823.94        | V       | X                   | PK            | 44.35          | 1.96       | N/A       | N/A      | 46.31           | 74.00          | 27.69       |
|                        | 4 824.02        | V       | X                   | AV            | 40.17          | 1.96       | N/A       | N/A      | 42.13           | 54.00          | 11.87       |
|                        | 9 647.81        | V       | X                   | PK            | 44.06          | 10.11      | N/A       | N/A      | 54.17           | 74.00          | 19.83       |
|                        | 9 648.17        | V       | X                   | AV            | 37.93          | 10.11      | N/A       | N/A      | 48.04           | 54.00          | 5.96        |
| 2 437                  | 4 873.77        | V       | X                   | PK            | 42.75          | 2.06       | N/A       | N/A      | 44.81           | 74.00          | 29.19       |
|                        | 4 873.93        | V       | X                   | AV            | 39.12          | 2.06       | N/A       | N/A      | 41.18           | 54.00          | 12.82       |
|                        | 9 747.72        | V       | X                   | PK            | 44.61          | 10.43      | N/A       | N/A      | 55.04           | 74.00          | 18.96       |
|                        | 9 748.08        | V       | X                   | AV            | 37.66          | 10.43      | N/A       | N/A      | 48.09           | 54.00          | 5.91        |
| 2 462                  | 2 483.75        | V       | Y                   | PK            | 50.57          | 5.74       | N/A       | N/A      | 56.31           | 74.00          | 17.69       |
|                        | 2 483.82        | V       | Y                   | AV            | 40.42          | 5.74       | N/A       | N/A      | 46.16           | 54.00          | 7.84        |
|                        | 4 923.95        | V       | X                   | PK            | 44.42          | 2.10       | N/A       | N/A      | 46.52           | 74.00          | 27.48       |
|                        | 4 924.02        | V       | X                   | AV            | 40.69          | 2.10       | N/A       | N/A      | 42.79           | 54.00          | 11.21       |
|                        | 9 848.14        | V       | X                   | PK            | 43.90          | 10.65      | N/A       | N/A      | 54.55           | 74.00          | 19.45       |
|                        | 9 848.06        | V       | X                   | AV            | 36.36          | 10.65      | N/A       | N/A      | 47.01           | 54.00          | 6.99        |

**Radiated Spurious Emissions data(9 kHz ~ 25 GHz) : TM 2 & 2TX(CDD)**

| Tested Frequency (MHz) | Frequency (MHz) | ANT Pol | EUT Position (Axis) | Detector Mode | Reading (dBuV) | T.F (dB/m) | DCCF (dB) | DCF (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) |
|------------------------|-----------------|---------|---------------------|---------------|----------------|------------|-----------|----------|-----------------|----------------|-------------|
| 2 412                  | 2 389.94        | V       | Y                   | PK            | 56.71          | 4.79       | N/A       | N/A      | 61.50           | 74.00          | 12.50       |
|                        | 2 389.87        | V       | Y                   | AV            | 45.15          | 4.79       | 0.23      | N/A      | 50.17           | 54.00          | 3.83        |
|                        | 4 823.15        | V       | X                   | PK            | 52.41          | 1.95       | N/A       | N/A      | 54.36           | 74.00          | 19.64       |
|                        | 4 823.07        | V       | X                   | AV            | 42.67          | 1.95       | 0.23      | N/A      | 44.85           | 54.00          | 9.15        |
|                        | 9 648.37        | V       | X                   | PK            | 43.70          | 10.11      | N/A       | N/A      | 53.81           | 74.00          | 20.19       |
|                        | 9 648.02        | V       | X                   | AV            | 36.50          | 10.11      | 0.23      | N/A      | 46.84           | 54.00          | 7.16        |
| 2 437                  | 4 874.08        | V       | X                   | PK            | 52.98          | 2.06       | N/A       | N/A      | 55.04           | 74.00          | 18.96       |
|                        | 4 873.96        | V       | X                   | AV            | 43.35          | 2.06       | 0.23      | N/A      | 45.64           | 54.00          | 8.36        |
|                        | 9 748.05        | V       | X                   | PK            | 44.15          | 10.43      | N/A       | N/A      | 54.58           | 74.00          | 19.42       |
|                        | 9 747.97        | V       | X                   | AV            | 37.81          | 10.43      | 0.23      | N/A      | 48.47           | 54.00          | 5.53        |
| 2 462                  | 2 483.82        | V       | Y                   | PK            | 51.38          | 5.74       | N/A       | N/A      | 57.12           | 74.00          | 16.88       |
|                        | 2 483.55        | V       | Y                   | AV            | 41.80          | 5.74       | 0.23      | N/A      | 47.77           | 54.00          | 6.23        |
|                        | 4 923.97        | V       | X                   | PK            | 52.27          | 2.10       | N/A       | N/A      | 54.37           | 74.00          | 19.63       |
|                        | 4 923.38        | V       | X                   | AV            | 42.20          | 2.10       | 0.23      | N/A      | 44.53           | 54.00          | 9.47        |
|                        | 9 848.13        | V       | X                   | PK            | 44.65          | 10.65      | N/A       | N/A      | 55.30           | 74.00          | 18.70       |
|                        | 9 848.00        | V       | X                   | AV            | 39.44          | 10.65      | 0.23      | N/A      | 50.32           | 54.00          | 3.68        |

**Radiated Spurious Emissions data(9 kHz ~ 25 GHz) : TM 3 & 2TX(CDD)**

| Tested Frequency (MHz) | Frequency (MHz) | ANT Pol | EUT Position (Axis) | Detector Mode | Reading (dBuV) | T.F (dB/m) | DCCF (dB) | DCF (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dB) |
|------------------------|-----------------|---------|---------------------|---------------|----------------|------------|-----------|----------|-----------------|----------------|-------------|
| 2 412                  | 2 389.76        | V       | Y                   | PK            | 52.96          | 4.79       | N/A       | N/A      | 57.75           | 74.00          | 16.25       |
|                        | 2 389.91        | V       | Y                   | AV            | 41.81          | 4.79       | 0.24      | N/A      | 46.84           | 54.00          | 7.16        |
|                        | 4 820.66        | V       | X                   | PK            | 50.75          | 1.94       | N/A       | N/A      | 52.69           | 74.00          | 21.31       |
|                        | 4 820.19        | V       | X                   | AV            | 41.11          | 1.94       | 0.24      | N/A      | 43.29           | 54.00          | 10.71       |
|                        | 9 648.17        | V       | X                   | PK            | 42.43          | 10.11      | N/A       | N/A      | 52.54           | 74.00          | 21.46       |
|                        | 9 648.08        | V       | X                   | AV            | 35.44          | 10.11      | 0.24      | N/A      | 45.79           | 54.00          | 8.21        |
| 2 437                  | 4 871.56        | V       | X                   | PK            | 51.14          | 2.06       | N/A       | N/A      | 53.20           | 74.00          | 20.80       |
|                        | 4 872.76        | V       | X                   | AV            | 41.45          | 2.06       | 0.24      | N/A      | 43.75           | 54.00          | 10.25       |
|                        | 9 748.00        | V       | X                   | PK            | 43.24          | 10.43      | N/A       | N/A      | 53.67           | 74.00          | 20.33       |
|                        | 9 747.98        | V       | X                   | AV            | 36.60          | 10.43      | 0.24      | N/A      | 47.27           | 54.00          | 6.73        |
| 2 462                  | 2 483.58        | V       | Y                   | PK            | 48.38          | 5.74       | N/A       | N/A      | 54.12           | 74.00          | 19.88       |
|                        | 2 483.62        | V       | Y                   | AV            | 39.70          | 5.74       | 0.24      | N/A      | 45.68           | 54.00          | 8.32        |
|                        | 4 925.55        | V       | X                   | PK            | 51.43          | 2.10       | N/A       | N/A      | 53.53           | 74.00          | 20.47       |
|                        | 4 924.13        | V       | X                   | AV            | 40.59          | 2.10       | 0.24      | N/A      | 42.93           | 54.00          | 11.07       |
|                        | 9 847.98        | V       | X                   | PK            | 44.23          | 10.65      | N/A       | N/A      | 54.88           | 74.00          | 19.12       |
|                        | 9 848.12        | V       | X                   | AV            | 36.53          | 10.65      | 0.24      | N/A      | 47.42           | 54.00          | 6.58        |



## 8.6 Power-line conducted emissions

### ■ Test Requirements and limit, §15.207

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohm line impedance stabilization network (LISN).

Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequency ranges.

| Frequency Range<br>(MHz) | Conducted Limit (dBuV) |            |
|--------------------------|------------------------|------------|
|                          | Quasi-Peak             | Average    |
| 0.15 ~ 0.5               | 66 to 56 *             | 56 to 46 * |
| 0.5 ~ 5                  | 56                     | 46         |
| 5 ~ 30                   | 60                     | 50         |

\* Decreases with the logarithm of the frequency

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

### ■ Test Procedure

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to the test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.

### ■ Test Results: **Comply**(Refer to next page.)

The worst data was reported.

■ RESULT PLOTS

AC Line Conducted Emissions (Graph)

TM 2 & Highest

Results of Conducted Emission

DTNC

Date 2021-01-08

Order No.

EF550

Reference No.

Power Supply

120 V, 60 Hz

Model No.

Serial No.

Test Condition

2.4G WLAN

Temp/Humi.

Operator

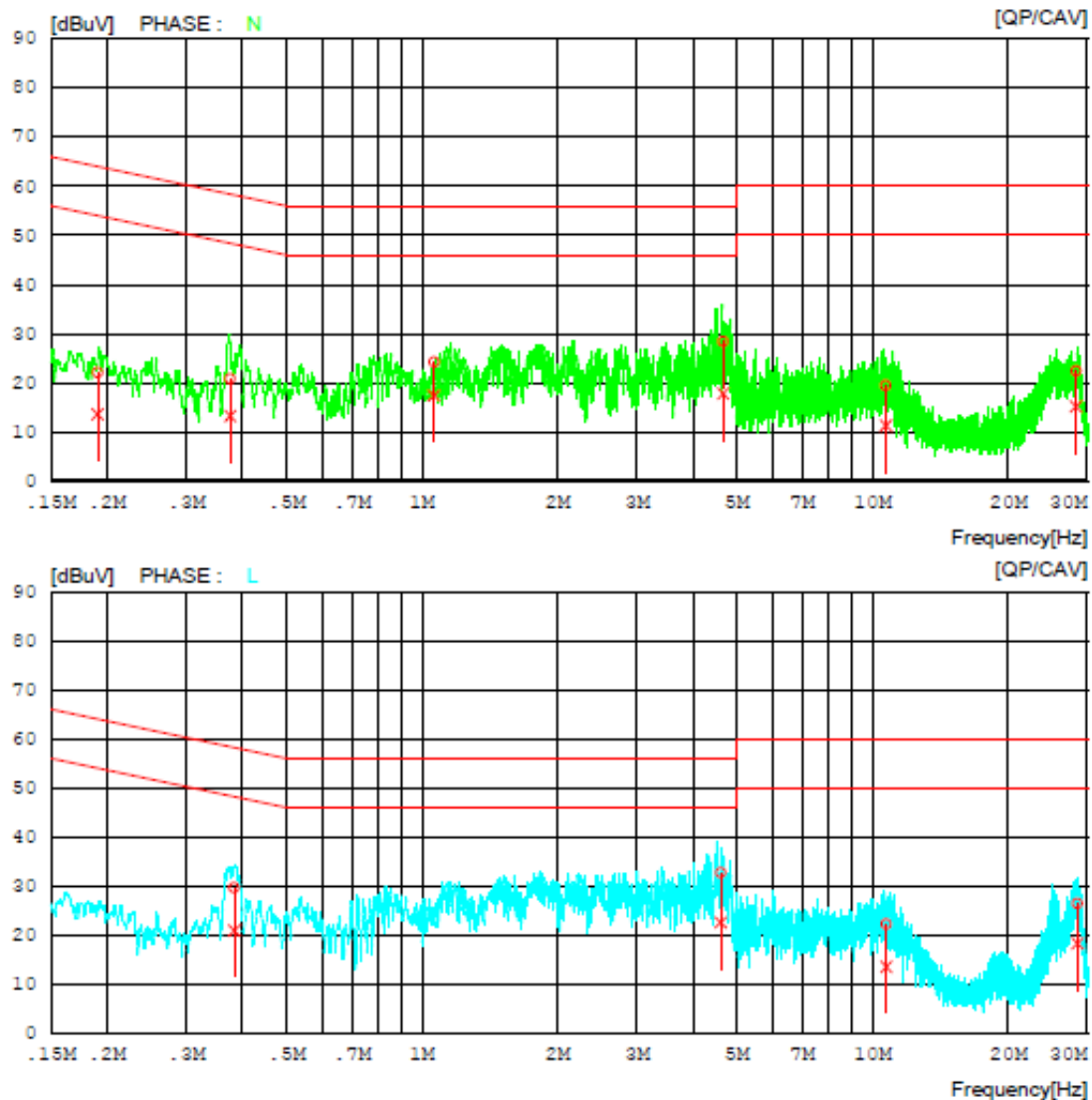
23 °C / 40 %

J.H.Bang

Memo

LIMIT : FCC P15.207 QP

FCC P15.207 AV



# AC Line Conducted Emissions (List)

TM 2 & Highest

## Results of Conducted Emission

DTNC

Date 2021-01-08

|                |           |               |              |
|----------------|-----------|---------------|--------------|
| Order No.      |           | Reference No. |              |
| Model No.      | EF550     | Power Supply  | 120 V, 60 Hz |
| Serial No.     |           | Temp/Humi.    | 23 'C / 40 % |
| Test Condition | 2.4G WLAN | Operator      | J.H.Bang     |

Memo

LIMIT : FCC P15.207 QP  
FCC P15.207 AV

| NO | FREQ<br>[MHz] | READING |        | C.FACTOR<br>[dB] | RESULT |        | LIMIT  |        | MARGIN |        | PHASE |
|----|---------------|---------|--------|------------------|--------|--------|--------|--------|--------|--------|-------|
|    |               | QP      | CAV    |                  | QP     | CAV    | QP     | CAV    | QP     | CAV    |       |
|    |               | [dBuV]  | [dBuV] |                  | [dBuV] | [dBuV] | [dBuV] | [dBuV] | [dBuV] | [dBuV] |       |
| 1  | 0.19046       | 12.12   | 3.64   | 9.94             | 22.06  | 13.58  | 64.02  | 54.02  | 41.96  | 40.44  | N     |
| 2  | 0.37516       | 10.78   | 3.28   | 9.97             | 20.75  | 13.25  | 58.39  | 48.39  | 37.64  | 35.14  | N     |
| 3  | 1.06281       | 14.28   | 7.40   | 9.98             | 24.26  | 17.38  | 56.00  | 46.00  | 31.74  | 28.62  | N     |
| 4  | 4.65874       | 18.31   | 7.61   | 10.14            | 28.45  | 17.75  | 56.00  | 46.00  | 27.55  | 28.25  | N     |
| 5  | 10.70083      | 9.11    | 0.92   | 10.34            | 19.45  | 11.26  | 60.00  | 50.00  | 40.55  | 38.74  | N     |
| 6  | 28.31949      | 11.74   | 4.54   | 10.65            | 22.39  | 15.19  | 60.00  | 50.00  | 37.61  | 34.81  | N     |
| 7  | 0.38285       | 19.63   | 11.02  | 9.95             | 29.58  | 20.97  | 58.22  | 48.22  | 28.64  | 27.25  | L     |
| 8  | 4.60042       | 22.53   | 12.45  | 10.13            | 32.66  | 22.58  | 56.00  | 46.00  | 23.34  | 23.42  | L     |
| 9  | 10.72613      | 11.92   | 3.25   | 10.33            | 22.25  | 13.58  | 60.00  | 50.00  | 37.75  | 36.42  | L     |
| 10 | 28.50965      | 15.81   | 7.69   | 10.59            | 26.40  | 18.28  | 60.00  | 50.00  | 33.60  | 31.72  | L     |

## 9. LIST OF TEST EQUIPMENT

| Type                                | Manufacturer           | Model                         | Cal.Date<br>(yy/mm/dd) | Next.Cal.Date<br>(yy/mm/dd) | S/N                |
|-------------------------------------|------------------------|-------------------------------|------------------------|-----------------------------|--------------------|
| Spectrum Analyzer                   | Agilent Technologies   | N9020A                        | 20/12/16               | 21/12/16                    | MY46471096         |
| Spectrum Analyzer                   | Agilent Technologies   | N9020A                        | 20/12/16               | 21/12/16                    | MY48011700         |
| Spectrum Analyzer                   | Agilent Technologies   | N9020A                        | 20/06/24               | 21/06/24                    | US47360812         |
| DC Power Supply                     | Agilent Technologies   | 66332A                        | 20/06/24               | 21/06/24                    | MY43001172         |
| Multimeter                          | FLUKE                  | 17B+                          | 20/12/16               | 21/12/16                    | 3630701WS          |
| Signal Generator                    | Rohde Schwarz          | SMBV100A                      | 20/12/16               | 21/12/16                    | 255571             |
| Signal Generator                    | ANRITSU                | MG3695C                       | 20/12/16               | 21/12/16                    | 173501             |
| Thermohygrometer                    | BODYCOM                | BJ5478                        | 20/12/16               | 21/12/16                    | 120612-1           |
| Thermohygrometer                    | BODYCOM                | BJ5478                        | 20/12/16               | 21/12/16                    | 120612-2           |
| Thermohygrometer                    | BODYCOM                | BJ5478                        | 20/07/01               | 21/07/01                    | N/A                |
| Loop Antenna                        | ETS-Lindgren           | 6502                          | 20/04/24               | 22/04/24                    | 203480             |
| BILOG ANTENNA                       | Schwarzbeck            | VULB 9160                     | 19/04/23               | 21/04/23                    | 9160-3362          |
| Horn Antenna                        | ETS-Lindgren           | 3117                          | 20/10/23               | 21/10/23                    | 00143278           |
| PreAmplifier                        | tsj                    | MLA-0118-B01-40               | 20/12/16               | 21/12/16                    | 1852267            |
| PreAmplifier                        | tsj                    | MLA-1840-J02-45               | 20/06/24               | 21/06/24                    | 16966-10728        |
| PreAmplifier                        | H.P                    | 8447D                         | 20/12/16               | 21/12/16                    | 2944A07774         |
| High Pass Filter                    | Wainwright Instruments | WHKX12-935-1000-15000-40SS    | 20/06/24               | 21/06/24                    | 8                  |
| High Pass Filter                    | Wainwright Instruments | WHKX10-2838-3300-18000-60SS   | 20/06/24               | 21/06/24                    | 1                  |
| High Pass Filter                    | Wainwright Instruments | WHNX8.0/26.5-6SS              | 20/06/24               | 21/06/24                    | 3                  |
| Attenuator                          | Hefei Shunze           | SS5T2.92-10-40                | 20/06/24               | 21/06/24                    | 16012202           |
| Attenuator                          | SRTechnology           | F01-B0606-01                  | 20/06/24               | 21/06/24                    | 13092403           |
| Attenuator                          | Aeroflex/Weinschel     | 56-3                          | 20/06/24               | 21/06/24                    | Y2370              |
| Attenuator                          | SMAJK                  | SMAJK-2-3                     | 20/06/24               | 21/06/24                    | 2                  |
| Attenuator                          | Hefei Shunze           | SS5T2.92-10-40                | 20/06/24               | 21/06/24                    | 16012202           |
| Attenuator                          | SMAJK                  | SMAJK-50-10                   | 20/06/24               | 21/06/24                    | 15081903           |
| Power Meter & Wide Bandwidth Sensor | Anritsu                | ML2488B<br>MA2491A            | 20/12/16               | 21/12/16                    | 0910025<br>0845333 |
| EMI Test Receiver                   | ROHDE&SCHWARZ          | ESU                           | 20/01/20               | 21/01/20                    | 100538             |
| PULSE LIMITER                       | Rohde Schwarz          | ESH3-Z2                       | 20/08/25               | 21/08/25                    | 101333             |
| LISN                                | SCHWARZBECK            | NSLK 8128 RC                  | 20/10/23               | 21/10/23                    | 8128 RC-387        |
| Cable                               | Junkosha               | MWX241                        | 20/01/13               | 21/01/13                    | G-04               |
| Cable                               | Junkosha               | MWX241                        | 20/01/13               | 21/01/13                    | G-07               |
| Cable                               | DT&C                   | Cable                         | 20/01/13               | 21/01/13                    | G-13               |
| Cable                               | DT&C                   | Cable                         | 20/01/13               | 21/01/13                    | G-14               |
| Cable                               | HUBER+SUHNER           | SUCOFLEX 104                  | 20/01/13               | 21/01/13                    | G-15               |
| Cable                               | DT&C                   | Cable                         | 21/01/08               | 22/01/08                    | M-01               |
| Cable                               | DT&C                   | Cable                         | 21/01/08               | 22/01/08                    | M-02               |
| Cable                               | DT&C                   | Cable                         | 21/01/08               | 22/01/08                    | M-03               |
| Cable                               | DT&C                   | Cable                         | 21/01/08               | 22/01/08                    | M-07               |
| Cable                               | DT&C                   | Cable                         | 21/01/08               | 22/01/08                    | M-09               |
| Cable                               | Radiall                | TESTPRO3                      | 20/01/16               | 21/01/16                    | RF-82              |
| Test Software                       | tsj                    | Raidated Emission Measurement | NA                     | NA                          | Version 2.00.0177  |
| Test Software                       | tsj                    | Noise Terminal Measurement    | NA                     | NA                          | Version 2.00.0170  |

Note 1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017

Note 2: The cable is not a regular calibration item, so it has been calibrated by DT & C itself.

## APPENDIX I

### Duty cycle plots

#### ▪ Test Procedure

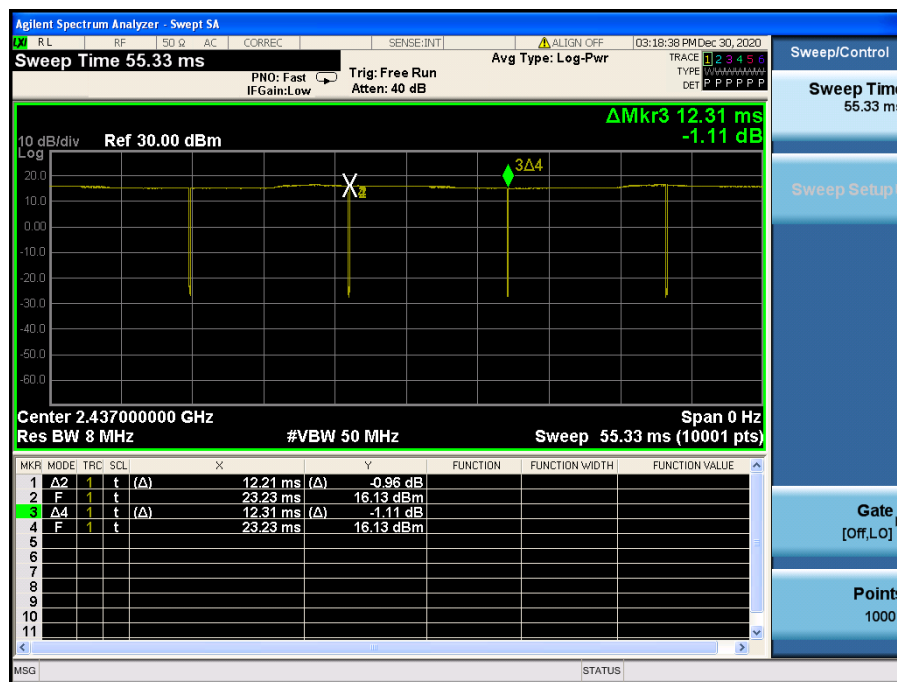
Duty Cycle was measured using **section 6.0 b) of KDB558074 D01v05r02** :

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set  $RBW \geq OBW$  if possible; otherwise, set RBW to the largest available value. Set  $VBW \geq RBW$ . Set detector = peak or average.

The zero-span measurement method shall not be used unless both RBW and VBW are  $> 50 / T$  and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if  $T \leq 16.7$  microseconds.)

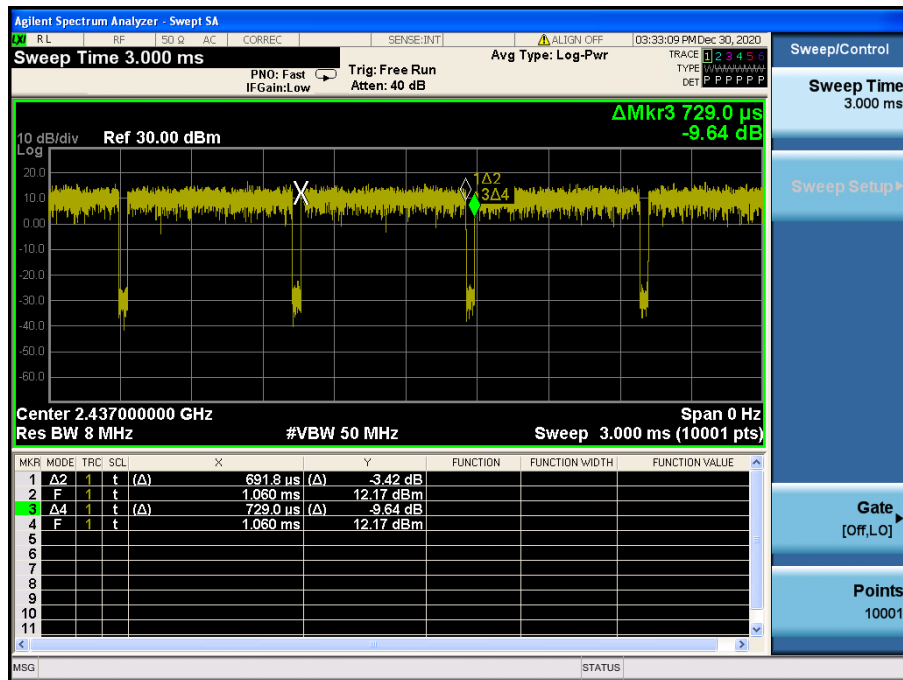
#### Duty Cycle

TM 1 & ANT 1 & 2 437 MHz & 1 Mbps



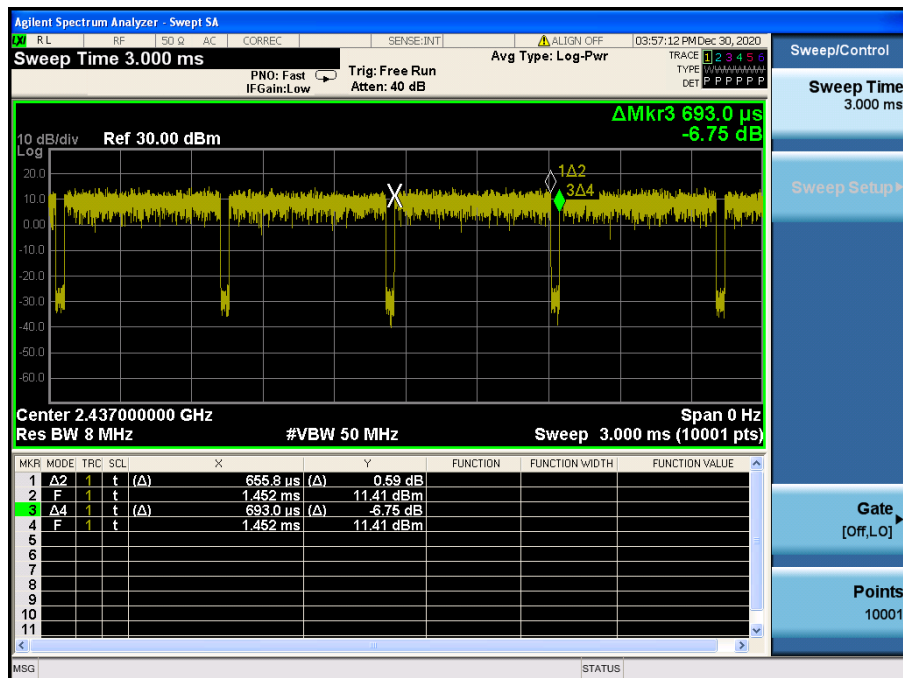
## Duty Cycle

TM 2 &amp; ANT 1 &amp; 2 437 MHz &amp; 18 Mbps



## Duty Cycle

TM 3 &amp; ANT 1 &amp; 2 437 MHz &amp; MCS 2

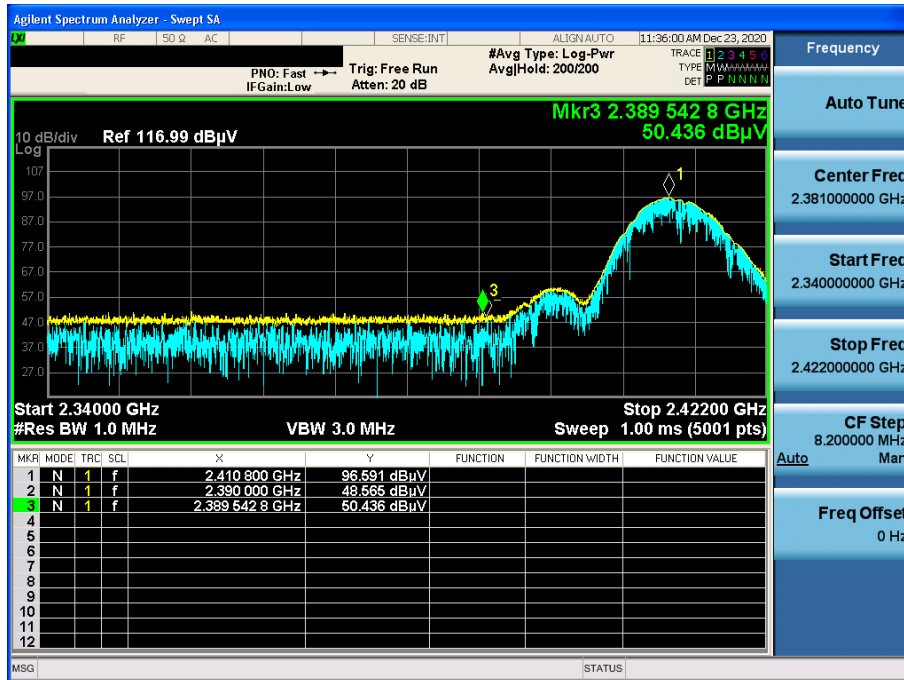


## APPENDIX II

## Unwanted Emissions (Radiated) Test Plot

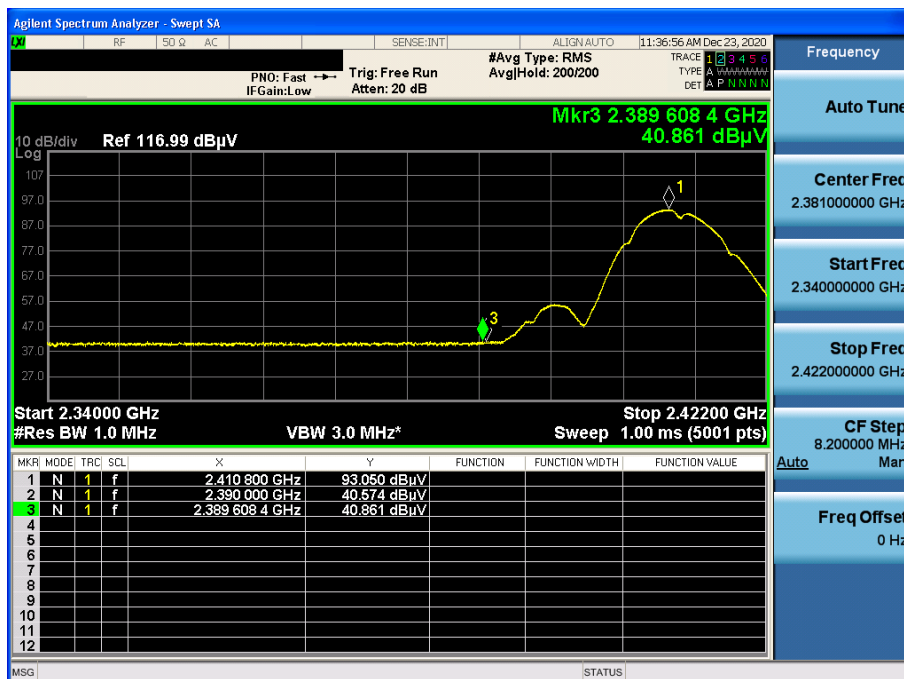
TM 1 &amp; ANT2 &amp; 2 412 &amp; Y axis &amp; Ver

Detector Mode : PK



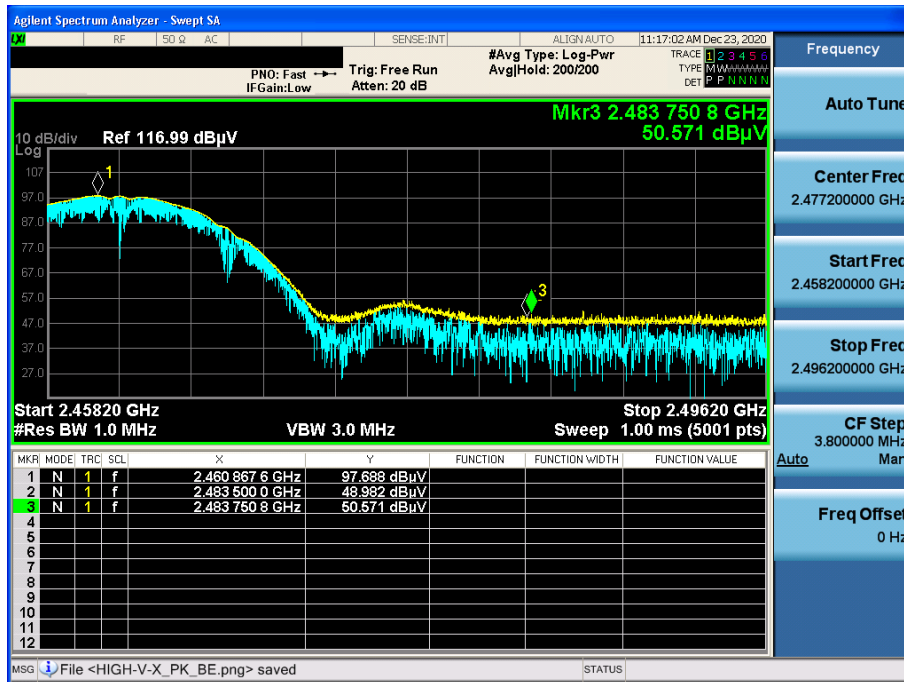
TM 1 &amp; ANT2 &amp; 2 412 &amp; Y axis &amp; Ver

Detector Mode : AV



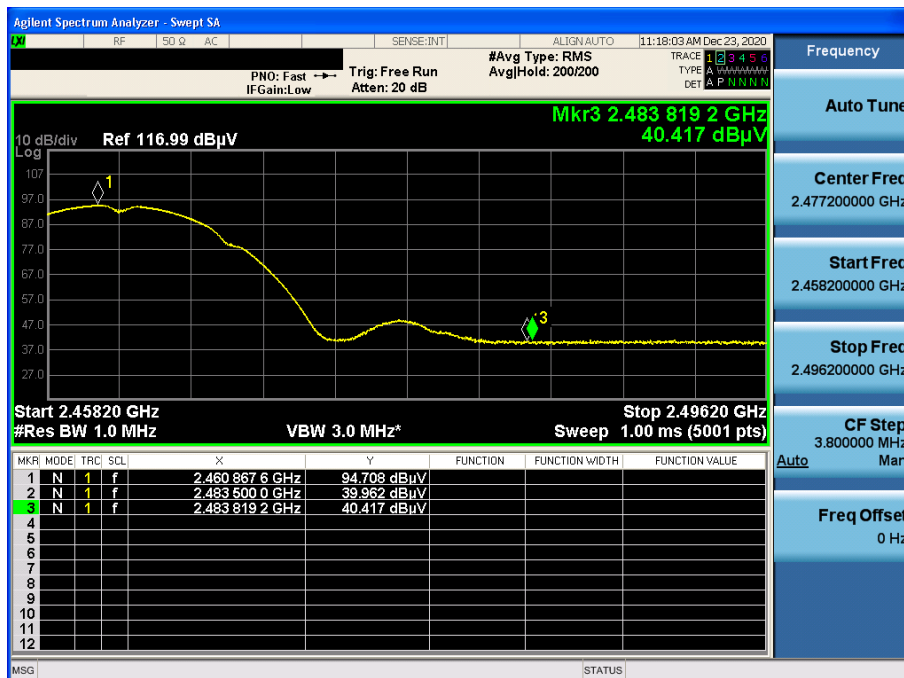
TM 1 & ANT2 & 2 462 & Y axis & Ver

Detector Mode : PK



TM 1 & ANT2 & 2 462 & Y axis & Ver

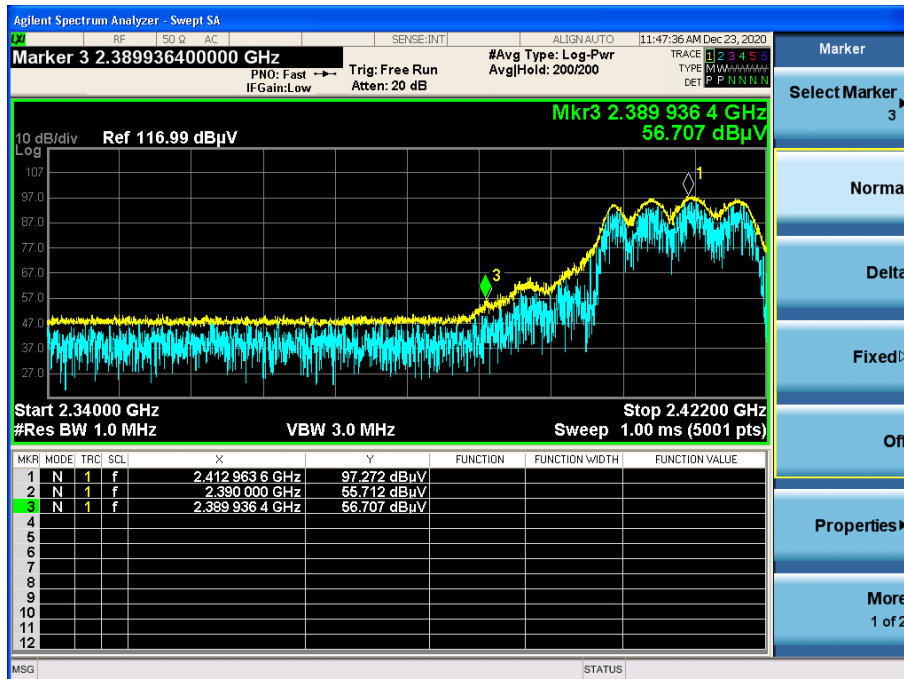
Detector Mode : AV





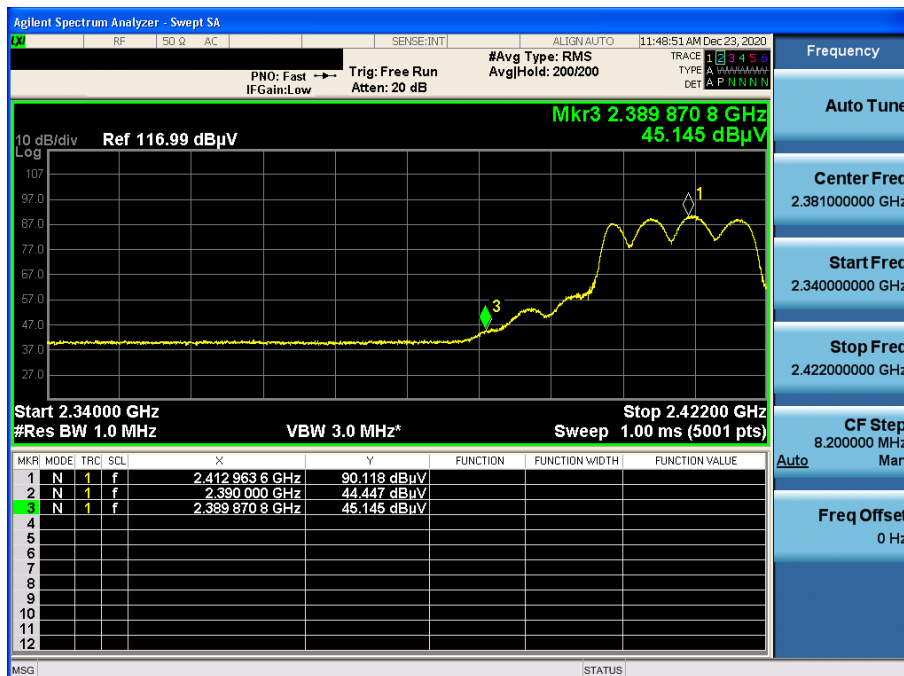
TM 2 & 2 412 & Y axis & Ver

Detector Mode : PK



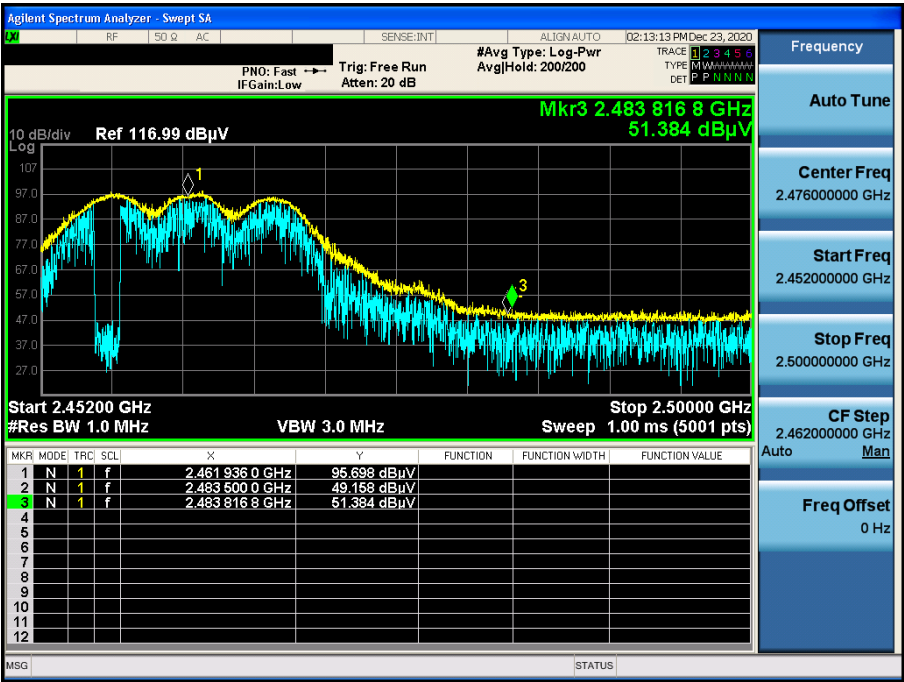
TM 2 & 2 412 & Y axis & Ver

Detector Mode : AV



TM 2 & 2 462 & Y axis & Ver

Detector Mode : PK



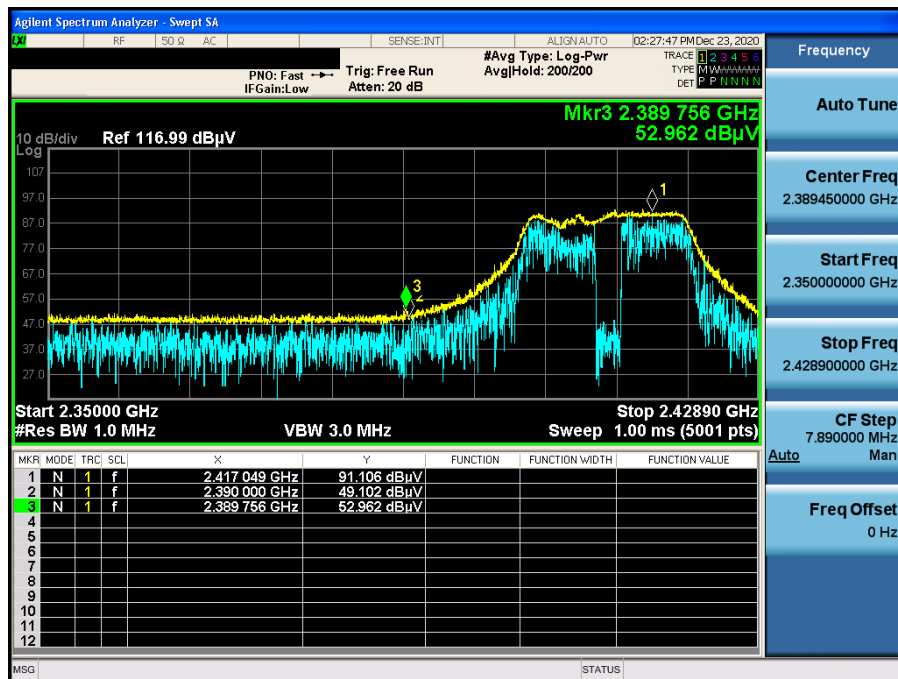
TM 2 & 2 462 & Y axis & Ver

Detector Mode : AV



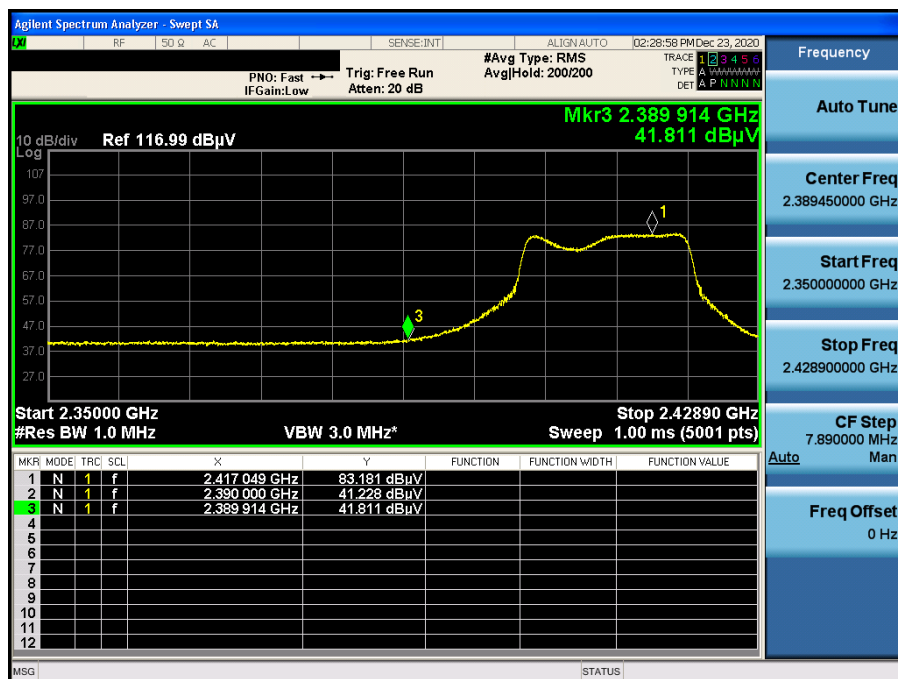
TM 3 & 2 412 & Y axis & Ver

Detector Mode : PK



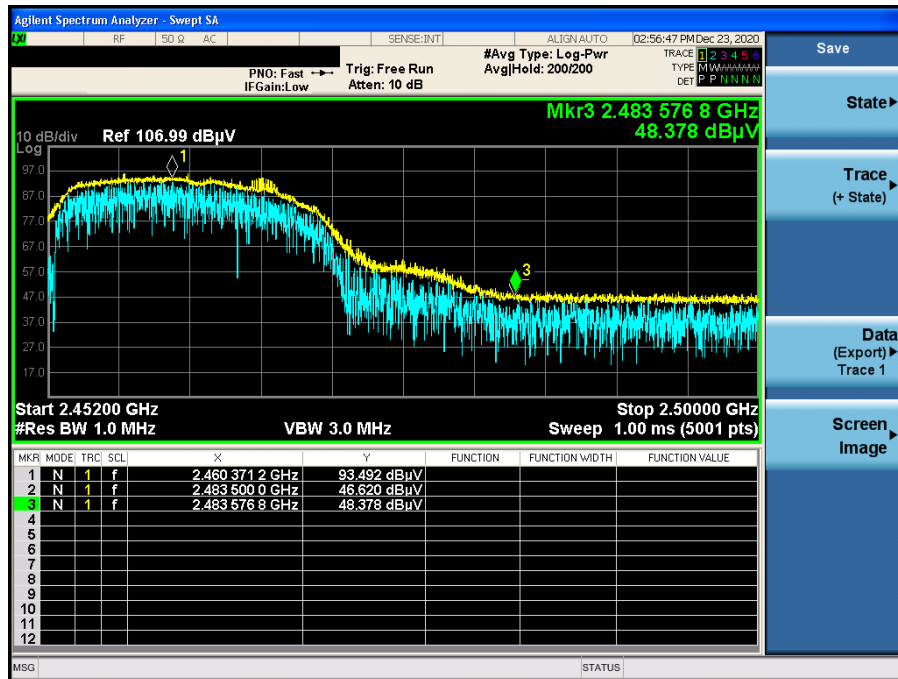
TM 3 & 2 412 & Y axis & Ver

Detector Mode : AV



TM 3 & 2 462 & Y axis & Ver

Detector Mode : PK



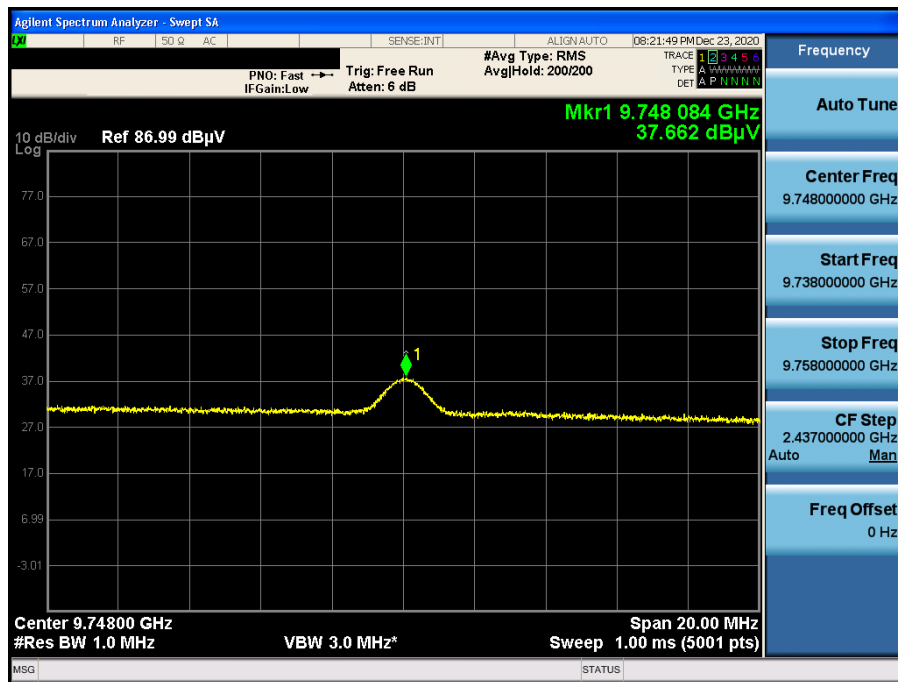
TM 3 & 2 462 & Y axis & Ver

Detector Mode : AV



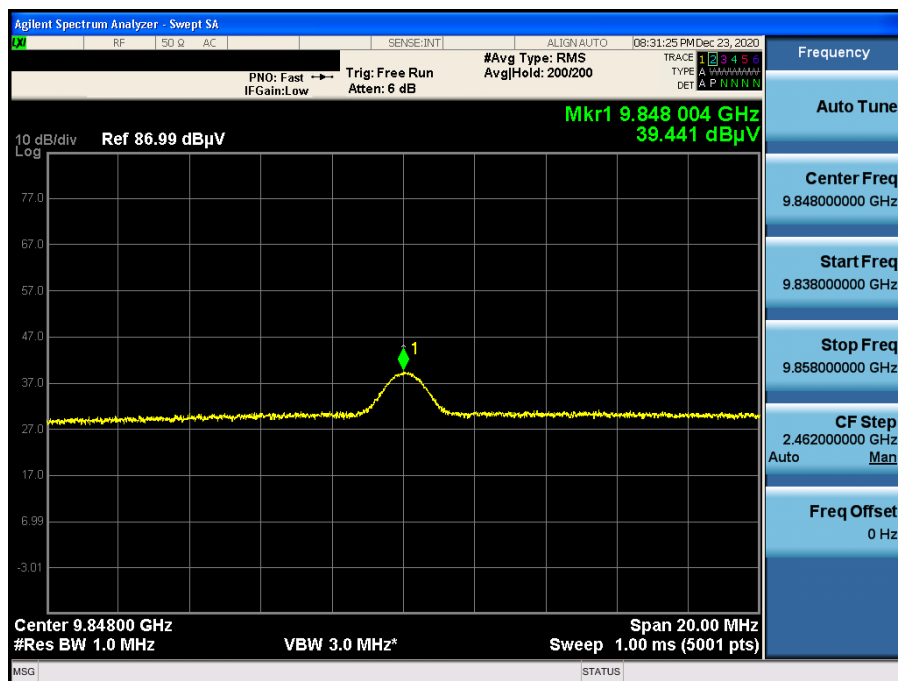
TM 1 & 2 437 & X axis & Ver

Detector Mode : AV



TM 2 & 2 462 & X axis & Ver

Detector Mode : AV



TM 3 & 2 437 & X axis & Ver

Detector Mode : AV

