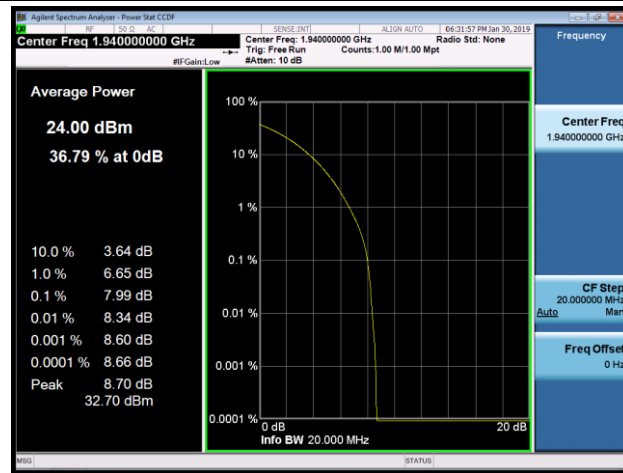


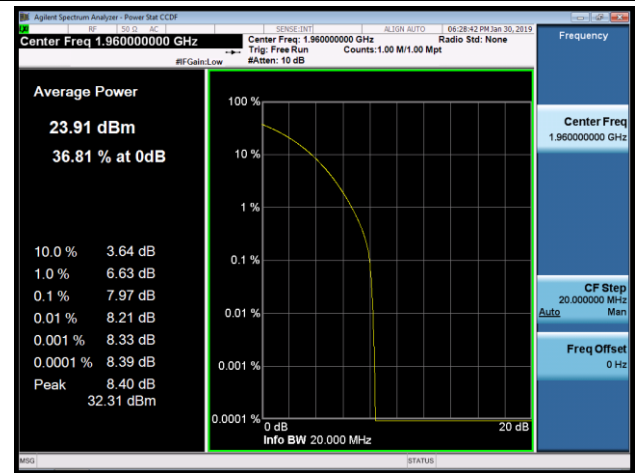
# Peak to Average Ratio - Ant 1 (16QAM)

## 20MHz Channel Bandwidth

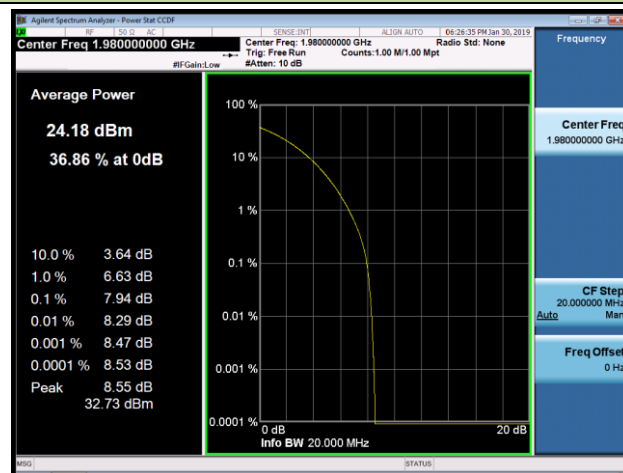
1940.0MHz



1960.0MHz



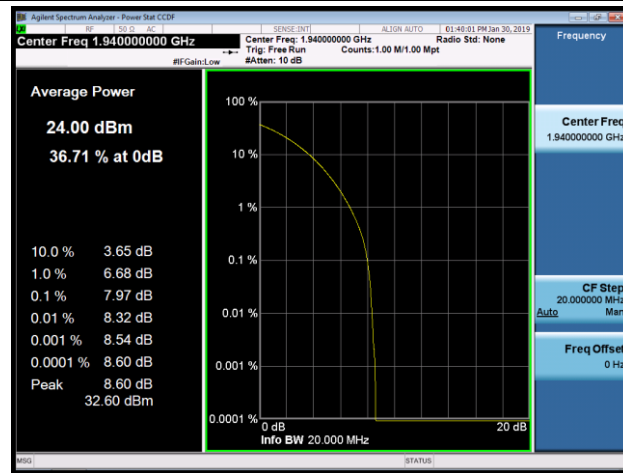
1980.0MHz



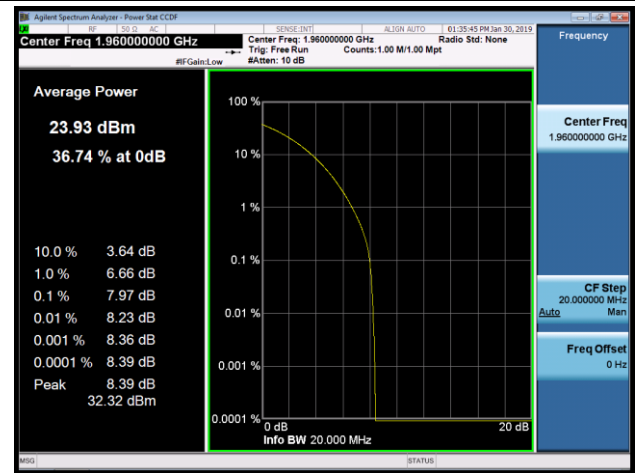
# Peak to Average Ratio - Ant 1 (64QAM)

## 20MHz Channel Bandwidth

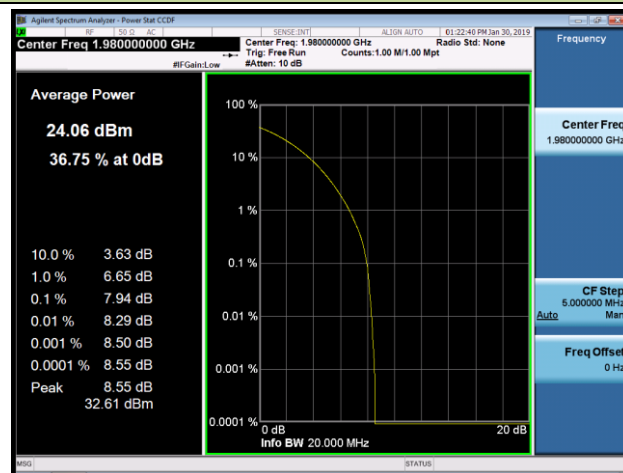
1940.0MHz



1960.0MHz



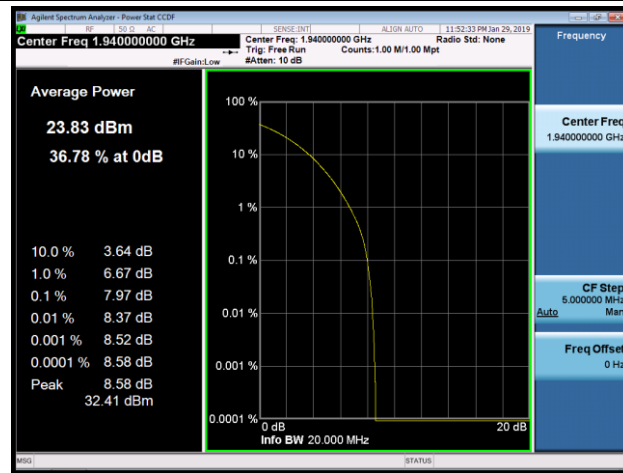
1980.0MHz



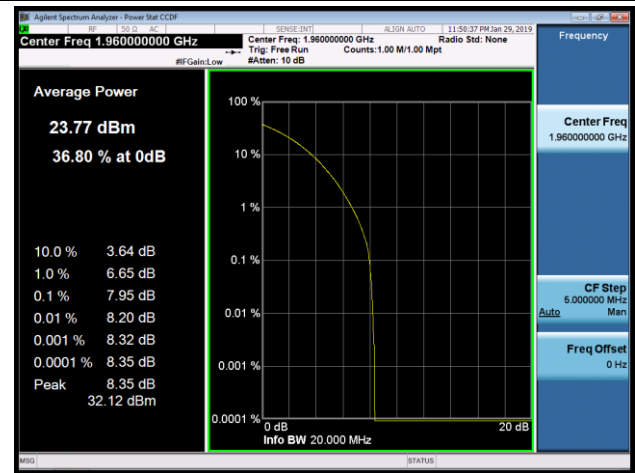
# Peak to Average Ratio - Ant 1 (256QAM)

## 20MHz Channel Bandwidth

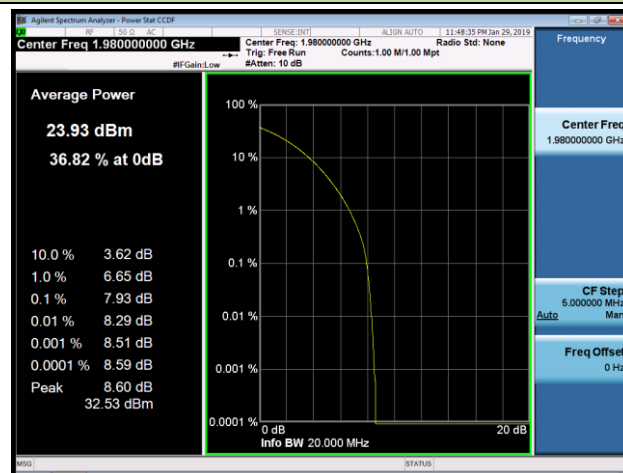
1940.0MHz



1960.0MHz



1980.0MHz



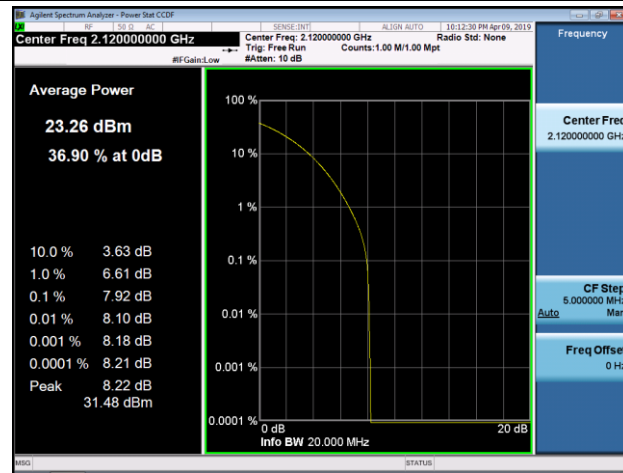
|           |                                     |               |            |
|-----------|-------------------------------------|---------------|------------|
| Product   | AirScale Indoor Radio ASiR-pRRH     | Test Engineer | Peter Xu   |
| Test Site | SR2                                 | Test Date     | 2019/04/09 |
| Test Item | Peak to Average Ratio - LTE Band 66 |               |            |

| Channel | Frequency<br>(MHz) | Channel<br>Bandwidth (MHz) | Peak to Average Ratio (dB) |       | Limit<br>(dBm) | Result |
|---------|--------------------|----------------------------|----------------------------|-------|----------------|--------|
|         |                    |                            | Ant 0                      | Ant 1 |                |        |
| QPSK    |                    |                            |                            |       |                |        |
| 66536   | 2120.0             | 20                         | 7.92                       | 7.94  | ≤ 13.00        | Pass   |
| 66786   | 2145.0             | 20                         | 7.94                       | 7.94  | ≤ 13.00        | Pass   |
| 67036   | 2170.0             | 20                         | 7.91                       | 7.91  | ≤ 13.00        | Pass   |
| 16QAM   |                    |                            |                            |       |                |        |
| 66536   | 2120.0             | 20                         | 7.94                       | 7.95  | ≤ 13.00        | Pass   |
| 66786   | 2145.0             | 20                         | 7.92                       | 7.92  | ≤ 13.00        | Pass   |
| 67036   | 2170.0             | 20                         | 7.89                       | 7.90  | ≤ 13.00        | Pass   |
| 64QAM   |                    |                            |                            |       |                |        |
| 66536   | 2120.0             | 20                         | 7.95                       | 7.95  | ≤ 13.00        | Pass   |
| 66786   | 2145.0             | 20                         | 7.93                       | 7.94  | ≤ 13.00        | Pass   |
| 67036   | 2170.0             | 20                         | 7.93                       | 7.92  | ≤ 13.00        | Pass   |
| 256QAM  |                    |                            |                            |       |                |        |
| 66536   | 2120.0             | 20                         | 7.93                       | 7.95  | ≤ 13.00        | Pass   |
| 66786   | 2145.0             | 20                         | 7.92                       | 7.94  | ≤ 13.00        | Pass   |
| 67036   | 2170.0             | 20                         | 7.90                       | 7.90  | ≤ 13.00        | Pass   |

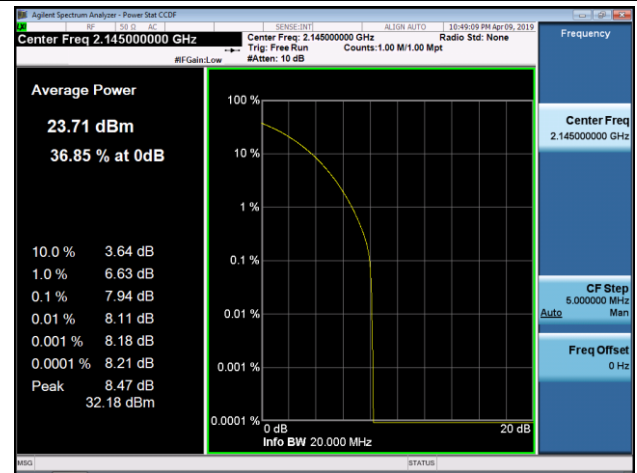
# Peak to Average Ratio - Ant 0 (QPSK)

## 20MHz Channel Bandwidth

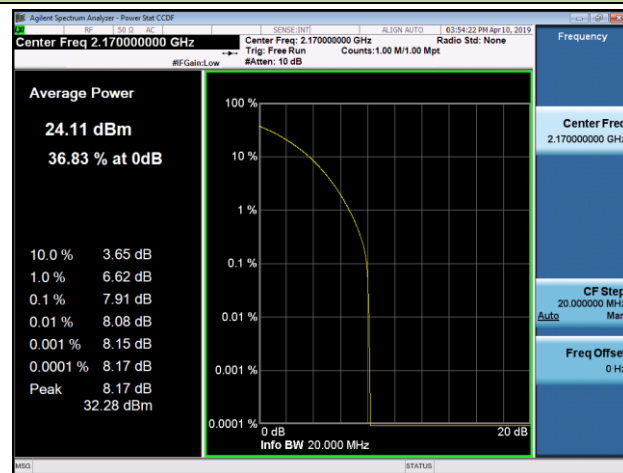
2120.0MHz



2145.0MHz



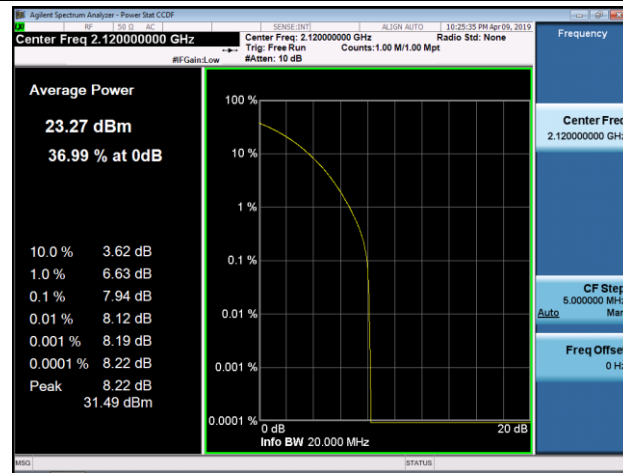
2170.0MHz



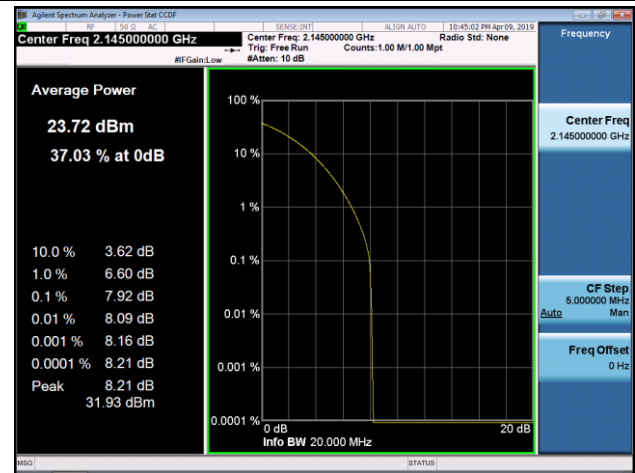
# Peak to Average Ratio - Ant 0 (16QAM)

## 20MHz Channel Bandwidth

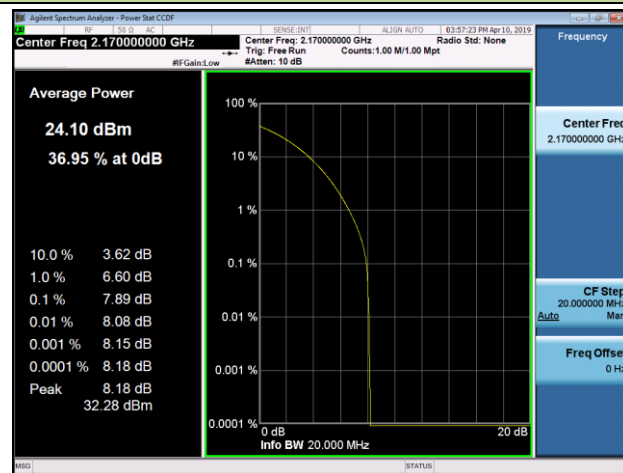
2120.0MHz



2145.0MHz



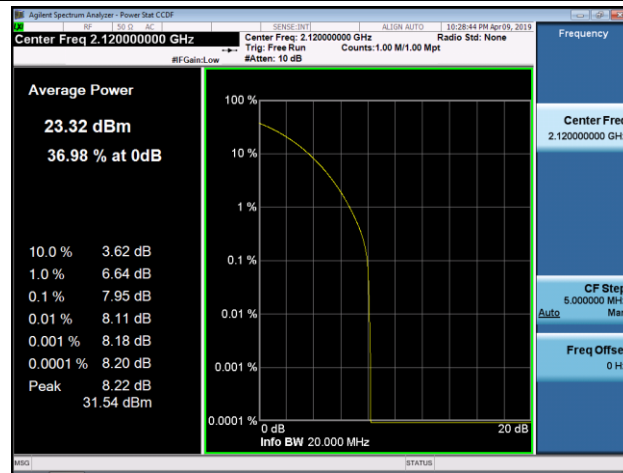
2170.0MHz



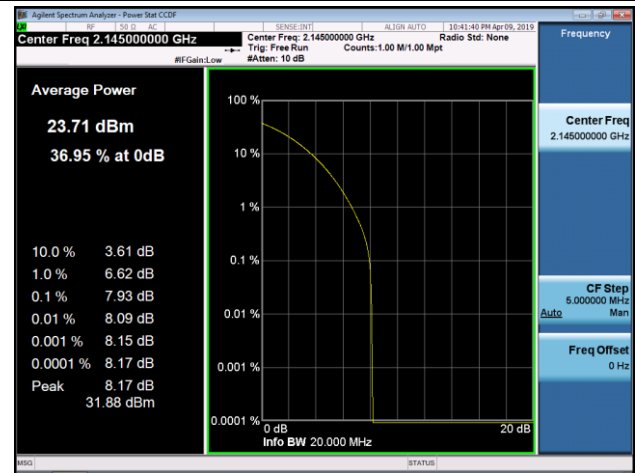
# Peak to Average Ratio - Ant 0 (64QAM)

## 20MHz Channel Bandwidth

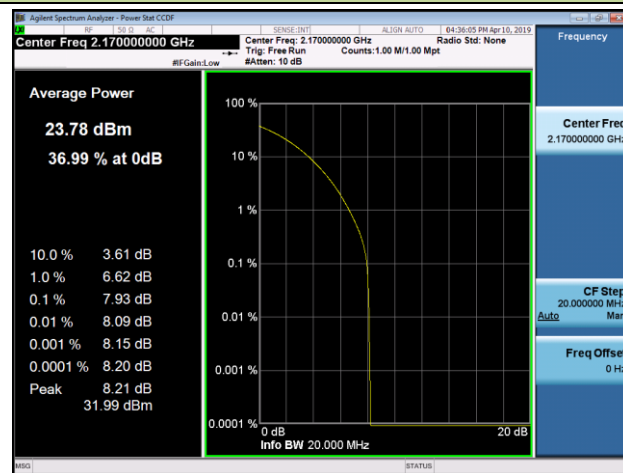
2120.0MHz



2145.0MHz



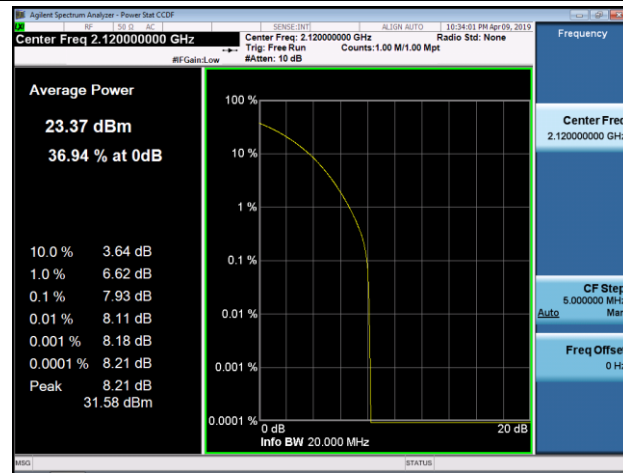
2170.0MHz



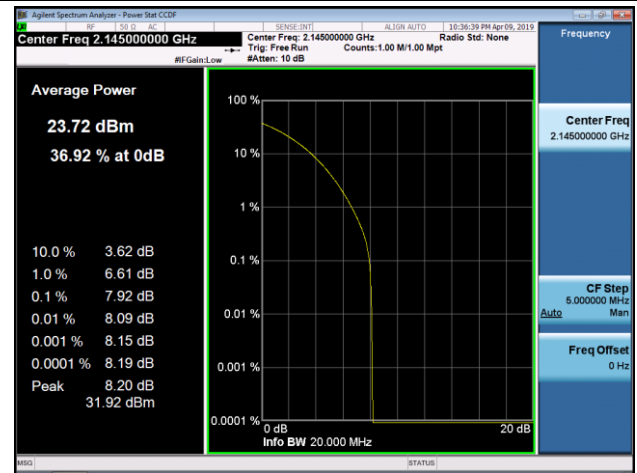
# Peak to Average Ratio - Ant 0 (256QAM)

## 20MHz Channel Bandwidth

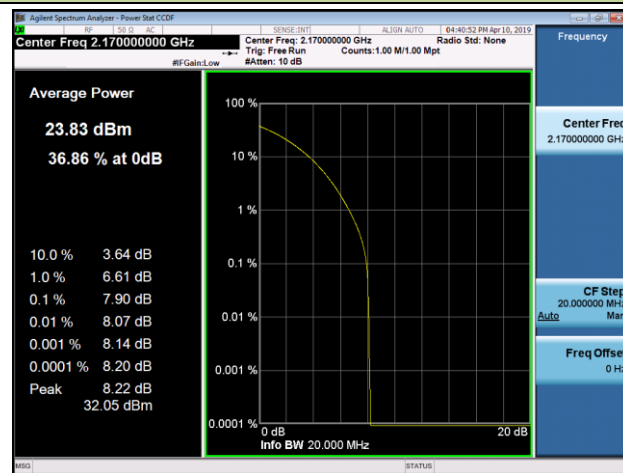
2120.0MHz



2145.0MHz



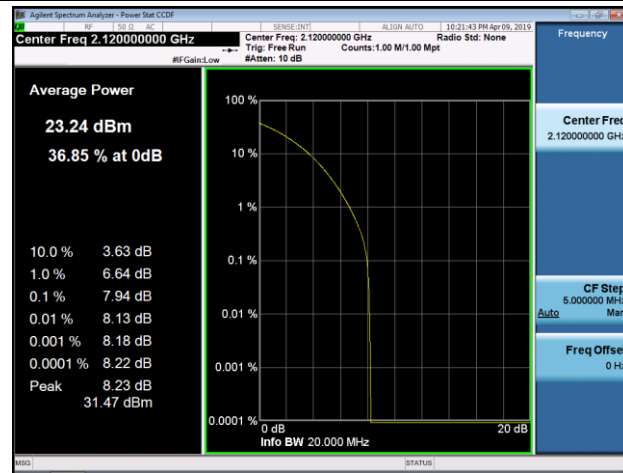
2170.0MHz



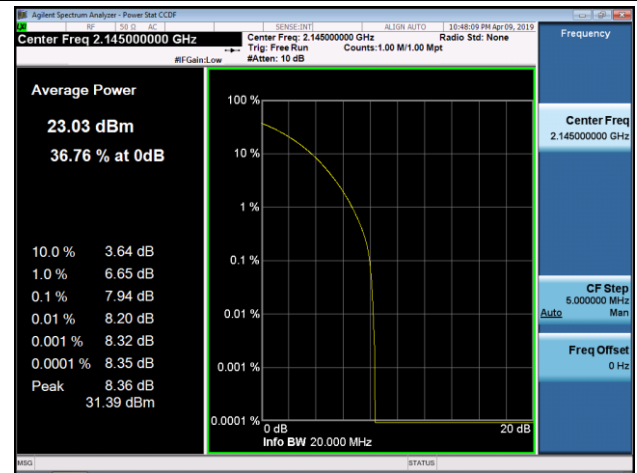
# Peak to Average Ratio - Ant 1 (QPSK)

## 20MHz Channel Bandwidth

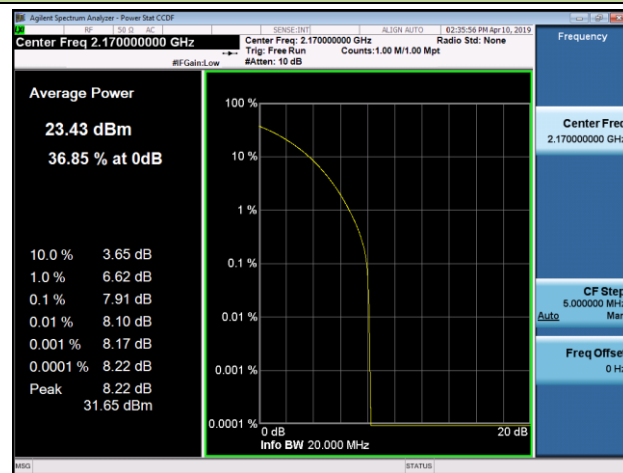
2120.0MHz



2145.0MHz



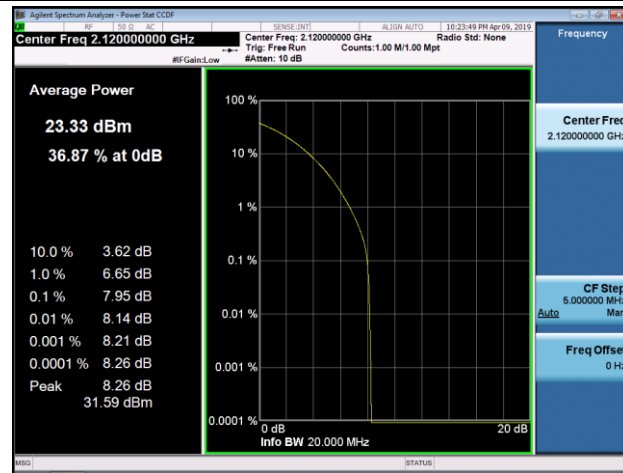
2170.0MHz



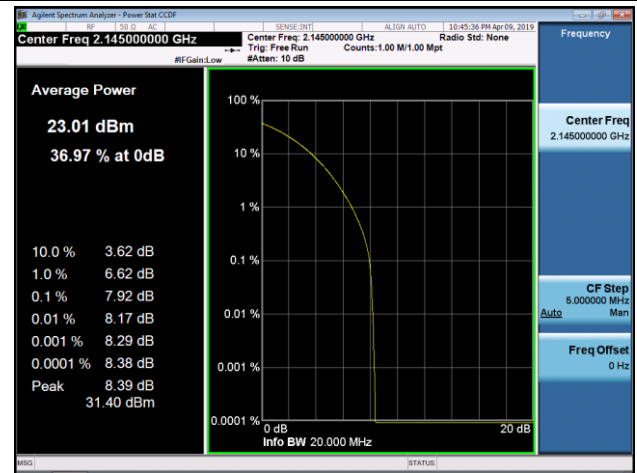
# Peak to Average Ratio - Ant 1 (16QAM)

## 20MHz Channel Bandwidth

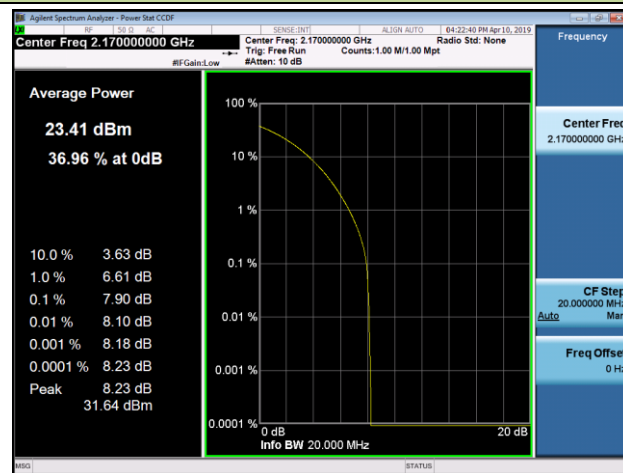
2120.0MHz



2145.0MHz



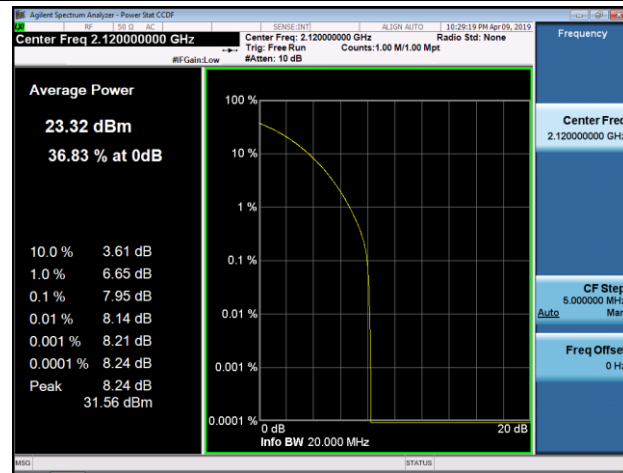
2170.0MHz



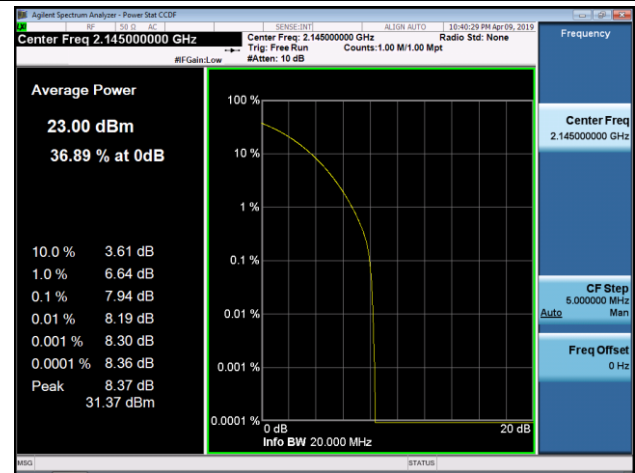
# Peak to Average Ratio - Ant 1 (64QAM)

## 20MHz Channel Bandwidth

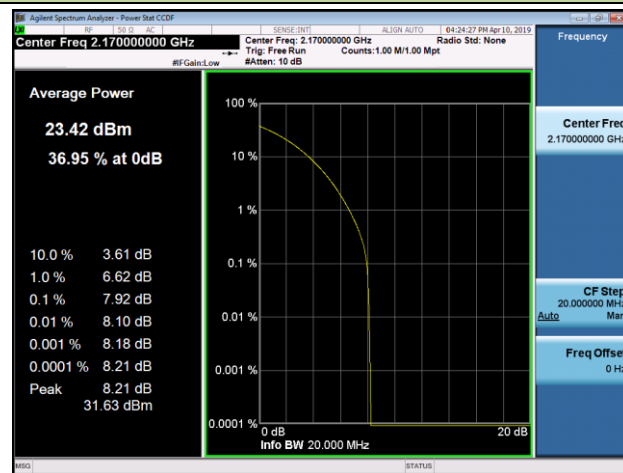
2120.0MHz



2145.0MHz



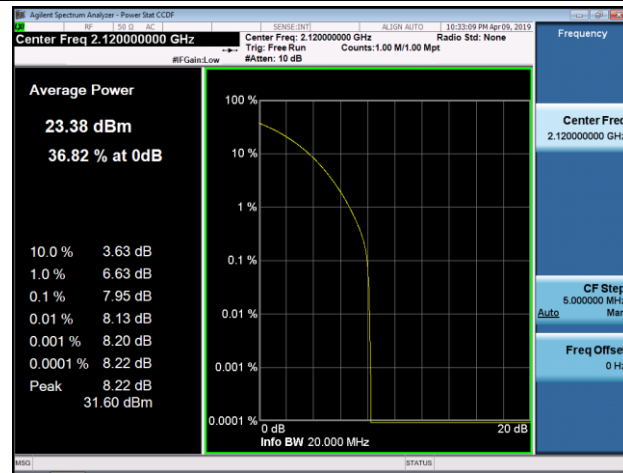
2170.0MHz



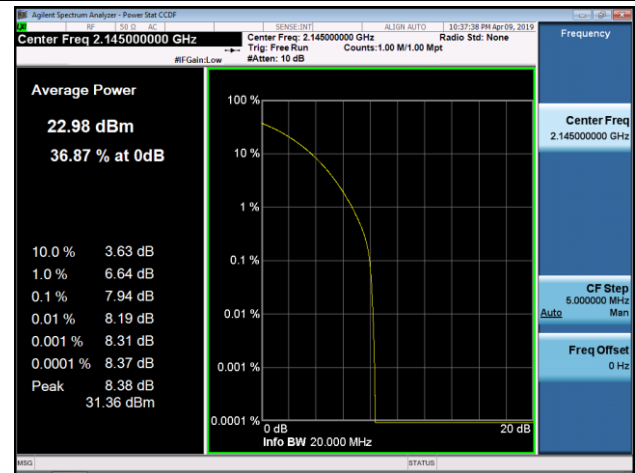
# Peak to Average Ratio - Ant 1 (256QAM)

## 20MHz Channel Bandwidth

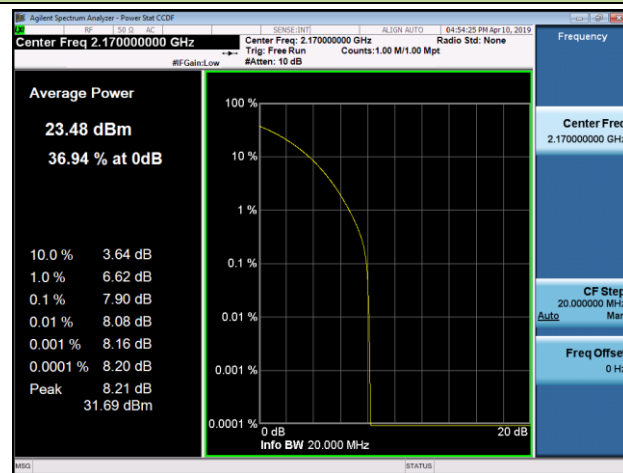
2120.0MHz



2145.0MHz



2170.0MHz



## 6.7. Conducted Spurious Emissions

### 6.7.1. Test Limit

In the FCC 24.238 and FCC 27.53(h), on any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) at least  $43 + 10 \cdot \log(P)$  dB, the emission limit equal to -13dBm.

Note: This device can be implement MIMO function, so the limit os spurious emissions needs to be reduced  $10 \cdot \log(\text{Numbers}_{\text{Ant}})$  according to FCC KDB 662911 D01 guidance.

The limit is adjusted to  $-13\text{dBm} - 10 \cdot \log(2) = -16.01\text{dBm}$

### 6.7.2. Test Procedure Used

KDB 971168 D01v03r01 - Section 6

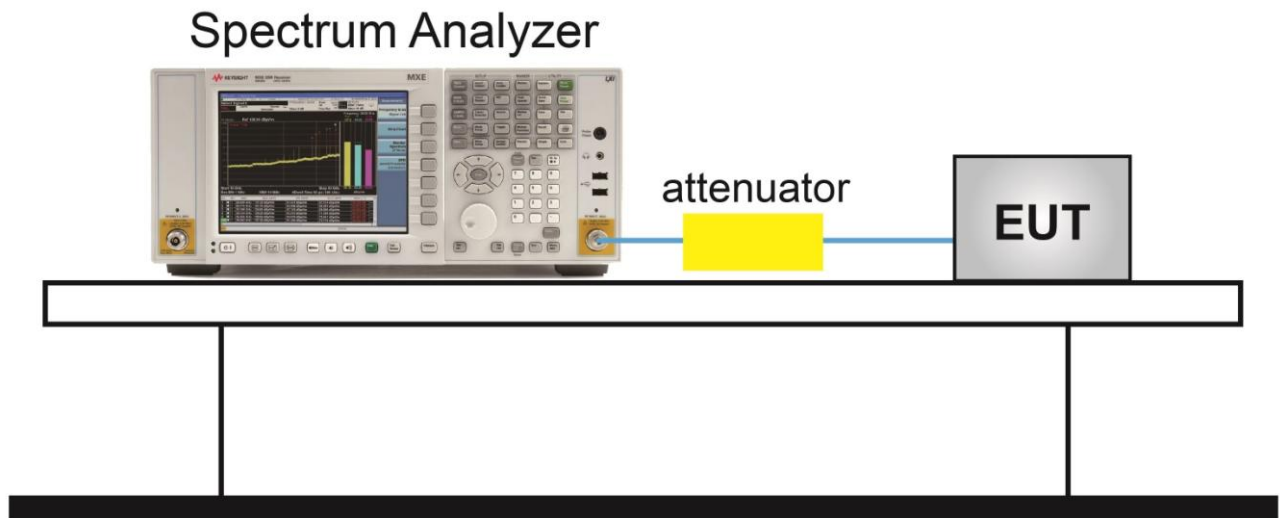
ANSI C63.26-2015 - Section 6.4.4.2

### 6.7.3. Test Setting

1. Set the analyzer frequency to low or high channel.
2. RBW = 100kHz or 1MHz
3. VBW  $\geq 3 \cdot \text{RBW}$
4. Sweep time = auto
5. Detector = power averaging (rms)
6. Set sweep trigger to "free run."
7. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple.

To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.

#### 6.7.4.Test Setup



### 6.7.5. Test Result

|           |                                                           |               |                         |
|-----------|-----------------------------------------------------------|---------------|-------------------------|
| Product   | AirScale Indoor Radio ASiR-pRRH                           | Test Engineer | Peter Xu                |
| Test Site | SR2                                                       | Test Date     | 2019/03/14 ~ 2019/05/14 |
| Test Item | Conducted Spurious Emissions - LTE Band 2, Single Carrier |               |                         |

| Channel | Frequency<br>(MHz) | Channel<br>Bandwidth<br>(MHz) | Frequency<br>Range<br>(MHz) | Max Spurious<br>Emissions (dBm) |        | Limit<br>(dBm) | Result |
|---------|--------------------|-------------------------------|-----------------------------|---------------------------------|--------|----------------|--------|
|         |                    |                               |                             | Ant 0                           | Ant 1  |                |        |
| QPSK    |                    |                               |                             |                                 |        |                |        |
| 625     | 1932.5             | 5                             | 0.009 ~ 30                  | -43.32                          | -44.33 | ≤ -16.01       | Pass   |
|         |                    |                               | 30 ~ 26500                  | -31.71                          | -32.24 | ≤ -16.01       | Pass   |
| 900     | 1960.0             | 5                             | 0.009 ~ 30                  | -44.09                          | -45.00 | ≤ -16.01       | Pass   |
|         |                    |                               | 30 ~ 26500                  | -32.93                          | -32.75 | ≤ -16.01       | Pass   |
| 1175    | 1987.5             | 5                             | 0.009 ~ 30                  | -45.78                          | -44.73 | ≤ -16.01       | Pass   |
|         |                    |                               | 30 ~ 26500                  | -34.18                          | -34.32 | ≤ -16.01       | Pass   |
| 650     | 1935.0             | 10                            | 0.009 ~ 30                  | -45.30                          | -43.34 | ≤ -16.01       | Pass   |
|         |                    |                               | 30 ~ 26500                  | -31.29                          | -31.27 | ≤ -16.01       | Pass   |
| 900     | 1960.0             | 10                            | 0.009 ~ 30                  | -45.16                          | -43.46 | ≤ -16.01       | Pass   |
|         |                    |                               | 30 ~ 26500                  | -32.74                          | -32.34 | ≤ -16.01       | Pass   |
| 1150    | 1985.0             | 10                            | 0.009 ~ 30                  | -44.31                          | -44.68 | ≤ -16.01       | Pass   |
|         |                    |                               | 30 ~ 26500                  | -32.87                          | -32.94 | ≤ -16.01       | Pass   |
| 675     | 1937.5             | 15                            | 0.009 ~ 30                  | -45.29                          | -44.64 | ≤ -16.01       | Pass   |
|         |                    |                               | 30 ~ 26500                  | -31.77                          | 31.69  | ≤ -16.01       | Pass   |
| 900     | 1960.0             | 15                            | 0.009 ~ 30                  | -45.16                          | -44.52 | ≤ -16.01       | Pass   |
|         |                    |                               | 30 ~ 26500                  | -31.88                          | -32.18 | ≤ -16.01       | Pass   |
| 1125    | 1982.5             | 15                            | 0.009 ~ 30                  | -44.52                          | -44.87 | ≤ -16.01       | Pass   |
|         |                    |                               | 30 ~ 26500                  | -32.55                          | -32.51 | ≤ -16.01       | Pass   |
| 700     | 1940.0             | 20                            | 0.009 ~ 30                  | -43.71                          | -44.27 | ≤ -16.01       | Pass   |
|         |                    |                               | 30 ~ 26500                  | -31.02                          | -30.93 | ≤ -16.01       | Pass   |
| 900     | 1960.0             | 20                            | 0.009 ~ 30                  | -42.51                          | -44.65 | ≤ -16.01       | Pass   |
|         |                    |                               | 30 ~ 26500                  | -31.85                          | -31.82 | ≤ -16.01       | Pass   |
| 1100    | 1980.0             | 20                            | 0.009 ~ 30                  | -42.59                          | -44.00 | ≤ -16.01       | Pass   |
|         |                    |                               | 30 ~ 26500                  | -32.53                          | -32.57 | ≤ -16.01       | Pass   |

|           |                                                          |               |                         |
|-----------|----------------------------------------------------------|---------------|-------------------------|
| Product   | AirScale Indoor Radio ASiR-pRRH                          | Test Engineer | Peter Xu                |
| Test Site | SR2                                                      | Test Date     | 2019/03/14 ~ 2019/05/14 |
| Test Item | Conducted Spurious Emissions - LTE Band 2, Multi Carrier |               |                         |

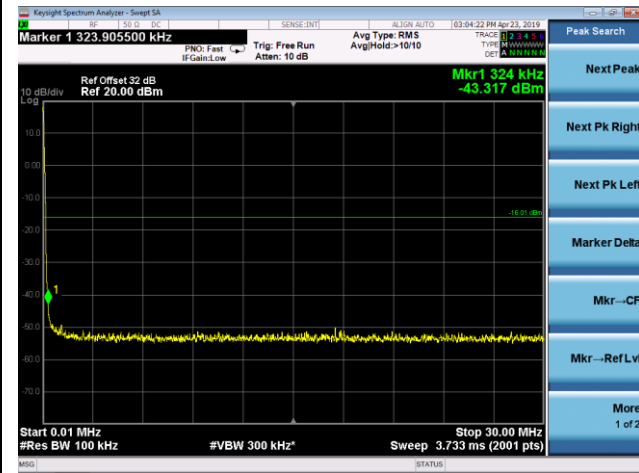
| Channel     | Frequency<br>(MHz) | Channel<br>Bandwidth<br>(MHz) | Frequency<br>Range<br>(MHz) | Max Spurious<br>Emissions (dBm) |        | Limit<br>(dBm) | Result |
|-------------|--------------------|-------------------------------|-----------------------------|---------------------------------|--------|----------------|--------|
|             |                    |                               |                             | Ant 0                           | Ant 1  |                |        |
| QPSK        |                    |                               |                             |                                 |        |                |        |
| 625+675     | 1932.5+1937.5      | 5+5                           | 0.009 ~ 30                  | -44.80                          | -44.83 | ≤ -16.01       | Pass   |
|             |                    |                               | 30 ~ 26500                  | -31.18                          | -31.67 | ≤ -16.01       | Pass   |
| 850+900     | 1955.0+1960.0      | 5+5                           | 0.009 ~ 30                  | -43.96                          | -44.93 | ≤ -16.01       | Pass   |
|             |                    |                               | 30 ~ 26500                  | -32.29                          | -32.99 | ≤ -16.01       | Pass   |
| 11250+11750 | 1982.5+1987.5      | 5+5                           | 0.009 ~ 30                  | -42.54                          | -43.26 | ≤ -16.01       | Pass   |
|             |                    |                               | 30 ~ 26500                  | -32.25                          | -31.92 | ≤ -16.01       | Pass   |
| 650+750     | 1935.0+1945.0      | 10+10                         | 0.009 ~ 30                  | -44.20                          | -44.34 | ≤ -16.01       | Pass   |
|             |                    |                               | 30 ~ 26500                  | -32.46                          | -33.20 | ≤ -16.01       | Pass   |
| 800 + 900   | 1950.0+1960.0      | 10+10                         | 0.009 ~ 30                  | -45.04                          | -44.80 | ≤ -16.01       | Pass   |
|             |                    |                               | 30 ~ 26500                  | -32.90                          | -32.36 | ≤ -16.01       | Pass   |
| 1050 + 1150 | 1975.0+1985.0      | 10+10                         | 0.009 ~ 30                  | -43.94                          | -44.93 | ≤ -16.01       | Pass   |
|             |                    |                               | 30 ~ 26500                  | -32.87                          | -34.16 | ≤ -16.01       | Pass   |
| 675+825     | 1937.5+1952.5      | 15+15                         | 0.009 ~ 30                  | -45.09                          | -43.45 | ≤ -16.01       | Pass   |
|             |                    |                               | 30 ~ 26500                  | -30.18                          | -29.84 | ≤ -16.01       | Pass   |
| 750+900     | 1945.0+1960.0      | 15+15                         | 0.009 ~ 30                  | -46.29                          | -43.79 | ≤ -16.01       | Pass   |
|             |                    |                               | 30 ~ 26500                  | -29.85                          | -30.42 | ≤ -16.01       | Pass   |
| 975+1125    | 1967.5+1982.5      | 15+15                         | 0.009 ~ 30                  | -44.21                          | -43.63 | ≤ -16.01       | Pass   |
|             |                    |                               | 30 ~ 26500                  | -30.78                          | -30.26 | ≤ -16.01       | Pass   |
| 700+900     | 1940.0+1960.0      | 20+20                         | 0.009 ~ 30                  | -44.78                          | -43.43 | ≤ -16.01       | Pass   |
|             |                    |                               | 30 ~ 26500                  | -31.00                          | -29.46 | ≤ -16.01       | Pass   |
| 900+1100    | 1960.0+1980.0      | 20+20                         | 0.009 ~ 30                  | -44.16                          | -44.85 | ≤ -16.01       | Pass   |
|             |                    |                               | 30 ~ 26500                  | -31.47                          | -30.84 | ≤ -16.01       | Pass   |

## Conducted Spurious Emissions - Ant 0 (QPSK)

5MHz Channel Bandwidth

1932.5MHz

9kHz ~ 30MHz

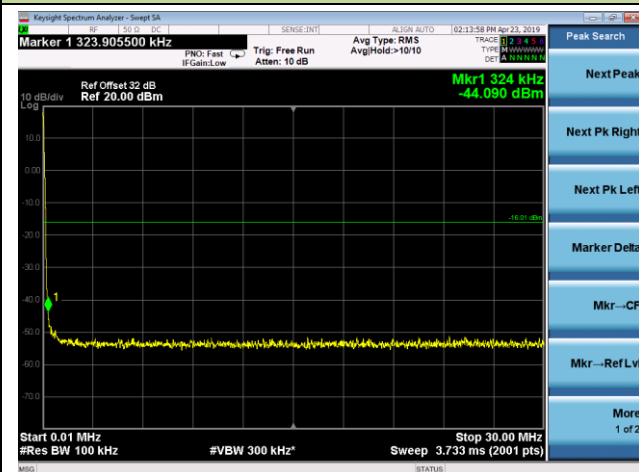


30MHz ~ 26.5GHz



1960.0MHz

9kHz ~ 30MHz

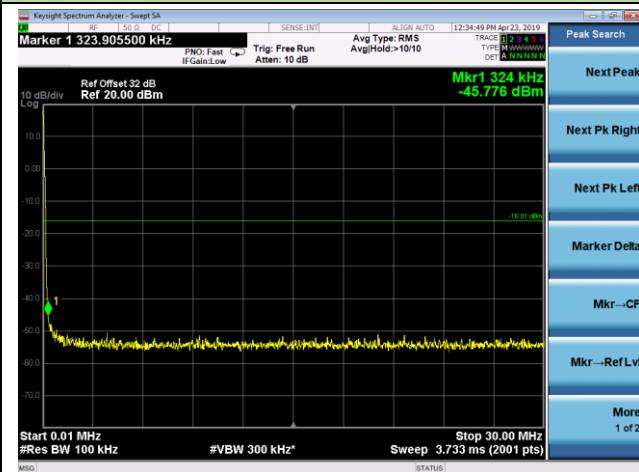


30MHz ~ 26.5GHz



1987.5MHz

9kHz ~ 30MHz



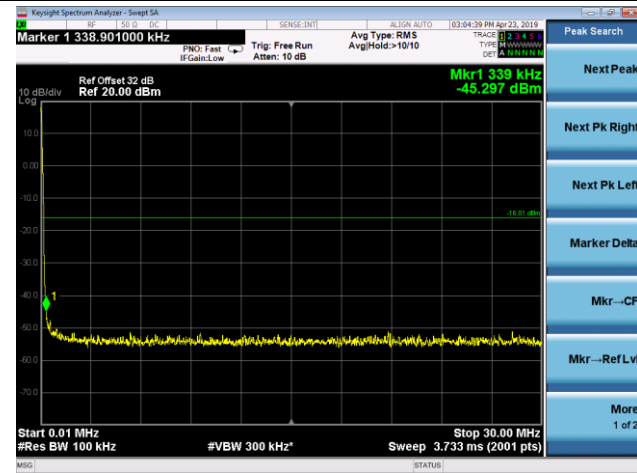
30MHz ~ 26.5GHz



## 10MHz Channel Bandwidth

1935.0MHz

9kHz ~ 30MHz

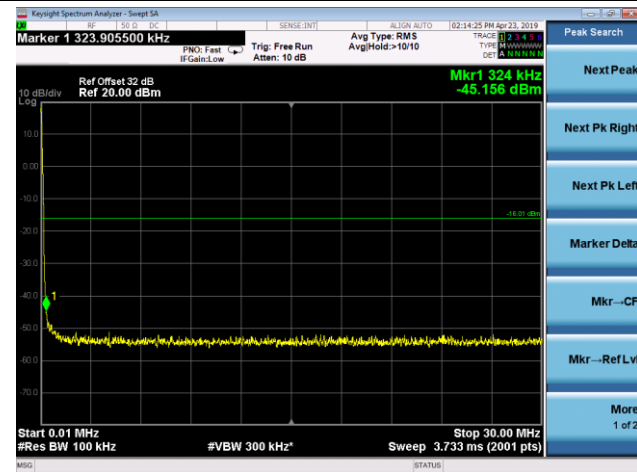


30MHz ~ 26.5GHz



1960.0MHz

9kHz ~ 30MHz

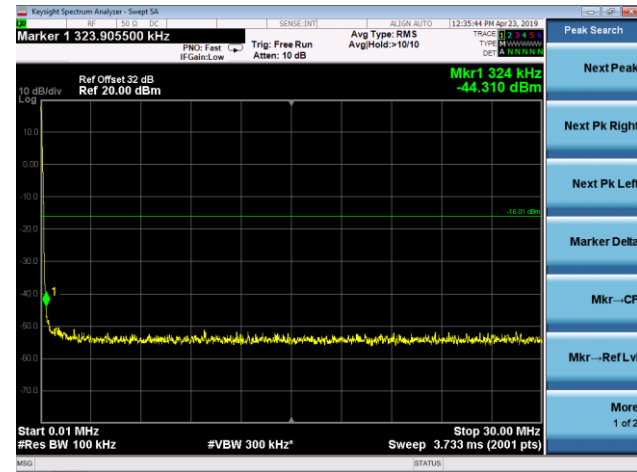


30MHz ~ 26.5GHz



1985.0MHz

9kHz ~ 30MHz



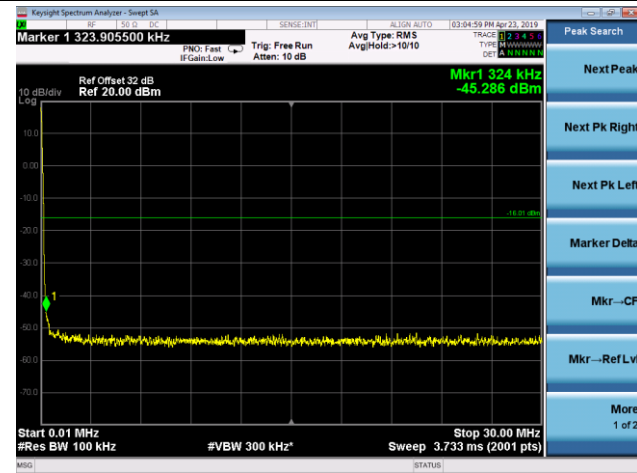
30MHz ~ 26.5GHz



## 15MHz Channel Bandwidth

1937.5MHz

9kHz ~ 30MHz

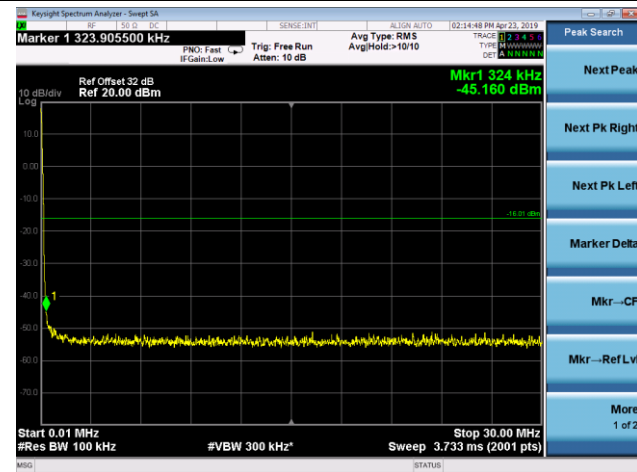


30MHz ~ 26.5GHz



1960.0MHz

9kHz ~ 30MHz

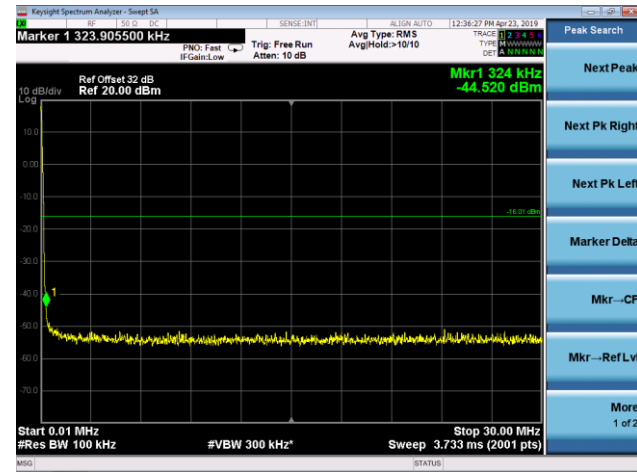


30MHz ~ 26.5GHz



1982.5MHz

9kHz ~ 30MHz



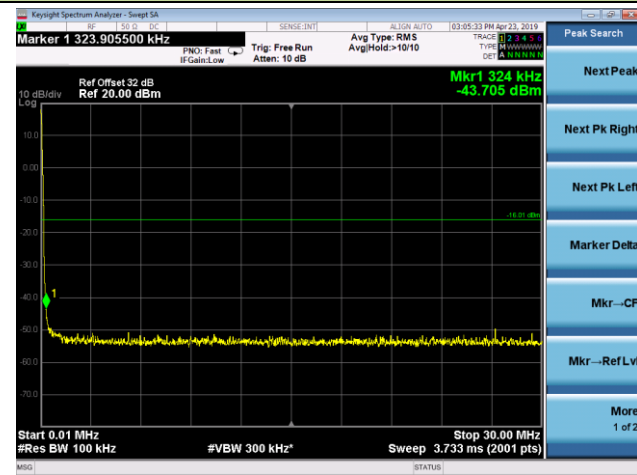
30MHz ~ 26.5GHz



## 20MHz Channel Bandwidth

1940.0MHz

9kHz ~ 30MHz

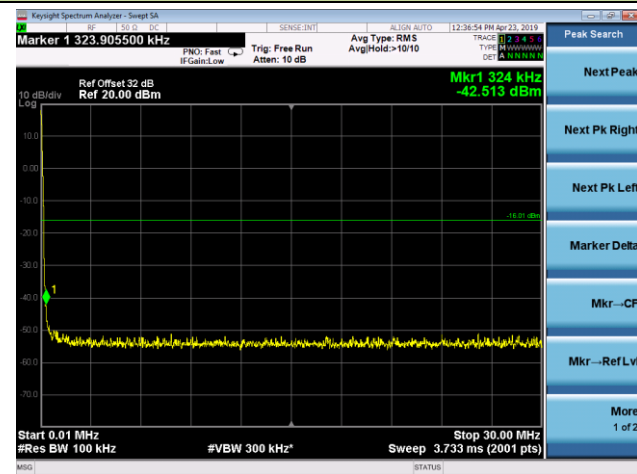


30MHz ~ 26.5GHz



1960.0MHz

9kHz ~ 30MHz

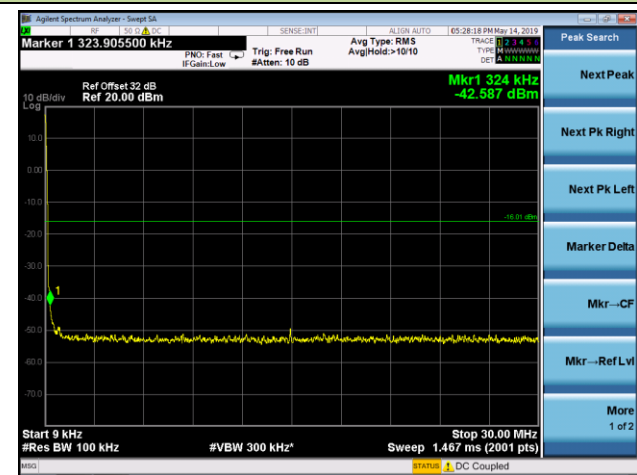


30MHz ~ 26.5GHz



1980.0MHz

9kHz ~ 30MHz



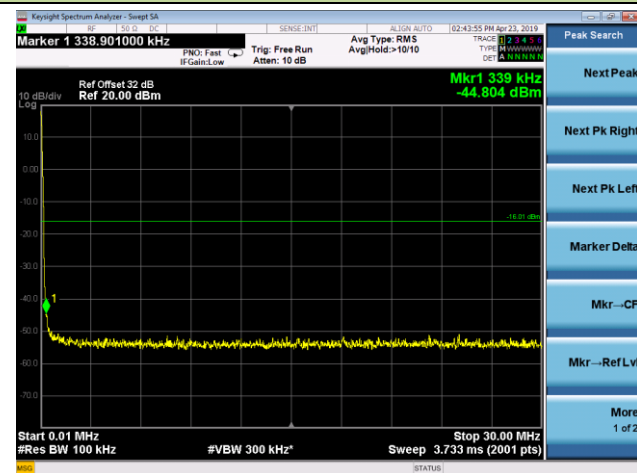
30MHz ~ 26.5GHz



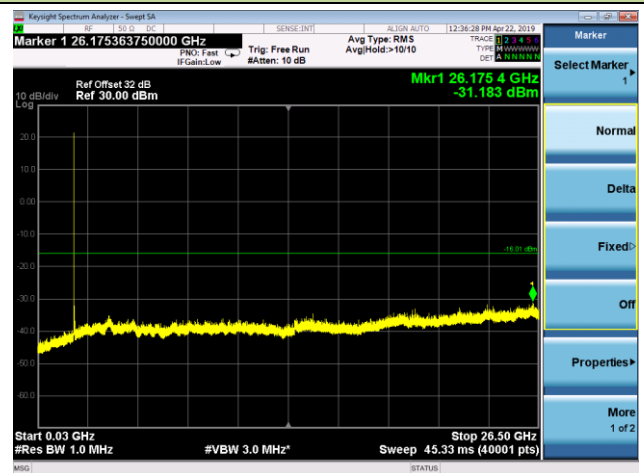
## 5 + 5MHz Channel Bandwidth

1932.5MHz + 1937.5MHz

9kHz ~ 30MHz

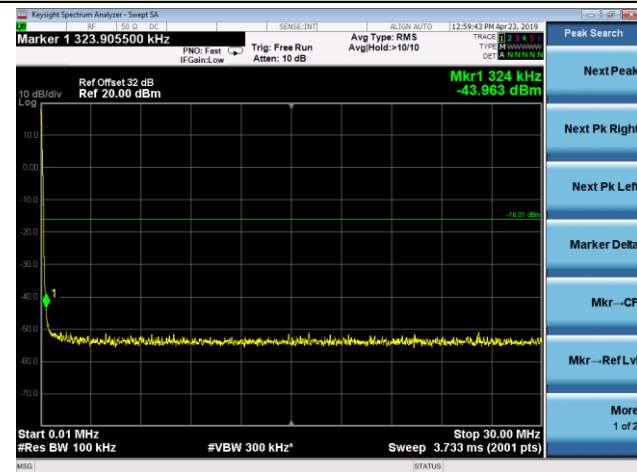


30MHz ~ 26.5GHz

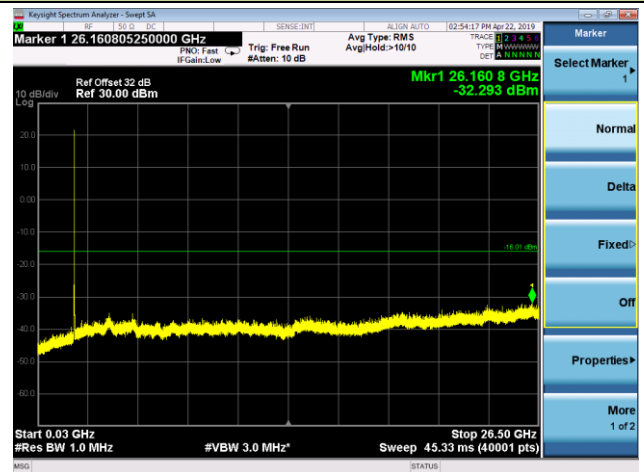


1955.0MHz + 1960.0MHz

9kHz ~ 30MHz

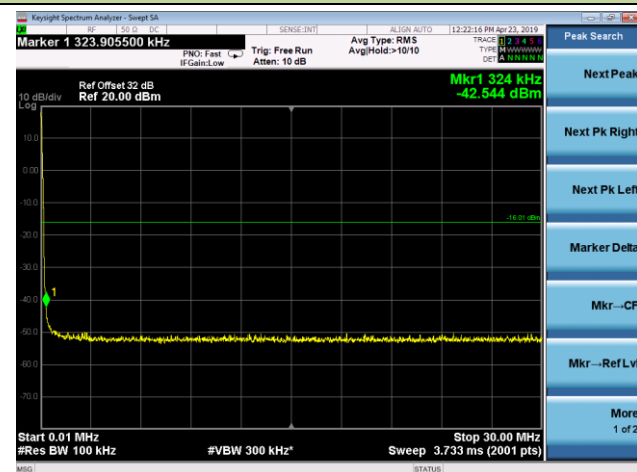


30MHz ~ 26.5GHz

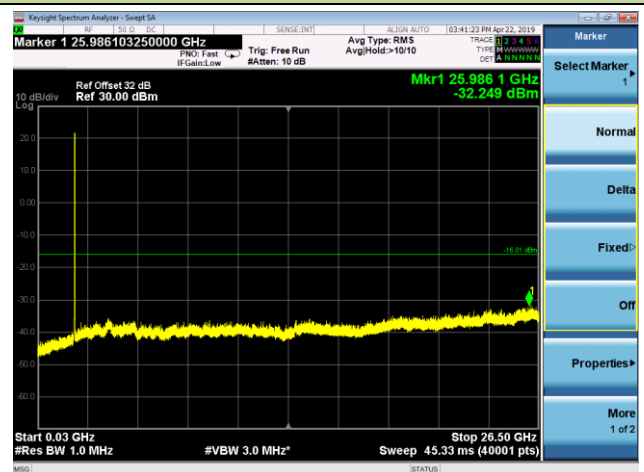


1982.5MHz + 1987.5MHz

9kHz ~ 30MHz



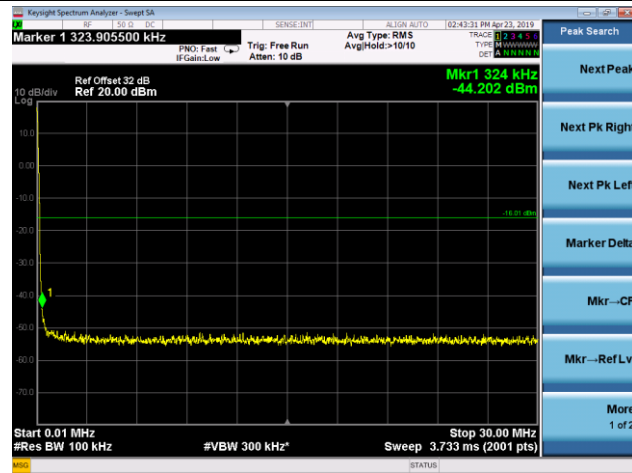
30MHz ~ 26.5GHz



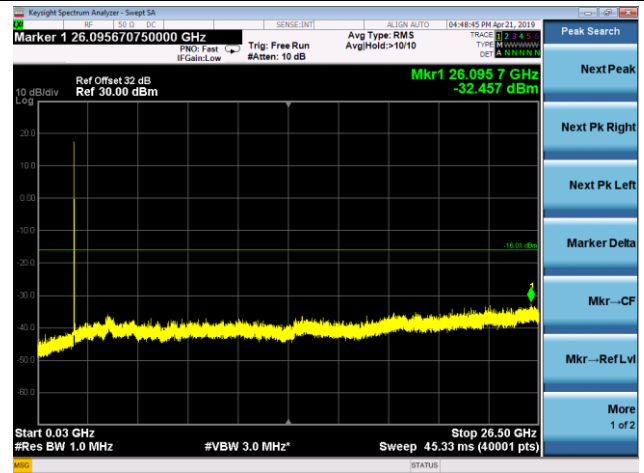
## 10 + 10MHz Channel Bandwidth

1935.0MHz + 1945.0MHz

9kHz ~ 30MHz

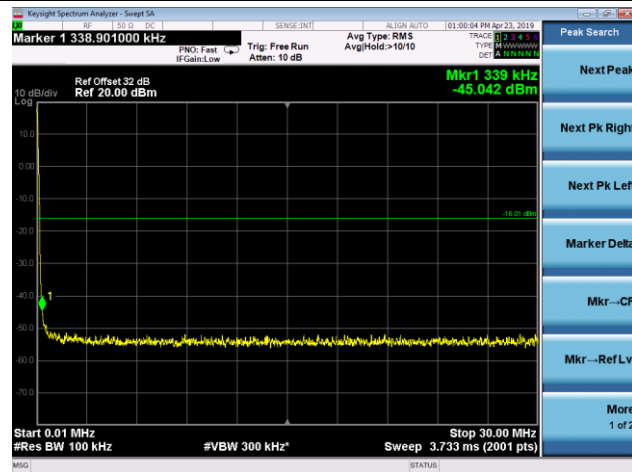


30MHz ~ 26.5GHz

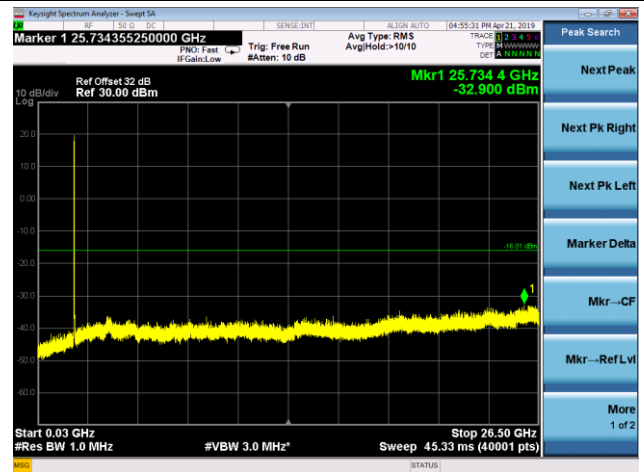


1950.0MHz + 1960.0MHz

9kHz ~ 30MHz

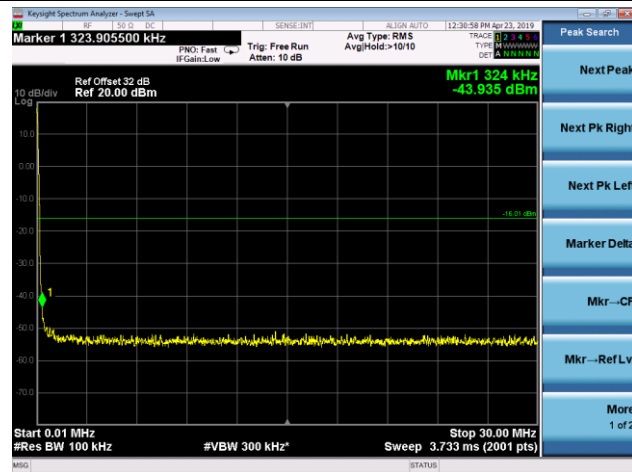


30MHz ~ 26.5GHz



1975.0MHz + 1985.0MHz

9kHz ~ 30MHz



30MHz ~ 26.5GHz

