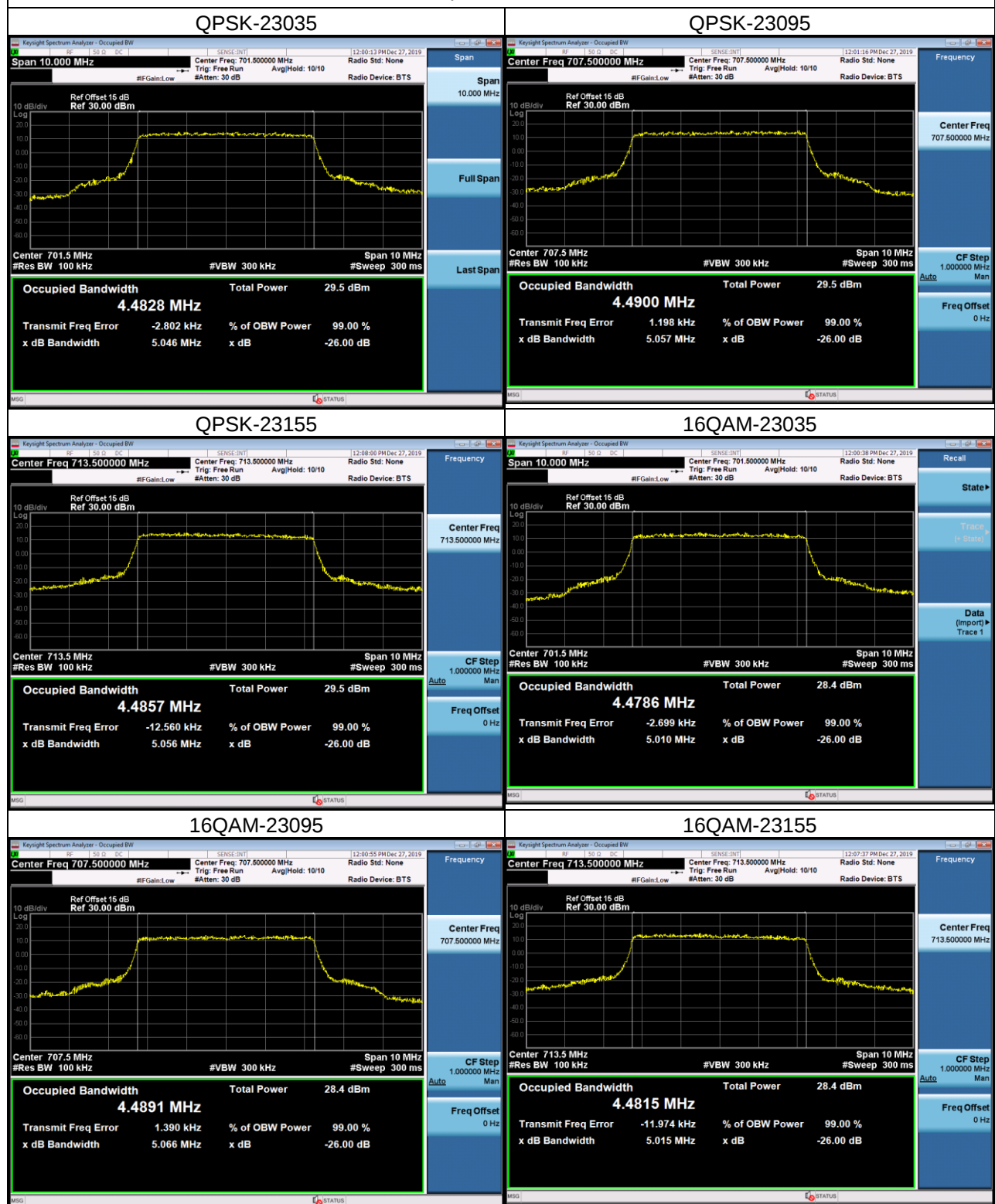


## Spectrum Plot

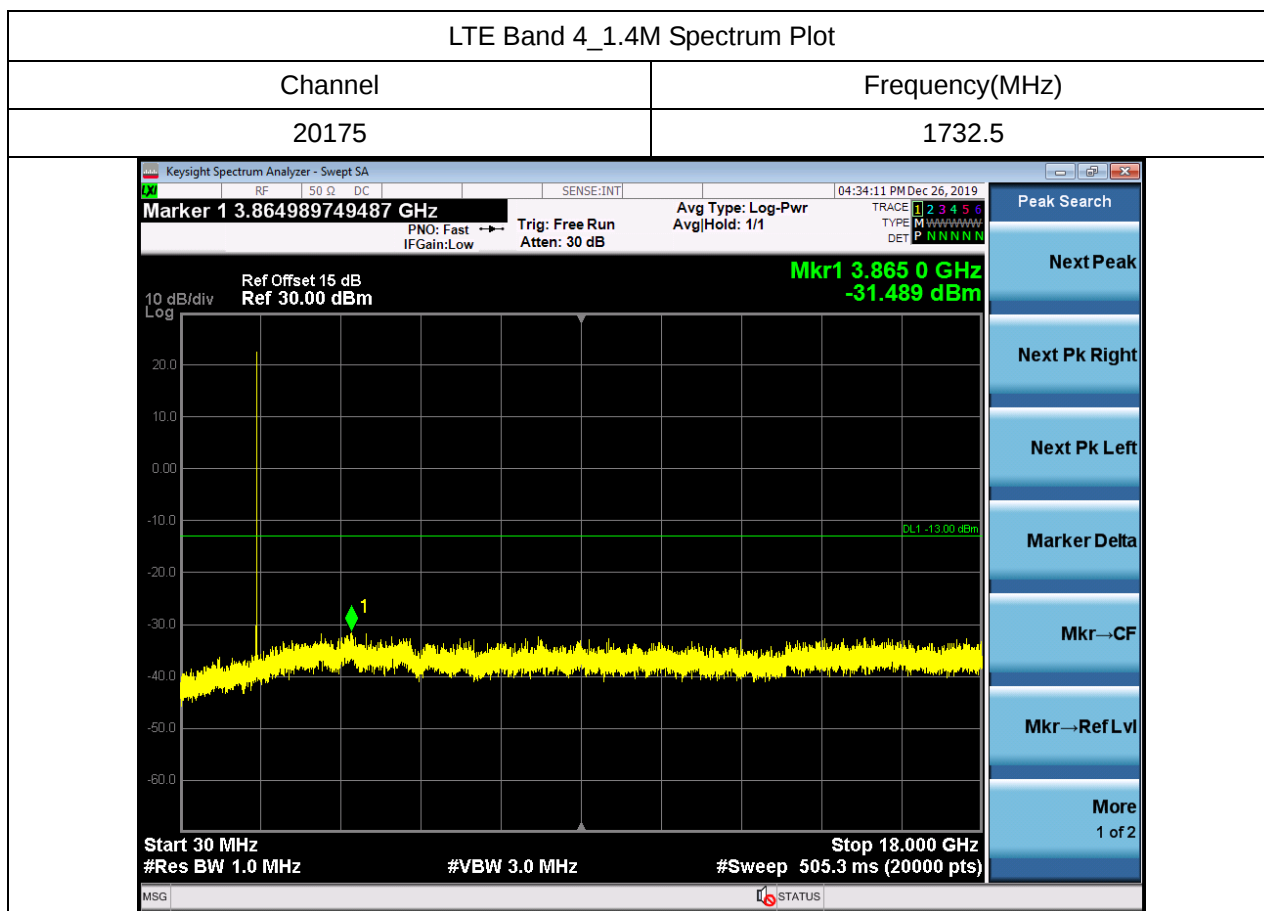


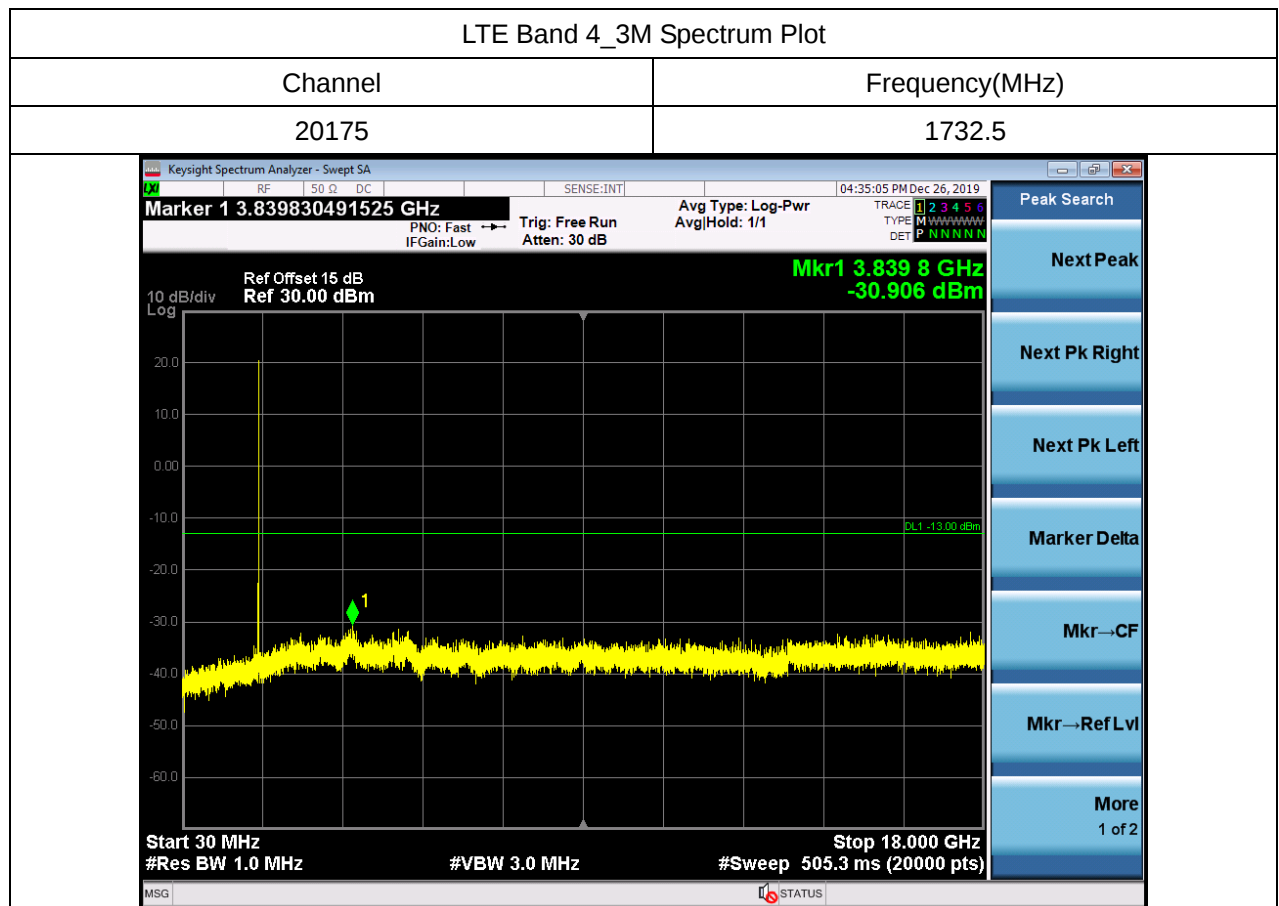
| LTE Band 12_10M |                 |                              |         |                 |                      |
|-----------------|-----------------|------------------------------|---------|-----------------|----------------------|
| QPSK            |                 |                              |         |                 |                      |
| Channel         | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 23060           | 704.0           | 9.0038                       | 23060   | 704.0           | 10.35                |
| 23095           | 707.5           | 9.0251                       | 23095   | 707.5           | 10.26                |
| 23130           | 711.0           | 8.9763                       | 23130   | 711.0           | 10.18                |
| 16QAM           |                 |                              |         |                 |                      |
| Channel         | Frequency (MHz) | 99% Occupied Bandwidth (MHz) | Channel | Frequency (MHz) | 26dB Bandwidth (MHz) |
| 23060           | 704.0           | 8.9713                       | 23060   | 704.0           | 10.21                |
| 23095           | 707.5           | 8.9836                       | 23095   | 707.5           | 10.14                |
| 23130           | 711.0           | 8.9702                       | 23130   | 711.0           | 10.11                |

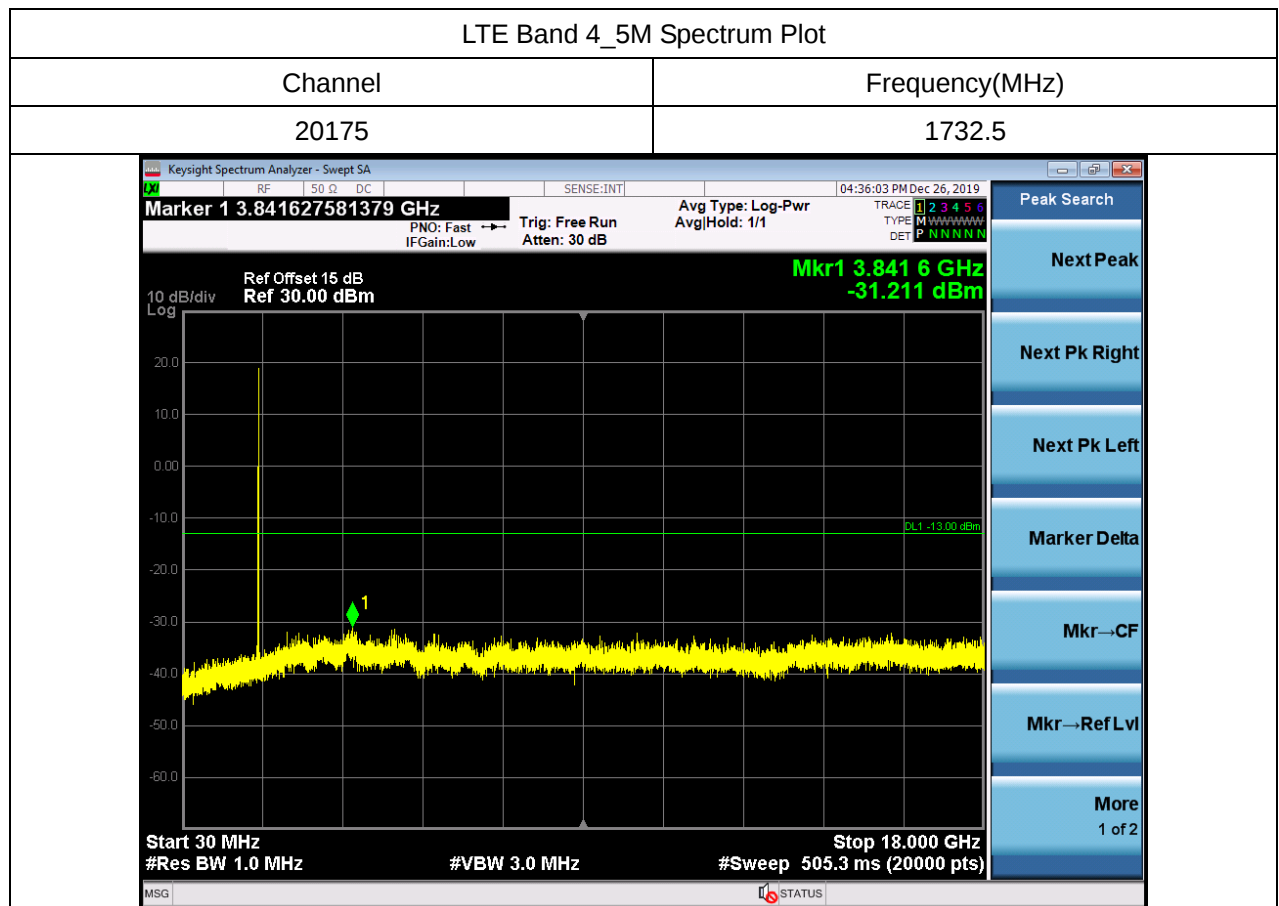
## Spectrum Plot

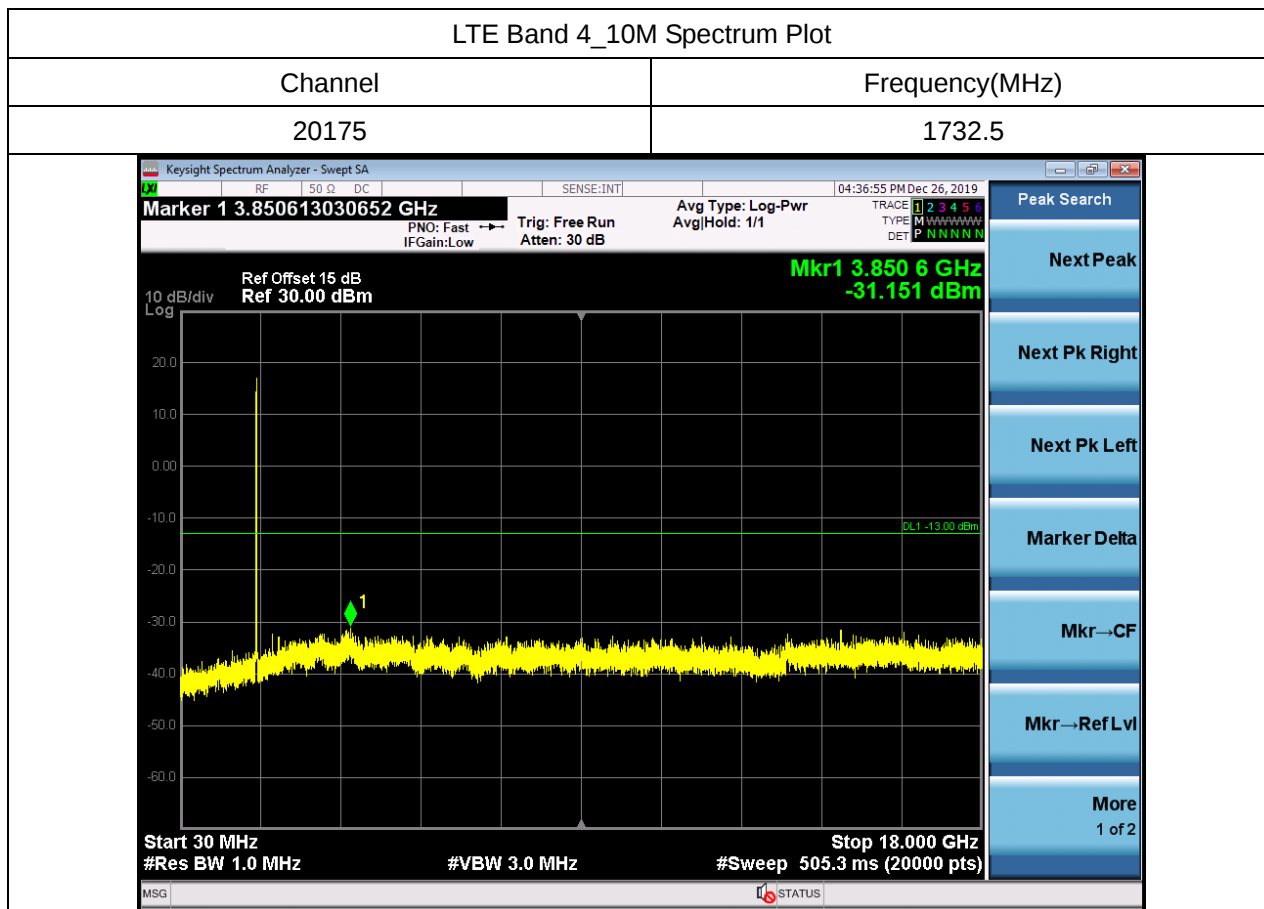


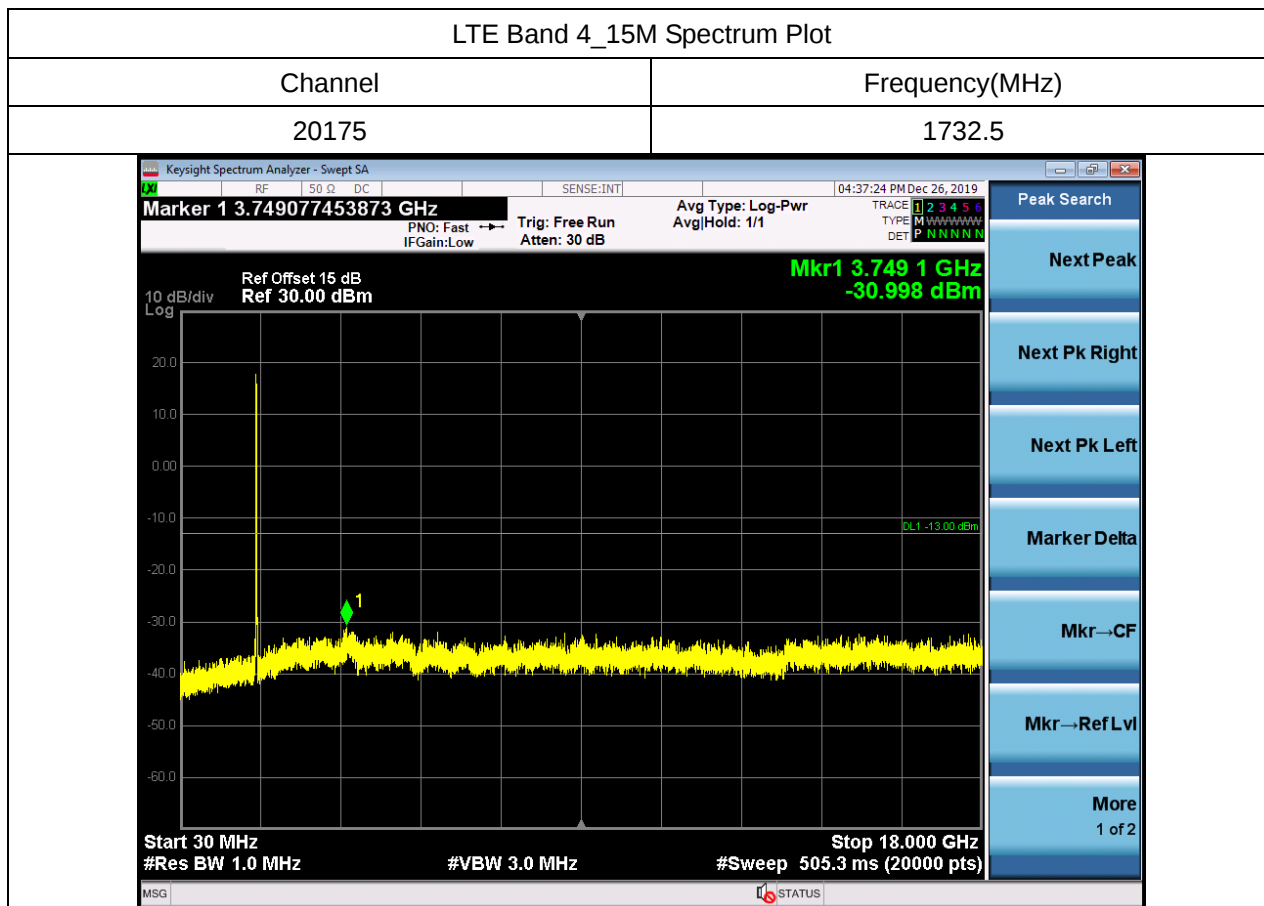
## APPENDIX C - CONDUCTED SPURIOUS EMISSIONS

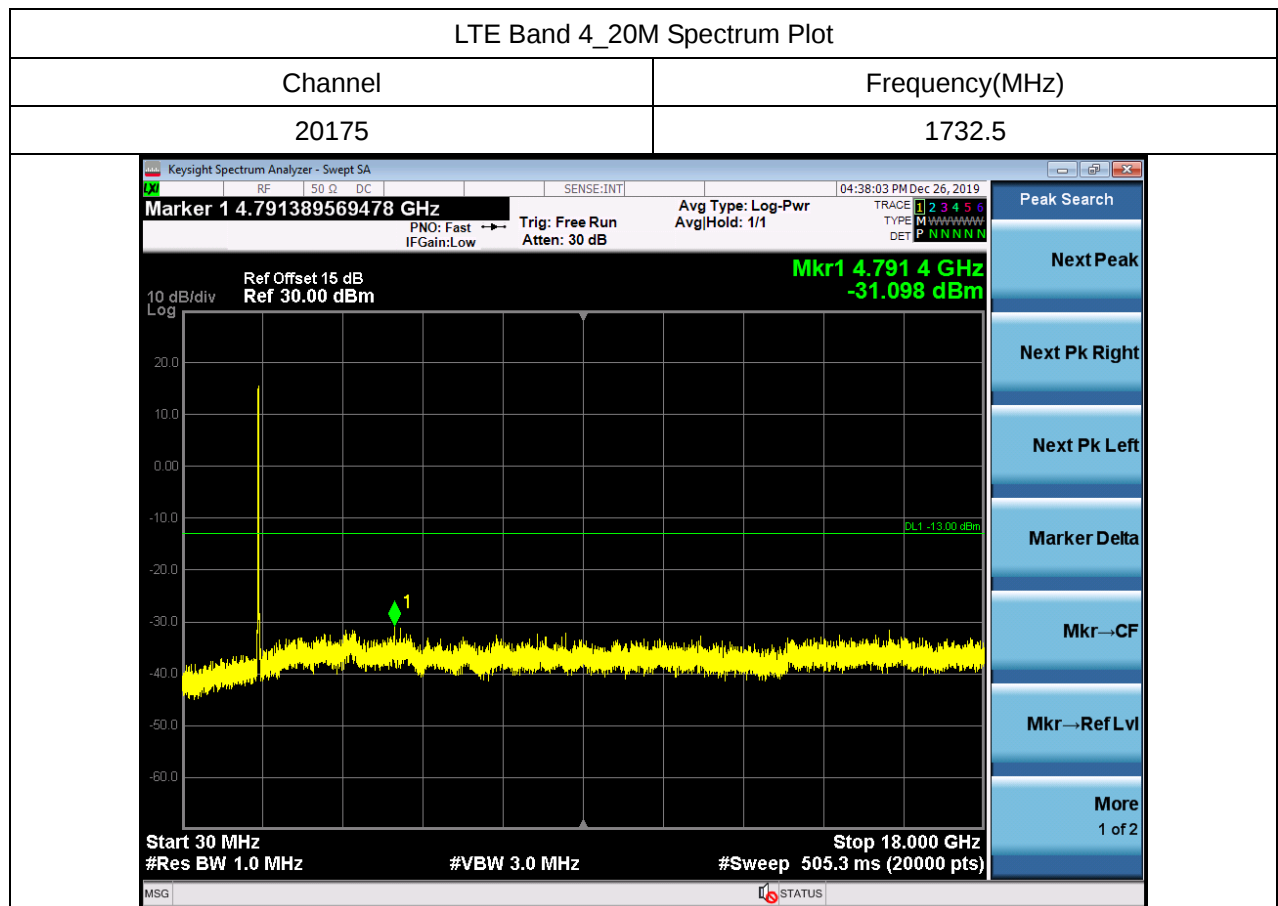


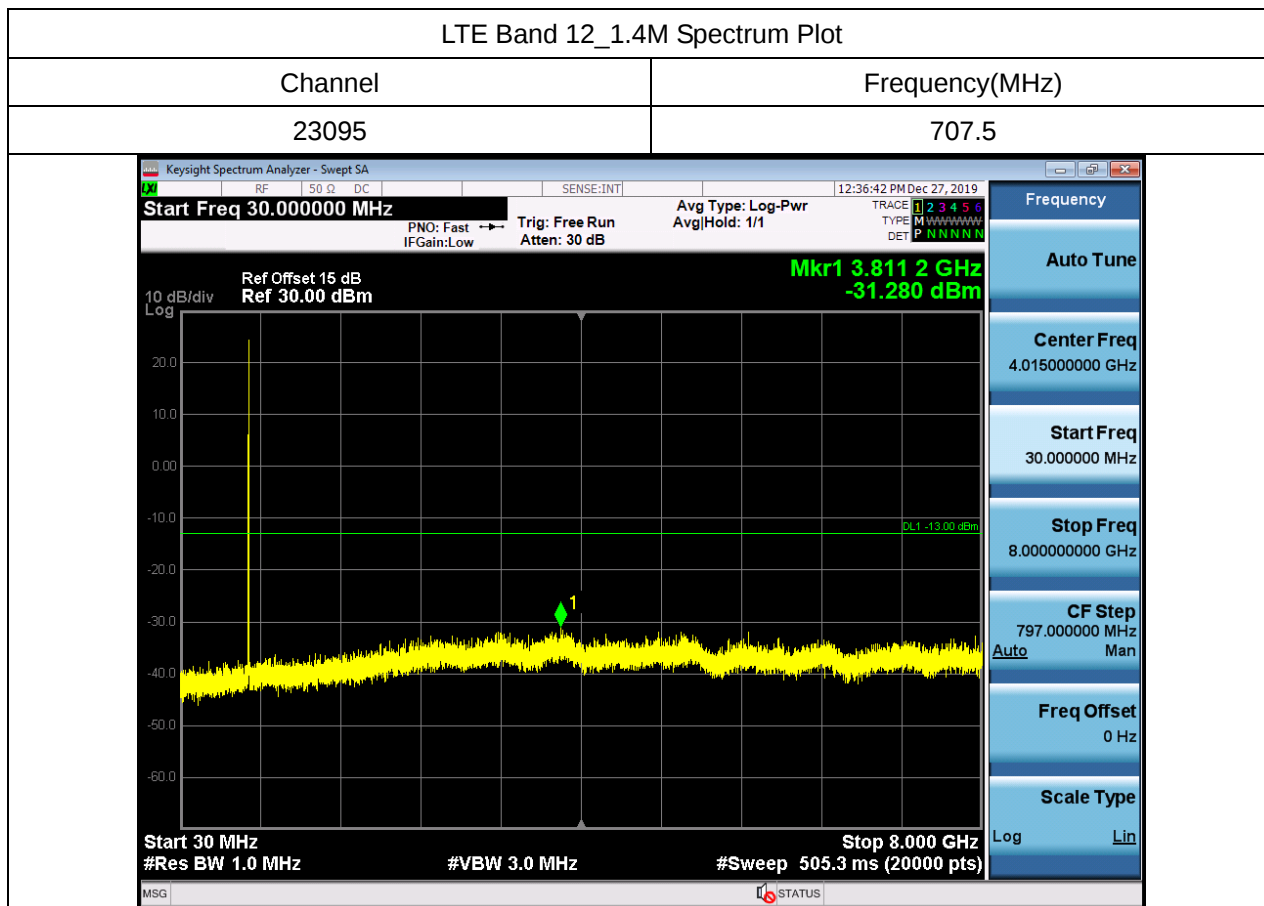


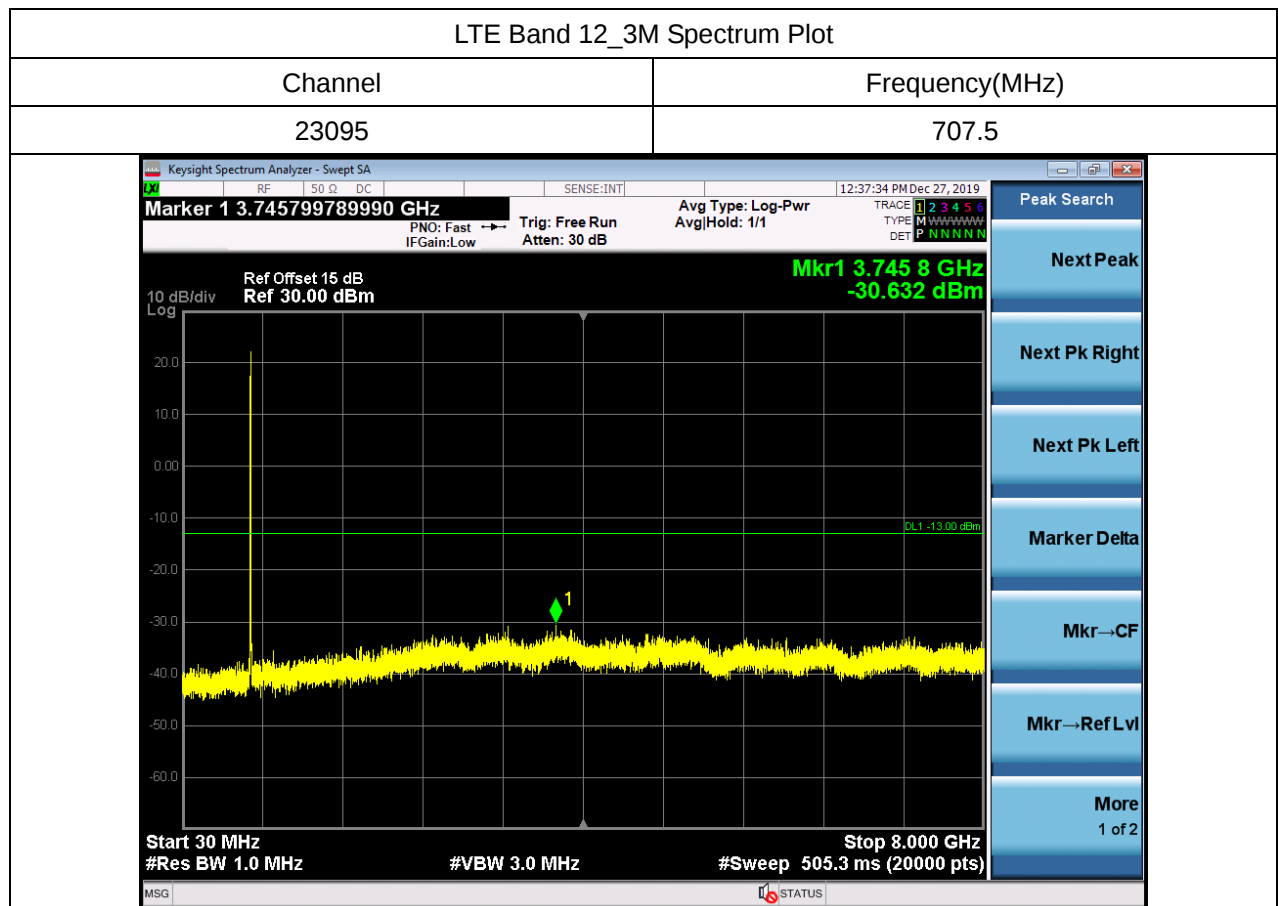


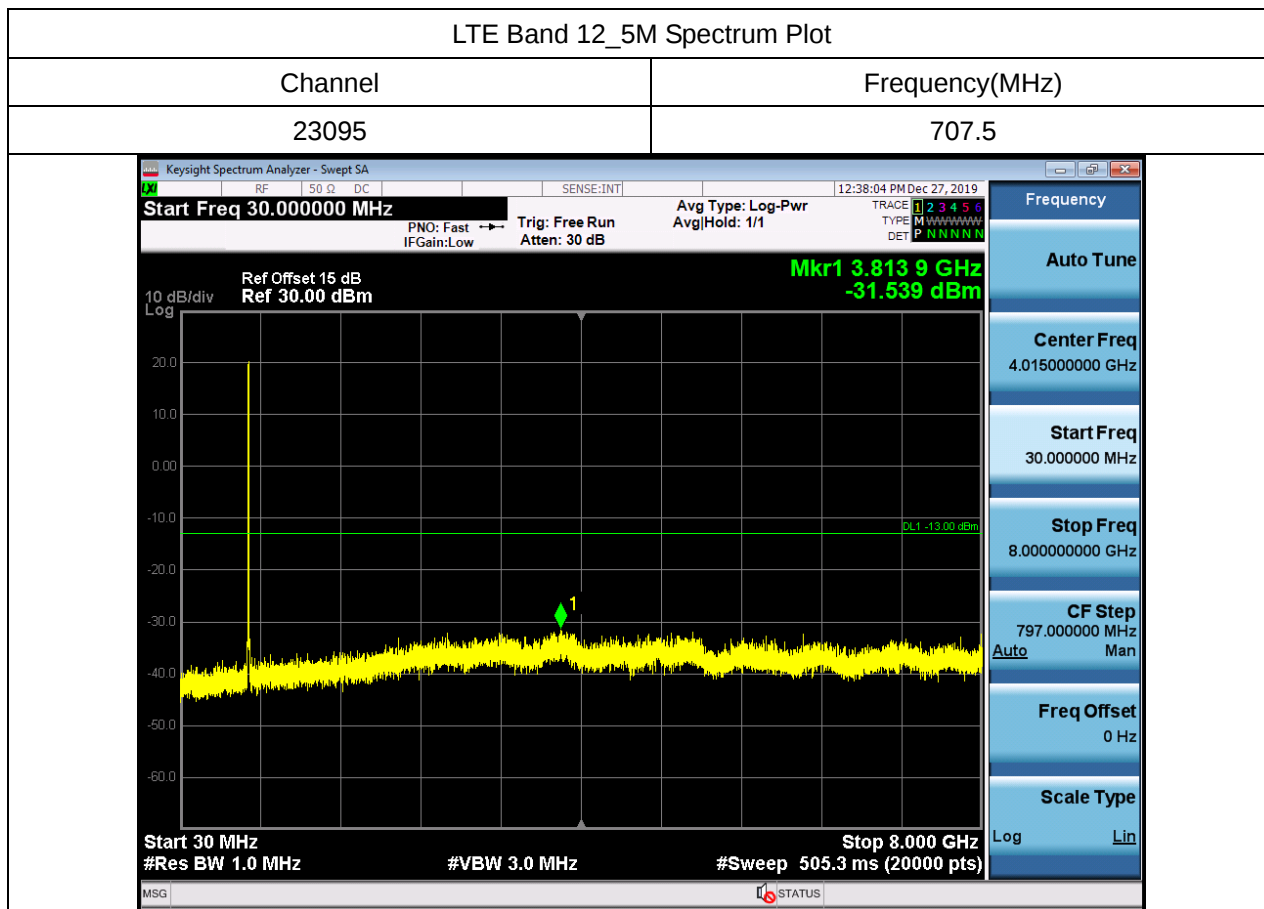


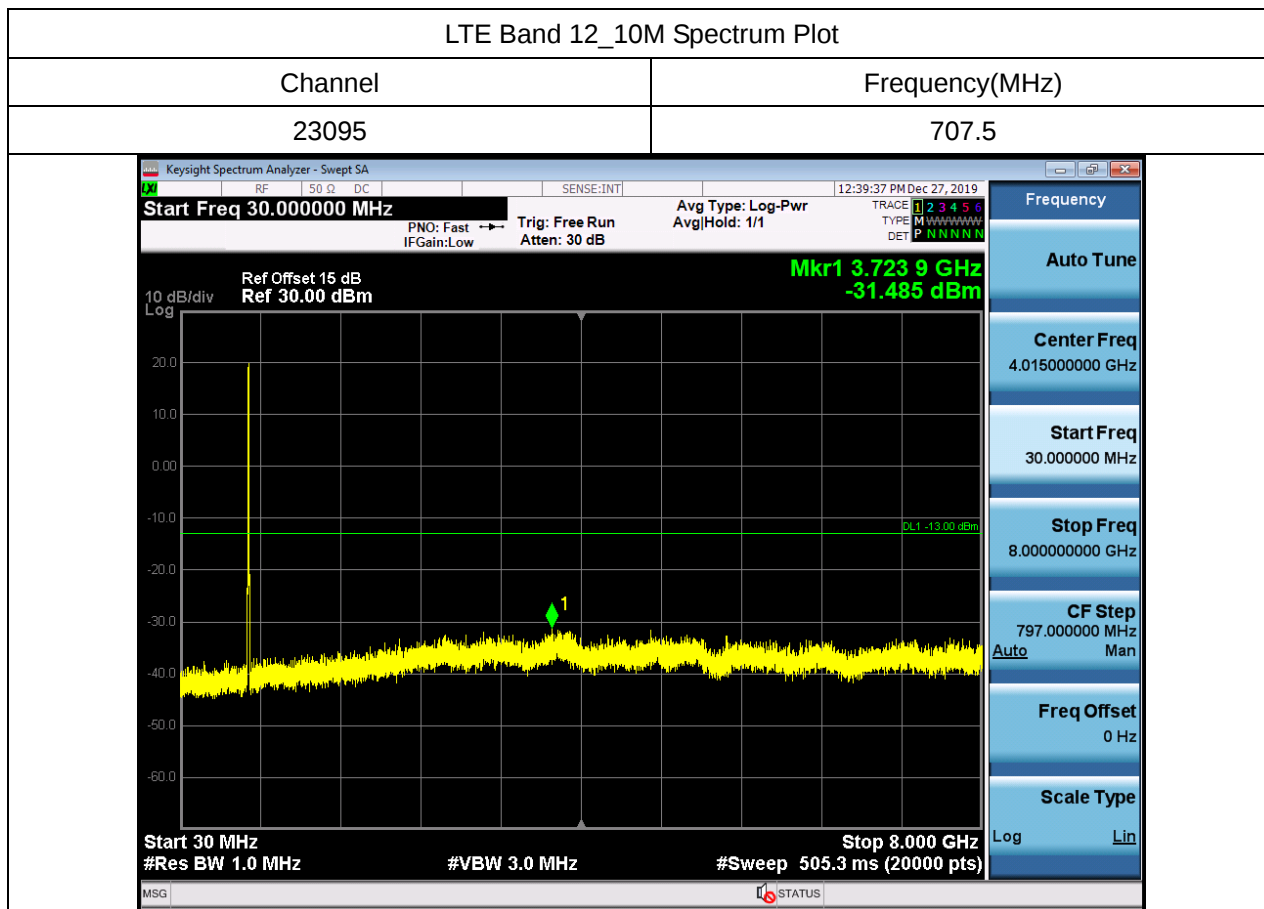






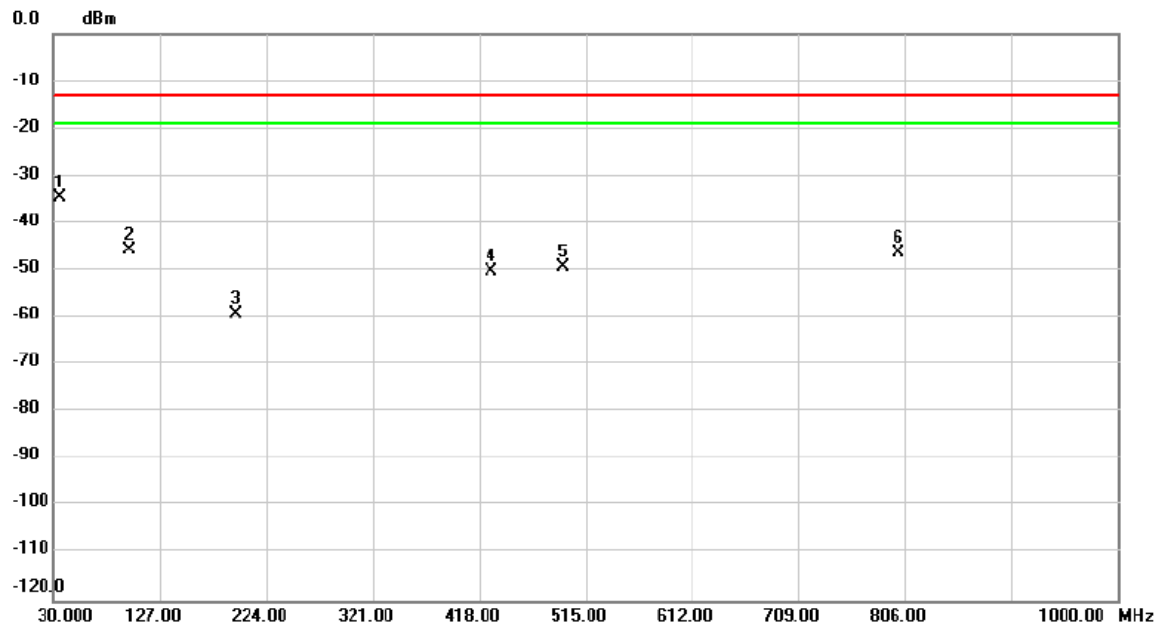






## **APPENDIX D - RADIATED SPURIOUS EMISSIONS (30MHZ TO 1GHZ)**

|              |                                        |              |            |
|--------------|----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 4_TX CH20175_Internal Antenna | Tested Date  | 2019/12/22 |
| Test Voltage | DC 32V                                 | Polarization | Vertical   |

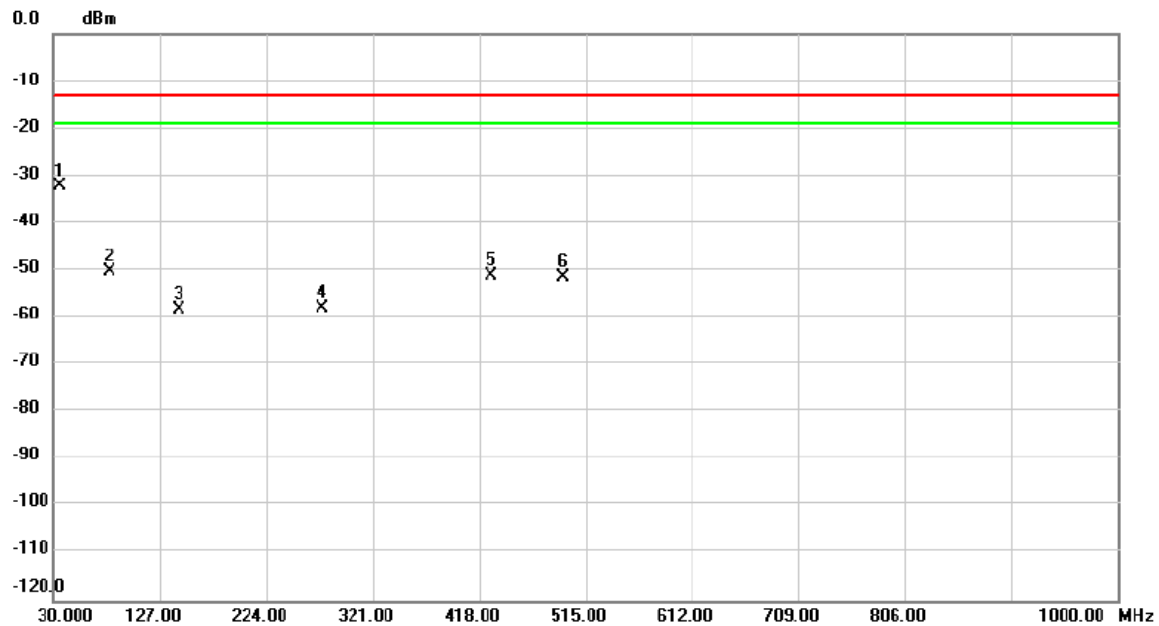


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Margin | Detector | Comment |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBm           | dB             | dBm         | dBm    | dB     |          |         |
| 1   | *   | 35.8200  | -49.77        | 15.22          | -34.55      | -13.00 | -21.55 | peak     |         |
| 2   |     | 98.8700  | -49.25        | 3.39           | -45.86      | -13.00 | -32.86 | peak     |         |
| 3   |     | 195.8700 | -57.56        | -1.69          | -59.25      | -13.00 | -46.25 | peak     |         |
| 4   |     | 428.6700 | -62.92        | 12.72          | -50.20      | -13.00 | -37.20 | peak     |         |
| 5   |     | 494.6300 | -62.22        | 12.73          | -49.49      | -13.00 | -36.49 | peak     |         |
| 6   |     | 800.1800 | -62.45        | 16.20          | -46.25      | -13.00 | -33.25 | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                        |              |            |
|--------------|----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 4_TX CH20175_Internal Antenna | Tested Date  | 2019/12/22 |
| Test Voltage | DC 32V                                 | Polarization | Horizontal |

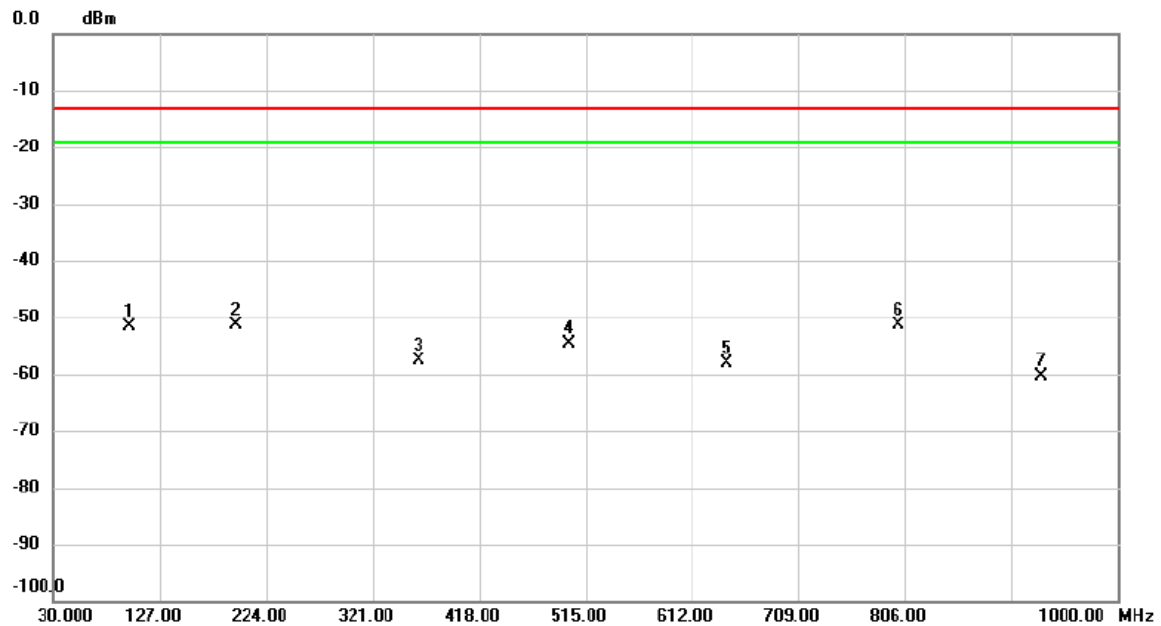


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBm | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBm | Limit<br>dBm | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1   | *   | 35.8200      | -47.38                  | 15.22                   | -32.16                  | -13.00       | -19.16       | peak     |         |
| 2   |     | 80.4400      | -55.92                  | 5.66                    | -50.26                  | -13.00       | -37.26       | peak     |         |
| 3   |     | 144.4600     | -61.04                  | 2.78                    | -58.26                  | -13.00       | -45.26       | peak     |         |
| 4   |     | 275.4100     | -58.24                  | 0.09                    | -58.15                  | -13.00       | -45.15       | peak     |         |
| 5   |     | 428.6700     | -63.76                  | 12.72                   | -51.04                  | -13.00       | -38.04       | peak     |         |
| 6   |     | 494.6300     | -64.06                  | 12.73                   | -51.33                  | -13.00       | -38.33       | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                         |              |            |
|--------------|-----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 12_TX CH23095_Internal Antenna | Tested Date  | 2019/12/24 |
| Test Voltage | DC 32V                                  | Polarization | Vertical   |

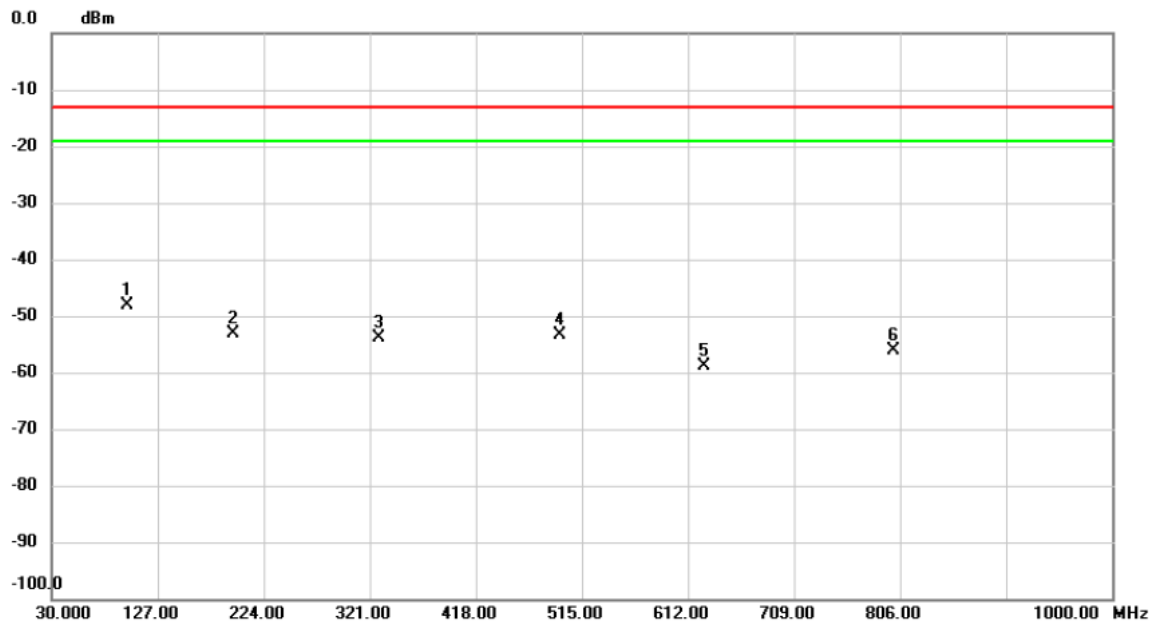


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBm | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBm | Limit<br>dBm | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1   |     | 98.8700      | -52.11                  | 0.52                    | -51.59                  | -13.00       | -38.59       | peak     |         |
| 2   | *   | 195.8700     | -54.43                  | 3.16                    | -51.27                  | -13.00       | -38.27       | peak     |         |
| 3   |     | 362.7100     | -63.89                  | 6.33                    | -57.56                  | -13.00       | -44.56       | peak     |         |
| 4   |     | 500.4500     | -61.59                  | 7.05                    | -54.54                  | -13.00       | -41.54       | peak     |         |
| 5   |     | 644.0100     | -72.42                  | 14.39                   | -58.03                  | -13.00       | -45.03       | peak     |         |
| 6   |     | 800.1800     | -61.59                  | 10.15                   | -51.44                  | -13.00       | -38.44       | peak     |         |
| 7   |     | 930.1600     | -74.03                  | 13.61                   | -60.42                  | -13.00       | -47.42       | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                         |              |            |
|--------------|-----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 12_TX CH23095_Internal Antenna | Tested Date  | 2019/12/24 |
| Test Voltage | DC 32V                                  | Polarization | Horizontal |

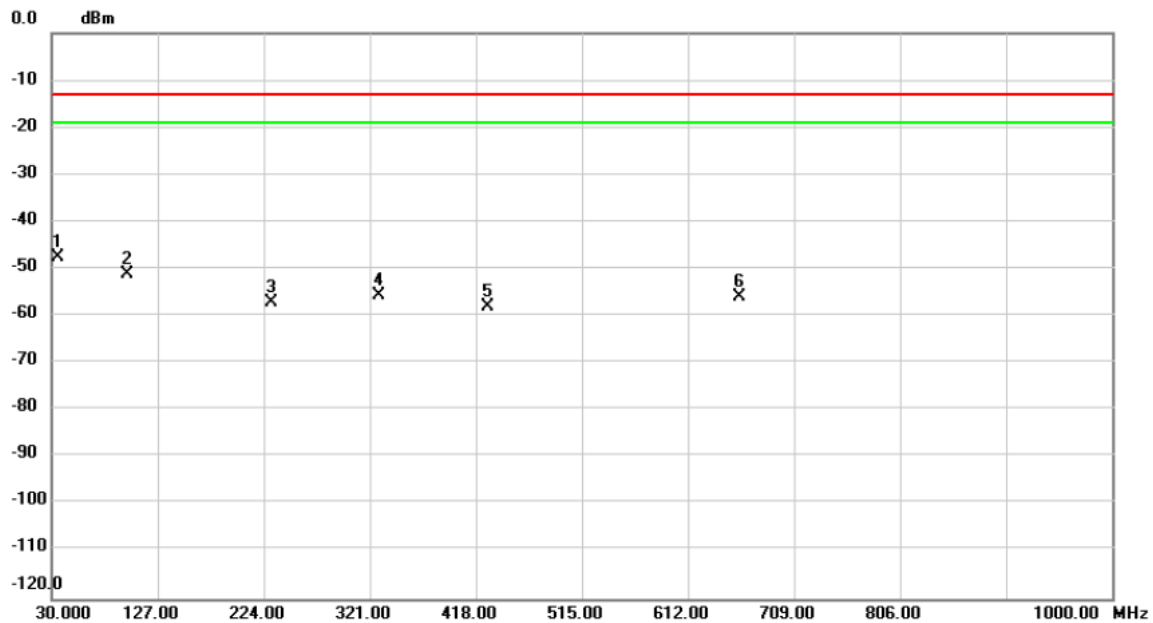


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBm | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBm | Limit<br>dBm | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1   | *   | 98.8700      | -48.66                  | 0.52                    | -48.14                  | -13.00       | -35.14       | peak     |         |
| 2   |     | 195.8700     | -56.30                  | 3.16                    | -53.14                  | -13.00       | -40.14       | peak     |         |
| 3   |     | 329.7300     | -60.87                  | 7.03                    | -53.84                  | -13.00       | -40.84       | peak     |         |
| 4   |     | 494.6300     | -60.37                  | 6.88                    | -53.49                  | -13.00       | -40.49       | peak     |         |
| 5   |     | 626.5500     | -72.30                  | 13.50                   | -58.80                  | -13.00       | -45.80       | peak     |         |
| 6   |     | 800.1800     | -66.21                  | 10.15                   | -56.06                  | -13.00       | -43.06       | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                        |              |            |
|--------------|----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 4_TX CH20175_External Antenna | Tested Date  | 2019/12/22 |
| Test Voltage | DC 32V                                 | Polarization | Vertical   |

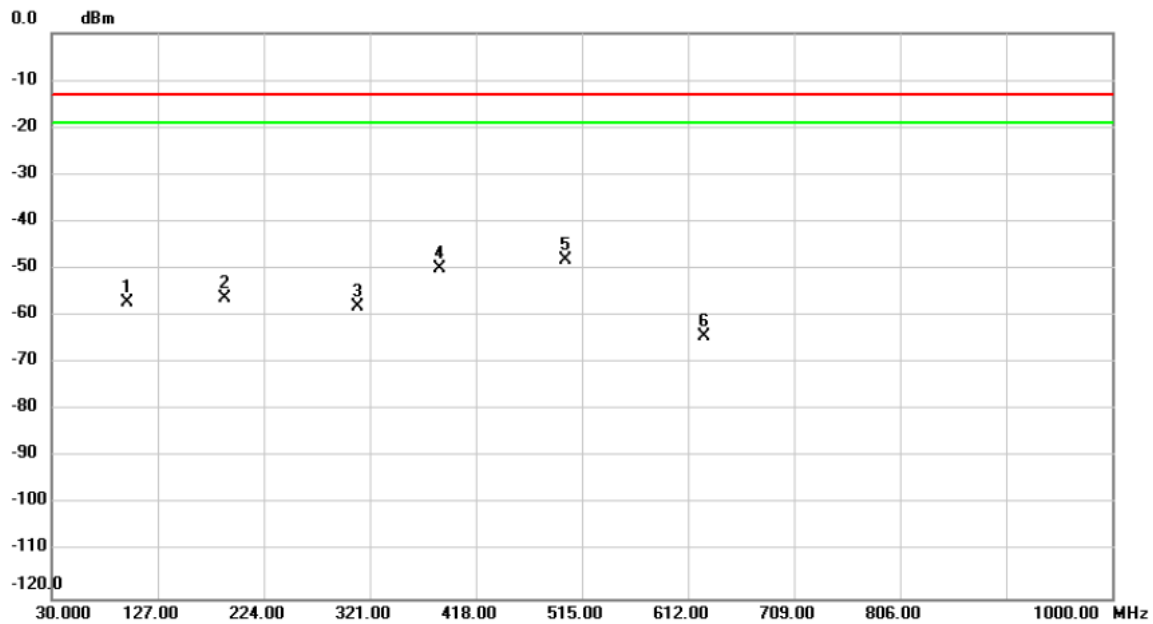


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBm | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBm | Limit<br>dBm | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1   | *   | 35.8200      | -44.59                  | -2.82                   | -47.41                  | -13.00       | -34.41       | peak     |         |
| 2   |     | 98.8700      | -52.41                  | 1.26                    | -51.15                  | -13.00       | -38.15       | peak     |         |
| 3   |     | 230.7900     | -62.30                  | 5.15                    | -57.15                  | -13.00       | -44.15       | peak     |         |
| 4   |     | 329.7300     | -63.99                  | 8.38                    | -55.61                  | -13.00       | -42.61       | peak     |         |
| 5   |     | 428.6700     | -65.22                  | 7.09                    | -58.13                  | -13.00       | -45.13       | peak     |         |
| 6   |     | 659.5300     | -72.55                  | 16.65                   | -55.90                  | -13.00       | -42.90       | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                        |              |            |
|--------------|----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 4_TX CH20175_External Antenna | Tested Date  | 2019/12/22 |
| Test Voltage | DC 32V                                 | Polarization | Horizontal |

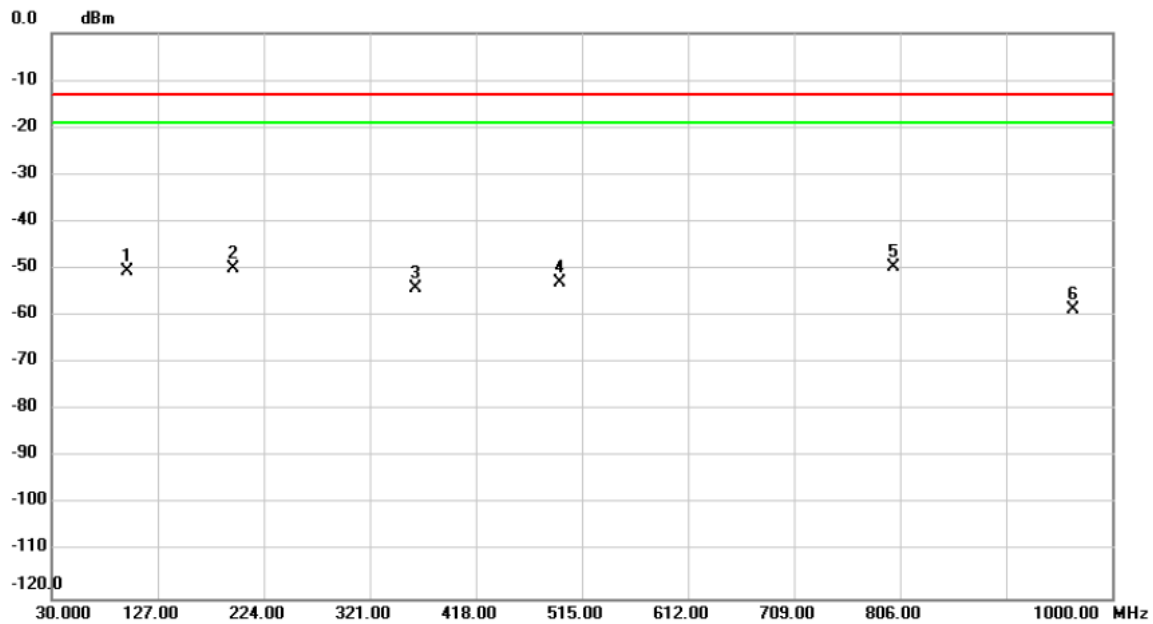


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBm | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBm | Limit<br>dBm | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1   |     | 98.8700      | -61.19                  | 4.13                    | -57.06                  | -13.00       | -44.06       | peak     |         |
| 2   |     | 188.1100     | -56.93                  | 0.72                    | -56.21                  | -13.00       | -43.21       | peak     |         |
| 3   |     | 310.3300     | -60.81                  | 2.82                    | -57.99                  | -13.00       | -44.99       | peak     |         |
| 4   |     | 385.0200     | -59.11                  | 9.09                    | -50.02                  | -13.00       | -37.02       | peak     |         |
| 5   | *   | 500.4500     | -62.21                  | 14.03                   | -48.18                  | -13.00       | -35.18       | peak     |         |
| 6   |     | 626.5500     | -73.33                  | 9.08                    | -64.25                  | -13.00       | -51.25       | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                         |              |            |
|--------------|-----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 12_TX CH23095_External Antenna | Tested Date  | 2019/12/24 |
| Test Voltage | DC 32V                                  | Polarization | Vertical   |

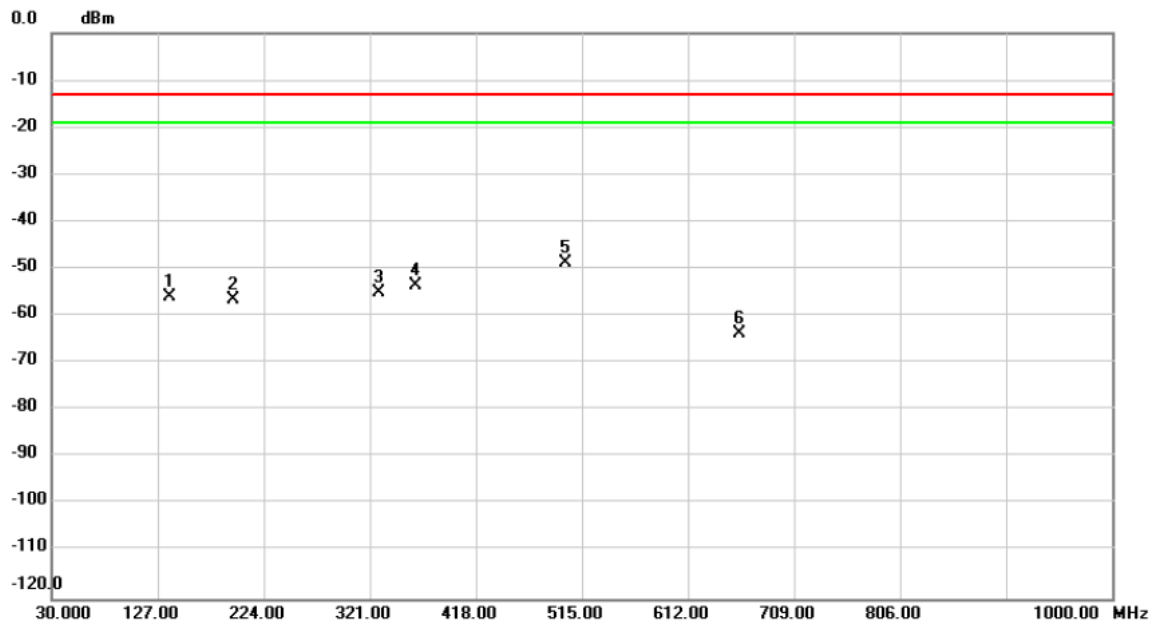


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Margin | Detector | Comment |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBm           | dB             | dBm         | dBm    | dB     |          |         |
| 1   |     | 98.8700  | -51.86        | 1.26           | -50.60      | -13.00 | -37.60 | peak     |         |
| 2   |     | 195.8700 | -54.06        | 4.20           | -49.86      | -13.00 | -36.86 | peak     |         |
| 3   |     | 362.7100 | -61.88        | 7.73           | -54.15      | -13.00 | -41.15 | peak     |         |
| 4   |     | 494.6300 | -61.55        | 8.54           | -53.01      | -13.00 | -40.01 | peak     |         |
| 5   | *   | 800.1800 | -62.05        | 12.41          | -49.64      | -13.00 | -36.64 | peak     |         |
| 6   |     | 964.1100 | -76.39        | 17.68          | -58.71      | -13.00 | -45.71 | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                         |              |            |
|--------------|-----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 12_TX CH23095_External Antenna | Tested Date  | 2019/12/24 |
| Test Voltage | DC 32V                                  | Polarization | Horizontal |



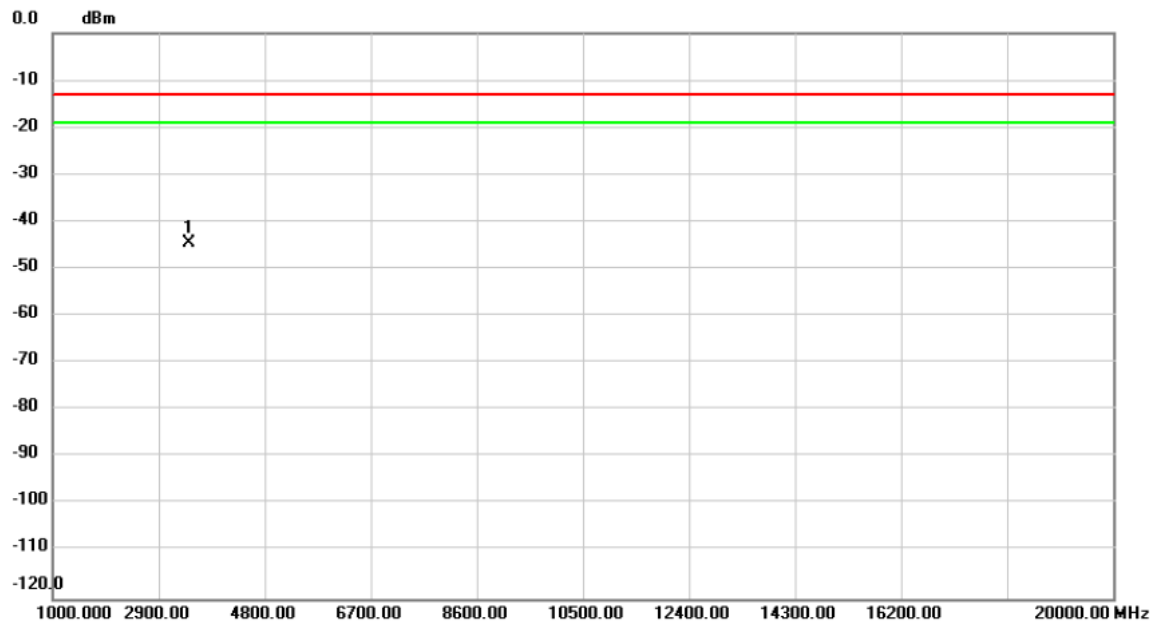
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBm | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBm | Limit<br>dBm | Margin<br>dB | Detector | Comment |
|-----|-----|--------------|-------------------------|-------------------------|-------------------------|--------------|--------------|----------|---------|
| 1   |     | 137.6700     | -59.66                  | 3.62                    | -56.04                  | -13.00       | -43.04       | peak     |         |
| 2   |     | 195.8700     | -55.77                  | -0.65                   | -56.42                  | -13.00       | -43.42       | peak     |         |
| 3   |     | 329.7300     | -59.20                  | 4.12                    | -55.08                  | -13.00       | -42.08       | peak     |         |
| 4   |     | 362.7100     | -60.36                  | 6.78                    | -53.58                  | -13.00       | -40.58       | peak     |         |
| 5   | *   | 500.4500     | -62.92                  | 14.03                   | -48.89                  | -13.00       | -35.89       | peak     |         |
| 6   |     | 659.5300     | -73.21                  | 9.54                    | -63.67                  | -13.00       | -50.67       | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

## **APPENDIX E - RADIATED SPURIOUS EMISSIONS (ABOVE 1GHZ)**

|              |                                        |              |            |
|--------------|----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 4_TX CH20175_Internal Antenna | Tested Date  | 2019/12/24 |
| Test Voltage | DC 32V                                 | Polarization | Vertical   |

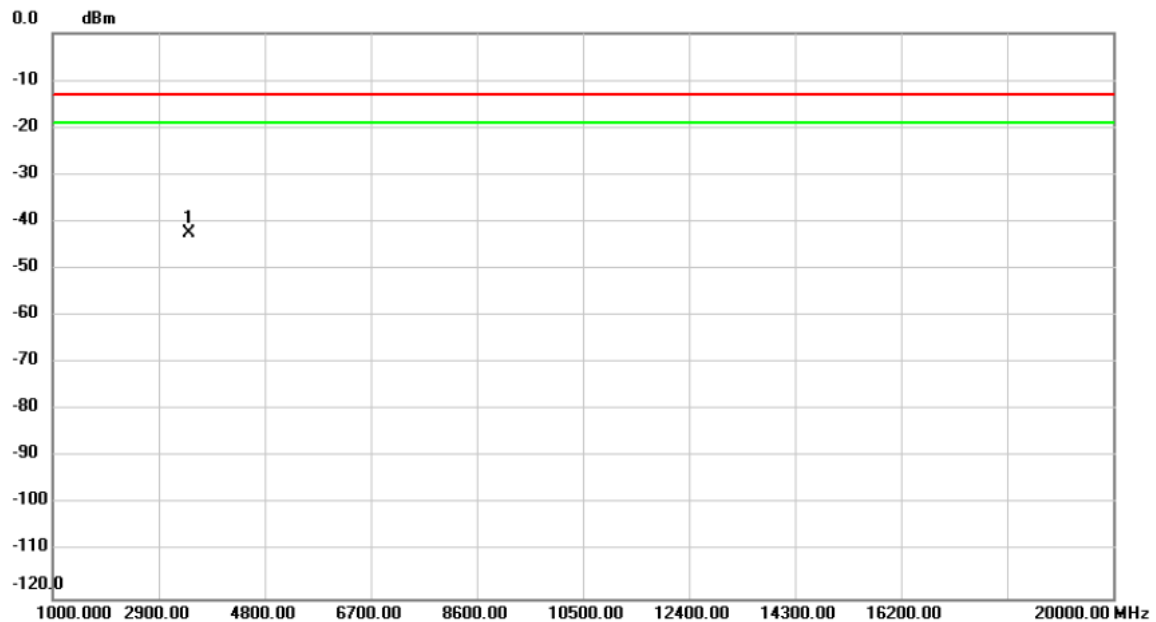


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Margin | Detector | Comment |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBm           | dB             | dBm         | dBm    | dB     |          |         |
| 1   | *   | 3447.110 | -43.35        | -1.21          | -44.56      | -13.00 | -31.56 | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                        |              |            |
|--------------|----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 4_TX CH20175_Internal Antenna | Tested Date  | 2019/12/24 |
| Test Voltage | DC 32V                                 | Polarization | Horizontal |

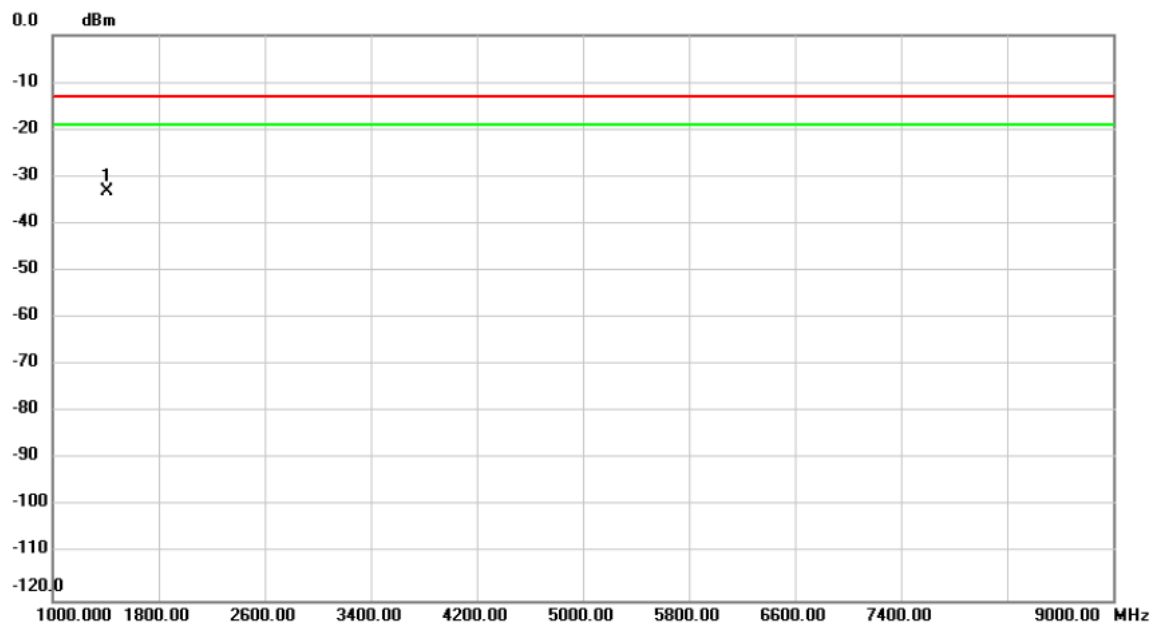


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Margin |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBm           | dB             | dBm         | dBm    | dB     | Detector | Comment |
| 1   | *   | 3447.160 | -41.38        | -1.15          | -42.53      | -13.00 | -29.53 | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                         |              |            |
|--------------|-----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 12_TX CH23095_Internal Antenna | Tested Date  | 2019/12/24 |
| Test Voltage | DC 32V                                  | Polarization | Vertical   |

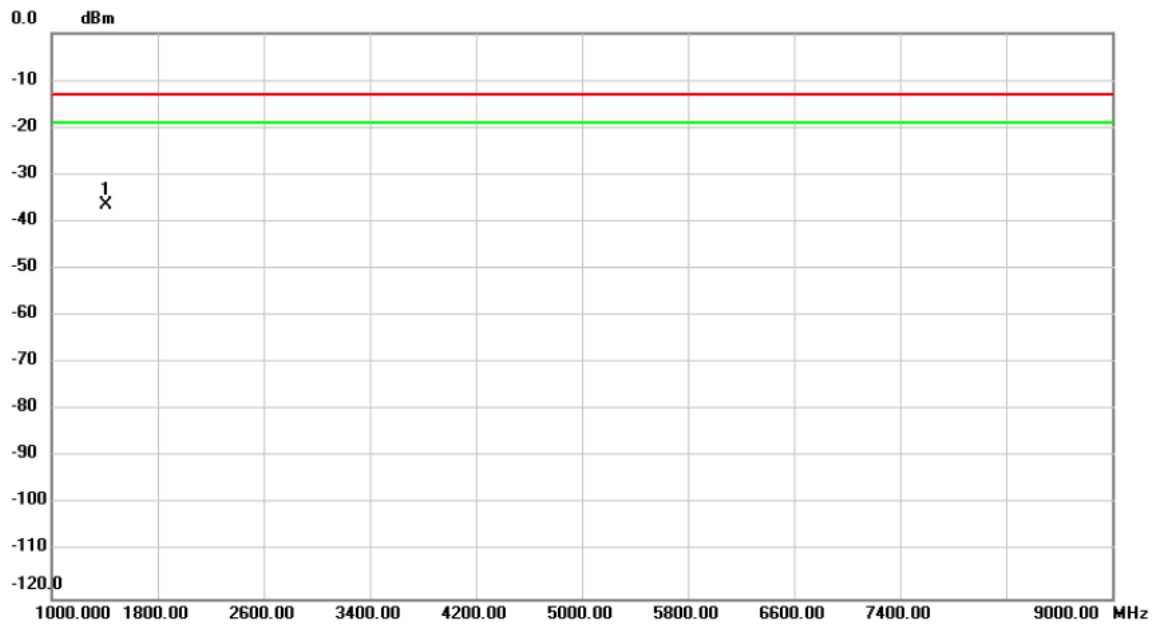


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Margin |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBm           | dB             | dBm         | dBm    | dB     | Detector | Comment |
| 1   | *   | 1406.275 | -26.10        | -6.99          | -33.09      | -13.00 | -20.09 | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                         |              |            |
|--------------|-----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 12_TX CH23095_Internal Antenna | Tested Date  | 2019/12/24 |
| Test Voltage | DC 32V                                  | Polarization | Horizontal |

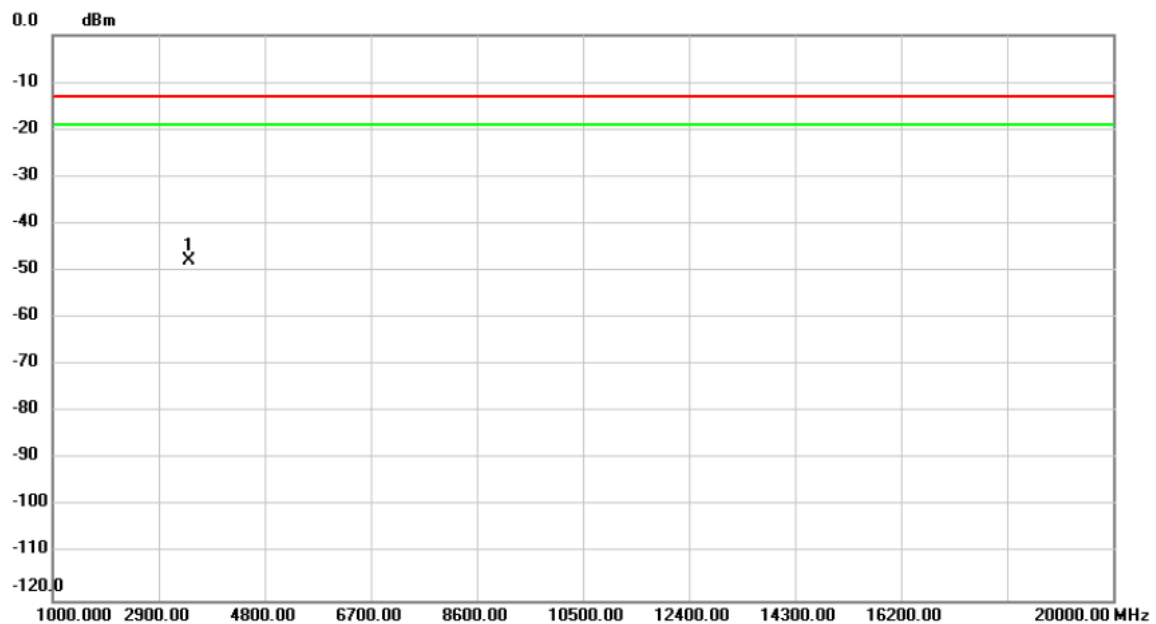


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Margin |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBm           | dB             | dBm         | dBm    | dB     | Detector | Comment |
| 1   | *   | 1406.280 | -29.69        | -6.73          | -36.42      | -13.00 | -23.42 | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                        |              |            |
|--------------|----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 4_TX CH20175_External Antenna | Tested Date  | 2019/12/24 |
| Test Voltage | DC 32V                                 | Polarization | Vertical   |

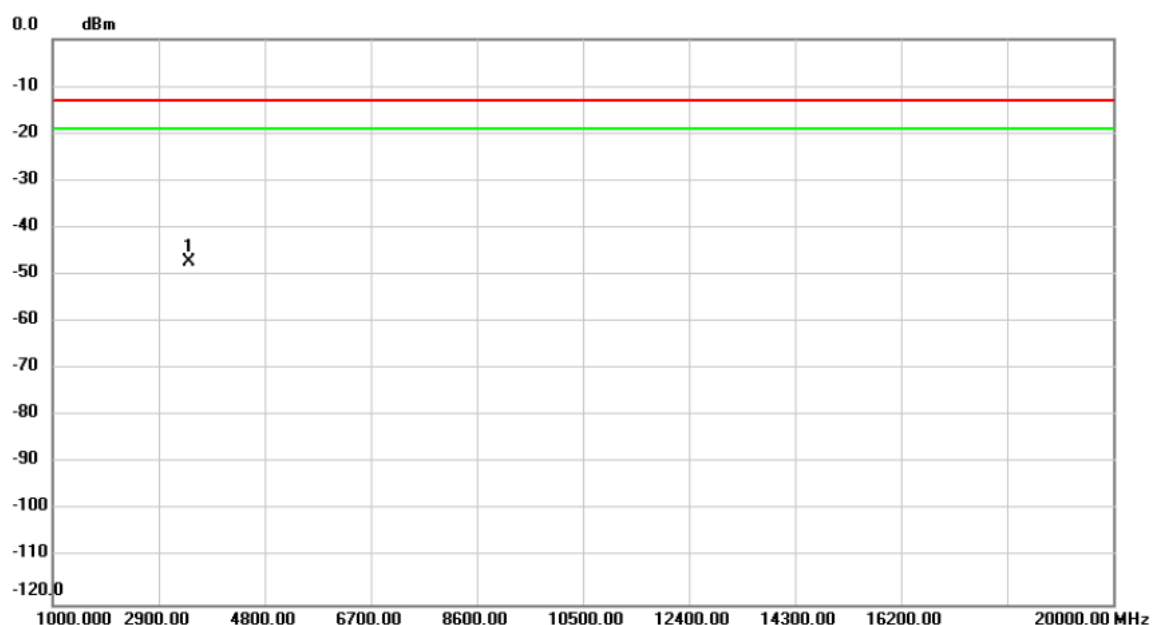


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Margin |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBm           | dB             | dBm         | dBm    | dB     | Detector | Comment |
| 1   | *   | 3447.045 | -46.68        | -1.21          | -47.89      | -13.00 | -34.89 | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                        |              |            |
|--------------|----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 4_TX CH20175_External Antenna | Tested Date  | 2019/12/24 |
| Test Voltage | DC 32V                                 | Polarization | Horizontal |

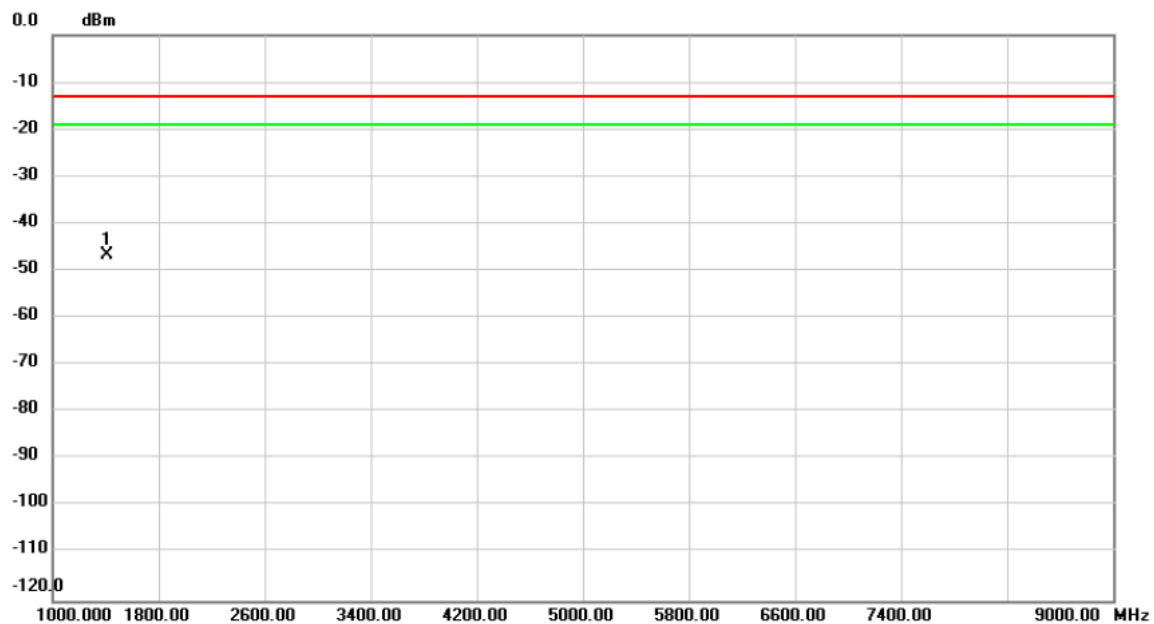


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Margin |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBm           | dB             | dBm         | dBm    | dB     | Detector | Comment |
| 1   | *   | 3447.390 | -45.95        | -1.15          | -47.10      | -13.00 | -34.10 | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                         |              |            |
|--------------|-----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 12_TX CH23095_External Antenna | Tested Date  | 2019/12/24 |
| Test Voltage | DC 32V                                  | Polarization | Vertical   |

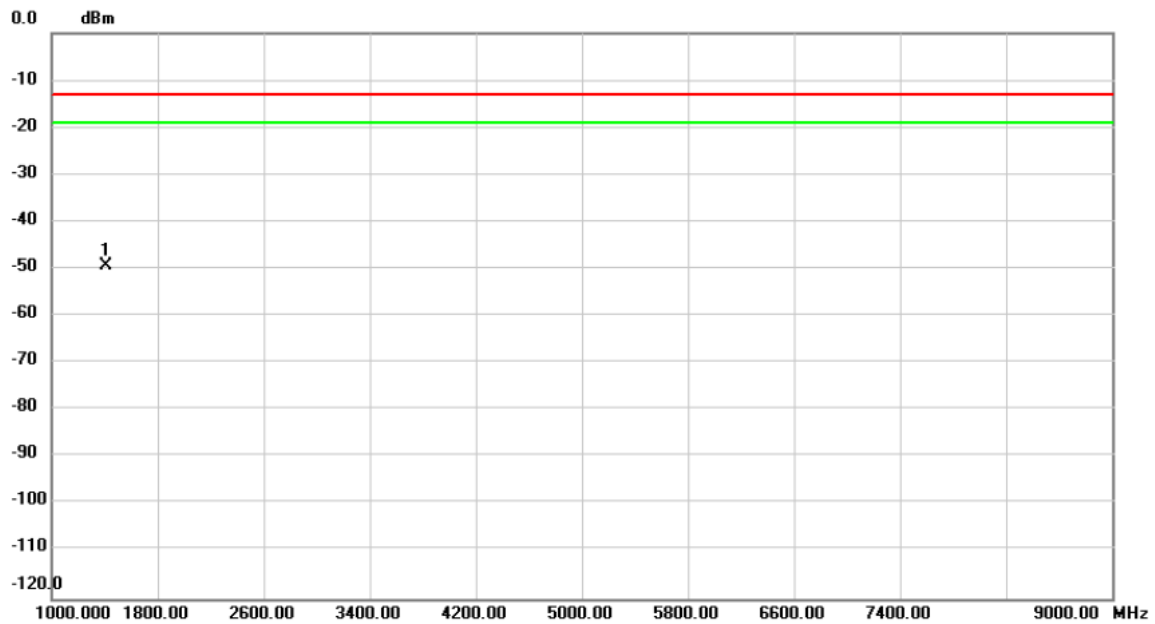


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Margin |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBm           | dB             | dBm         | dBm    | dB     | Detector | Comment |
| 1   | *   | 1406.145 | -39.59        | -7.00          | -46.59      | -13.00 | -33.59 | peak     |         |

## REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

|              |                                         |              |            |
|--------------|-----------------------------------------|--------------|------------|
| Test Mode    | LTE Band 12_TX CH23095_External Antenna | Tested Date  | 2019/12/24 |
| Test Voltage | DC 32V                                  | Polarization | Horizontal |

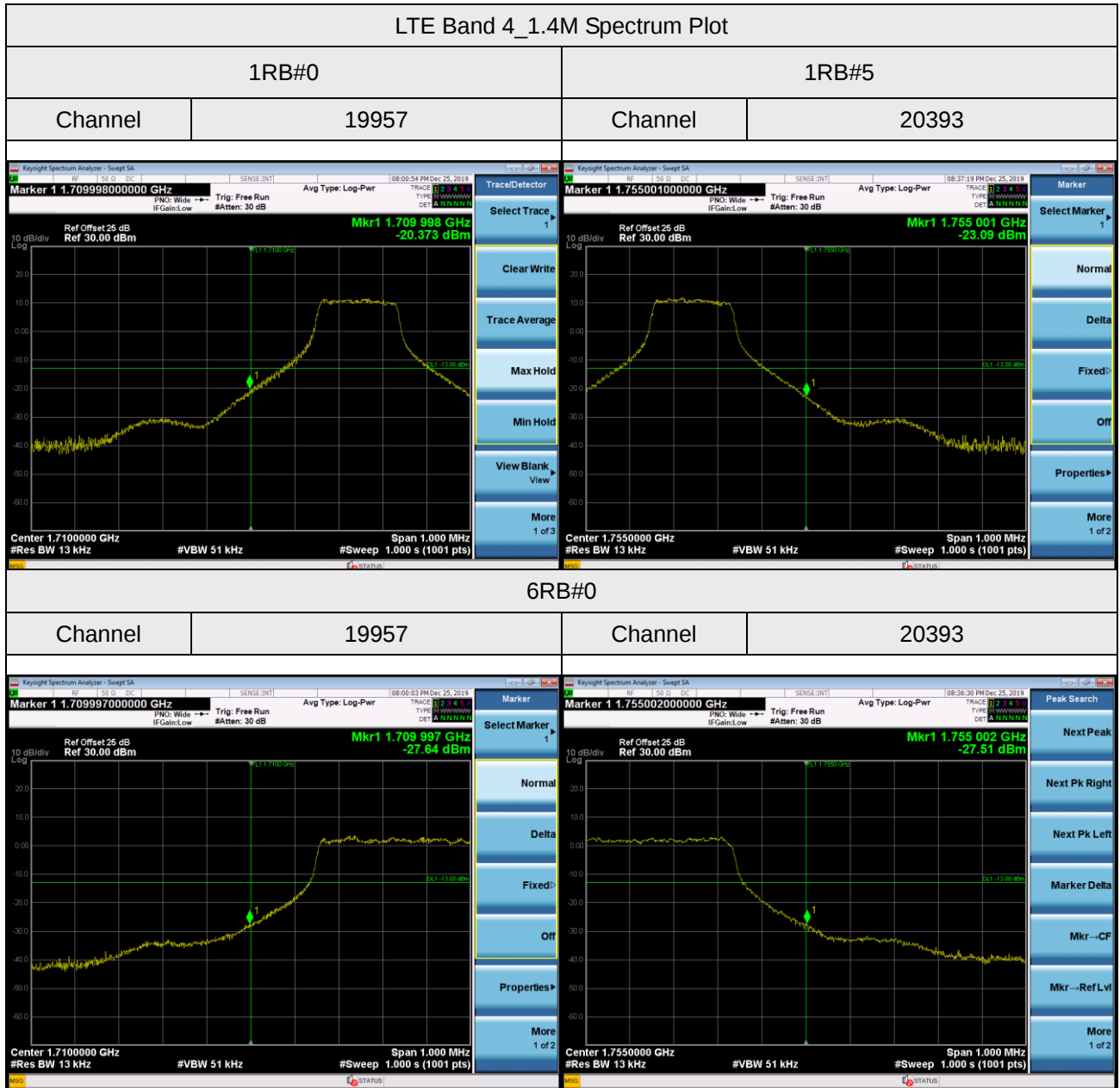


| No. | Mk. | Freq.    | Reading Level | Correct Factor | Measurement | Limit  | Margin |          |         |
|-----|-----|----------|---------------|----------------|-------------|--------|--------|----------|---------|
|     |     | MHz      | dBm           | dB             | dBm         | dBm    | dB     | Detector | Comment |
| 1   | *   | 1406.210 | -42.68        | -6.73          | -49.41      | -13.00 | -36.41 | peak     |         |

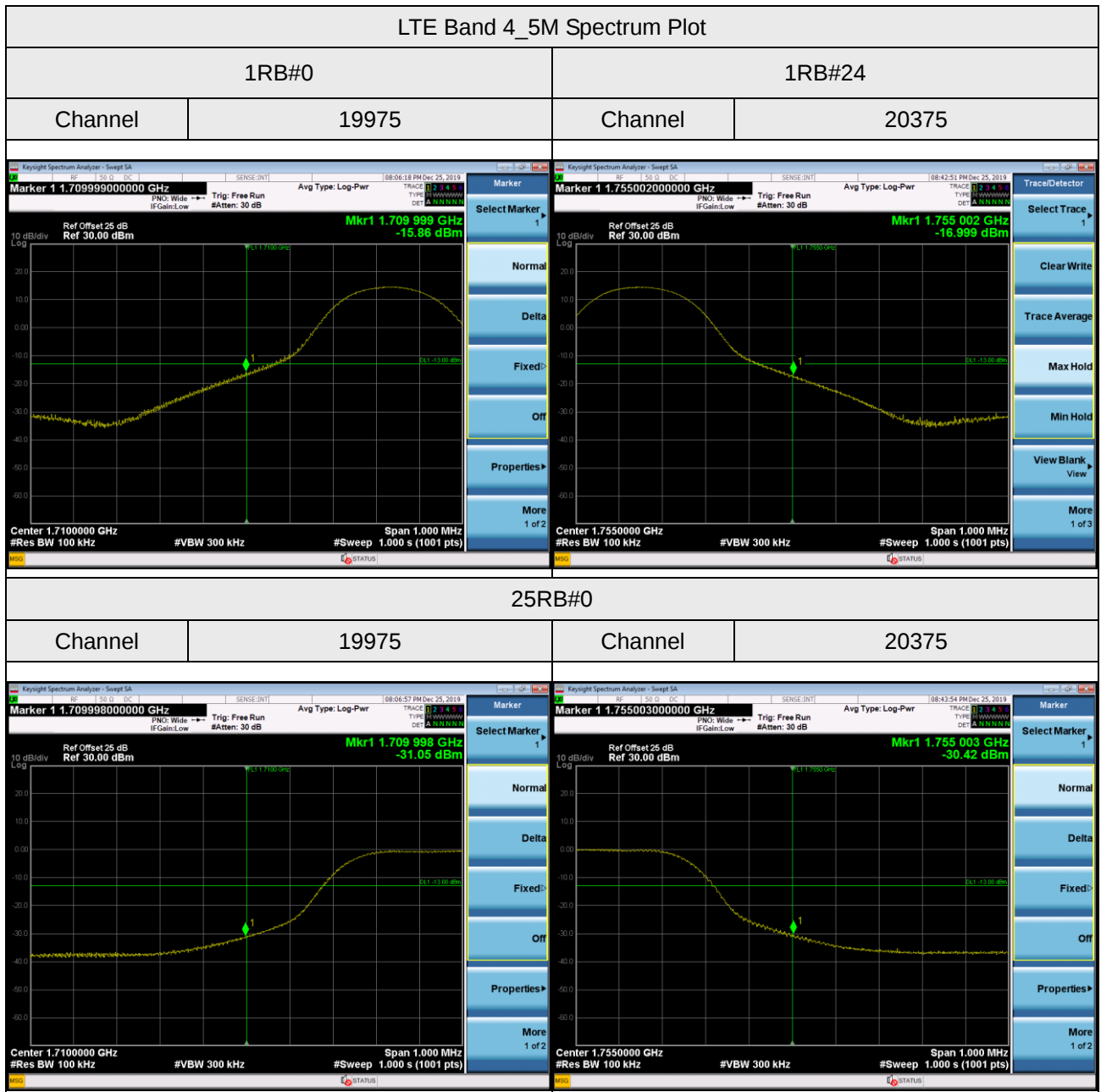
## REMARKS:

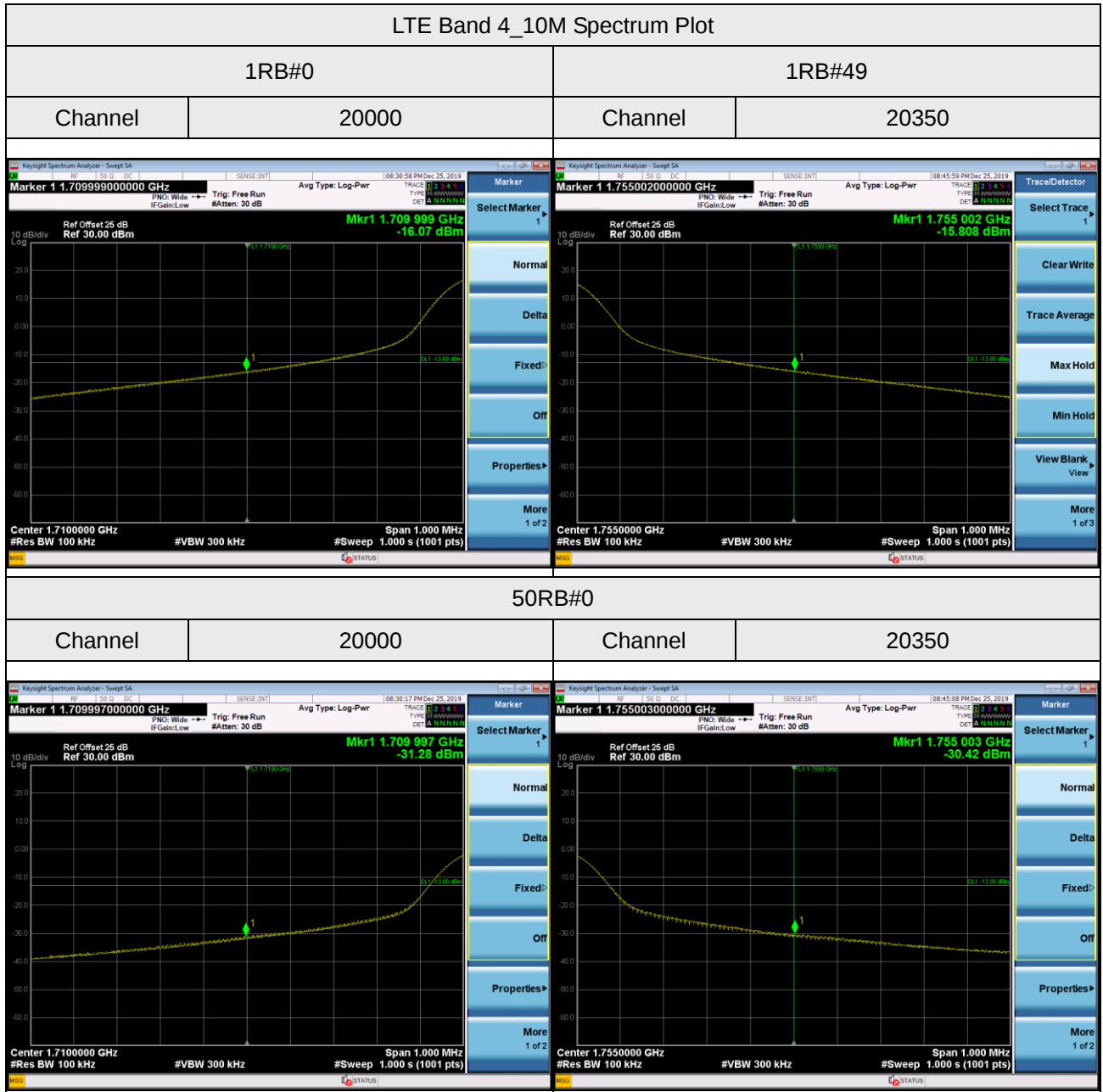
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

## APPENDIX F - BAND EDGE



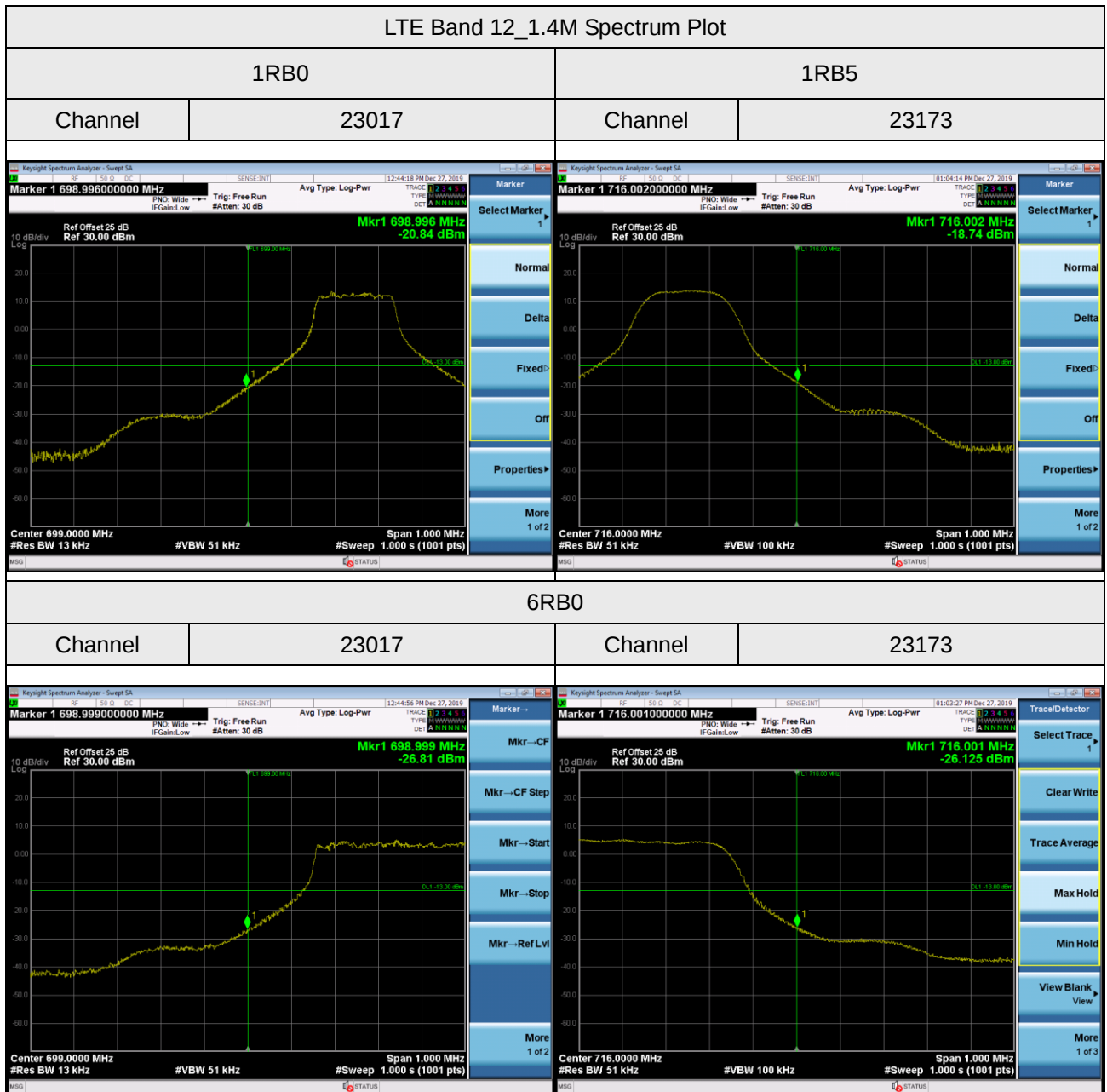


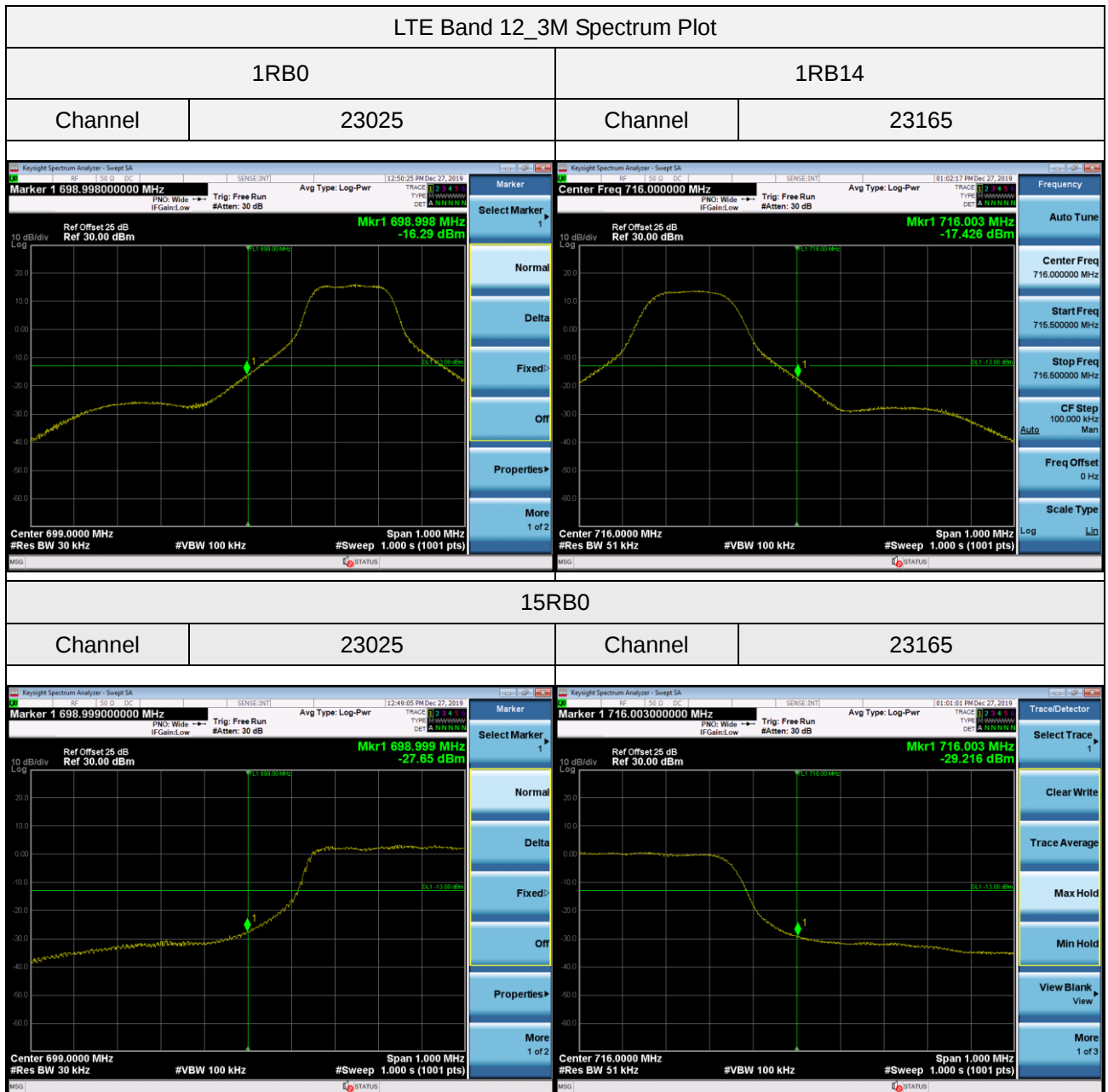


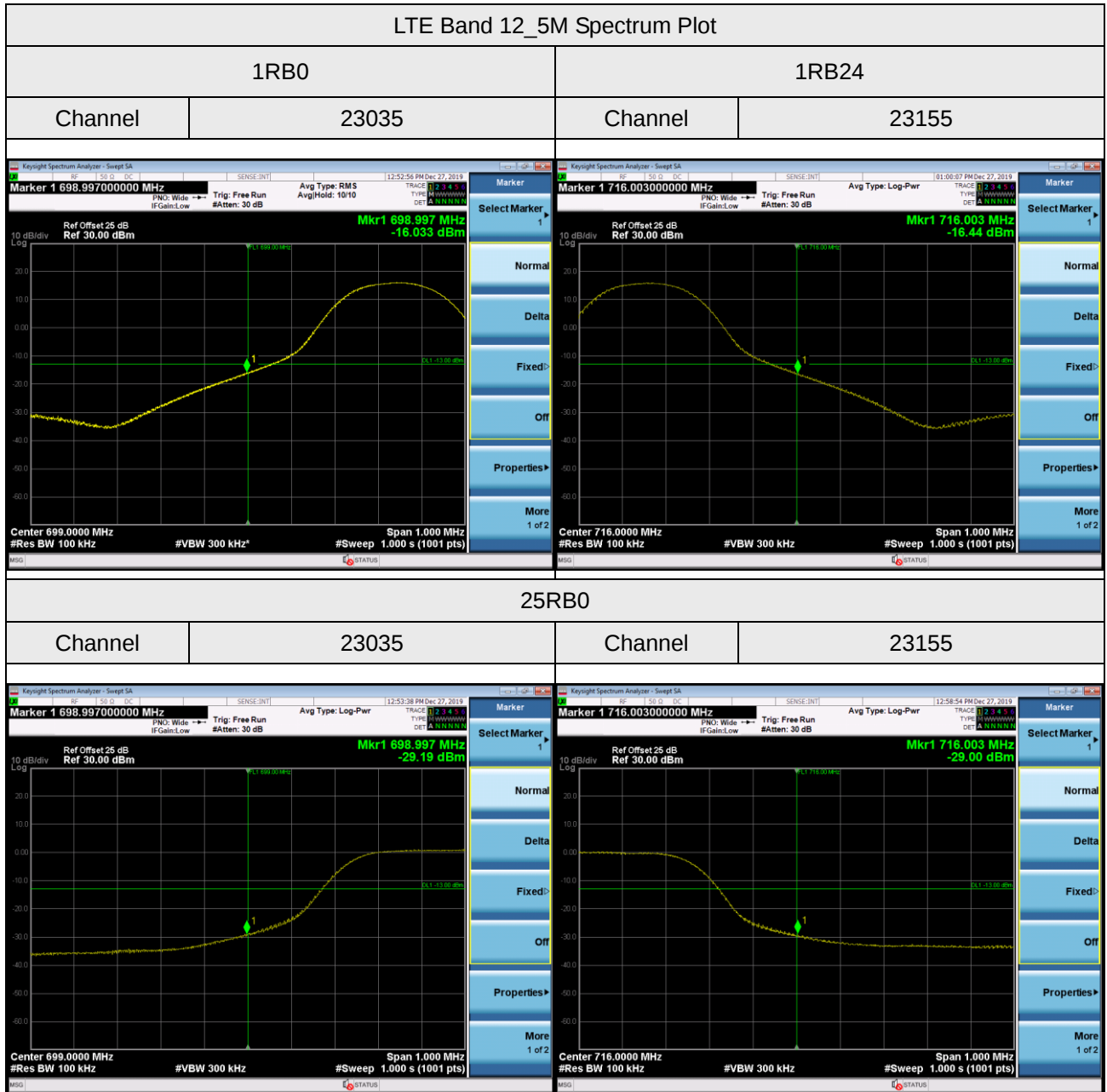


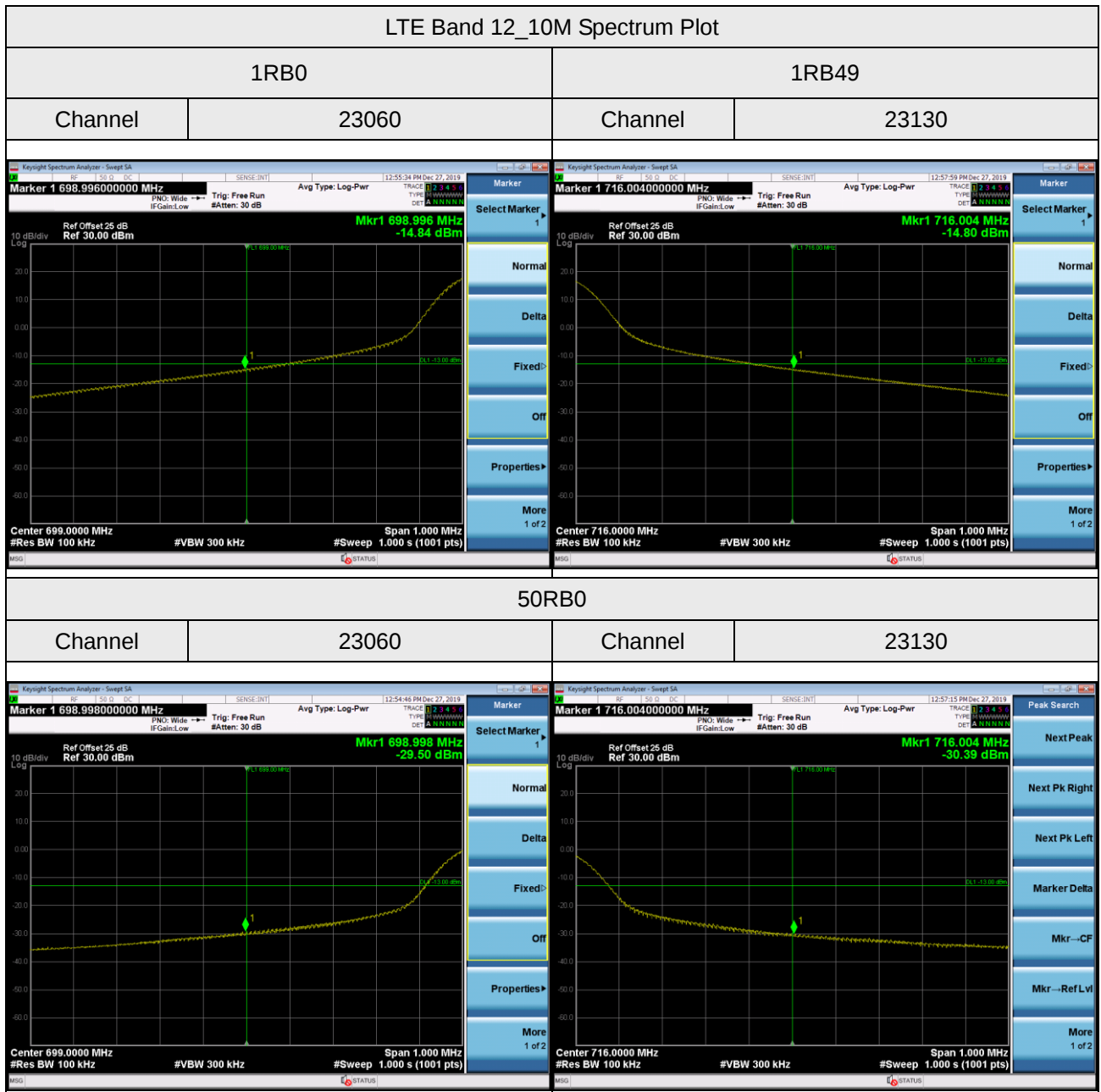












## APPENDIX H - PEAK TO AVERAGE RATIO

## LTE Band 4\_1.4M Spectrum Plot

