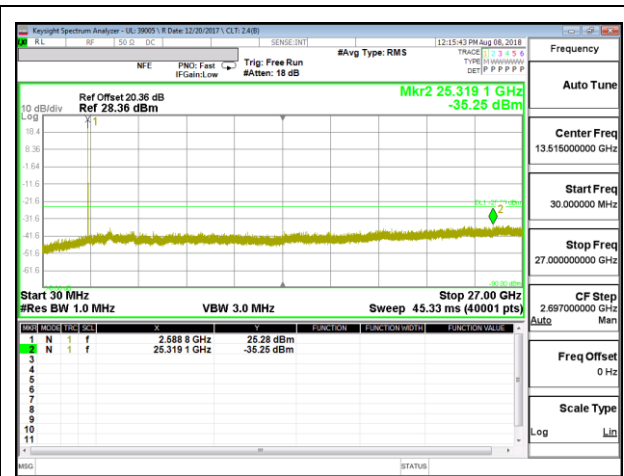
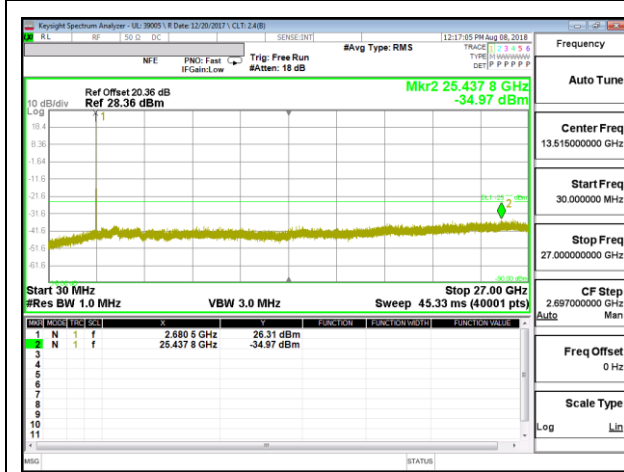


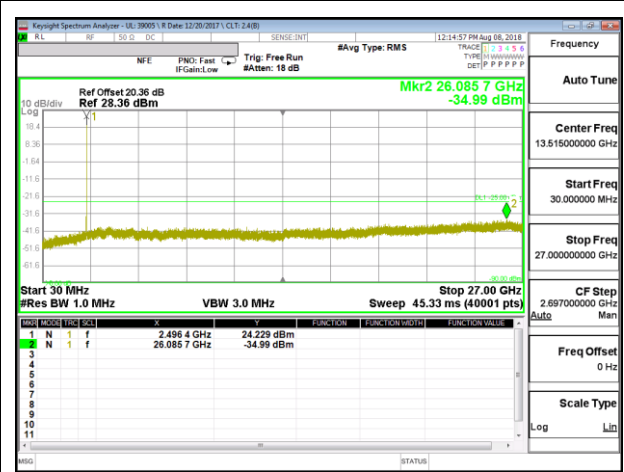
LTE B41 10MHz QPSK Low Channel RB1-0



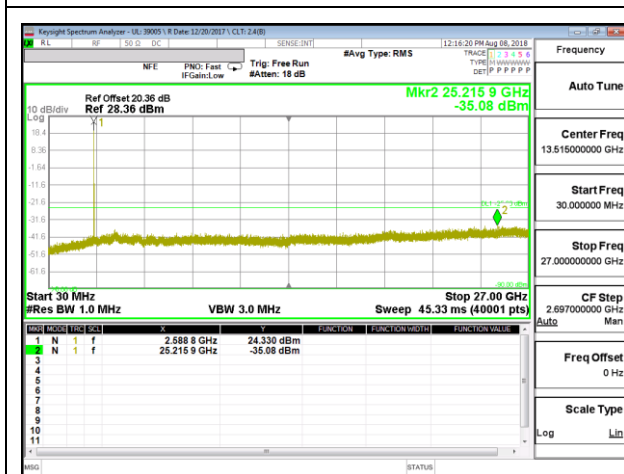
LTE B41 10MHz QPSK Mid Channel RB1-0



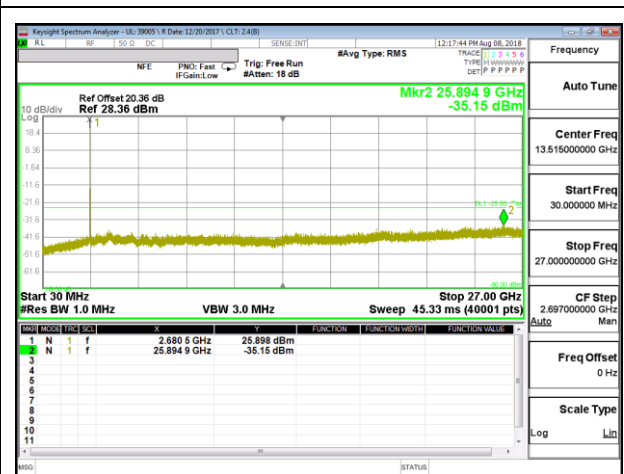
LTE B41 10MHz QPSK High Channel RB1-0



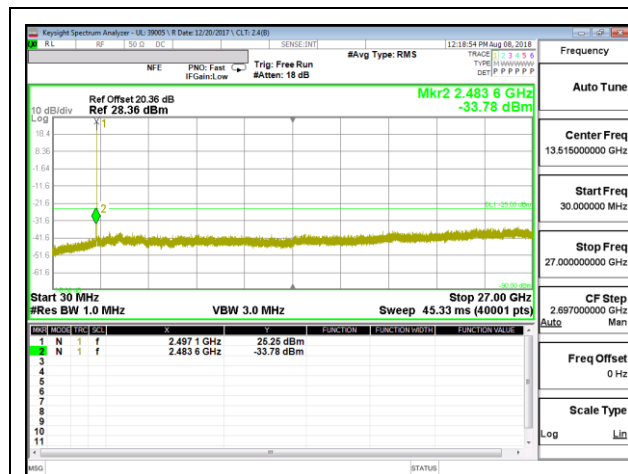
LTE B41 10MHz 16QAM Low Channel RB1-0



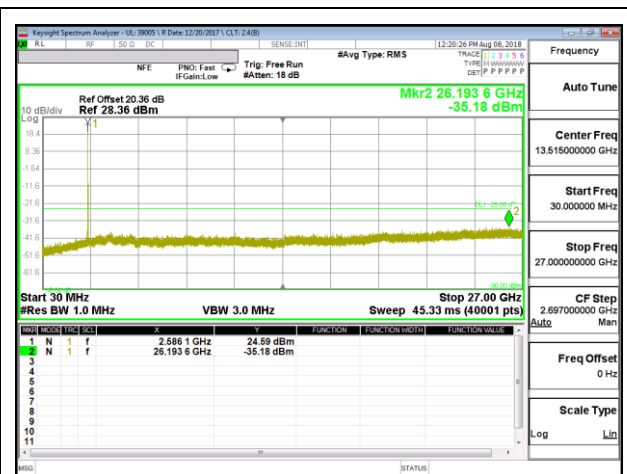
LTE B41 10MHz 16QAM Mid Channel RB1-0



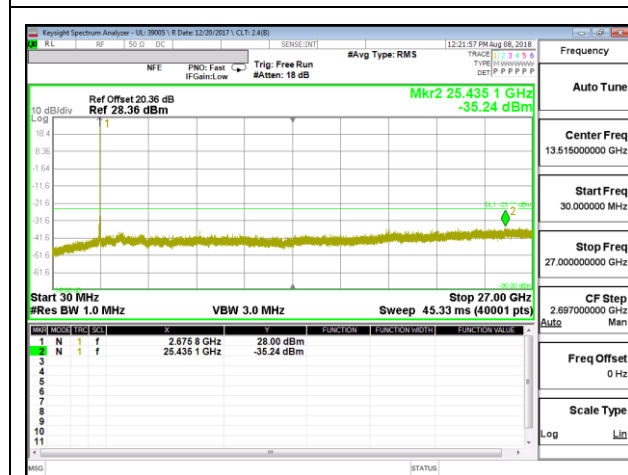
LTE B41 10MHz 16QAM High Channel RB1-0



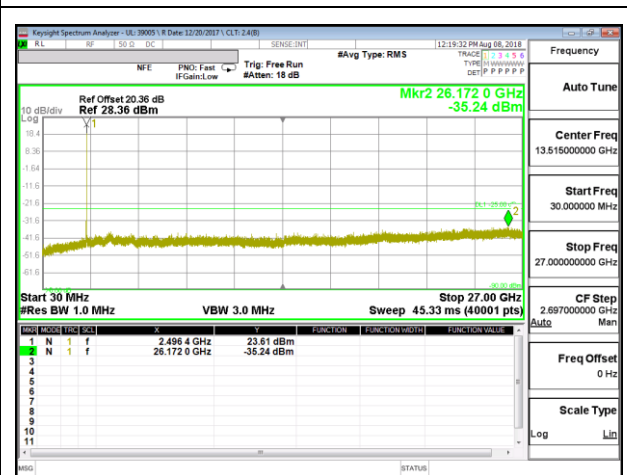
LTE B41 15MHz QPSK Low Channel RB1-0



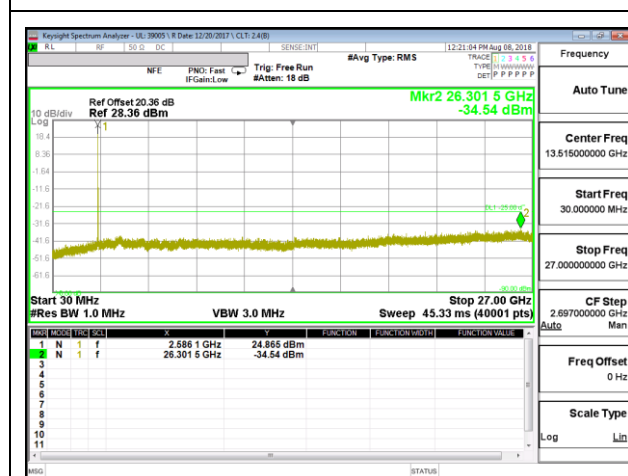
LTE B41 15MHz QPSK Mid Channel RB1-0



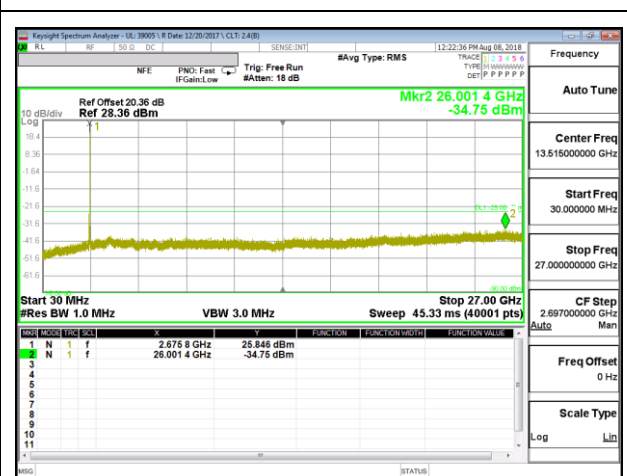
LTE B41 15MHz QPSK High Channel RB1-0



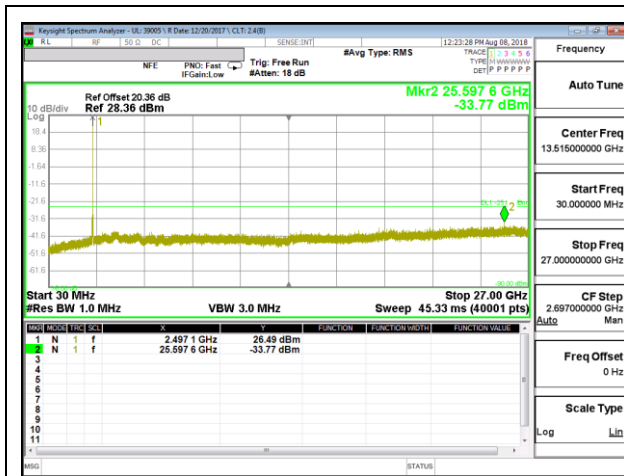
LTE B41 15MHz 16QAM Low Channel RB1-0



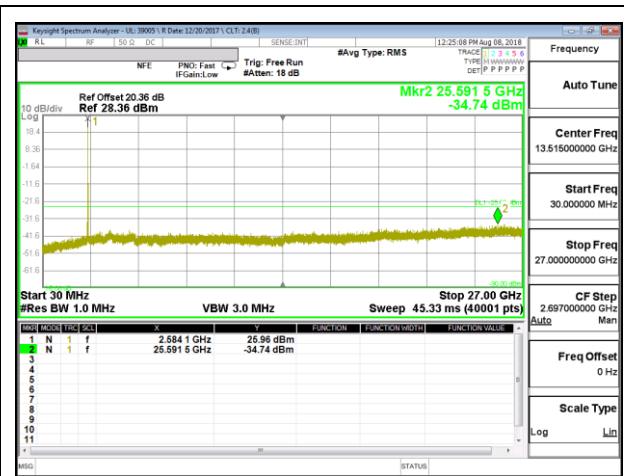
LTE B41 15MHz 16QAM Mid Channel RB1-0



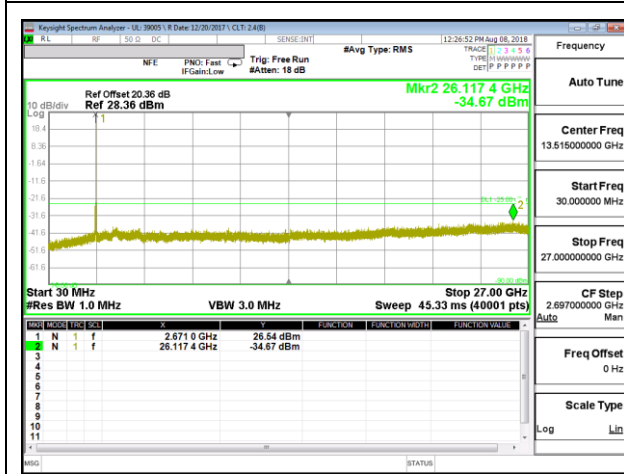
LTE B41 15MHz 16QAM High Channel RB1-0



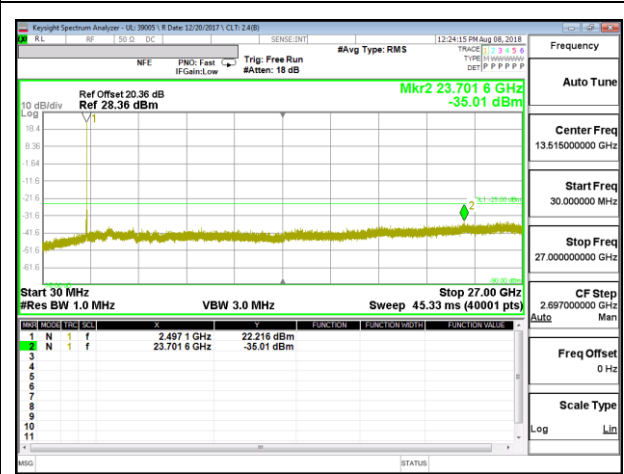
LTE B41 20MHz QPSK Low Channel RB1-0



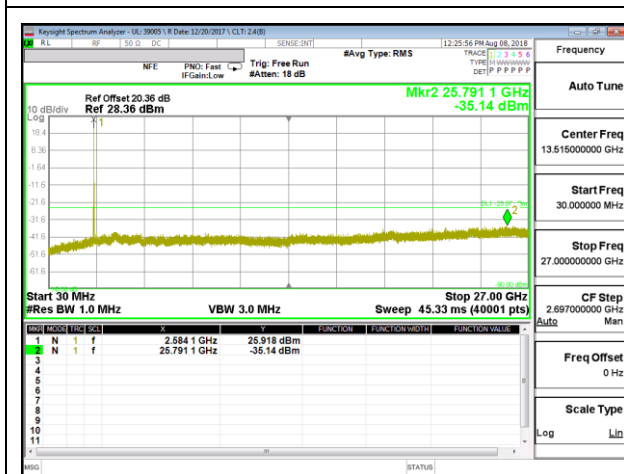
LTE B41 20MHz QPSK Mid Channel RB1-0



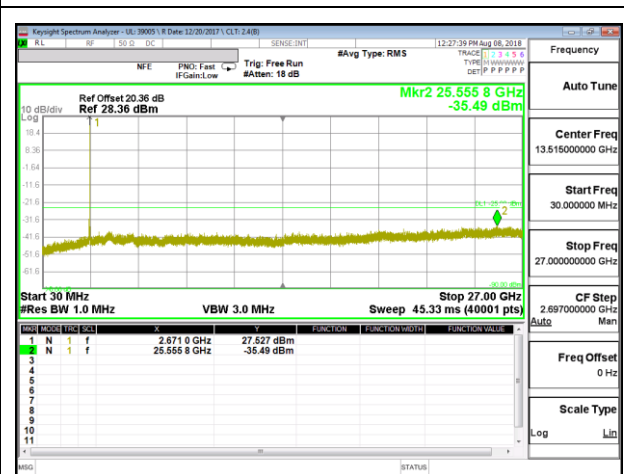
LTE B41 20MHz QPSK High Channel RB1-0



LTE B41 20MHz 16QAM Low Channel RB1-0

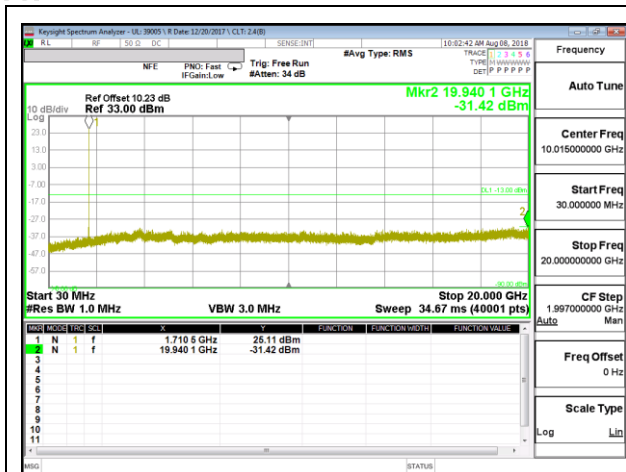


LTE B41 20MHz 16QAM Mid Channel RB1-0

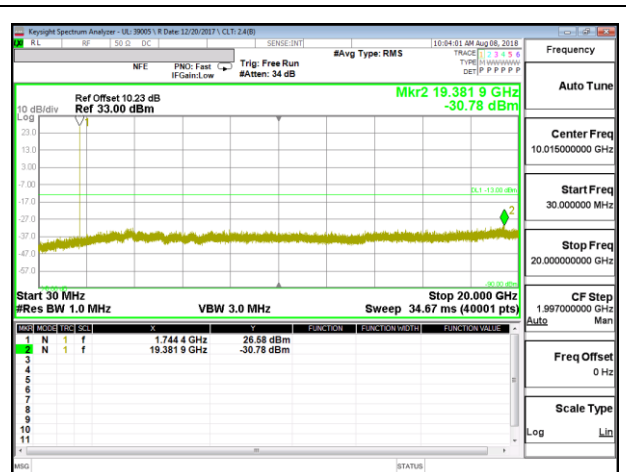


LTE B41 20MHz 16QAM High Channel RB1-0

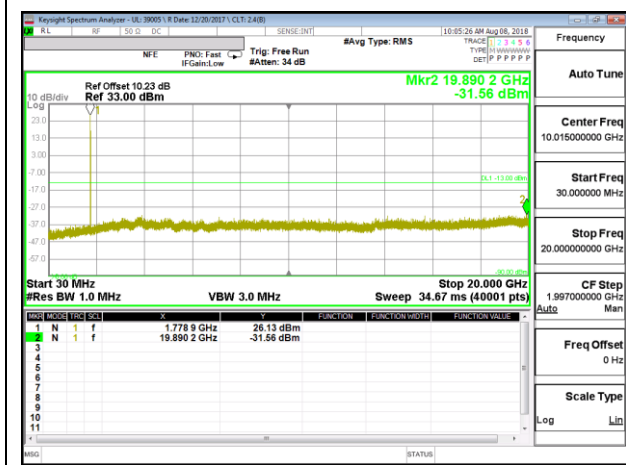
10.3.11. LTE BAND 66



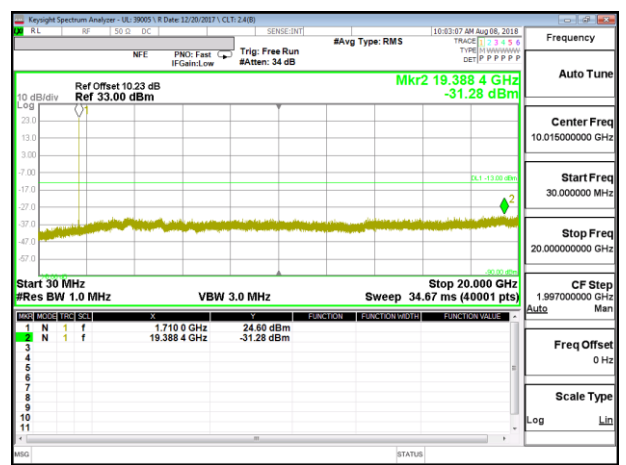
LTE B66 1.4MHz QPSK Low Channel RB1-0



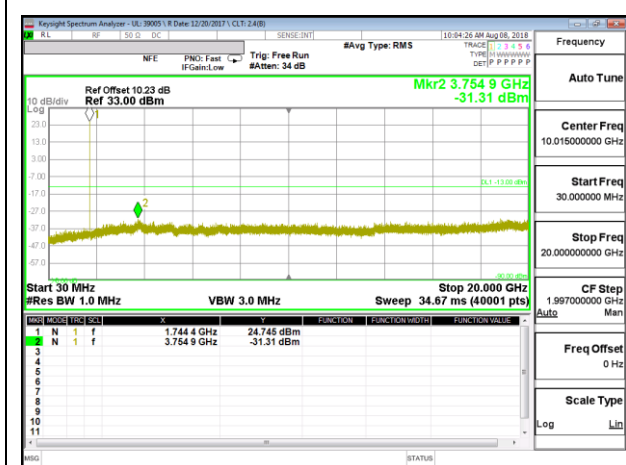
LTE B66 1.4MHz QPSK Mid Channel RB1-0



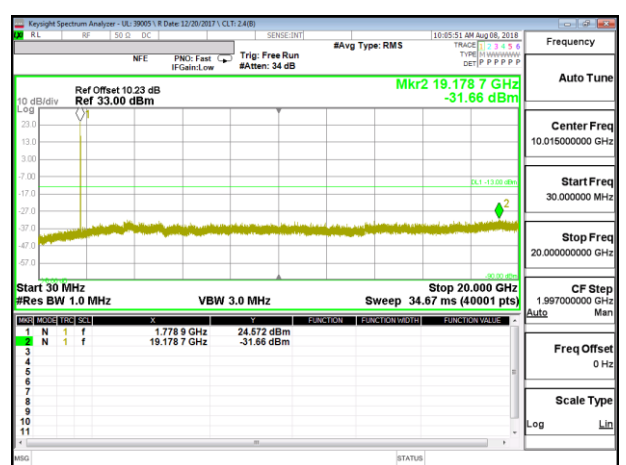
LTE B66 1.4MHz QPSK High Channel RB1-0



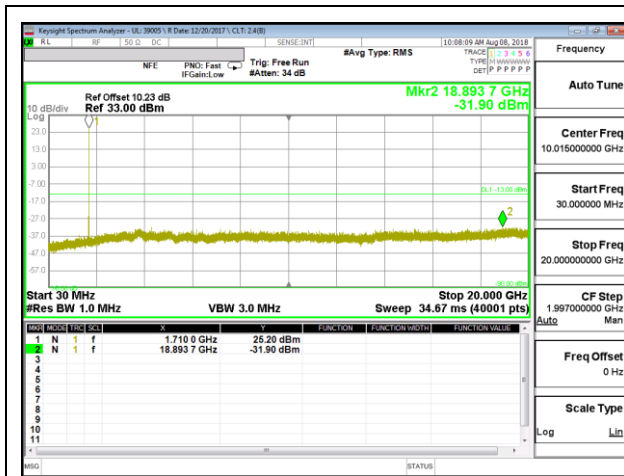
LTE B66 1.4MHz 16QAM Low Channel RB1-0



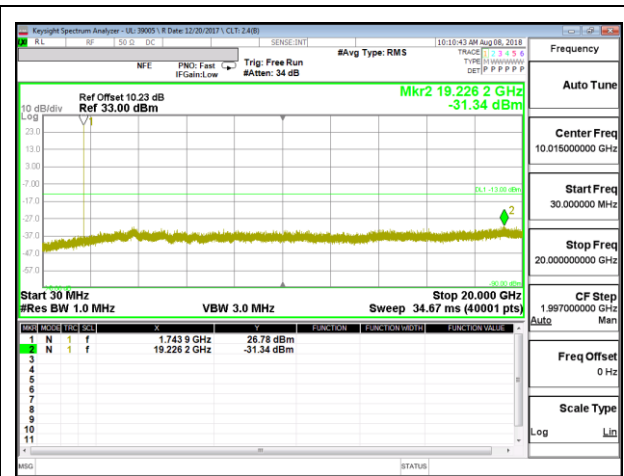
LTE B66 1.4MHz 16QAM Mid Channel RB1-0



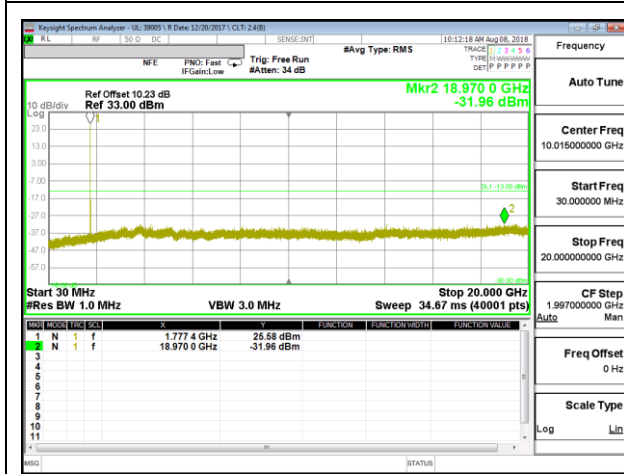
LTE B66 1.4MHz 16QAM High Channel RB1-0



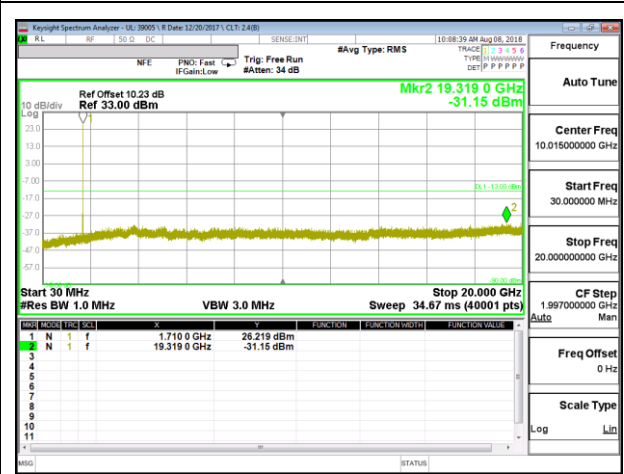
LTE B66 3MHz QPSK Low Channel RB1-0



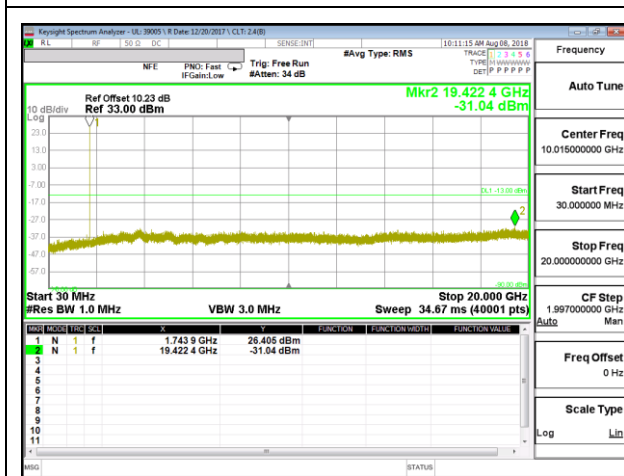
LTE B66 3MHz QPSK Mid Channel RB1-0



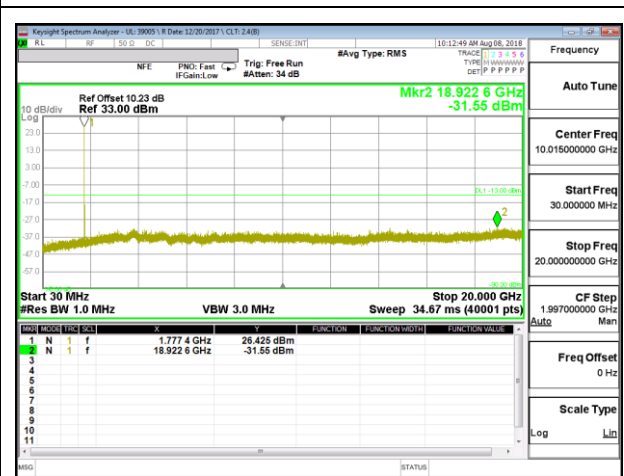
LTE B66 3MHz QPSK High Channel RB1-0



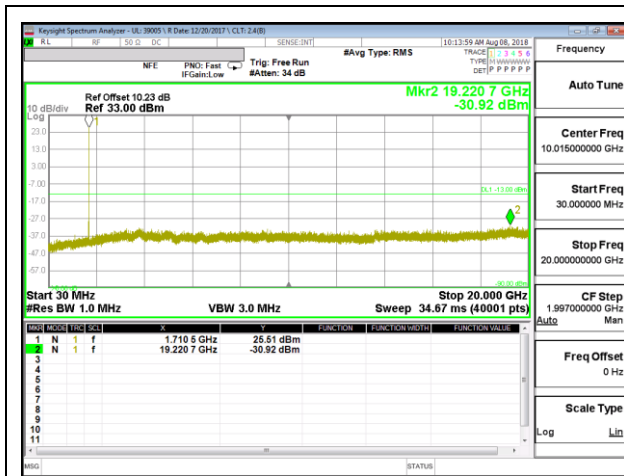
LTE B66 3MHz 16QAM Low Channel RB1-0



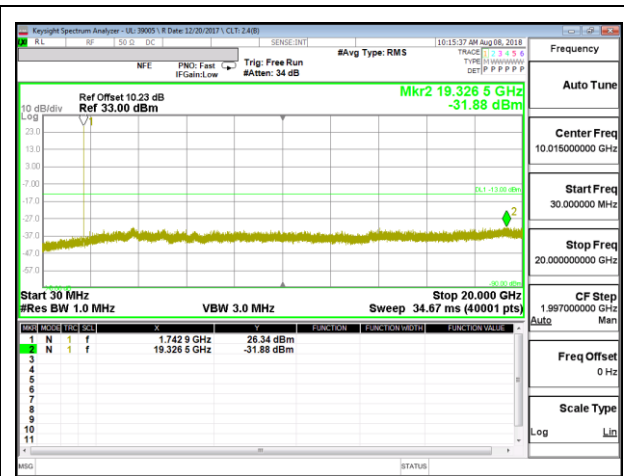
LTE B66 3MHz 16QAM Mid Channel RB1-0



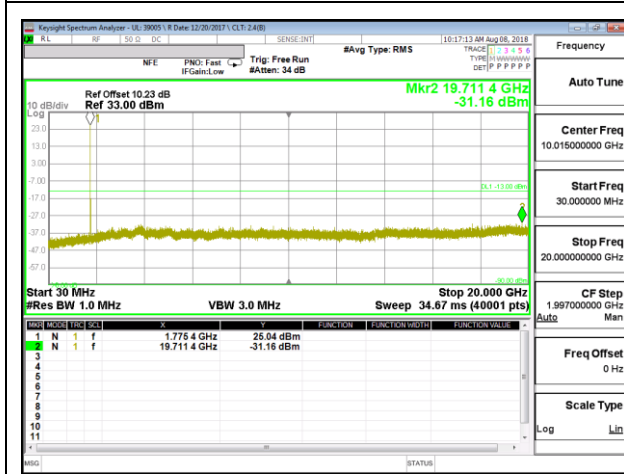
LTE B66 3MHz 16QAM High Channel RB1-0



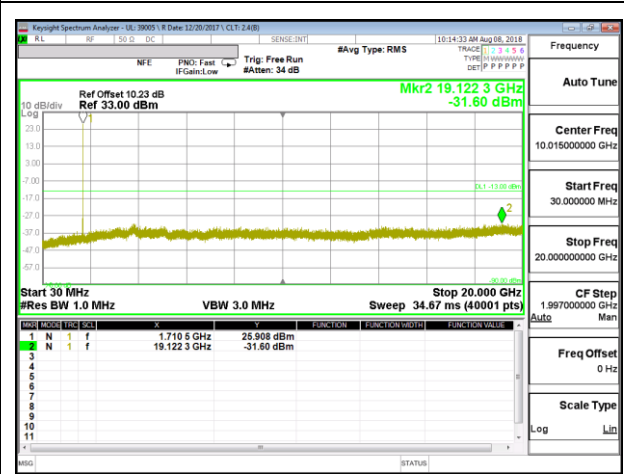
LTE B66 5MHz QPSK Low Channel RB1-0



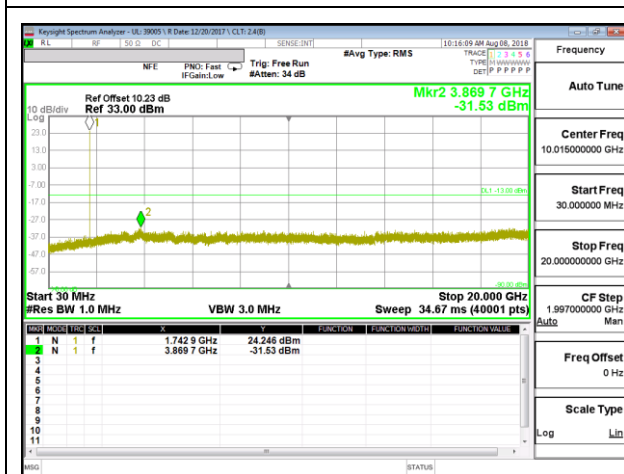
LTE B66 5MHz QPSK Mid Channel RB1-0



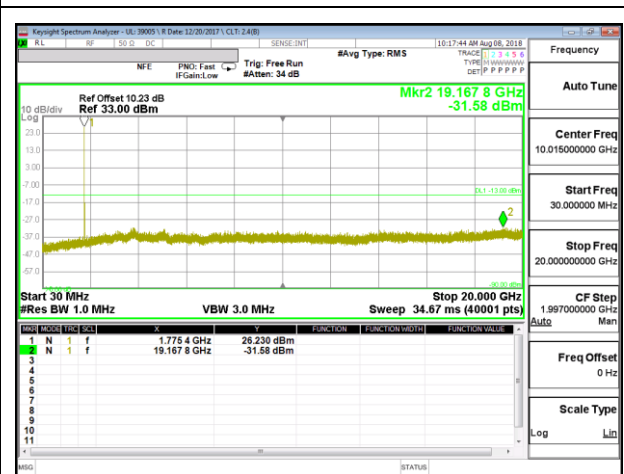
LTE B66 5MHz QPSK High Channel RB1-0



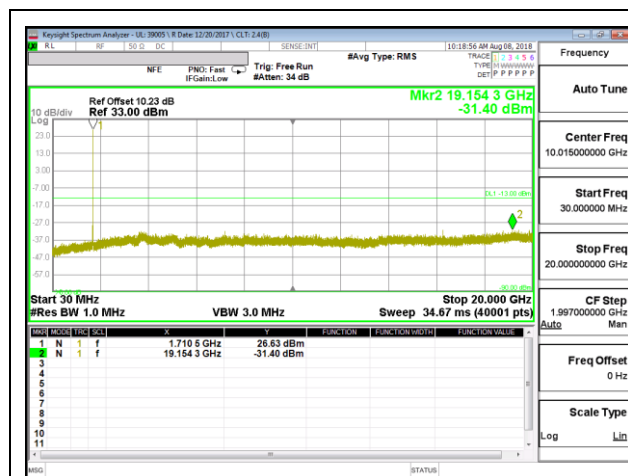
LTE B66 5MHz 16QAM Low Channel RB1-0



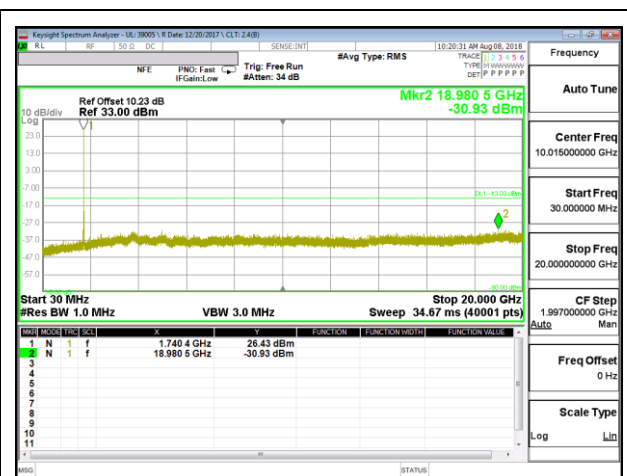
LTE B66 5MHz 16QAM Mid Channel RB1-0



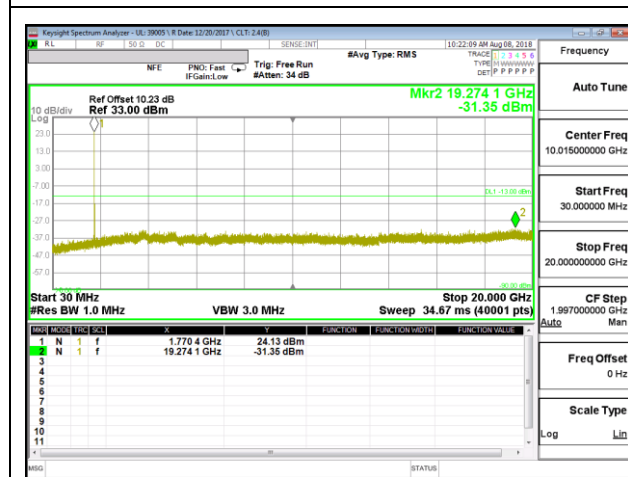
LTE B66 5MHz 16QAM High Channel RB1-0



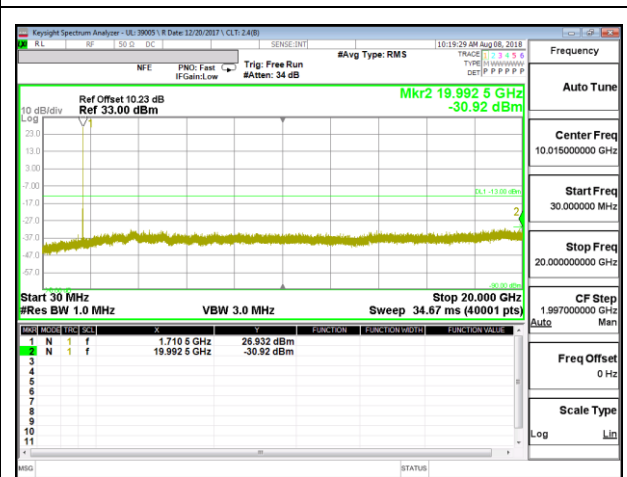
LTE B66 10MHz QPSK Low Channel RB1-0



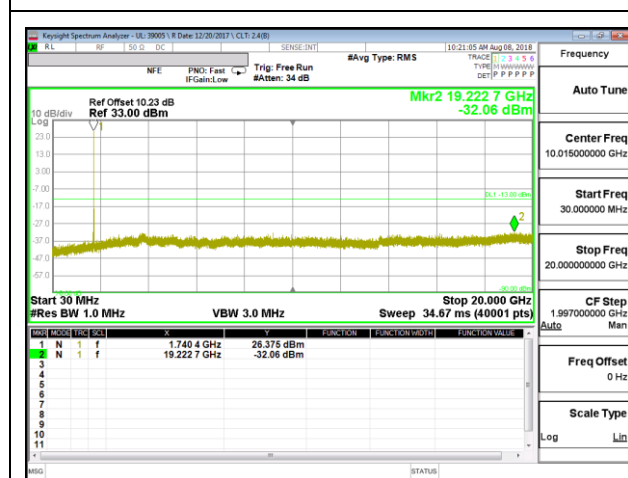
LTE B66 10MHz QPSK Mid Channel RB1-0



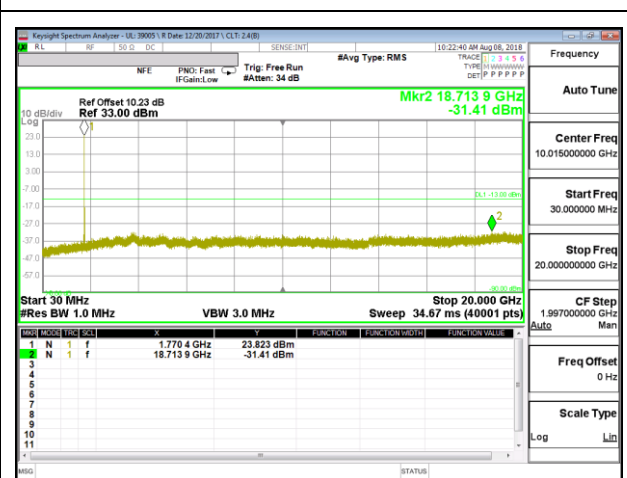
LTE B66 10MHz QPSK High Channel RB1-0



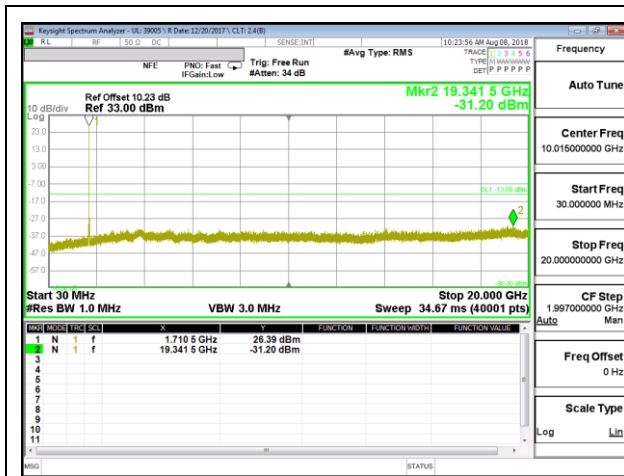
LTE B66 10MHz 16QAM Low Channel RB1-0



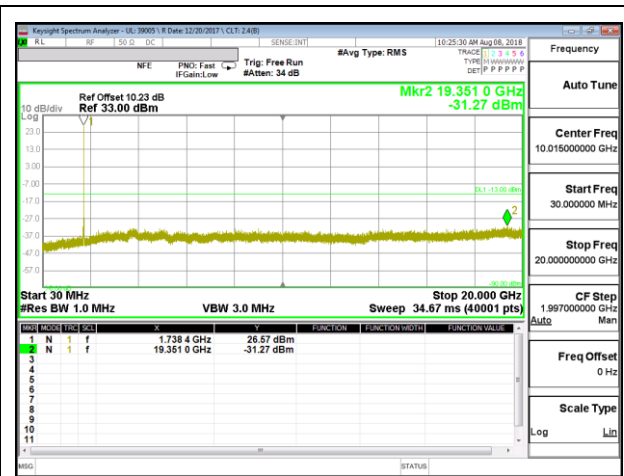
LTE B66 10MHz 16QAM Mid Channel RB1-0



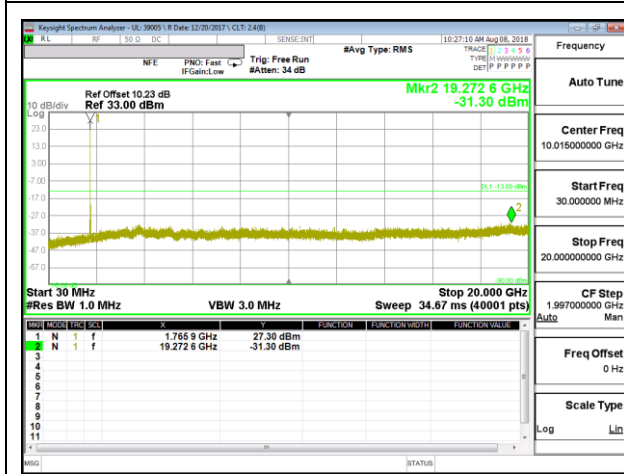
LTE B66 10MHz 16QAM High Channel RB1-0



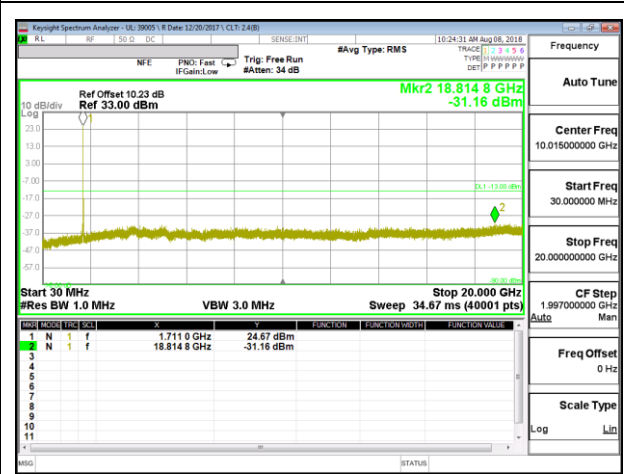
LTE B66 15MHz QPSK Low Channel RB1-0



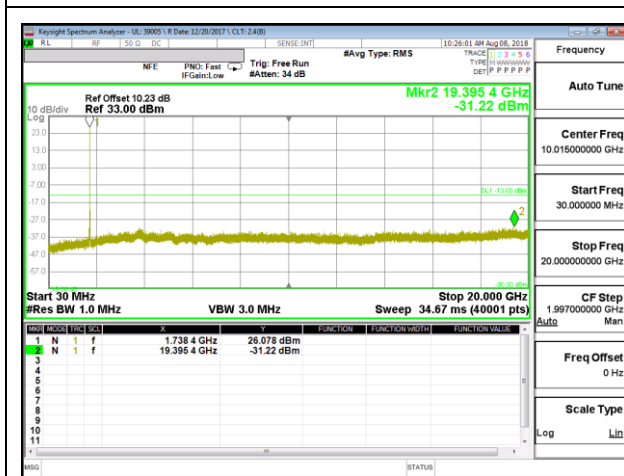
LTE B66 15MHz QPSK Mid Channel RB1-0



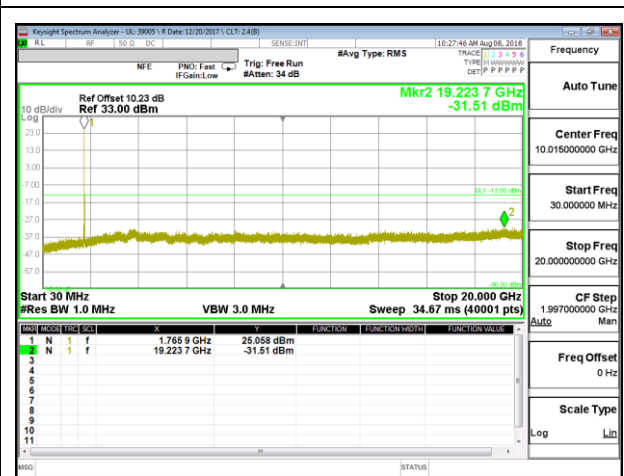
LTE B66 15MHz QPSK High Channel RB1-0



LTE B66 15MHz 16QAM Low Channel RB1-0



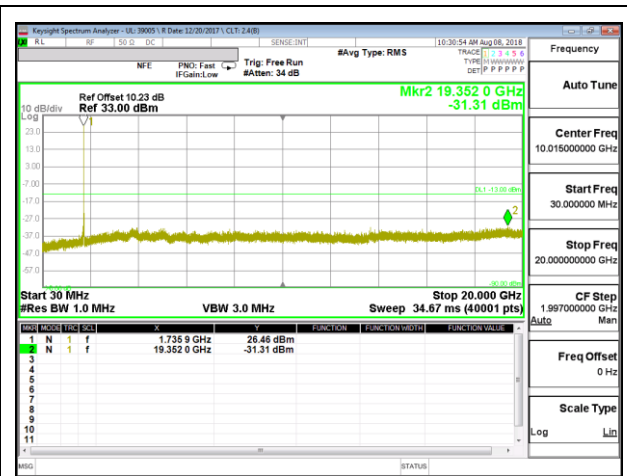
LTE B66 15MHz 16QAM Mid Channel RB1-0



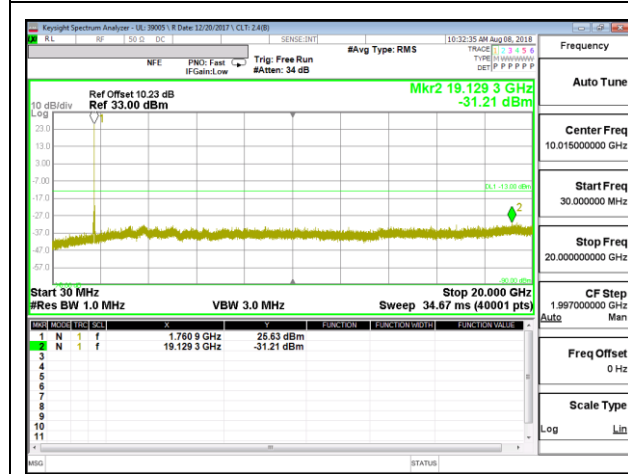
LTE B66 15MHz 16QAM High Channel RB1-0



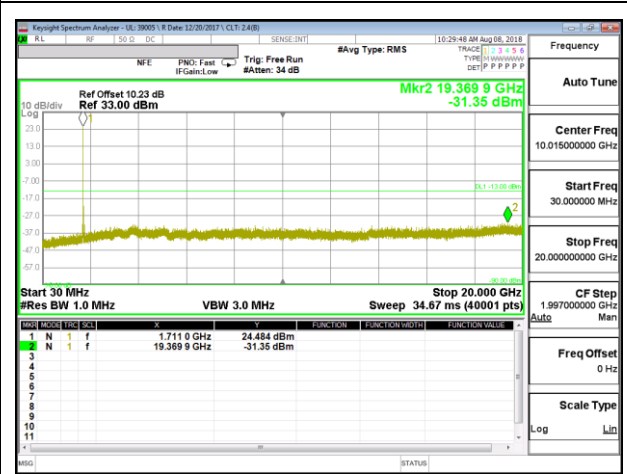
LTE B66 20MHz QPSK Low Channel RB1-0



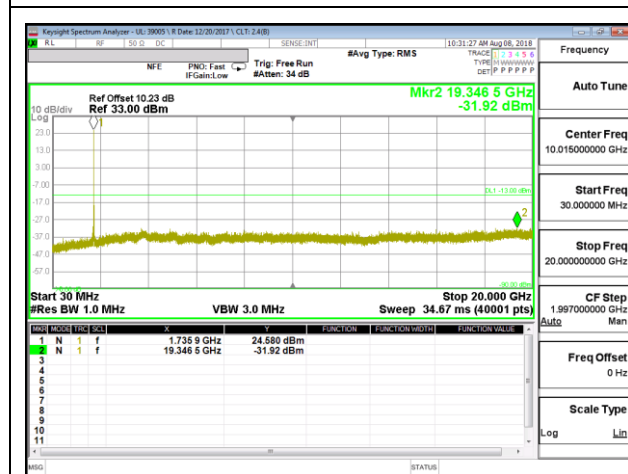
LTE B66 20MHz QPSK Mid Channel RB1-0



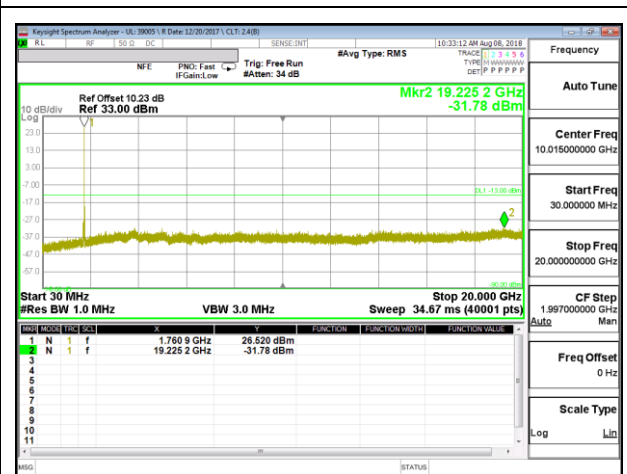
LTE B66 20MHz QPSK High Channel RB1-0



LTE B66 20MHz 16QAM Low Channel RB1-0



LTE B66 20MHz 16QAM Mid Channel RB1-0



LTE B66 20MHz 16QAM High Channel RB1-0

10.4. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, §27.54 and §90.213

LIMITS

FCC: §22.355, §90.213

The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations.

FCC: §24.235 & §27.54

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = -30°C to $+50^{\circ}\text{C}$
- Voltage = (85% - 115%)
Low voltage, 3.3VDC, Normal, 3.85VDC and High voltage, 4.43VDC.
End Voltage, 3.2VDC.

Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to 20°C and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until $+50^{\circ}\text{C}$ is reached.

Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

MODES TESTED

- GSM 850
- GSM 1900
- WCDM Band 5
- WCDM Band 2
- WCDM Band 4
- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 41
- LTE Band 66

RESULTS

10.4.1. GSM 850MHz

| | | | |
|------------|-------|--------------|---------|
| ID: | 39004 | Date: | 8/10/18 |
|------------|-------|--------------|---------|

| Limit | | 824 | 849 | Delta (Hz) | Frequency Stability (ppm) |
|----------------|-----------|----------------------|-----------------------|------------|---------------------------|
| Condition | | F low @ -13dBm (MHz) | F high @ -13dBm (MHz) | | |
| Temperature | Voltage | | | | |
| Normal (20C) | Normal | 824.0638 | 848.9481 | | |
| Extreme (50C) | | 824.0638 | 848.9481 | -14.0 | -0.017 |
| Extreme (40C) | | 824.0638 | 848.9481 | -15.7 | -0.019 |
| Extreme (30C) | | 824.0638 | 848.9481 | -16.8 | -0.020 |
| Extreme (10C) | | 824.0638 | 848.9481 | -15.6 | -0.019 |
| Extreme (0C) | | 824.0638 | 848.9481 | -19.9 | -0.024 |
| Extreme (-10C) | | 824.0638 | 848.9481 | -14.7 | -0.018 |
| Extreme (-20C) | | 824.0638 | 848.9481 | -14.2 | -0.017 |
| Extreme (-30C) | | 824.0638 | 848.9481 | -13.8 | -0.016 |
| | | | | | |
| 20C | 15% | 824.0638 | 848.9481 | -15.2 | -0.018 |
| | -15% | 824.0638 | 848.9481 | -15.1 | -0.018 |
| | End Point | 824.0638 | 848.9481 | -15.0 | -0.018 |

10.4.2. GSM 1900MHz

| | | | |
|------------|-------|--------------|---------|
| ID: | 39004 | Date: | 8/10/18 |
|------------|-------|--------------|---------|

| Limit | | 1850 | 1910 | Delta (Hz) | Frequency Stability (ppm) |
|----------------|-----------|----------------------|-----------------------|------------|---------------------------|
| Condition | | F low @ -13dBm (MHz) | F high @ -13dBm (MHz) | | |
| Temperature | Voltage | | | | |
| Normal (20C) | Normal | 1850.0680 | 1909.9270 | | |
| Extreme (50C) | | 1850.0680 | 1909.9270 | 15.0 | 0.008 |
| Extreme (40C) | | 1850.0680 | 1909.9270 | 15.3 | 0.008 |
| Extreme (30C) | | 1850.0680 | 1909.9270 | 14.6 | 0.008 |
| Extreme (10C) | | 1850.0680 | 1909.9270 | 15.2 | 0.008 |
| Extreme (0C) | | 1850.0680 | 1909.9270 | 17.6 | 0.009 |
| Extreme (-10C) | | 1850.0680 | 1909.9270 | 16.8 | 0.009 |
| Extreme (-20C) | | 1850.0680 | 1909.9270 | 17.2 | 0.009 |
| Extreme (-30C) | | 1850.0680 | 1909.9270 | 17.3 | 0.009 |
| | | | | | |
| 20C | 15% | 1850.0680 | 1909.9270 | 16.6 | 0.009 |
| | -15% | 1850.0680 | 1909.9270 | 16.8 | 0.009 |
| | End Point | 1850.0680 | 1909.9270 | 17.2 | 0.009 |

10.4.3. WCDMA BAND 5

| | | | |
|------------|-------|--------------|---------|
| ID: | 39004 | Date: | 8/10/18 |
|------------|-------|--------------|---------|

| Limit | | 824 | 849 | Delta (Hz) | Frequency Stability (ppm) |
|----------------|-----------|----------------------|-----------------------|------------|---------------------------|
| Condition | | F low @ -13dBm (MHz) | F high @ -13dBm (MHz) | | |
| Temperature | Voltage | | | | |
| Normal (20C) | Normal | 824.1010 | 848.9030 | | |
| Extreme (50C) | | 824.1010 | 848.9030 | -2.8 | -0.0033 |
| Extreme (40C) | | 824.1010 | 848.9030 | -3.3 | -0.0039 |
| Extreme (30C) | | 824.1010 | 848.9030 | -3.2 | -0.0038 |
| Extreme (10C) | | 824.1010 | 848.9030 | -3.4 | -0.0041 |
| Extreme (0C) | | 824.1010 | 848.9030 | -3.5 | -0.0042 |
| Extreme (-10C) | | 824.1010 | 848.9030 | -3.1 | -0.0037 |
| Extreme (-20C) | | 824.1010 | 848.9030 | -2.6 | -0.0031 |
| Extreme (-30C) | | 824.1010 | 848.9030 | -3.1 | -0.0037 |
| | | | | | |
| 20C | 15% | 824.1010 | 848.9030 | -3.0 | -0.0035 |
| | -15% | 824.1010 | 848.9030 | -3.7 | -0.0044 |
| | End Point | 824.1010 | 848.9030 | -3.2 | -0.0039 |

10.4.4. WCDMA BAND 2

| | | | |
|------------|-------|--------------|---------|
| ID: | 39004 | Date: | 8/10/18 |
|------------|-------|--------------|---------|

| Limit | | 1850 | 1910 | Delta (Hz) | Frequency Stability (ppm) |
|----------------|-----------|----------------------|-----------------------|------------|---------------------------|
| Condition | | F low @ -13dBm (MHz) | F high @ -13dBm (MHz) | | |
| Temperature | Voltage | | | | |
| Normal (20C) | Normal | 1850.1260 | 1909.8650 | | |
| Extreme (50C) | | 1850.1260 | 1909.8650 | -4.0 | -0.0021 |
| Extreme (40C) | | 1850.1260 | 1909.8650 | -3.9 | -0.0021 |
| Extreme (30C) | | 1850.1260 | 1909.8650 | -4.2 | -0.0022 |
| Extreme (10C) | | 1850.1260 | 1909.8650 | -3.4 | -0.0018 |
| Extreme (0C) | | 1850.1260 | 1909.8650 | -3.2 | -0.0017 |
| Extreme (-10C) | | 1850.1260 | 1909.8650 | -3.5 | -0.0019 |
| Extreme (-20C) | | 1850.1260 | 1909.8650 | -4.2 | -0.0023 |
| Extreme (-30C) | | 1850.1260 | 1909.8650 | -4.1 | -0.0022 |
| | | | | | |
| 20C | 15% | 1850.1260 | 1909.8650 | -3.8 | -0.0020 |
| | -15% | 1850.1260 | 1909.8650 | -3.5 | -0.0018 |
| | End Point | 1850.1260 | 1909.8650 | -3.5 | -0.0018 |

10.4.5. WCDMA BAND 4

| | | | |
|------------|-------|--------------|---------|
| ID: | 39004 | Date: | 8/10/18 |
|------------|-------|--------------|---------|

| Limit | | 1710 | 1755 | Delta (Hz) | Frequency Stability (ppm) |
|----------------|-----------|----------------------|-----------------------|------------|---------------------------|
| Condition | | F low @ -13dBm (MHz) | F high @ -13dBm (MHz) | | |
| Temperature | Voltage | | | | |
| Normal (20C) | Normal | 1710.1290 | 1754.8780 | | |
| Extreme (50C) | | 1710.1290 | 1754.8780 | -4.9 | -0.0028 |
| Extreme (40C) | | 1710.1290 | 1754.8780 | -5.0 | -0.0029 |
| Extreme (30C) | | 1710.1290 | 1754.8780 | -4.6 | -0.0026 |
| Extreme (10C) | | 1710.1290 | 1754.8780 | -5.2 | -0.0030 |
| Extreme (0C) | | 1710.1290 | 1754.8780 | -5.2 | -0.0030 |
| Extreme (-10C) | | 1710.1290 | 1754.8780 | -4.9 | -0.0028 |
| Extreme (-20C) | | 1710.1290 | 1754.8780 | -4.7 | -0.0027 |
| Extreme (-30C) | | 1710.1290 | 1754.8780 | -5.6 | -0.0032 |
| 20C | | 15% | 1710.1290 | 1754.8780 | -6.2 |
| | -15% | 1710.1290 | 1754.8780 | -5.7 | -0.0033 |
| | End Point | 1710.1290 | 1754.8780 | -5.8 | -0.0033 |

10.4.6. LTE BAND 2

| | | | |
|------------|-------|--------------|---------|
| ID: | 39004 | Date: | 8/10/18 |
|------------|-------|--------------|---------|

| Limit | | 1850 | 1910 | Delta (Hz) | Frequency Stability (ppm) |
|----------------|-----------|----------------------|-----------------------|------------|---------------------------|
| Condition | | F low @ -13dBm (MHz) | F high @ -13dBm (MHz) | | |
| Temperature | Voltage | | | | |
| Normal (20C) | Normal | 1850.8400 | 1909.1650 | | |
| Extreme (50C) | | 1850.8400 | 1909.1650 | 8.5 | 0.004 |
| Extreme (40C) | | 1850.8400 | 1909.1650 | 8.4 | 0.004 |
| Extreme (30C) | | 1850.8400 | 1909.1650 | 6.9 | 0.004 |
| Extreme (10C) | | 1850.8400 | 1909.1650 | 5.9 | 0.003 |
| Extreme (0C) | | 1850.8400 | 1909.1650 | 6.3 | 0.003 |
| Extreme (-10C) | | 1850.8400 | 1909.1650 | 8.0 | 0.004 |
| Extreme (-20C) | | 1850.8400 | 1909.1650 | 6.8 | 0.004 |
| Extreme (-30C) | | 1850.8400 | 1909.1650 | 6.6 | 0.003 |
| 20C | | 15% | 1850.8400 | 1909.1650 | 6.5 |
| | -15% | 1850.8400 | 1909.1650 | 5.9 | 0.003 |
| | End Point | 1850.8400 | 1909.1650 | 7.7 | 0.004 |

10.4.7. LTE BAND 4

| | | | |
|------------|-------|--------------|---------|
| ID: | 39004 | Date: | 8/10/18 |
|------------|-------|--------------|---------|

| Limit | | 1710 | 1755 | Delta (Hz) | Frequency Stability (ppm) |
|----------------|-----------|----------------------|-----------------------|------------|---------------------------|
| Condition | | F low @ -13dBm (MHz) | F high @ -13dBm (MHz) | | |
| Temperature | Voltage | | | | |
| Normal (20C) | Normal | 1710.8450 | 1754.1500 | | |
| Extreme (50C) | | 1710.8450 | 1754.1500 | 6.8 | 0.004 |
| Extreme (40C) | | 1710.8450 | 1754.1500 | 5.9 | 0.003 |
| Extreme (30C) | | 1710.8450 | 1754.1500 | 6.3 | 0.004 |
| Extreme (10C) | | 1710.8450 | 1754.1500 | 5.8 | 0.003 |
| Extreme (0C) | | 1710.8450 | 1754.1500 | 6.2 | 0.004 |
| Extreme (-10C) | | 1710.8450 | 1754.1500 | 5.3 | 0.003 |
| Extreme (-20C) | | 1710.8450 | 1754.1500 | 6.5 | 0.004 |
| Extreme (-30C) | | 1710.8450 | 1754.1500 | 7.5 | 0.004 |
| | | | | | |
| 20C | 15% | 1710.8450 | 1754.1500 | 7.2 | 0.004 |
| | -15% | 1710.8450 | 1754.1500 | 6.5 | 0.004 |
| | End Point | 1710.8450 | 1754.1500 | 6.0 | 0.003 |

10.4.8. LTE BAND 5

| | | | |
|------------|-------|--------------|---------|
| ID: | 39004 | Date: | 8/10/18 |
|------------|-------|--------------|---------|

| Limit | | 824 | 849 | Delta (Hz) | Frequency Stability (ppm) |
|----------------|-----------|----------------------|-----------------------|------------|---------------------------|
| Condition | | F low @ -13dBm (MHz) | F high @ -13dBm (MHz) | | |
| Temperature | Voltage | | | | |
| Normal (20C) | Normal | 824.2940 | 848.6960 | | |
| Extreme (50C) | | 824.2940 | 848.6960 | 3.7 | 0.004 |
| Extreme (40C) | | 824.2940 | 848.6960 | 3.2 | 0.004 |
| Extreme (30C) | | 824.2940 | 848.6960 | 3.2 | 0.004 |
| Extreme (10C) | | 824.2940 | 848.6960 | 4.2 | 0.005 |
| Extreme (0C) | | 824.2940 | 848.6960 | 3.2 | 0.004 |
| Extreme (-10C) | | 824.2940 | 848.6960 | 3.6 | 0.004 |
| Extreme (-20C) | | 824.2940 | 848.6960 | 2.6 | 0.003 |
| Extreme (-30C) | | 824.2940 | 848.6960 | 4.2 | 0.005 |
| | | | | | |
| 20C | 15% | 824.2940 | 848.6960 | 4.0 | 0.005 |
| | -15% | 824.2940 | 848.6960 | 3.8 | 0.004 |
| | End Point | 824.2940 | 848.6960 | 3.3 | 0.004 |

10.4.9. LTE BAND 12

| | | | |
|------------|-------|--------------|---------|
| ID: | 39004 | Date: | 8/10/18 |
|------------|-------|--------------|---------|

| Limit | | 699 | 716 | Delta (Hz) | Frequency Stability (ppm) |
|----------------|-----------|----------------------|-----------------------|------------|---------------------------|
| Condition | | F low @ -13dBm (MHz) | F high @ -13dBm (MHz) | | |
| Temperature | Voltage | | | | |
| Normal (20C) | Normal | 699.3200 | 715.7000 | | |
| Extreme (50C) | | 699.3200 | 715.7000 | -2.0 | 0.00 |
| Extreme (40C) | | 699.3200 | 715.7000 | -2.0 | 0.00 |
| Extreme (30C) | | 699.3200 | 715.7000 | 2.2 | 0.00 |
| Extreme (10C) | | 699.3200 | 715.7000 | -3.3 | 0.00 |
| Extreme (0C) | | 699.3200 | 715.7000 | -1.8 | 0.00 |
| Extreme (-10C) | | 699.3200 | 715.7000 | -1.9 | 0.00 |
| Extreme (-20C) | | 699.3200 | 715.7000 | 2.3 | 0.00 |
| Extreme (-30C) | | 699.3200 | 715.7000 | 2.6 | 0.00 |
| 20C | | 15% | 699.3200 | 715.7000 | 2.6 |
| | -15% | 699.3200 | 715.7000 | -2.3 | 0.00 |
| | End Point | 699.3200 | 715.7000 | -3.3 | 0.00 |

10.4.10. LTE BAND 13

| | | | |
|------------|-------|--------------|---------|
| ID: | 39005 | Date: | 8/13/18 |
|------------|-------|--------------|---------|

| Limit | | 777 | 787 | Delta (Hz) | Frequency Stability (ppm) |
|----------------|-----------|----------------------|-----------------------|------------|---------------------------|
| Condition | | F low @ -13dBm (MHz) | F high @ -13dBm (MHz) | | |
| Temperature | Voltage | | | | |
| Normal (20C) | Normal | 777.1480 | 786.8430 | | |
| Extreme (50C) | | 777.1480 | 786.8430 | 3.8 | 0.005 |
| Extreme (40C) | | 777.1480 | 786.8430 | 3.4 | 0.004 |
| Extreme (30C) | | 777.1480 | 786.8430 | 3.2 | 0.004 |
| Extreme (10C) | | 777.1480 | 786.8430 | 2.6 | 0.003 |
| Extreme (0C) | | 777.1480 | 786.8430 | 2.6 | 0.003 |
| Extreme (-10C) | | 777.1480 | 786.8430 | 2.9 | 0.004 |
| Extreme (-20C) | | 777.1480 | 786.8430 | 3.0 | 0.004 |
| Extreme (-30C) | | 777.1480 | 786.8430 | 3.6 | 0.005 |
| 20C | | 15% | 777.1480 | 786.8430 | 3.8 |
| | -15% | 777.1480 | 786.8430 | 2.9 | 0.004 |
| | End Point | 777.1480 | 786.8430 | 2.3 | 0.003 |

10.4.11. LTE BAND 17

| | | | |
|------------|-------|--------------|---------|
| ID: | 39005 | Date: | 8/13/18 |
|------------|-------|--------------|---------|

| Limit | | 704 | 716 | Delta (Hz) | Frequency Stability (ppm) |
|----------------|-----------|----------------------|-----------------------|------------|---------------------------|
| Condition | | F low @ -13dBm (MHz) | F high @ -13dBm (MHz) | | |
| Temperature | Voltage | | | | |
| Normal (20C) | Normal | 704.4110 | 715.5860 | | |
| Extreme (50C) | | 704.4110 | 715.5860 | 2.5 | 0.003 |
| Extreme (40C) | | 704.4110 | 715.5860 | 3.2 | 0.004 |
| Extreme (30C) | | 704.4110 | 715.5860 | 2.3 | 0.003 |
| Extreme (10C) | | 704.4110 | 715.5860 | 2.2 | 0.003 |
| Extreme (0C) | | 704.4110 | 715.5860 | 3.2 | 0.005 |
| Extreme (-10C) | | 704.4110 | 715.5860 | 2.5 | 0.003 |
| Extreme (-20C) | | 704.4110 | 715.5860 | 2.5 | 0.003 |
| Extreme (-30C) | | 704.4110 | 715.5860 | 3.0 | 0.004 |
| | | | | | |
| 20C | 15% | 704.4110 | 715.5860 | 3.1 | 0.004 |
| | -15% | 704.4110 | 715.5860 | 2.3 | 0.003 |
| | End Point | 704.4110 | 715.5860 | 4.1 | 0.006 |

10.4.12. LTE BAND 41

| | | | |
|------------|-------|--------------|---------|
| ID: | 39005 | Date: | 8/13/18 |
|------------|-------|--------------|---------|

| Limit | | 2496 | 2690 | Delta (Hz) | Frequency Stability (ppm) |
|----------------|-----------|----------------------|-----------------------|------------|---------------------------|
| Condition | | F low @ -13dBm (MHz) | F high @ -13dBm (MHz) | | |
| Temperature | Voltage | | | | |
| Normal (20C) | Normal | 2496.8160 | 2689.1840 | | |
| Extreme (50C) | | 2496.8160 | 2689.1840 | -5.9 | -0.002 |
| Extreme (40C) | | 2496.8160 | 2689.1840 | -7.5 | -0.003 |
| Extreme (30C) | | 2496.8160 | 2689.1840 | -8.6 | -0.003 |
| Extreme (10C) | | 2496.8160 | 2689.1840 | -8.2 | -0.003 |
| Extreme (0C) | | 2496.8160 | 2689.1840 | -6.5 | -0.002 |
| Extreme (-10C) | | 2496.8160 | 2689.1840 | -5.2 | -0.002 |
| Extreme (-20C) | | 2496.8160 | 2689.1840 | -5.8 | -0.002 |
| Extreme (-30C) | | 2496.8160 | 2689.1840 | -5.4 | -0.002 |
| | | | | | |
| 20C | 15% | 2496.8160 | 2689.1840 | -7.2 | -0.003 |
| | -15% | 2496.8160 | 2689.1840 | -7.5 | -0.003 |
| | End Point | 2496.8160 | 2689.1840 | -6.9 | -0.003 |

10.4.13. LTE BAND 66

| | | | |
|------------|-------|--------------|---------|
| ID: | 39005 | Date: | 8/13/18 |
|------------|-------|--------------|---------|

| Limit | | 1710 | 1780 | Delta (Hz) | Frequency Stability (ppm) |
|----------------|-----------|----------------------|-----------------------|------------|---------------------------|
| Condition | | F low @ -13dBm (MHz) | F high @ -13dBm (MHz) | | |
| Temperature | Voltage | | | | |
| Normal (20C) | Normal | 1710.8560 | 1779.1600 | | |
| Extreme (50C) | | 1710.8560 | 1779.1600 | 6.5 | 0.004 |
| Extreme (40C) | | 1710.8560 | 1779.1600 | 5.3 | 0.003 |
| Extreme (30C) | | 1710.8560 | 1779.1600 | 5.3 | 0.003 |
| Extreme (10C) | | 1710.8560 | 1779.1600 | 5.0 | 0.003 |
| Extreme (0C) | | 1710.8560 | 1779.1600 | 5.3 | 0.003 |
| Extreme (-10C) | | 1710.8560 | 1779.1600 | 5.0 | 0.003 |
| Extreme (-20C) | | 1710.8560 | 1779.1600 | 6.2 | 0.004 |
| Extreme (-30C) | | 1710.8560 | 1779.1600 | 4.9 | 0.003 |
| | | | | | |
| 20C | 15% | 1710.8560 | 1779.1600 | 6.3 | 0.004 |
| | -15% | 1710.8560 | 1779.1600 | 5.3 | 0.003 |
| | End Point | 1710.8560 | 1779.1600 | 7.4 | 0.004 |

10.1. PEAK TO AVERAGE RATIO

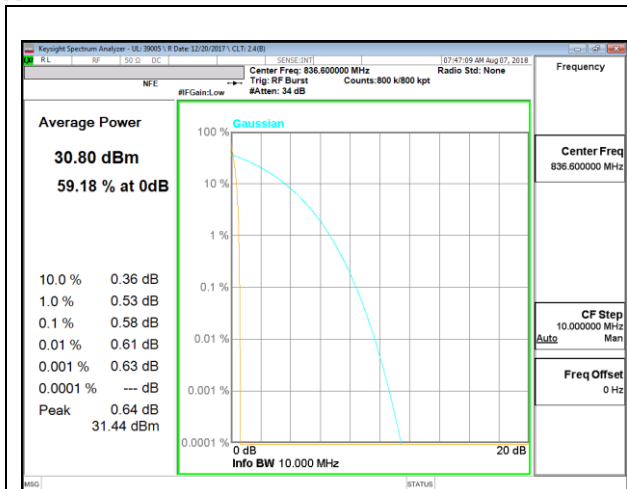
LIMIT

In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

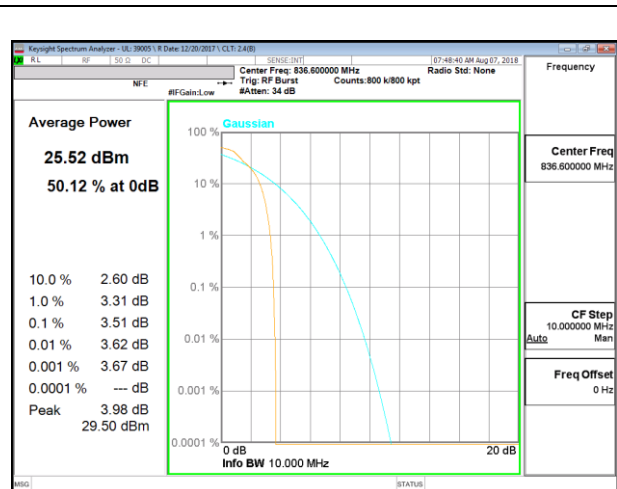
RESULT

Full resource block (FRB) for each bandwidth was used to measure as the worst case. The results from all CCDF measurements are passed with 13dB peak-to-average power ratio criteria.

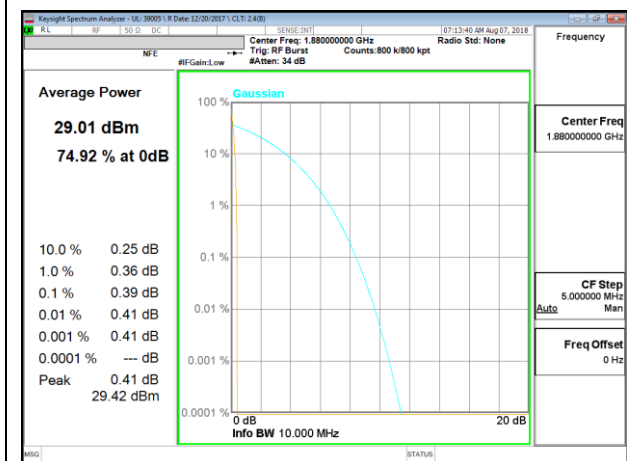
10.1.1. GSM



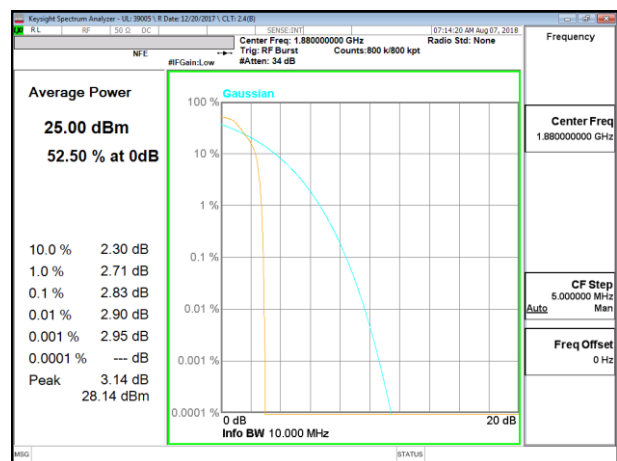
GSM 850MHz GPRS MID Channel



GSM 850MHz EGPRS MID Channel

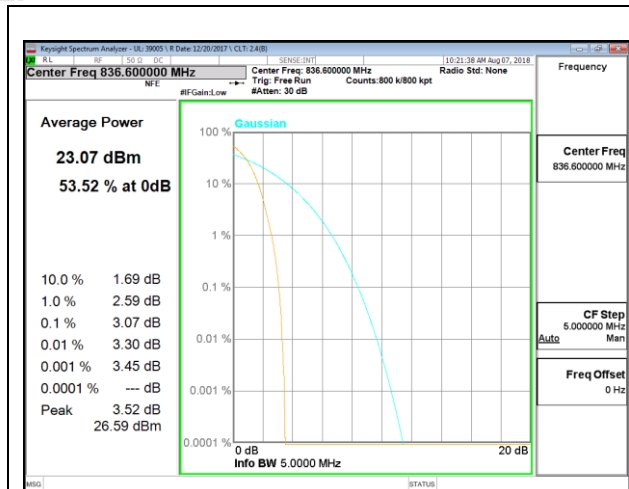


GSM 1900MHz GPRS MID Channel

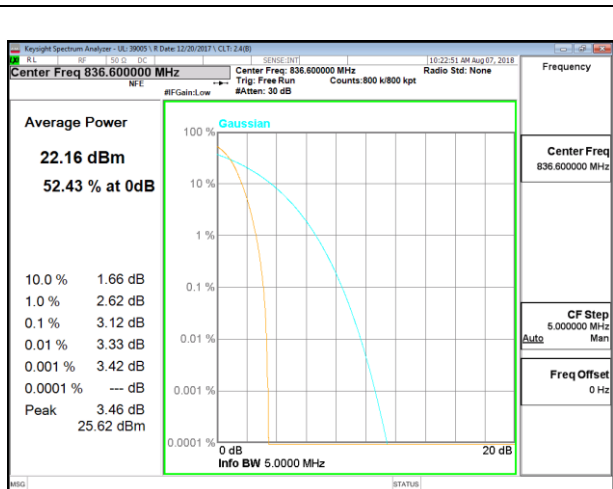


GSM 1900MHz EGPRS MID Channel

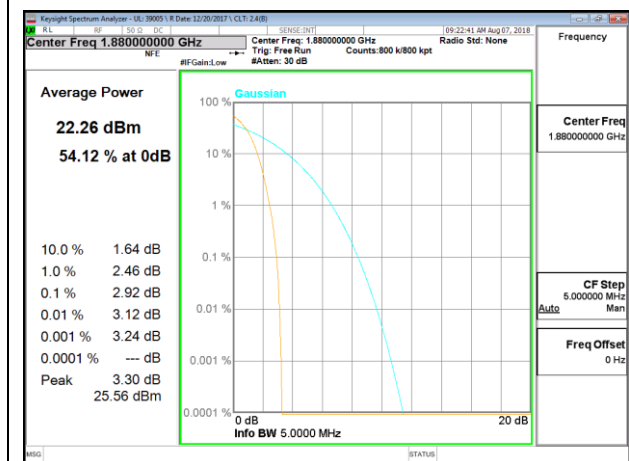
10.1.2. WCDMA



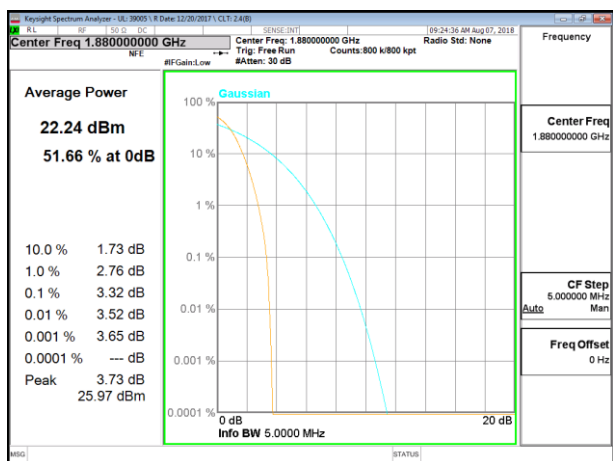
WCDMA BAND5 Rel99 MID Channel



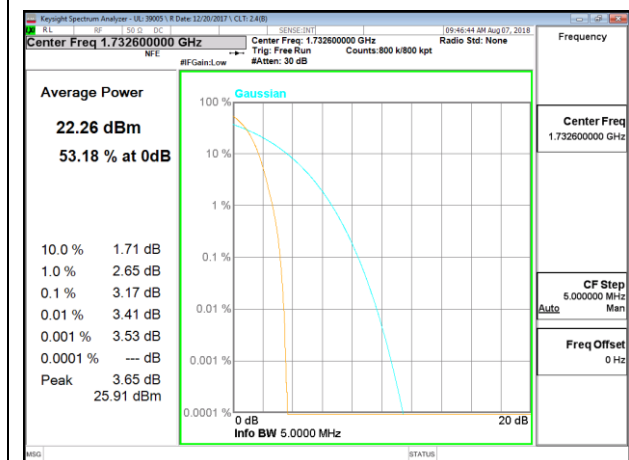
WCDMA BAND5 HSDPA MID Channel



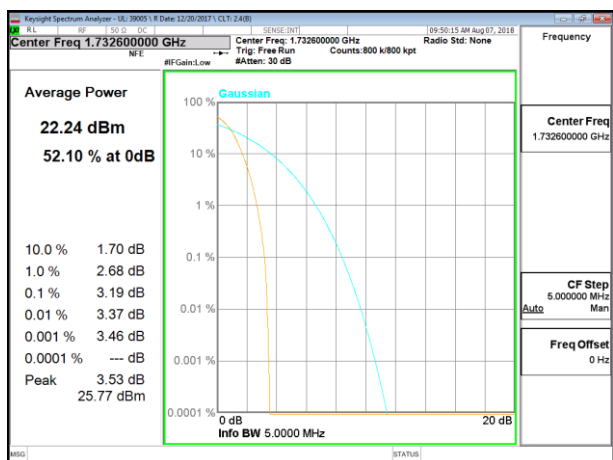
WCDMA BAND2 Rel99 MID Channel



WCDMA BAND2 HSDPA MID Channel



WCDMA BAND4 Rel99 MID Channel



WCDMA BAND4 HSDPA MID Channel