

7. RF OUTPUT POWER VERIFICATION

EUT includes different power levels for head use configuration and body use configuration and the below tables contain the highest of all configurations average conducted output powers as follows

7.1. GSM

Using CMW500 Communication Test Set

Function: Menu select > GSM Mobile Station > GSM 850/900/1800/1900

Press **Connection control** to choose the different menus

Press **RESET** > choose all to reset all settings

| | |
|------------|--|
| Connection | Press Signal Off to turn off the signal and change settings Network Support > GSM+GPRS or GSM+EGPRS Main Service > Packet Data Service selection > Test Mode A – Auto Slot Config. off |
| MS Signal | Press Slot Config bottom on the right twice to select and change the number of time slots and power setting > Slot configuration > Uplink/Gamma > 33 dBm for GPRS 850/900 > 27 dBm for EGPRS 850/900 > 30 dBm for GPRS1800/1900 > 26 dBm for EGPRS1800/1900 |
| BS Signal | Enter the same channel number for TCH channel (test channel) and BCCH channel Frequency Offset > + 0 Hz Mode > BCCH and TCH BCCH Level > -85 dBm (May need to adjust if link is not stable) BCCH Channel > choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel] Channel Type > Off P0> 4 dB Slot Config > Unchanged (if already set under MS Signal) TCH > choose desired test channel Hopping > Off Main Timeslot > 3 (Default) |
| Network | Coding Scheme > CS 4 (GPRS) and MCS5 (EGPRS) Bit Stream > 2E9-1PSR Bit Pattern |
| AF/RF | Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input |
| Connection | Press Signal On to turn on the signal and change settings |

RESULT

7.1.1. GSM850

| | | | |
|------------|-------|--------------|--------|
| ID: | 43576 | Date: | 3/7/19 |
|------------|-------|--------------|--------|

GPRS (GMSK) - Coding Scheme: CS1

| Band | Ch No. | Freq. (MHz) | Power | | | |
|-------|--------|-------------|-------------|---------|---------|---------|
| | | | 1 slot | 2 slots | 3 slots | 4 slots |
| 850.0 | 128 | 824.2 | 33.0 | 30.9 | 29.7 | 28.5 |
| | 190 | 836.6 | 33.2 | 31.3 | 29.9 | 28.5 |
| | 251 | 848.8 | 33.2 | 31.5 | 30.0 | 28.5 |

EGPRS (8PSK) - Coding Scheme: MCS5

| Band | Ch No. | Freq. (MHz) | Power | | | |
|-------|--------|-------------|-------------|---------|---------|---------|
| | | | 1 slot | 2 slots | 3 slots | 4 slots |
| 850.0 | 128 | 824.2 | 26.7 | 25.0 | 23.7 | 22.2 |
| | 190 | 836.6 | 26.8 | 25.1 | 23.6 | 22.4 |
| | 251 | 848.8 | 27.0 | 25.2 | 23.9 | 22.4 |

7.1.2. GSM1900

| | | | |
|------------|-------|--------------|--------|
| ID: | 39315 | Date: | 3/7/19 |
|------------|-------|--------------|--------|

GPRS (GMSK) - Coding Scheme: CS1

| Band | Ch No. | Freq. (MHz) | Power | | | |
|--------|--------|-------------|-------------|---------|---------|---------|
| | | | 1 slot | 2 slots | 3 slots | 4 slots |
| 1900.0 | 512 | 1850.2 | 29.7 | 27.2 | 25.8 | 24.5 |
| | 661 | 1880.0 | 29.8 | 27.3 | 26.1 | 24.7 |
| | 810 | 1909.8 | 29.8 | 27.7 | 26.2 | 24.9 |

EGPRS (8PSK) - Coding Scheme: MCS5

| Band | Ch No. | Freq. (MHz) | Power | | | |
|--------|--------|-------------|-------------|---------|---------|---------|
| | | | 1 slot | 2 slots | 3 slots | 4 slots |
| 1900.0 | 512 | 1850.2 | 25.5 | 23.6 | 22.1 | 20.9 |
| | 661 | 1880.0 | 25.8 | 23.8 | 22.3 | 21.2 |
| | 810 | 1909.8 | 26.0 | 24.0 | 22.7 | 21.3 |

7.2. WCDMA

TEST PROCEDURE

The transmitter output was connected to the input terminal of Directional Coupler via calibrated coaxial cable. The output coupling terminal of the Directional Coupler was directly connected to a spectrum analyzer while the output through terminal connected to the communication test set via calibrated coaxial cable.

The output power was measured with the spectrum analyzer at the low, middle and high channel in each band.

- Set the spectrum analyzer span wide enough or greater than the modulated signal BW.
- Set a spectrum analyzer at peak detection mode with $VBW \geq RBW \geq 26dB$ BW, typically 5MHz.
- Set a marker to point the corresponding peak value.

REL 99

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The DUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7).

| Mode | Subtest | Rel99 |
|------------------------|-------------------------|--------------|
| WCDMA General Settings | Loopback Mode | Test Mode 2 |
| | Rel99 RMC | 12.2kbps RMC |
| | Power Control Algorithm | Algorithm2 |
| | β_c/β_d | 8/15 |

HSDPA REL 5

The following 4 Sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

| Mode | HSDPA | HSDPA | HSDPA | HSDPA | |
|-----------------------------|--------------------------------------|--------------|-------|-------|-------|
| Subtest | 1 | 2 | 3 | 4 | |
| W-CDMA General Settings | Loopback Mode | Test Mode 1 | | | |
| | Rel99 RMC | 12.2kbps RMC | | | |
| | HSDPA FRC | H-Set 1 | | | |
| | Power Control Algorithm | Algorithm 2 | | | |
| | Bc | 2/15 | 12/15 | 15/15 | 15/15 |
| | Bd | 15/15 | 15/15 | 8/15 | 4/15 |
| | Bd (SF) | 64 | | | |
| | β_c/β_d | 2/15 | 12/15 | 15/8 | 15/4 |
| | Bhs | 4/15 | 24/15 | 30/15 | 30/15 |
| MPR (dB) | 0 | 0 | 0.5 | 0.5 | |
| HSDPA Specific Settings | D_{ACK} | 8 | | | |
| | D_{NAK} | 8 | | | |
| | DCQI | 8 | | | |
| | Ack-Nack repetition factor | 3 | | | |
| | CQI Feedback (Table 5.2B.4) | 4ms | | | |
| | CQI Repetition Factor (Table 5.2B.4) | 2 | | | |
| $A_{hs}=\beta_{hs}/\beta_c$ | 30/15 | | | | |

HSPA (HSDPA & HSUPA)

The following 5 Sub-tests were completed according to Release 9 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

| | Mode | HSPA | | | | |
|-------------------------------|--------------------------------------|---------------|-------|-------|-------|-------------|
| | Subtest | 1 | 2 | 3 | 4 | 5 |
| WCDMA General Settings | Loopback Mode | Test Mode 1 | | | | |
| | Rel99 RMC | 12.2 kbps RMC | | | | |
| | HSDPA FRC | H-Set 1 | | | | |
| | HSUPA Test | HSPA | | | | |
| | Power Control Algorithm | Algorithm 2 | | | | Algorithm 1 |
| | β_c | 11/15 | 6/15 | 15/15 | 2/15 | 15/15 |
| | β_d | 15/15 | 15/15 | 9/15 | 15/15 | 0 |
| | β_{ec} | 209/225 | 12/15 | 30/15 | 2/15 | 5/15 |
| | β_c/β_d | 11/15 | 6/15 | 15/9 | 2/15 | - |
| | β_{hs} | 22/15 | 12/15 | 30/15 | 4/15 | 5/15 |
| | β_{ed} | 1309/225 | 94/75 | 47/15 | 56/75 | 47/15 |
| CM (dB) | 1 | 3 | 2 | 3 | 1 | |
| MPR (dB) | 0 | 2 | 1 | 2 | 0 | |
| HSDPA Specific Settings | DACK | 8 | | | | 0 |
| | DNAK | 8 | | | | 0 |
| | DCQI | 8 | | | | 0 |
| | Ack-Nack repetition factor | 3 | | | | |
| | CQI Feedback (Table 5.2B.4) | 4ms | | | | |
| | CQI Repetition Factor (Table 5.2B.4) | 2 | | | | |
| | $A_{hs} = \beta_{hs}/\beta_c$ | 30/15 | | | | |
| HSUPA Specific Settings | E-DPDCCH | 6 | 8 | 8 | 5 | 0 |
| | DHARQ | 0 | 0 | 0 | 0 | 0 |
| | AG Index | 20 | 12 | 15 | 17 | 12 |
| | ETFCI (from 34.121 Table C.11.1.3) | 75 | 67 | 92 | 71 | 67 |
| | Associated Max UL Data Rate kbps | 242.1 | 174.9 | 482.8 | 205.8 | 308.9 |
| | Reference E-TFCIs | 5 | 5 | 2 | 5 | 1 |
| | Reference E-TFCI | 11 | 11 | 11 | 11 | 67 |
| | Reference E-TFCI PO | 4 | 4 | 4 | 4 | 18 |
| | Reference E-TFCI | 67 | 67 | 92 | 67 | 67 |
| | Reference E-TFCI PO | 18 | 18 | 18 | 18 | 18 |
| | Reference E-TFCI | 71 | 71 | 71 | 71 | 71 |
| | Reference E-TFCI PO | 23 | 23 | 23 | 23 | 23 |
| | Reference E-TFCI | 75 | 75 | 75 | 75 | 75 |
| | Reference E-TFCI PO | 26 | 26 | 26 | 26 | 26 |
| | Reference E-TFCI | 81 | 81 | 81 | 81 | 81 |
| Reference E-TFCI PO | 27 | 27 | 27 | 27 | 27 | |
| Maximum Channelization Codes | 2xSF2 | | | | SF4 | |

DUAL CARRIER HSDPA (DC-HSDPA (REL 8, CAT 24))

The following tests were completed according to procedures in section 7.3.13 of 3GPP TS34.108 v9.5.0. A summary of these settings are illustrated below:

Downlink Physical Channels are set as per 3GPP TS34.121-1 v9.0.0 E.5.0

Table E.5.0: Levels for HSDPA connection setup

| Parameter During Connection setup | Unit | Value |
|-----------------------------------|------|-------|
| P-CPICH_Ec/Ior | dB | -10 |
| P-CCPCH and SCH_Ec/Ior | dB | -12 |
| PICH_Ec/Ior | dB | -15 |
| HS-PDSCH | dB | off |
| HS-SCCH_1 | dB | off |
| DPCH_Ec/Ior | dB | -5 |
| OCNS_Ec/Ior | dB | -3.1 |

Call is set up as per 3GPP TS34.108 v9.5.0 sub clause 7.3.13

The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122.

Table C.8.1.12: Fixed Reference Channel H-Set 12

| Parameter | Unit | Value |
|--|-----------|-------|
| Nominal Avg. Inf. Bit Rate | kbps | 60 |
| Inter-TTI Distance | TTI's | 1 |
| Number of HARQ Processes | Processes | 6 |
| Information Bit Payload (N_{INF}) | Bits | 120 |
| Number Code Blocks | Blocks | 1 |
| Binary Channel Bits Per TTI | Bits | 960 |
| Total Available SML's in UE | SML's | 19200 |
| Number of SML's per HARQ Proc. | SML's | 3200 |
| Coding Rate | | 0.15 |
| Number of Physical Channel Codes | Codes | 1 |
| Modulation | | QPSK |
| Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table. Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used. | | |

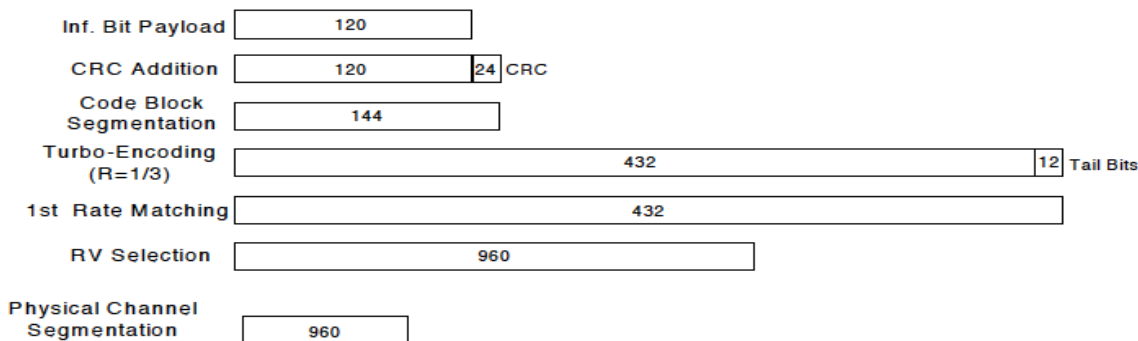


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

The following 4 Sub-tests for HSDPA were completed according to Release 8 procedures in section 5.2 of 3GPP TS34.121. A summary of subtest settings are illustrated below:

| Mode | HSDPA | HSDPA | HSDPA | HSDPA |
|-------------------------------|----------------------------|-------|-------|-------|
| Subtest | 1 | 2 | 3 | 4 |
| WCDMA General Settings | Loopback Mode | | | |
| | Test Mode 1 | | | |
| | Rel99 RMC | | | |
| | 12.2kbps RMC | | | |
| | HSDPA FRC | | | |
| | H-Set 1 | | | |
| | Power Control Algorithm | | | |
| | Algorithm2 | | | |
| | β_c | 2/15 | 11/15 | 15/15 |
| β_d | 15/15 | 15/15 | 8/15 | 4/15 |
| β_d (SF) | 64 | | | |
| β_c/β_d | 2/15 | 12/15 | 15/8 | 15/4 |
| β_{hs} | 4/15 | 24/15 | 30/15 | 30/15 |
| MPR (dB) | 0 | 0 | 0.5 | 0.5 |
| HSDPA Specific Settings | DACK | | | |
| | 8 | | | |
| | DNAK | | | |
| | 8 | | | |
| | DCQI | | | |
| | 8 | | | |
| | Ack-Nack Repetition factor | | | |
| 3 | | | | |
| CQI Feedback | | | | |
| 4ms | | | | |
| CQI Repetition Factor | | | | |
| 2 | | | | |
| Ahs = β_{hs} / β_c | | | | |
| 30/15 | | | | |

HSPA+

The following 1 Sub-test was completed according to Release 9 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM

| Sub-test | β_c (Note3) | β_d | β_{HS} (Note1) | β_{ec} | β_{ed} (2xSF2) (Note 4) | β_{ed} (2xSF4) (Note 4) | CM (dB) (Note 2) | MPR (dB) (Note 2) | AG Index (Note 4) | E-TFCI (Note 5) | E-TFCI (boost) |
|---|----------------------|-----------|-------------------------|--------------|--|--|------------------------|-------------------------|-------------------------|--------------------|-------------------|
| 1 | 1 | 0 | 30/15 | 30/15 | β_{ed1} : 30/15 β_{ed2} : 30/15 | β_{ed3} : 24/15 β_{ed4} : 24/15 | 3.5 | 2.5 | 14 | 105 | 105 |
| Note 1: $\Delta_{ACK}, \Delta_{NACK}$ and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0). Note 3: DPDCH is not configured, therefore the β_c is set to 1 and $\beta_d = 0$ by default. Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value. Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm. | | | | | | | | | | | |

RESULT

7.2.1. WCDMA BAND5

| | | | |
|------------|-------|--------------|---------|
| ID: | 43576 | Date: | 3/13/19 |
|------------|-------|--------------|---------|

| Band | Mode | | UL Ch No. | Freq. (MHz) | MPR (dB) | Average | |
|------------------------------|-----------|----------------------------|-----------|-------------|----------|---------|------|
| | | | | | | (dBm) | |
| W-CDMA Band 5 (850MHz) | Rel 99 | RMC, 12.2 kbps | 4132 | 826.4 | N/A | 24.3 | |
| | | | 4183 | 836.6 | N/A | 24.5 | |
| | | | 4233 | 846.6 | N/A | 24.4 | |
| | HSDPA | Subtest 1 | 4132 | 826.4 | 0 | 22.8 | |
| | | | 4183 | 836.6 | 0 | 22.8 | |
| | | | 4233 | 846.6 | 0 | 22.9 | |
| | | Subtest 2 | 4132 | 826.4 | 0.5 | 23.1 | |
| | | | 4183 | 836.6 | 0.5 | 23.2 | |
| | | | 4233 | 846.6 | 0.5 | 23.2 | |
| | | Subtest 3 | 4132 | 826.4 | 0.5 | 22.1 | |
| | | | 4183 | 836.6 | 0.5 | 22.4 | |
| | | | 4233 | 846.6 | 0.5 | 22.4 | |
| | | Subtest 4 | 4132 | 826.4 | 0.5 | 22.4 | |
| | | | 4183 | 836.6 | 0.5 | 22.6 | |
| | | | 4233 | 846.6 | 0.5 | 22.5 | |
| | | HSPA (HSDPA & HSUPA) | Subtest 1 | 4132 | 826.4 | 0.5 | 19.5 |
| | | | | 4183 | 836.6 | 0.5 | 19.5 |
| | | | | 4233 | 846.6 | 0.5 | 19.6 |
| | Subtest 2 | | 4132 | 826.4 | 1.5 | 18.5 | |
| | | | 4183 | 836.6 | 1.5 | 18.5 | |
| | | | 4233 | 846.6 | 1.5 | 18.5 | |
| | Subtest 3 | | 4132 | 826.4 | 1.5 | 19.5 | |
| | | | 4183 | 836.6 | 1.5 | 19.5 | |
| | | | 4233 | 846.6 | 1.5 | 19.6 | |
| | Subtest 4 | | 4132 | 826.4 | 1.5 | 18.8 | |
| | | | 4183 | 836.6 | 1.5 | 18.7 | |
| | | | 4233 | 846.6 | 1.5 | 18.9 | |
| | Subtest 5 | | 4132 | 826.4 | 0.5 | 21.6 | |
| | | | 4183 | 836.6 | 0.5 | 21.6 | |
| | | | 4233 | 846.6 | 0.5 | 21.7 | |

7.2.2. WCDMA BAND2

| | | | |
|------------|-------|--------------|---------|
| ID: | 43576 | Date: | 3/13/19 |
|------------|-------|--------------|---------|

| Band | Mode | | UL Ch No. | Freq. (MHz) | MPR (dB) | Average | |
|-------------------------------|-----------|----------------------------|-----------|-------------|----------|---------|------|
| | | | | | | (dBm) | |
| W-CDMA Band 2 (1900MHz) | Rel 99 | RMC, 12.2 kbps | 9262 | 1852.4 | N/A | 23.6 | |
| | | | 9400 | 1880.0 | N/A | 23.9 | |
| | | | 9538 | 1907.6 | N/A | 24.2 | |
| | HSDPA | Subtest 1 | 9262 | 1852.4 | 0 | 23.5 | |
| | | | 9400 | 1880.0 | 0 | 23.7 | |
| | | | 9538 | 1907.6 | 0 | 23.9 | |
| | | Subtest 2 | 9262 | 1852.4 | 0 | 23.9 | |
| | | | 9400 | 1880.0 | 0 | 23.8 | |
| | | | 9538 | 1907.6 | 0 | 23.7 | |
| | | Subtest 3 | 9262 | 1852.4 | 0.5 | 23.2 | |
| | | | 9400 | 1880.0 | 0.5 | 23.2 | |
| | | | 9538 | 1907.6 | 0.5 | 23.2 | |
| | | Subtest 4 | 9262 | 1852.4 | 0.5 | 23.3 | |
| | | | 9400 | 1880.0 | 0.5 | 23.3 | |
| | | | 9538 | 1907.6 | 0.5 | 23.3 | |
| | | HSPA (HSDPA & HSUPA) | Subtest 1 | 9262 | 1852.4 | 0 | 21.3 |
| | | | | 9400 | 1880.0 | 0 | 20.0 |
| | | | | 9538 | 1907.6 | 0 | 20.3 |
| | Subtest 2 | | 9262 | 1852.4 | 2 | 18.9 | |
| | | | 9400 | 1880.0 | 2 | 18.6 | |
| | | | 9538 | 1907.6 | 2 | 18.8 | |
| | Subtest 3 | | 9262 | 1852.4 | 1 | 21.5 | |
| | | | 9400 | 1880.0 | 1 | 20.5 | |
| | | | 9538 | 1907.6 | 1 | 20.5 | |
| | Subtest 4 | | 9262 | 1852.4 | 2 | 19.9 | |
| | | | 9400 | 1880.0 | 2 | 19.1 | |
| | | | 9538 | 1907.6 | 2 | 19.3 | |
| | Subtest 5 | | 9262 | 1852.4 | 1 | 23.2 | |
| | | | 9400 | 1880.0 | 1 | 21.9 | |
| | | | 9538 | 1907.6 | 1 | 22.1 | |

7.3. LTE

CONDUCTED OUTPUT POWER MEASUREMENT PROCEDURE

All LTE bands conducted average power is obtained from the CMW500 telecommunication test set.

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3

| Modulation | Channel bandwidth / Transmission bandwidth (N_{RB}) | | | | | | MPR (dB) |
|------------|---|---------|-------|--------|--------|--------|----------|
| | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | |
| QPSK | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 1 |
| 16 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 1 |
| 16 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 2 |
| 64 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 2 |
| 64 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 3 |

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS_01".3

Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)

| Network Signalling value | Requirements (sub-clause) | E-UTRA Band | Channel bandwidth (MHz) | Resources Blocks (N_{RB}) | A-MPR (dB) |
|--------------------------|---------------------------|--------------------------|-------------------------|-------------------------------|---------------|
| NS_01 | 6.6.2.1.1 | Table 5.5-1 | 1.4, 3, 5, 10, 15, 20 | Table 5.6-1 | NA |
| NS_03 | 6.6.2.2.1 | 2, 4, 10, 23, 25, 35, 36 | 3 | >5 | ≤ 1 |
| | | | 5 | >6 | ≤ 1 |
| | | | 10 | >6 | ≤ 1 |
| | | | 15 | >8 | ≤ 1 |
| NS_04 | 6.6.2.2.2 | 41 | 20 | >10 | ≤ 1 |
| | | | 5 | >6 | ≤ 1 |
| NS_05 | 6.6.3.3.1 | 1 | 10, 15, 20 | ≥ 50 | ≤ 1 |
| NS_06 | 6.6.2.2.3 | 12, 13, 14, 17 | 1.4, 3, 5, 10 | Table 5.6-1 | n/a |
| NS_07 | 6.6.2.2.3 | 13 | 10 | Table 6.2.4-2 | Table 6.2.4-2 |
| | 6.6.3.3.2 | | | | |
| NS_08 | 6.6.3.3.3 | 19 | 10, 15 | > 44 | ≤ 3 |
| NS_09 | 6.6.3.3.4 | 21 | 10, 15 | > 40 | ≤ 1 |
| | | | | > 55 | ≤ 2 |
| NS_10 | | 20 | 15, 20 | Table 6.2.4-3 | Table 6.2.4-3 |
| NS_11 | 6.6.2.2.1 | 23 ¹ | 1.4, 3, 5, 10 | Table 6.2.4-5 | Table 6.2.4-5 |
| ... | | | | | |
| NS_32 | - | - | - | - | - |

Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.

MODES TESTED

- LTE 5
- LTE 17
- LTE 41 (FCC)

RESULTS

EUT includes different power levels for head use configuration and body use configuration and the below tables contain the highest of all configurations average conducted output powers as follows:

7.3.1. LTE 5

| | | | |
|------------|-------|--------------|--------|
| ID: | 43576 | Date: | 3/8/19 |
|------------|-------|--------------|--------|

OUTPUT POWER FOR LTE BAND 5 (1.4 MHz)

| Bandwidth (MHz) | Modulation | RB Allocation | RB Offset | Power | | |
|-----------------|------------|---------------|-----------|-------------------------|--------------------|--------------------|
| | | | | Conducted Average (dBm) | | |
| | | | | 20407 824.7 MHz | 20525 836.5 MHz | 20643 848.3 MHz |
| 1.4 | QPSK | 1 | 0 | 24.5 | 24.5 | 24.8 |
| | | 1 | 2 | 24.5 | 24.4 | 24.8 |
| | | 1 | 5 | 24.5 | 24.4 | 24.8 |
| | | 3 | 0 | 24.5 | 24.5 | 24.7 |
| | | 3 | 1 | 24.5 | 24.5 | 24.7 |
| | | 3 | 2 | 24.5 | 24.4 | 24.8 |
| | | 6 | 0 | 23.6 | 23.5 | 23.8 |
| | 16QAM | 1 | 0 | 23.5 | 23.5 | 23.6 |
| | | 1 | 2 | 23.5 | 23.5 | 23.5 |
| | | 1 | 5 | 23.5 | 23.5 | 23.6 |
| | | 3 | 0 | 23.5 | 23.4 | 23.8 |
| | | 3 | 1 | 23.5 | 23.4 | 23.8 |
| | | 3 | 2 | 23.5 | 23.4 | 23.8 |
| | | 6 | 0 | 22.5 | 22.3 | 22.8 |

OUTPUT POWER FOR LTE BAND 5 (3.0 MHz)

| Bandwidth (MHz) | Modulation | RB Allocation | RB Offset | Power | | |
|-----------------|------------|---------------|-----------|-------------------------|--------------------|--------------------|
| | | | | Conducted Average (dBm) | | |
| | | | | 20415 825.5 MHz | 20525 836.5 MHz | 20635 847.5 MHz |
| 3.0 | QPSK | 1 | 0 | 24.6 | 24.6 | 24.8 |
| | | 1 | 7 | 24.6 | 24.5 | 24.8 |
| | | 1 | 14 | 24.5 | 24.5 | 24.8 |
| | | 8 | 0 | 23.5 | 23.5 | 23.8 |
| | | 8 | 4 | 23.5 | 23.5 | 23.8 |
| | | 8 | 7 | 23.5 | 23.5 | 23.8 |
| | | 15 | 0 | 23.5 | 23.5 | 23.7 |
| | 16QAM | 1 | 0 | 23.5 | 23.3 | 23.8 |
| | | 1 | 7 | 23.5 | 23.4 | 23.9 |
| | | 1 | 14 | 23.4 | 23.4 | 23.8 |
| | | 8 | 0 | 22.4 | 22.5 | 22.8 |
| | | 8 | 4 | 22.4 | 22.5 | 22.8 |
| | | 8 | 7 | 22.4 | 22.5 | 22.8 |
| | | 15 | 0 | 22.4 | 22.4 | 22.7 |

OUTPUT POWER FOR LTE BAND 5 (5.0 MHz)

| Bandwidth (MHz) | Modulation | RB Allocation | RB Offset | Power | | |
|-----------------|------------|---------------|-----------|-------------------------|-----------|-----------|
| | | | | Conducted Average (dBm) | | |
| | | | | 20425 | 20525 | 20625 |
| | | | | 826.5 MHz | 836.5 MHz | 846.5 MHz |
| 5.0 | QPSK | 1 | 0 | 24.5 | 24.5 | 24.7 |
| | | 1 | 12 | 24.5 | 24.5 | 24.7 |
| | | 1 | 24 | 24.5 | 24.4 | 24.7 |
| | | 12 | 0 | 23.6 | 23.5 | 23.7 |
| | | 12 | 6 | 23.6 | 23.5 | 23.7 |
| | | 12 | 11 | 23.5 | 23.5 | 23.7 |
| | | 25 | 0 | 23.5 | 23.5 | 23.7 |
| | 16QAM | 1 | 0 | 23.5 | 23.4 | 23.8 |
| | | 1 | 12 | 23.4 | 23.4 | 23.8 |
| | | 1 | 24 | 23.4 | 23.4 | 23.8 |
| | | 12 | 0 | 22.5 | 22.5 | 22.7 |
| | | 12 | 6 | 22.5 | 22.4 | 22.7 |
| | | 12 | 11 | 22.5 | 22.4 | 22.7 |
| | | 25 | 0 | 22.5 | 22.5 | 22.7 |

OUTPUT POWER FOR LTE BAND 5 (10.0 MHz)

| Bandwidth (MHz) | Modulation | RB Allocation | RB Offset | Power | | |
|-----------------|------------|---------------|-----------|-------------------------|-----------|-----------|
| | | | | Conducted Average (dBm) | | |
| | | | | 20450 | 20525 | 20600 |
| | | | | 829.0 MHz | 836.5 MHz | 844.0 MHz |
| 10.0 | QPSK | 1 | 0 | 24.6 | 24.6 | 24.7 |
| | | 1 | 24 | 24.6 | 24.5 | 24.6 |
| | | 1 | 49 | 24.5 | 24.4 | 24.6 |
| | | 25 | 0 | 23.5 | 23.5 | 23.6 |
| | | 25 | 12 | 23.5 | 23.5 | 23.6 |
| | | 25 | 24 | 23.5 | 23.5 | 23.6 |
| | | 50 | 0 | 23.5 | 23.5 | 23.6 |
| | 16QAM | 1 | 0 | 23.5 | 23.4 | 23.8 |
| | | 1 | 24 | 23.4 | 23.3 | 23.7 |
| | | 1 | 49 | 23.3 | 23.3 | 23.7 |
| | | 25 | 0 | 22.5 | 22.5 | 22.7 |
| | | 25 | 12 | 22.5 | 22.5 | 22.6 |
| | | 25 | 24 | 22.5 | 22.4 | 22.6 |
| | | 50 | 0 | 22.4 | 22.4 | 22.6 |

7.3.2. LTE 17

| | | | |
|------------|-------|--------------|--------|
| ID: | 43576 | Date: | 3/8/19 |
|------------|-------|--------------|--------|

OUTPUT POWER FOR LTE BAND 17 (5.0 MHz)

| Bandwidth (MHz) | Modulation | RB Allocation | RB Offset | Power | | |
|-----------------|------------|---------------|-----------|-------------------------|-----------|-------------|
| | | | | Conducted Average (dBm) | | |
| | | | | 23755 | 23790 | 23825 |
| | | | | 706.5 MHz | 710.0 MHz | 713.5 MHz |
| 5.0 | QPSK | 1 | 0 | 24.3 | 24.5 | 24.7 |
| | | 1 | 12 | 24.3 | 24.5 | 24.6 |
| | | 1 | 24 | 24.2 | 24.5 | 24.6 |
| | | 12 | 0 | 23.4 | 23.6 | 23.6 |
| | | 12 | 6 | 23.4 | 23.6 | 23.6 |
| | | 12 | 11 | 23.3 | 23.5 | 23.6 |
| | | 25 | 0 | 23.3 | 23.6 | 23.6 |
| | 16QAM | 1 | 0 | 23.3 | 23.4 | 23.8 |
| | | 1 | 12 | 23.2 | 23.4 | 23.7 |
| | | 1 | 24 | 23.2 | 23.4 | 23.7 |
| | | 12 | 0 | 22.3 | 22.6 | 22.6 |
| | | 12 | 6 | 22.3 | 22.6 | 22.6 |
| | | 12 | 11 | 22.2 | 22.5 | 22.6 |
| | | 25 | 0 | 22.3 | 22.6 | 22.7 |

OUTPUT POWER FOR LTE BAND 17 (10.0 MHz)

| Bandwidth (MHz) | Modulation | RB Allocation | RB Offset | Power | | |
|-----------------|------------|---------------|-----------|-------------------------|-----------|-------------|
| | | | | Conducted Average (dBm) | | |
| | | | | 23780 | 23790 | 23800 |
| | | | | 709.0 MHz | 710.0 MHz | 711.0 MHz |
| 10.0 | QPSK | 1 | 0 | 24.6 | 24.6 | 24.7 |
| | | 1 | 24 | 24.5 | 24.5 | 24.6 |
| | | 1 | 49 | 24.4 | 24.5 | 24.5 |
| | | 25 | 0 | 23.4 | 23.6 | 23.6 |
| | | 25 | 12 | 23.4 | 23.5 | 23.6 |
| | | 25 | 24 | 23.4 | 23.5 | 23.6 |
| | | 50 | 0 | 23.4 | 23.5 | 23.6 |
| | 16QAM | 1 | 0 | 23.7 | 23.4 | 23.7 |
| | | 1 | 24 | 23.6 | 23.3 | 23.6 |
| | | 1 | 49 | 23.6 | 23.3 | 23.5 |
| | | 25 | 0 | 22.5 | 22.6 | 22.7 |
| | | 25 | 12 | 22.4 | 22.6 | 22.7 |
| | | 25 | 24 | 22.4 | 22.5 | 22.7 |
| | | 50 | 0 | 22.4 | 22.6 | 22.6 |

7.3.3. LTE 41 (FCC)

| | | | |
|------------|-------|--------------|--------|
| ID: | 43576 | Date: | 3/8/19 |
|------------|-------|--------------|--------|

OUTPUT POWER FOR LTE BAND 41 (FCC) (5.0 MHz)

| Bandwidth (MHz) | Modulation | RB Allocation | RB Offset | Power | | |
|-----------------|------------|---------------|-----------|-------------------------|-------------|------------|
| | | | | Conducted Average (dBm) | | |
| | | | | 39675 | 40620 | 41565 |
| | | | | 2498.5 MHz | 2593.0 MHz | 2687.5 MHz |
| 5.0 | QPSK | 1 | 0 | 23.0 | 23.3 | 23.0 |
| | | 1 | 12 | 23.0 | 23.3 | 23.0 |
| | | 1 | 24 | 23.0 | 23.3 | 23.0 |
| | | 12 | 0 | 22.3 | 22.6 | 22.4 |
| | | 12 | 6 | 22.4 | 22.7 | 22.4 |
| | | 12 | 11 | 22.4 | 22.7 | 22.4 |
| | | 25 | 0 | 22.4 | 22.7 | 22.4 |
| | 16QAM | 1 | 0 | 22.2 | 22.4 | 22.1 |
| | | 1 | 12 | 22.2 | 22.4 | 22.1 |
| | | 1 | 24 | 22.3 | 22.4 | 22.1 |
| | | 12 | 0 | 21.3 | 21.6 | 21.4 |
| | | 12 | 6 | 21.3 | 21.6 | 21.4 |
| | | 12 | 11 | 21.3 | 21.6 | 21.4 |
| | | 25 | 0 | 21.4 | 21.7 | 21.3 |

OUTPUT POWER FOR LTE BAND 41 (FCC) (10.0 MHz)

| Bandwidth (MHz) | Modulation | RB Allocation | RB Offset | Power | | |
|-----------------|------------|---------------|-----------|-------------------------|-------------|------------|
| | | | | Conducted Average (dBm) | | |
| | | | | 39700 | 40620 | 41540 |
| | | | | 2501.0 MHz | 2593.0 MHz | 2685.0 MHz |
| 10.0 | QPSK | 1 | 0 | 23.1 | 23.4 | 23.0 |
| | | 1 | 24 | 23.2 | 23.4 | 23.2 |
| | | 1 | 49 | 23.1 | 23.4 | 23.2 |
| | | 25 | 0 | 22.5 | 22.7 | 22.4 |
| | | 25 | 12 | 22.5 | 22.7 | 22.4 |
| | | 25 | 24 | 22.5 | 22.7 | 22.4 |
| | | 50 | 0 | 22.5 | 22.7 | 22.4 |
| | 16QAM | 1 | 0 | 22.5 | 22.4 | 22.1 |
| | | 1 | 24 | 22.5 | 22.5 | 22.1 |
| | | 1 | 49 | 22.6 | 22.5 | 22.1 |
| | | 25 | 0 | 21.5 | 21.7 | 21.4 |
| | | 25 | 12 | 21.6 | 21.8 | 21.5 |
| | | 25 | 24 | 21.6 | 21.8 | 21.5 |
| | | 50 | 0 | 21.6 | 21.8 | 21.5 |

OUTPUT POWER FOR LTE BAND 41 (FCC) (15.0 MHz)

| Bandwidth (MHz) | Modulation | RB Allocation | RB Offset | Power | | |
|-----------------|------------|---------------|-----------|-------------------------|-------------|------------|
| | | | | Conducted Average (dBm) | | |
| | | | | 39725 | 40620 | 41515 |
| | | | | 2503.5 MHz | 2593.0 MHz | 2682.5 MHz |
| 15.0 | QPSK | 1 | 0 | 23.1 | 23.4 | 23.1 |
| | | 1 | 37 | 23.1 | 23.3 | 23.1 |
| | | 1 | 74 | 23.1 | 23.4 | 23.2 |
| | | 36 | 0 | 22.5 | 22.7 | 22.5 |
| | | 36 | 16 | 22.5 | 22.8 | 22.5 |
| | | 36 | 35 | 22.5 | 22.8 | 22.5 |
| | | 75 | 0 | 22.5 | 22.8 | 22.5 |
| | 16QAM | 1 | 0 | 22.4 | 22.5 | 22.1 |
| | | 1 | 37 | 22.4 | 22.6 | 22.1 |
| | | 1 | 74 | 22.6 | 22.5 | 22.4 |
| | | 36 | 0 | 21.6 | 21.7 | 21.4 |
| | | 36 | 16 | 21.6 | 21.8 | 21.4 |
| | | 36 | 35 | 21.5 | 21.8 | 21.4 |
| | | 75 | 0 | 21.6 | 21.8 | 21.4 |

OUTPUT POWER FOR LTE BAND 41 (FCC) (20.0 MHz)

| Bandwidth (MHz) | Modulation | RB Allocation | RB Offset | Power | | |
|-----------------|------------|---------------|-----------|-------------------------|-------------|------------|
| | | | | Conducted Average (dBm) | | |
| | | | | 39750 | 40620 | 41490 |
| | | | | 2506.0 MHz | 2593.0 MHz | 2680.0 MHz |
| 20.0 | QPSK | 1 | 0 | 23.1 | 23.3 | 23.1 |
| | | 1 | 49 | 23.1 | 23.5 | 23.1 |
| | | 1 | 99 | 23.2 | 23.4 | 23.1 |
| | | 50 | 0 | 22.5 | 22.7 | 22.4 |
| | | 50 | 24 | 22.5 | 22.8 | 22.4 |
| | | 50 | 49 | 22.5 | 22.8 | 22.4 |
| | | 100 | 0 | 22.5 | 22.7 | 22.4 |
| | 16QAM | 1 | 0 | 22.4 | 22.5 | 22.2 |
| | | 1 | 49 | 22.5 | 22.6 | 22.2 |
| | | 1 | 99 | 22.6 | 22.7 | 22.2 |
| | | 50 | 0 | 21.5 | 21.8 | 21.3 |
| | | 50 | 24 | 21.6 | 21.8 | 21.4 |
| | | 50 | 49 | 21.5 | 21.8 | 21.4 |
| | | 100 | 0 | 21.5 | 21.8 | 21.4 |

8. CONDUCTED TEST RESULTS

8.1. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only.

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the middle channel in each band. The 99% and -26dB bandwidths was also measured and recorded.

MODES TESTED

- GSM 850
- GSM 1900
- WCDMA Band 5
- WCDMA Band 2
- LTE Band 5
- LTE Band 17
- LTE Band 41

RESULTS

There is no limit required and power is the same for low, middle and high channel; therefore, only middle channel was tested.

GSM

| Band | Modulation | Channel | f(MHz) | 99% BW (KHz) | -26dB BW (KHz) |
|---------|------------|---------|--------|--------------|----------------|
| GSM850 | GPRS | 190 | 836.6 | 236.36 | 317.80 |
| | EGPRS | | | 226.51 | 294.30 |
| GSM1900 | GPRS | 661 | 1880.0 | 239.35 | 316.20 |
| | EGPRS | | | 241.88 | 309.40 |

WCDMA

| Band | Modulation | Channel | f(MHz) | 99% BW (MHz) | -26dB BW (MHz) |
|-------|------------|---------|--------|--------------|----------------|
| BAND5 | REL 99 | 4408 | 836.6 | 4.13 | 4.70 |
| | HSDPA | | | 4.16 | 4.71 |
| BAND2 | REL 99 | 9800 | 1880.0 | 4.16 | 4.72 |
| | HSDPA | | | 4.15 | 4.70 |

LTE5

| Band | Mode | RB Allocation/RB Offset | f(MHz) | 99% BW (MHz) | -26dB BW (MHz) |
|------------|----------------|-------------------------|--------|--------------|----------------|
| LTE BAND 5 | 1.4 MHz, QPSK | 6/0 | 836.5 | 1.09 | 1.29 |
| | 1.4 MHz, 16QAM | | | 1.10 | 1.34 |
| | 3 MHz, QPSK | 15/0 | | 2.71 | 3.07 |
| | 3 MHz, 16QAM | | | 2.70 | 3.13 |
| | 5 MHz, QPSK | 25/0 | | 4.50 | 5.24 |
| | 5 MHz, 16QAM | | | 4.50 | 5.25 |
| | 10 MHz, QPSK | 50/0 | | 8.99 | 10.28 |
| | 10 MHz, 16QAM | | | 8.98 | 10.29 |

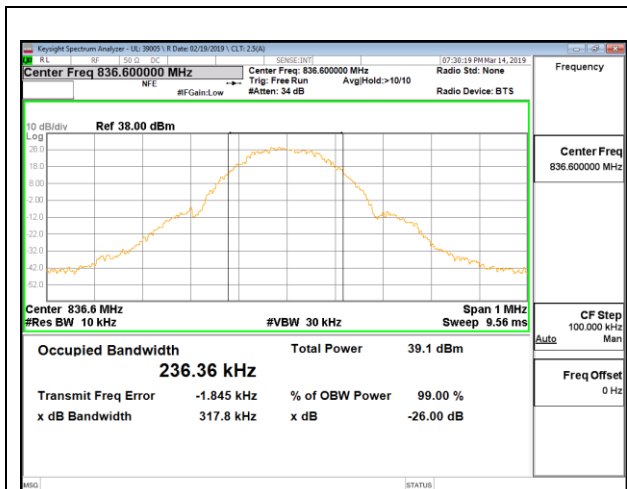
LTE17

| Band | Mode | RB Allocation/RB Offset | f(MHz) | 99% BW (MHz) | -26dB BW (MHz) |
|-------------|---------------|-------------------------|--------|--------------|----------------|
| LTE BAND 17 | 5 MHz, QPSK | 25/0 | 710.0 | 4.51 | 5.11 |
| | 5 MHz, 16QAM | | | 4.50 | 5.19 |
| | 10 MHz, QPSK | 50/0 | | 9.01 | 9.94 |
| | 10 MHz, 16QAM | | | 8.97 | 10.10 |

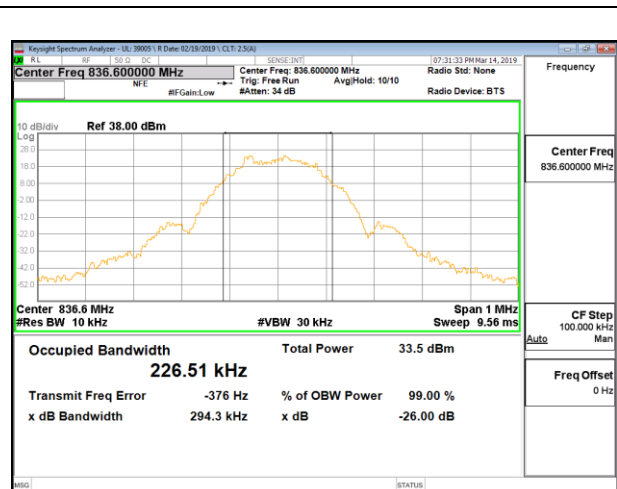
LTE41

| Band | Mode | RB Allocation/RB Offset | f(MHz) | 99% BW (MHz) | -26dB BW (MHz) |
|-------------|---------------|-------------------------|--------|--------------|----------------|
| LTE BAND 41 | 5 MHz, QPSK | 25/0 | 2593.0 | 4.51 | 5.33 |
| | 5 MHz, 16QAM | | | 4.50 | 5.28 |
| | 10 MHz, QPSK | 50/0 | | 8.97 | 10.23 |
| | 10 MHz, 16QAM | | | 8.97 | 10.63 |
| | 15 MHz, QPSK | 75/0 | | 13.46 | 15.04 |
| | 15 MHz, 16QAM | | | 13.48 | 15.03 |
| | 20 MHz, QPSK | 100/0 | | 17.90 | 19.75 |
| | 20 MHz, 16QAM | | | 17.95 | 19.83 |

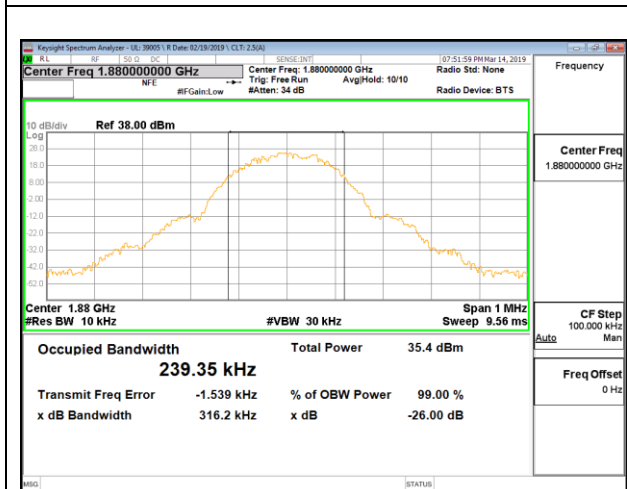
8.1.1. GSM



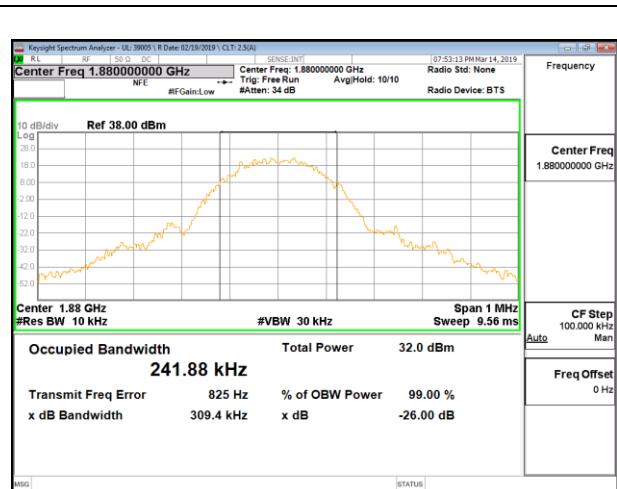
GSM 850MHz GPRS MID Channel



GSM 850MHz EGPRS MID Channel

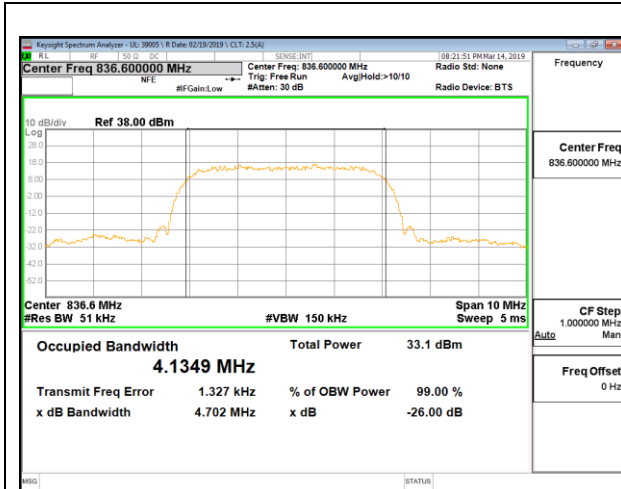


GSM 1900MHz GPRS MID Channel

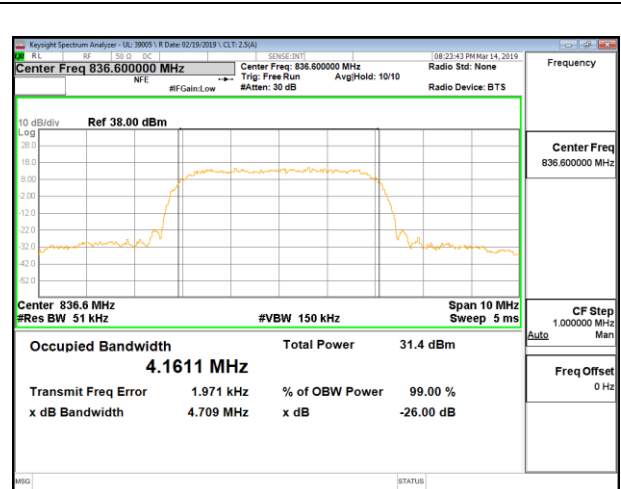


GSM 1900MHz EGPRS MID Channel

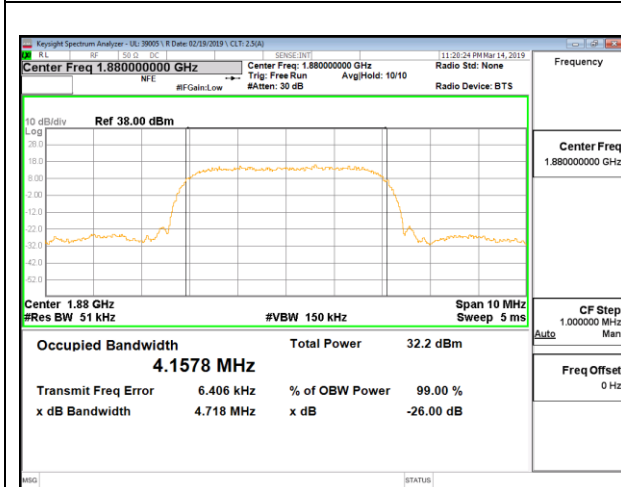
8.1.2. WCDMA



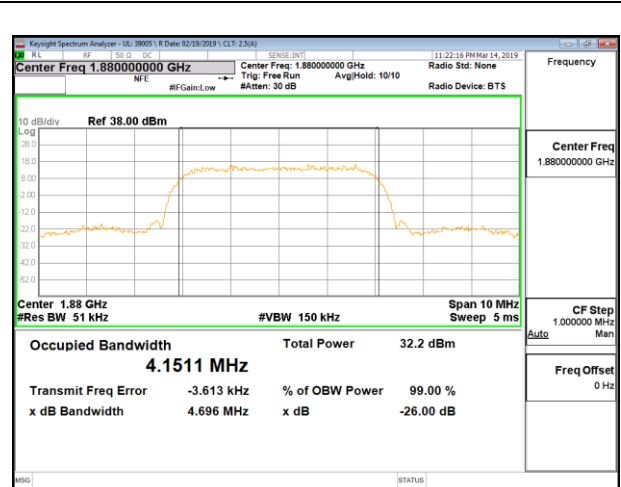
WCDMA BAND5 Rel99 MID Channel



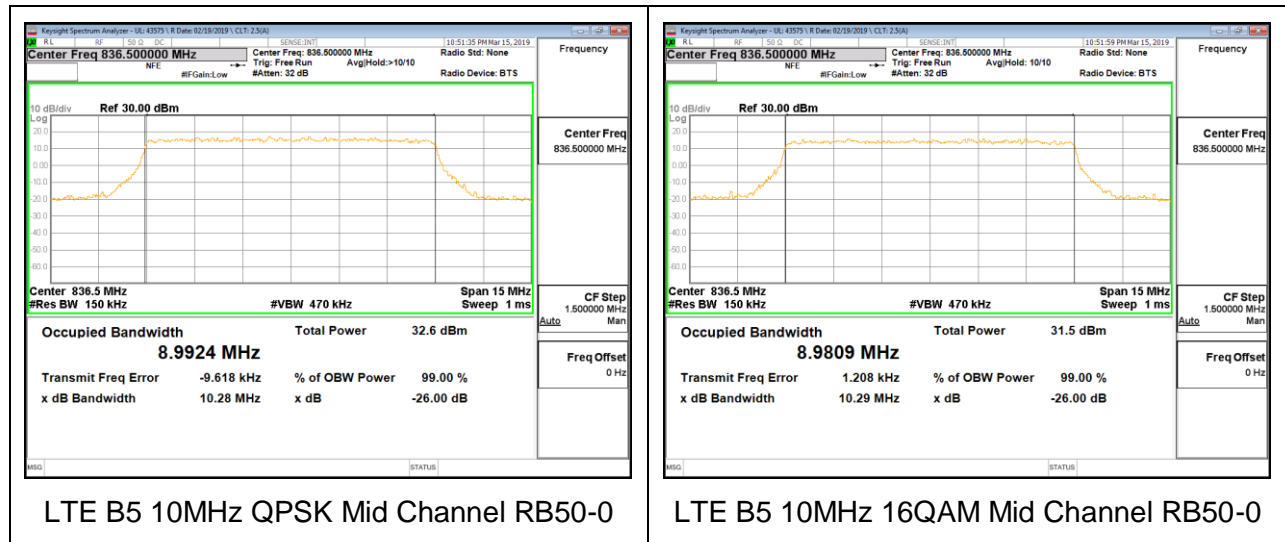
WCDMA BAND5 HSDPA MID Channel



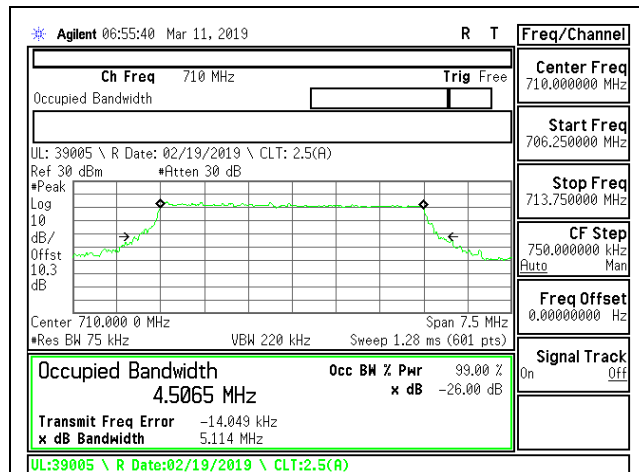
WCDMA BAND2 Rel99 MID Channel



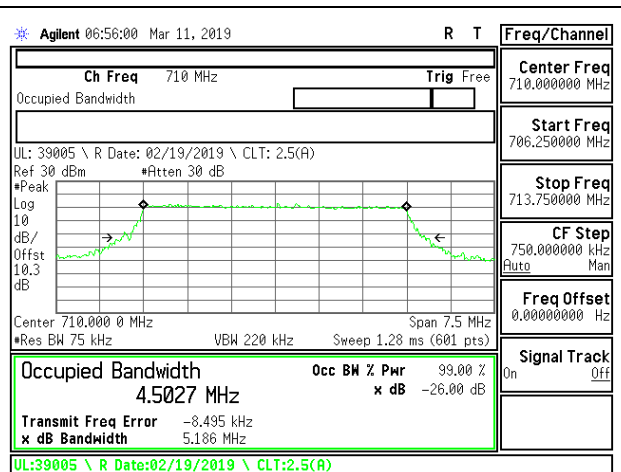
WCDMA BAND2 HSDPA MID Channel



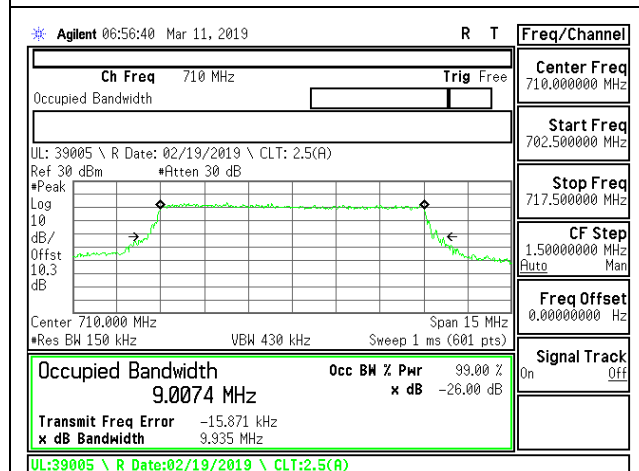
8.1.4. LTE BAND 17



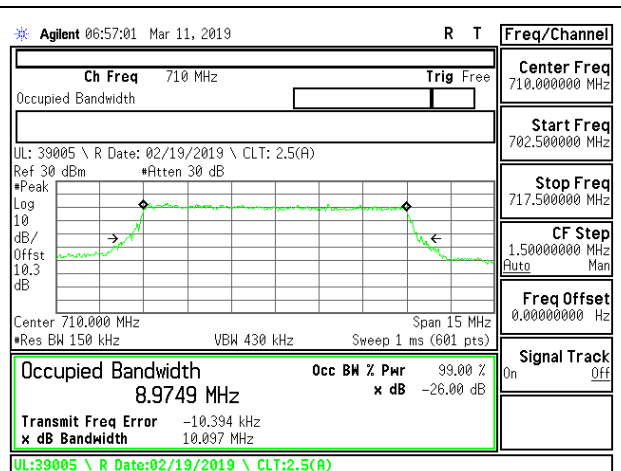
LTE B17 5MHz QPSK Mid Channel RB25-0



LTE B17 5MHz 16QAM Mid Channel RB25-0

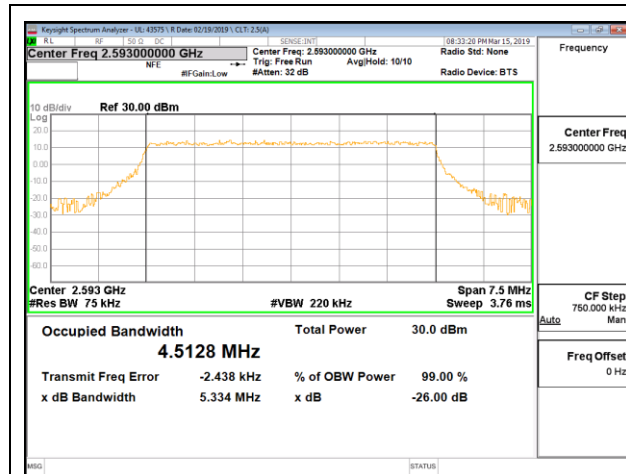


LTE B17 10MHz QPSK Mid Channel RB50-0

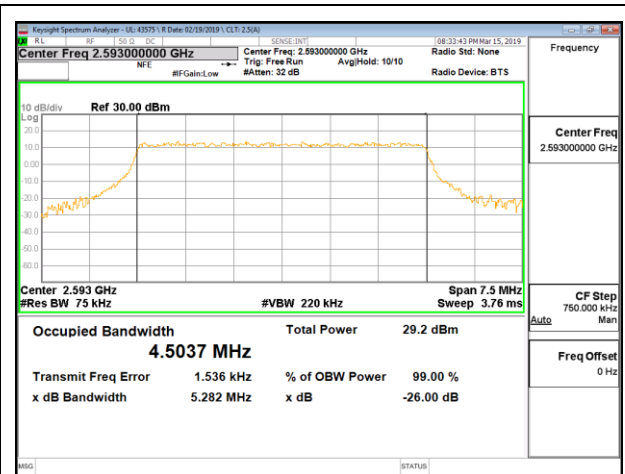


LTE B17 10MHz 16QAM Mid Channel RB50-0

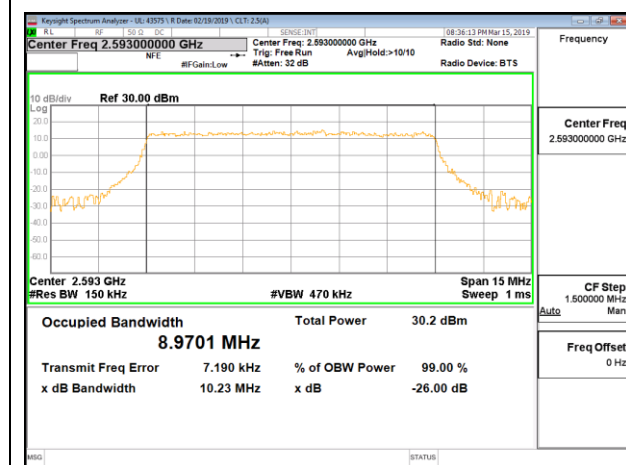
8.1.5. LTE BAND 41



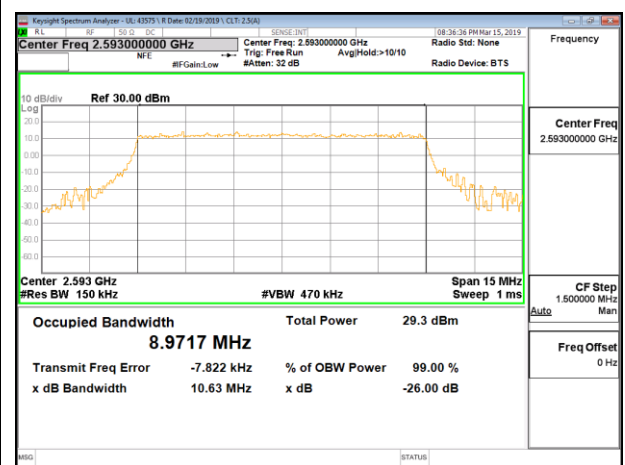
LTE B41 5MHz QPSK Mid Channel RB25-0



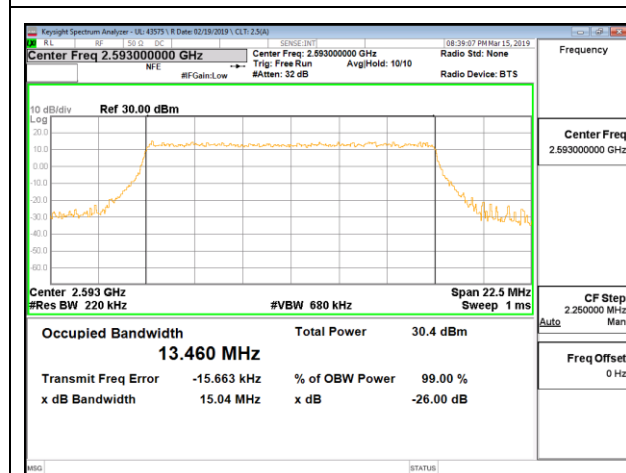
LTE B41 5MHz 16QAM Mid Channel RB25-0



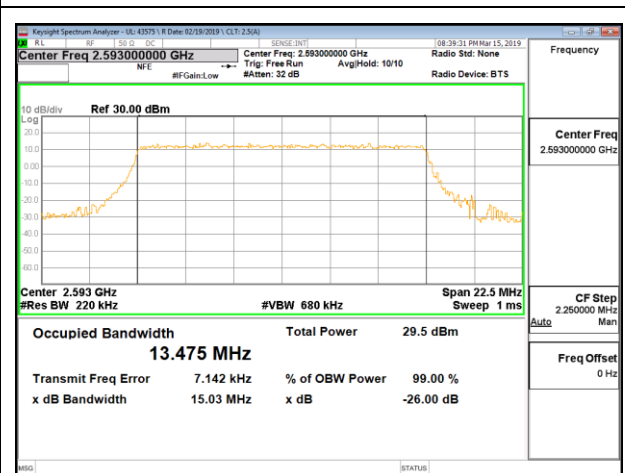
LTE B41 10MHz QPSK Mid Channel RB50-0



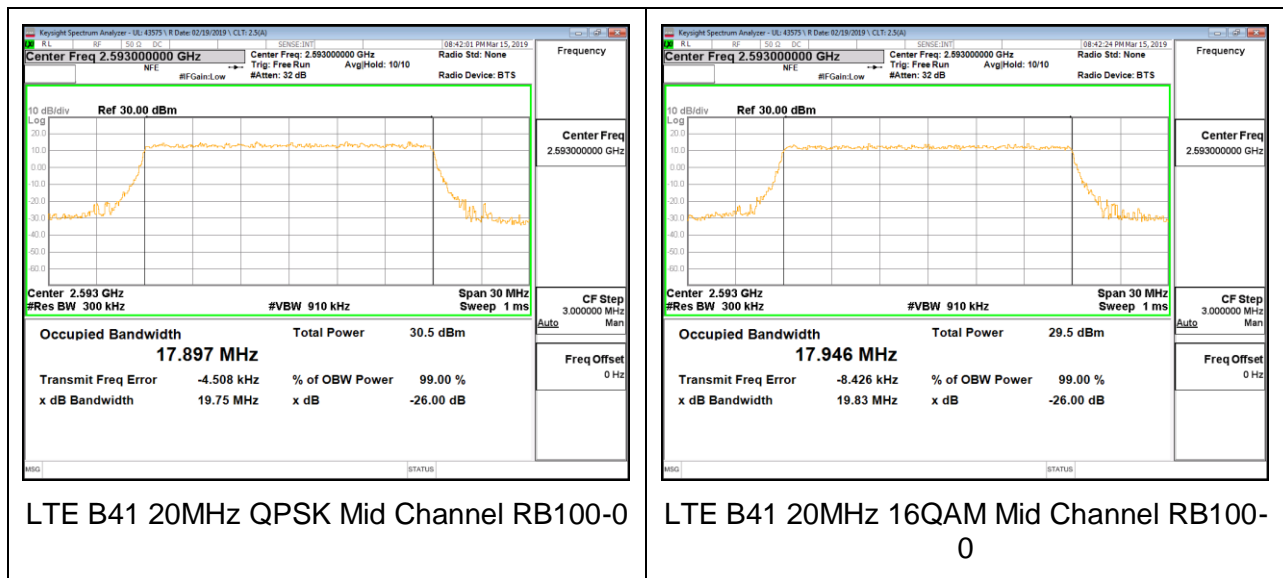
LTE B41 10MHz 16QAM Mid Channel RB50-0



LTE B41 15MHz QPSK Mid Channel RB75-0



LTE B41 15MHz 16QAM Mid Channel RB75-0



8.2. BAND EDGE AND EMISSION MASK

RULE PART(S)

FCC: §2.1051, §22.917, §24.238, and §27.53

LIMITS

FCC: §22.917, §24.238, §27.53

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

FCC: §27.53 (17)

(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC: §27.53 (41)

(m)(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

TEST PROCEDURE

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

- Set the spectrum analyzer span to include the block edge frequency.
- Set a marker to point the corresponding band edge frequency in each test case.
- Set display line at -13 dBm
- Set resolution bandwidth to at least 1% of emission bandwidth.

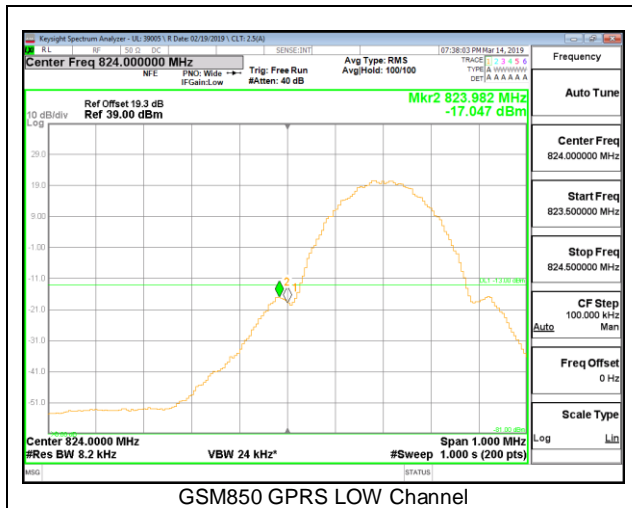
MODES TESTED

- GSM 850
- GSM 1900
- WCDMA Band 5
- WCDMA Band 2
- LTE Band 5
- LTE Band 17
- LTE Band 41

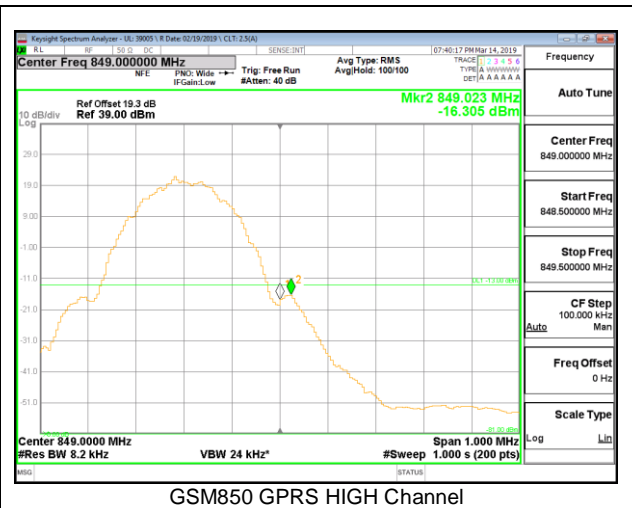
RESULTS

8.2.1. GSM850

GPRS

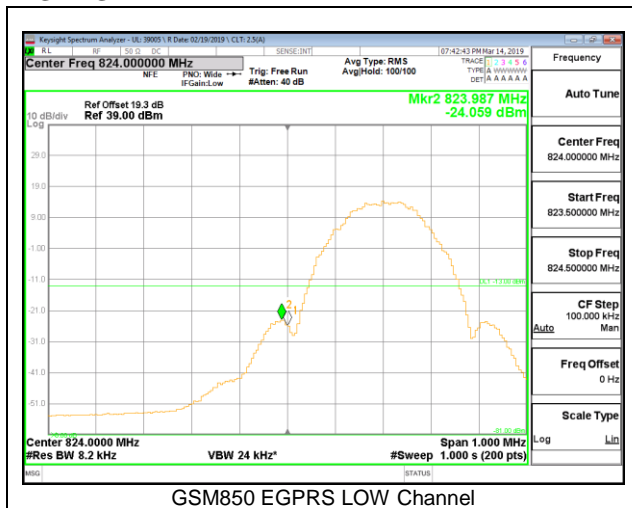


GSM850 GPRS LOW Channel

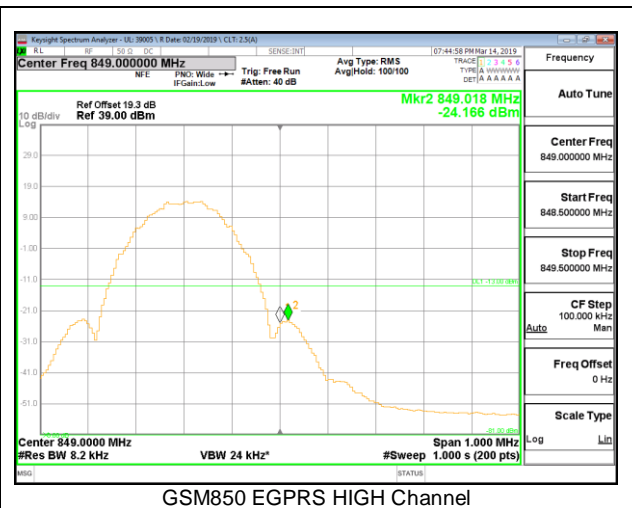


GSM850 GPRS HIGH Channel

EGPRS



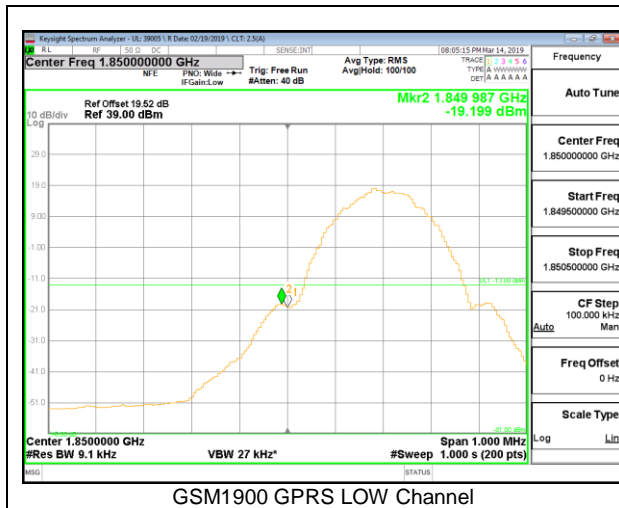
GSM850 EGPRS LOW Channel



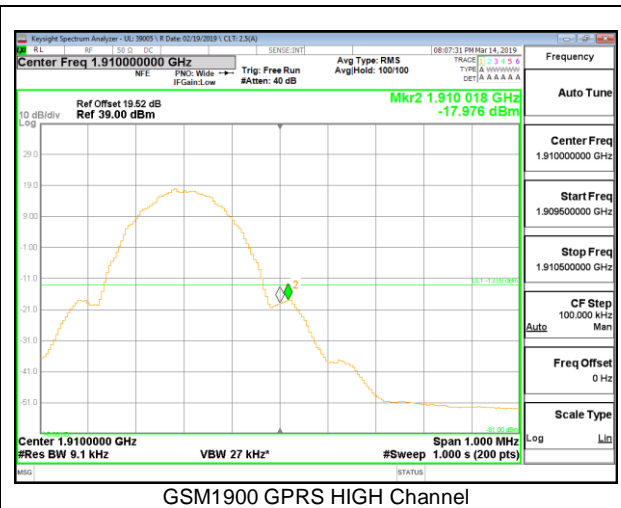
GSM850 EGPRS HIGH Channel

8.2.2. GSM1900

GPRS

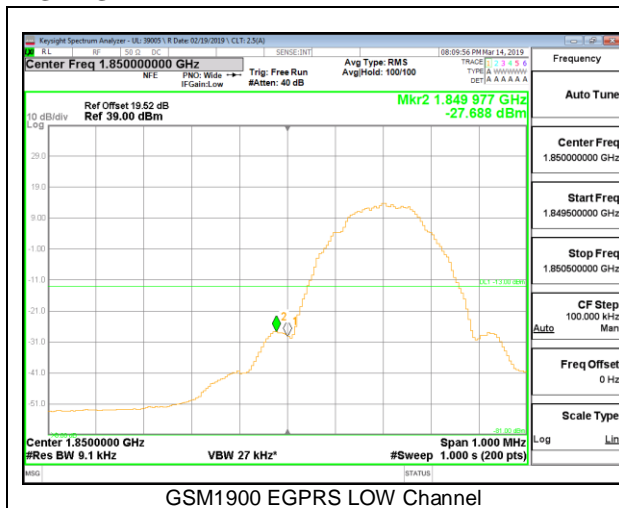


GSM1900 GPRS LOW Channel

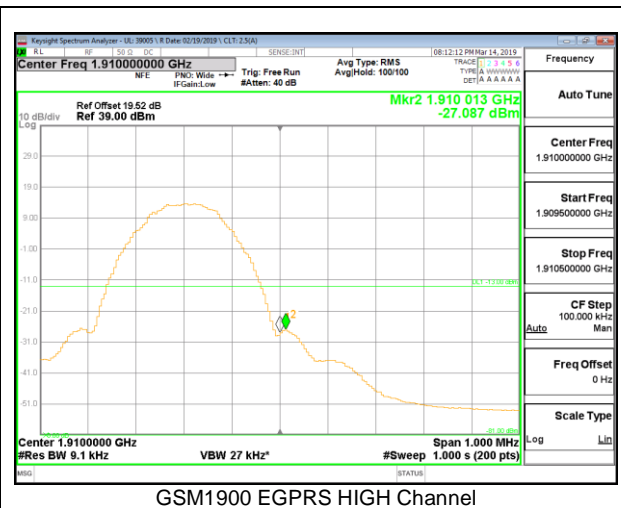


GSM1900 GPRS HIGH Channel

EGPRS



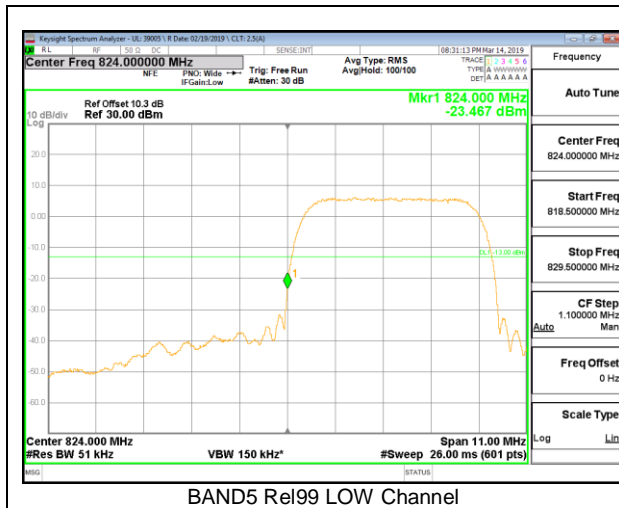
GSM1900 EGPRS LOW Channel



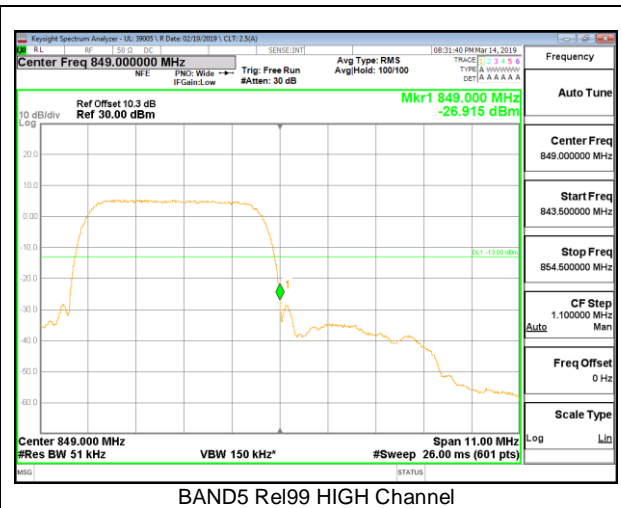
GSM1900 EGPRS HIGH Channel

8.2.3. WCDMA BAND5

Rel99

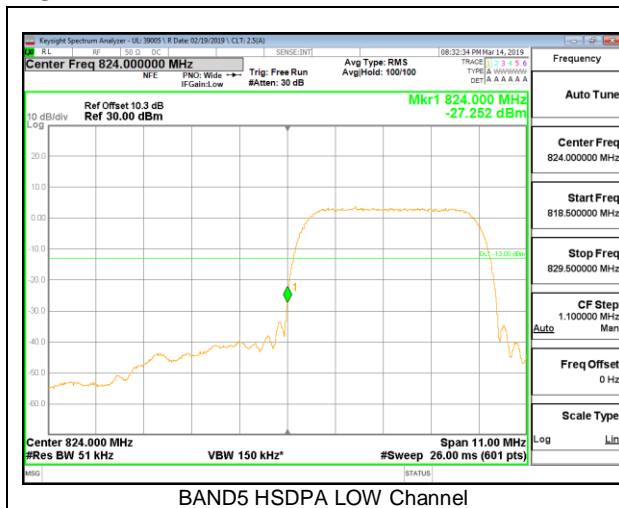


BAND5 Rel99 LOW Channel

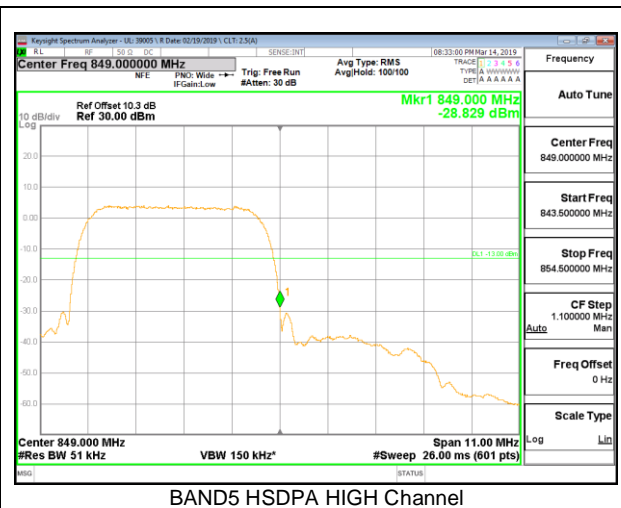


BAND5 Rel99 HIGH Channel

HSDPA



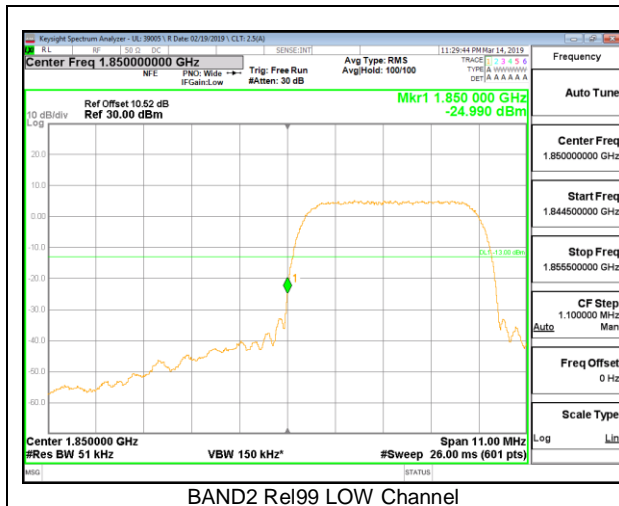
BAND5 HSDPA LOW Channel



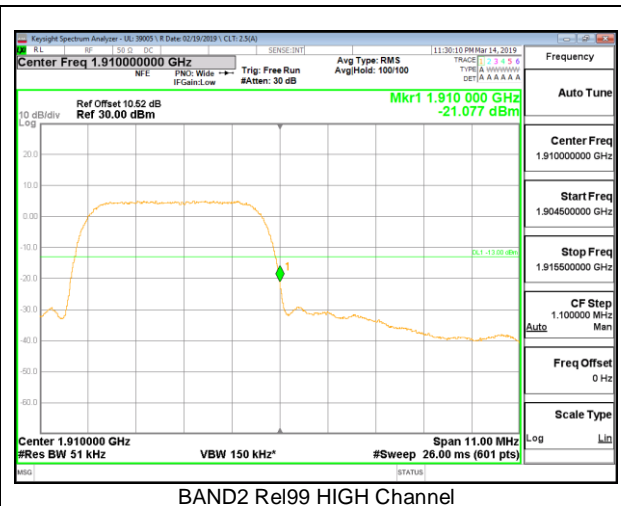
BAND5 HSDPA HIGH Channel

8.2.4. WCDMA BAND2

Rel99

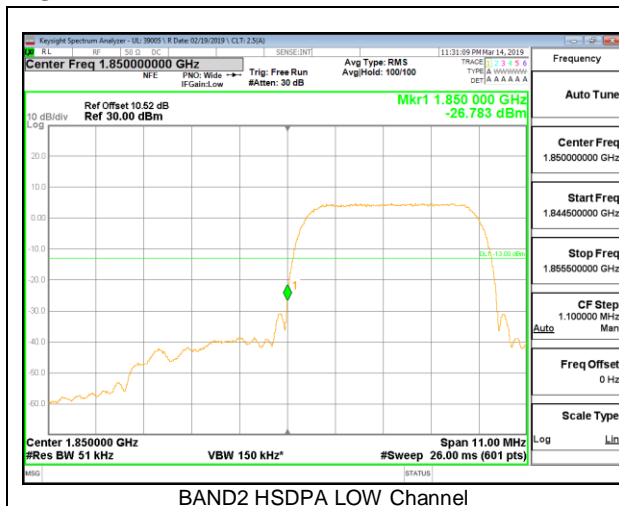


BAND2 Rel99 LOW Channel

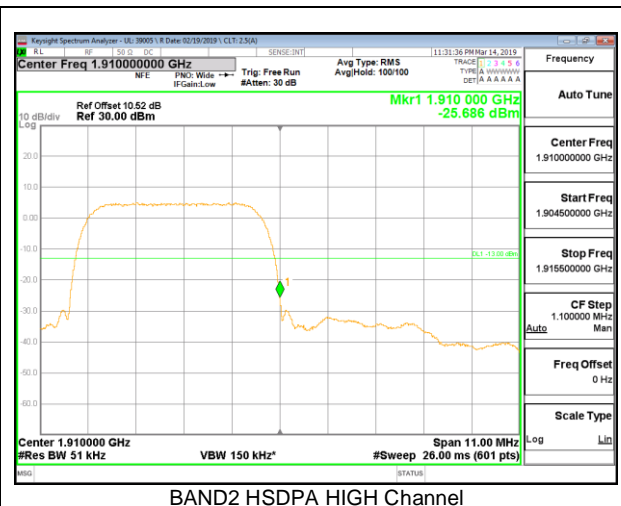


BAND2 Rel99 HIGH Channel

HSDPA

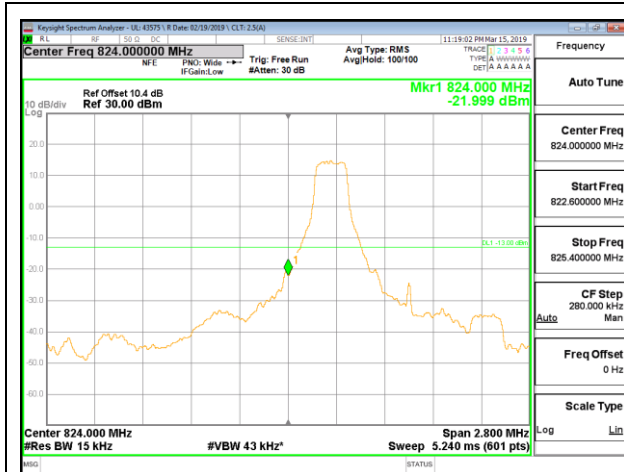


BAND2 HSDPA LOW Channel

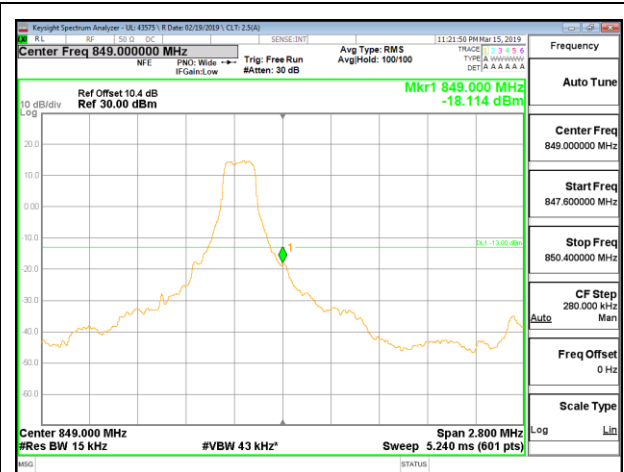


BAND2 HSDPA HIGH Channel

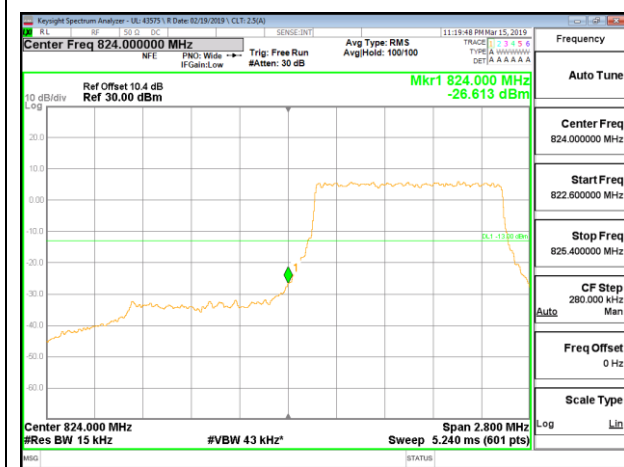
8.2.5. LTE BAND 5 BANDEDGE



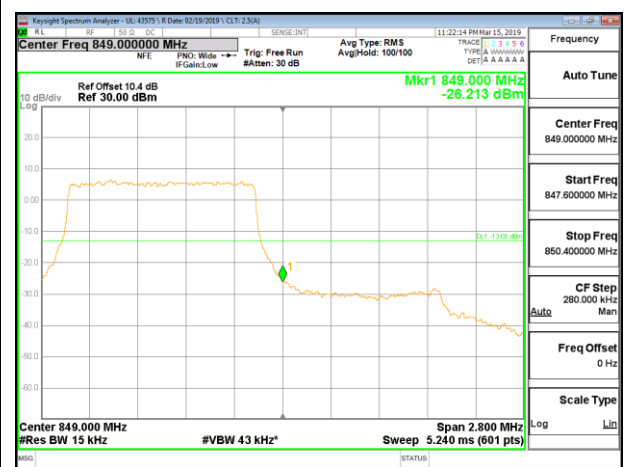
LTE B5 1.4MHz QPSK Low Channel RB1-0



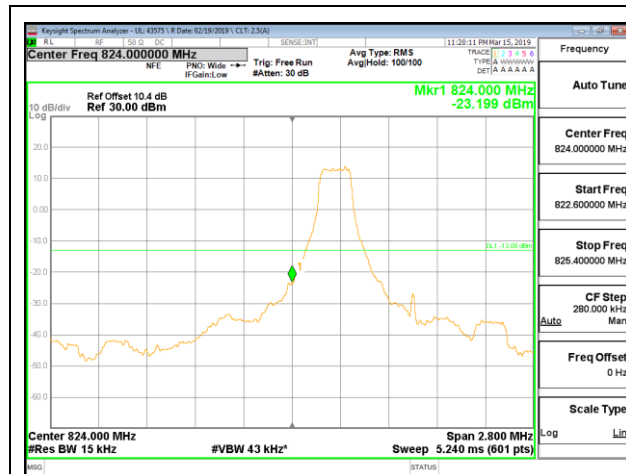
LTE B5 1.4MHz QPSK High Channel RB1-5



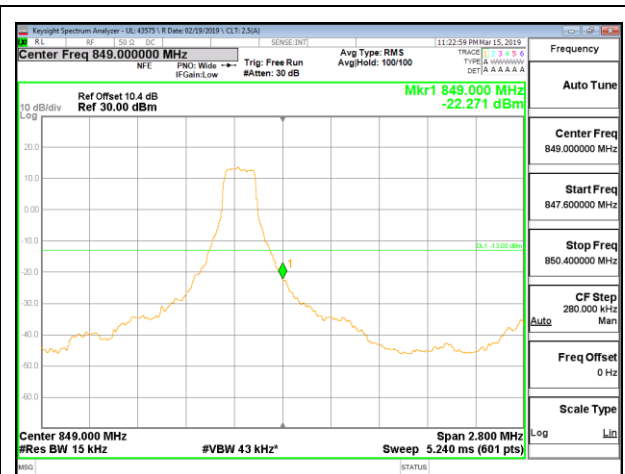
LTE B5 1.4MHz QPSK Low Channel RB6-0



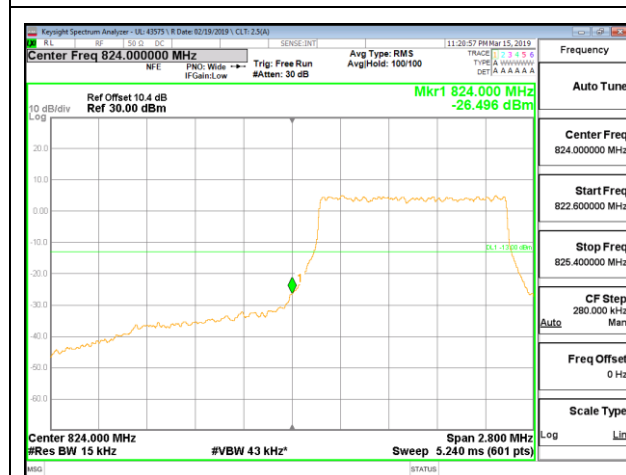
LTE B5 1.4MHz QPSK High Channel RB6-0



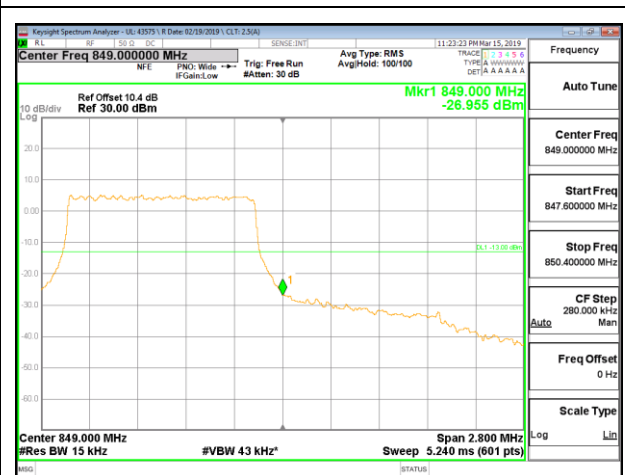
LTE B5 1.4MHz 16QAM Low Channel RB1-0



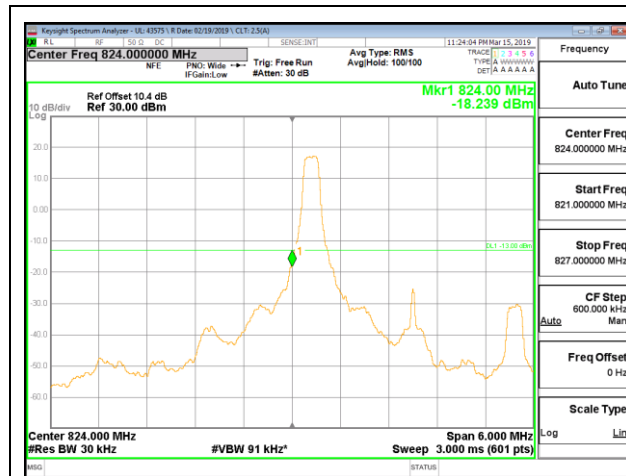
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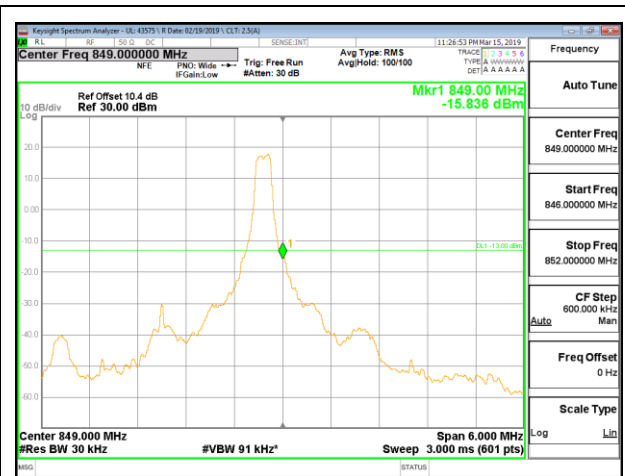
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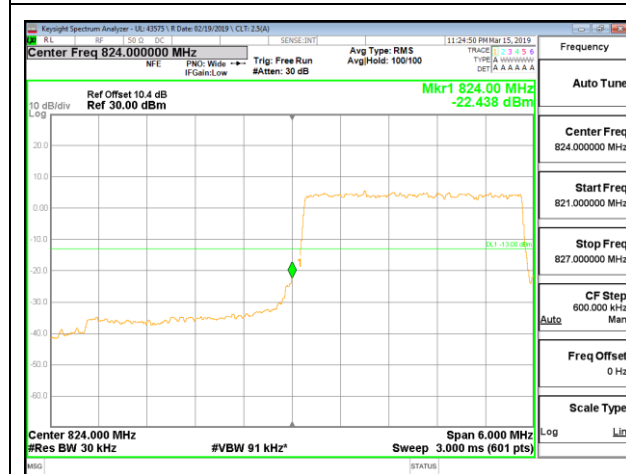
LTE B5 1.4MHz 16QAM High Channel RB6-0



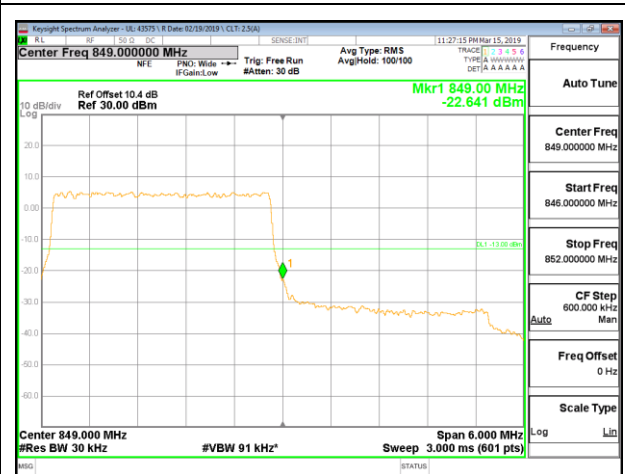
LTE B5 3MHz QPSK Low Channel RB1-0



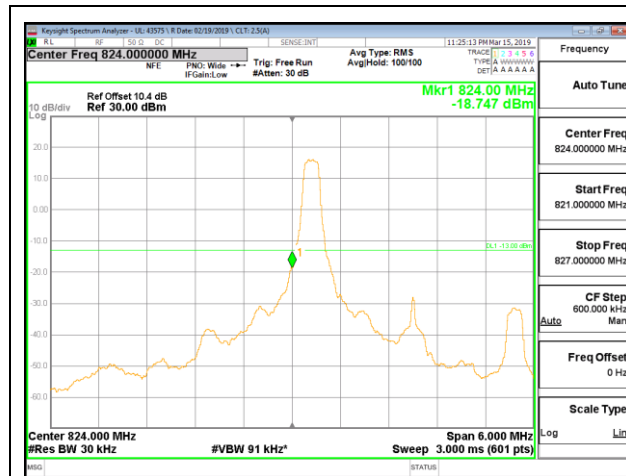
LTE B5 3MHz QPSK High Channel RB1-14



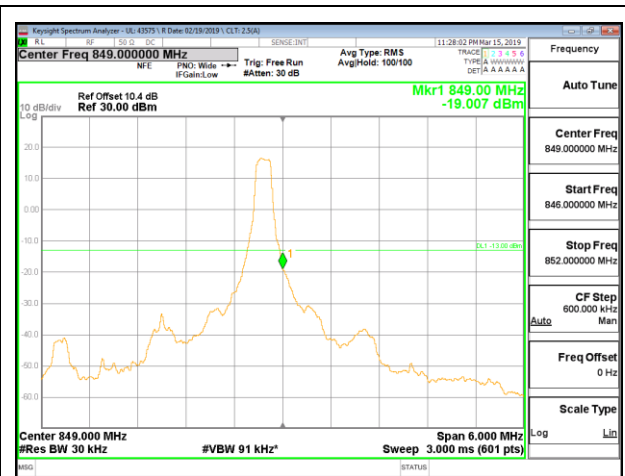
LTE B5 3MHz QPSK Low Channel RB15-0



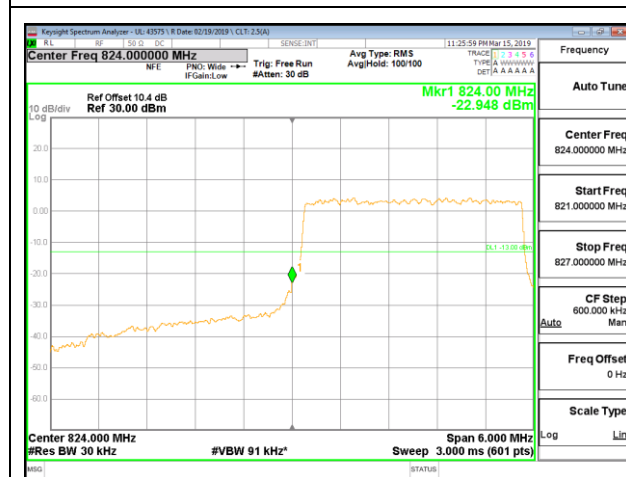
LTE B5 3MHz QPSK High Channel RB15-0



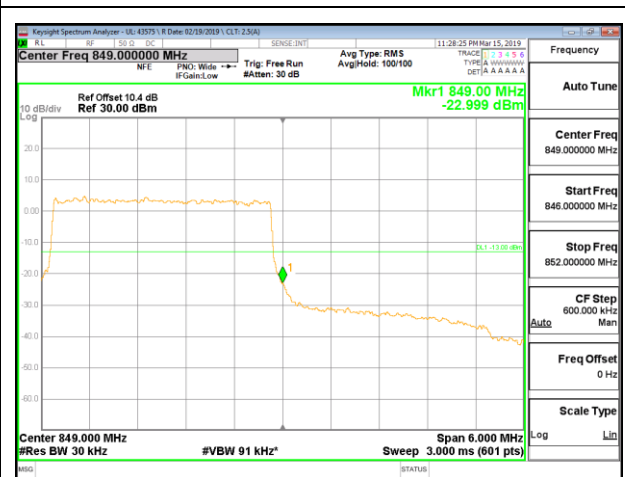
LTE B5 3MHz 16QAM Low Channel RB1-0



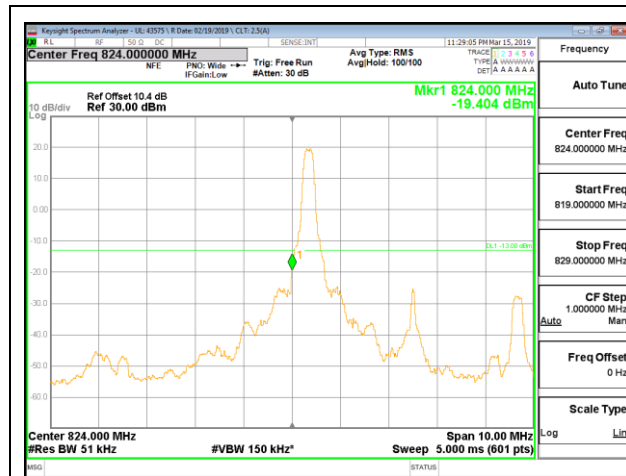
LTE B5 3MHz 16QAM High Channel RB1-14



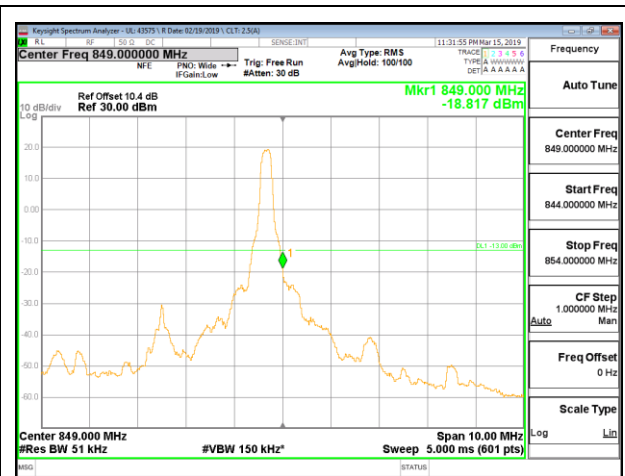
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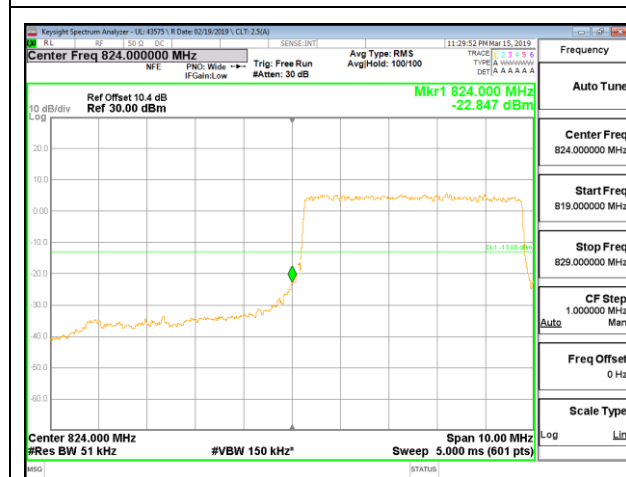
LTE B5 3MHz 16QAM High Channel RB15-0



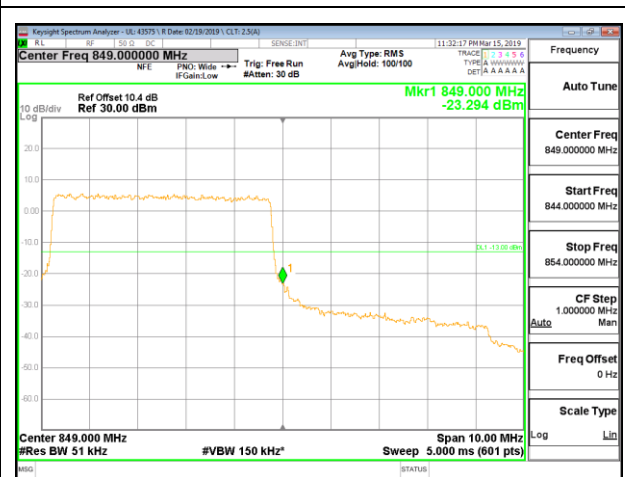
LTE B5 5MHz QPSK Low Channel RB1-0



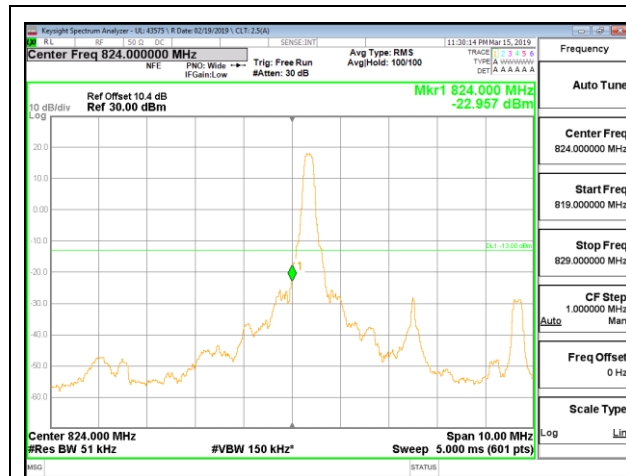
LTE B5 5MHz QPSK High Channel RB1-24



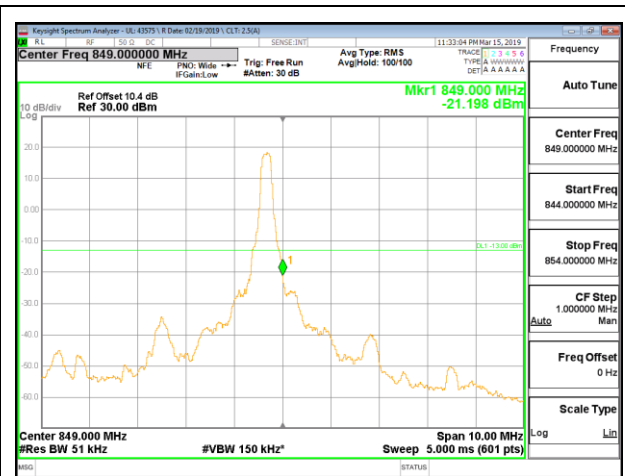
LTE B5 5MHz QPSK Low Channel RB25-0



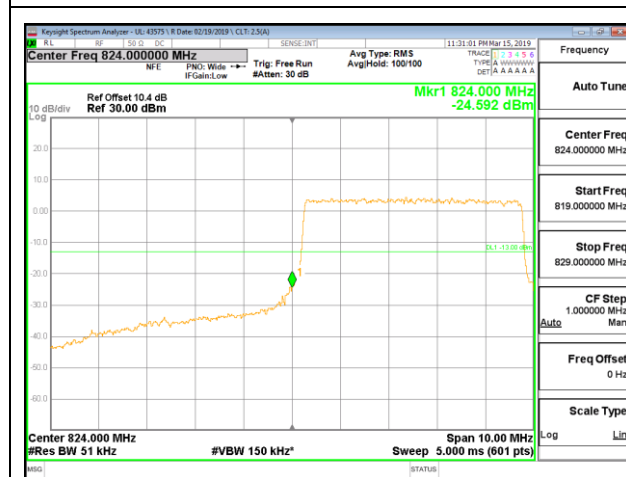
LTE B5 5MHz QPSK High Channel RB25-0



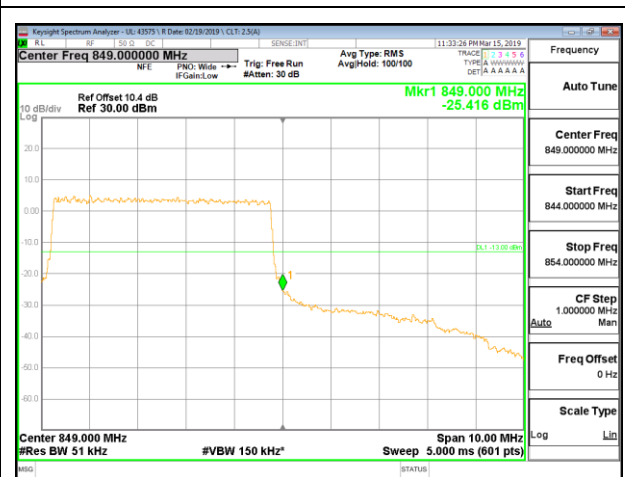
LTE B5 5MHz 16QAM Low Channel RB1-0



LTE B5 5MHz 16QAM High Channel RB1-24



LTE B5 5MHz 16QAM Low Channel RB25-0



LTE B5 5MHz 16QAM High Channel RB25-0