



LTE Band 41 QPSK Bandwidth = 5MHz CH39675 Occupied Bandwidth



LTE Band 41 16QAM Bandwidth = 5MHz CH39675 Occupied Bandwidth



LTE Band 41 QPSK Bandwidth = 5MHz CH40620 Occupied Bandwidth



LTE Band 41 16QAM Bandwidth = 5MHz CH40620 Occupied Bandwidth



LTE Band 41 QPSK Bandwidth = 5MHz CH41565 Occupied Bandwidth



LTE Band 41 16QAM Bandwidth = 5MHz CH41565 Occupied Bandwidth

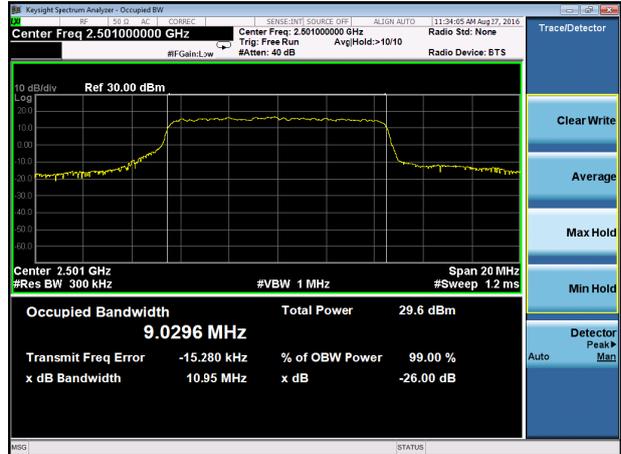




LTE Band 41 QPSK Bandwidth = 10MHz CH39700 Occupied Bandwidth



LTE Band 41 16QAM Bandwidth = 10MHz CH39700 Occupied Bandwidth



LTE Band 41 QPSK Bandwidth = 10MHz CH40620 Occupied Bandwidth



LTE Band 41 16QAM Bandwidth = 10MHz CH40620 Occupied Bandwidth



LTE Band 41 QPSK Bandwidth = 10MHz CH41540 Occupied Bandwidth

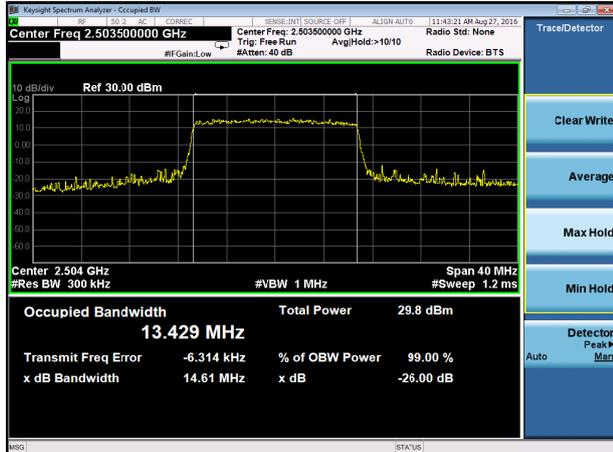


LTE Band 41 16QAM Bandwidth = 10MHz CH41540 Occupied Bandwidth





LTE Band 41 QPSK Bandwidth = 15MHz CH39725 Occupied Bandwidth



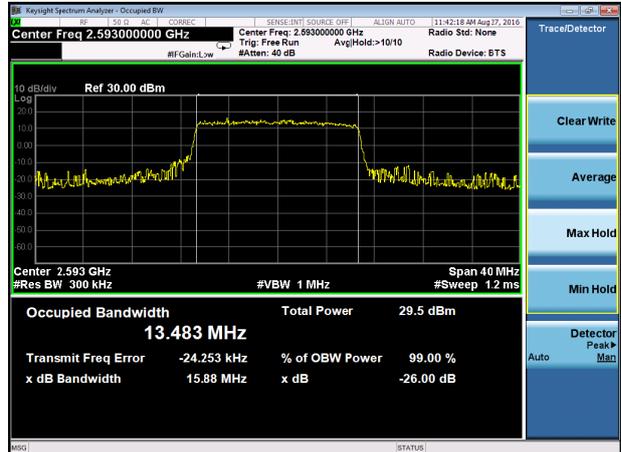
LTE Band 41 16QAM Bandwidth = 15MHz CH39725 Occupied Bandwidth



LTE Band 41 QPSK Bandwidth = 15MHz CH40620 Occupied Bandwidth



LTE Band 41 16QAM Bandwidth = 15MHz CH40620 Occupied Bandwidth



LTE Band 41 QPSK Bandwidth = 15MHz CH41515 Occupied Bandwidth

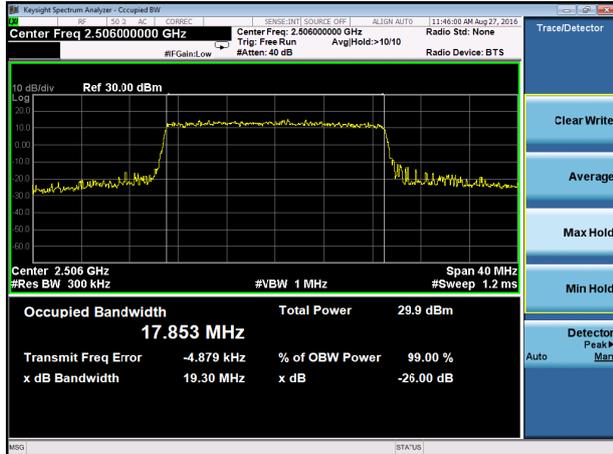


LTE Band 41 16QAM Bandwidth = 15MHz CH41515 Occupied Bandwidth

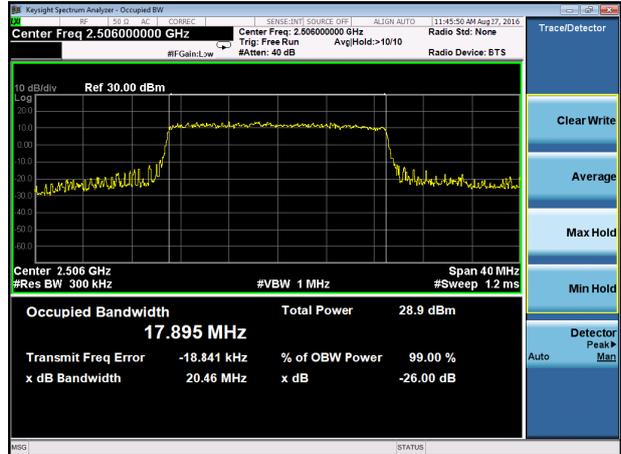




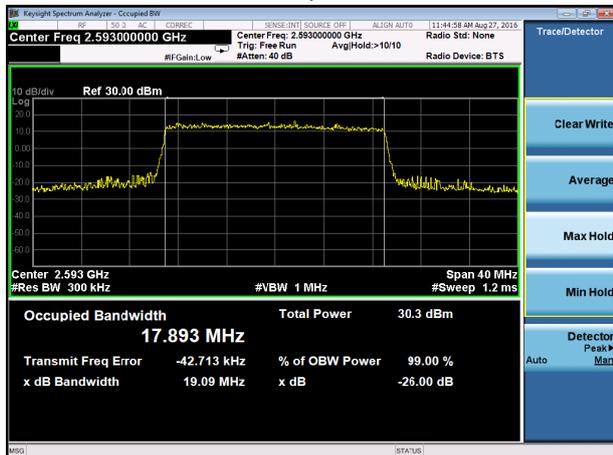
LTE Band 41 QPSK Bandwidth = 20MHz CH39750 Occupied Bandwidth



LTE Band 41 16QAM Bandwidth = 20MHz CH39750 Occupied Bandwidth



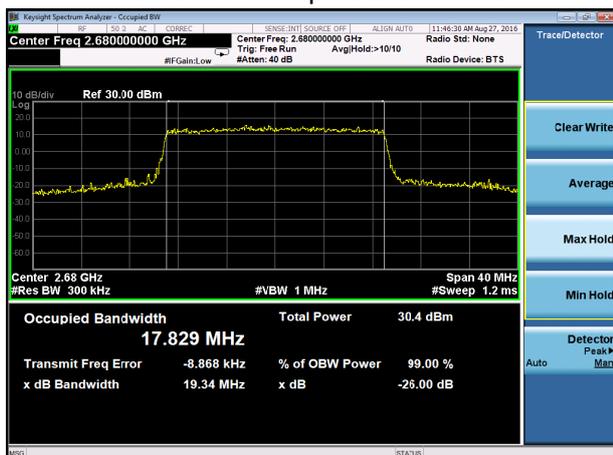
LTE Band 41 QPSK Bandwidth = 20MHz CH40620 Occupied Bandwidth



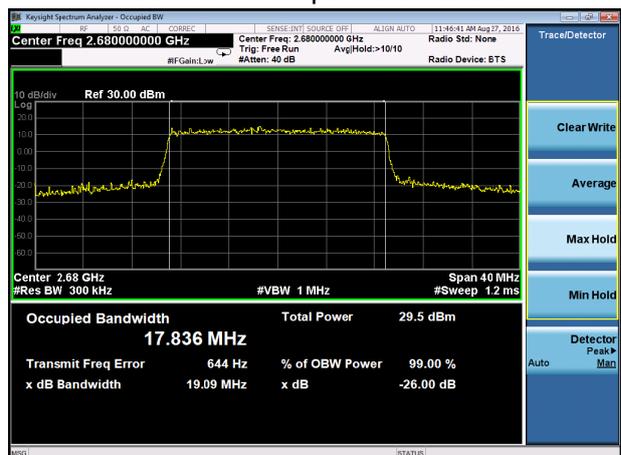
LTE Band 41 16QAM Bandwidth = 20MHz CH40620 Occupied Bandwidth



LTE Band 41 QPSK Bandwidth = 20MHz CH41490 Occupied Bandwidth



LTE Band 41 16QAM Bandwidth = 20MHz CH41490 Occupied Bandwidth



4.4 Band Edge Compliance

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

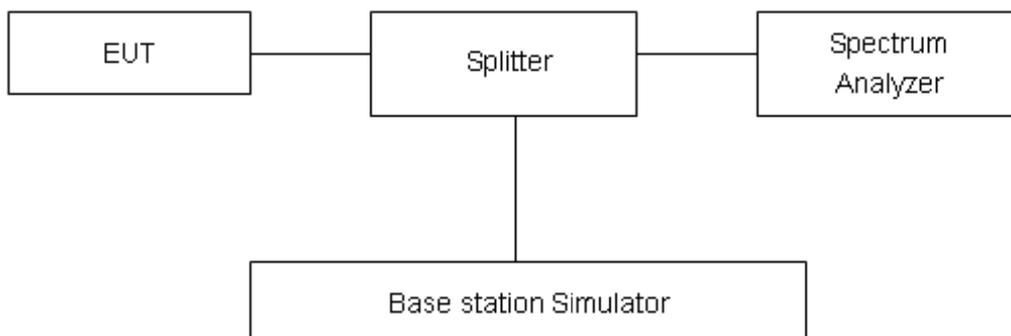
Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The band edge of the lowest and highest channels were measured.

The testing follows KDB 971168 v02r02 Section 6.0

- 1.The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
3. For LTE Band 41 Set RBW \geq 1% EBW in the 1MHz band immediately outside and adjacent to the band edge. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
RBW is set to 51 kHz, VBW is set to 160 kHz for WCDMA Band IV.
RBW is set to 15 kHz, VBW is set to 51 kHz for LTE Band 4/12 (1.4MHz).
RBW is set to 30 kHz, VBW is set to 100 kHz for LTE Band 4/12 (3MHz).
RBW is set to 51 kHz, VBW is set to 160 kHz for LTE Band 4/12/17 (5MHz).
RBW is set to 100 kHz, VBW is set to 300kHz for LTE Band 4/12/17 (10MHz).
RBW is set to 150 kHz, VBW is set to 510 kHz for LTE Band 4 (15MHz).
RBW is set to 200 kHz, VBW is set to 620 kHz for LTE Band 4 (20MHz) on spectrum analyzer.
4. Set spectrum analyzer with RMS detector.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. Checked that all the results comply with the emission limit line.

Test Setup



Limits

Rule Part 27.53(h)/ specifies that “ for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB”

Part 27.53(g) specifies that “ For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log_{10} (P)$ dB.”

Part 27.53(m) (4)/ specifies that “for BRS and EBS stations.

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)(4) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ 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.

Example:

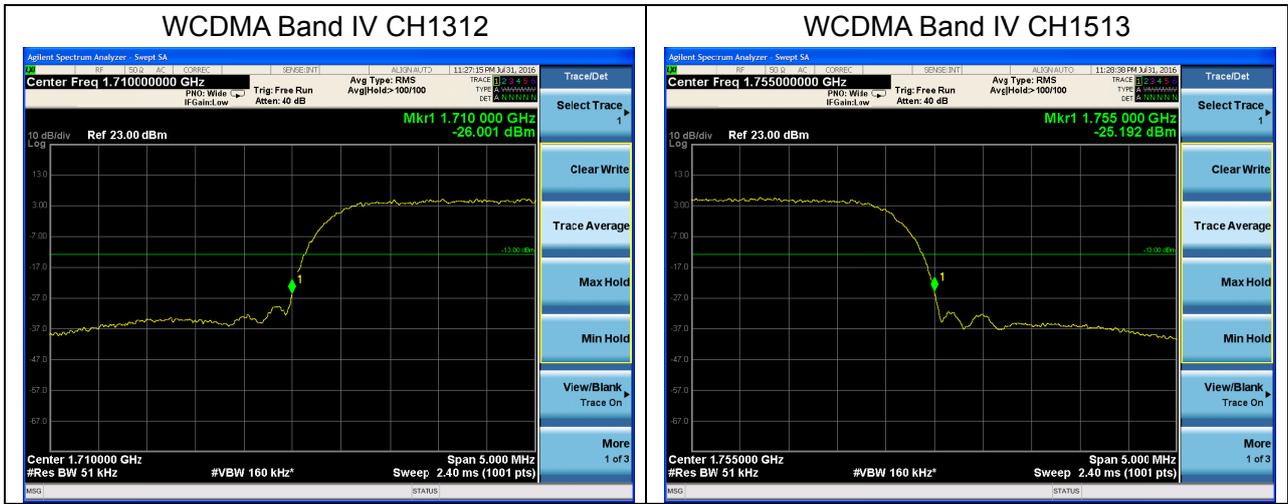
The limit line is derived from $43 + 10 \log (P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10 \log(P)]$ (dB)
 $= [30 + 10 \log (P)]$ (dBm) - $[43 + 10 \log(P)]$ (dB) = -13dBm.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$, $U=0.684$ dB.

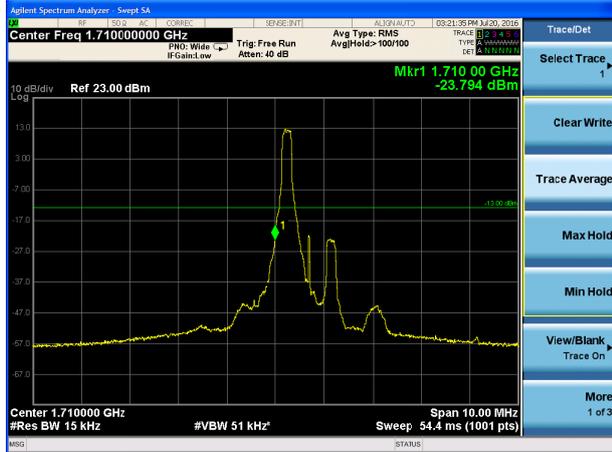
Test Result

All the test traces in the plots shows the test results clearly.





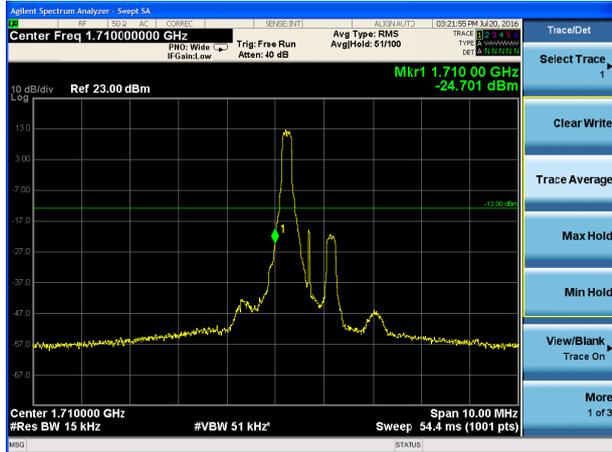
LTE Band 4 QPSK Bandwidth = 1.4MHz
CH19957, RB 1



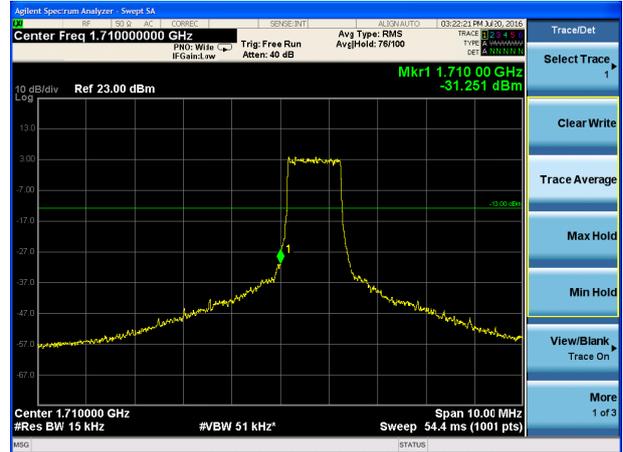
LTE Band 4 QPSK Bandwidth = 1.4MHz
CH19957, RB 6



LTE Band 4 16QAM Bandwidth = 1.4MHz
CH19957, RB 1



LTE Band 4 16QAM Bandwidth = 1.4MHz
CH19957, RB 6



LTE Band 4 QPSK Bandwidth = 1.4MHz
CH20393, RB 1

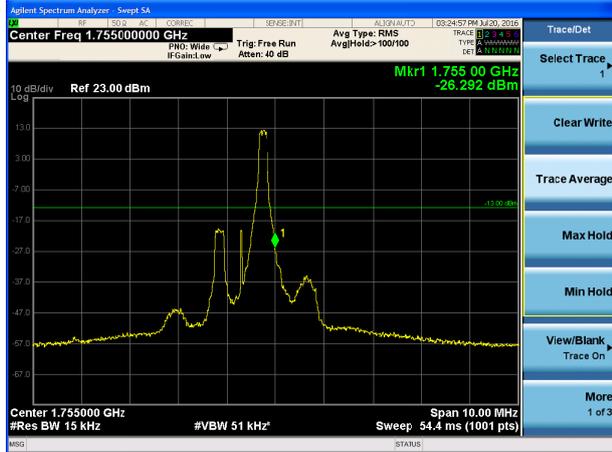


LTE Band 4 QPSK Bandwidth = 1.4MHz
CH20393, RB 6

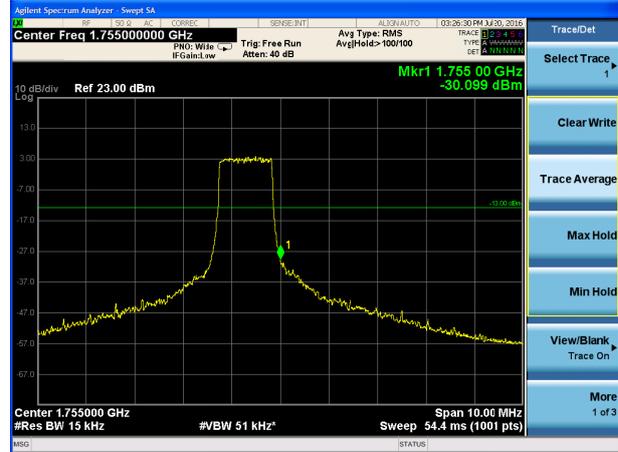




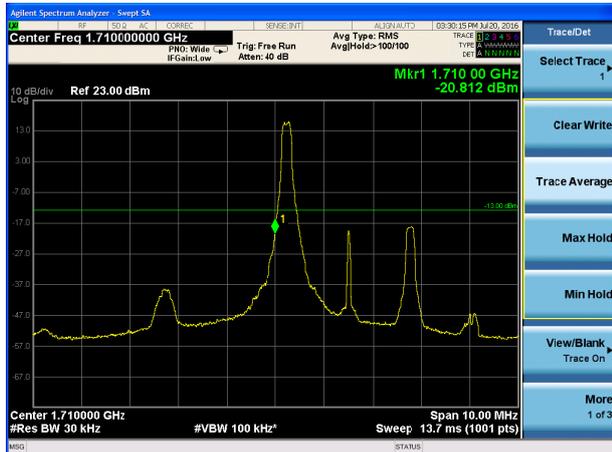
LTE Band 4 16QAM Bandwidth = 1.4MHz
CH20393, RB 1



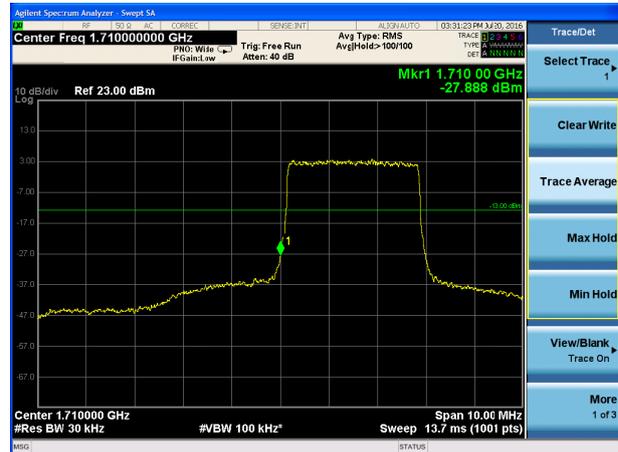
LTE Band 4 16QAM Bandwidth = 1.4MHz
CH20393, RB 6



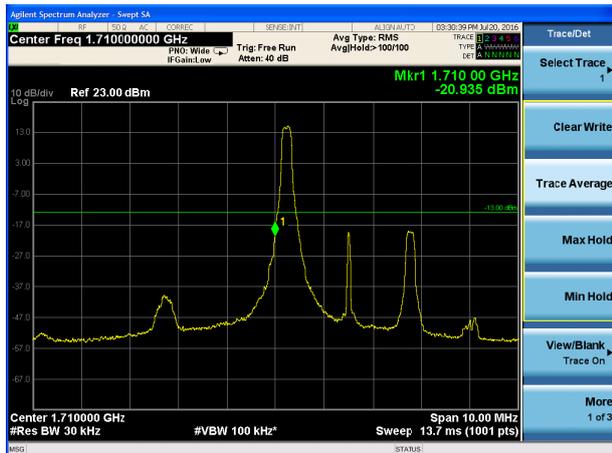
LTE Band 4 QPSK Bandwidth = 3MHz CH19965,
RB 1



LTE Band 4 QPSK Bandwidth = 3MHz CH19965,
RB 15



LTE Band 4 16QAM Bandwidth = 3MHz
CH19965, RB 1

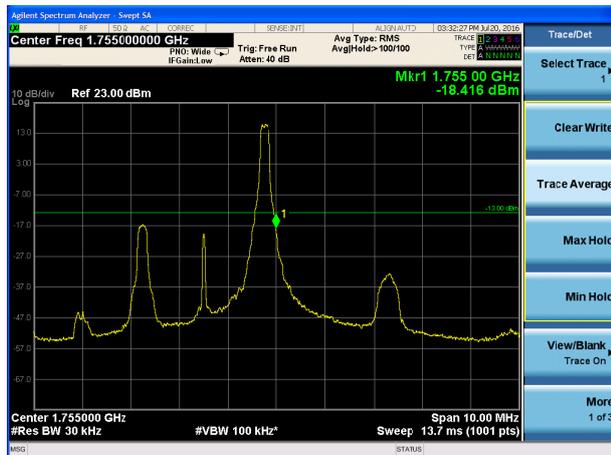


LTE Band 4 16QAM Bandwidth = 3MHz
CH19965, RB 15



LTE Band 4 QPSK Bandwidth = 3MHz CH20385,

RB 1

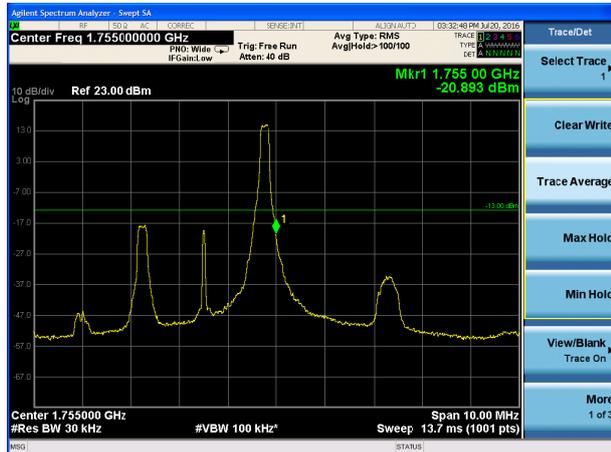


LTE Band 4 QPSK Bandwidth = 3MHz CH20385,

RB 15



LTE Band 4 16QAM Bandwidth = 3MHz
CH20385, RB 1

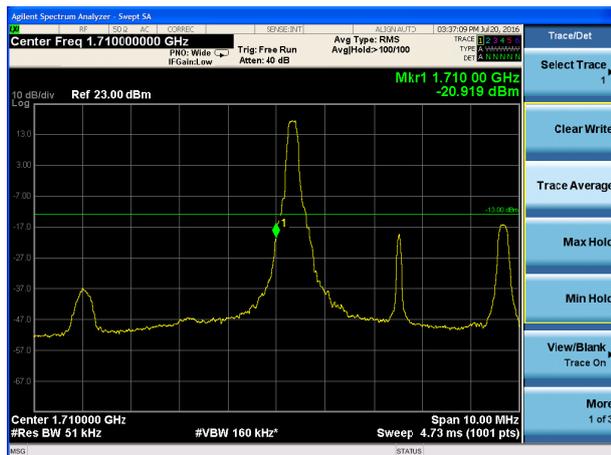


LTE Band 4 16QAM Bandwidth = 3MHz
CH20385, RB 15



LTE Band 4 QPSK Bandwidth = 5MHz CH19975,

RB 1



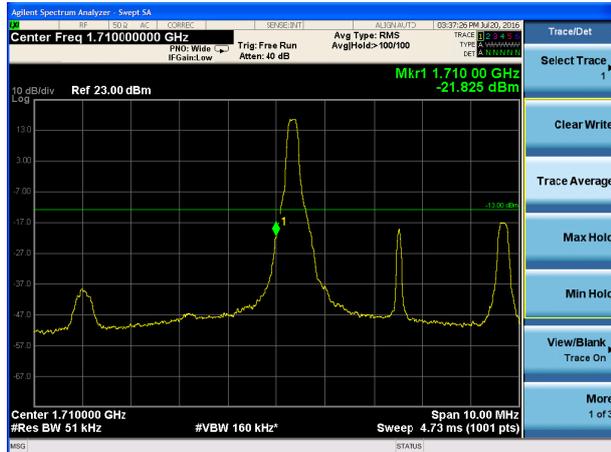
LTE Band 4 QPSK Bandwidth = 5MHz CH19975,

RB 25





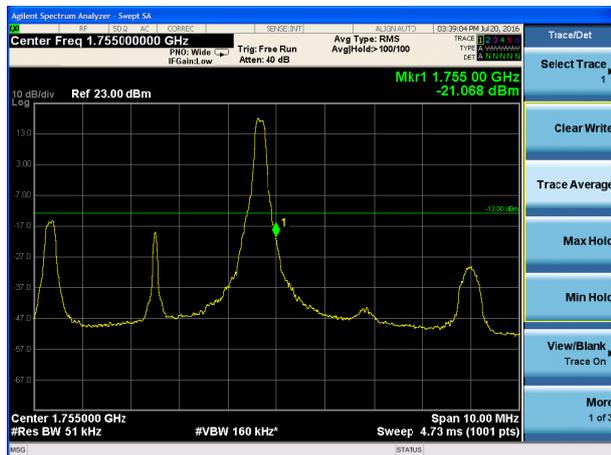
LTE Band 4 16QAM Bandwidth = 5MHz
CH19975, RB 1



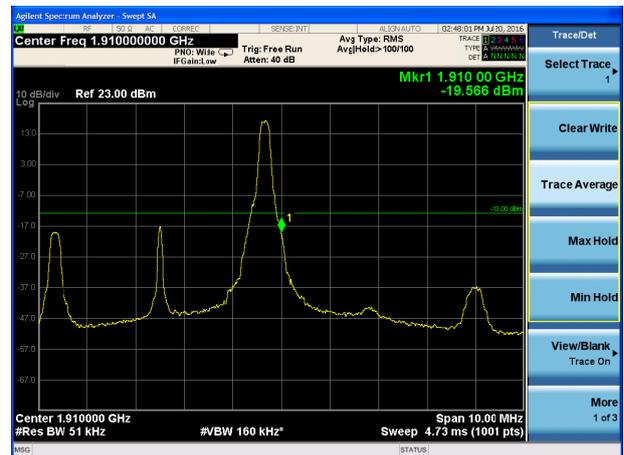
LTE Band 4 16QAM Bandwidth = 5MHz
CH19975, RB 25



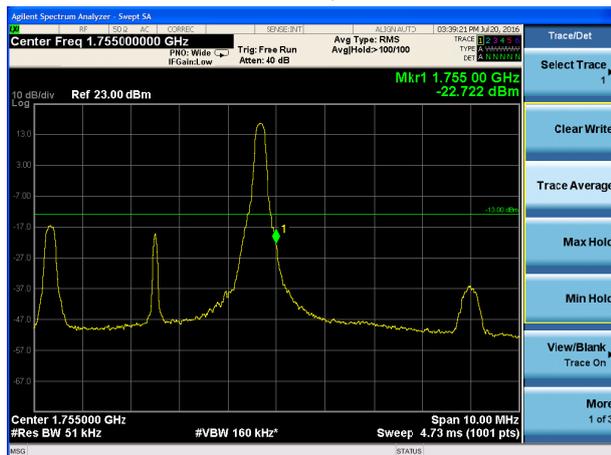
LTE Band 4 QPSK Bandwidth = 5MHz CH20375,
RB 1



LTE Band 4 QPSK Bandwidth = 5MHz CH20375,
RB 25



LTE Band 4 16QAM Bandwidth = 5MHz
CH20375, RB 1

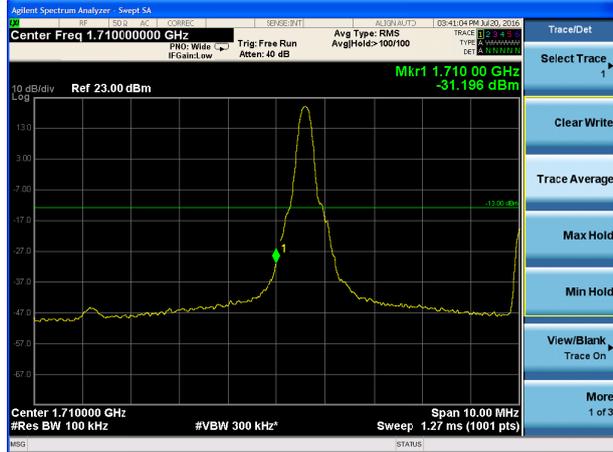


LTE Band 4 16QAM Bandwidth = 5MHz
CH20375, RB 25

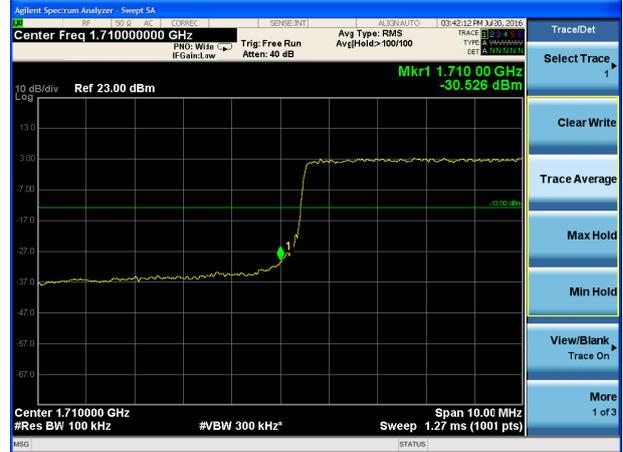




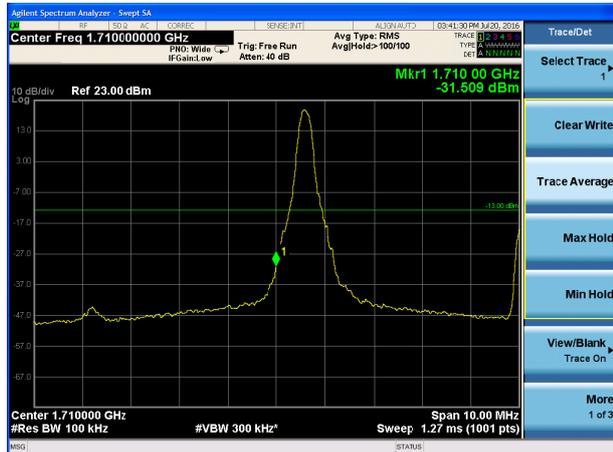
LTE Band 4 QPSK Bandwidth = 10MHz
CH20000, RB 1



LTE Band 4 QPSK Bandwidth = 10MHz
CH20000, RB 50



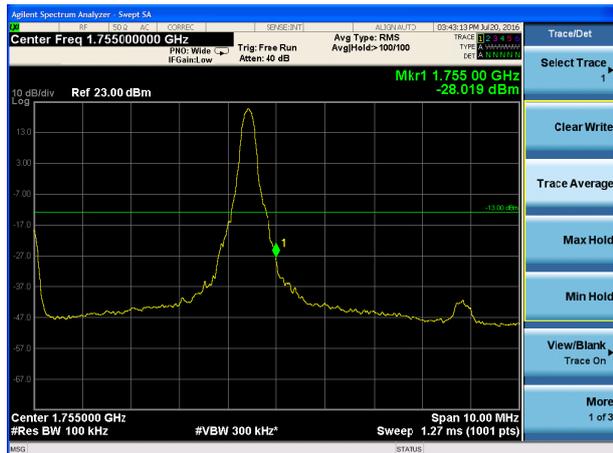
LTE Band 4 16QAM Bandwidth = 10MHz
CH20000, RB 1



LTE Band 4 16QAM Bandwidth = 10MHz
CH20000, RB 50



LTE Band 4 QPSK Bandwidth = 10MHz
CH20350, RB 1



LTE Band 4 QPSK Bandwidth = 10MHz
CH20350, RB 50

