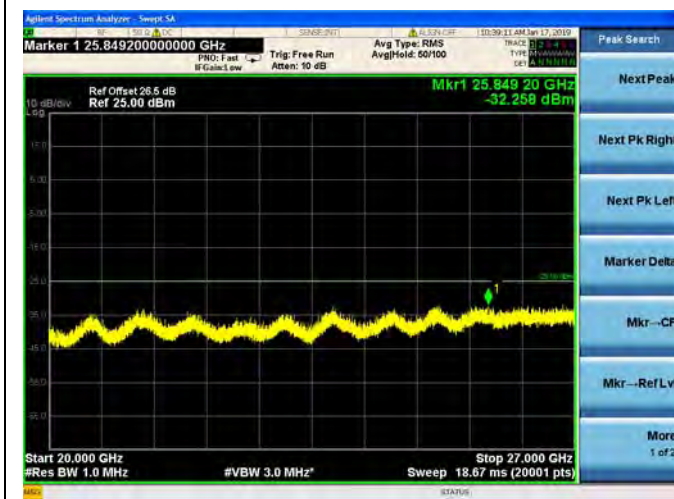
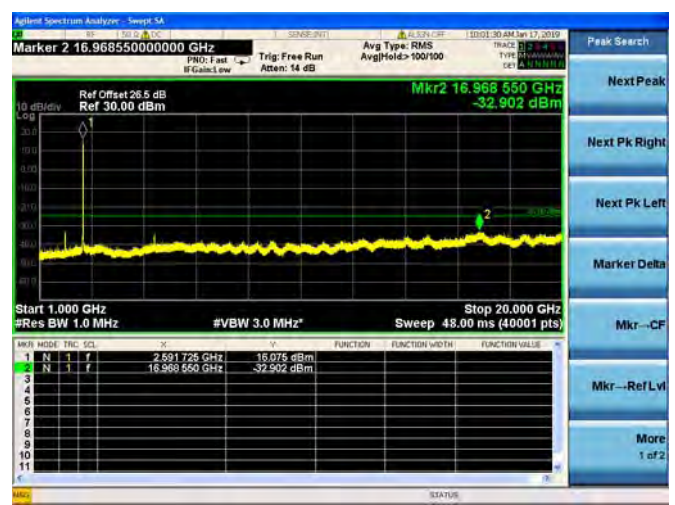
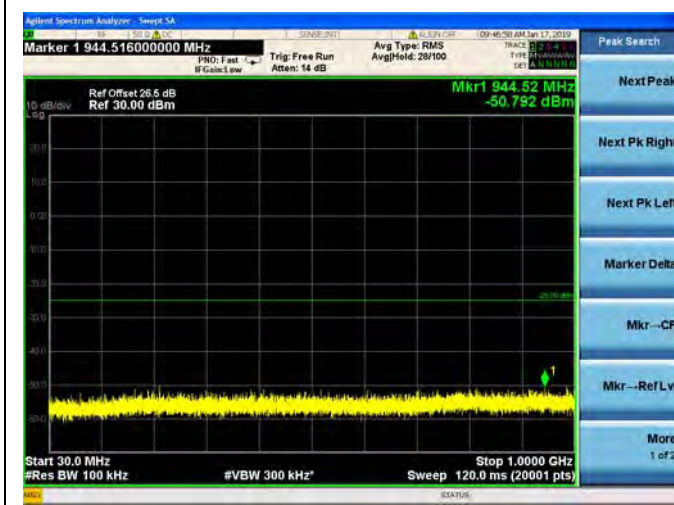




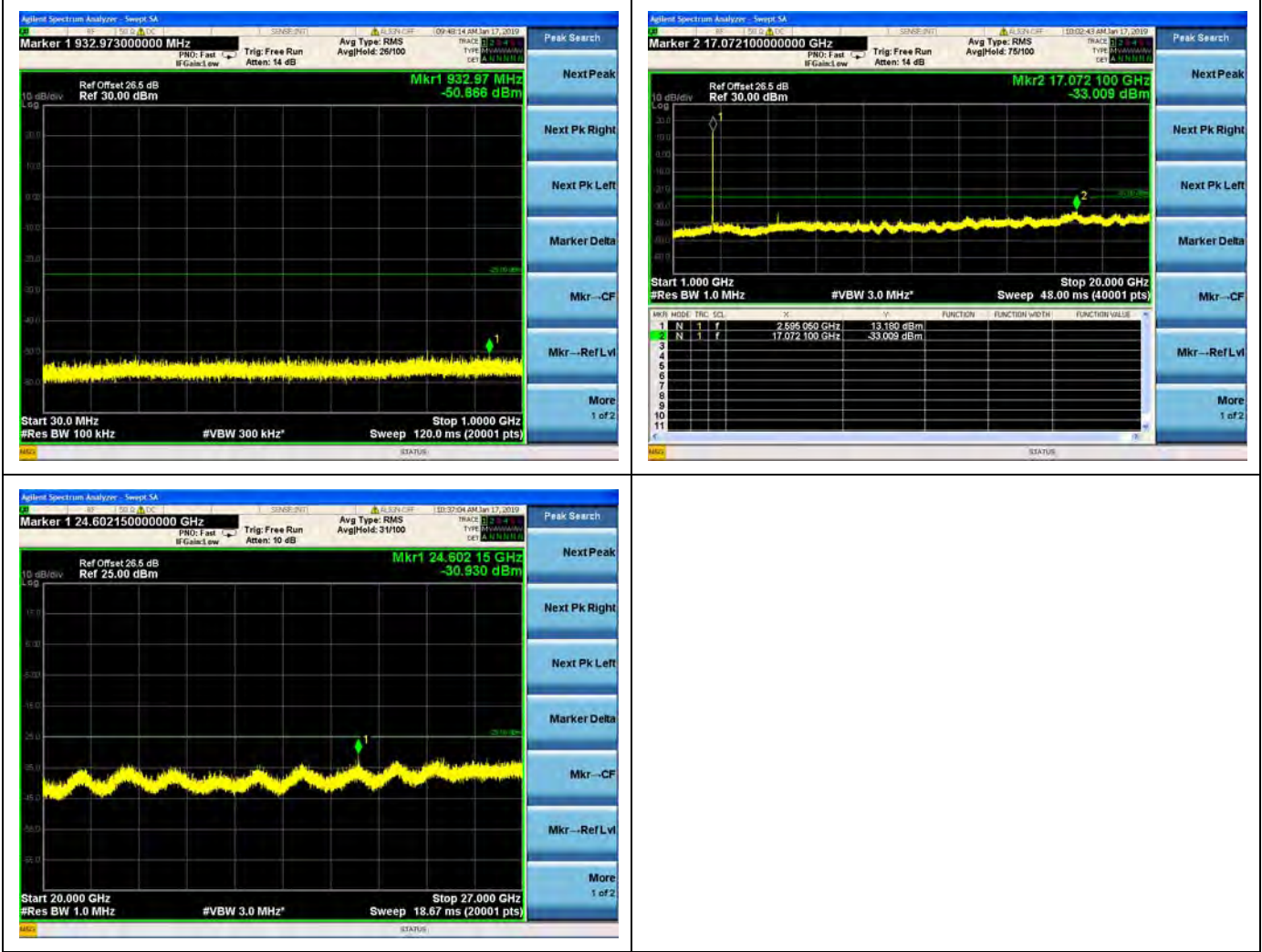
LTE Band 41 15MHz BW Mid Channel

QPSK



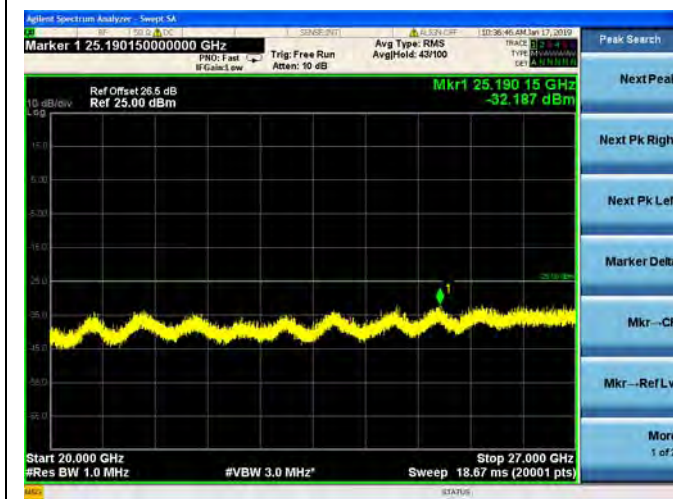
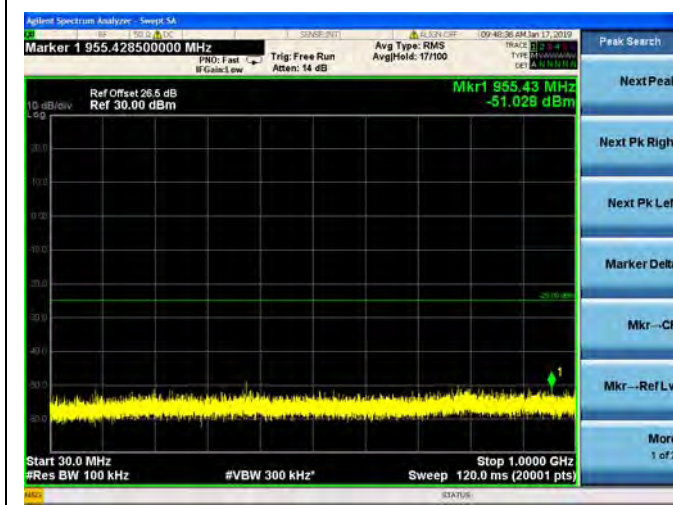


LTE Band 41 15MHz BW Mid Channel
16QAM





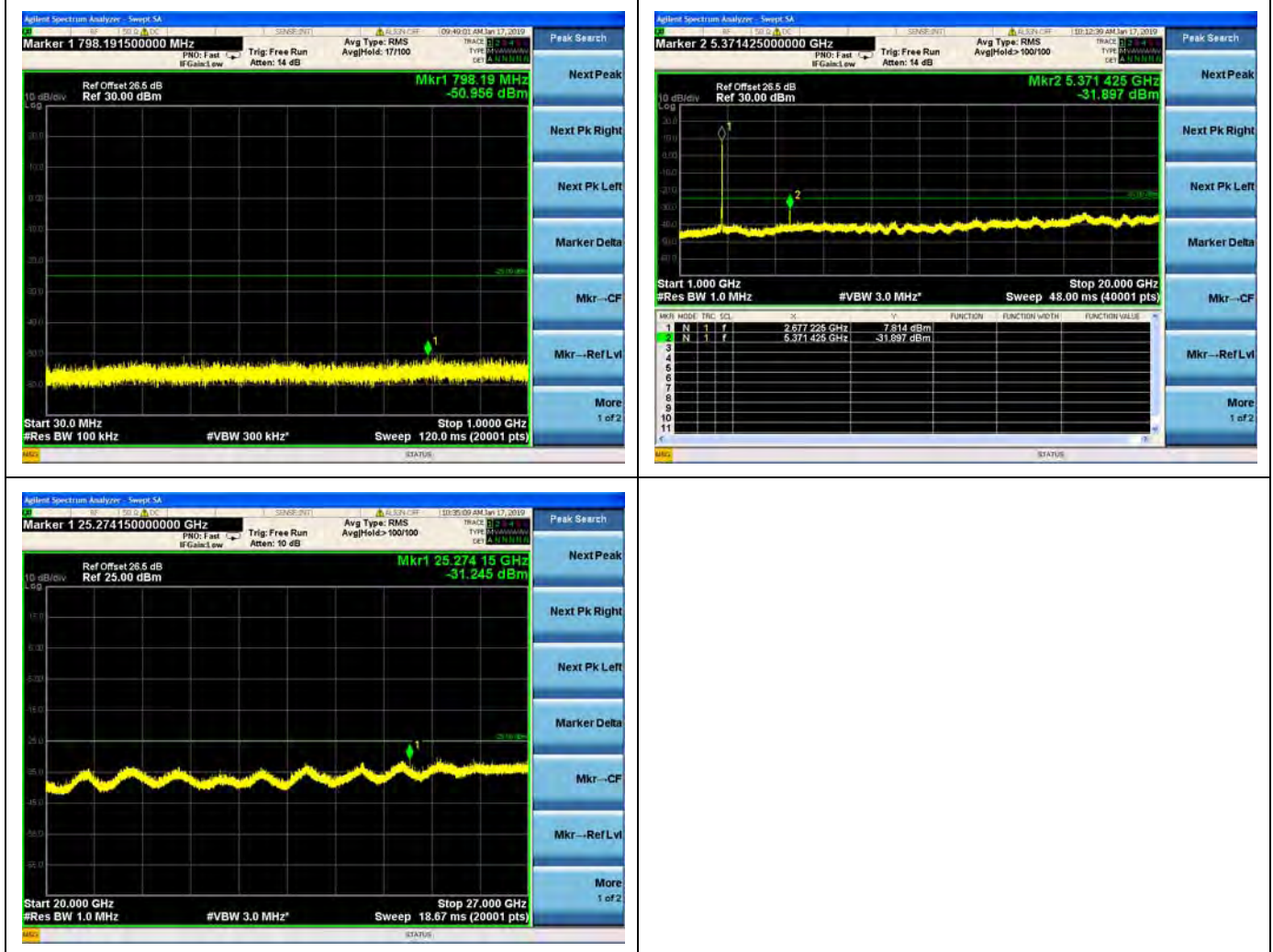
LTE Band 41 15MHz BW Mid Channel
64QAM





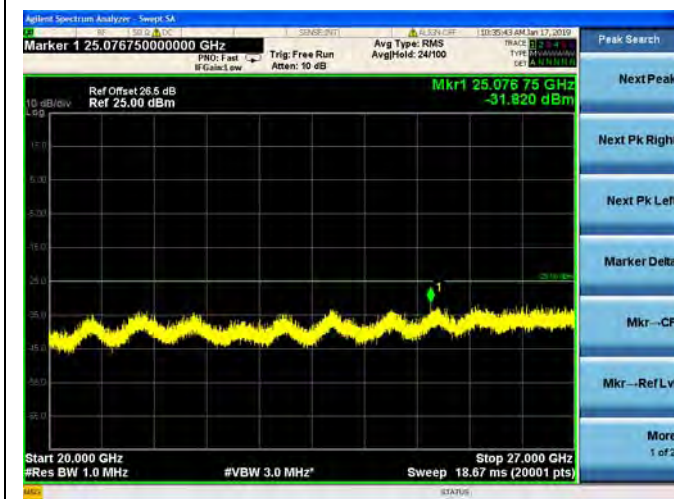
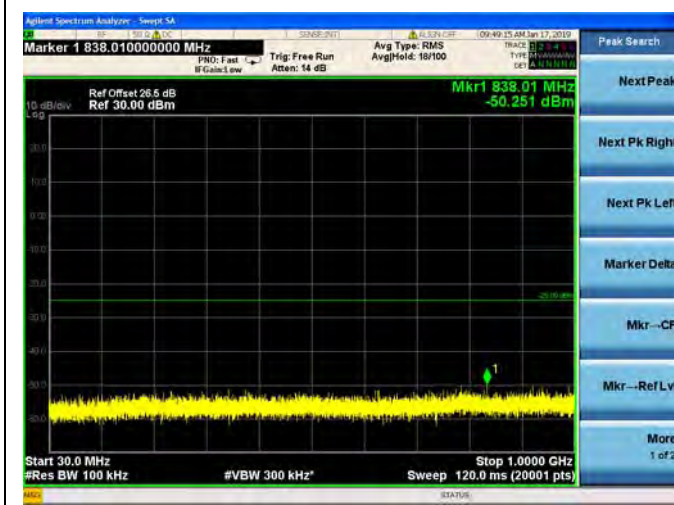
LTE Band 41 15MHz BW High Channel

QPSK



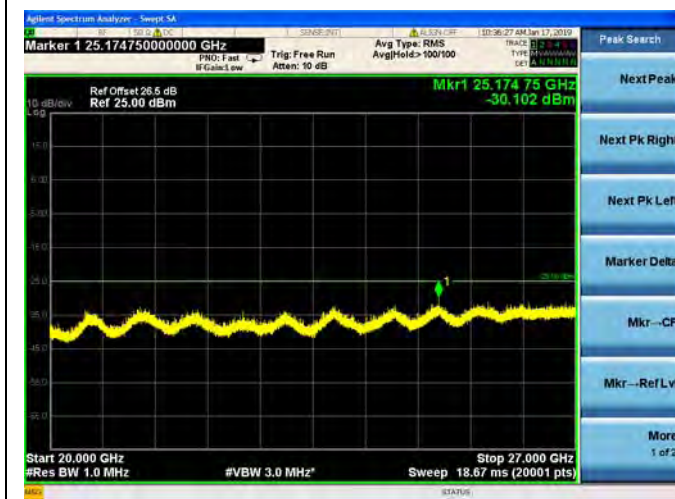
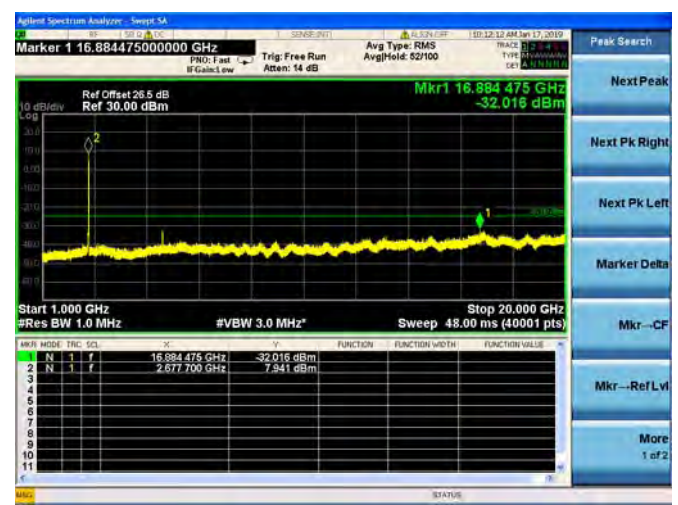
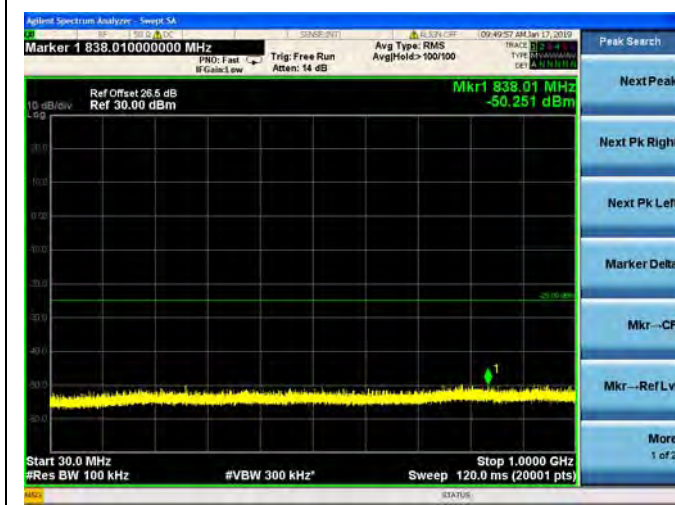


LTE Band 41 15MHz BW High Channel
16QAM





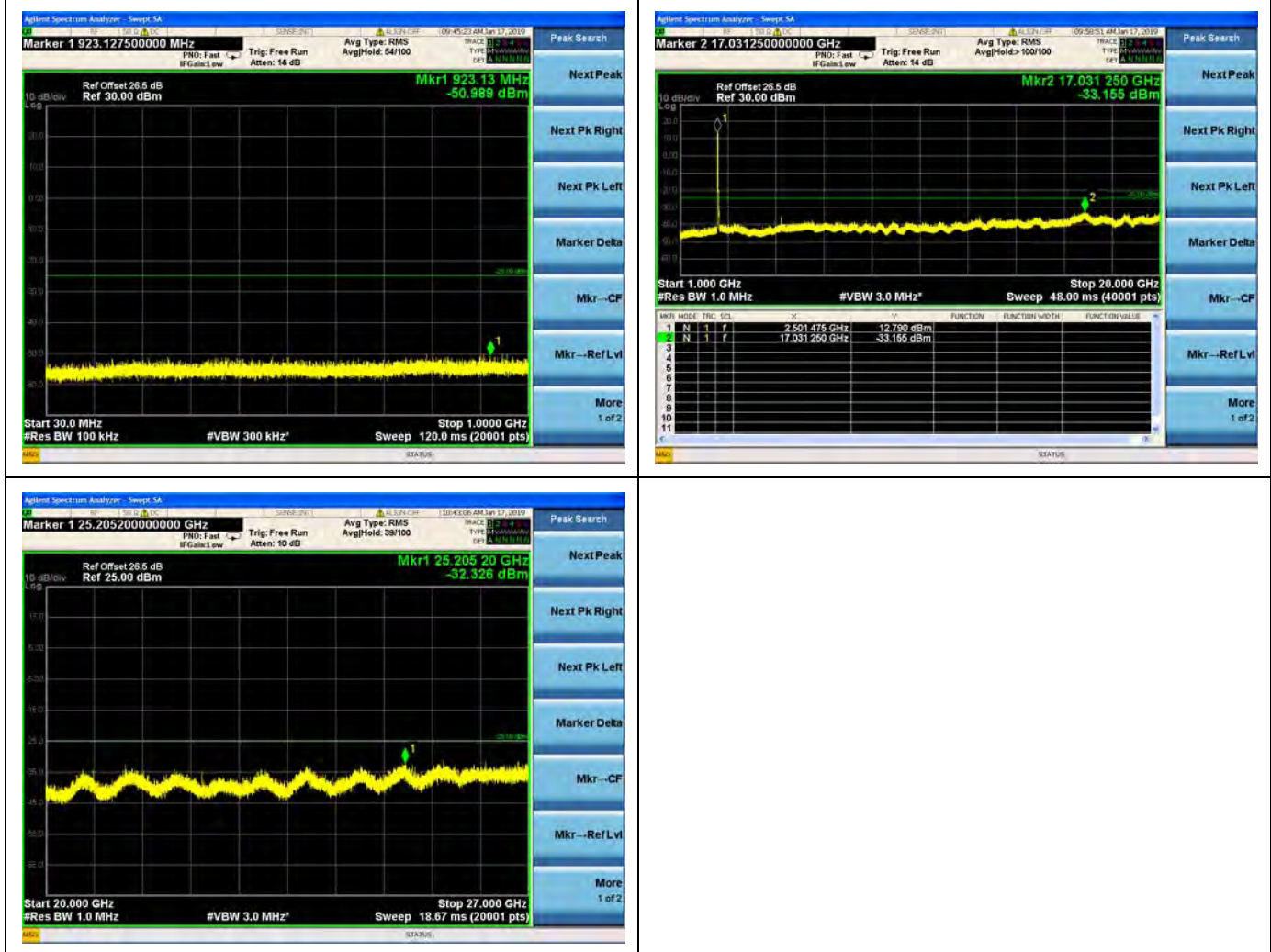
LTE Band 41 15MHz BW High Channel
64QAM





LTE Band 41 20MHz BW Low Channel

QPSK





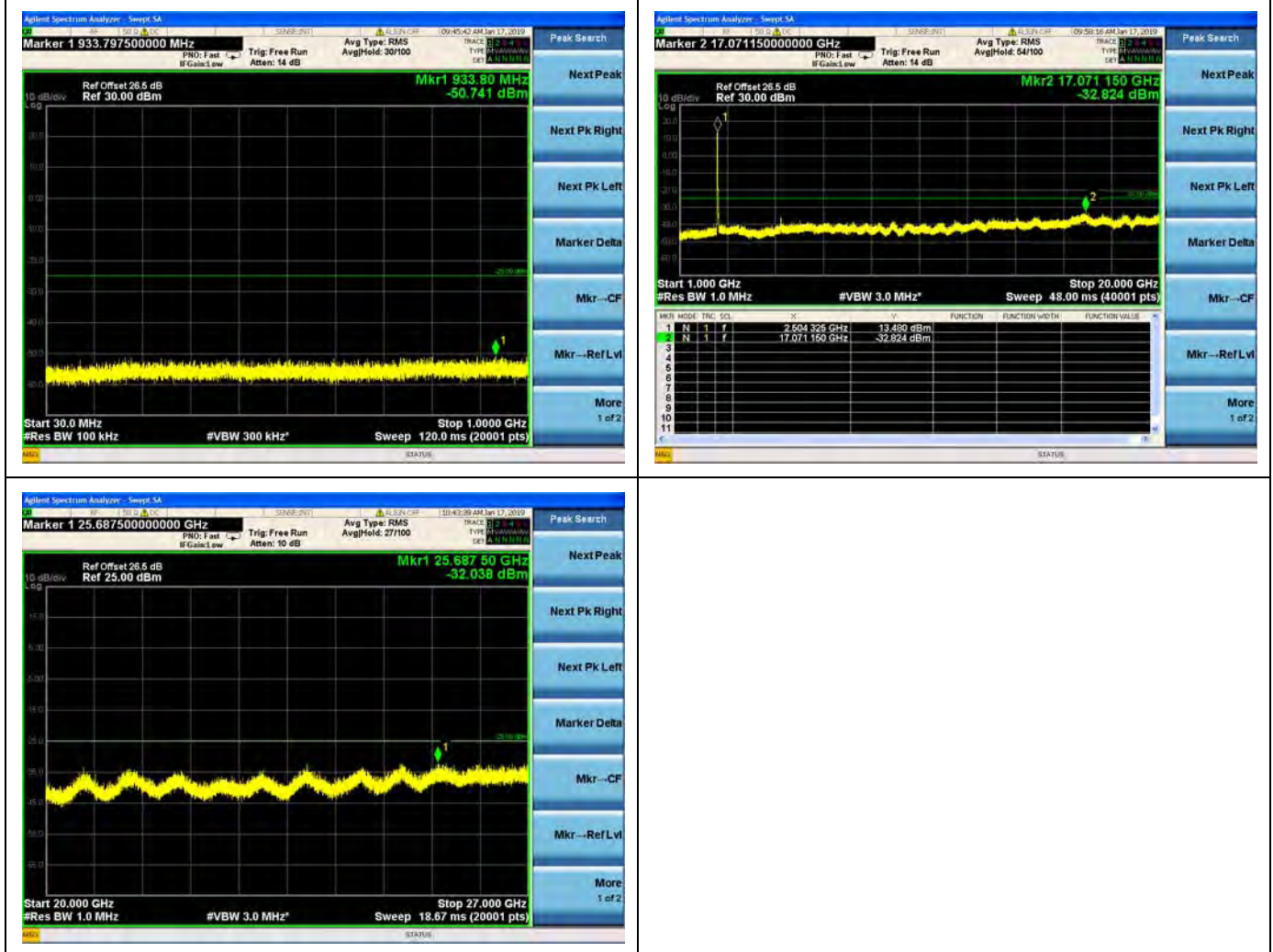
LTE Band 41 20MHz BW Low Channel
16QAM





LTE Band 41 20MHz BW Low Channel

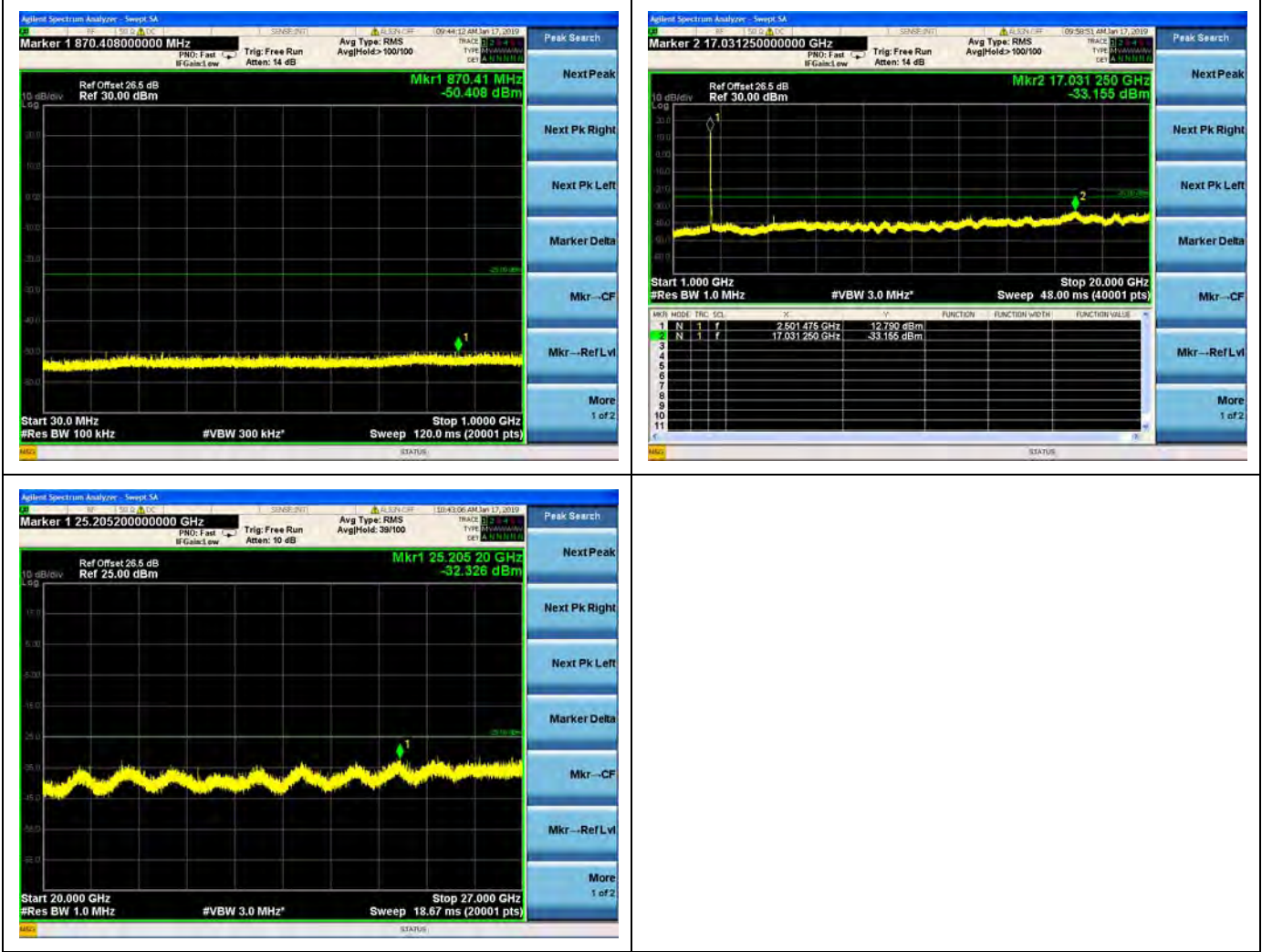
64QAM





LTE Band 41 20MHz BW Mid Channel

QPSK

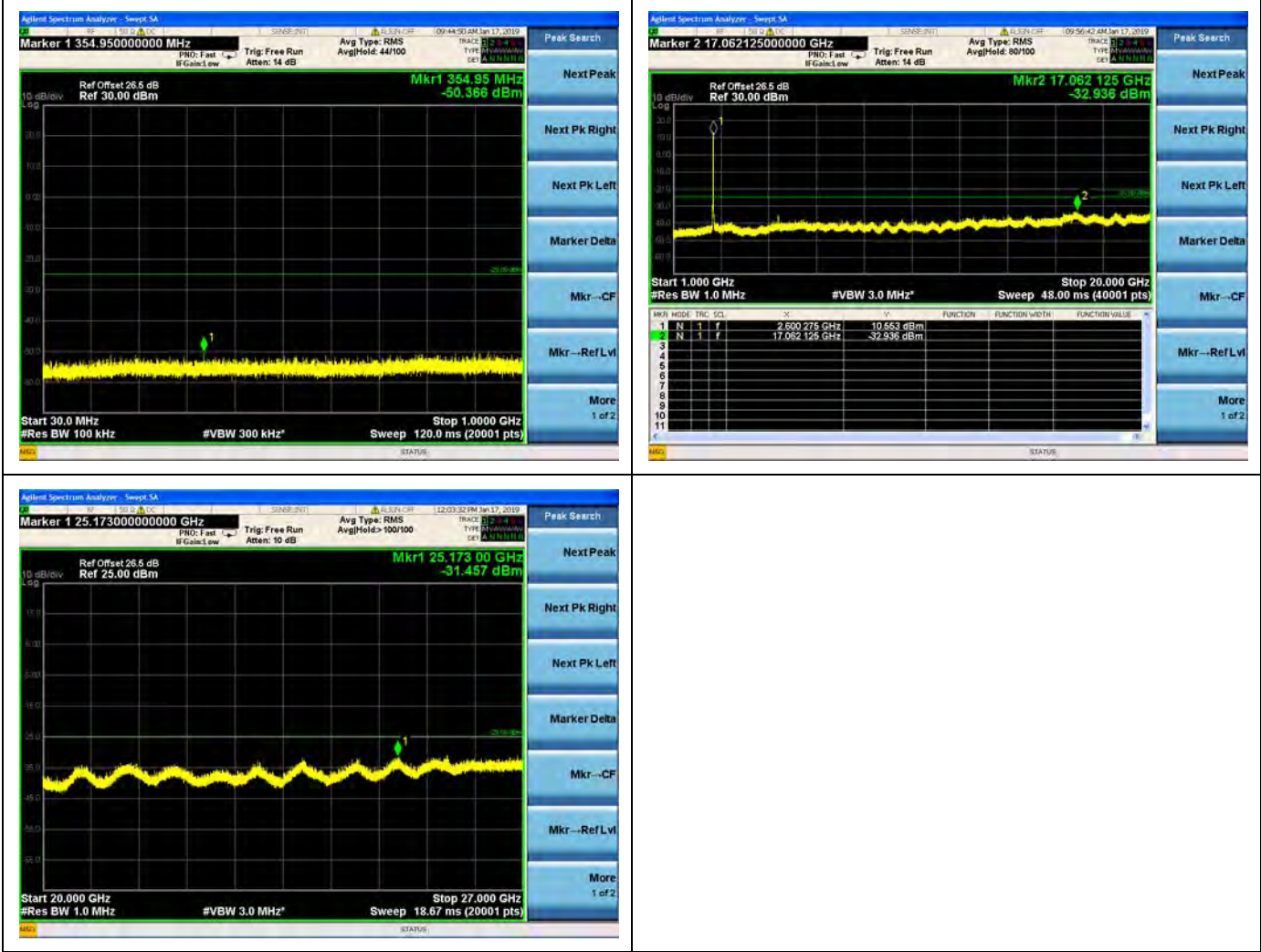




The screenshot displays the Agilent Spectrum Analyzer interface. The main display shows a spectrum plot with a yellow signal trace. A peak marker is placed on the signal, labeled 'Mkr1 25.698 35 GHz -31.212 dBm'. The plot has a grid with frequency on the horizontal axis and power in dBm on the vertical axis. The top status bar shows the current frequency 'Marker 1 25.698350000000 GHz' and other parameters like 'PWR: 1 mW', 'Trig: Free Run', 'Avg Type: RMS', and 'Avg Hold: 100/100'. The bottom status bar shows the frequency range 'Start 20.000 GHz' to 'Stop 27.000 GHz' and the resolution bandwidth 'Res BW 1.0 MHz'. The right-hand side of the interface features a 'Peak Search' menu with options like 'Next Peak', 'Next Pk Right', 'Next Pk Left', 'Marker Delta', 'Mkr--CF', 'Mkr--Ref Lvl', and 'More'.



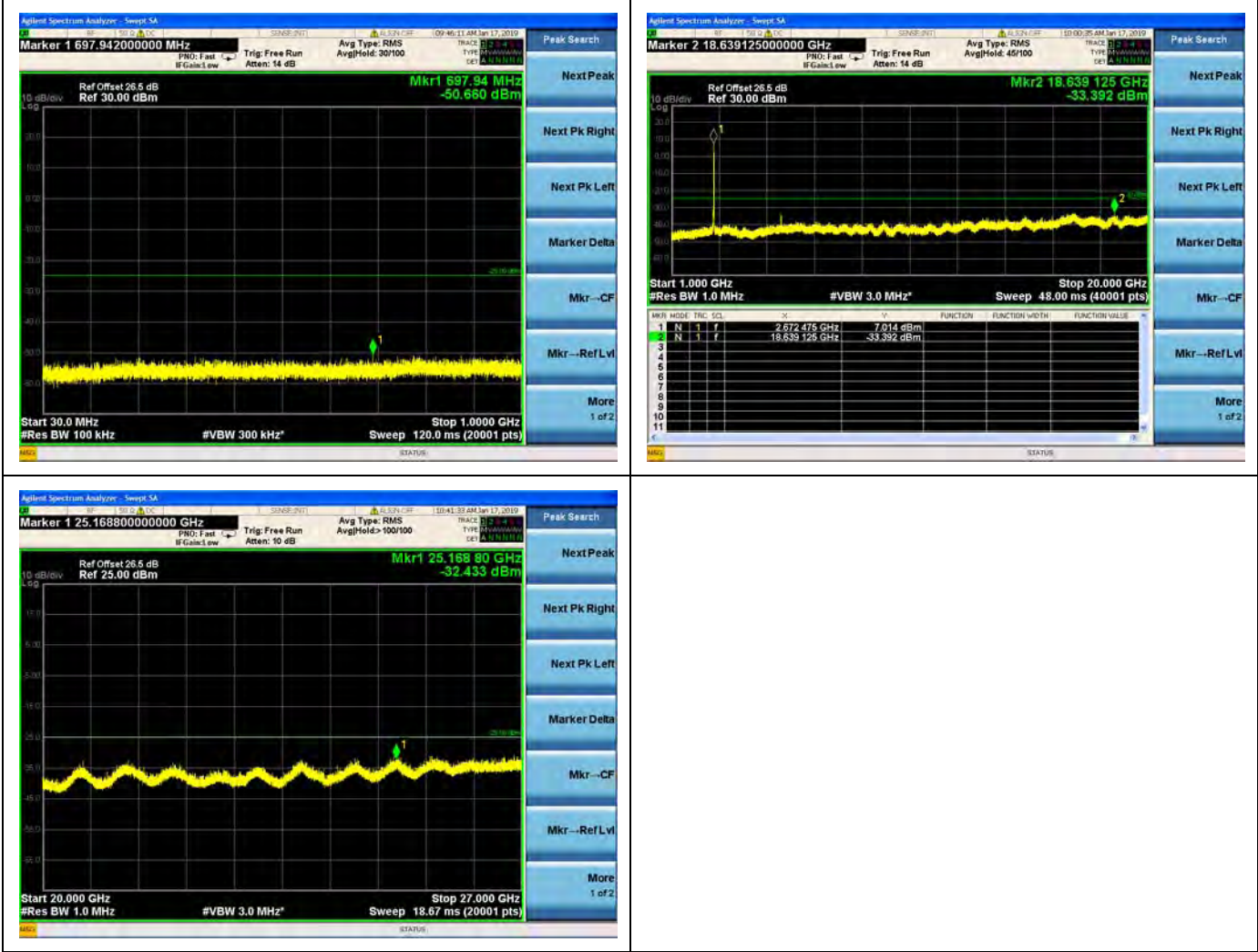
LTE Band 41 20MHz BW Mid Channel
64QAM





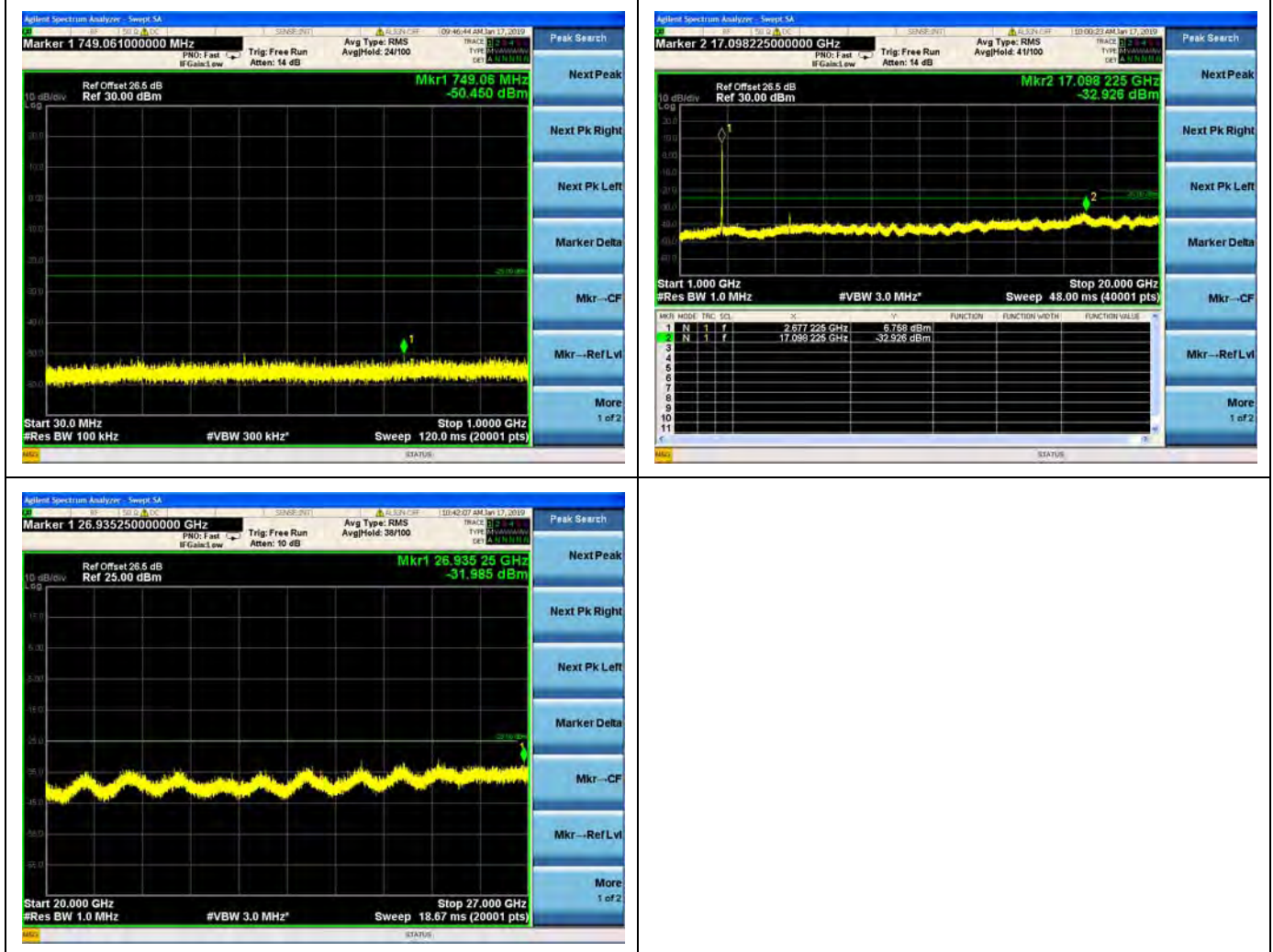
LTE Band 41 20MHz BW High Channel

QPSK



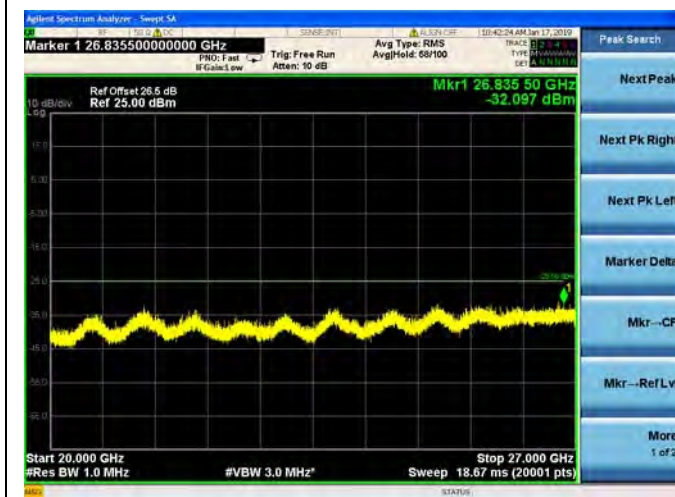
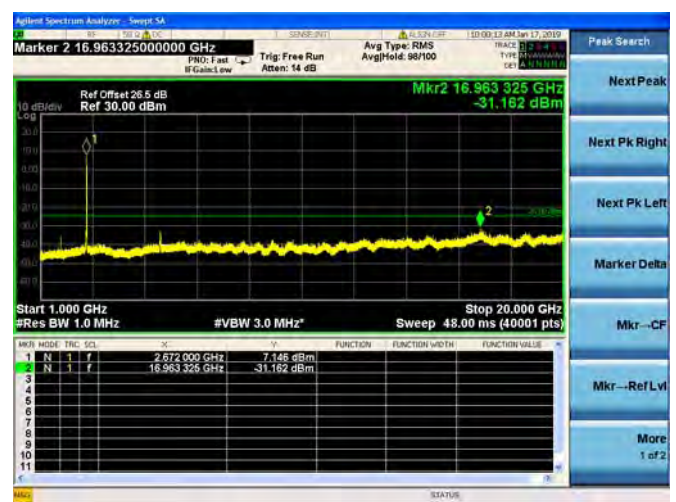
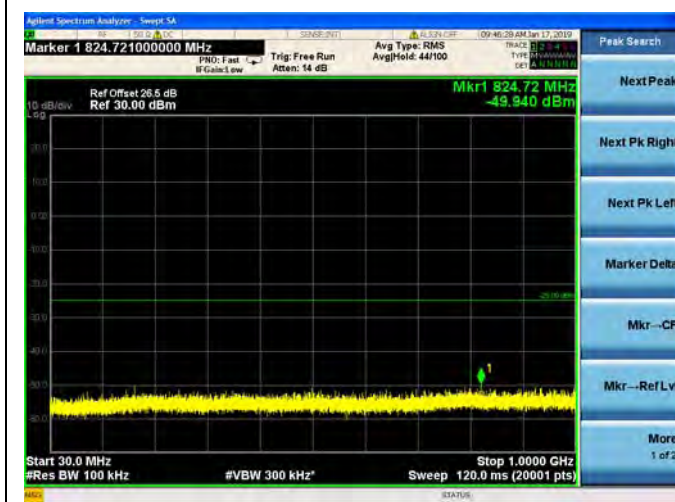


LTE Band 41 20MHz BW High Channel
16QAM





LTE Band 41 20MHz BW High Channel
64QAM





2.6. Band Edge

2.6.1. Requirement

According to FCC section 22.917(a), 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.

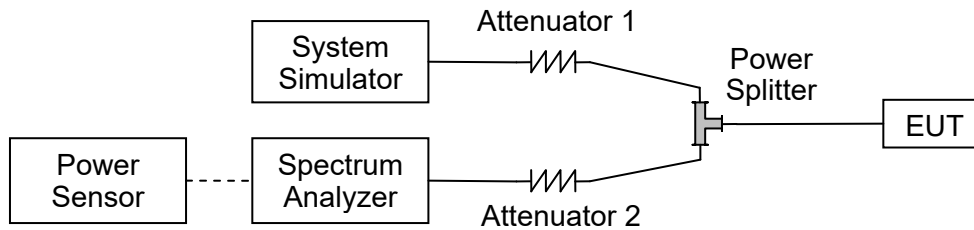
According to FCC section 24.238(a), The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

According to FCC section 27.53(g), For operations in 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.

According to FCC section 27.53(h), For operations in the 1710–1755MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB.

According to FCC section 27.53(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.

2.6.2. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.6.3. Test procedure

KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.

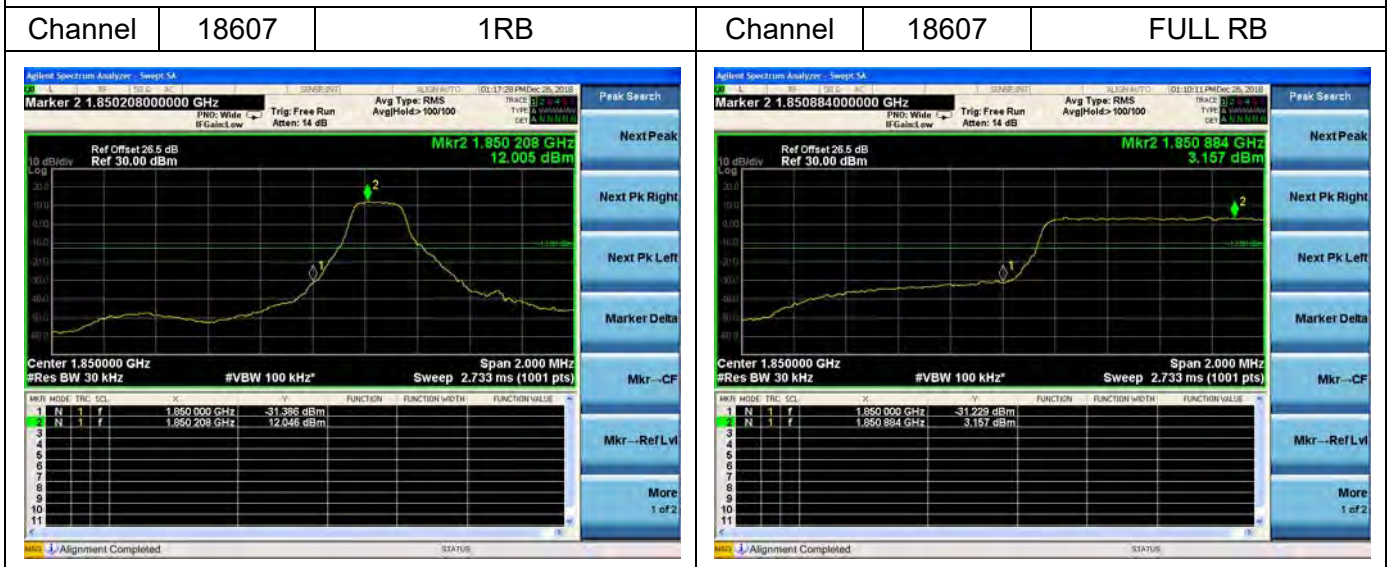


2.6.4. Test Result

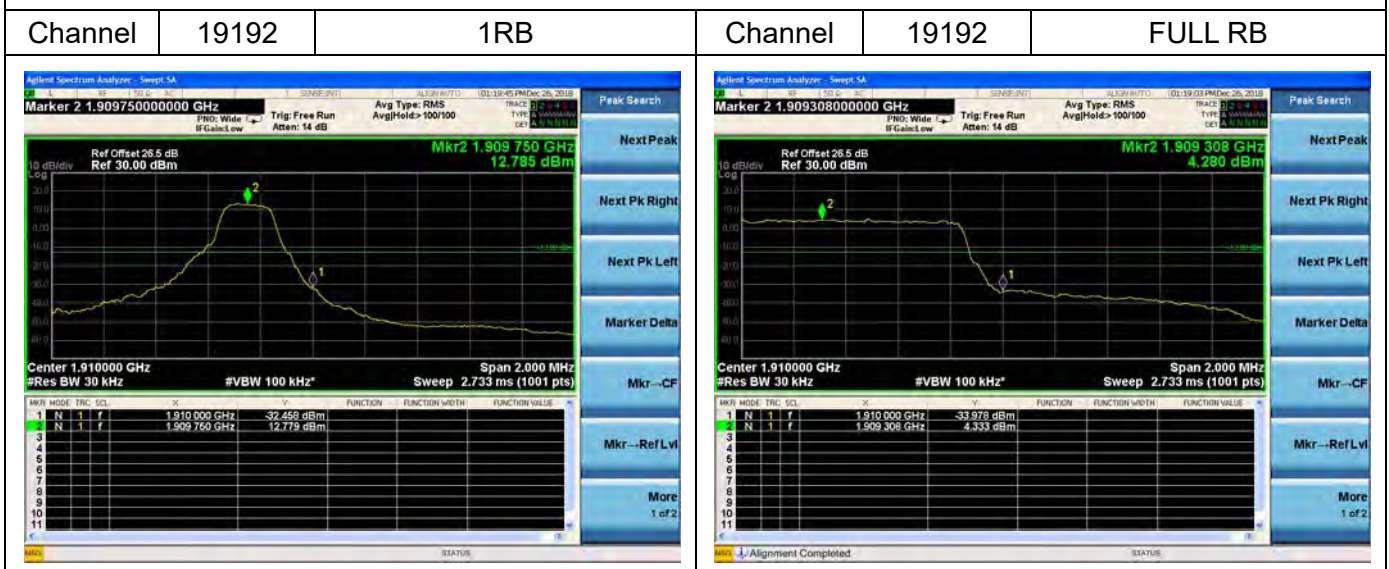
The center frequency of spectrum is the band edge frequency and span is 2MHz, Record the max trace into the test report.

LTE Band 2

Channel Bandwidth: 1.4MHz



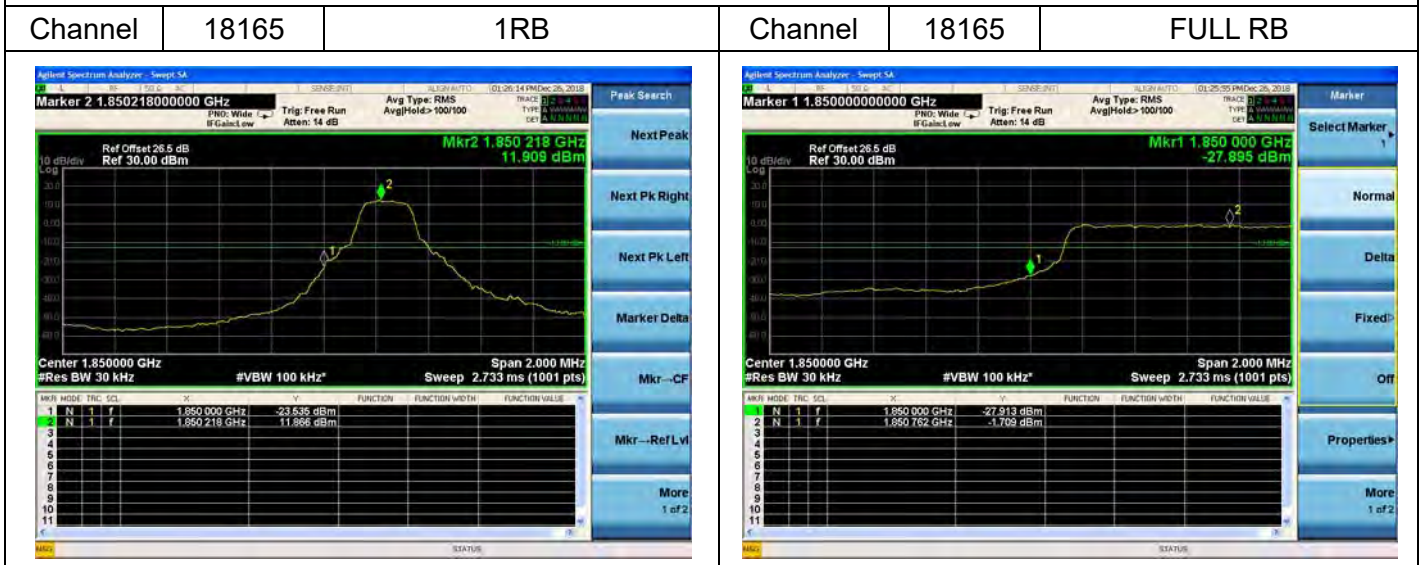
Channel Bandwidth: 1.4MHz



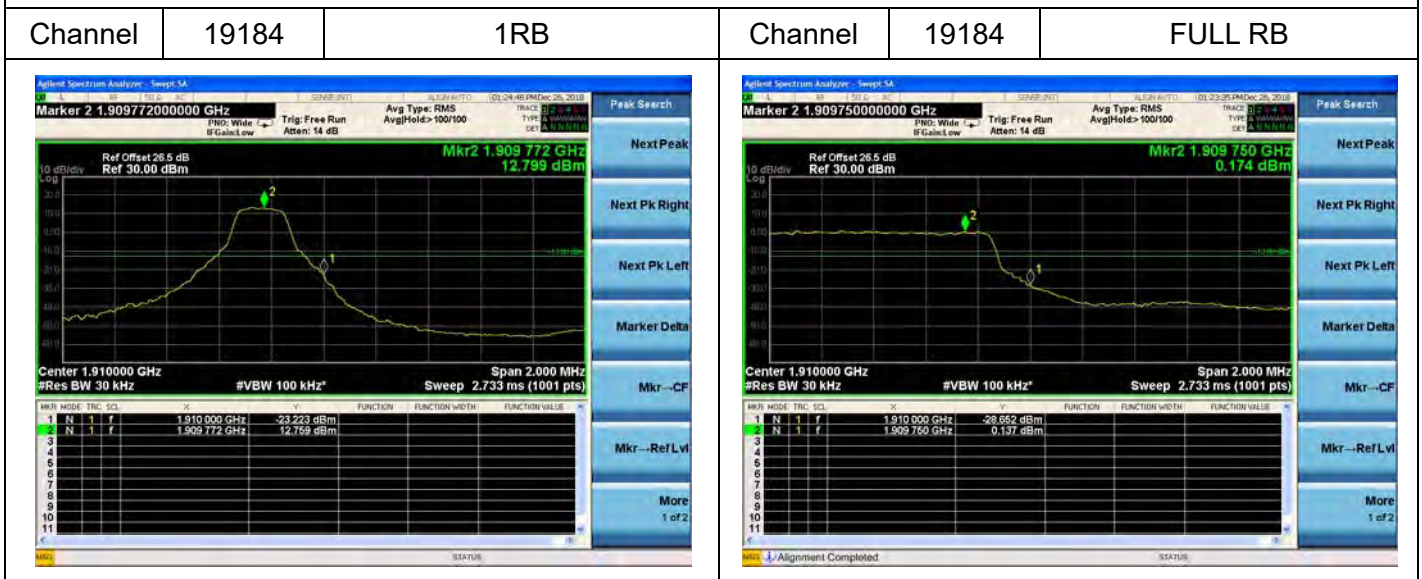


LTE Band 2

Channel Bandwidth: 3MHz



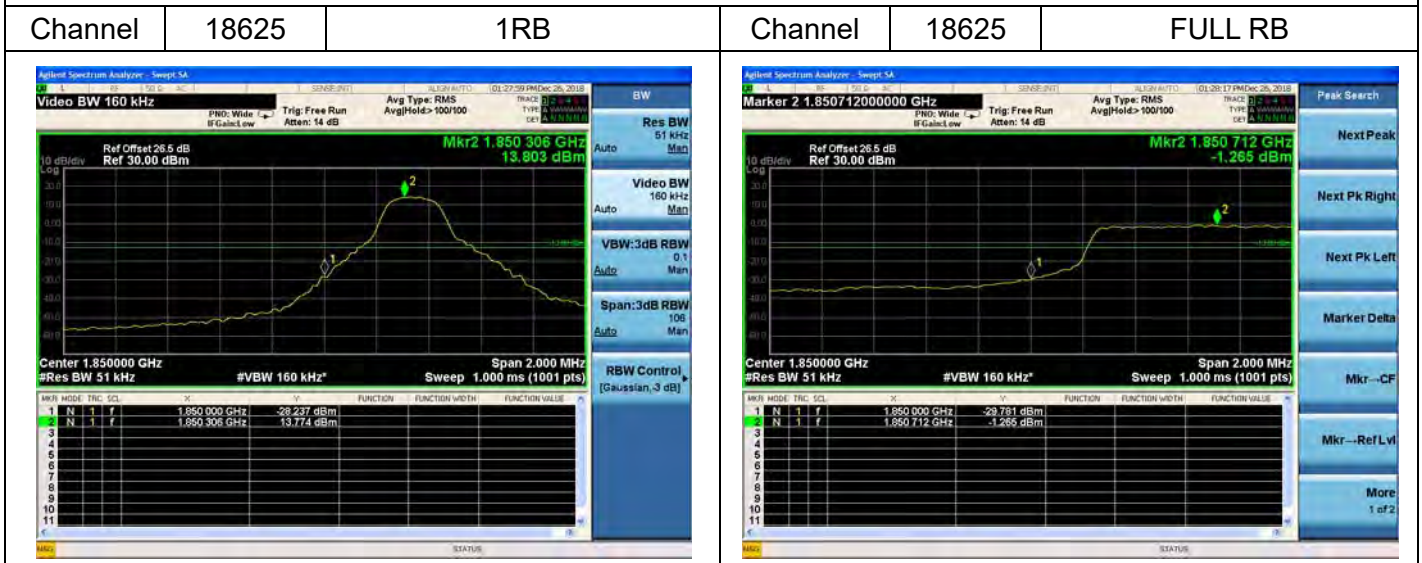
Channel Bandwidth: 3MHz



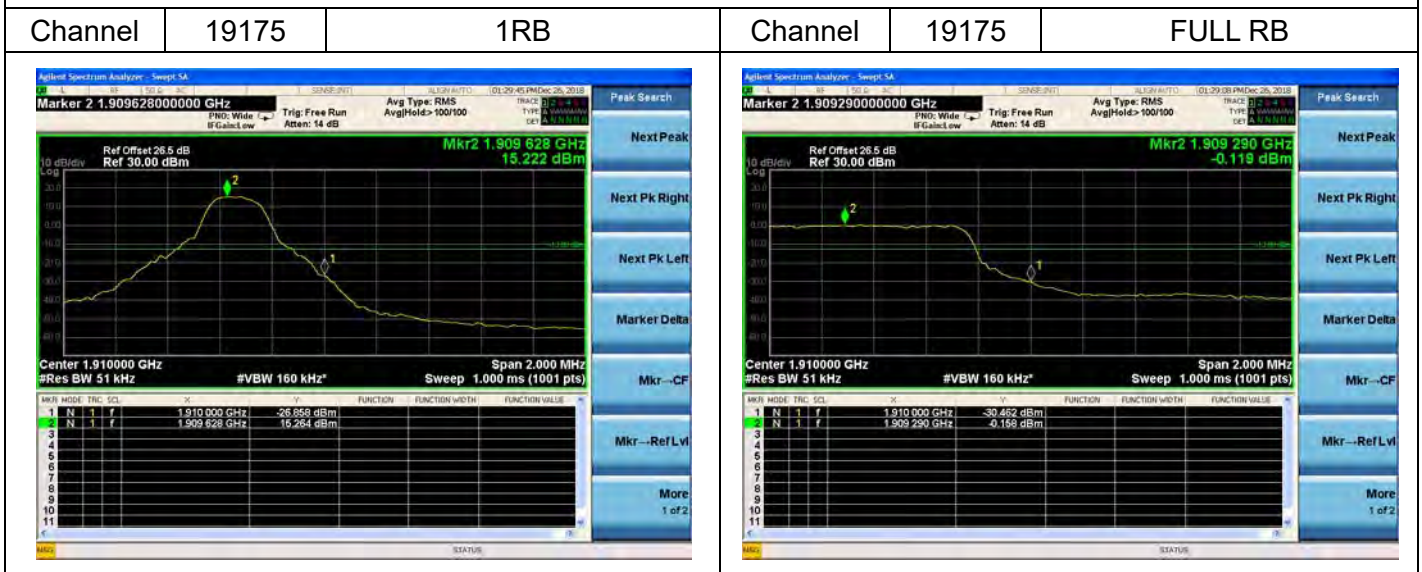


LTE Band 2

Channel Bandwidth: 5MHz



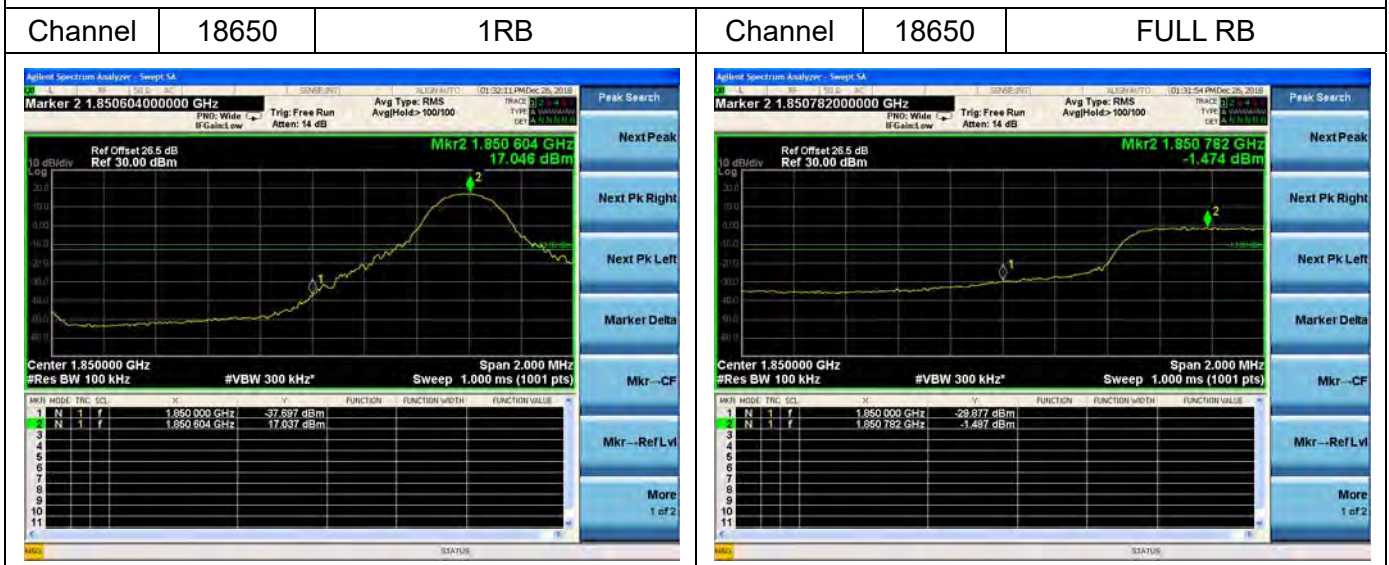
Channel Bandwidth: 5MHz



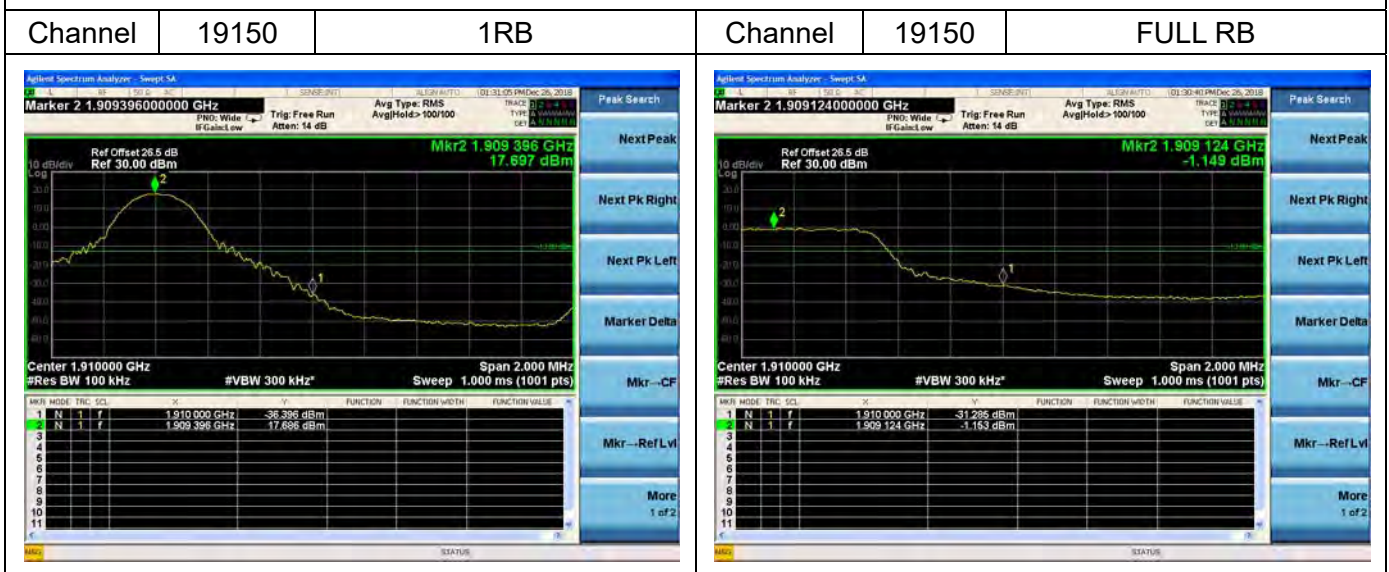


LTE Band 2

Channel Bandwidth: 10MHz



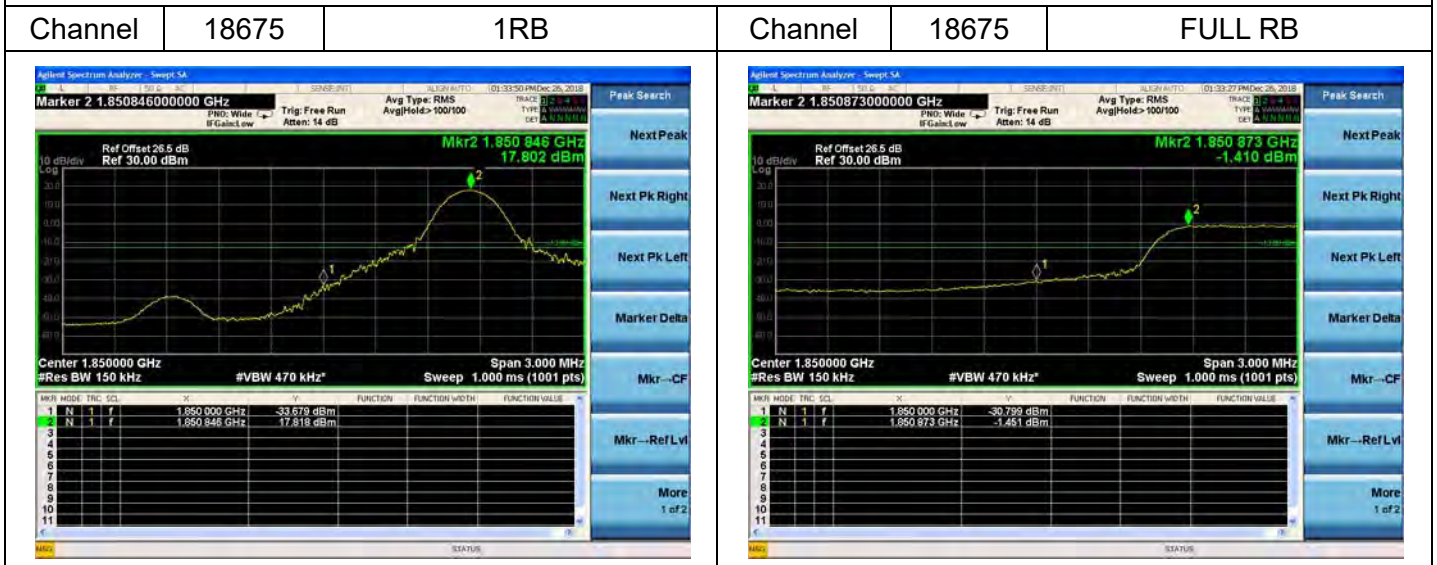
Channel Bandwidth: 10MHz



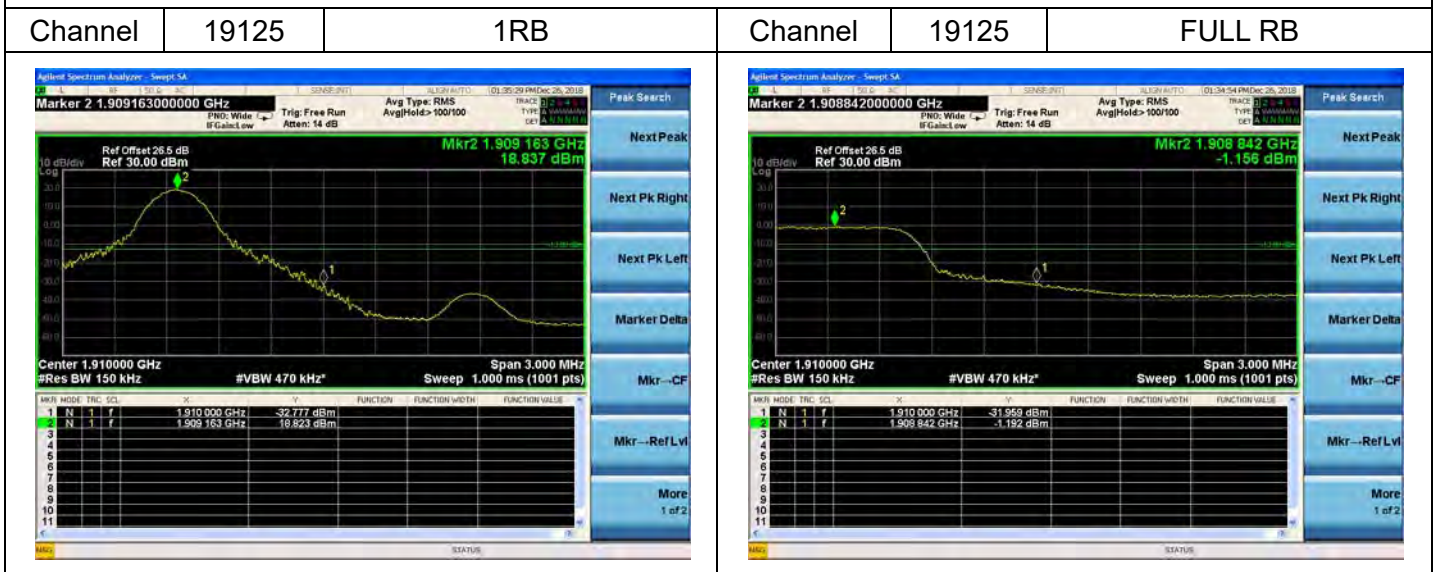


LTE Band 2

Channel Bandwidth: 15MHz



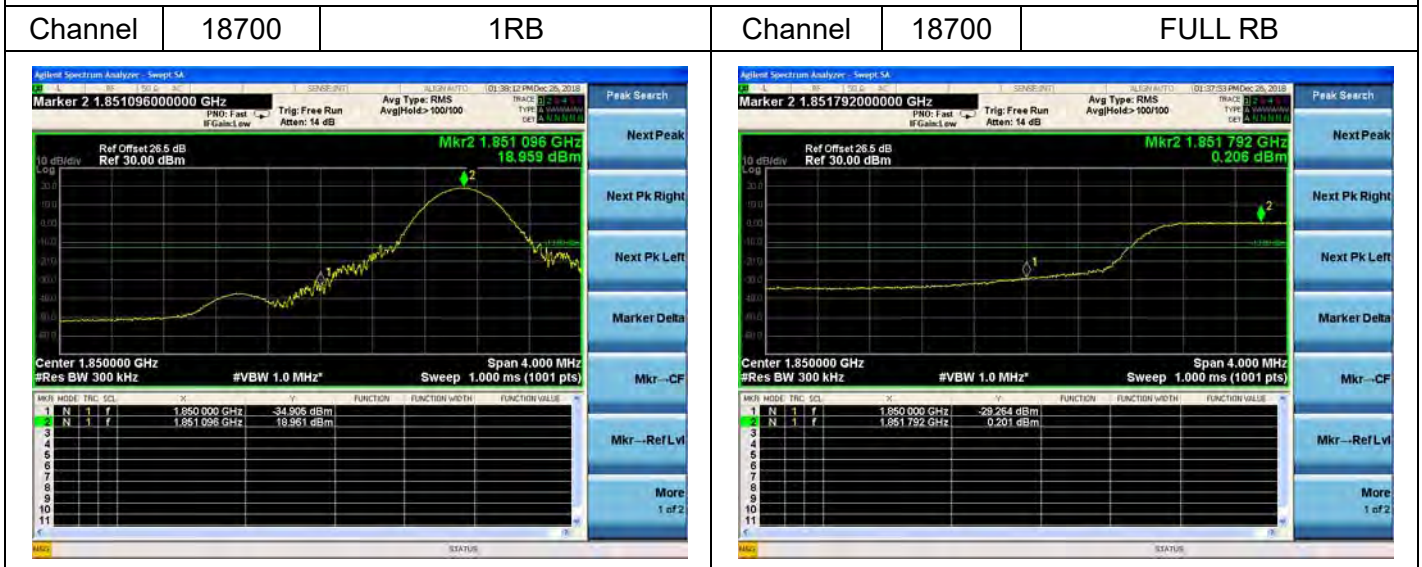
Channel Bandwidth: 15MHz



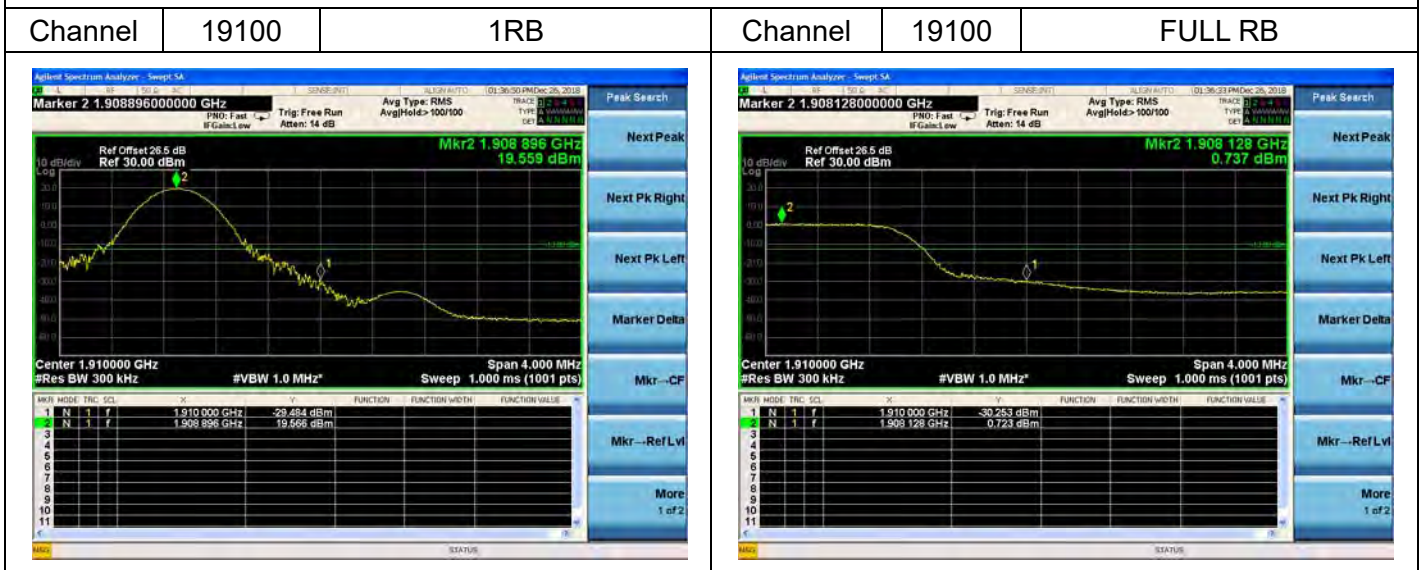


LTE Band 2

Channel Bandwidth: 20MHz



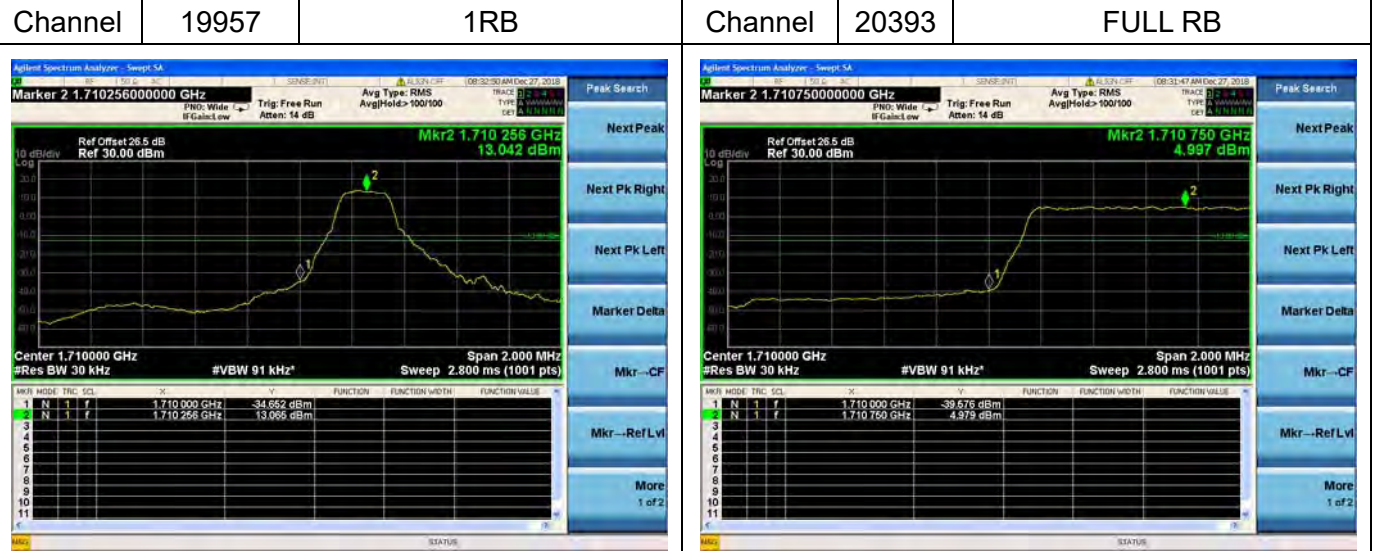
Channel Bandwidth: 20MHz



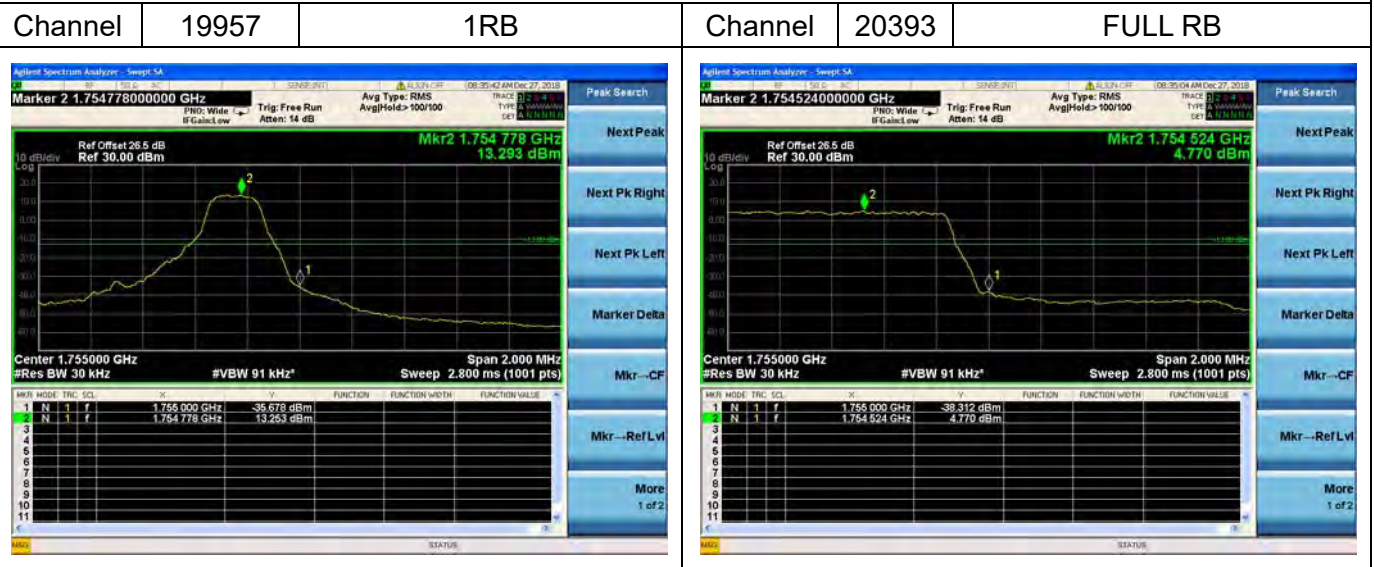


LTE Band 4

Channel Bandwidth: 1.4MHz



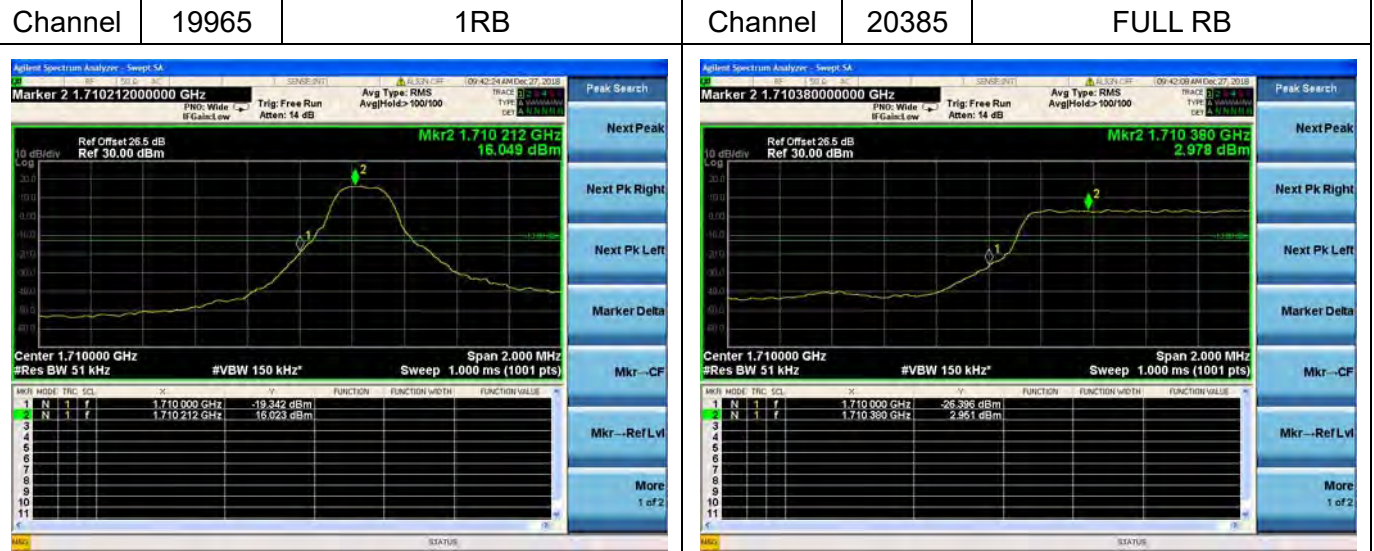
Channel Bandwidth: 1.4MHz



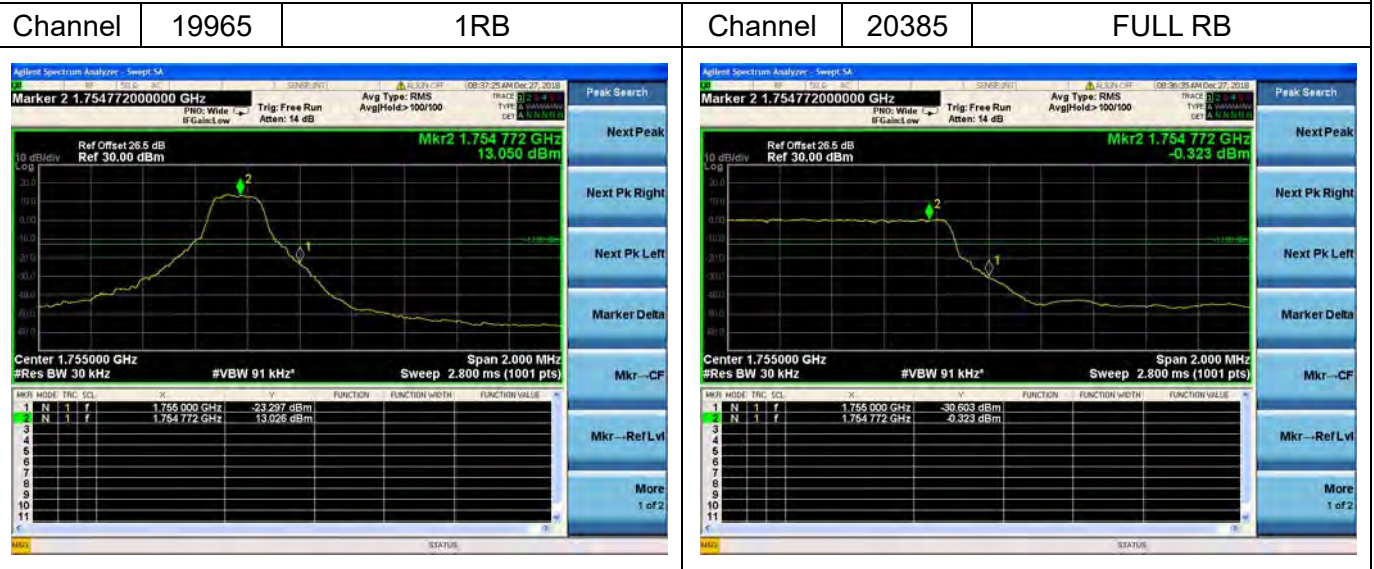


LTE Band 4

Channel Bandwidth: 3MHz



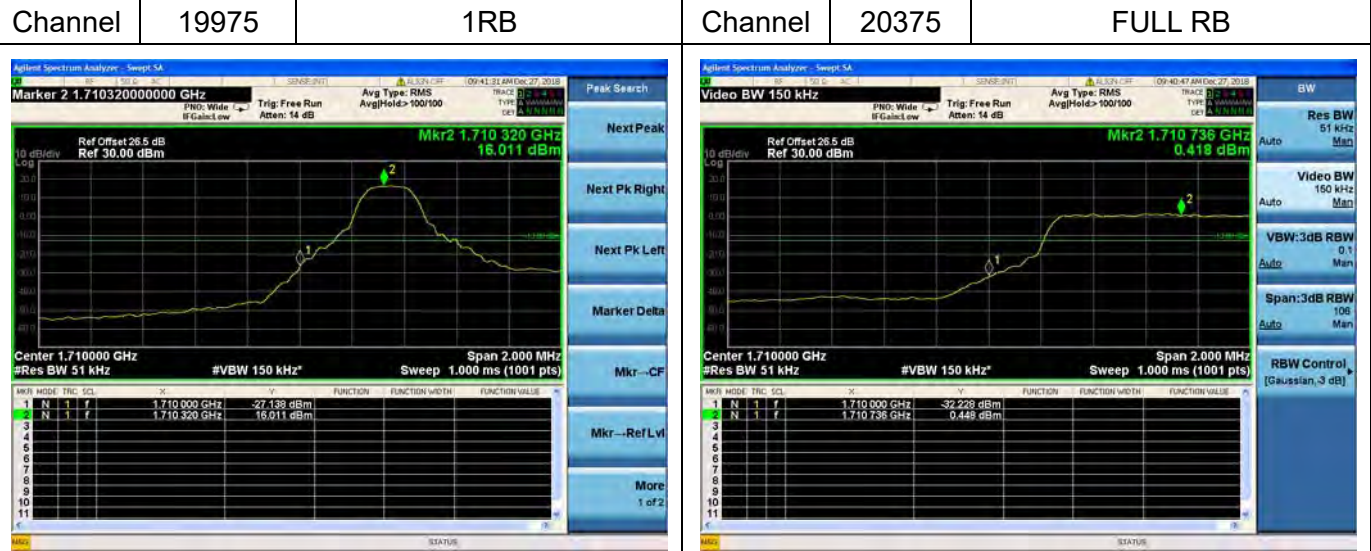
Channel Bandwidth: 3MHz



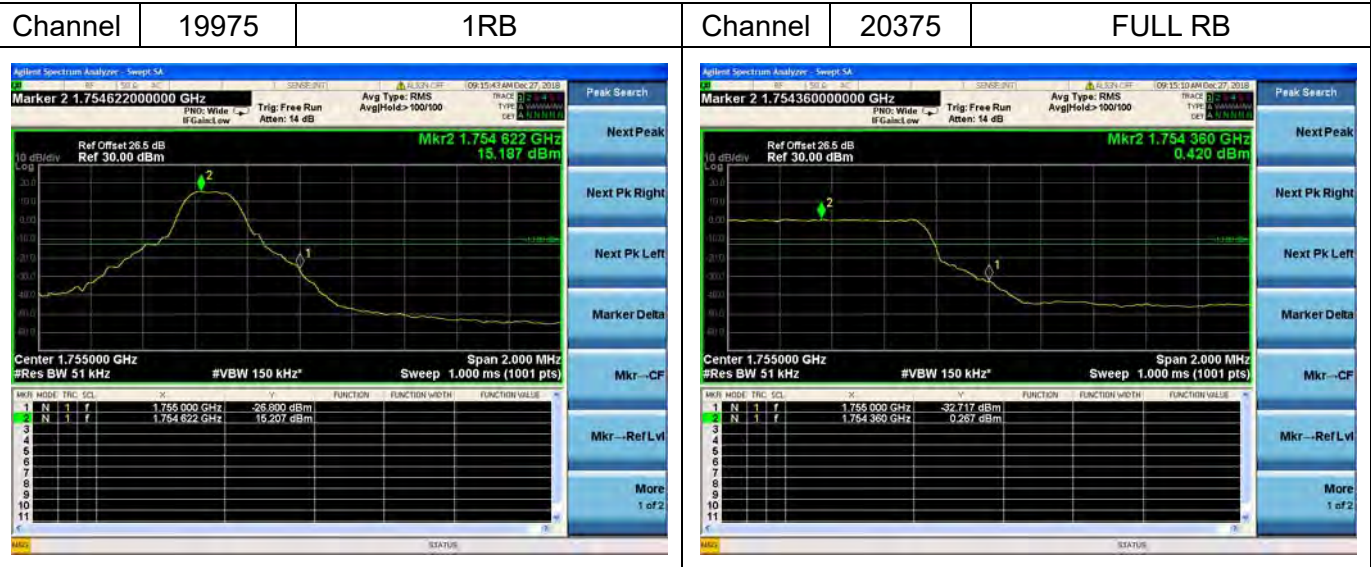


LTE Band 4

Channel Bandwidth: 5MHz



Channel Bandwidth: 5MHz





Channel Bandwidth: 10MHz

Channel 20000 1RB

Agilent Spectrum Analyzer - Sweep SA
Marker 2 1.710600000000 GHz
Ref Offset 26.5 dB
Ref 30.00 dBm
Mkr2 1.710 600 GHz
18.511 dBm
Center 1.710000 GHz
Span 2.000 MHz
#Res BW 100 kHz
#VBW 300 kHz*
Sweep 1.000 ms (1001 pts)

| MARK | MODE | TRIG | SQL | F | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|------|------|------|-----|---------------|-------------|----------------|----------------|
| 1 | N | 1 | f | 1.710 000 GHz | -37.165 dBm | | |
| 2 | N | 1 | f | 1.710 600 GHz | 18.492 dBm | | |

Channel 20350 FULL RB

Agilent Spectrum Analyzer - Sweep SA
Marker 2 1.710678000000 GHz
Ref Offset 26.5 dB
Ref 30.00 dBm
Mkr2 1.710 678 GHz
0.382 dBm
Center 1.710000 GHz
Span 2.000 MHz
#Res BW 100 kHz
#VBW 300 kHz*
Sweep 1.000 ms (1001 pts)

| MARK | MODE | TRIG | SQL | F | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|------|------|------|-----|---------------|-------------|----------------|----------------|
| 1 | N | 1 | f | 1.710 000 GHz | -32.968 dBm | | |
| 2 | N | 1 | f | 1.710 678 GHz | 0.369 dBm | | |

Channel 20000 1RB

| MNR | MODE | TRF | SCS | F | F | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|-----|------|-----|-----|--------------|------------|----------|----------------|----------------|
| 1 | N | 1 | f | 1.755000 GHz | 37.067 dBm | | | |
| 2 | N | 1 | f | 1.754408 GHz | 18.916 dBm | | | |

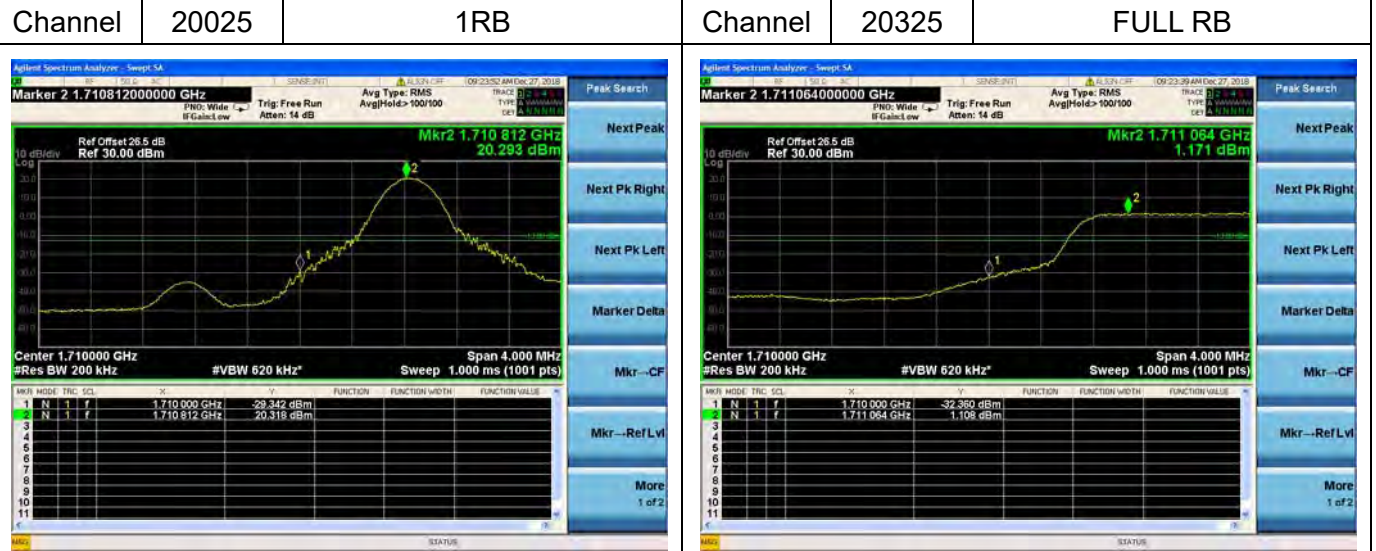
Channel 20350 FULL RB

| MNR | MODE | TRF | SCS | F | F | FUNCTION | FUNCTION WIDTH | FUNCTION VALUE |
|-----|------|-----|-----|--------------|-------------|----------|----------------|----------------|
| 1 | N | 1 | f | 1.755000 GHz | -34.680 dBm | | | |
| 2 | N | 1 | f | 1.754360 GHz | 0.099 dBm | | | |

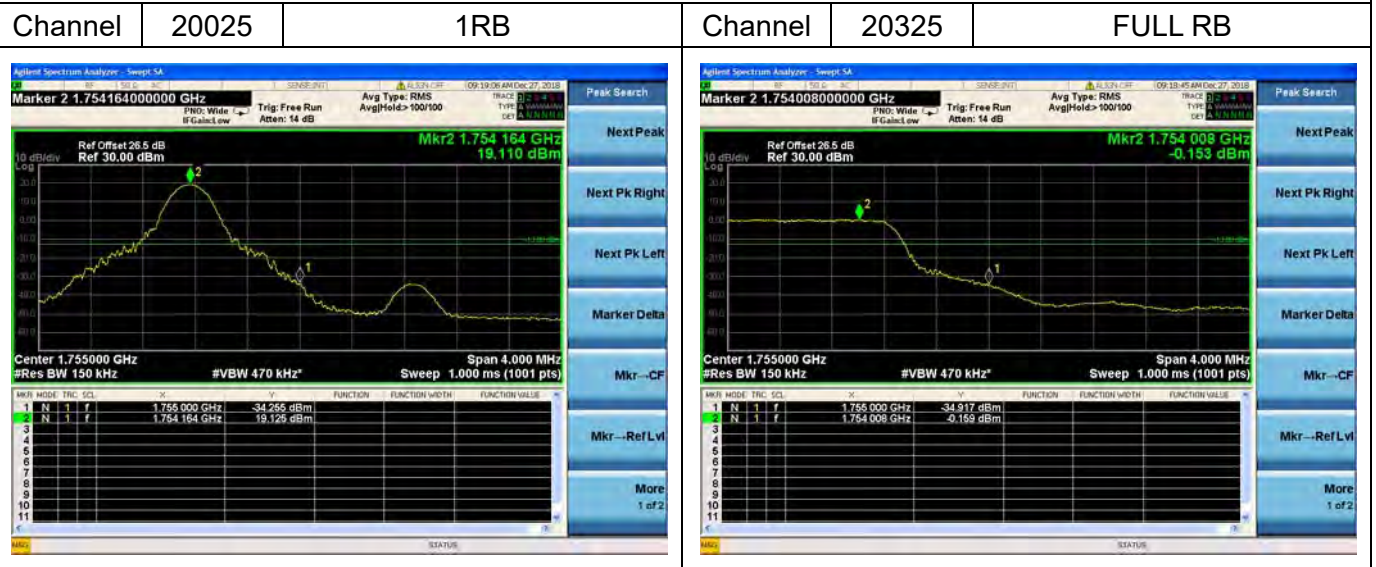


LTE Band 4

Channel Bandwidth: 15MHz



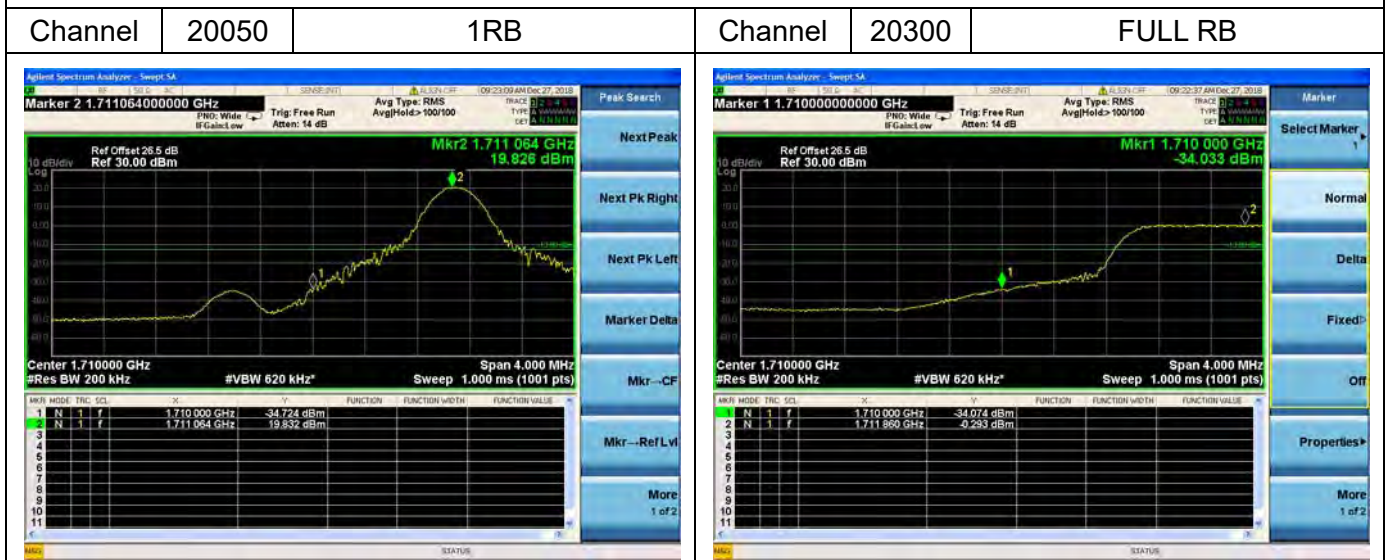
Channel Bandwidth: 15MHz



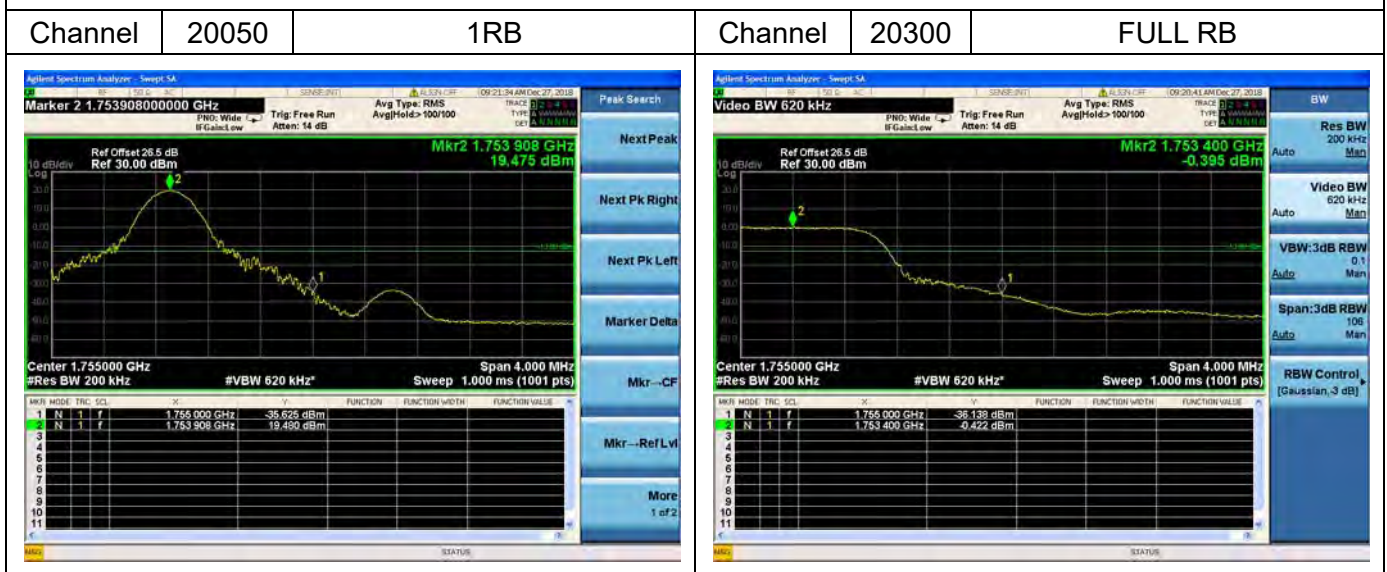


LTE Band 4

Channel Bandwidth: 20MHz



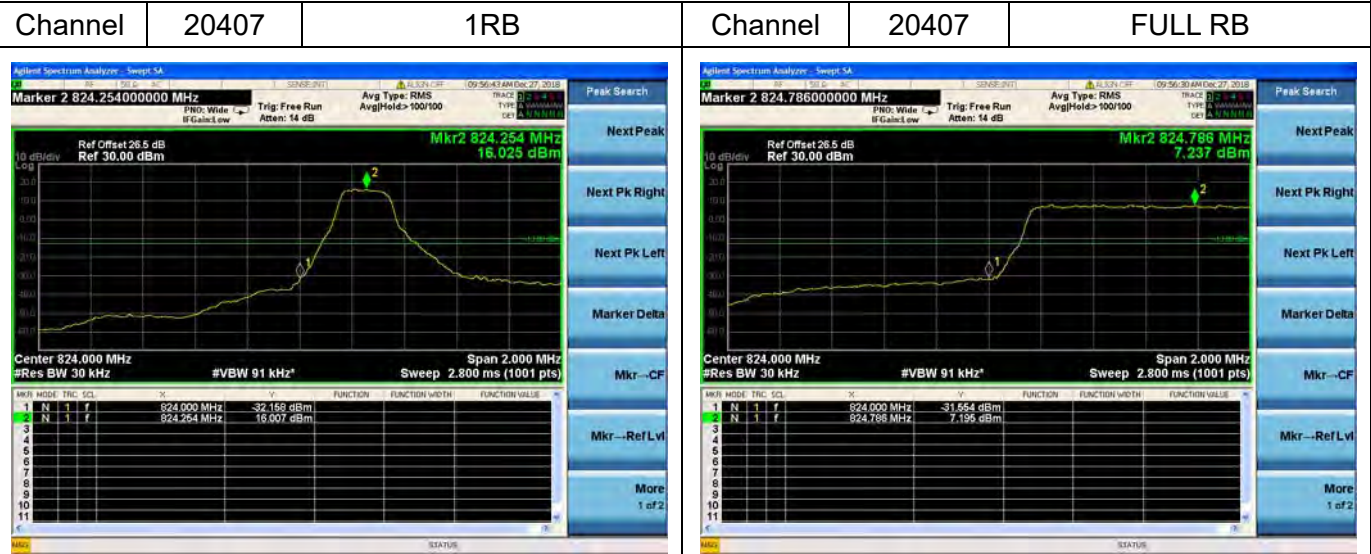
Channel Bandwidth: 20MHz



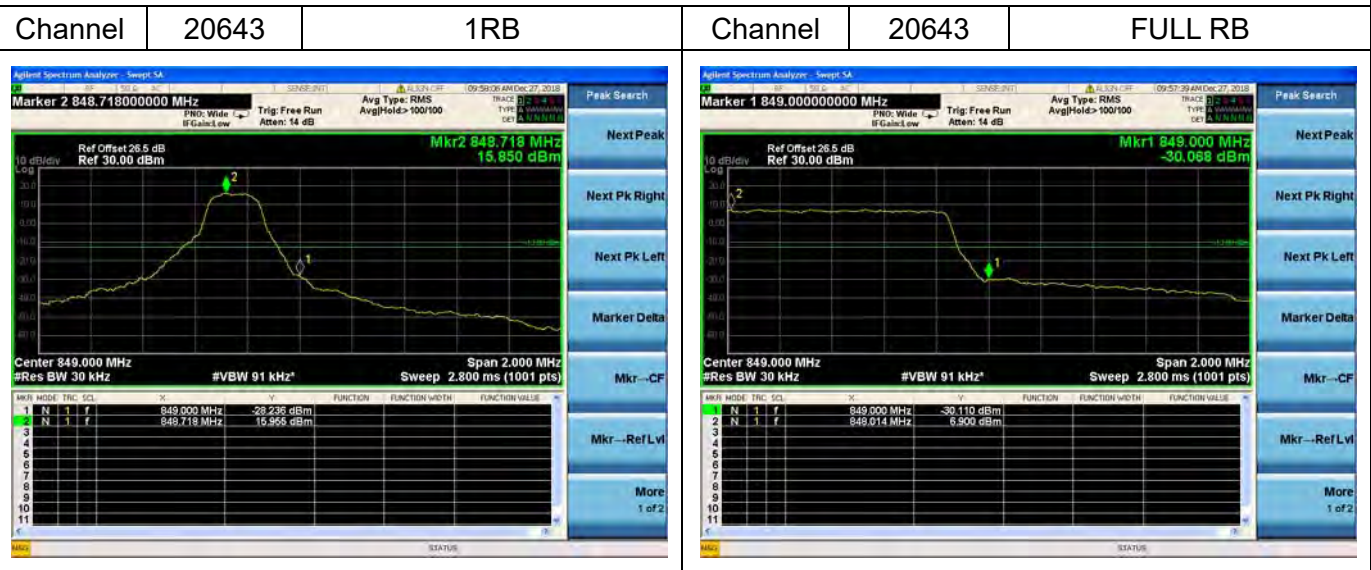


LTE Band 5

Channel Bandwidth: 1.4MHz



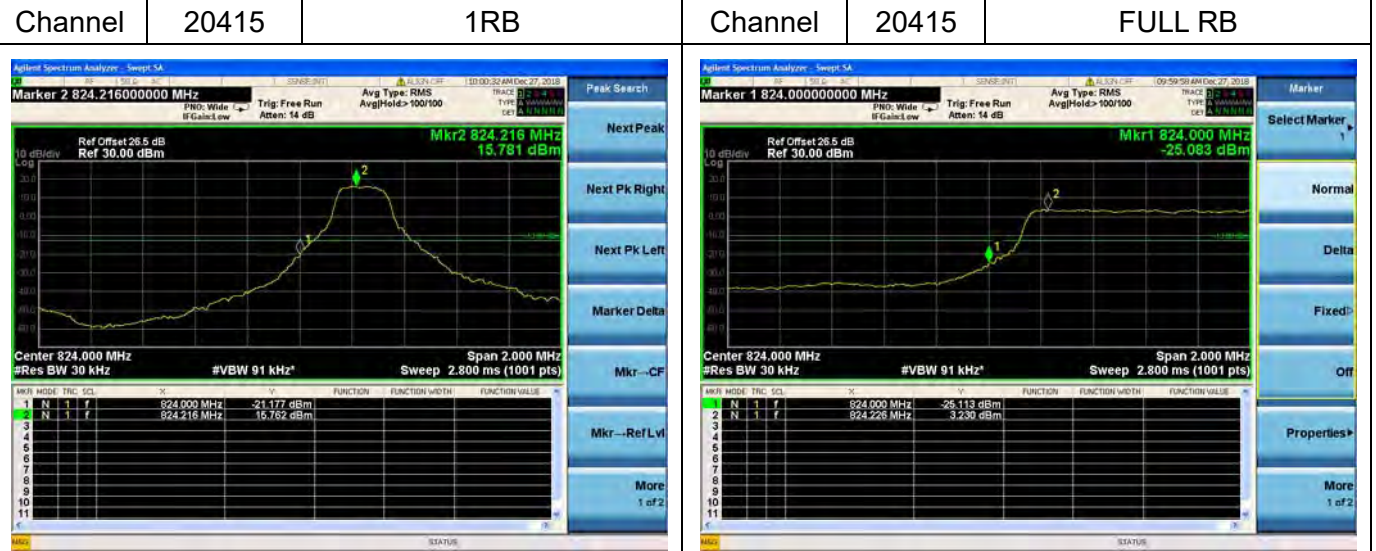
Channel Bandwidth: 1.4MHz





LTE Band 5

Channel Bandwidth: 3MHz



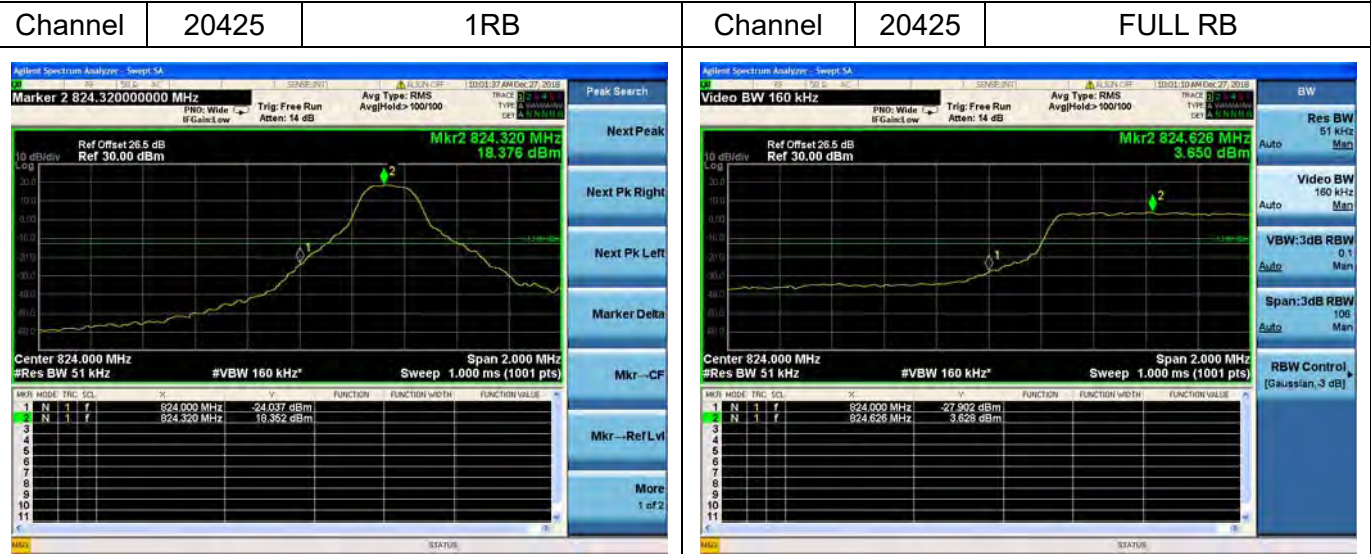
Channel Bandwidth: 3MHz



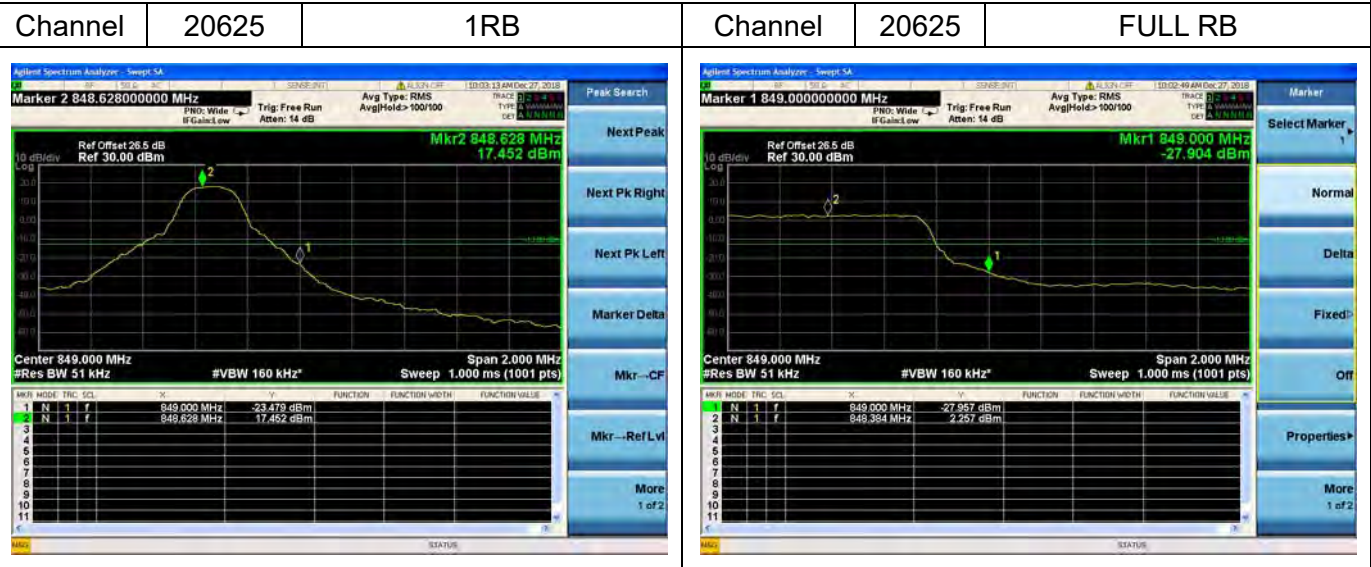


LTE Band 5

Channel Bandwidth: 5MHz



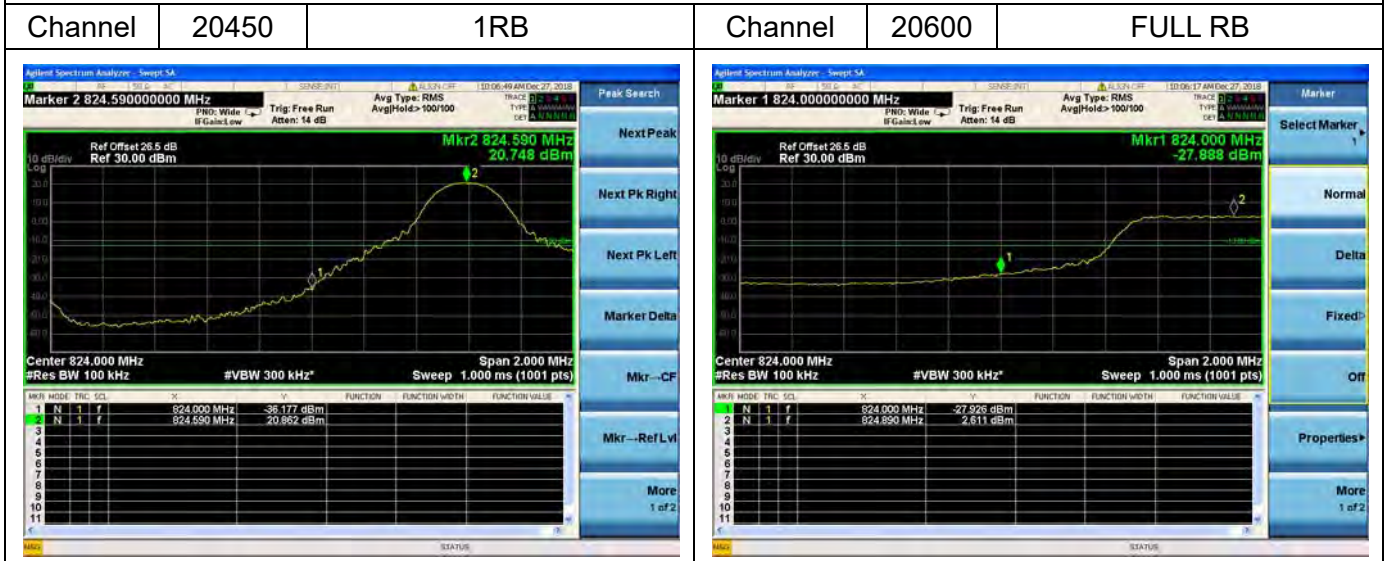
Channel Bandwidth: 5MHz



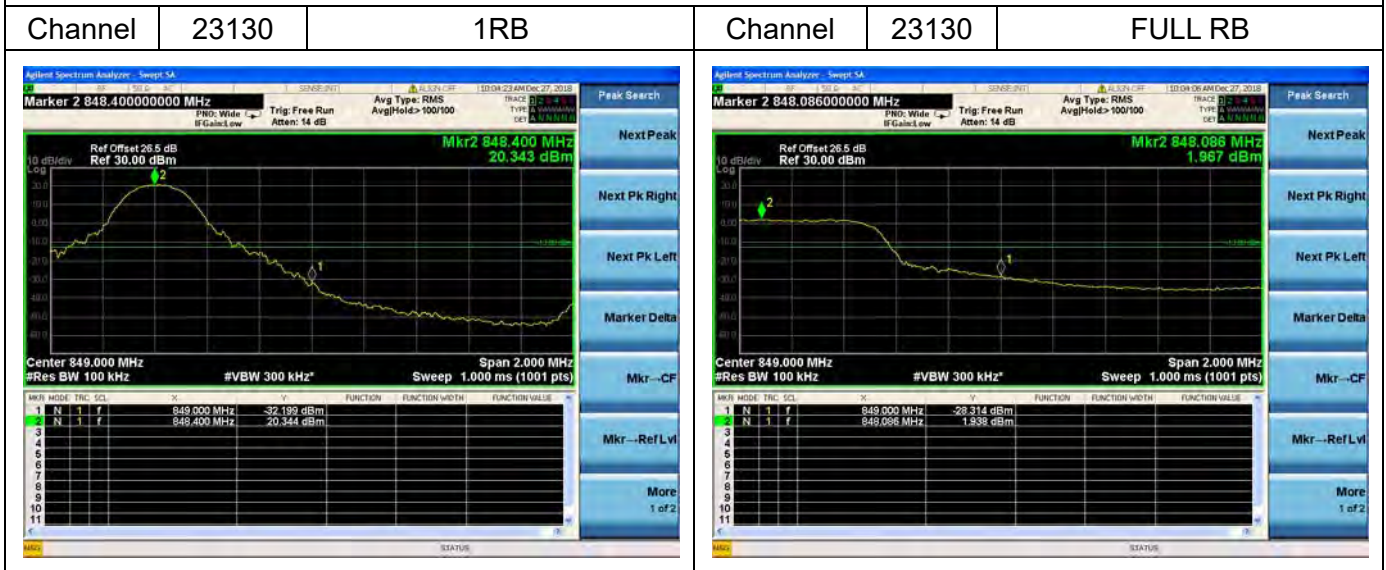


LTE Band 5

Channel Bandwidth: 10MHz



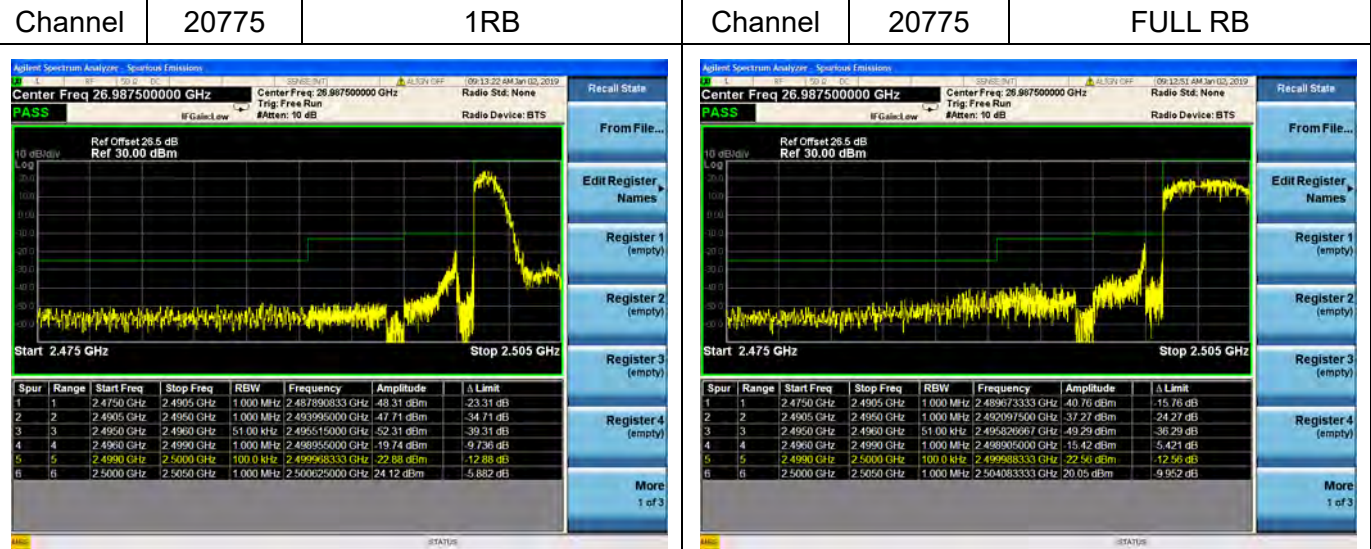
Channel Bandwidth: 10MHz



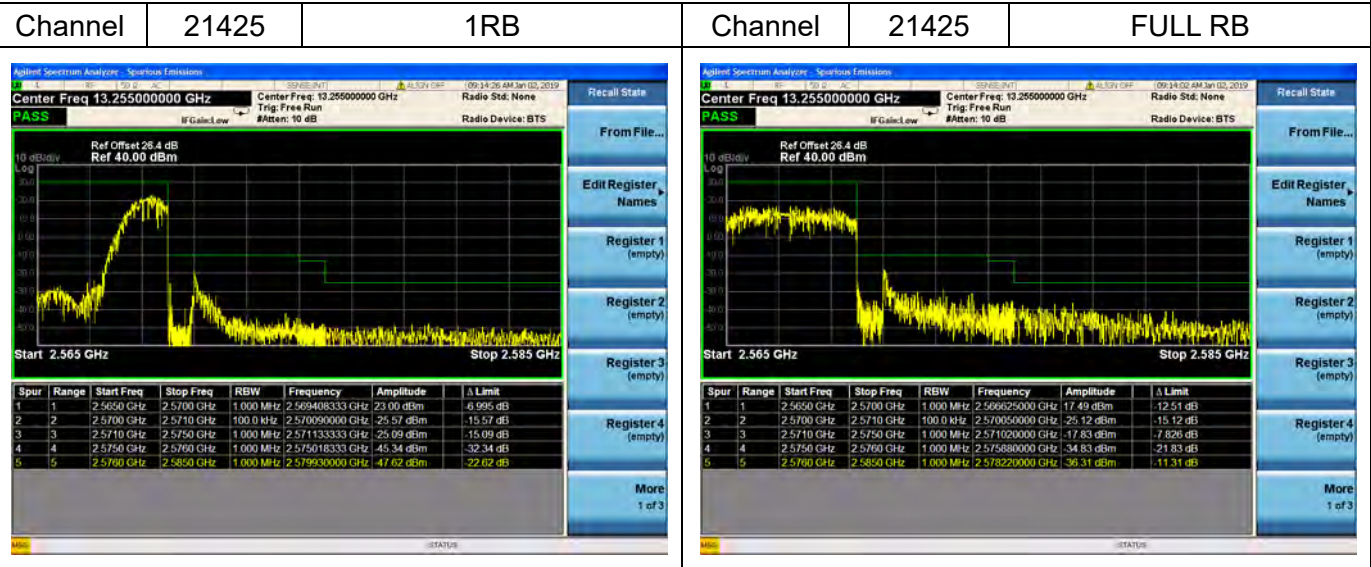


LTE Band 7

Channel Bandwidth: 5MHz



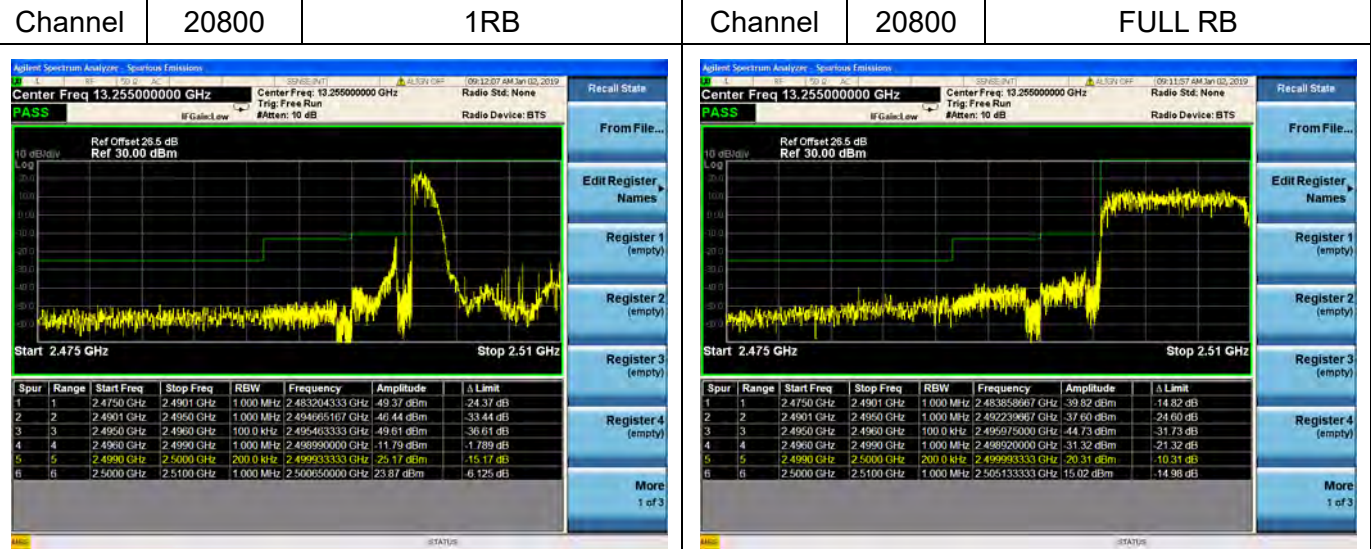
Channel Bandwidth: 5MHz



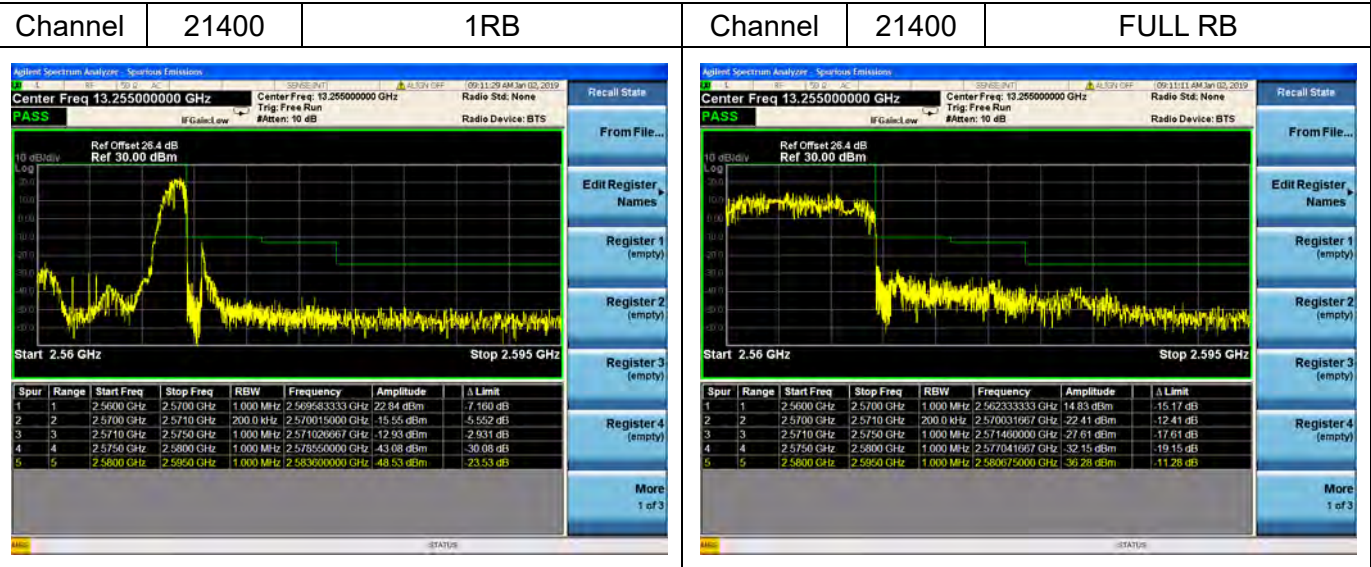


LTE Band 7

Channel Bandwidth: 10MHz



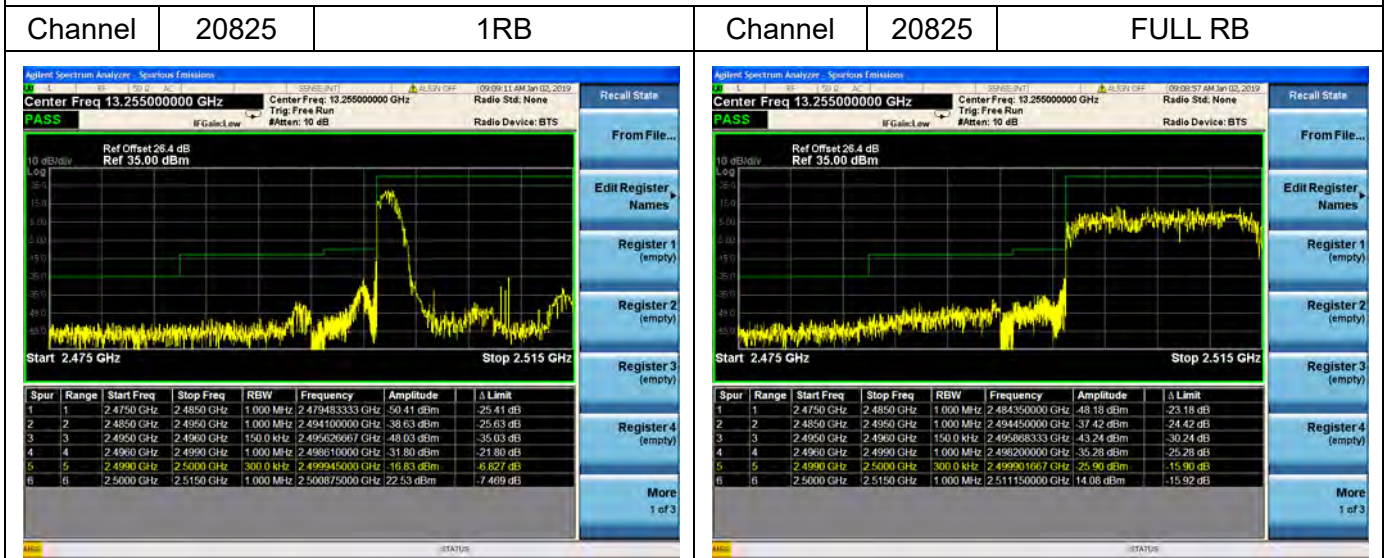
Channel Bandwidth: 10MHz



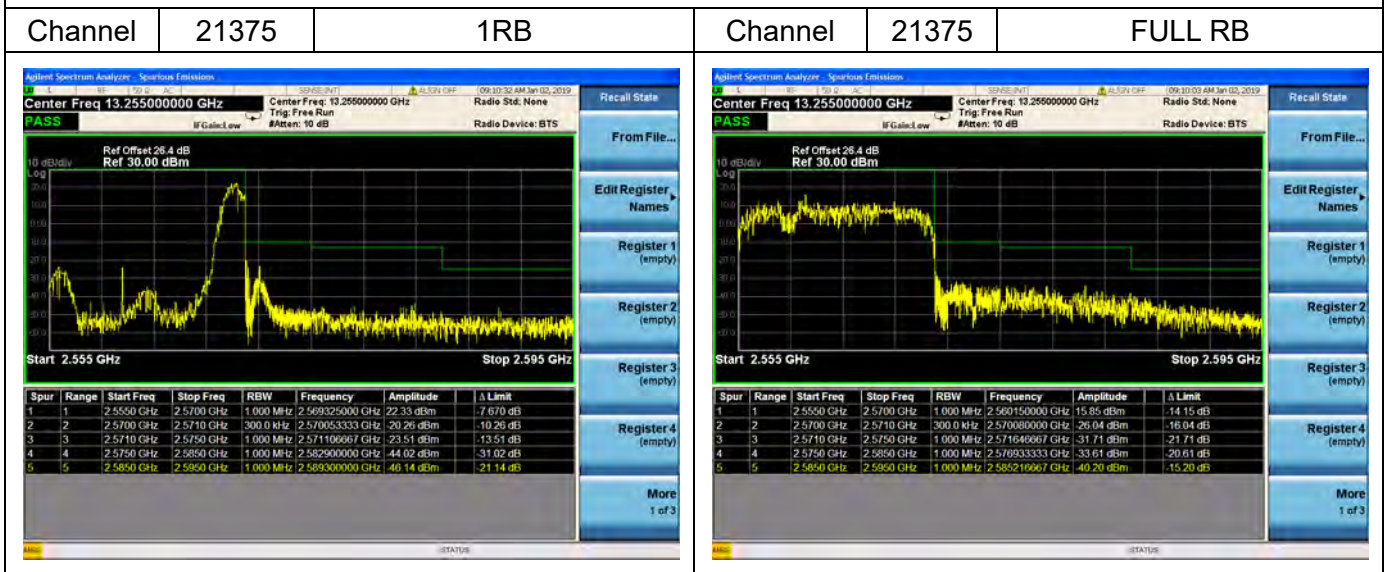


LTE Band 7

Channel Bandwidth: 15MHz



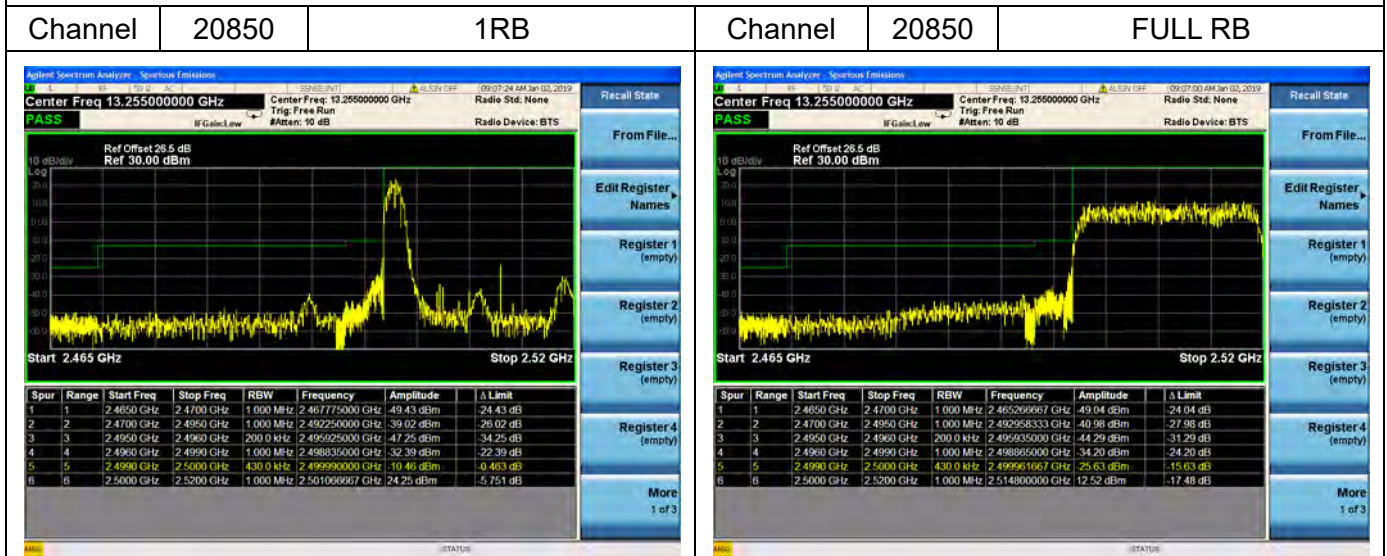
Channel Bandwidth: 15MHz



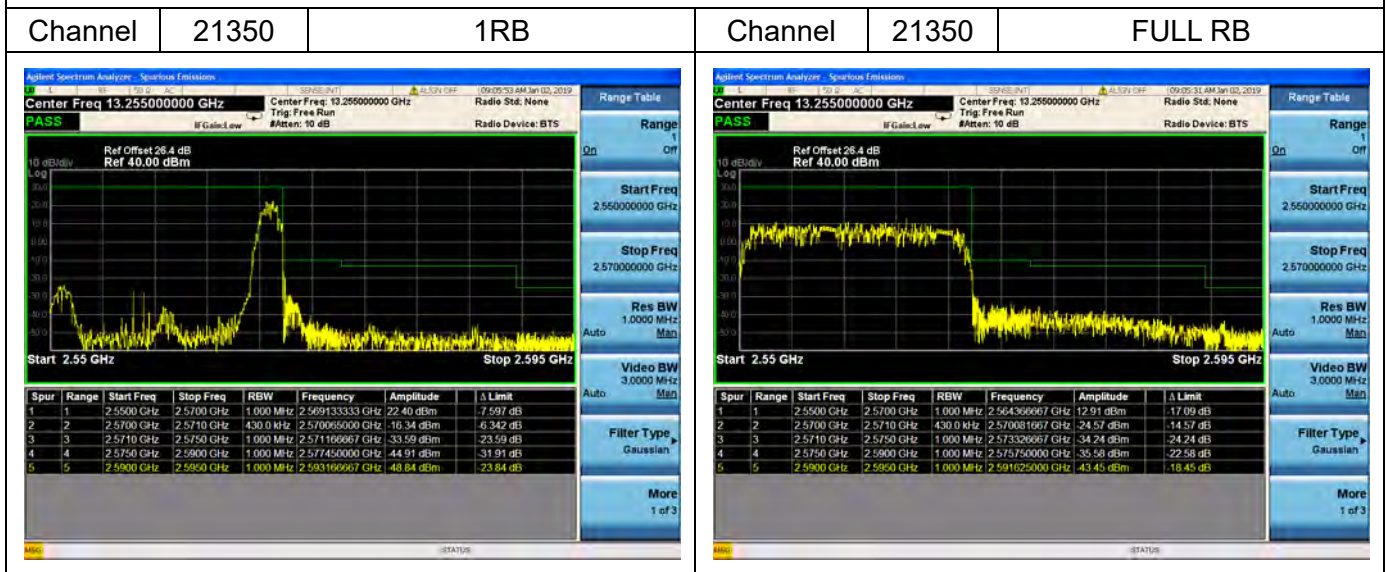


LTE Band 7

Channel Bandwidth: 20MHz



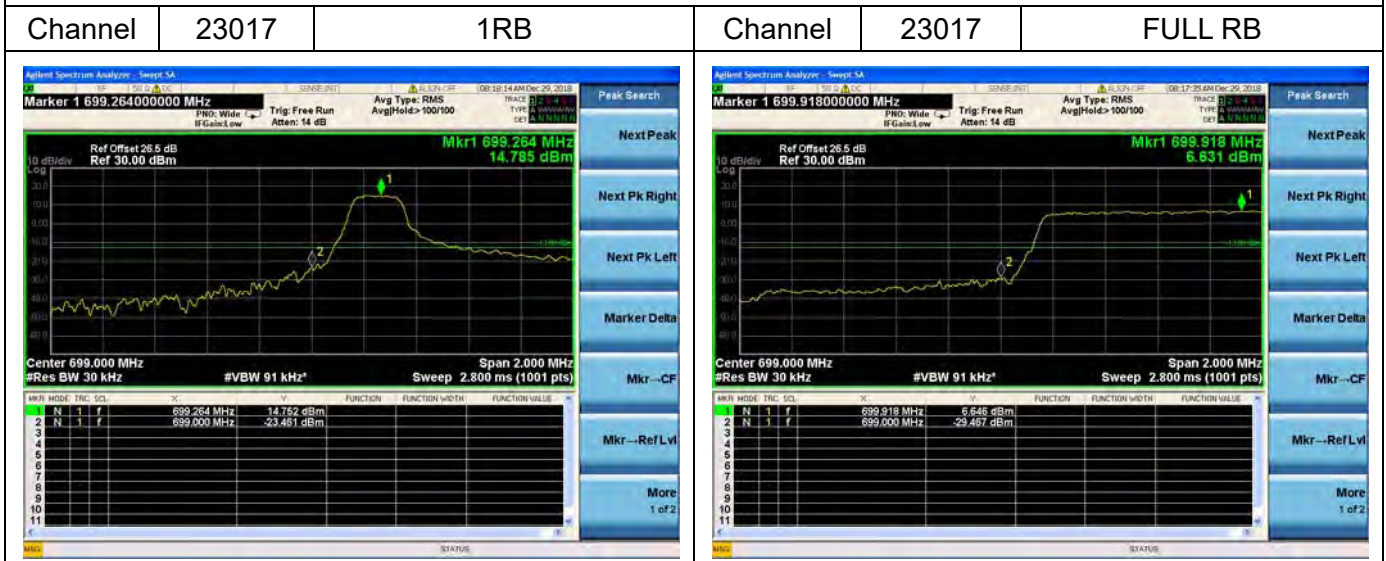
Channel Bandwidth: 20MHz



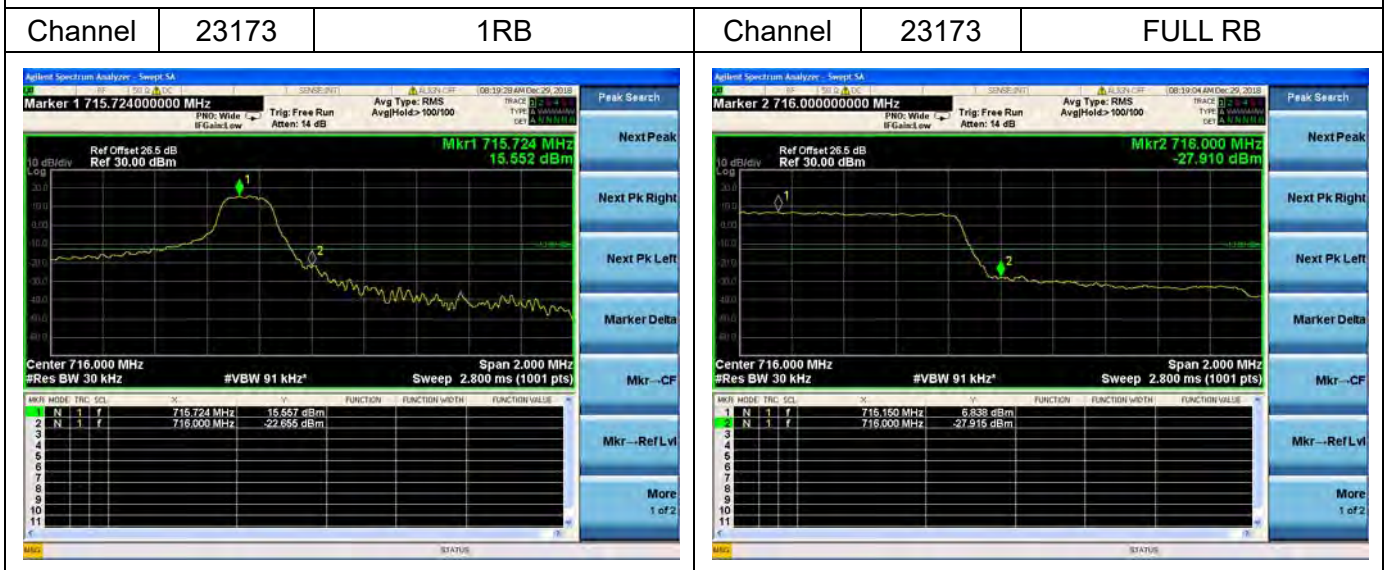


LTE Band 12

Channel Bandwidth: 1.4MHz



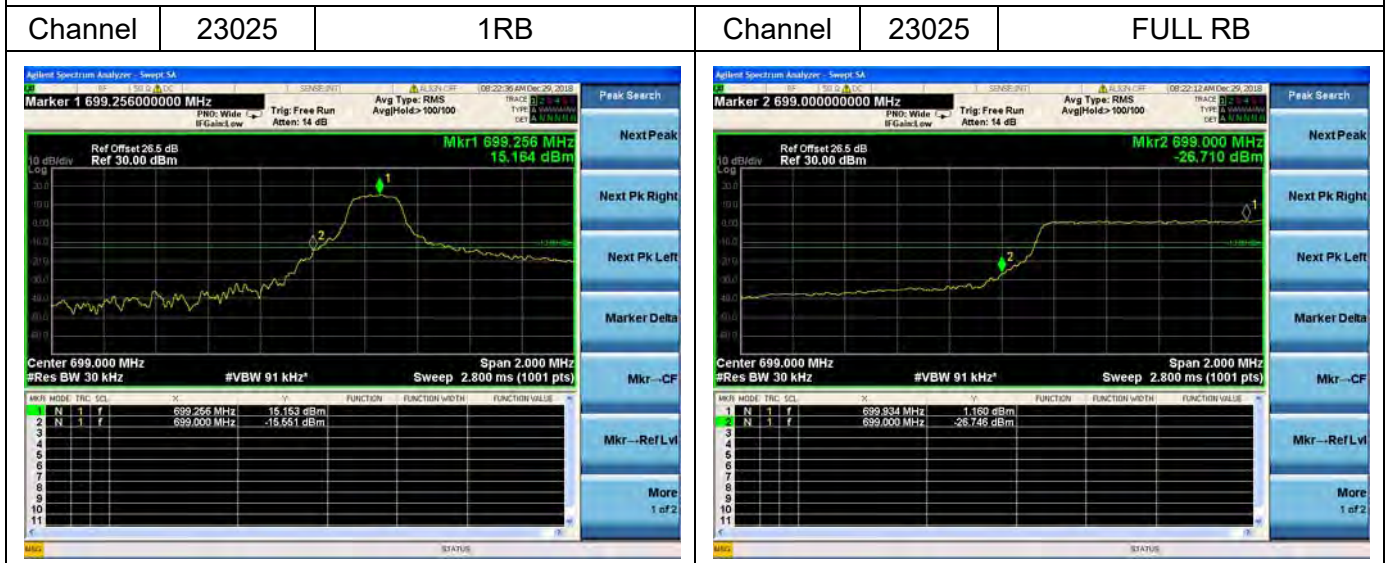
Channel Bandwidth: 1.4MHz



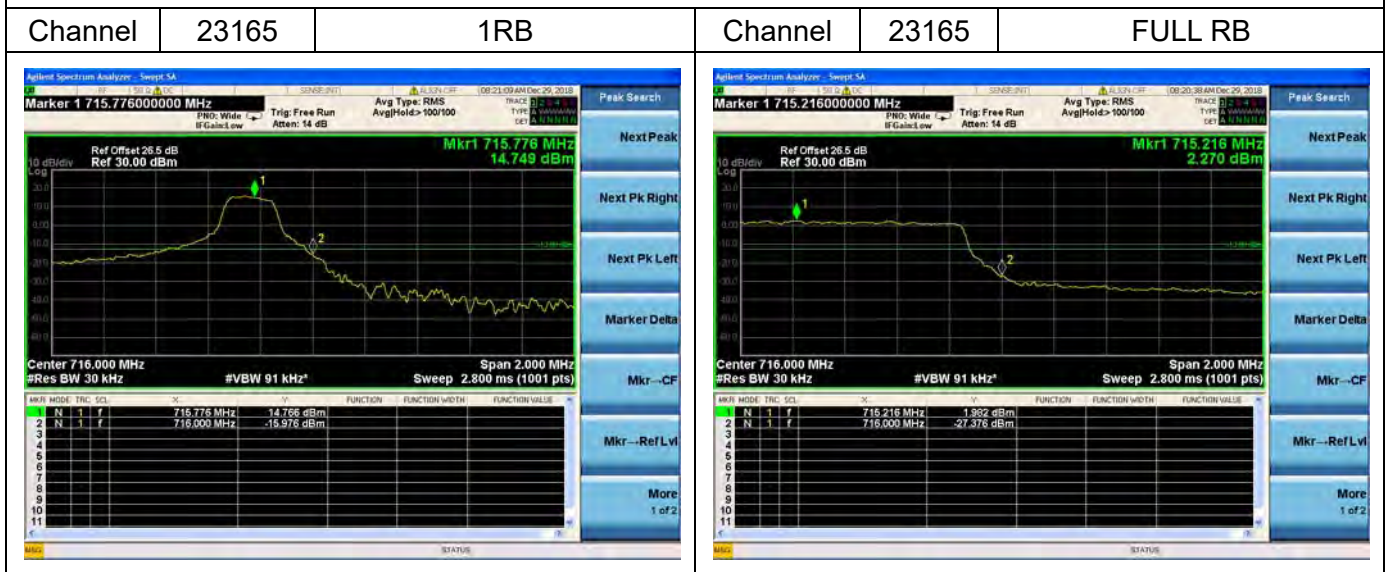


LTE Band 12

Channel Bandwidth: 3MHz



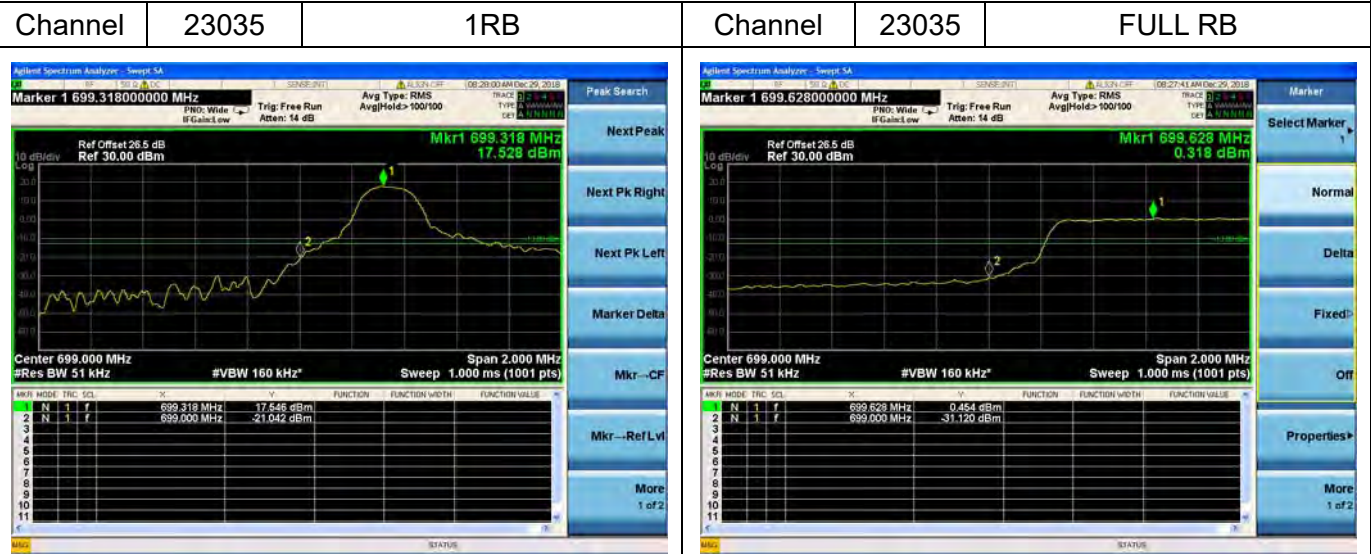
Channel Bandwidth: 3MHz



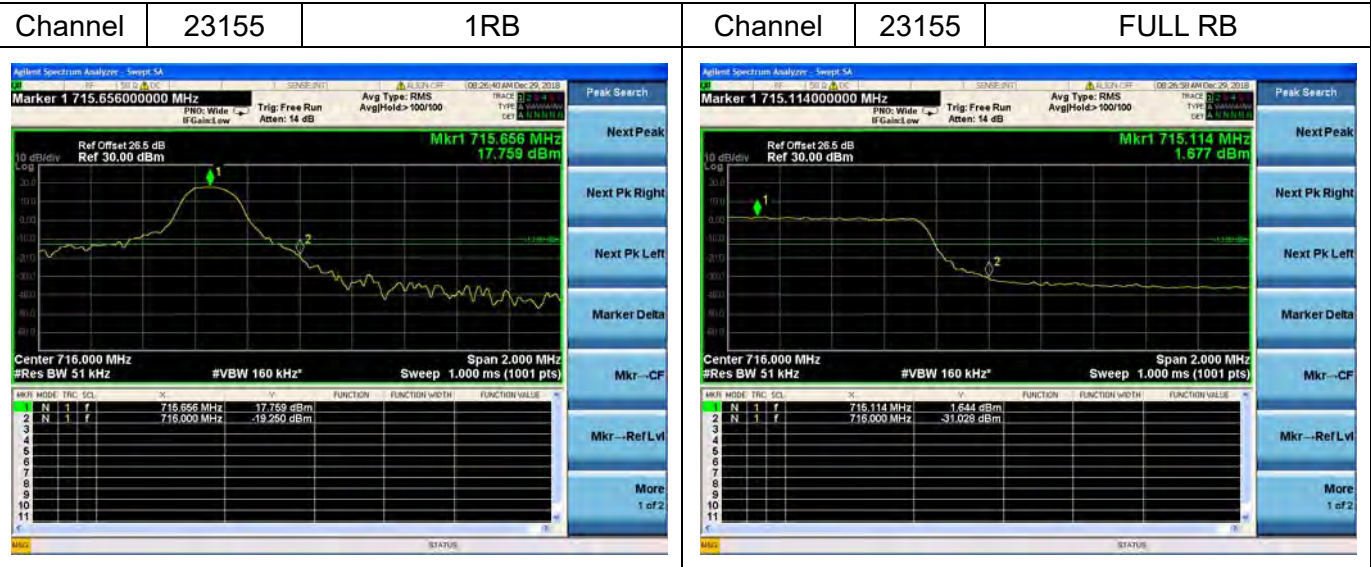


LTE Band 12

Channel Bandwidth: 5MHz



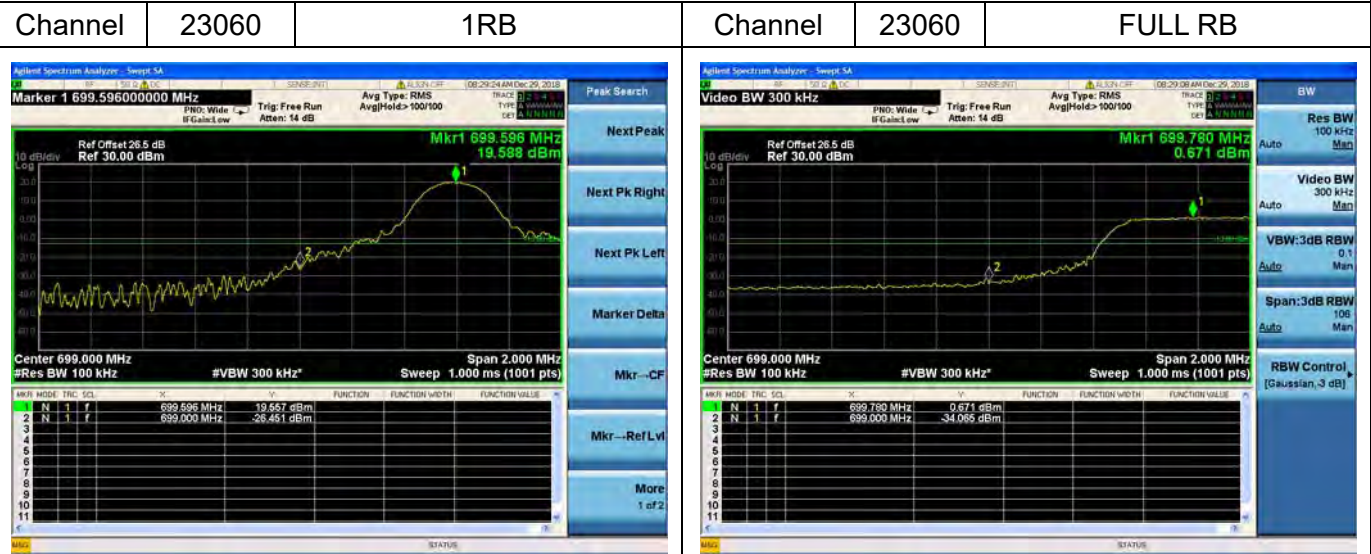
Channel Bandwidth: 5MHz



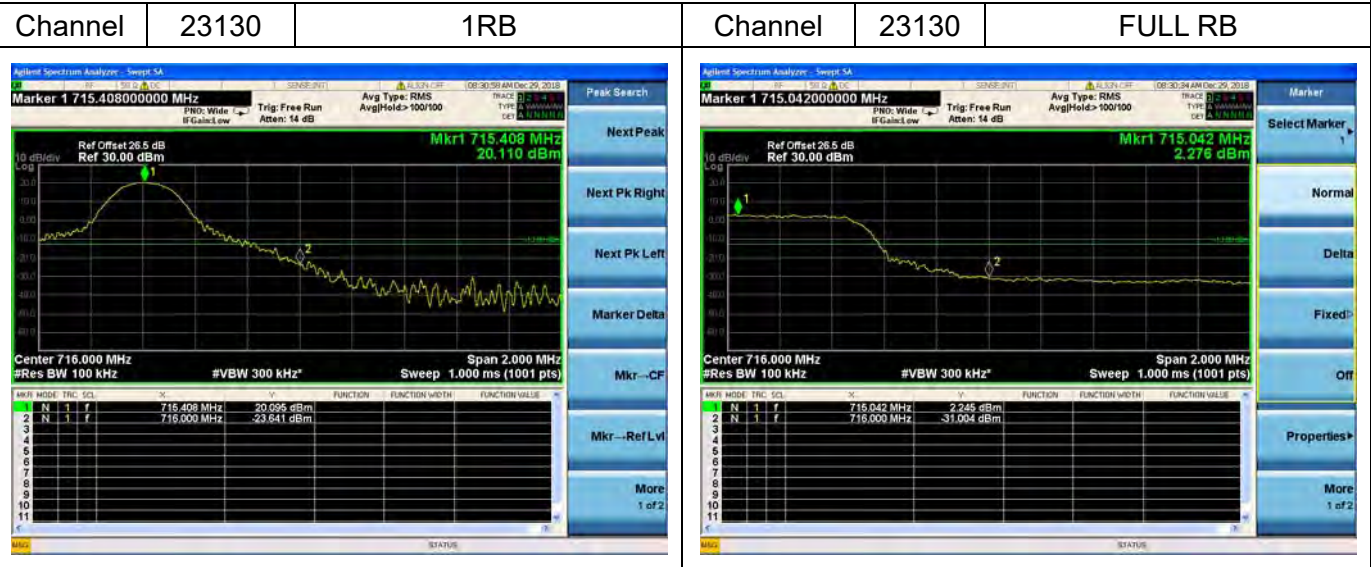


LTE Band 12

Channel Bandwidth: 10MHz



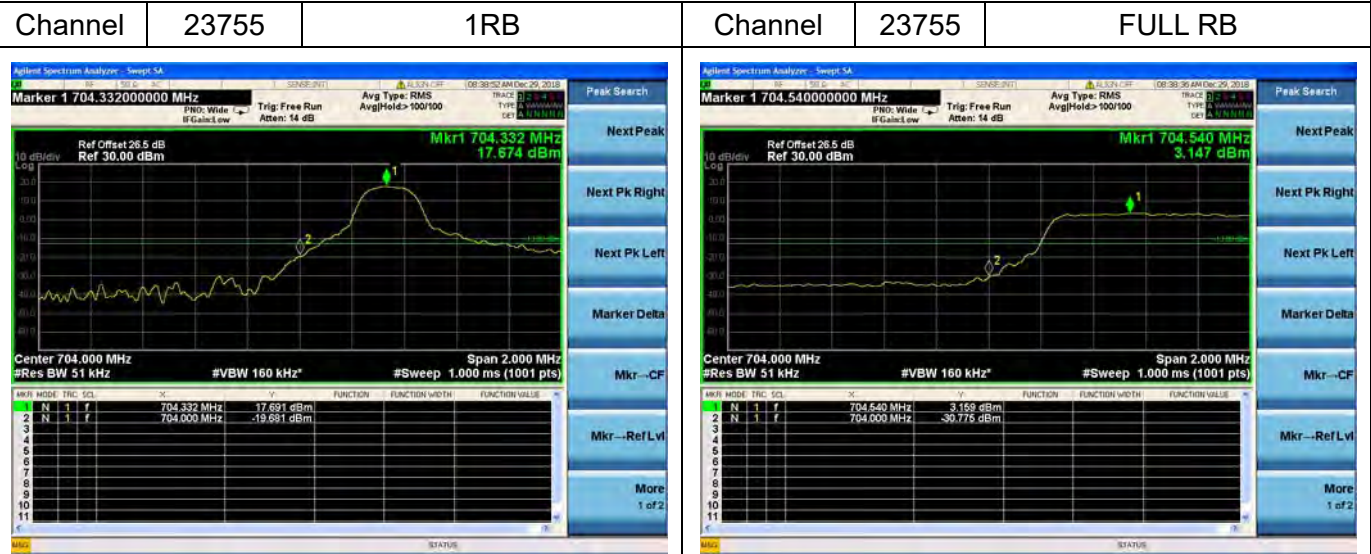
Channel Bandwidth: 10MHz



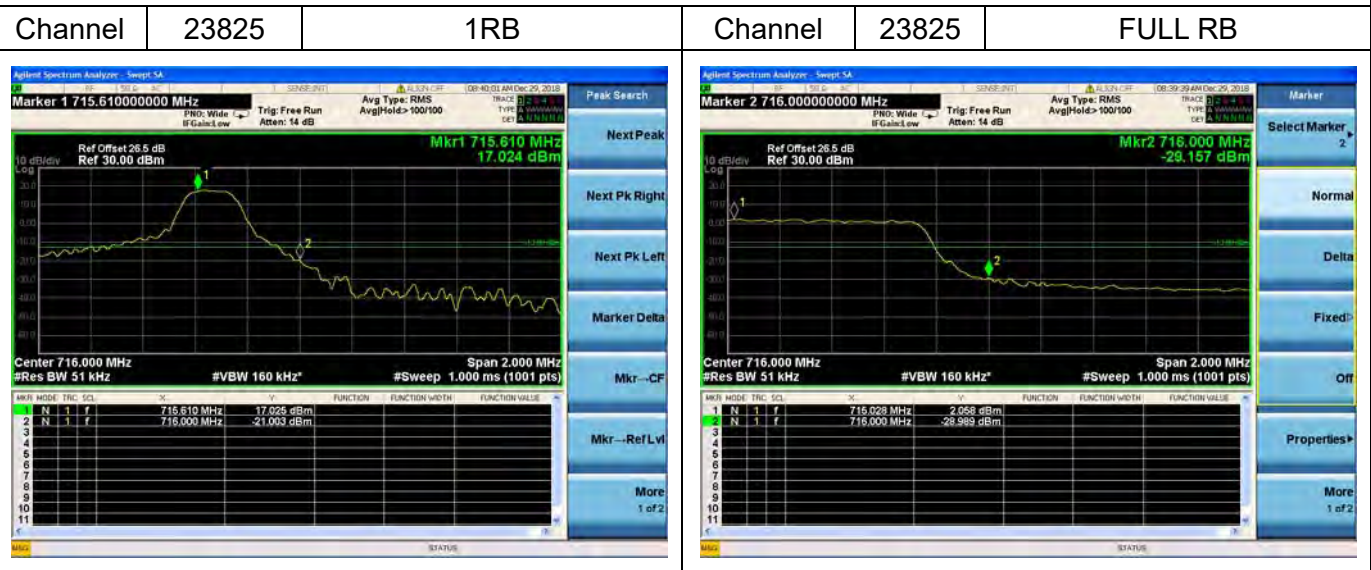


LTE Band 17

Channel Bandwidth: 5MHz



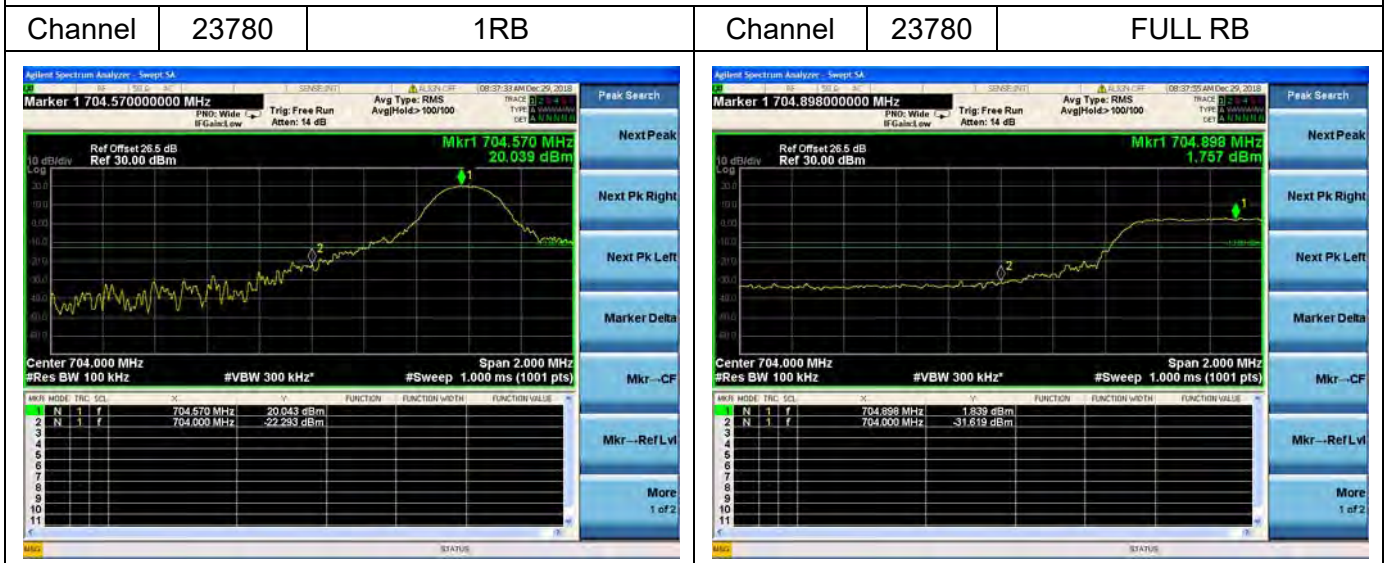
Channel Bandwidth: 5MHz



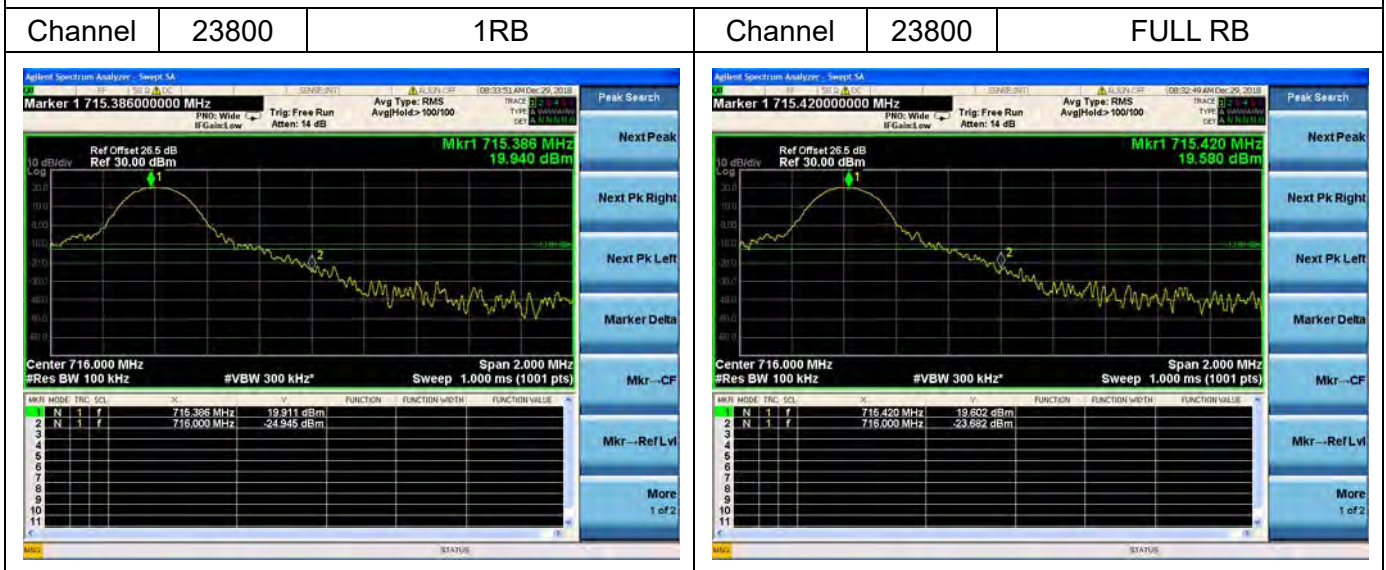


LTE Band 17

Channel Bandwidth: 10MHz



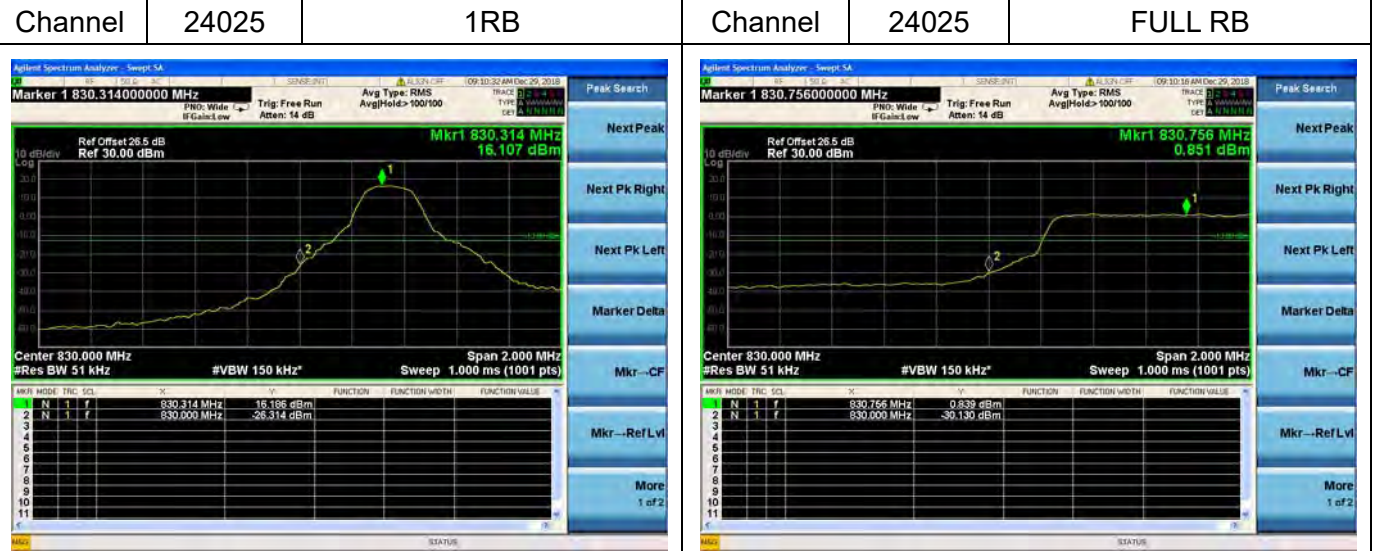
Channel Bandwidth: 10MHz



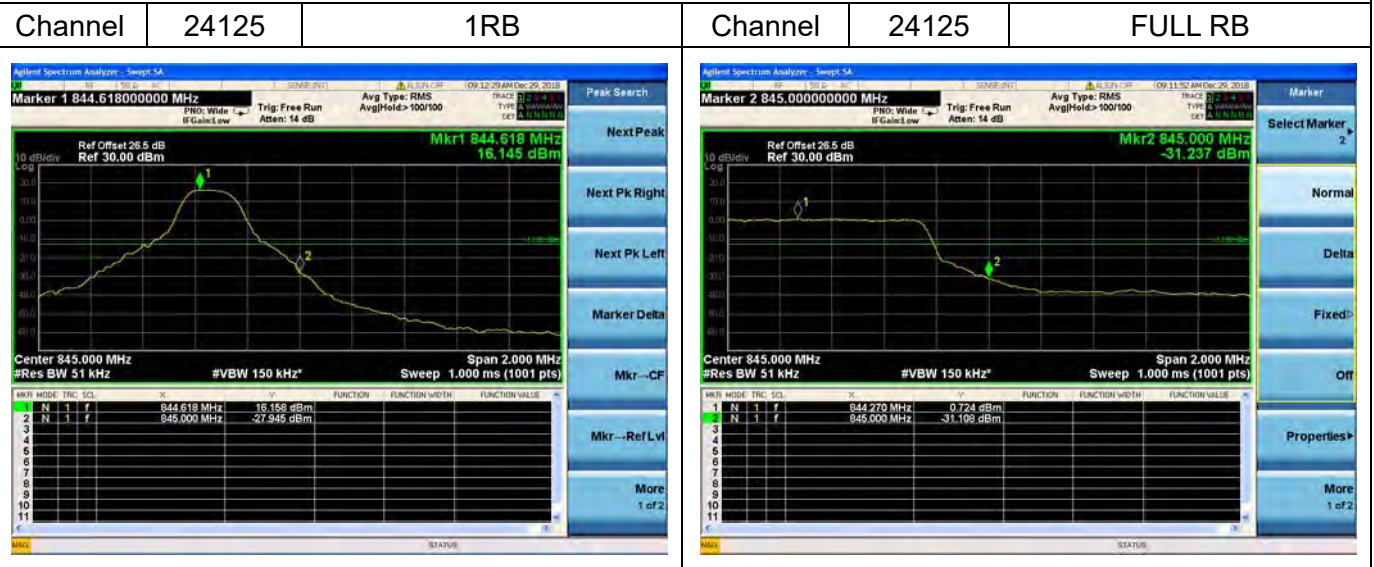


LTE Band 19

Channel Bandwidth: 5MHz



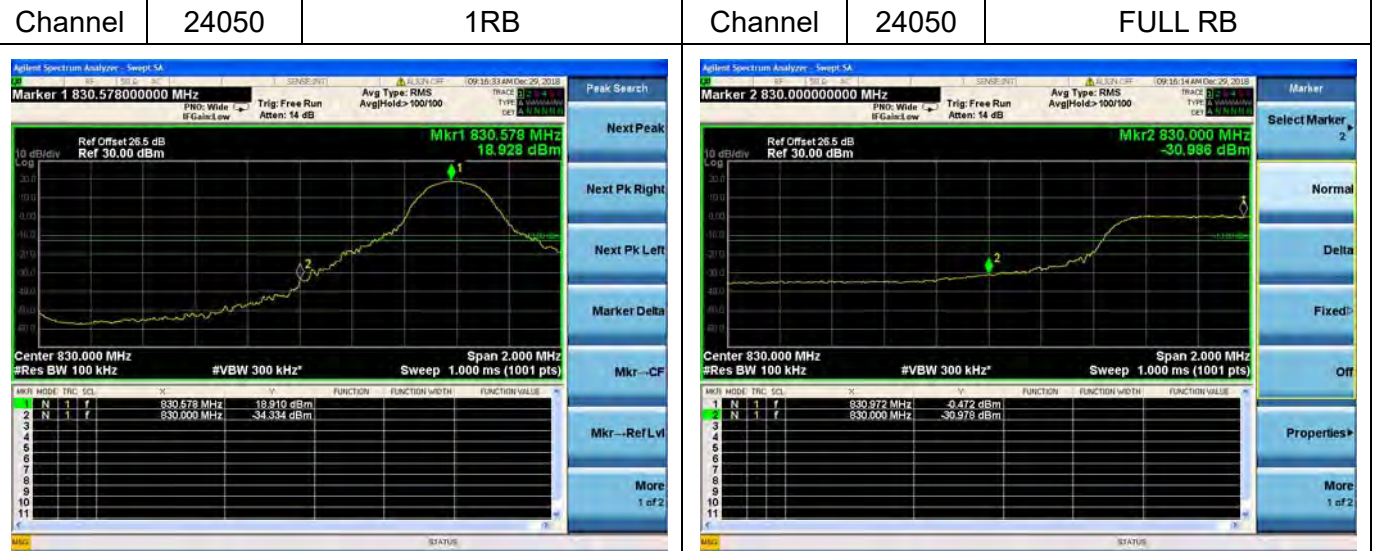
Channel Bandwidth: 5MHz



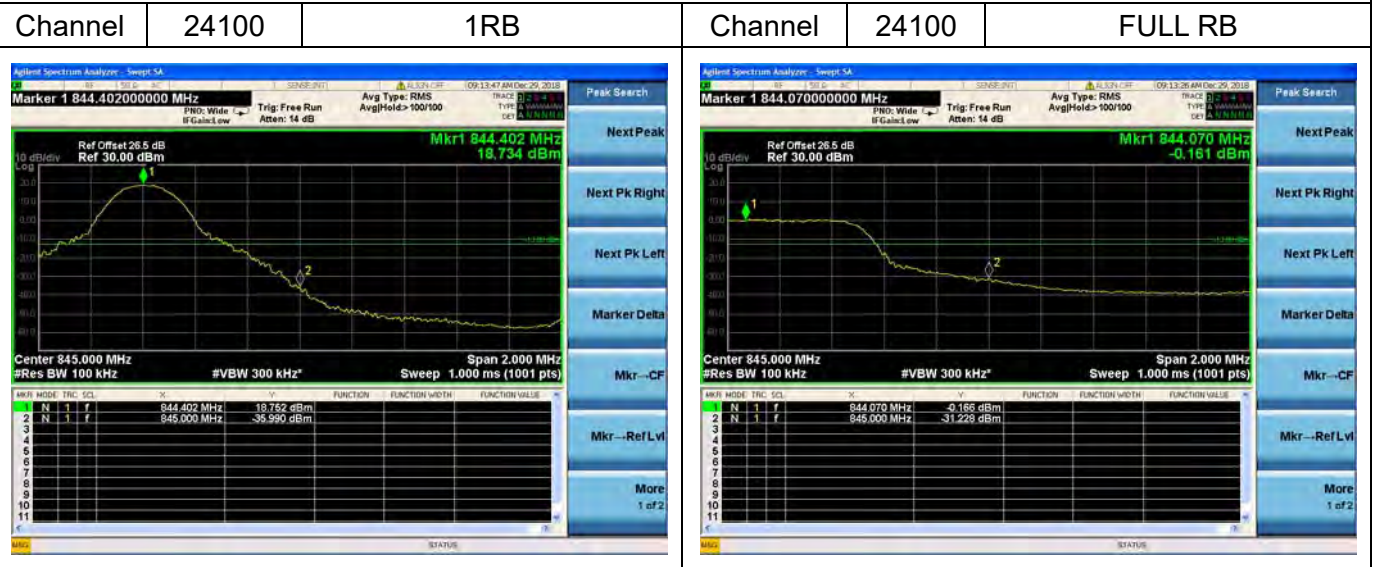


LTE Band 19

Channel Bandwidth: 10MHz



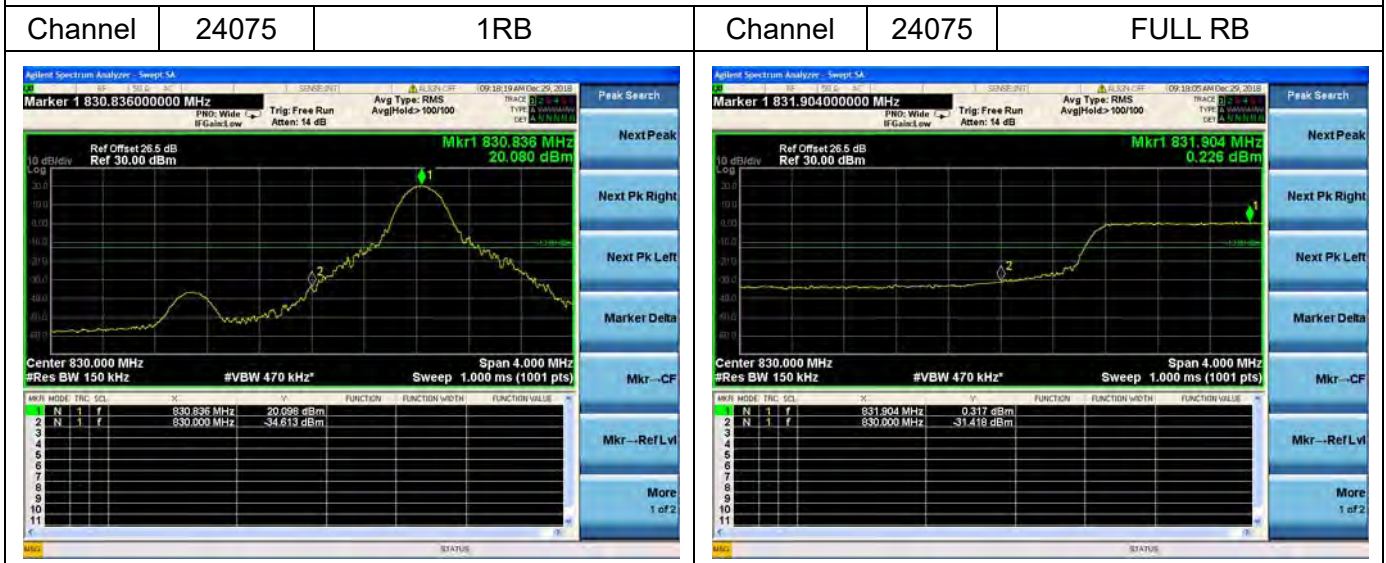
Channel Bandwidth: 10MHz



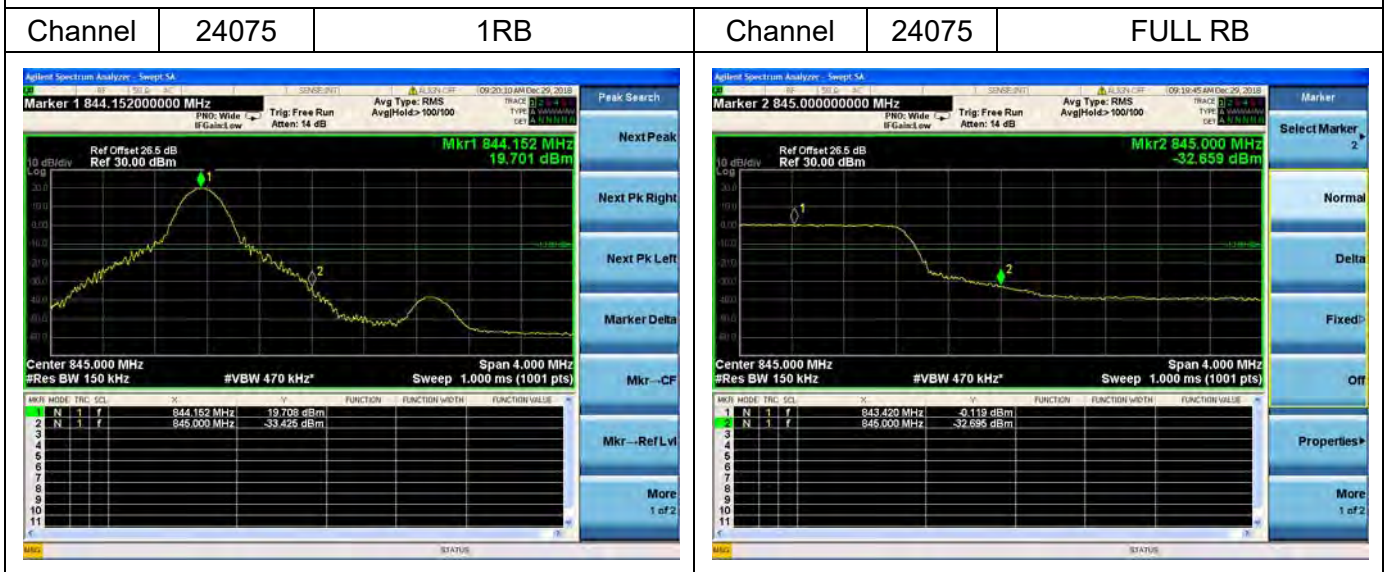


LTE Band 19

Channel Bandwidth: 15MHz



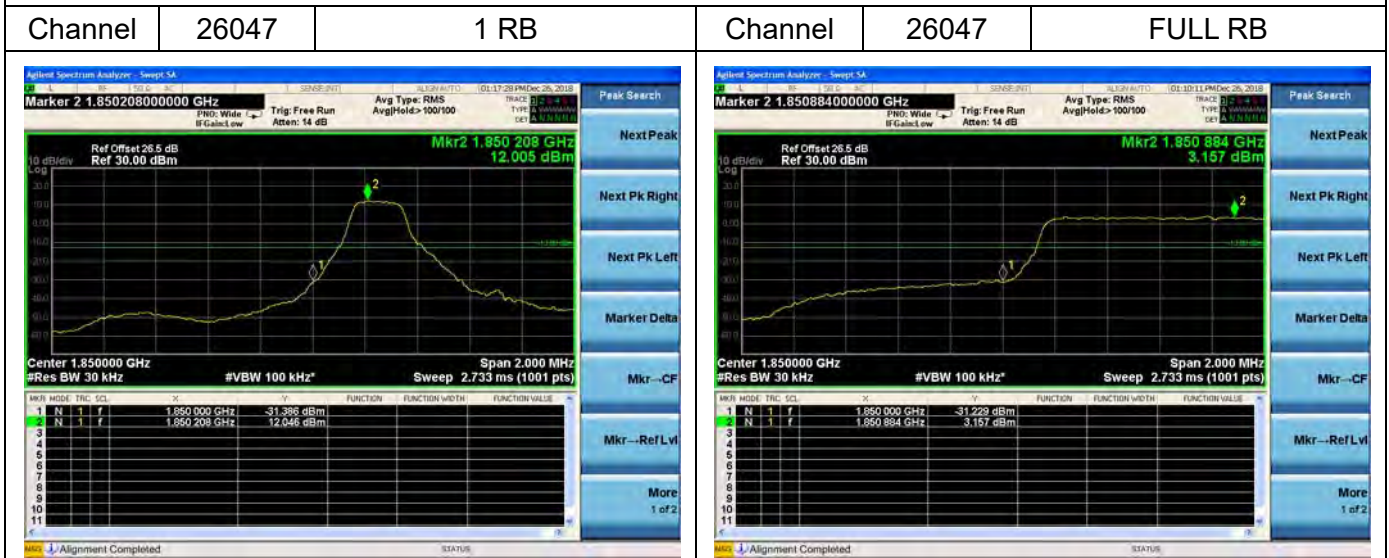
Channel Bandwidth: 15MHz



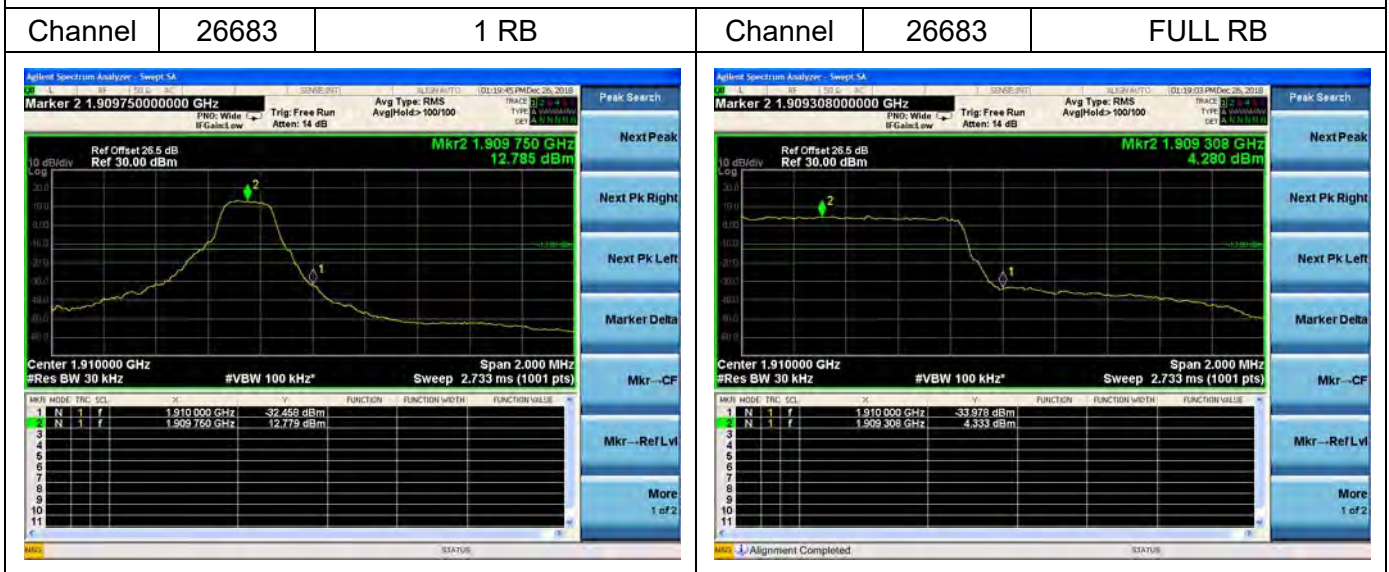


LTE Band 25

Channel Bandwidth: 1.4MHz



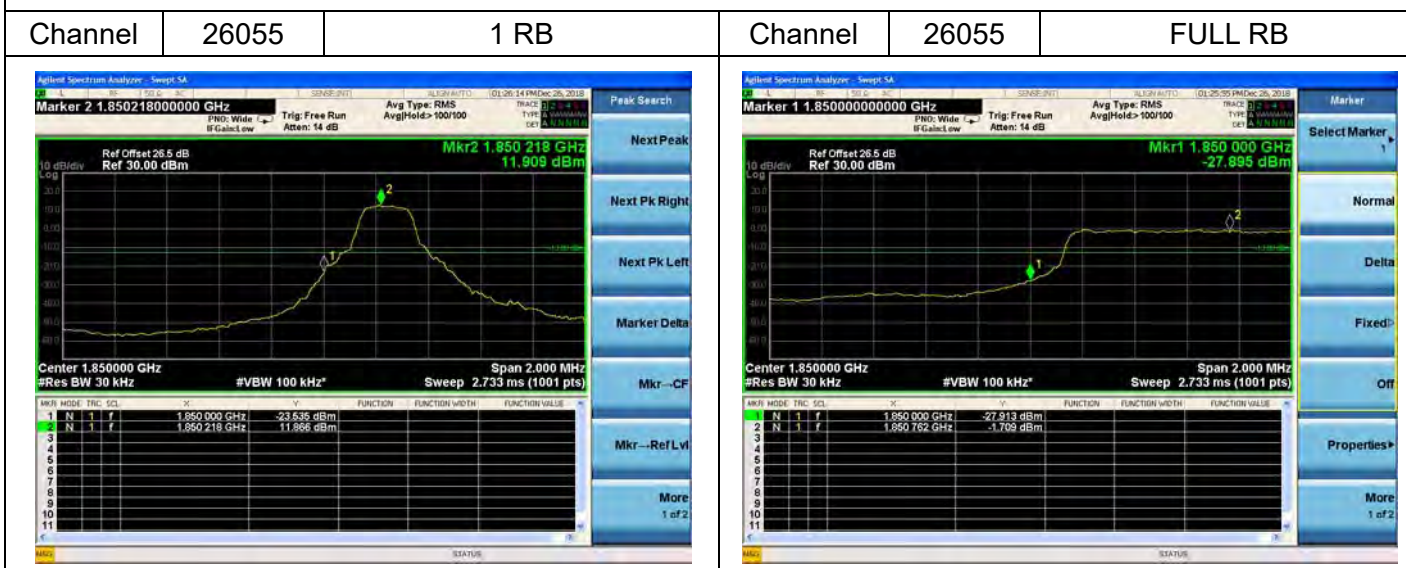
Channel Bandwidth: 1.4MHz



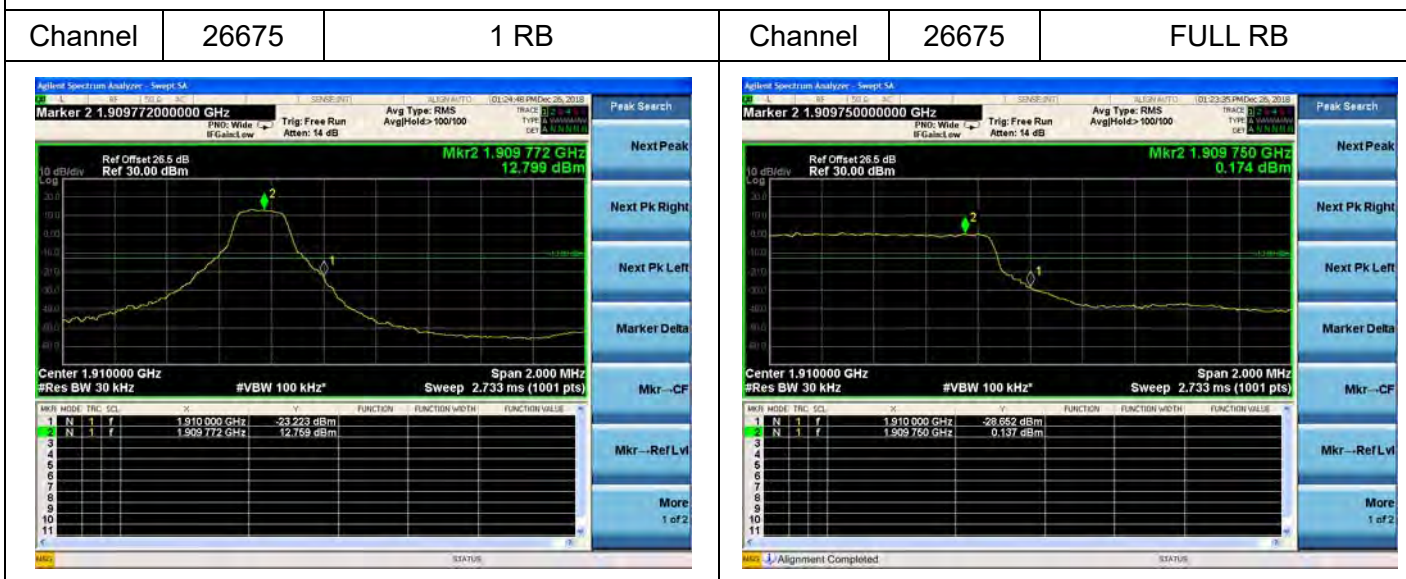


LTE Band 25

Channel Bandwidth: 3MHz



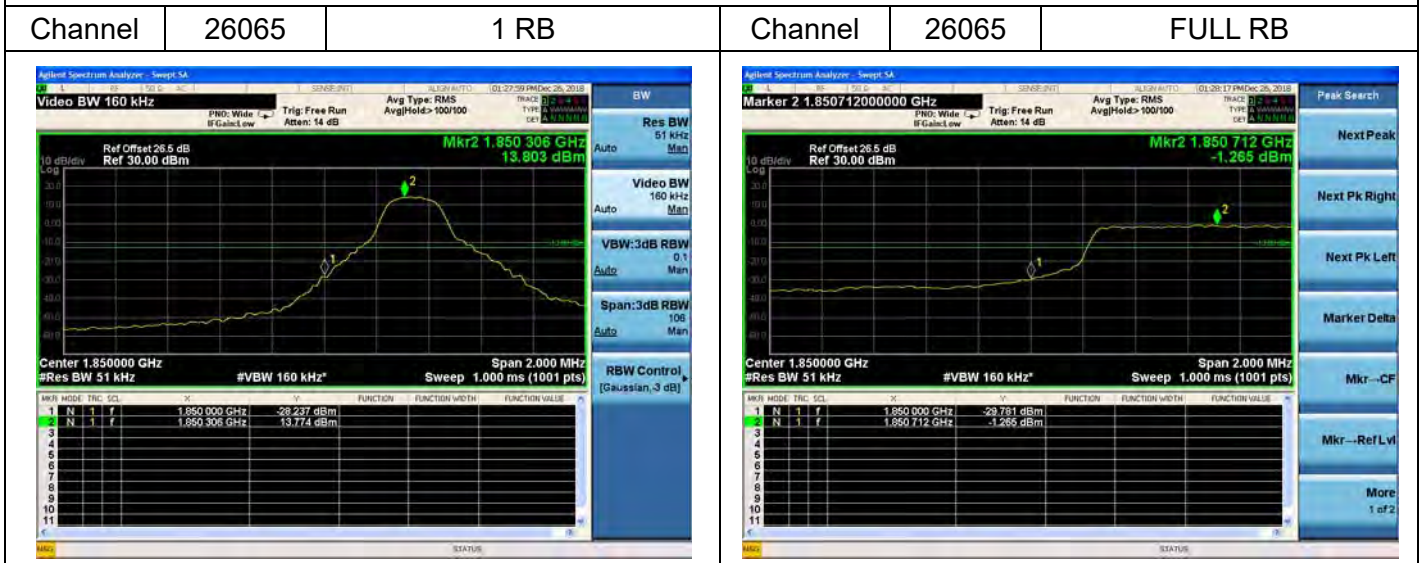
Channel Bandwidth: 3MHz



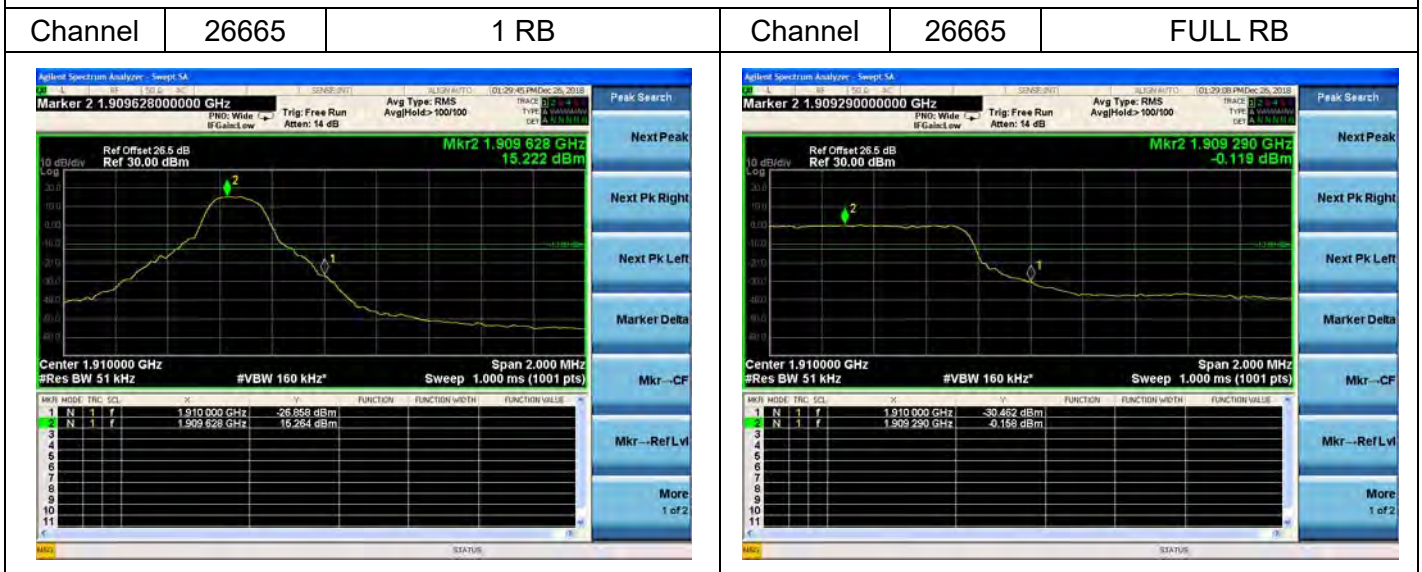


LTE Band 25

Channel Bandwidth: 5MHz



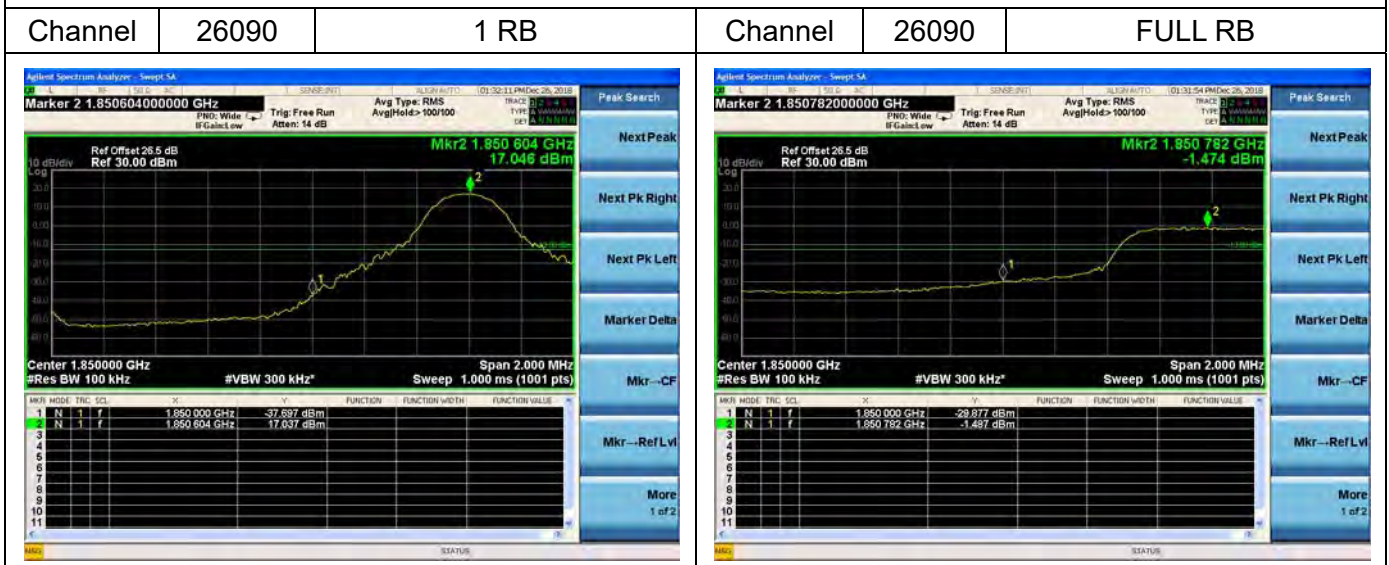
Channel Bandwidth: 5MHz



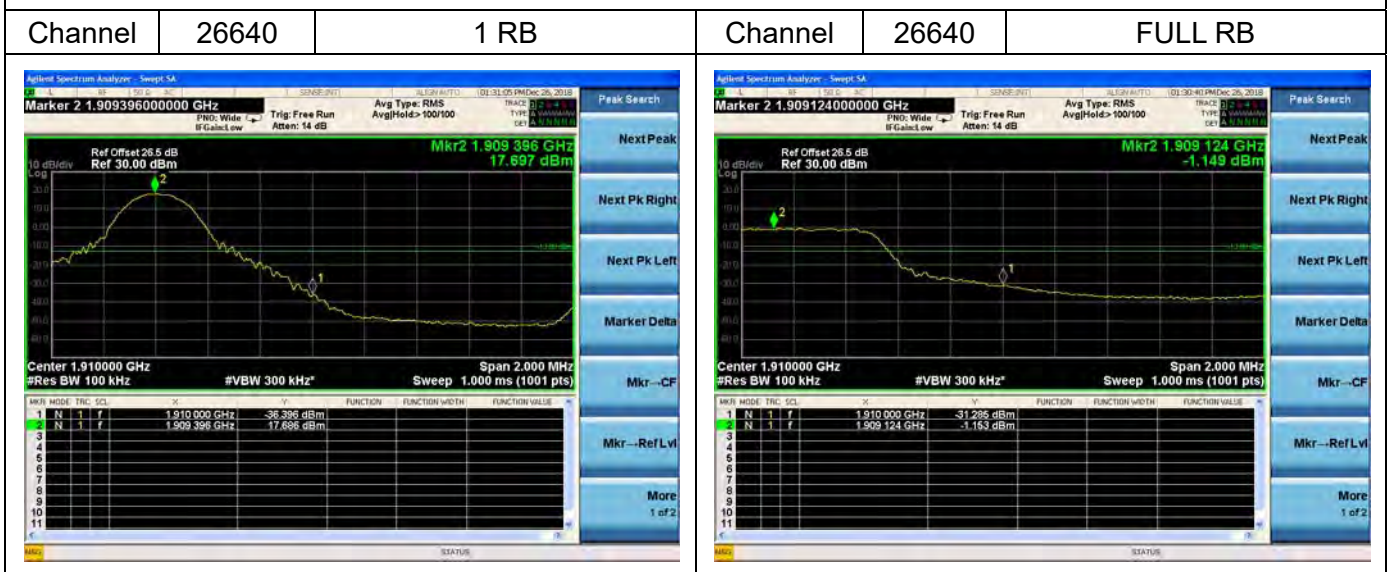


LTE Band 25

Channel Bandwidth: 10MHz



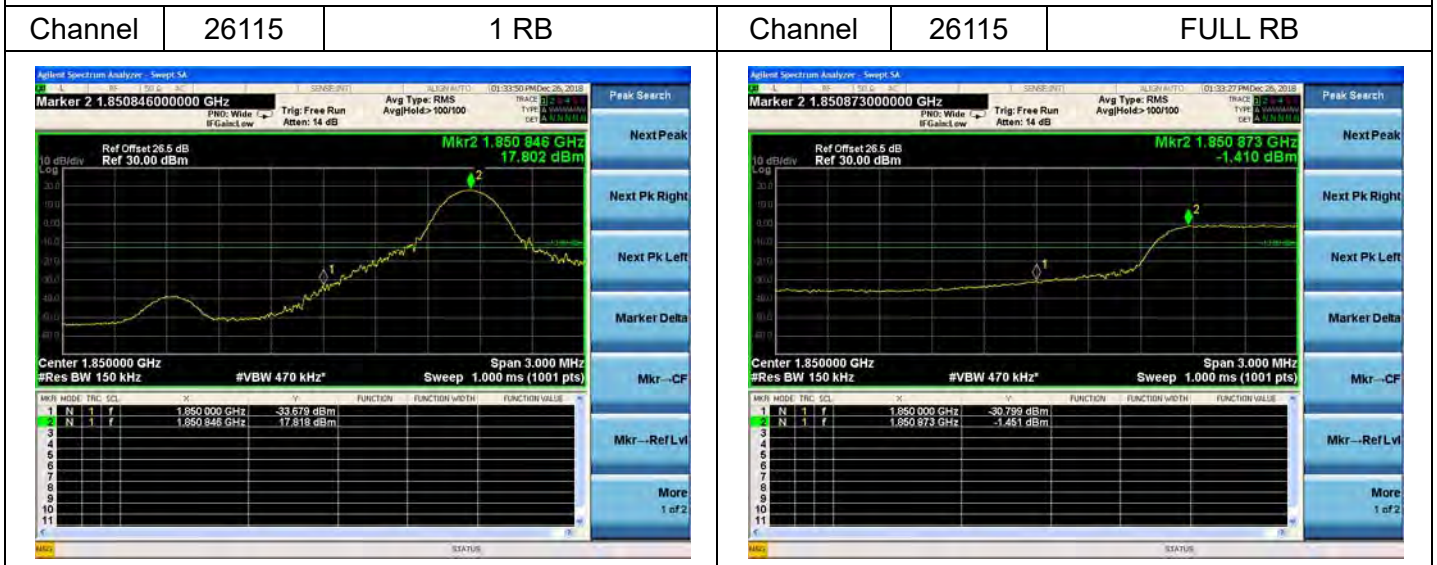
Channel Bandwidth: 10MHz



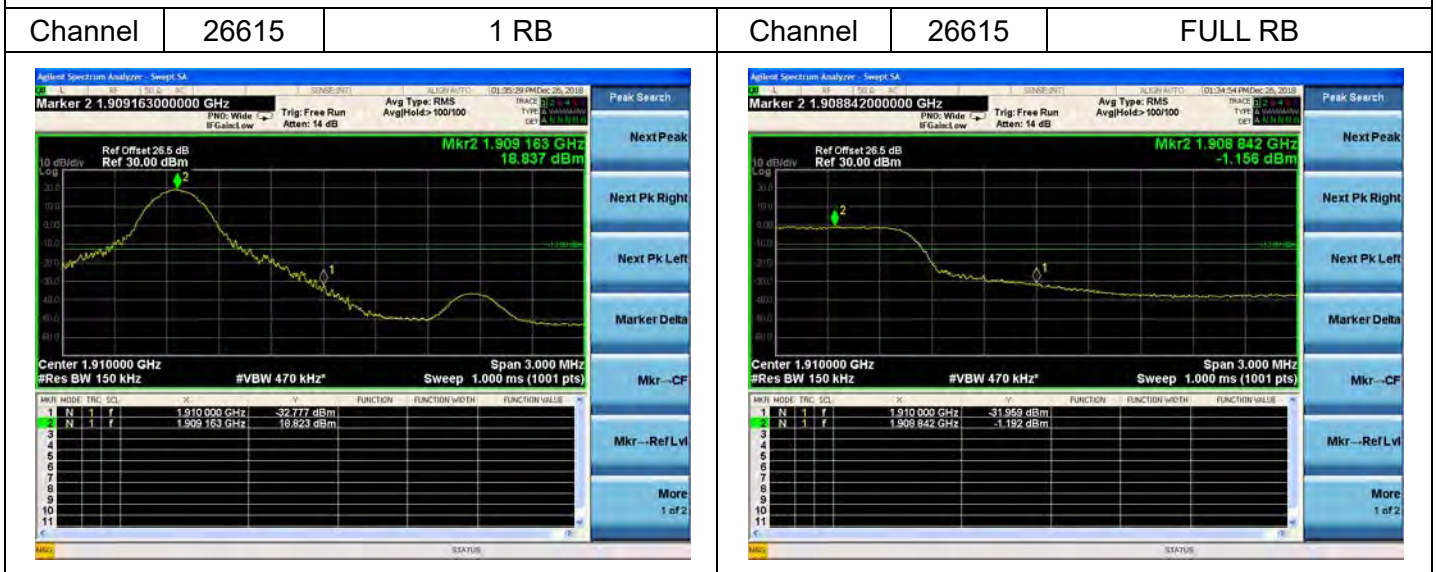


LTE Band 25

Channel Bandwidth: 15MHz



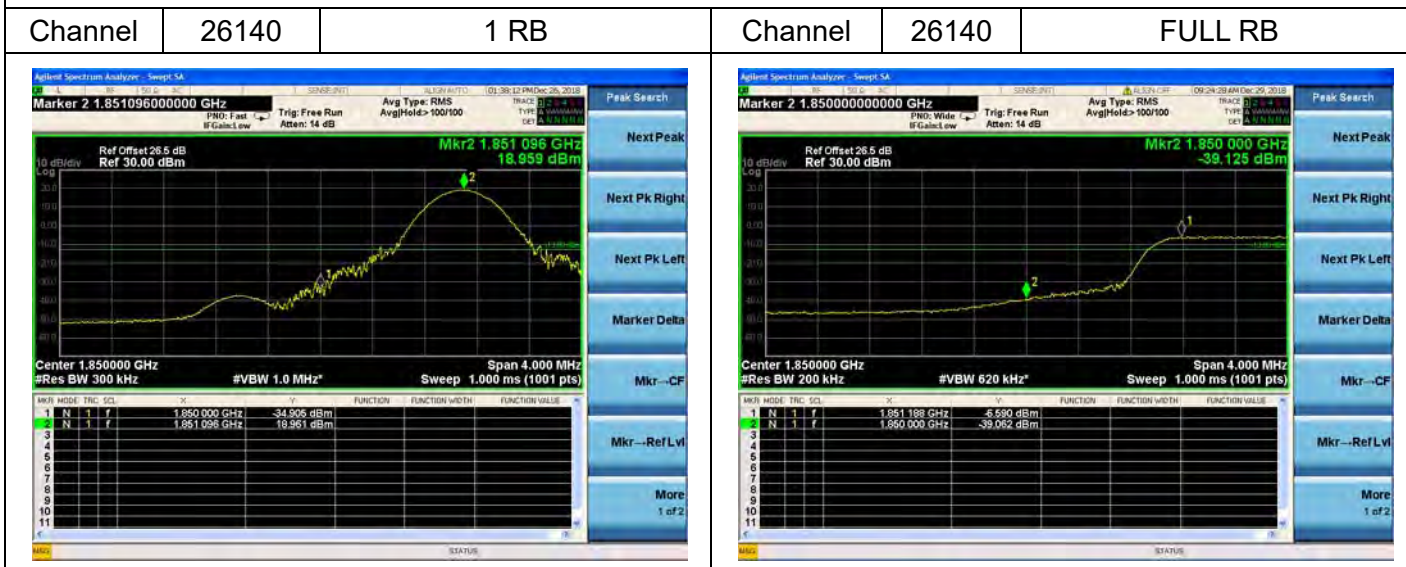
Channel Bandwidth: 15MHz



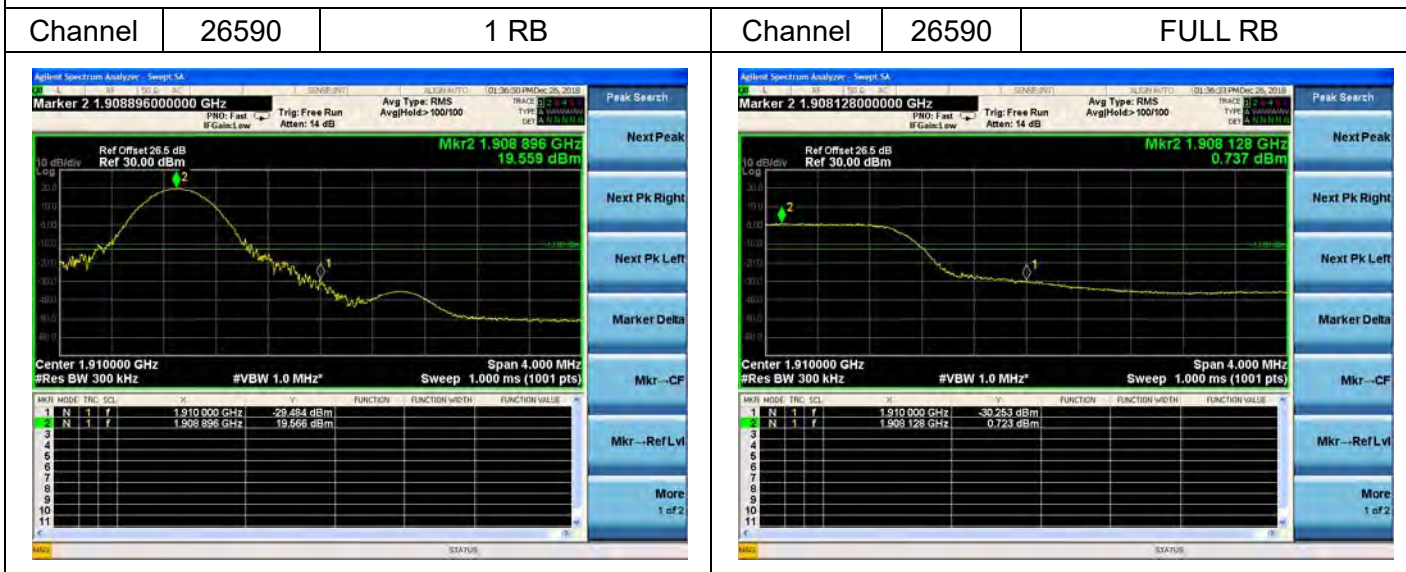


LTE Band 25

Channel Bandwidth: 20MHz



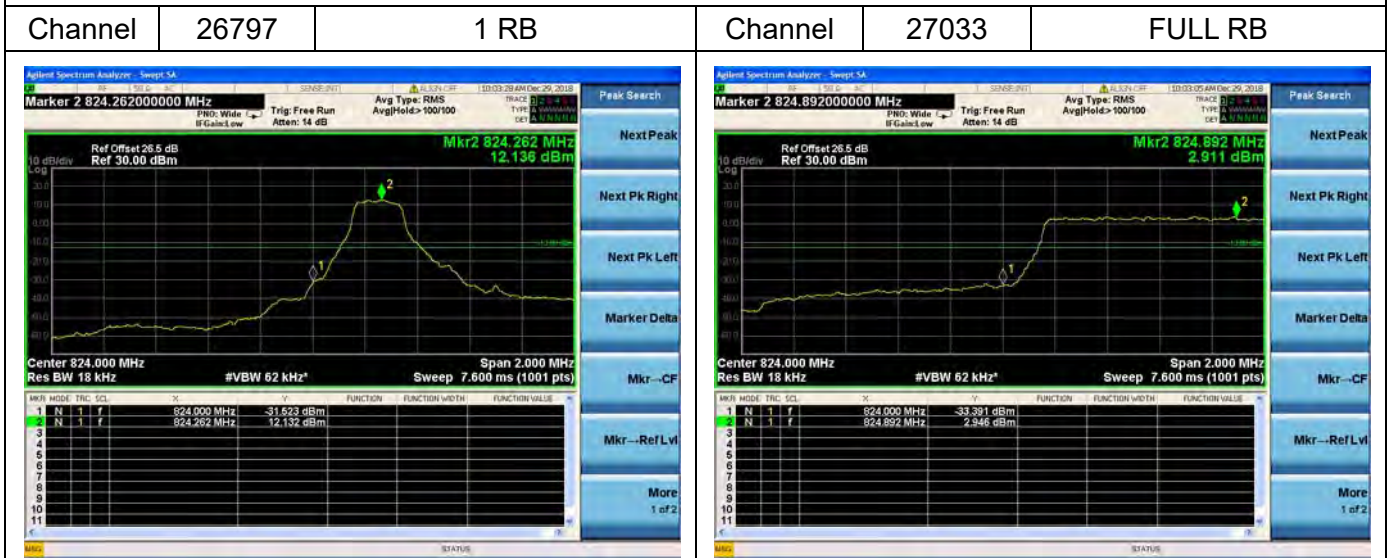
Channel Bandwidth: 20MHz



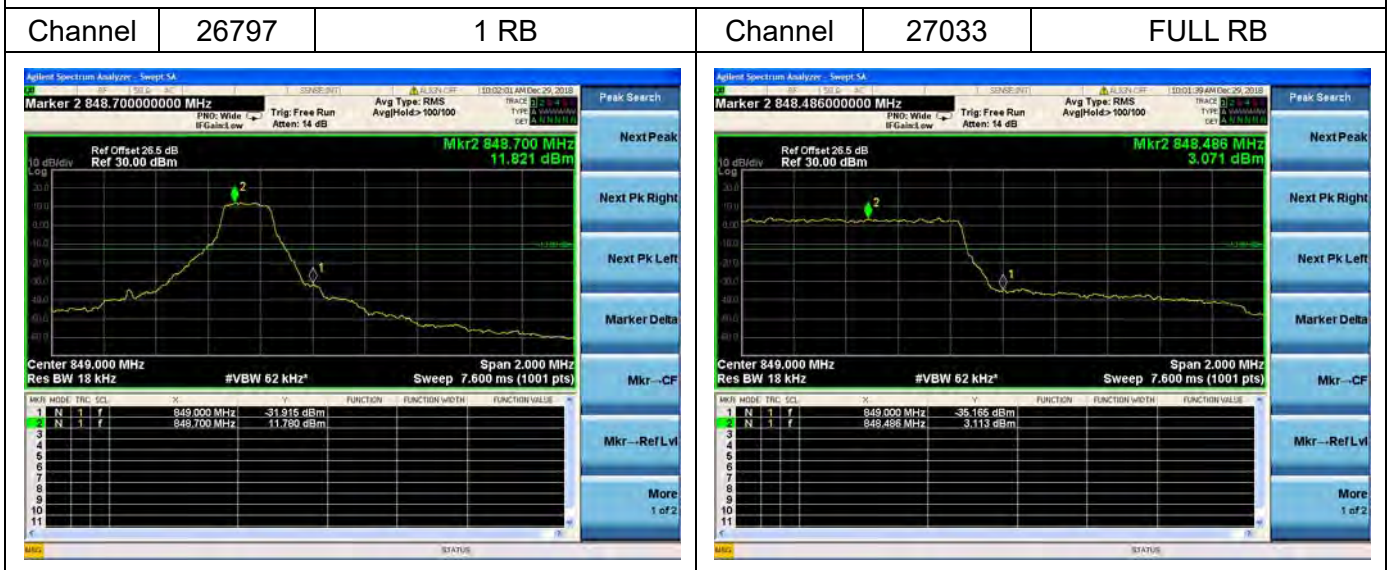


LTE Band 26

Channel Bandwidth: 1.4MHz



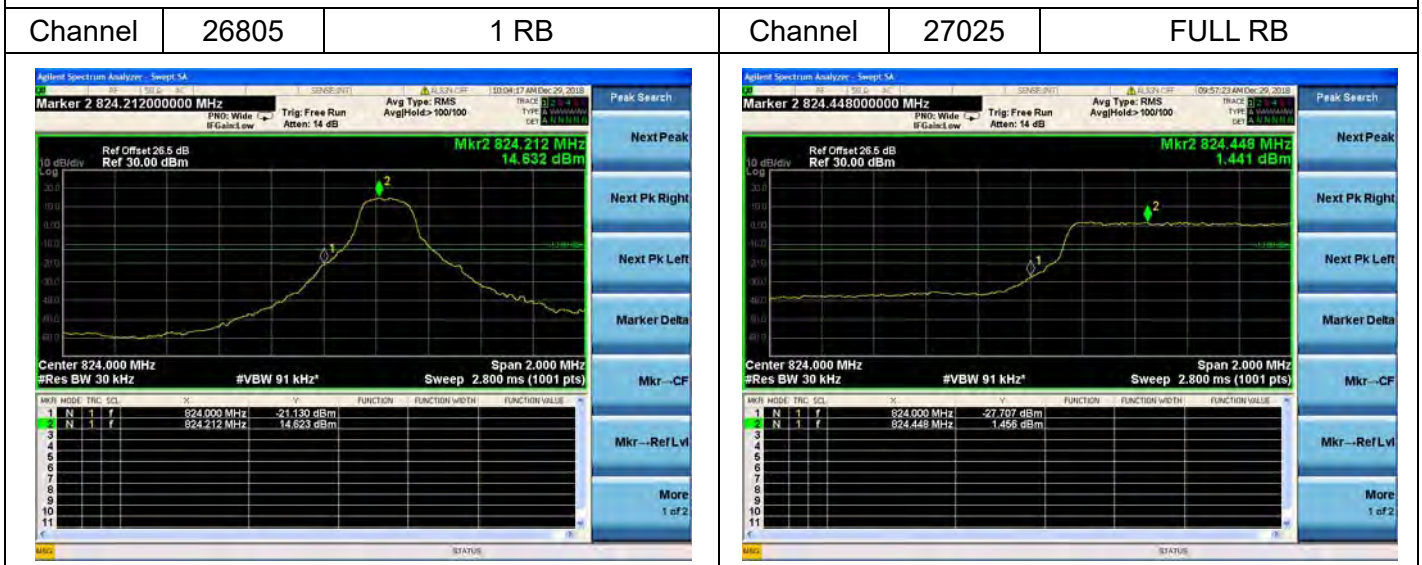
Channel Bandwidth: 1.4MHz





LTE Band 26

Channel Bandwidth: 3MHz



Channel Bandwidth: 3MHz

