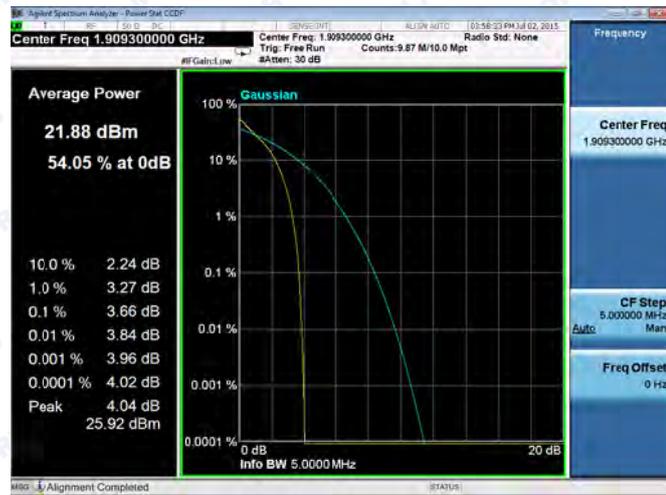




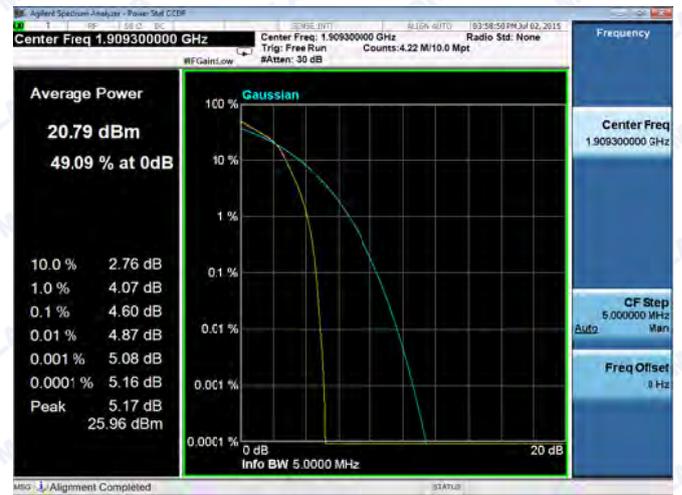
LTE Band 2 High channel							
Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
19193	1909.3	3.66	4.60	19185	1908.5	3.97	4.85

Spectrum Plot of Worst Value

1.4MHz/QPSK



1.4MHz/16QAM

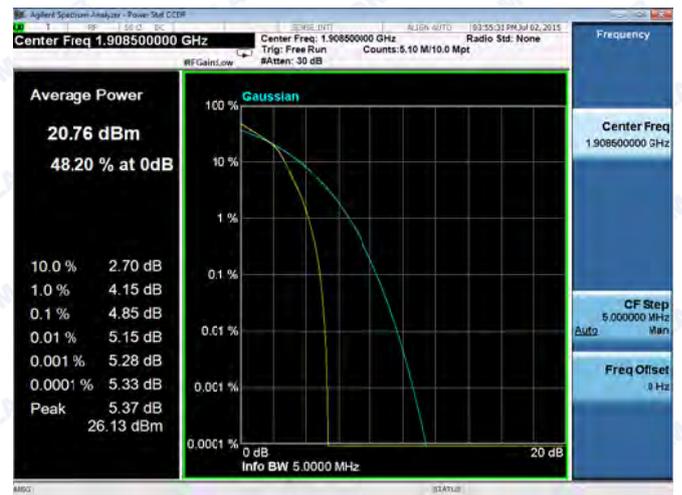


Spectrum Plot of Worst Value

3MHz/QPSK



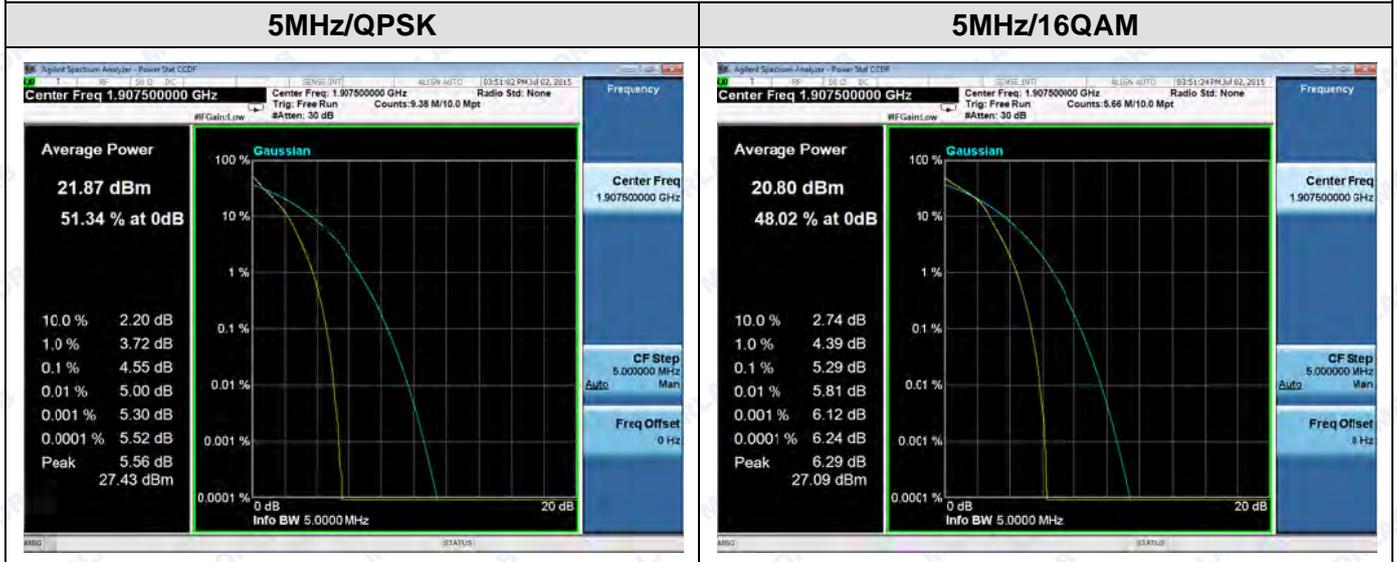
3MHz/16QAM



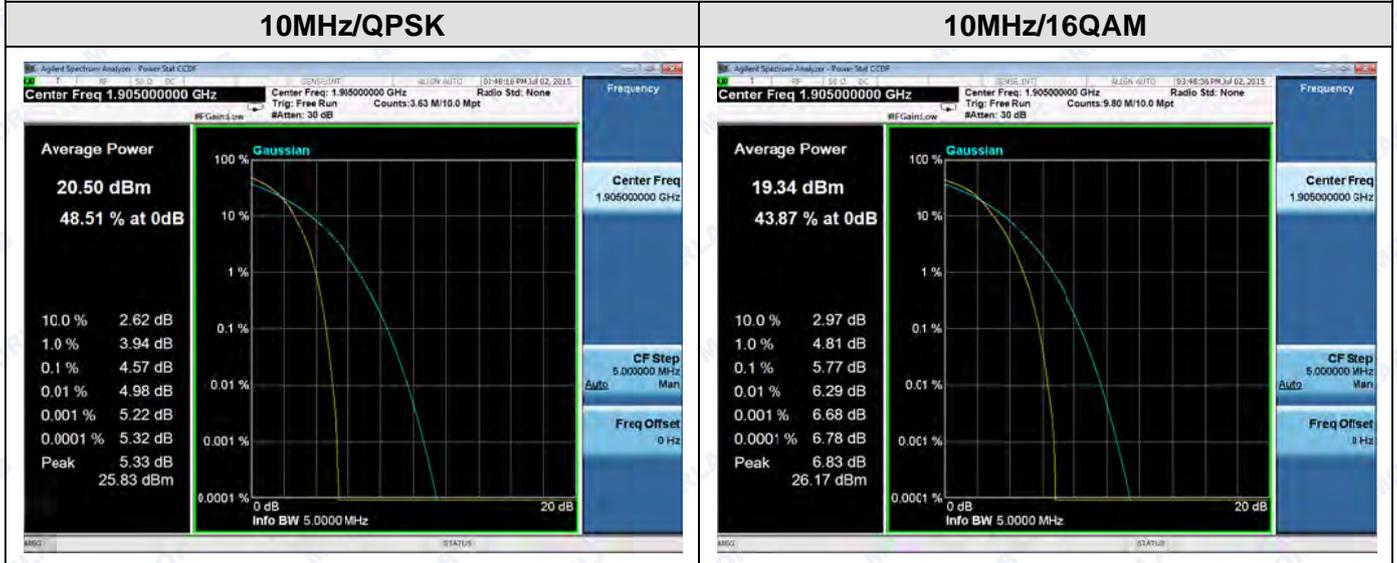


LTE Band 2 High channel							
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
19175	1907.5	4.55	5.29	19150	1905.0	4.57	5.77

**Spectrum Plot of Worst Value**



**Spectrum Plot of Worst Value**



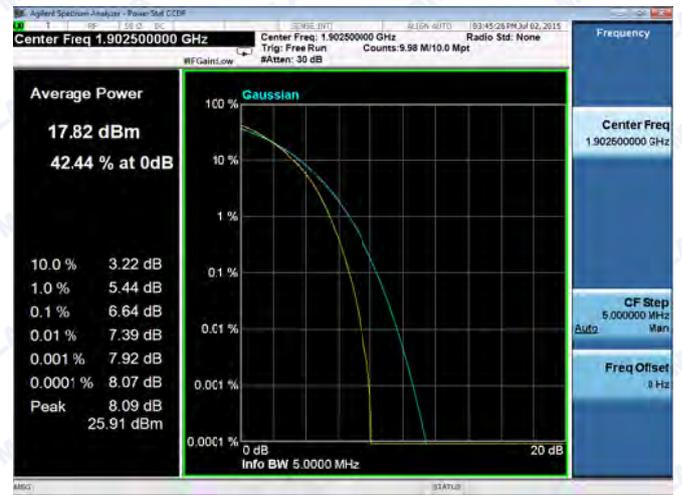
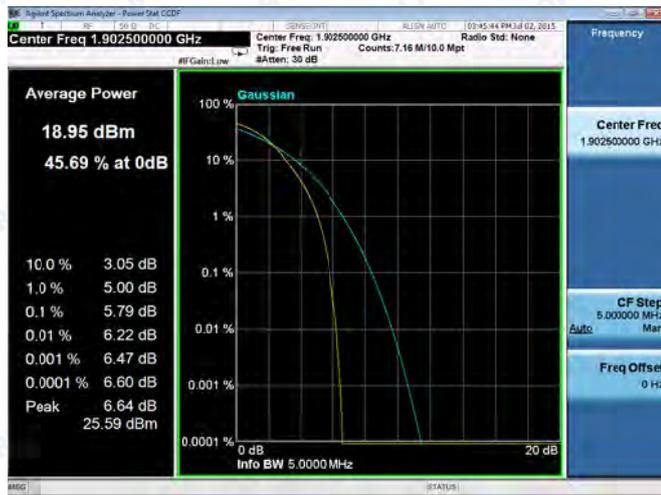


LTE Band 2 High channel							
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
19125	1902.5	5.79	6.64	19100	1900.0	6.47	7.00

Spectrum Plot of Worst Value

15MHz/QPSK

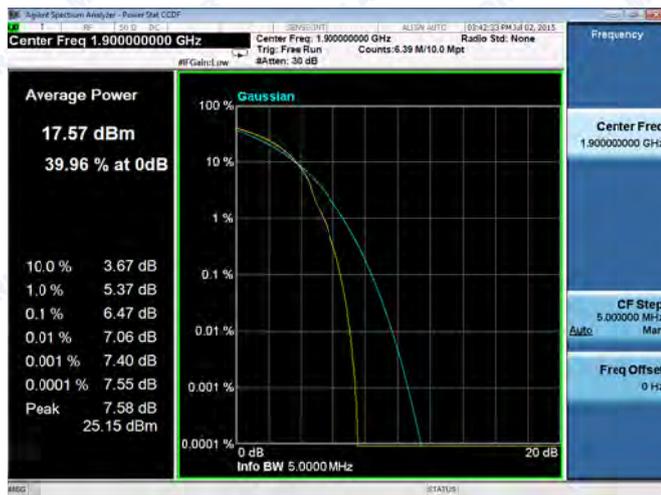
15MHz/16QAM



Spectrum Plot of Worst Value

20MHz/QPSK

20MHz/16QAM



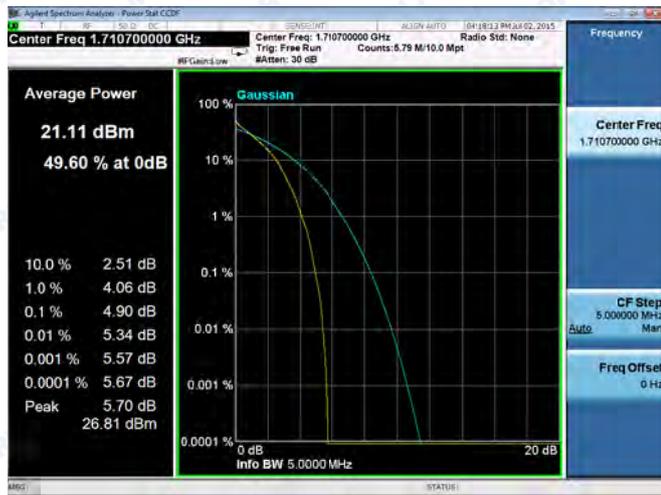


LTE Band 4 Low channel							
Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
19957	1710.7	4.90	5.71	19965	1711.5	5.08	5.86

Spectrum Plot of Worst Value (Low channel)

1.4MHz/QPSK

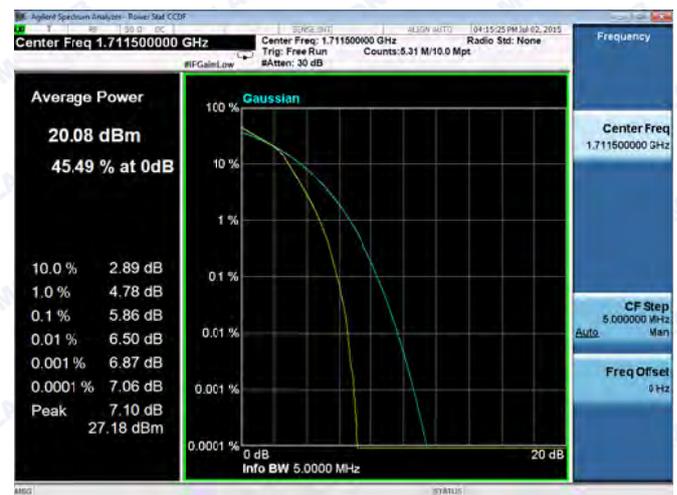
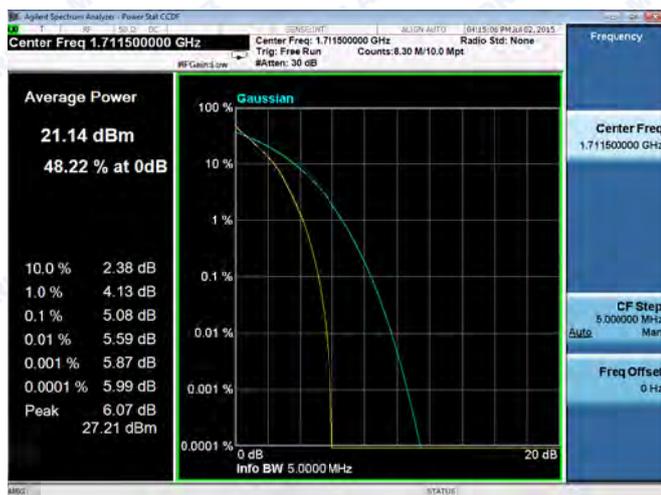
1.4MHz/16QAM



Spectrum Plot of Worst Value

3MHz/QPSK

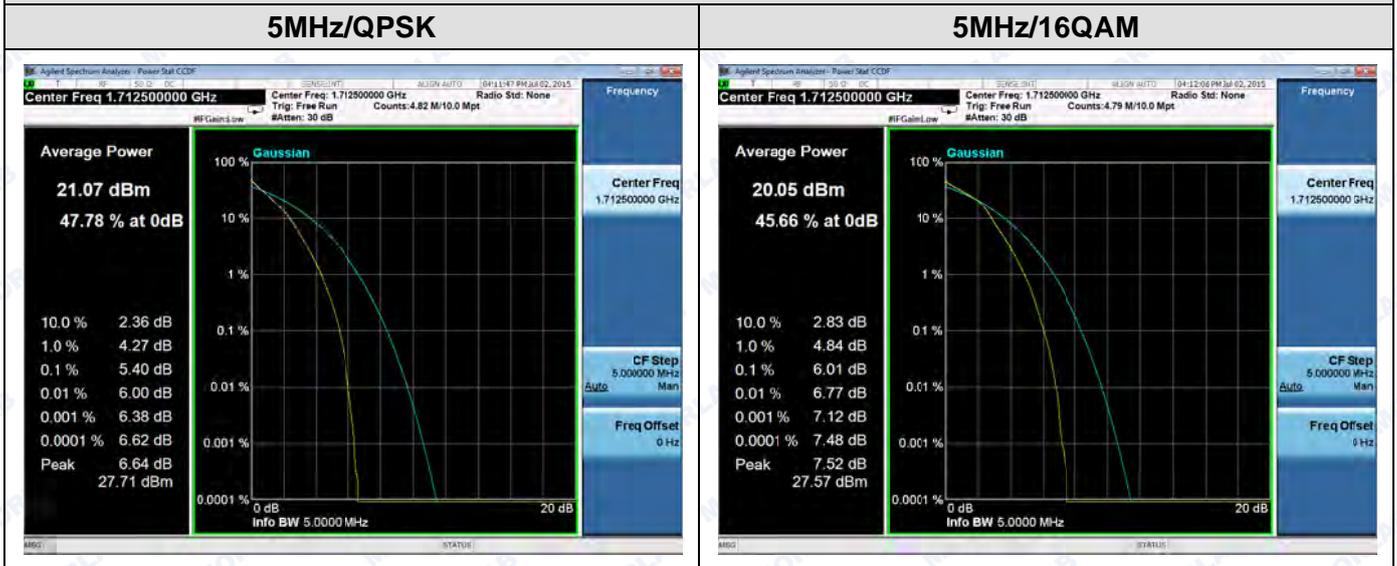
3MHz/16QAM



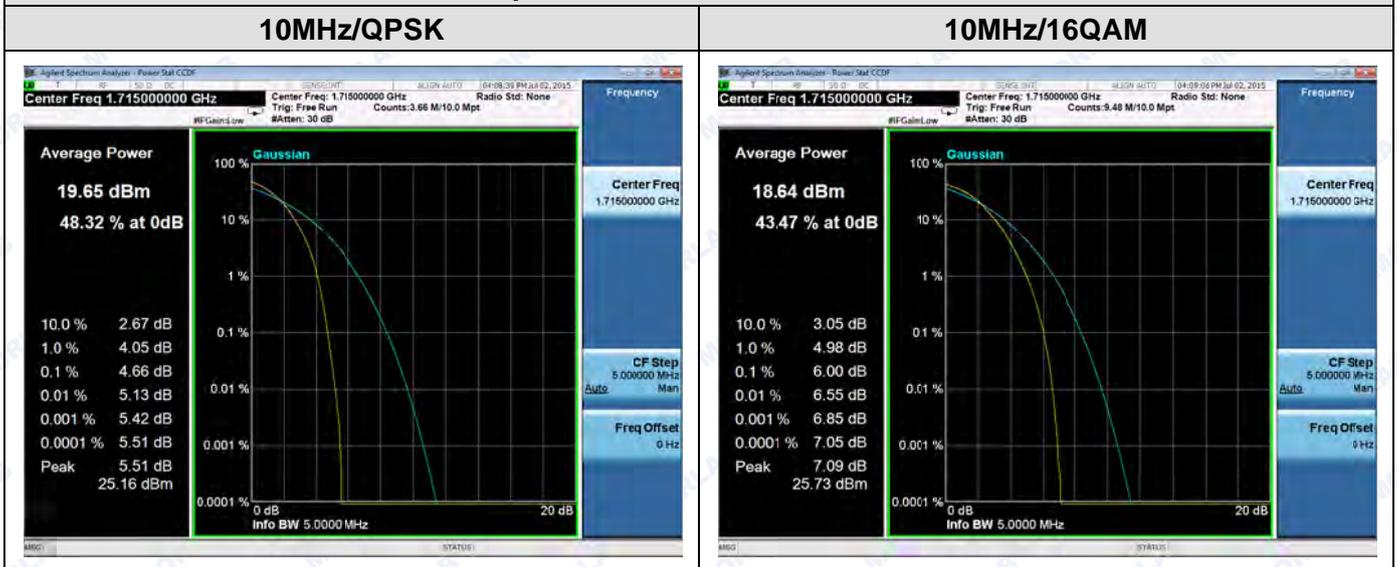


LTE Band 4 Low channel							
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
19975	1712.5	5.40	6.01	20000	1715.0	4.66	6.00

Spectrum Plot of Worst Value



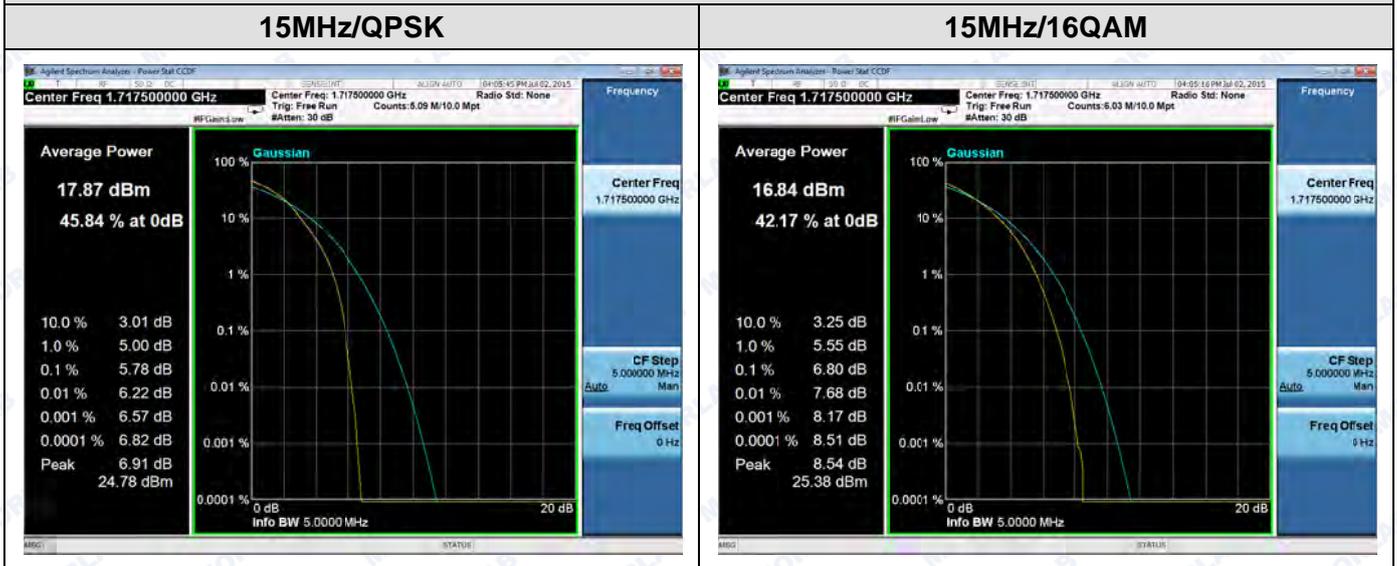
Spectrum Plot of Worst Value



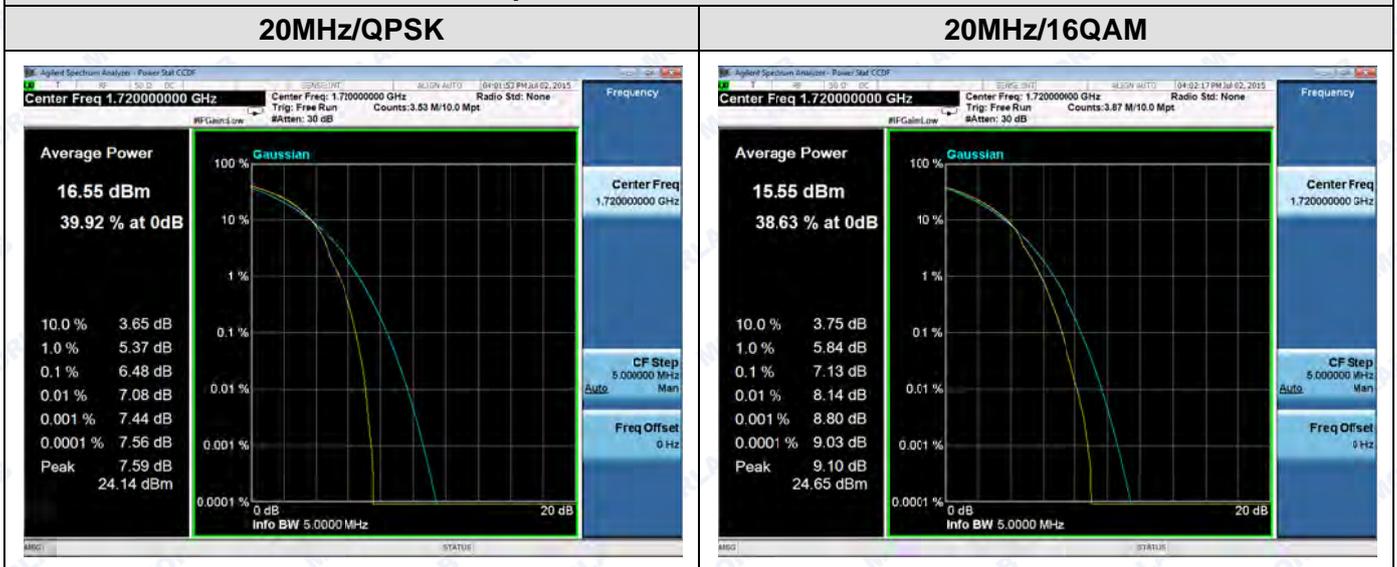


LTE Band 4 Low channel							
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
20025	1717.5	5.78	6.80	20050	1720.0	6.48	7.13

Spectrum Plot of Worst Value



Spectrum Plot of Worst Value



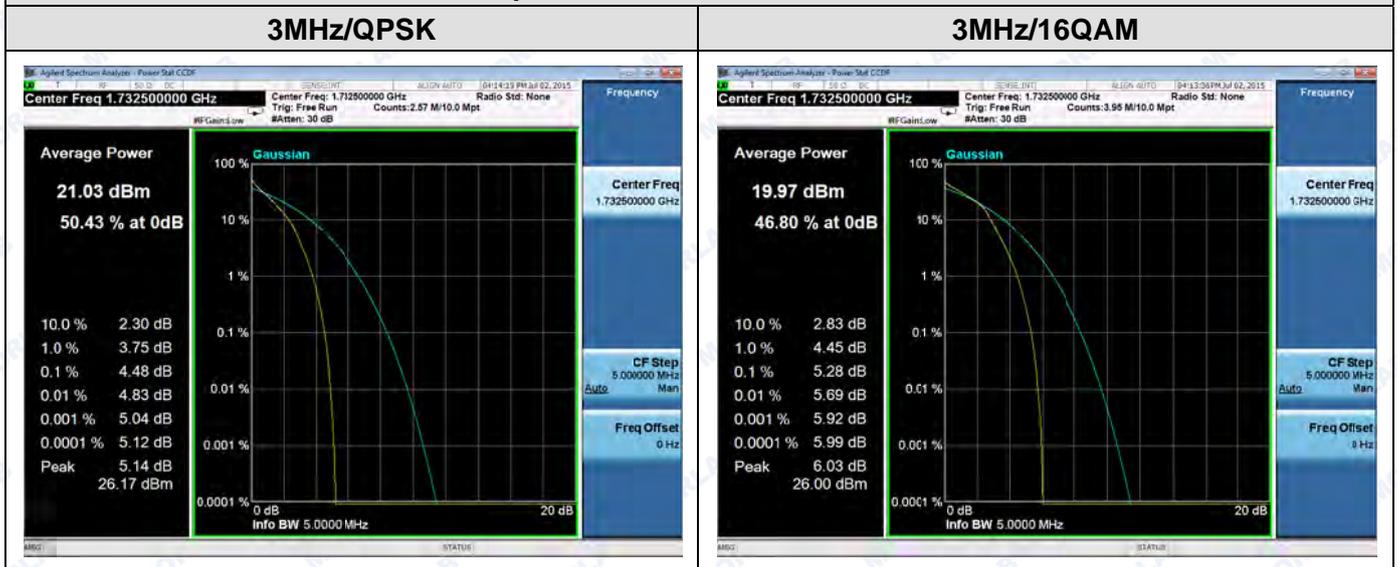


LTE Band 4 Middle channel							
Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
20175	1732.5	4.26	5.10	20175	1732.5	4.48	5.28

Spectrum Plot of Worst Value



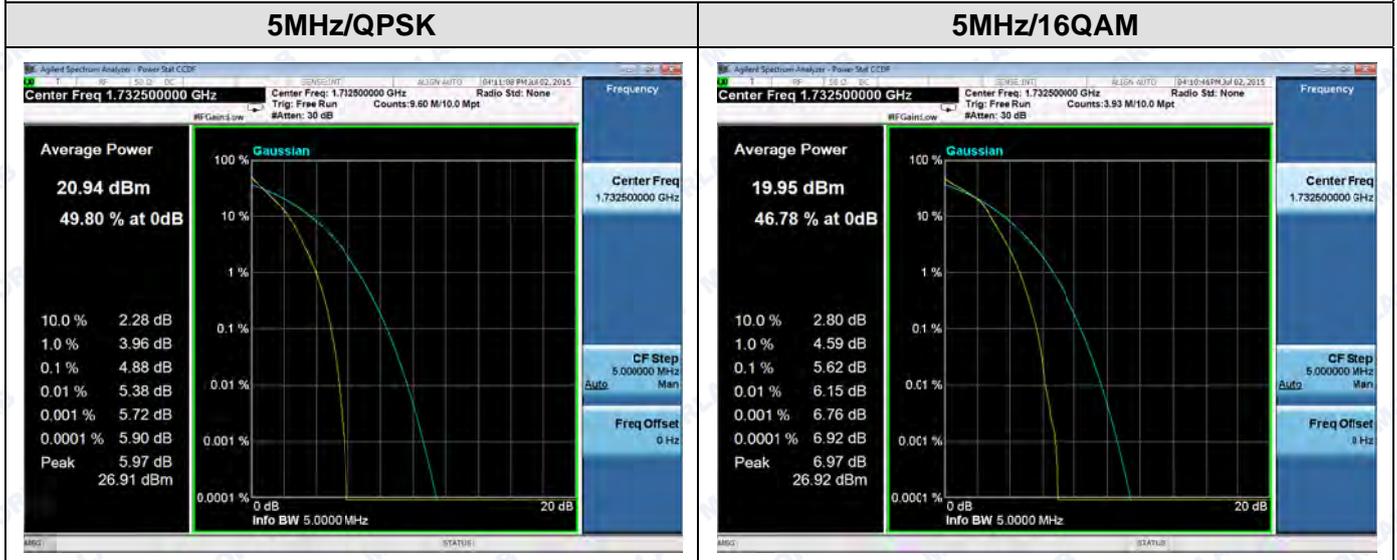
Spectrum Plot of Worst Value



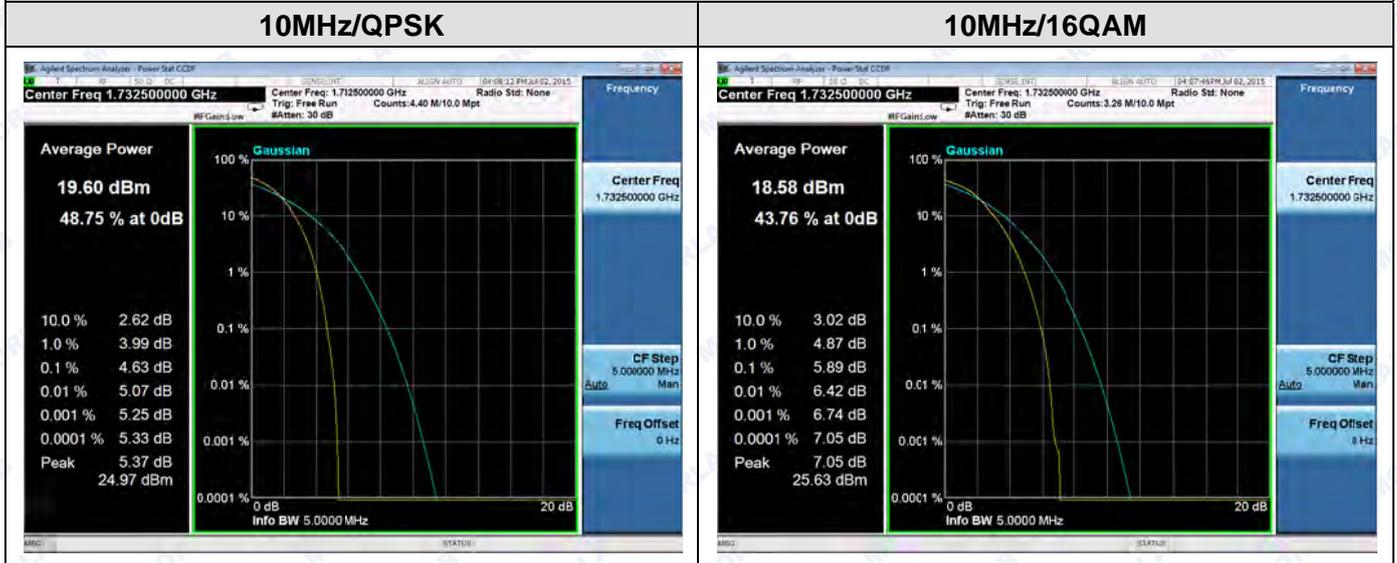


LTE Band 4 Middle channel							
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
20175	1732.5	4.88	5.62	20175	1732.5	4.63	5.89

**Spectrum Plot of Worst Value**



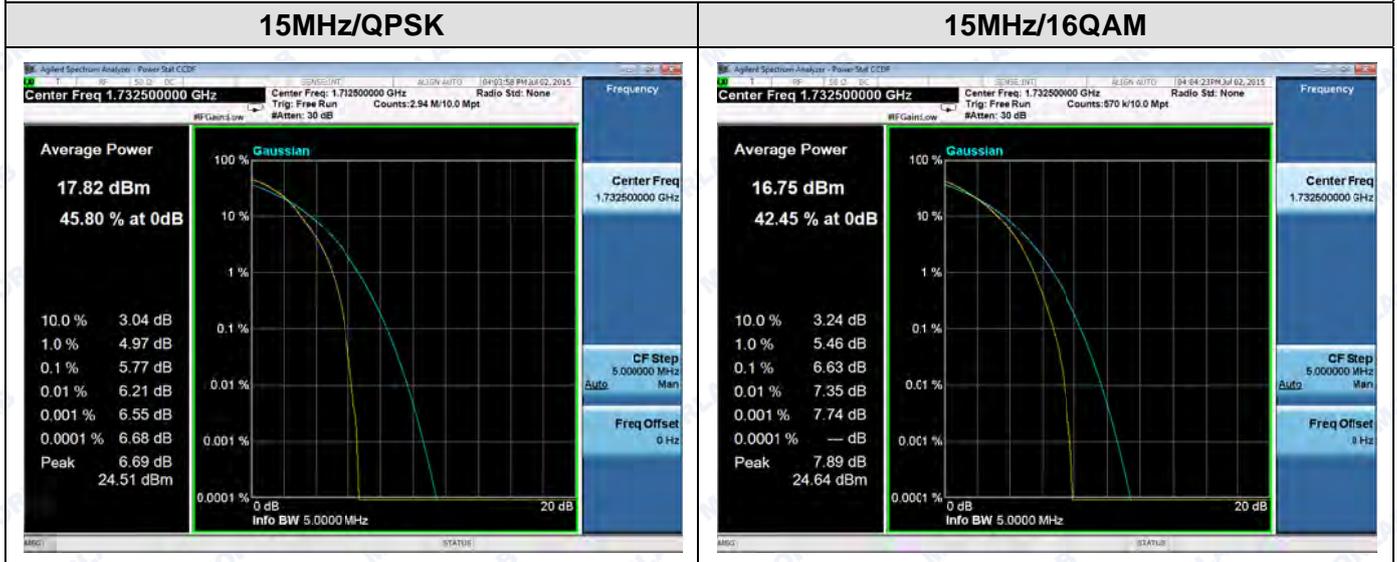
**Spectrum Plot of Worst Value**



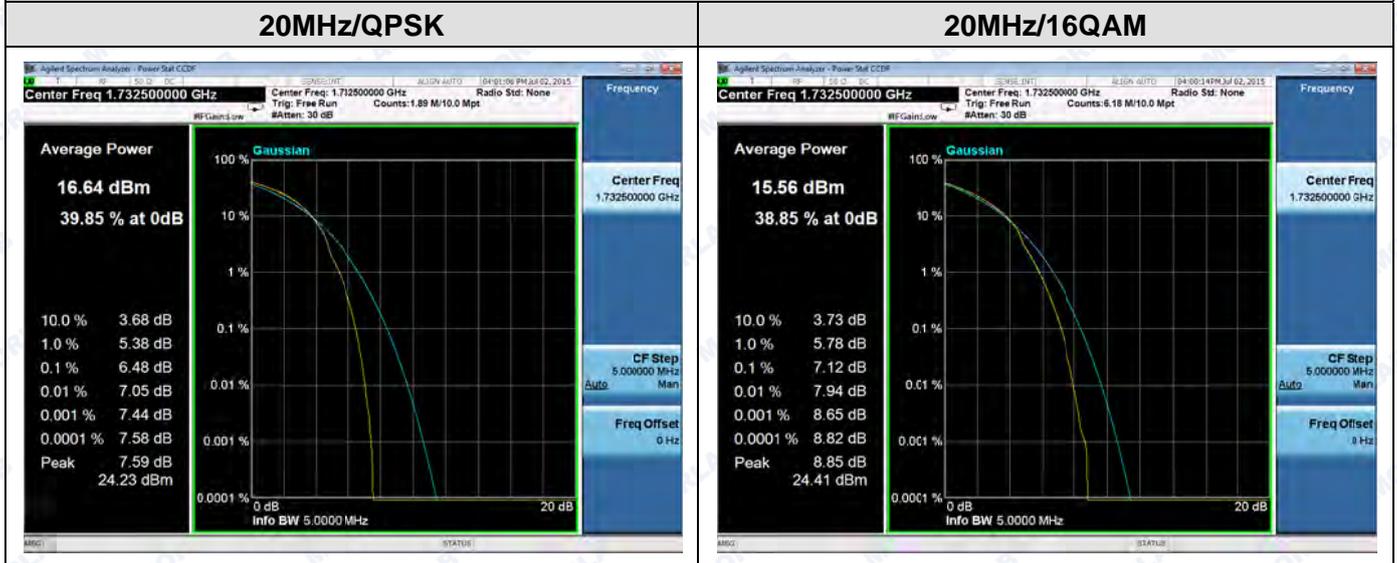


LTE Band 4 Middle channel							
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
20175	1732.5	5.77	6.63	20175	1732.5	6.48	7.12

**Spectrum Plot of Worst Value**



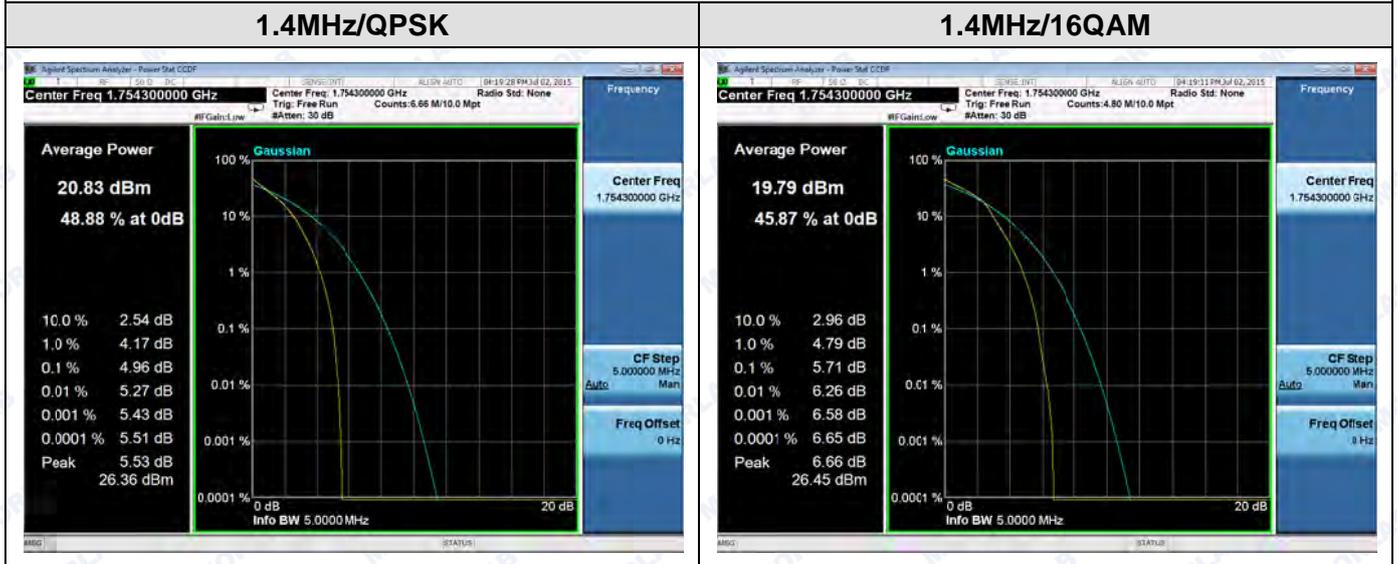
**Spectrum Plot of Worst Value**



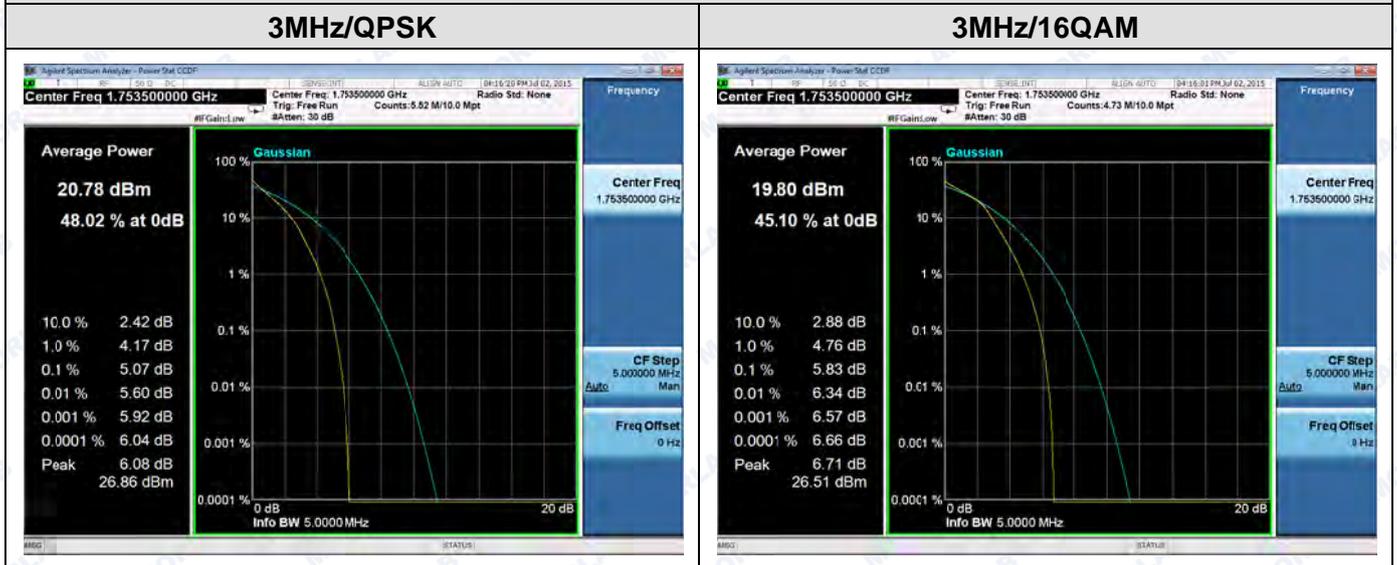


LTE Band 4 High channel							
Channel Bandwidth: 1.4MHz				Channel Bandwidth: 3MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
20393	1754.3	4.96	5.71	20385	1753.5	5.07	5.83

Spectrum Plot of Worst Value



Spectrum Plot of Worst Value



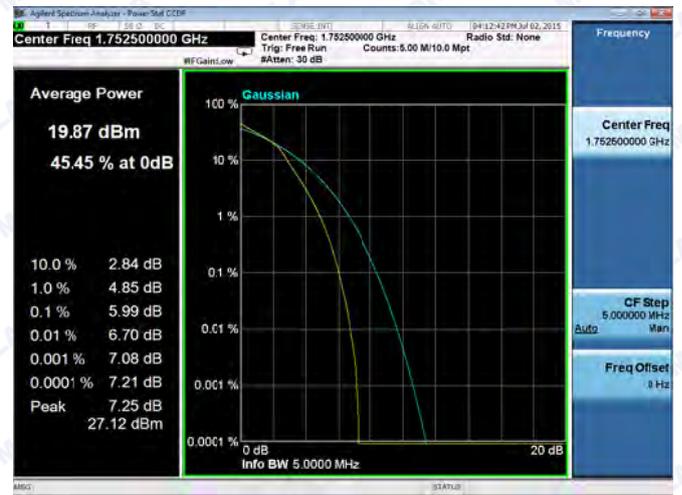
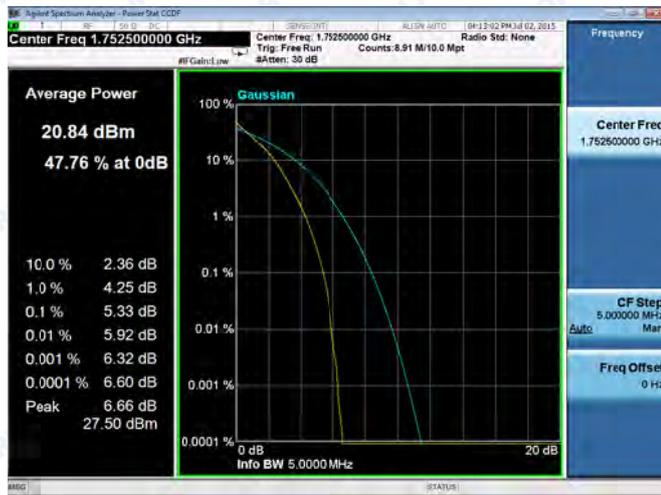


LTE Band 4 High channel							
Channel Bandwidth: 5MHz				Channel Bandwidth: 10MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
20375	1752.5	5.33	5.99	20350	1750.0	4.61	5.98

Spectrum Plot of Worst Value

5MHz/QPSK

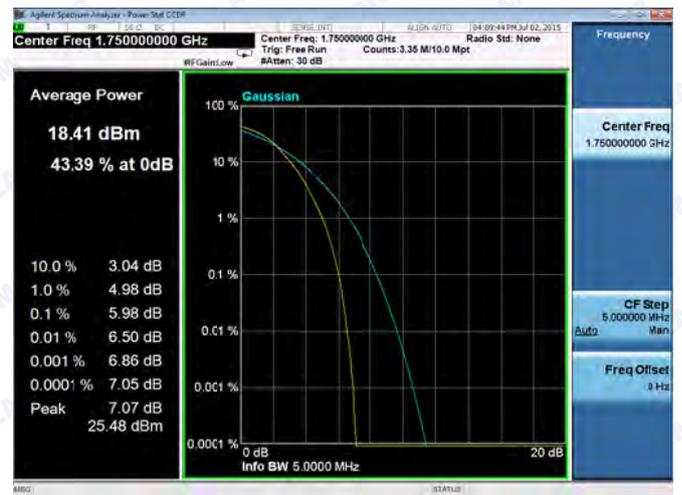
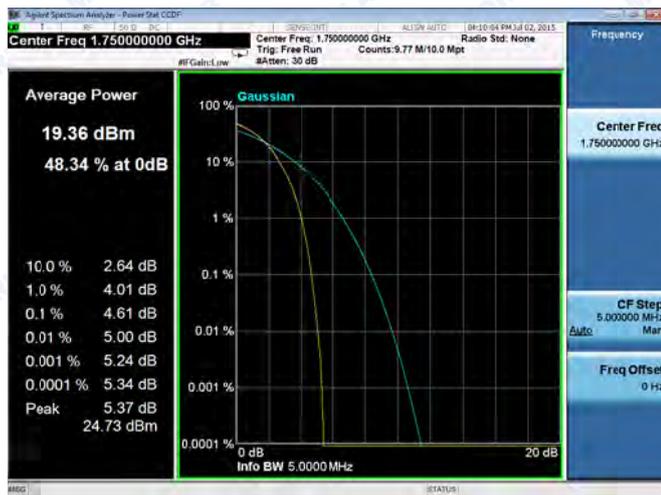
5MHz/16QAM



Spectrum Plot of Worst Value

10MHz/QPSK

10MHz/16QAM



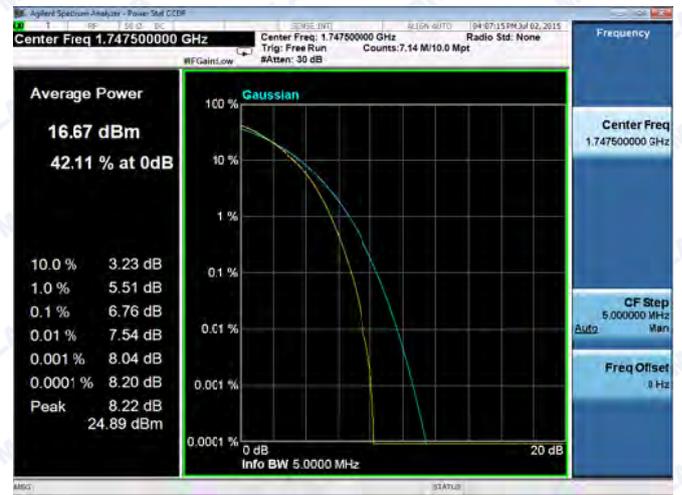
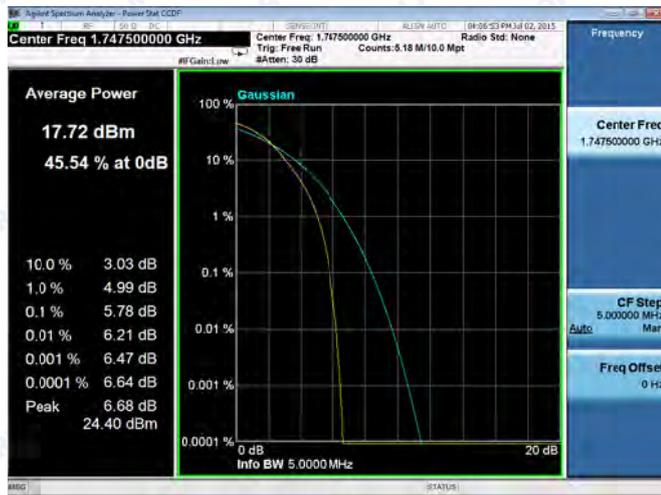


LTE Band 4 High channel							
Channel Bandwidth: 15MHz				Channel Bandwidth: 20MHz			
Channel	Frequency (MHz)	Peak to Average Ratio (dB)		Channel	Frequency (MHz)	Peak to Average Ratio (dB)	
		QPSK	16QAM			QPSK	16QAM
20325	1747.5	5.78	6.76	20300	1745.0	6.50	7.12

Spectrum Plot of Worst Value

15MHz/QPSK

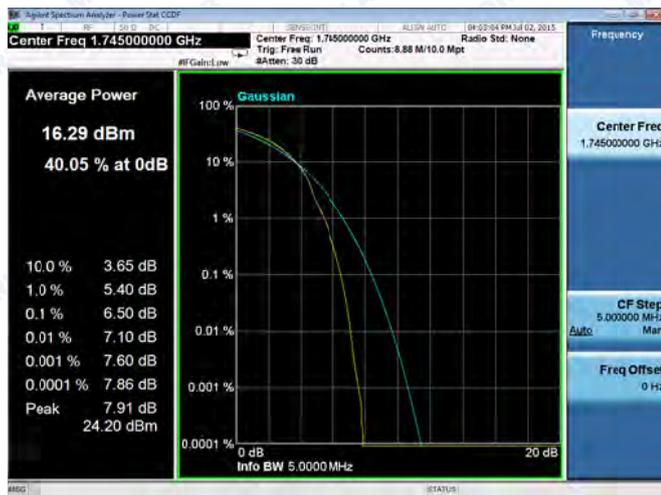
15MHz/16QAM



Spectrum Plot of Worst Value

20MHz/QPSK

20MHz/16QAM





## 2.5 Conducted Spurious Emissions

### 2.5.1 Test Requirement

According to FCC section 2.1051 and 27.53(g), 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. This calculated to be -13dBm.

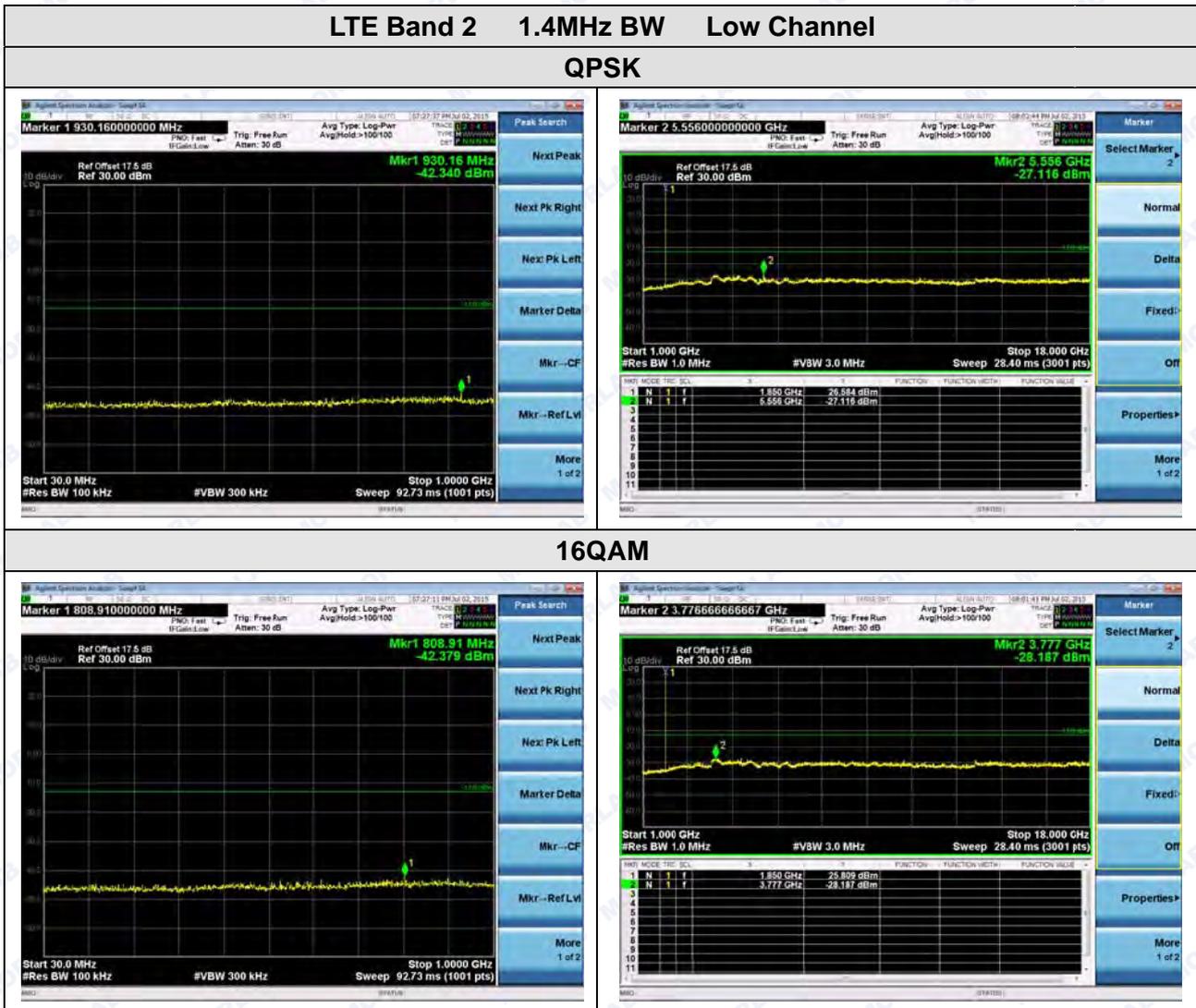
### 2.5.2 Test Procedure

See section 2.1.2 of this report.

Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

### 2.5.3 Test Result

Compliant. See attached pots.



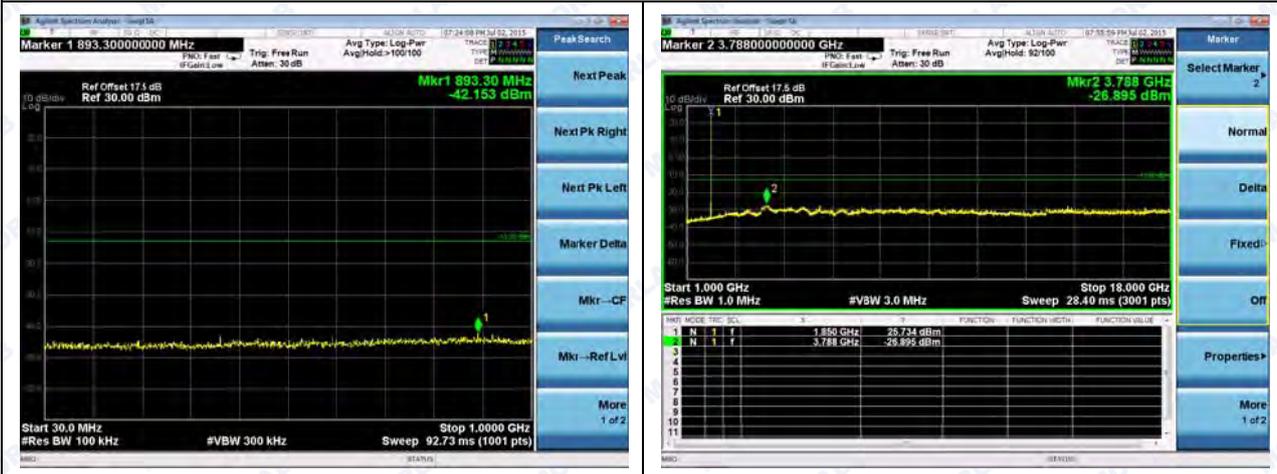


LTE Band 2 3MHz BW Low Channel

QPSK



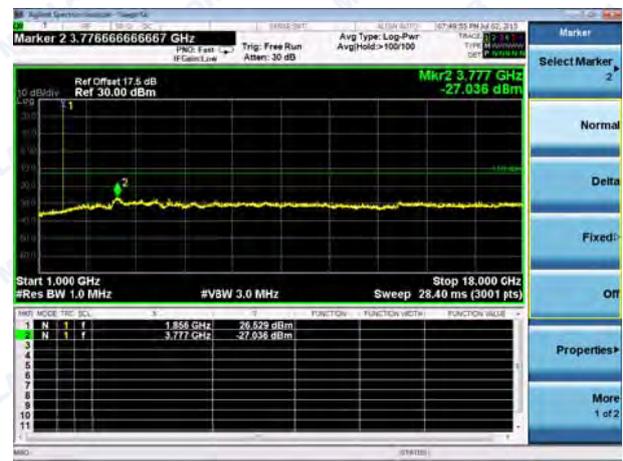
16QAM



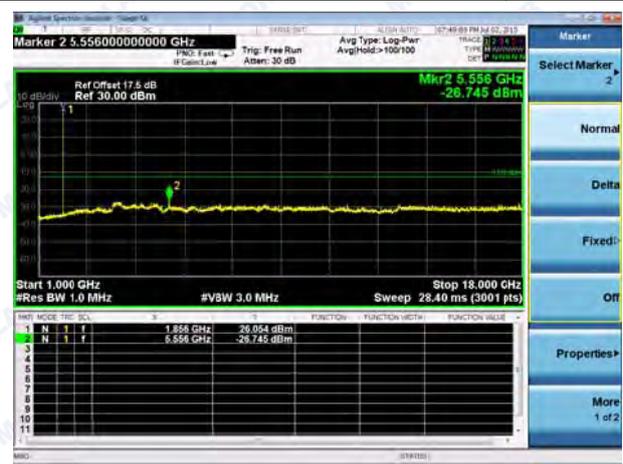


LTE Band 2 5MHz BW Low Channel

QPSK



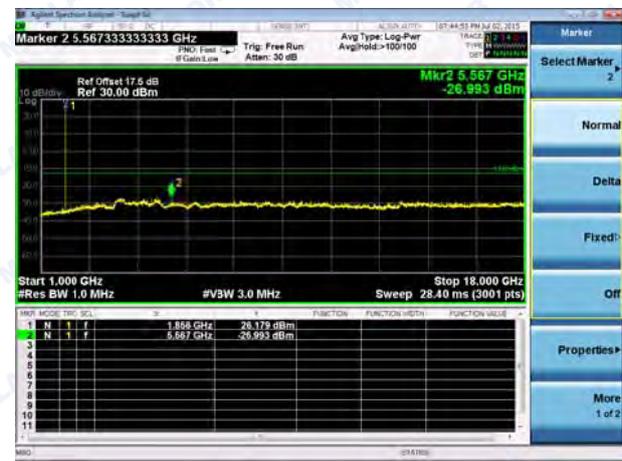
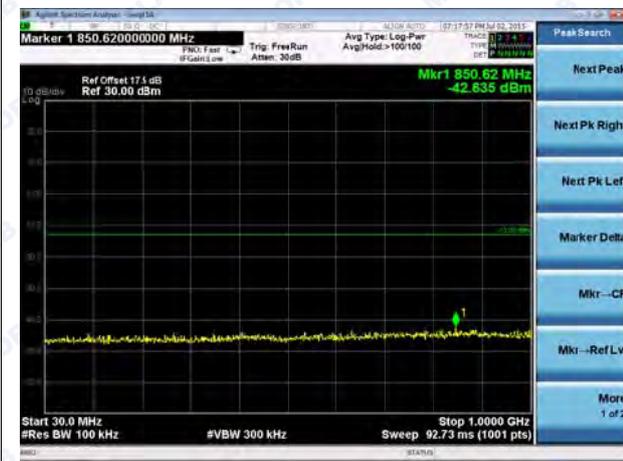
16QAM



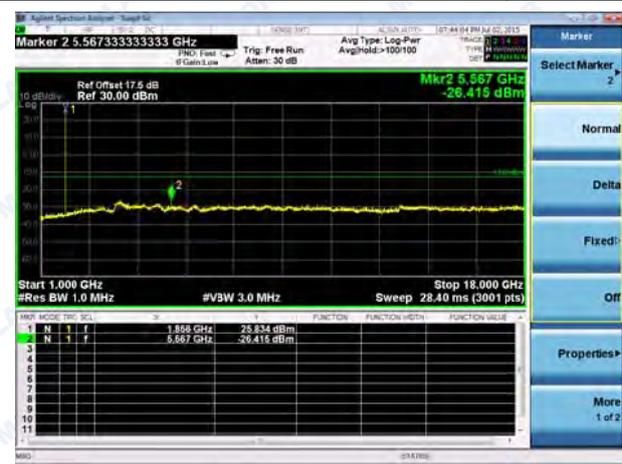
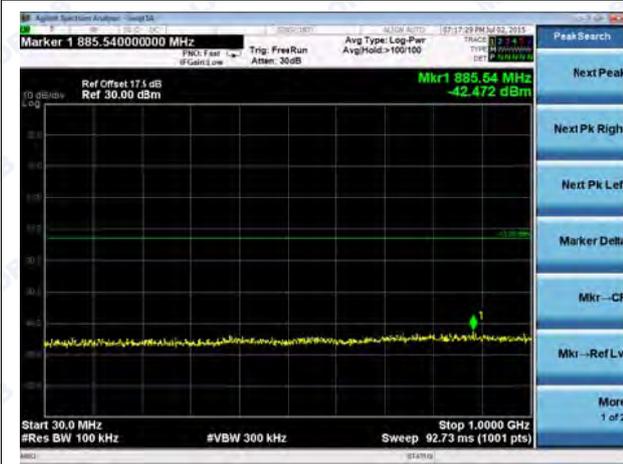


LTE Band 2 10MHz BW Low Channel

QPSK



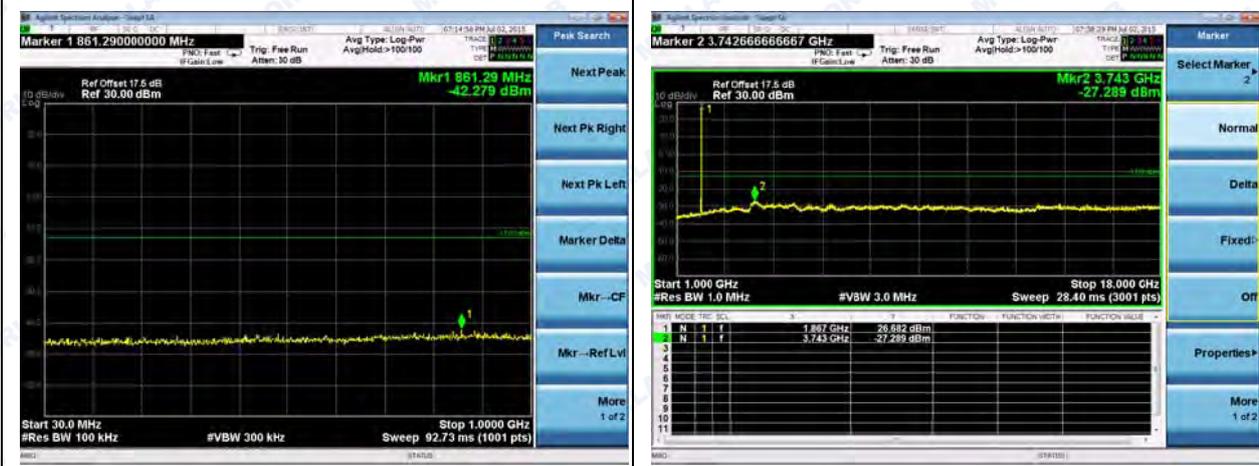
16QAM



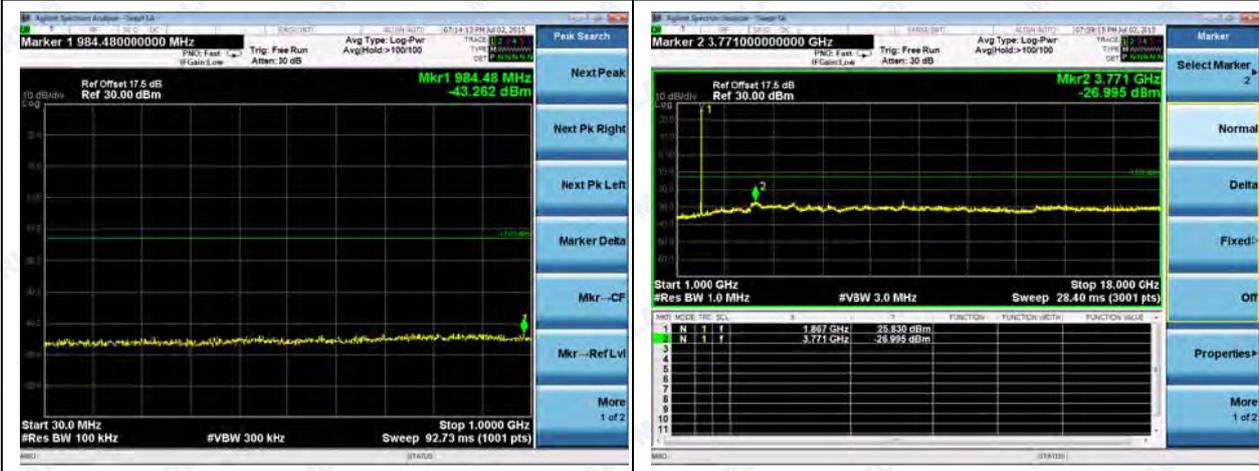


LTE Band 2 15MHz BW Low Channel

QPSK



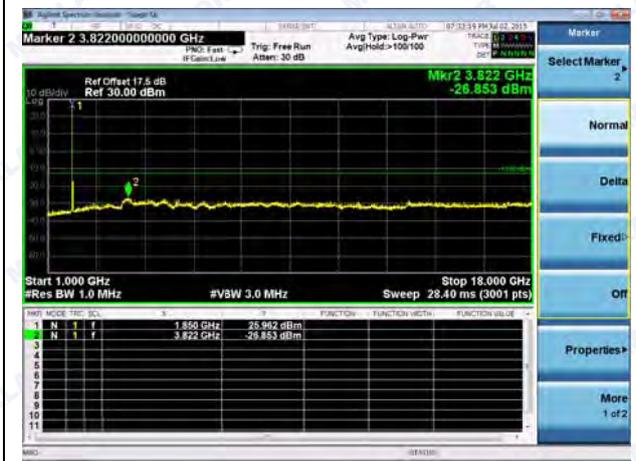
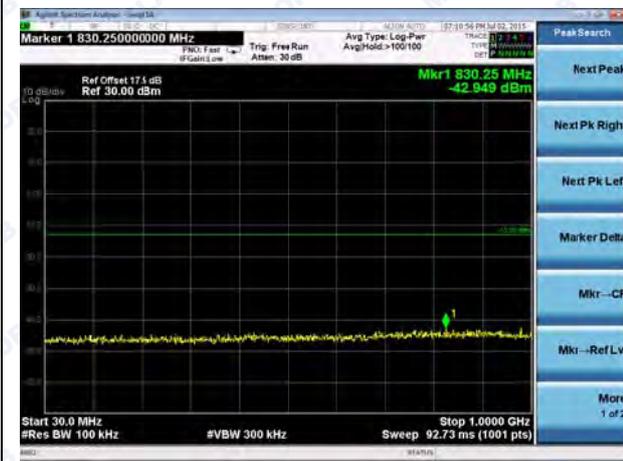
16QAM



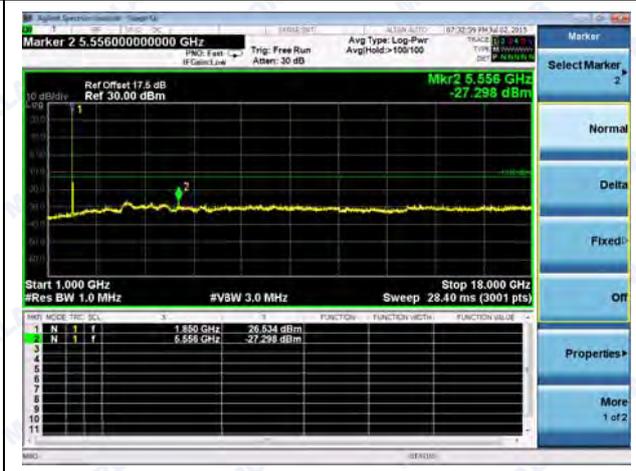


LTE Band 2 20MHz BW Low Channel

QPSK



16QAM

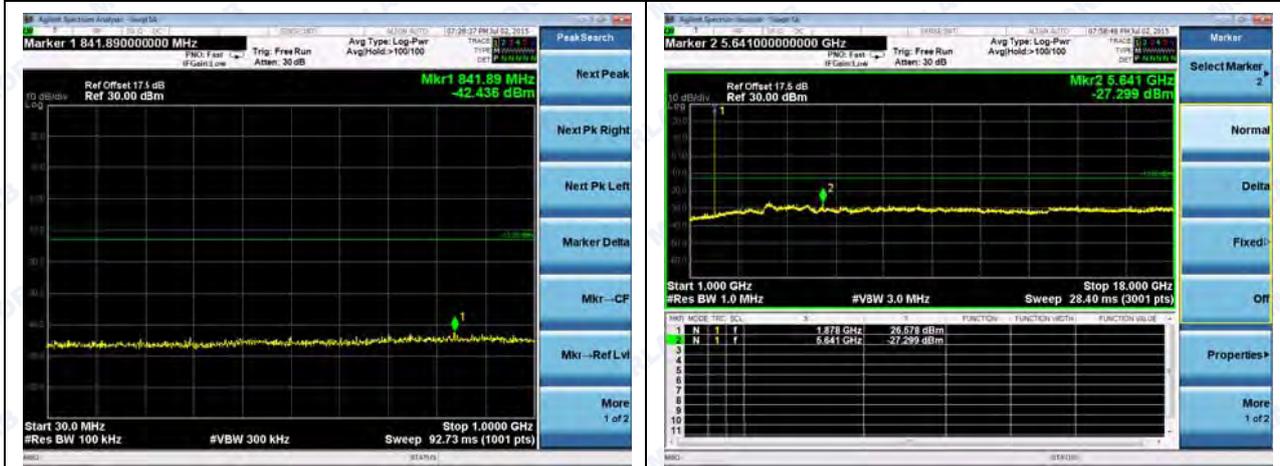




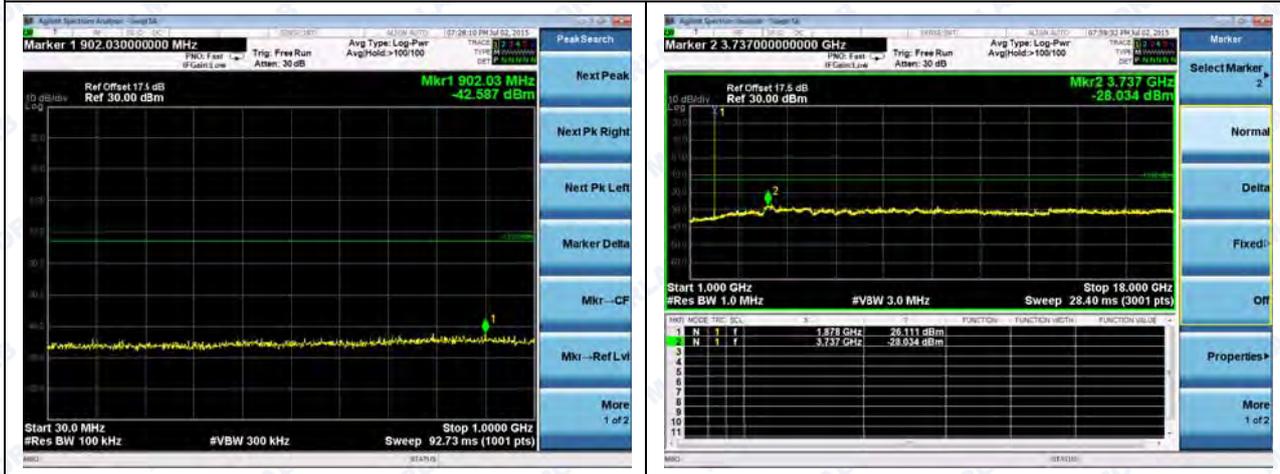
Middle channel:

LTE Band 2 1.4MHz BW Mid Channel

QPSK



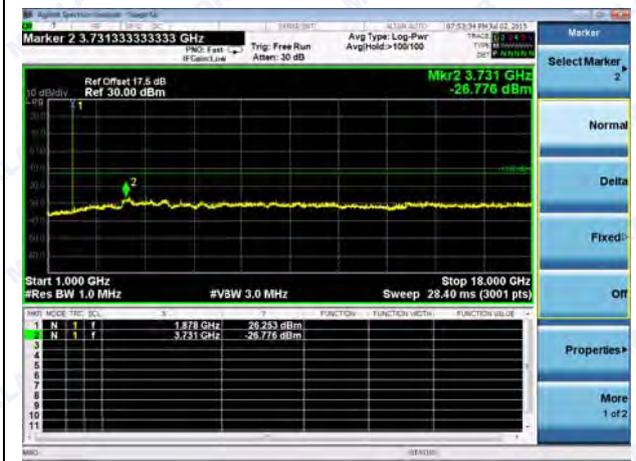
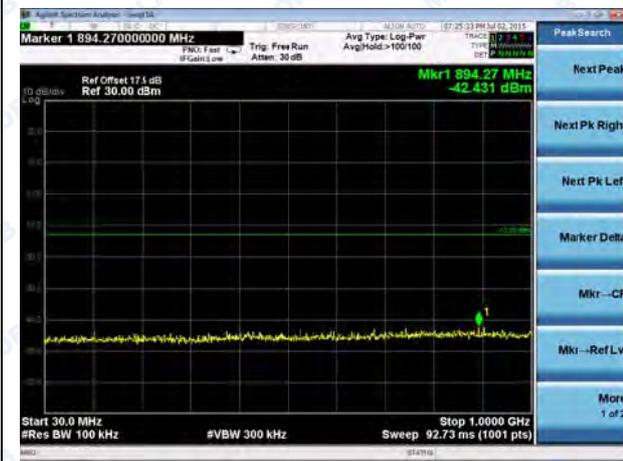
16QAM



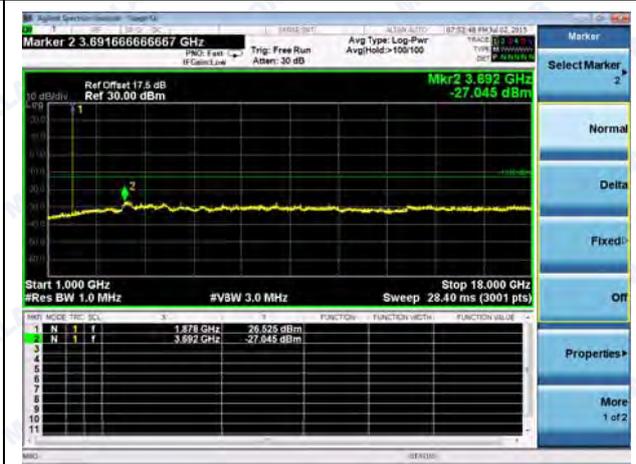
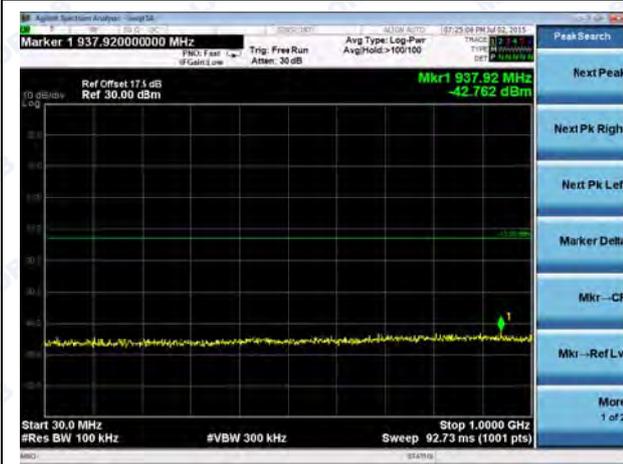


LTE Band 2 3MHz BW Mid Channel

QPSK



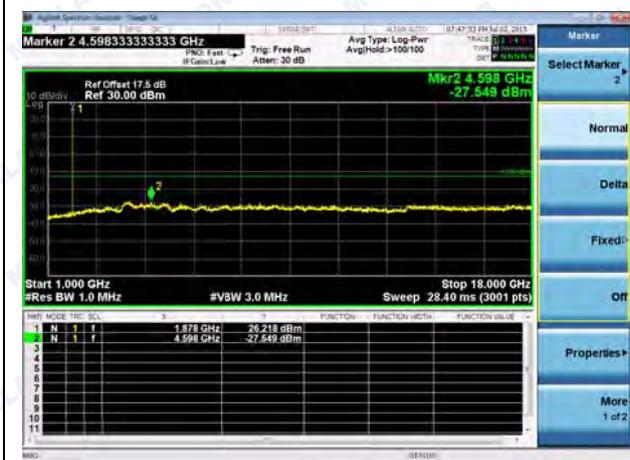
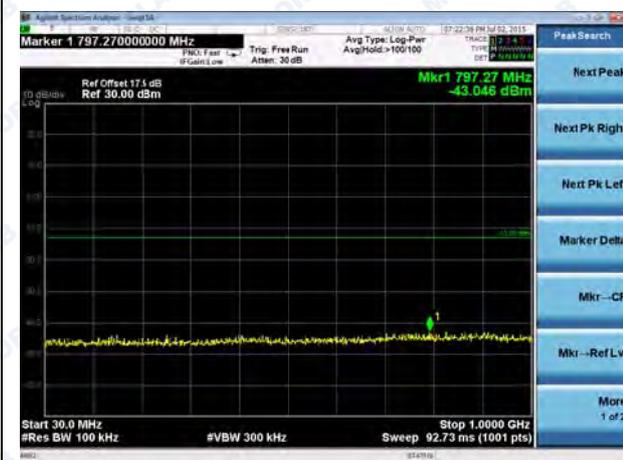
16QAM



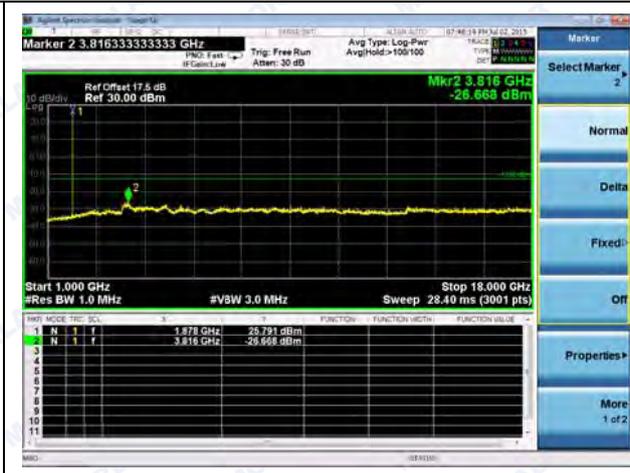
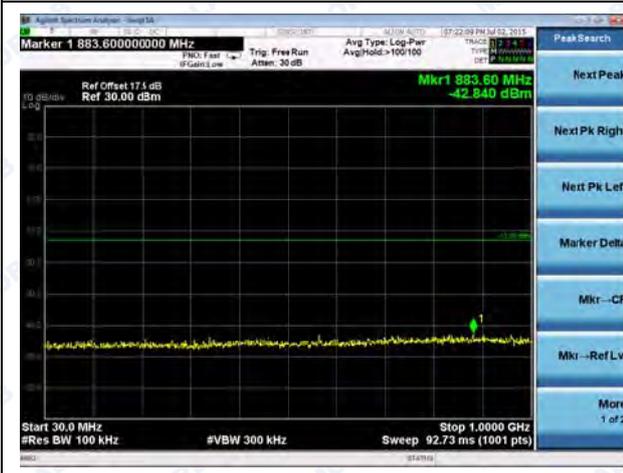


LTE Band 2 5MHz BW Mid Channel

QPSK



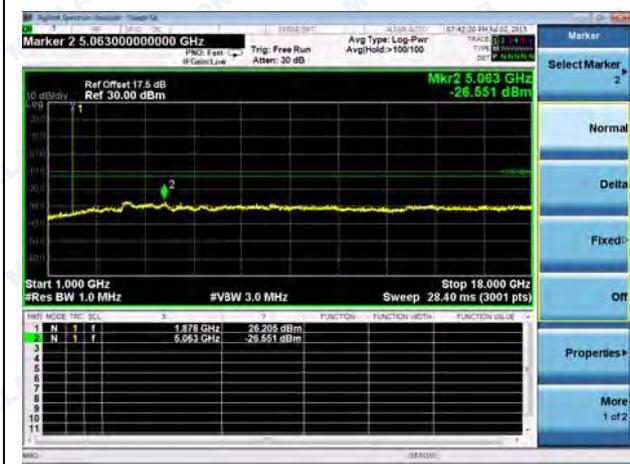
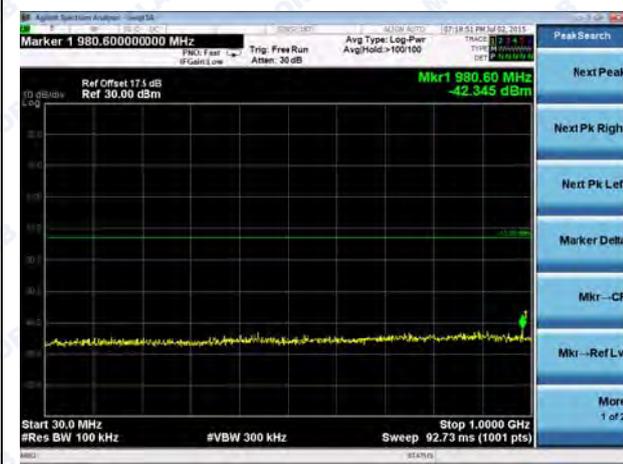
16QAM



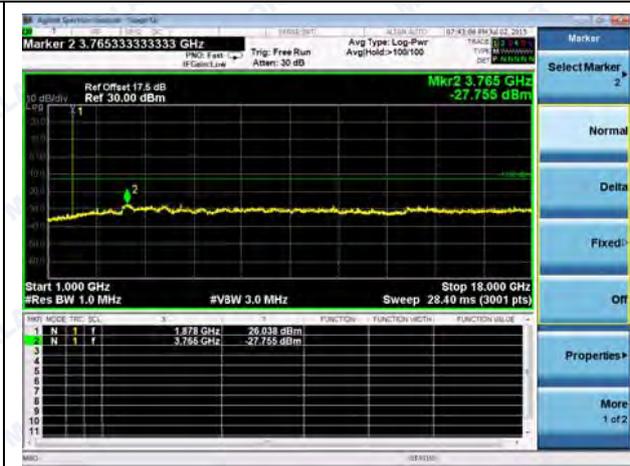
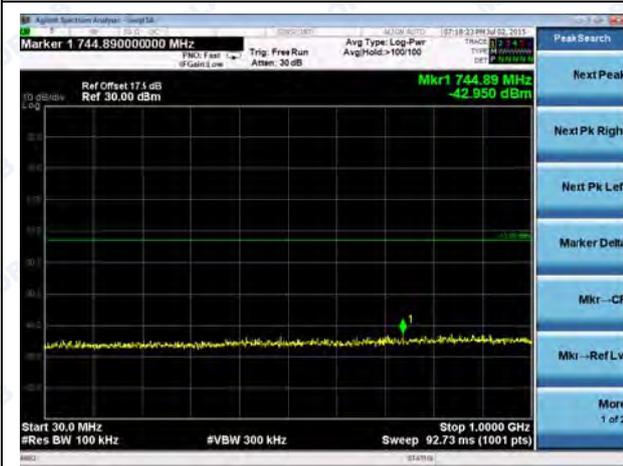


LTE Band 2 10MHz BW Mid Channel

QPSK



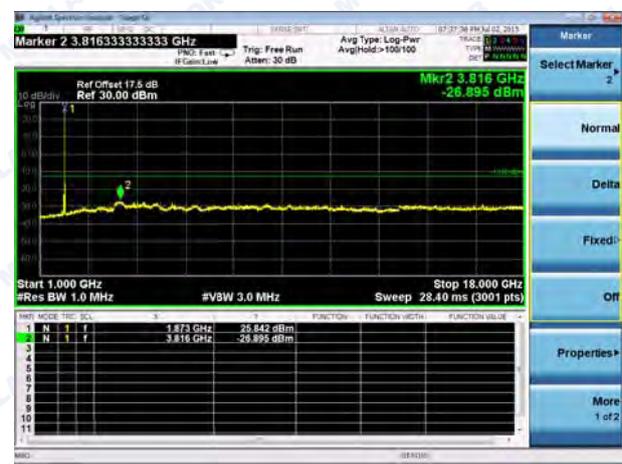
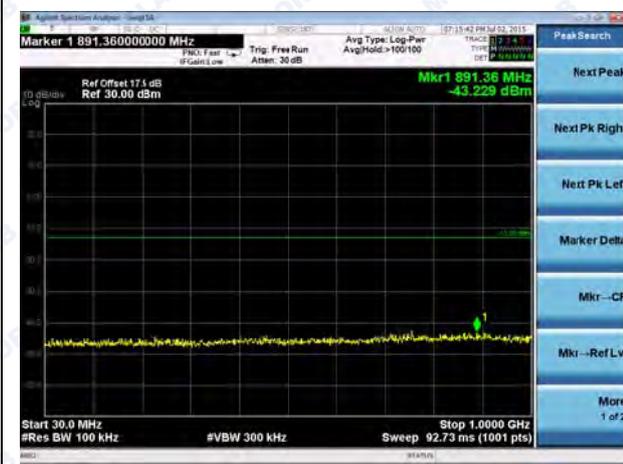
16QAM



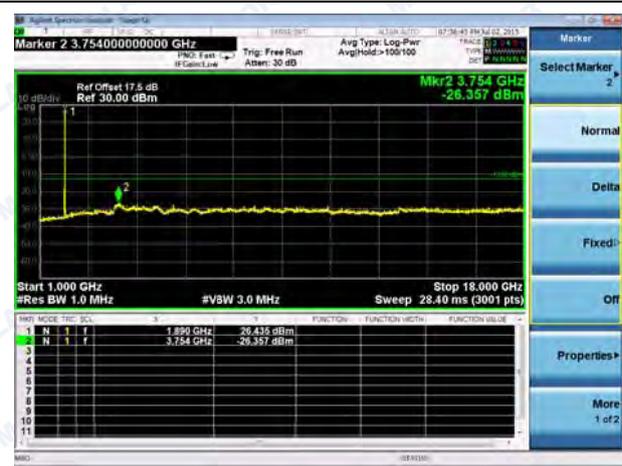
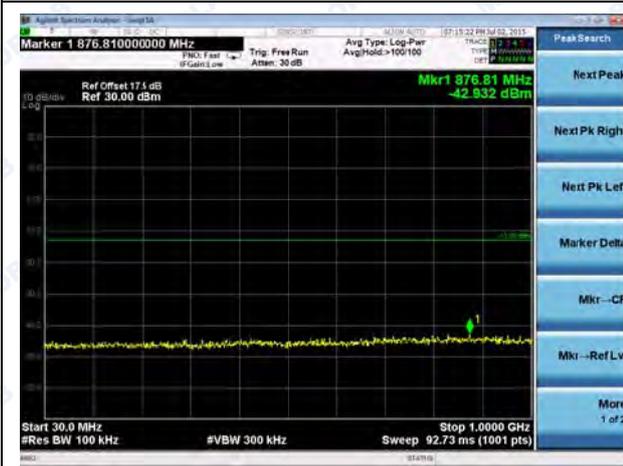


LTE Band 2 15MHz BW Mid Channel

QPSK



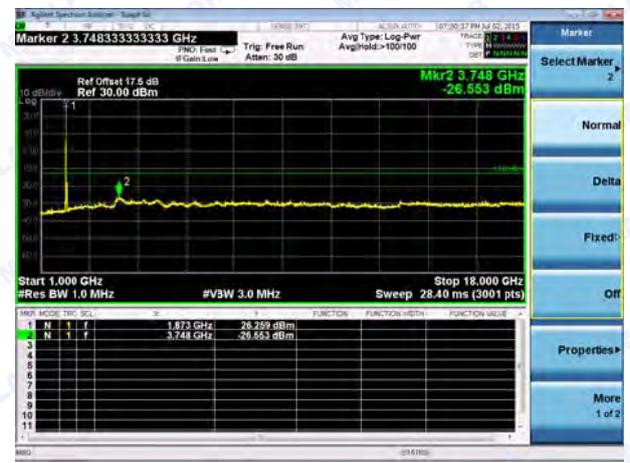
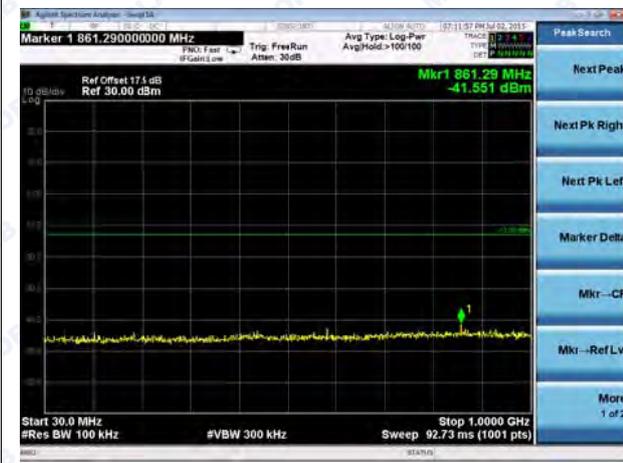
16QAM



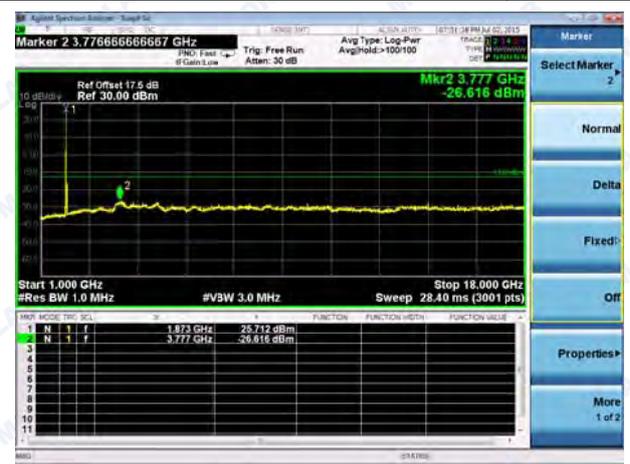
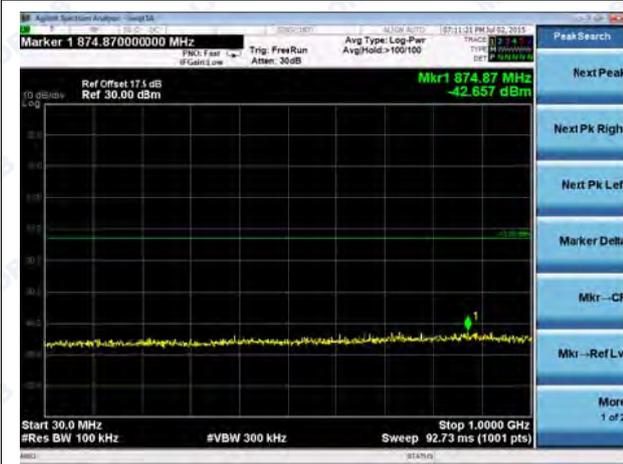


LTE Band 2 20MHz BW Mid Channel

QPSK



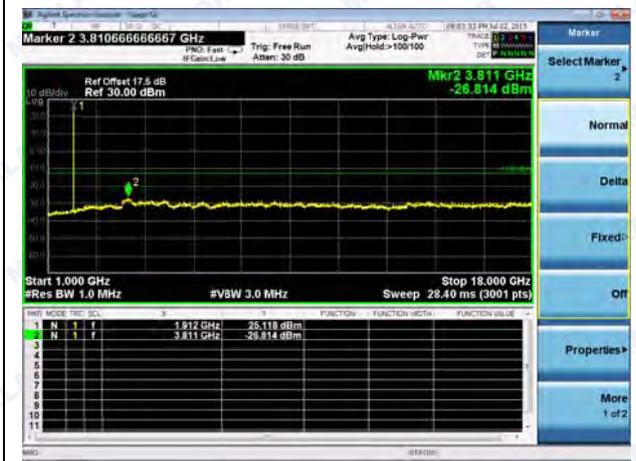
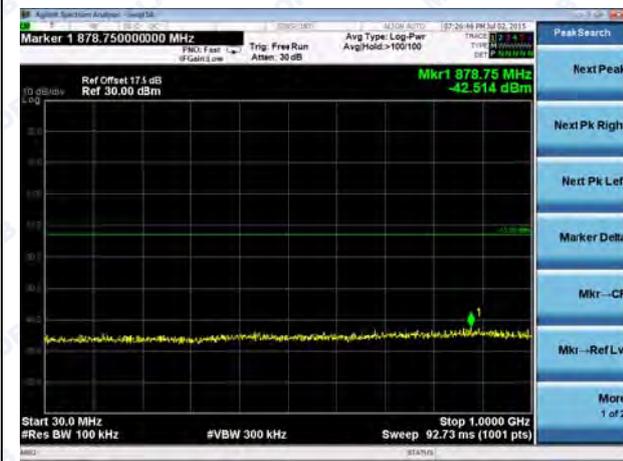
16QAM



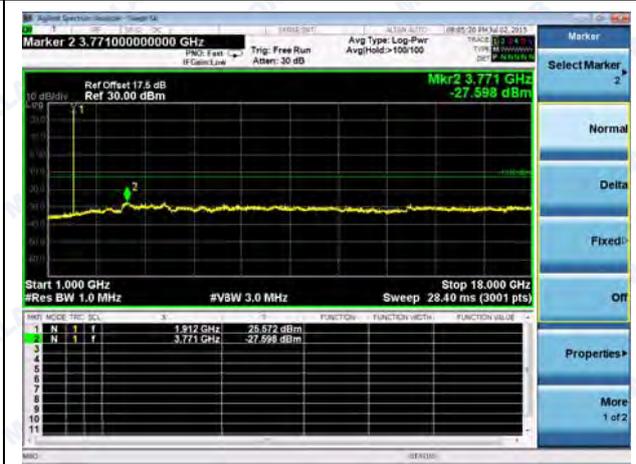
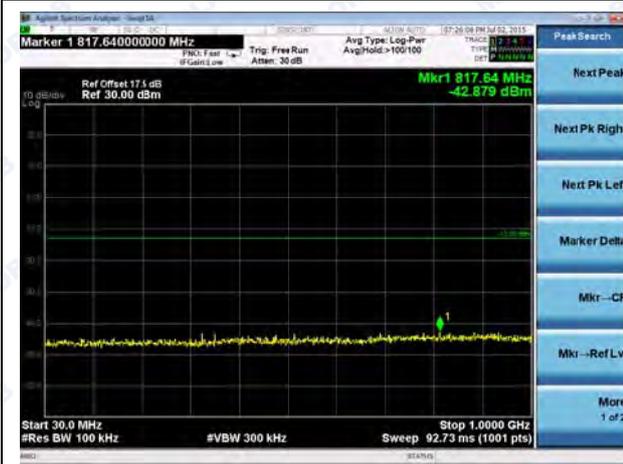


LTE Band 2 1.4MHz BW High Channel

QPSK



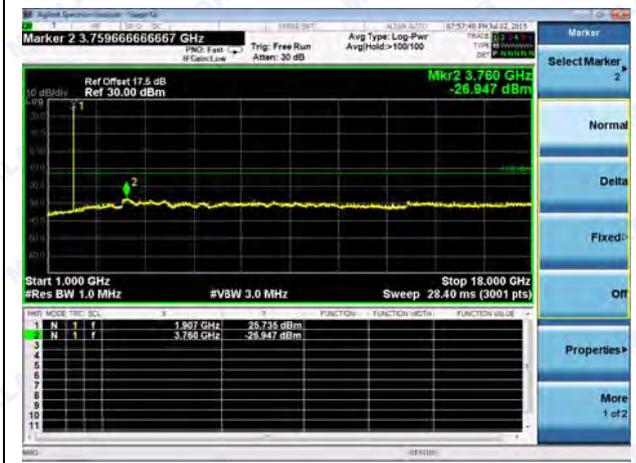
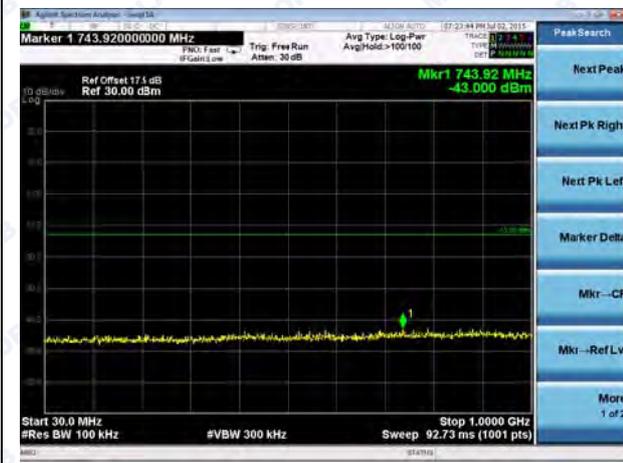
16QAM



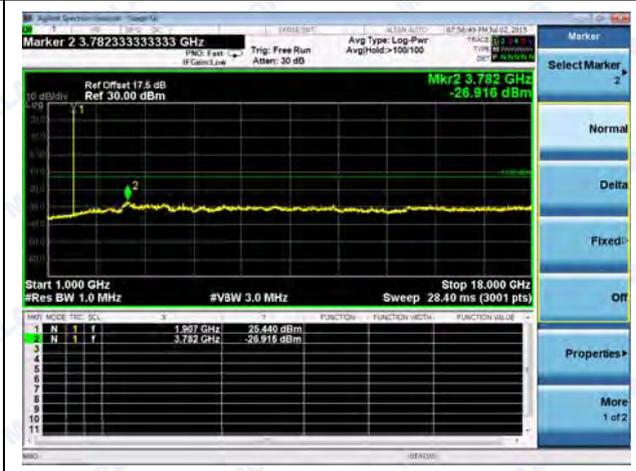


LTE Band 2 3MHz BW High Channel

QPSK



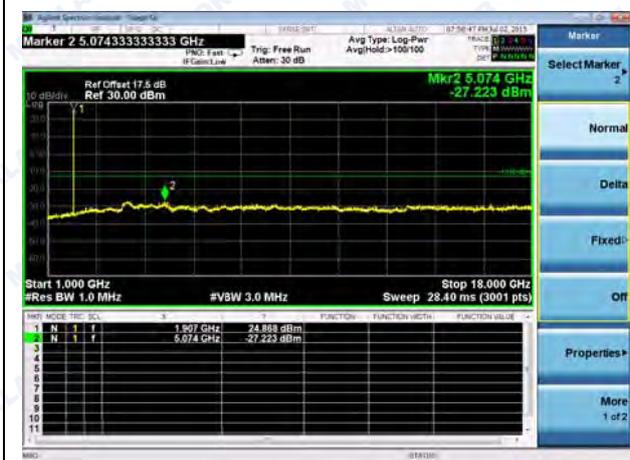
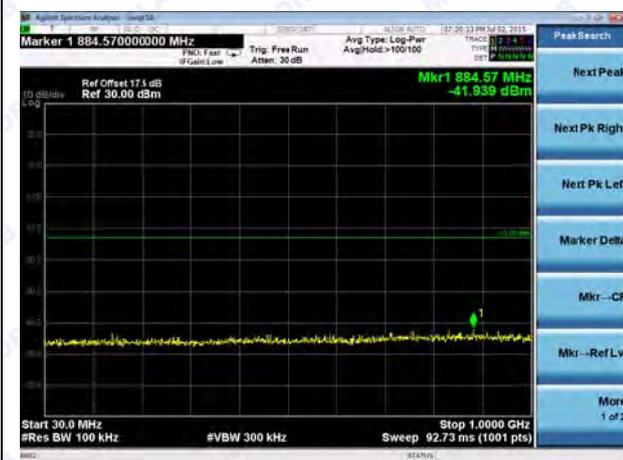
16QAM



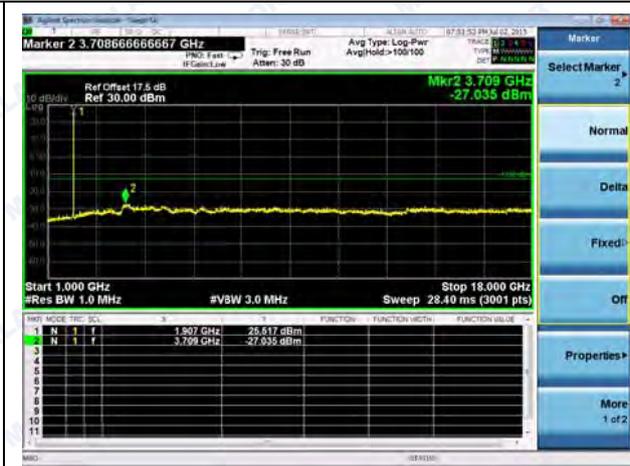
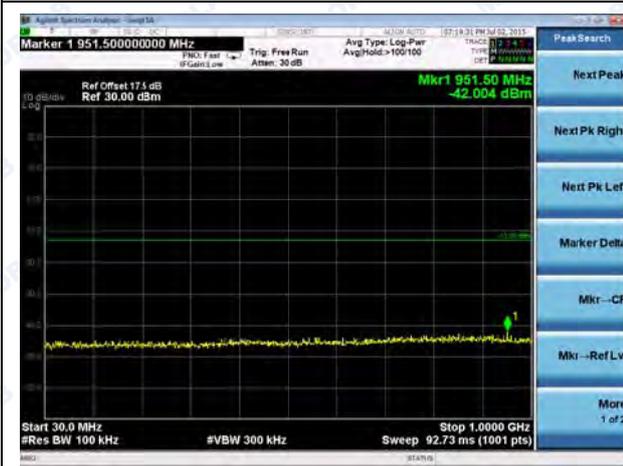


LTE Band 2 5MHz BW High Channel

QPSK



16QAM



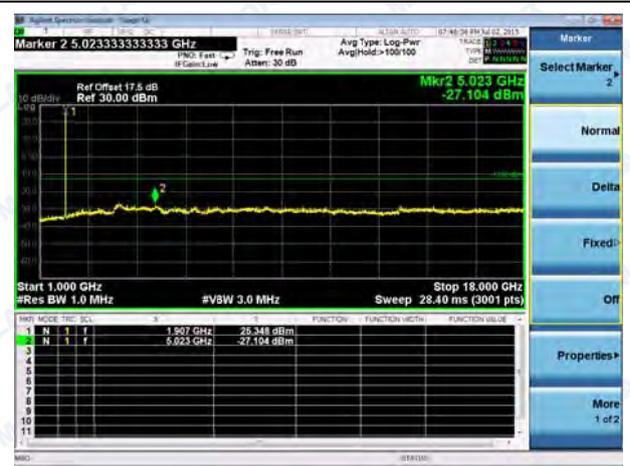
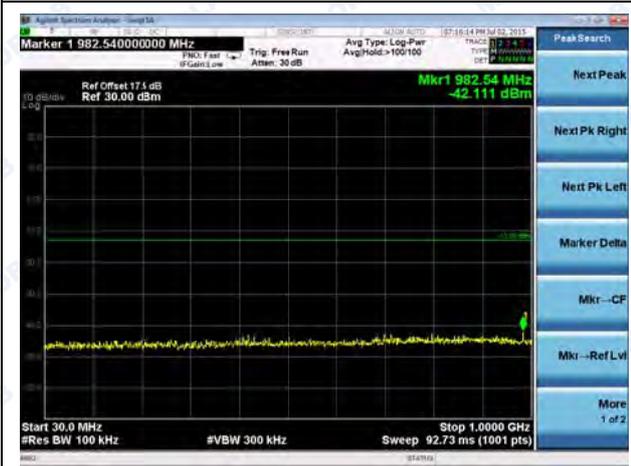


LTE Band 2 10MHz BW High Channel

QPSK



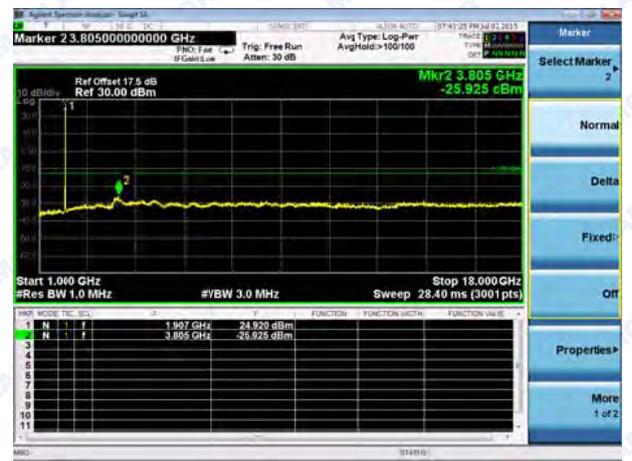
16QAM



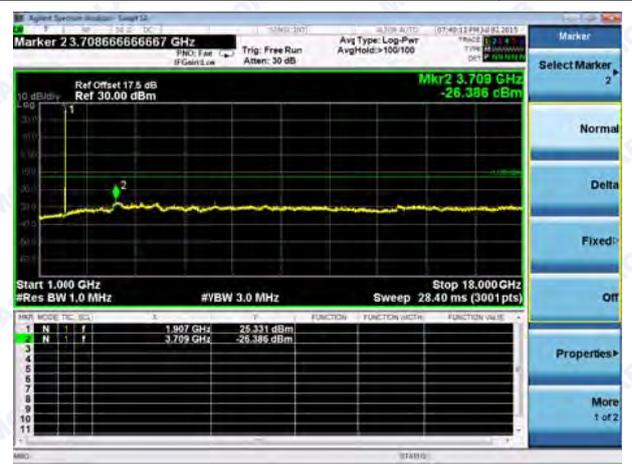
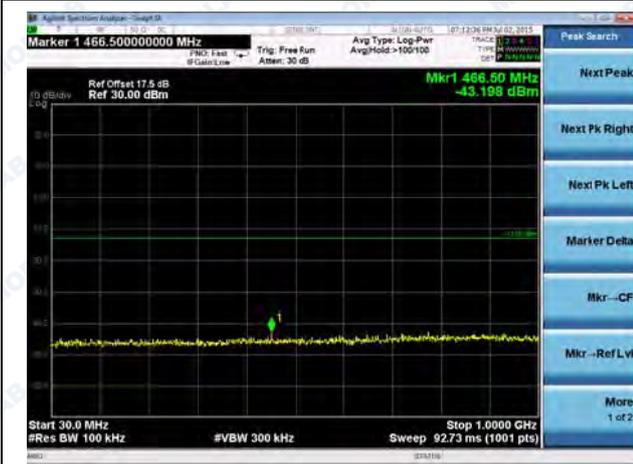


LTE Band 2 15MHz BW High Channel

QPSK



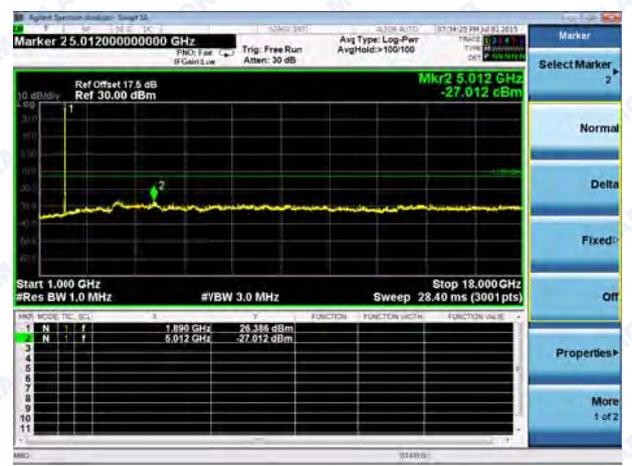
16QAM



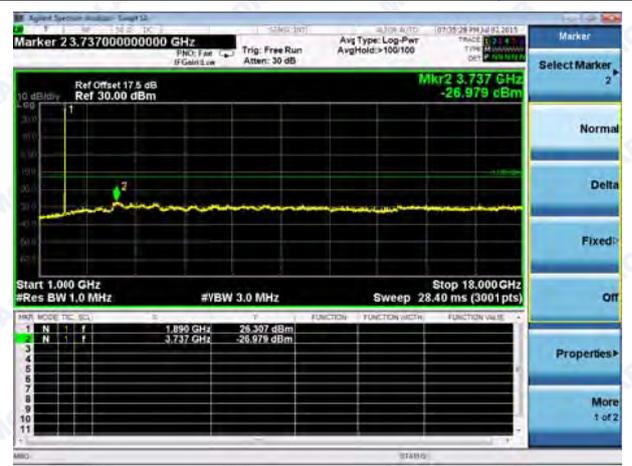


LTE Band 2 20MHz BW High Channel

QPSK



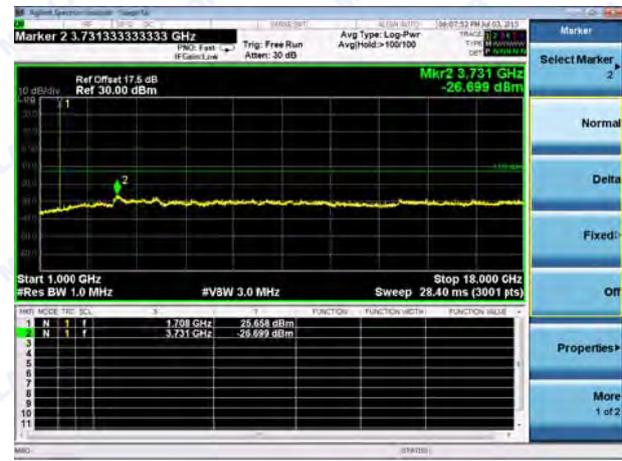
16QAM



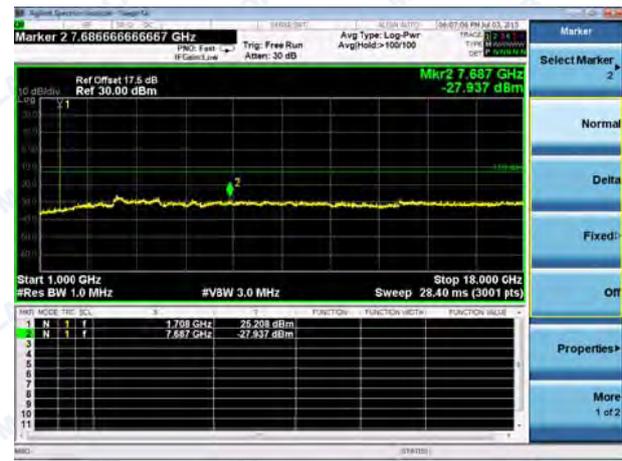


LTE Band 4 1.4MHz BW Low Channel

QPSK



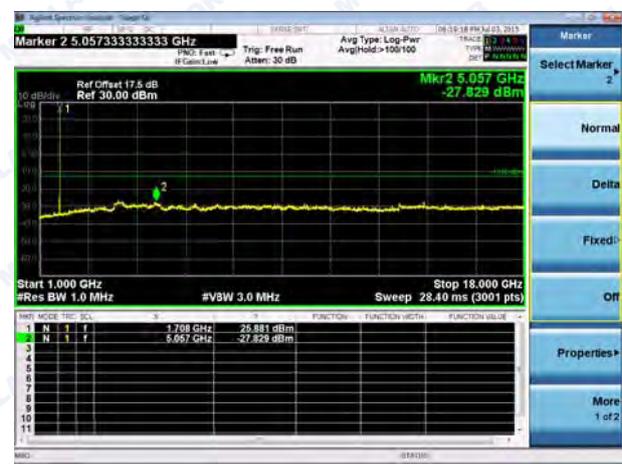
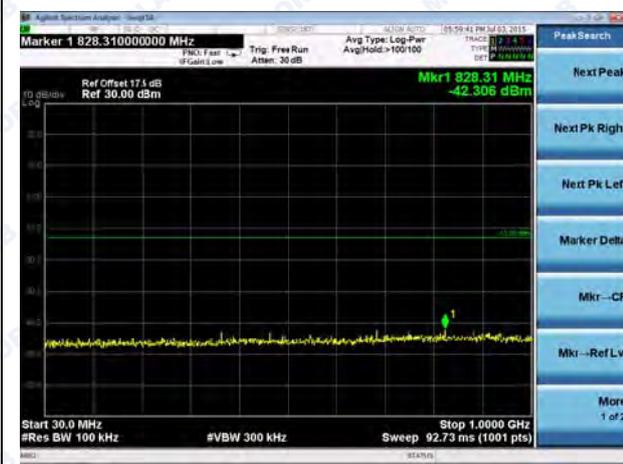
16QAM



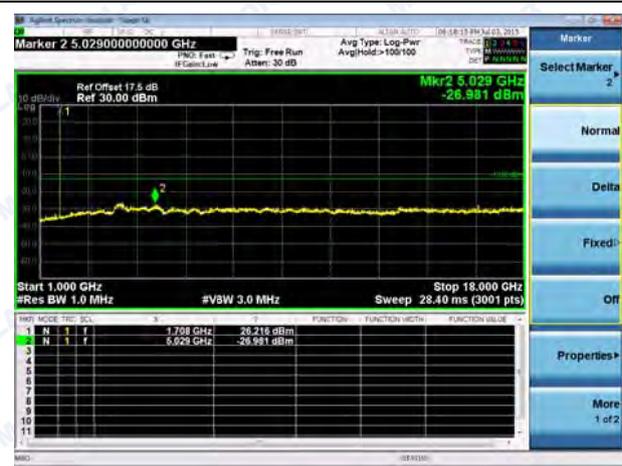
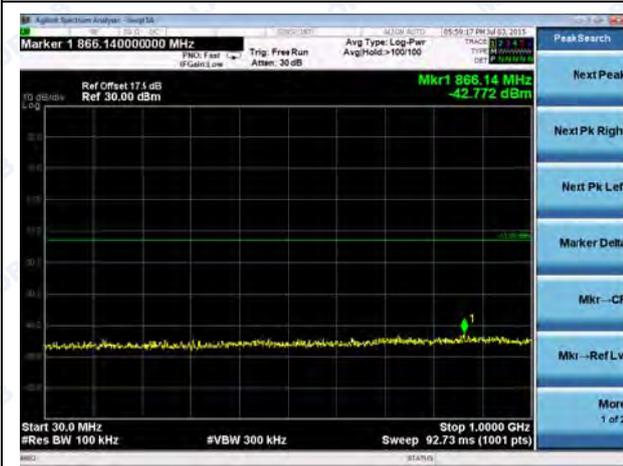


LTE Band 4 3MHz BW Low Channel

QPSK



16QAM



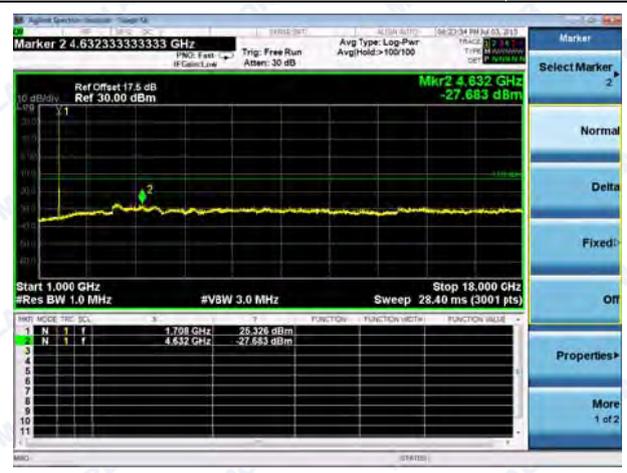


LTE Band 4 5MHz BW Low Channel

QPSK



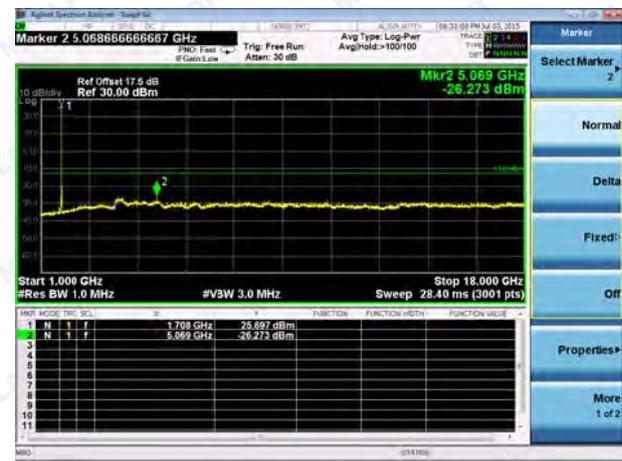
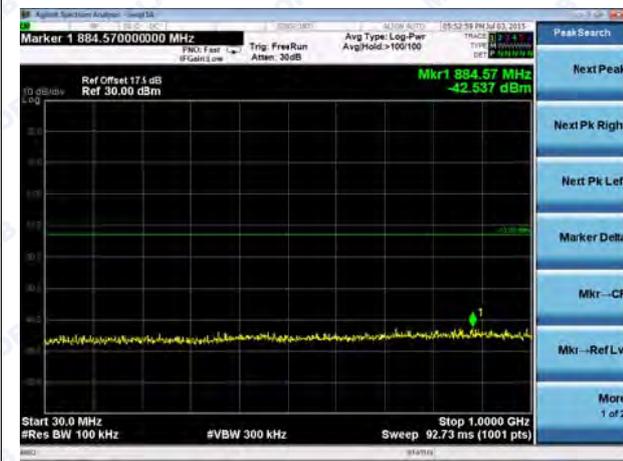
16QAM



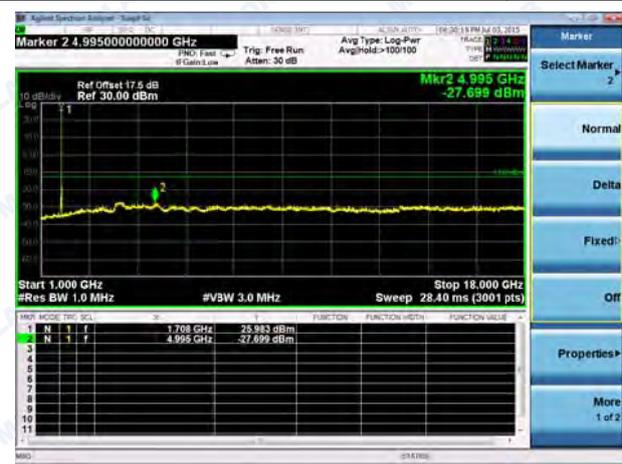
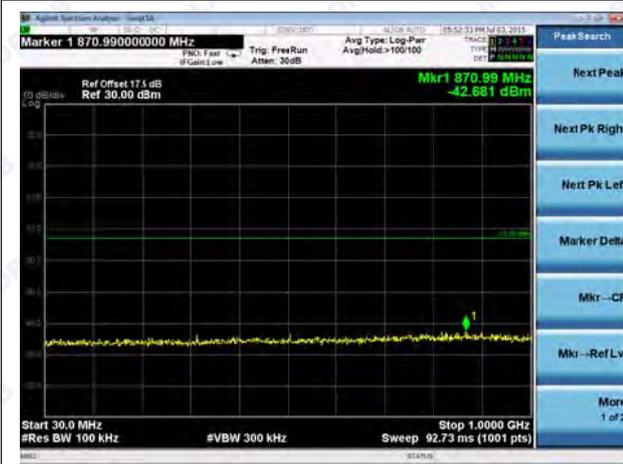


LTE Band 4 10MHz BW Low Channel

QPSK



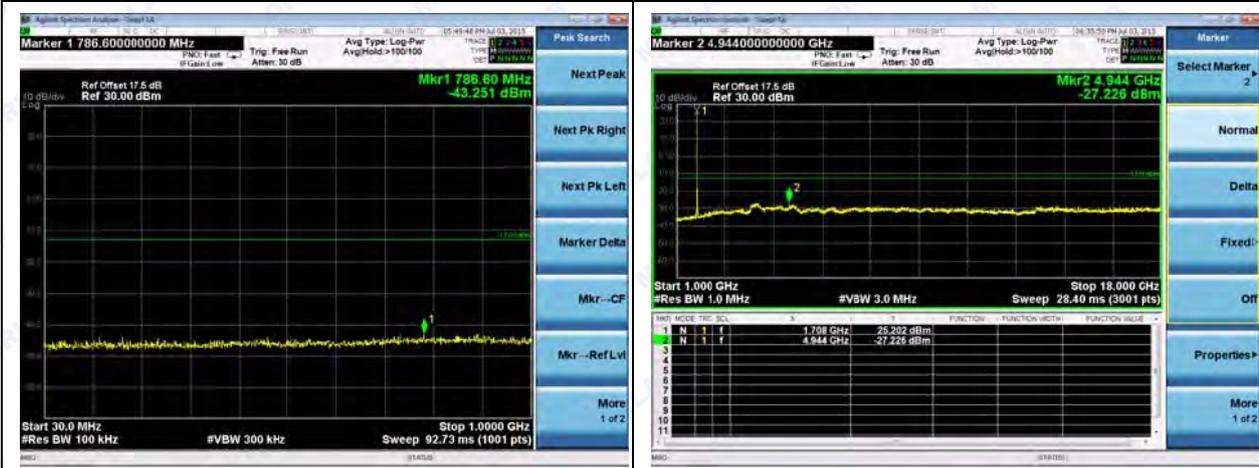
16QAM



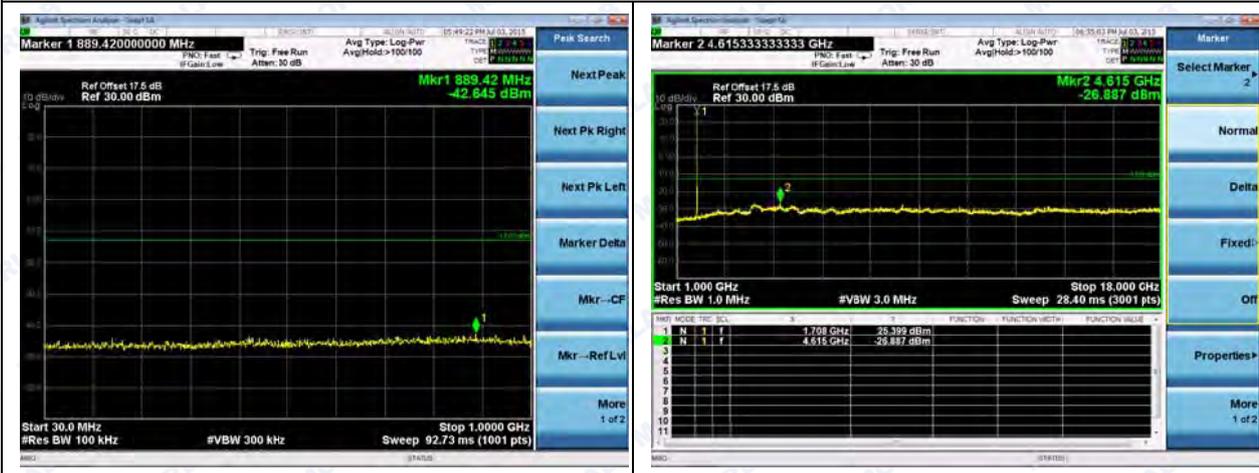


LTE Band 4 15MHz BW Low Channel

QPSK



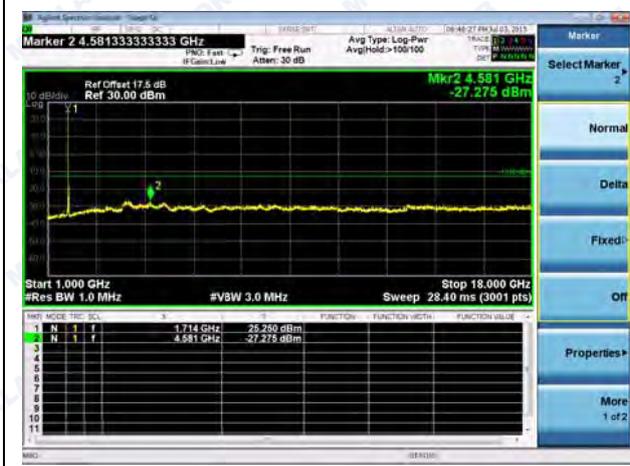
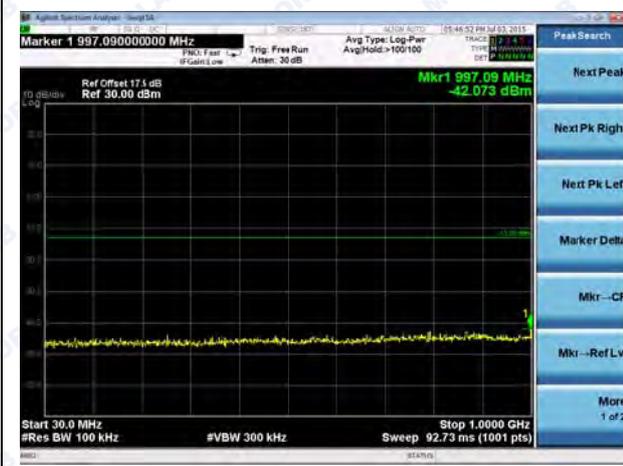
16QAM



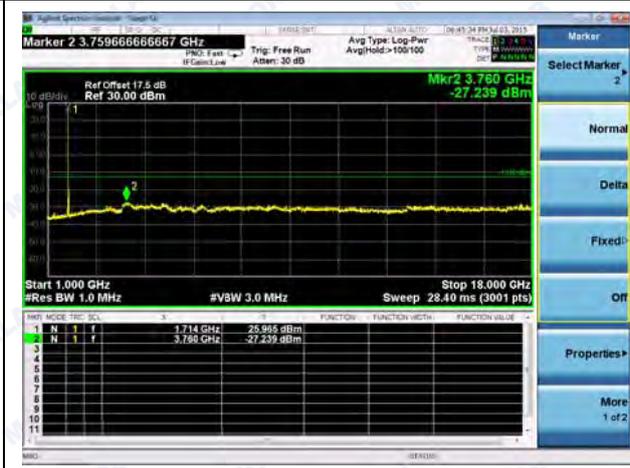


LTE Band 4 20MHz BW Low Channel

QPSK



16QAM

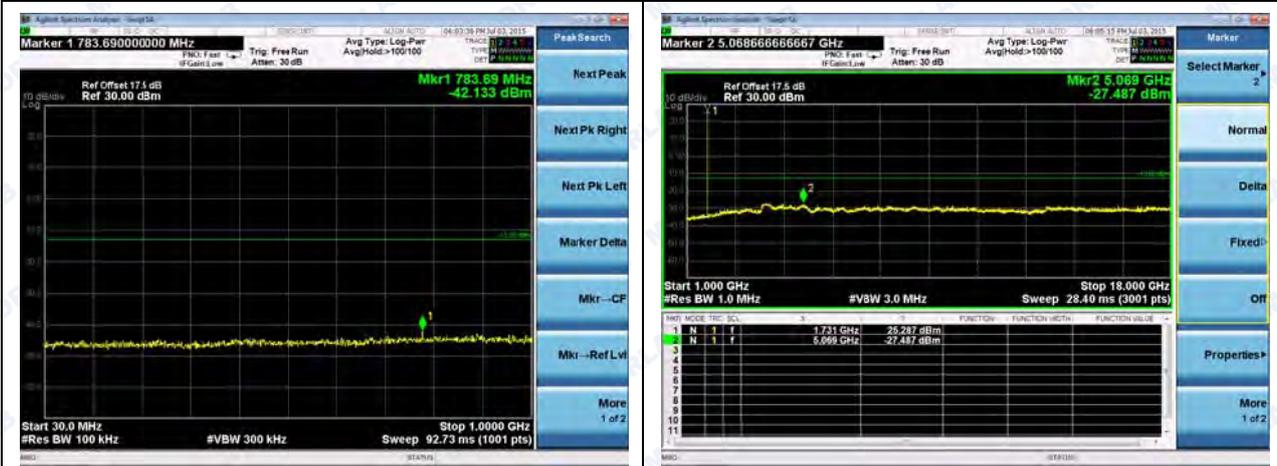




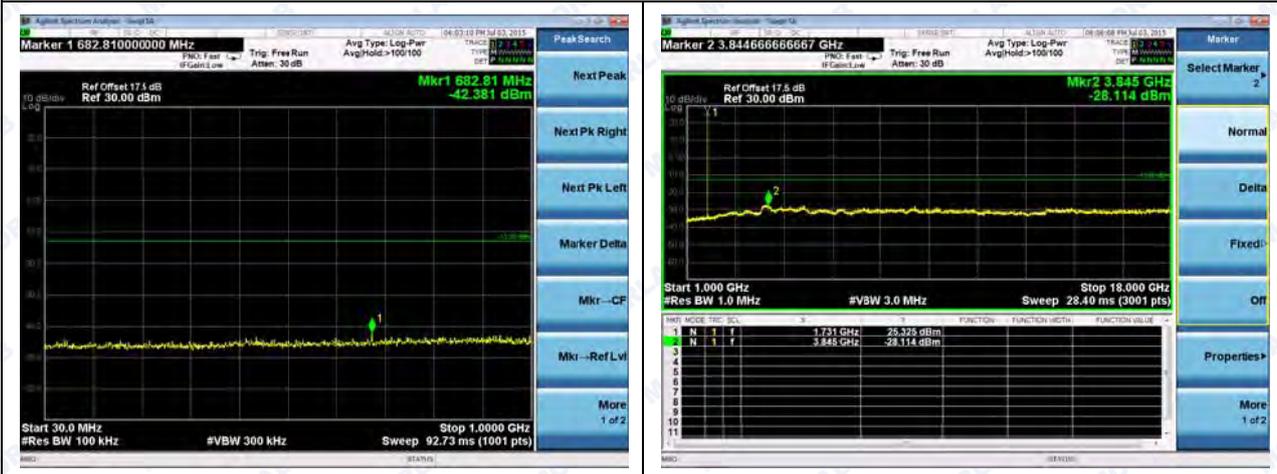
Middle channel:

LTE Band 4 1.4MHz BW Mid Channel

QPSK



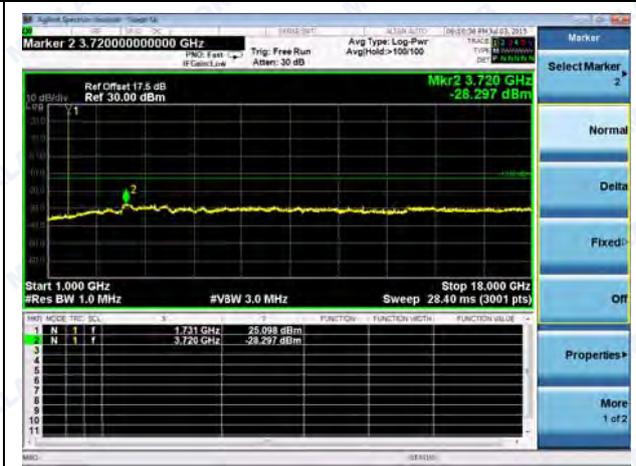
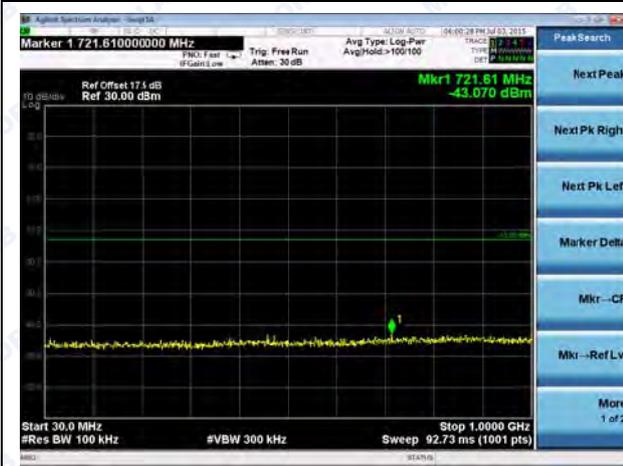
16QAM



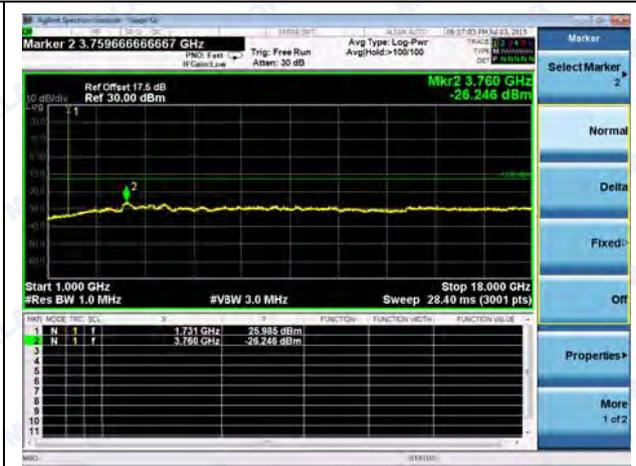
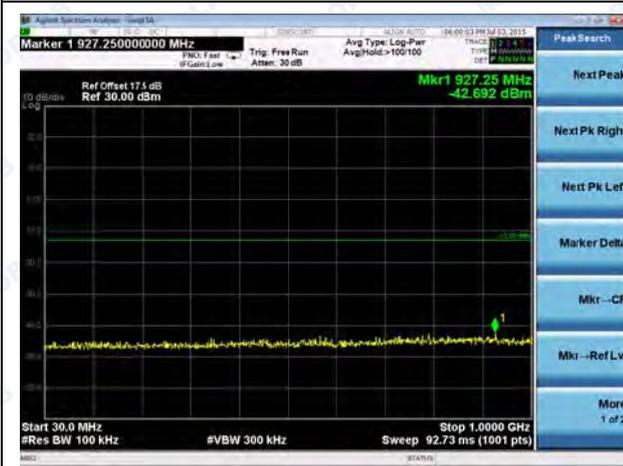


LTE Band 4 3MHz BW Mid Channel

QPSK



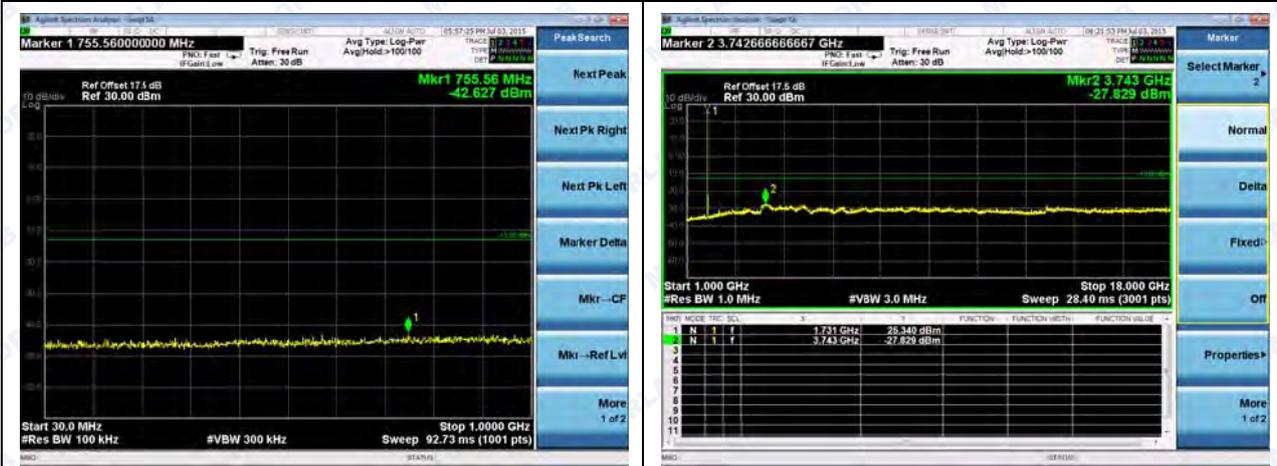
16QAM



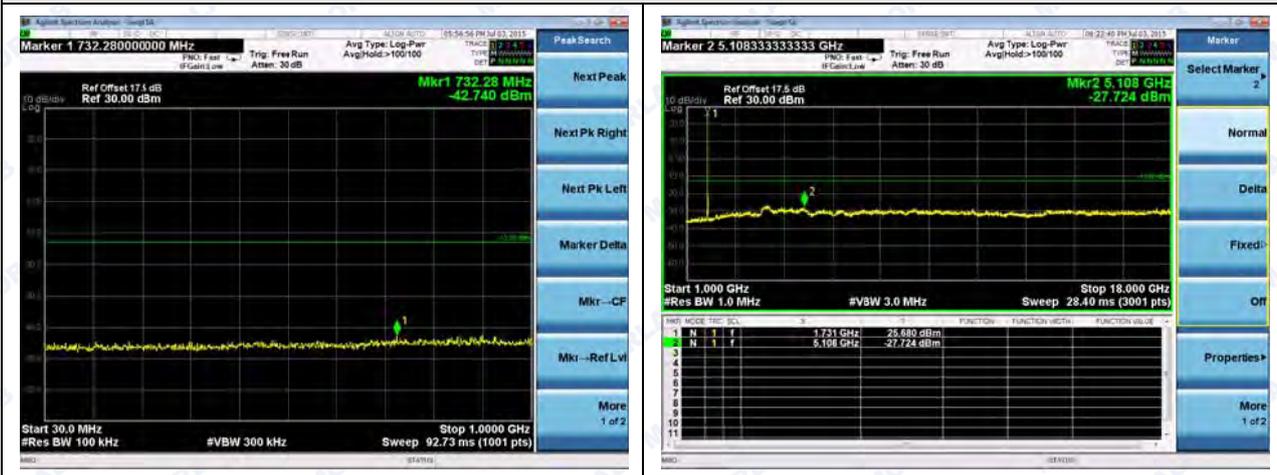


LTE Band 4 5MHz BW Mid Channel

QPSK



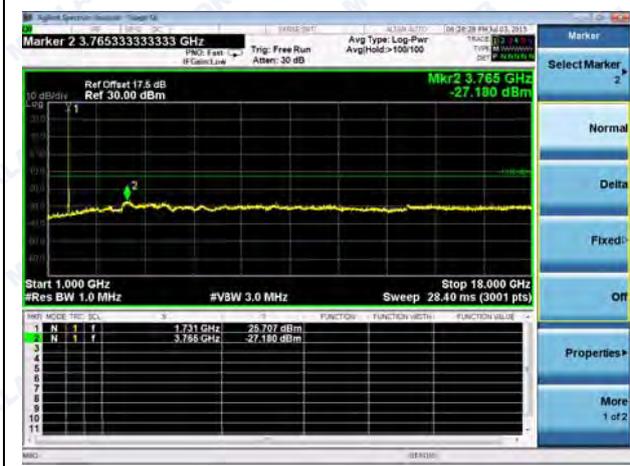
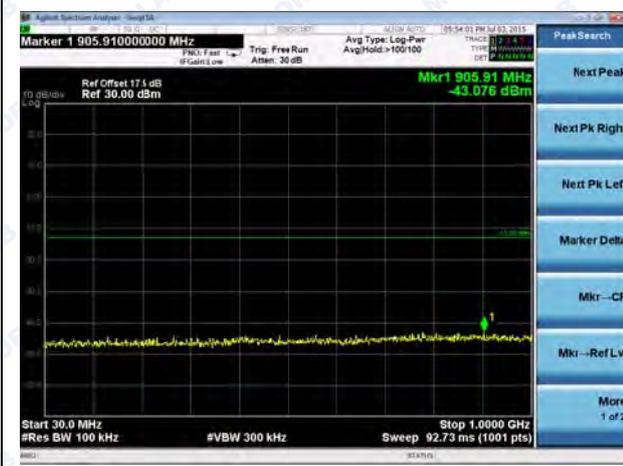
16QAM



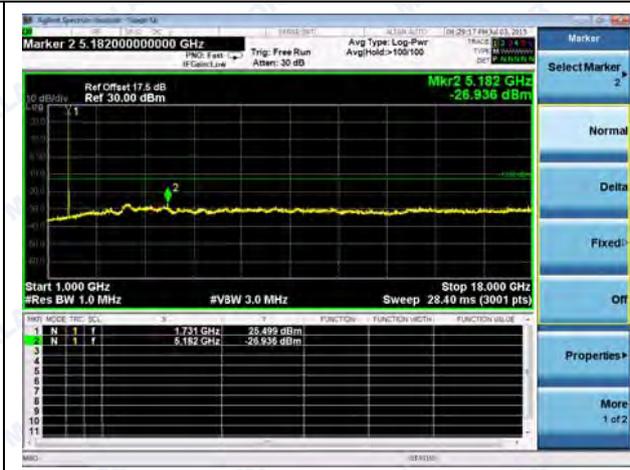


LTE Band 4 10MHz BW Mid Channel

QPSK



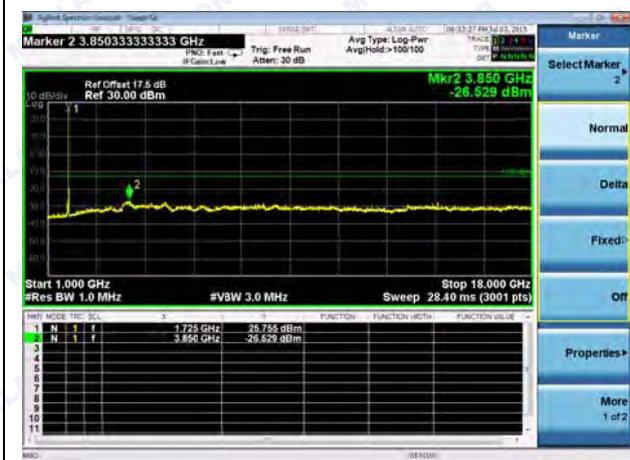
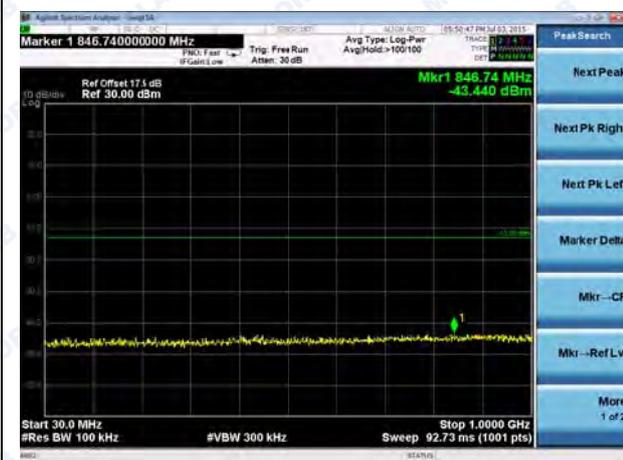
16QAM



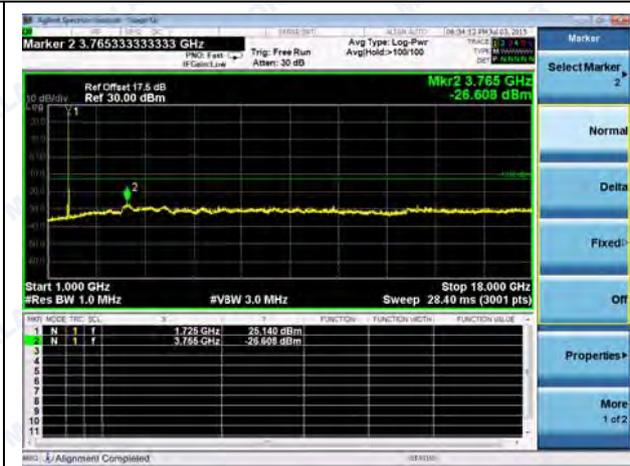
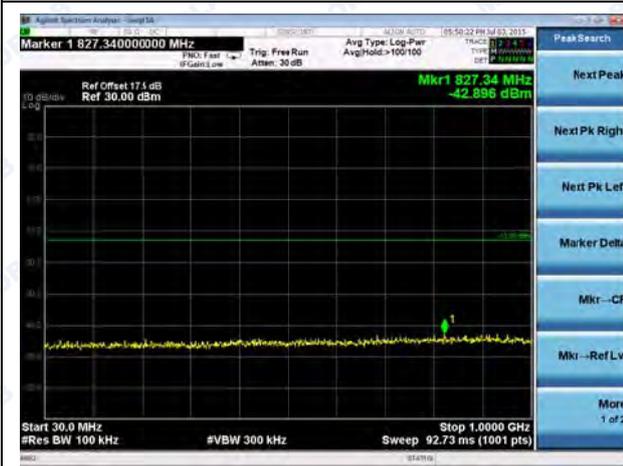


LTE Band 4 15MHz BW Mid Channel

QPSK



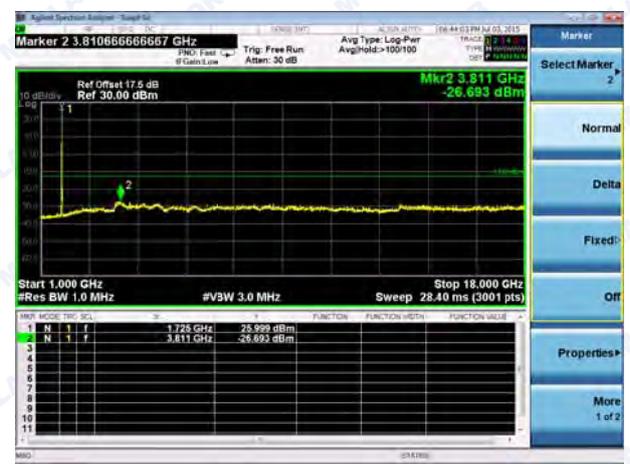
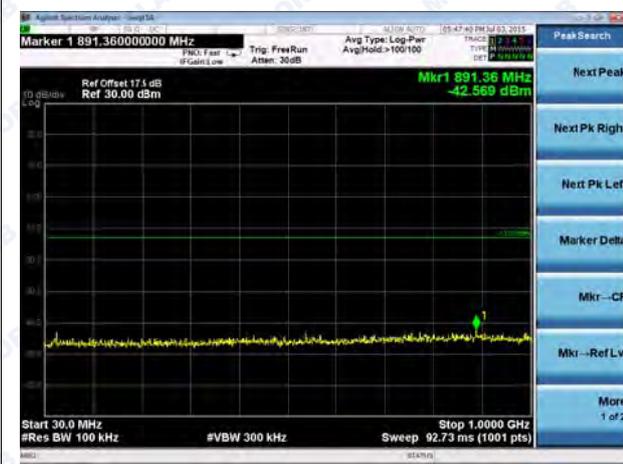
16QAM



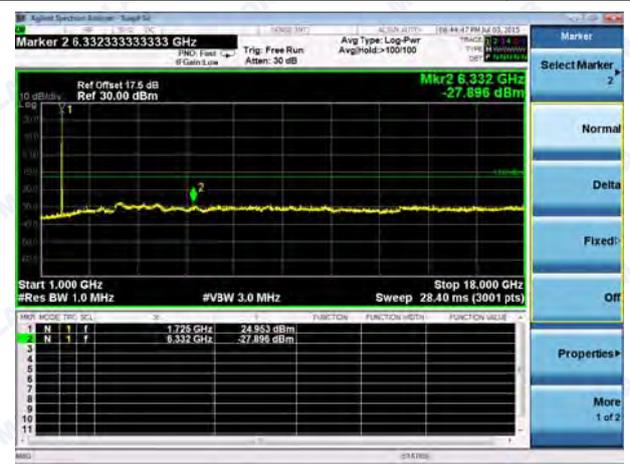
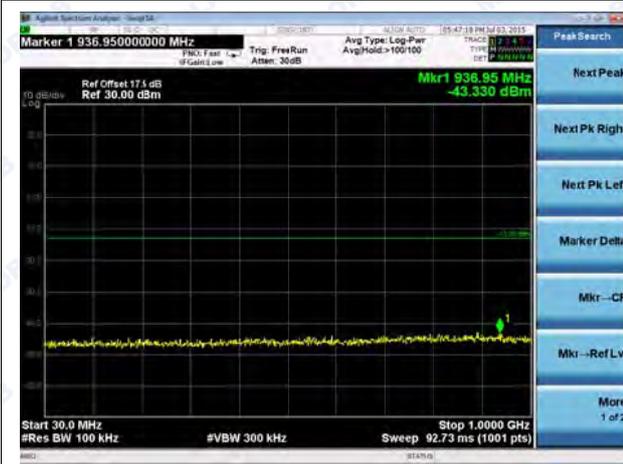


LTE Band 4 20MHz BW Mid Channel

QPSK



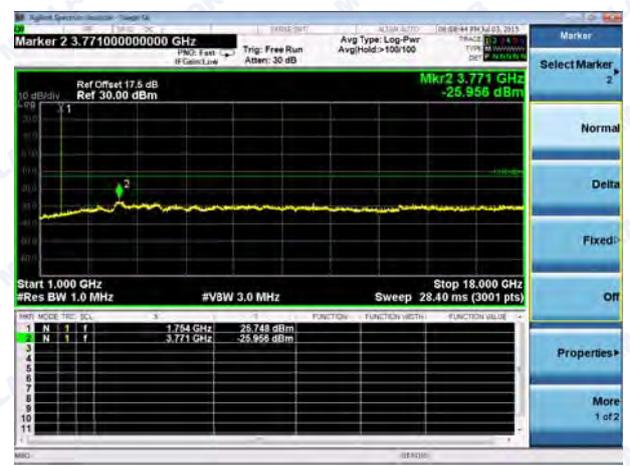
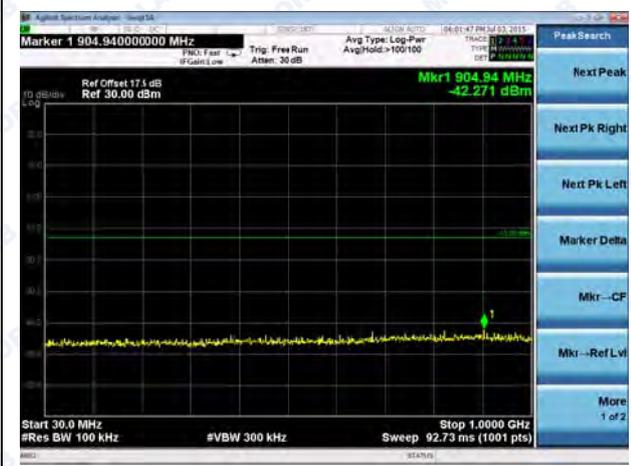
16QAM



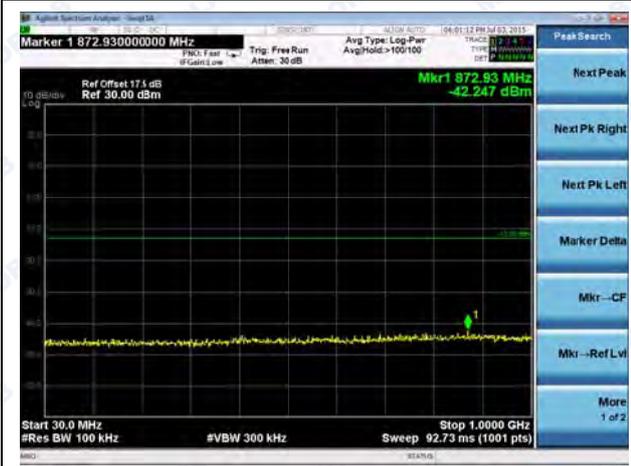


LTE Band 4 1.4MHz BW High Channel

QPSK



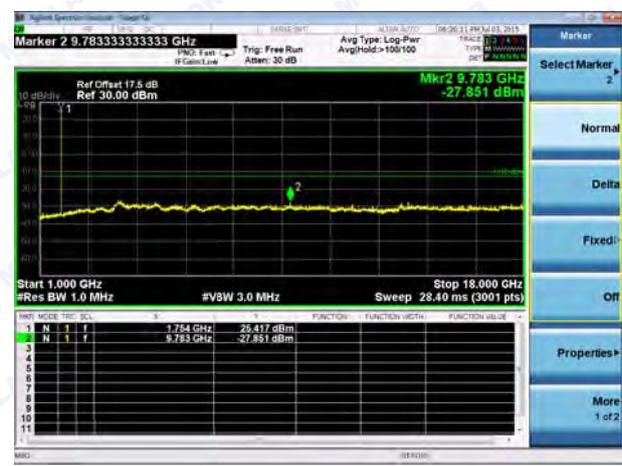
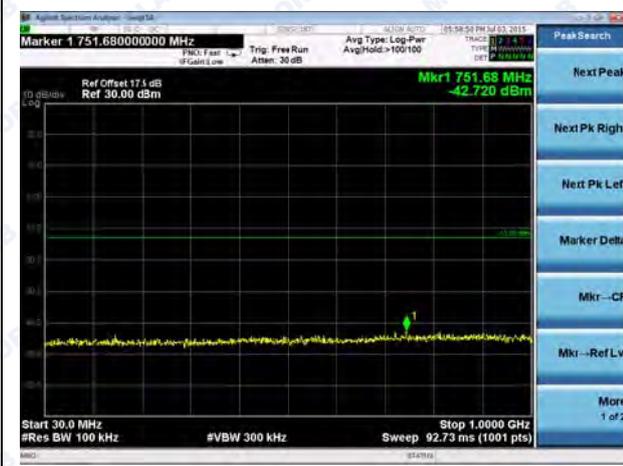
16QAM



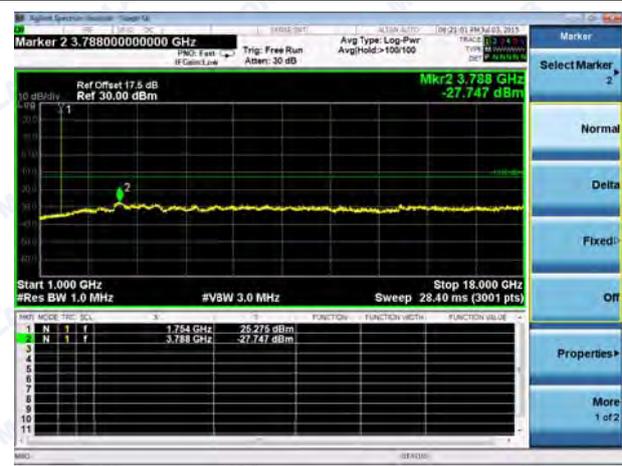
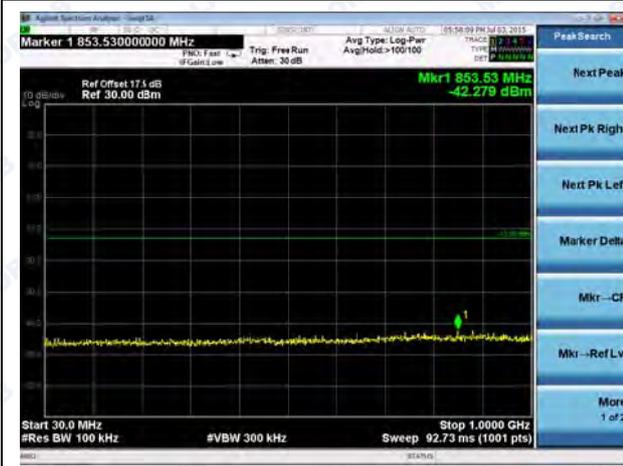


LTE Band 4 3MHz BW High Channel

QPSK



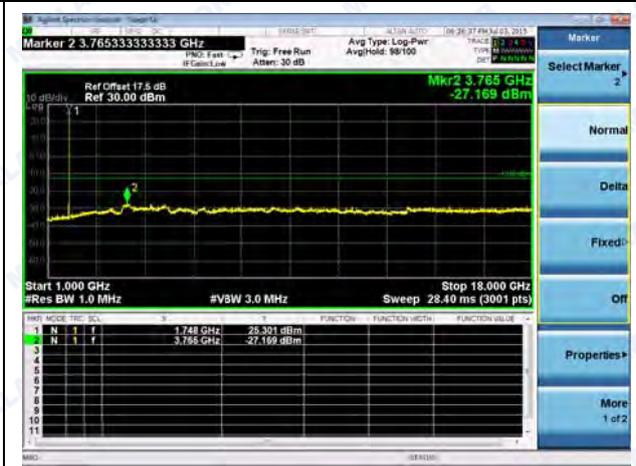
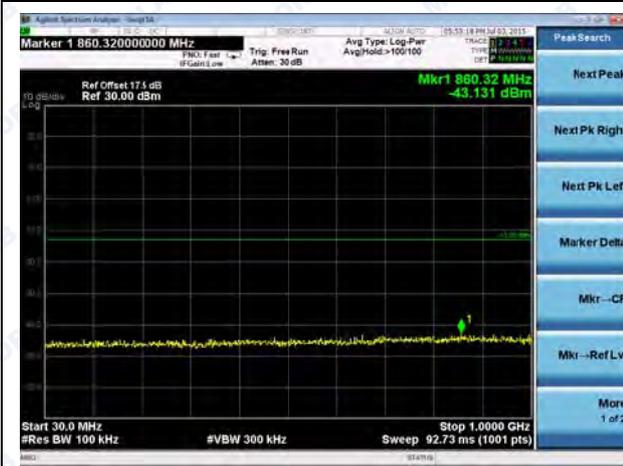
16QAM



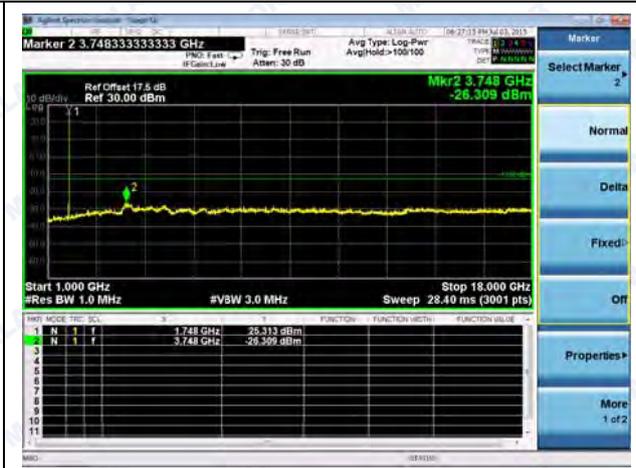
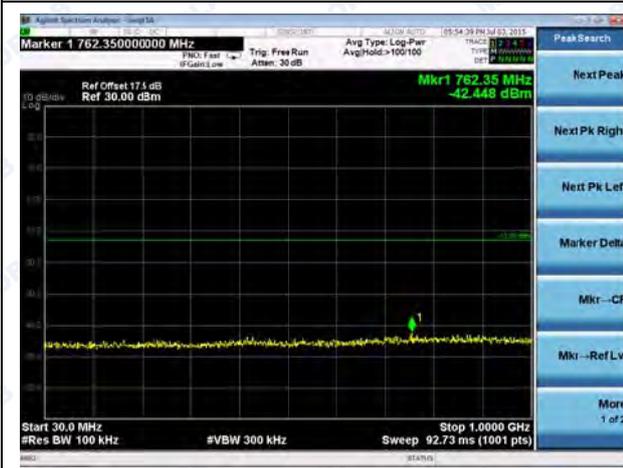


LTE Band 4 5MHz BW High Channel

QPSK



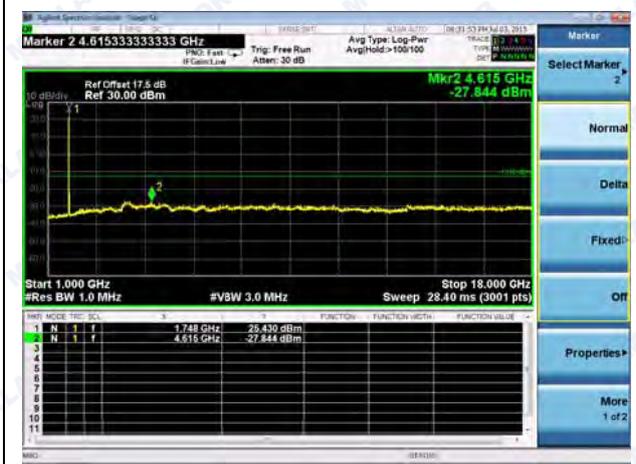
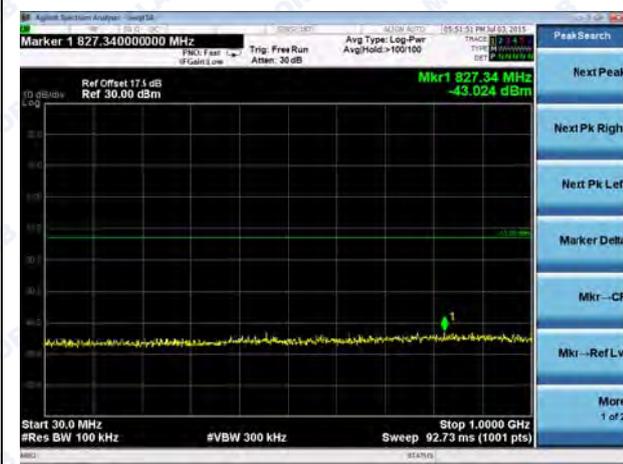
16QAM



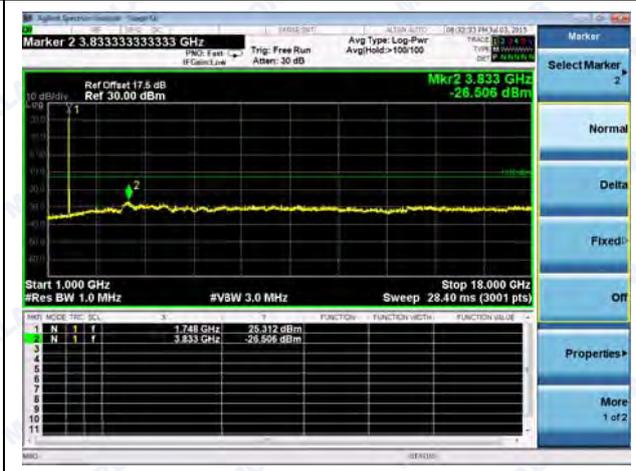


LTE Band 4 10MHz BW High Channel

QPSK



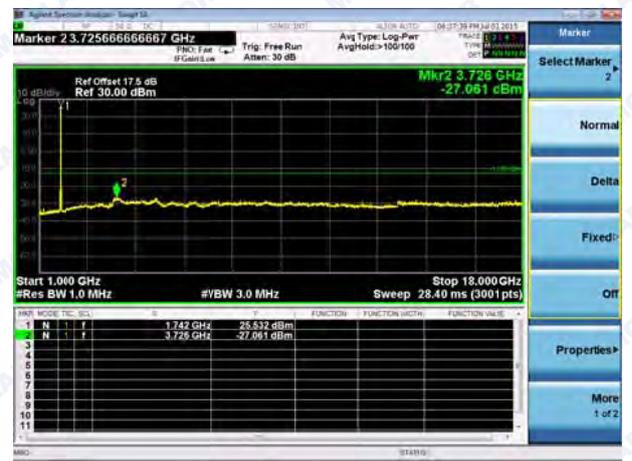
16QAM



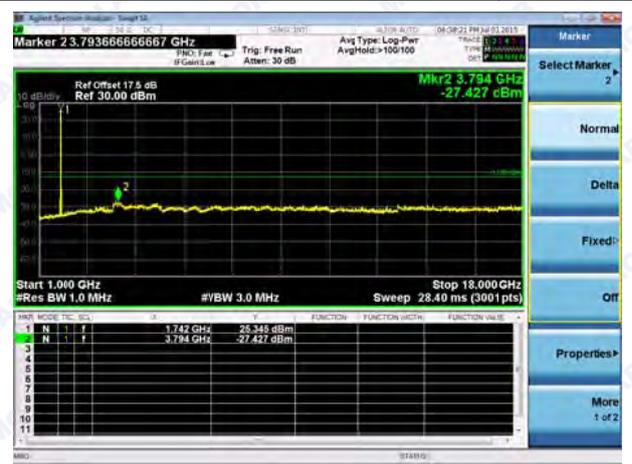


LTE Band 4 15MHz BW High Channel

QPSK



16QAM



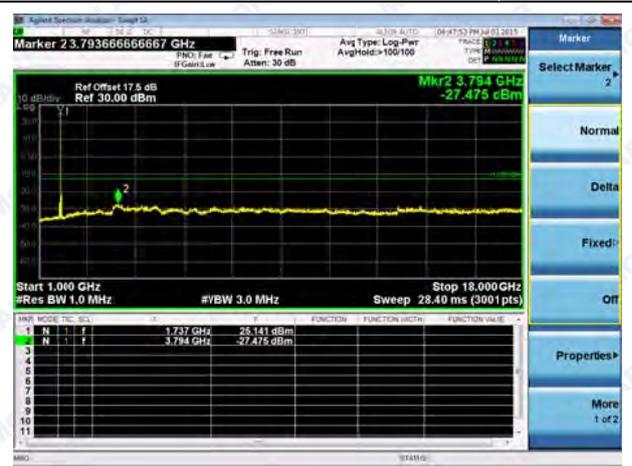


LTE Band 4 20MHz BW High Channel

QPSK



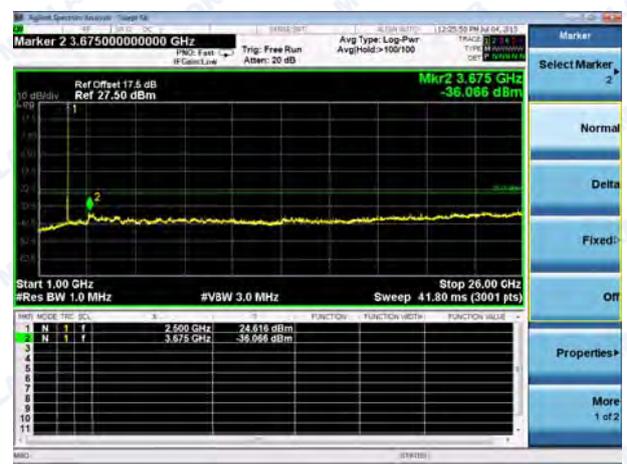
16QAM



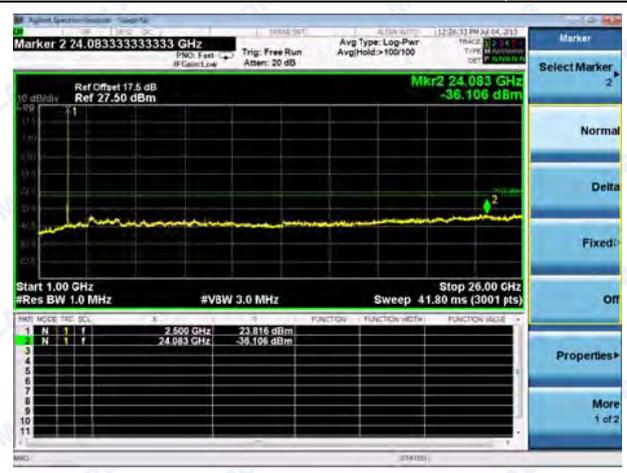


LTE Band 7 5MHz BW Low Channel

QPSK



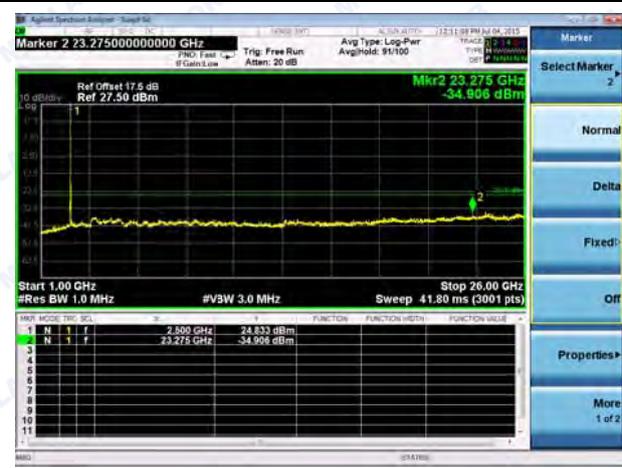
16QAM



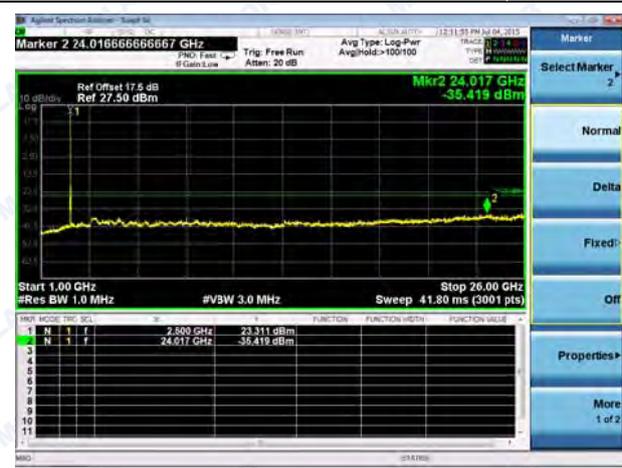
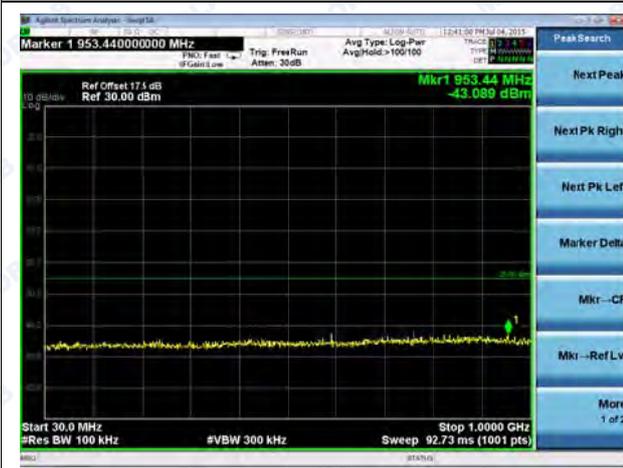


LTE Band 7 10MHz BW Low Channel

QPSK



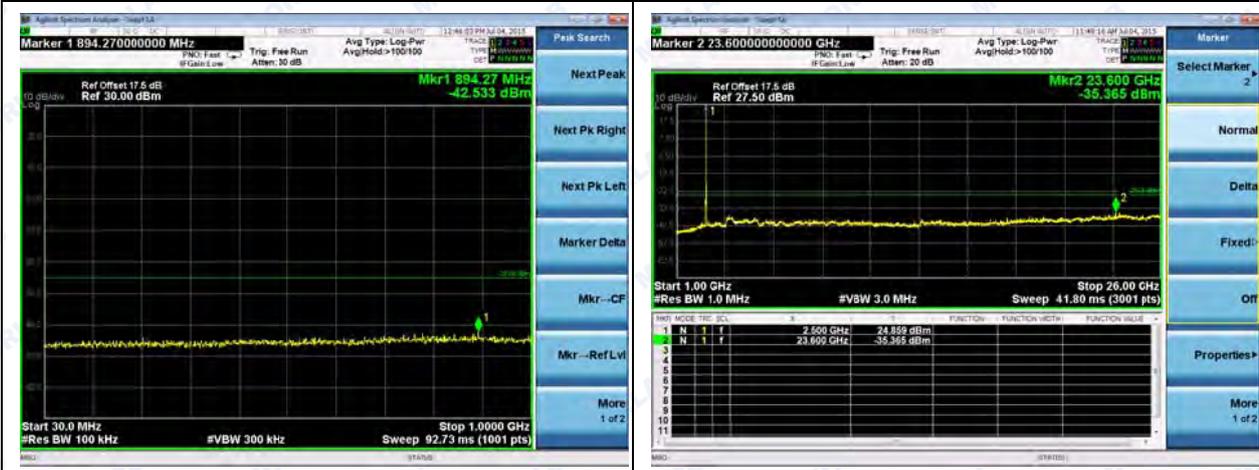
16QAM





LTE Band 7 15MHz BW Low Channel

QPSK



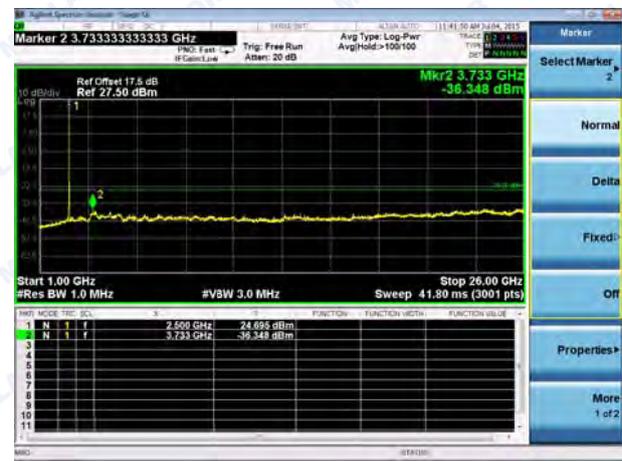
16QAM



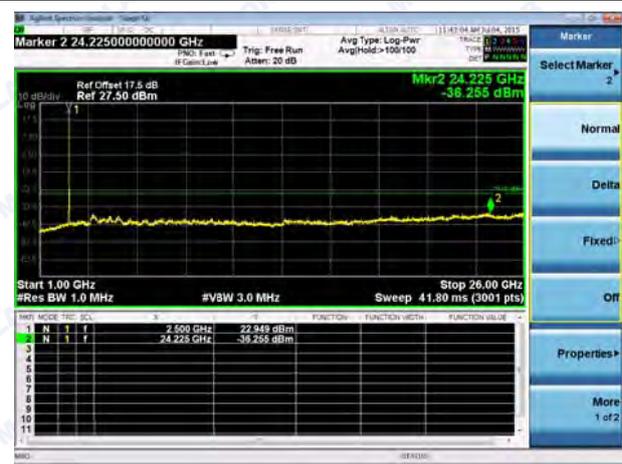


LTE Band 7 20MHz BW Low Channel

QPSK



16QAM





Middle channel:

LTE Band 7 5MHz BW Mid Channel

QPSK



16QAM



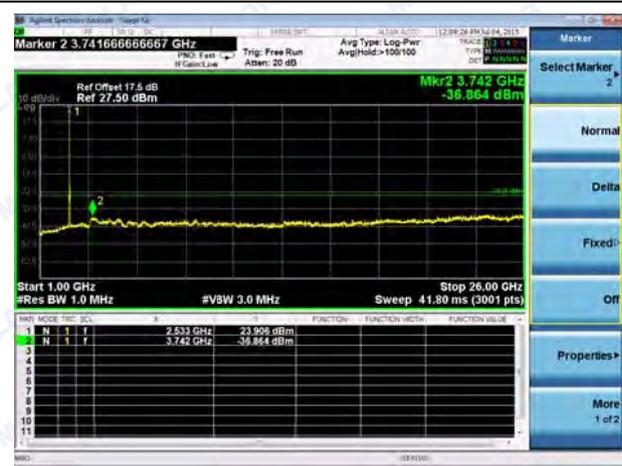


LTE Band 7 10MHz BW Mid Channel

QPSK



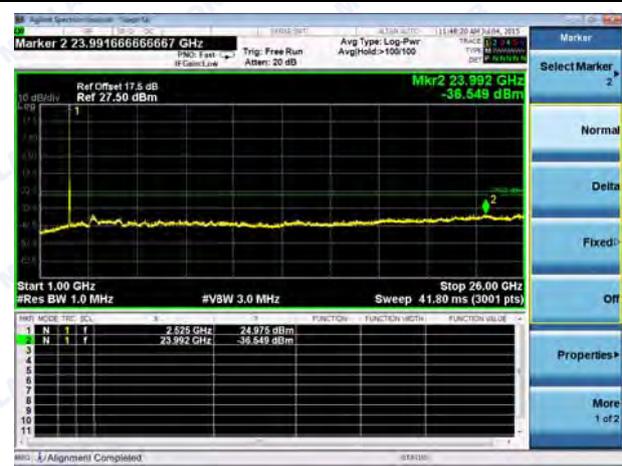
16QAM



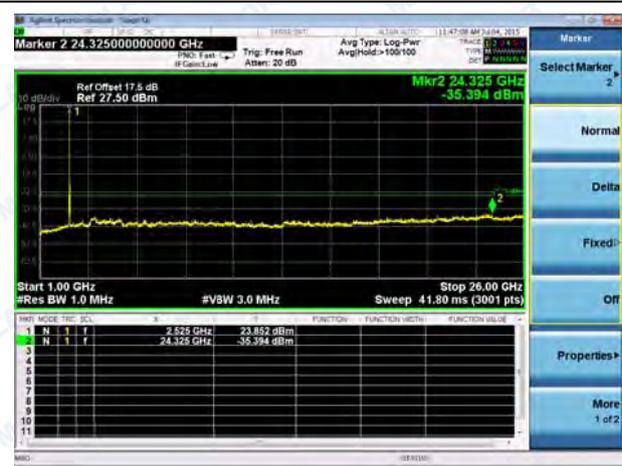


LTE Band 7 15MHz BW Mid Channel

QPSK



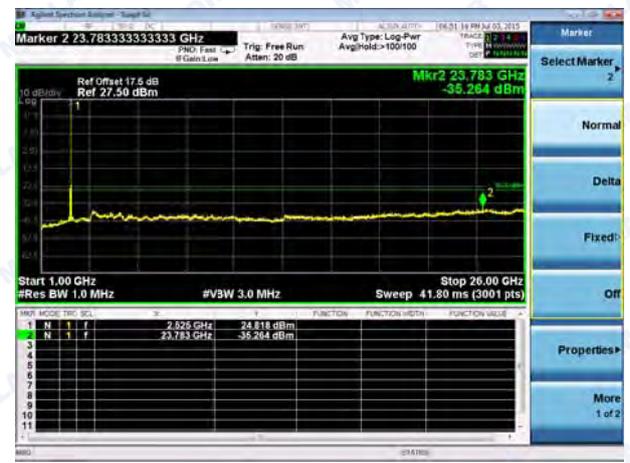
16QAM



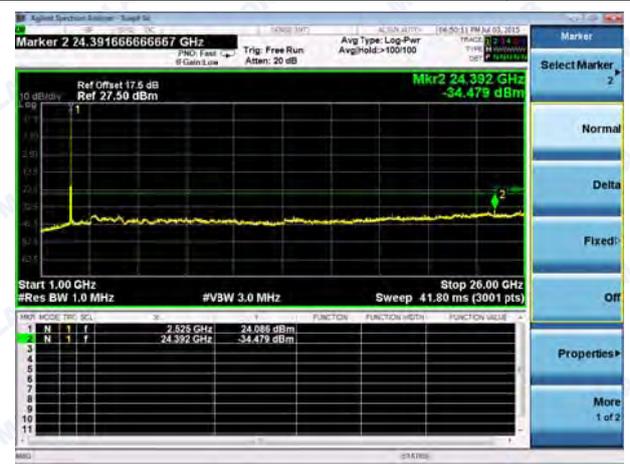


LTE Band 7 20MHz BW Mid Channel

QPSK



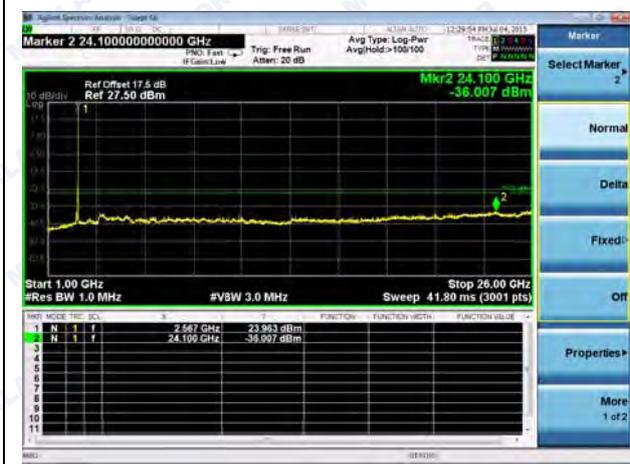
16QAM





LTE Band 7 5MHz BW High Channel

QPSK



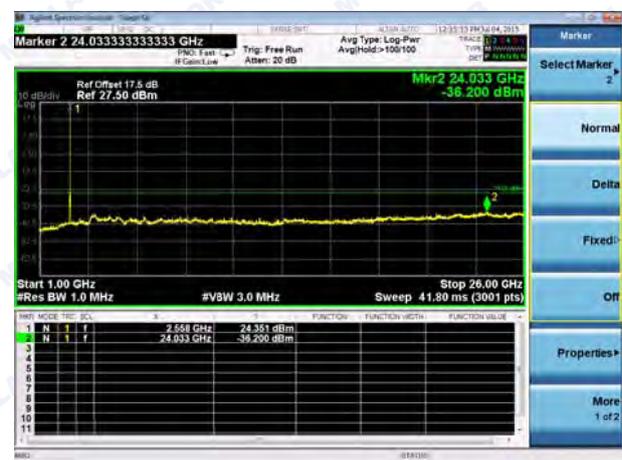
16QAM



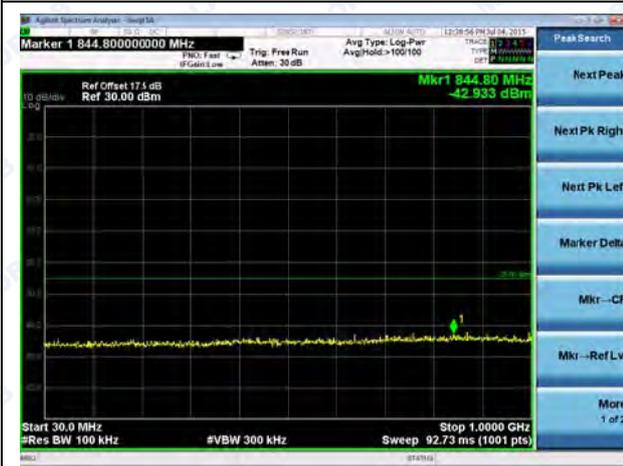


LTE Band 7 10MHz BW High Channel

QPSK



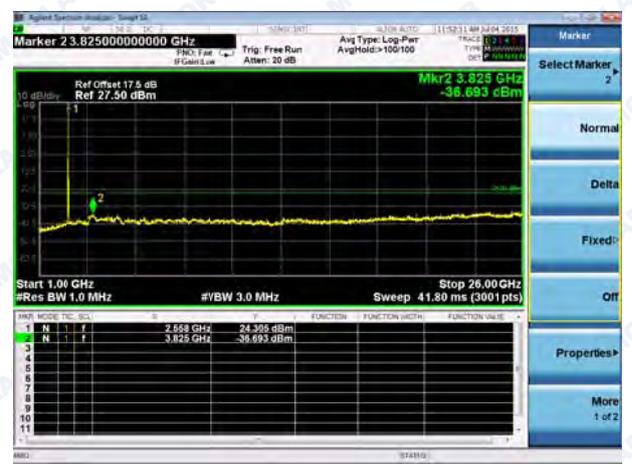
16QAM





LTE Band 7 15MHz BW High Channel

QPSK



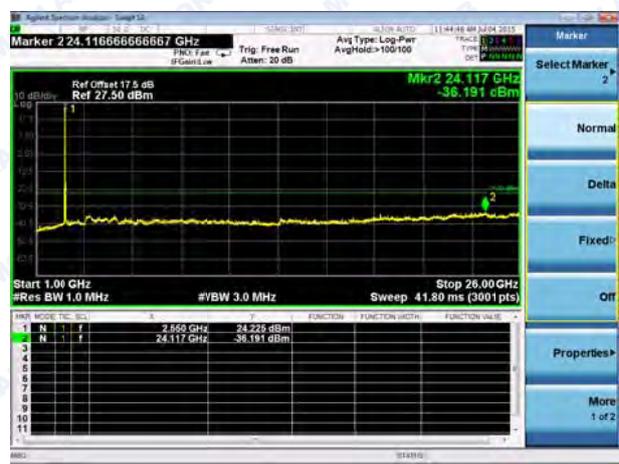
16QAM



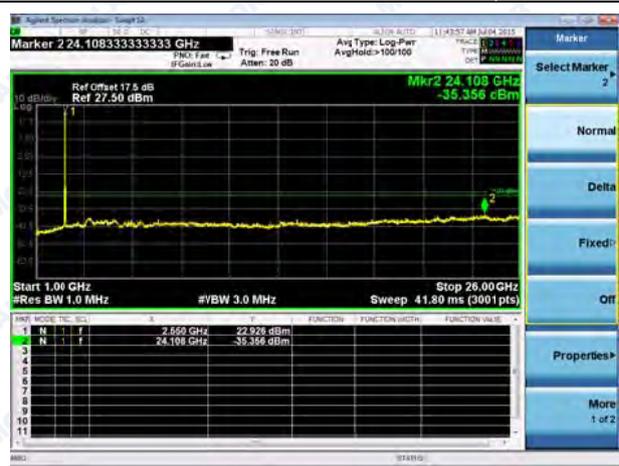


LTE Band 7 20MHz BW High Channel

QPSK



16QAM





## 2.6 Band Edge

### 2.6.1 Requirement

According to FCC section 27.53(h) & (m) (4), (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 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.

(h) For operations in the 1710–1755 MHz 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.

### 2.6.2 Test Description

See section 2.1.2 of this report.

### 2.6.3 Test Result

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

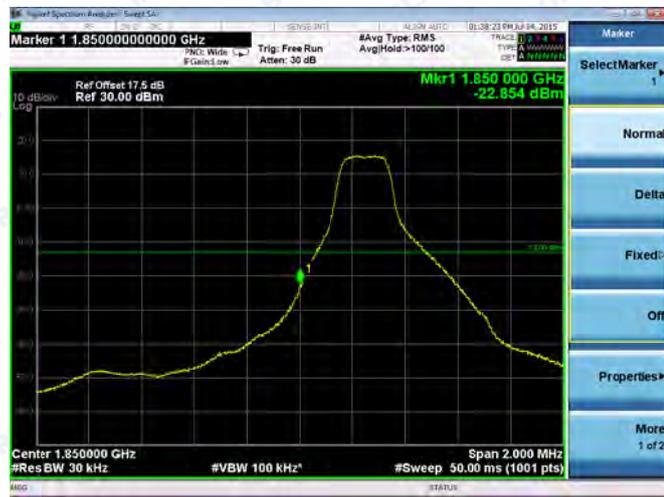
PASS. See the attached plots.



LTE Band 2

Channel Bandwidth: 1.4MHz

Channel	18607	RB Size 1	RB Offset 0	Channel	18607	RB Size 6	RB Offset 0
---------	-------	-----------	-------------	---------	-------	-----------	-------------



Channel Bandwidth: 1.4MHz

Channel	19192	RB Size 1	RB Offset 5	Channel	19192	RB Size 6	RB Offset 0
---------	-------	-----------	-------------	---------	-------	-----------	-------------





LTE Band 2

Channel Bandwidth: 3MHz

Channel	18165	RB Size 1	RB Offset 0	Channel	18165	RB Size 15	RB Offset 0

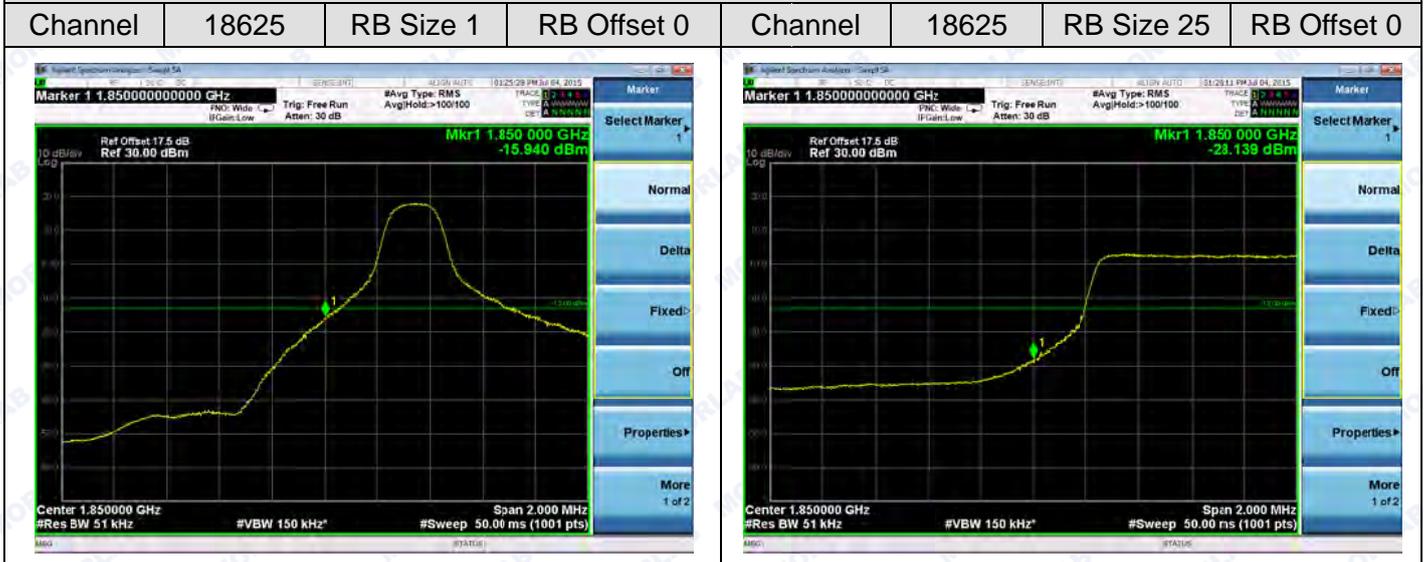
Channel Bandwidth: 3MHz

Channel	19184	RB Size 1	RB Offset 14	Channel	19184	RB Size 15	RB Offset 0

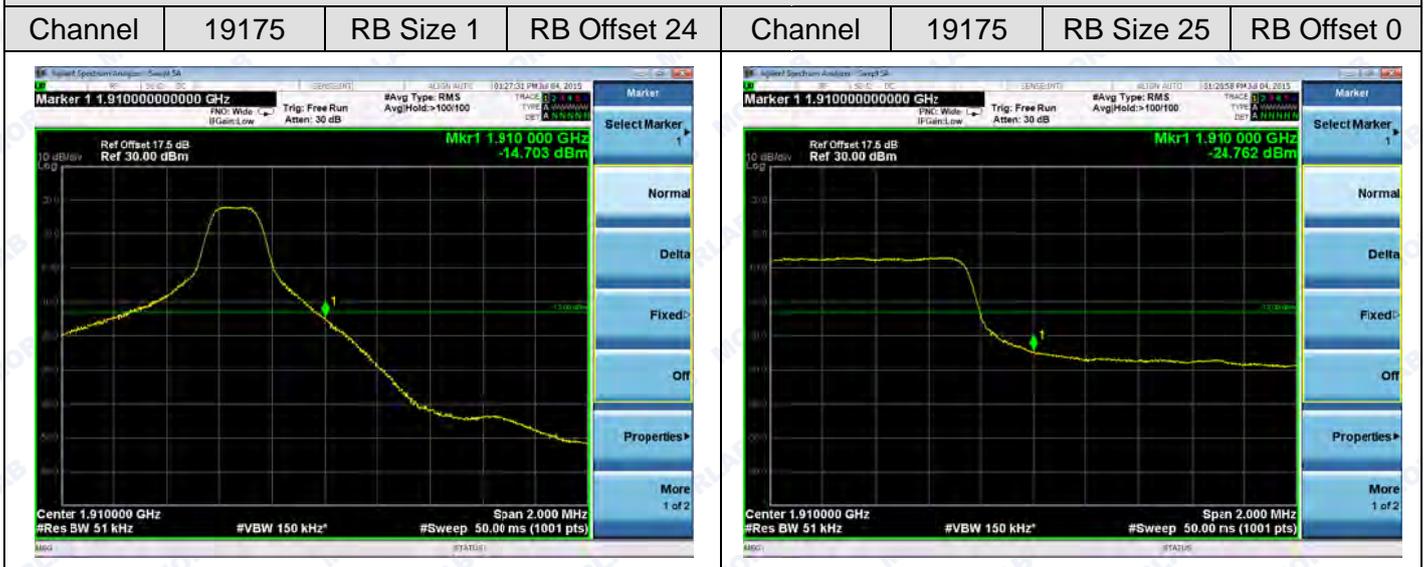


LTE Band 2

Channel Bandwidth: 5MHz



Channel Bandwidth: 5MHz





LTE Band 2

Channel Bandwidth: 10MHz

Channel	18650	RB Size 1	RB Offset 0	Channel	18650	RB Size 50	RB Offset 0
---------	-------	-----------	-------------	---------	-------	------------	-------------



Channel Bandwidth: 10MHz

Channel	19150	RB Size 1	RB Offset 49	Channel	19150	RB Size 50	RB Offset 0
---------	-------	-----------	--------------	---------	-------	------------	-------------

