

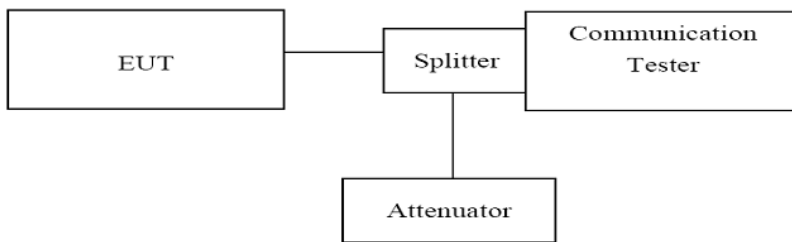
3.4. Out of band emission at antenna terminals

LIMIT

According to §27.53 (h): For operations in the 1710–1755 MHz and 2110–2155 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.

According to §27.53 (m) (4): For mobile digital stations, the attenuation factor shall be not less than $43 + 10 \log (P)$ dB at the channel edge and $55 + 10 \log (P)$ dB at 5.5 mega-hertz from the channel edges. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensee’s operating on BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

TEST CONFIGURATION



TEST PROCEDURE

1. The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation.
2. Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the equipment of LTE FDD Band 4, this equates to a frequency range of 9 KHz to 17.5 GHz, data taken from 9 KHz to 18 GHz. For LTE FDD Band 7, data taken from 9 KHz to 26 GHz.
3. Please refer to following tables for test antenna conducted emissions.

Working Frequency	Sub range (GHz)	RBW	VBW	Sweep time (s)
LTE FDD Band 4	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~18	1 MHz	3 MHz	Auto
LTE FDD Band 7	0.000009~0.000015	1KHz	3KHz	Auto
	0.000015~0.03	10KHz	30KHz	Auto
	0.03~26	1 MHz	3 MHz	Auto

TEST RESULTS

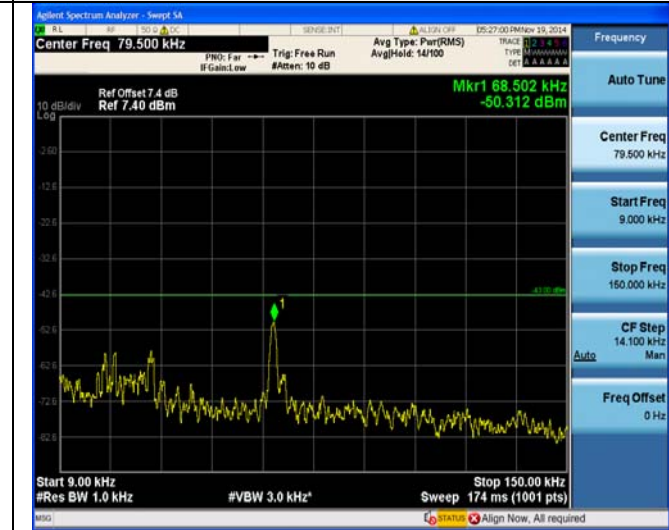
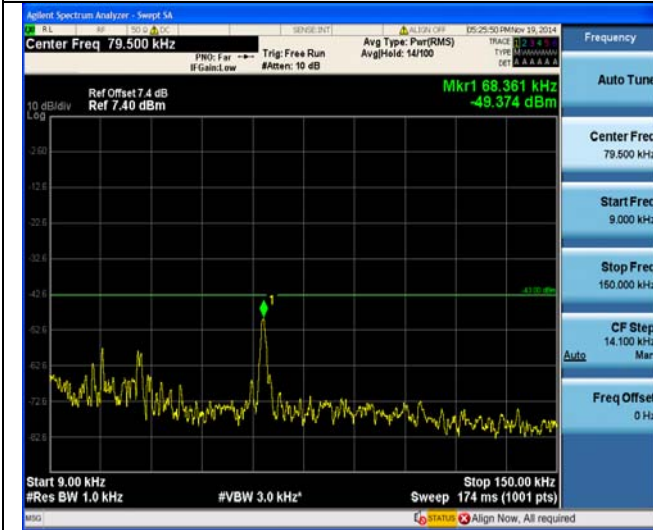
1. We were tested all RB Configuration for each Channel Bandwidth of LTE FDD Band 4 and FDD Band 7; recorded worst case for each Channel Bandwidth of LTE FDD Band 4 and FDD Band 7.

LTE FDD Band 4-1.4MHz Channel Bandwidth

Low Channel

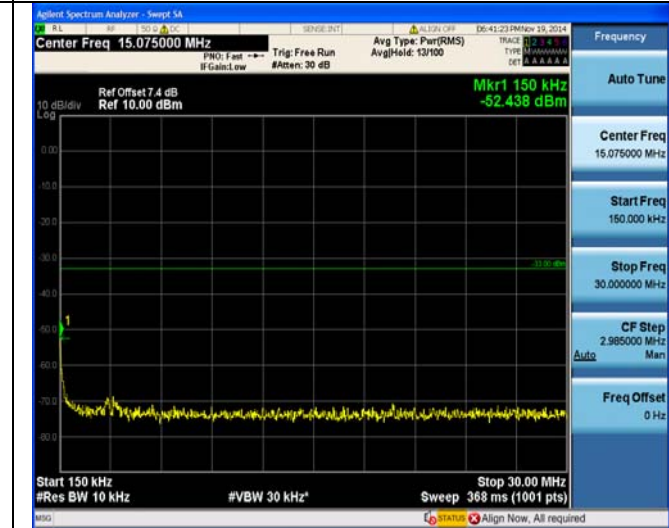
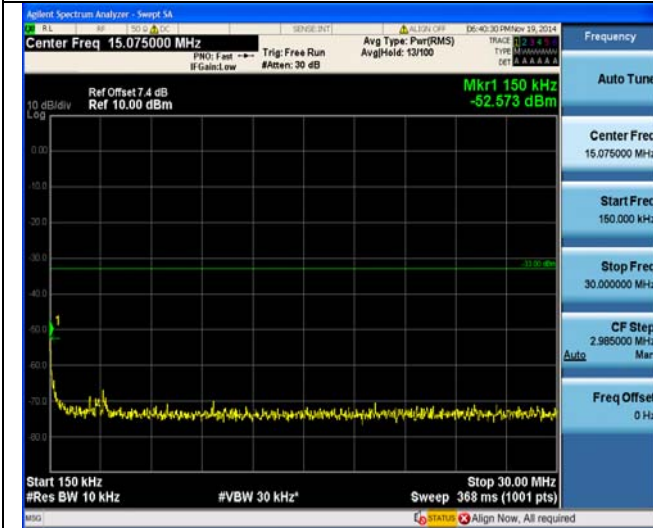
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



30MHz~18GHz

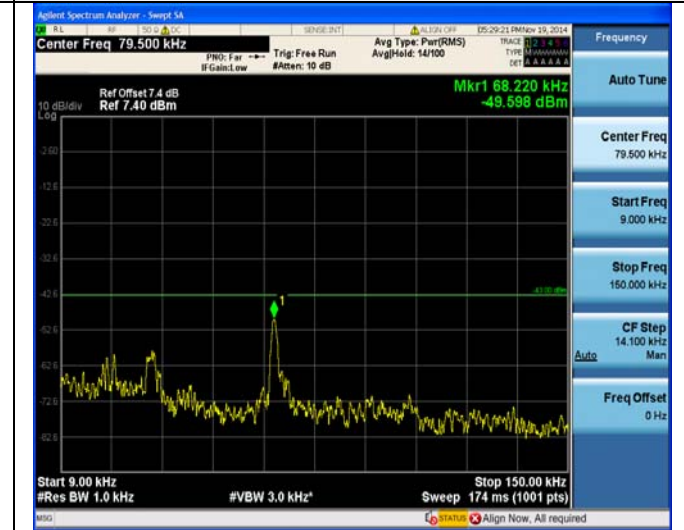
30MHz~18GHz

LTE FDD Band 4-1.4MHz Channel Bandwidth

Middle Channel

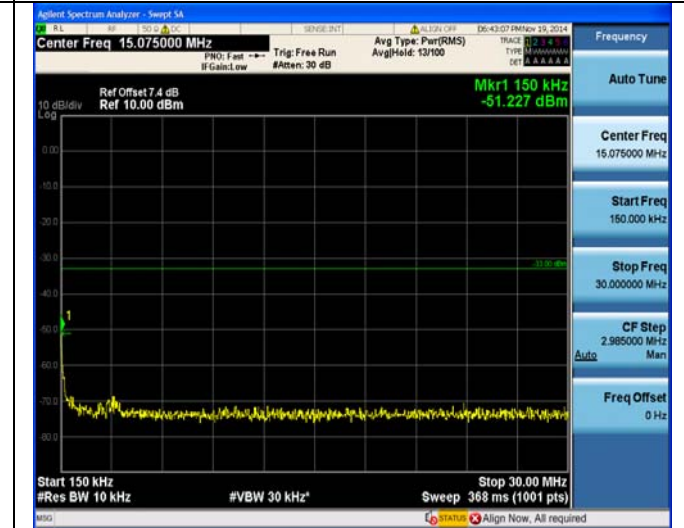
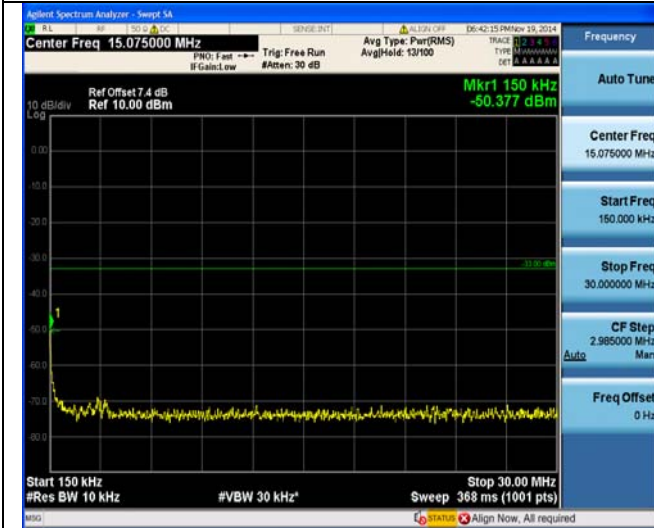
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



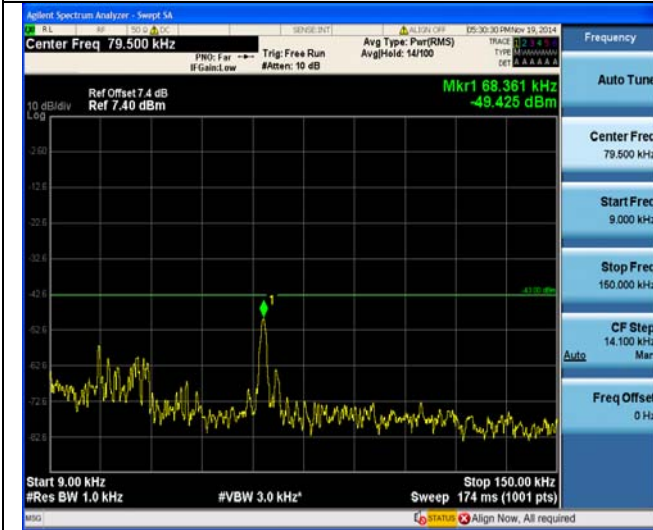
30MHz~18GHz

30MHz~18GHz

LTE FDD Band 4-1.4MHz Channel Bandwidth
High Channel

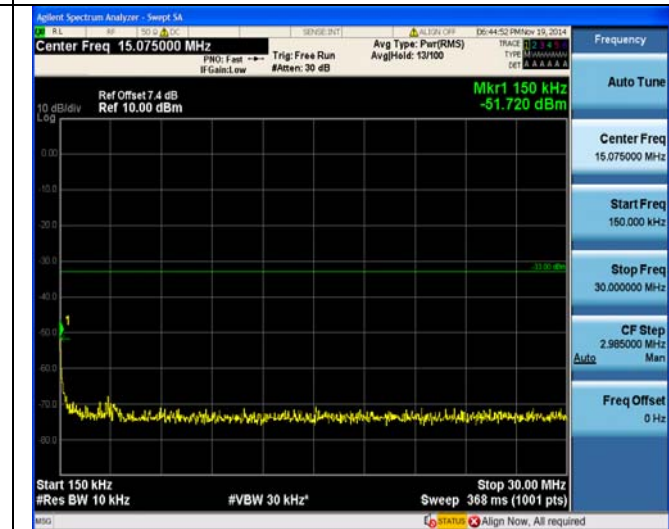
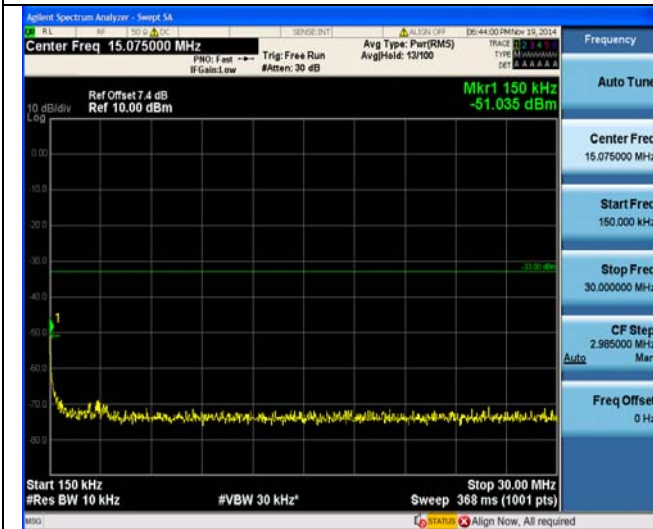
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



30MHz~18GHz

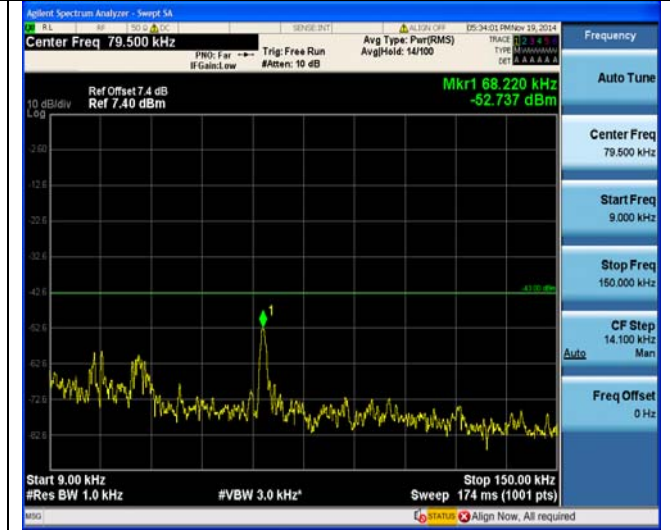
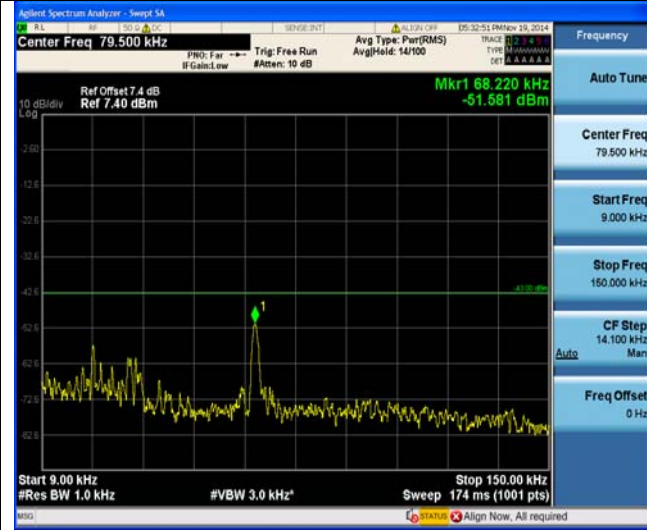
30MHz~18GHz

LTE FDD Band 4-3MHz Channel Bandwidth

Low Channel

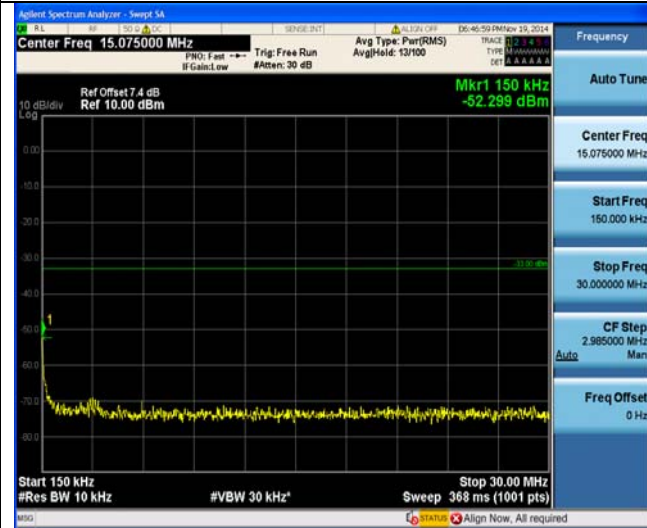
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



30MHz~18GHz

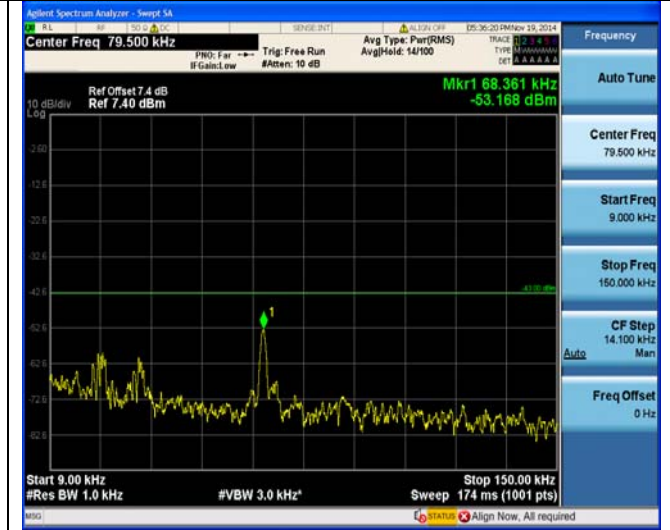
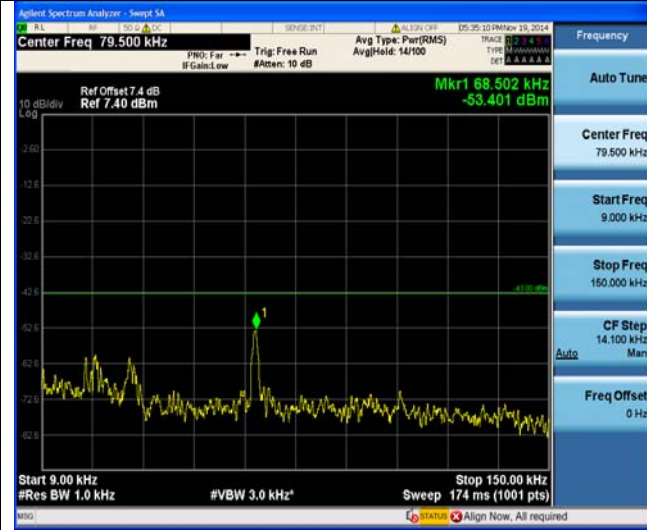
30MHz~18GHz

LTE FDD Band 4-3MHz Channel Bandwidth

Middle Channel

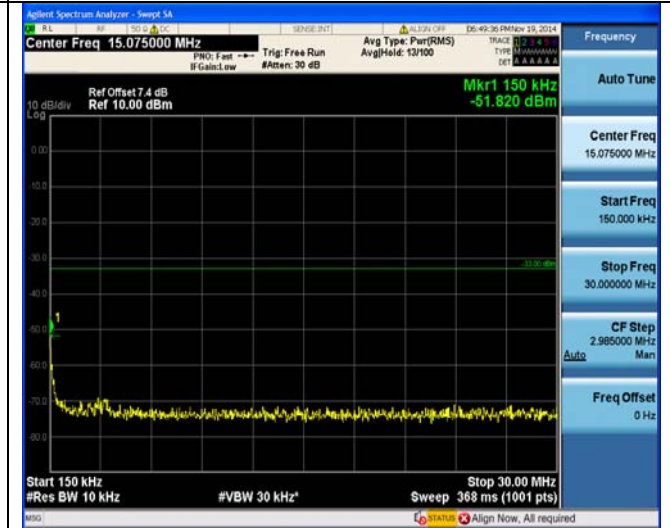
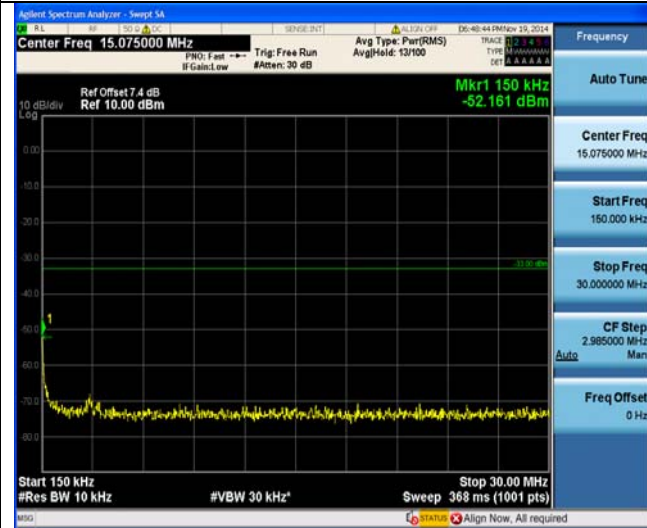
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



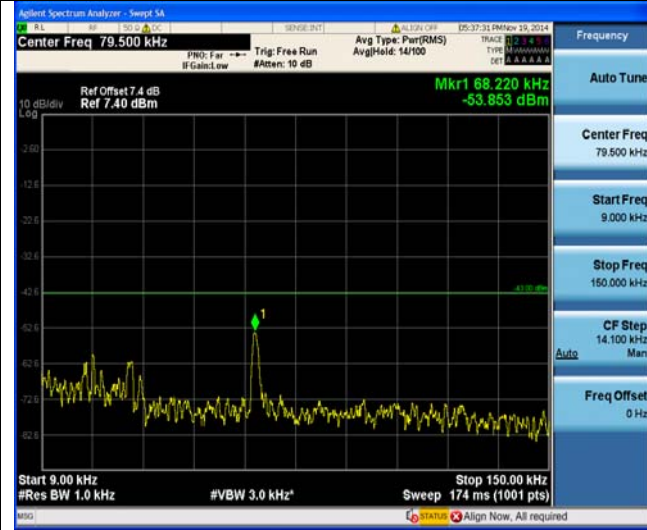
30MHz~18GHz

30MHz~18GHz

LTE FDD Band 4-3MHz Channel Bandwidth
High Channel

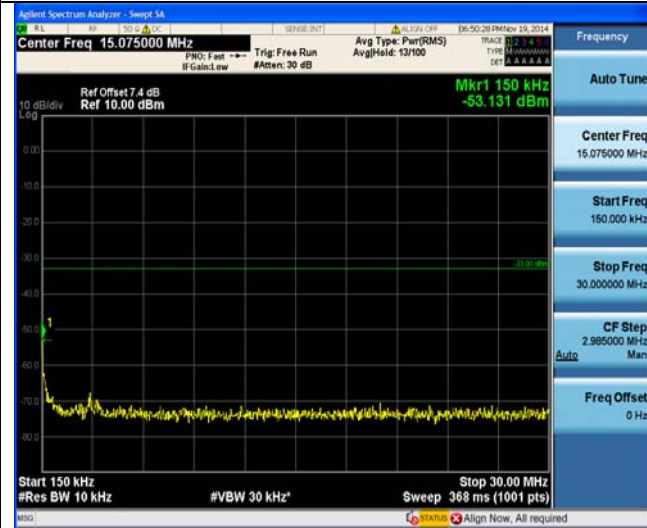
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



30MHz~18GHz

30MHz~18GHz

LTE FDD Band 4-5MHz Channel Bandwidth

Low Channel

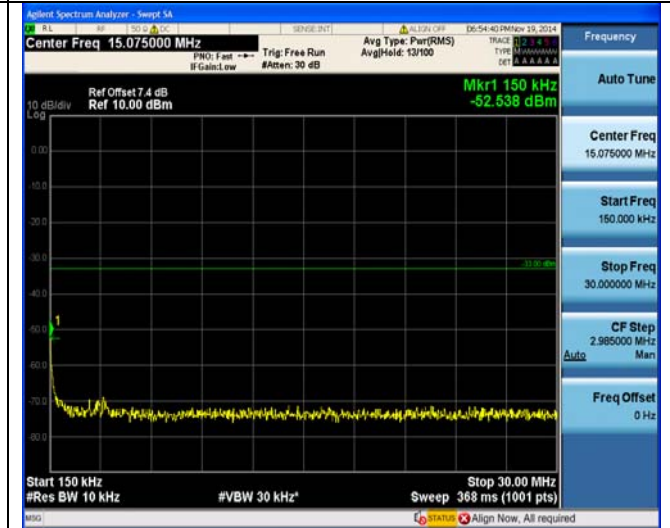
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



30MHz~18GHz

30MHz~18GHz

LTE FDD Band 4-5MHz Channel Bandwidth

Middle Channel

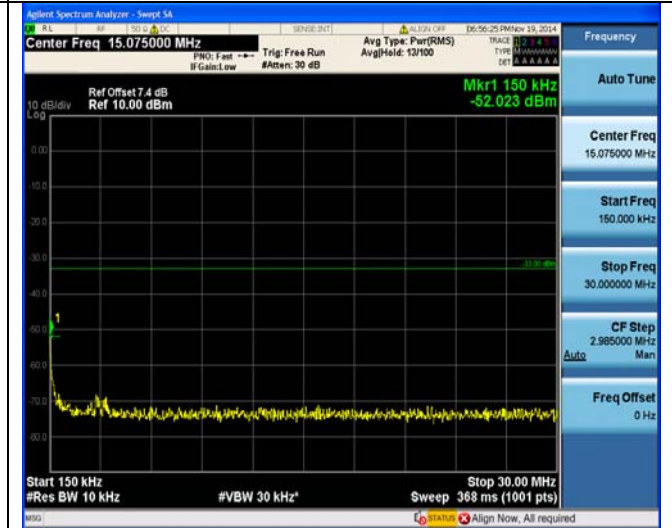
QPSK

16QAM



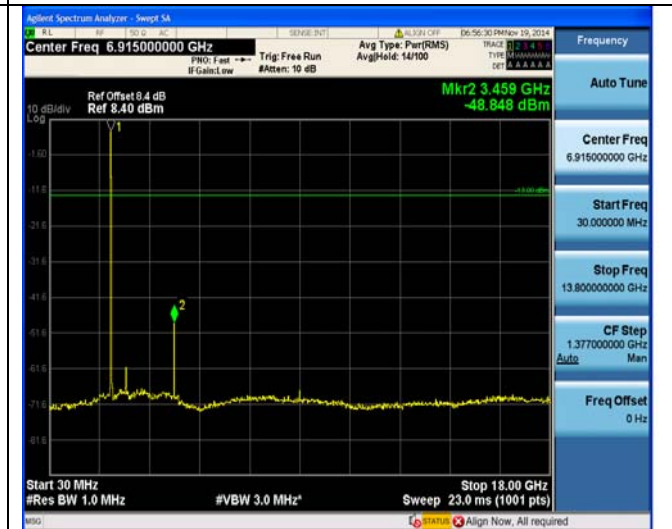
9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



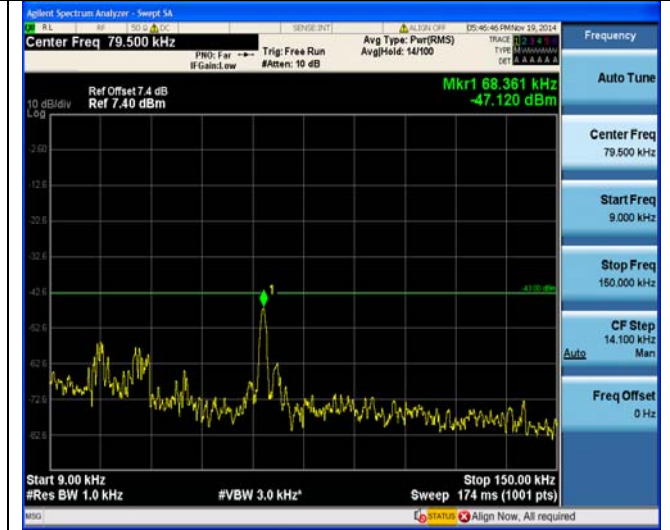
30MHz~18GHz

30MHz~18GHz

LTE FDD Band 4-5MHz Channel Bandwidth
High Channel

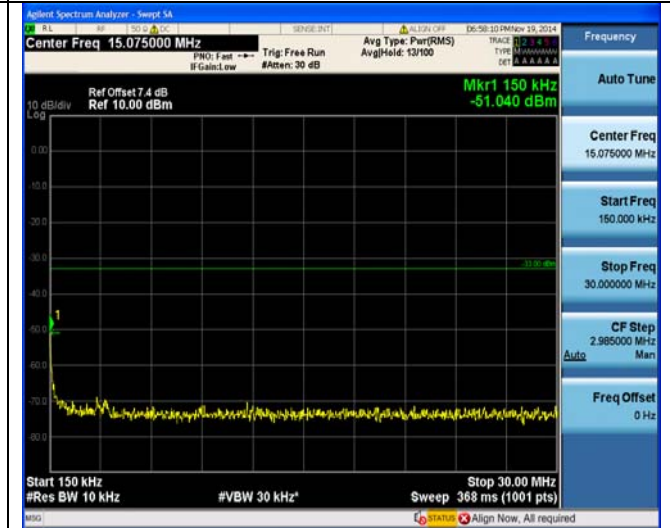
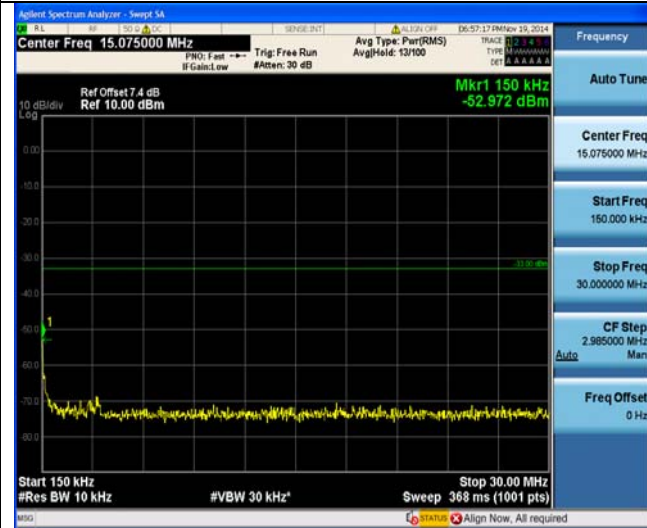
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



30MHz~18GHz

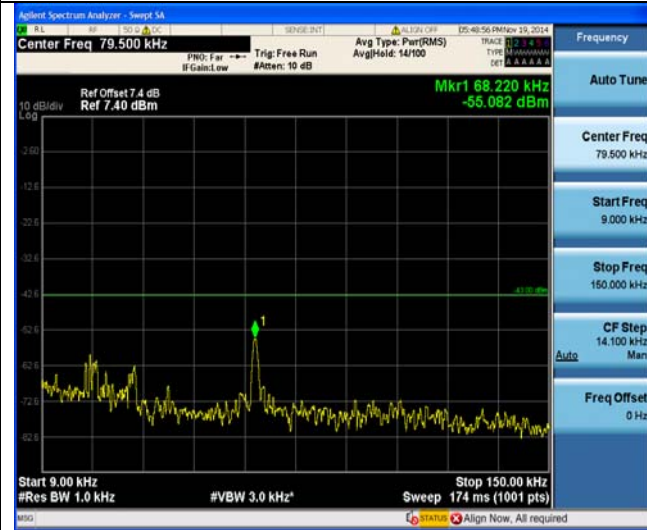
30MHz~18GHz

LTE FDD Band 4-10MHz Channel Bandwidth

Low Channel

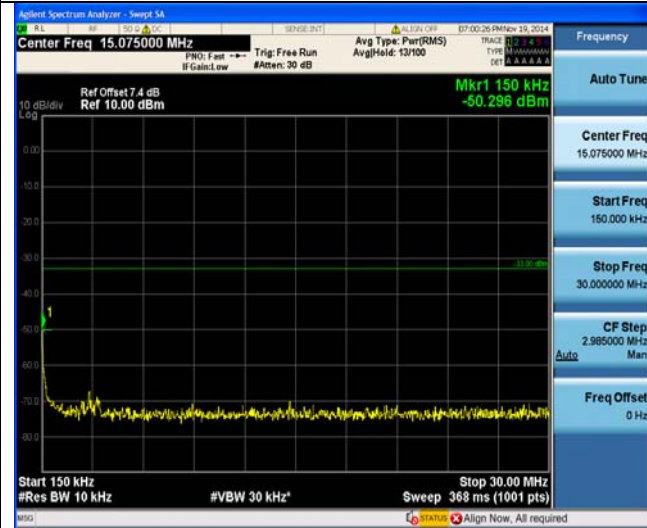
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



30MHz~18GHz

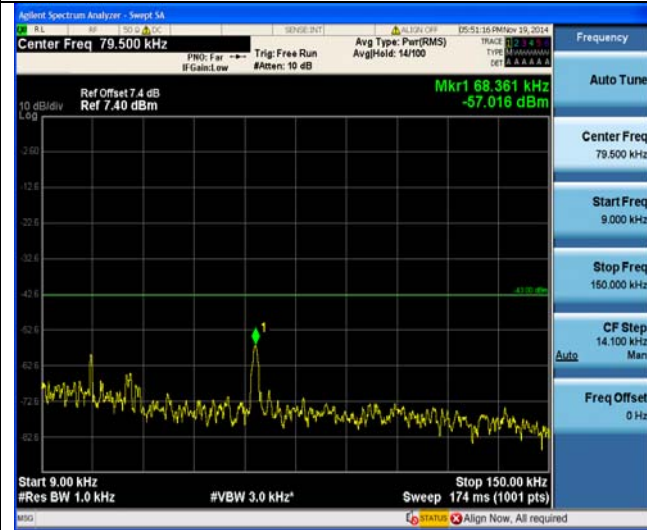
30MHz~18GHz

LTE FDD Band 4-10MHz Channel Bandwidth

Middle Channel

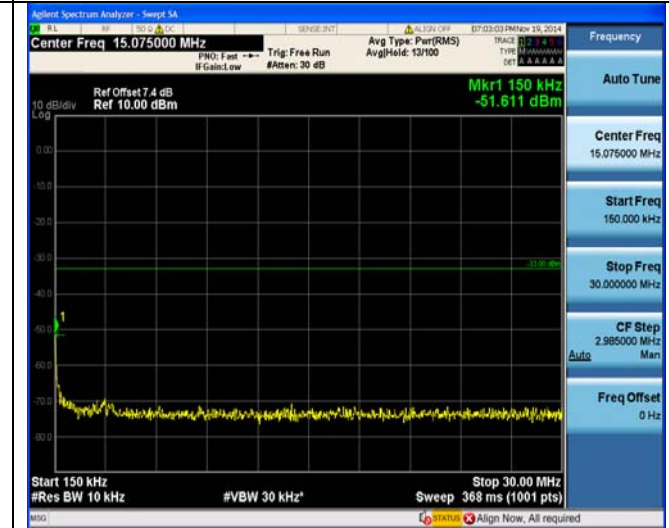
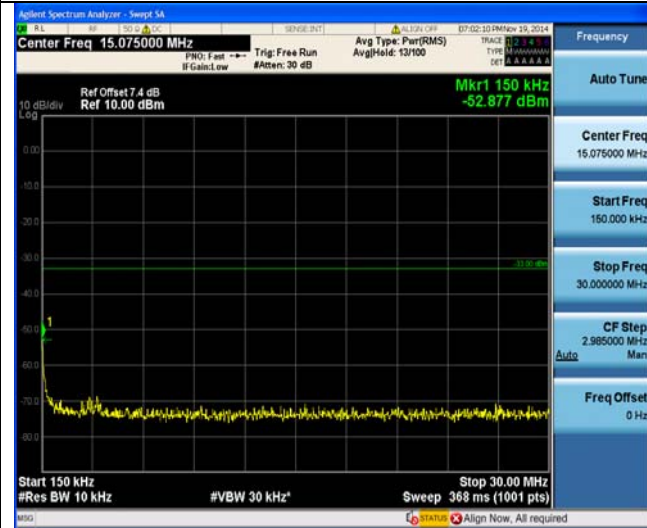
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



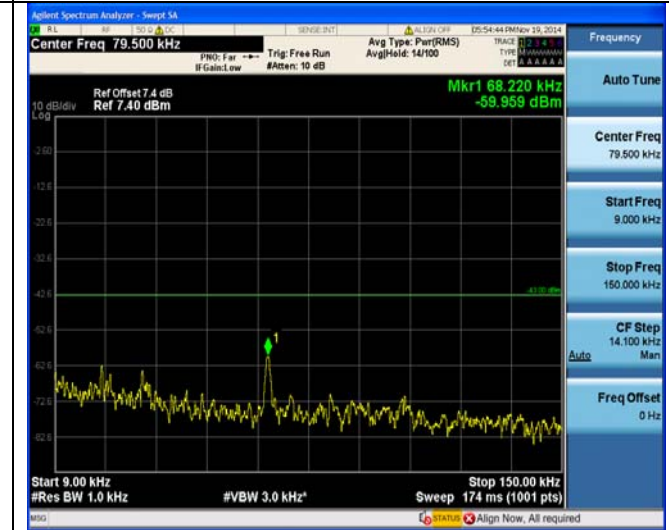
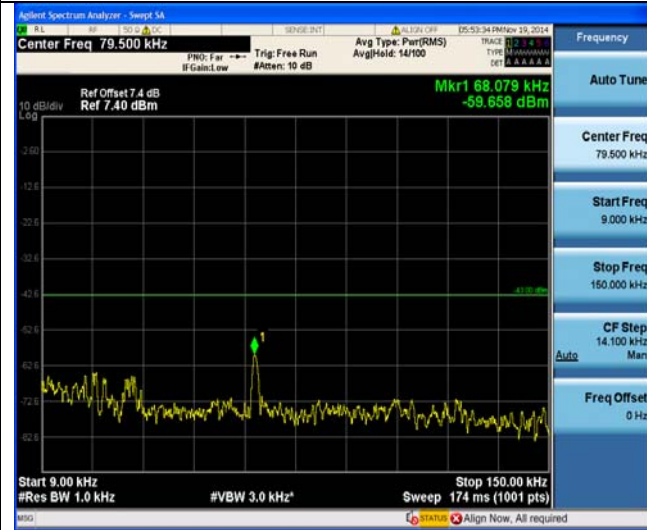
30MHz~18GHz

30MHz~18GHz

LTE FDD Band 4-10MHz Channel Bandwidth
High Channel

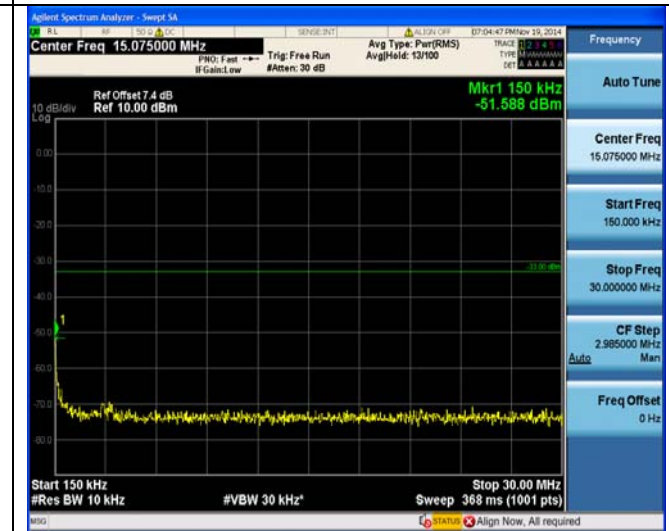
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



30MHz~18GHz

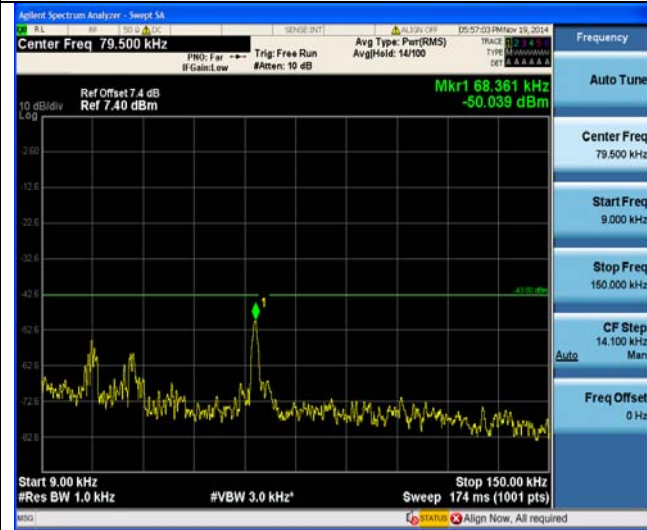
30MHz~18GHz

LTE FDD Band 4-15MHz Channel Bandwidth

Low Channel

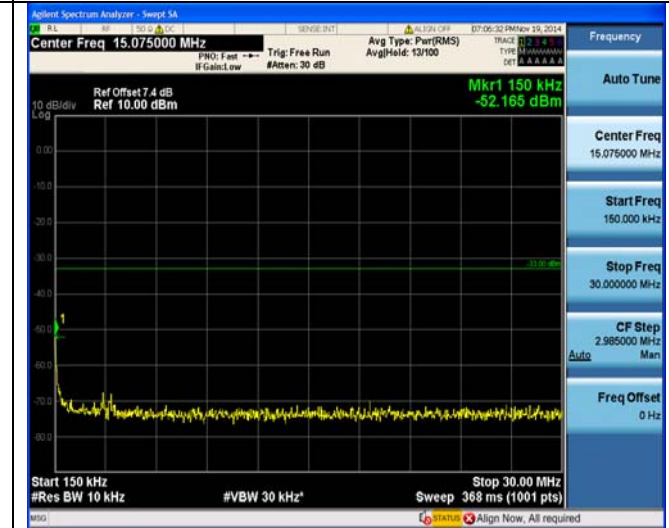
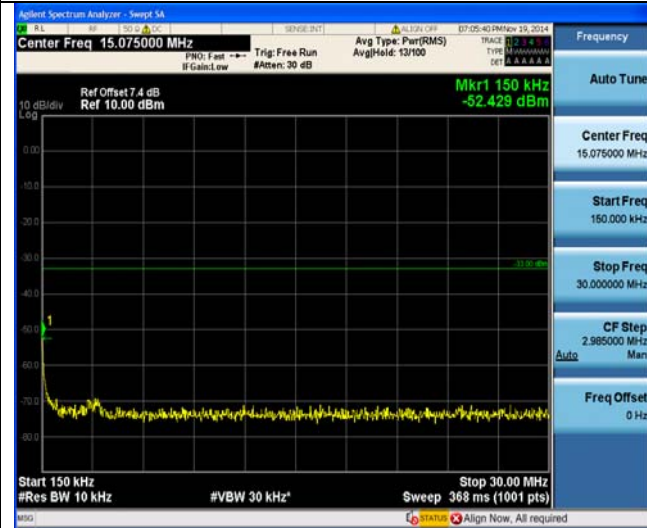
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



30MHz~18GHz

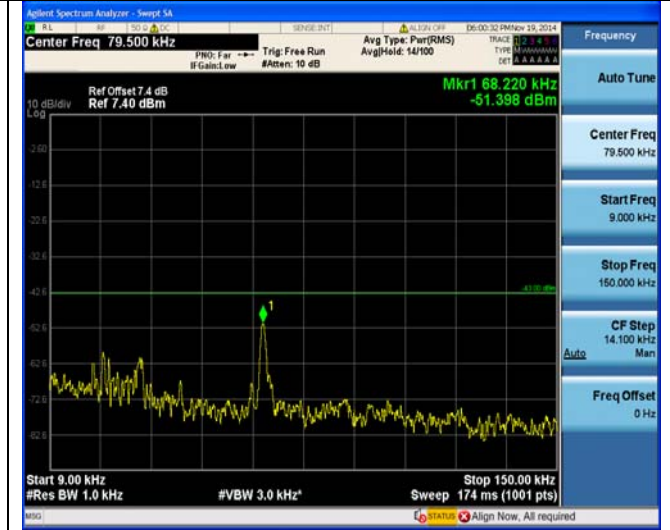
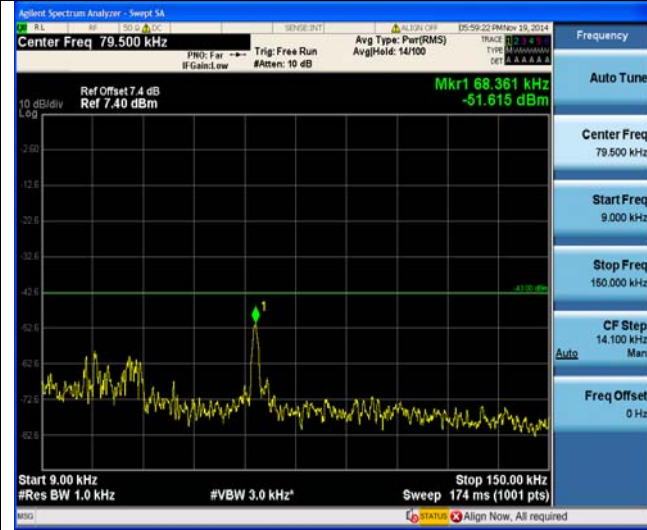
30MHz~18GHz

LTE FDD Band 4-15MHz Channel Bandwidth

Middle Channel

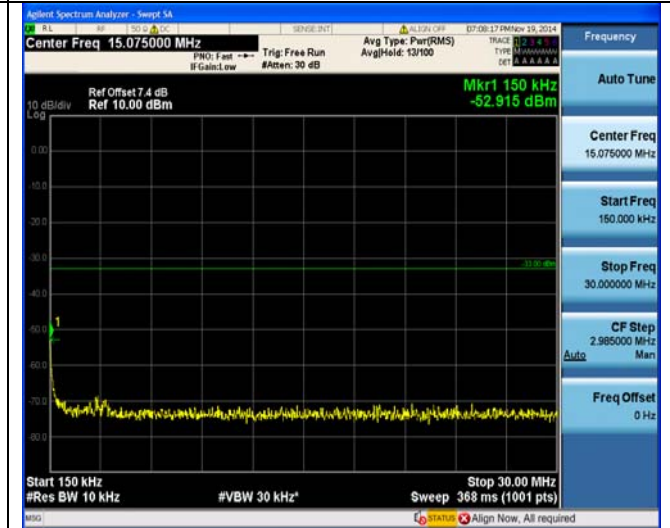
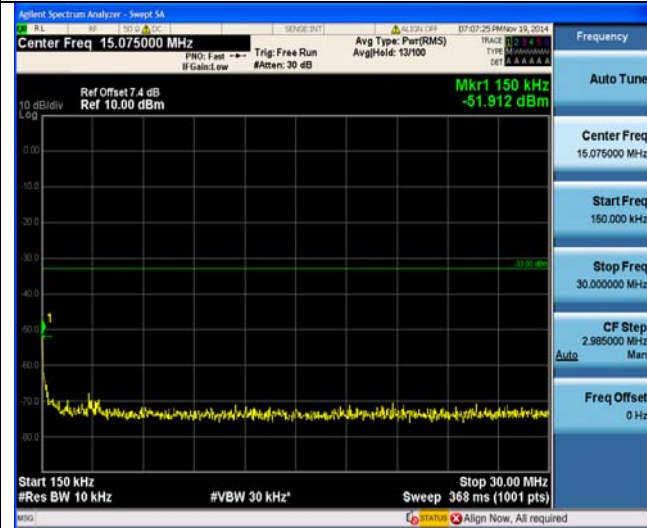
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



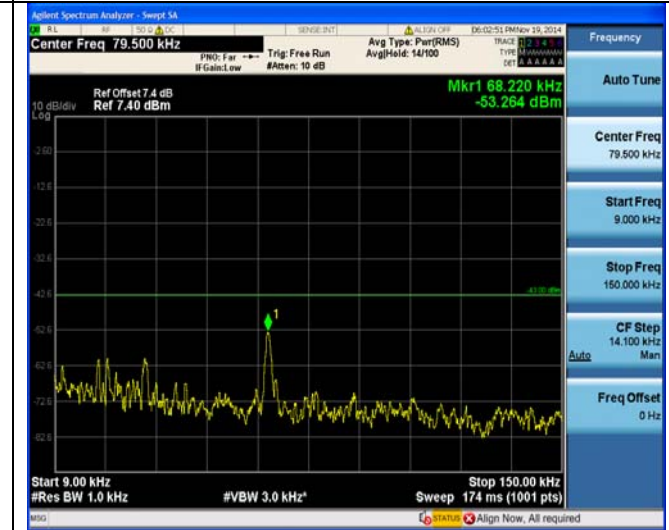
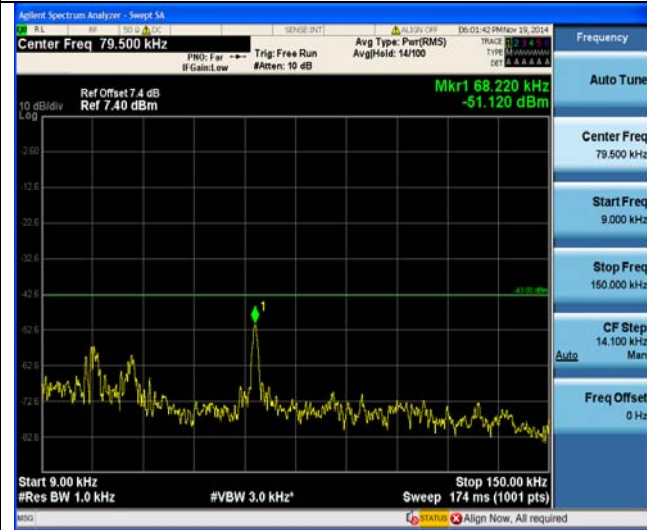
30MHz~18GHz

30MHz~18GHz

LTE FDD Band 4-15MHz Channel Bandwidth
High Channel

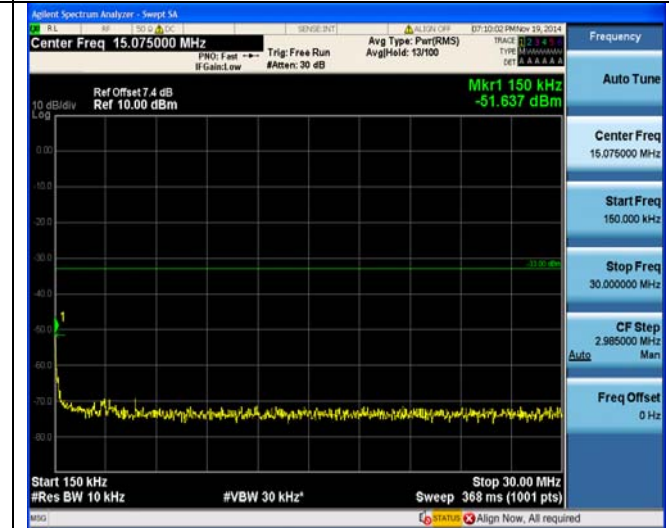
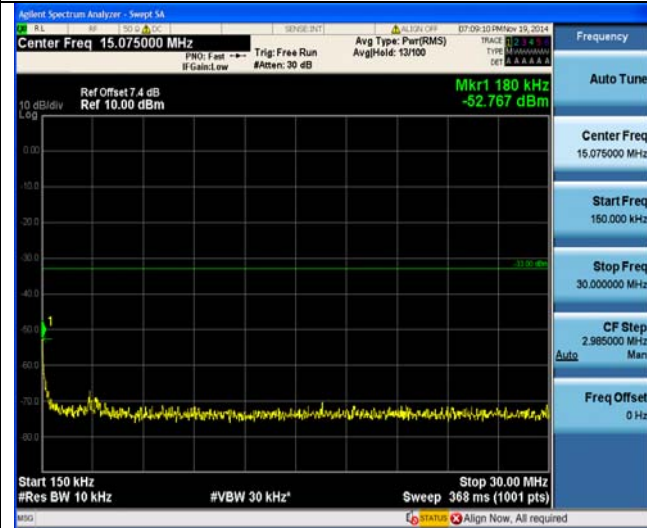
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



30MHz~18GHz

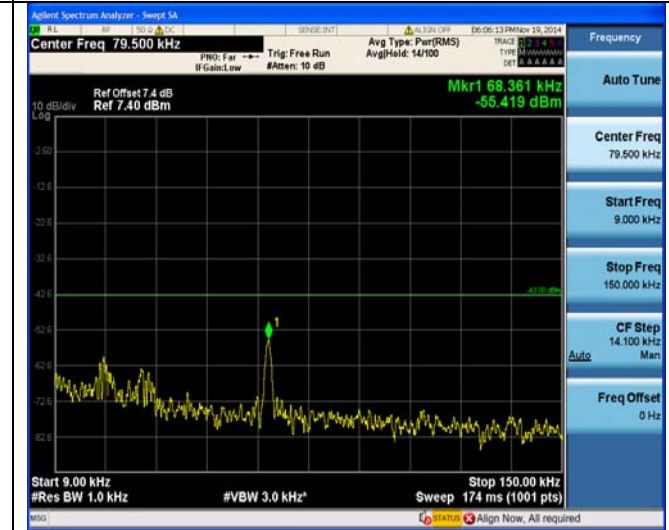
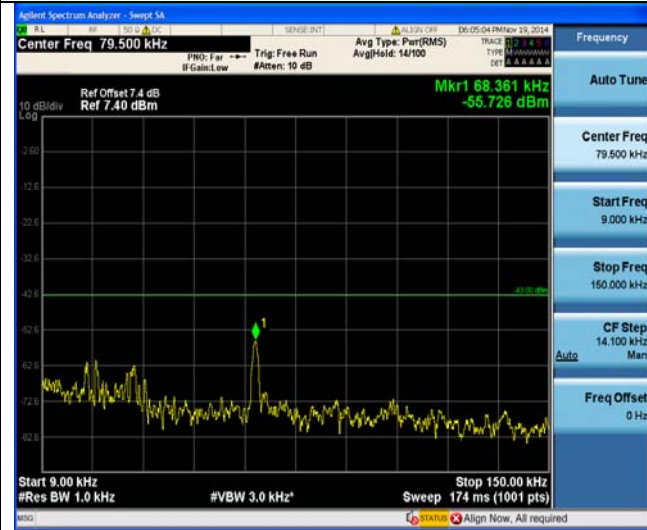
30MHz~18GHz

LTE FDD Band 4-20MHz Channel Bandwidth

Low Channel

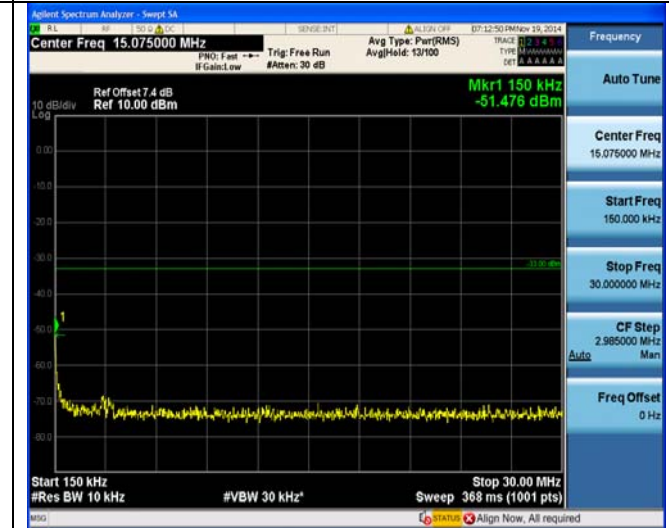
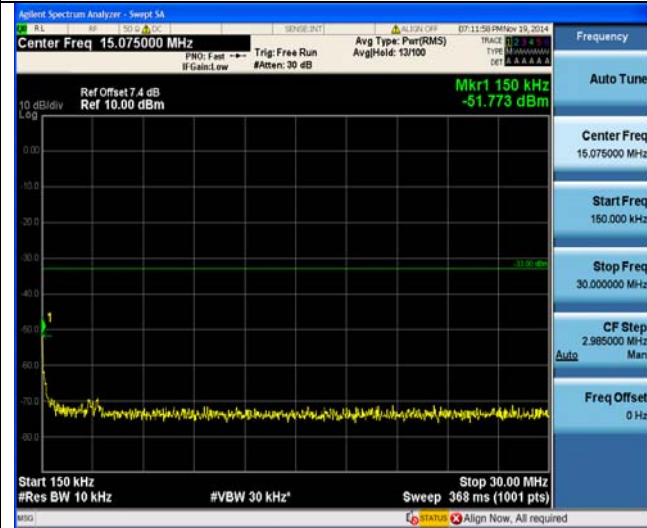
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



30MHz~18GHz

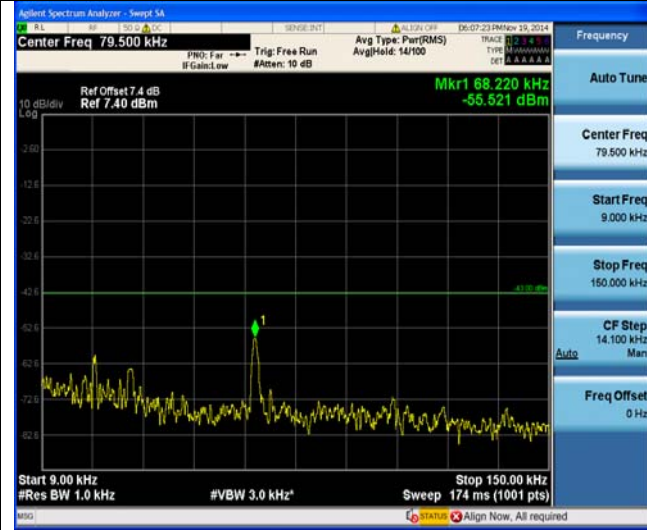
30MHz~18GHz

LTE FDD Band 4-20MHz Channel Bandwidth

Middle Channel

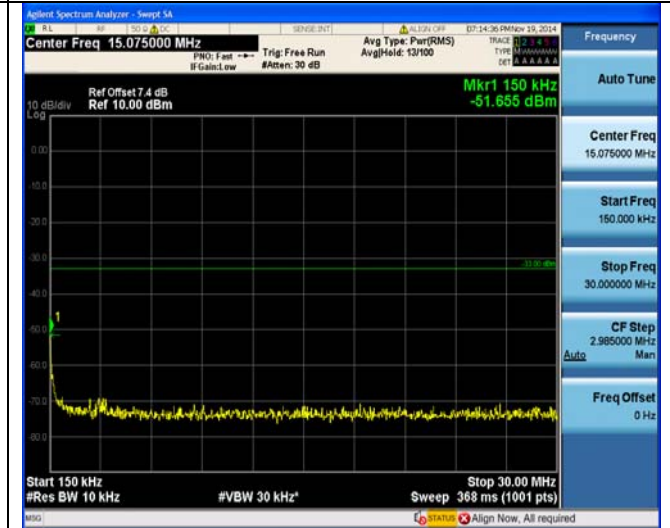
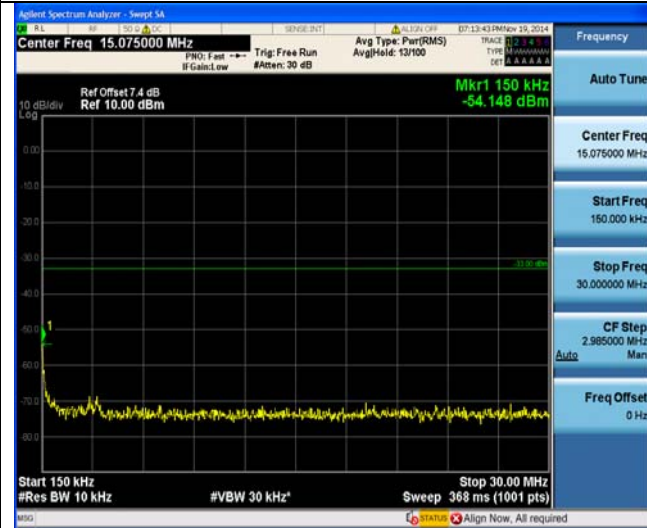
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



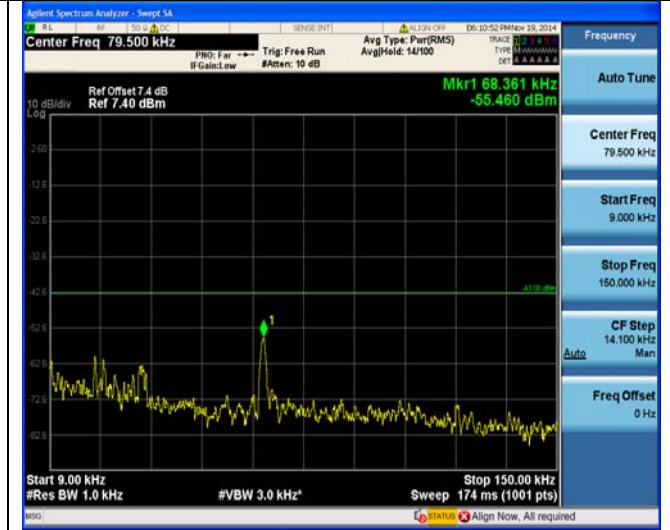
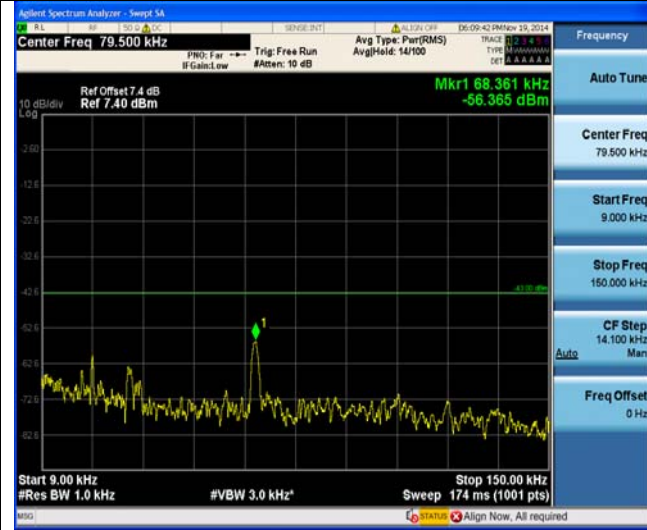
30MHz~18GHz

30MHz~18GHz

LTE FDD Band 4-20MHz Channel Bandwidth
High Channel

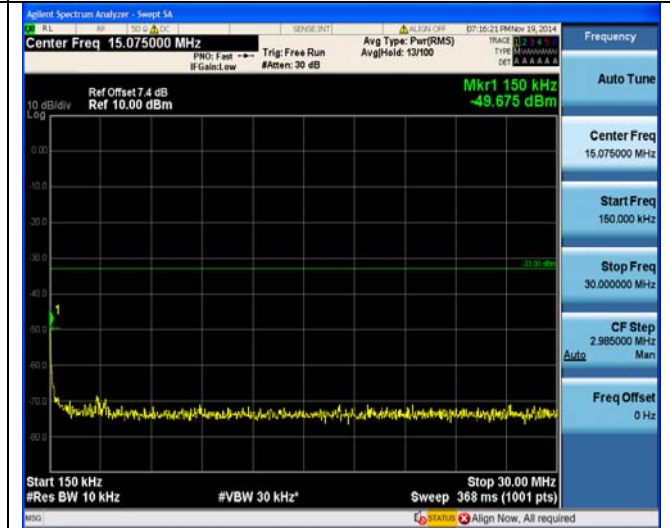
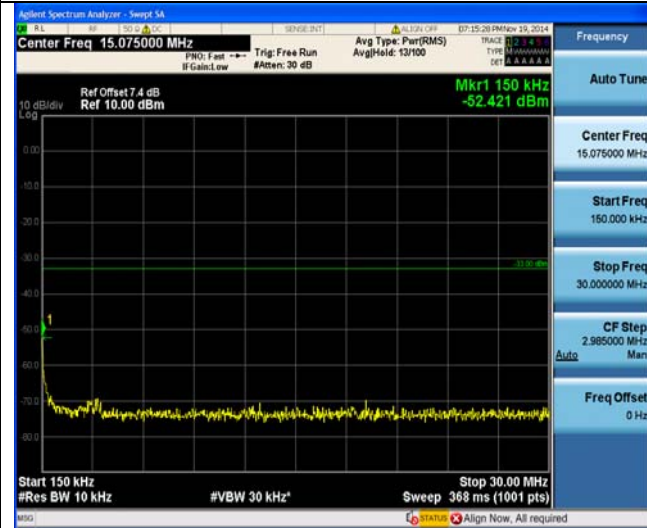
QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



30MHz~18GHz

30MHz~18GHz

LTE FDD Band 7-5MHz Channel Bandwidth

Low Channel

QPSK

16QAM



9KHz~150KHz

9KHz~150KHz



150KHz~30MHz

150KHz~30MHz



30MHz~26GHz

30MHz~26GHz