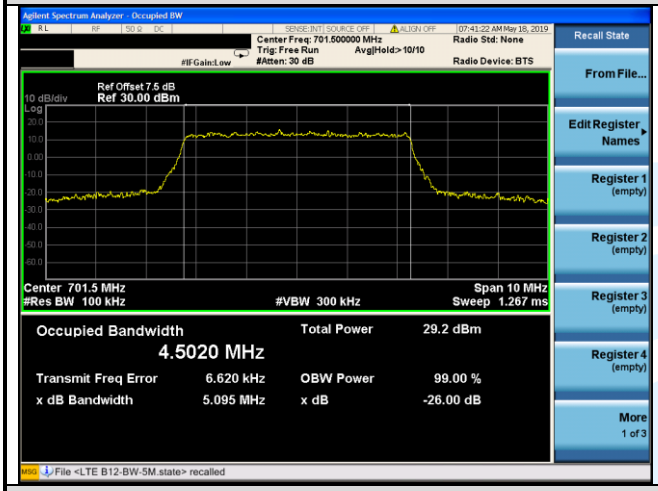
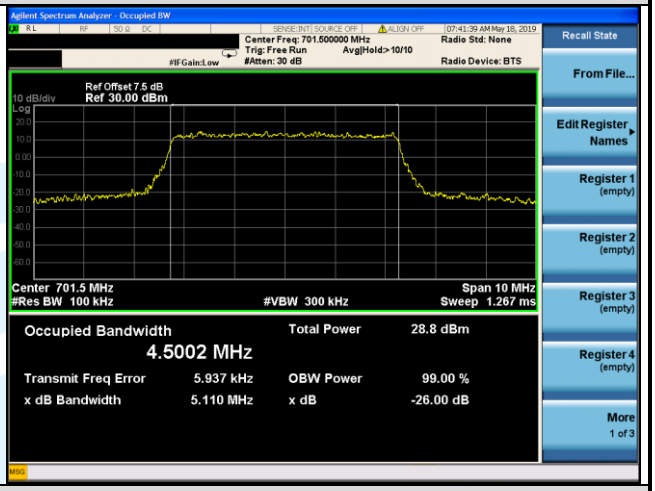
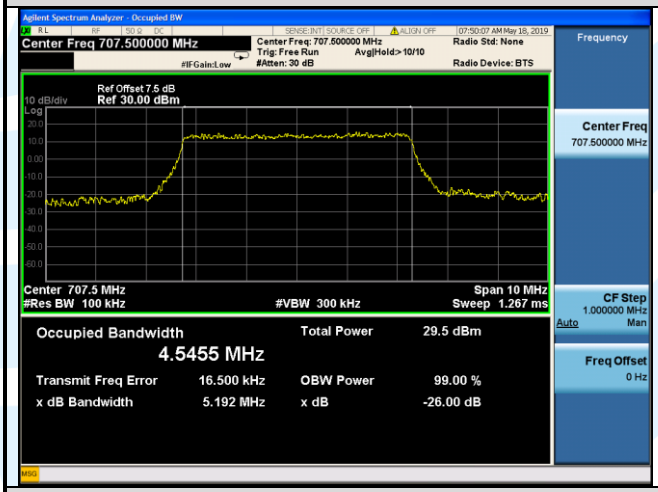
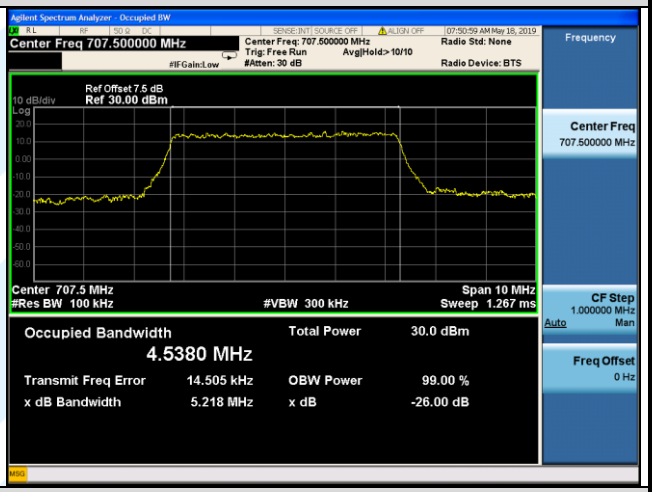
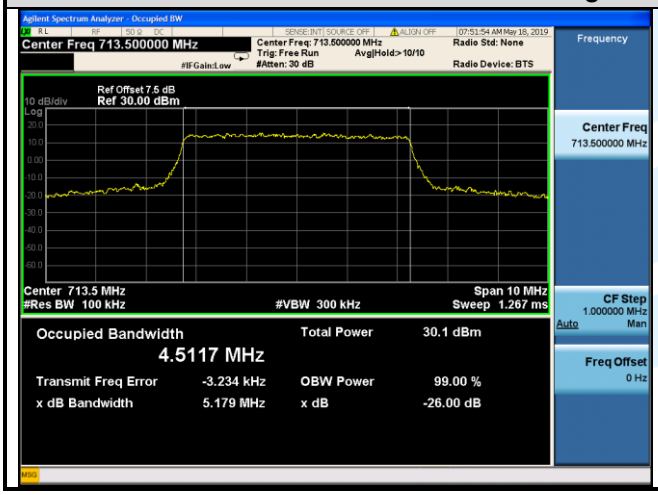
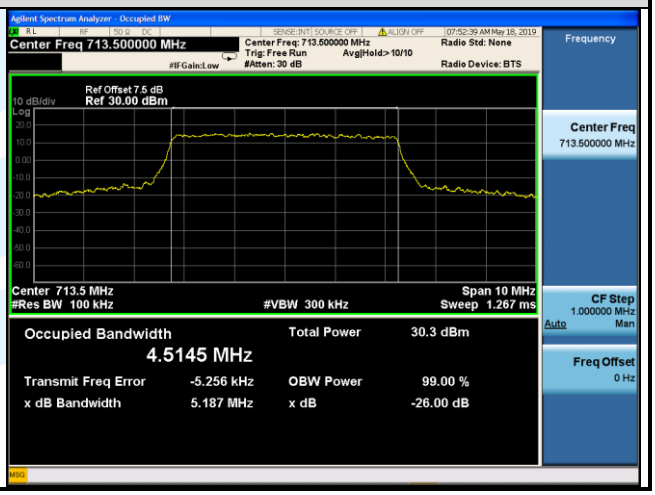
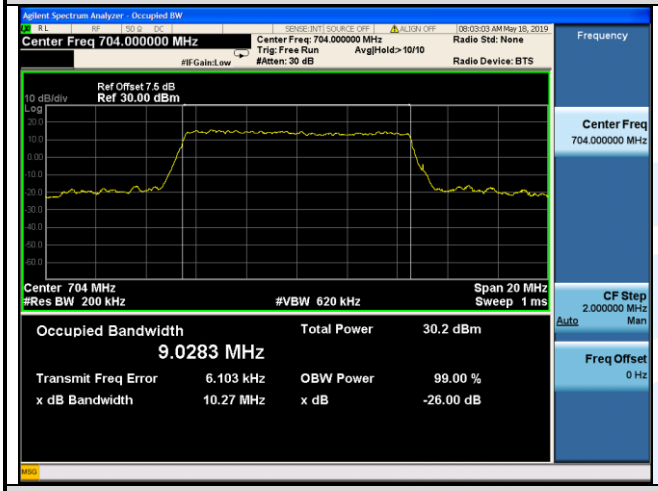
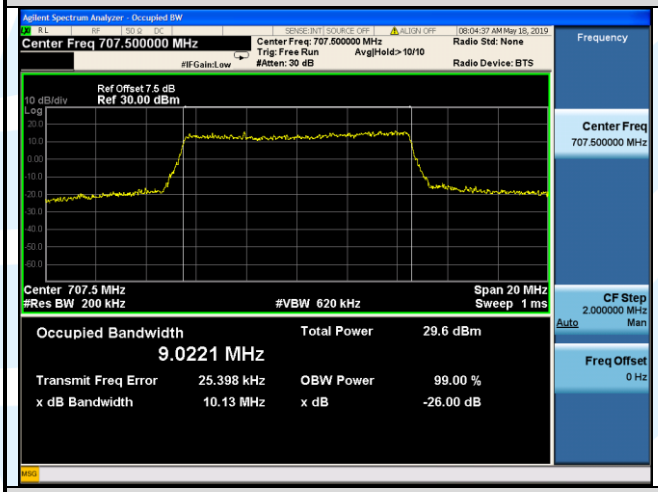
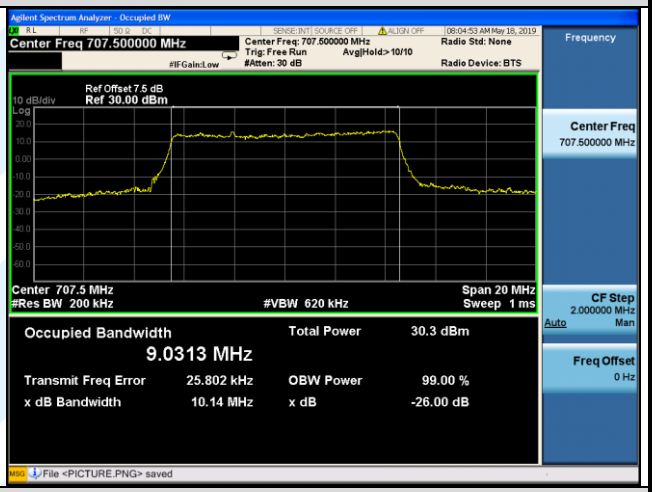
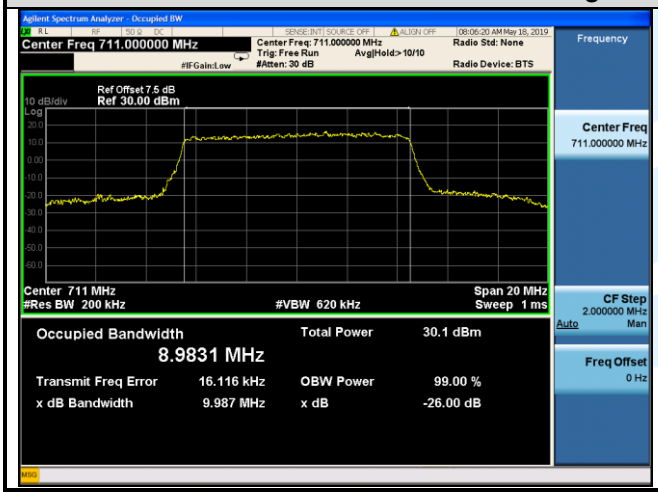
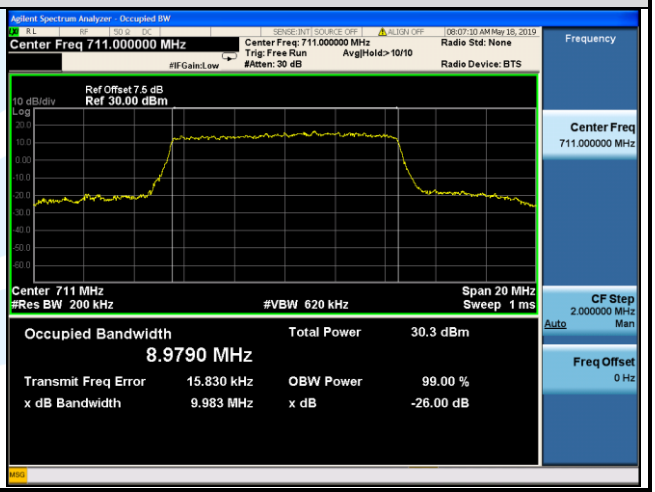
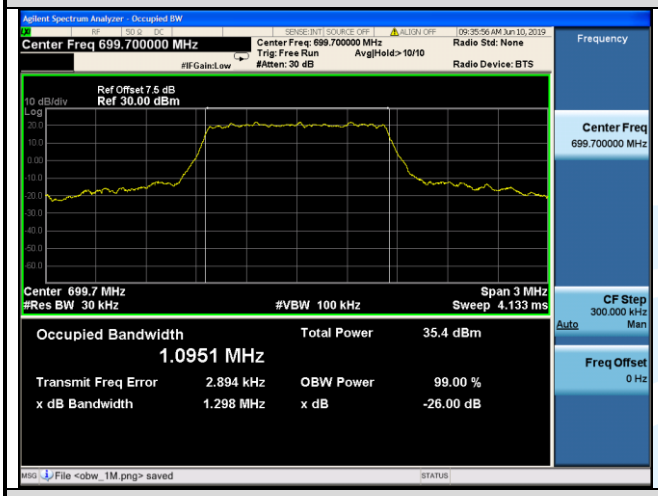
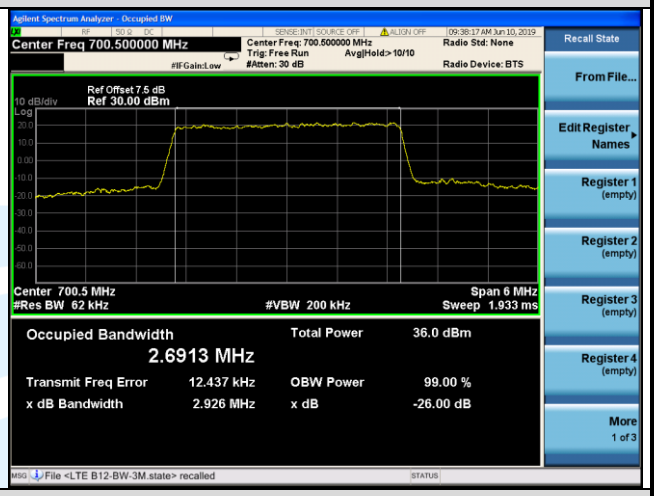
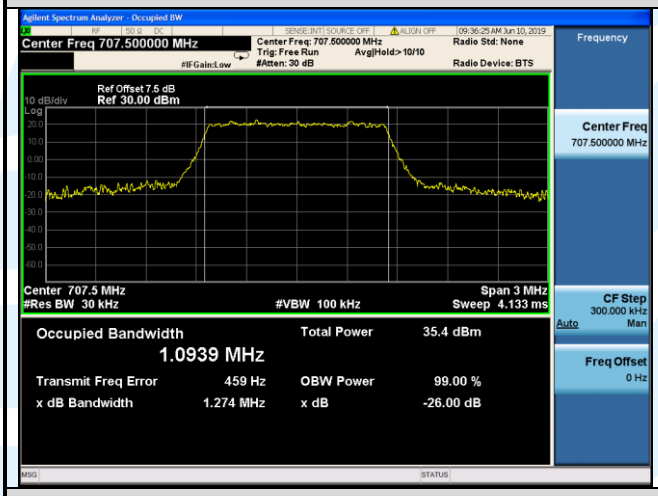
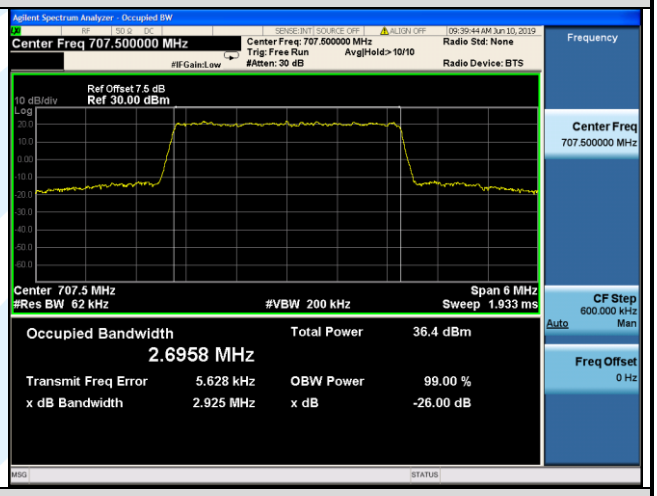
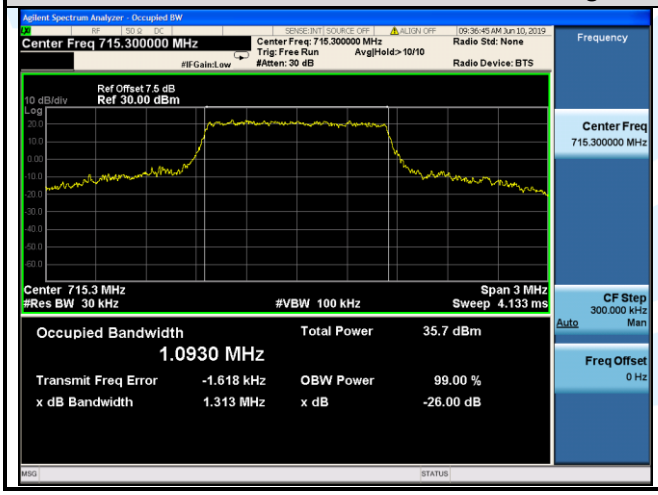
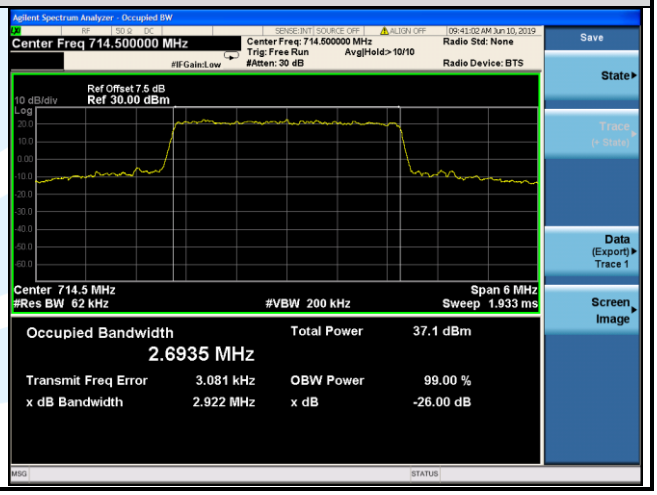
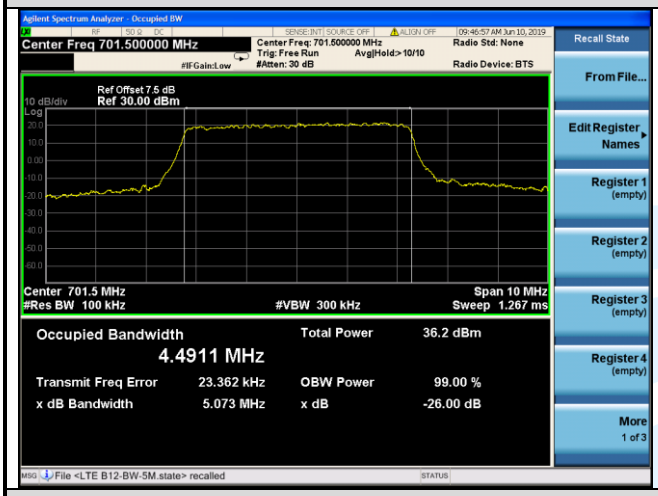
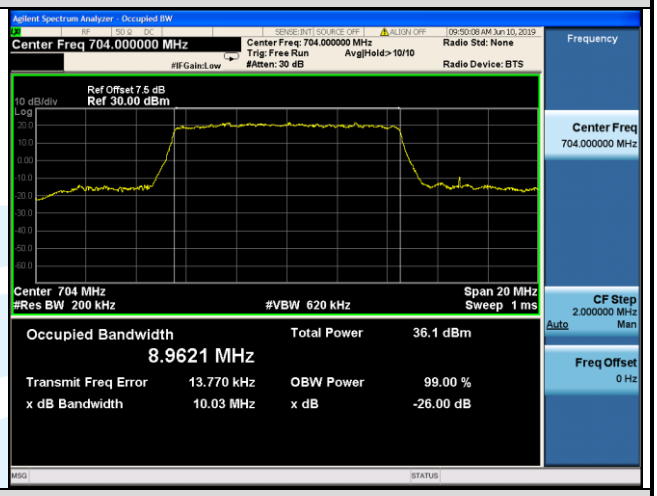
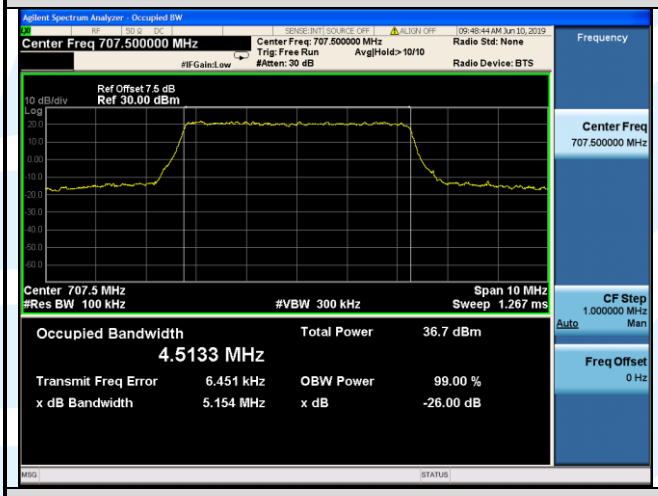
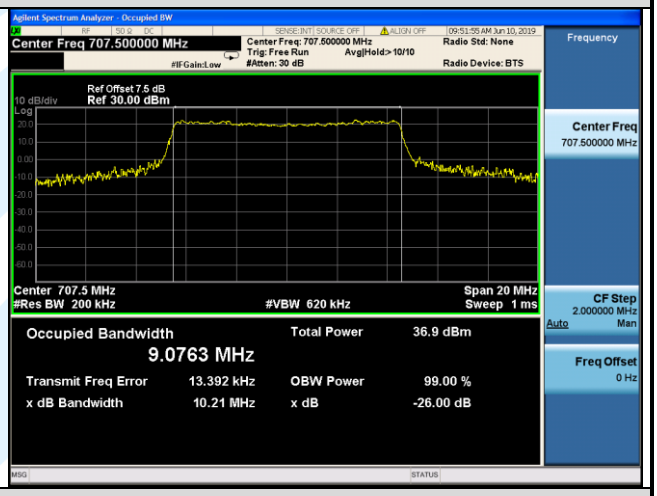
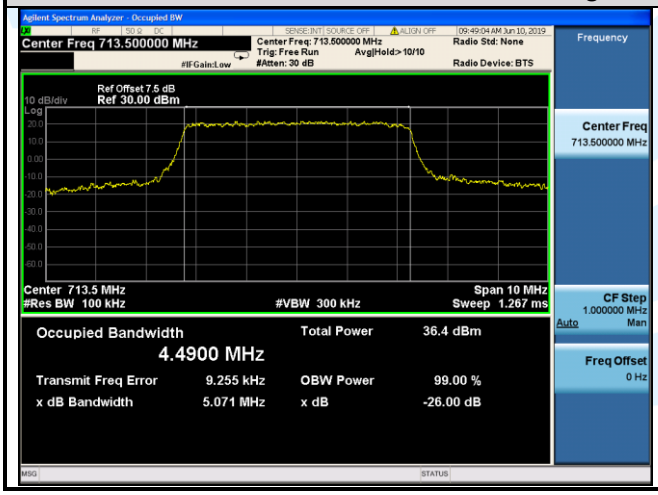
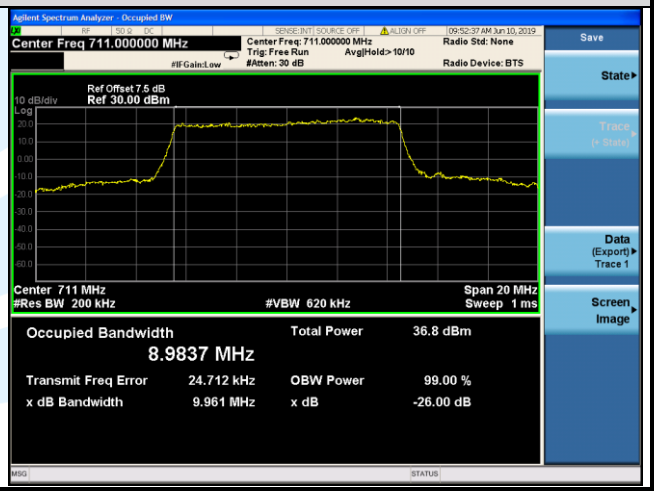
LTE Band 12_ Channel Bandwidth: 5 MHz	
QPSK	16QAM
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

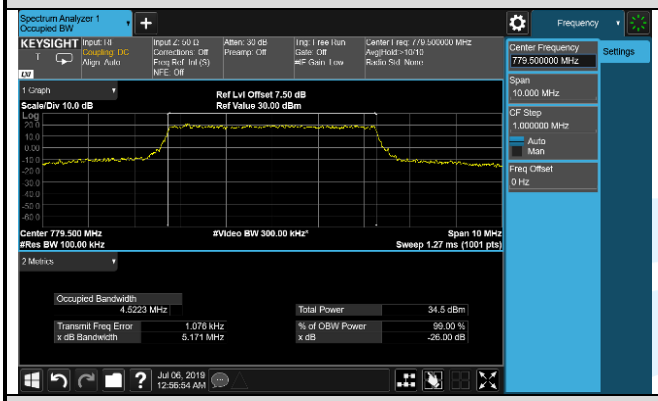
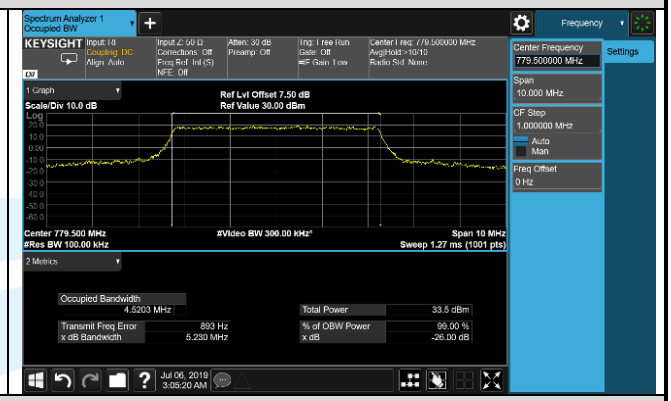
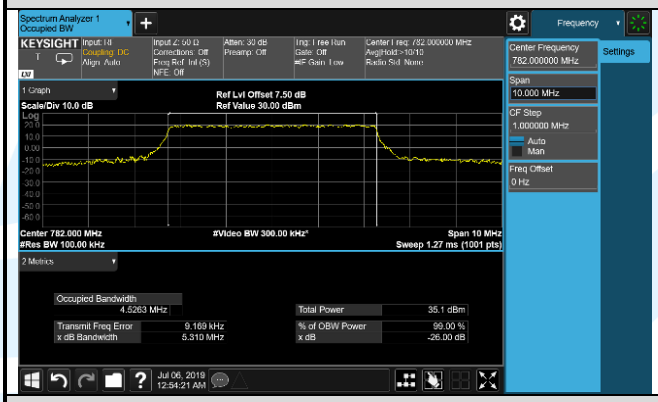
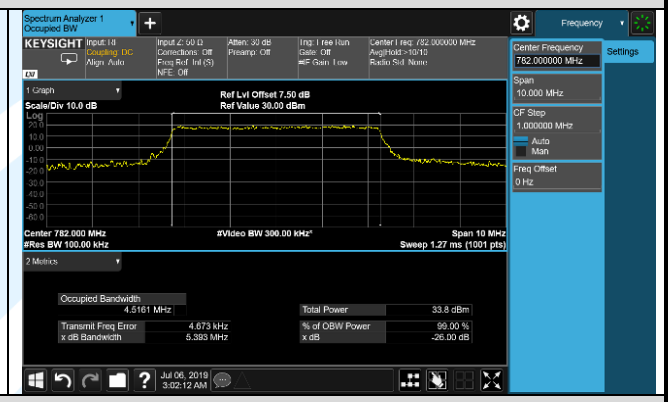
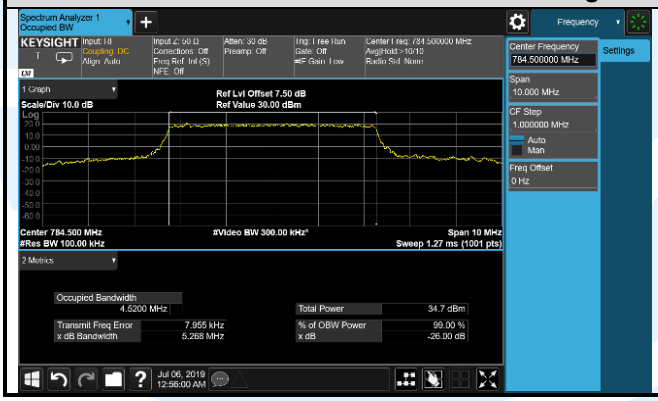
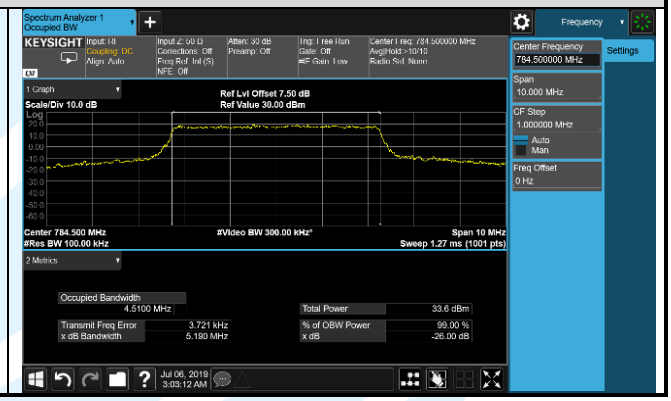
LTE Band 12_ Channel Bandwidth: 10 MHz	
QPSK	16QAM
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

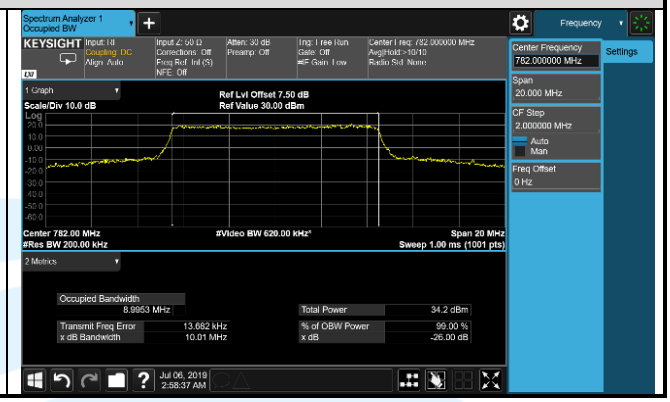
LTE Band 12 / 1.4MHz / 64QAM	LTE Band 12 / 3MHz / 64QAM
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

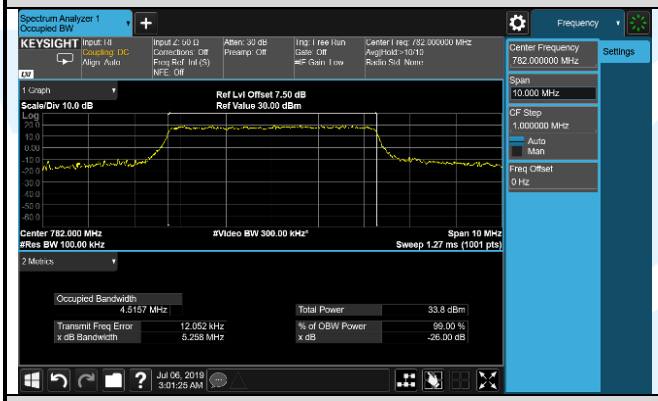
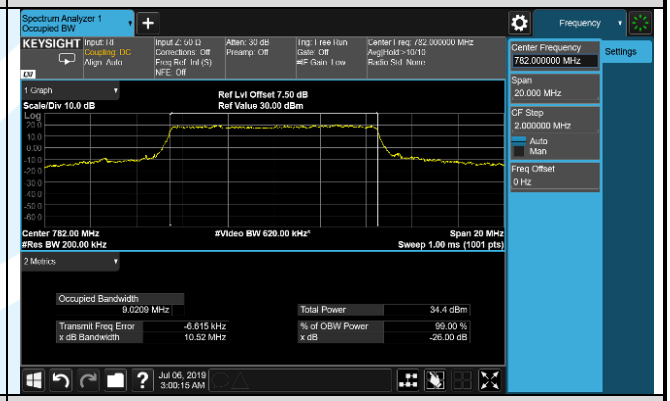
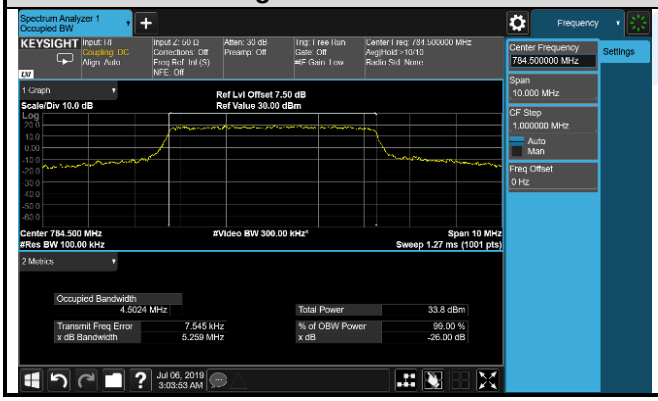
LTE Band 12 / 5MHz / 64QAM	LTE Band 12 / 10MHz / 64QAM
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

LTE Band 13

LTE Band 13								
Channel	RB Configuration		26 dB BW (MHz)			99% BW (MHz)		
	Size	Offset	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Channel Bandwidth: 5 MHz								
Lowest	25	0	5.171	5.230	5.223	4.5223	4.5203	4.5123
Middle	25	0	5.310	5.393	5.258	4.5263	4.5161	4.5157
Highest	25	0	5.268	5.190	5.259	4.5200	4.5100	4.5024
Channel Bandwidth: 10 MHz								
Middle	50	0	10.20	10.01	10.52	9.0180	8.9953	9.0209

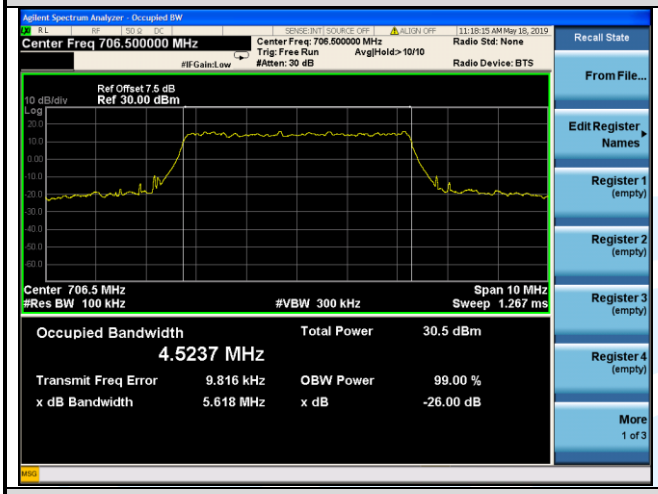
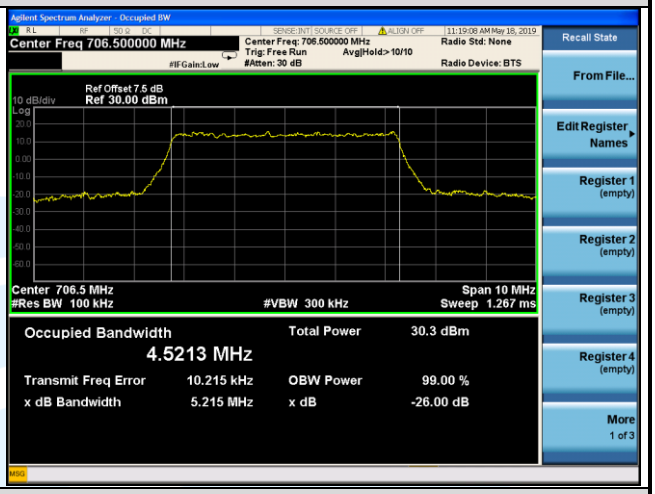
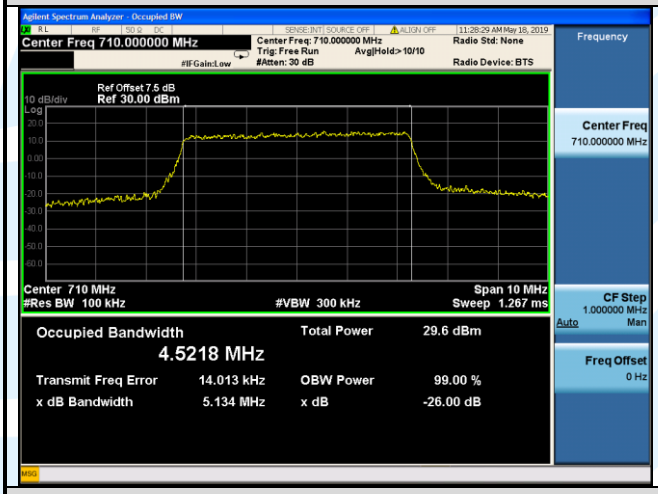
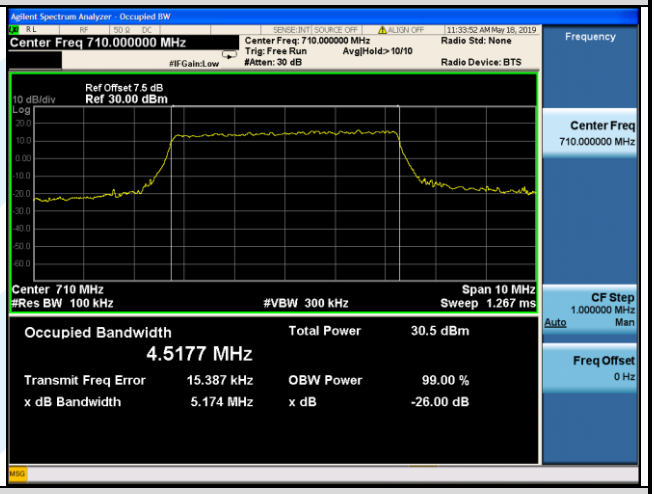
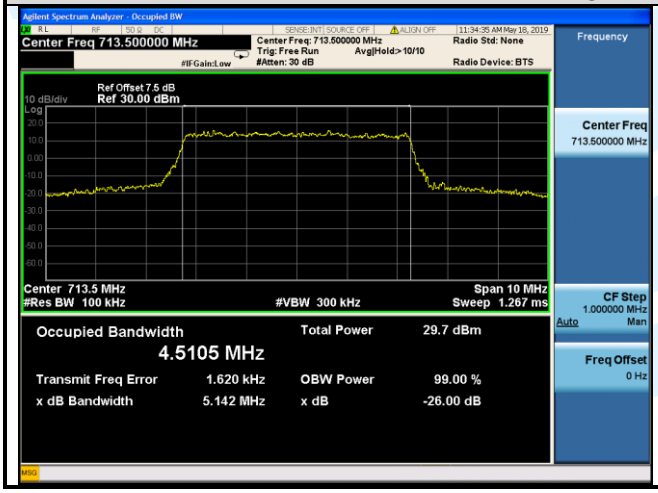
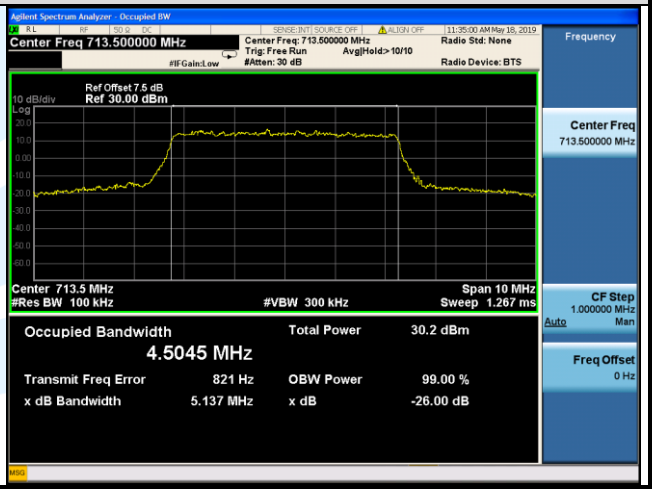
LTE Band 13 Channel Bandwidth: 5 MHz	
QPSK	16QAM
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

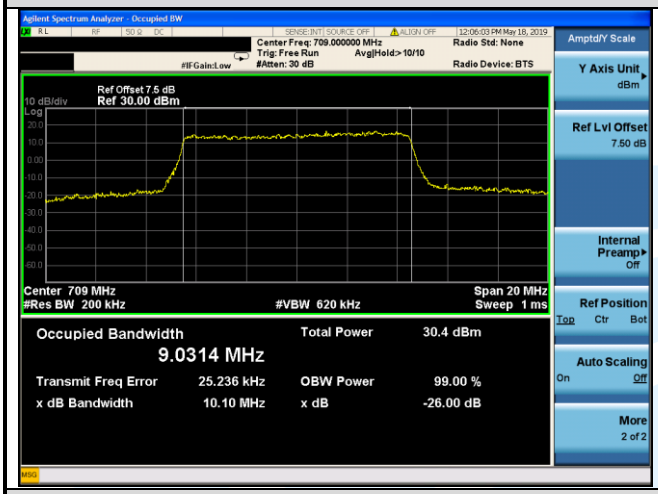
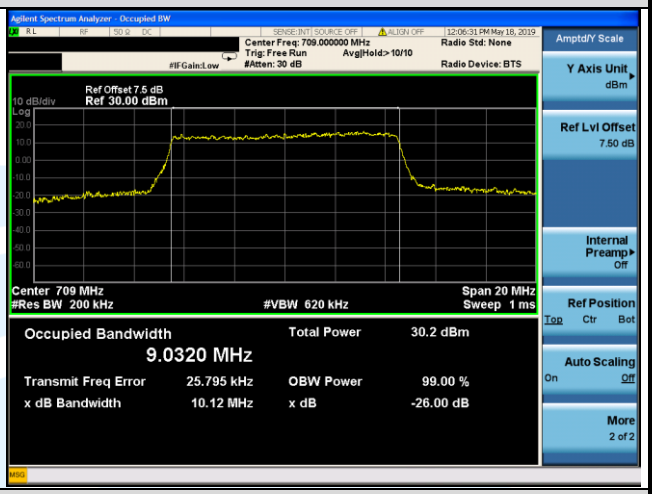
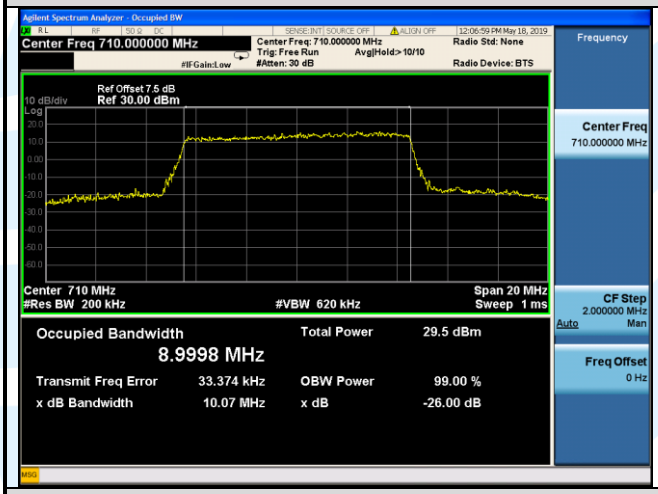
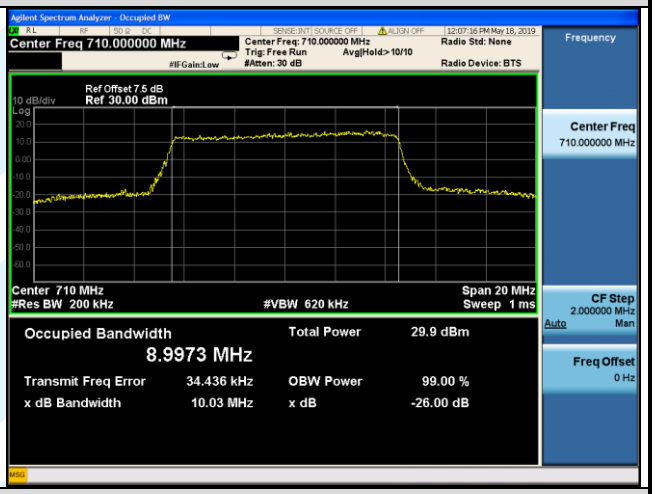
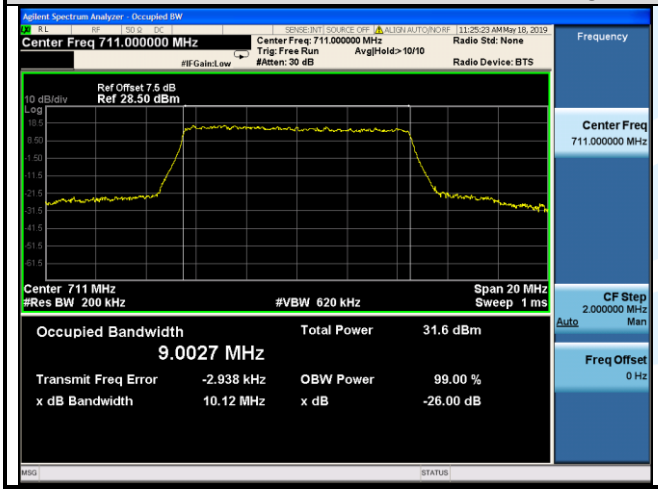
LTE Band 13 Channel Bandwidth: 10 MHz	
QPSK	16QAM
Middle Channel	
	

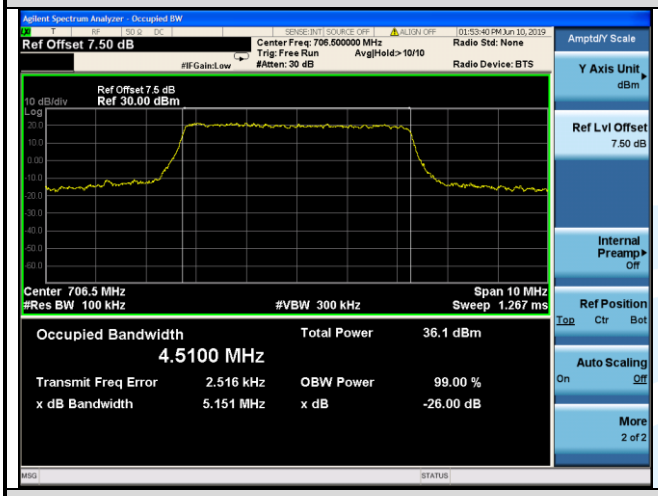
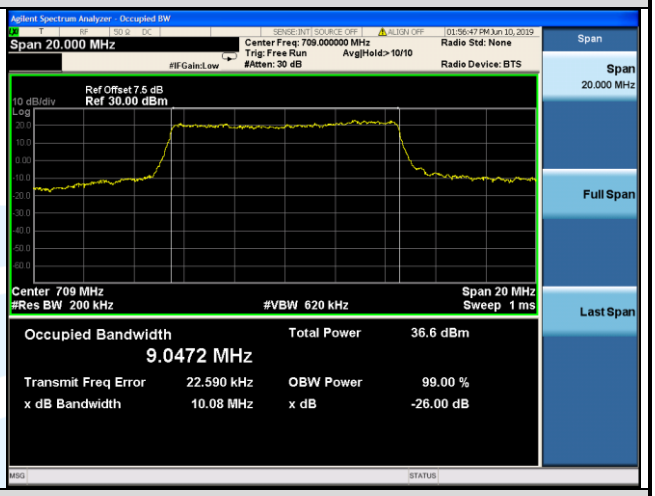
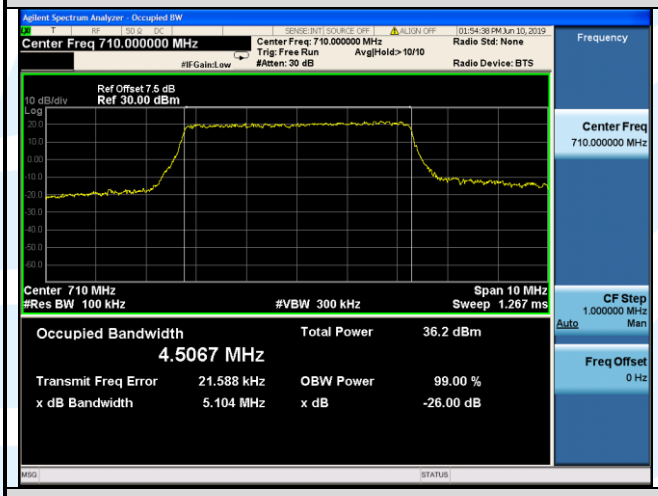
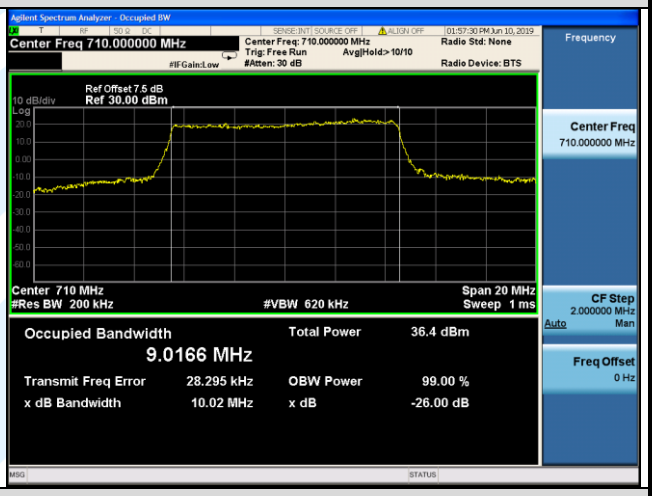
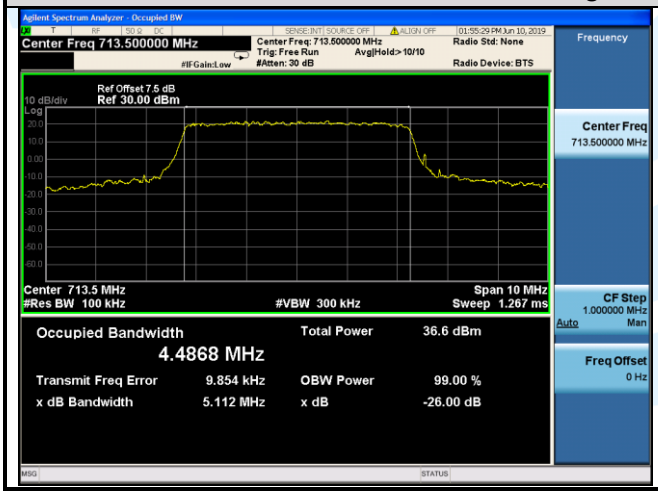
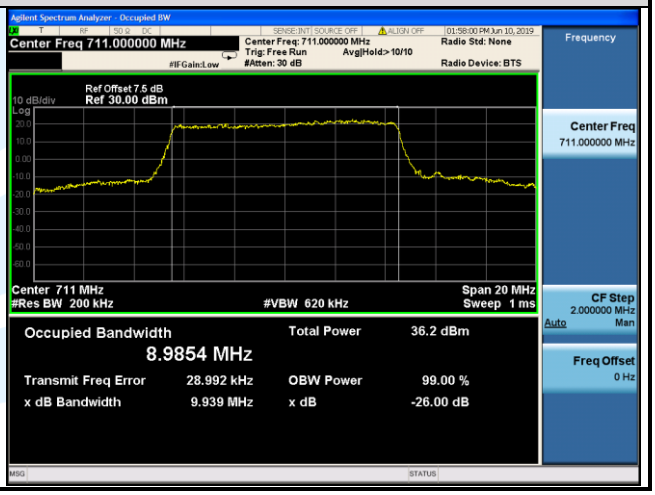
LTE Band 13/ 5MHz / 64QAM	LTE Band 13/ 10MHz / 64QAM
Lowest Channel	Lowest Channel
	N/A
Middle Channel	Middle Channel
	
Highest Channel	Highest Channel
	N/A

LTE Band 17

LTE Band 17								
Channel	RB Configuration		26 dB BW (MHz)			99% BW (MHz)		
	Size	Offset	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
Channel Bandwidth: 5 MHz								
Lowest	25	0	5.618	5.215	5.151	4.5237	4.5213	4.5100
Middle	25	0	5.134	5.174	5.104	4.5218	4.5177	4.5067
Highest	25	0	5.142	5.137	5.112	4.5105	4.5045	4.4868
Channel Bandwidth: 10 MHz								
Lowest	50	0	10.10	10.12	10.08	9.0314	9.0320	9.0472
Middle	50	0	10.07	10.03	10.02	8.9998	8.9973	9.0166
Highest	50	0	10.12	10.15	9.939	9.0027	9.0036	8.9854

LTE Band 17_ Channel Bandwidth: 5 MHz	
QPSK	16QAM
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

LTE Band 17_ Channel Bandwidth: 10 MHz	
QPSK	16QAM
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

LTE Band 17 / 5MHz / 64QAM	LTE Band 17 / 10MHz / 64QAM
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

5.6 BAND EDGE AT ANTENNA TERMINALS

Test Requirement: FCC 47 CFR Part 2.1051,
GSM 850 & WCDMA Band V & LTE Band 5: FCC 47 CFR Part 22.917(a),
GSM 1900 & WCDMA Band II & LTE Band 2: FCC 47 CFR Part 24.238(a),
WCDMA Band IV & LTE Band 4: FCC 47 CFR Part 27.53(h)(1),
LTE Band 12 & Band 17: FCC 47 CFR Part 27.53(g)
LTE Band 13: FCC 47 CFR Part 27.53(c)(2)
LTE Band 7: FCC 47 CFR Part 27.53(m)(4)

Test Method: ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01

Limit:

FCC 47 CFR Part 22 & FCC 47 CFR Part 24: 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. The emission limit equal to -13 dBm.

FCC 47 CFR Part 27.53(g): For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC 47 CFR Part 27.53(h)(1): Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB. The emission limit equal to –13 dBm.

FCC 47 CFR Part 27.53(c)(2): On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

FCC 47 CFR Part 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 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.

Test Procedure:

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer.
For each band edge measurement:

1) Set the spectrum analyzer span to include the block edge frequency.
2) Set a marker to point the corresponding band edge frequency in each test case.
3) Set display line at -13 dBm
4) Set resolution bandwidth to at least 1% of emission bandwidth.
5) Set spectrum analyzer with RMS detector.
6) Record the max trace plot into the test report

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

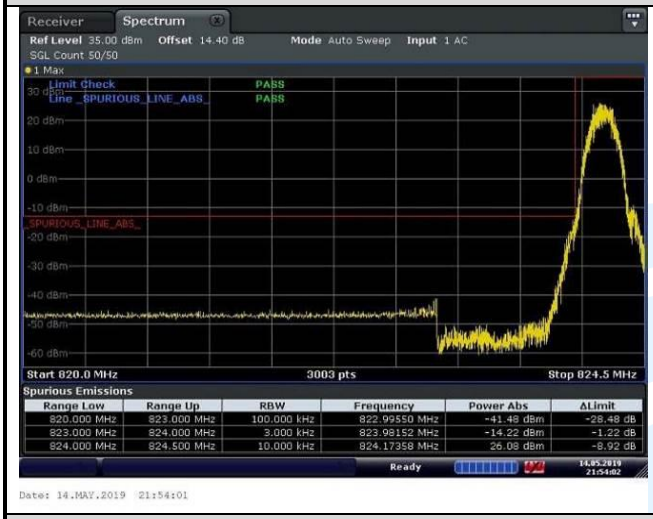
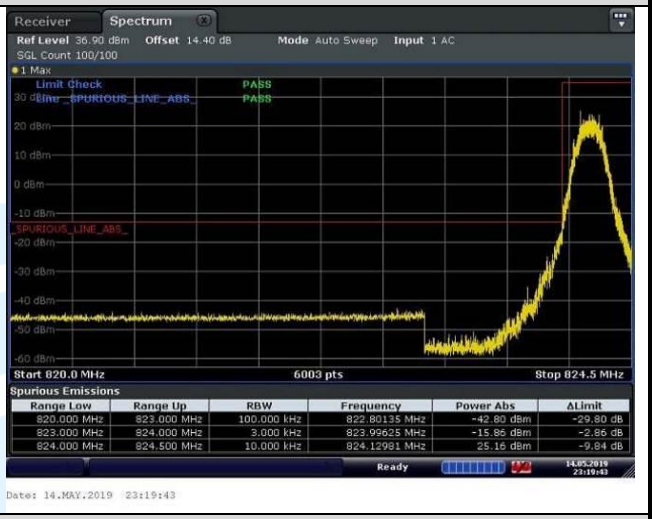
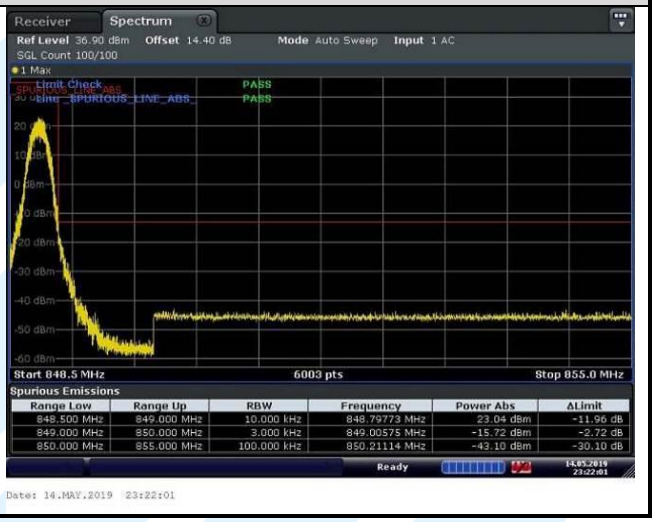
Test Setup: Refer to section 4.2.2 for details.

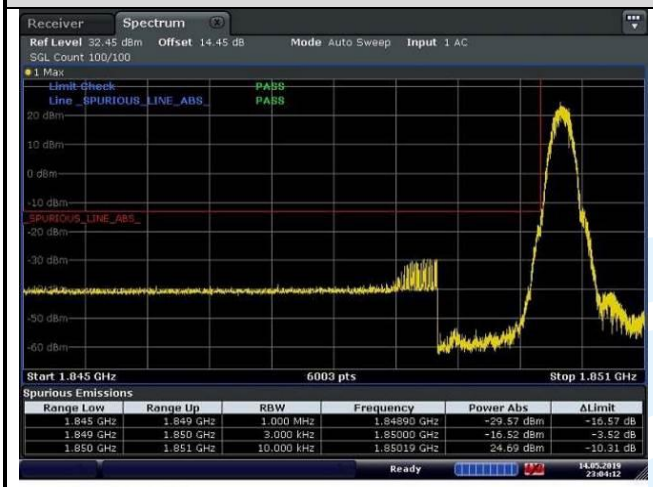
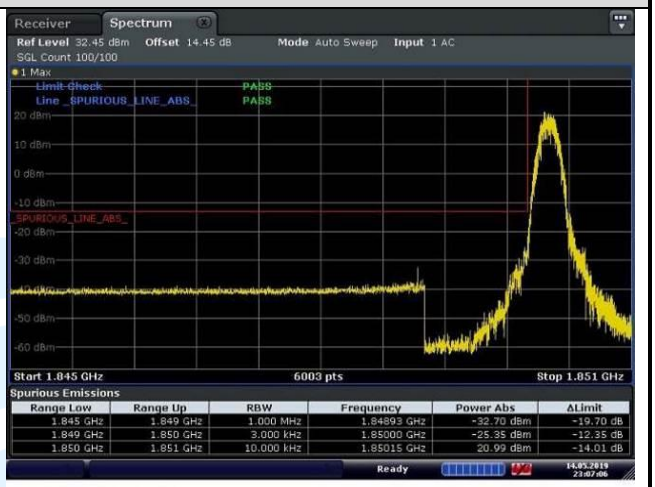
Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: Pass

The test plots as follows:

GSM 850 1Tx-slot	EDGE 850 1Tx-slot
Lowest Channel	
	
Highest Channel	
	

GSM 1900 1Tx-slot	EDGE 1900 1Tx-slot
Lowest Channel	
	
Highest Channel