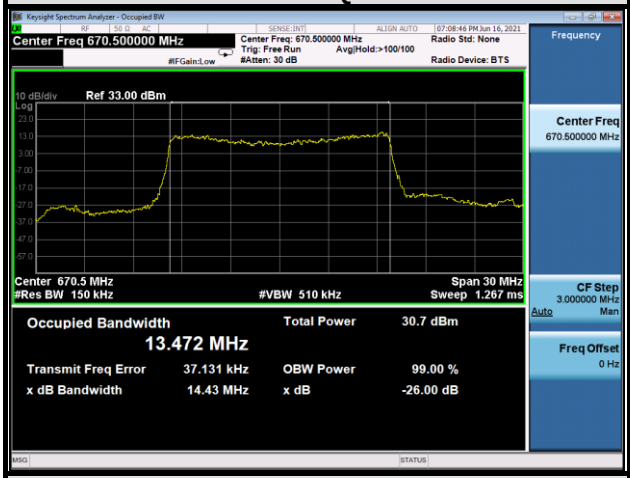
CHANNEL BANDWIDTH: 15MHz							
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)			26 dB bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
133197	670.5	13.47	13.48	13.48	14.43	14.44	14.49
133297	680.5	13.33	13.35	13.34	14.31	14.23	14.21
133397	690.5	13.43	13.42	13.41	14.47	14.39	14.42

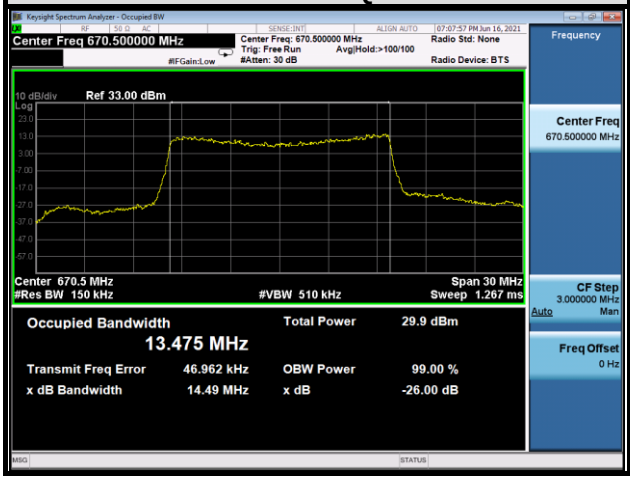
SPECTRUM PLOT OF WORST VALUE

15MHz / QPSK



15MHz / 16QAM

15MHz / 64QAM

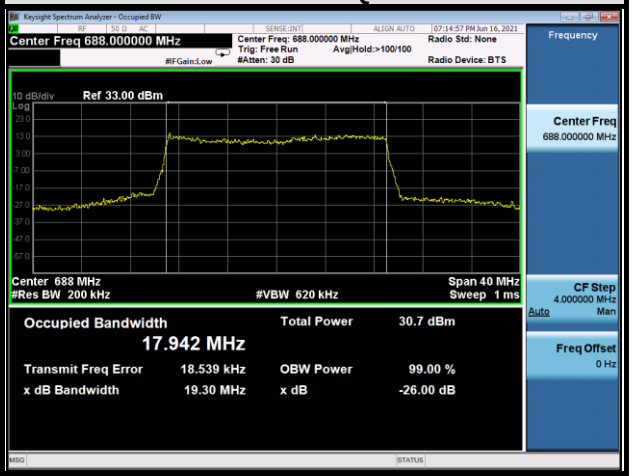


CHANNEL BANDWIDTH: 20MHz							
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)			26 dB bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
133222	673	17.86	17.87	17.89	19.00	18.83	19.02
133297	680.5	17.87	17.92	17.86	18.88	19.03	19.05
133372	688	17.97	17.94	17.96	19.30	19.30	19.21

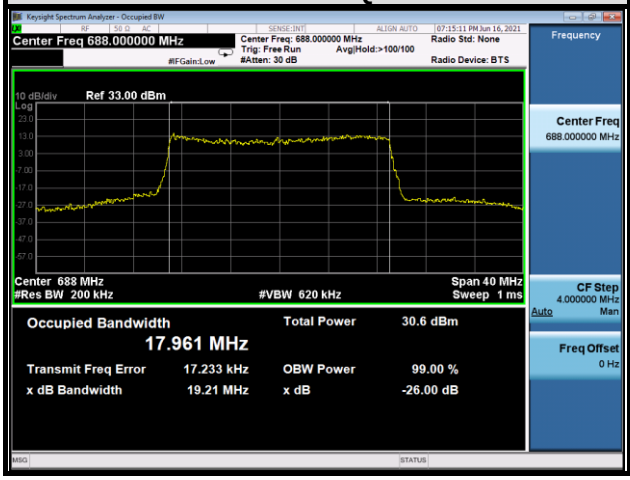
SPECTRUM PLOT OF WORST VALUE

20MHz / QPSK

20MHz / 16QAM



20MHz / 64QAM

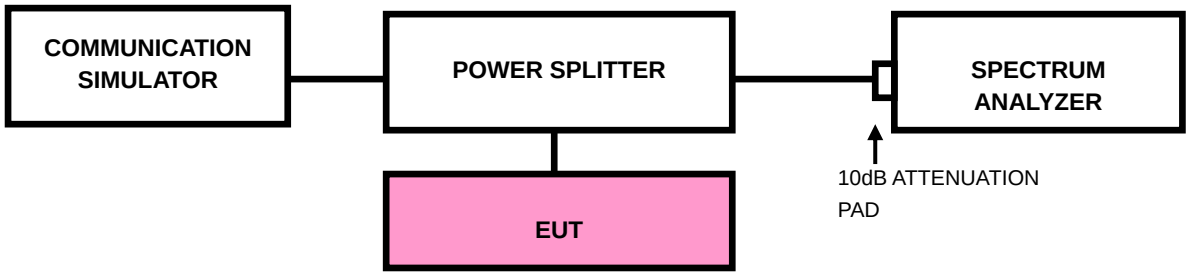


3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

According to FCC 27.53(m)(4) specified that 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. For mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

a. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 2 channels (low and high operational frequency range.).

b. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

c. The center frequency of spectrum is the band edge frequency and span is 10MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz (WCDMA).

d. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 20kHz and VBW of the spectrum is 100 kHz. (LTE bandwidth 1.4MHz)

e. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 30kHz and VBW of the spectrum is 100kHz. (LTE bandwidth 3MHz)

f. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 50kHz and VBW of the spectrum is 200kHz. (LTE bandwidth 5MHz)

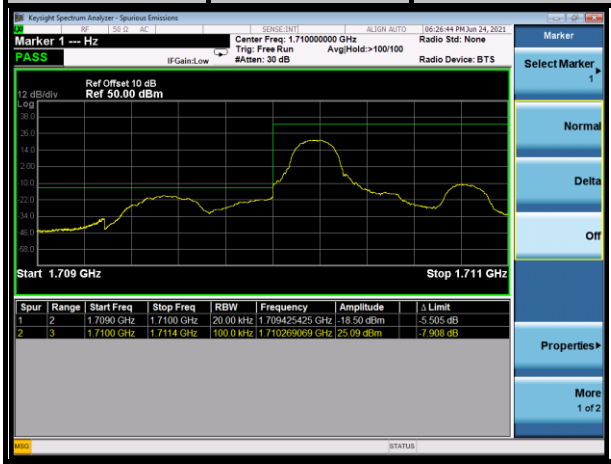
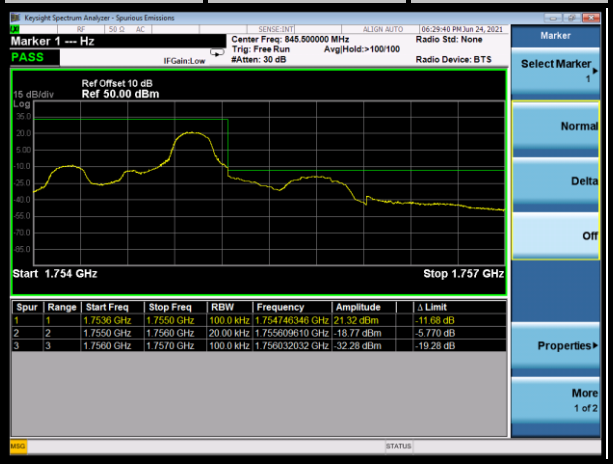
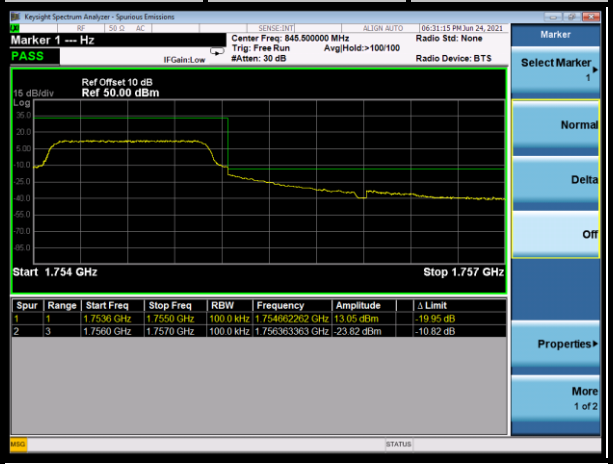
g. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz. (LTE bandwidth 10MHz)

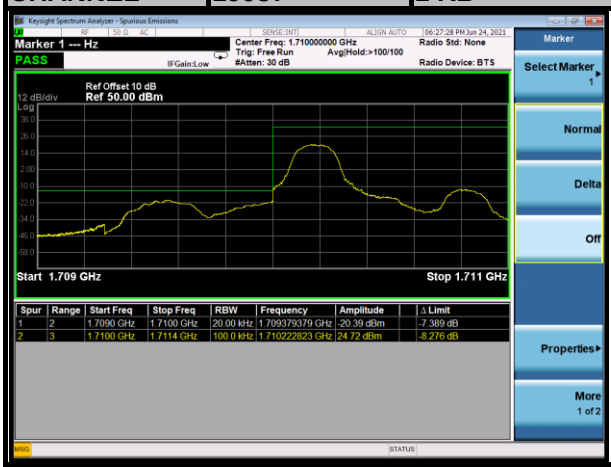
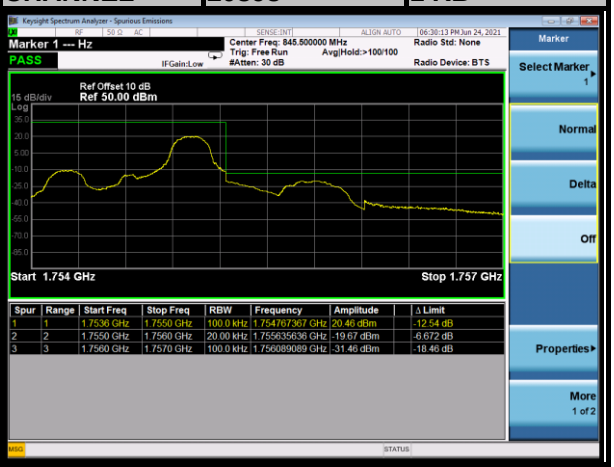
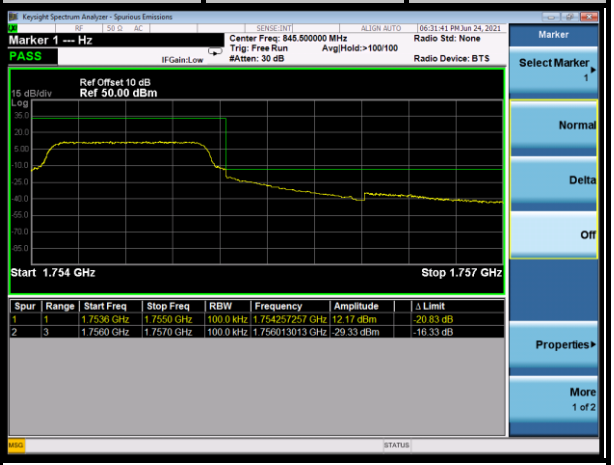
h. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 150kHz and VBW of the spectrum is 1MHz. (LTE bandwidth 15MHz)

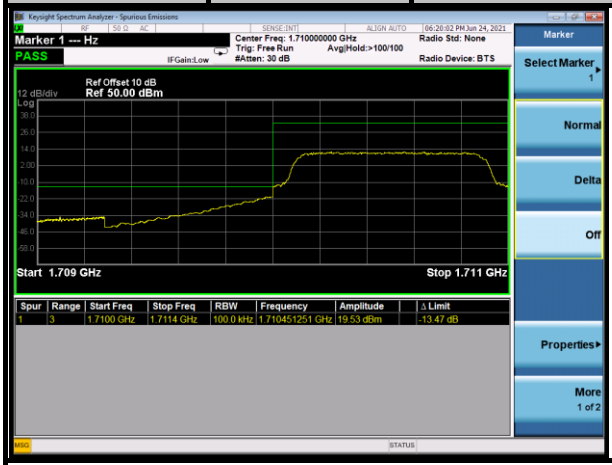
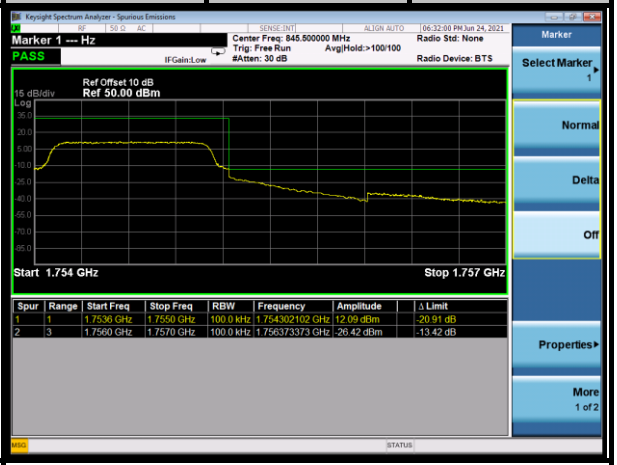
i. he center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 200kHz and VBW of the spectrum is 1MHz. (LTE bandwidth 20MHz)

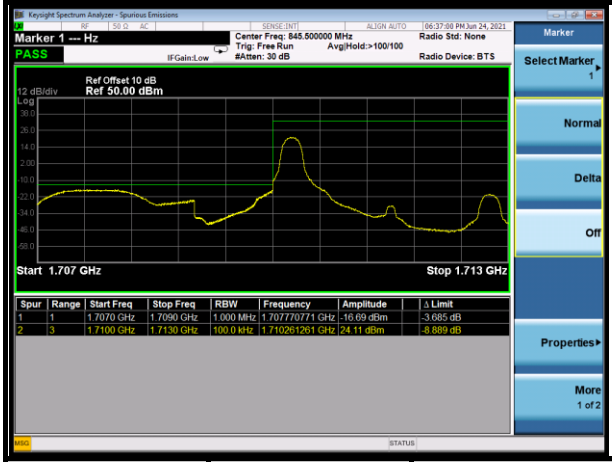
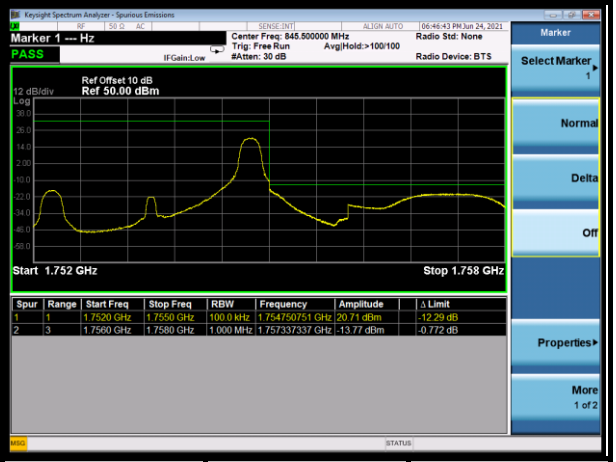
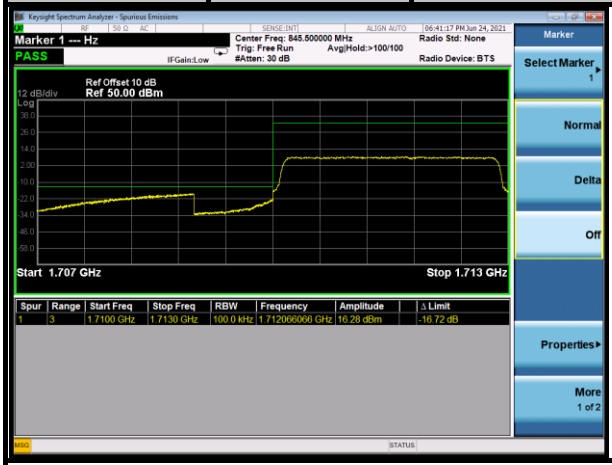
j. Record the max trace plot into the test report.

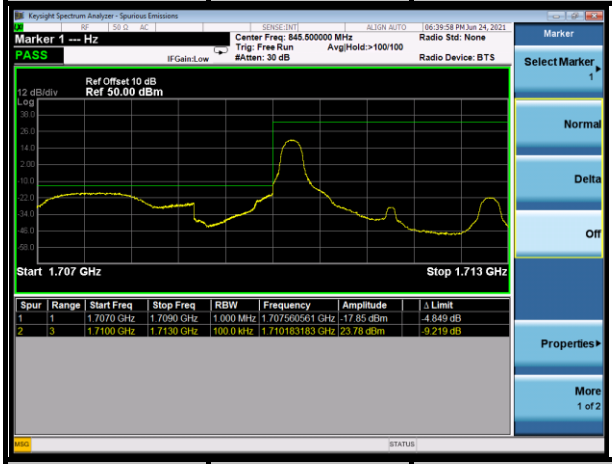
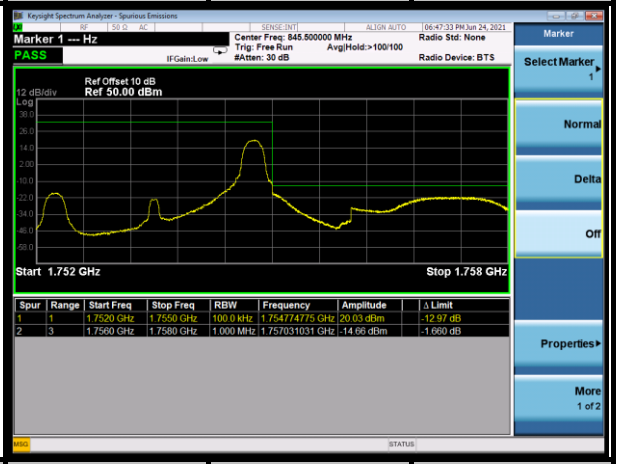
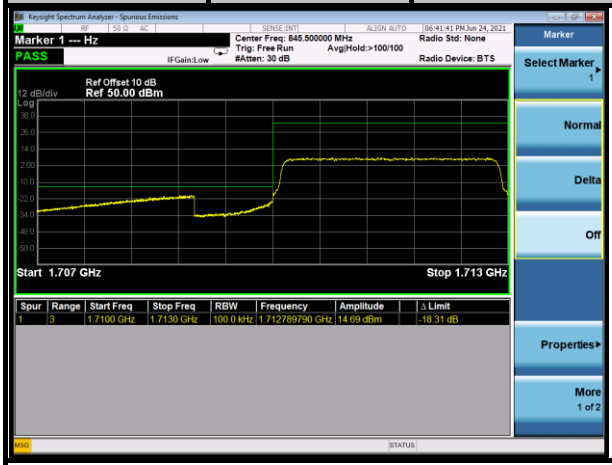
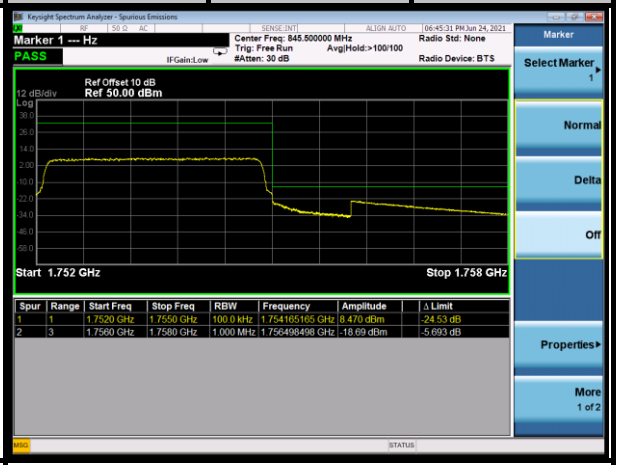
3.4.4 TEST RESULTS

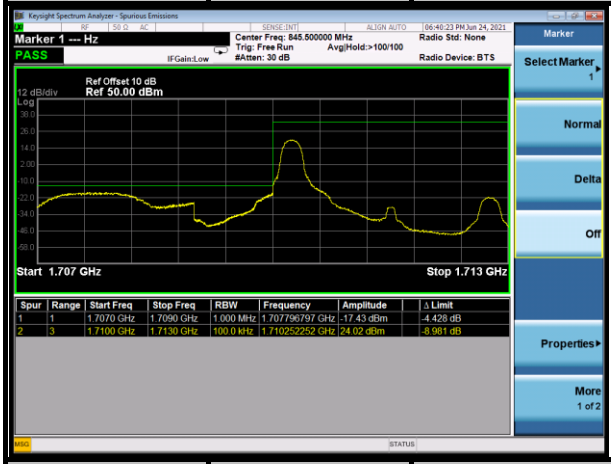
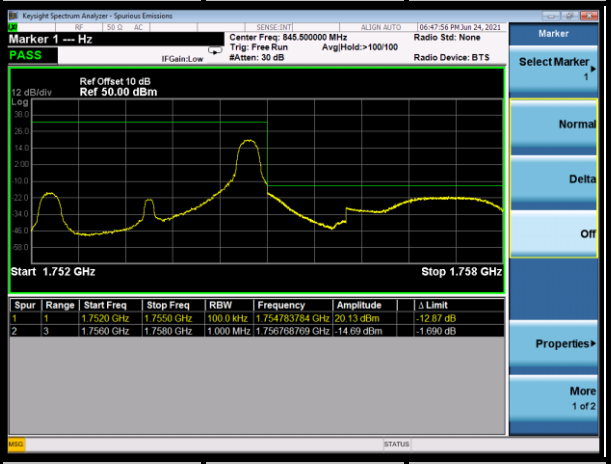
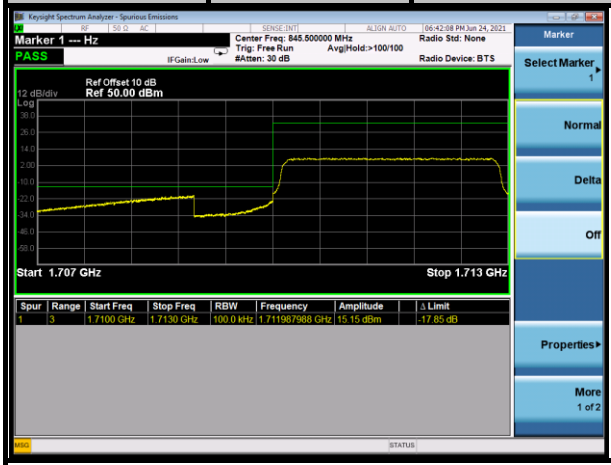
LTE BAND 4					
Channel Bandwidth: 1.4MHz / QPSK					
CHANNEL	19957	1 RB	CHANNEL	20393	1 RB
					
CHANNEL	19957	Full RB	CHANNEL	20393	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 4					
Channel Bandwidth: 1.4MHz / 16QAM					
CHANNEL	19957	1 RB	CHANNEL	20393	1 RB
					
CHANNEL	19957	Full RB	CHANNEL	20393	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 4					
Channel Bandwidth: 1.4MHz / 64QAM					
CHANNEL	19957	1 RB	CHANNEL	20393	1 RB
CHANNEL	19957	Full RB	CHANNEL	20393	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 4					
Channel Bandwidth: 3MHz / QPSK					
CHANNEL	19965	1 RB	CHANNEL	20385	1 RB
					
CHANNEL	19965	Full RB	CHANNEL	20385	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

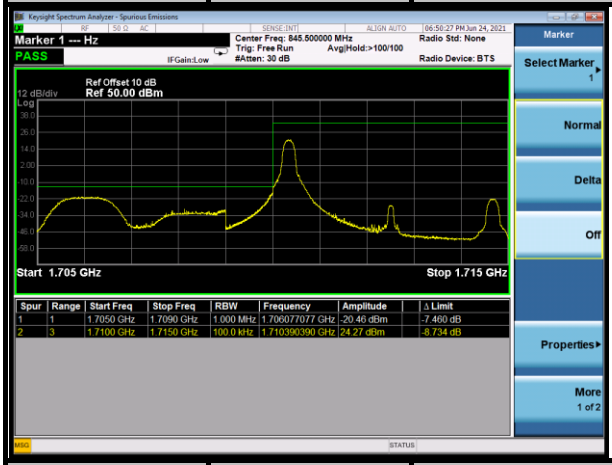
LTE BAND 4					
Channel Bandwidth: 3MHz / 16QAM					
CHANNEL	19965	1 RB	CHANNEL	20385	1 RB
					
CHANNEL	19965	Full RB	CHANNEL	20385	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

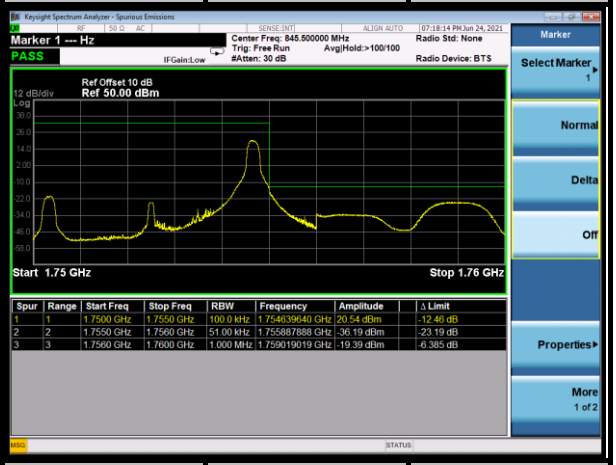
LTE BAND 4					
Channel Bandwidth: 3MHz / 64QAM					
CHANNEL	19965	1 RB	CHANNEL	20385	1 RB
					
CHANNEL	19965	Full RB	CHANNEL	20385	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 4

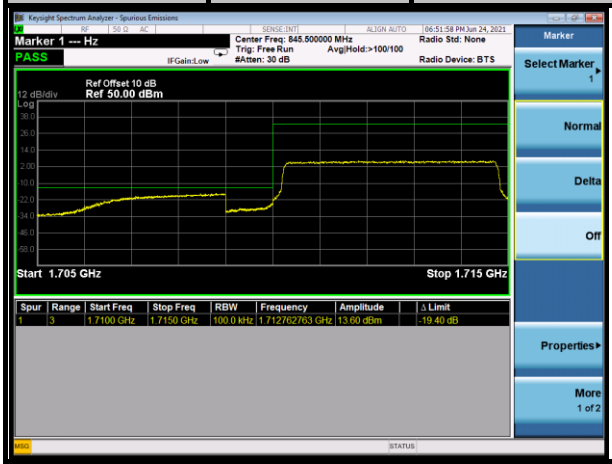
Channel Bandwidth: 5MHz / QPSK

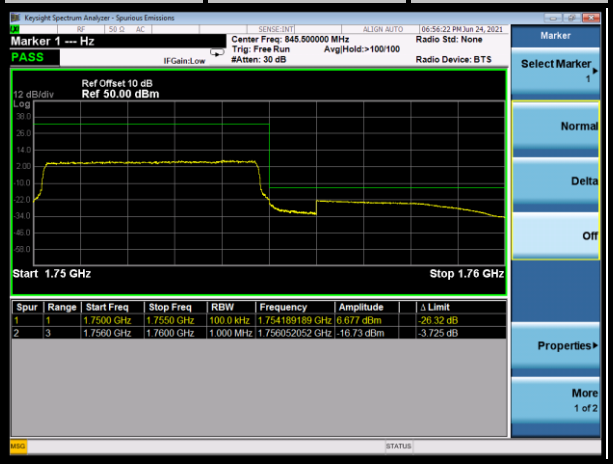
CHANNEL	19975	1 RB	CHANNEL	20375	1 RB





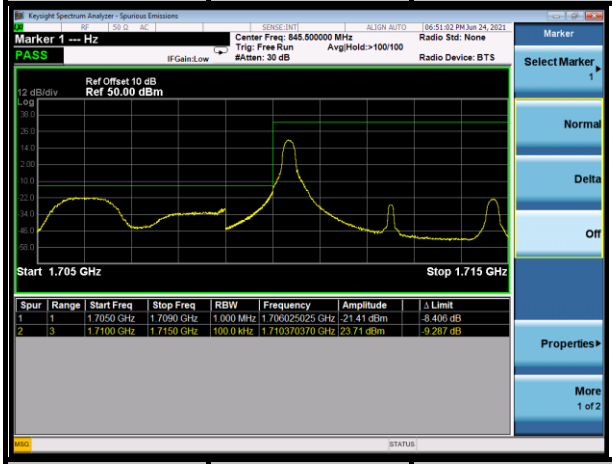
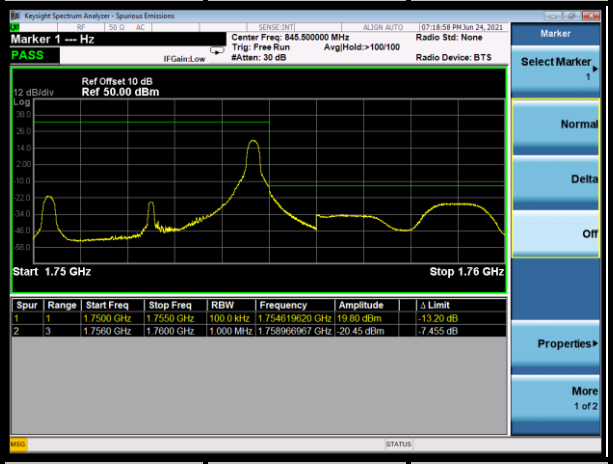
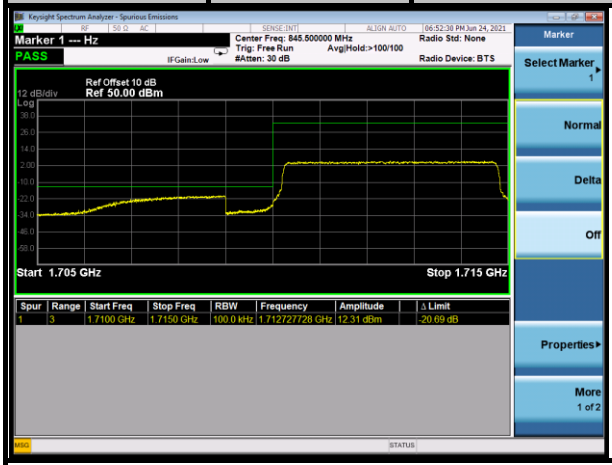
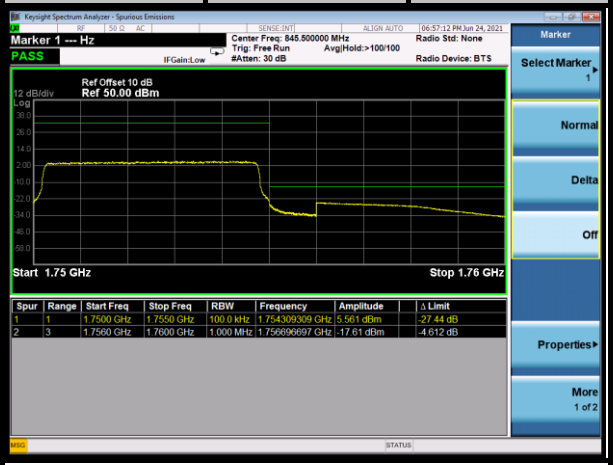
CHANNEL	19975	Full RB	CHANNEL	20375	Full RB

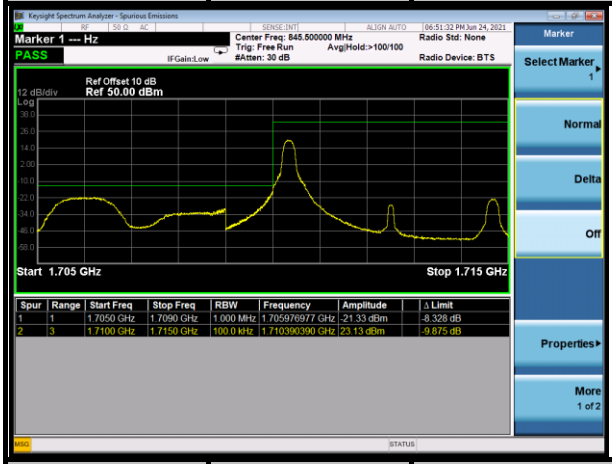
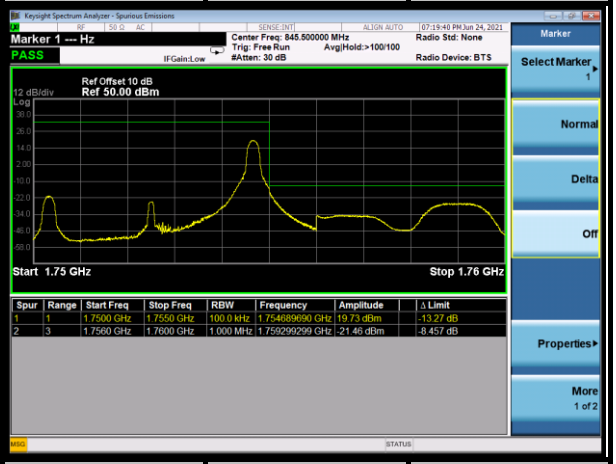
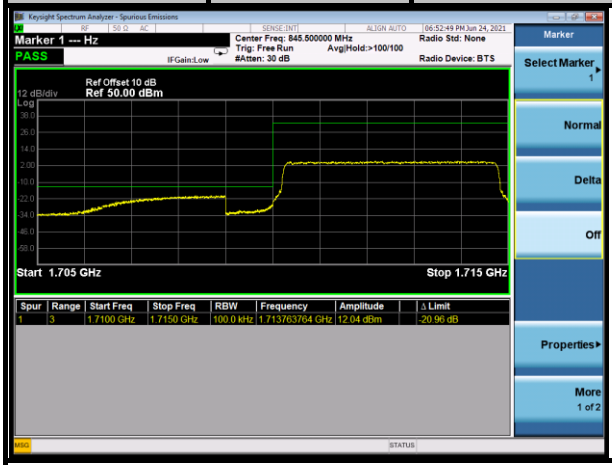
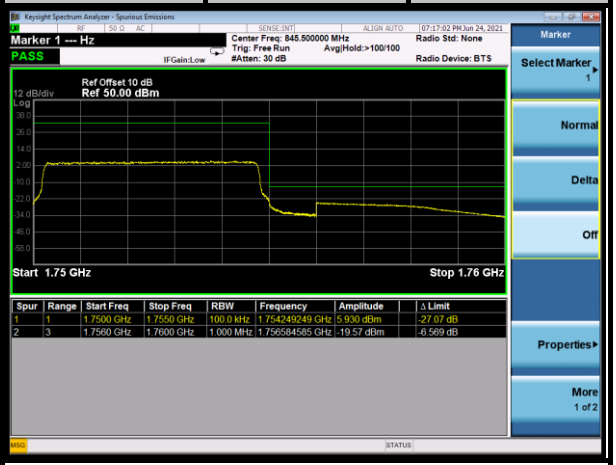


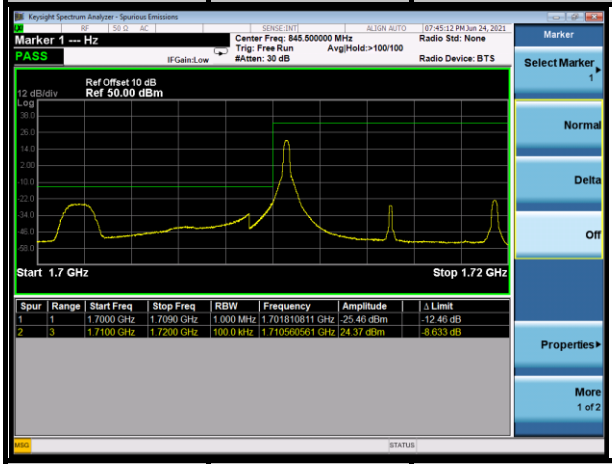
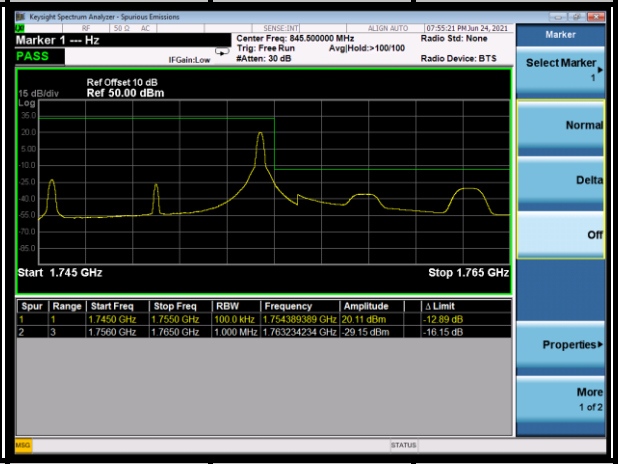
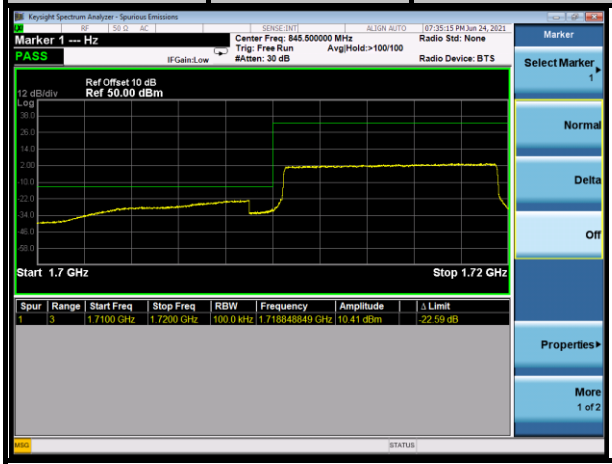
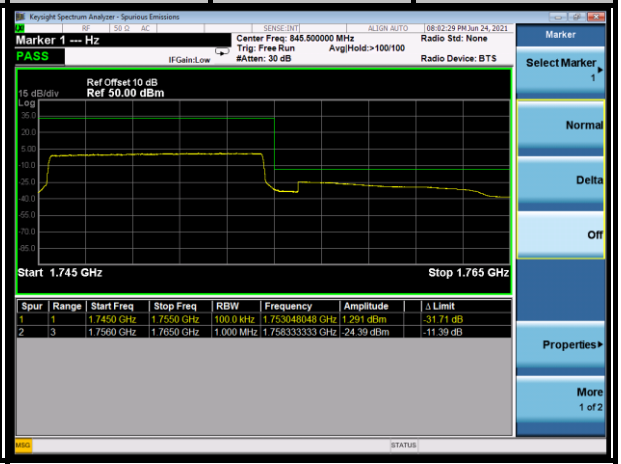


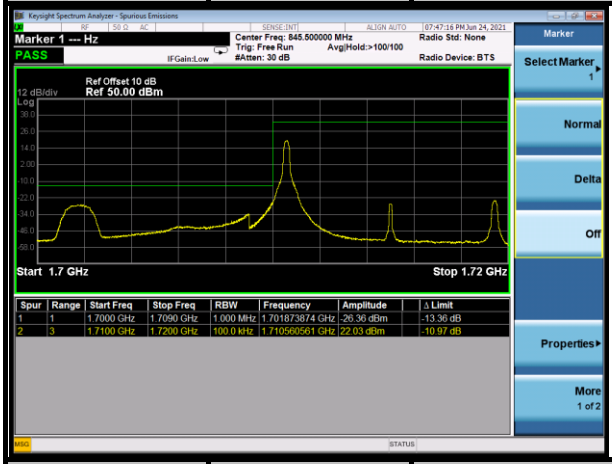
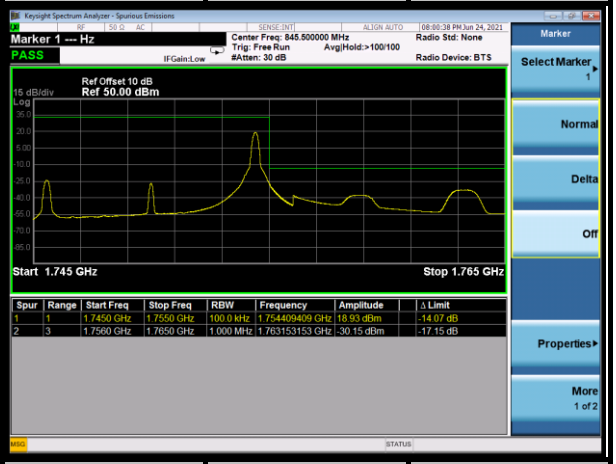
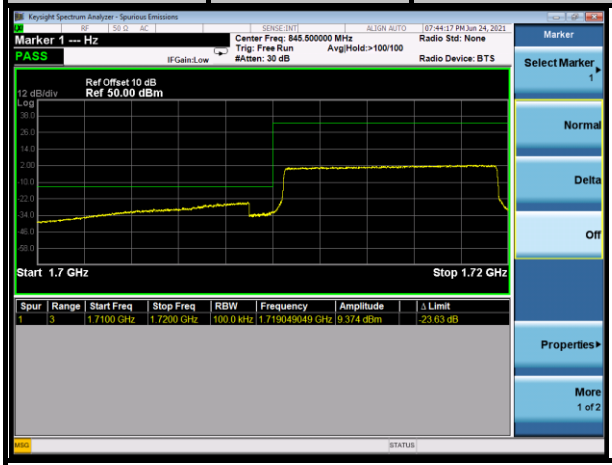
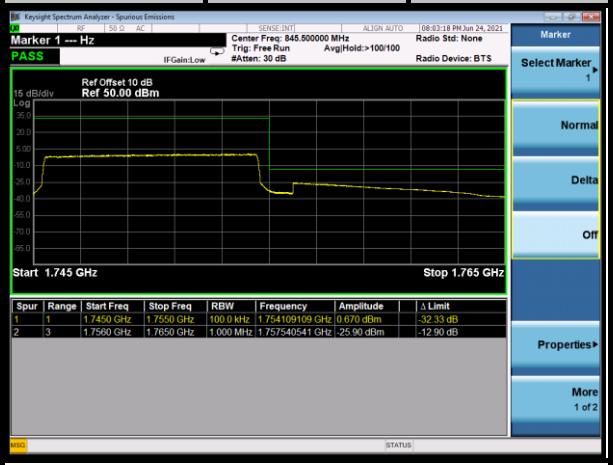
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

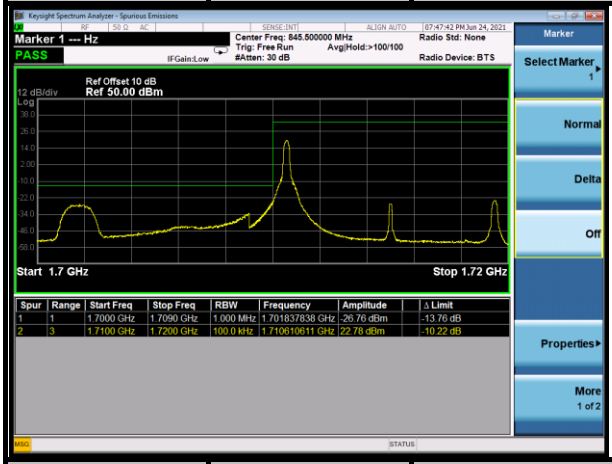
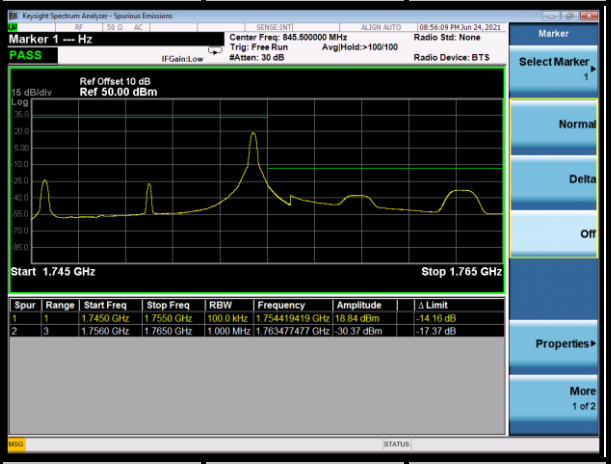
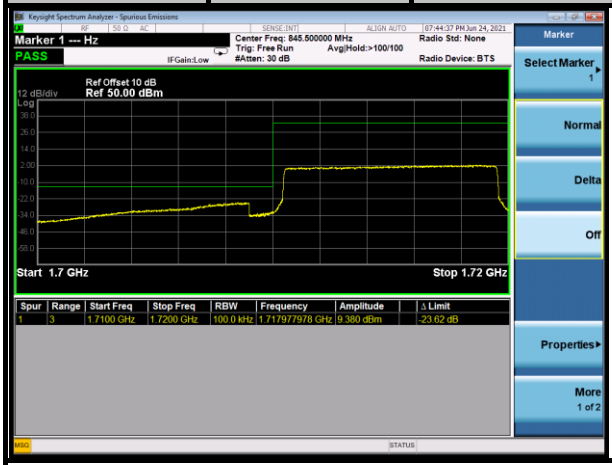
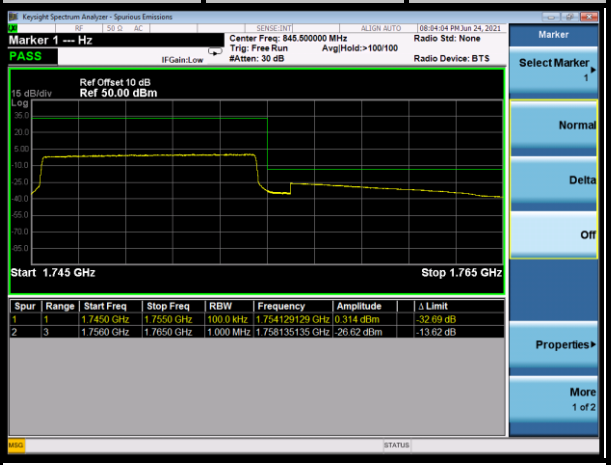
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.

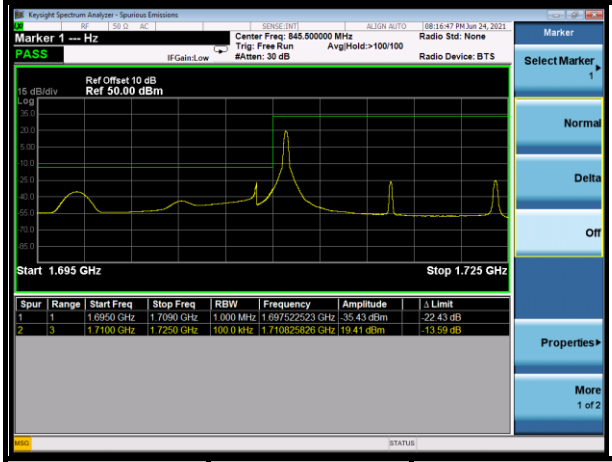
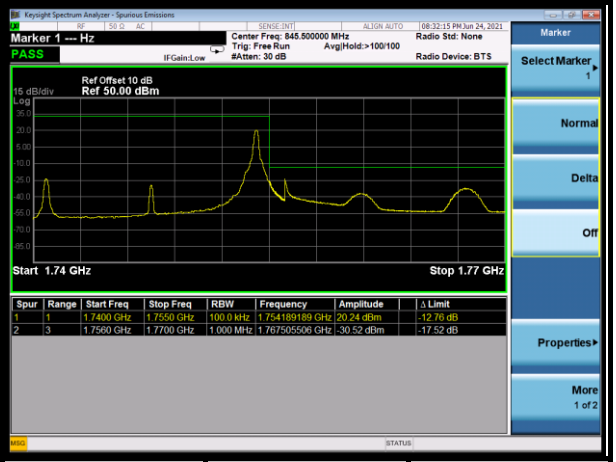
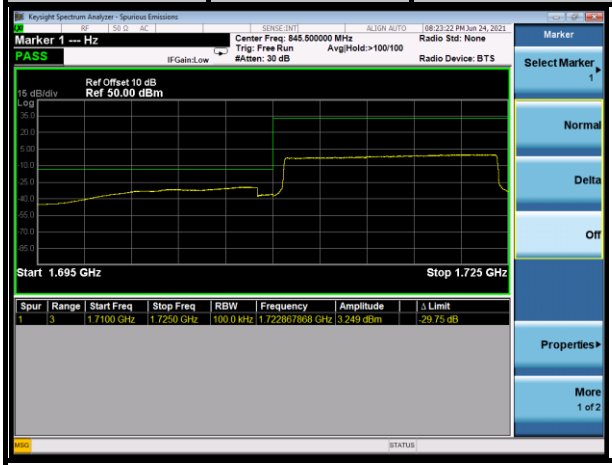
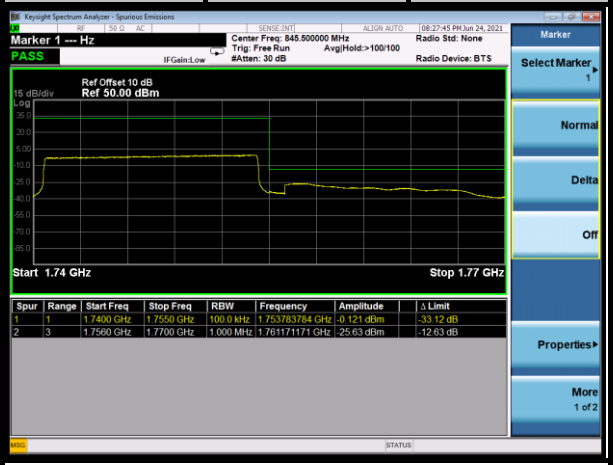
LTE BAND 4					
Channel Bandwidth: 5MHz / 16QAM					
CHANNEL	19975	1 RB	CHANNEL	20375	1 RB
					
CHANNEL	19975	Full RB	CHANNEL	20375	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

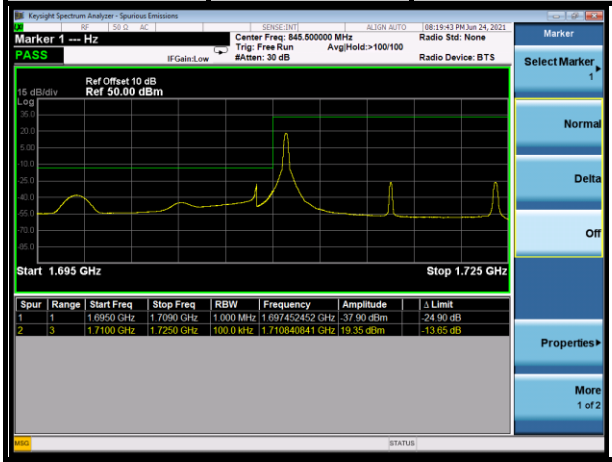
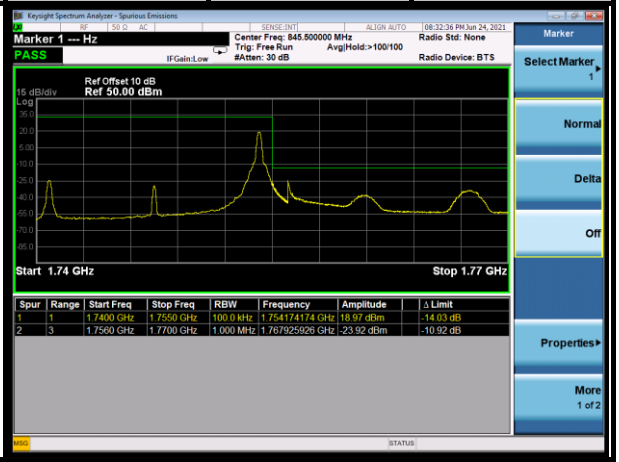
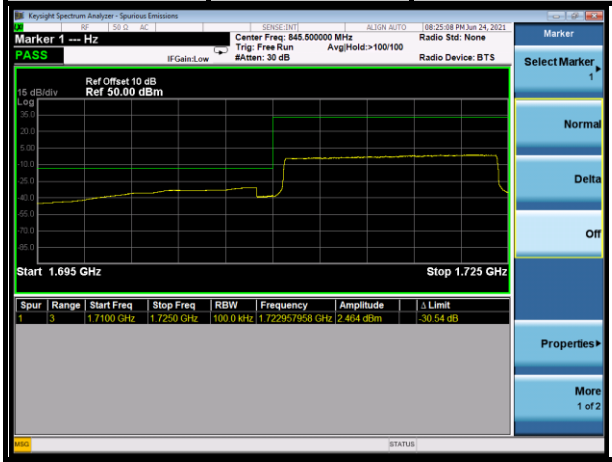
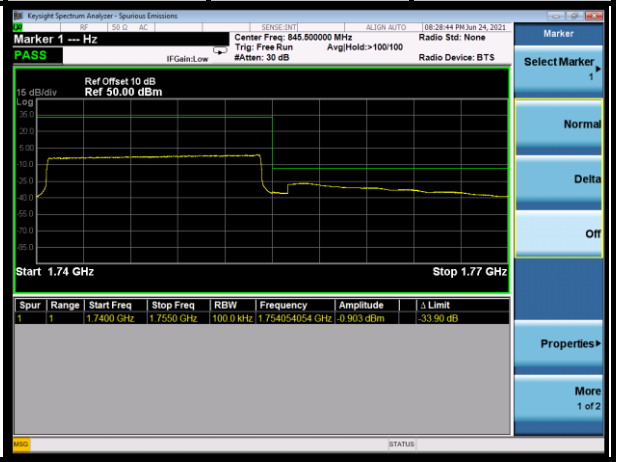
LTE BAND 4					
Channel Bandwidth: 5MHz / 64QAM					
CHANNEL	19975	1 RB	CHANNEL	20375	1 RB
					
CHANNEL	19975	Full RB	CHANNEL	20375	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

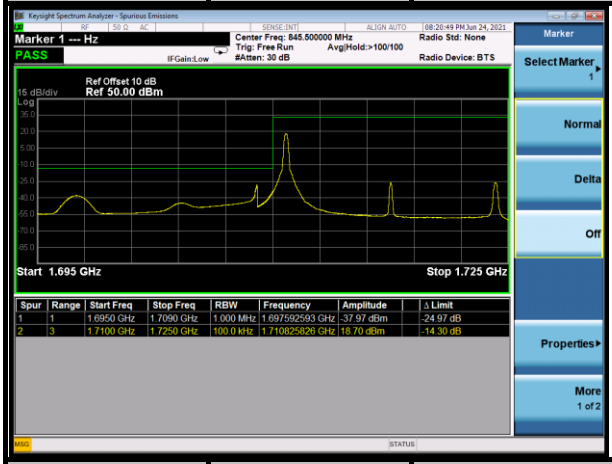
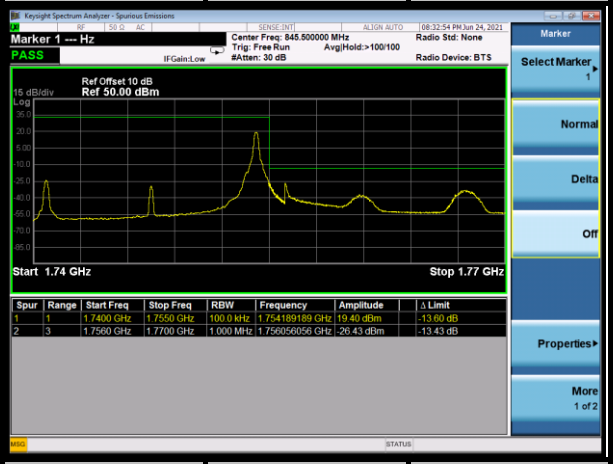
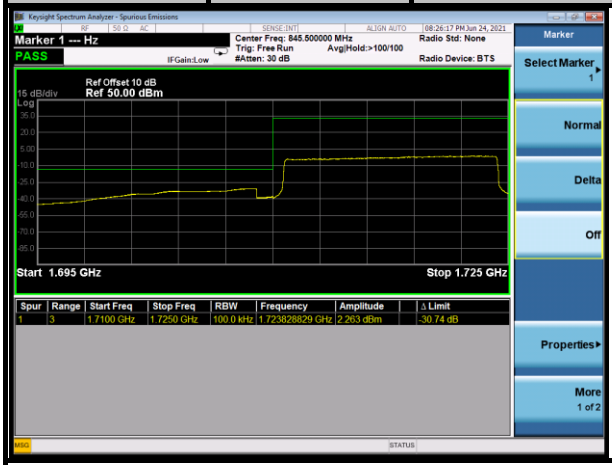
LTE BAND 4					
Channel Bandwidth: 10MHz / QPSK					
CHANNEL	20000	1 RB	CHANNEL	20350	1 RB
					
CHANNEL	20000	Full RB	CHANNEL	20350	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

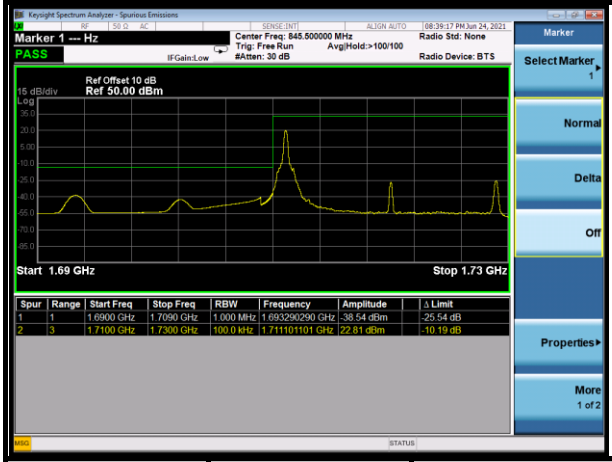
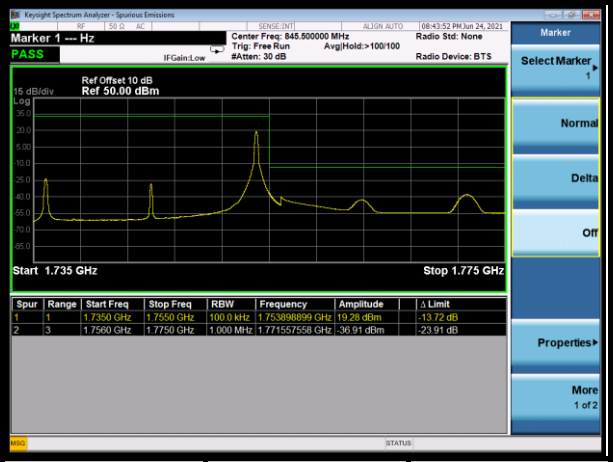
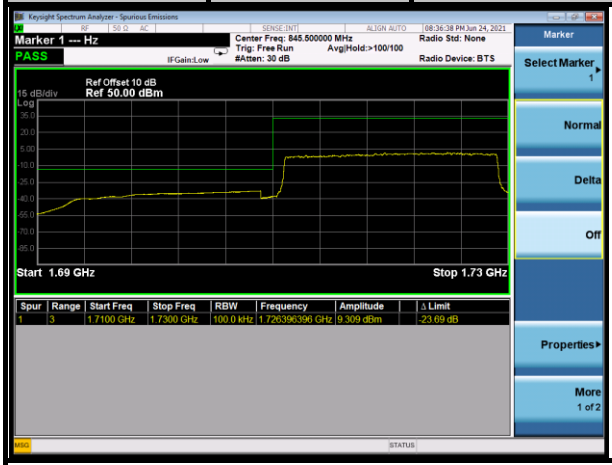
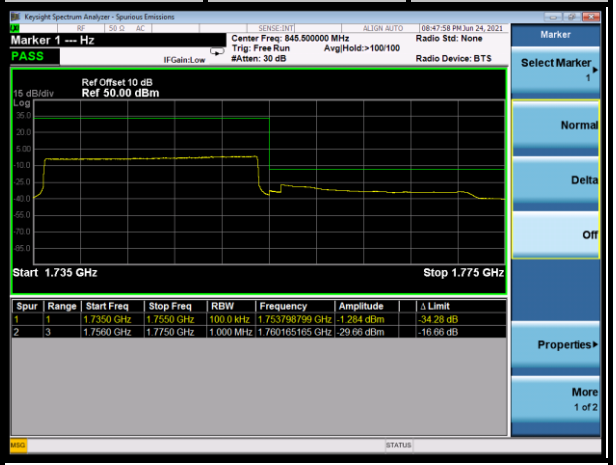
LTE BAND 4					
Channel Bandwidth: 10MHz / 16QAM					
CHANNEL	20000	1 RB	CHANNEL	20350	1 RB
					
CHANNEL	20000	Full RB	CHANNEL	20350	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

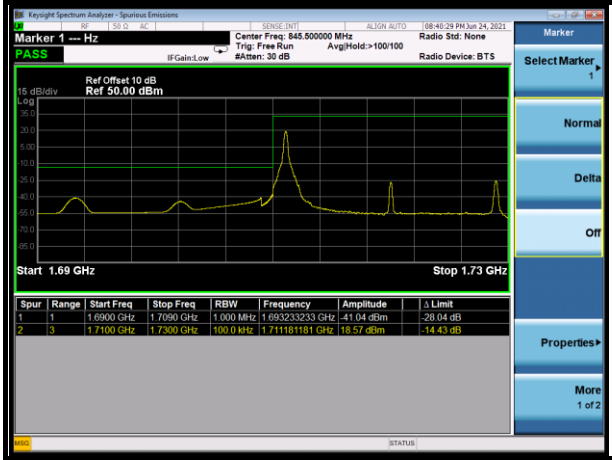
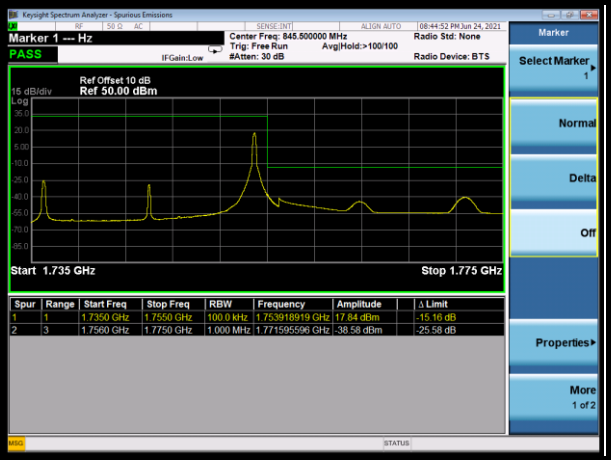
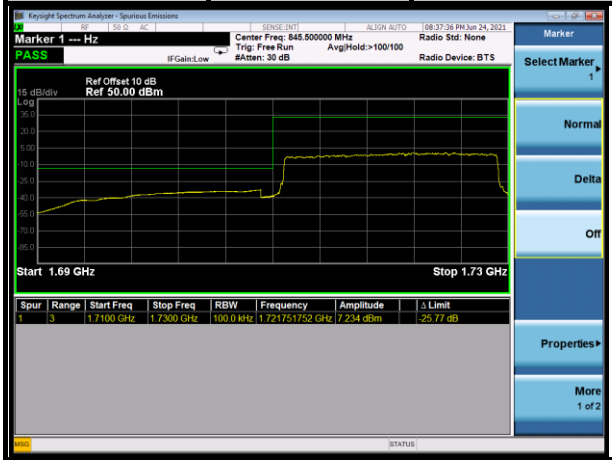
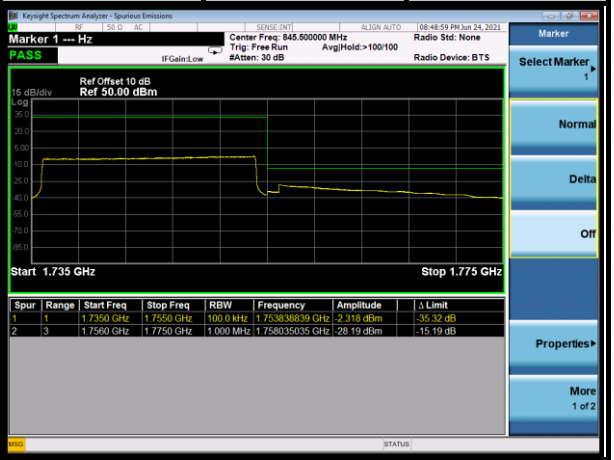
LTE BAND 4					
Channel Bandwidth: 10MHz / 64QAM					
CHANNEL	20000	1 RB	CHANNEL	20350	1 RB
					
CHANNEL	20000	Full RB	CHANNEL	20350	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

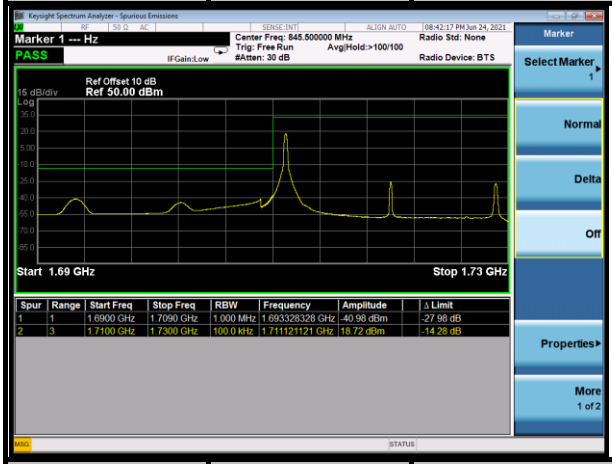
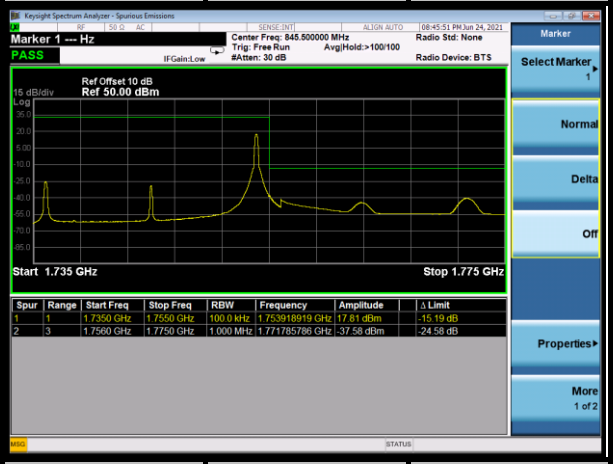
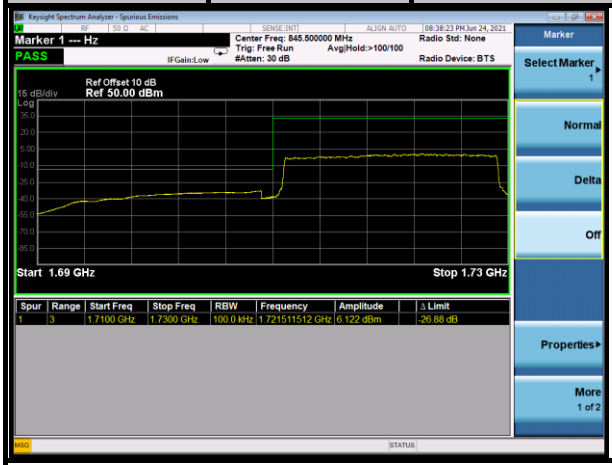
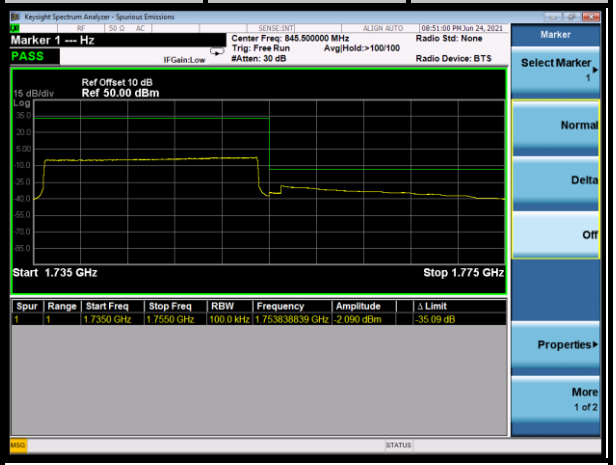
LTE BAND 4					
Channel Bandwidth: 15MHz / QPSK					
CHANNEL	20025	1 RB	CHANNEL	20325	1 RB
					
CHANNEL	20025	Full RB	CHANNEL	20325	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

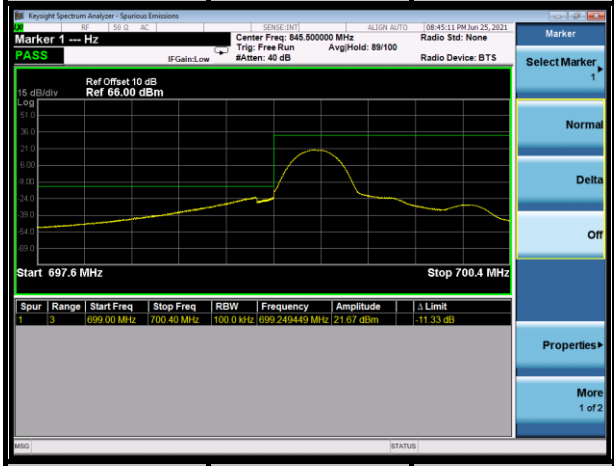
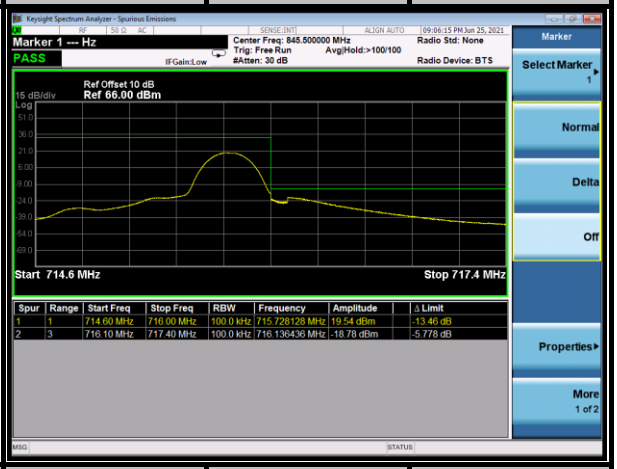
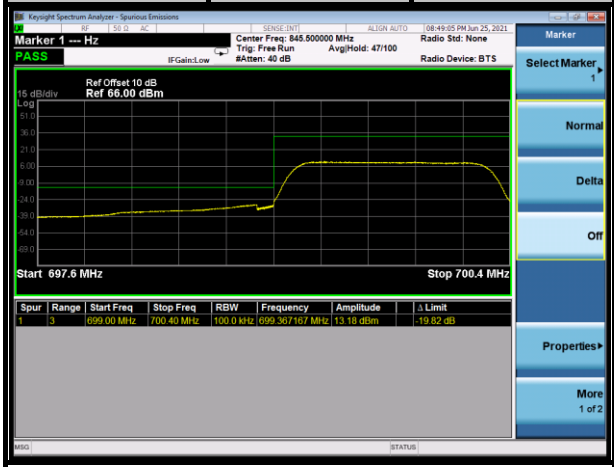
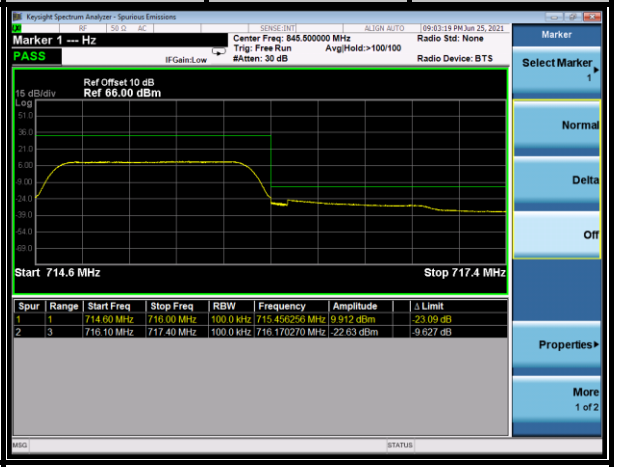
LTE BAND 4					
Channel Bandwidth: 15MHz / 16QAM					
CHANNEL	20025	1 RB	CHANNEL	20325	1 RB
					
CHANNEL	20025	Full RB	CHANNEL	20325	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 4					
Channel Bandwidth: 15MHz / 64QAM					
CHANNEL	20025	1 RB	CHANNEL	20325	1 RB
					
CHANNEL	20025	Full RB	CHANNEL	20325	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 4					
Channel Bandwidth: 20MHz / QPSK					
CHANNEL	20050	1 RB	CHANNEL	20300	1 RB
					
CHANNEL	20050	Full RB	CHANNEL	20300	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 4					
Channel Bandwidth: 20MHz / 16QAM					
CHANNEL	20050	1 RB	CHANNEL	20300	1 RB
					
CHANNEL	20050	Full RB	CHANNEL	20300	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 4					
Channel Bandwidth: 20MHz / 64QAM					
CHANNEL	20050	1 RB	CHANNEL	20300	1 RB
					
CHANNEL	20050	Full RB	CHANNEL	20300	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		

LTE BAND 12					
Channel Bandwidth: 1.4MHz / QPSK					
CHANNEL	23017	1 RB	CHANNEL	23173	1 RB
					
CHANNEL	23017	Full RB	CHANNEL	23173	Full RB
					
Note: Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.			**Note:** Limit has been adjusted by 10*log(RBW) to reflect a 1MHz measurement bandwidth.		