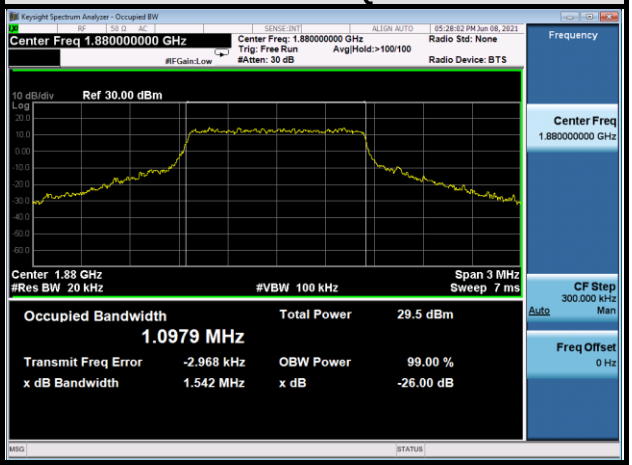
LTE BAND 2

LTE band 2							
CHANNEL BANDWIDTH: 1.4MHz							
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)			26dB BANDWIDTH (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
18607	1850.7	1.10	1.09	1.09	1.45	1.42	1.36
18900	1880	1.09	1.10	1.10	1.47	1.54	1.53
19193	1909.3	1.10	1.09	1.09	1.37	1.43	1.38

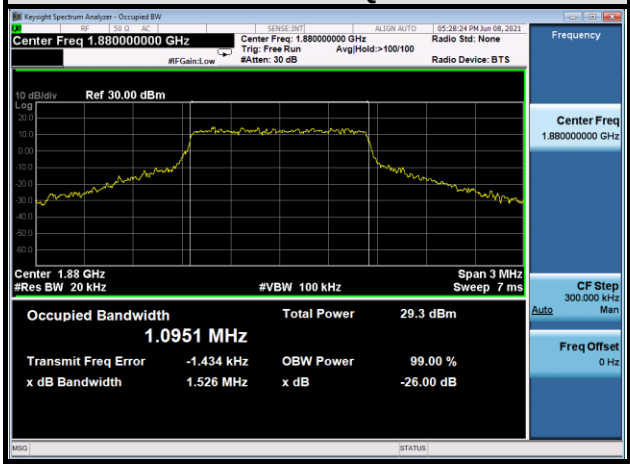
SPECTRUM PLOT OF WORST VALUE

1.4MHz / QPSK

1.4MHz / 16QAM



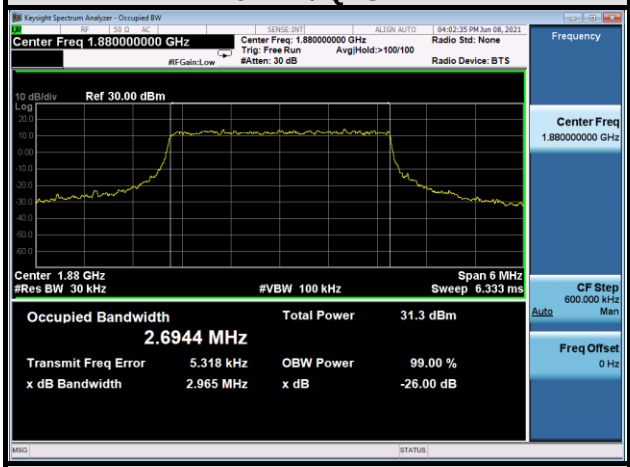
1.4MHz / 64QAM



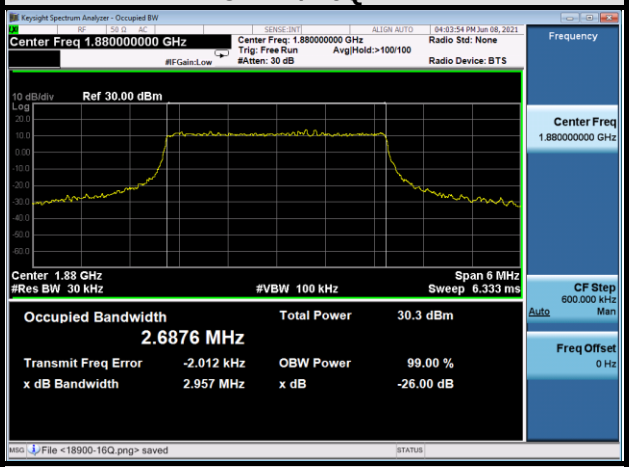
CHANNEL BANDWIDTH: 3MHz							
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)			26 dB bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
18615	1851.5	2.69	2.69	2.69	2.93	2.96	2.98
18900	1880	2.69	2.69	2.69	2.97	2.96	2.96
19185	1908.5	2.69	2.69	2.68	2.98	2.95	2.94

SPECTRUM PLOT OF WORST VALUE

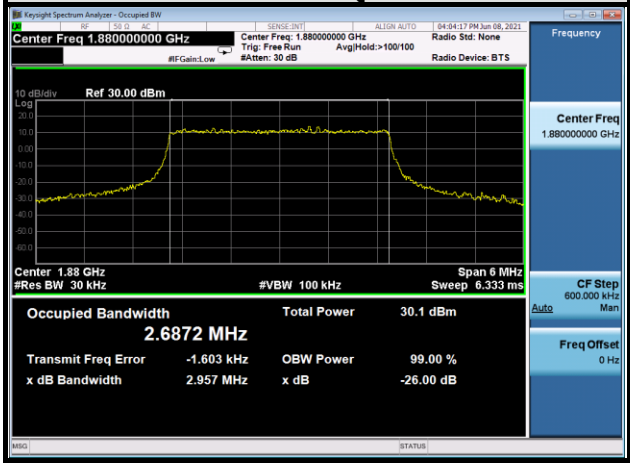
3MHz / QPSK



3MHz / 16QAM



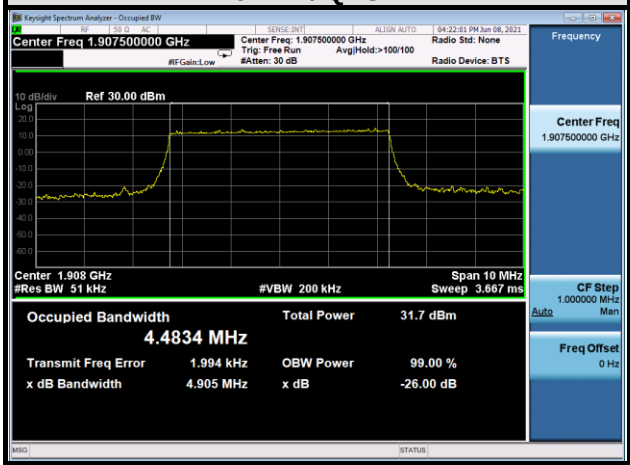
3MHz / 64QAM



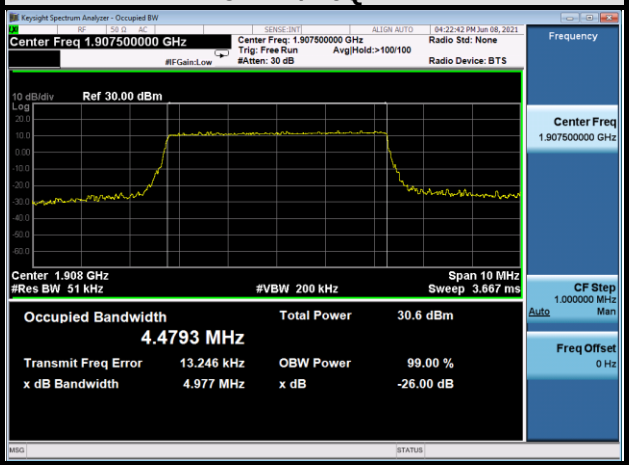
CHANNEL BANDWIDTH: 5MHz							
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)			26 dB bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
18625	1852.5	4.48	4.47	4.47	4.94	4.85	4.89
18900	1880	4.47	4.48	4.48	4.91	4.97	4.94
19175	1907.5	4.49	4.48	4.47	4.91	4.98	4.96

SPECTRUM PLOT OF WORST VALUE

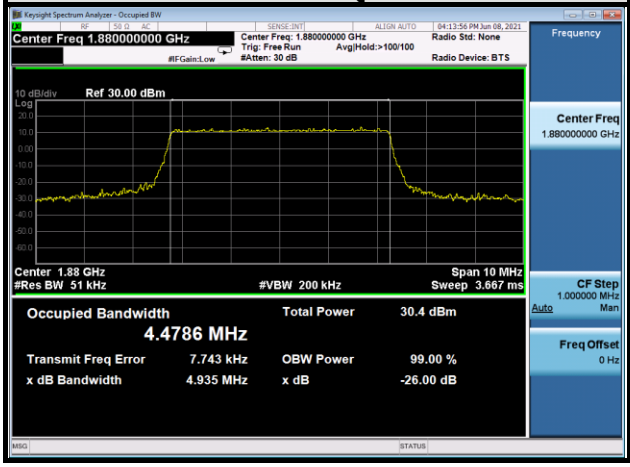
5MHz / QPSK



5MHz / 16QAM



5MHz / 64QAM

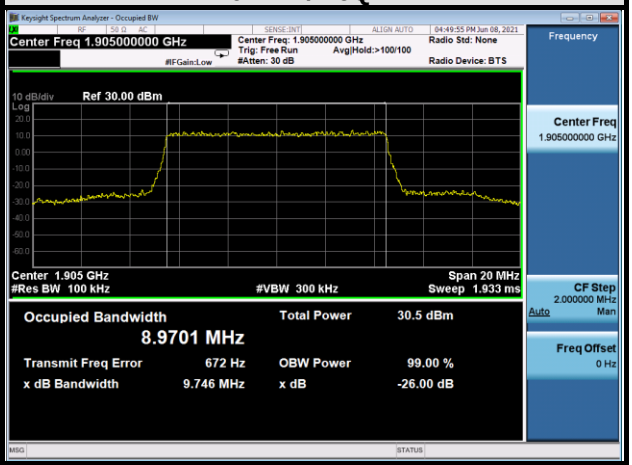


CHANNEL BANDWIDTH: 10MHz							
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)			26 dB bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
18650	1855	8.94	8.95	8.95	9.70	9.65	9.69
18900	1880	8.96	8.94	8.95	9.80	9.68	9.66
19150	1905	8.97	8.97	8.98	9.72	9.75	9.69

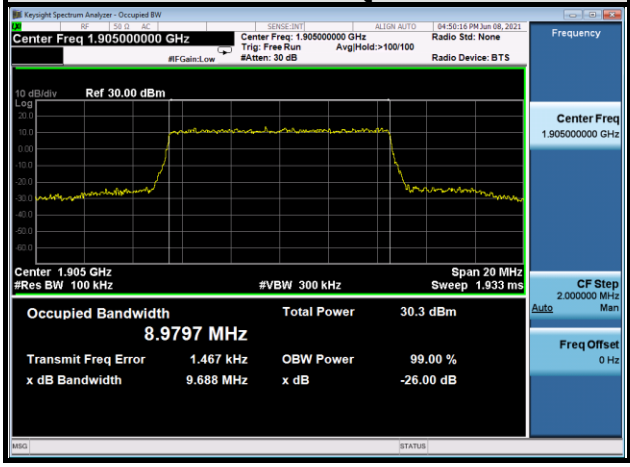
SPECTRUM PLOT OF WORST VALUE

10MHz / QPSK

10MHz / 16QAM



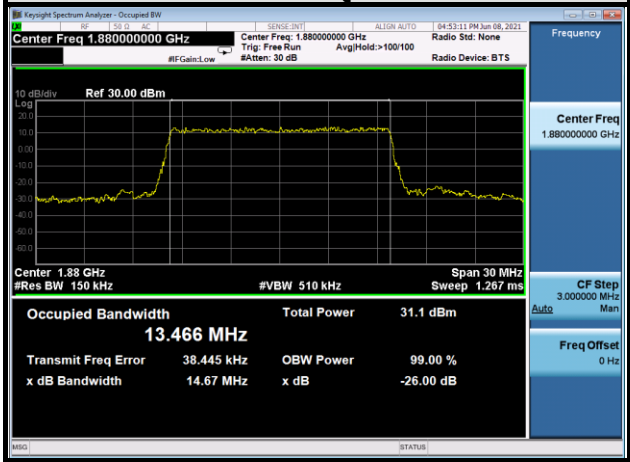
10MHz / 64QAM



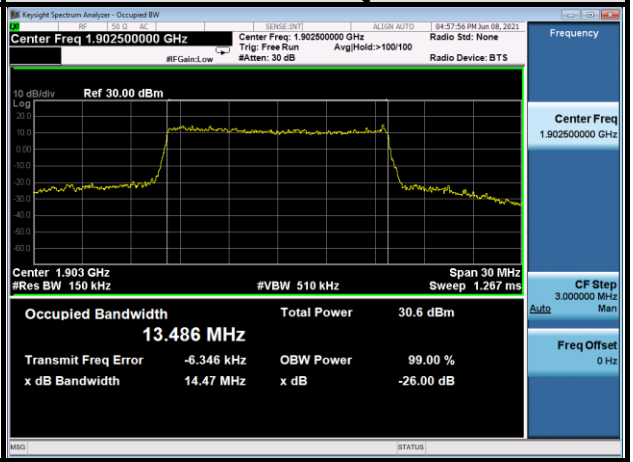
CHANNEL BANDWIDTH: 15MHz							
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)			26 dB bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
18675	1857.5	13.38	13.40	13.39	14.35	14.29	14.47
18900	1880	13.47	13.46	13.44	14.67	14.38	14.53
19125	1902.5	13.44	13.49	13.47	14.39	14.47	14.43

SPECTRUM PLOT OF WORST VALUE

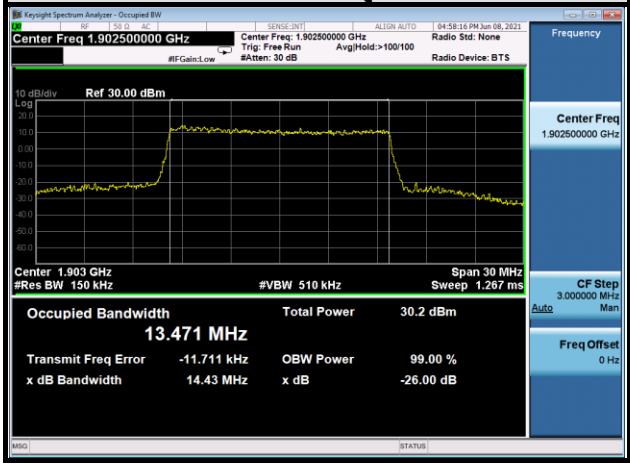
15MHz / QPSK



15MHz / 16QAM



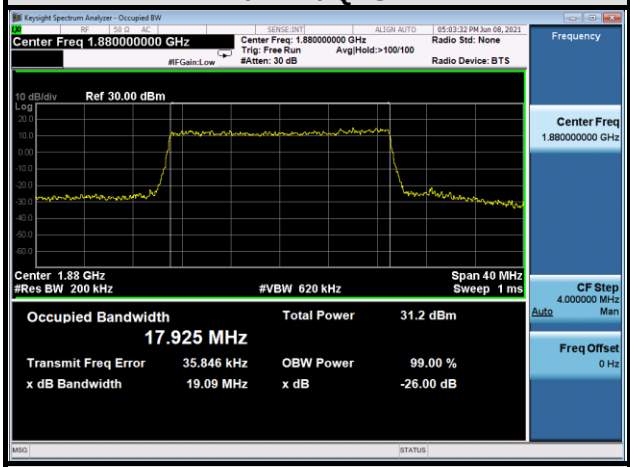
15MHz / 64QAM



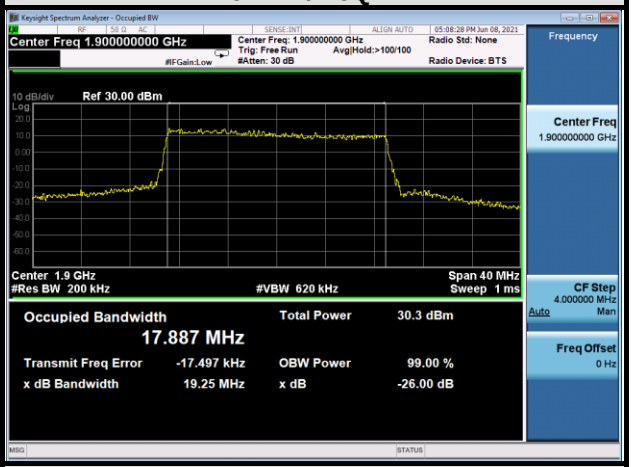
CHANNEL BANDWIDTH: 20MHz							
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)			26 dB bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
18700	1860	17.83	17.84	17.86	18.94	19.01	19.13
18900	1880	17.93	17.97	17.93	19.09	19.22	19.19
19100	1900	17.90	17.89	17.92	19.13	17.89	19.16

SPECTRUM PLOT OF WORST VALUE

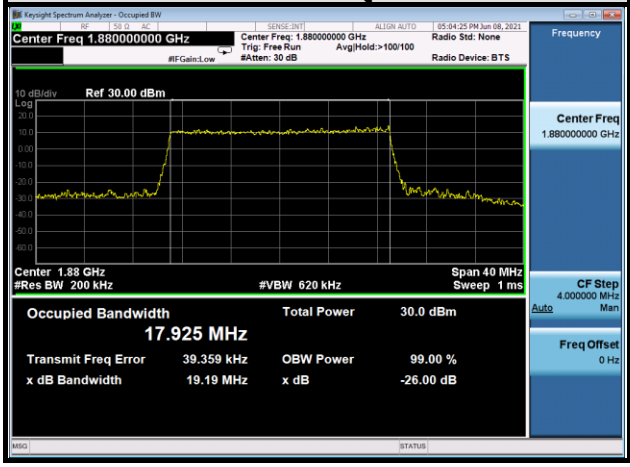
20MHz / QPSK



20MHz / 16QAM



20MHz / 64QAM



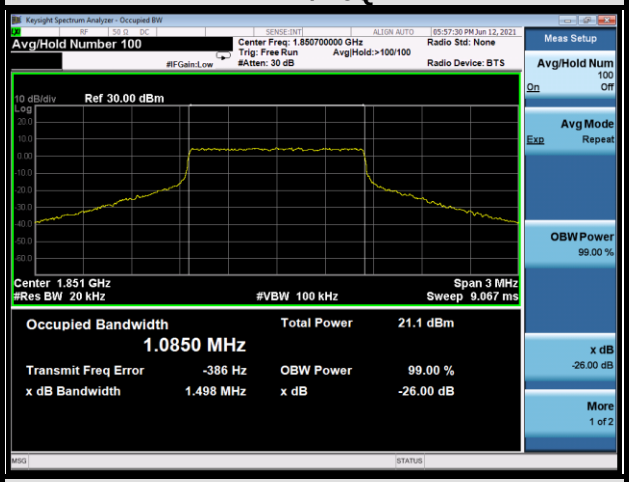
LTE BAND 25

CHANNEL BANDWIDTH: 1.4MHz							
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)			26 dB bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
26047	1850.7	1.08	1.09	1.08	1.47	1.50	1.50
26365	1882.5	1.09	1.08	1.09	1.55	1.49	1.52
26683	1914.3	1.09	1.08	1.08	1.49	1.43	1.45

SPECTRUM PLOT OF WORST VALUE

1.4MHz / QPSK

1.4MHz / 16QAM

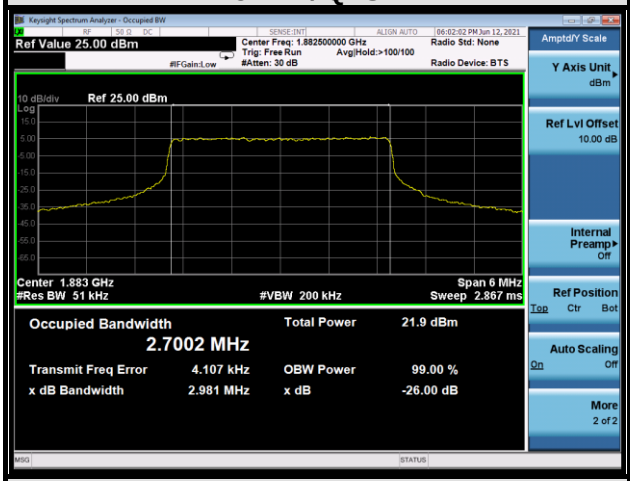


1.4MHz / 64QAM

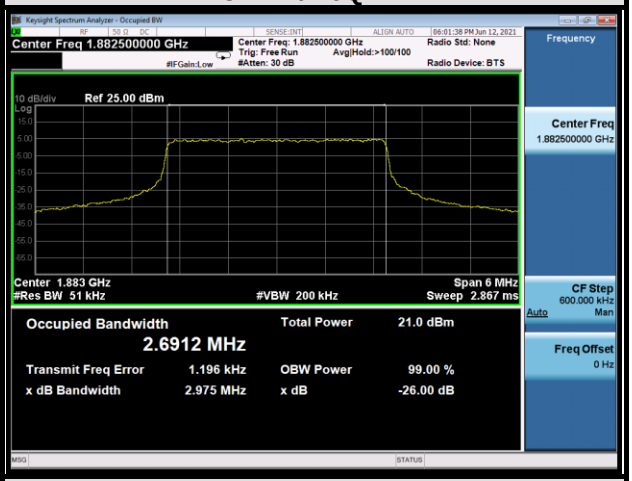
CHANNEL BANDWIDTH: 3MHz							
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)			26 dB bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
26055	1851.5	2.69	2.69	2.93	2.98	2.97	2.97
26365	1882.5	2.70	2.69	2.69	2.98	2.98	2.95
26675	1913.5	2.69	2.69	2.69	3.05	2.94	2.96

SPECTRUM PLOT OF WORST VALUE

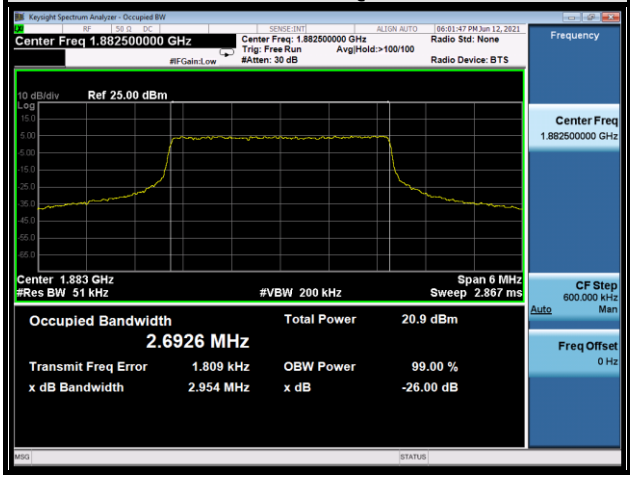
3MHz / QPSK



3MHz / 16QAM



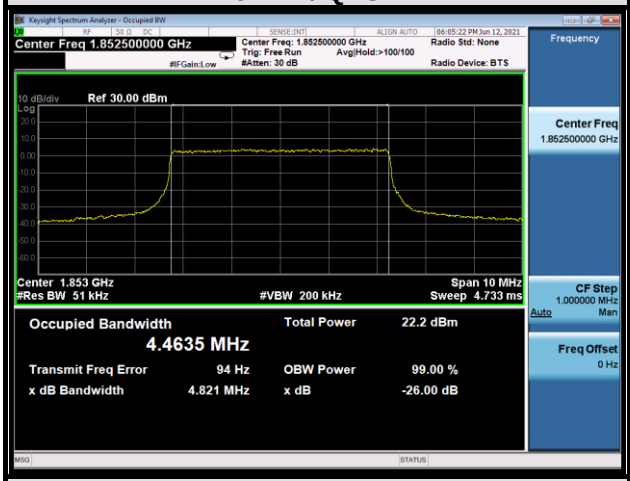
3MHz / 64QAM



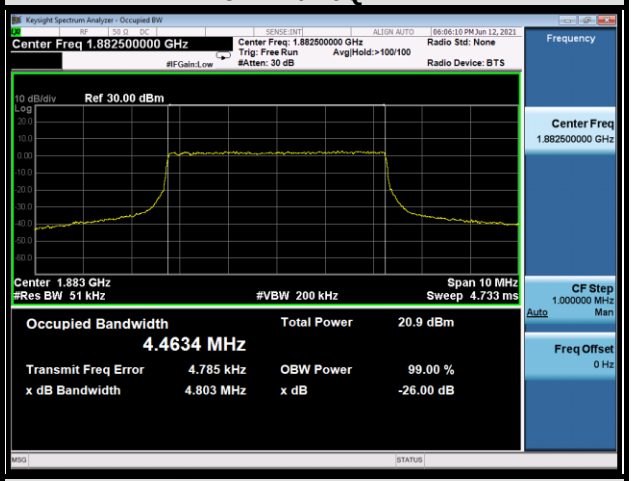
CHANNEL BANDWIDTH: 5MHz							
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)			26 dB bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
26065	1852.5	4.46	4.46	4.49	4.82	4.80	4.83
26365	1882.5	4.46	4.46	4.47	4.84	4.80	4.81
26665	1912.5	4.46	4.46	4.46	4.88	4.83	4.80

SPECTRUM PLOT OF WORST VALUE

5MHz / QPSK



5MHz / 16QAM

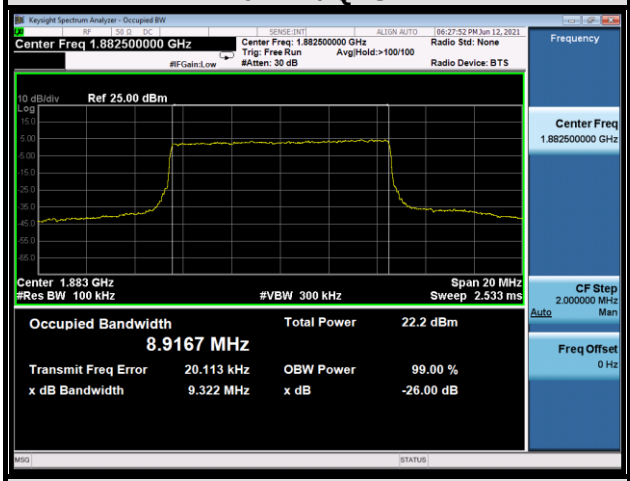


5MHz / 64QAM

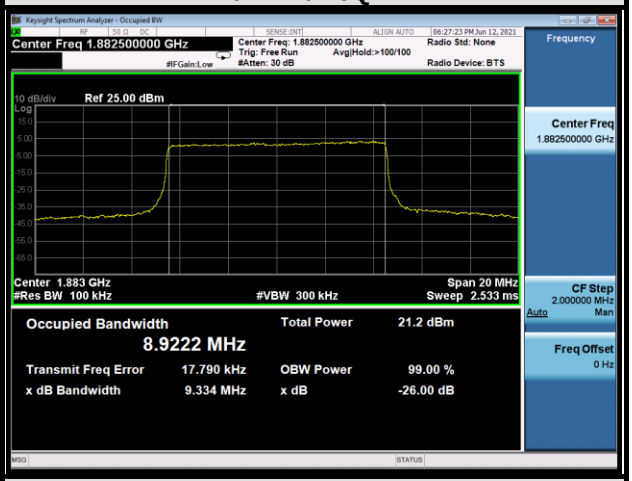
CHANNEL BANDWIDTH: 10MHz							
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)			26 dB bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
26090	1855	8.91	8.92	8.90	9.31	9.33	9.34
26365	1882.5	8.92	8.92	8.92	9.32	9.33	9.36
26640	1910	8.89	8.89	8.89	9.34	9.37	9.31

SPECTRUM PLOT OF WORST VALUE

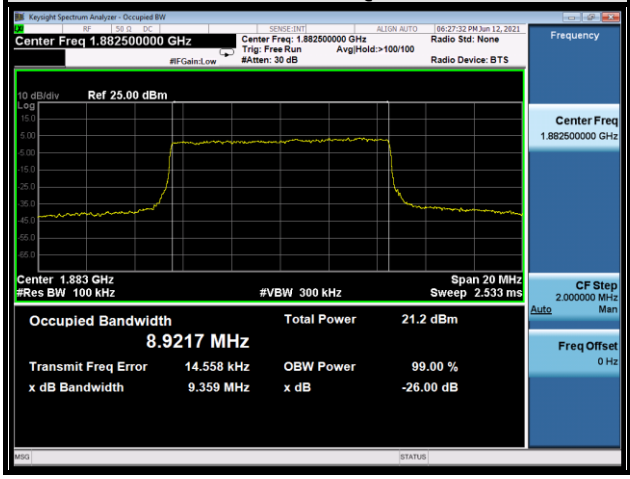
10MHz / QPSK



10MHz / 16QAM



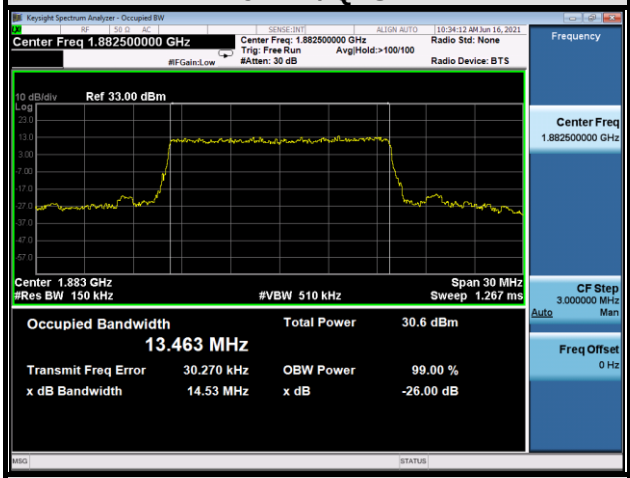
10MHz / 64QAM



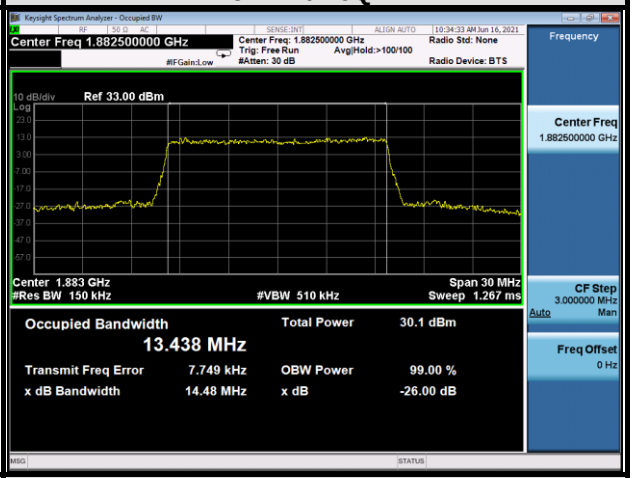
CHANNEL BANDWIDTH: 15MHz							
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)			26 dB bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
26115	1857.5	13.39	13.37	13.38	14.04	14.01	14.08
26365	1882.5	13.46	13.44	13.44	14.53	14.48	14.52
26615	1907.5	13.42	13.41	13.45	14.39	14.45	14.45

SPECTRUM PLOT OF WORST VALUE

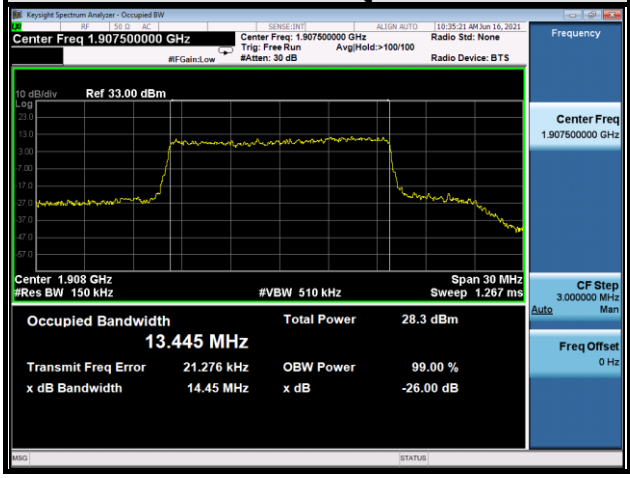
15MHz / QPSK



15MHz / 16QAM



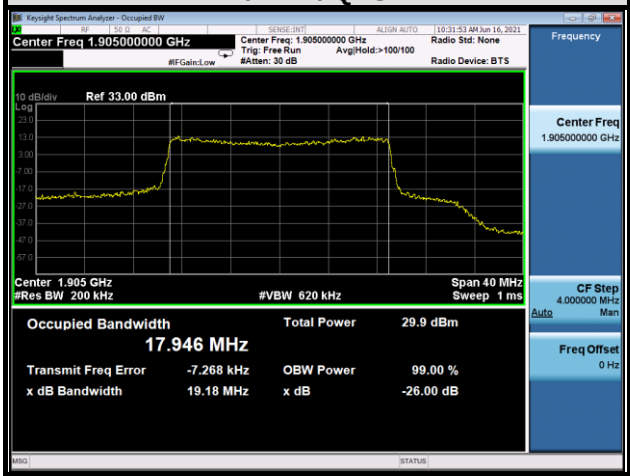
15MHz / 64QAM



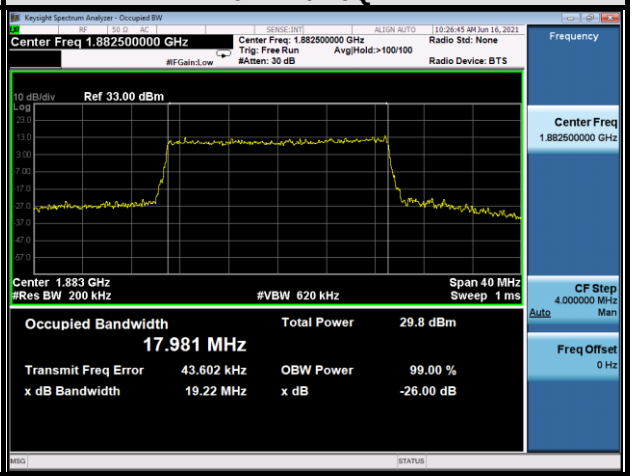
CHANNEL BANDWIDTH: 20MHz							
CHANNEL	Frequency (MHz)	99% OCCUPIED Bandwidth (MHz)			26 dB bandwidth (MHz)		
		QPSK	16QAM	64QAM	QPSK	16QAM	64QAM
26140	1860	17.86	17.87	17.91	18.99	19.06	19.25
26365	1882.5	17.92	17.98	17.96	19.13	19.22	19.28
26590	1905	17.95	17.96	17.97	19.18	19.17	19.09

SPECTRUM PLOT OF WORST VALUE

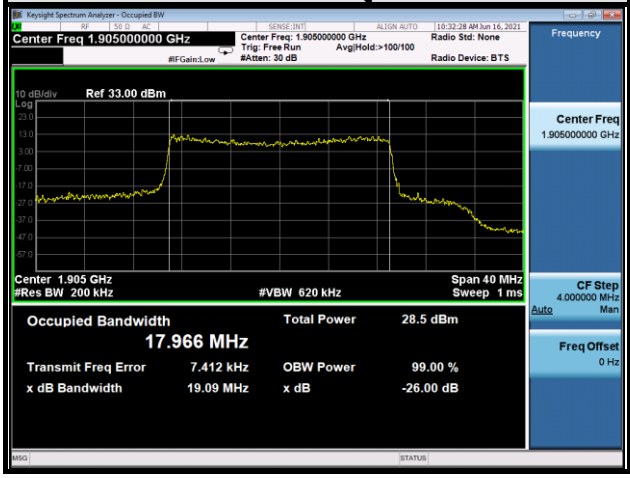
20MHz / QPSK



20MHz / 16QAM



20MHz / 64QAM

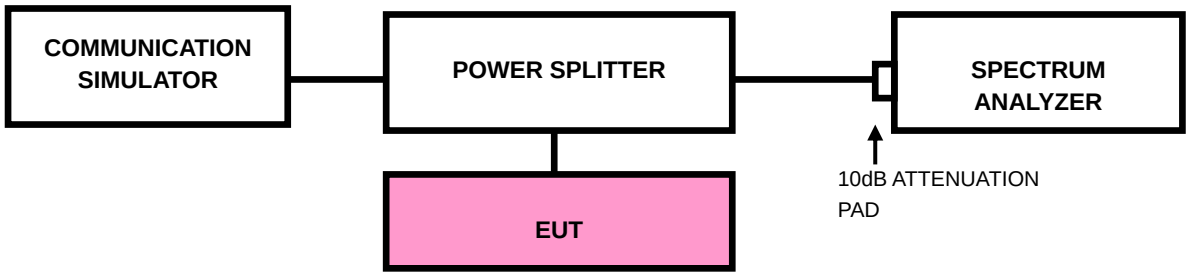


3.4 BAND EDGE MEASUREMENTC

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

a. All measurements were done at low and high operational frequency range.

b. The center frequency of spectrum is the band edge frequency and span is 1.5 MHz. RBW of the spectrum is 10kHz and VBW of the spectrum is 30kHz (GSM/GPRS/ EDGE).

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)

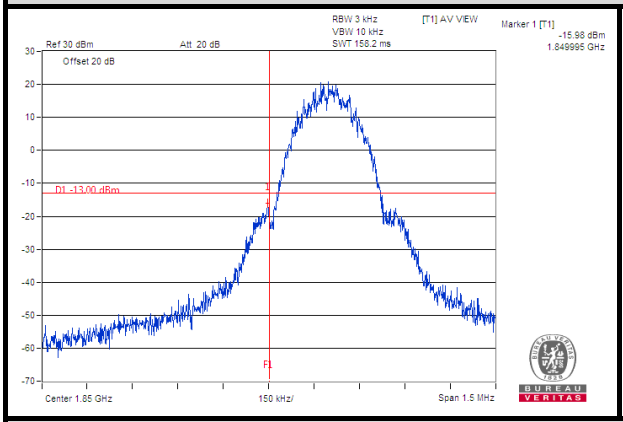
h. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 200kHz and VBW of the spectrum is 1MHz. (LTE bandwidth 15MHz)

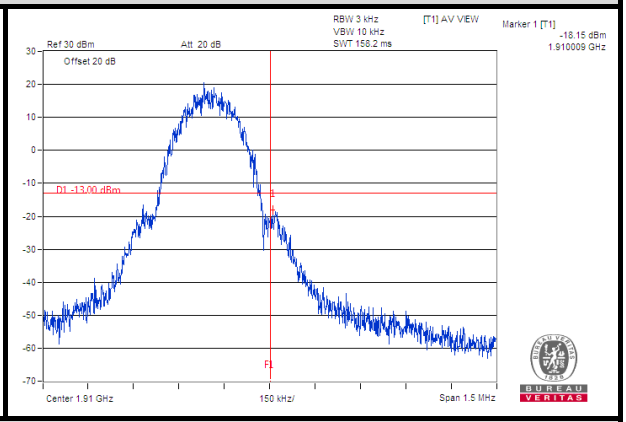
i. he center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 200kHz and VBW of the spectrum is 1MHz. (LTE bandwidth 20MHz)

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

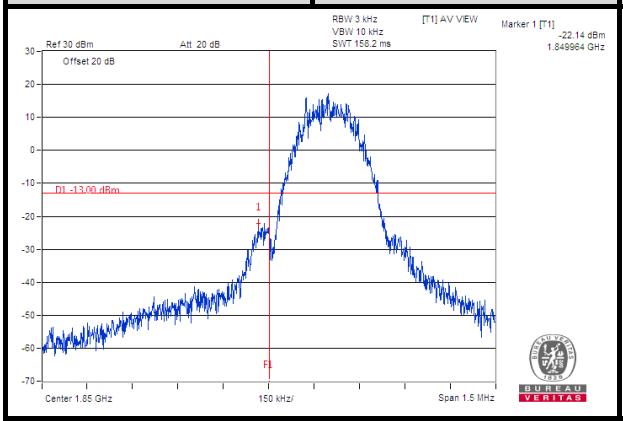
3.4.4. TEST RESULTS

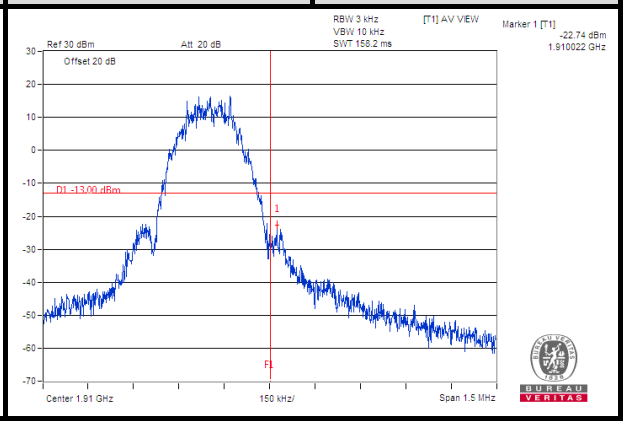
GSM			
CHANNEL	512	CHANNEL	810
GSM			





EDGE			
CHANNEL	512	CHANNEL	810



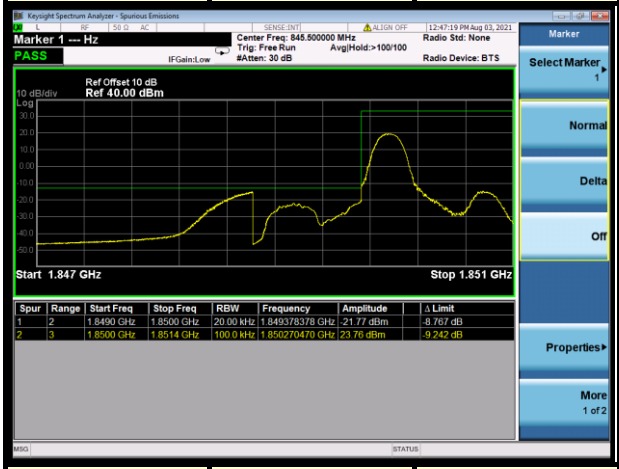


WCDMA			
CHANNEL	9262	CHANNEL	9538

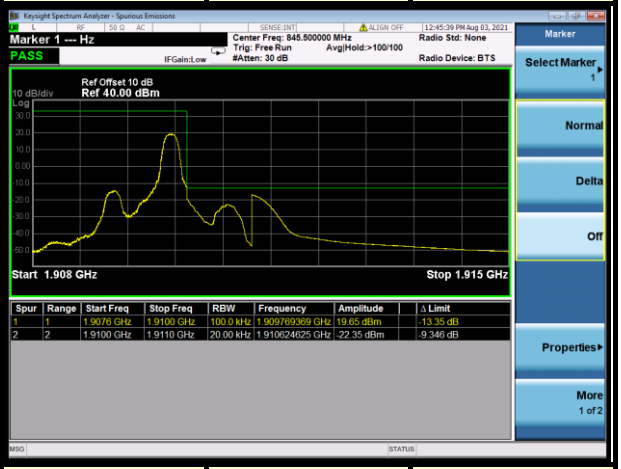
LTE BAND 2

Channel Bandwidth: 1.4MHz QPSK

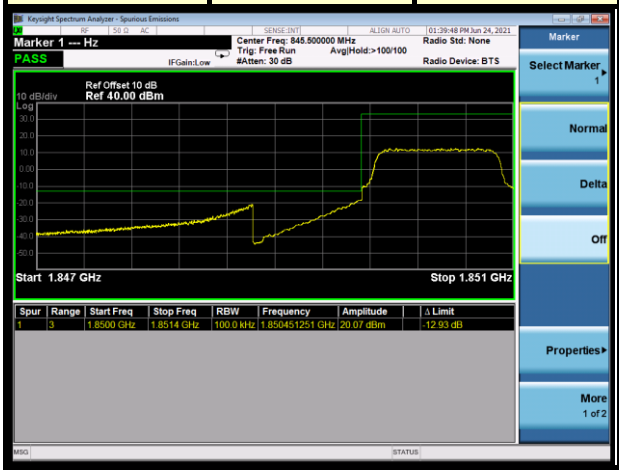
CHANNEL	18607	1 RB



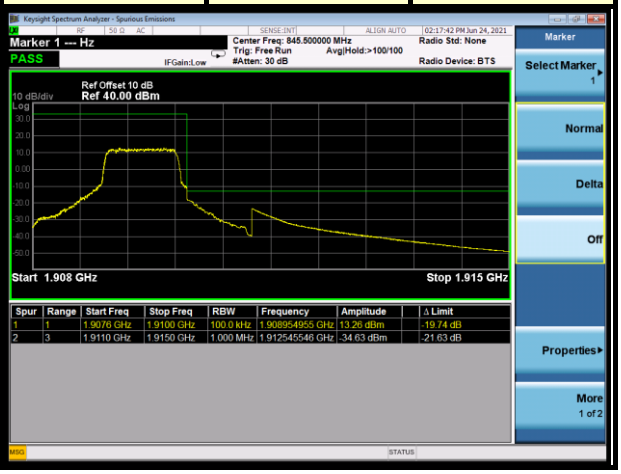
CHANNEL	19193	1 RB



CHANNEL	18607	Full RB

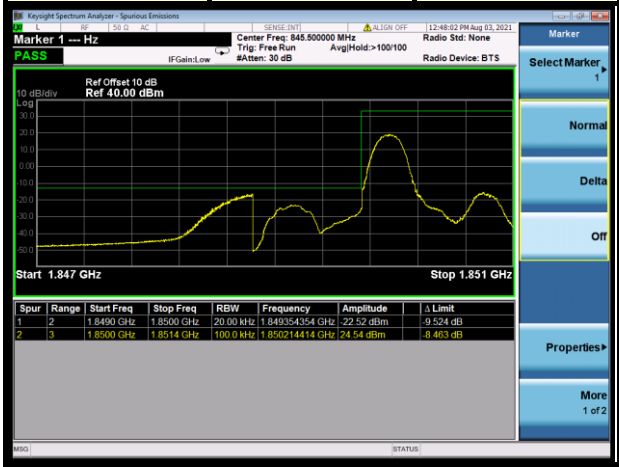


CHANNEL	19193	Full RB

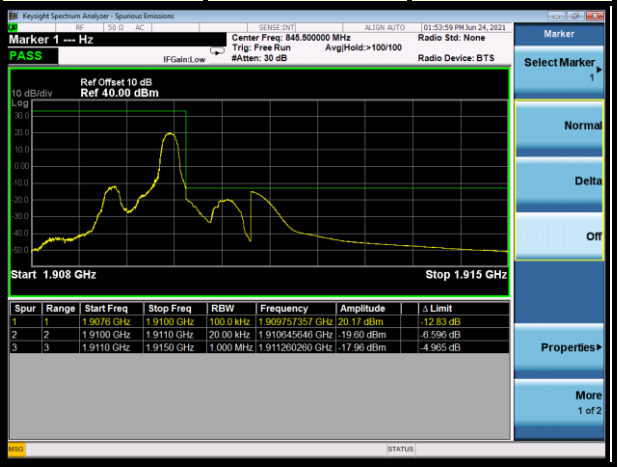


Channel Bandwidth: 1.4MHz 16QAM

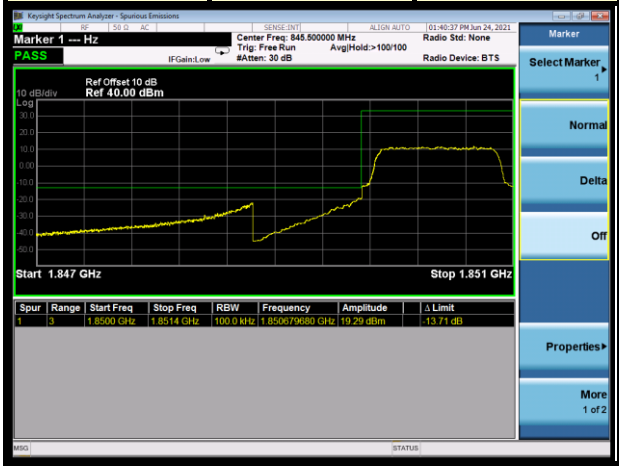
CHANNEL	18607	1 RB



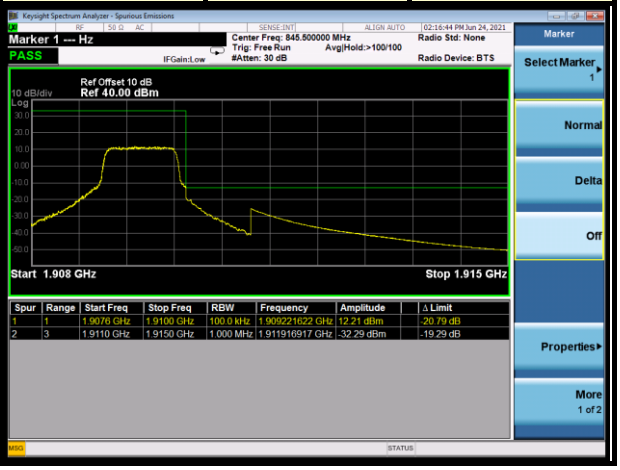
CHANNEL	19193	1 RB



CHANNEL	18607	Full RB

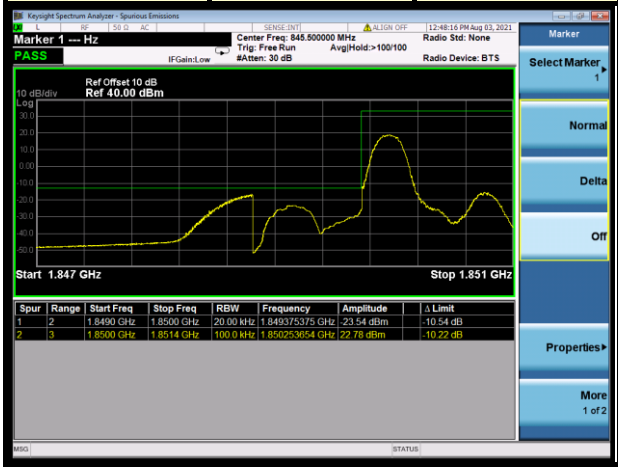


CHANNEL	19193	Full RB

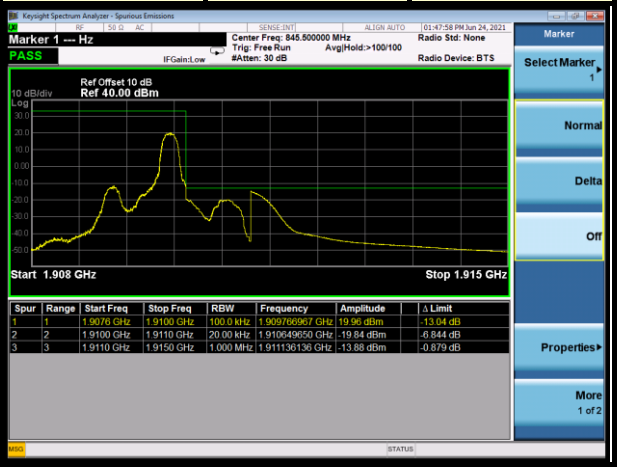


Channel Bandwidth: 1.4MHz 64QAM

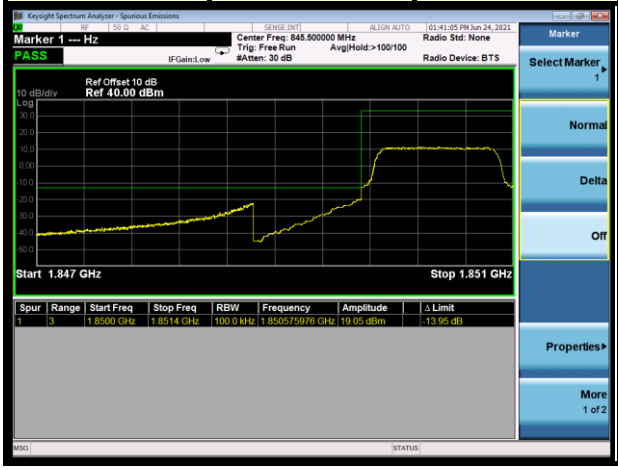
CHANNEL	18607	1 RB



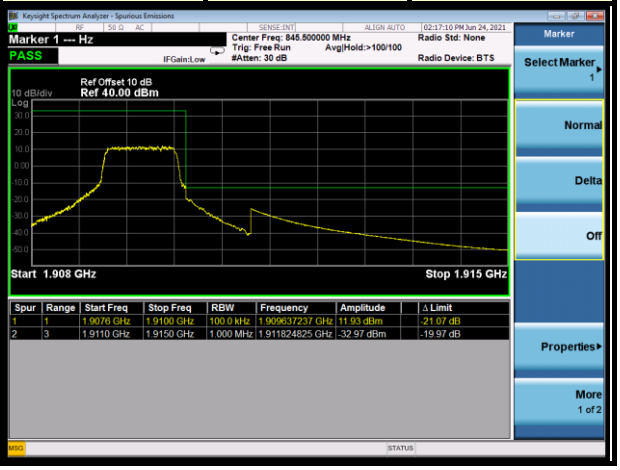
CHANNEL	19193	1 RB



CHANNEL	18607	Full RB



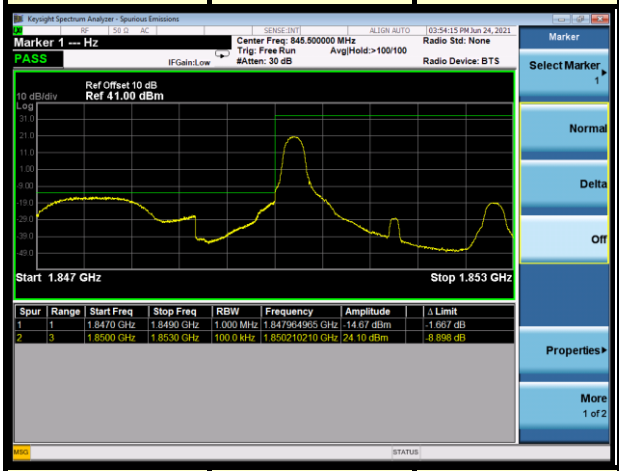
CHANNEL	19193	Full RB



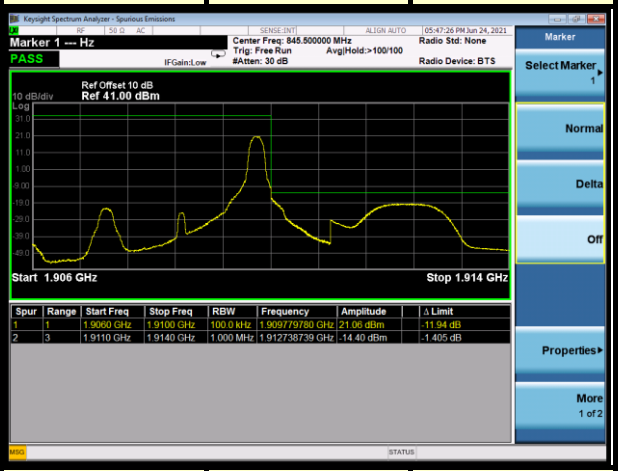
LTE BAND 2

Channel Bandwidth: 3MHz QPSK

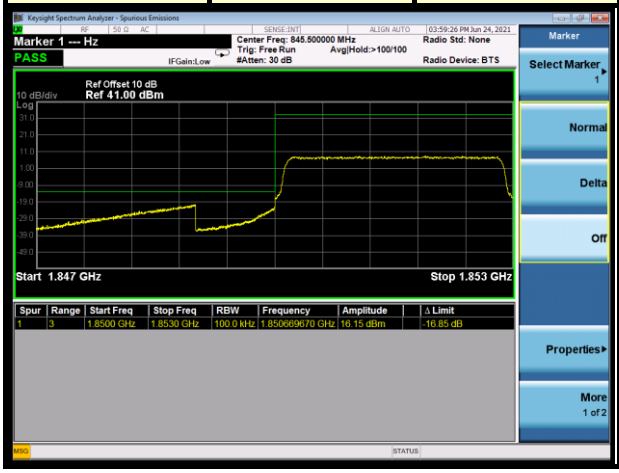
CHANNEL	18615	1 RB



CHANNEL	19185	1 RB



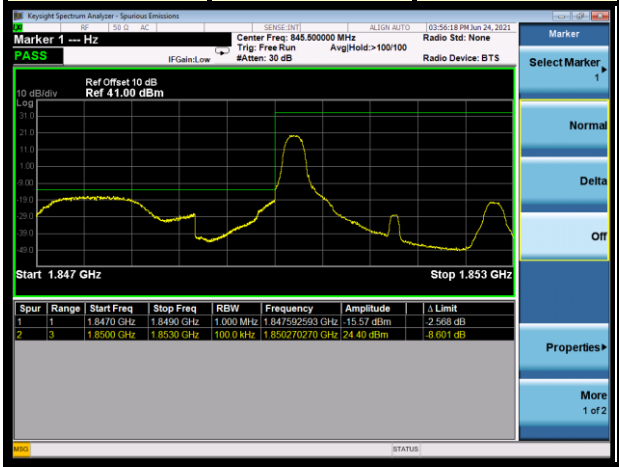
CHANNEL	18615	Full RB



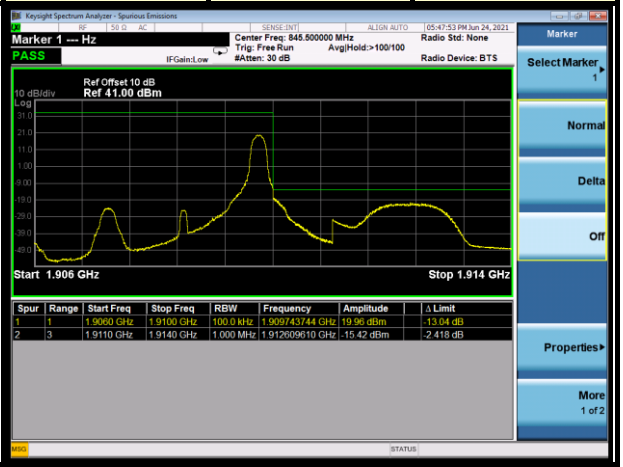
CHANNEL	19185	Full RB

Channel Bandwidth: 3MHz 16QAM

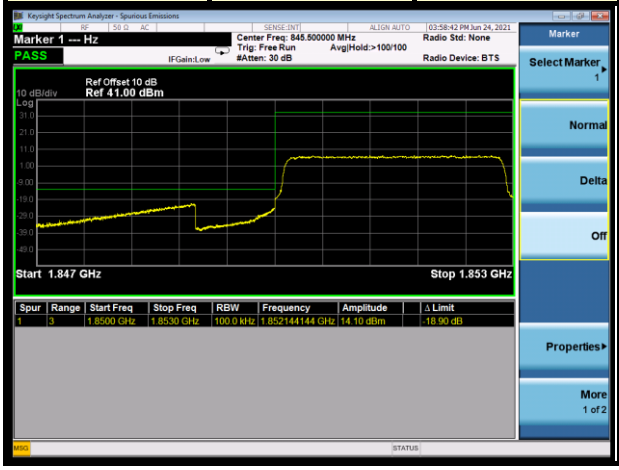
CHANNEL	18615	1 RB



CHANNEL	19185	1 RB



CHANNEL	18615	Full RB



CHANNEL	19185	Full RB