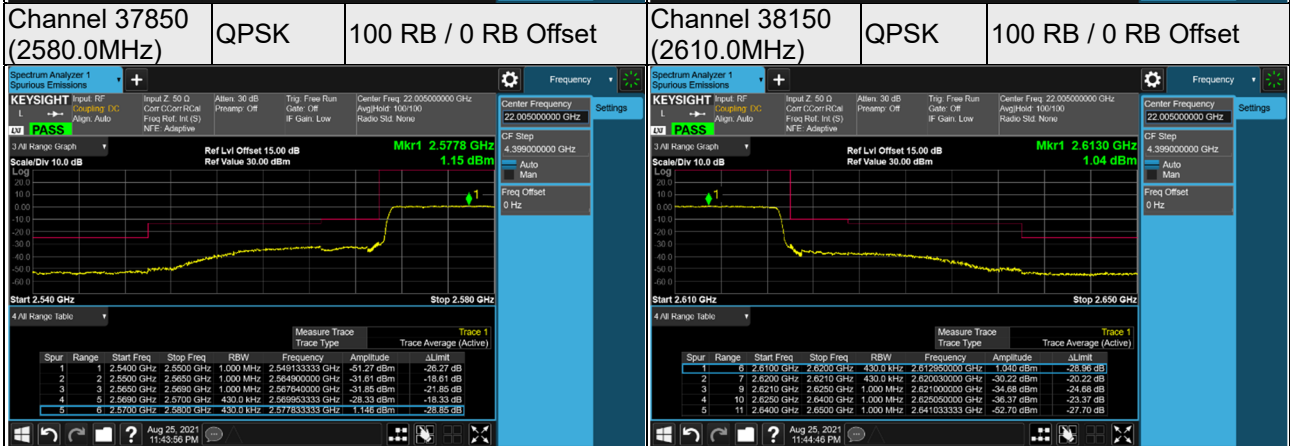
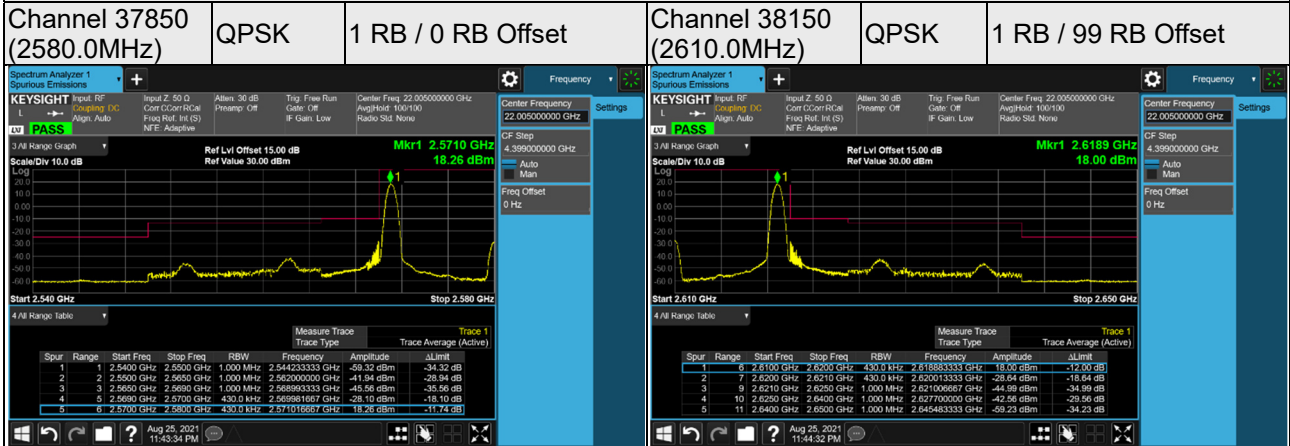


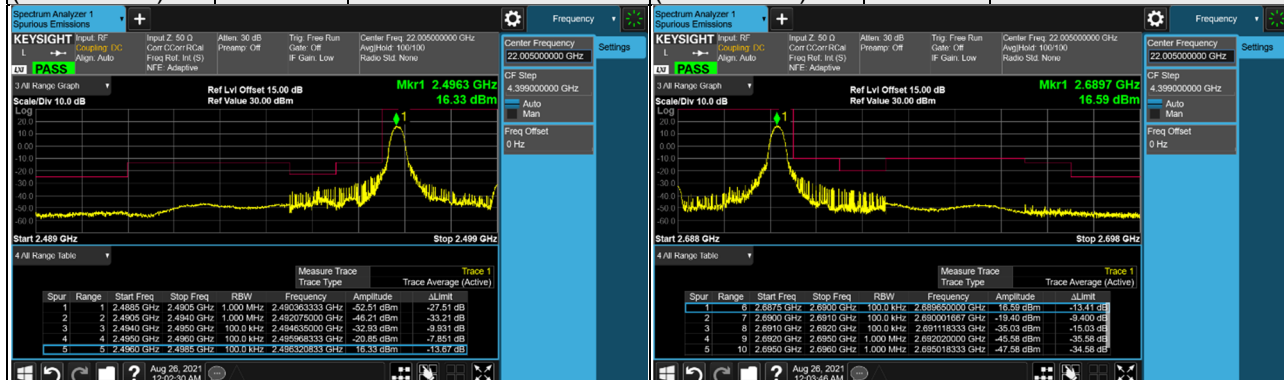
LTE Band 38, Channel Bandwidth 20MHz



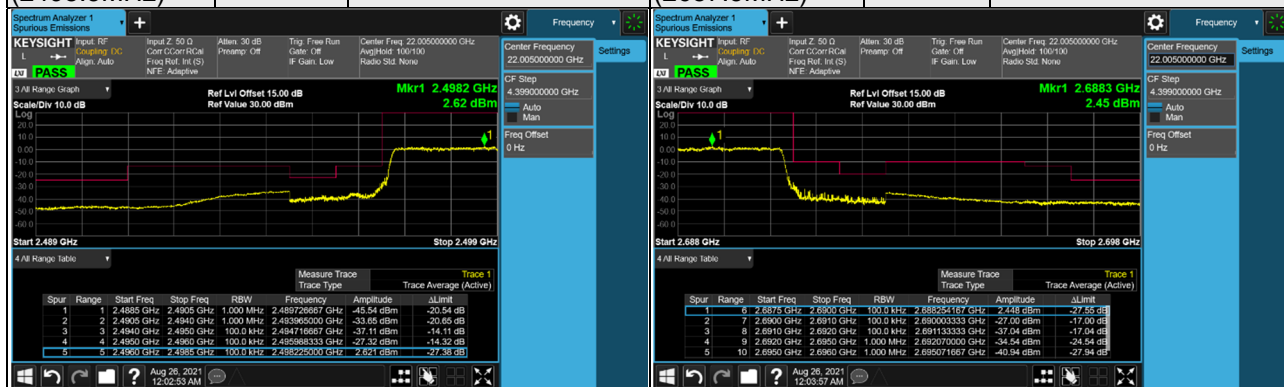
Out-of-Band Emission

LTE Band 41, Channel Bandwidth 5MHz

Channel 39675 (2498.5MHz) QPSK 1 RB / 0 RB Offset Channel 41565 (2687.5MHz) QPSK 1 RB / 24 RB Offset



Channel 39675 (2498.5MHz) QPSK 25 RB / 0 RB Offset Channel 41565 (2687.5MHz) QPSK 25 RB / 0 RB Offset



LTE Band 41, Channel Bandwidth 10MHz

Channel 39700
(2501.0MHz)

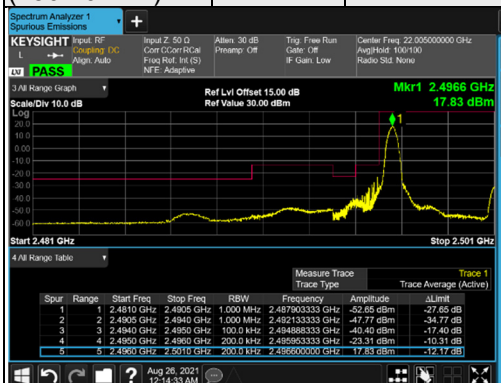
QPSK

1 RB / 0 RB Offset

Channel 41540
(2685.0MHz)

QPSK

1 RB / 49 RB Offset



Channel 39700
(2501.0MHz)

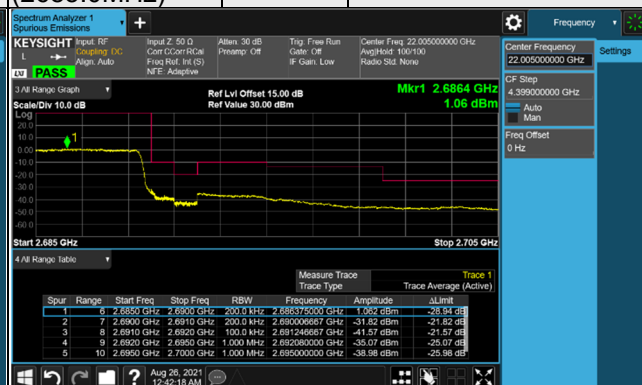
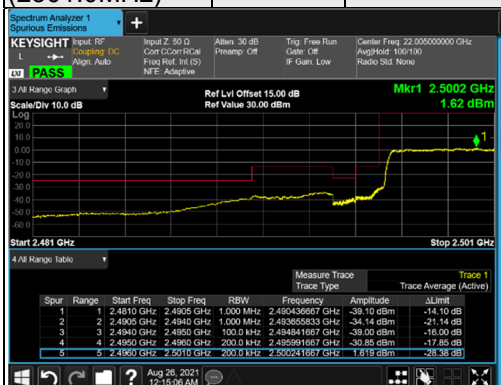
QPSK

50 RB / 0 RB Offset

Channel 41540
(2685.0MHz)

QPSK

50 RB / 0 RB Offset



LTE Band 41, Channel Bandwidth 15MHz

Channel 39725
(2503.5MHz)

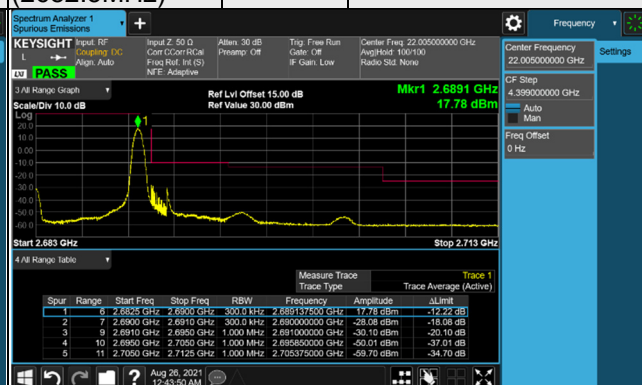
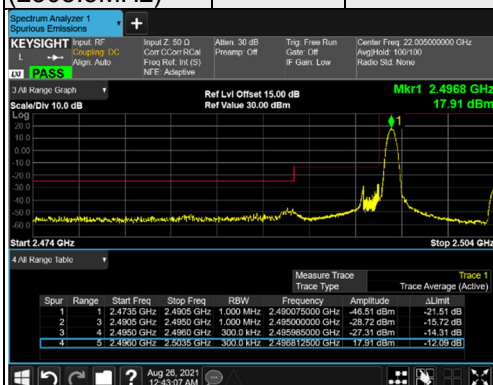
QPSK

1 RB / 0 RB Offset

Channel 41515
(2682.5MHz)

QPSK

1 RB / 74 RB Offset



Channel 39725
(2503.5MHz)

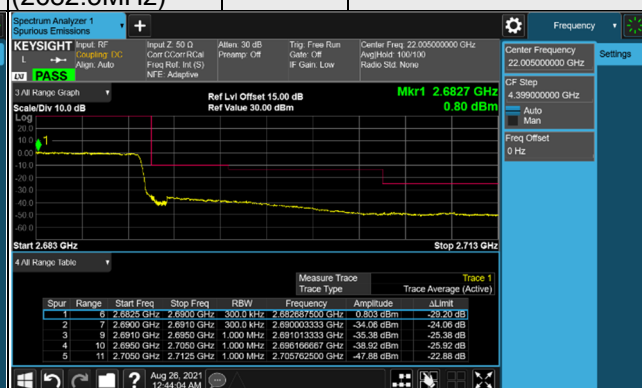
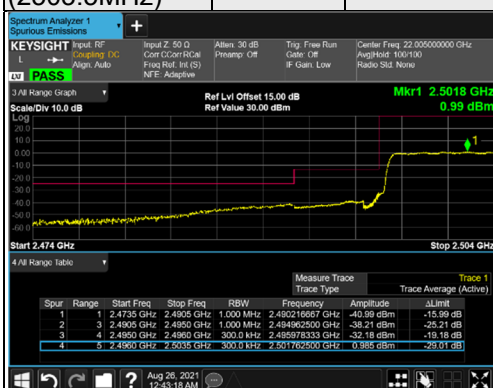
QPSK

75 RB / 0 RB Offset

Channel 41515
(2682.5MHz)

QPSK

75 RB / 0 RB Offset



LTE Band 41, Channel Bandwidth 20MHz

Channel 39750
(2506.0MHz)

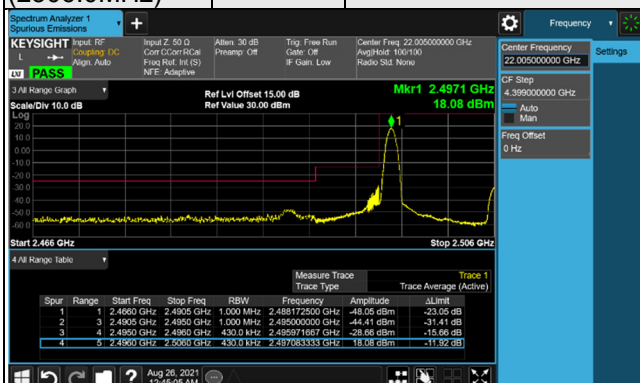
QPSK

1 RB / 0 RB Offset

Channel 41490
(2680.0MHz)

QPSK

1 RB / 99 RB Offset



Channel 39750
(2506.0MHz)

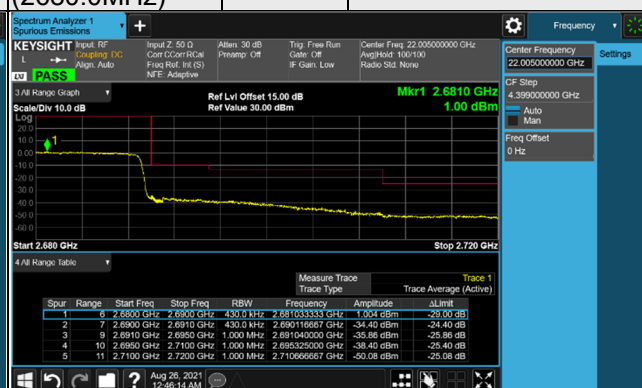
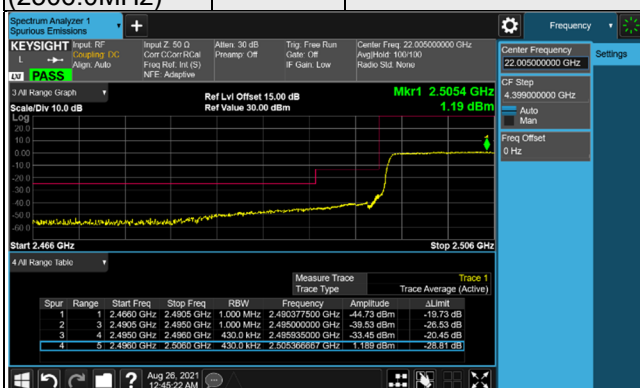
QPSK

100 RB / 0 RB Offset

Channel 41490
(2680.0MHz)

QPSK

100 RB / 0 RB Offset

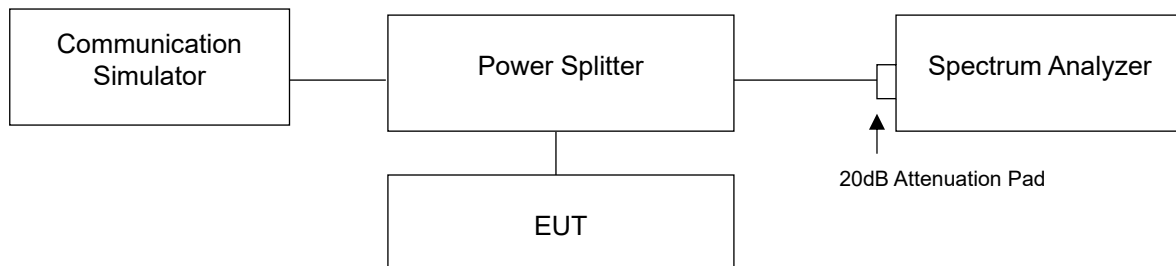


4.6 Peak to Average Ratio

4.6.1 Limits of Peak to Average Ratio Measurement

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

4.6.2 Test Setup

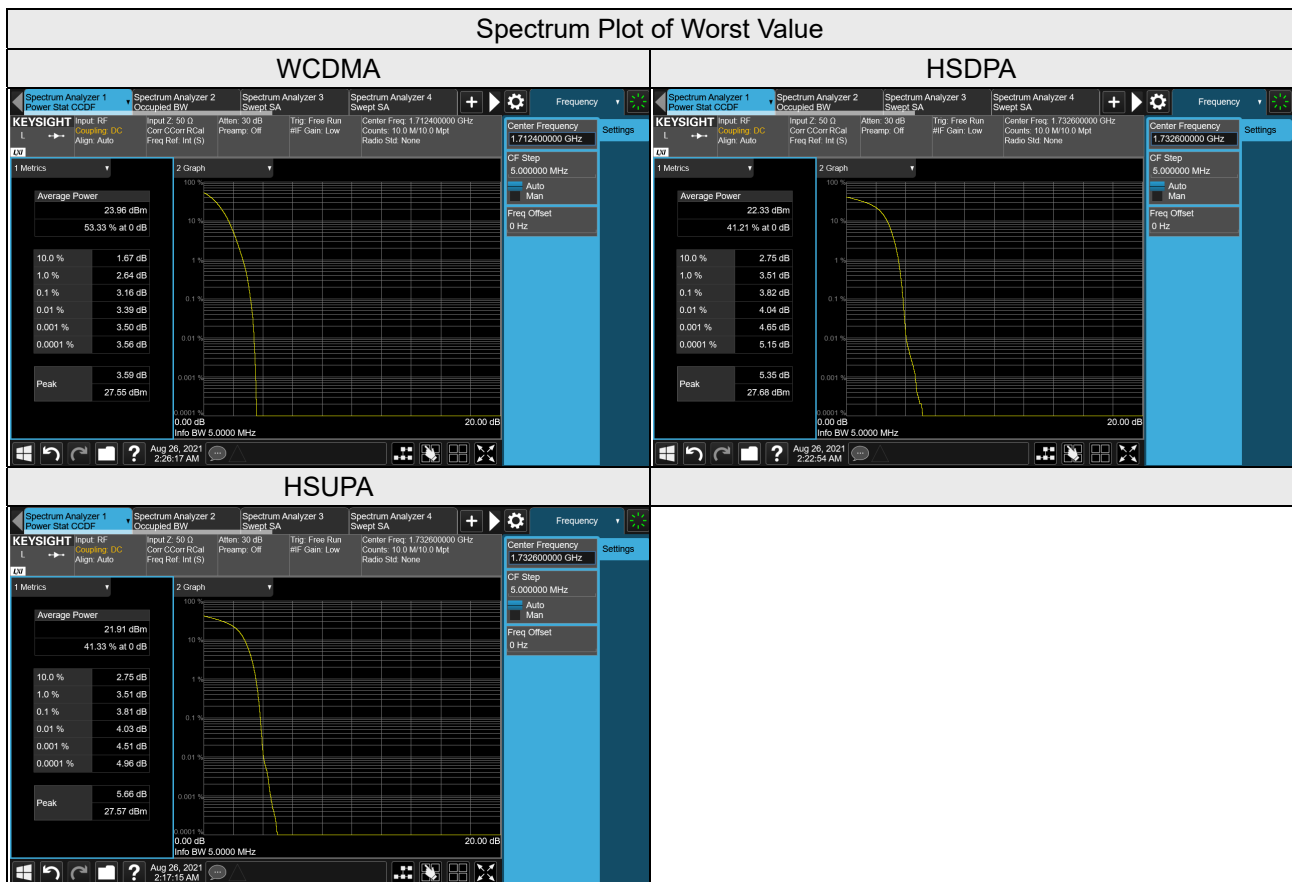


4.6.3 Test Procedures

- Set resolution/measurement bandwidth \geq signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Record the maximum PAPR level associated with a probability of 0.1%.

4.6.4 Test Results

Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		WCDMA	HSDPA	HSUPA
1312	1712.4	3.16	3.72	3.74
1413	1732.6	3.09	3.82	3.81
1513	1752.6	3.07	3.80	3.81



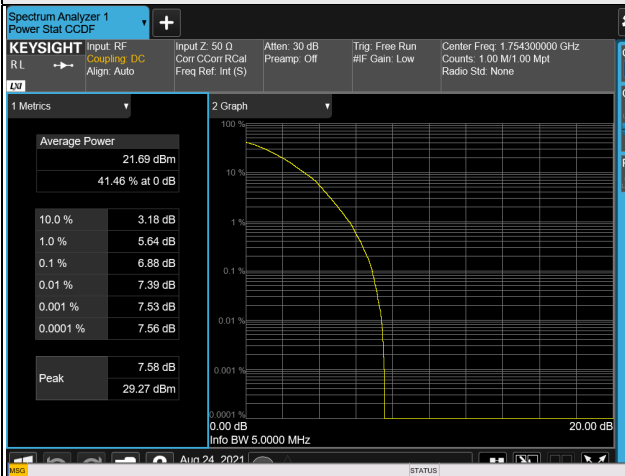
LTE Band 4, Channel Bandwidth 1.4MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
19957	1710.7	3.99	5.24	6.21
20175	1732.5	3.99	5.65	6.83
20393	1754.3	4.00	5.59	6.88
LTE Band 4, Channel Bandwidth 3MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
19965	1711.5	3.83	5.13	6.24
20175	1732.5	3.81	5.49	6.93
20385	1753.5	3.81	5.57	6.95
LTE Band 4, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
19975	1712.5	3.80	5.13	6.17
20175	1732.5	3.74	5.42	6.90
20375	1752.5	3.83	5.55	6.90
LTE Band 4, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20000	1715.0	3.73	5.14	6.16
20175	1732.5	3.69	5.36	6.89
20350	1750.0	3.77	5.37	6.59
LTE Band 4, Channel Bandwidth 15MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20025	1717.5	3.68	5.19	6.28
20175	1732.5	3.69	5.43	6.82
20325	1747.5	3.71	5.54	6.94

LTE Band 4, Channel Bandwidth 20MHz

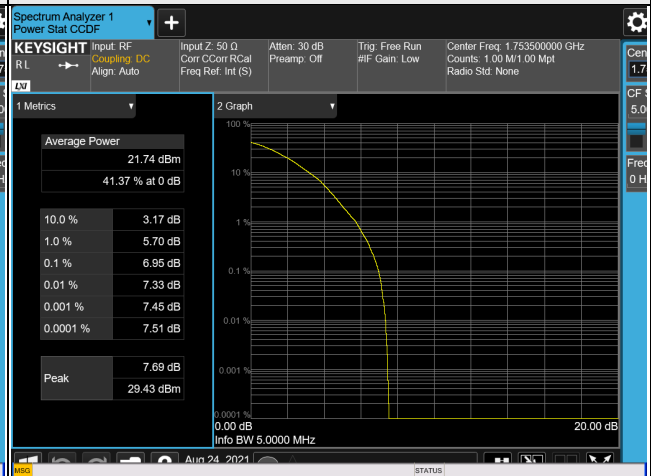
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20050	1720.0	3.68	5.26	6.41
20175	1732.5	3.68	5.42	6.78
20300	1745.0	3.70	5.32	6.96

Spectrum Plot of Worst Value

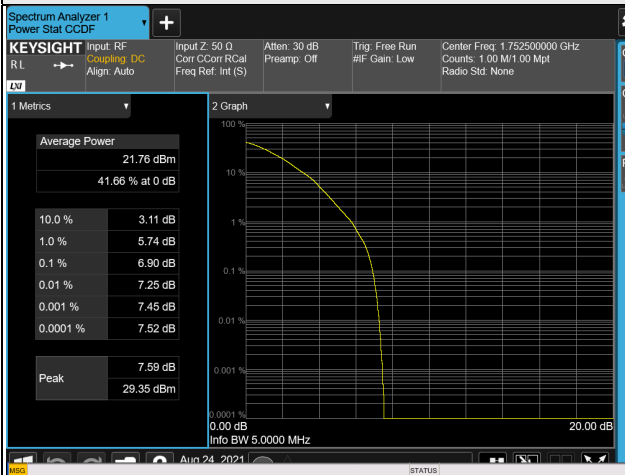
1.4MHz / 64QAM



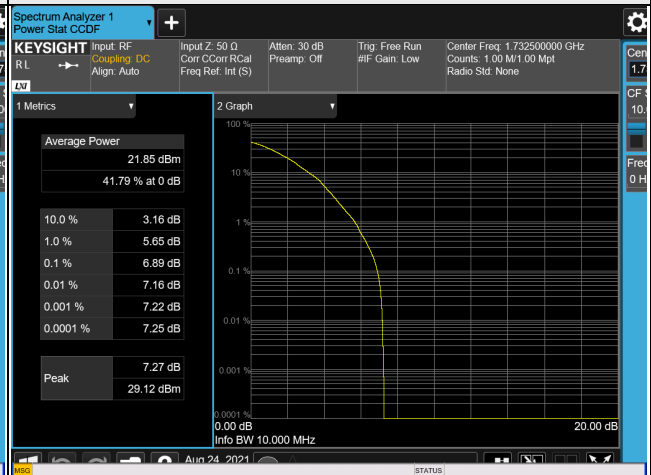
3MHz / 64QAM



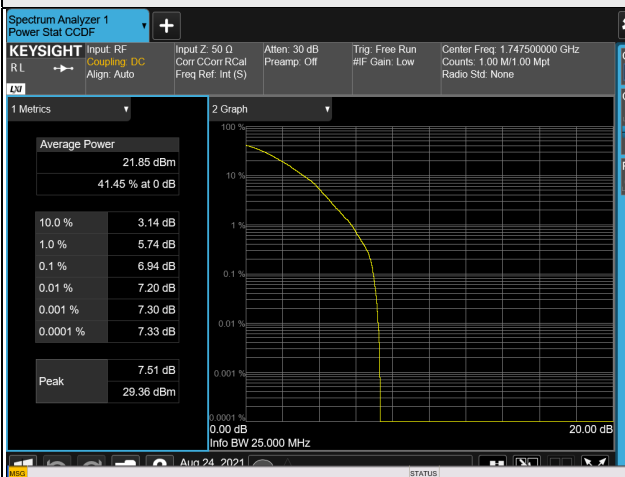
5MHz / 64QAM



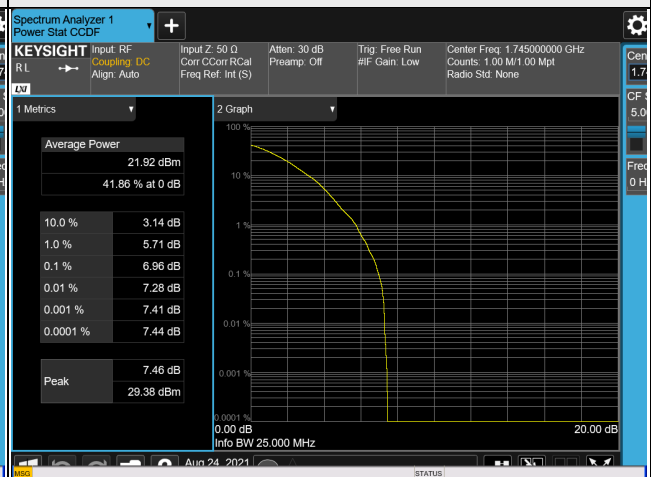
10MHz / 64QAM



15MHz / 64QAM



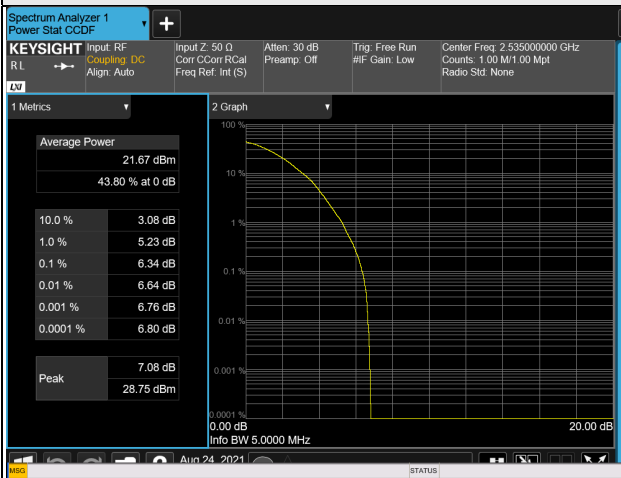
20MHz / 64QAM



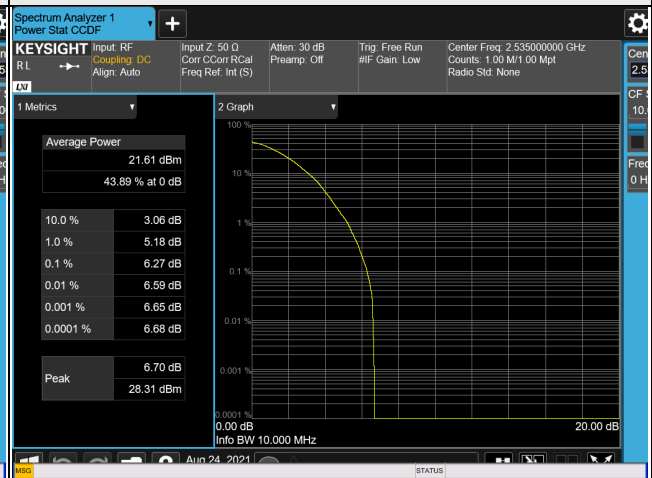
LTE Band 7, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20775	2502.5	3.28	4.84	6.19
21100	2535.0	3.24	4.80	6.34
21425	2567.5	2.86	4.18	5.62
LTE Band 7, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20800	2505.0	3.24	4.85	6.21
21100	2535.0	3.16	4.75	6.27
21400	2565.0	2.94	4.30	5.82
LTE Band 7, Channel Bandwidth 15MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20825	2507.5	3.24	4.79	6.18
21100	2535.0	3.14	4.78	6.17
21375	2562.5	3.35	4.49	5.96
LTE Band 7, Channel Bandwidth 20MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
20850	2510.0	3.23	4.84	6.01
21100	2535.0	3.17	4.71	6.16
21350	2560.0	3.20	4.84	6.25

Spectrum Plot of Worst Value

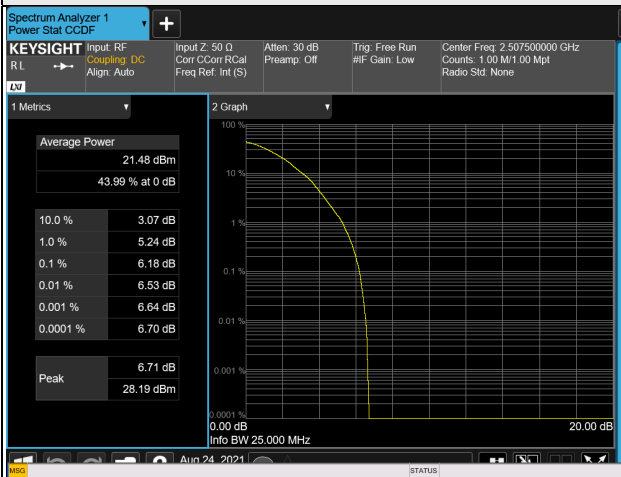
5MHz / 64QAM



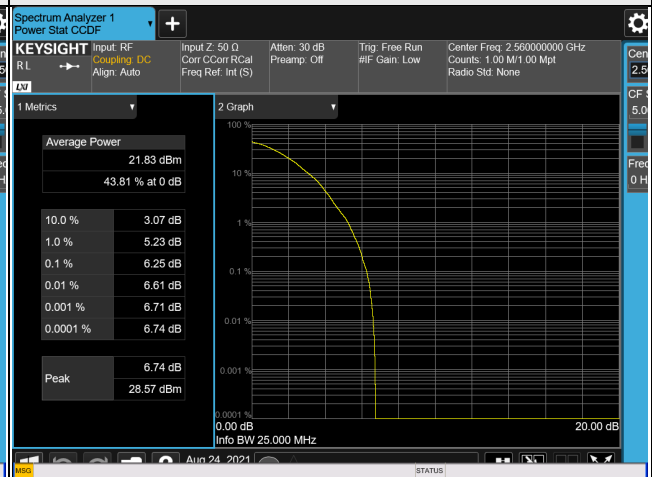
10MHz / 64QAM



15MHz / 64QAM



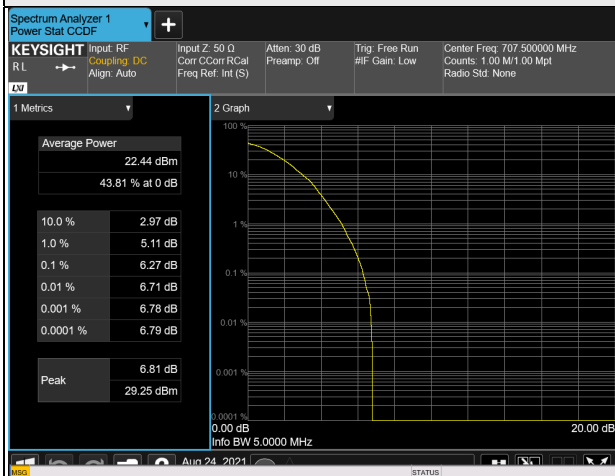
20MHz / 64QAM



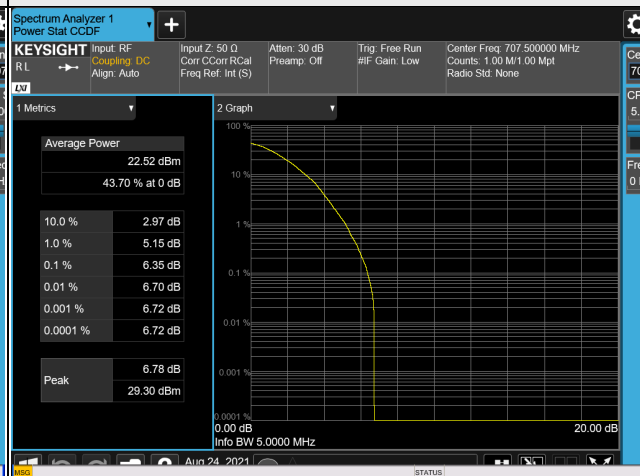
LTE Band 12, Channel Bandwidth 1.4MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
23017	699.7	3.39	4.49	5.49
23095	707.5	3.50	5.03	6.27
23173	715.3	3.49	4.72	5.67
LTE Band 12, Channel Bandwidth 3MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
23025	700.5	3.25	4.40	5.47
23095	707.5	3.32	4.91	6.35
23165	714.5	3.27	4.45	5.39
LTE Band 12, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
23035	701.5	3.24	4.40	5.42
23095	707.5	3.34	4.98	6.37
23155	713.5	3.34	4.68	5.77
LTE Band 12, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
23060	704.0	3.23	4.40	5.37
23095	707.5	3.27	4.80	5.95
23130	711.0	3.24	4.87	6.25

Spectrum Plot of Worst Value

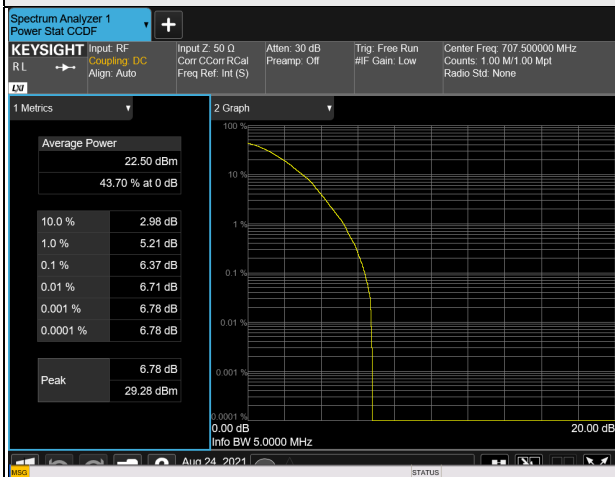
1.4MHz / 64QAM



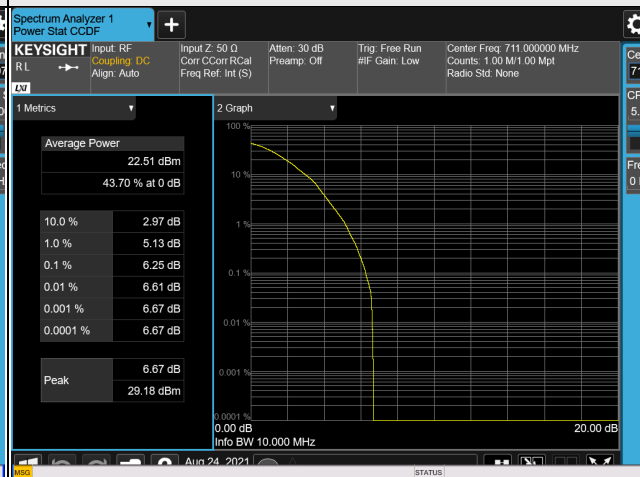
3MHz / 64QAM



5MHz / 64QAM



10MHz / 64QAM



LTE Band 13, Channel Bandwidth 5MHz

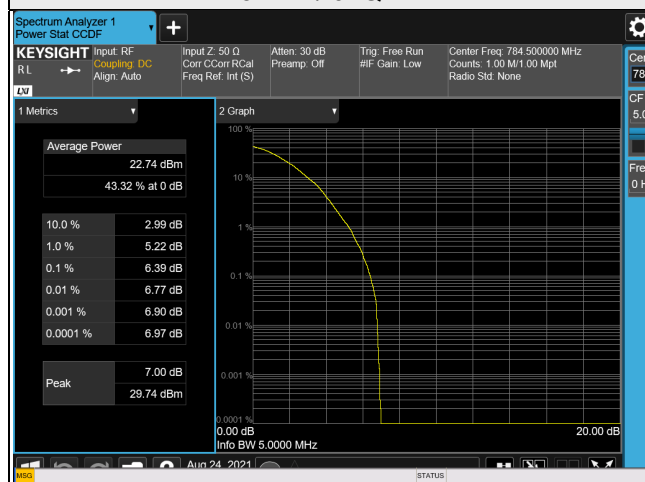
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
23205	779.5	3.11	4.43	5.61
23230	782.0	3.32	4.88	6.27
23255	784.5	3.30	4.87	6.39

LTE Band 13, Channel Bandwidth 10MHz

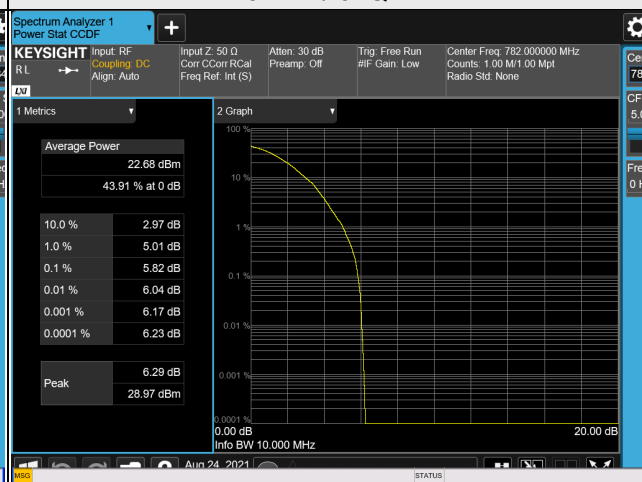
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
23230	782.0	3.16	4.55	5.82

Spectrum Plot of Worst Value

5MHz / 64QAM



10MHz / 64QAM



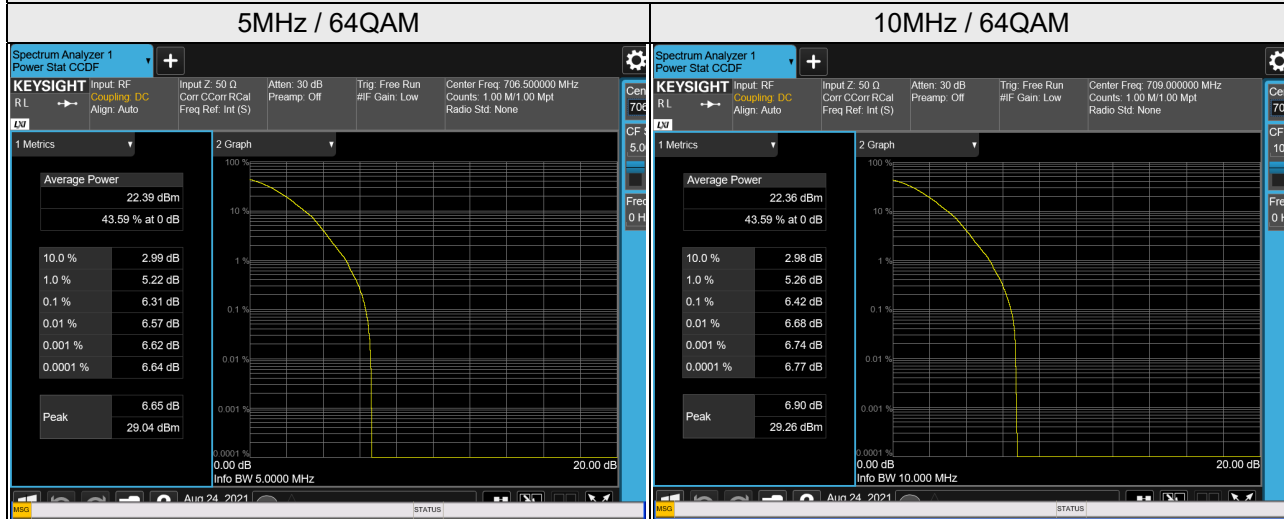
LTE Band 17, Channel Bandwidth 5MHz

Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
23755	706.5	3.38	5.04	6.31
23790	710.0	3.31	4.84	6.29
23825	713.5	3.38	4.68	5.79

LTE Band 17, Channel Bandwidth 10MHz

Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
23780	709.0	3.33	5.01	6.42
23790	710.0	3.30	4.98	6.41
23800	711.0	3.26	4.93	6.34

Spectrum Plot of Worst Value



LTE Band 38, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
37775	2572.5	7.41	9.21	9.73
38000	2595.0	7.50	8.86	9.92
38225	2617.5	7.57	9.54	10.36
LTE Band 38, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
37800	2575.0	7.30	8.41	9.24
38000	2595.0	7.66	8.28	9.96
38200	2615.0	7.30	9.12	9.86
LTE Band 38, Channel Bandwidth 15MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
37825	2577.5	6.80	9.20	9.51
38000	2595.0	7.70	10.28	10.58
38175	2612.5	7.10	9.19	9.31
LTE Band 38, Channel Bandwidth 20MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
37850	2580.0	8.58	9.09	9.52
38000	2595.0	9.19	9.08	9.43
38150	2610.0	6.78	9.33	10.96