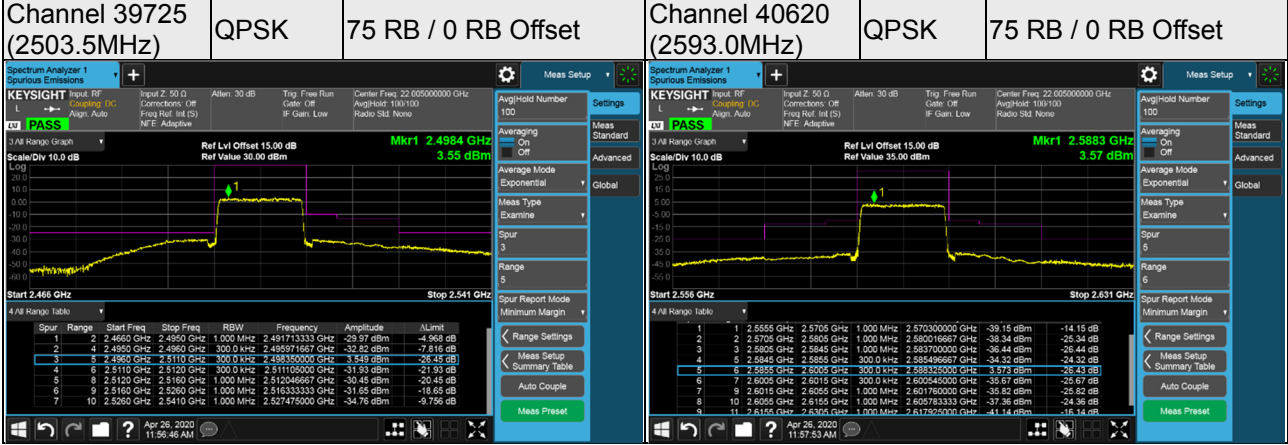
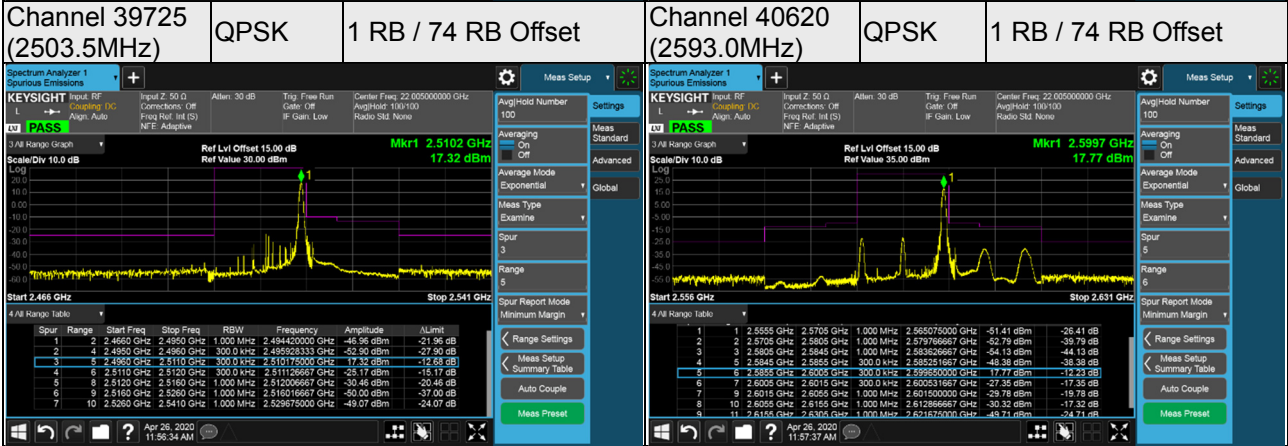
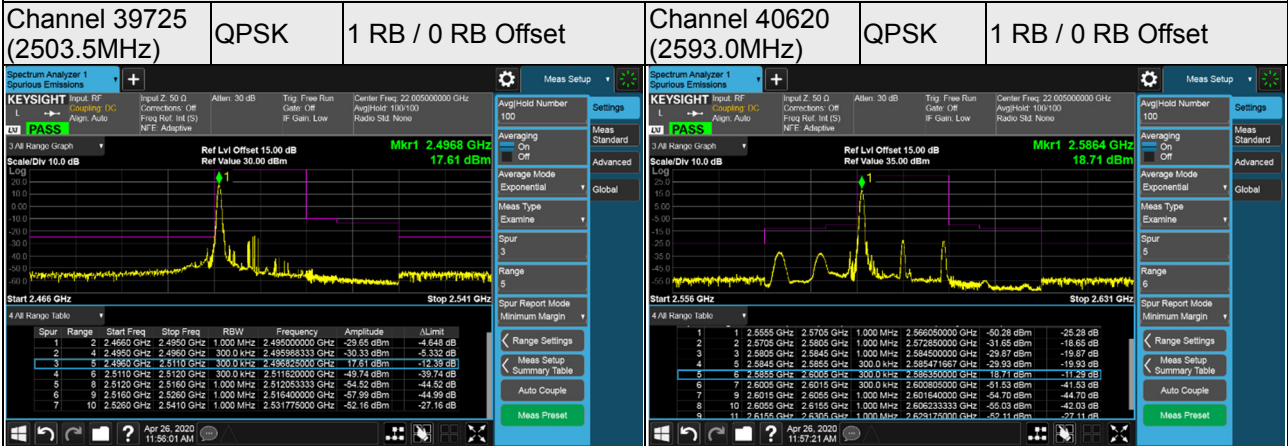


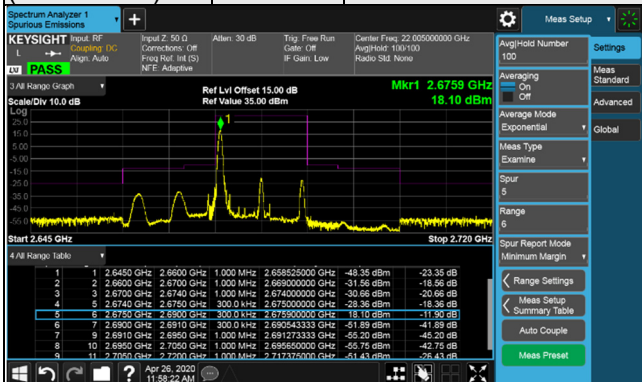
LTE Band 41

Channel Bandwidth: 15MHz

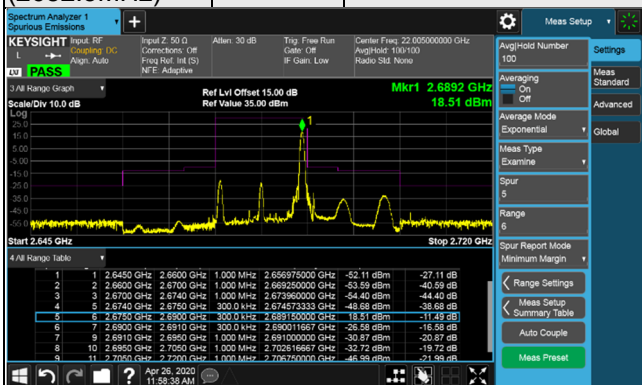


Channel Bandwidth: 15MHz

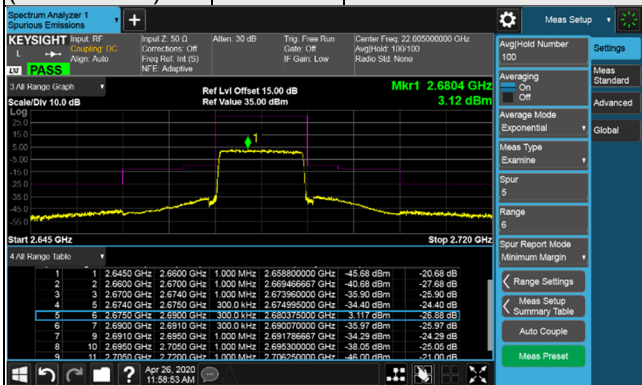
Channel 41515 (2682.5MHz) QPSK 1 RB / 0 RB Offset



Channel 41515 (2682.5MHz) QPSK 1 RB / 74 RB Offset



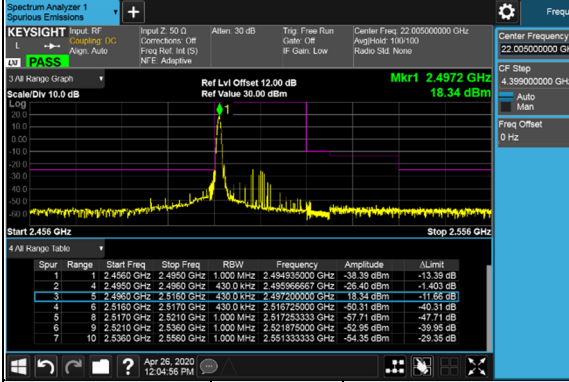
Channel 41515 (2682.5MHz) QPSK 75 RB / 0 RB Offset



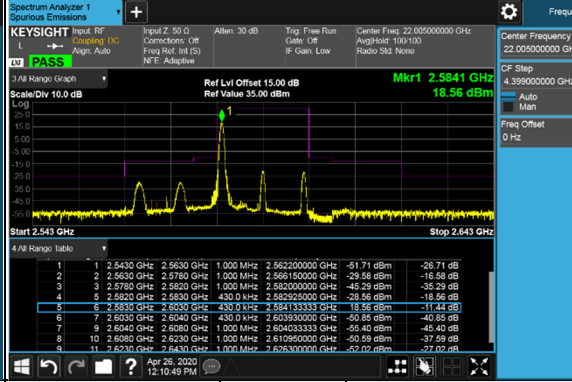
LTE Band 41

Channel Bandwidth: 20MHz

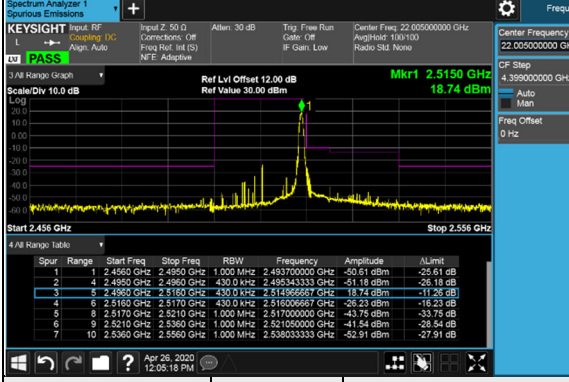
Channel 39750 (2506.0MHz) QPSK 1 RB / 0 RB Offset



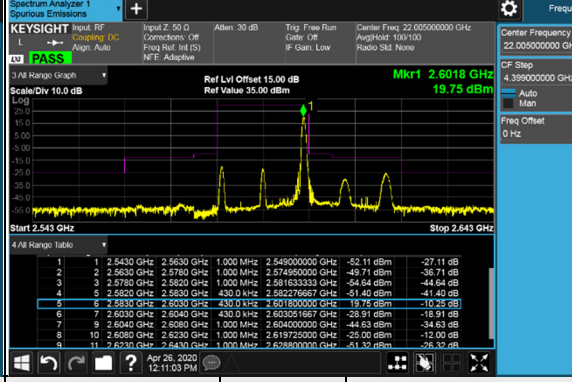
Channel 40620 (2593.0MHz) QPSK 1 RB / 0 RB Offset



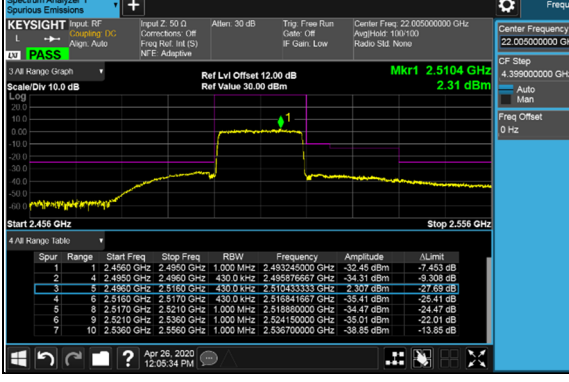
Channel 39750 (2506.0MHz) QPSK 1 RB / 99 RB Offset



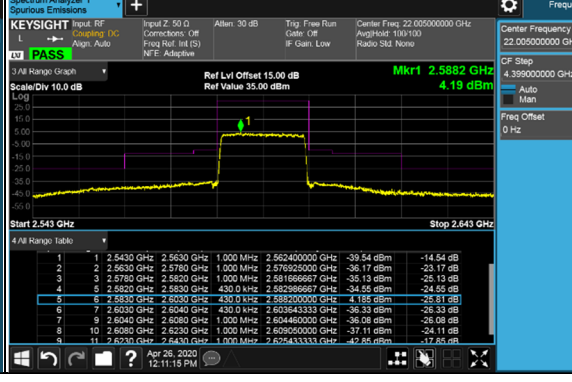
Channel 40620 (2593.0MHz) QPSK 1 RB / 99 RB Offset



Channel 39750 (2506.0MHz) QPSK 100 RB / 0 RB Offset



Channel 40620 (2593.0MHz) QPSK 100 RB / 0 RB Offset

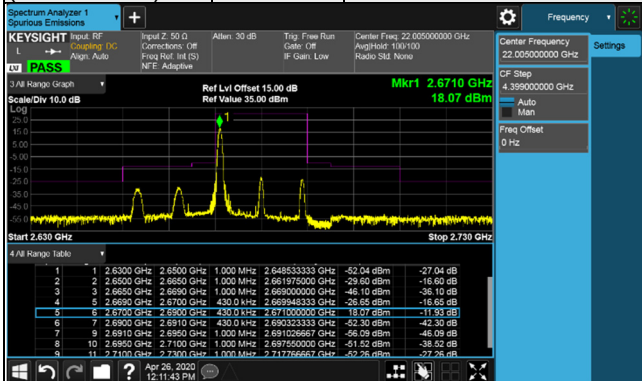


Channel Bandwidth: 20MHz

Channel 41490  
(2680.0MHz)

QPSK

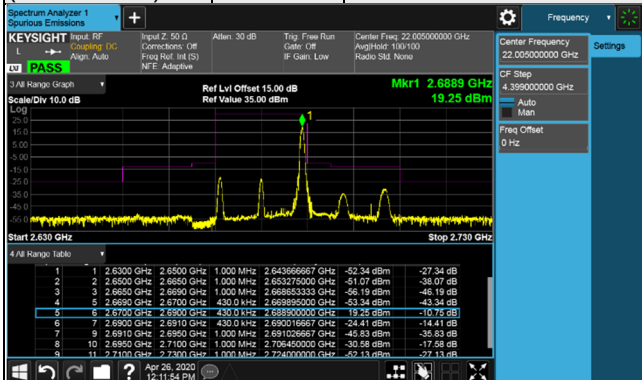
1 RB / 0 RB Offset



Channel 41490  
(2680.0MHz)

QPSK

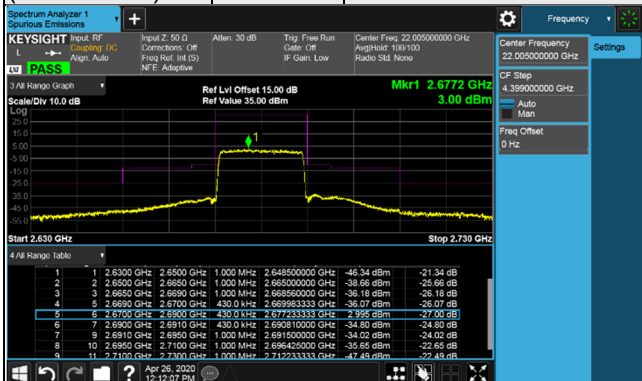
1 RB / 99 RB Offset



Channel 41490  
(2680.0MHz)

QPSK

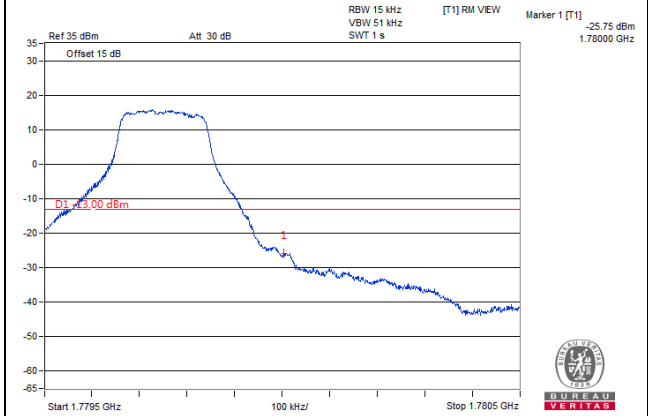
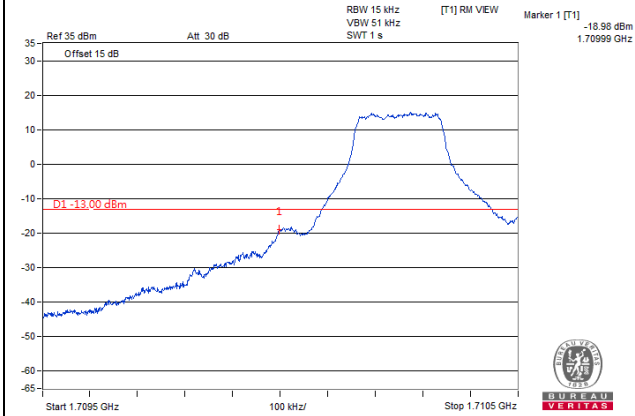
100 RB / 0 RB Offset



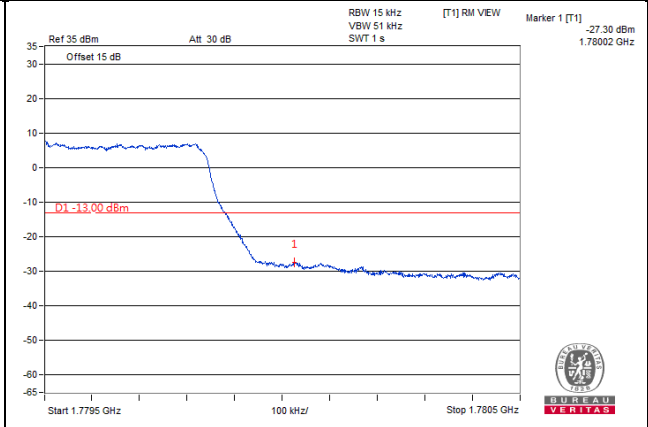
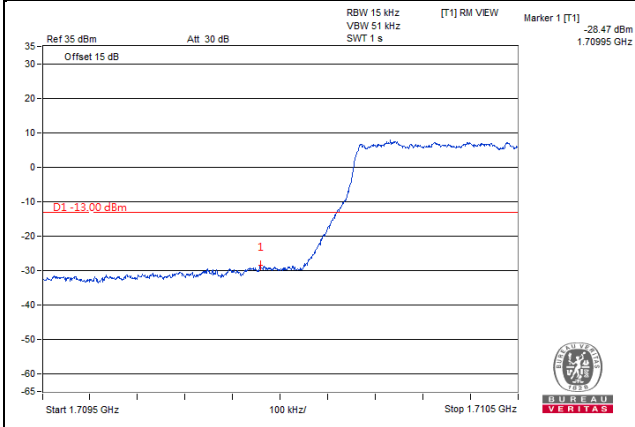
LTE Band 66

Channel Bandwidth: 1.4MHz

Channel 131979 (1710.7MHz)	QPSK	1 RB / 0 RB Offset	Channel 132665 (1779.3MHz)	QPSK	1 RB / 5 RB Offset
-------------------------------	------	--------------------	-------------------------------	------	--------------------

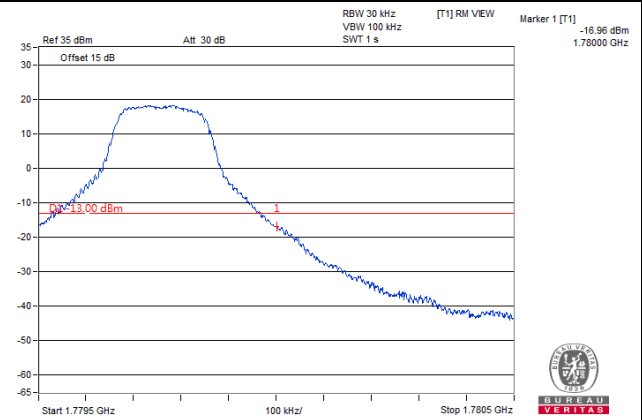
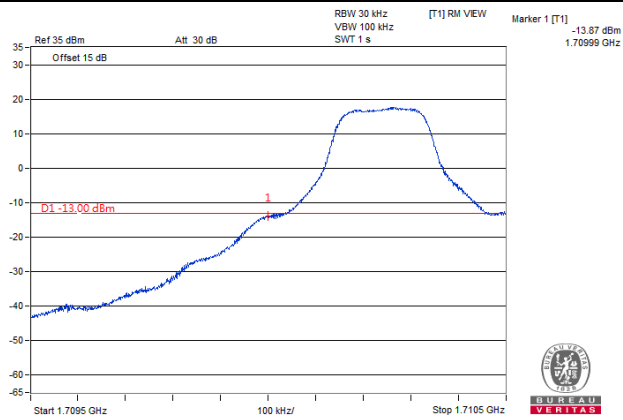


Channel 131979 (1710.7MHz)	QPSK	6 RB / 0 RB Offset	Channel 132665 (1779.3MHz)	QPSK	6 RB / 0 RB Offset
-------------------------------	------	--------------------	-------------------------------	------	--------------------

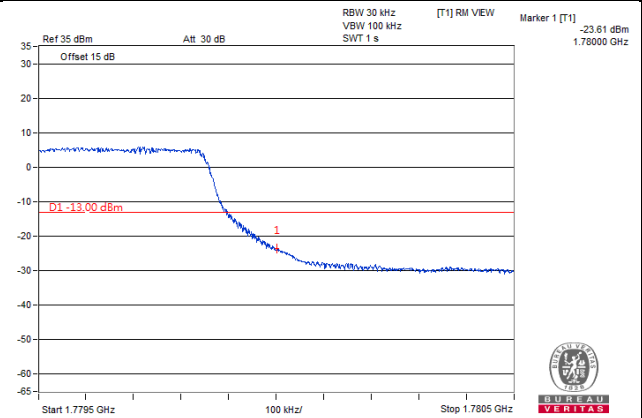
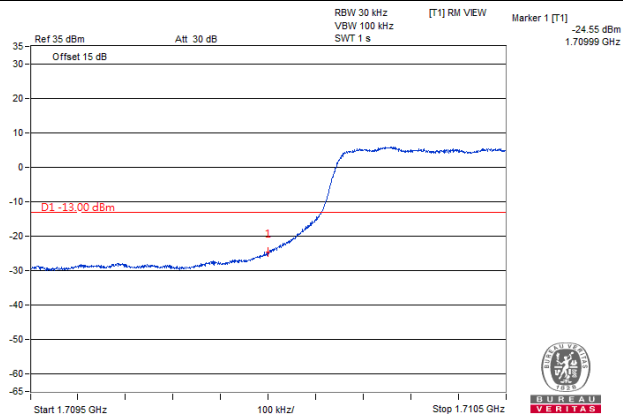


Channel Bandwidth: 3MHz

Channel 131987 (1711.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 132657 (1778.5MHz)	QPSK	1 RB / 14 RB Offset
-------------------------------	------	--------------------	-------------------------------	------	---------------------

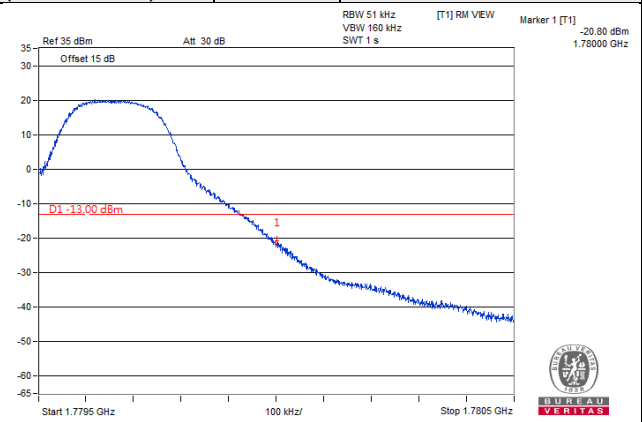
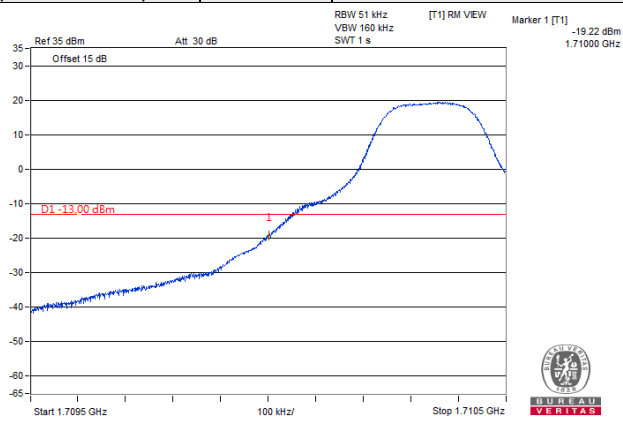


Channel 131987 (1711.5MHz)	QPSK	15 RB / 0 RB Offset	Channel 132657 (1778.5MHz)	QPSK	15 RB / 0 RB Offset
-------------------------------	------	---------------------	-------------------------------	------	---------------------

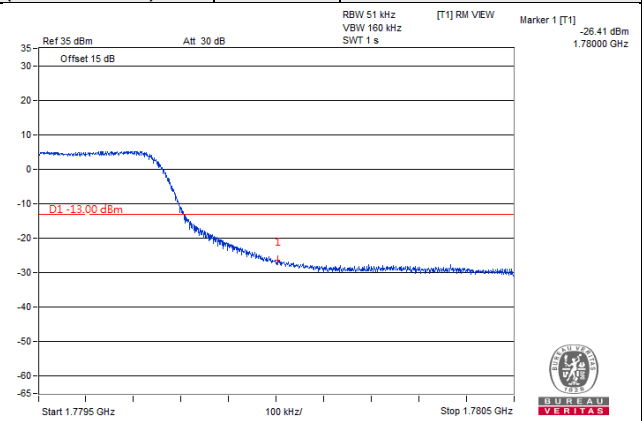
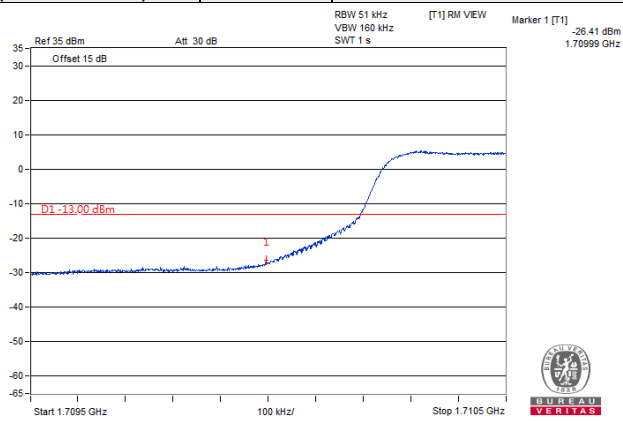


**Channel Bandwidth: 5MHz**

<b>Channel 131997 (1712.5MHz)</b>	<b>QPSK</b>	<b>1 RB / 0 RB Offset</b>	<b>Channel 132647 (1777.5MHz)</b>	<b>QPSK</b>	<b>1 RB / 24 RB Offset</b>
---------------------------------------	-------------	---------------------------	---------------------------------------	-------------	----------------------------

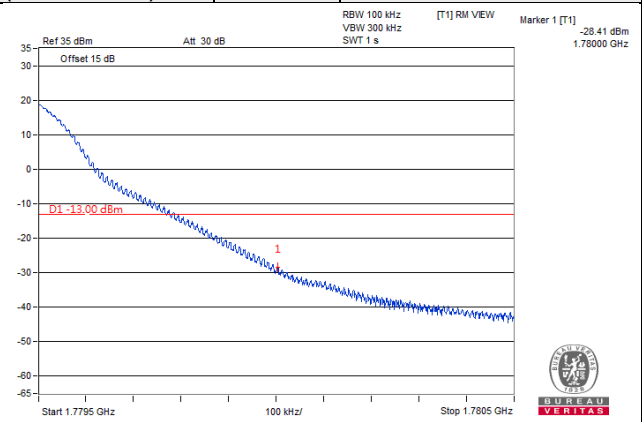
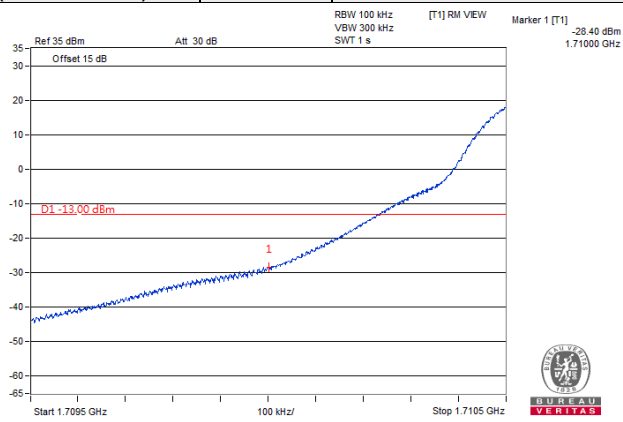


<b>Channel 131997 (1712.5MHz)</b>	<b>QPSK</b>	<b>25 RB / 0 RB Offset</b>	<b>Channel 132647 (1777.5MHz)</b>	<b>QPSK</b>	<b>25 RB / 0 RB Offset</b>
---------------------------------------	-------------	----------------------------	---------------------------------------	-------------	----------------------------

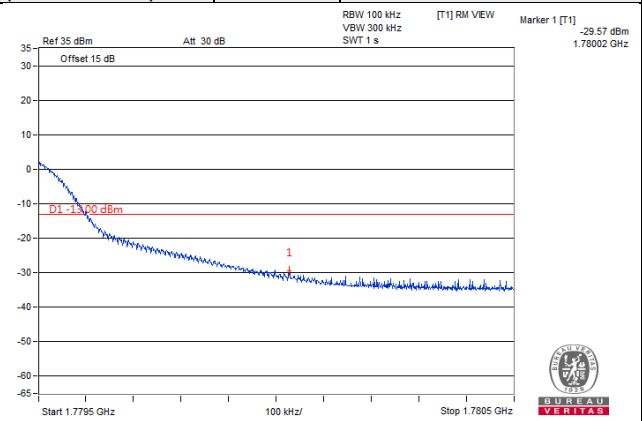
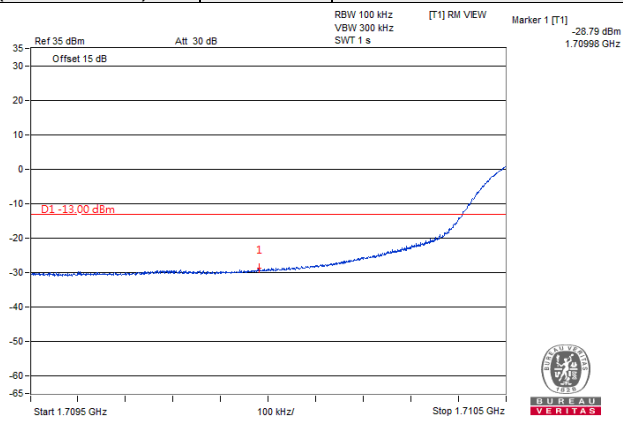


Channel Bandwidth: 10MHz

Channel 132022 (1715.0MHz)	QPSK	1 RB / 0 RB Offset	Channel 132622 (1775.0MHz)	QPSK	1 RB / 49 RB Offset
-------------------------------	------	--------------------	-------------------------------	------	---------------------



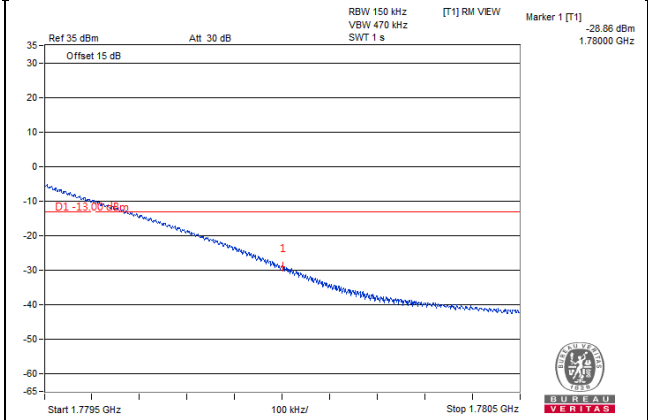
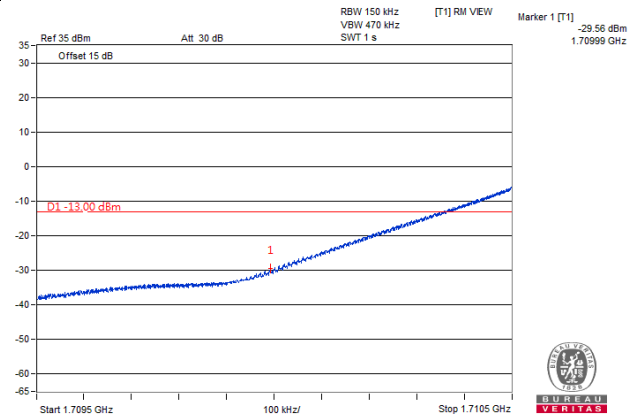
Channel 132022 (1715.0MHz)	QPSK	50 RB / 0 RB Offset	Channel 132622 (1775.0MHz)	QPSK	50 RB / 0 RB Offset
-------------------------------	------	---------------------	-------------------------------	------	---------------------



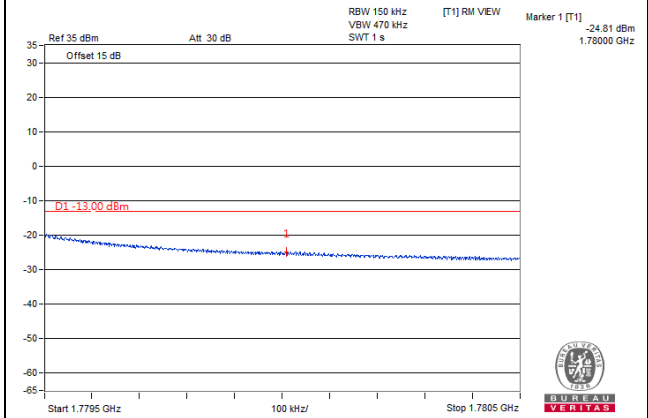
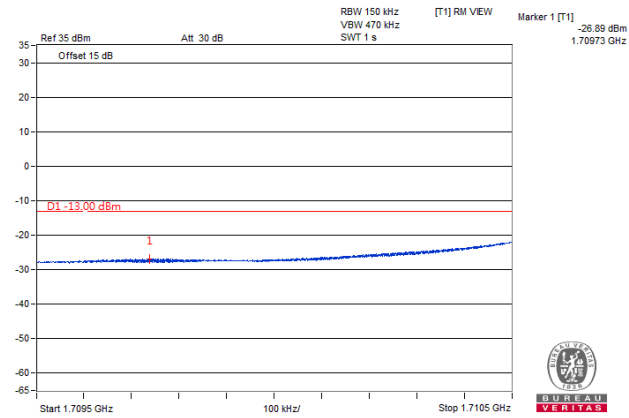


Channel Bandwidth: 15MHz

Channel 132047 (1717.5MHz)	QPSK	1 RB / 0 RB Offset	Channel 132597 (1772.5MHz)	QPSK	1 RB / 74 RB Offset
-------------------------------	------	--------------------	-------------------------------	------	---------------------

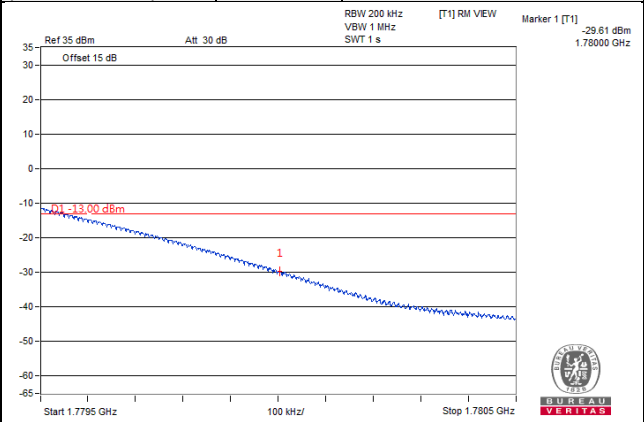
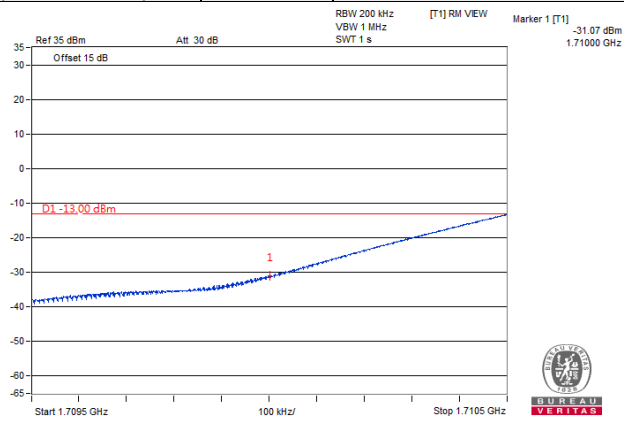


Channel 132047 (1717.5MHz)	QPSK	75 RB / 0 RB Offset	Channel 132597 (1772.5MHz)	QPSK	75 RB / 0 RB Offset
-------------------------------	------	---------------------	-------------------------------	------	---------------------

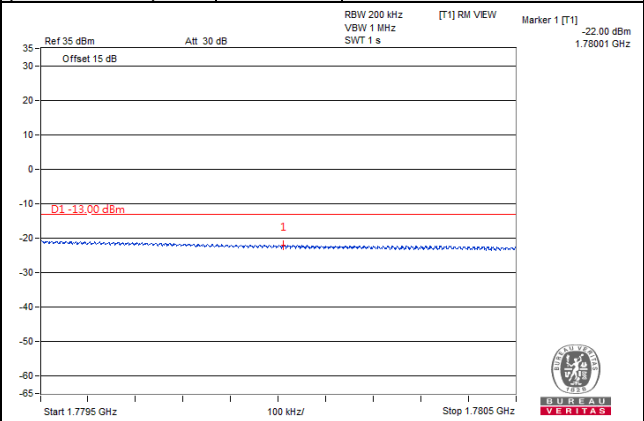
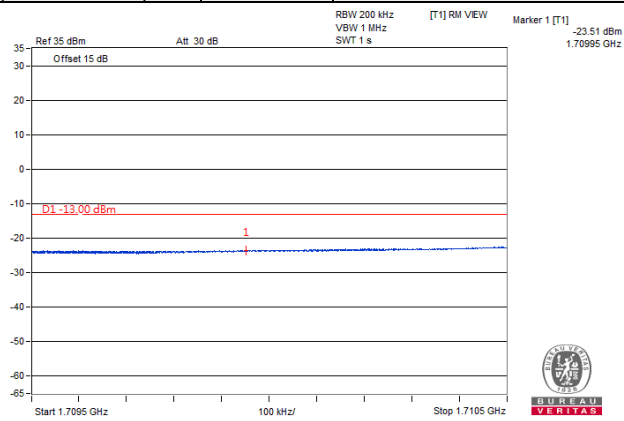


Channel Bandwidth: 20MHz

Channel 132072 (1720.0MHz)	QPSK	1 RB / 0 RB Offset	Channel 132572 (1770.0MHz)	QPSK	1 RB / 99 RB Offset
-------------------------------	------	--------------------	-------------------------------	------	---------------------



Channel 132072 (1720.0MHz)	QPSK	100 RB / 0 RB Offset	Channel 132572 (1770.0MHz)	QPSK	100 RB / 0 RB Offset
-------------------------------	------	----------------------	-------------------------------	------	----------------------

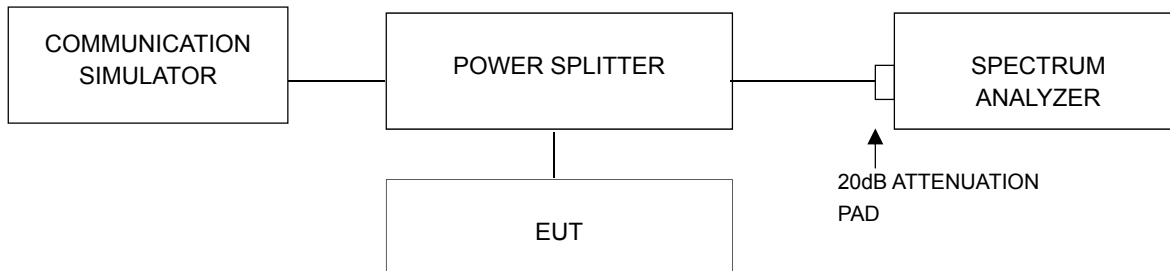


## 4.6 Peak to Average Ratio

### 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

n41

n41, Channel Bandwidth 20MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
501204	2506.02	4.40	5.02	6.18	6.13	8.52
518598	2592.99	4.89	5.76	6.49	6.51	8.36
535998	2679.99	4.32	6.03	6.78	6.66	8.44
n41, Channel Bandwidth 40MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
503202	2516.01	4.34	6.68	6.63	6.91	8.46
518598	2592.99	4.92	6.80	6.81	7.18	8.65
534000	2670.00	4.43	6.73	6.79	7.29	8.43
n41, Channel Bandwidth 50MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
504204	2521.02	4.57	5.45	5.53	5.70	8.34
518598	2592.99	4.94	6.46	6.96	7.35	8.48
532998	2664.99	5.12	6.39	6.82	7.24	8.60
n41, Channel Bandwidth 60MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
505200	2526.00	4.66	6.99	7.05	7.44	8.59
518598	2592.99	4.83	6.68	6.70	7.10	8.76
531996	2659.98	4.90	6.67	6.68	7.10	8.51
n41, Channel Bandwidth 80MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
507204	2536.02	6.28	7.24	7.22	7.67	8.38
518598	2592.99	6.83	7.03	6.99	7.50	8.67
529998	2649.99	5.55	6.71	6.70	7.21	8.58

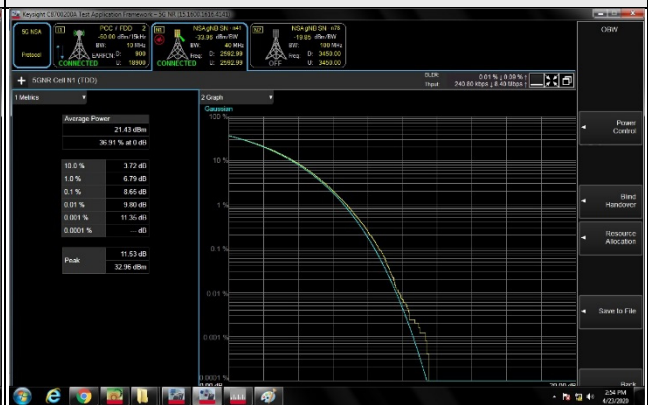
n41, Channel Bandwidth 90MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
508200	2541.00	5.01	7.25	7.35	7.60	8.40
518598	2592.99	4.86	7.07	7.07	7.38	8.55
528996	2644.98	4.93	6.66	6.68	7.15	8.41
n41, Channel Bandwidth 100MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
509202	2546.01	4.34	5.69	6.24	6.38	8.26
518598	2592.99	5.49	6.82	6.85	7.23	8.49
528000	2640.00	5.58	8.04	7.93	8.05	8.65

### Spectrum Plot of Worst Value

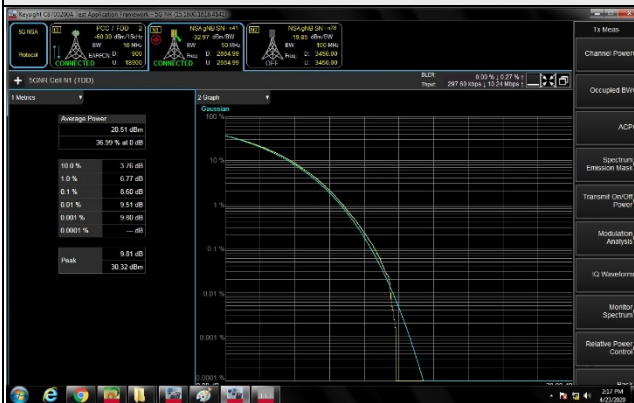
**20MHz / 256QAM**



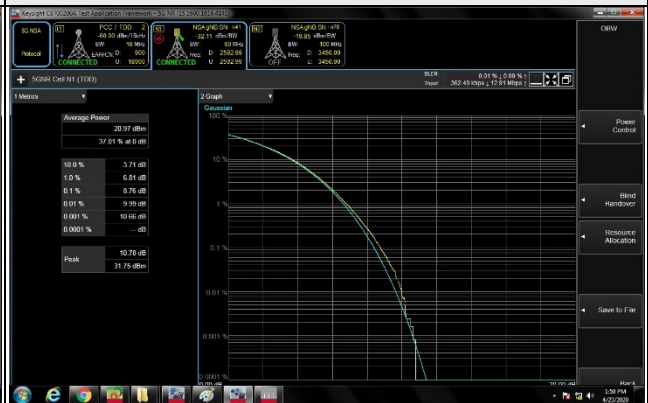
**40MHz / 256QAM**



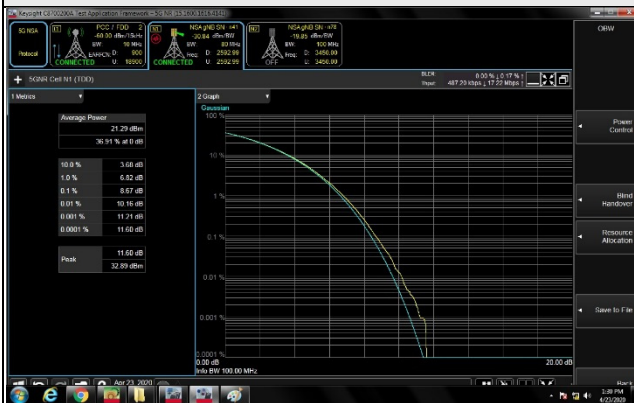
**50MHz / 256QAM**



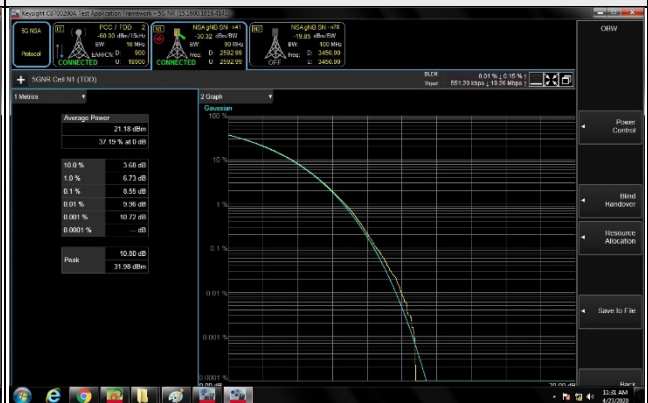
**60MHz / 256QAM**



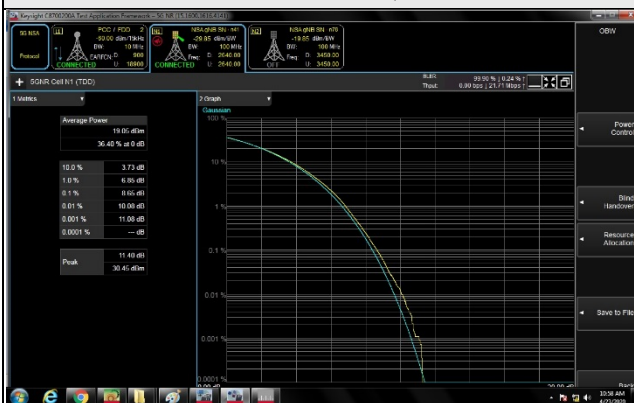
**80MHz / 256QAM**



**90MHz / 256QAM**



**100MHz / 256QAM**



LTE Band 2, Channel Bandwidth 1.4MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
18607	1850.7	4.07	5.00	6.43
18900	1880.0	3.91	4.99	6.66
19193	1909.3	3.60	4.33	6.43

LTE Band 2, Channel Bandwidth 3MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
18615	1851.5	3.79	4.87	6.38
18900	1880.0	3.80	4.80	6.69
19185	1908.5	3.55	4.29	6.39

LTE Band 2, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
18625	1852.5	3.74	4.87	6.94
18900	1880.0	3.81	4.56	6.89
19175	1907.5	3.60	4.35	6.50

LTE Band 2, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
18650	1855.0	3.97	4.81	7.23
18900	1880.0	3.76	4.56	7.04
19150	1905.0	3.57	4.24	6.33

LTE Band 2, Channel Bandwidth 15MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
18675	1857.5	3.87	4.69	7.11
18900	1880.0	3.90	4.73	7.27
19125	1902.5	3.51	4.20	6.18

LTE Band 2, Channel Bandwidth 20MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
18700	1860.0	3.79	4.60	6.94
18900	1880.0	3.86	4.42	6.74
19100	1900.0	3.66	4.20	6.16