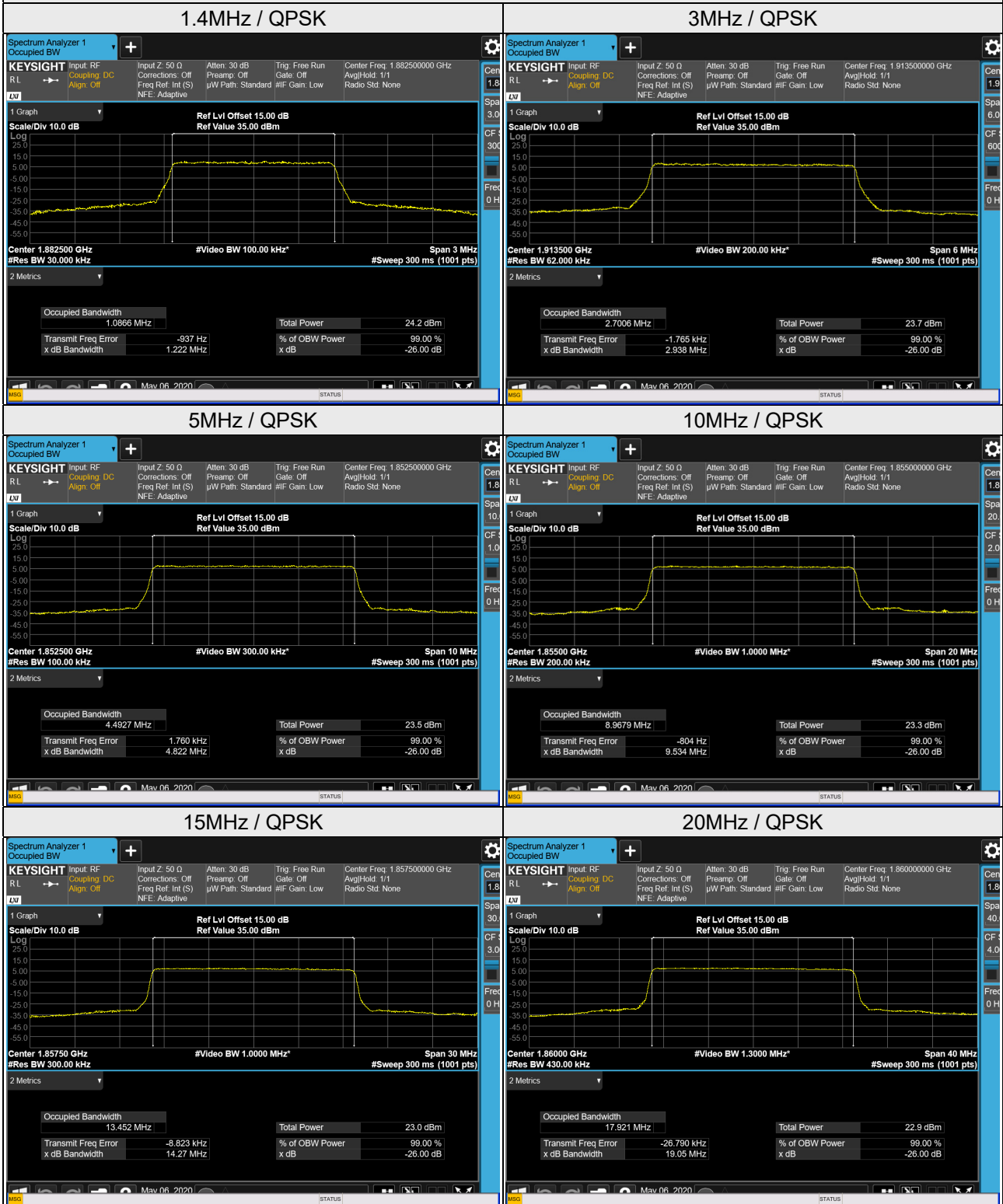


LTE Band 25, Channel Bandwidth 1.4MHz			
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		QPSK	16QAM
26047	1850.7	1.22	1.22
26365	1882.5	1.22	1.21
26683	1914.3	1.22	1.21
LTE Band 25, Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		QPSK	16QAM
26055	1851.5	2.92	2.94
26365	1882.5	2.91	2.93
26675	1913.5	2.94	2.91
LTE Band 25, Channel Bandwidth 5MHz			
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		QPSK	16QAM
26065	1852.5	4.82	4.81
26365	1882.5	4.82	4.82
26665	1912.5	4.81	4.79
LTE Band 25, Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		QPSK	16QAM
26090	1855.0	9.53	9.52
26365	1882.5	9.53	9.52
26640	1910.0	9.50	9.49
LTE Band 25, Channel Bandwidth 15MHz			
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		QPSK	16QAM
26115	1857.5	14.27	14.24
26365	1882.5	14.26	14.23
26615	1907.5	14.22	14.23
LTE Band 25, Channel Bandwidth 20MHz			
Channel	Frequency (MHz)	26dBc Bandwidth (MHz)	
		QPSK	16QAM
26140	1860.0	19.05	19.03
26365	1882.5	19.02	19.03
26590	1905.0	19.01	18.99

### Spectrum Plot of Worst Value

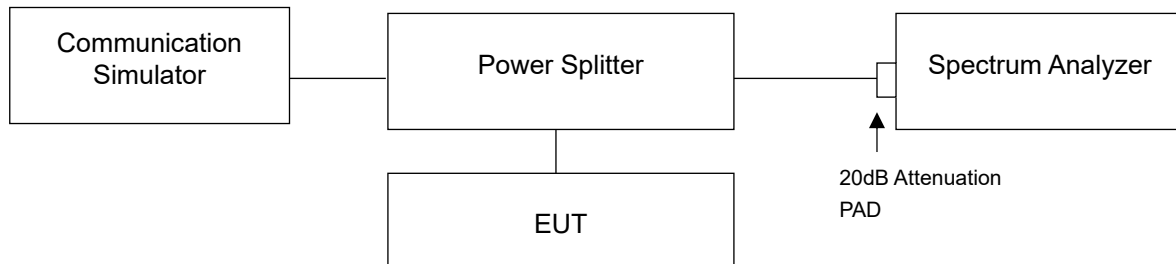


## 4.5 Band Edge Measurement

### 4.5.1 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.

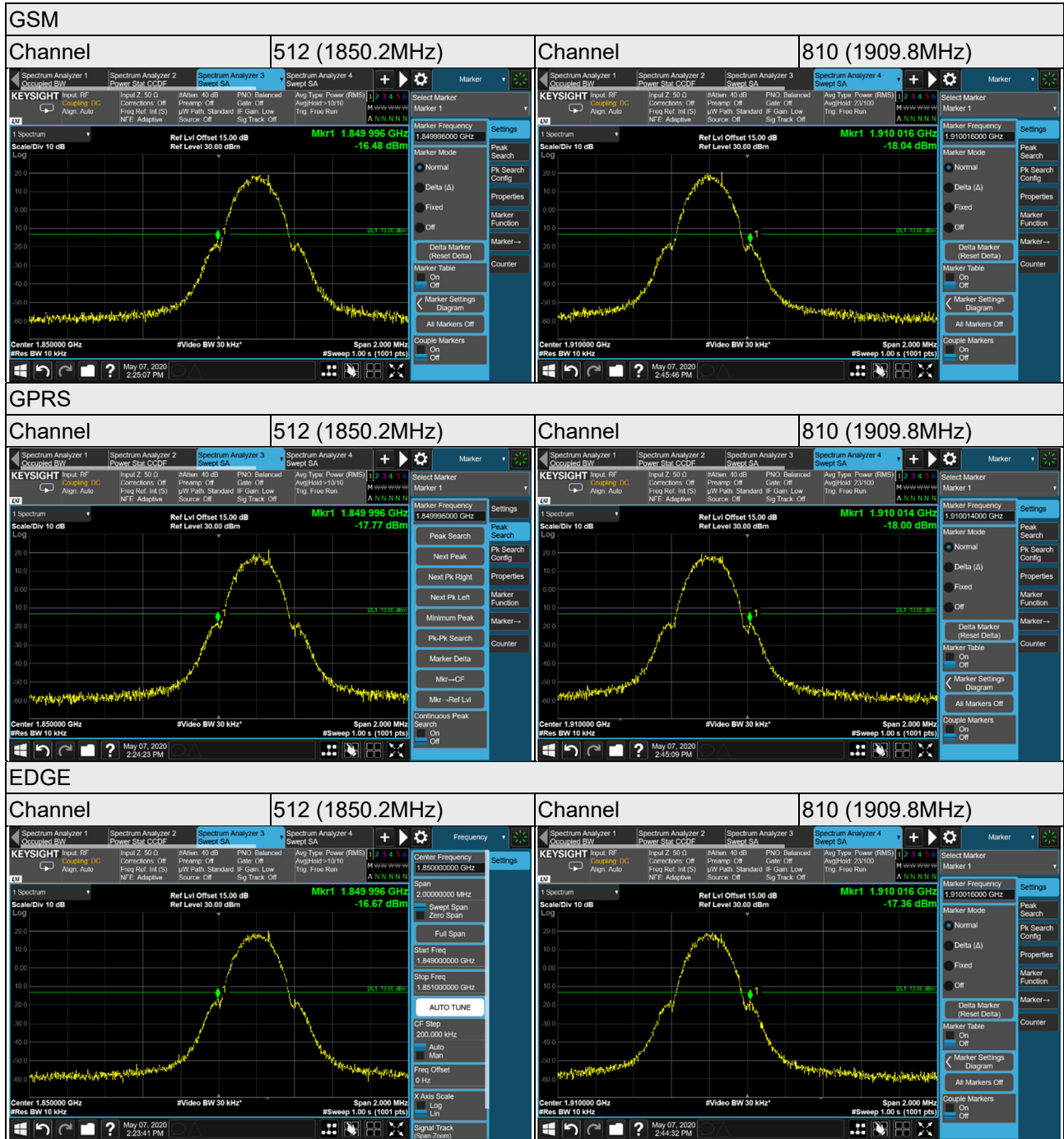
### 4.5.2 Test Setup



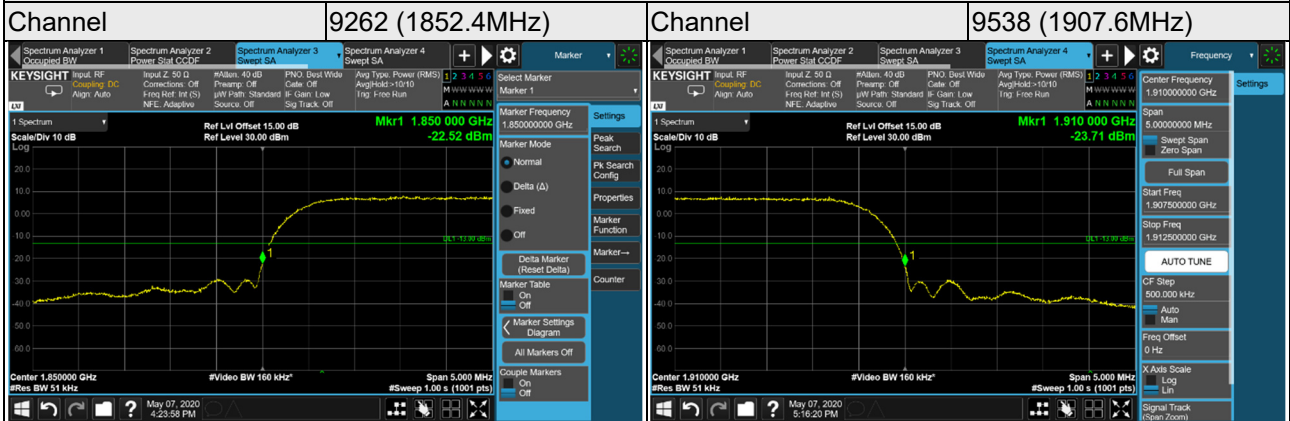
### 4.5.3 Test Procedures

- All measurements were done at low and high operational frequency range.
- The center frequency of spectrum is the band edge frequency and span is 2MHz. RB of the spectrum is 10kHz and VB of the spectrum is 30kHz (GSM / GPRS / EDGE).
- The center frequency of spectrum is the band edge frequency and span is 5MHz. RB of the spectrum is 51kHz and VB of the spectrum is 160kHz (WCDMA / HSDPA / HSUPA).
- The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 30kHz and VB of the spectrum is 100kHz (LTE Channel Bandwidth 1.4MHz / 3MHz).
- The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 51kHz and VB of the spectrum is 160kHz (LTE Channel Bandwidth 5MHz).
- The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz (LTE Channel Bandwidth 10MHz).
- The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 150kHz and VB of the spectrum is 470kHz (LTE Channel Bandwidth 15MHz).
- The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 200kHz and VB of the spectrum is 1MHz (LTE Channel Bandwidth 20MHz).
- Record the max trace plot into the test report.

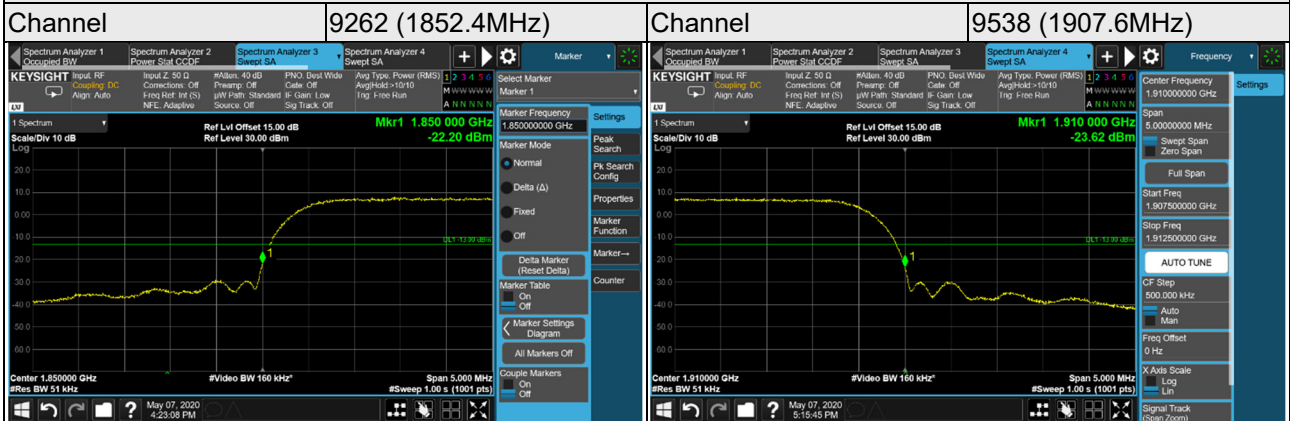
### 4.5.4 Test Results



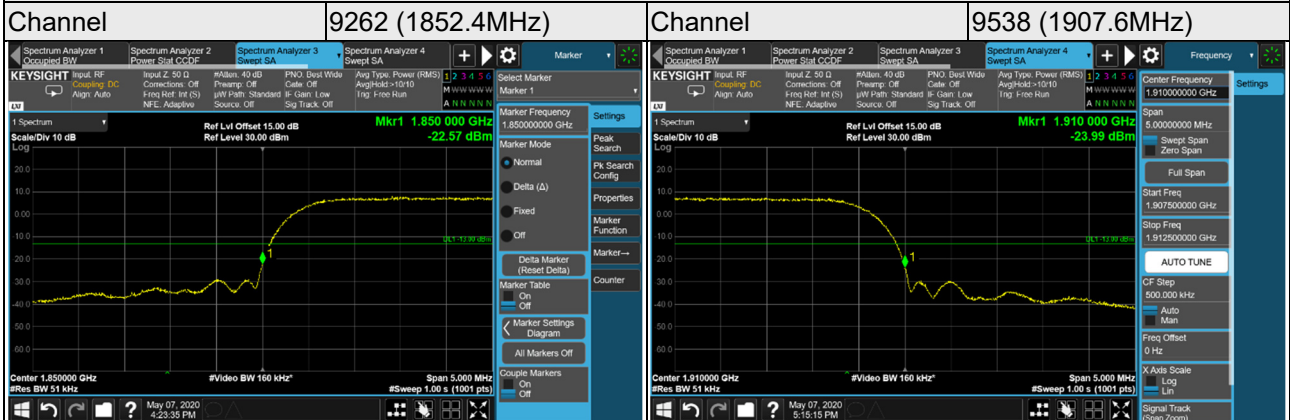
### WCDMA



### HSDPA



### HSUPA



LTE Band 2, Channel Bandwidth 1.4MHz

Channel 18607  
(1850.70MHz)

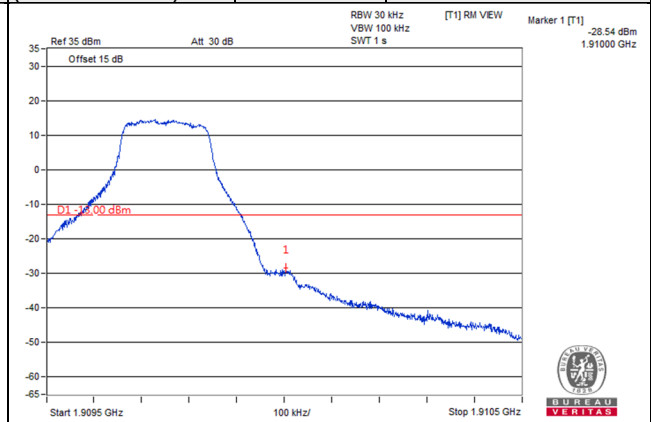
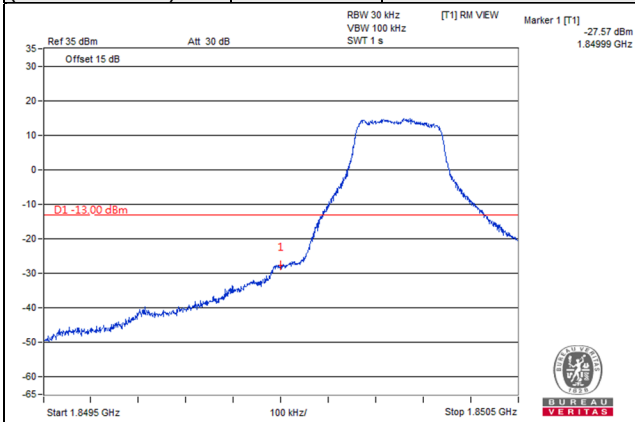
QPSK

1 RB / 0 RB Offset

Channel 19193  
(1909.30MHz)

QPSK

1 RB / 5 RB Offset



Channel 18607  
(1850.70MHz)

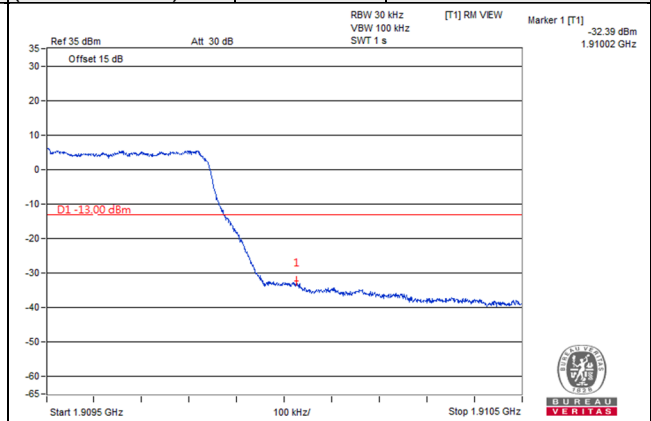
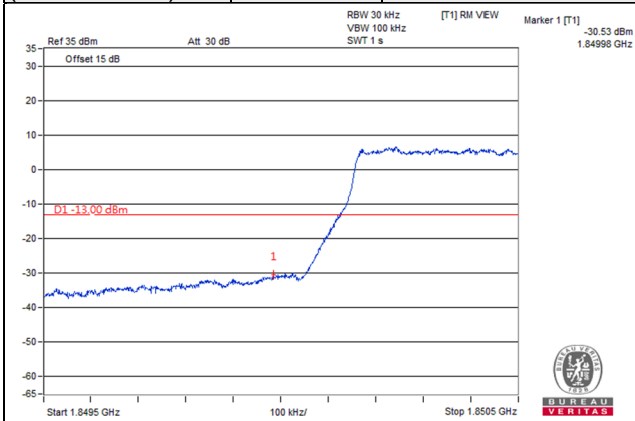
QPSK

6 RB / 0 RB Offset

Channel 19193  
(1909.30MHz)

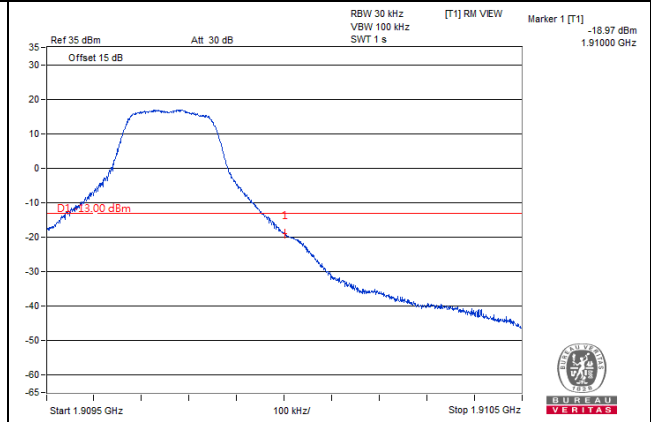
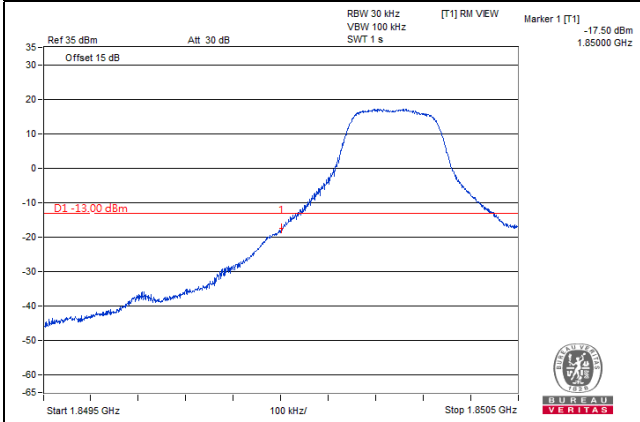
QPSK

6 RB / 0 RB Offset

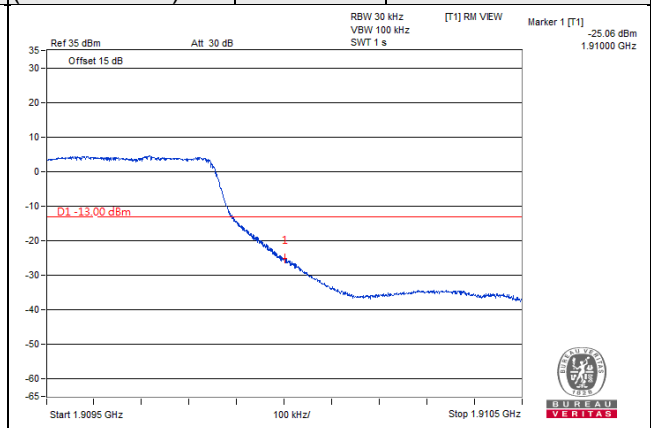
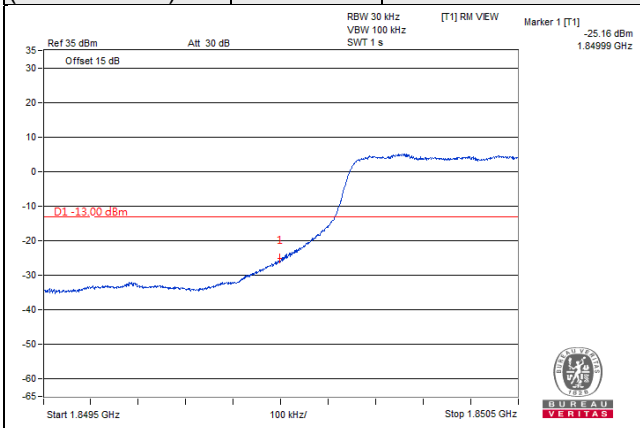


**LTE Band 2, Channel Bandwidth 3MHz**

<b>Channel 18615 (1851.50MHz)</b>	<b>QPSK</b>	<b>1 RB / 0 RB Offset</b>	<b>Channel 19185 (1908.50MHz)</b>	<b>QPSK</b>	<b>1 RB / 14 RB Offset</b>
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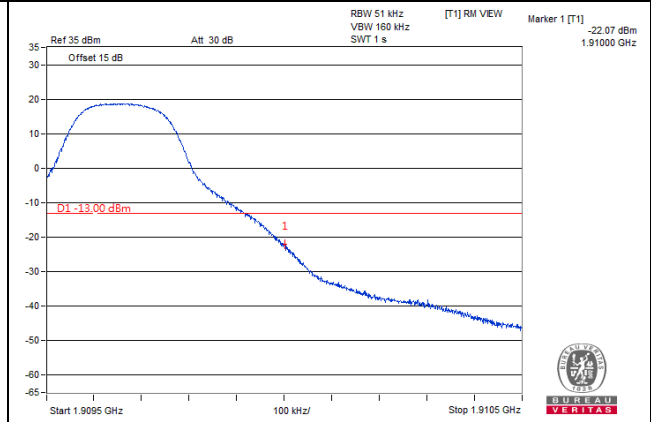
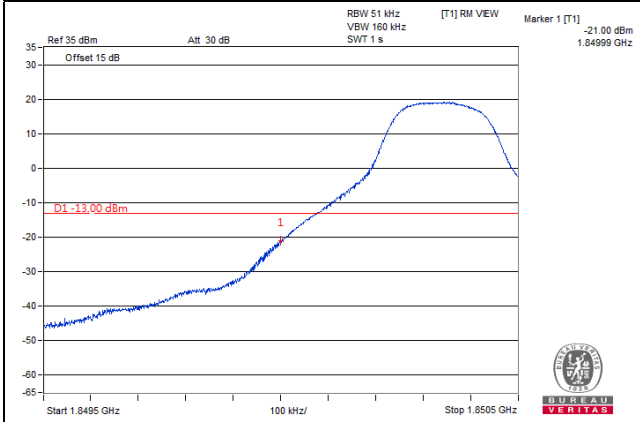


<b>Channel 18615 (1851.50MHz)</b>	<b>QPSK</b>	<b>15 RB / 0 RB Offset</b>	<b>Channel 19185 (1908.50MHz)</b>	<b>QPSK</b>	<b>15 RB / 0 RB Offset</b>
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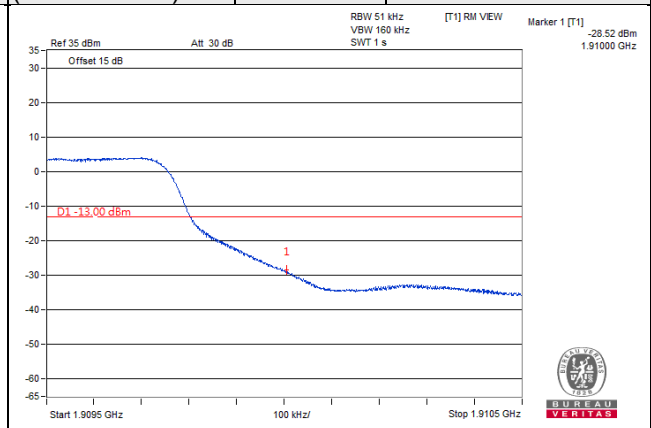
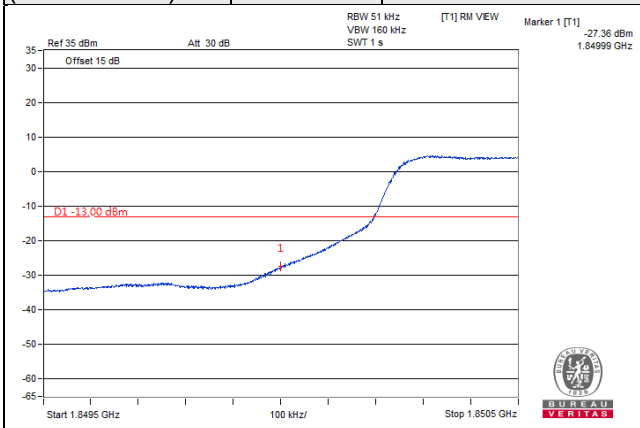


**LTE Band 2, Channel Bandwidth 5MHz**

<b>Channel 18625 (1852.50MHz)</b>	<b>QPSK</b>	<b>1 RB / 0 RB Offset</b>	<b>Channel 19175 (1907.50MHz)</b>	<b>QPSK</b>	<b>1 RB / 24 RB Offset</b>
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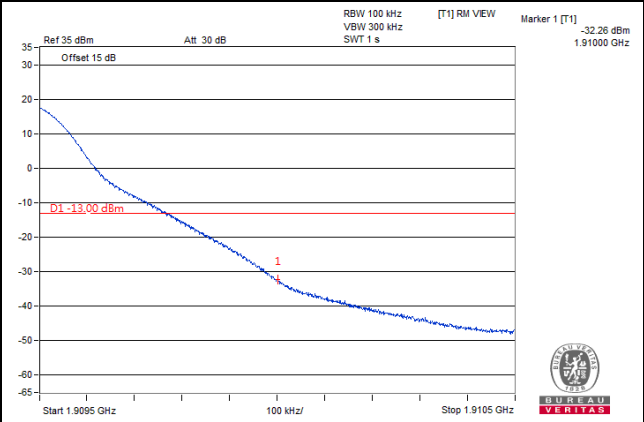
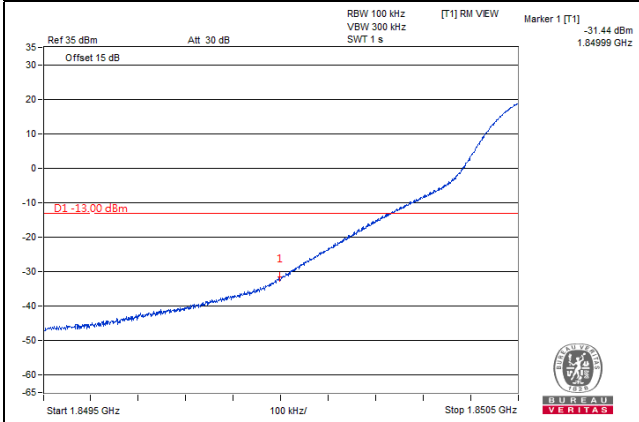
<b>Channel 18625 (1852.50MHz)</b>	<b>QPSK</b>	<b>25 RB / 0 RB Offset</b>	<b>Channel 19175 (1907.50MHz)</b>	<b>QPSK</b>	<b>25 RB / 0 RB Offset</b>
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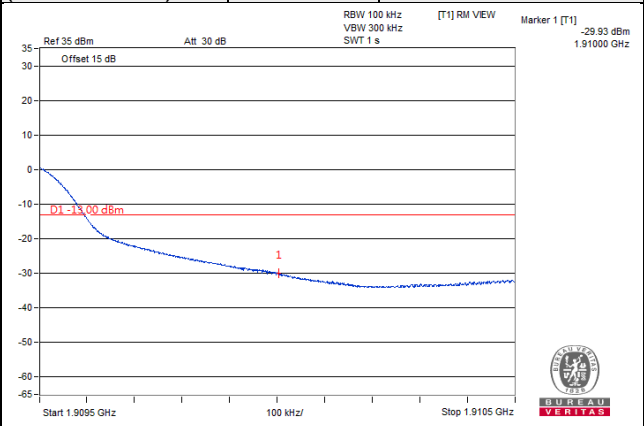
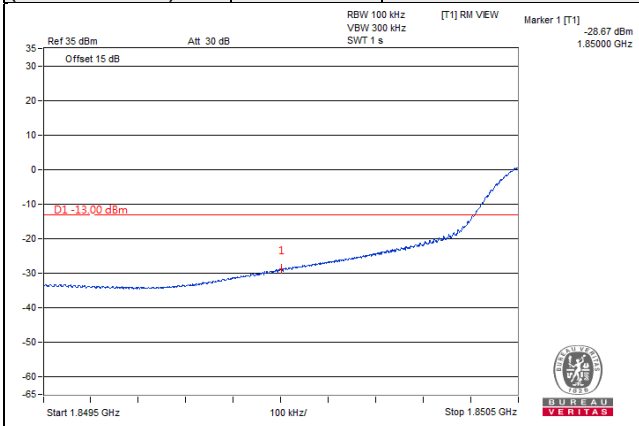


LTE Band 2, Channel Bandwidth 10MHz

Channel 18650 (1855.00MHz)	QPSK	1 RB / 0 RB Offset	Channel 19150 (1905.00MHz)	QPSK	1 RB / 49 RB Offset
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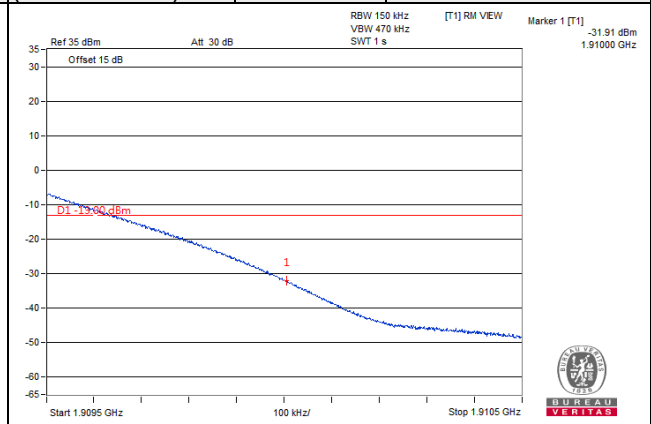
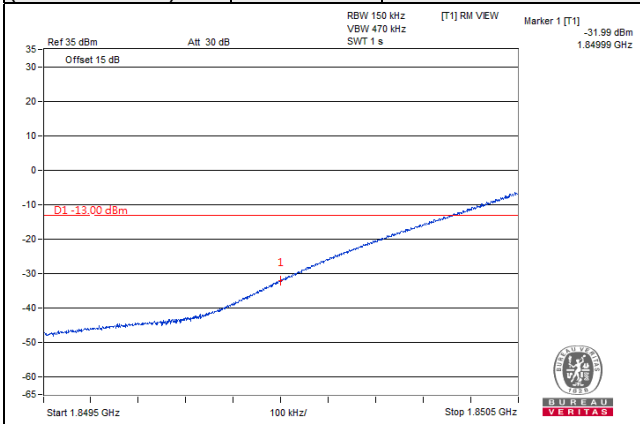


Channel 18650 (1855.00MHz)	QPSK	50 RB / 0 RB Offset	Channel 19150 (1905.00MHz)	QPSK	50 RB / 0 RB Offset
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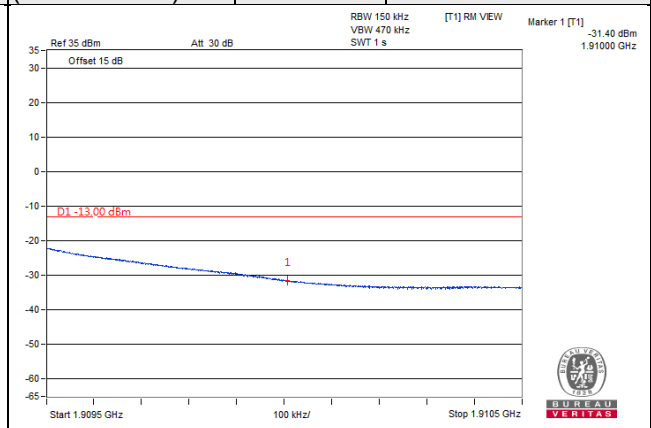
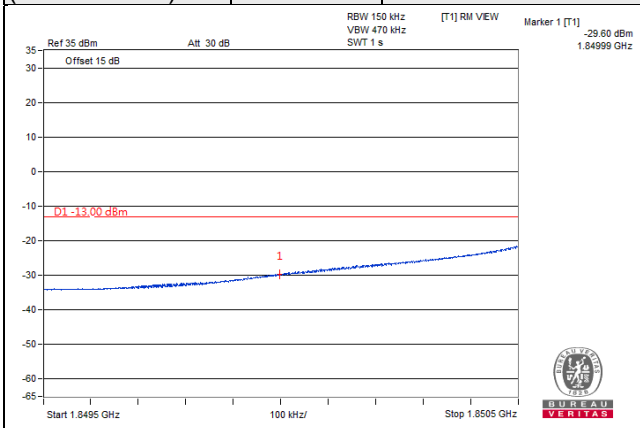


LTE Band 2, Channel Bandwidth 15MHz

Channel 18675 (1857.50MHz)	QPSK	1 RB / 0 RB Offset	Channel 19125 (1902.50MHz)	QPSK	1 RB / 74 RB Offset
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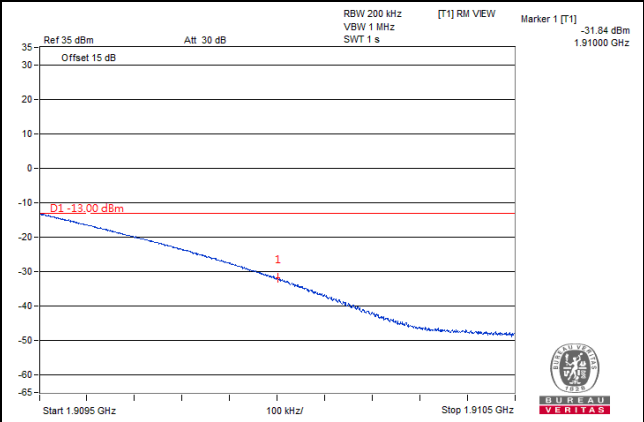
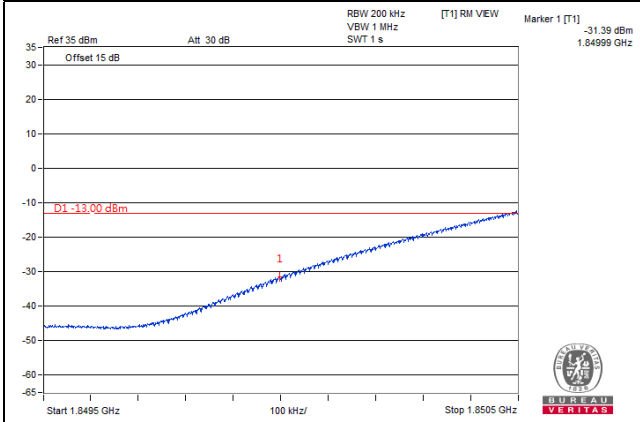


Channel 18675 (1857.50MHz)	QPSK	75 RB / 0 RB Offset	Channel 19125 (1902.50MHz)	QPSK	75 RB / 0 RB Offset
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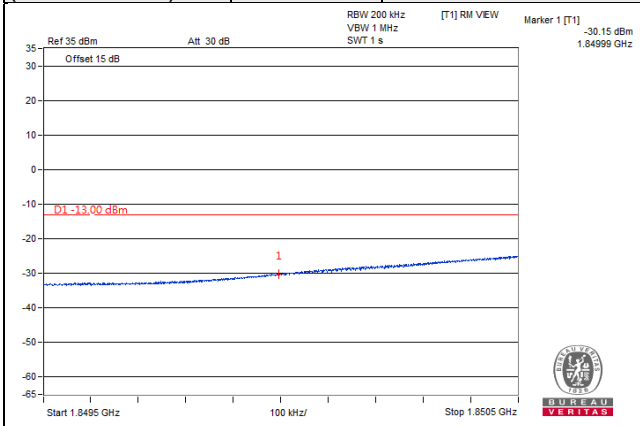


**LTE Band 2, Channel Bandwidth 20MHz**

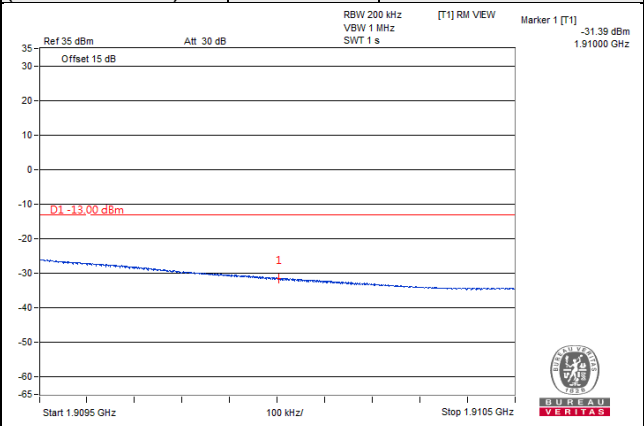
<b>Channel 18700 (1860.00MHz)</b>	<b>QPSK</b>	<b>1 RB / 0 RB Offset</b>	<b>Channel 19100 (1900.00 MHz)</b>	<b>QPSK</b>	<b>1 RB / 99 RB Offset</b>
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<b>Channel 18700 (1860.00MHz)</b>	<b>QPSK</b>	<b>100 RB / 0 RB Offset</b>
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<b>Channel 19100 (1900.00 MHz)</b>	<b>QPSK</b>	<b>100 RB / 0 RB Offset</b>
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LTE Band 25, Channel Bandwidth 1.4MHz

Channel 26047  
(1850.7MHz)

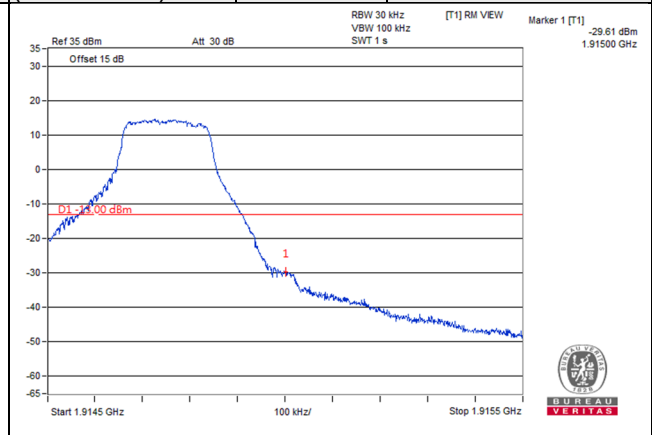
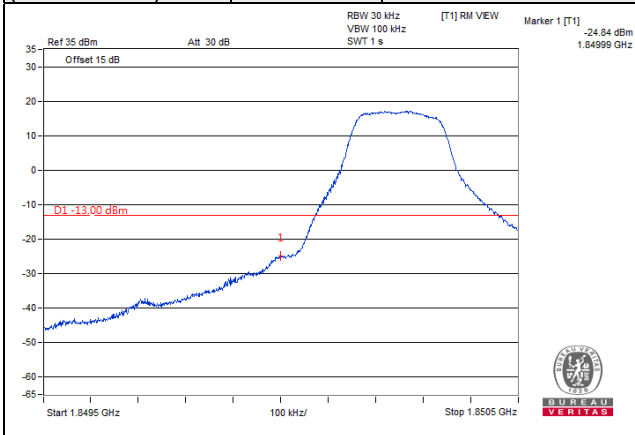
QPSK

1 RB / 0 RB Offset

Channel 26683  
(1914.3MHz)

QPSK

1 RB / 5 RB Offset



Channel 26047  
(1850.7MHz)

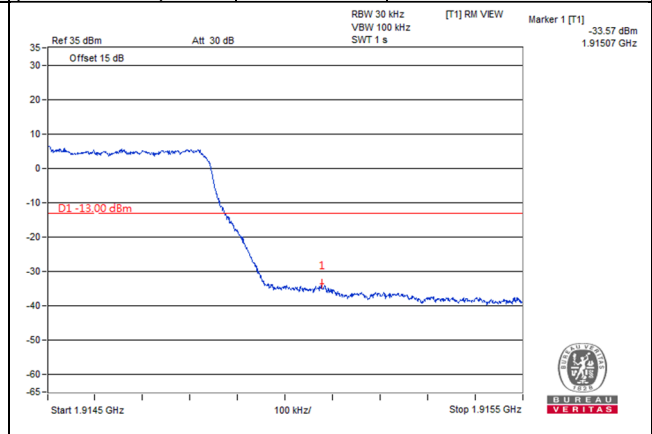
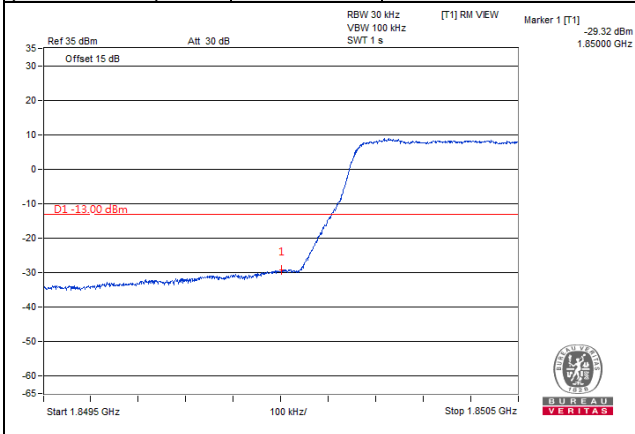
QPSK

6 RB / 0 RB Offset

Channel 26683  
(1914.3MHz)

QPSK

6 RB / 0 RB Offset



LTE Band 25, Channel Bandwidth 3MHz

Channel 26055  
(1851.5MHz)

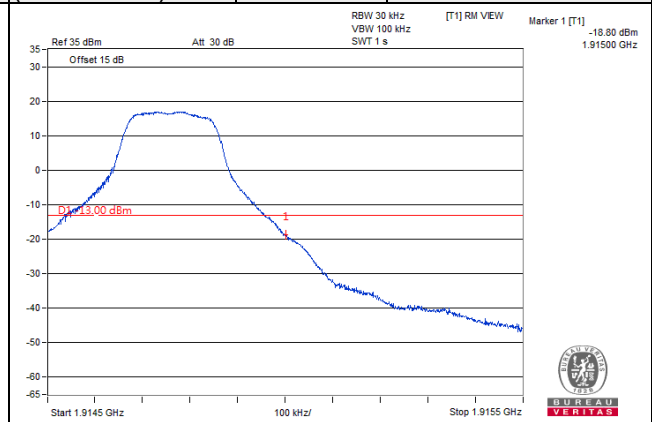
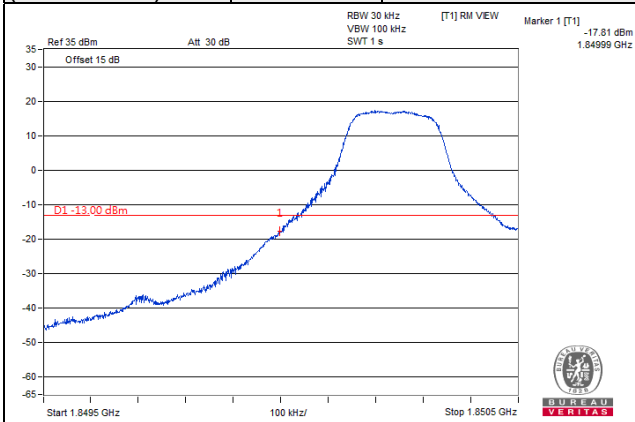
QPSK

1 RB / 0 RB Offset

Channel 26675  
(1913.5MHz)

QPSK

1 RB / 14 RB Offset



Channel 26055  
(1851.5MHz)

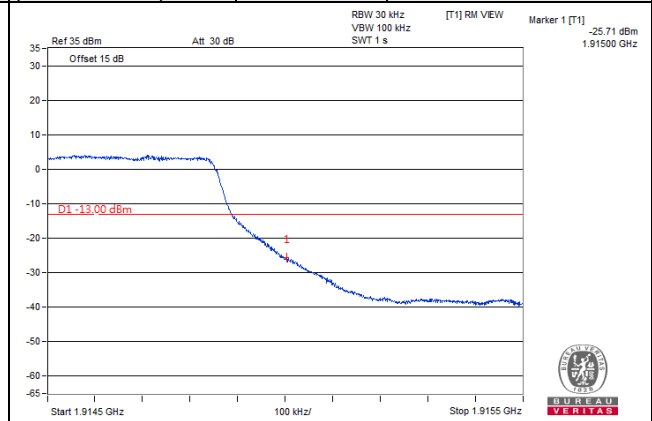
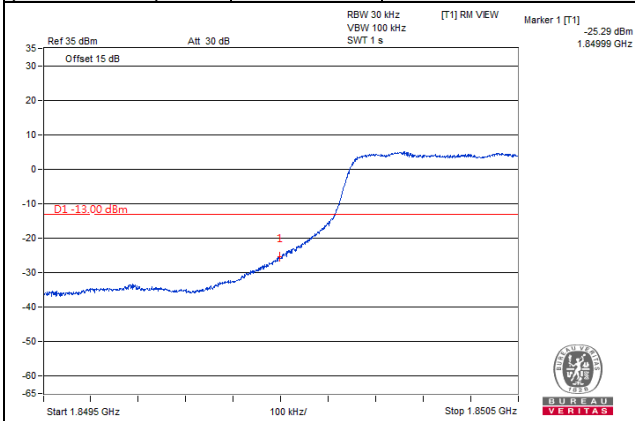
QPSK

15 RB / 0 RB Offset

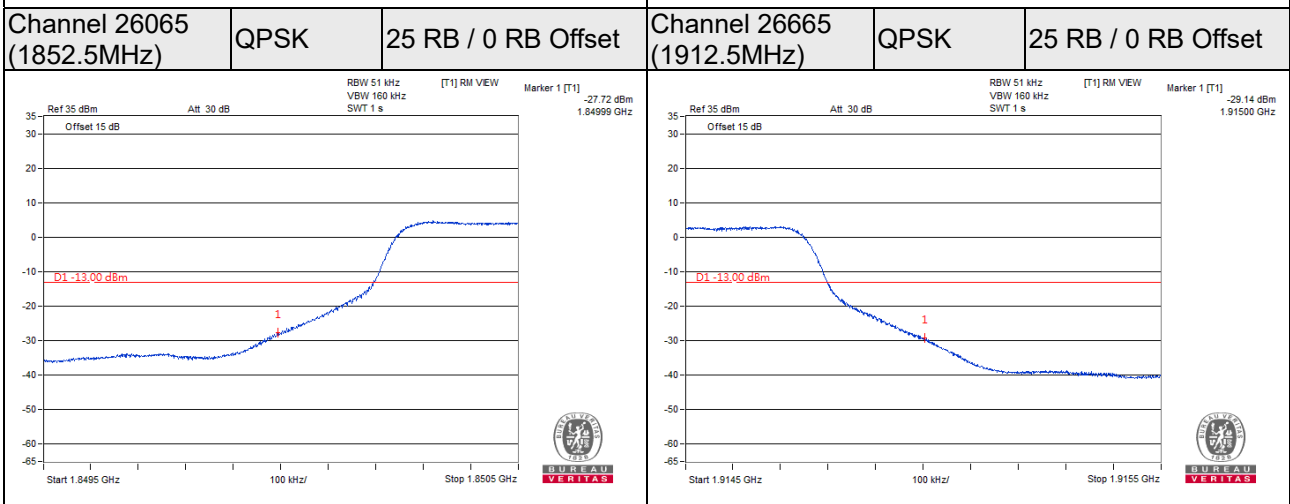
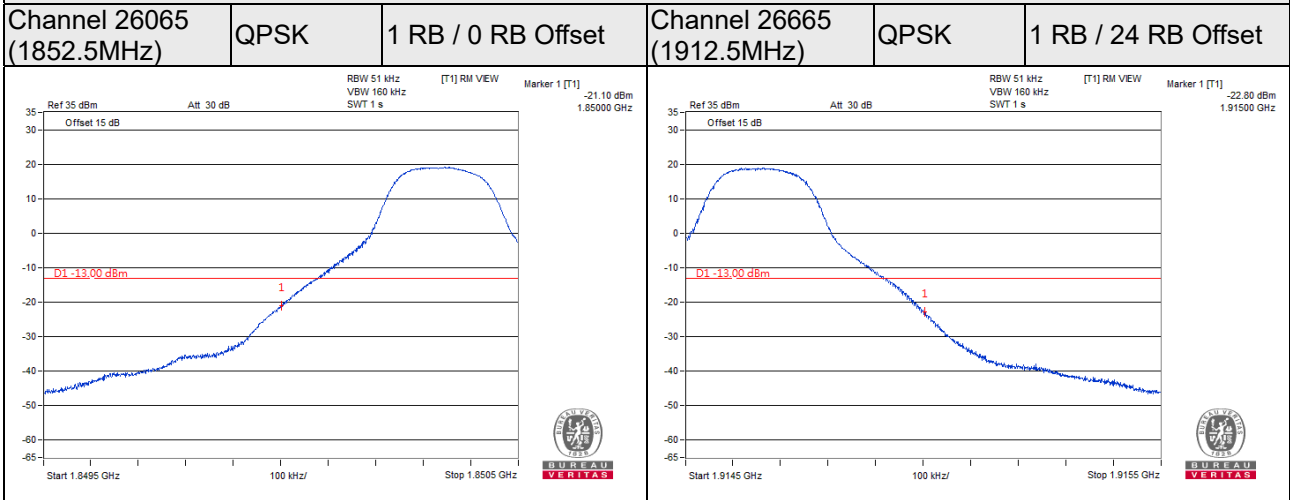
Channel 26675  
(1913.5MHz)

QPSK

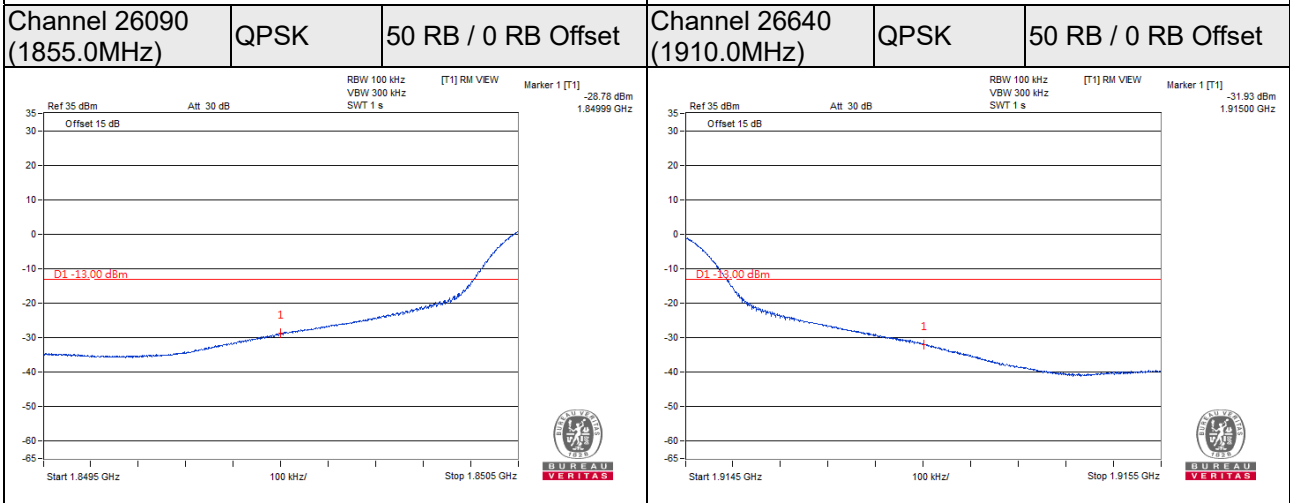
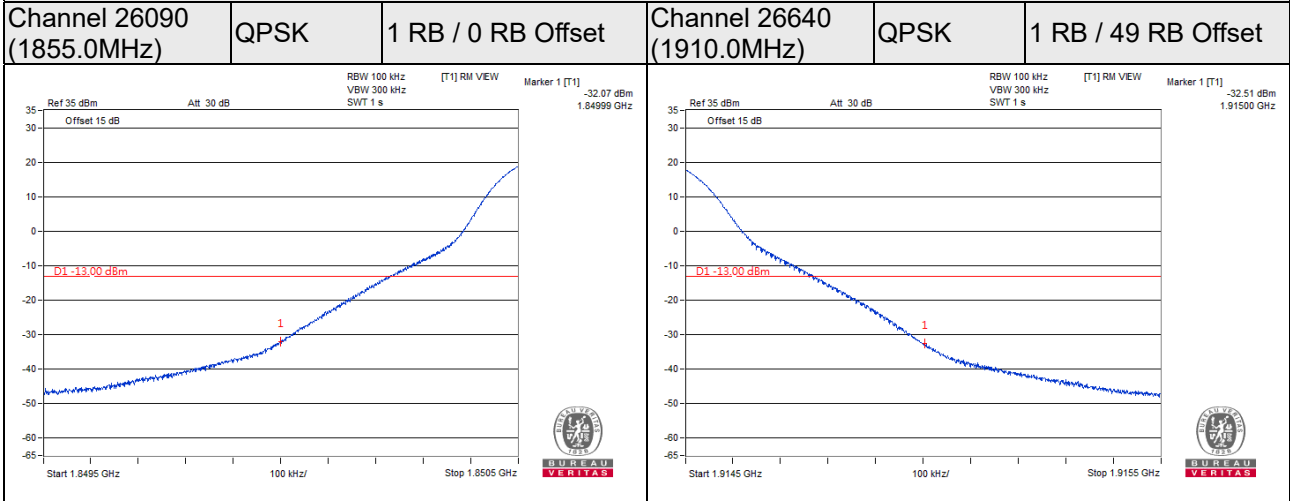
15 RB / 0 RB Offset



LTE Band 25, Channel Bandwidth 5MHz



LTE Band 25, Channel Bandwidth 10MHz



LTE Band 25, Channel Bandwidth 15MHz

Channel 26115  
(1857.5MHz)

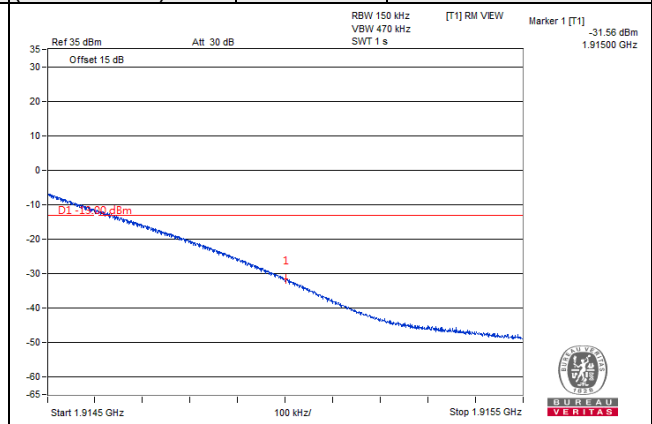
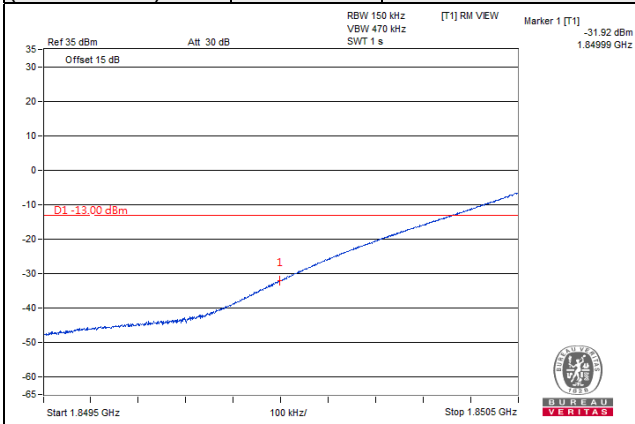
QPSK

1 RB / 0 RB Offset

Channel 26615  
(1907.5MHz)

QPSK

1 RB / 74 RB Offset



Channel 26115  
(1857.5MHz)

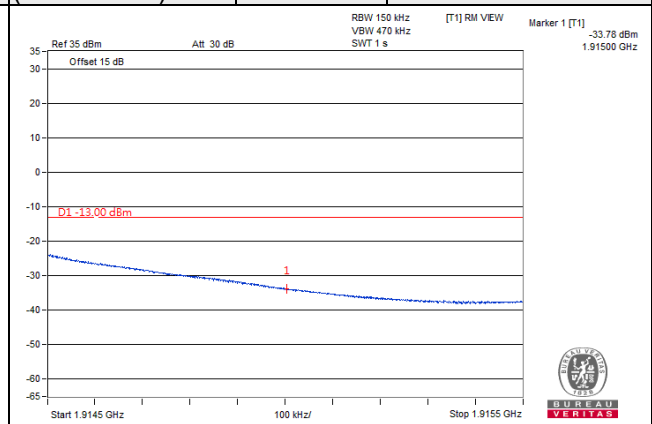
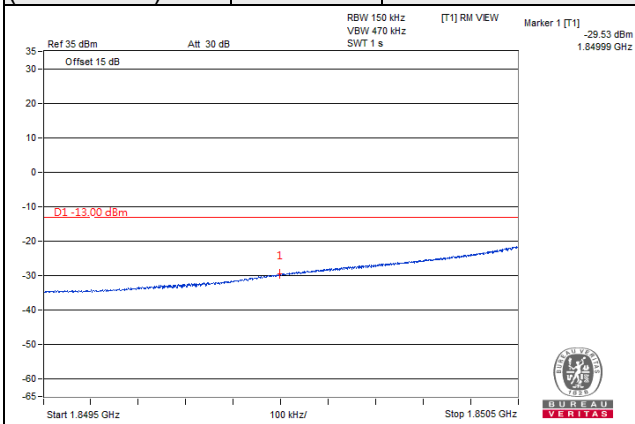
QPSK

75 RB / 0 RB Offset

Channel 26615  
(1907.5MHz)

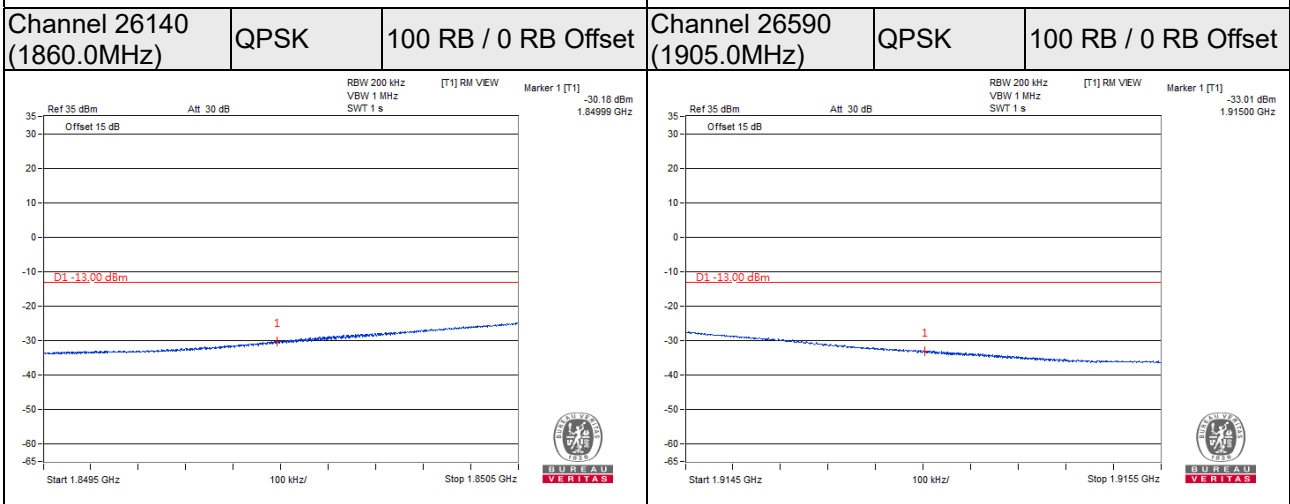
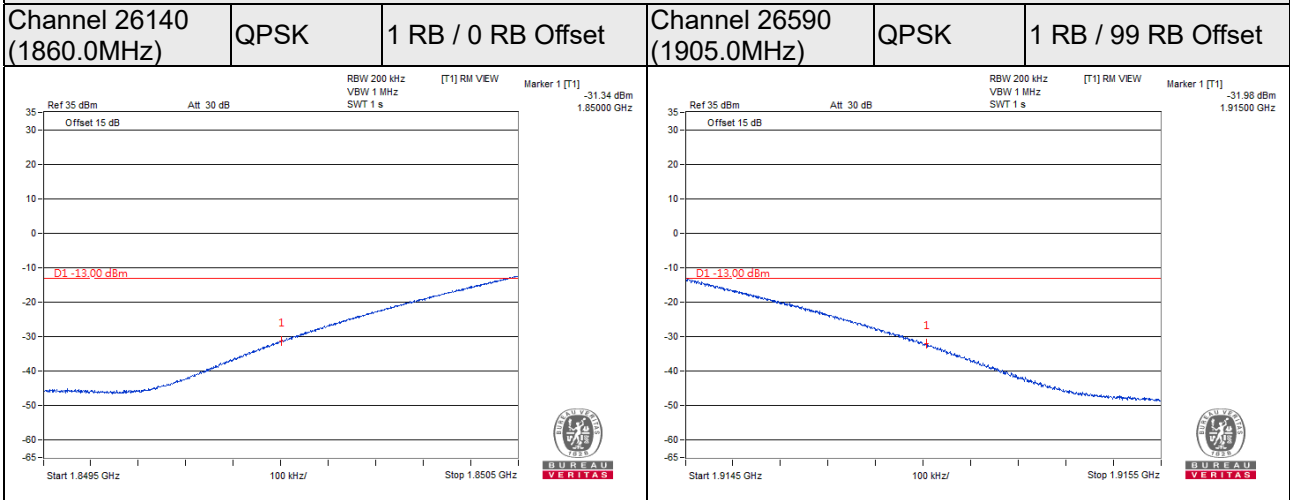
QPSK

75 RB / 0 RB Offset





**LTE Band 25, Channel Bandwidth 20MHz**

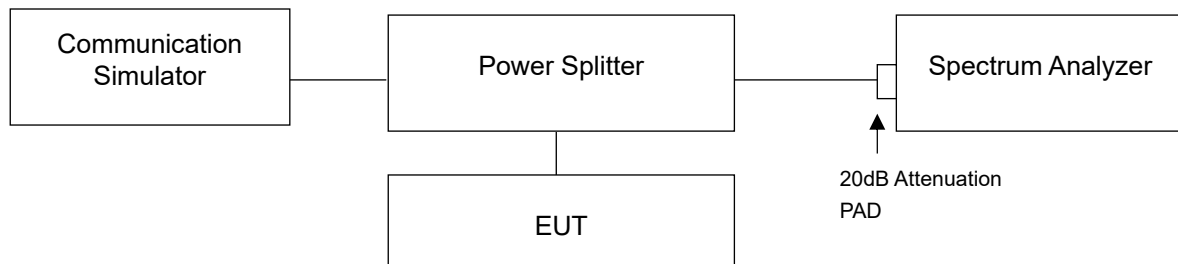


## 4.6 Peak to Average Ratio

### 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

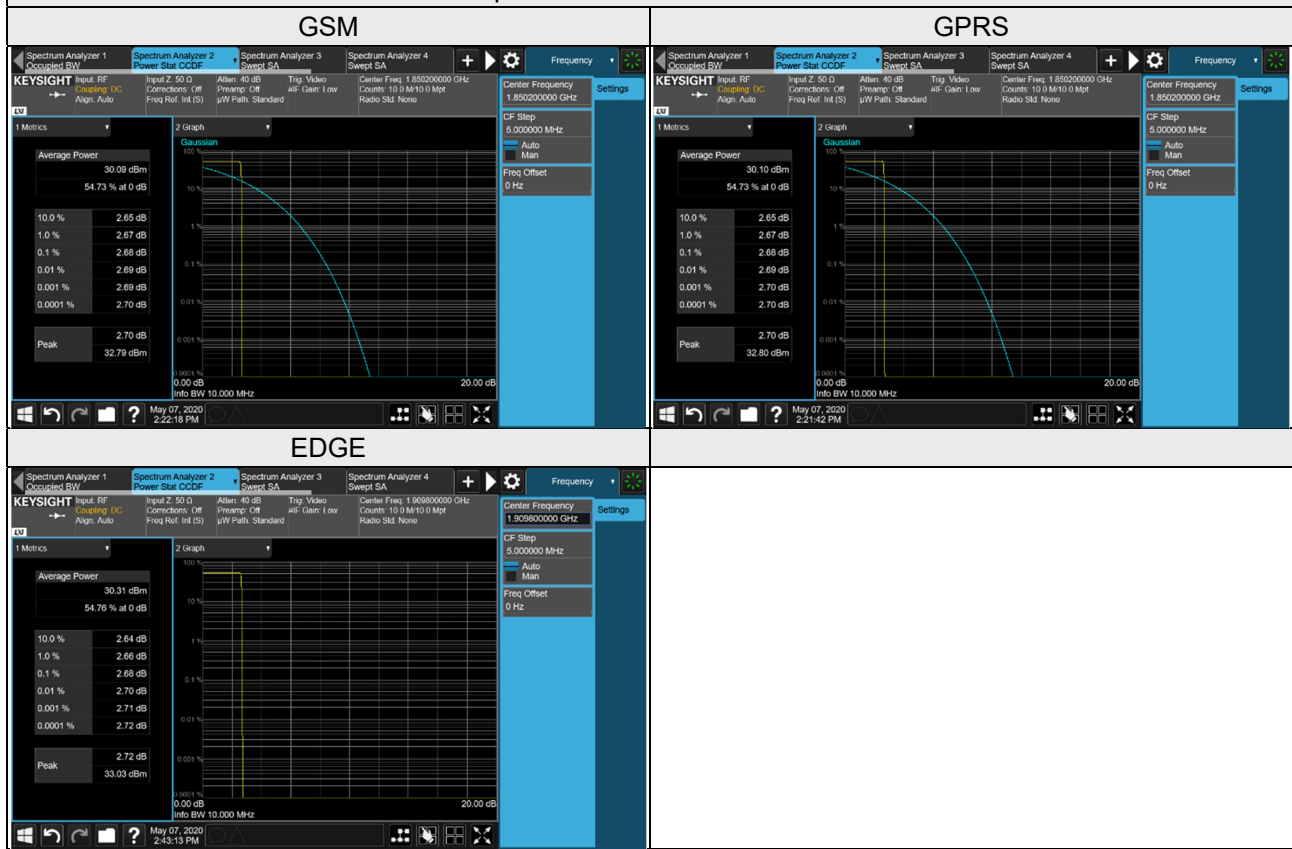
- Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Record the maximum PAPR level associated with a probability of 0.1%.

### 4.6.4 Test Results

#### GSM

Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		GSM	GPRS	EDGE
512	1850.2	2.68	2.68	2.67
661	1880.0	2.67	2.68	2.68
810	1909.8	2.67	2.68	2.68

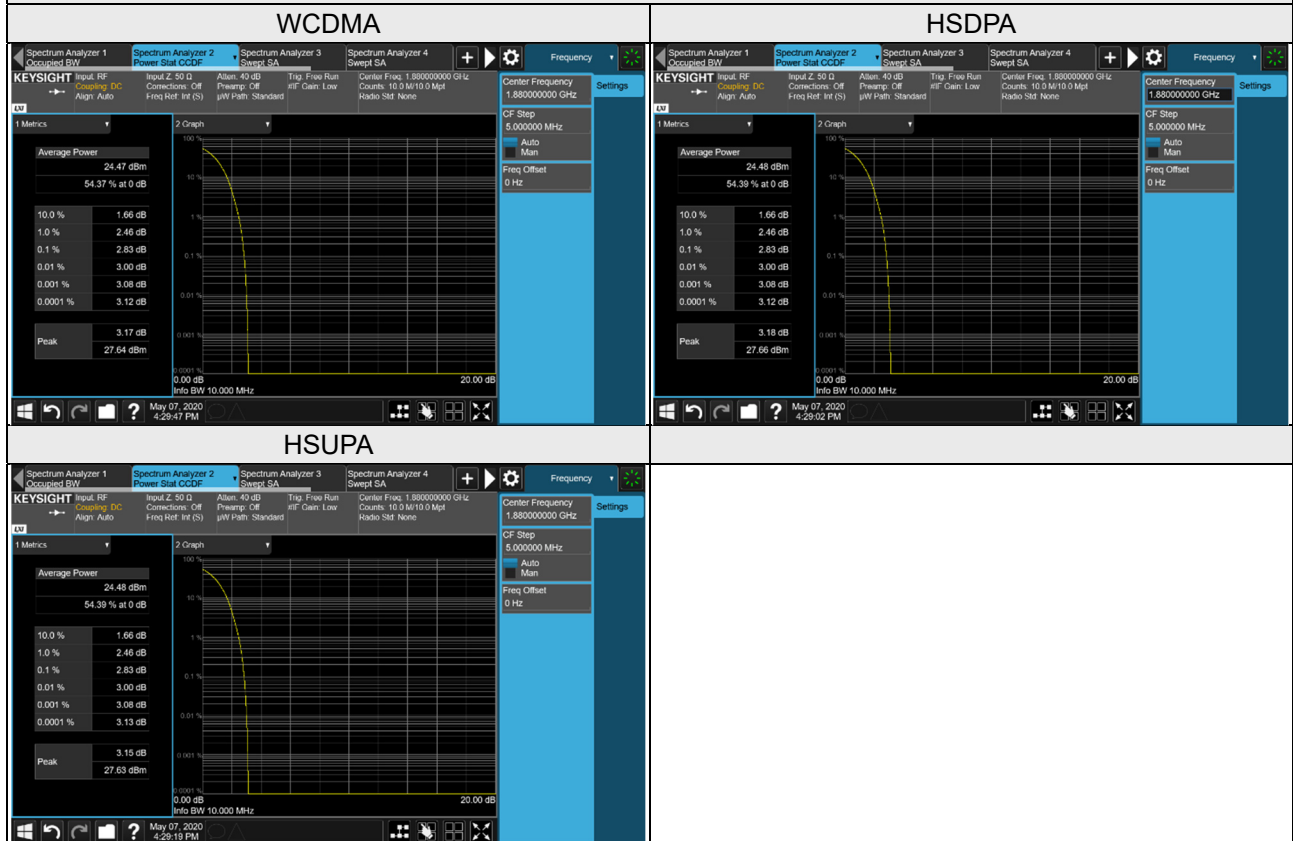
#### Spectrum Plot of Worst Value



WCDMA Band 2

Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		WCDMA	HSDPA	HSUPA
9262	1852.4	2.43	2.43	2.42
9400	1880.0	2.83	2.83	2.83
9538	1907.6	2.54	2.55	2.55

Spectrum Plot of Worst Value

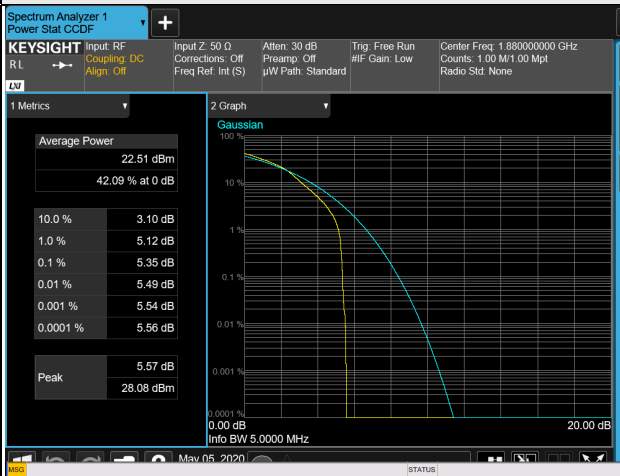


LTE Band 2

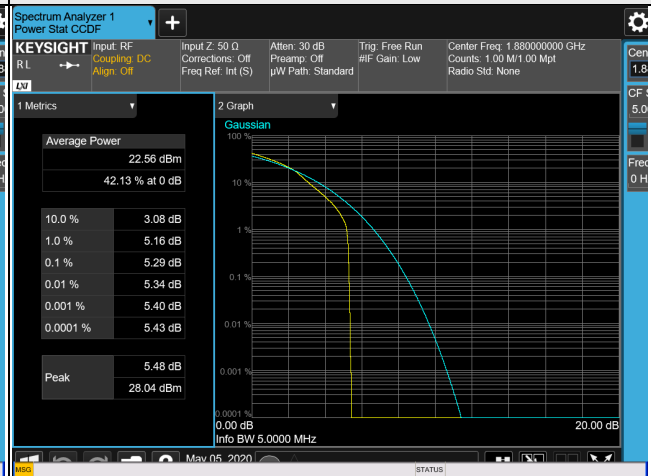
LTE Band 2, Channel Bandwidth 1.4MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
18607	1850.7	3.69	4.89
18900	1880.0	3.94	5.35
19193	1909.3	3.66	4.92
LTE Band 2, Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
18615	1851.5	3.50	4.78
18900	1880.0	3.75	5.29
19185	1908.5	3.57	4.96
LTE Band 2, Channel Bandwidth 5MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
18625	1852.5	3.45	4.78
18900	1880.0	3.74	5.27
19175	1907.5	3.68	5.17
LTE Band 2, Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
18650	1855.0	3.39	4.66
18900	1880.0	3.65	5.24
19150	1905.0	3.66	5.30
LTE Band 2, Channel Bandwidth 15MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
18675	1857.5	3.37	4.71
18900	1880.0	3.59	5.14
19125	1902.5	3.56	5.04
LTE Band 2, Channel Bandwidth 20MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
18700	1860.0	3.38	4.72
18900	1880.0	3.60	5.16
19100	1900.0	3.41	4.78

### Spectrum Plot of Worst Value

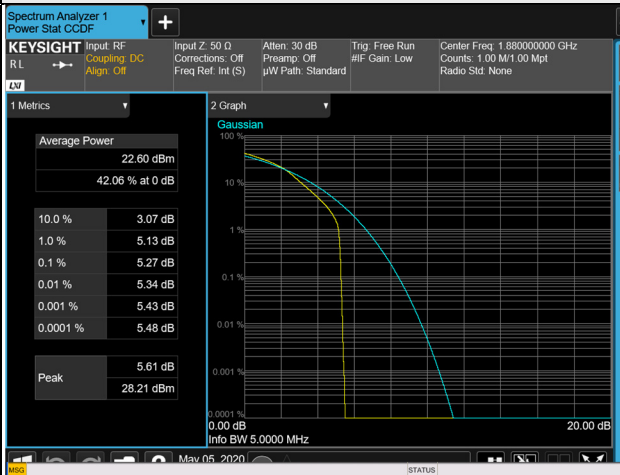
#### 1.4MHz / 16QAM



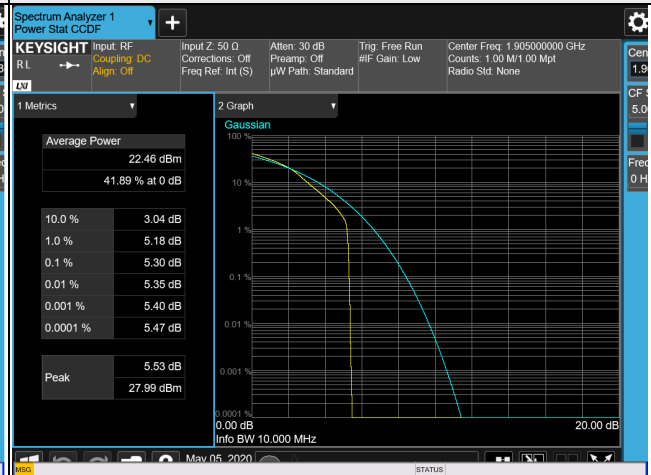
#### 3MHz / 16QAM



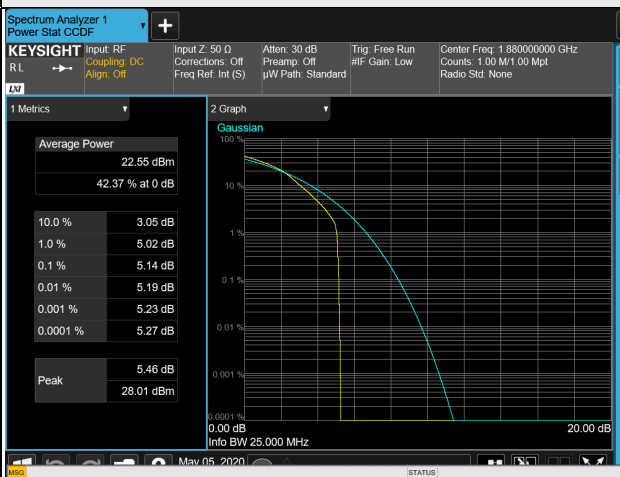
#### 5MHz / 16QAM



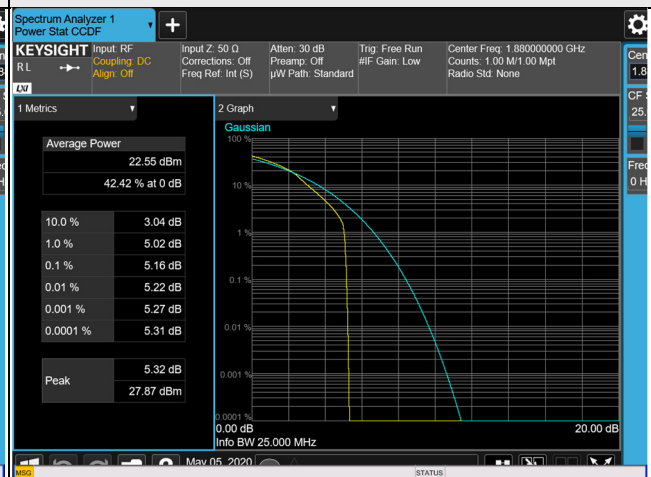
#### 10MHz / 16QAM



#### 15MHz / 16QAM



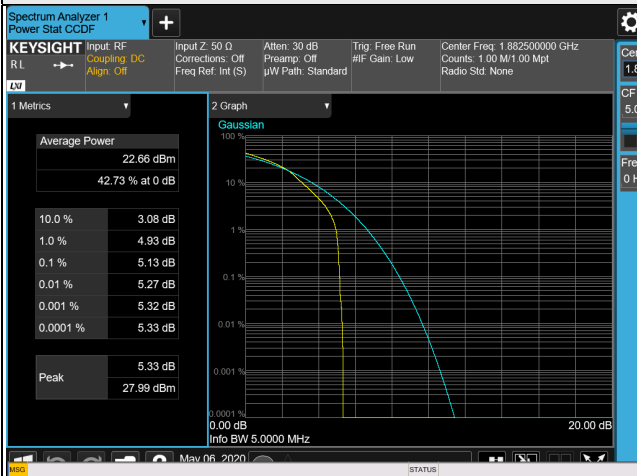
#### 20MHz / 16QAM



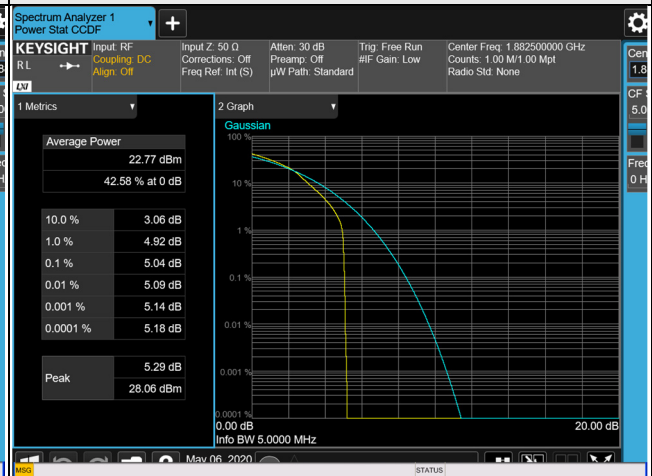
LTE Band 25, Channel Bandwidth 1.4MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
26047	1850.7	3.60	4.86
26365	1882.5	3.77	5.13
26683	1914.3	3.55	4.88
LTE Band 25, Channel Bandwidth 3MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
26055	1851.5	3.45	4.75
26365	1882.5	3.63	5.04
26675	1913.5	3.33	4.65
LTE Band 25, Channel Bandwidth 5MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
26065	1852.5	3.43	4.74
26365	1882.5	3.63	5.09
26665	1912.5	3.32	4.59
LTE Band 25, Channel Bandwidth 10MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
26090	1855.0	3.36	4.68
26365	1882.5	3.58	5.13
26640	1910.0	3.52	5.02
LTE Band 25, Channel Bandwidth 15MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
26115	1857.5	3.35	4.70
26365	1882.5	3.56	5.22
26615	1907.5	3.55	5.20
LTE Band 25, Channel Bandwidth 20MHz			
Channel	Frequency (MHz)	Peak To Average Ratio (dB)	
		QPSK	16QAM
26140	1860.0	3.34	4.67
26365	1882.5	3.54	5.08
26590	1905.0	3.49	4.96

### Spectrum Plot of Worst Value

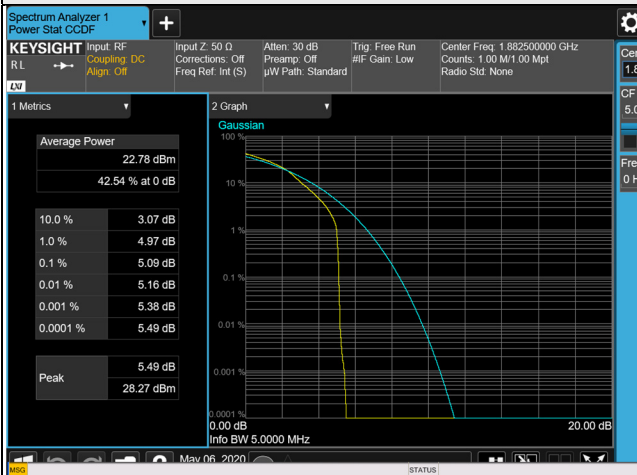
#### 1.4MHz / 16QAM



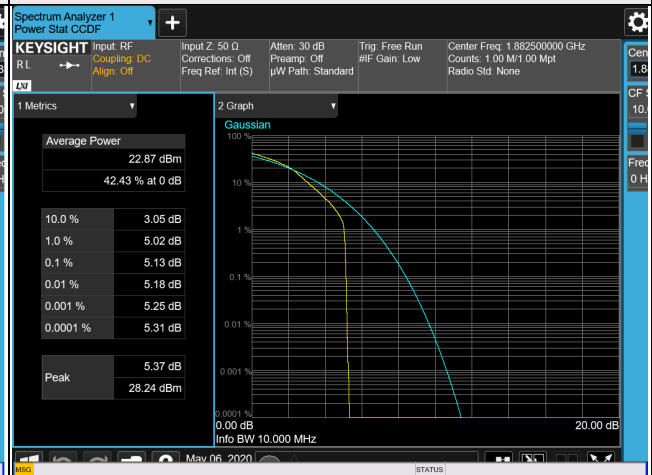
#### 3MHz / 16QAM



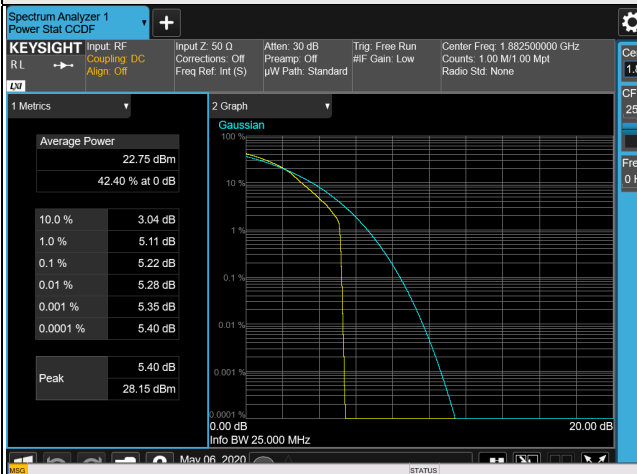
#### 5MHz / 16QAM



#### 10MHz / 16QAM



#### 15MHz / 16QAM



#### 20MHz / 16QAM

