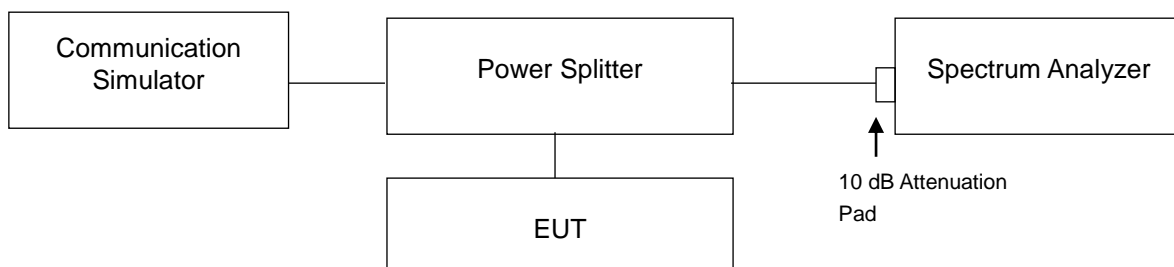


4.5 Band Edge Measurement

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.

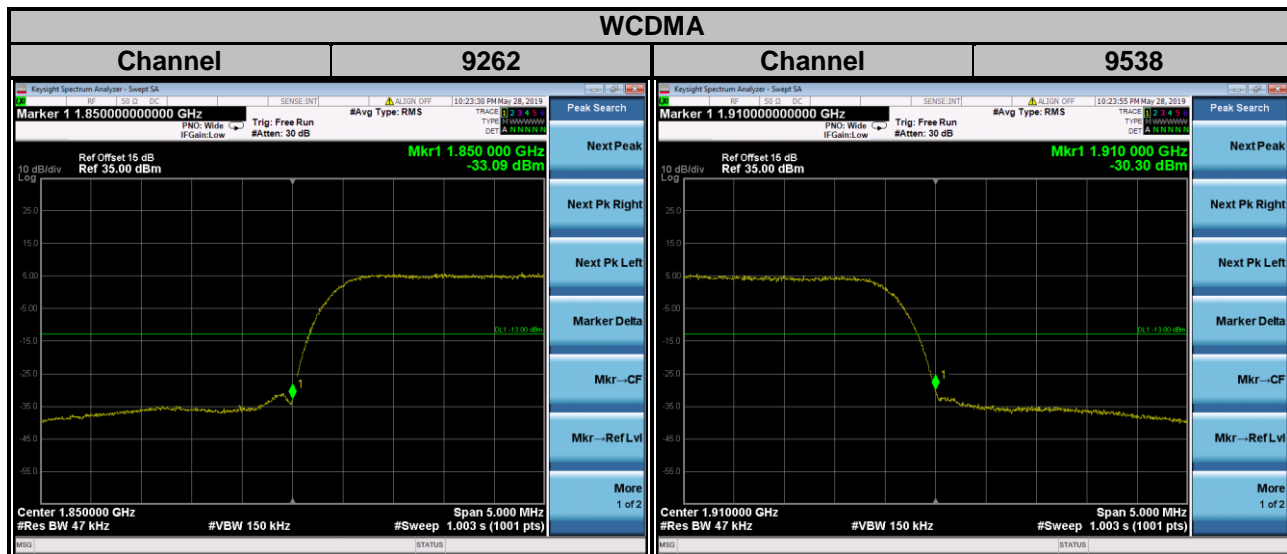
4.5.2 Test Setup



4.5.3 Test Procedures

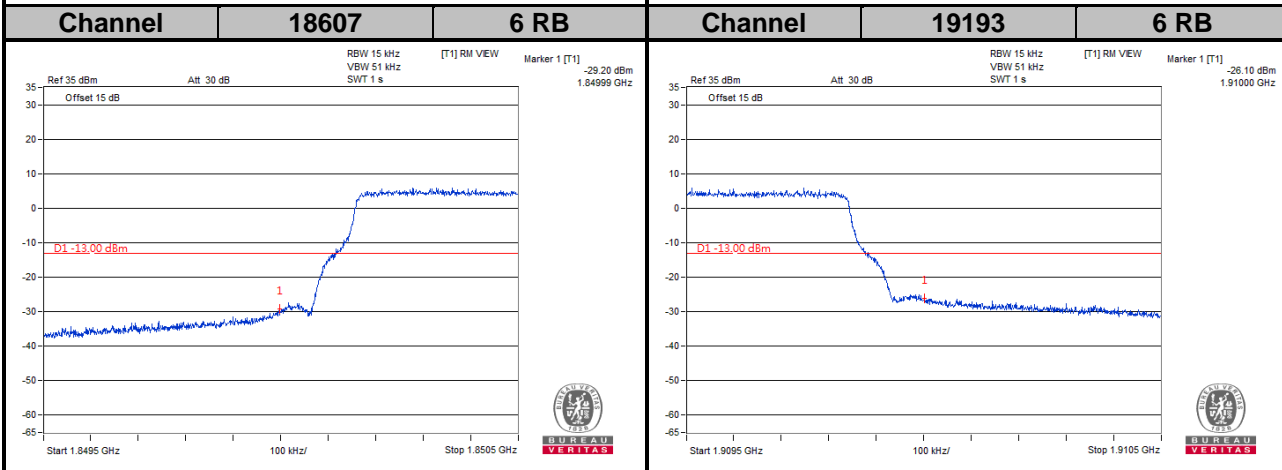
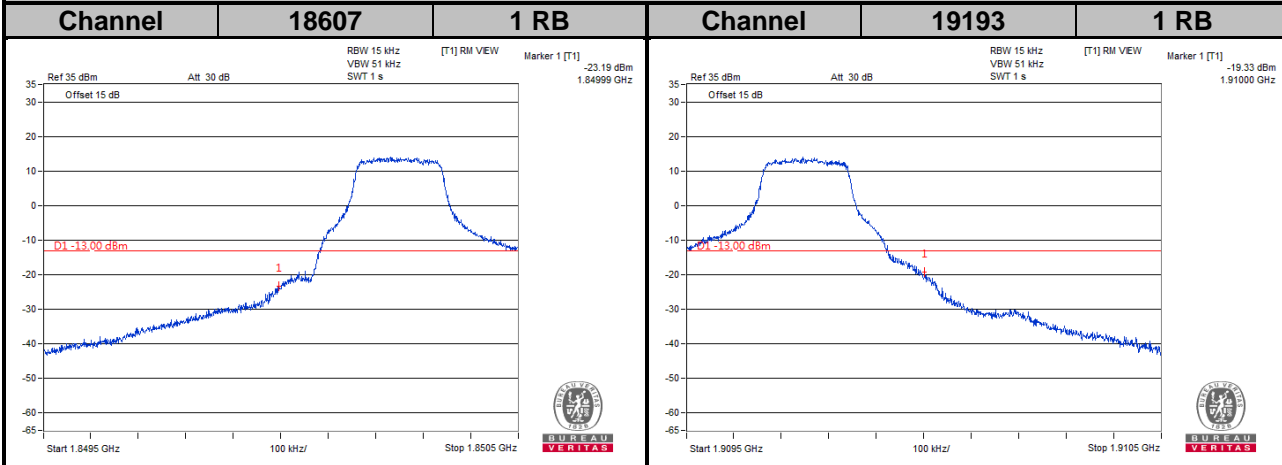
- All measurements were done at low and high operational frequency range.
- The center frequency of spectrum is the band edge frequency and span is 5 MHz. RB of the spectrum is 47 kHz and VB of the spectrum is 150 kHz (WCDMA).
- The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 15 kHz and VB of the spectrum is 51 kHz (LTE Bandwidth 1.4 MHz).
- The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 30 kHz and VB of the spectrum is 100 kHz (LTE Bandwidth 3 MHz).
- The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 62 kHz and VB of the spectrum is 200 kHz (LTE Bandwidth 5 MHz).
- The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 100 kHz and VB of the spectrum is 300 kHz (LTE Bandwidth 10 MHz).
- The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 150 kHz and VB of the spectrum is 470 kHz (LTE Bandwidth 15 MHz).
- The center frequency of spectrum is the band edge frequency and span is 1 MHz. RB of the spectrum is 200 kHz and VB of the spectrum is 1 MHz (LTE Bandwidth 20 MHz).
- Record the max trace plot into the test report.

4.5.4 Test Results



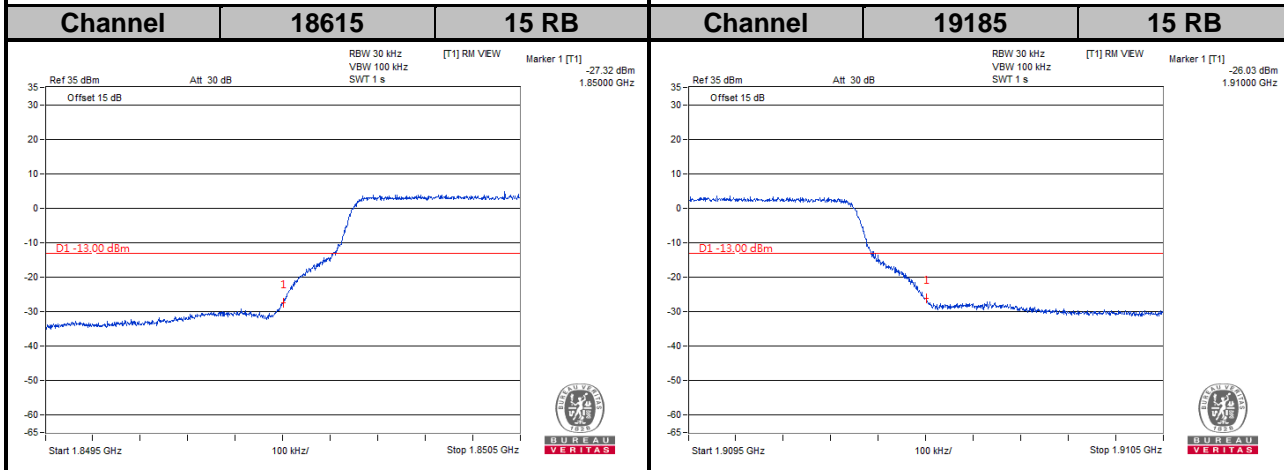
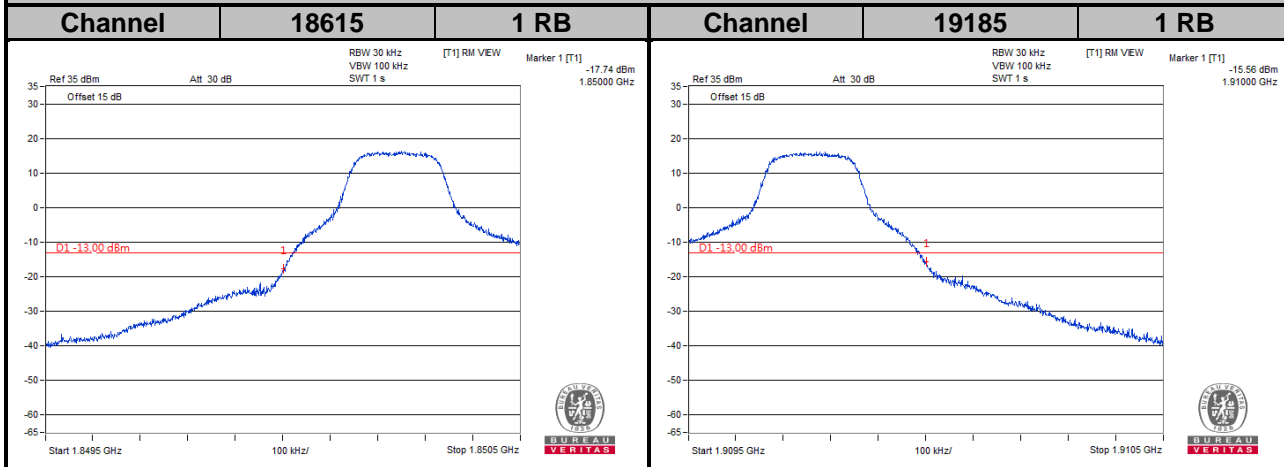
LTE Band 2

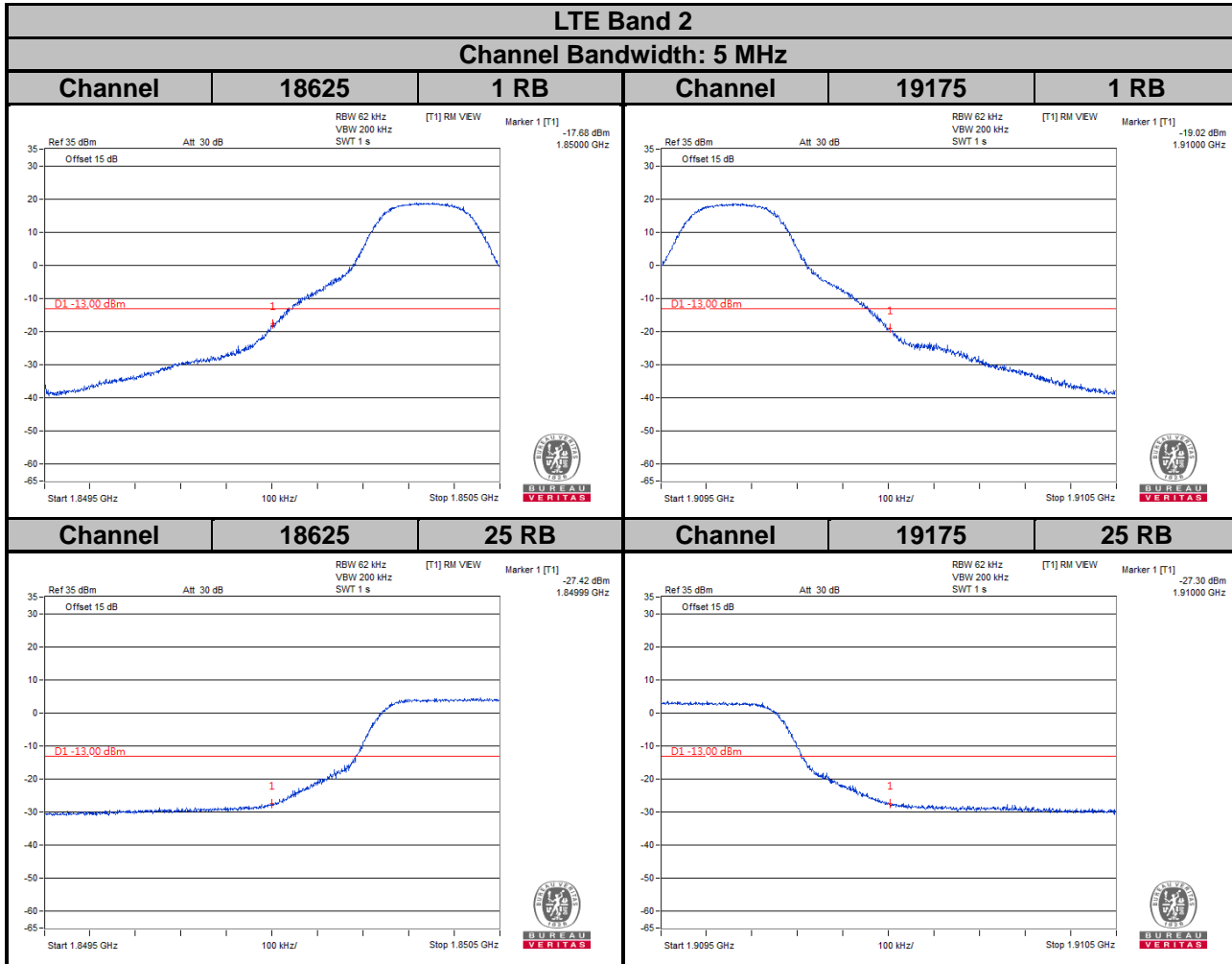
Channel Bandwidth: 1.4 MHz



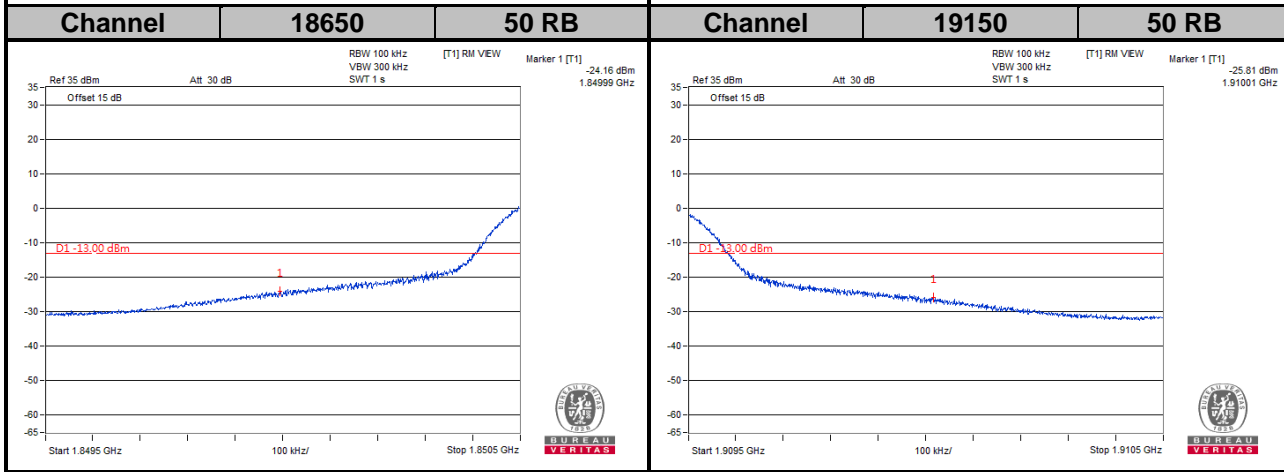
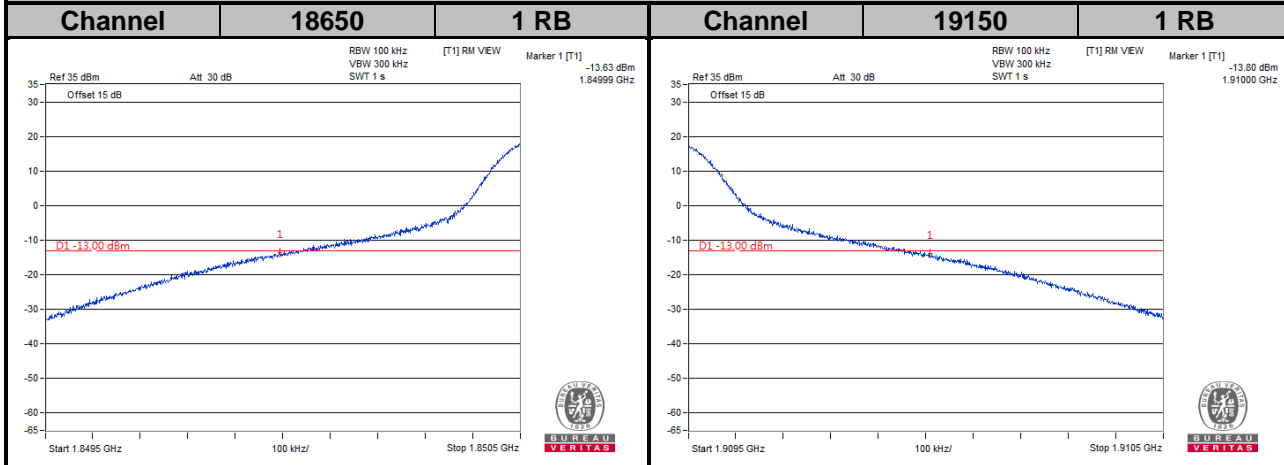
LTE Band 2

Channel Bandwidth: 3 MHz



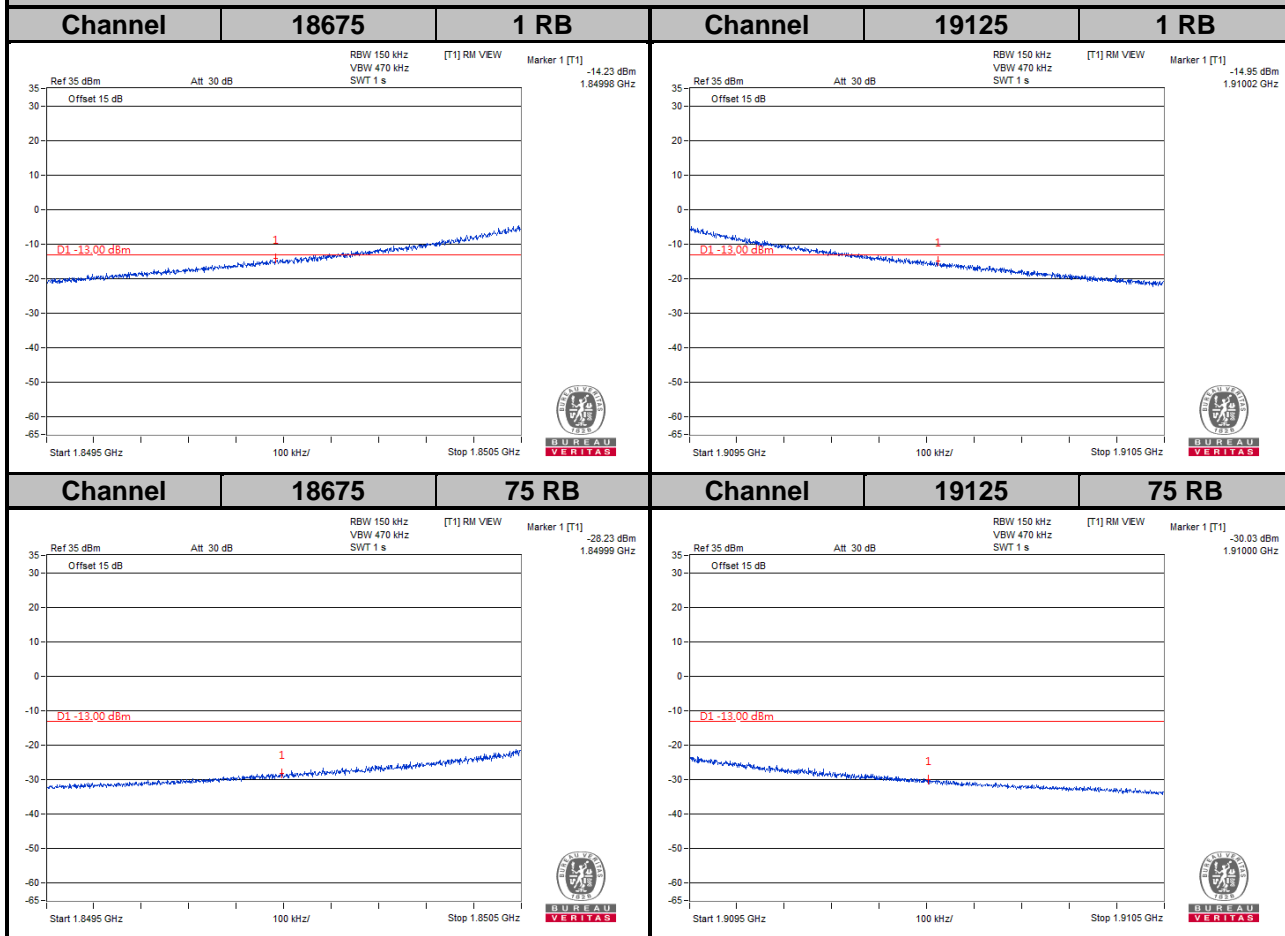


LTE Band 2
Channel Bandwidth: 10 MHz



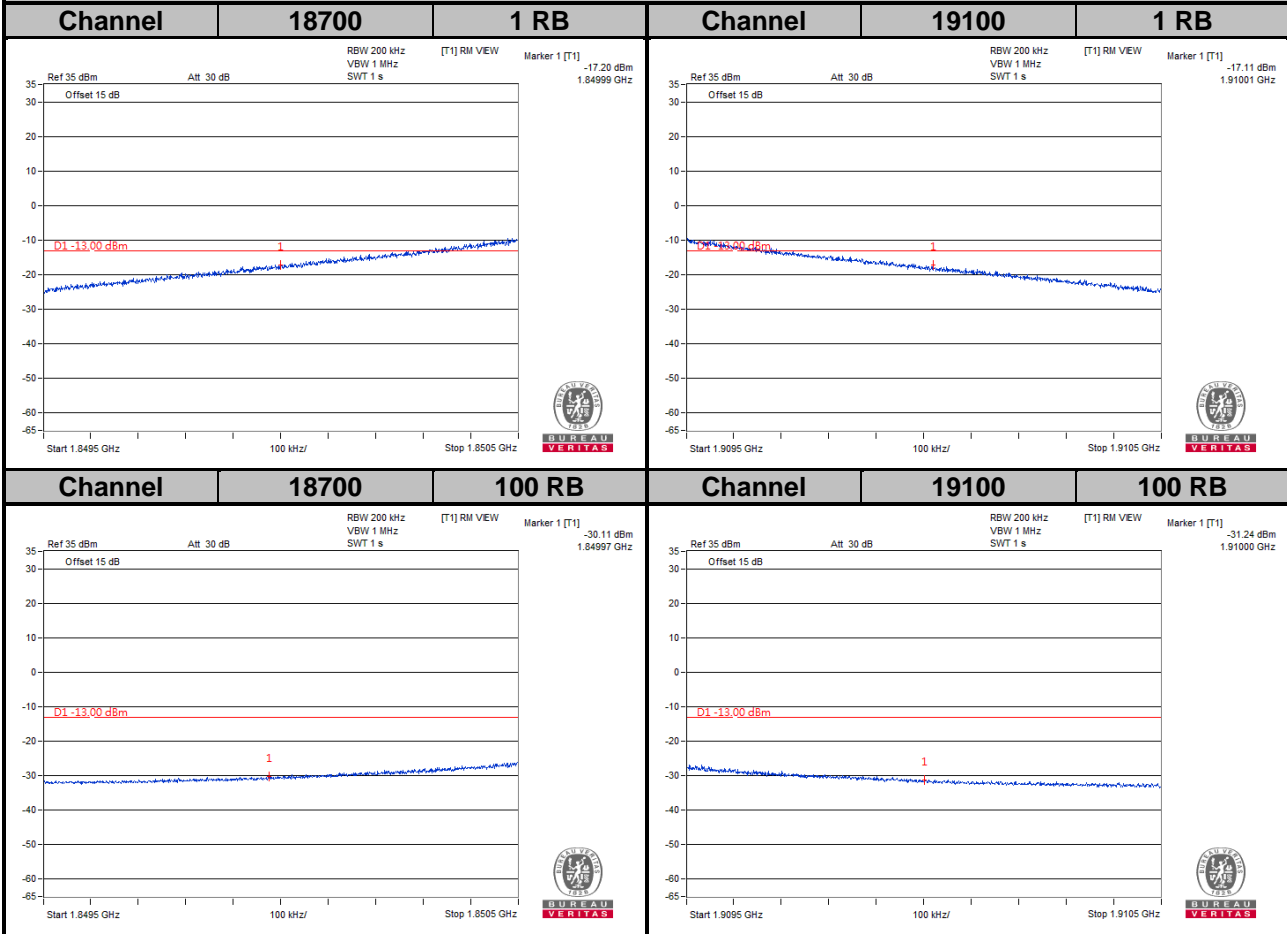
LTE Band 2

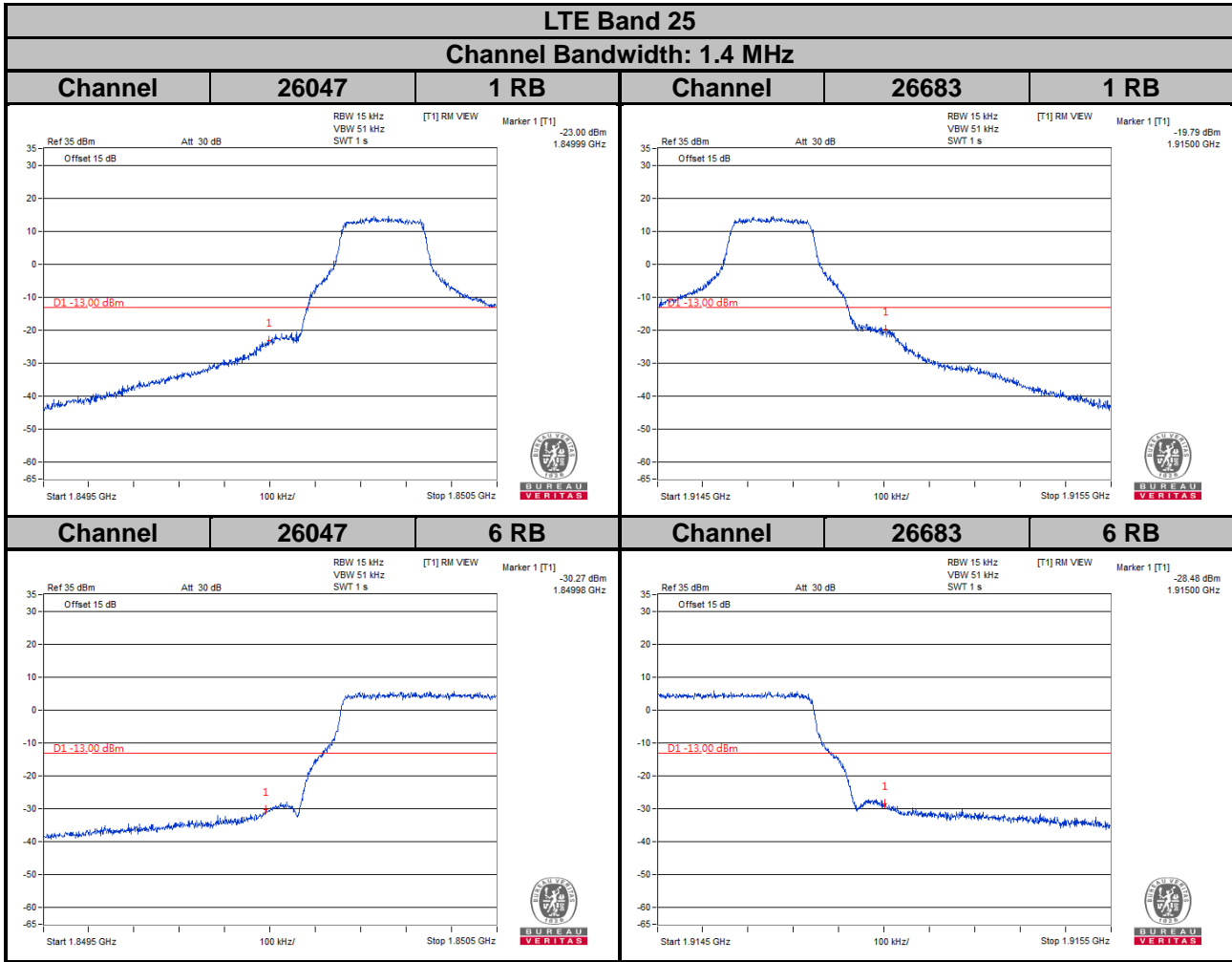
Channel Bandwidth: 15 MHz



LTE Band 2

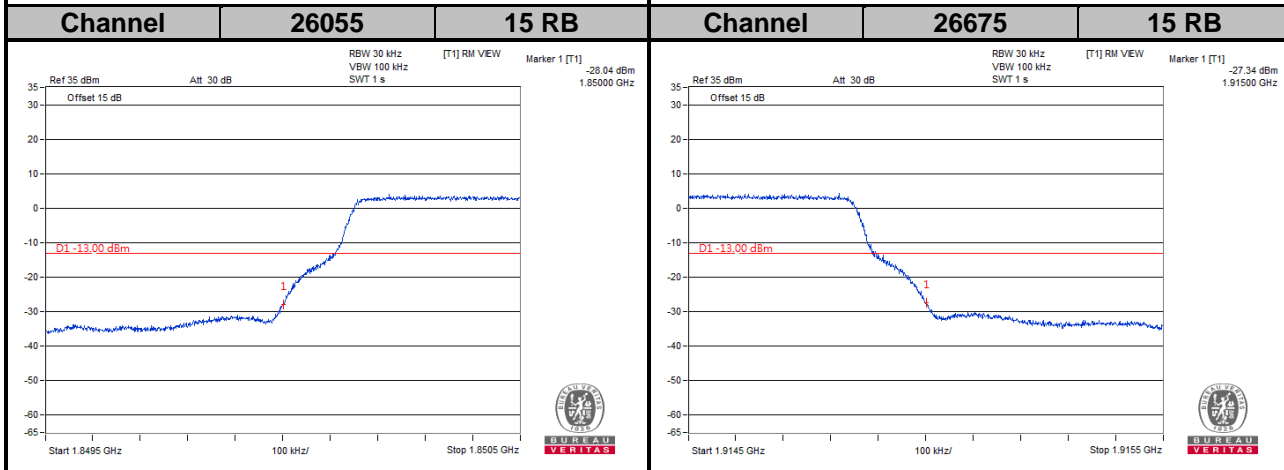
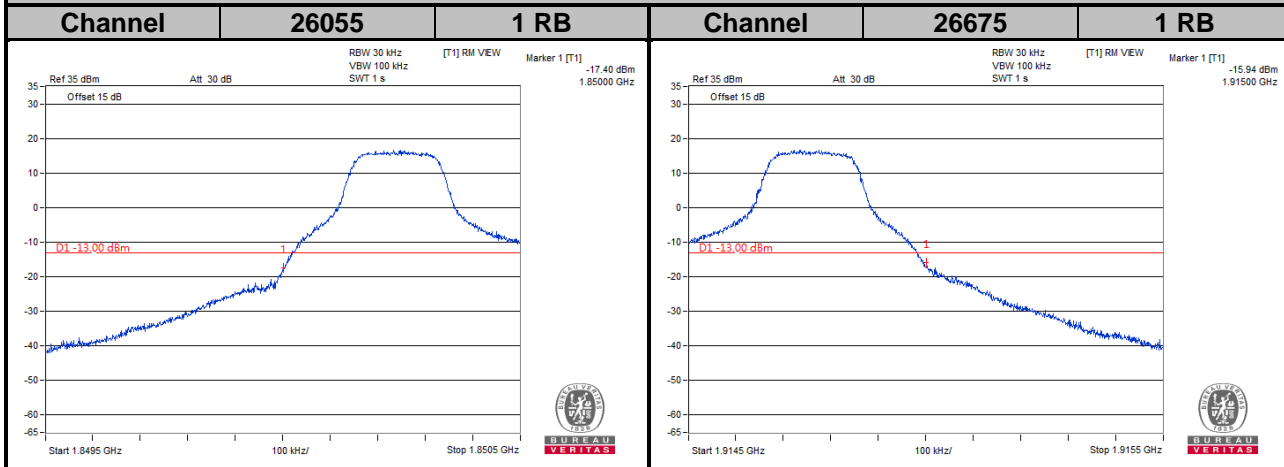
Channel Bandwidth: 20 MHz



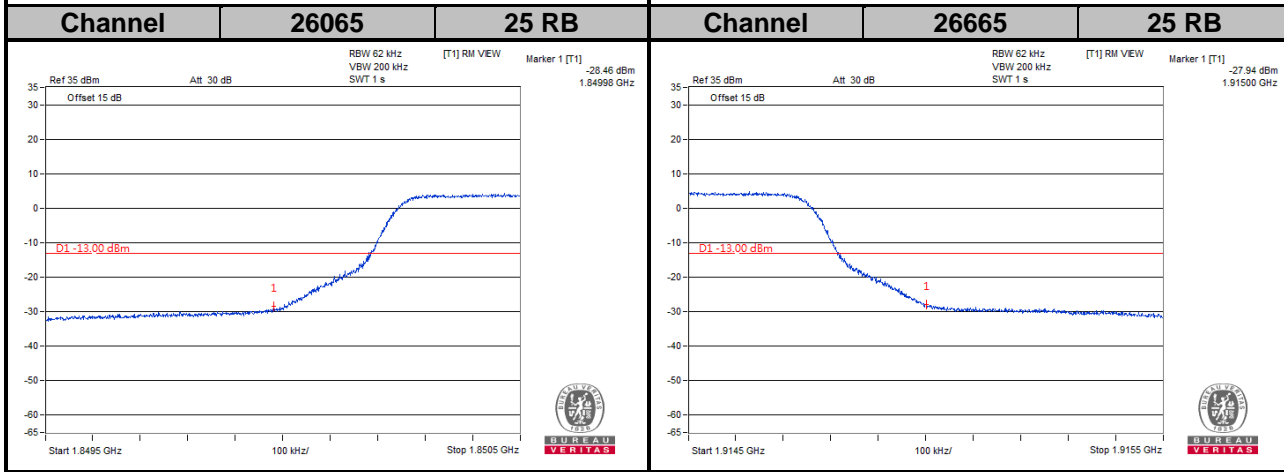
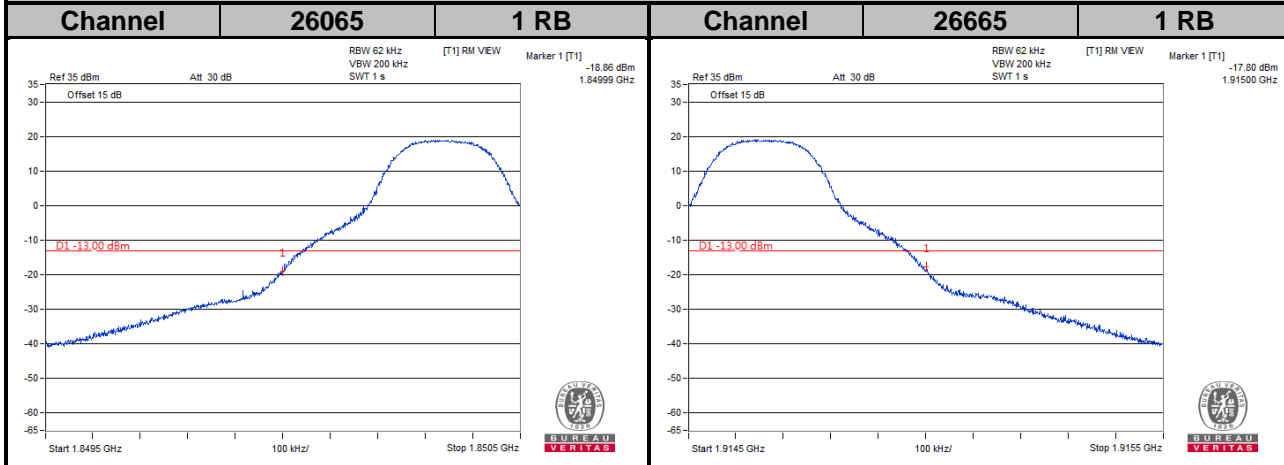


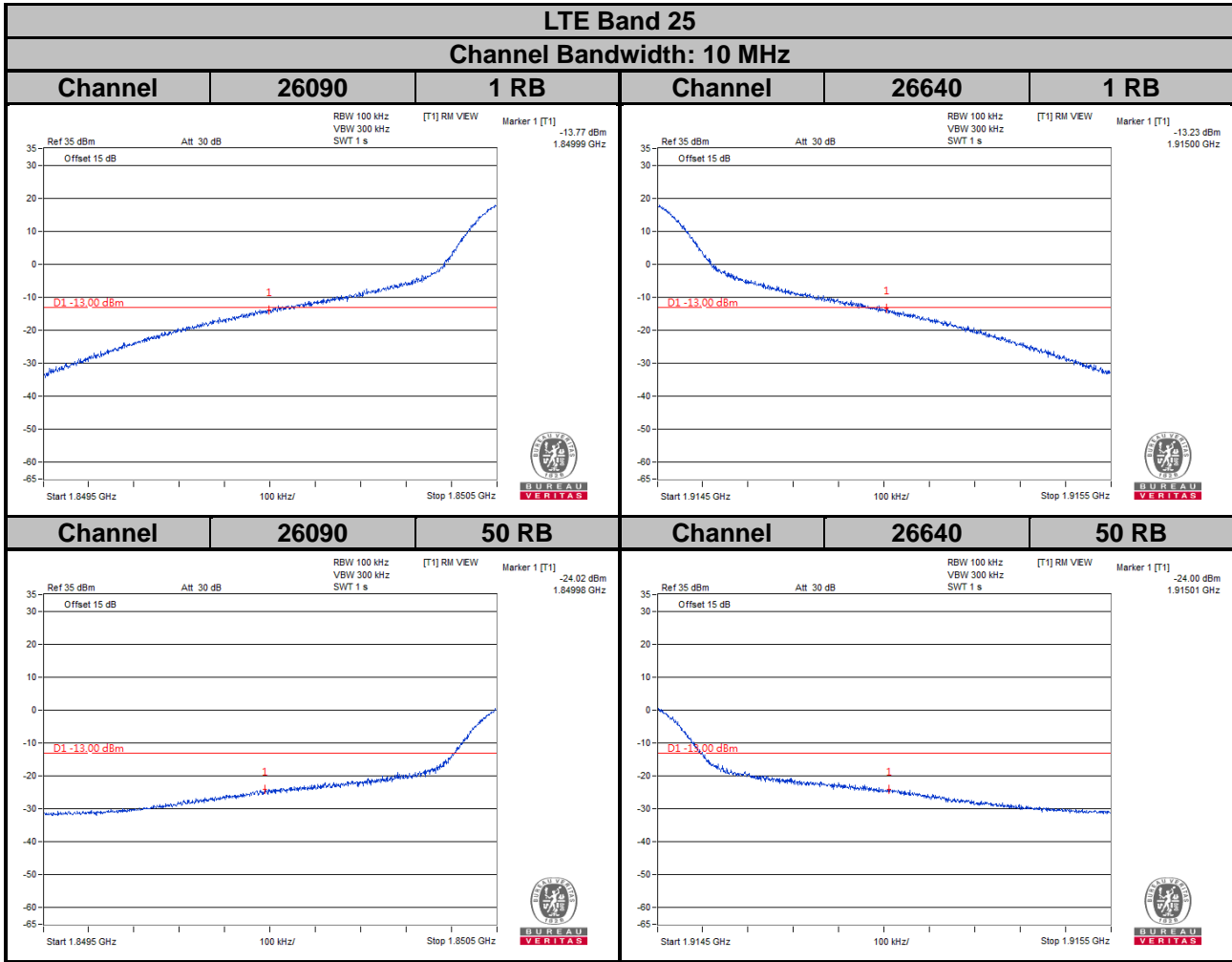
LTE Band 25

Channel Bandwidth: 3 MHz



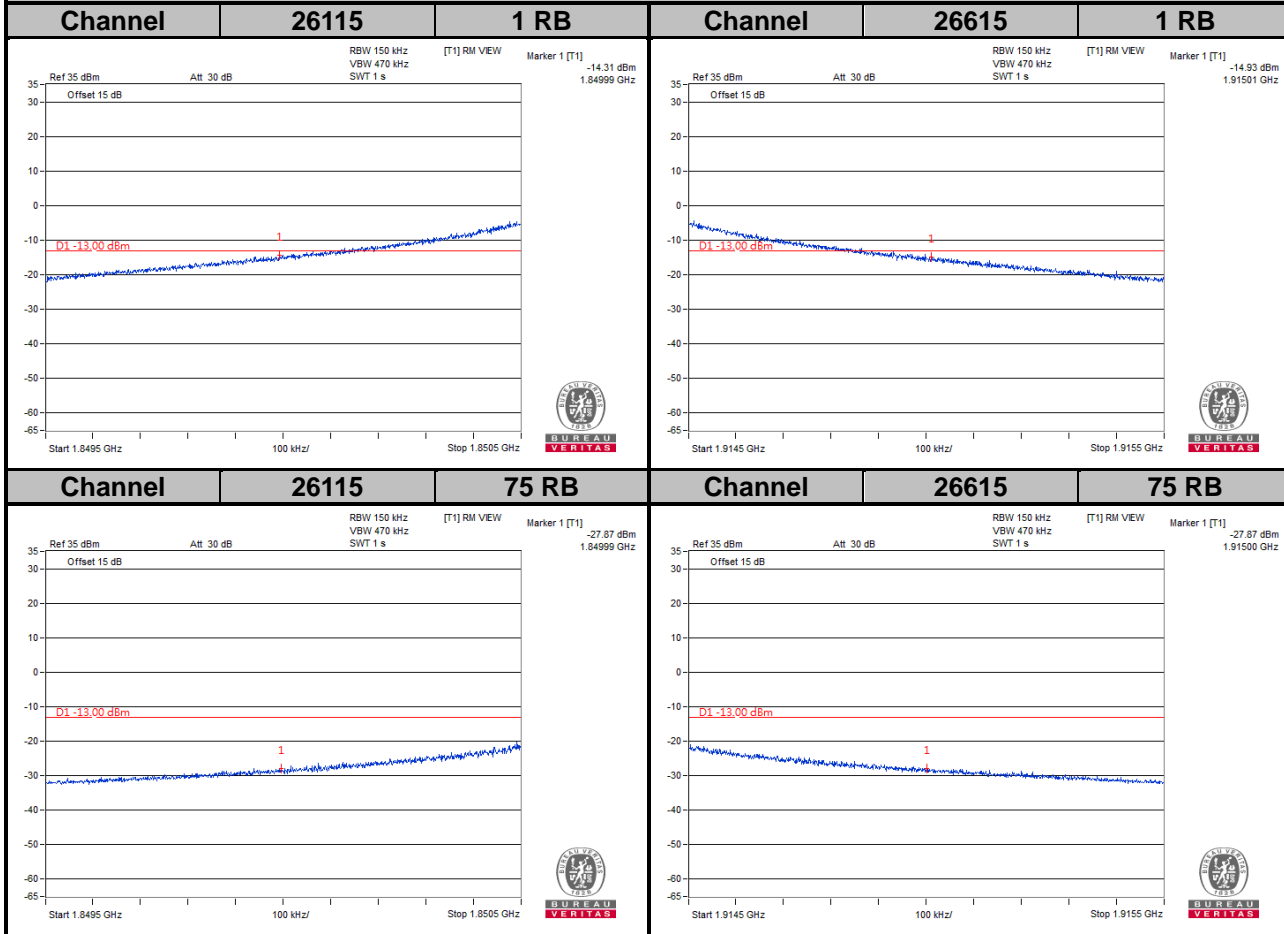
LTE Band 25
Channel Bandwidth: 5 MHz





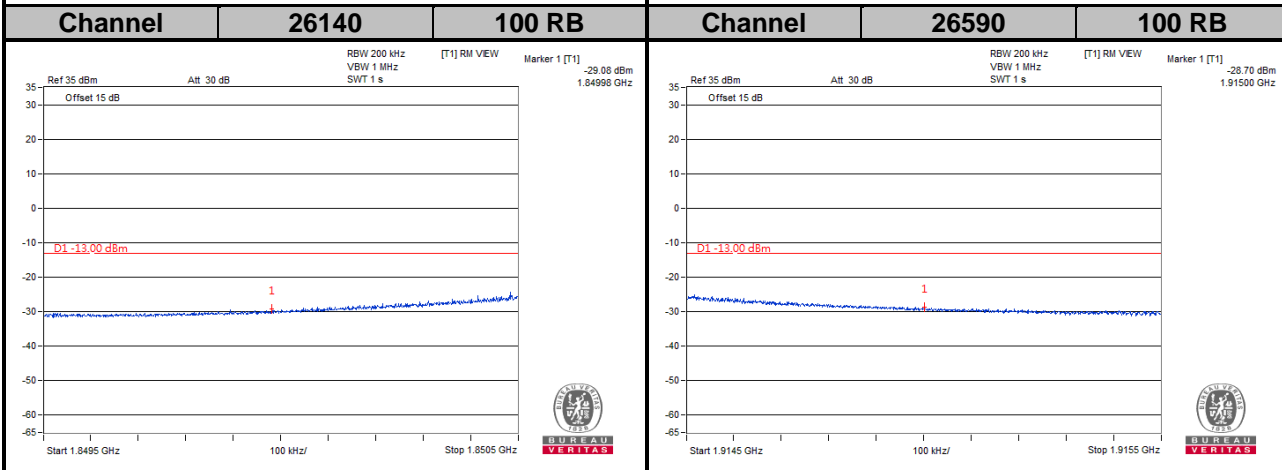
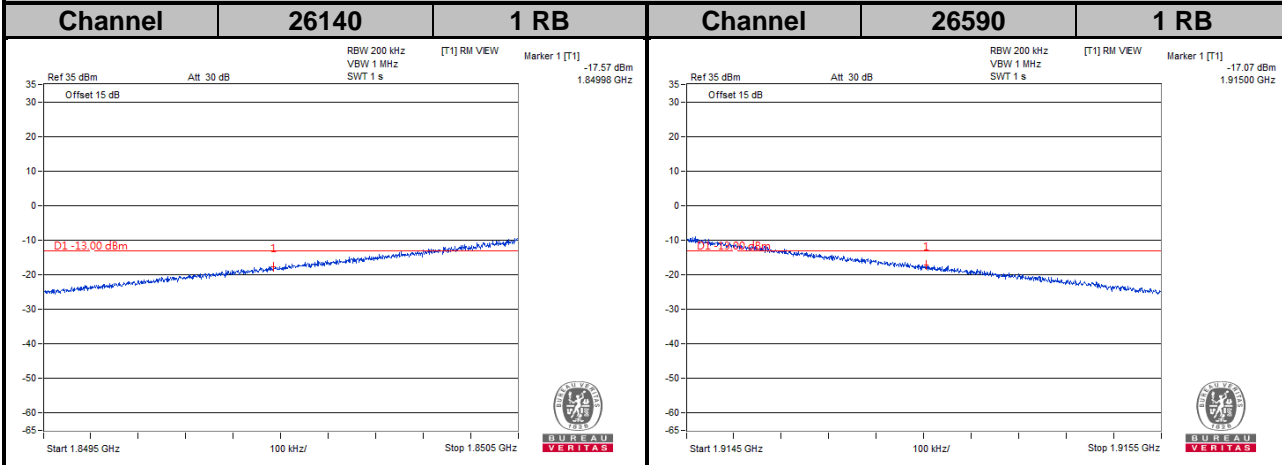
LTE Band 25

Channel Bandwidth: 15 MHz



LTE Band 25

Channel Bandwidth: 20 MHz

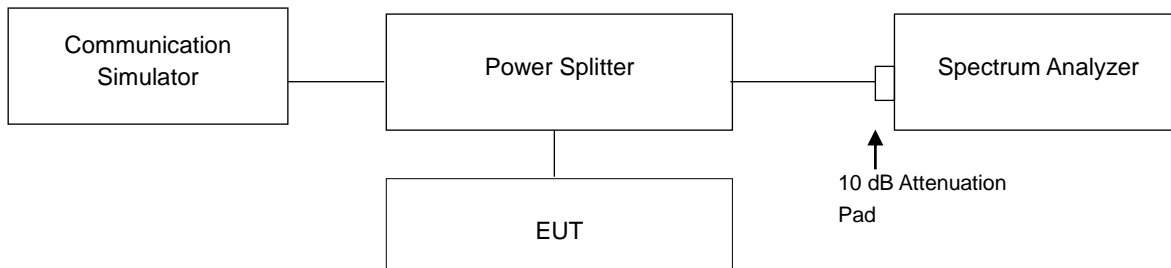


4.6 Peak to Average Ratio

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

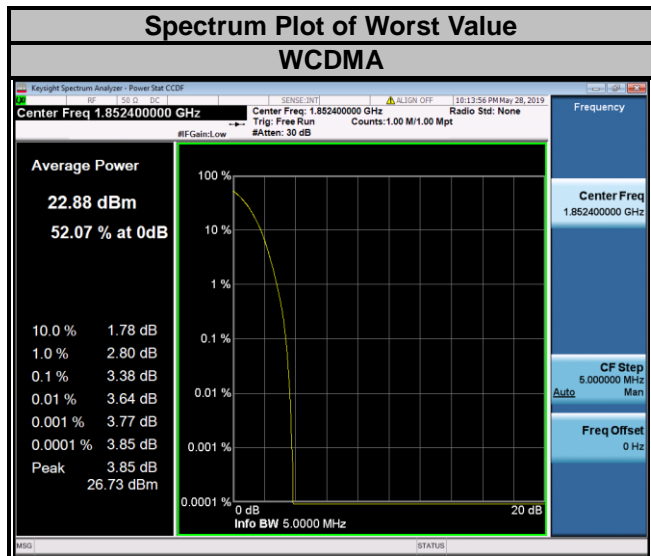


4.6.3 Test Procedures

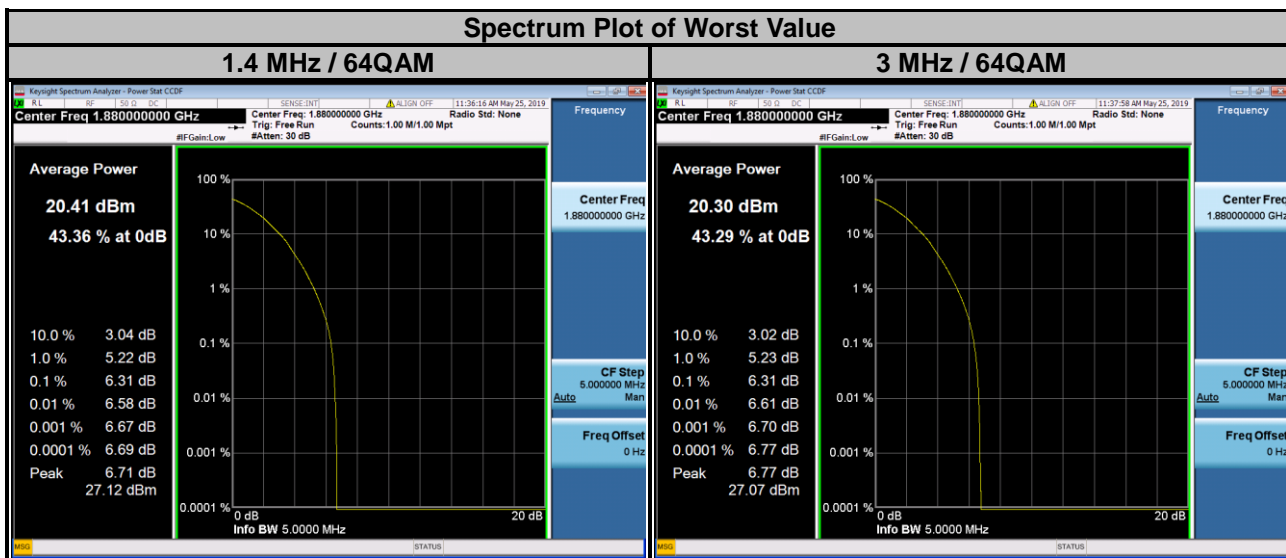
1. Set resolution/measurement bandwidth \geq signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1 %.

4.6.4 Test Results

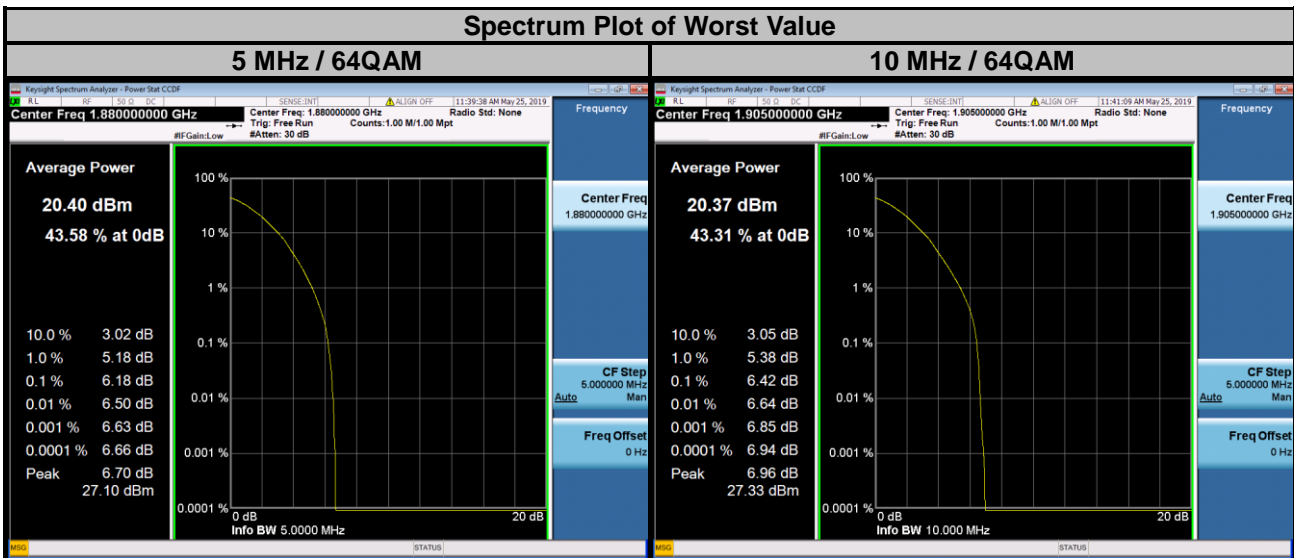
Channel	Frequency (MHz)	Peak to Average Ratio (dB)
		WCDMA
9262	1852.4	3.38
9400	1880.0	3.33
9538	1907.6	3.24



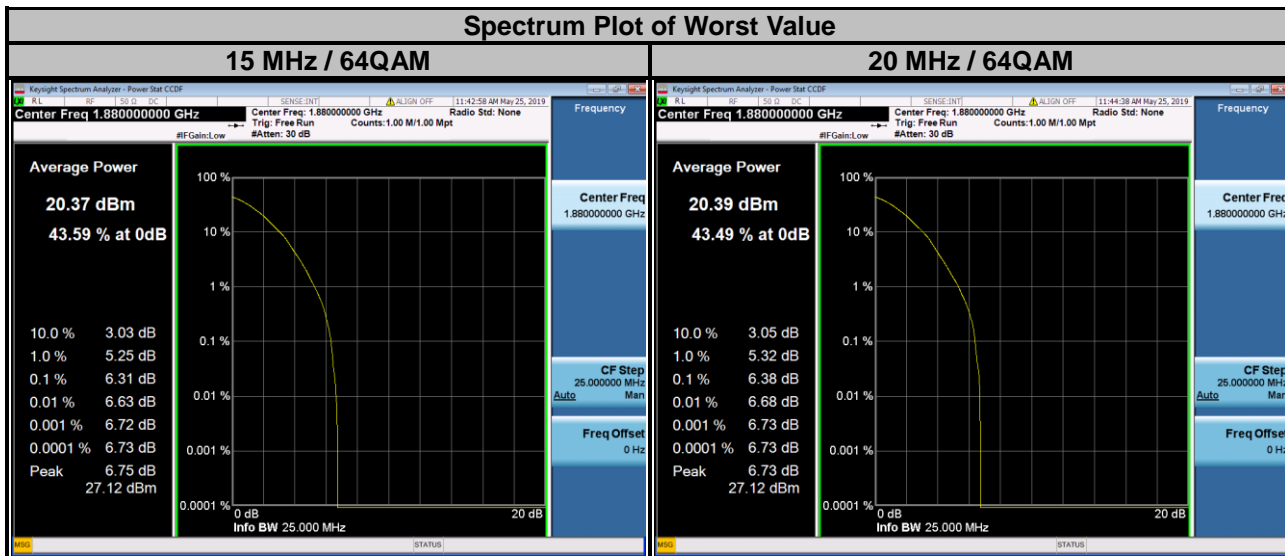
LTE Band 2									
Channel Bandwidth: 1.4 MHz					Channel Bandwidth: 3 MHz				
Channel	Frequency (MHz)	Peak to Average Ratio (dB)			Channel	Frequency (MHz)	Peak to Average Ratio (dB)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
18607	1850.7	4.36	5.22	6.07	18615	1851.5	4.41	5.34	6.25
18900	1880.0	5.17	5.84	6.31	18900	1880.0	5.27	5.89	6.31
19193	1909.3	3.19	4.20	5.17	19185	1908.5	3.77	4.75	5.73



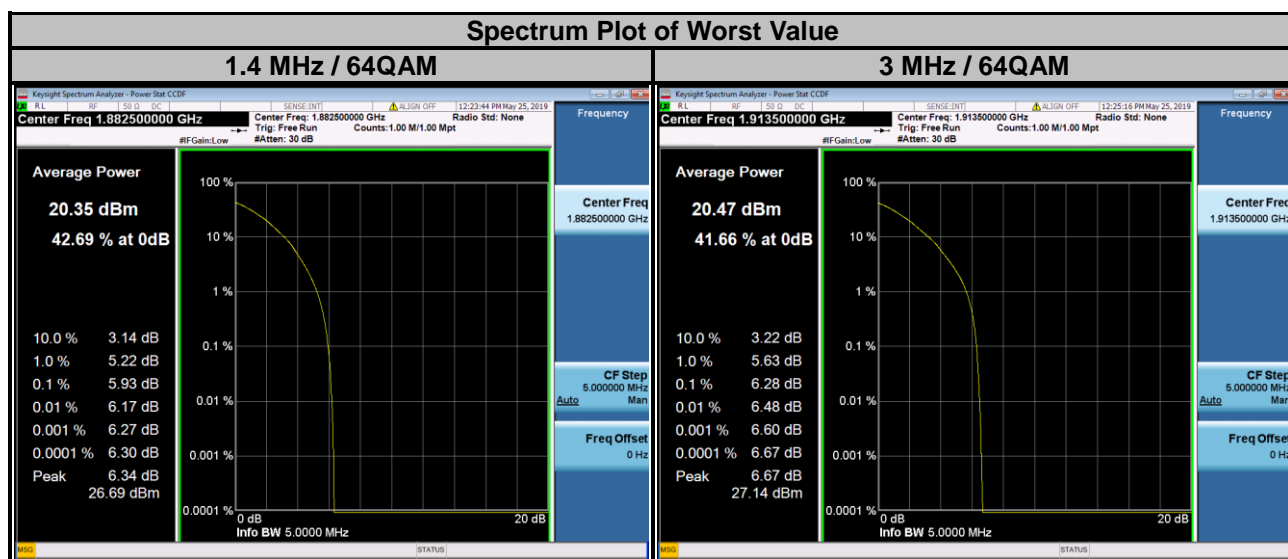
LTE Band 2									
Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
Channel	Frequency (MHz)	Peak to Average Ratio (dB)			Channel	Frequency (MHz)	Peak to Average Ratio (dB)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
18625	1852.5	4.35	5.25	6.14	18650	1855.0	4.32	5.28	6.09
18900	1880.0	5.35	5.77	6.18	18900	1880.0	5.37	5.67	6.23
19175	1907.5	4.33	5.20	5.99	19150	1905.0	4.86	5.63	6.42



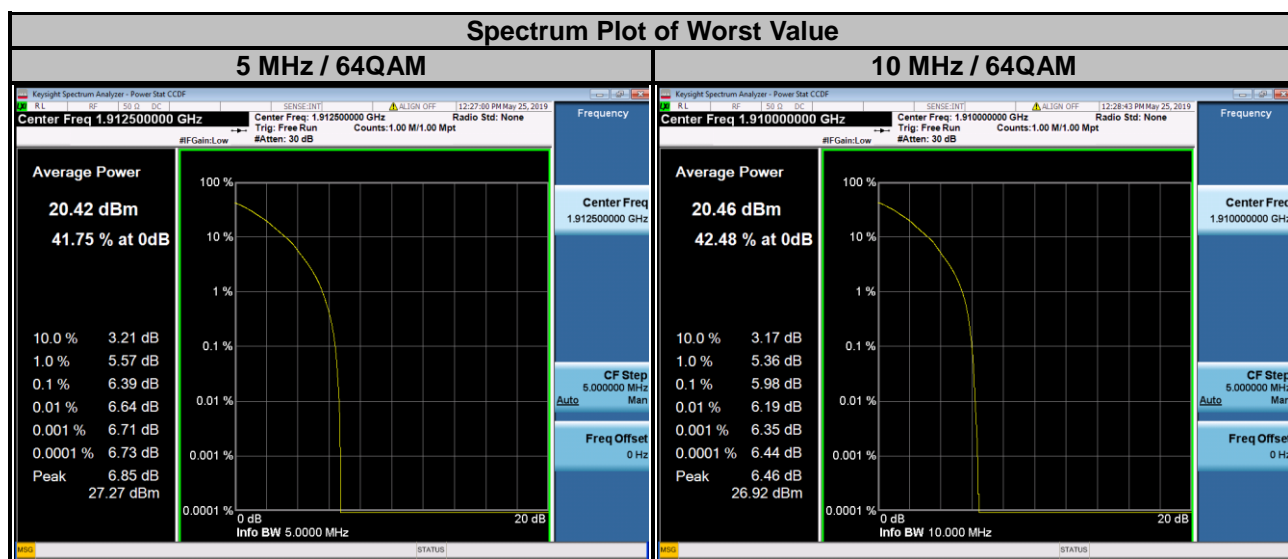
LTE Band 2									
Channel Bandwidth: 15 MHz					Channel Bandwidth: 20 MHz				
Channel	Frequency (MHz)	Peak to Average Ratio (dB)			Channel	Frequency (MHz)	Peak to Average Ratio (dB)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
18675	1857.5	4.35	5.24	6.11	18700	1860.0	4.20	5.21	6.08
18900	1880.0	5.44	5.93	6.31	18900	1880.0	5.48	5.86	6.38
19125	1902.5	4.33	5.35	6.31	19100	1900.0	4.07	5.00	5.98



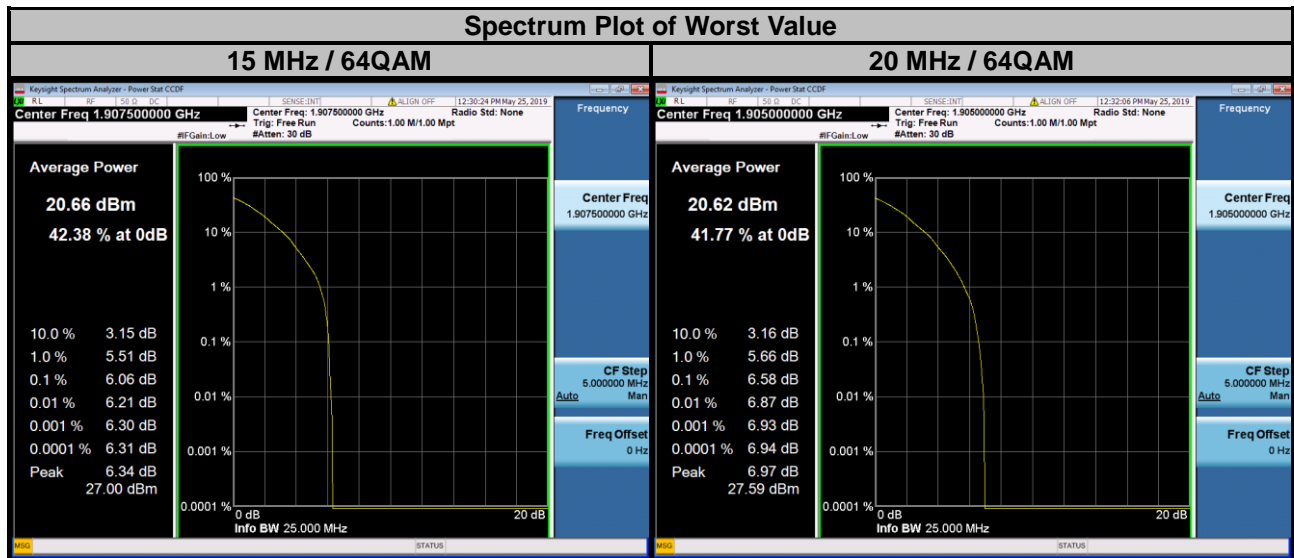
LTE Band 25									
Channel Bandwidth: 1.4 MHz					Channel Bandwidth: 3 MHz				
Channel	Frequency (MHz)	Peak to Average Ratio (dB)			Channel	Frequency (MHz)	Peak to Average Ratio (dB)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
26047	1850.7	4.29	5.00	5.57	26055	1851.5	4.34	5.06	5.66
26365	1882.5	4.72	5.38	5.93	26365	1882.5	4.71	5.45	5.99
26683	1914.3	4.06	4.79	5.53	26675	1913.5	4.68	5.47	6.28



LTE Band 25									
Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
Channel	Frequency (MHz)	Peak to Average Ratio (dB)			Channel	Frequency (MHz)	Peak to Average Ratio (dB)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
26065	1852.5	4.28	4.94	5.61	26090	1855.0	4.22	4.90	5.53
26365	1882.5	4.61	5.33	5.87	26365	1882.5	4.50	5.22	5.74
26665	1912.5	4.69	5.52	6.39	26640	1910.0	4.66	5.33	5.98



LTE Band 25									
Channel Bandwidth: 15 MHz					Channel Bandwidth: 20 MHz				
Channel	Frequency (MHz)	Peak to Average Ratio (dB)			Channel	Frequency (MHz)	Peak to Average Ratio (dB)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
26115	1857.5	4.23	4.92	5.47	26140	1860.0	4.22	4.87	5.52
26365	1882.5	4.63	5.33	5.95	26365	1882.5	4.80	5.51	6.05
26615	1907.5	4.78	5.42	6.06	26590	1905.0	5.04	5.88	6.58

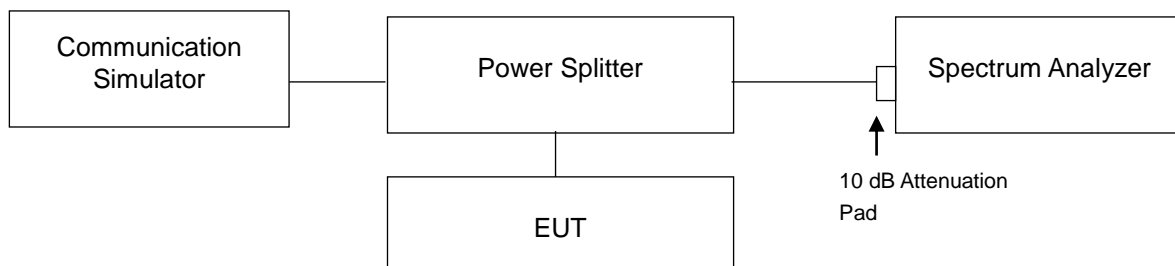


4.7 Conducted Spurious Emissions

4.7.1 Limits of Conducted Spurious Emissions Measurement

The 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. The emission limit equal to -13 dBm.

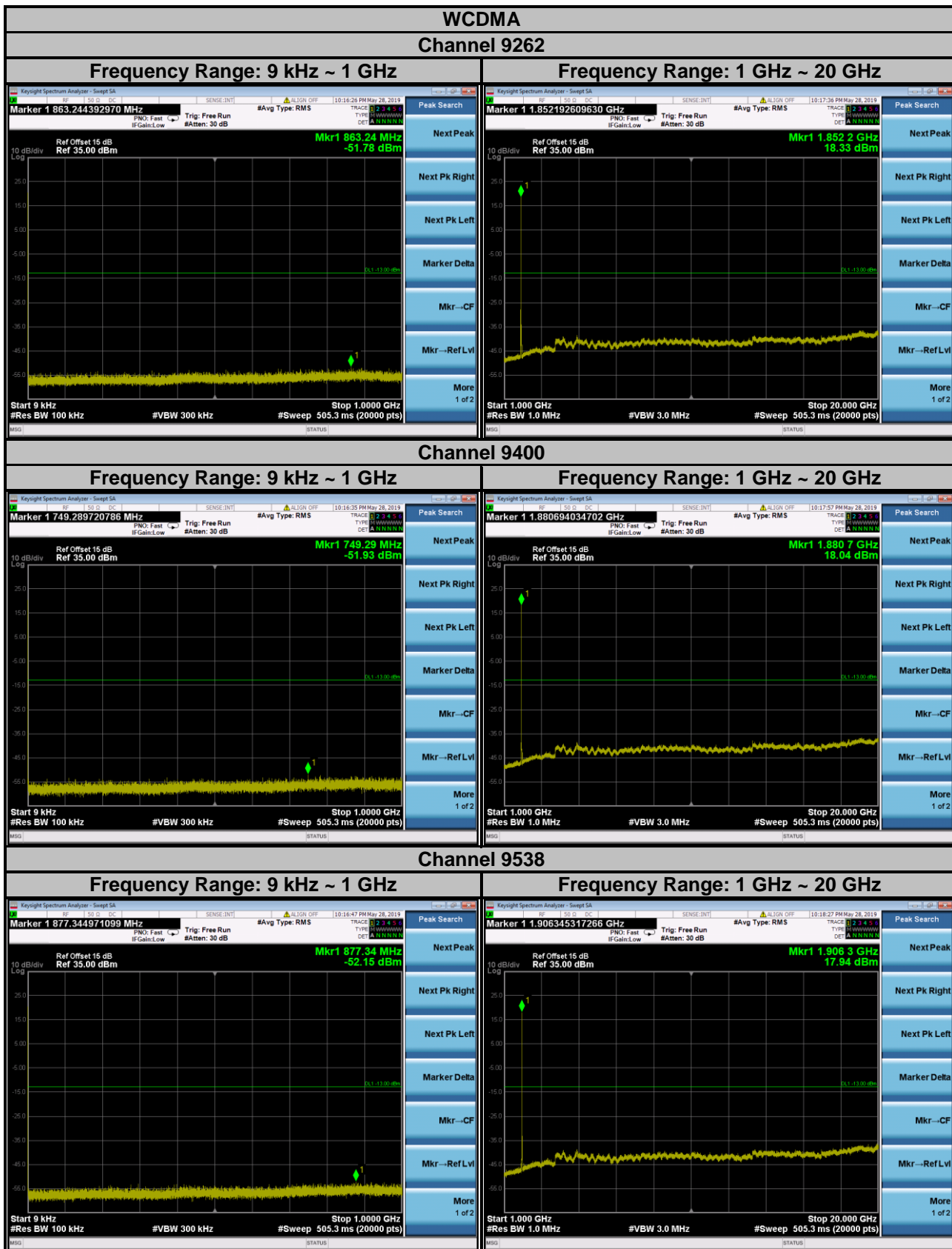
4.7.2 Test Setup



4.7.3 Test Procedure

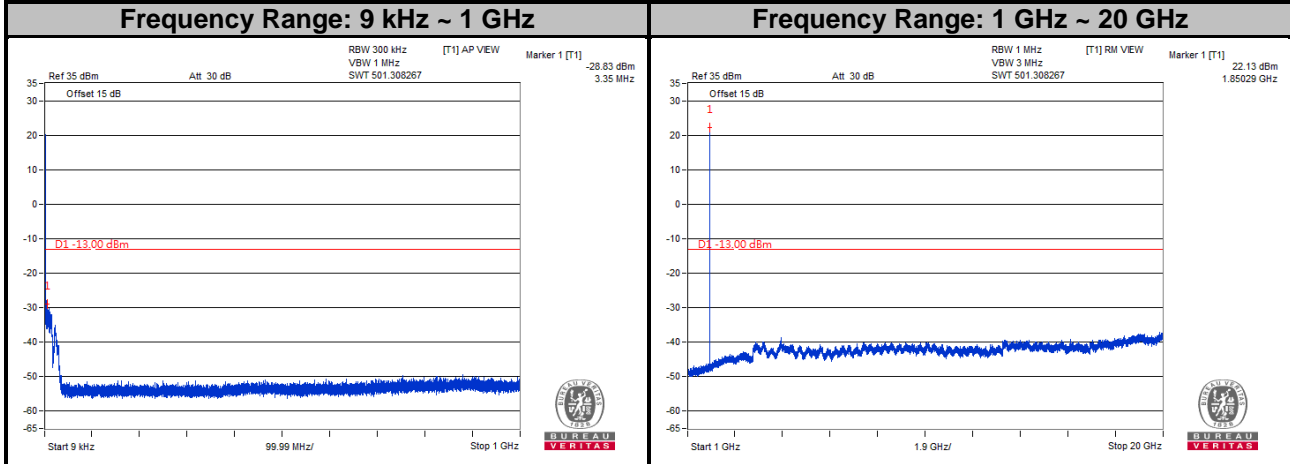
- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- Measuring frequency range is from 9 kHz to 1 GHz. 10 dB attenuation pad is connected with spectrum. RBW = 100 kHz and VBW = 300 kHz is used for WCDMA conducted emission measurement. RBW = 300 kHz and VBW = 1 MHz is used for LTE conducted emission measurement.
- Measuring frequency range is from 1 GHz to 20 GHz. 10 dB attenuation pad is connected with spectrum. RBW = 1 MHz and VBW = 3 MHz is used for conducted emission measurement.
- Spectrum RBW settings are referenced to ANSI 63.2-1996 section 8.2.2 and ANSI 63.26 section 5.7.2.

4.7.4 Test Results

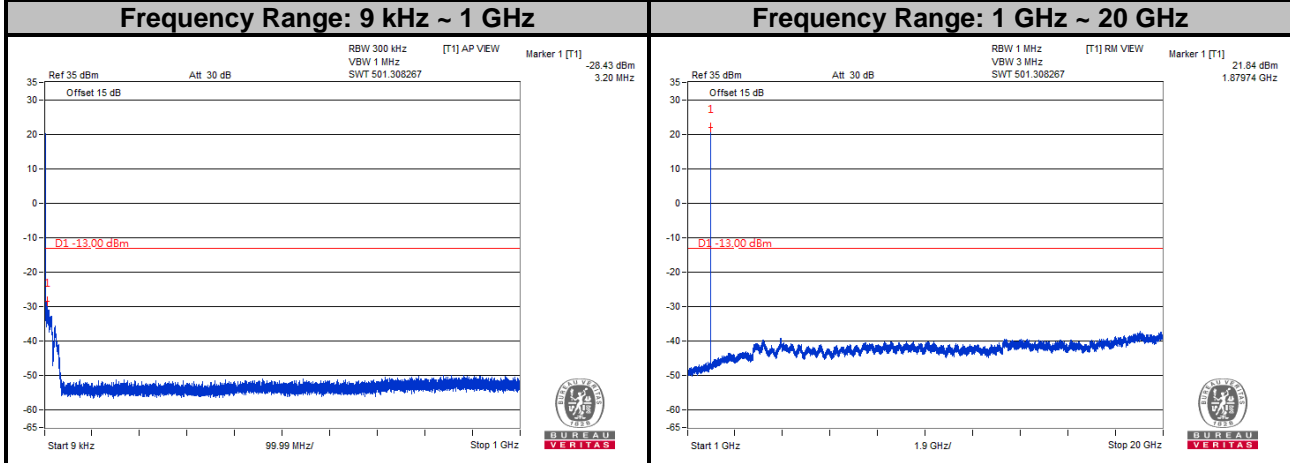


Note: The signal over the limit in 9 kHz is from spectrum analyzer.

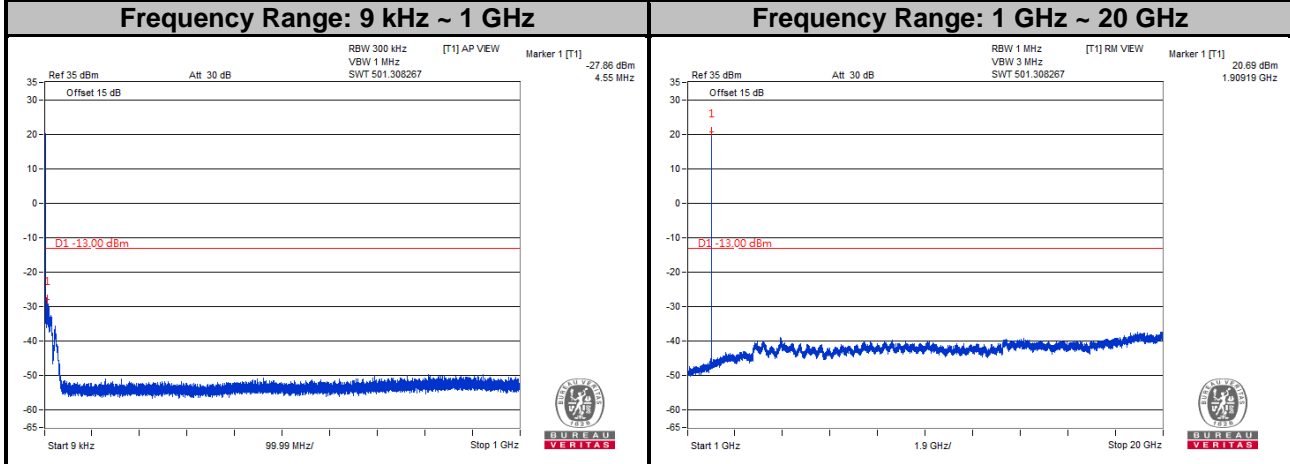
LTE Band 2
Channel Bandwidth: 1.4 MHz
Channel 18607



Channel 18900

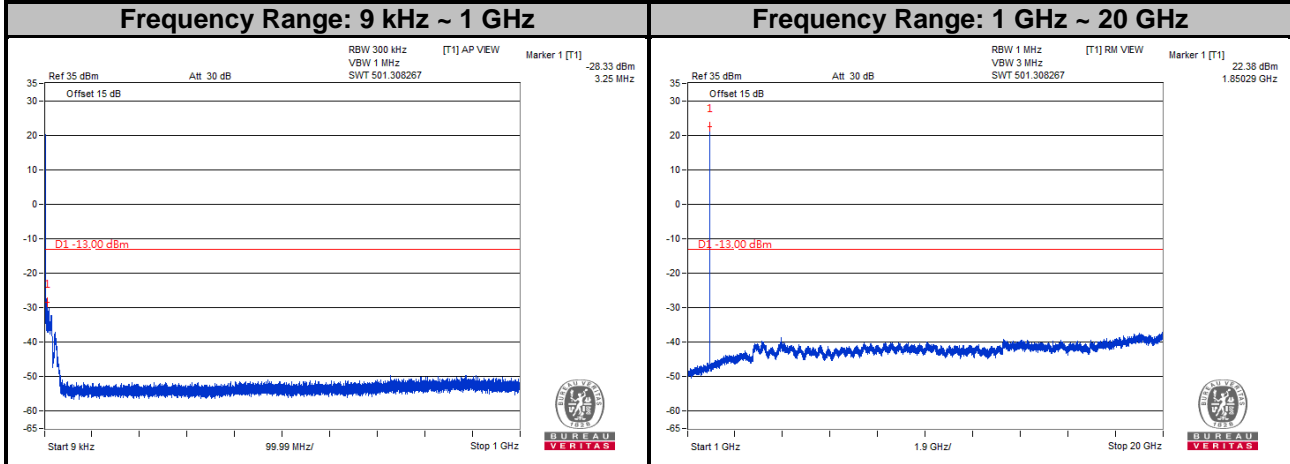


Channel 19193

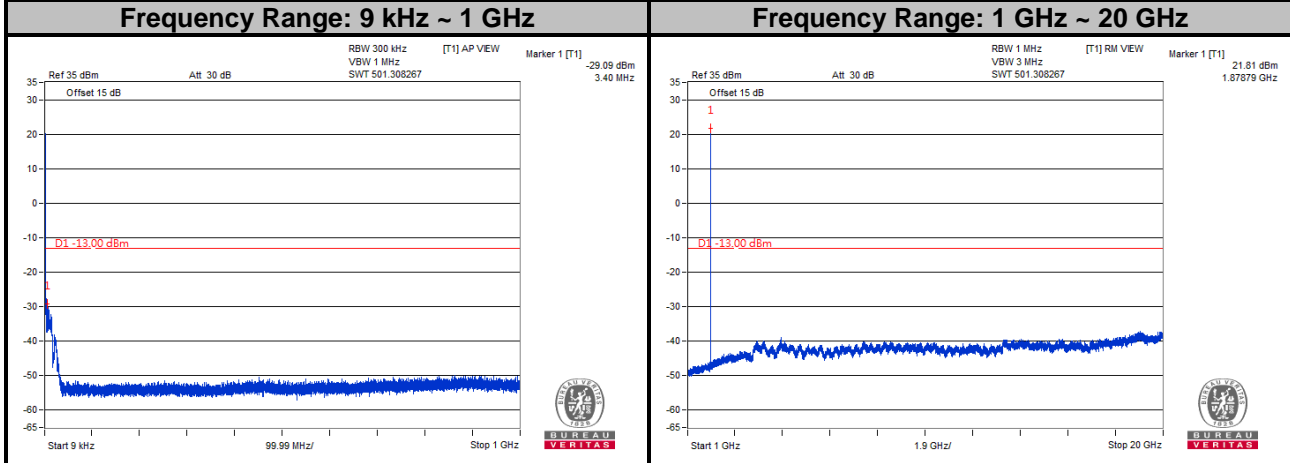


Note: The signal over the limit in 9 kHz is from spectrum analyzer.

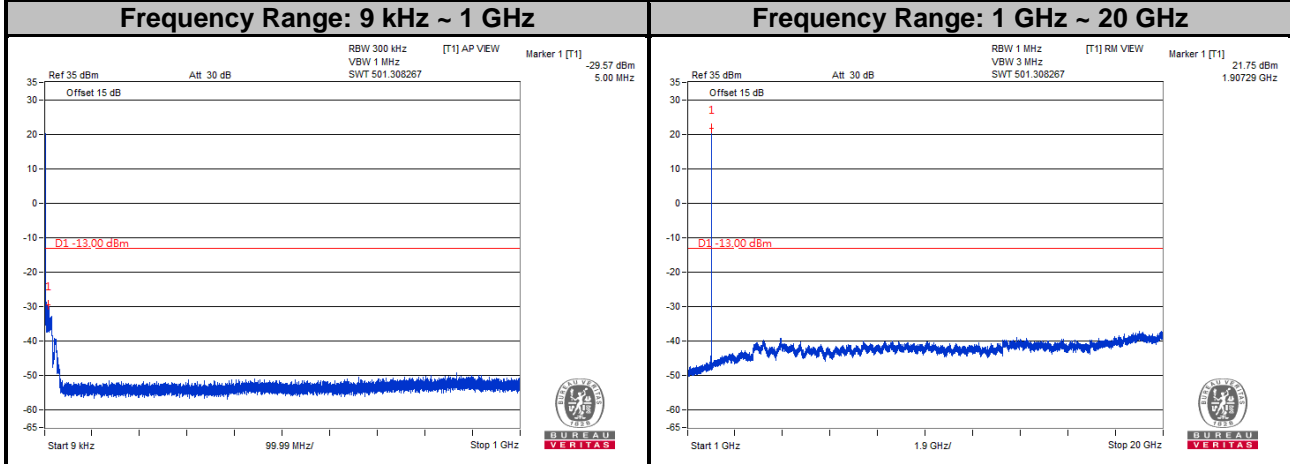
LTE Band 2
Channel Bandwidth: 3 MHz
Channel 18615



Channel 18900

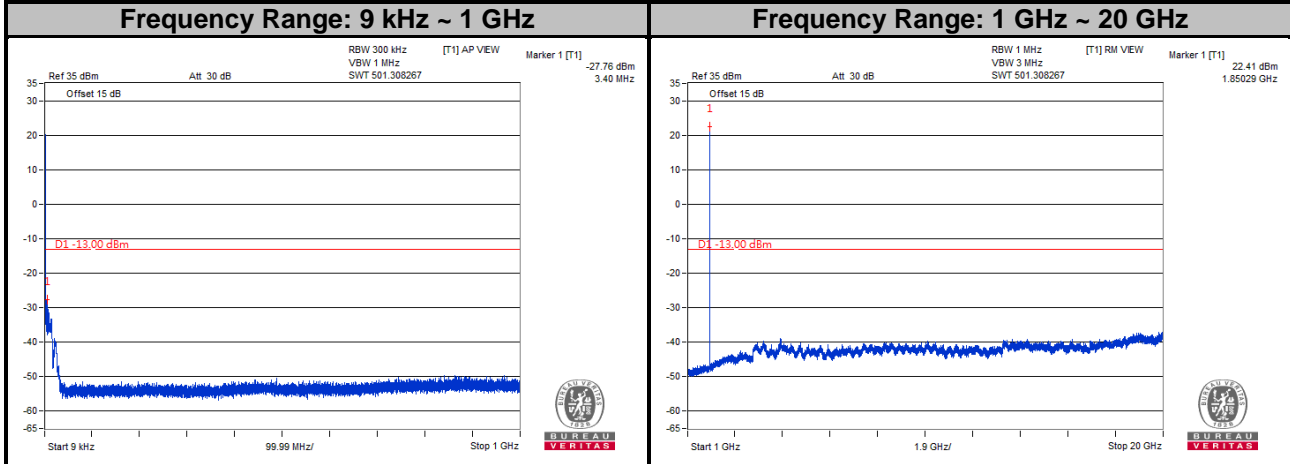


Channel 19185

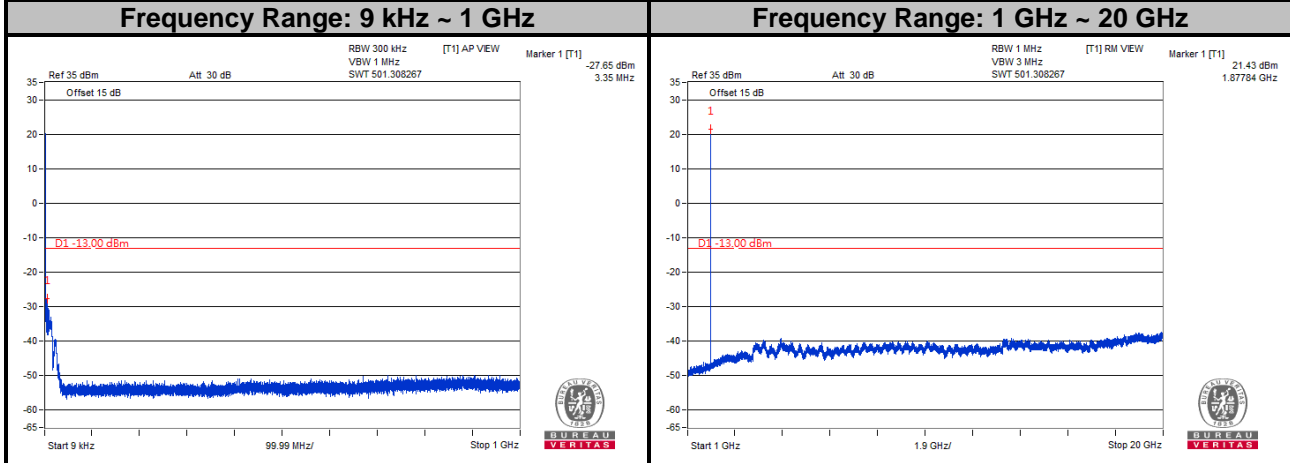


Note: The signal over the limit in 9 kHz is from spectrum analyzer.

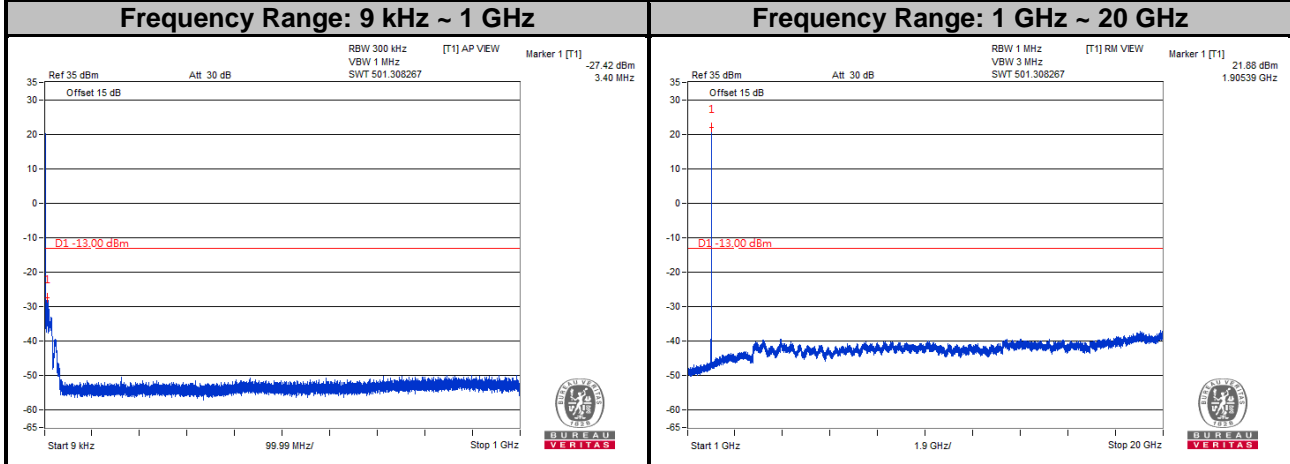
LTE Band 2
Channel Bandwidth: 5 MHz
Channel 18625



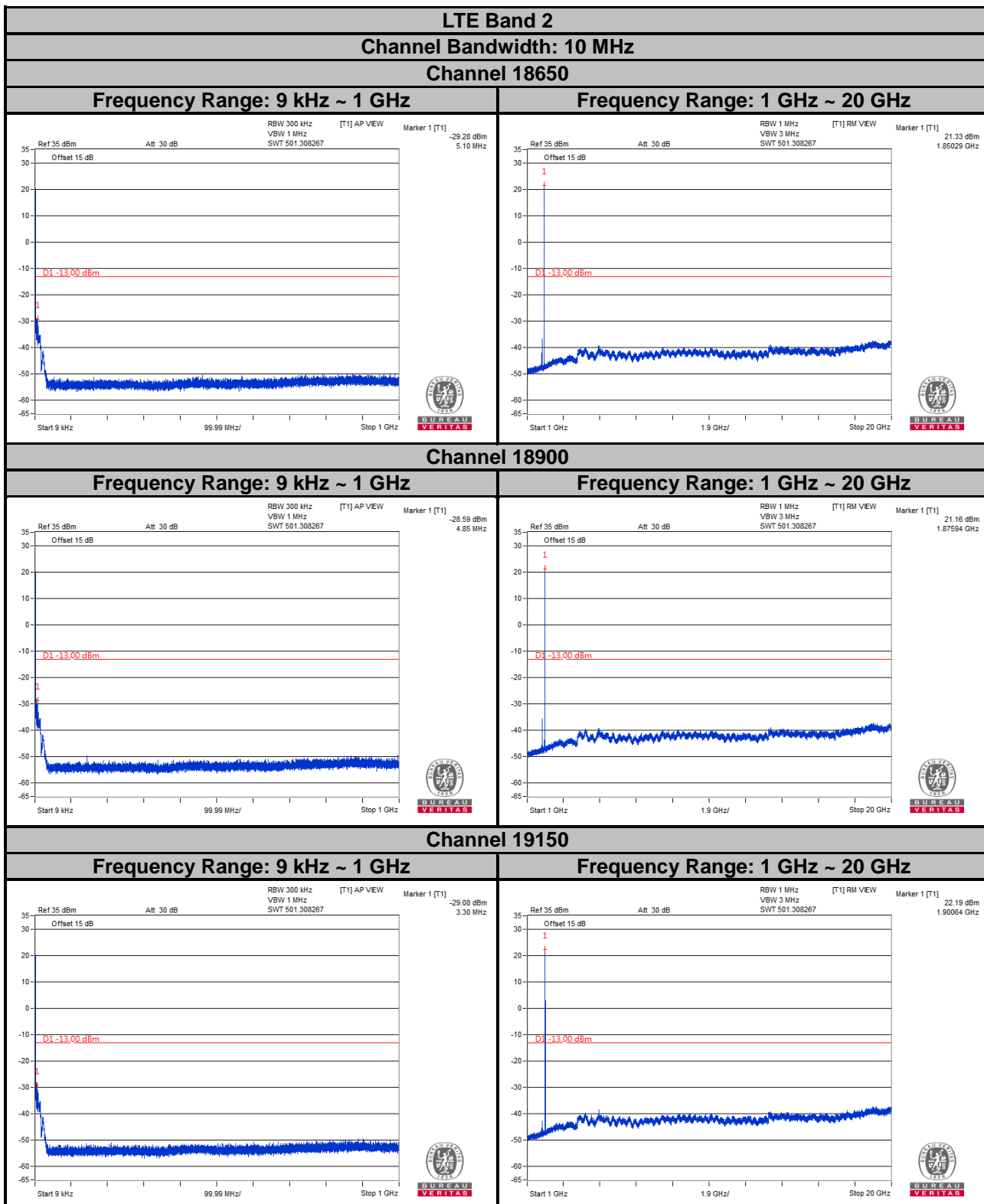
Channel 18900



Channel 19175

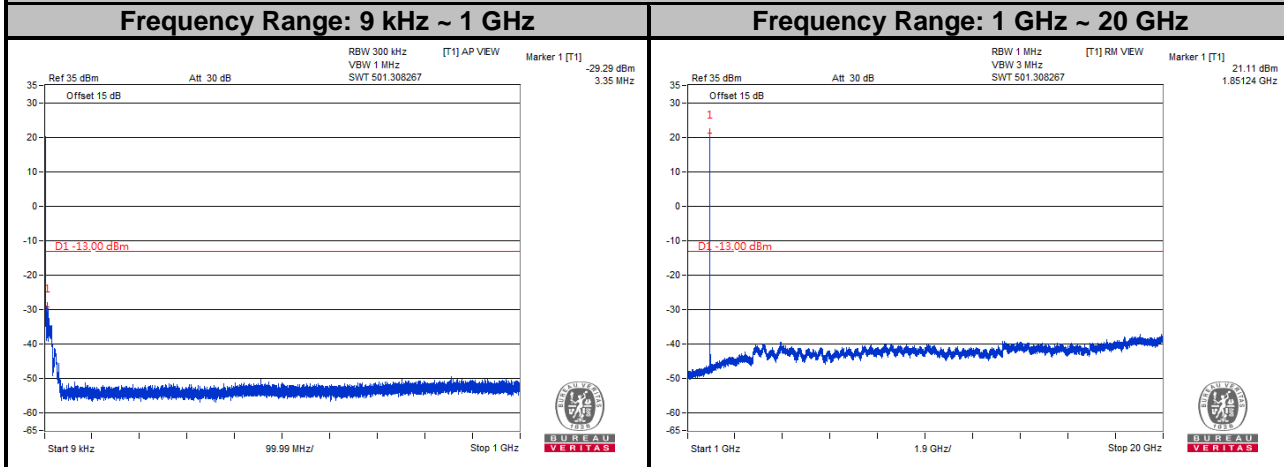


Note: The signal over the limit in 9 kHz is from spectrum analyzer.

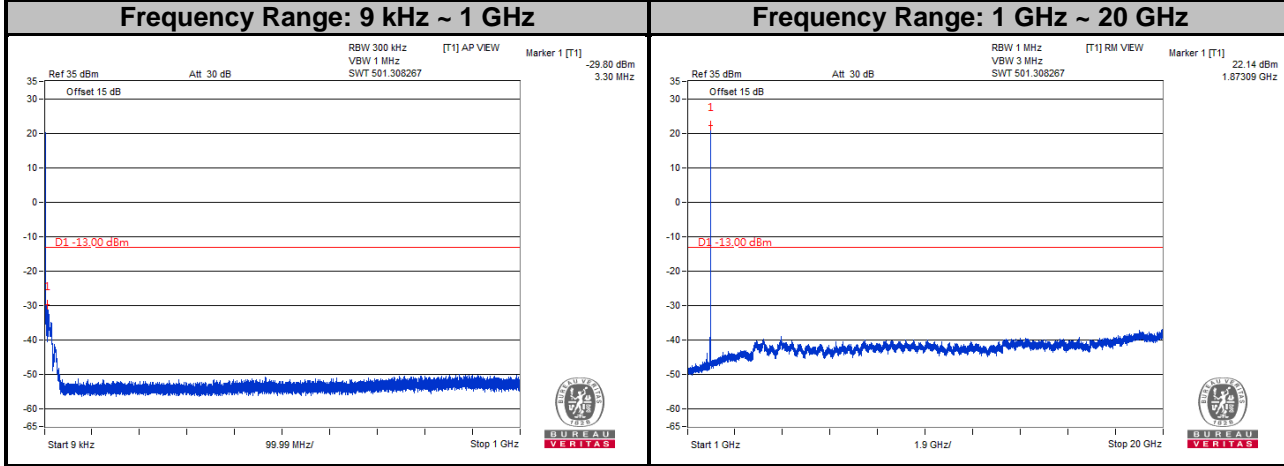


Note: The signal over the limit in 9 kHz is from spectrum analyzer.

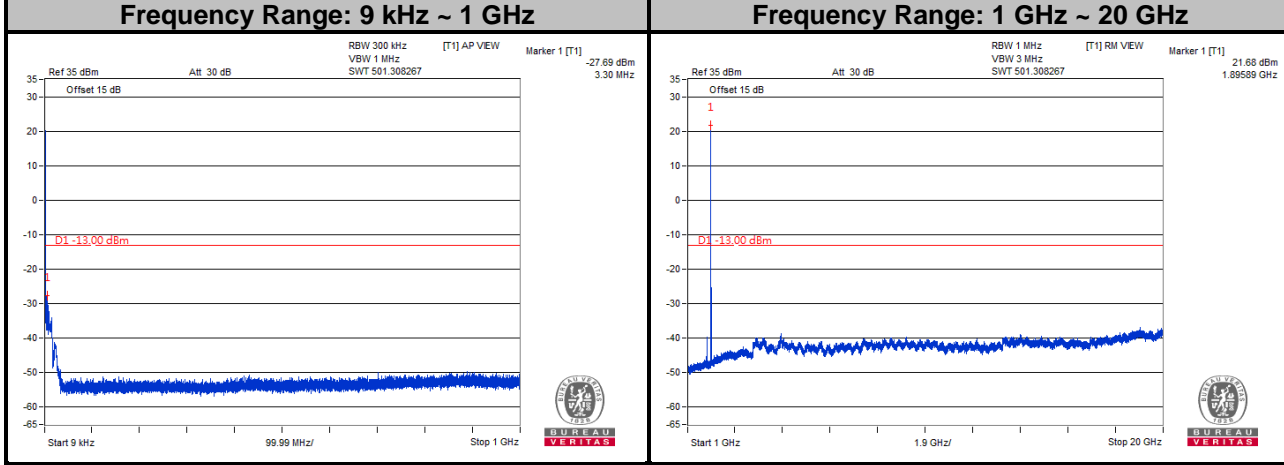
LTE Band 2
Channel Bandwidth: 15 MHz
Channel 18675



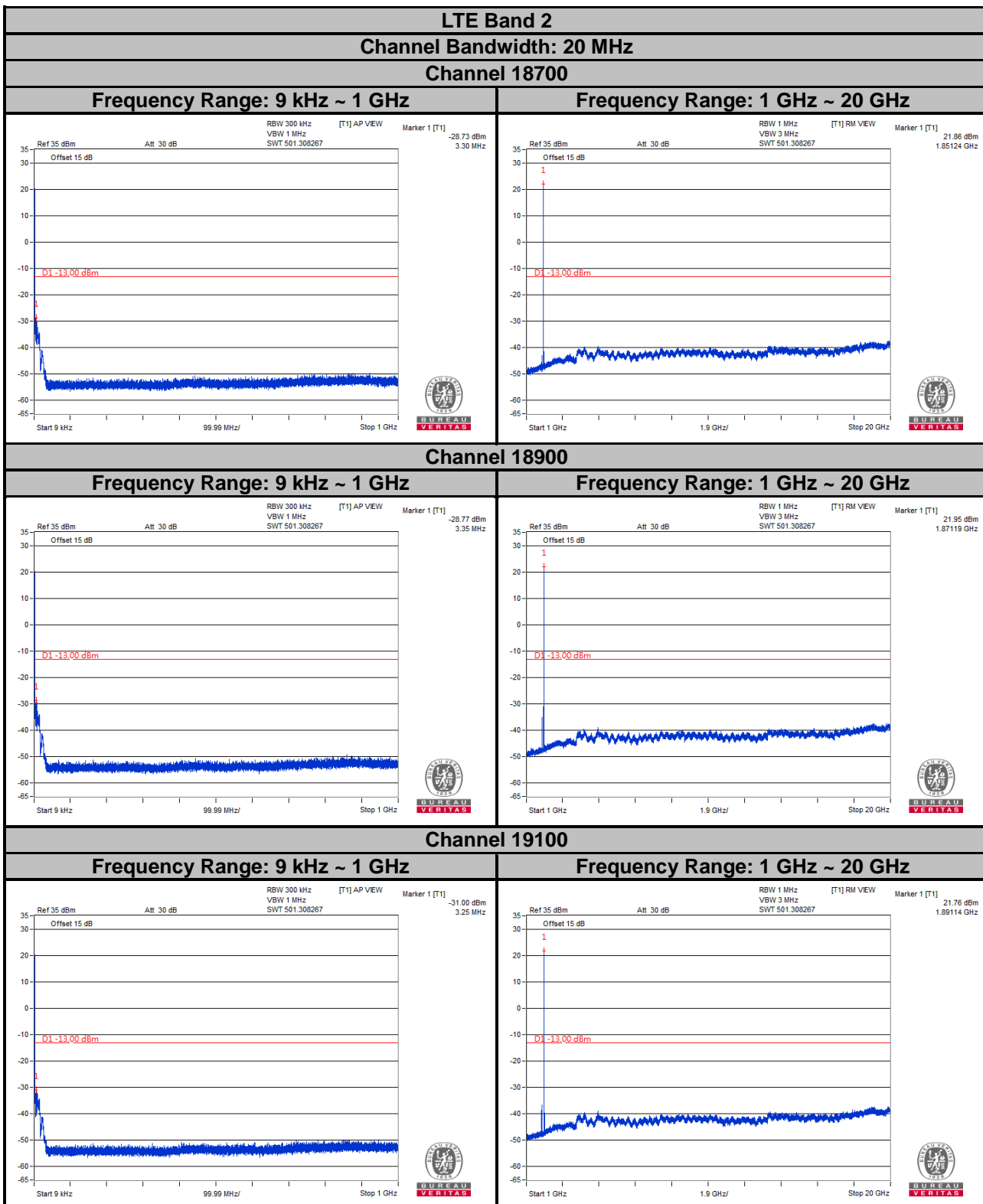
Channel 18900



Channel 19125



Note: The signal over the limit in 9 kHz is from spectrum analyzer.



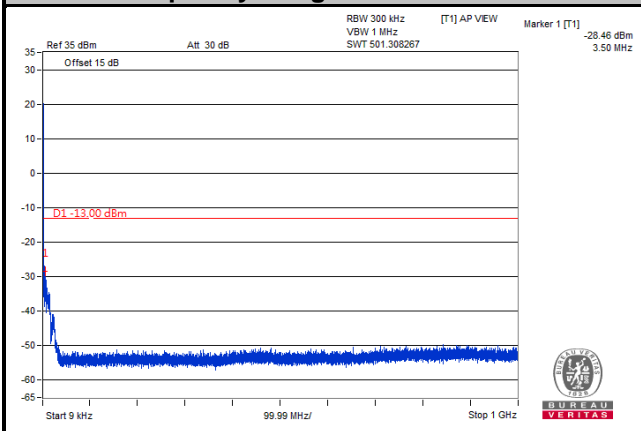
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 25

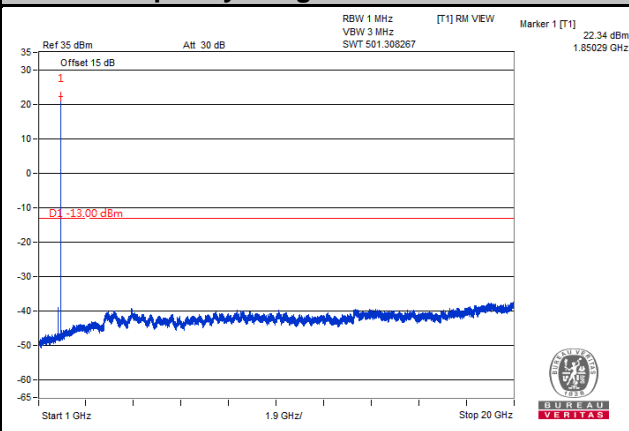
Channel Bandwidth: 1.4 MHz

Channel 26047

Frequency Range: 9 kHz ~ 1 GHz

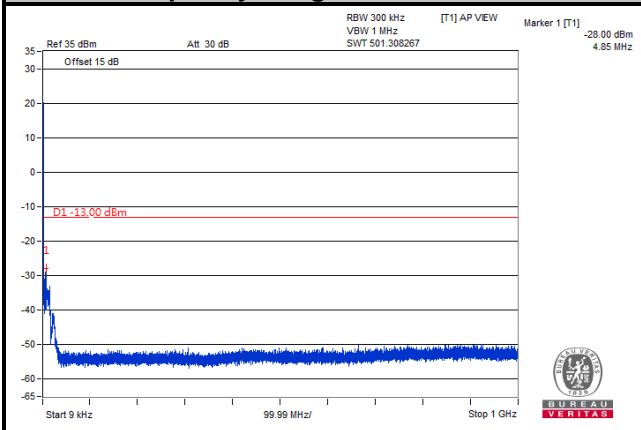


Frequency Range: 1 GHz ~ 20 GHz

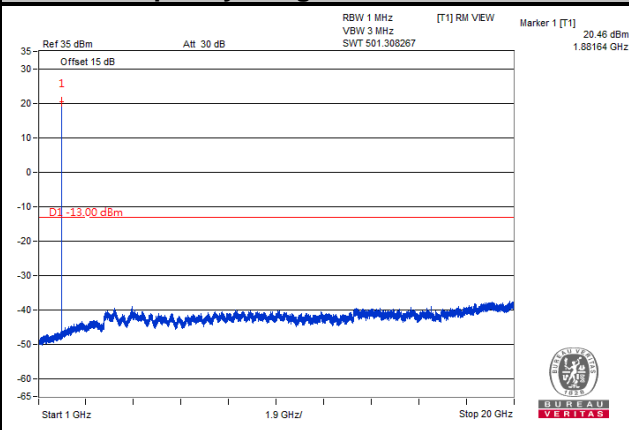


Channel 26365

Frequency Range: 9 kHz ~ 1 GHz

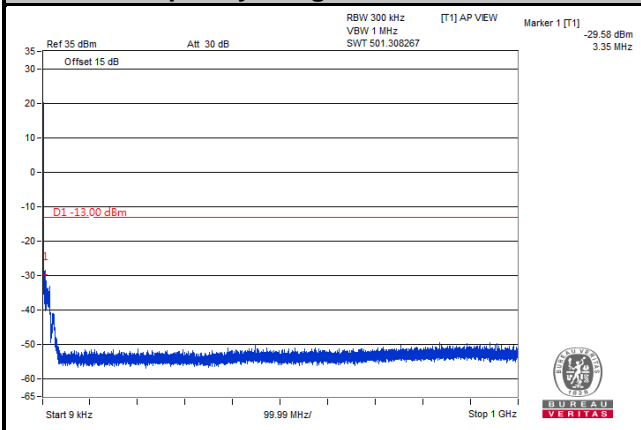


Frequency Range: 1 GHz ~ 20 GHz

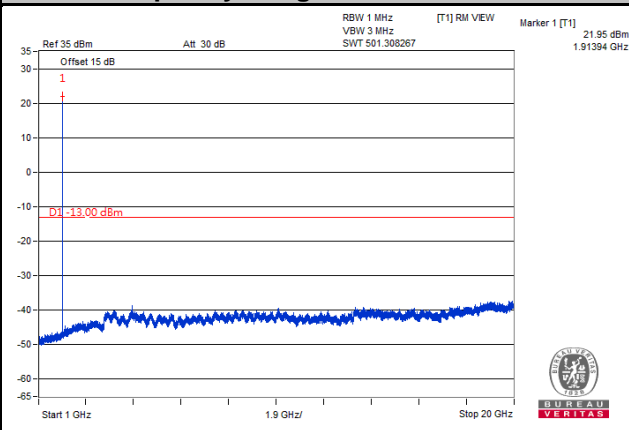


Channel 26683

Frequency Range: 9 kHz ~ 1 GHz



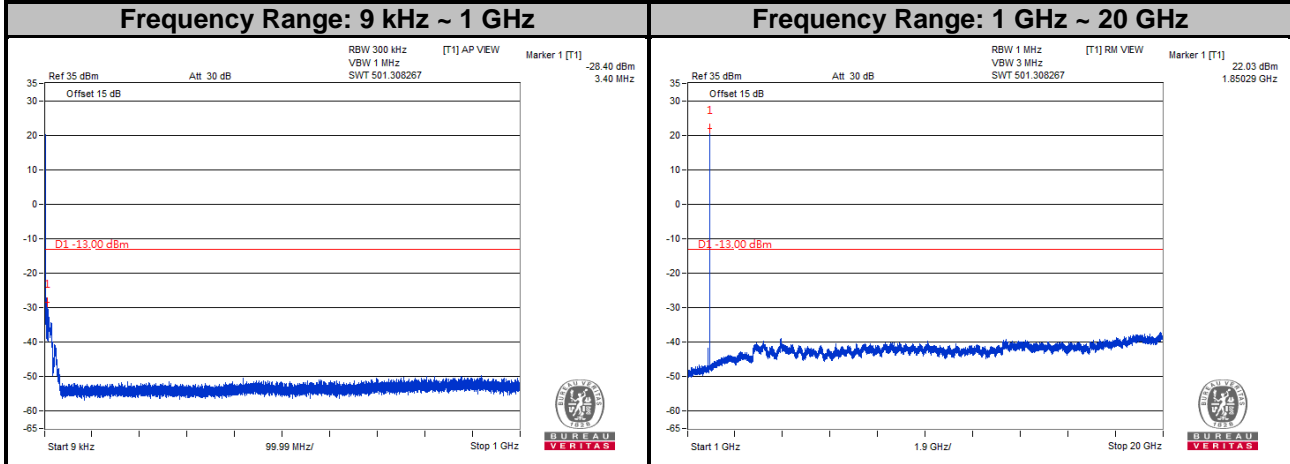
Frequency Range: 1 GHz ~ 20 GHz



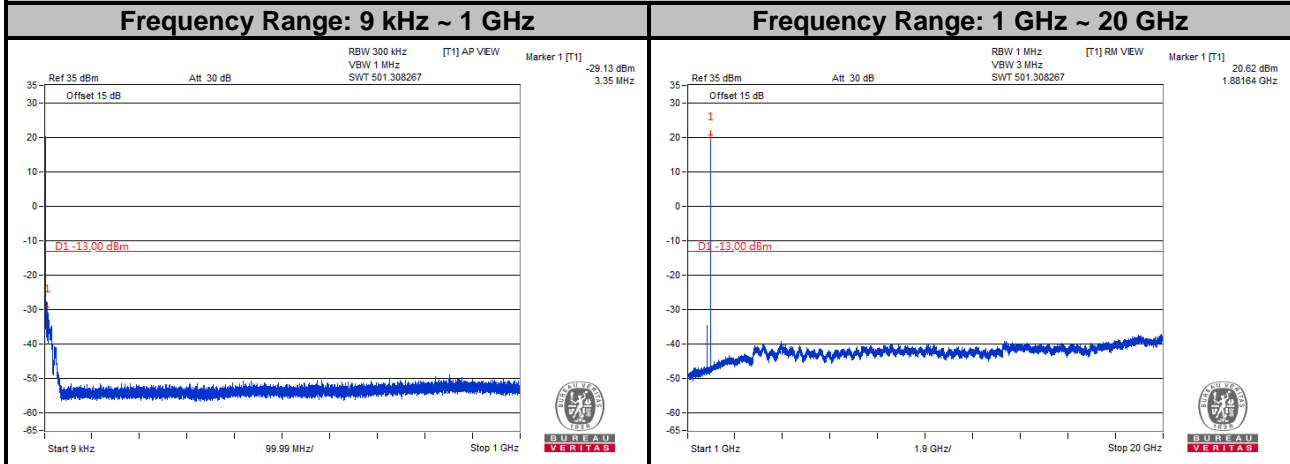
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 25
Channel Bandwidth: 3 MHz

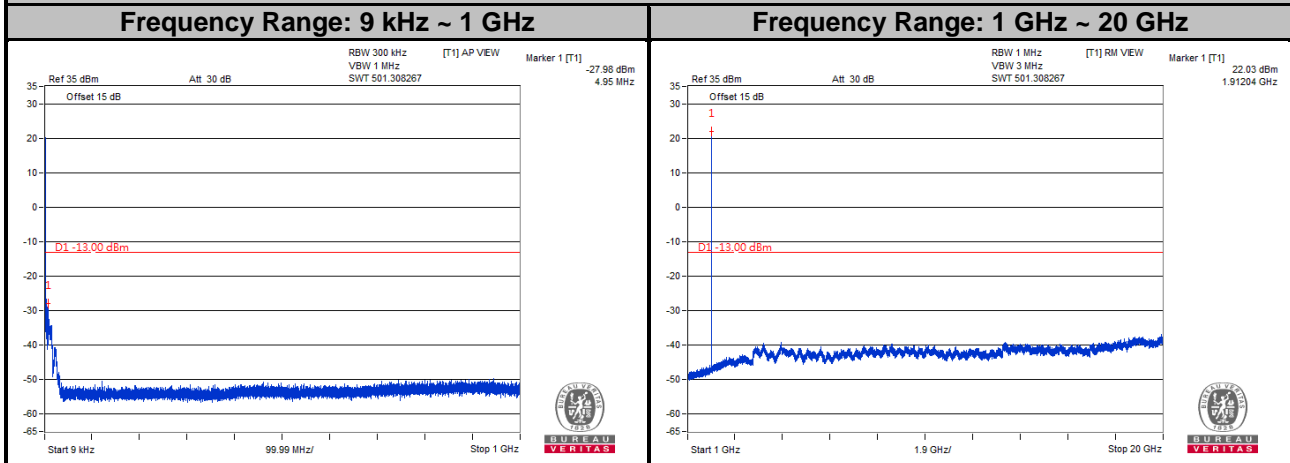
Channel 26055



Channel 26365

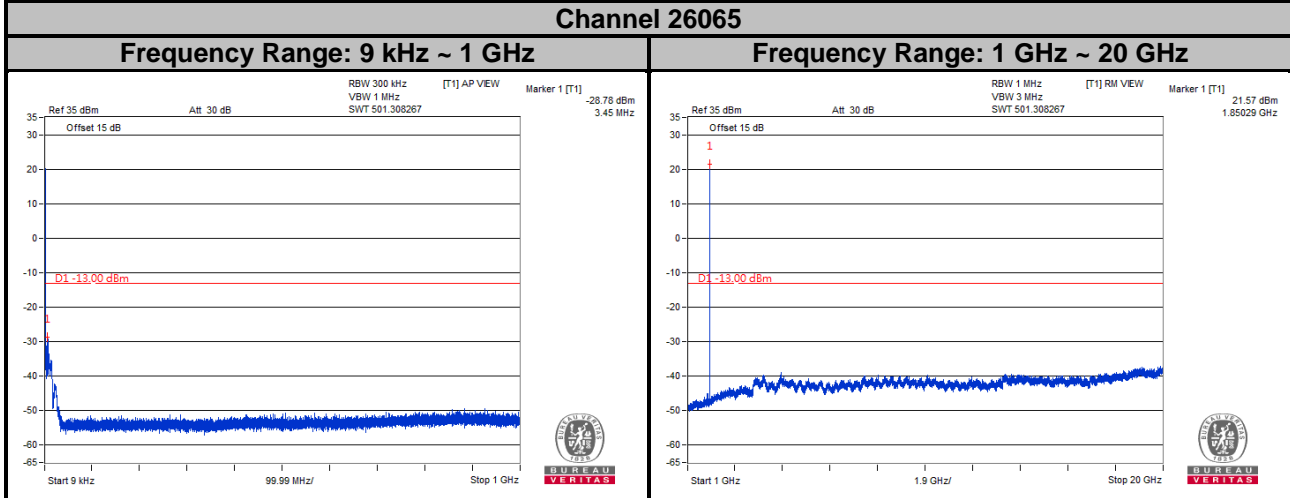


Channel 26675

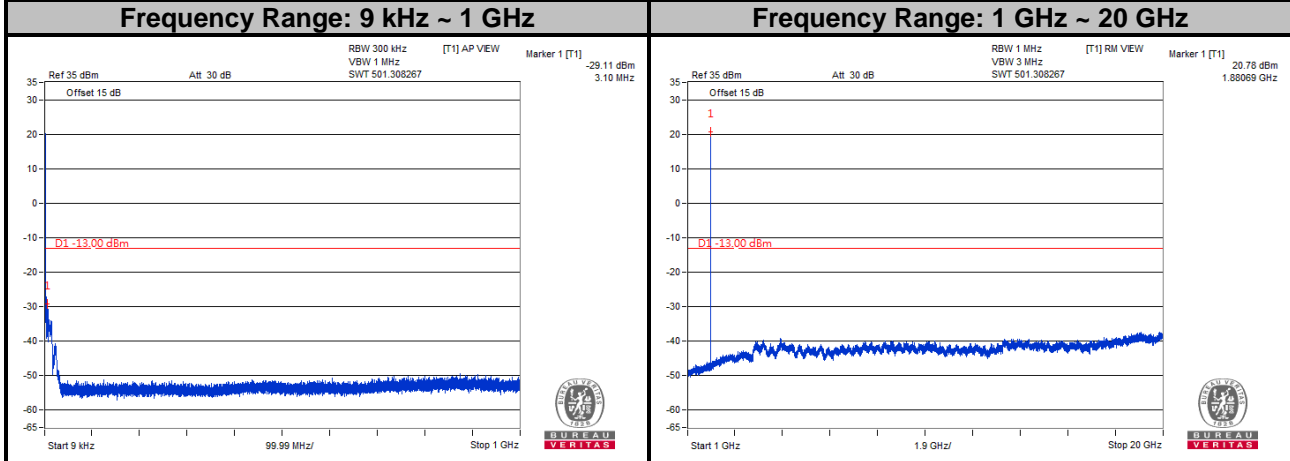


Note: The signal over the limit in 9 kHz is from spectrum analyzer.

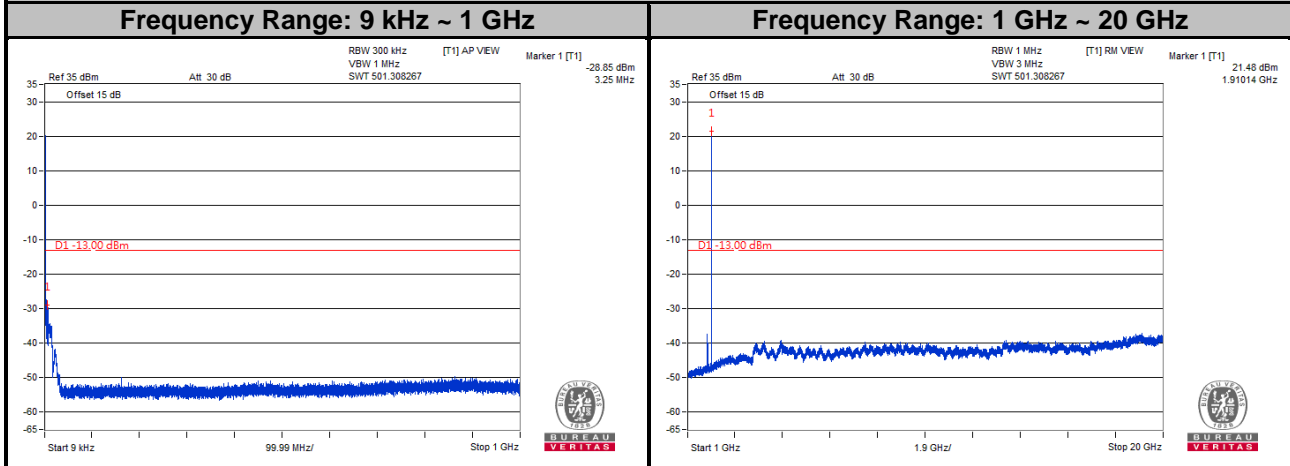
LTE Band 25
Channel Bandwidth: 5 MHz
Channel 26065



Channel 26365

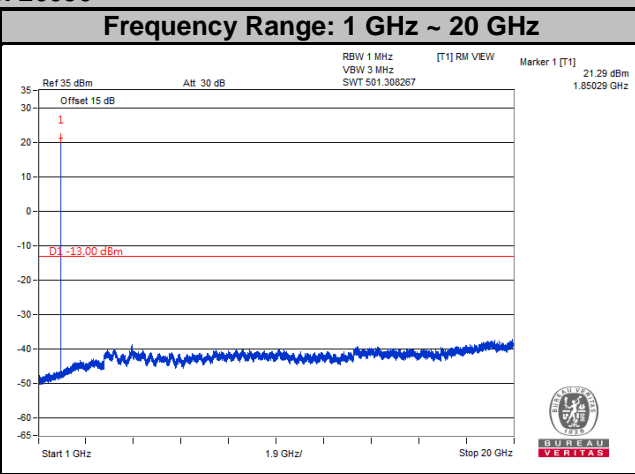
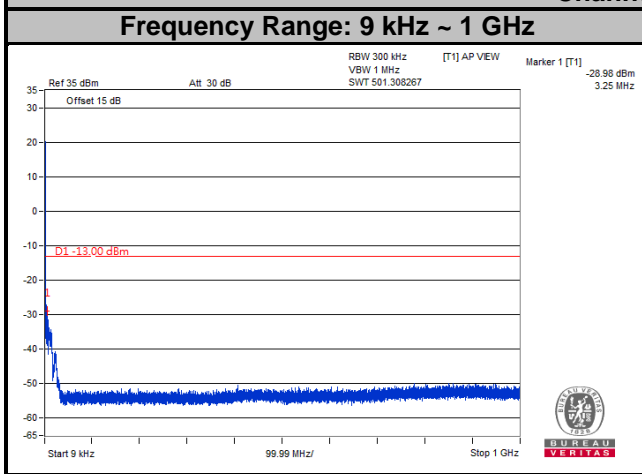


Channel 26665

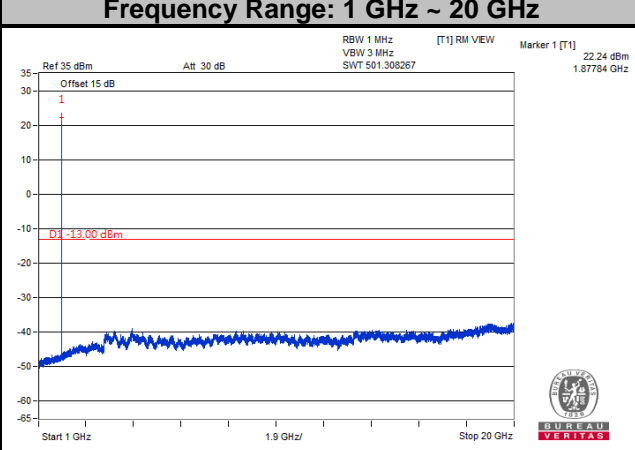
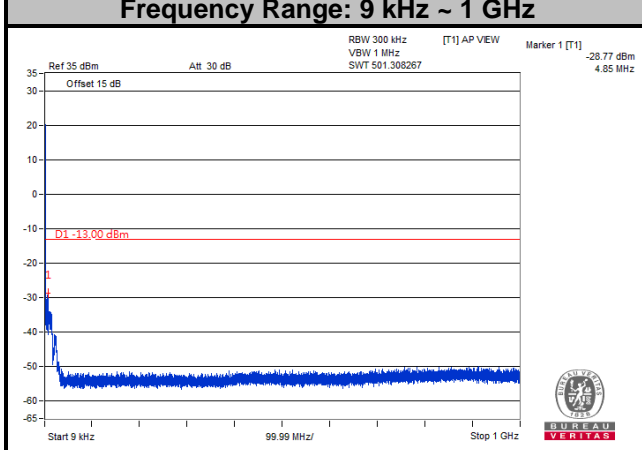


Note: The signal over the limit in 9 kHz is from spectrum analyzer.

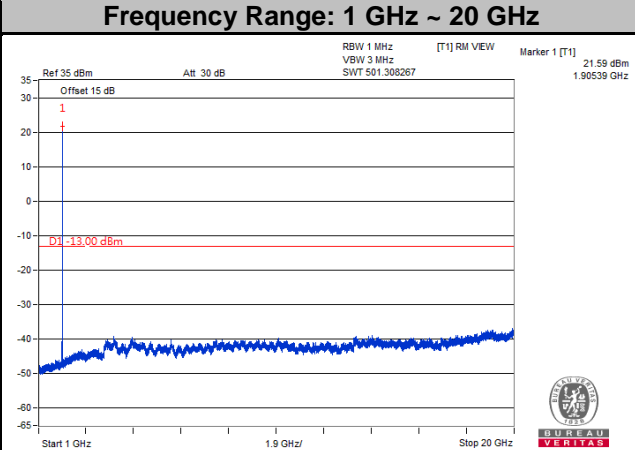
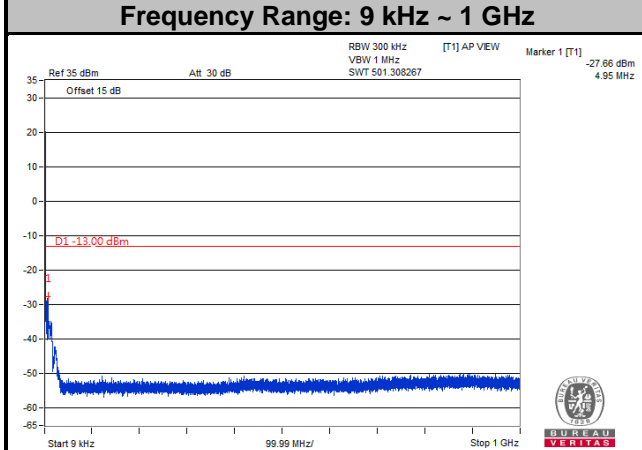
LTE Band 25
Channel Bandwidth: 10 MHz
Channel 26090



Channel 26365

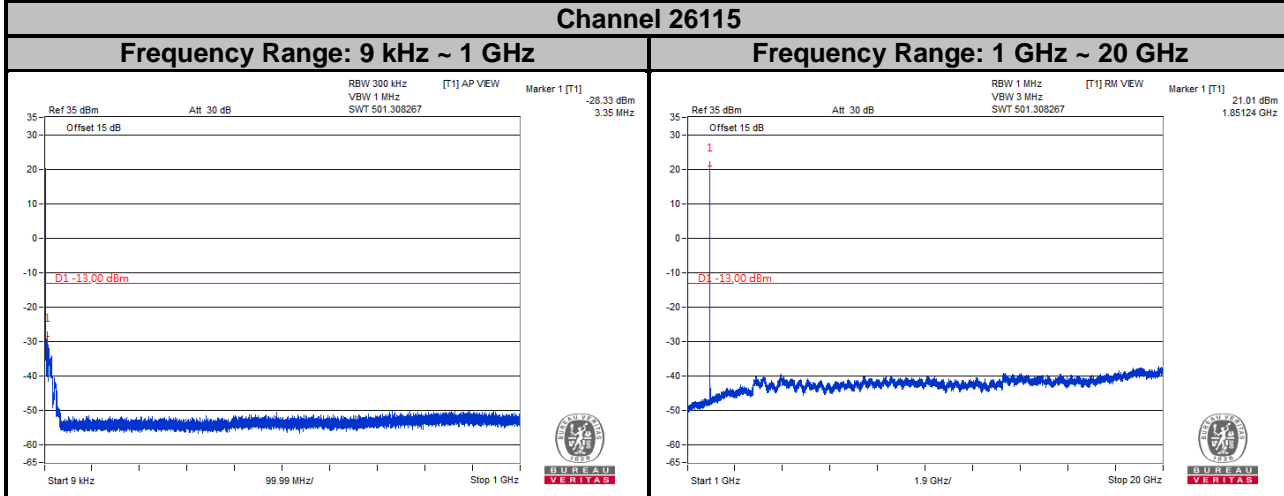


Channel 26640

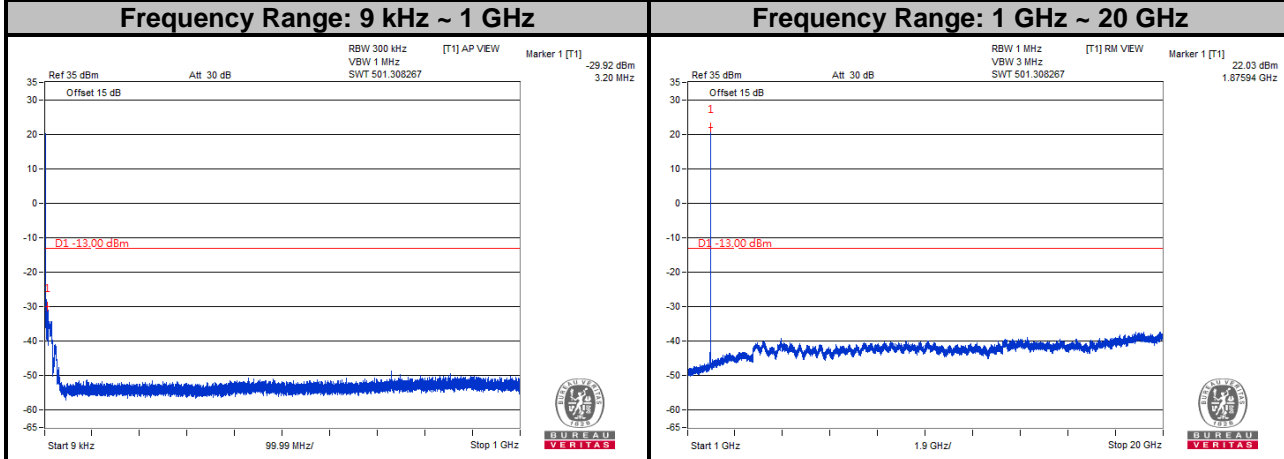


Note: The signal over the limit in 9 kHz is from spectrum analyzer.

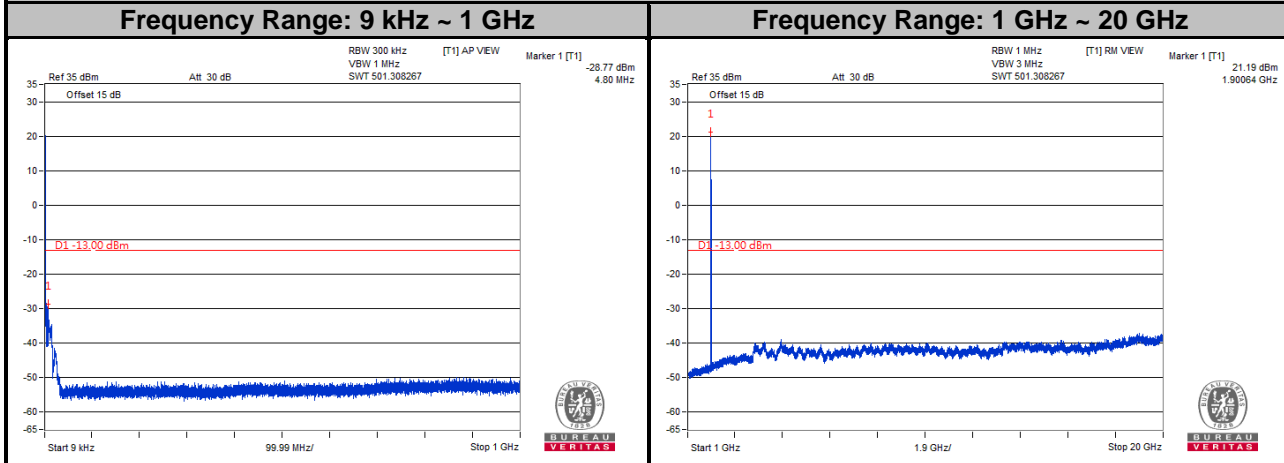
LTE Band 25
Channel Bandwidth: 15 MHz
Channel 26115



Channel 26365



Channel 26615



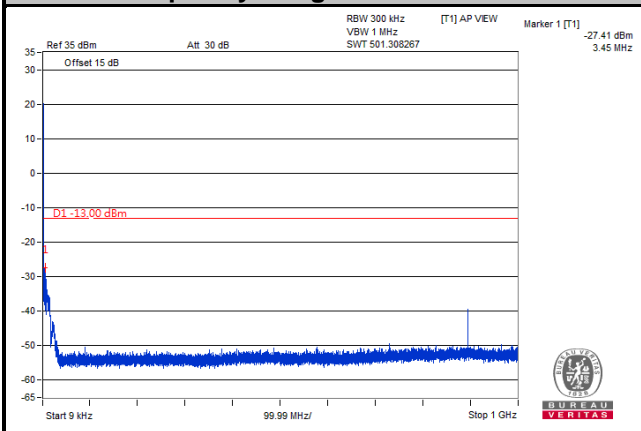
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 25

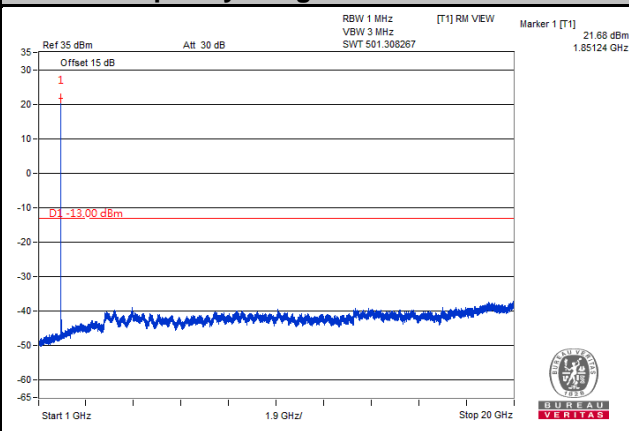
Channel Bandwidth: 20 MHz

Channel 26140

Frequency Range: 9 kHz ~ 1 GHz

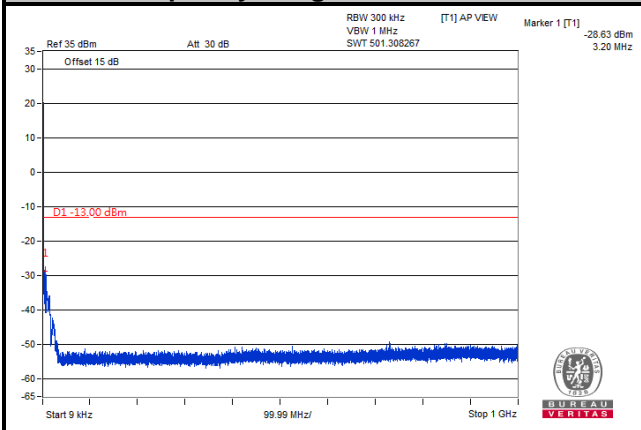


Frequency Range: 1 GHz ~ 20 GHz

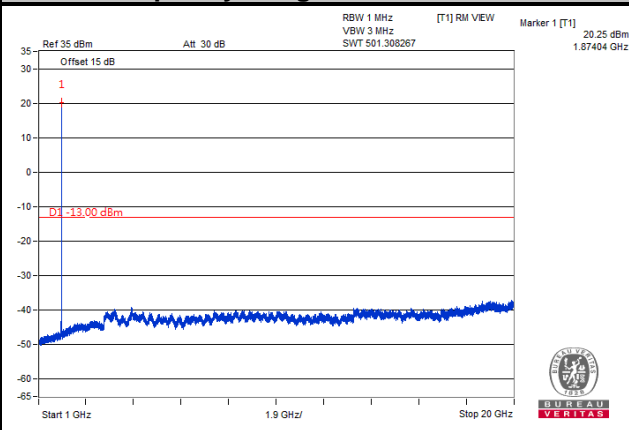


Channel 26365

Frequency Range: 9 kHz ~ 1 GHz

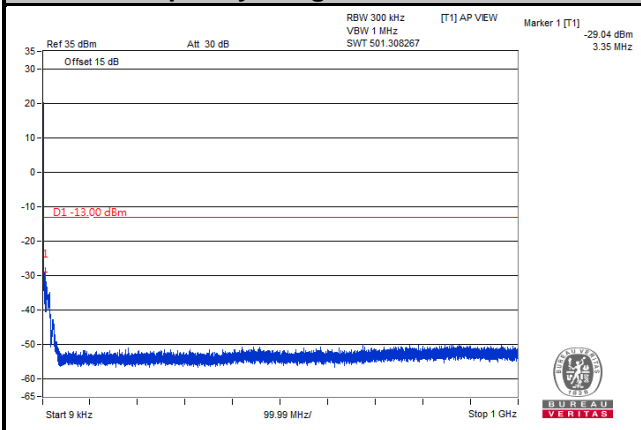


Frequency Range: 1 GHz ~ 20 GHz

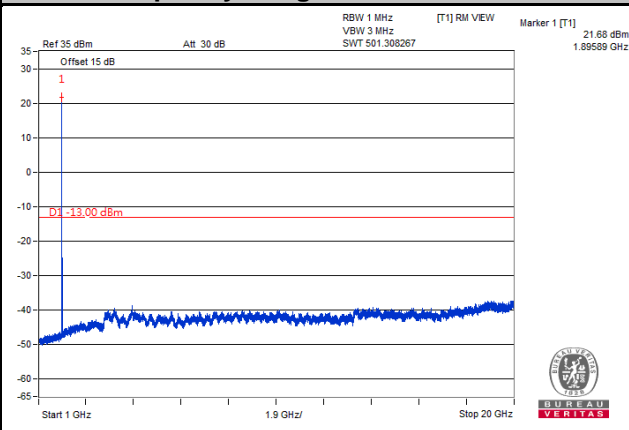


Channel 26590

Frequency Range: 9 kHz ~ 1 GHz



Frequency Range: 1 GHz ~ 20 GHz



Note: The signal over the limit in 9 kHz is from spectrum analyzer.

4.8 Radiated Emission Measurement

4.8.1 Limits of Radiated Emission Measurement

The 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. The emission limit is equal to -13 dBm.

4.8.2 Test Procedure

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 1 GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G.
- c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15 dB.

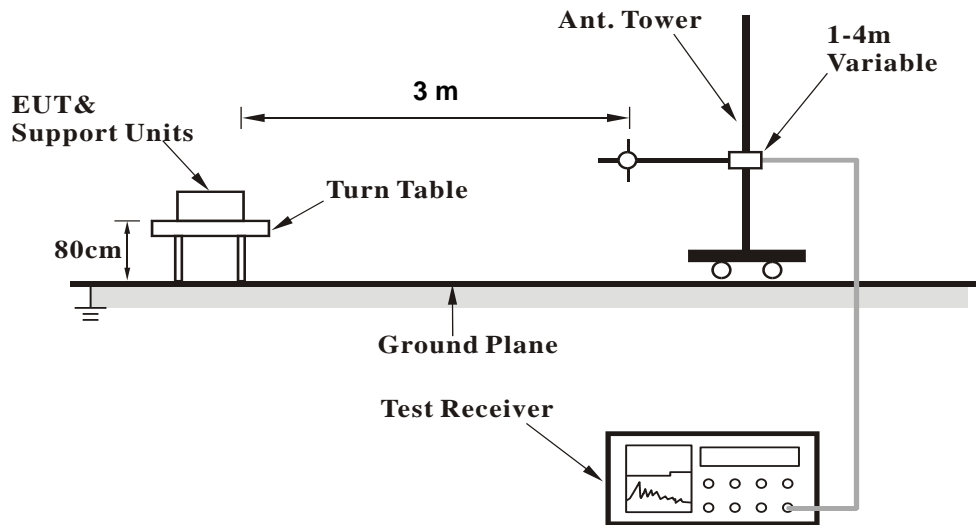
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz.

4.8.3 Deviation from Test Standard

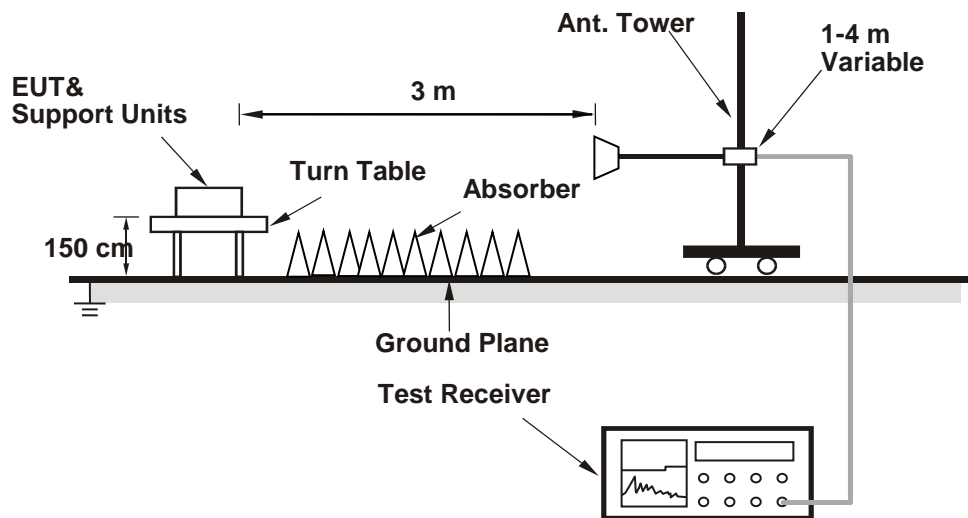
No deviation.

4.8.4 Test Setup

<Radiated Emission below or equal 1 GHz>



<Radiated Emission above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.8.5 Test Results

WCDMA:
Low Channel

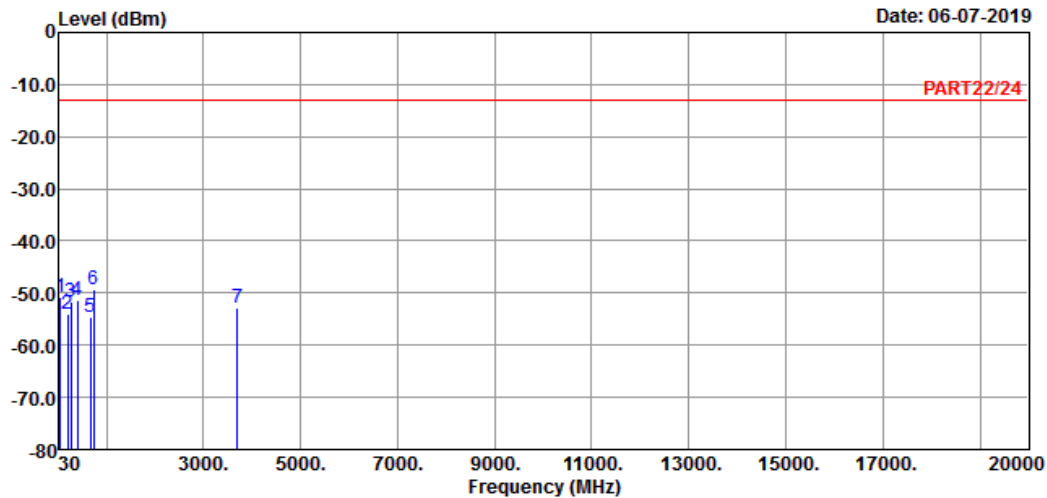


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 06-07-2019



Site : 966 Chamber 5
Condition: PART22/24 HORIZONTAL
Remak : WCDMA Band 2 Link_L-CH
Tested by: Thomas Wei

	Freq	Level	Read Level	Limit	Over	Over	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1	43.58	-50.88	-49.41	-13.00	-1.47	-37.88	Peak
2	196.84	-54.15	-46.41	-13.00	-7.74	-41.15	Peak
3	261.83	-51.78	-45.55	-13.00	-6.23	-38.78	Peak
4	395.69	-51.49	-45.52	-13.00	-5.97	-38.49	Peak
5	664.38	-54.59	-53.93	-13.00	-0.66	-41.59	Peak
6 pp	731.31	-49.26	-49.78	-13.00	0.52	-36.26	Peak
7	3704.80	-52.93	-46.00	-13.00	-6.93	-39.93	Peak

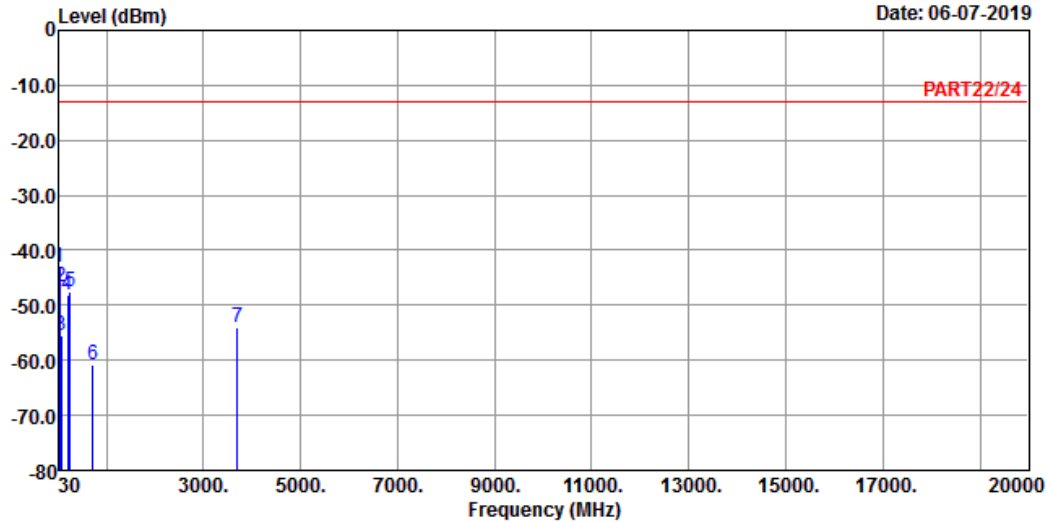


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 06-07-2019



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : WCDMA Band 2 Link_L-CH
 Tested by: Thomas Wei

	Freq	Level	Read Level	Limit	Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm		dB	dB	
1 pp	30.00	-42.95	-43.33	-13.00		0.38	-29.95	Peak
2	43.58	-46.55	-45.08	-13.00		-1.47	-33.55	Peak
3	66.86	-55.37	-47.19	-13.00		-8.18	-42.37	Peak
4	195.87	-48.04	-40.39	-13.00		-7.65	-35.04	Peak
5	259.89	-47.67	-41.48	-13.00		-6.19	-34.67	Peak
6	729.37	-60.90	-61.38	-13.00		0.48	-47.90	Peak
7	3704.80	-54.01	-47.08	-13.00		-6.93	-41.01	Peak

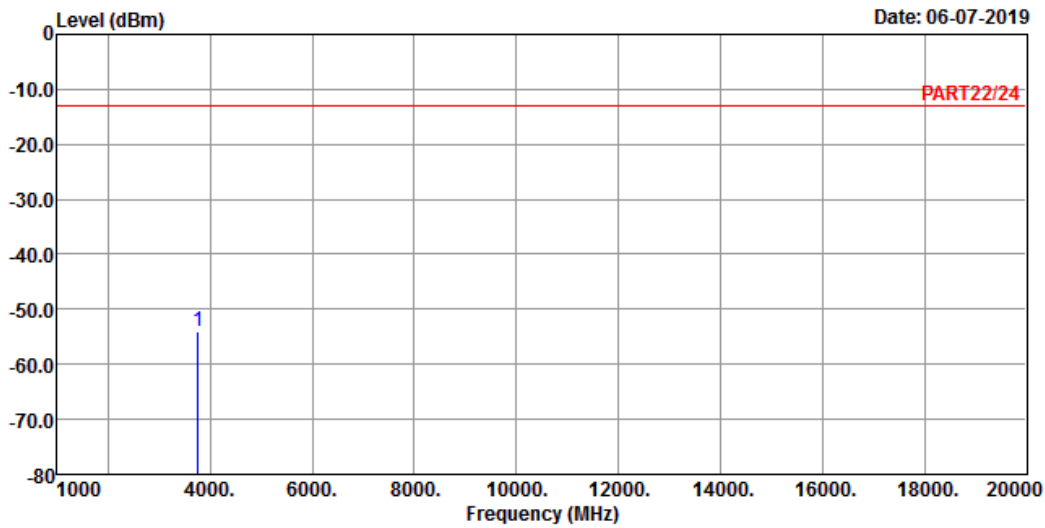
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : WCDMA Band 2 Link_M-CH
 Tested by: Thomas Wei

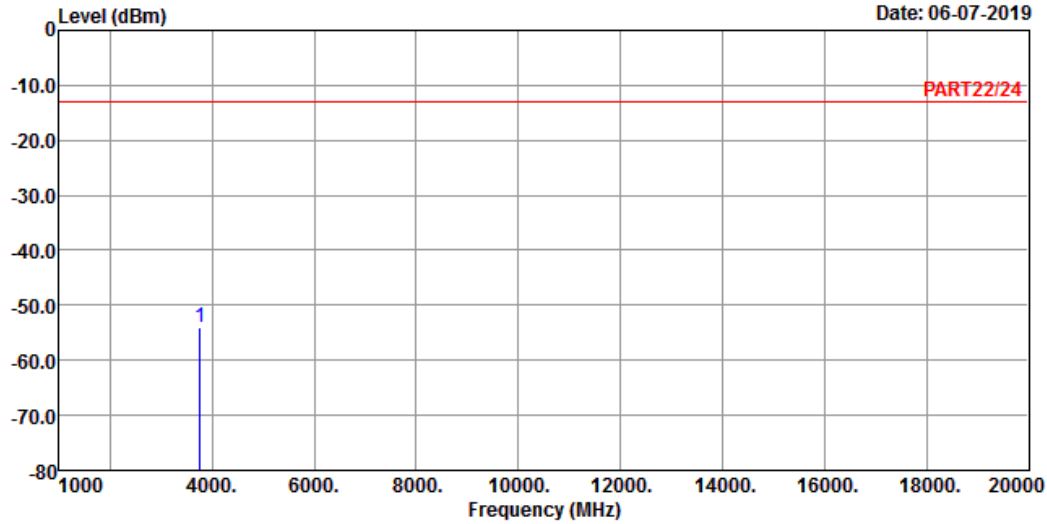
Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3760.00	-53.89	-47.24	-13.00	-6.65	-40.89	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : WCDMA Band 2 Link_M-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3760.00	-54.06	-47.41	-13.00	-6.65	-41.06	Peak

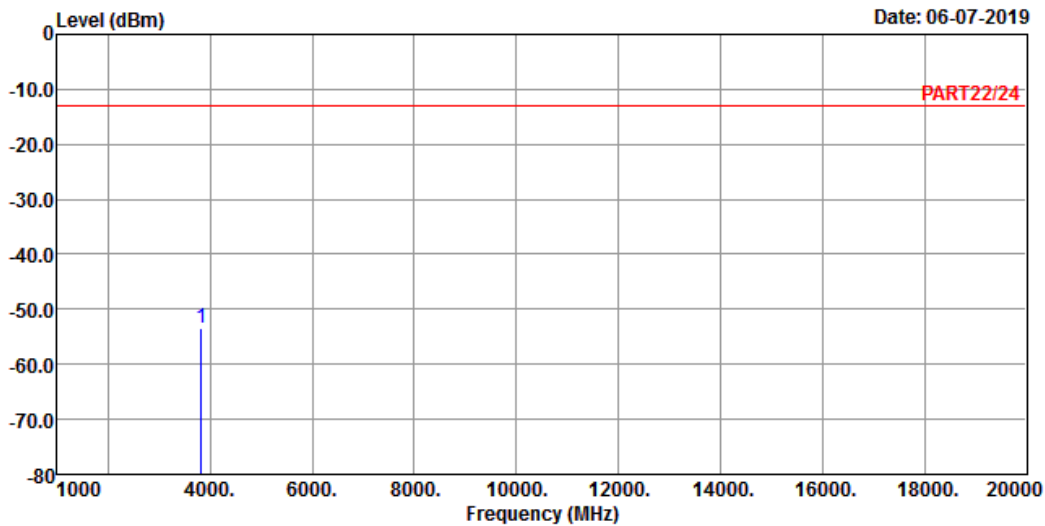
High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : WCDMA Band 2 Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	

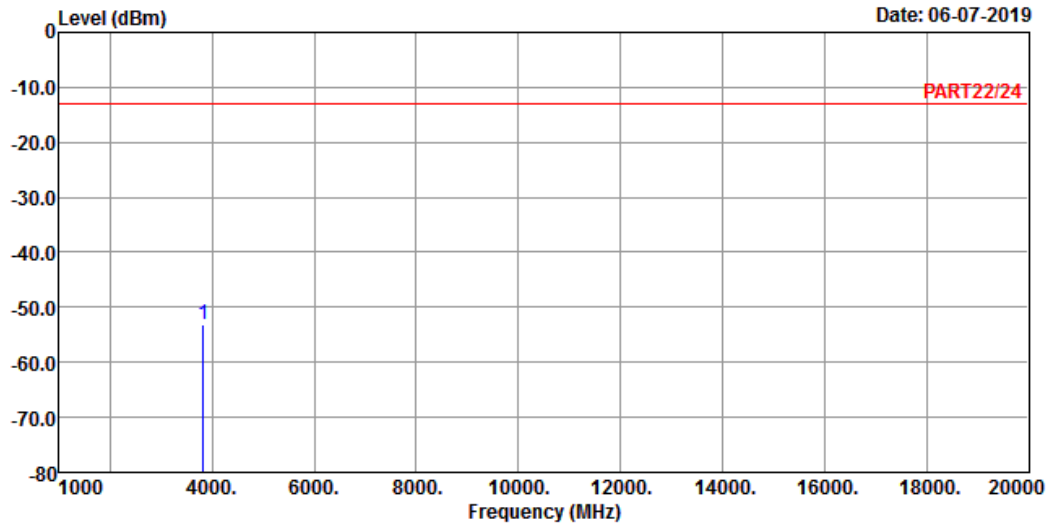
1 pp 3815.20 -53.47 -47.07 -13.00 -6.40 -40.47 Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : WCDMA Band 2 Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3815.20	-53.01	-46.61	-13.00	-6.40	-40.01	Peak

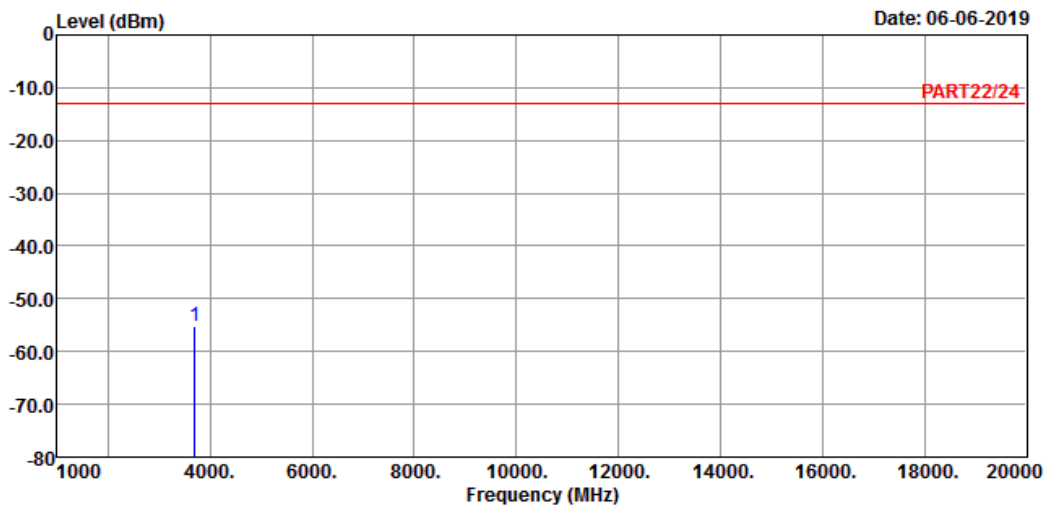
LTE Band 2
 Channel Bandwidth: 1.4 MHz / QPSK
 Low Channel



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A D T

Data: 3



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : LTE Band 2 QPSK_1.4M Link_L-CH
 Tested by: Thomas Wei

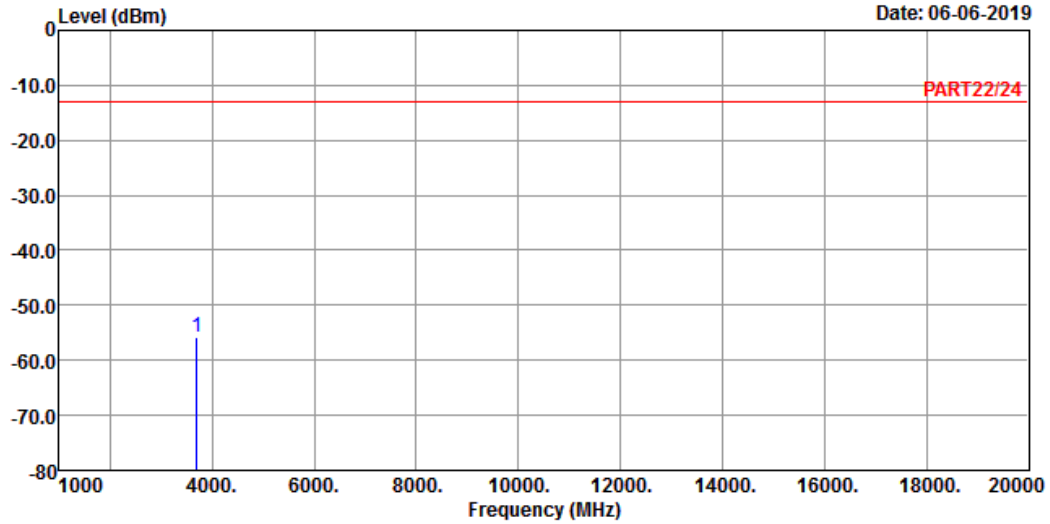
Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3701.40	-55.11	-48.18	-13.00	-6.93	-42.11	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remark : LTE Band 2 QPSK_1.4M Link_L-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3701.40	-55.84	-48.91	-13.00	-6.93	-42.84	Peak

Middle Channel

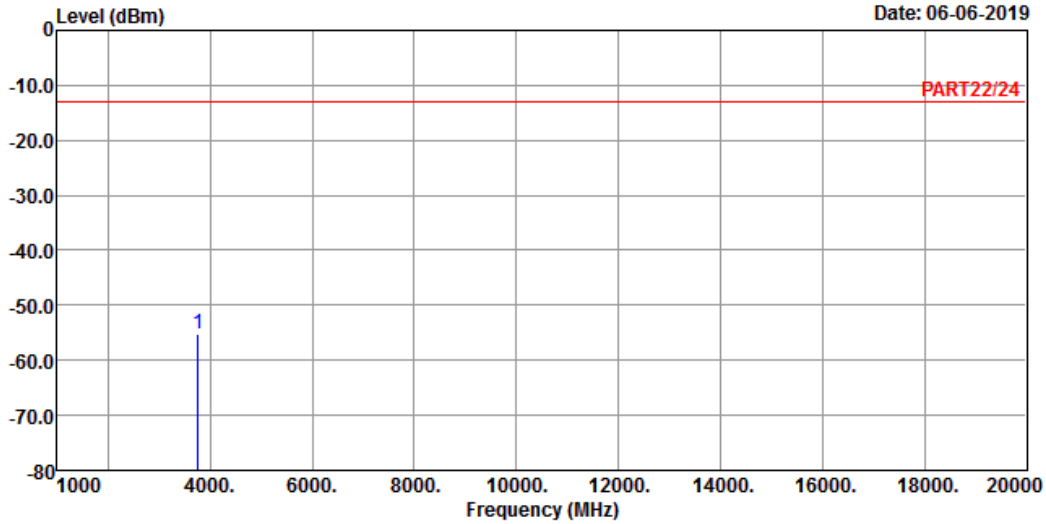


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : LTE Band 2 QPSK_1.4M Link_M-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	

1 pp 3760.00 -55.18 -48.53 -13.00 -6.65 -42.18 Peak

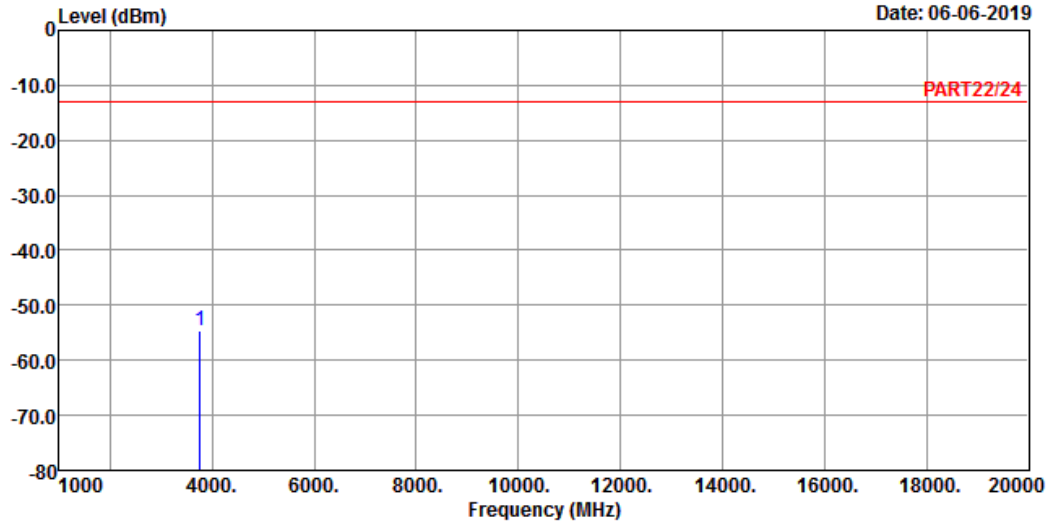


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 2 QPSK_1.4M Link_M-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3760.00	-54.62	-47.97	-13.00	-6.65	-41.62	Peak

High Channel

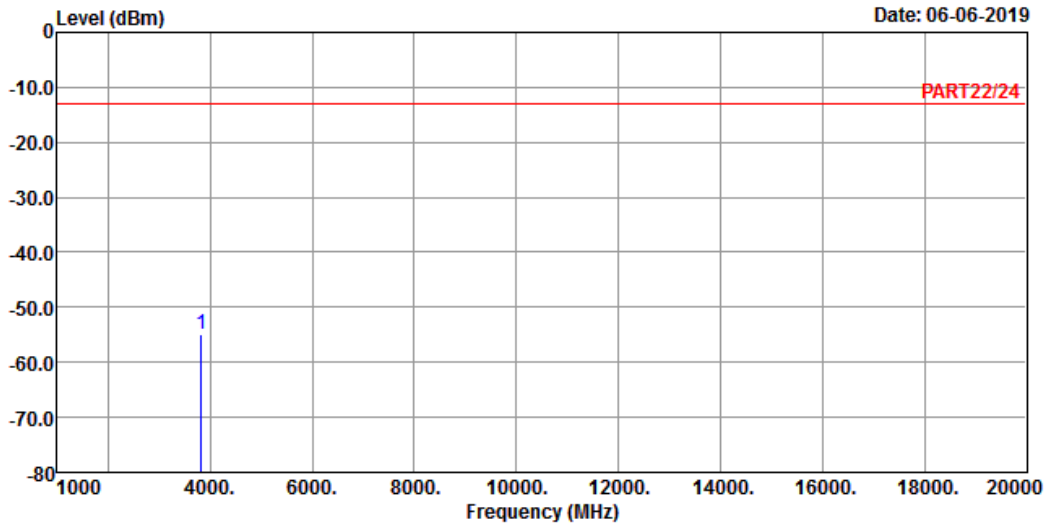


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : LTE Band 2 QPSK_1.4M Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	

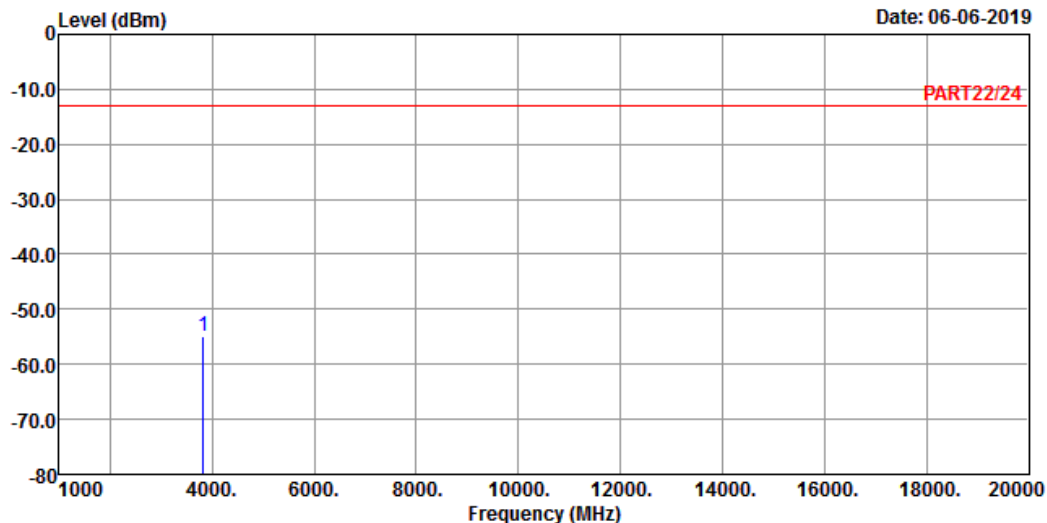
1 pp 3818.60 -55.03 -48.63 -13.00 -6.40 -42.03 Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 2 QPSK_1.4M Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3818.60	-54.95	-48.55	-13.00	-6.40	-41.95	Peak

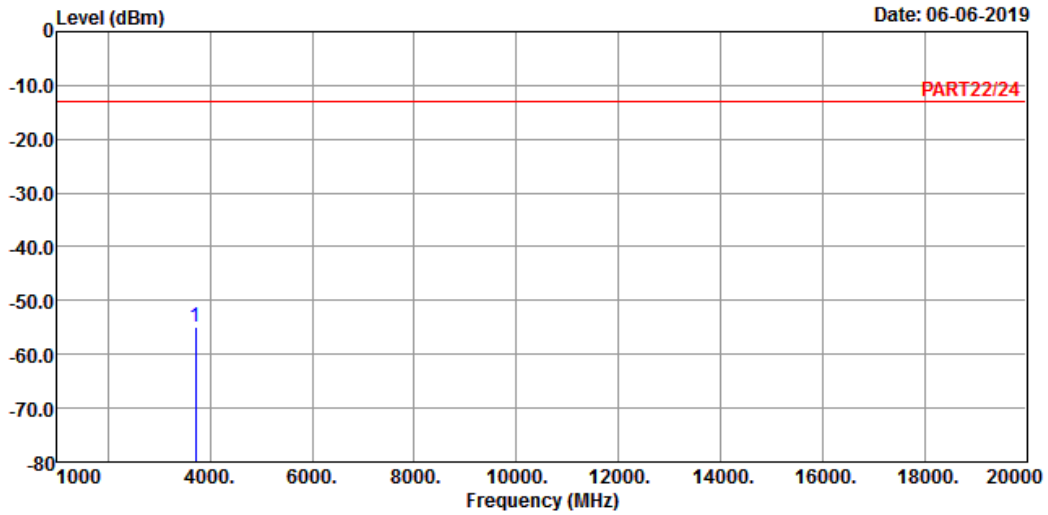
Channel Bandwidth: 5 MHz / QPSK
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
Condition: PART22/24 HORIZONTAL
Remak : LTE Band 2 QPSK_5M Link_L-CH
Tested by: Thomas Wei

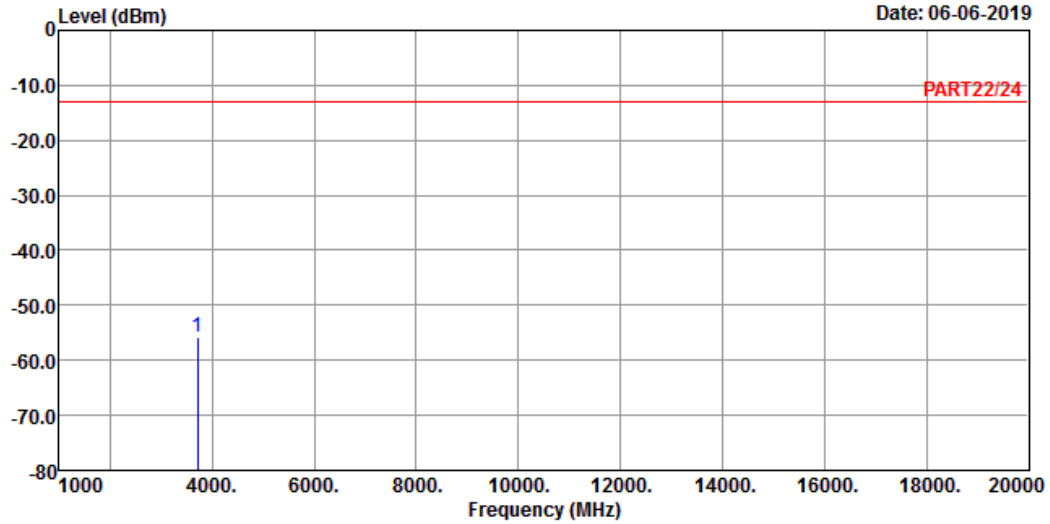
Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3705.00	-54.96	-48.03	-13.00	-6.93	-41.96	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remark : LTE Band 2 QPSK_5M Link_L-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3705.00	-55.71	-48.78	-13.00	-6.93	-42.71	Peak

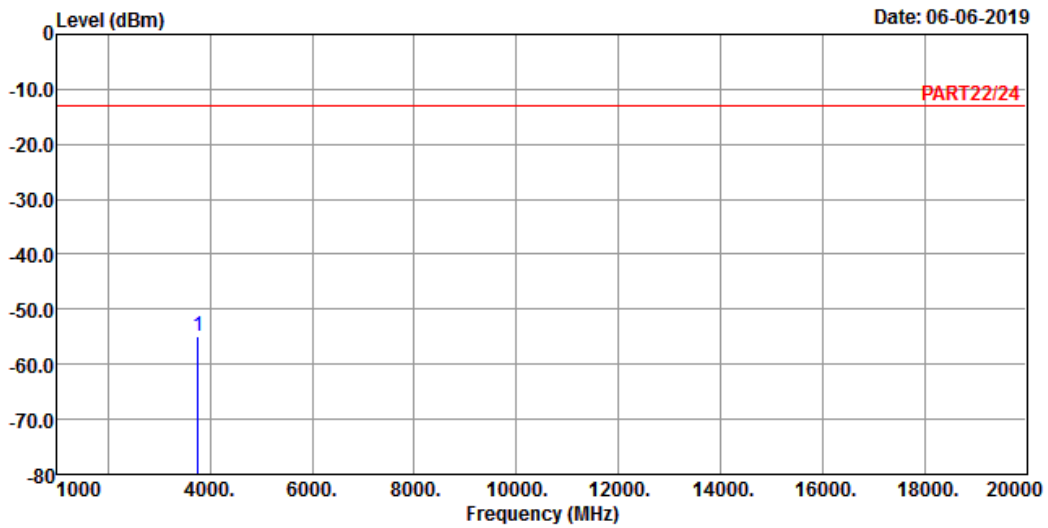
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : LTE Band 2 QPSK_5M Link_M-CH
 Tested by: Thomas Wei

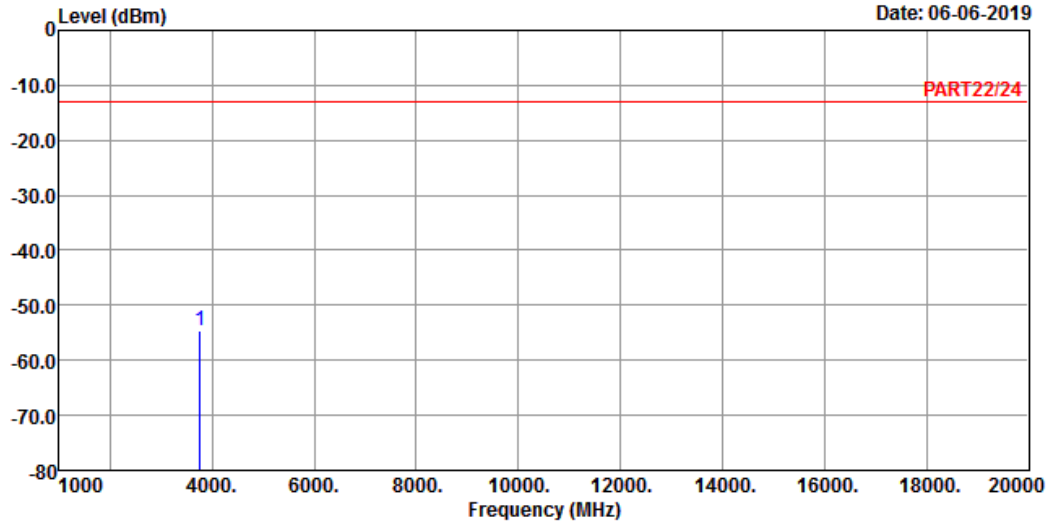
Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3760.00	-55.03	-48.38	-13.00	-6.65	-42.03	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 2 QPSK_5M Link_M-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3760.00	-54.48	-47.83	-13.00	-6.65	-41.48	Peak

High Channel

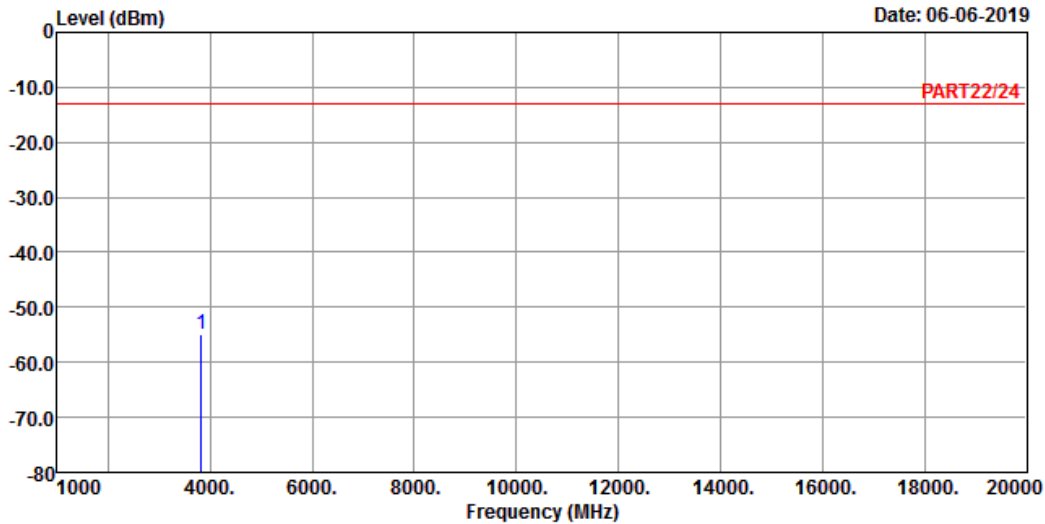


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : LTE Band 2 QPSK_5M Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	

1 pp 3815.00 -54.81 -48.41 -13.00 -6.40 -41.81 Peak

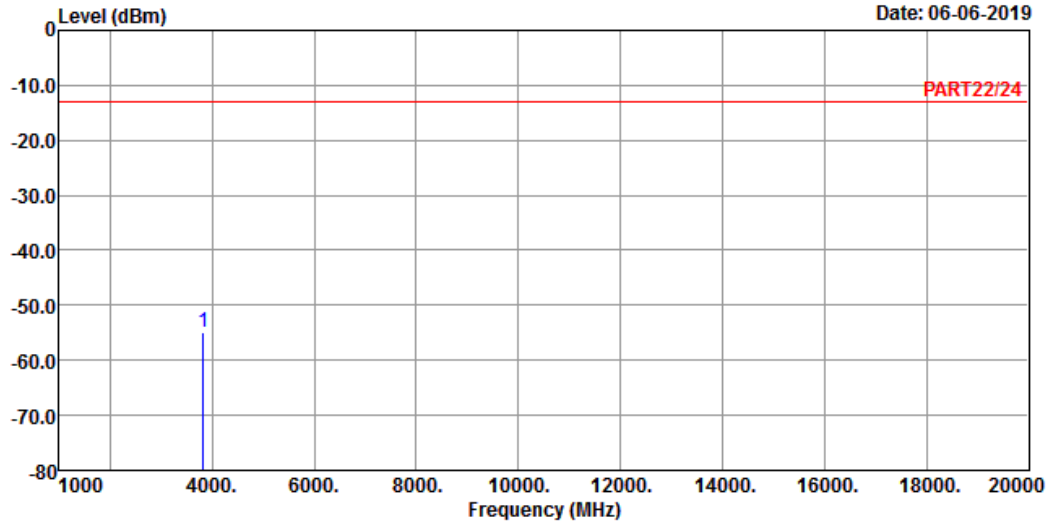


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remark : LTE Band 2 QPSK_5M Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3815.00	-54.78	-48.38	-13.00	-6.40	-41.78	Peak

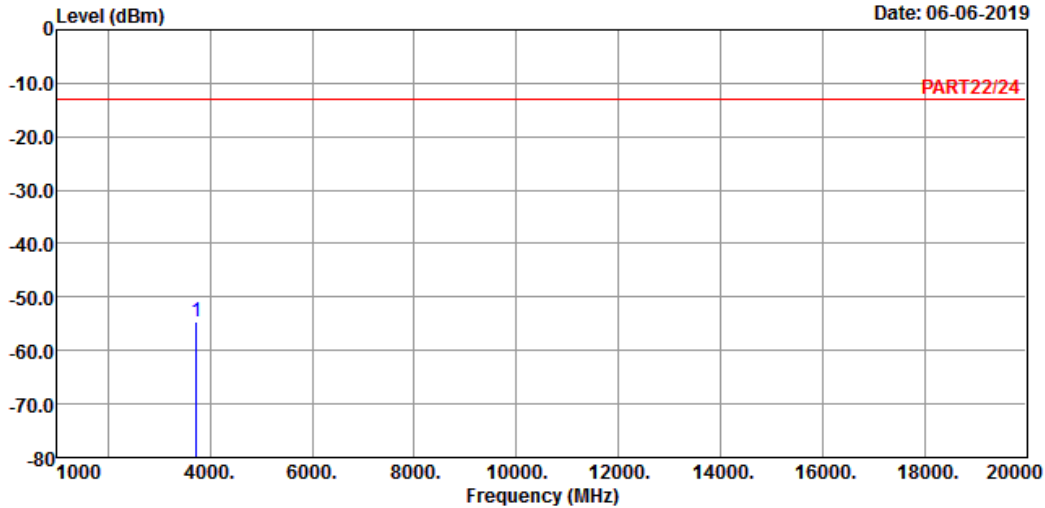
Channel Bandwidth: 20 MHz / QPSK
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
Condition: PART22/24 HORIZONTAL
Remak : LTE Band 2 QPSK_20M Link_L-CH
Tested by: Thomas Wei

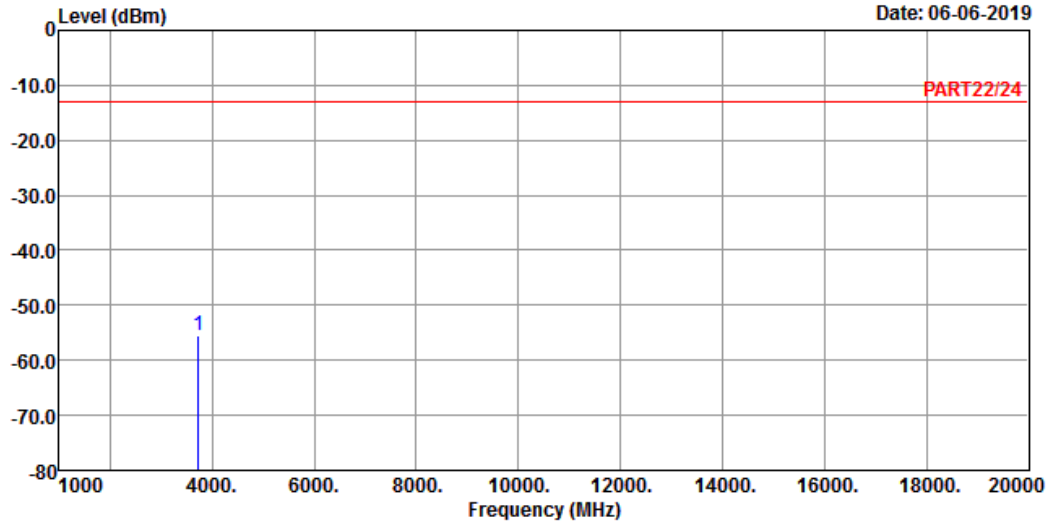
Freq	Level	Read Level	Limit	Over	Remark
MHz	dBm	dBm	dBm	dB	dB
1 pp 3720.00	-54.62	-47.80	-13.00	-6.82	-41.62 Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 2 QPSK_20M Link_L-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3720.00	-55.35	-48.53	-13.00	-6.82	-42.35	Peak

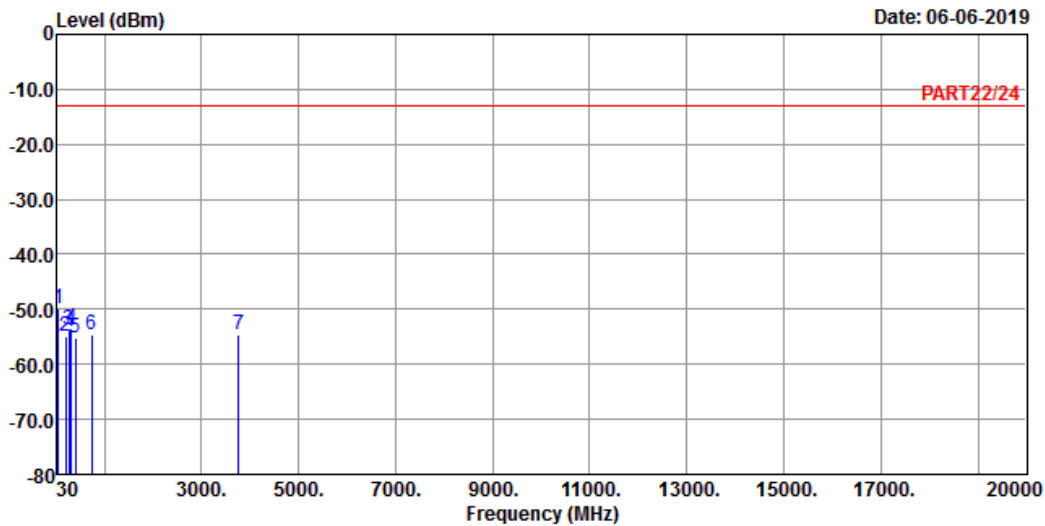
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : LTE Band 2 QPSK_20M Link_M-CH
 Tested by: Thomas Wei

	Freq	Level	Read Level	Limit	Line	Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm		dB	dB	
1	pp	43.58	-49.93	-48.46	-13.00	-1.47	-36.93	Peak
2		202.66	-55.04	-47.14	-13.00	-7.90	-42.04	Peak
3		266.68	-53.70	-47.37	-13.00	-6.33	-40.70	Peak
4		317.12	-53.37	-46.62	-13.00	-6.75	-40.37	Peak
5		398.60	-55.21	-49.26	-13.00	-5.95	-42.21	Peak
6		733.25	-54.68	-55.23	-13.00	0.55	-41.68	Peak
7		3760.00	-54.64	-47.99	-13.00	-6.65	-41.64	Peak

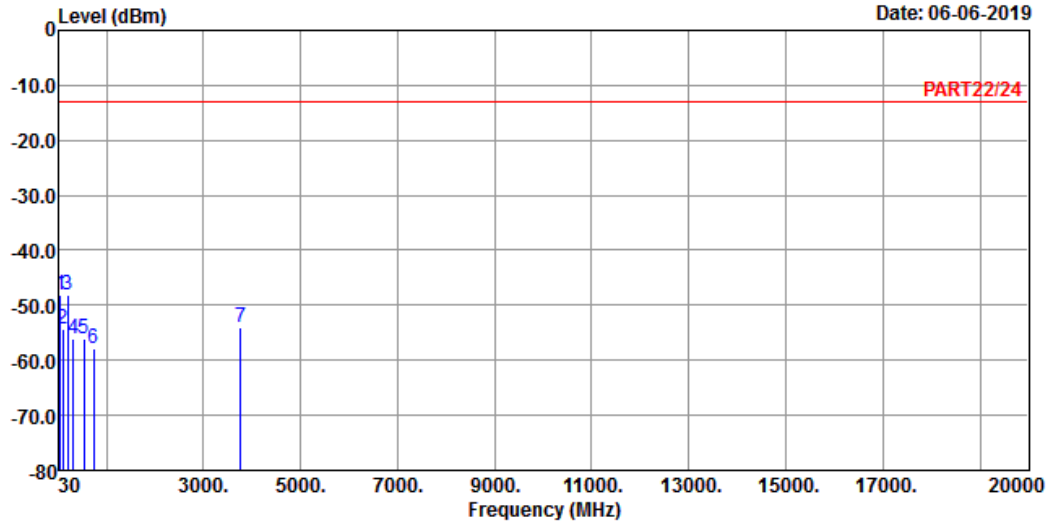


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 06-06-2019



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 2 QPSK_20M Link_M-CH
 Tested by: Thomas Wei

	Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	43.58	-48.02	-46.55	-13.00	-1.47	-35.02	Peak
2	102.75	-54.20	-43.71	-13.00	-10.49	-41.20	Peak
3	194.90	-48.16	-40.61	-13.00	-7.55	-35.16	Peak
4	318.09	-55.95	-49.22	-13.00	-6.73	-42.95	Peak
5	533.43	-55.96	-52.52	-13.00	-3.44	-42.96	Peak
6	731.31	-57.74	-58.26	-13.00	0.52	-44.74	Peak
7	3760.00	-54.11	-47.46	-13.00	-6.65	-41.11	Peak

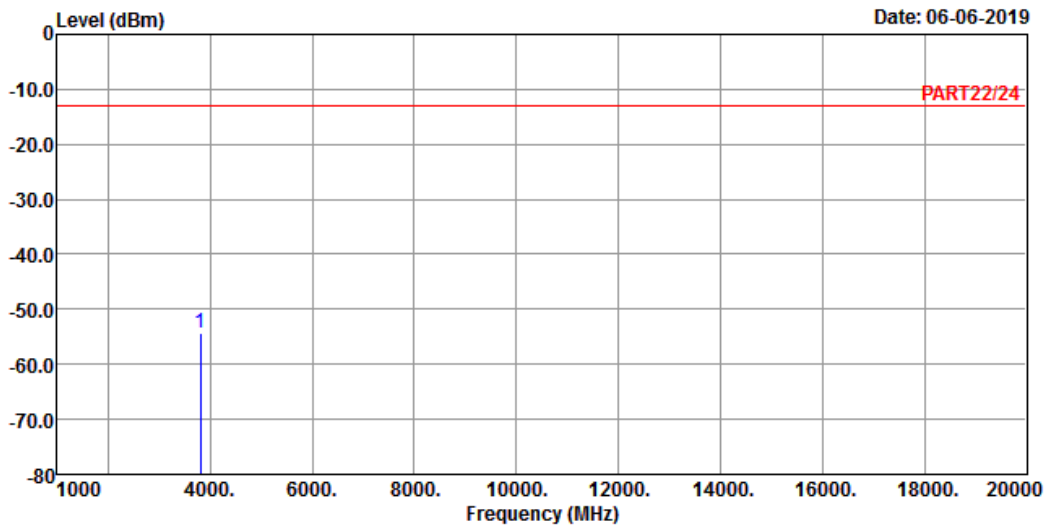
High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : LTE Band 2 QPSK_20M Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	

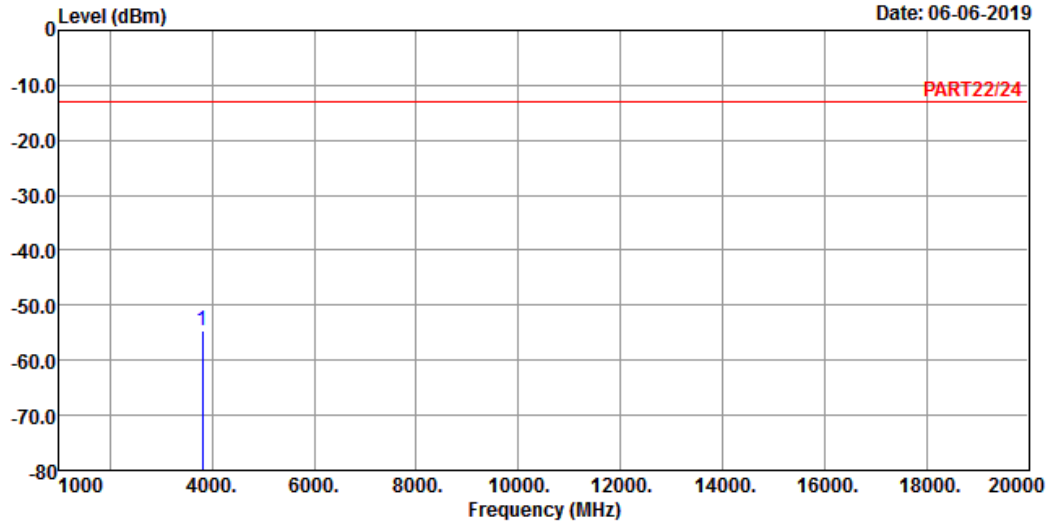
1 pp 3800.00 -54.44 -48.01 -13.00 -6.43 -41.44 Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 2 QPSK_20M Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3800.00	-54.52	-48.09	-13.00	-6.43	-41.52	Peak

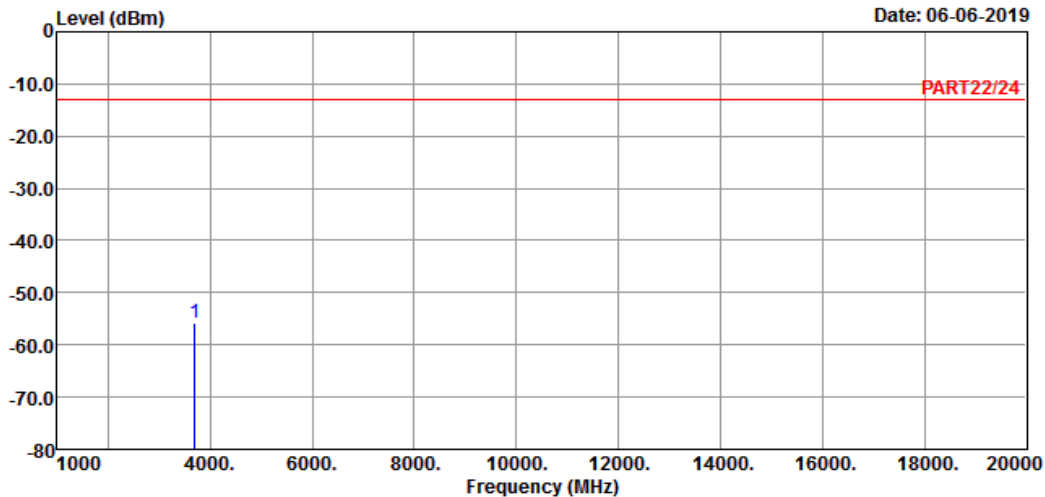
LTE Band 25
 Channel Bandwidth: 1.4 MHz / QPSK
 Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : LTE Band 25 QPSK_1.4M Link_L-CH
 Tested by: Thomas Wei

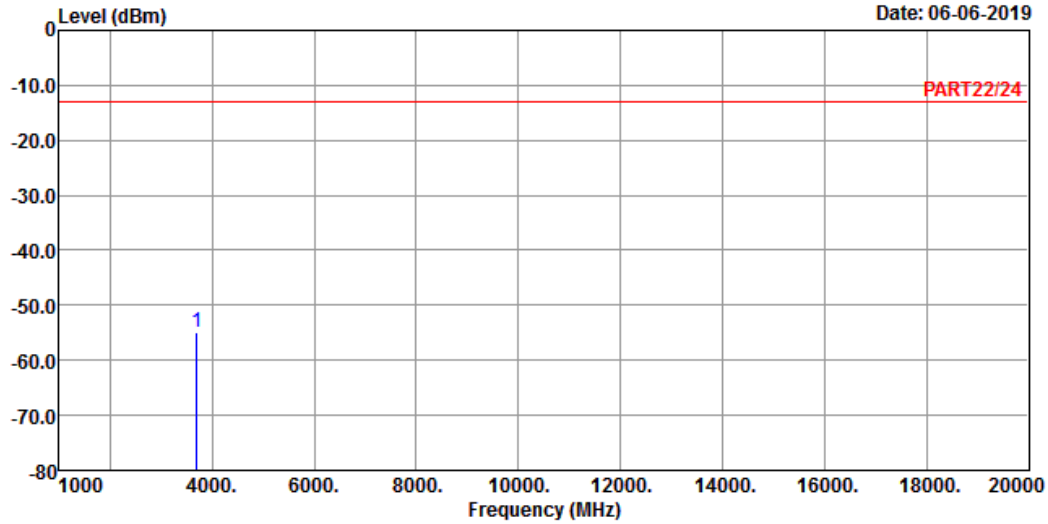
	Read	Limit	Over			
Freq	Level	Level	Line	Factor	Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3701.40	-55.69	-48.76	-13.00	-6.93	-42.69	Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remark : LTE Band 25 QPSK_1.4M Link_L-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Over	Remark
MHz	dBm	dBm	dBm	dB	dB
1 pp 3701.40	-55.02	-48.09	-13.00	-6.93	-42.02 Peak

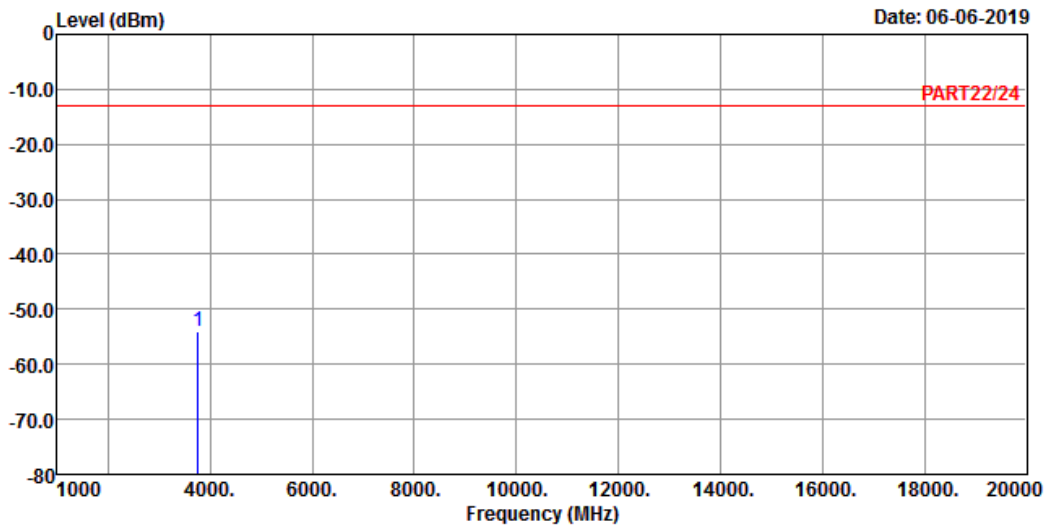
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : LTE Band 25 QPSK_1.4M Link_M-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	

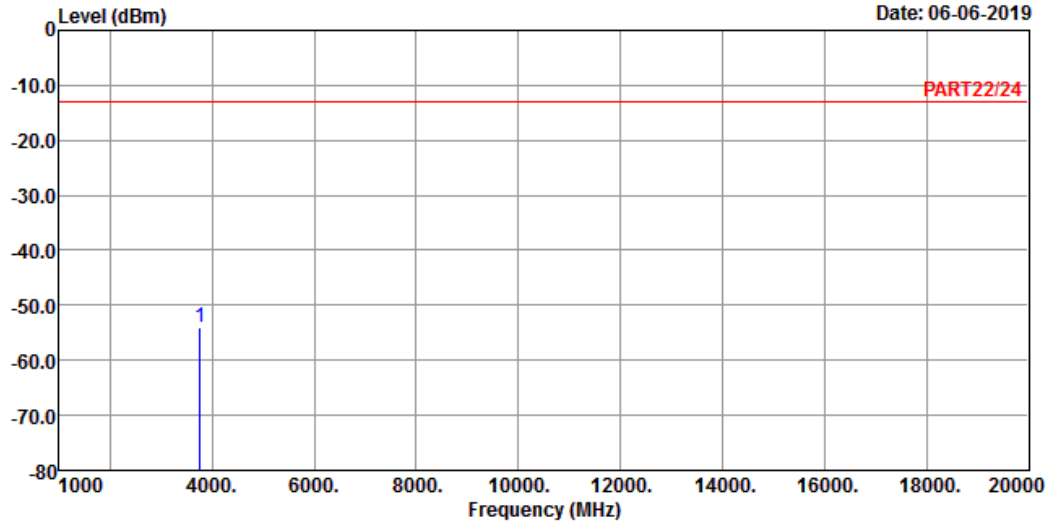
1 pp 3765.00 -54.07 -47.47 -13.00 -6.60 -41.07 Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 25 QPSK_1.4M Link_M-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3765.00	-53.91	-47.31	-13.00	-6.60	-40.91	Peak

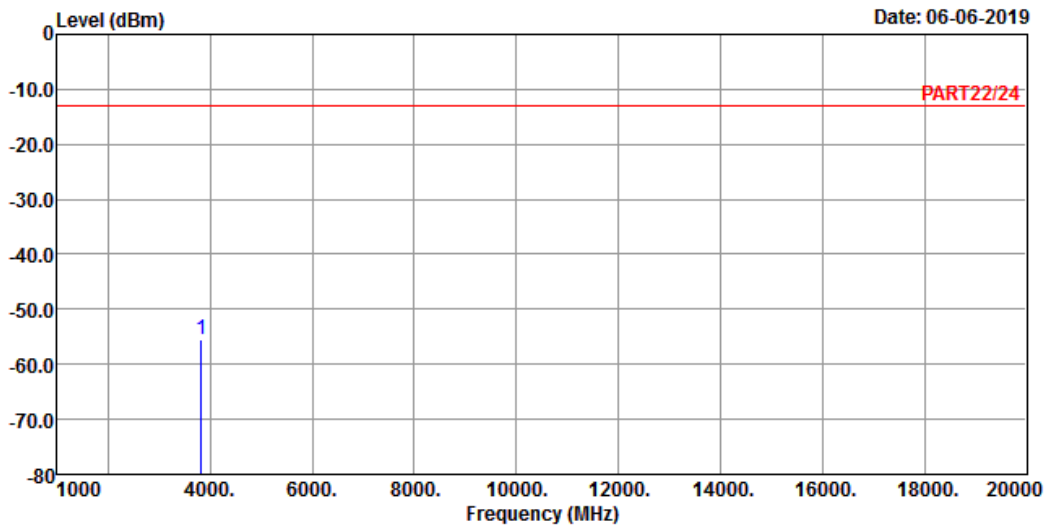
High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : LTE Band 25 QPSK_1.4M Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	

1 pp 3828.60 -55.57 -49.20 -13.00 -6.37 -42.57 Peak

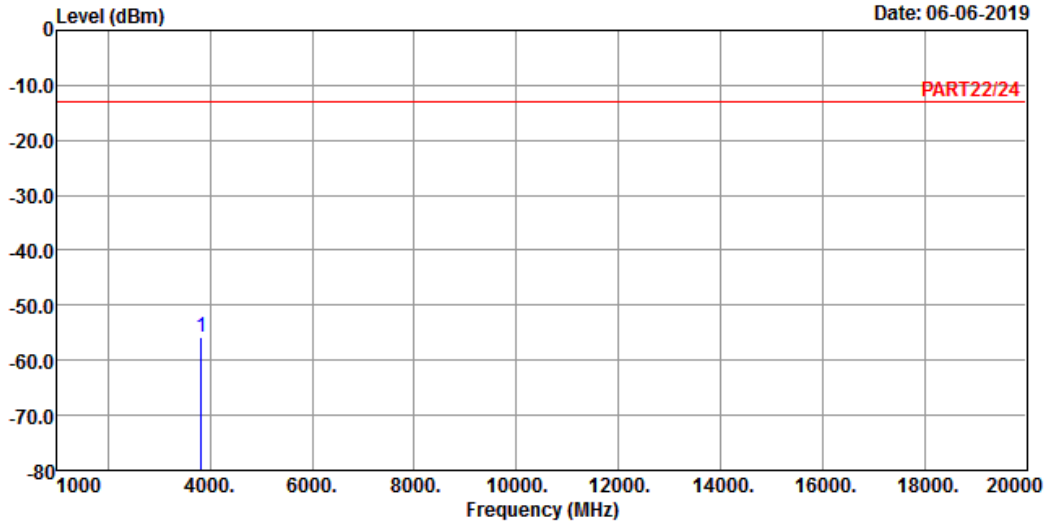


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remark : LTE Band 25 QPSK_1.4M Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3828.60	-55.78	-49.41	-13.00	-6.37	-42.78	Peak

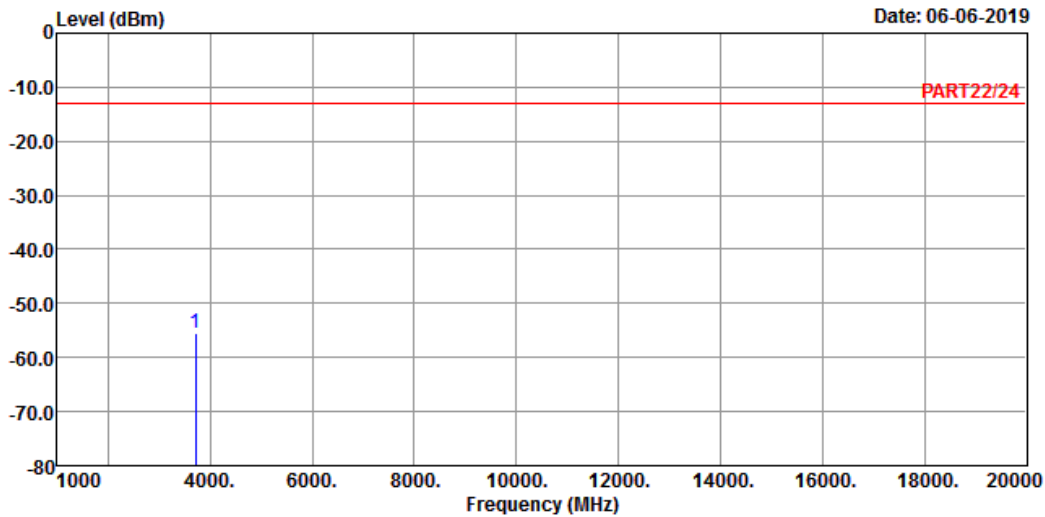
Channel Bandwidth: 5 MHz / QPSK
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
Condition: PART22/24 HORIZONTAL
Remak : LTE Band 25 QPSK_5M Link_L-CH
Tested by: Thomas Wei

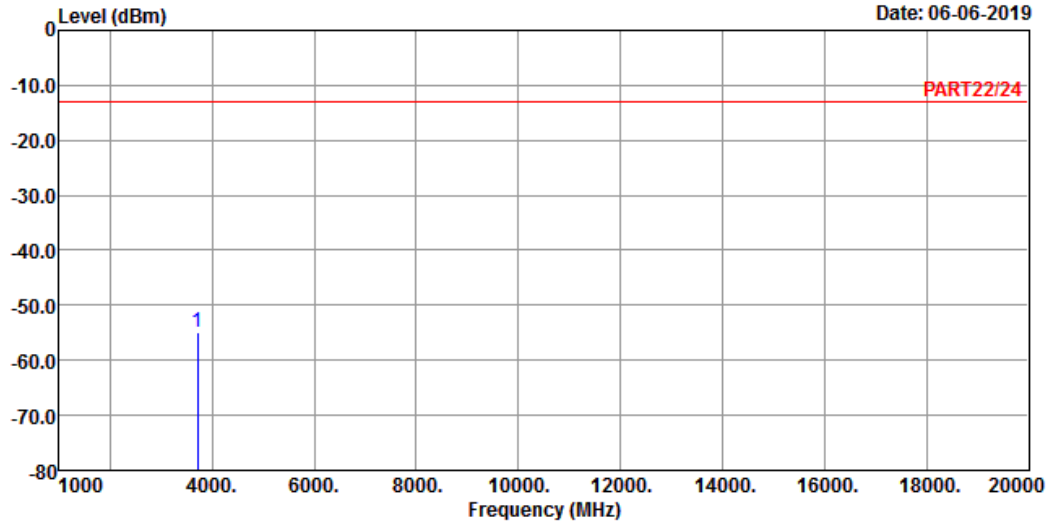
	Read	Limit	Over		
Freq	Level	Level	Line	Factor	Limit
MHz	dBm	dBm	dBm	dB	dB
1 pp 3705.00	-55.48	-48.55	-13.00	-6.93	-42.48
					Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 25 QPSK_5M Link_L-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3705.00	-54.77	-47.84	-13.00	-6.93	-41.77	Peak

Middle Channel

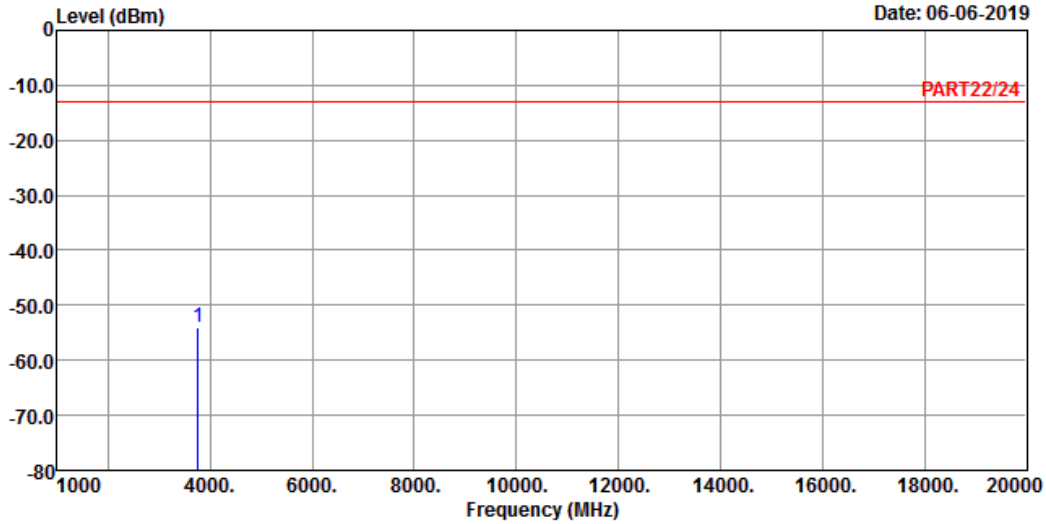


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : LTE Band 25 QPSK_5M Link_M-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	

1 pp 3765.00 -53.89 -47.29 -13.00 -6.60 -40.89 Peak

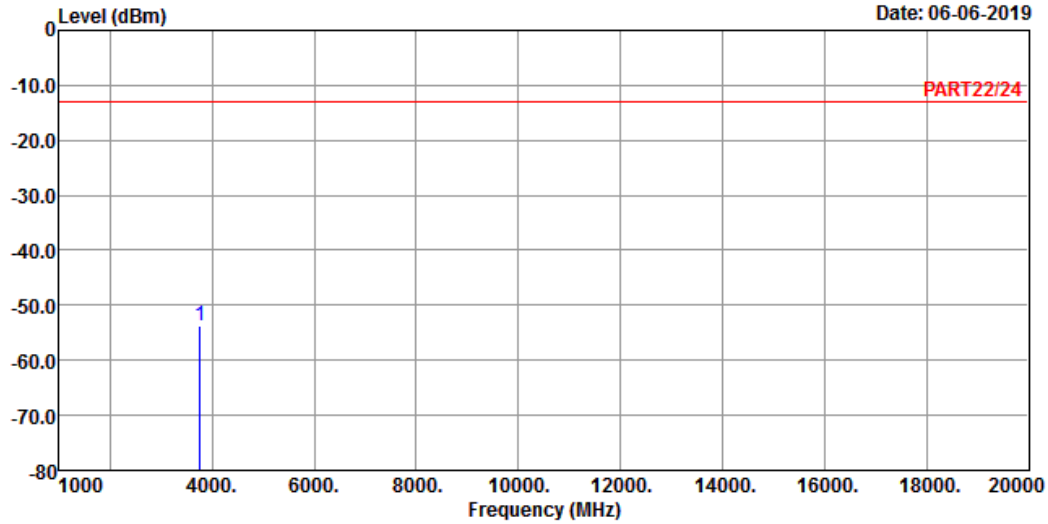


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 25 QPSK_5M Link_M-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3765.00	-53.77	-47.17	-13.00	-6.60	-40.77	Peak

High Channel

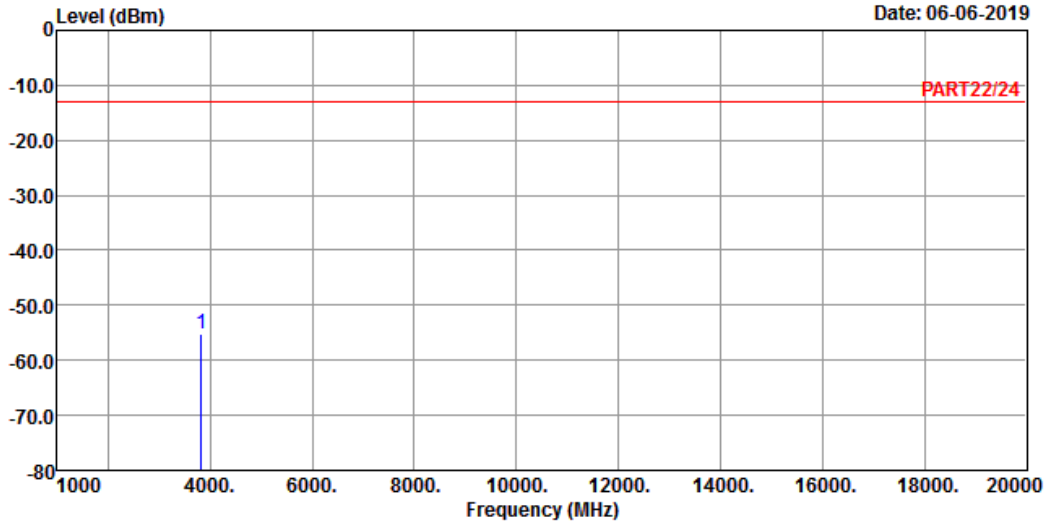


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 25 QPSK_5M Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	

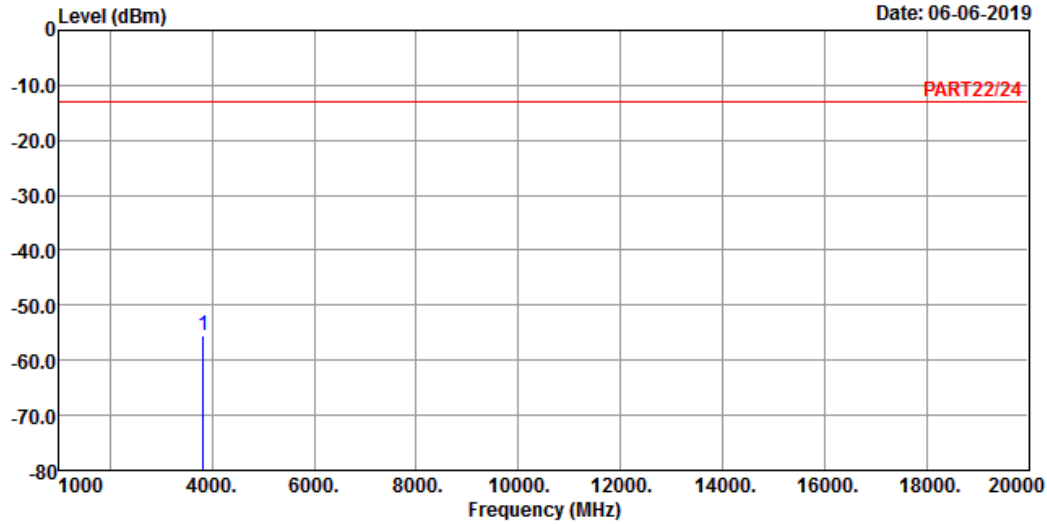
1 pp 3825.00 -55.32 -48.95 -13.00 -6.37 -42.32 Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 25 QPSK_5M Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3825.00	-55.45	-49.08	-13.00	-6.37	-42.45	Peak

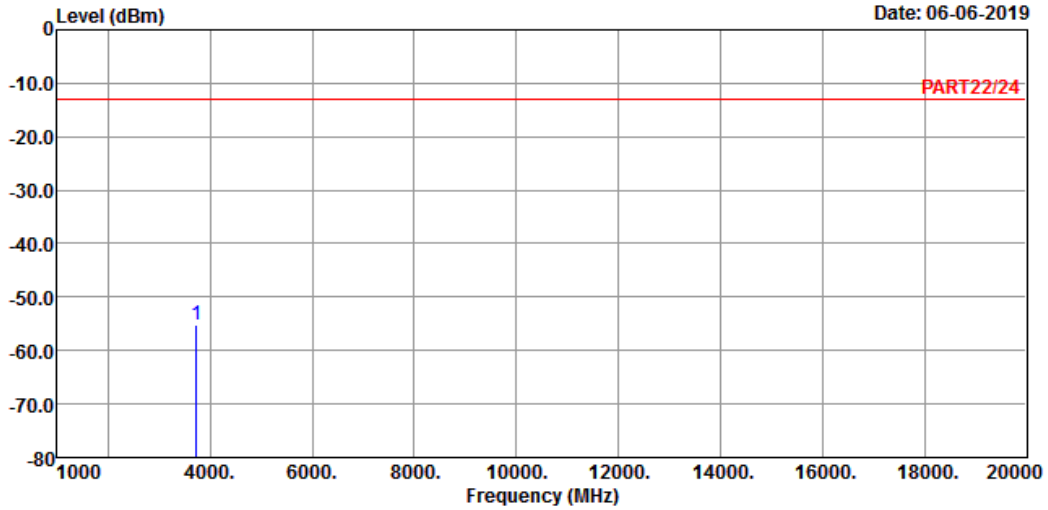
Channel Bandwidth: 20 MHz / QPSK
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
Condition: PART22/24 HORIZONTAL
Remak : LTE Band 25 QPSK_20M Link_L-CH
Tested by: Thomas Wei

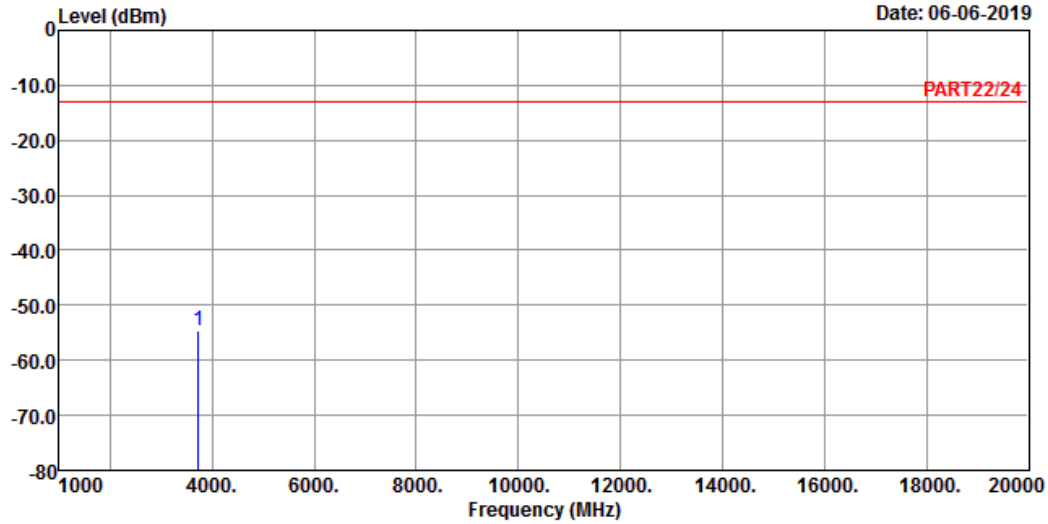
Freq	Level	Read Level	Limit	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB
1 pp 3720.00	-55.23	-48.41	-13.00	-6.82	-42.23 Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 25 QPSK_20M Link_L-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3720.00	-54.48	-47.66	-13.00	-6.82	-41.48	Peak

Middle Channel

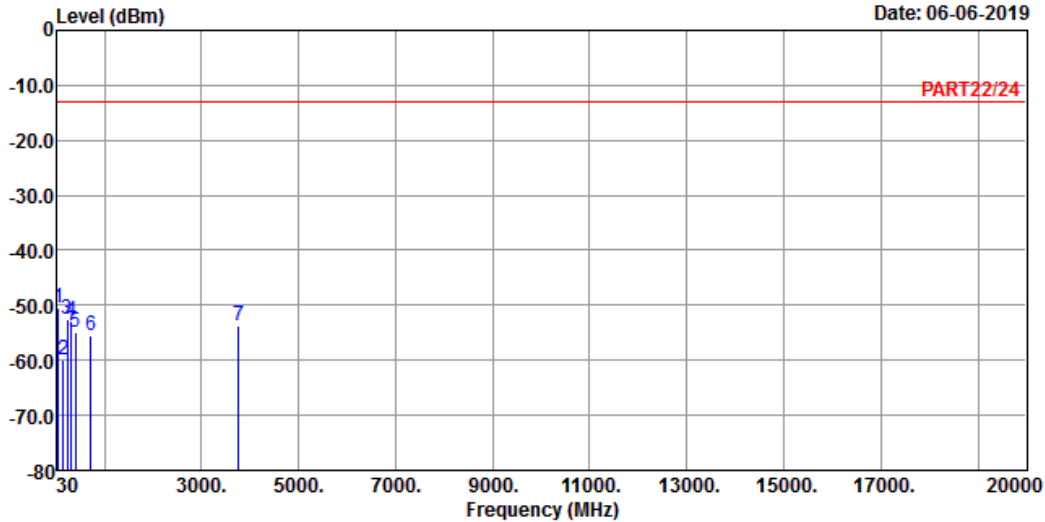


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 06-06-2019



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : LTE Band 25 QPSK_20M Link_M-CH
 Tested by: Thomas Wei

	Freq	Level	Read Level	Limit	Line	Factor	Over	Limit	Remark
	MHz	dBm	dBm	dBm		dB	dB	dB	
1	pp	43.58	-50.48	-49.01	-13.00	-1.47	-37.48	Peak	
2		152.22	-59.89	-52.86	-13.00	-7.03	-46.89	Peak	
3		229.82	-52.45	-45.64	-13.00	-6.81	-39.45	Peak	
4		315.18	-52.96	-46.18	-13.00	-6.78	-39.96	Peak	
5		397.63	-54.97	-49.01	-13.00	-5.96	-41.97	Peak	
6		729.37	-55.57	-56.05	-13.00	0.48	-42.57	Peak	
7		3765.00	-53.62	-47.02	-13.00	-6.60	-40.62	Peak	

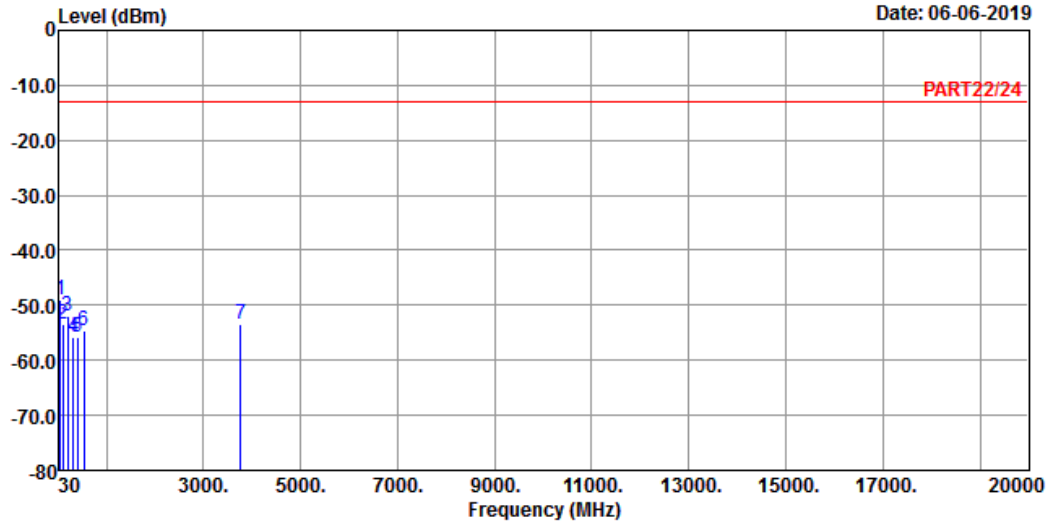


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 06-06-2019



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 25 QPSK_20M Link_M-CH
 Tested by: Thomas Wei

	Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
	MHz	dBm	dBm	dBm	dB	dB	
1 pp	43.58	-49.05	-47.58	-13.00	-1.47	-36.05	Peak
2	106.63	-53.52	-43.12	-13.00	-10.40	-40.52	Peak
3	196.84	-51.86	-44.12	-13.00	-7.74	-38.86	Peak
4	318.09	-55.86	-49.13	-13.00	-6.73	-42.86	Peak
5	398.60	-55.83	-49.88	-13.00	-5.95	-42.83	Peak
6	532.46	-54.57	-51.10	-13.00	-3.47	-41.57	Peak
7	3765.00	-53.41	-46.81	-13.00	-6.60	-40.41	Peak

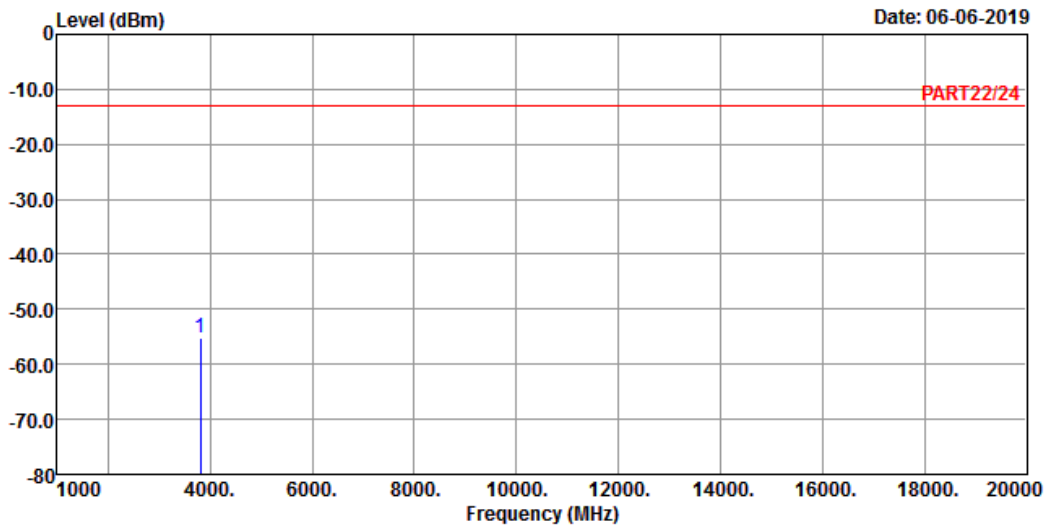
High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
 Condition: PART22/24 HORIZONTAL
 Remak : LTE Band 25 QPSK_20M Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	

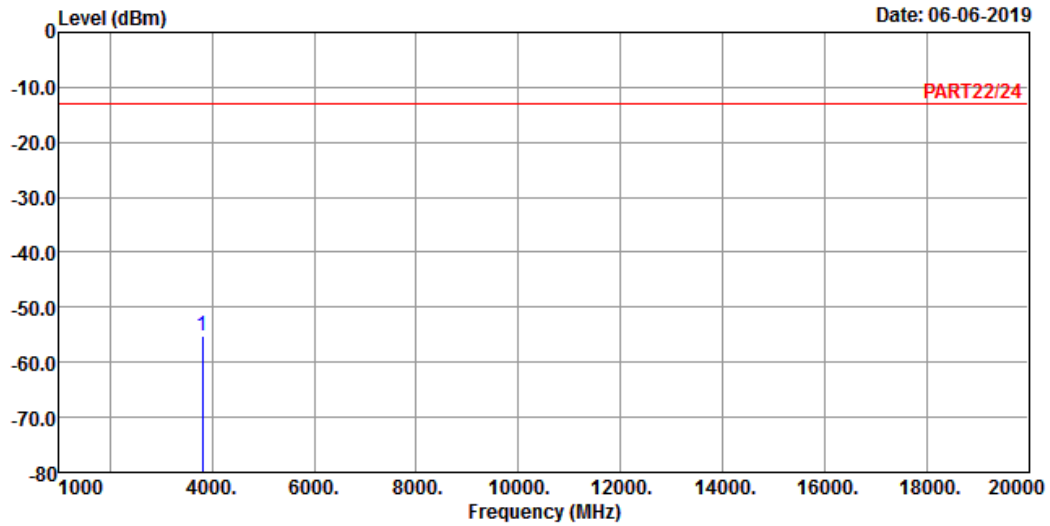
1 pp 3810.00 -55.12 -48.72 -13.00 -6.40 -42.12 Peak



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4



Site : 966 Chamber 5
 Condition: PART22/24 VERTICAL
 Remak : LTE Band 25 QPSK_20M Link_H-CH
 Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Line Factor	Over Limit	Remark
MHz	dBm	dBm	dBm	dB	dB	
1 pp 3810.00	-55.13	-48.73	-13.00	-6.40	-42.13	Peak

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Fax: 886-2-26051924

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Fax: 886-3-6668323

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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