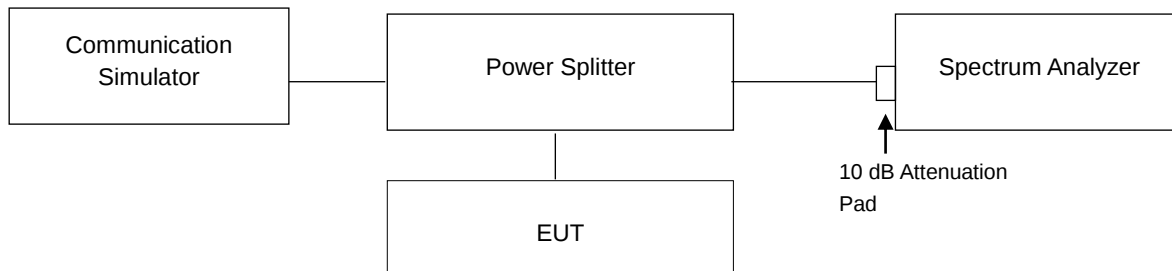


4.6 Peak to Average Ratio

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

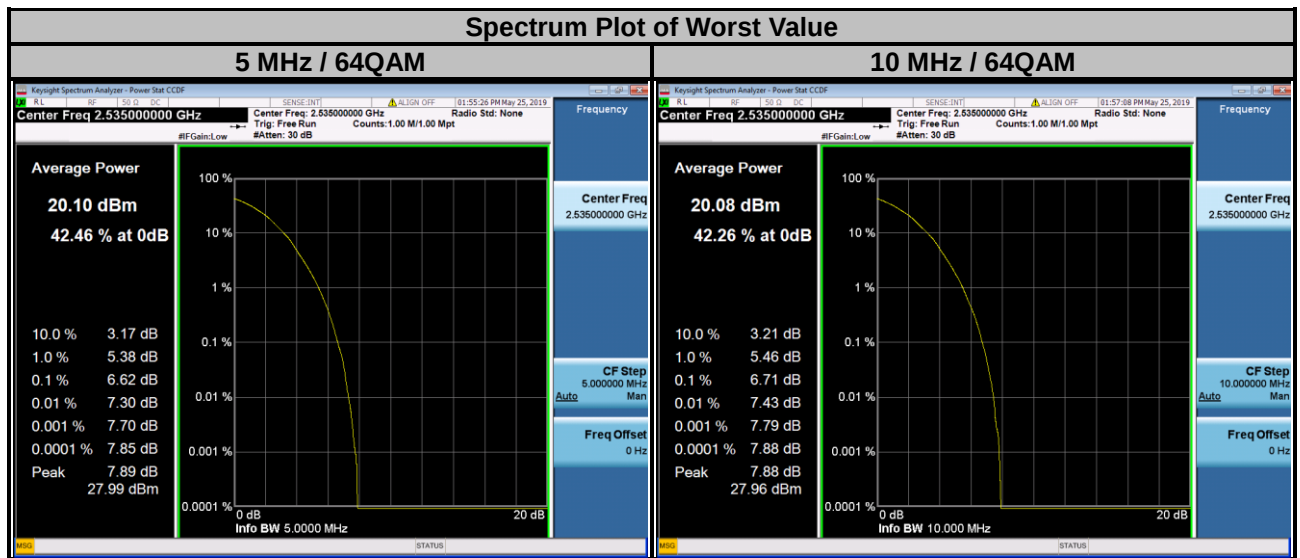


4.6.3 Test Procedures

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

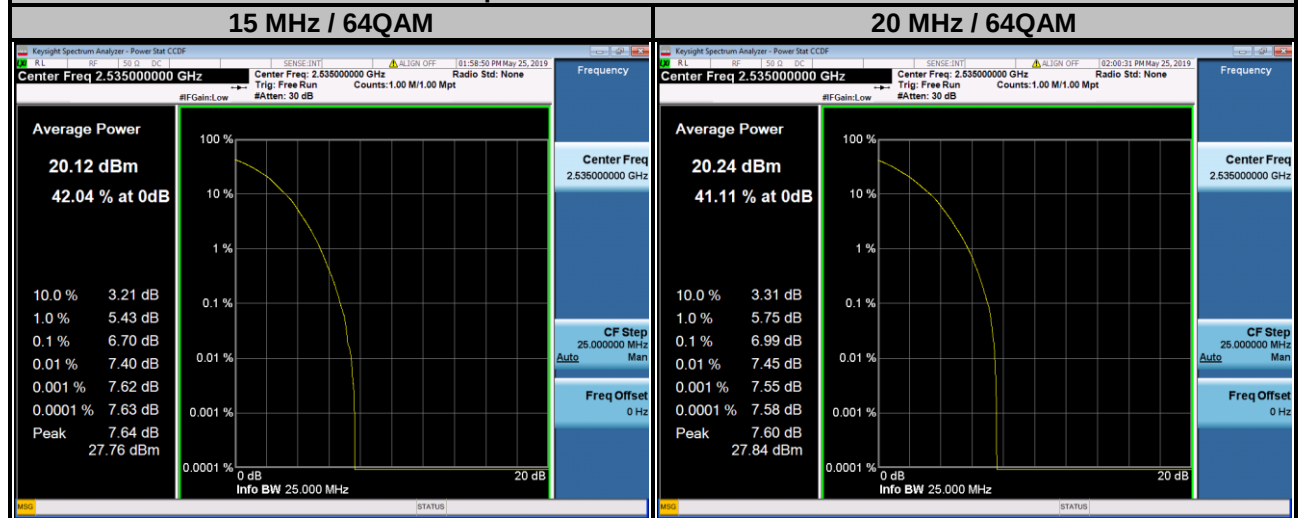
LTE Band 7									
Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
Channel	Frequency (MHz)	Peak to Average Ratio (dB)			Channel	Frequency (MHz)	Peak to Average Ratio (dB)		
		QPSK	16QAM	64QAM			QPSK	16QAM	64QAM
20775	2502.5	5.07	6.10	6.48	20800	2505.0	5.04	6.04	6.41
21100	2535.0	5.20	6.16	6.62	21100	2535.0	5.27	6.28	6.71
21425	2567.5	4.92	5.93	6.45	21400	2565.0	5.02	5.95	6.58



LTE Band 7

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
20825	2507.5	4.99	5.91	6.39	20850	2510.0	4.93	5.99	6.51
21100	2535.0	5.20	6.18	6.70	21100	2535.0	5.37	6.29	6.99
21375	2562.5	5.17	5.92	6.55	21350	2560.0	4.87	5.86	6.46

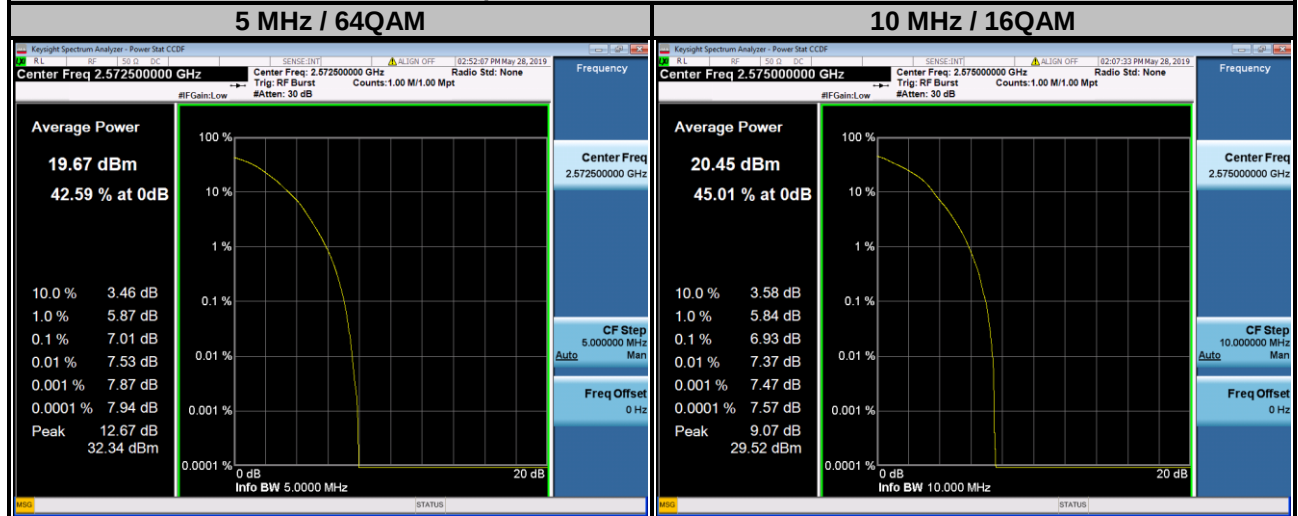
Spectrum Plot of Worst Value



LTE Band 38

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
37775	2572.5	5.28	6.79	7.01	37800	2575.0	5.38	6.93	6.81
38000	2595.0	5.26	6.78	6.79	38000	2595.0	5.38	6.70	6.52
38225	2617.5	5.08	6.45	6.58	38200	2615.0	5.38	6.22	6.48

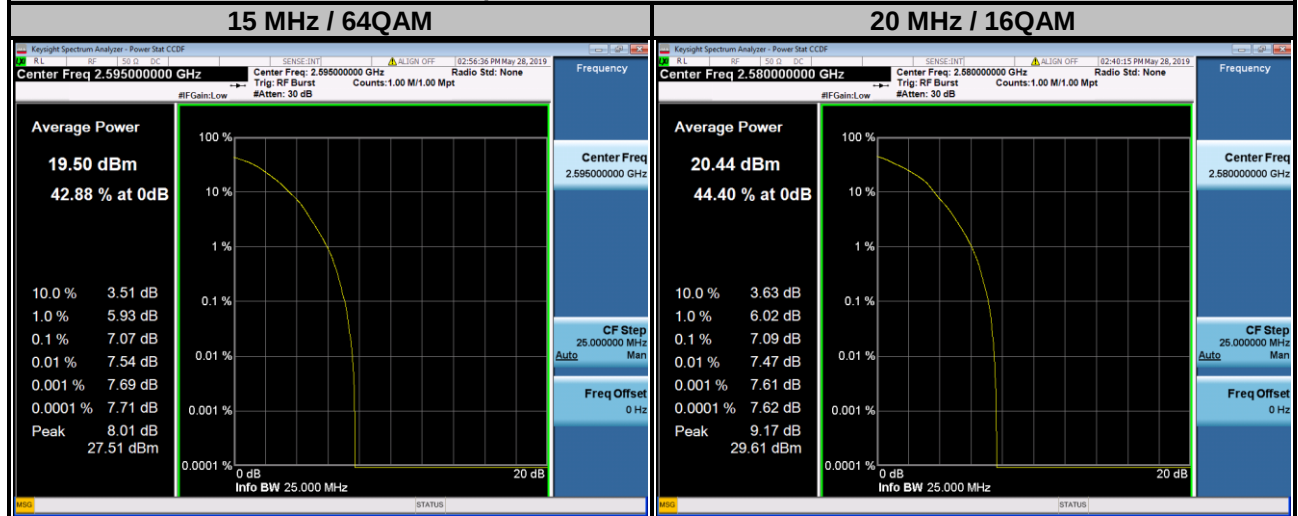
Spectrum Plot of Worst Value



LTE Band 38

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
37825	2577.5	5.11	6.86	6.67	37850	2580.0	5.41	7.09	6.77
38000	2595.0	6.28	6.86	7.07	38000	2595.0	6.28	6.51	6.85
38175	2612.5	5.74	6.39	6.68	38150	2610.0	5.85	6.59	6.57

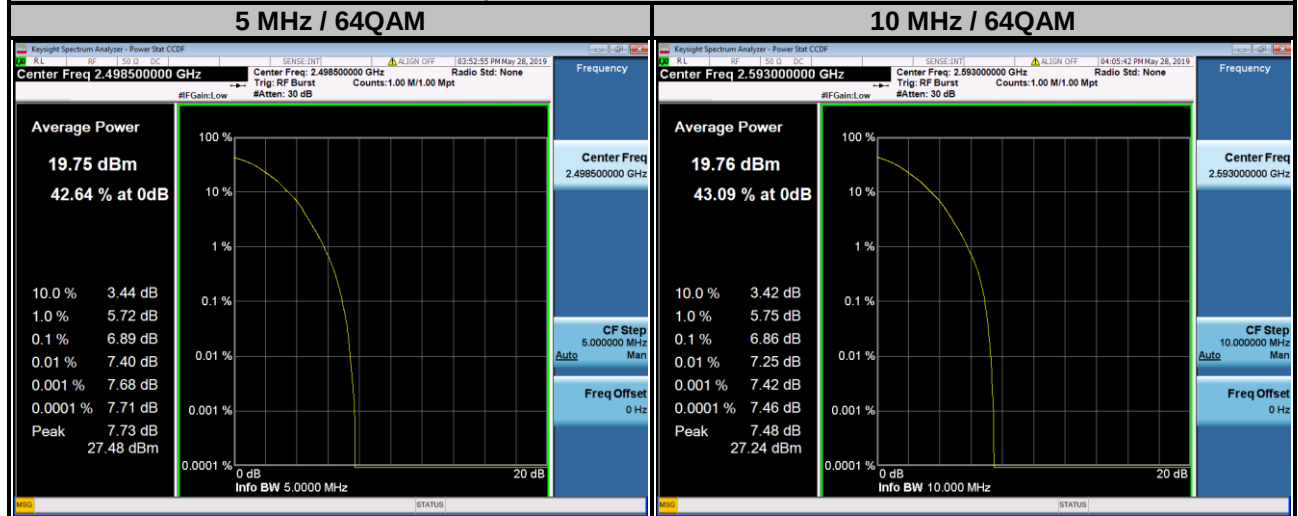
Spectrum Plot of Worst Value



LTE Band 41

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
39675	2498.5	5.97	6.83	6.89	39700	2501.0	5.91	6.68	6.46
40620	2593.0	5.35	6.52	6.87	40620	2593.0	5.58	6.57	6.86
41565	2687.5	5.24	6.43	6.67	41540	2685.0	5.41	6.50	6.54

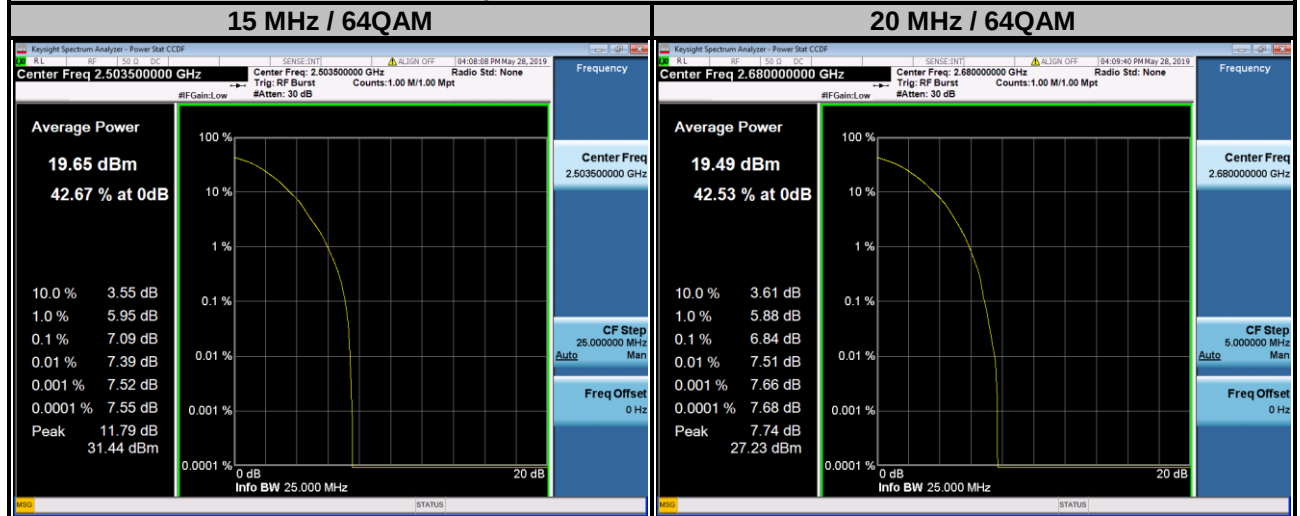
Spectrum Plot of Worst Value



LTE Band 41

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
39725	2503.5	5.96	6.62	7.09	39750	2506.0	5.84	6.58	6.71
40620	2593.0	5.46	7.01	6.83	40620	2593.0	5.71	6.81	6.68
41515	2682.5	5.48	6.46	6.86	41490	2680.0	5.66	6.69	6.84

Spectrum Plot of Worst Value

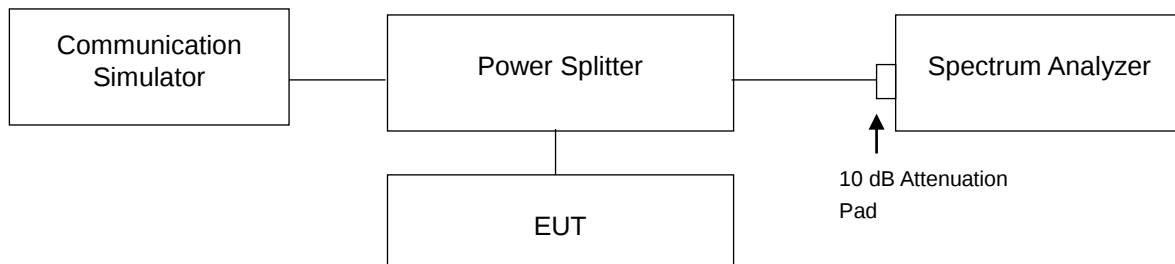


4.7 Conducted Spurious Emissions

4.7.1 Limits of Conducted Spurious Emissions Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $55 + 10 \log (P)$ dB. The limit of emission is equal to -25 dBm.

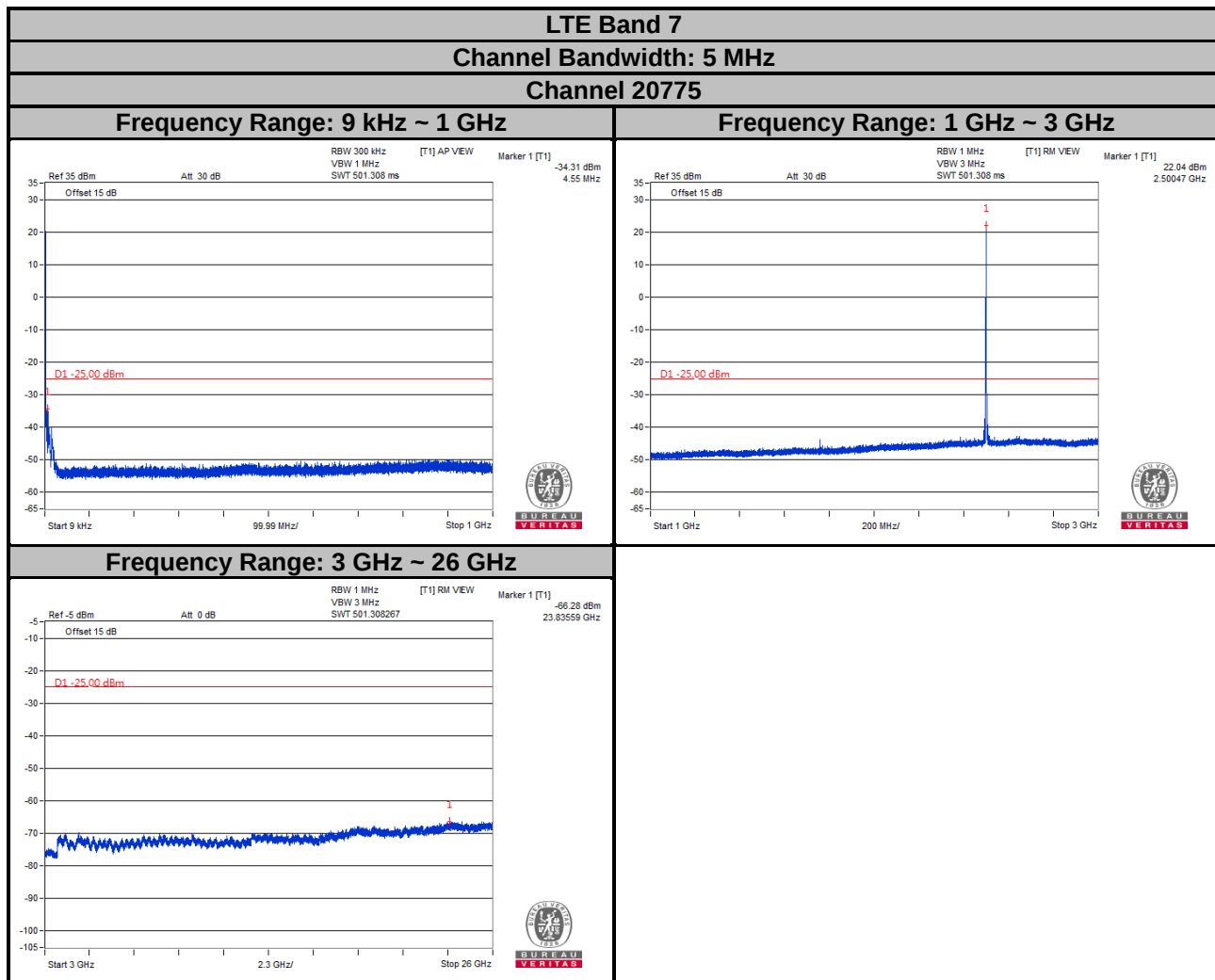
4.7.2 Test Setup



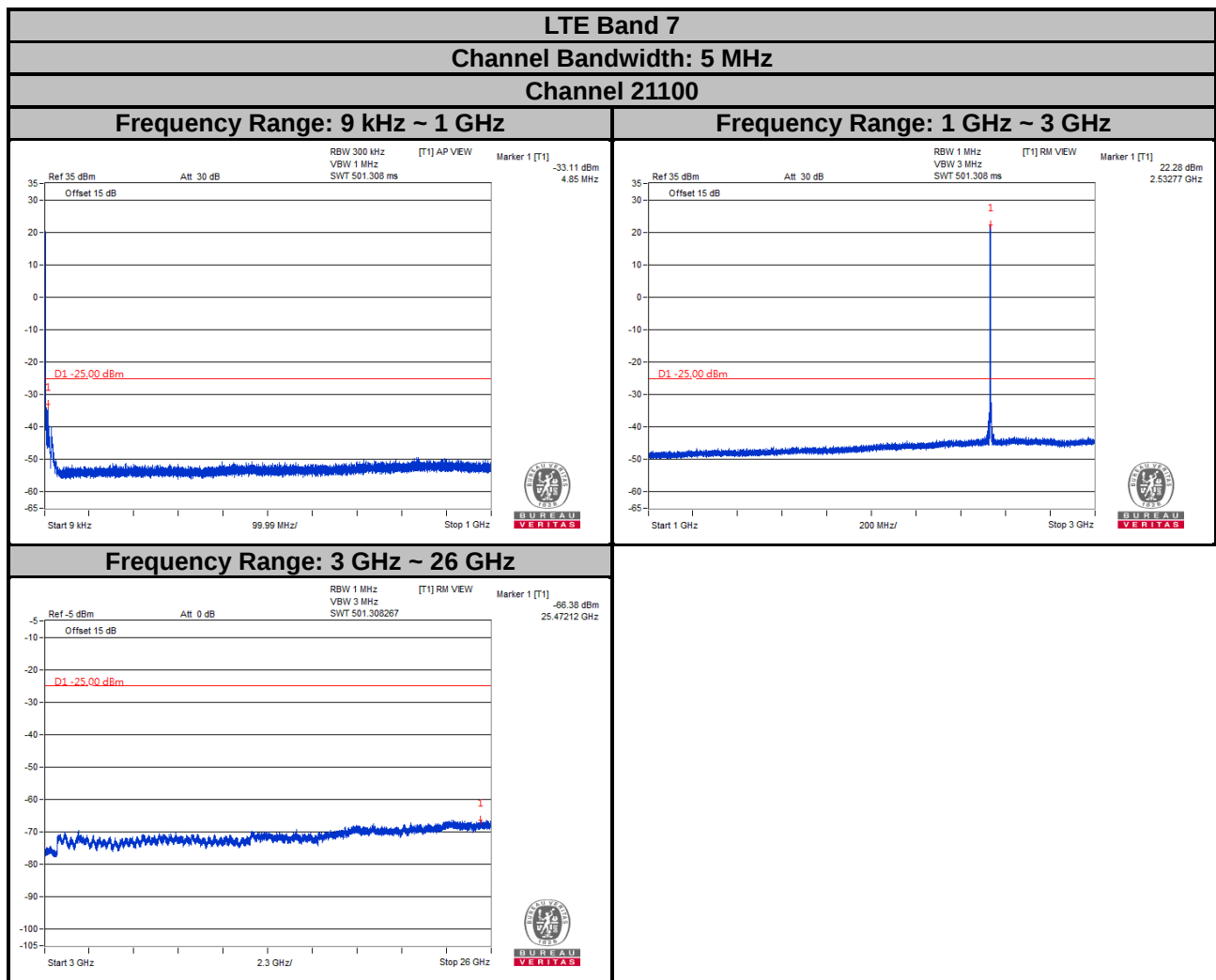
4.7.3 Test Procedure

- 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 3 GHz. 10 dB attenuation pad is connected with spectrum. RBW = 300 kHz and VBW = 1 MHz are used for conducted emission measurement.
- Measuring frequency range is from 3 GHz to 26 or 27 GHz. 10 dB attenuation pad is connected with spectrum. RBW = 1 MHz and VBW = 3 MHz are used for conducted emission measurement.
- Spectrum RBW settings are referenced to ANSI 63.26 section 5.7.2.

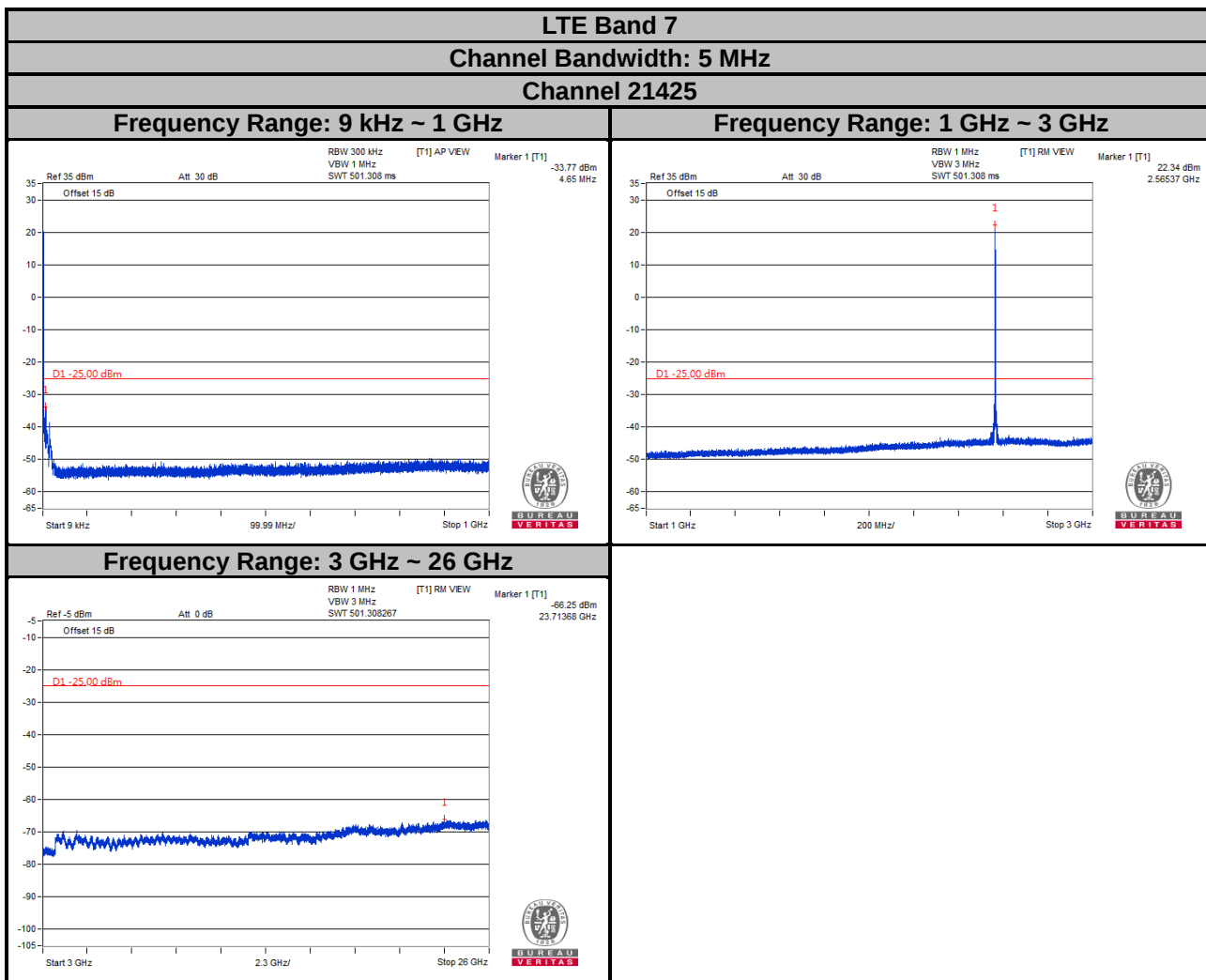
4.7.4 Test Results



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



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



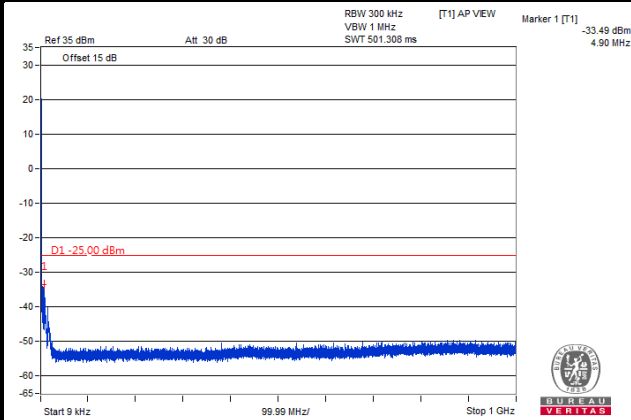
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 7

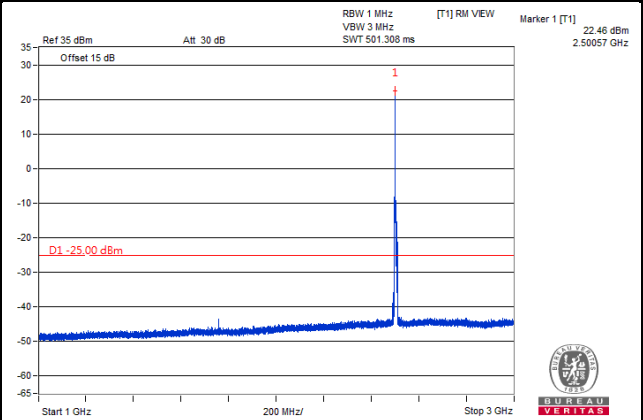
Channel Bandwidth: 10 MHz

Channel 20800

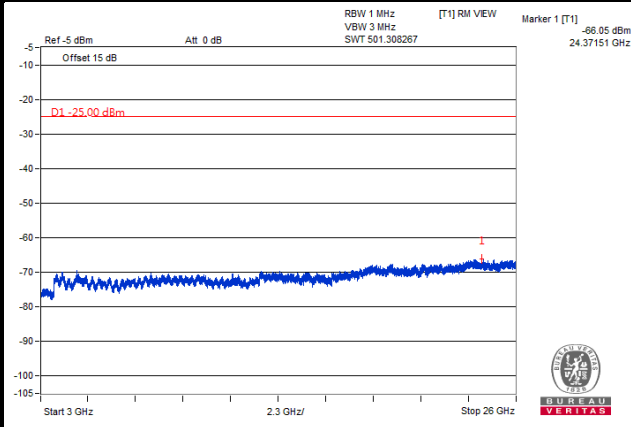
Frequency Range: 9 kHz ~ 1 GHz



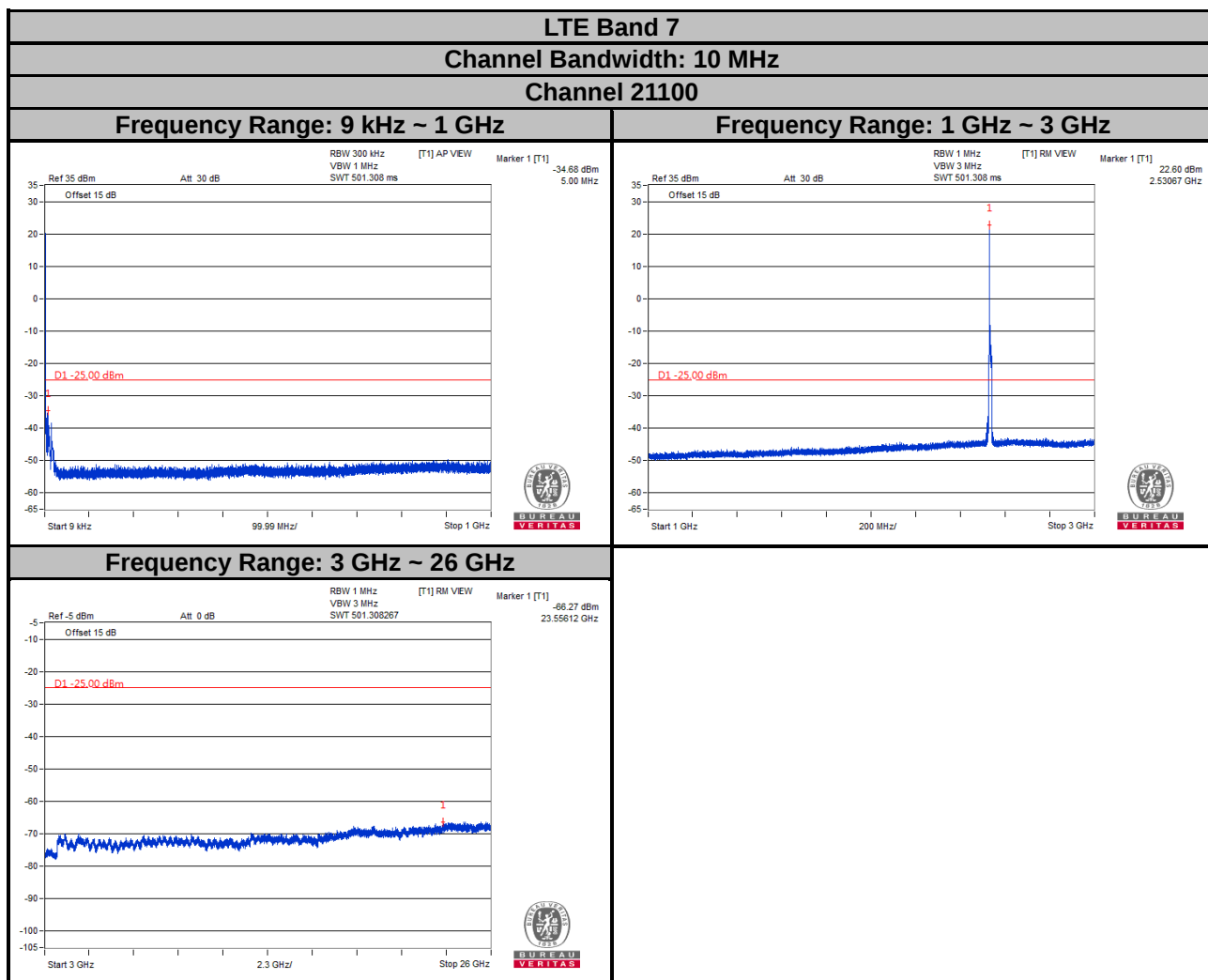
Frequency Range: 1 GHz ~ 3 GHz



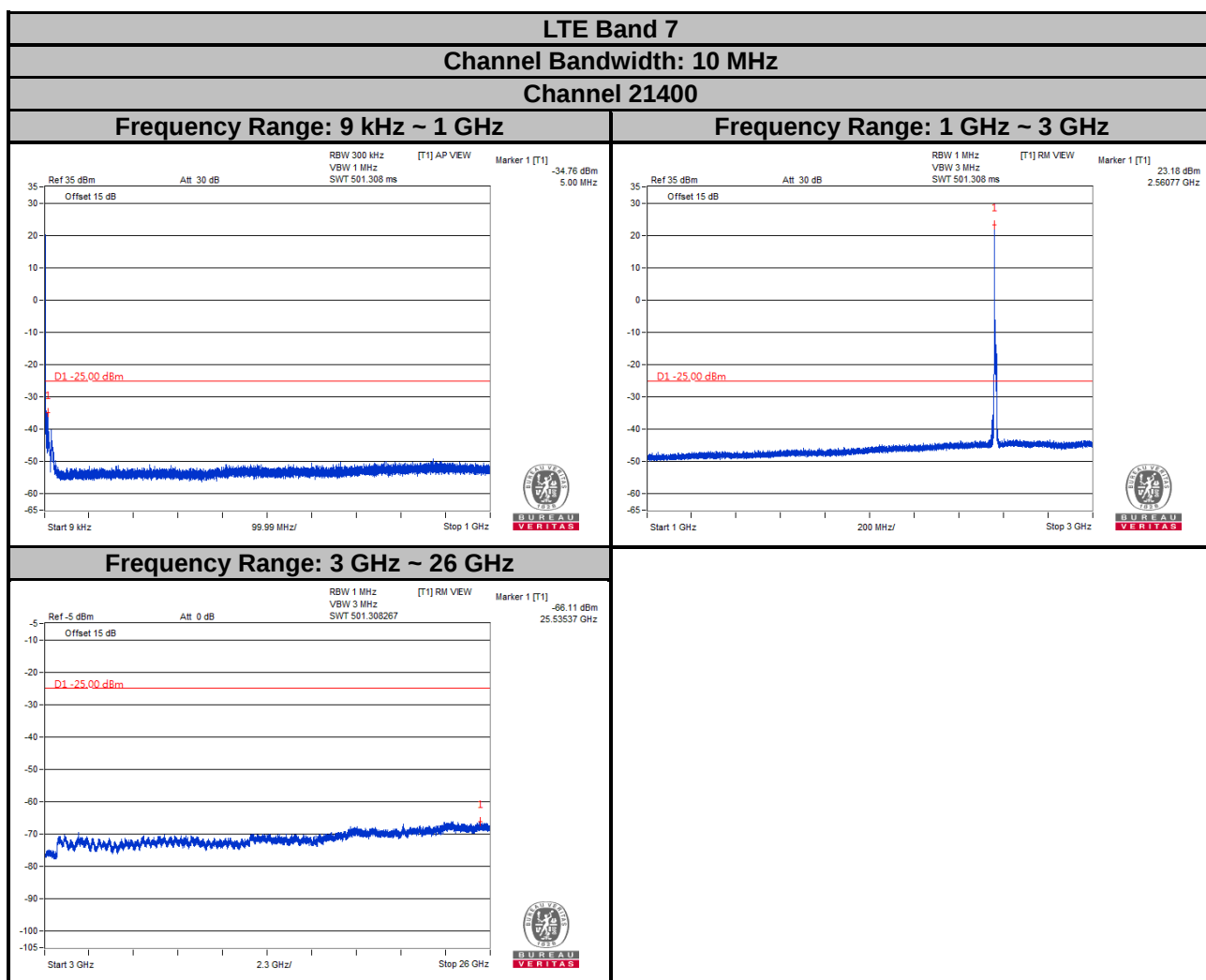
Frequency Range: 3 GHz ~ 26 GHz



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.



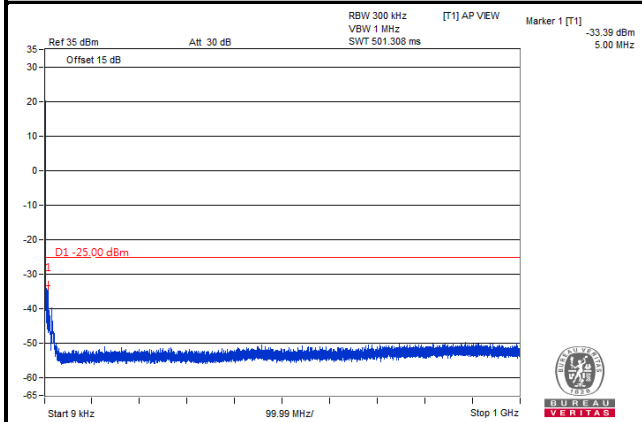
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 7

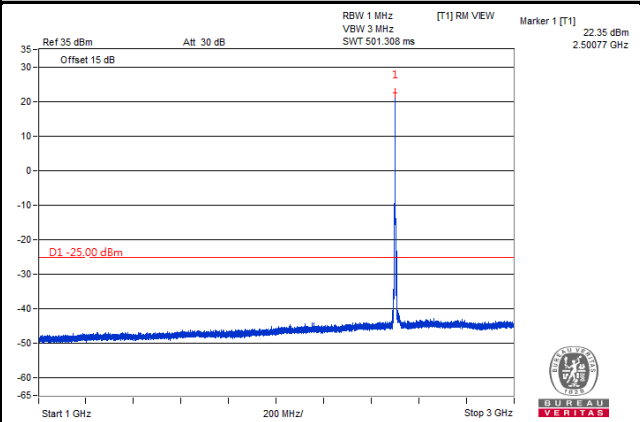
Channel Bandwidth: 15 MHz

Channel 20825

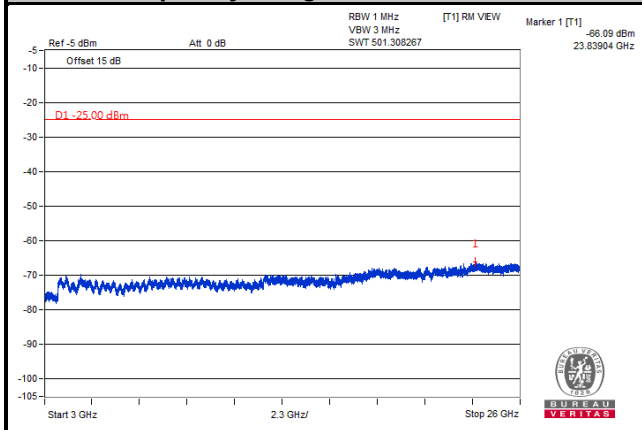
Frequency Range: 9 kHz ~ 1 GHz



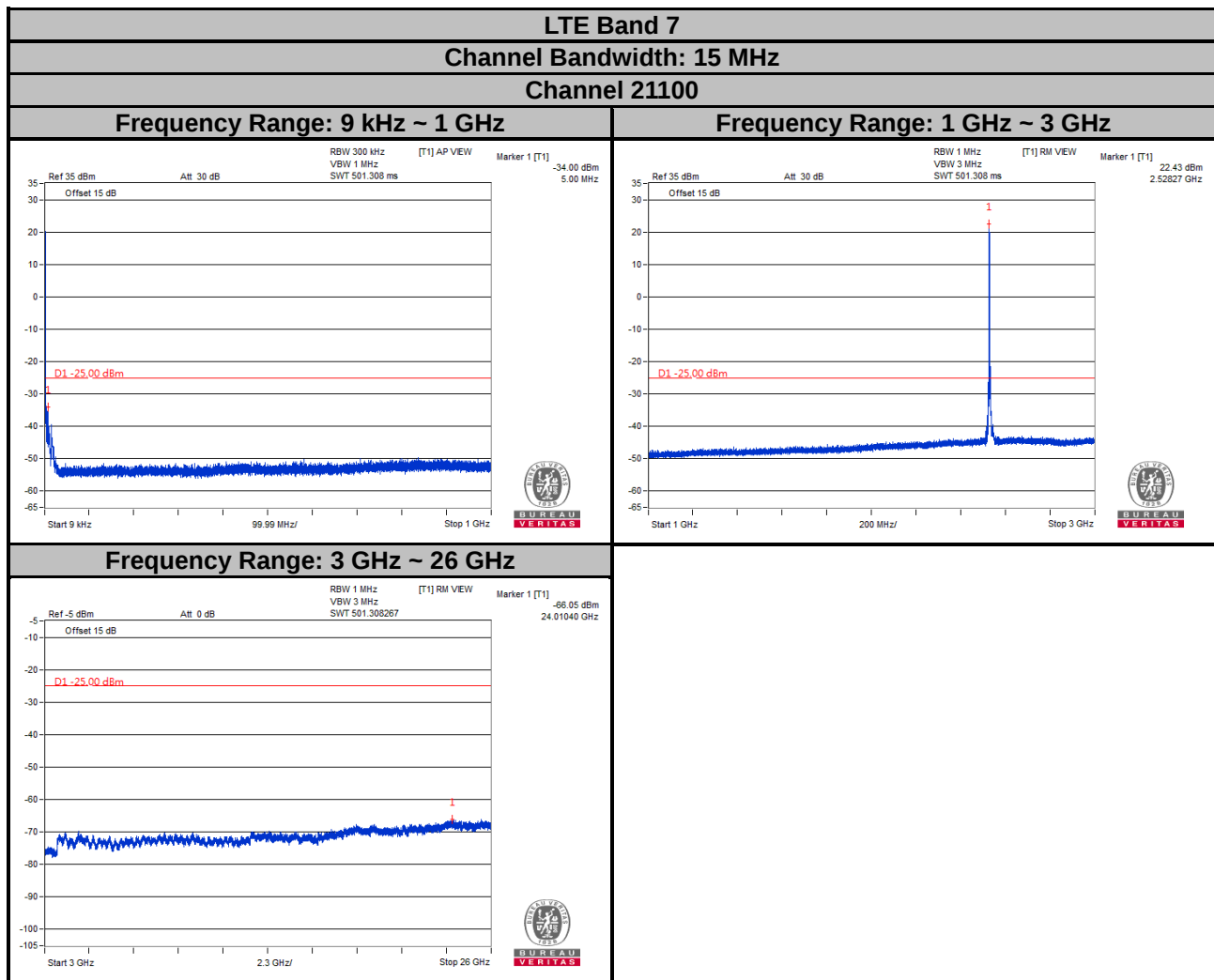
Frequency Range: 1 GHz ~ 3 GHz



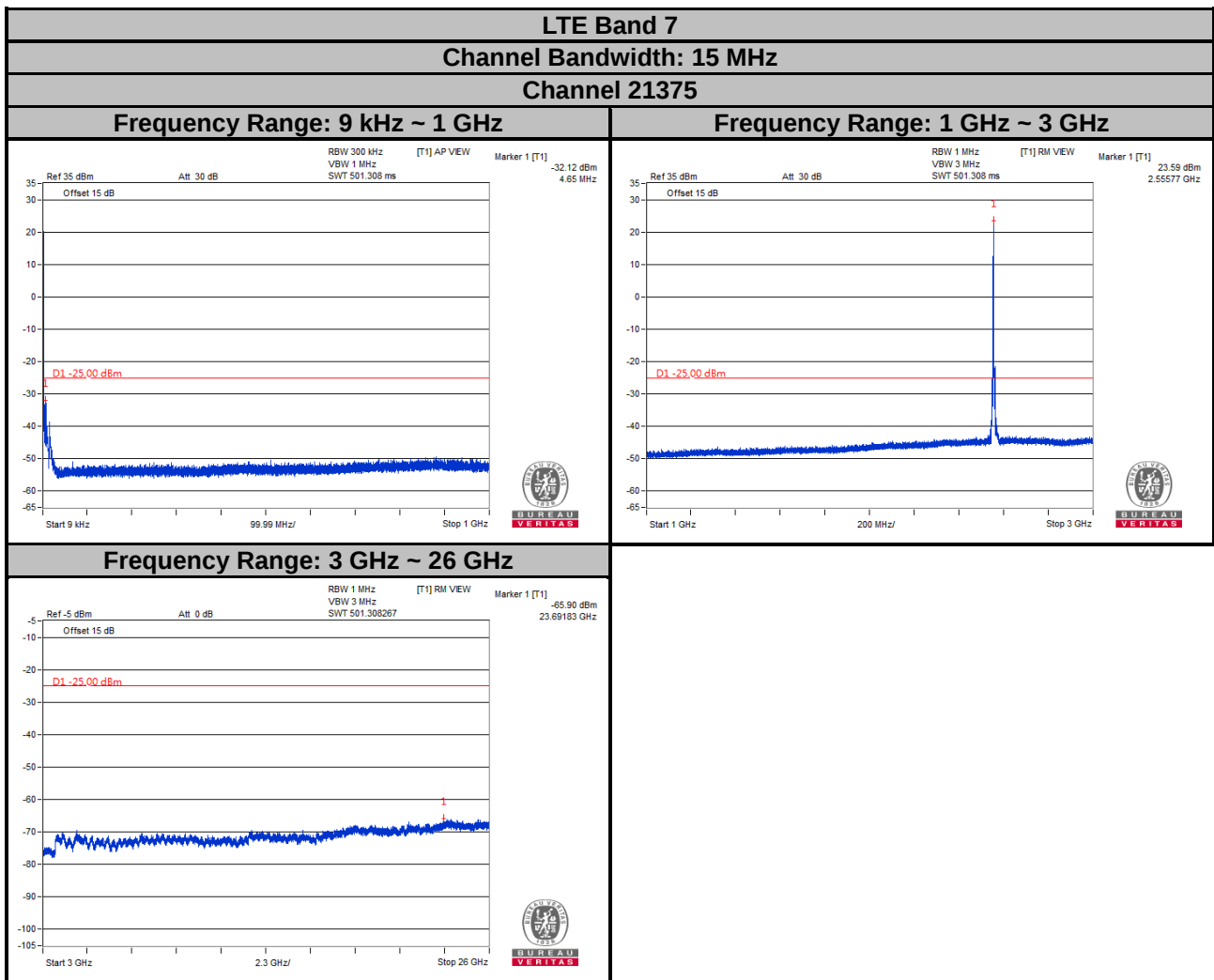
Frequency Range: 3 GHz ~ 26 GHz



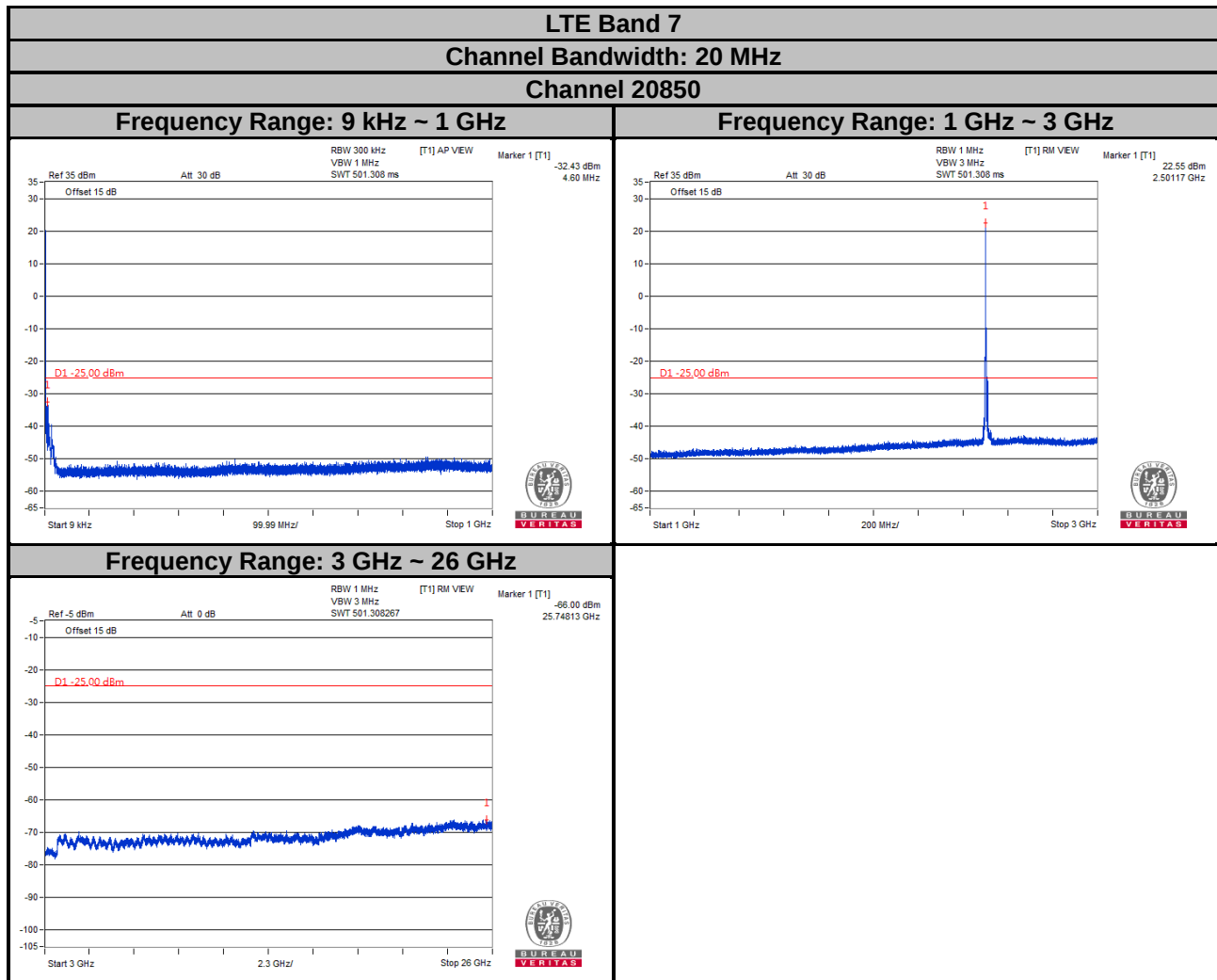
Note: The signal over the limit in 9 kHz is from spectrum analyzer.



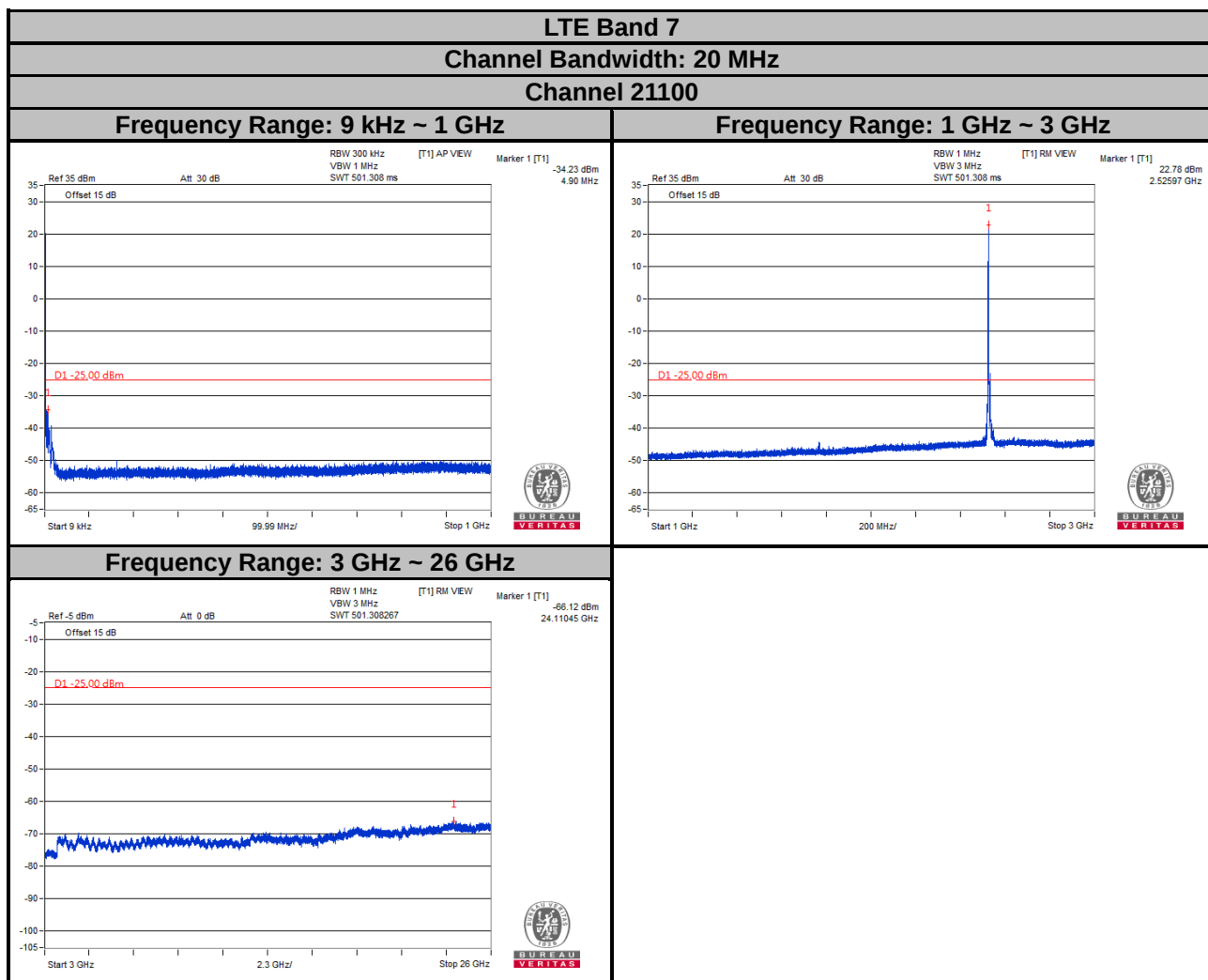
Note: The signal over the limit in 9 kHz is from spectrum analyzer.



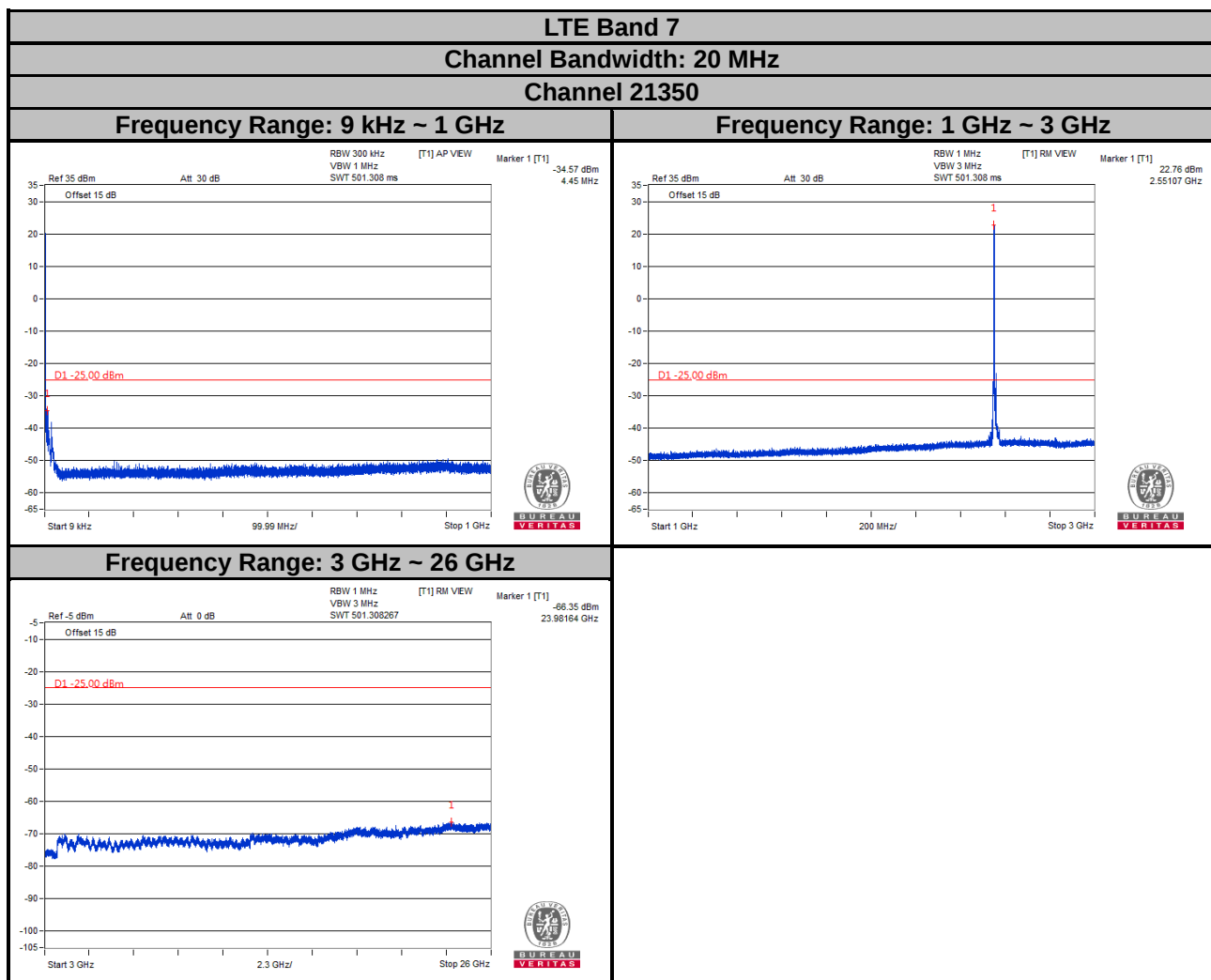
Note: The signal over the limit in 9 kHz is from spectrum analyzer.



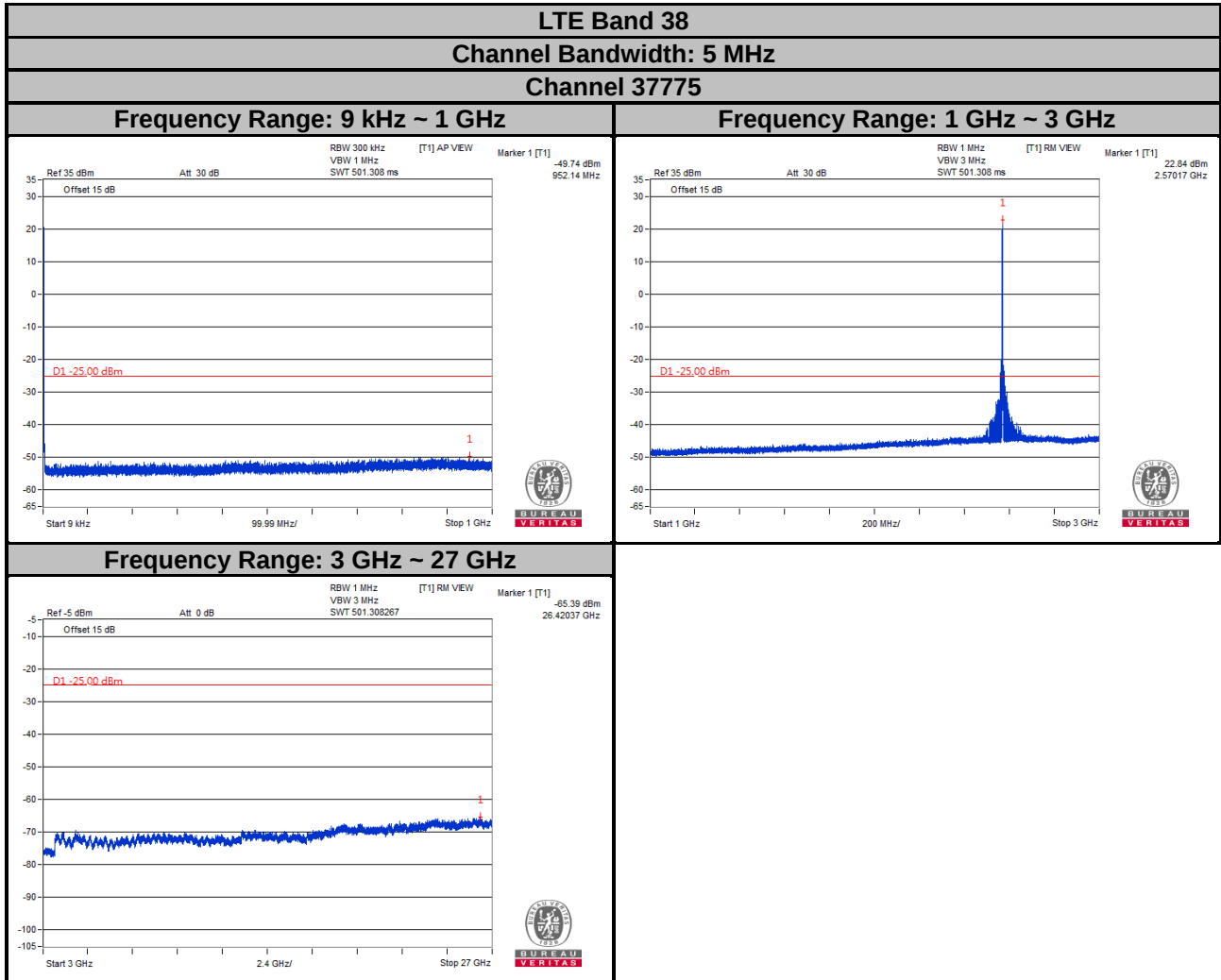
Note: The signal over the limit in 9 kHz is from spectrum analyzer.



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.



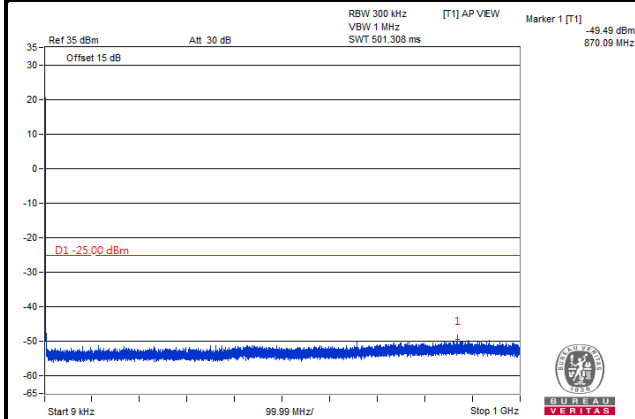
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 38

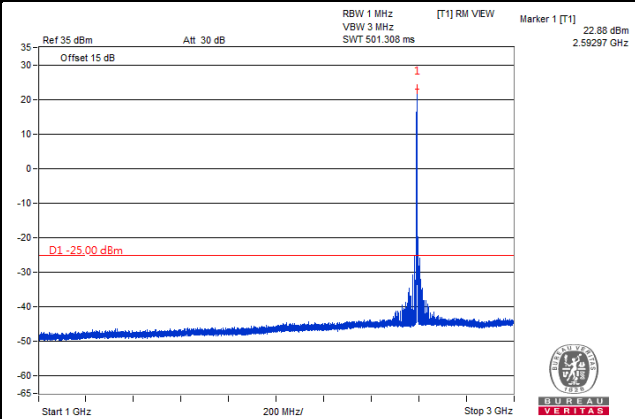
Channel Bandwidth: 5 MHz

Channel 38000

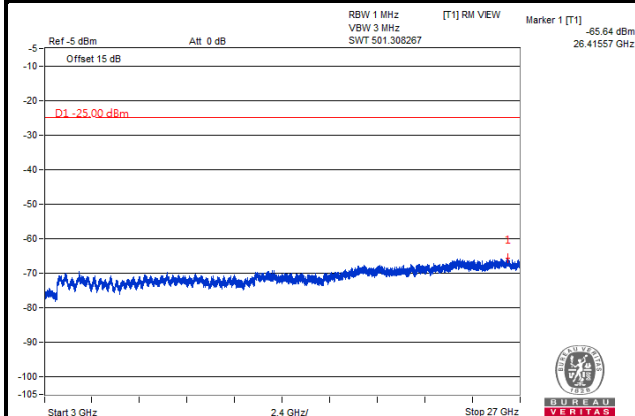
Frequency Range: 9 kHz ~ 1 GHz



Frequency Range: 1 GHz ~ 3 GHz



Frequency Range: 3 GHz ~ 27 GHz



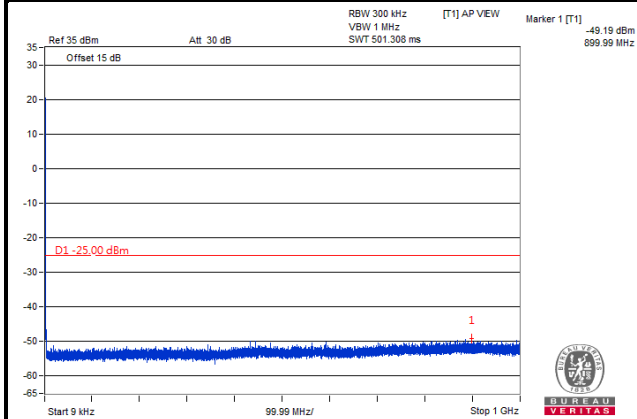
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 38

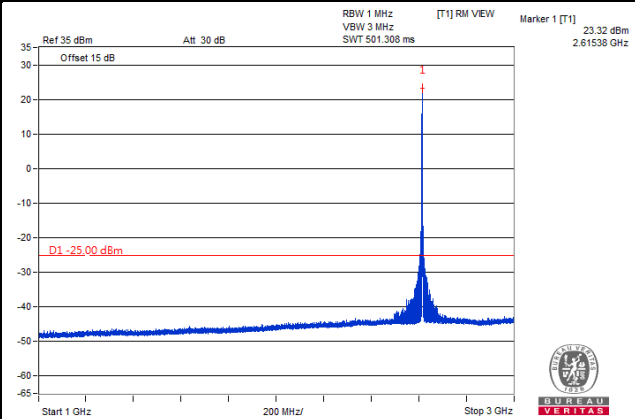
Channel Bandwidth: 5 MHz

Channel 38225

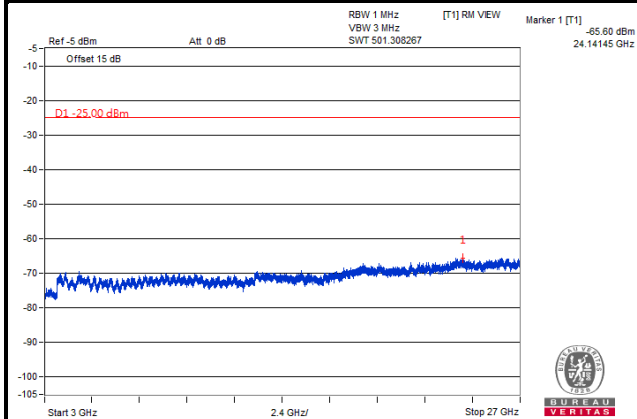
Frequency Range: 9 kHz ~ 1 GHz



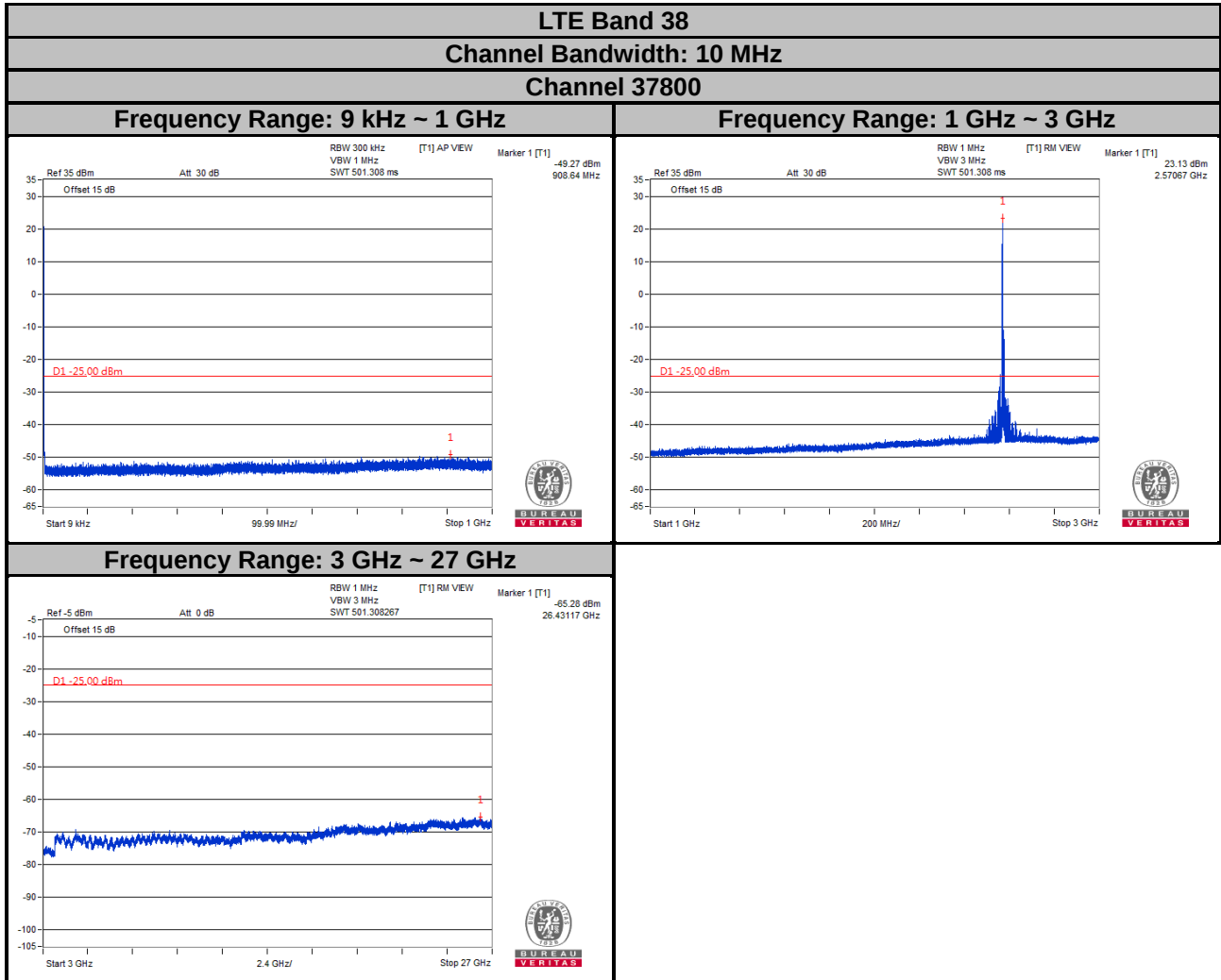
Frequency Range: 1 GHz ~ 3 GHz



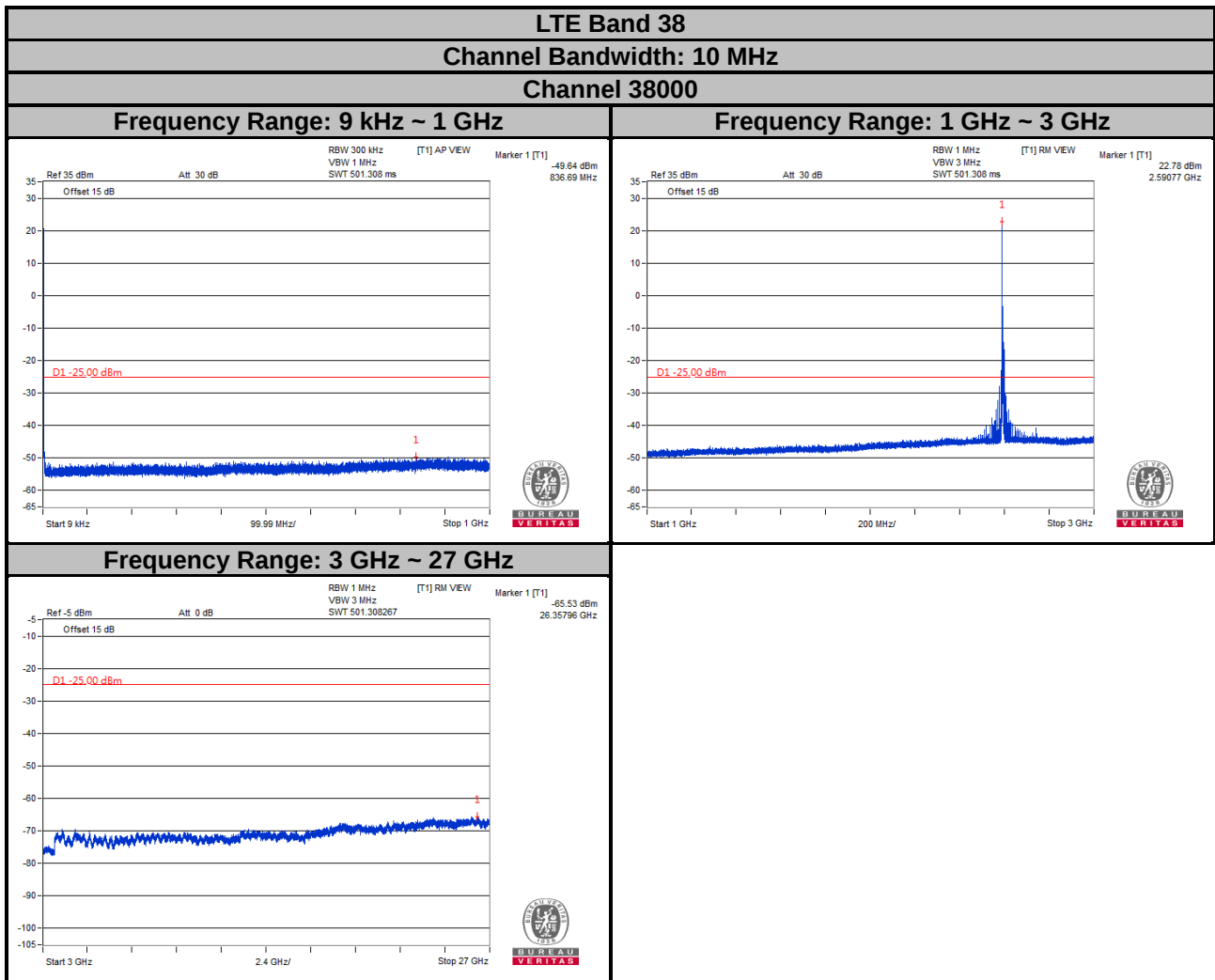
Frequency Range: 3 GHz ~ 27 GHz



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.



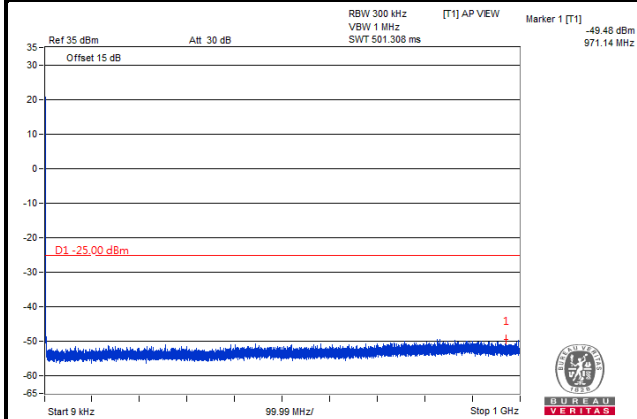
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 38

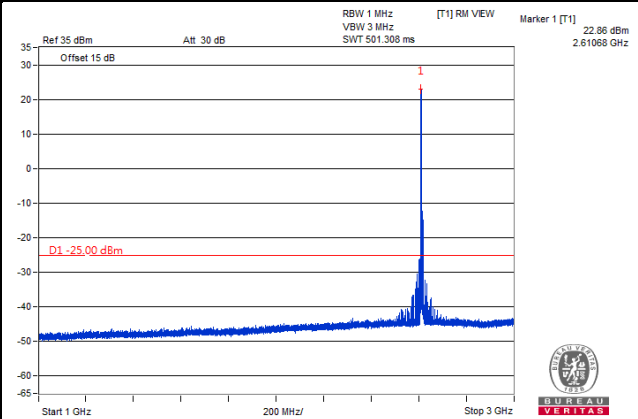
Channel Bandwidth: 10 MHz

Channel 38200

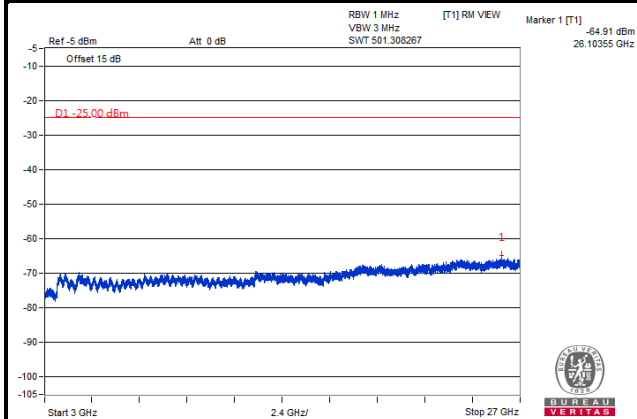
Frequency Range: 9 kHz ~ 1 GHz



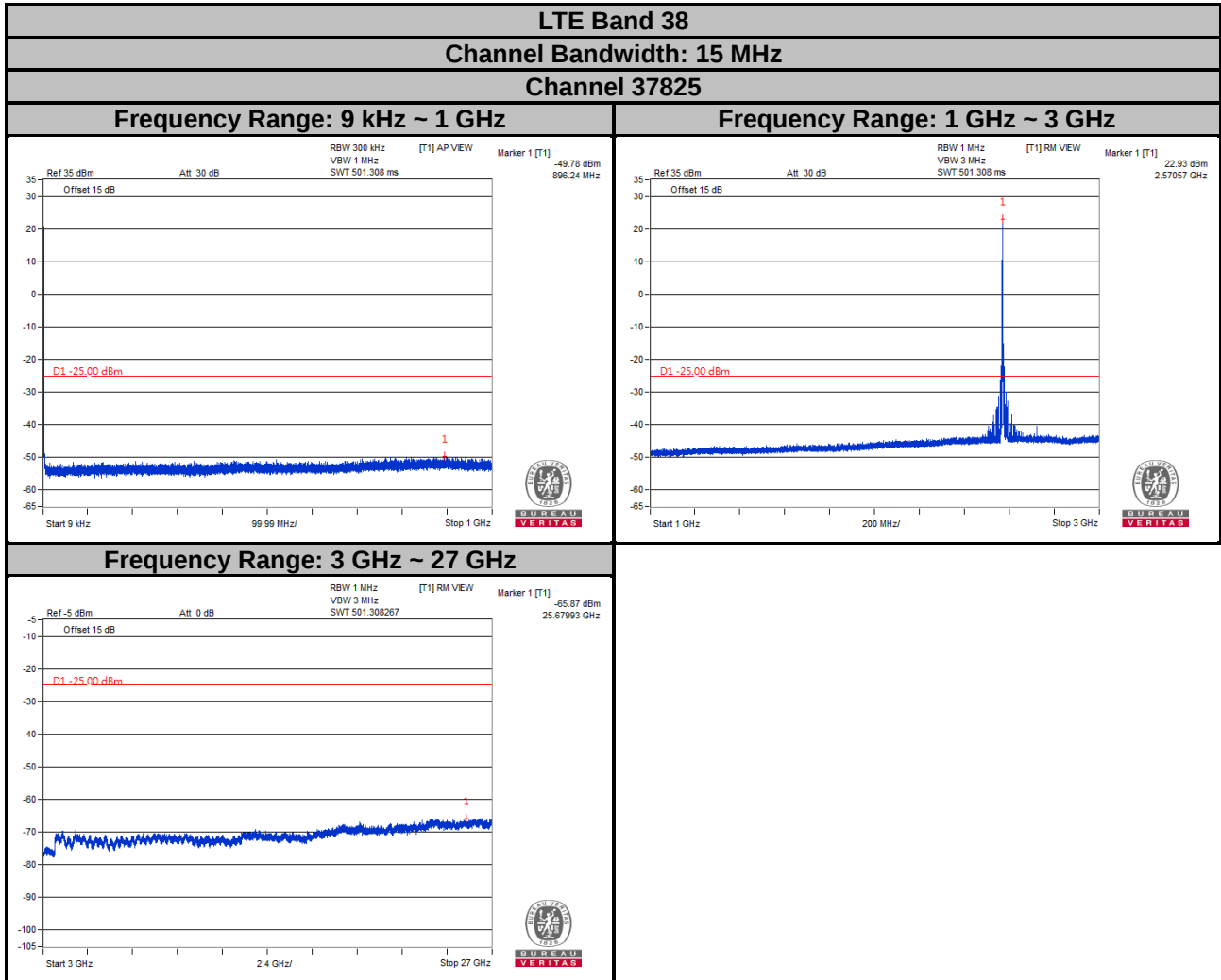
Frequency Range: 1 GHz ~ 3 GHz



Frequency Range: 3 GHz ~ 27 GHz



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



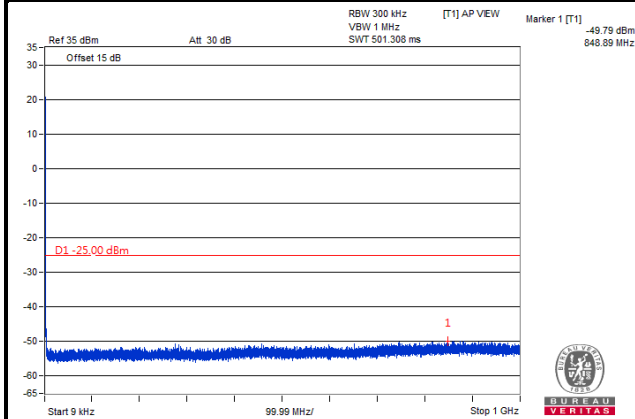
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 38

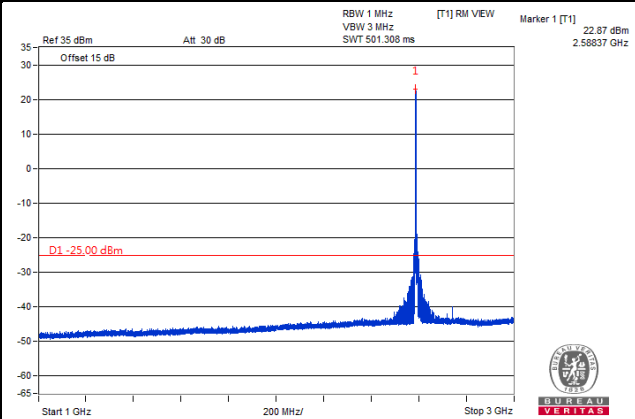
Channel Bandwidth: 15 MHz

Channel 38000

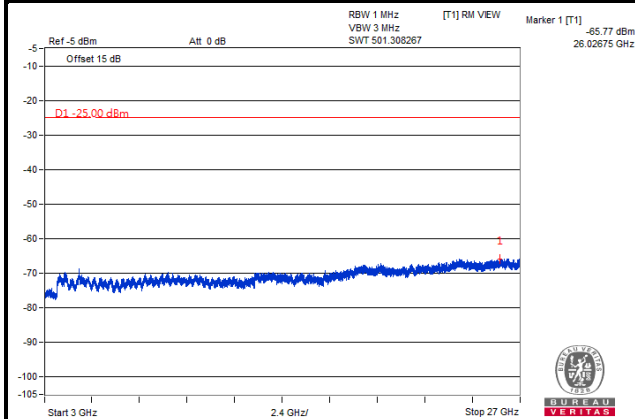
Frequency Range: 9 kHz ~ 1 GHz



Frequency Range: 1 GHz ~ 3 GHz



Frequency Range: 3 GHz ~ 27 GHz



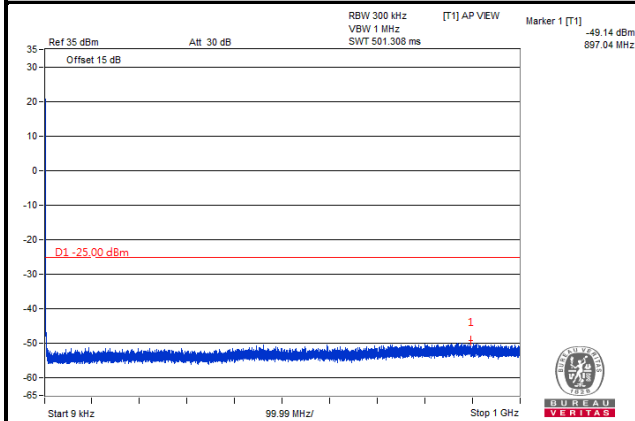
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 38

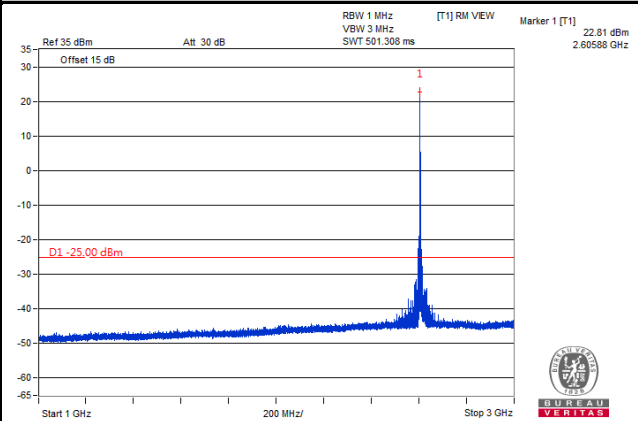
Channel Bandwidth: 15 MHz

Channel 38175

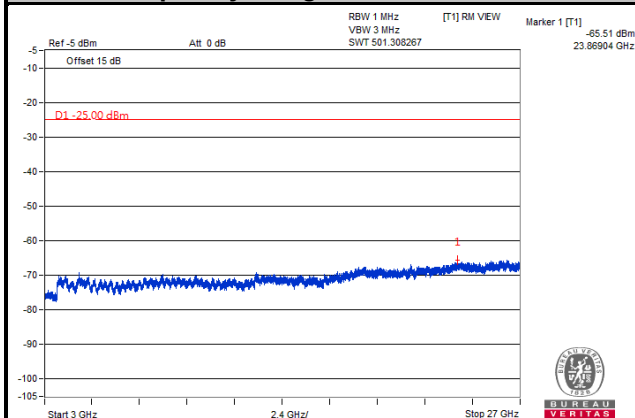
Frequency Range: 9 kHz ~ 1 GHz



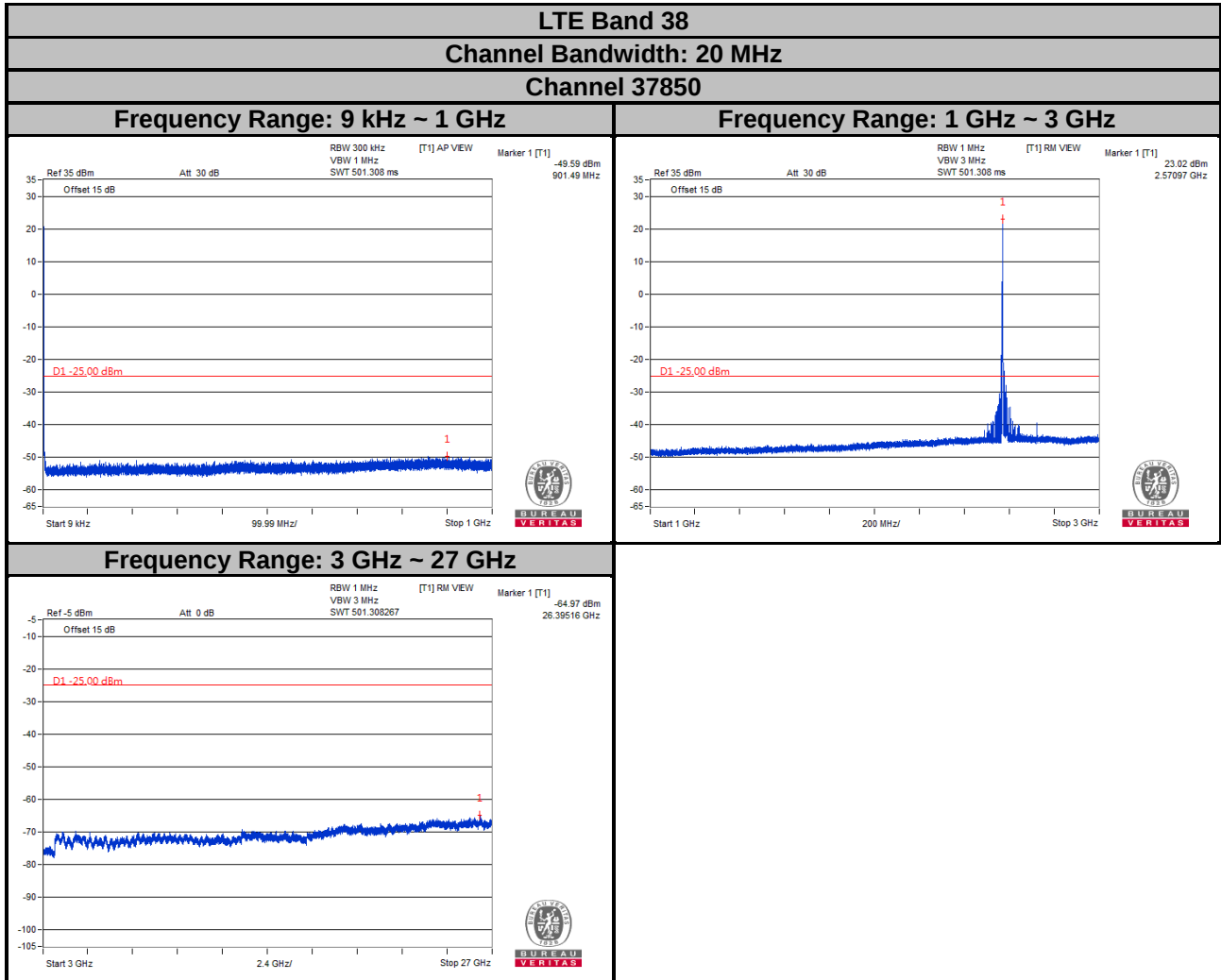
Frequency Range: 1 GHz ~ 3 GHz



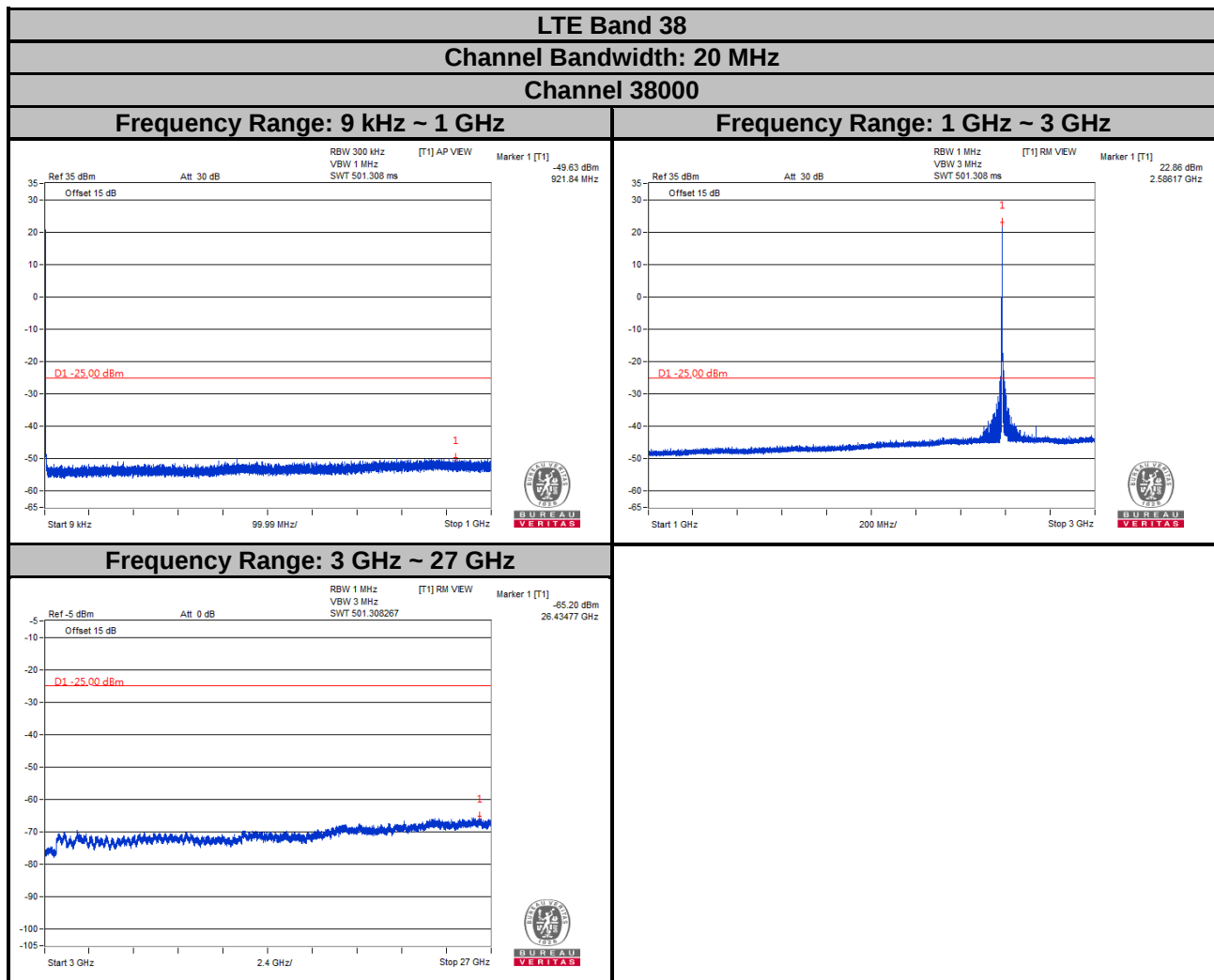
Frequency Range: 3 GHz ~ 27 GHz



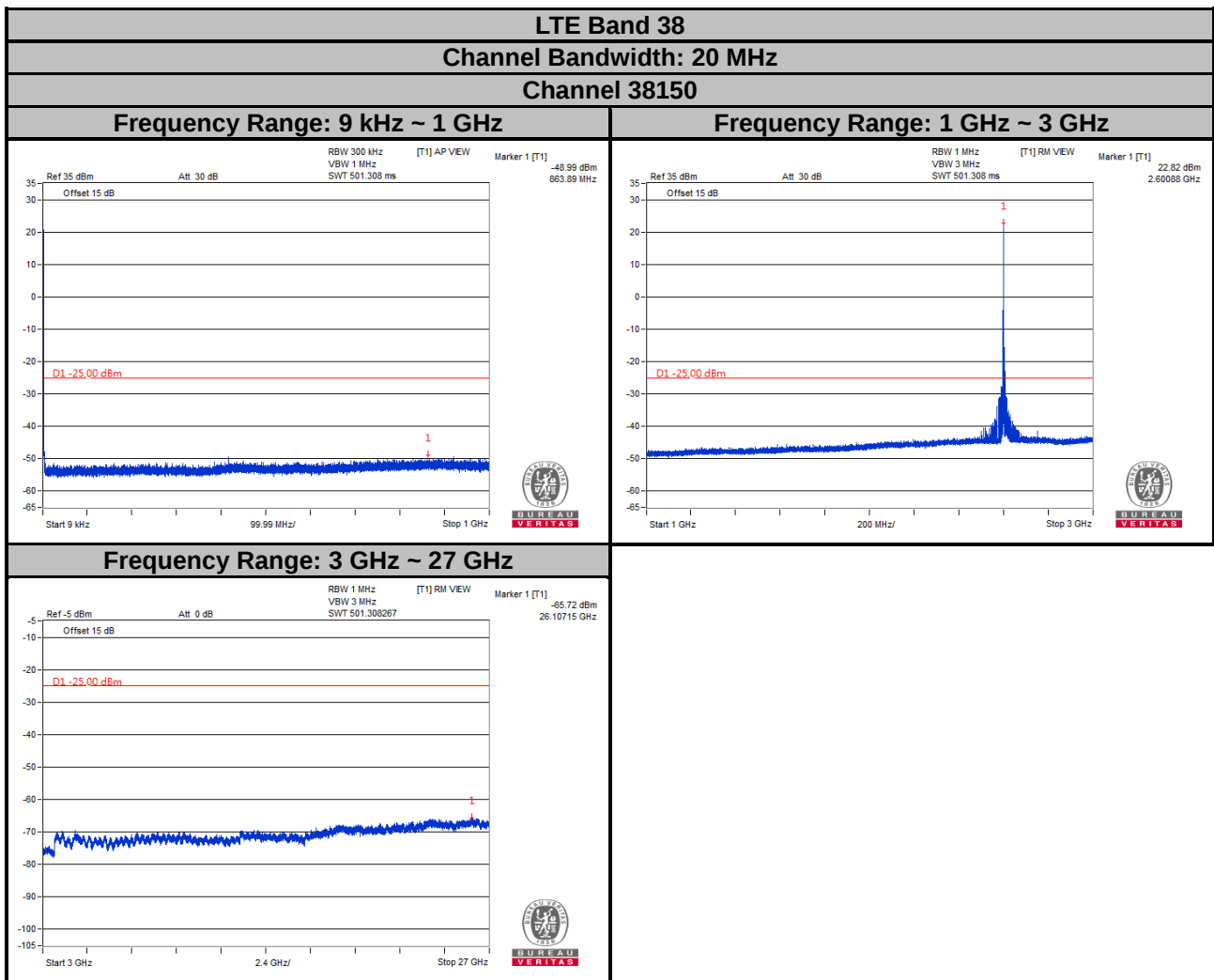
Note: The signal over the limit in 9 kHz is from spectrum analyzer.



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



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



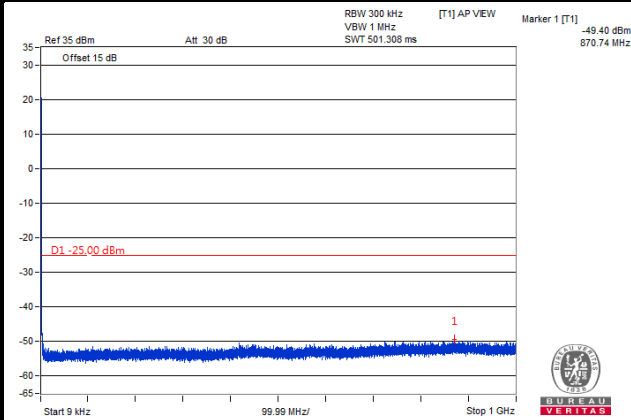
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 41

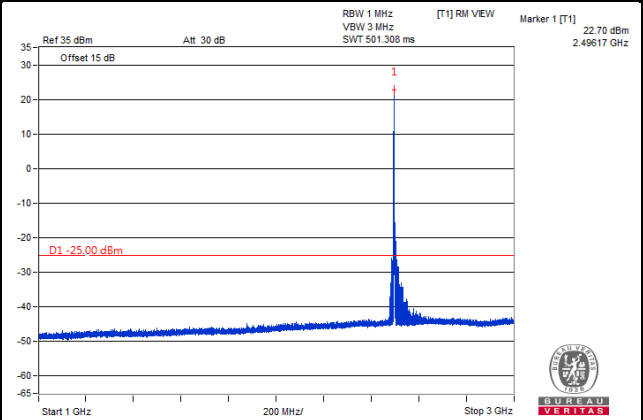
Channel Bandwidth: 5 MHz

Channel 39675

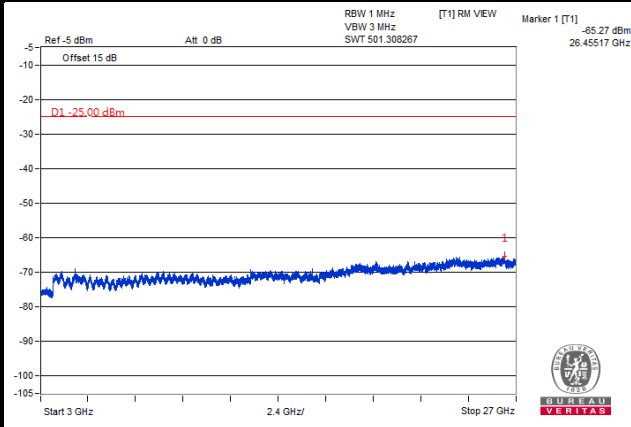
Frequency Range: 9 kHz ~ 1 GHz



Frequency Range: 1 GHz ~ 3 GHz



Frequency Range: 3 GHz ~ 27 GHz



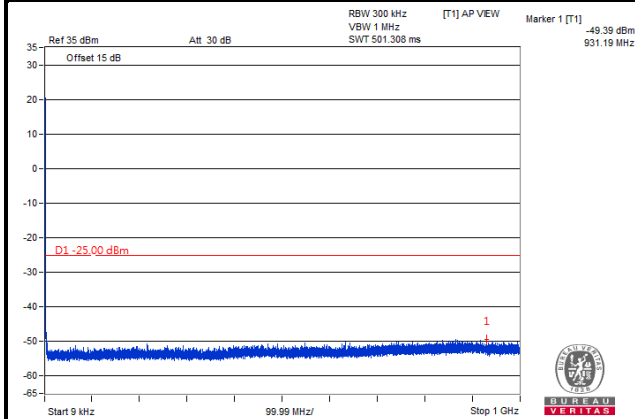
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 41

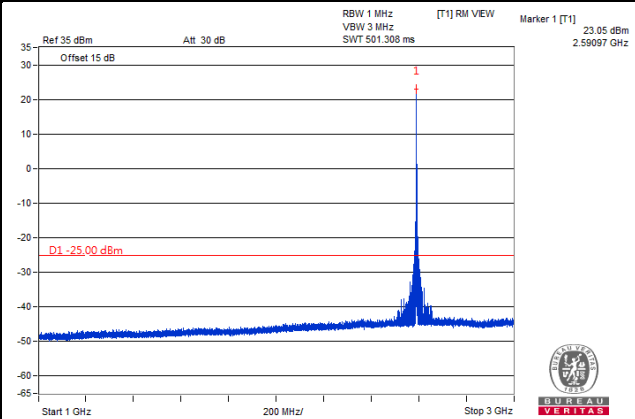
Channel Bandwidth: 5 MHz

Channel 40620

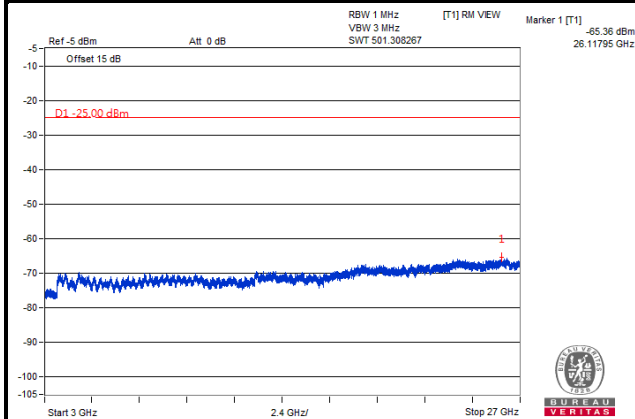
Frequency Range: 9 kHz ~ 1 GHz



Frequency Range: 1 GHz ~ 3 GHz



Frequency Range: 3 GHz ~ 27 GHz



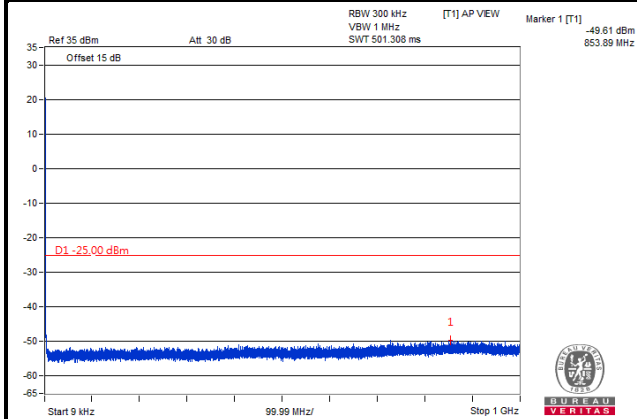
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 41

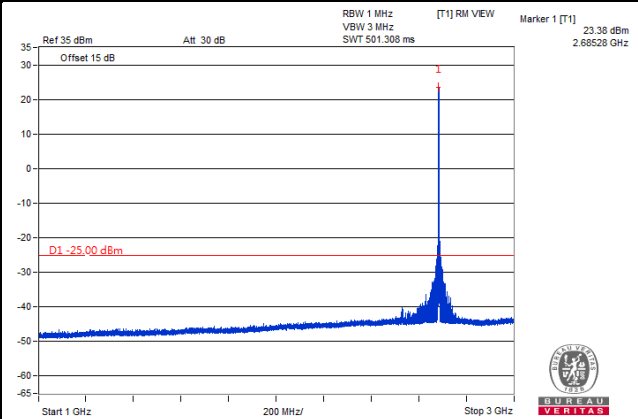
Channel Bandwidth: 5 MHz

Channel 41565

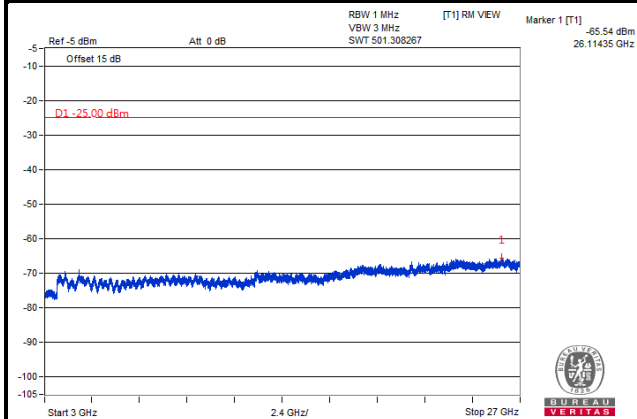
Frequency Range: 9 kHz ~ 1 GHz



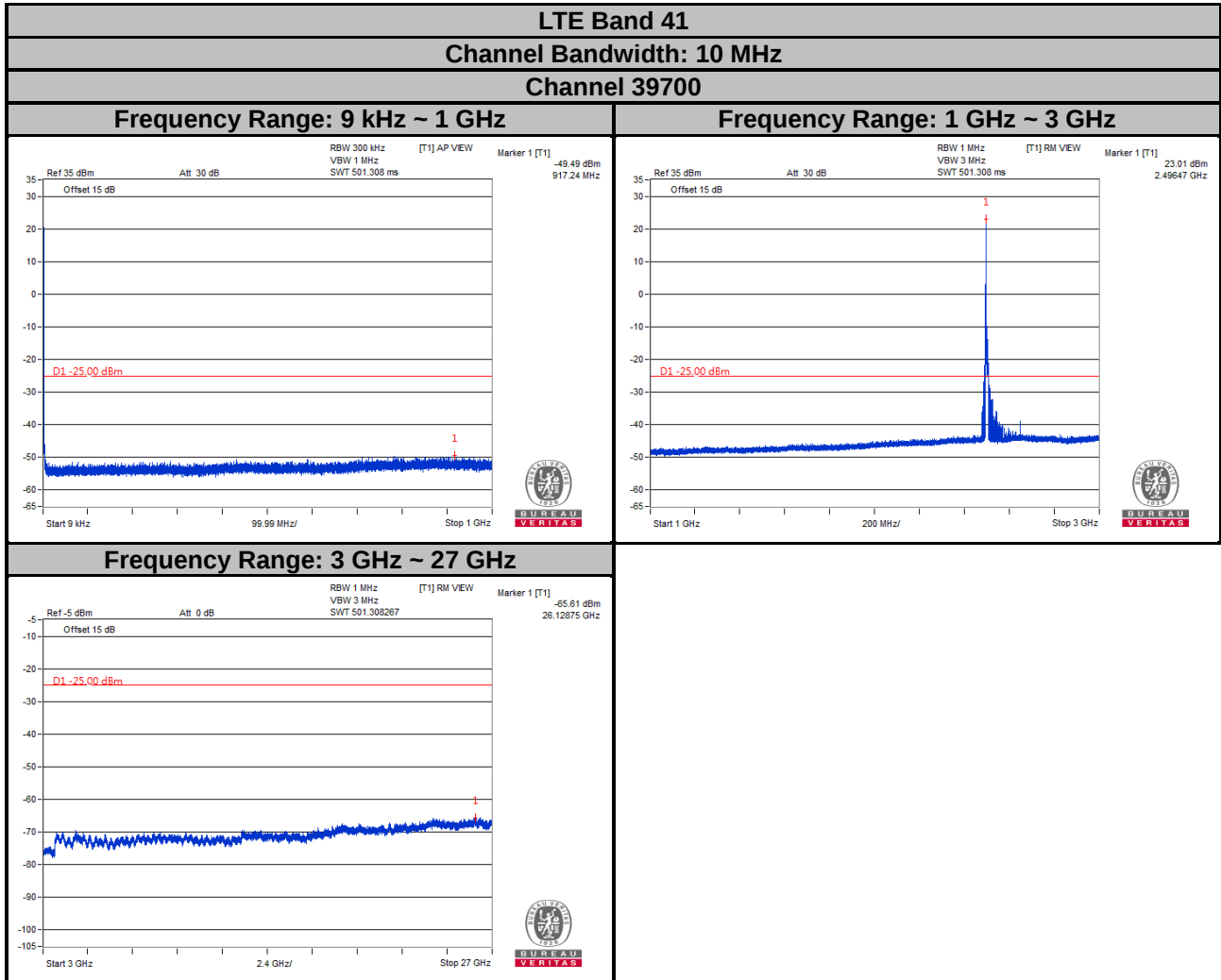
Frequency Range: 1 GHz ~ 3 GHz



Frequency Range: 3 GHz ~ 27 GHz



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



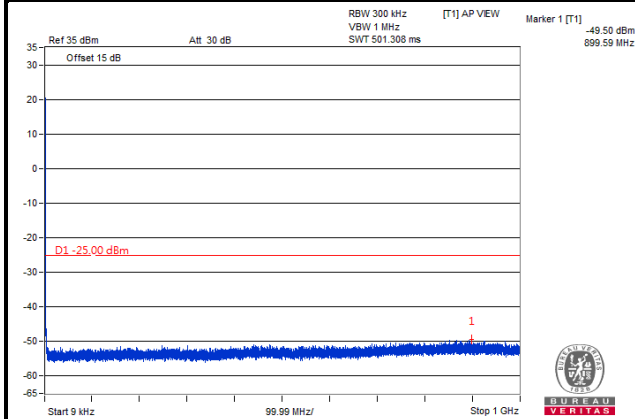
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 41

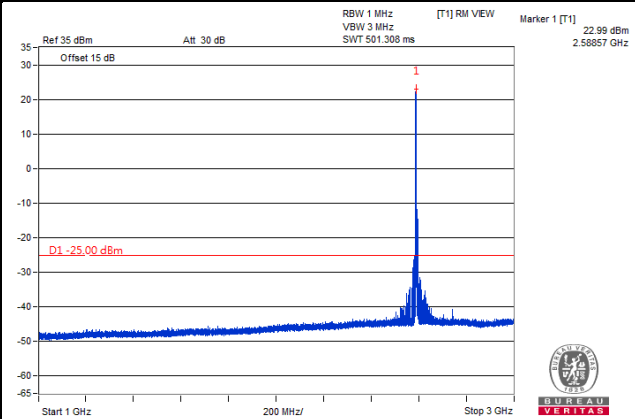
Channel Bandwidth: 10 MHz

Channel 40620

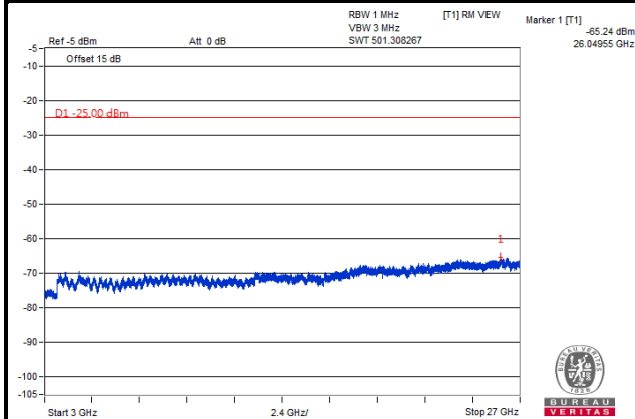
Frequency Range: 9 kHz ~ 1 GHz



Frequency Range: 1 GHz ~ 3 GHz



Frequency Range: 3 GHz ~ 27 GHz



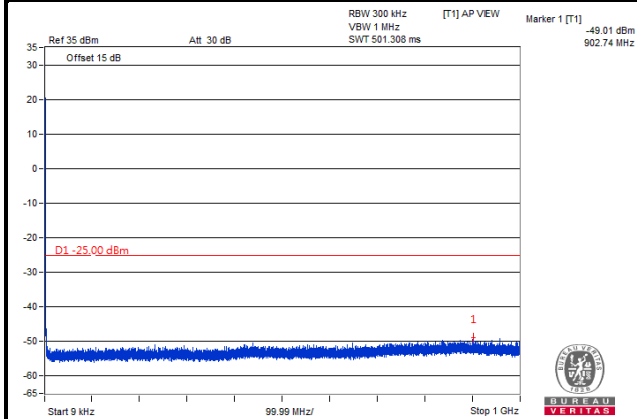
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 41

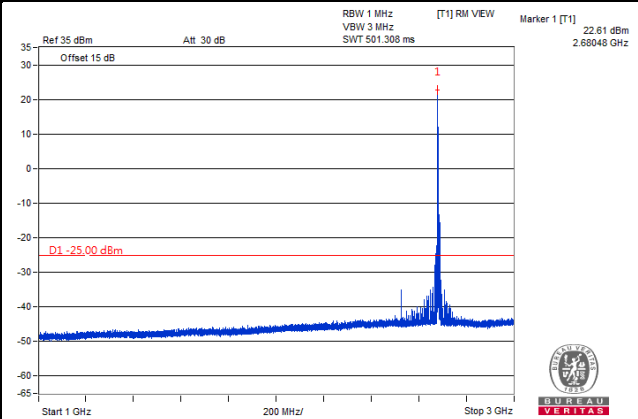
Channel Bandwidth: 10 MHz

Channel 41540

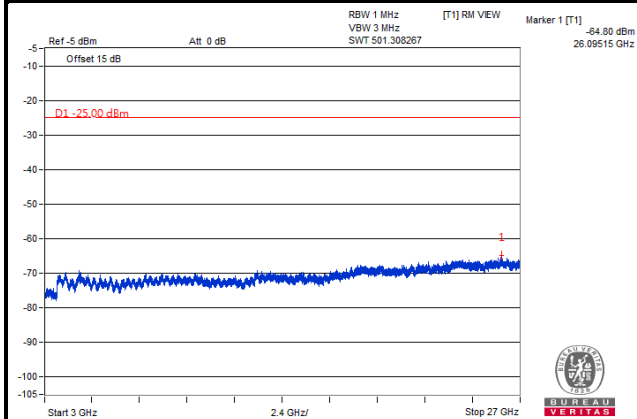
Frequency Range: 9 kHz ~ 1 GHz



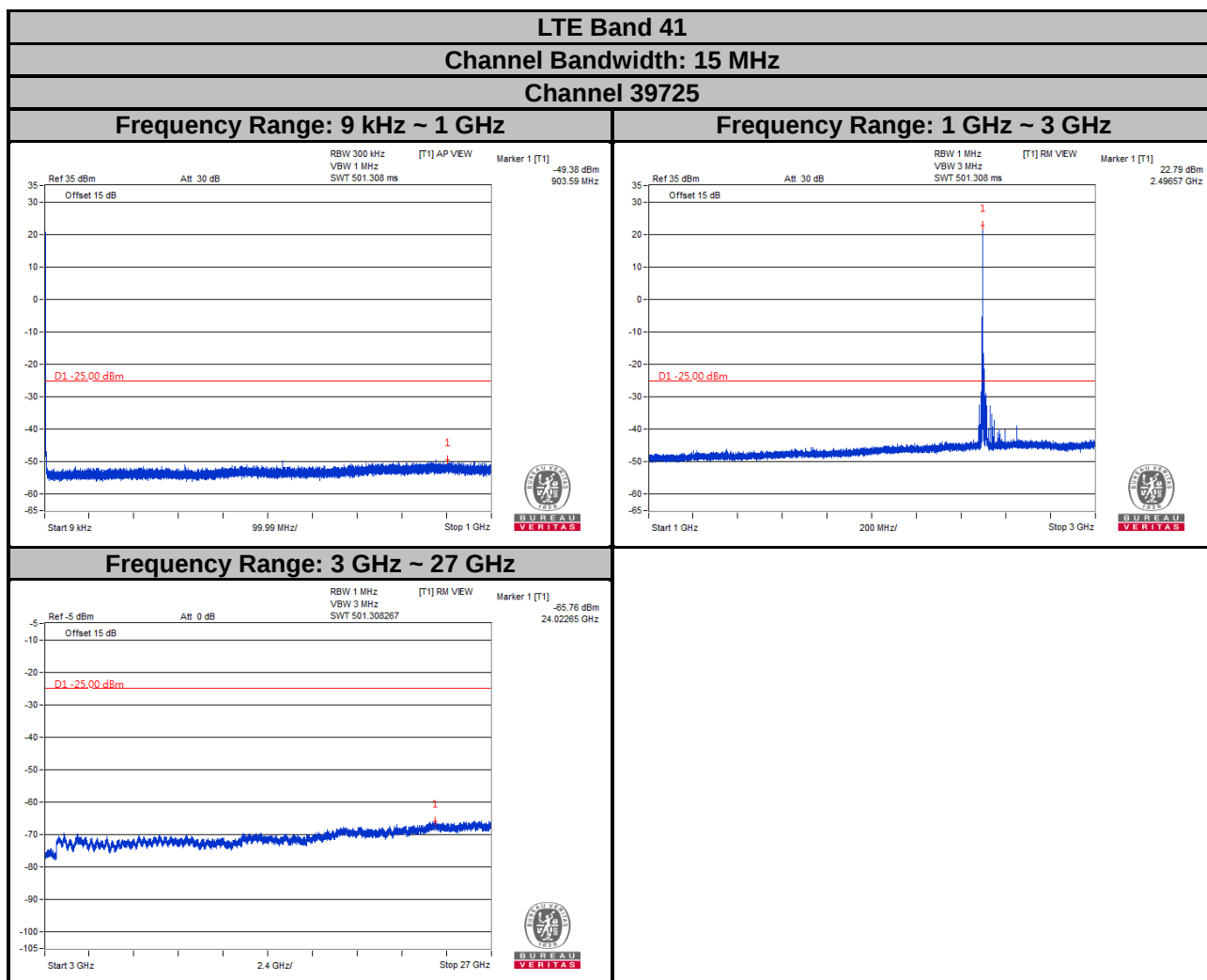
Frequency Range: 1 GHz ~ 3 GHz



Frequency Range: 3 GHz ~ 27 GHz



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



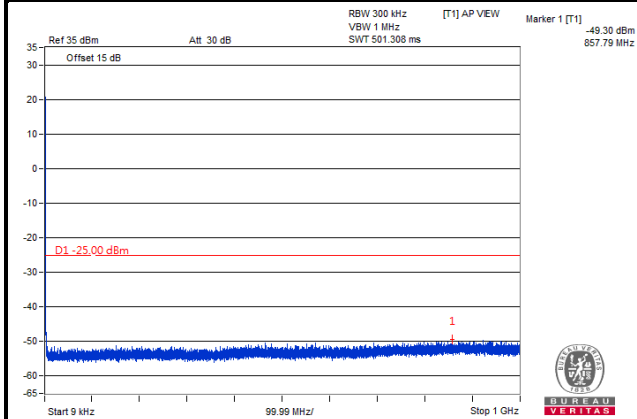
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 41

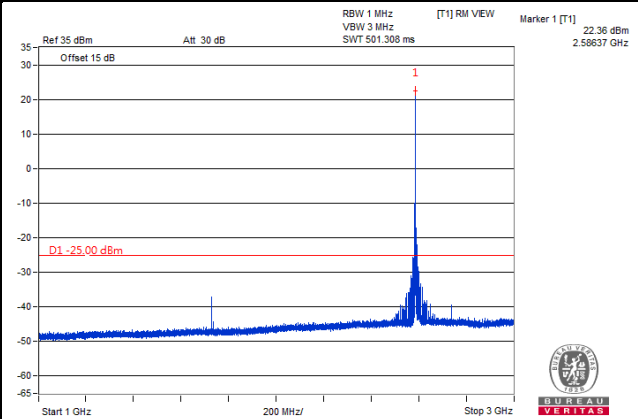
Channel Bandwidth: 15 MHz

Channel 40620

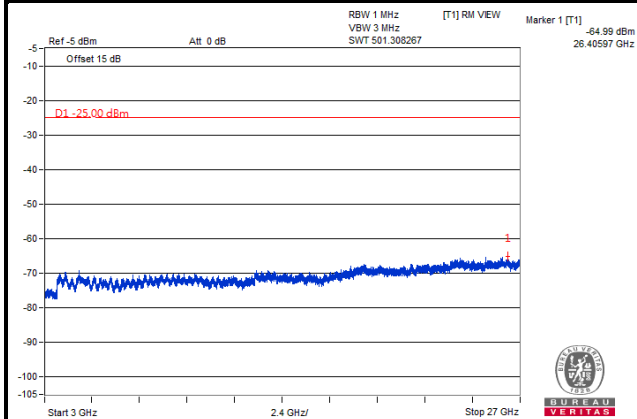
Frequency Range: 9 kHz ~ 1 GHz



Frequency Range: 1 GHz ~ 3 GHz



Frequency Range: 3 GHz ~ 27 GHz



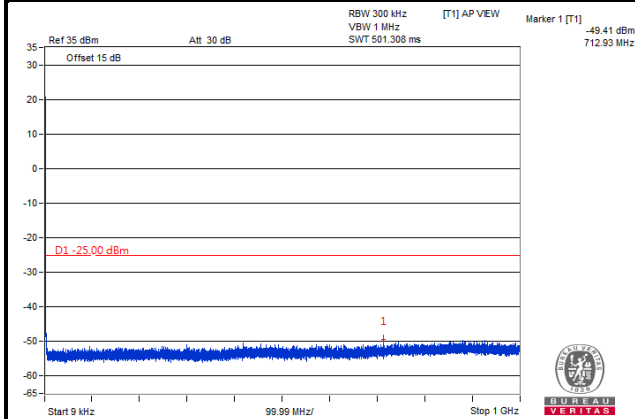
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 41

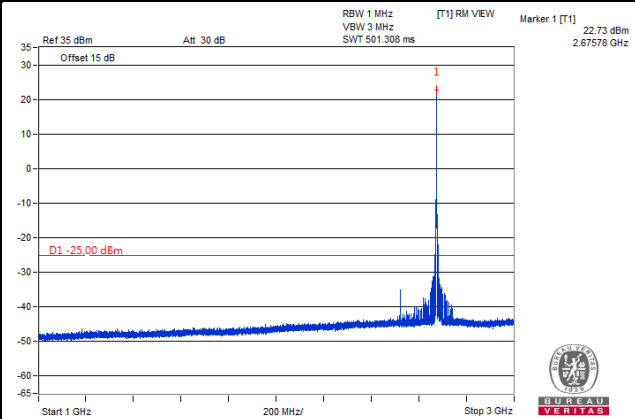
Channel Bandwidth: 15 MHz

Channel 41515

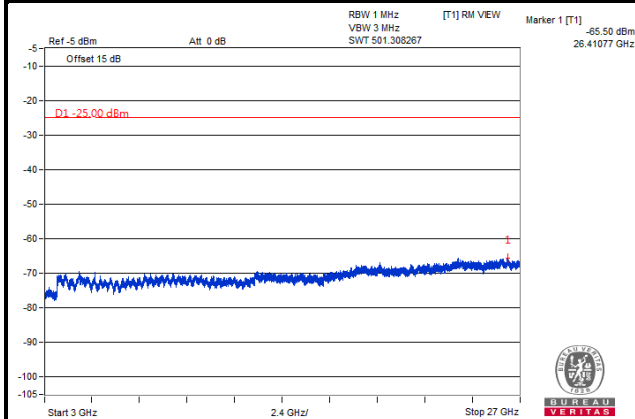
Frequency Range: 9 kHz ~ 1 GHz



Frequency Range: 1 GHz ~ 3 GHz



Frequency Range: 3 GHz ~ 27 GHz



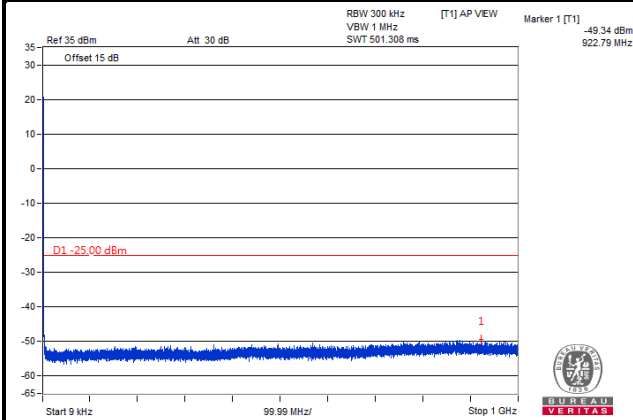
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 41

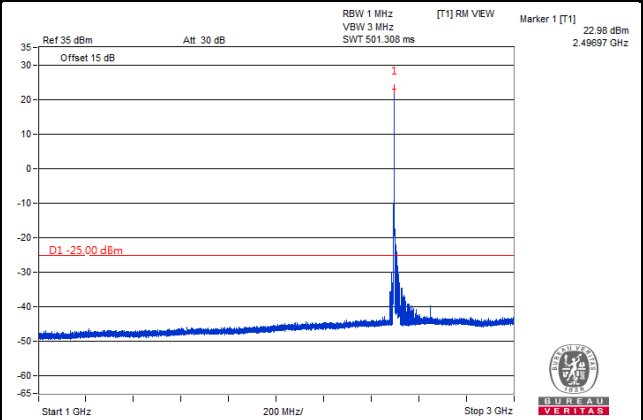
Channel Bandwidth: 20 MHz

Channel 39750

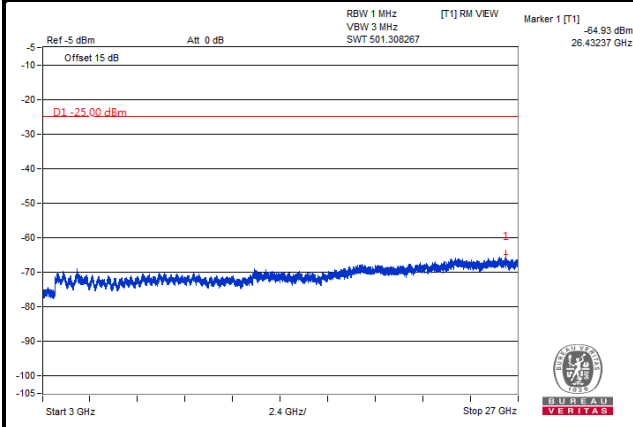
Frequency Range: 9 kHz ~ 1 GHz



Frequency Range: 1 GHz ~ 3 GHz



Frequency Range: 3 GHz ~ 27 GHz



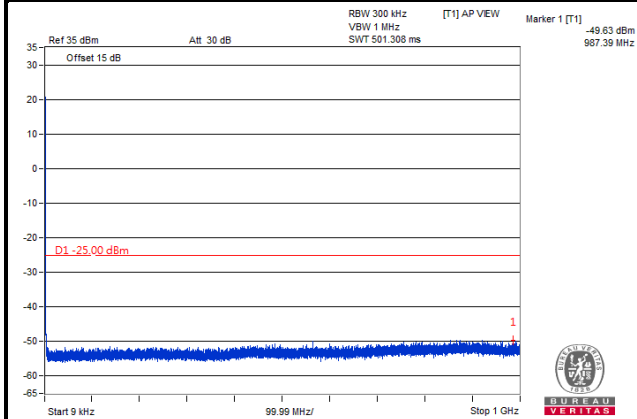
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 41

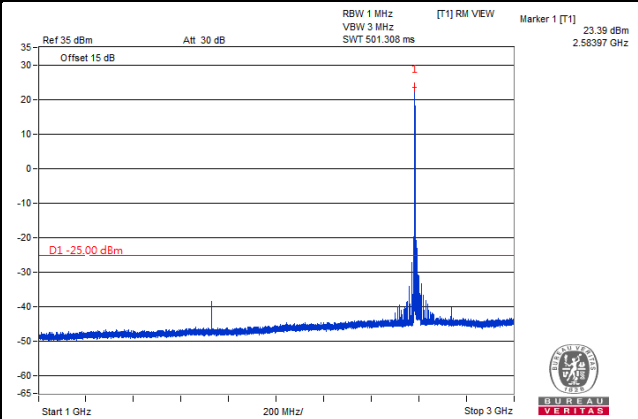
Channel Bandwidth: 20 MHz

Channel 40620

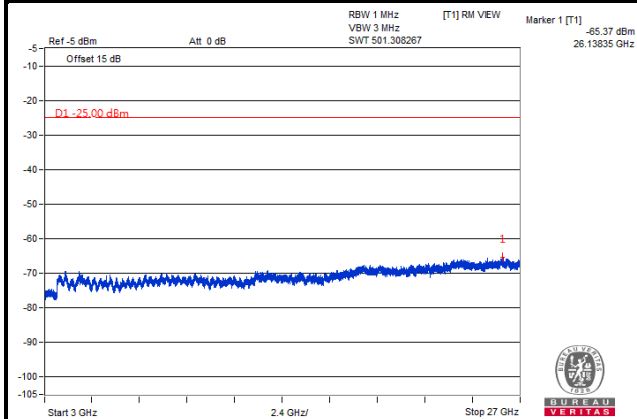
Frequency Range: 9 kHz ~ 1 GHz



Frequency Range: 1 GHz ~ 3 GHz



Frequency Range: 3 GHz ~ 27 GHz



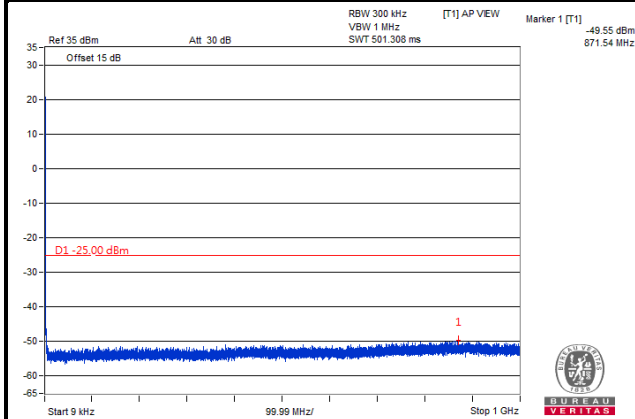
Note: The signal over the limit in 9 kHz is from spectrum analyzer.

LTE Band 41

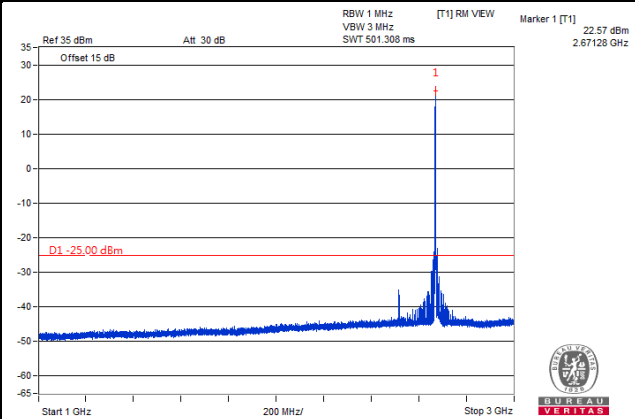
Channel Bandwidth: 20 MHz

Channel 41490

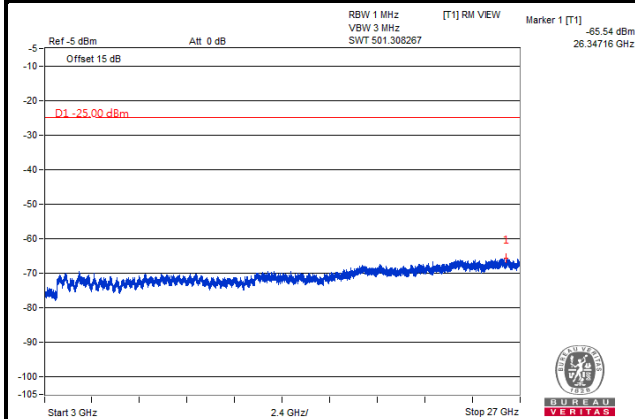
Frequency Range: 9 kHz ~ 1 GHz



Frequency Range: 1 GHz ~ 3 GHz



Frequency Range: 3 GHz ~ 27 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 a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $55 + 10 \log (P)$ dB. The limit of emission is equal to -25 dBm.

4.8.2 Test Procedure

- 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.
- 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.
- $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$
- E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, $E.R.P \text{ power} = E.I.R.P \text{ power} - 2.15 \text{ dB}.$

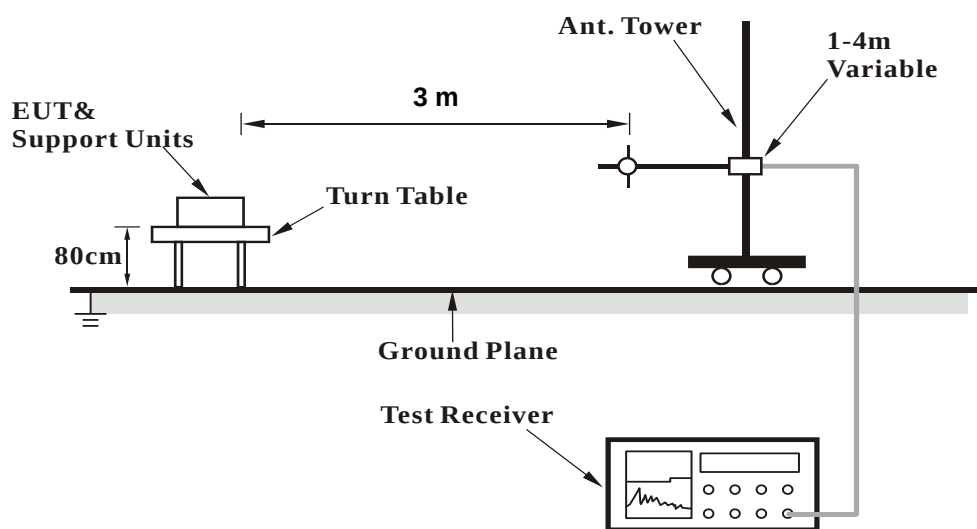
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.8.3 Deviation from Test Standard

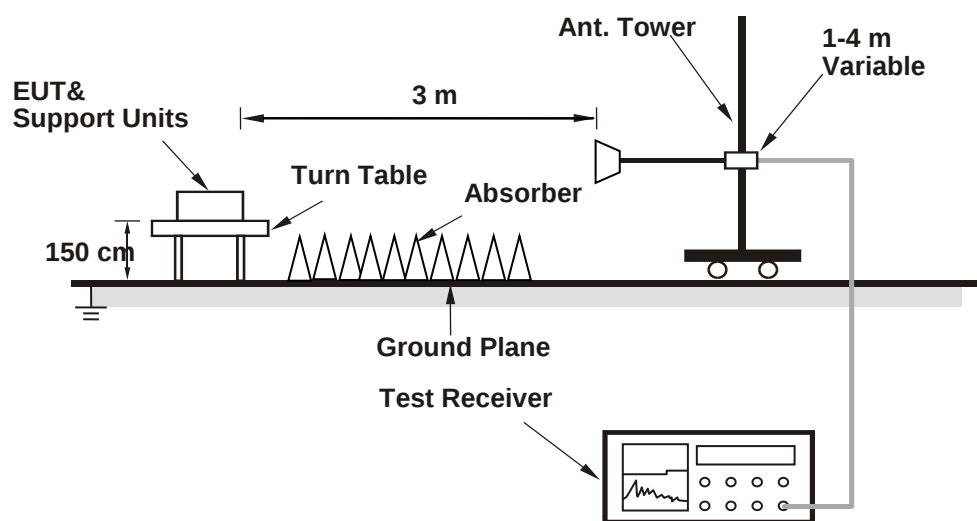
No deviation.

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

LTE Band 7

Channel Bandwidth: 5 MHz / QPSK

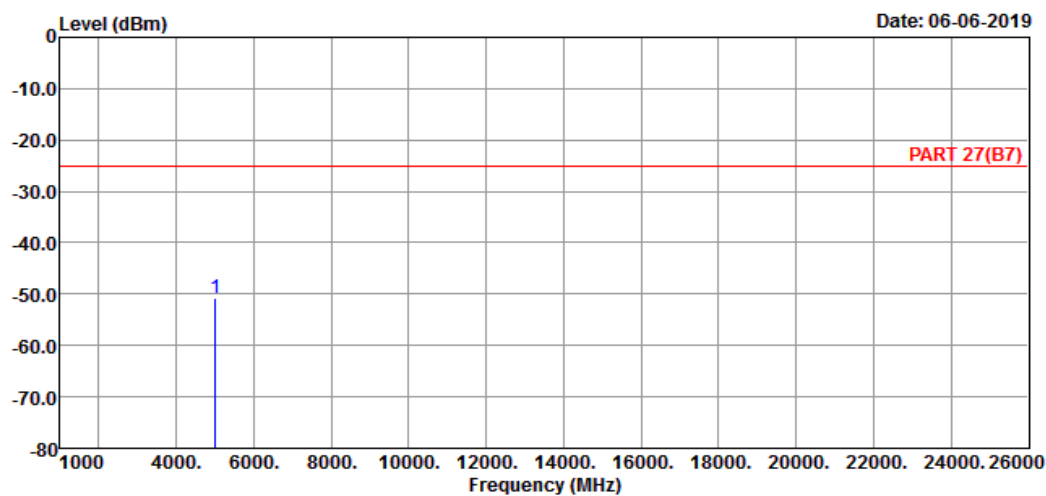
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5

Condition: PART 27(B7) HORIZONTAL

Remak : LTE Band 7 QPSK_5M 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 5005.00 -50.83 -48.37 -25.00 -2.46 -25.83 Peak

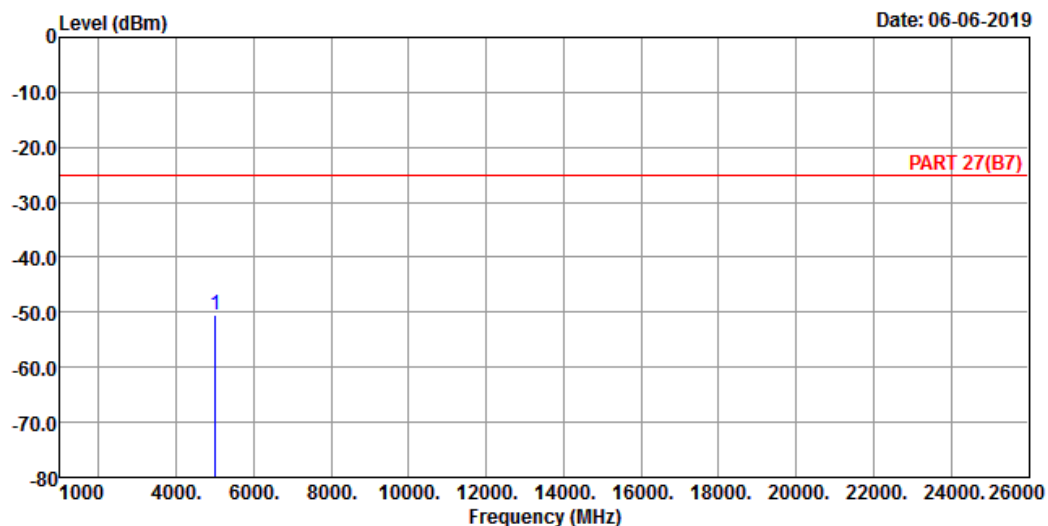


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B7) VERTICAL

Remak : LTE Band 7 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 5005.00 -50.46 -48.00 -25.00 -2.46 -25.46 Peak

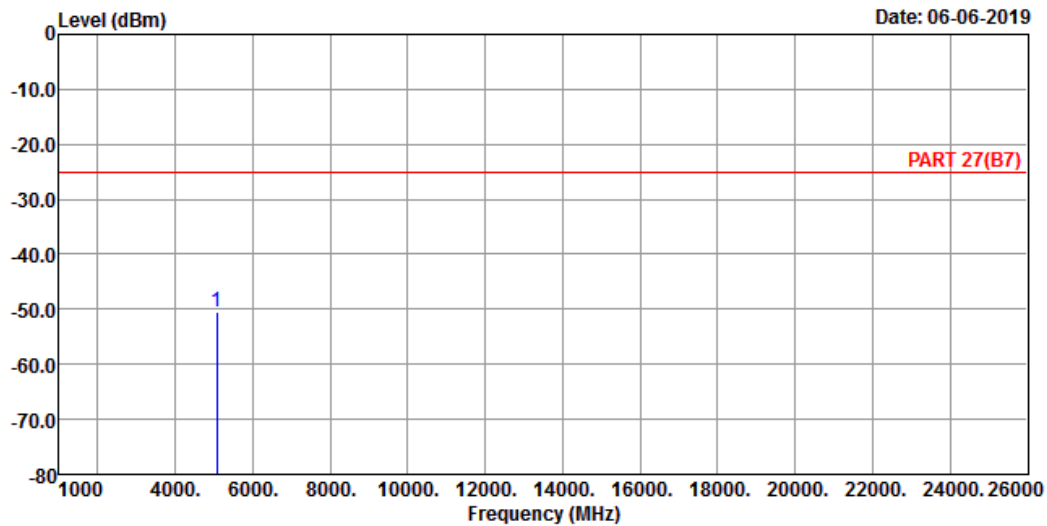
Middle Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5

Condition: PART 27(B7) HORIZONTAL

Remak : LTE Band 7 QPSK_5M Link_M-CH

Tested by: Thomas Wei

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

1 pp 5070.00 -50.48 -48.61 -25.00 -1.87 -25.48 Peak

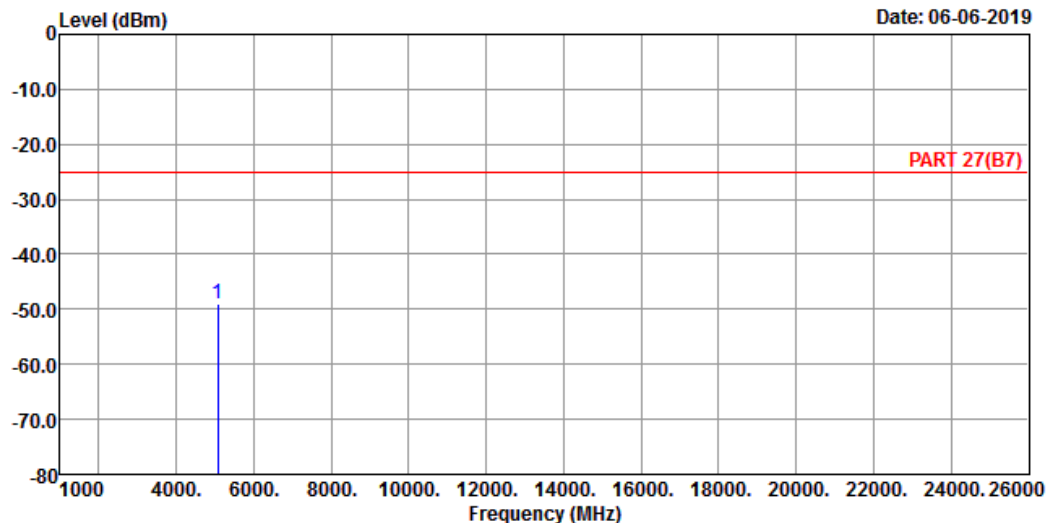


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B7) VERTICAL

Remak : LTE Band 7 QPSK_5M Link_M-CH

Tested by: Thomas Wei

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

1 pp 5070.00 -48.94 -47.07 -25.00 -1.87 -23.94 Peak

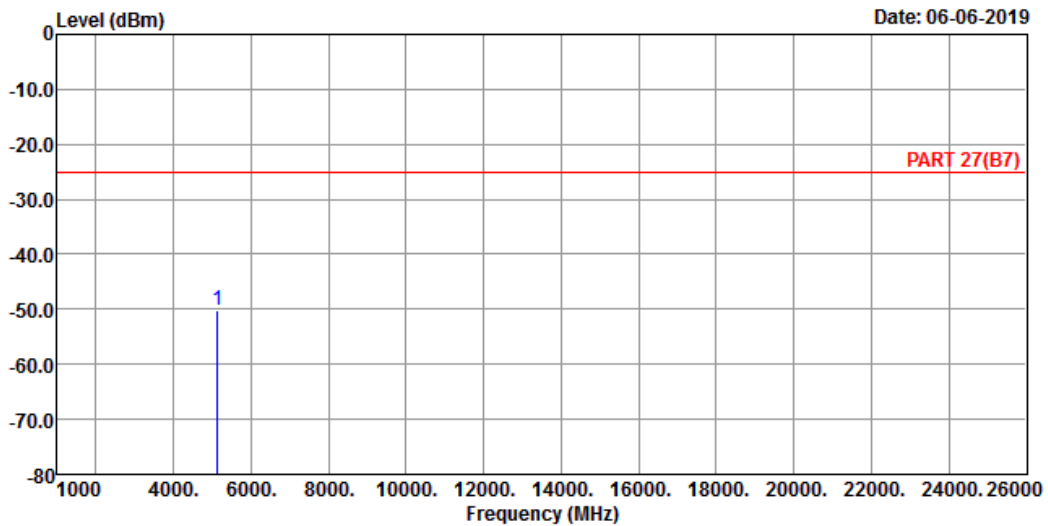
High Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5

Condition: PART 27(B7) HORIZONTAL

Remak : LTE Band 7 QPSK_5M Link_H-CH

Tested by: Thomas Wei

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

1 pp 5135.00 -50.33 -48.59 -25.00 -1.74 -25.33 Peak

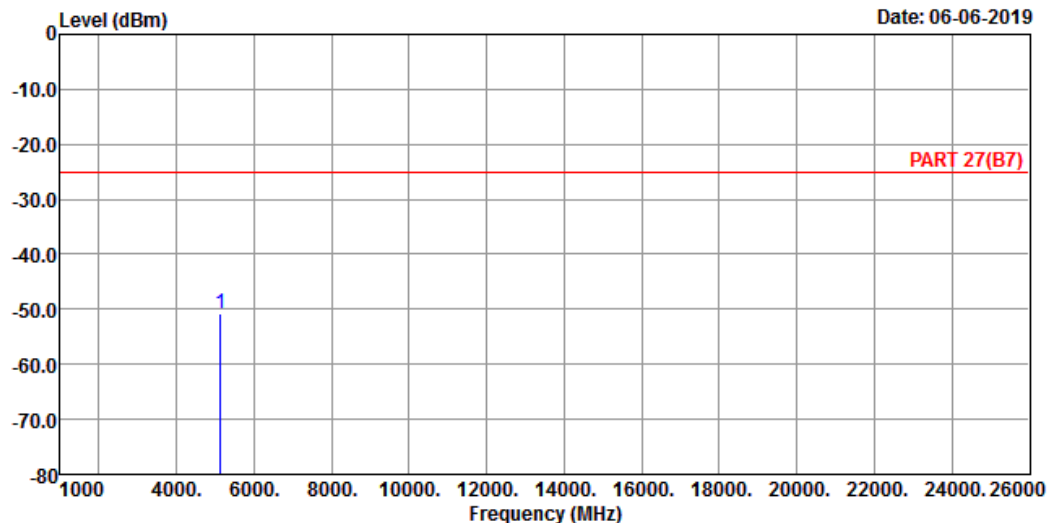


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B7) VERTICAL

Remak : LTE Band 7 QPSK_5M Link_H-CH

Tested by: Thomas Wei

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

1 pp 5135.00 -50.68 -48.94 -25.00 -1.74 -25.68 Peak

Channel Bandwidth: 20 MHz / QPSK
Low Channel

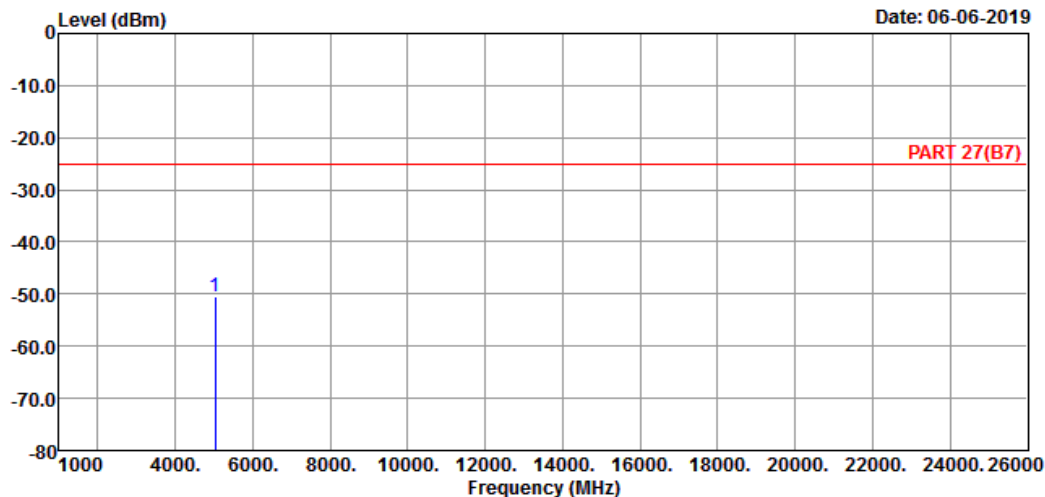


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5
Condition: PART 27(B7) HORIZONTAL
Remak : LTE Band 7 QPSK_20M Link_L-CH
Tested by: Thomas Wei

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

1 pp 5020.00 -50.62 -48.30 -25.00 -2.32 -25.62 Peak

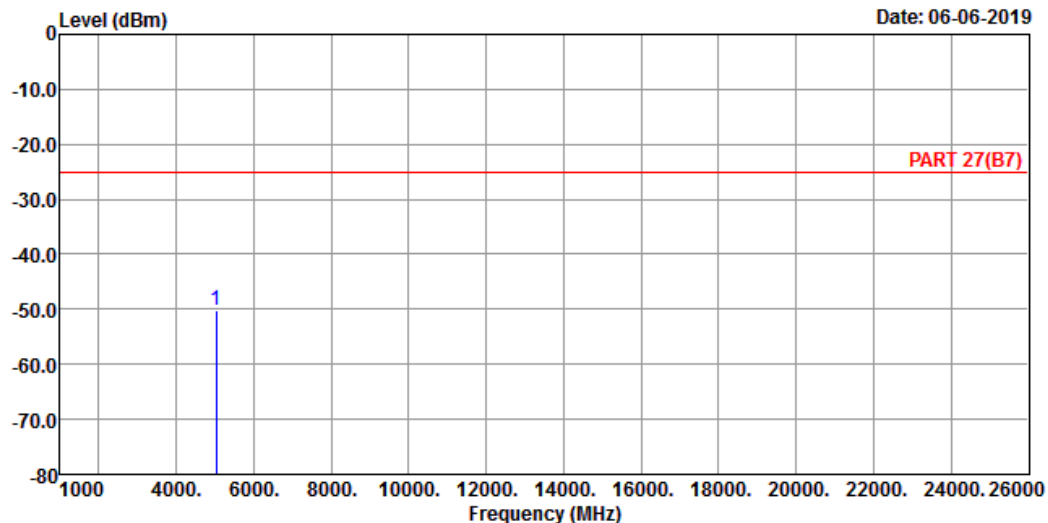


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B7) VERTICAL

Remak : LTE Band 7 QPSK_20M Link_L-CH

Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Over	
MHz	dBm	dBm	dBm	dB	dB

1 pp 5020.00 -50.25 -47.93 -25.00 -2.32 -25.25 Peak

Middle Channel

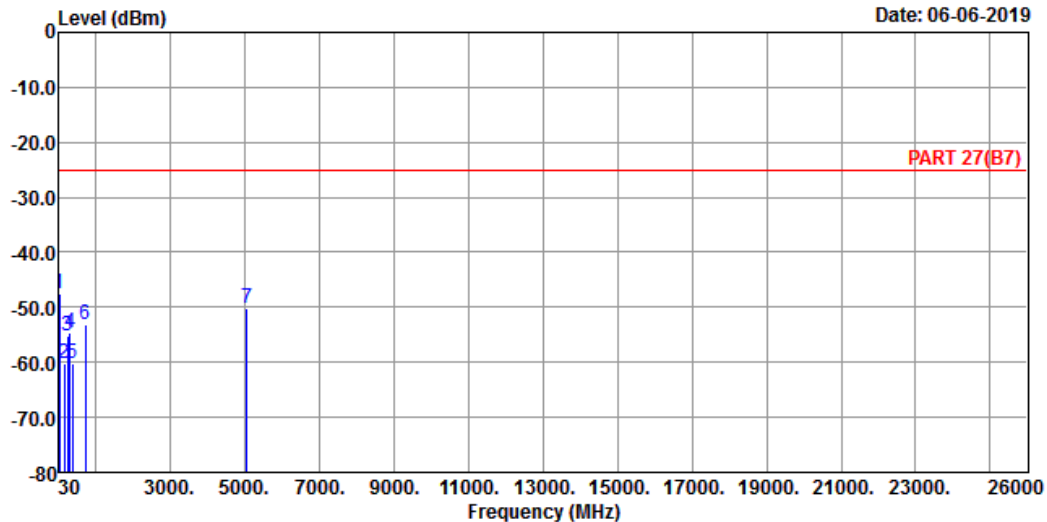


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B7) HORIZONTAL

Remak : LTE Band 7 QPSK_20M Link_M-CH

Tested by: Thomas Wei

	Freq	Level	Read Level	Limit	Over	
	MHz	dBm	dBm	dBm	Factor	Limit Remark
					dB	dB
1 pp	43.58	-47.55	-46.08	-25.00	-1.47	-22.55 Peak
2	170.65	-60.29	-54.59	-25.00	-5.70	-35.29 Peak
3	262.80	-55.14	-48.89	-25.00	-6.25	-30.14 Peak
4	310.33	-54.48	-47.63	-25.00	-6.85	-29.48 Peak
5	375.32	-60.28	-54.19	-25.00	-6.09	-35.28 Peak
6	730.34	-53.03	-53.53	-25.00	0.50	-28.03 Peak
7	5070.00	-50.21	-48.34	-25.00	-1.87	-25.21 Peak

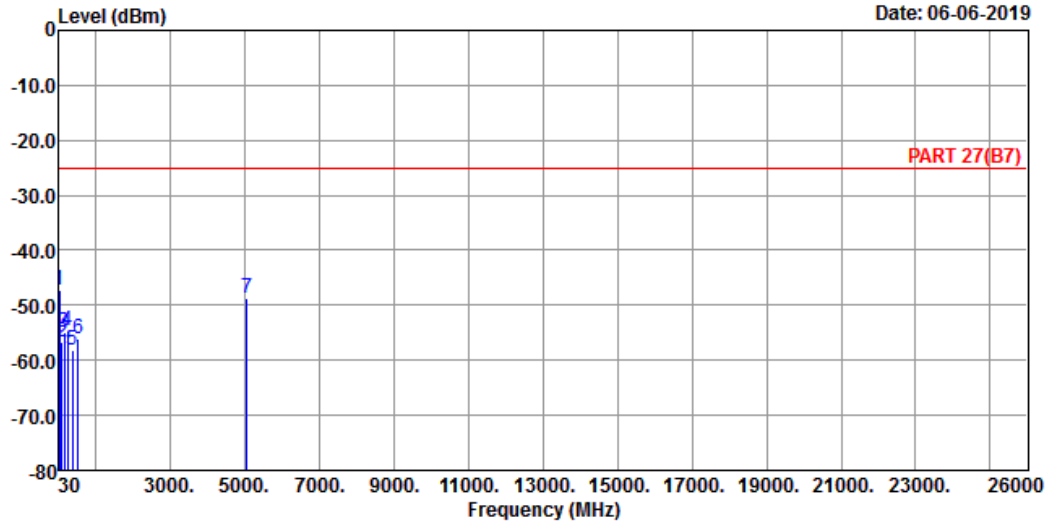


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B7) VERTICAL

Remak : LTE Band 7 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	-47.27	-45.80	-25.00	-1.47	-22.27	Peak
2	104.69	-56.81	-46.37	-25.00	-10.44	-31.81	Peak
3	169.68	-54.91	-49.38	-25.00	-5.53	-29.91	Peak
4	251.16	-54.64	-48.63	-25.00	-6.01	-29.64	Peak
5	391.81	-58.21	-52.22	-25.00	-5.99	-33.21	Peak
6	533.43	-56.03	-52.59	-25.00	-3.44	-31.03	Peak
7	5070.00	-48.64	-46.77	-25.00	-1.87	-23.64	Peak

High Channel

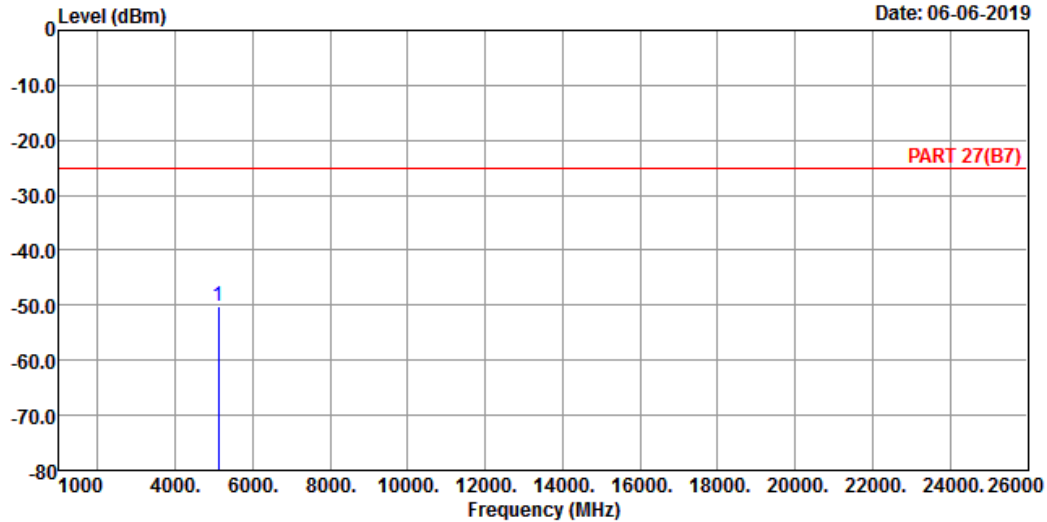


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B7) HORIZONTAL

Remak : LTE Band 7 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 5120.00 -50.06 -48.40 -25.00 -1.66 -25.06 Peak

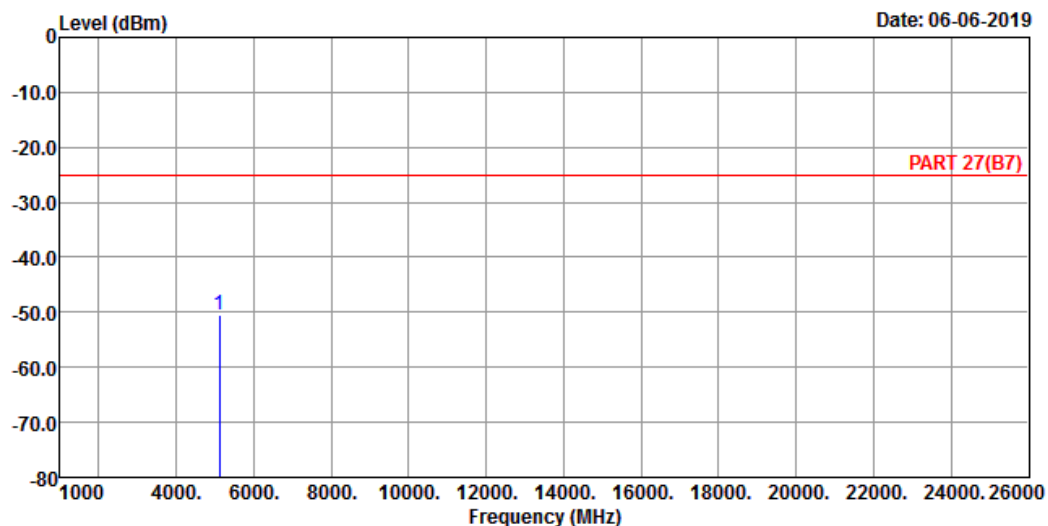


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B7) VERTICAL

Remak : LTE Band 7 QPSK_20M Link_H-CH

Tested by: Thomas Wei

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

1 pp 5120.00 -50.55 -48.89 -25.00 -1.66 -25.55 Peak

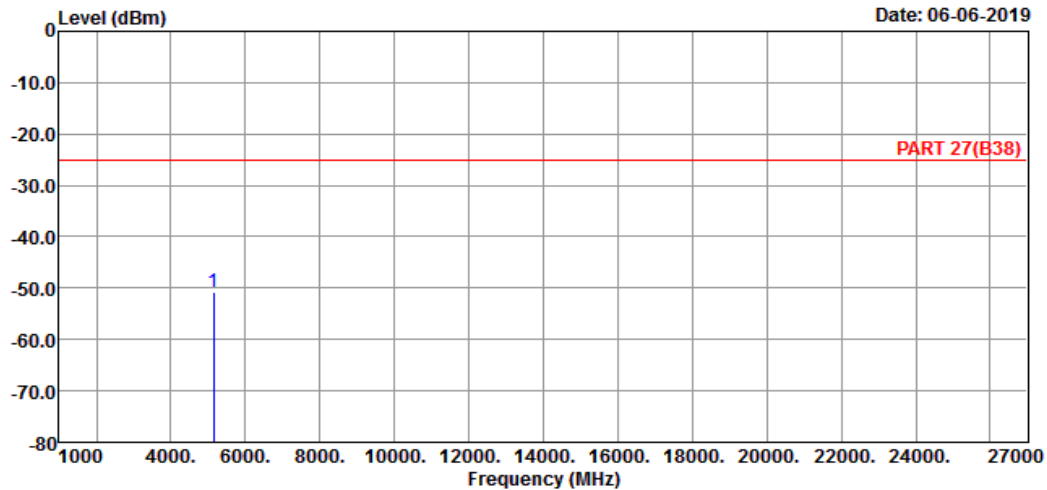
LTE Band 38
Channel Bandwidth: 5 MHz / QPSK
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
Condition: PART 27(B38) HORIZONTAL
Remak : LTE Band 38 QPSK_5M Link_L-CH
Tested by: Thomas Wei

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

1 pp 5145.00 -50.77 -48.94 -25.00 -1.83 -25.77 Peak

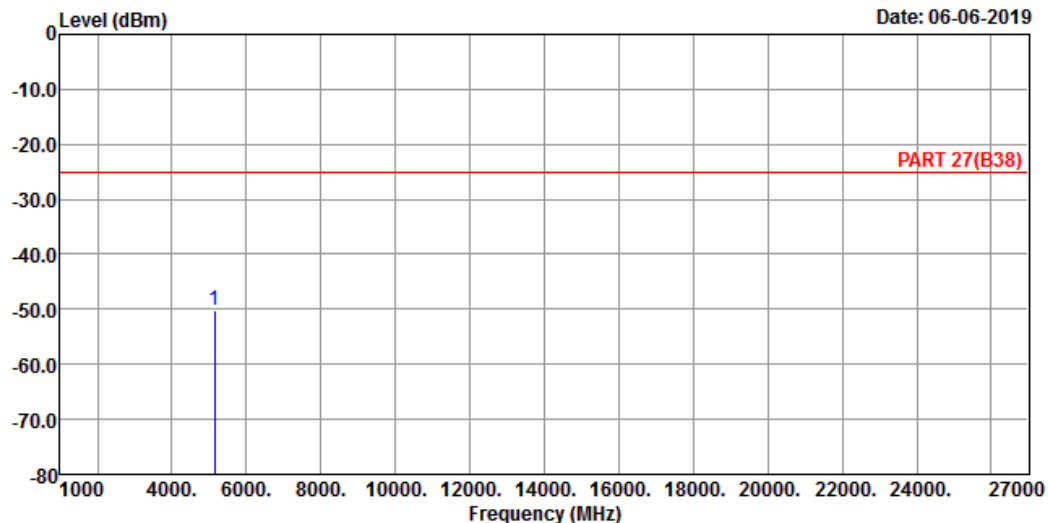


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B38) VERTICAL

Remak : LTE Band 38 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 5145.00 -50.23 -48.40 -25.00 -1.83 -25.23 Peak

Middle Channel

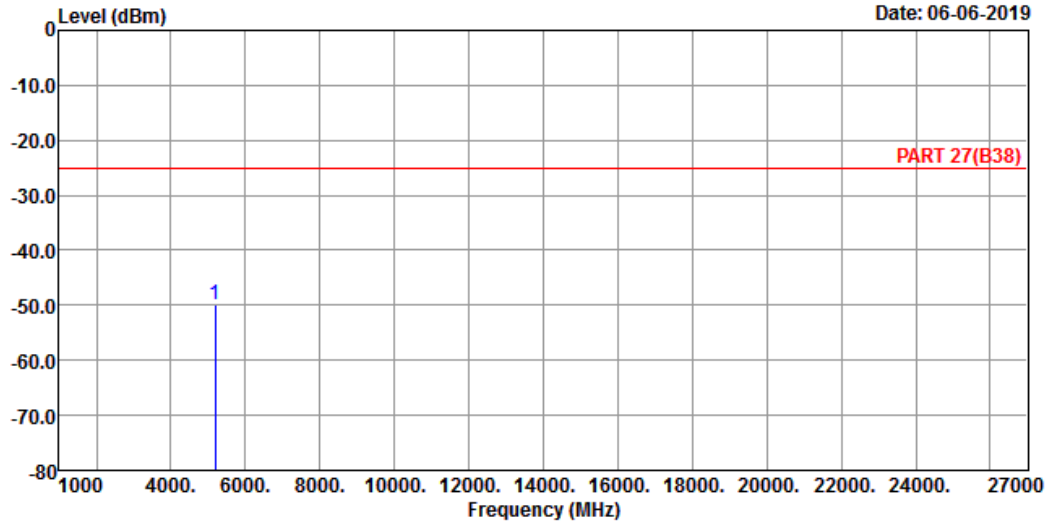


Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B38) HORIZONTAL

Remak : LTE Band 38 QPSK_5M Link_M-CH

Tested by: Thomas Wei

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

1 pp 5190.00 -49.88 -47.81 -25.00 -2.07 -24.88 Peak

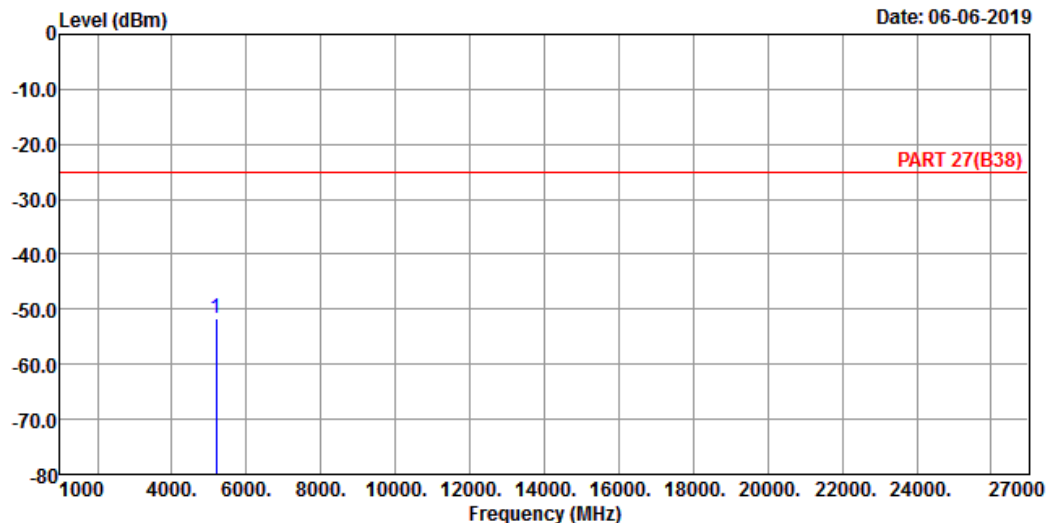


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B38) VERTICAL

Remak : LTE Band 38 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 5190.00 -51.59 -49.52 -25.00 -2.07 -26.59 Peak

High Channel

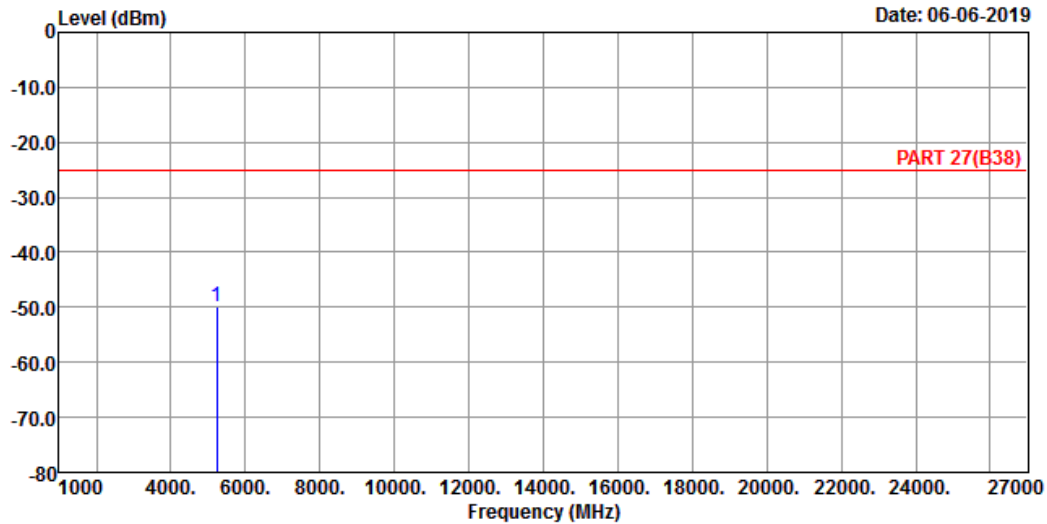


Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B38) HORIZONTAL

Remak : LTE Band 38 QPSK_5M Link_H-CH

Tested by: Thomas Wei

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

1 pp 5235.00 -49.78 -47.37 -25.00 -2.41 -24.78 Peak

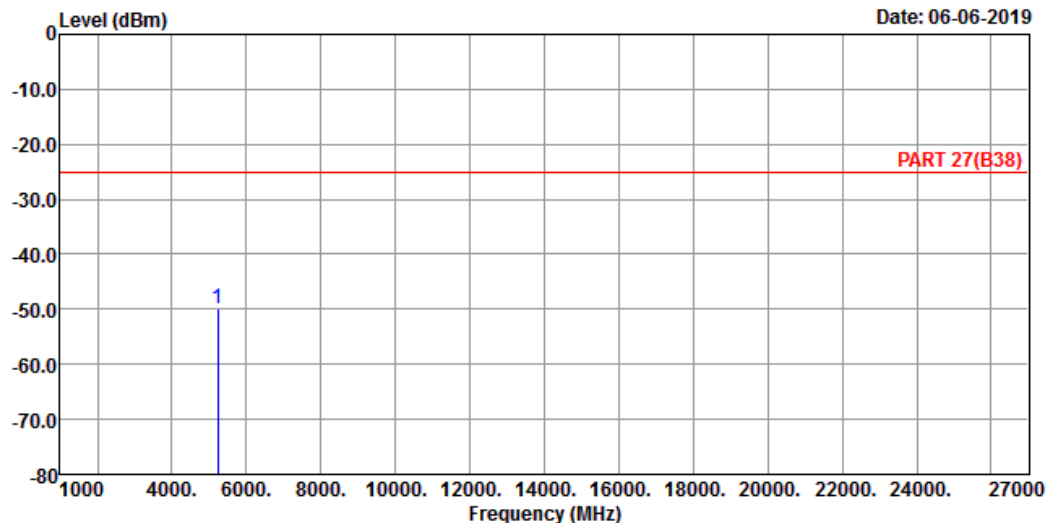


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B38) VERTICAL

Remak : LTE Band 38 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 5235.00 -49.81 -47.40 -25.00 -2.41 -24.81 Peak

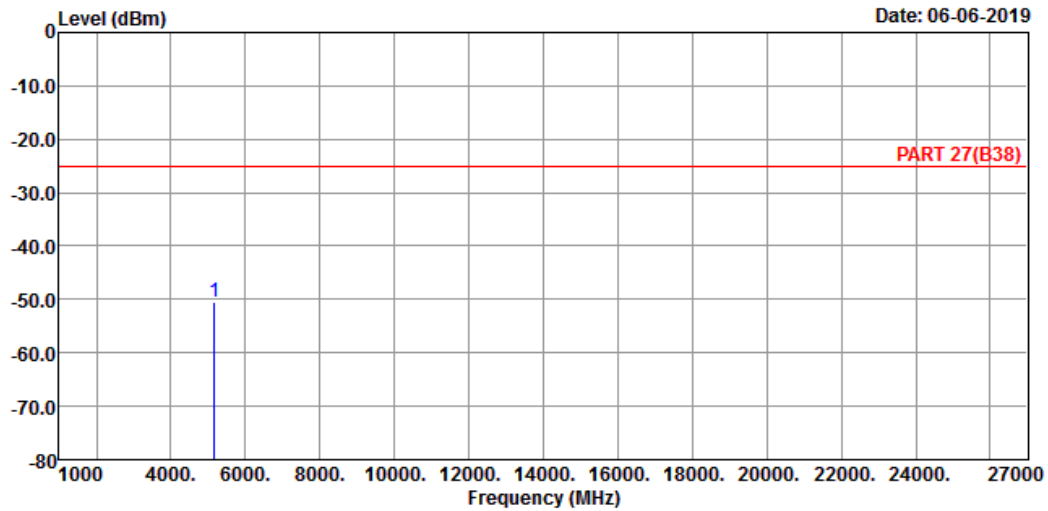
Channel Bandwidth: 20 MHz / QPSK
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
Condition: PART 27(B38) HORIZONTAL
Remak : LTE Band 38 QPSK_20M Link_L-CH
Tested by: Thomas Wei

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

1 pp 5160.00 -50.37 -48.46 -25.00 -1.91 -25.37 Peak

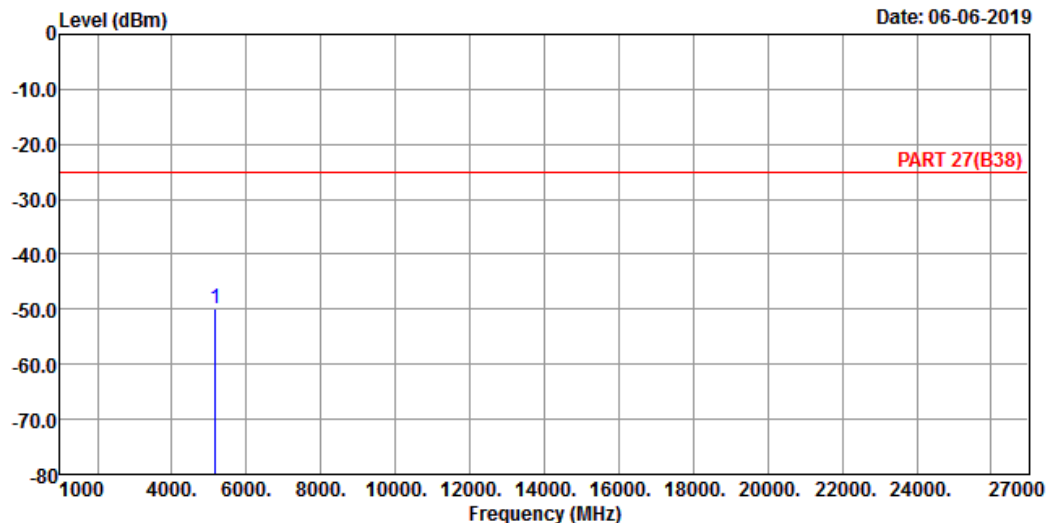


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B38) VERTICAL

Remak : LTE Band 38 QPSK_20M Link_L-CH

Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Over	
MHz	dBm	dBm	dBm	dB	dB

1 pp 5160.00 -49.84 -47.93 -25.00 -1.91 -24.84 Peak

Middle Channel

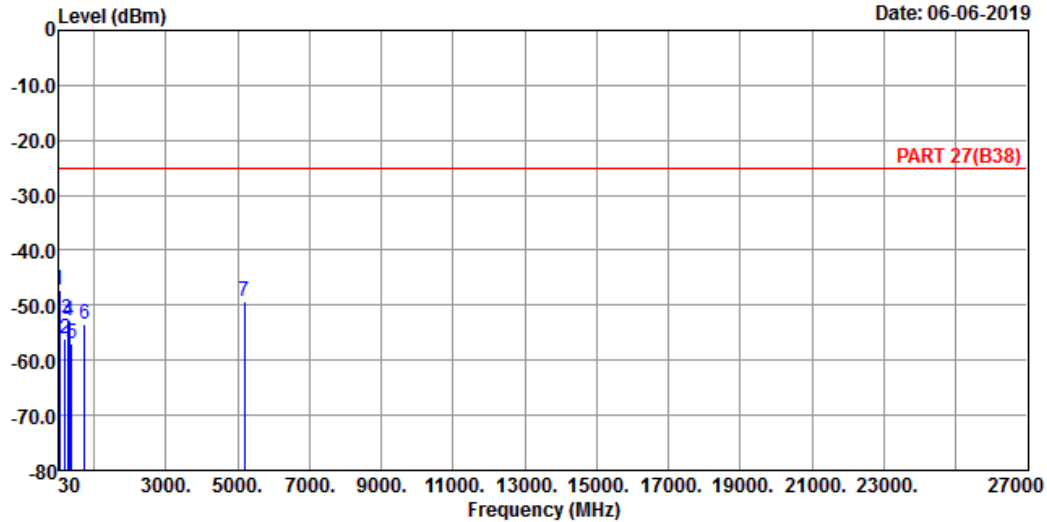


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B38) HORIZONTAL

Remak : LTE Band 38 QPSK_20M Link_M-CH

Tested by: Thomas Wei

	Freq	Level	Read Level	Limit	Over	
	MHz	dBm	dBm	dBm	Factor	Limit Remark
					dB	dB
1 pp	43.58	-47.22	-45.75	-25.00	-1.47	-22.22 Peak
2	203.63	-56.23	-48.37	-25.00	-7.86	-31.23 Peak
3	256.98	-52.68	-46.55	-25.00	-6.13	-27.68 Peak
4	312.27	-52.75	-45.93	-25.00	-6.82	-27.75 Peak
5	385.99	-57.08	-51.05	-25.00	-6.03	-32.08 Peak
6	733.25	-53.35	-53.90	-25.00	0.55	-28.35 Peak
7	5190.00	-49.26	-47.19	-25.00	-2.07	-24.26 Peak

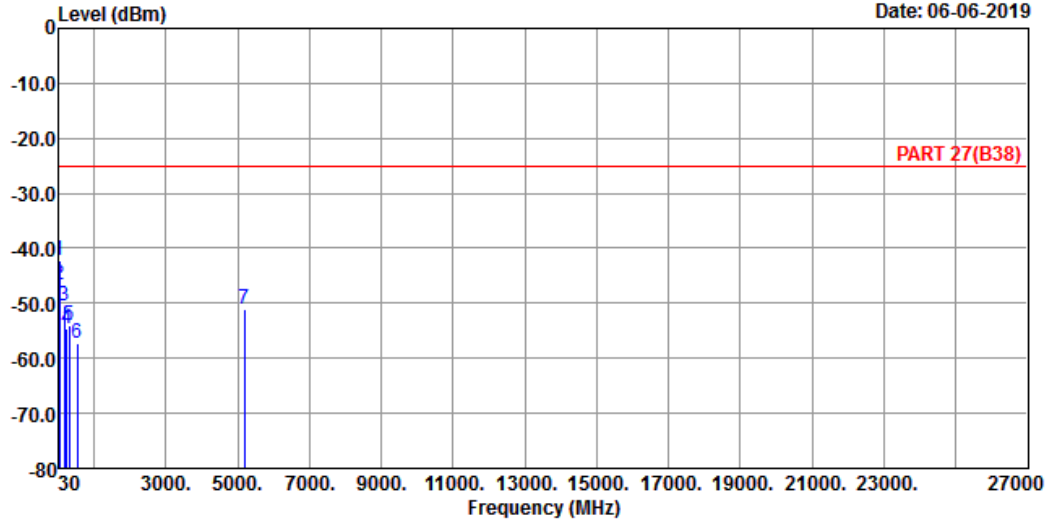


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B38) VERTICAL

Remak : LTE Band 38 QPSK_20M Link_M-CH

Tested by: Thomas Wei

	Freq	Level	Read Level	Limit	Over	
	MHz	dBm	dBm	dBm	dB	Limit Remark
1 pp	31.94	-42.21	-41.61	-25.00	-0.60	-17.21 Peak
2	42.61	-46.62	-45.68	-25.00	-0.94	-21.62 Peak
3	171.62	-50.45	-44.58	-25.00	-5.87	-25.45 Peak
4	251.16	-54.58	-48.57	-25.00	-6.01	-29.58 Peak
5	306.45	-53.91	-47.00	-25.00	-6.91	-28.91 Peak
6	532.46	-57.24	-53.77	-25.00	-3.47	-32.24 Peak
7	5190.00	-51.12	-49.05	-25.00	-2.07	-26.12 Peak

High Channel

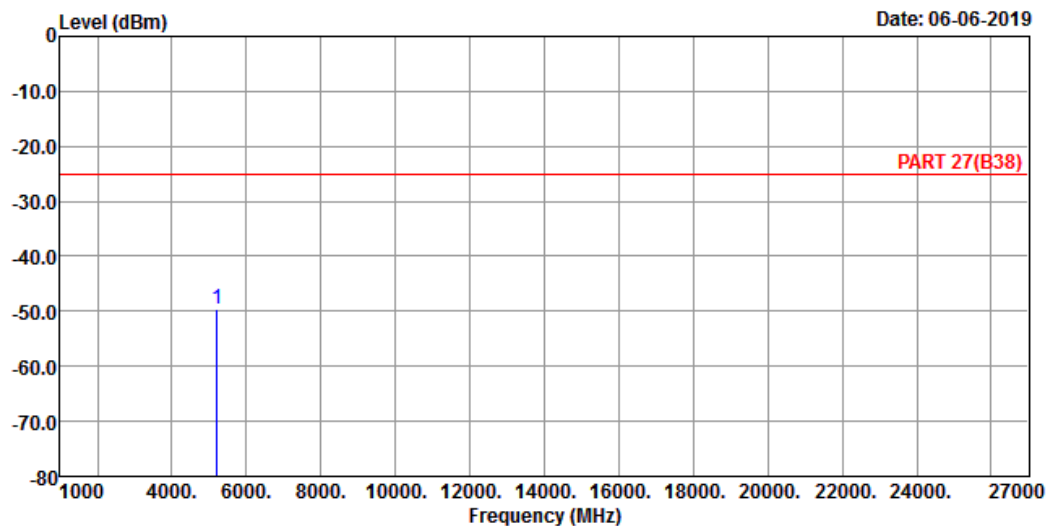


Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B38) HORIZONTAL

Remak : LTE Band 38 QPSK_20M Link_H-CH

Tested by: Thomas Wei

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

1 pp 5220.00 -49.46 -47.16 -25.00 -2.30 -24.46 Peak

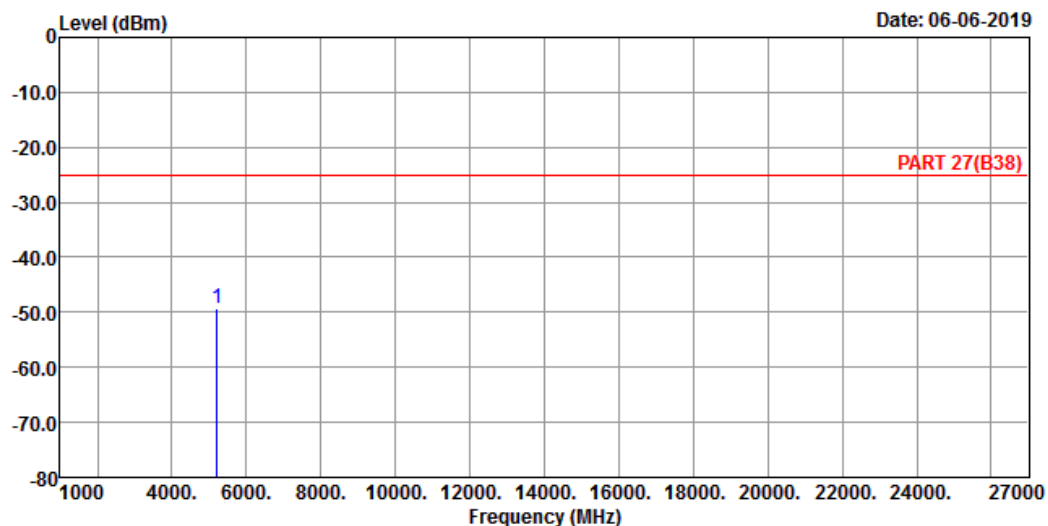


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B38) VERTICAL

Remak : LTE Band 38 QPSK_20M Link_H-CH

Tested by: Thomas Wei

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

1 pp 5220.00 -49.44 -47.14 -25.00 -2.30 -24.44 Peak

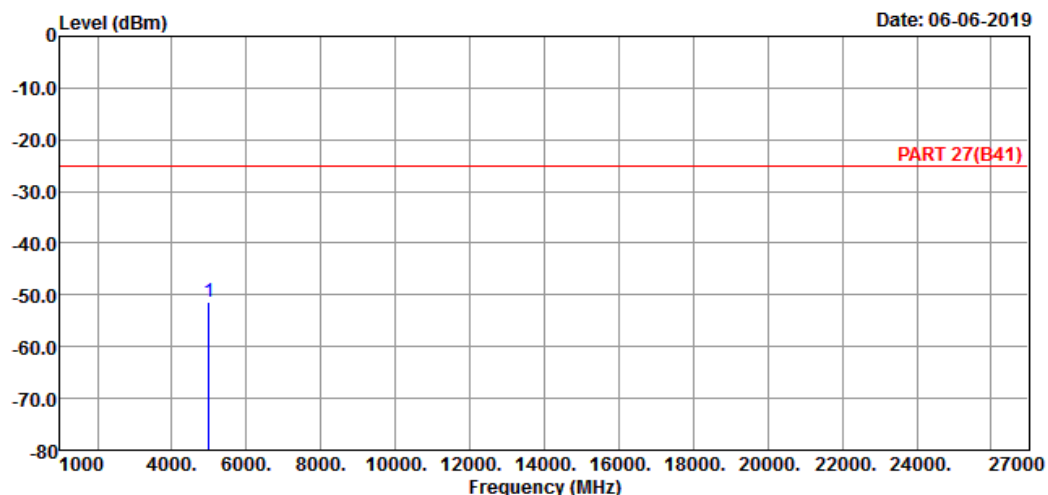
LTE Band 41
Channel Bandwidth: 5 MHz / QPSK
Low Channel



Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3



Site : 966 Chamber 5
Condition: PART 27(B41) HORIZONTAL
Remak : LTE Band 41 QPSK_5M Link_L-CH
Tested by: Thomas Wei

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

1 pp 4997.00 -51.47 -48.86 -25.00 -2.61 -26.47 Peak

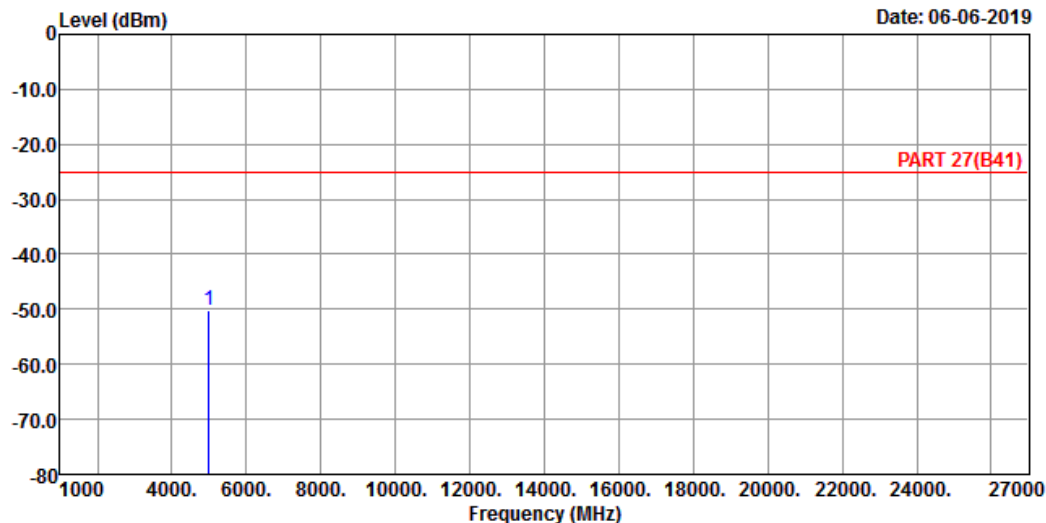


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B41) VERTICAL

Remak : LTE Band 41 QPSK_5M Link_L-CH

Tested by: Thomas Wei

Freq	Level	Read Level	Limit	Over	
MHz	dBm	dBm	dBm	dB	dB

1 pp 4997.00 -50.29 -47.68 -25.00 -2.61 -25.29 Peak

Middle Channel

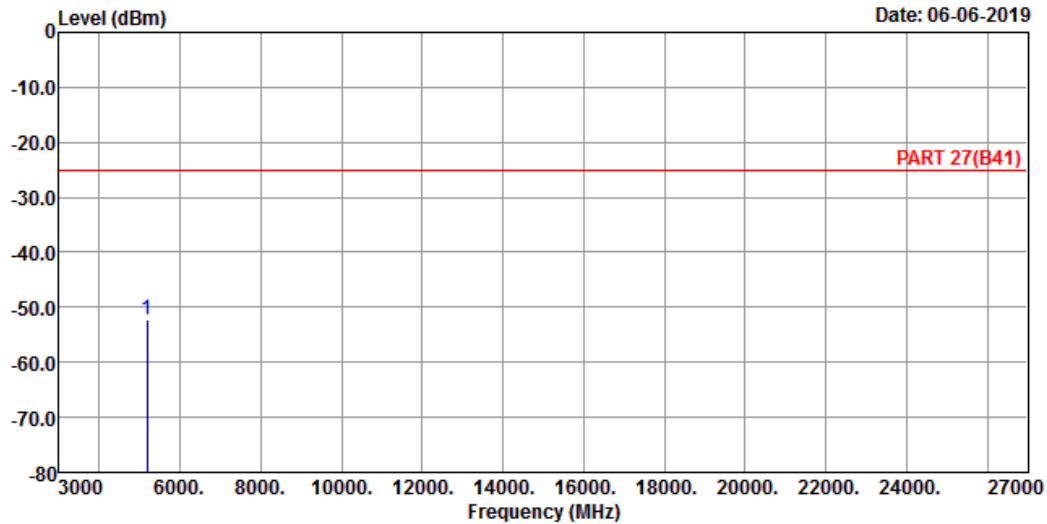


Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B41) HORIZONTAL

Remak : LTE Band 41 QPSK_5M Link_M-CH

Tested by: Getaz Yang

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

1 pp 5186.00 -52.23 -50.24 -25.00 -1.99 -27.23 Peak

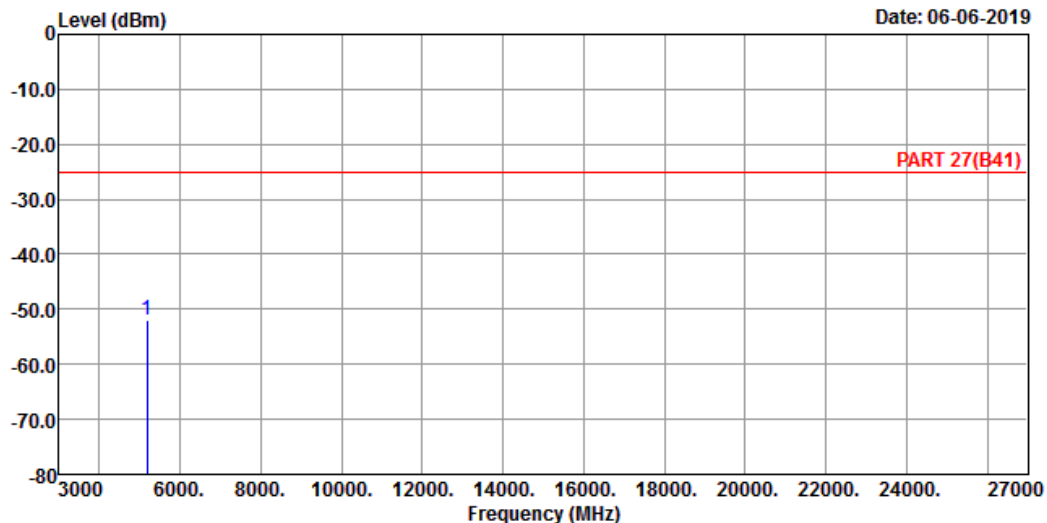


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B41) VERTICAL

Remak : LTE Band 41 QPSK_5M Link_M-CH

Tested by: Getaz Yang

Freq	Level	Read Level	Limit	Over	
MHz	dBm	dBm	dBm	dB	dB

1 pp 5186.00 -51.96 -49.97 -25.00 -1.99 -26.96 Peak

High Channel

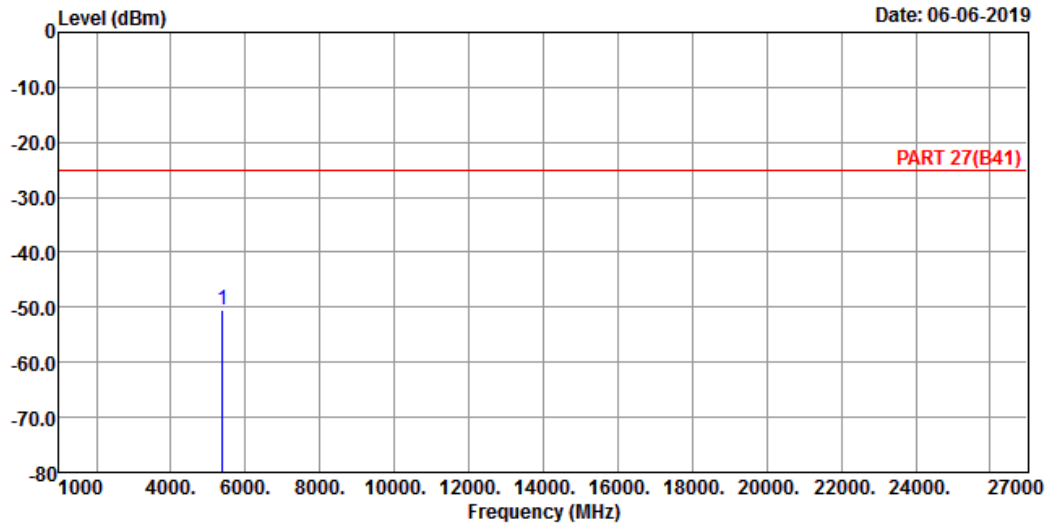


Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B41) HORIZONTAL

Remak : LTE Band 41 QPSK_5M Link_H-CH

Tested by: Thomas Wei

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

1 pp 5375.00 -50.58 -48.18 -25.00 -2.40 -25.58 Peak

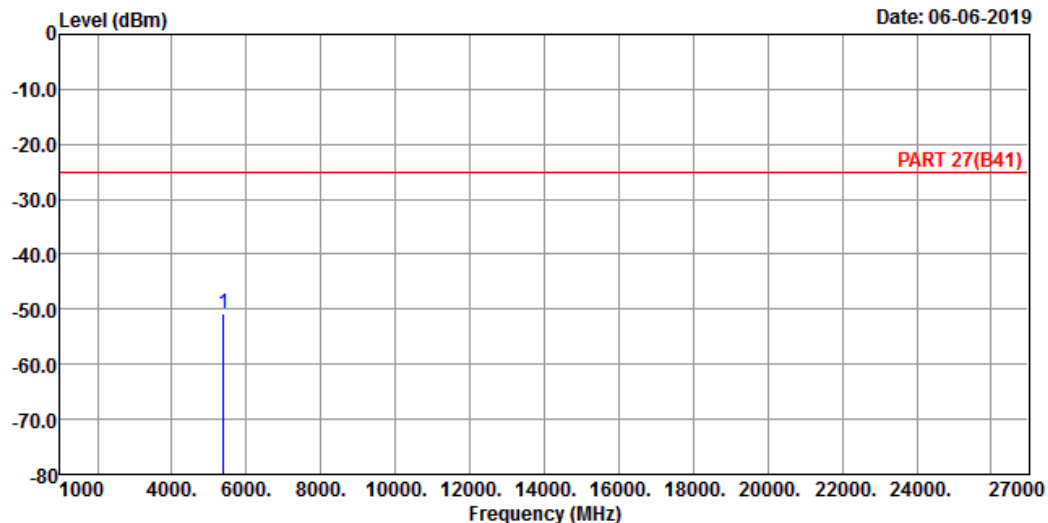


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B41) VERTICAL

Remak : LTE Band 41 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 5375.00 -50.71 -48.31 -25.00 -2.40 -25.71 Peak

Channel Bandwidth: 20 MHz / QPSK
Low Channel

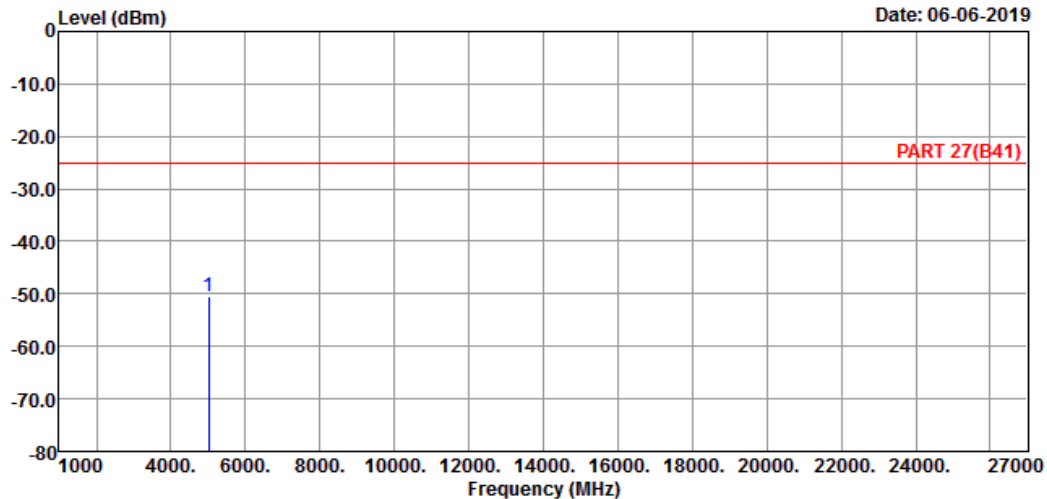


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5
Condition: PART 27(B41) HORIZONTAL
Remak : LTE Band 41 QPSK_20M Link_L-CH
Tested by: Thomas Wei

Freq	Level	Read	Limit	Over	
MHz	dBm	Level	Line	Factor	Limit Remark
		dBm	dBm	dB	dB
1 pp	5012.00	-50.54	-48.08	-25.00	-2.46 -25.54 Peak

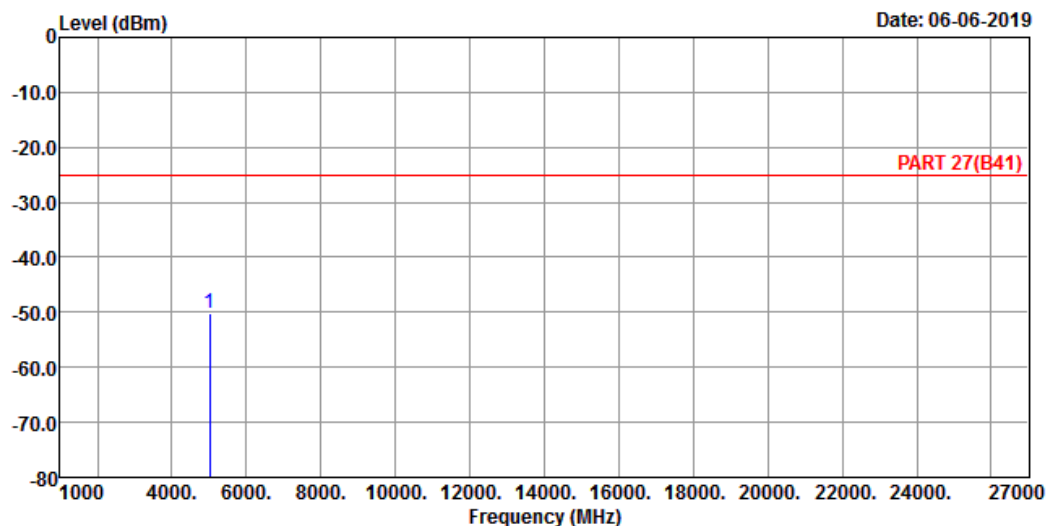


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B41) VERTICAL

Remak : LTE Band 41 QPSK_20M Link_L-CH

Tested by: Thomas Wei

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

1 pp 5012.00 -50.29 -47.83 -25.00 -2.46 -25.29 Peak

Middle Channel

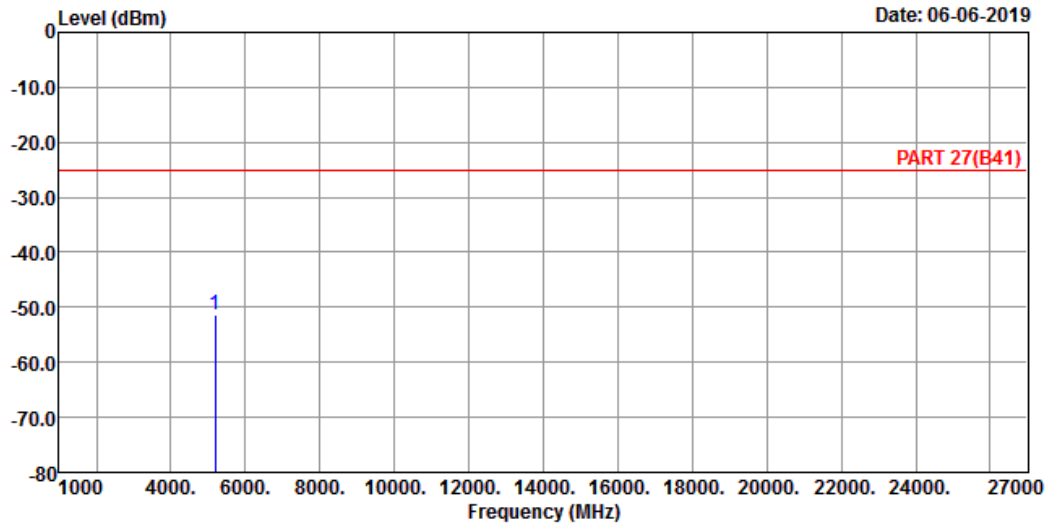


Bureau Veritas Consumer Products Services Ltd.,Taoyuan Branch

A D T

Data: 3

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B41) HORIZONTAL

Remak : LTE Band 41 QPSK_20M Link_M-CH

Tested by: Getaz Yang

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

1 pp 5186.00 -51.31 -49.32 -25.00 -1.99 -26.31 Peak

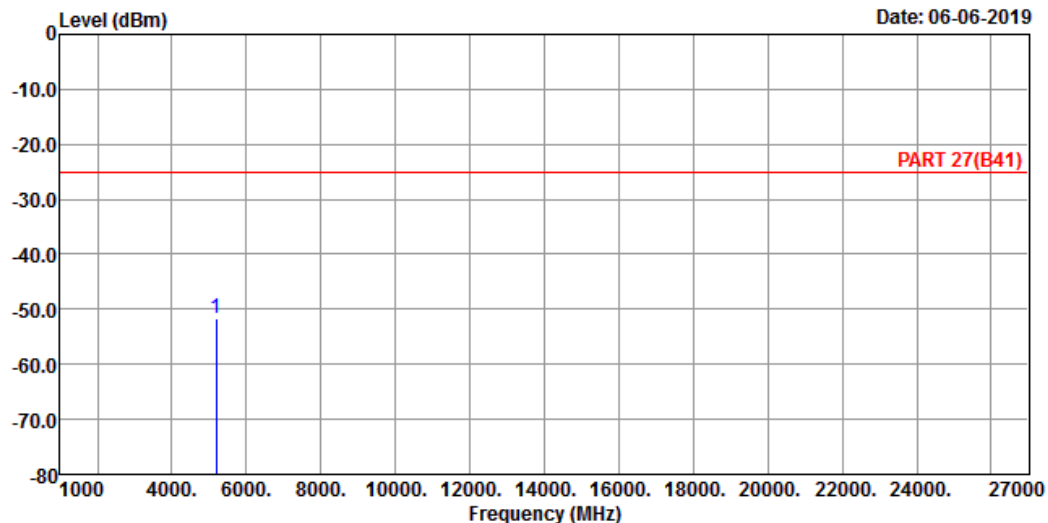


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 4

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B41) VERTICAL

Remak : LTE Band 41 QPSK_20M Link_M-CH

Tested by: Getaz Yang

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

1 pp 5186.00 -51.76 -49.77 -25.00 -1.99 -26.76 Peak

High Channel

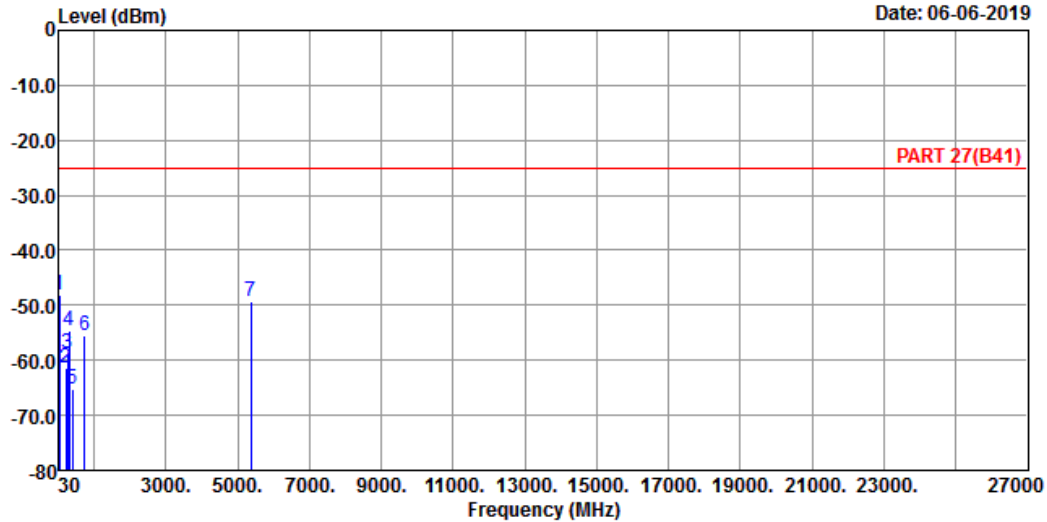


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 5

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B41) HORIZONTAL

Remak : LTE Band 41 QPSK_20M Link_H-CH

Tested by: Thomas Wei

	Freq	Level	Read Level	Limit	Over	
	MHz	dBm	dBm	dBm	dB	Limit Remark
1 pp	43.58	-48.12	-46.65	-25.00	-1.47	-23.12 Peak
2	210.42	-61.40	-53.81	-25.00	-7.59	-36.40 Peak
3	256.01	-58.67	-52.56	-25.00	-6.11	-33.67 Peak
4	312.27	-54.72	-47.90	-25.00	-6.82	-29.72 Peak
5	395.69	-65.31	-59.34	-25.00	-5.97	-40.31 Peak
6	734.22	-55.58	-56.15	-25.00	0.57	-30.58 Peak
7	5360.00	-49.28	-46.77	-25.00	-2.51	-24.28 Peak

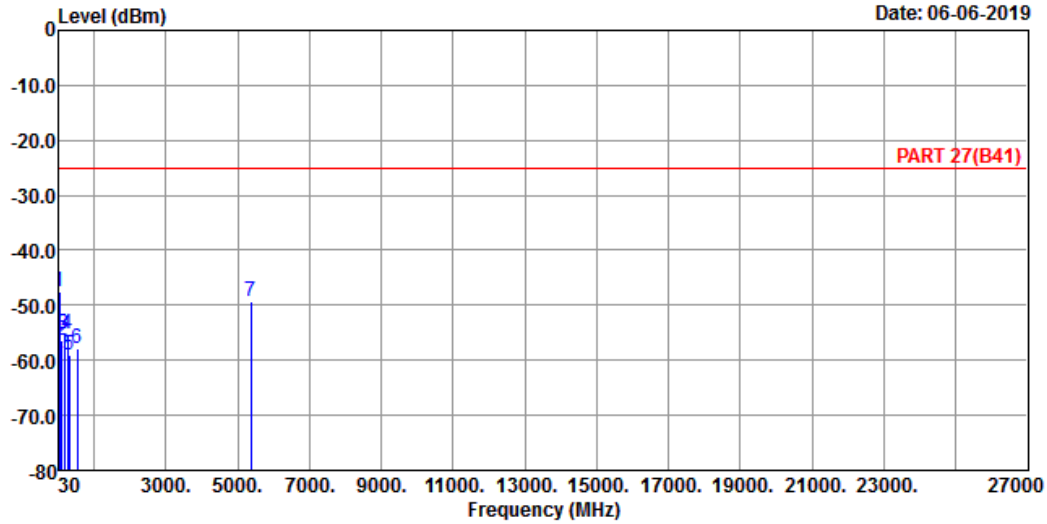


Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch

A D T

Data: 6

Date: 06-06-2019



Site : 966 Chamber 5

Condition: PART 27(B41) VERTICAL

Remak : LTE Band 41 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	43.58	-47.48	-46.01	-25.00	-1.47	-22.48	Peak
2	97.90	-56.37	-45.70	-25.00	-10.67	-31.37	Peak
3	171.62	-55.34	-49.47	-25.00	-5.87	-30.34	Peak
4	255.04	-55.09	-49.00	-25.00	-6.09	-30.09	Peak
5	316.15	-59.08	-52.32	-25.00	-6.76	-34.08	Peak
6	533.43	-58.00	-54.56	-25.00	-3.44	-33.00	Peak
7	5360.00	-49.32	-46.81	-25.00	-2.51	-24.32	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:

Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

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.

--- END ---