

Channel Bandwidth: 80MHz

Channel 507204
(2536.02MHz)

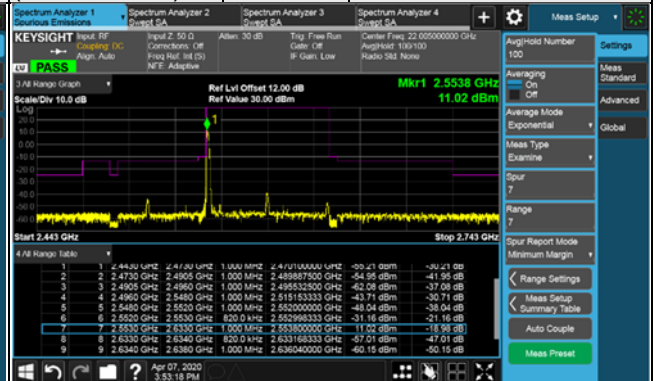
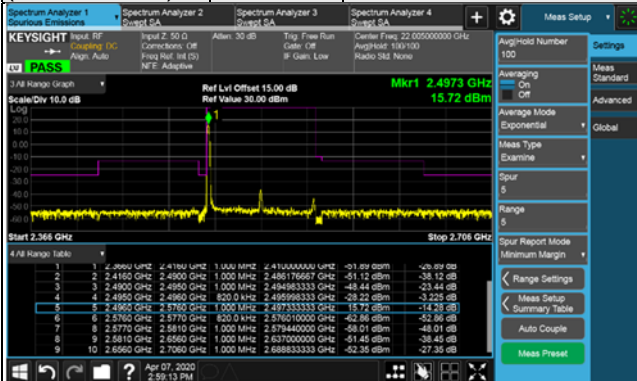
QPSK

1 RB / 0 RB Offset

Channel 518598
(2592.99MHz)

QPSK

1 RB / 0 RB Offset



Channel 507204
(2536.02MHz)

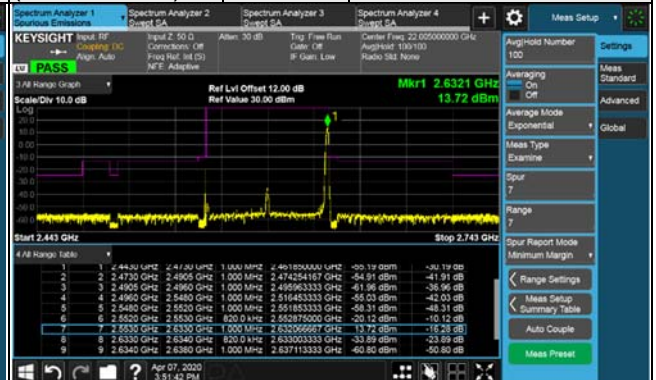
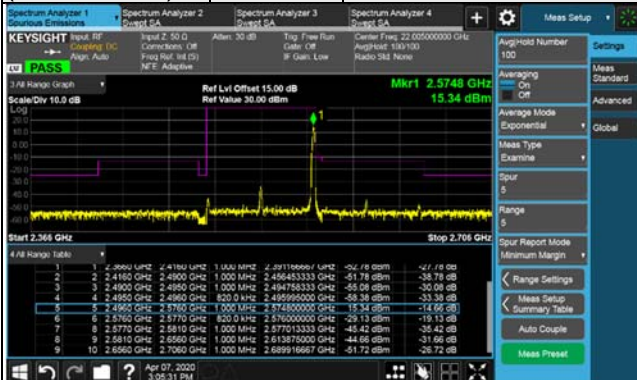
QPSK

1 RB / 216 RB Offset

Channel 518598
(2592.99MHz)

QPSK

1 RB / 216 RB Offset



Channel 507204
(2536.02MHz)

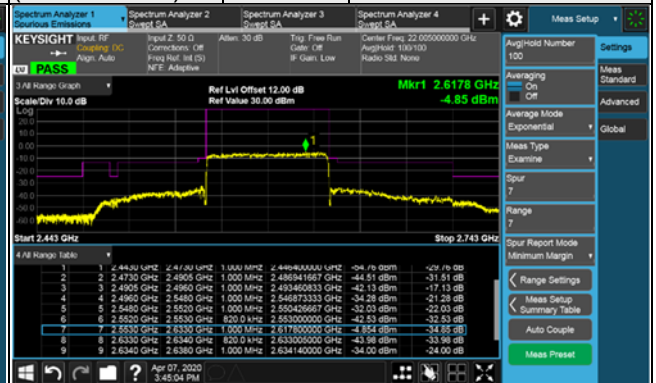
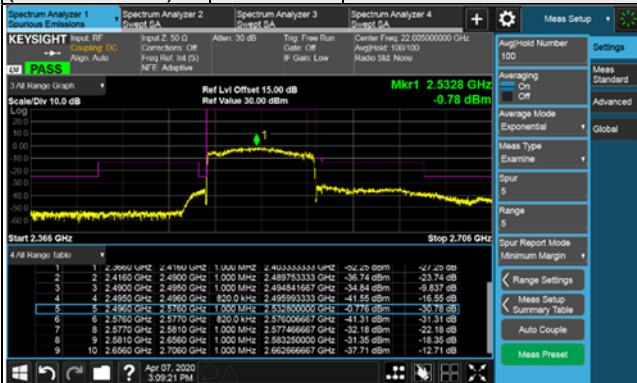
QPSK

217 RB / 0 RB Offset

Channel 518598
(2592.99MHz)

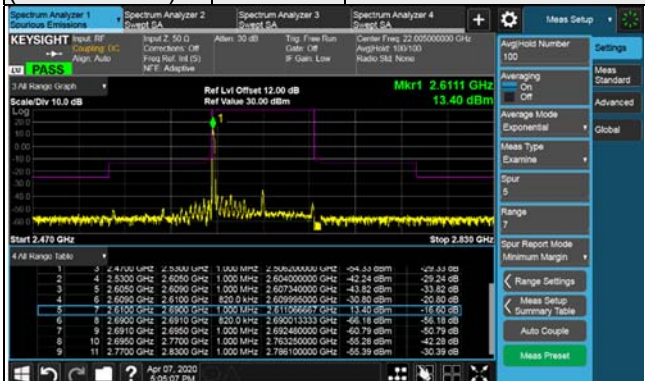
QPSK

217 RB / 0 RB Offset

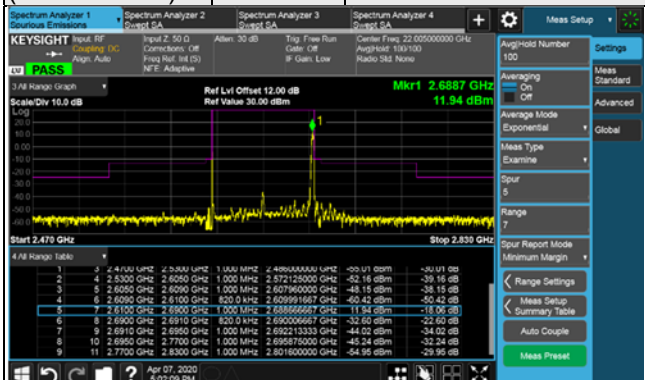


Channel Bandwidth: 80MHz

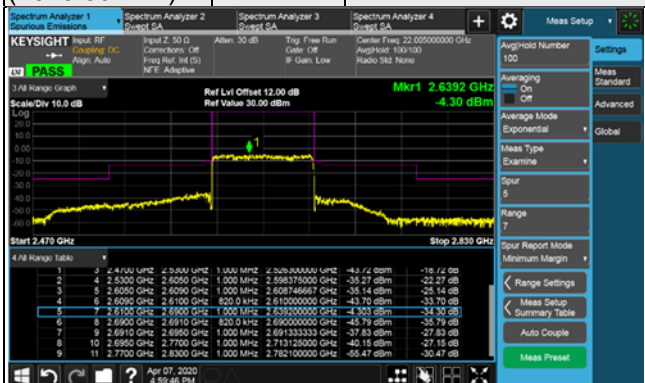
Channel 529998
(2649.99MHz) QPSK 1 RB / 0 RB Offset



Channel 529998
(2649.99MHz) QPSK 1 RB / 216 RB Offset



Channel 529998
(2649.99MHz) QPSK 217 RB / 0 RB Offset



Channel Bandwidth: 90MHz

Channel 508200
(2541.00MHz)

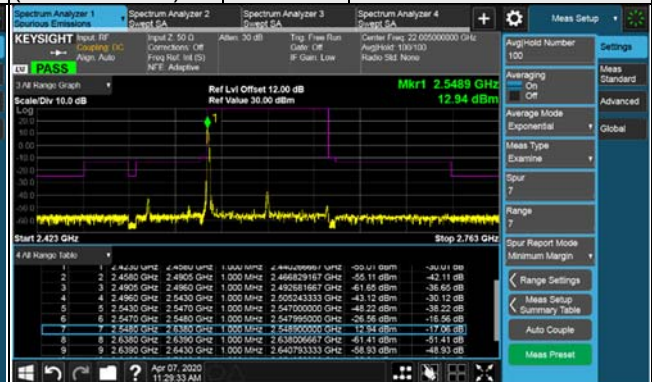
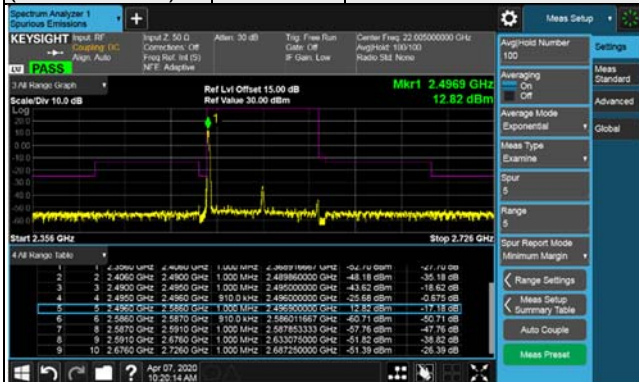
QPSK

1 RB / 0 RB Offset

Channel 518598
(2592.99MHz)

QPSK

1 RB / 0 RB Offset



Channel 508200
(2541.00MHz)

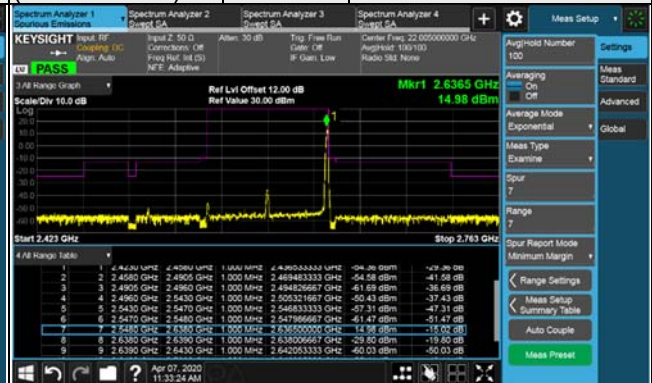
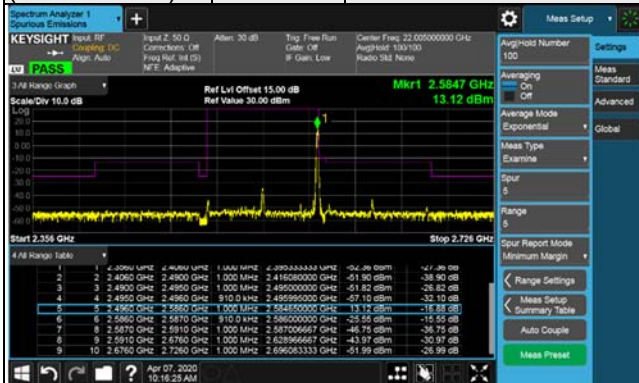
QPSK

1 RB / 244 RB Offset

Channel 518598
(2592.99MHz)

QPSK

1 RB / 244 RB Offset



Channel 508200
(2541.00MHz)

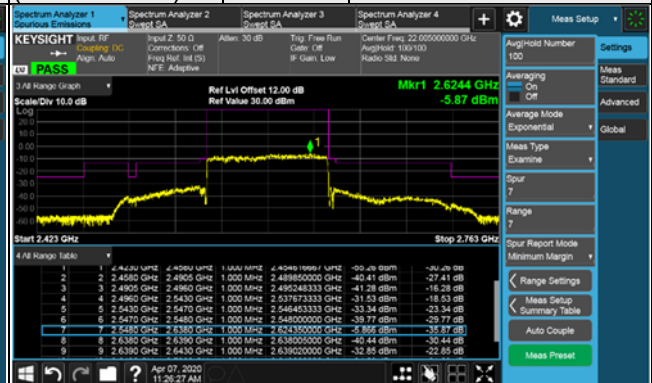
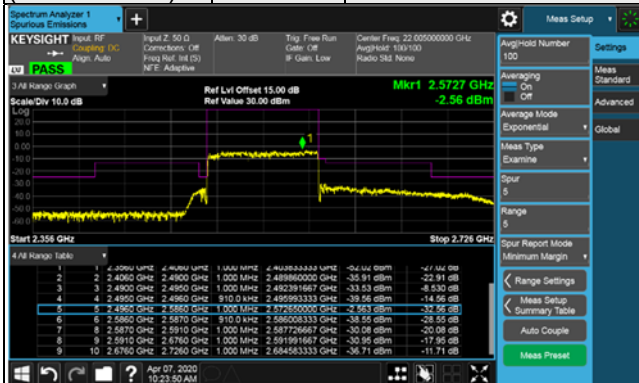
QPSK

245 RB / 0 RB Offset

Channel 518598
(2592.99MHz)

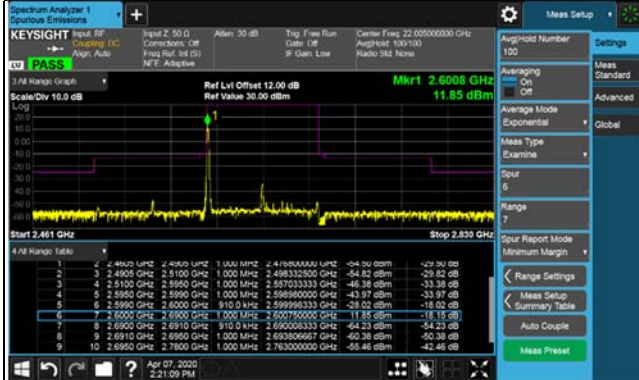
QPSK

245 RB / 0 RB Offset

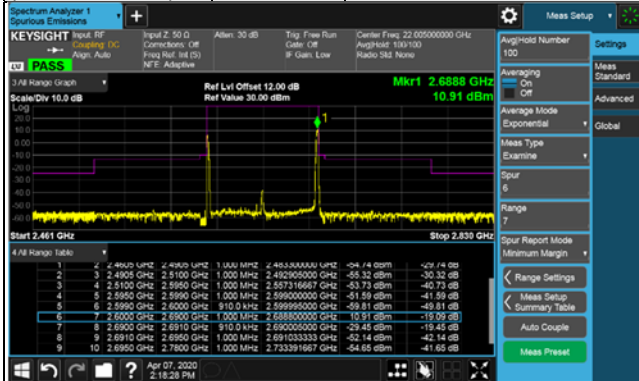


Channel Bandwidth: 90MHz

Channel 528996
(2644.98MHz) QPSK 1 RB / 0 RB Offset



Channel 528996
(2644.98MHz) QPSK 1 RB / 244 RB Offset



Channel 528996
(2644.98MHz) QPSK 245 RB / 0 RB Offset



Channel Bandwidth: 100MHz

Channel 509202
(2546.01MHz)

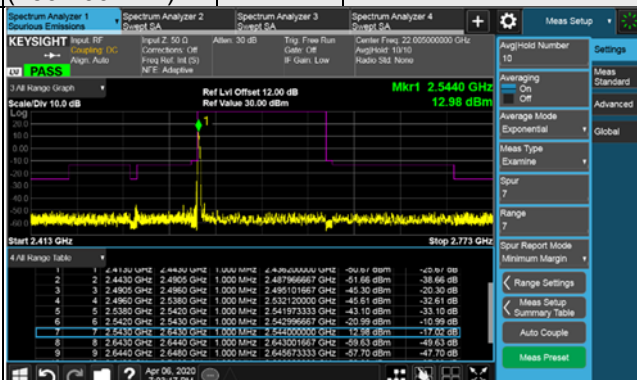
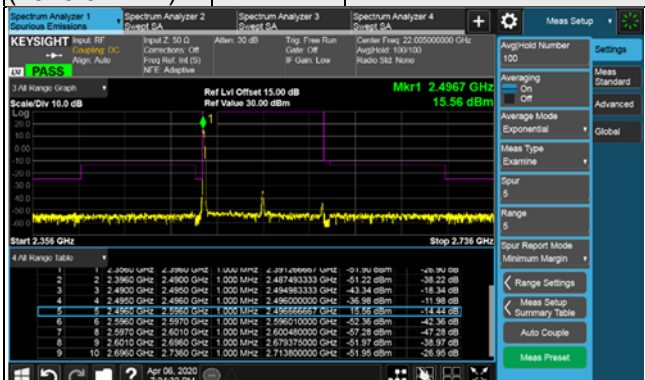
QPSK

1 RB / 0 RB Offset

Channel 518598
(2592.99MHz)

QPSK

1 RB / 0 RB Offset



Channel 509202
(2546.01MHz)

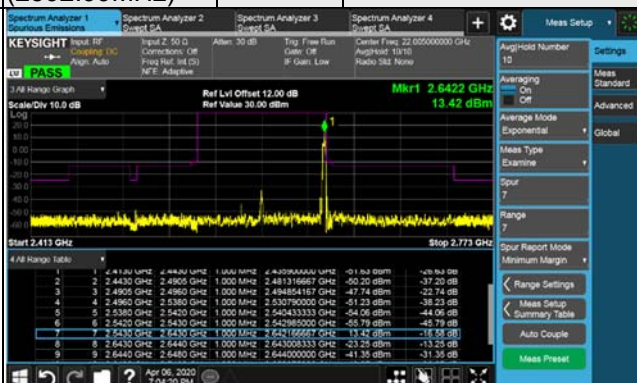
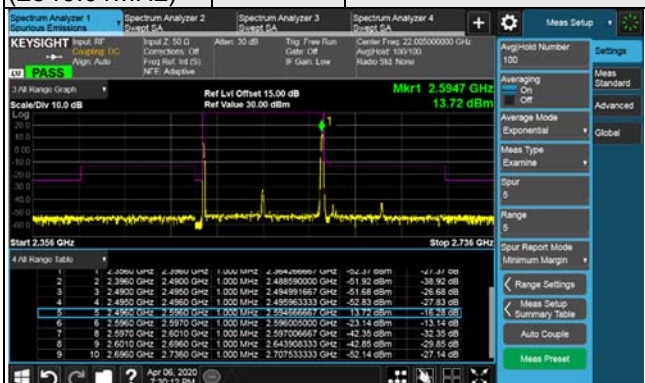
QPSK

1 RB / 272 RB Offset

Channel 518598
(2592.99MHz)

QPSK

1 RB / 272 RB Offset



Channel 509202
(2546.01MHz)

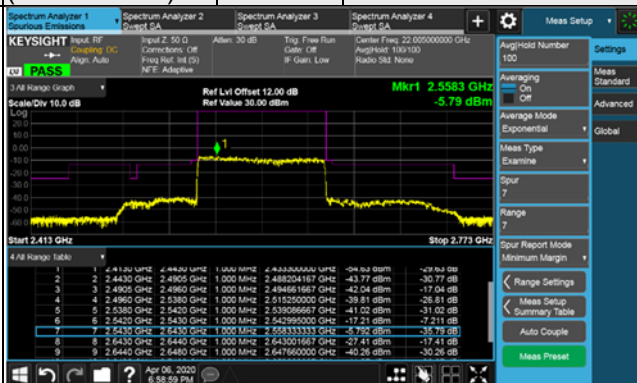
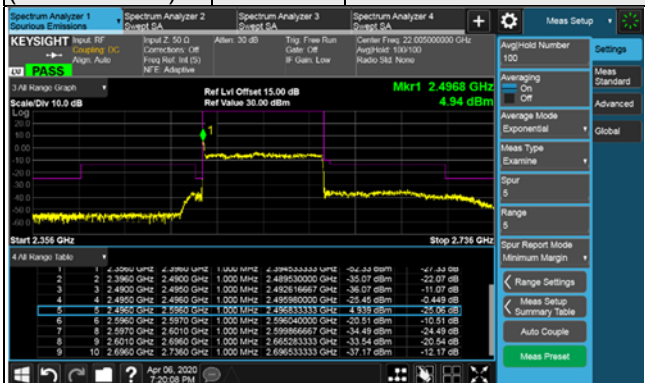
QPSK

273 RB / 0 RB Offset

Channel 518598
(2592.99MHz)

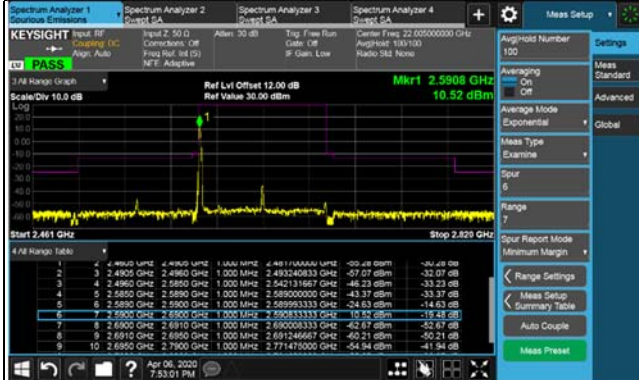
QPSK

273 RB / 0 RB Offset

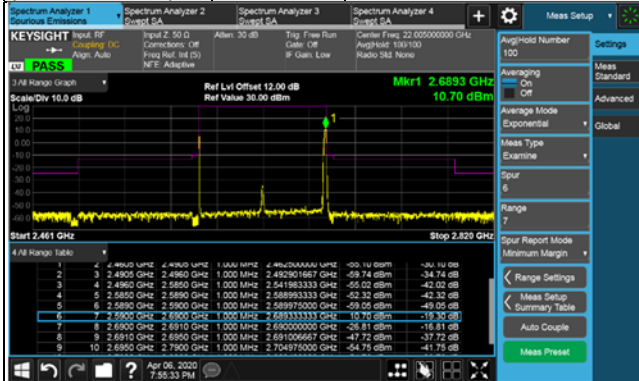


Channel Bandwidth: 100MHz

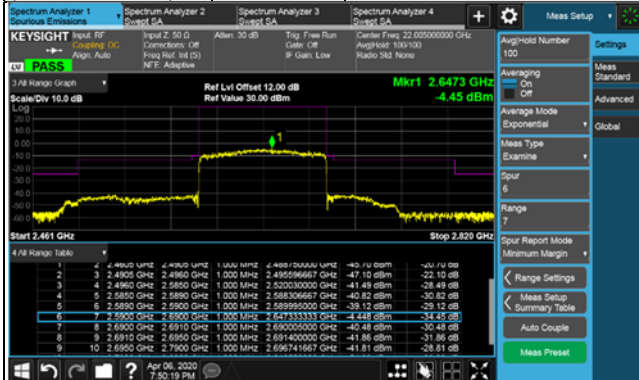
Channel 528000 (2640.00MHz) QPSK 1 RB / 0 RB Offset



Channel 528000 (2640.00MHz) QPSK 1 RB / 272 RB Offset



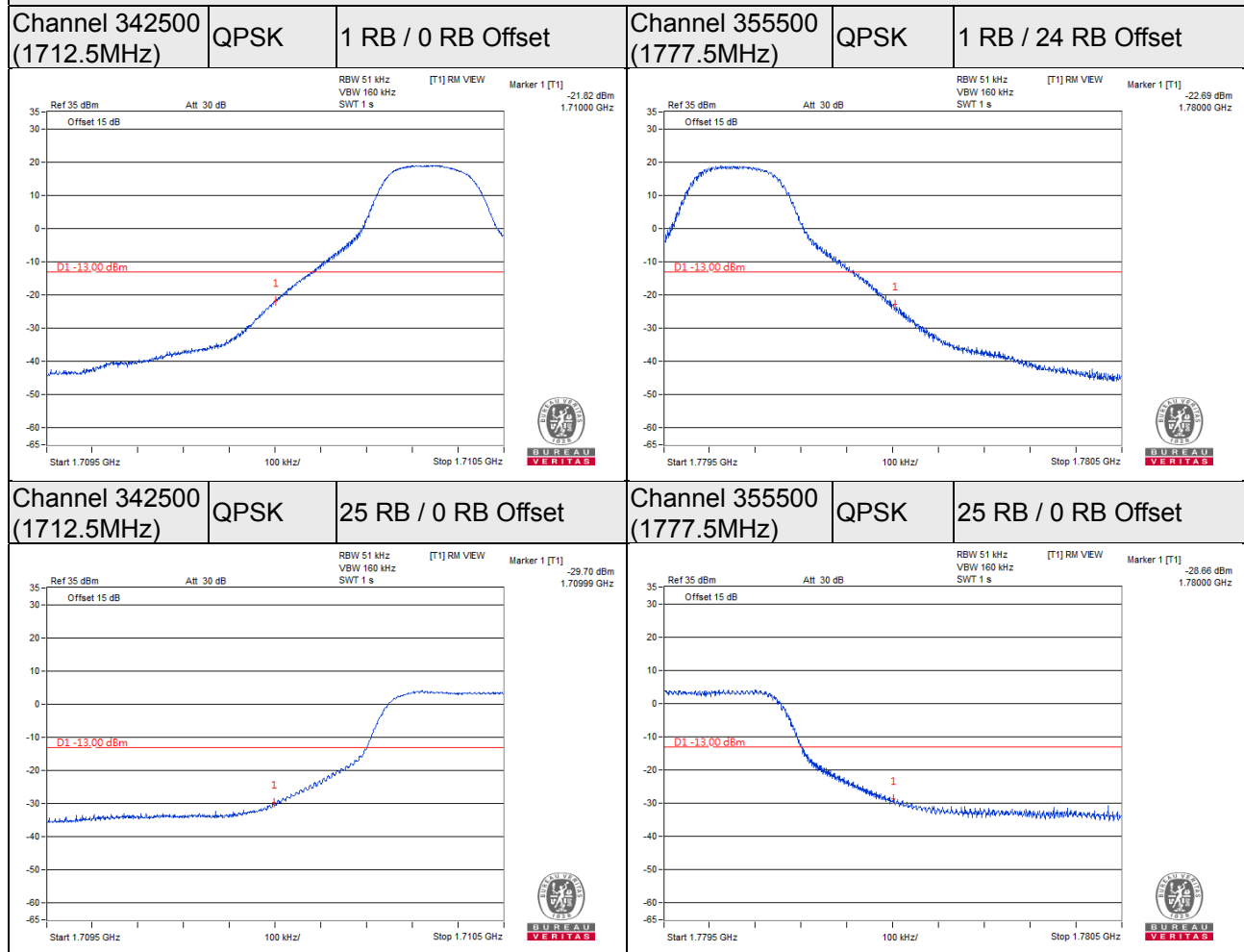
Channel 528000 (2640.00MHz) QPSK 273 RB / 0 RB Offset



n66

Band edge:

Channel Bandwidth: 5MHz



Channel Bandwidth: 10MHz

Channel 343000
(1715.0MHz)

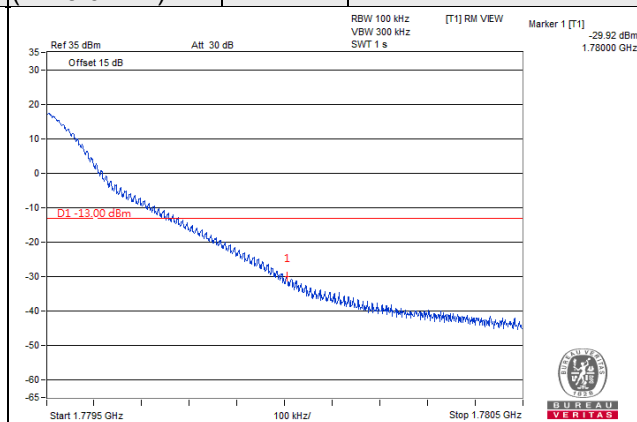
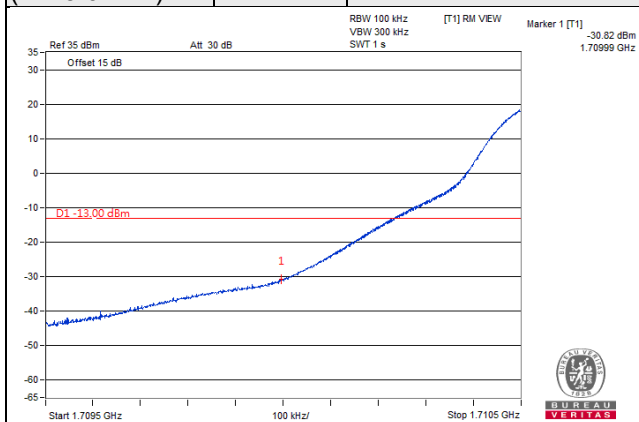
QPSK

1 RB / 0 RB Offset

Channel 355000
(1775.0MHz)

QPSK

1 RB / 49 RB Offset



Channel 343000
(1715.0MHz)

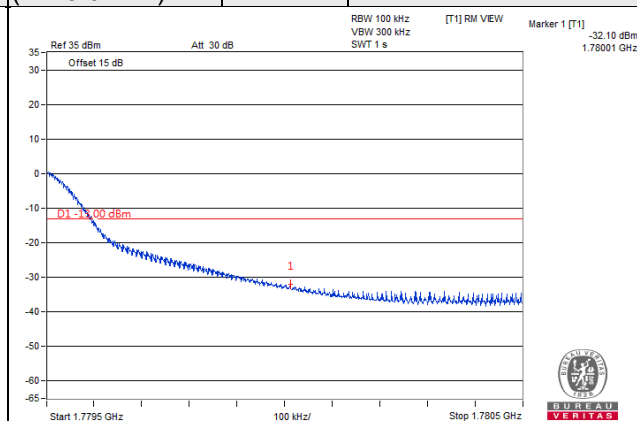
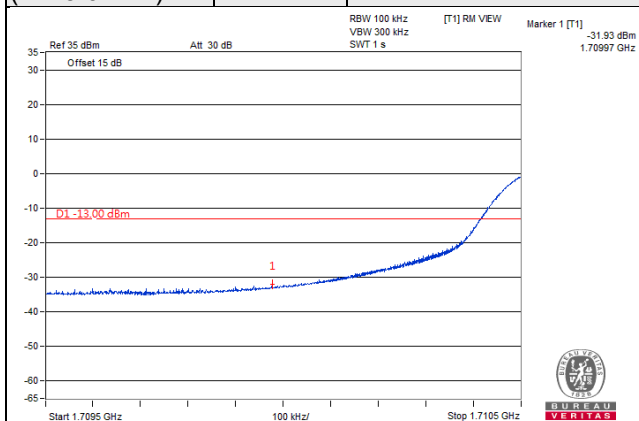
QPSK

50 RB / 0 RB Offset

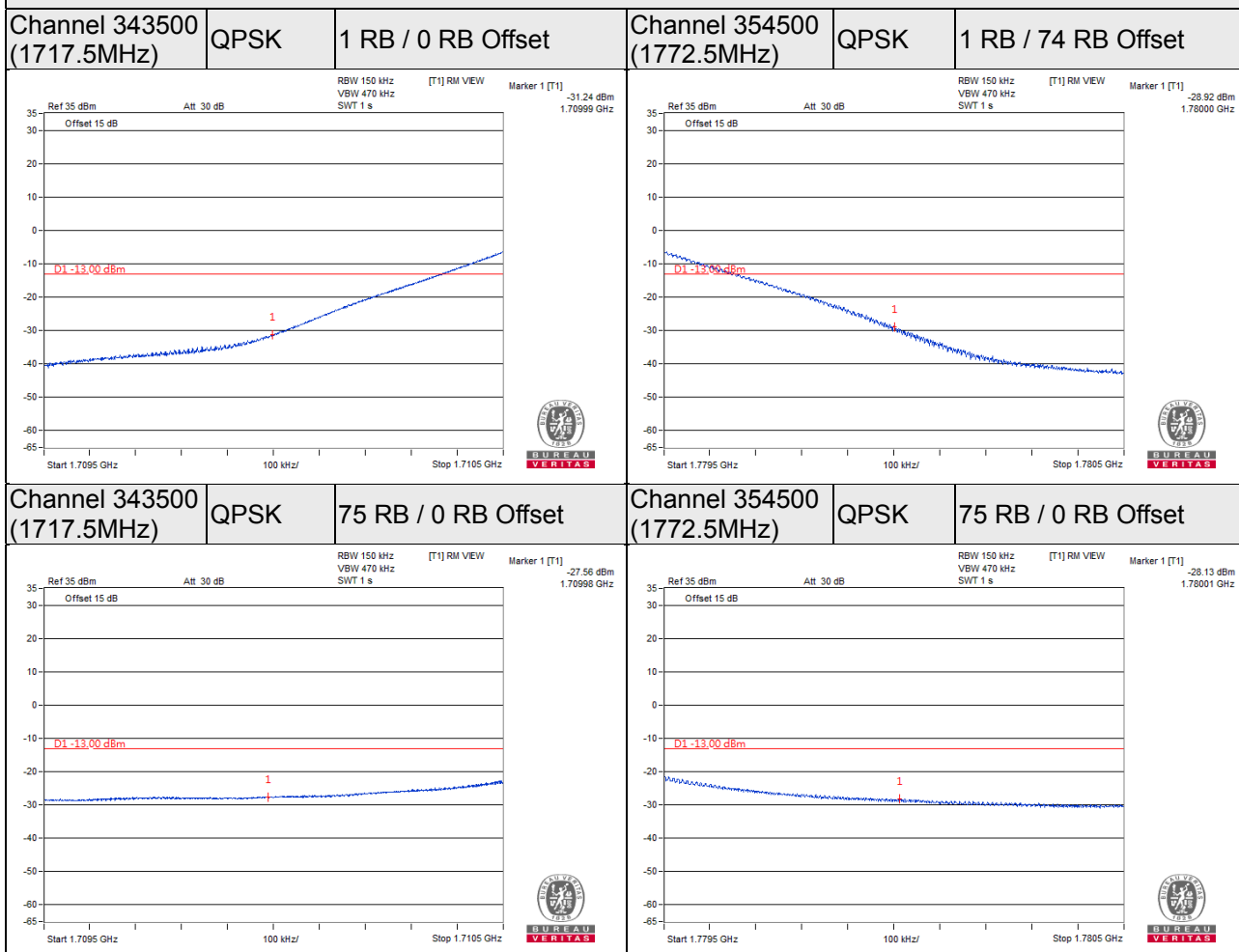
Channel 355000
(1775.0MHz)

QPSK

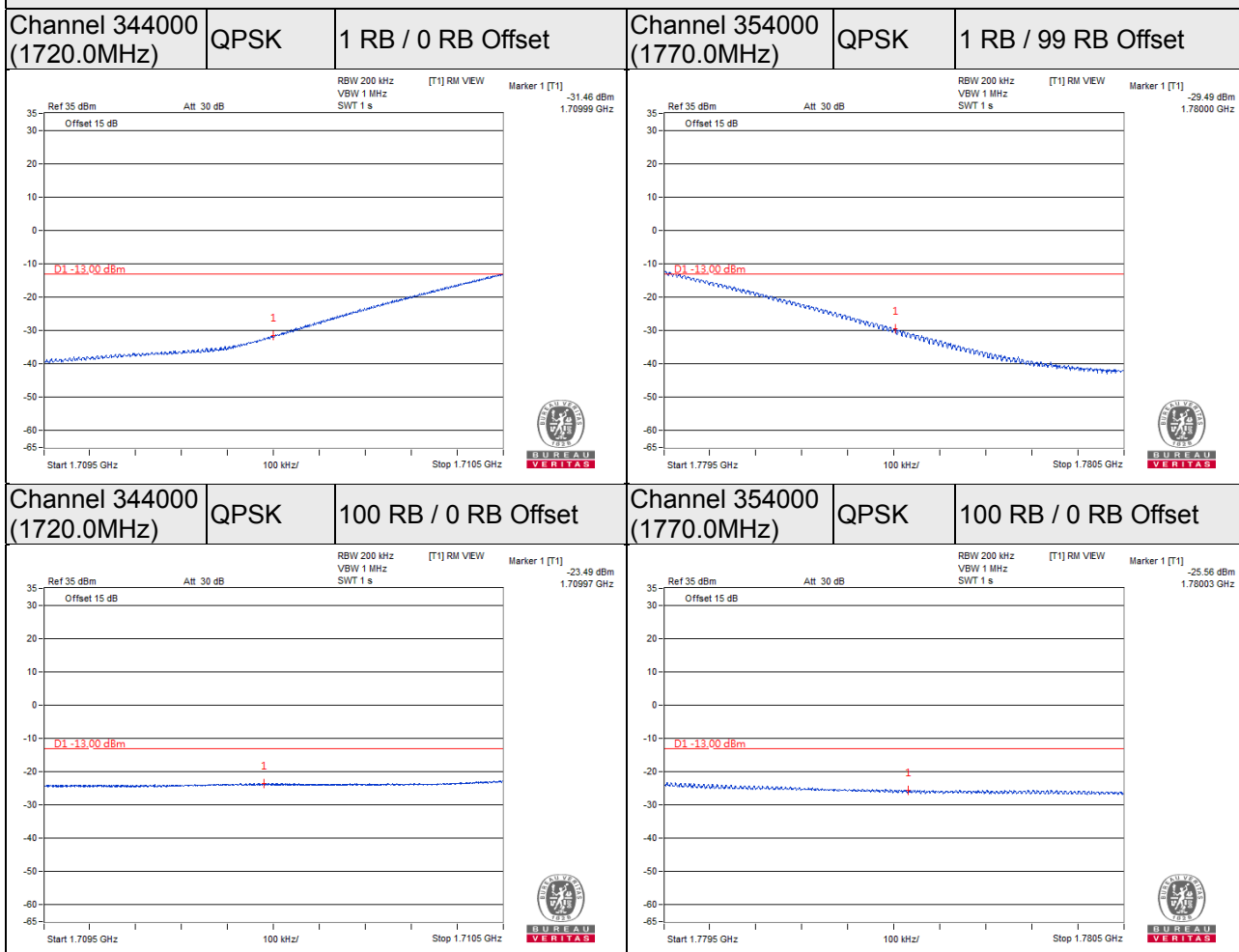
50 RB / 0 RB Offset



Channel Bandwidth: 15MHz



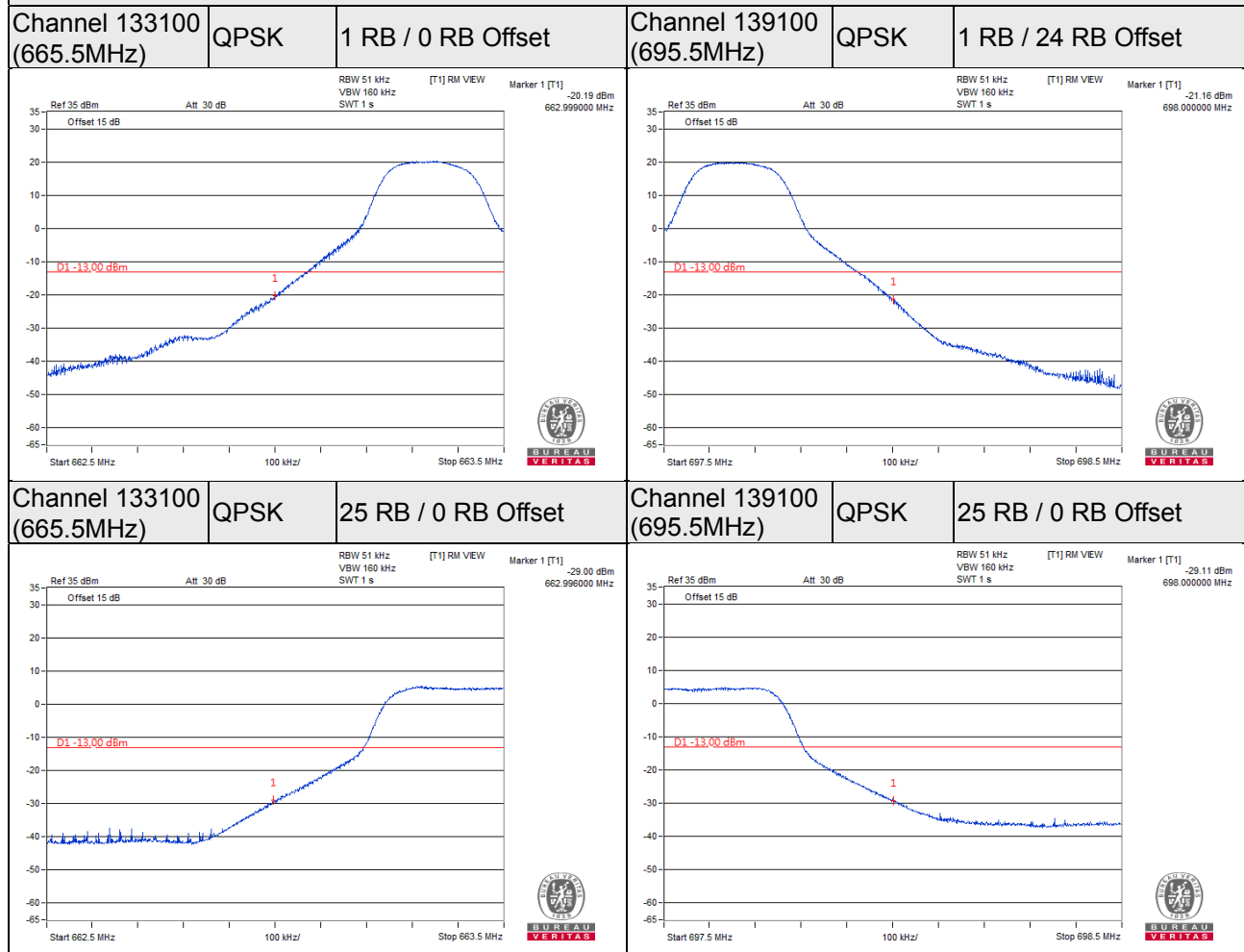
Channel Bandwidth: 20MHz



n71

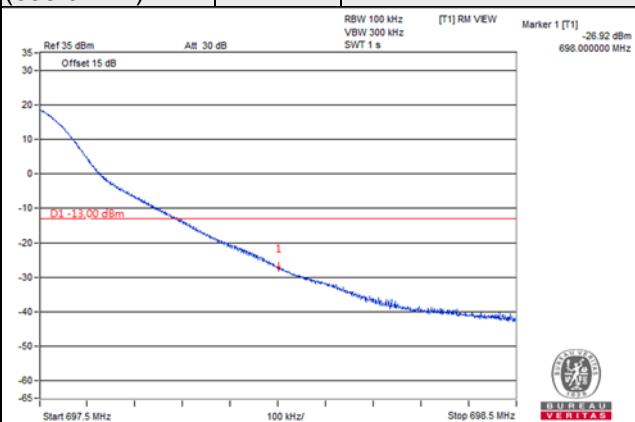
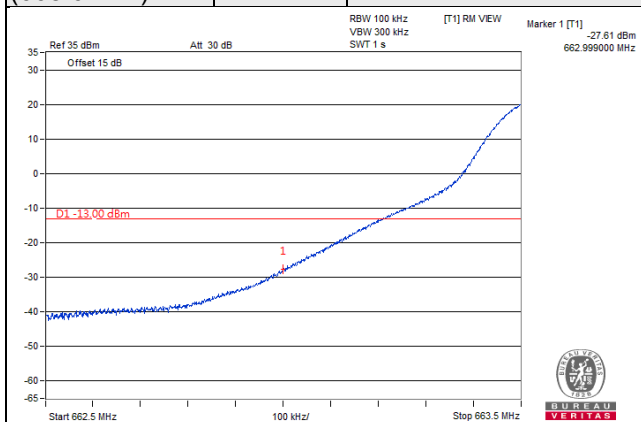
Band edge:

Channel Bandwidth: 5MHz

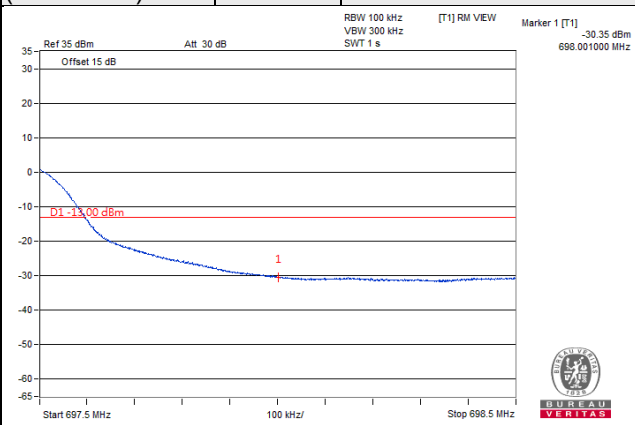
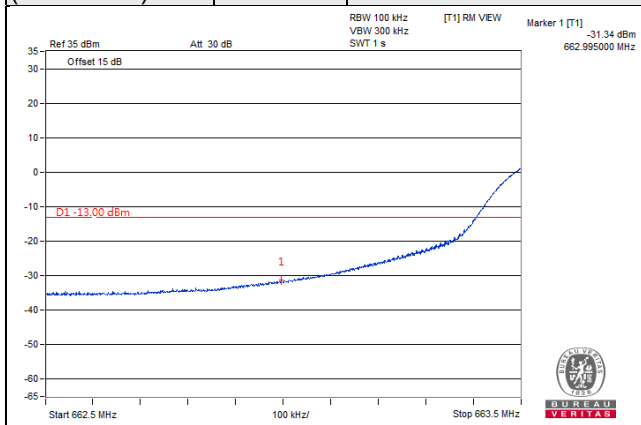


Channel Bandwidth: 10MHz

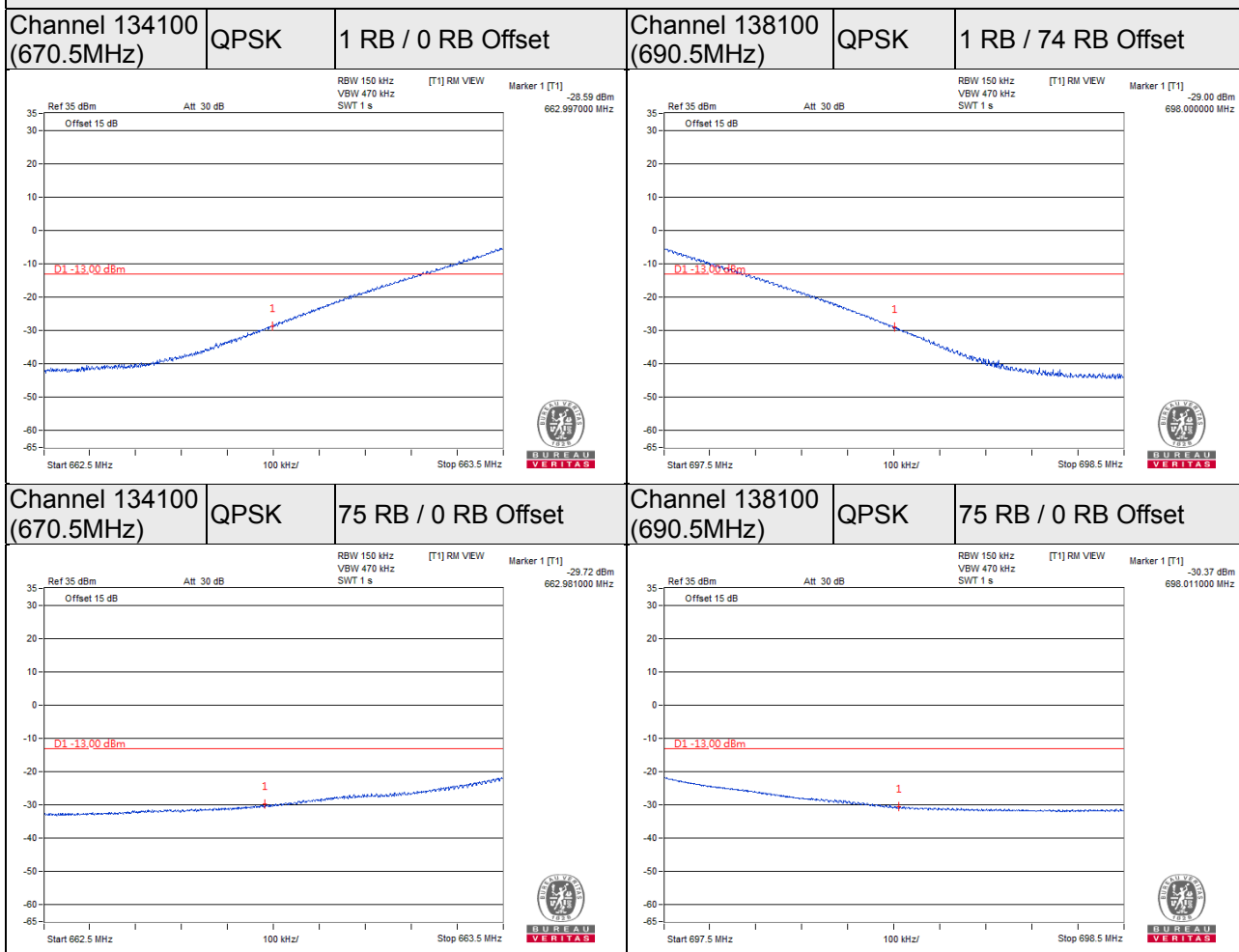
Channel 133600 (668.0MHz)	QPSK	1 RB / 0 RB Offset	Channel 138600 (693.0MHz)	QPSK	1 RB / 49 RB Offset
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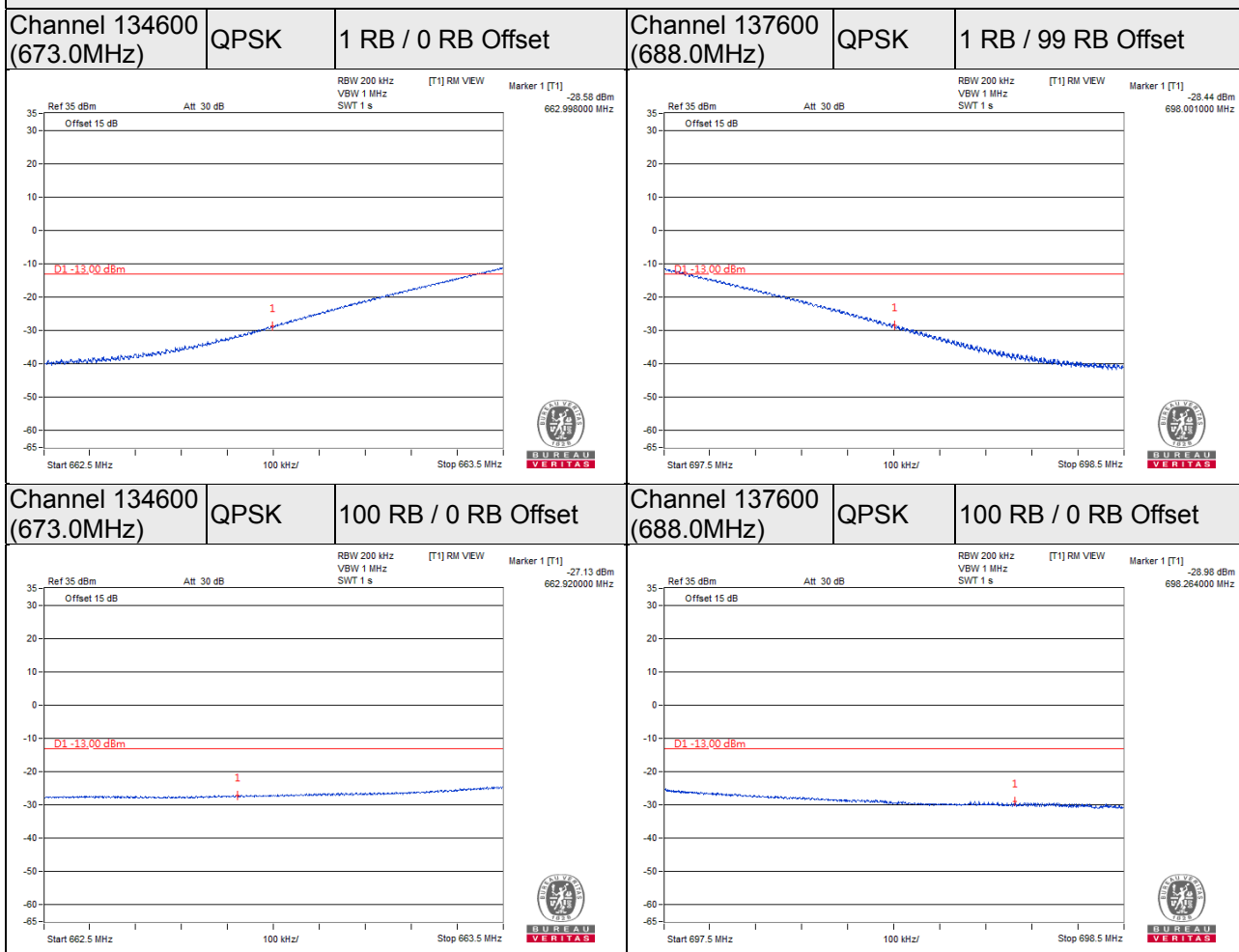
Channel 133600 (668.0MHz)	QPSK	50 RB / 0 RB Offse	Channel 138600 (693.0MHz)	QPSK	50 RB / 0 RB Offset
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Channel Bandwidth: 15MHz



Channel Bandwidth: 20MHz

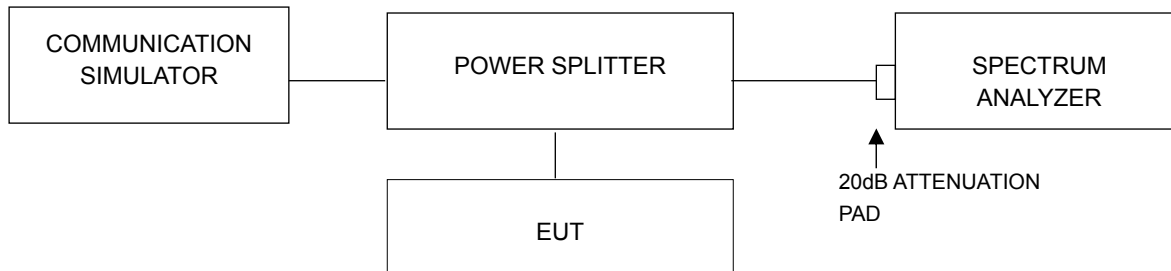


4.6 Peak to Average Ratio

4.6.1 Limits of Peak to Average Ratio Measurement

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

4.6.2 Test Setup



4.6.3 Test Procedures

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

4.6.4 Test Results

n7

n7, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
500500	2502.5	3.60	5.34	5.43
507000	2535.0	3.61	5.34	5.49
513500	2567.5	3.36	4.13	4.18
n7, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
501000	2505.0	3.53	5.16	5.32
507000	2535.0	3.66	5.25	5.44
513000	2565.0	3.31	4.07	4.12
n7, Channel Bandwidth 15MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
501500	2507.5	3.62	4.95	5.01
507000	2535.0	3.47	5.22	5.26
512500	2562.5	3.30	3.94	4.10
n7, Channel Bandwidth 20MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
502000	2510.0	3.61	5.08	5.42
507000	2535.0	3.40	5.17	5.17
512000	2560.0	3.27	3.96	4.11

Spectrum Plot of Worst Value

5MHz / 64QAM



10MHz / 64QAM



15MHz / 64QAM



20MHz / 64QAM



n12

n12, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
140300	701.5	3.49	4.22	4.24
141500	707.5	3.43	4.97	5.06
142700	713.5	3.49	4.93	5.01
n12, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
140800	704.0	3.31	4.56	4.51
141500	707.5	3.19	4.69	4.75
142200	711.0	3.62	5.20	5.16
n12, Channel Bandwidth 15MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
141300	706.5	3.59	4.72	4.80
141500	707.5	3.44	4.92	5.04
141700	708.5	3.32	4.05	4.12

Spectrum Plot of Worst Value

5MHz / 64QAM



10MHz / 16QAM



15MHz / 64QAM



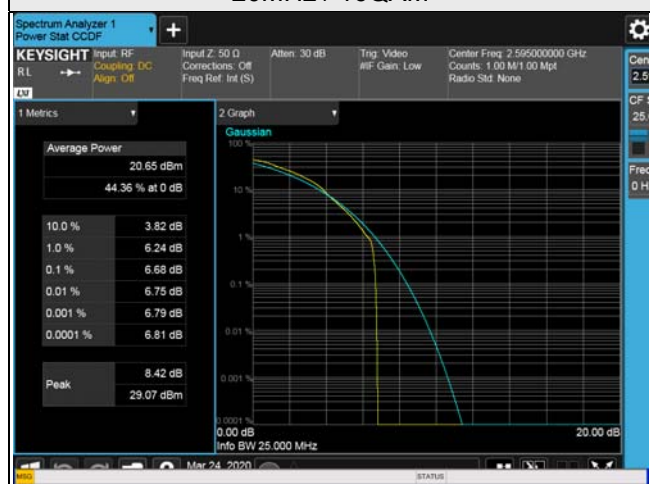
n38

n38, Channel Bandwidth 20MHz

Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
516000	2580.0	4.08	6.42	6.22
519000	2595.0	4.30	6.68	5.67
522000	2610.0	4.17	6.17	6.06

Spectrum Plot of Worst Value

20MHz / 16QAM



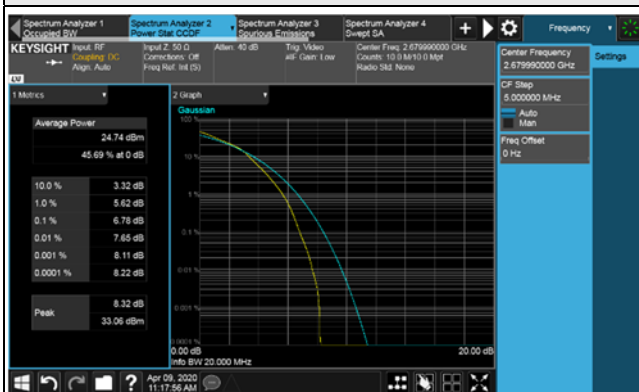
n41

n41, Channel Bandwidth 20MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
501204	2506.02	5.02	6.18	6.13
518598	2592.99	5.76	6.49	6.51
535998	2679.99	6.03	6.78	6.66
n41, Channel Bandwidth 40MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
503202	2516.01	6.68	6.63	6.91
518598	2592.99	6.80	6.81	7.18
534000	2670.00	6.73	6.79	7.29
n41, Channel Bandwidth 50MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
504204	2521.02	5.45	5.53	5.70
518598	2592.99	6.46	6.96	7.35
532998	2664.99	6.39	6.82	7.24
n41, Channel Bandwidth 60MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
505200	2526.00	6.99	7.05	7.44
518598	2592.99	6.68	6.70	7.10
531996	2659.98	6.67	6.68	7.10

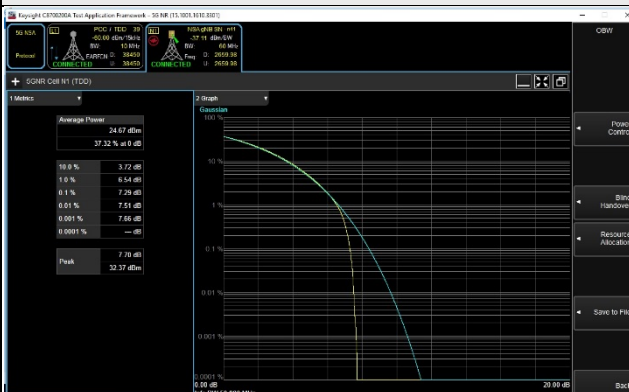
n41, Channel Bandwidth 80MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
507204	2536.02	7.24	7.22	7.67
518598	2592.99	7.03	6.99	7.50
529998	2649.99	6.71	6.70	7.21
n41, Channel Bandwidth 90MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
508200	2541.00	7.25	7.35	7.60
518598	2592.99	7.07	7.07	7.38
528996	2644.98	6.66	6.68	7.15
n41, Channel Bandwidth 100MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
509202	2546.01	5.69	6.24	6.38
518598	2592.99	6.82	6.85	7.23
528000	2640.00	8.04	7.93	8.05

Spectrum Plot of Worst Value

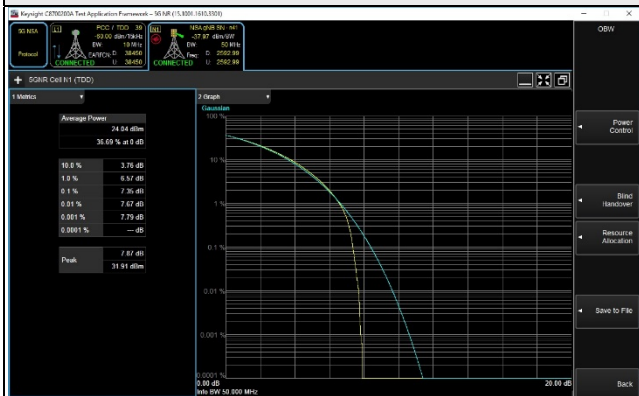
20MHz / 16QAM



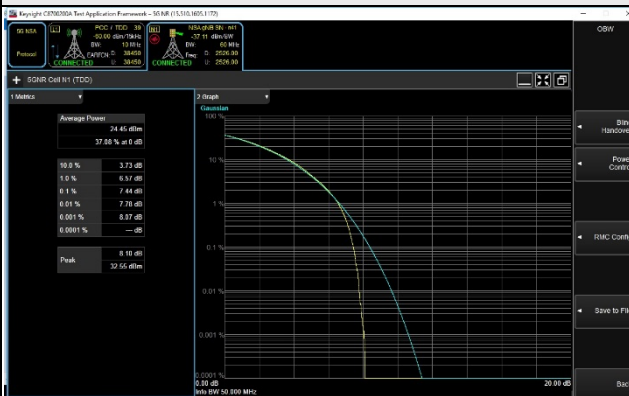
40MHz / 64QAM



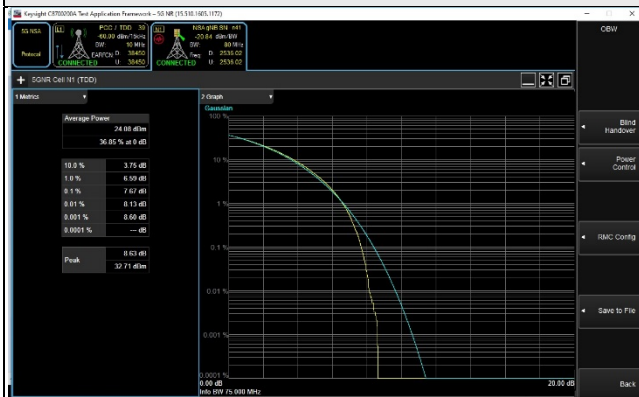
50MHz / 64QAM



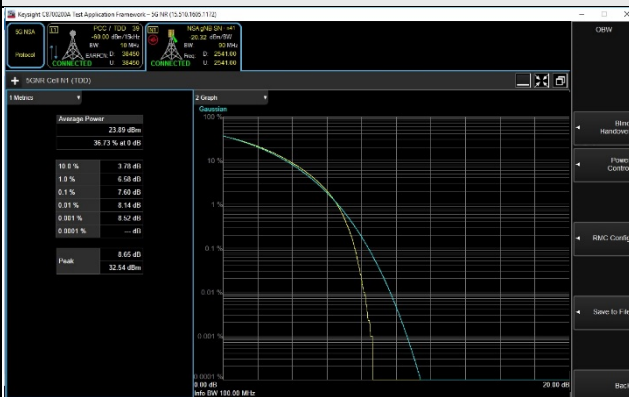
60MHz / 64QAM



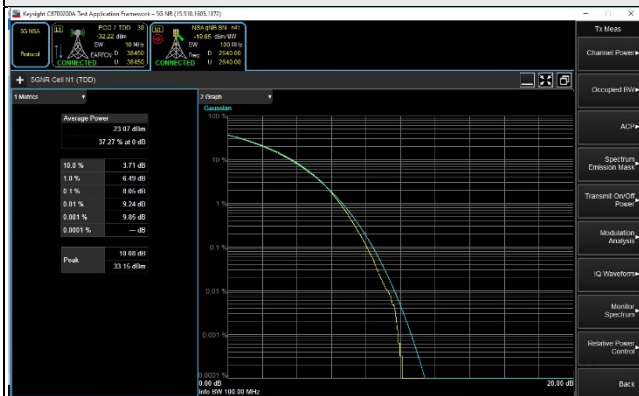
80MHz / 64QAM



90MHz / 64QAM



100MHz / 64QAM



n66

n66, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
342500	1712.5	3.67	4.76	4.88
349000	1745.0	3.64	5.16	5.29
355500	1777.5	3.67	5.28	5.45
n66, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
343000	1715.0	3.62	4.39	4.46
349000	1745.0	3.72	4.56	4.58
355000	1775.0	3.81	4.57	4.55
n66, Channel Bandwidth 15MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
343500	1717.5	3.62	4.47	4.52
349000	1745.0	3.59	4.38	4.45
354500	1772.5	3.59	4.49	4.56
n66, Channel Bandwidth 20MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
344000	1720.0	3.66	4.48	4.55
349000	1745.0	3.56	4.35	4.47
354000	1770.0	3.41	5.24	5.32

Spectrum Plot of Worst Value

5MHz / 64QAM



10MHz / 64QAM



15MHz / 64QAM



20MHz / 64QAM



n71

n71, Channel Bandwidth 5MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
133100	665.5	3.53	5.19	6.73
136100	680.5	3.53	4.40	7.07
139100	695.5	3.59	4.72	6.83
n71, Channel Bandwidth 10MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
133600	668	3.59	5.11	6.66
136100	680.5	3.63	5.01	6.89
138600	693	3.78	4.94	6.78
n71, Channel Bandwidth 15MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
134100	670.5	3.32	5.06	6.49
136100	680.5	3.52	4.91	6.94
138100	690.5	3.48	5.35	6.97
n71, Channel Bandwidth 20MHz				
Channel	Frequency (MHz)	Peak To Average Ratio (dB)		
		QPSK	16QAM	64QAM
134600	673	3.45	5.04	6.54
136100	680.5	3.65	5.31	6.92
137600	688	3.34	4.58	6.79

Spectrum Plot of Worst Value

5MHz / 64QAM



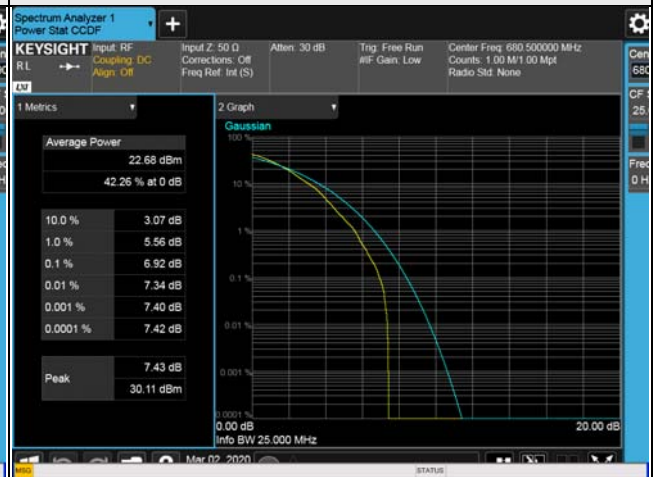
10MHz / 64QAM



15MHz / 64QAM



20MHz / 64QAM



4.7 Conducted Spurious Emissions

4.7.1 Limits of Conducted Spurious Emissions Measurement

For n66

In the FCC 27.53(h), On any frequency outside a licensee's frequency block, The power of any emission shall be attenuated below the transmitter power (P) by at least $43 + 10 \log (P)$ dB. The emission limit equal to -13dBm .

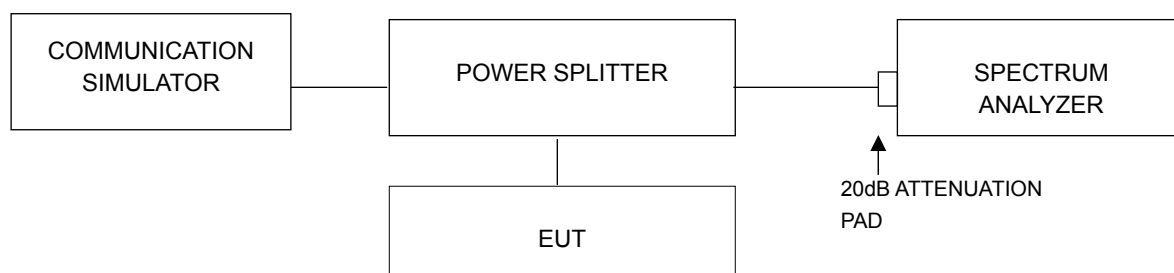
For n7, n38, n41

In the FCC 27.53(m)(4), On any frequency outside a licensee's frequency block, The power of any emission shall be attenuated below the transmitter power (P) by at least $55 + 10 \log (P)$ dB. The emission limit equal to -25dBm .

For n12, n71

According to FCC 27.53(g) for operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater.

4.7.2 Test Setup



4.7.3 Test Procedure

- All measurements were done at 3 channels: low, middle and high operational frequency range.
- When the spectrum scanned from 9kHz to 7GHz / 8GHz / 18GHz / 26GHz / 27GHz / 30GHz, it shall be connected to the attenuator with the carried frequency.

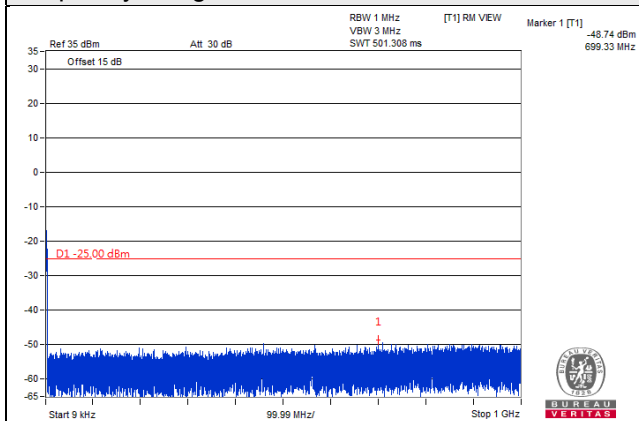
4.7.4 Test Results

n7

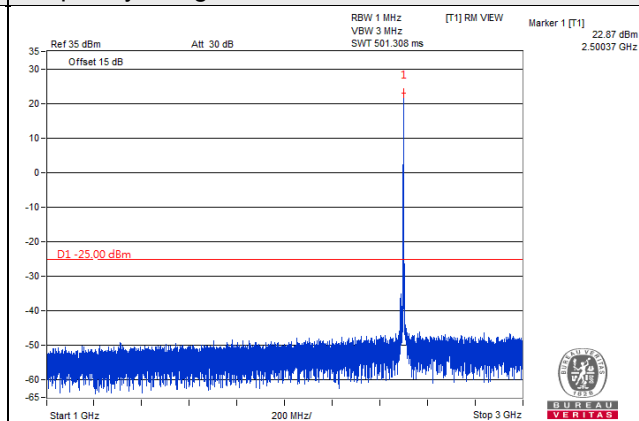
Channel Band width: 5MHz

Channel 500500(2502.5MHz)

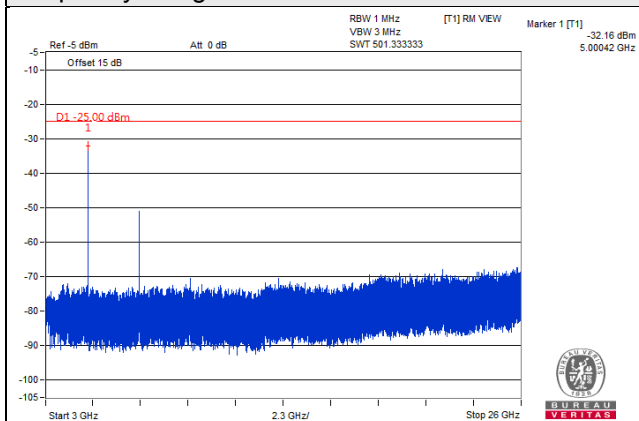
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~26GHz

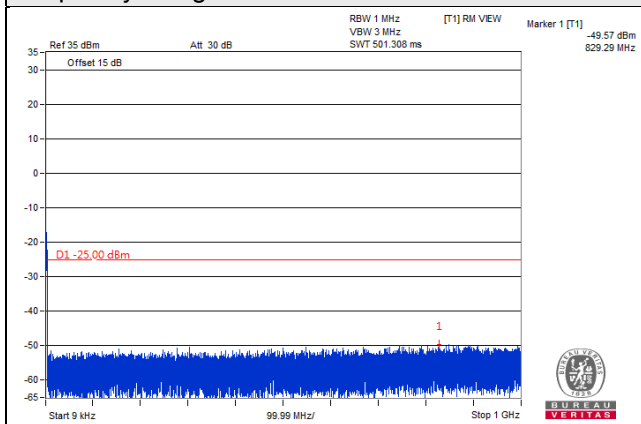


*The 9kHz signal over the limit is from Spectrum.

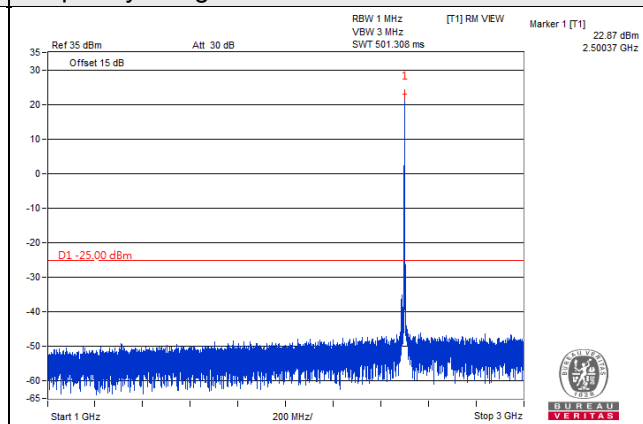
Channel Band width: 5MHz

Channel 507000(2535MHz)

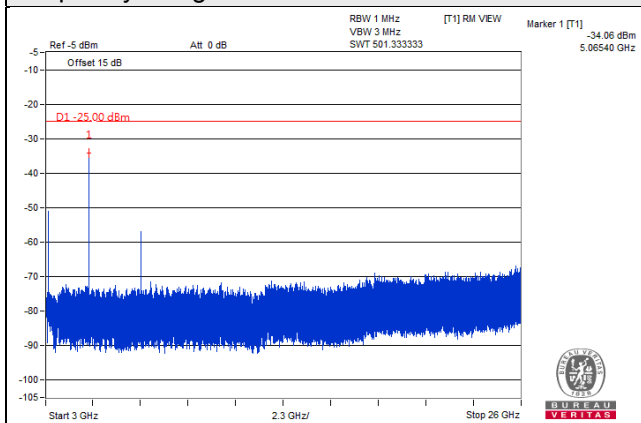
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~26GHz

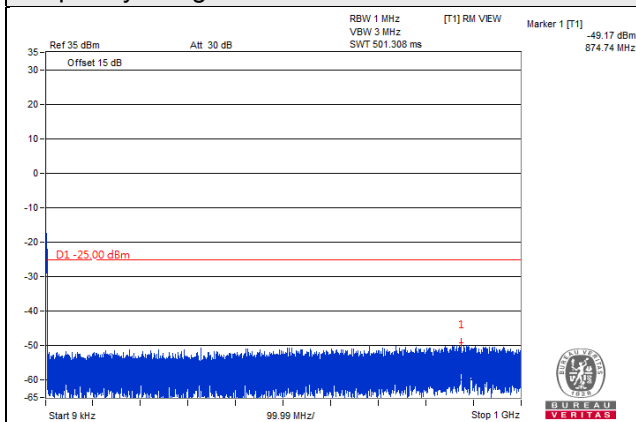


*The 9kHz signal over the limit is from Spectrum.

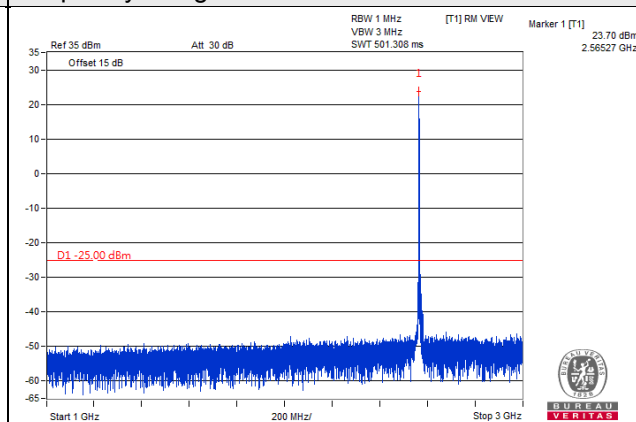
Channel Band width: 5MHz

Channel 513500(2567.5MHz)

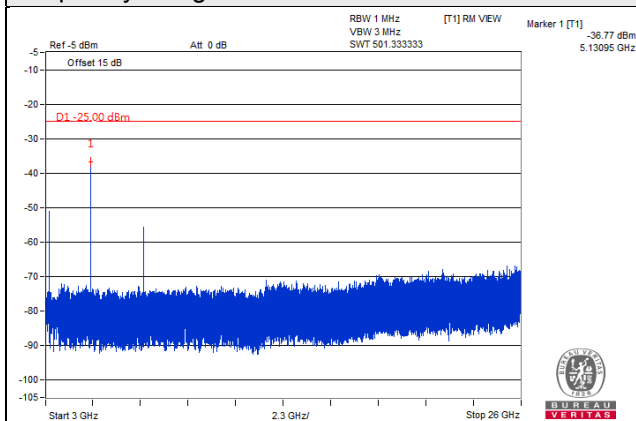
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~26GHz

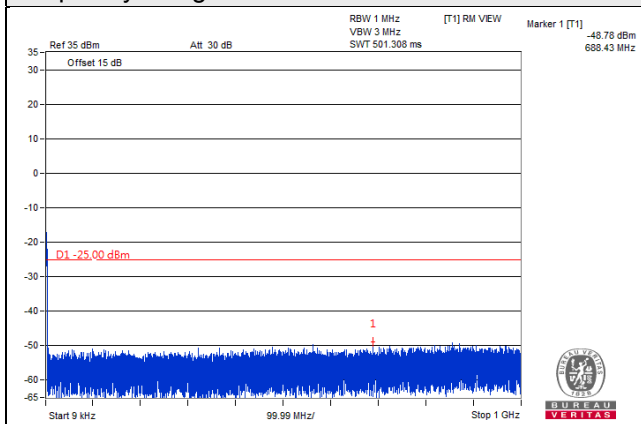


*The 9kHz signal over the limit is from Spectrum.

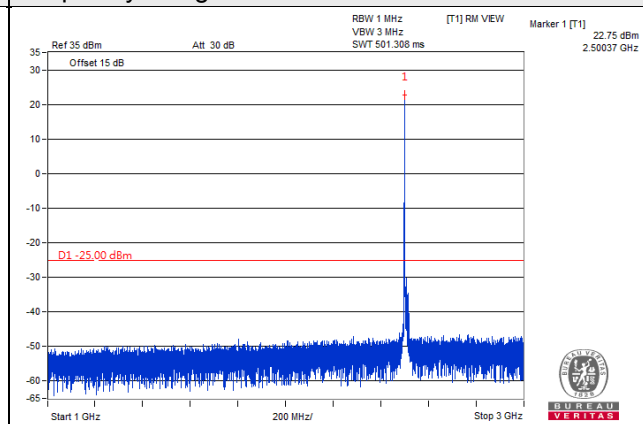
Channel Band width: 10MHz

Channel 501000(2505MHz)

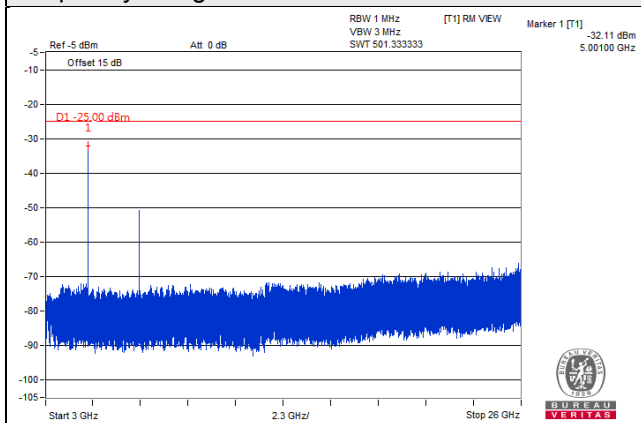
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~26GHz

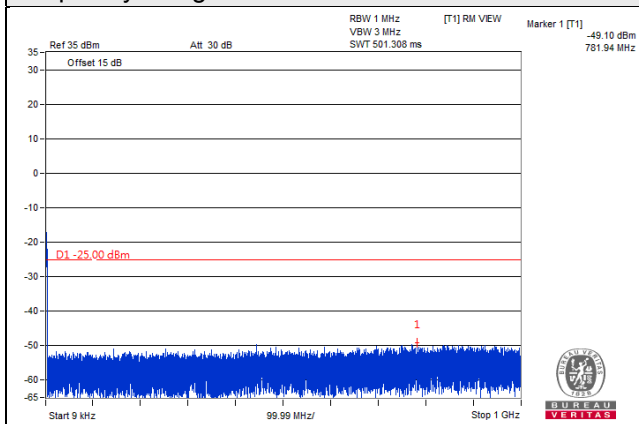


*The 9kHz signal over the limit is from Spectrum.

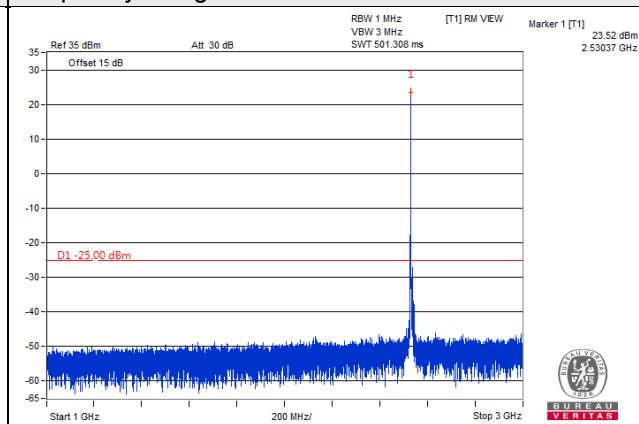
Channel Band width: 10MHz

Channel 507000(2535MHz)

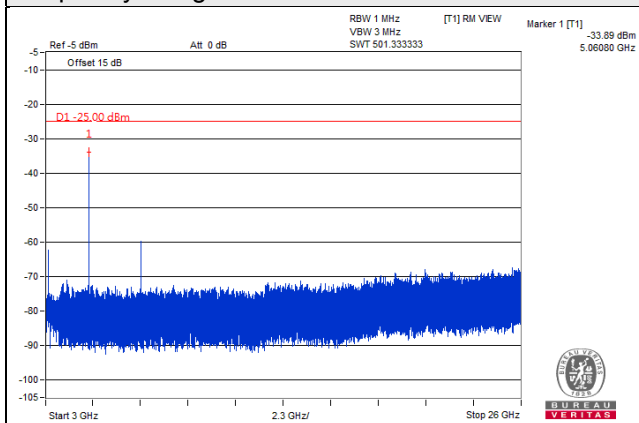
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~26GHz

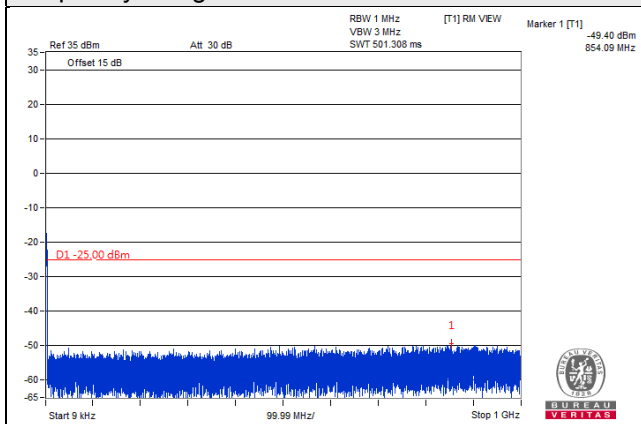


*The 9kHz signal over the limit is from Spectrum.

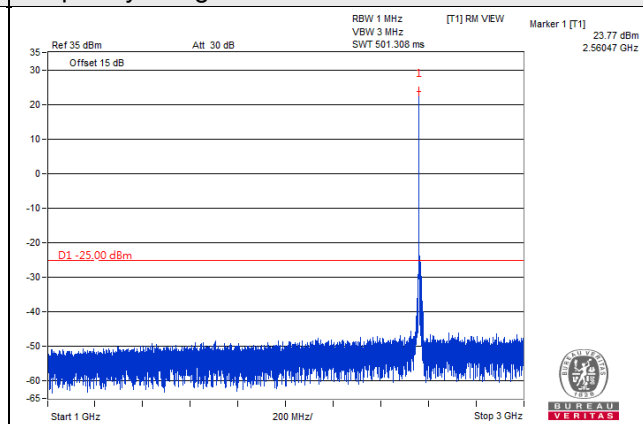
Channel Band width: 10MHz

Channel 513000(2565MHz)

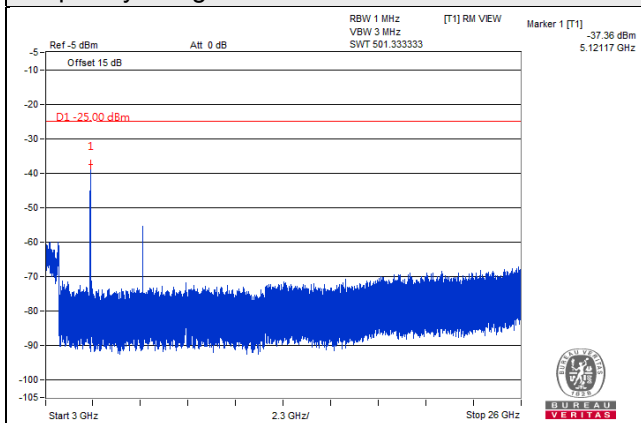
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~26GHz

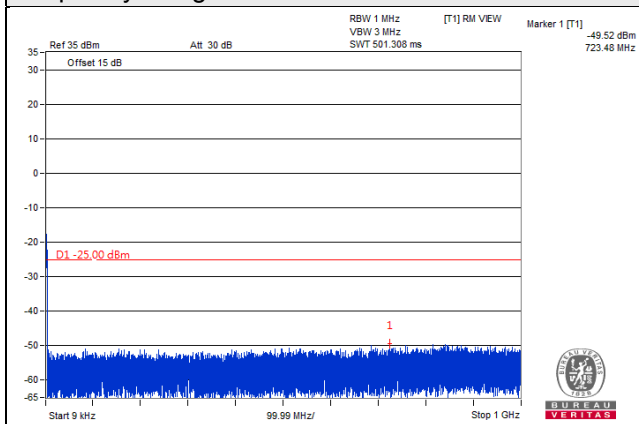


*The 9kHz signal over the limit is from Spectrum.

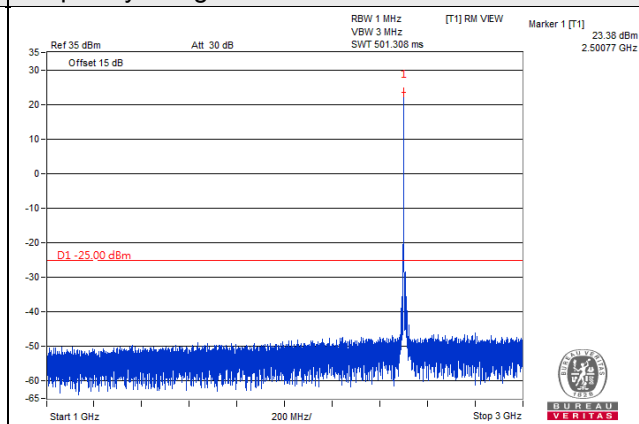
Channel Band width: 15MHz

Channel 501500(2507.5MHz)

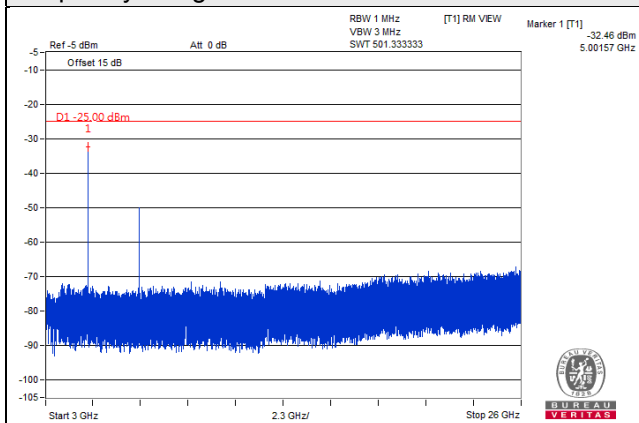
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~26GHz

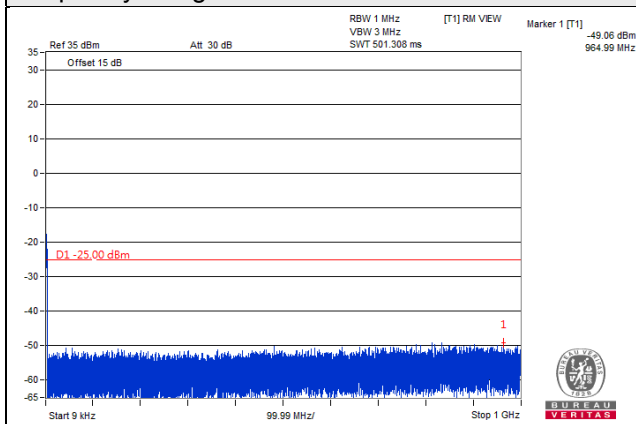


*The 9kHz signal over the limit is from Spectrum.

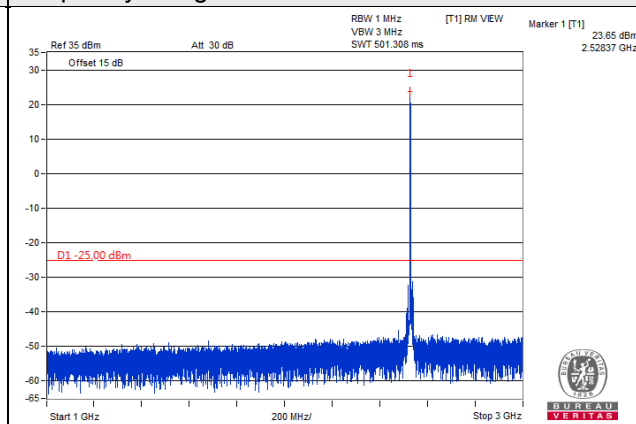
Channel Band width: 15MHz

Channel 507000(2535MHz)

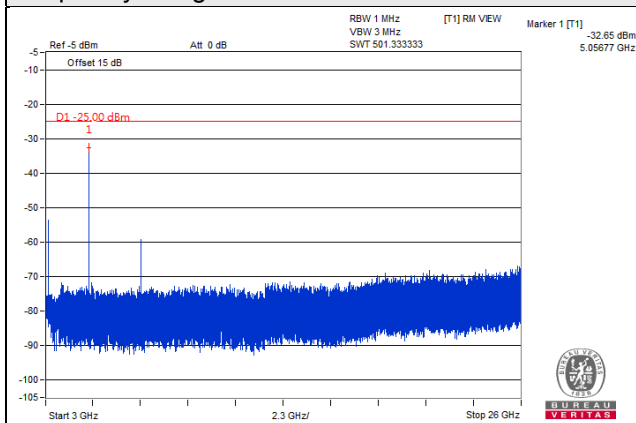
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~26GHz

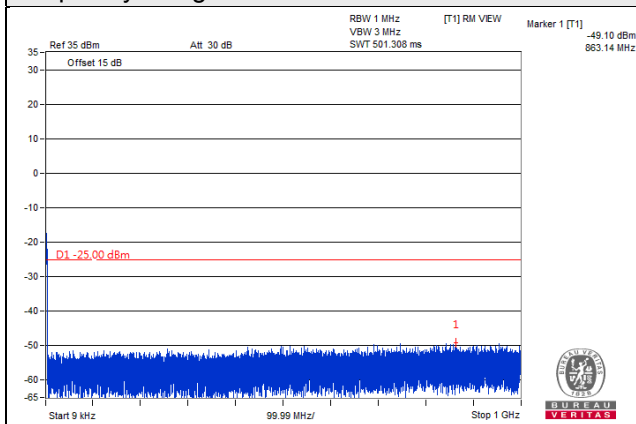


*The 9kHz signal over the limit is from Spectrum.

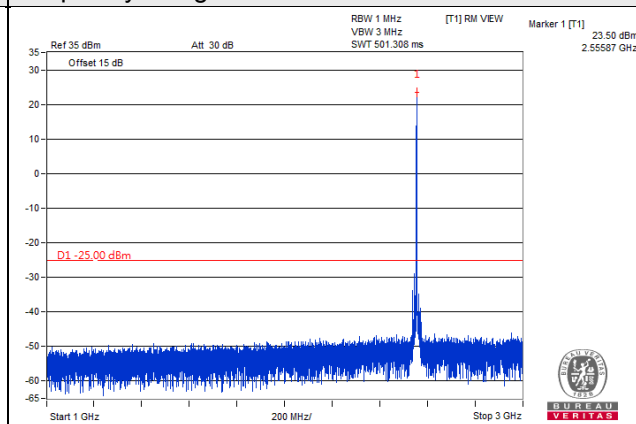
Channel Band width: 15MHz

Channel 512500(2562.5MHz)

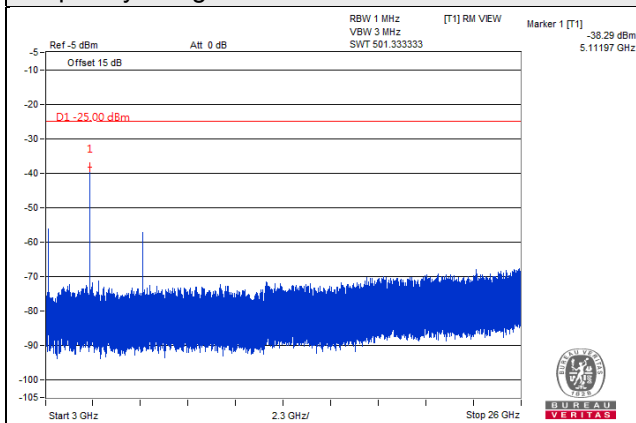
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~26GHz

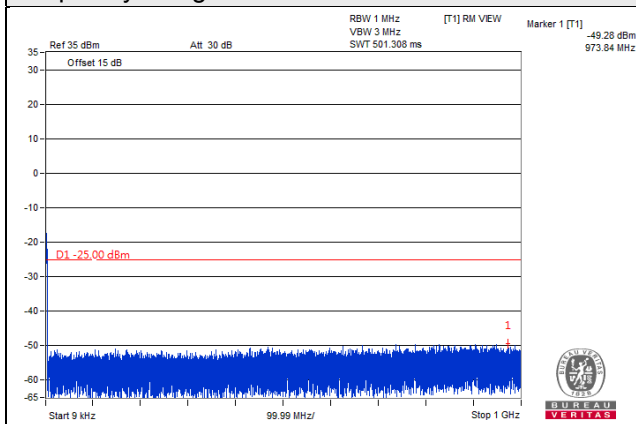


*The 9kHz signal over the limit is from Spectrum.

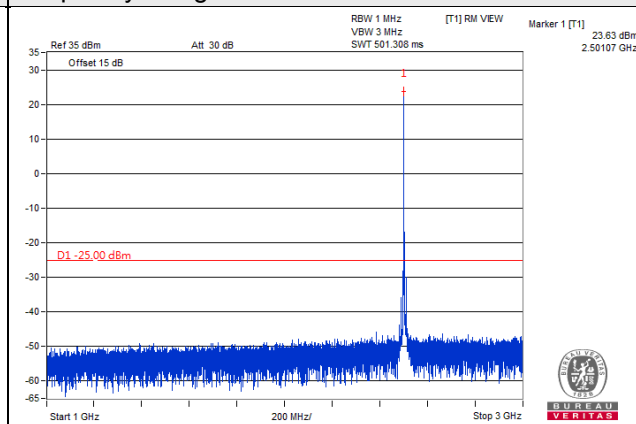
Channel Band width: 20MHz

Channel 502000(2510MHz)

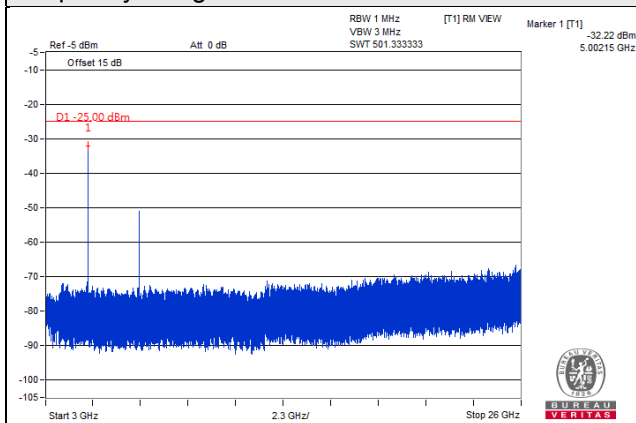
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~26GHz

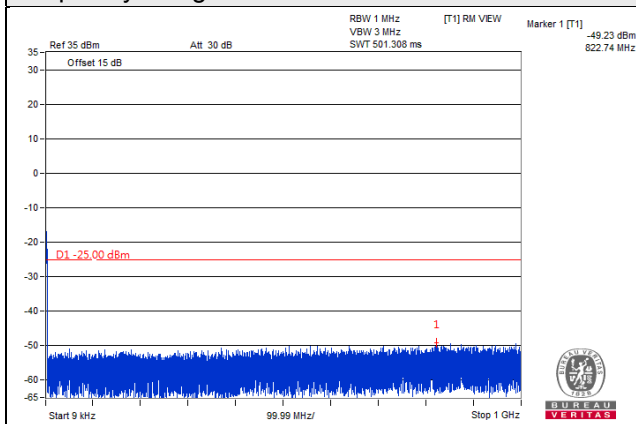


*The 9kHz signal over the limit is from Spectrum.

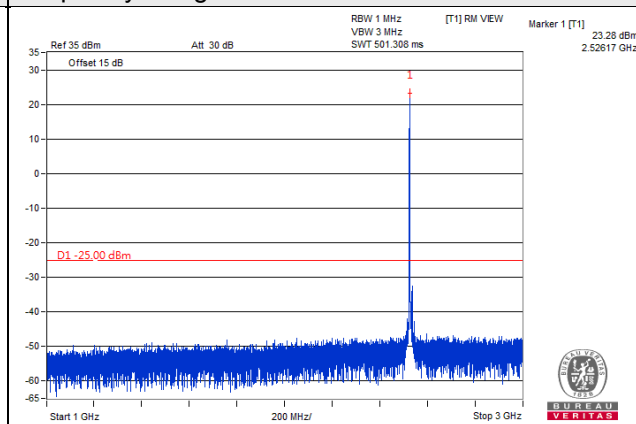
Channel Band width: 20MHz

Channel 507000(2535MHz)

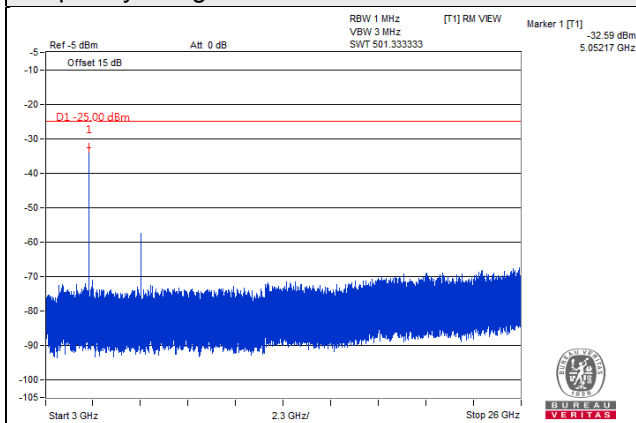
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~26GHz

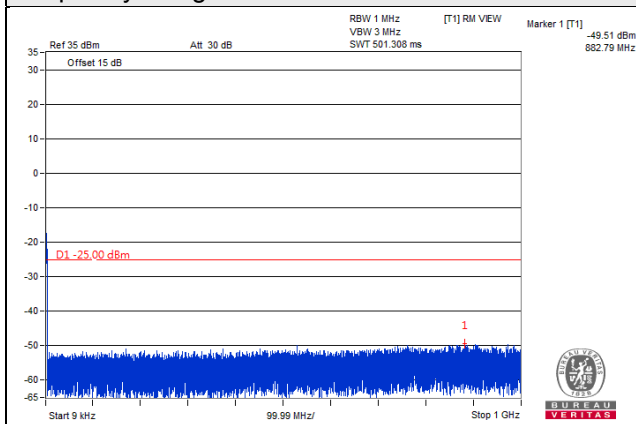


*The 9kHz signal over the limit is from Spectrum.

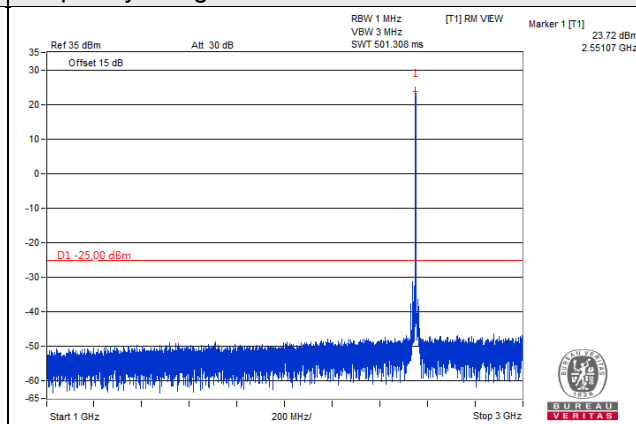
Channel Band width: 20MHz

Channel 512000(2560MHz)

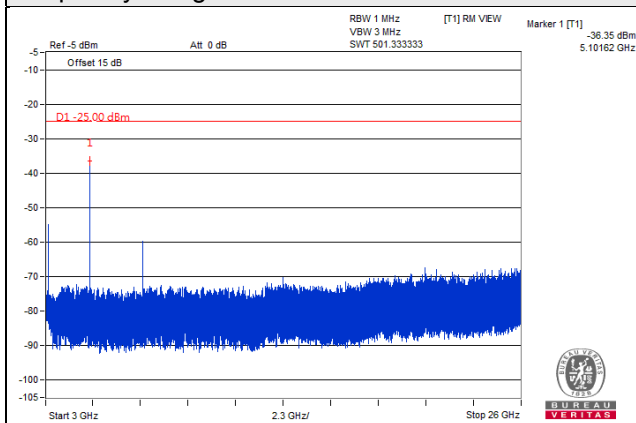
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~26GHz



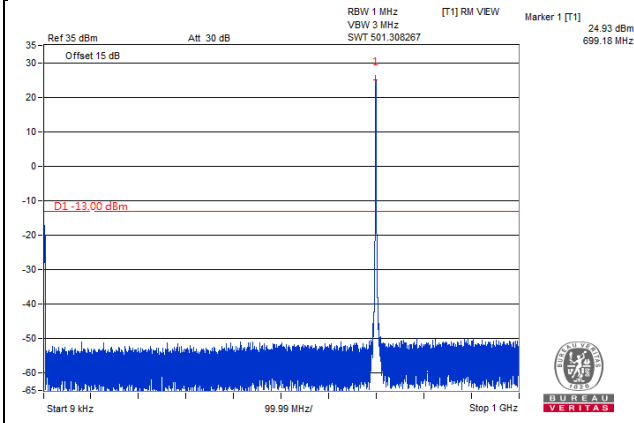
*The 9kHz signal over the limit is from Spectrum.

n12

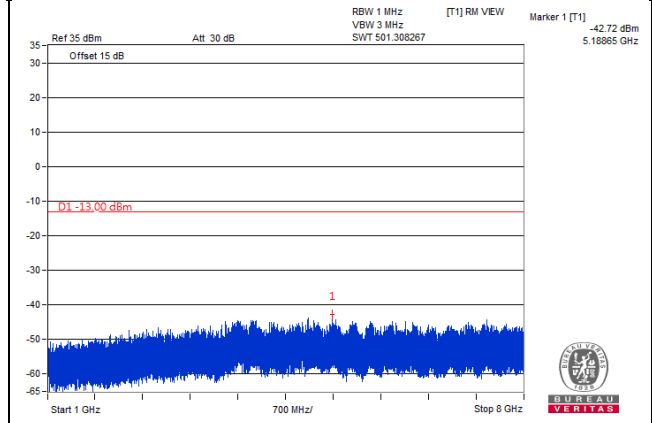
Channel Band width: 5MHz

Channel 140300 (701.5MHz)

Frequency Range : 9kHz~1GHz

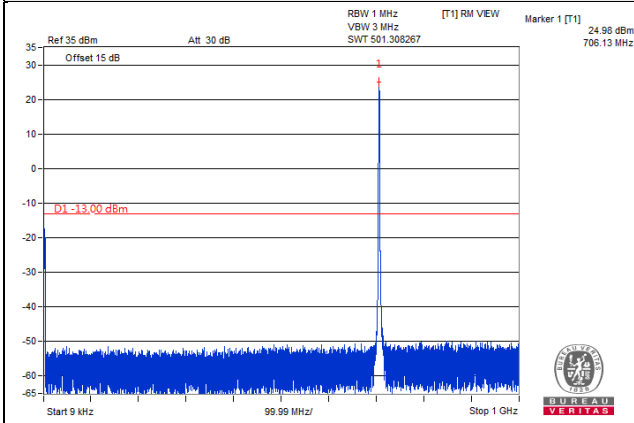


Frequency Range : 1GHz~8GHz

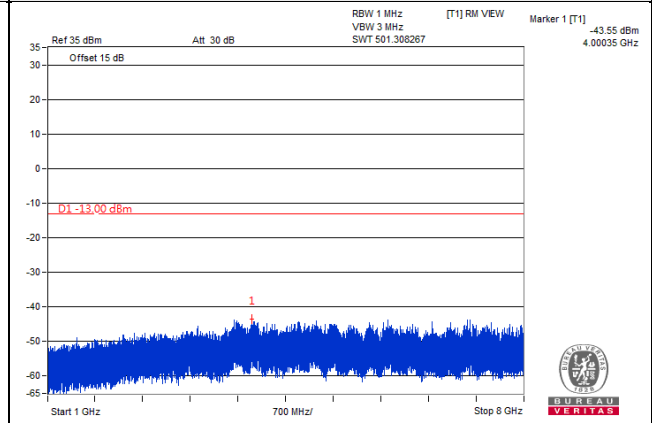


Channel 141500 (707.5MHz)

Frequency Range : 9kHz~1GHz

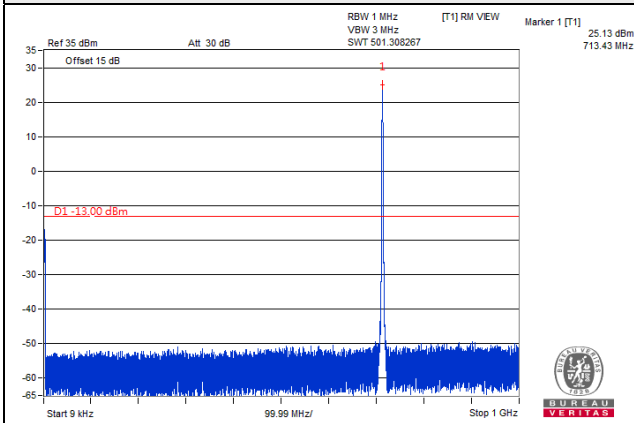


Frequency Range : 1GHz~8GHz

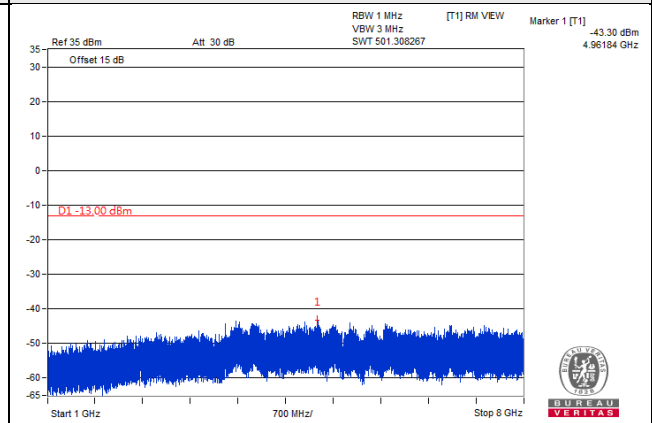


Channel 142700 (713.5MHz)

Frequency Range : 9kHz~1GHz



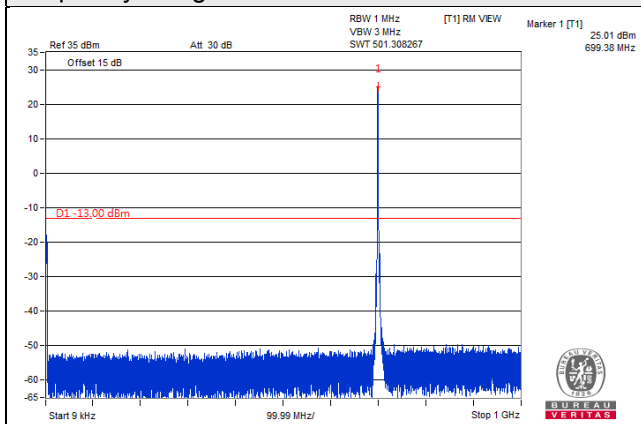
Frequency Range : 1GHz~8GHz



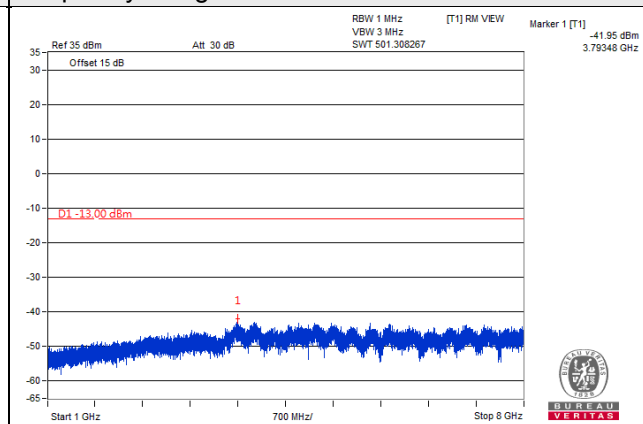
Channel Band width: 10MHz

Channel 140800 (704MHz)

Frequency Range : 9kHz~1GHz

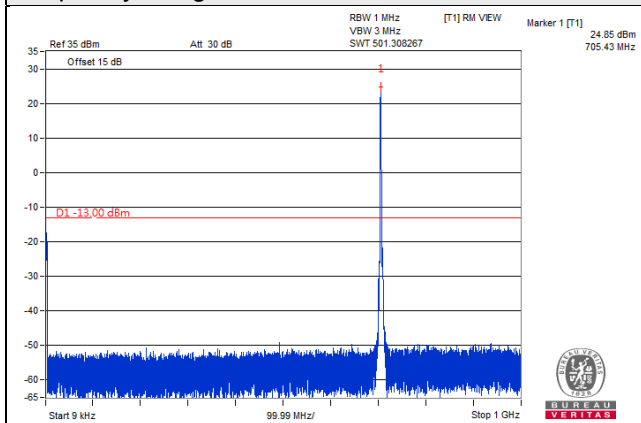


Frequency Range : 1GHz~8GHz

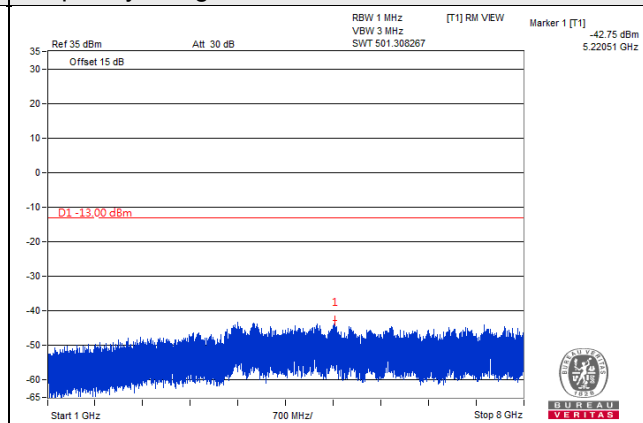


Channel 141500 (707.5MHz)

Frequency Range : 9kHz~1GHz

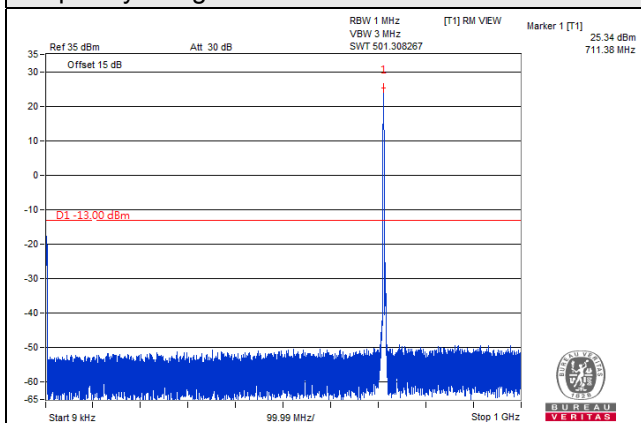


Frequency Range : 1GHz~8GHz

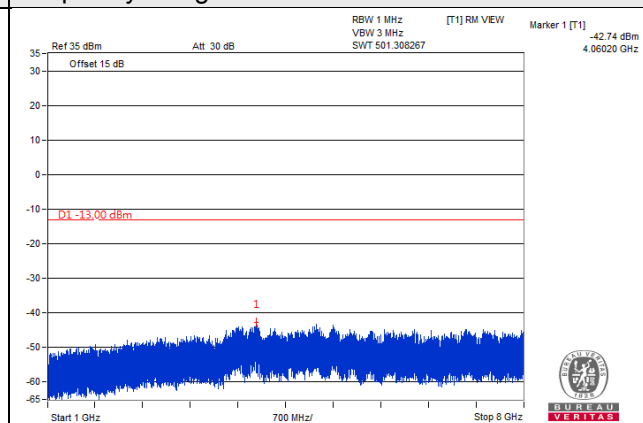


Channel 142200 (711MHz)

Frequency Range : 9kHz~1GHz



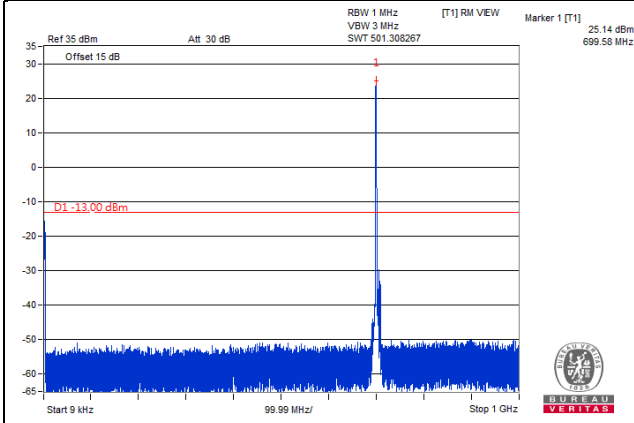
Frequency Range : 1GHz~8GHz



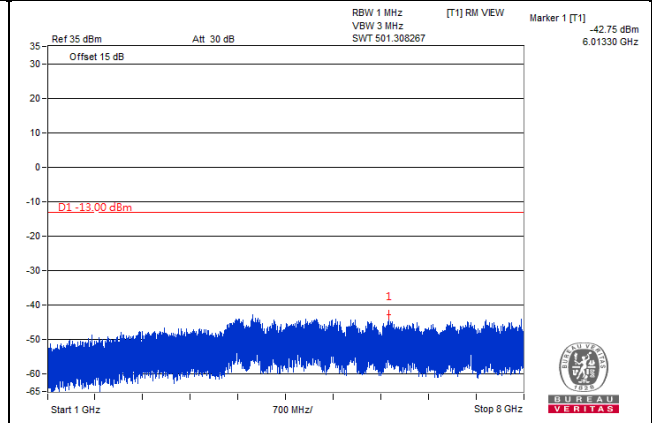
Channel Band width: 15MHz

Channel 141300 (706.5MHz)

Frequency Range : 9kHz~1GHz

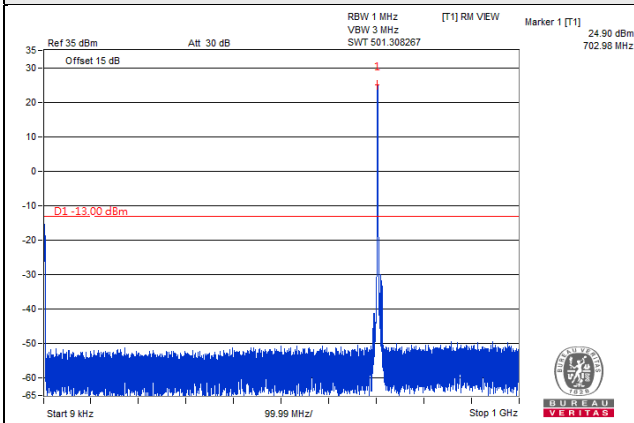


Frequency Range : 1GHz~8GHz

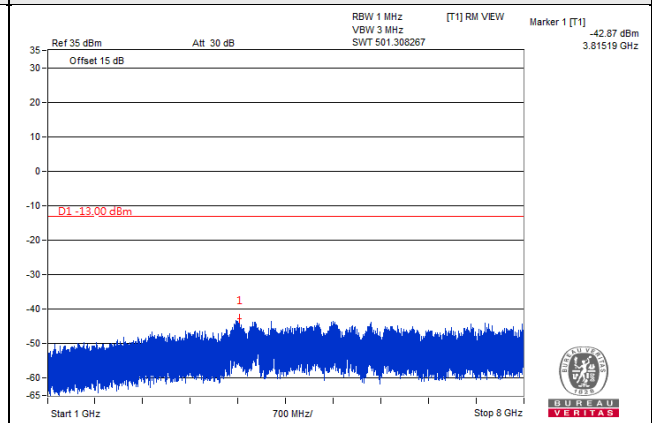


Channel 141500 (707.5MHz)

Frequency Range : 9kHz~1GHz

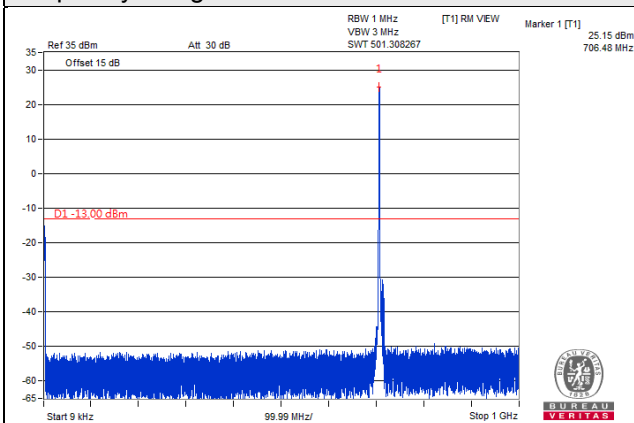


Frequency Range : 1GHz~8GHz

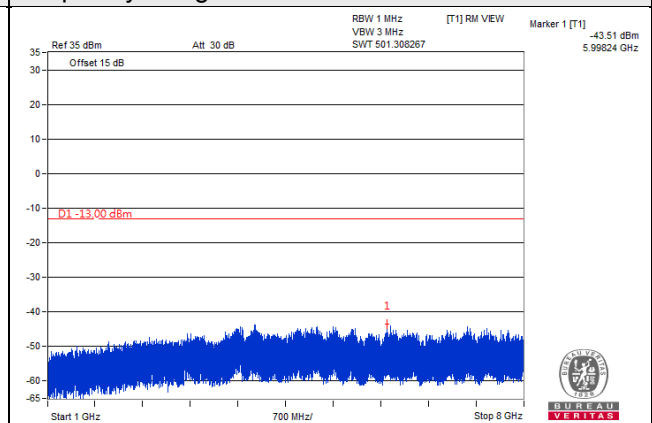


Channel 141700 (708.5MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~8GHz

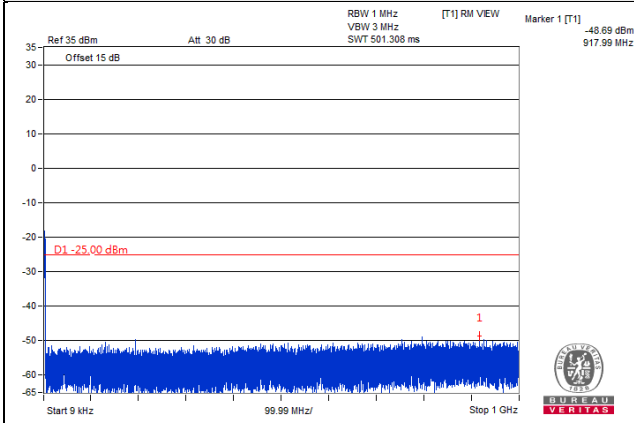


n38

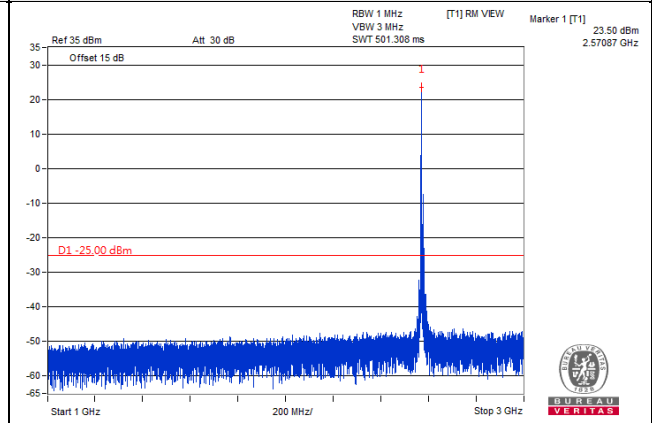
Channel Band width: 20MHz

Channel 516000(2580.0MHz)

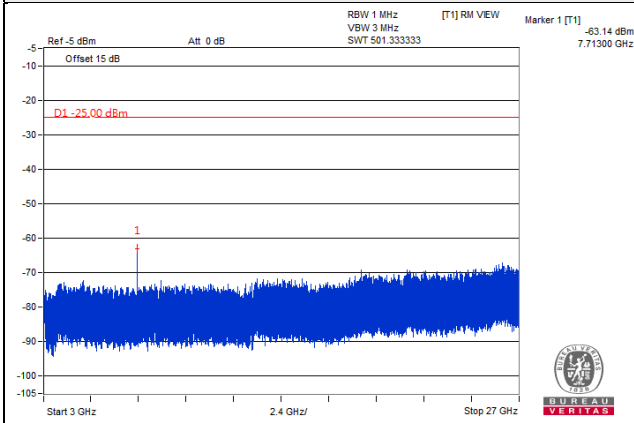
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~27GHz

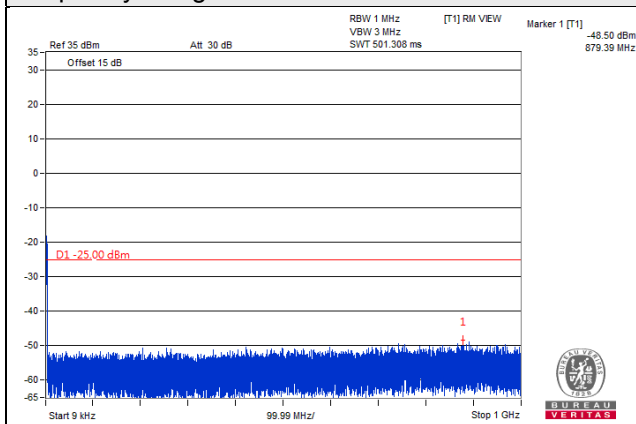


*The 9kHz signal over the limit is from Spectrum.

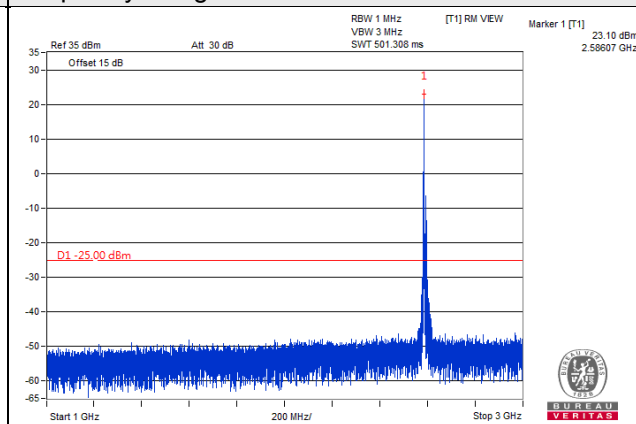
Channel Band width: 20MHz

Channel 519000(2595.0MHz)

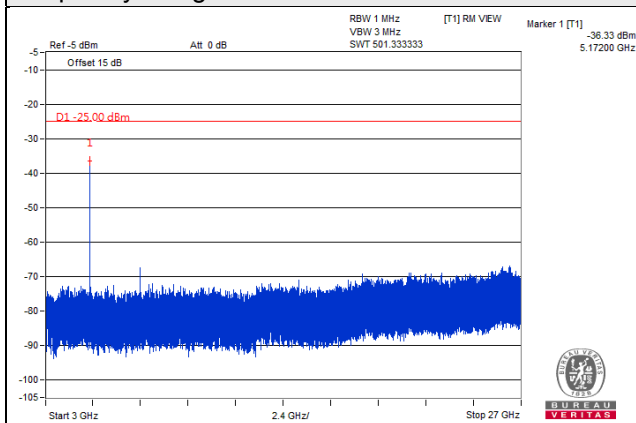
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~27GHz

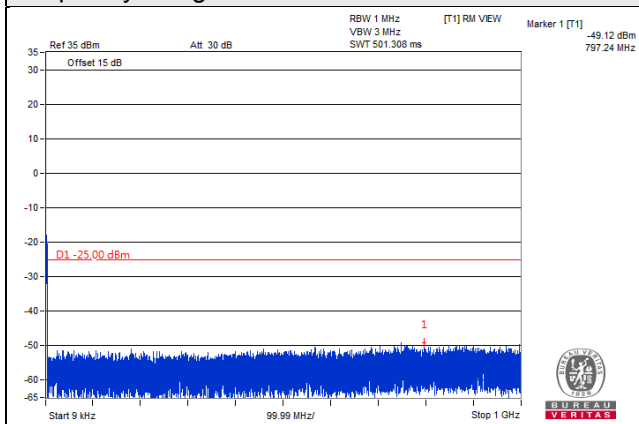


*The 9kHz signal over the limit is from Spectrum.

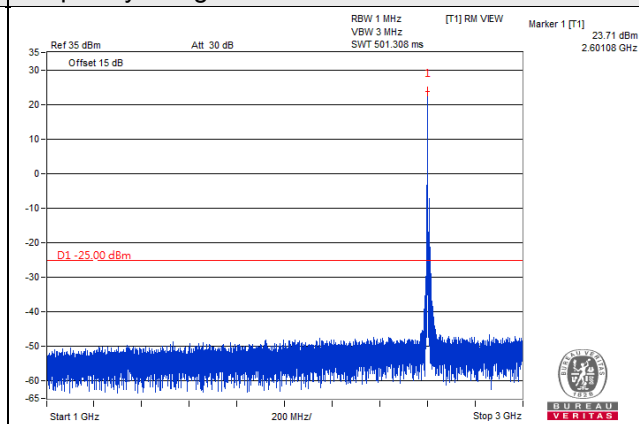
Channel Band width: 20MHz

Channel 522000(2610.0MHz)

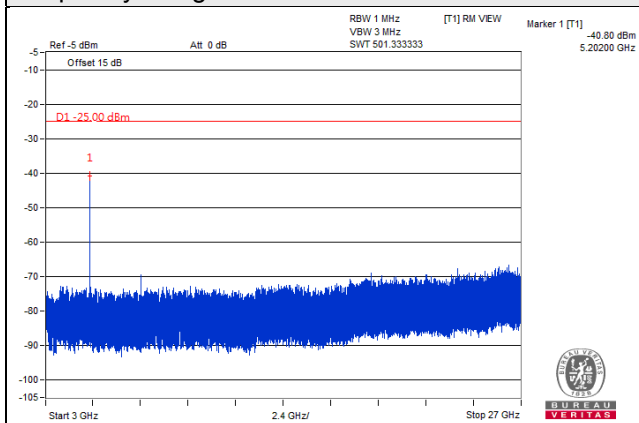
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~3GHz



Frequency Range : 3GHz~27GHz



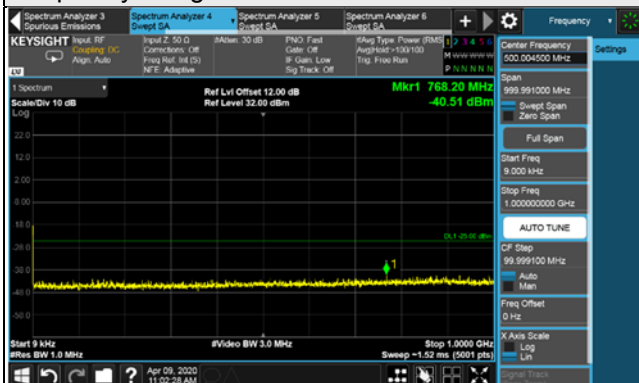
*The 9kHz signal over the limit is from Spectrum.

n41

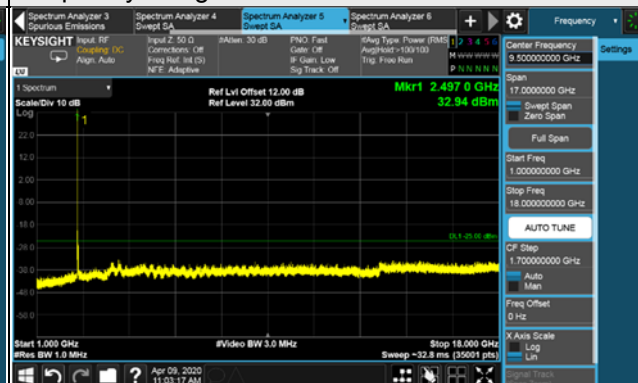
Channel Bandwidth: 20MHz

Channel 501204 (2506.02MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~18GHz



Frequency Range : 18GHz~30GHz

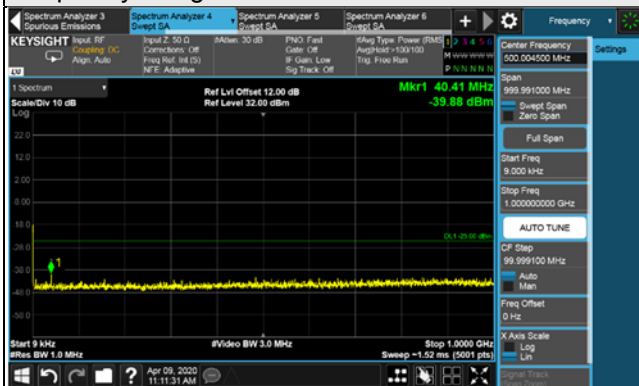


*The 9kHz signal over the limit is from Spectrum.

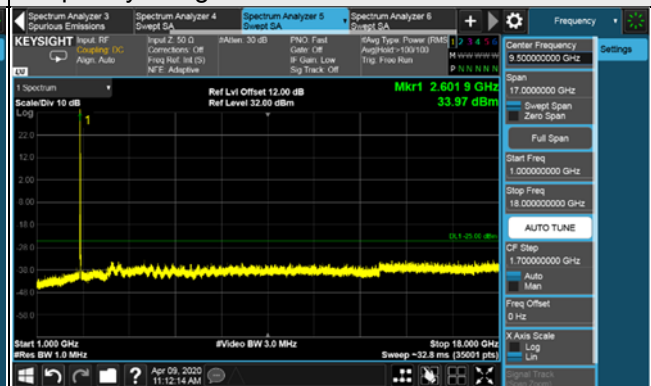
Channel Bandwidth: 20MHz

Channel 518598 (2592.99MHz)

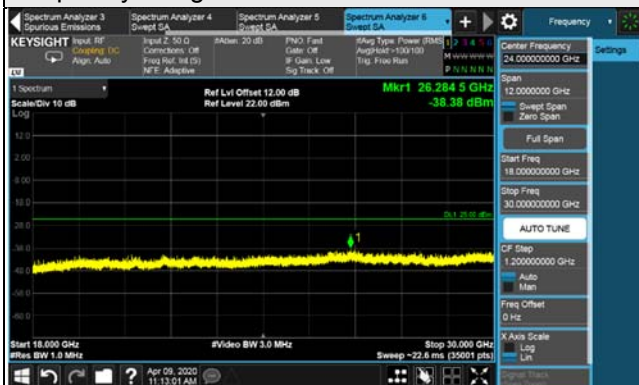
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~18GHz



Frequency Range : 18GHz~30GHz

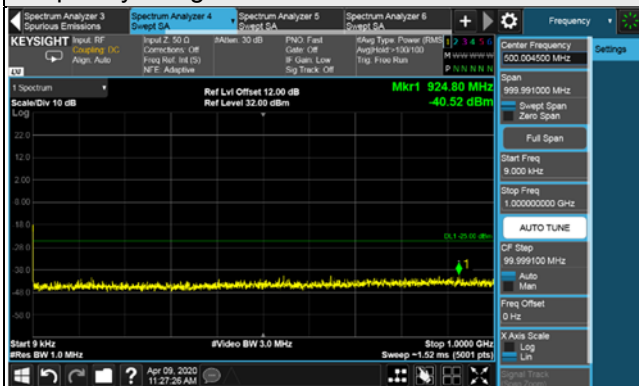


*The 9kHz signal over the limit is from Spectrum.

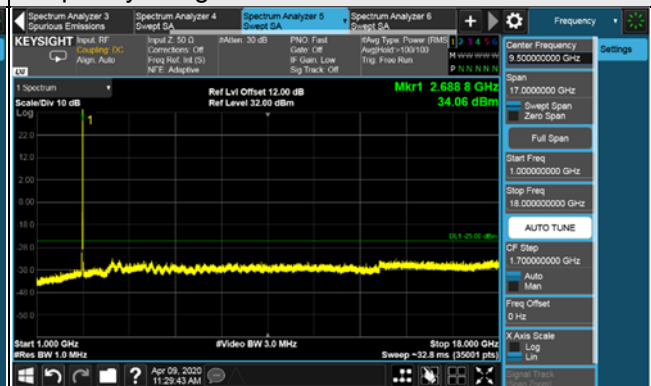
Channel Bandwidth: 20MHz

Channel 535998 (2679.99MHz)

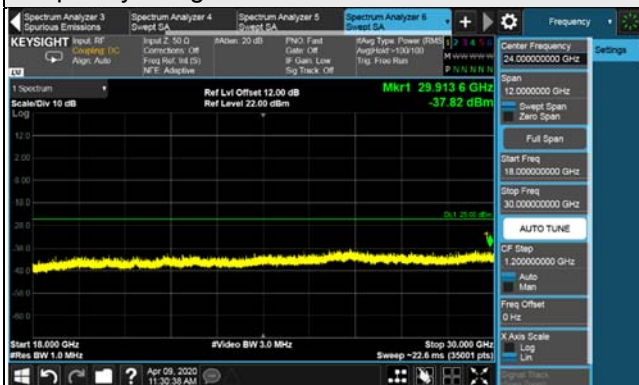
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~18GHz



Frequency Range : 18GHz~30GHz

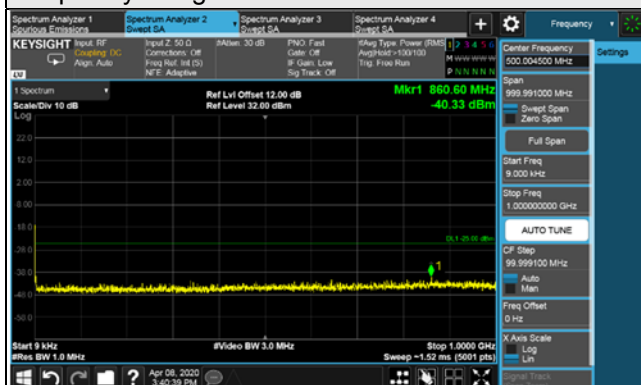


*The 9kHz signal over the limit is from Spectrum.

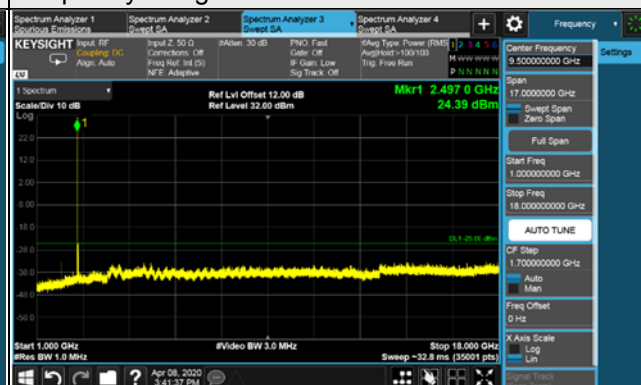
Channel Bandwidth: 40MHz

Channel 503202 (2516.01MHz)

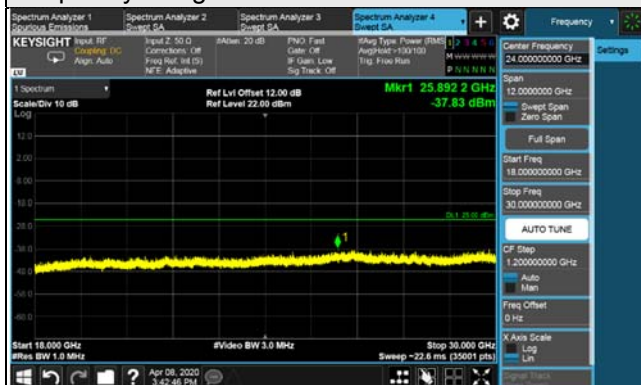
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~18GHz



Frequency Range : 18GHz~30GHz

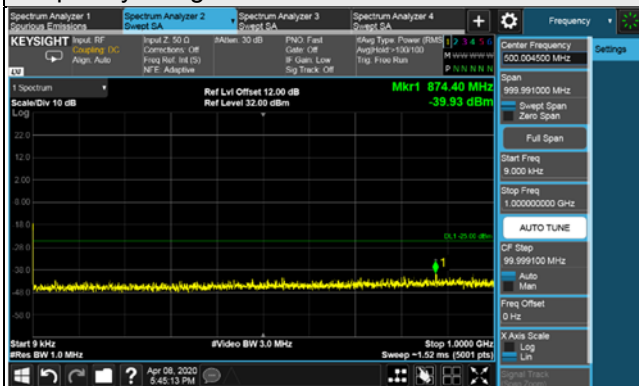


*The 9kHz signal over the limit is from Spectrum.

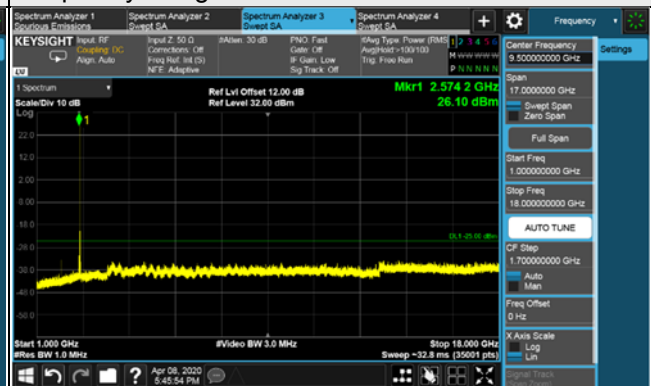
Channel Bandwidth: 40MHz

Channel 518598 (2592.99MHz)

Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~18GHz



Frequency Range : 18GHz~30GHz

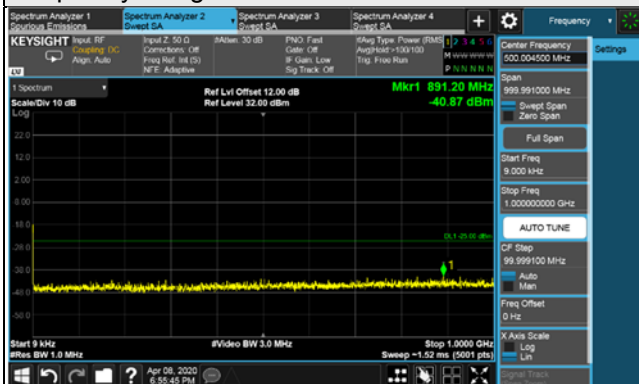


*The 9kHz signal over the limit is from Spectrum.

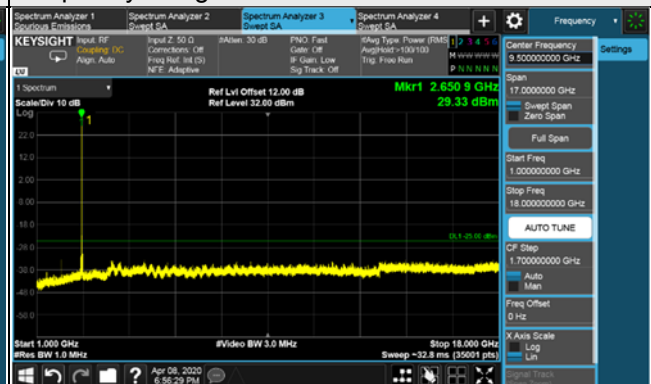
Channel Bandwidth: 40MHz

Channel 534000 (2670.00MHz)

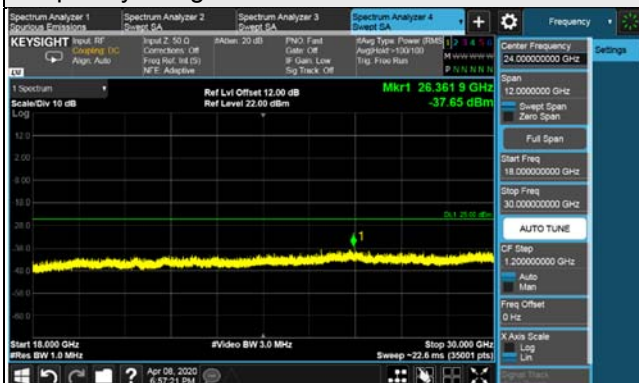
Frequency Range : 9kHz~1GHz



Frequency Range : 1GHz~18GHz



Frequency Range : 18GHz~30GHz



*The 9kHz signal over the limit is from Spectrum.