

LTE Band 26 (Part 90)

Channel Bandwidth: 1.4 MHz / QPSK

Channel 26697 1 RB 0 Channel 26740 1 RB 0



Channel 26697 1 RB 5 Channel 26740 1 RB 5



Channel 26697 Full RB Channel 26740 Full RB



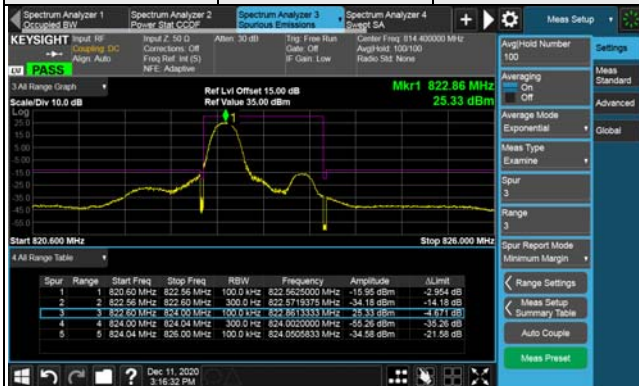
LTE Band 26 (Part 90)

Channel Bandwidth: 1.4 MHz / QPSK

Channel

26783

1 RB 0



Channel

26783

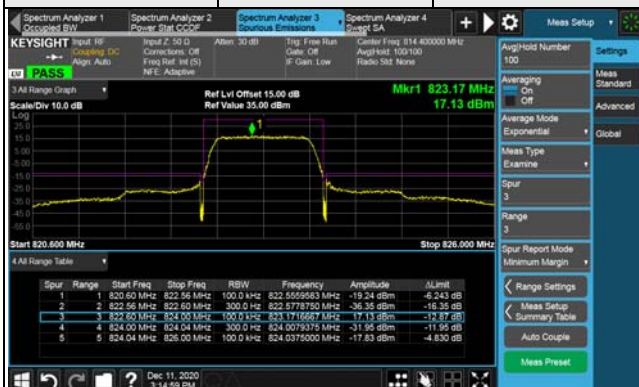
1 RB 5



Channel

26783

Full RB



LTE Band 26 (Part 90)

Channel Bandwidth: 3 MHz / QPSK

Channel 26705 1 RB 0 Channel 26740 1 RB 0



Channel 26705 1 RB 14 Channel 26740 1 RB 14



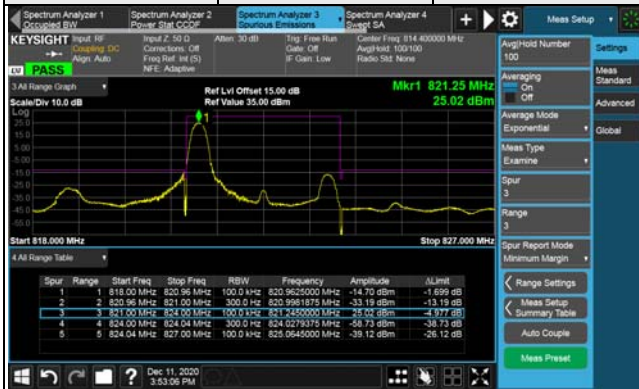
Channel 26705 Full RB Channel 26740 Full RB



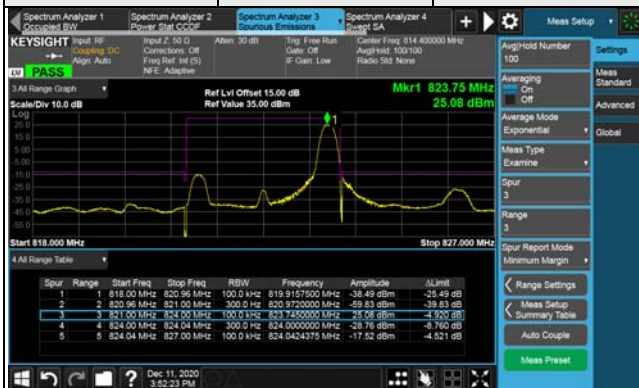
LTE Band 26 (Part 90)

Channel Bandwidth: 3 MHz / QPSK

Channel 26775 1 RB 0



Channel 26775 1 RB 14

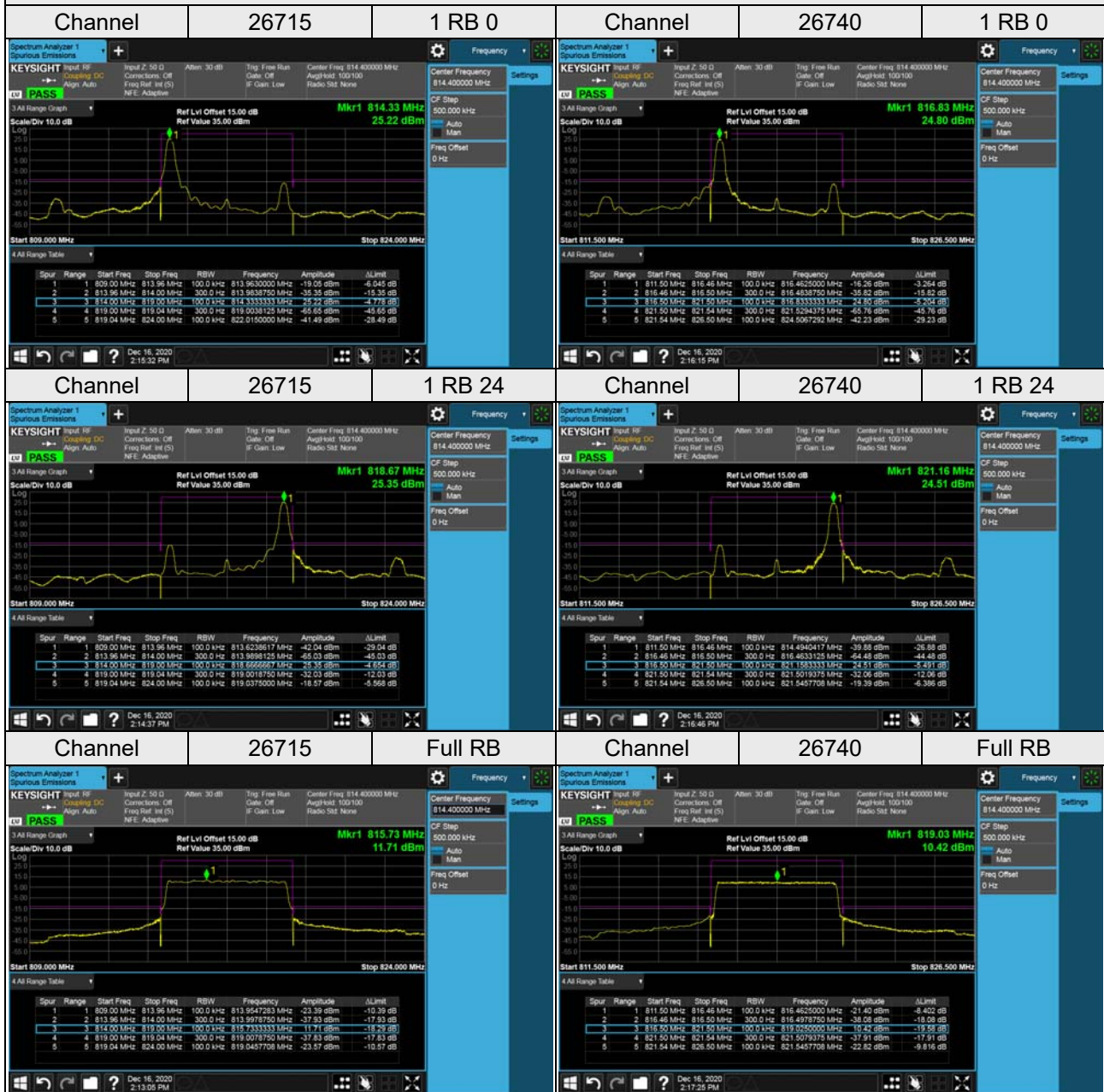


Channel 26775 Full RB



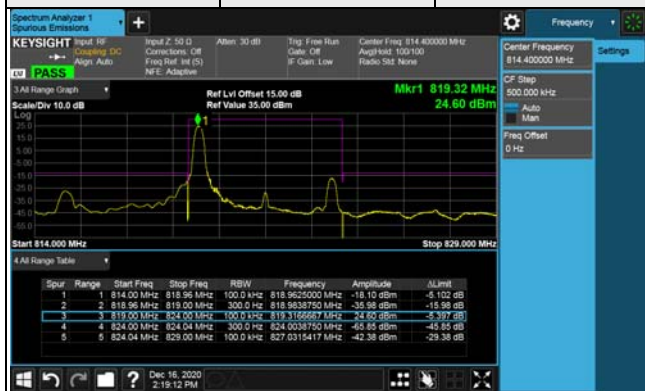
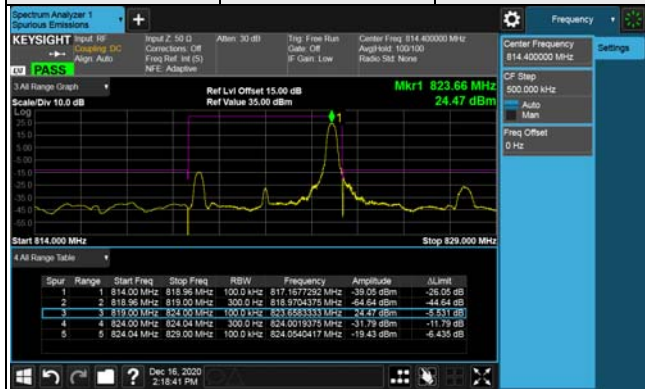
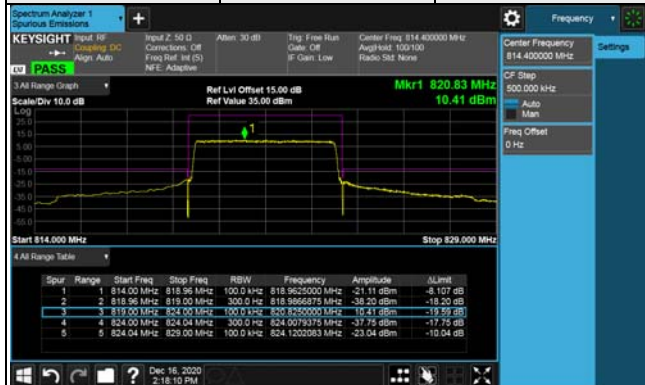
LTE Band 26 (Part 90)

Channel Bandwidth: 5 MHz / QPSK



LTE Band 26 (Part 90)

Channel Bandwidth: 5 MHz / QPSK

Channel	26765	1 RB 0		
				
Channel	26765	1 RB 24		
				
Channel	26765	Full RB		
				

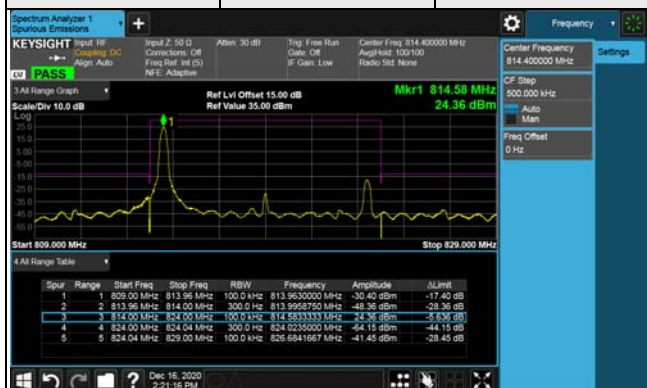
LTE Band 26 (Part 90)

Channel Bandwidth: 10 MHz / QPSK

Channel

26740

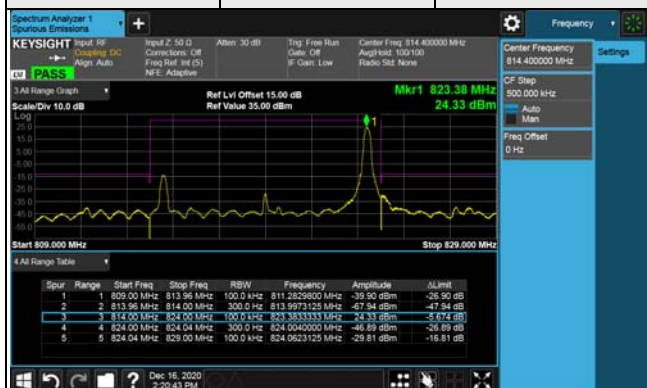
1 RB 0



Channel

26740

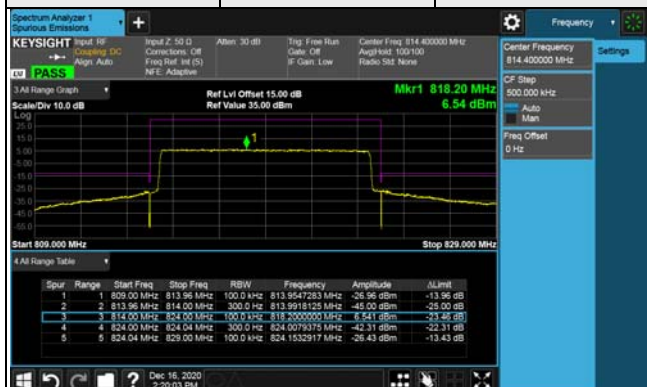
1 RB 49



Channel

26740

Full RB



Band Edge

LTE Band 26 (Part 22), Channel Bandwidth: 1.4MHz



LTE Band 26 (Part 22), Channel Bandwidth: 3MHz

Channel 26805
(825.5MHz)

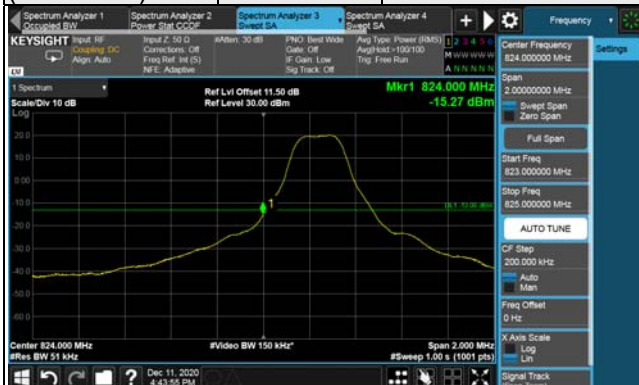
QPSK

1 RB / 0 RB Offset

Channel 27025
(847.5MHz)

QPSK

1 RB / 14 RB Offset



Channel 26805
(825.5MHz)

QPSK

15 RB / 0 RB Offset

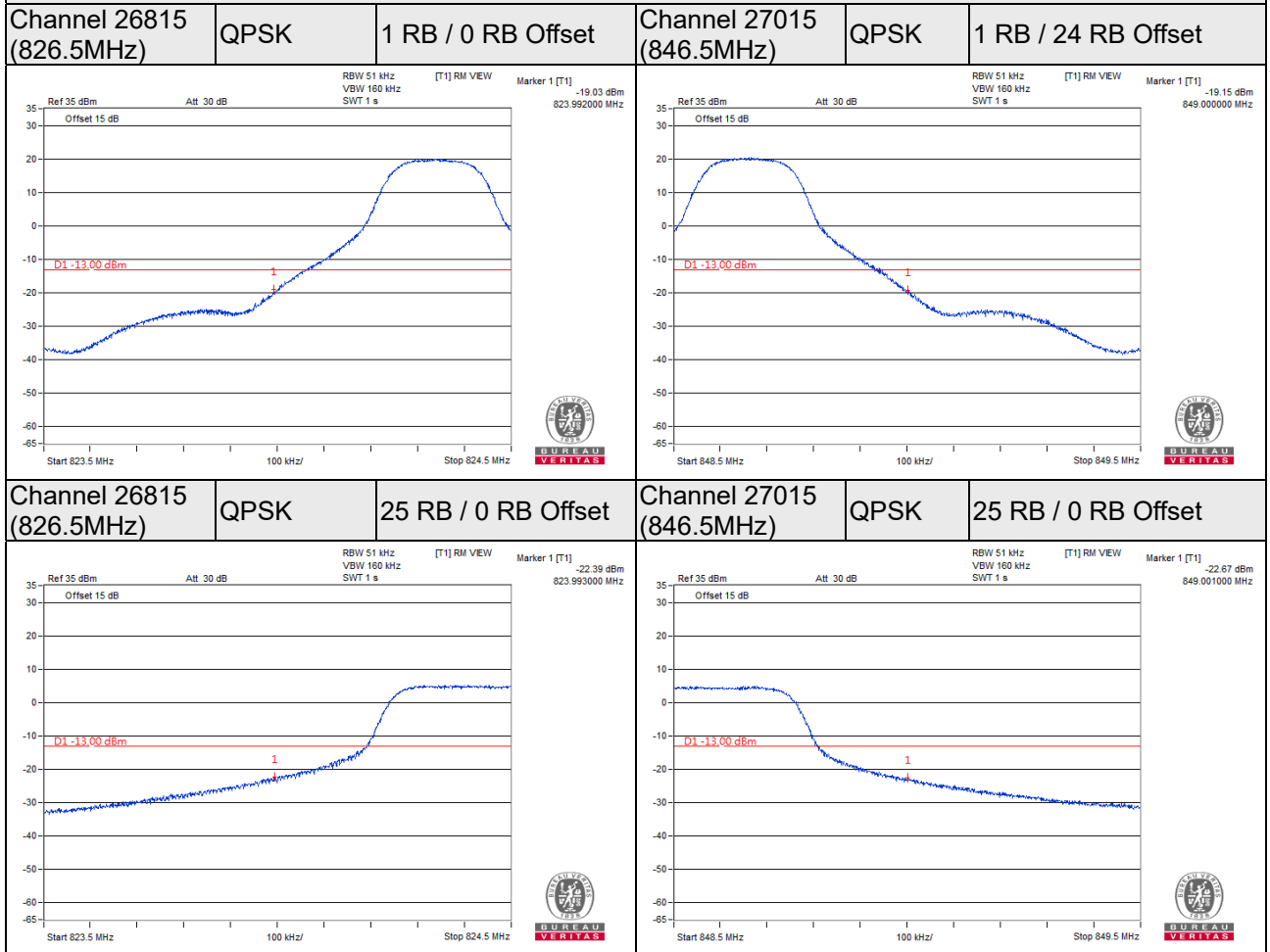
Channel 27025
M(847.5MHz)

QPSK

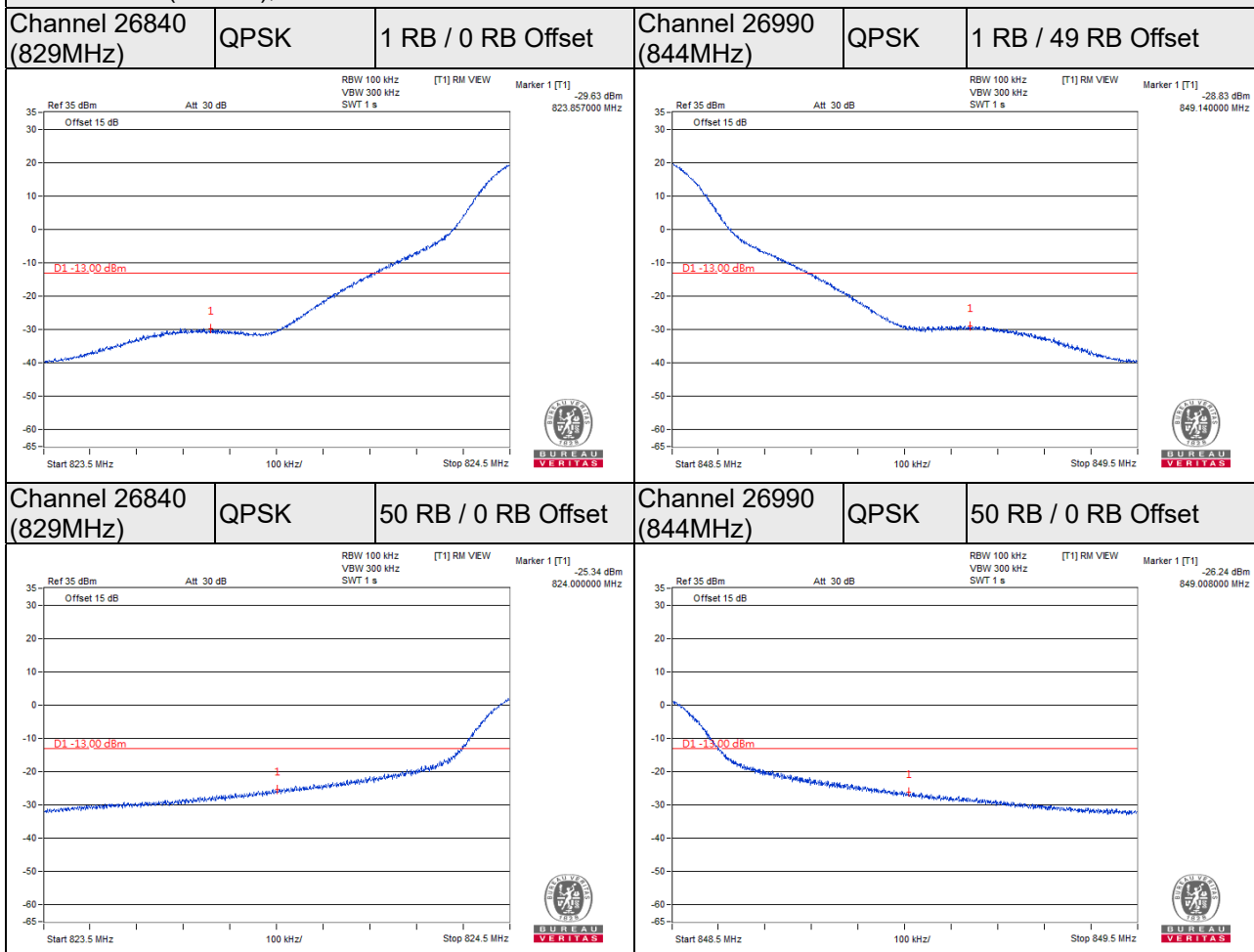
15 RB / 0 RB Offset



LTE Band 26 (Part 22), Channel Bandwidth: 5MHz



LTE Band 26 (Part 22), Channel Bandwidth: 10MHz



LTE Band 26 (Part 22), Channel Bandwidth: 15MHz

Channel 26865
(831.5MHz)

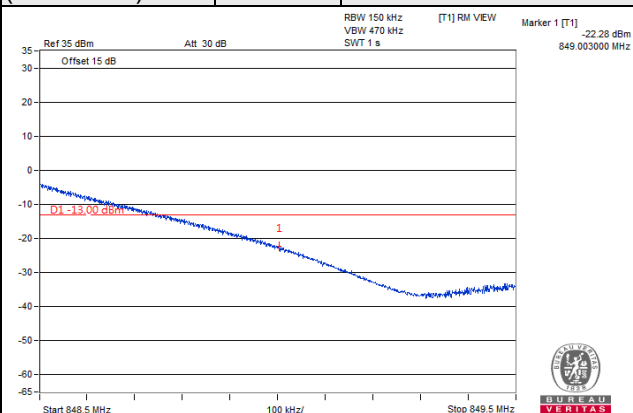
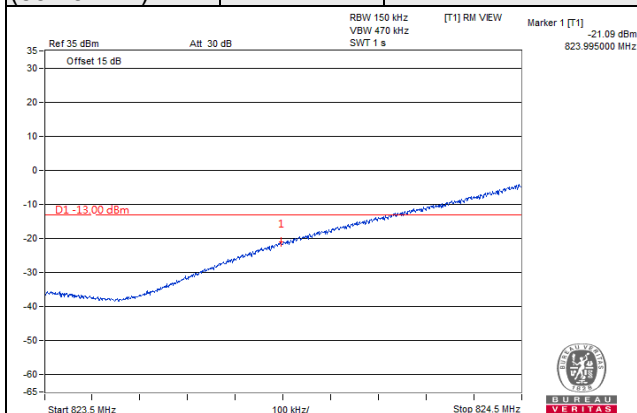
QPSK

1 RB / 0 RB Offset

Channel 26965
(841.5MHz)

QPSK

1 RB / 74 RB Offset



Channel 26865
(831.5MHz)

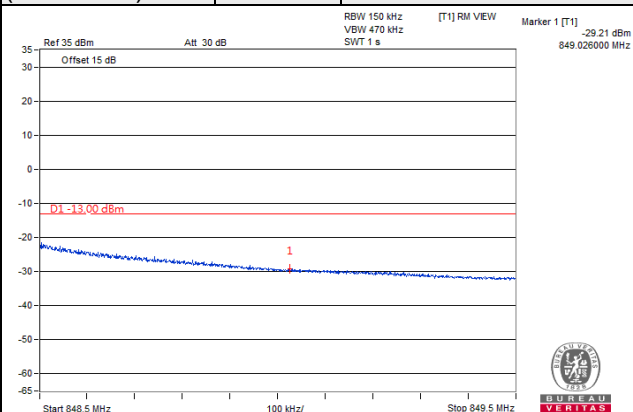
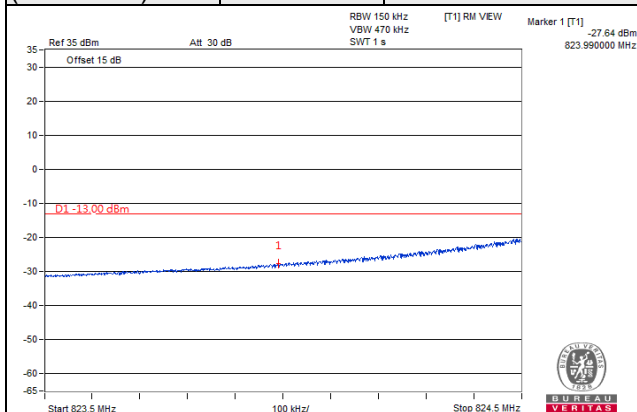
QPSK

75 RB / 0 RB Offset

Channel 26965
(841.5MHz)

QPSK

75 RB / 0 RB Offset

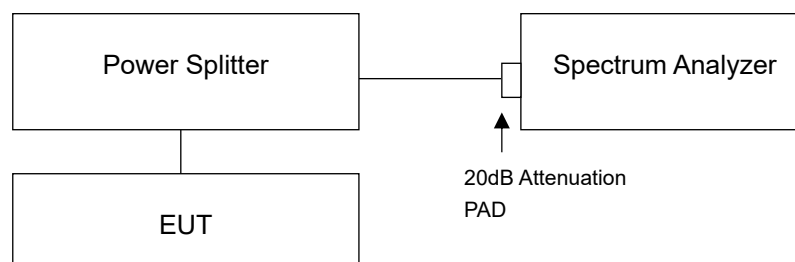


4.6 Peak to Average Ratio

4.6.1 Limits of Peak to Average Ratio Measurement

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

4.6.2 Test Setup



4.6.3 Test Procedures

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

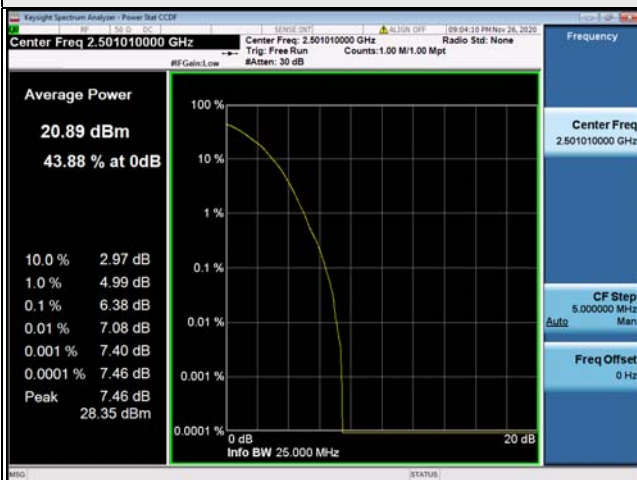
4.6.4 Test Results

n41, Channel Bandwidth: 10MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
500202	2501.01	4.21	5.42	6.20	6.38	6.33
518598	2592.99	4.36	5.39	6.16	6.37	6.29
537000	2685.00	4.18	4.99	5.63	5.86	6.11
n41, Channel Bandwidth: 15MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
500700	2503.50	4.26	5.40	6.14	6.25	6.31
518598	2592.99	4.32	5.36	6.08	6.25	6.35
536496	2682.48	4.11	4.90	5.35	5.49	6.13
n41, Channel Bandwidth: 20MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
501204	2506.02	4.32	5.69	6.11	6.35	6.34
518598	2592.99	4.45	5.67	6.08	6.34	6.36
535998	2679.99	4.29	5.25	5.47	5.86	6.22
n41, Channel Bandwidth: 40MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
503202	2516.01	3.85	5.30	6.27	6.57	6.63
518598	2592.99	3.86	5.38	6.28	6.56	6.67
534000	2670.00	3.79	5.37	6.23	6.52	6.66
n41, Channel Bandwidth: 50MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
504204	2521.02	3.84	5.29	6.25	6.54	6.61
518598	2592.99	3.86	5.36	6.24	6.54	6.63
532998	2664.99	3.78	5.35	6.21	6.48	6.59

n41, Channel Bandwidth: 60MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
505200	2526.00	3.83	5.29	6.26	6.54	6.61
518598	2592.99	3.85	5.35	6.25	6.54	6.62
531996	2659.98	3.80	5.32	6.21	6.49	6.60
n41, Channel Bandwidth: 80MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
507204	2536.02	3.78	5.29	6.26	6.57	6.61
518598	2592.99	3.85	5.37	6.26	6.61	6.70
529998	2649.99	3.81	5.34	6.25	6.56	6.62
n41, Channel Bandwidth: 90MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
508200	2514.00	3.78	5.31	6.24	6.59	6.68
518598	2592.99	3.86	5.35	6.27	6.60	6.71
528996	2644.98	3.82	5.31	6.23	6.55	6.67
n41, Channel Bandwidth: 100MHz						
Channel	Frequency (MHz)	Peak To Average Ratio (dB)				
		$\pi/2$ BPSK	QPSK	16QAM	64QAM	256QAM
509202	2546.01	3.78	5.31	6.24	6.61	6.68
518598	2592.99	3.85	5.36	6.27	6.60	6.70
528000	2640.00	3.82	5.30	6.23	6.56	6.67

Spectrum Plot of Worst Value

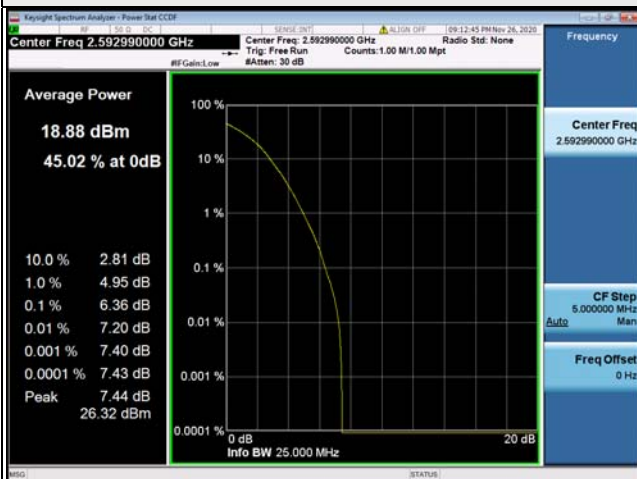
10MHz / 64QAM



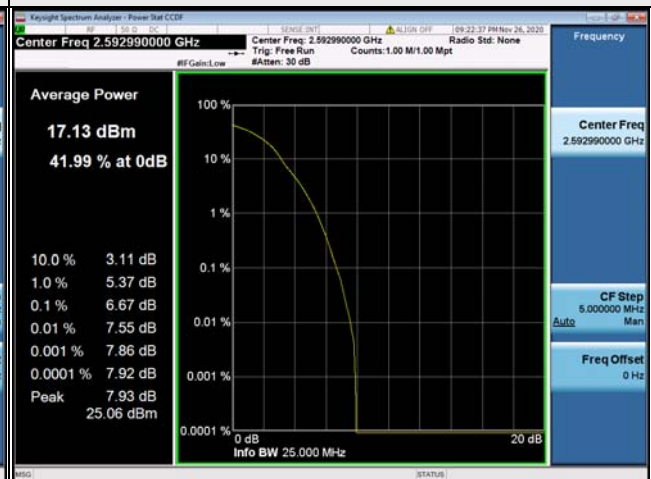
15MHz / 256QAM



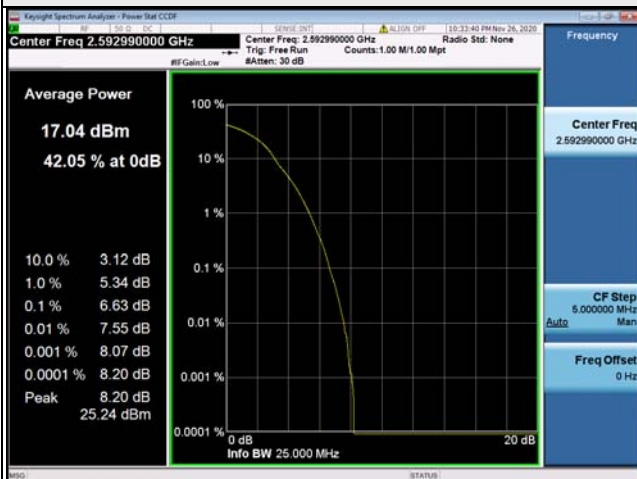
20MHz / 256QAM



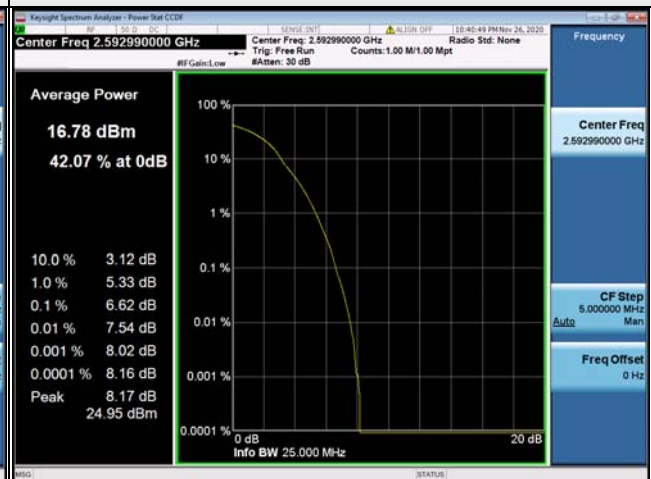
40MHz / 256QAM



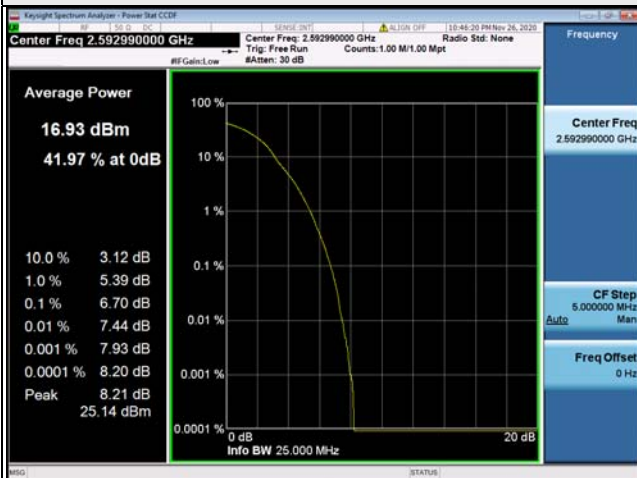
50MHz / 256QAM



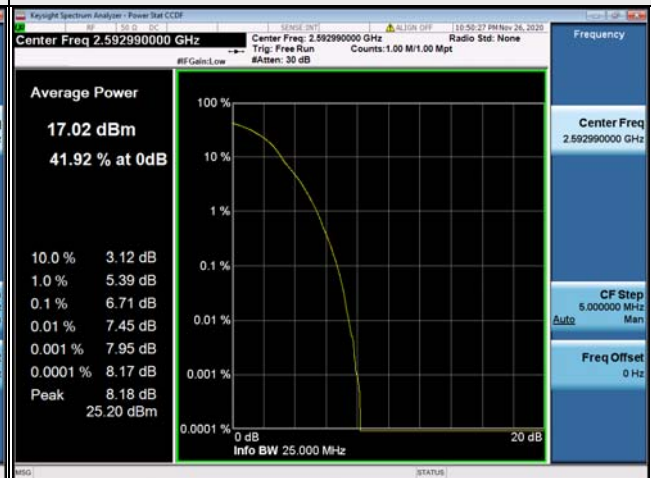
60MHz / 256QAM



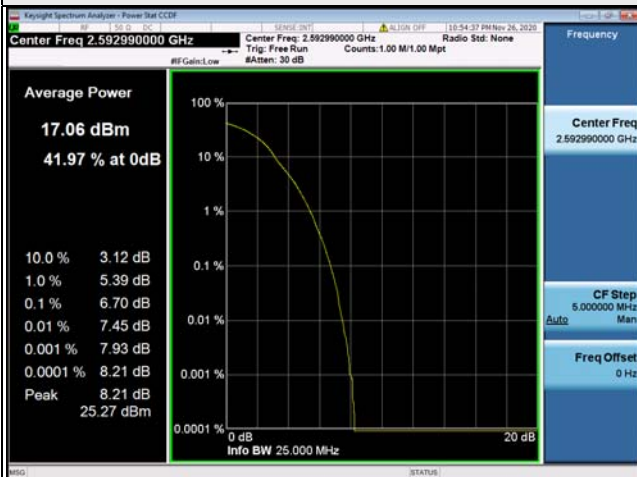
80MHz / 256QAM



90MHz / 256QAM



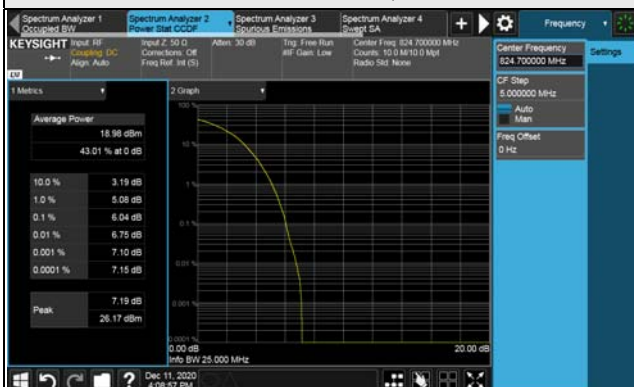
100MHz / 256QAM



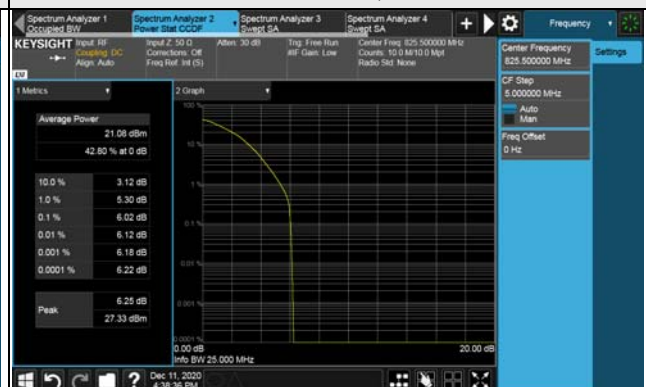
LTE Band 26 (Part 22), Channel Bandwidth: 1.4MHz					
Channel	Frequency (MHz)	Peak To Average Ratio (dB)			
		QPSK	16QAM	64QAM	256QAM
26797	824.7	5.70	5.90	5.98	6.04
26915	836.5	5.61	5.80	5.85	5.90
27033	848.3	5.33	5.60	5.77	5.83
LTE Band 26 (Part 22), Channel Bandwidth: 3MHz					
Channel	Frequency (MHz)	Peak To Average Ratio (dB)			
		QPSK	16QAM	64QAM	256QAM
26805	825.5	5.71	5.76	6.02	6.01
26915	836.5	5.70	5.83	5.97	5.85
27025	847.5	5.52	5.74	5.90	5.70
LTE Band 26 (Part 22), Channel Bandwidth: 5MHz					
Channel	Frequency (MHz)	Peak To Average Ratio (dB)			
		QPSK	16QAM	64QAM	256QAM
26815	826.5	5.43	5.85	5.98	5.90
26915	836.5	5.67	5.84	5.93	5.89
27015	846.5	5.61	5.69	5.80	5.83
LTE Band 26 (Part 22), Channel Bandwidth: 10MHz					
Channel	Frequency (MHz)	Peak To Average Ratio (dB)			
		QPSK	16QAM	64QAM	256QAM
26840	829.0	5.47	5.86	5.98	6.02
26915	836.5	5.43	5.68	5.77	5.79
26990	844.0	5.74	5.74	5.81	5.83
LTE Band 26 (Part 22), Channel Bandwidth: 15MHz					
Channel	Frequency (MHz)	Peak To Average Ratio (dB)			
		QPSK	16QAM	64QAM	256QAM
26865	831.5	4.78	5.45	5.66	5.56
26915	836.5	5.16	5.74	5.89	5.83
26965	841.5	5.40	5.86	5.96	5.97

Spectrum Plot of Worst Value

1.4MHz / 256QAM



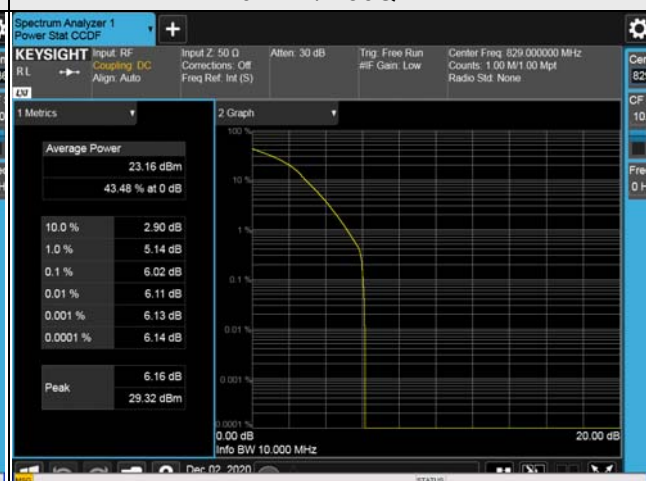
3MHz / 64QAM



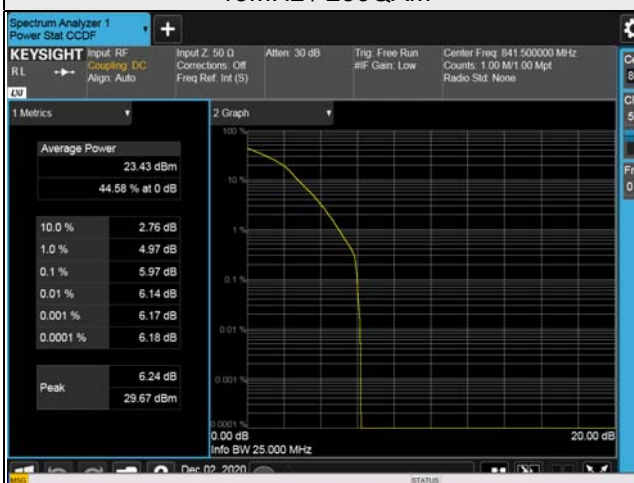
5MHz / 64QAM



10MHz / 256QAM



15MHz / 256QAM



4.7 Conducted Spurious Emissions

4.7.1 Limits of Conducted Spurious Emissions Measurement

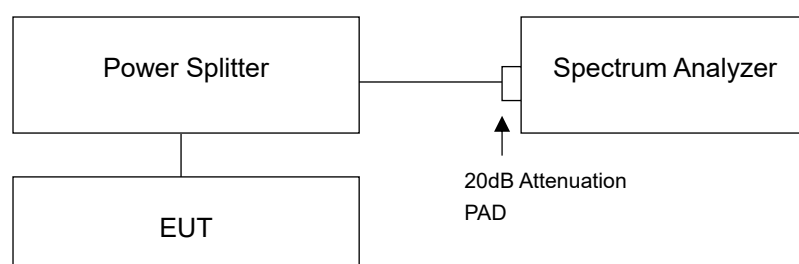
For n41:

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 LTE Band 26:

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 -13dBm .

4.7.2 Test Setup



4.7.3 Test Procedure

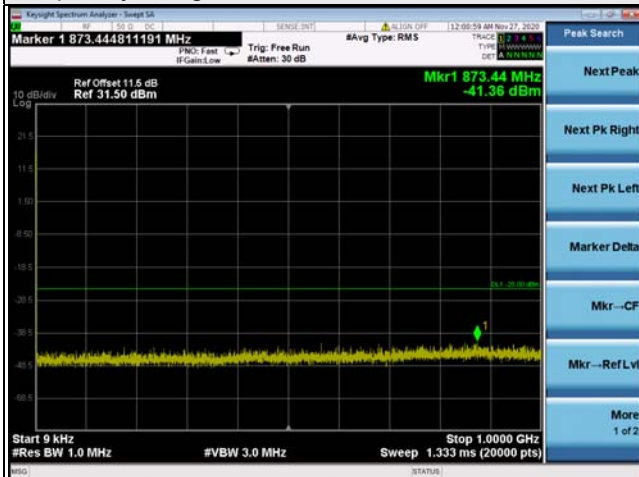
- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- Measuring frequency range is from 9kHz to 9GHz / 10GHz / 30GHz. 20dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

4.7.4 Test Results

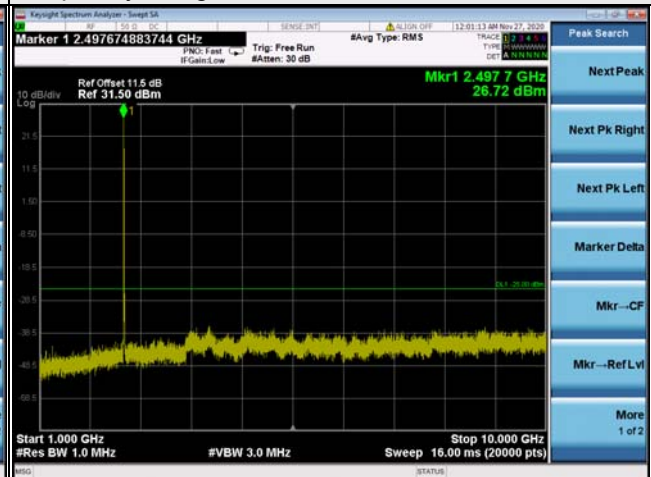
n41, Channel Band width: 10MHz

Channel 500202 (2501.01MHz)

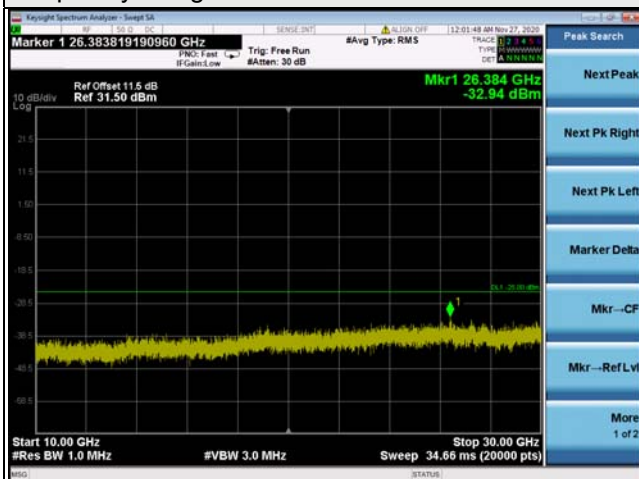
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

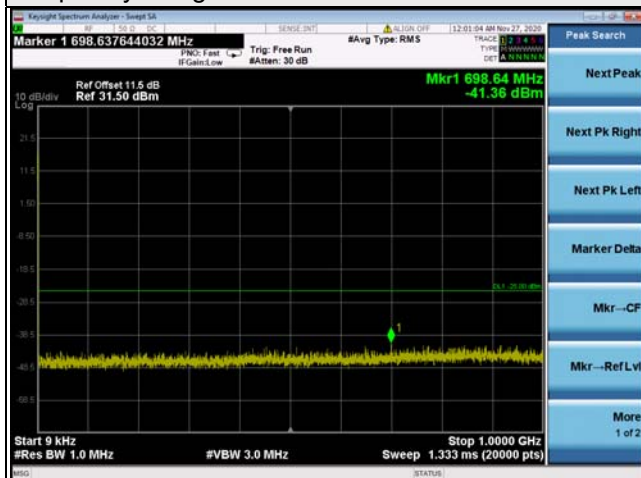


*The 9kHz signal over the limit is from Spectrum.

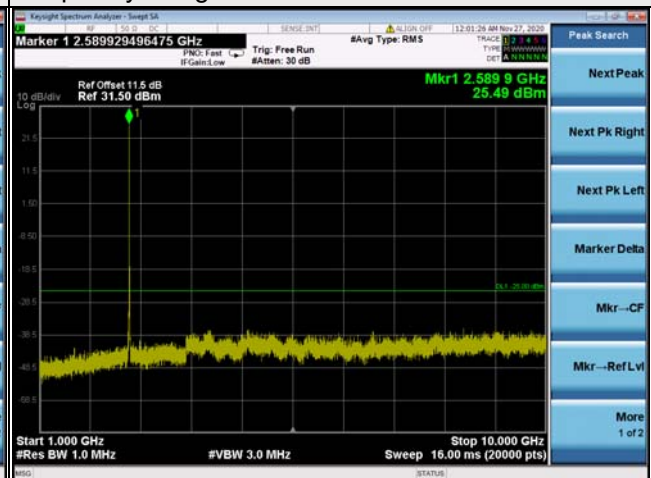
n41, Channel Band width: 10MHz

Channel 518598 (2592.99MHz)

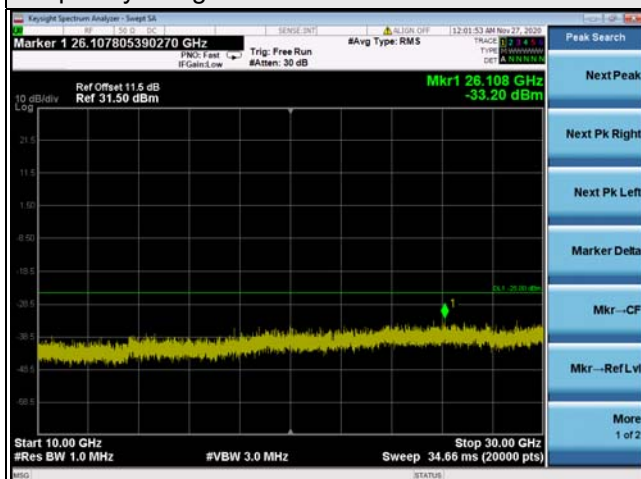
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

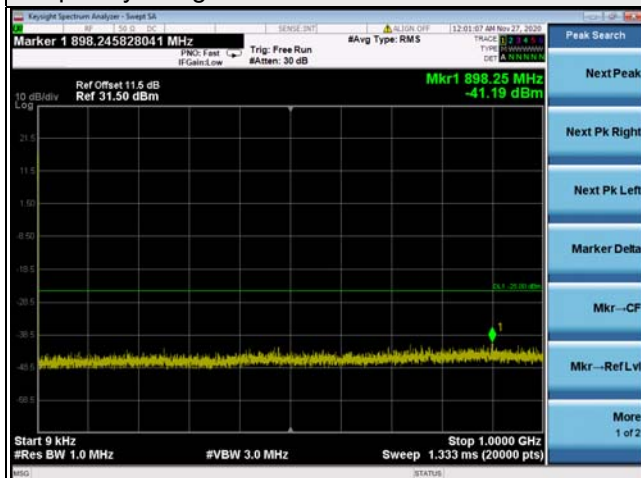


*The 9kHz signal over the limit is from Spectrum.

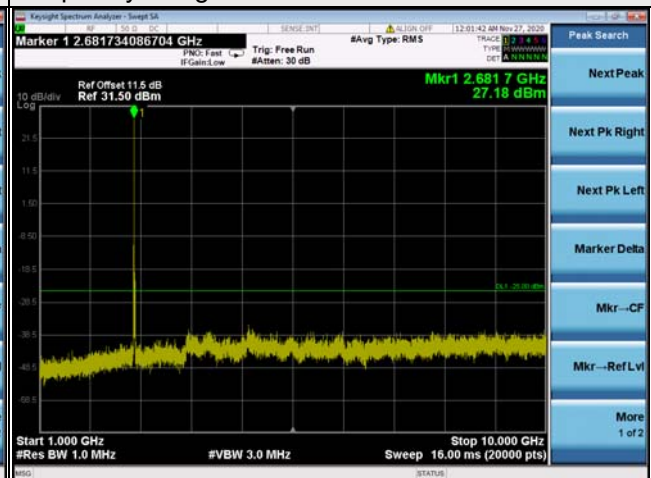
n41, Channel Band width: 10MHz

Channel 537000 (2685.00MHz)

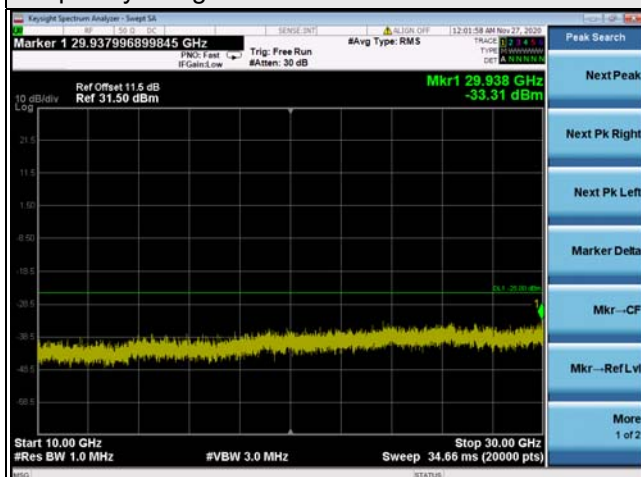
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

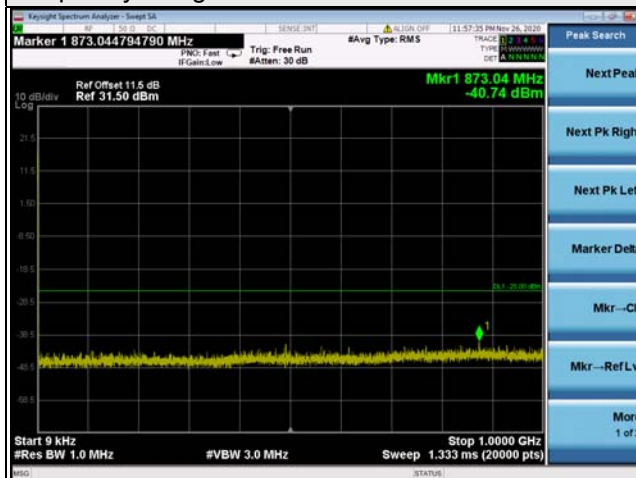


*The 9kHz signal over the limit is from Spectrum.

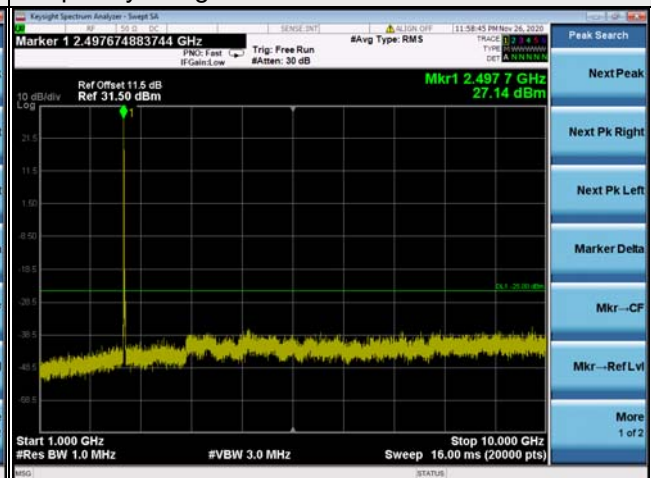
n41, Channel Band width: 15MHz

Channel 500700 (2503.50MHz)

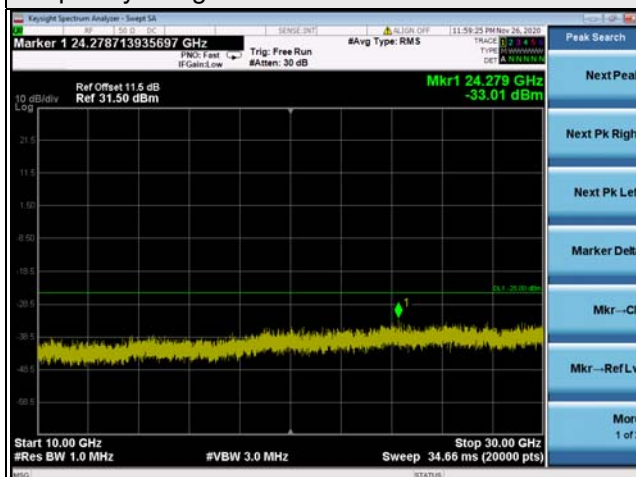
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

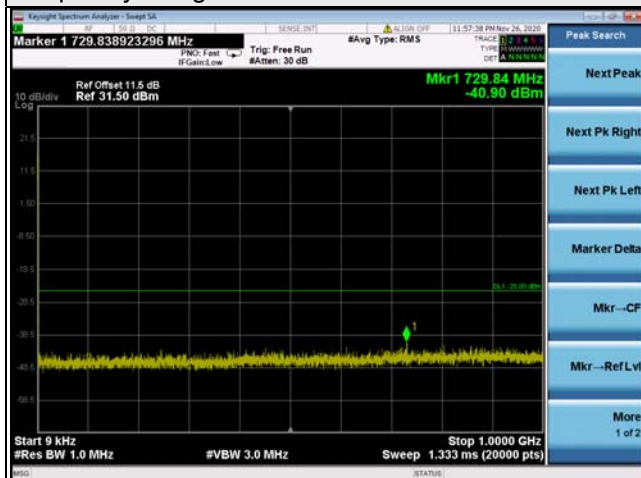


*The 9kHz signal over the limit is from Spectrum.

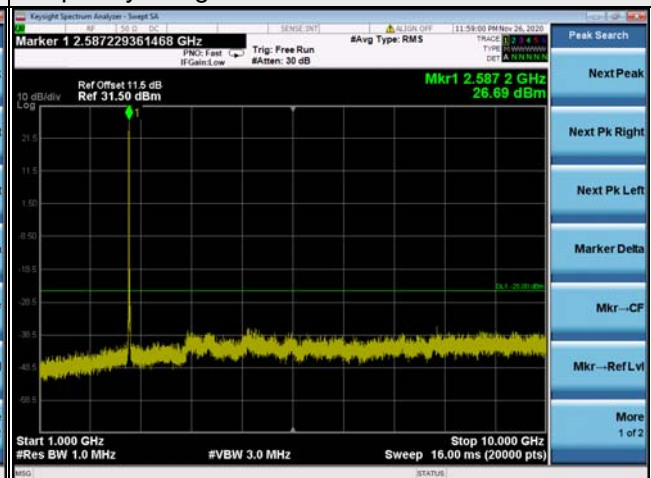
n41, Channel Band width: 15MHz

Channel 518598 (2592.99MHz)

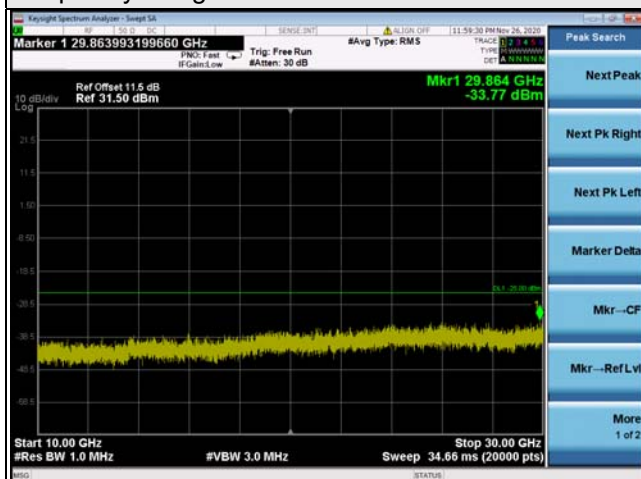
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

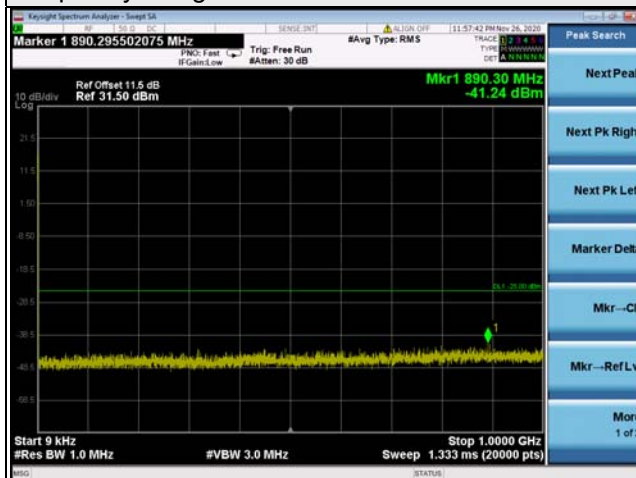


*The 9kHz signal over the limit is from Spectrum.

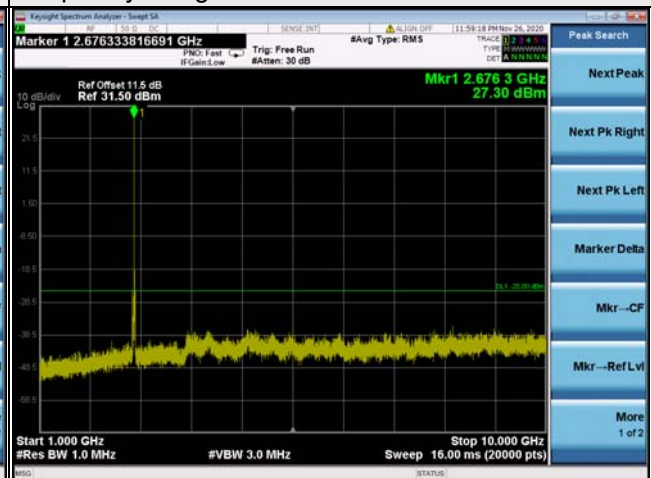
n41, Channel Band width: 15MHz

Channel 536496 (2682.48MHz)

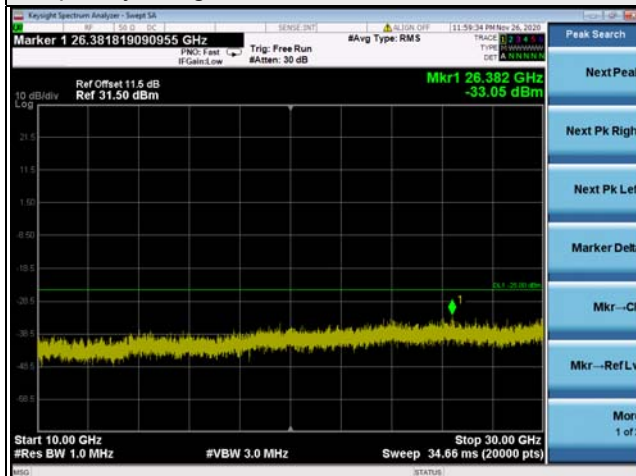
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

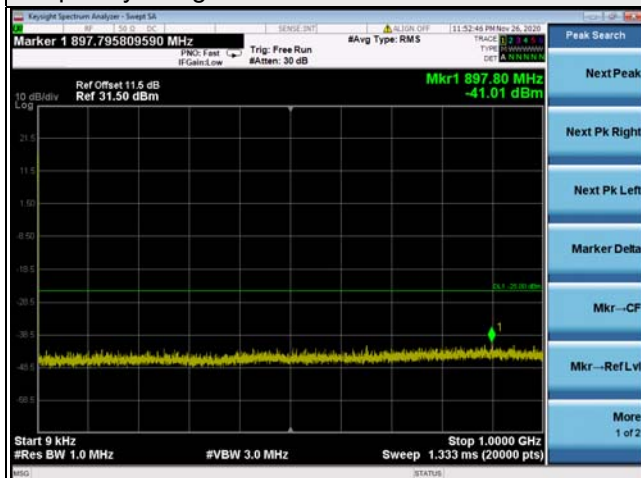


*The 9kHz signal over the limit is from Spectrum.

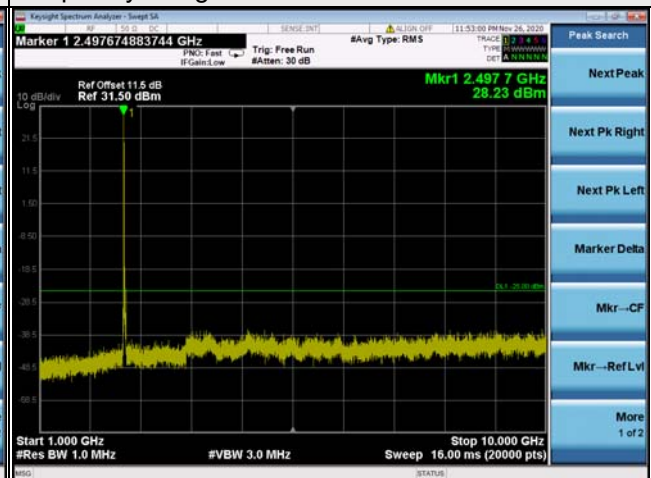
n41, Channel Band width: 20MHz

Channel 501204 (2506.02MHz)

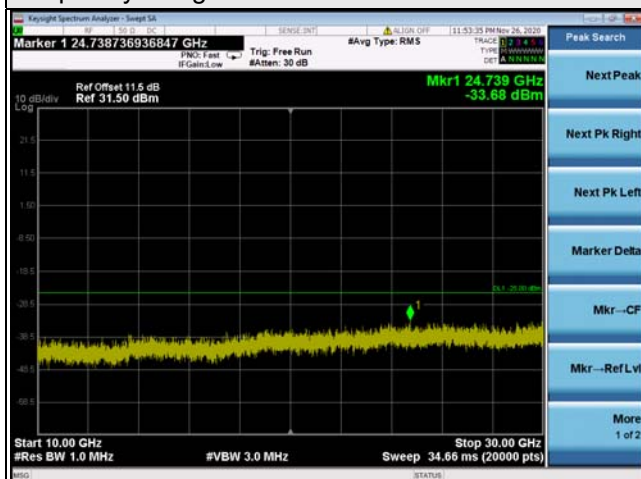
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

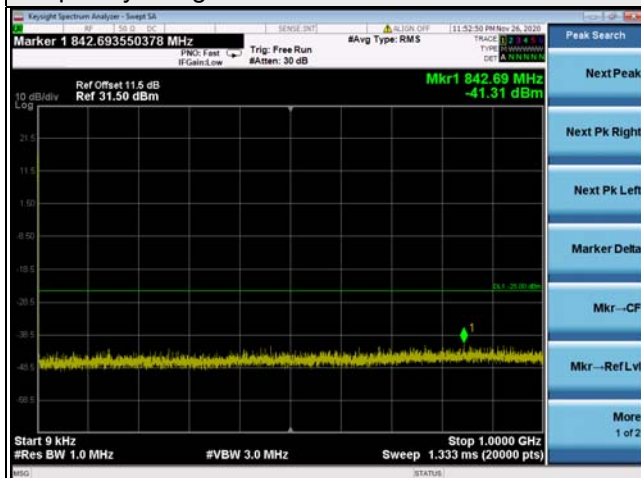


*The 9kHz signal over the limit is from Spectrum.

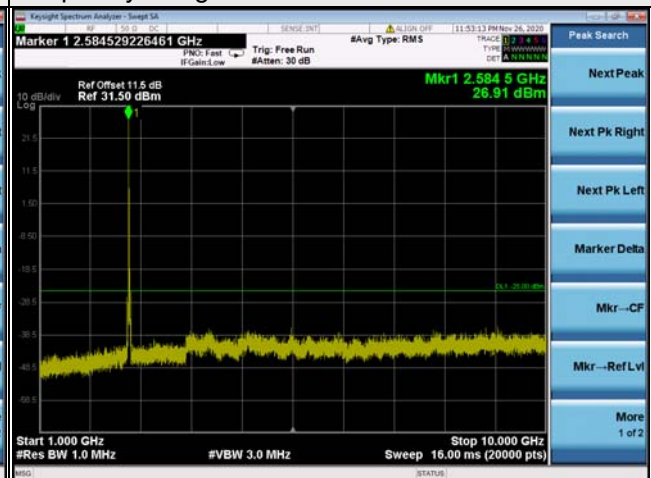
n41, Channel Band width: 20MHz

Channel 518598 (2592.99MHz)

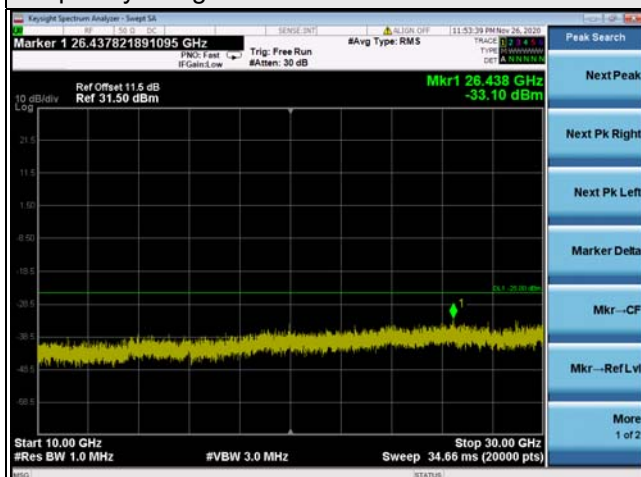
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

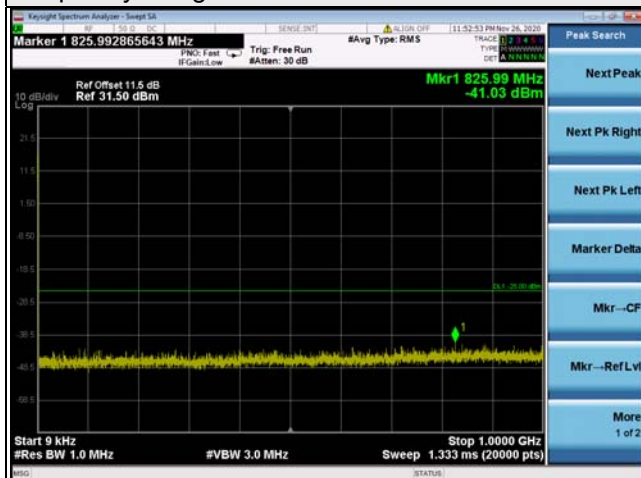


*The 9kHz signal over the limit is from Spectrum.

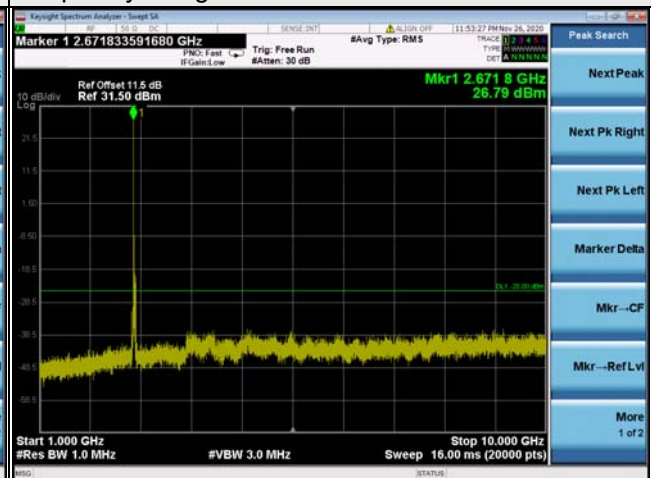
n41, Channel Band width: 20MHz

Channel 535998 (2679.99MHz)

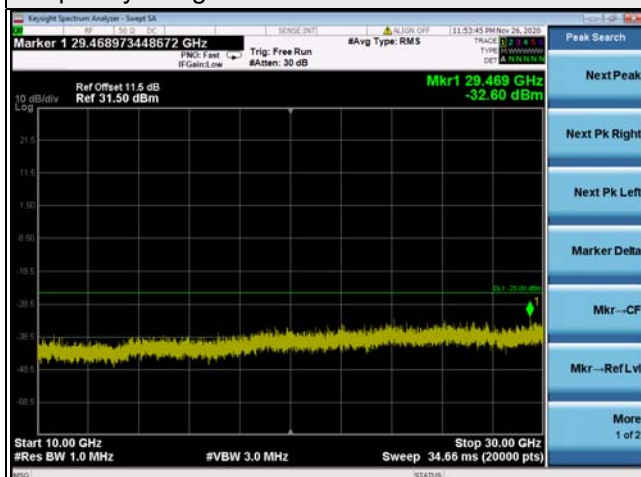
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

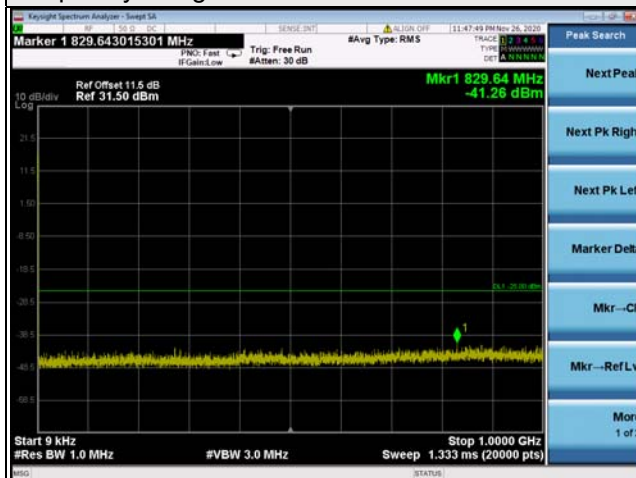


*The 9kHz signal over the limit is from Spectrum.

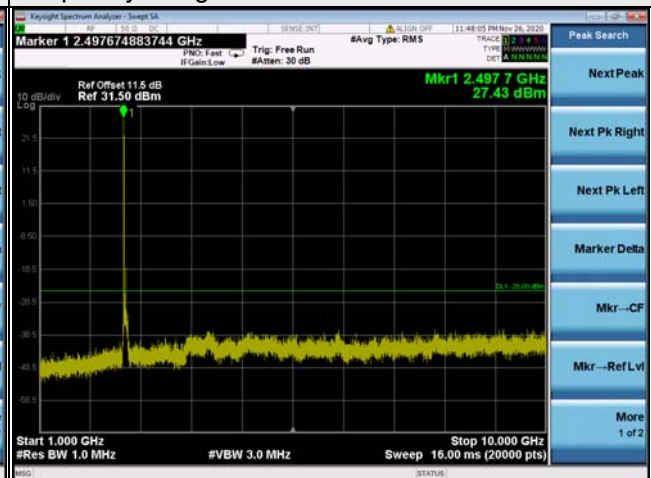
n41, Channel Band width: 40MHz

Channel 503202 (2516.01MHz)

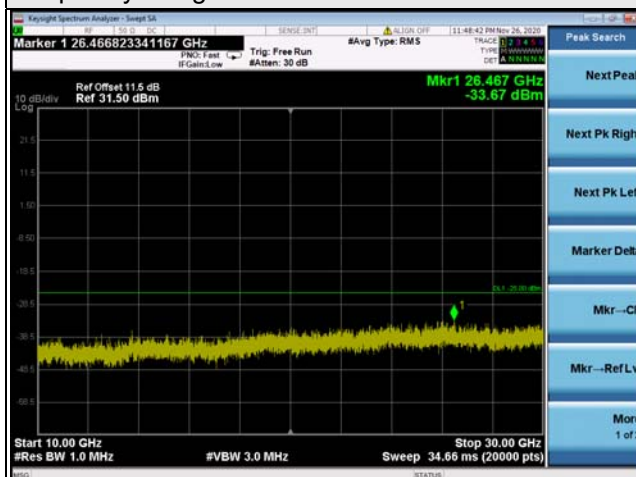
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

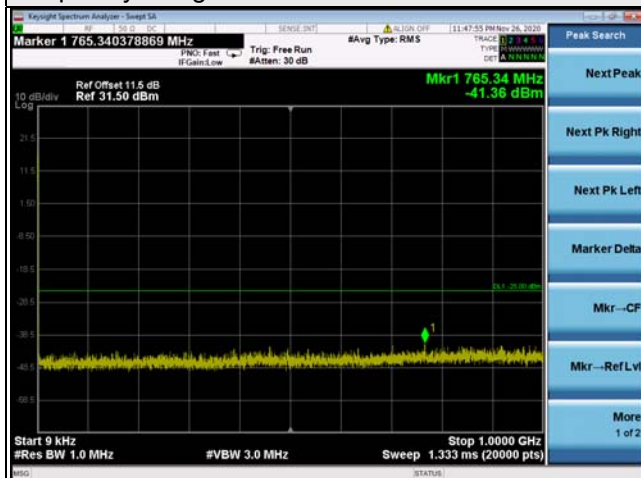


*The 9kHz signal over the limit is from Spectrum.

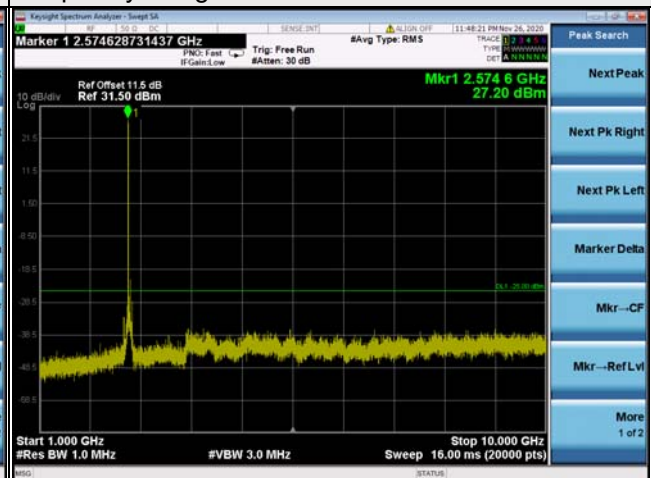
n41, Channel Band width: 40MHz

Channel 518598 (2592.99MHz)

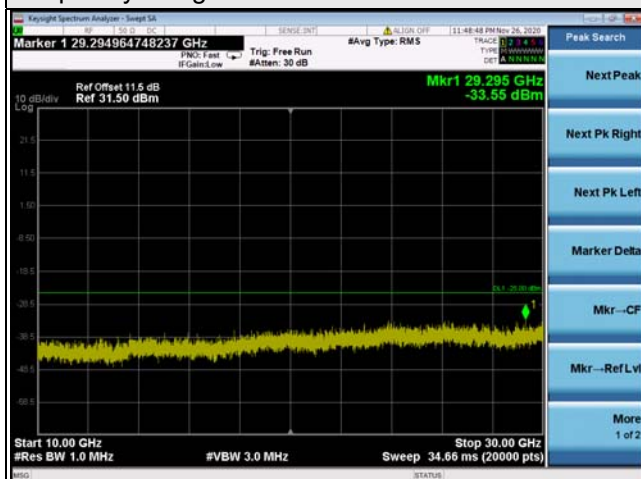
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

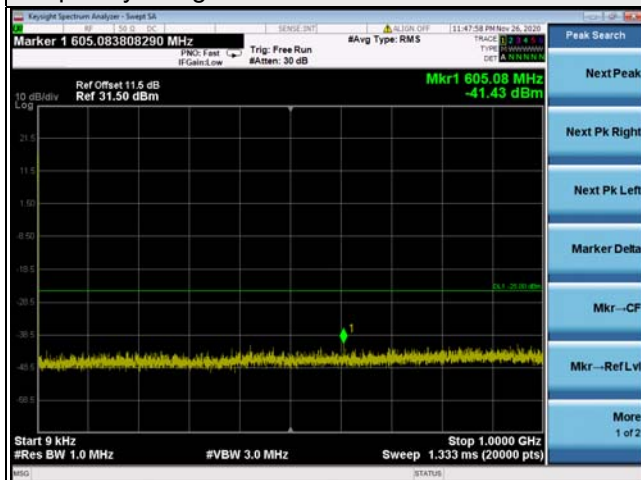


*The 9kHz signal over the limit is from Spectrum.

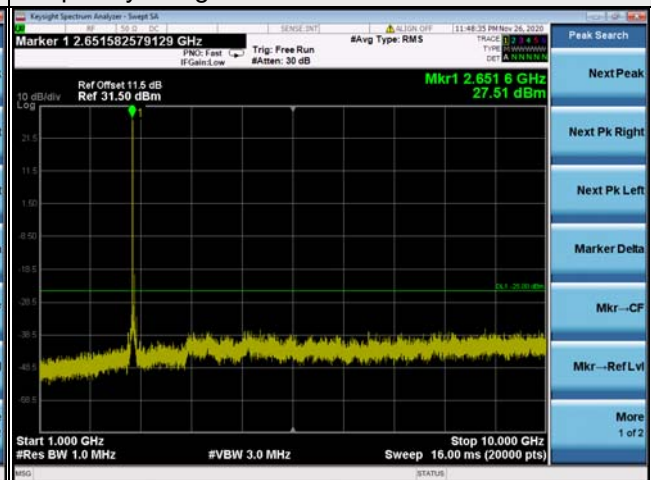
n41, Channel Band width: 40MHz

Channel 534000 (2670.00MHz)

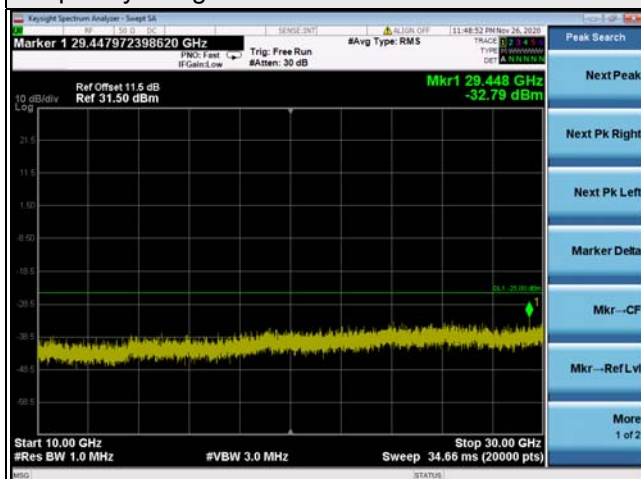
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

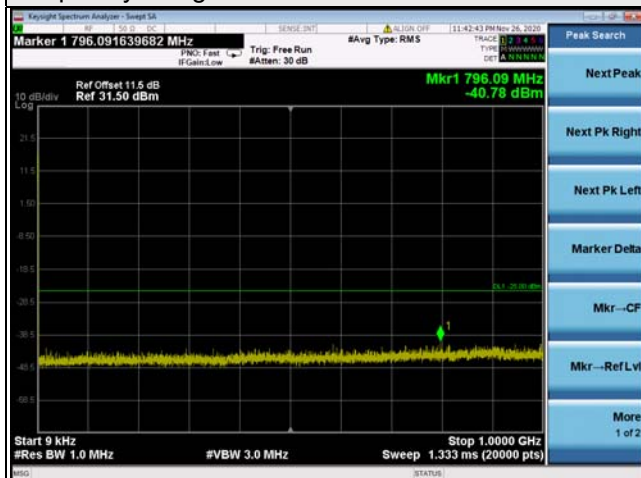


*The 9kHz signal over the limit is from Spectrum.

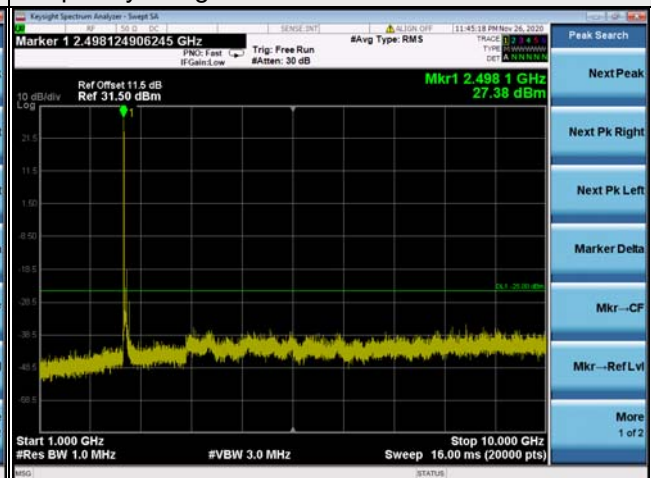
n41, Channel Band width: 50MHz

Channel 504204 (2521.02MHz)

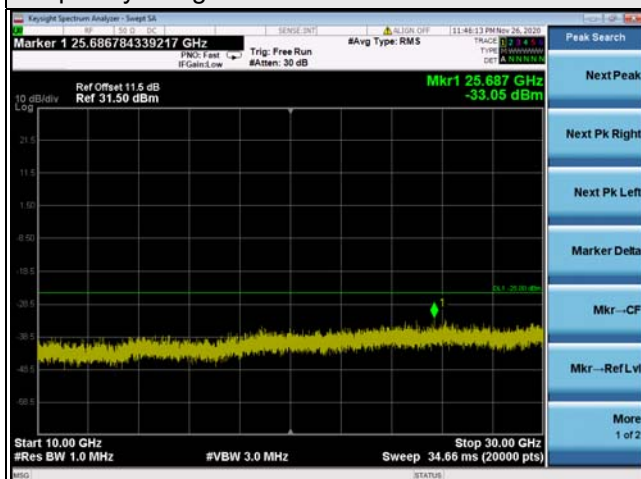
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

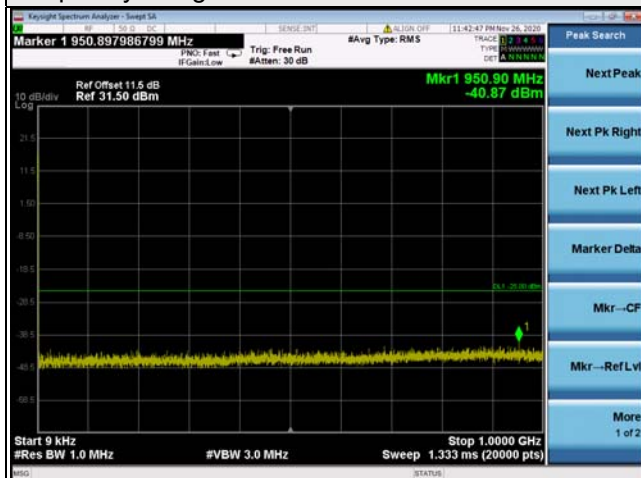


*The 9kHz signal over the limit is from Spectrum.

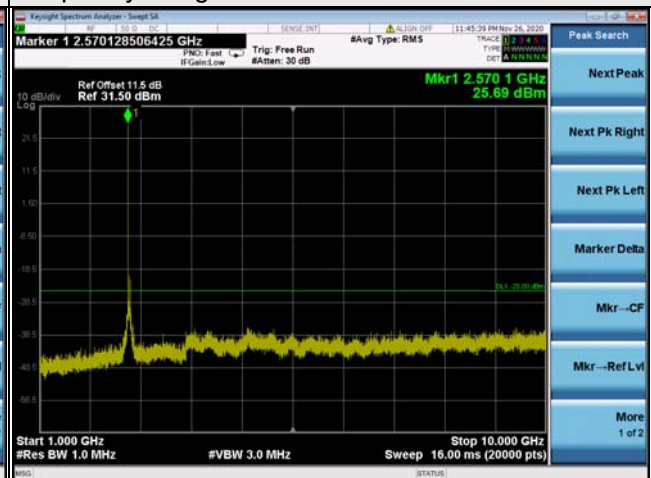
n41, Channel Band width: 50MHz

Channel 518598 (2592.99MHz)

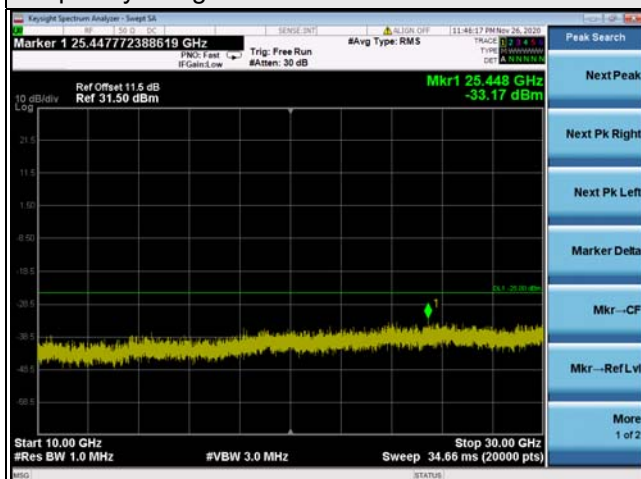
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

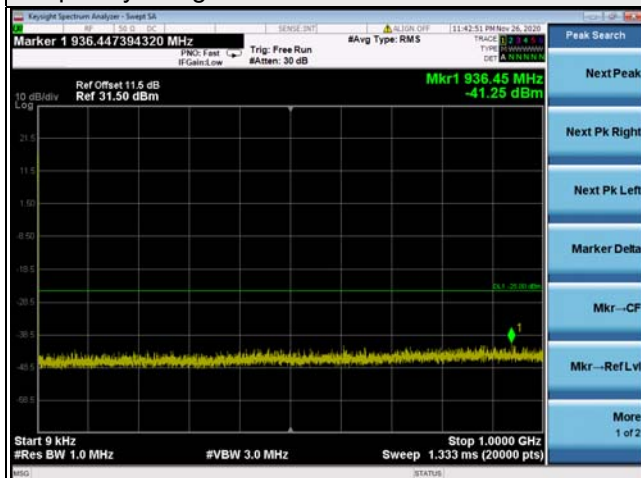


*The 9kHz signal over the limit is from Spectrum.

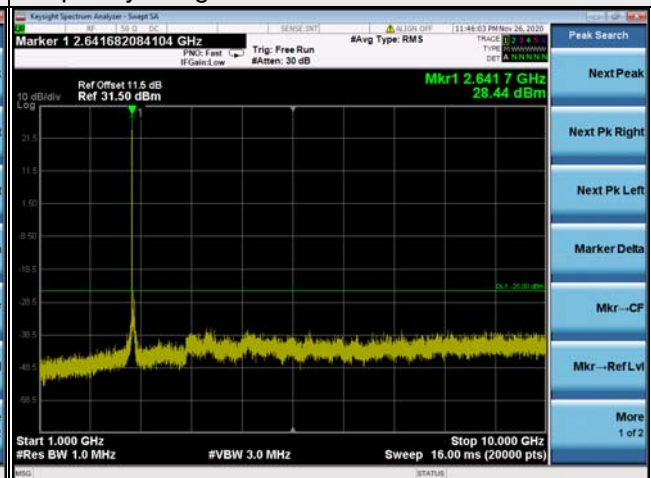
n41, Channel Band width: 50MHz

Channel 532998 (2664.99MHz)

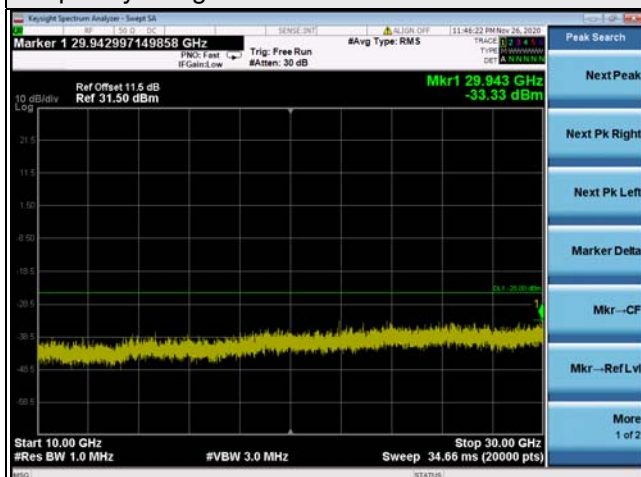
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

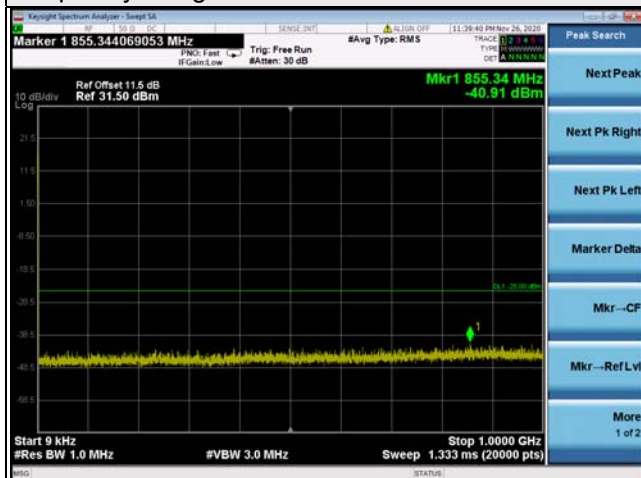


*The 9kHz signal over the limit is from Spectrum.

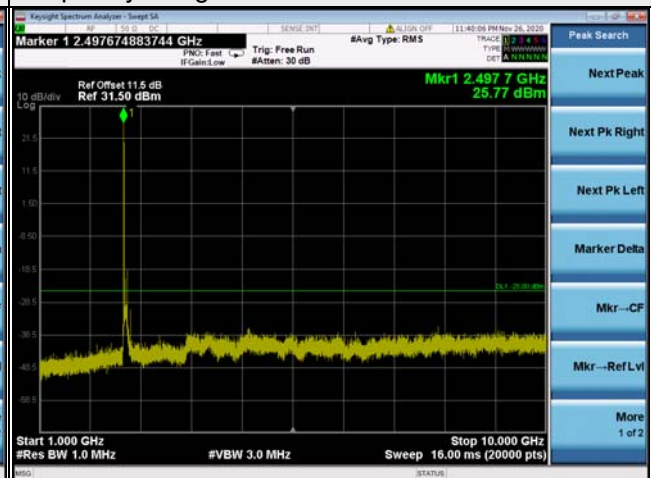
n41, Channel Band width: 60MHz

Channel 505200 (2526.00MHz)

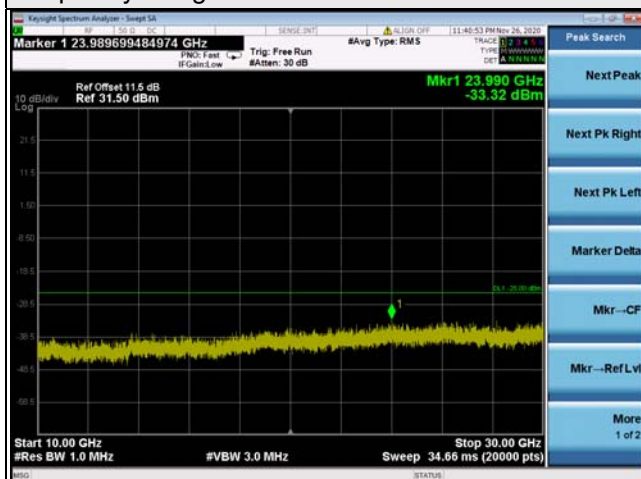
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

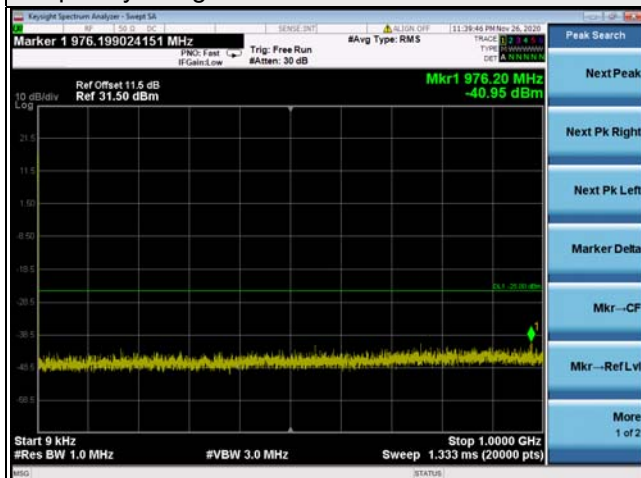


*The 9kHz signal over the limit is from Spectrum.

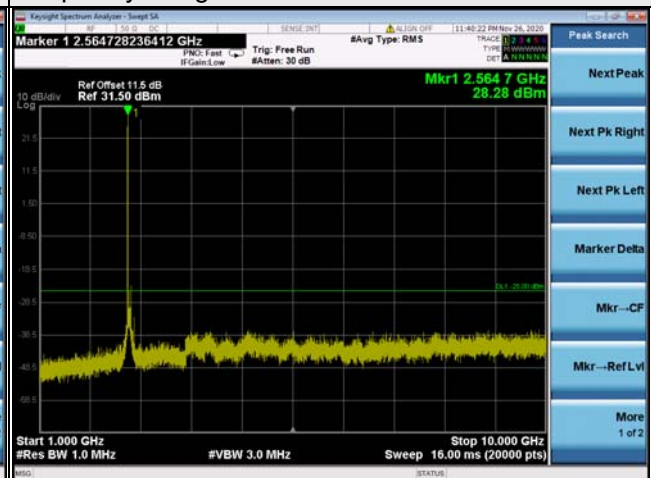
n41, Channel Band width: 60MHz

Channel 518598 (2592.99MHz)

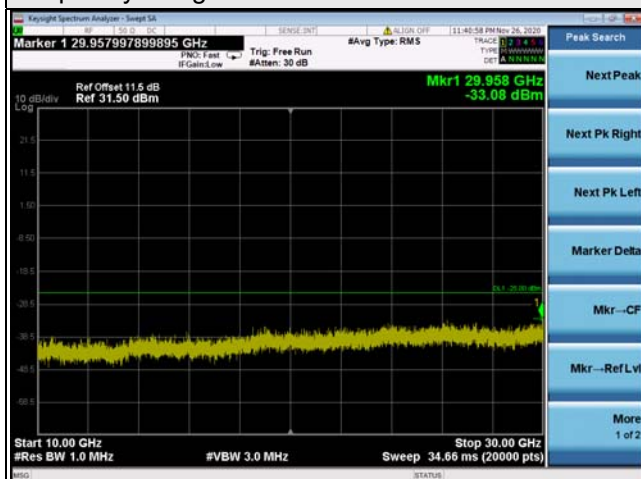
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

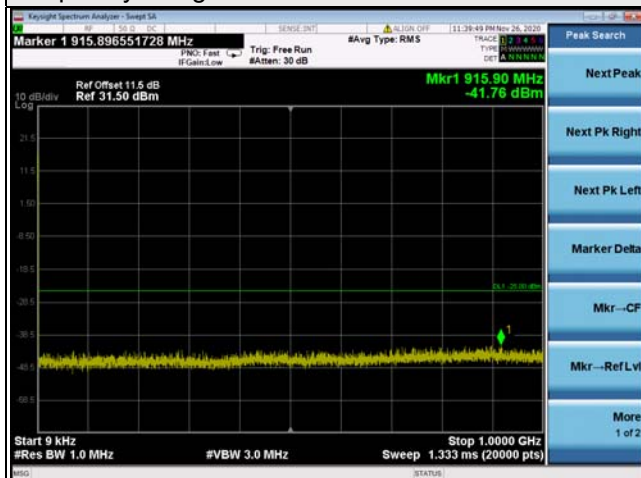


*The 9kHz signal over the limit is from Spectrum.

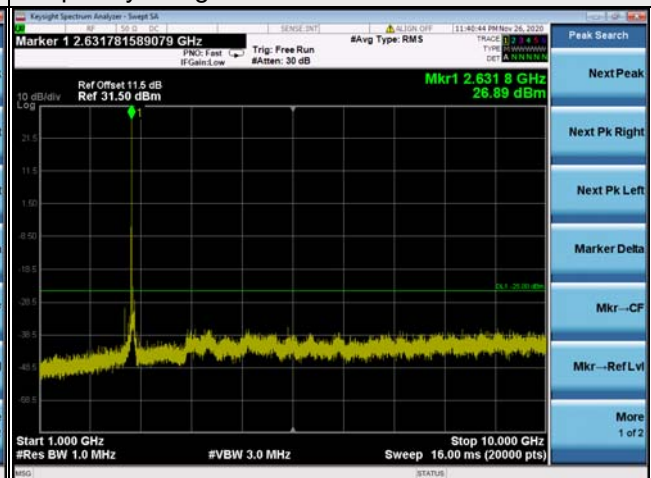
n41, Channel Band width: 60MHz

Channel 531996 (2659.98MHz)

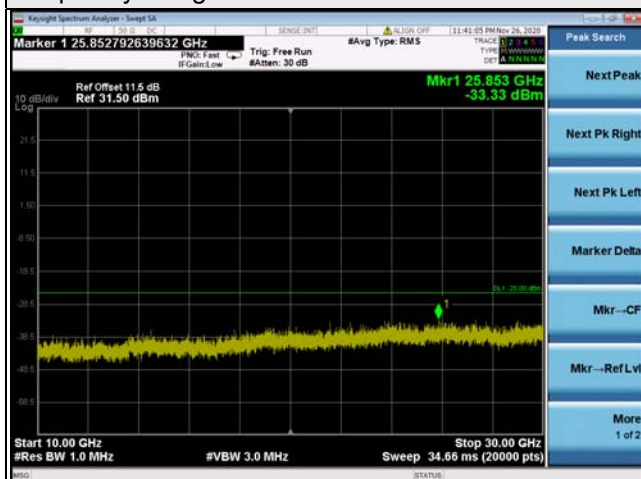
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

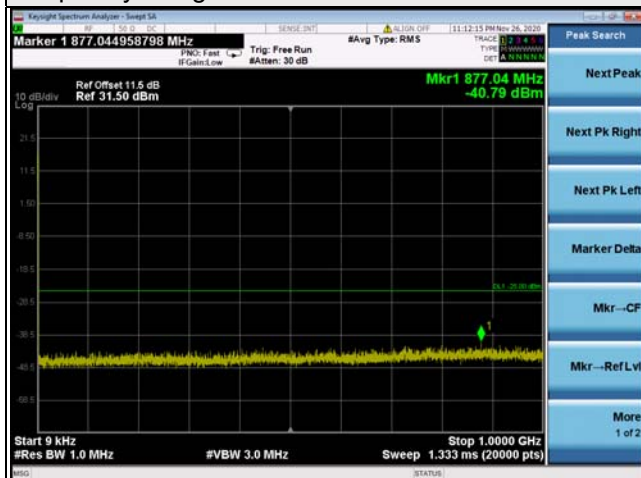


*The 9kHz signal over the limit is from Spectrum.

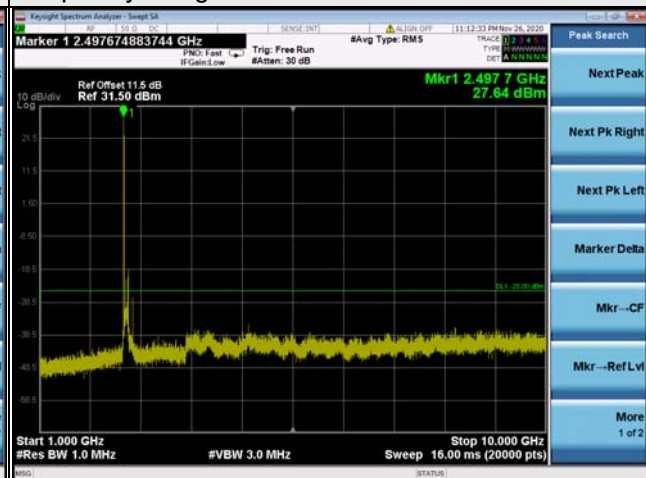
n41, Channel Band width: 80MHz

Channel 507204 (2536.02MHz)

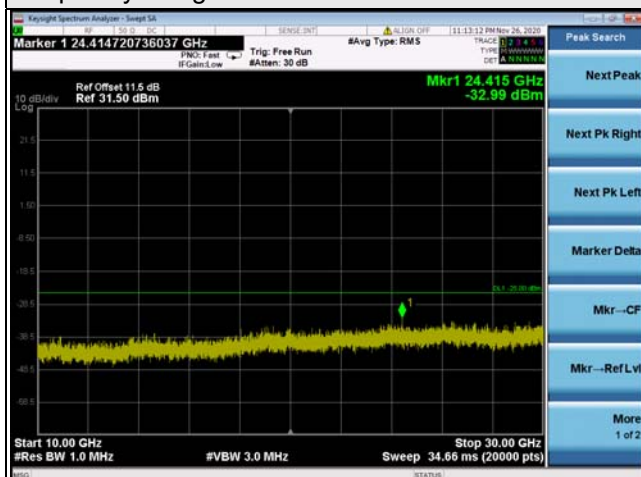
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

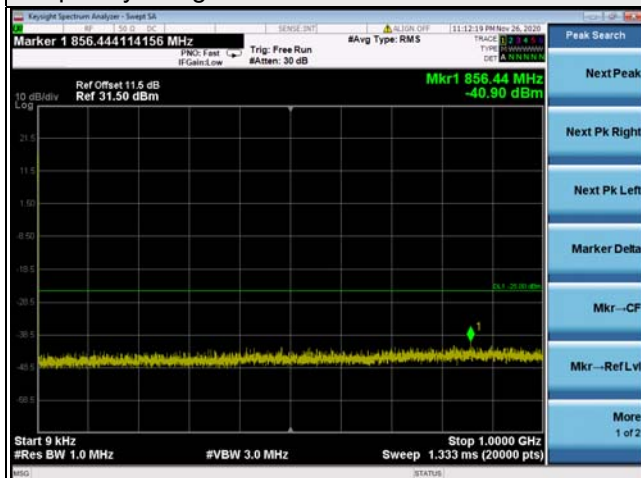


*The 9kHz signal over the limit is from Spectrum.

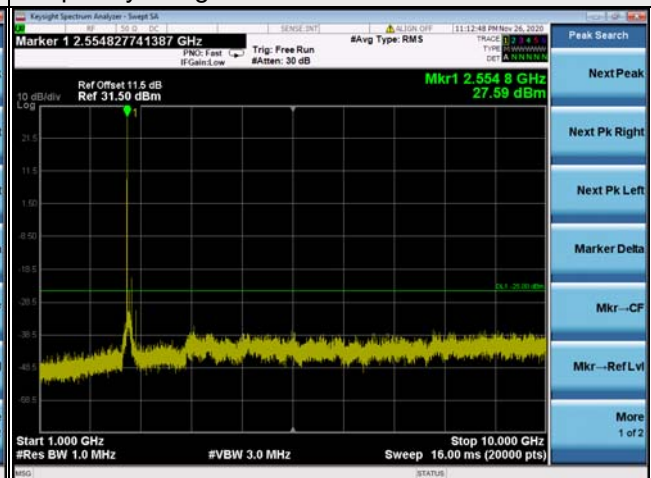
n41, Channel Band width: 80MHz

Channel 518598 (2592.99MHz)

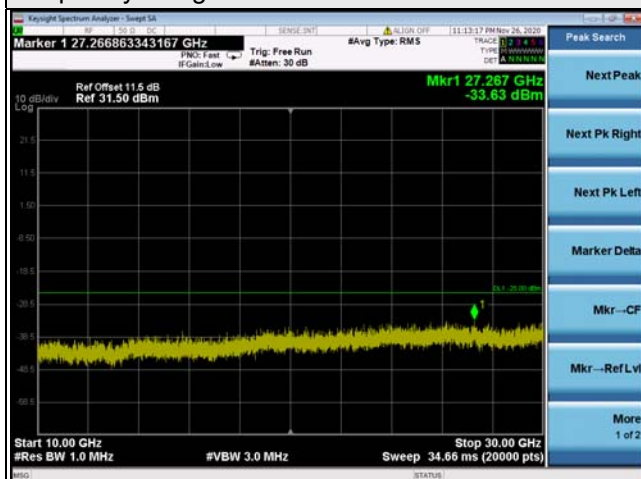
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

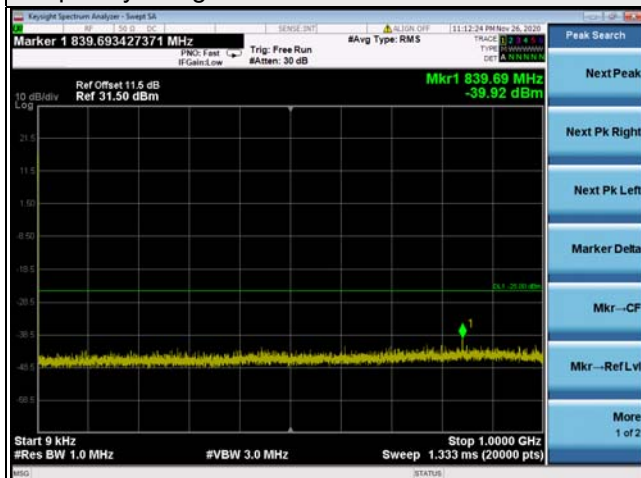


*The 9kHz signal over the limit is from Spectrum.

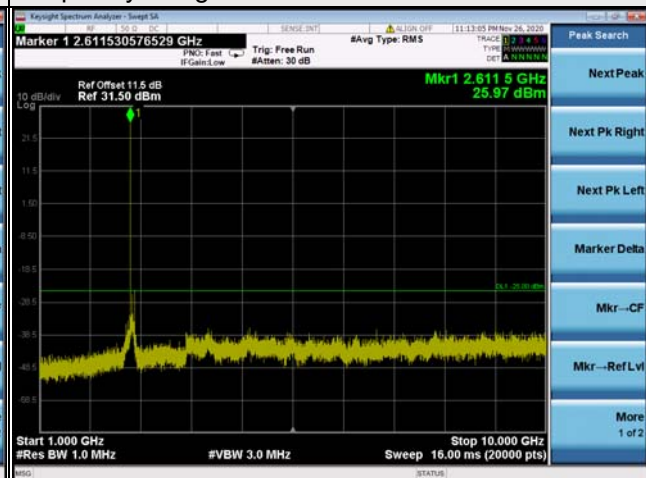
n41, Channel Band width: 80MHz

Channel 529998 (2649.99MHz)

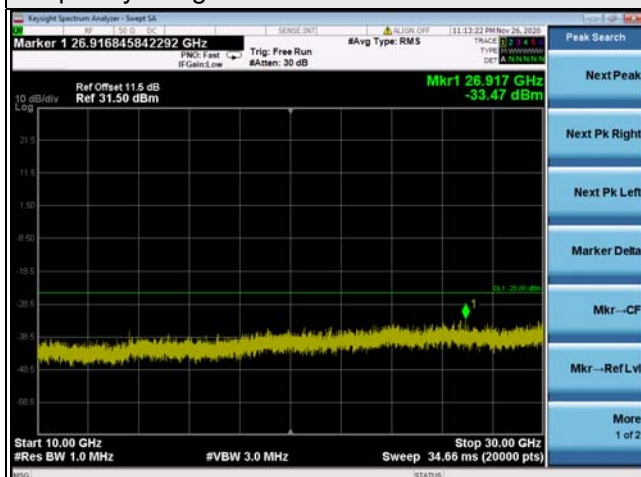
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

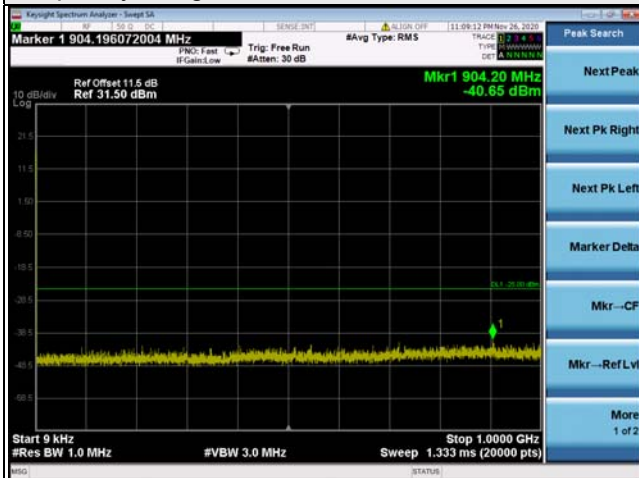


*The 9kHz signal over the limit is from Spectrum.

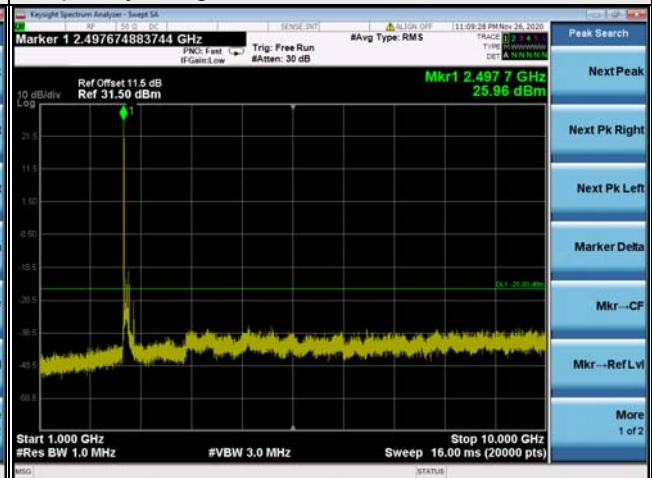
n41, Channel Band width: 90MHz

Channel 508200 (2541.00MHz)

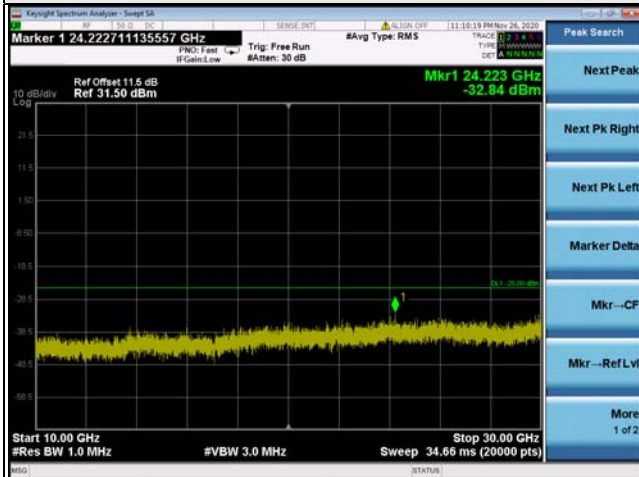
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

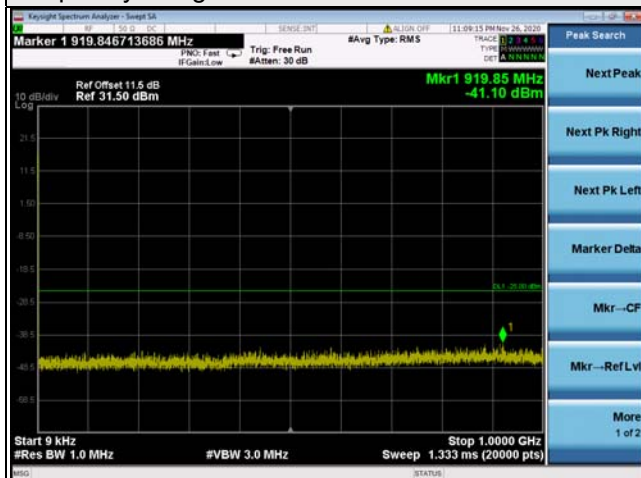


*The 9kHz signal over the limit is from Spectrum.

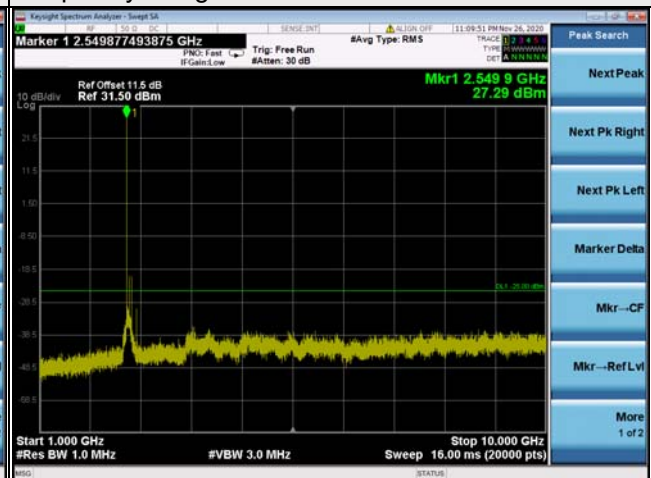
n41, Channel Band width: 90MHz

Channel 518598 (2592.99MHz)

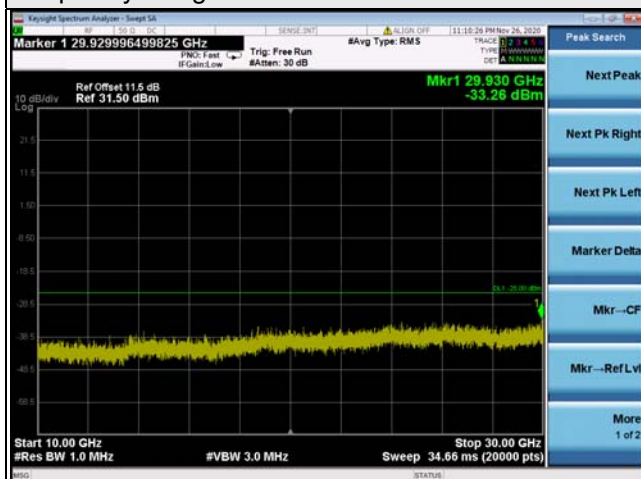
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

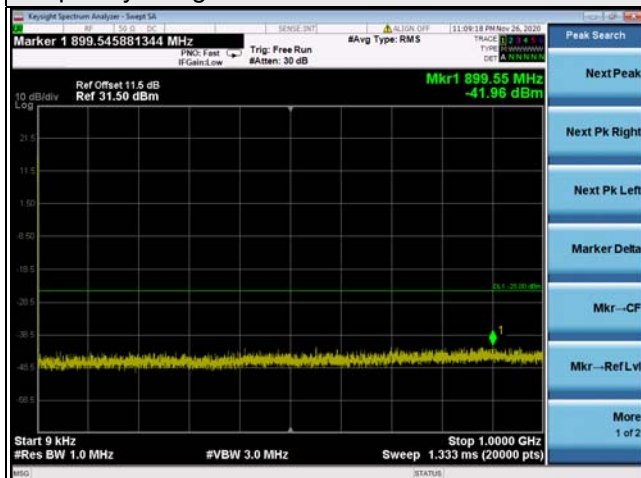


*The 9kHz signal over the limit is from Spectrum.

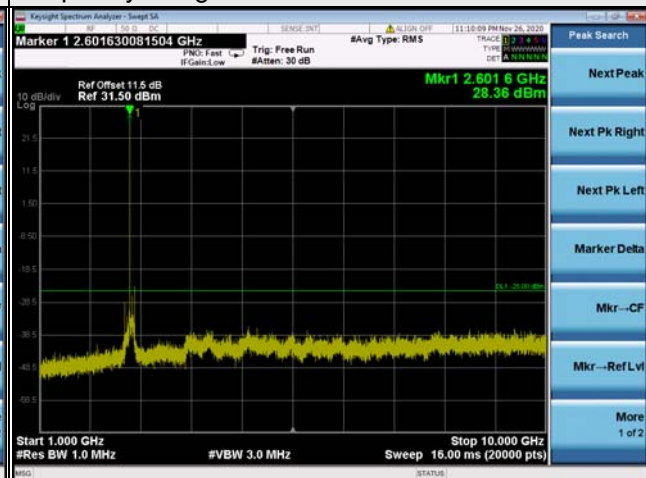
n41, Channel Band width: 90MHz

Channel 528996 (2644.98MHz)

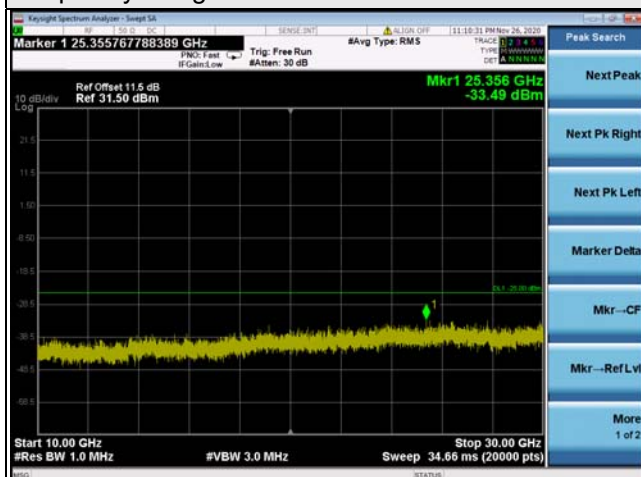
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

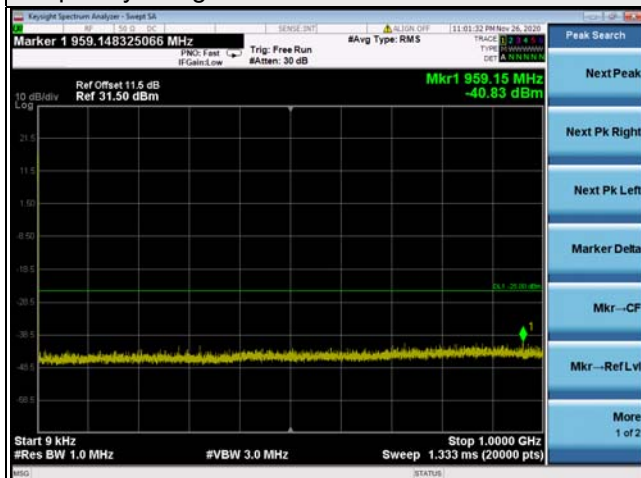


*The 9kHz signal over the limit is from Spectrum.

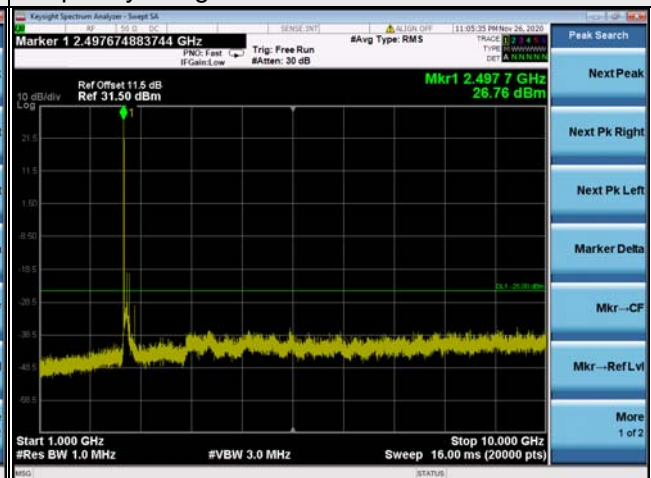
n41, Channel Band width: 100MHz

Channel 509202 (2546.01MHz)

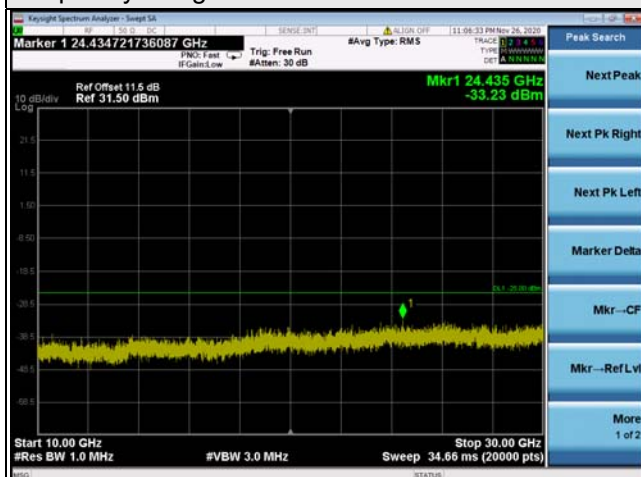
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

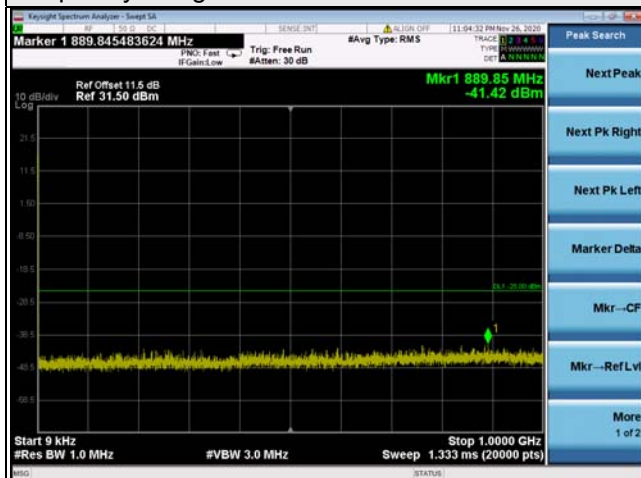


*The 9kHz signal over the limit is from Spectrum.

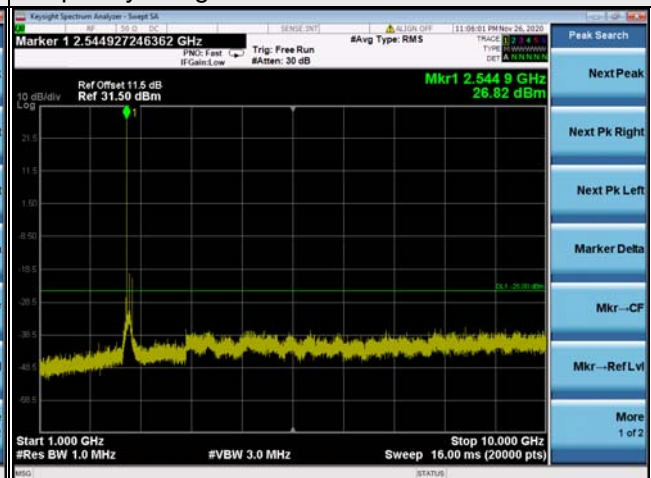
n41, Channel Band width: 100MHz

Channel 518598 (2592.99MHz)

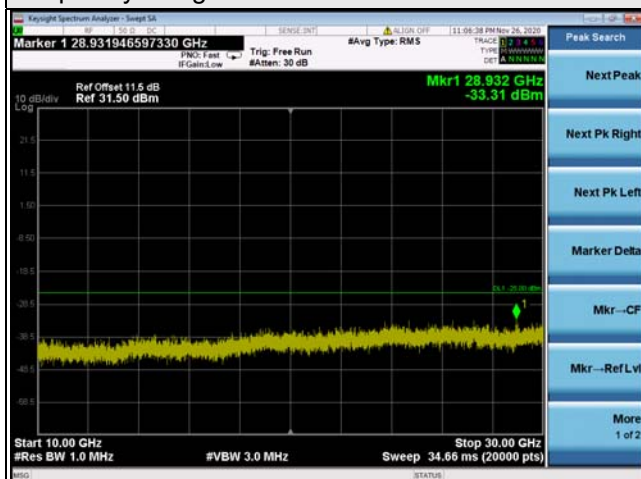
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

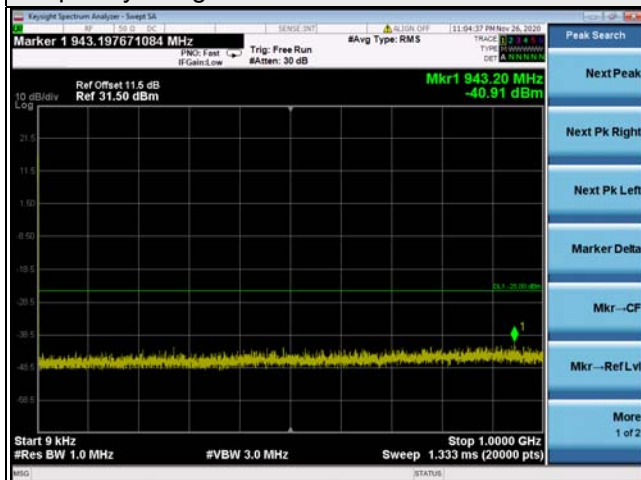


*The 9kHz signal over the limit is from Spectrum.

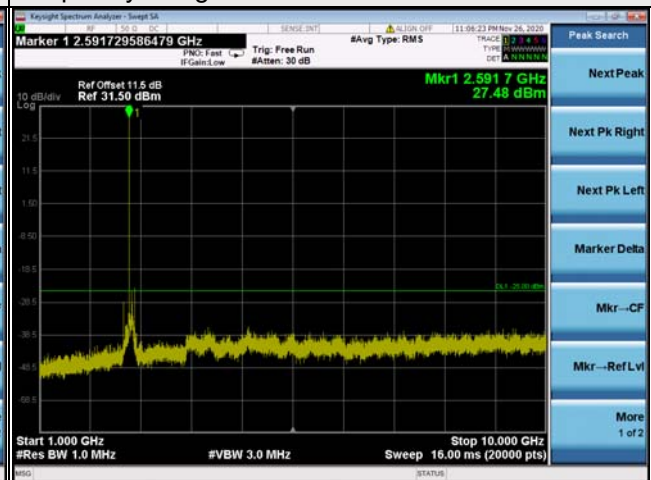
n41, Channel Band width: 100MHz

Channel 528000 (2640.00MHz)

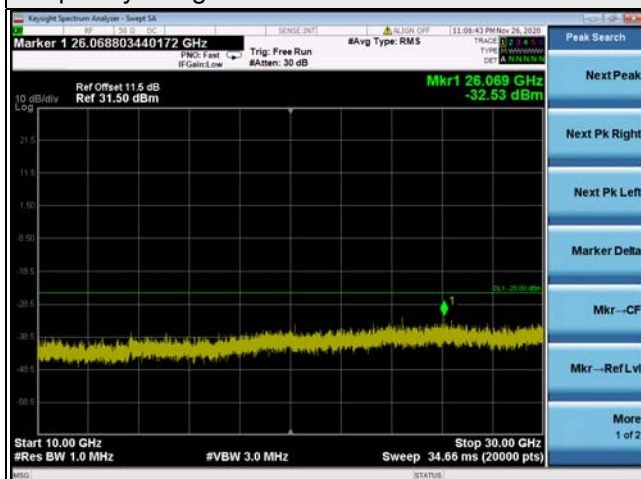
Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



Frequency Range : 10GHz ~ 30GHz

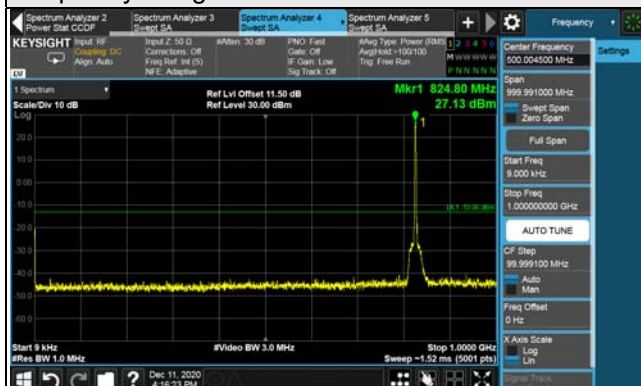


*The 9kHz signal over the limit is from Spectrum.

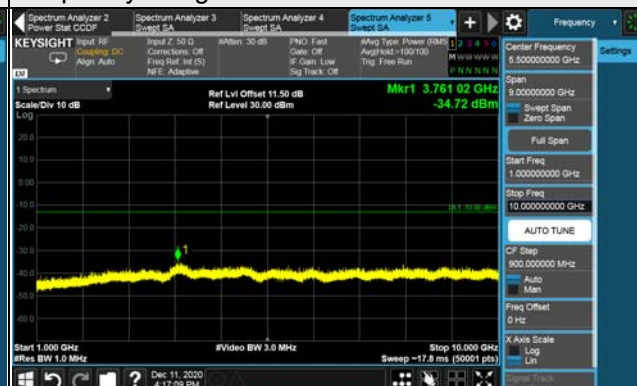
LTE Band 26 (Part 22), Channel Bandwidth: 1.4MHz

Channel 26797 (824.7MHz)

Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz

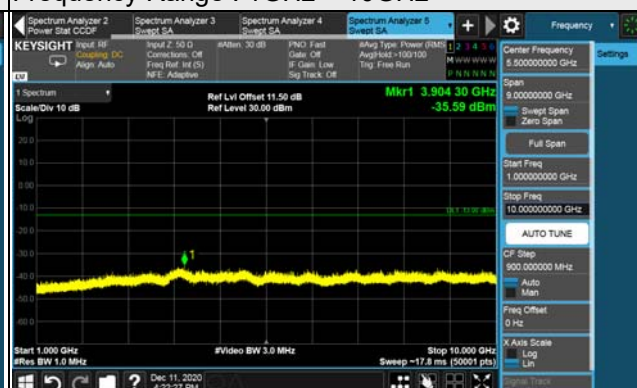


Channel 26915 (836.5MHz)

Frequency Range : 9kHz ~ 1GHz

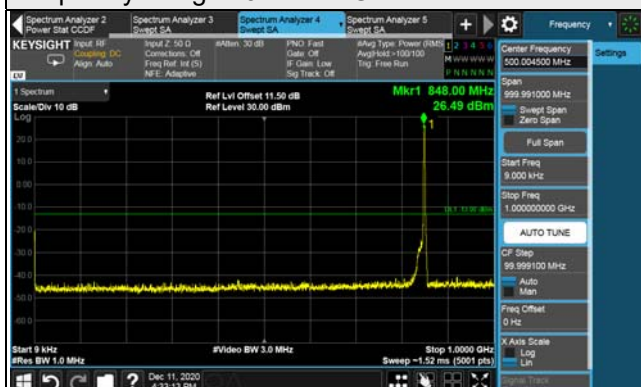


Frequency Range : 1GHz ~ 10GHz

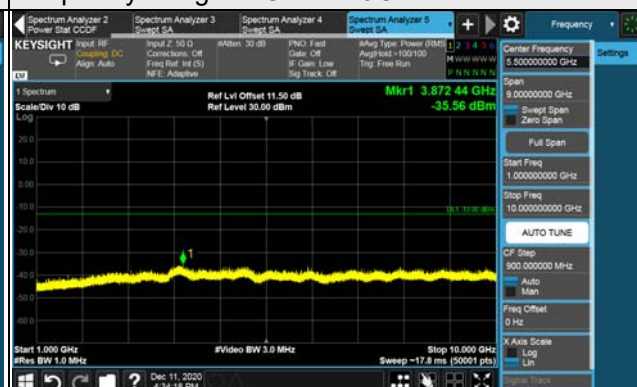


Channel 27033 (848.3MHz)

Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz

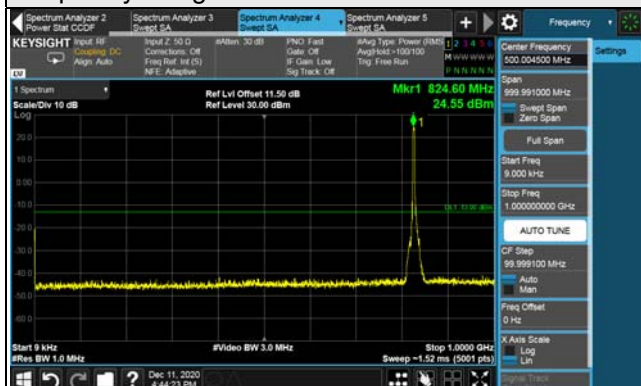


*The 9kHz signal over the limit is from Spectrum.

LTE Band 26 (Part 22), Channel Bandwidth: 3MHz

Channel 26805 (825.5MHz)

Frequency Range : 9kHz ~ 1GHz

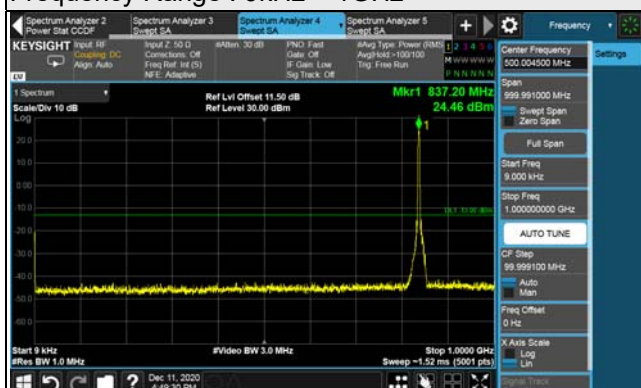


Frequency Range : 1GHz ~ 10GHz

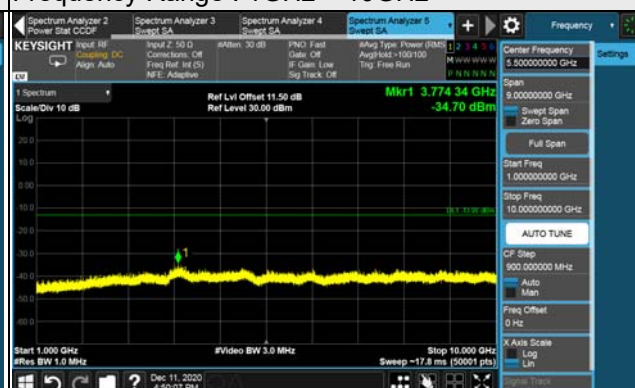


Channel 26915 (836.5MHz)

Frequency Range : 9kHz ~ 1GHz

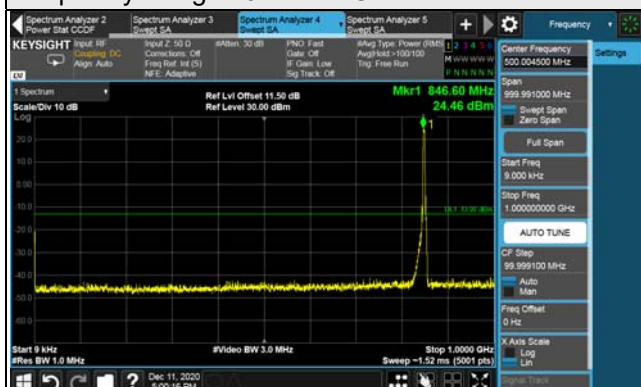


Frequency Range : 1GHz ~ 10GHz

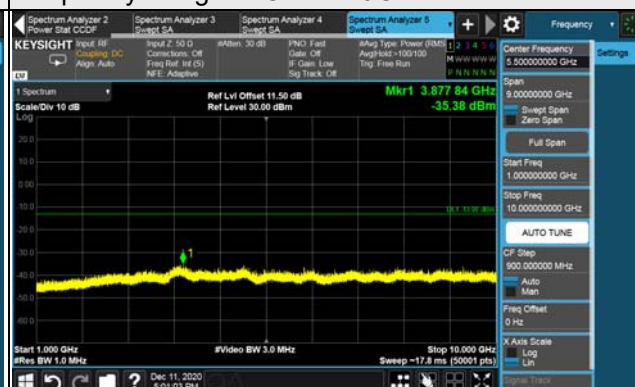


Channel 27025 (847.5MHz)

Frequency Range : 9kHz ~ 1GHz



Frequency Range : 1GHz ~ 10GHz



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