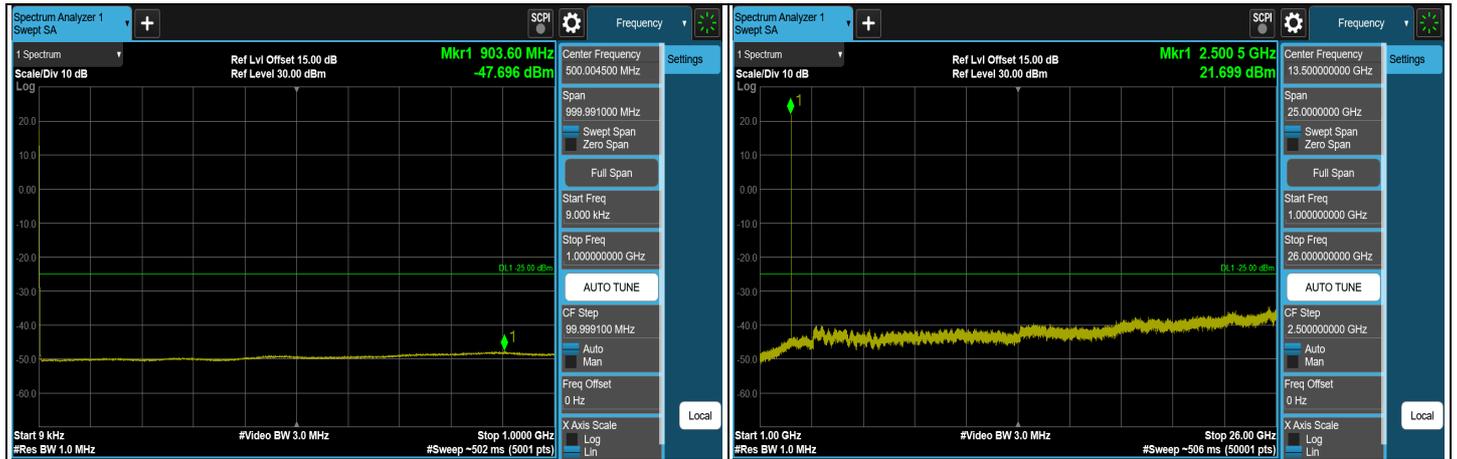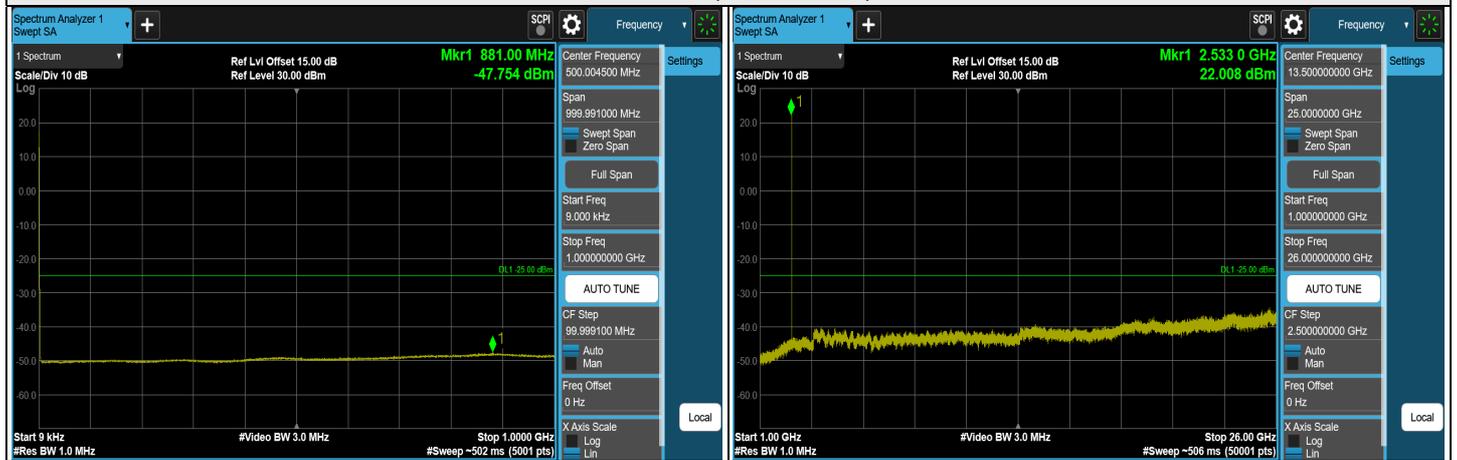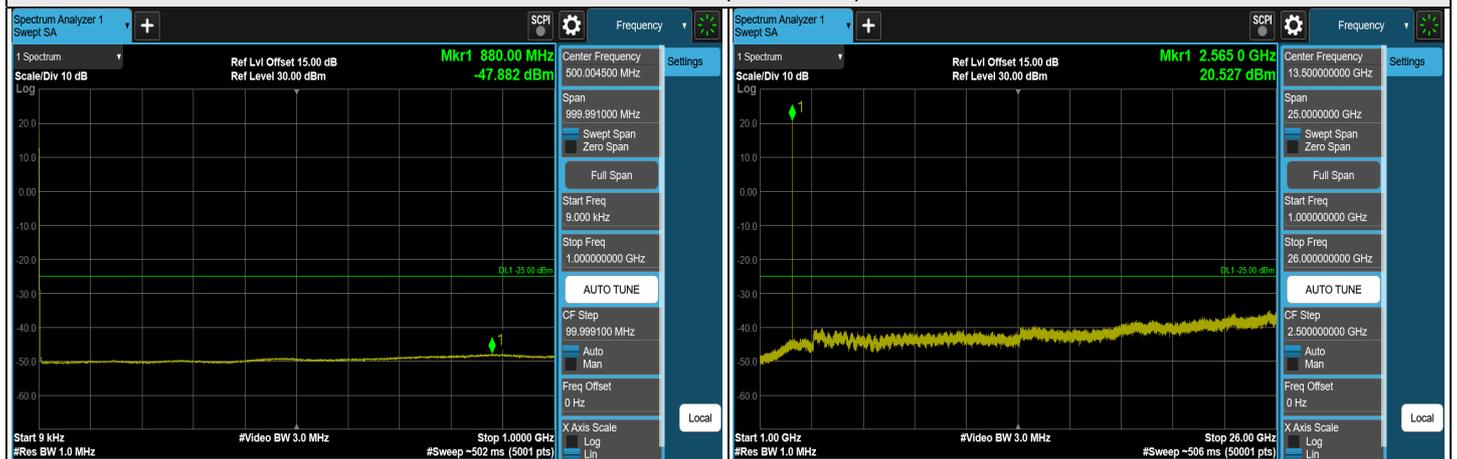## 7.5.7 LTE Band 7

LTE Band 7, Channel Bandwidth: 5 MHz

CH 20775 (2502.5 MHz)

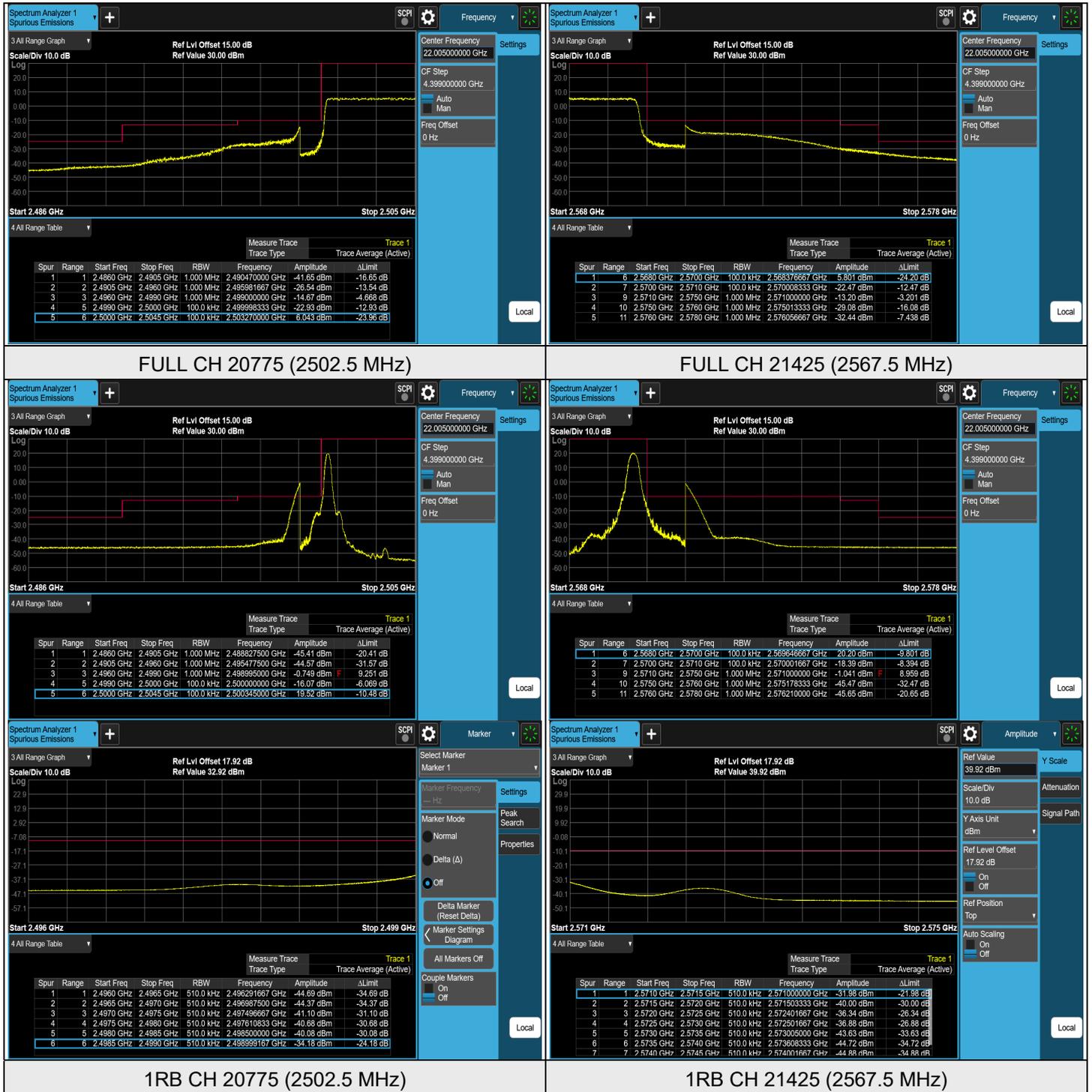CH 21100 (2535 MHz)

CH 21425 (2567.5 MHz)

Note: The signal at 9 kHz is IF signal from spectrum analyzer.

LTE Band 7, Channel Bandwidth: 5 MHz

FULL CH 20775 (2502.5 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	2.4860 GHz	2.4905 GHz	1.000 MHz	2.490470000 GHz	-41.65 dBm	-16.65 dB
2	2	2.4905 GHz	2.4960 GHz	1.000 MHz	2.495981667 GHz	-26.54 dBm	-13.54 dB
3	3	2.4960 GHz	2.4990 GHz	1.000 MHz	2.499000000 GHz	-14.67 dBm	-4.668 dB
4	5	2.4990 GHz	2.5000 GHz	100.0 kHz	2.499998333 GHz	-22.93 dBm	-12.93 dB
5	6	2.5000 GHz	2.5045 GHz	100.0 kHz	2.503270000 GHz	6.043 dBm	-23.96 dB

FULL CH 21425 (2567.5 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	6	2.5680 GHz	2.5700 GHz	100.0 kHz	2.568376667 GHz	5.801 dBm	-24.20 dB
2	7	2.5700 GHz	2.5710 GHz	100.0 kHz	2.570008333 GHz	-22.47 dBm	-12.47 dB
3	9	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571000000 GHz	-13.20 dBm	-3.201 dB
4	10	2.5750 GHz	2.5760 GHz	1.000 MHz	2.575013333 GHz	-29.08 dBm	-16.08 dB
5	11	2.5760 GHz	2.5780 GHz	1.000 MHz	2.576065667 GHz	-32.44 dBm	-7.438 dB

1RB CH 20775 (2502.5 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	2.4860 GHz	2.4905 GHz	1.000 MHz	2.488827500 GHz	-45.41 dBm	-20.41 dB
2	2	2.4905 GHz	2.4960 GHz	1.000 MHz	2.495477500 GHz	-44.57 dBm	-31.57 dB
3	3	2.4960 GHz	2.4990 GHz	1.000 MHz	2.498995000 GHz	-0.749 dBm F	9.251 dB
4	5	2.4990 GHz	2.5000 GHz	100.0 kHz	2.500000000 GHz	-16.07 dBm	-6.069 dB
5	6	2.5000 GHz	2.5045 GHz	100.0 kHz	2.500345000 GHz	19.52 dBm	-10.48 dB

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	2.4960 GHz	2.4965 GHz	510.0 kHz	2.496291667 GHz	-44.69 dBm	-34.69 dB
2	2	2.4965 GHz	2.4970 GHz	510.0 kHz	2.496987500 GHz	-44.37 dBm	-34.37 dB
3	3	2.4970 GHz	2.4975 GHz	510.0 kHz	2.497496667 GHz	-41.10 dBm	-31.10 dB
4	4	2.4975 GHz	2.4980 GHz	510.0 kHz	2.497610833 GHz	-40.68 dBm	-30.68 dB
5	5	2.4980 GHz	2.4985 GHz	510.0 kHz	2.498500000 GHz	-40.08 dBm	-30.08 dB
6	6	2.4985 GHz	2.4990 GHz	510.0 kHz	2.498999167 GHz	-34.18 dBm	-24.18 dB

1RB CH 21425 (2567.5 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	6	2.5680 GHz	2.5700 GHz	100.0 kHz	2.569646667 GHz	20.20 dBm	-9.801 dB
2	7	2.5700 GHz	2.5710 GHz	100.0 kHz	2.570001667 GHz	-18.39 dBm	-8.394 dB
3	9	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571000000 GHz	-1.041 dBm F	8.959 dB
4	10	2.5750 GHz	2.5760 GHz	1.000 MHz	2.575178333 GHz	-45.47 dBm	-32.47 dB
5	11	2.5760 GHz	2.5780 GHz	1.000 MHz	2.576210000 GHz	-45.65 dBm	-20.65 dB

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	2.5710 GHz	2.5715 GHz	510.0 kHz	2.571000000 GHz	-31.98 dBm	-21.98 dB
2	2	2.5715 GHz	2.5720 GHz	510.0 kHz	2.571503333 GHz	-40.00 dBm	-30.00 dB
3	3	2.5720 GHz	2.5725 GHz	510.0 kHz	2.572401667 GHz	-36.34 dBm	-26.34 dB
4	4	2.5725 GHz	2.5730 GHz	510.0 kHz	2.572501667 GHz	-36.88 dBm	-26.88 dB
5	5	2.5730 GHz	2.5735 GHz	510.0 kHz	2.573005000 GHz	-43.63 dBm	-33.63 dB
6	6	2.5735 GHz	2.5740 GHz	510.0 kHz	2.573608333 GHz	-44.72 dBm	-34.72 dB
7	7	2.5740 GHz	2.5745 GHz	510.0 kHz	2.574001667 GHz	-44.88 dBm	-34.88 dB

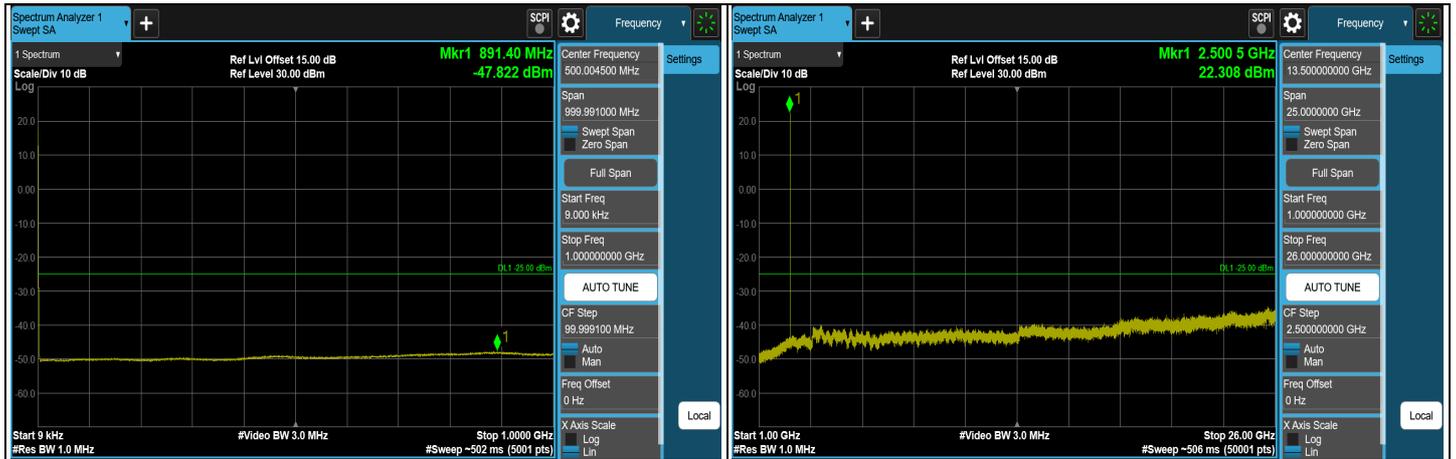[RBW = 510 kHz / Reference RBW = 1 MHz]

Worst-case integrated BW power = [Max Measured Value (dBm) with RBW=510kHz] + 10log(1000/510)

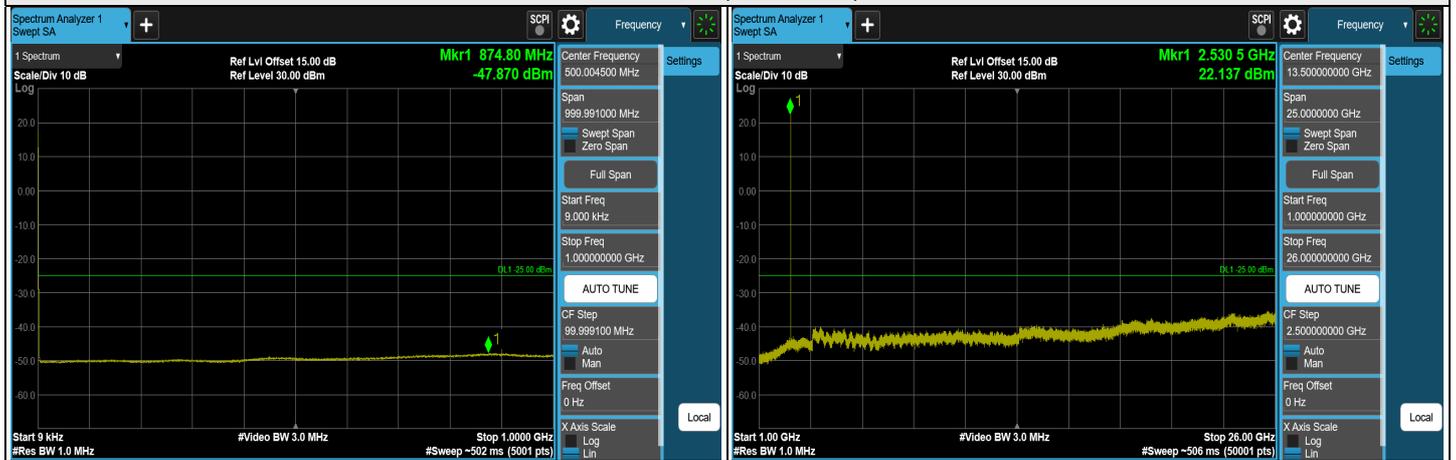To compensate for this integration before comparison to the limit, 2.92 dB was added to Ref Lvl Offset.
i.e. 15 dB CF + 2.92 dB integration compensation factor = 17.92 dB Ref Lvl Offset
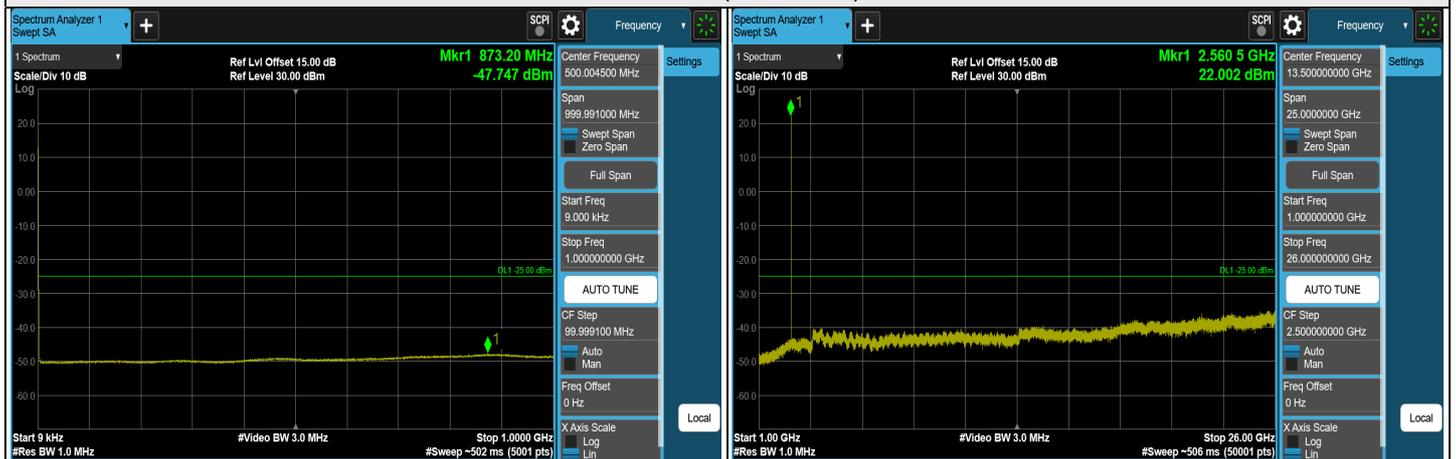
LTE Band 7, Channel Bandwidth: 10 MHz
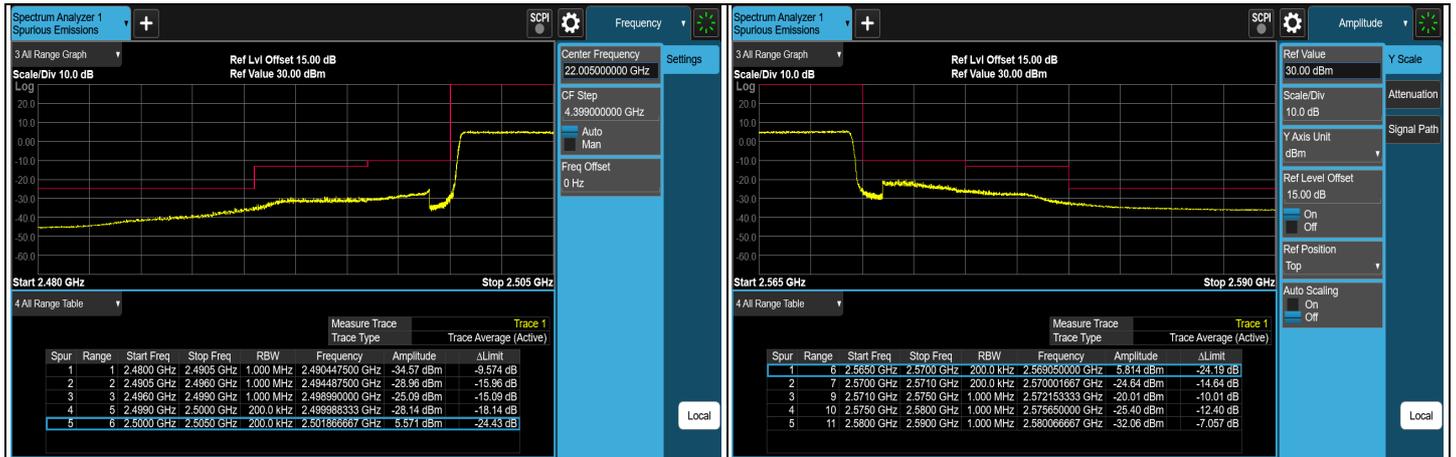

CH 20800 (2505 MHz)

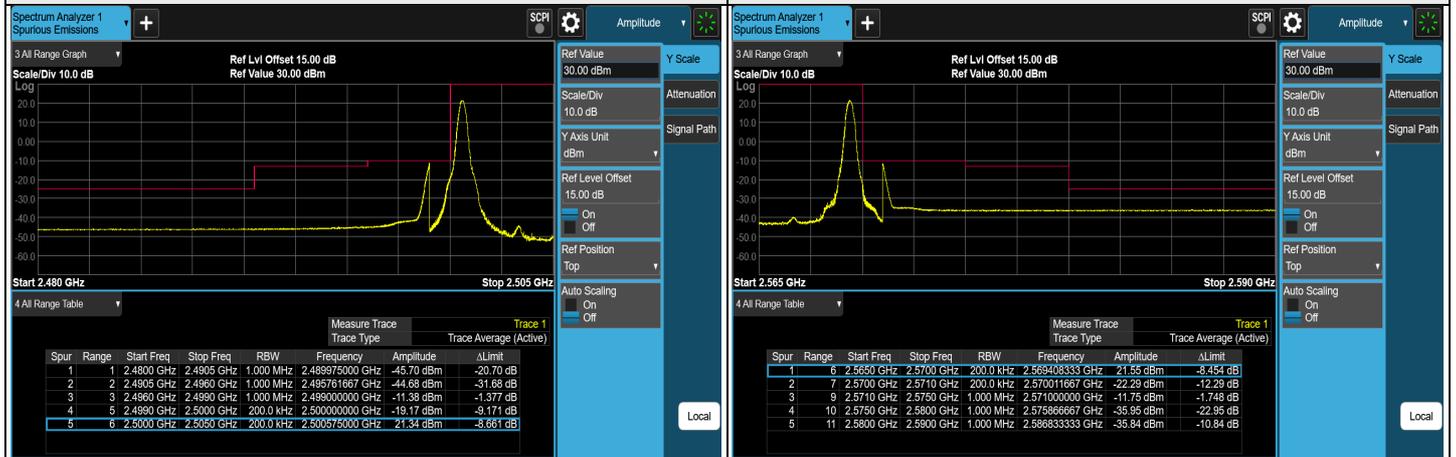CH 21100 (2535 MHz)

CH 21400 (2565 MHz)

Note: The signal at 9 kHz is IF signal from spectrum analyzer.

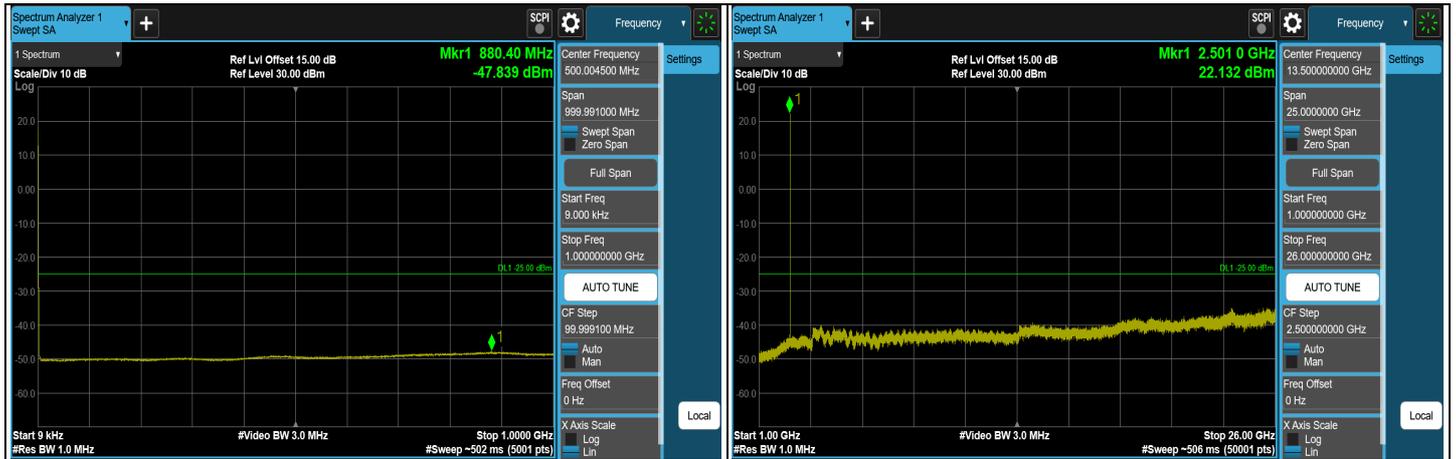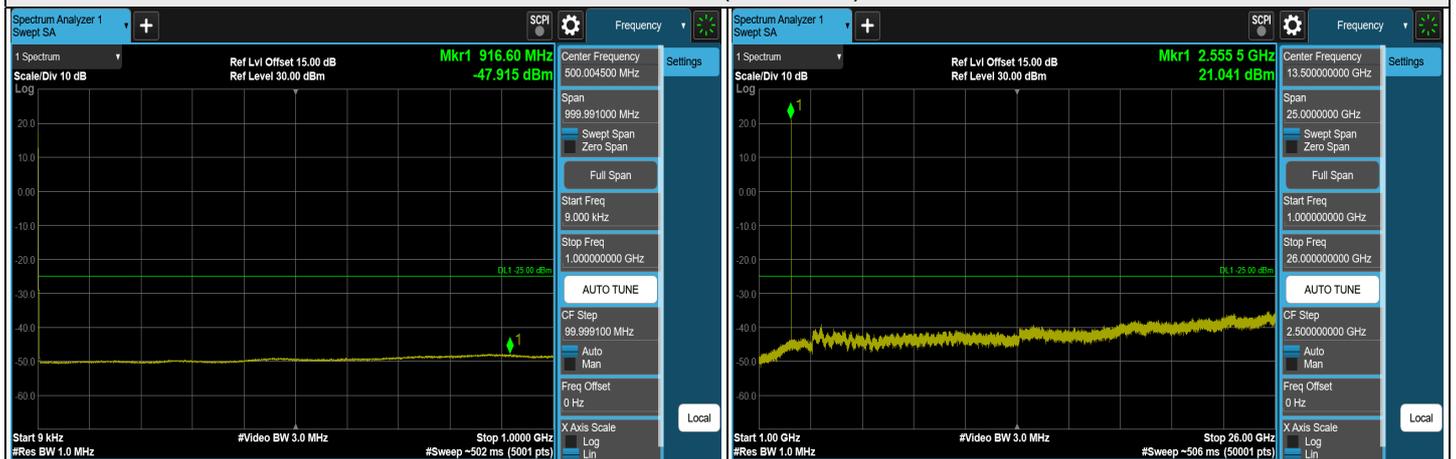## LTE Band 7, Channel Bandwidth: 10 MHz

FULL CH 20800 (2505 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	2.4800 GHz	2.4905 GHz	1.000 MHz	2.490447500 GHz	-34.57 dBm	-9.574 dB
2	2	2.4905 GHz	2.4960 GHz	1.000 MHz	2.494487500 GHz	-28.96 dBm	-15.96 dB
3	3	2.4960 GHz	2.4990 GHz	1.000 MHz	2.498990000 GHz	-25.09 dBm	-15.09 dB
4	5	2.4990 GHz	2.5000 GHz	200.0 kHz	2.499988333 GHz	-28.14 dBm	-18.14 dB
5	6	2.5000 GHz	2.5050 GHz	200.0 kHz	2.501866667 GHz	5.571 dBm	-24.43 dB

FULL CH 21400 (2565 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	6	2.5650 GHz	2.5700 GHz	200.0 kHz	2.569050000 GHz	5.814 dBm	-24.19 dB
2	7	2.5700 GHz	2.5710 GHz	200.0 kHz	2.570001667 GHz	-24.64 dBm	-14.64 dB
3	9	2.5710 GHz	2.5750 GHz	1.000 MHz	2.572153333 GHz	-20.01 dBm	-10.01 dB
4	10	2.5750 GHz	2.5800 GHz	1.000 MHz	2.575650000 GHz	-25.40 dBm	-12.40 dB
5	11	2.5800 GHz	2.5900 GHz	1.000 MHz	2.580066667 GHz	-32.06 dBm	-7.057 dB

1RB CH 20800 (2505 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	2.4800 GHz	2.4905 GHz	1.000 MHz	2.489975000 GHz	-45.70 dBm	-20.70 dB
2	2	2.4905 GHz	2.4960 GHz	1.000 MHz	2.495761667 GHz	-44.68 dBm	-31.68 dB
3	3	2.4960 GHz	2.4990 GHz	1.000 MHz	2.499000000 GHz	-11.38 dBm	-1.377 dB
4	5	2.4990 GHz	2.5000 GHz	200.0 kHz	2.500000000 GHz	-19.17 dBm	-9.171 dB
5	6	2.5000 GHz	2.5050 GHz	200.0 kHz	2.500575000 GHz	21.34 dBm	-8.661 dB

1RB CH 21400 (2565 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	6	2.5650 GHz	2.5700 GHz	200.0 kHz	2.569408333 GHz	21.55 dBm	-8.454 dB
2	7	2.5700 GHz	2.5710 GHz	200.0 kHz	2.570011667 GHz	-22.29 dBm	-12.29 dB
3	9	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571000000 GHz	-11.75 dBm	-1.748 dB
4	10	2.5750 GHz	2.5800 GHz	1.000 MHz	2.575866667 GHz	-35.95 dBm	-22.95 dB
5	11	2.5800 GHz	2.5900 GHz	1.000 MHz	2.586833333 GHz	-35.84 dBm	-10.84 dB

LTE Band 7, Channel Bandwidth: 15 MHz

Spectrum Analyzer 1 — Swept SA (left panels / right panels)

Panel row 1 (left): Mkr1 880.40 MHz, -47.839 dBm; Ref Lvl Offset 15.00 dB; Ref Level 30.00 dBm; Scale/Div 10 dB; Center Frequency 500.004500 MHz; Span 999.991000 MHz; Start Freq 9.000 kHz; Stop Freq 1.000000000 GHz; CF Step 99.999100 MHz; Freq Offset 0 Hz; Start 9 kHz; #Video BW 3.0 MHz; Stop 1.0000 GHz; #Res BW 1.0 MHz; #Sweep ~502 ms (5001 pts)

Panel row 1 (right): Mkr1 2.501 0 GHz, 22.132 dBm; Ref Lvl Offset 15.00 dB; Ref Level 30.00 dBm; Scale/Div 10 dB; Center Frequency 13.500000000 GHz; Span 25.0000000 GHz; Start Freq 1.000000000 GHz; Stop Freq 26.000000000 GHz; CF Step 2.500000000 GHz; Freq Offset 0 Hz; Start 1.00 GHz; #Video BW 3.0 MHz; Stop 26.00 GHz; #Res BW 1.0 MHz; #Sweep ~506 ms (50001 pts)

CH 20825 (2507.5 MHz)

Panel row 2 (left): Mkr1 900.20 MHz, -47.810 dBm; (same settings as above)

Panel row 2 (right): Mkr1 2.528 5 GHz, 22.076 dBm; (same settings as above)

CH 21100 (2535 MHz)

Panel row 3 (left): Mkr1 916.60 MHz, -47.915 dBm; (same settings as above)

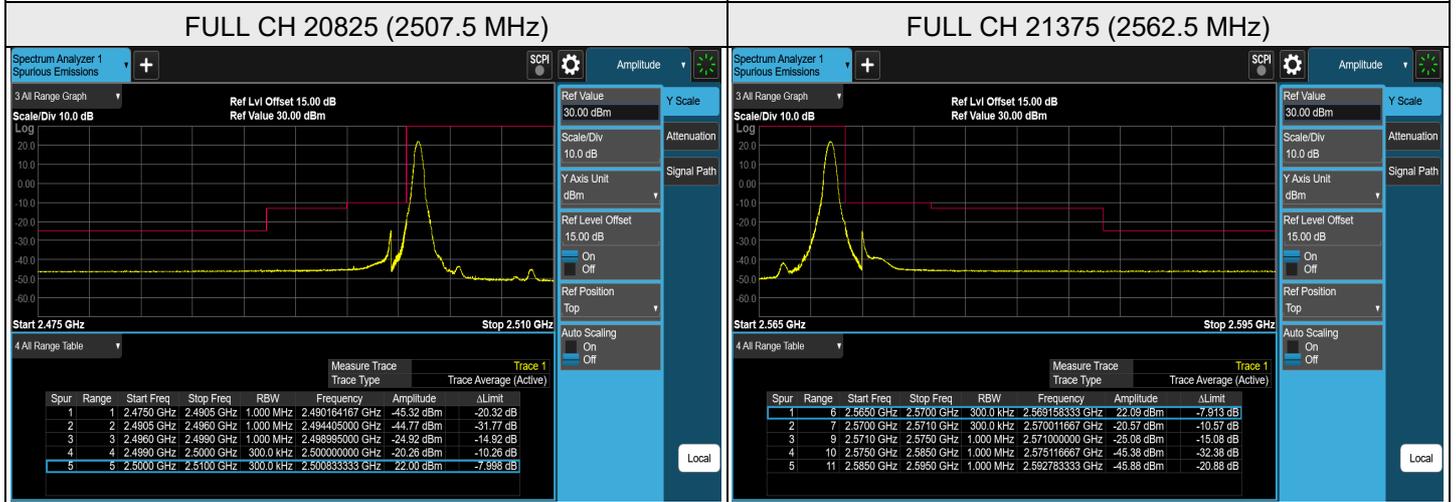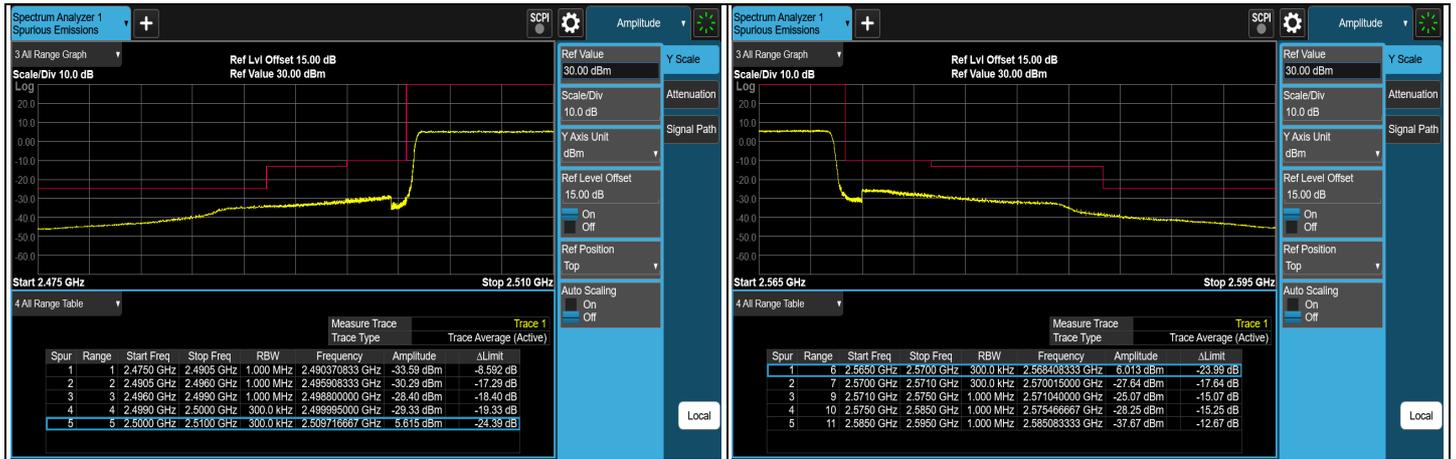**Panel row 3 (right):** Mkr1 2.555 5 GHz, 21.041 dBm; (same settings as above)

CH 21375 (2562.5 MHz)

Note: The signal at 9 kHz is IF signal from spectrum analyzer.

LTE Band 7, Channel Bandwidth: 15 MHz

FULL CH 20825 (2507.5 MHz)
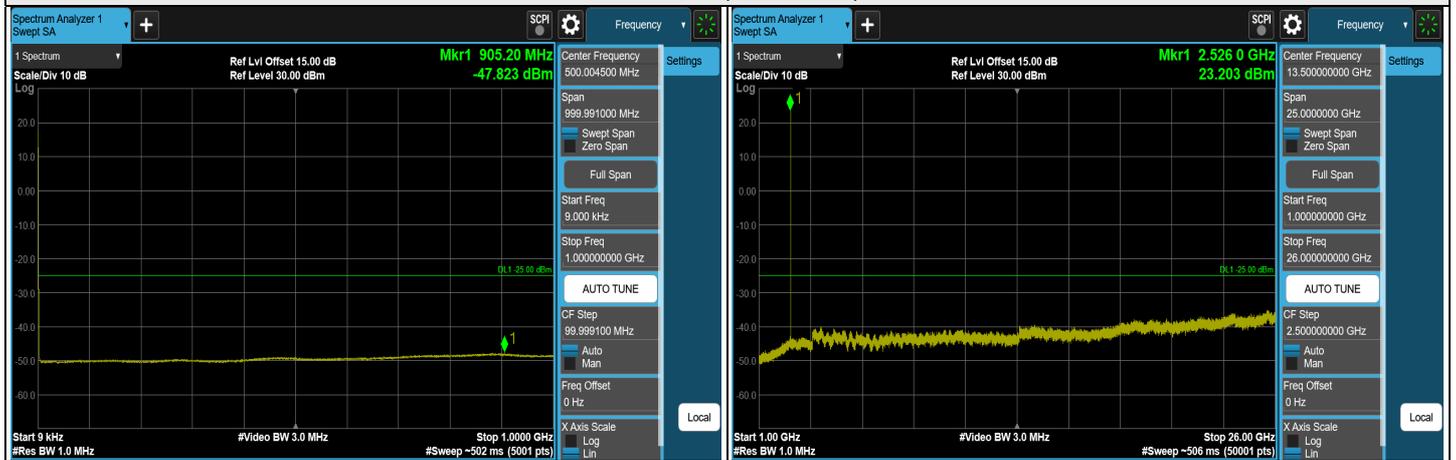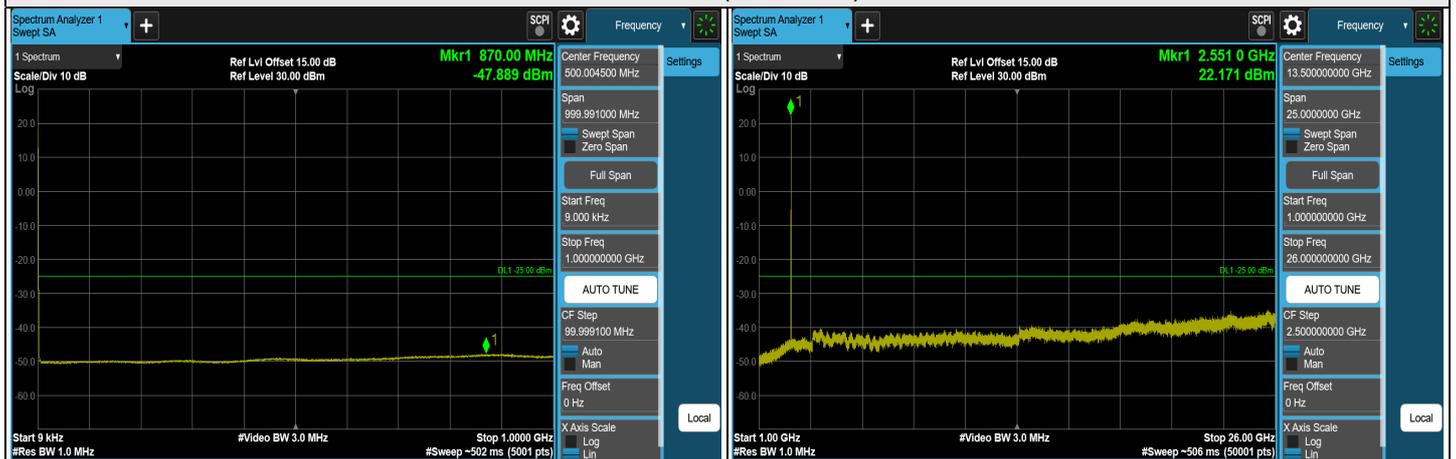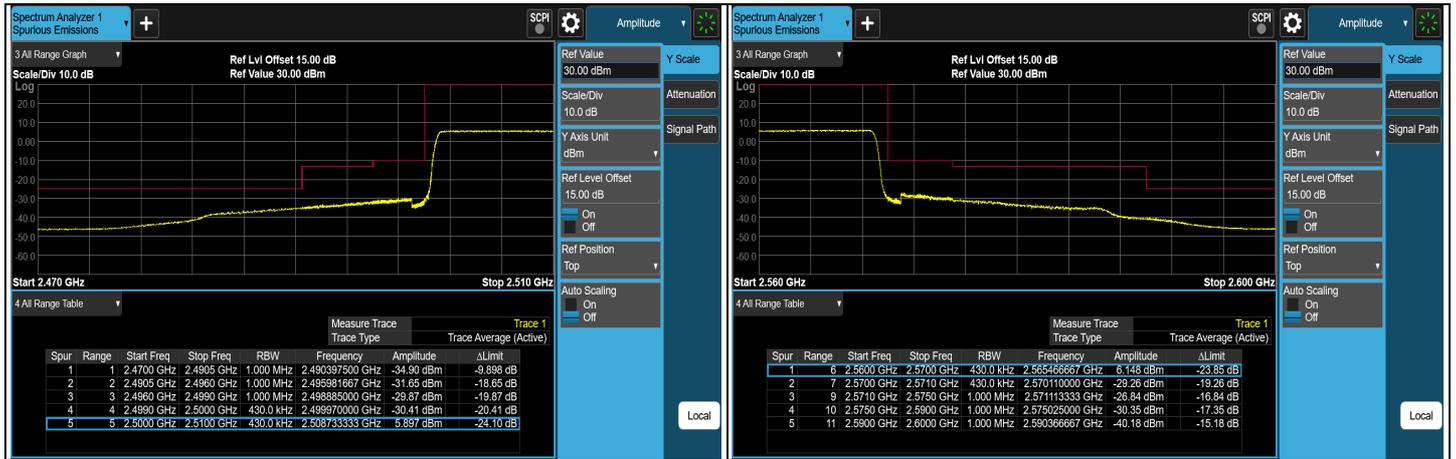
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490370833 GHz	-33.59 dBm	-8.592 dB
2	2	2.4905 GHz	2.4960 GHz	1.000 MHz	2.495908333 GHz	-30.29 dBm	-17.29 dB
3	3	2.4960 GHz	2.4990 GHz	1.000 MHz	2.498800000 GHz	-28.40 dBm	-18.40 dB
4	4	2.4990 GHz	2.5000 GHz	300.0 kHz	2.499995000 GHz	-29.33 dBm	-19.33 dB
5	5	2.5000 GHz	2.5100 GHz	300.0 kHz	2.509716667 GHz	5.615 dBm	-24.39 dB

FULL CH 21375 (2562.5 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	6	2.5650 GHz	2.5700 GHz	300.0 kHz	2.568408333 GHz	6.013 dBm	-23.99 dB
2	7	2.5700 GHz	2.5710 GHz	300.0 kHz	2.570015000 GHz	-27.64 dBm	-17.64 dB
3	9	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571040000 GHz	-25.07 dBm	-15.07 dB
4	10	2.5750 GHz	2.5850 GHz	1.000 MHz	2.575466667 GHz	-28.25 dBm	-15.25 dB
5	11	2.5850 GHz	2.5950 GHz	1.000 MHz	2.585083333 GHz	-37.67 dBm	-12.67 dB

1RB CH 20825 (2507.5 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	2.4750 GHz	2.4905 GHz	1.000 MHz	2.490164167 GHz	-45.32 dBm	-20.32 dB
2	2	2.4905 GHz	2.4960 GHz	1.000 MHz	2.494405000 GHz	-44.77 dBm	-31.77 dB
3	3	2.4960 GHz	2.4990 GHz	1.000 MHz	2.498995000 GHz	-24.92 dBm	-14.92 dB
4	4	2.4990 GHz	2.5000 GHz	300.0 kHz	2.500000000 GHz	-20.26 dBm	-10.26 dB
5	5	2.5000 GHz	2.5100 GHz	300.0 kHz	2.500833333 GHz	22.00 dBm	-7.998 dB

1RB CH 21375 (2562.5 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	6	2.5650 GHz	2.5700 GHz	300.0 kHz	2.569158333 GHz	22.09 dBm	-7.913 dB
2	7	2.5700 GHz	2.5710 GHz	300.0 kHz	2.570011667 GHz	-20.57 dBm	-10.57 dB
3	9	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571000000 GHz	-25.08 dBm	-15.08 dB
4	10	2.5750 GHz	2.5850 GHz	1.000 MHz	2.575116667 GHz	-45.38 dBm	-32.38 dB
5	11	2.5850 GHz	2.5950 GHz	1.000 MHz	2.592783333 GHz	-45.88 dBm	-20.88 dB

LTE Band 7, Channel Bandwidth: 20 MHz

CH 20850 (2510 MHz)

Left screen: Mkr1 867.00 MHz, -47.753 dBm; Ref Lvl Offset 15.00 dB; Ref Level 30.00 dBm; Scale/Div 10 dB; Center Frequency 500.004500 MHz; Span 999.991000 MHz; Start Freq 9.000 kHz; Stop Freq 1.000000000 GHz; CF Step 99.999100 MHz; Freq Offset 0 Hz; Start 9 kHz; Stop 1.0000 GHz; #Video BW 3.0 MHz; #Res BW 1.0 MHz; #Sweep ~502 ms (5001 pts)

Right screen: Mkr1 2.501 0 GHz, 21.992 dBm; Ref Lvl Offset 15.00 dB; Ref Level 30.00 dBm; Scale/Div 10 dB; Center Frequency 13.500000000 GHz; Span 25.0000000 GHz; Start Freq 1.000000000 GHz; Stop Freq 26.000000000 GHz; CF Step 2.500000000 GHz; Freq Offset 0 Hz; Start 1.00 GHz; Stop 26.00 GHz; #Video BW 3.0 MHz; #Res BW 1.0 MHz; #Sweep ~506 ms (50001 pts)

CH 21100 (2535 MHz)

Left screen: Mkr1 905.20 MHz, -47.823 dBm; Ref Lvl Offset 15.00 dB; Ref Level 30.00 dBm; Scale/Div 10 dB; Center Frequency 500.004500 MHz; Span 999.991000 MHz; Start Freq 9.000 kHz; Stop Freq 1.000000000 GHz; CF Step 99.999100 MHz; Freq Offset 0 Hz; Start 9 kHz; Stop 1.0000 GHz; #Video BW 3.0 MHz; #Res BW 1.0 MHz; #Sweep ~502 ms (5001 pts)

Right screen: Mkr1 2.526 0 GHz, 23.203 dBm; Ref Lvl Offset 15.00 dB; Ref Level 30.00 dBm; Scale/Div 10 dB; Center Frequency 13.500000000 GHz; Span 25.0000000 GHz; Start Freq 1.000000000 GHz; Stop Freq 26.000000000 GHz; CF Step 2.500000000 GHz; Freq Offset 0 Hz; Start 1.00 GHz; Stop 26.00 GHz; #Video BW 3.0 MHz; #Res BW 1.0 MHz; #Sweep ~506 ms (50001 pts)

CH 21350 (2560 MHz)

Left screen: Mkr1 870.00 MHz, -47.889 dBm; Ref Lvl Offset 15.00 dB; Ref Level 30.00 dBm; Scale/Div 10 dB; Center Frequency 500.004500 MHz; Span 999.991000 MHz; Start Freq 9.000 kHz; Stop Freq 1.000000000 GHz; CF Step 99.999100 MHz; Freq Offset 0 Hz; Start 9 kHz; Stop 1.0000 GHz; #Video BW 3.0 MHz; #Res BW 1.0 MHz; #Sweep ~502 ms (5001 pts)

Right screen: Mkr1 2.551 0 GHz, 22.171 dBm; Ref Lvl Offset 15.00 dB; Ref Level 30.00 dBm; Scale/Div 10 dB; Center Frequency 13.500000000 GHz; Span 25.0000000 GHz; Start Freq 1.000000000 GHz; Stop Freq 26.000000000 GHz; CF Step 2.500000000 GHz; Freq Offset 0 Hz; Start 1.00 GHz; Stop 26.00 GHz; #Video BW 3.0 MHz; #Res BW 1.0 MHz; #Sweep ~506 ms (50001 pts)

Note: The signal at 9 kHz is IF signal from spectrum analyzer.

LTE Band 7, Channel Bandwidth: 20 MHz

FULL CH 20850 (2510 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	2.4700 GHz	2.4905 GHz	1.000 MHz	2.490397500 GHz	-34.90 dBm	-9.898 dB
2	2	2.4905 GHz	2.4960 GHz	1.000 MHz	2.495981667 GHz	-31.65 dBm	-18.65 dB
3	3	2.4960 GHz	2.4990 GHz	1.000 MHz	2.498885000 GHz	-29.87 dBm	-19.87 dB
4	4	2.4990 GHz	2.5000 GHz	430.0 kHz	2.499970000 GHz	-30.41 dBm	-20.41 dB
5	5	2.5000 GHz	2.5100 GHz	430.0 kHz	2.508733333 GHz	5.897 dBm	-24.10 dB

FULL CH 21350 (2560 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	6	2.5600 GHz	2.5700 GHz	430.0 kHz	2.565466667 GHz	6.148 dBm	-23.85 dB
2	7	2.5700 GHz	2.5710 GHz	430.0 kHz	2.570110000 GHz	-29.26 dBm	-19.26 dB
3	9	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571113333 GHz	-26.84 dBm	-16.84 dB
4	10	2.5750 GHz	2.5900 GHz	1.000 MHz	2.575025000 GHz	-30.35 dBm	-17.35 dB
5	11	2.5900 GHz	2.6000 GHz	1.000 MHz	2.590366667 GHz	-40.18 dBm	-15.18 dB

1RB CH 20850 (2510 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	2.4700 GHz	2.4905 GHz	1.000 MHz	2.490295000 GHz	-45.87 dBm	-20.87 dB
2	2	2.4905 GHz	2.4960 GHz	1.000 MHz	2.495945000 GHz	-45.27 dBm	-32.27 dB
3	3	2.4960 GHz	2.4990 GHz	1.000 MHz	2.498975000 GHz	-33.19 dBm	-23.19 dB
4	4	2.4990 GHz	2.5000 GHz	430.0 kHz	2.499991667 GHz	-21.44 dBm	-11.44 dB
5	5	2.5000 GHz	2.5100 GHz	430.0 kHz	2.501066667 GHz	22.26 dBm	-7.743 dB

1RB CH 21350 (2560 MHz)

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	6	2.5600 GHz	2.5700 GHz	430.0 kHz	2.568916667 GHz	22.31 dBm	-7.692 dB
2	7	2.5700 GHz	2.5710 GHz	430.0 kHz	2.570023333 GHz	-20.84 dBm	-10.84 dB
3	9	2.5710 GHz	2.5750 GHz	1.000 MHz	2.571006667 GHz	-33.17 dBm	-23.17 dB
4	10	2.5750 GHz	2.5900 GHz	1.000 MHz	2.575525000 GHz	-45.57 dBm	-32.57 dB
5	11	2.5900 GHz	2.6000 GHz	1.000 MHz	2.593866667 GHz	-45.85 dBm	-20.85 dB

7.5.8 LTE Band 12

LTE Band 12, Channel Bandwidth: 1.4 MHz

CH 23017 (699.7 MHz)

CH 23095 (707.5 MHz)

CH 23173 (715.3 MHz)

Note: The signal at 9 kHz is IF signal from spectrum analyzer.
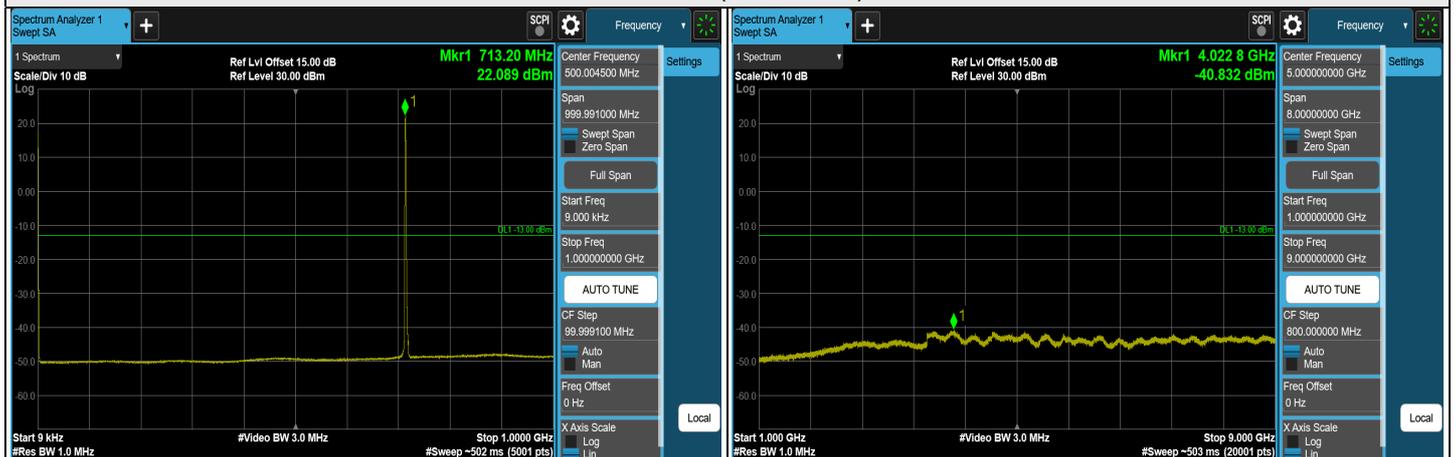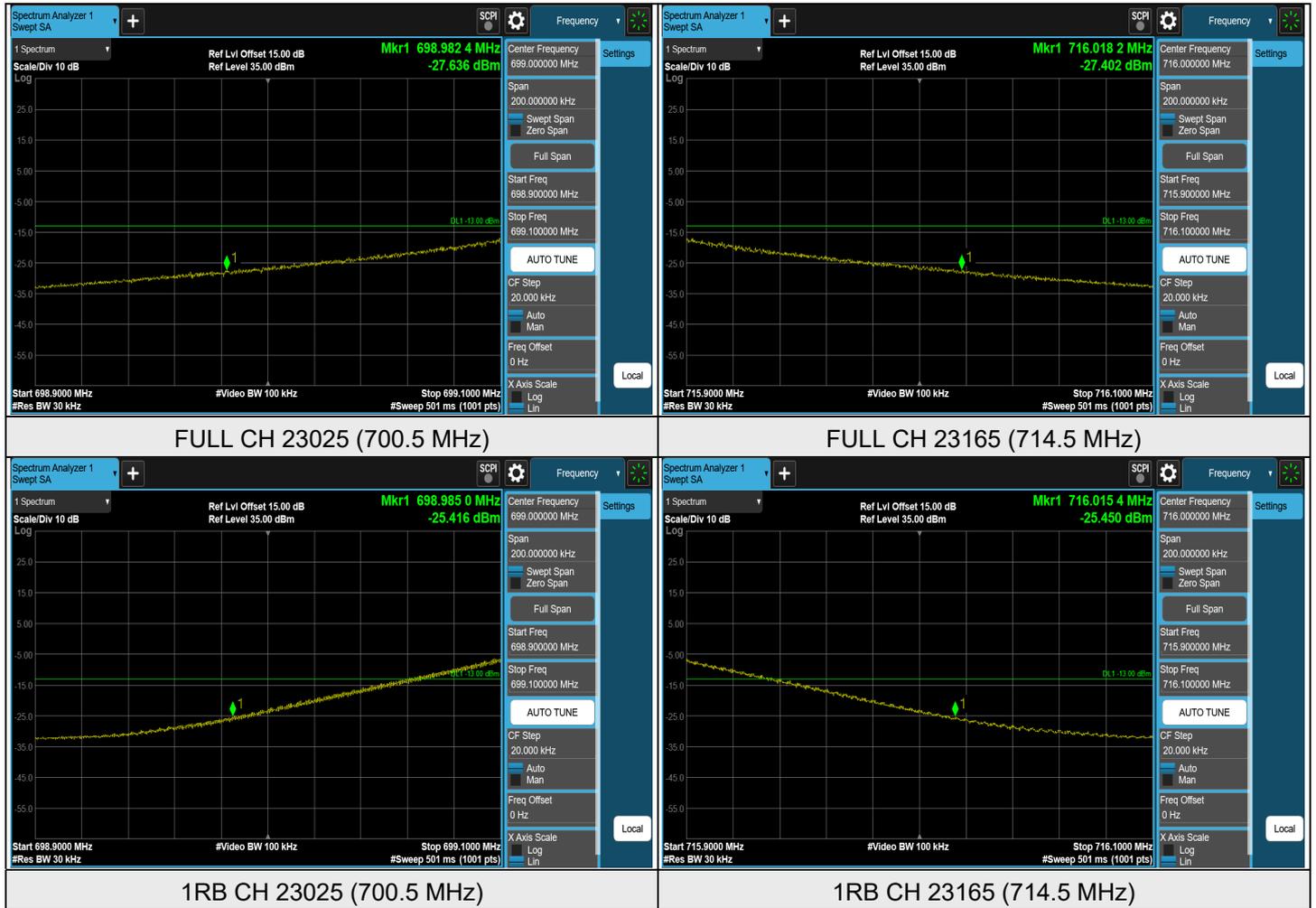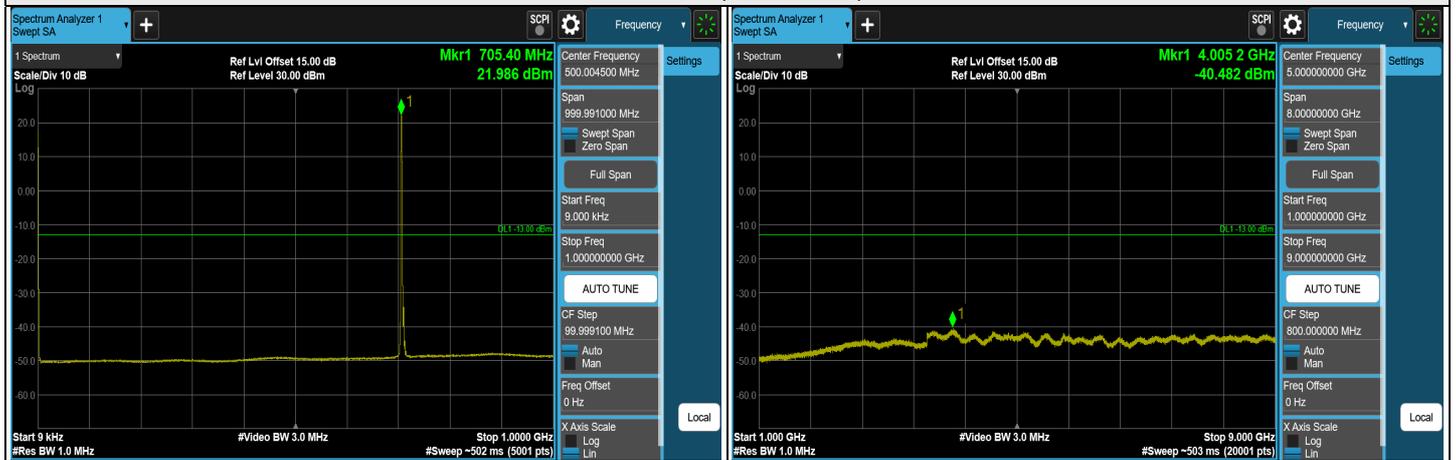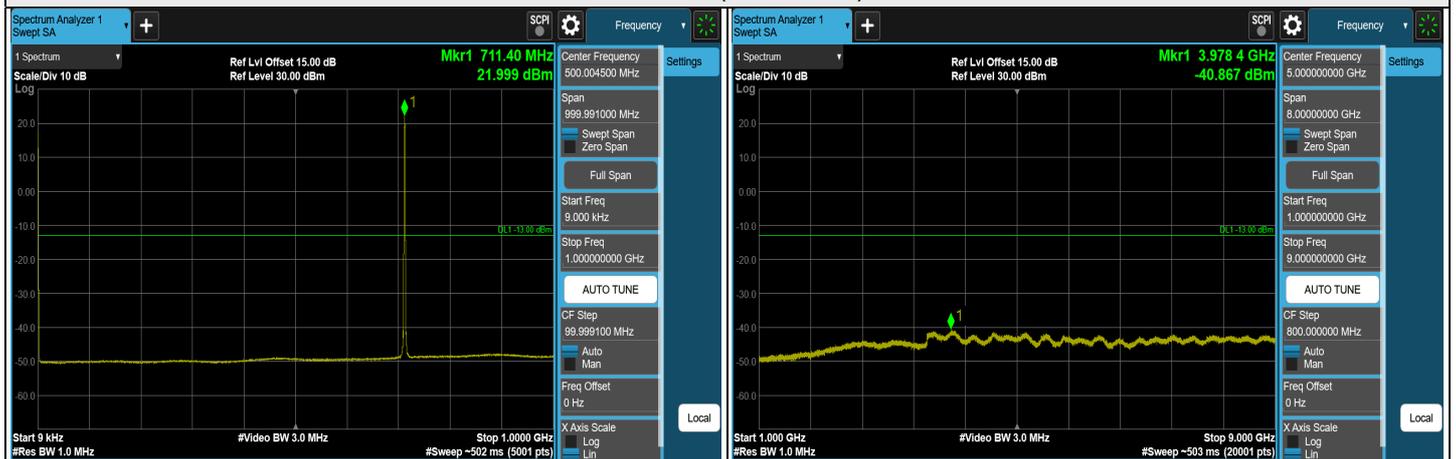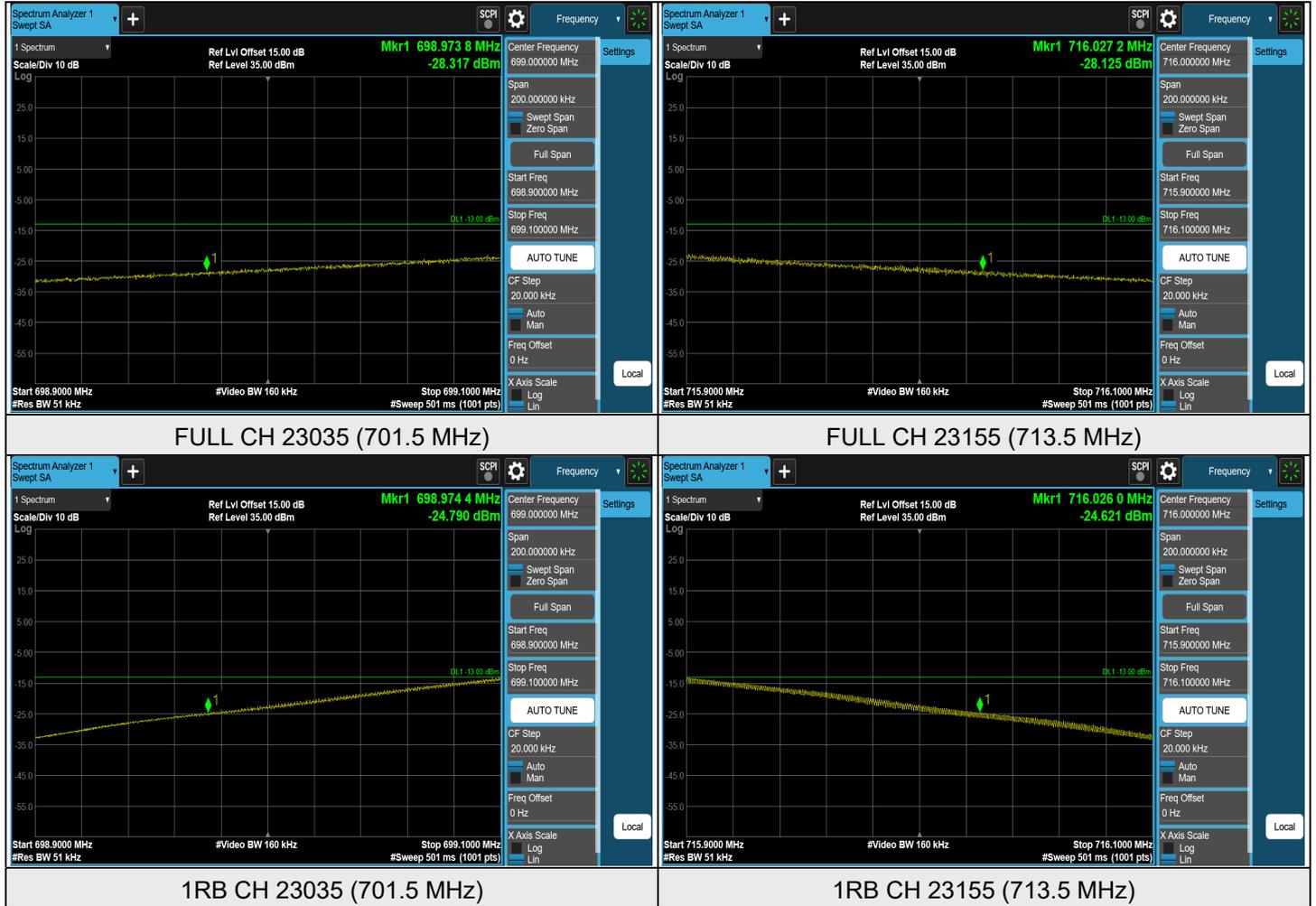
LTE Band 12, Channel Bandwidth: 1.4 MHz

FULL CH 23017 (699.7 MHz)

FULL CH 23173 (715.3 MHz)

1RB CH 23017 (699.7 MHz)

1RB CH 23173 (715.3 MHz)
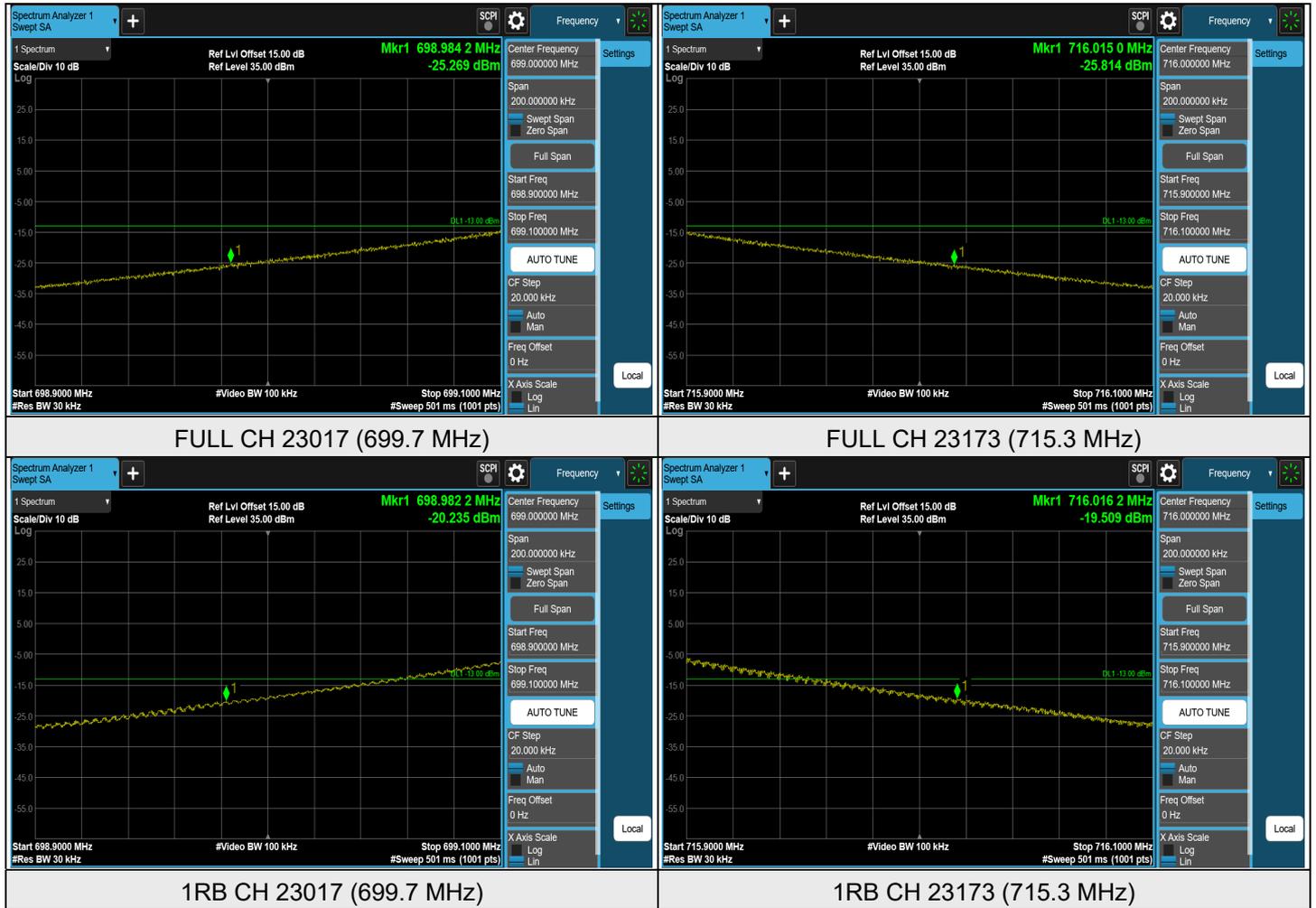
LTE Band 12, Channel Bandwidth: 3 MHz

CH 23025 (700.5 MHz)
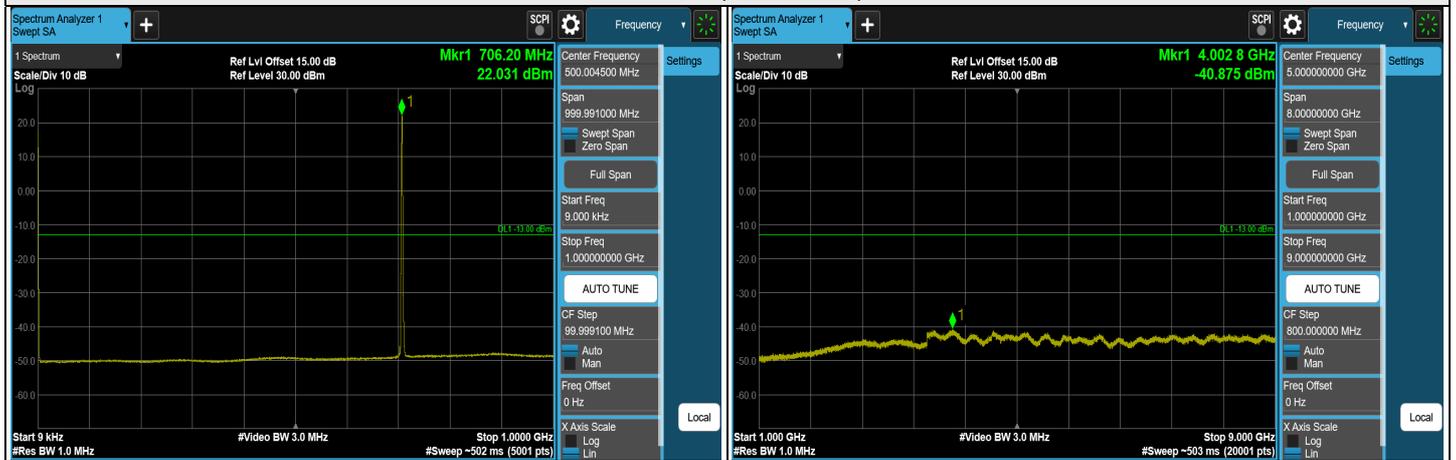
CH 23095 (707.5 MHz)

CH 23165 (714.5 MHz)

Note: The signal at 9 kHz is IF signal from spectrum analyzer.

LTE Band 12, Channel Bandwidth: 3 MHz

FULL CH 23025 (700.5 MHz)

FULL CH 23165 (714.5 MHz)

1RB CH 23025 (700.5 MHz)

1RB CH 23165 (714.5 MHz)

LTE Band 12, Channel Bandwidth: 5 MHz

CH 23035 (701.5 MHz)

CH 23095 (707.5 MHz)

CH 23155 (713.5 MHz)

Note: The signal at 9 kHz is IF signal from spectrum analyzer.

LTE Band 12, Channel Bandwidth: 5 MHz

FULL CH 23035 (701.5 MHz)

FULL CH 23155 (713.5 MHz)

1RB CH 23035 (701.5 MHz)

1RB CH 23155 (713.5 MHz)

LTE Band 12, Channel Bandwidth: 10 MHz

CH 23060 (704 MHz)

CH 23095 (707.5 MHz)

CH 23130 (711 MHz)

Note: The signal at 9 kHz is IF signal from spectrum analyzer.

LTE Band 12, Channel Bandwidth: 10 MHz

FULL CH 23060 (704 MHz)

FULL CH 23130 (711 MHz)

1RB CH 23060 (704 MHz)

1RB CH 23130 (711 MHz)