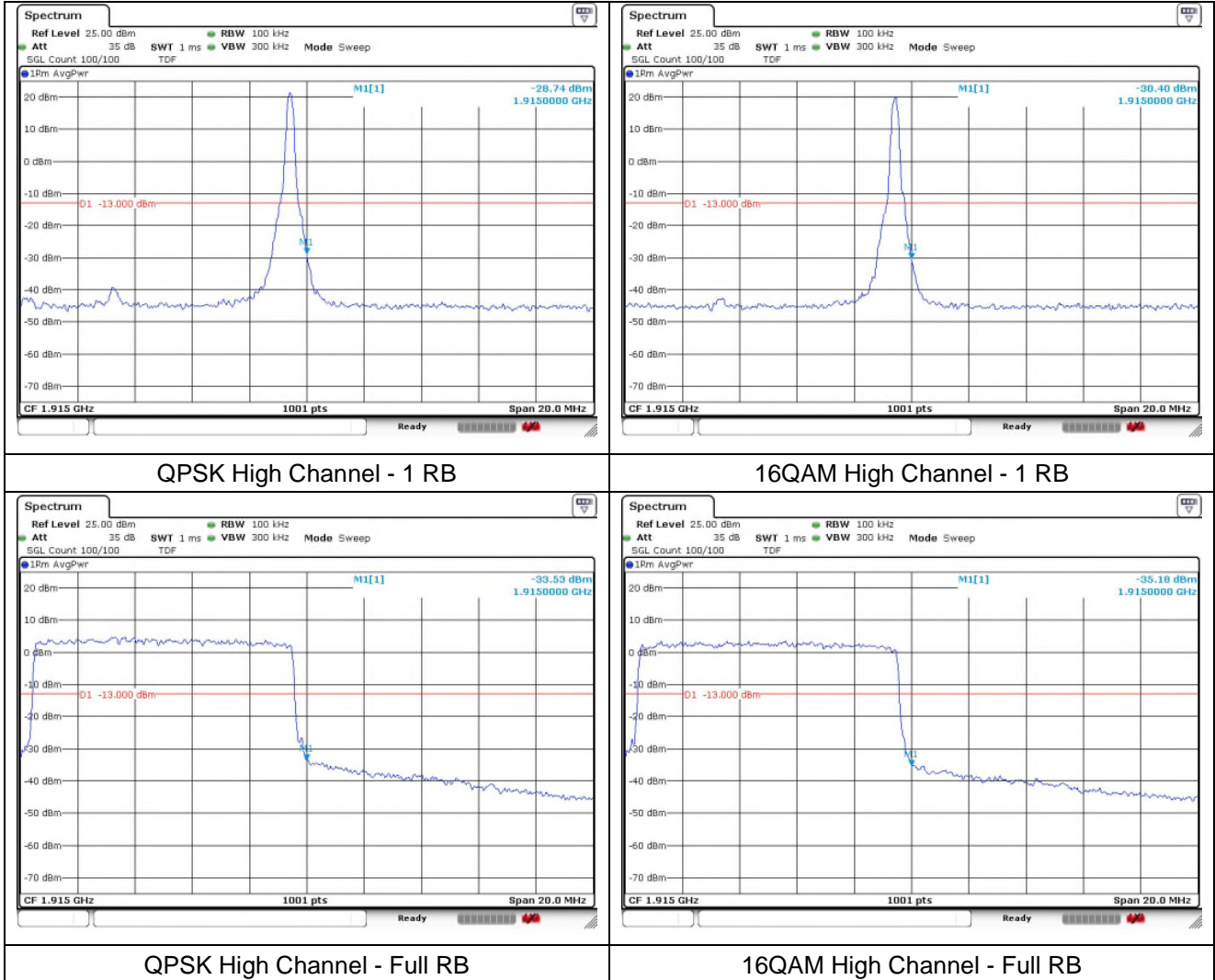
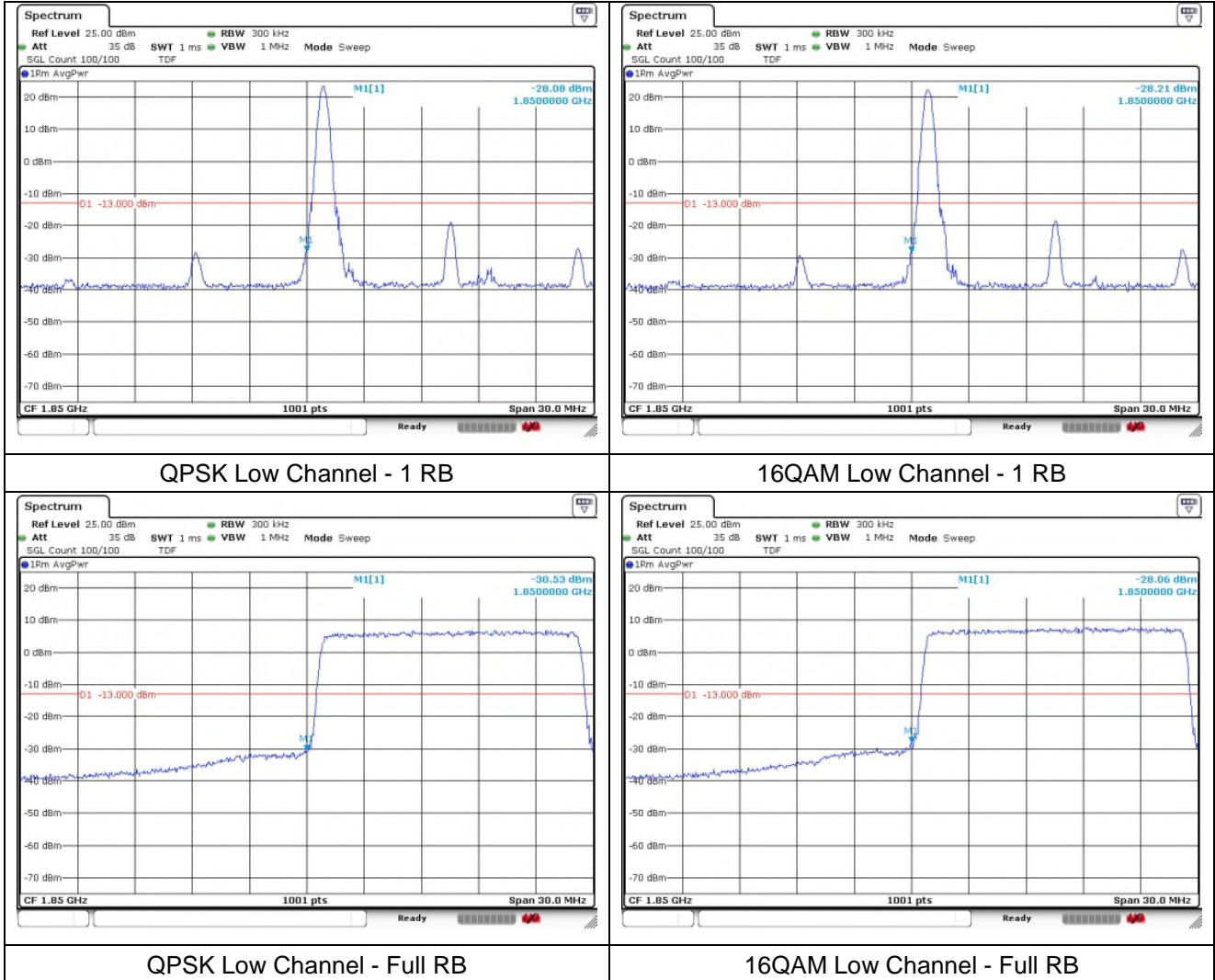


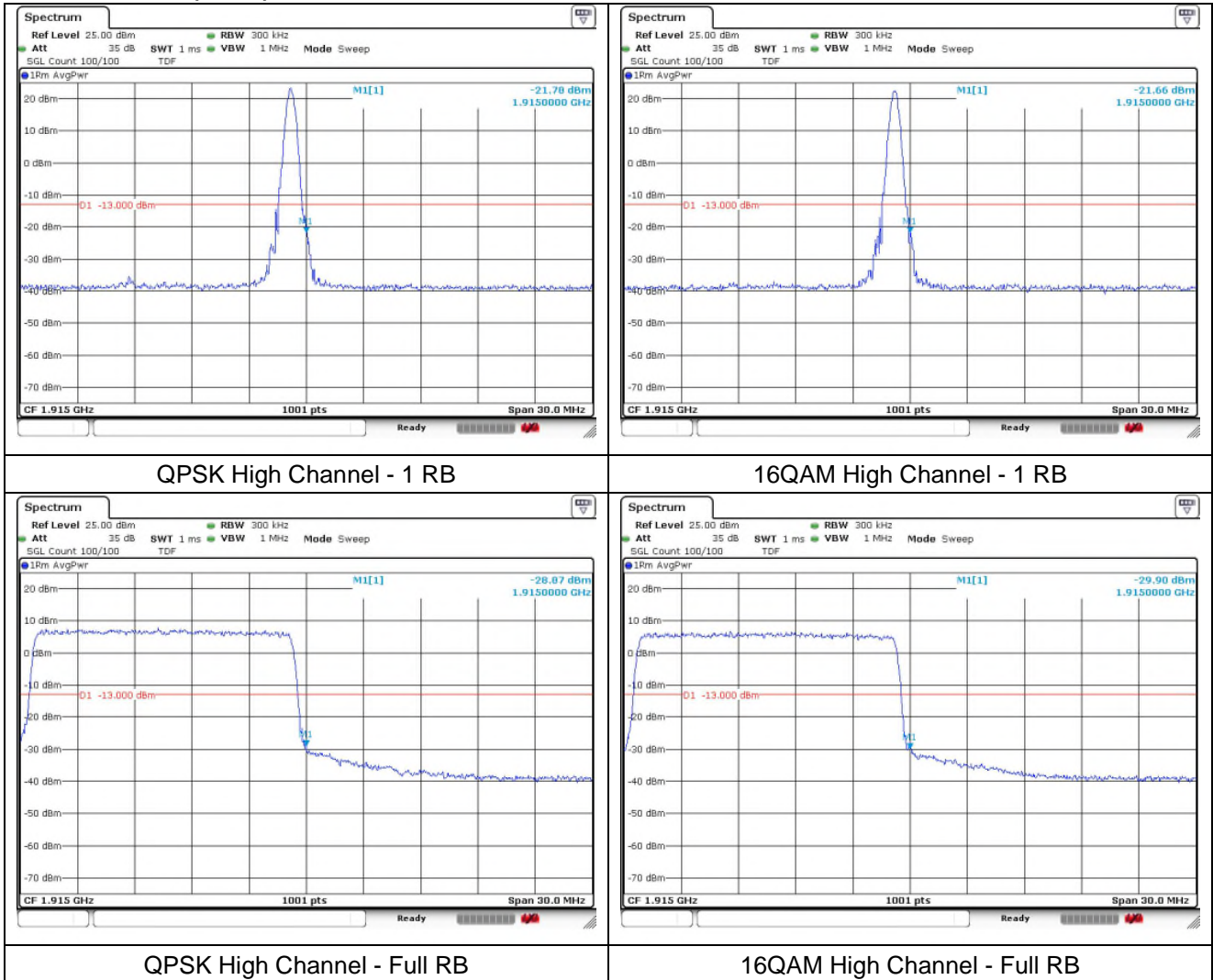
LTE band 25/2 (10 MHz)



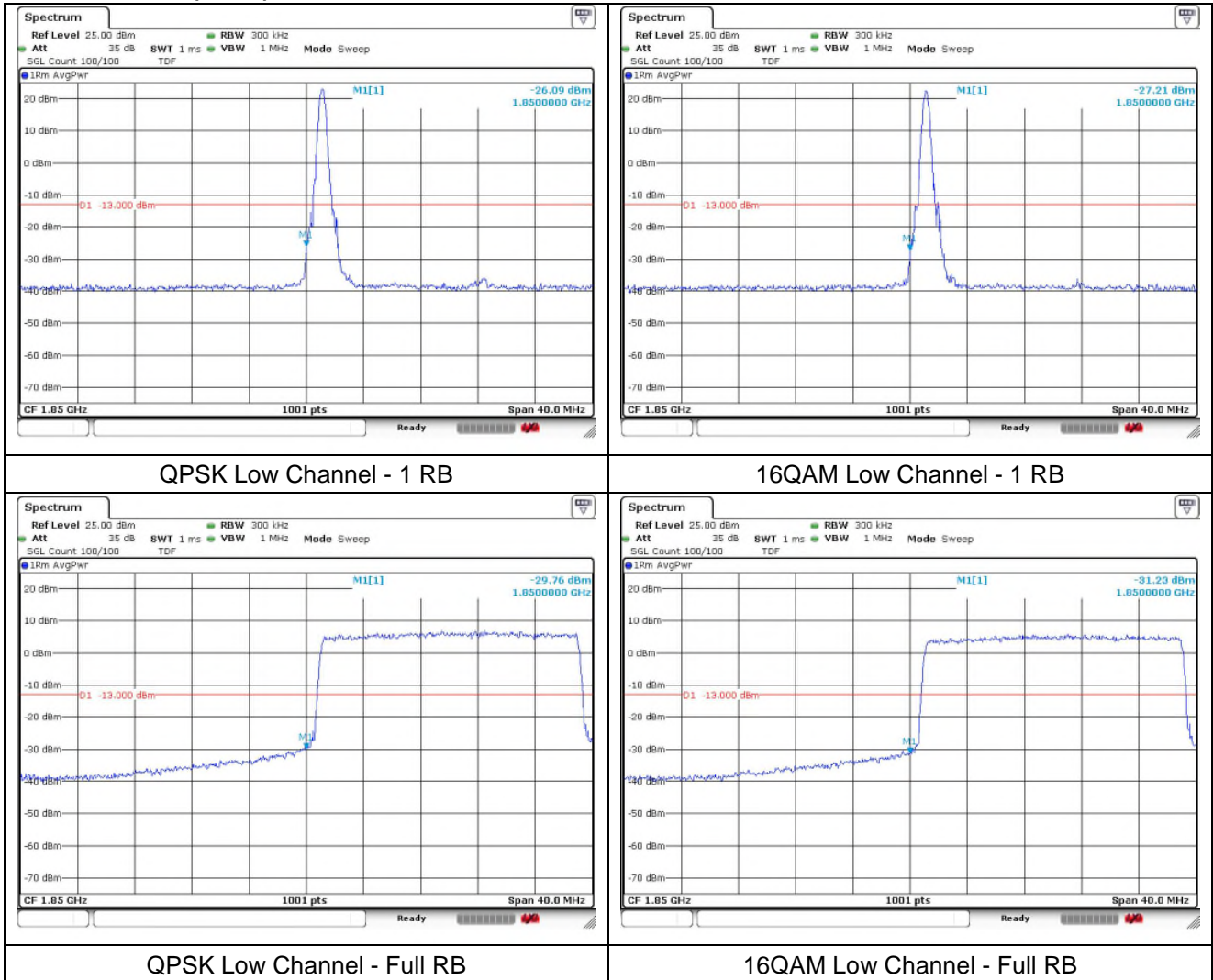
LTE band 25/2 (15 MHz)



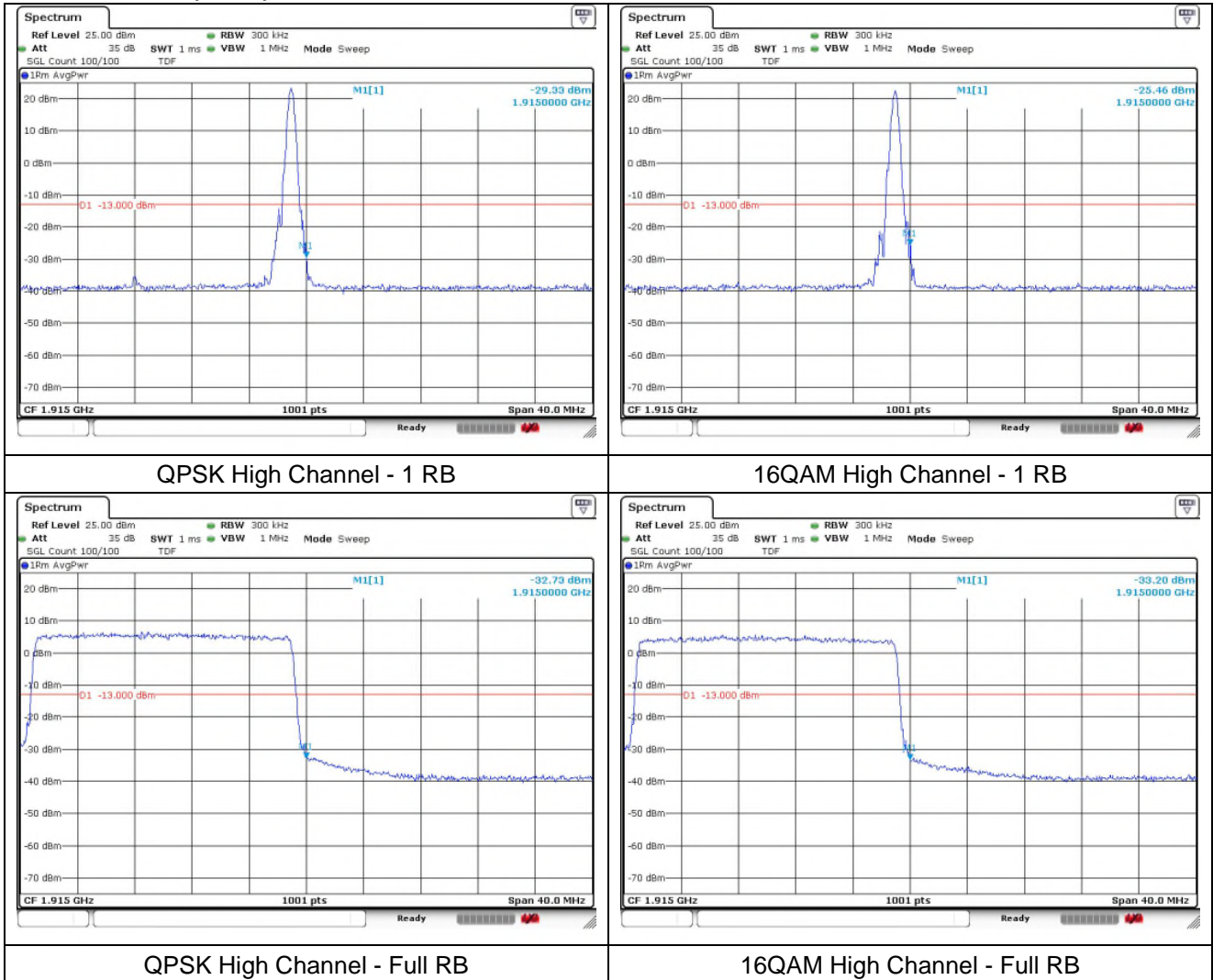
LTE band 25/2 (15 MHz)



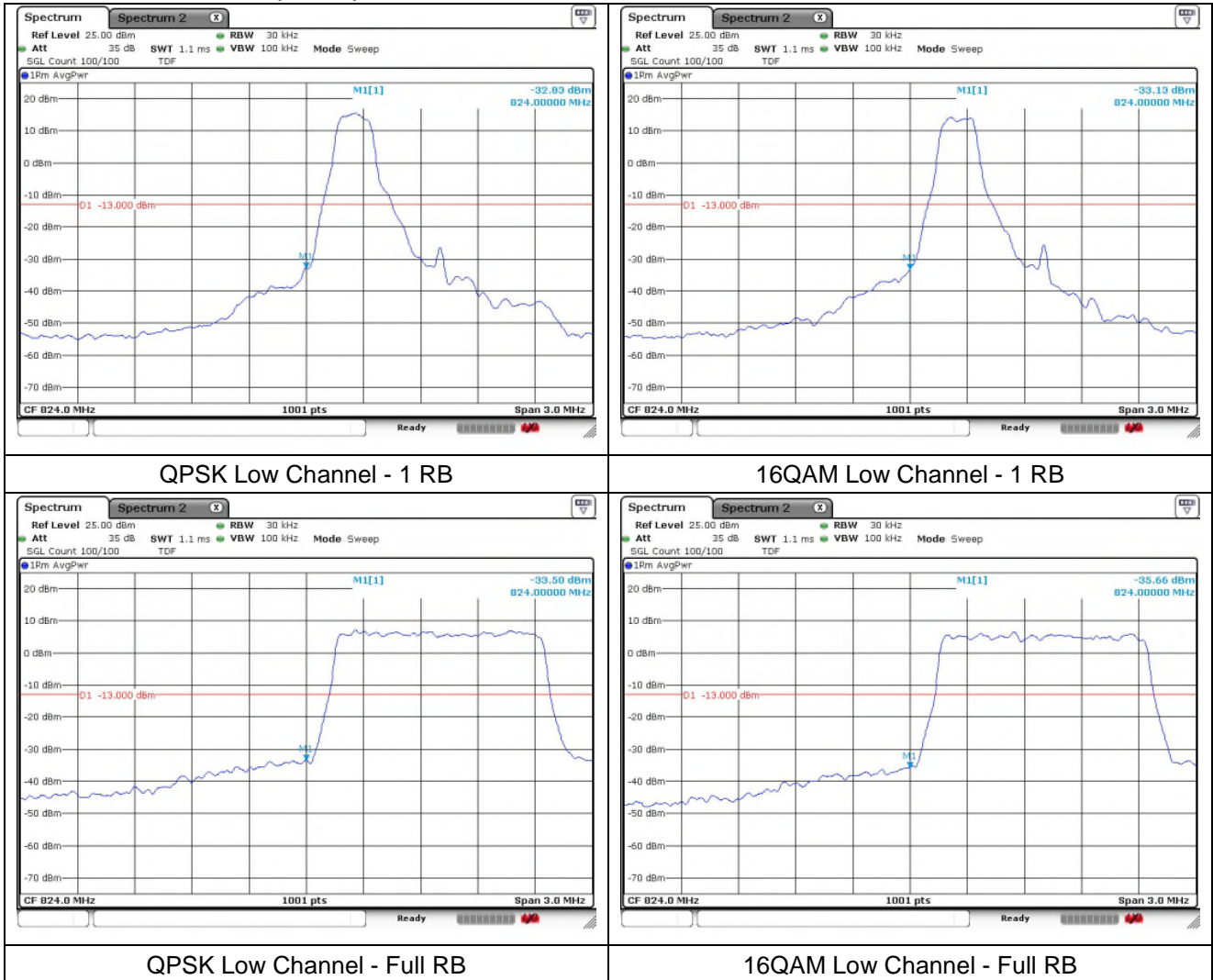
LTE band 25/2 (20 MHz)



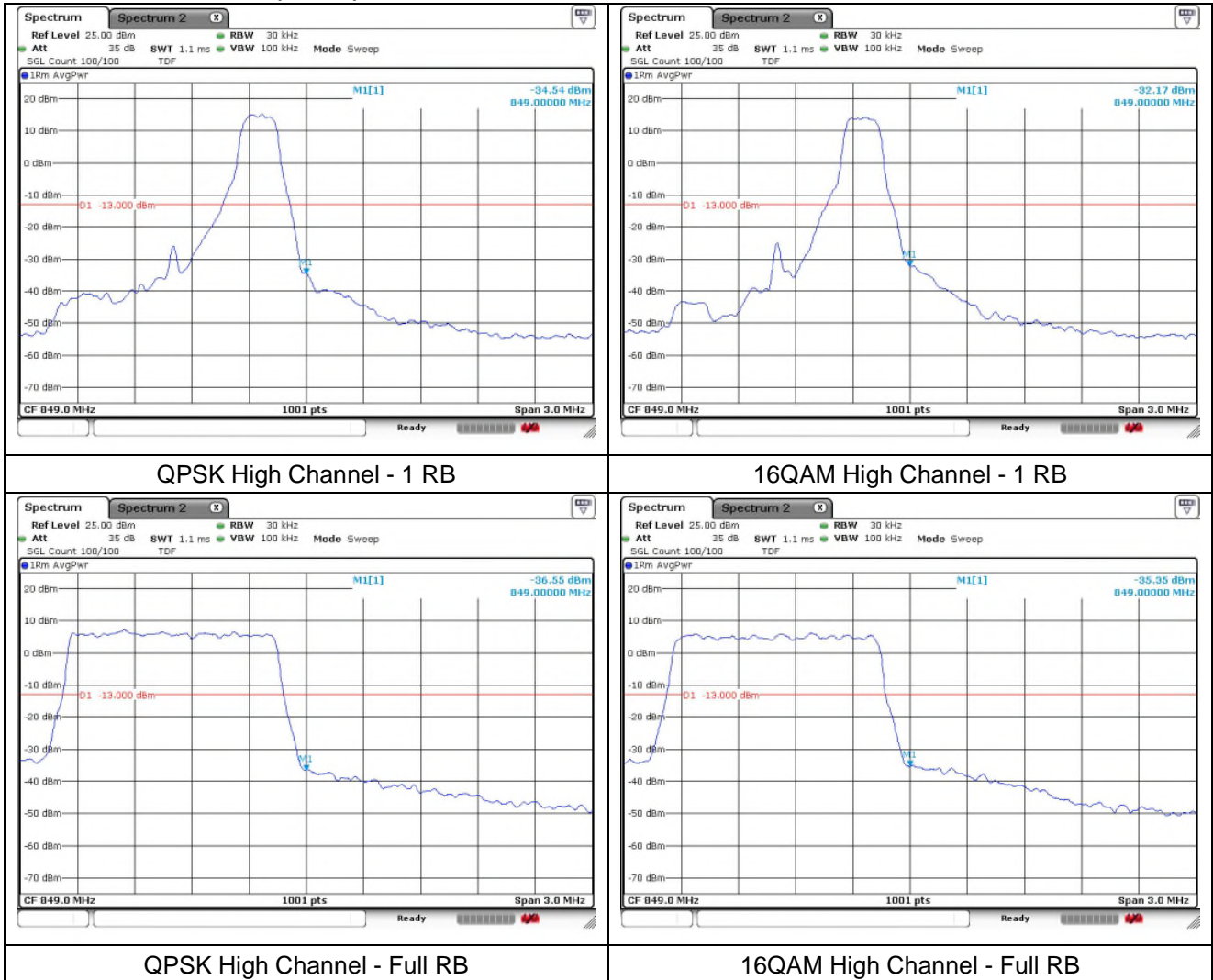
LTE band 25/2 (20 MHz)



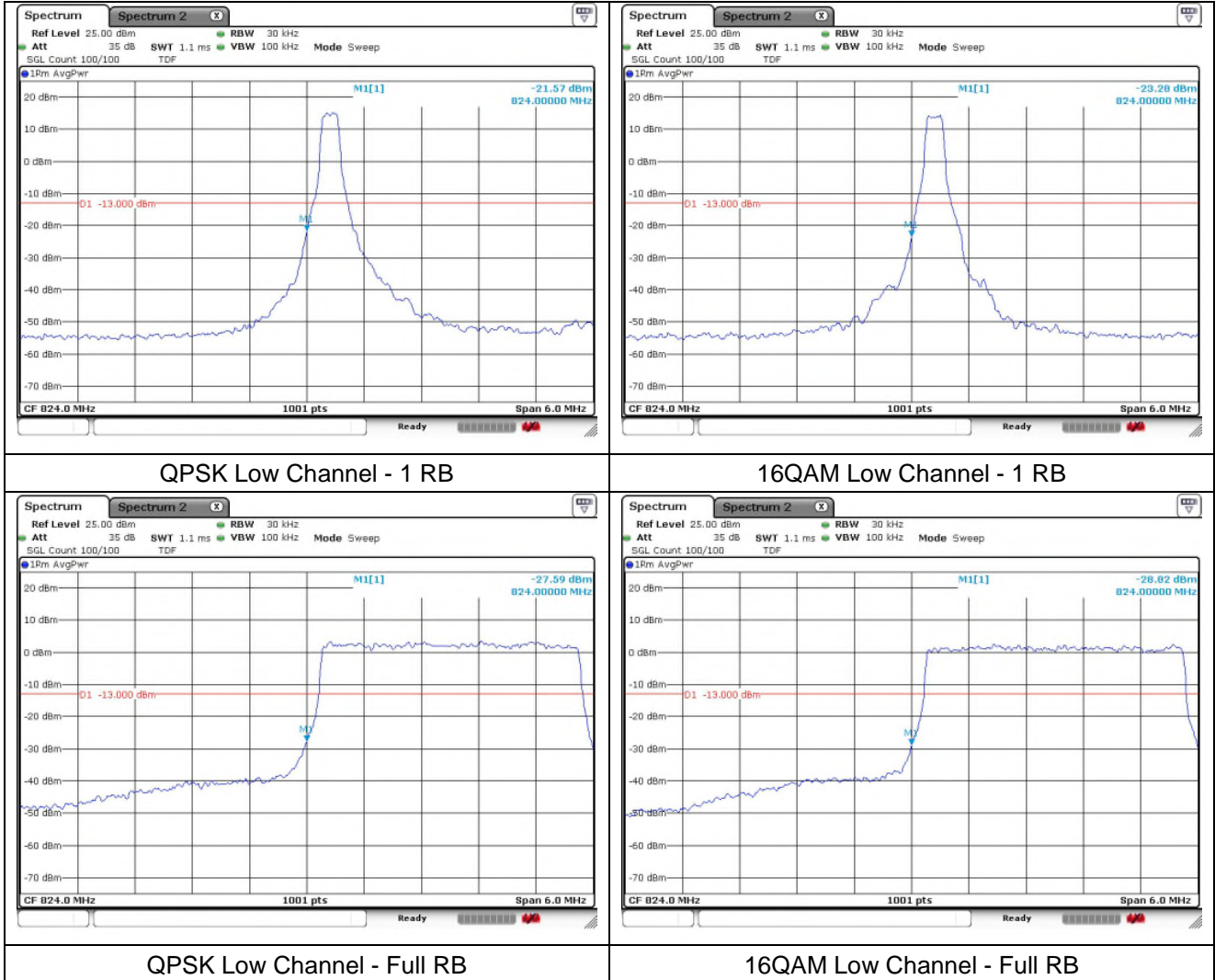
LTE band 26 - Part 22 (1.4 MHz)



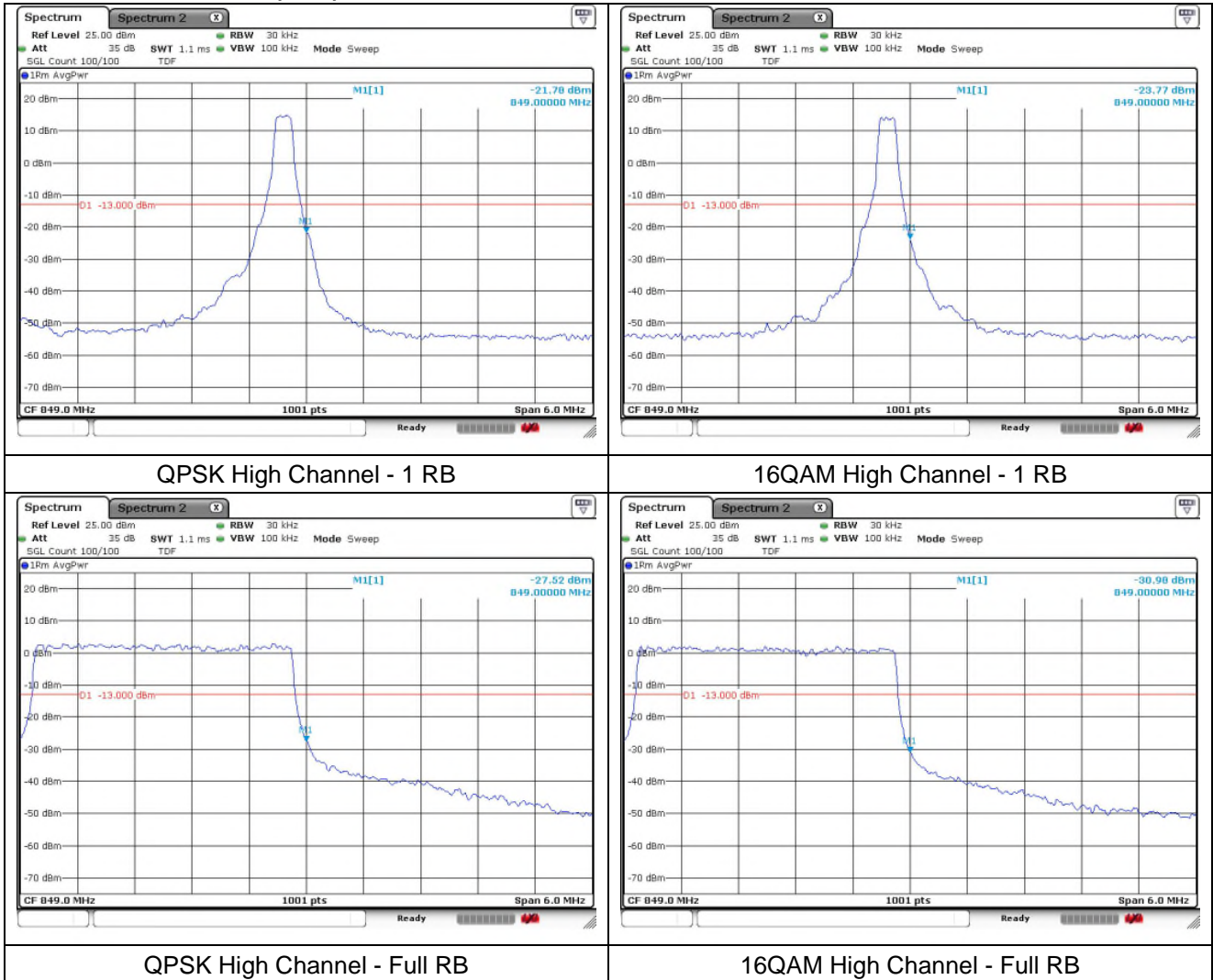
LTE band 26 - Part 22 (1.4 MHz)



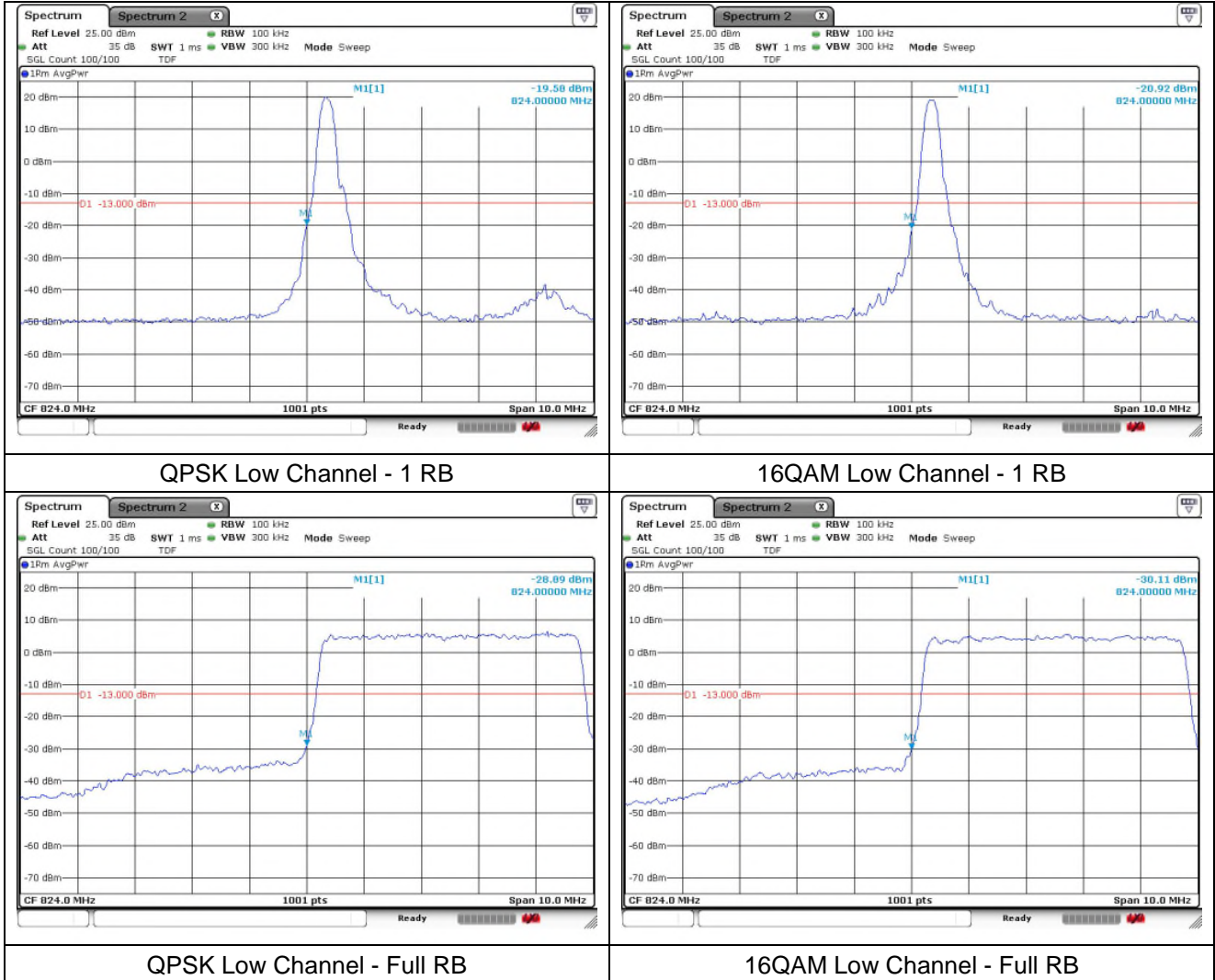
LTE band 26 - Part 22 (3 MHz)



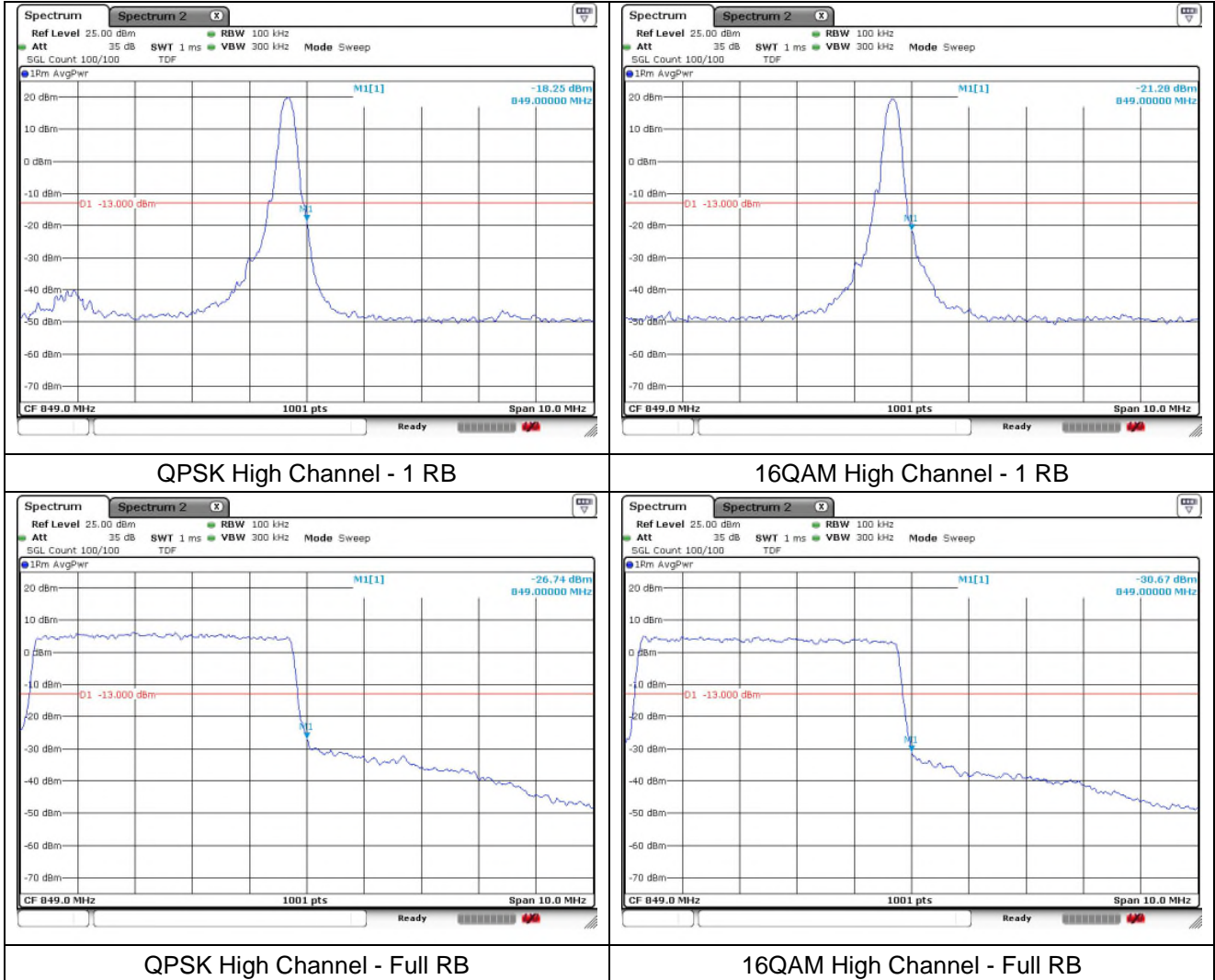
LTE band 26 - Part 22 (3 MHz)



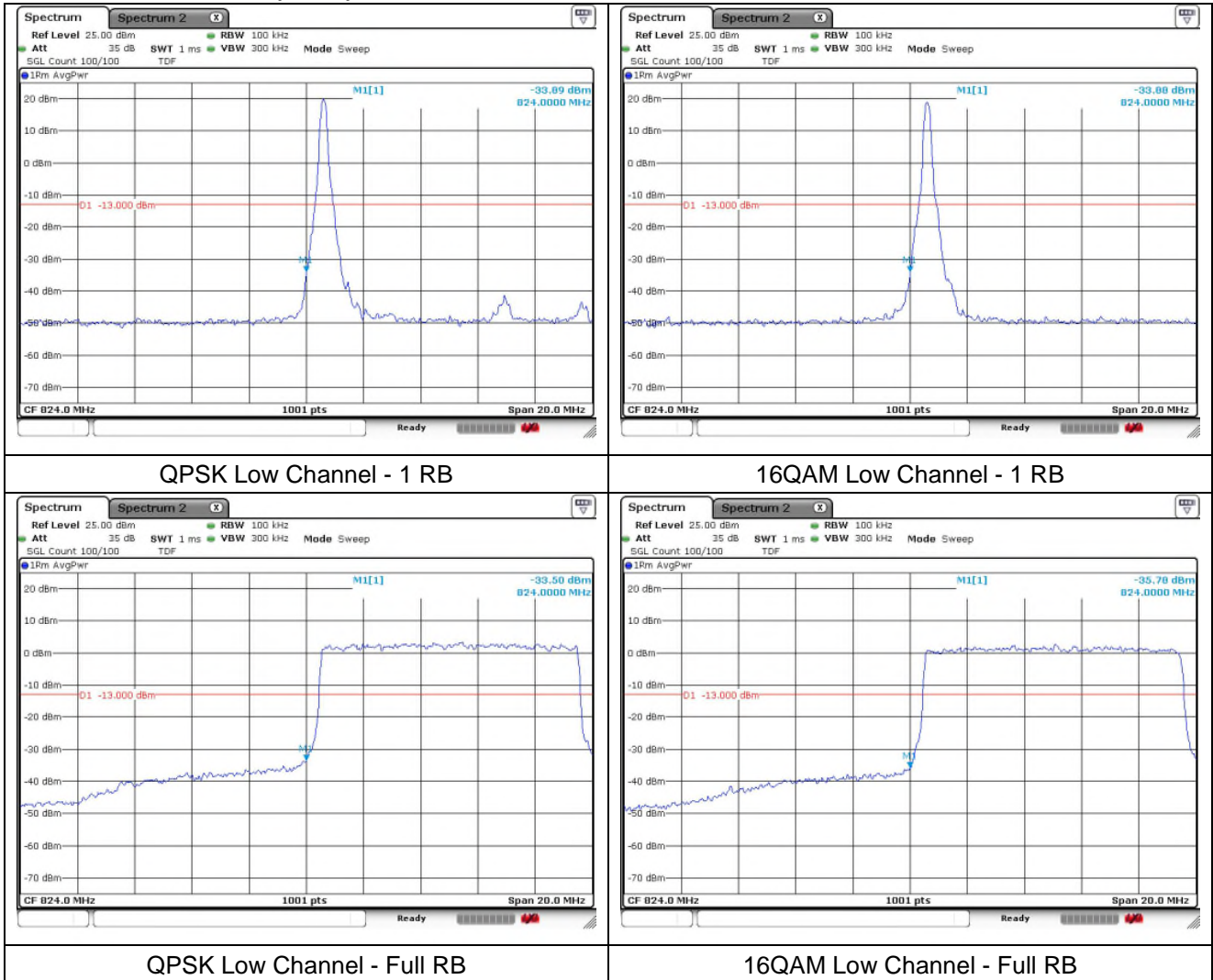
LTE band 26 - Part 22 (5 MHz)



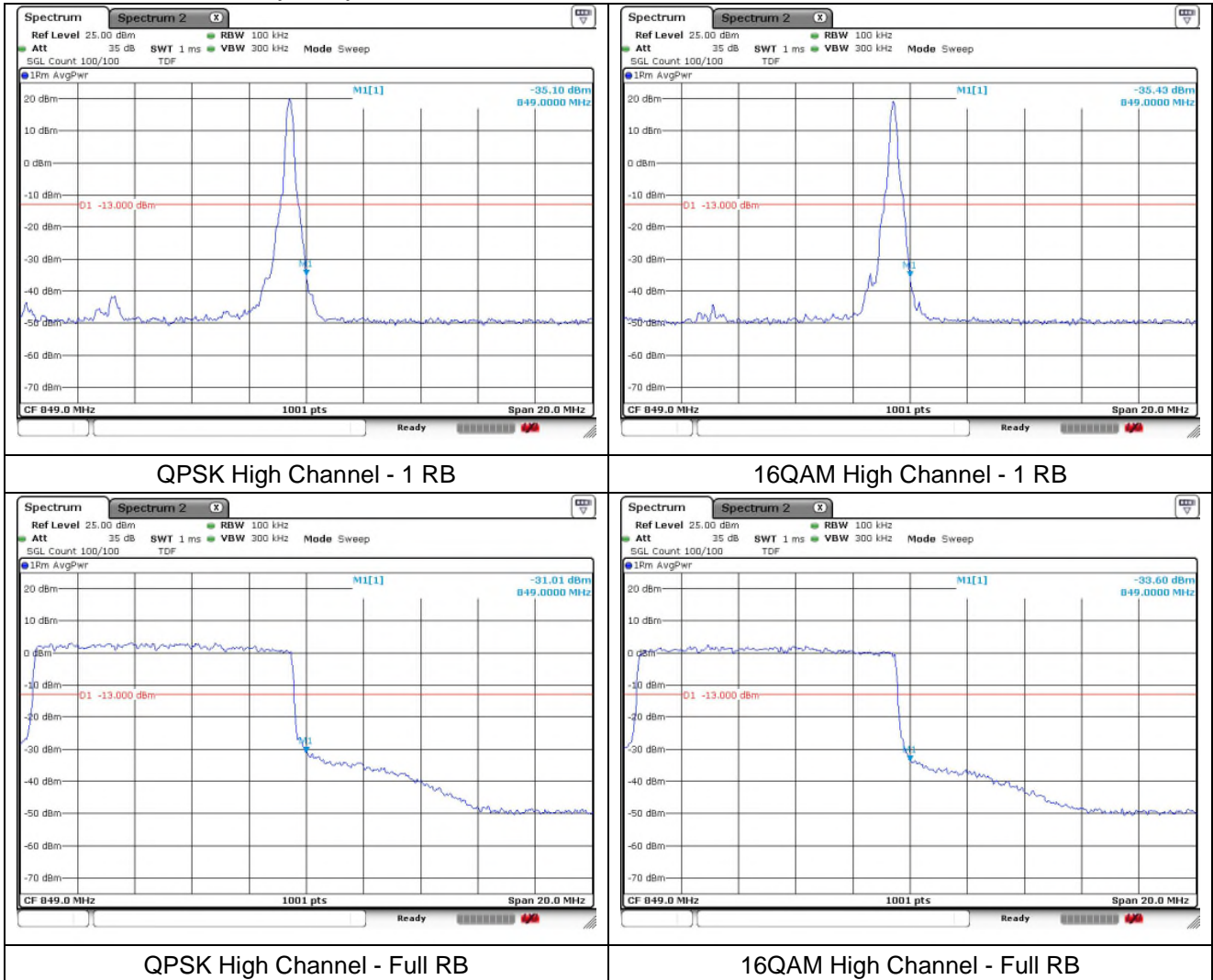
LTE band 26 - Part 22 (5 MHz)



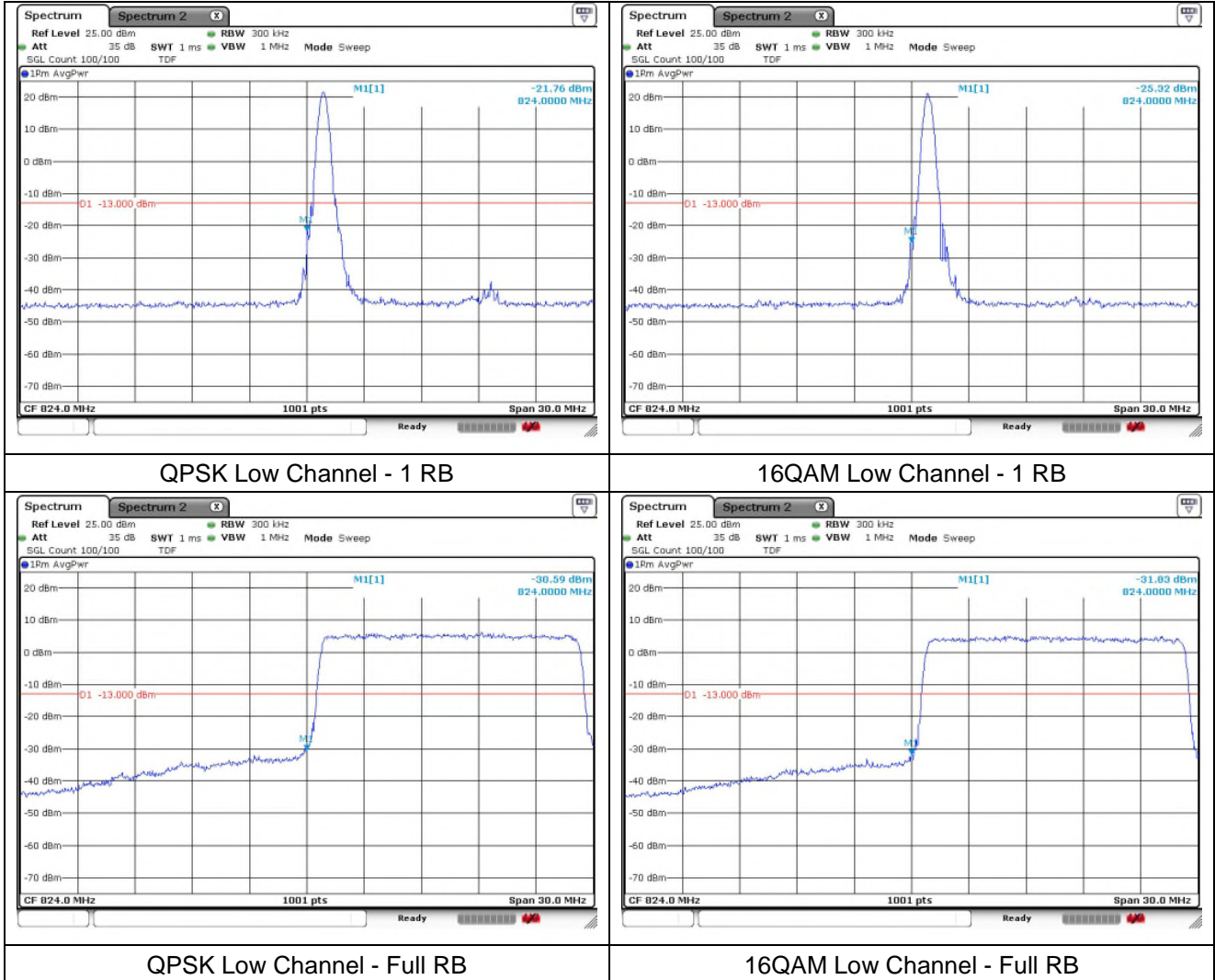
LTE band 26 - Part 22 (10 MHz)



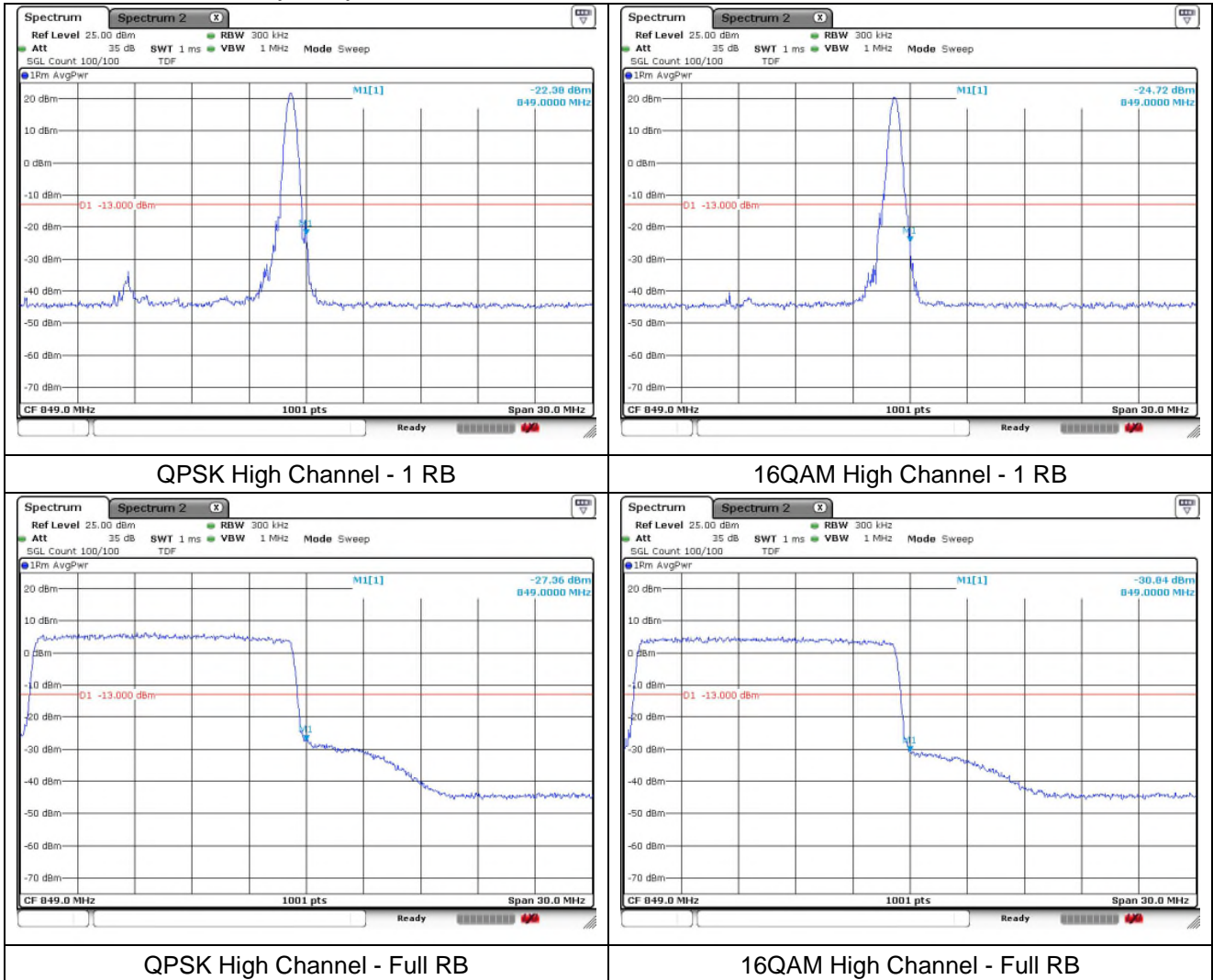
LTE band 26 - Part 22 (10 MHz)



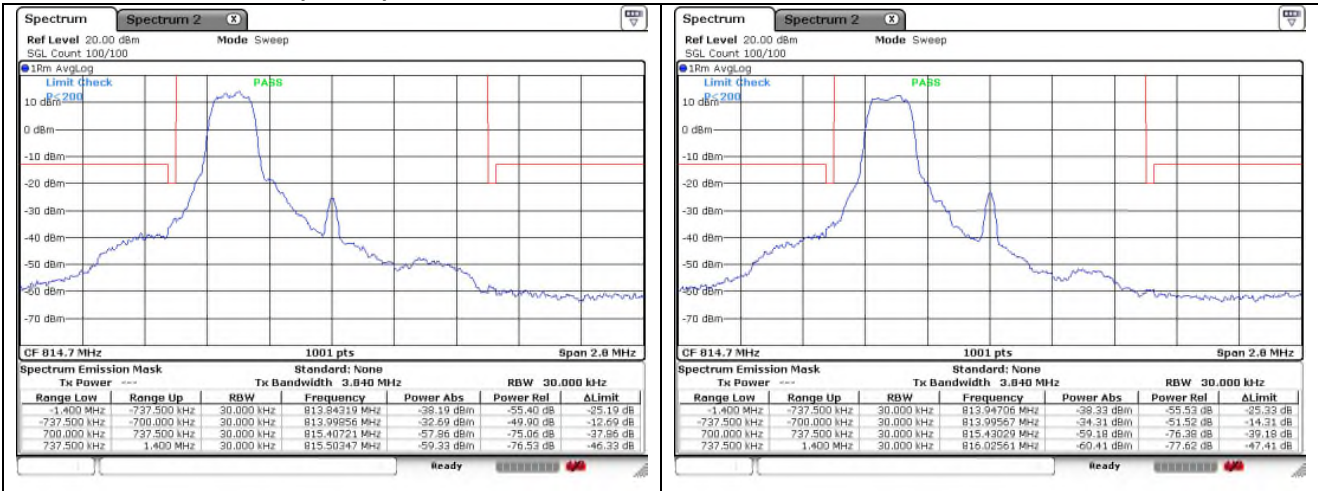
LTE band 26 - Part 22 (15 MHz)



LTE band 26 - Part 22 (15 MHz)

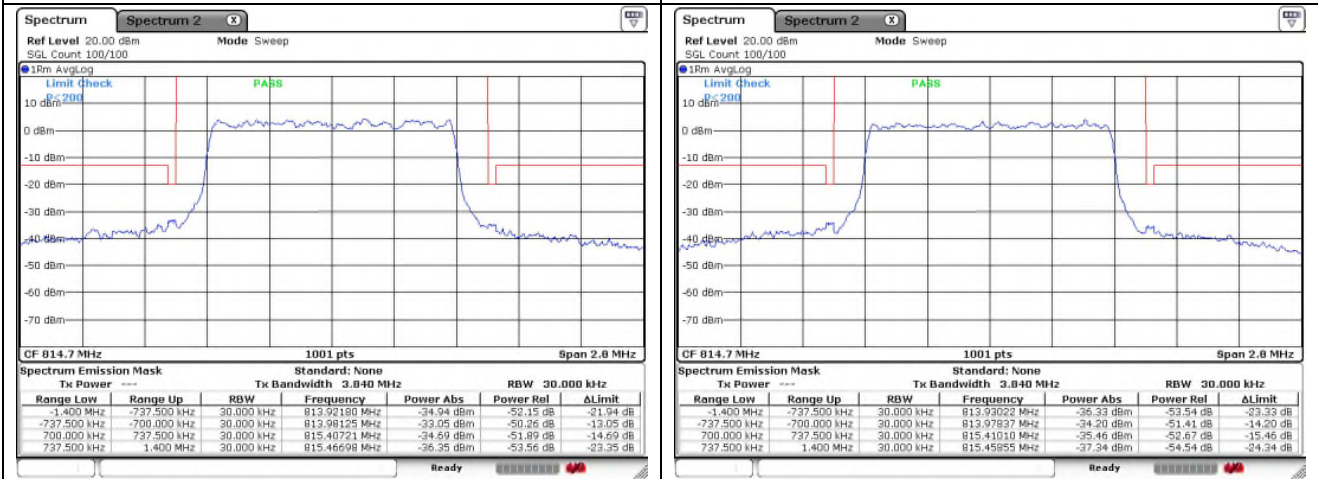


LTE band 26 - Part 90 (1.4 MHz)



QPSK Low Channel - 1 RB

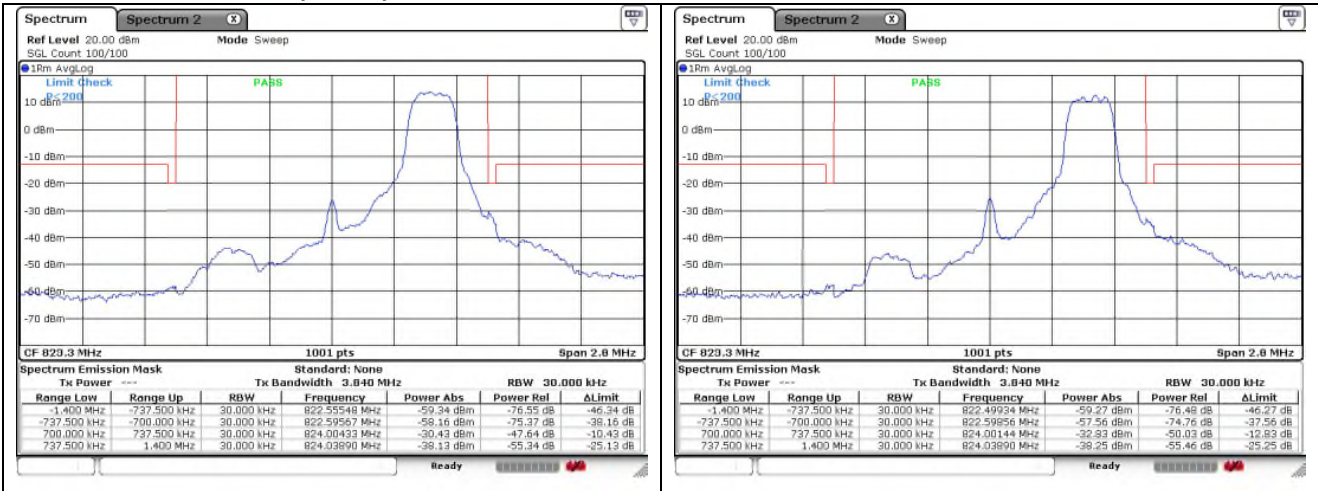
16QAM Low Channel - 1 RB



QPSK Low Channel - Full RB

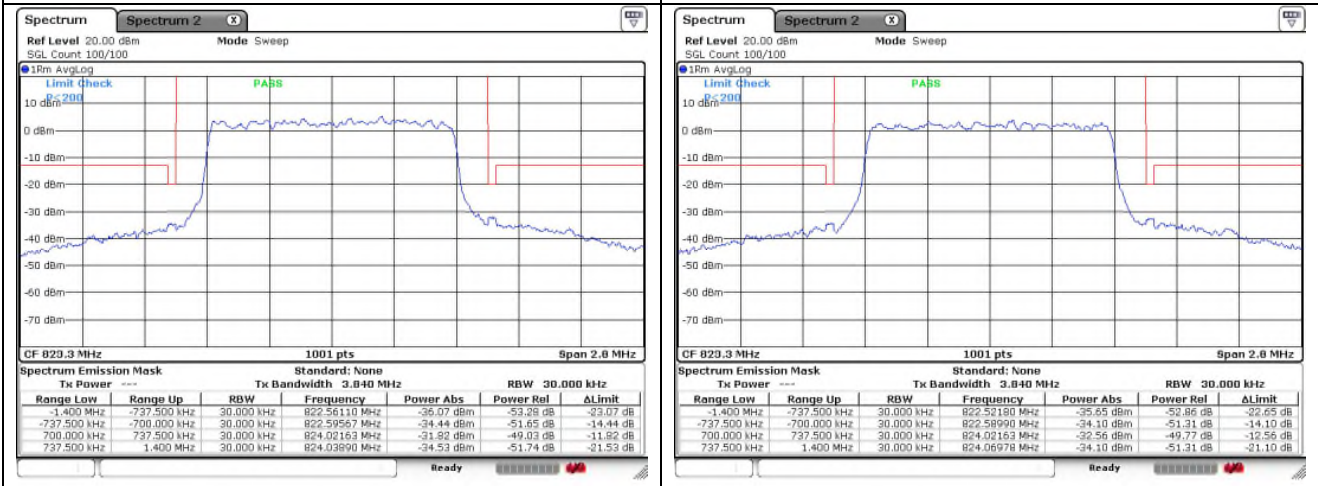
16QAM Low Channel - Full RB

LTE band 26 - Part 90 (1.4 MHz)



QPSK High Channel - 1 RB

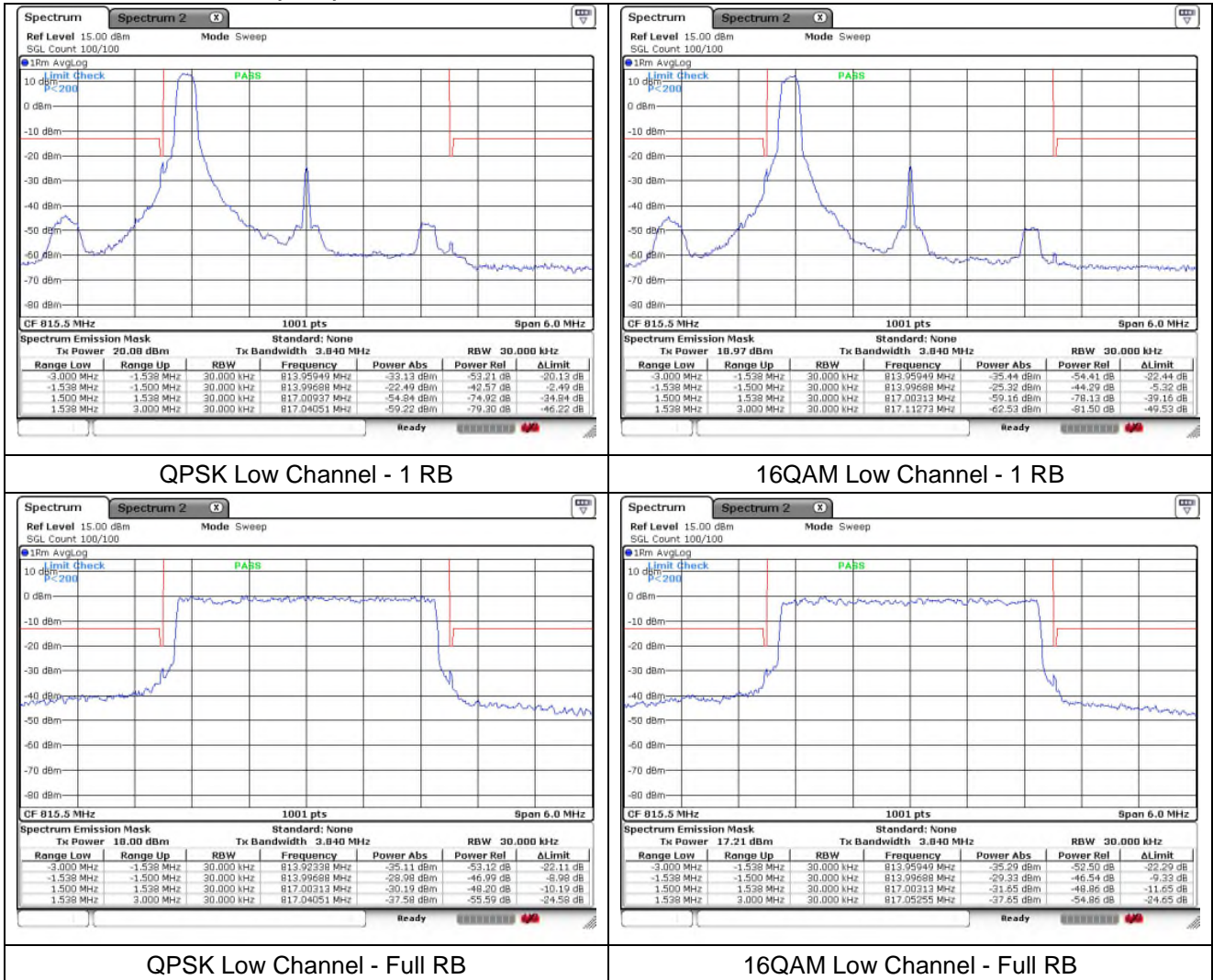
16QAM High Channel - 1 RB



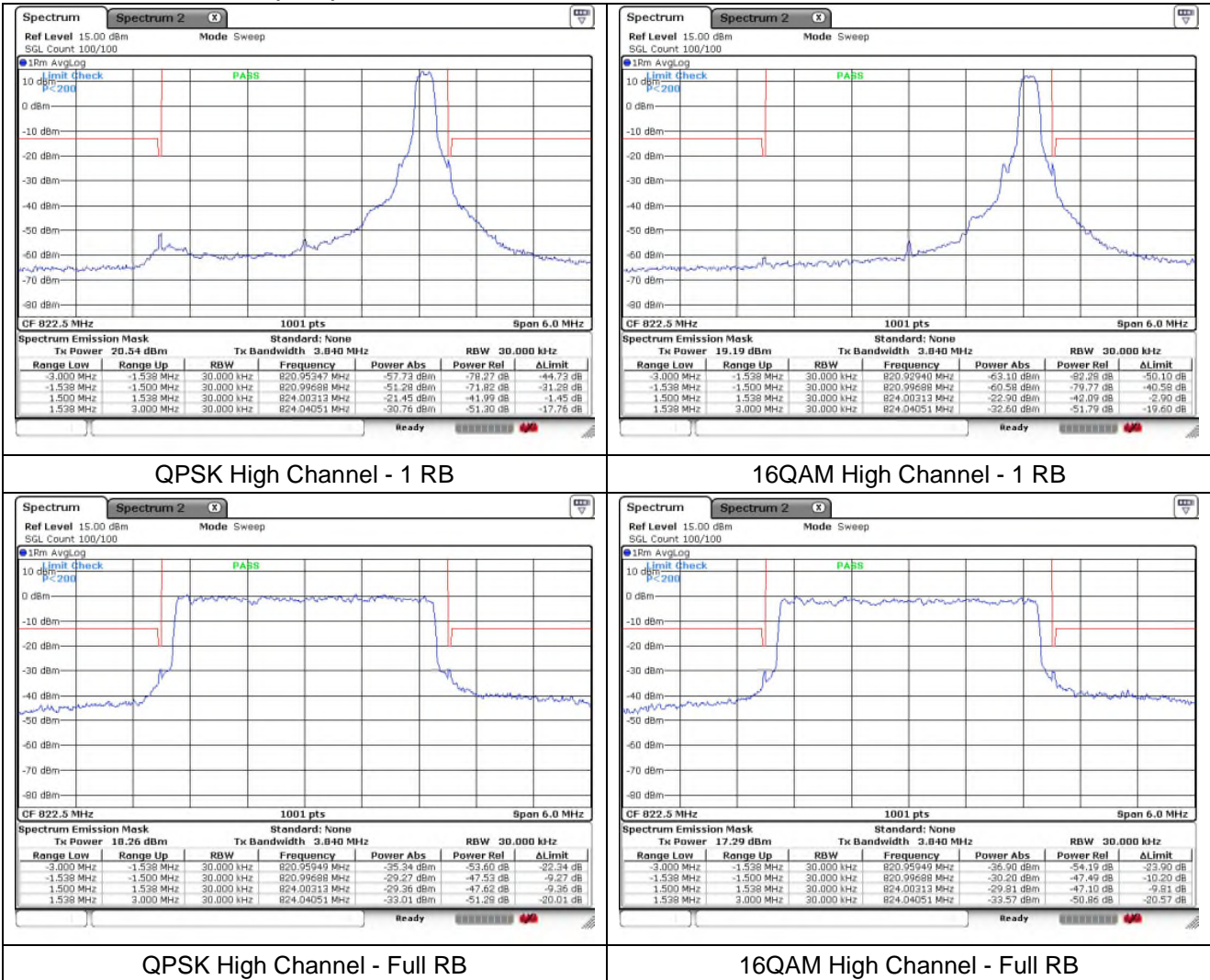
QPSK High Channel - Full RB

16QAM High Channel - Full RB

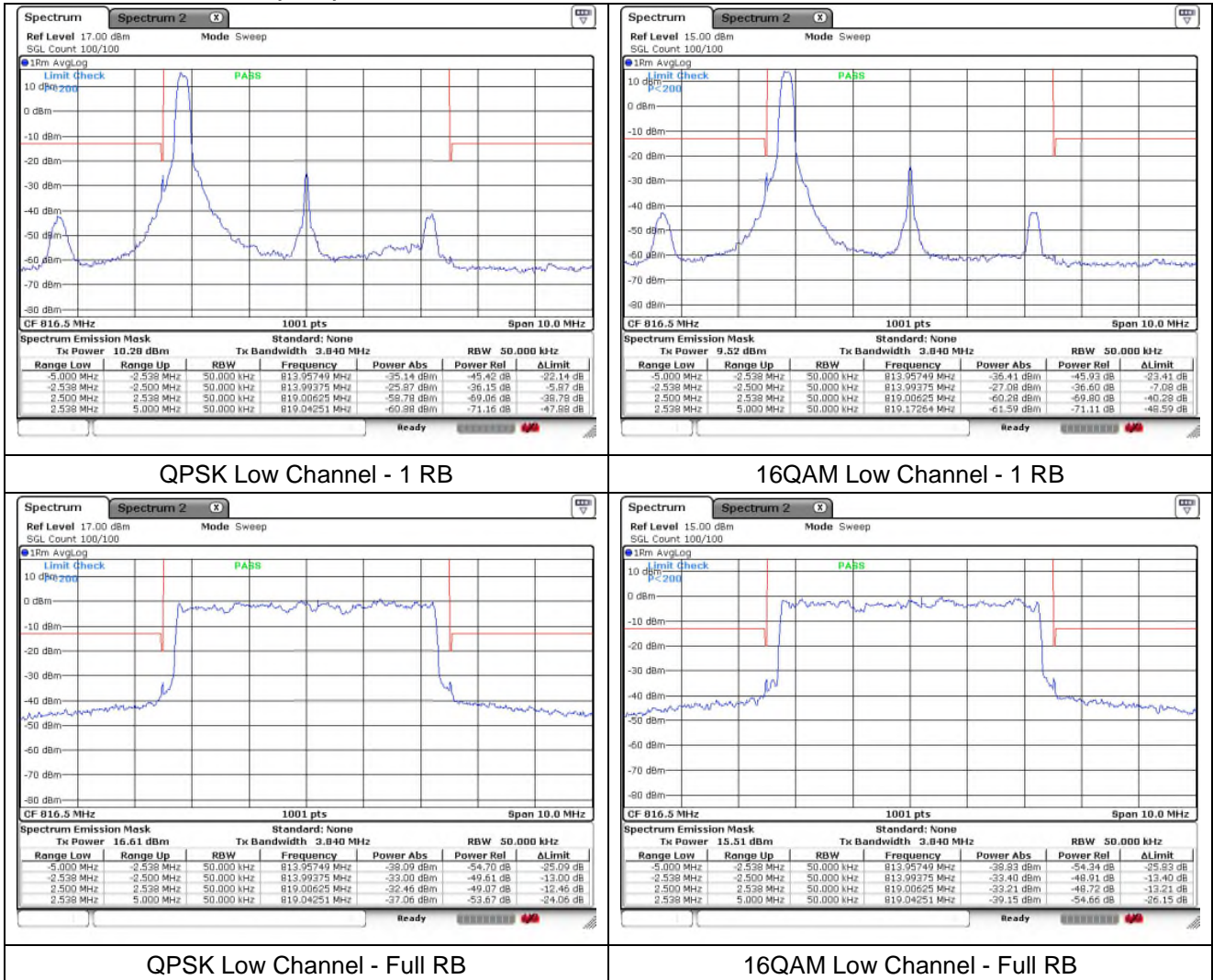
LTE band 26 - Part 90 (3 MHz)



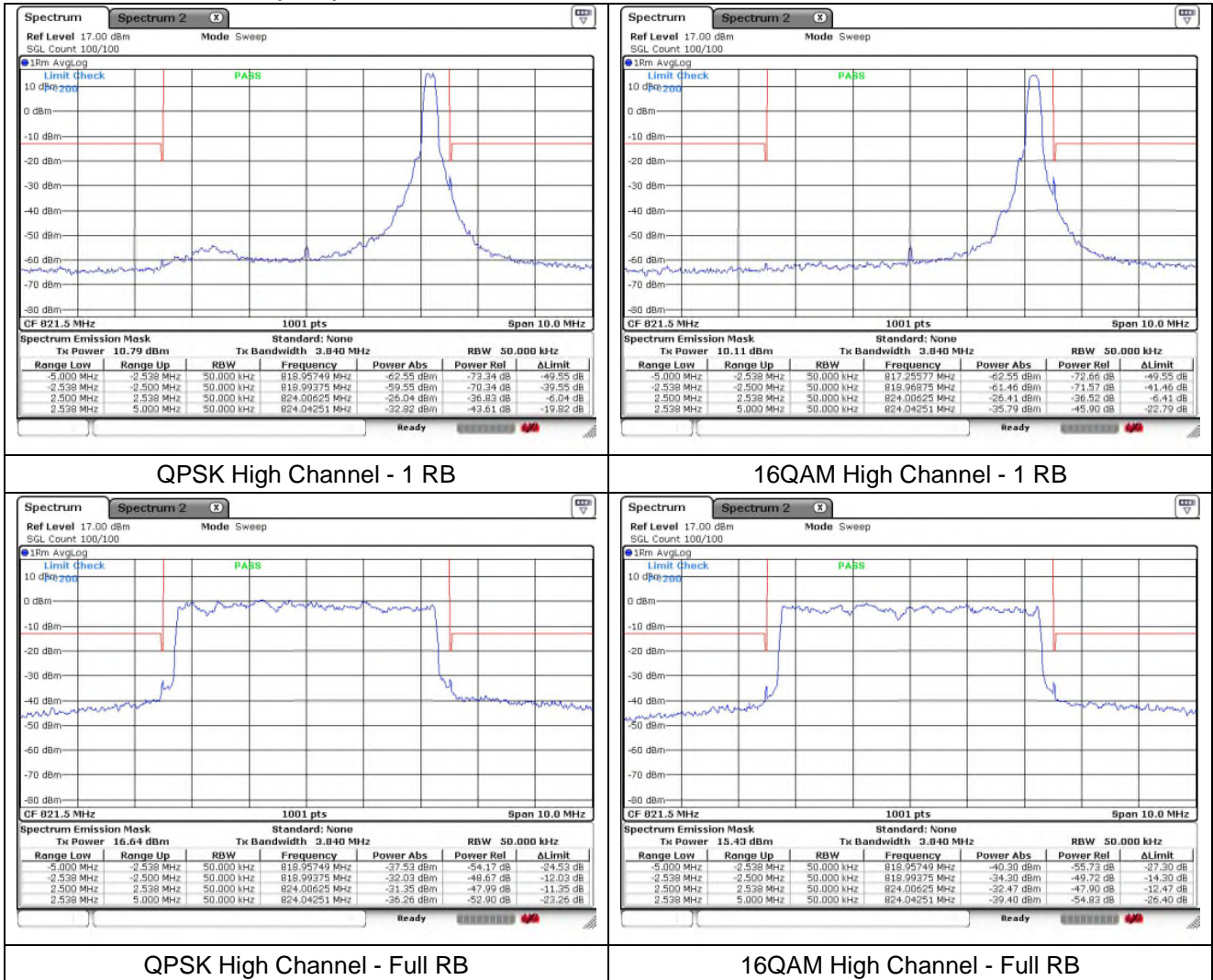
LTE band 26 - Part 90 (3 MHz)



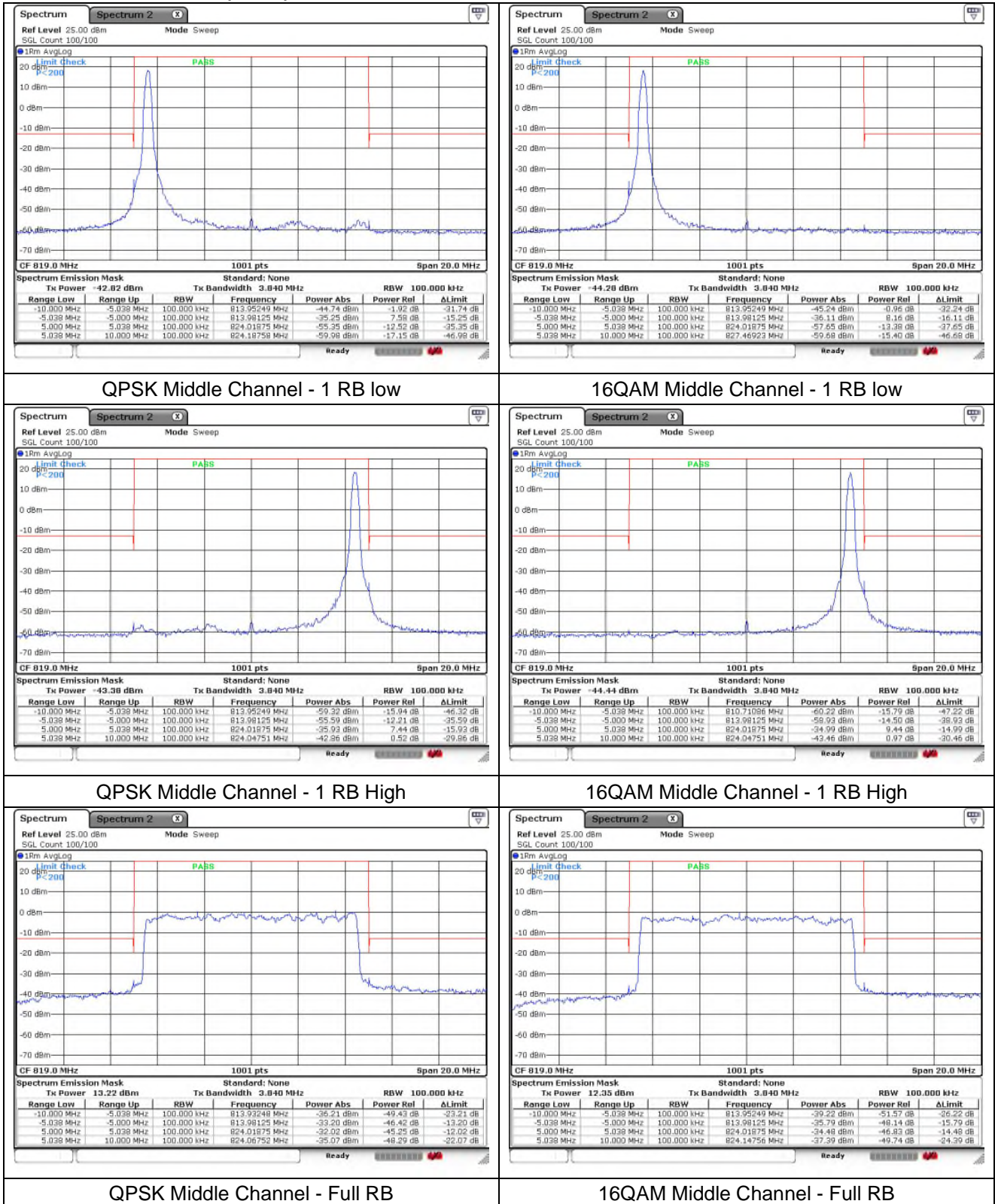
LTE band 26 - Part 90 (5 MHz)



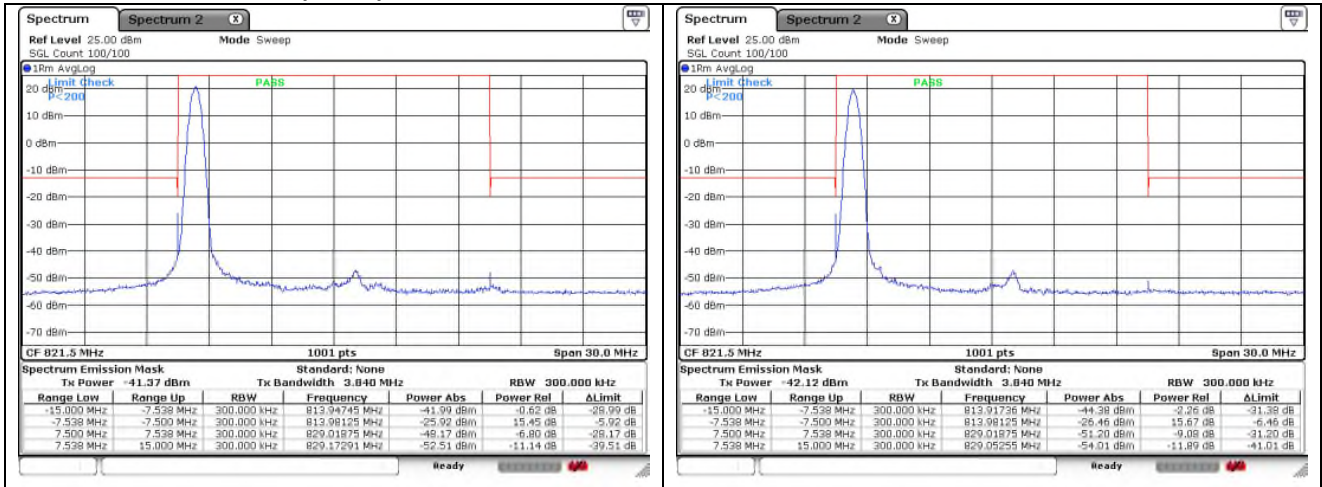
LTE band 26 - Part 90 (5 MHz)



LTE band 26 - Part 90 (10 MHz)

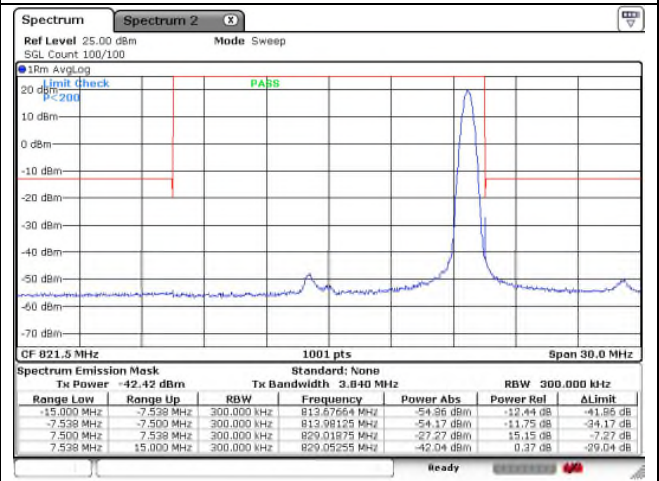
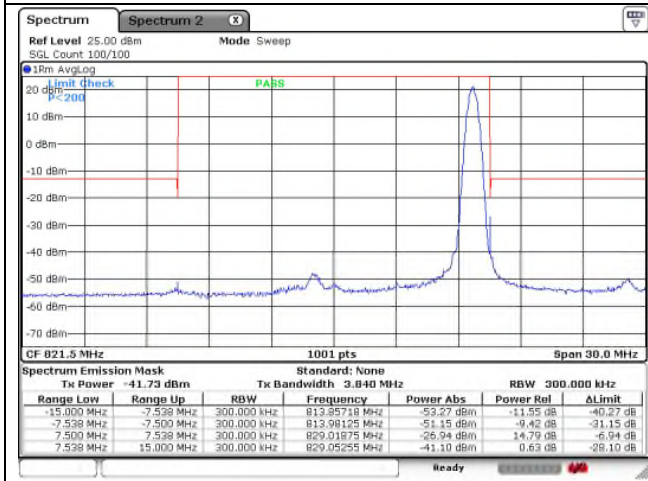


LTE band 26 - Part 90 (15 MHz)



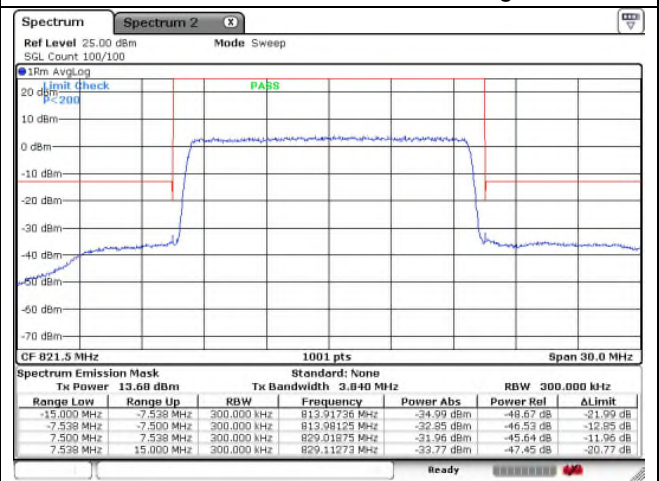
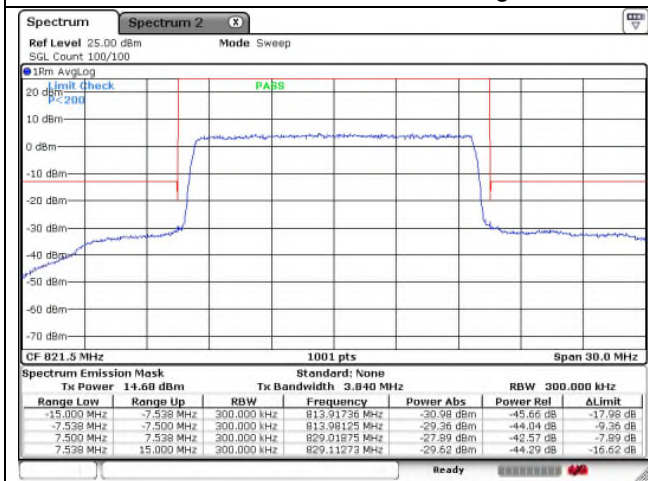
QPSK Low Channel - 1 RB low

16QAM Low Channel - 1 RB low



QPSK Low Channel - 1 RB High

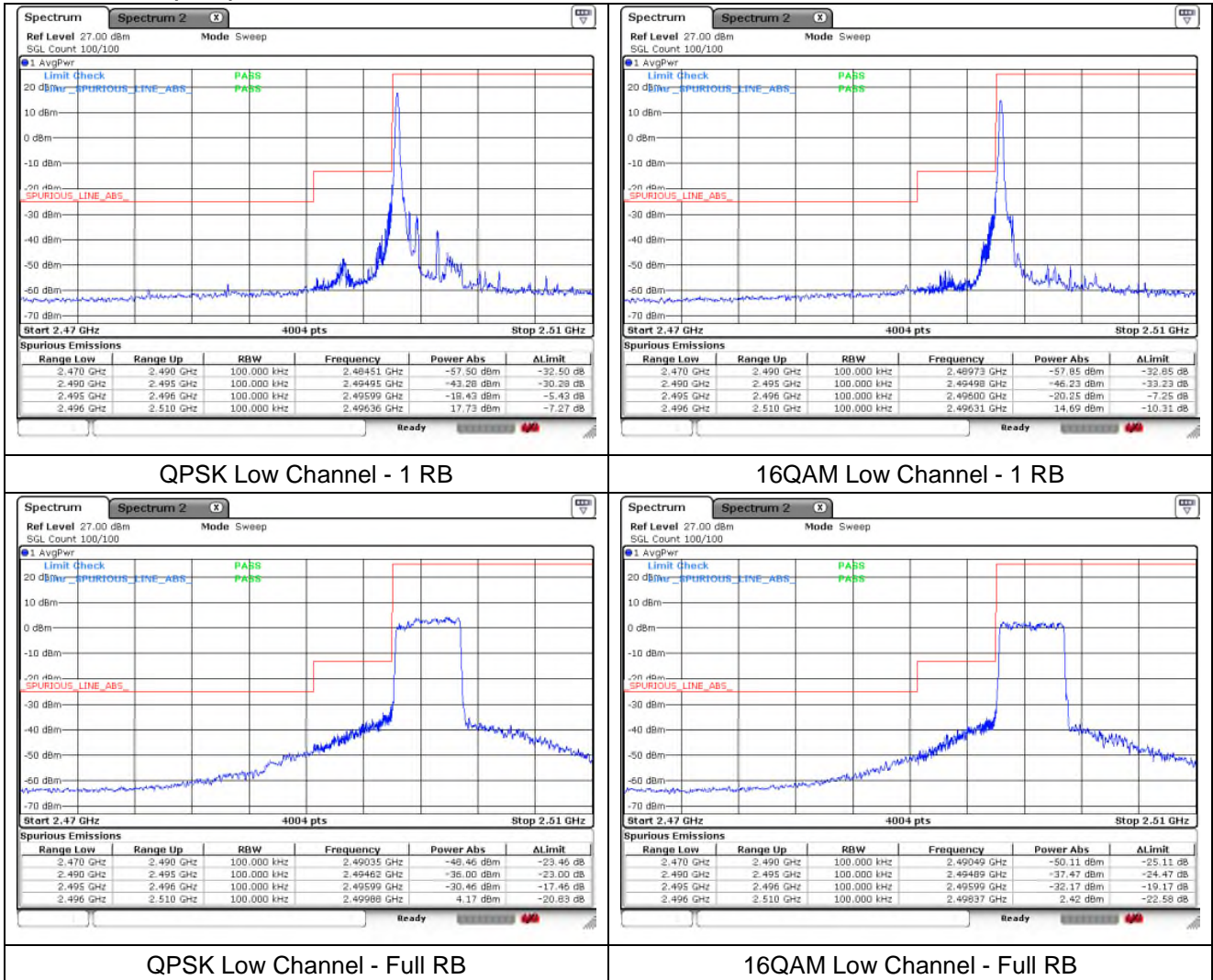
16QAM Low Channel - 1 RB High



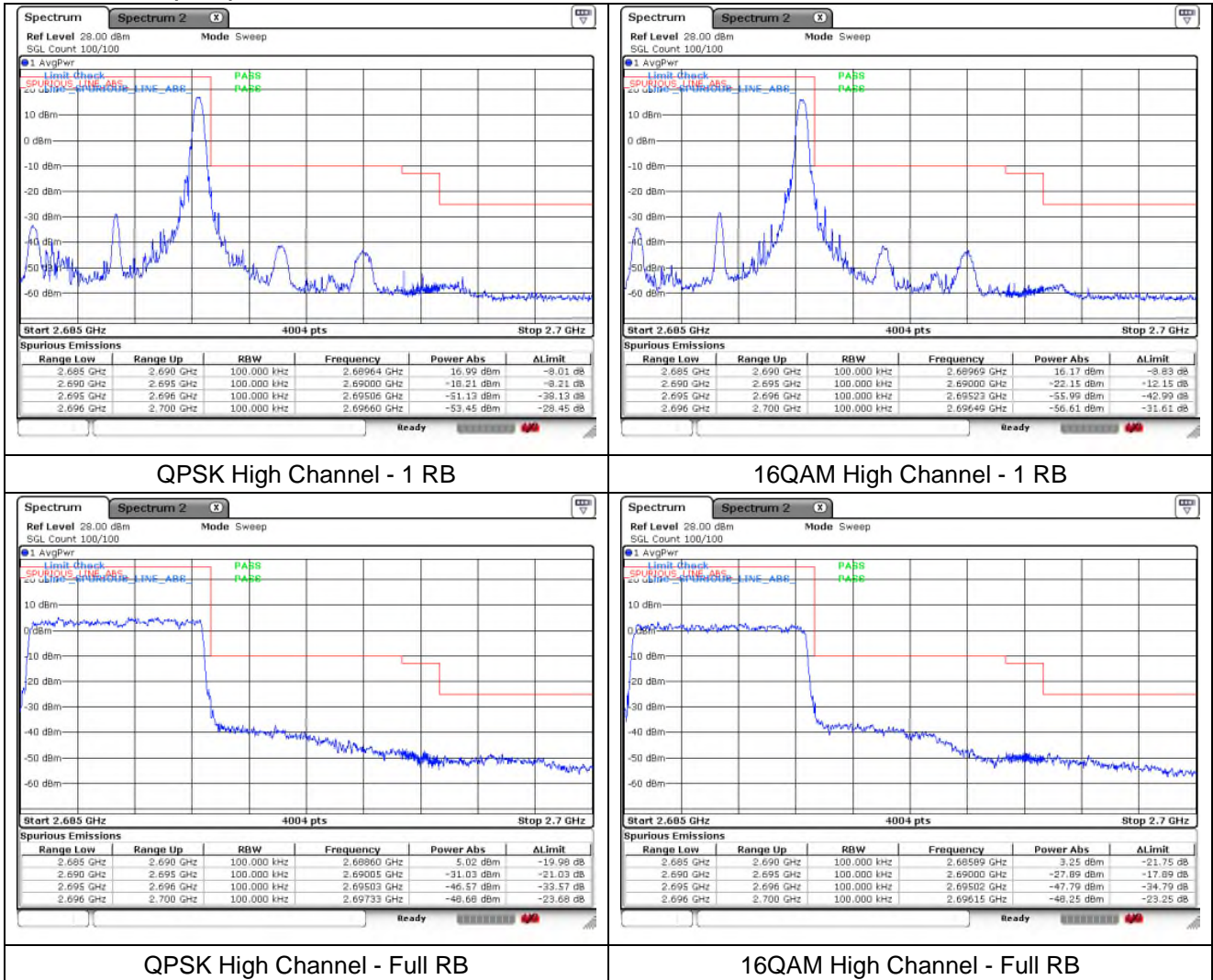
QPSK Low Channel - Full RB

16QAM Low Channel - Full RB

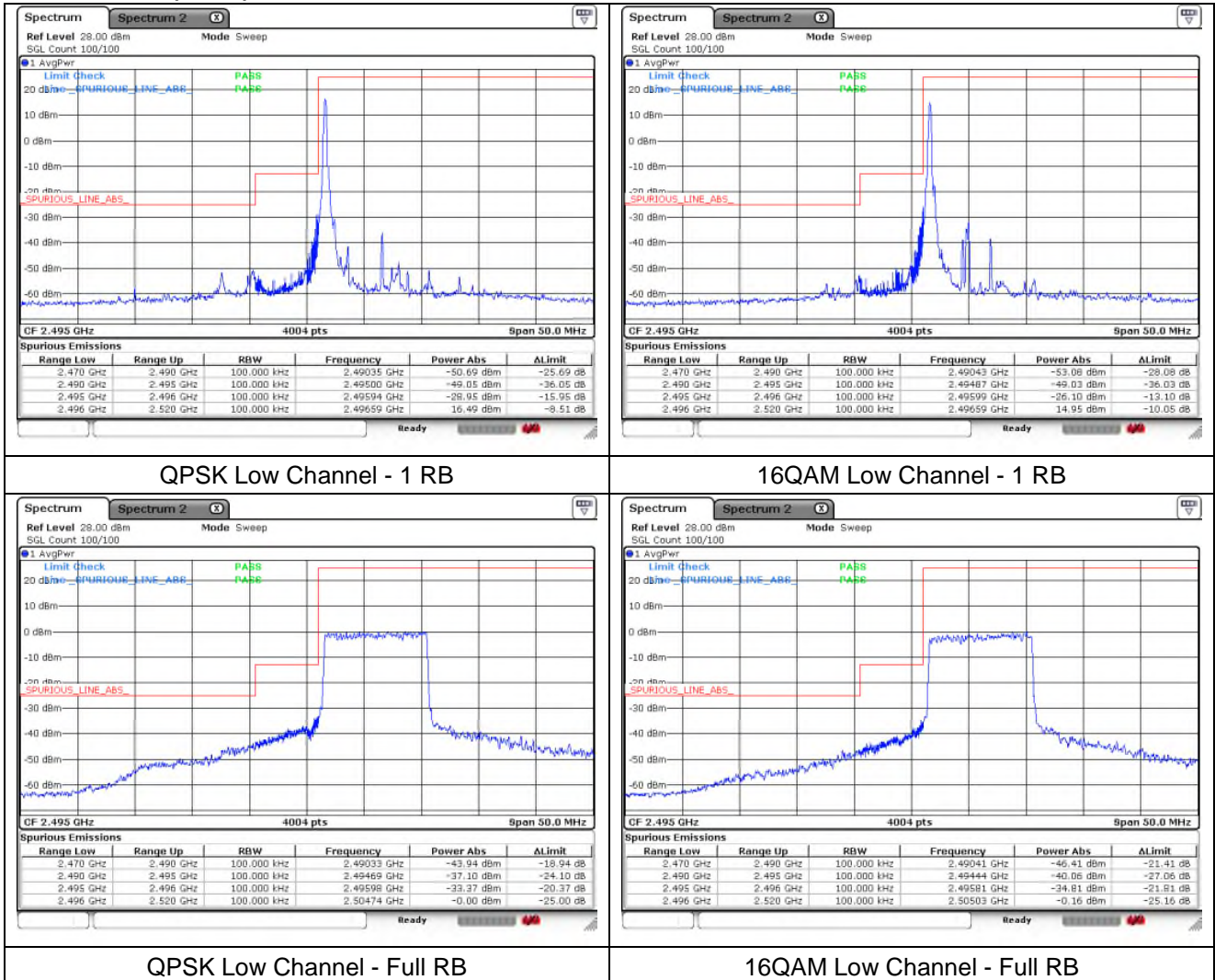
LTE band 41 (5 MHz)



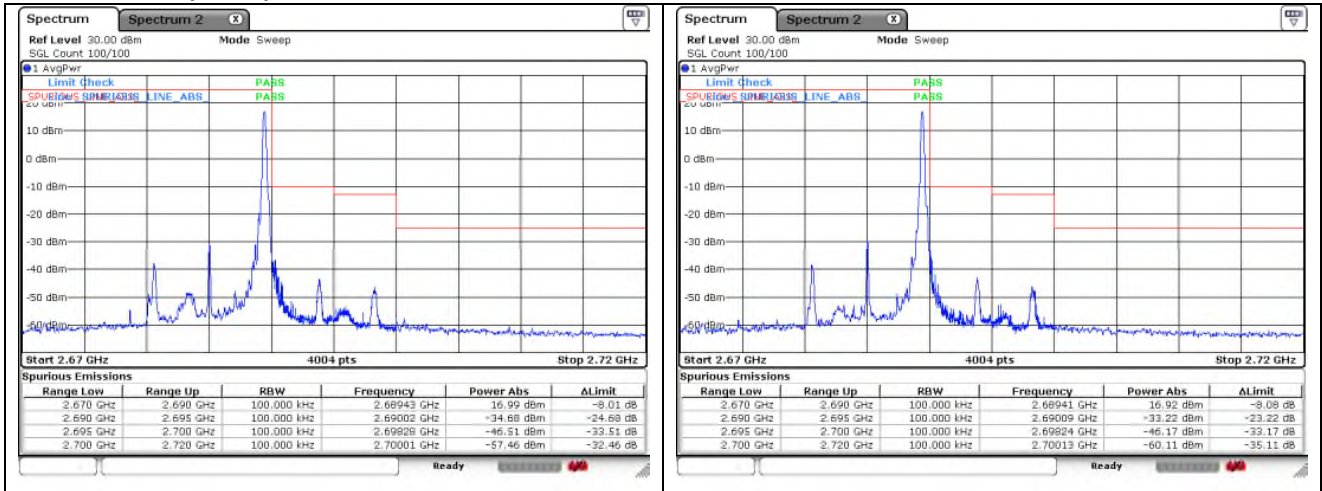
LTE band 41 (5 MHz)



LTE band 41 (10 MHz)

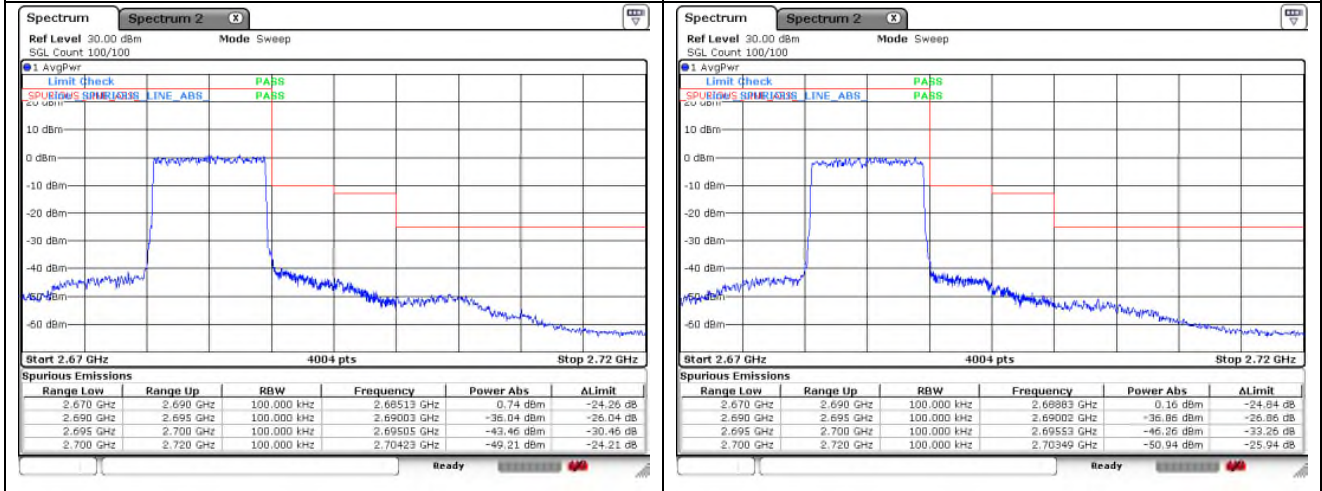


LTE band 41 (10 MHz)



QPSK High Channel - 1 RB

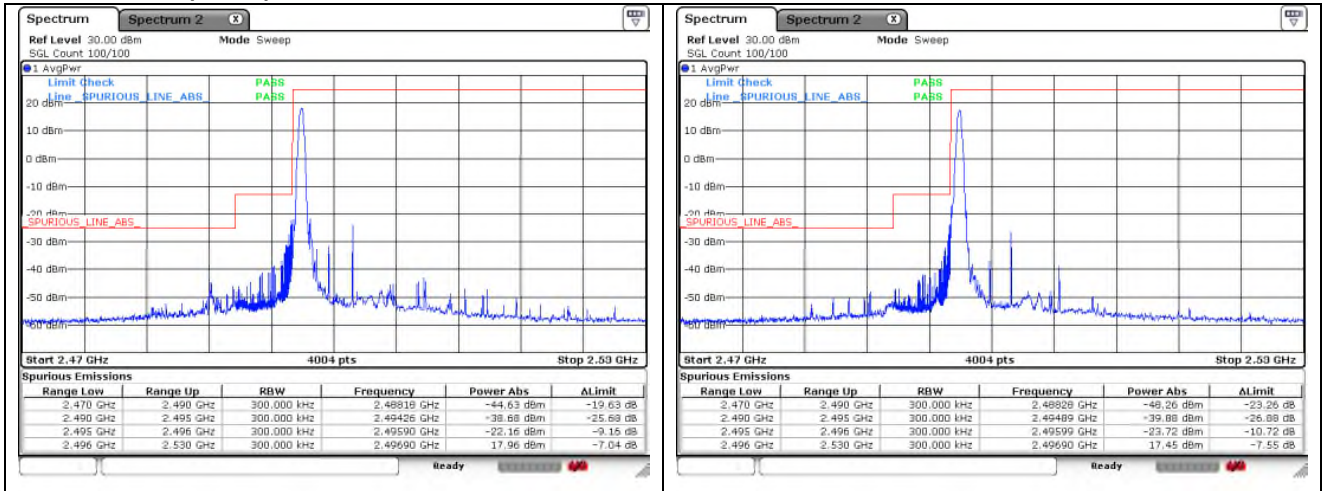
16QAM High Channel - 1 RB



QPSK High Channel - Full RB

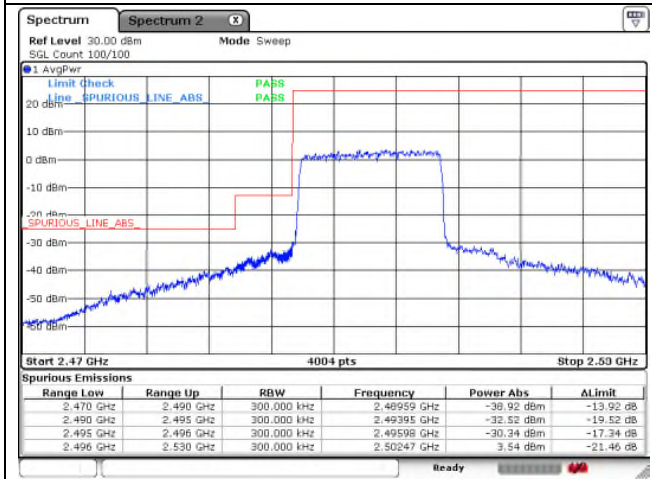
16QAM High Channel - Full RB

LTE band 41 (15 MHz)

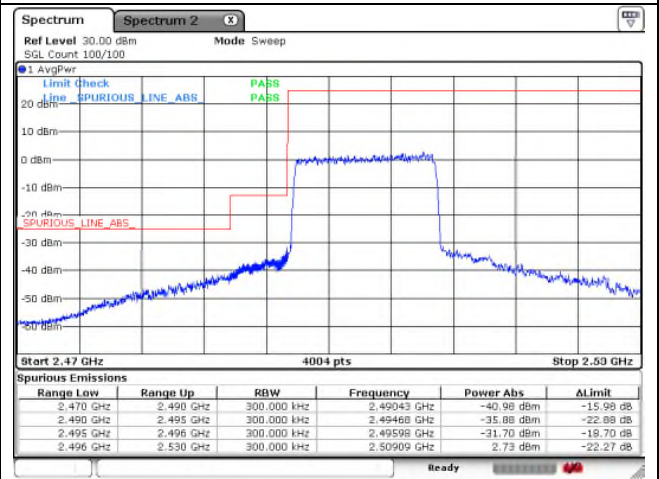


QPSK Low Channel - 1 RB

16QAM Low Channel - 1 RB

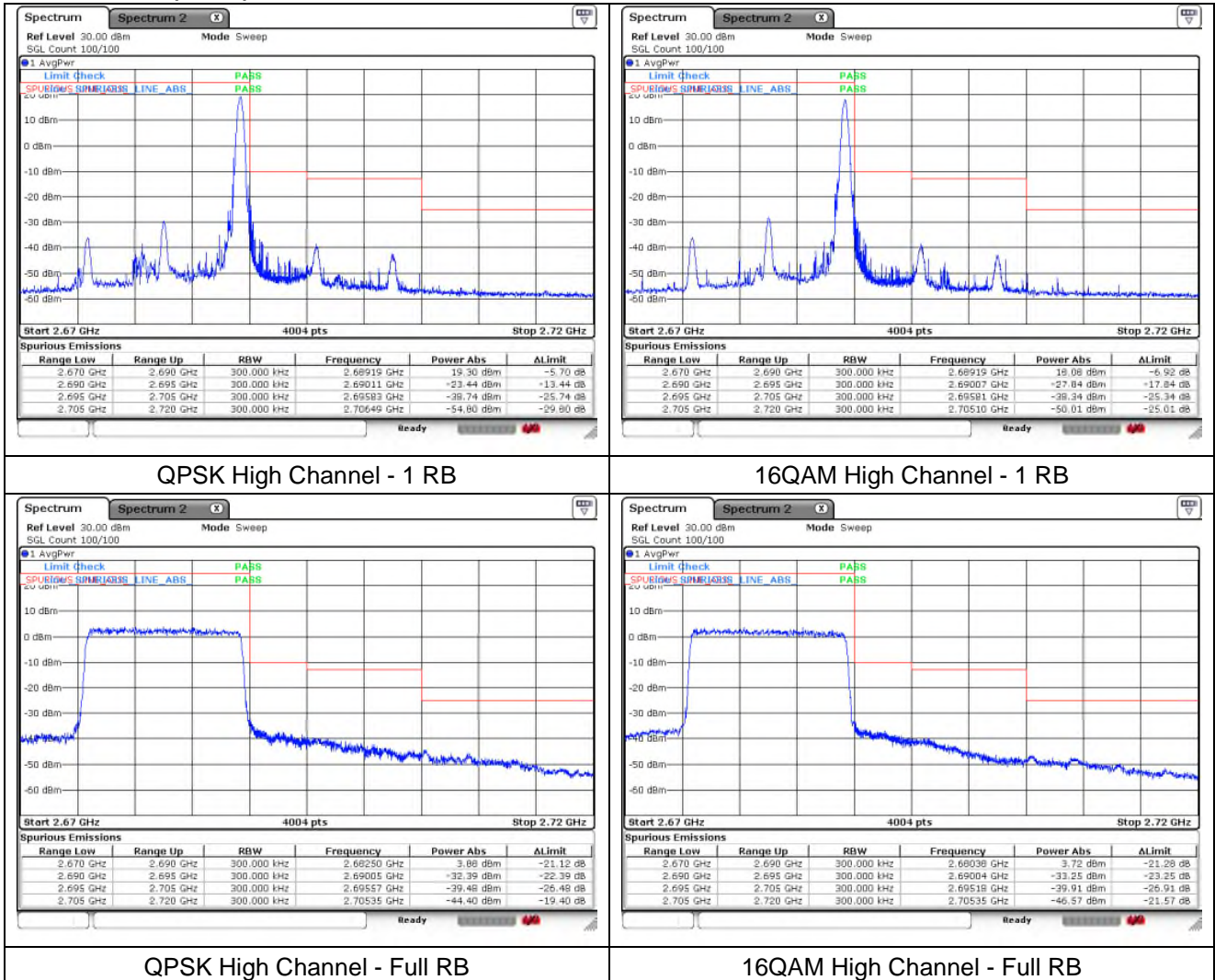


QPSK Low Channel - Full RB

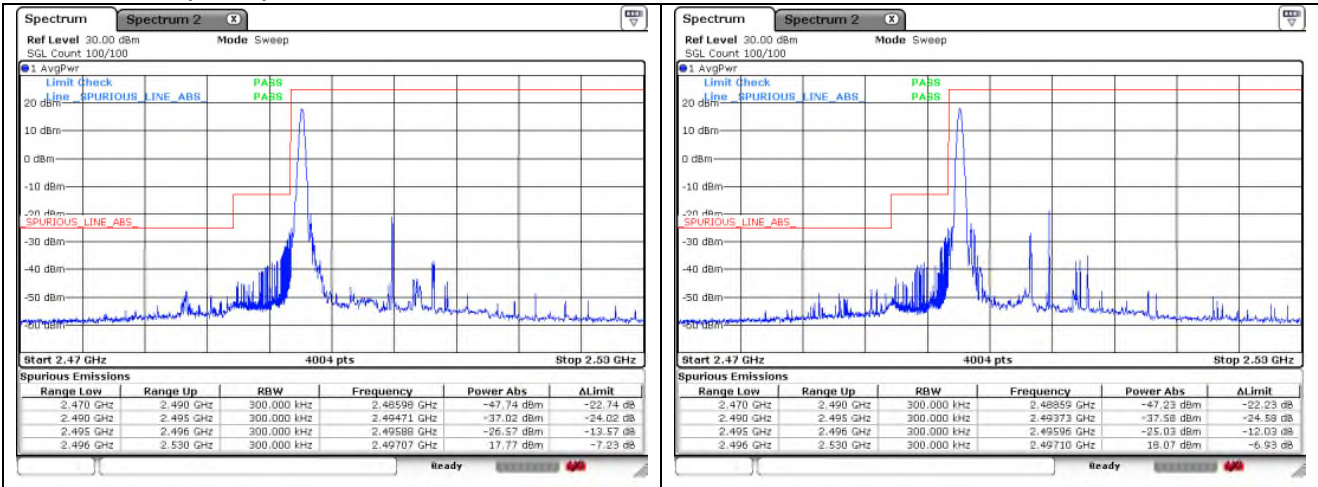


16QAM Low Channel - Full RB

LTE band 41 (15 MHz)

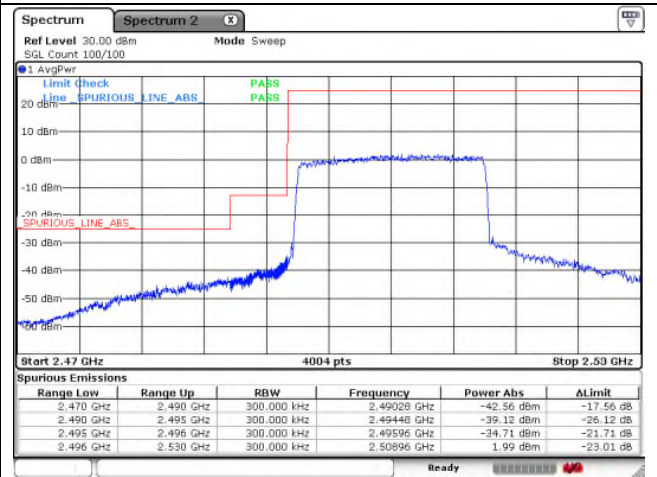
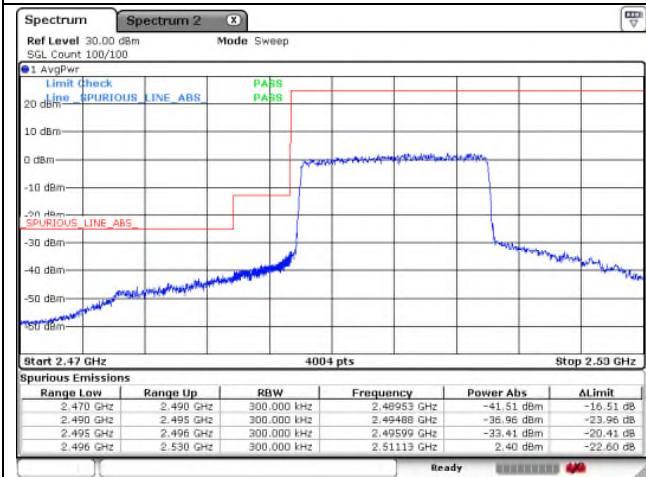


LTE band 41 (20 MHz)



QPSK Low Channel - 1 RB

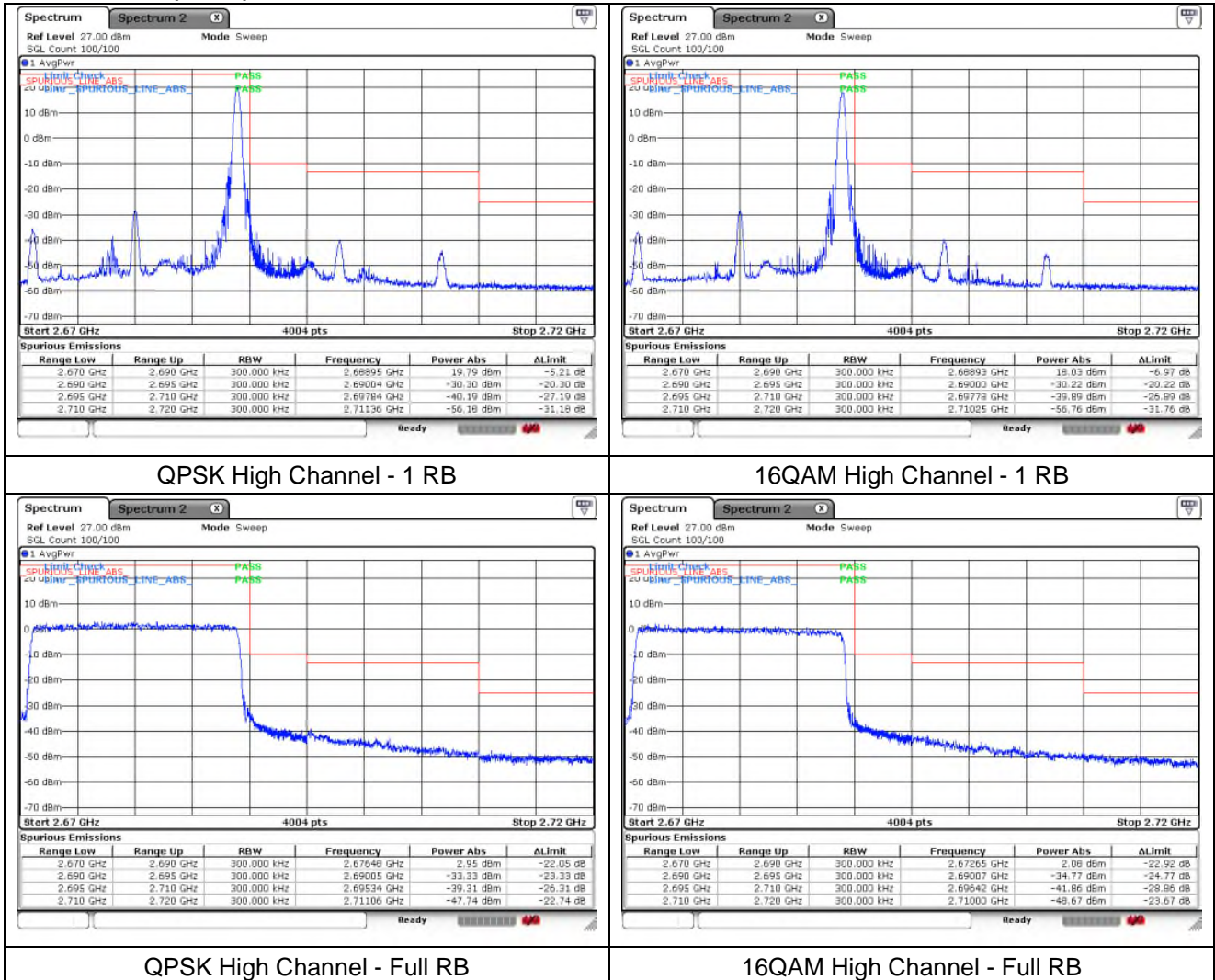
16QAM Low Channel - 1 RB



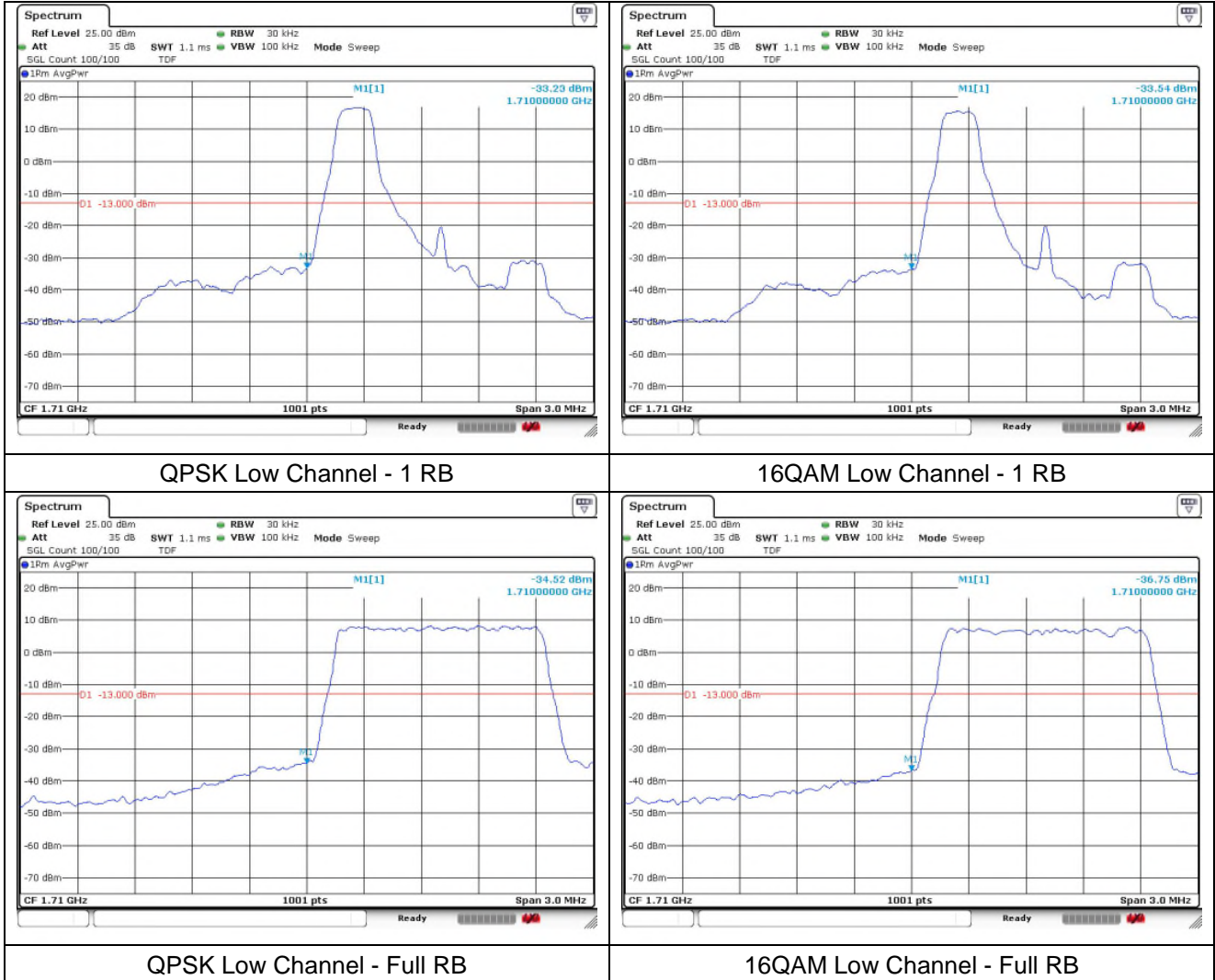
QPSK Low Channel - Full RB

16QAM Low Channel - Full RB

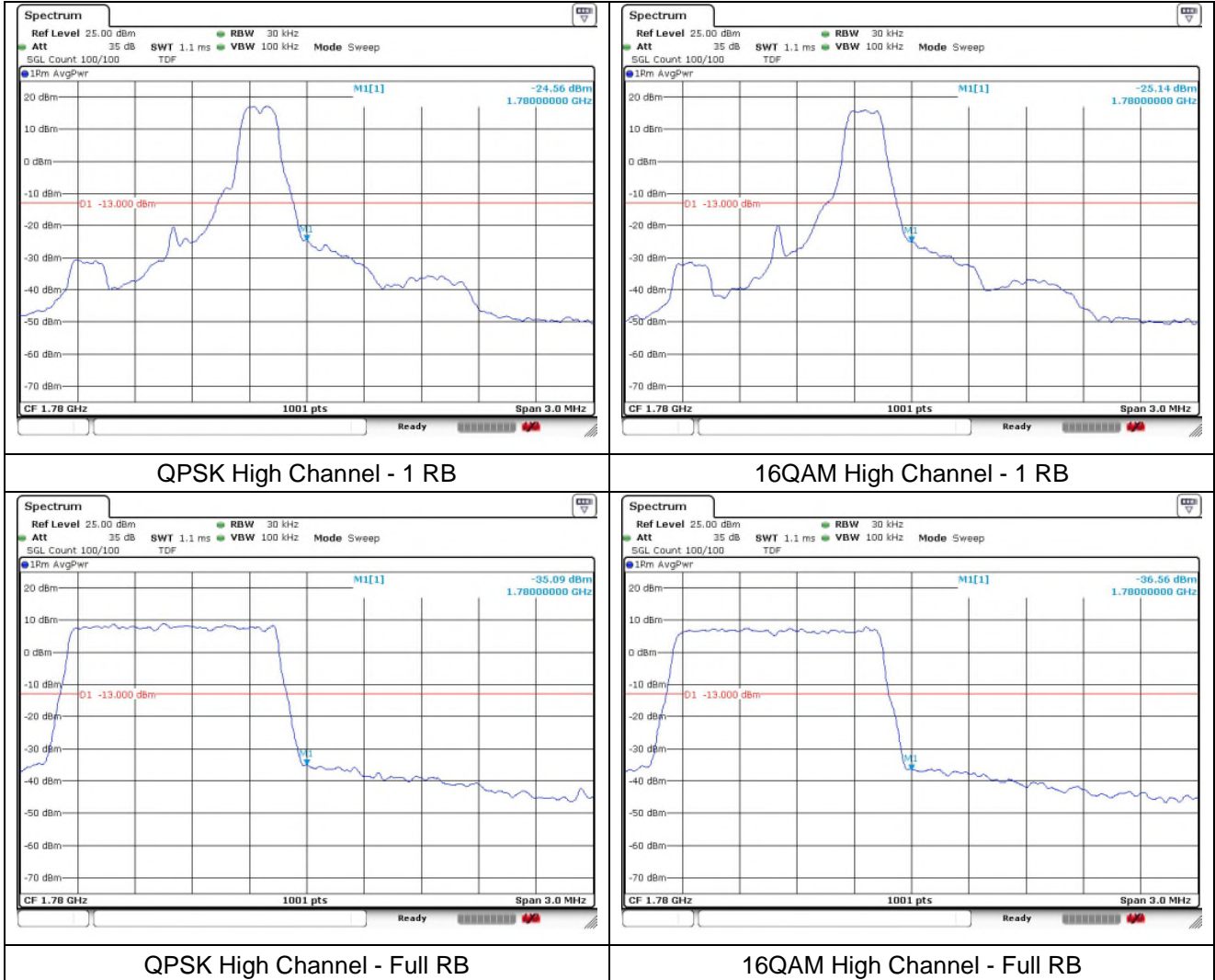
LTE band 41 (20 MHz)



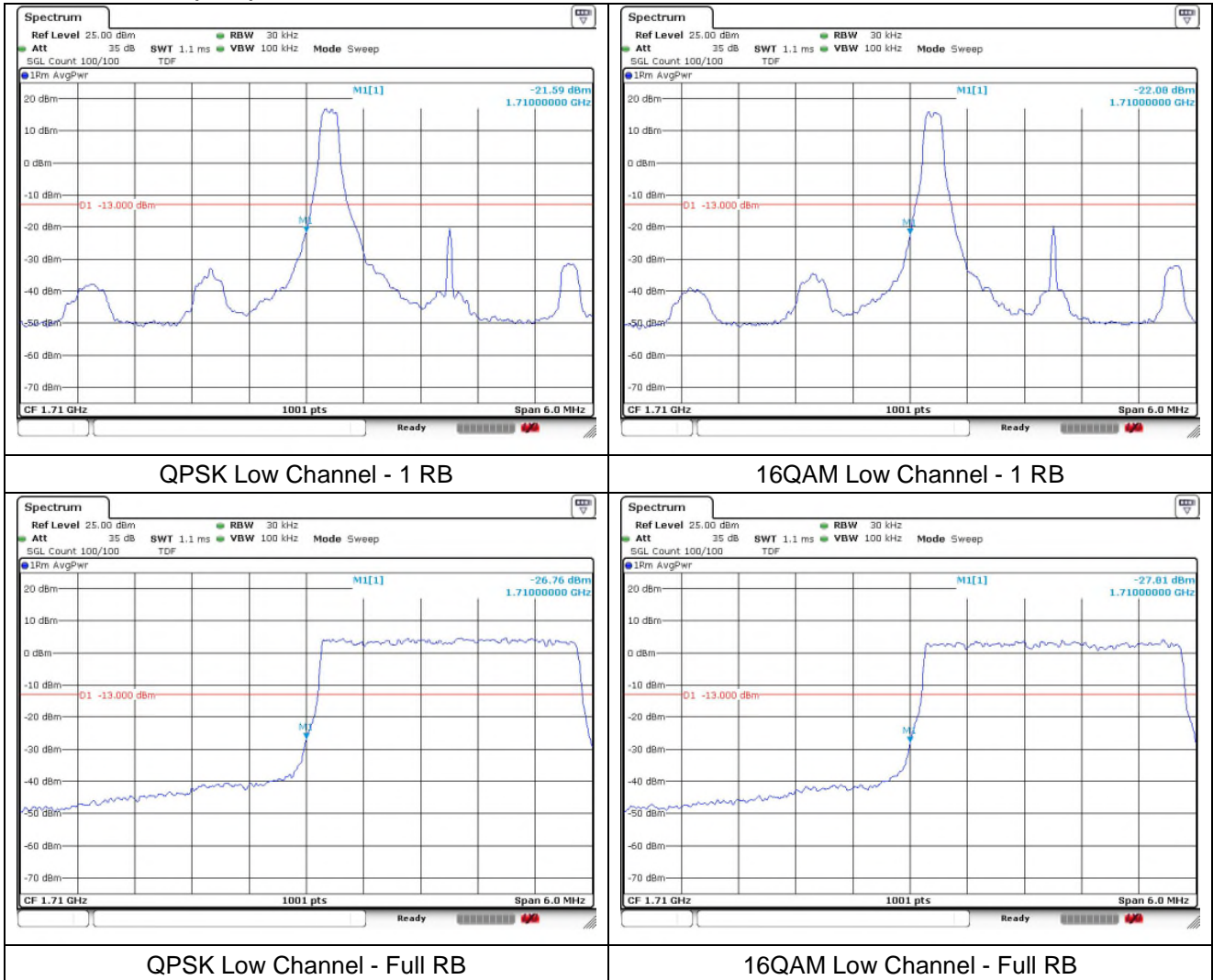
LTE band 66/4 (1.4 MHz)



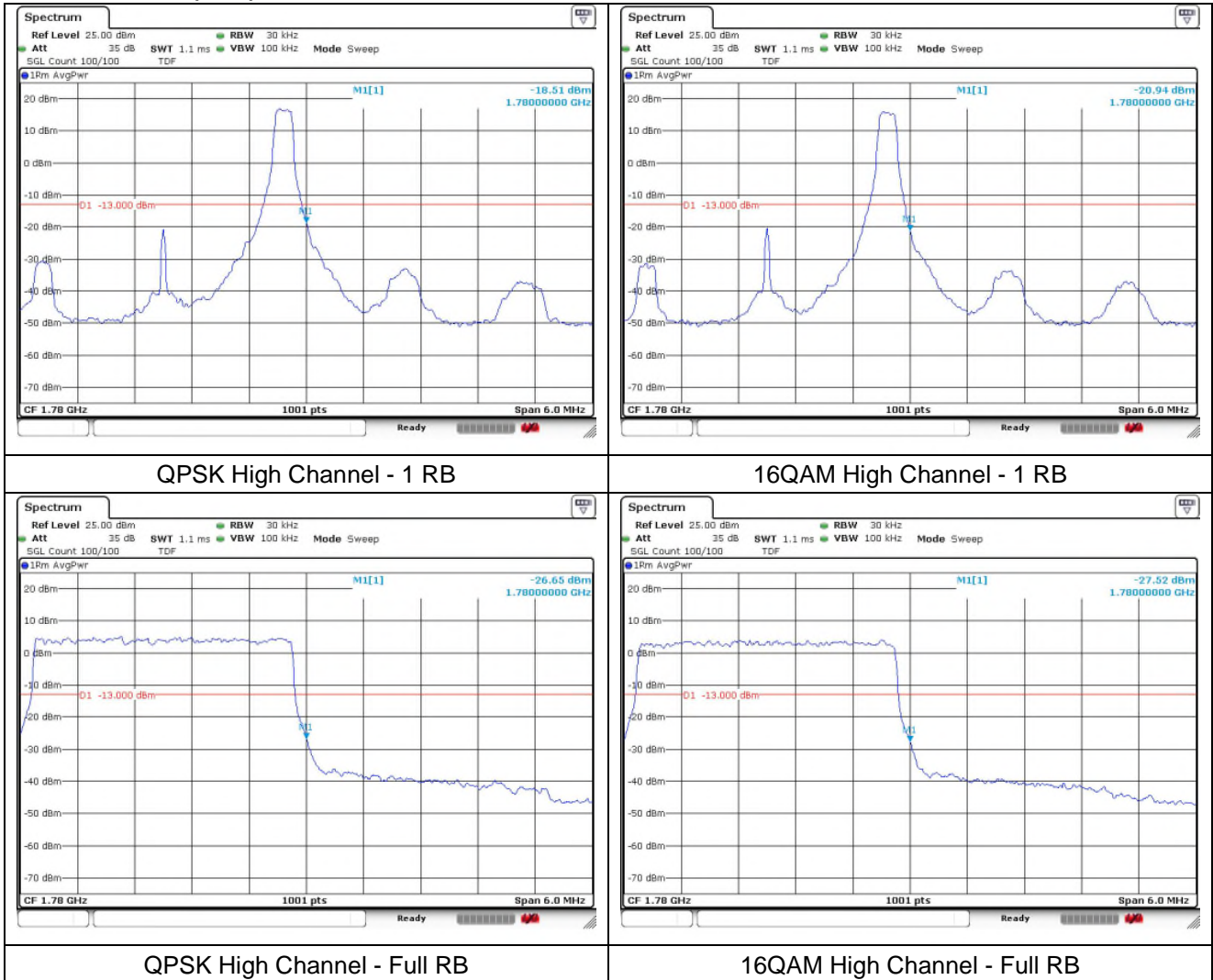
LTE band 66/4 (1.4 MHz)



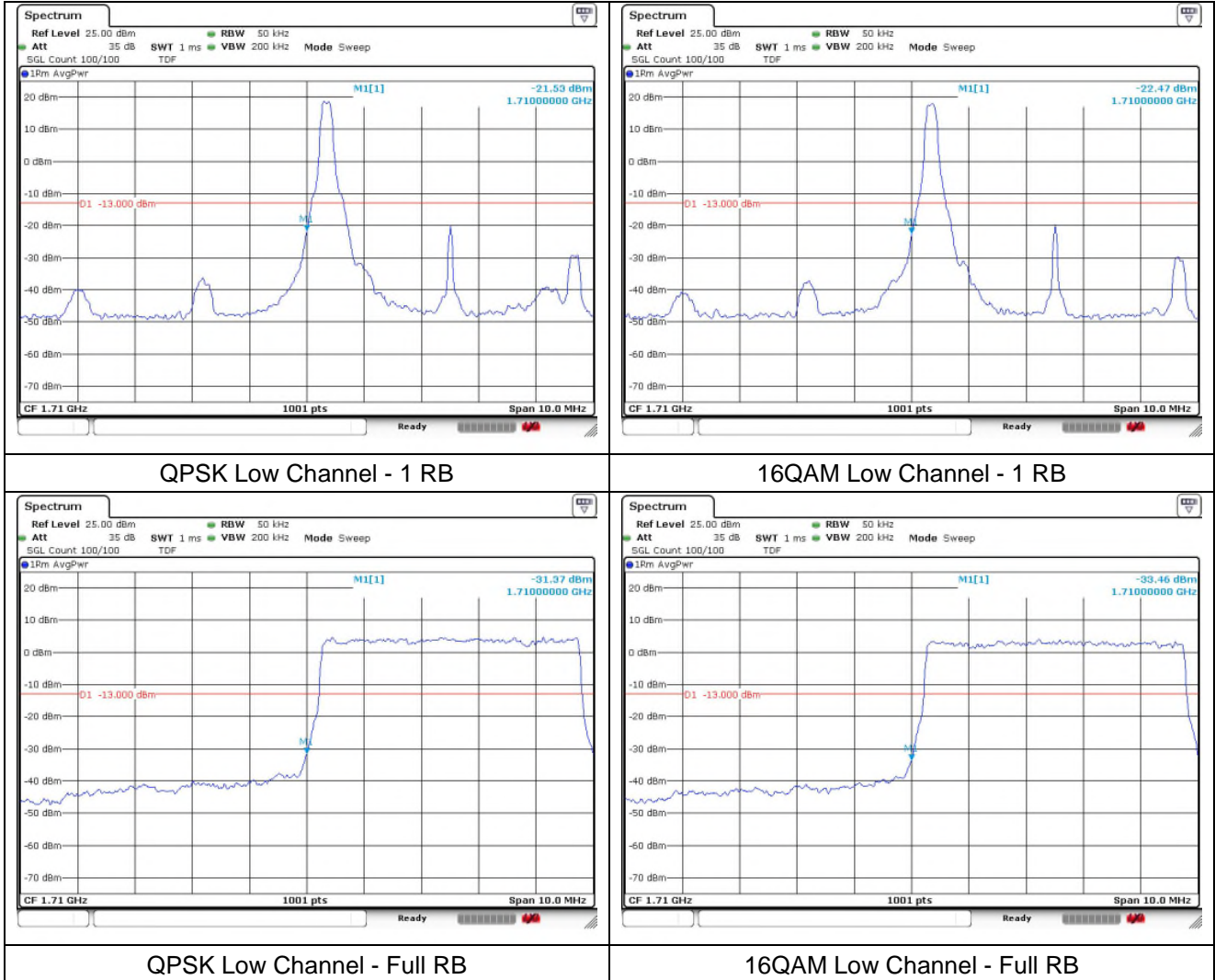
LTE band 66/4 (3 MHz)



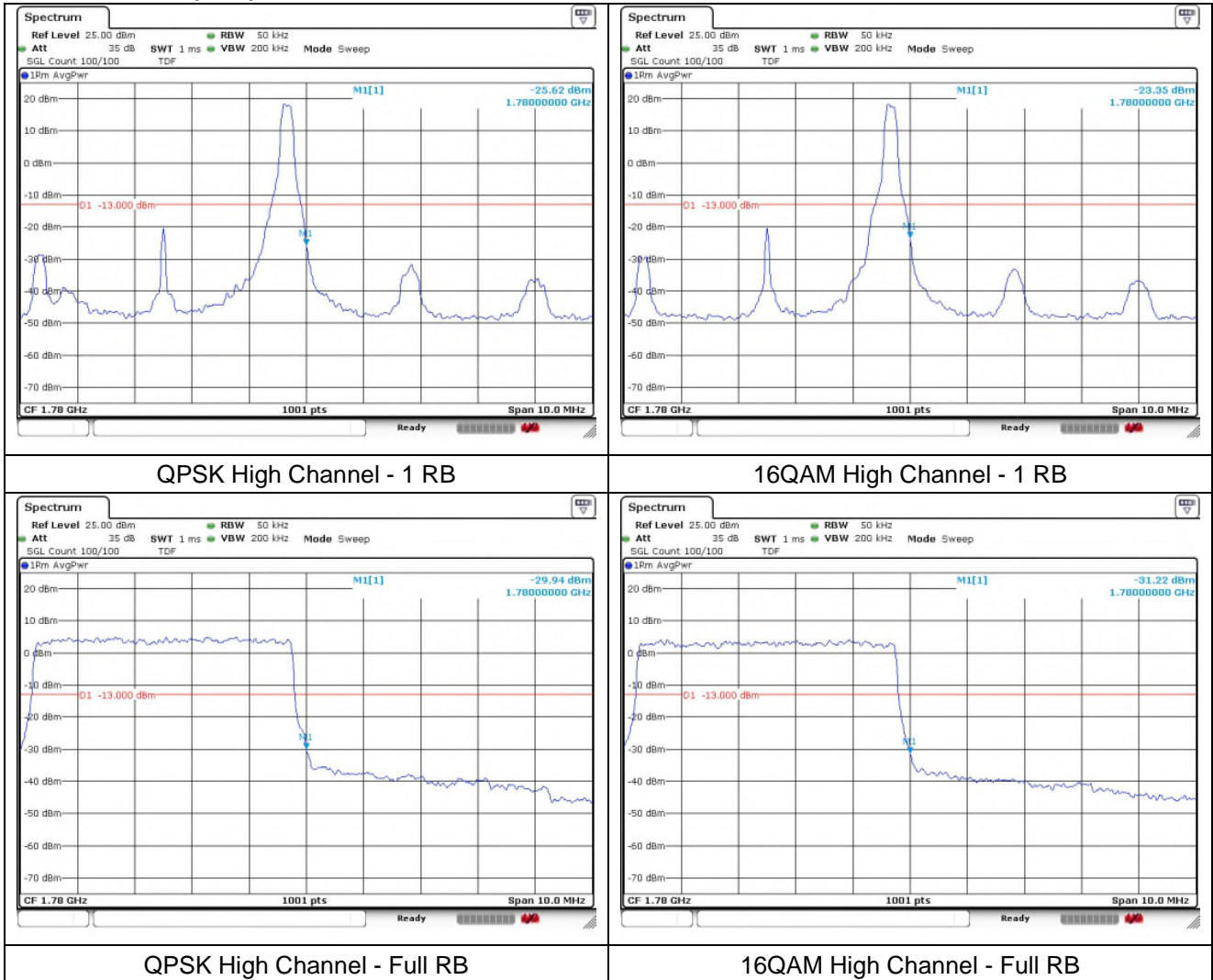
LTE band 66/4 (3 MHz)



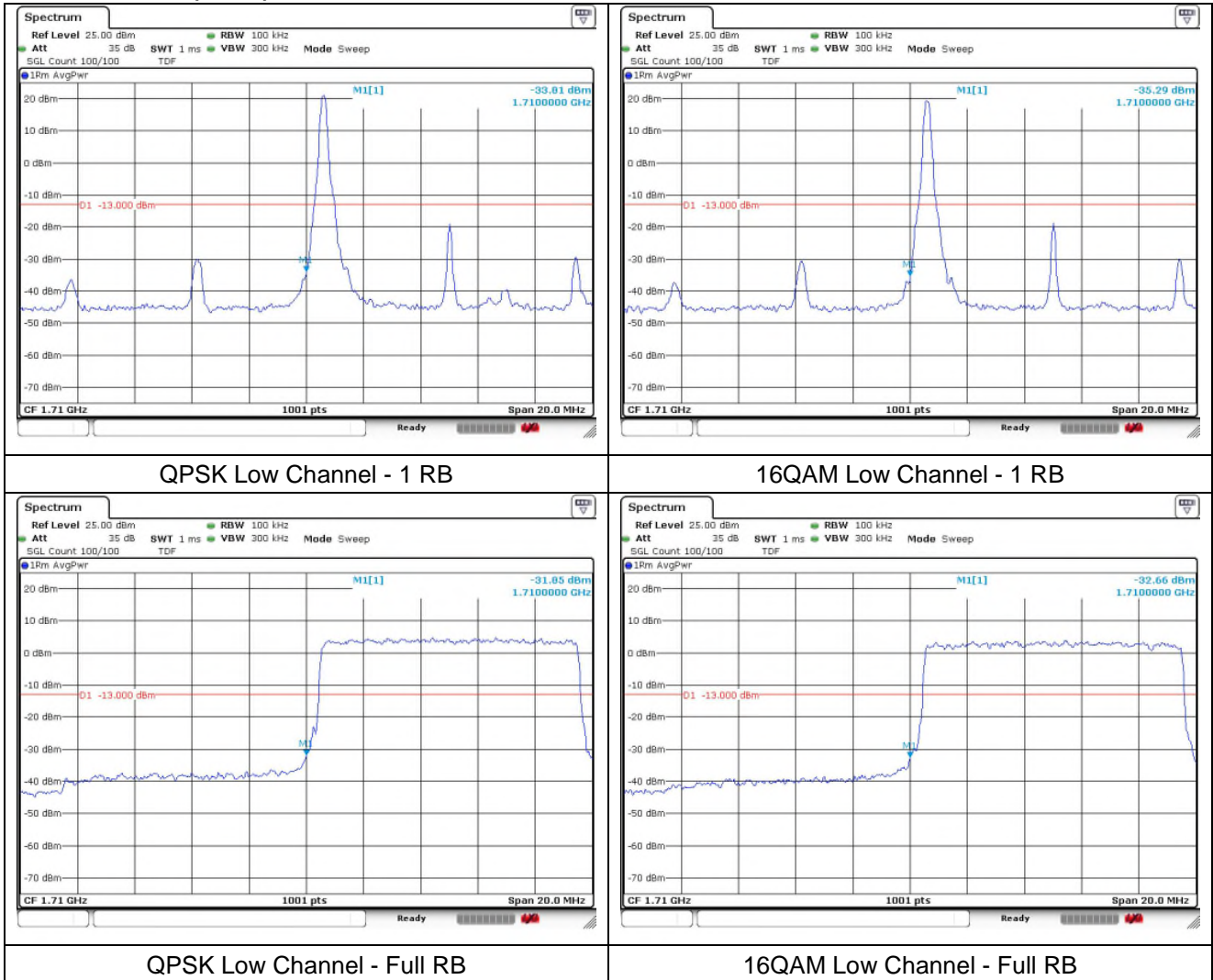
LTE band 66/4 (5 MHz)



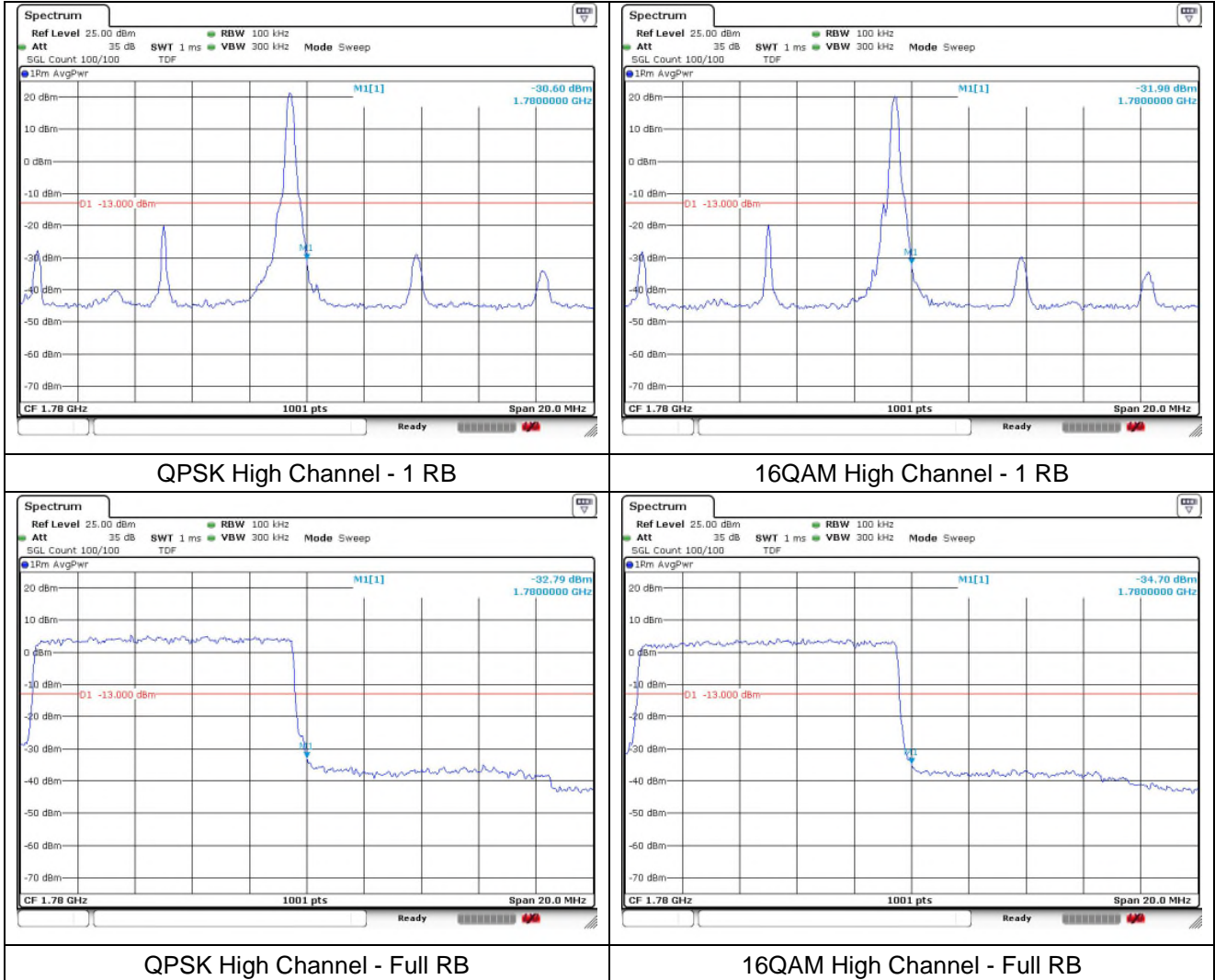
LTE band 66/4 (5 MHz)



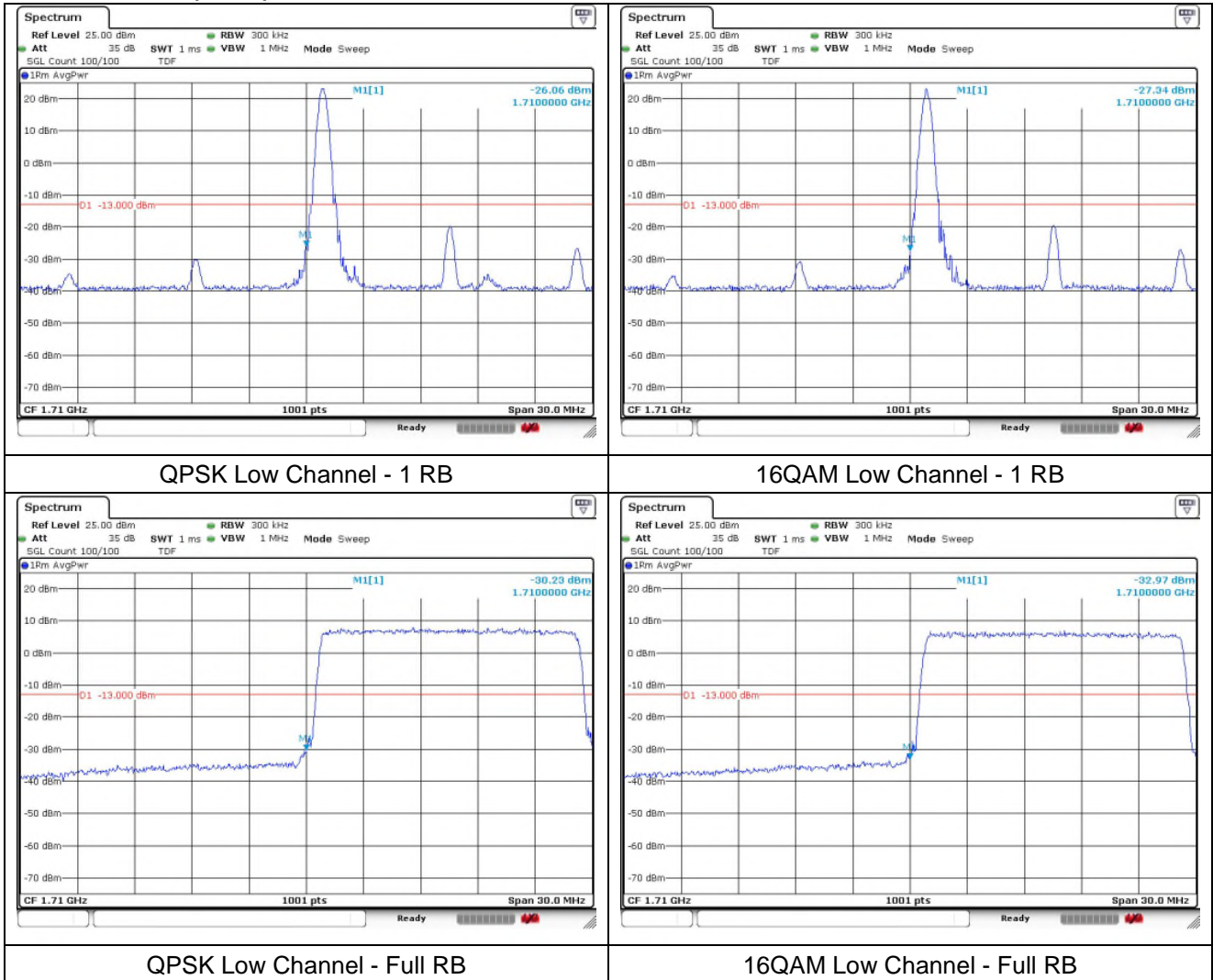
LTE band 66/4 (10 MHz)



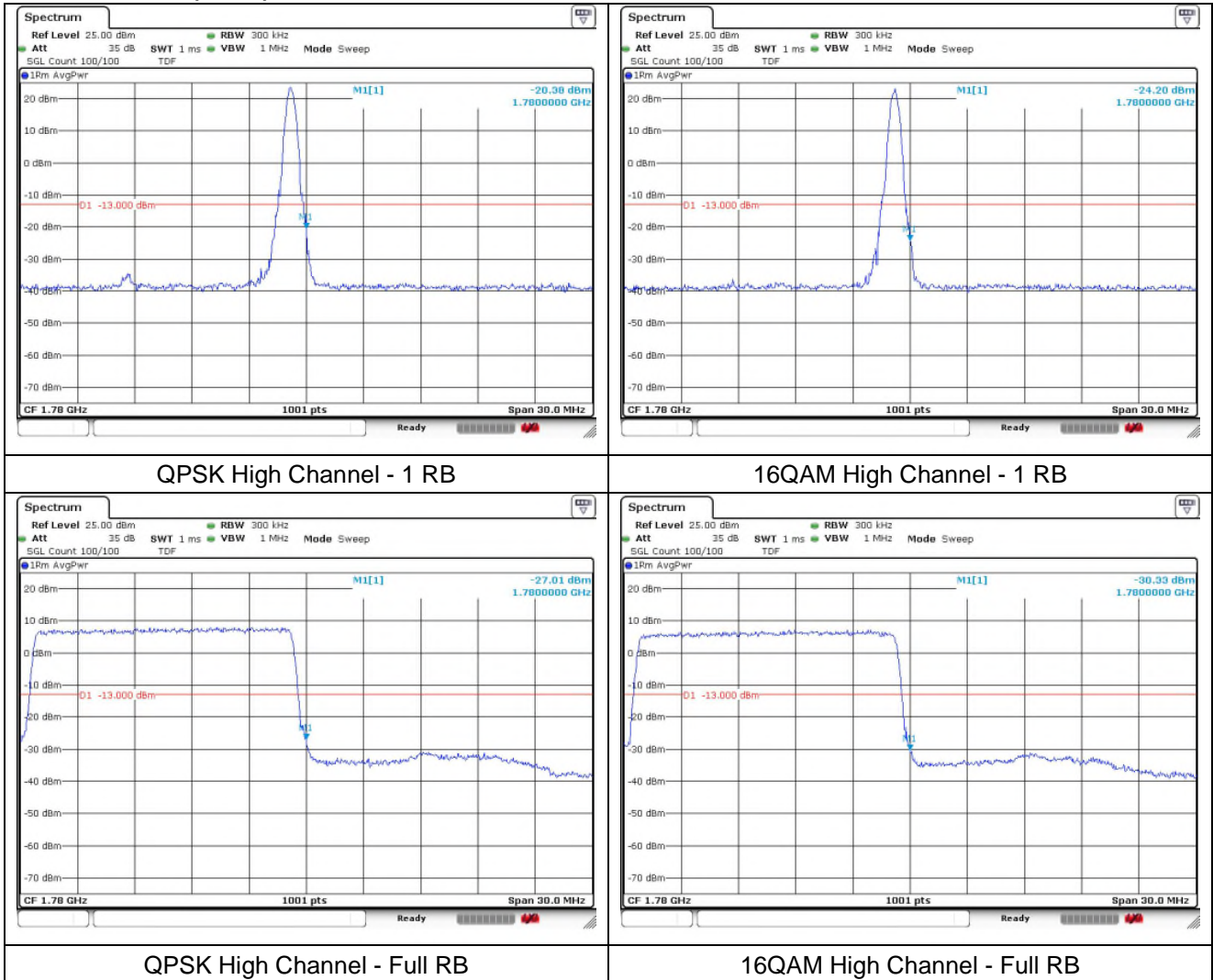
LTE band 66/4 (10 MHz)



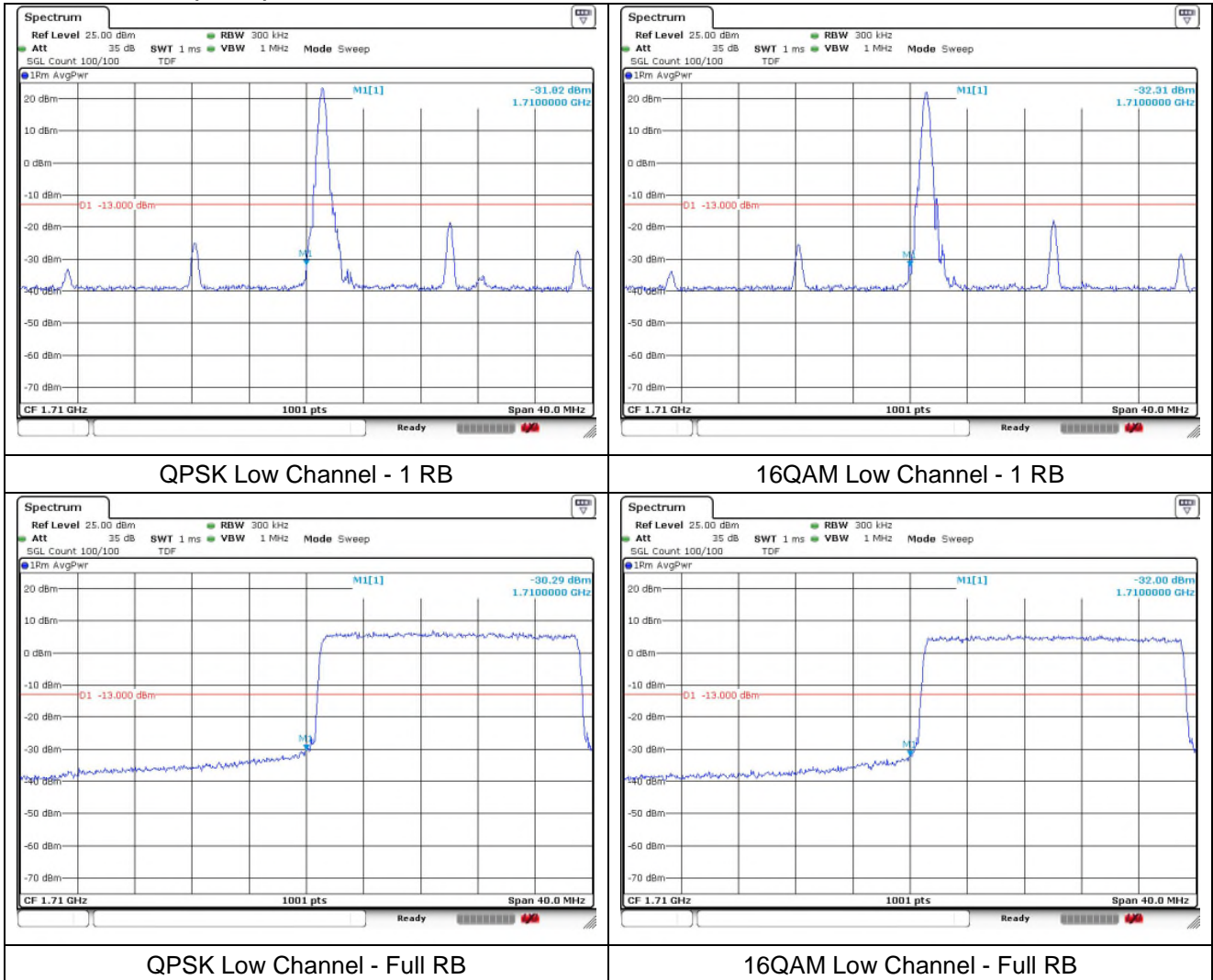
LTE band 66/4 (15 MHz)



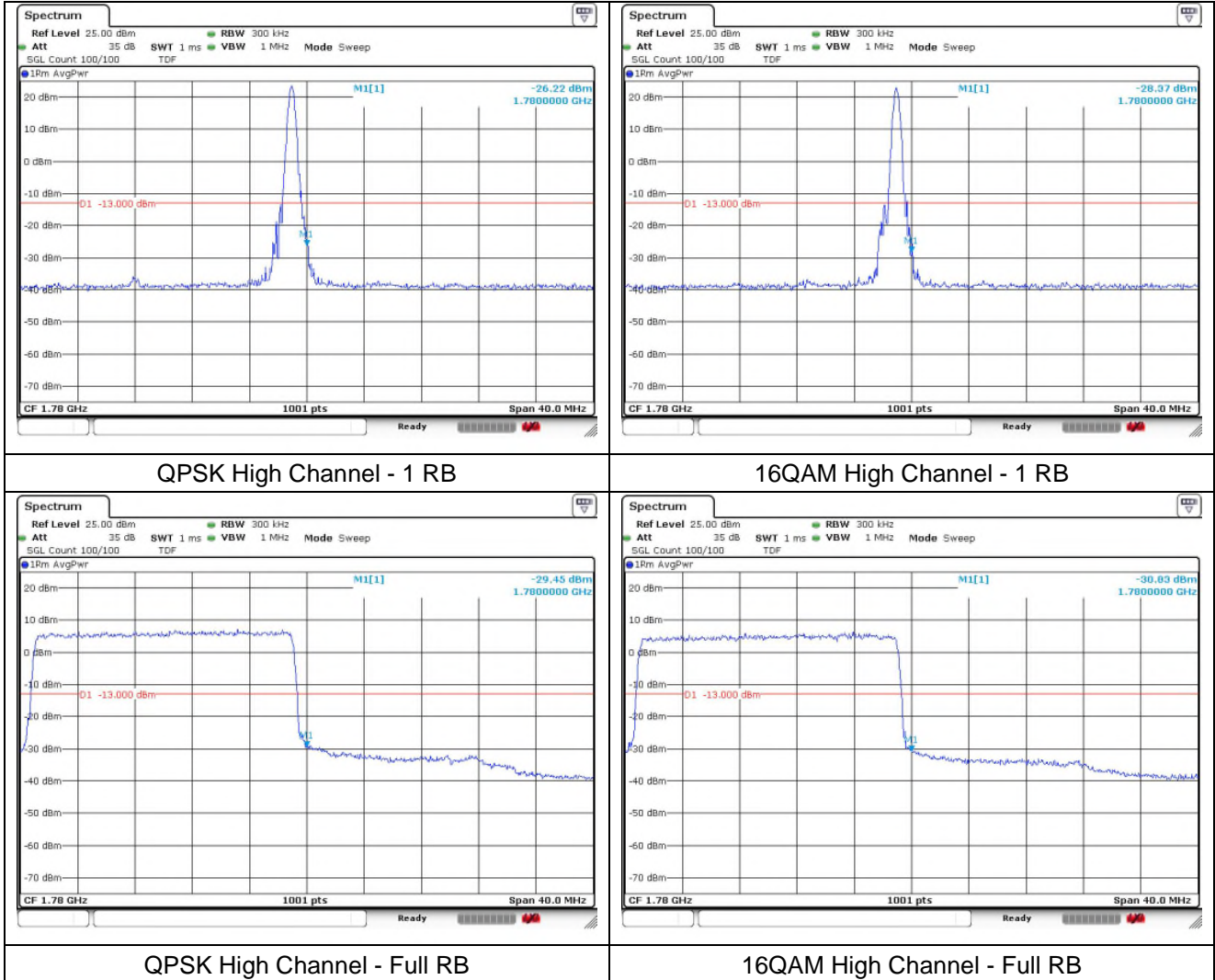
LTE band 66/4 (15 MHz)



LTE band 66/4 (20 MHz)



LTE band 66/4 (20 MHz)



8. Frequency Stability

8.1. Limit

- § 2.1055 (a), § 2.1055 (d) & following:

- §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table of this section.

For Mobile devices operating in the 824 to 849 MHz band at a power level less than or equal to 3 Watts, the limit specified in Table C-1 is +/- 2.5 ppm.

- §24.235, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

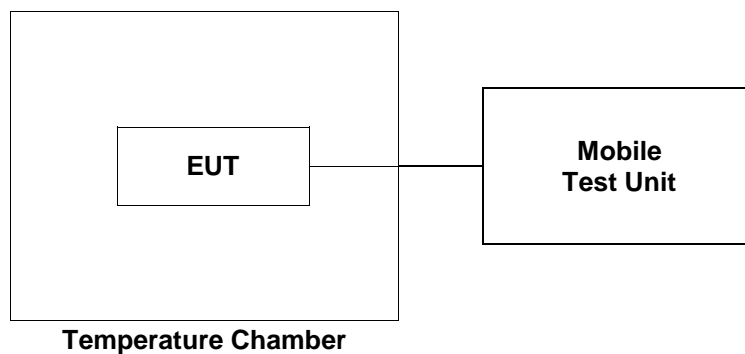
- §27.54, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

- §90.213, transmitters used in the services governed by this part must have a minimum frequency stability as specified in the following table.

For Mobile devices operating in the 809 to 824 MHz band at a power level 2 Watts or less, the limit specified in Table is +/- 2.5 ppm.

8.2. Test Procedure

1. Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to a Mobile Test Unit via feed-through attenuators.
2. The EUT was placed inside the temperature chamber.
3. After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from Mobile Test Unit.



8.3. Test Results

Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 % R.H.

LTE band 5 at middle channel

Reference Frequency: 836.5 MHz (10 MHz)			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	3.86	-9.84	-0.011 8
40		-8.27	-0.009 9
30		7.90	0.009 4
23		5.68	0.006 8
10		8.14	0.009 7
0		7.22	0.008 6
-10		-6.59	-0.007 9
-20		8.31	0.009 9
-30		8.55	0.010 2
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
23	4.439	6.13	0.007 3
	3.281	5.26	0.006 3

LTE band 12 at middle channel

Reference Frequency: 707.5 MHz (10 MHz)			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	3.86	-8.48	-0.012 0
40		-6.45	-0.009 1
30		6.55	0.009 3
23		6.28	0.008 9
10		8.03	0.011 3
0		6.38	0.009 0
-10		-6.82	-0.009 6
-20		8.24	0.011 6
-30		8.68	0.012 3
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
23	4.439	6.36	0.009 0
	3.281	6.05	0.008 6

LTE band 13 at middle channel

Reference Frequency: 782 MHz (10 MHz)			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	3.86	7.61	0.009 7
40		-7.60	-0.009 7
30		7.24	0.009 3
23		5.04	0.006 4
10		6.85	0.008 8
0		8.07	0.010 3
-10		-7.34	-0.009 4
-20		8.30	0.010 6
-30		8.46	0.010 8
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
23	4.439	5.85	0.007 5
	3.281	6.10	0.007 8

LTE band 25/2 at middle channel

Reference Frequency: 1 882.5 MHz (20 MHz)			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	3.86	-15.58	-0.008 3
40		-15.06	-0.008 0
30		-14.16	-0.007 5
23		14.71	0.007 8
10		-13.89	-0.007 4
0		17.35	0.009 2
-10		-16.02	-0.008 5
-20		-16.04	-0.008 5
-30		-17.10	-0.009 1
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
23	4.439	13.31	0.007 1
	3.281	14.15	0.007 5

LTE band 26 (Part 22) at Low channel

Reference Frequency: 831.5 MHz (15 MHz)			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	3.86	-7.18	-0.008 6
40		-8.28	-0.010 0
30		6.34	0.007 6
23		5.25	0.006 3
10		-6.51	-0.007 8
0		5.52	0.006 6
-10		6.48	0.007 8
-20		-6.41	-0.007 7
-30		-6.78	-0.008 2
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
23	4.439	5.36	0.006 4
	3.281	4.78	0.005 7

LTE band 26 (Part 90) at Low channel

Reference Frequency: 821.5 MHz (15 MHz)			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	3.86	-5.92	-0.007 2
40		-6.85	-0.008 3
30		4.45	0.005 4
23		4.26	0.005 2
10		6.98	0.008 5
0		6.95	0.008 5
-10		-6.24	-0.007 6
-20		-6.28	-0.007 6
-30		-7.12	-0.008 7
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
23	4.439	5.32	0.006 5
	3.281	4.56	0.005 6

LTE band 41 at middle channel

Reference Frequency: 2 593 MHz (20 MHz)			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	3.86	38.58	0.014 9
40		35.99	0.013 9
30		31.10	0.012 0
23		24.59	0.009 5
10		36.08	0.013 9
0		34.46	0.013 3
-10		35.20	0.013 6
-20		35.36	0.013 6
-30		35.51	0.013 7
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
23	4.439	25.52	0.009 8
	3.281	24.46	0.009 4

LTE band 66/4 at middle channel

Reference Frequency: 1 745 MHz (20 MHz)			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	3.86	-13.55	-0.007 8
40		-12.23	-0.007 0
30		-11.94	-0.006 8
23		-11.13	-0.006 4
10		-11.94	-0.006 8
0		11.93	0.006 8
-10		-12.35	-0.007 1
-20		-14.89	-0.008 5
-30		-15.13	-0.008 7
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V _{dc})	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
23	4.439	-10.56	-0.006 1
	3.281	-11.13	-0.006 4

- End of the Test Report -