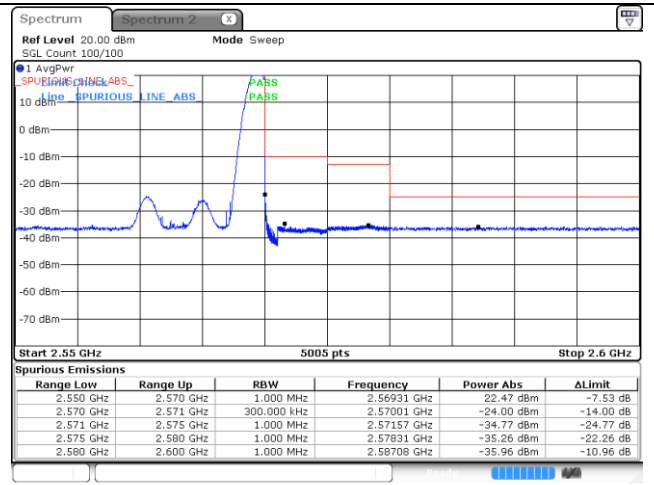
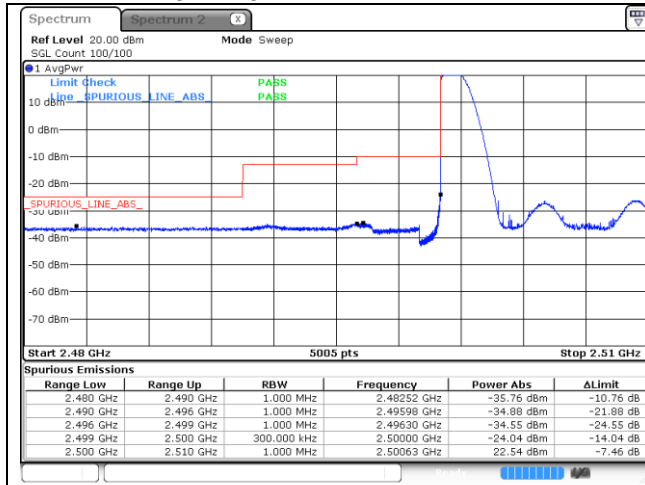
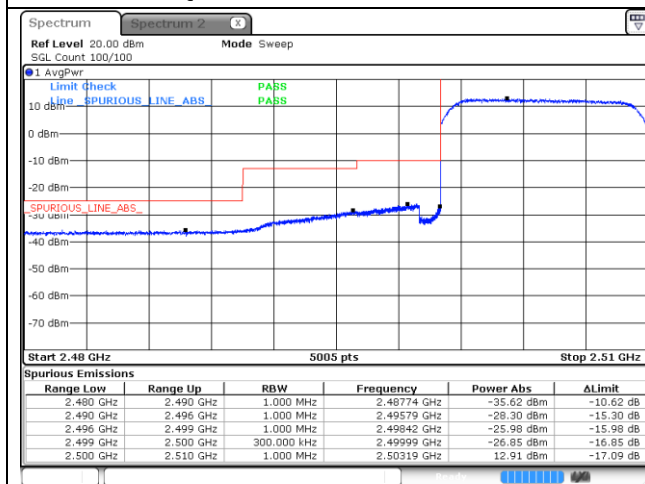


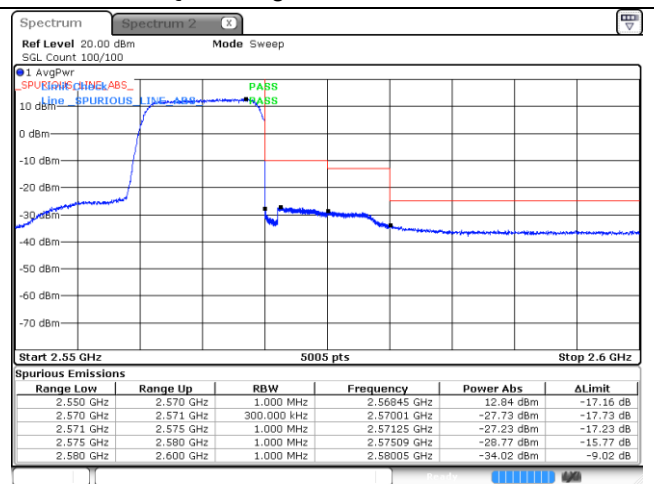
LTE band 7 (10 MHz)



QPSK Low Channel - 1 RB



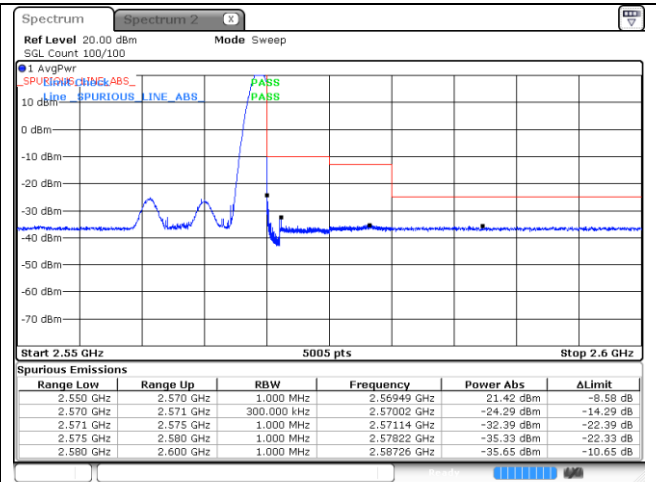
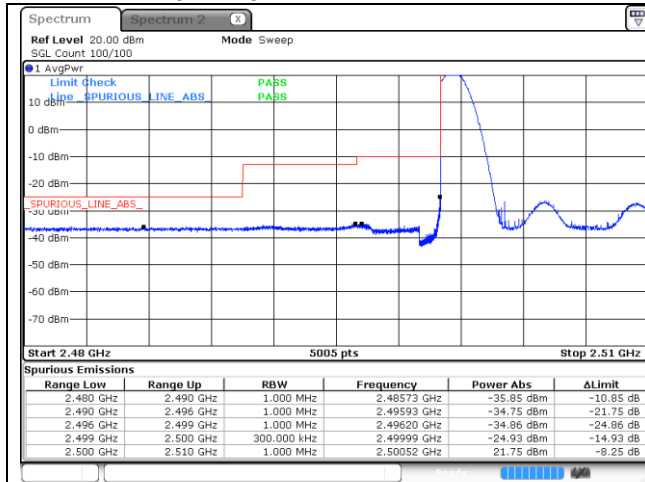
QPSK High Channel - 1 RB



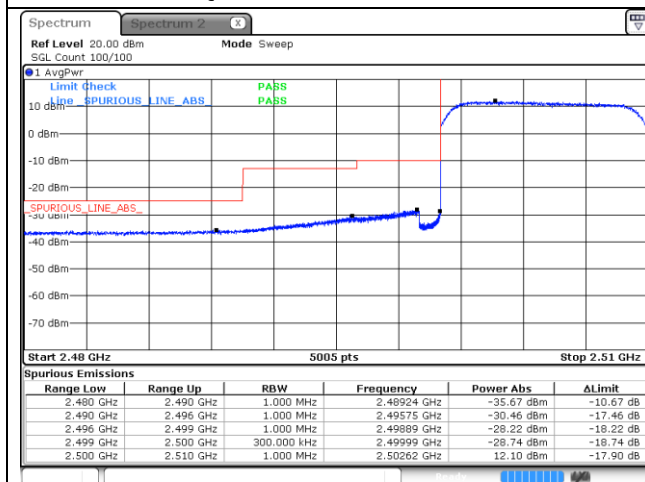
QPSK Low Channel - Full RB

QPSK High Channel - Full RB

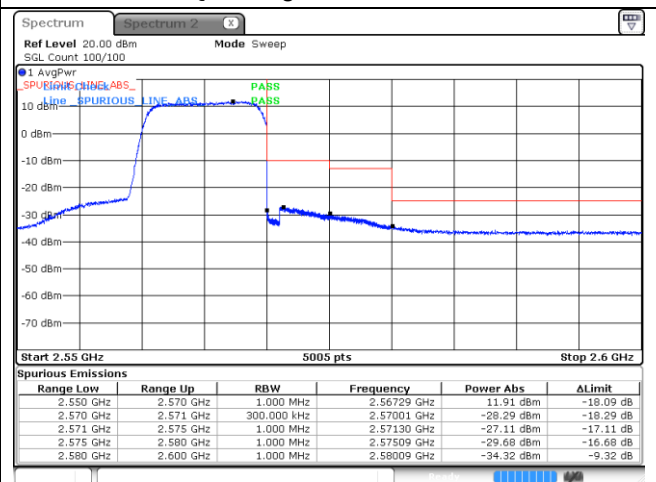
LTE band 7 (10 MHz)



16QAM Low Channel - 1 RB



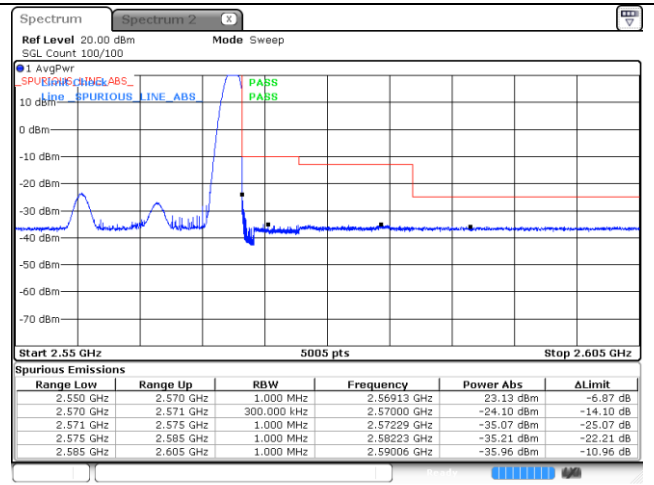
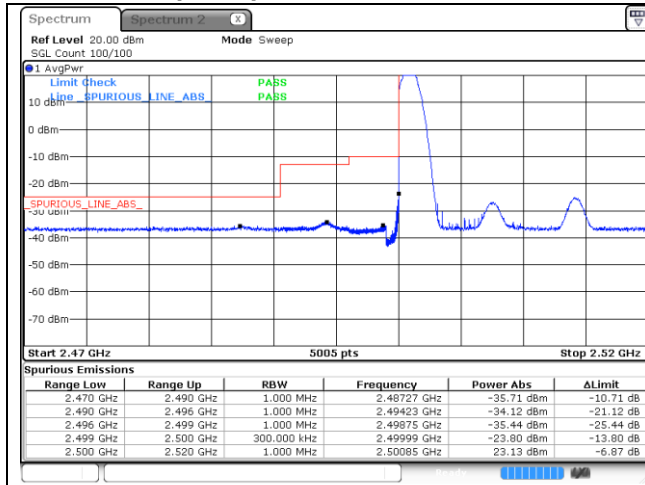
16QAM High Channel - 1 RB



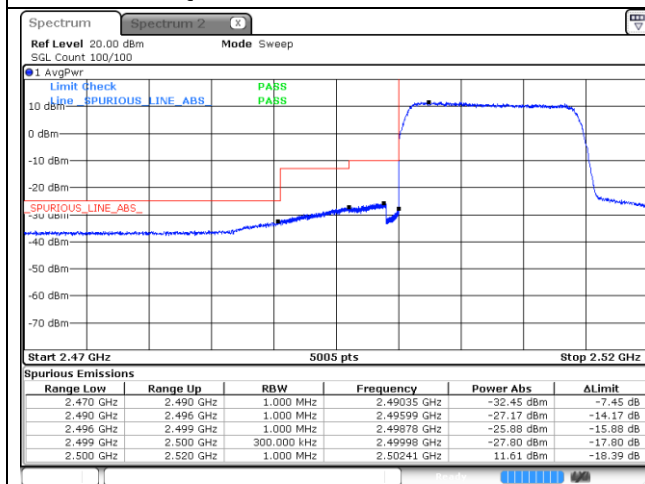
16QAM Low Channel - Full RB

16QAM High Channel - Full RB

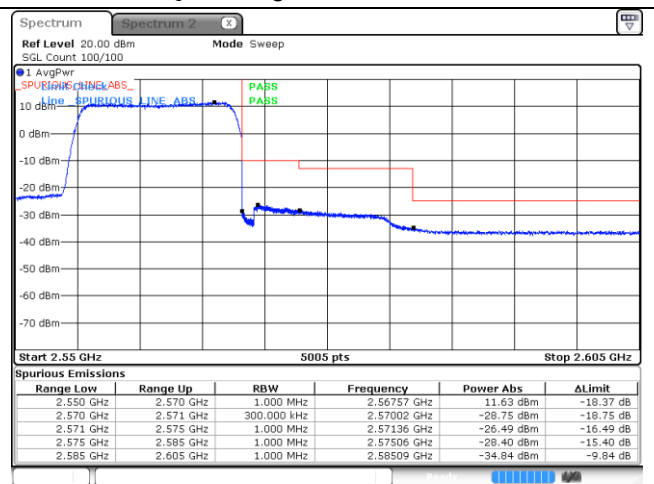
LTE band 7 (15 MHz)



QPSK Low Channel - 1 RB



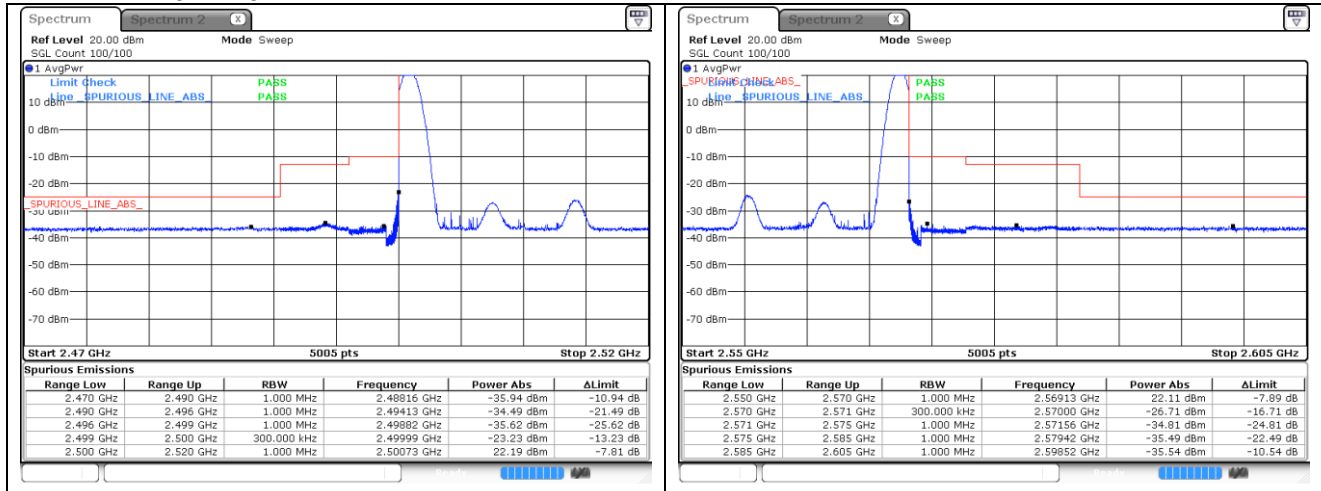
QPSK High Channel - 1 RB



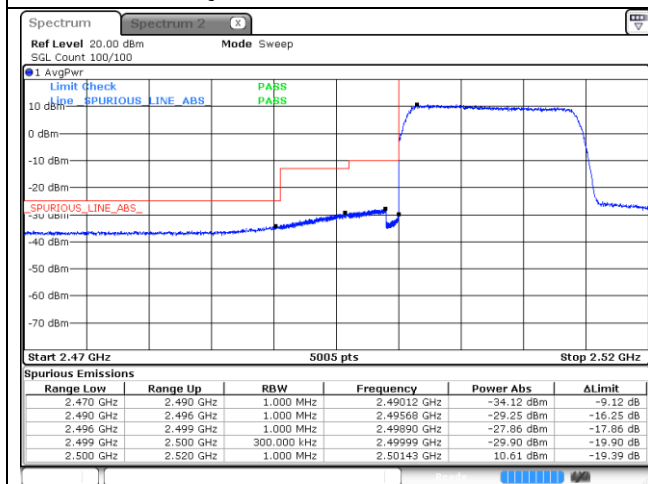
QPSK Low Channel - Full RB

QPSK High Channel - Full RB

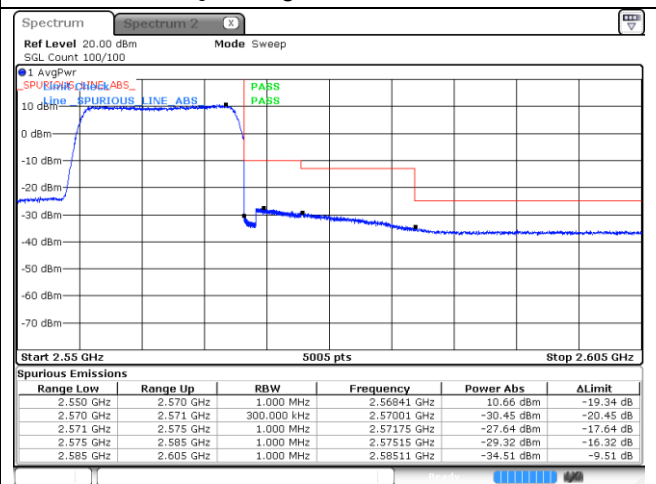
LTE band 7 (15 MHz)



16QAM Low Channel - 1 RB



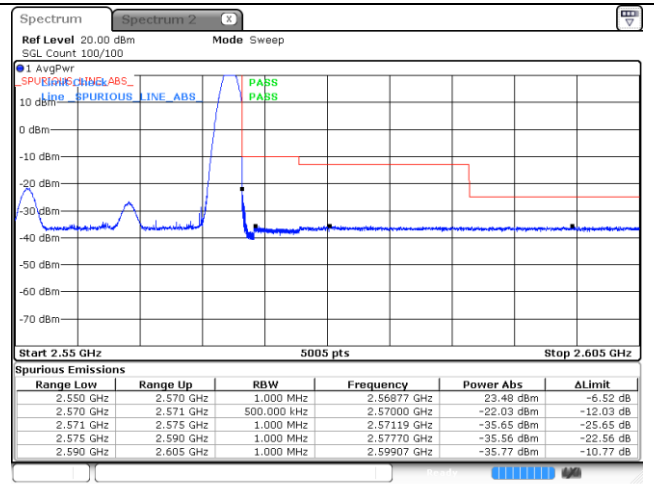
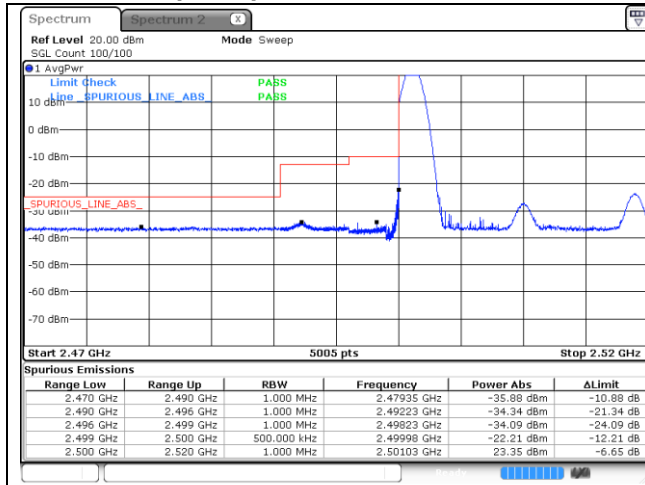
16QAM High Channel - 1 RB



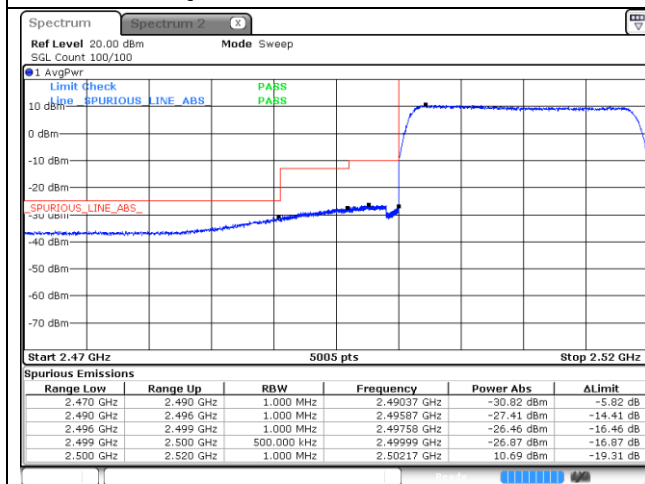
16QAM Low Channel - Full RB

16QAM High Channel - Full RB

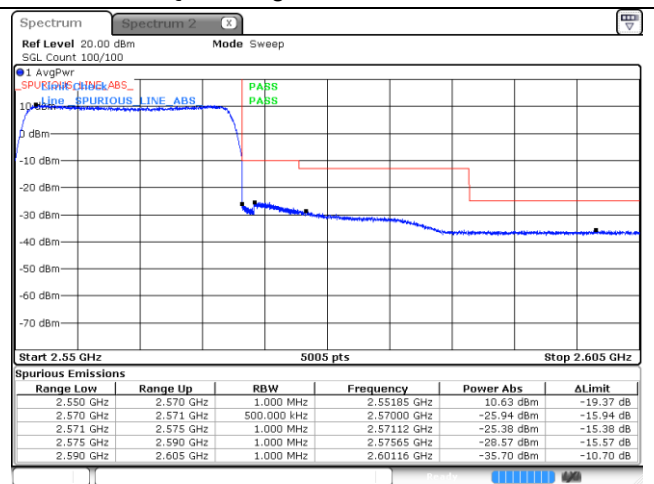
LTE band 7 (20 MHz)



QPSK Low Channel - 1 RB



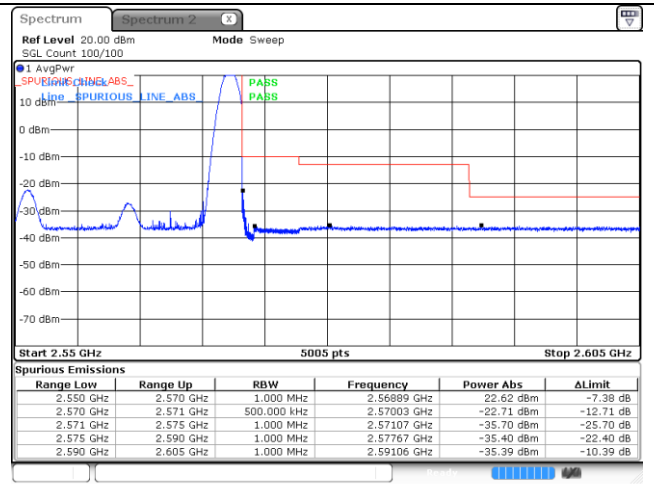
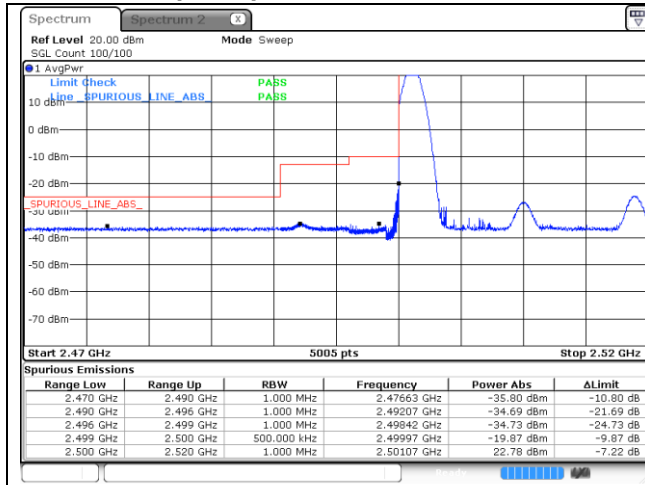
QPSK High Channel - 1 RB



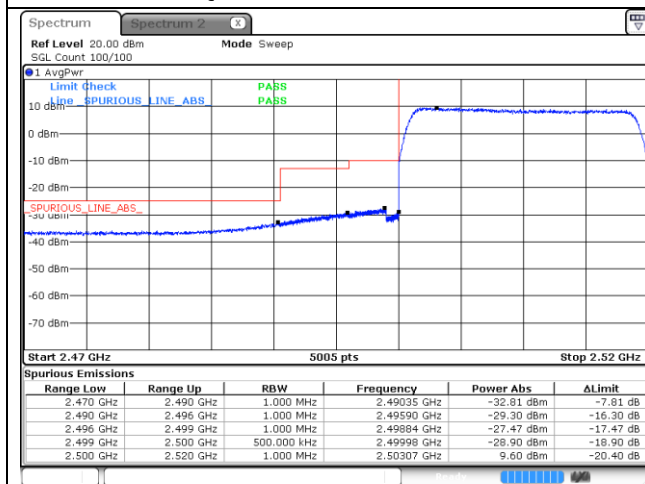
QPSK Low Channel - Full RB

QPSK High Channel - Full RB

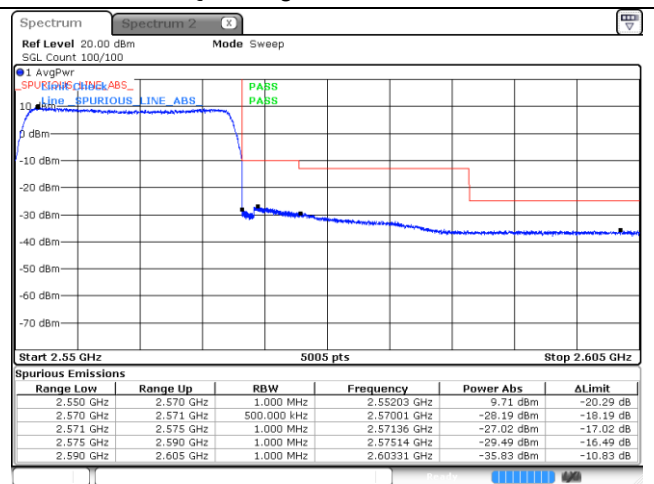
LTE band 7 (20 MHz)



16QAM Low Channel - 1 RB



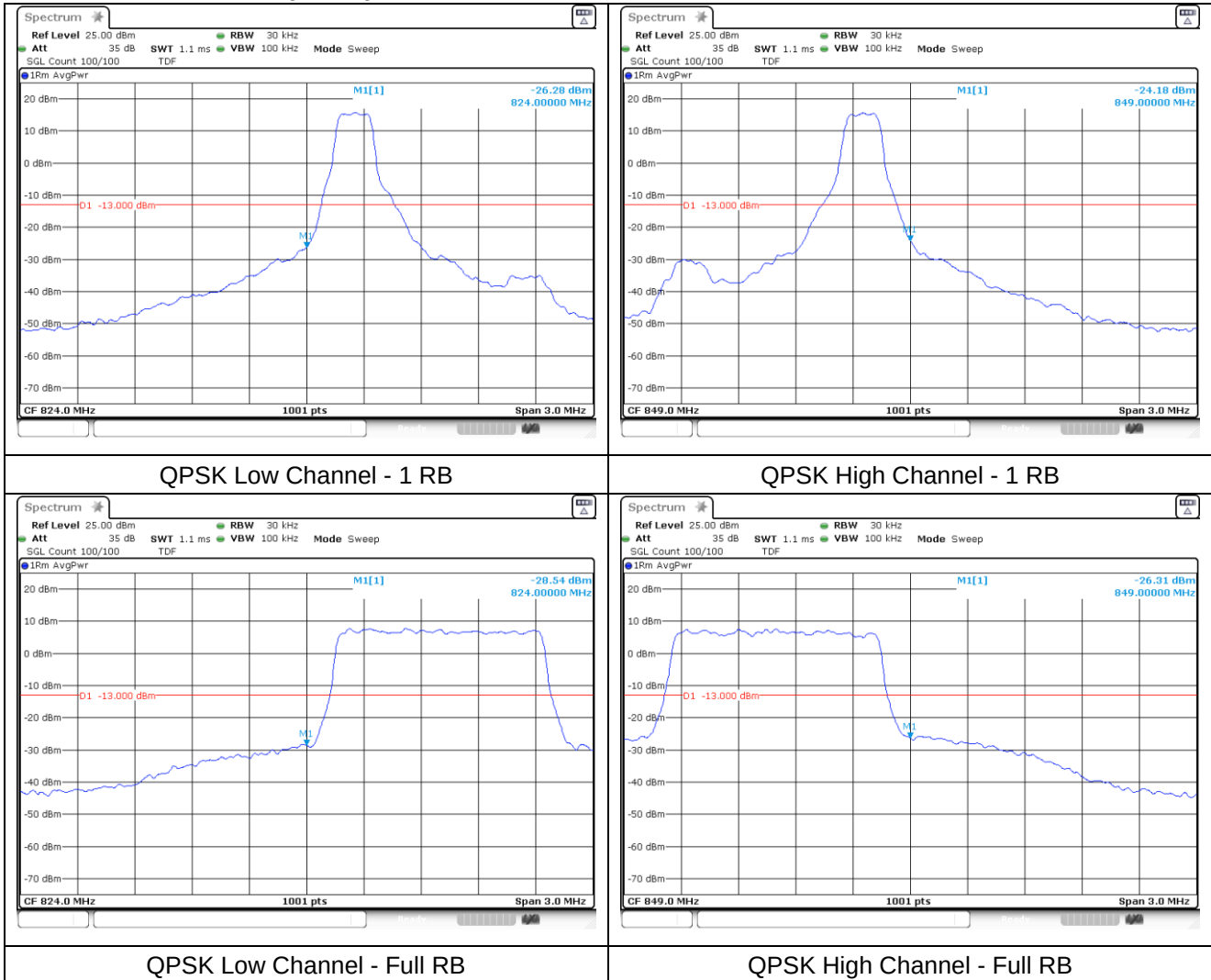
16QAM High Channel - 1 RB



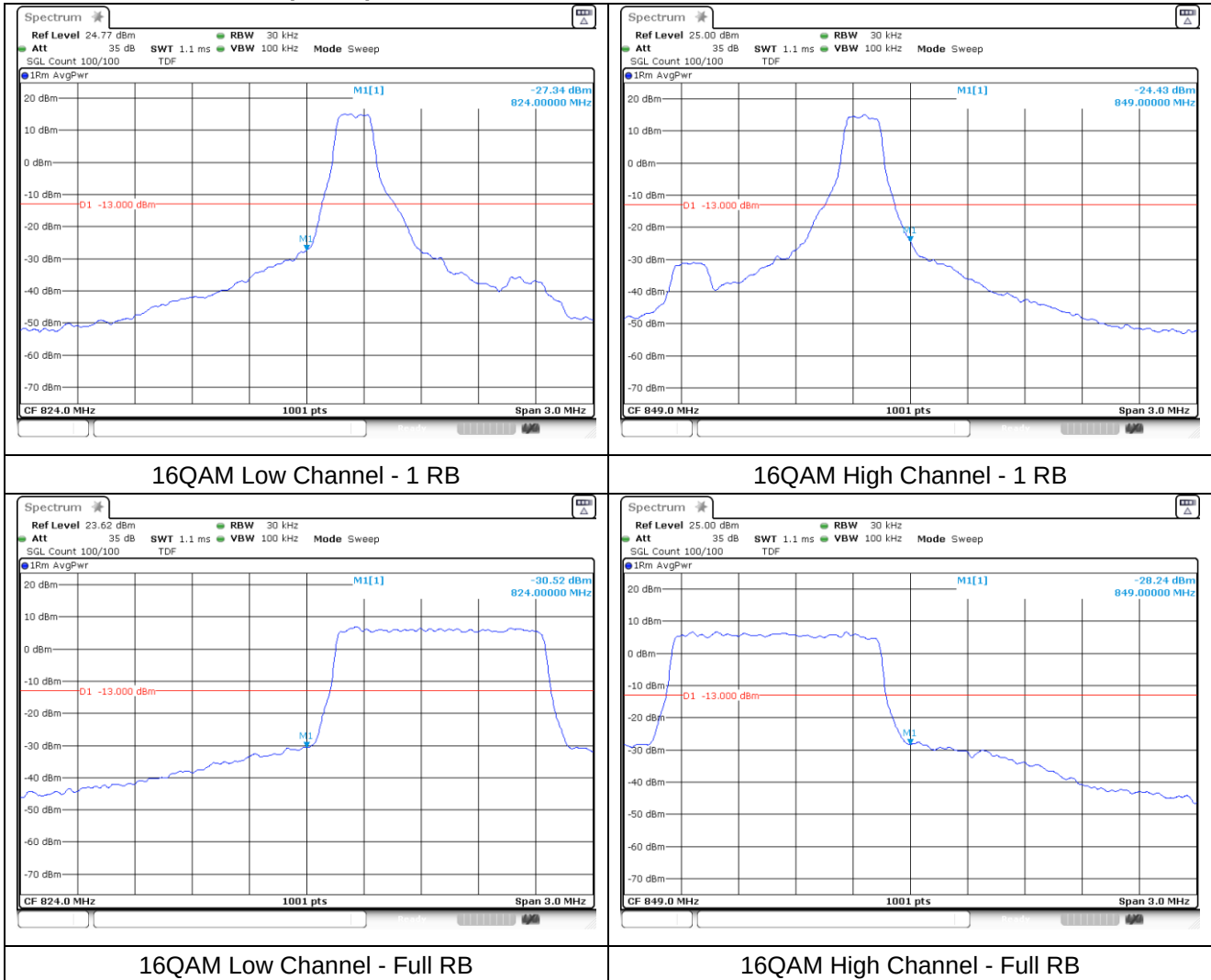
16QAM Low Channel - Full RB

16QAM High Channel - Full RB

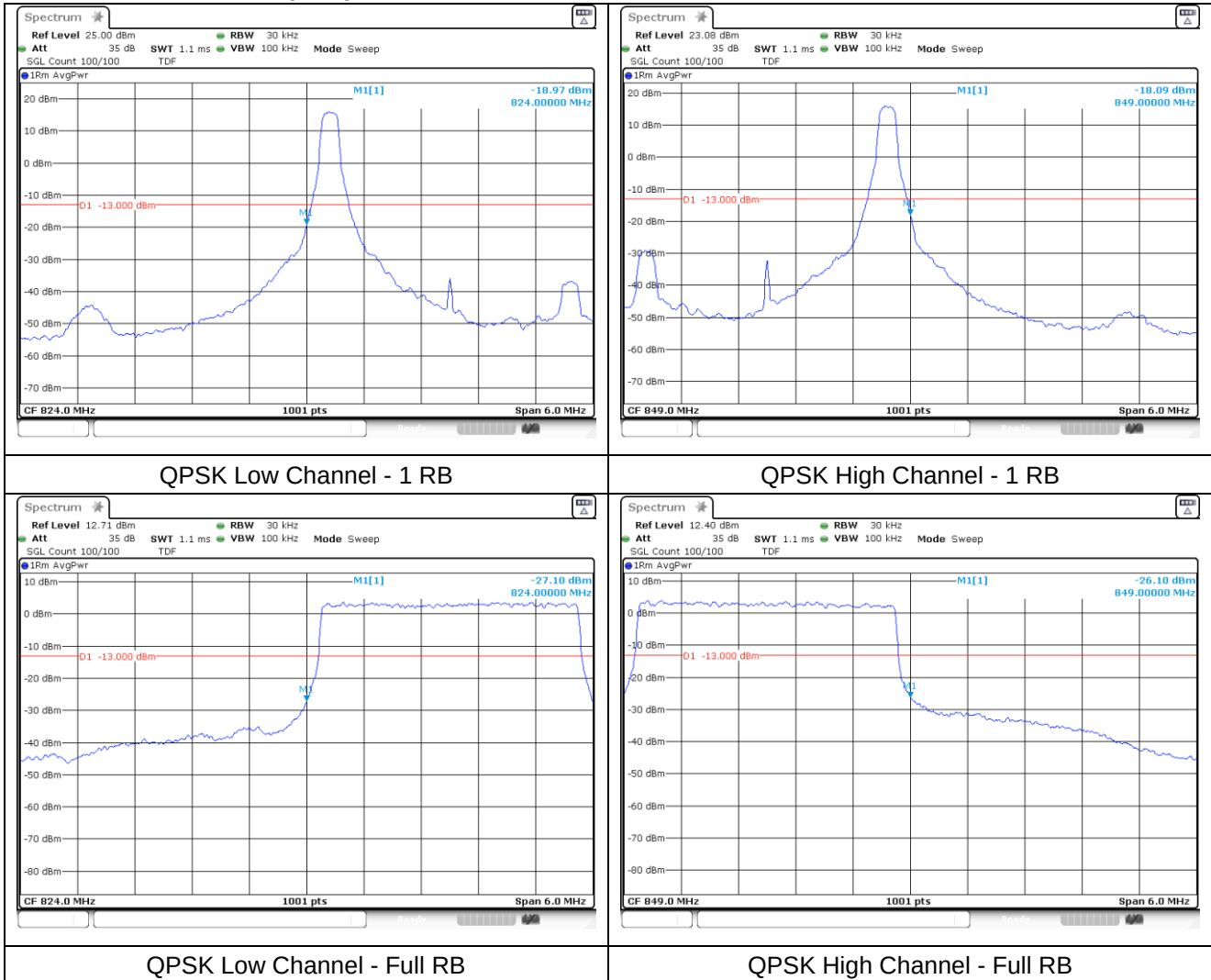
LTE band 26/5 Part 22 (1.4 MHz)



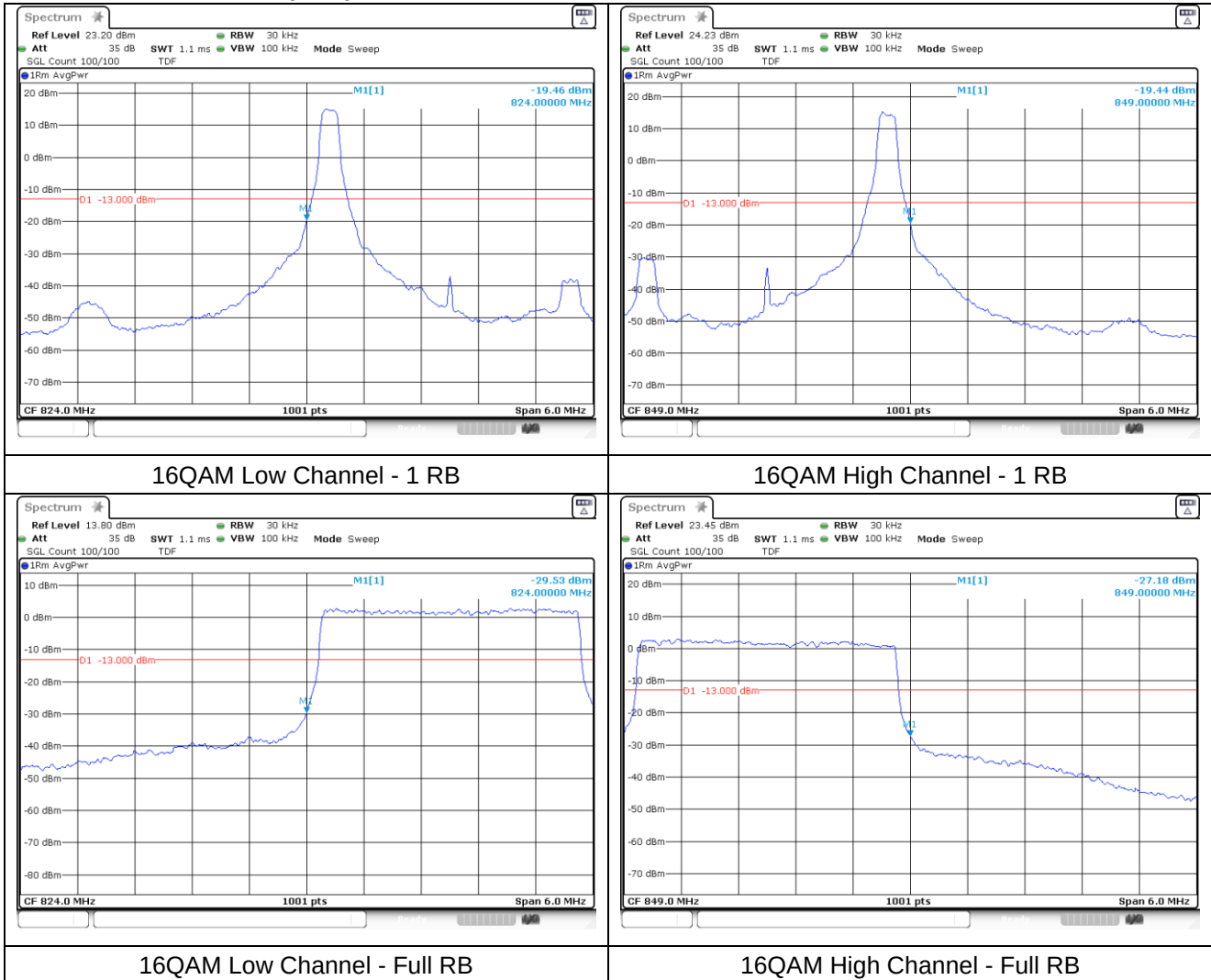
LTE band 26/5 Part 22 (1.4 MHz)



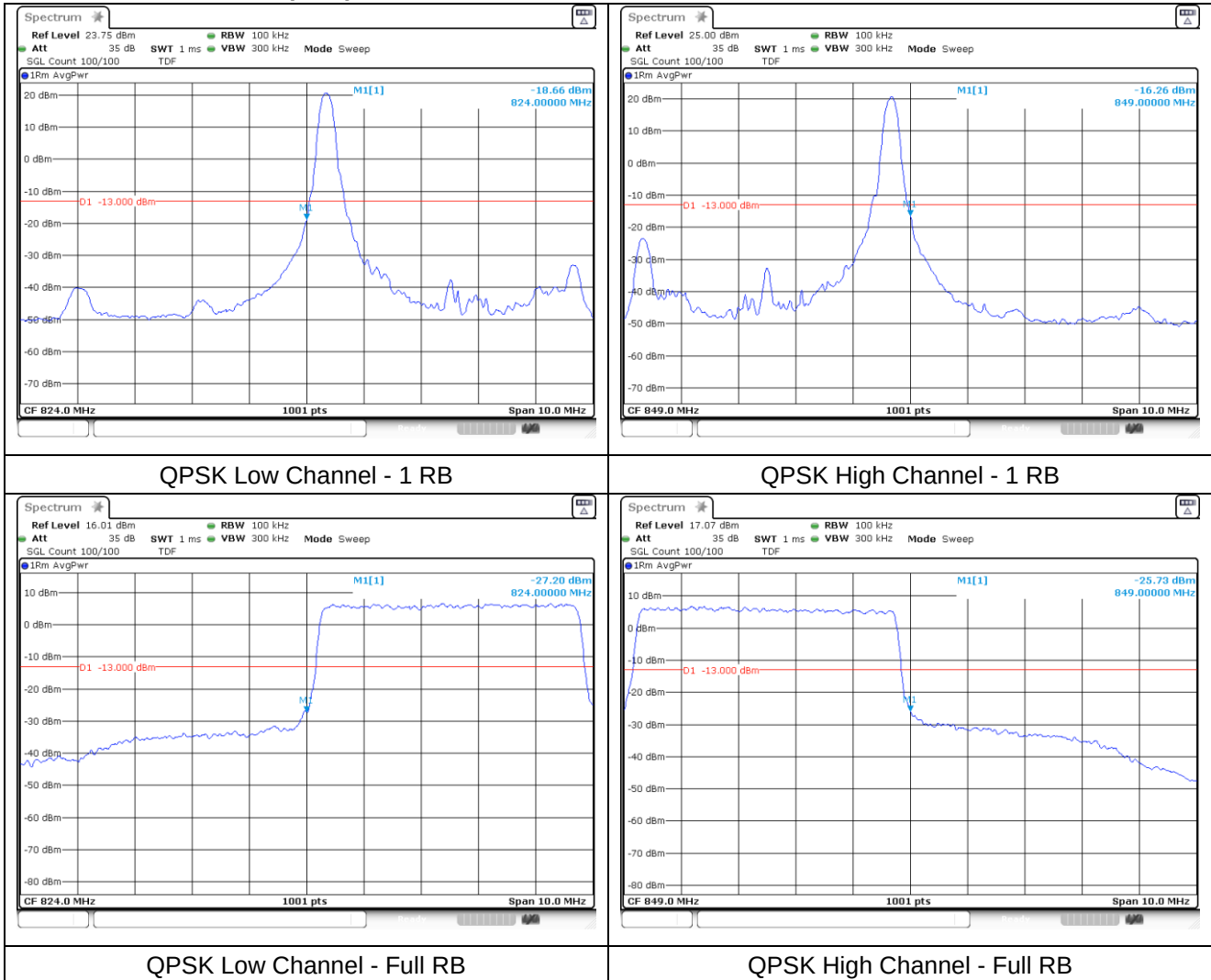
LTE band 26/5 Part 22 (3 MHz)



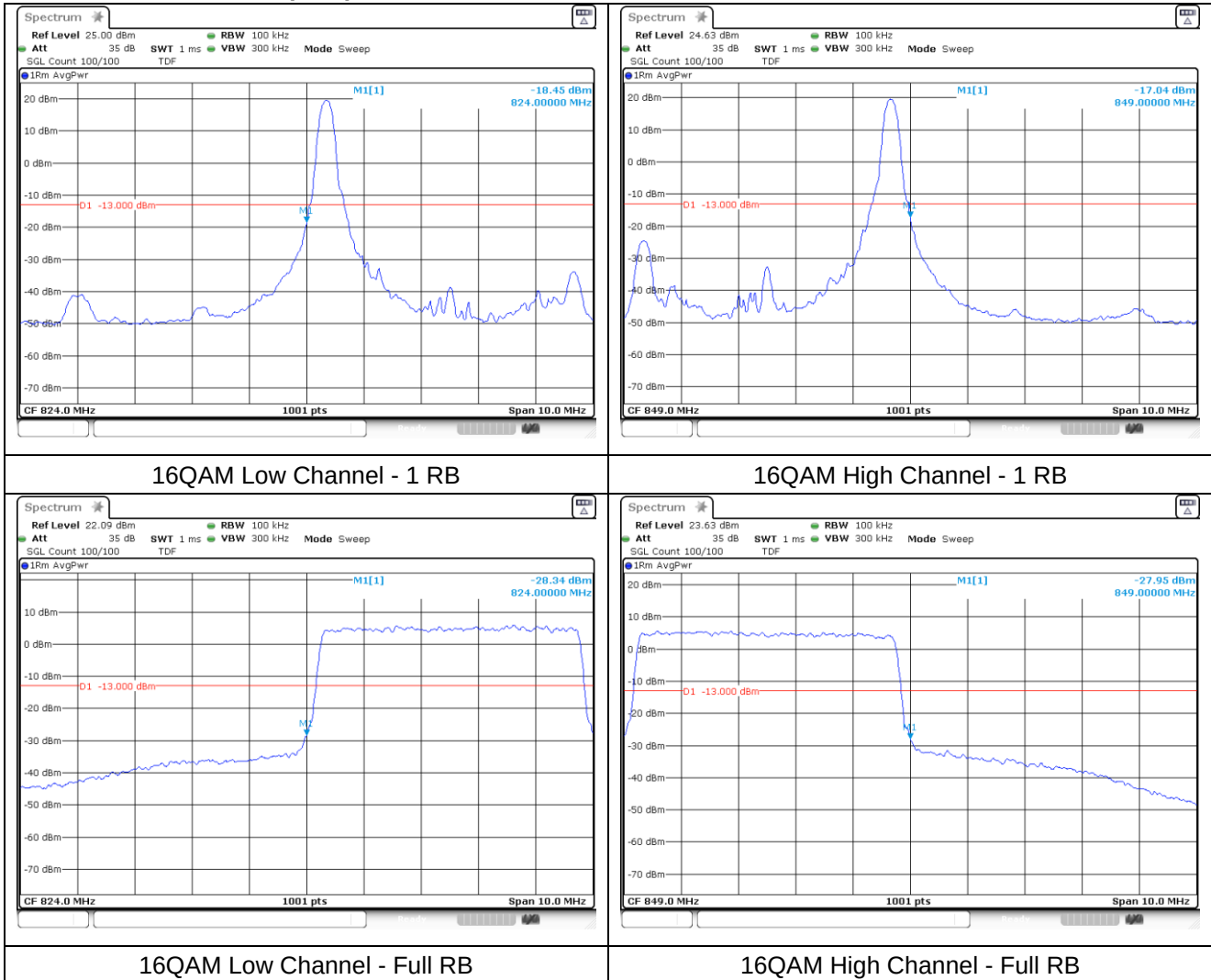
LTE band 26/5 Part 22 (3 MHz)



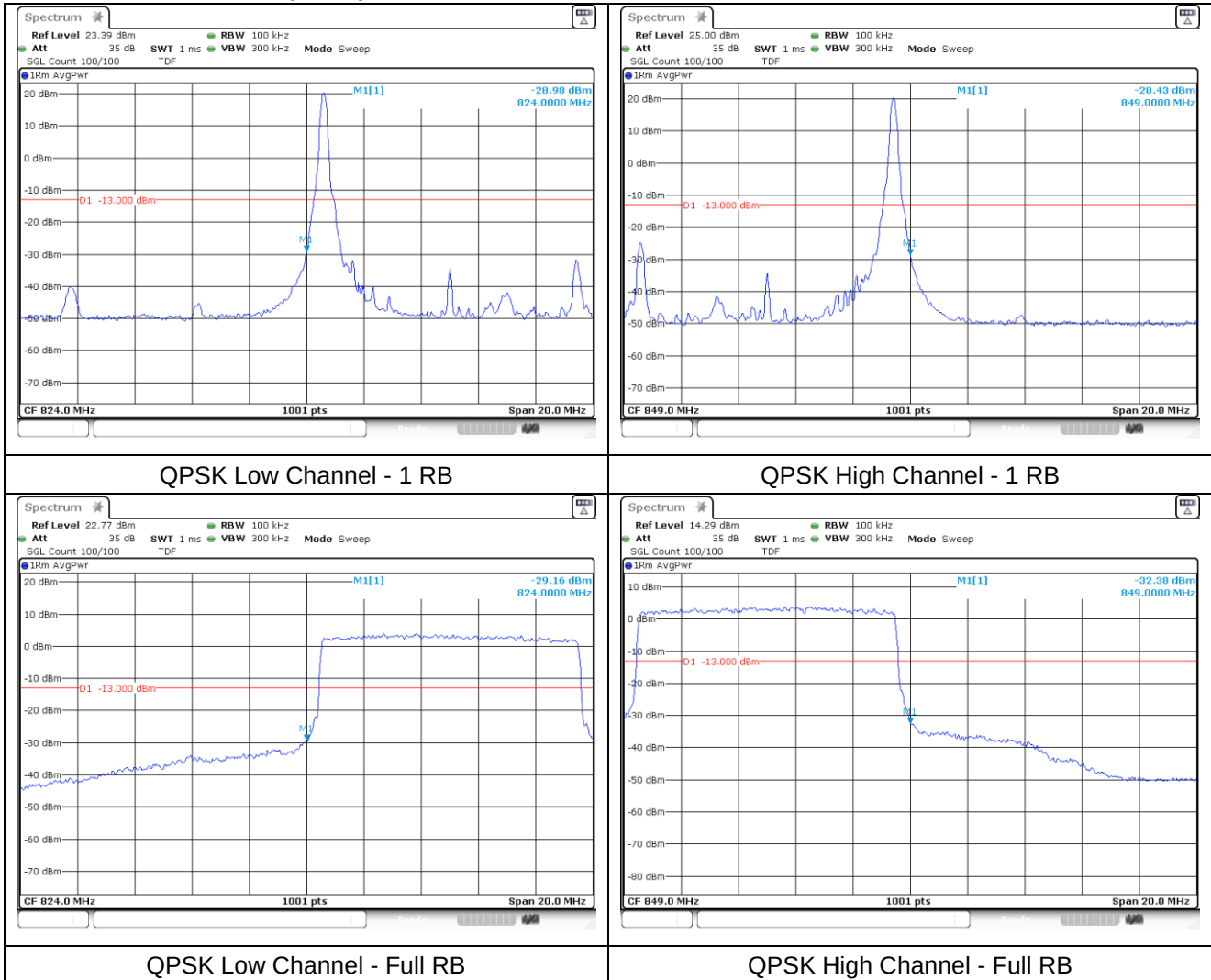
LTE band 26/5 Part 22 (5 MHz)



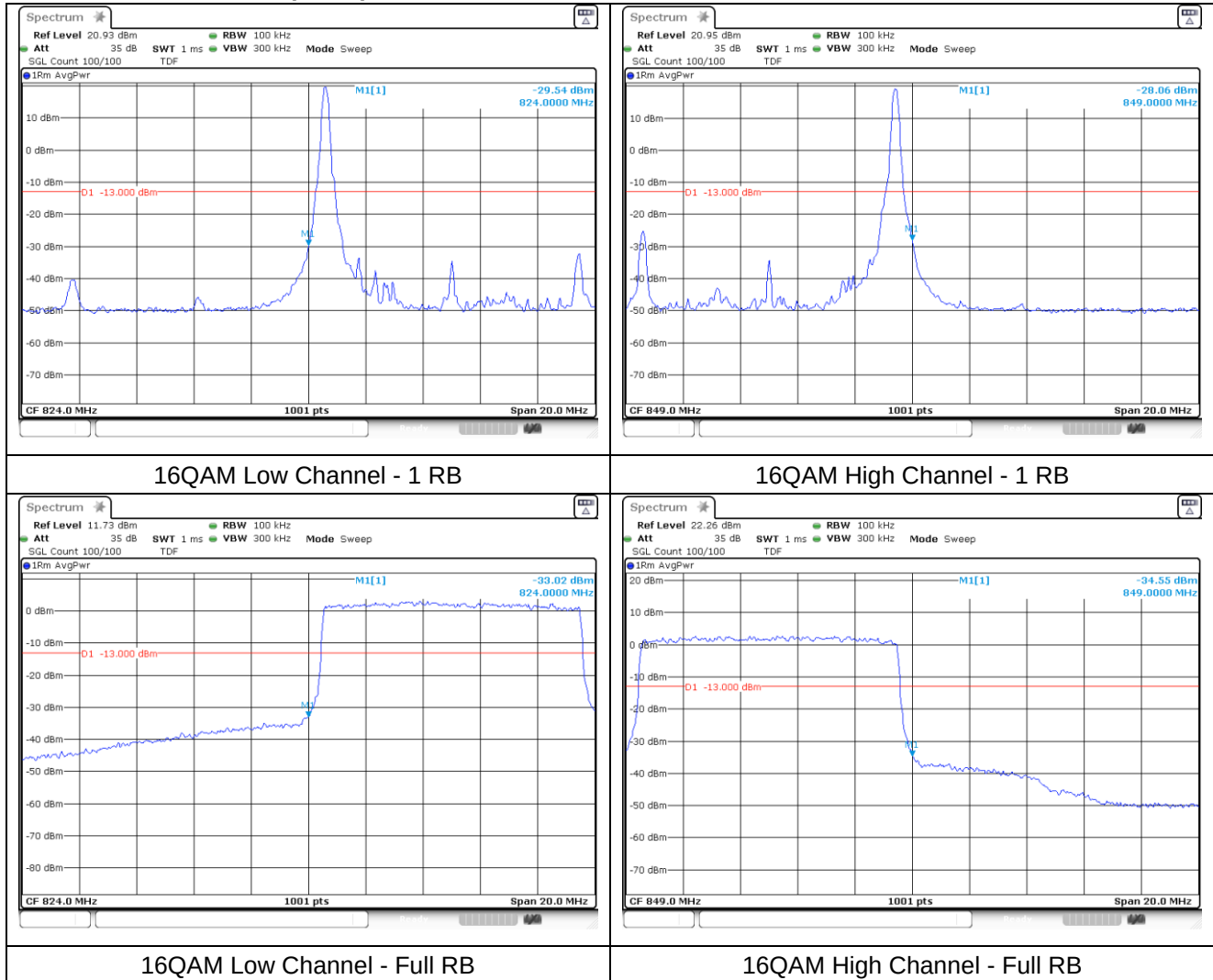
LTE band 26/5 Part 22 (5 MHz)



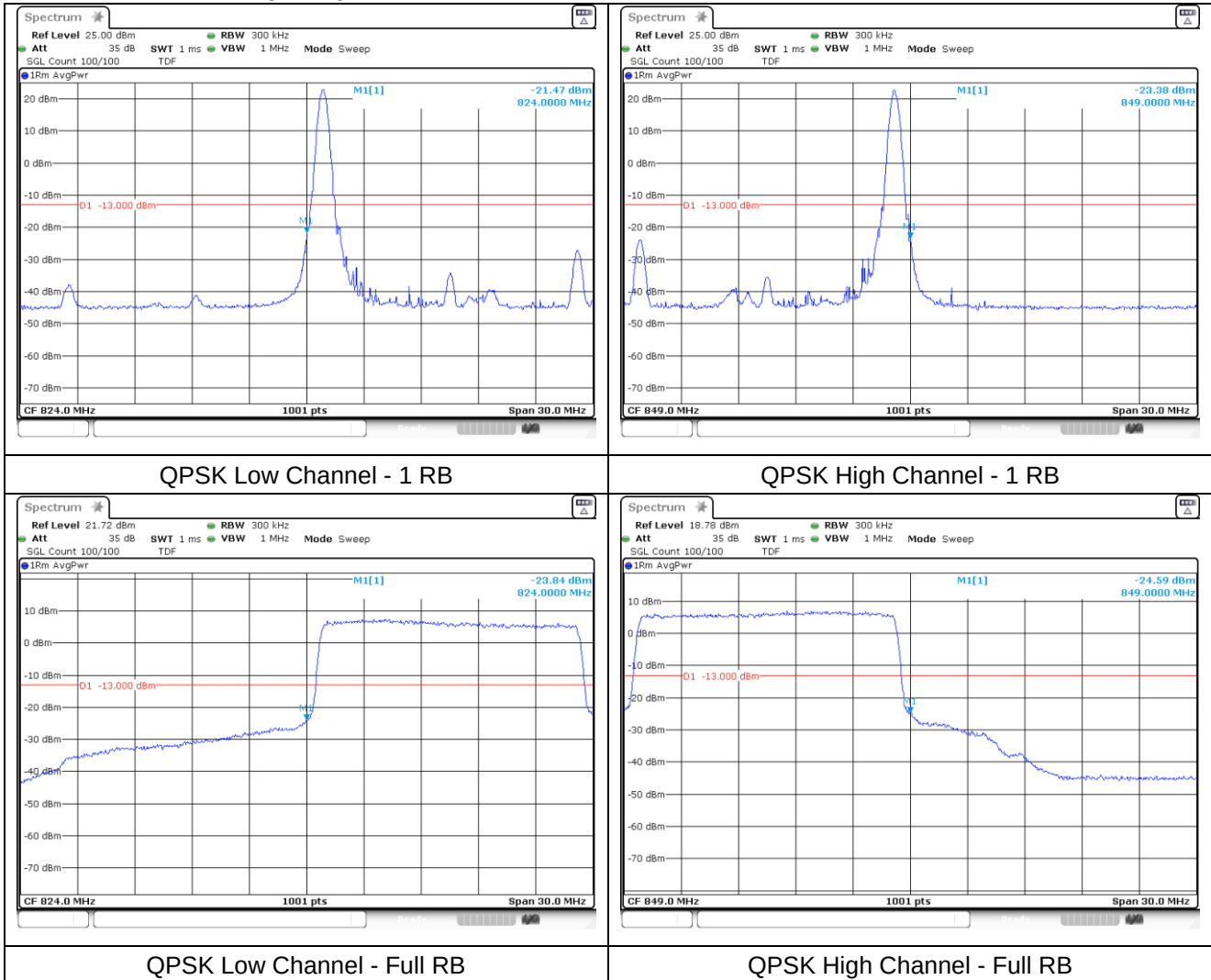
LTE band 26/5 Part 22 (10 MHz)



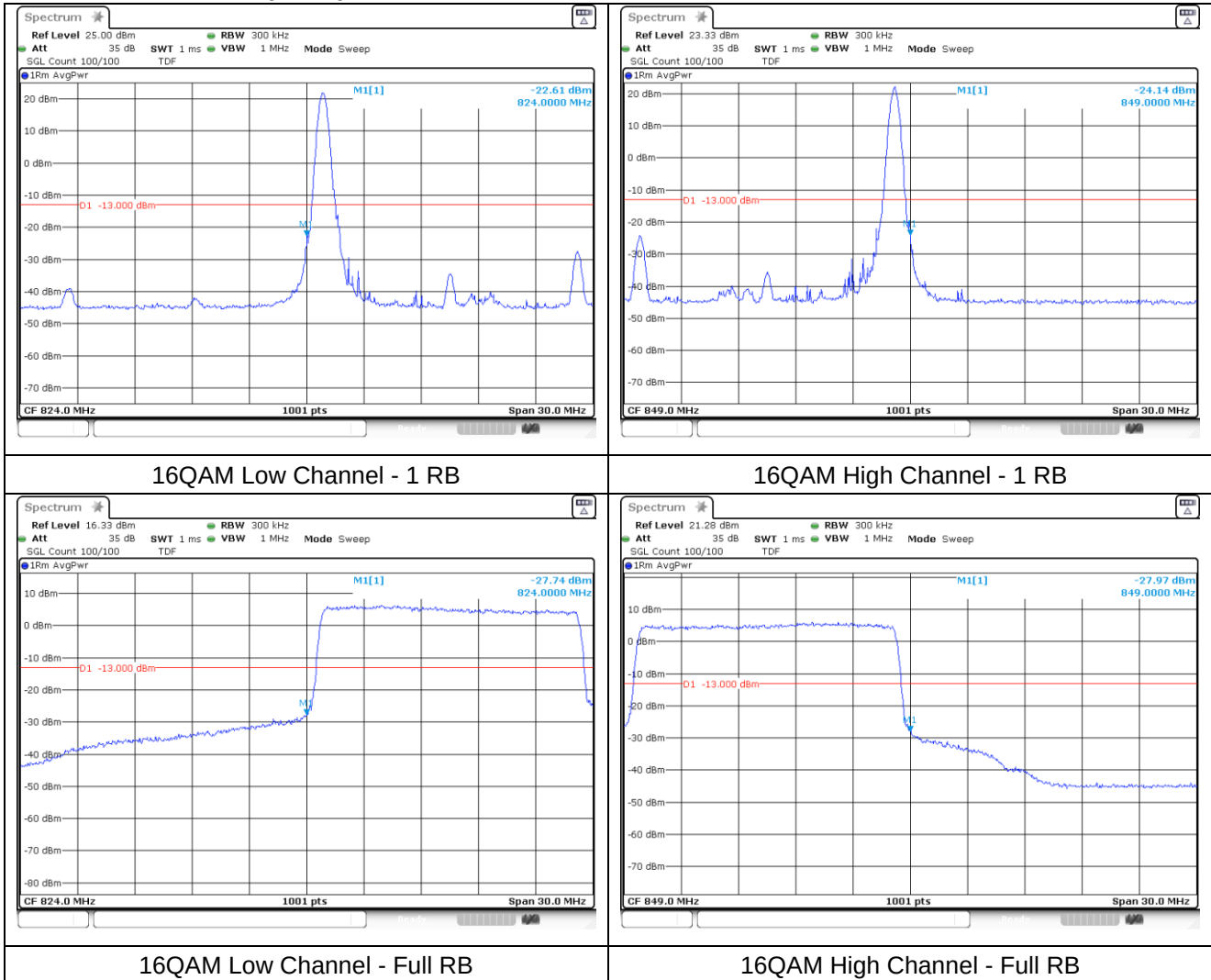
LTE band 26/5 Part 22 (10 MHz)



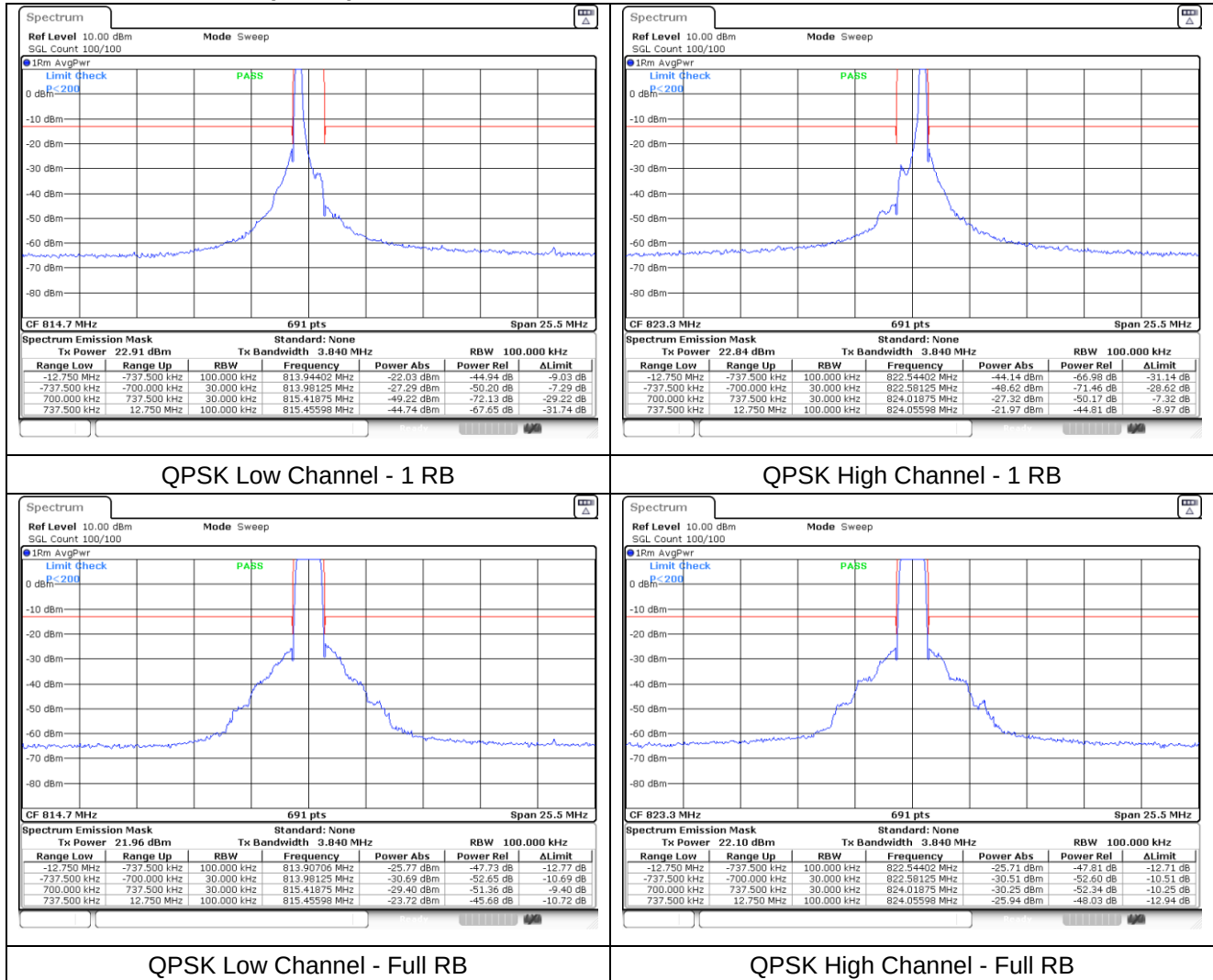
LTE band 26 Part 22 (15 MHz)



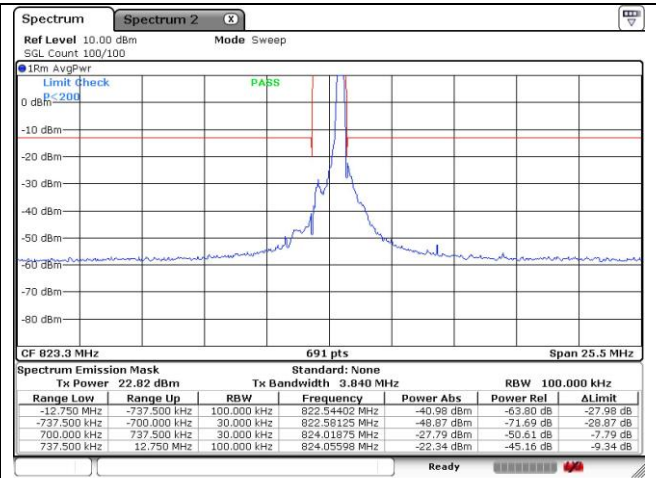
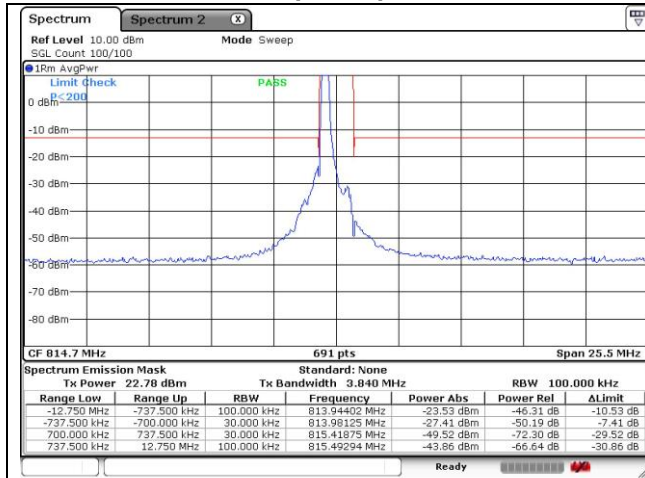
LTE band 26_Part 22 (15 MHz)



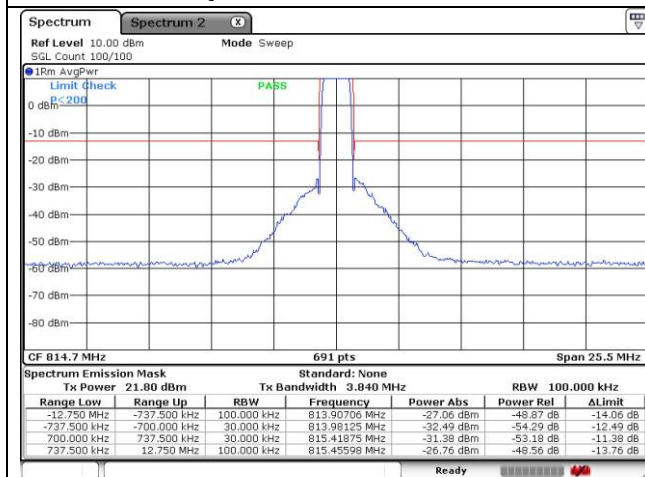
LTE band 26 Part 90 (1.4 MHz)



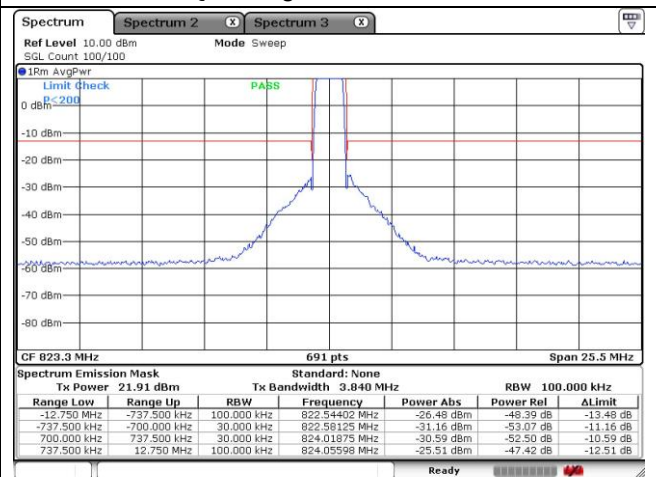
LTE band 26 Part 90 (1.4 MHz)



16QAM Low Channel - 1 RB



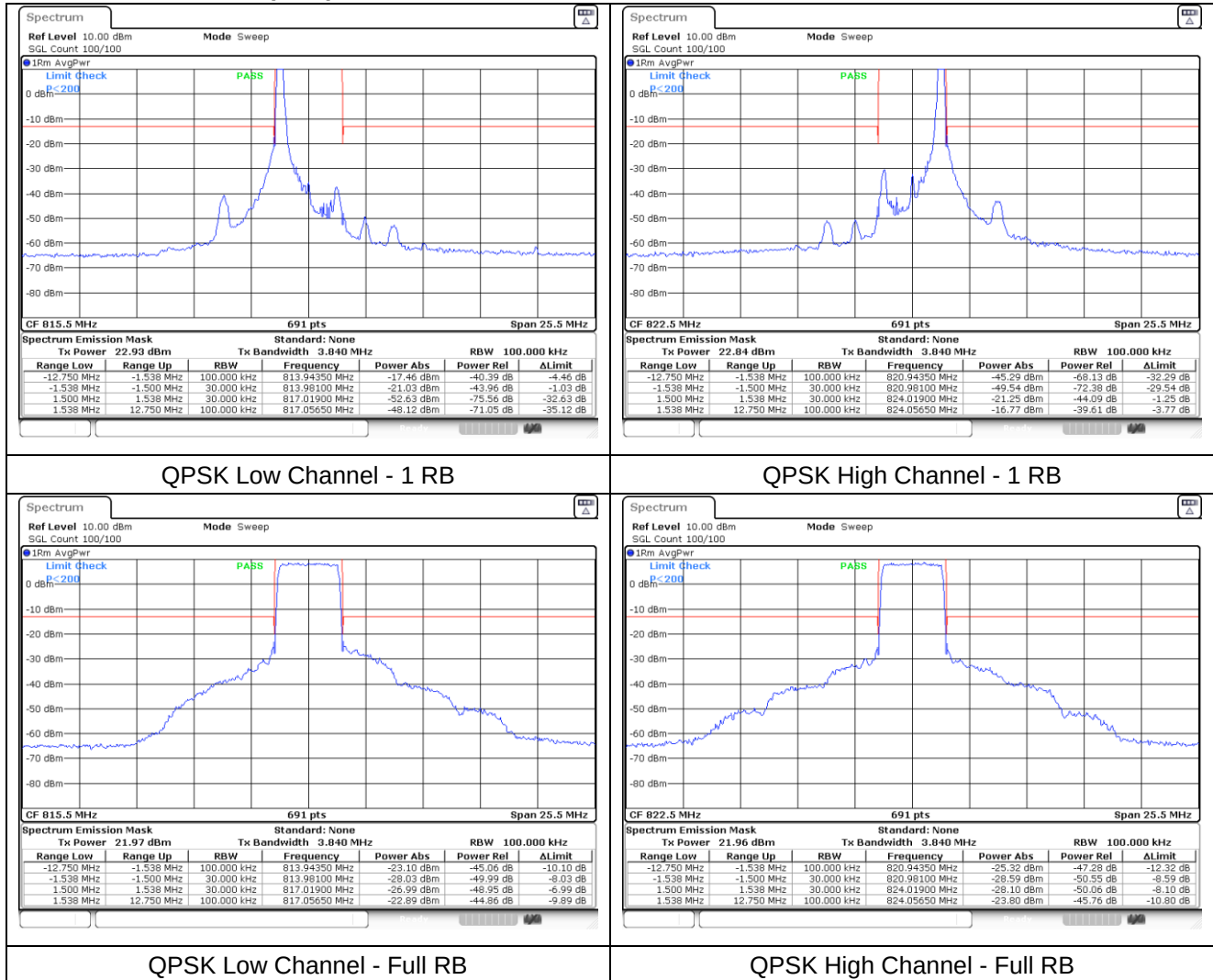
16QAM High Channel - 1 RB



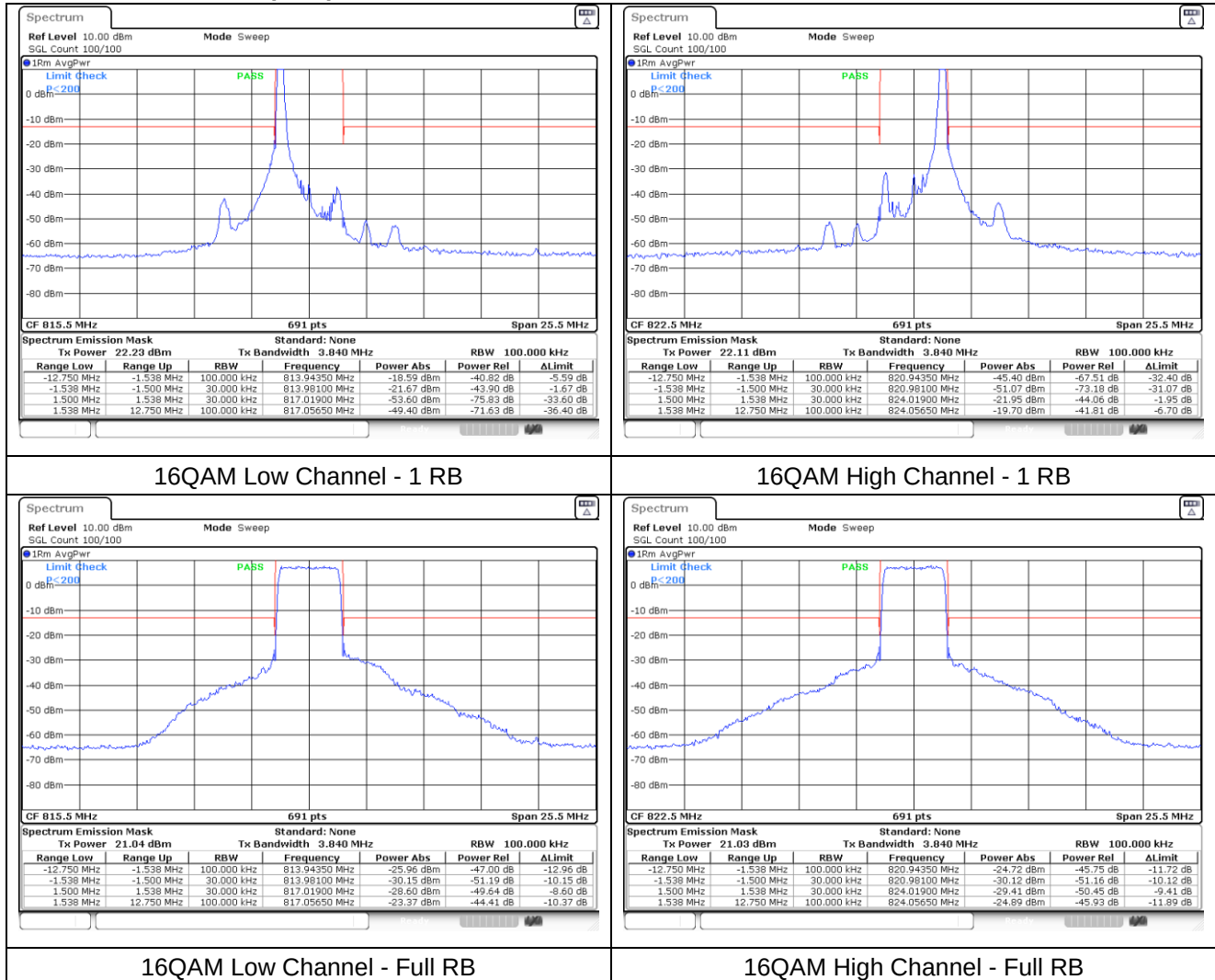
16QAM Low Channel - Full RB

16QAM High Channel - Full RB

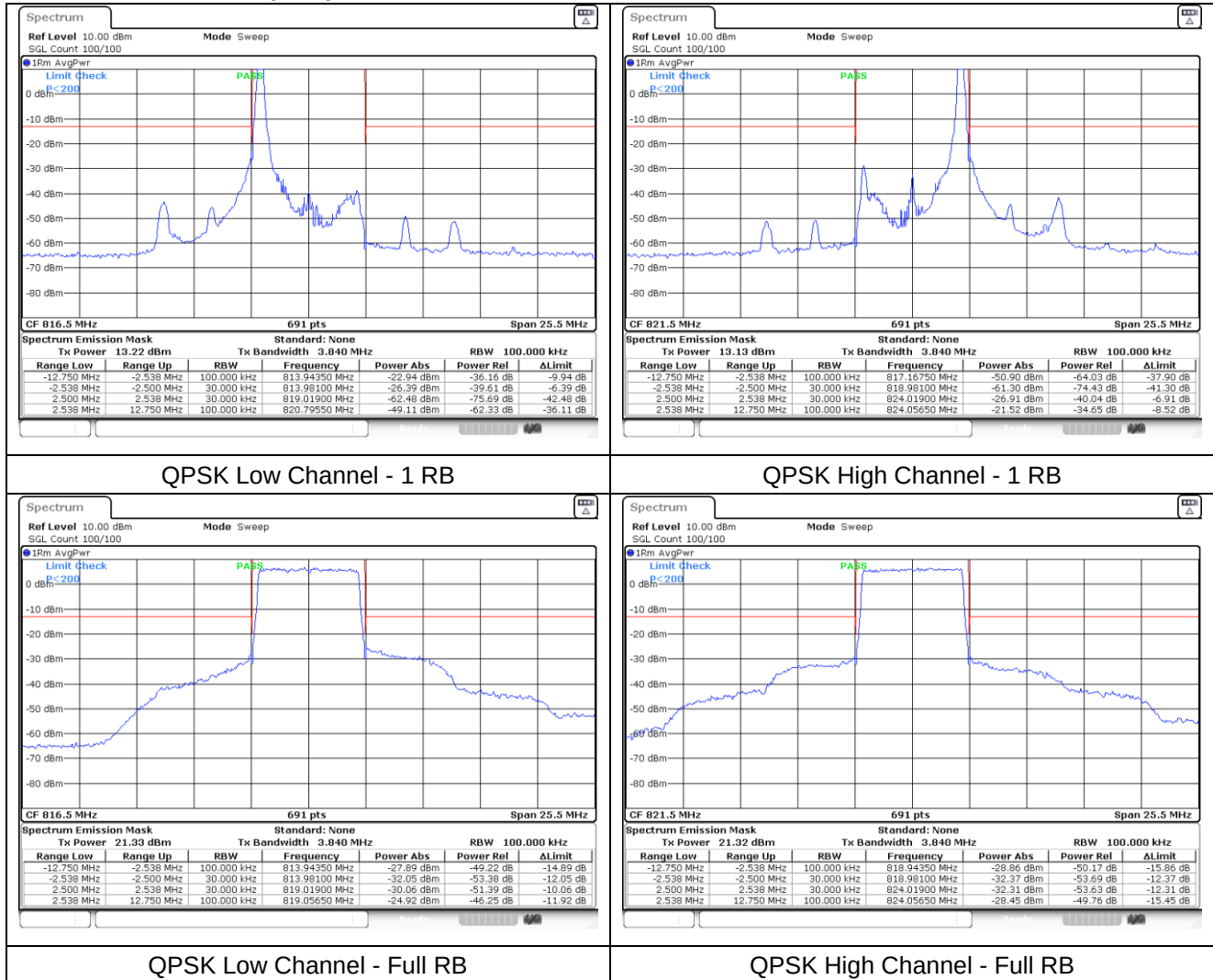
LTE band 26 Part 90 (3 MHz)



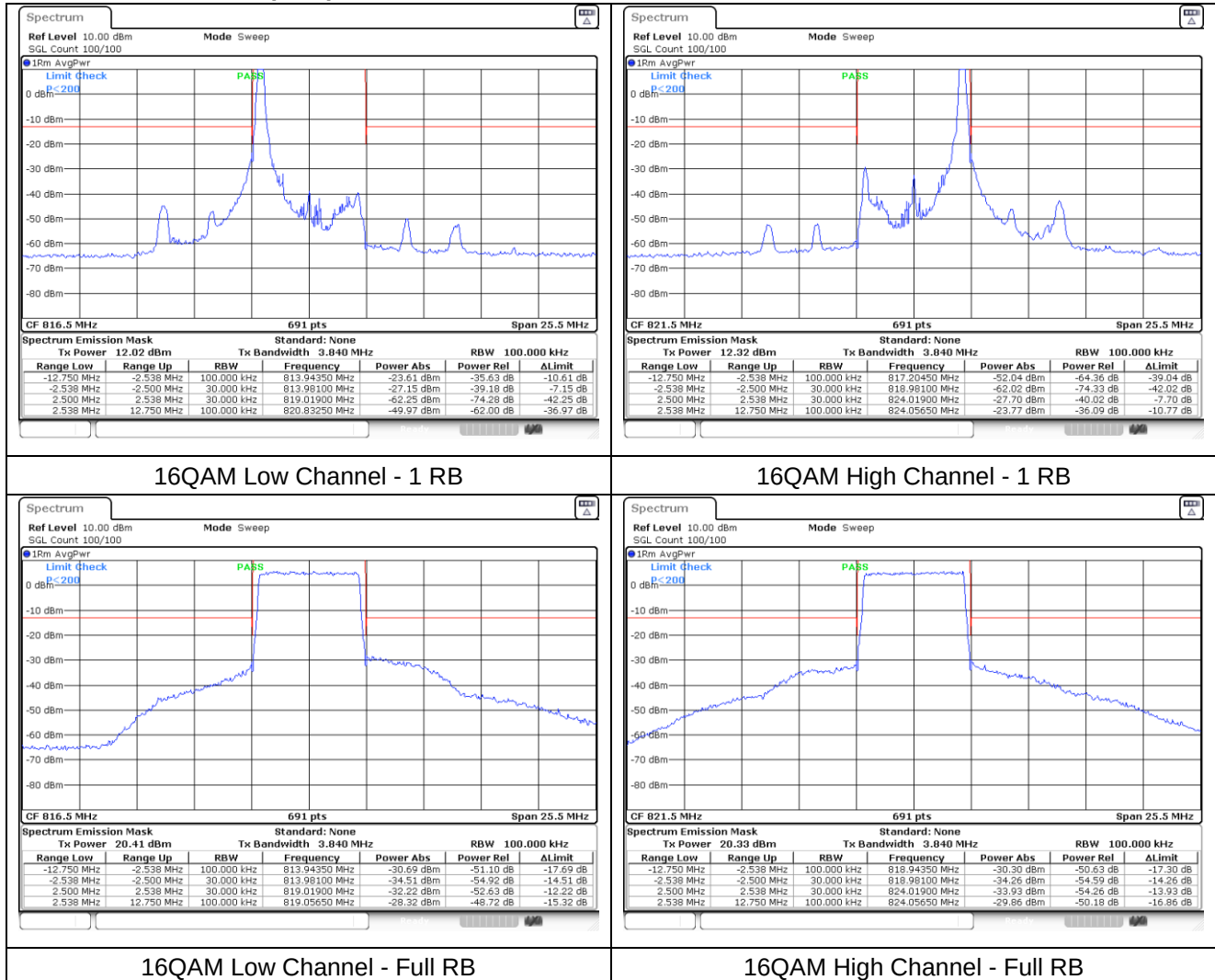
LTE band 26 Part 90 (3 MHz)



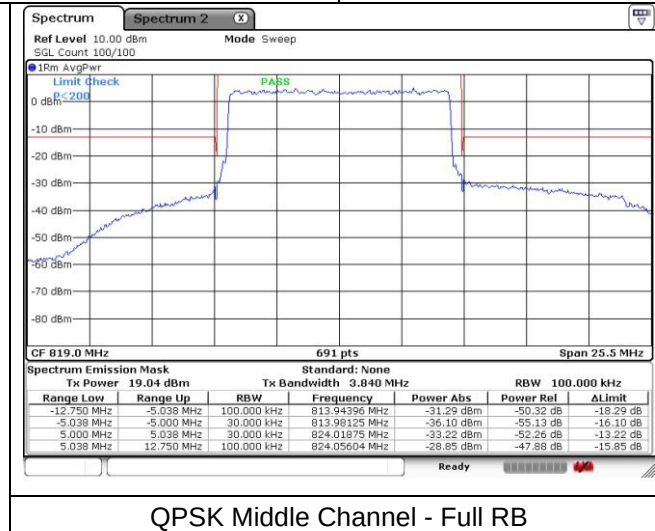
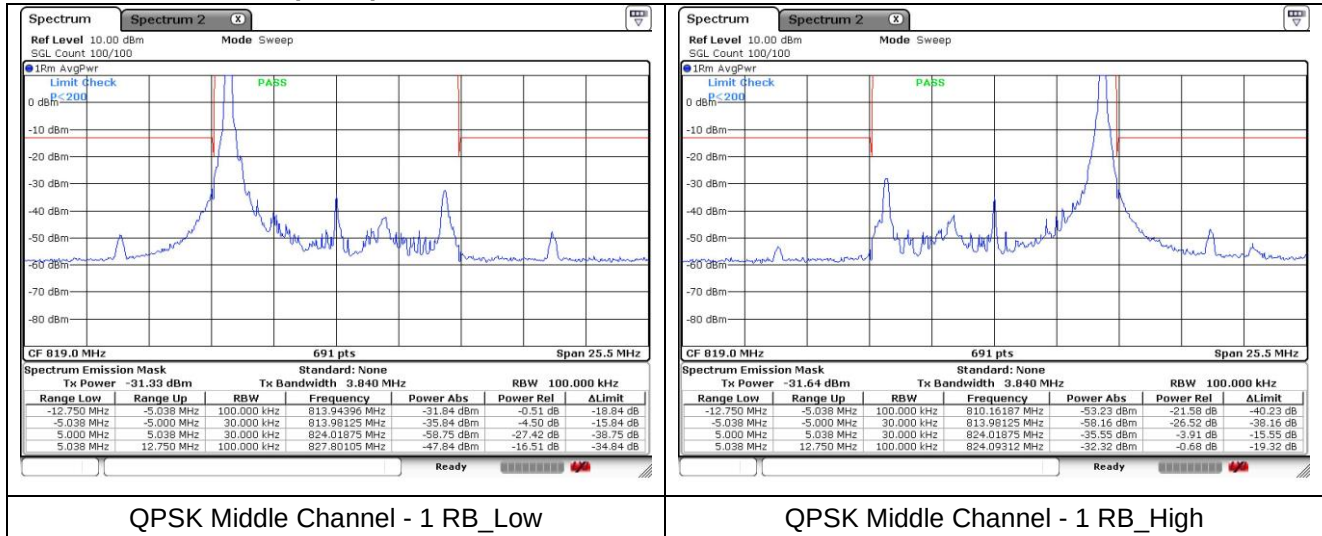
LTE band 26 Part 90 (5 MHz)



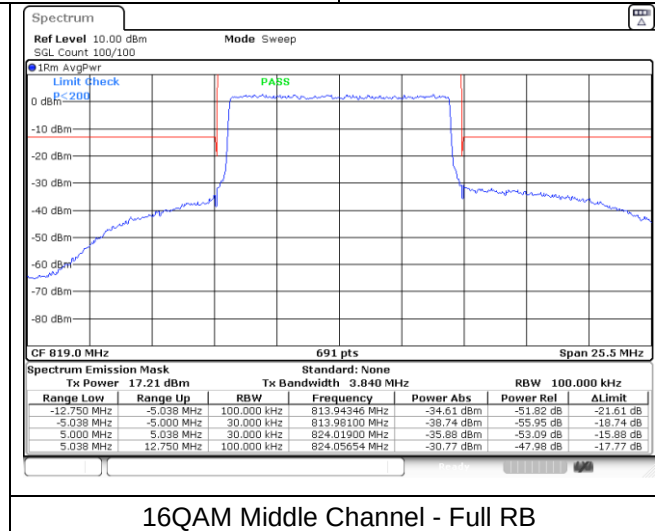
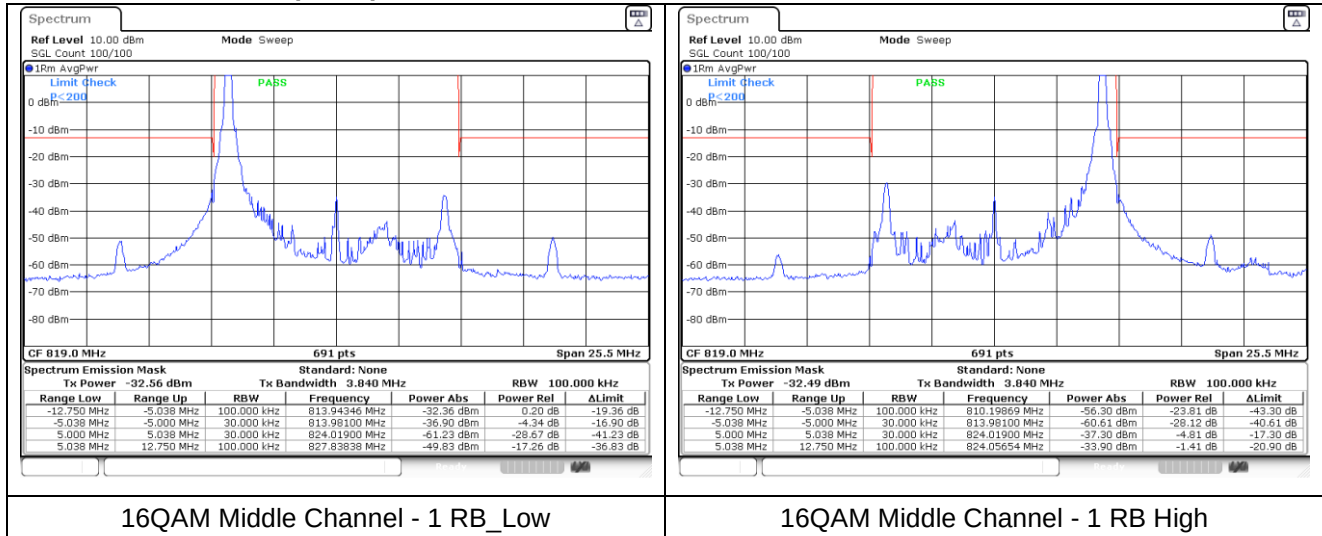
LTE band 26 Part 90 (5 MHz)



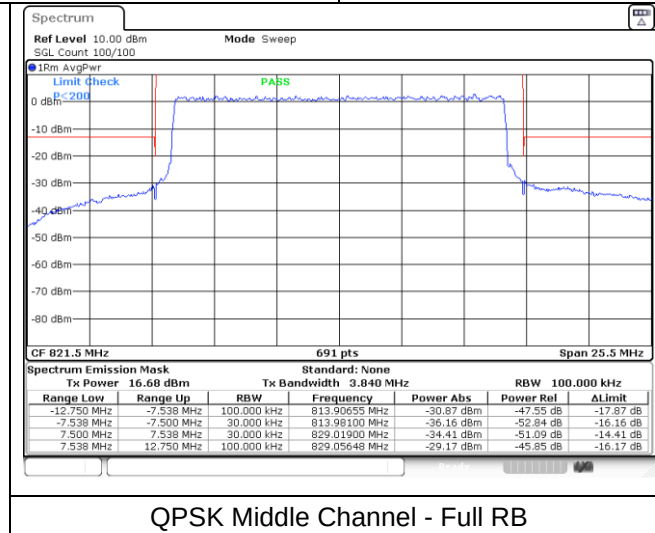
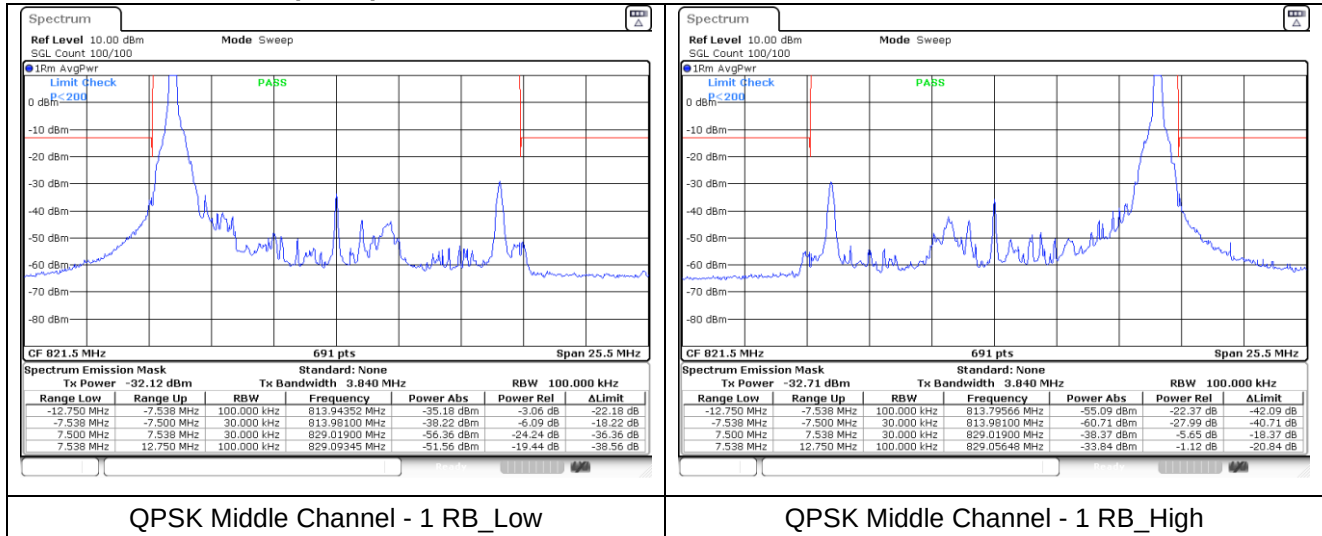
LTE band 26 Part 90 (10 MHz)



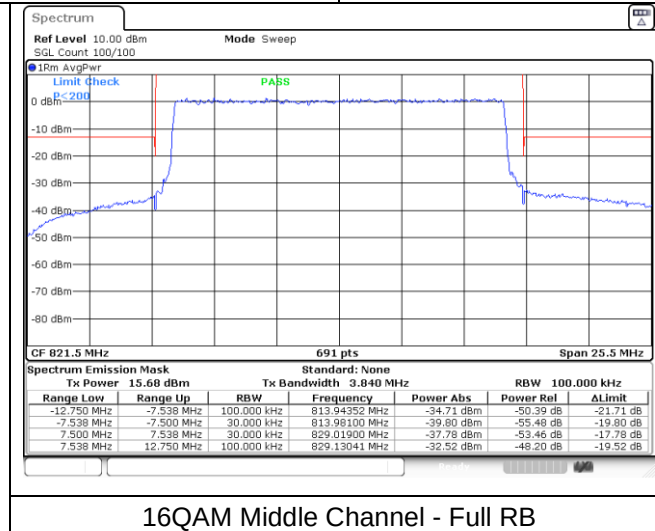
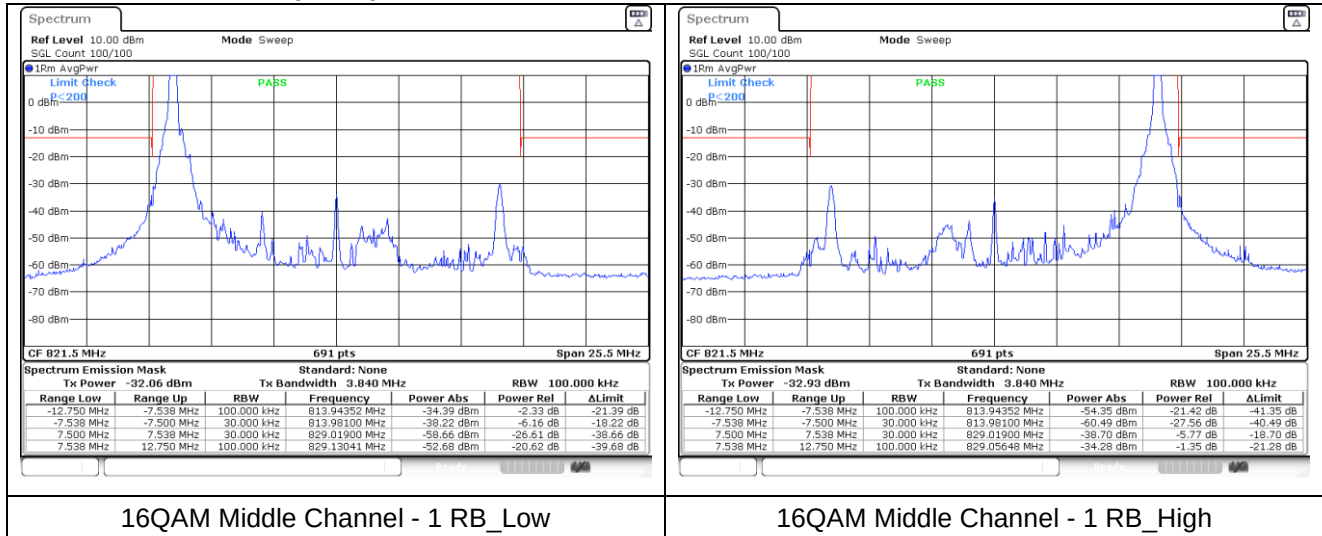
LTE band 26_Part 90 (10 MHz)



LTE band 26_Part 90 (15 MHz)



LTE band 26_Part 90 (15 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.

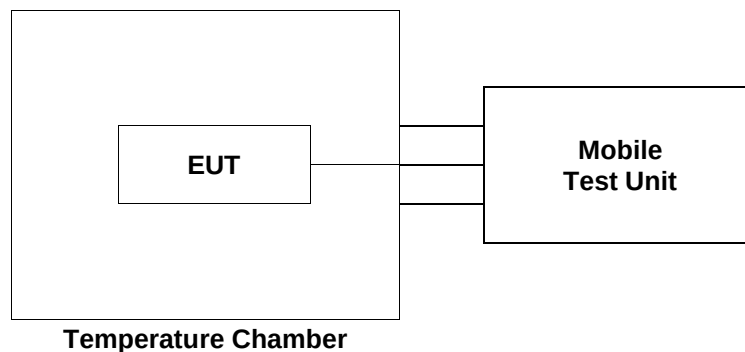
- §24.235, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

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

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

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.

GSM 850 mode at middle channel

Reference Frequency: 836.6 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	12	30.56	-0.005 92
40		34.55	-0.001 15
30		32.39	-0.003 73
20(Ref.)		35.51	-
10		30.62	-0.005 85
0		30.45	-0.006 05
-10		31.49	-0.004 81
-20		26.94	-0.010 24
-30		25.94	-0.011 44
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	10.20 (85%)	34.19	-0.001 58
	13.80 (115%)	35.06	-0.000 54

GSM 1 900 mode at middle channel

Reference Frequency: 1 880.0 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	12	56.98	0.003 74
40		56.59	0.003 53
30		50.36	0.000 22
20(Ref.)		49.95	-
10		65.05	0.008 03
0		70.29	0.010 82
-10		65.12	0.008 07
-20		55.29	0.002 84
-30		66.35	0.008 72
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	10.20 (85%)	50.31	0.000 19
	13.80 (115%)	49.84	-0.000 06

WCDMA V mode at middle channel

Reference Frequency: 836.6 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	12	-4.83	-0.001 12
40		-5.02	-0.001 35
30		-4.66	-0.000 92
20(Ref.)		-3.89	-
10		-2.66	0.001 47
0		-2.30	0.001 90
-10		-2.73	0.001 39
-20		0.13	0.004 81
-30		-2.69	0.001 43
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	10.20 (85%)	-3.99	-0.000 12
	13.80 (115%)	-3.12	0.000 92

LTE band 7 at middle channel

Reference Frequency: 2 535.0 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	12	0.80	-0.000 36
40		0.80	-0.000 36
30		1.30	-0.000 16
20(Ref.)		1.70	-
10		1.80	0.000 04
0		1.80	0.000 04
-10		2.40	0.000 28
-20		3.20	0.000 59
-30		1.40	-0.000 12
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	10.20 (85%)	1.90	0.000 08
	13.80 (115%)	2.30	0.000 24

LTE band 26_Part 90 at middle channel

Reference Frequency: 819 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	12	0.90	-0.001 47
40		1.90	-0.000 24
30		2.50	0.000 49
20(Ref.)		2.10	-
10		3.20	0.001 34
0		2.90	0.000 98
-10		4.40	0.002 81
-20		3.80	0.002 08
-30		2.90	0.000 98
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	10.20 (85%)	3.30	0.001 47
	13.80 (115%)	4.40	0.002 81

LTE band 26/5 Part 22 at middle channel

Reference Frequency: 836.5 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	12	0.60	-0.001 43
40		1.10	-0.000 84
30		1.10	-0.000 84
20(Ref.)		1.80	-
10		2.30	0.000 60
0		1.90	0.000 12
-10		1.90	0.000 12
-20		2.00	0.000 24
-30		1.10	-0.000 84
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	10.20 (85%)	2.10	0.000 36
	13.80 (115%)	3.50	0.002 03

- End of the Test Report -