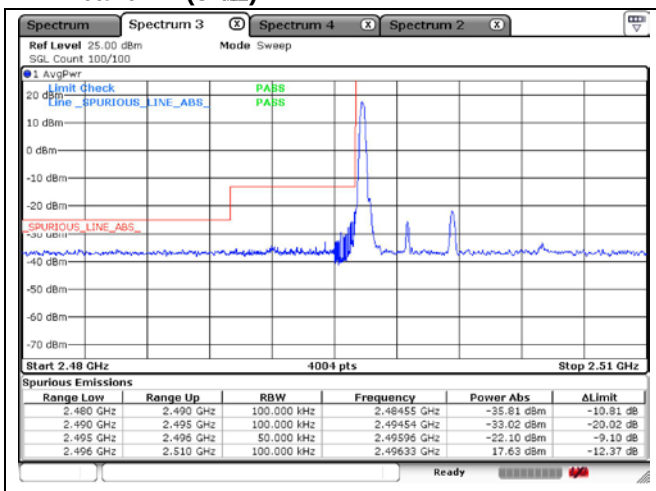
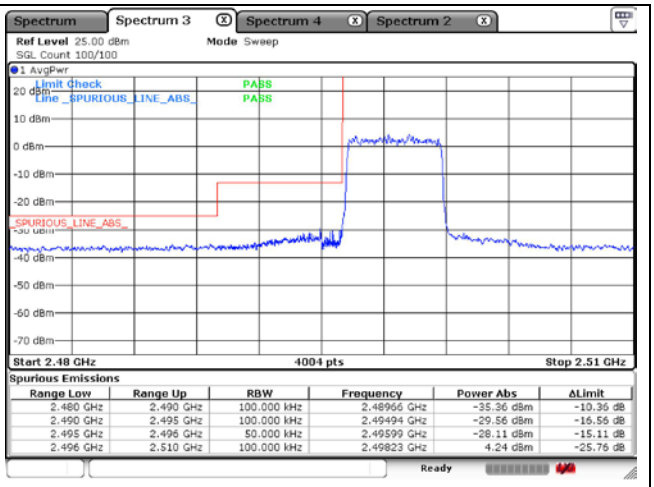
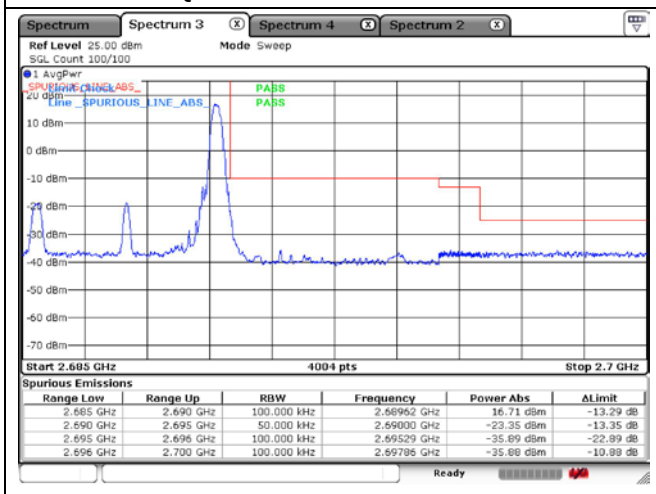
LTE band 41 (5 ㎒)



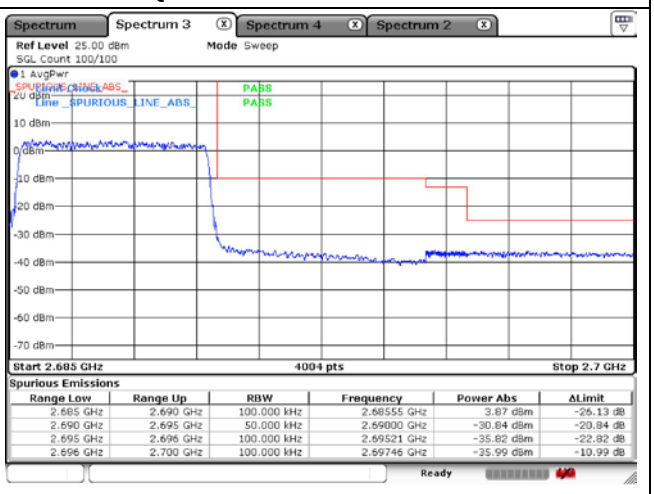
QPSK Low Channel - 1 RB



QPSK Low Channel - Full RB

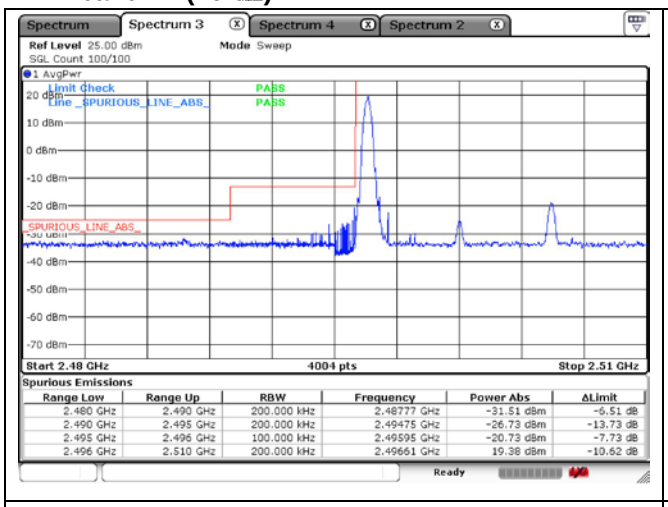


QPSK High Channel - 1 RB

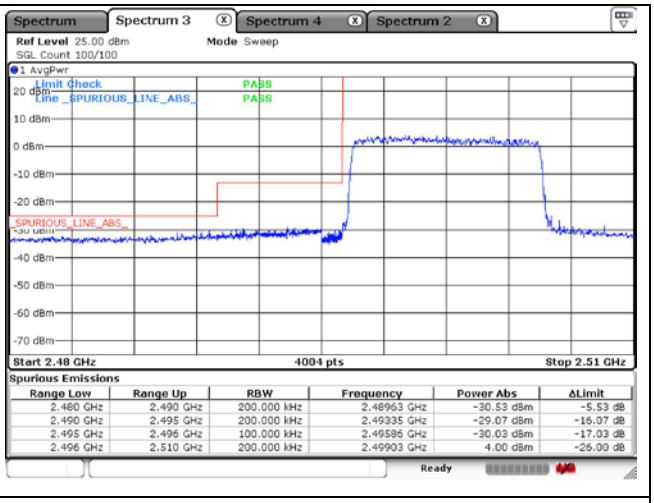


QPSK High Channel - Full RB

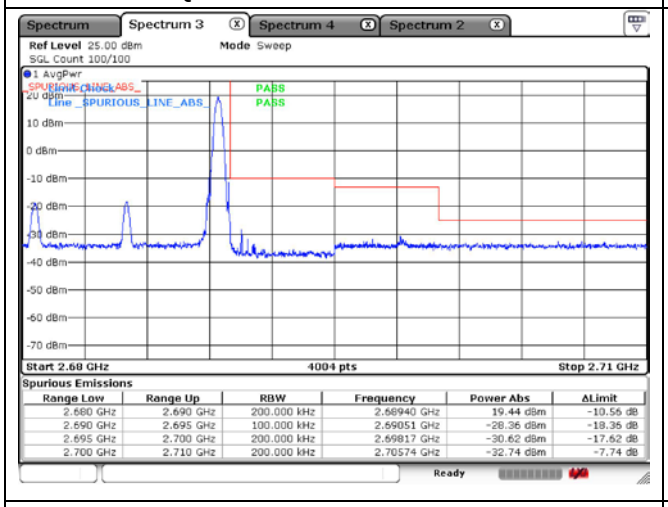
LTE band 41 (10 ㎒)



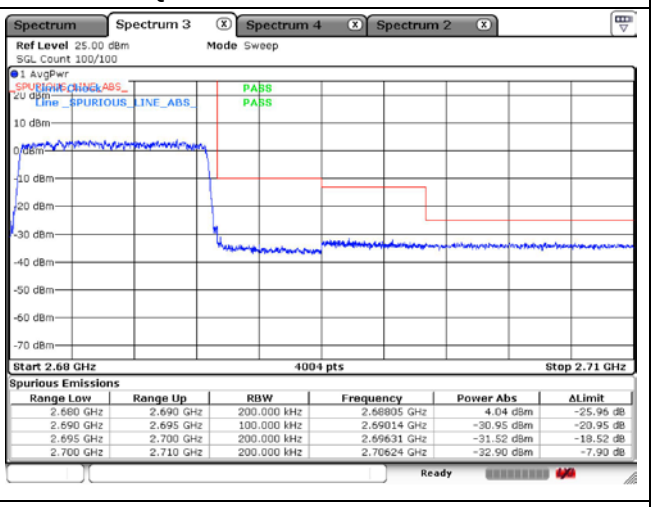
QPSK Low Channel - 1 RB



QPSK Low Channel - Full RB

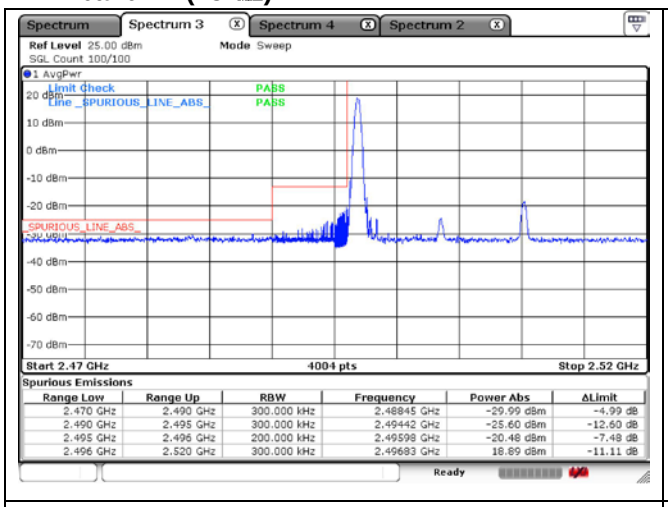


QPSK High Channel - 1 RB

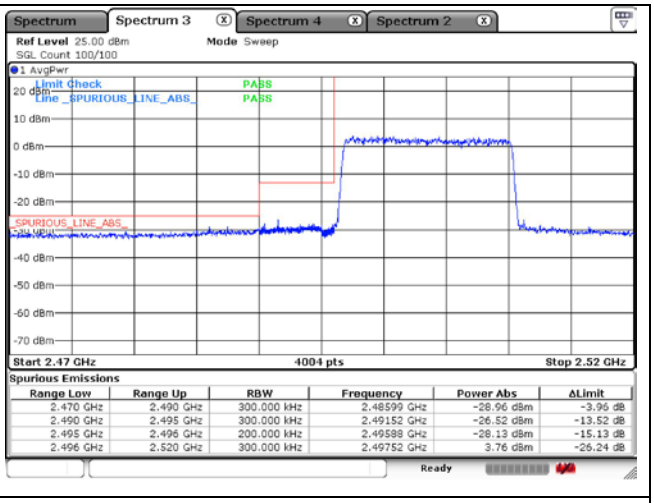


QPSK High Channel - Full RB

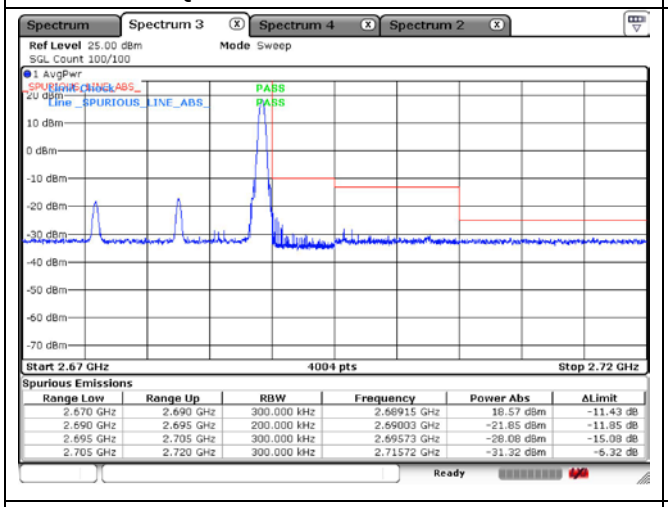
LTE band 41 (15 ㎒)



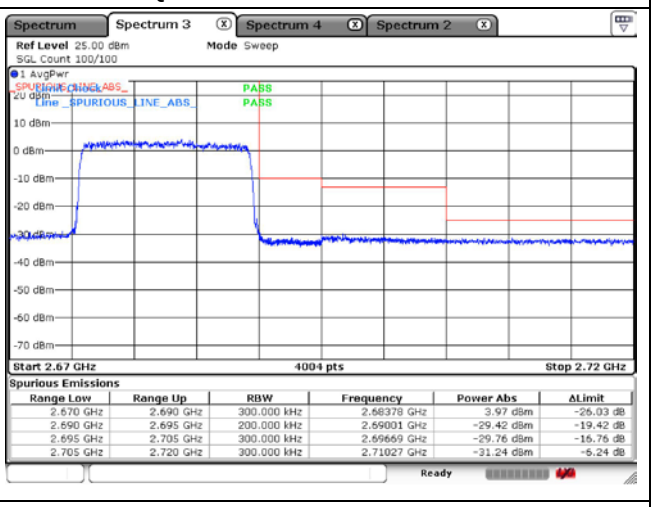
QPSK Low Channel - 1 RB



QPSK Low Channel - Full RB

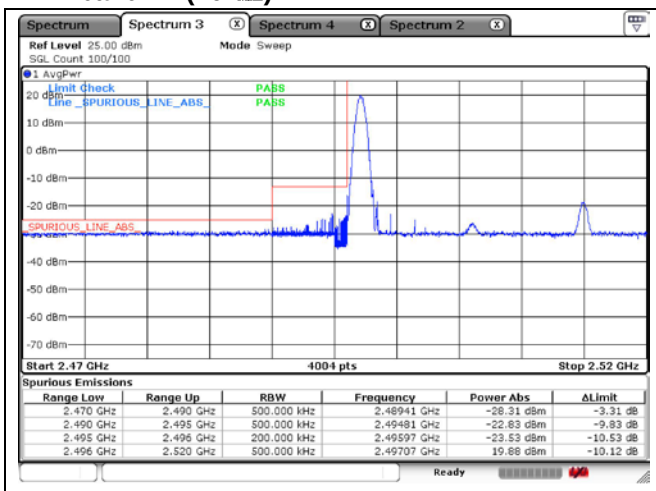


QPSK High Channel - 1 RB

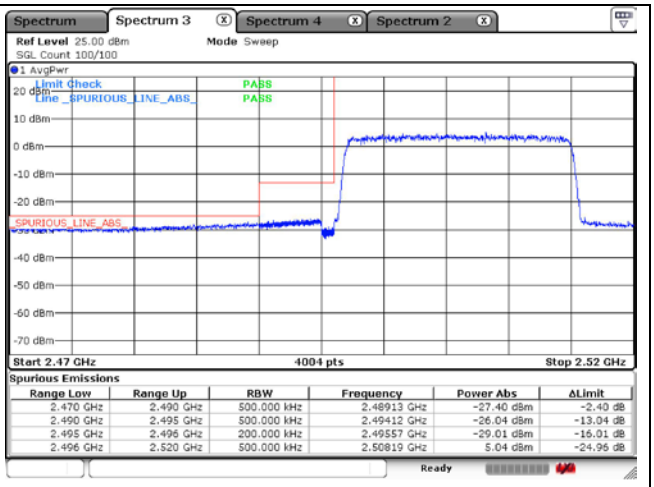


QPSK High Channel - Full RB

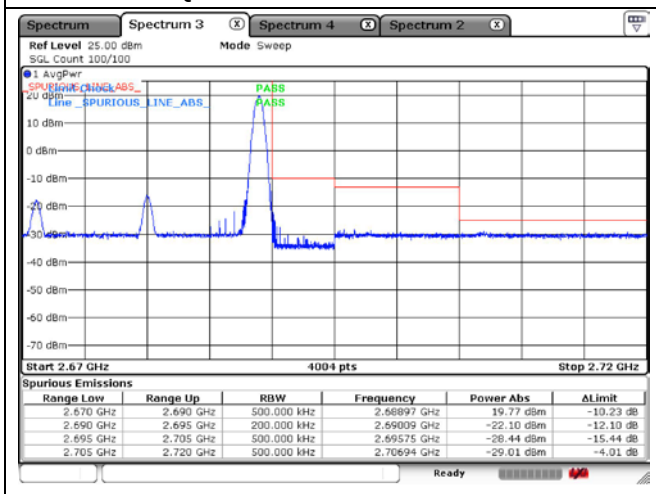
LTE band 41 (20 ㎒)



QPSK Low Channel - 1 RB



QPSK Low Channel - Full RB



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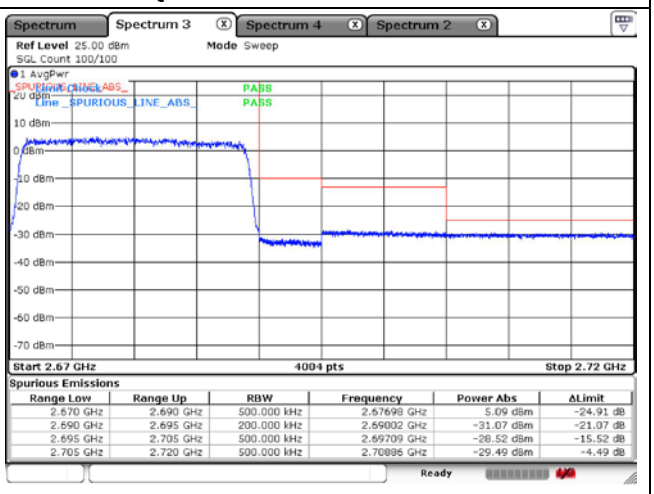
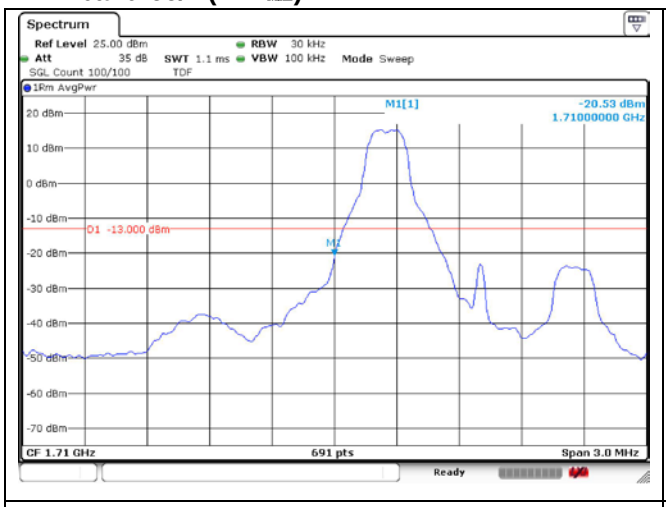
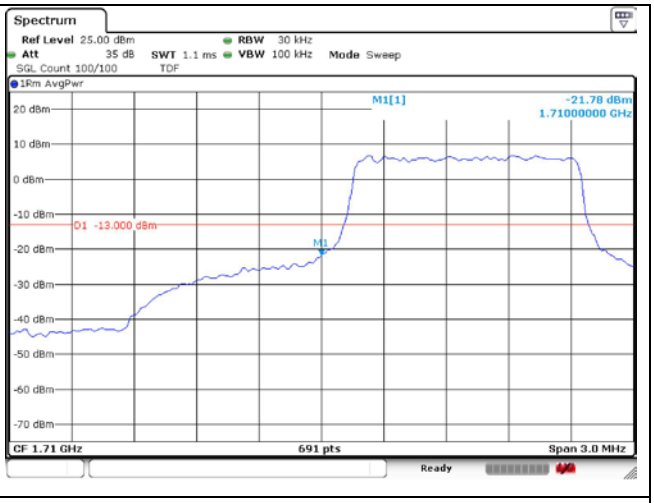


QPSK High Channel - Full RB

LTE band 66/4 (1.4 ㎒)

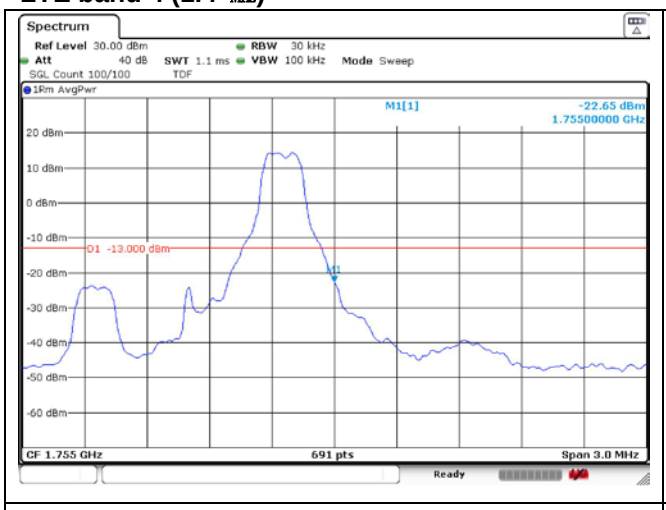


QPSK Low Channel - 1 RB



QPSK Low Channel - Full RB

LTE band 4 (1.4 ㎒)



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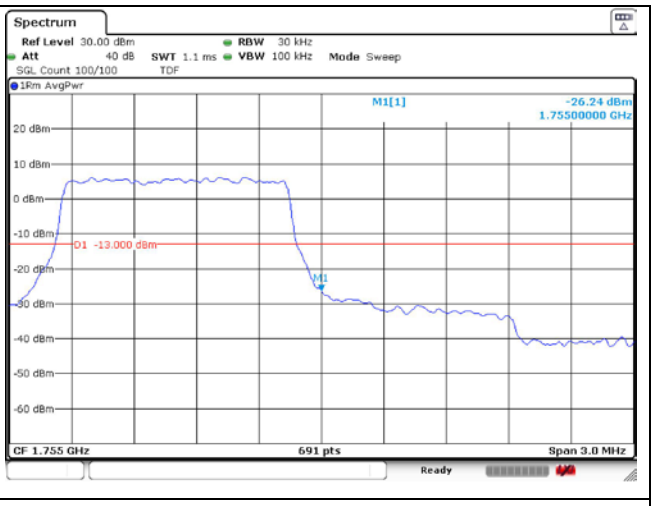
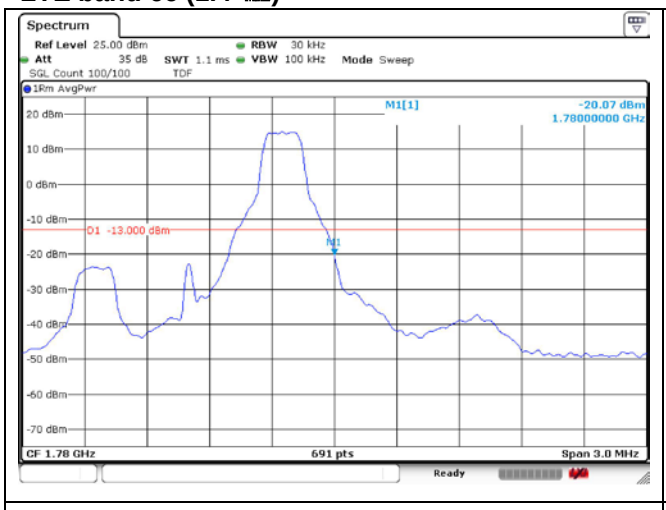


QPSK High Channel - Full RB

LTE band 66 (1.4 ㎒)



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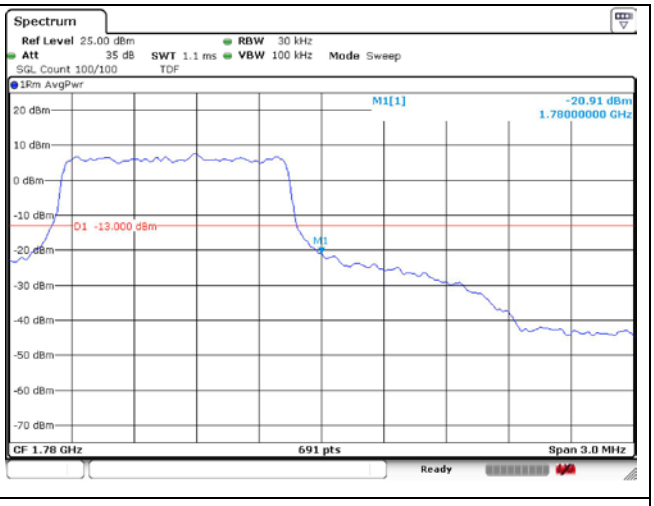
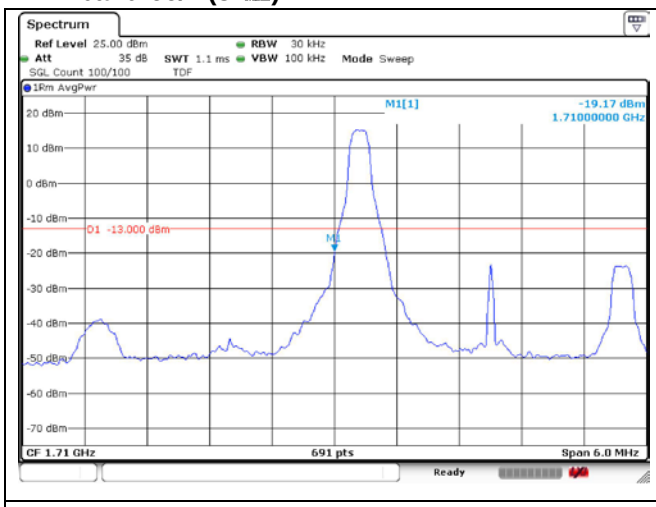
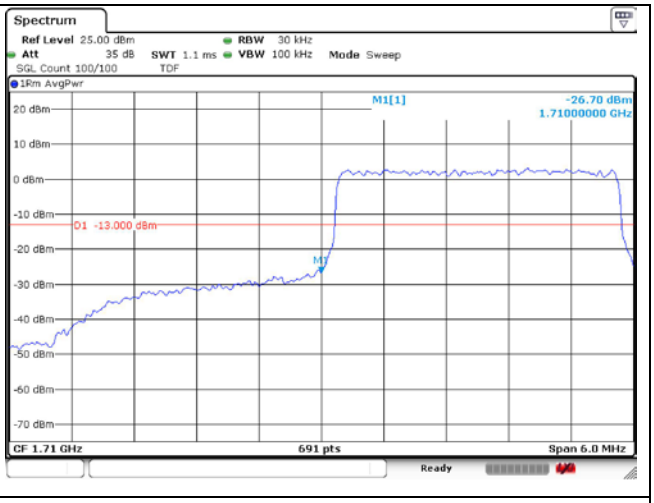


QPSK High Channel - Full RB

LTE band 66/4 (3 ㎒)

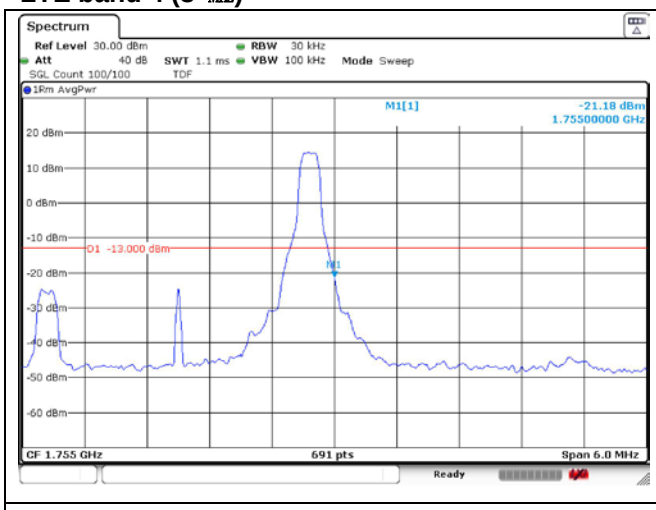


QPSK Low Channel - 1 RB

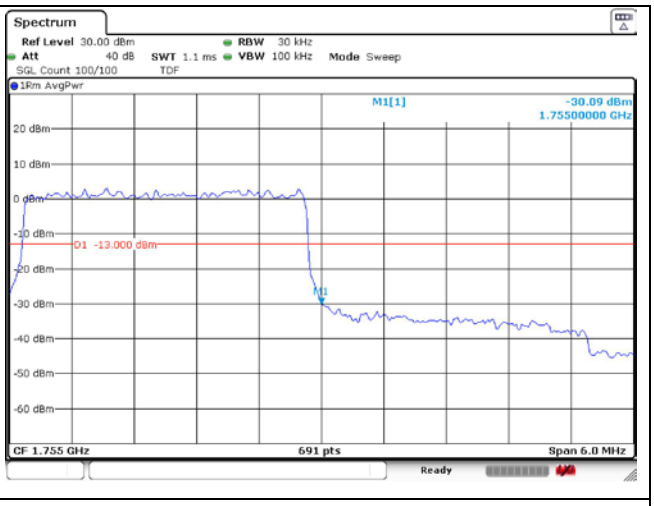


QPSK Low Channel - Full RB

LTE band 4 (3 ㎒)

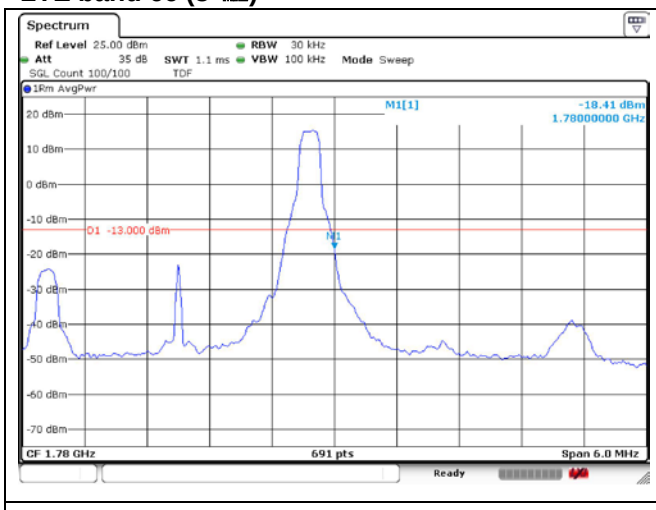


QPSK High Channel - 1 RB

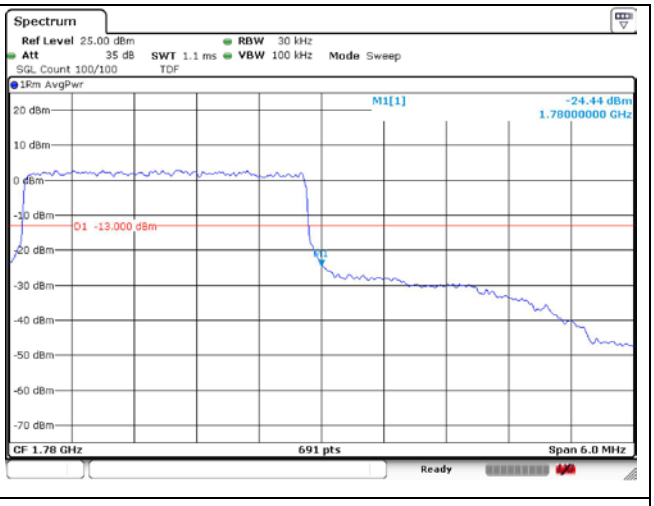


QPSK High Channel - Full RB

LTE band 66 (3 ㎒)

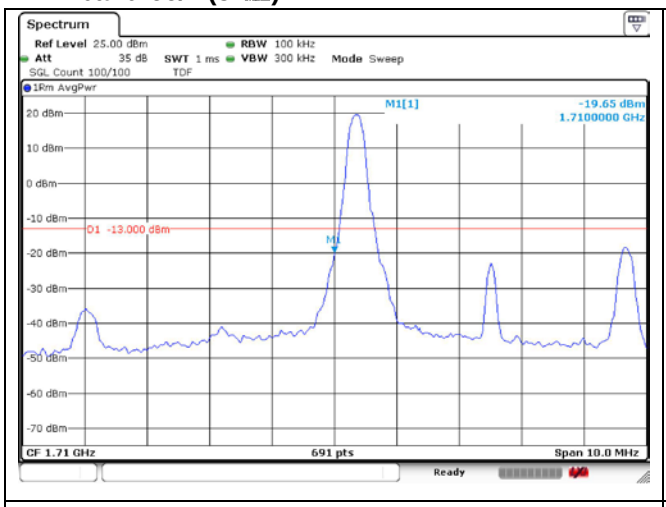


QPSK High Channel - 1 RB

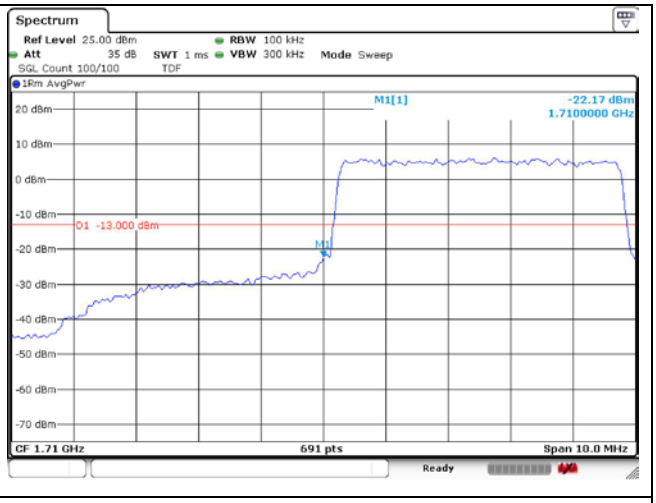


QPSK High Channel - Full RB

LTE band 66/4 (5 ㎒)

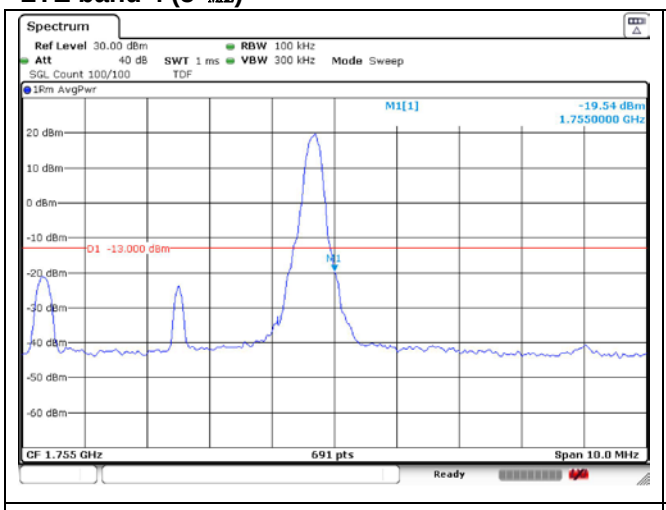


QPSK Low Channel - 1 RB

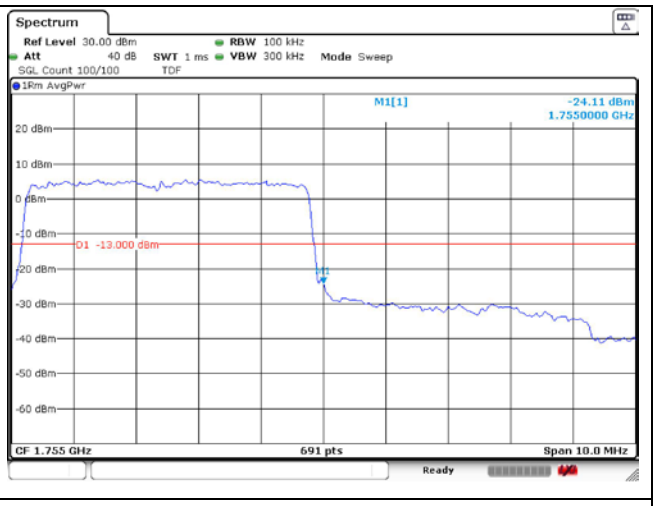


QPSK Low Channel - Full RB

LTE band 4 (5 ㎒)

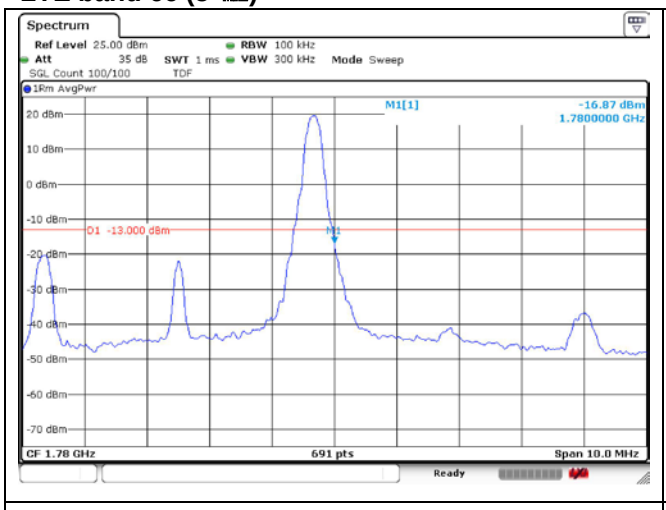


QPSK High Channel - 1 RB

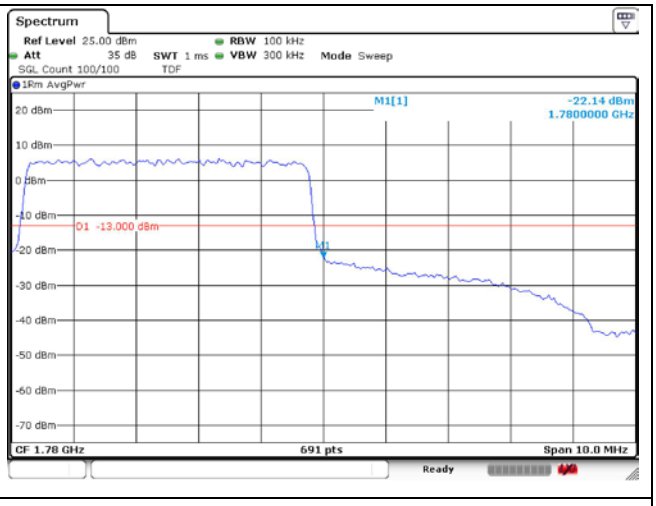


QPSK High Channel - Full RB

LTE band 66 (5 ㎒)

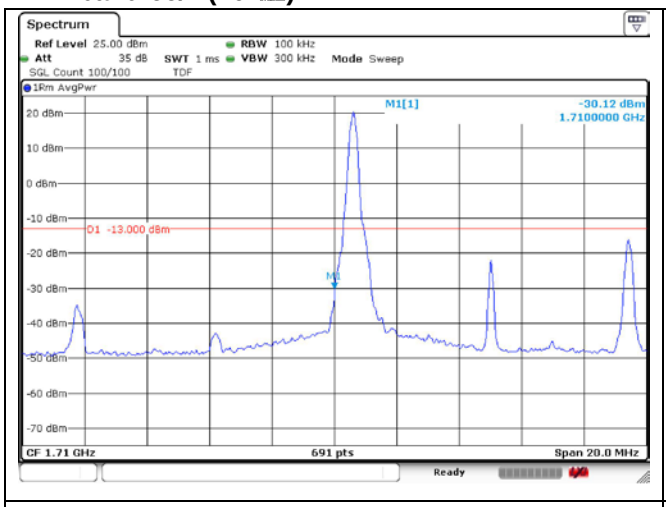


QPSK High Channel - 1 RB

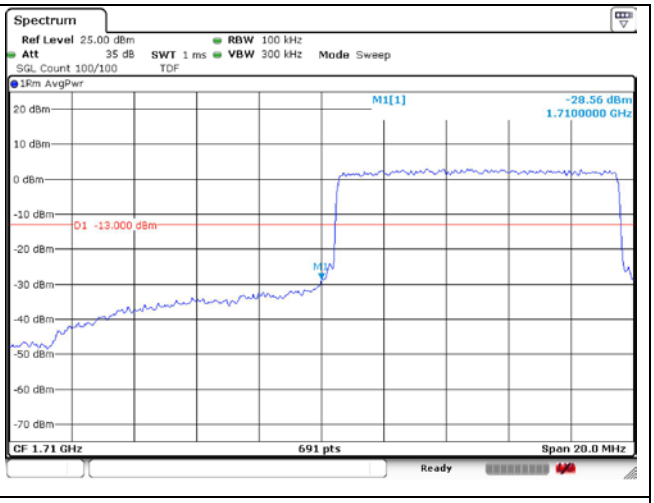


QPSK High Channel - Full RB

LTE band 66/4 (10 ㎒)

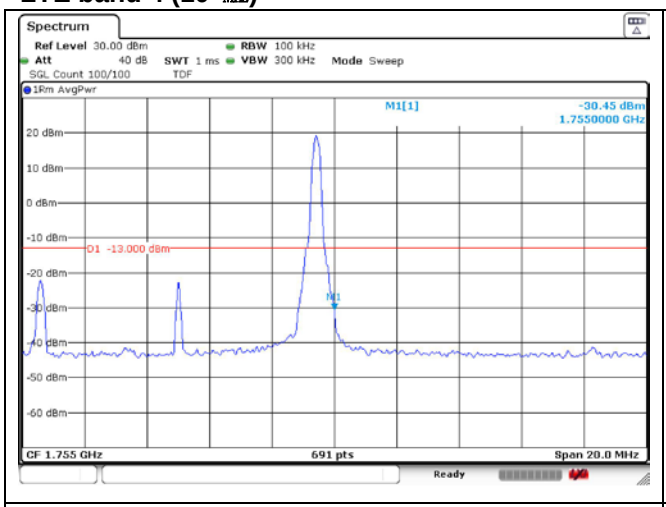


QPSK Low Channel - 1 RB

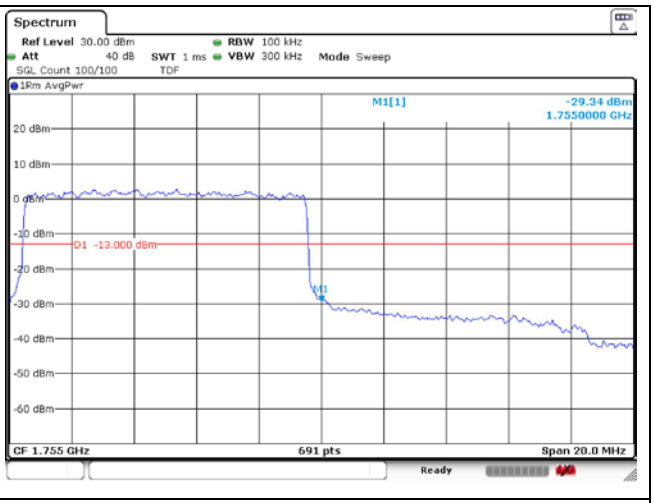


QPSK Low Channel - Full RB

LTE band 4 (10 ㎒)

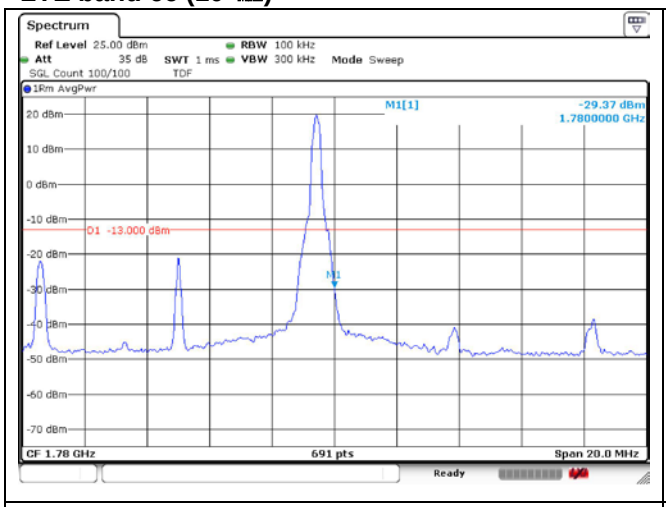


QPSK High Channel - 1 RB

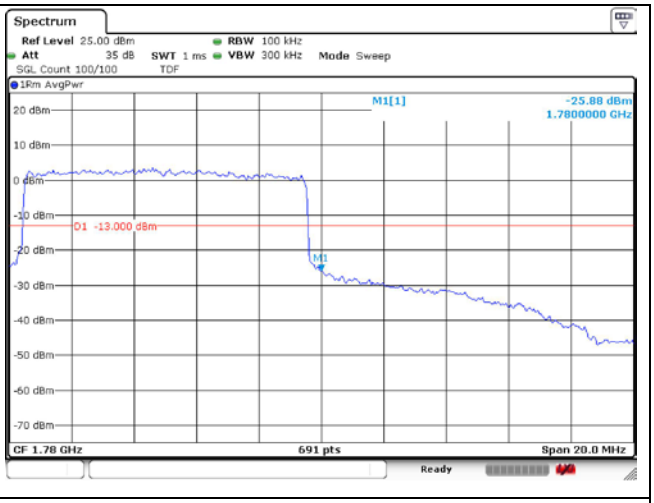


QPSK High Channel - Full RB

LTE band 66 (10 ㎒)

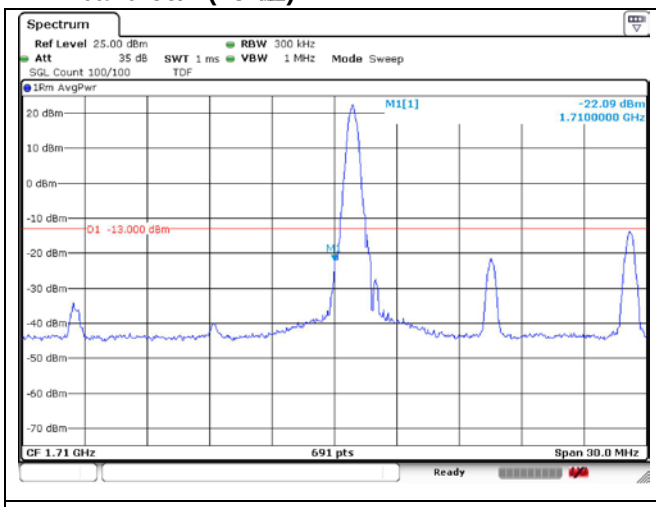


QPSK High Channel - 1 RB

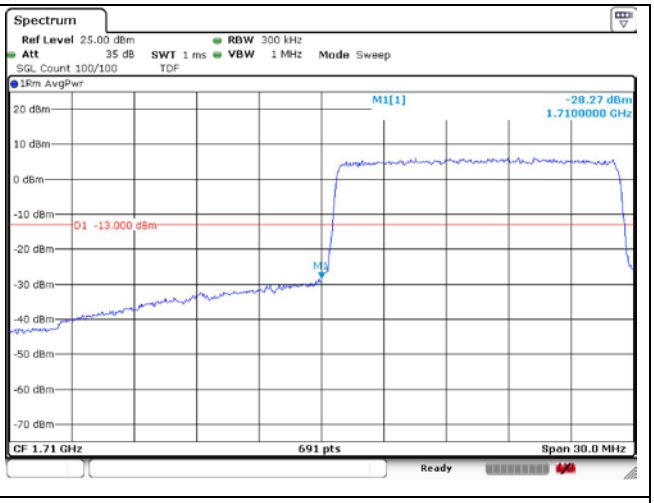


QPSK High Channel - Full RB

LTE band 66/4 (15 ㎒)

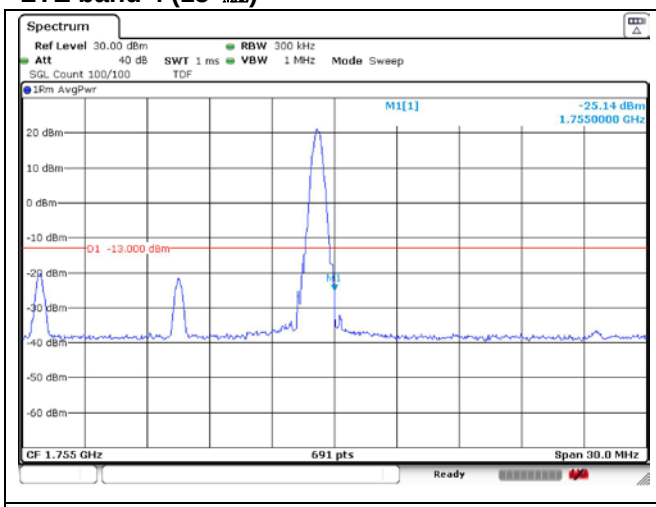


QPSK Low Channel - 1 RB

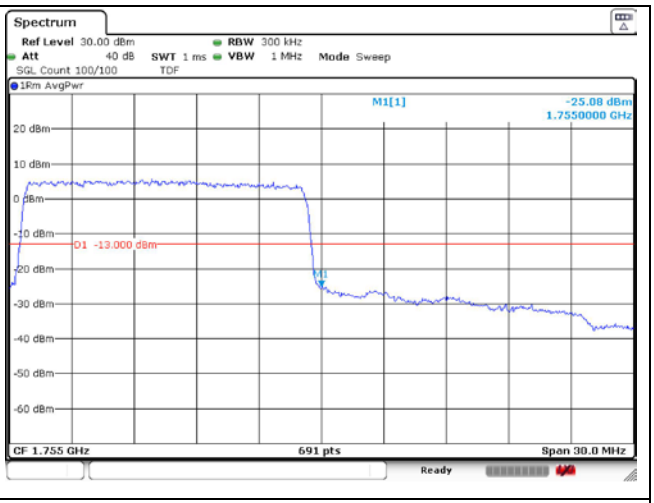


QPSK Low Channel - Full RB

LTE band 4 (15 ㎒)

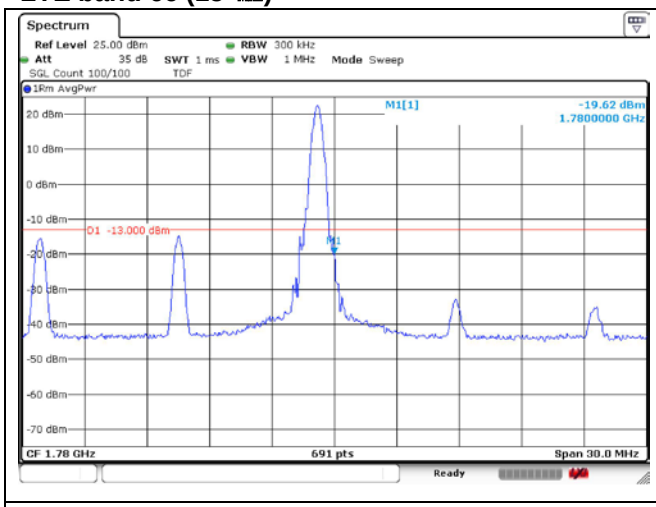


QPSK High Channel - 1 RB

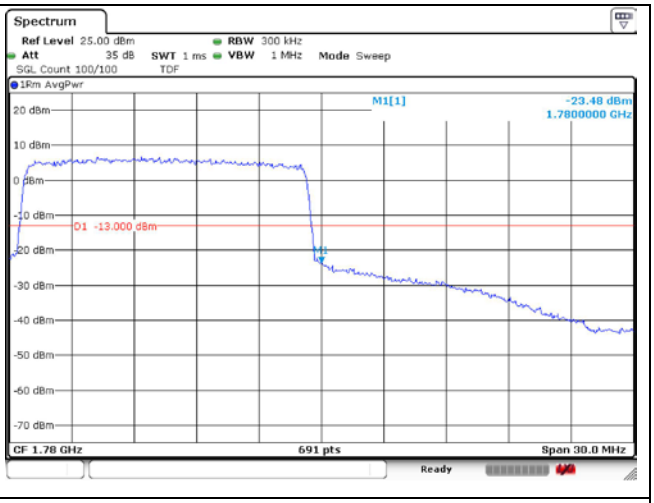


QPSK High Channel - Full RB

LTE band 66 (15 ㎒)

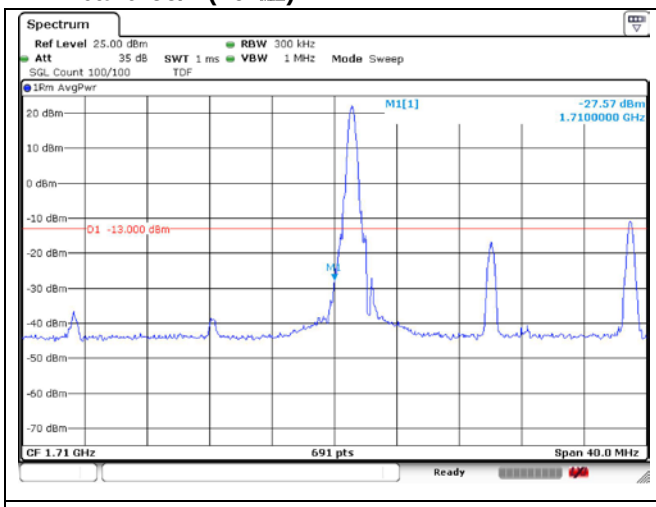


QPSK High Channel - 1 RB

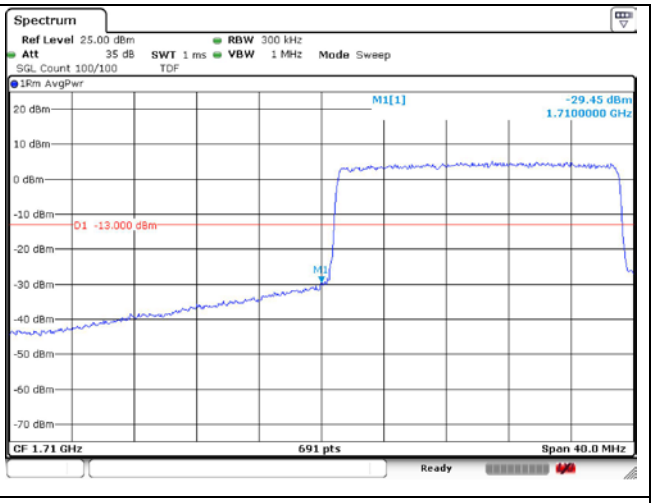


QPSK High Channel - Full RB

LTE band 66/4 (20 ㎒)

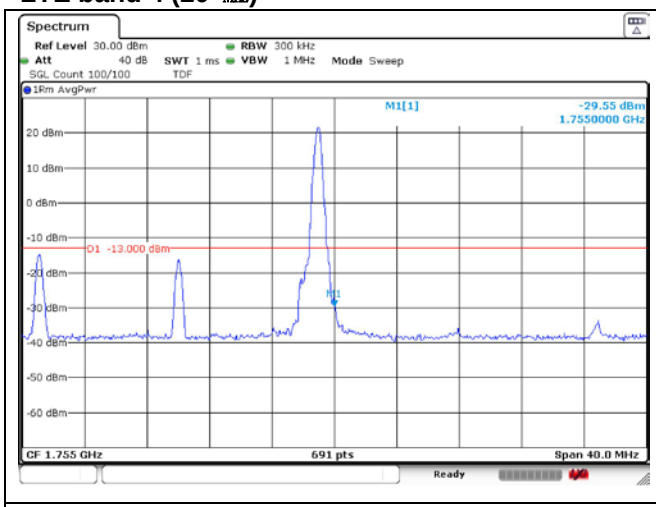


QPSK Low Channel - 1 RB



QPSK Low Channel - Full RB

LTE band 4 (20 ㎒)



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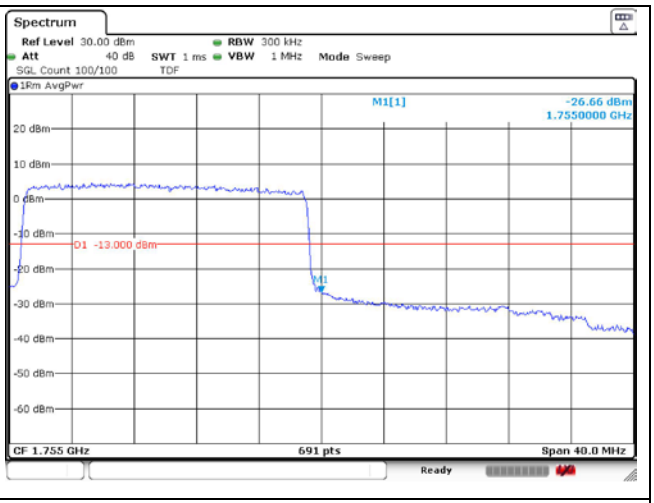
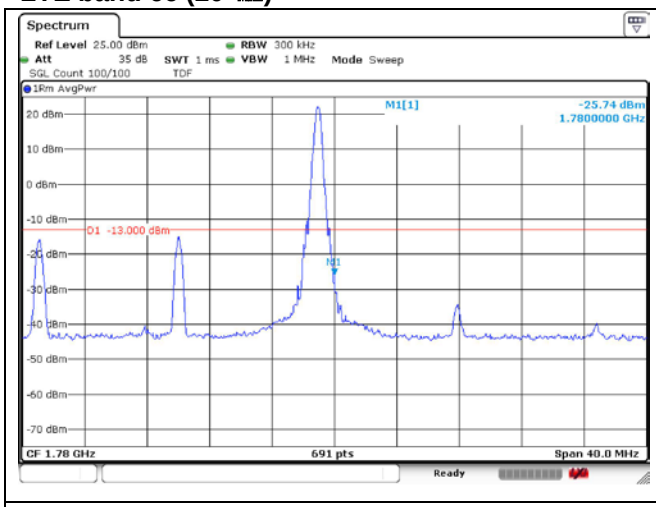
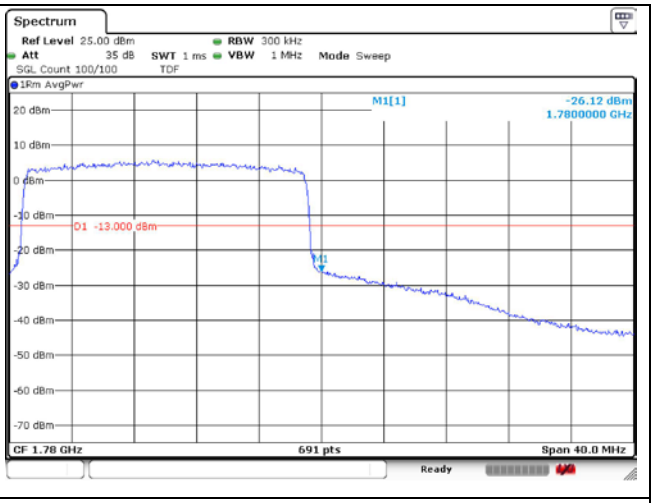


QPSK High Channel - Full RB

LTE band 66 (20 ㎒)

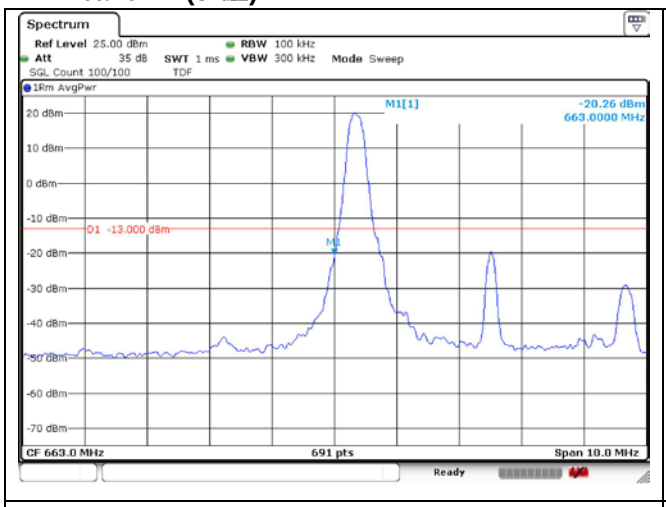


QPSK High Channel - 1 RB

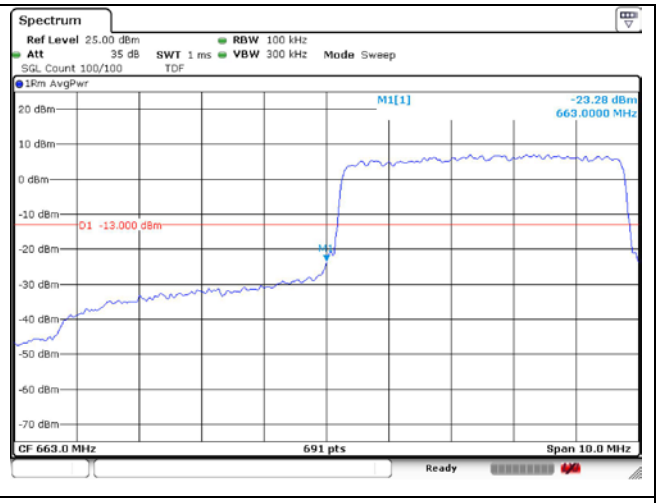


QPSK High Channel - Full RB

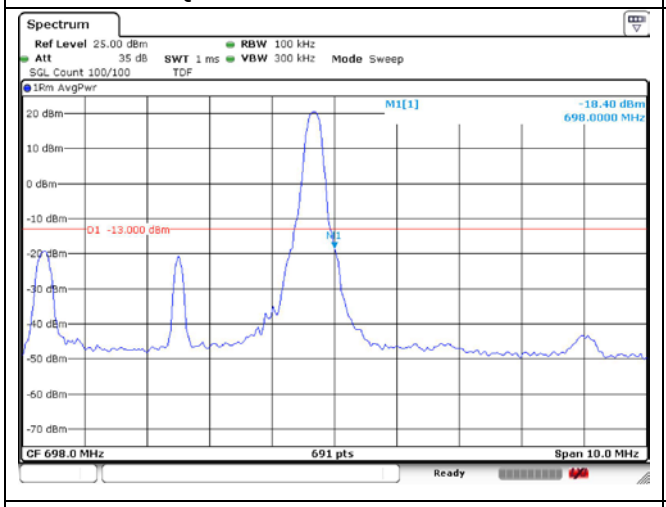
LTE band 71 (5 ㎒)



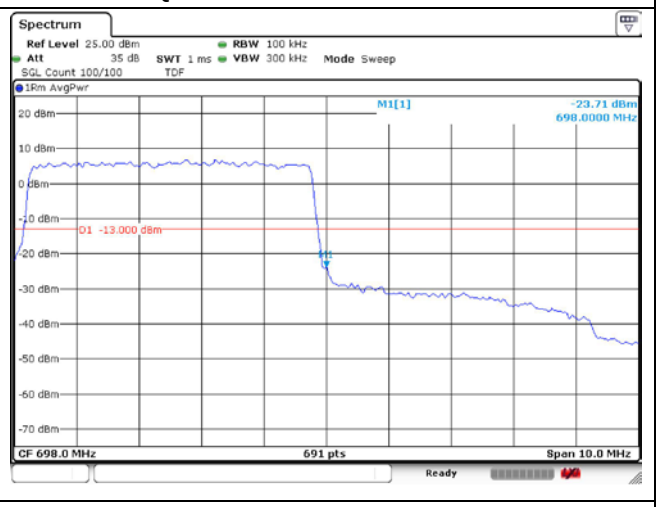
QPSK Low Channel - 1 RB



QPSK Low Channel - Full RB

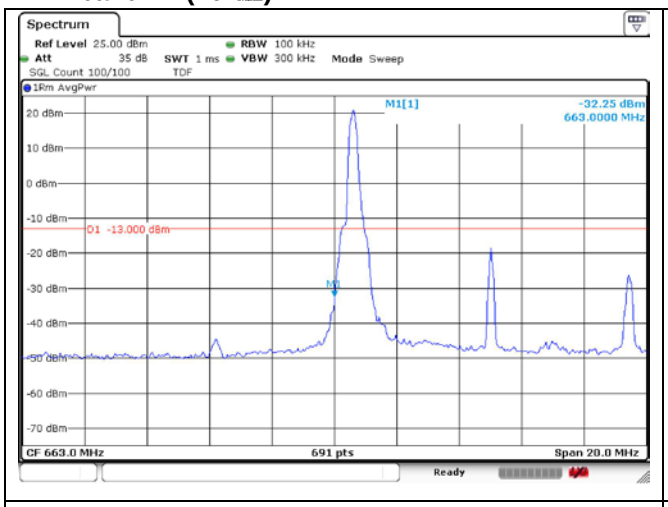


QPSK High Channel - 1 RB

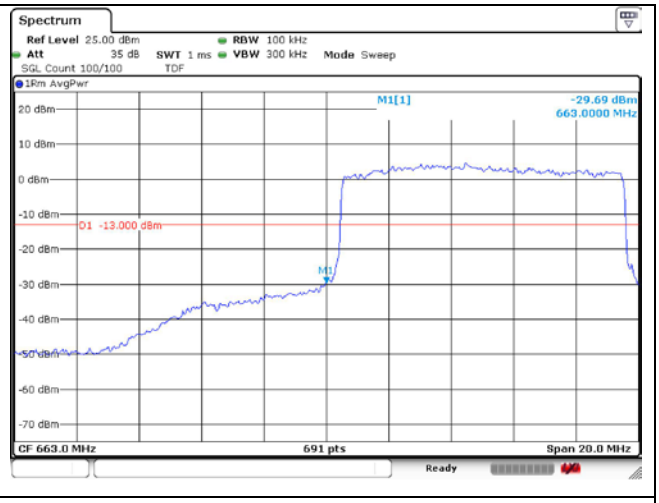


QPSK High Channel - Full RB

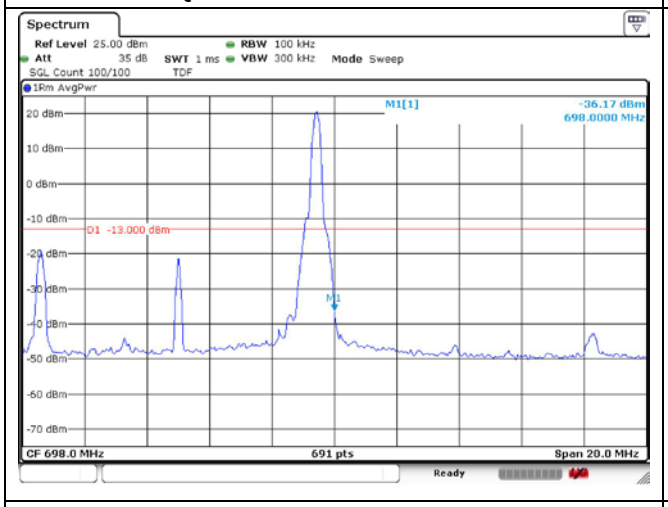
LTE band 71 (10 ㎒)



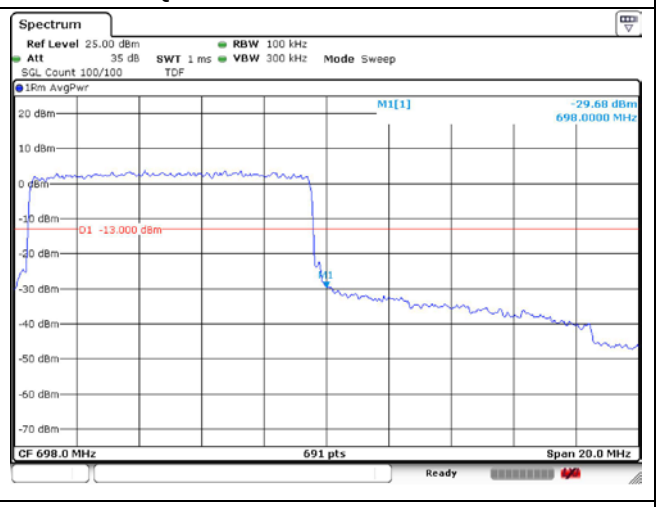
QPSK Low Channel - 1 RB



QPSK Low Channel - Full RB

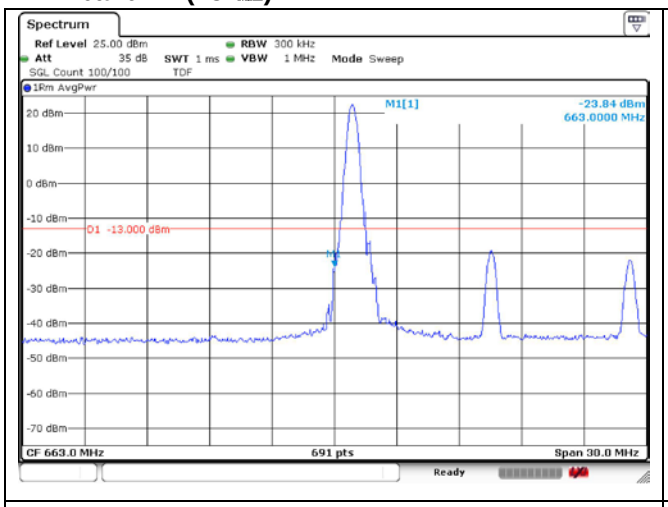


QPSK High Channel - 1 RB

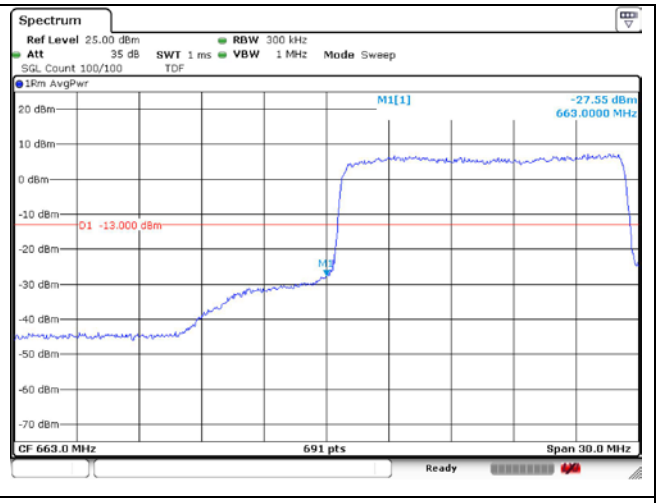


QPSK High Channel - Full RB

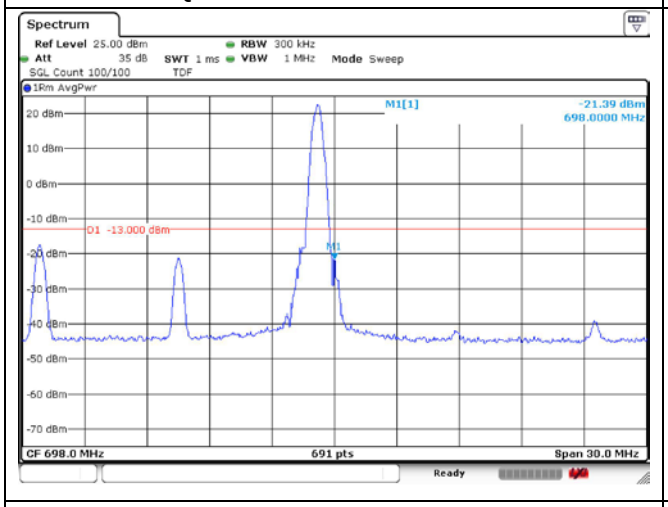
LTE band 71 (15 ㎒)



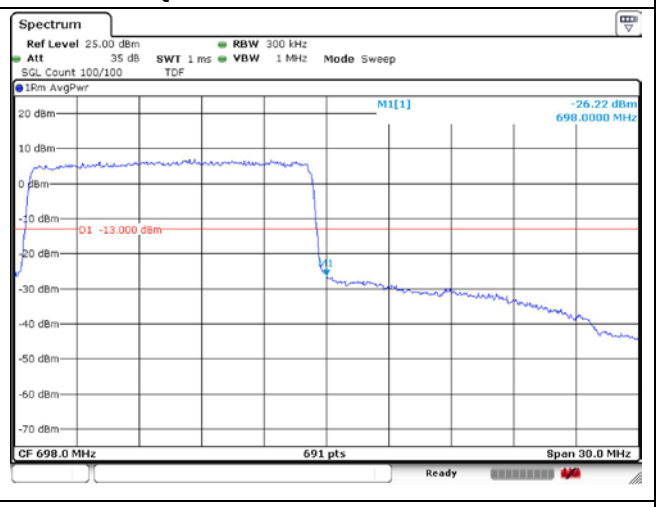
QPSK Low Channel - 1 RB



QPSK Low Channel - Full RB

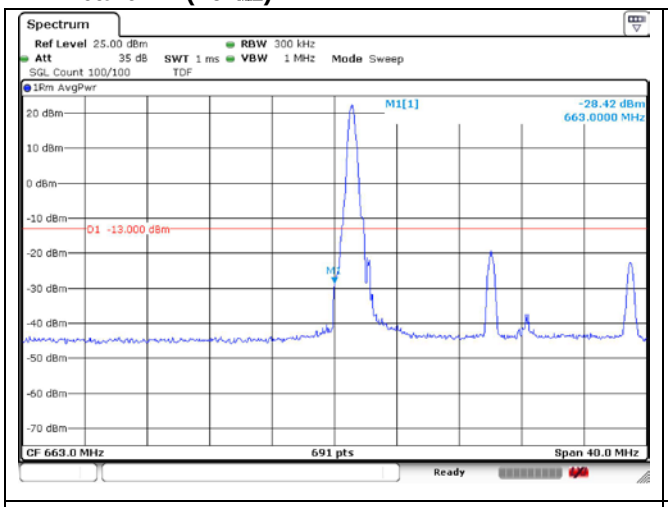


QPSK High Channel - 1 RB

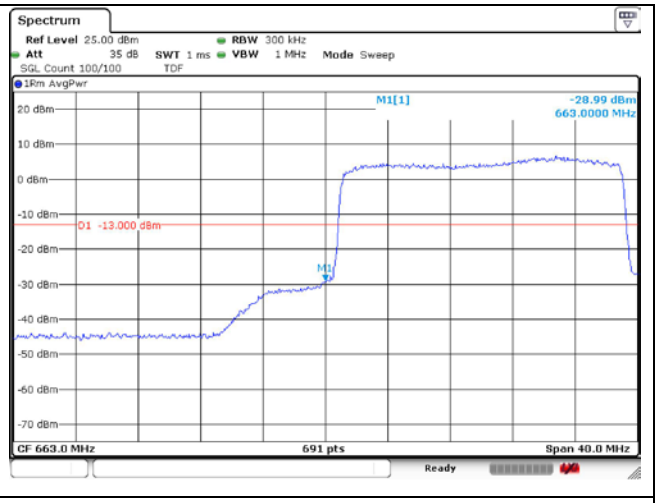


QPSK High Channel - Full RB

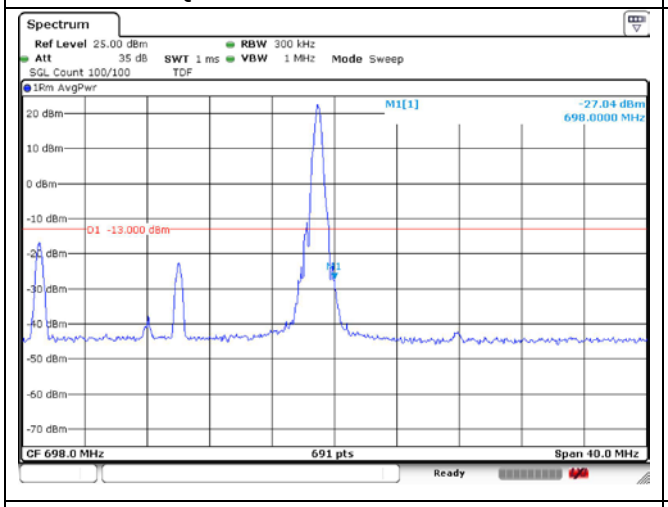
LTE band 71 (20 ㎒)



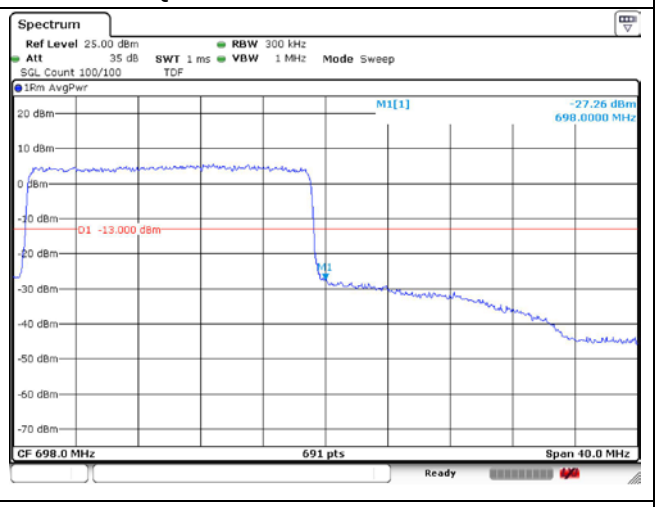
QPSK Low Channel - 1 RB



QPSK Low Channel - Full RB



QPSK High Channel - 1 RB



QPSK High Channel - Full RB

7. Frequency Stability

7.1. Limit

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

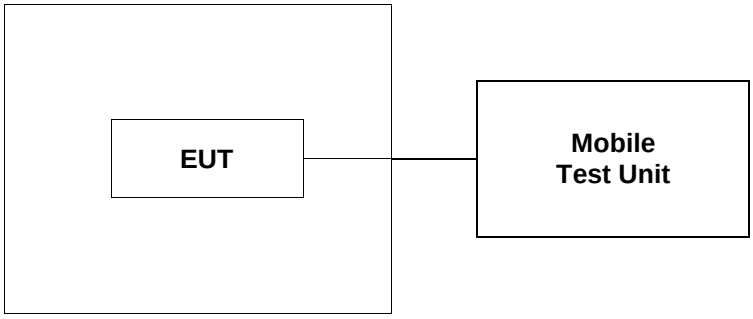
- §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table of this section.
For Mobile devices operating in the 824 to 849 ㎒ band at a power level less than or equal to 3 Watts, the limit specified in Table C-1 is +/- 2.5 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.

7.2. 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.



7.3. Test Results

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

LTE band 12 at middle channel

Operating Frequency: 707.5 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (°C)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	3.8	1	0.001 4
40		-5	-0.007 1
30		2	0.002 8
20 (Ref.)		-1	-
10		2	0.002 8
0		-1	-0.001 4
-10		3	0.004 2
-20		2	0.002 8
-30		-2	-0.002 8
Frequency Stability versus Power Supply			
Environment Temperature (°C)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	4.37	3	0.004 2
	3.40 (End point)	-3	-0.004 2

LTE band 25/2 at middle channel

Operating Frequency: 1 882.5 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (°C)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	3.8	4	0.002 1
40		-1	-0.000 5
30		-3	-0.001 6
20 (Ref.)		5	-
10		2	0.001 1
0		-4	-0.002 1
-10		-3	-0.001 6
-20		5	0.002 7
-30		-2	-0.001 1
Frequency Stability versus Power Supply			
Environment Temperature (°C)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	4.37	-3	-0.001 6
	3.40 (End point)	4	0.002 1

LTE band 26/5 at middle channel

Operating Frequency: 831.5 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (°C)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	3.8	2	0.002 4
40		-1	-0.001 2
30		-4	-0.004 8
20 (Ref.)		3	-
10		-2	-0.002 4
0		4	0.004 8
-10		5	0.006 0
-20		2	0.002 4
-30		-2	-0.002 4
Frequency Stability versus Power Supply			
Environment Temperature (°C)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	4.37	-3	-0.003 6
	3.40 (End point)	-1	-0.001 2

LTE band 41 at middle channel

Operating Frequency: 2 593 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (°C)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	3.8	2	0.000 8
40		4	0.001 5
30		-2	-0.000 8
20 (Ref.)		-2	-
10		4	0.001 5
0		3	0.001 2
-10		1	0.000 4
-20		-5	-0.001 9
-30		1	0.000 4
Frequency Stability versus Power Supply			
Environment Temperature (°C)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	4.37	2	0.000 8
	3.40 (End point)	-4	-0.001 5

LTE band 66/4 at middle channel

Operating Frequency: 1 745 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (°C)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	3.8	-3	-0.001 7
40		-2	-0.001 1
30		5	0.002 9
20 (Ref.)		1	-
10		-4	-0.002 3
0		2	0.001 1
-10		-2	-0.001 1
-20		4	0.002 3
-30		1	0.000 6
Frequency Stability versus Power Supply			
Environment Temperature (°C)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	4.37	4	0.002 3
	3.40 (End point)	1	0.000 6

LTE band 71 at middle channel

Operating Frequency: 680.5 ㎒			
Frequency Stability versus Temperature			
Environment Temperature (°C)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
50	3.8	-3	-0.004 4
40		4	0.005 9
30		2	0.002 9
20 (Ref.)		-2	-
10		-1	-0.001 5
0		4	0.005 9
-10		2	0.002 9
-20		-3	-0.004 4
-30		3	0.004 4
Frequency Stability versus Power Supply			
Environment Temperature (°C)	**Power Supplied (V)**	**Frequency Measure with Time Elapse**	
		Frequency Error (㎐)	**ppm**
20	4.37	3	0.004 4
	3.40 (End point)	-2	-0.002 9

- End of the Test Report -