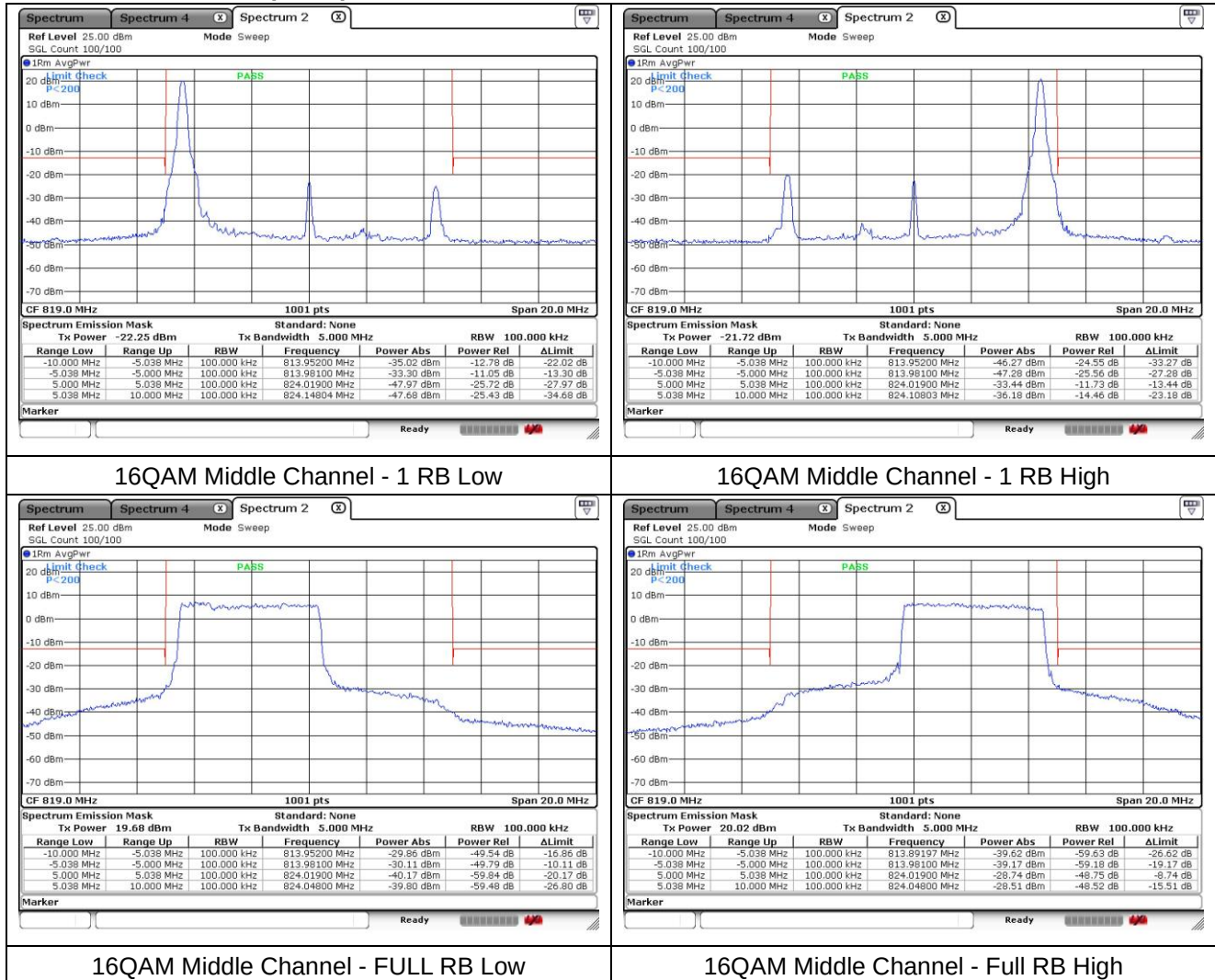
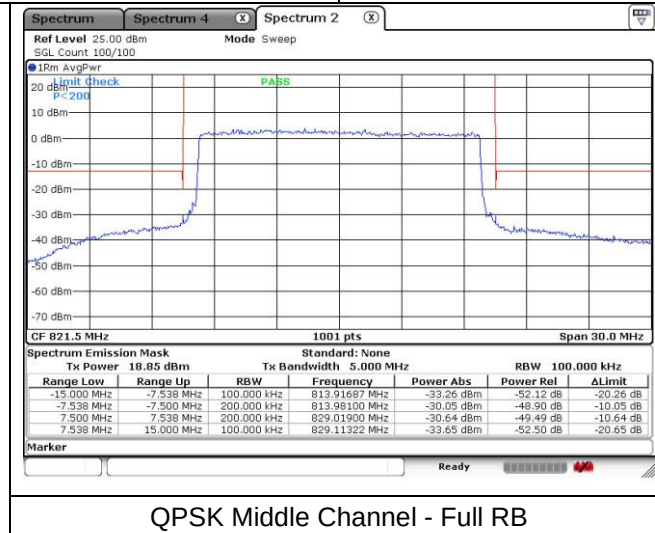
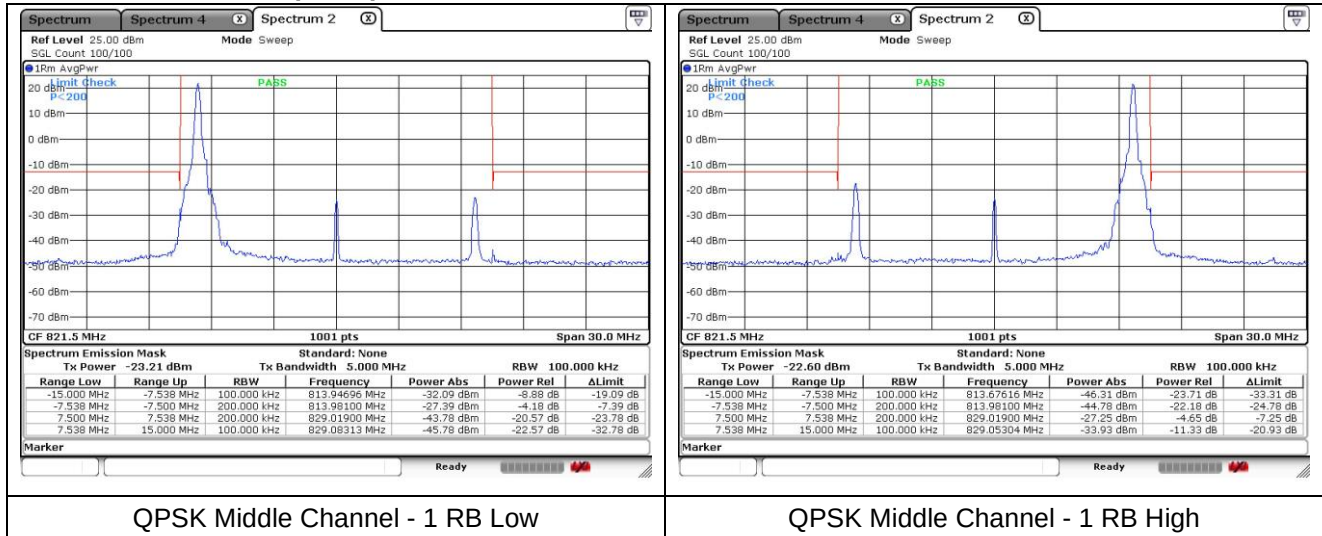


LTE band 26 Part 90 (10 MHz)

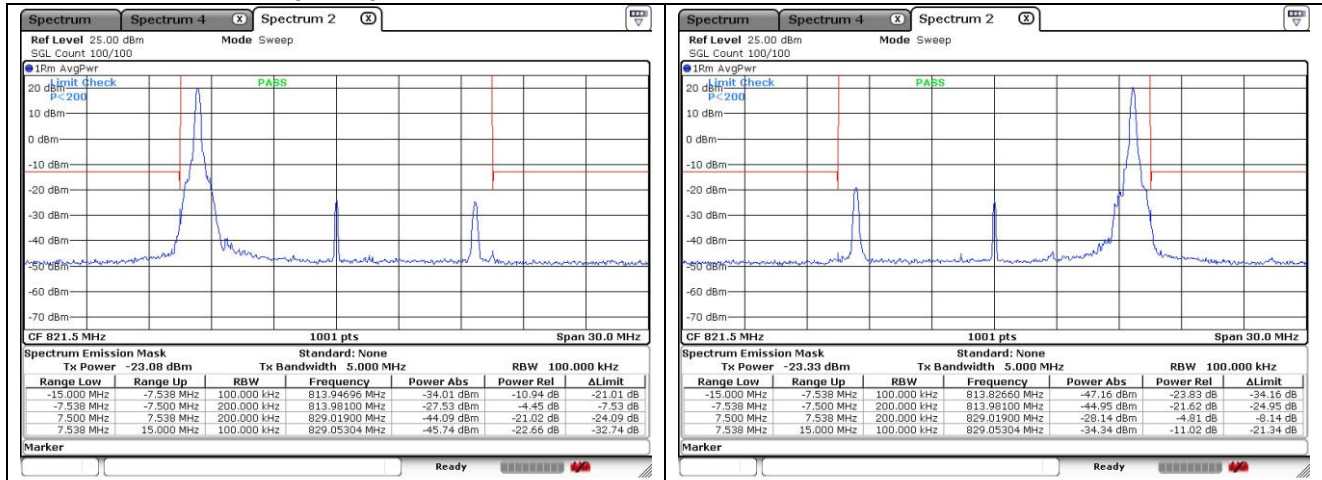


LTE band 26 Part 90 (15 MHz)

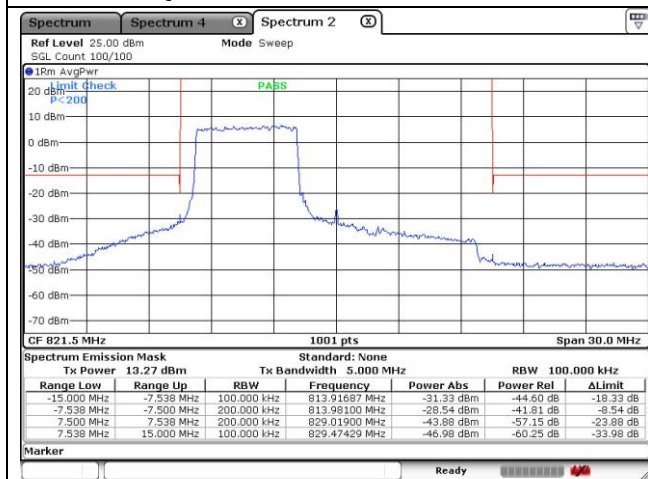


QPSK Middle Channel - Full RB

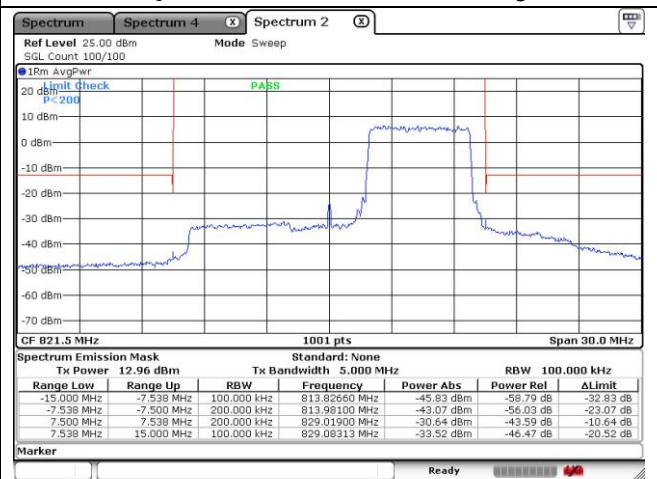
LTE band 26 Part 90 (15 MHz)



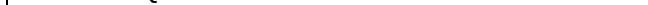
16QAM Middle Channel - 1 RB Low



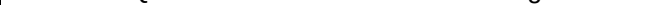
16QAM Middle Channel - 1 RB High



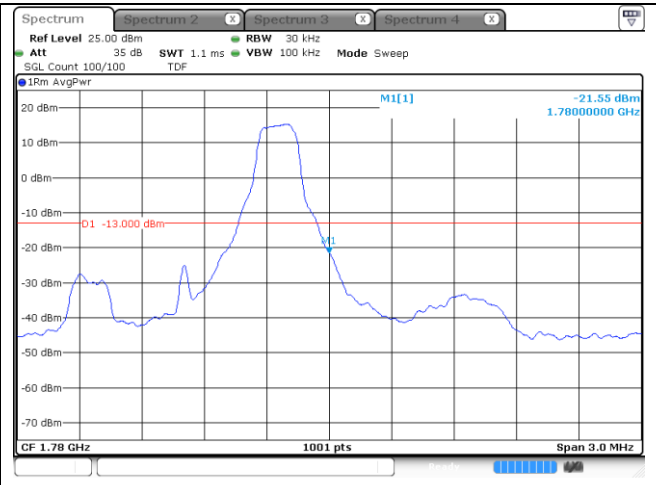
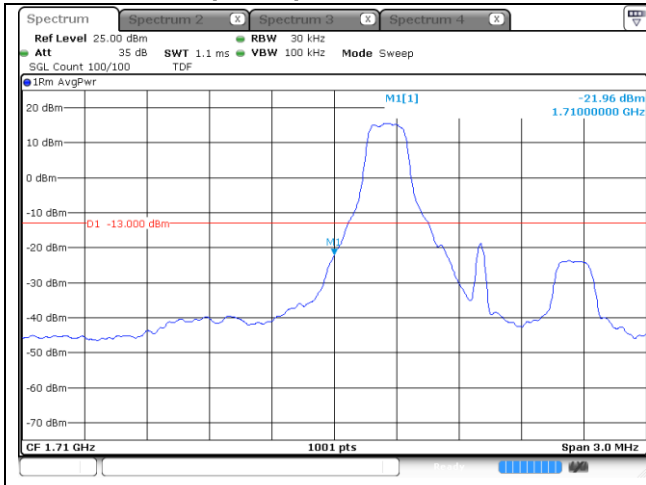
16QAM Middle Channel - Full RB Low



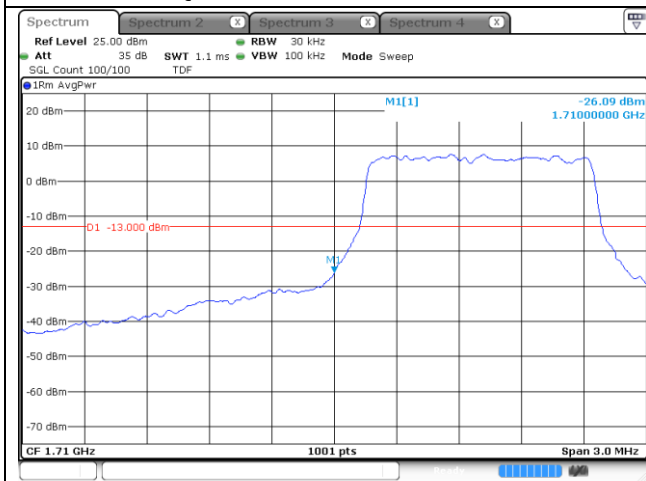
16QAM Middle Channel - Full RB High



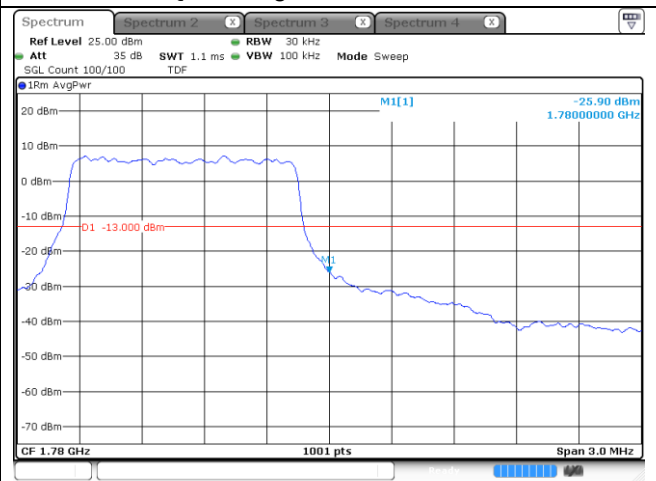
LTE band 66/4 (1.4 MHz)



QPSK Low Channel - 1 RB



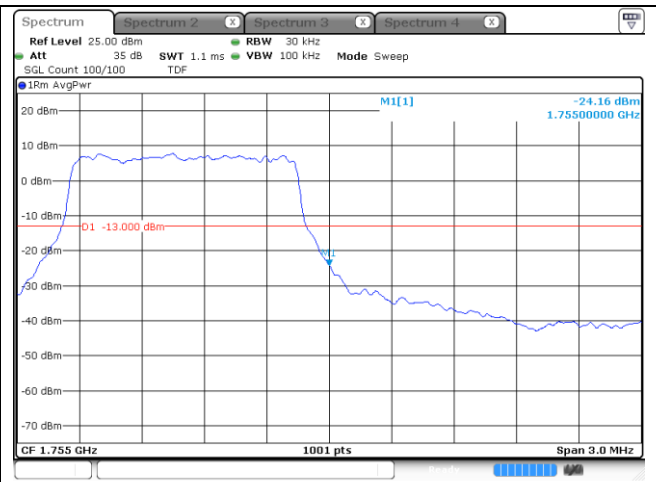
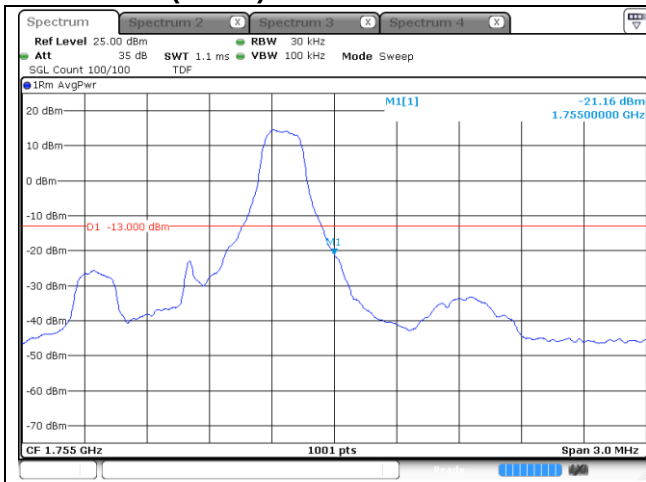
QPSK High Channel - 1 RB



QPSK Low Channel - Full RB

QPSK High Channel - Full RB

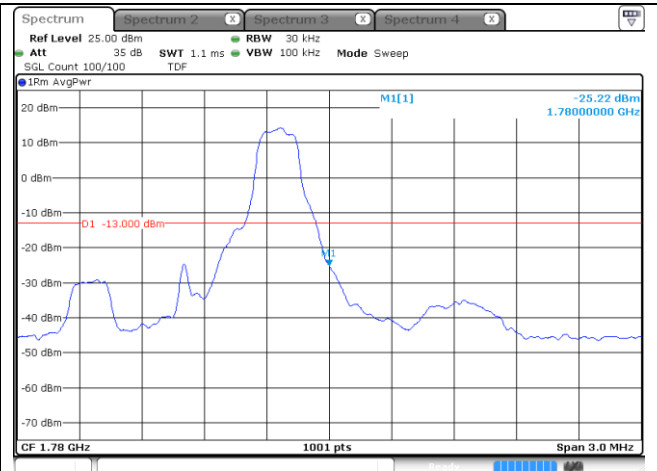
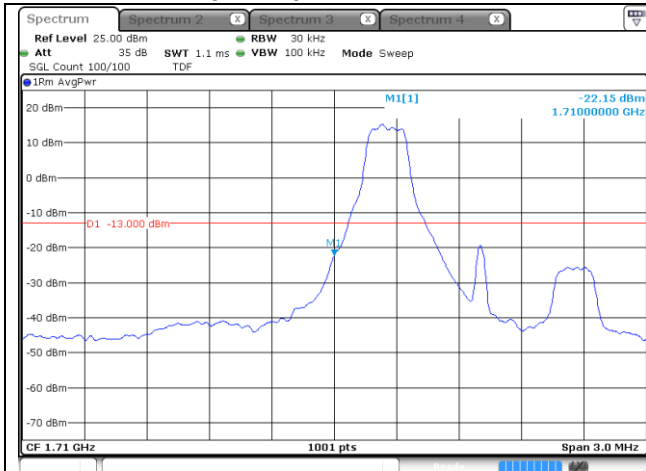
LTE band 4 (1.4 MHz)



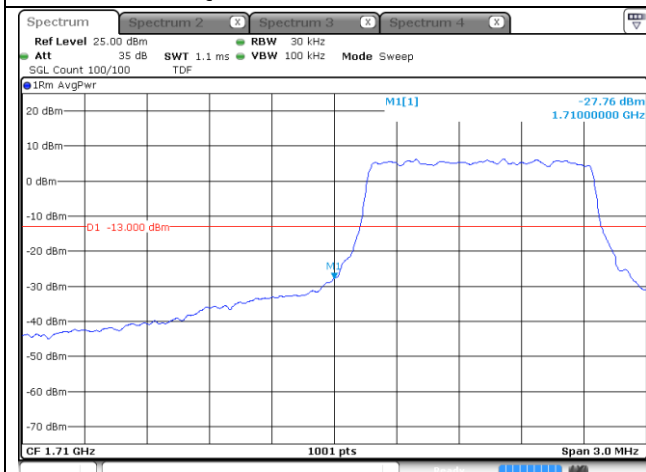
QPSK High Channel - 1 RB

QPSK High Channel - Full RB

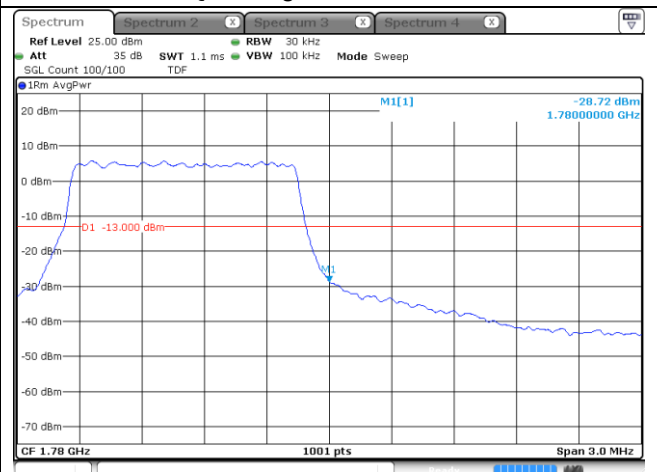
LTE band 66/4 (1.4 MHz)



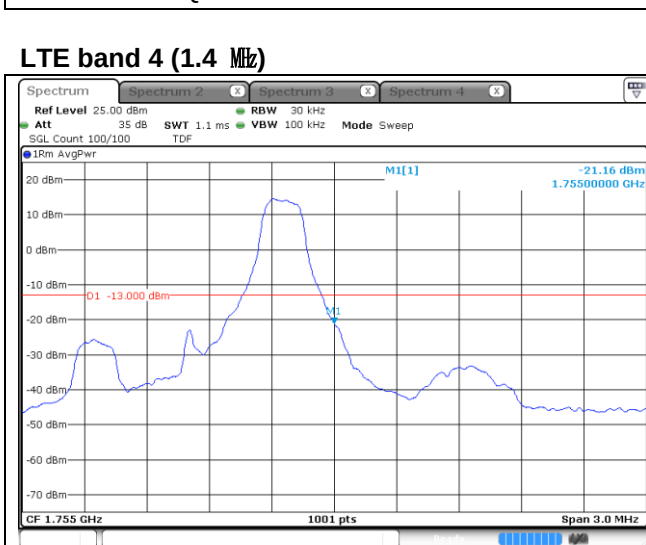
16QAM Low Channel - 1 RB



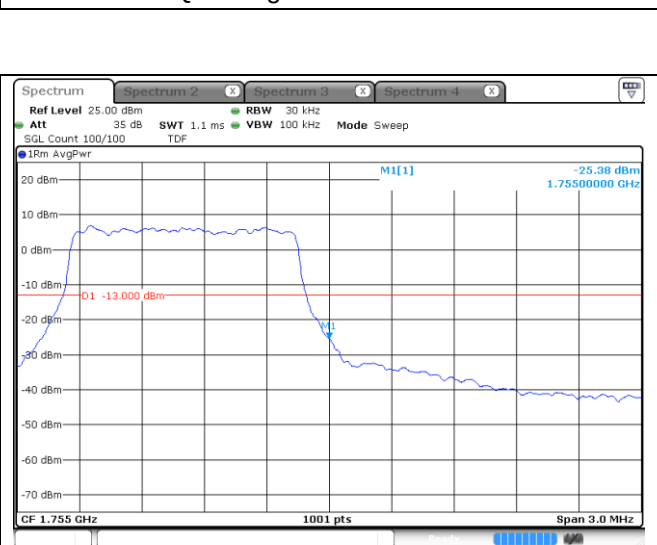
16QAM High Channel - 1 RB



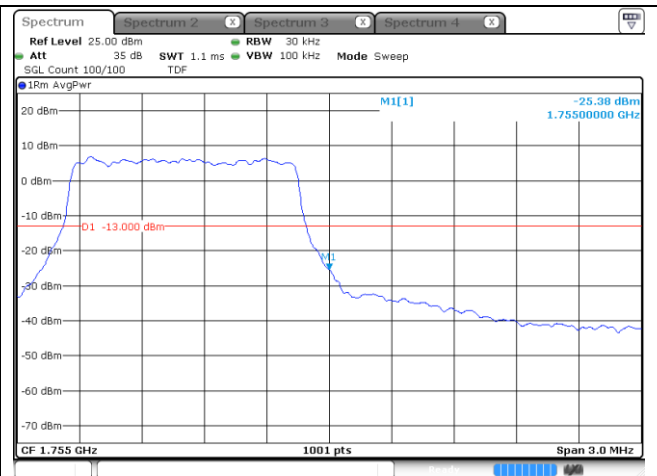
16QAM Low Channel - Full RB



16QAM High Channel - Full RB



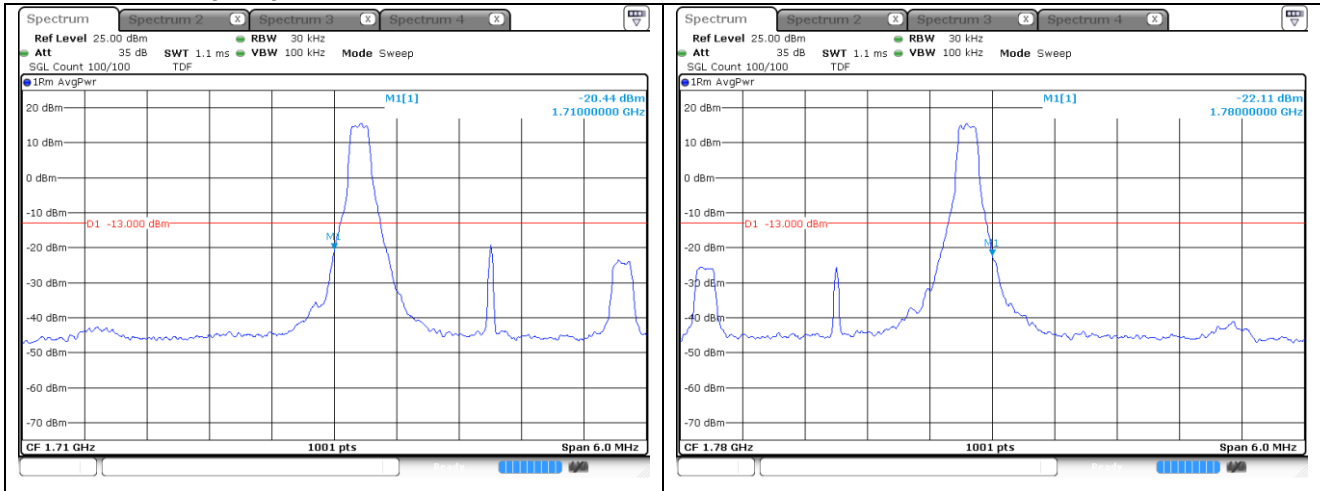
LTE band 4 (1.4 MHz)



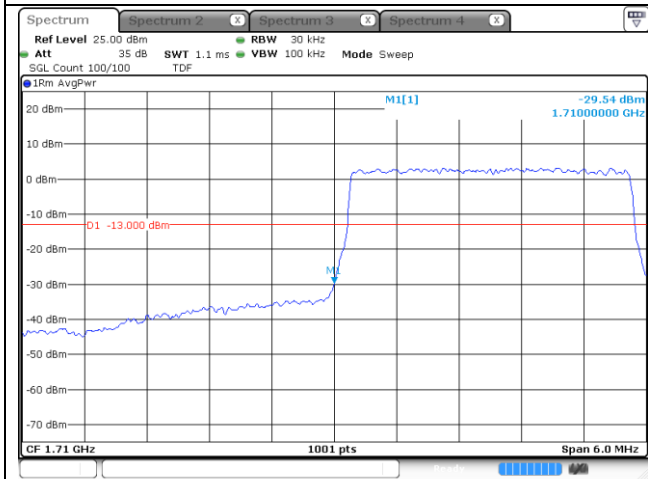
16QAM High Channel - 1 RB

16QAM High Channel - Full RB

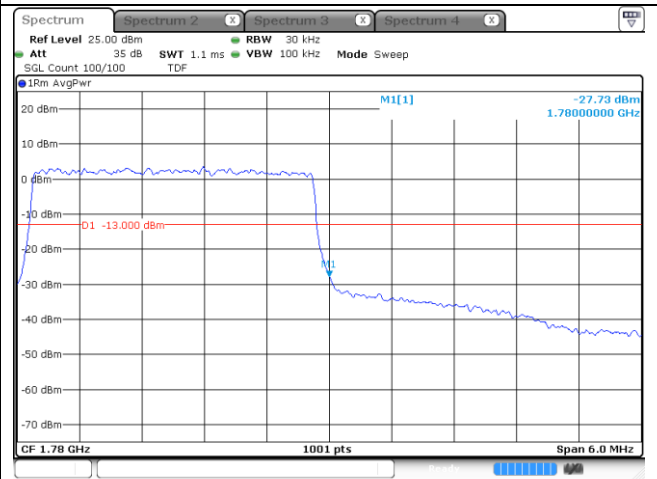
LTE band 66/4 (3 MHz)



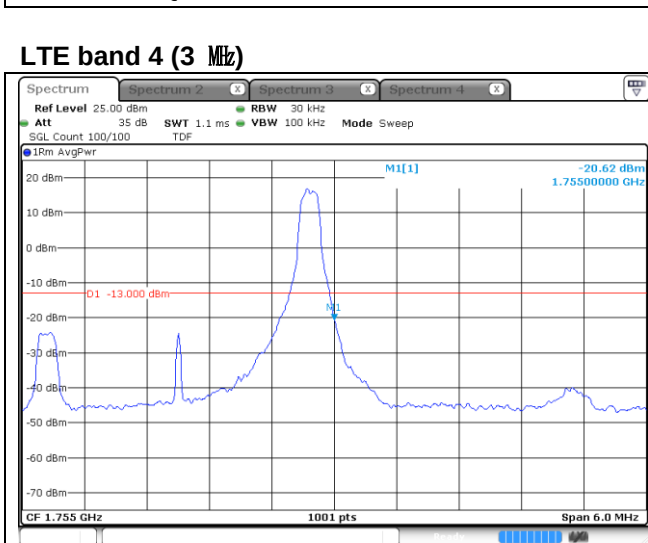
QPSK Low Channel - 1 RB



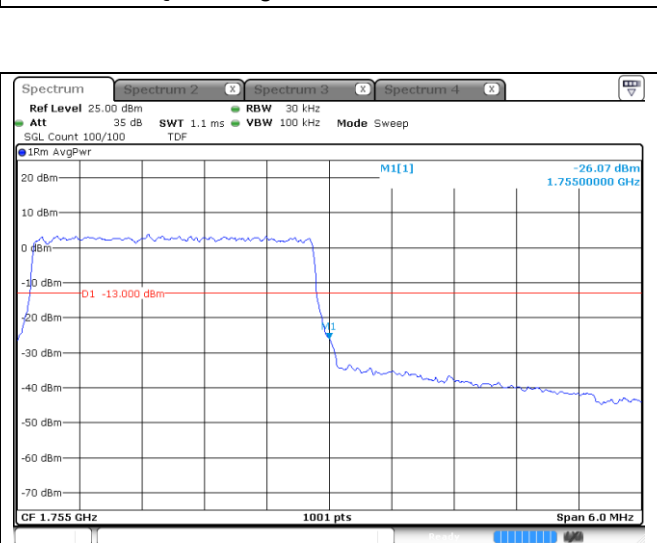
QPSK High Channel - 1 RB



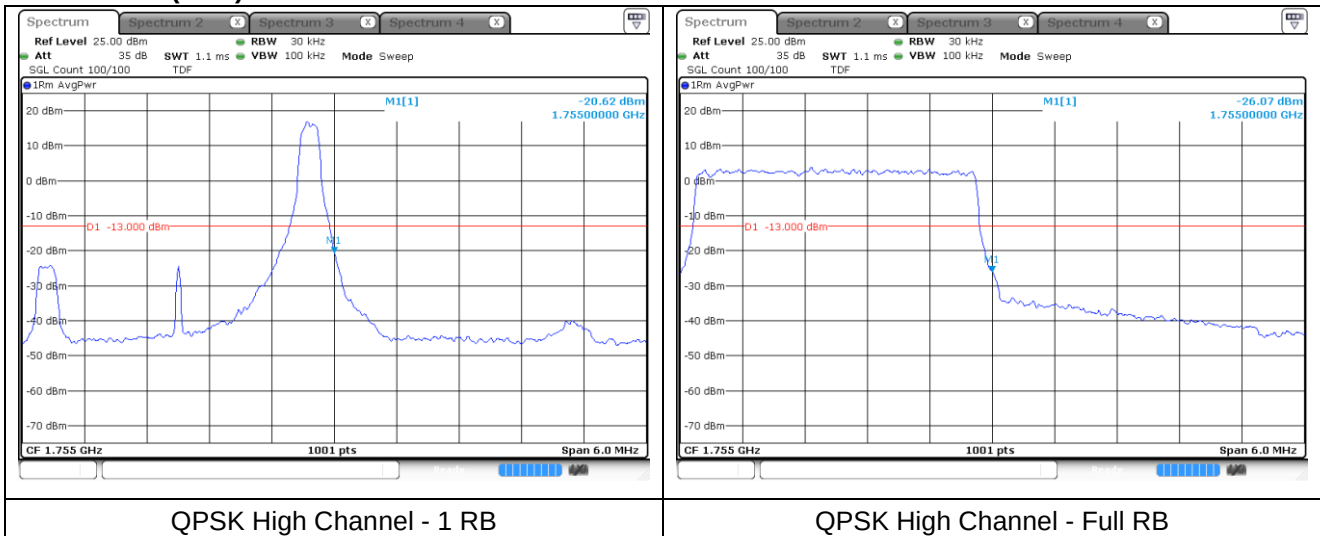
QPSK Low Channel - Full RB



QPSK High Channel - Full RB



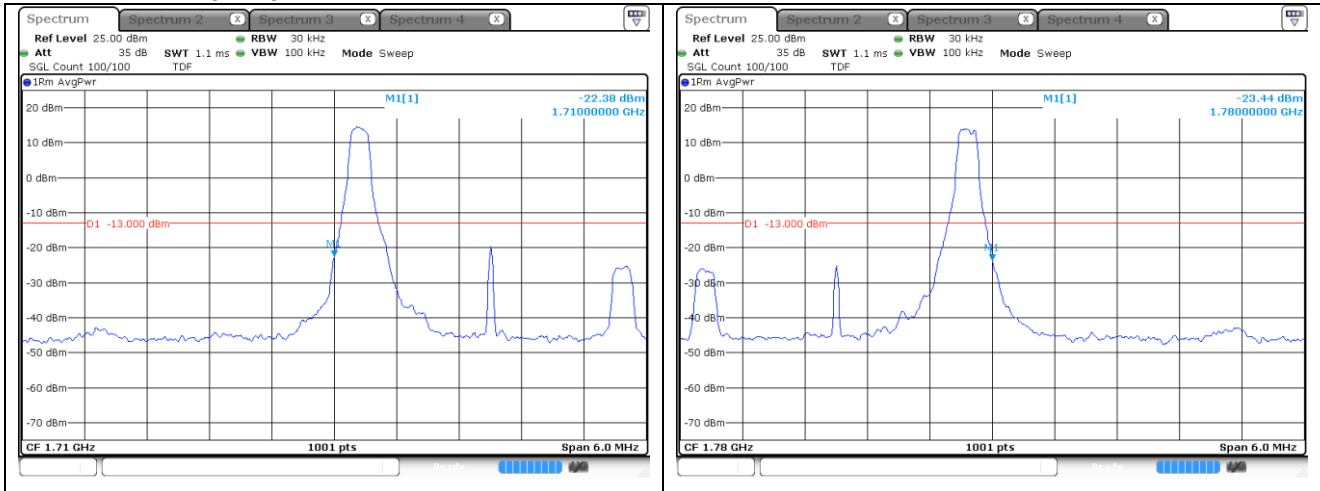
LTE band 4 (3 MHz)



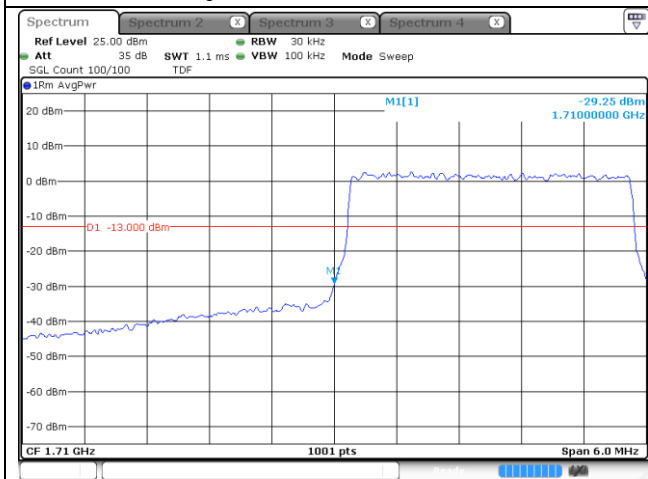
QPSK High Channel - 1 RB

QPSK High Channel - Full RB

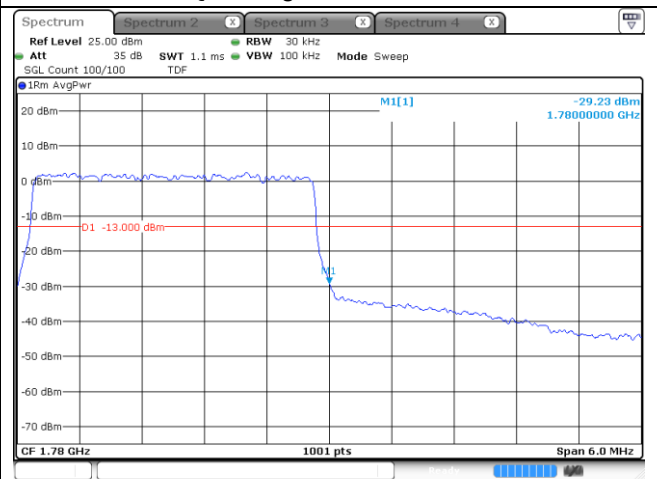
LTE band 66/4 (3 MHz)



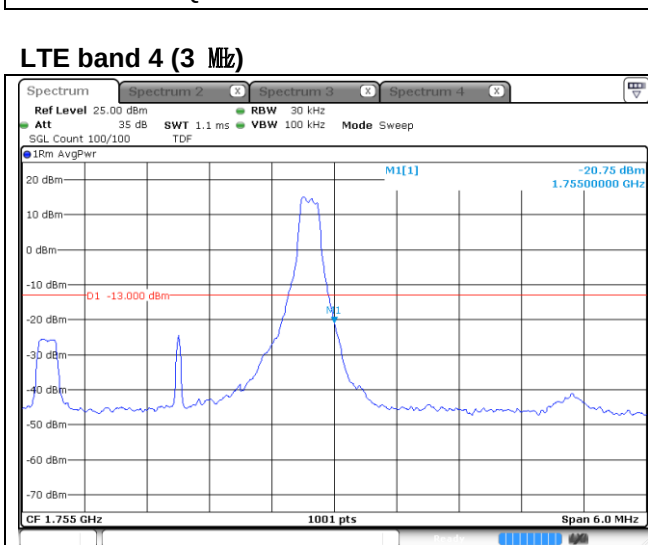
16QAM Low Channel - 1 RB



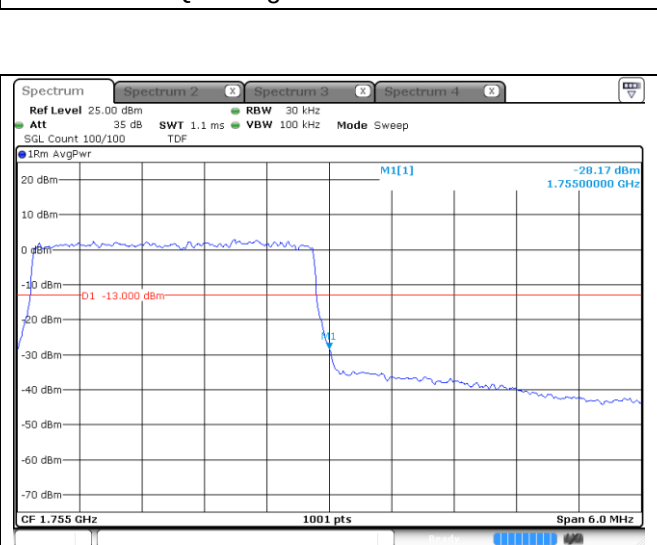
16QAM High Channel - 1 RB



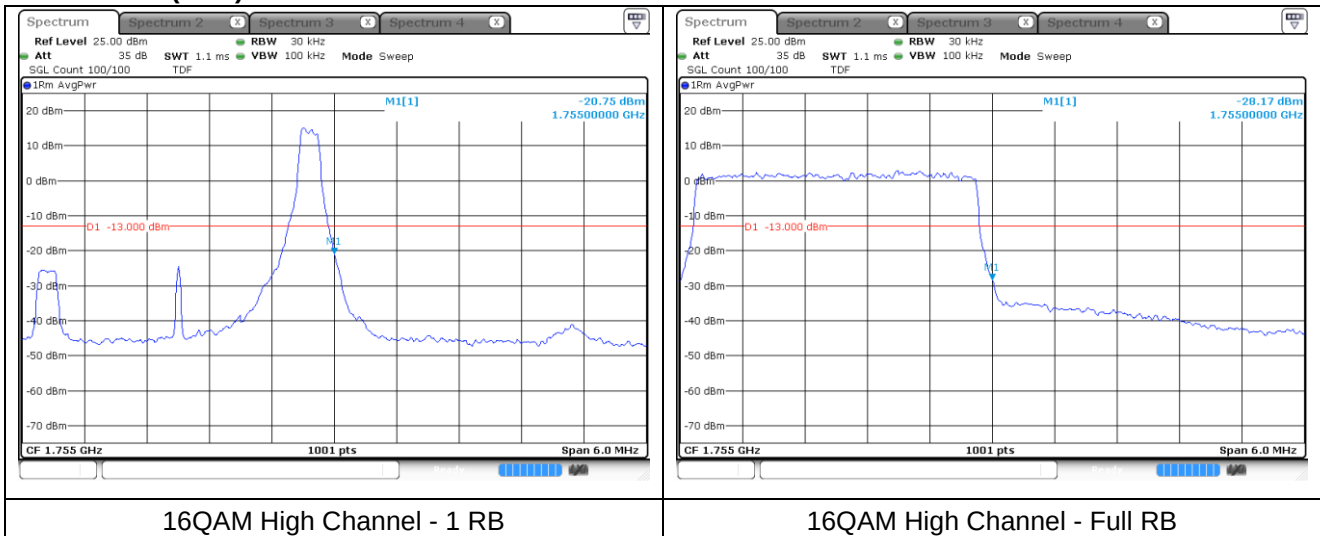
16QAM Low Channel - Full RB



16QAM High Channel - Full RB



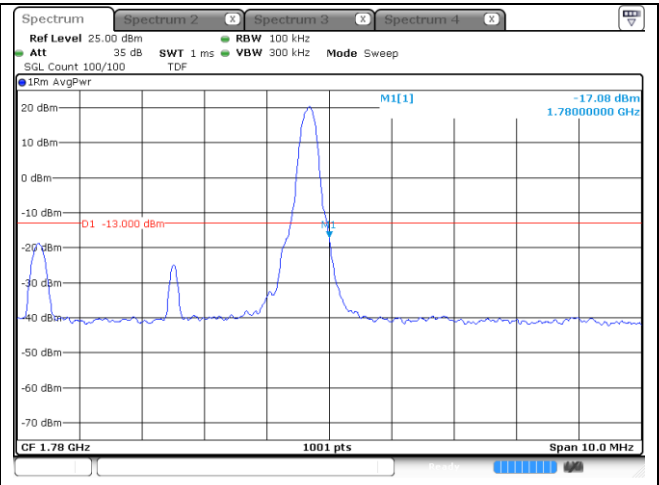
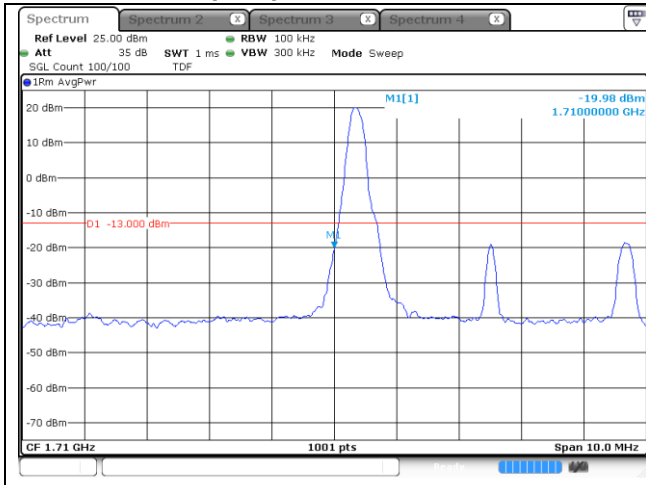
LTE band 4 (3 MHz)



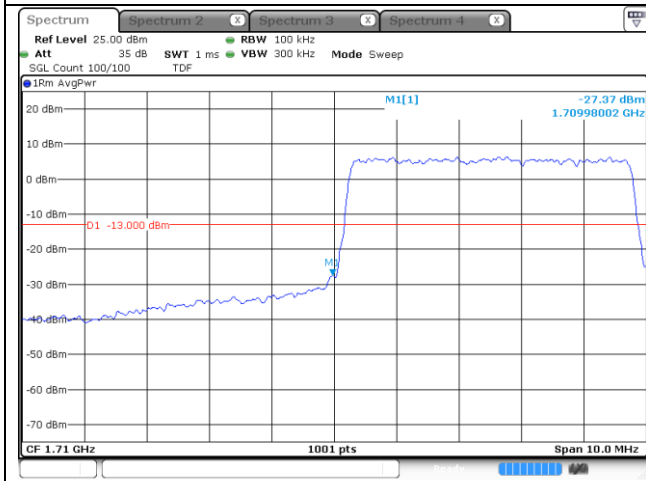
16QAM High Channel - 1 RB

16QAM High Channel - Full RB

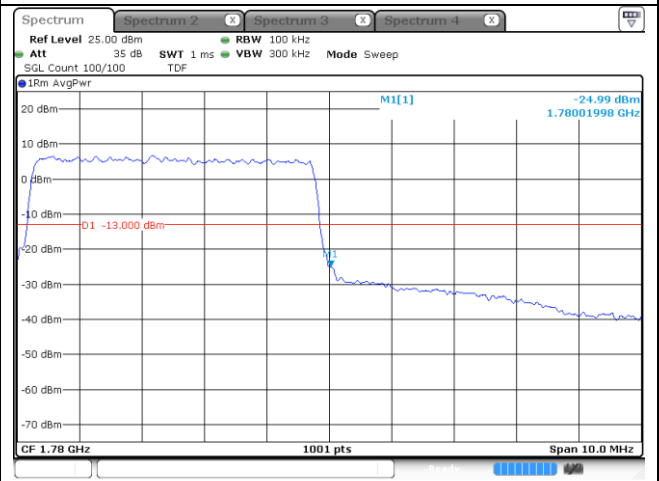
LTE band 66/4 (5 MHz)



QPSK Low Channel - 1 RB



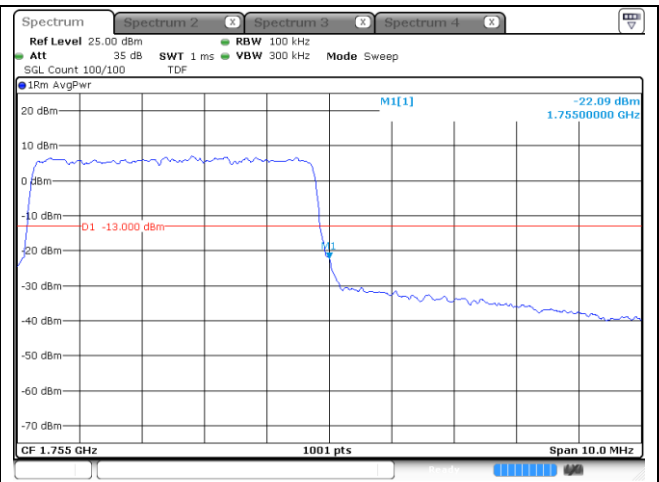
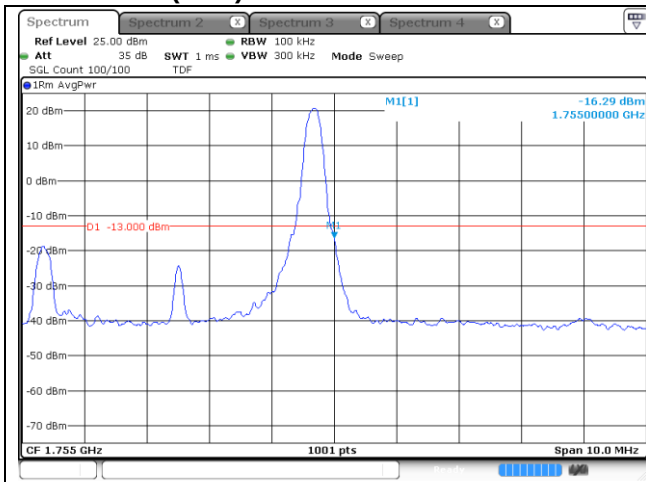
QPSK High Channel - 1 RB



QPSK Low Channel - Full RB

QPSK High Channel - Full RB

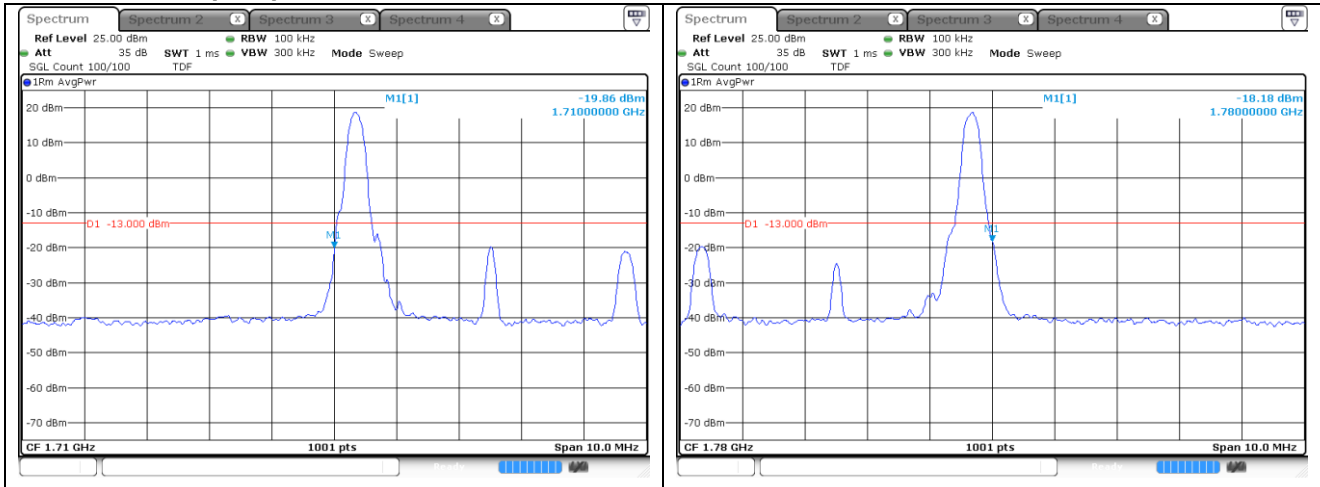
LTE band 4 (5 MHz)



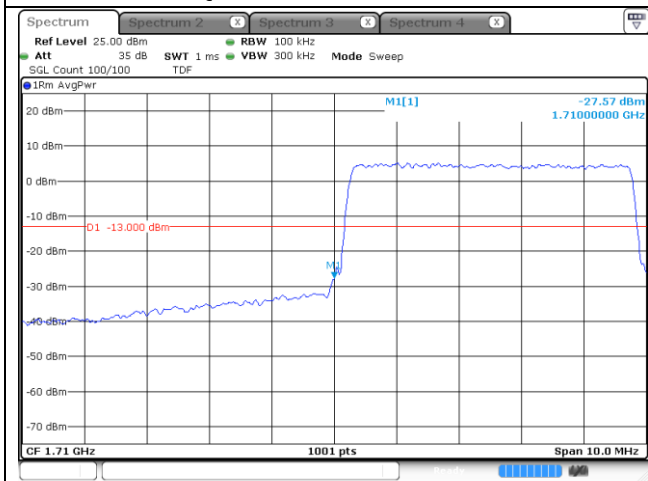
QPSK High Channel - 1 RB

QPSK High Channel - Full RB

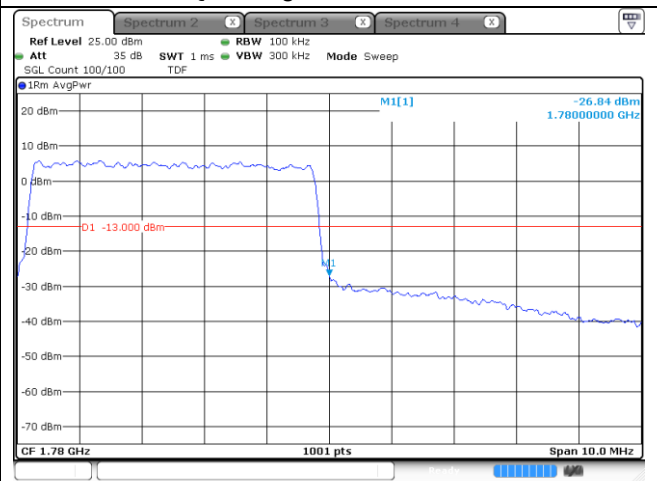
LTE band 66/4 (5 MHz)



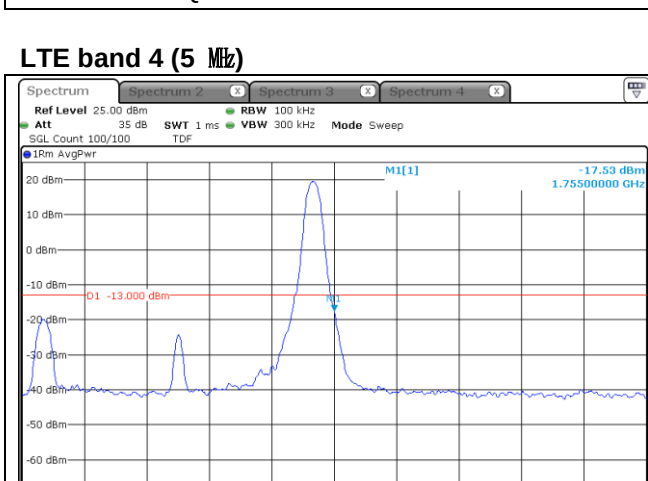
16QAM Low Channel - 1 RB



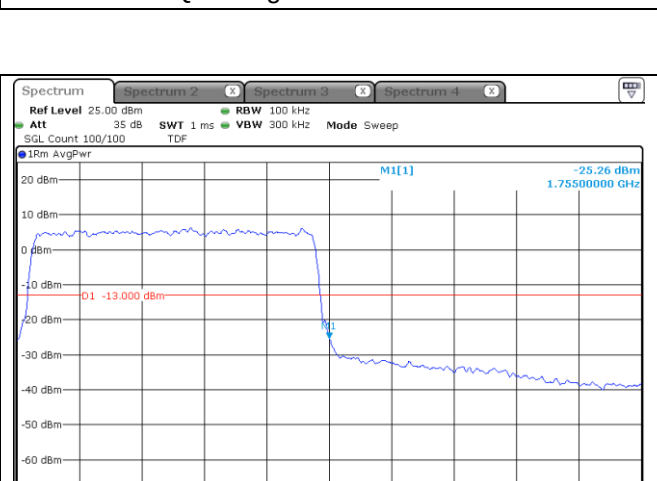
16QAM High Channel - 1 RB



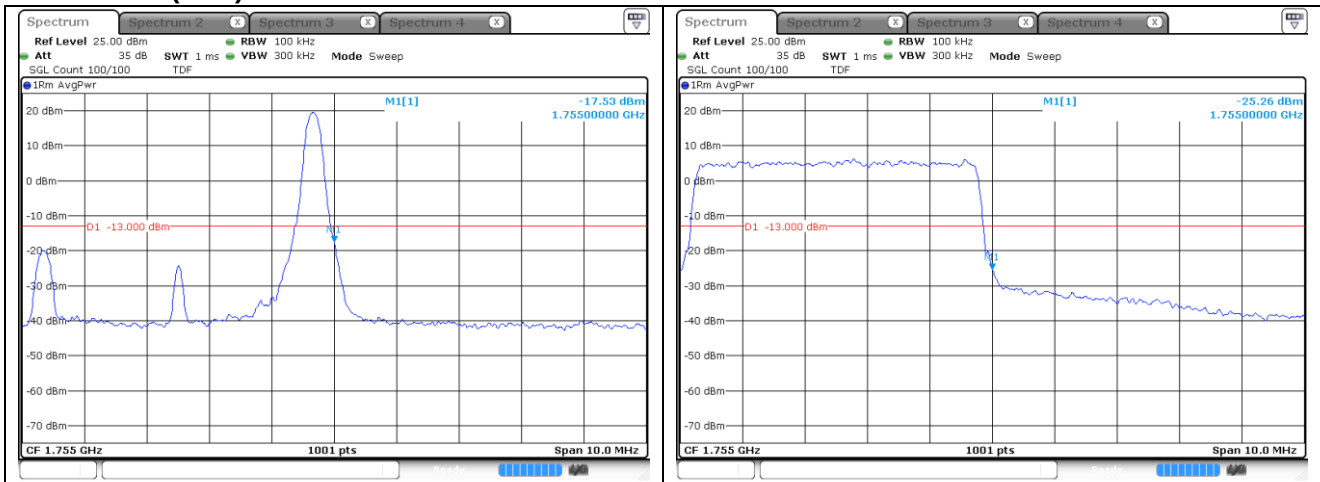
16QAM Low Channel - Full RB



16QAM High Channel - Full RB



LTE band 4 (5 MHz)



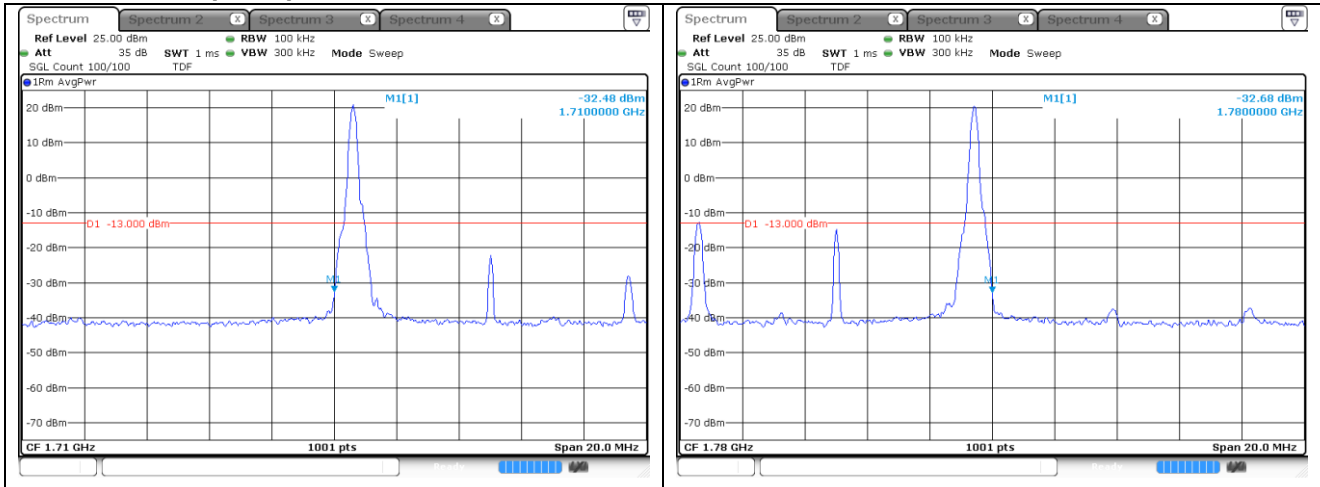
16QAM High Channel - 1 RB



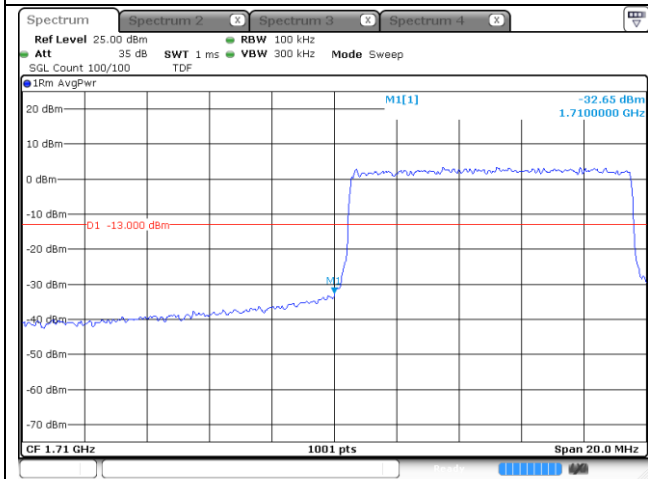
16QAM High Channel - Full RB



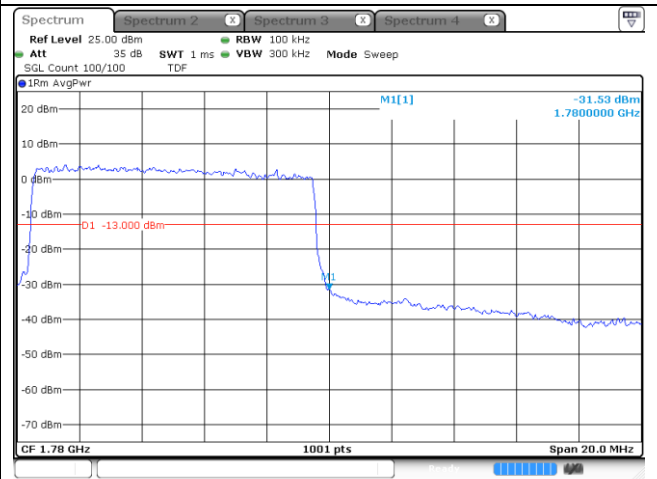
LTE band 66/4 (10 MHz)



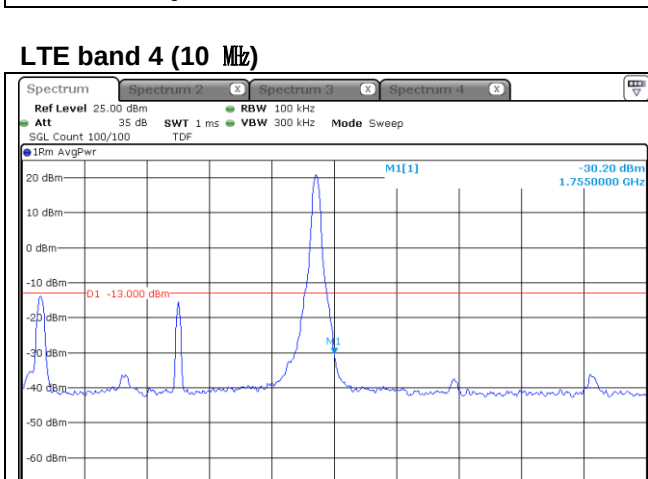
QPSK Low Channel - 1 RB



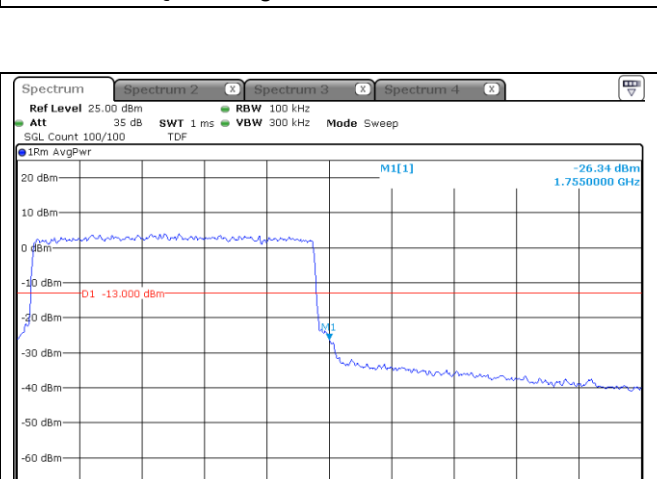
QPSK High Channel - 1 RB



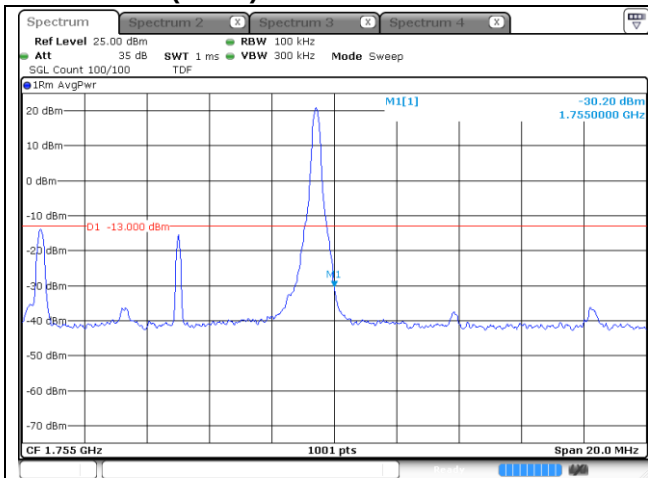
QPSK Low Channel - Full RB



QPSK High Channel - Full RB



LTE band 4 (10 MHz)



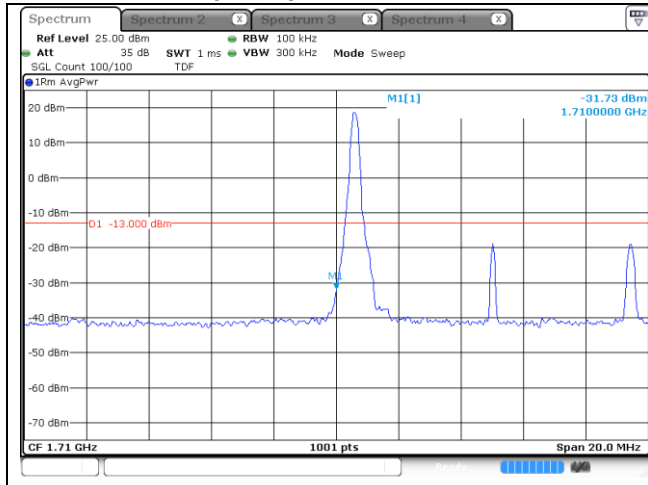
QPSK High Channel - 1 RB



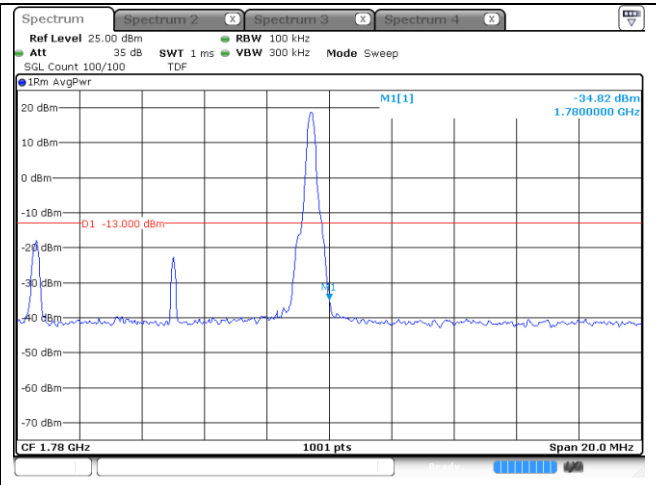
QPSK High Channel - Full RB



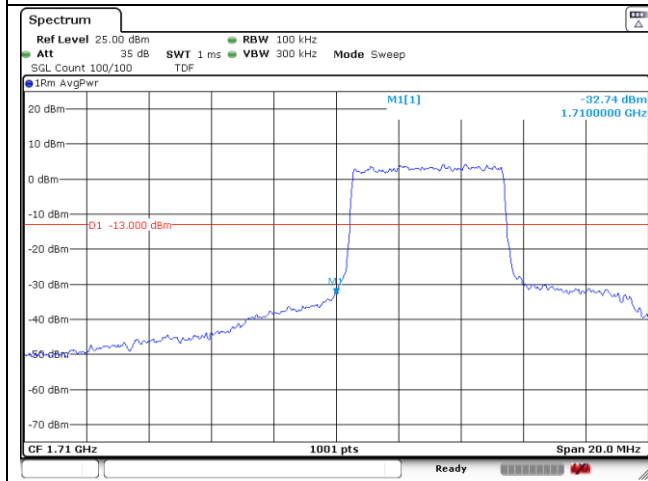
LTE band 66/4 (10 MHz)



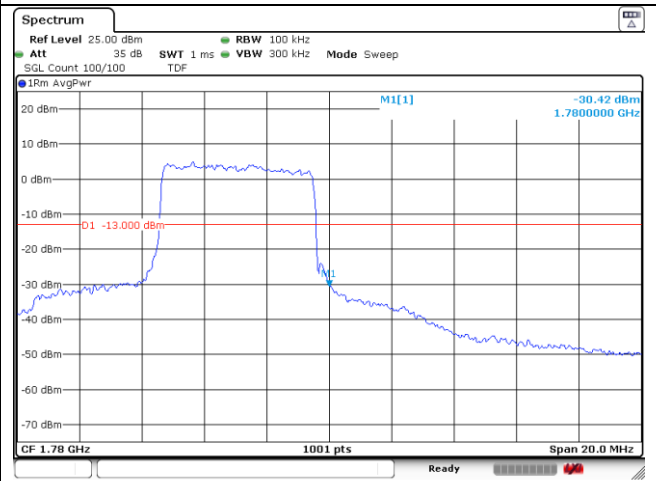
16QAM Low Channel - 1 RB



16QAM High Channel - 1 RB

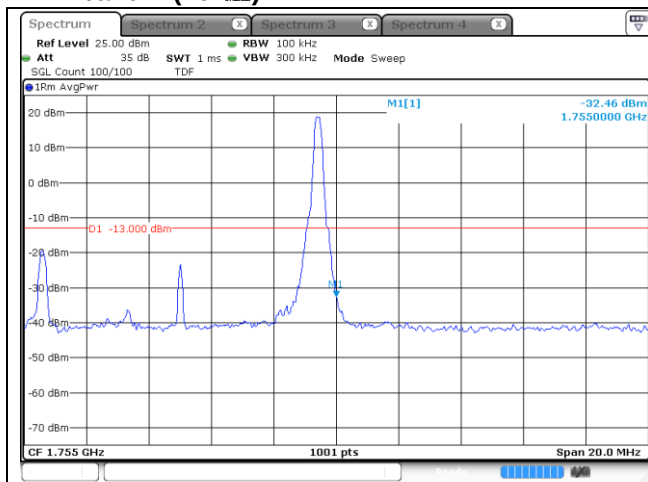


16QAM Low Channel - Full RB



16QAM High Channel - Full RB

LTE band 4 (10 MHz)

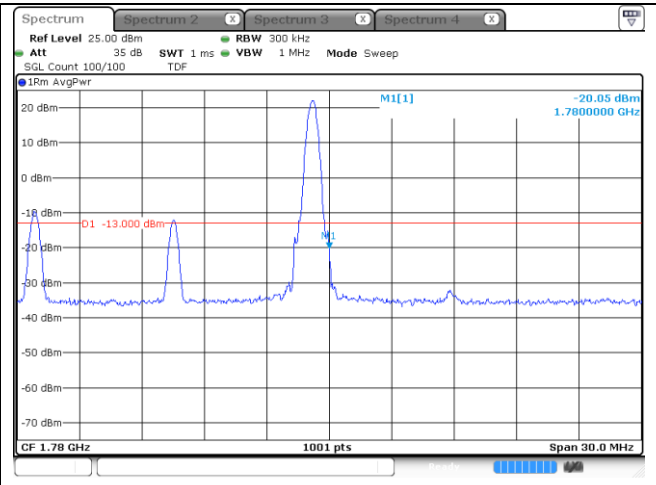
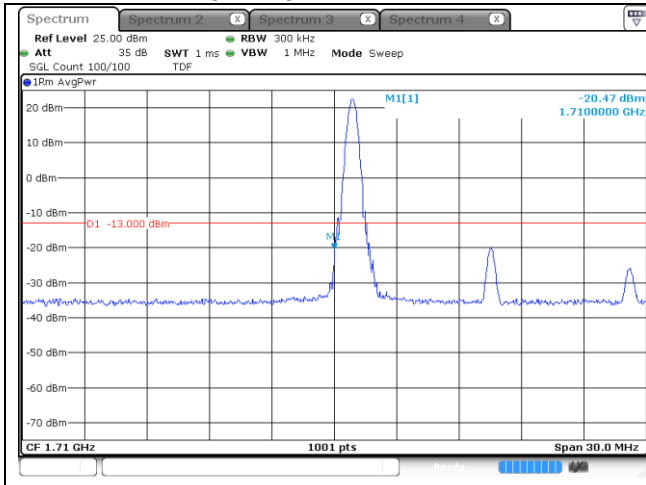


16QAM High Channel - 1 RB

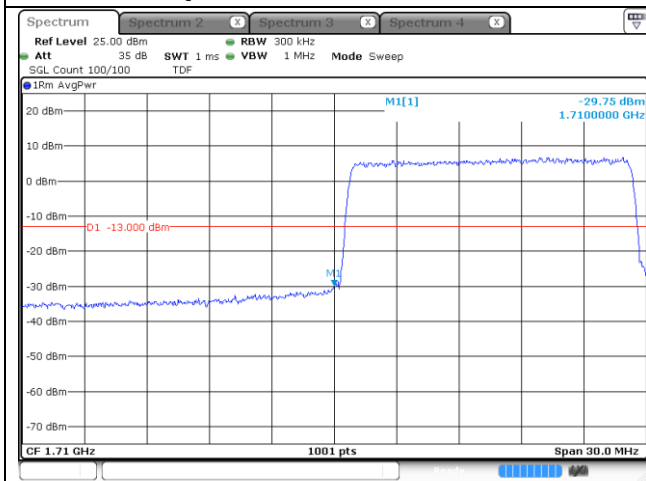


16QAM High Channel - Full RB

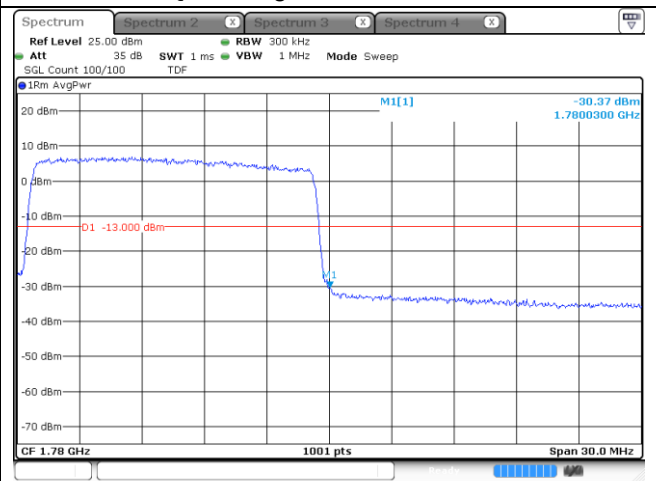
LTE band 66/4 (15 MHz)



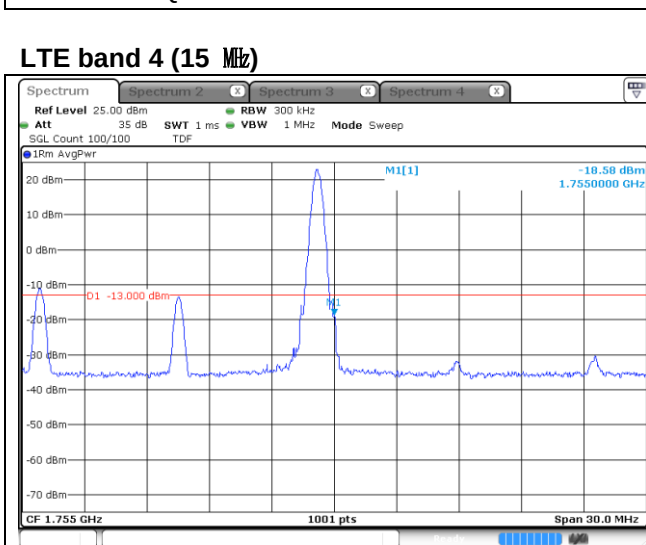
QPSK Low Channel - 1 RB



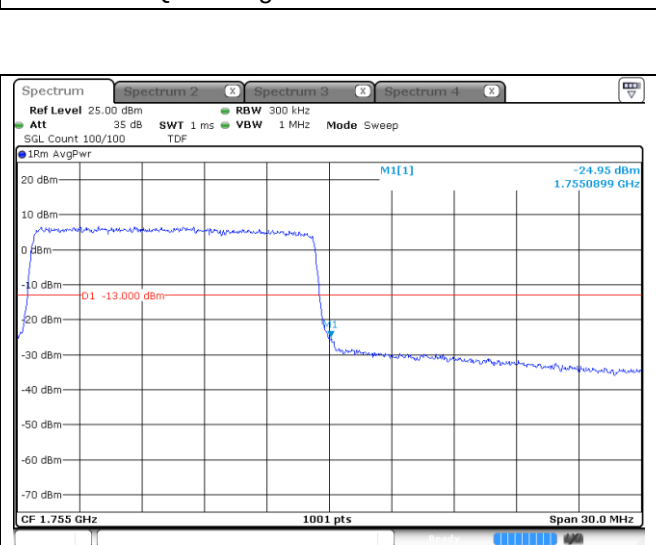
QPSK High Channel - 1 RB



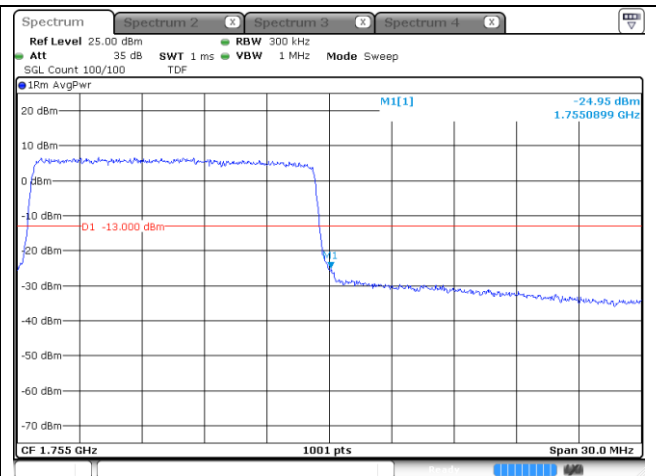
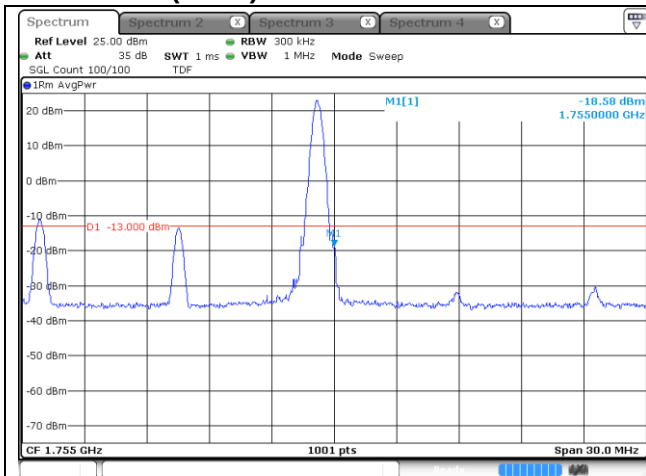
QPSK Low Channel - Full RB



QPSK High Channel - Full RB



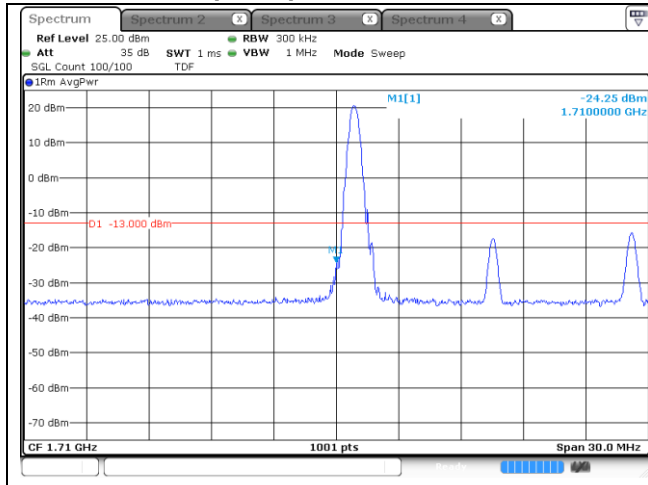
LTE band 4 (15 MHz)



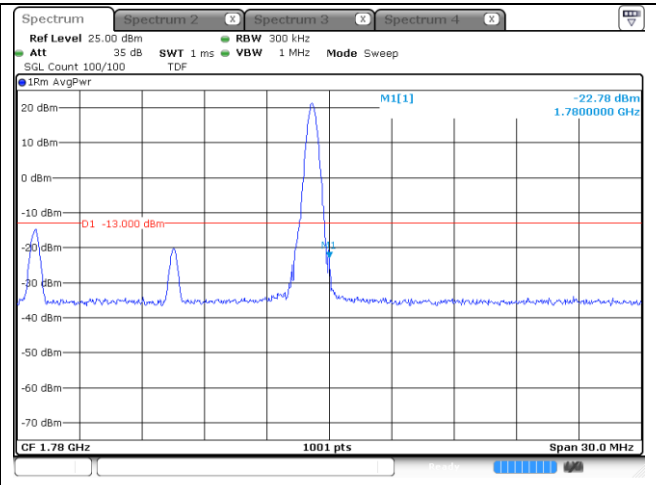
QPSK High Channel - 1 RB

QPSK High Channel - Full RB

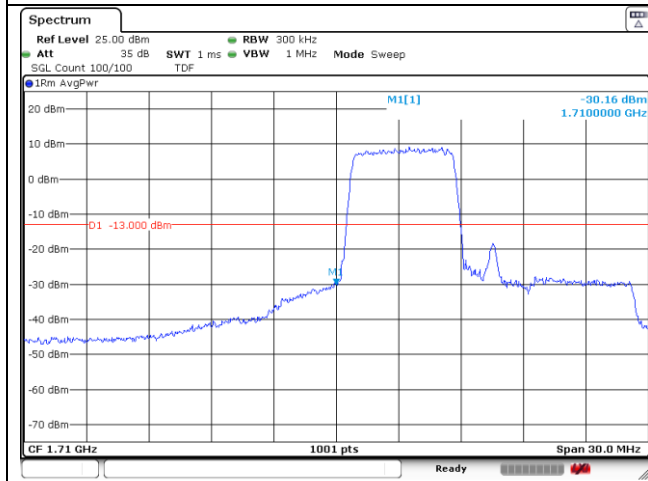
LTE band 66/4 (15 MHz)



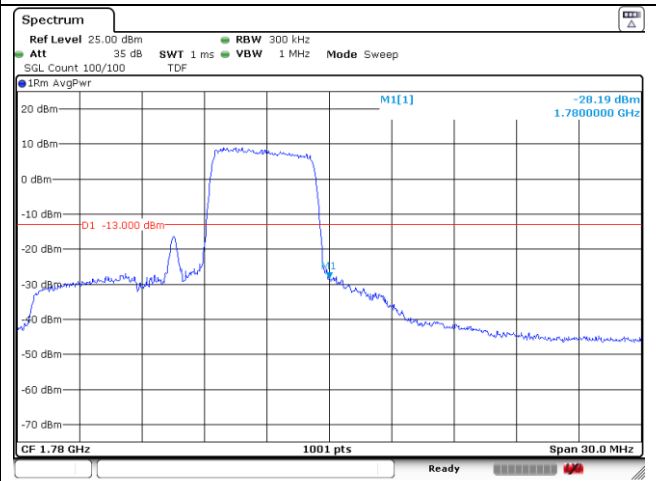
16QAM Low Channel - 1 RB



16QAM High Channel - 1 RB

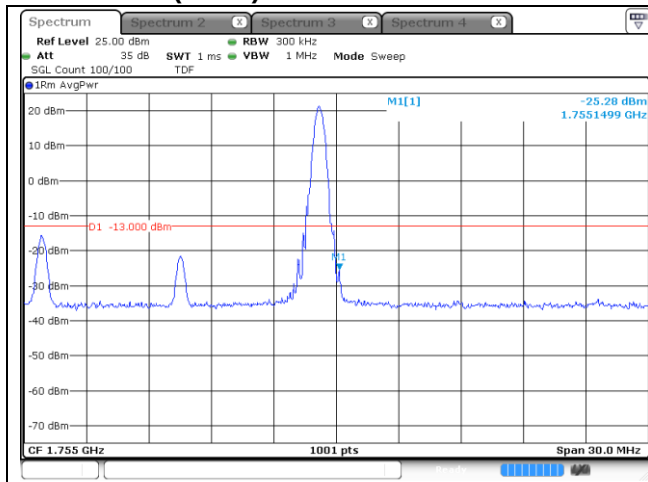


16QAM Low Channel - Full RB

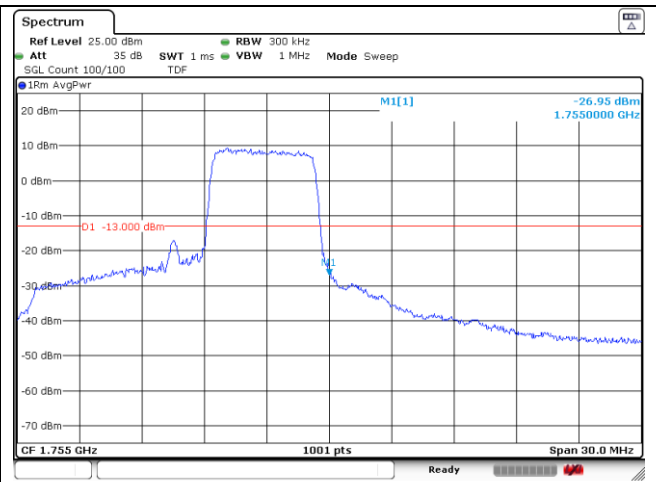


16QAM High Channel - Full RB

LTE band 4 (15 MHz)

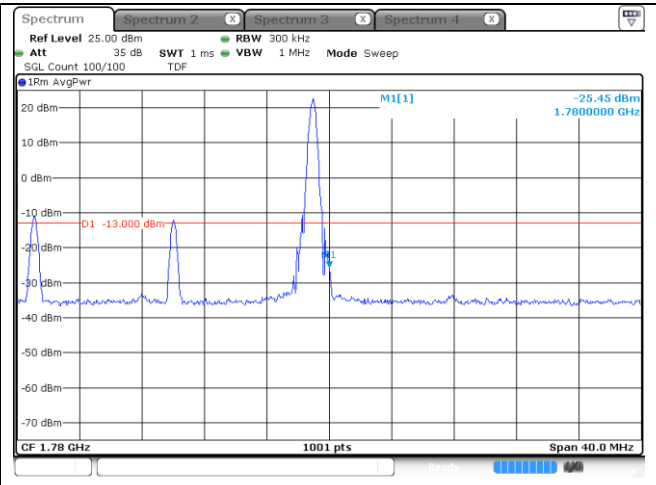
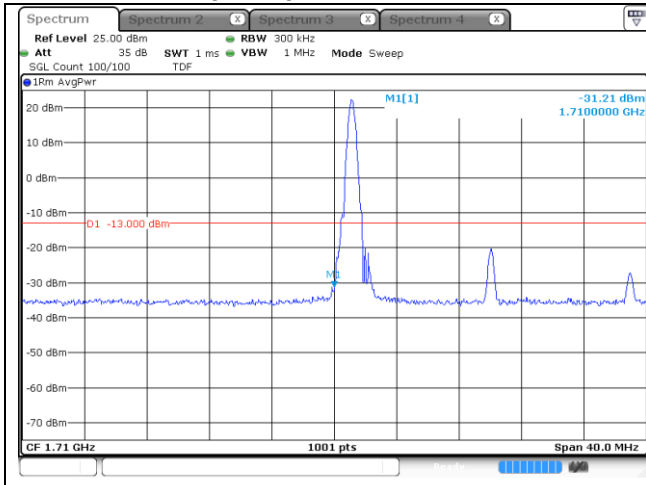


16QAM High Channel - 1 RB

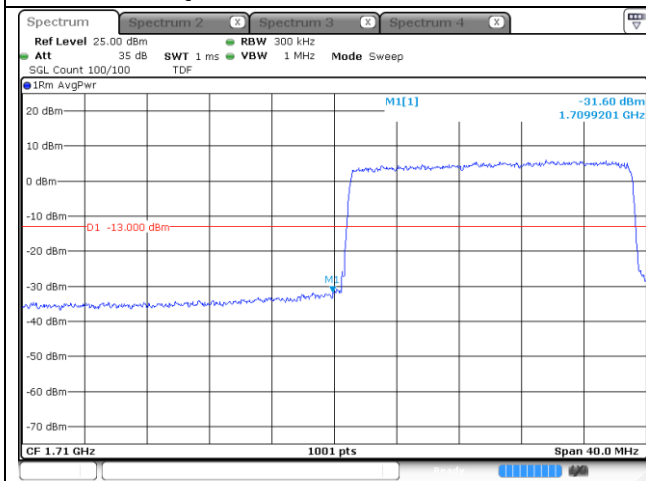


16QAM High Channel - Full RB

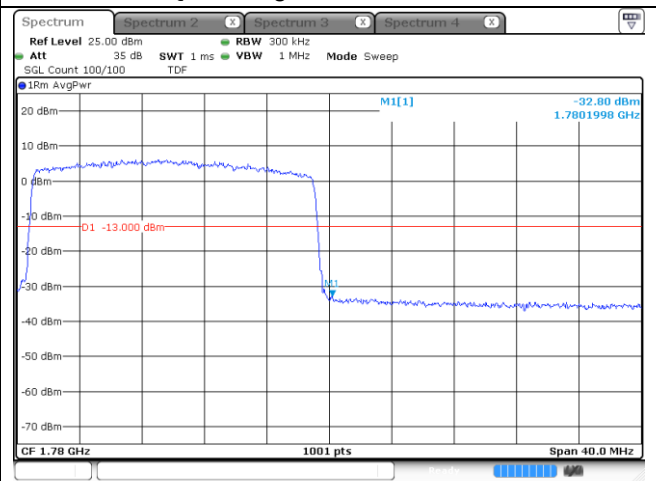
LTE band 66/4 (20 MHz)



QPSK Low Channel - 1 RB



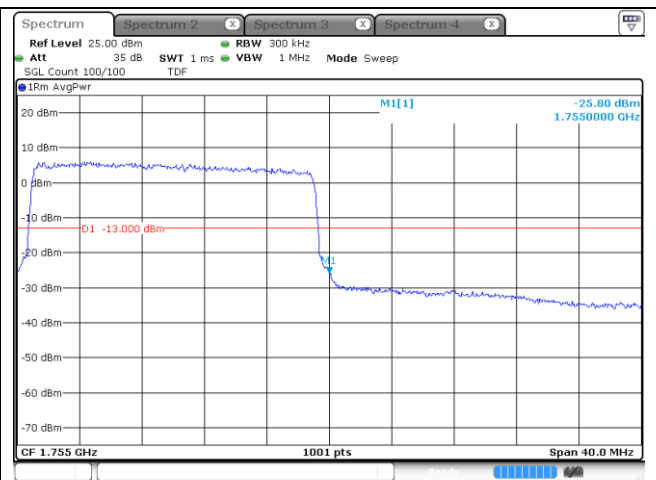
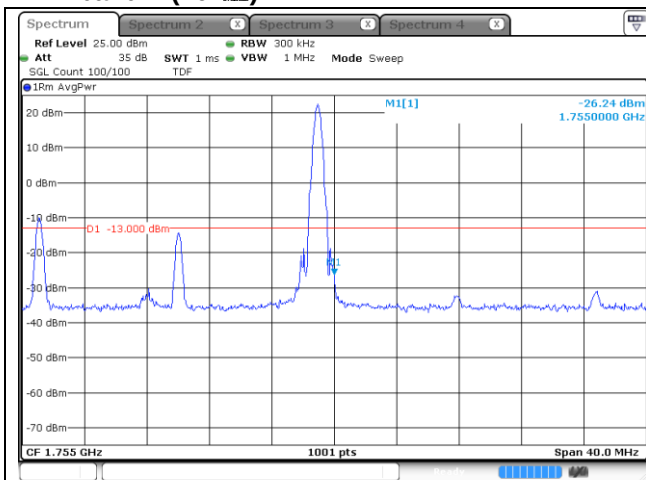
QPSK High Channel - 1 RB



QPSK Low Channel - Full RB

QPSK High Channel - Full RB

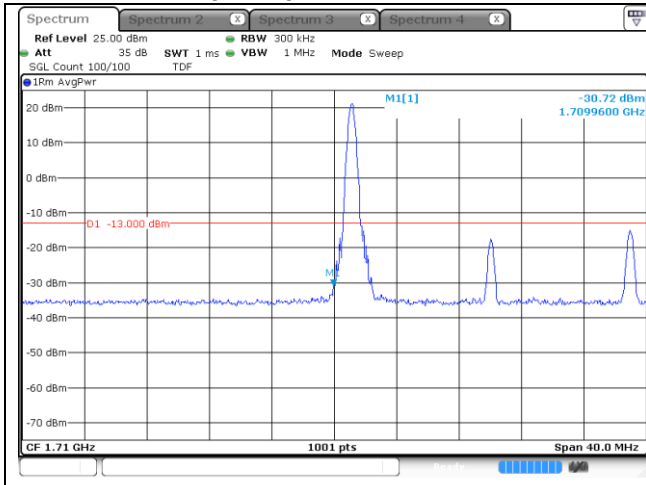
LTE band 4 (20 MHz)



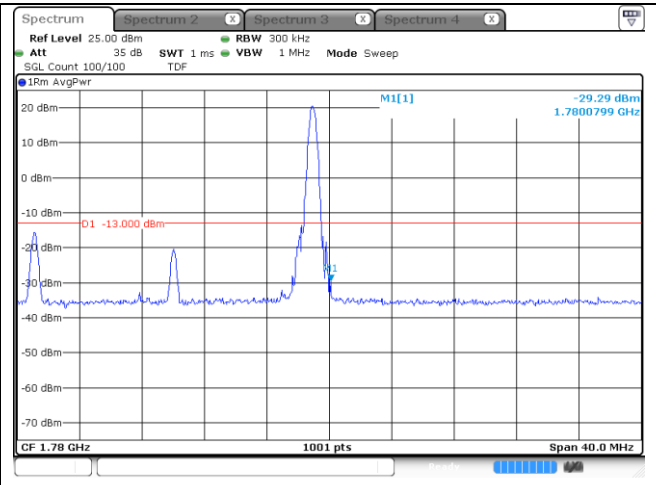
QPSK High Channel - 1 RB

QPSK High Channel - Full RB

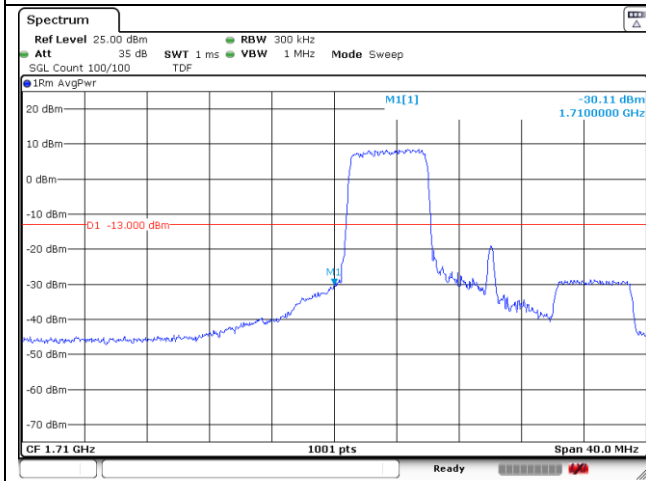
LTE band 66/4 (20 MHz)



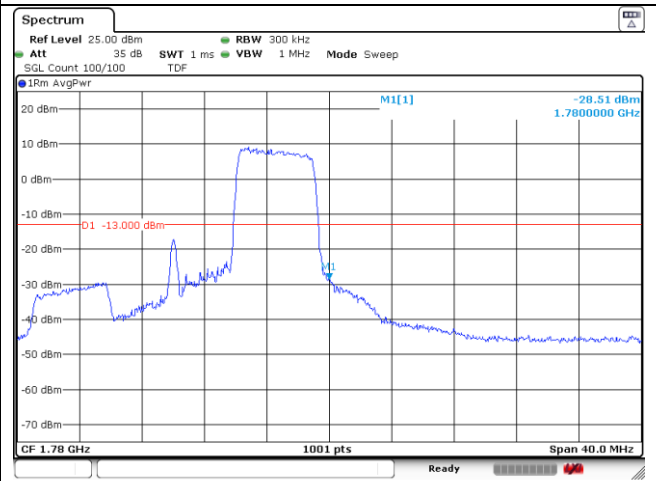
16QAM Low Channel - 1 RB



16QAM High Channel - 1 RB

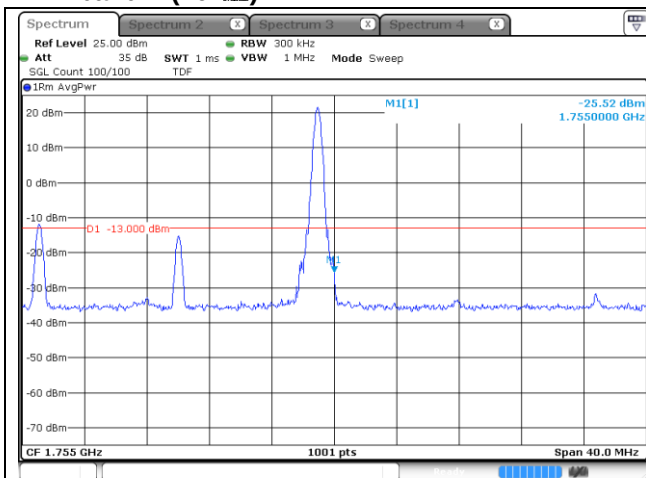


16QAM Low Channel - Full RB

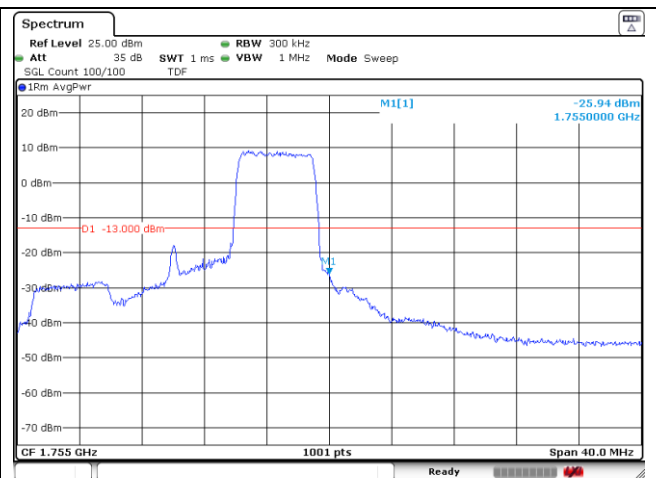


16QAM High Channel - Full RB

LTE band 4 (20 MHz)



16QAM High Channel - 1 RB



16QAM High Channel - Full RB

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.

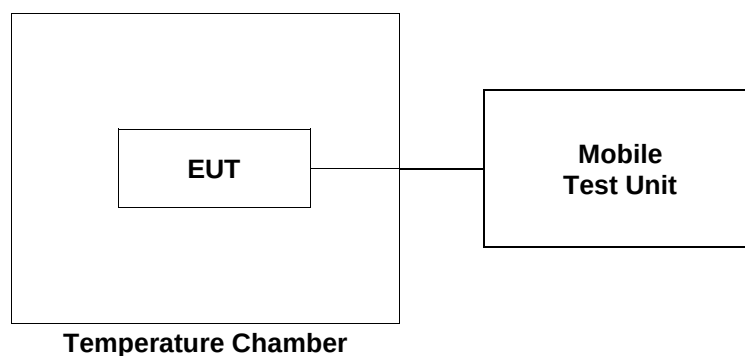
- §27.54, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

- §90.213(a), 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 2 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	5	-2.79	-0.001 45
40		-2.35	-0.001 21
30		-1.33	-0.000 67
20(Ref.)		-0.07	-
10		2.12	0.001 16
0		-2.39	-0.001 23
-10		2.12	0.001 16
-20		1.60	0.000 89
-30		-2.83	-0.001 47
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	4.25 (85%)	2.89	0.001 57
	5.75 (115%)	1.17	0.000 66

LTE band 12 at middle channel

Reference Frequency: 707.5 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	5	0.37	0.001 71
40		-0.47	0.000 52
30		-1.20	-0.000 51
20(Ref.)		-0.84	-
10		0.04	0.001 24
0		1.42	0.003 19
-10		-1.46	-0.000 88
-20		0.50	0.001 89
-30		-0.44	0.000 57
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	4.25 (85%)	1.47	0.003 27
	5.75 (115%)	0.92	0.002 49

LTE band 13 at middle channel

Reference Frequency: 782 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	5	1.62	0.003 06
40		0.16	0.001 19
30		0.70	0.001 88
20(Ref.)		-0.77	-
10		0.14	0.001 16
0		-0.30	0.000 60
-10		-0.34	0.000 55
-20		-0.60	0.000 22
-30		-0.43	0.000 43
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	4.25 (85%)	2.75	0.004 50
	5.75 (115%)	0.19	0.001 23

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	5	-3.91	-0.006 07
40		-1.20	-0.002 83
30		-2.35	-0.004 21
20(Ref.)		1.17	-
10		-0.50	-0.002 00
0		0.24	-0.001 11
-10		-1.86	-0.003 62
-20		-1.16	-0.002 79
-30		0.21	-0.001 15
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	4.25 (85%)	1.30	0.000 16
	5.75 (115%)	-0.38	-0.001 85

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	5	-2.05	-0.003 65
40		-0.10	-0.001 27
30		-1.00	-0.002 37
20(Ref.)		0.94	-
10		-0.70	-0.002 00
0		-0.07	-0.001 23
-10		-1.17	-0.002 58
-20		0.04	-0.001 10
-30		0.14	-0.000 98
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	4.25 (85%)	1.14	0.000 24
	5.75 (115%)	1.25	0.000 38

LTE band 66/4 at middle channel

Reference Frequency: 1 745.0 MHz			
Frequency Stability versus Temperature			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
50	5	-1.33	-0.000 13
40		-1.87	-0.000 44
30		-0.70	0.000 23
20(Ref.)		-1.10	-
10		1.17	0.001 30
0		2.00	0.001 78
-10		0.83	0.001 11
-20		-0.96	0.000 08
-30		-2.29	-0.000 68
Frequency Stability versus Power Supply			
Environment Temperature (°C)	Power Supplied (V)	Frequency Measure with Time Elapse	
		Frequency Error (Hz)	ppm
20	4.25 (85%)	0.72	0.001 04
	5.75 (115%)	1.31	0.001 38

- End of the Test Report -