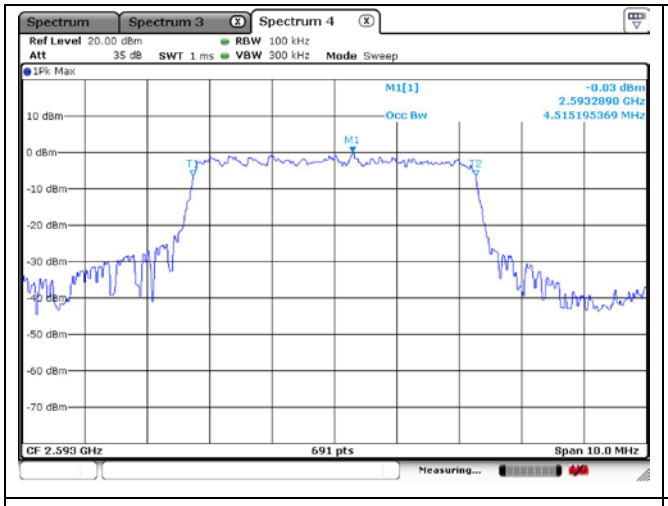
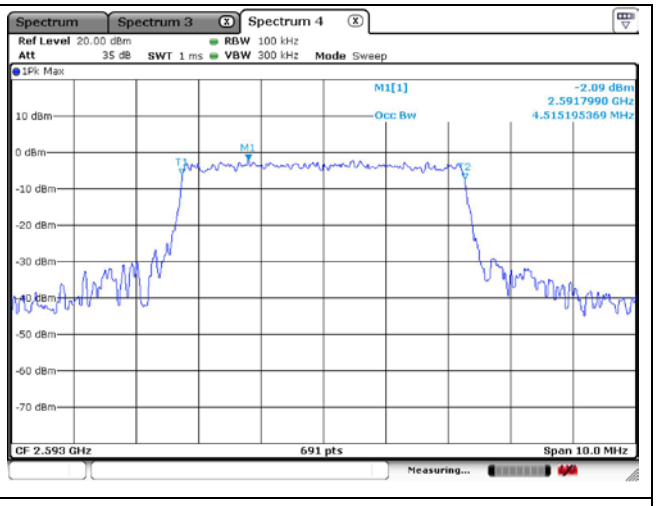
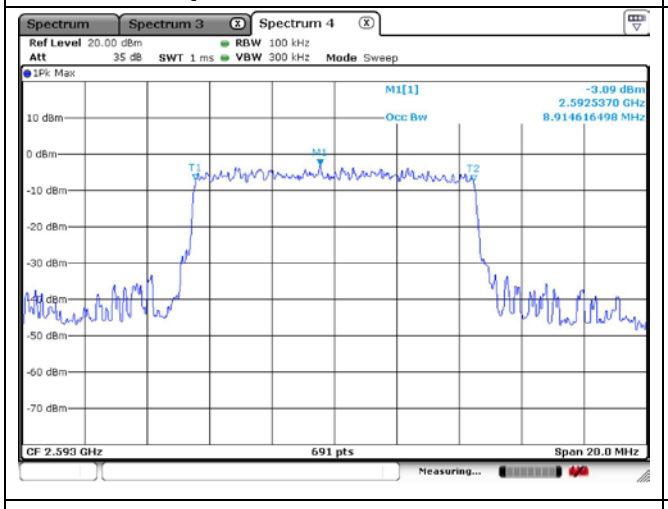
LTE band 41



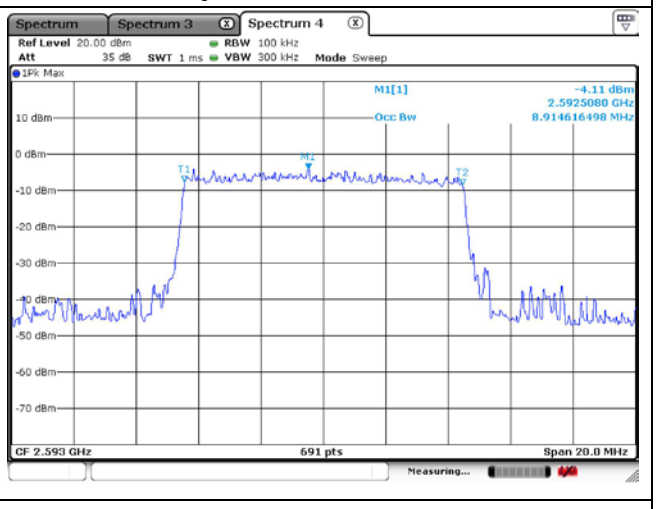
5 ㎒ QPSK Middle Channel - Full RB



5 ㎒ 16QAM Middle Channel - Full RB

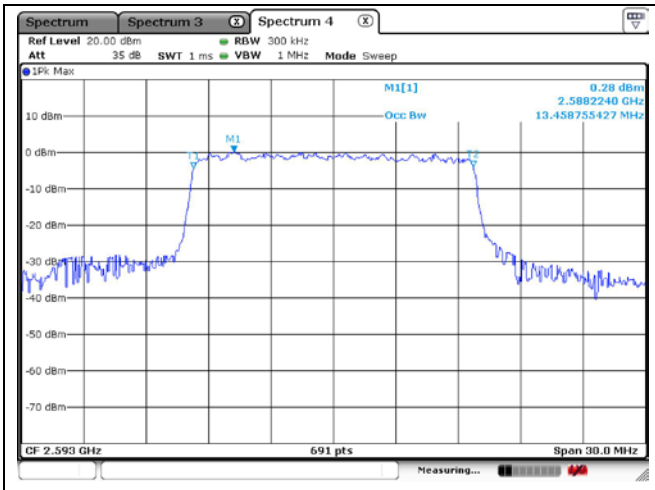


10 ㎒ QPSK Middle Channel - Full RB

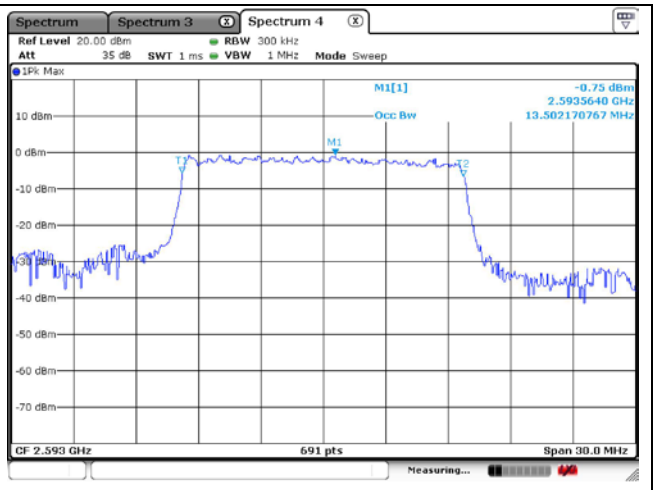


10 ㎒ 16QAM Middle Channel - Full RB

LTE band 41



15 ㎒ QPSK Middle Channel - Full RB



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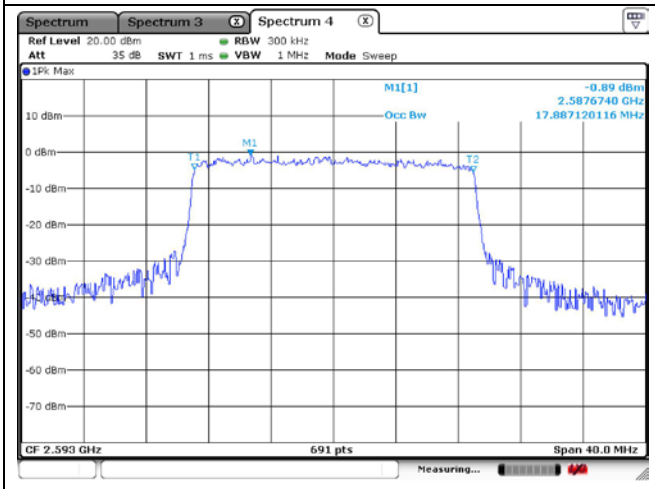

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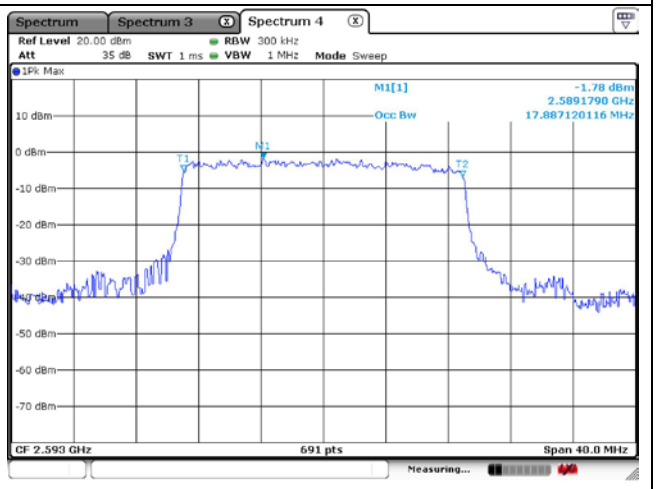
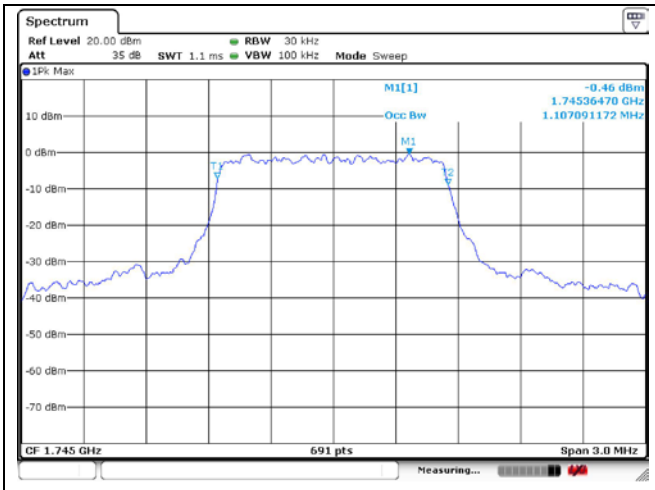
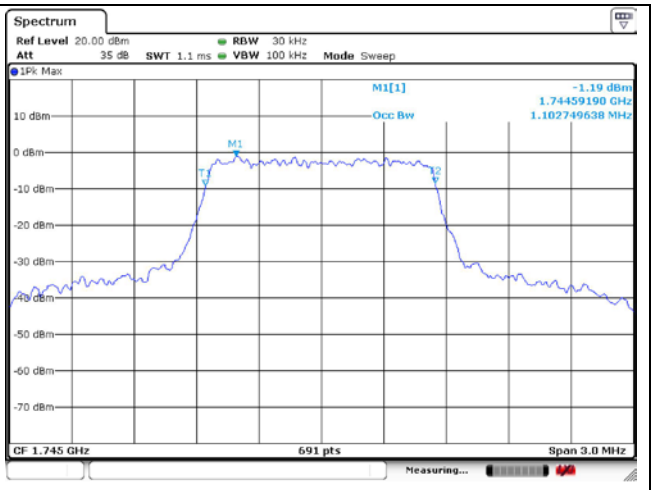


20 ㎒ 16QAM Middle Channel - Full RB

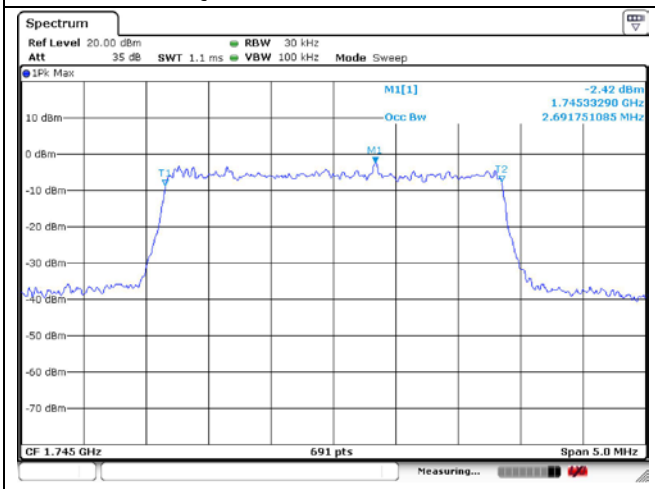
LTE band 66/4



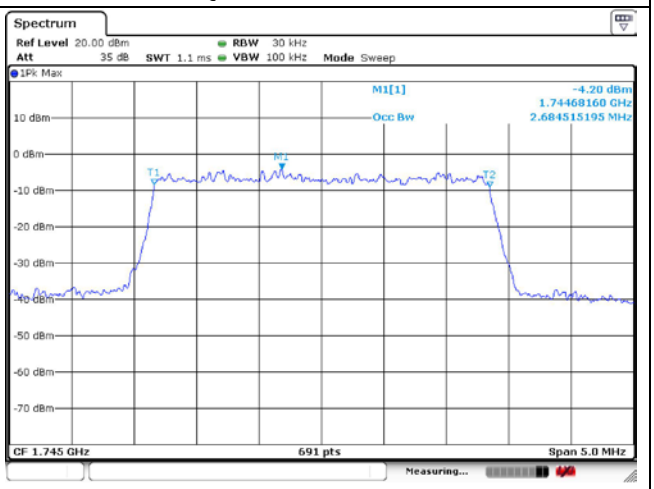
1.4 ㎒ QPSK Middle Channel - Full RB



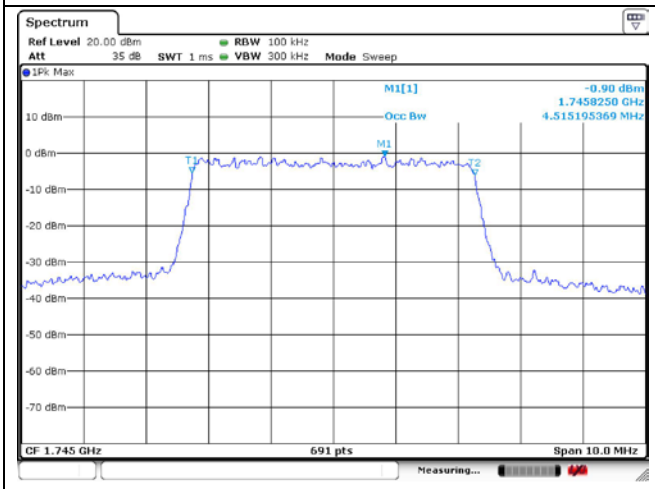
1.4 ㎒ 16QAM Middle Channel - Full RB



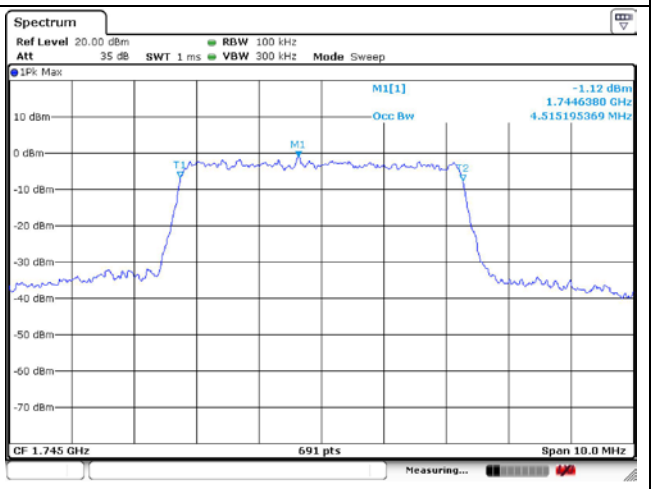
3 ㎒ QPSK Middle Channel - Full RB



3 ㎒ 16QAM Middle Channel - Full RB

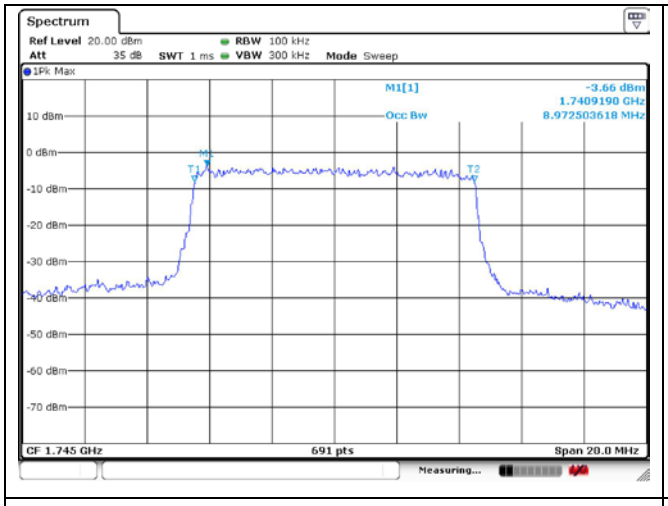


5 ㎒ QPSK Middle Channel - Full RB

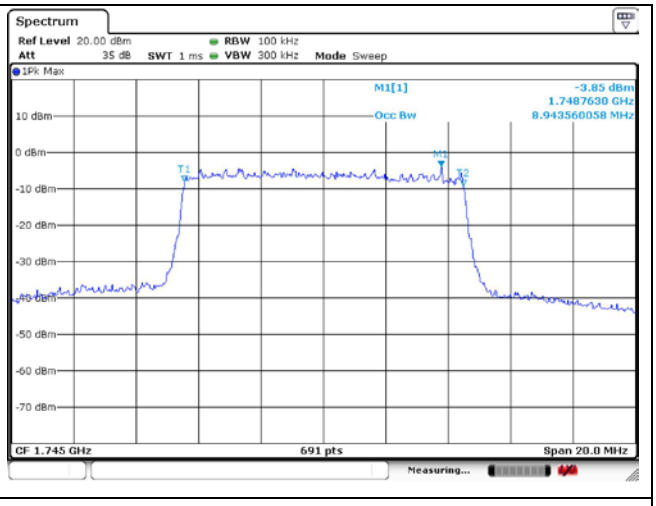


5 ㎒ 16QAM Middle Channel - Full RB

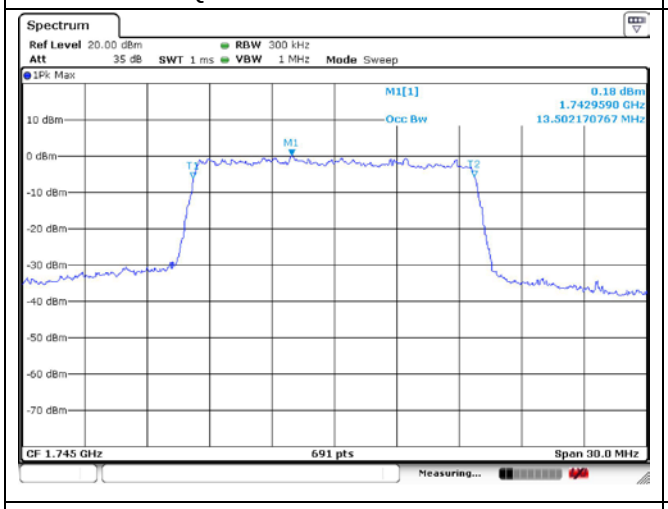
LTE band 66/4



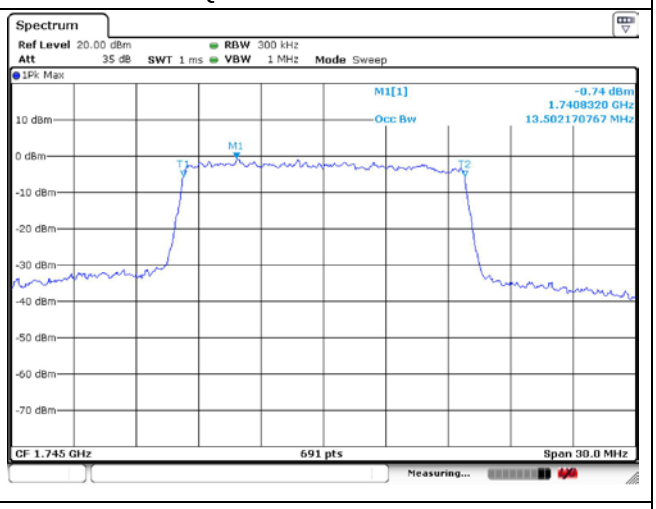
10 ㎒ QPSK Middle Channel - Full RB



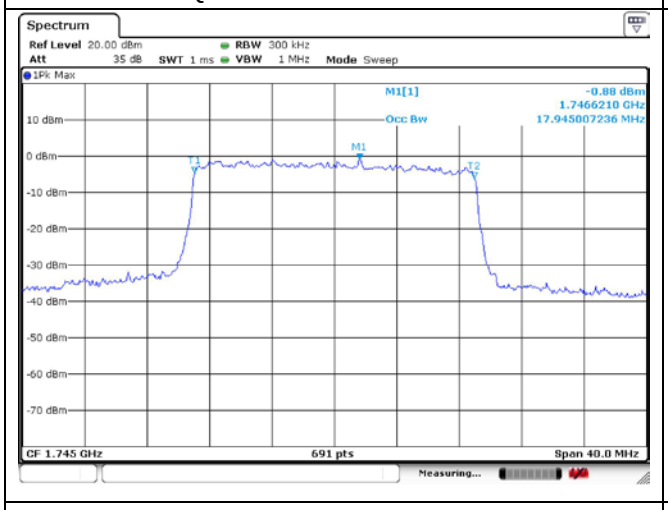
10 ㎒ 16QAM Middle Channel - Full RB



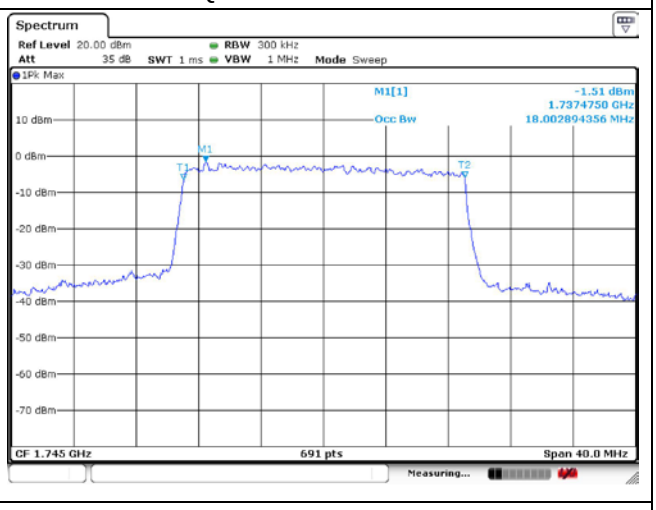
15 ㎒ QPSK Middle Channel - Full RB



15 ㎒ 16QAM Middle Channel - Full RB

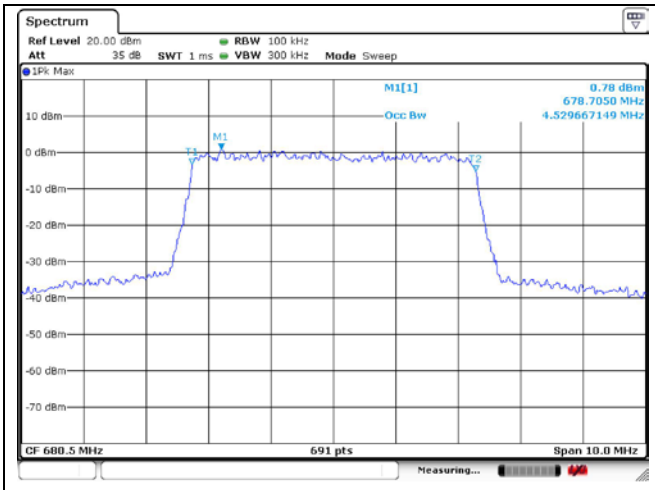


20 ㎒ QPSK Middle Channel - Full RB

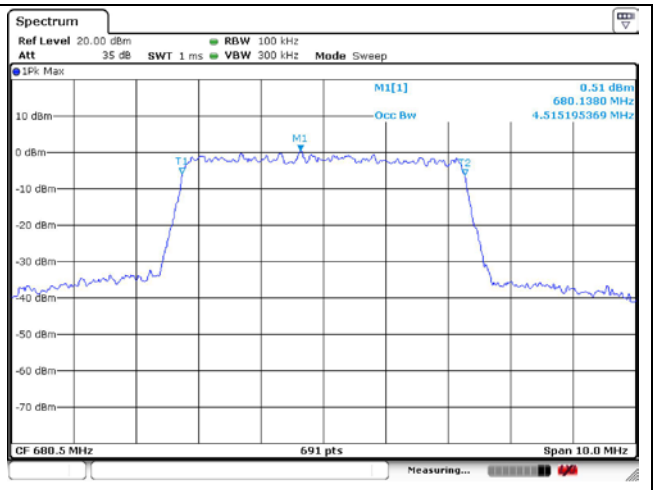


20 ㎒ 16QAM Middle Channel - Full RB

LTE band 71



5 ㎒ QPSK Middle Channel - Full RB



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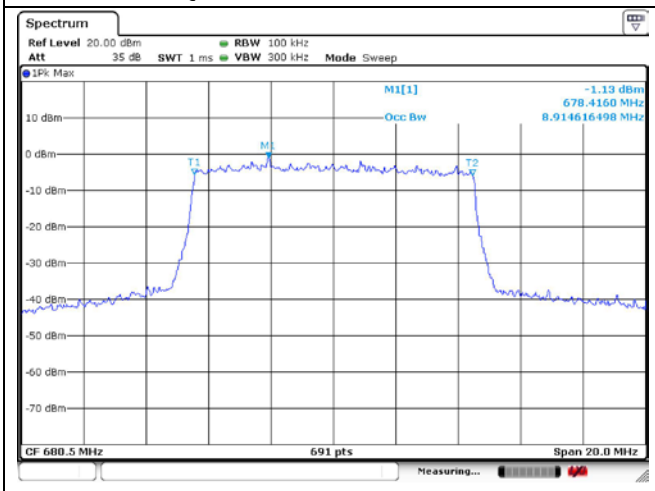

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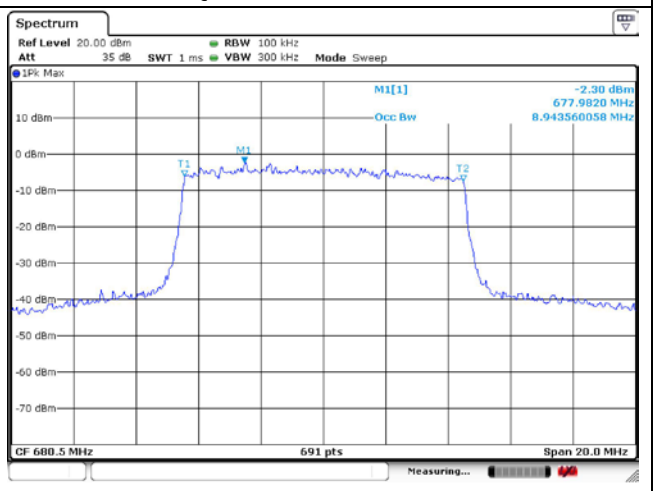
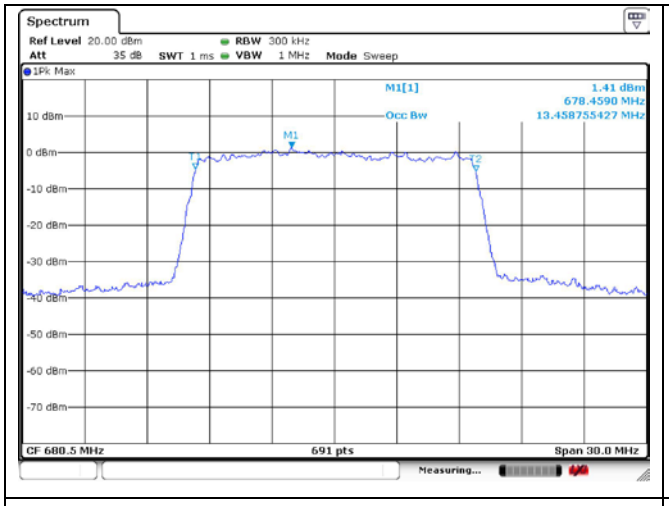
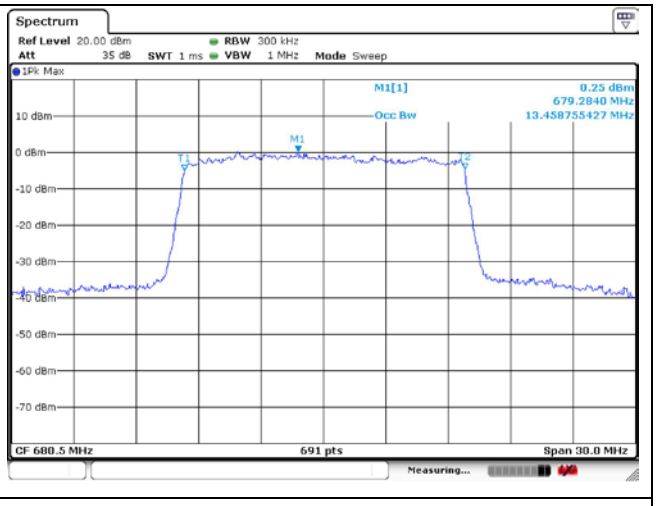


10 ㎒ 16QAM Middle Channel - Full RB

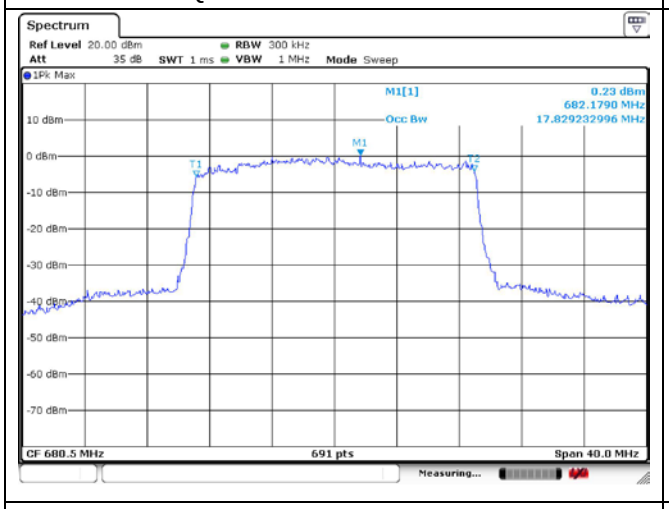
LTE band 71



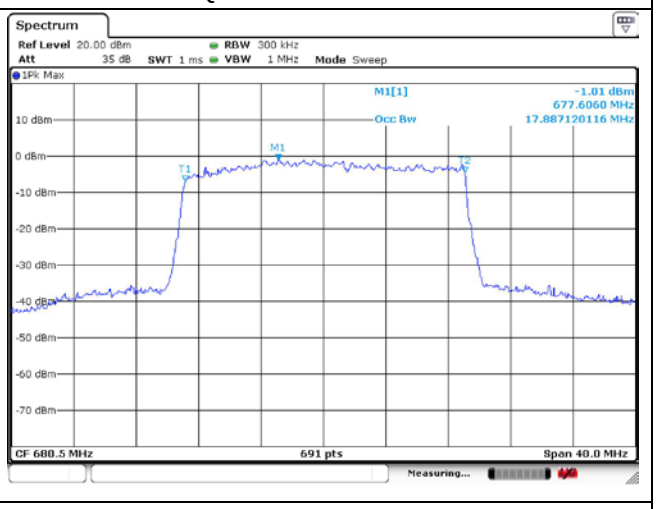
15 ㎒ QPSK Middle Channel - Full RB



15 ㎒ 16QAM Middle Channel - Full RB



20 ㎒ QPSK Middle Channel - Full RB



20 ㎒ 16QAM Middle Channel - Full RB

4. Peak-Average Ratio

4.1. Limit

- §22.913(d), Measurement of the ERP of Cellular base transmitters and repeaters must be made using an average power measurement technique. The peak-to-average ratio (PAR) of the transmission must not exceed 13 ㎧.

- §24.232(d), Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 ㎧.

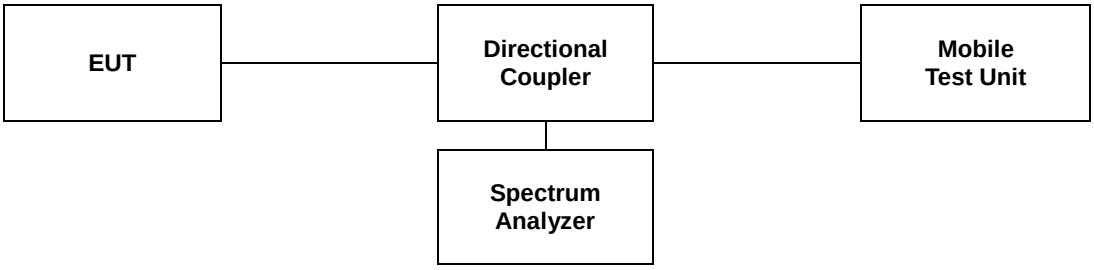
- §27.50(d)(5), Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (d)(6) of this section. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 ㎧.

4.2. Test Procedure

The test follows section 5.2.3.4 of ANSI C63.26-2015.

See instrumentation-specific application literature for further guidance regarding use of the CCDF capability. The following guidelines are offered for performing a CCDF measurement.

a. Set resolution/measurement bandwidth ≥ OBW or specified reference bandwidth.
b. Set the number of counts to a value that stabilizes the measured CCDF curve.
c. Set the measurement interval as follows:
  1) For continuous transmissions, set to greater of [10 x (number of points in sweep) x (transmission symbol period)] or 1 ㎳.
  2) For burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize. Set the measurement interval to a time that is less than or equal to the burst duration.
  3) If there are several carriers in a single antenna port, the peak power shall be determined for each individual carrier (by disabling the other carriers while measuring the required carrier) and the total peak power calculated from the sum of the individual carrier peak powers.
d. Record the maximum PAPR level associated with a probability of 0.1 %.
e. The peak power level is calculated form the sum of the PAPR value from step d) to the measured average power.



4.3 Test Results

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

Band	Bandwidth (㎒)	Mode	Frequency (㎒)	PAR (㏈)
12	1.4	QPSK	699.7	4.84
			707.5	4.93
			715.3	4.90
	3	QPSK	700.5	4.75
			707.5	4.70
			714.5	4.78
	5	QPSK	701.5	4.64
			707.5	4.87
			713.5	4.72
	10	QPSK	704.0	4.81
			707.5	4.90
			711.0	4.61

Band	Bandwidth (㎒)	Mode	Frequency (㎒)	PAR (㏈)
25/2	1.4	QPSK	1 850.7	4.70
			1 882.5	4.81
			1 914.3	4.58
	3	QPSK	1 851.5	4.55
			1 882.5	4.70
			1 913.5	4.61
	5	QPSK	1 852.5	4.70
			1 882.5	4.58
			1 912.5	4.67
	10	QPSK	1 855.0	4.78
			1 882.5	4.67
			1 910.0	4.64
	15	QPSK	1 857.5	5.10
			1 882.5	4.81
			1 907.5	4.87
	20	QPSK	1 860.0	4.78
			1 882.5	4.55
			1 905.0	4.61

Band	Bandwidth (㎒)	Mode	Frequency (㎒)	PAR (㏈)
26/5	1.4	QPSK	824.7	4.90
			836.5	4.67
			848.3	4.58
	3	QPSK	825.5	4.61
			836.5	4.46
			847.5	4.29
	5	QPSK	826.5	4.55
			836.5	4.43
			846.5	4.35
	10	QPSK	829.0	4.43
			836.5	4.46
			844.0	4.49
26	15	QPSK	831.5	4.58
			841.5	4.81

Band	Bandwidth (㎒)	Mode	Frequency (㎒)	PAR (㏈)
41	5	QPSK	2 498.5	8.29
			2 593.0	8.29
			2 687.5	8.41
	10	QPSK	2 501.0	8.43
			2 593.0	8.43
			2 685.0	8.43
	15	QPSK	2 503.5	8.61
			2 593.0	7.62
			2 682.5	8.43
	20	QPSK	2 506.0	5.51
			2 593.0	4.84
			2 680.0	6.17

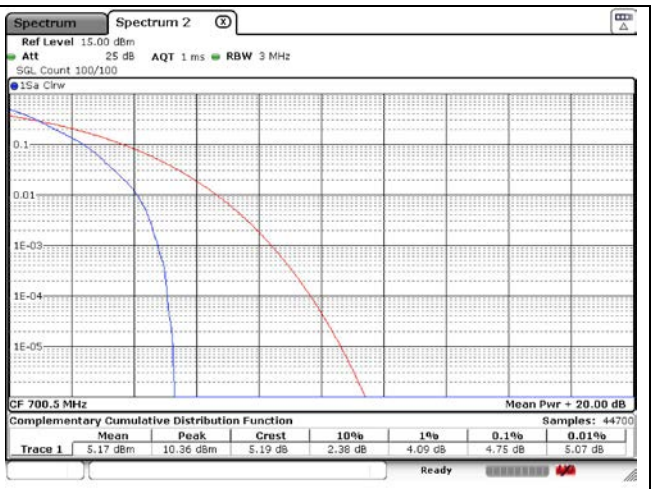
Band	Bandwidth (㎒)	Mode	Frequency (㎒)	PAR (㏈)
66/4	1.4	QPSK	1 710.7	4.14
			1 745.0	4.14
			1 779.3	4.09
	3	QPSK	1 711.5	4.12
			1 745.0	4.06
			1 778.5	4.06
	5	QPSK	1 712.5	4.23
			1 745.0	4.09
			1 777.5	4.03
	10	QPSK	1 715.0	4.43
			1 745.0	4.09
			1 775.0	4.03
	15	QPSK	1 717.5	4.78
			1 745.0	4.32
			1 772.5	4.32
	20	QPSK	1 720.0	4.67
			1 745.0	4.29
			1 770.0	4.29

Band	Bandwidth (㎒)	Mode	Frequency (㎒)	PAR (㏈)
71	5	QPSK	665.5	4.29
			680.5	4.49
			695.5	4.58
	10	QPSK	668.0	4.52
			680.5	4.52
			693.0	4.55
	15	QPSK	670.5	5.10
			680.5	4.87
			690.5	4.75
	20	QPSK	673.0	4.70
			680.5	4.61
			688.0	4.61

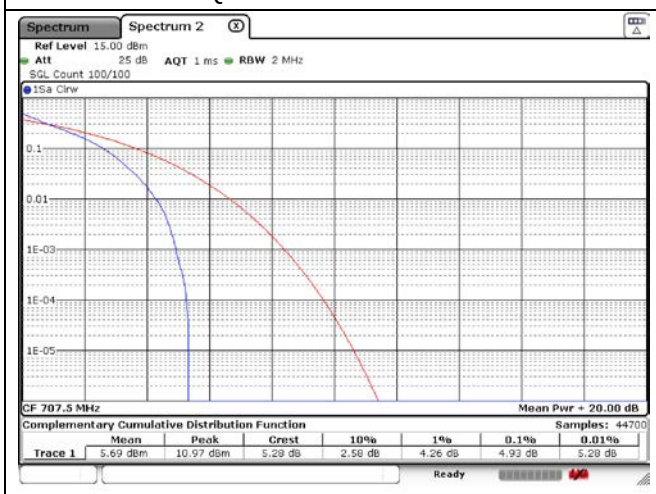
- Test plots

LTE band 12

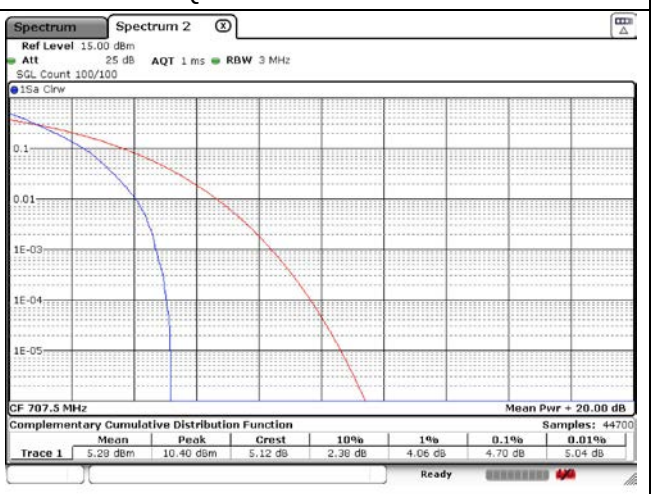
1.4 ㎒ QPSK Low Channel - Full RB



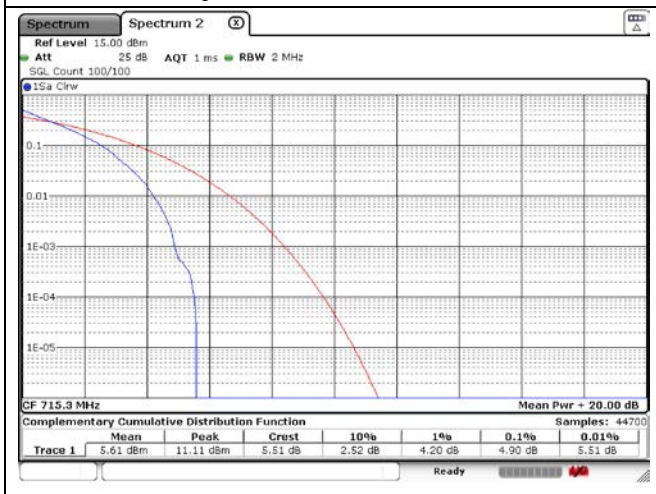
3 ㎒ QPSK Low Channel - Full RB



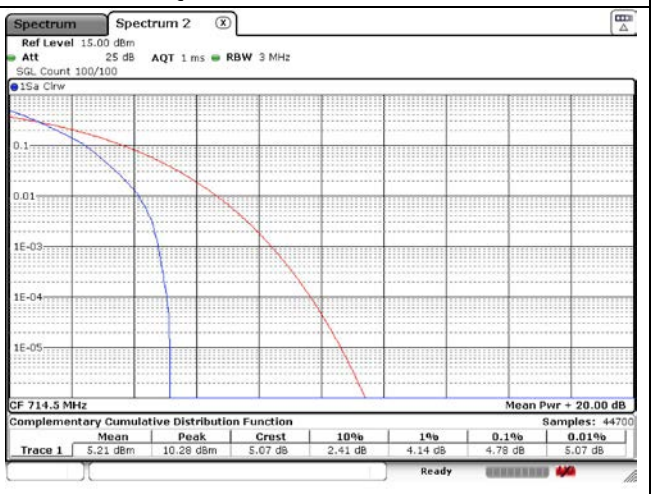
1.4 ㎒ QPSK Middle Channel - Full RB



3 ㎒ QPSK Middle Channel - Full RB

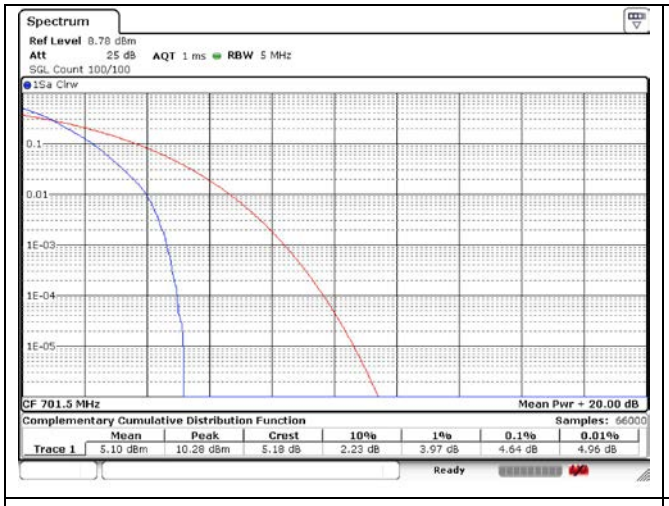


1.4 ㎒ QPSK High Channel - Full RB

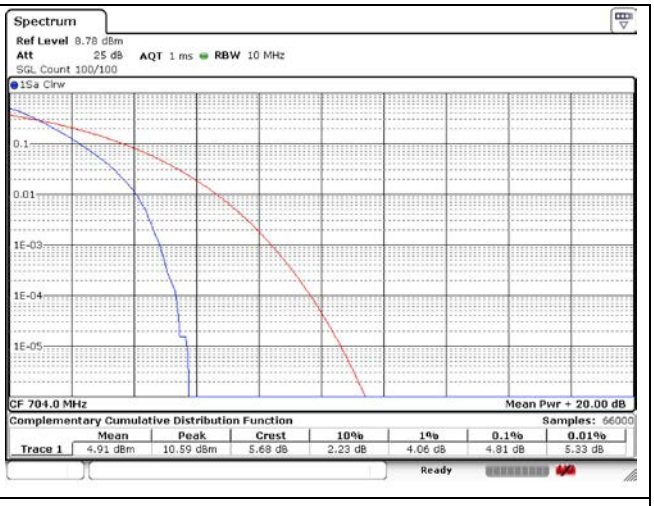


3 ㎒ QPSK High Channel - Full RB

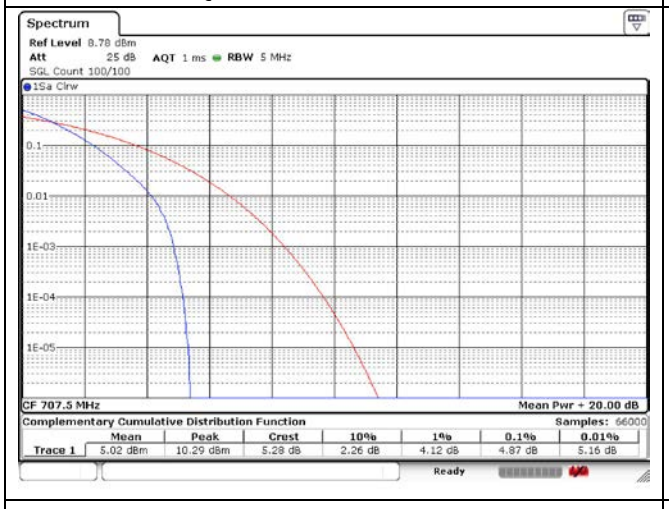
LTE band 12



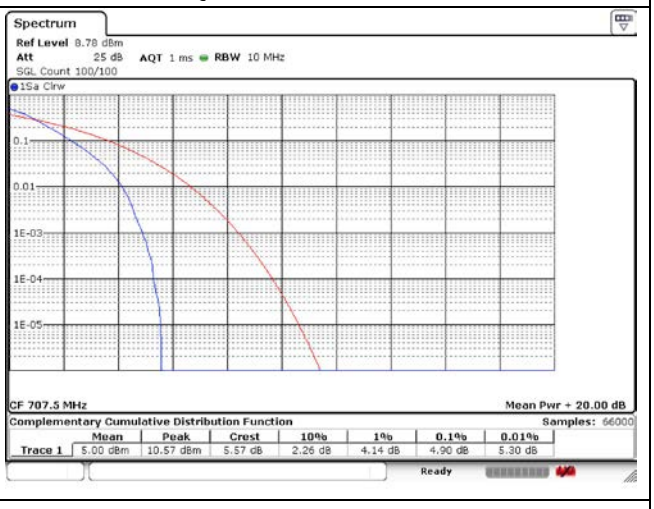
5 ㎒ QPSK Low Channel - Full RB



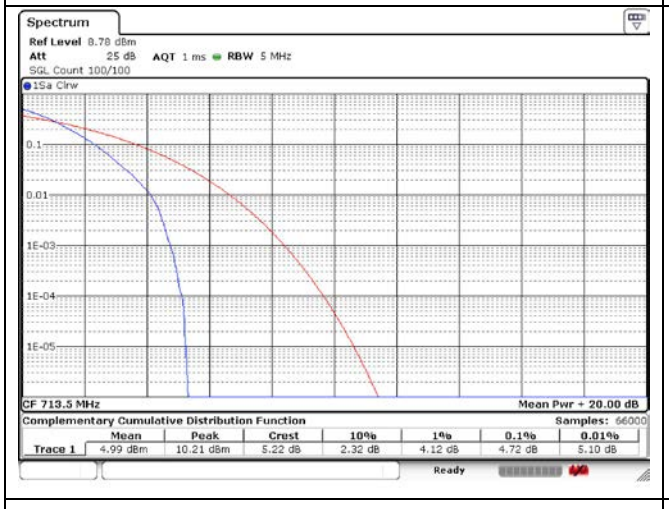
10 ㎒ QPSK Low Channel - Full RB



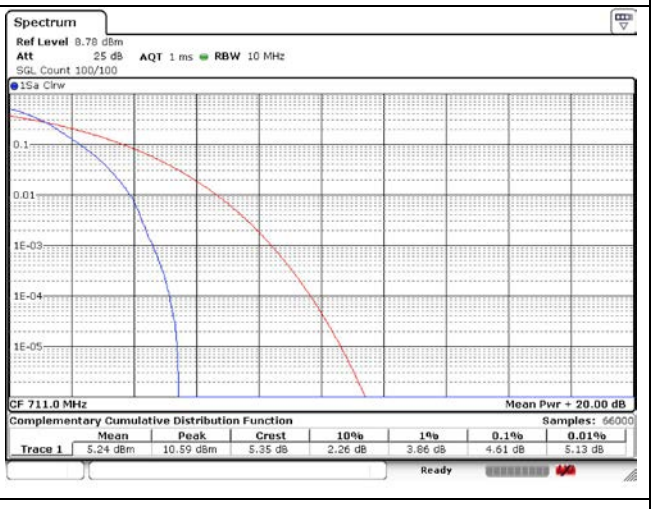
5 ㎒ QPSK Middle Channel - Full RB



10 ㎒ QPSK Middle Channel - Full RB

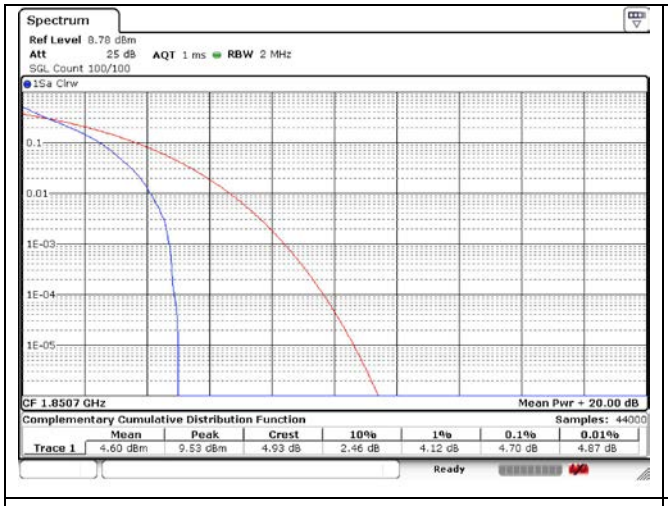


5 ㎒ QPSK High Channel - Full RB

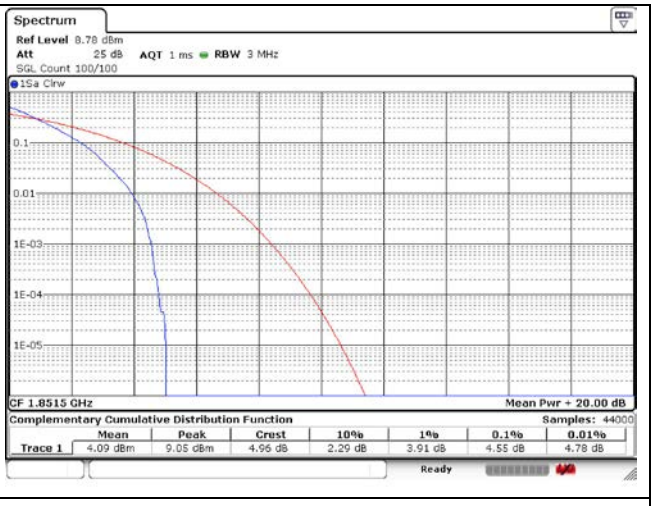


10 ㎒ QPSK High Channel - Full RB

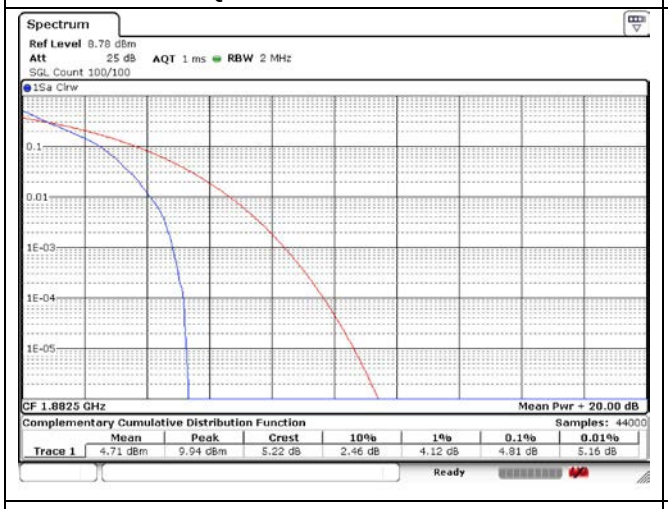
LTE band 25/2



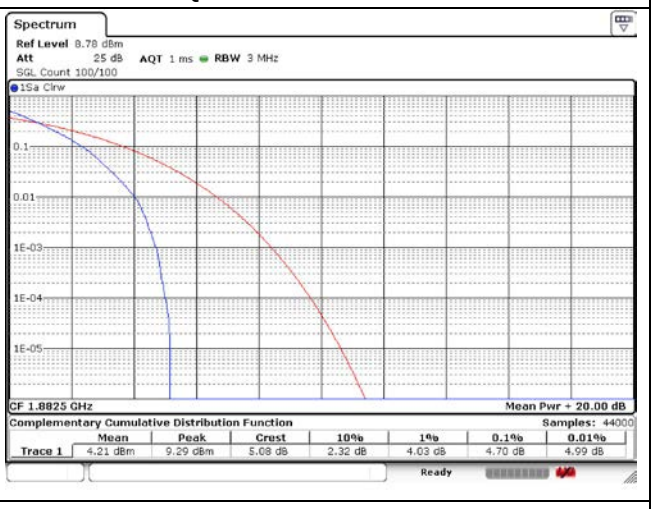
1.4 ㎒ QPSK Low Channel - Full RB



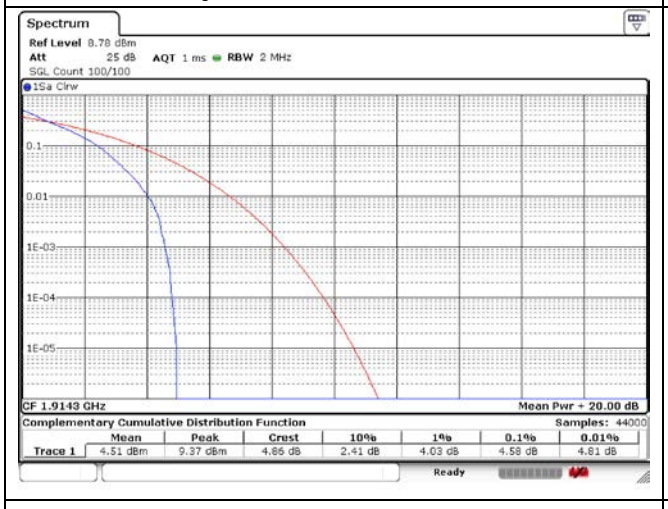
3 ㎒ QPSK Low Channel - Full RB



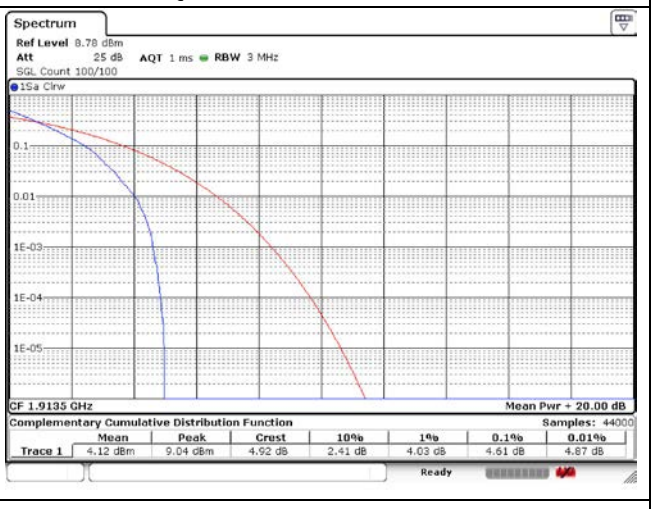
1.4 ㎒ QPSK Middle Channel - Full RB



3 ㎒ QPSK Middle Channel - Full RB

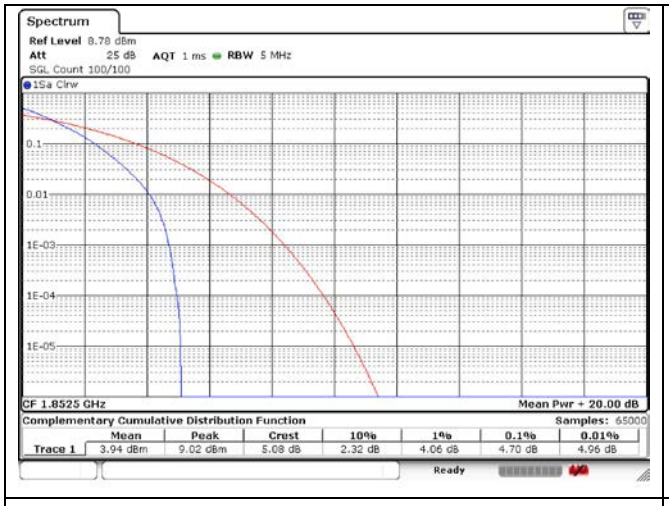


1.4 ㎒ QPSK High Channel - Full RB

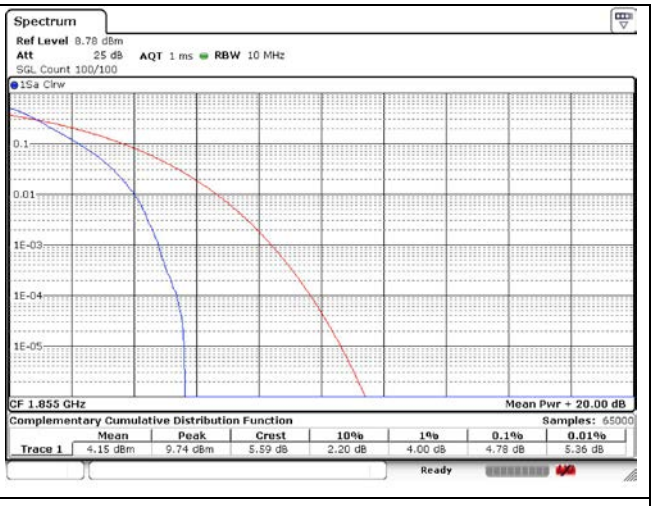


3 ㎒ QPSK High Channel - Full RB

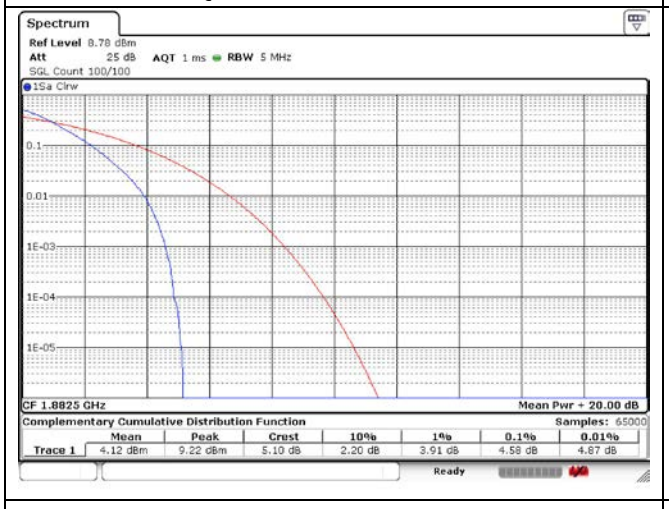
LTE band 25/2



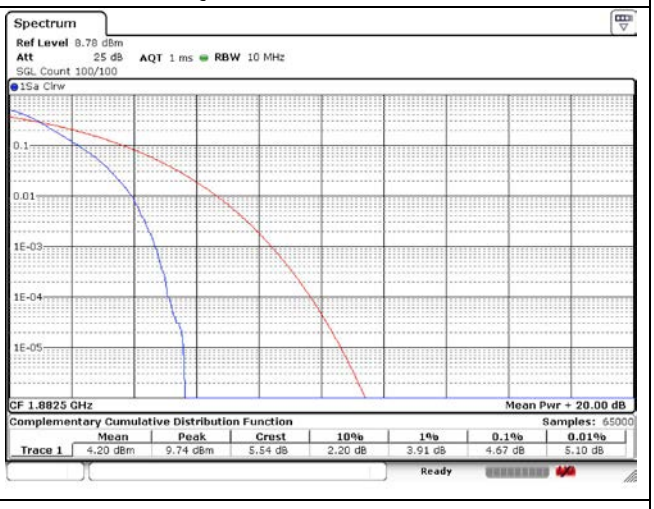
5 ㎒ QPSK Low Channel - Full RB



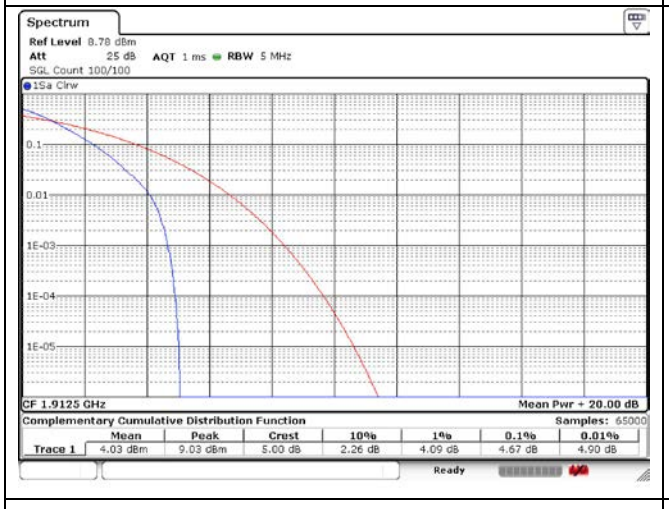
10 ㎒ QPSK Low Channel - Full RB



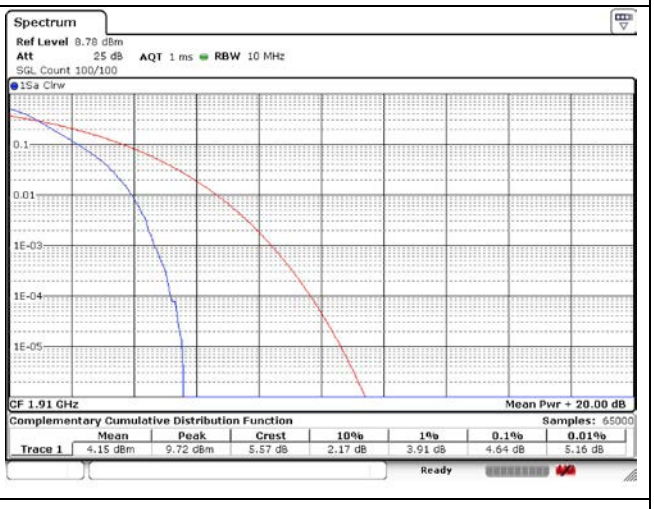
5 ㎒ QPSK Middle Channel - Full RB



10 ㎒ QPSK Middle Channel - Full RB

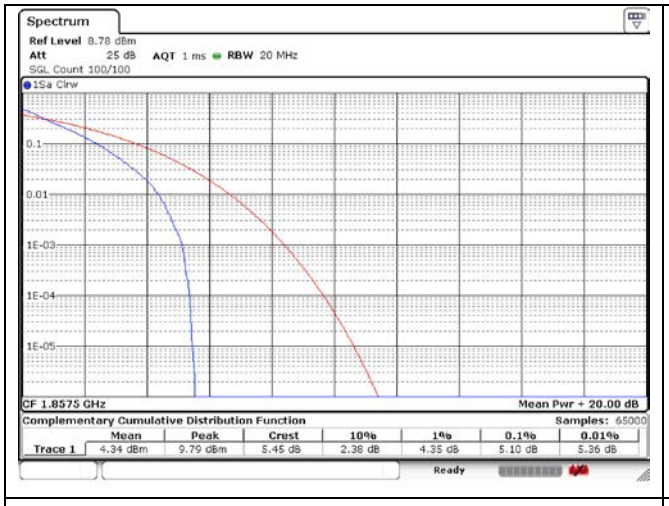


5 ㎒ QPSK High Channel - Full RB

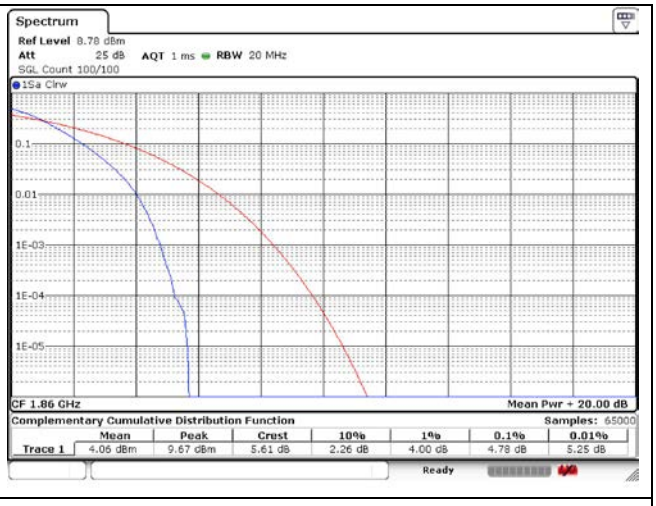


10 ㎒ QPSK High Channel - Full RB

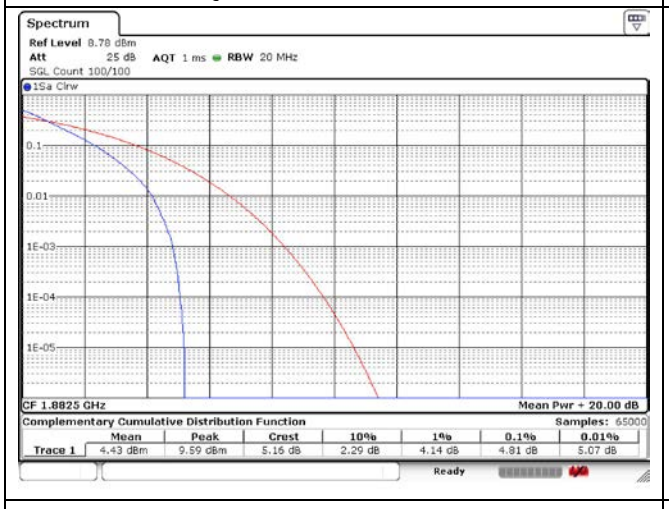
LTE band 25/2



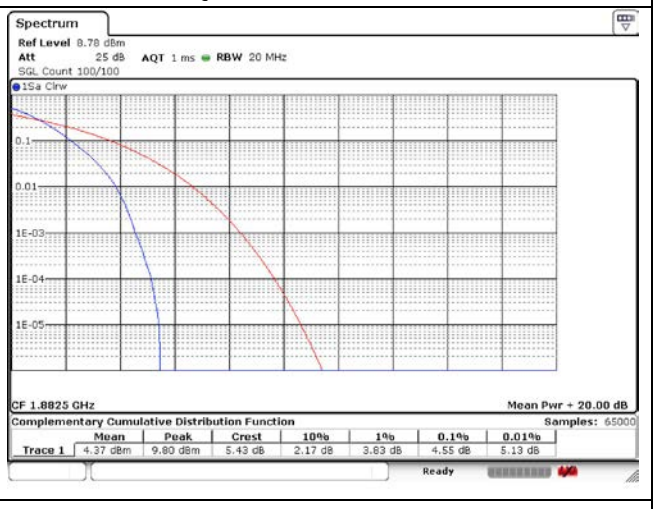
15 ㎒ QPSK Low Channel - Full RB



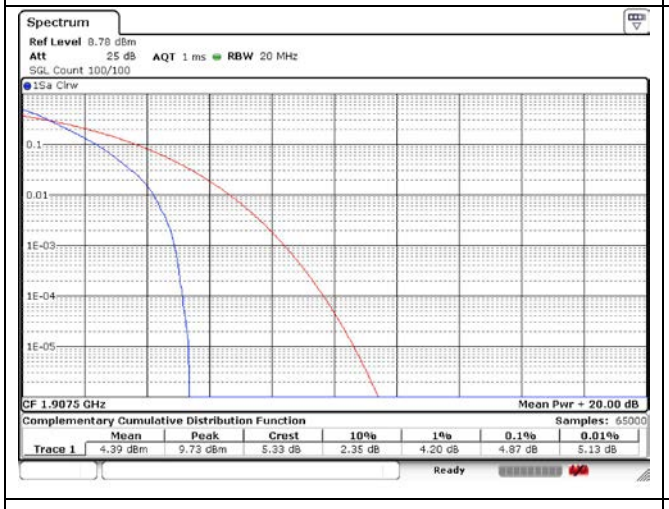
20 ㎒ QPSK Low Channel - Full RB



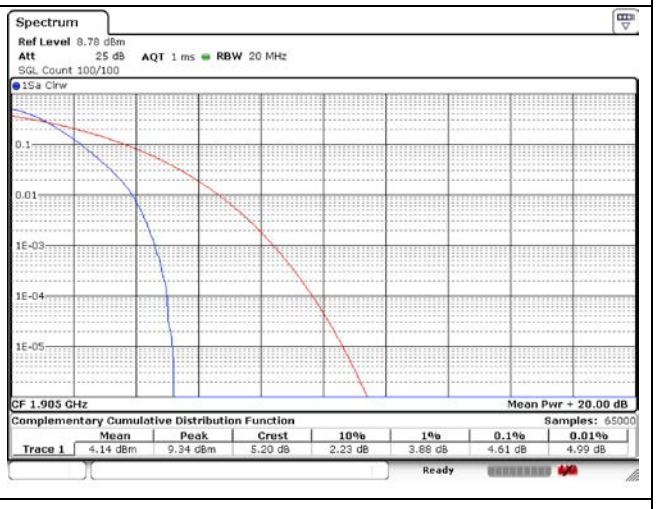
15 ㎒ QPSK Middle Channel - Full RB



20 ㎒ QPSK Middle Channel - Full RB

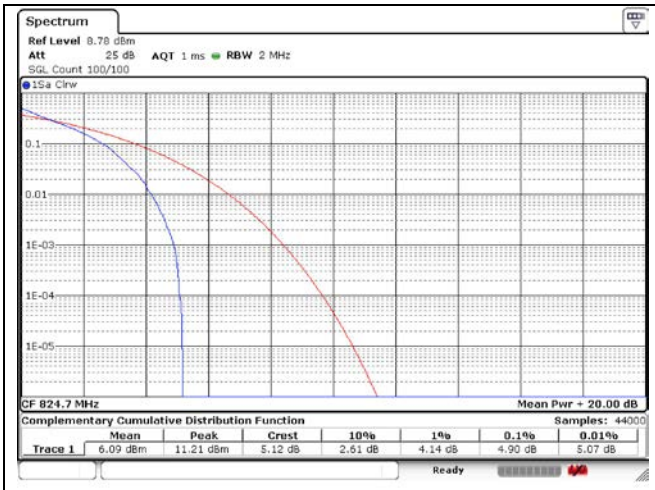


15 ㎒ QPSK High Channel - Full RB

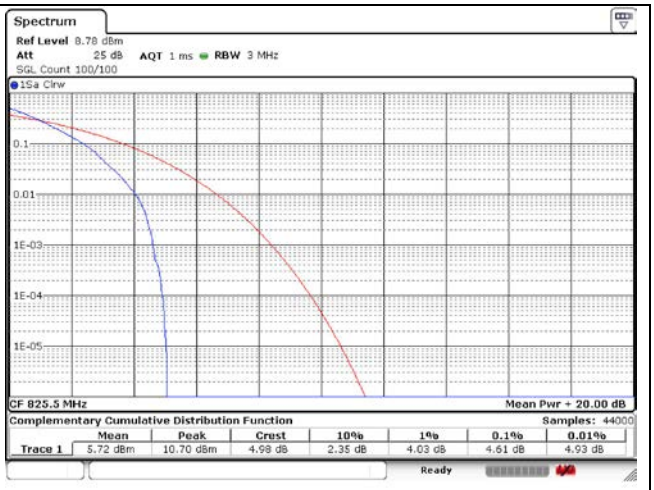


20 ㎒ QPSK High Channel - Full RB

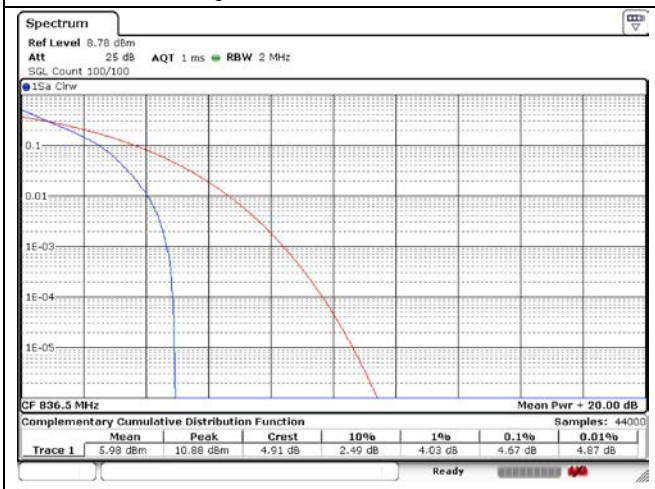
LTE band 26/5



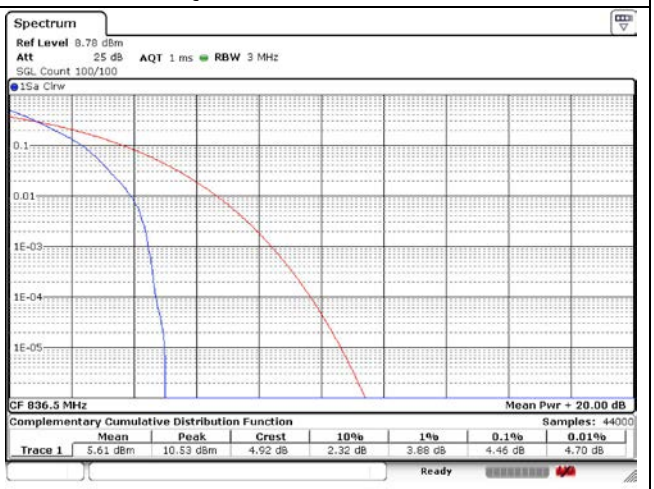
1.4 ㎒ QPSK Low Channel - Full RB



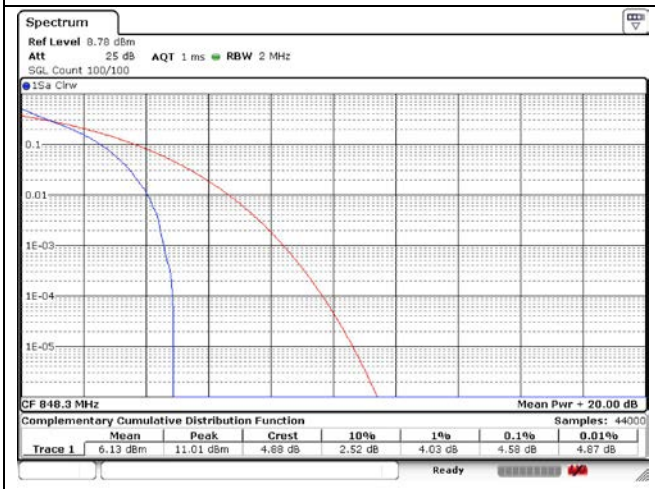
3 ㎒ QPSK Low Channel - Full RB



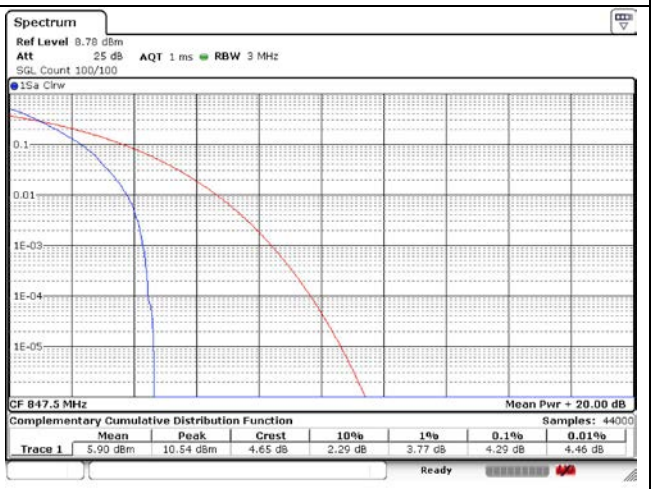
1.4 ㎒ QPSK Middle Channel - Full RB



3 ㎒ QPSK Middle Channel - Full RB

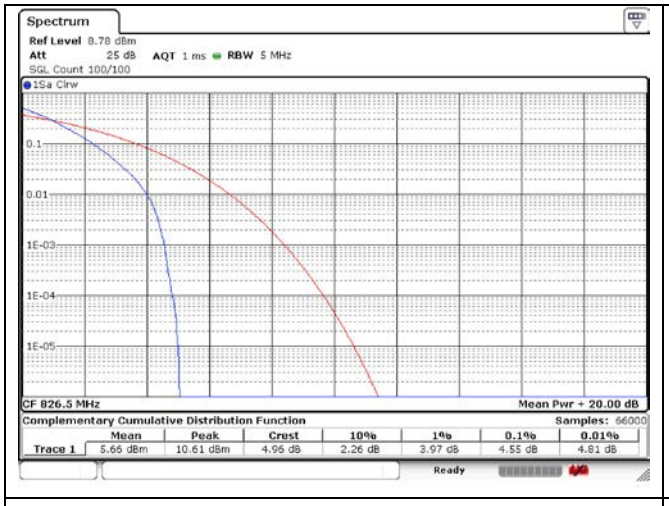


1.4 ㎒ QPSK High Channel - Full RB

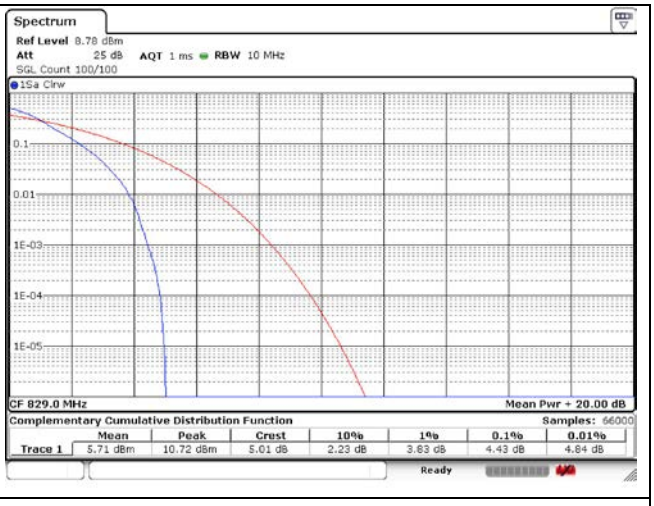


3 ㎒ QPSK High Channel - Full RB

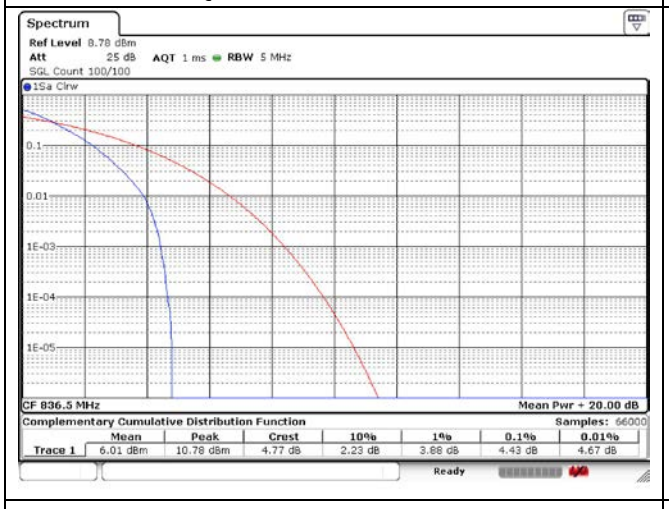
LTE band 26/5



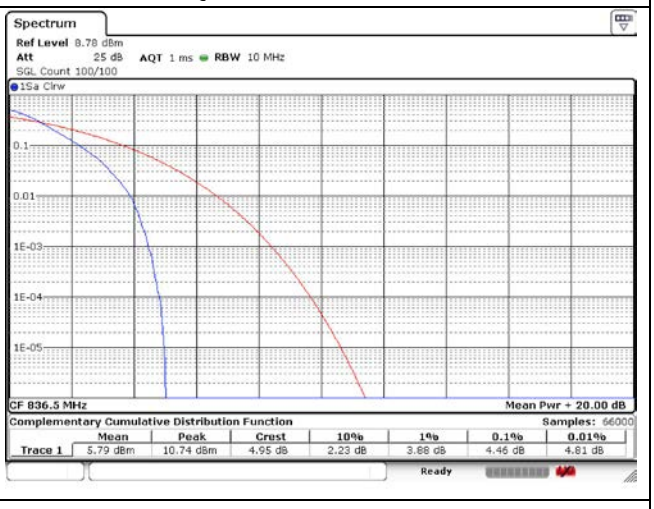
5 ㎒ QPSK Low Channel - Full RB



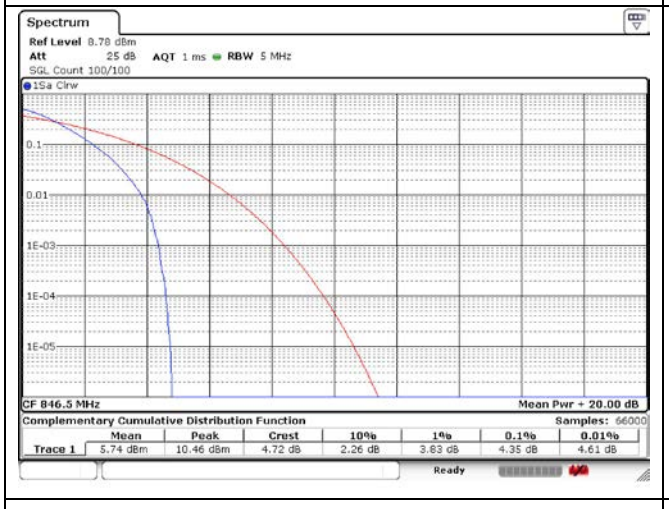
10 ㎒ QPSK Low Channel - Full RB



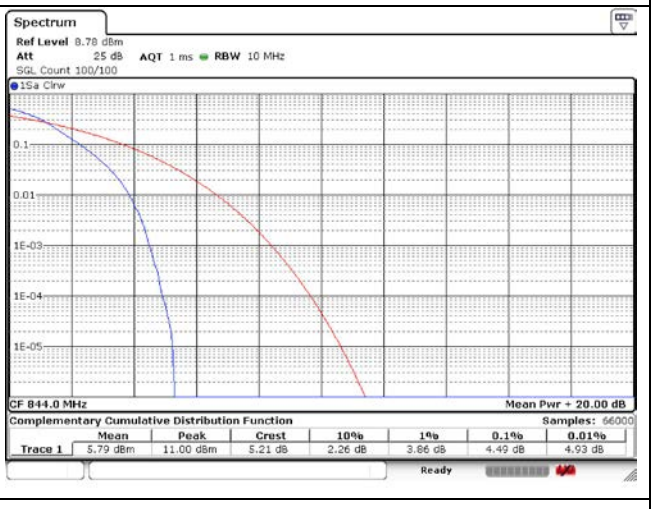
5 ㎒ QPSK Middle Channel - Full RB



10 ㎒ QPSK Middle Channel - Full RB

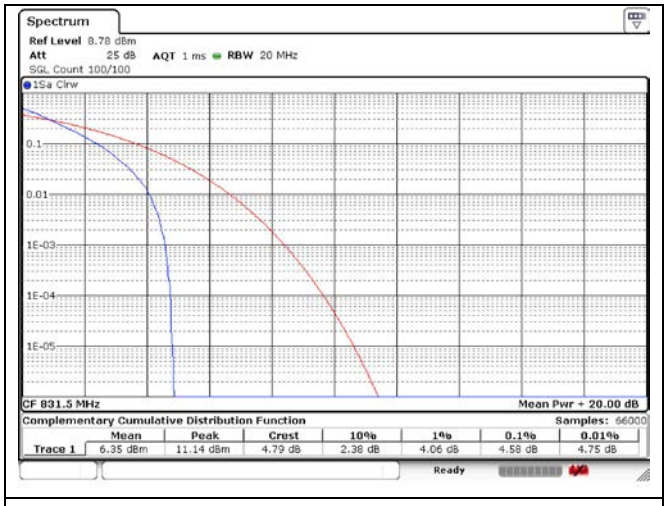


5 ㎒ QPSK High Channel - Full RB

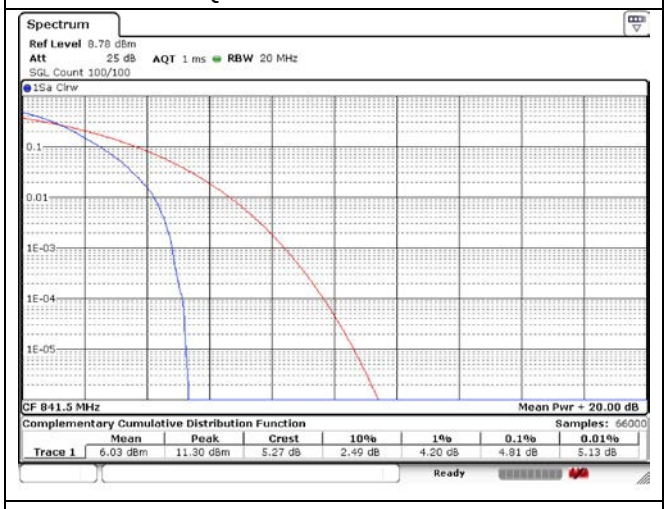


10 ㎒ QPSK High Channel - Full RB

LTE band 26

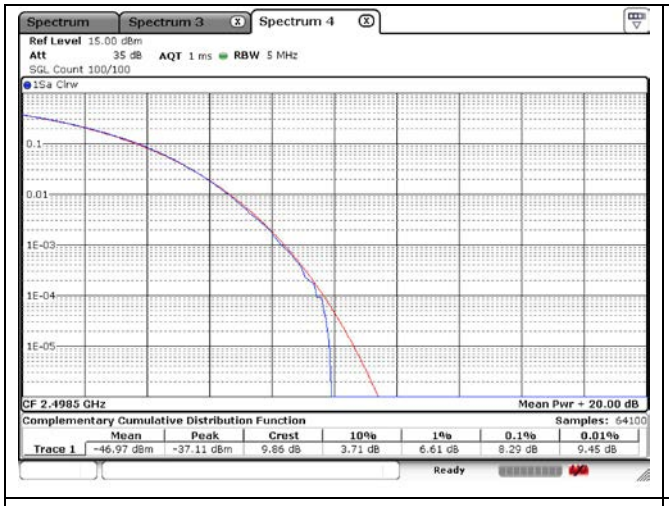


15 ㎒ QPSK Low Channel - Full RB

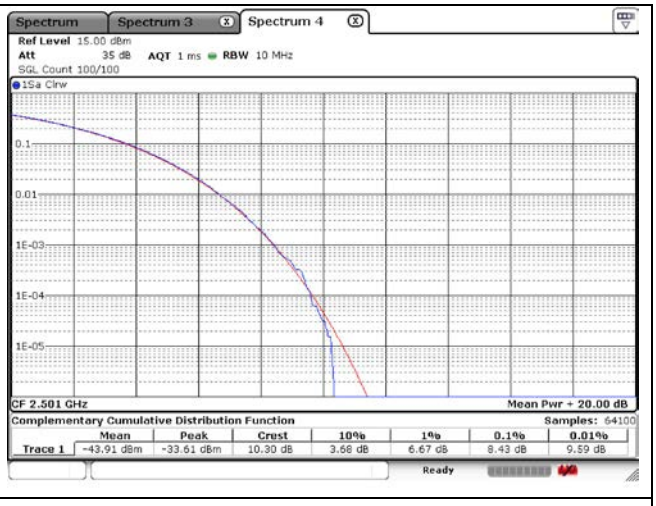


15 ㎒ QPSK High Channel - Full RB

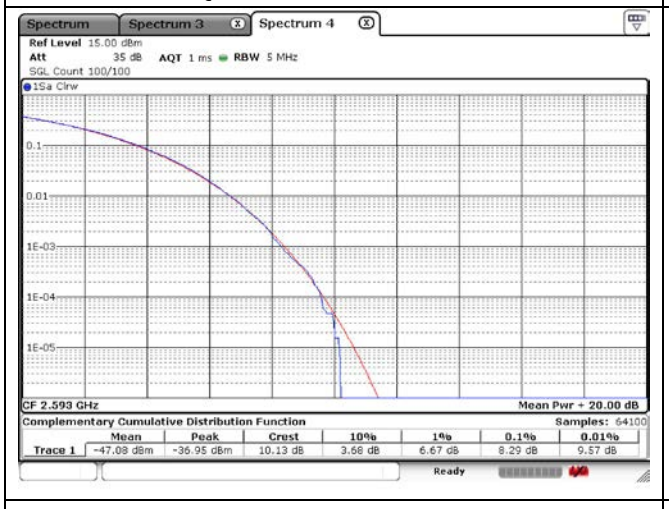
LTE band 41



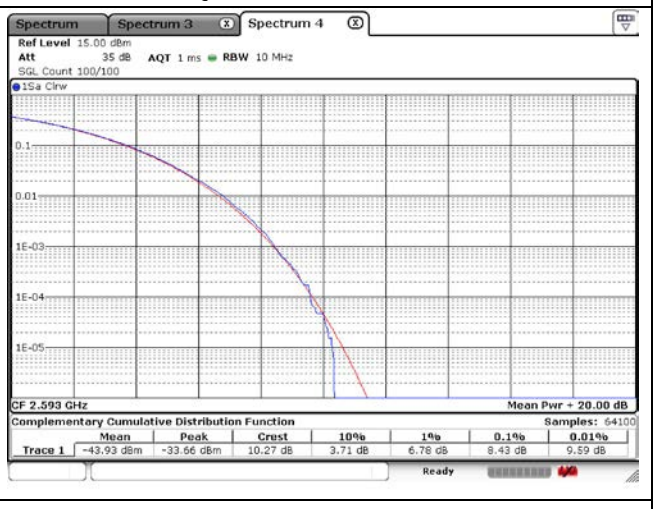
5 ㎒ QPSK Low Channel - Full RB



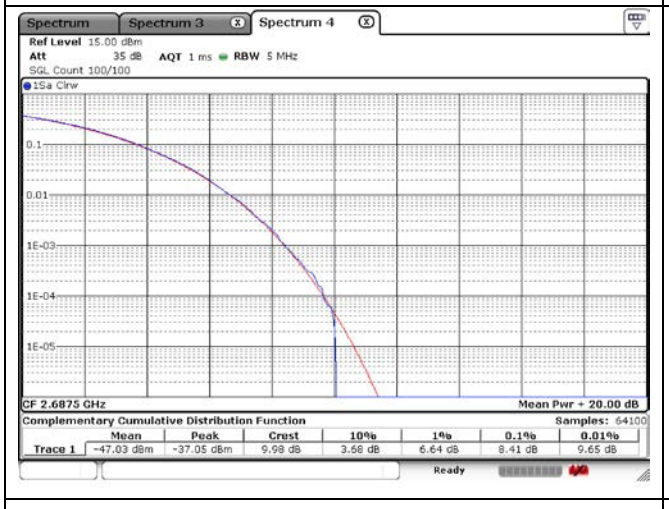
10 ㎒ QPSK Low Channel - Full RB



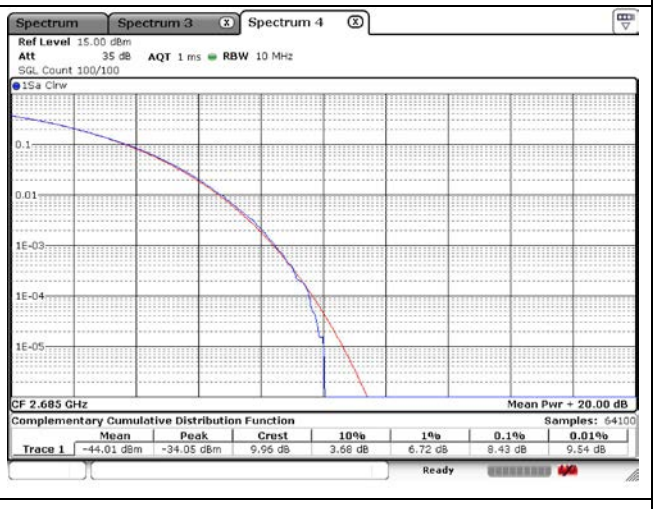
5 ㎒ QPSK Middle Channel - Full RB



10 ㎒ QPSK Middle Channel - Full RB

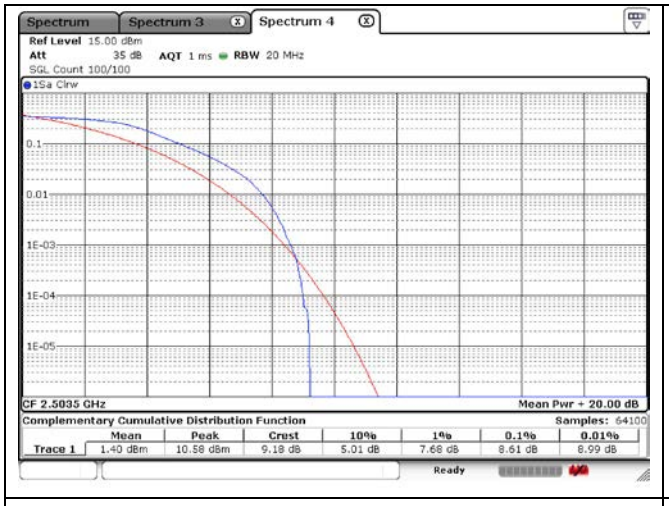


5 ㎒ QPSK High Channel - Full RB

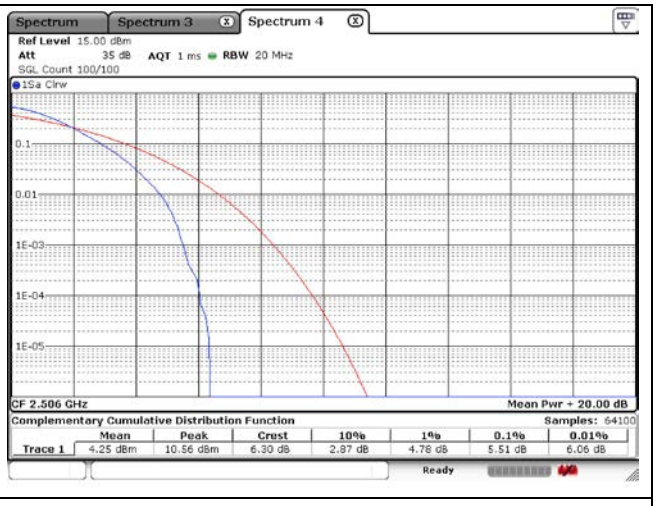


10 ㎒ QPSK High Channel - Full RB

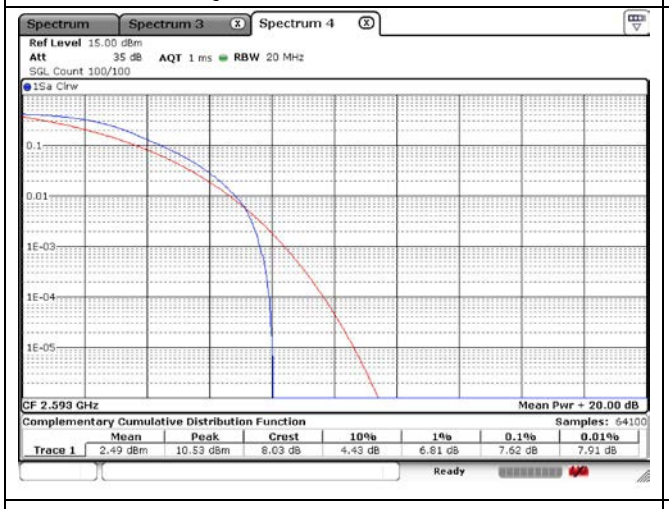
LTE band 41



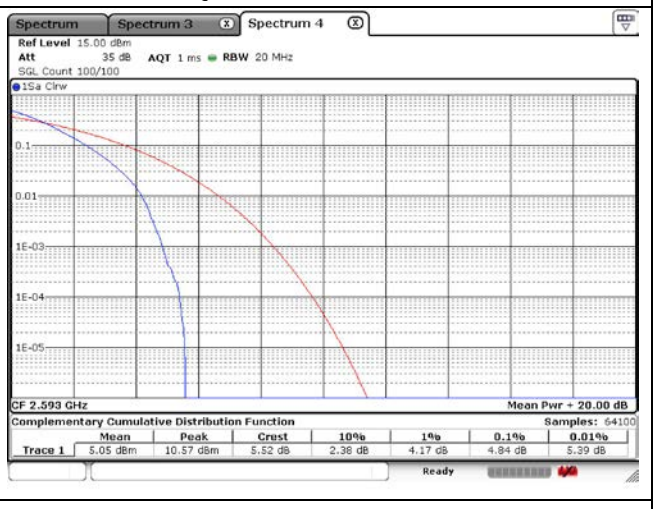
15 ㎒ QPSK Low Channel - Full RB



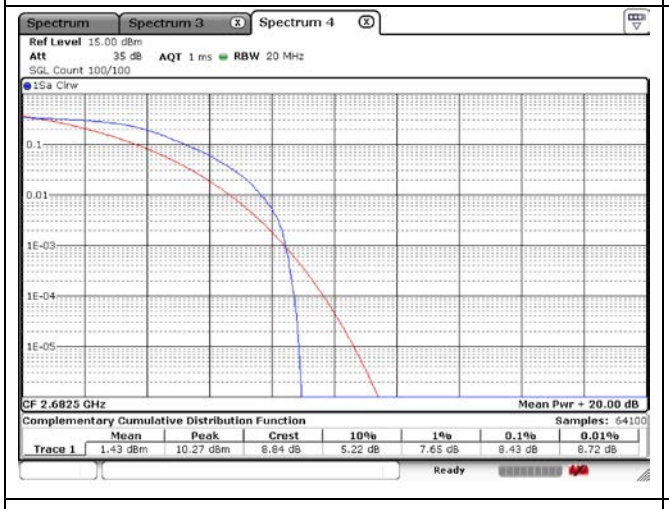
20 ㎒ QPSK Low Channel - Full RB



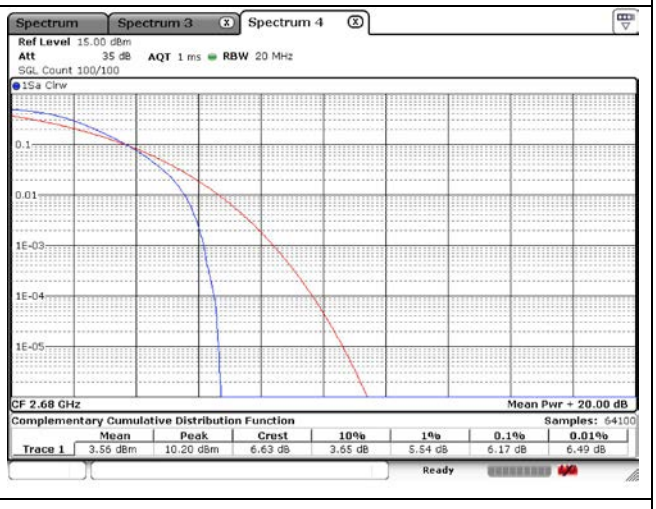
15 ㎒ QPSK Middle Channel - Full RB



20 ㎒ QPSK Middle Channel - Full RB

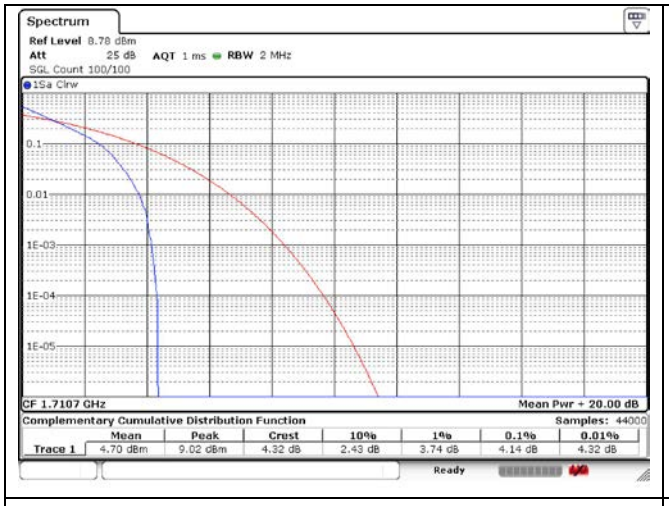


15 ㎒ QPSK High Channel - Full RB

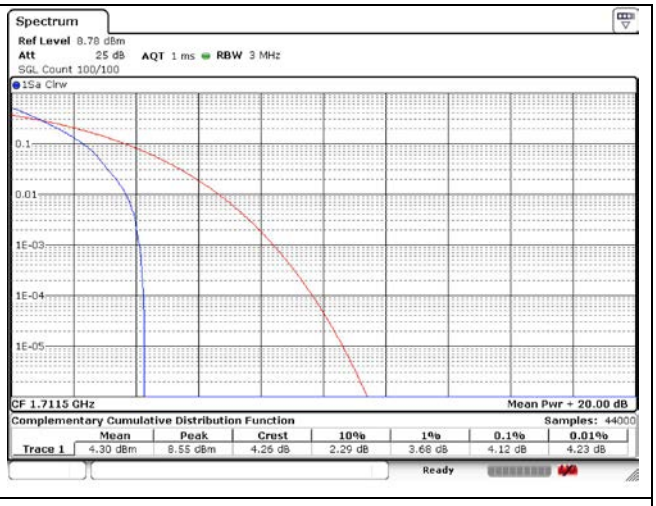


20 ㎒ QPSK High Channel - Full RB

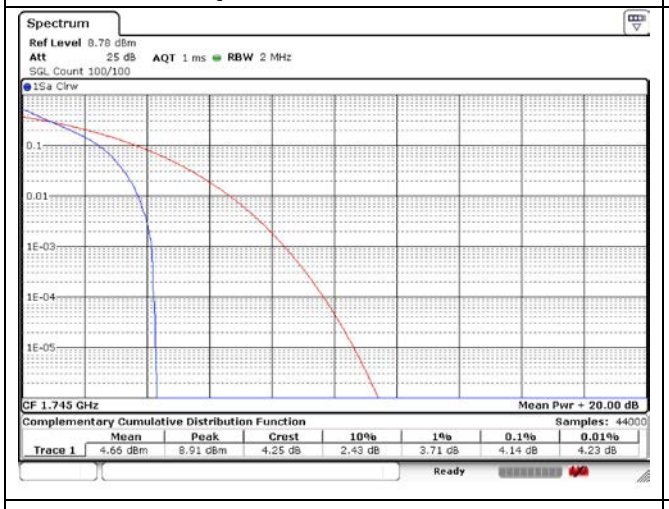
LTE band 66/4



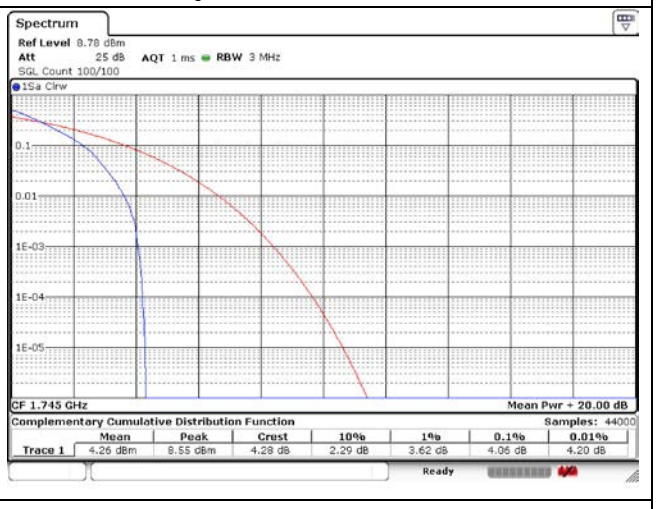
1.4 ㎒ QPSK Low Channel - Full RB



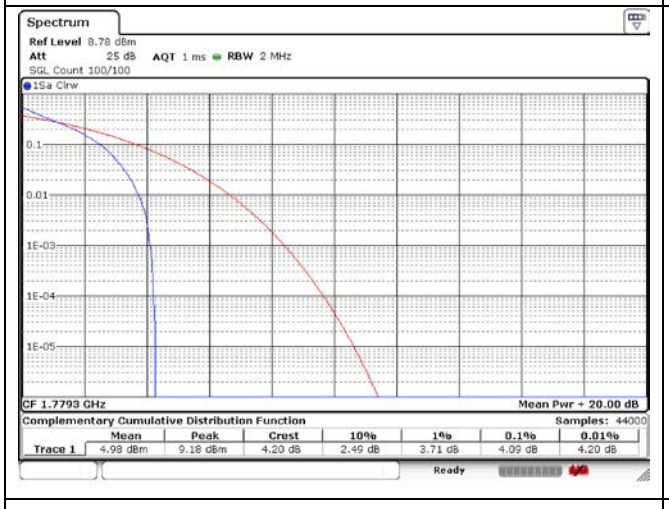
3 ㎒ QPSK Low Channel - Full RB



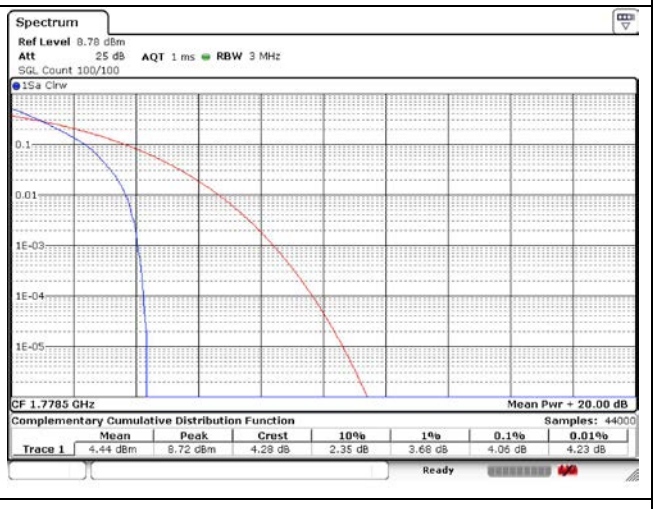
1.4 ㎒ QPSK Middle Channel - Full RB



3 ㎒ QPSK Middle Channel - Full RB

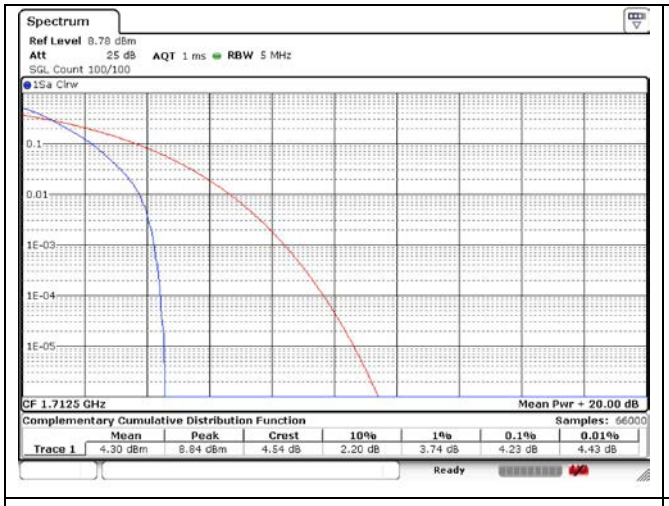


1.4 ㎒ QPSK High Channel - Full RB

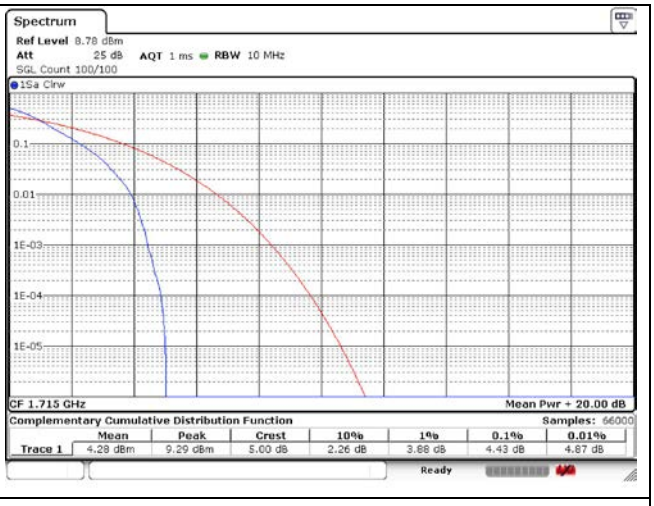


3 ㎒ QPSK High Channel - Full RB

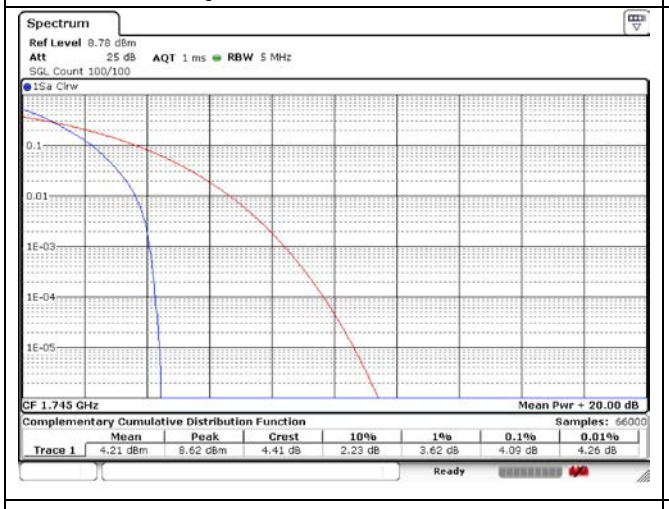
LTE band 66/4



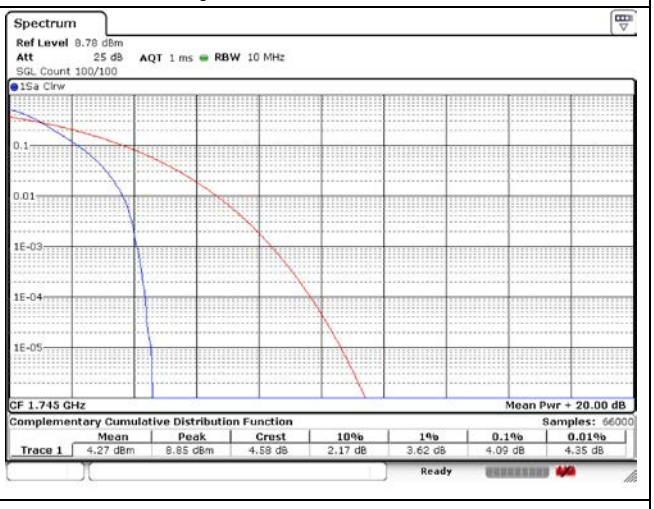
5 ㎒ QPSK Low Channel - Full RB



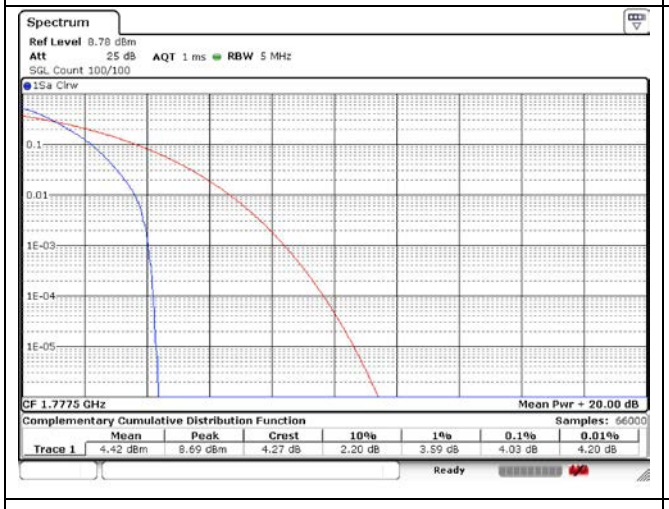
10 ㎒ QPSK Low Channel - Full RB



5 ㎒ QPSK Middle Channel - Full RB



10 ㎒ QPSK Middle Channel - Full RB



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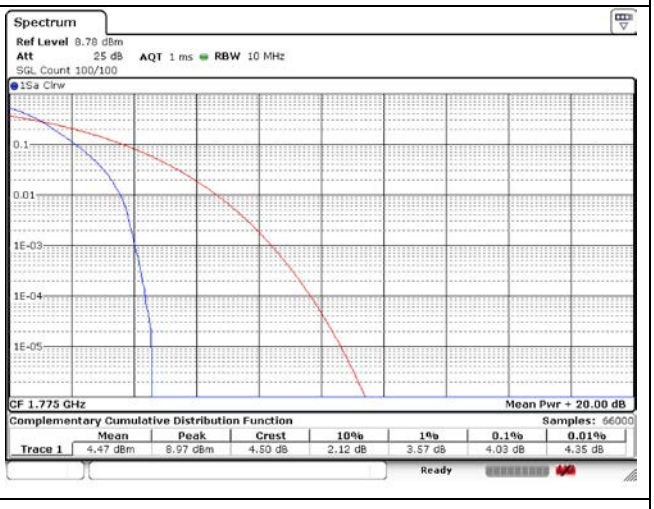
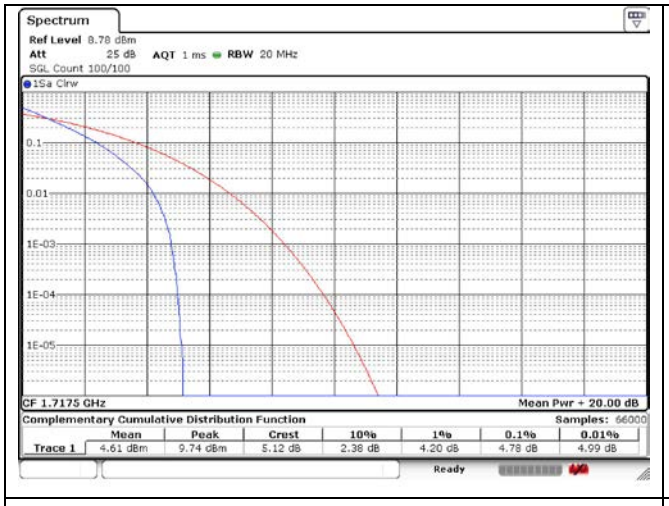
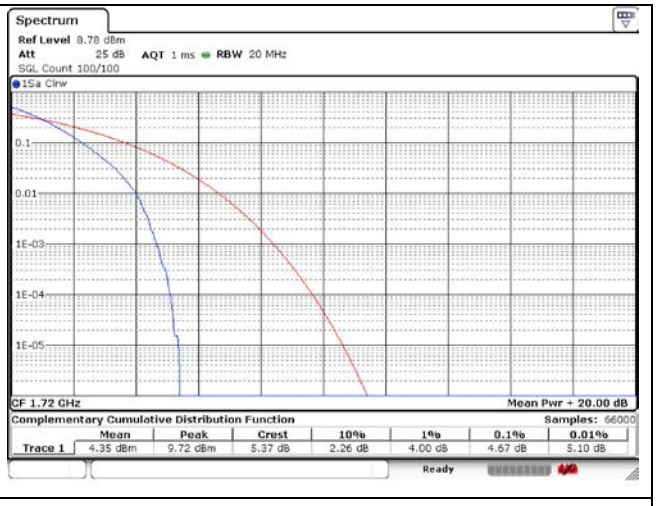


10 ㎒ QPSK High Channel - Full RB

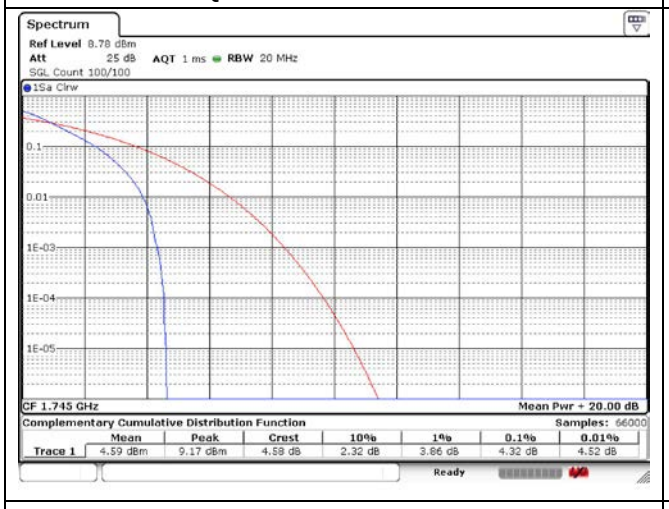
LTE band 66/4



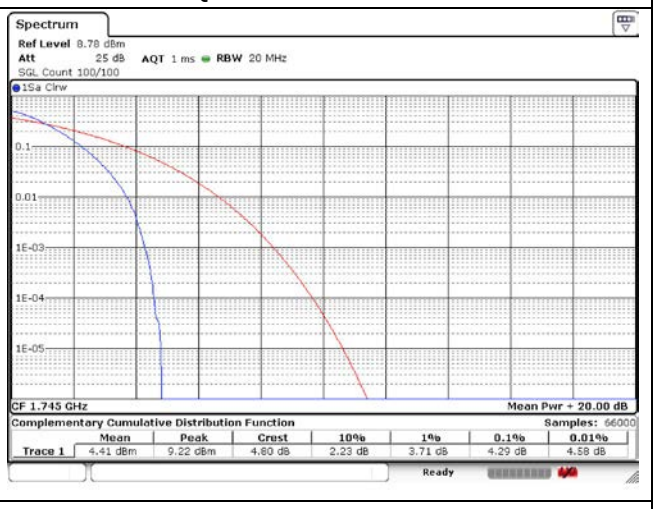
15 ㎒ QPSK Low Channel - Full RB



20 ㎒ QPSK Low Channel - Full RB



15 ㎒ QPSK Middle Channel - Full RB



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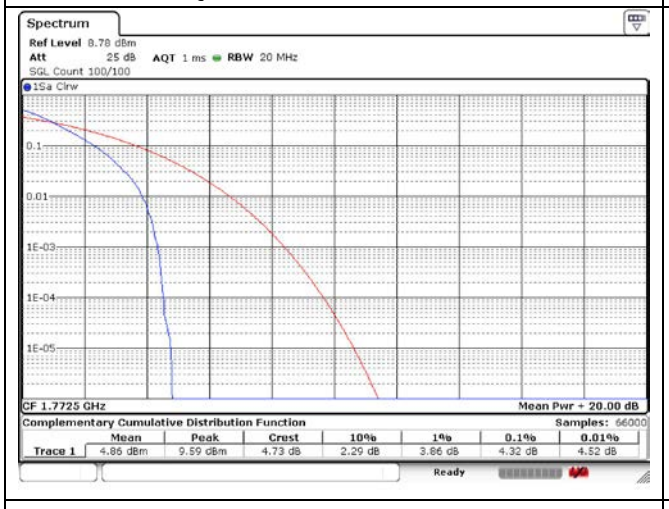

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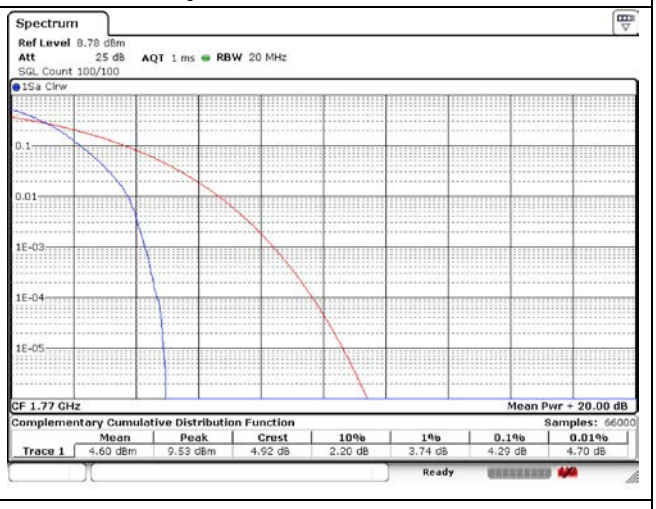
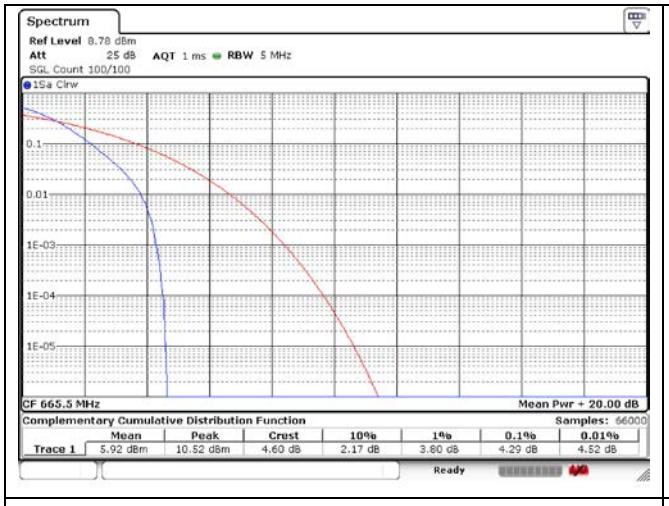
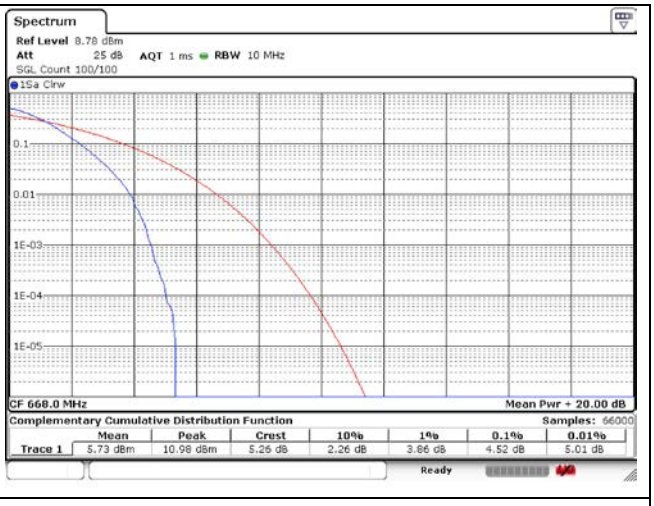


20 ㎒ QPSK High Channel - Full RB

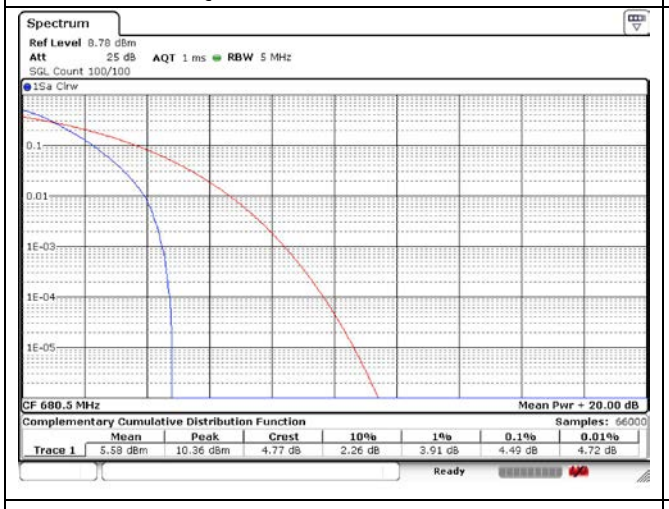
LTE band 71



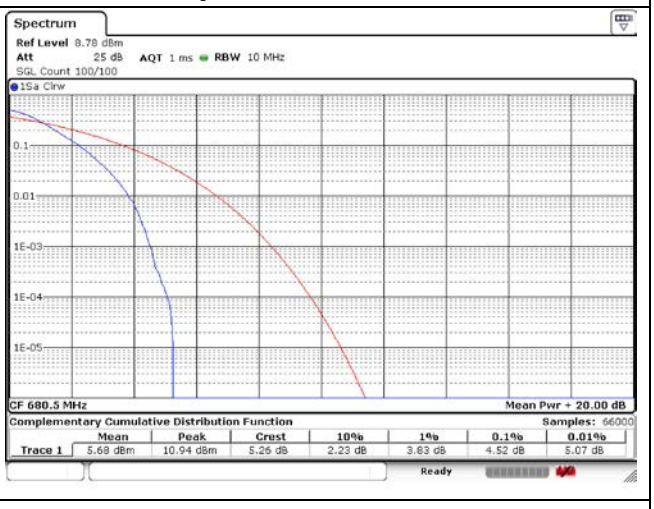
5 ㎒ QPSK Low Channel - Full RB



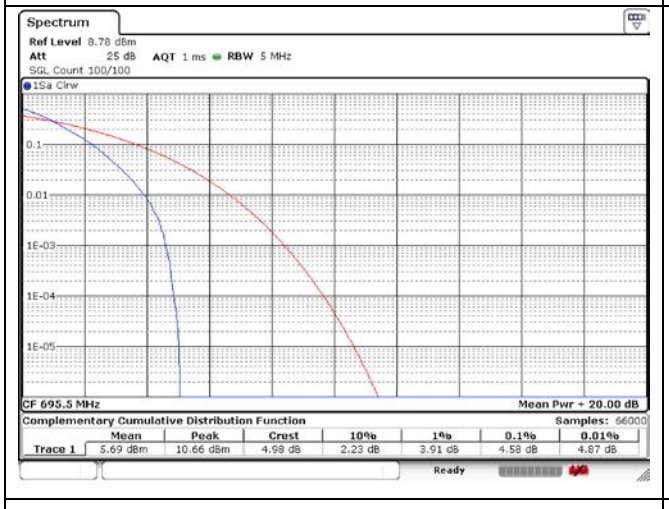
10 ㎒ QPSK Low Channel - Full RB



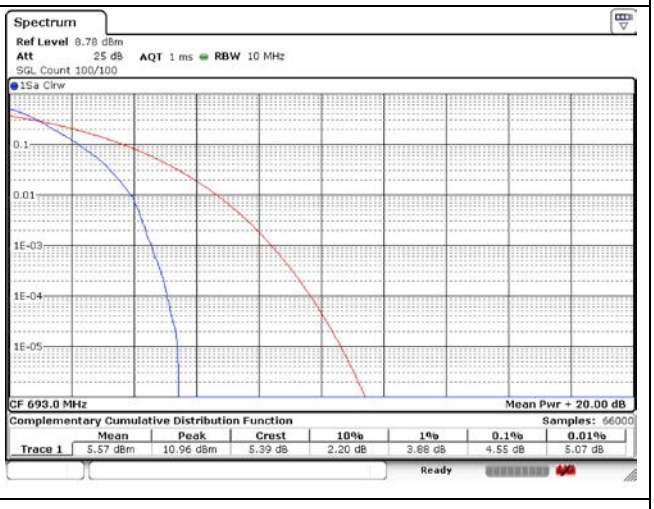
5 ㎒ QPSK Middle Channel - Full RB



10 ㎒ QPSK Middle Channel - Full RB



5 ㎒ QPSK High Channel - Full RB



10 ㎒ QPSK High Channel - Full RB