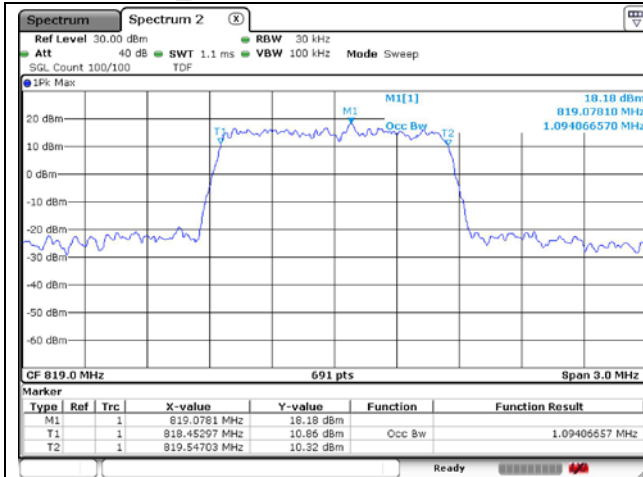
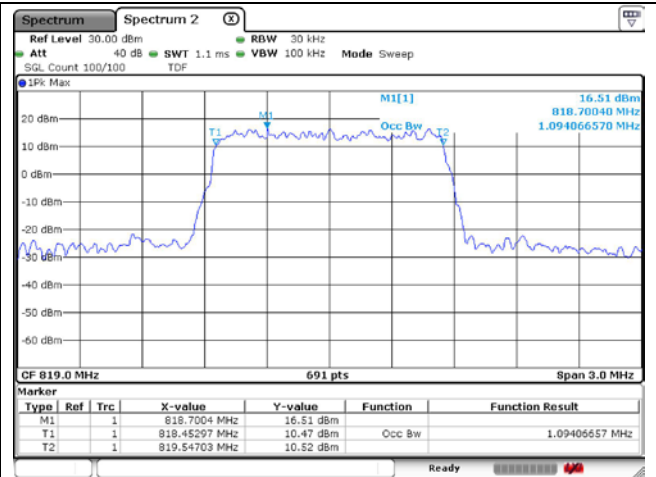


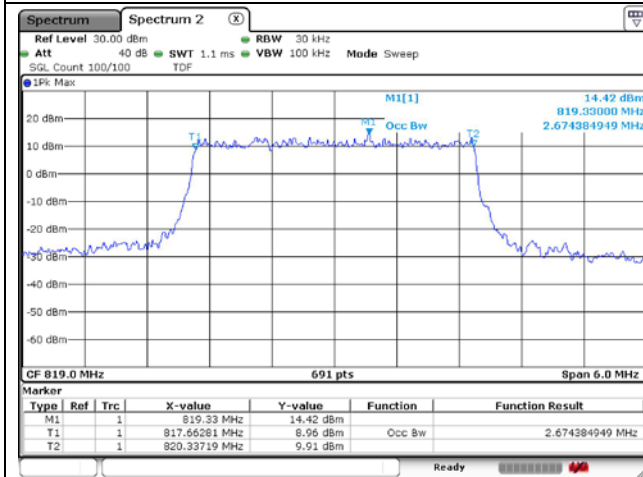
LTE band 26 Part 20



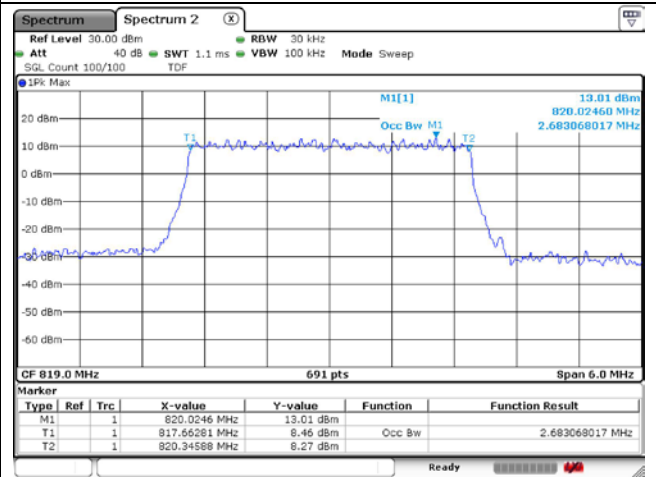
1.4 MHz QPSK Middle Channel - Full RB



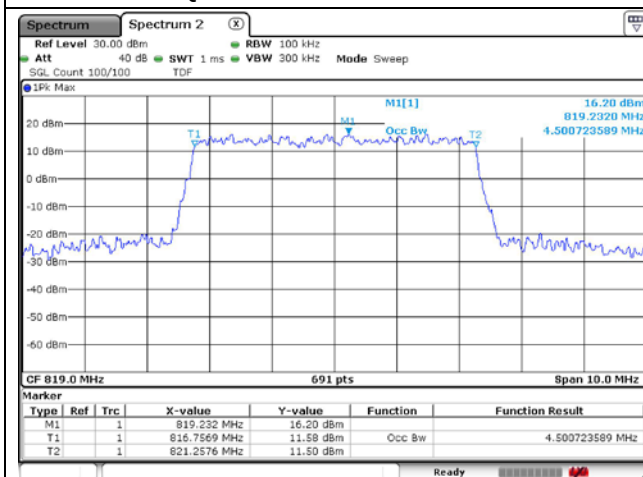
1.4 MHz 16QAM Middle Channel - Full RB



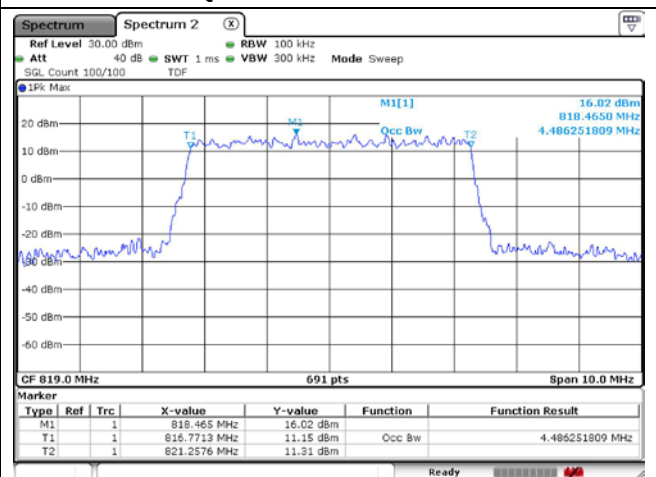
3 MHz QPSK Middle Channel - Full RB



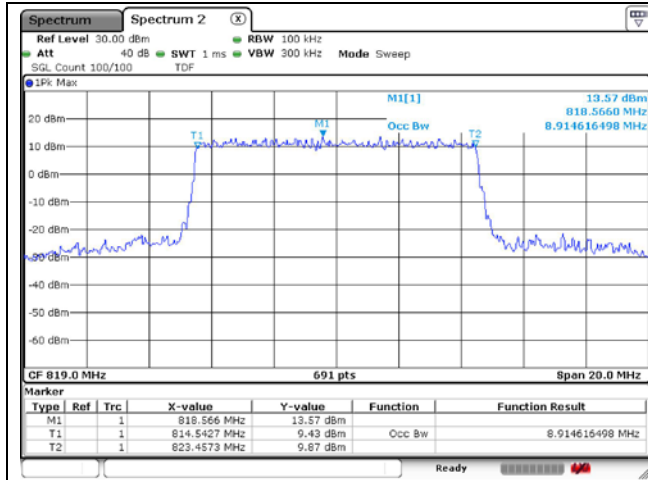
3 MHz 16QAM Middle Channel - Full RB



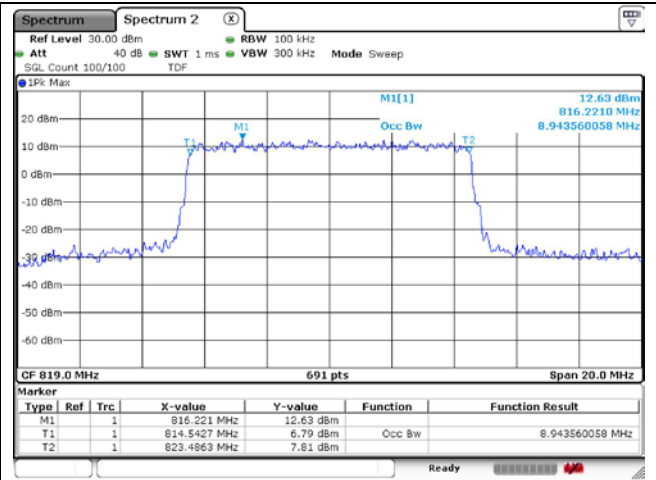
5 MHz QPSK Middle Channel - Full RB



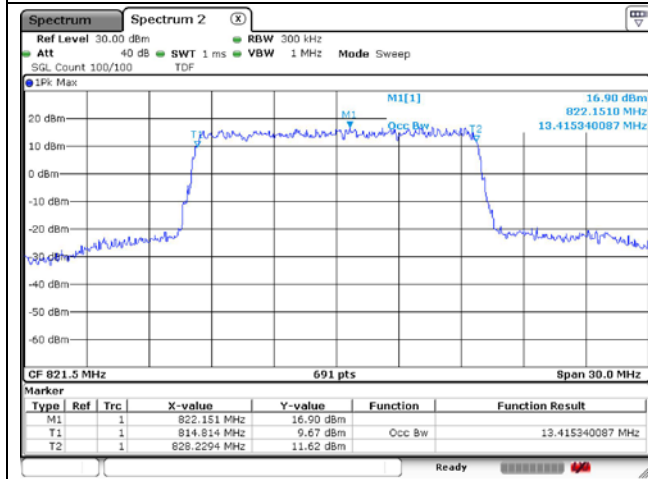
5 MHz 16QAM Middle Channel - Full RB



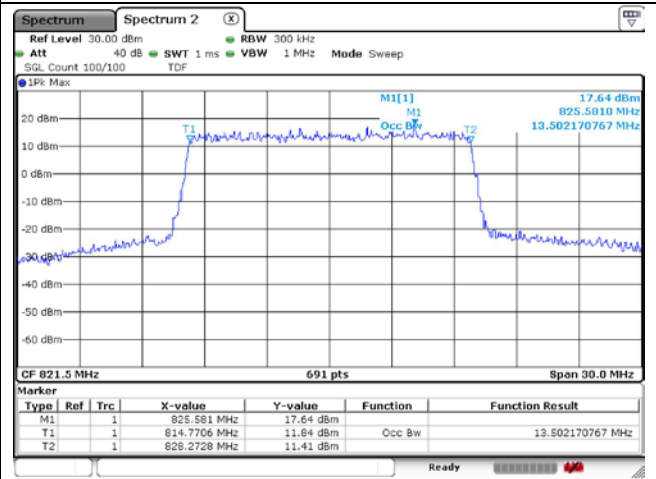
10 MHz QPSK Middle Channel - Full RB



10 MHz 16QAM Middle Channel - Full RB



15 MHz QPSK Low Channel - Full RB



15 MHz 16QAM Low Channel - Full RB

5. Peak-Average Ratio

5.1. Limit

FCC

- §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 dB.

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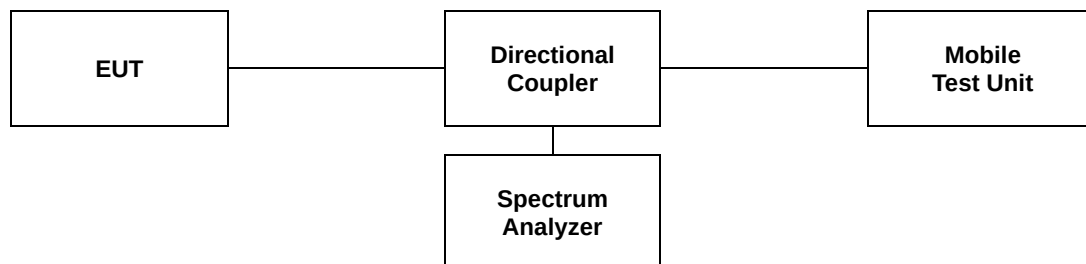
5.4, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1 % of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

5.2. 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.

- Set resolution/measurement bandwidth $\geq$ OBW or specified reference bandwidth.
- Set the number of counts to a value that stabilizes the measured CCDF curve.
- Set the measurement interval as follows:
 - For continuous transmissions, set to greater of $[10 \times (\text{number of points in sweep}) \times (\text{transmission symbol period})]$ or 1 ms.
 - 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.
 - 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.
- Record the maximum PAPR level associated with a probability of 0.1 %.
- The peak power level is calculated from the sum of the PAPR value from step d) to the measured average power.



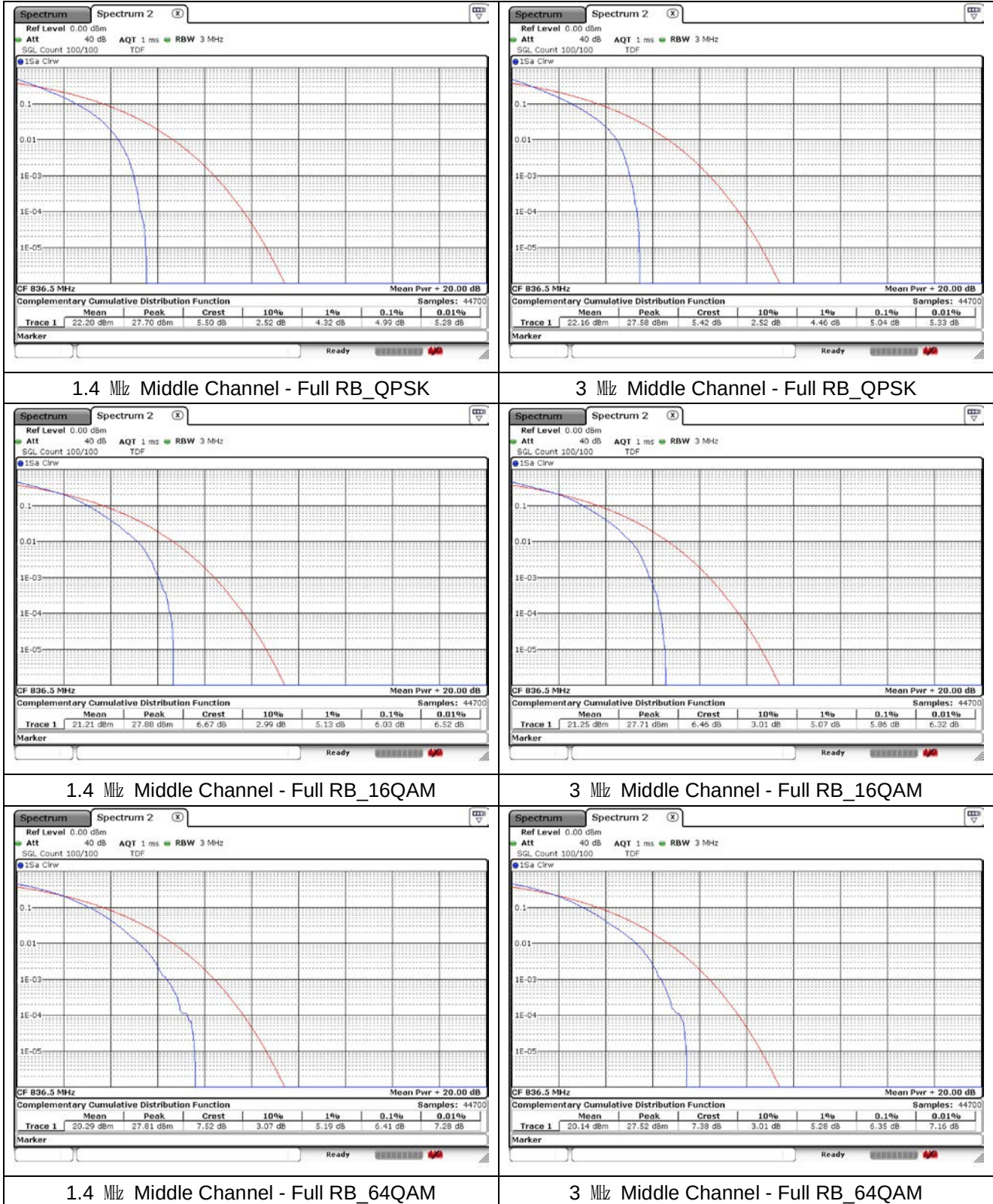
5.3 Test Results

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

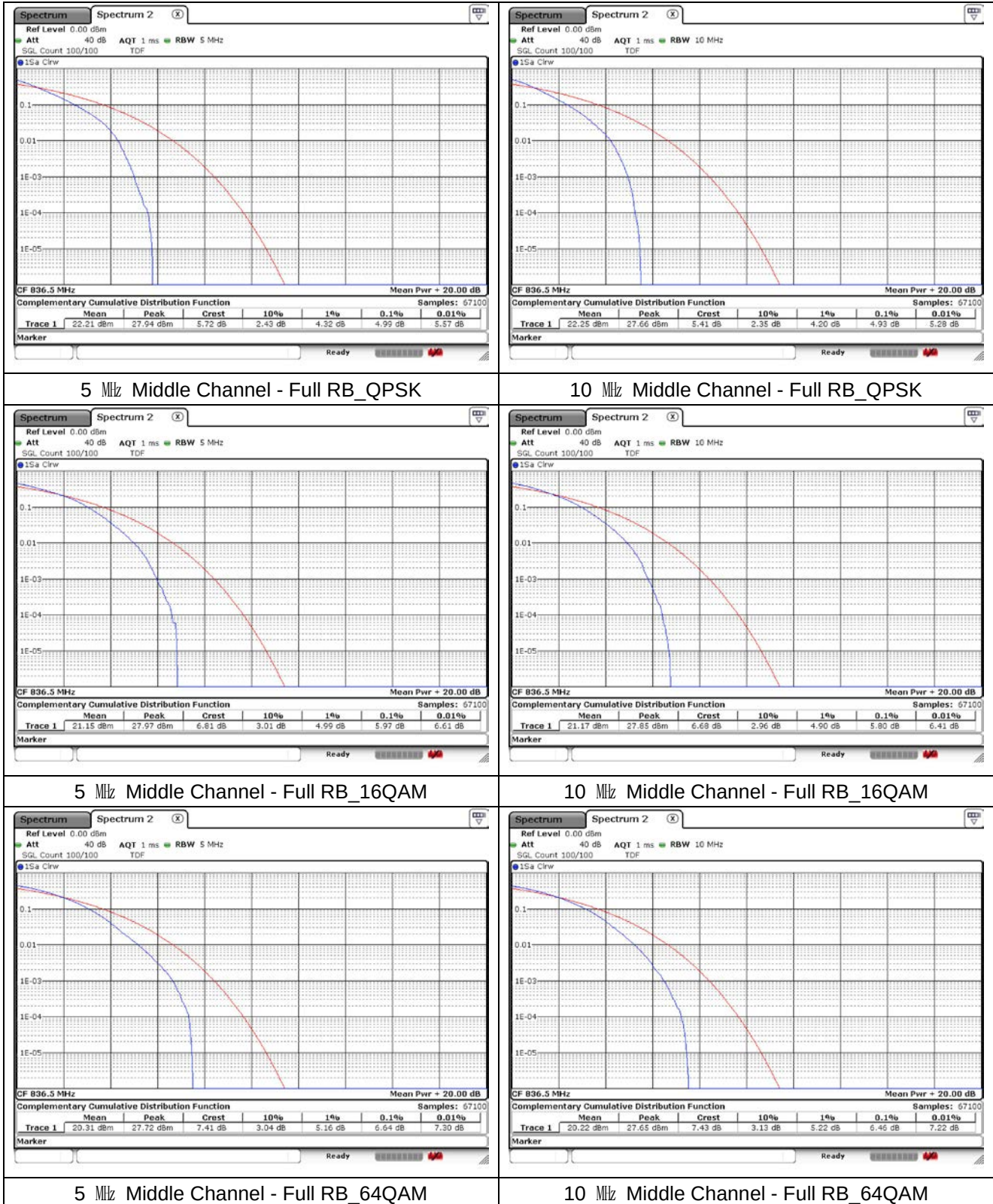
Band	Bandwidth (MHz)	Frequency (MHz)	PAR (dB)		
			QPSK	16QAM	64QAM
26/5 Part 22	1.4	824.7	5.83	6.41	7.25
		836.5	4.99	6.03	6.41
		848.3	4.70	5.68	6.55
	3	825.5	5.07	5.91	6.58
		836.5	5.04	5.86	6.35
		847.5	4.64	5.74	6.49
	5	826.5	5.16	6.12	6.58
		836.5	4.99	5.97	6.64
		846.5	4.55	5.68	6.46
	10	829.0	5.16	5.97	6.52
		836.5	4.93	5.80	6.46
		844.0	4.78	5.80	6.52
	15	831.5	5.28	6.09	6.64
		841.5	5.01	6.03	6.46
26 Part 90	1.4	814.7	4.78	5.80	6.81
		819.0	4.84	5.65	6.93
		823.3	5.65	6.46	7.04
	3	815.5	4.49	5.68	6.70
		819.0	4.49	5.65	6.52
		822.5	5.01	6.06	6.70
	5	816.5	4.58	5.62	6.55
		819.0	4.55	5.71	6.46
		821.5	4.87	5.97	6.46
	10	819.0	4.61	5.71	6.67
	15	821.5	5.04	6.06	6.67

- Test plots

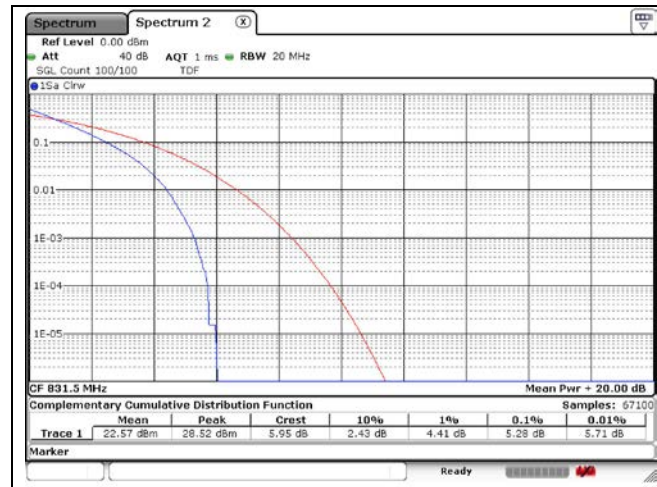
LTE band 26/5 Part 22



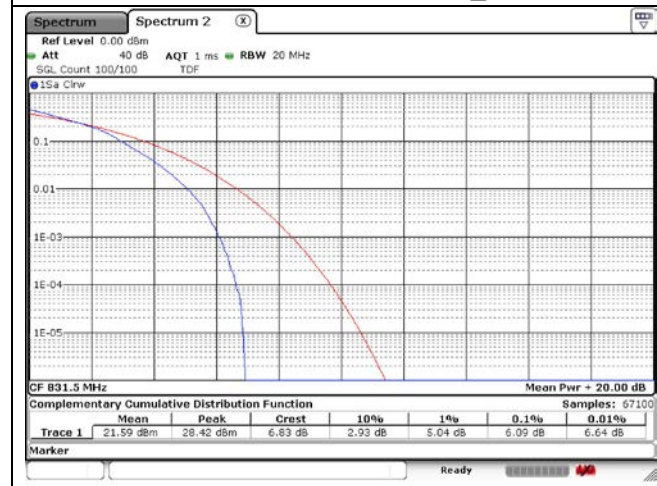
LTE band 26/5 Part 22



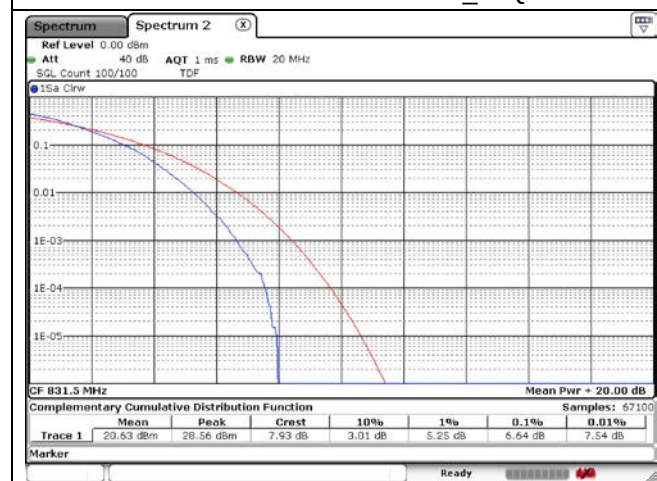
LTE band 26_Part 22



15 MHz Low Channel - Full RB_QPSK

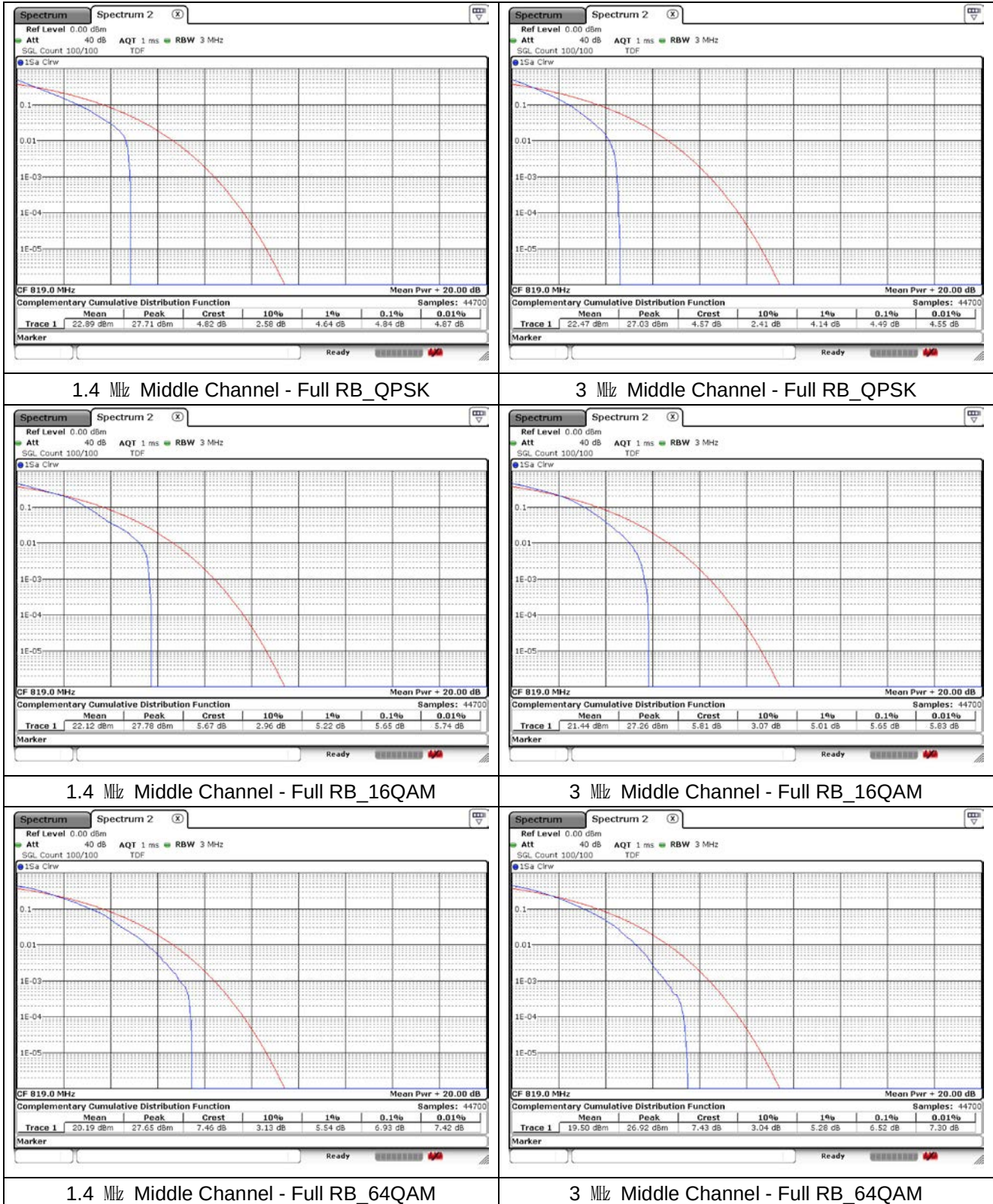


15 MHz Low Channel - Full RB_16QAM

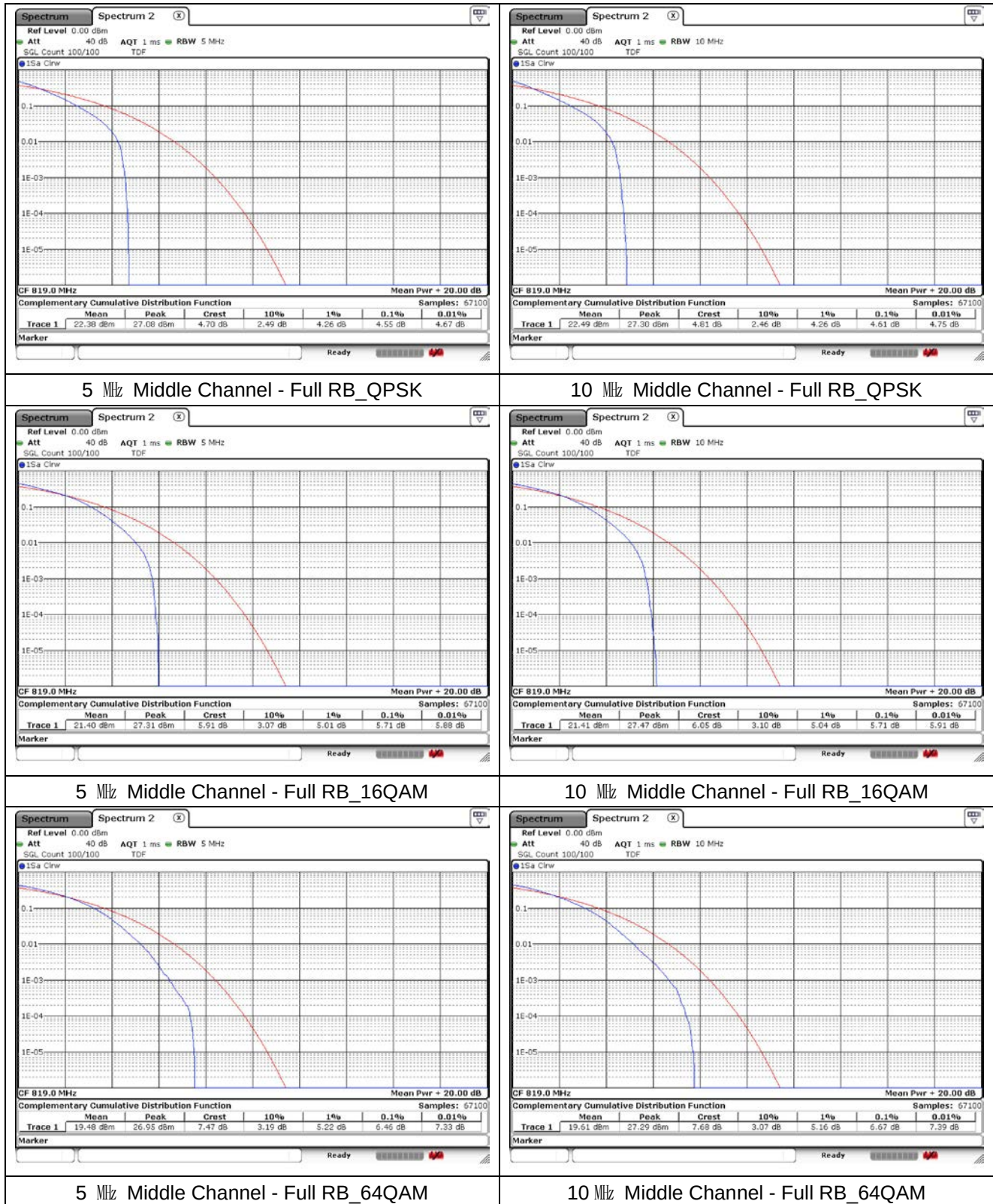


15 MHz Low Channel - Full RB_64QAM

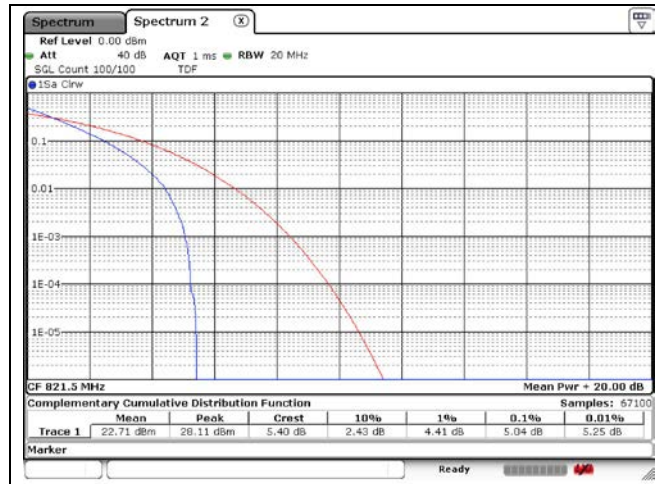
LTE band 26 Part 20



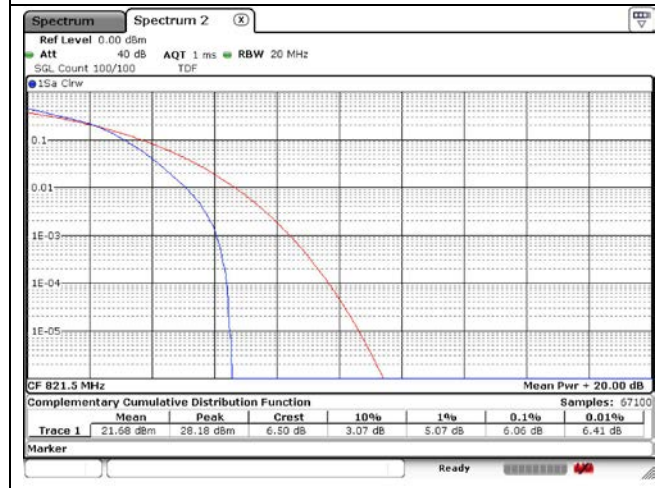
LTE band 26_Part 90



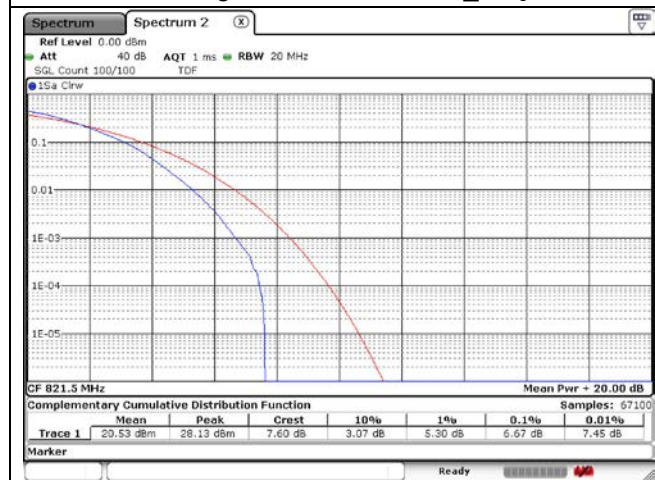
LTE band 26_Part 90



15 MHz High Channel - Full RB_QPSK



15 MHz High Channel - Full RB_16QAM



15 MHz High Channel - Full RB_64QAM

6. Spurious Emissions at Antenna Terminal

6.1. Limit

FCC

- §22.917(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10\log(P)$ dB.

- §90.691(a), out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \log_{10}(f / 6.1)$ decibels or $50 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

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5.5, Mobile and base station equipment shall comply with the limits in (i) and (ii) below.

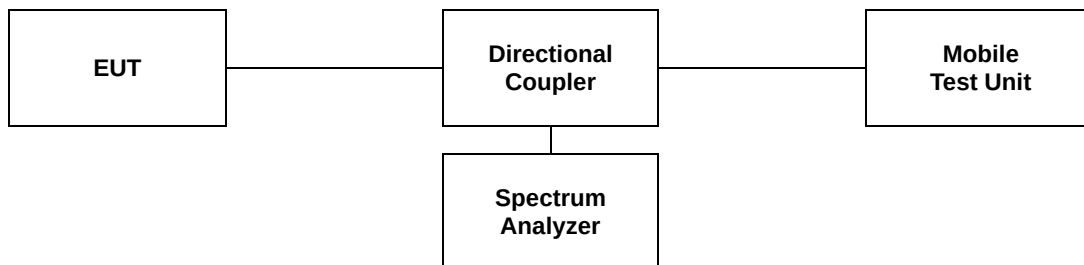
(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1 % of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dB W) by at least $43 + 10 \log_{10} p$ (watts).

(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dB W) by at least $43 + 10 \log_{10} p$ (watts). If the measurement is performed using 1 % of the occupied bandwidth, power integration over 100 kHz is required.

6.2. Test Procedure

The test follows section 5.7 of ANSI C63.26-2015.

1. Start frequency was set to 9 kHz and stop frequency was set to at least 10* the fundamental frequency.
2. Detector = Peak.
3. Trace mode = Max hold.
4. Sweep time = Auto couple.
5. The trace was allowed to stabilize.
6. Please see notes below for RBW and VBW settings.
7. For plots showing conducted spurious emissions from 9 kHz to 9 GHz, all path loss of wide frequency range was investigated and compensated to spectrum analyzer as TDF function.



Note;

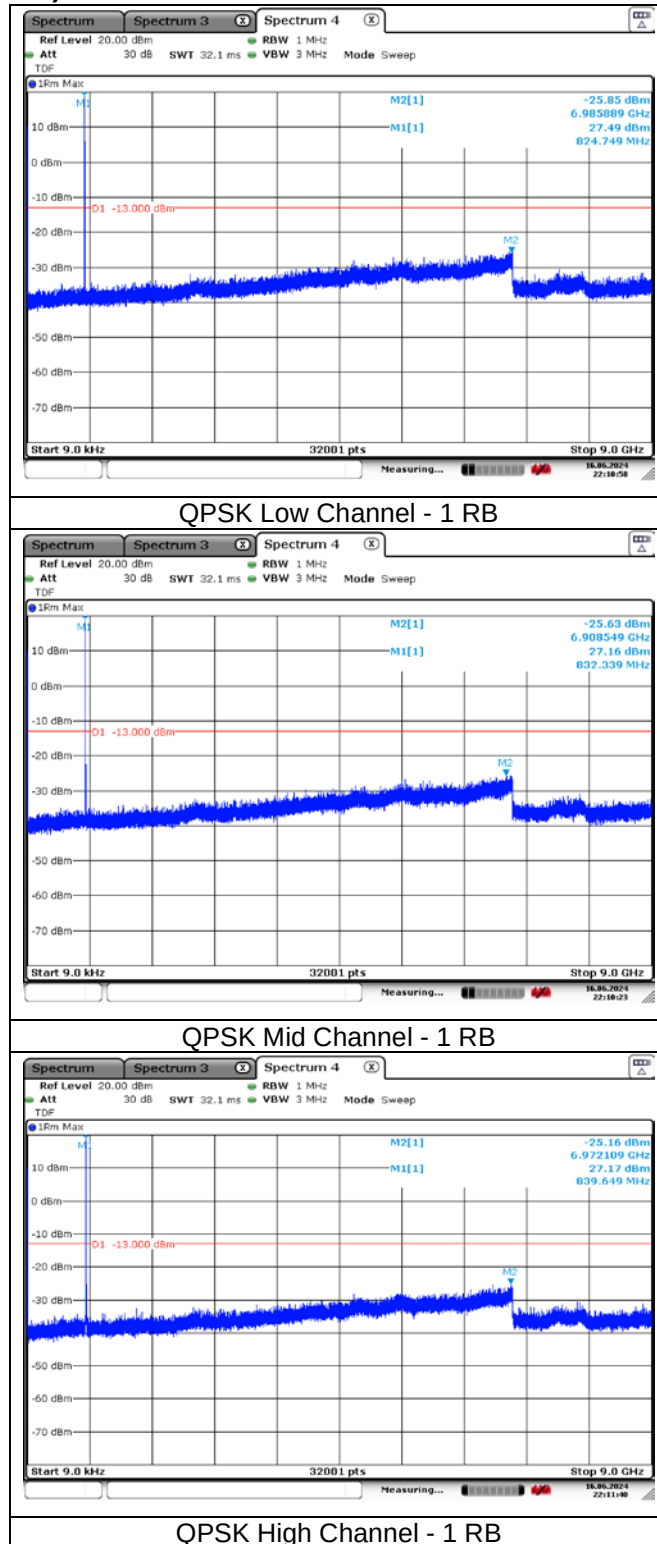
Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and frequencies greater than 1 GHz. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two point, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

6.3. Test Results

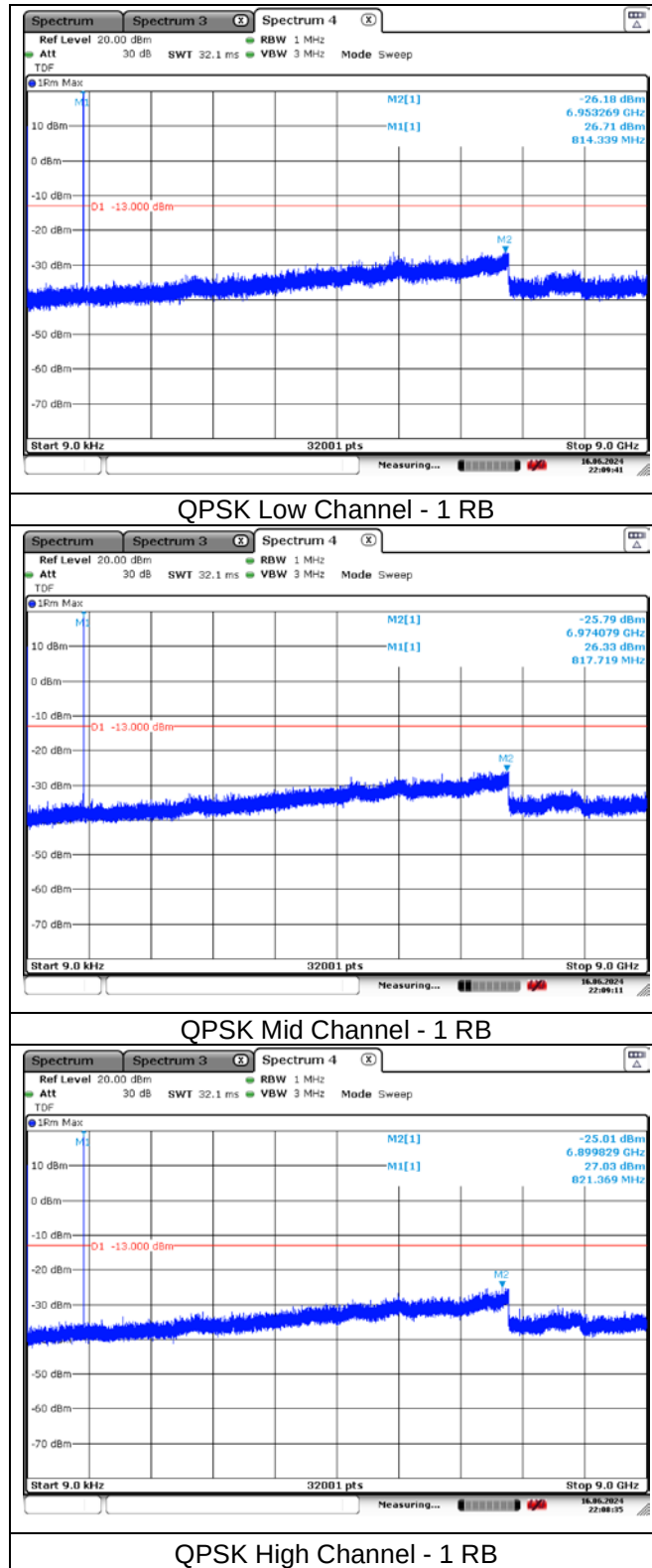
Ambient temperature : $(23 \pm 1) ^\circ\text{C}$
 Relative humidity : 47 % R.H.

- Test plots

LTE band 26 (10 MHz) (Part 22)



**LTE band 26 (3 MHz)
 (Part 90)**



7. Band Edge and Emission Mask

7.1. Limit

FCC

- §22.917(a), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10\log(P)$ dB.

- §90.691(a), out-of-band emission requirement shall apply only to the "outer" channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \log_{10}(f / 6.1)$ decibels or $50 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

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5.5, Mobile and base station equipment shall comply with the limits in (i) and (ii) below.

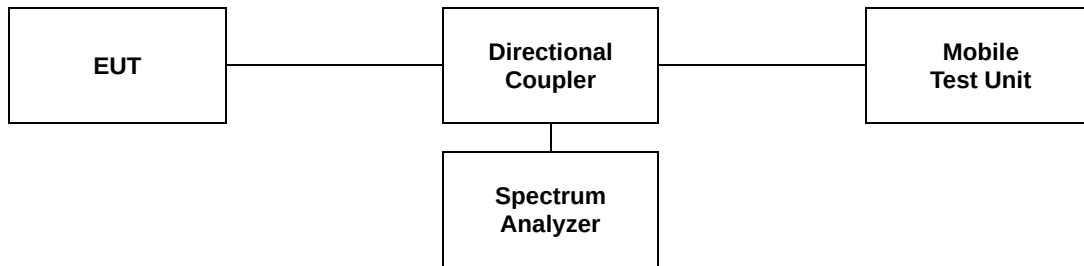
(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1 % of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dB W) by at least $43 + 10 \log_{10} p$ (watts).

(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dB W) by at least $43 + 10 \log_{10} p$ (watts). If the measurement is performed using 1 % of the occupied bandwidth, power integration over 100 kHz is required.

7.2. Test Procedure

The test follows section 5.7 of ANSI C63.26-2015.

- a. Span was set large enough so as to capture all out of band emissions near the band edge.
- b. $RBW \geq 1\%$ of OBW
- c. $VBW \geq 3 \times RBW$.
- d. Detector = RMS.
- e. Trace mode = Average.
- f. Sweep time = Auto.
- g. The trace was allowed to stabilize.
- h. All path loss of frequency range was investigated and compensated to spectrum analyzer as TDF function.

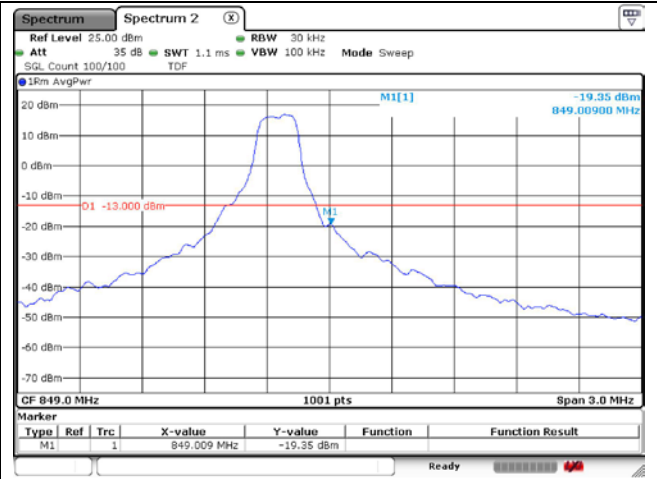
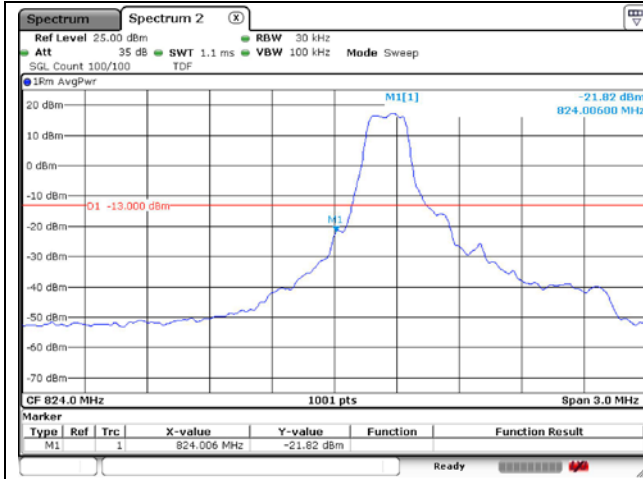


7.3. Test Results

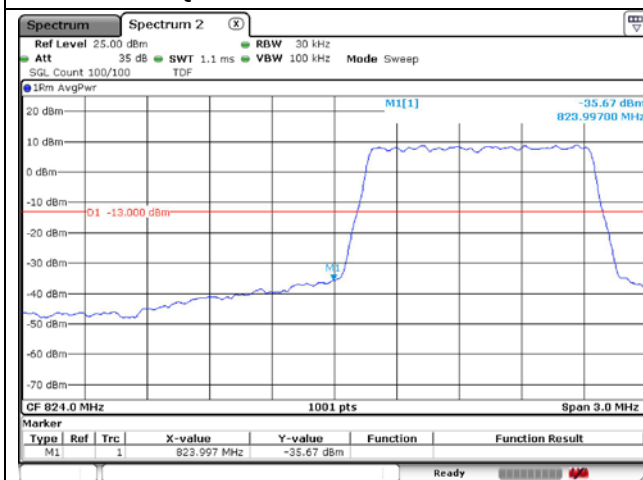
Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 % R.H.

- Test plots

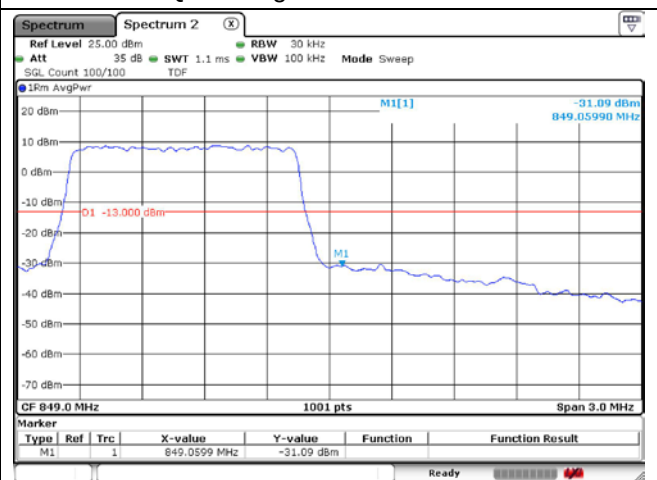
LTE band 26_Part 22 (1.4 MHz)



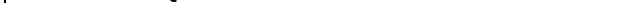
QPSK Low Channel - 1 RB



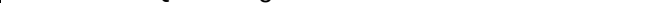
QPSK High Channel - 1 RB



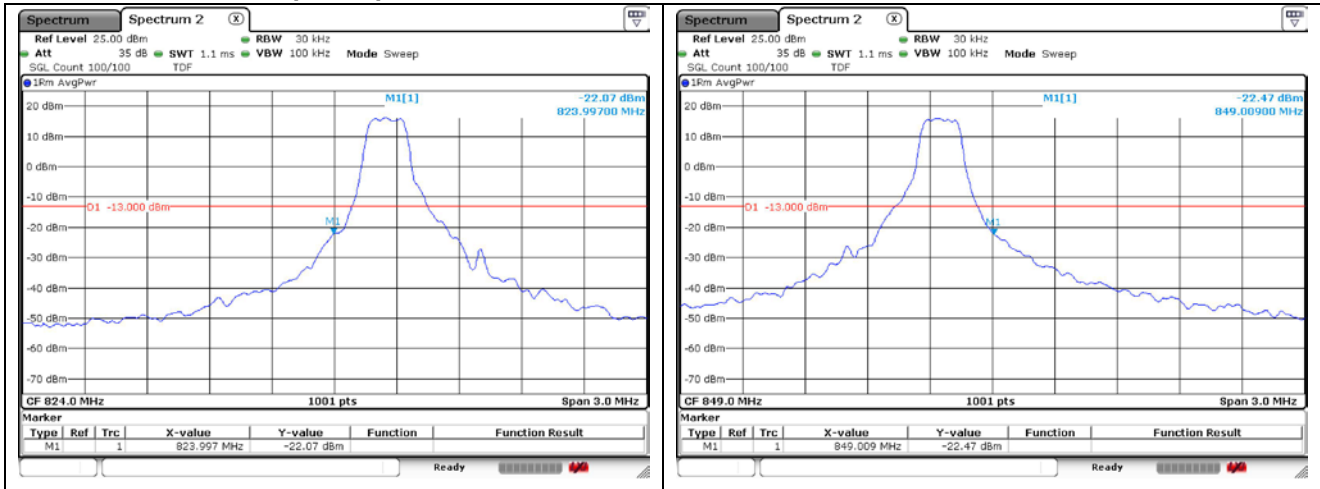
QPSK Low Channel - Full RB



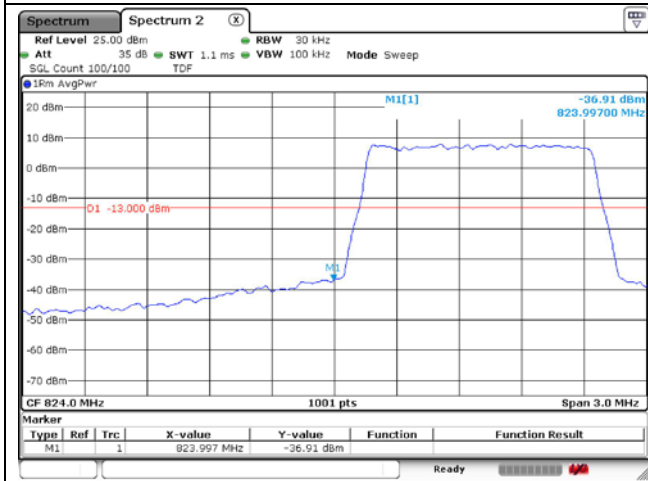
QPSK High Channel - Full RB



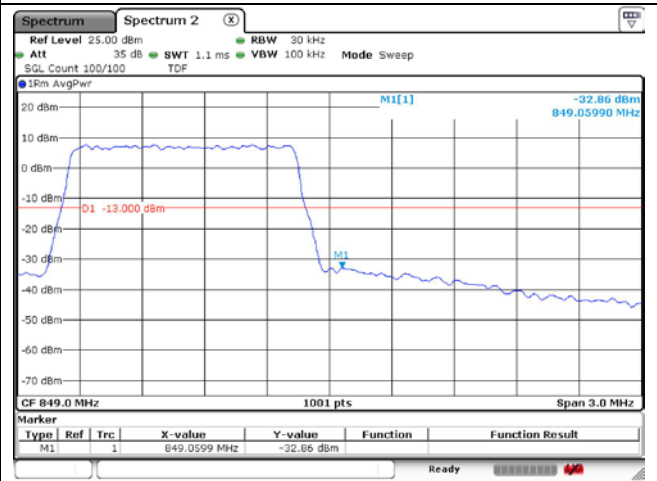
LTE band 26 Part 22 (1.4 MHz)



16QAM Low Channel - 1 RB



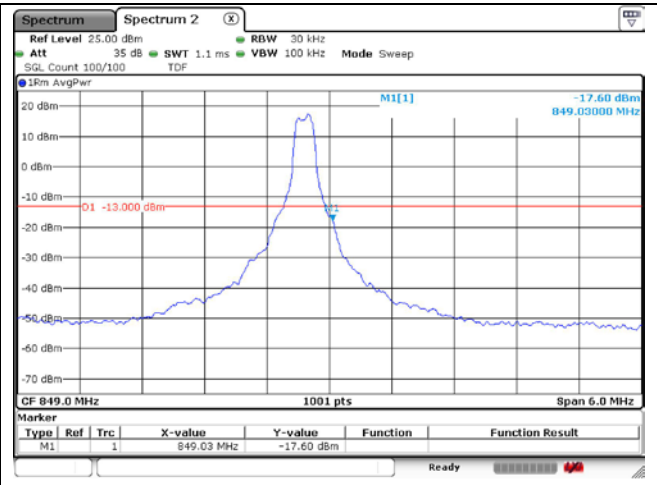
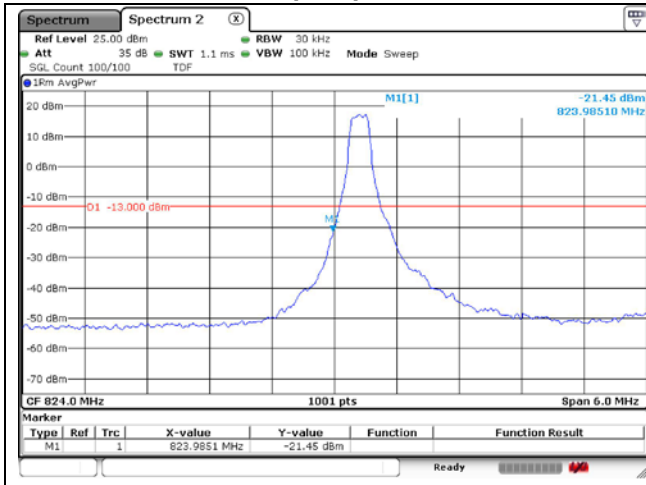
16QAM High Channel - 1 RB



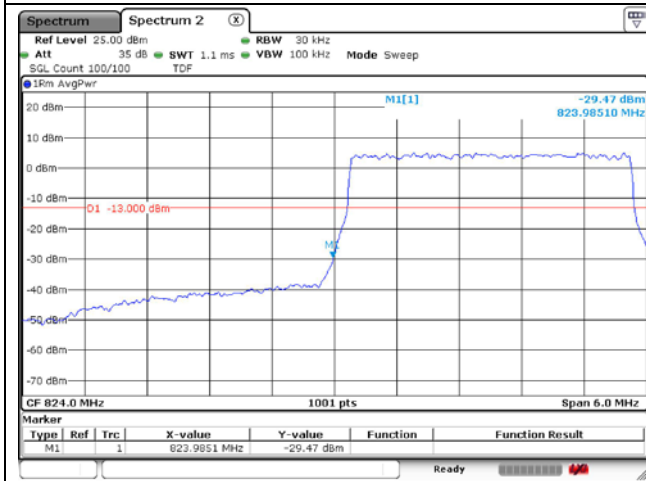
16QAM Low Channel - Full RB

16QAM High Channel - Full RB

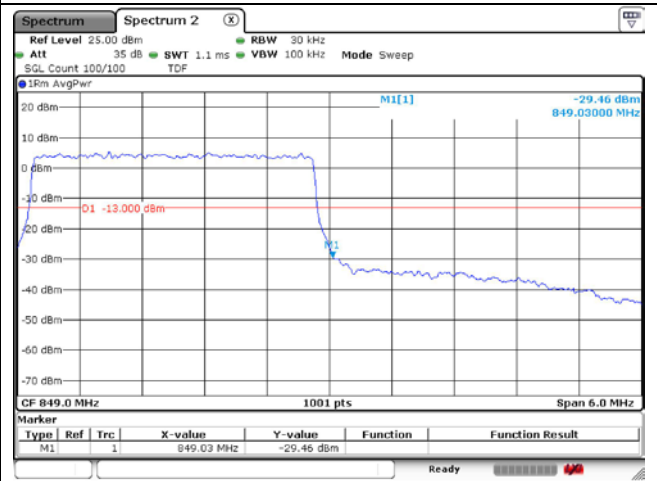
LTE band 26_Part 22 (3 MHz)



QPSK Low Channel - 1 RB



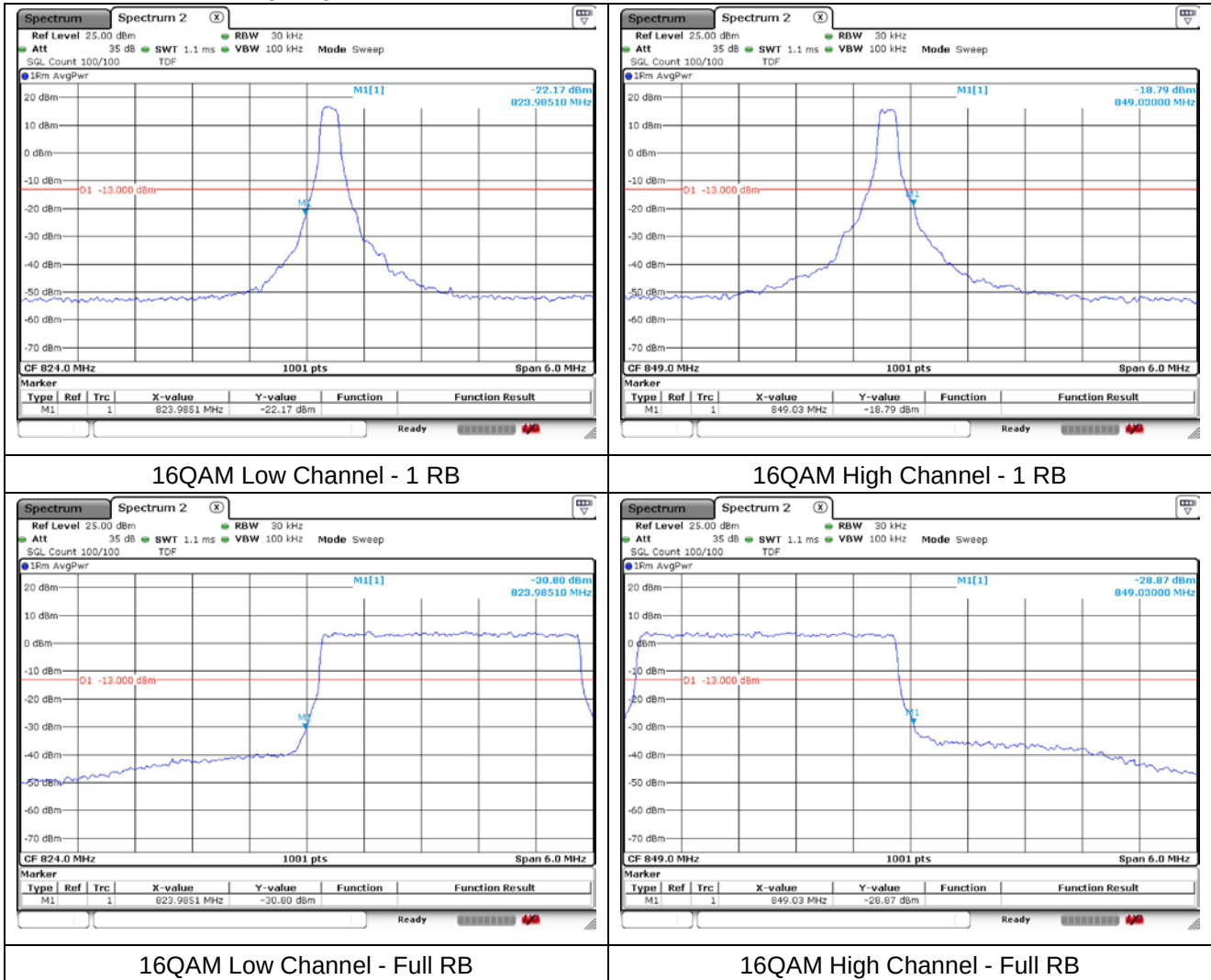
QPSK High Channel - 1 RB



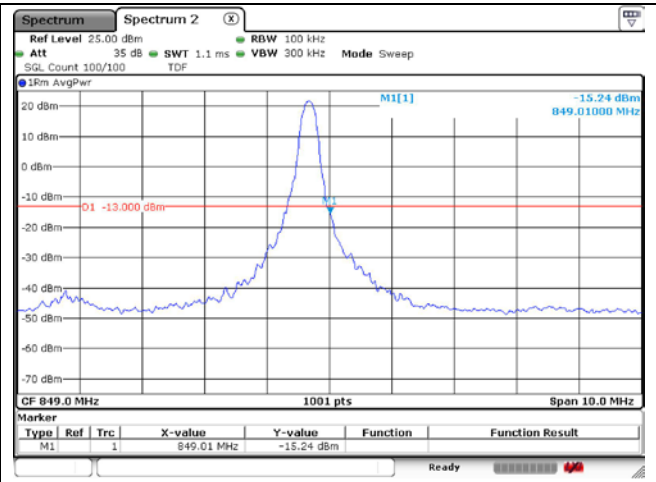
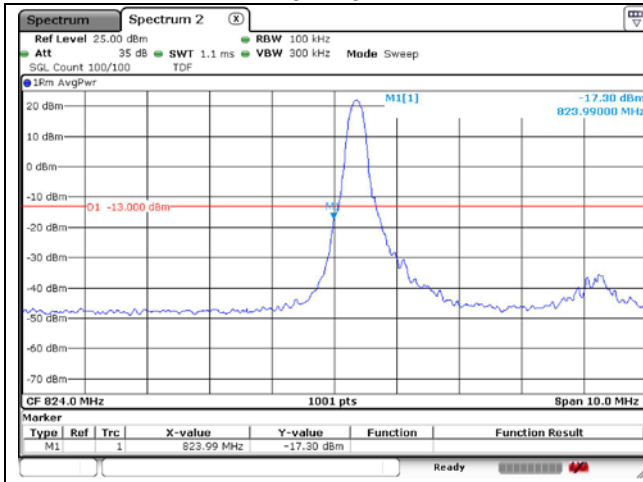
QPSK Low Channel - Full RB

QPSK High Channel - Full RB

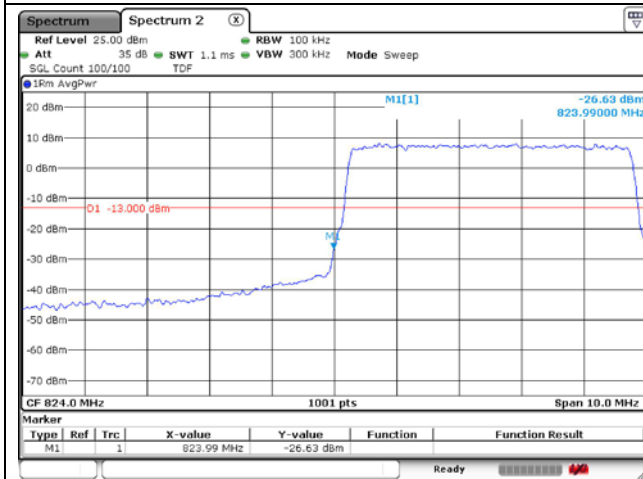
LTE band 26_Part 22 (3 MHz)



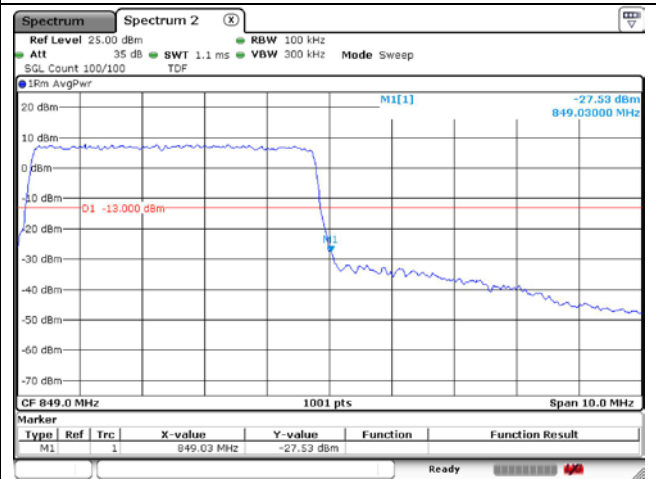
LTE band 26_Part 22 (5 MHz)



QPSK Low Channel - 1 RB



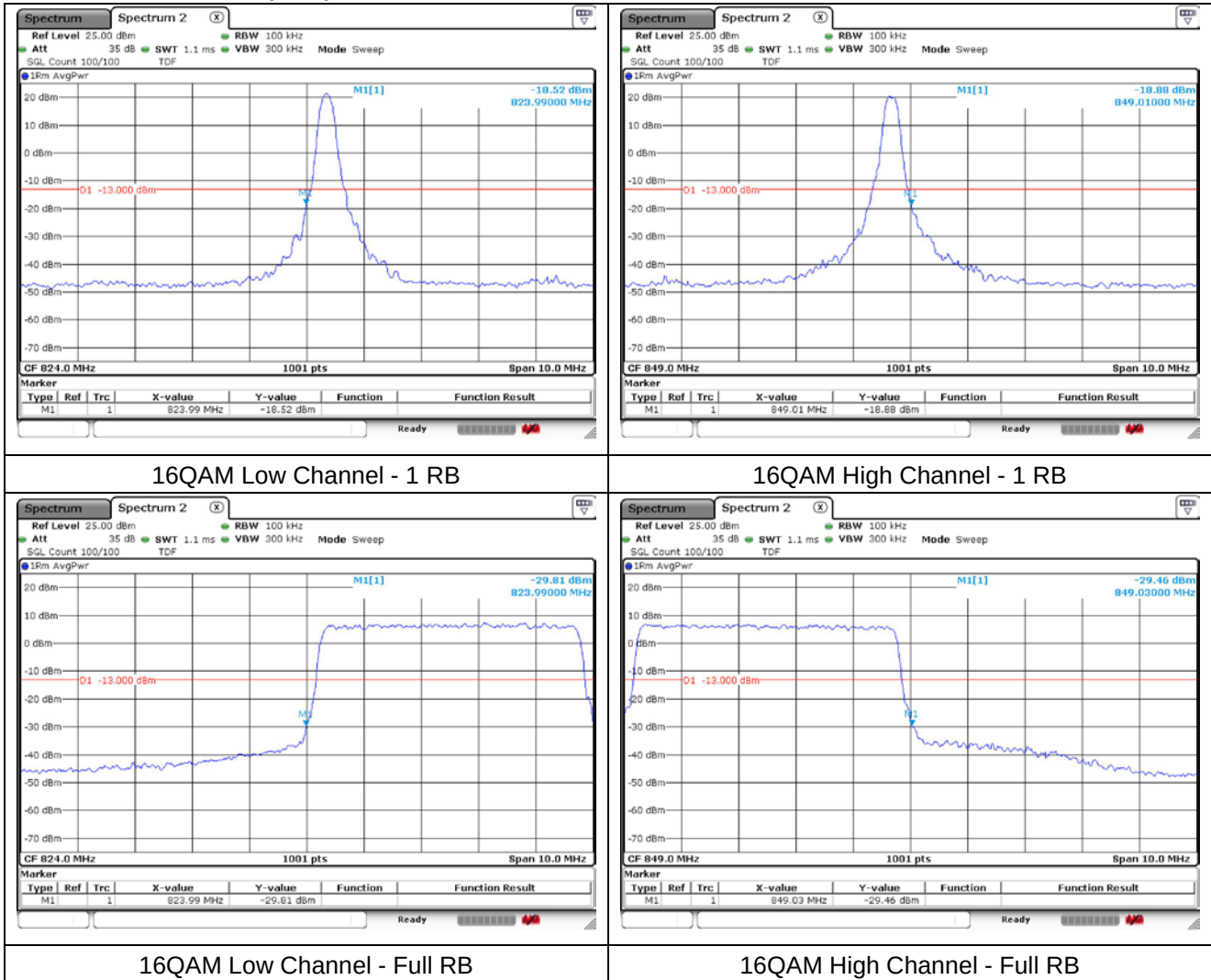
QPSK High Channel - 1 RB



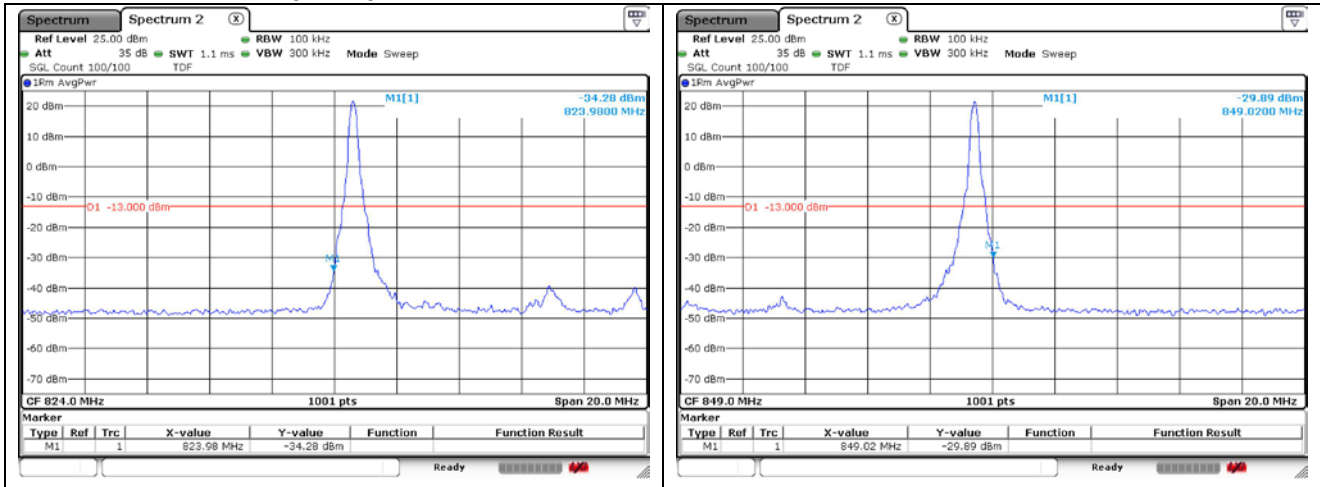
QPSK Low Channel - Full RB

QPSK High Channel - Full RB

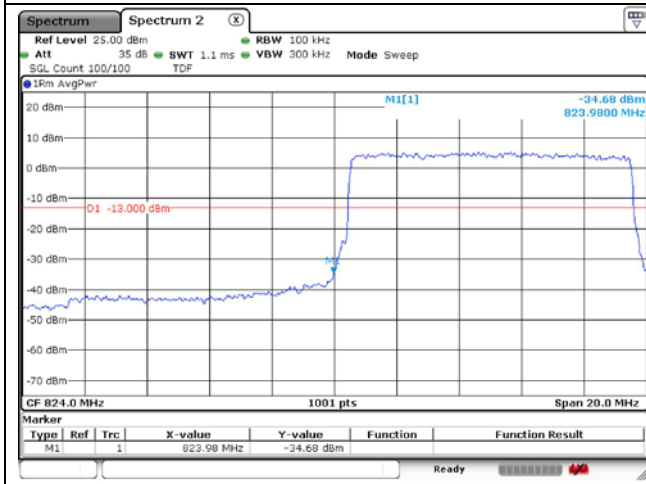
LTE band 26_Part 22 (5 MHz)



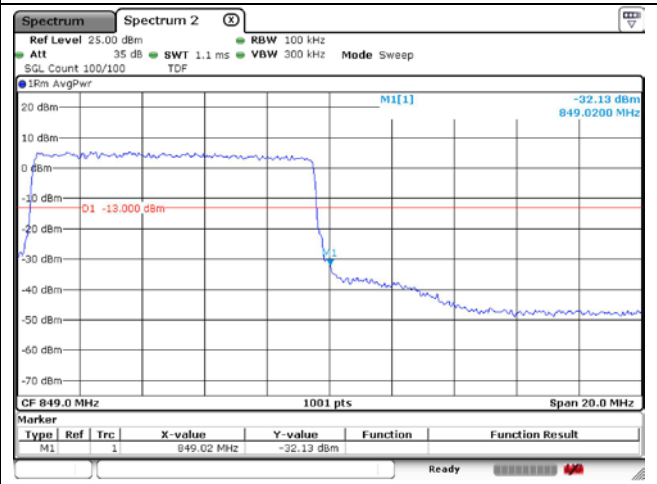
LTE band 26_Part 22 (10 MHz)



QPSK Low Channel - 1 RB



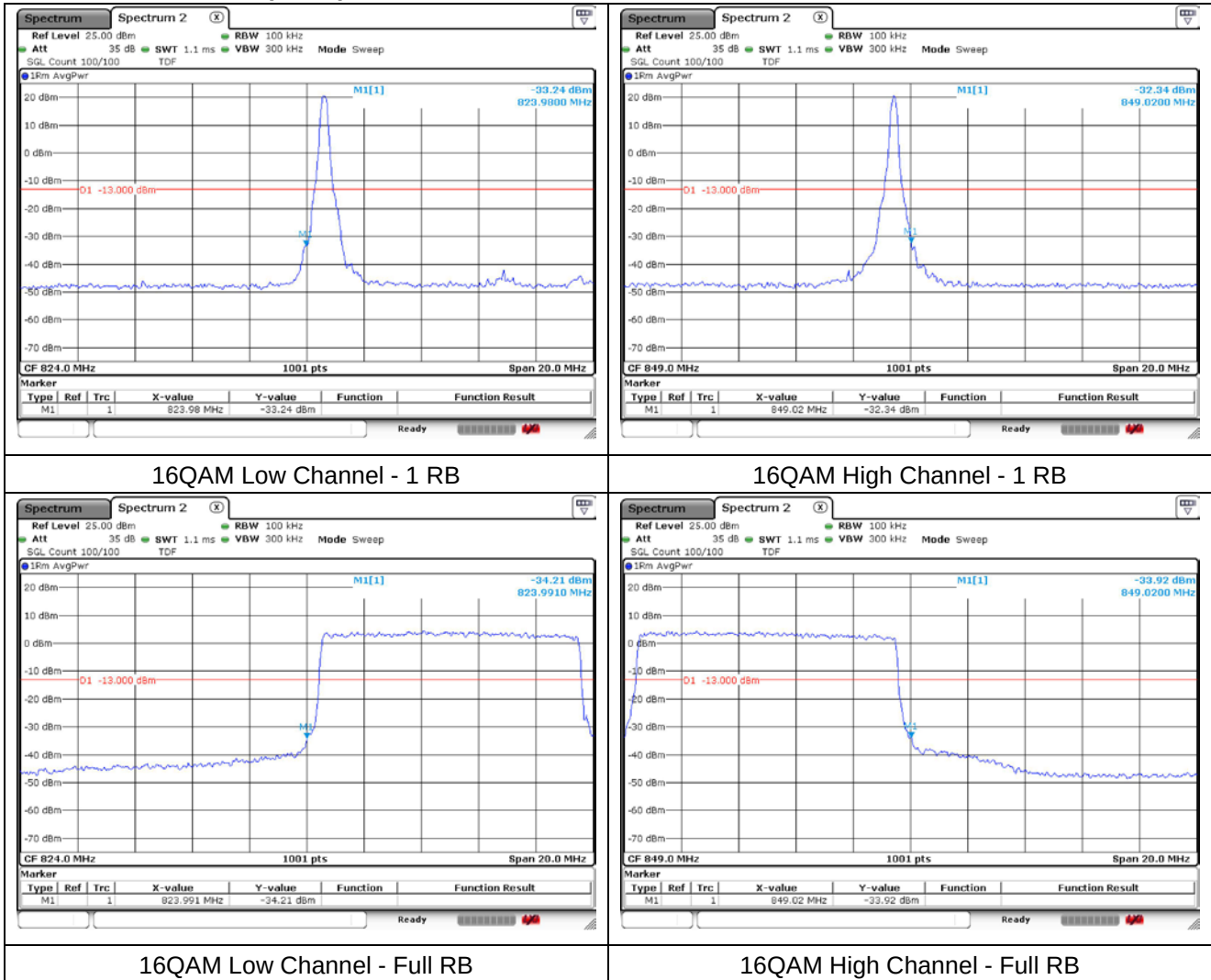
QPSK High Channel - 1 RB



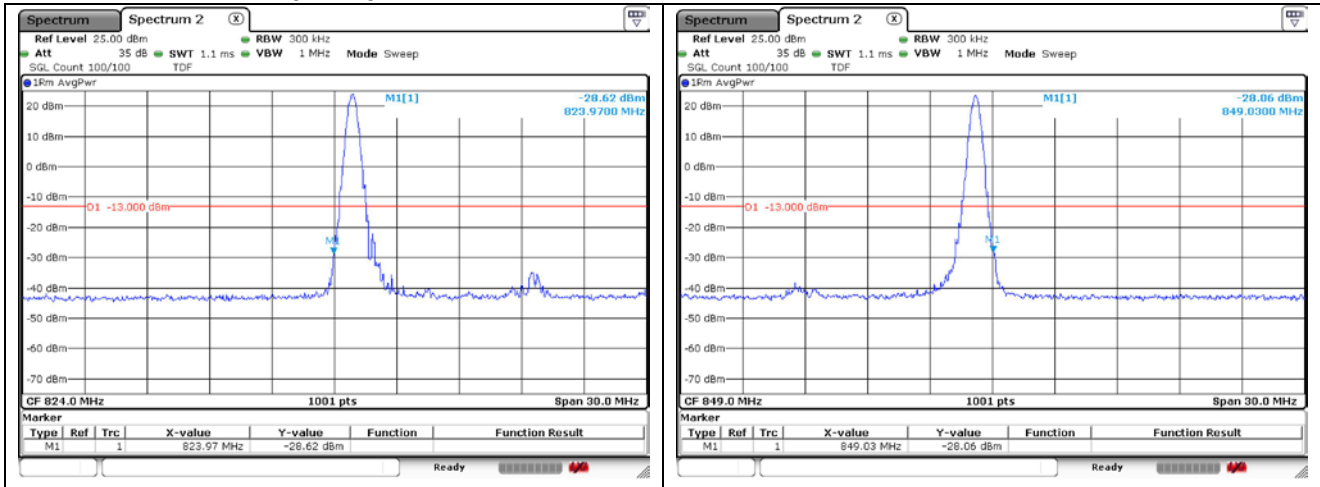
QPSK Low Channel - Full RB

QPSK High Channel - Full RB

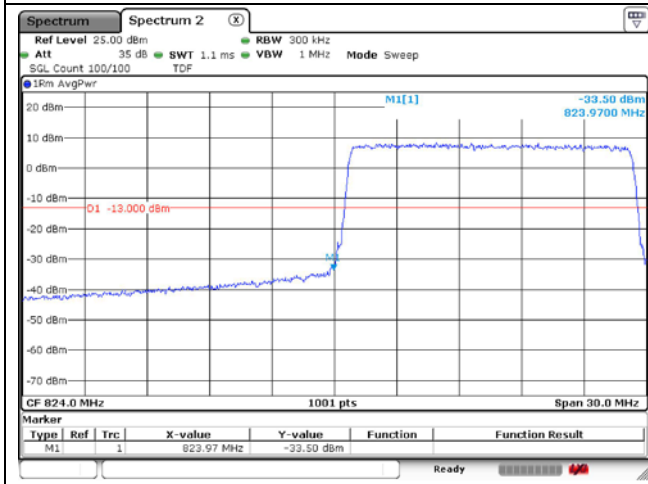
LTE band 26_Part 22 (10 MHz)



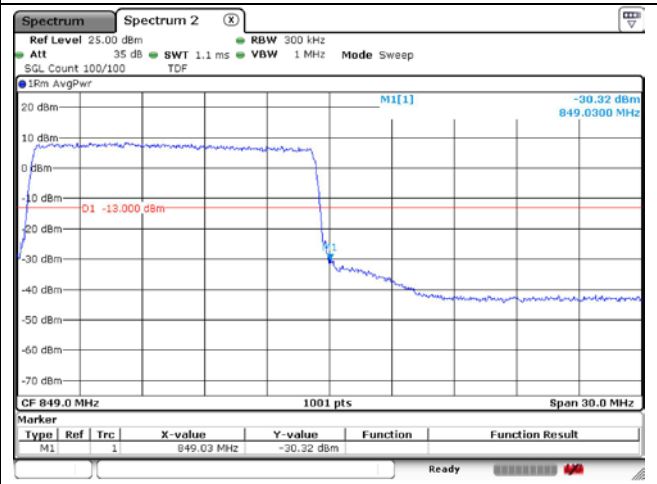
LTE band 26_Part 22 (15 MHz)



QPSK Low Channel - 1 RB



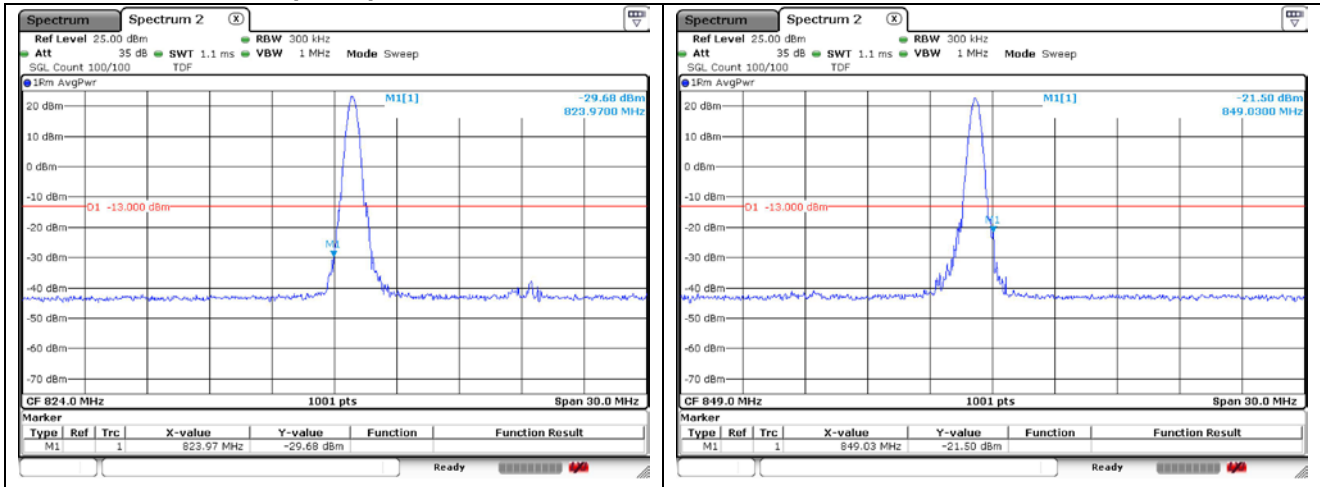
QPSK High Channel - 1 RB



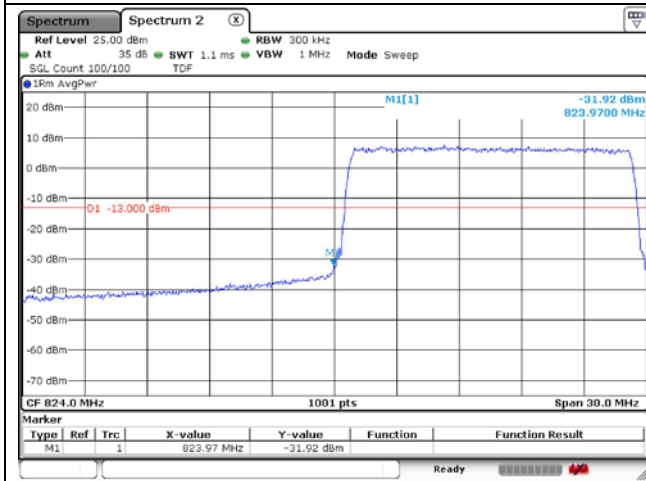
QPSK Low Channel - Full RB

QPSK High Channel - Full RB

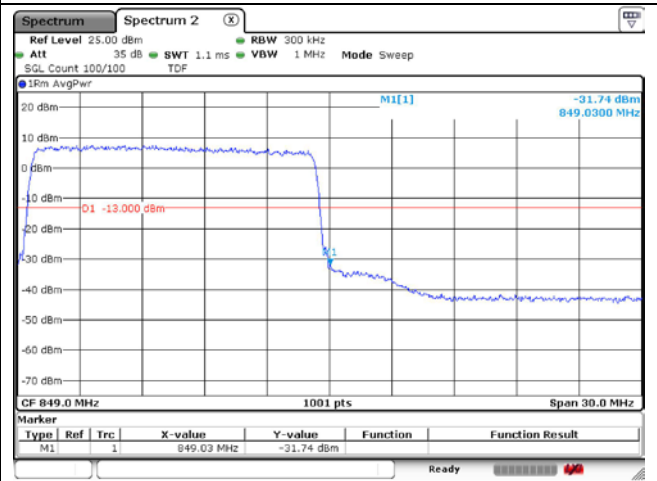
LTE band 26_Part 22 (15 MHz)



16QAM Low Channel - 1 RB



16QAM High Channel - 1 RB



16QAM Low Channel - Full RB

16QAM High Channel - Full RB

