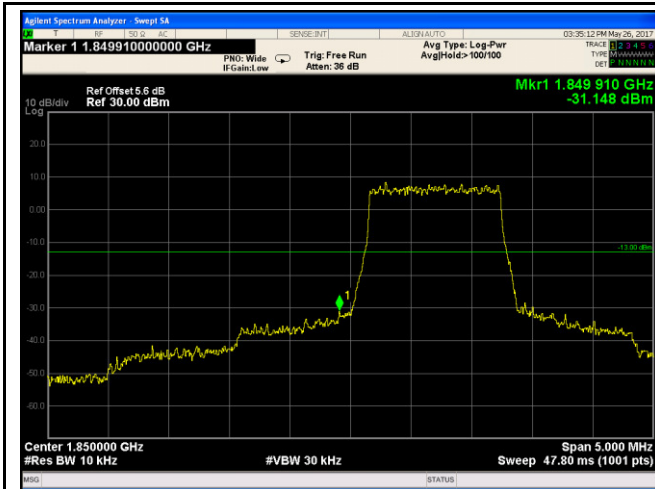


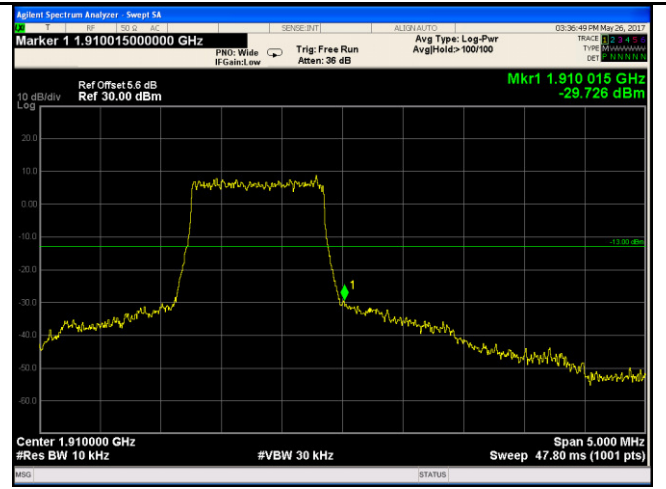
Test Plots

LTE Band II (Part 24E)



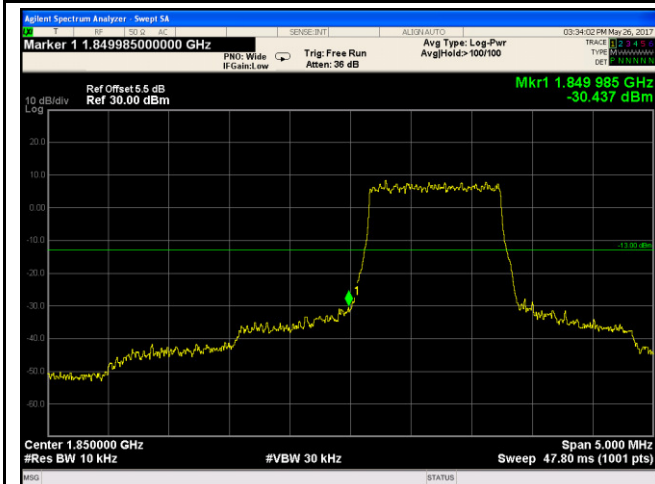
LTE Band II - Low Channel QPSK-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.86/10)=4.5+1.1=5.6dB



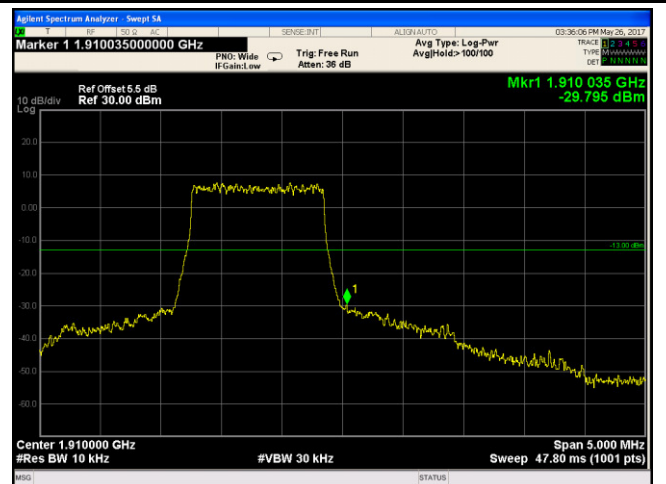
LTE Band II - High Channel QPSK-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.80/10)=4.5+1.1=5.6dB



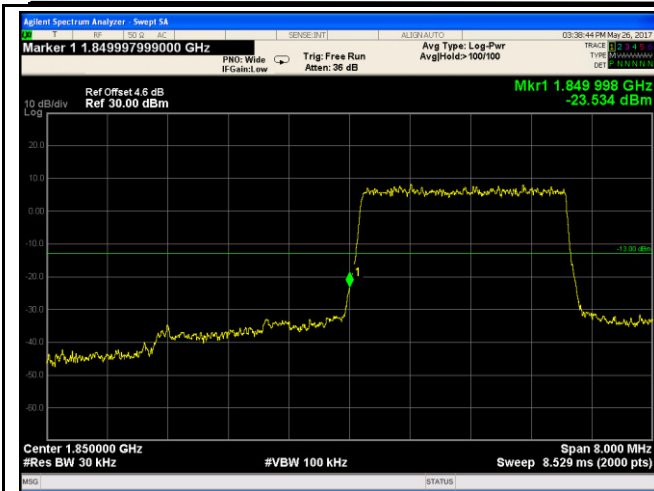
LTE Band II - Low Channel 16QAM-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.61/10)=4.5+1.0=5.5 dB



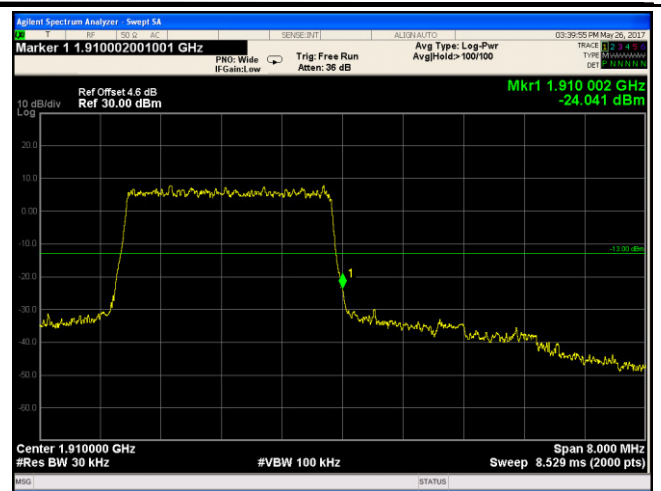
LTE Band II - High Channel 16QAM-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.60/10)=4.5+1.0=5.5 dB



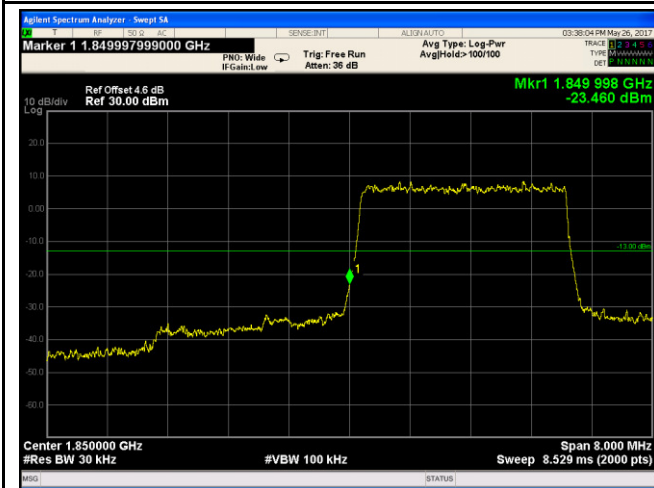
LTE Band II - Low Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(30.43/30)=4.5+0.1=4.6 dB



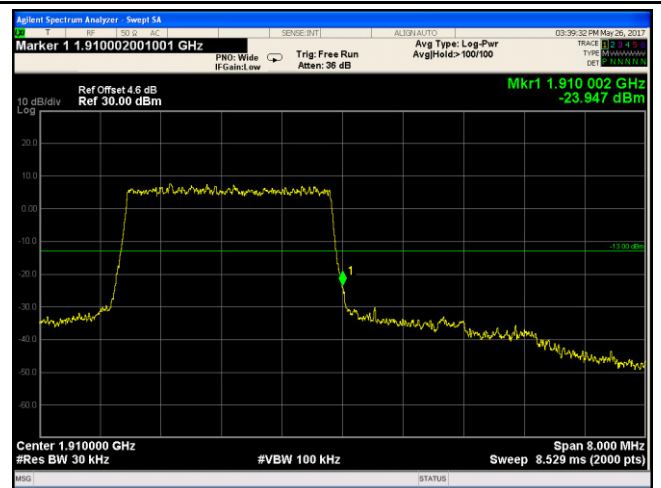
LTE Band II - High Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(30.69/30)=4.5+0.1=4.6 dB



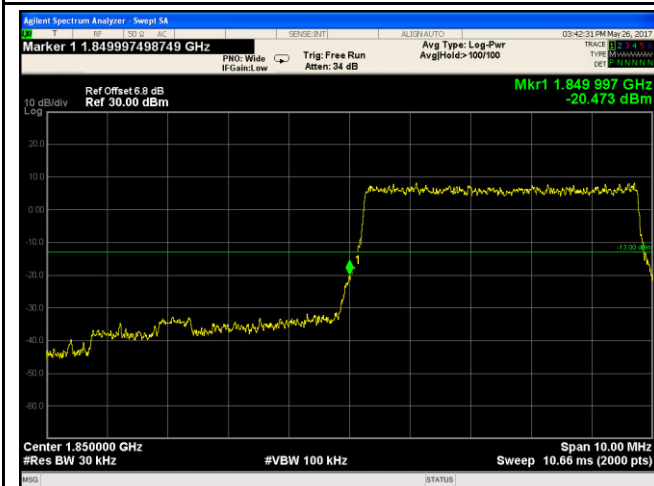
LTE Band II - Low Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(30.63/30)=4.5+0.1=4.6 dB



LTE Band II - High Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(30.71/30)=4.5+0.1=4.6 dB

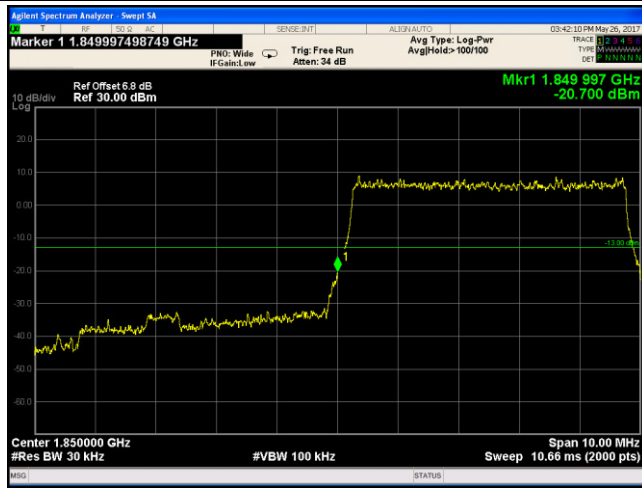


LTE Band II - Low Channel QPSK-5



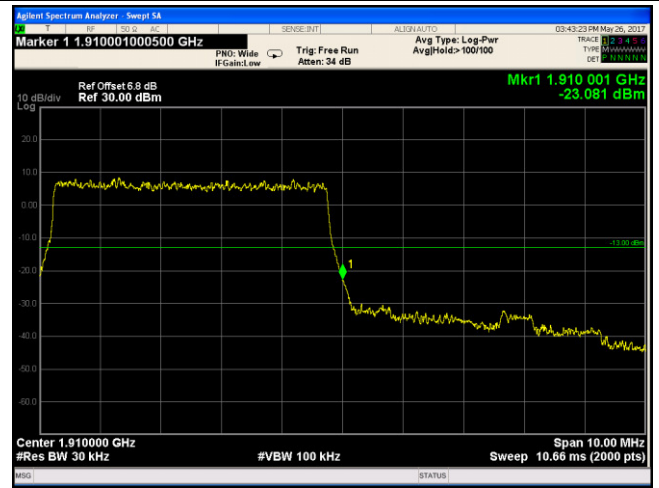
LTE Band II - High Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
 $(50.95/30)=4.5+2.3=6.8$ dB



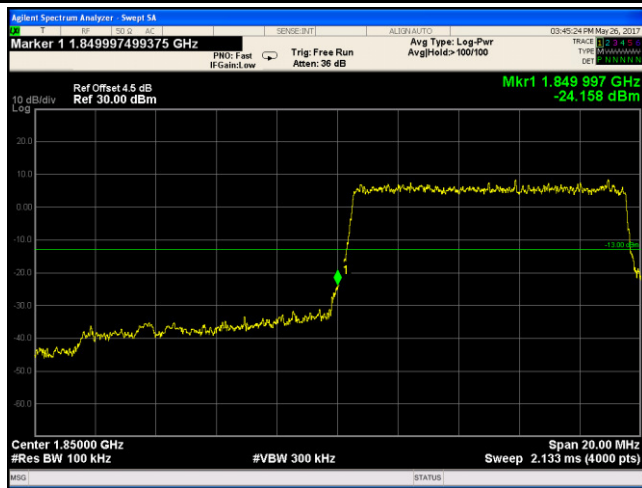
LTE Band II - Low Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log
 $(50.74/30)=4.5+2.3=6.8$ dB



LTE Band II - High Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log
 $(50.92/30)=4.5+2.3=6.8$ dB

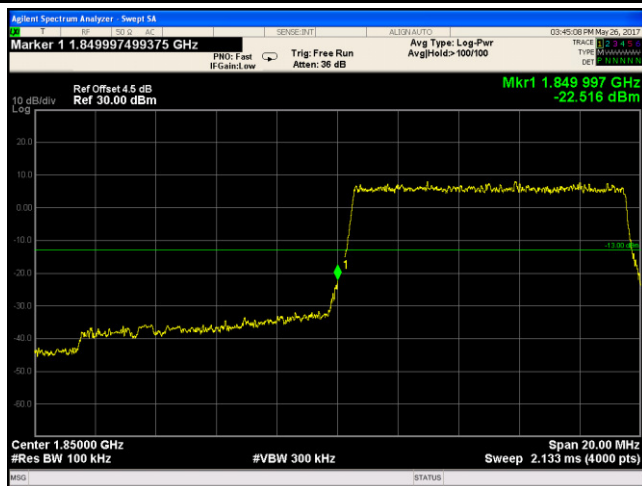


LTE Band II - Low Channel QPSK-10

Note: Offset=Cable loss (4.5) + 10log
 $(50.71/30)=4.5+2.3=6.8$ dB



LTE Band II - High Channel QPSK-10

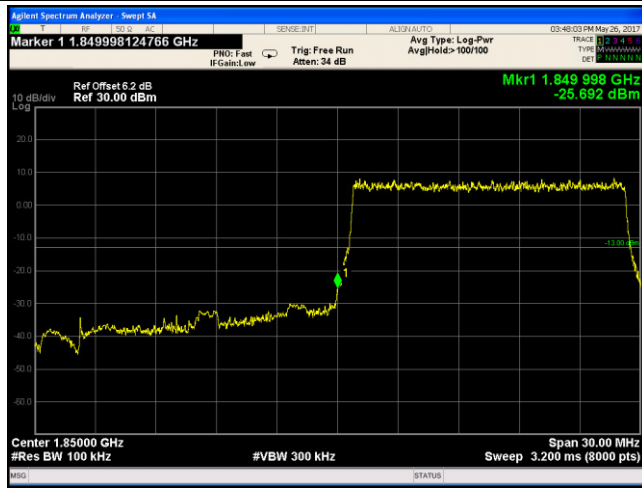


LTE Band II - Low Channel 16QAM-10



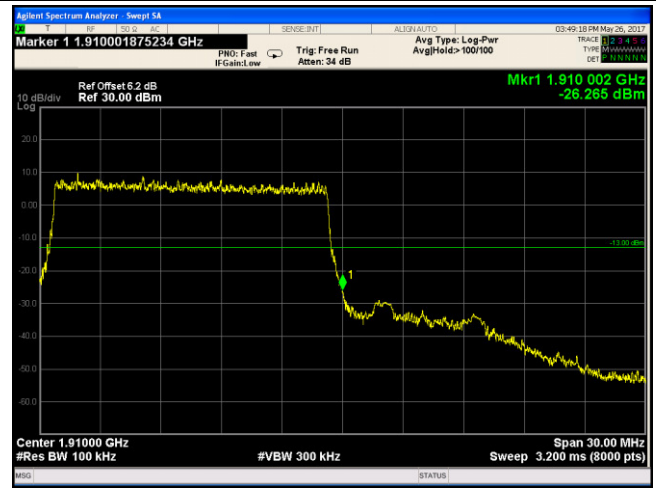
LTE Band II - High Channel 16QAM-10

Note: Offset=Cable loss (4.5) + 10log
(100.9/100)=4.5+0.0=4.5 dB



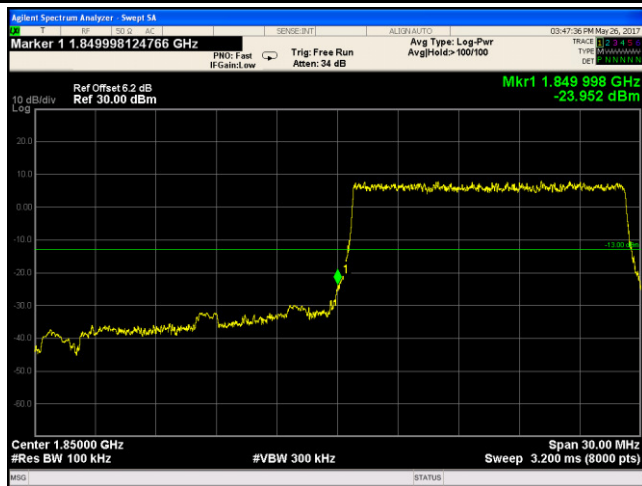
LTE Band II - Low Channel QPSK-15

Note: Offset=Cable loss (4.5) + 10log
(101.6/100)=4.5+0.0=4.5 dB



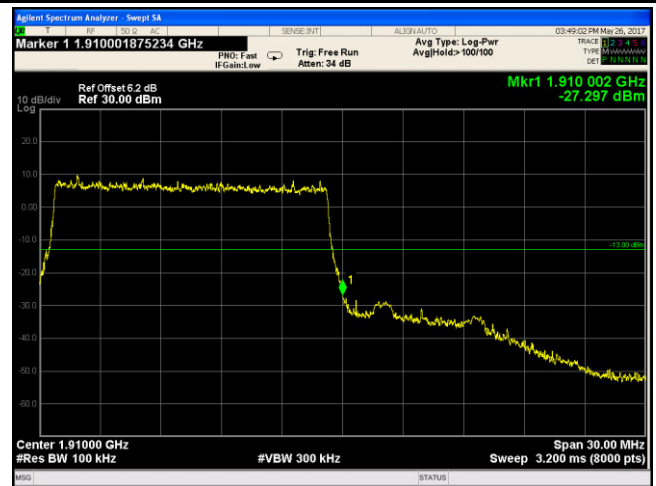
LTE Band II - High Channel QPSK-15

Note: Offset=Cable loss (4.5) + 10log
(148.6/100)=4.5+1.7=6.2 dB



LTE Band II - Low Channel 16QAM-15

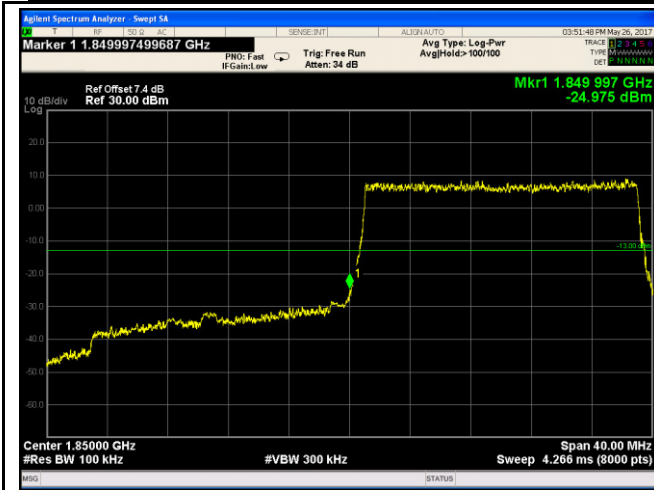
Note: Offset=Cable loss (4.5) + 10log
(148.5/100)=4.5+1.7=6.2 dB



LTE Band II - High Channel 16QAM-15

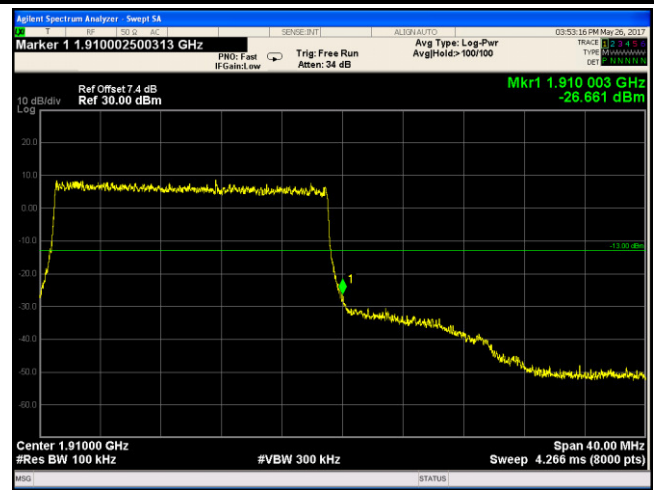
Note: Offset=Cable loss (4.5) + 10log
(148.6/100)=4.5+1.7=6.2 dB

Note: Offset=Cable loss (4.5) + 10log
(148.9/100)=4.5+1.7=6.2 dB



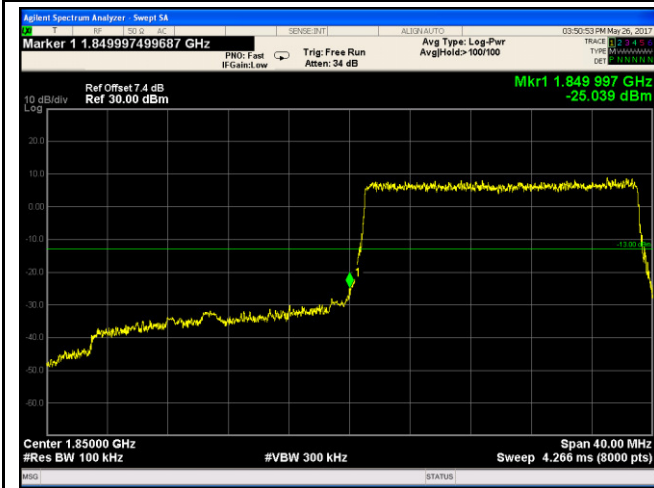
LTE Band II - Low Channel QPSK-20

Note: Offset=Cable loss (4.5) + 10log
(194/100)=4.5+2.9=7.4 dB



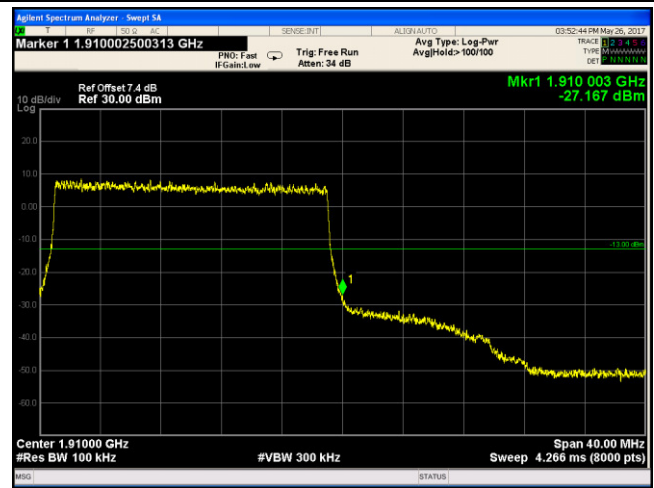
LTE Band II - High Channel QPSK-20

Note: Offset=Cable loss (4.5) + 10log
(194.1/100)=4.5+2.9=7.4 dB



LTE Band II - Low Channel 16QAM-20

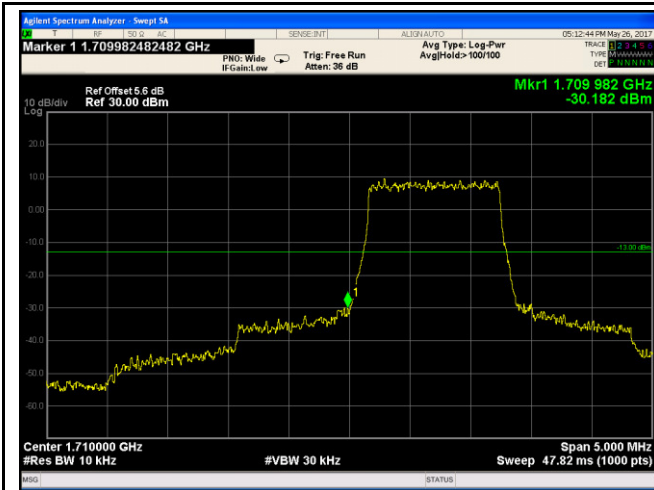
Note: Offset=Cable loss (4.5) + 10log
(193.9/100)=4.5+2.9=7.4 dB



LTE Band II - High Channel 16QAM-20

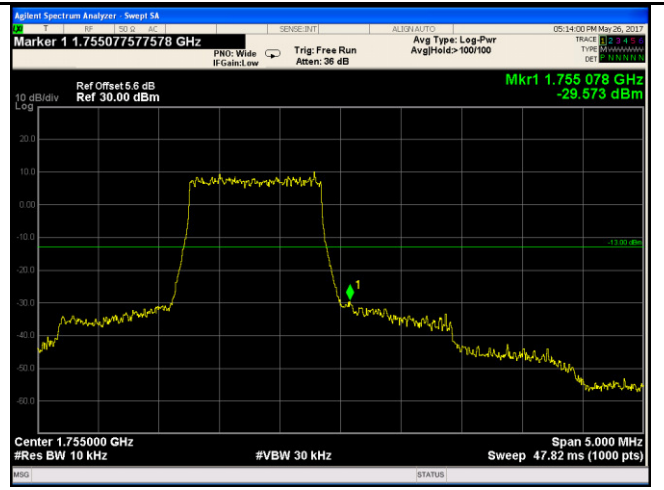
Note: Offset=Cable loss (4.5) + 10log
(194.2/100)=4.5+2.9=7.4 dB

LTE Band IV (Part 27)



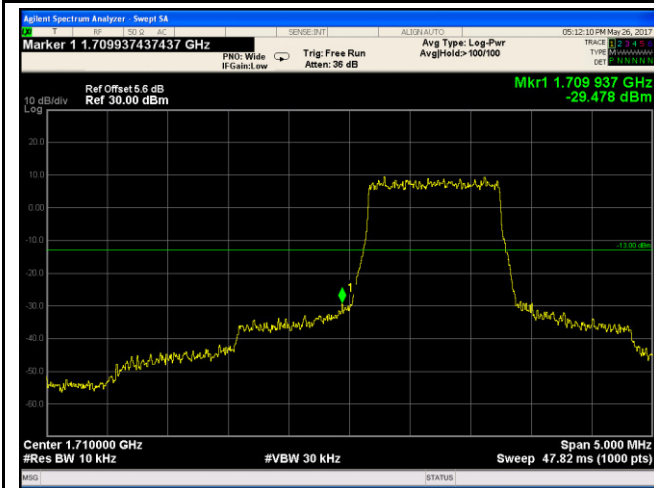
LTE Band IV - Low Channel QPSK-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.82/10)=4.5+1.1=5.6 dB



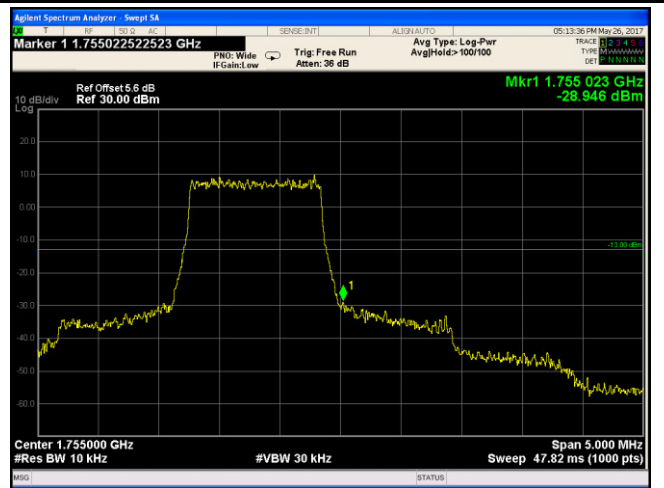
LTE Band IV - High Channel QPSK-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.78/10)=4.5+1.1=5.6 dB



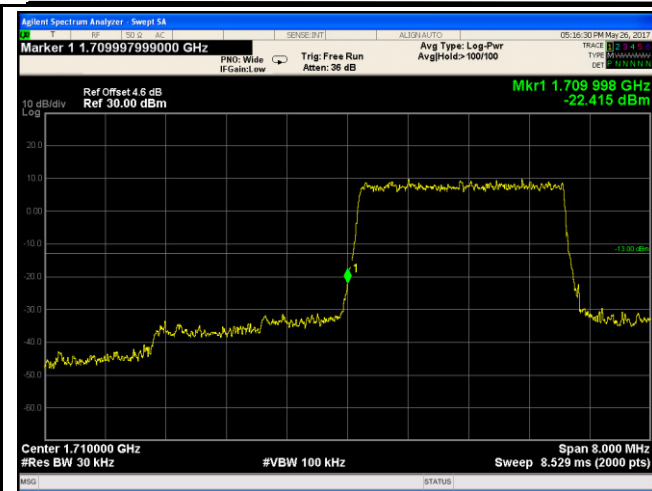
LTE Band IV - Low Channel 16QAM-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.84/10)=4.5+1.1=5.6 dB



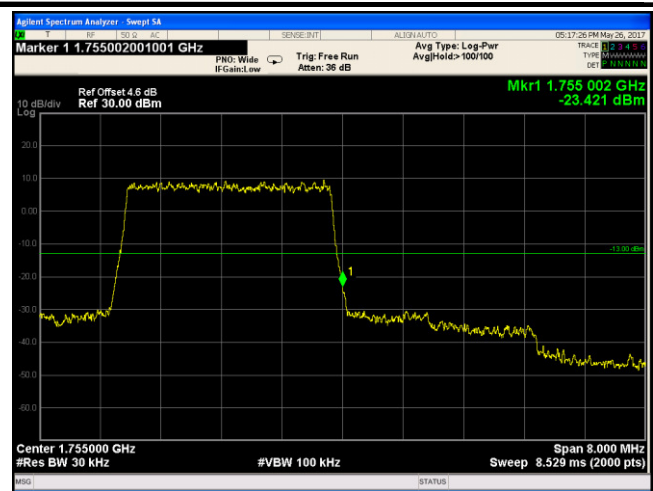
LTE Band IV - High Channel 16QAM-1.4

Note: Offset=Cable loss (4.5) + 10log
((12.76/10)=4.5+1.1=5.6 dB



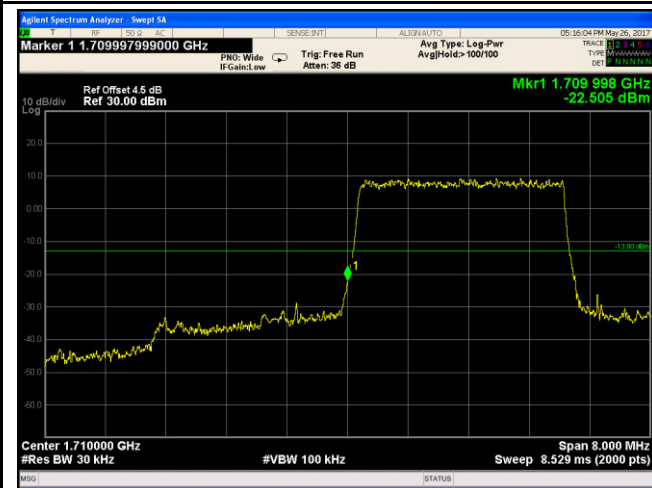
LTE Band IV - Low Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(30.36/30)=4.5+0.1=4.6 dB



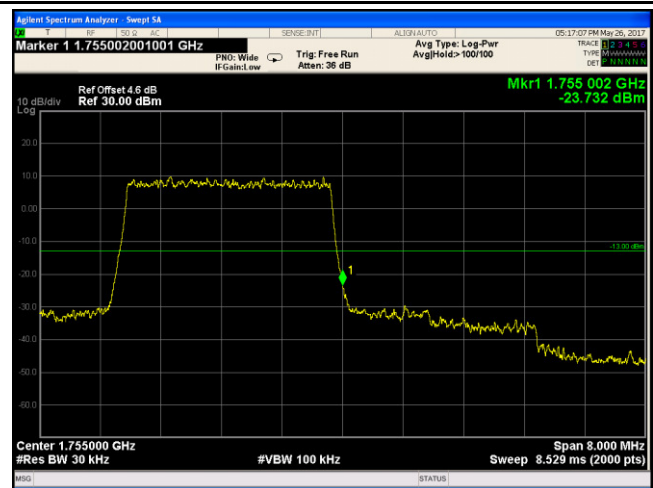
LTE Band IV - High Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(30.42/30)=4.5+0.1=4.6 dB



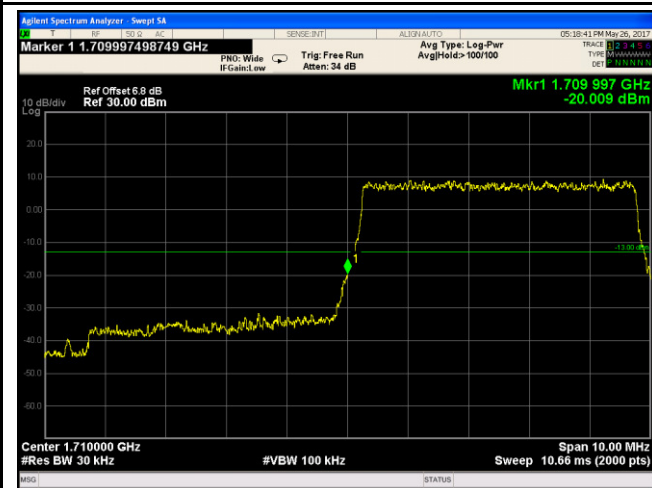
LTE Band IV - Low Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(30.31/30)=4.5+0.0=4.5 dB

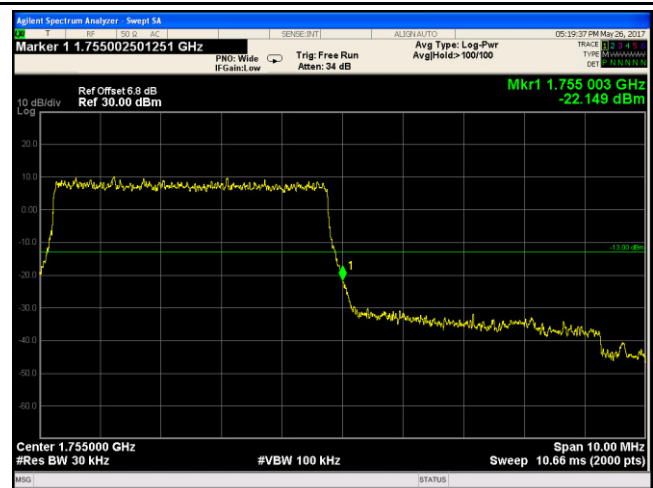


LTE Band IV - High Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(30.59/30)=4.5+0.1=4.6 dB

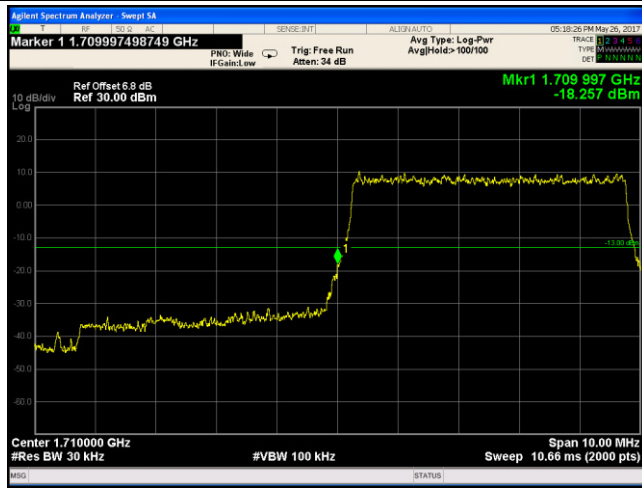


LTE Band IV - Low Channel QPSK-5



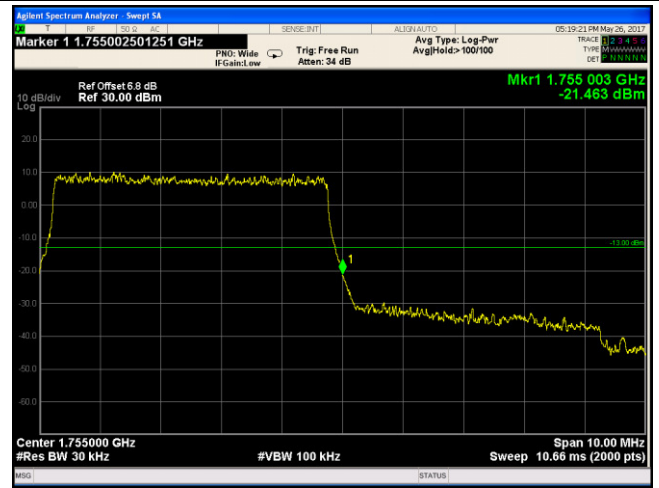
LTE Band IV - High Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
(50.95/30)=4.5+2.3=6.8 dB



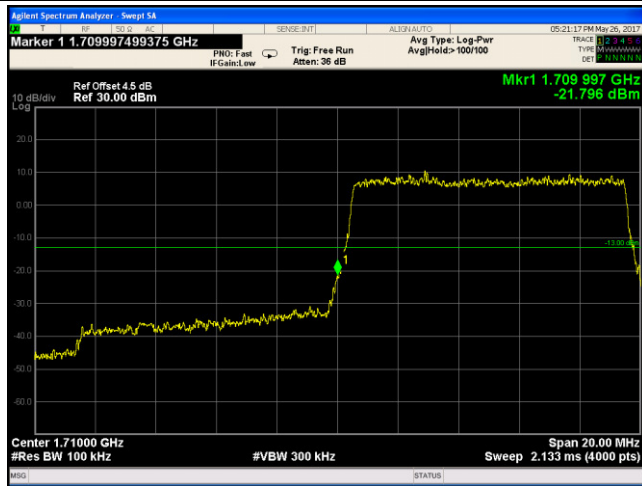
LTE Band IV - Low Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log
(50.58/30)=4.5+2.3=6.8 dB



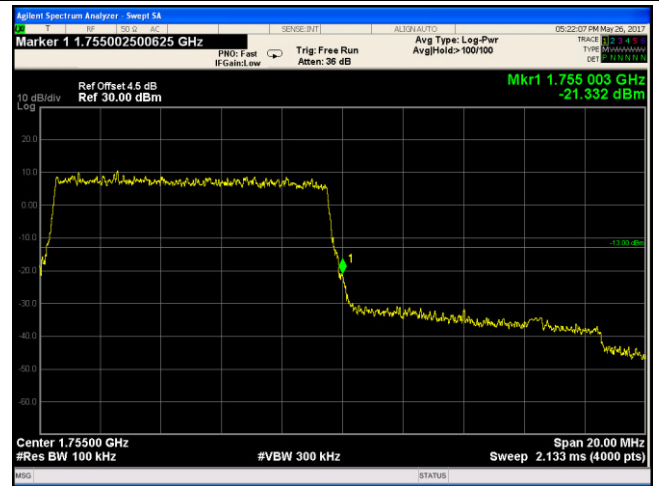
LTE Band IV - High Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log
(51.01/30)=4.5+2.3=6.8 dB

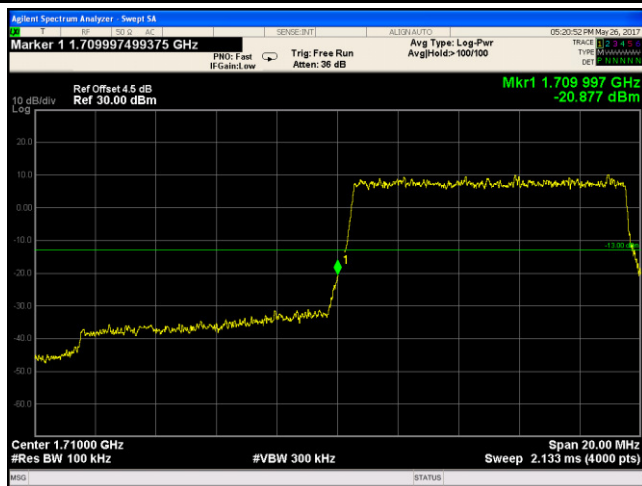


LTE Band IV - Low Channel QPSK-10

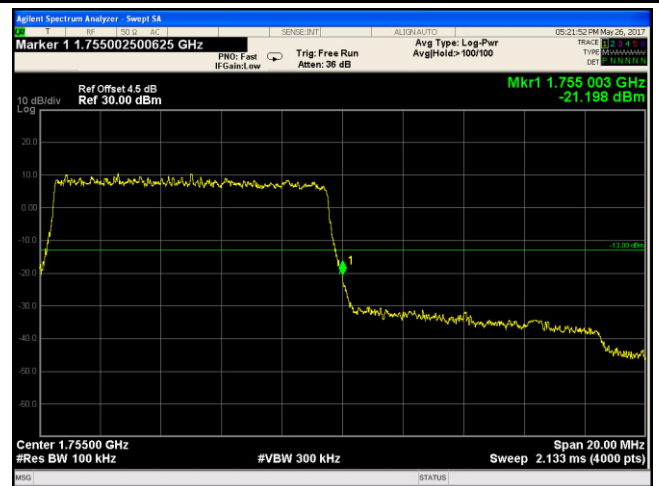
Note: Offset=Cable loss (4.5) + 10log
(50.60/30)=4.5+2.3=6.8 dB



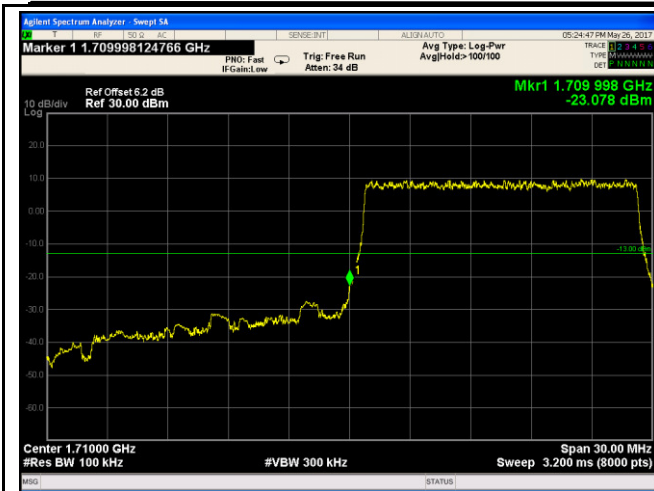
LTE Band IV - High Channel QPSK-10



LTE Band IV - Low Channel 16QAM-10

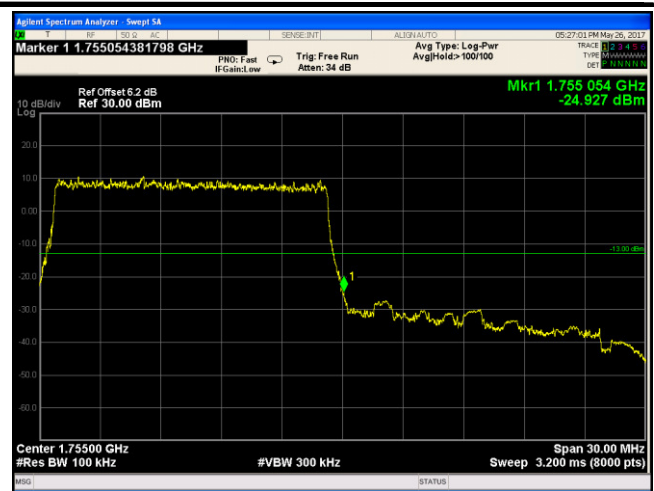


LTE Band IV - High Channel 16QAM-10



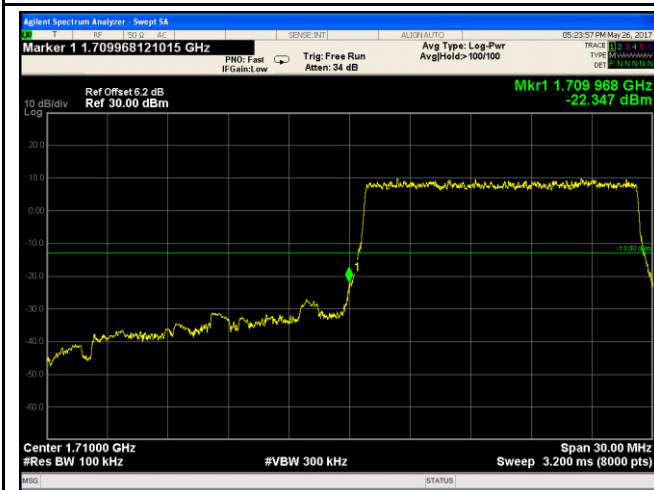
LTE Band IV - Low Channel QPSK-15

Note: Offset=Cable loss (4.5) + 10log
(135/100)=4.5+1.7=6.2 dB



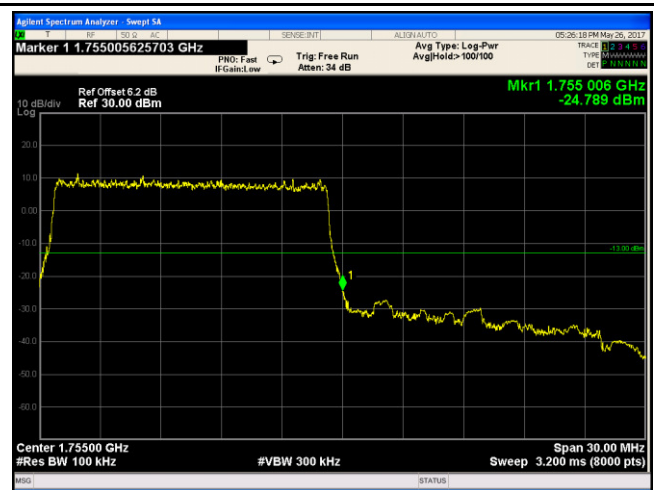
LTE Band IV - High Channel QPSK-15

Note: Offset=Cable loss (4.5) + 10log
(135/100)=4.5+1.7=6.2 dB



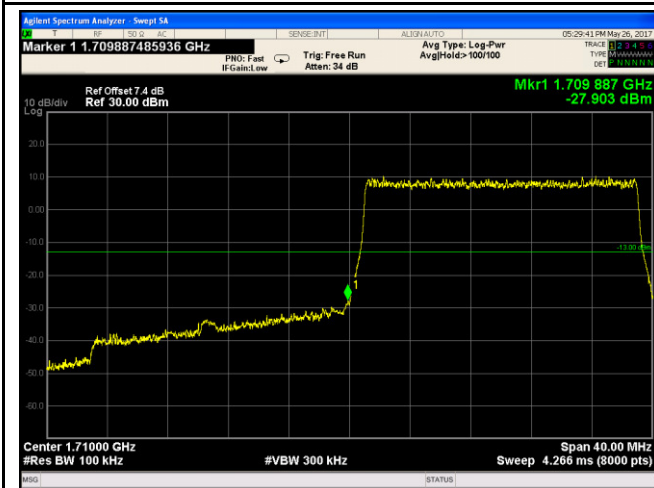
LTE Band IV - Low Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log
(135/100)=4.5+1.7=6.2 dB

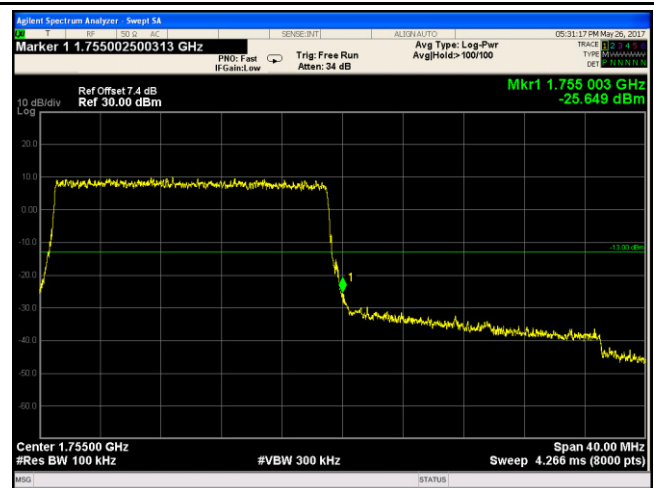


LTE Band IV - High Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log
(135/100)=4.5+1.7=6.2 dB

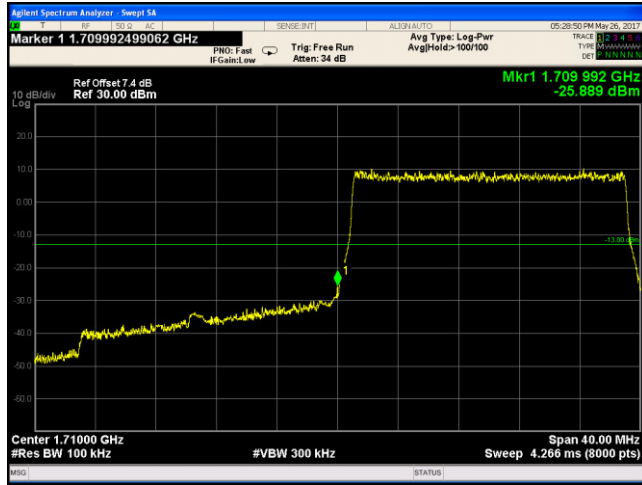


LTE Band IV - Low Channel QPSK-20



LTE Band IV - High Channel QPSK-20

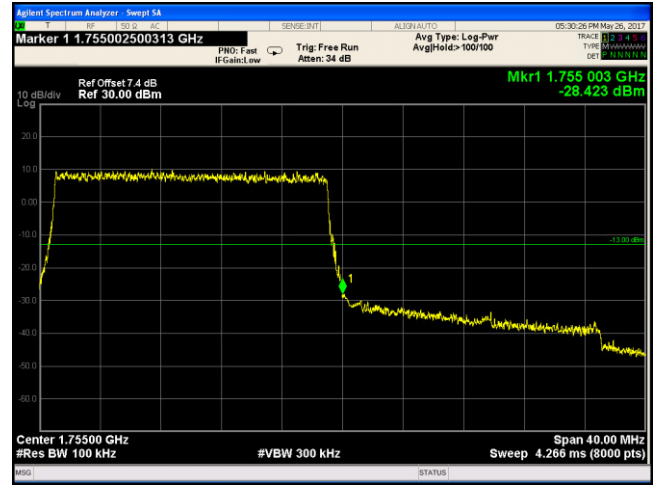
Note: Offset=Cable loss (4.5) + 10log
(179.1/100)=4.5+2.9=7.4 dB



LTE Band IV - Low Channel 16QAM-20

Note: Offset=Cable loss (4.5) + 10log
(179.1/100)=4.5+2.9=7.4dB

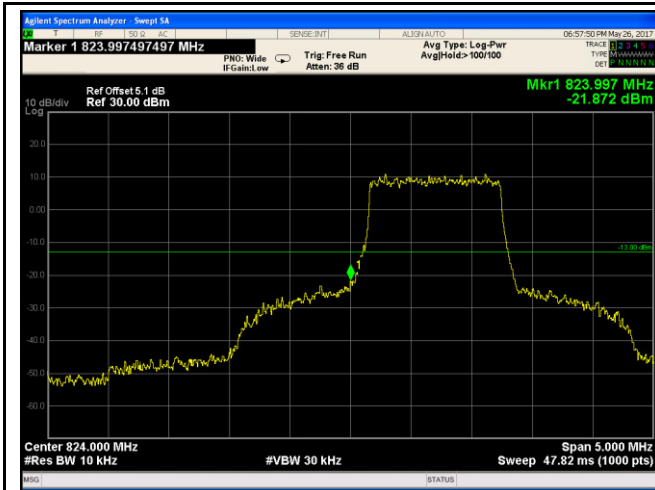
Note: Offset=Cable loss (4.5) + 10log
(199/100)=4.5+2.9=7.4 dB



LTE Band IV - High Channel 16QAM-20

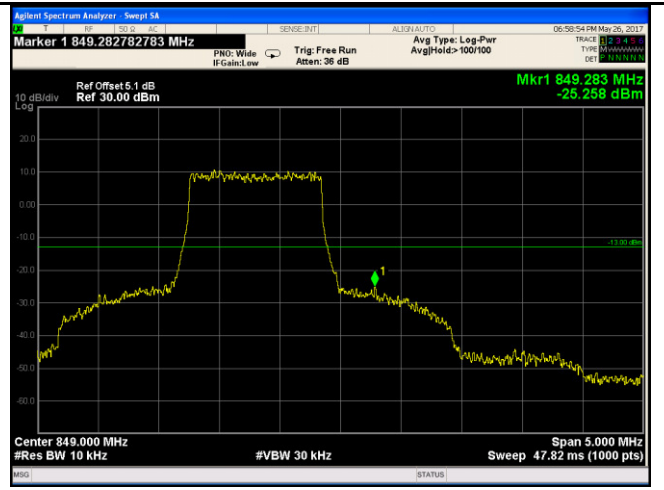
Note: Offset=Cable loss (4.5) + 10log
(179/100)=4.5+2.9=7.4 dB

LTE Band V (Part 22H)



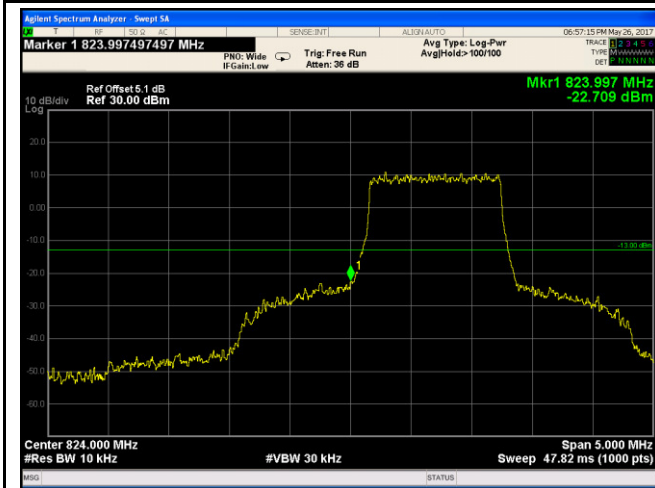
LTE Band V - Low Channel QPSK-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.92/10)=4.0+1.1=5.1 dB



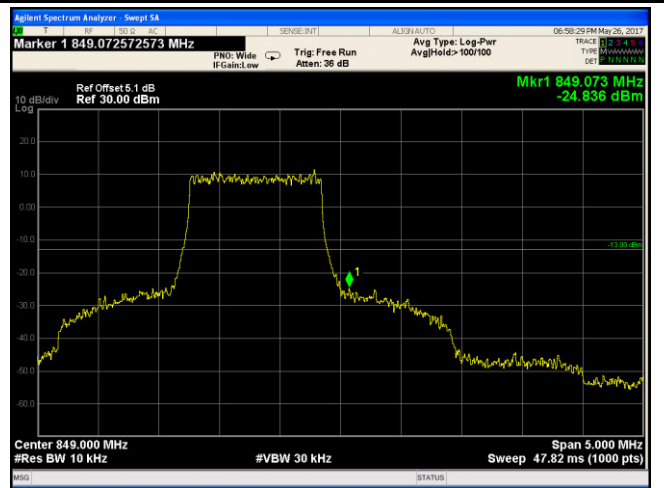
LTE Band V - High Channel QPSK-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.79/10)=4.0+1.1=5.1 dB



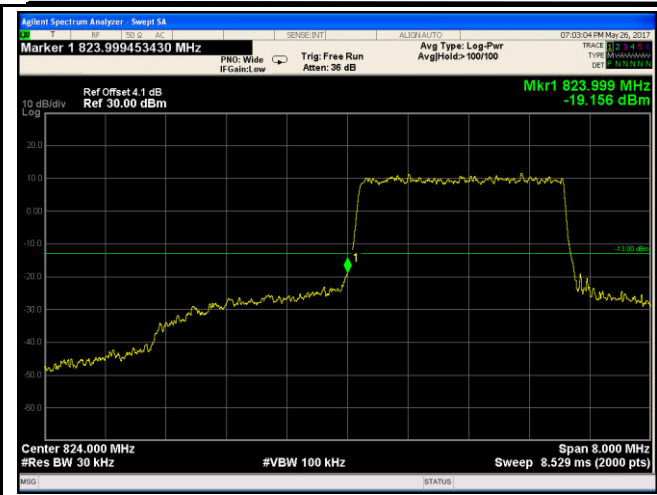
LTE Band V - Low Channel 16QAM-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.88/10)=4.0+1.1=5.1dB



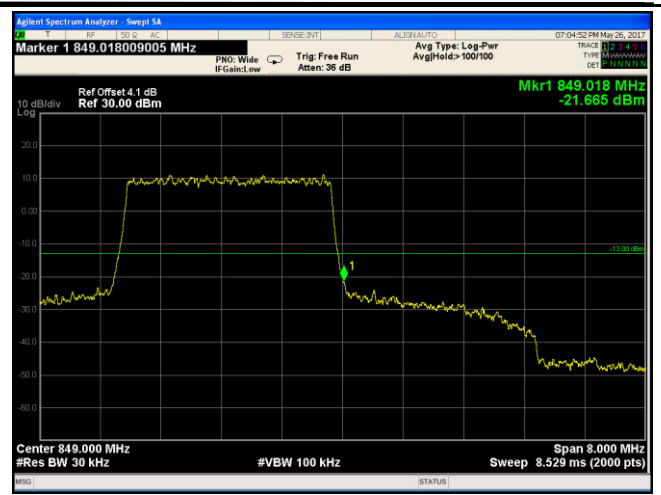
LTE Band V - High Channel 16QAM-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.85/10)=4.0+1.1=5.1 dB



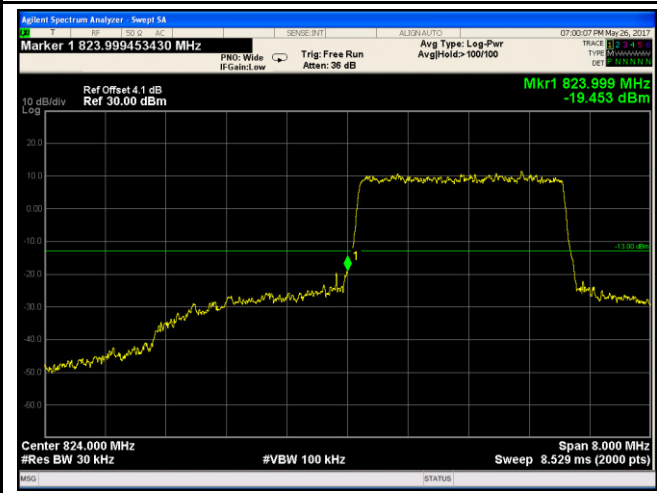
LTE Band V - Low Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(30.6/30)=4.0+0.1=4.1 dB



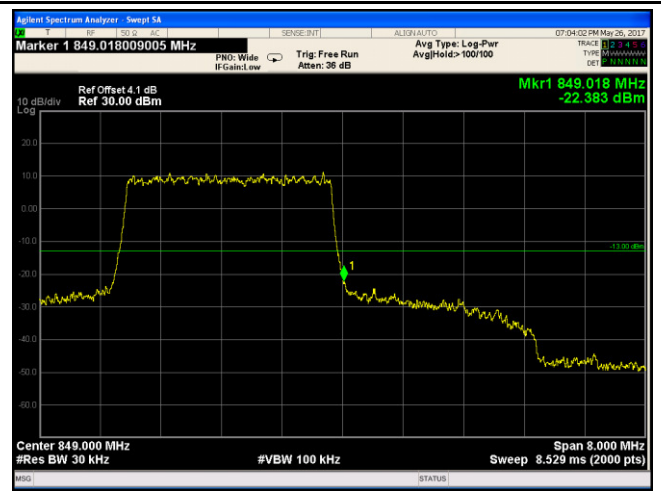
LTE Band V - High Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(30.58/30)=4.0+0.1=4.1 dB



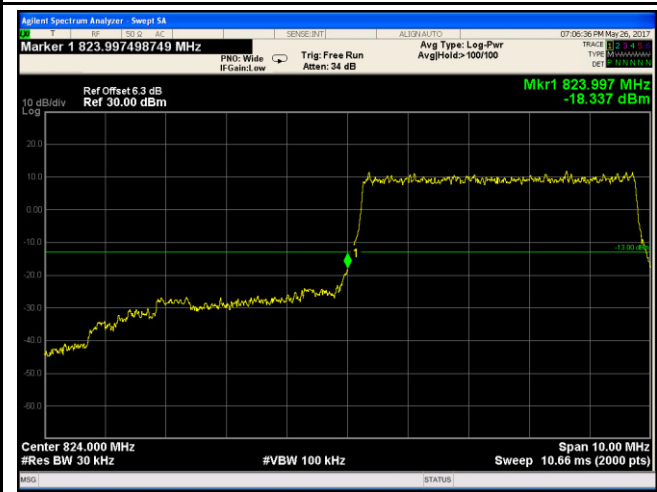
LTE Band V - Low Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(30.63/30)=4.0+0.1=4.1 dB

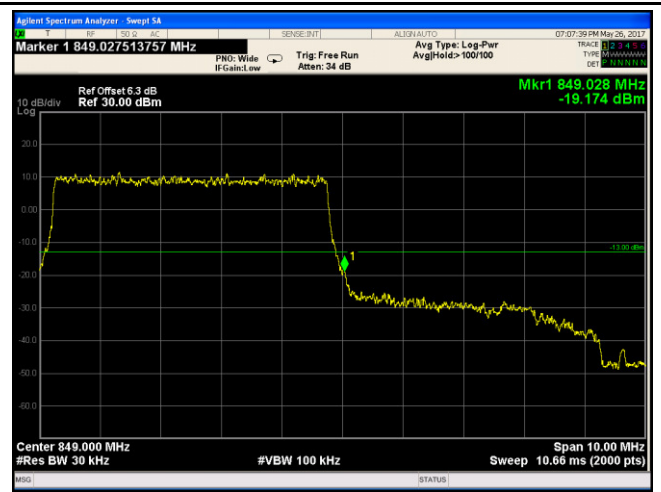


LTE Band V - High Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(30.51/30)=4.5+0.1=4.1 dB



LTE Band V - Low Channel QPSK-5



LTE Band V - High Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
(51.06/30)=4.0+2.3=6.3 dB



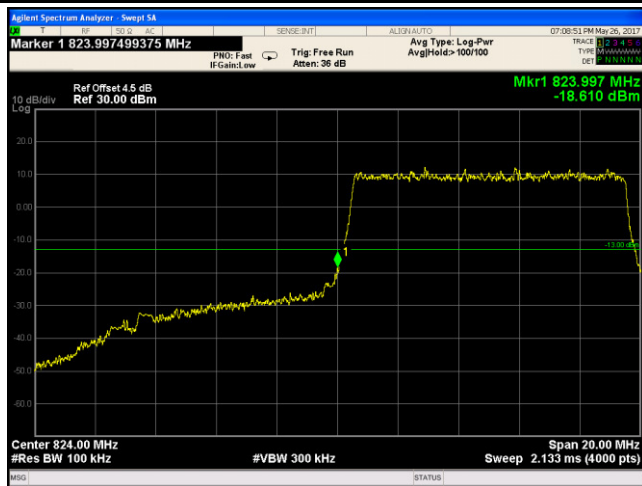
LTE Band V - Low Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log
(50.65/30)=4.0+2.3=6.3 dB



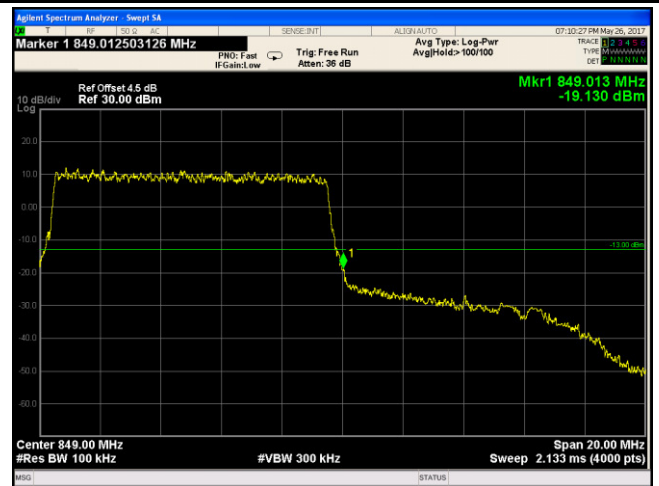
LTE Band V - High Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log
(51.10/30)=4.0+2.3=6.3 dB

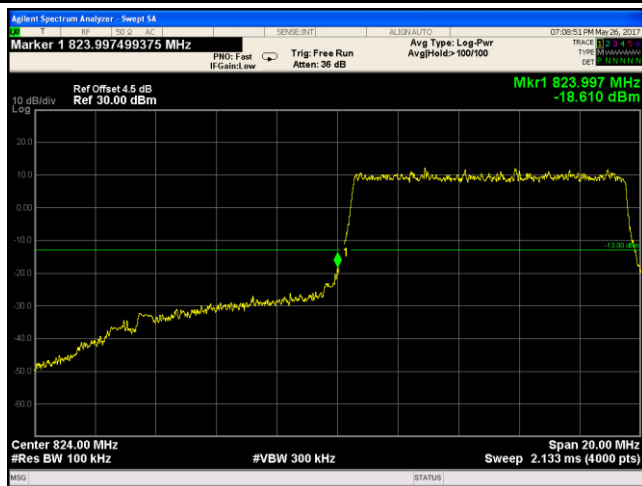


LTE Band V - Low Channel QPSK-10

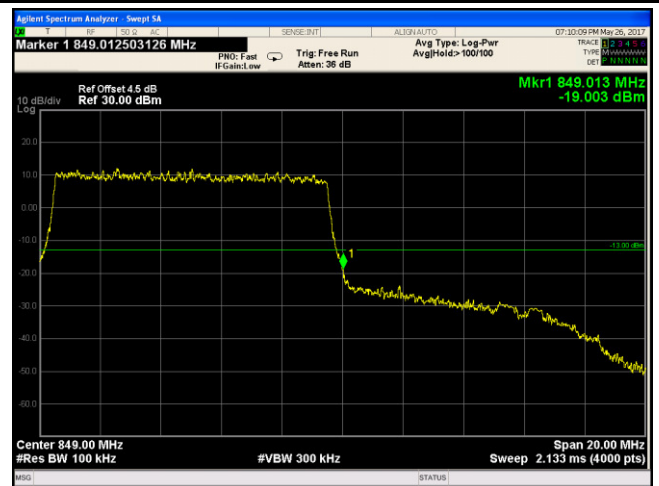
Note: Offset=Cable loss (4.5) + 10log
(50.82/30)=4.0+2.3=6.3dB



LTE Band V - High Channel QPSK-10

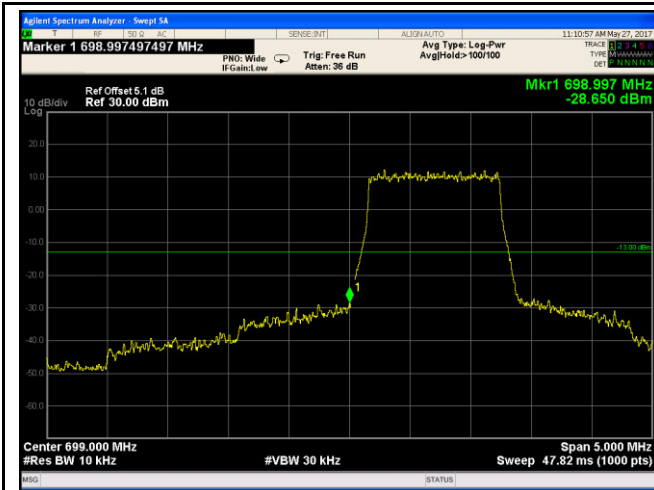


LTE Band V - Low Channel 16QAM-10



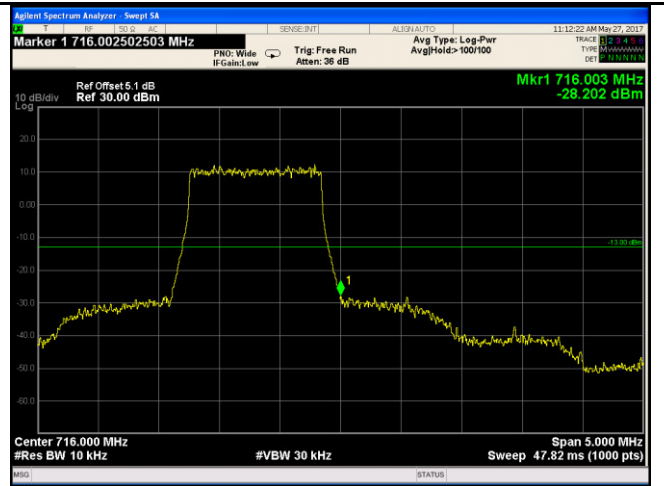
LTE Band V - High Channel 16QAM-10

LTE Band XII (Part 27)



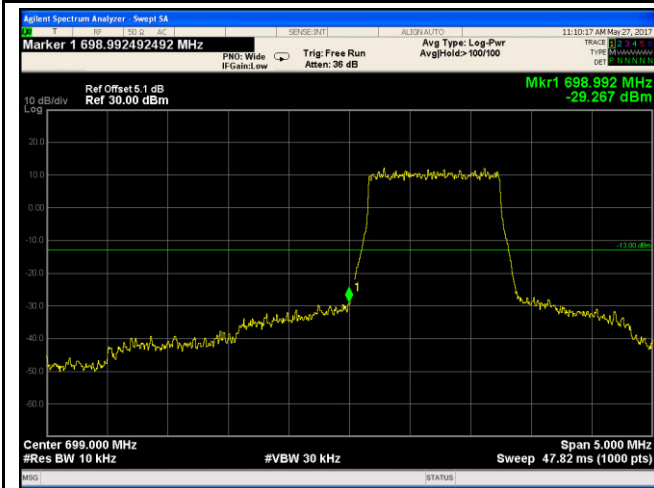
LTE Band XII - Low Channel QPSK-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.96/10)=4.0+1.1=5.1 dB



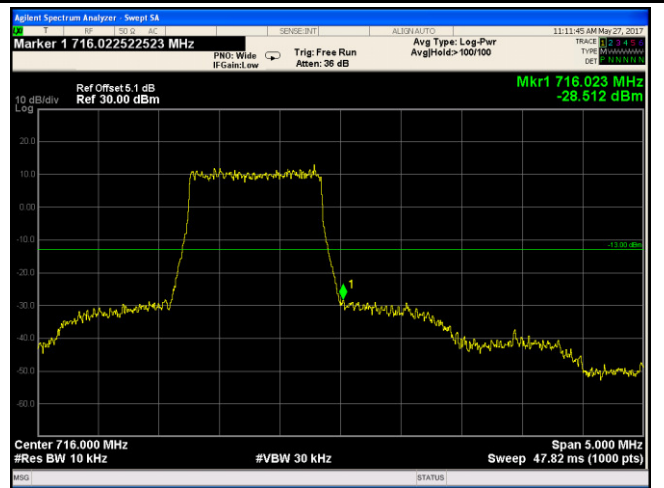
LTE Band XII - High Channel QPSK-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.90/10)=4.0+1.1=5.1 dB



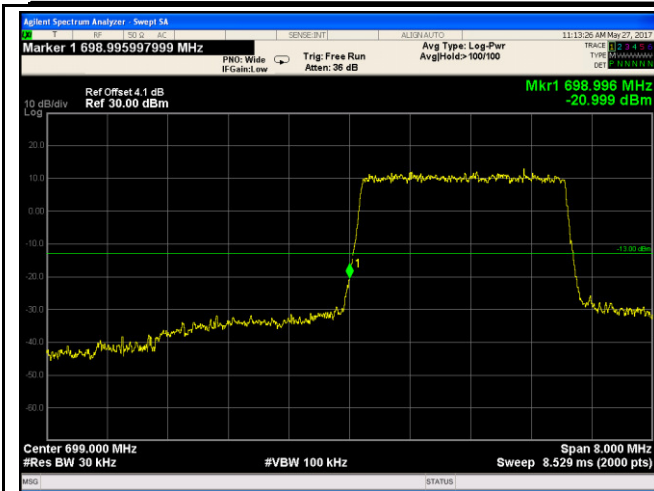
LTE Band XII - Low Channel 16QAM-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.99/10)=4.0+1.1=5.1 dB



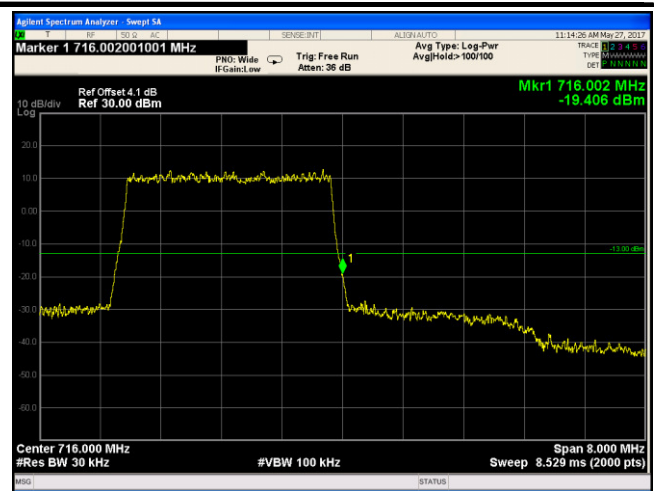
LTE Band XII - High Channel 16QAM-1.4

Note: Offset=Cable loss (4.5) + 10log
(12.84/10)=4.0+1.1=5.1 dB



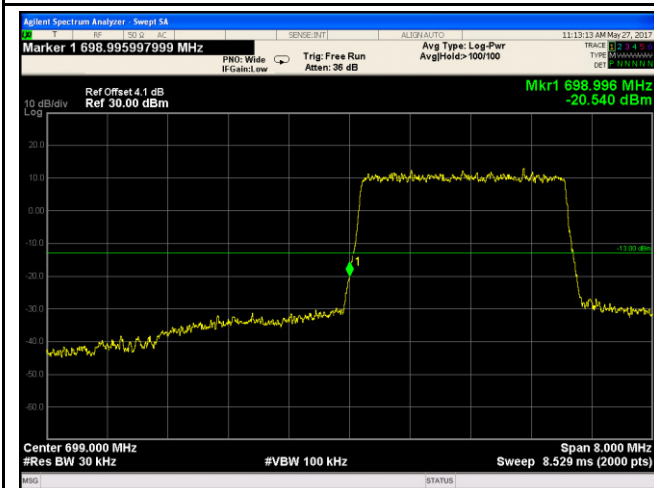
LTE Band XII - Low Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(30.54/30)=4.0+0.1=4.1 dB



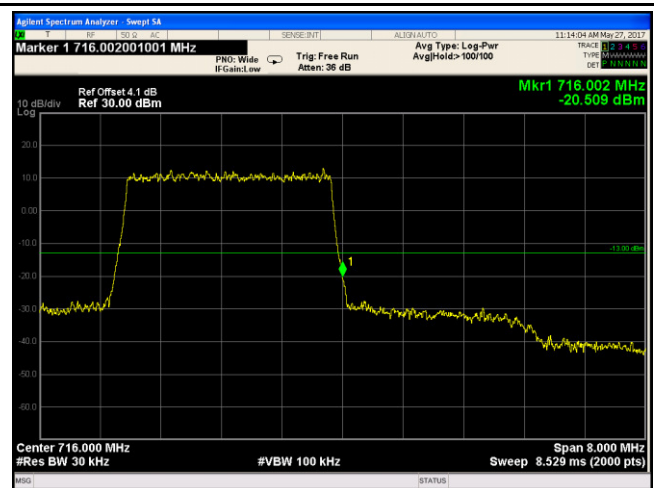
LTE Band XII - High Channel QPSK-3

Note: Offset=Cable loss (4.5) + 10log
(30.53/30)=4.0+0.1=4.1 dB



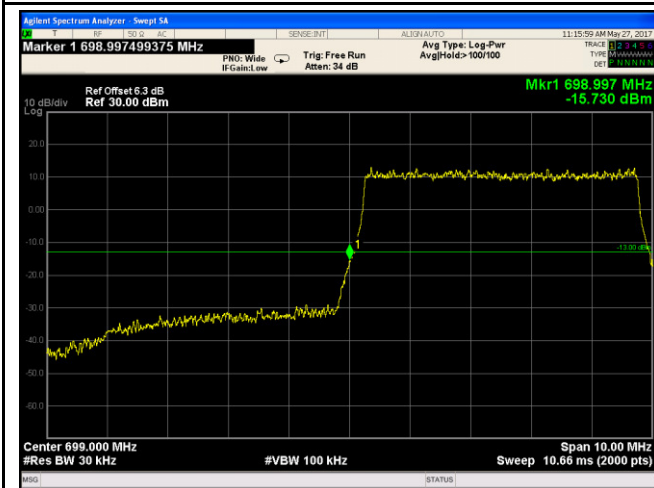
LTE Band XII - Low Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(30.53/30)=4.0+0.1=4.1 dB

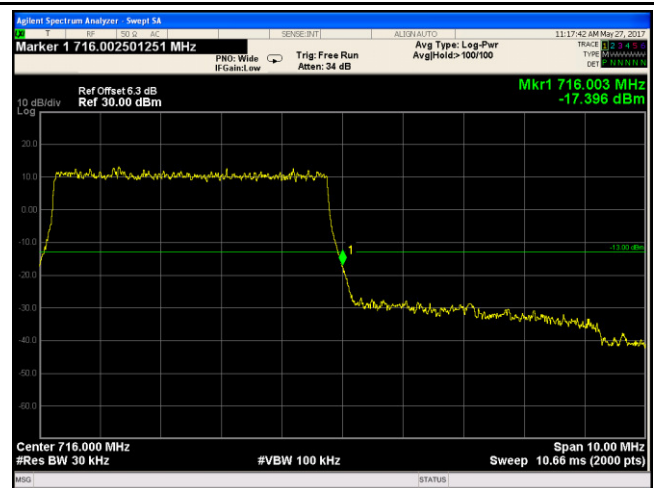


LTE Band XII - High Channel 16QAM-3

Note: Offset=Cable loss (4.5) + 10log
(30.62/30)=4.0+0.1=4.1 dB

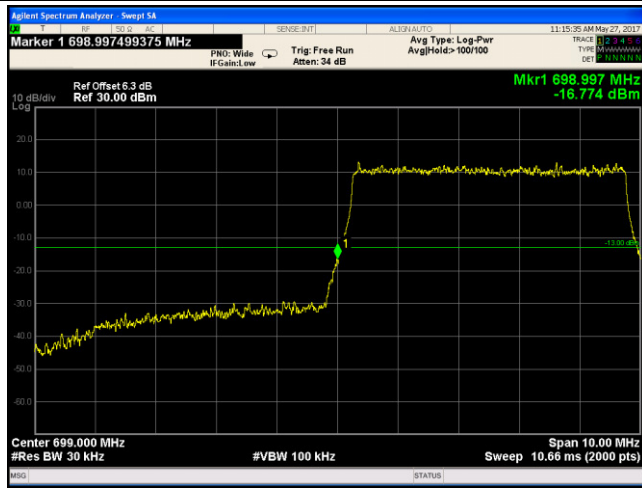


LTE Band XII - Low Channel QPSK-5



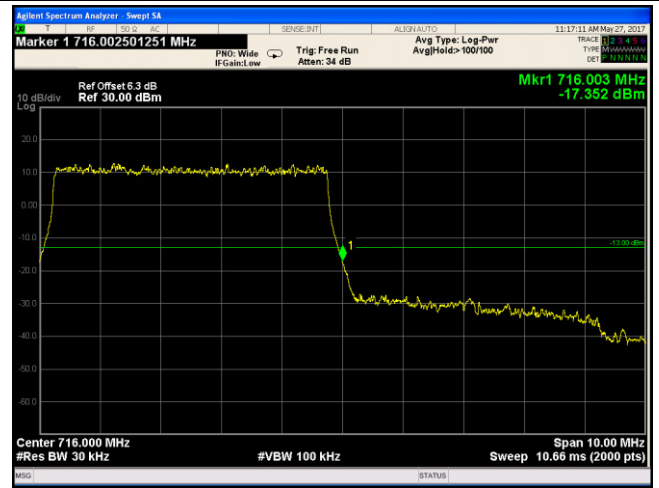
LTE Band XII - High Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
 (51.07/30)=4.0+2.3=6.3 dB



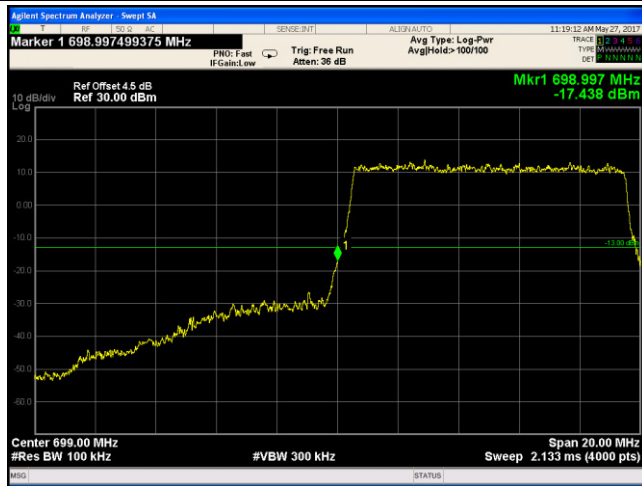
LTE Band XII - Low Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log
 (50.68/30)=4.0+2.3=6.3 dB



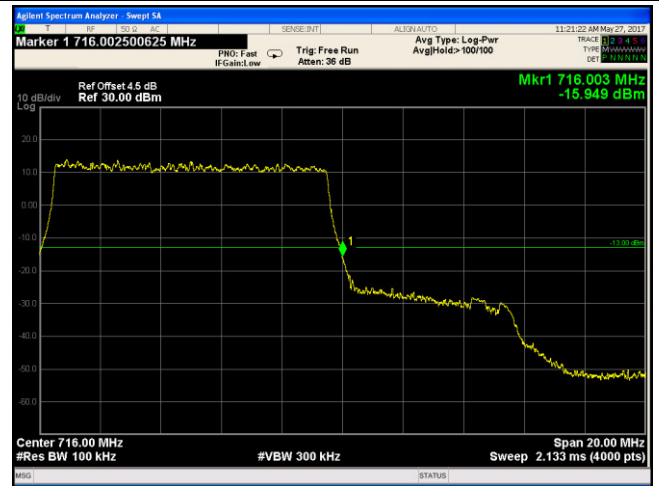
LTE Band XII - High Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log
 (51.05/30)=4.0+2.3=6.3 dB

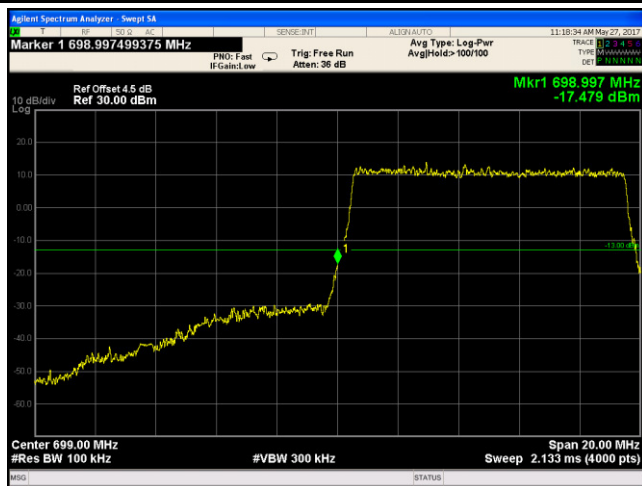


LTE Band XII - Low Channel QPSK-10

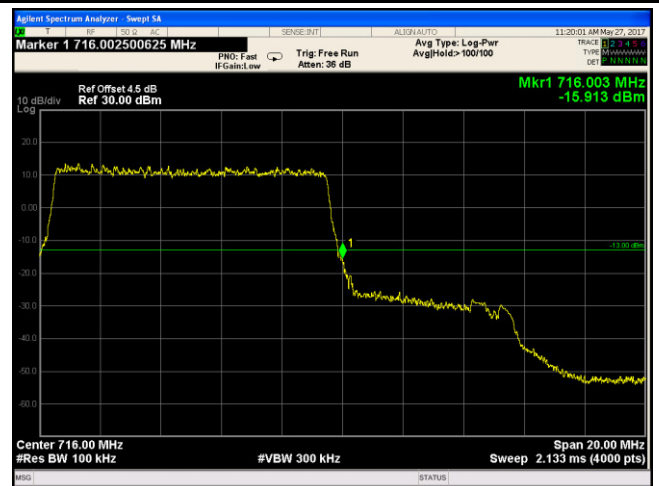
Note: Offset=Cable loss (4.5) + 10log
 (50.68/30)=4.0+2.3=6.3 dB



LTE Band XII - High Channel QPSK-10

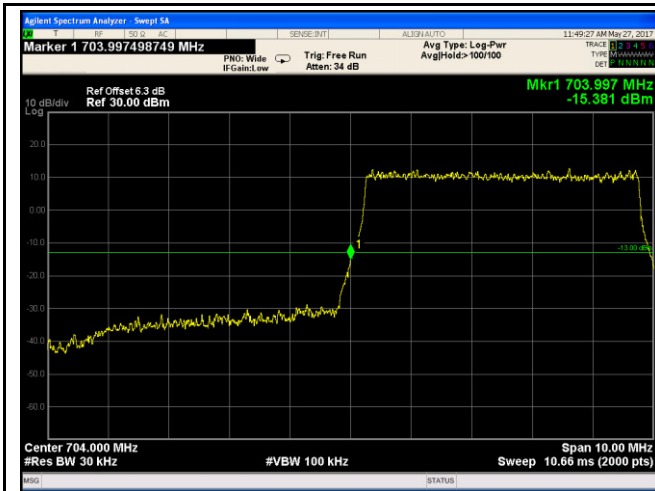


LTE Band XII - Low Channel 16QAM-10



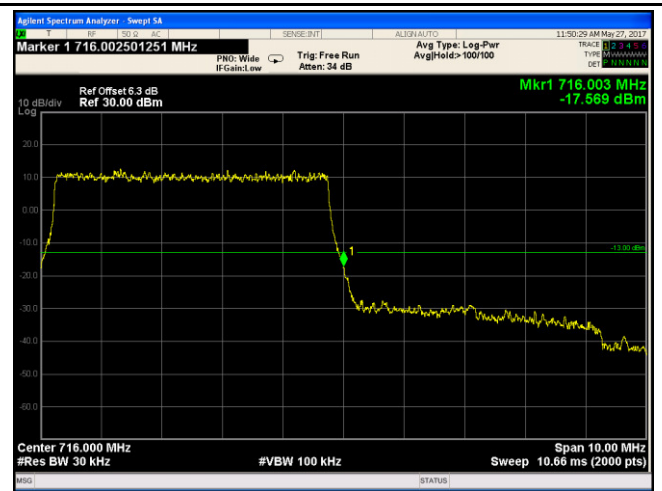
LTE Band XII - High Channel 16QAM-10

LTE Band XVII (Part 27)



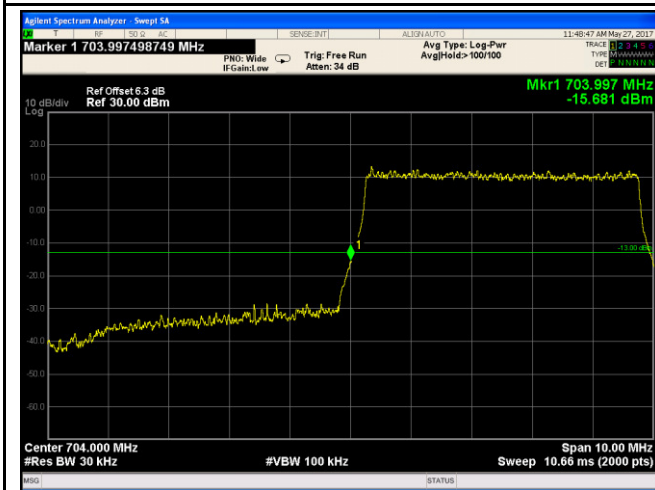
LTE Band XVII - Low Channel QPSK-5

Note: Offset=Cable loss (4.0) + 10log
(51.03/30)=4.0+2.3=6.3 dB



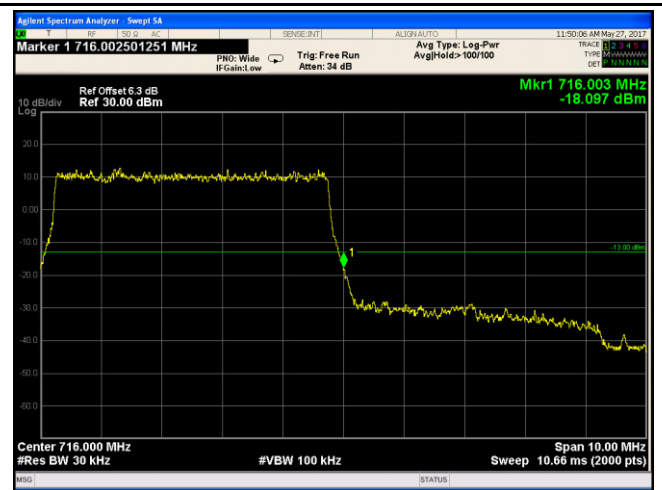
LTE Band XVII - High Channel QPSK-5

Note: Offset=Cable loss (4.0) + 10log
(51.04/30)=4.0+2.3=6.3 dB



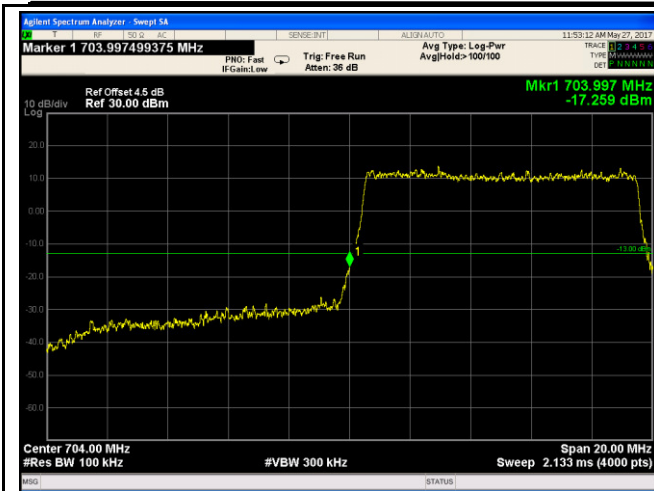
LTE Band XVII - Low Channel 16QAM-5

Note: Offset=Cable loss (4.0) + 10log
(50.89/30)=4.0+2.3=6.3 dB

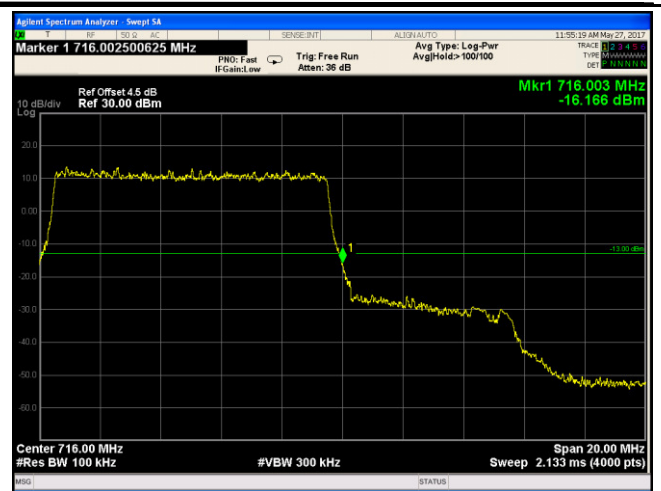


LTE Band XVII - High Channel 16QAM-5

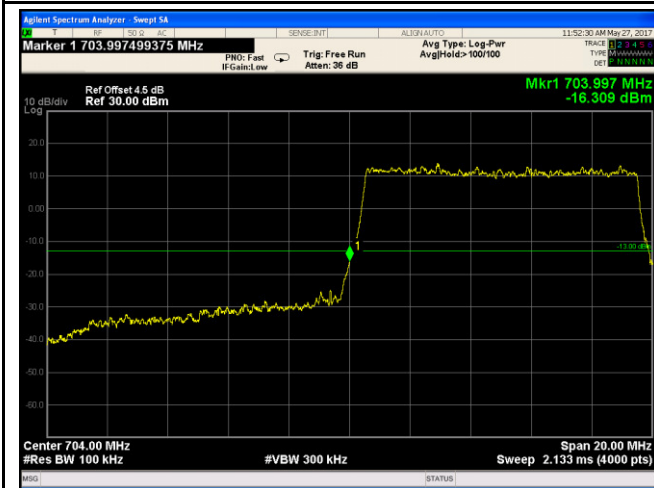
Note: Offset=Cable loss (4.0) + 10log
(51.04/30)=4.0+2.3=6.3 dB



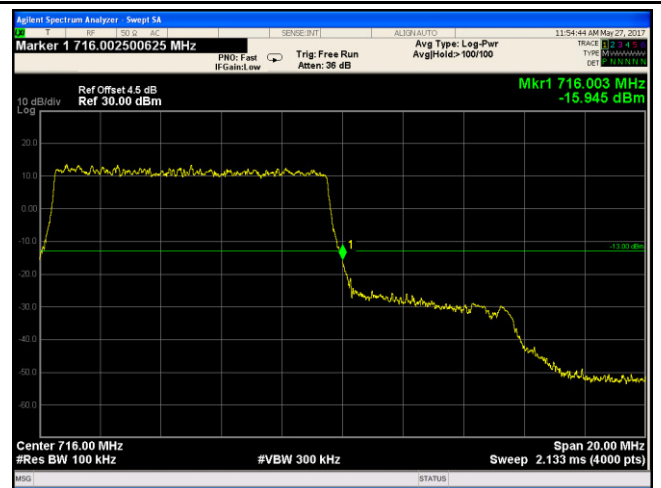
LTE Band XVII - Low Channel QPSK-10



LTE Band XVII - High Channel QPSK-10



LTE Band XVII - Low Channel 16QAM-10

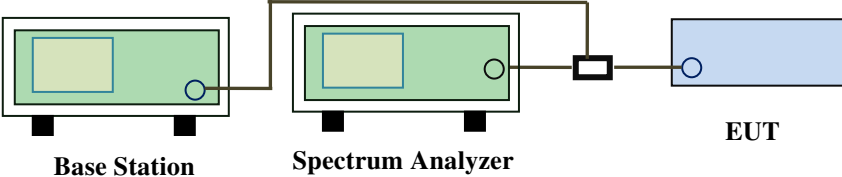


LTE Band XVII - High Channel 16QAM-10

6.8 Band Edge 27.53(m)

Temperature	25°C
Relative Humidity	56%
Atmospheric Pressure	1020mbar
Test date :	May 26&27, 2017
Tested By :	Vera Zhang

Requirement(s):

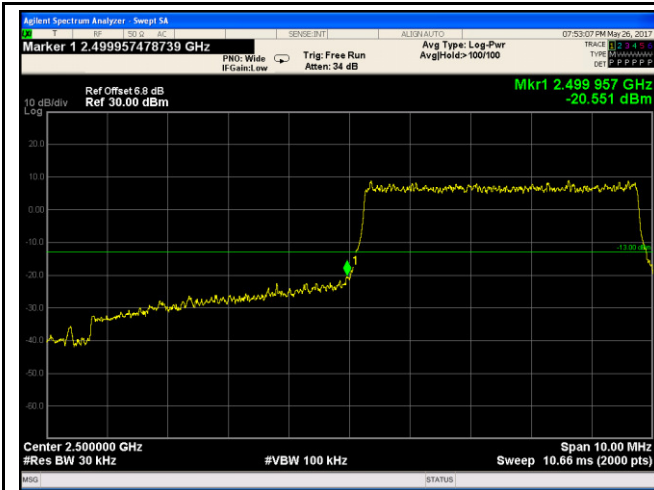
Spec	Requirement	Applicable
§27.53(m)	According to FCC 27.53(m)(4) specified that power of any emission outside of the channel edge must be attenuated below the transmitting power(P) by a factor shall be not less than $43+10\log(P)$ dB at the channel edge, the limit of emission equal to -13dBm. And $55+10\log(P)$ dB at 5.5MHz from the channel edges, the limit of emission equal to -25dBm. In the 1MHz 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.	<input checked="" type="checkbox"/>
Test Setup	 <p style="text-align: center;"> Base Station Spectrum Analyzer EUT </p>	
Test Procedure	<ul style="list-style-type: none"> - The EUT was connected to Spectrum Analyzer and Base Station via power divider. - The 99% and 26 dB occupied bandwidth (BW) of the middle channel for the highest RF powers. 	
Remark		
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	

Test Data Yes N/A
 Test Plot Yes (See below) N/A

LTE Band VII (Part 27) result

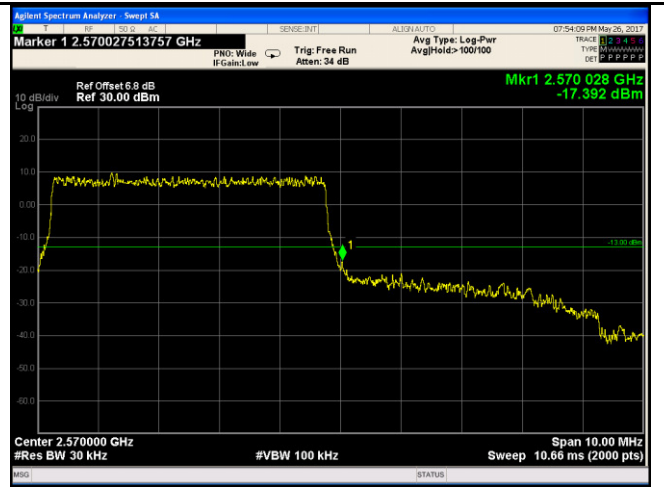
BW(MHz)	Channel	Frequency (MHz)	Mode	Emission (dBm)	Limit (dBm)
5	20775	2500	QPSK	-20.551	-13
			16QAM	-20.136	-13
5	21425	2570	QPSK	-19.392	-13
			16QAM	-19.443	-13
10	20800	2500	QPSK	-20.537	-13
			16QAM	-20.613	-13
10	21400	2570	QPSK	-19.805	-13
			16QAM	-19.624	-13
15	20825	2500	QPSK	-17.441	-13
			16QAM	-17.575	-13
15	21400	2570	QPSK	-18.547	-13
			16QAM	-18.708	-13
20	20850	2500	QPSK	-18.830	-13
			16QAM	-19.408	-13
20	21350	2571	QPSK	-20.598	-13
			16QAM	-19.930	-13

LTE Band VII (Part 27)



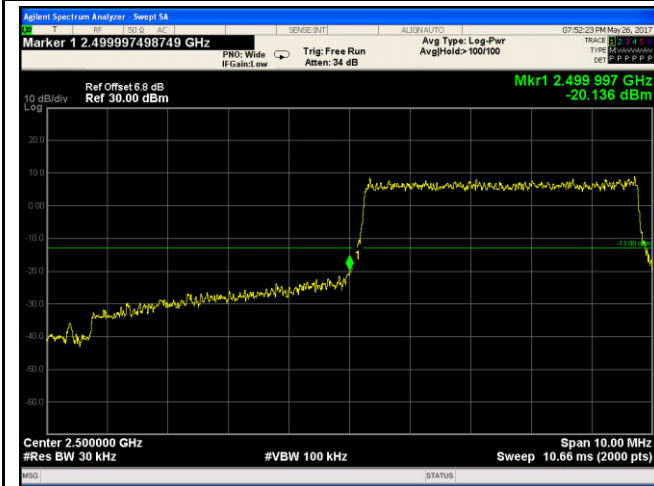
LTE Band VII - Low Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
(50.82/30)=4.5+2.3=6.8 dB



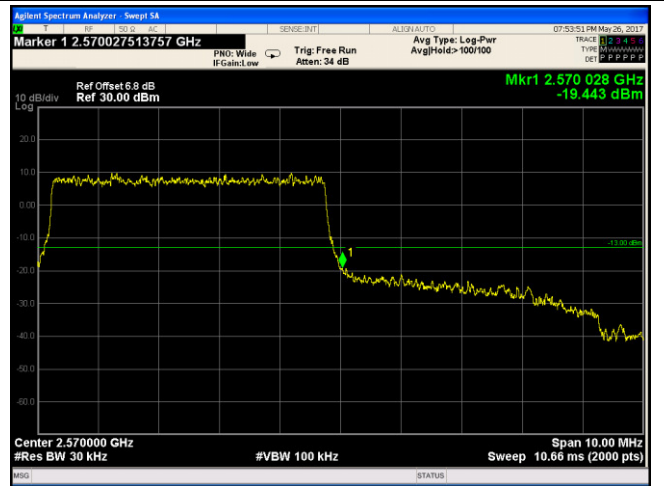
LTE Band VII - High Channel QPSK-5

Note: Offset=Cable loss (4.5) + 10log
(50.74/30)=4.5+2.3=6.8 dB



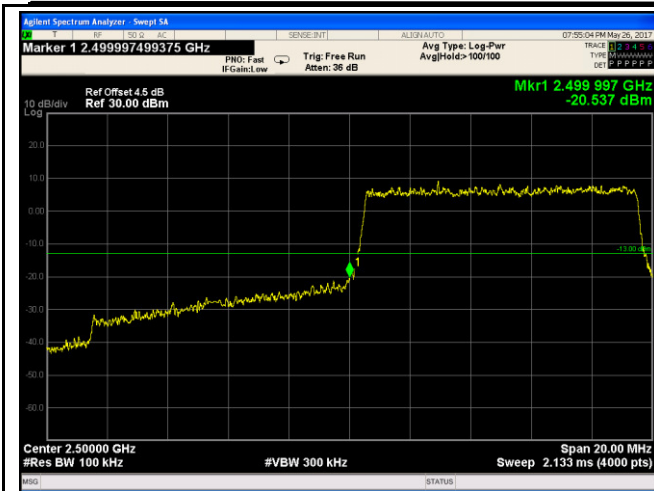
LTE Band VII - Low Channel 16QAM-5

Note: Offset=Cable loss (4.5) + 10log
(50.82/30)=4.5+2.3=6.8 dB

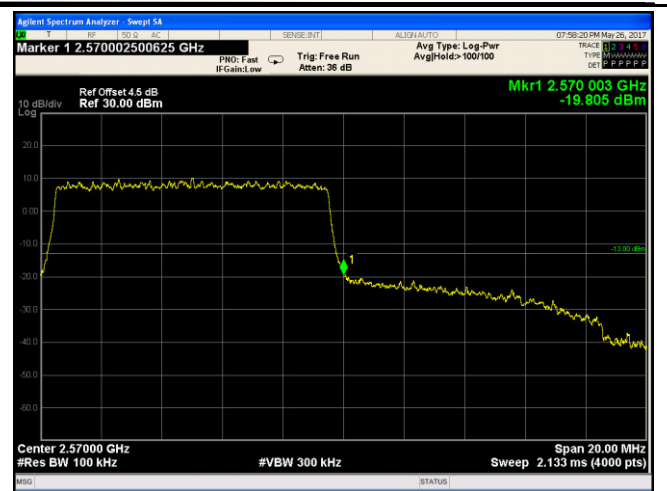


LTE Band VII - High Channel 16QAM-5

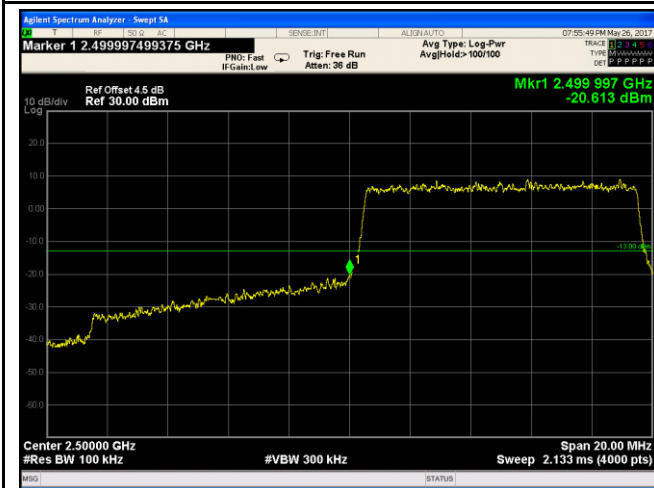
Note: Offset=Cable loss (4.5) + 10log
(50.85/30)=4.5+2.3=6.8 dB



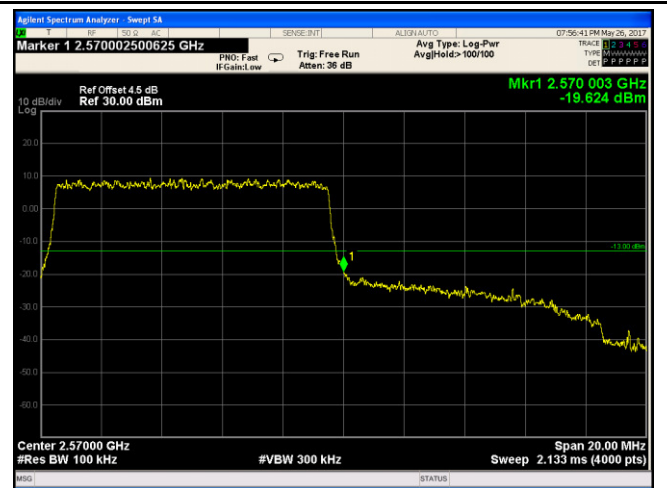
LTE Band VII - Low Channel QPSK-10



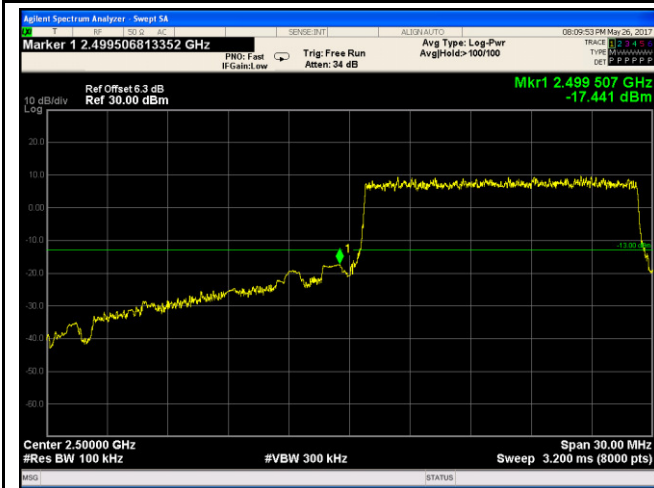
LTE Band VII - High Channel QPSK-10



LTE Band VII - Low Channel 16QAM-10

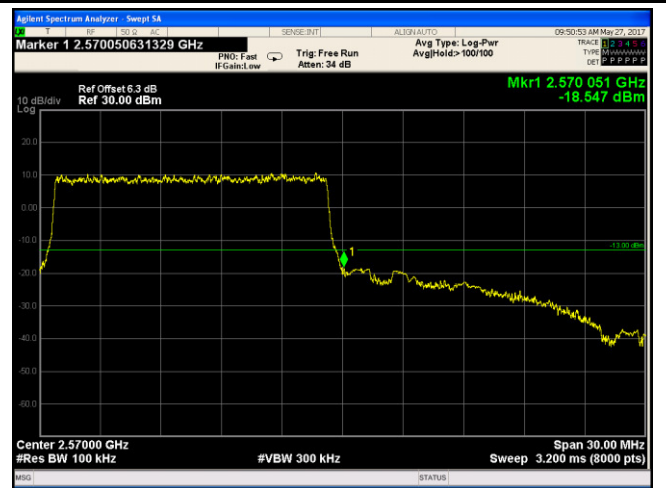


LTE Band VII - High Channel 16QAM-10



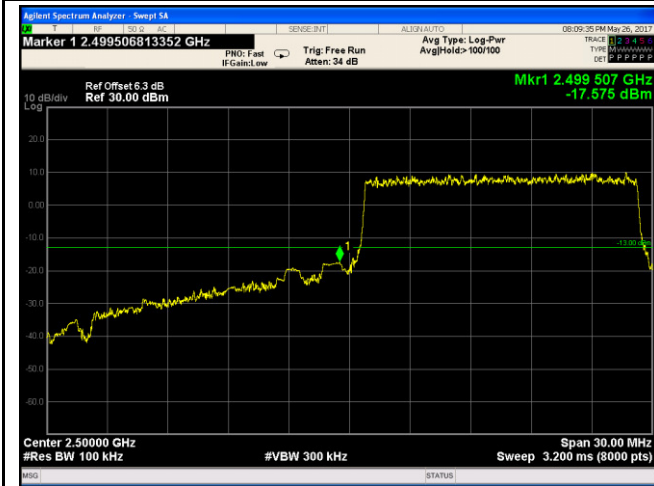
LTE Band VII - Low Channel QPSK-15

Note: Offset=Cable loss (4.5) + 10log
(150.2/100)=4.5+1.8=6.3 dB



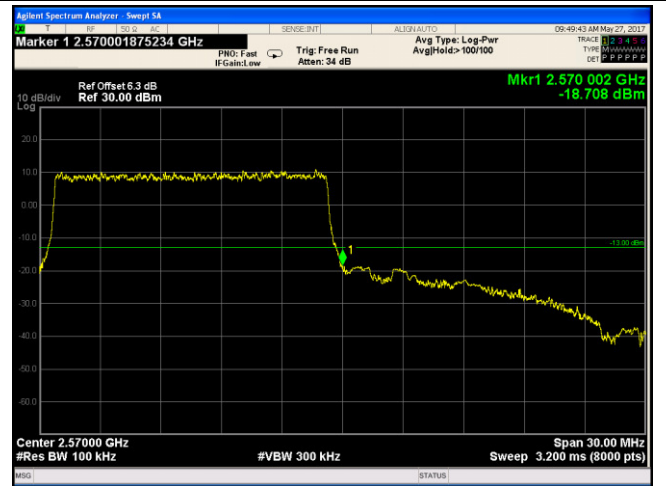
LTE Band VII - High Channel QPSK-15

Note: Offset=Cable loss (4.5) + 10log
(150.3/100)=4.5+1.8=6.3 dB



LTE Band VII - Low Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log
(150.7/100)=4.5+1.8=6.3dB



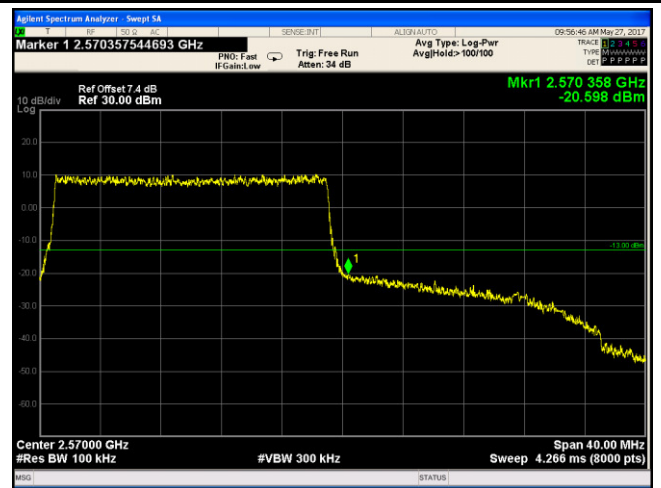
LTE Band VII - High Channel 16QAM-15

Note: Offset=Cable loss (4.5) + 10log
(150.3/100)=4.5+1.8=6.3 dB



LTE Band VII - Low Channel QPSK-20

Note: Offset=Cable loss (4.5) + 10log
(195.2/100)=4.5+2.9=7.4 dB



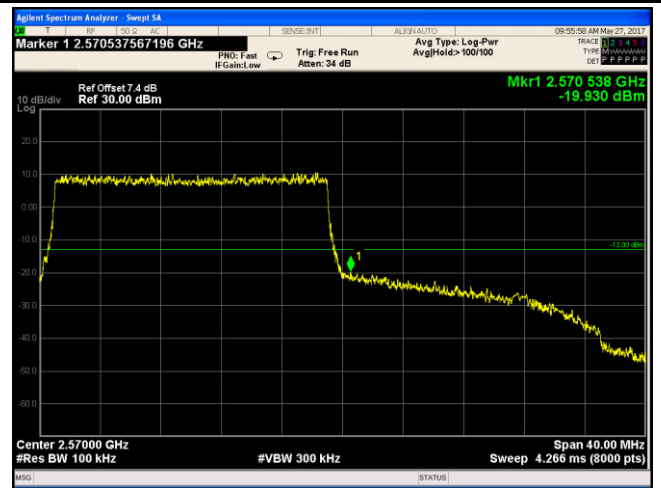
LTE Band VII - High Channel QPSK-20

Note: Offset=Cable loss (4.5) + 10log
(194 / 100)=4.5+2.9=7.4dB



LTE Band VII - Low Channel 16QAM-20

Note: Offset=Cable loss (4.5) + 10log
(191.6/100)=4.5+2.9=7.4 dB



LTE Band VII - High Channel 16QAM-20

Note: Offset=Cable loss (4.5) + 10log
(194.7/100)=4.5+2.9=7.4 dB

6.9 Frequency Stability

Temperature	25°C
Relative Humidity	56%
Atmospheric Pressure	1021mbar
Test date :	May 25, 2017
Tested By :	Vera Zhang

Requirement(s):

Spec	Item	Requirement	Applicable																																
§2.1055, §22.355 & §24.235 § 27.5(h); § 27.54	a)	<p>According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:</p> <p>Frequency Tolerance for Transmitters in the Public Mobile Services</p> <table border="1"> <thead> <tr> <th>Frequency Range (MHz)</th> <th>Base, fixed (ppm)</th> <th>Mobile ≤ 3 watts (ppm)</th> <th>Mobile ≤ 3 watts (ppm)</th> </tr> </thead> <tbody> <tr> <td>25 to 50</td> <td>20.0</td> <td>20.0</td> <td>50.0</td> </tr> <tr> <td>□□to 450</td> <td>5.0</td> <td>5.0</td> <td>50.0</td> </tr> <tr> <td>450 to 512</td> <td>2.5</td> <td>5.0</td> <td>5□0</td> </tr> <tr> <td>821 to 896</td> <td>1.5</td> <td>2.5</td> <td>2.5</td> </tr> <tr> <td>928 to 929.</td> <td>5.0</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>929 to 960.</td> <td>1.5</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>2110 to 2220</td> <td>10.0</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <p>According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized frequency block.</p> <p>According to §27.54, The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.</p>	Frequency Range (MHz)	Base, fixed (ppm)	Mobile ≤ 3 watts (ppm)	Mobile ≤ 3 watts (ppm)	25 to 50	20.0	20.0	50.0	□□to 450	5.0	5.0	50.0	450 to 512	2.5	5.0	5□0	821 to 896	1.5	2.5	2.5	928 to 929.	5.0	N/A	N/A	929 to 960.	1.5	N/A	N/A	2110 to 2220	10.0	N/A	N/A	<input checked="" type="checkbox"/>
		Frequency Range (MHz)	Base, fixed (ppm)	Mobile ≤ 3 watts (ppm)	Mobile ≤ 3 watts (ppm)																														
		25 to 50	20.0	20.0	50.0																														
		□□to 450	5.0	5.0	50.0																														
		450 to 512	2.5	5.0	5□0																														
		821 to 896	1.5	2.5	2.5																														
		928 to 929.	5.0	N/A	N/A																														
		929 to 960.	1.5	N/A	N/A																														
		2110 to 2220	10.0	N/A	N/A																														