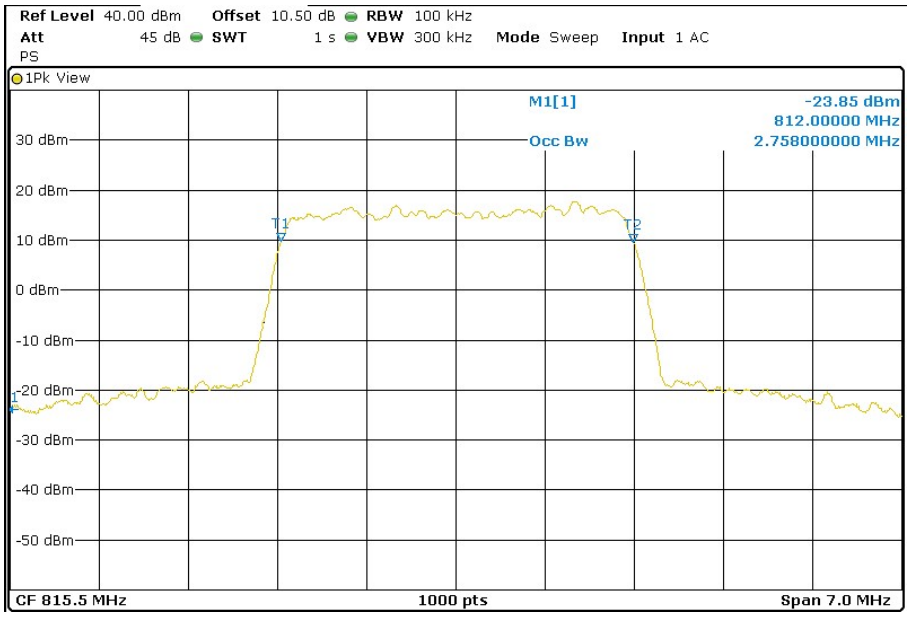
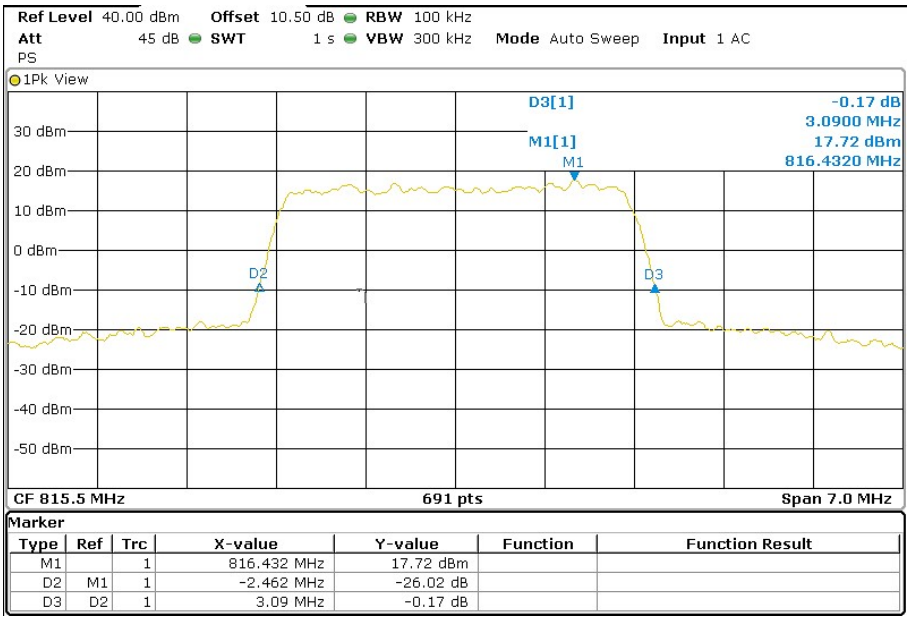
TEST RESULTS (Cont):	

LTE 16QAM MODULATION. BW = 3 MHz

Lowest Channel 99% Occupied Bandwidth

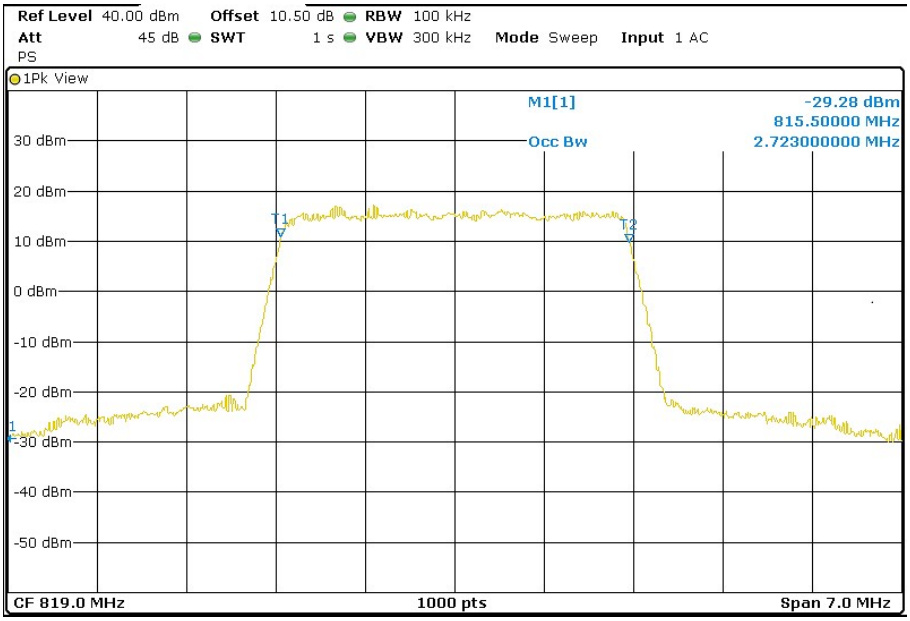


Lowest Channel -26dBc Bandwidth

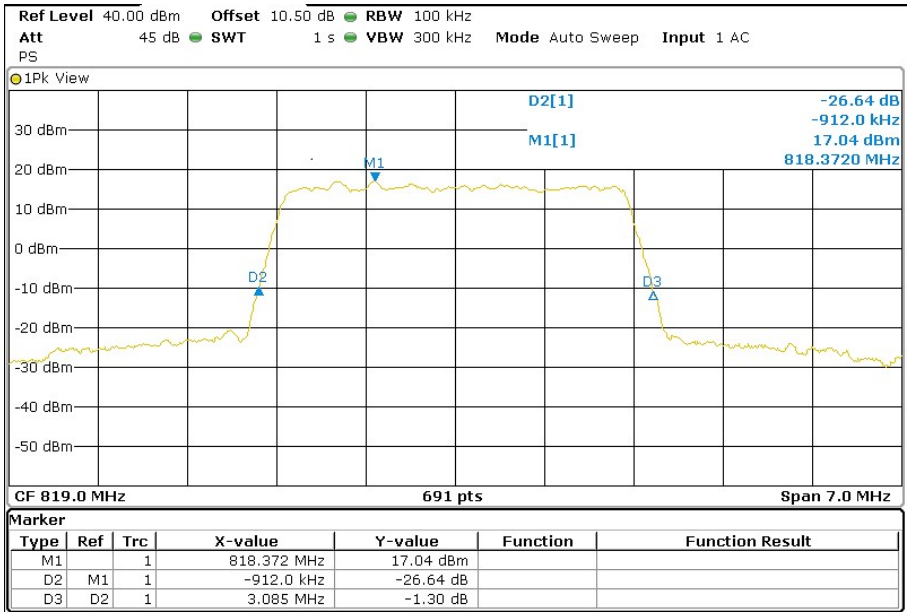


TEST RESULTS (Cont):	

Middle Channel 99% Occupied Bandwidth



Middle Channel -26dBc Bandwidth

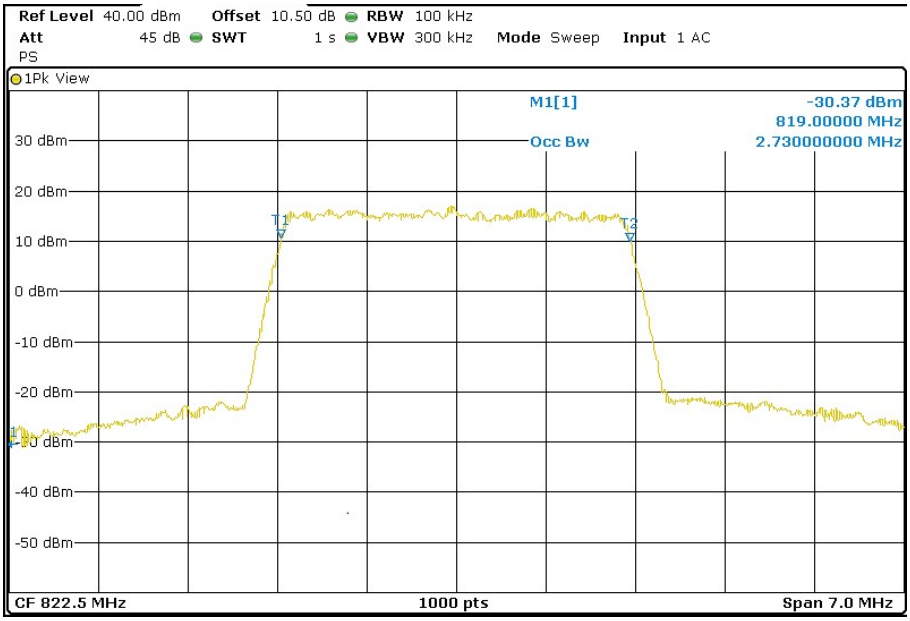


Marker

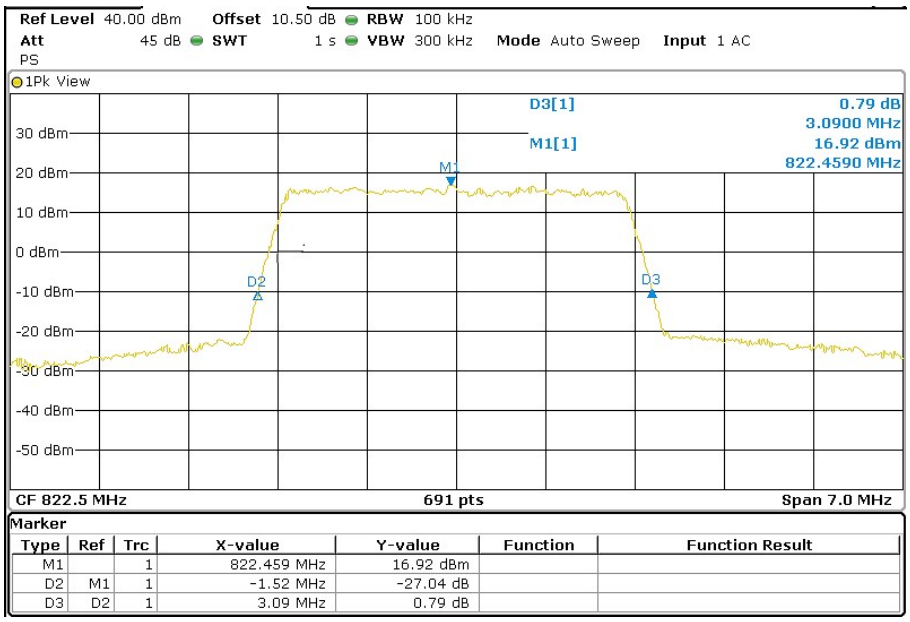
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	818.372 MHz	17.04 dBm		
D2	M1	1	-912.0 kHz	-26.64 dB		
D3	D2	1	3.085 MHz	-1.30 dB		

TEST RESULTS (Cont):	

Highest Channel 99% Occupied Bandwidth



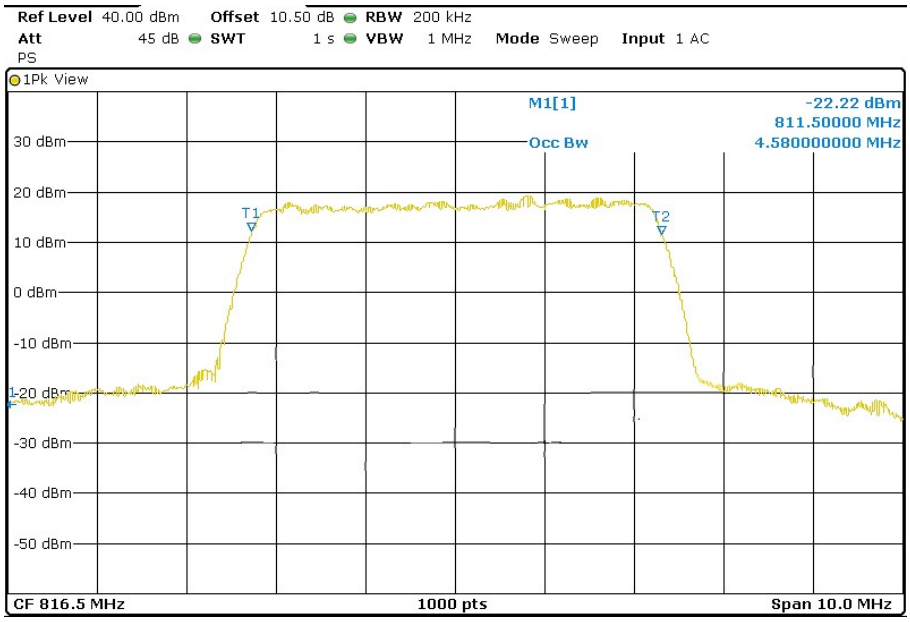
Highest Channel -26dBc Bandwidth



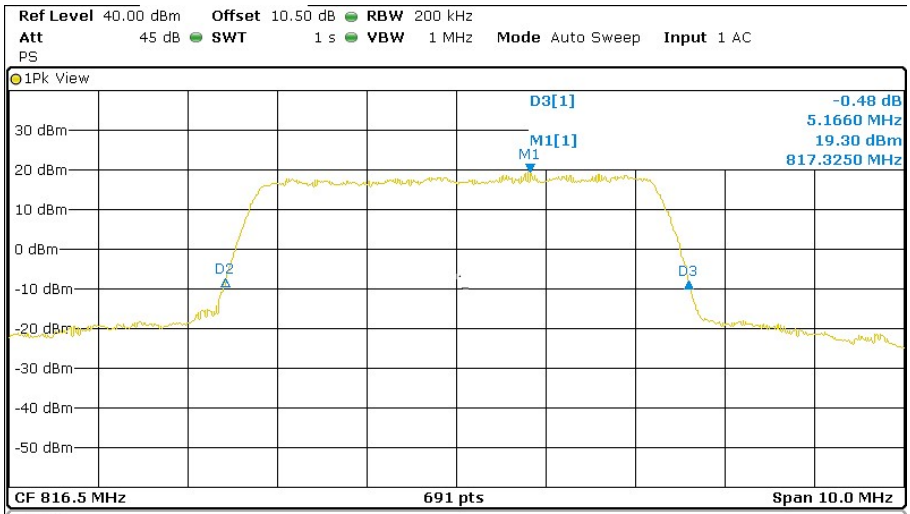
TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 5 MHz

Lowest Channel 99% Occupied Bandwidth



Lowest Channel -26dBc Bandwidth

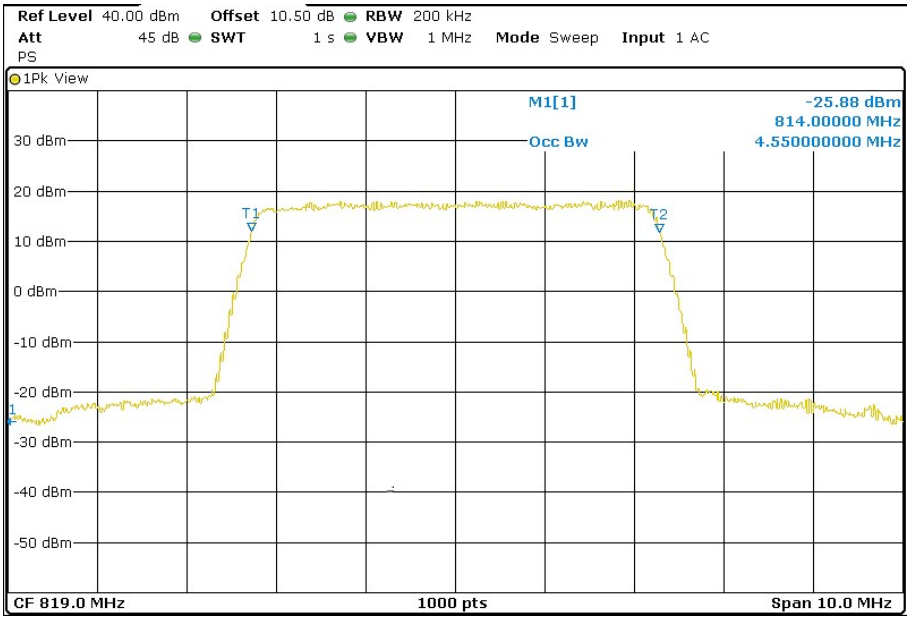


Marker

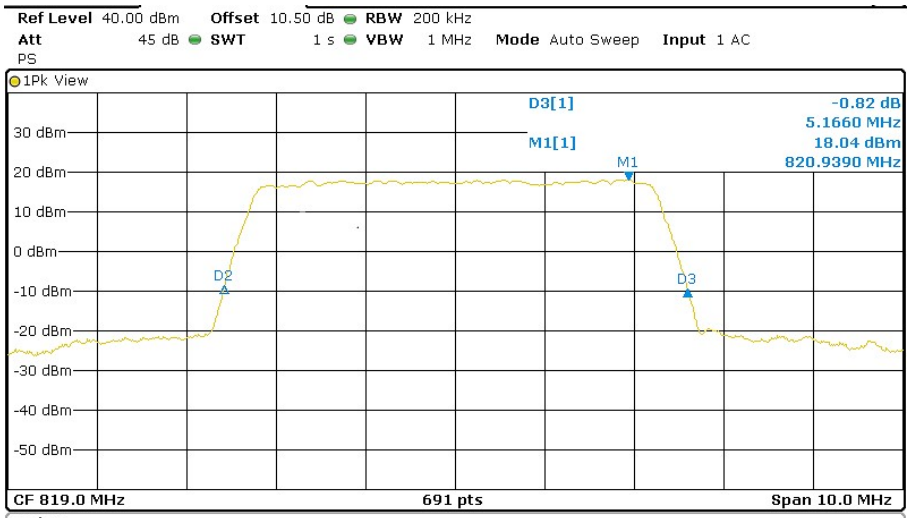
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	817.325 MHz	19.30 dBm		
D2	M1	1	-3.401 MHz	-26.77 dB		
D3	D2	1	5.166 MHz	-0.48 dB		

TEST RESULTS (Cont):	

Middle Channel 99% Occupied Bandwidth



Middle Channel -26dBc Bandwidth

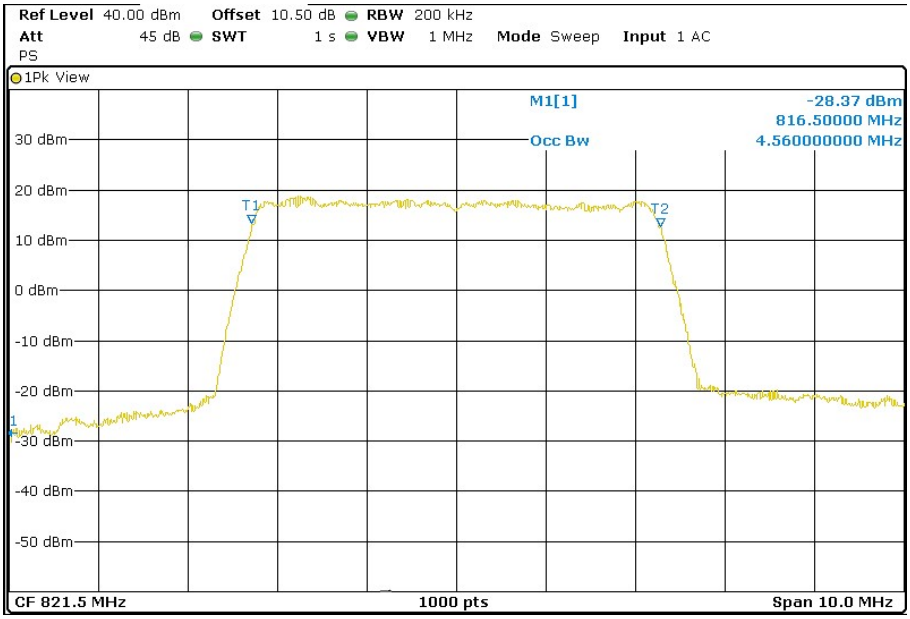


Marker

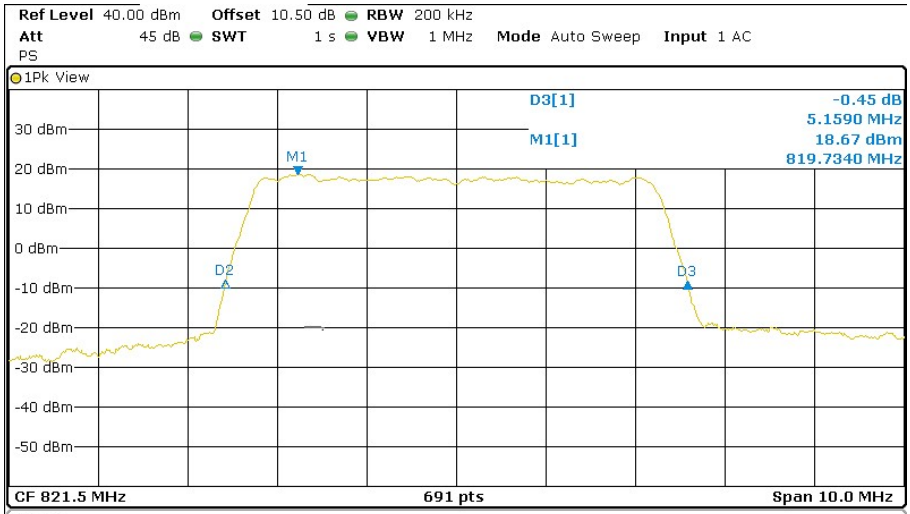
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	820.939 MHz	18.04 dBm		
D2	M1	1	-4.515 MHz	-26.52 dB		
D3	D2	1	5.166 MHz	-0.82 dB		

TEST RESULTS (Cont):	

Highest Channel 99% Occupied Bandwidth



Highest Channel -26dBc Bandwidth



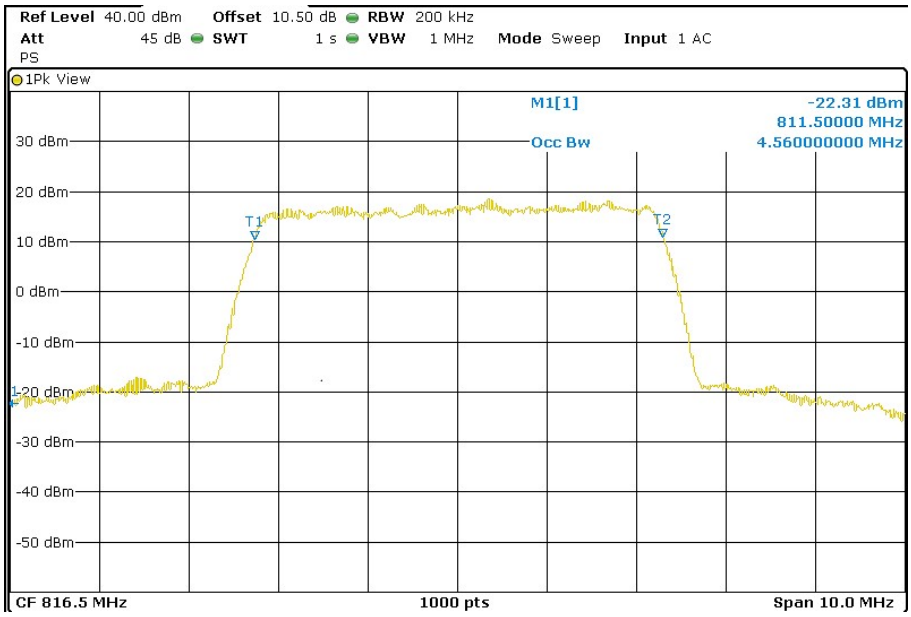
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	819.734 MHz	18.67 dBm		
D2	M1	1	-810.0 kHz	-26.61 dB		
D3	D2	1	5.159 MHz	-0.45 dB		

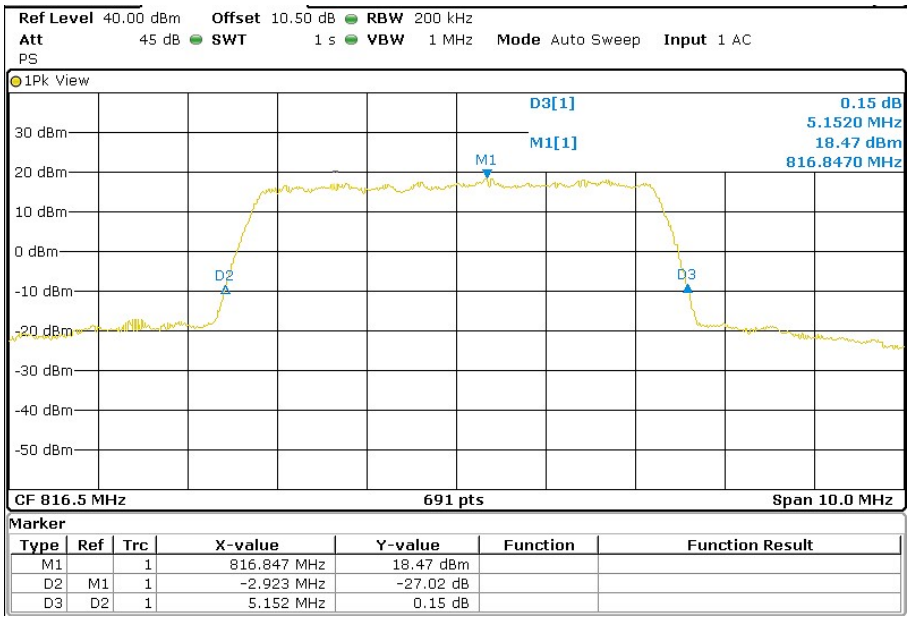
TEST RESULTS (Cont):	

LTE 16QAM MODULATION. BW = 5 MHz

Lowest Channel 99% Occupied Bandwidth



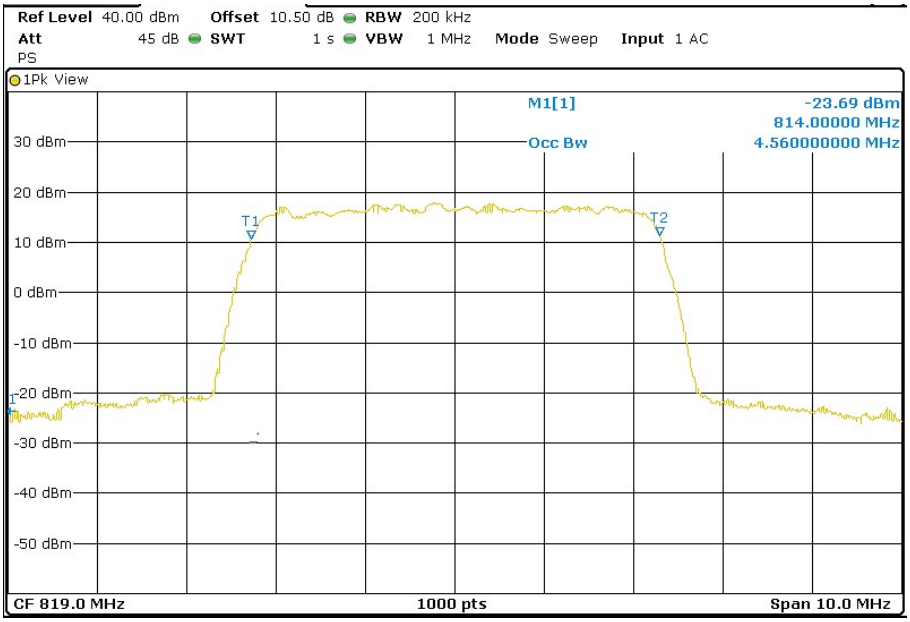
Lowest Channel -26dBc Bandwidth



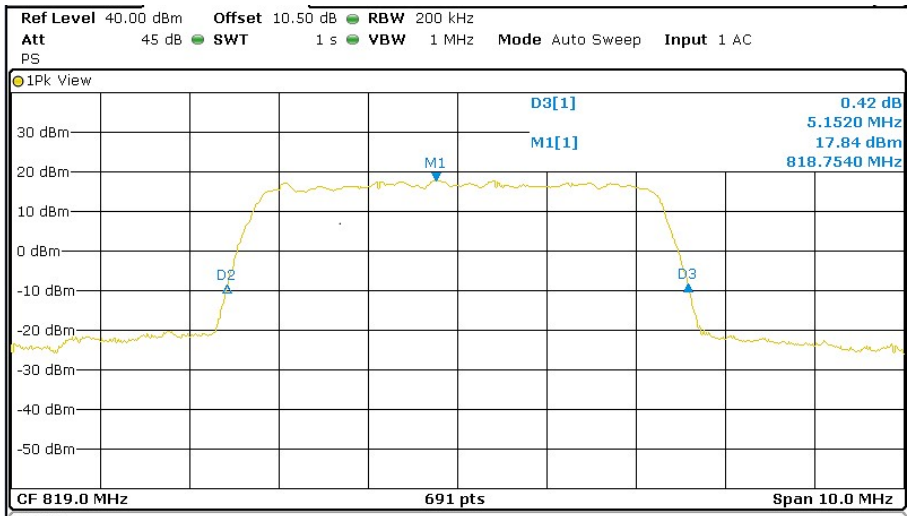
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	816.847 MHz	18.47 dBm		
D2	M1	1	-2.923 MHz	-27.02 dB		
D3	D2	1	5.152 MHz	0.15 dB		

TEST RESULTS (Cont):	

Middle Channel 99% Occupied Bandwidth



Middle Channel -26dBc Bandwidth

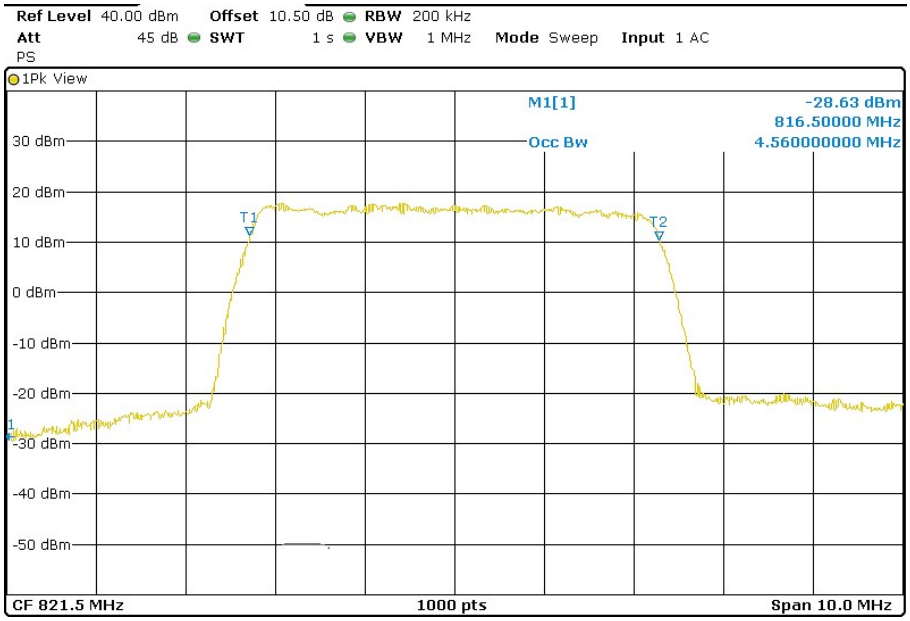


Marker

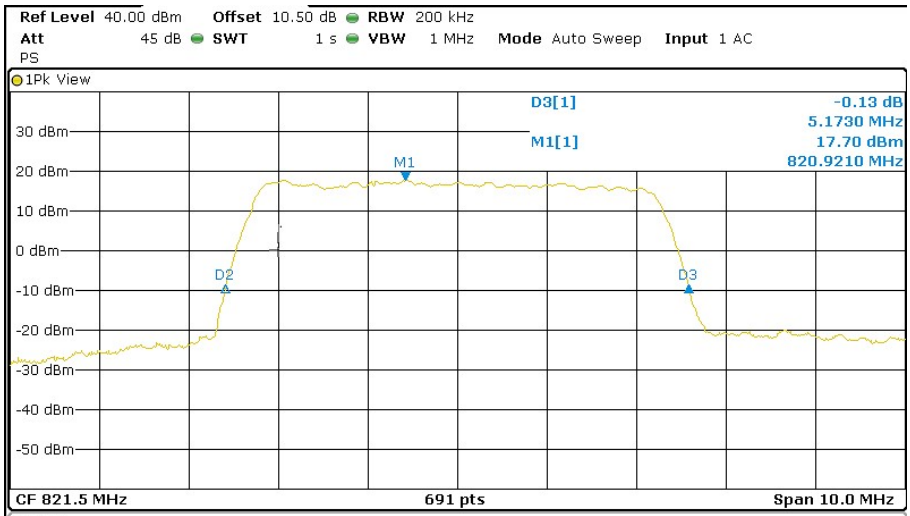
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	818.754 MHz	17.84 dBm		
D2	M1	1	-2.33 MHz	-26.53 dB		
D3	D2	1	5.152 MHz	0.42 dB		

TEST RESULTS (Cont):	

Highest Channel 99% Occupied Bandwidth



Highest Channel -26dBc Bandwidth



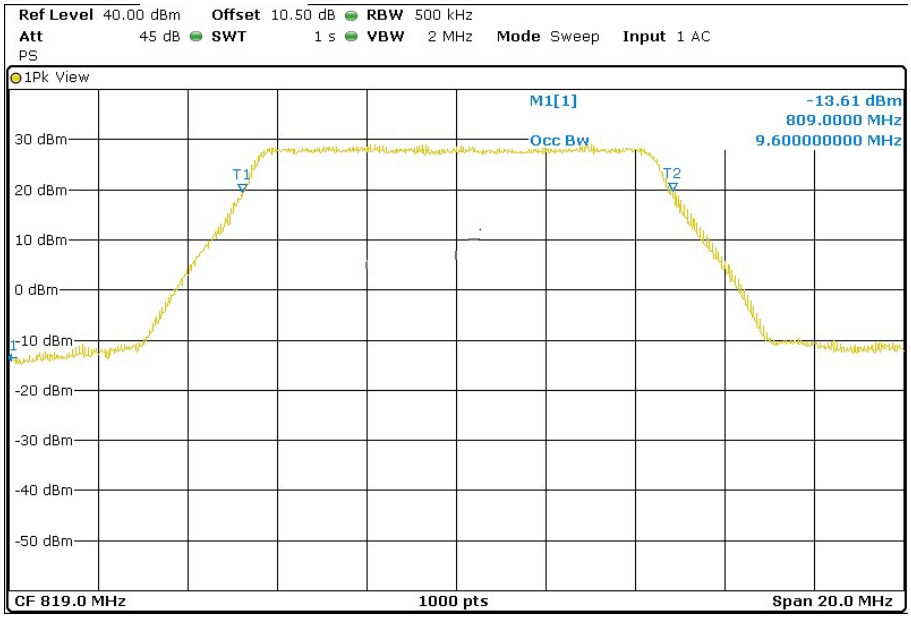
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	820.921 MHz	17.70 dBm		
D2	M1	1	-2.012 MHz	-26.26 dB		
D3	D2	1	5.173 MHz	-0.13 dB		

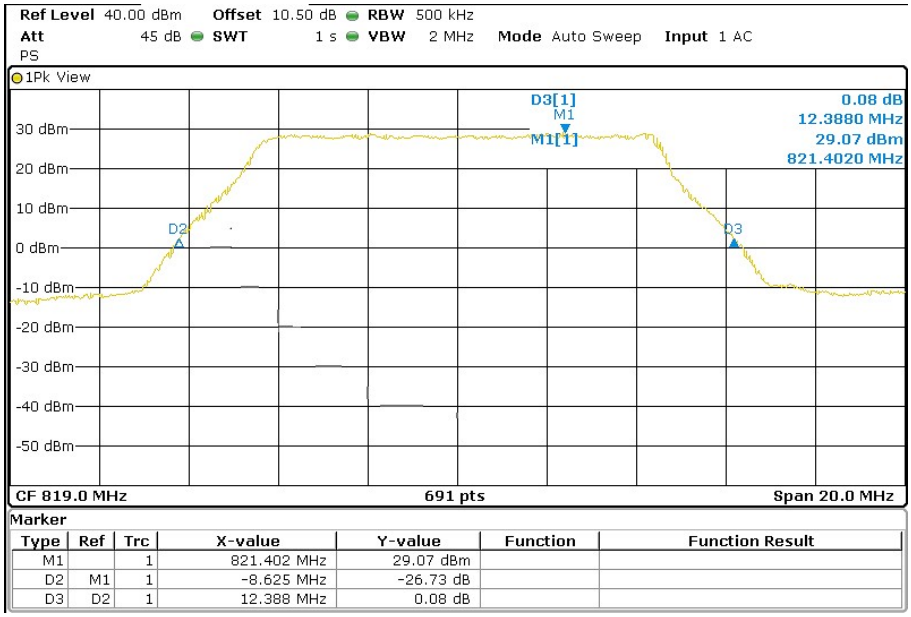
TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 10 MHz

99% Occupied Bandwidth



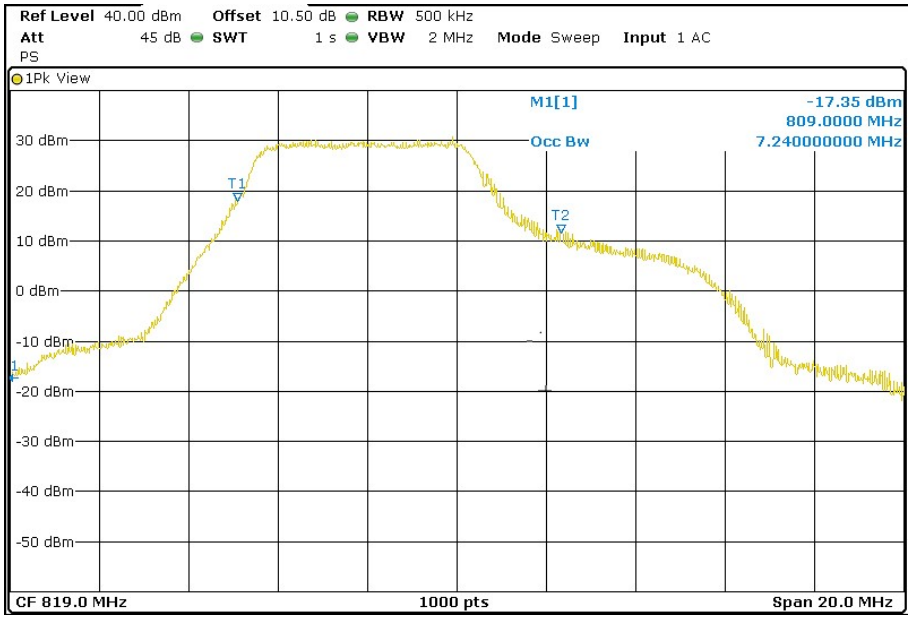
-26dBc Bandwidth



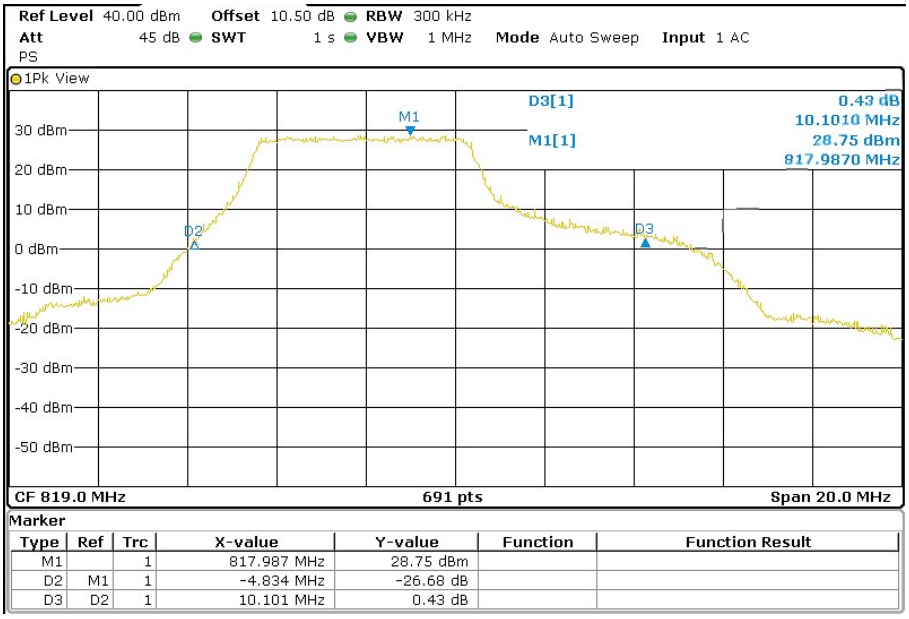
TEST RESULTS (Cont):	

LTE 16QAM MODULATION. BW = 10 MHz

99% Occupied Bandwidth



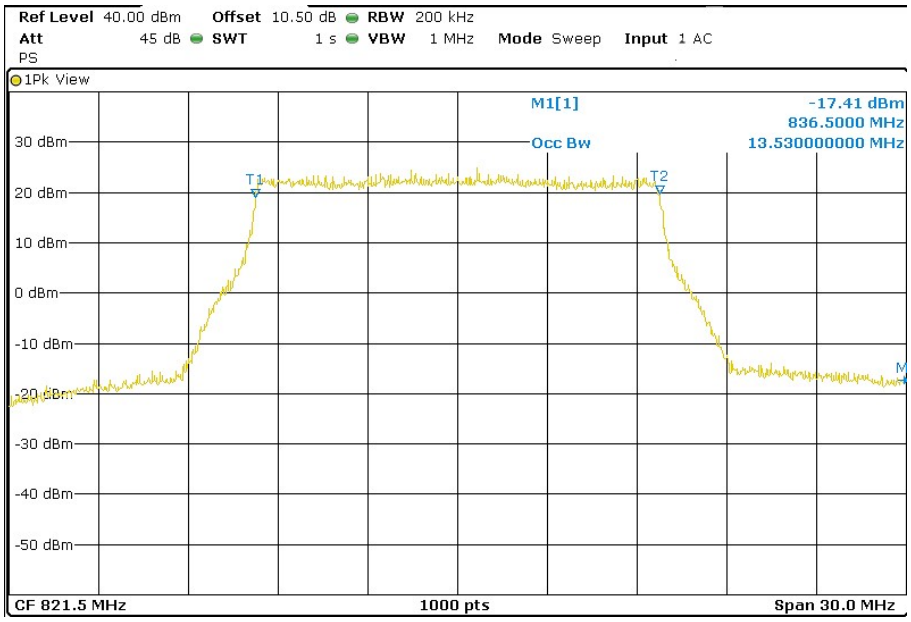
-26dBc Bandwidth



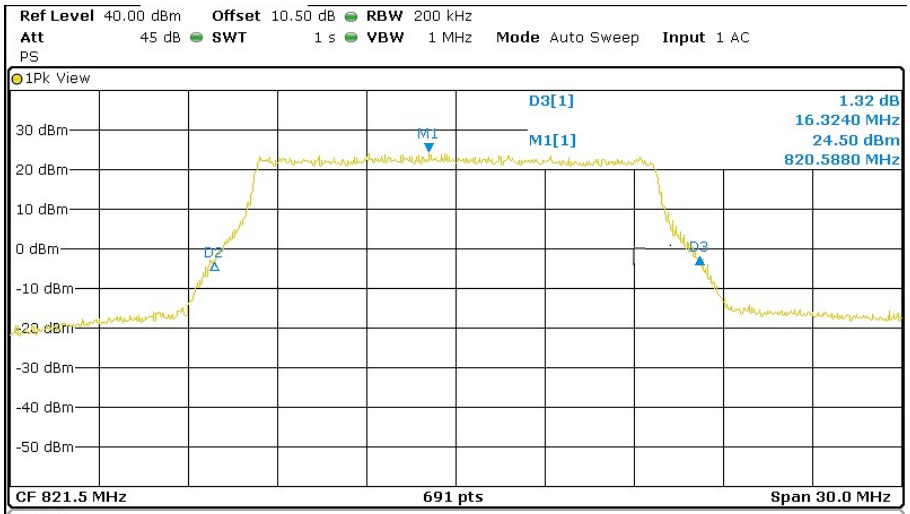
TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 15 MHz

99% Occupied Bandwidth



-26dBc Bandwidth

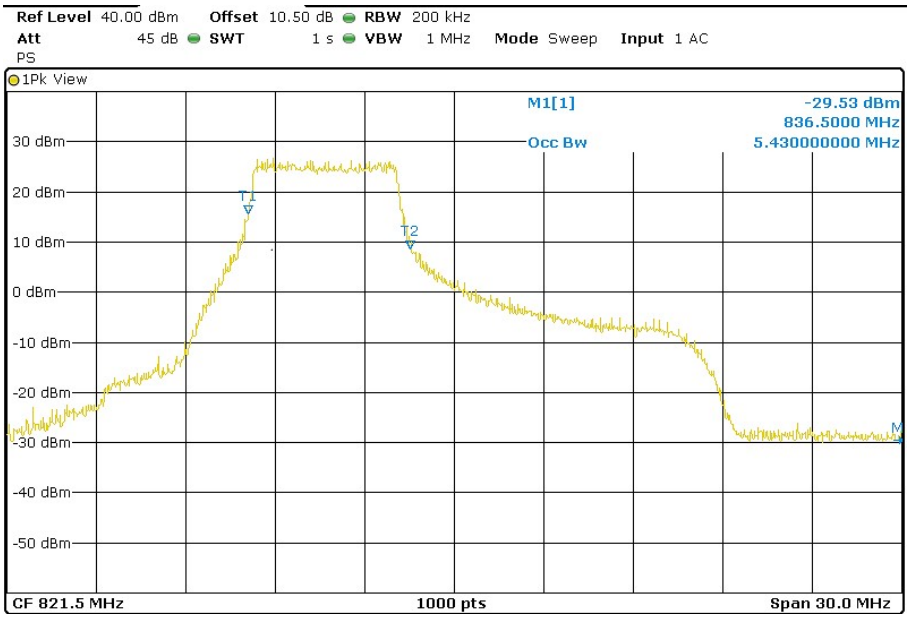


Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	820.588 MHz	24.50 dBm		
D2	M1	1	-7.207 MHz	-27.87 dB		
D3	D2	1	16.324 MHz	1.32 dB		

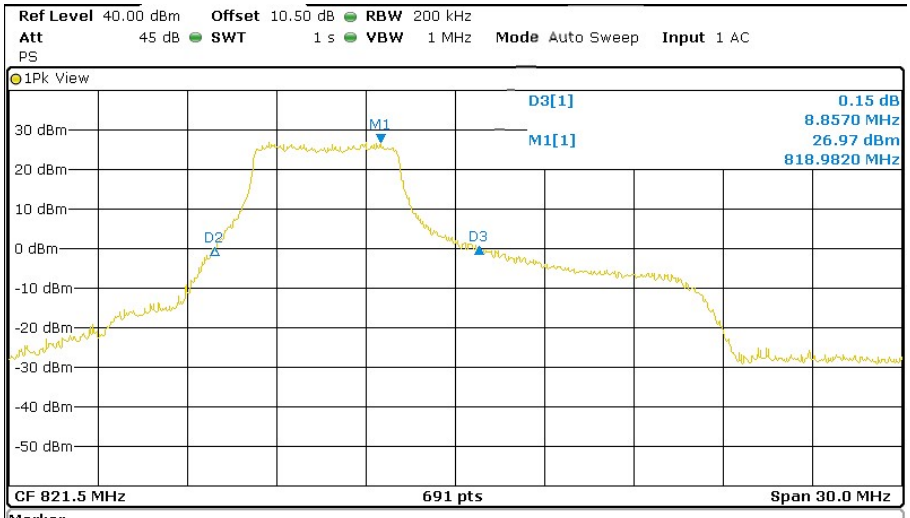
TEST RESULTS (Cont):	

LTE 16QAM MODULATION. BW = 15 MHz

99% Occupied Bandwidth



-26dBc Bandwidth



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	818.982 MHz	26.97 dBm		
D2	M1	1	-5.557 MHz	-26.66 dB		
D3	D2	1	8.857 MHz	0.15 dB		

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02
TEST RESULTS:	PASS

LTE QPSK MODULATION. BW = 1.4 MHz

Frequency	824.0
99% Occupied bandwidth (MHz)	1.11

LTE 16QAM MODULATION. BW = 1.4 MHz

Frequency	824.0
99% Occupied bandwidth (MHz)	1.11

LTE QPSK MODULATION. BW = 3 MHz

Frequency	824.0
99% Occupied bandwidth (MHz)	2.70

LTE 16QAM MODULATION. BW = 3 MHz

Frequency	824.0
99% Occupied bandwidth (MHz)	2.70

LTE QPSK MODULATION. BW = 5 MHz

Frequency	824.0
99% Occupied bandwidth (MHz)	4.52

LTE 16QAM MODULATION. BW = 5 MHz

Frequency	824.0
99% Occupied bandwidth (MHz)	4.50

TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 10 MHz

Frequency	824.0
99% Occupied bandwidth (MHz)	8.96

LTE 16QAM MODULATION. BW = 10 MHz

Frequency	824.0
99% Occupied bandwidth (MHz)	8.94

LTE QPSK MODULATION. BW = 15 MHz

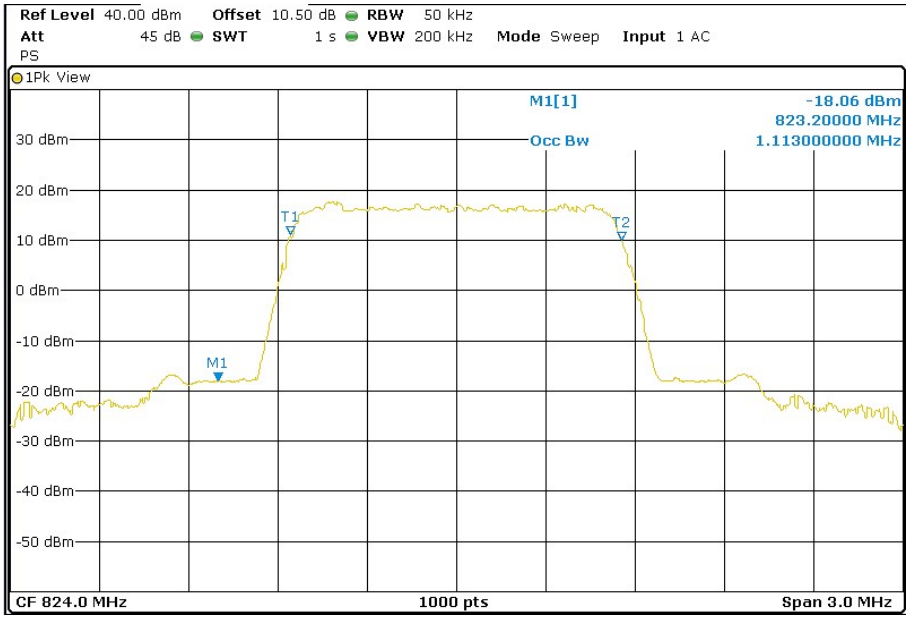
Frequency	824.0
99% Occupied bandwidth (MHz)	13.44

LTE 16QAM MODULATION. BW = 15 MHz

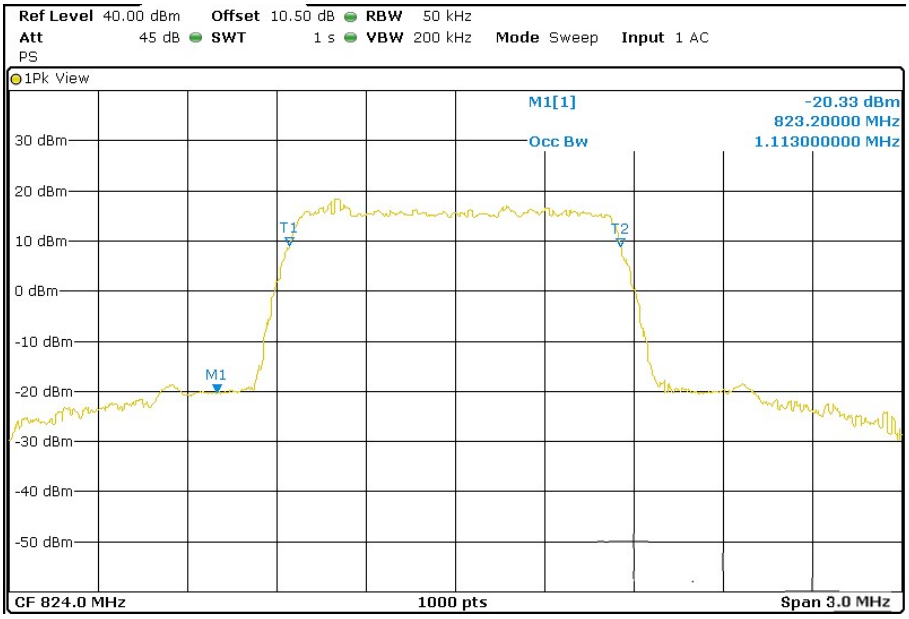
Frequency	824.0
99% Occupied bandwidth (MHz)	13.41

TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 1.4 MHz

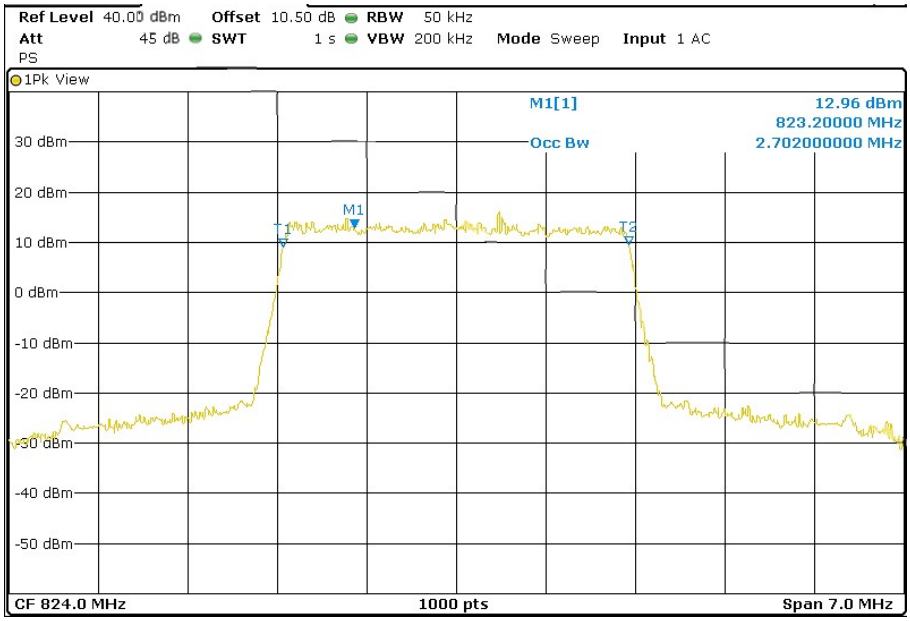


LTE 16QAM MODULATION. BW = 1.4 MHz

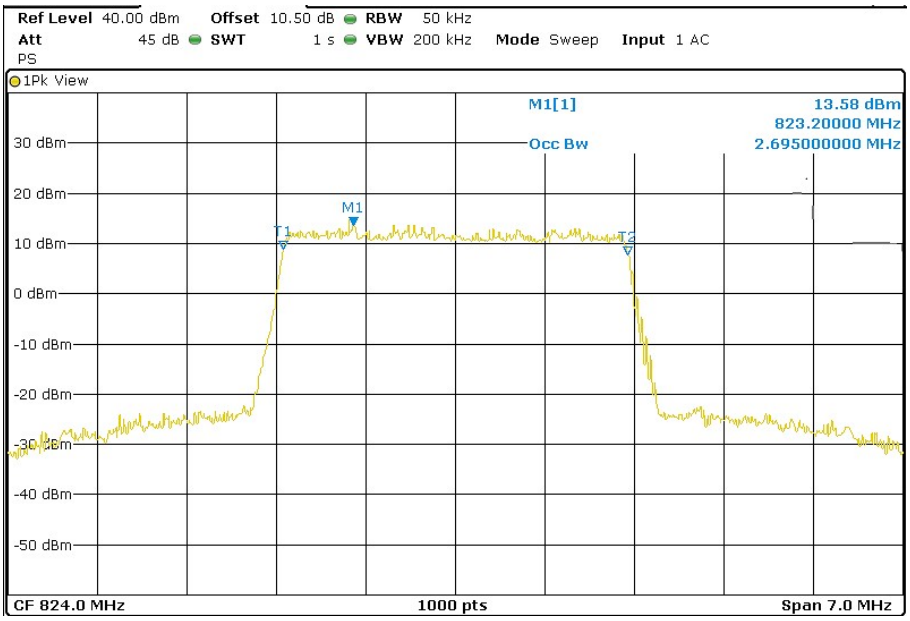


TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 3 MHz

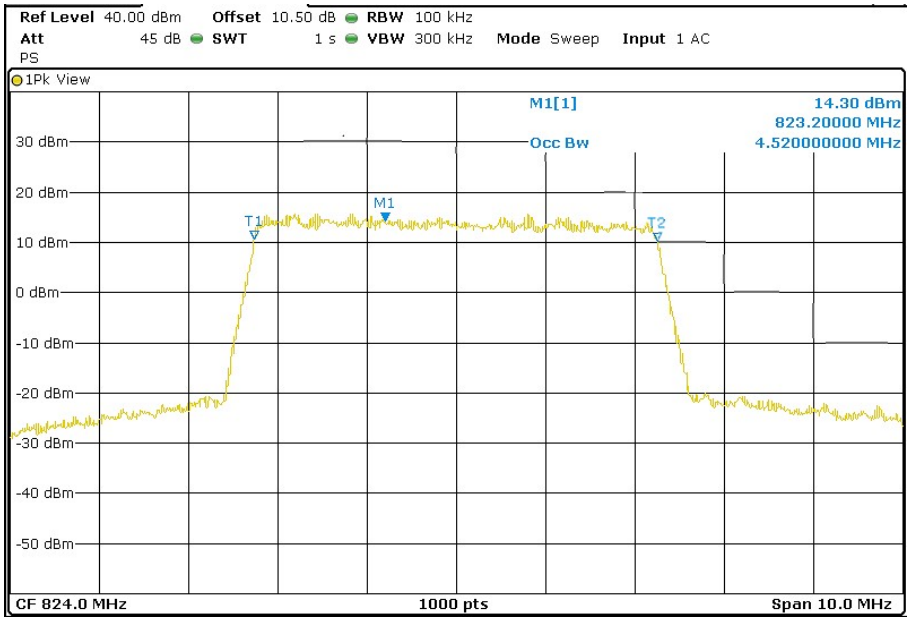


LTE 16QAM MODULATION. BW = 3 MHz

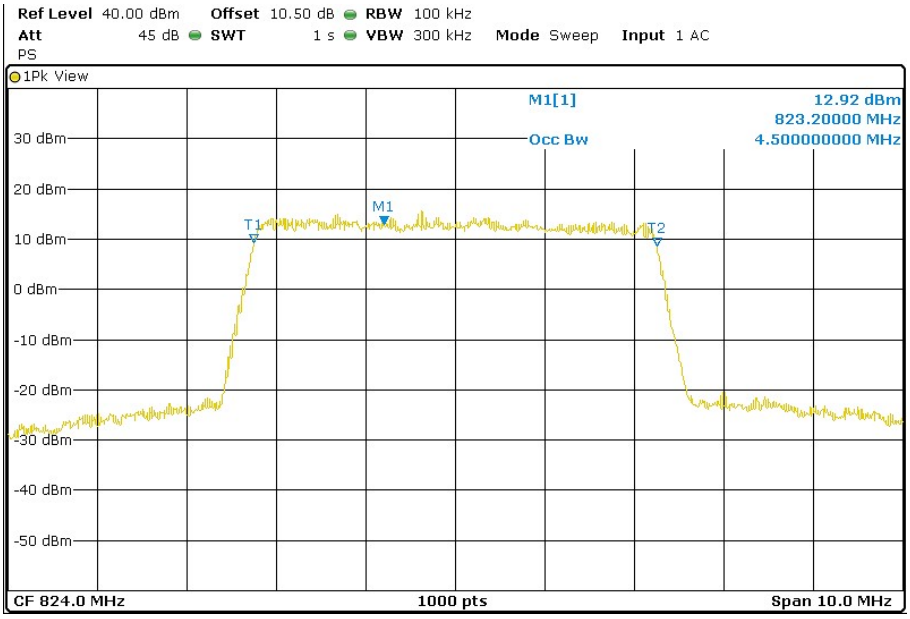


TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 5 MHz

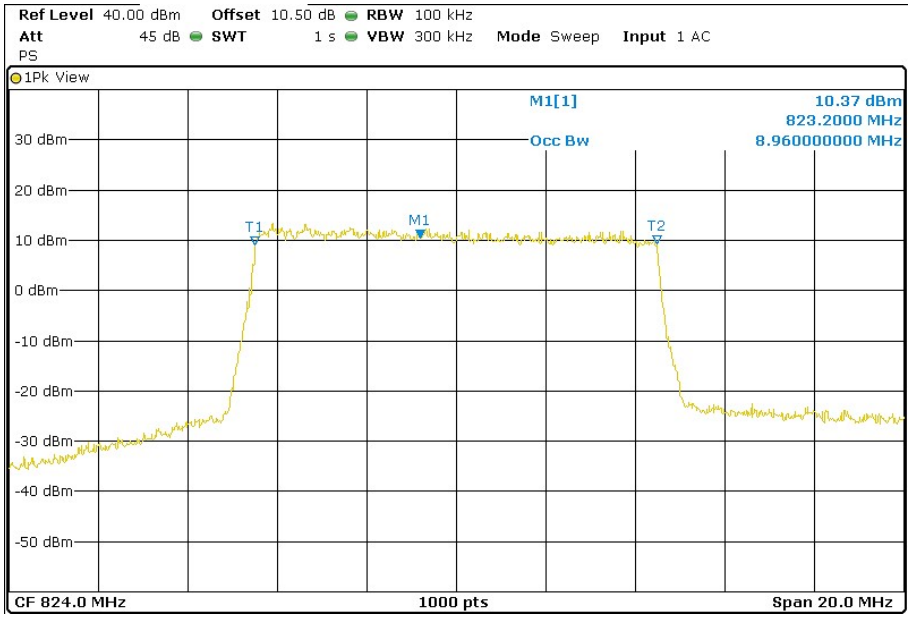


LTE 16QAM MODULATION. BW = 5 MHz

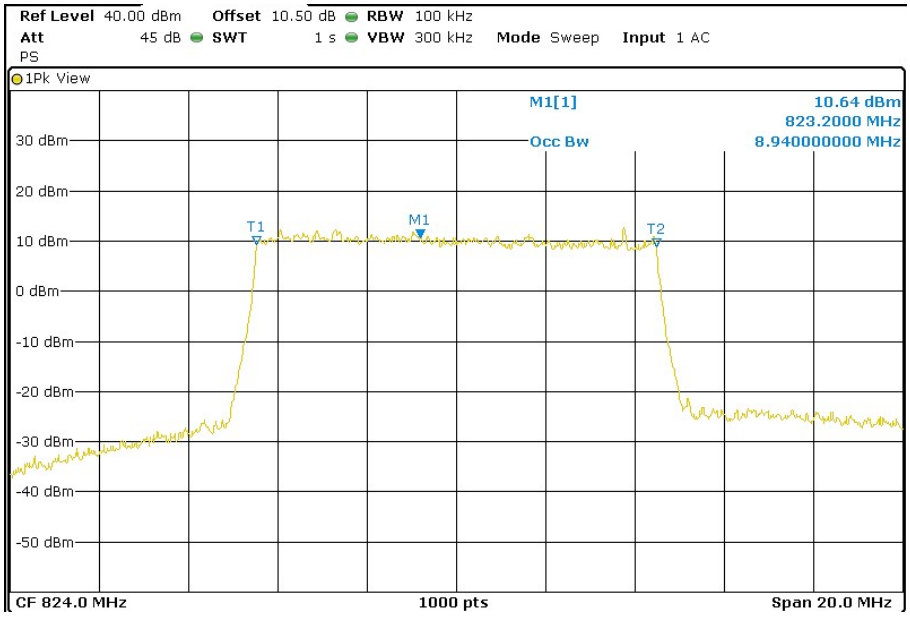


TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 10 MHz

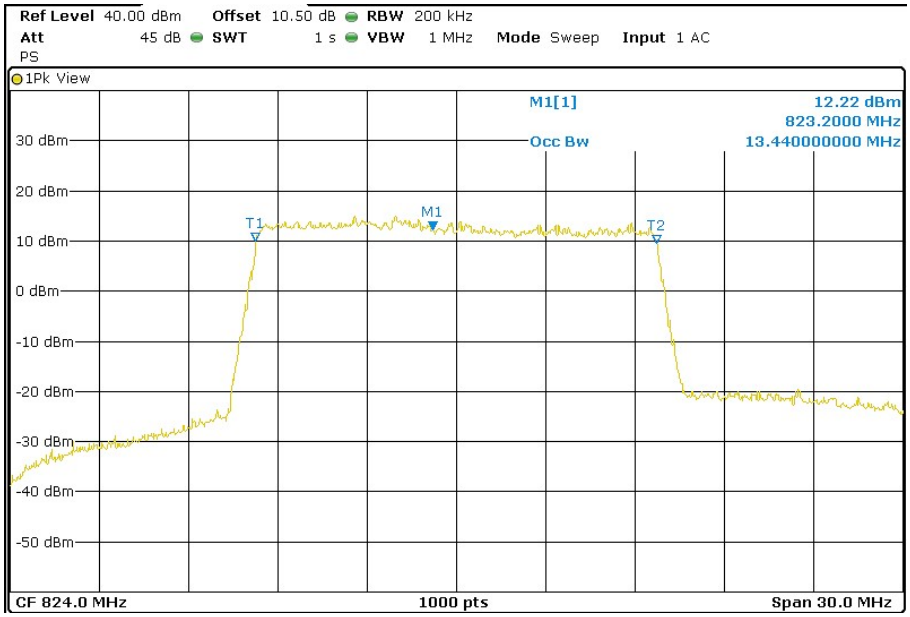


LTE 16QAM MODULATION. BW = 10 MHz

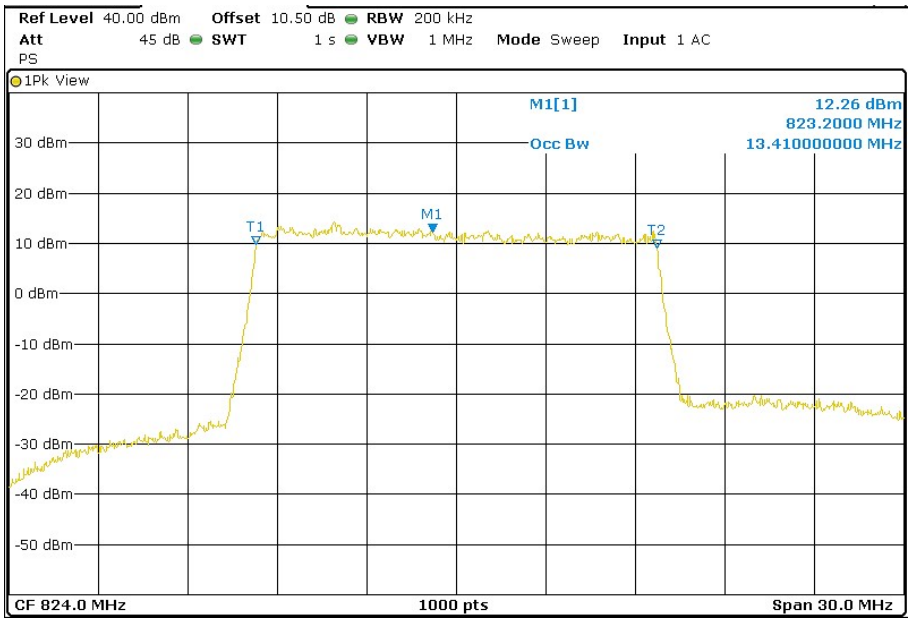


TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 15 MHz



LTE 16QAM MODULATION. BW = 15 MHz



TEST A.4: SPURIOUS EMISSIONS AT ANTENNA TERMINALS

LIMITS:	Product standard:	FCC Part 90
	Test standard:	FCC §2.1051 and § 90.691.

LIMITS

According to specification, the power of emissions shall be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. P in watts.

At Po transmitting power of 2 watts (33 dBm), the specified minimum attenuation becomes 43+10log (Po). and the level in dBm relative to Po becomes:

Po (dBm) – [43 + 10 log (Po in watts)] = -13 dBm

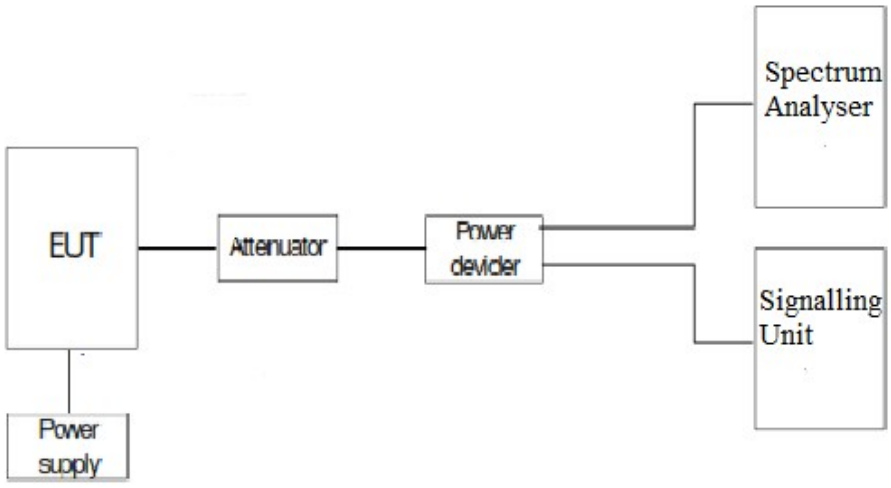
TEST SETUP

The EUT RF output connector was connected to a spectrum analyzer and to the Universal Radio Communication Tester R&S CMW500 (selecting maximum transmission power of the EUT and different modes of modulation) using a 50-ohm attenuator and a power splitter.

The spectrum was investigated from 9 kHz to 18 GHz for LTE Band 26.

The reading of the spectrum analyzer is corrected with the attenuation loss of connection between output terminal of EUT and input of the spectrum analyzer.

For LTE mode the configuration of Resource Blocks and modulation which is the worst case for conducted power was used.



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01
TEST RESULTS:	PASS

Frequency range 9 kHz – 18 GHz

LTE QPSK MODULATION. BW = 1.4 MHz

Lowest Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

Middle Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

Highest Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

LTE QPSK MODULATION. BW = 3 MHz

Lowest Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

Middle Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

Highest Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

LTE QPSK MODULATION. BW = 5 MHz

Lowest Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

Middle Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

Highest Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

LTE QPSK MODULATION. BW = 10 MHz

Lowest Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

Middle Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

Highest Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

LTE QPSK MODULATION. BW = 15 MHz

Lowest Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

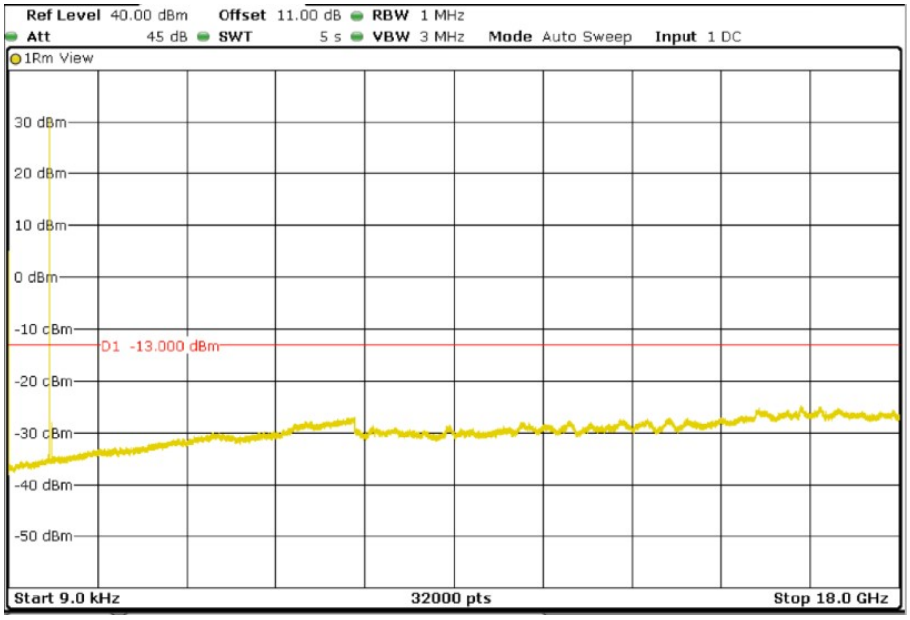
Middle Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

Highest Channel
No spurious signal was found at less than 20dB respect to the limit in the frequency range.

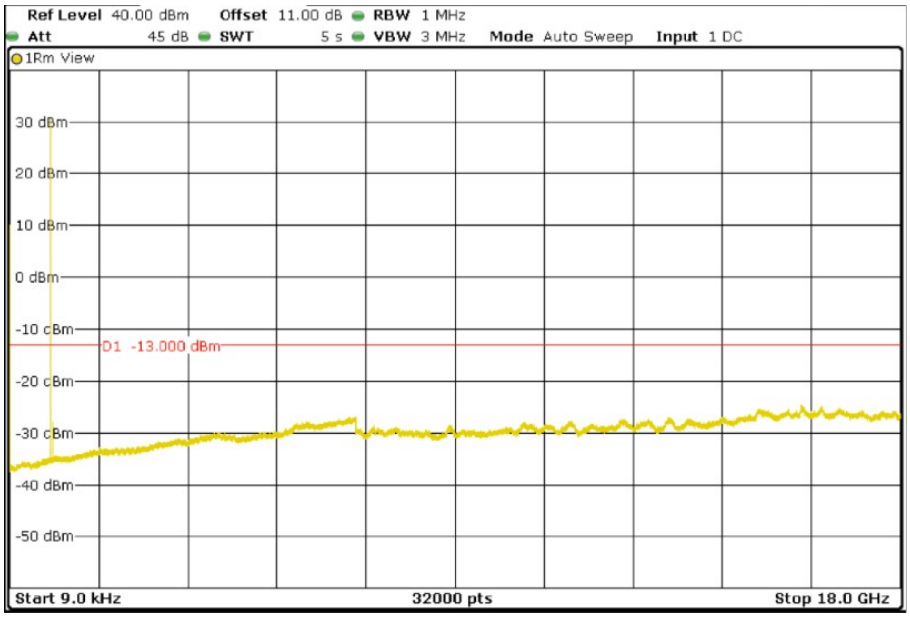
TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 1.4MHz

Lowest Channel

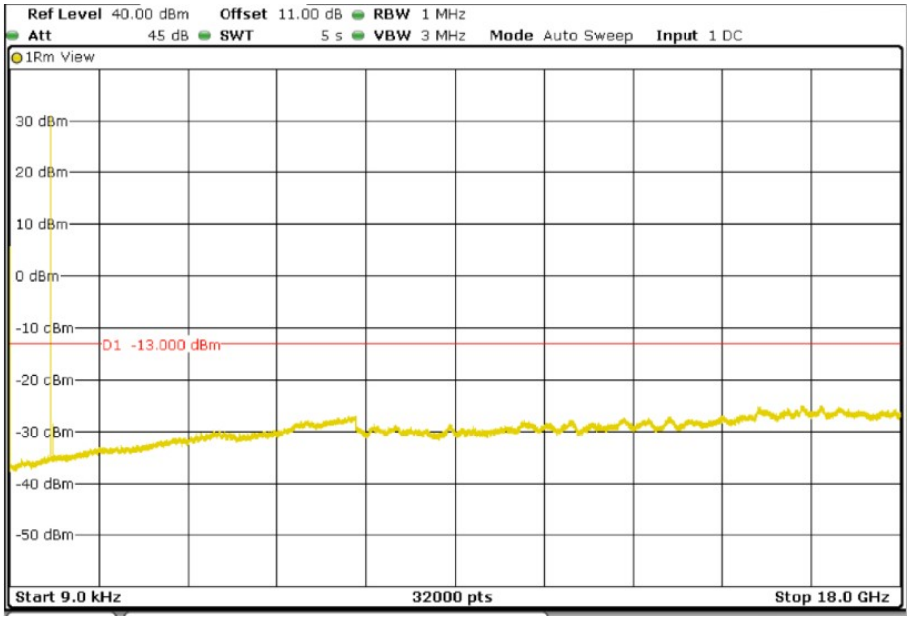


Middle Channel



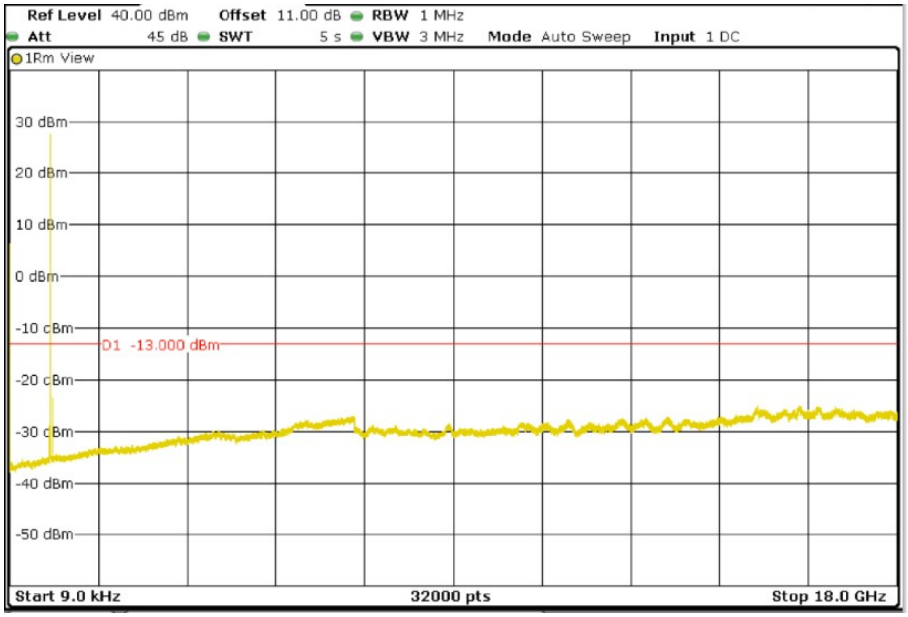
TEST RESULTS (Cont):	

Highest Channel



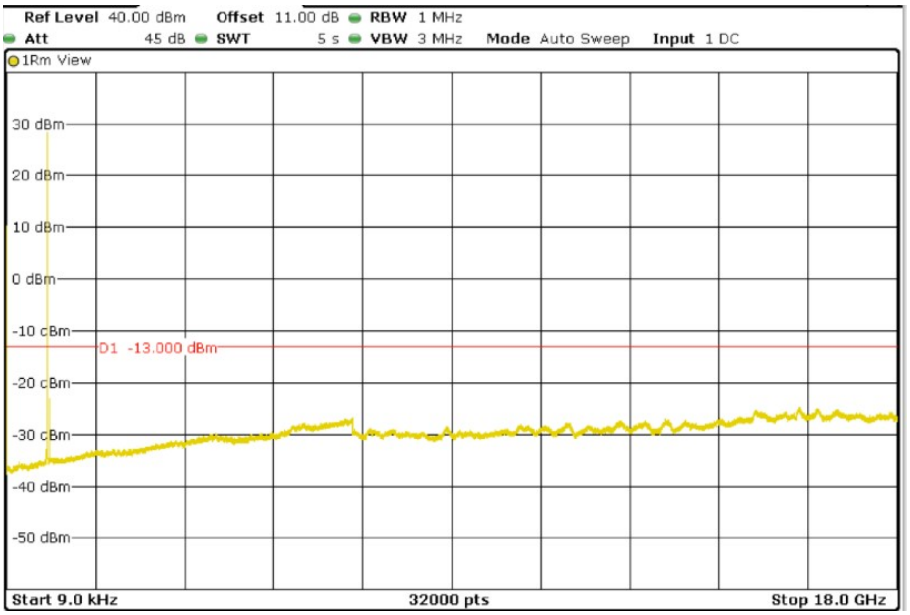
LTE QPSK MODULATION. BW = 3 MHz

Lowest Channel

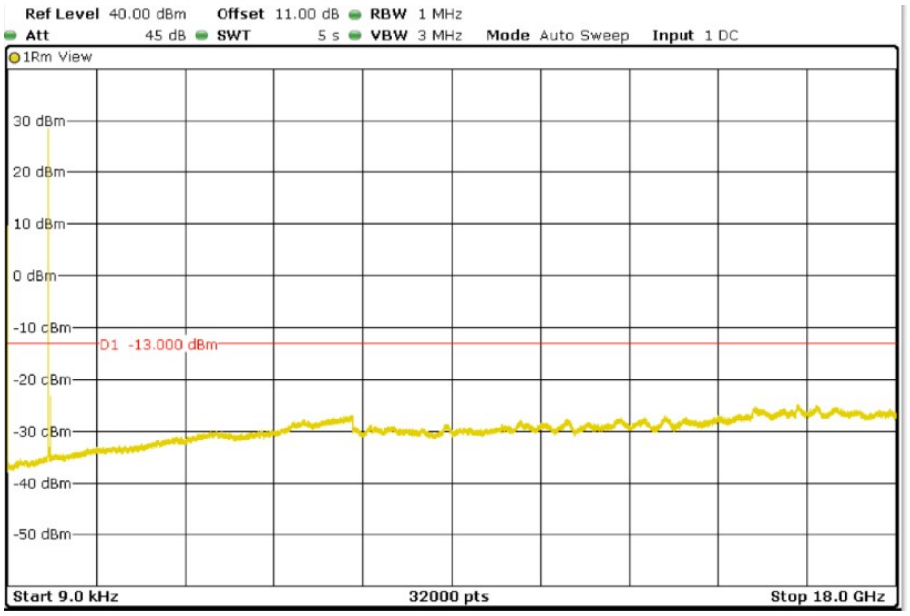


TEST RESULTS (Cont):	

Middle Channel



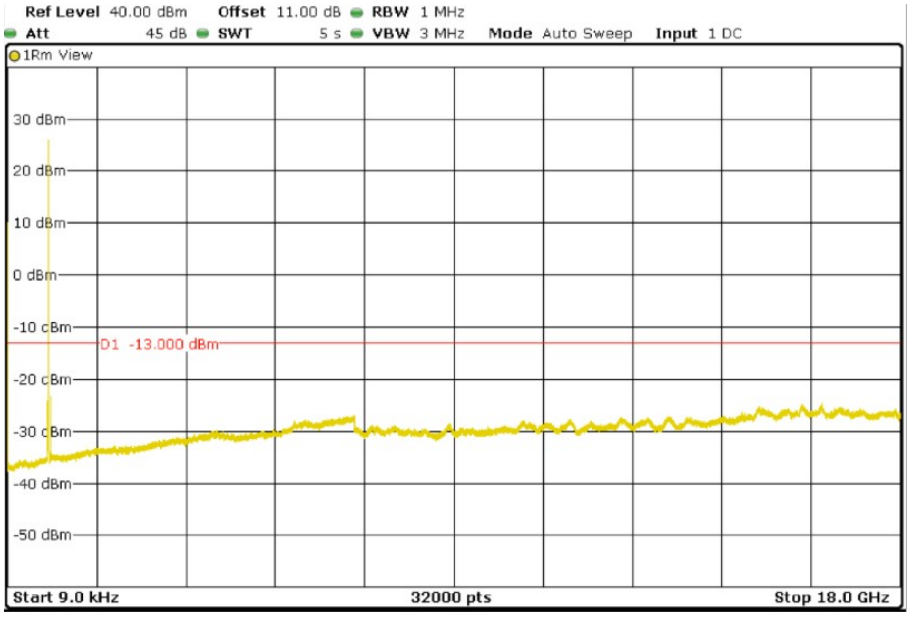
Highest Channel



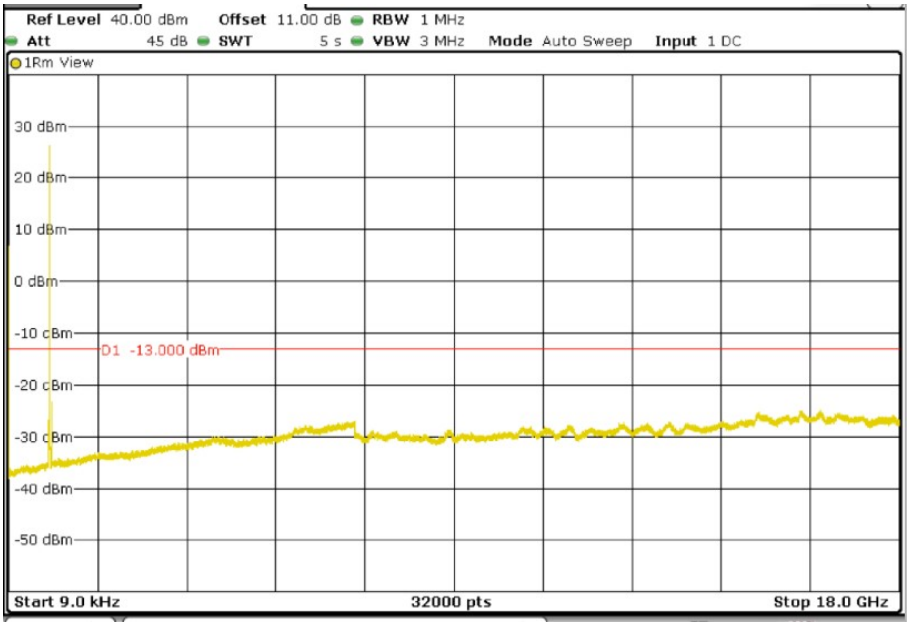
TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 5 MHz

Lowest Channel

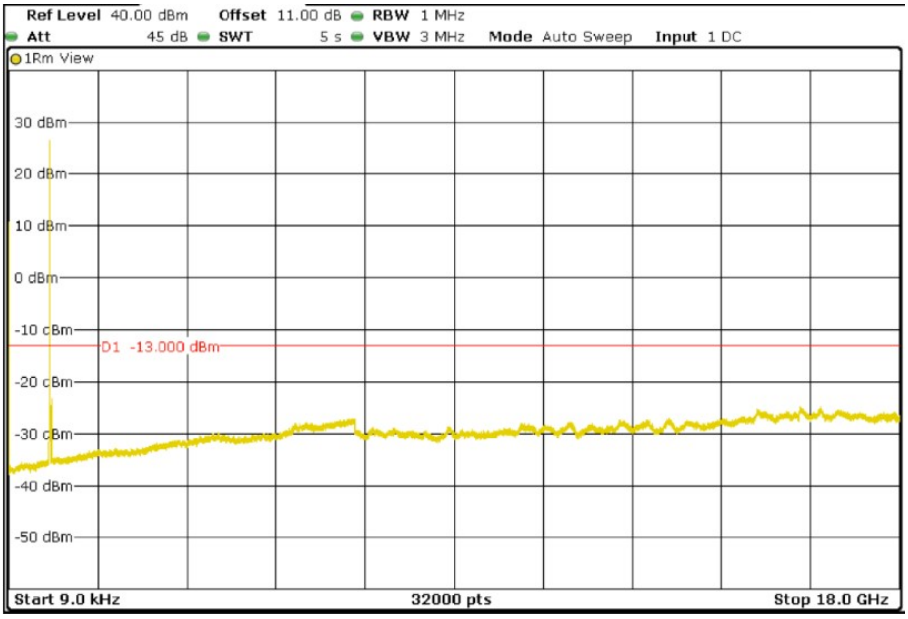


Middle Channel

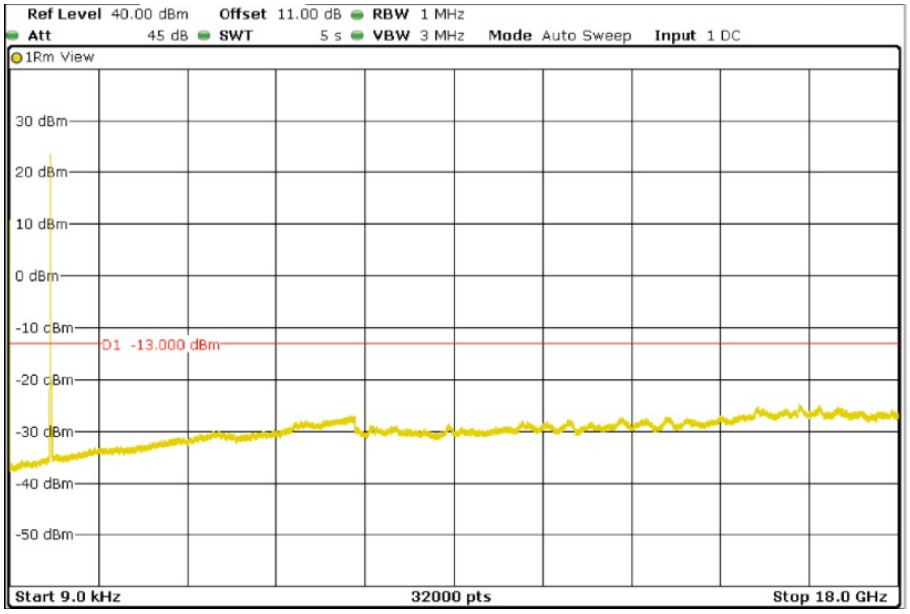


TEST RESULTS (Cont):	

Highest Channel

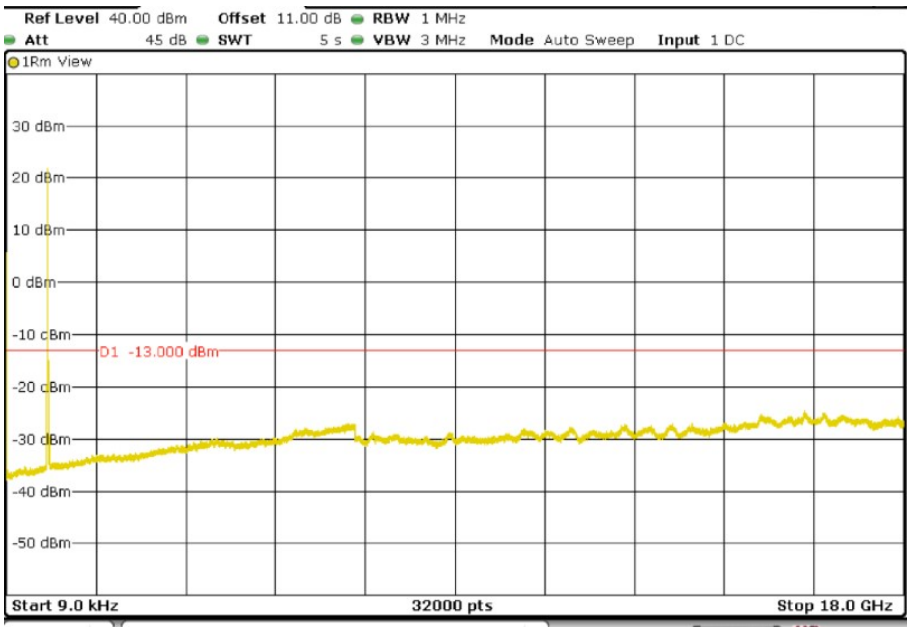


LTE QPSK MODULATION. BW = 10 MHz



TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 15 MHz



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02
TEST RESULTS:	PASS

Frequency range 9 kHz – 18 GHz

LTE QPSK MODULATION. BW = 1.4 MHz
The spurious signals were detected more than 10 dB below the limit in the frequency range.

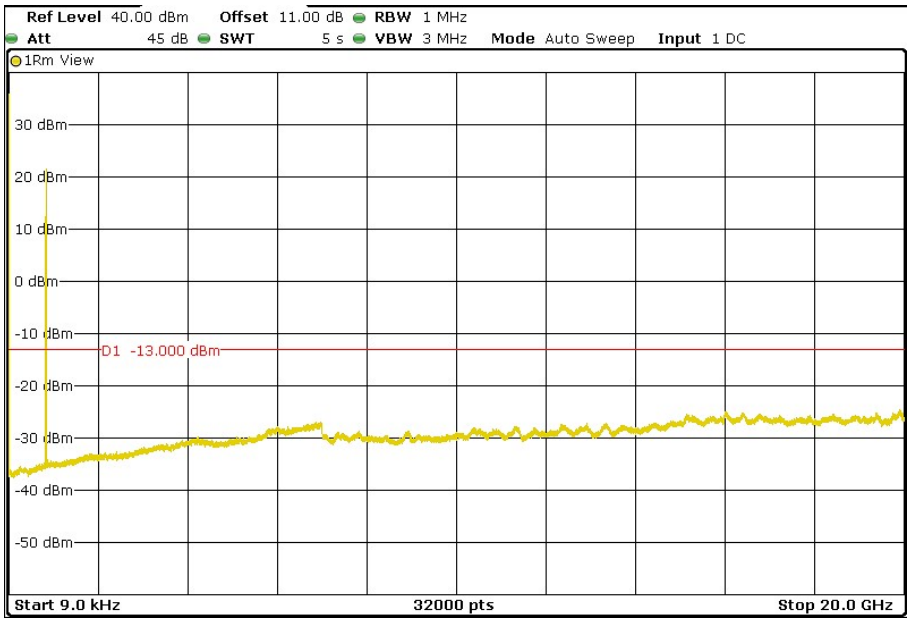
LTE QPSK MODULATION. BW = 3 MHz
The spurious signals were detected more than 10 dB below the limit in the frequency range.

LTE QPSK MODULATION. BW = 5 MHz
The spurious signals were detected more than 10 dB below the limit in the frequency range.

LTE QPSK MODULATION. BW = 10 MHz
The spurious signals were detected more than 10 dB below the limit in the frequency range.

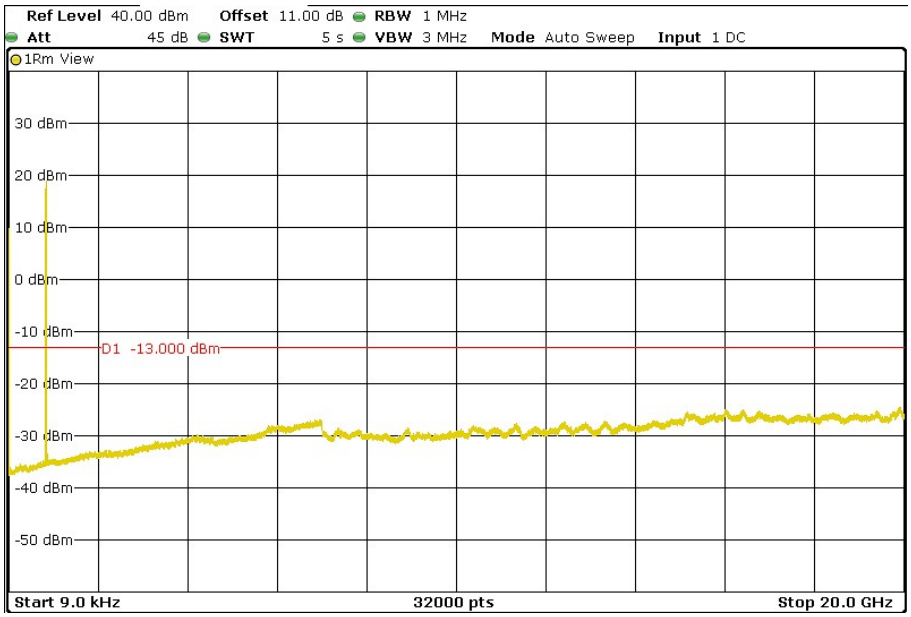
LTE QPSK MODULATION. BW = 15 MHz
The spurious signals were detected more than 10 dB below the limit in the frequency range.

LTE QPSK MODULATION. BW = 1.4 MHz

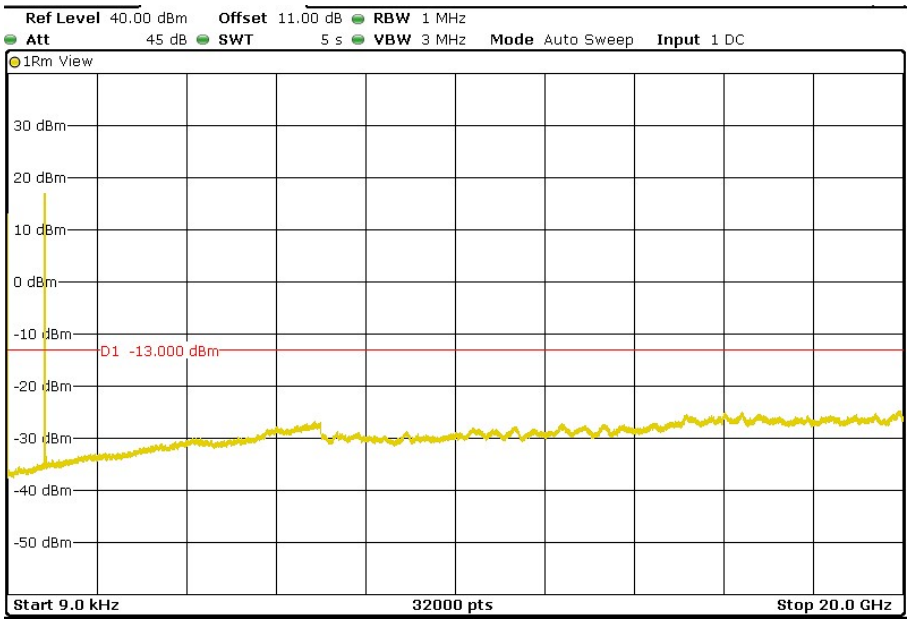


TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 3 MHz

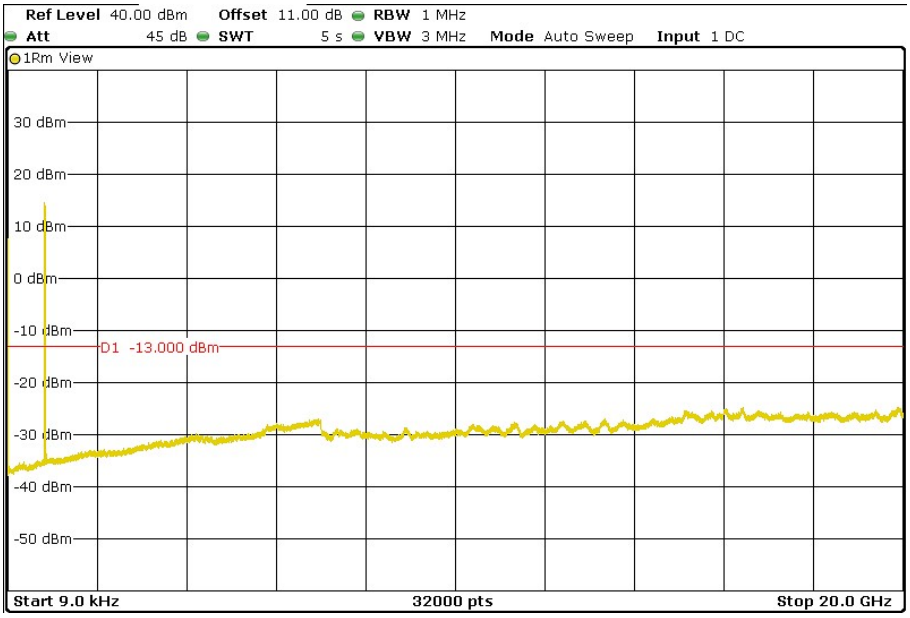


LTE QPSK MODULATION. BW = 5 MHz

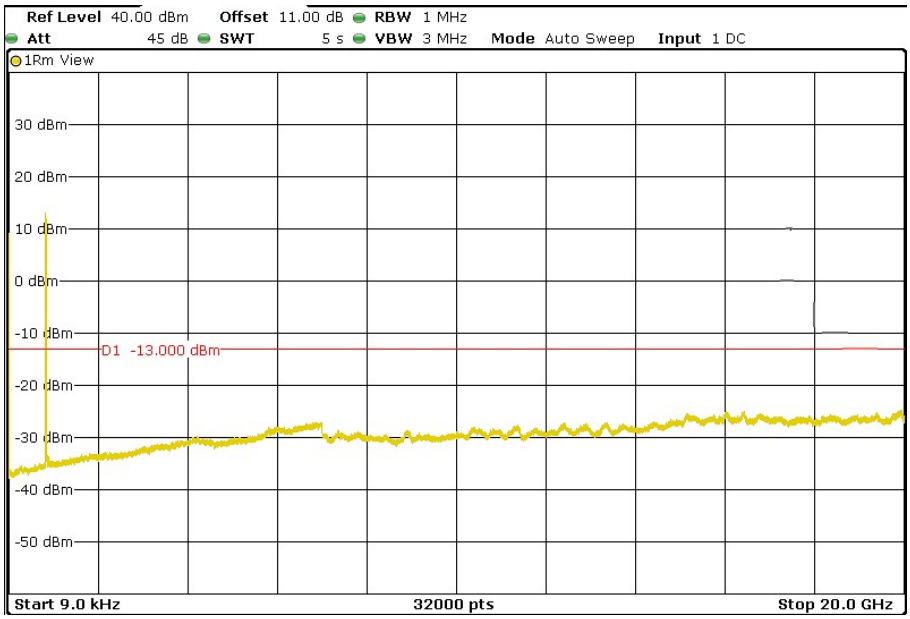


TEST RESULTS (Cont):	

LTE QPSK MODULATION. BW = 10 MHz



LTE QPSK MODULATION. BW = 15 MHz



TEST A.6: SPURIOUS EMISSIONS AT ANTENNA TERMINALS AT BLOCK EDGES

LIMITS:	Product standard:	FCC Part 90
	Test standard:	FCC §2.1051 and 90.691

LIMITS

According to specification, the power of emissions shall be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB P in watts.

At Po transmitting power of 2 watts (33 dBm), the specified minimum attenuation becomes 43+10log (Po). and the level in dBm relative to Po becomes:

Po (dBm) – [43 + 10 log (Po in watts)] = -13 dBm

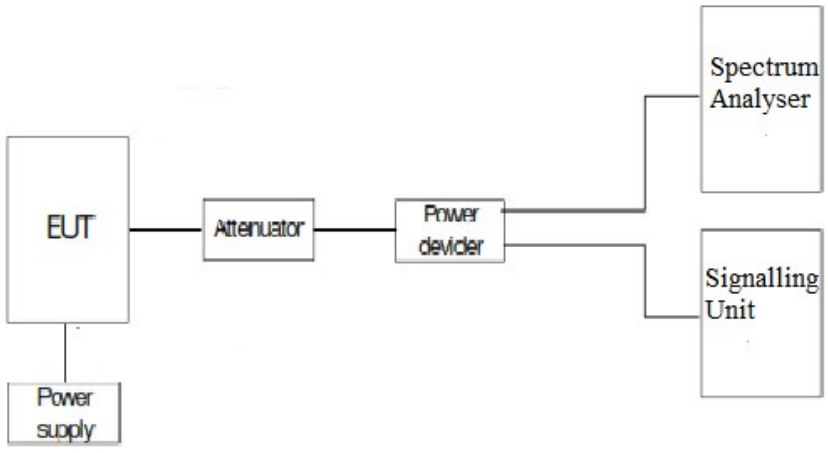
TEST SETUP

The EUT RF output connector was connected to a spectrum analyzer and to the Universal Radio Communication Tester R&S CMW500 (selecting maximum transmission power of the EUT and different modes of modulation) using a 50-ohm attenuator and a power splitter.

The reading of the spectrum analyzer is corrected with the attenuation loss of connection between output terminal of EUT and input of the spectrum analyzer.

For LTE mode the configuration of modulation which is the worst case for conducted power was used.

As indicated in FCC part 90, in the 1 MHz bands immediately outside and adjacent to the licensee's frequency block or band, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01
TEST RESULTS:	PASS

RESULTS

LTE QPSK MODULATION	RB=1. Offset=0. BW=1.4 MHz	RB=1. Offset =0. BW = 3 MHz	RB=1. Offset =0. BW = 5 MHz	RB=1. Offset =0. BW = 10 MHz	RB=1. Offset =0. BW = 15 MHz
Maximum measured level at lowest Block Edge at antenna port (dBm)	-19.91	-17.86	-19.64	-16.79	-16.49

LTE QPSK MODULATION:	RB= All. Offset=0. BW=1.4 MHz	RB= All. Offset =0. BW = 3 MHz	RB= All. Offset =0. BW = 5 MHz	RB= All. Offset =0. BW = 10 MHz	RB= All. Offset =0. BW = 15 MHz
Maximum measured level at lowest Block Edge at antenna port (dBm)	-16.45	-19.12	-15.69	-17.44	-17.94

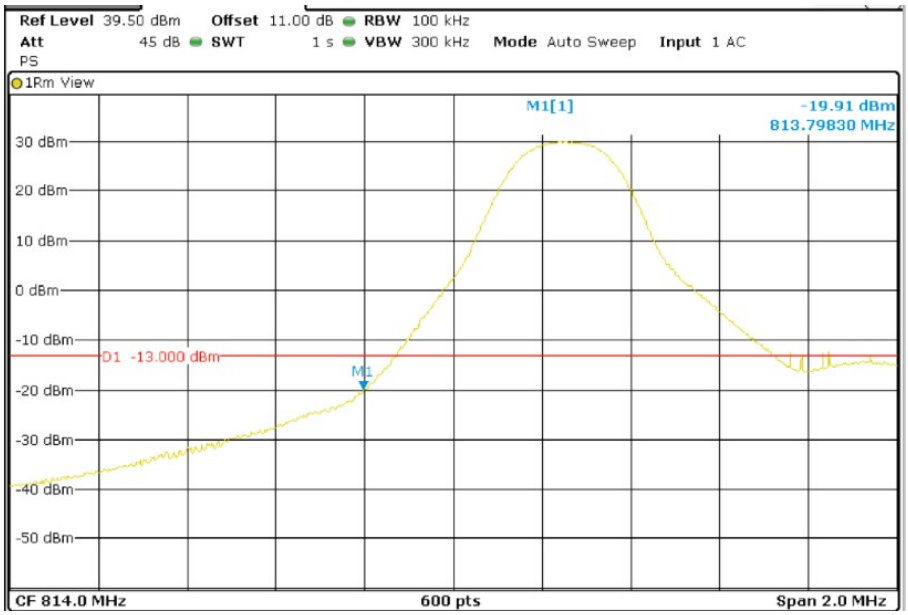
LTE QPSK MODULATION:	RB= 1. Offset=Max. BW=1.4 MHz	RB= 1. Offset=Max. BW = 3 MHz	RB= 1. Offset=Max. BW = 5 MHz	RB= 1. Offset=Max. BW = 10 MHz	RB= 1. Offset=Max. BW = 15 MHz
Maximum measured level at highest Block Edge at antenna port (dBm)	-22.27	-20.39	-18.63	-17.19	-24.02

LTE QPSK MODULATION:	RB= All. Offset=0. BW=1.4 MHz	RB= All. Offset =0. BW = 3 MHz	RB= All. Offset =0. BW = 5 MHz	RB= All. Offset =0. BW = 10 MHz	RB= All. Offset =0. BW = 15 MHz
Maximum measured level at highest Block Edge at antenna port (dBm)	-19.03	-21.42	-15.45	-19.35	-26.91

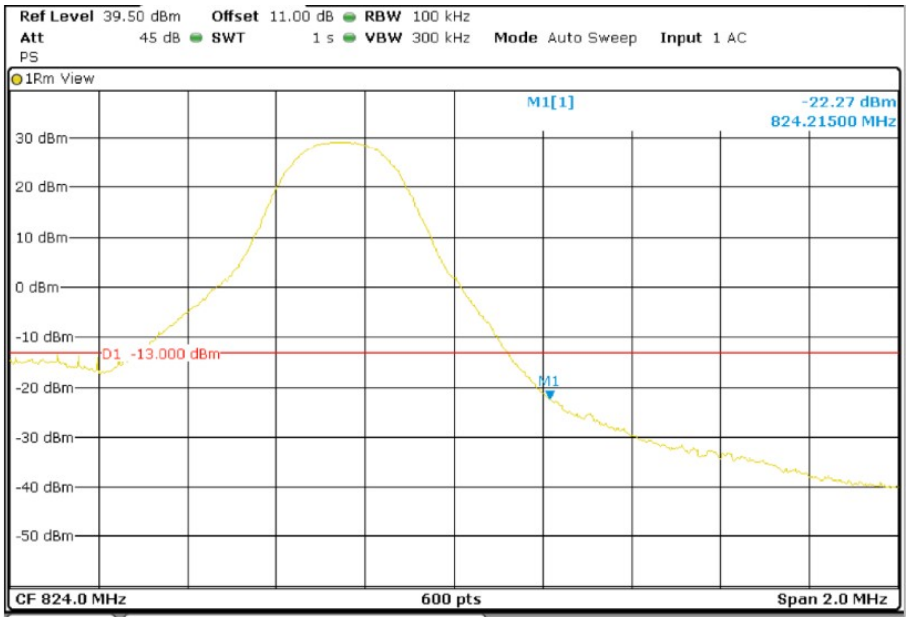
TEST RESULTS (Cont):	

LTE QPSK MODULATION. RB = 1. Offset = 0. BW = 1.4 MHz

Lowest Channel



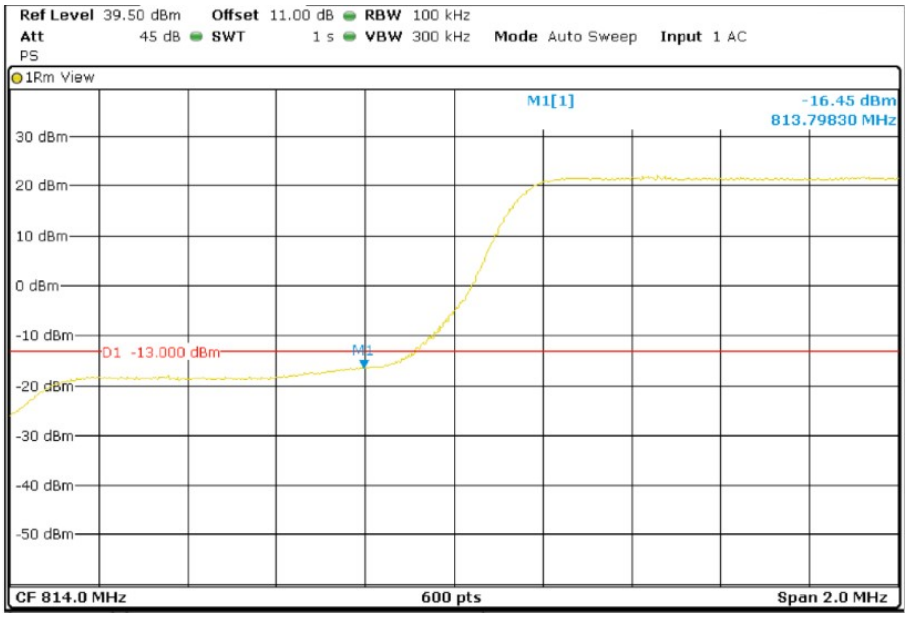
Highest Channel



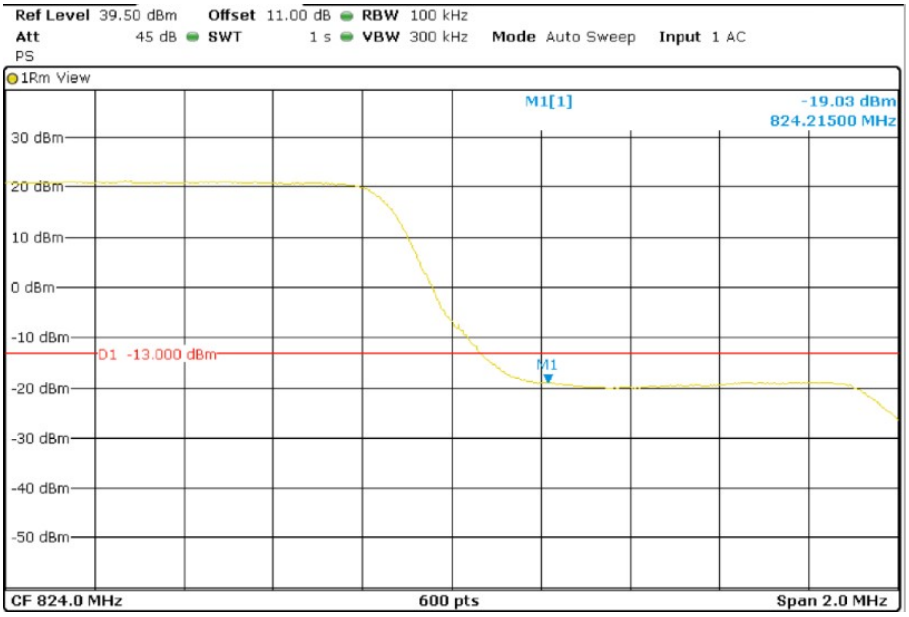
TEST RESULTS (Cont):	

LTE QPSK MODULATION. RB = 6. Offset = 0. BW = 1.4 MHz

Lowest Channel



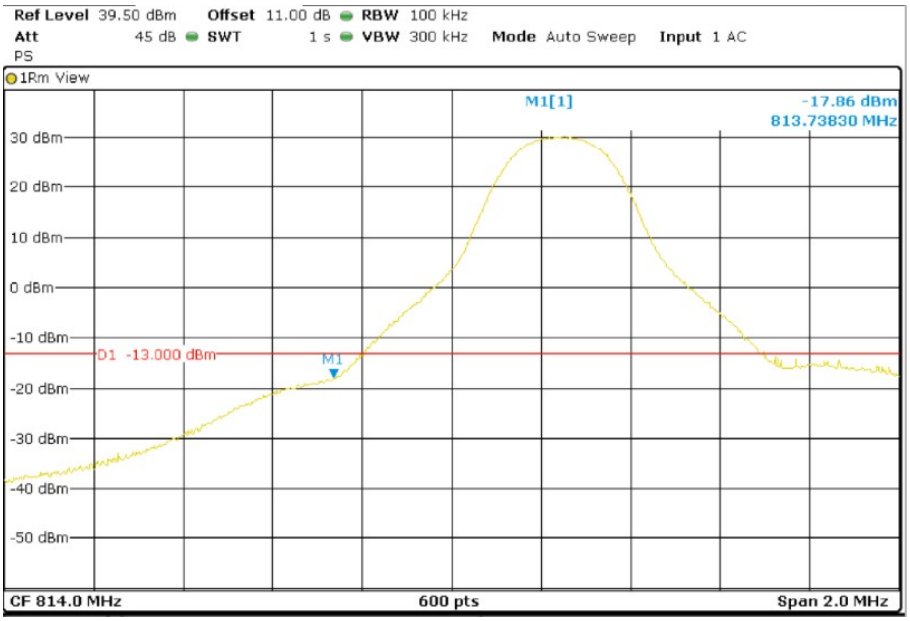
Highest Channel



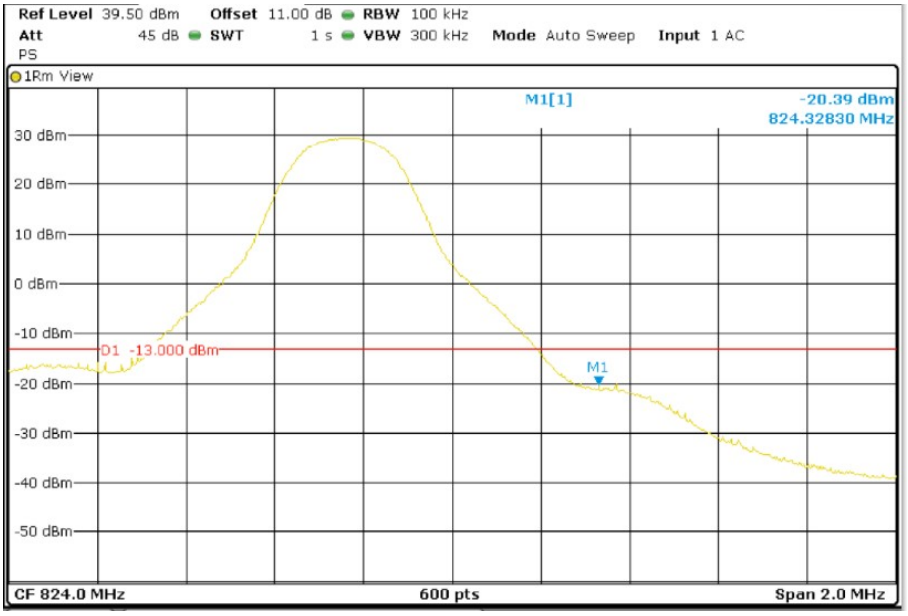
TEST RESULTS (Cont):	

LTE QPSK MODULATION. RB = 1. Offset = 0. BW = 3 MHz

Lowest Channel



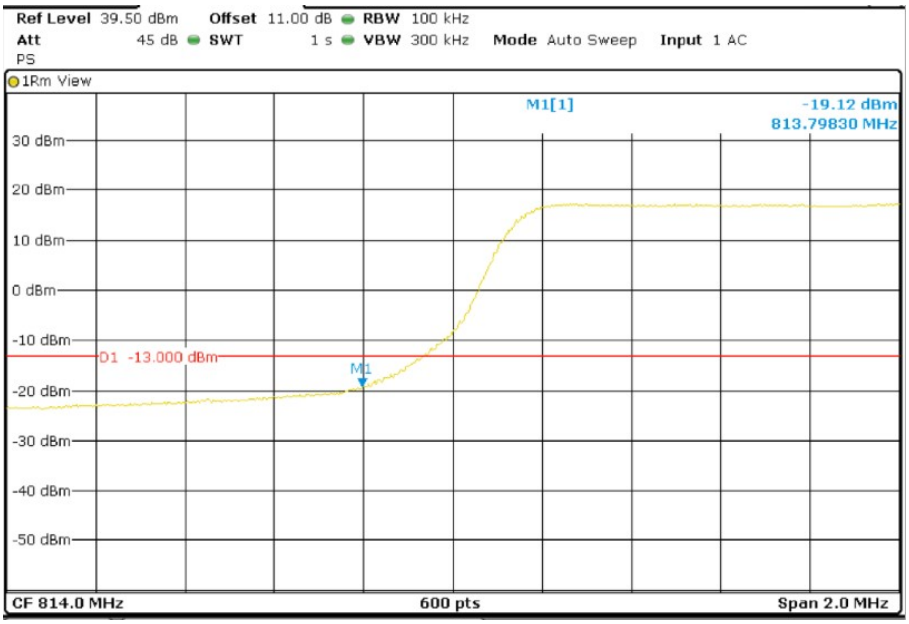
Highest Channel



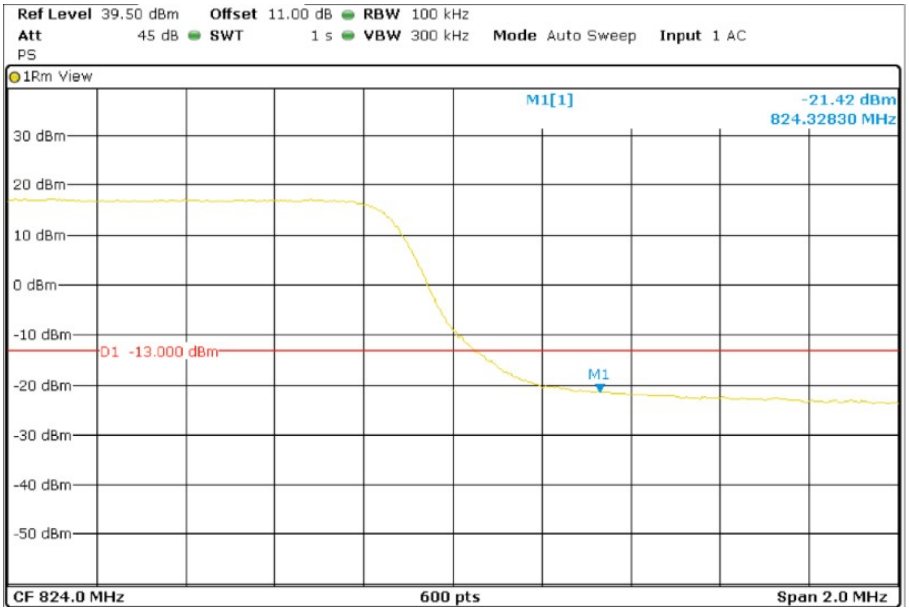
TEST RESULTS (Cont):	

LTE QPSK MODULATION. RB = 15. Offset = 0. BW = 3 MHz

Lowest Channel



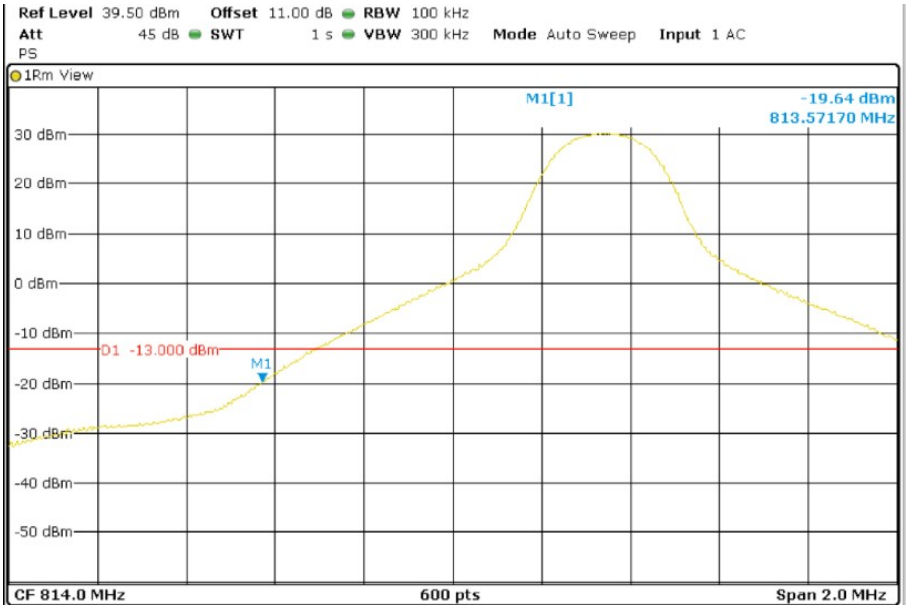
Highest Channel



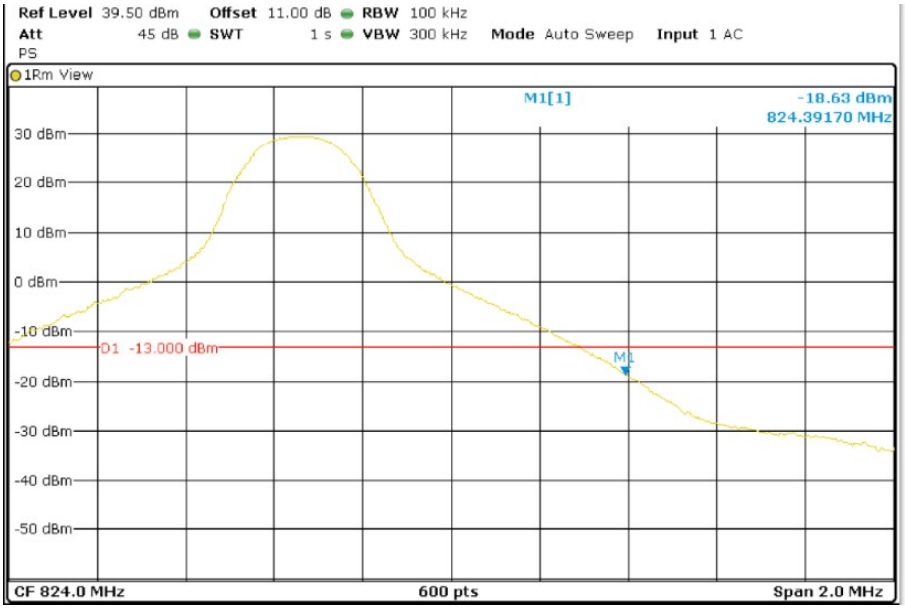
TEST RESULTS (Cont):	

LTE QPSK MODULATION. RB = 1. Offset = 0. BW = 5 MHz

Lowest Channel



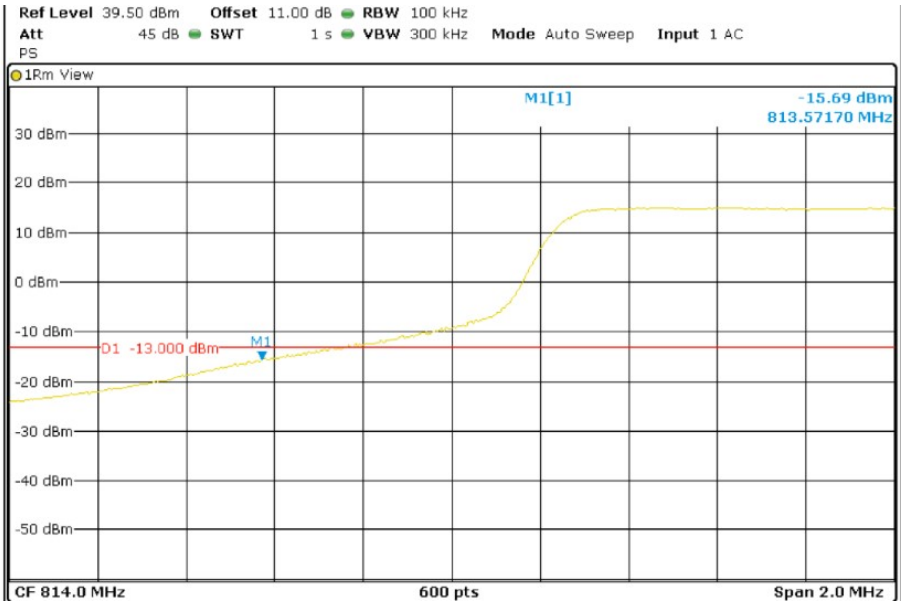
Highest Channel



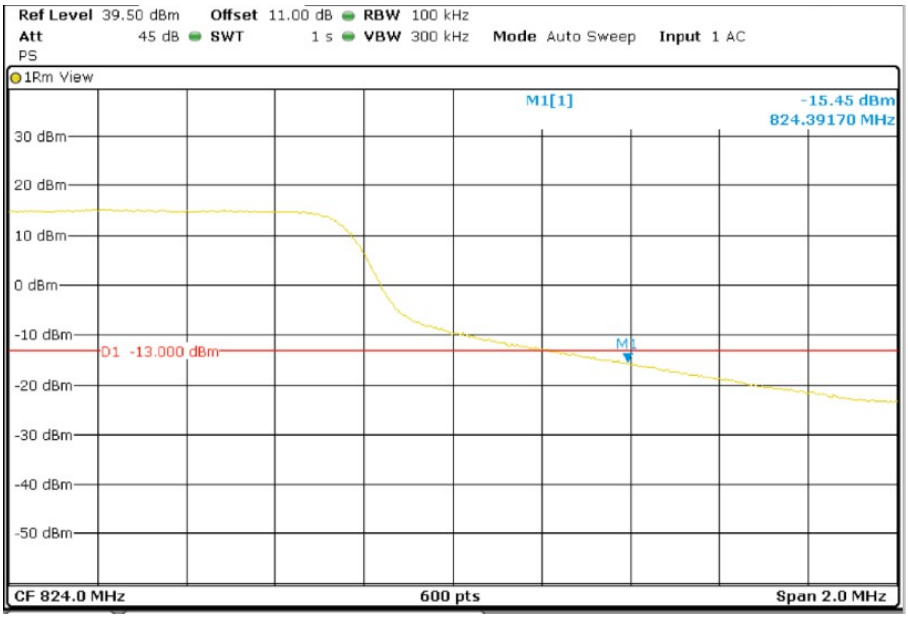
TEST RESULTS (Cont):	

LTE QPSK MODULATION. RB = 25. Offset = 0. BW = 5 MHz

Lowest Channel

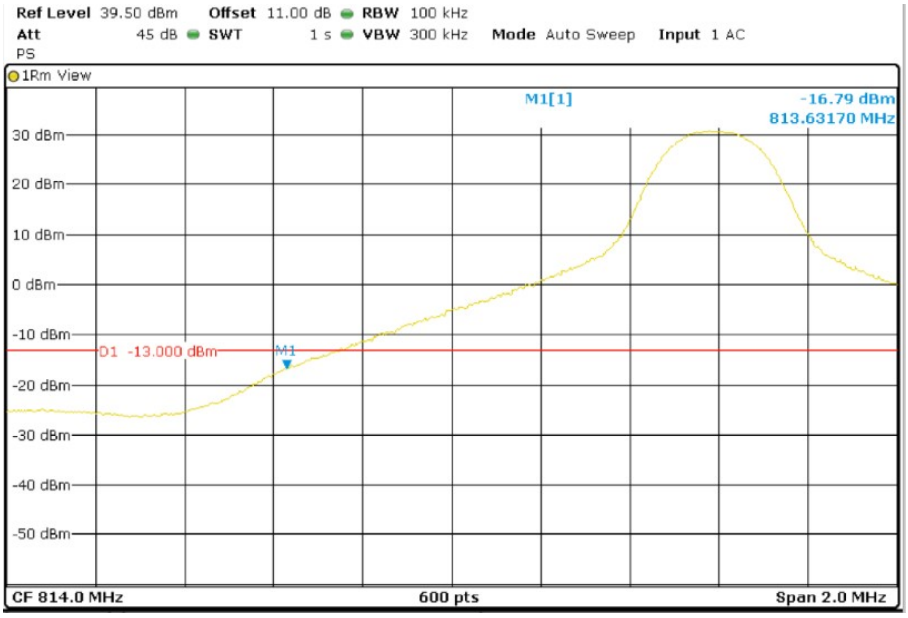
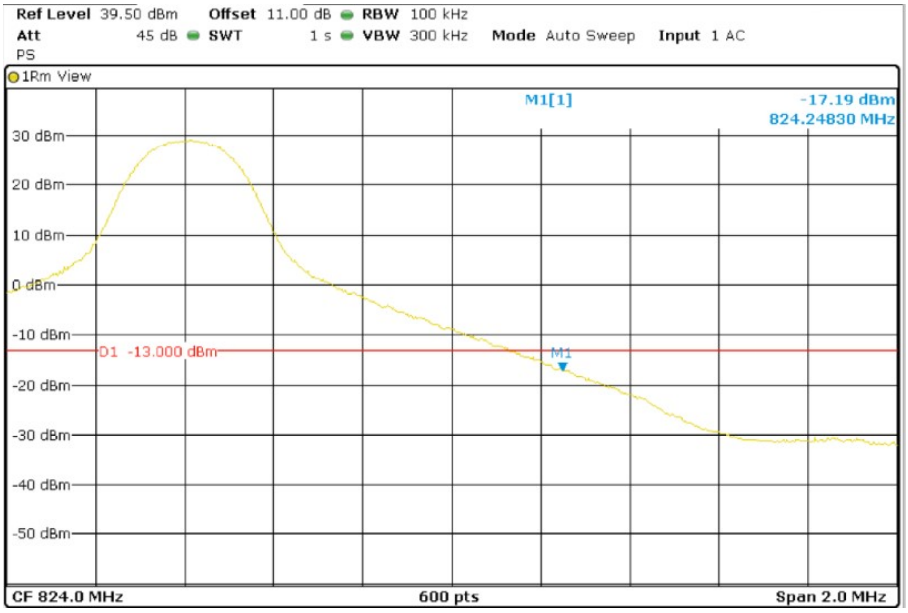


Highest Channel



TEST RESULTS (Cont):	

LTE QPSK MODULATION. RB = 1. Offset = 0. BW = 10 MHz



LTE QPSK MODULATION. RB = 1. Offset = Max. BW = 10 MHz