8.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238, §27.53 and §90.691

LIMITS

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.

For mobile and portable stations operating in the 2305-2315 MHz: by a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- Set display line at -13 dBm, -25dBm and -40dBm according to the band Limit
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

MODES TESTED

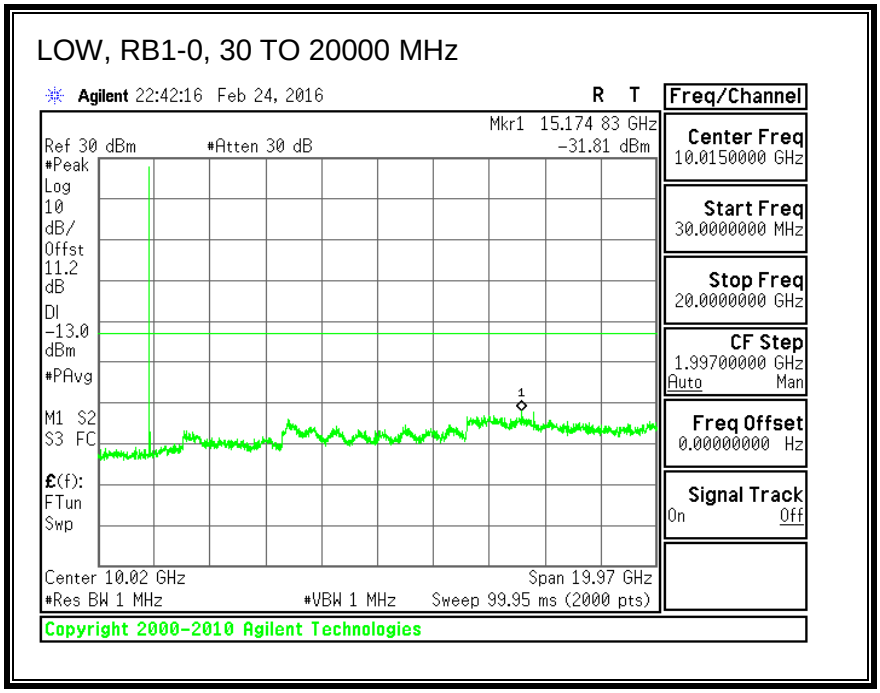
- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 27
- LTE Band 30
- LTE Band 41

8.3.1. LTE BAND 2

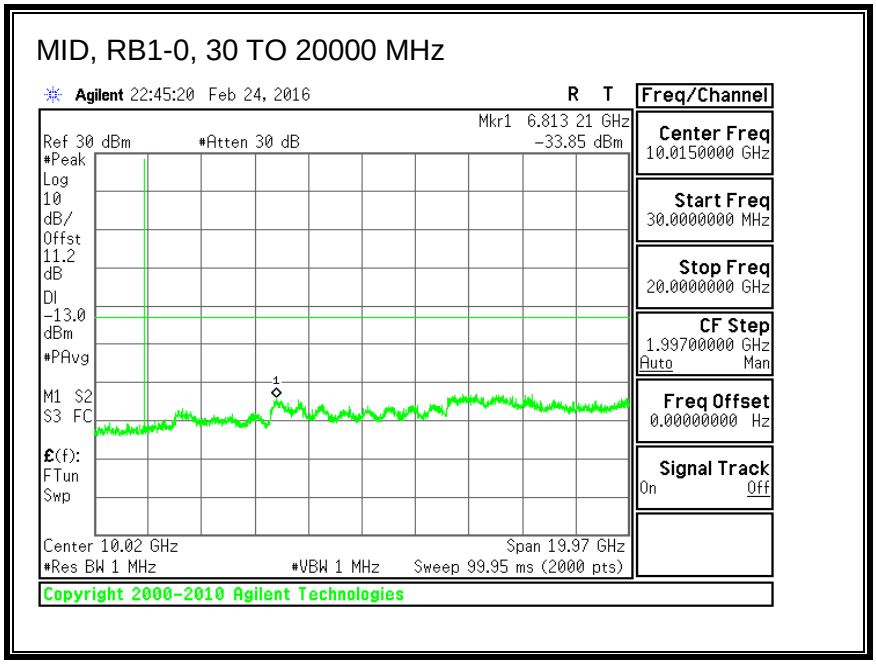
ID:	39472	Date:	2/24/16

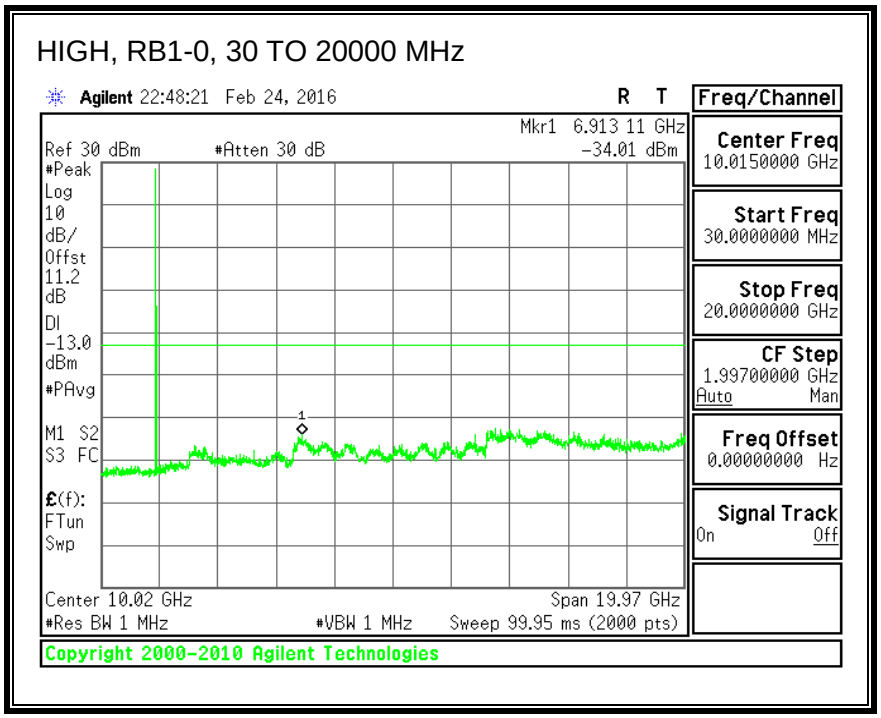
QPSK, (1.4 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz

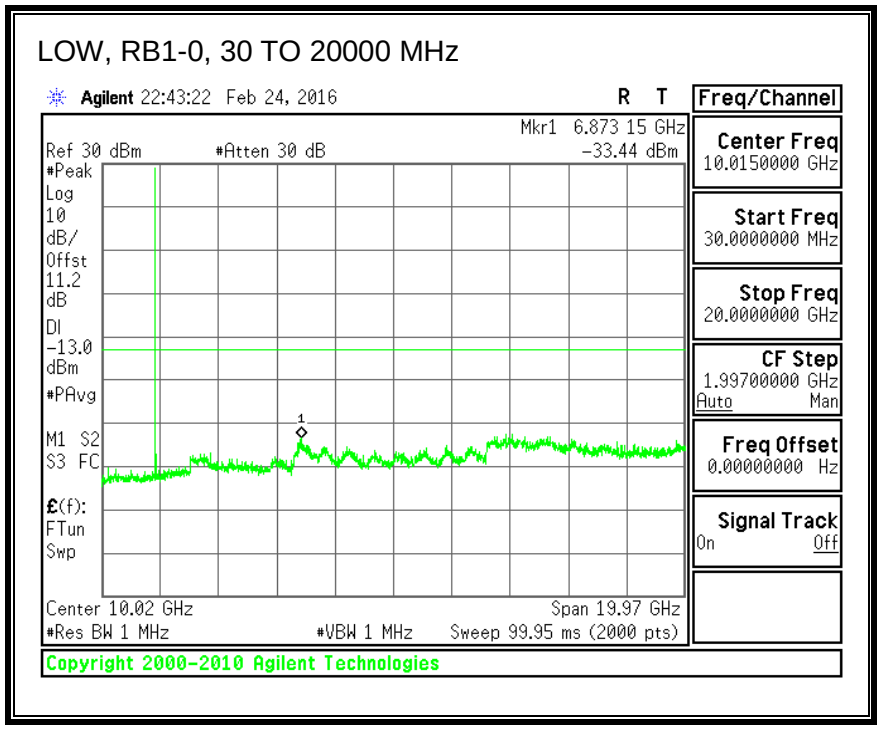


MID, RB1-0, 30 TO 20000 MHz

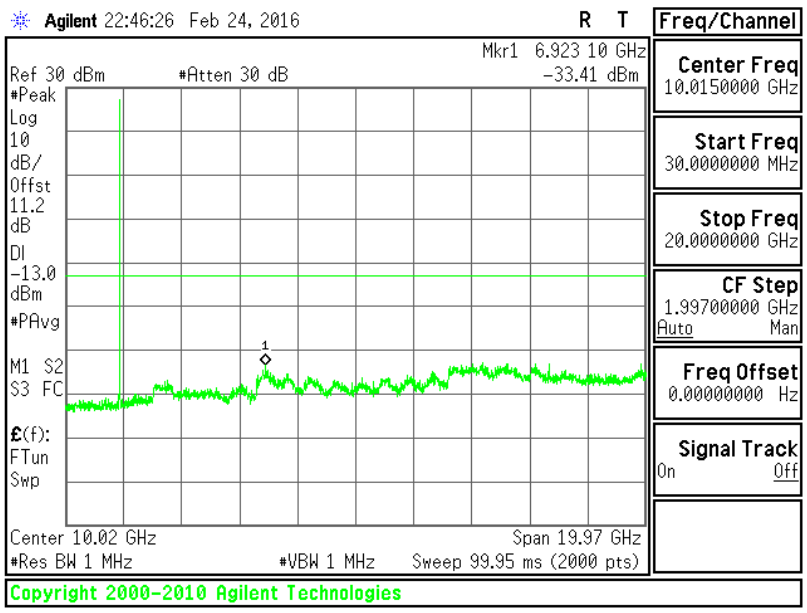




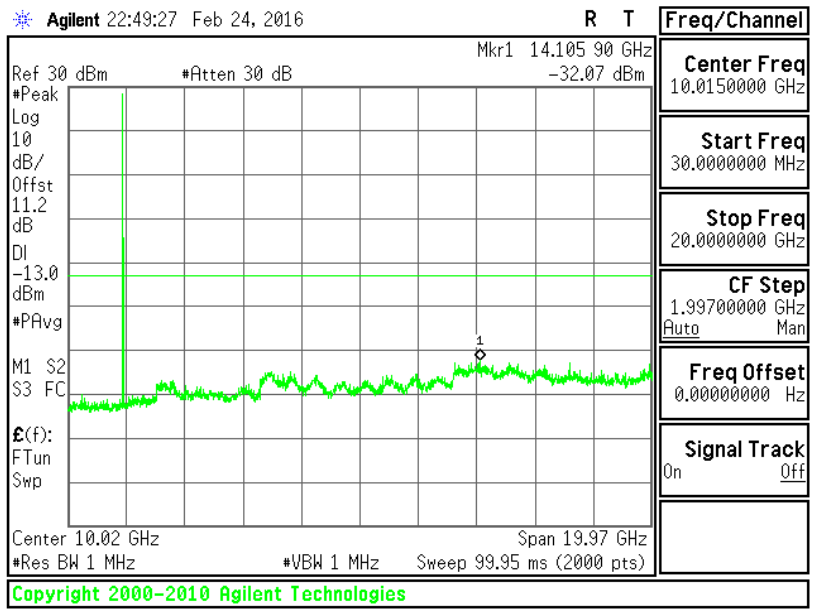
16QAM, (1.4 MHz BAND WIDTH)



MID, RB1-0, 30 TO 20000 MHz

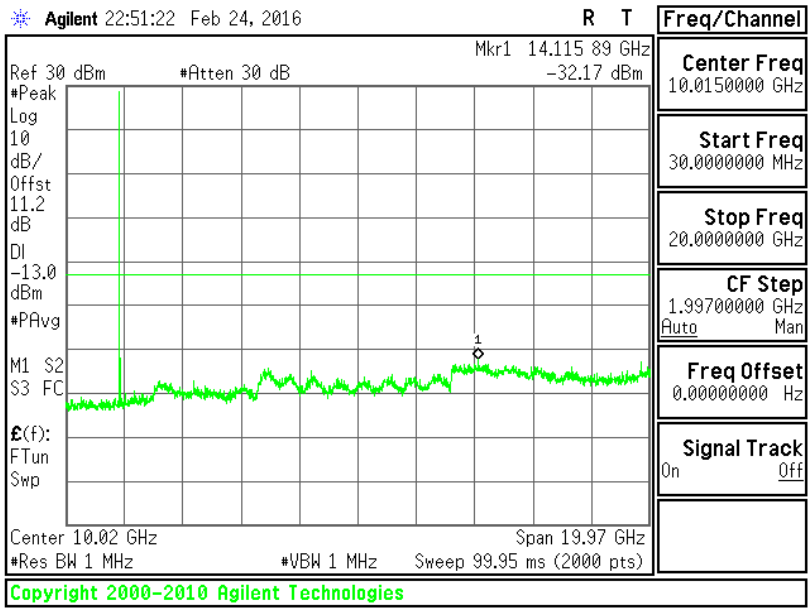


HIGH, RB1-0, 30 TO 20000 MHz

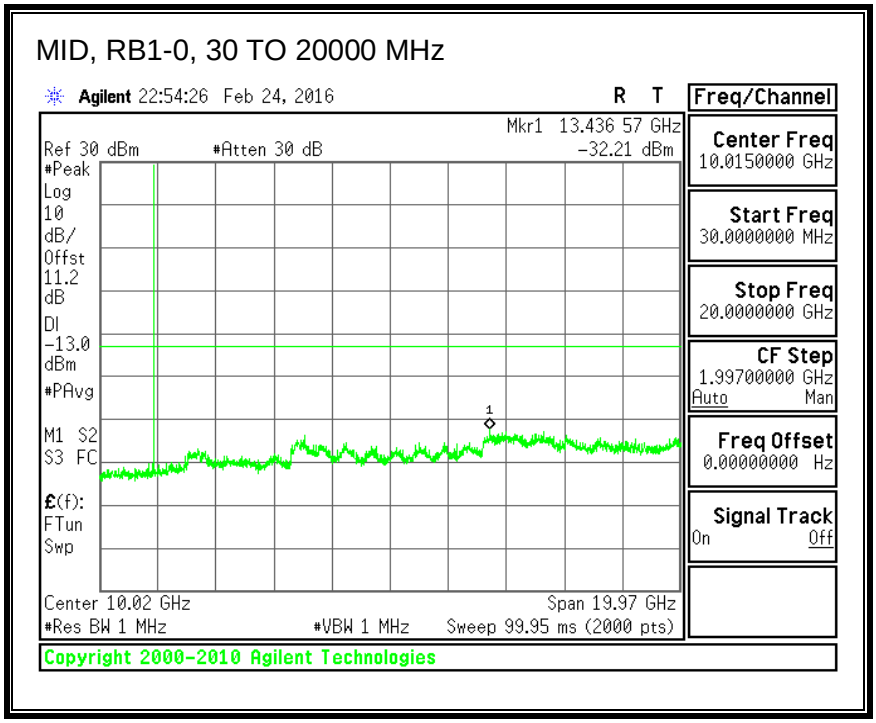


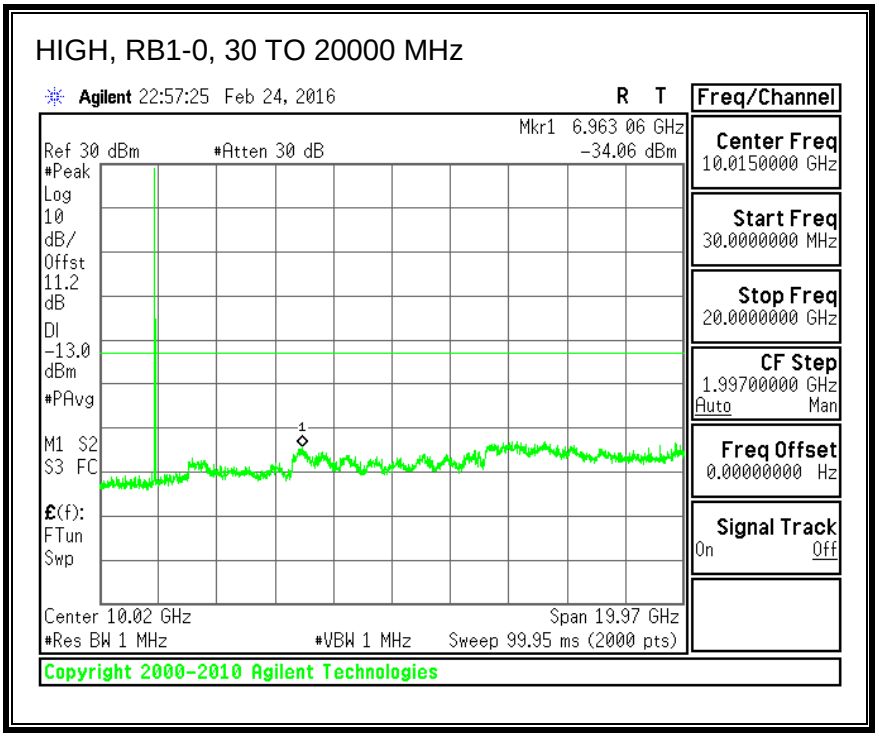
QPSK, (3.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz

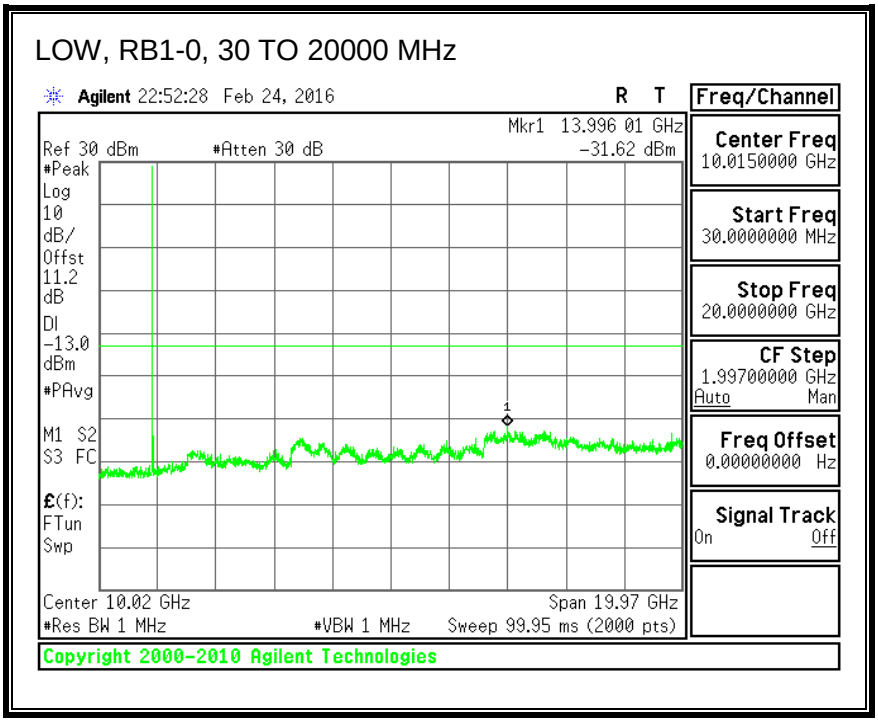


MID, RB1-0, 30 TO 20000 MHz

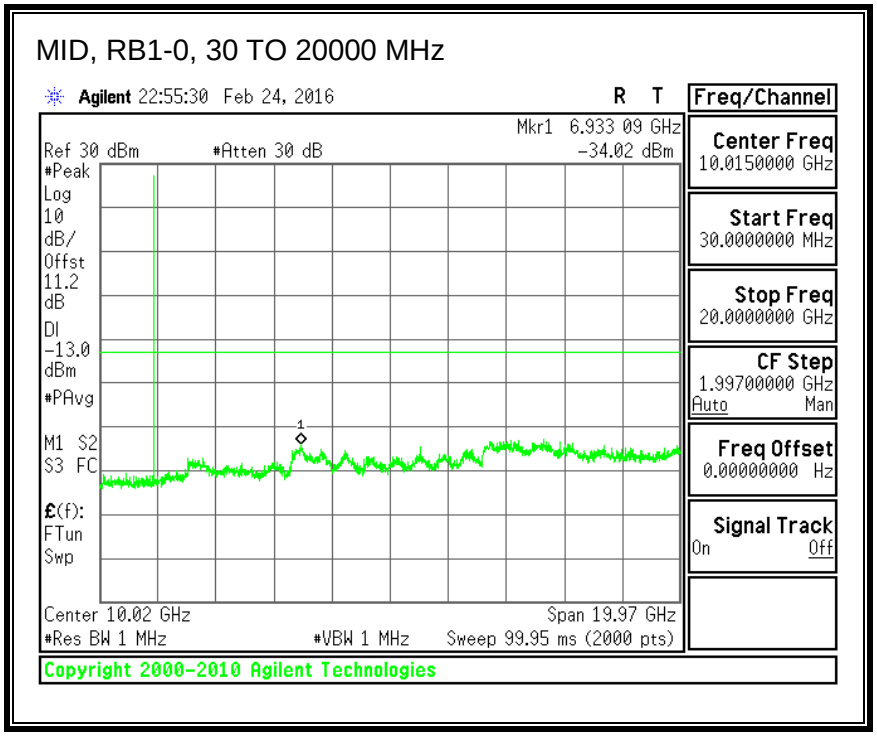




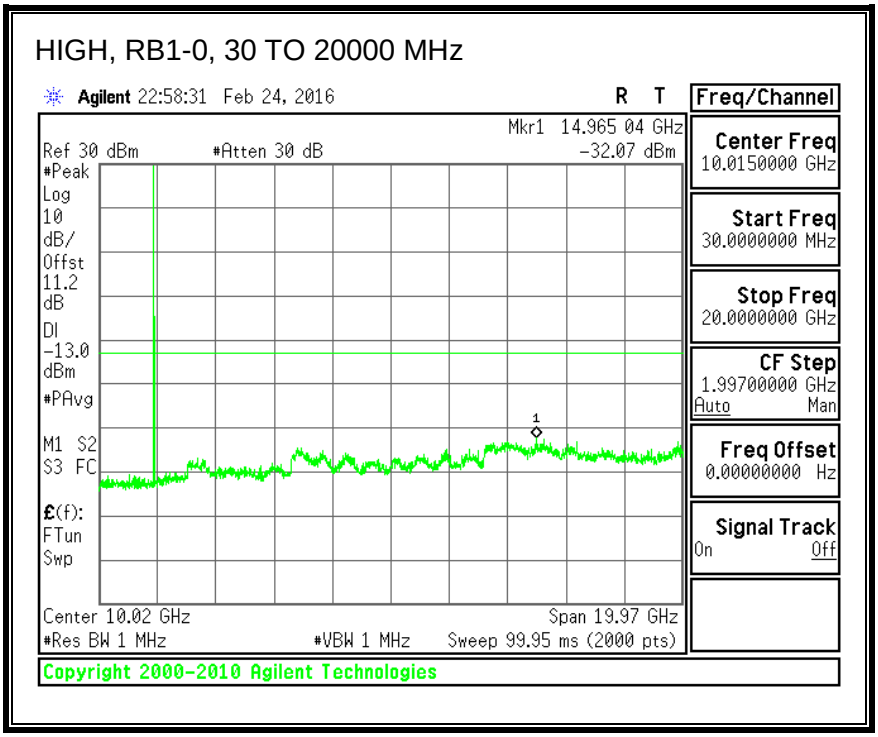
16QAM, (3.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 20000 MHz

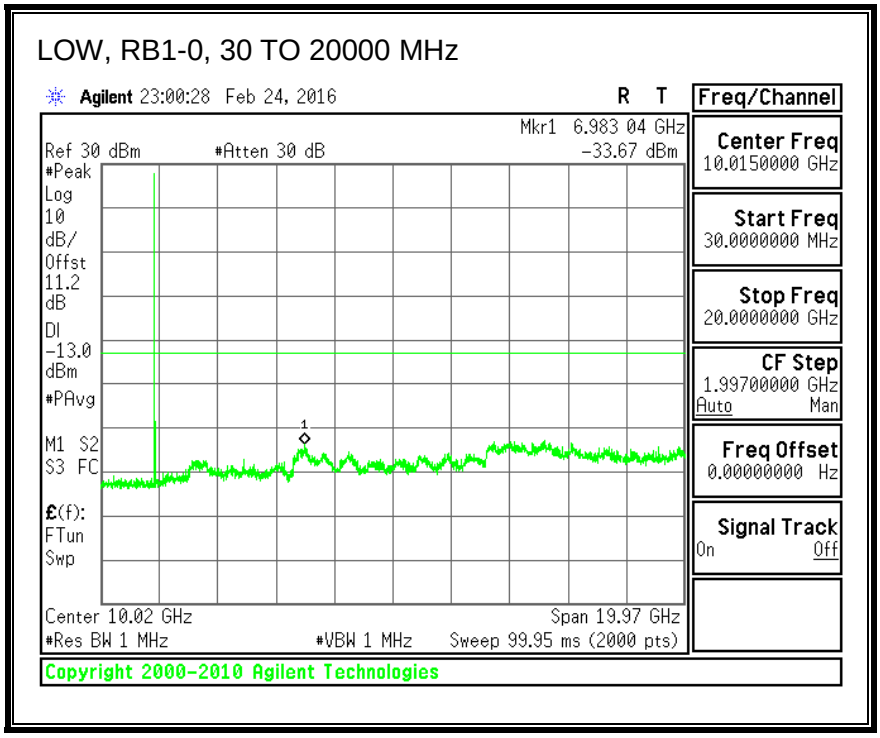


HIGH, RB1-0, 30 TO 20000 MHz

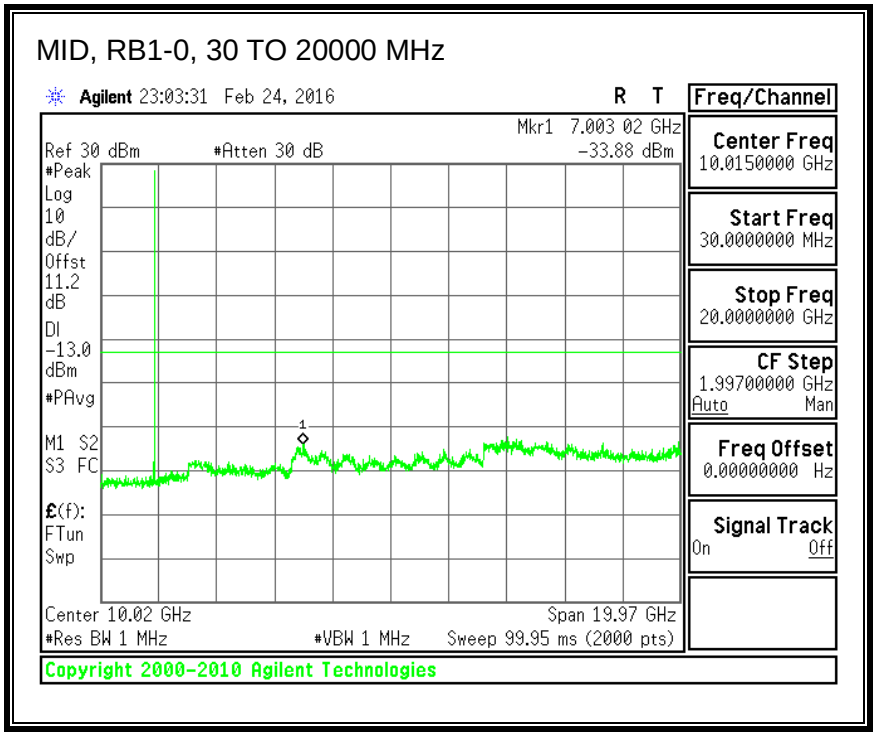


QPSK, (5.0 MHz BAND WIDTH)

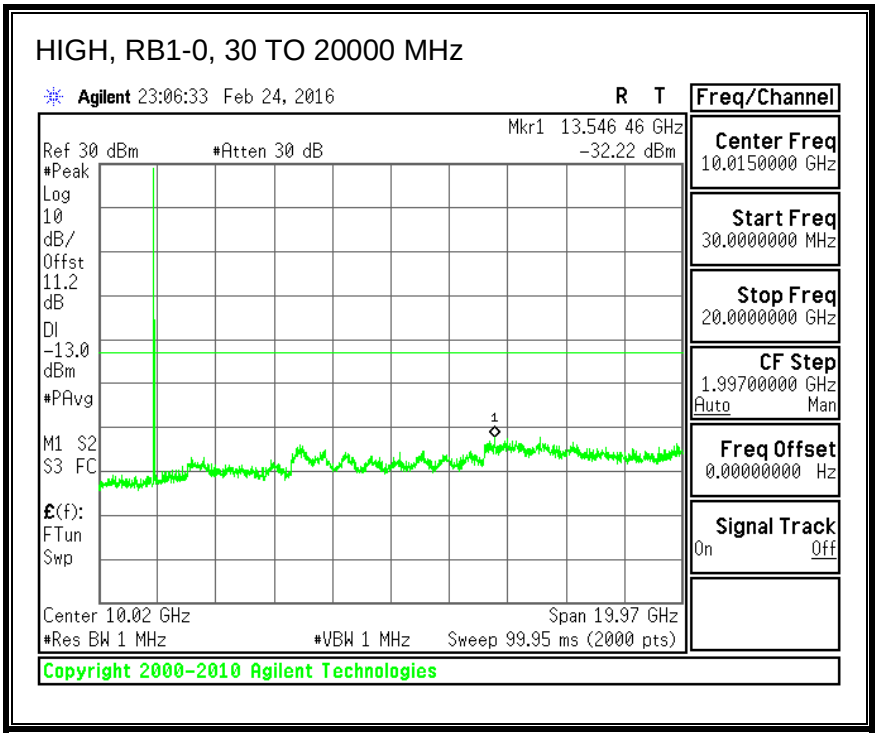
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz

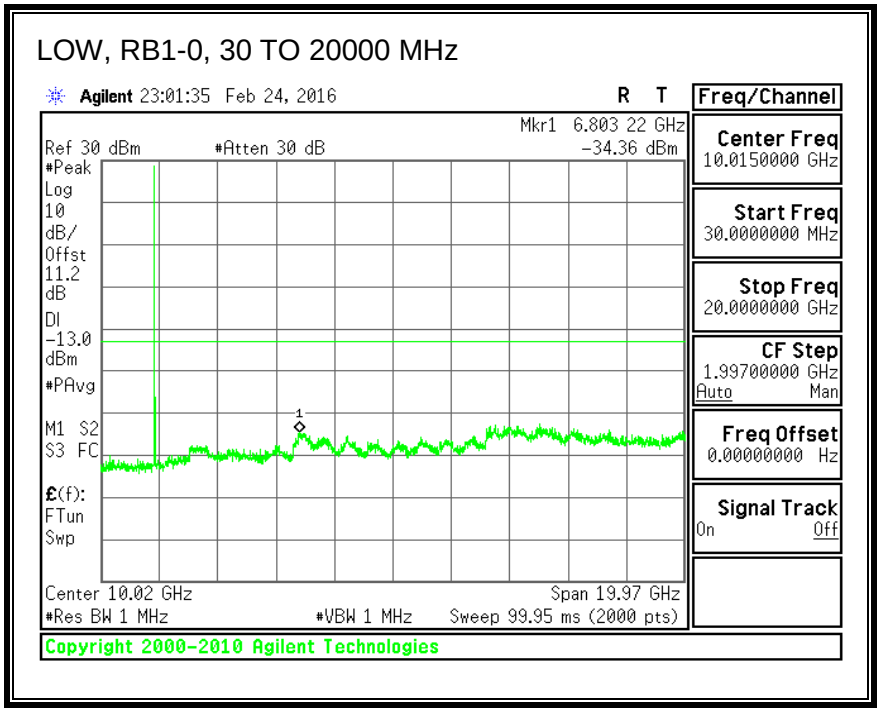


HIGH, RB1-0, 30 TO 20000 MHz

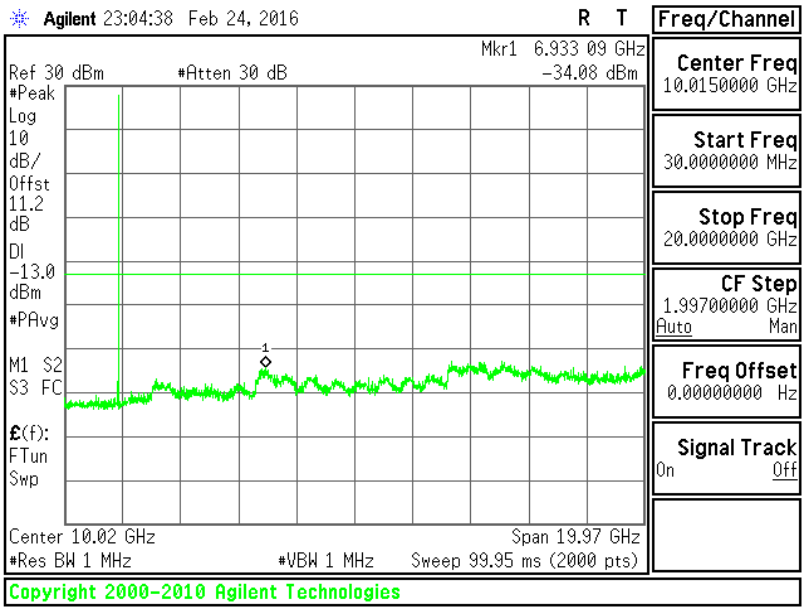


16QAM, (5.0 MHz BAND WIDTH)

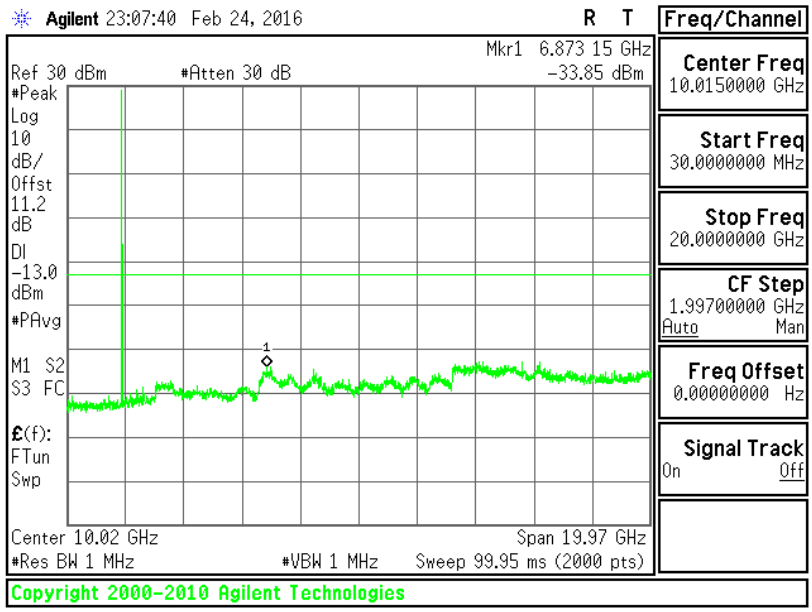
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz

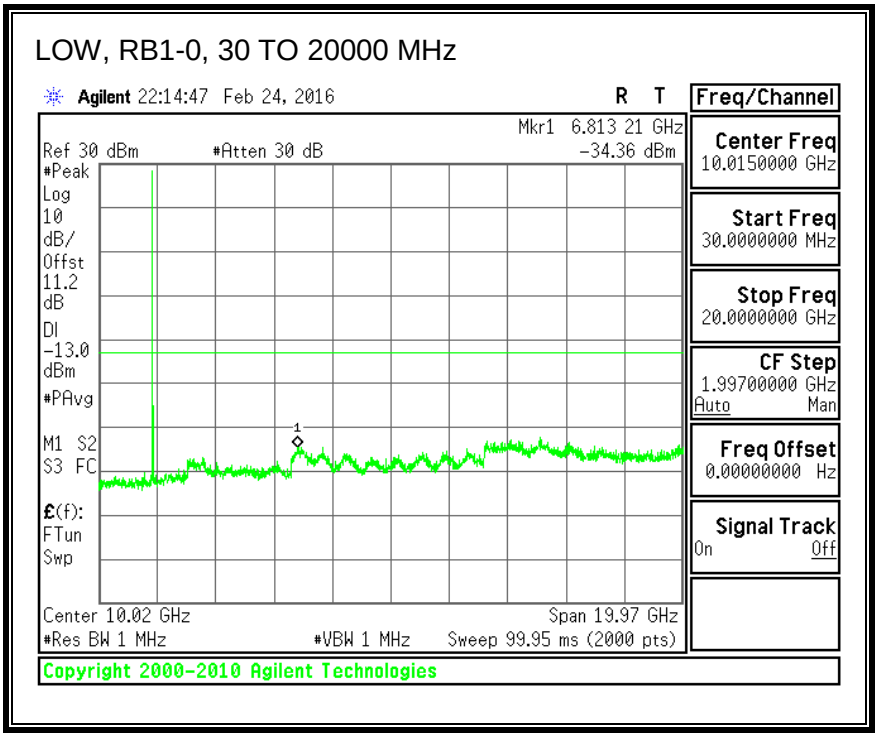


HIGH, RB1-0, 30 TO 20000 MHz

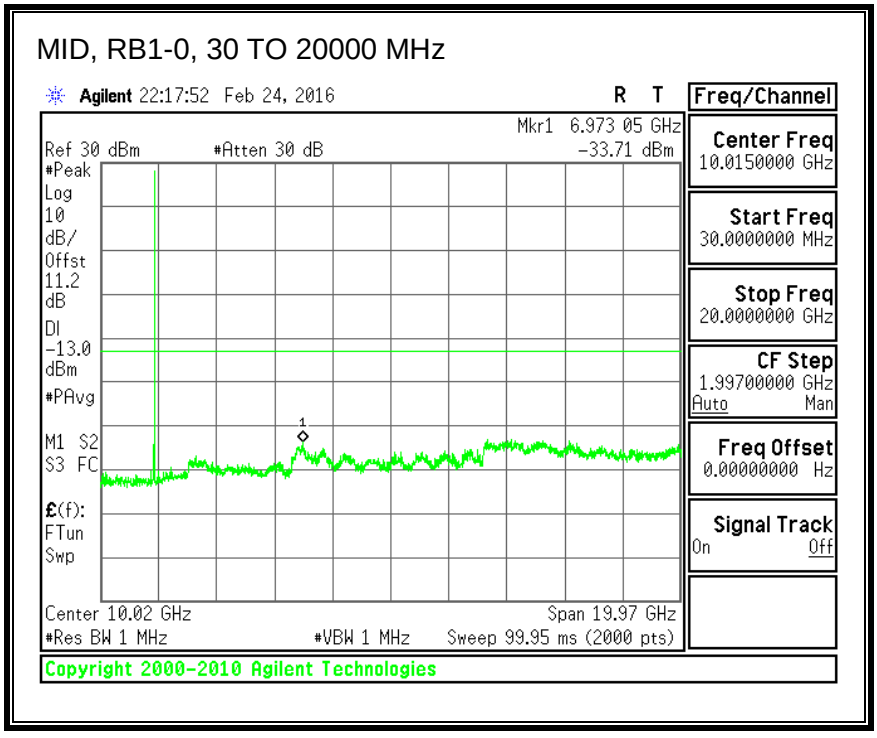


QPSK, (10.0 MHz BAND WIDTH)

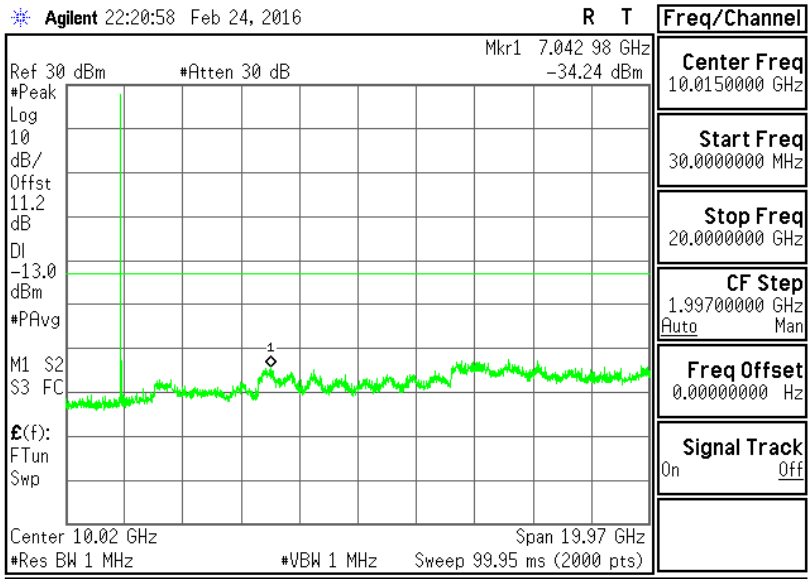
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz

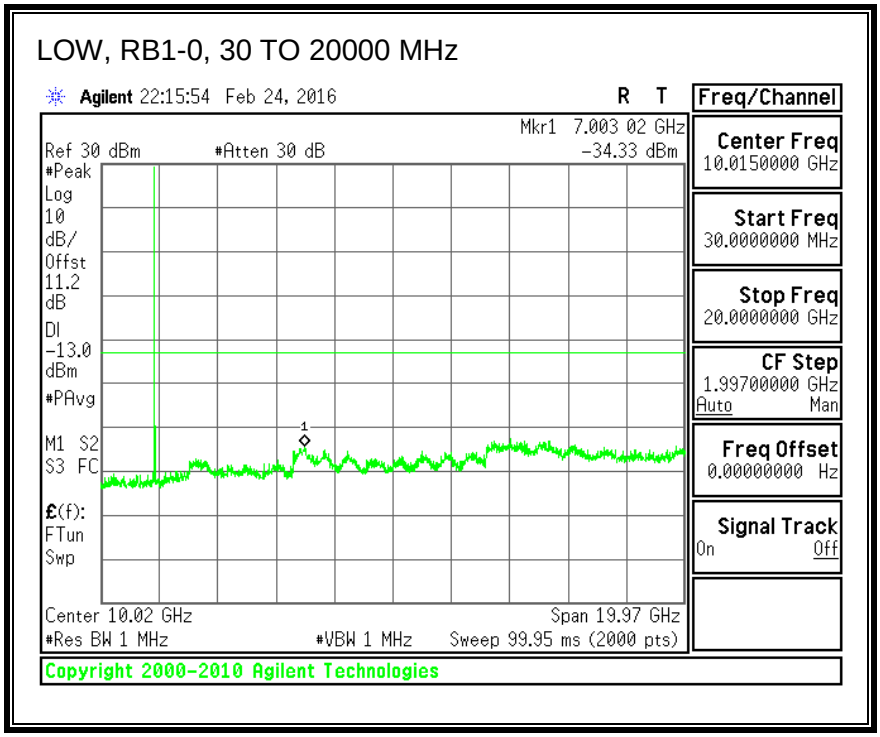


HIGH, RB1-0, 30 TO 20000 MHz

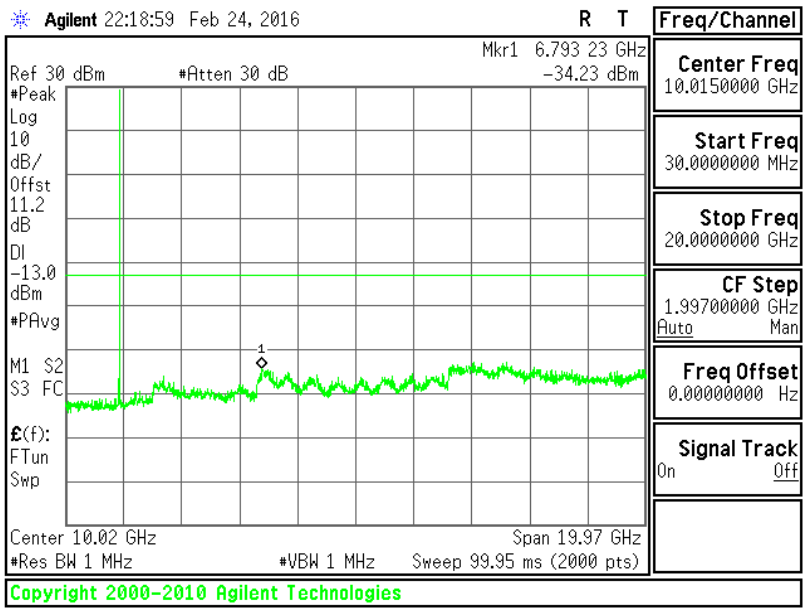


16QAM, (10.0 MHz BAND WIDTH)

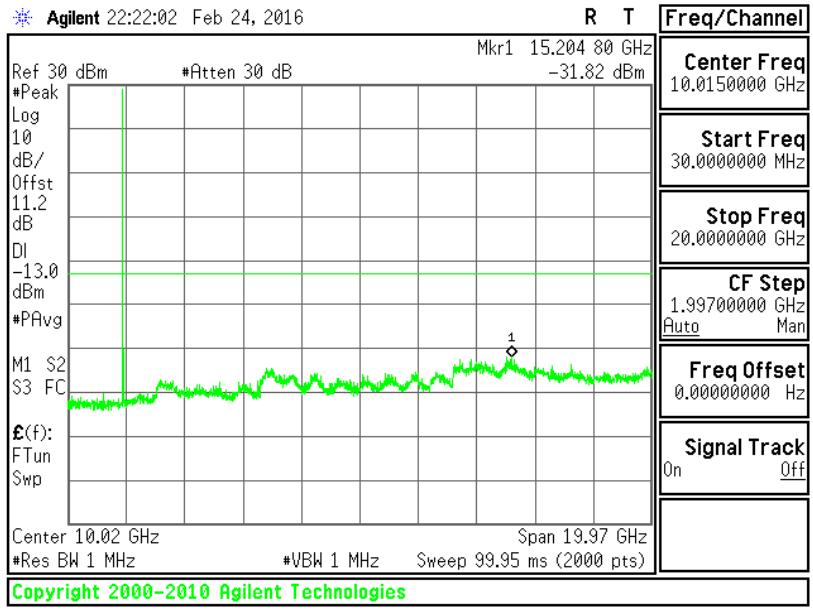
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz

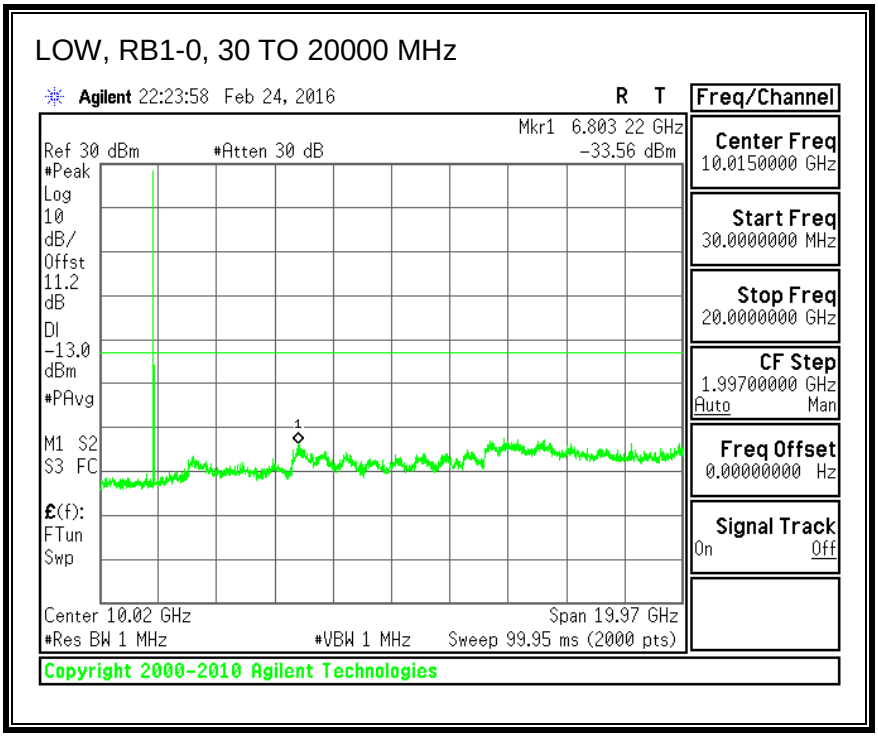


HIGH, RB1-0, 30 TO 20000 MHz

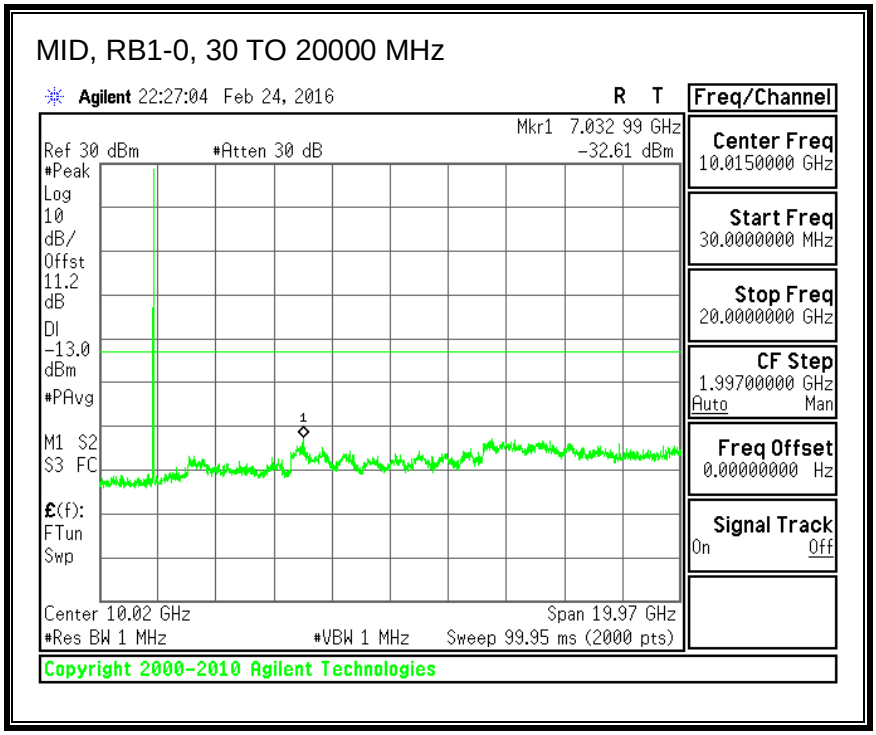


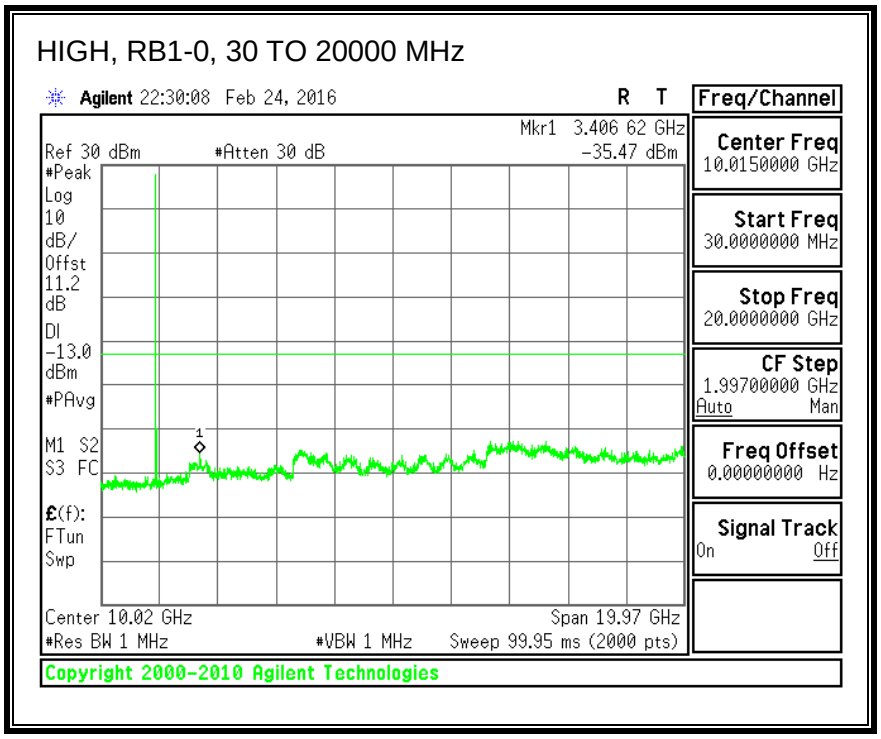
QPSK, (15.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz

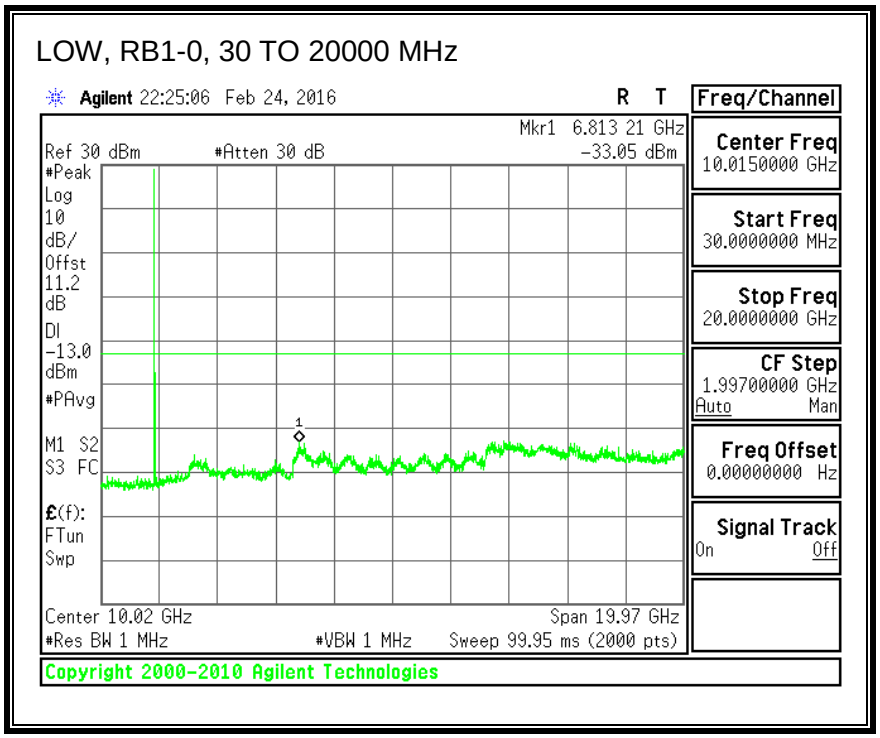


MID, RB1-0, 30 TO 20000 MHz

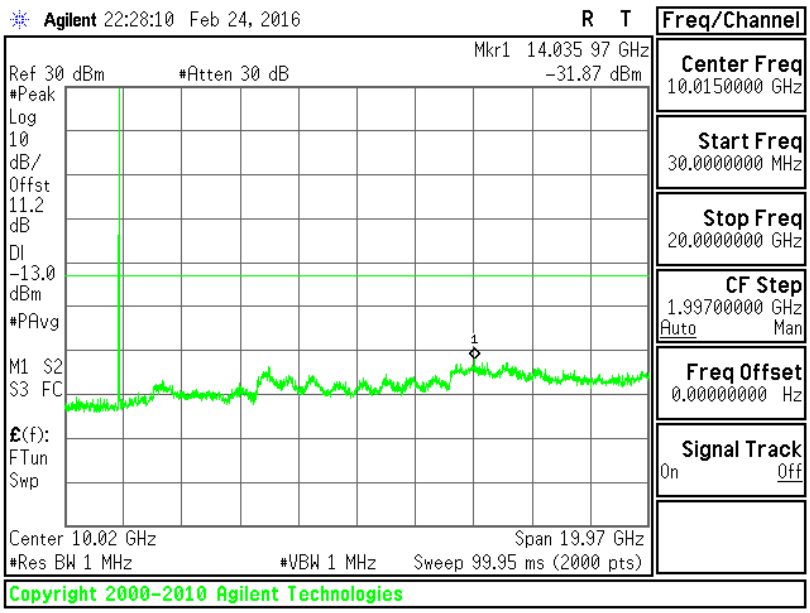




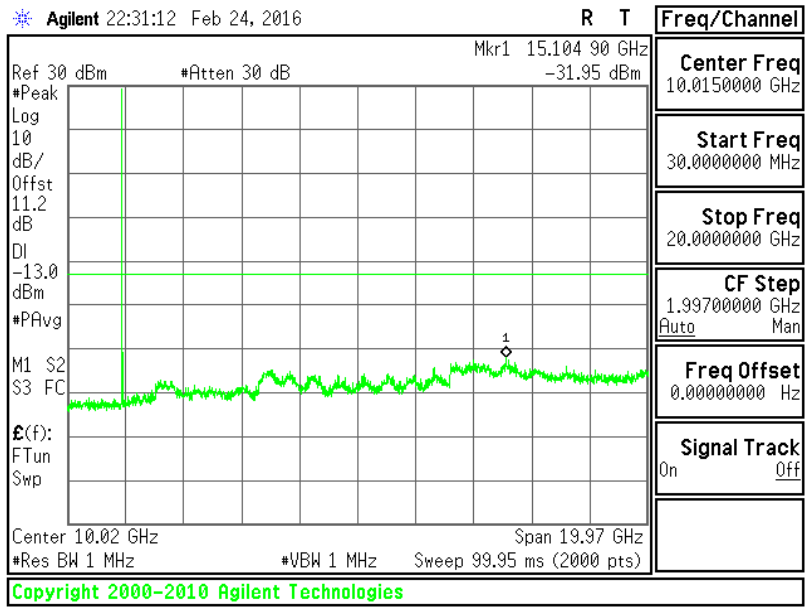
16QAM, (15.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 20000 MHz

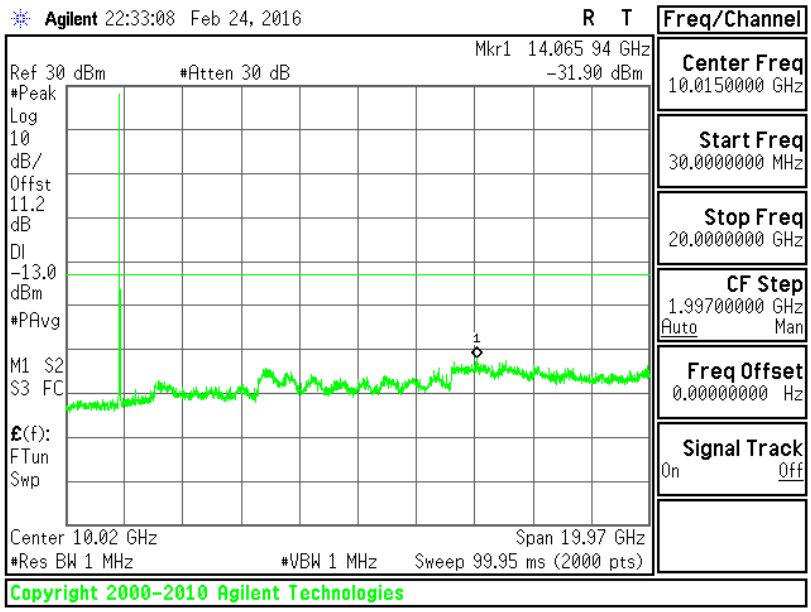


HIGH, RB1-0, 30 TO 20000 MHz

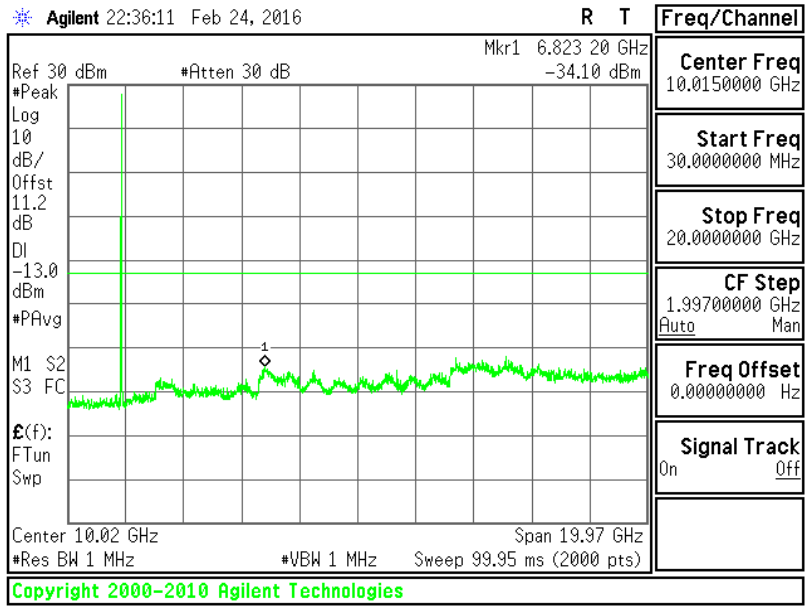


QPSK, (20.0 MHz BAND WIDTH)

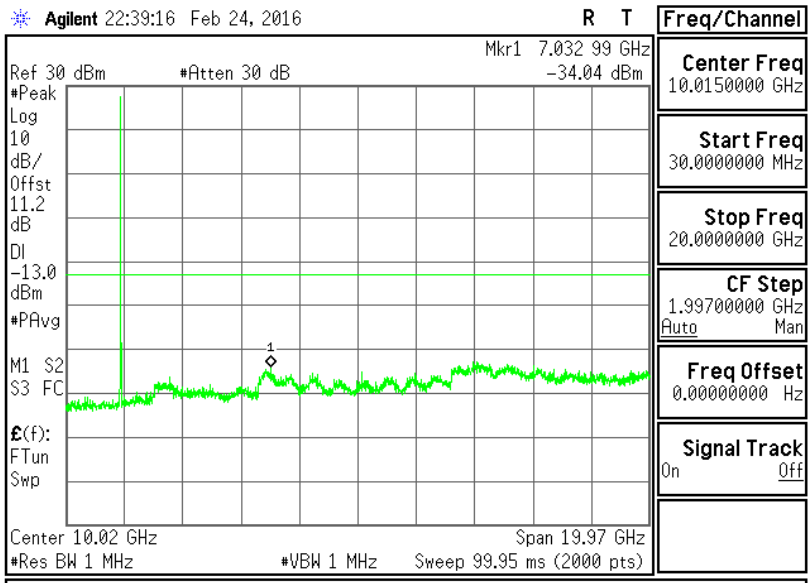
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz

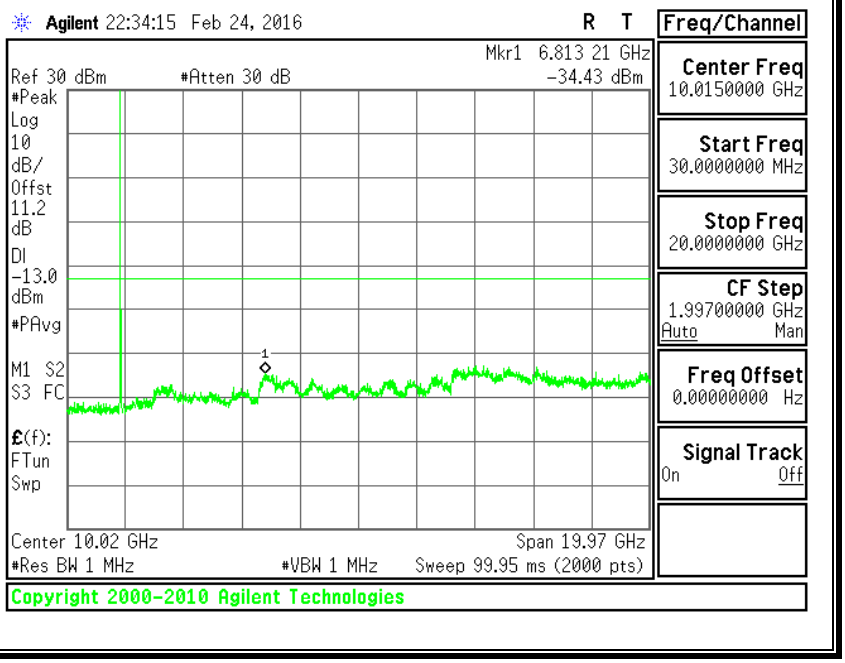


HIGH, RB1-0, 30 TO 20000 MHz

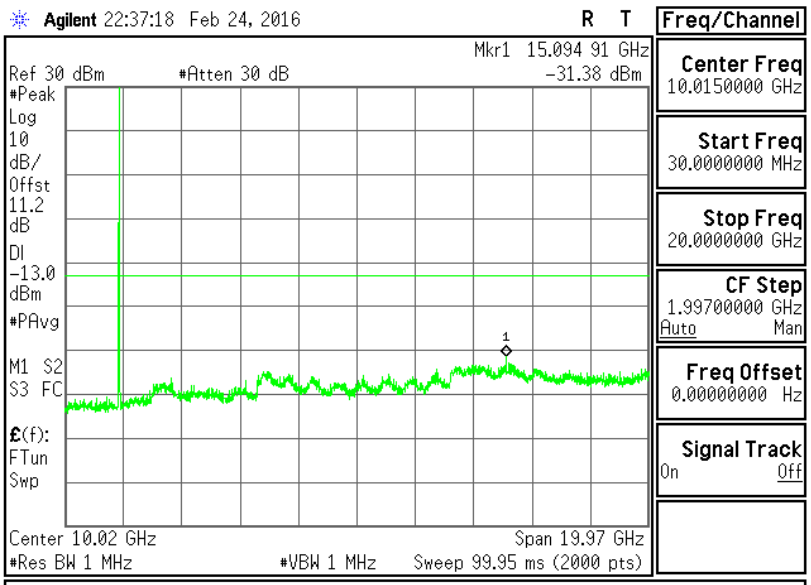


16QAM, (20.0 MHz BAND WIDTH)

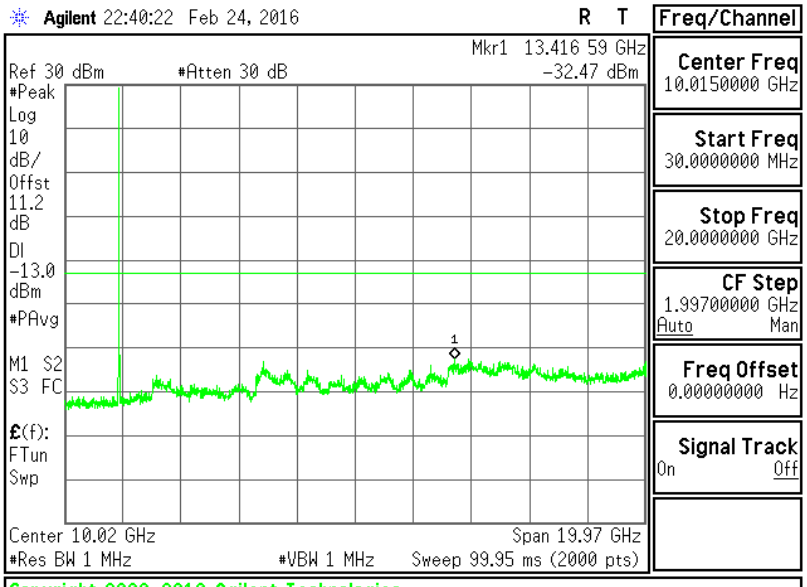
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz



HIGH, RB1-0, 30 TO 20000 MHz

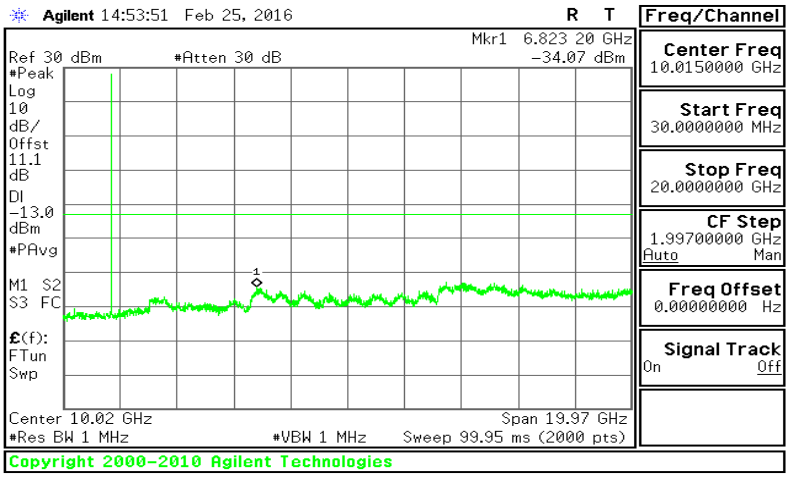


8.3.2. LTE BAND 4

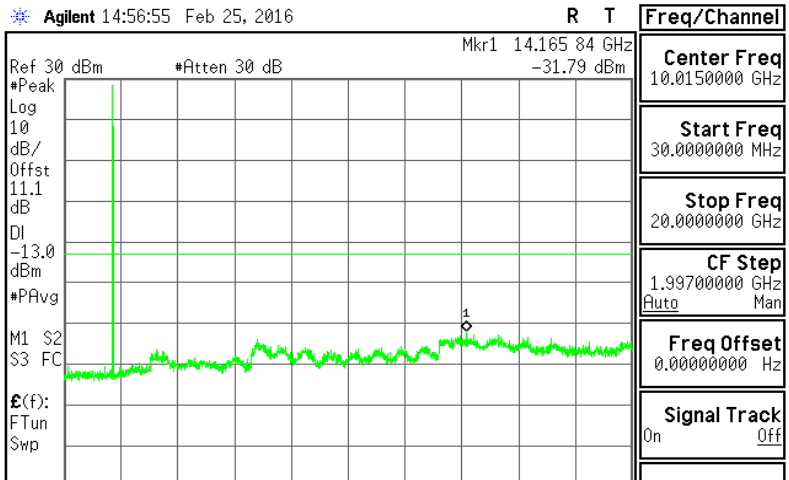
ID:	39472	Date:	2/25/16

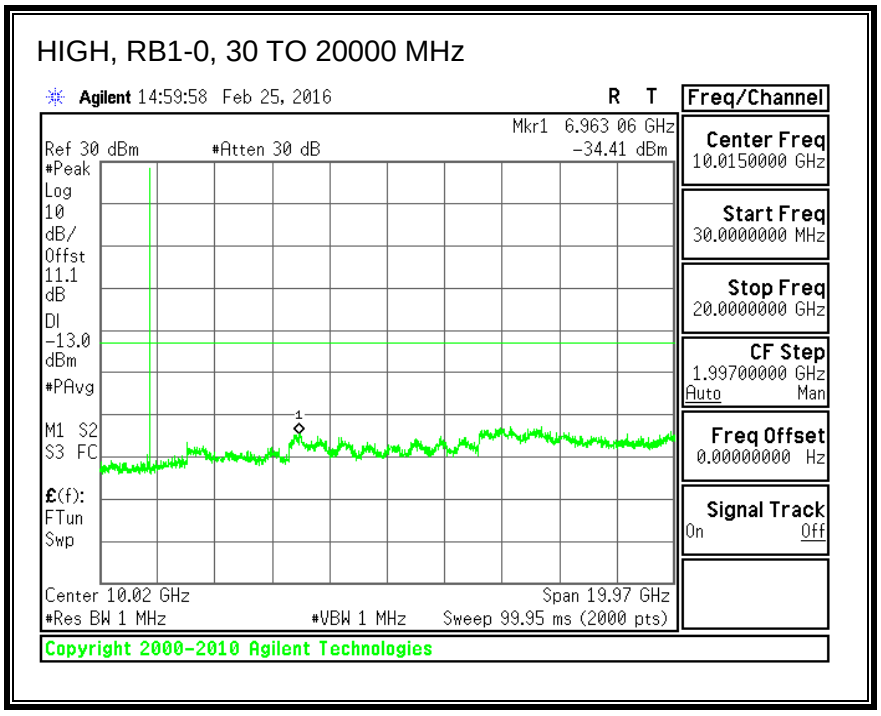
QPSK, (1.4 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz

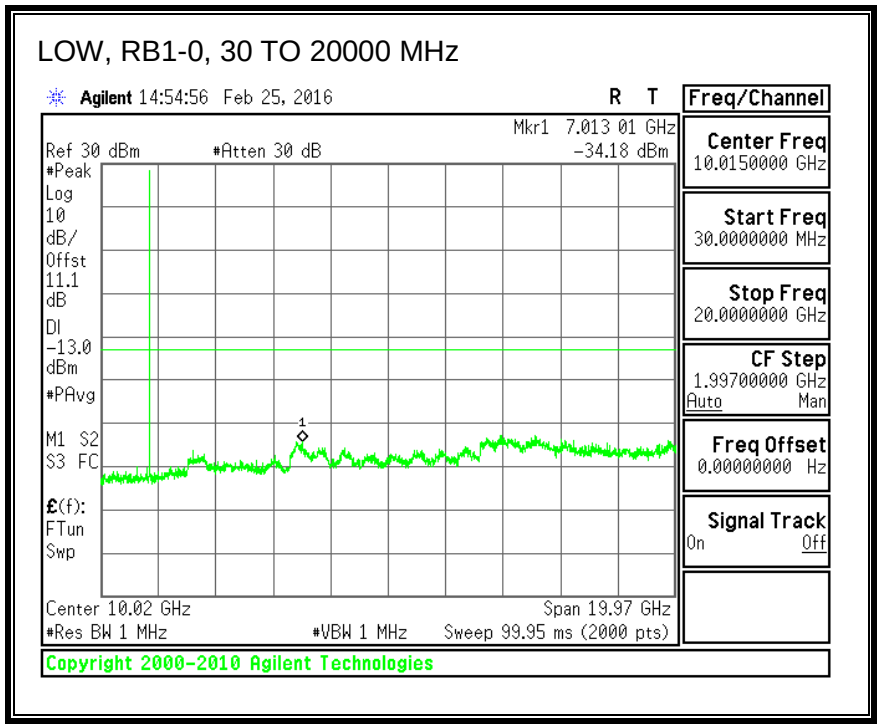


MID, RB1-0, 30 TO 20000 MHz

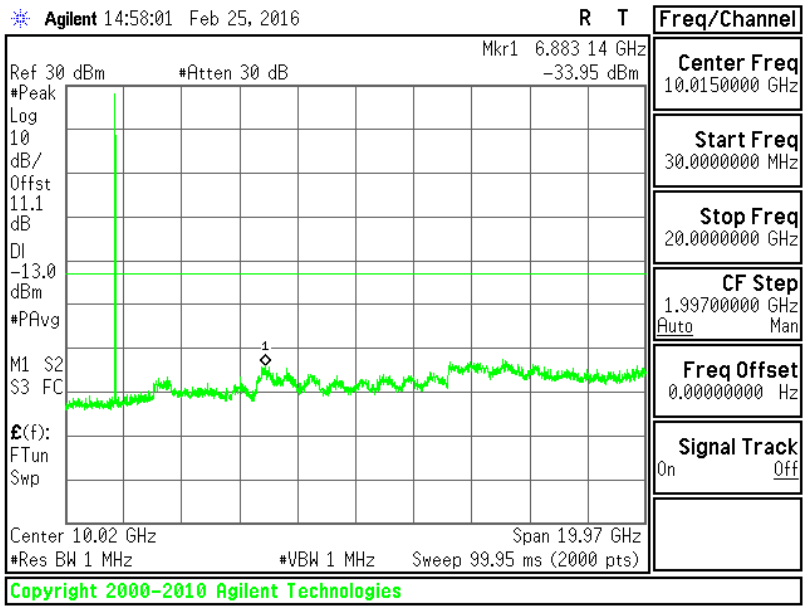




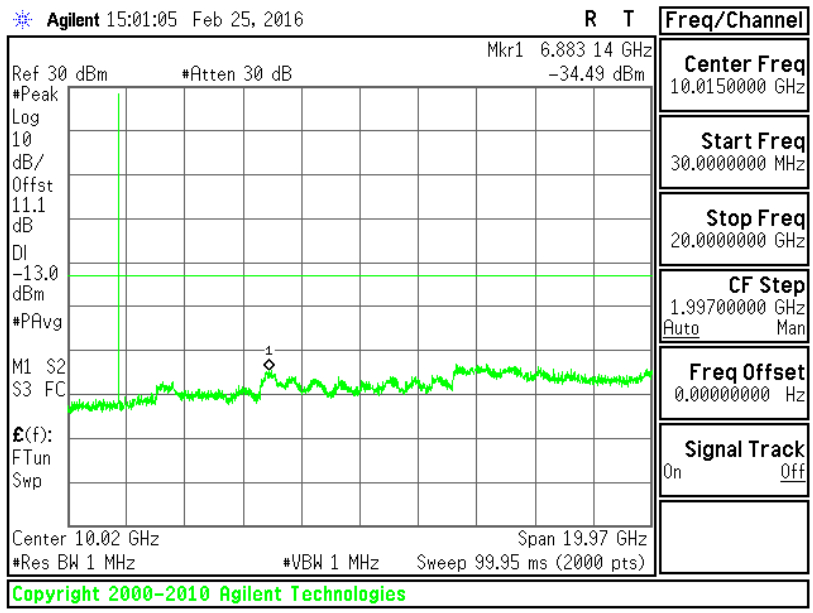
16QAM, (1.4 MHz BAND WIDTH)



MID, RB1-0, 30 TO 20000 MHz

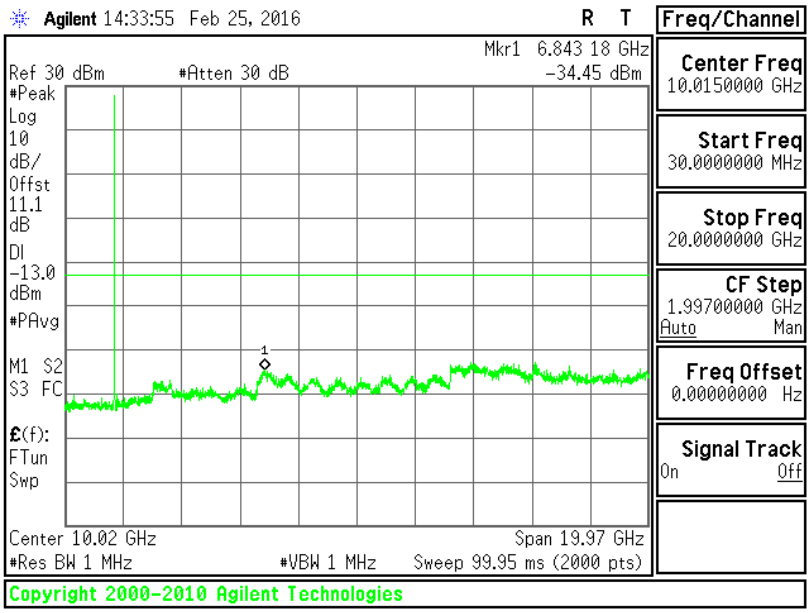


HIGH, RB1-0, 30 TO 20000 MHz

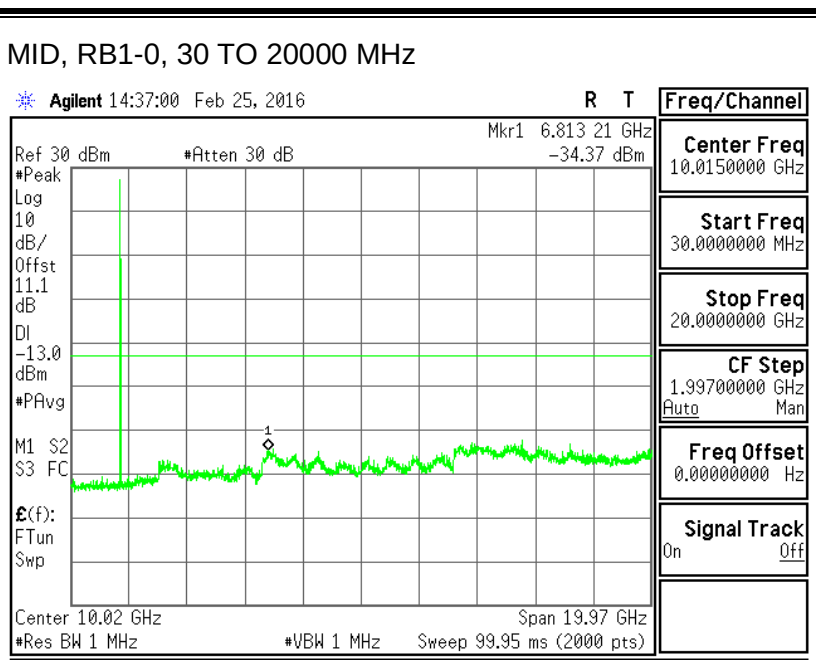


QPSK, (3.0 MHz BAND WIDTH)

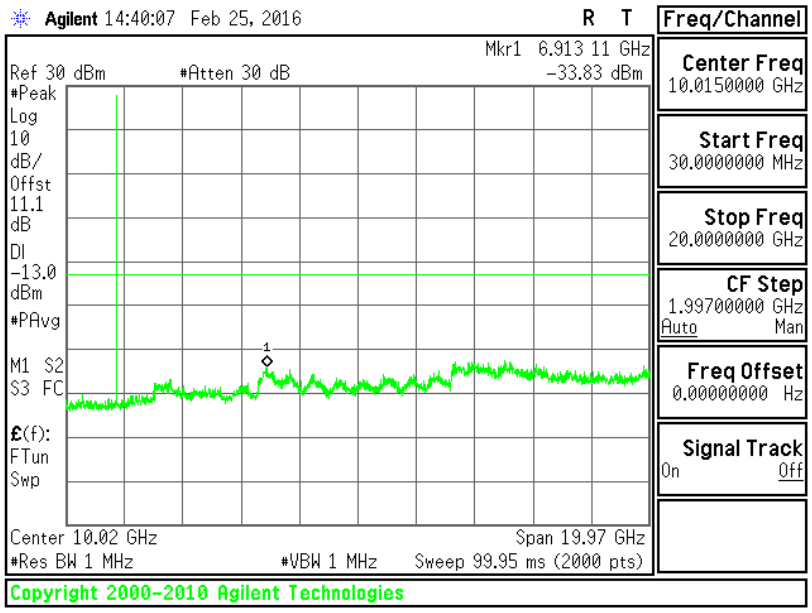
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz

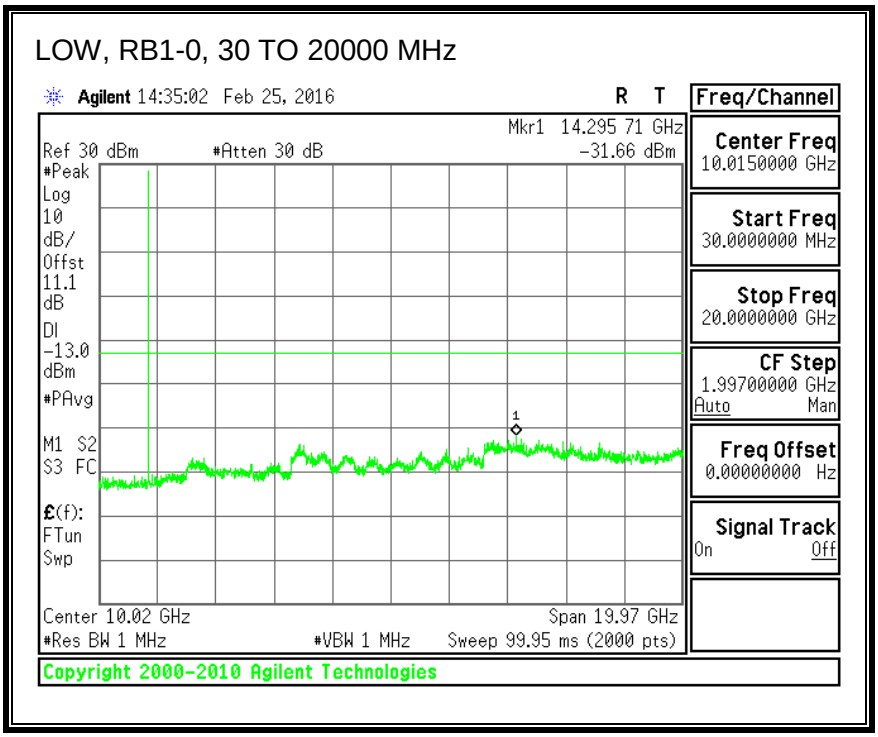


HIGH, RB1-0, 30 TO 20000 MHz

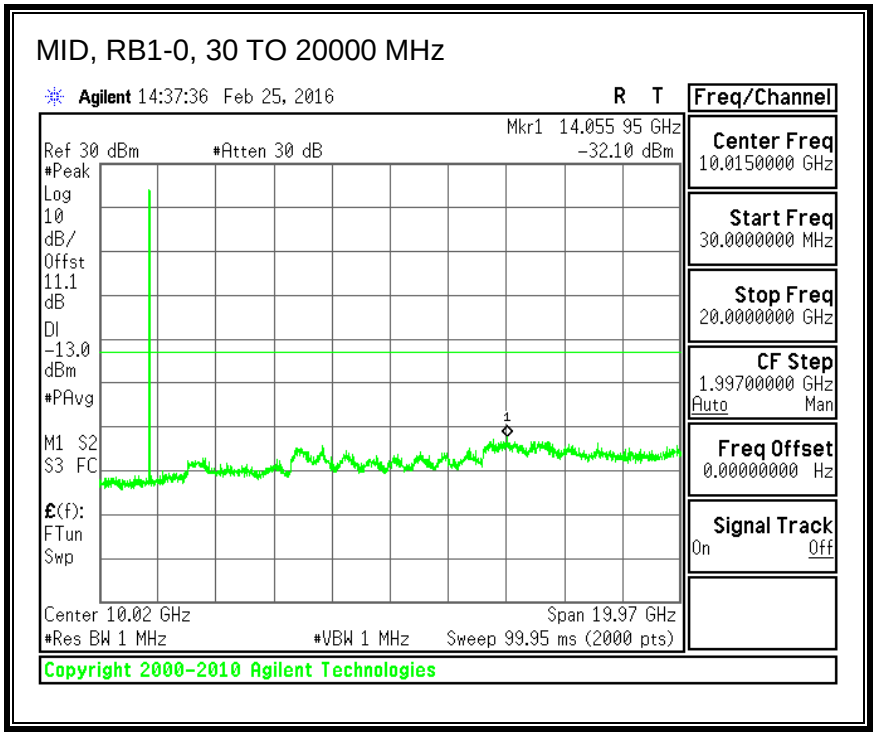


16QAM, (3.0 MHz BAND WIDTH)

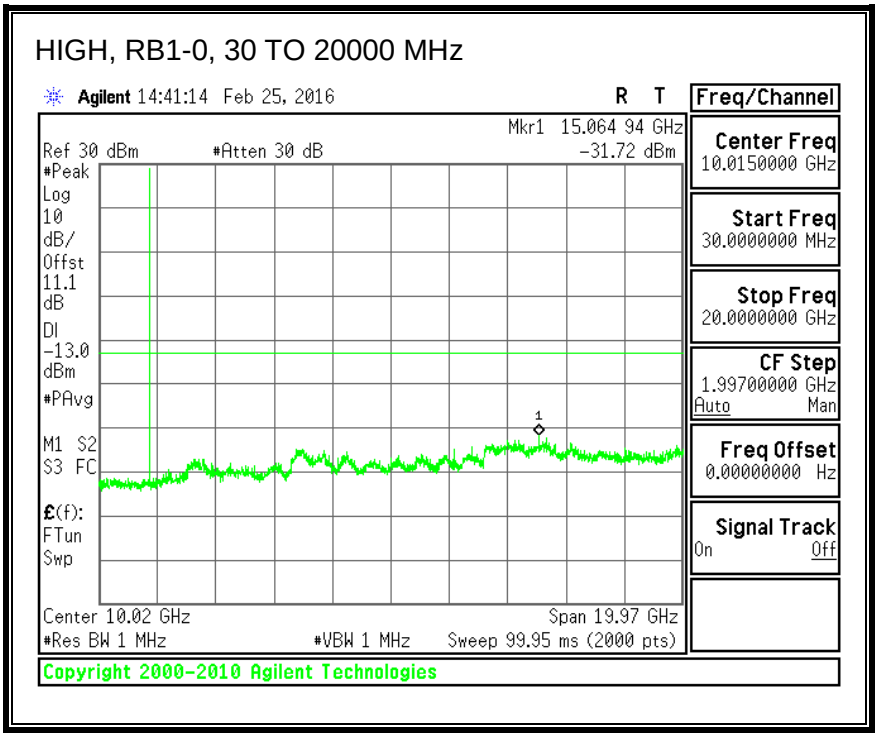
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz

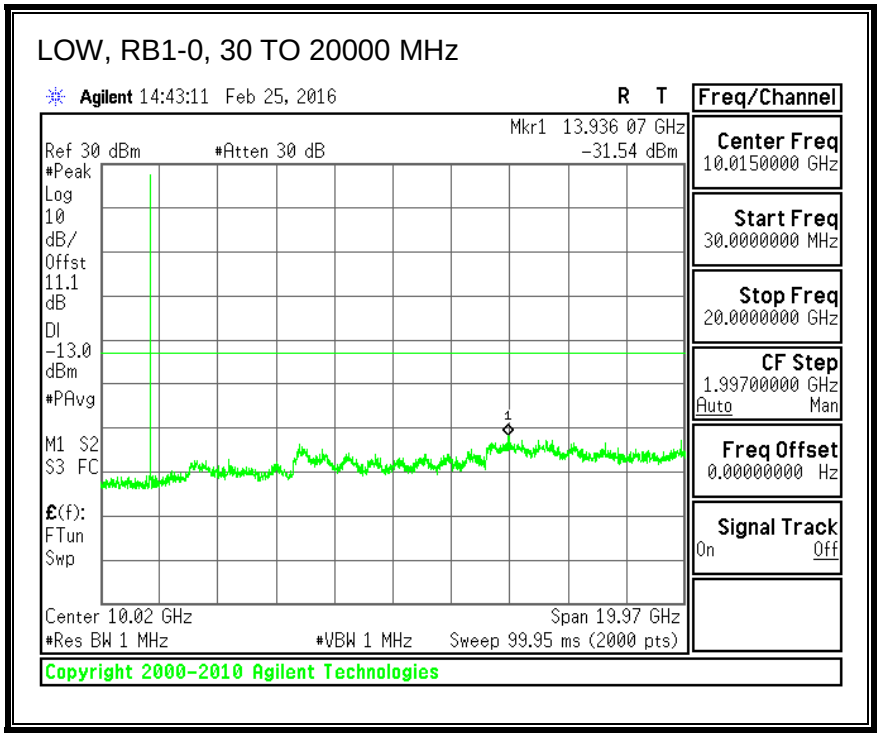


HIGH, RB1-0, 30 TO 20000 MHz

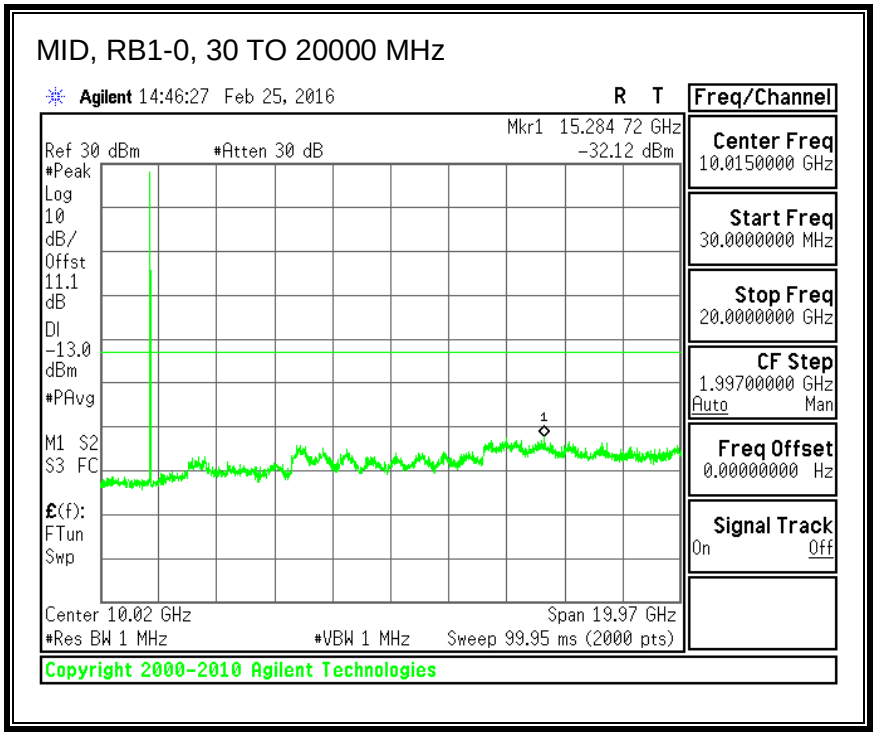


QPSK, (5.0 MHz BAND WIDTH)

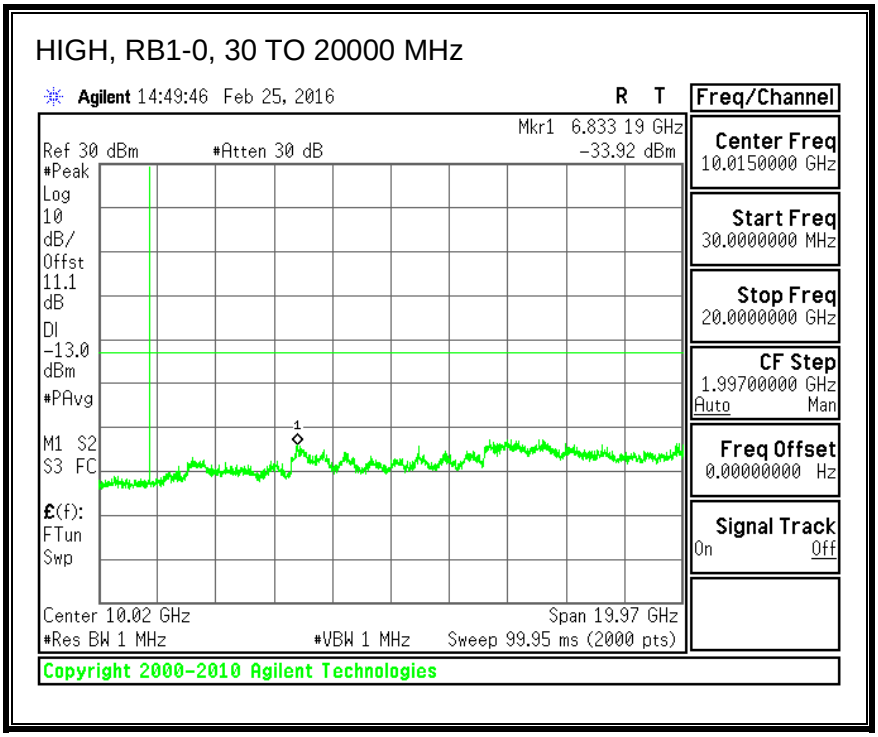
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz

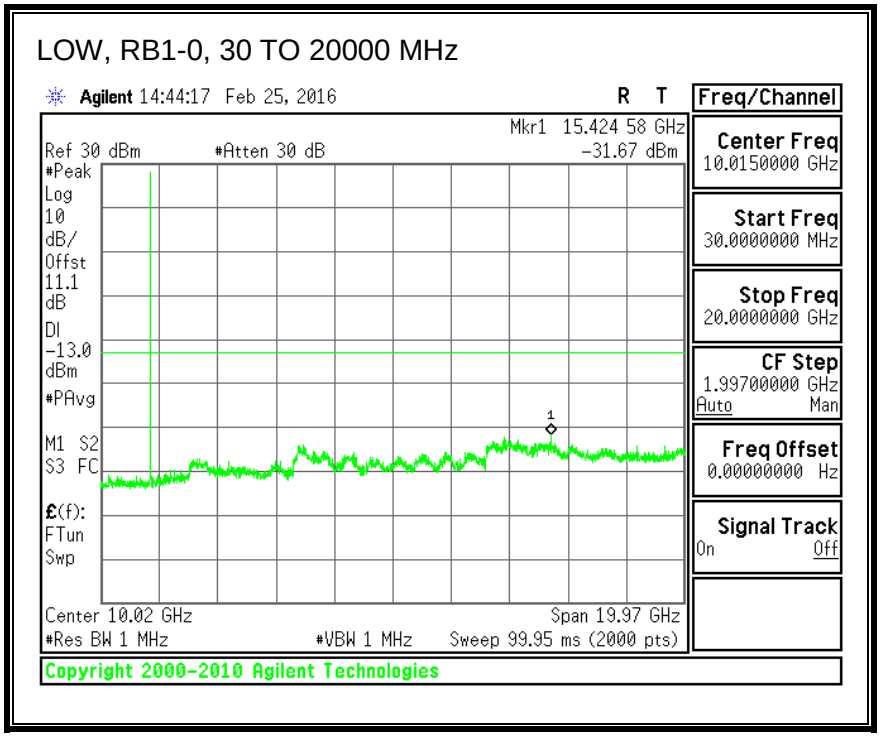


HIGH, RB1-0, 30 TO 20000 MHz

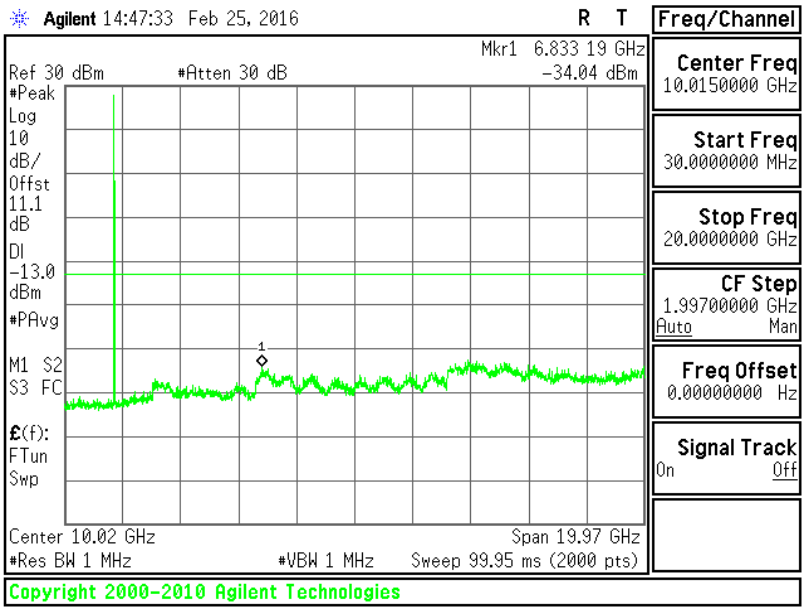


16QAM, (5.0 MHz BAND WIDTH)

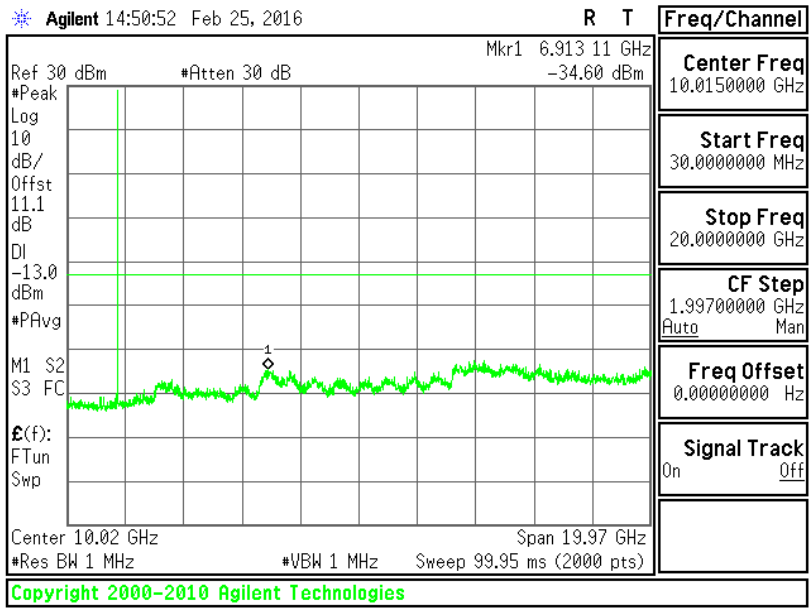
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz

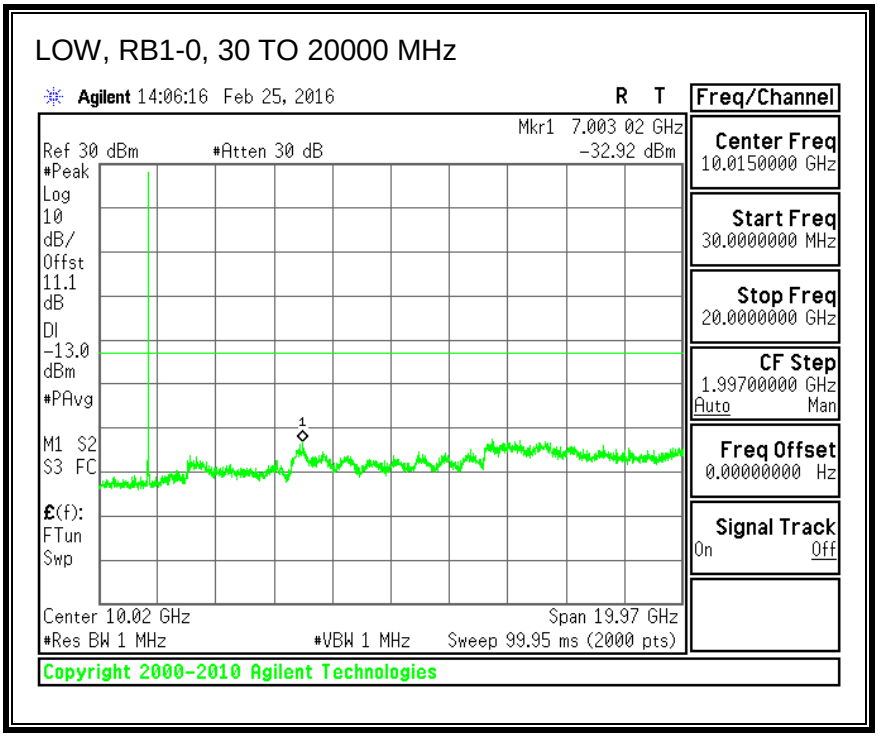


HIGH, RB1-0, 30 TO 20000 MHz

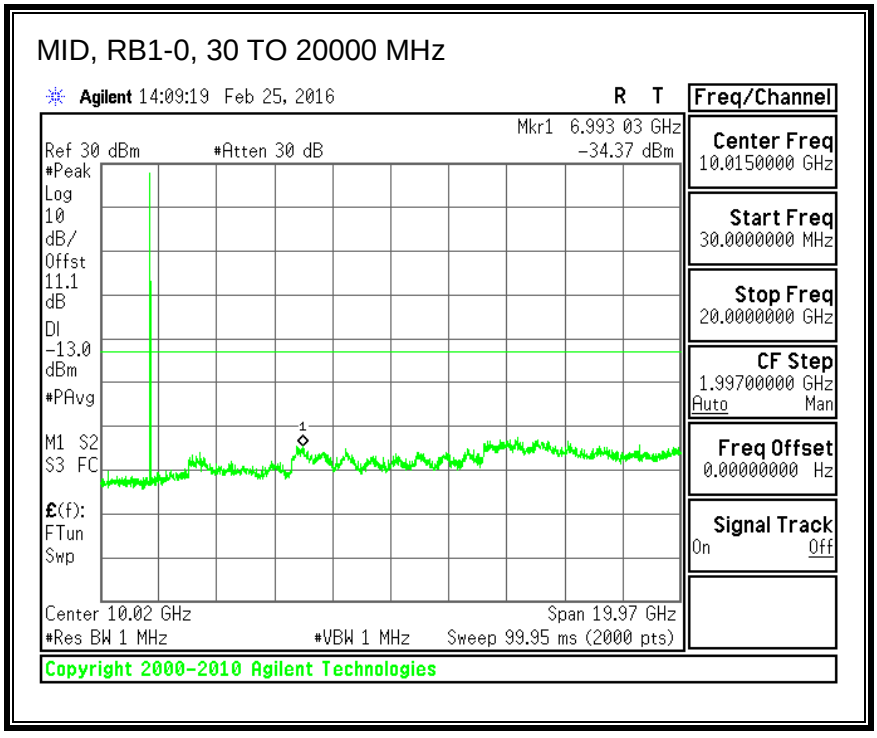


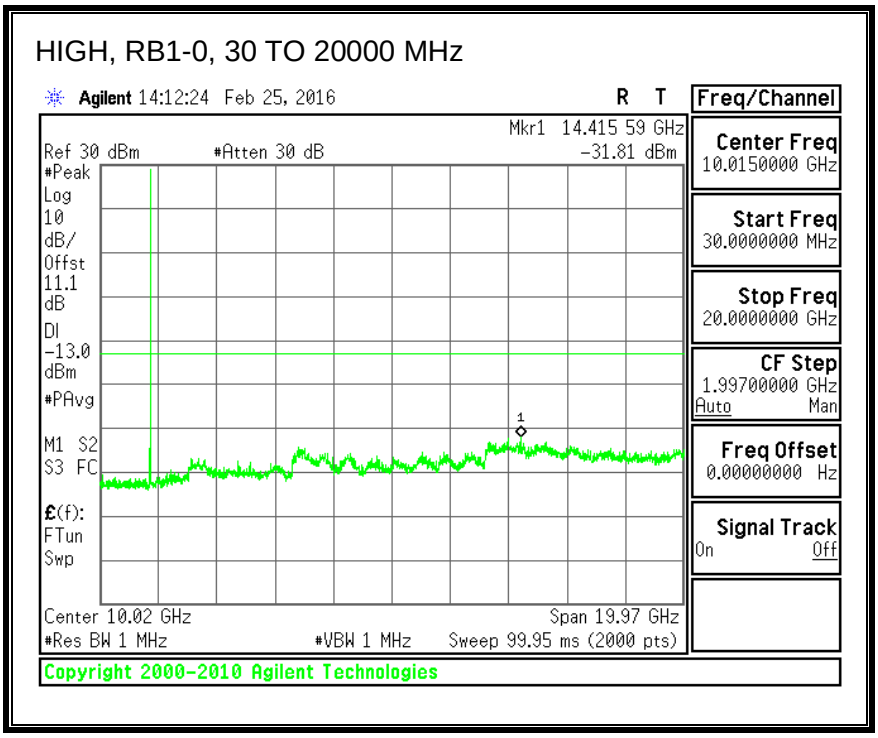
QPSK, (10.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz

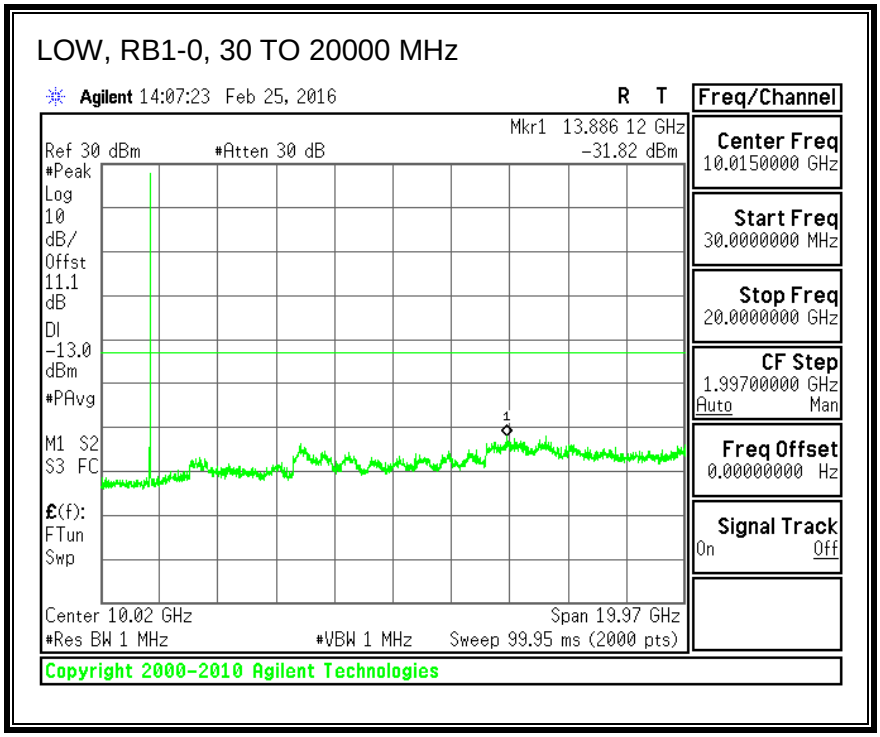


MID, RB1-0, 30 TO 20000 MHz

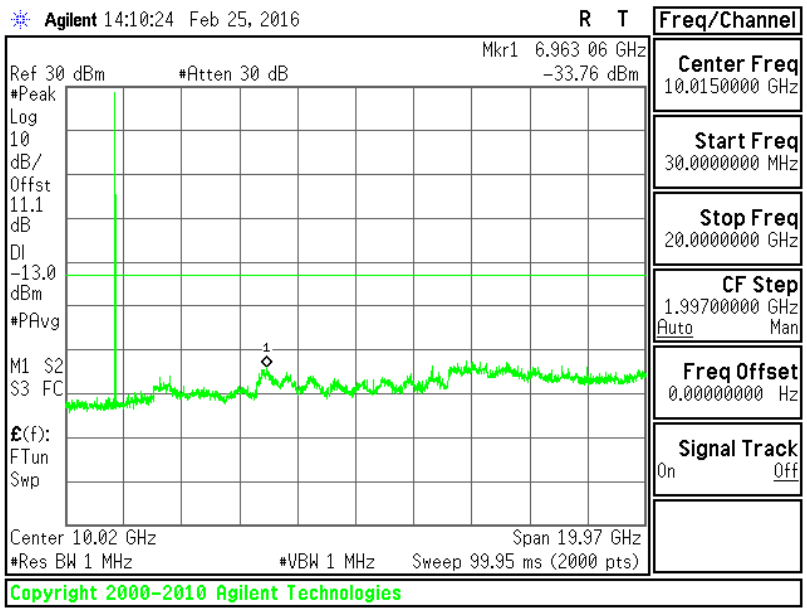




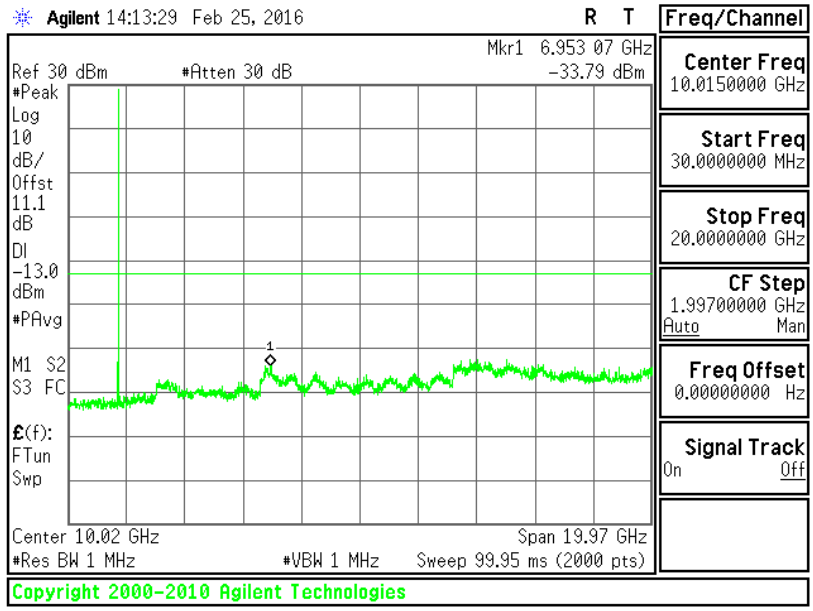
16QAM, (10.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 20000 MHz

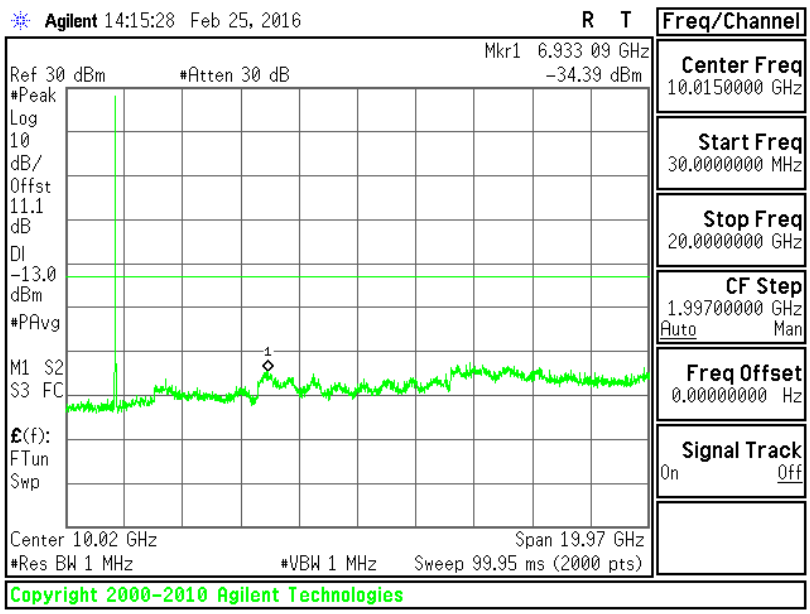


HIGH, RB1-0, 30 TO 20000 MHz

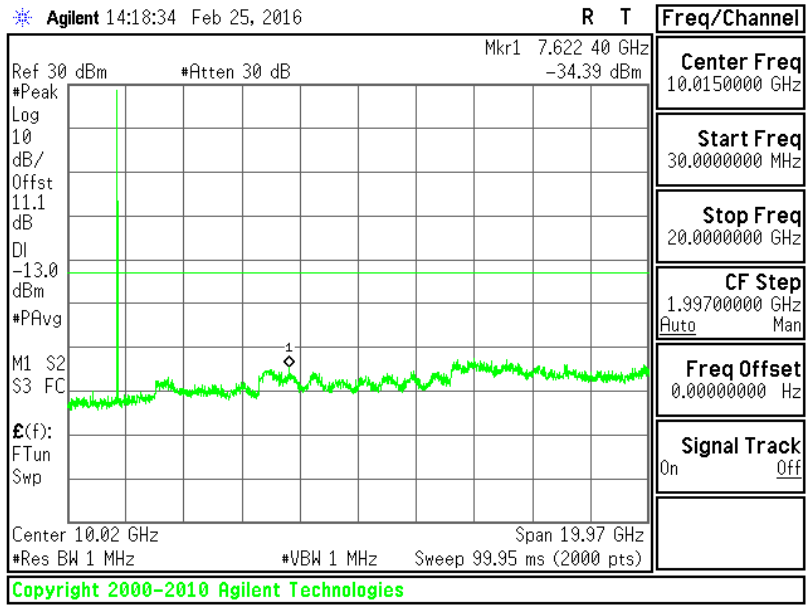


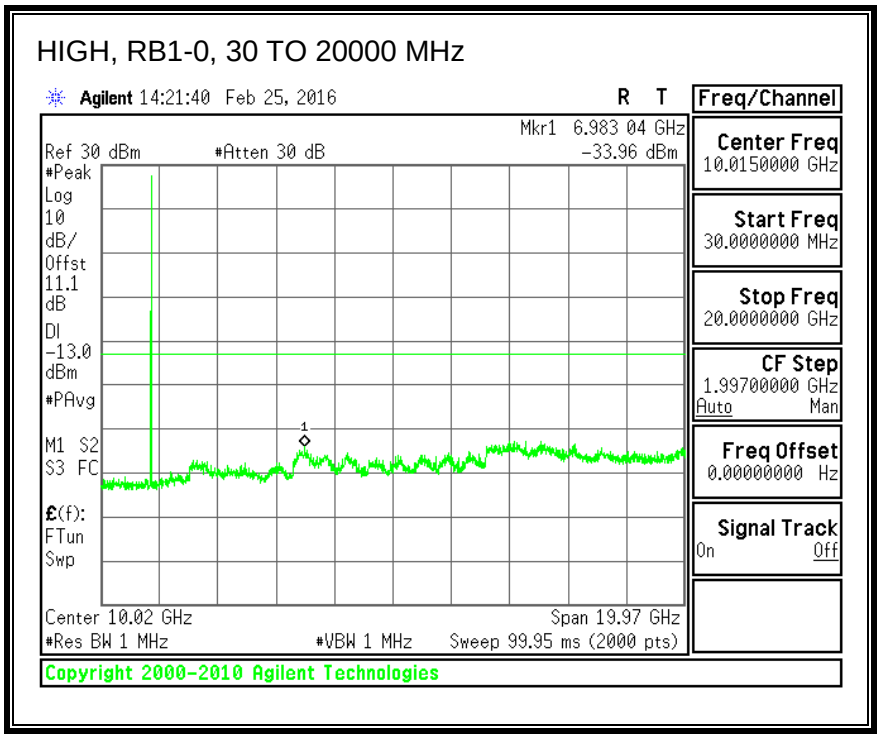
QPSK, (15.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz

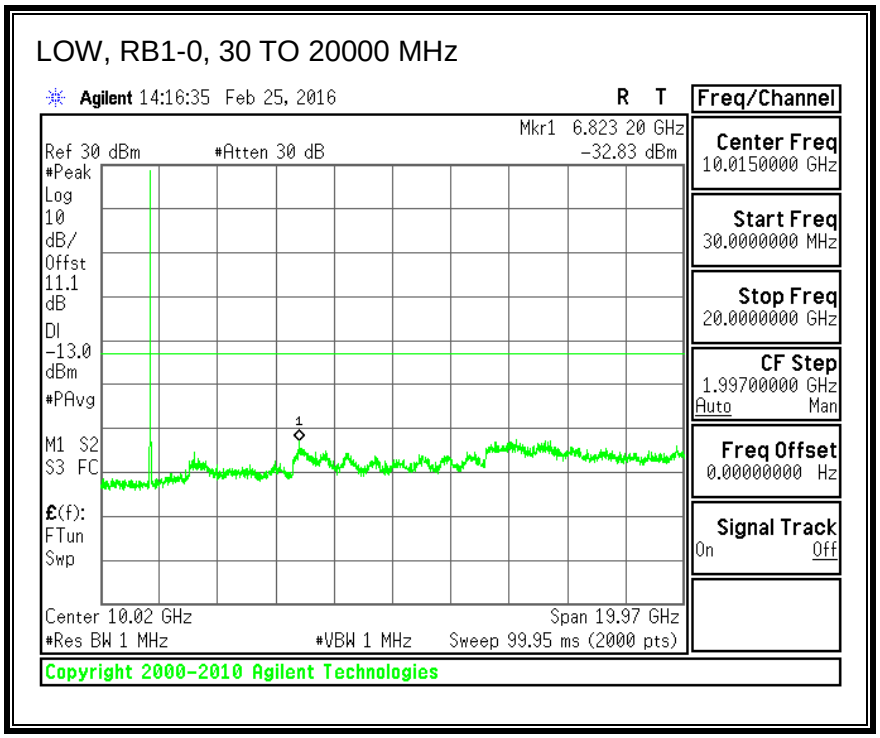


MID, RB1-0, 30 TO 20000 MHz

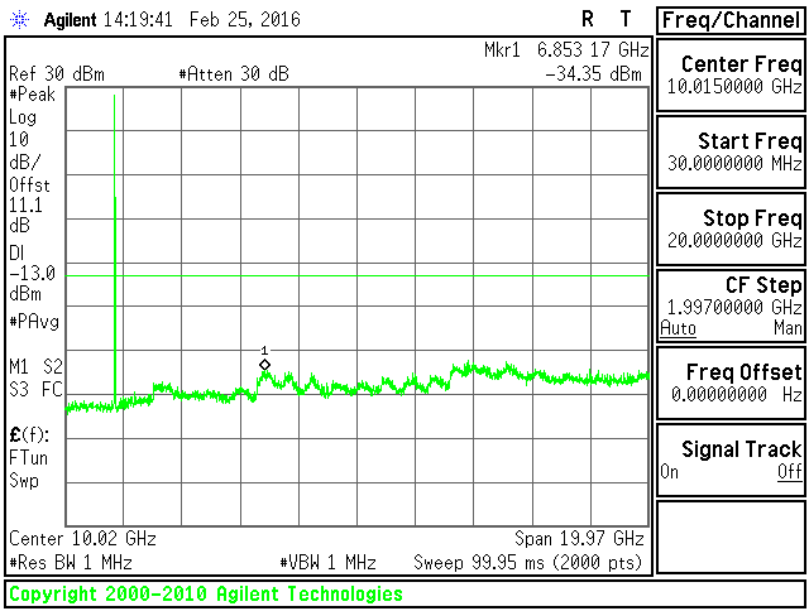




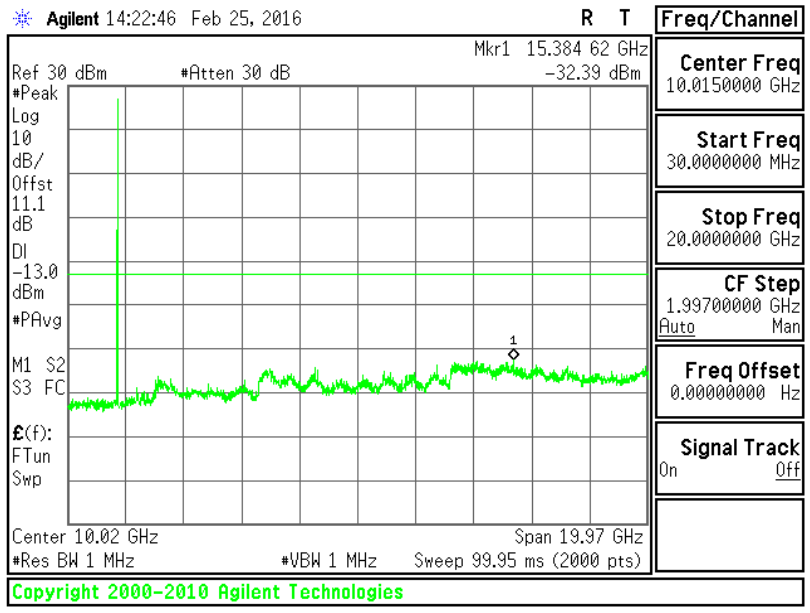
16QAM, (15.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 20000 MHz

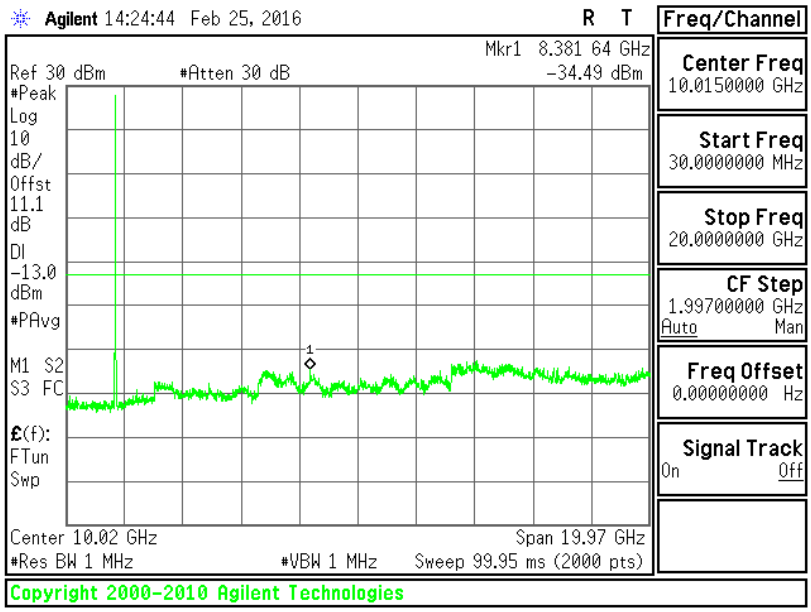


HIGH, RB1-0, 30 TO 20000 MHz

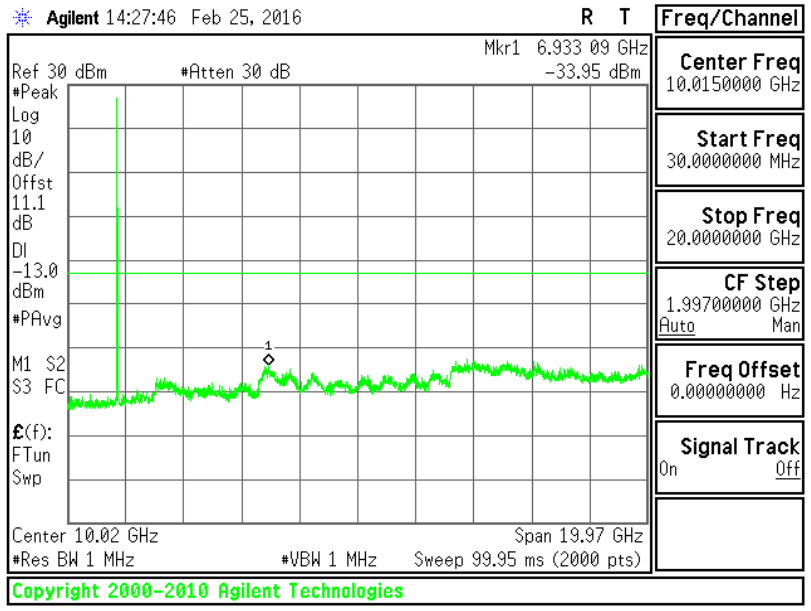


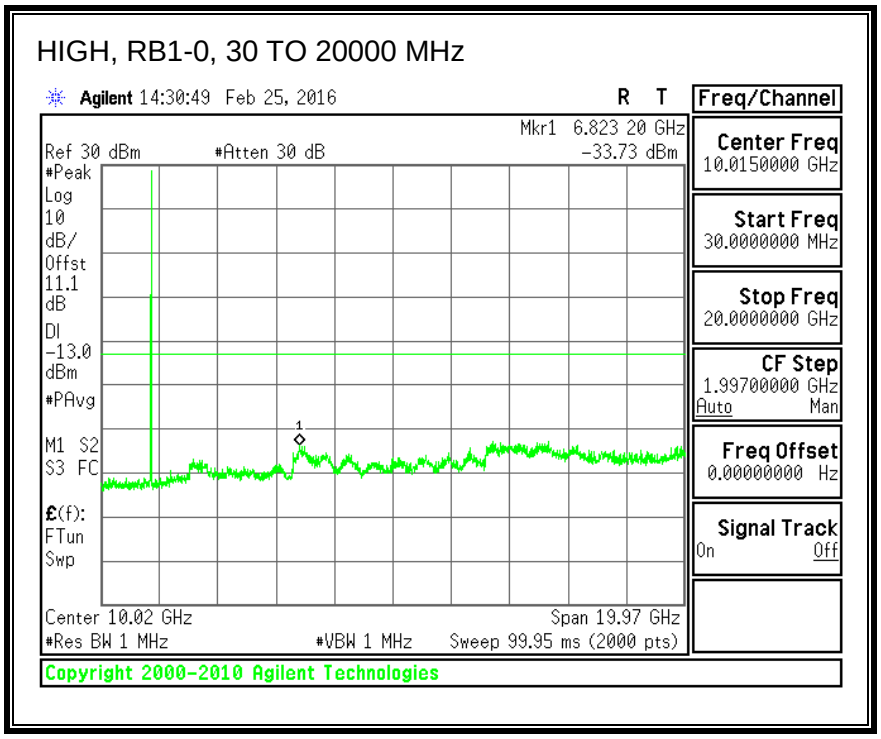
QPSK, (20.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz

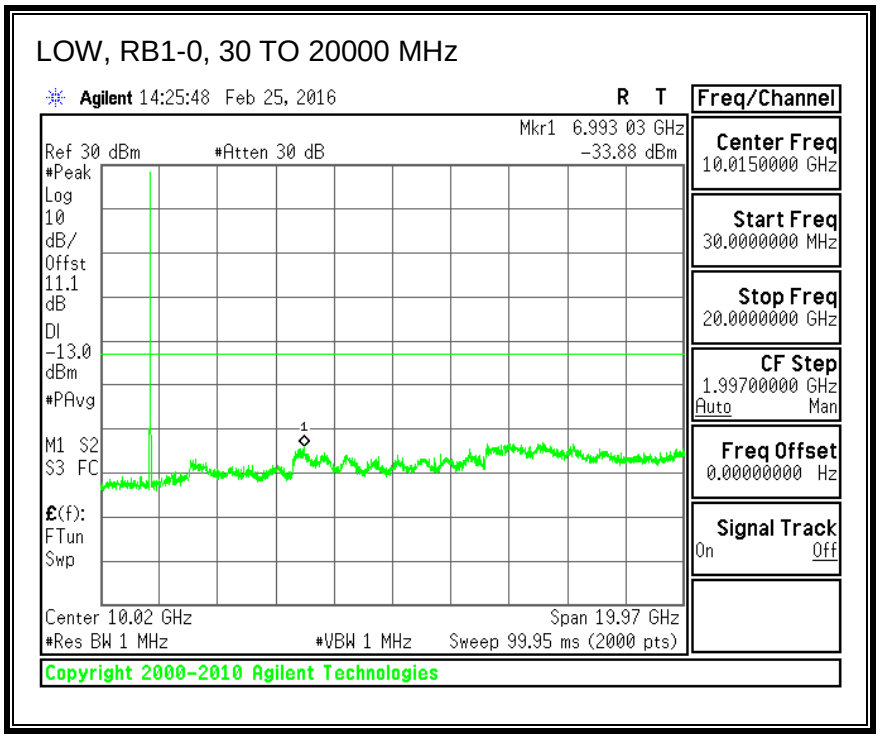


MID, RB1-0, 30 TO 20000 MHz

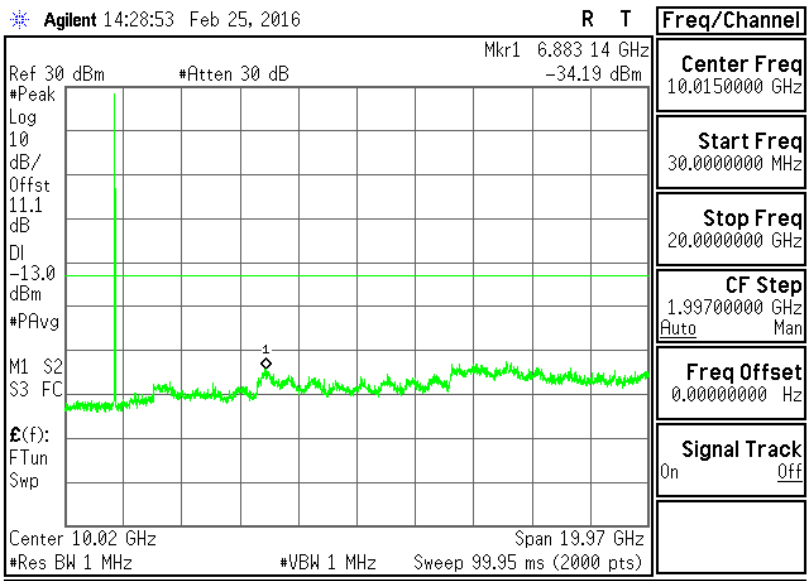




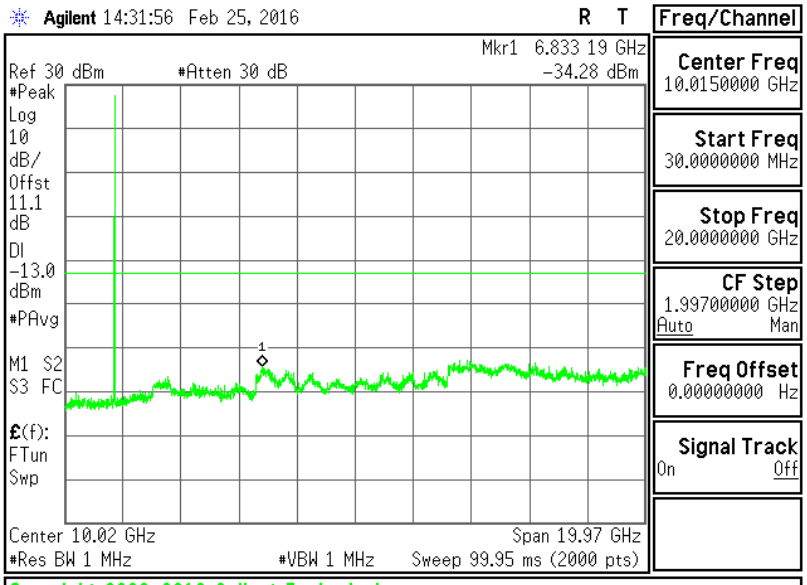
16QAM, (20.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 20000 MHz



HIGH, RB1-0, 30 TO 20000 MHz

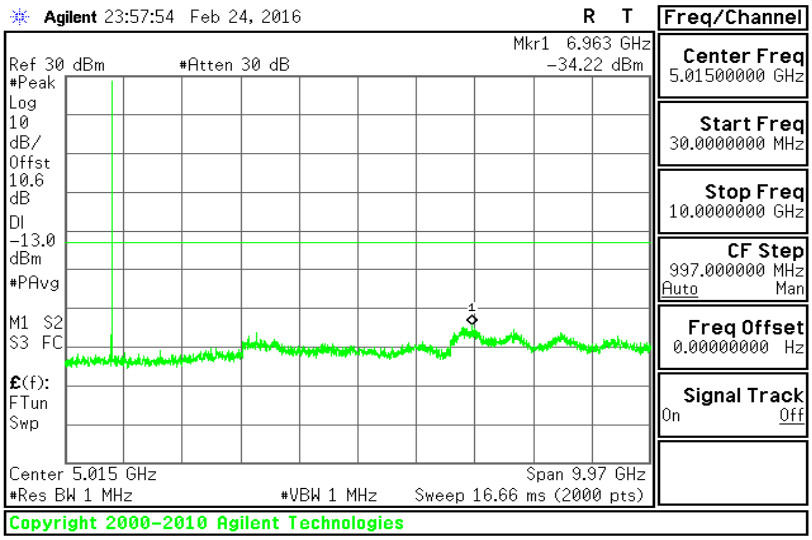


8.3.3. LTE BAND 5

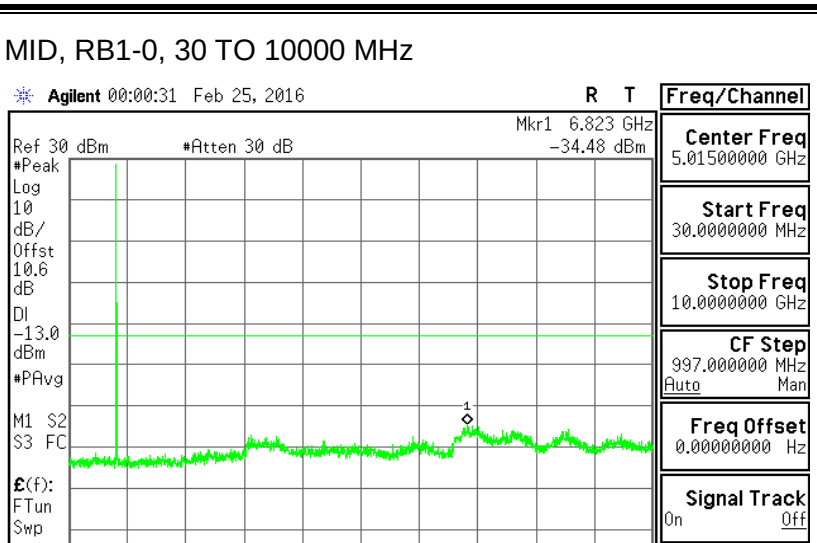
ID:	39472	Date:	2/24/16

QPSK, (1.4 MHz BAND WIDTH)

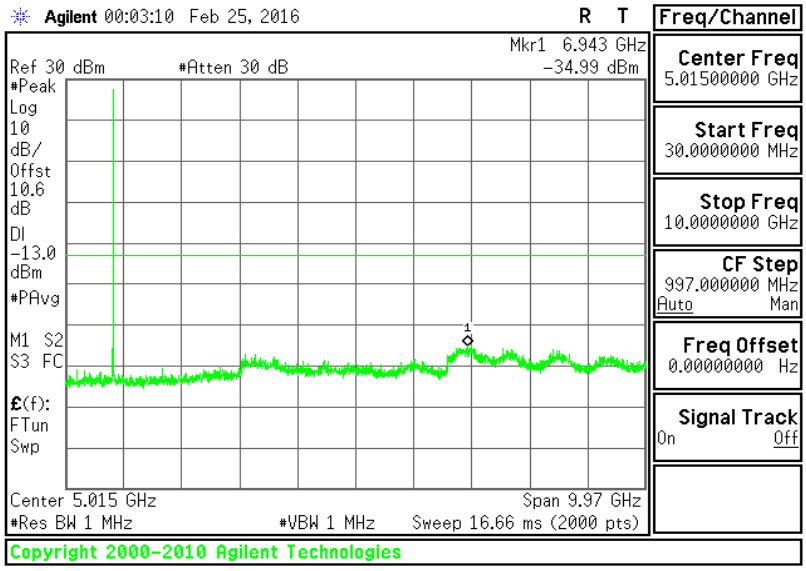
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

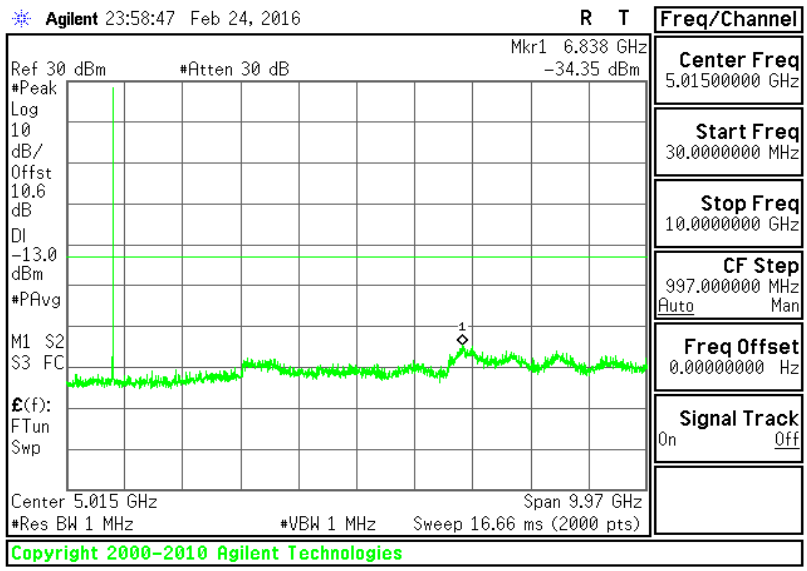


HIGH, RB1-0, 30 TO 10000 MHz

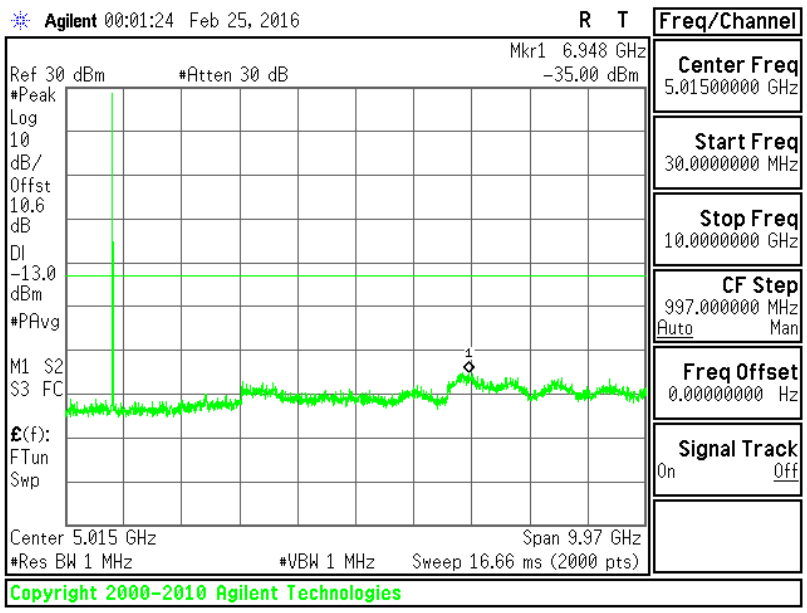


16QAM, (1.4 MHz BAND WIDTH)

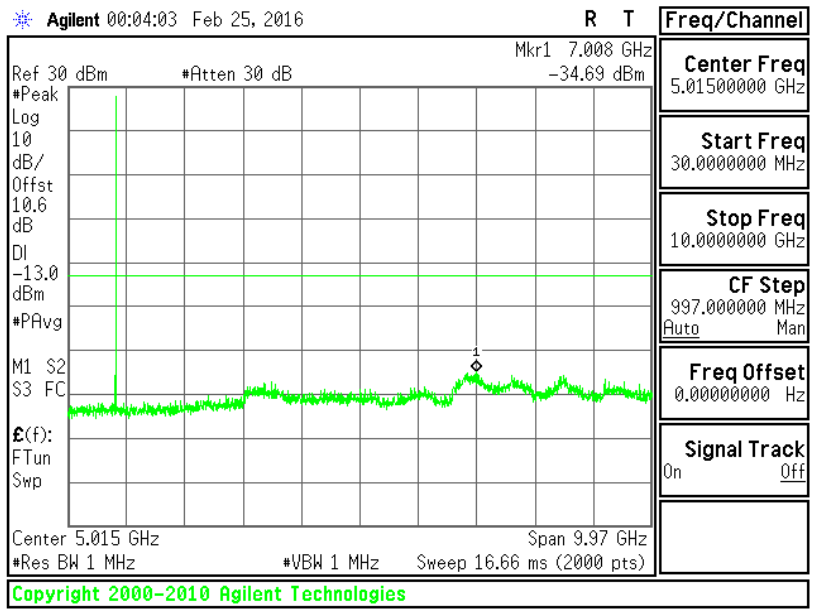
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

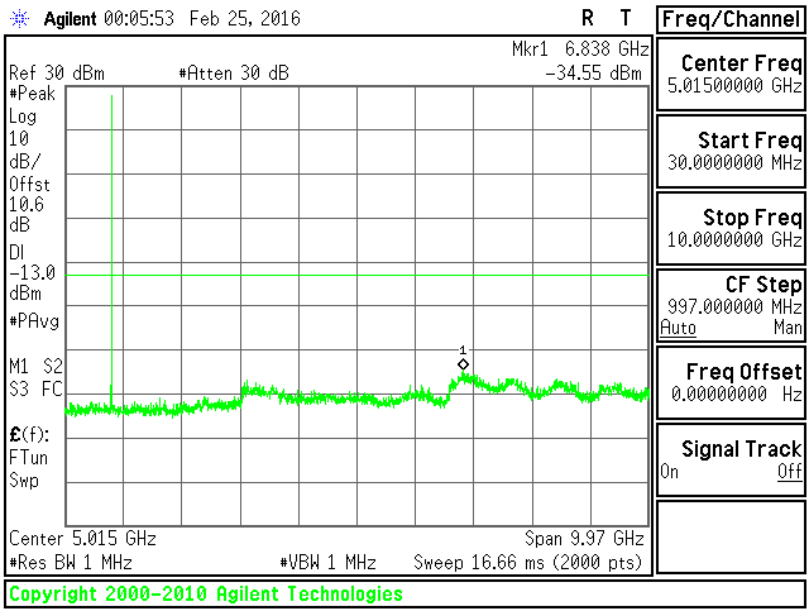


HIGH, RB1-0, 30 TO 10000 MHz

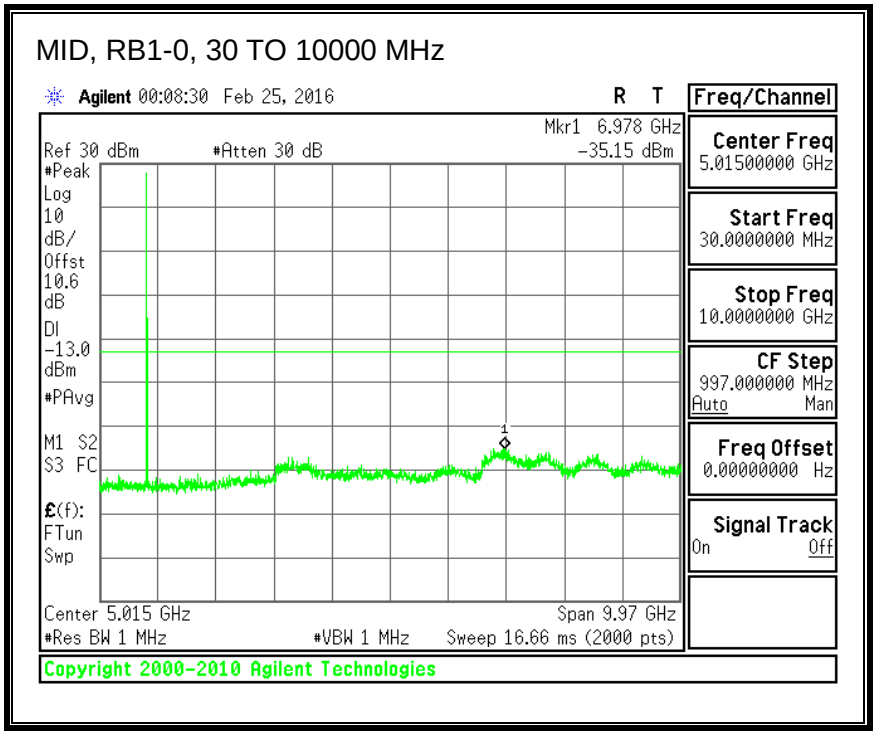


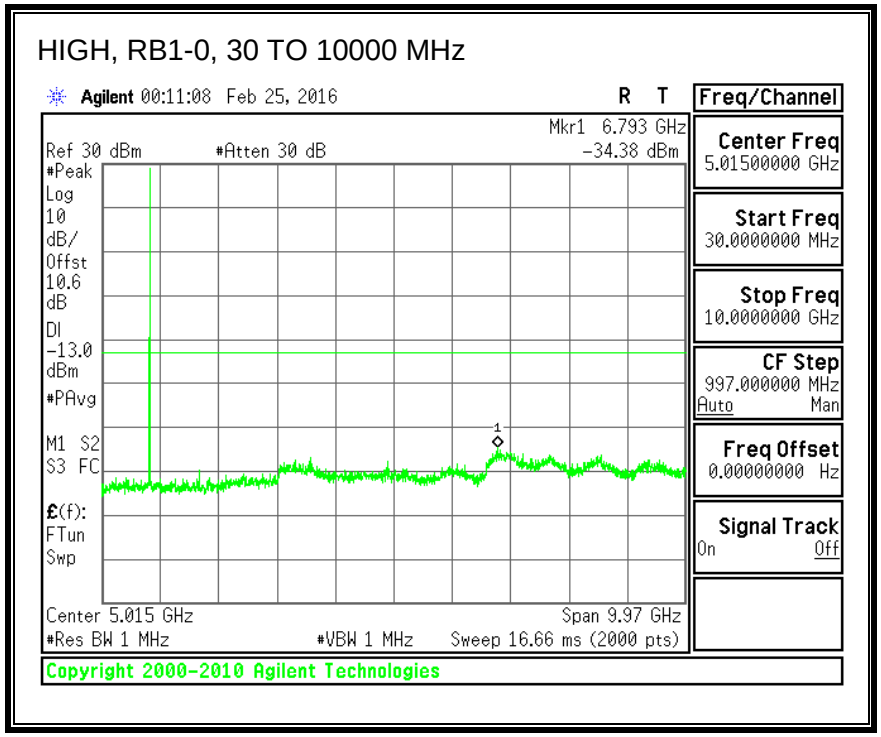
QPSK, (3.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz

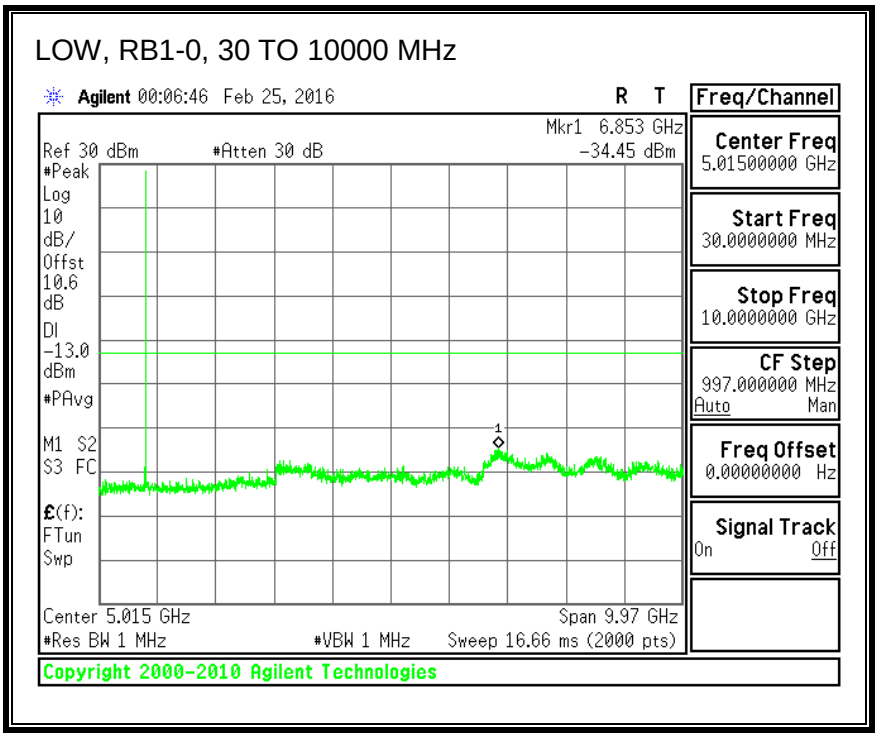


MID, RB1-0, 30 TO 10000 MHz

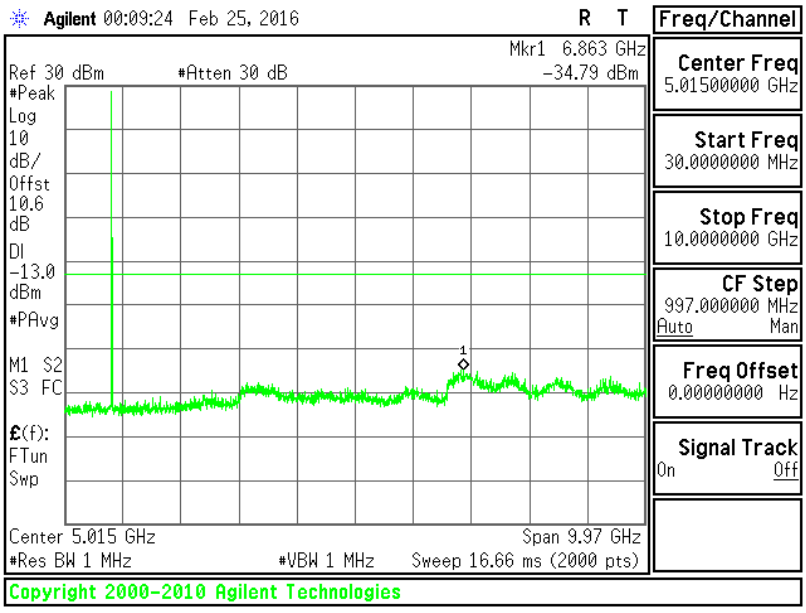




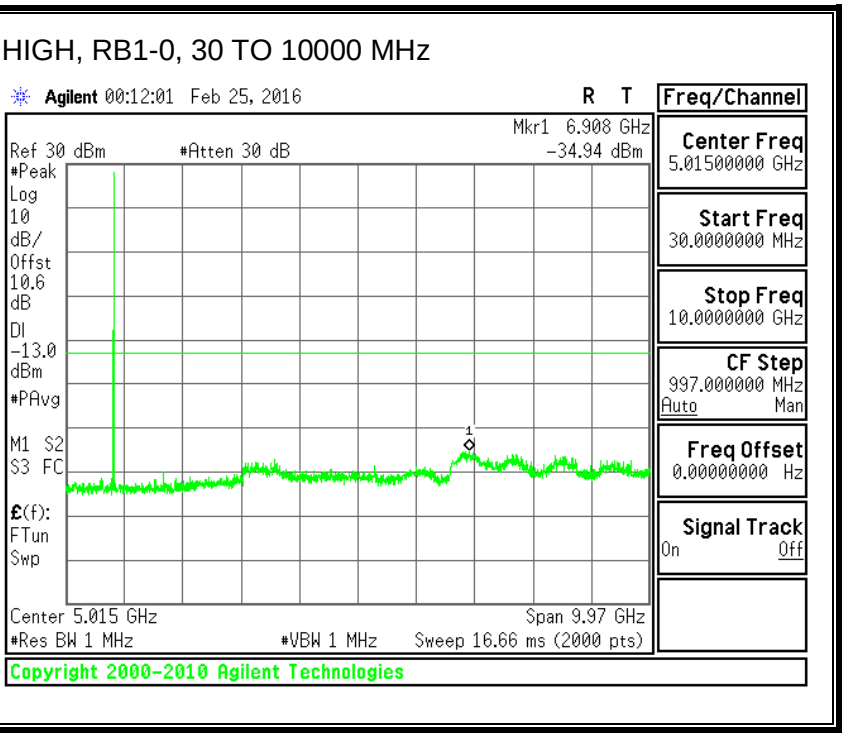
16QAM, (3.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 10000 MHz

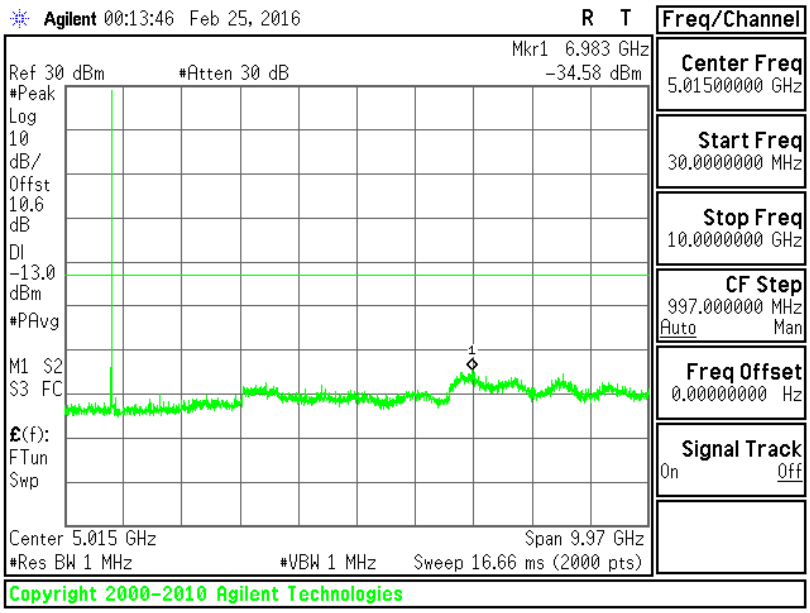


HIGH, RB1-0, 30 TO 10000 MHz

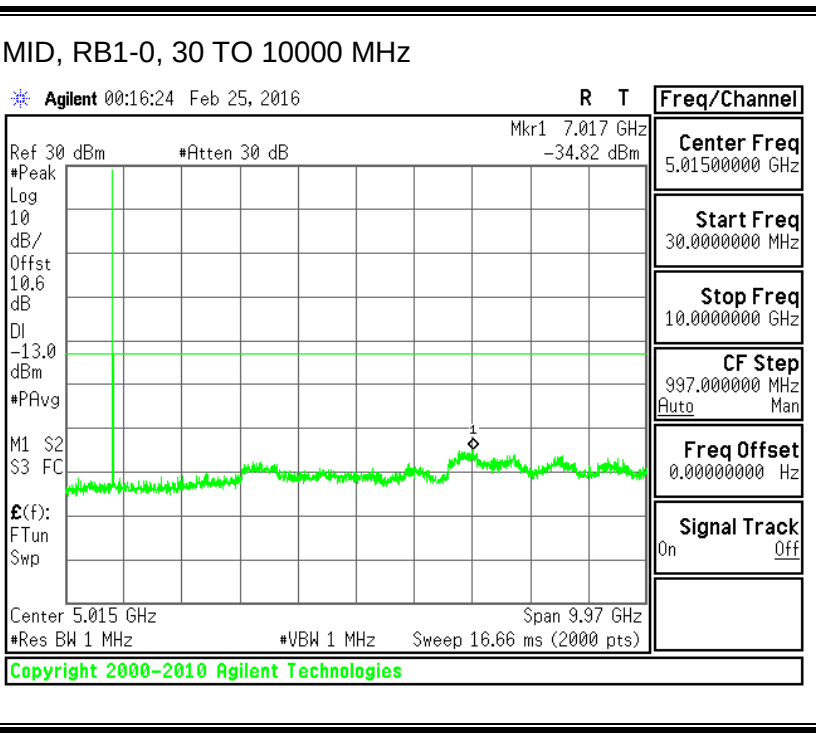


QPSK, (5.0 MHz BAND WIDTH)

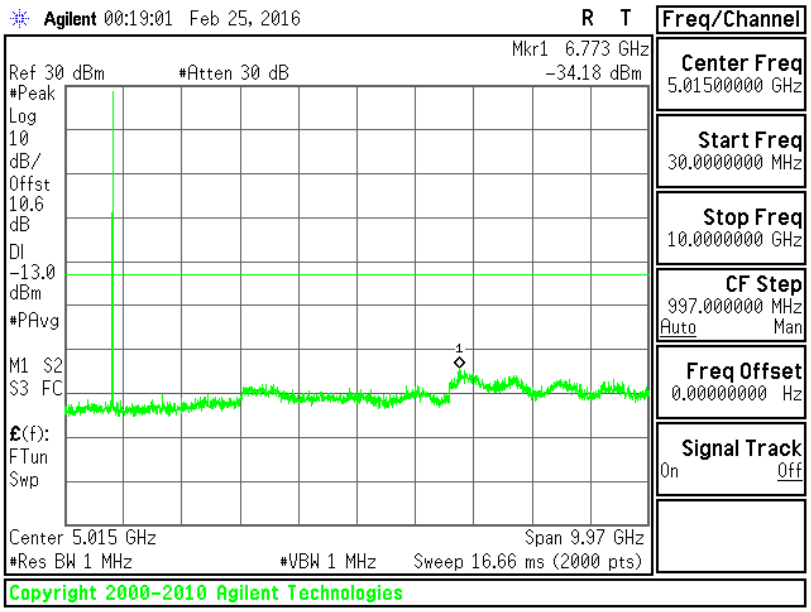
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

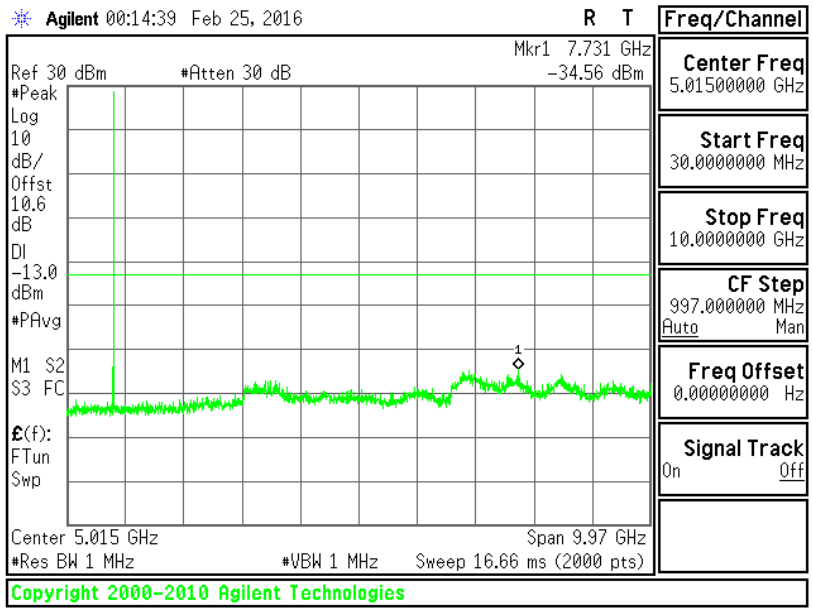


HIGH, RB1-0, 30 TO 10000 MHz

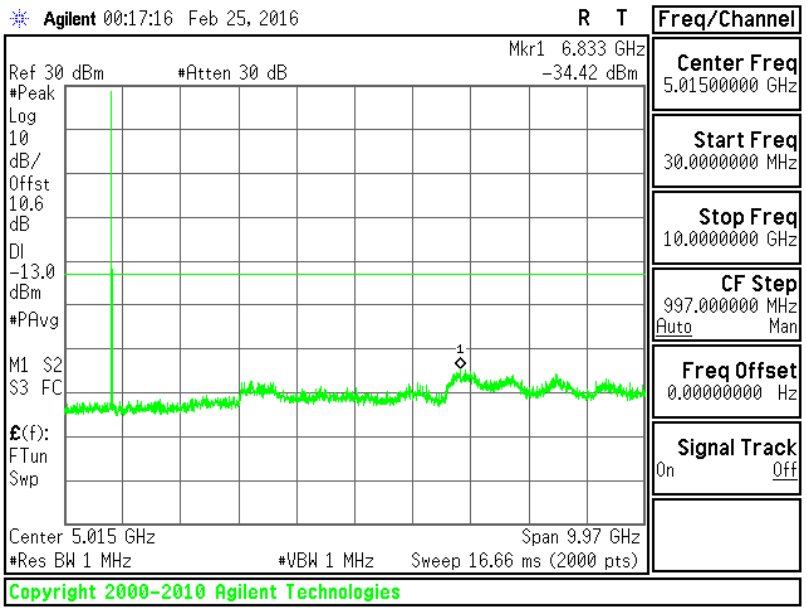


16QAM, (5.0 MHz BAND WIDTH)

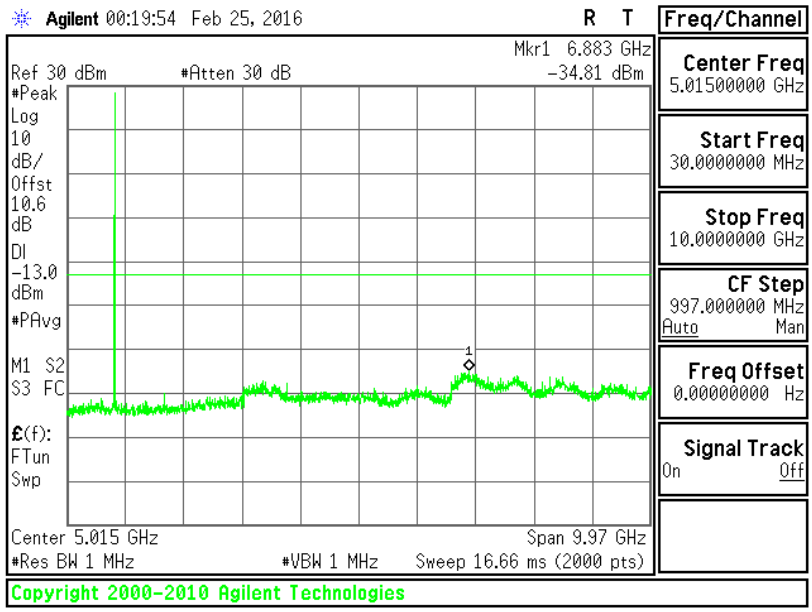
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

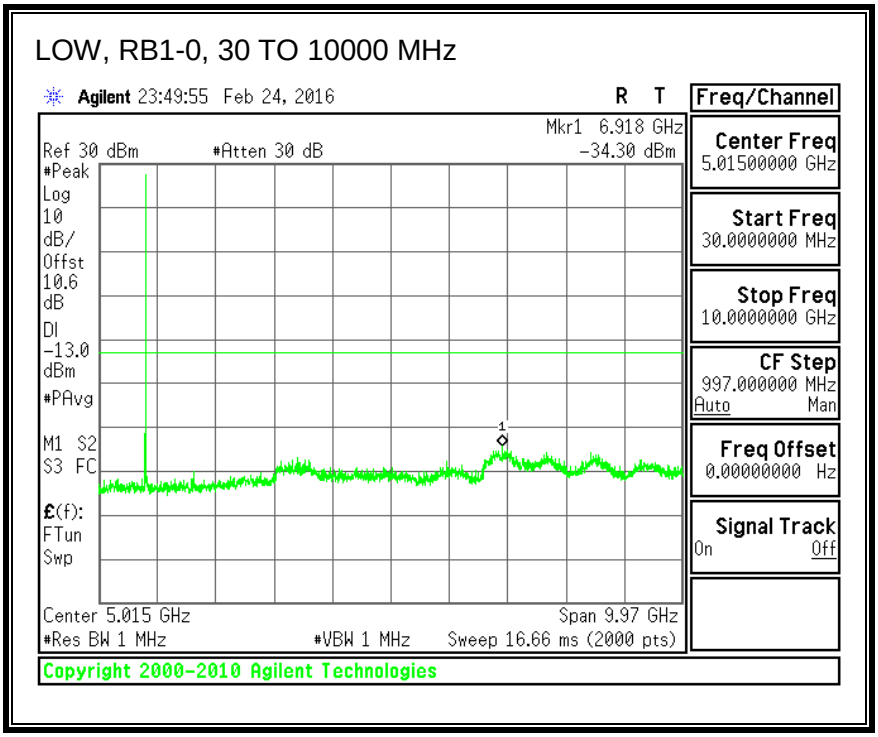


HIGH, RB1-0, 30 TO 10000 MHz

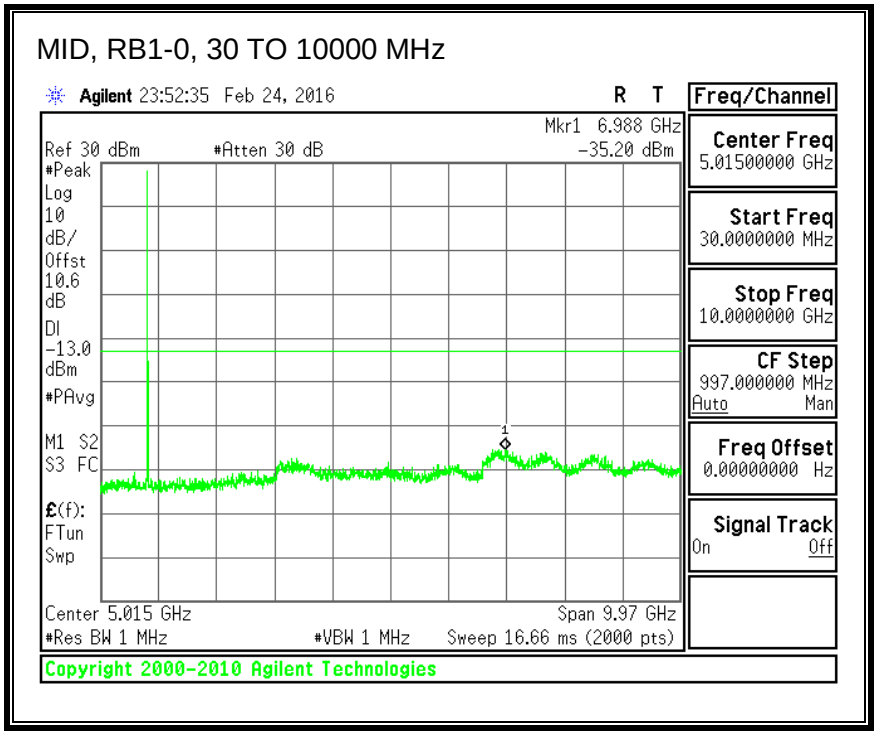


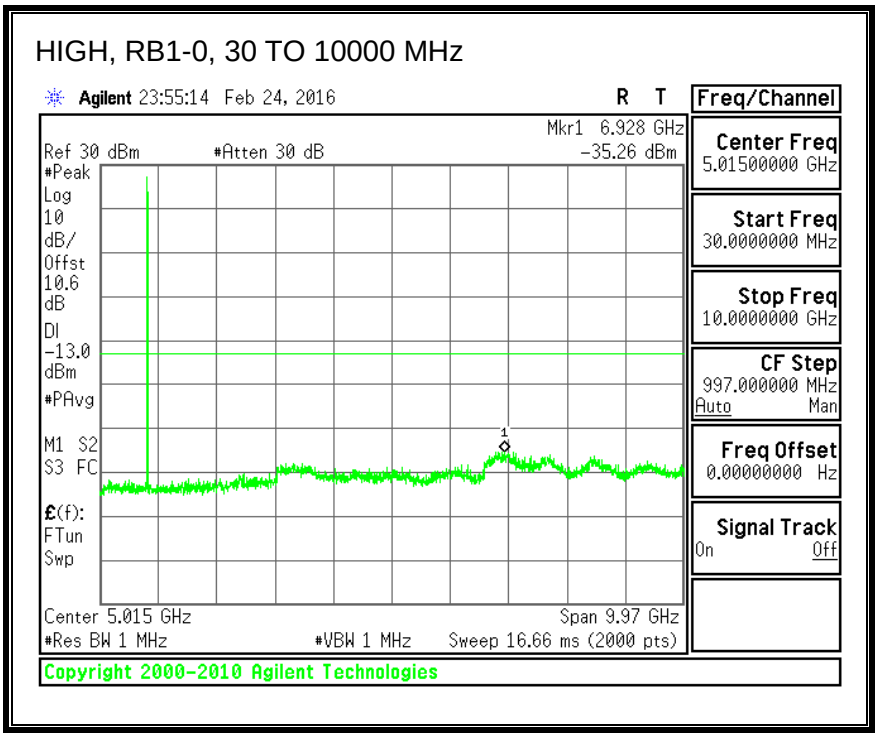
QPSK, (10.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz

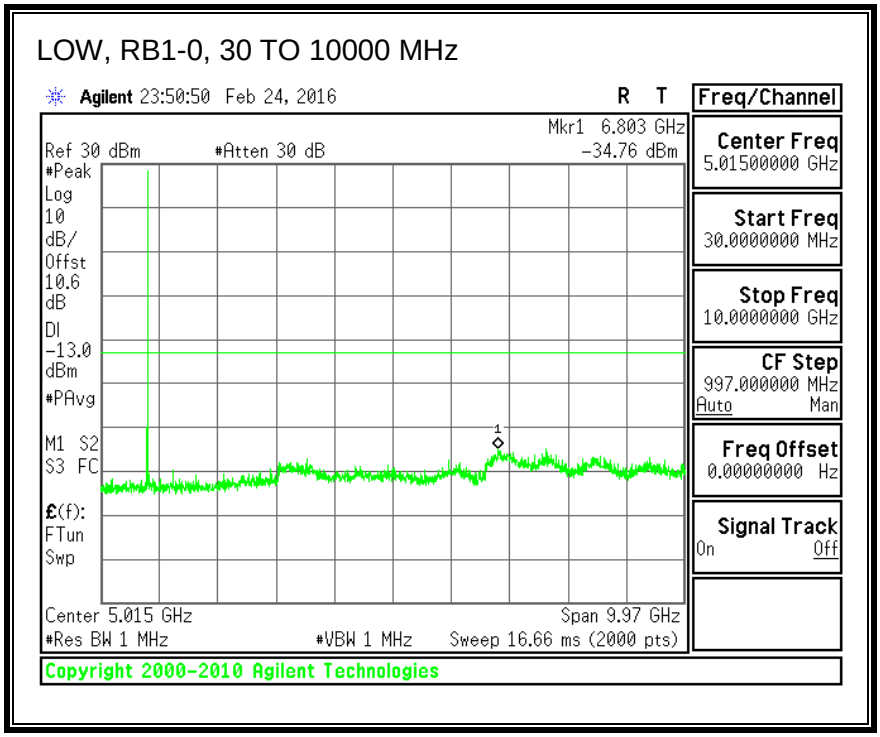


MID, RB1-0, 30 TO 10000 MHz

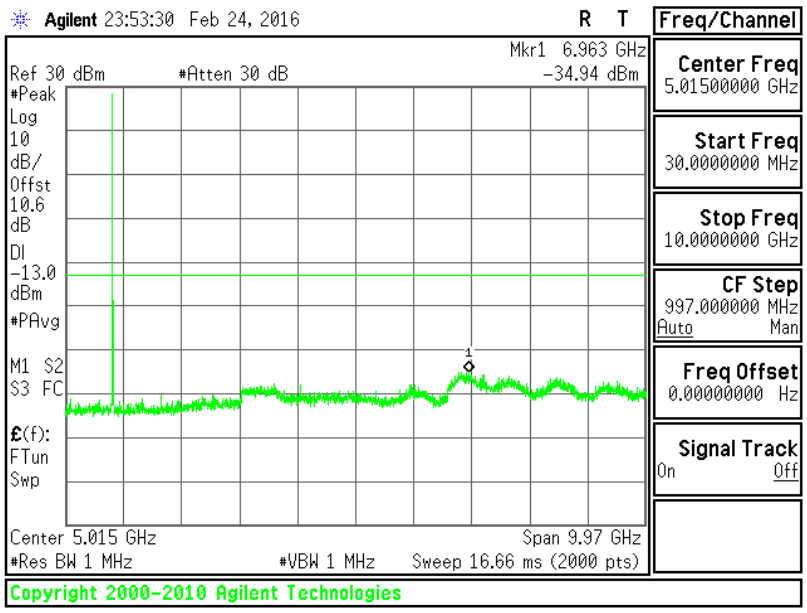




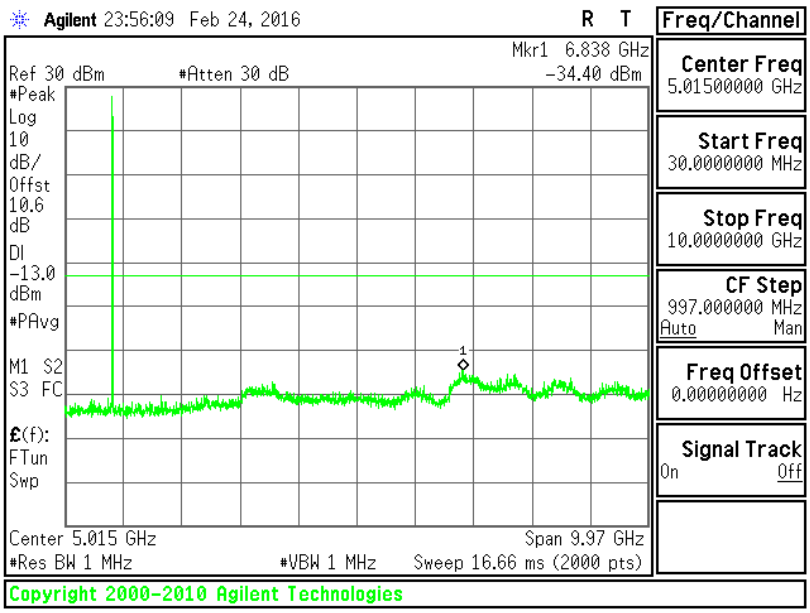
16QAM, (10.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz

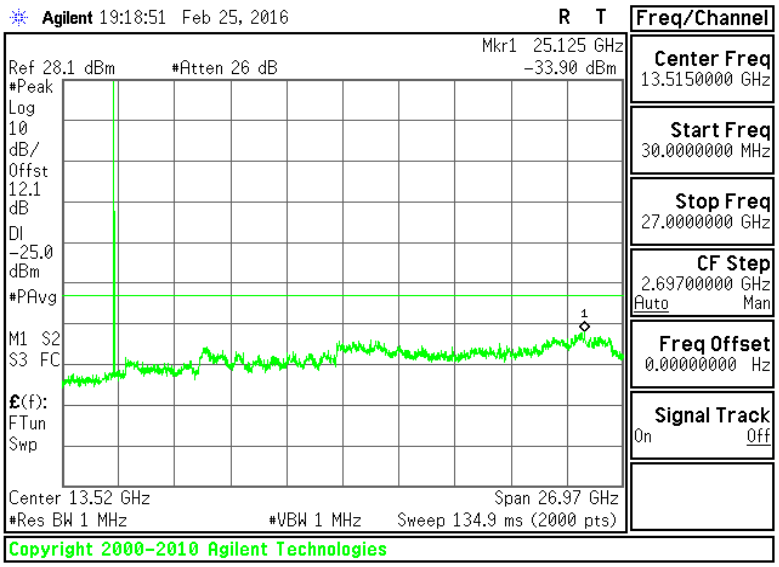


8.3.4. LTE BAND 7

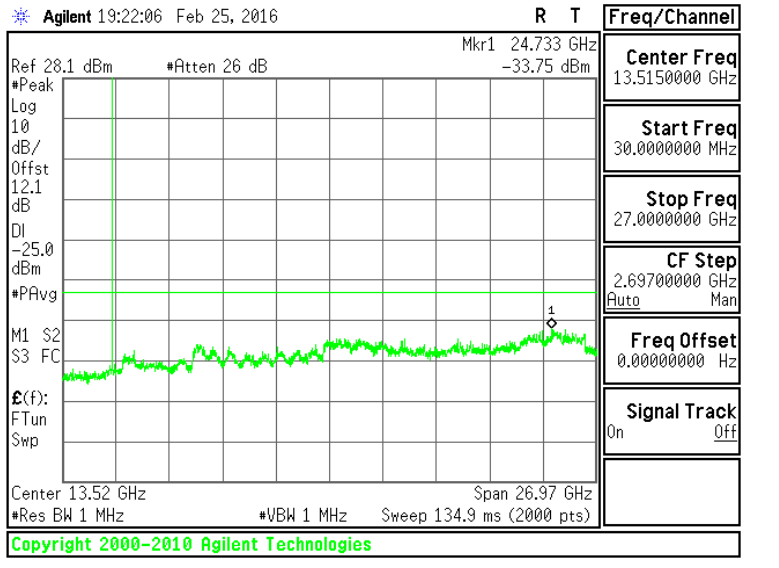
ID:	39472	Date:	2/25/16

QPSK, (5.0 MHz BAND WIDTH)

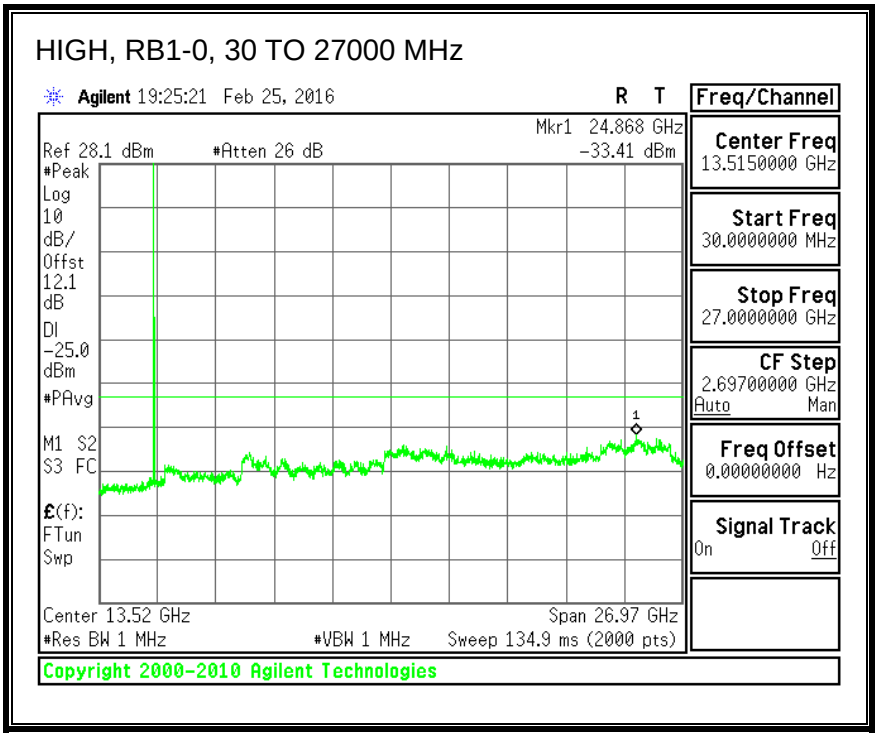
LOW, RB1-0, 30 TO 27000 MHz



MID, RB1-0, 30 TO 27000 MHz

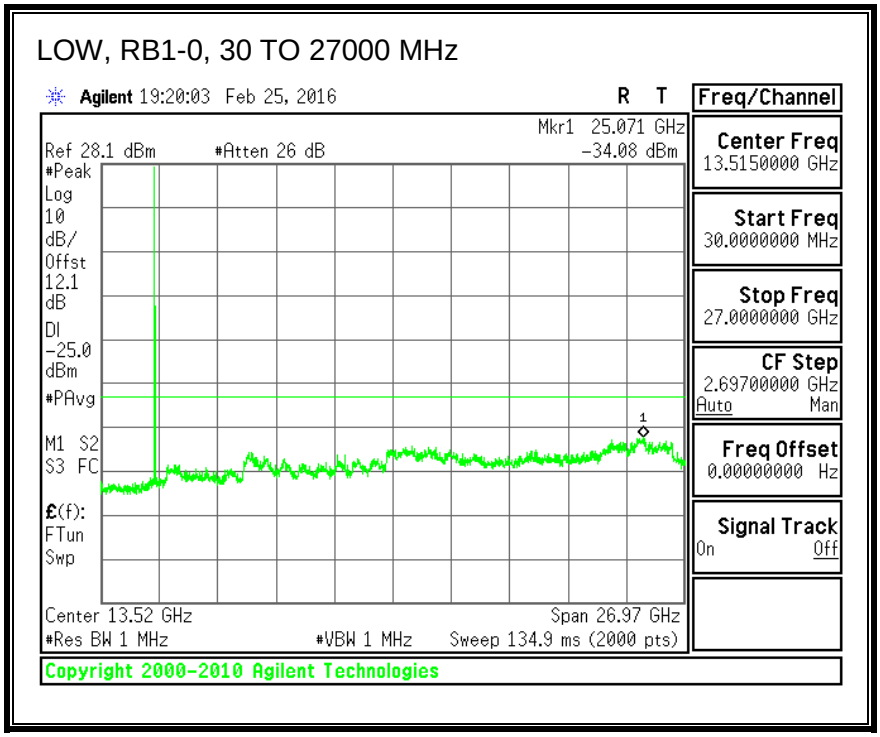


HIGH, RB1-0, 30 TO 27000 MHz

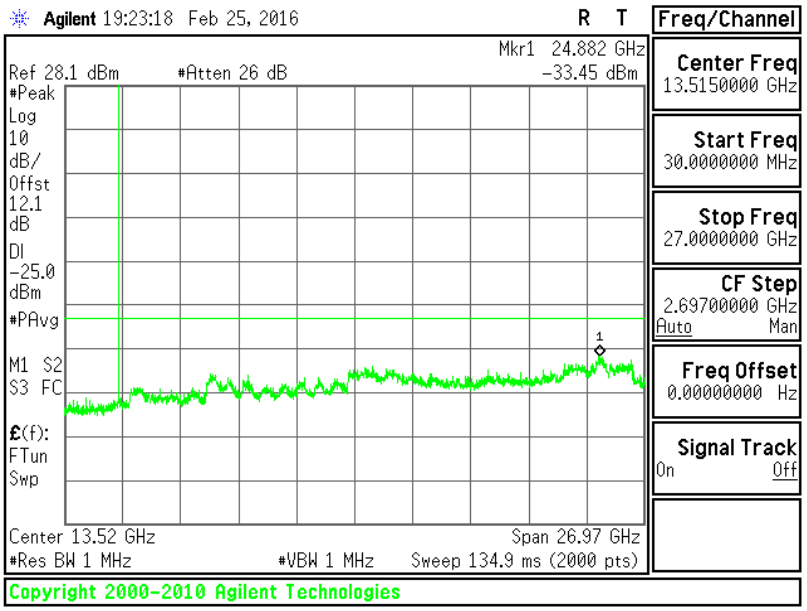


16QAM, (5.0 MHz BAND WIDTH)

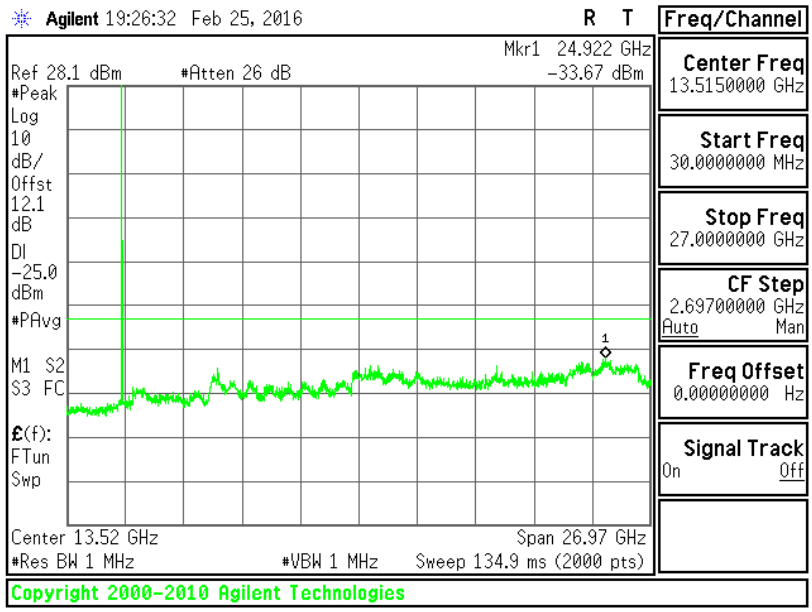
LOW, RB1-0, 30 TO 27000 MHz



MID, RB1-0, 30 TO 27000 MHz

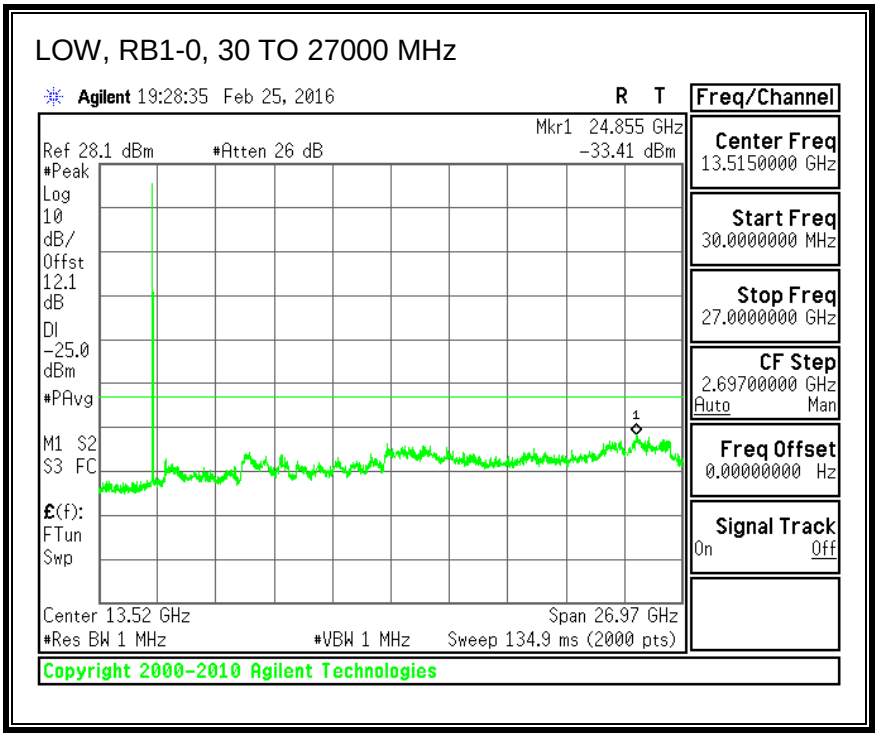


HIGH, RB1-0, 30 TO 27000 MHz

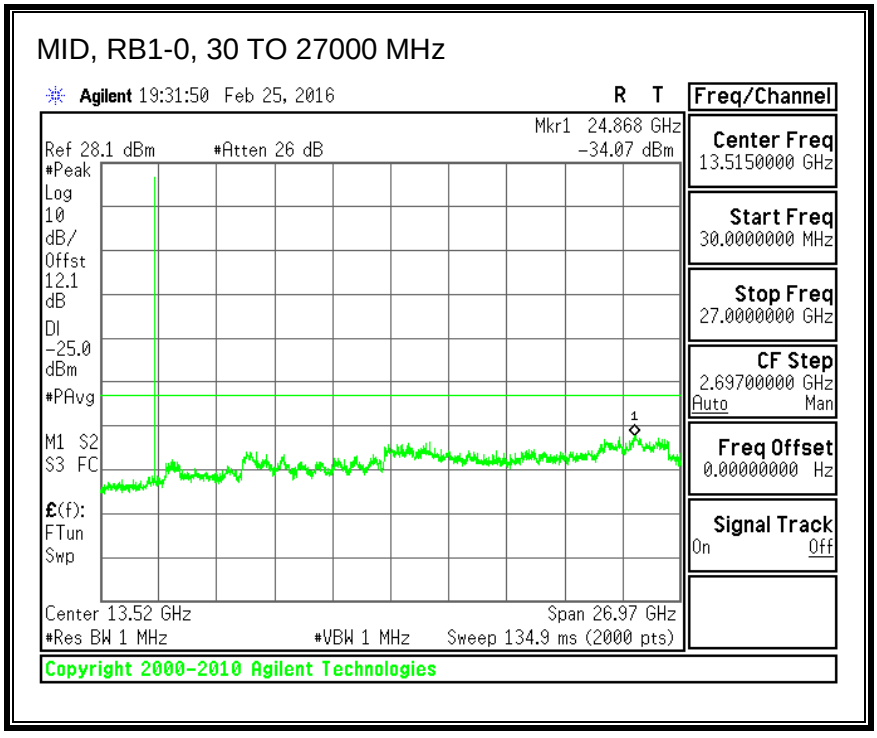


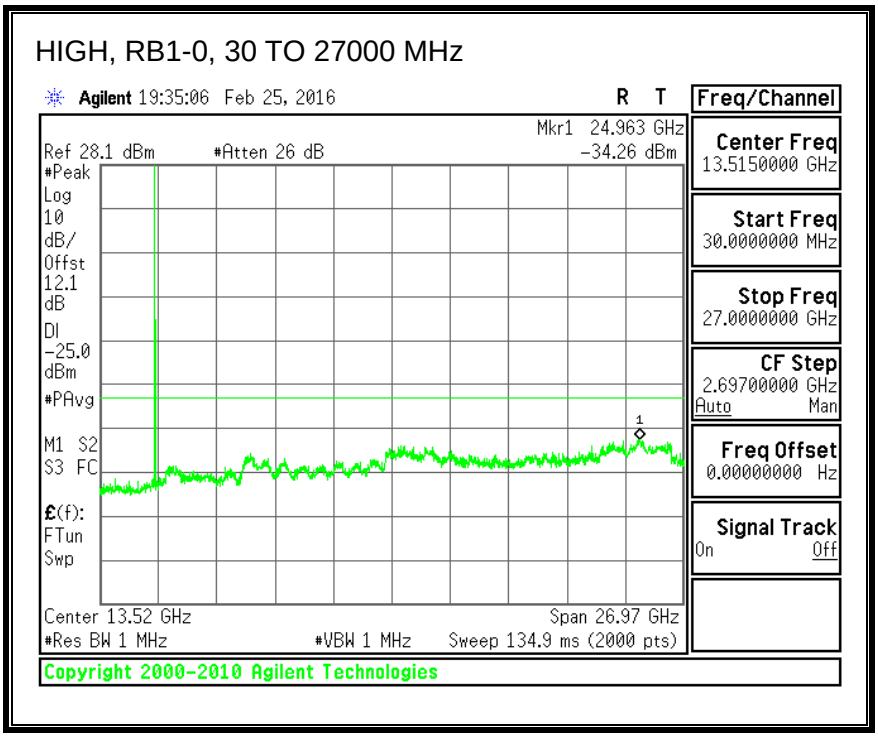
QPSK, (10.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz

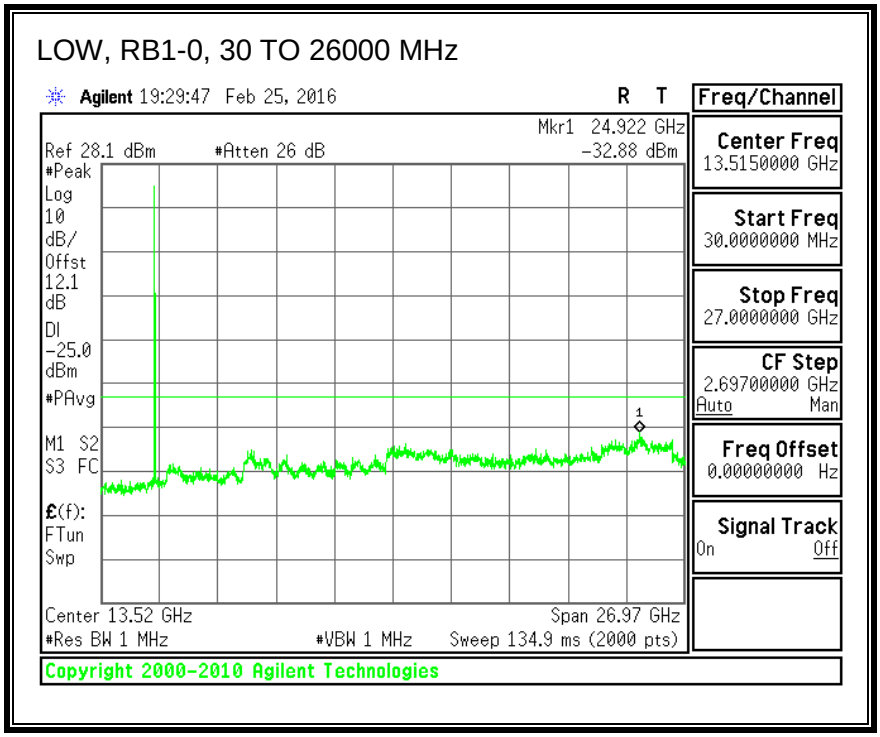


MID, RB1-0, 30 TO 27000 MHz

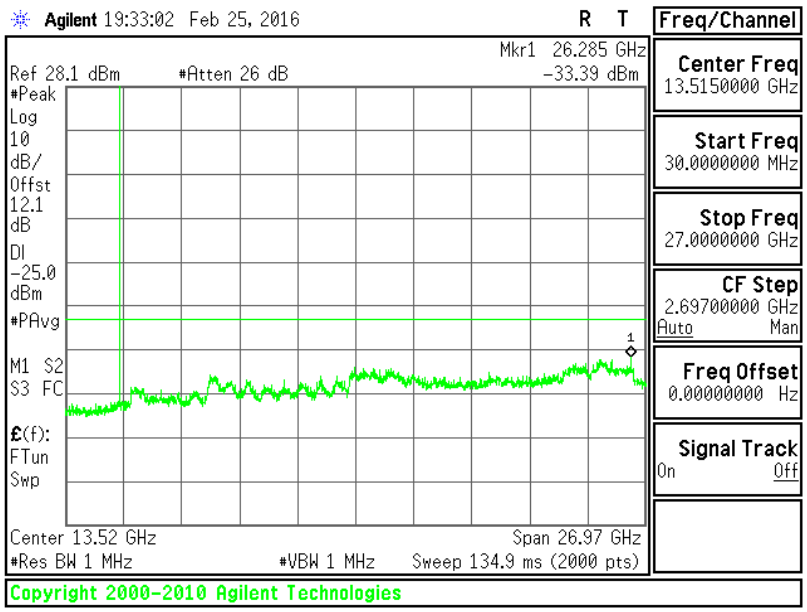




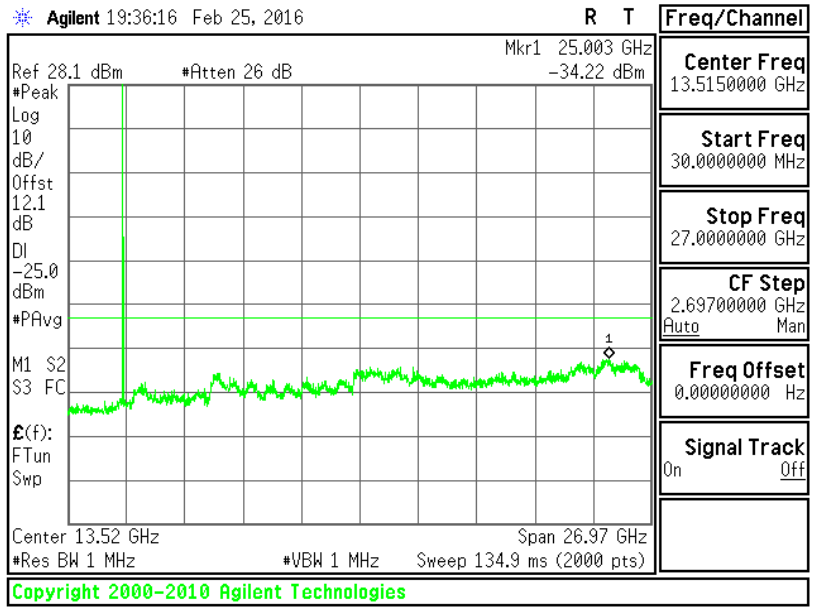
16QAM, (10.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 27000 MHz

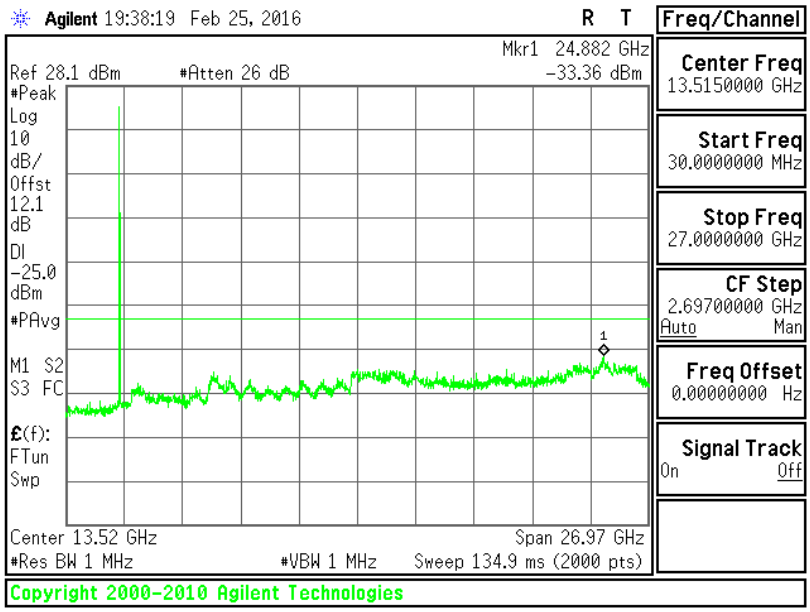


HIGH, RB1-0, 30 TO 27000 MHz

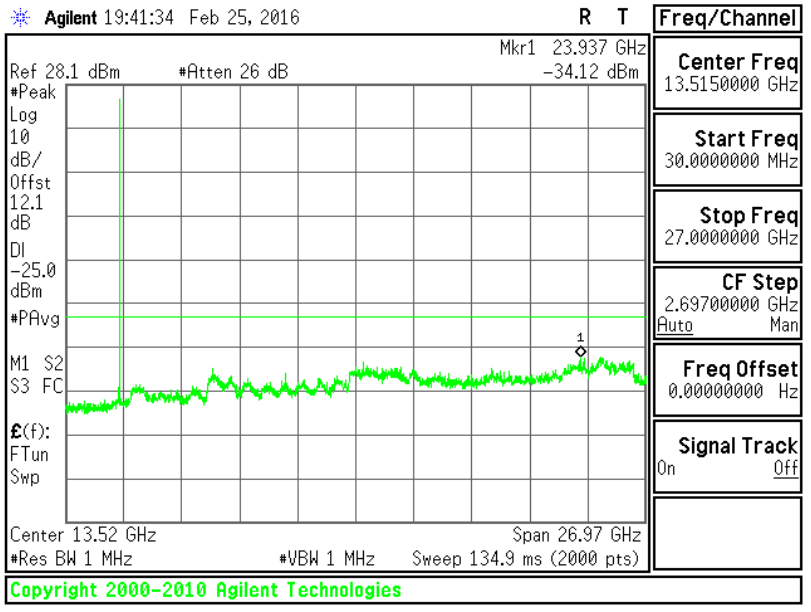


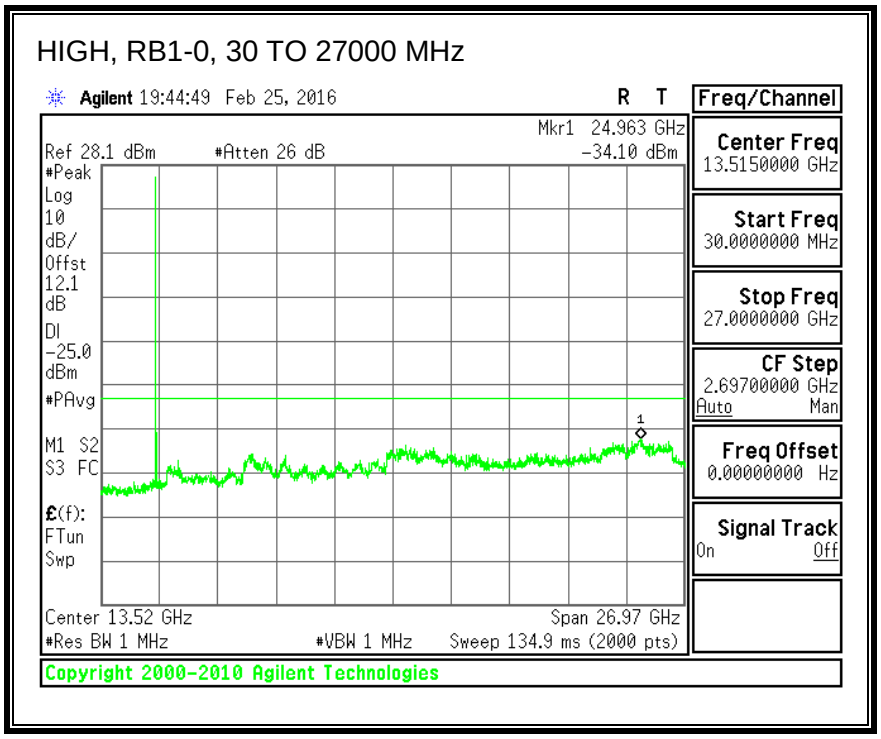
QPSK, (15.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz

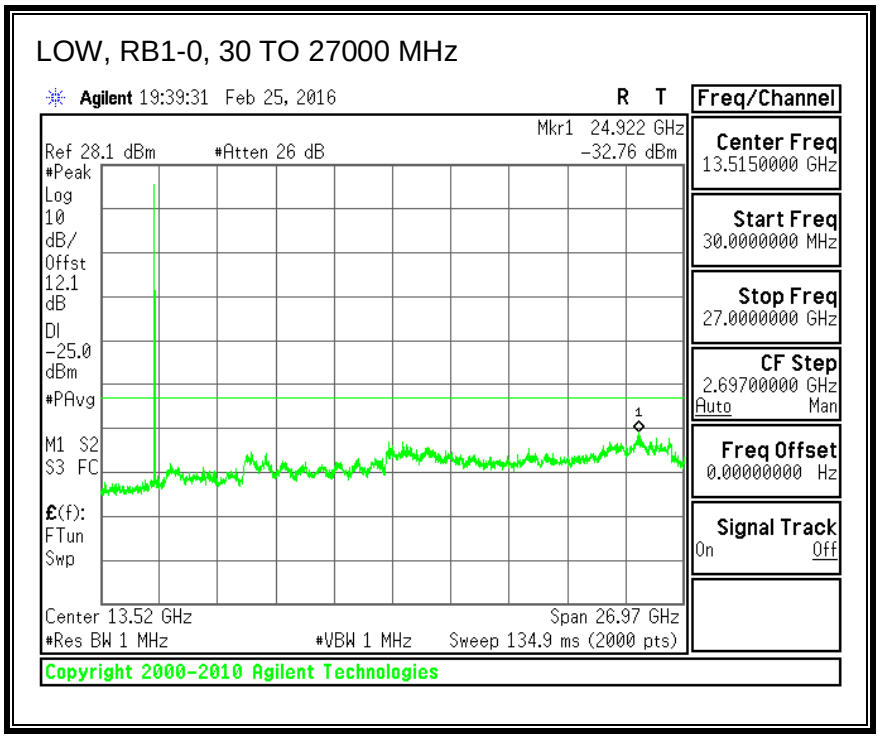


MID, RB1-0, 30 TO 27000 MHz

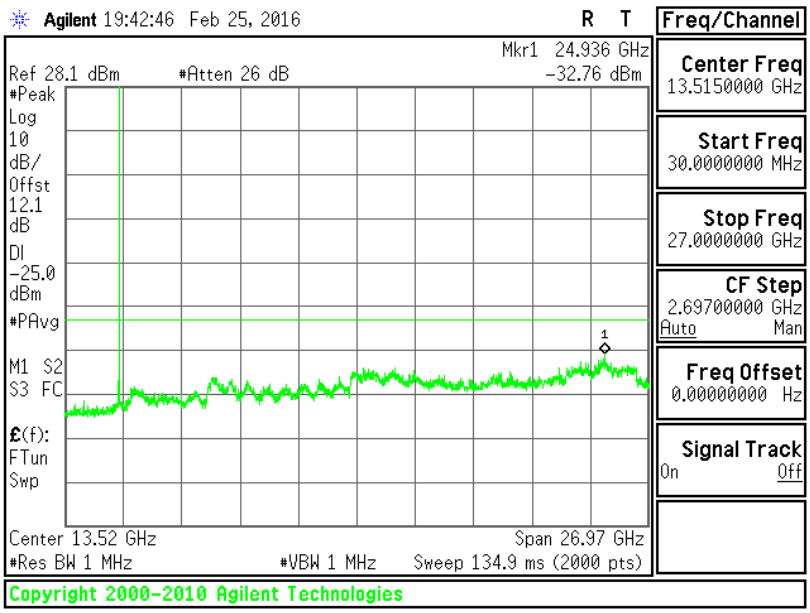




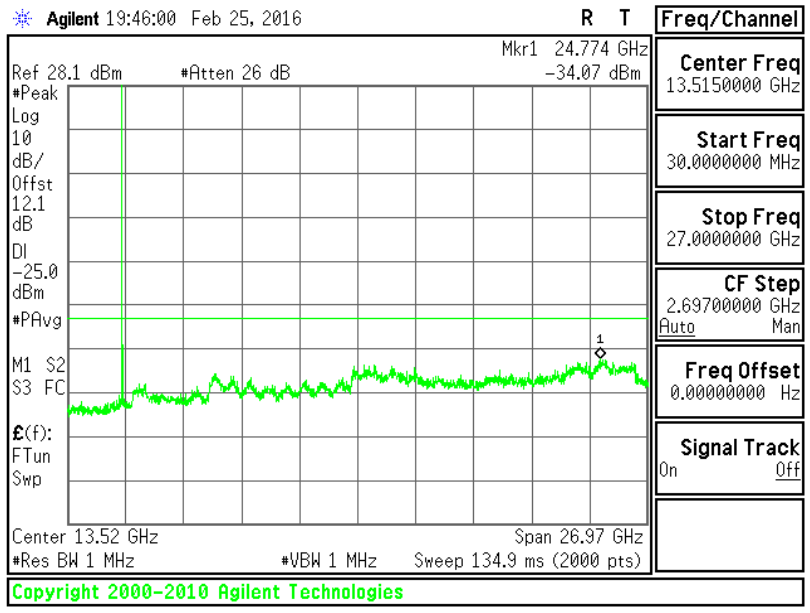
16QAM, (15.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 27000 MHz

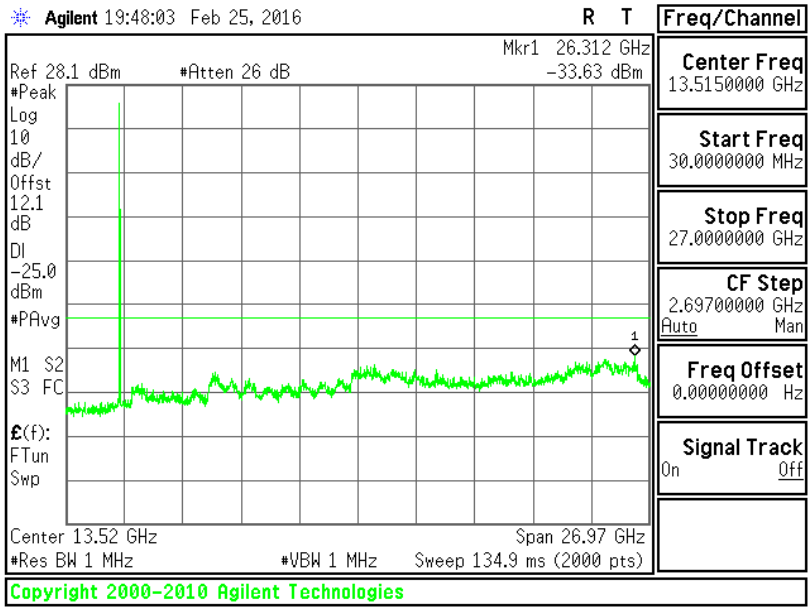


HIGH, RB1-0, 30 TO 27000 MHz

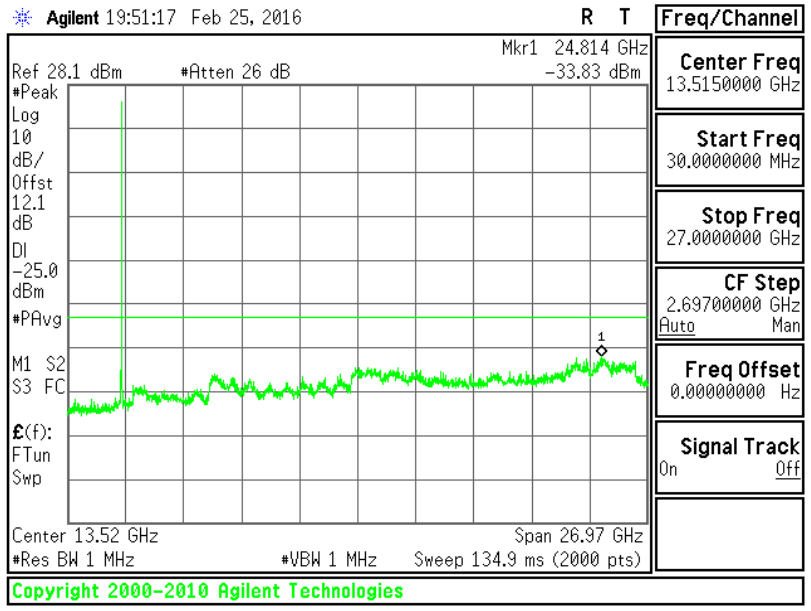


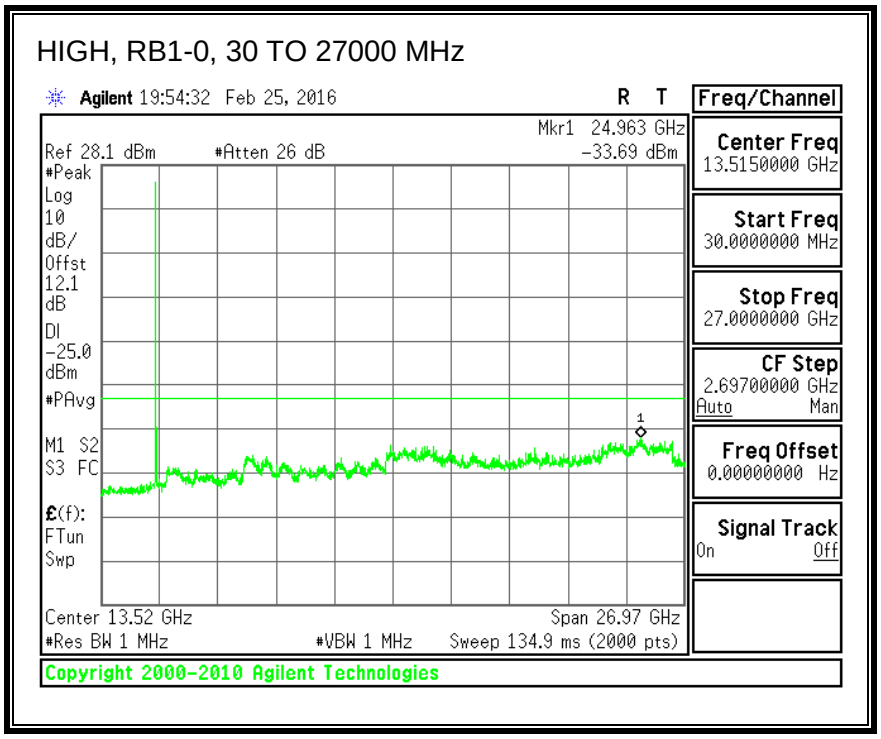
QPSK, (20.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz

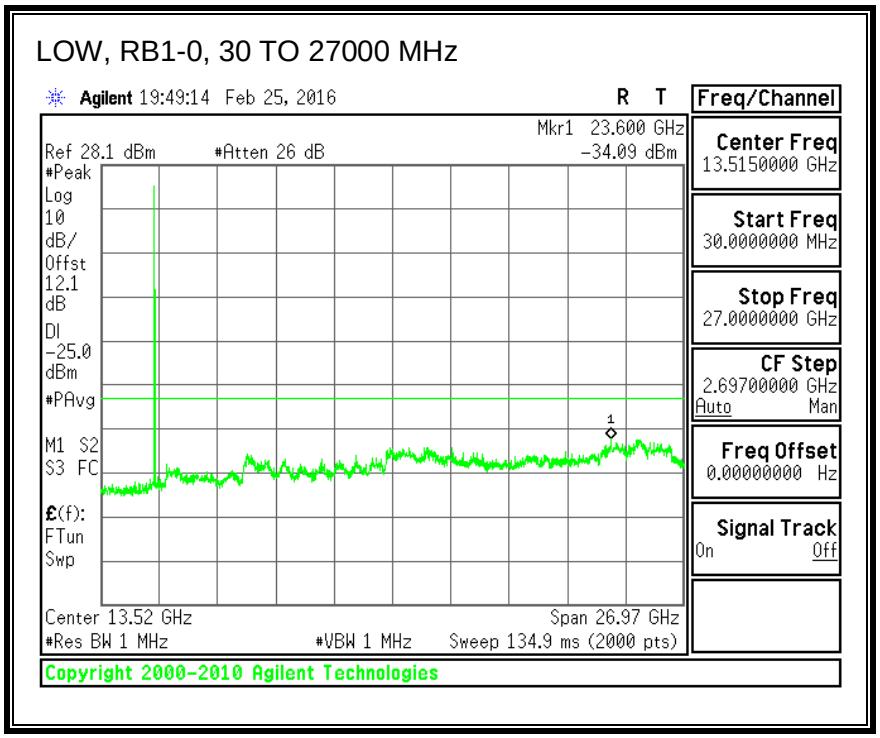


MID, RB1-0, 30 TO 27000 MHz

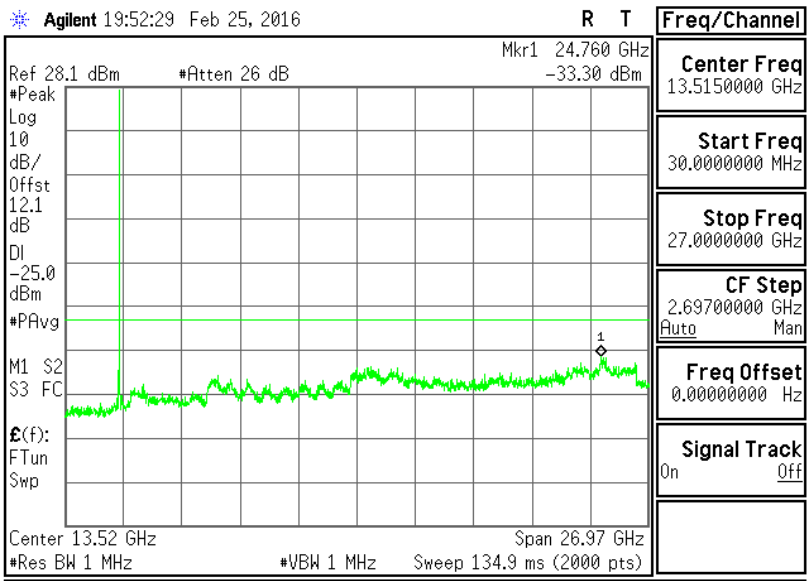




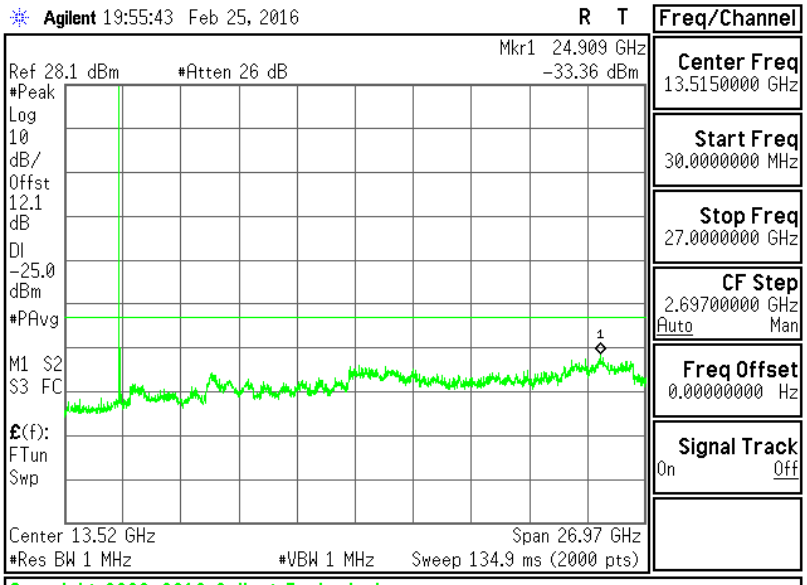
16QAM, (20.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 27000 MHz



HIGH, RB1-0, 30 TO 27000 MHz



8.3.5. LTE BAND 12

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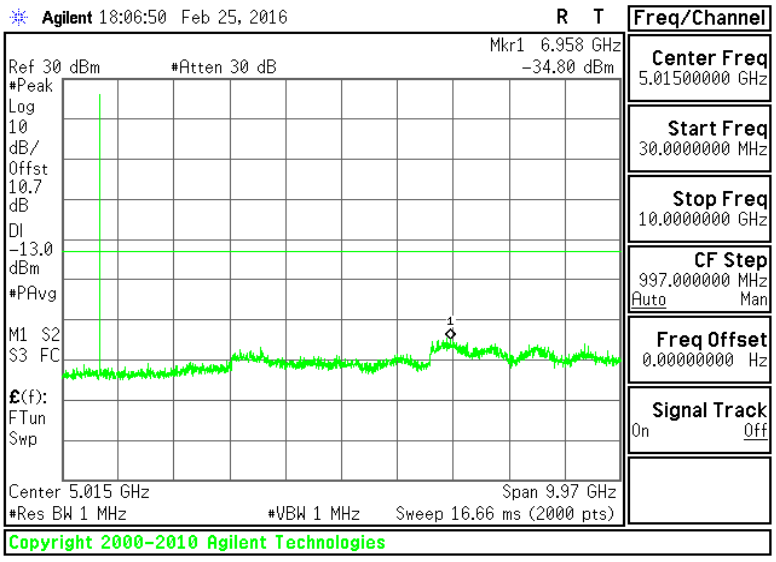
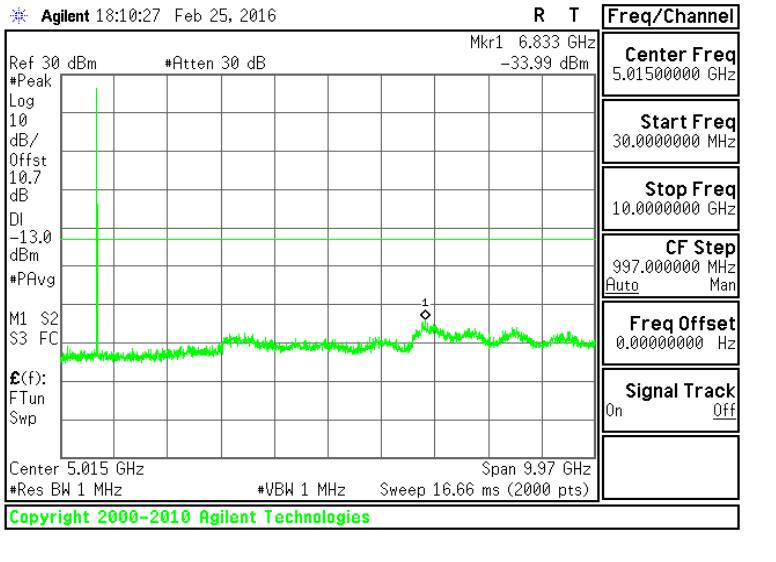
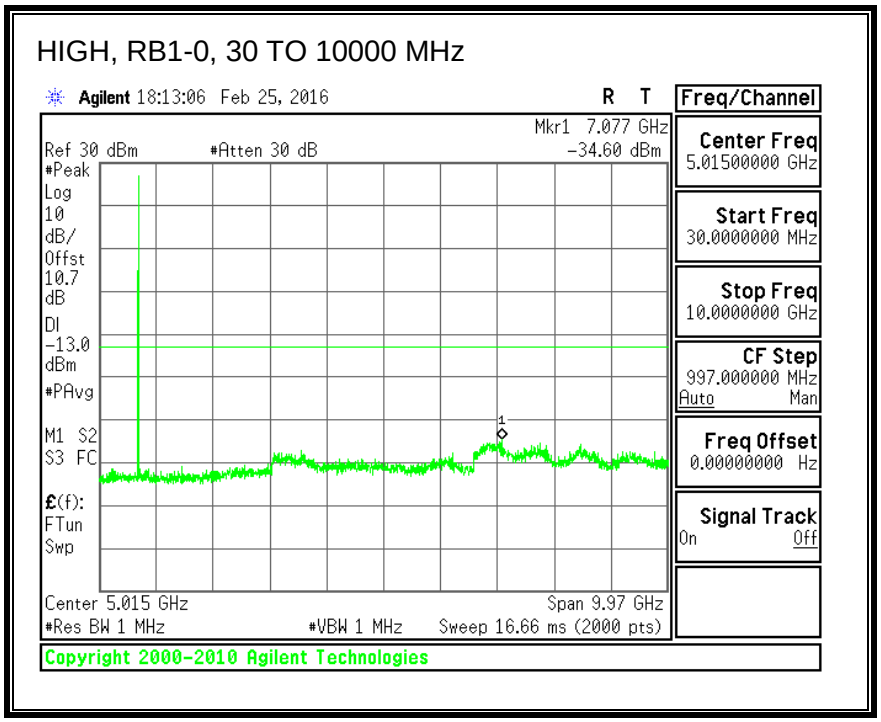
QPSK, (1.4 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz

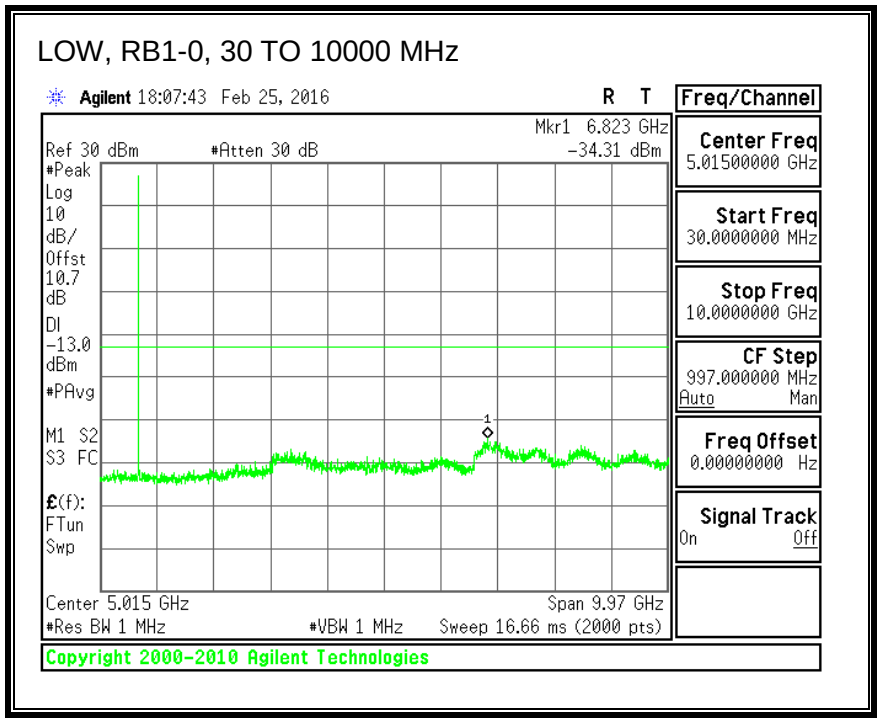


MID, RB1-0, 30 TO 10000 MHz

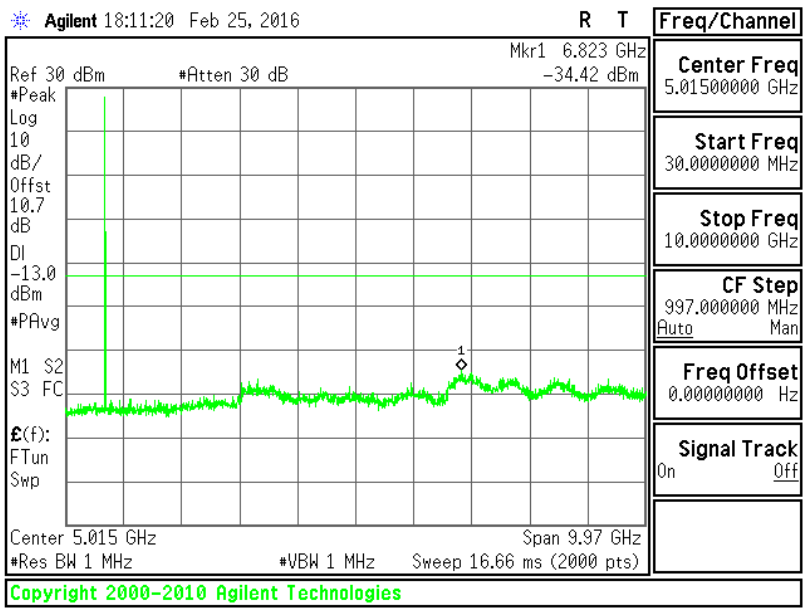




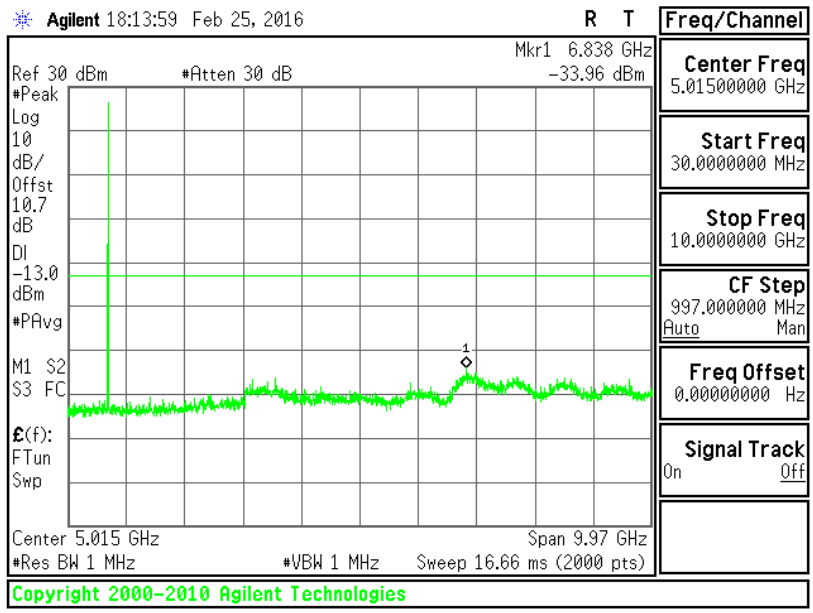
16QAM, (1.4 MHz BAND WIDTH)



MID, RB1-0, 30 TO 10000 MHz

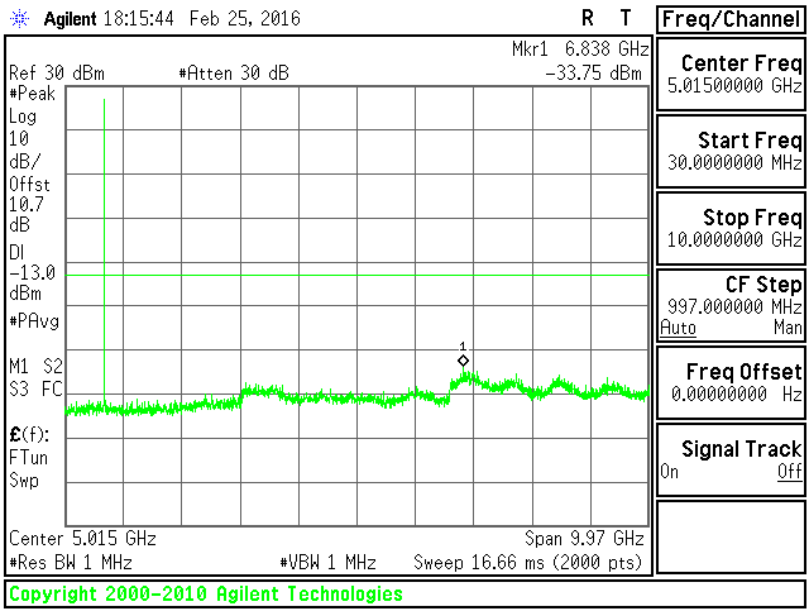


HIGH, RB1-0, 30 TO 10000 MHz

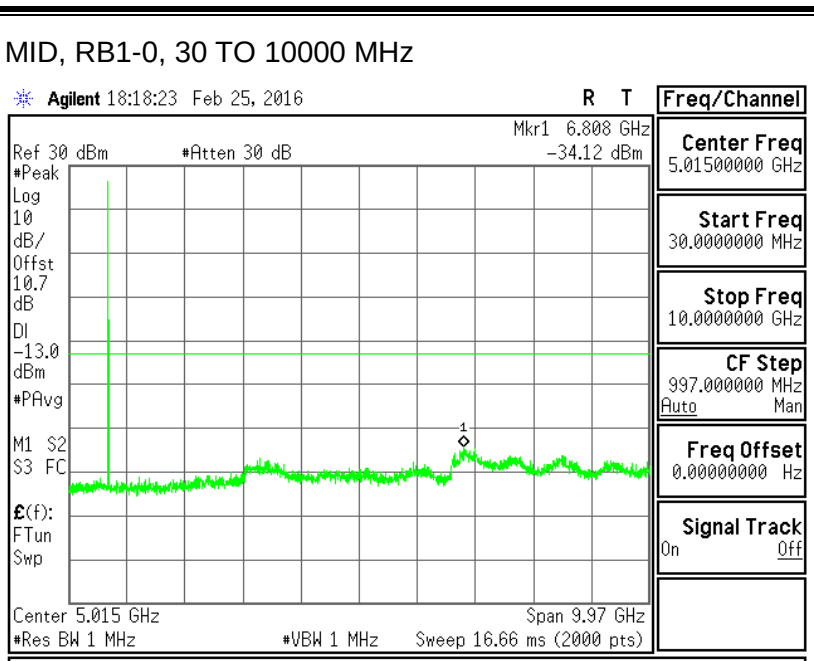


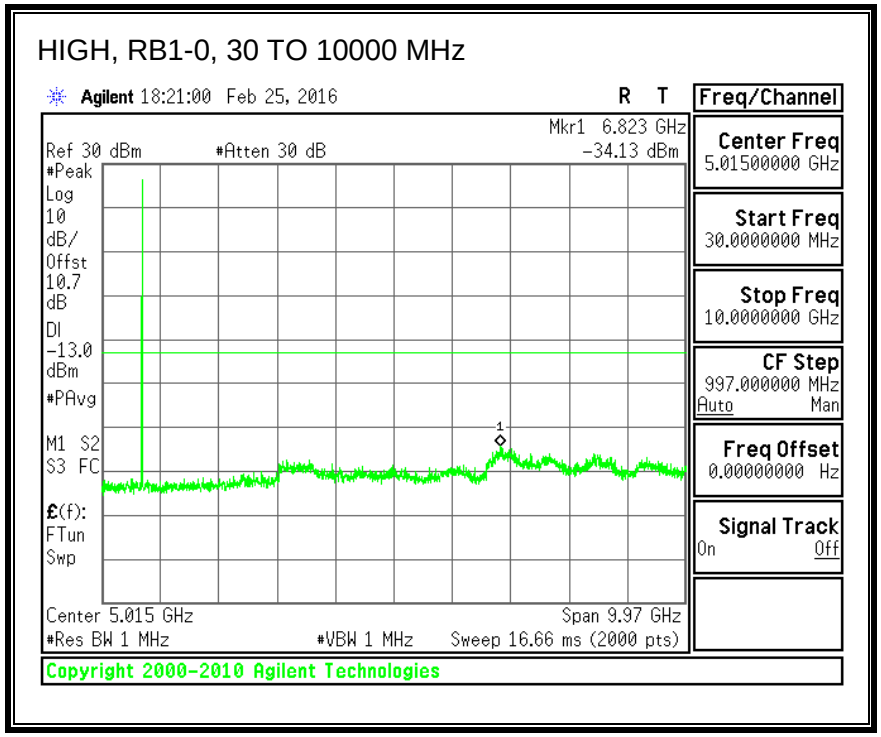
QPSK, (3.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz

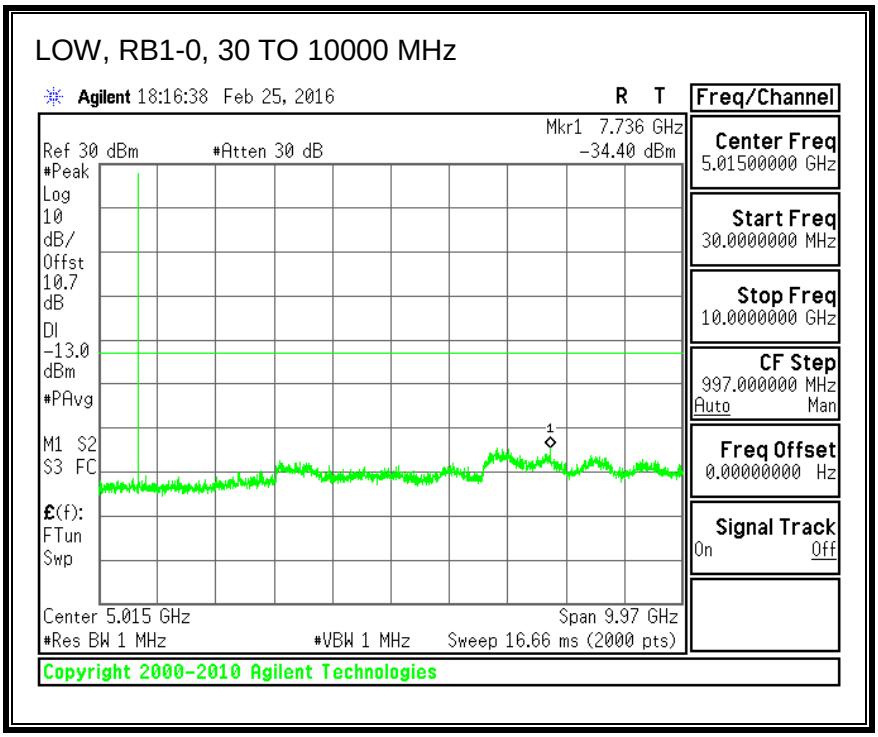


MID, RB1-0, 30 TO 10000 MHz

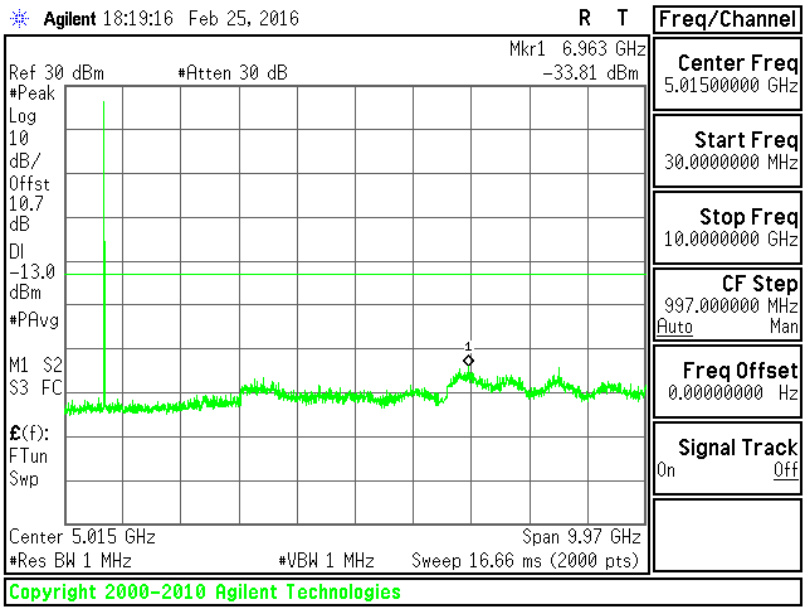




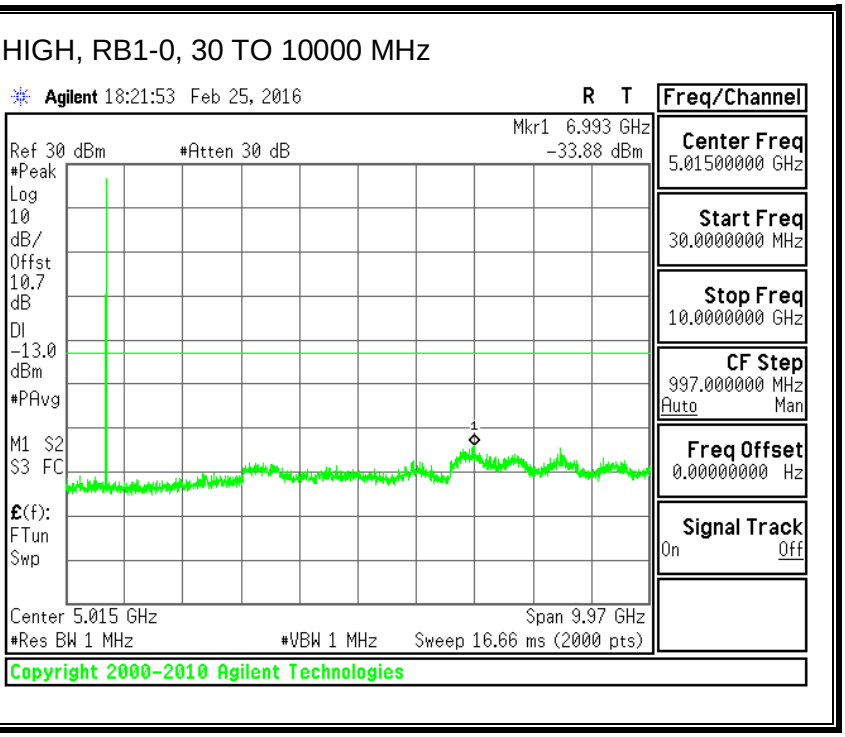
16QAM, (3.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 10000 MHz

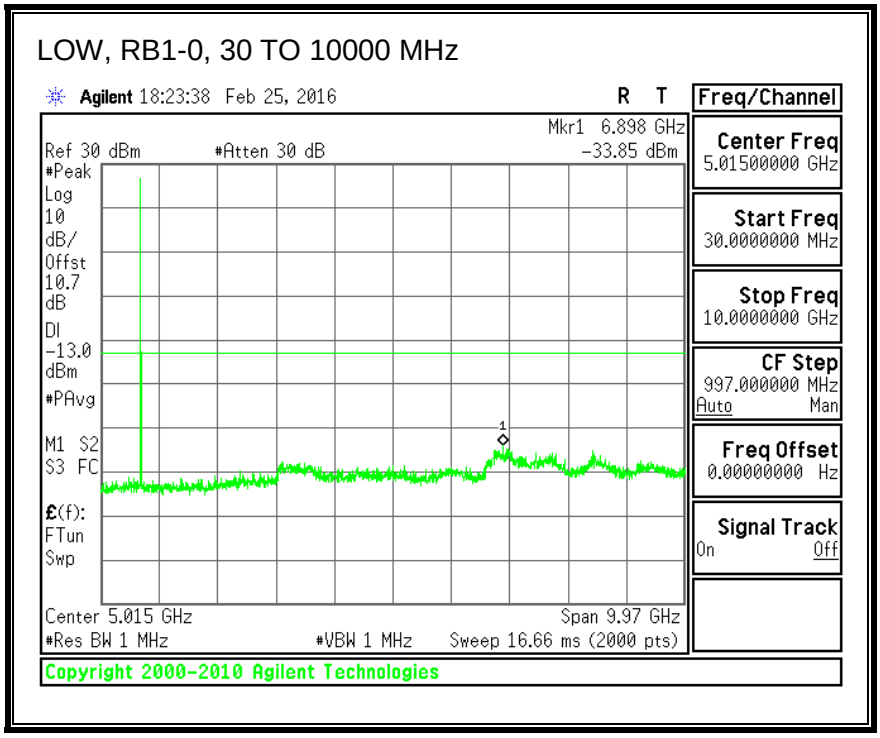


HIGH, RB1-0, 30 TO 10000 MHz

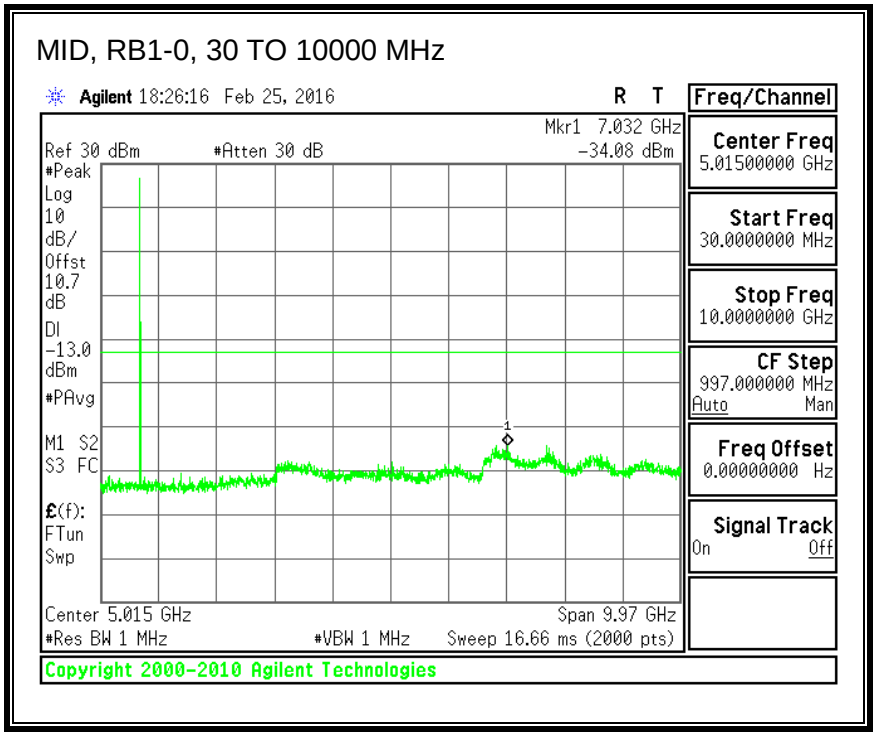


QPSK, (5.0 MHz BAND WIDTH)

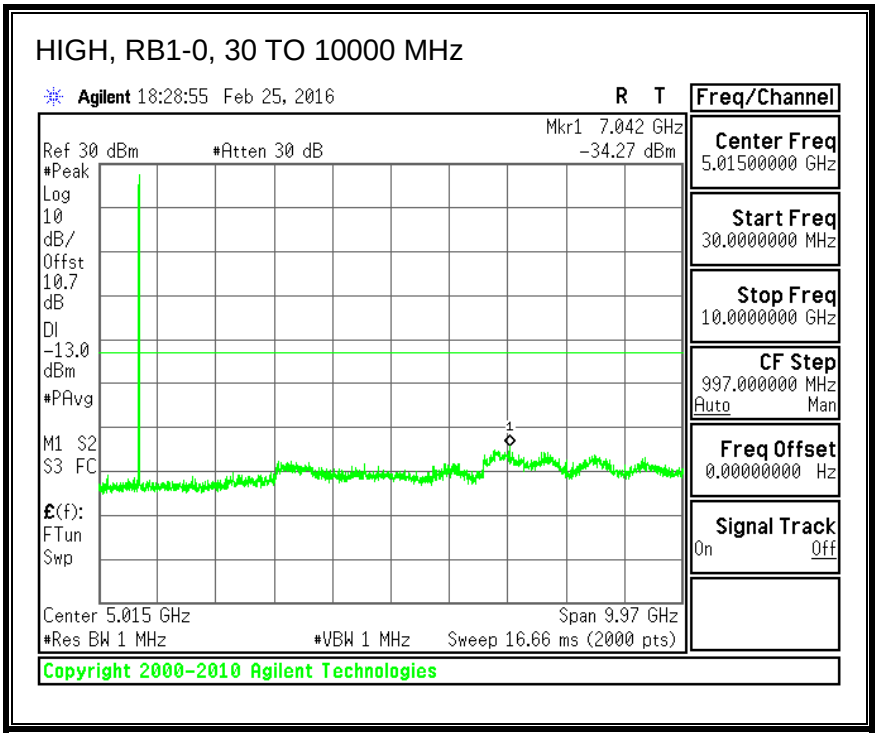
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

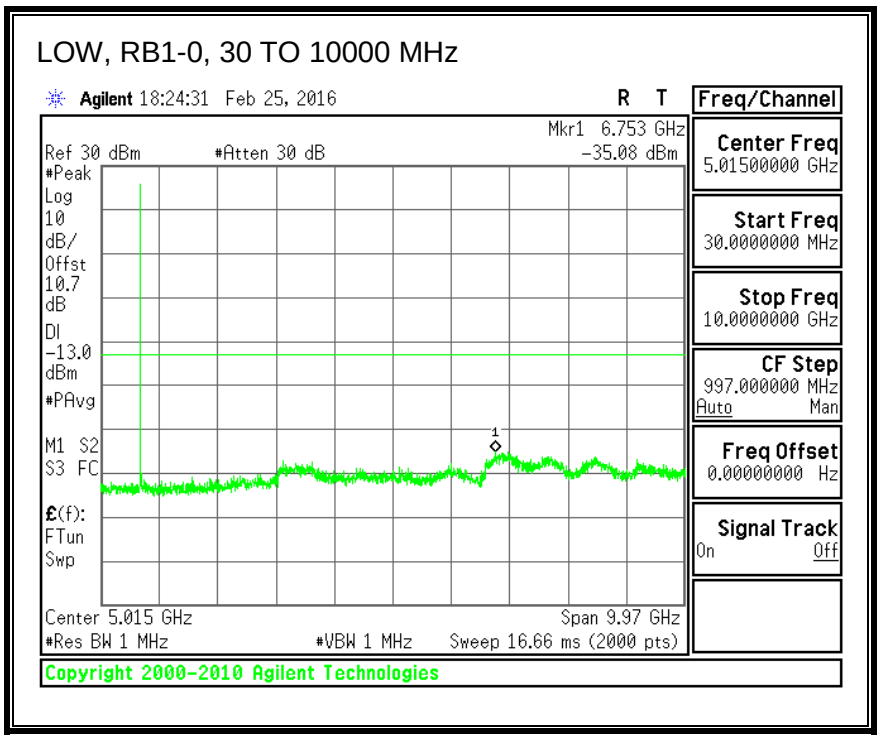


HIGH, RB1-0, 30 TO 10000 MHz

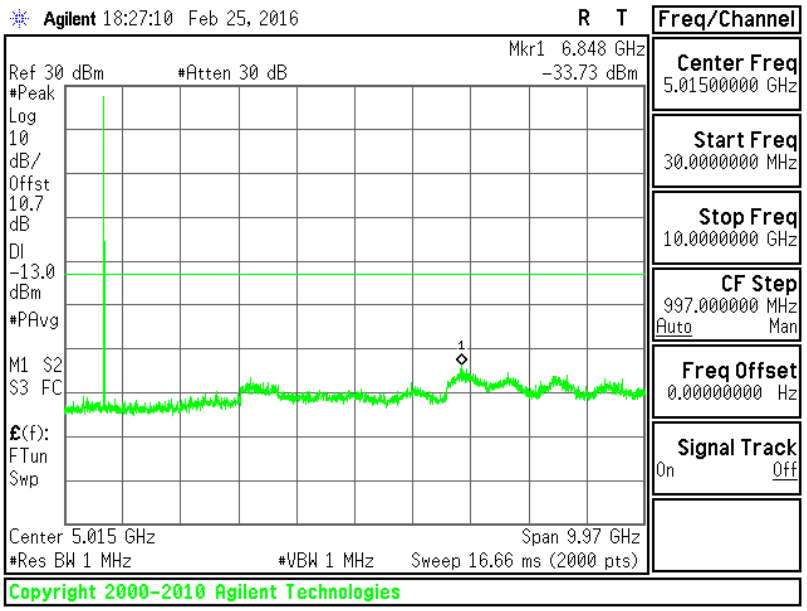


16QAM, (5.0 MHz BAND WIDTH)

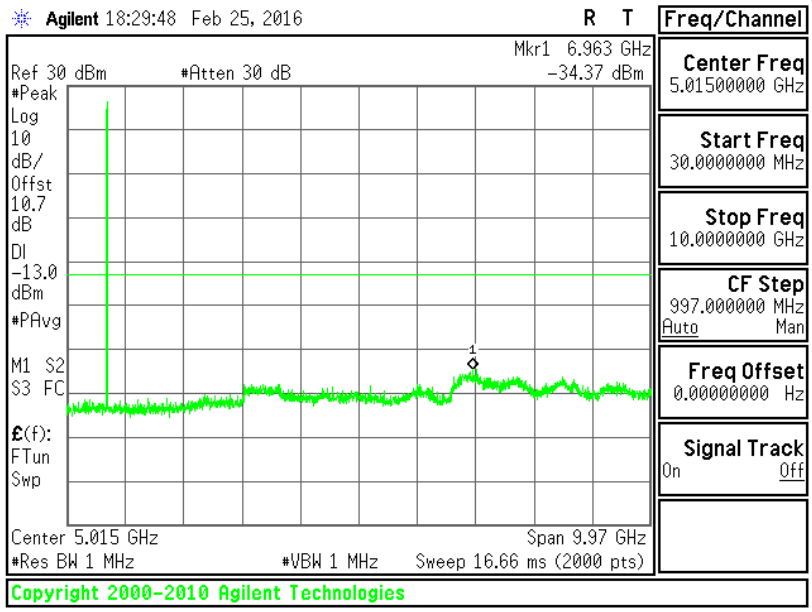
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

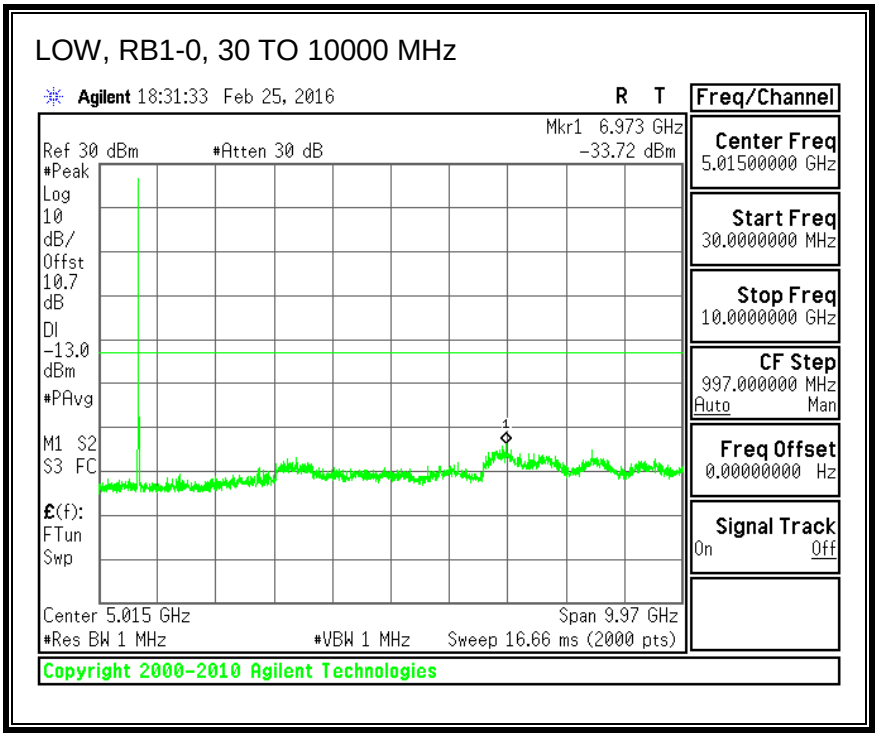


HIGH, RB1-0, 30 TO 10000 MHz

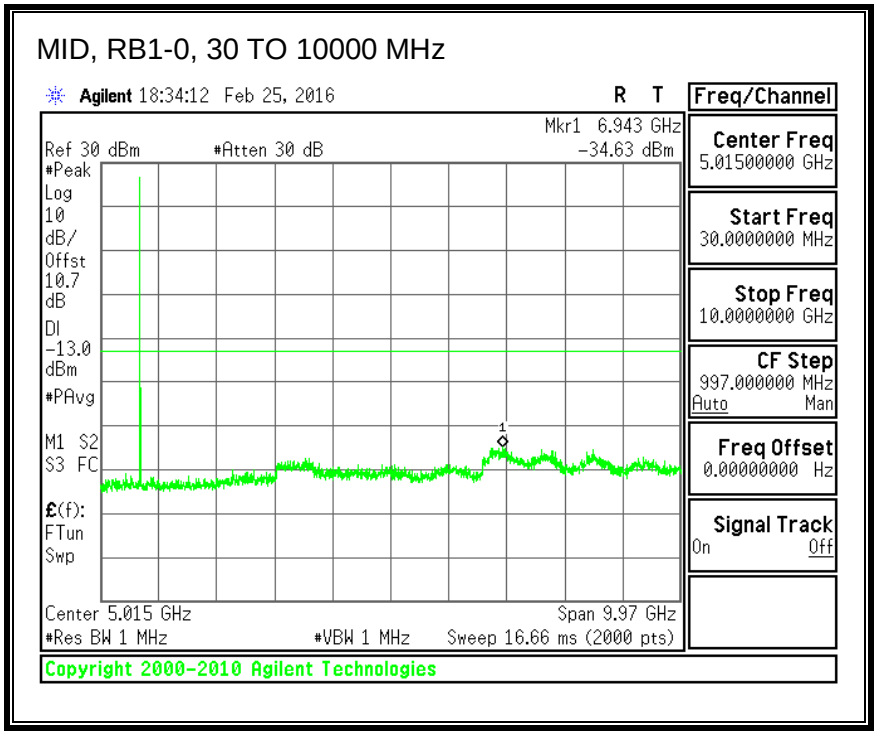


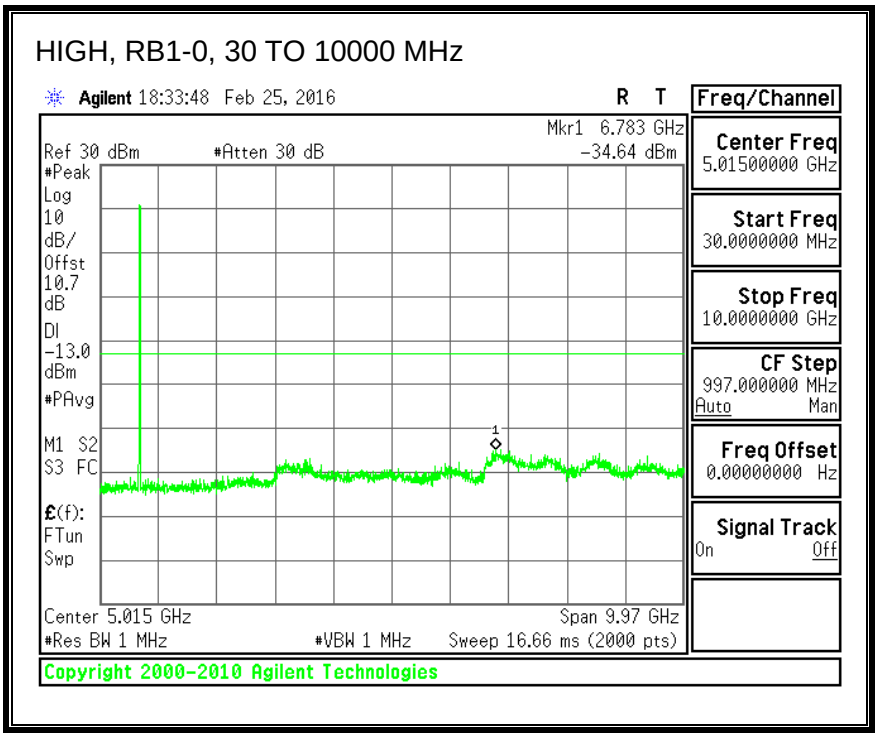
QPSK, (10.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz

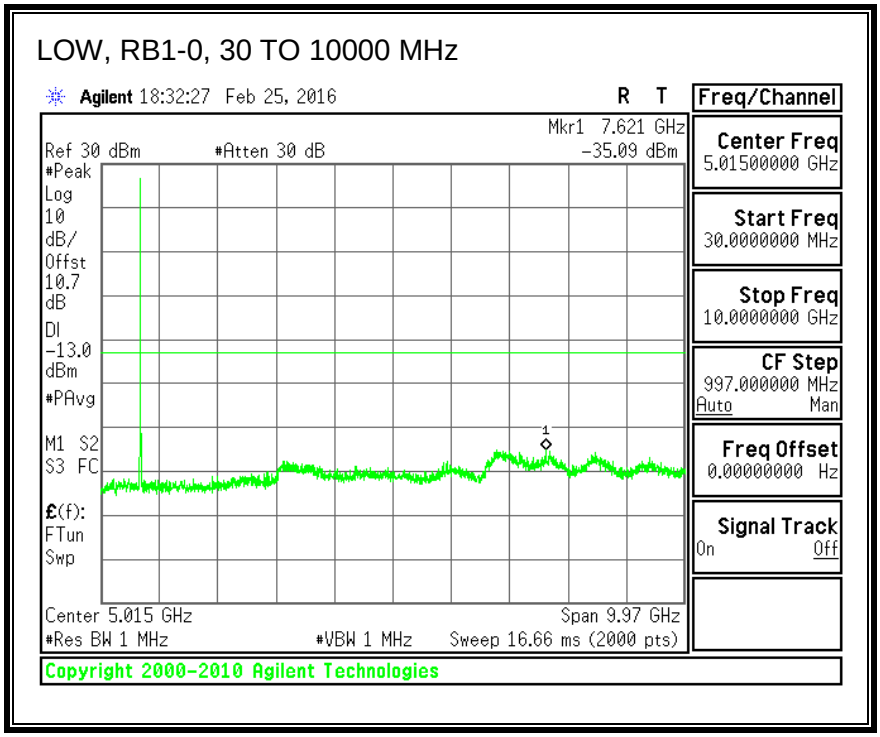


MID, RB1-0, 30 TO 10000 MHz

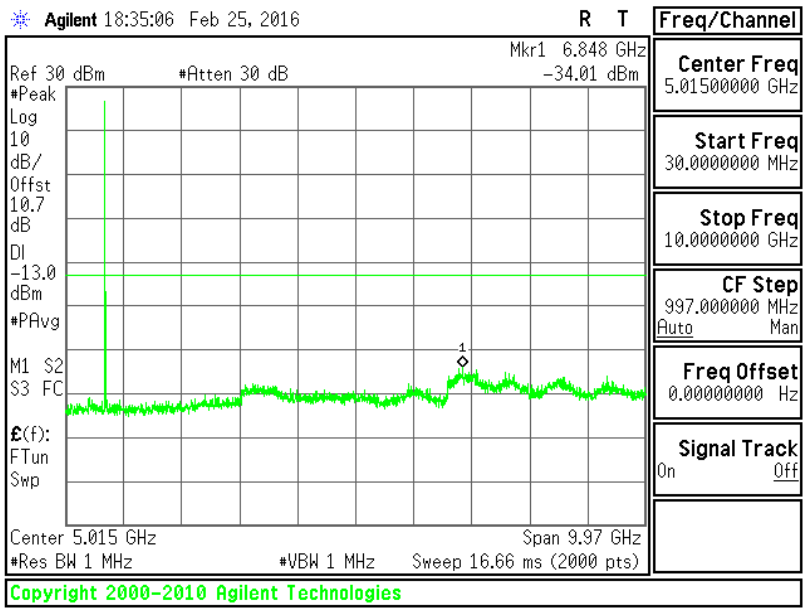




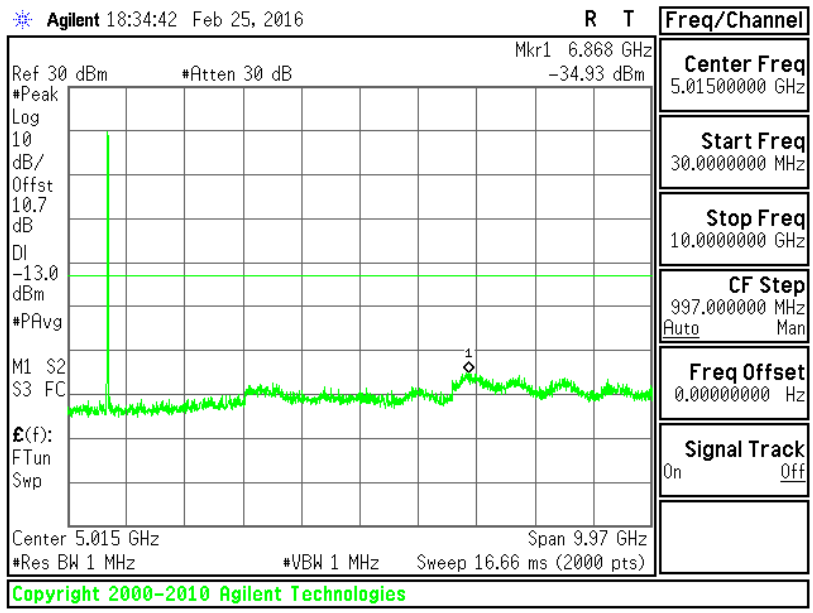
16QAM, (10.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



8.3.6. LTE BAND 13

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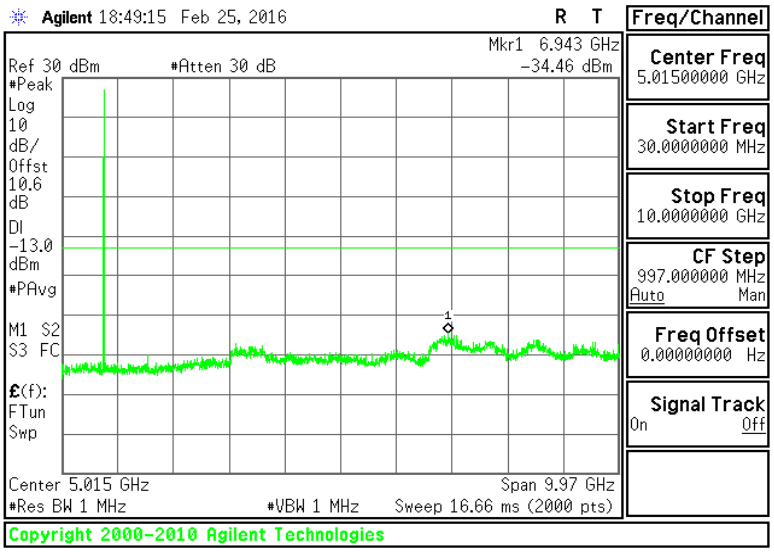
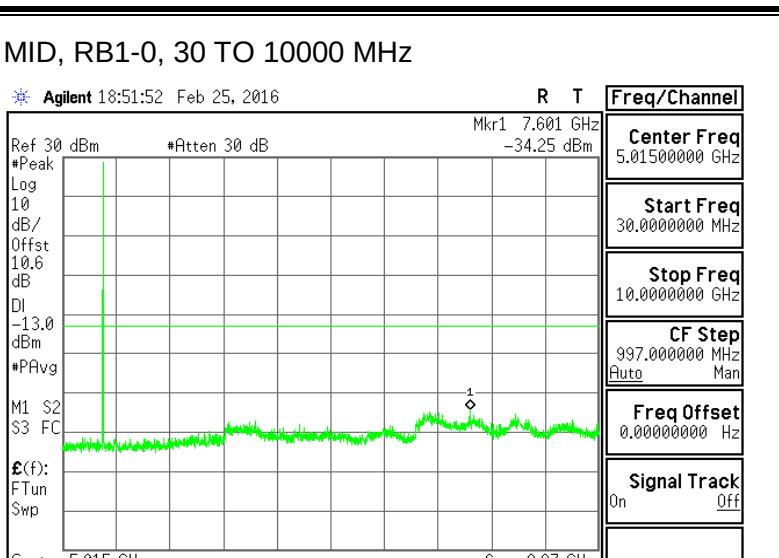
QPSK, (5.0 MHz BAND WIDTH)

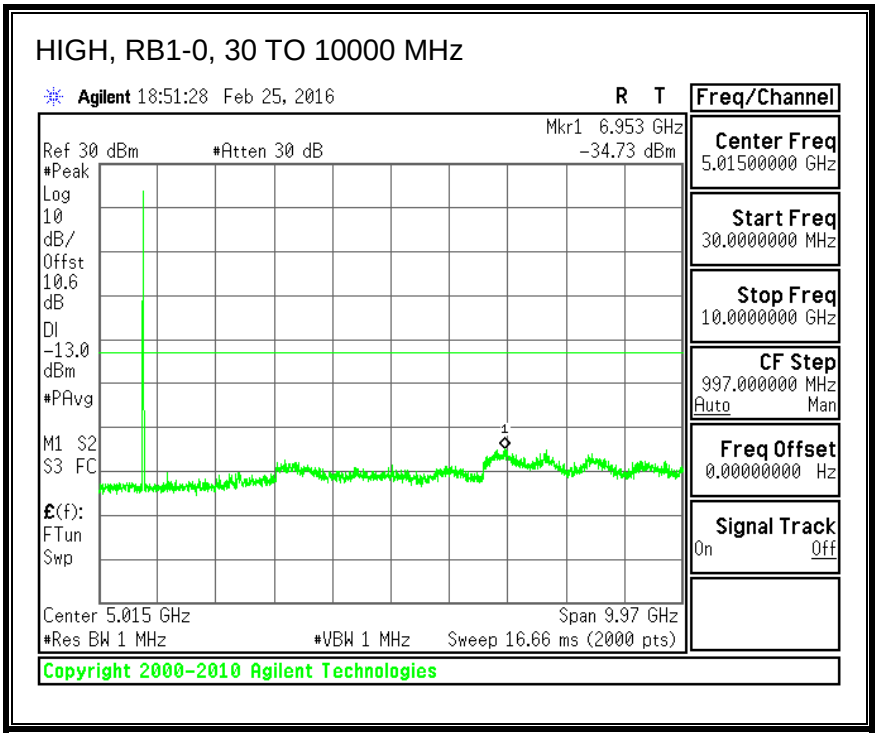
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

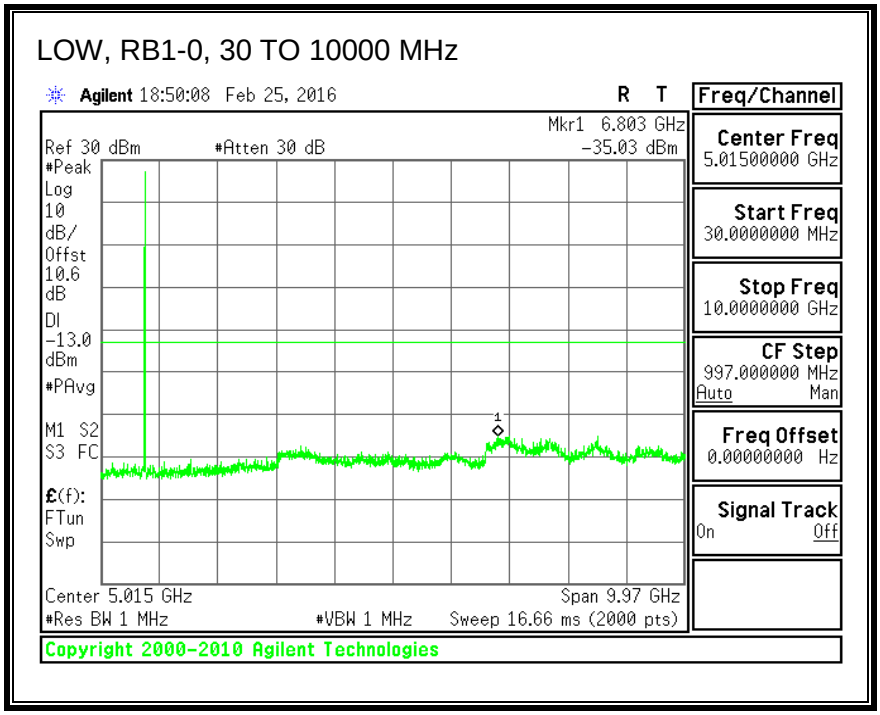


HIGH, RB1-0, 30 TO 10000 MHz

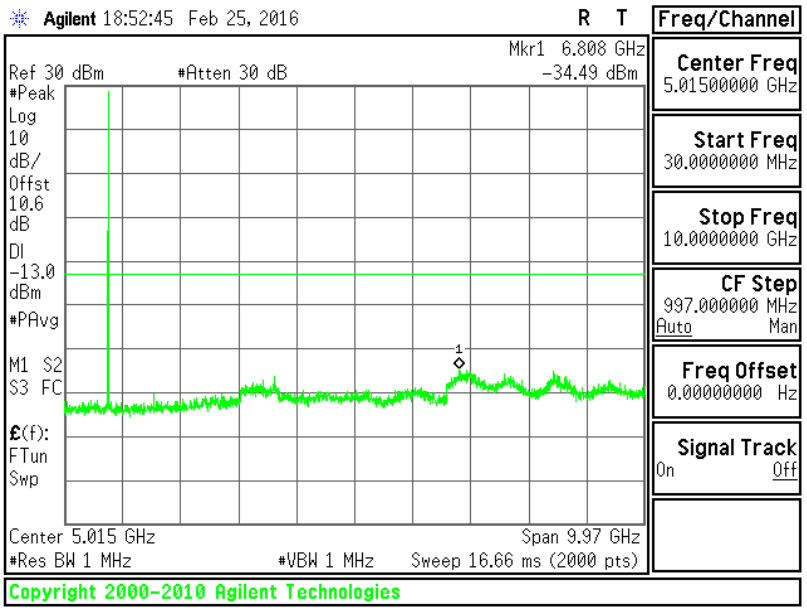


16QAM, (5.0 MHz BAND WIDTH)

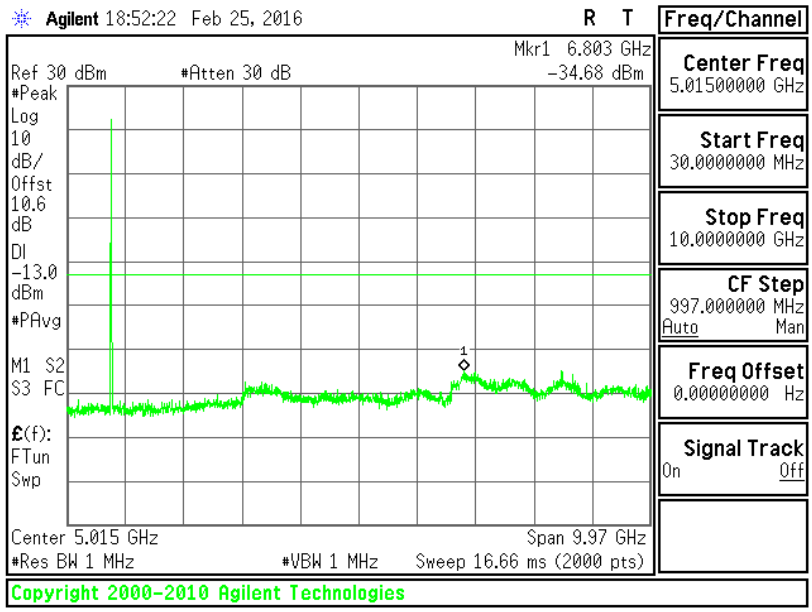
LOW, RB1-0, 30 TO 10000 MHz



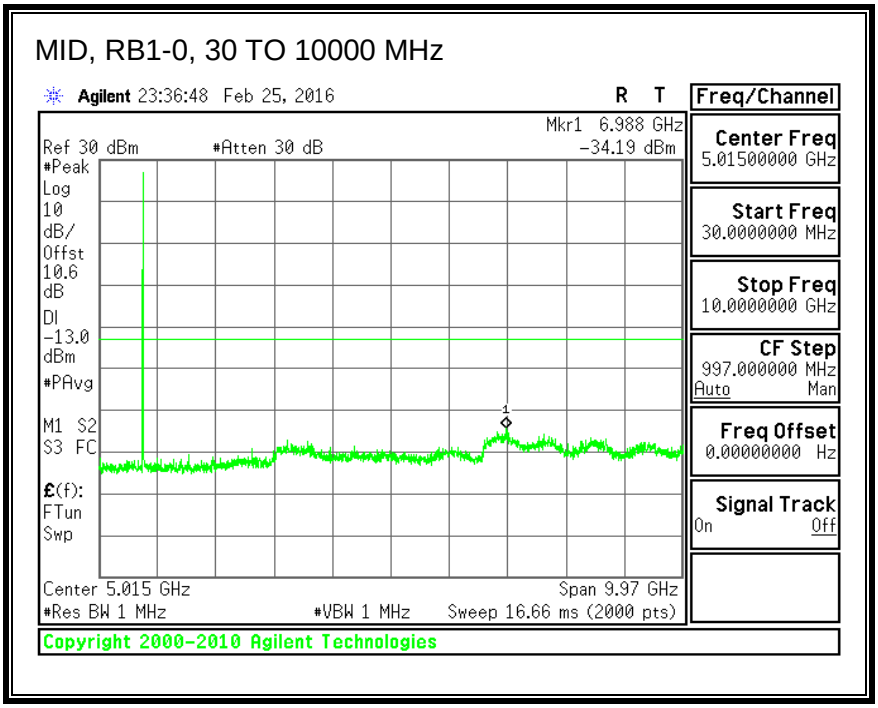
MID, RB1-0, 30 TO 10000 MHz



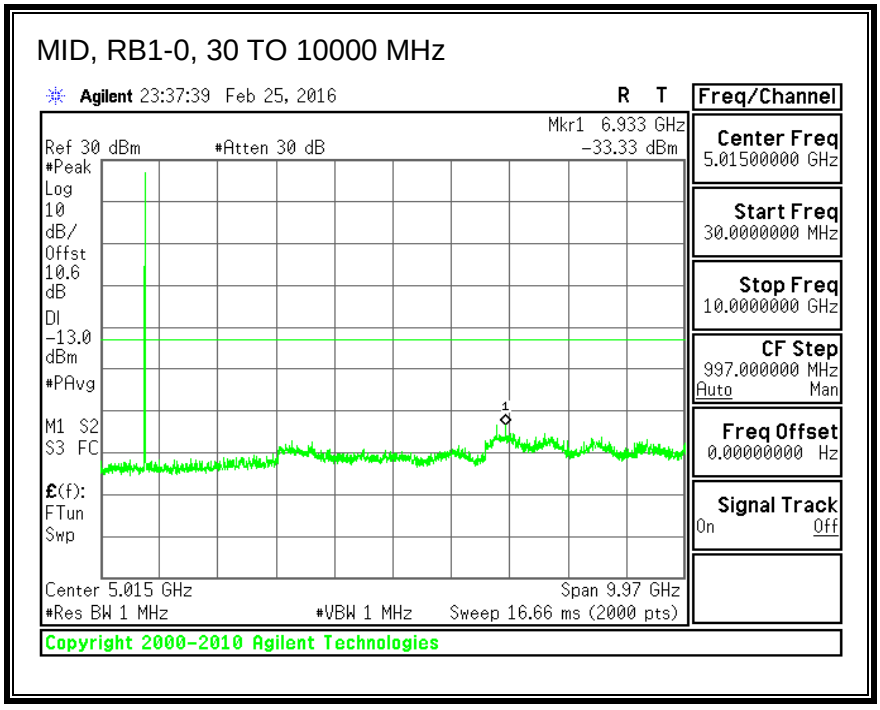
HIGH, RB1-0, 30 TO 10000 MHz



QPSK, (10.0 MHz BAND WIDTH)



16QAM, (10.0 MHz BAND WIDTH)

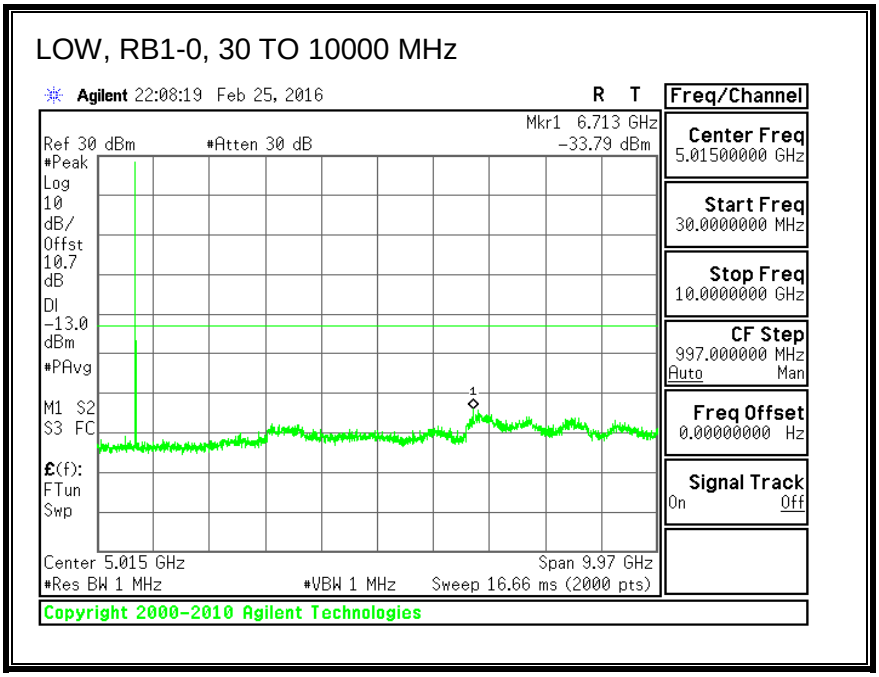


8.3.7. LTE BAND 17

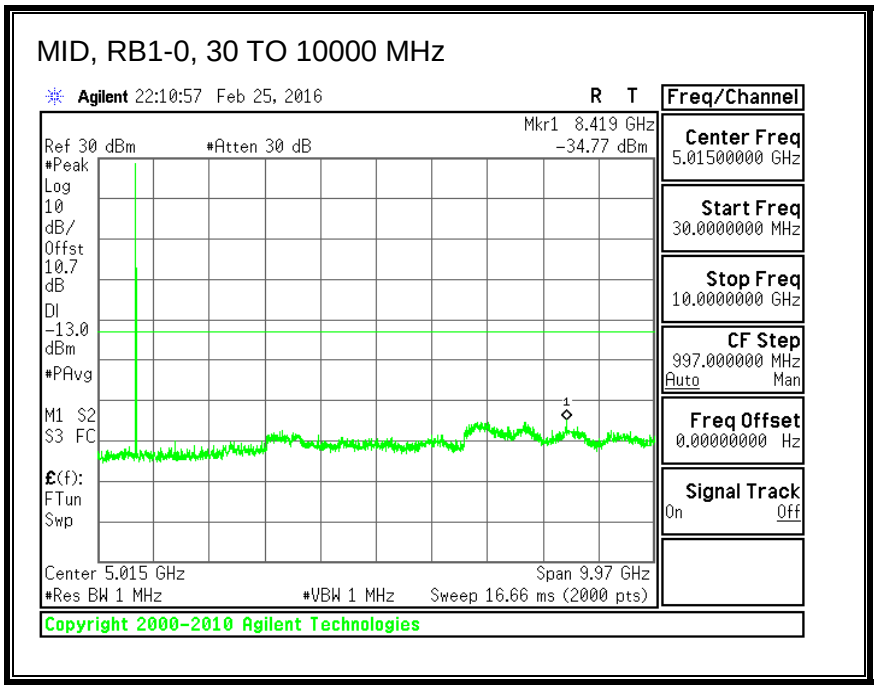
ID:	39472	Date:	2/25/16

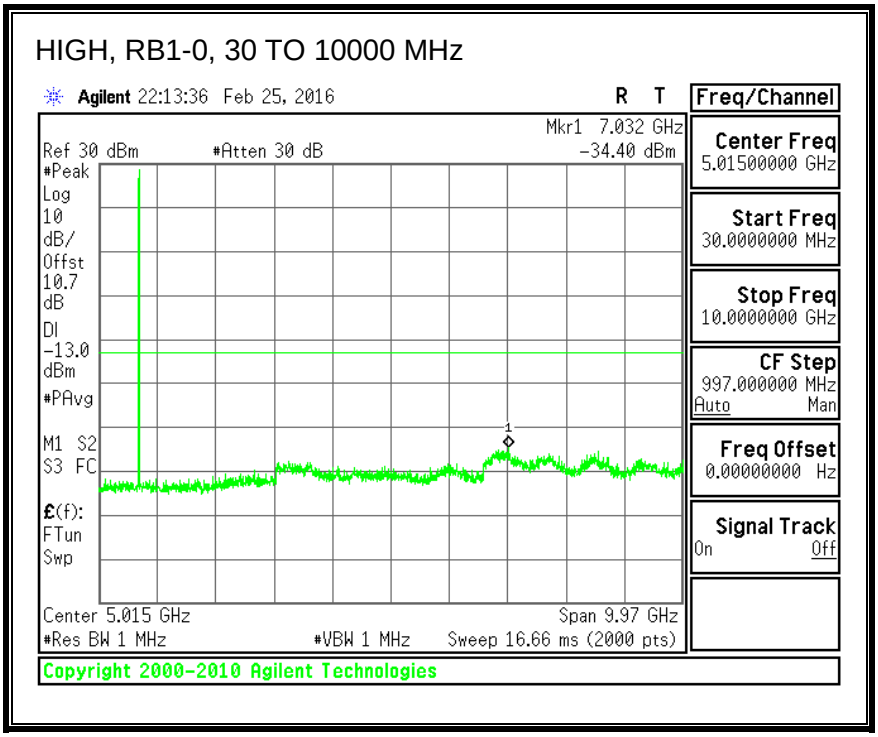
QPSK, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz

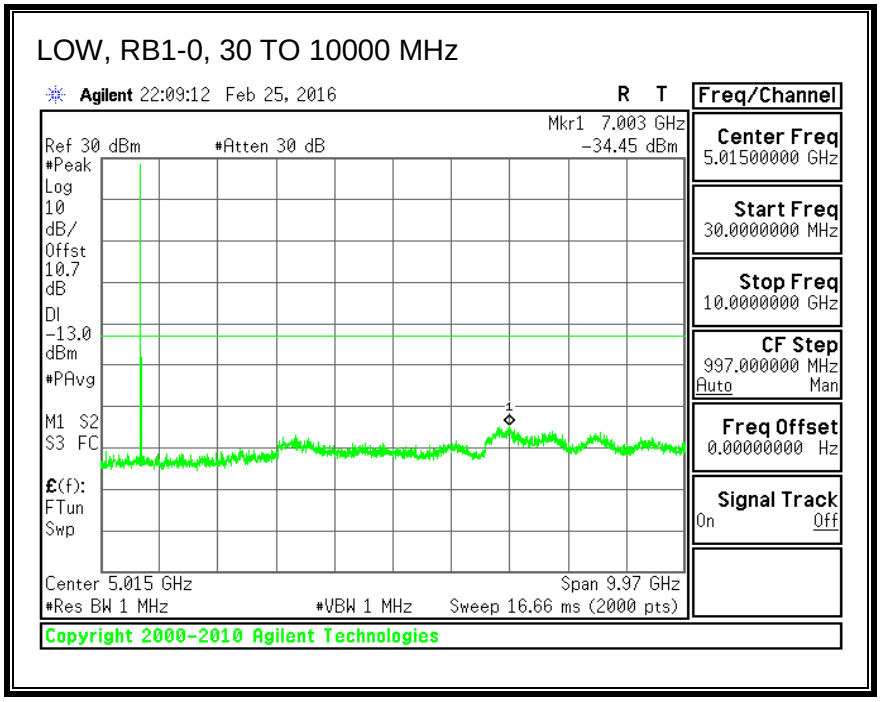


MID, RB1-0, 30 TO 10000 MHz

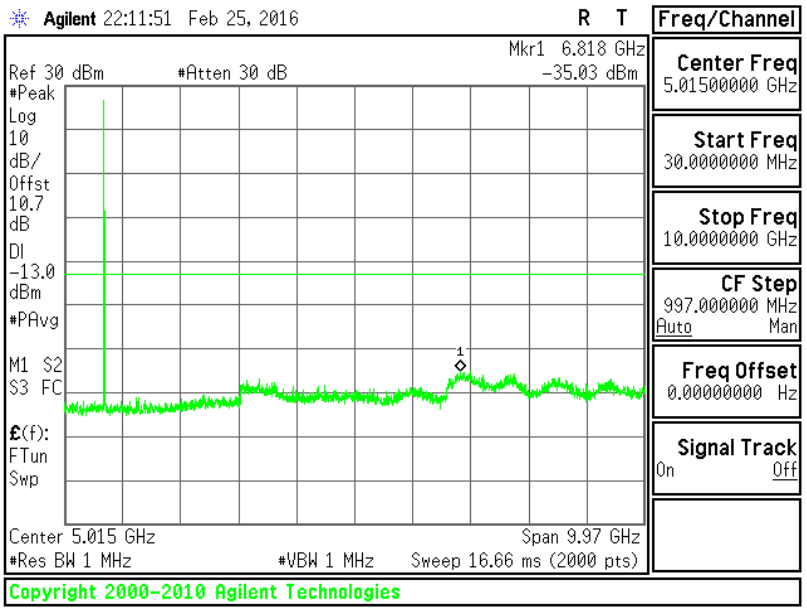




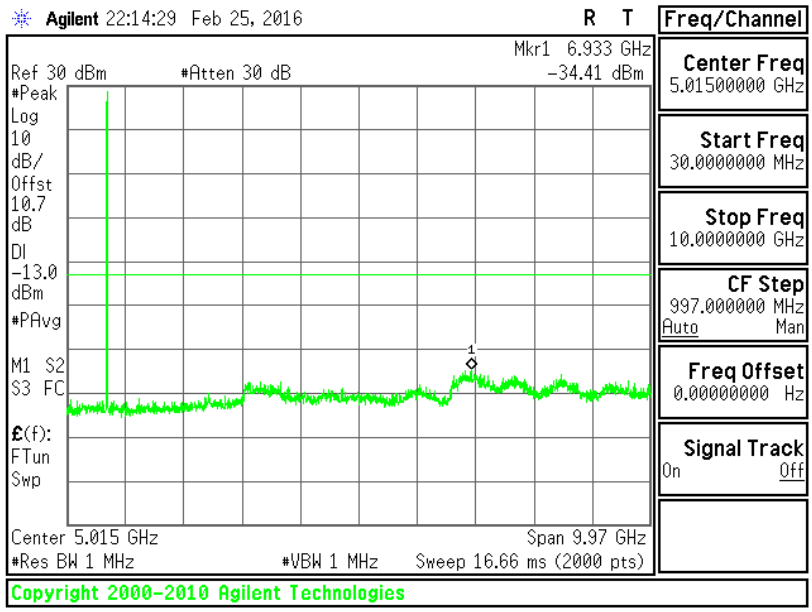
16QAM, (5.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 10000 MHz

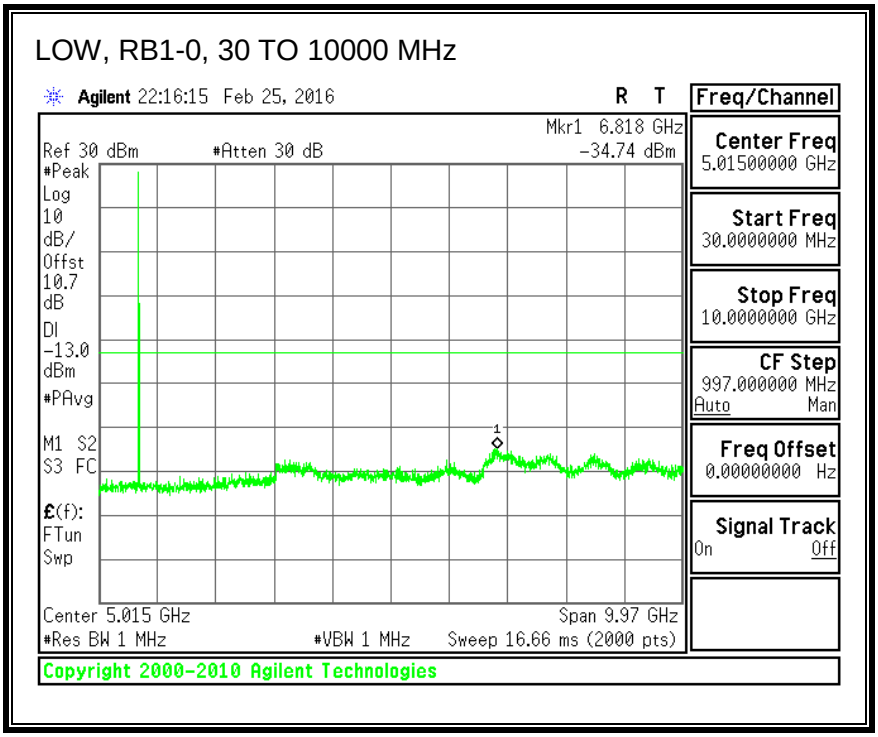


HIGH, RB1-0, 30 TO 10000 MHz

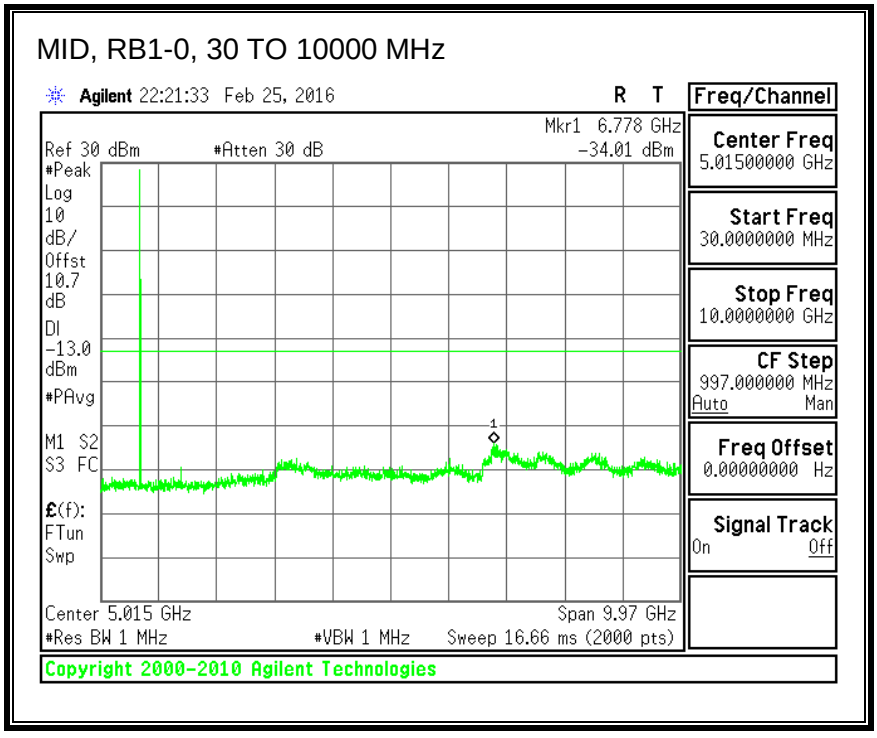


QPSK, (10.0 MHz BAND WIDTH)

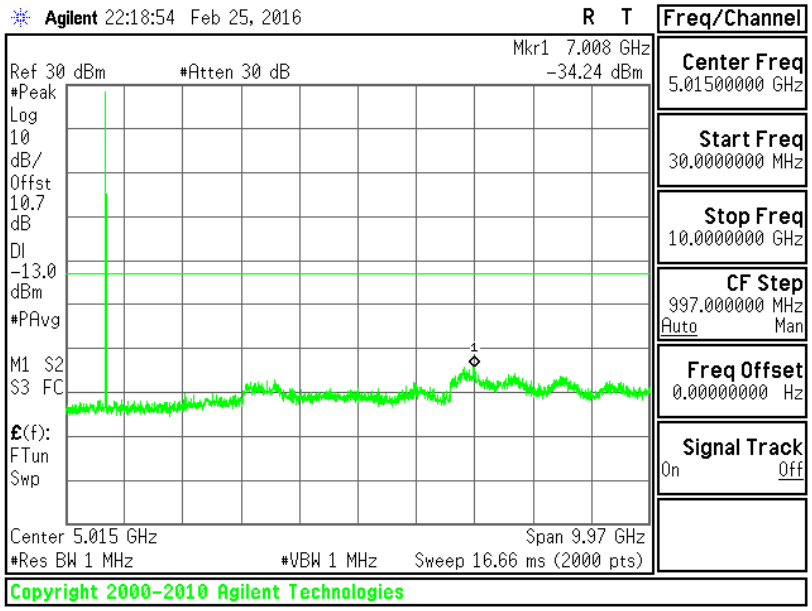
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

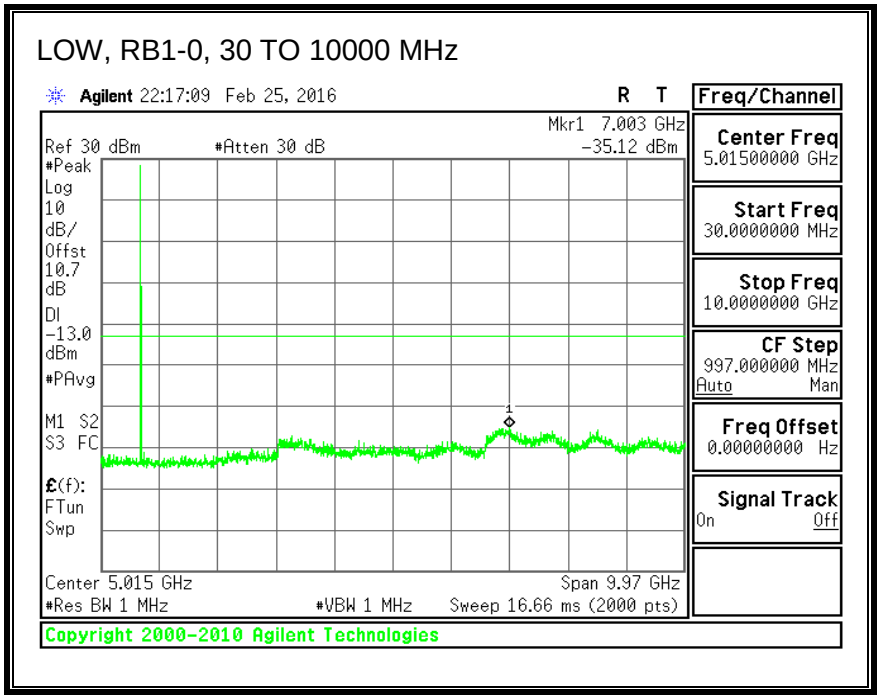


HIGH, RB1-0, 30 TO 10000 MHz

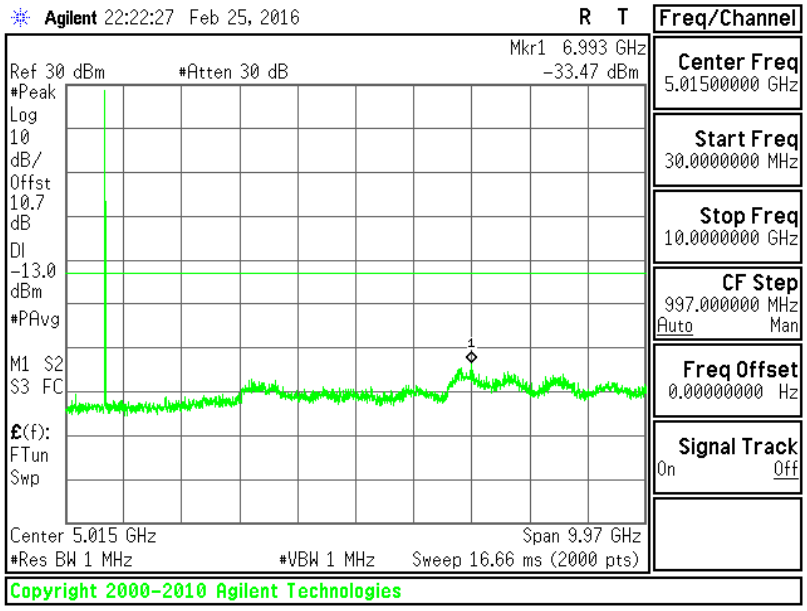


16QAM, (10.0 MHz BAND WIDTH)

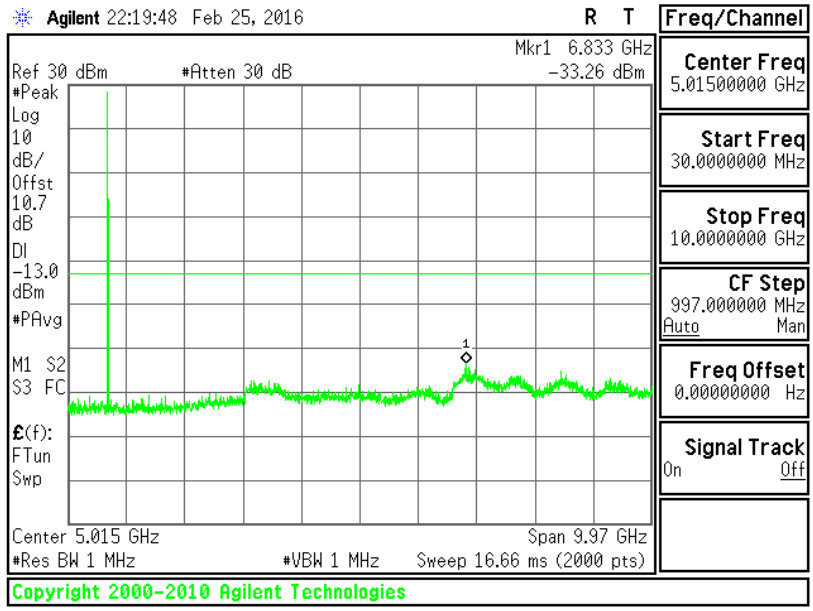
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz

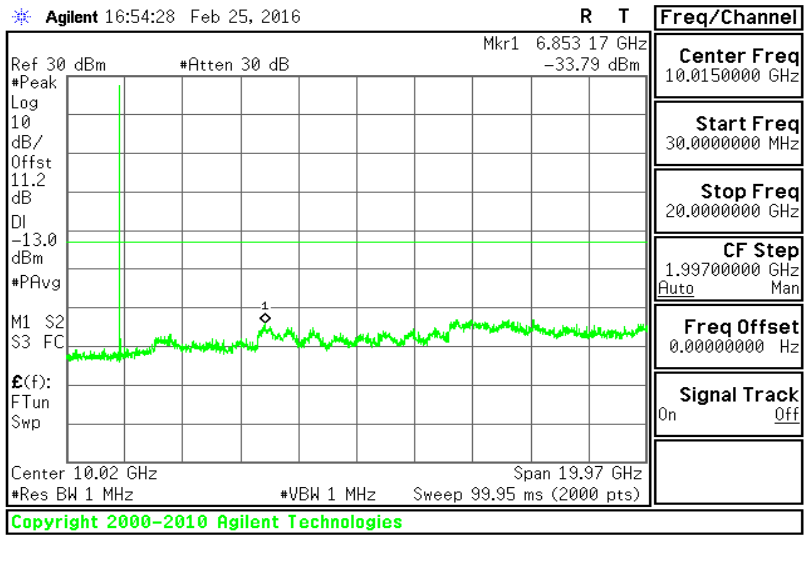


8.3.8. LTE BAND 25

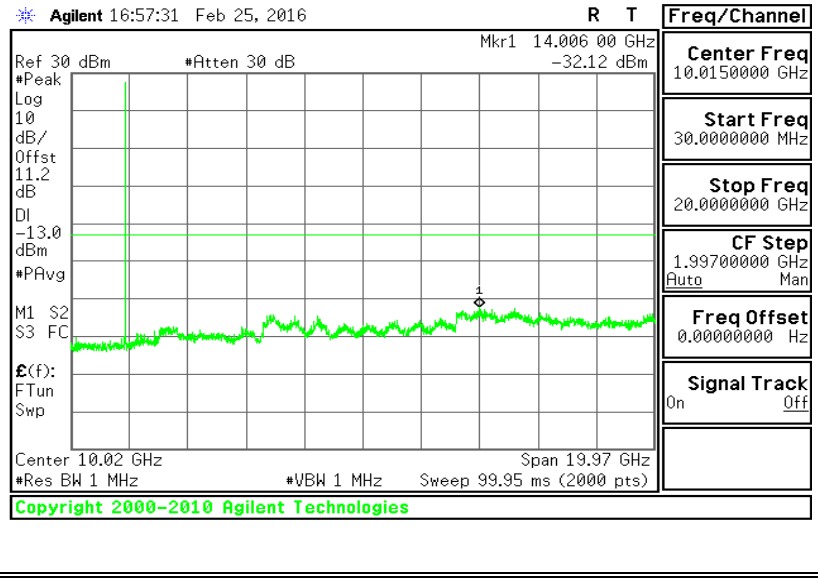
ID:	39472	Date:	2/25/16

QPSK, (1.4 MHz BAND WIDTH)

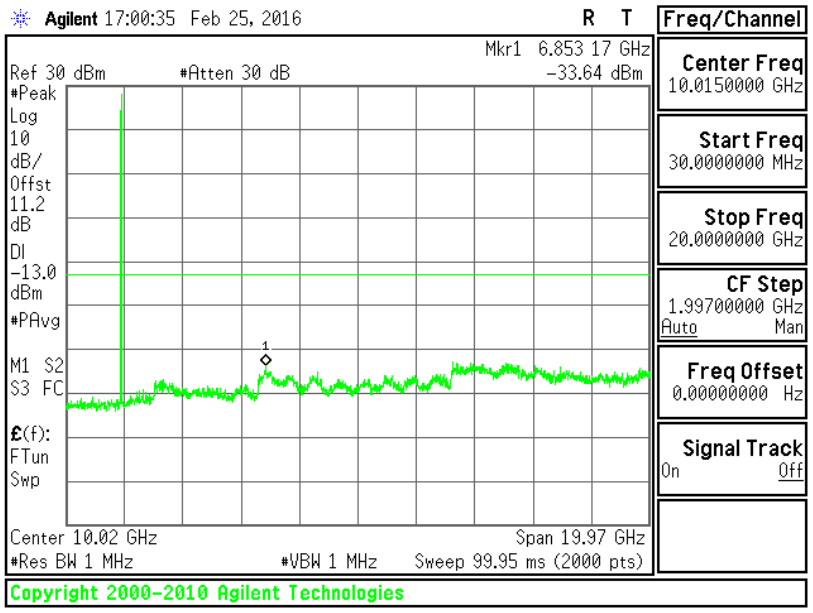
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz

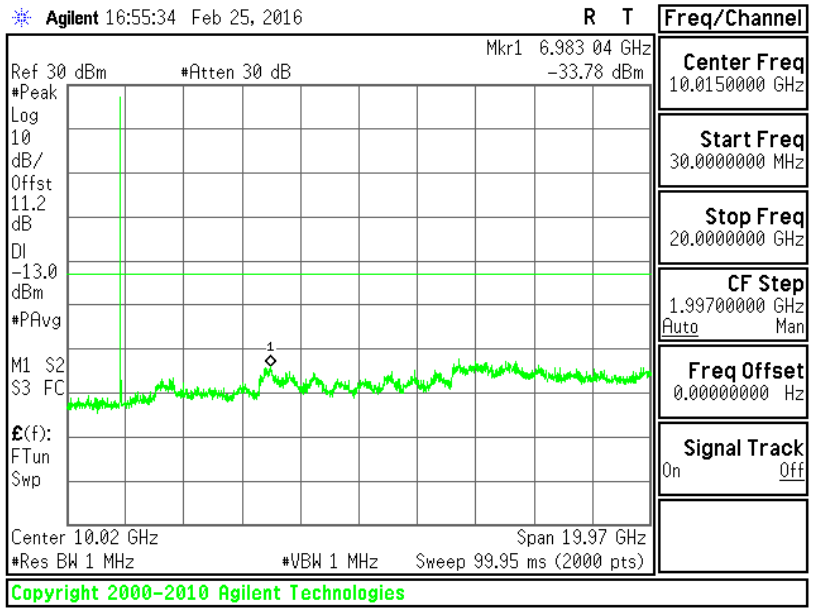


HIGH, RB1-0, 30 TO 20000 MHz

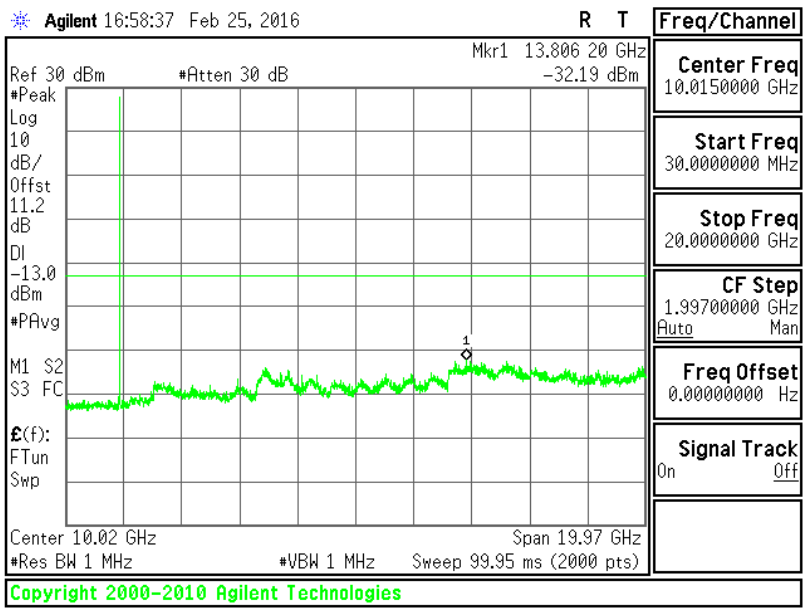


16QAM, (1.4 MHz BAND WIDTH)

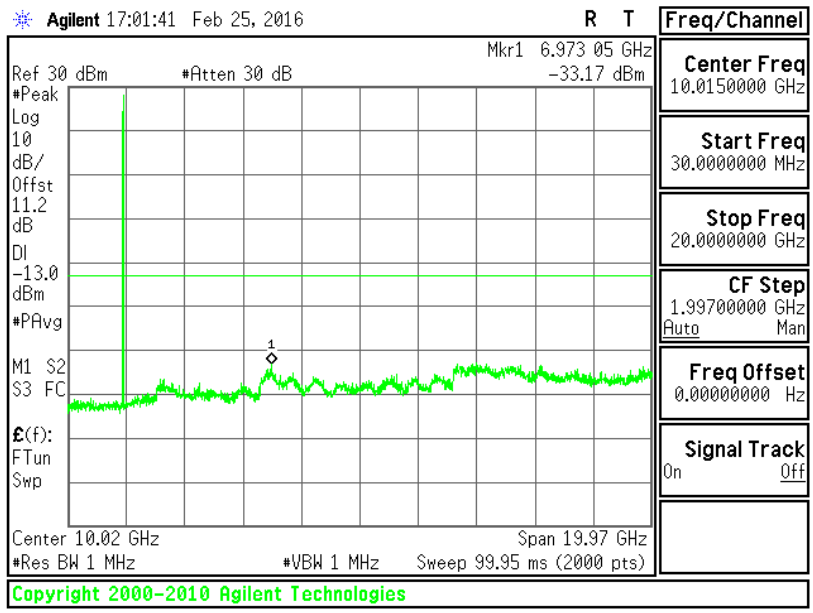
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz

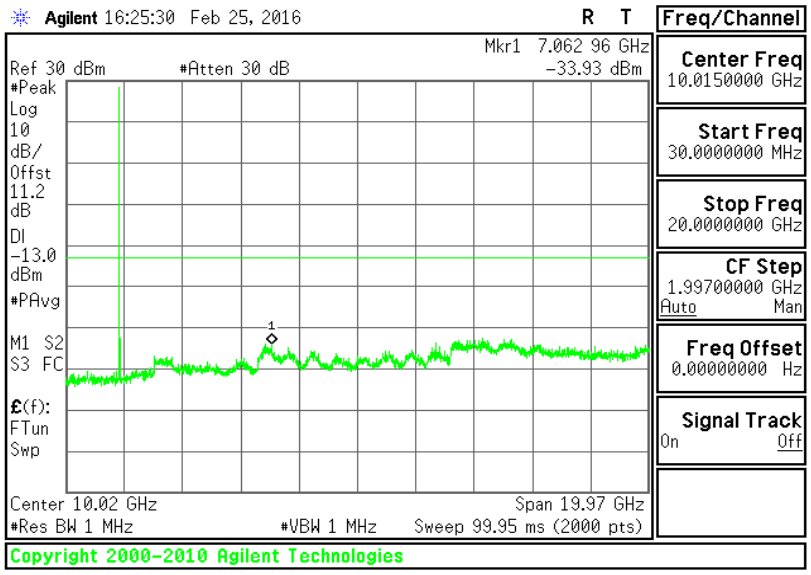


HIGH, RB1-0, 30 TO 20000 MHz

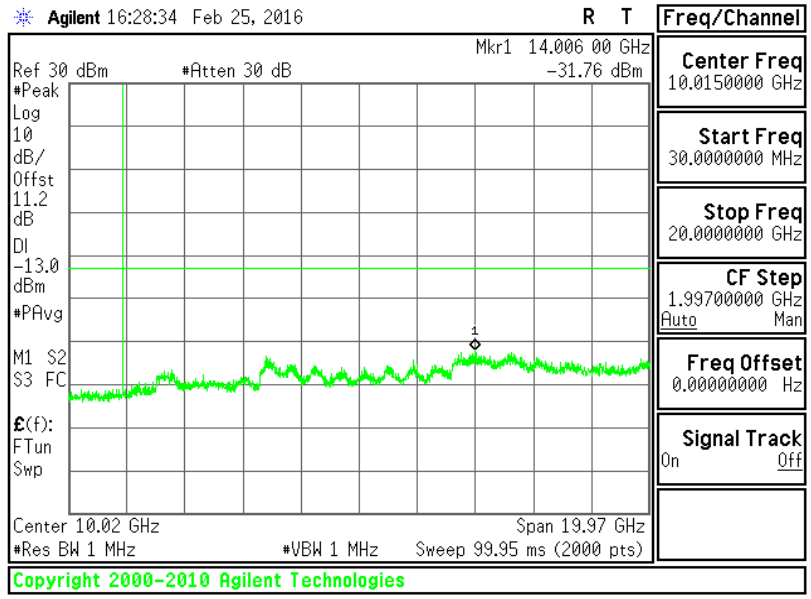


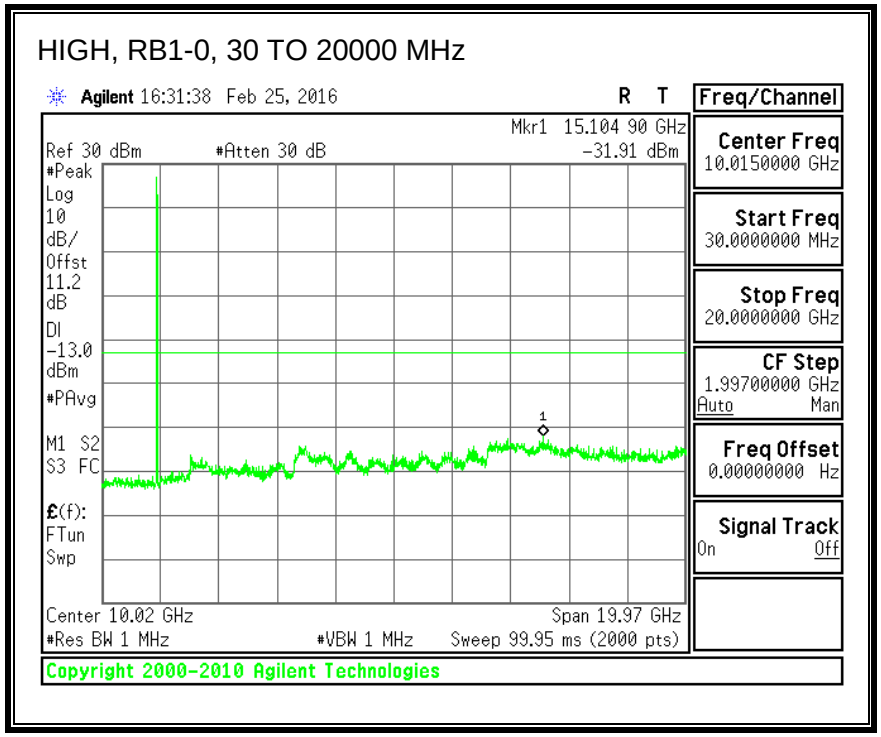
QPSK, (3.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz

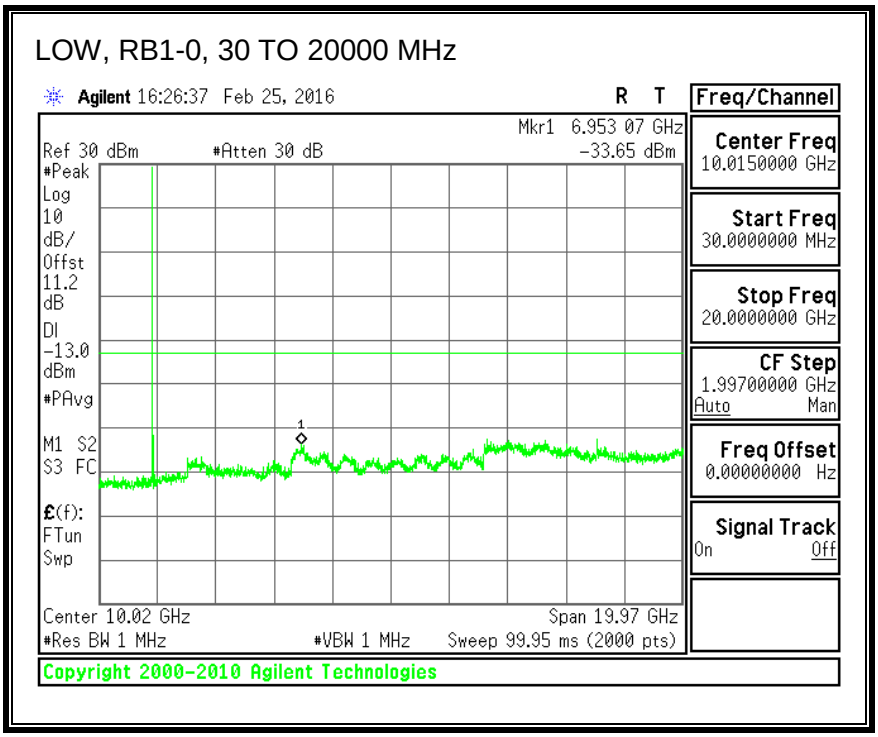


MID, RB1-0, 30 TO 20000 MHz

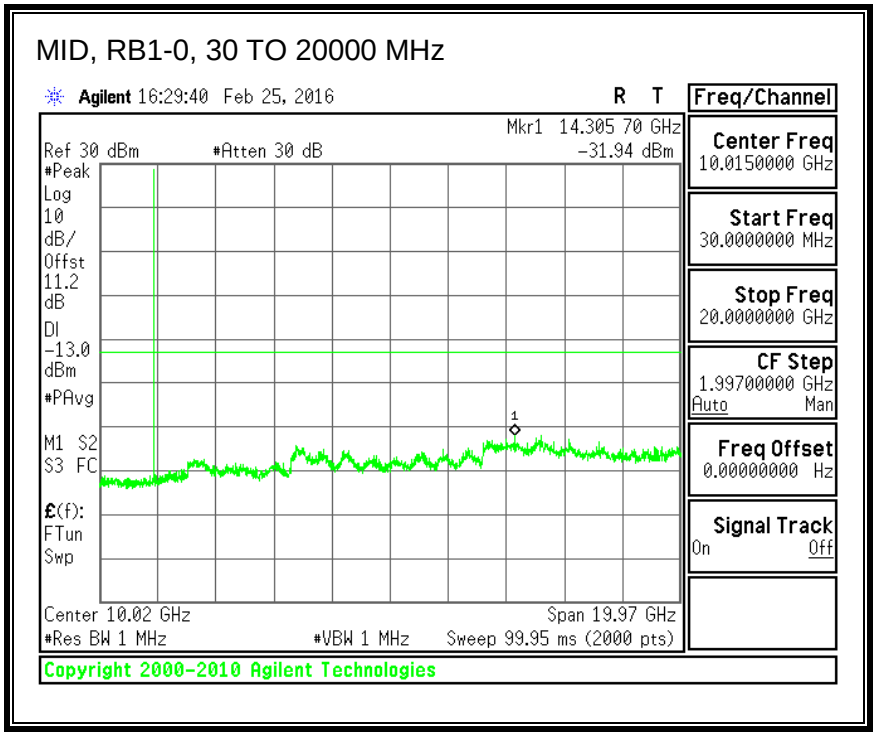




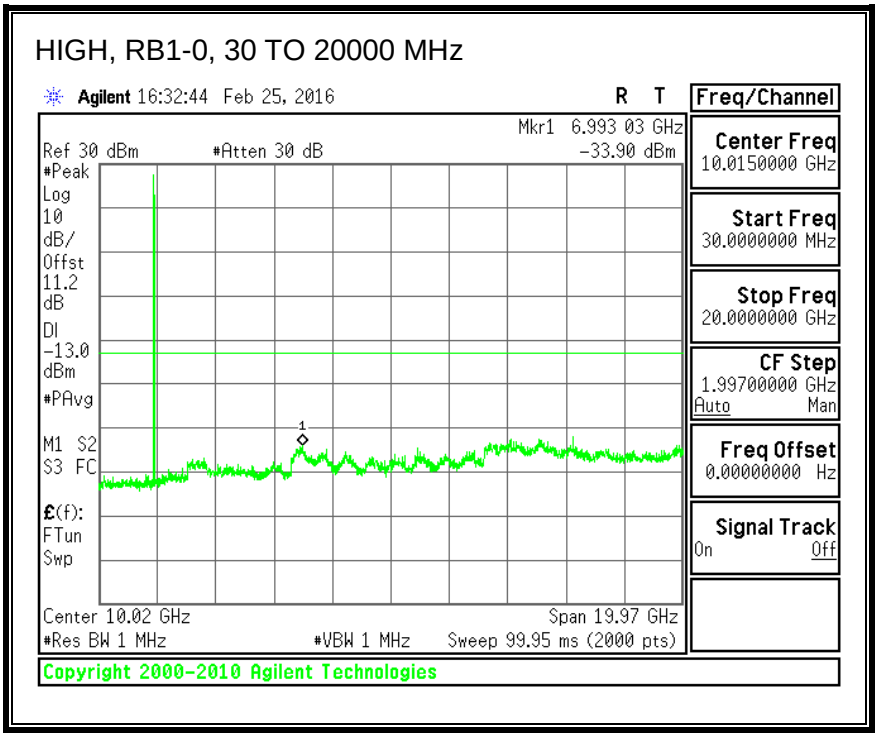
16QAM, (3.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 20000 MHz

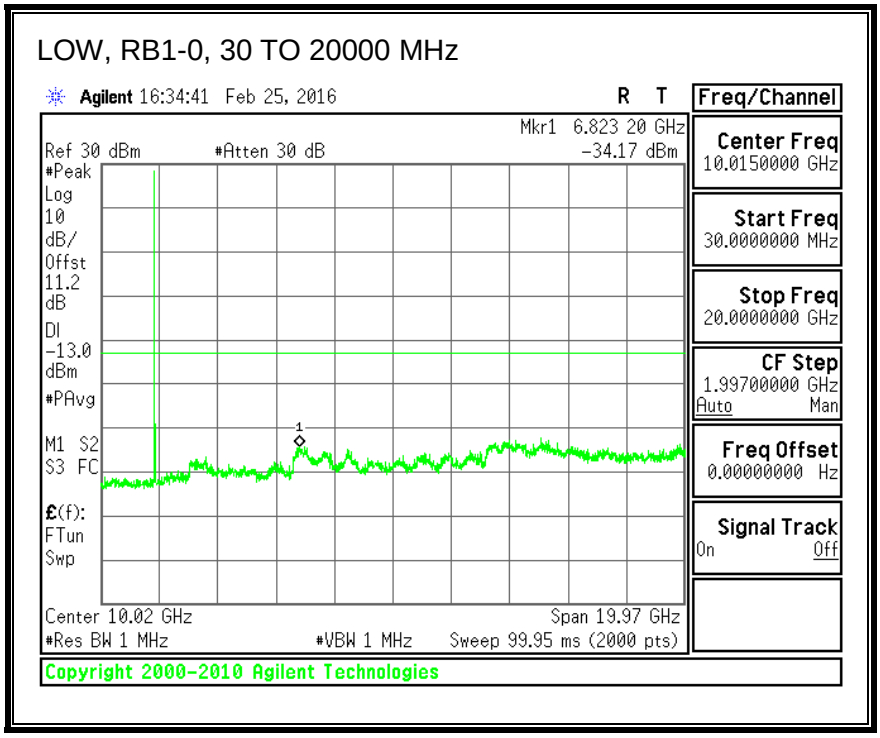


HIGH, RB1-0, 30 TO 20000 MHz

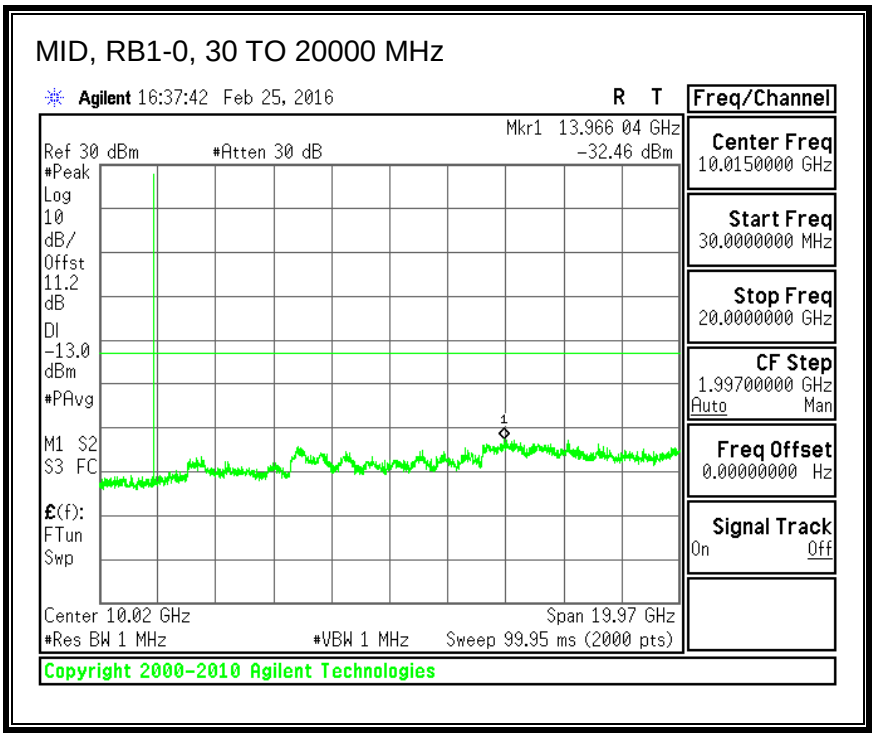


QPSK, (5.0 MHz BAND WIDTH)

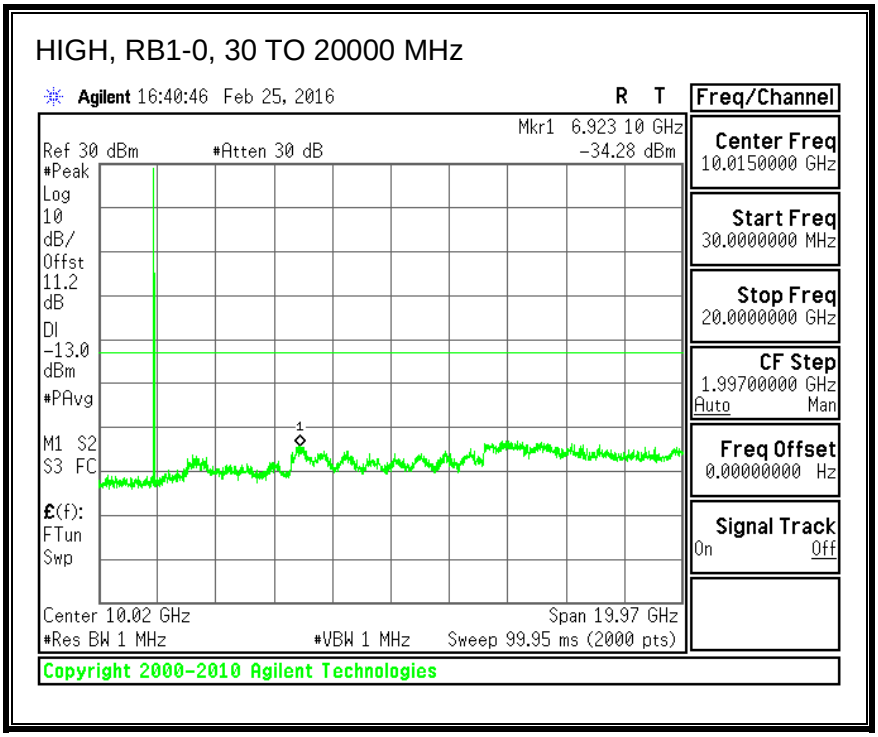
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz

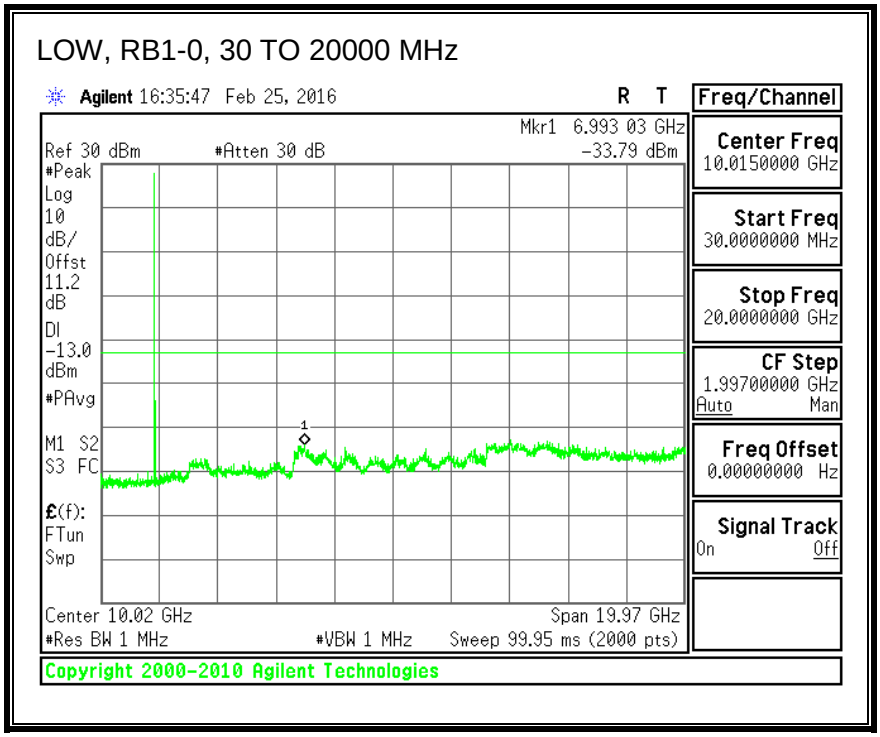


HIGH, RB1-0, 30 TO 20000 MHz

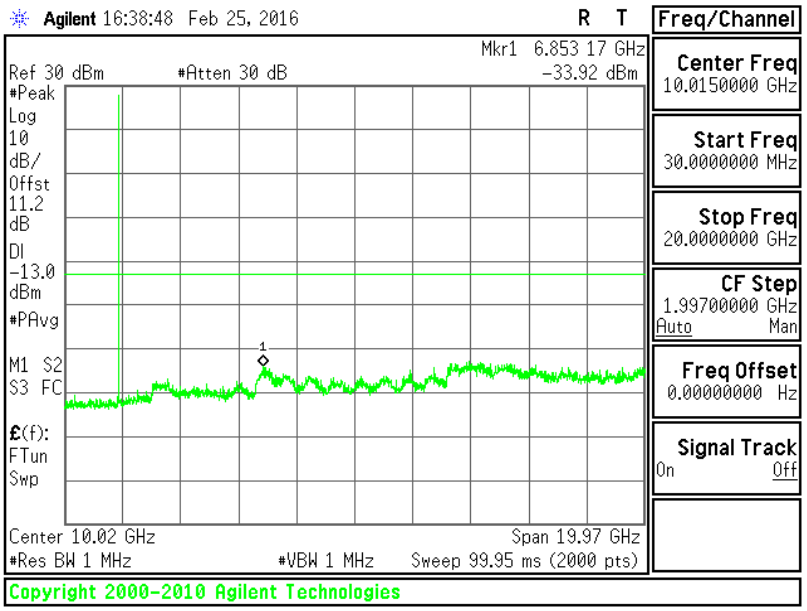


16QAM, (5.0 MHz BAND WIDTH)

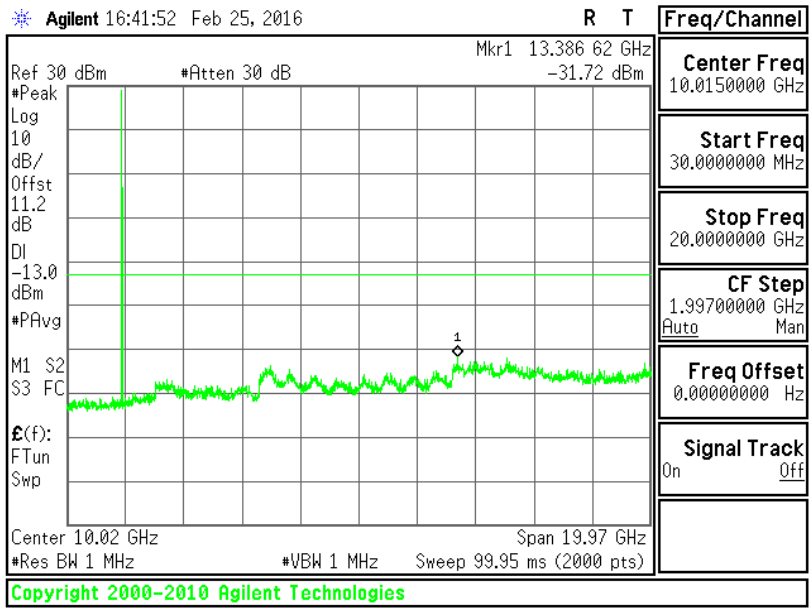
LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz

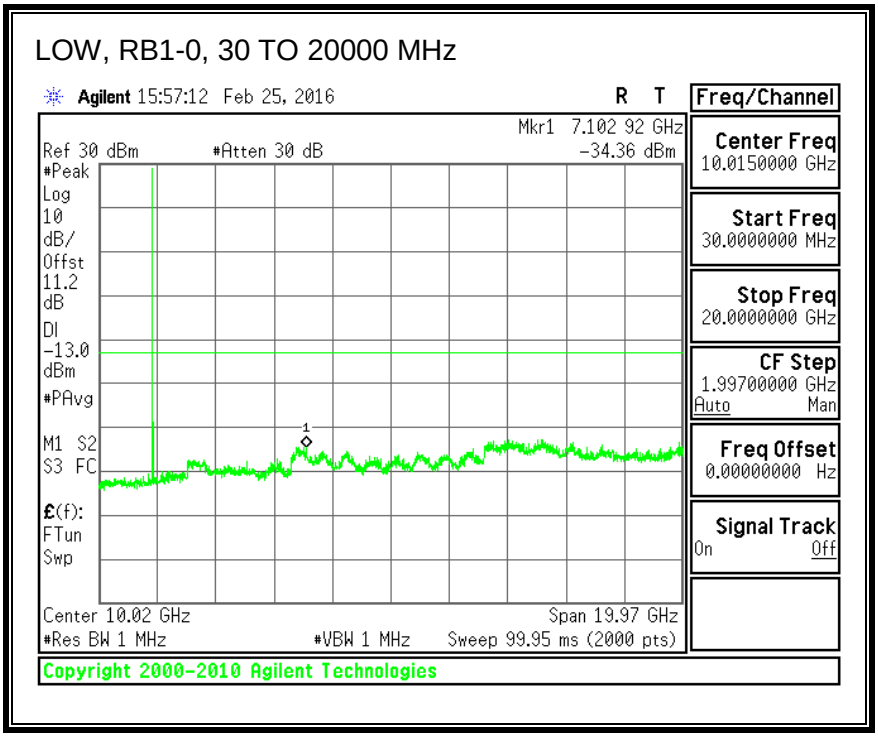


HIGH, RB1-0, 30 TO 20000 MHz

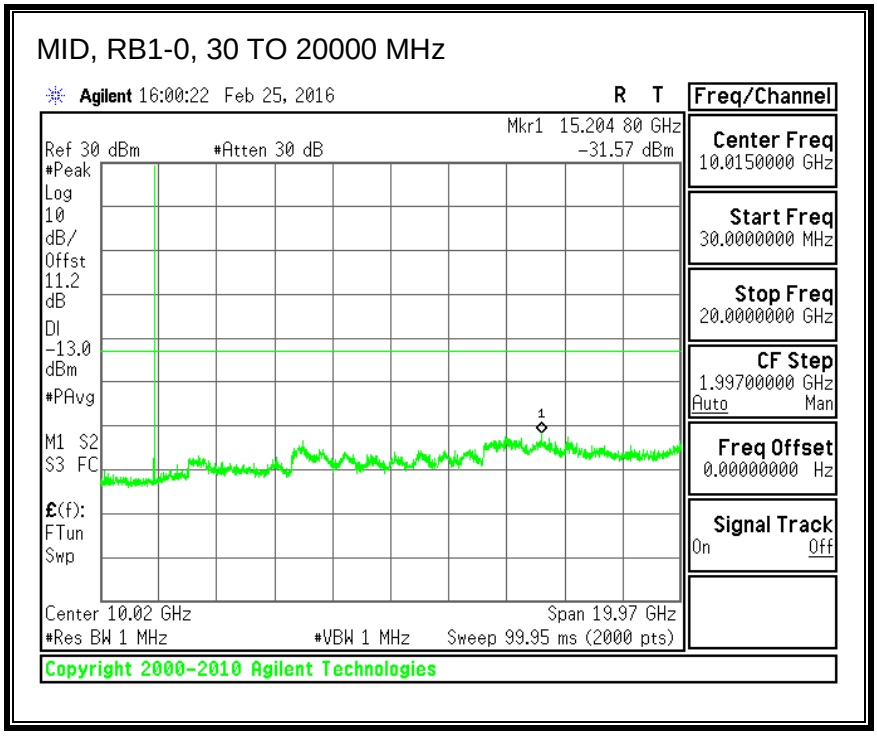


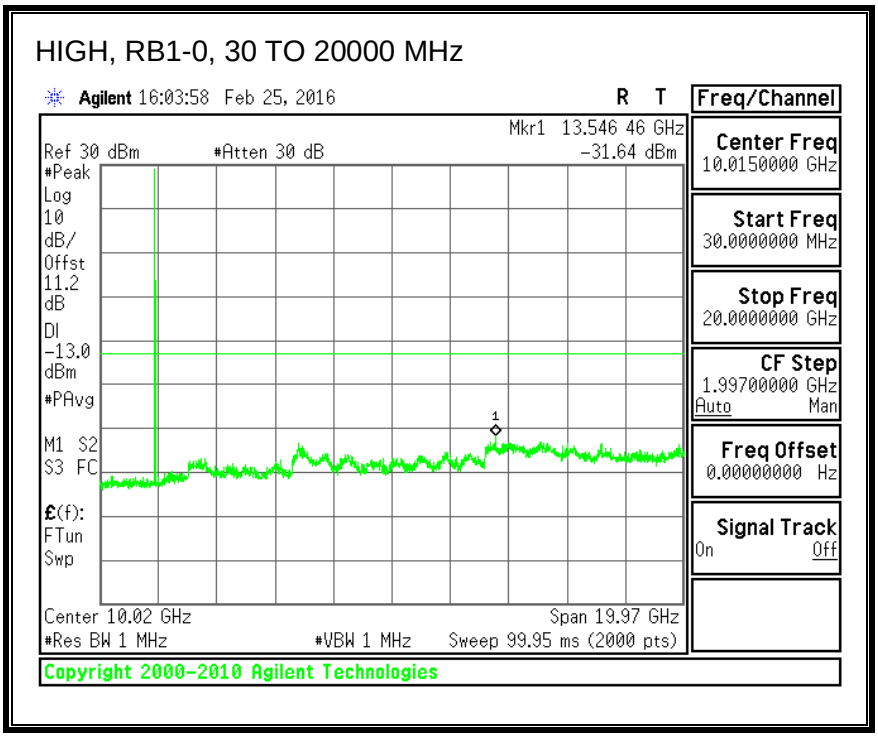
QPSK, (10.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz

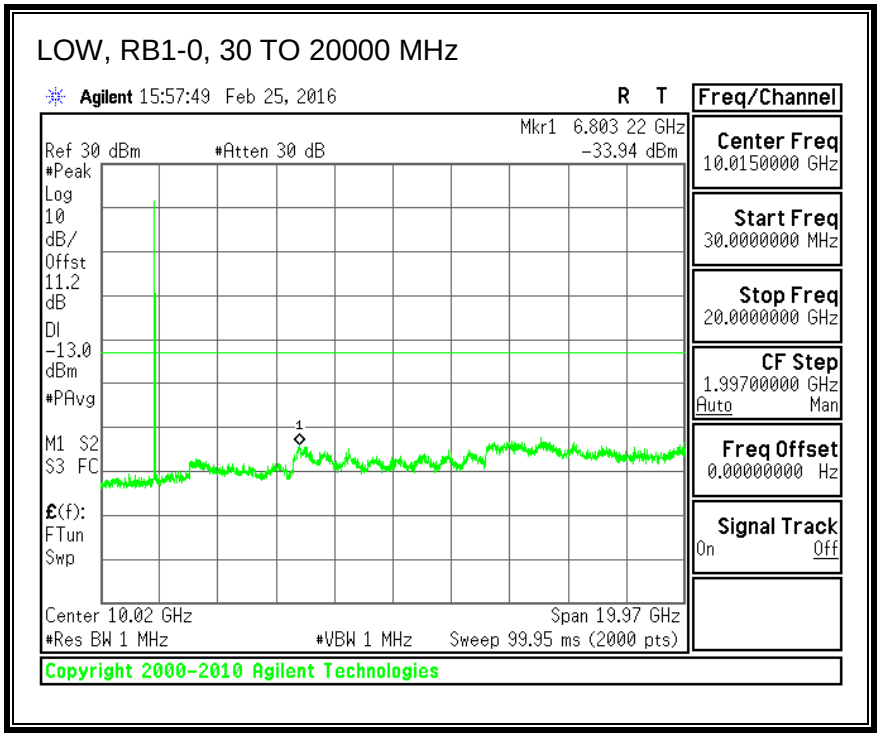


MID, RB1-0, 30 TO 20000 MHz

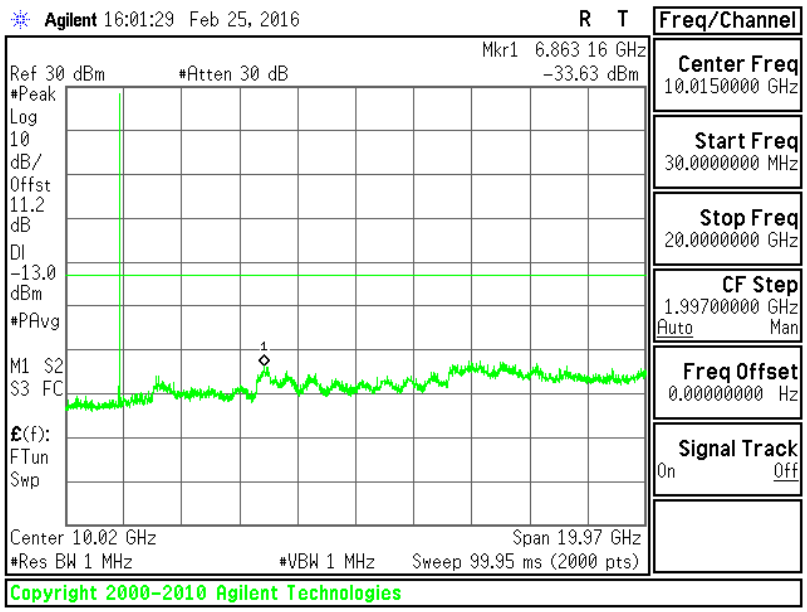




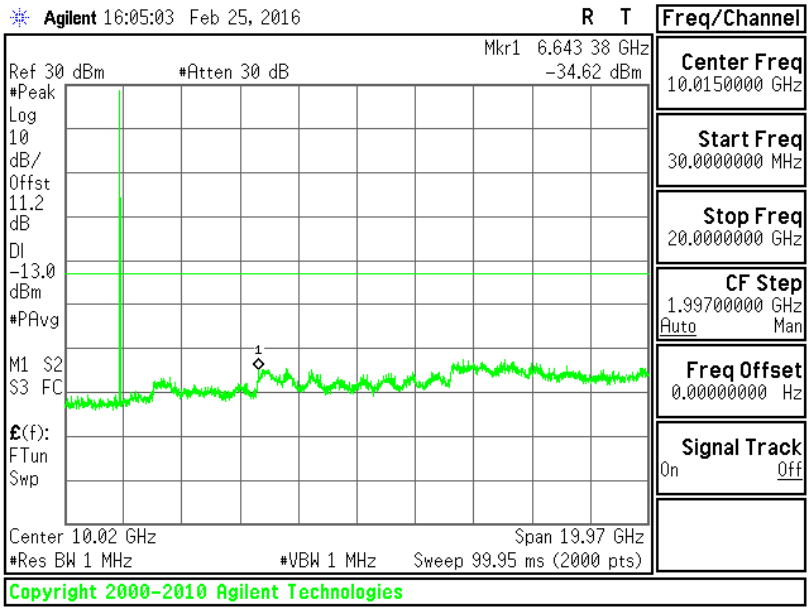
16QAM, (10.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 20000 MHz

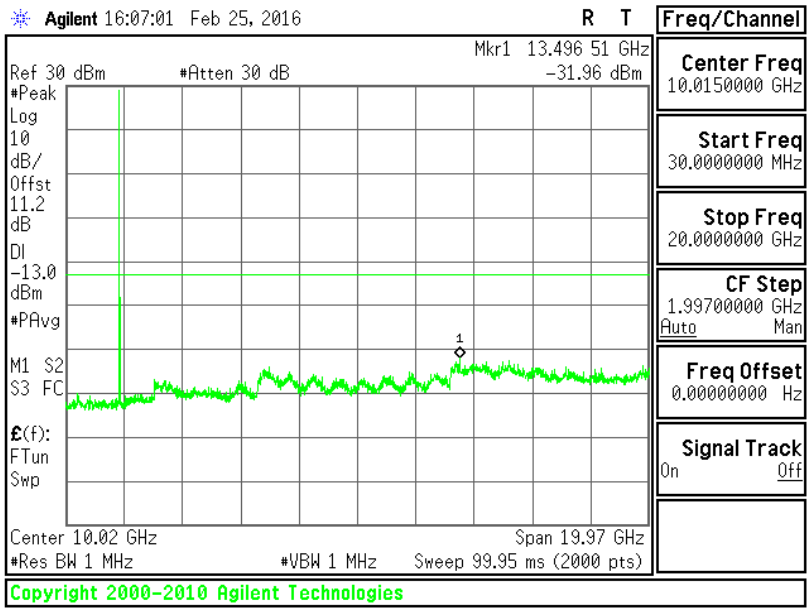


HIGH, RB1-0, 30 TO 20000 MHz

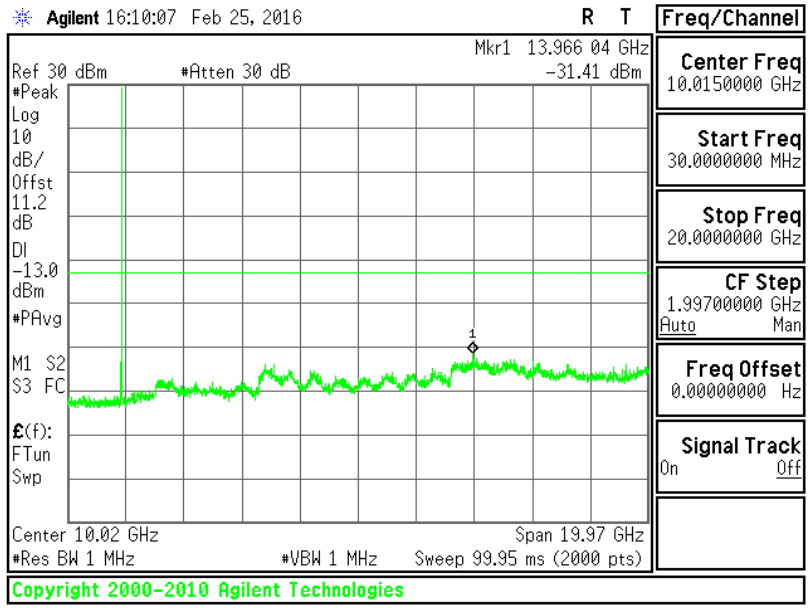


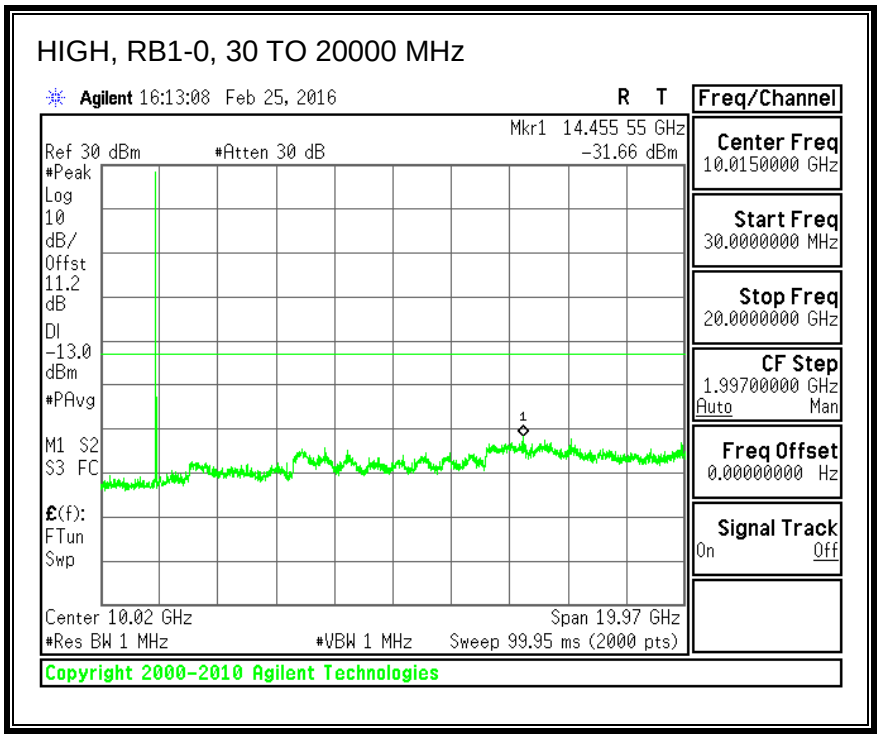
QPSK, (15.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz

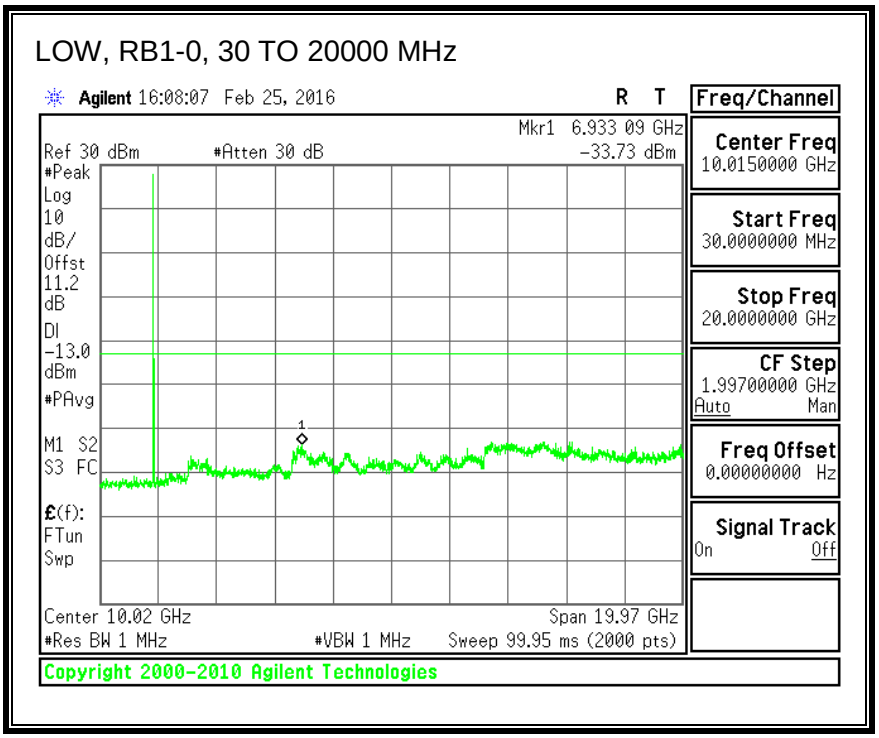


MID, RB1-0, 30 TO 20000 MHz

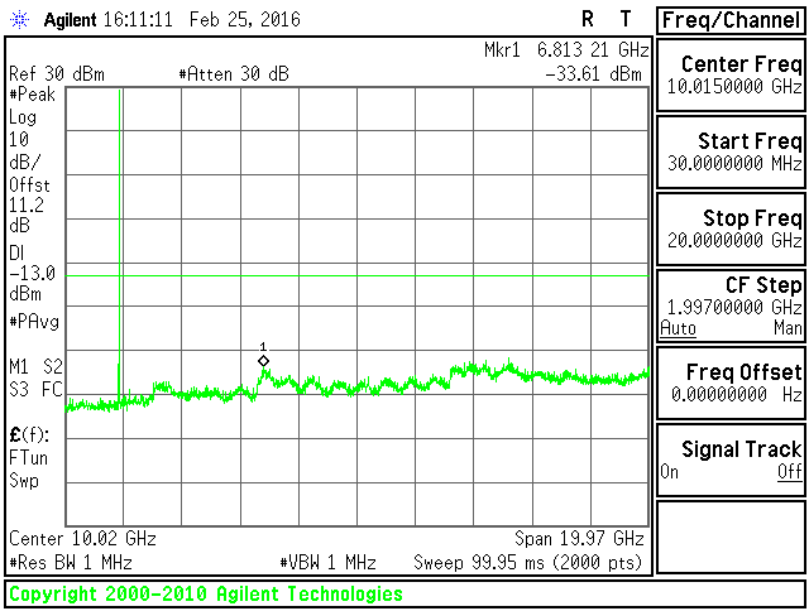




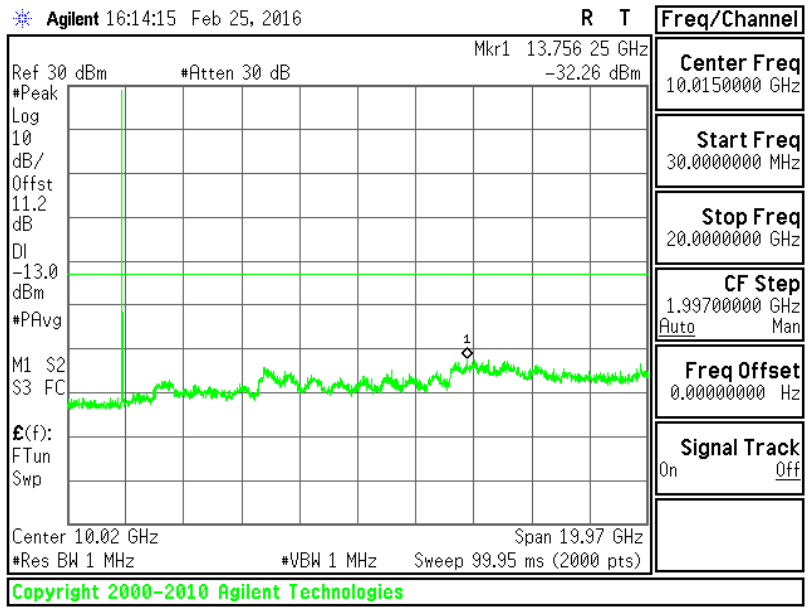
16QAM, (15.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 20000 MHz

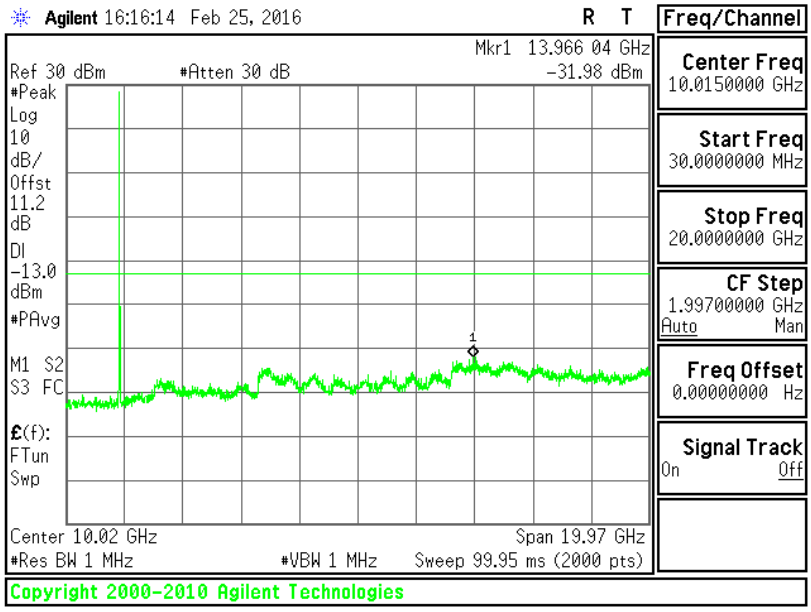


HIGH, RB1-0, 30 TO 20000 MHz

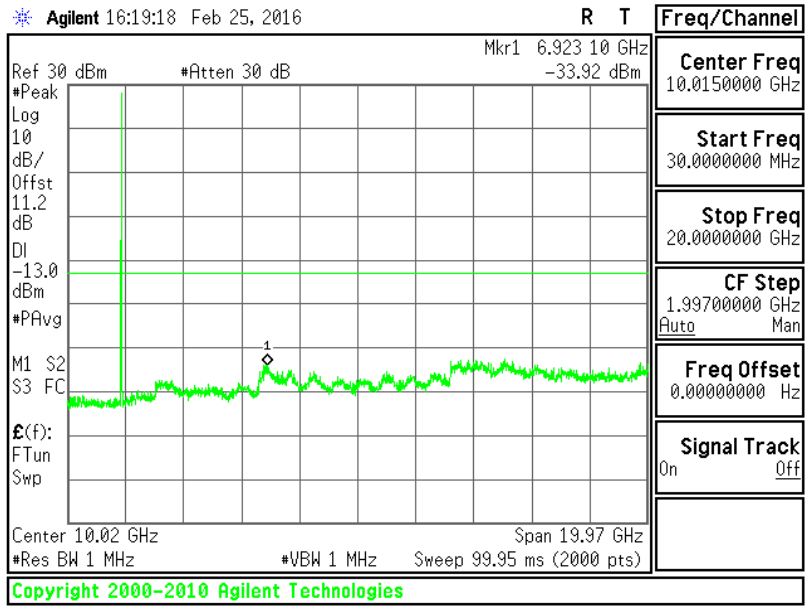


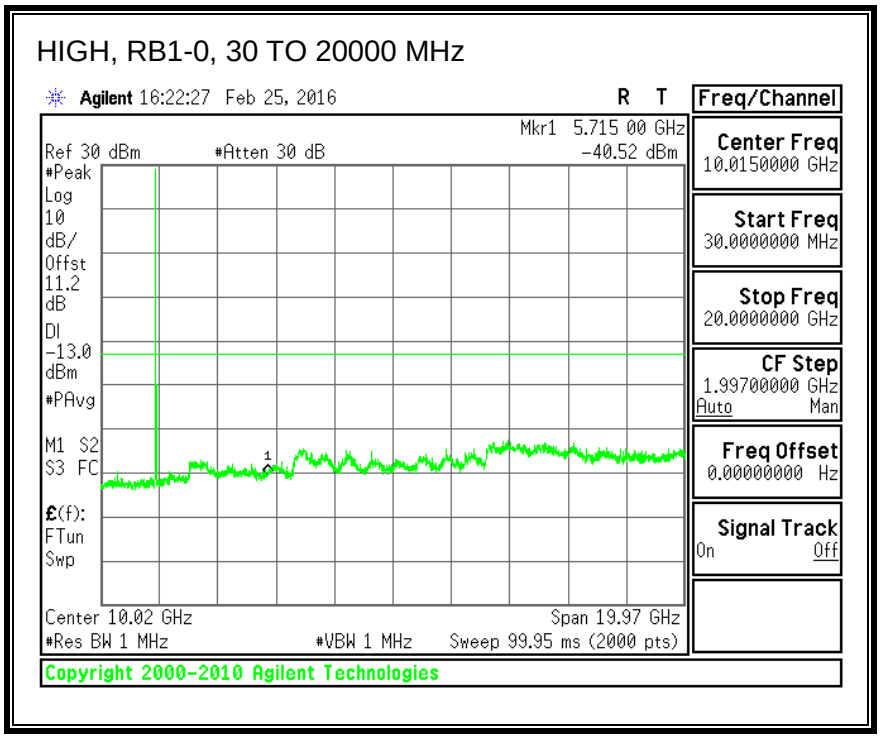
QPSK, (20.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz

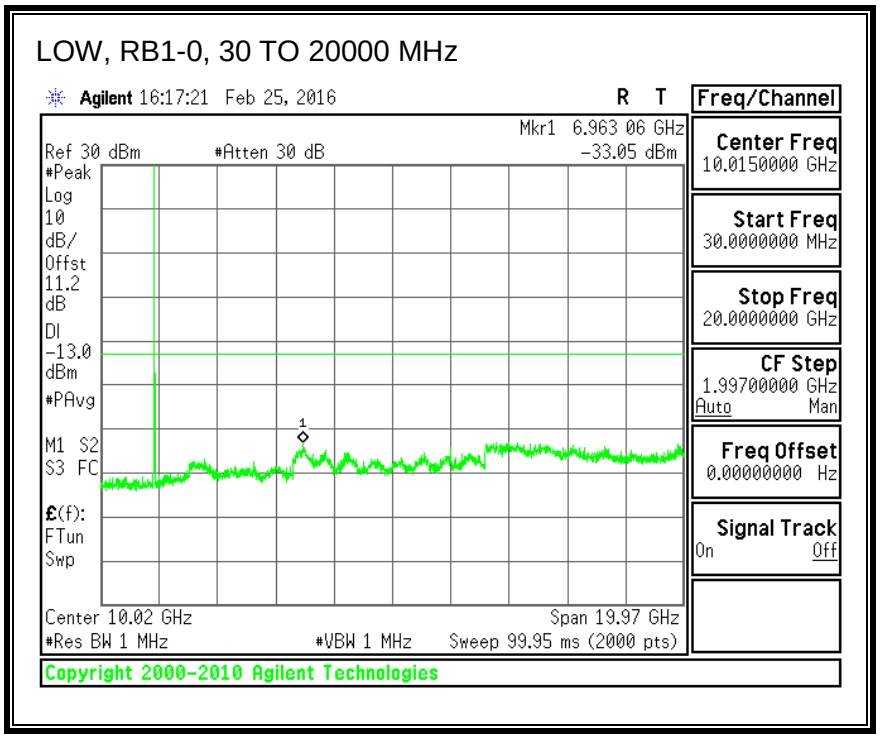


MID, RB1-0, 30 TO 20000 MHz

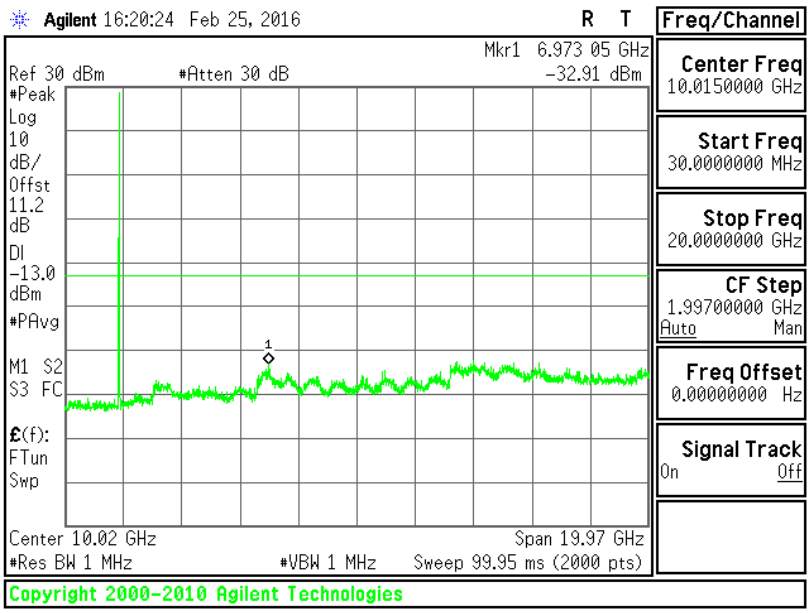




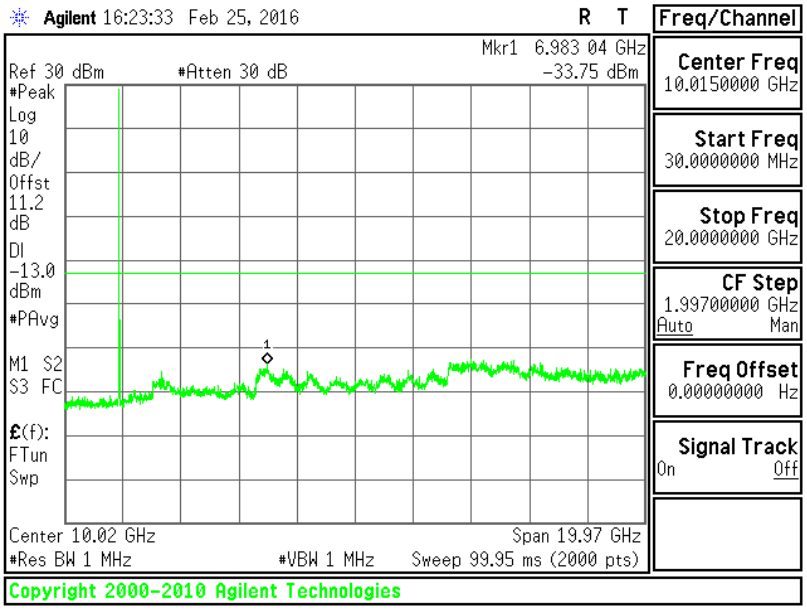
16QAM, (20.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 20000 MHz



HIGH, RB1-0, 30 TO 20000 MHz

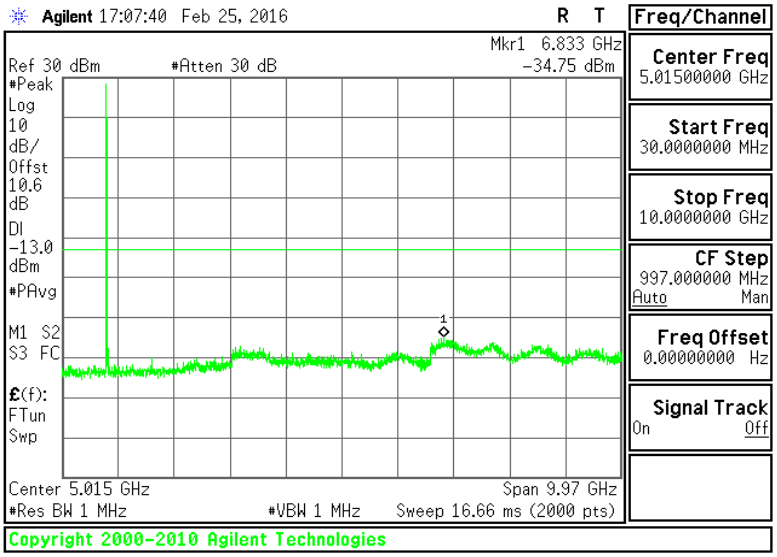


8.3.9. LTE BAND 26

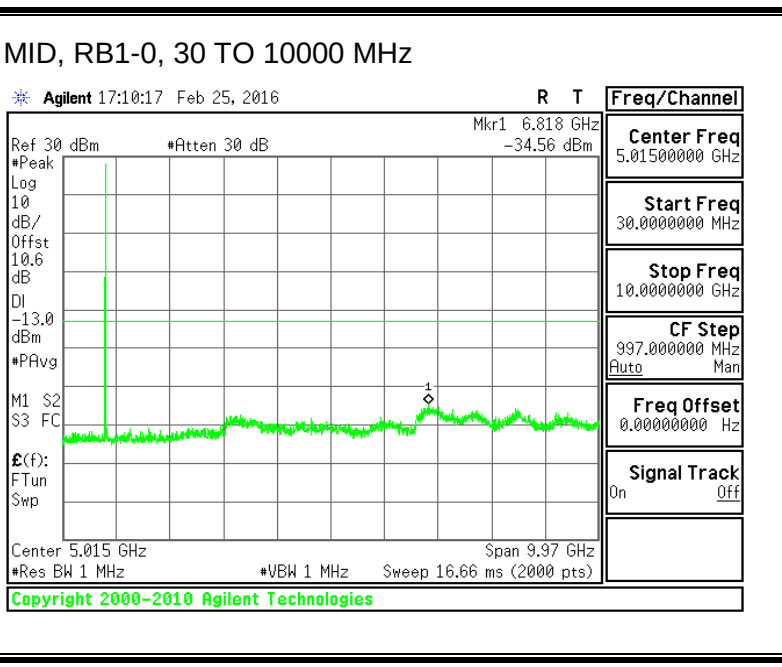
ID:	39472	Date:	2/25/16

QPSK, (1.4 MHz BAND WIDTH)

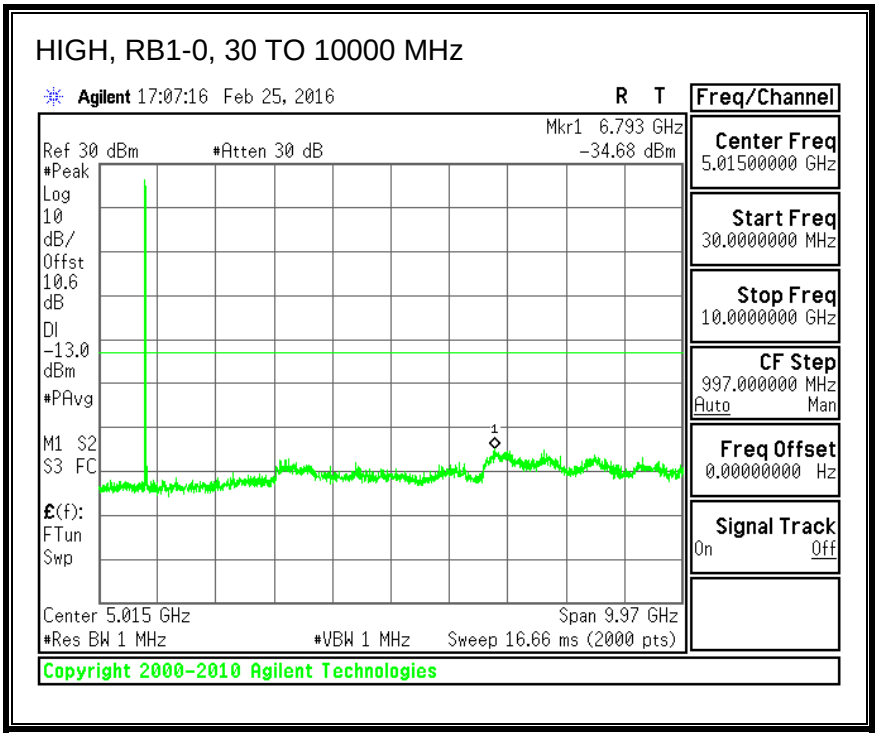
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

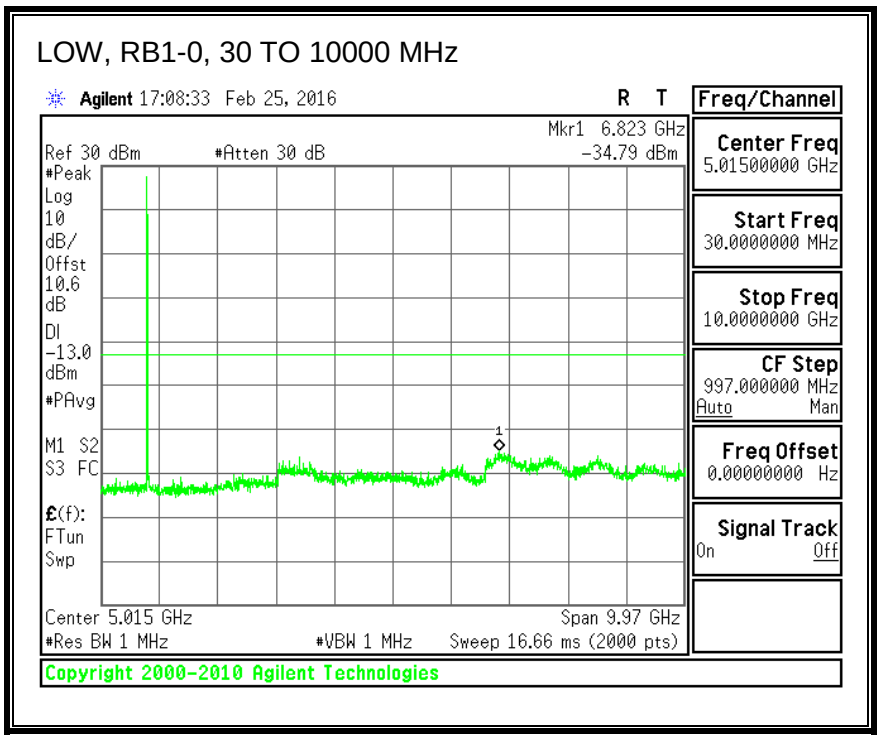


HIGH, RB1-0, 30 TO 10000 MHz

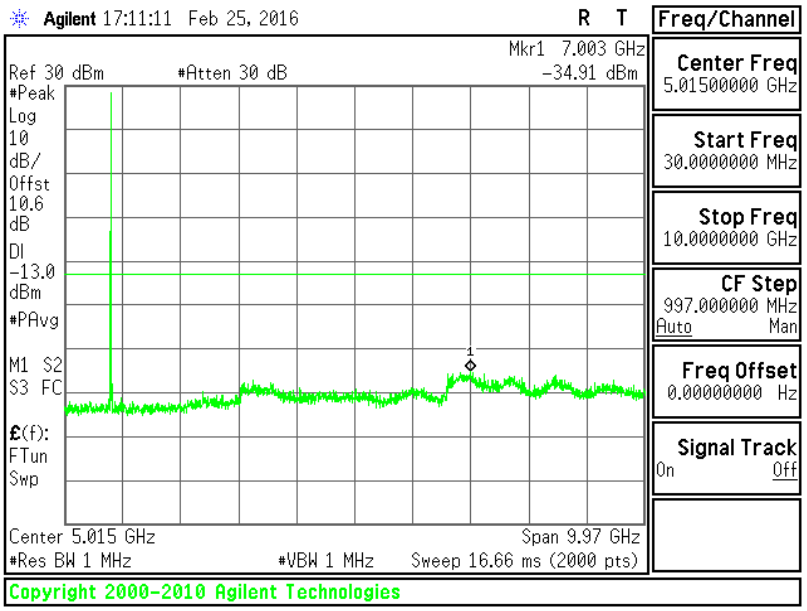


16QAM, (1.4 MHz BAND WIDTH)

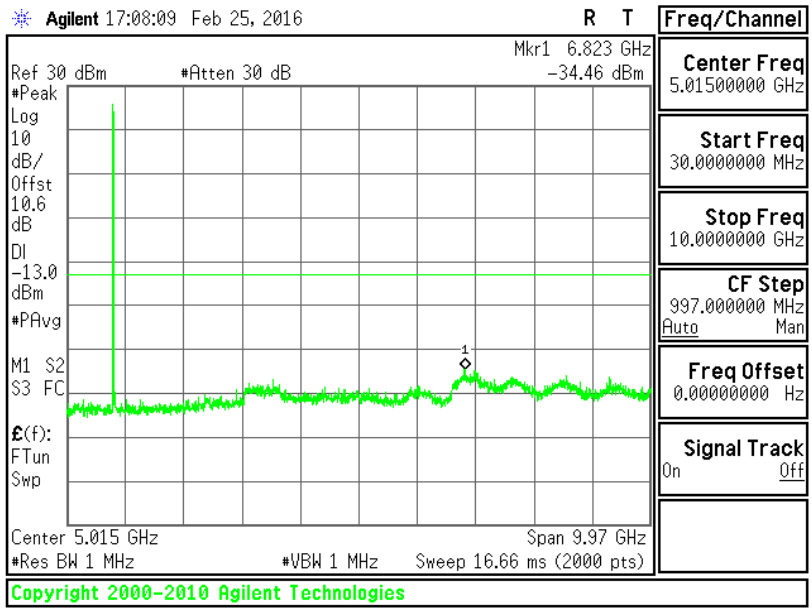
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

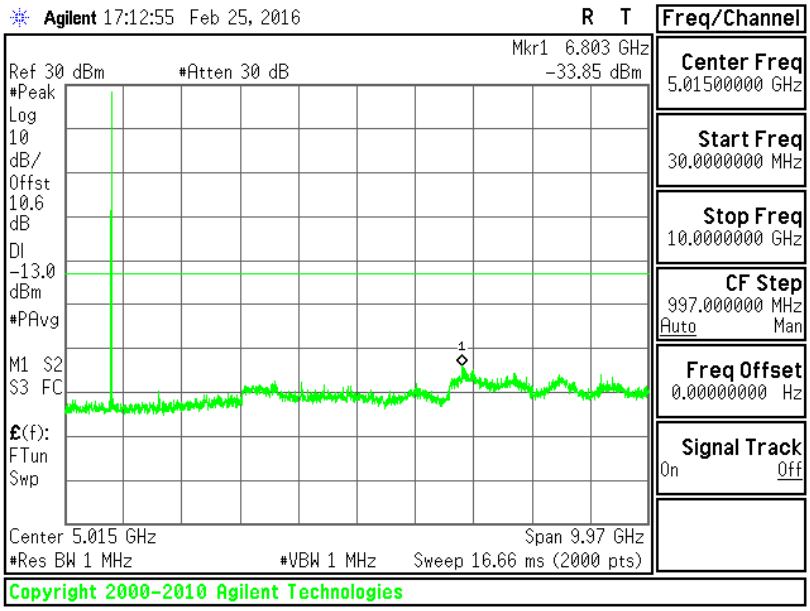


HIGH, RB1-0, 30 TO 10000 MHz

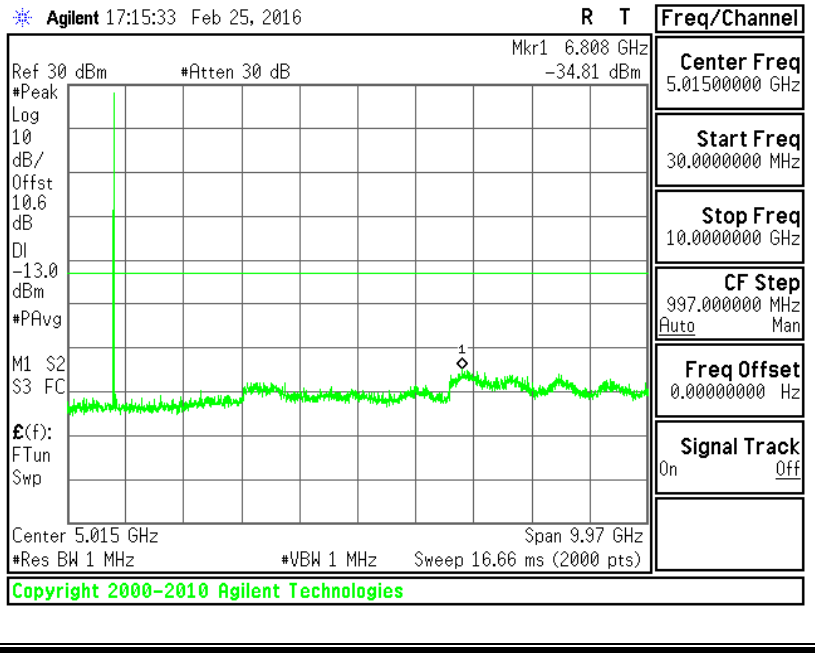


QPSK, (3.0 MHz BAND WIDTH)

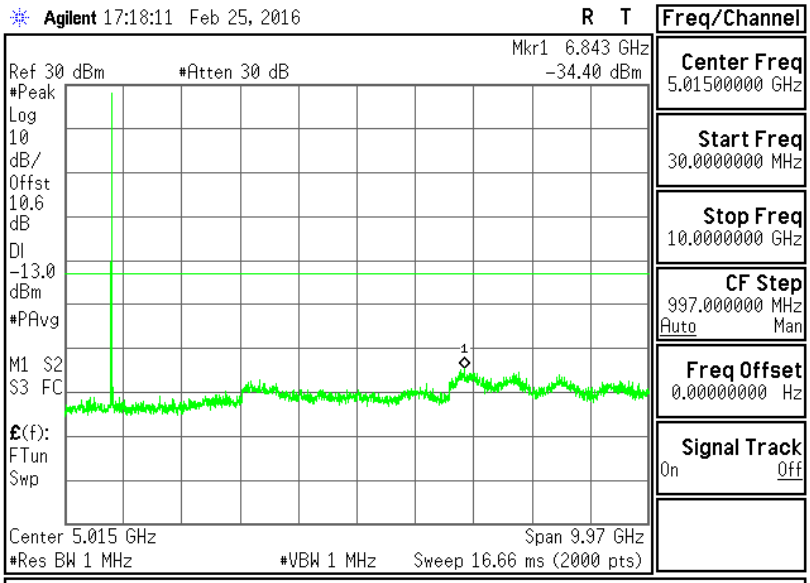
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

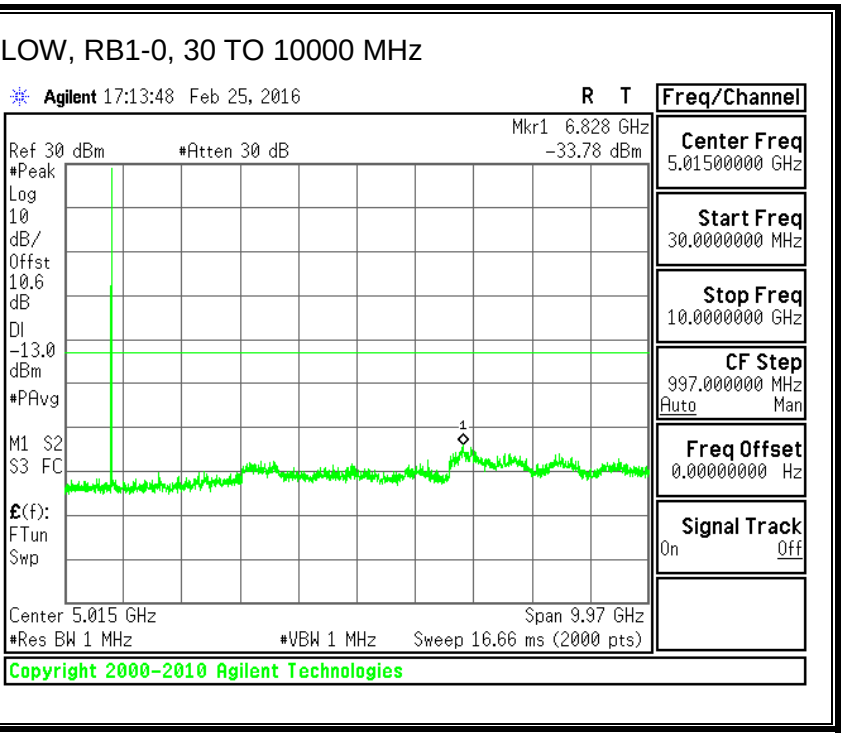


HIGH, RB1-0, 30 TO 10000 MHz

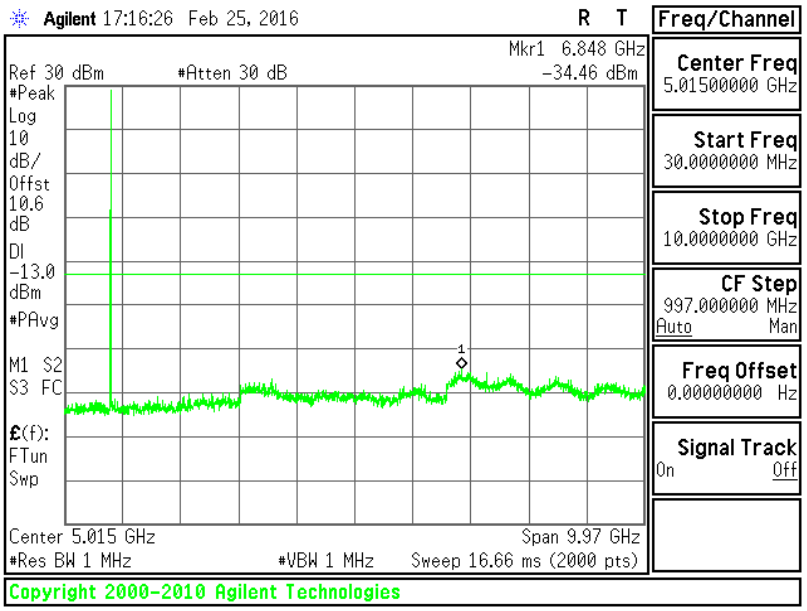


16QAM, (3.0 MHz BAND WIDTH)

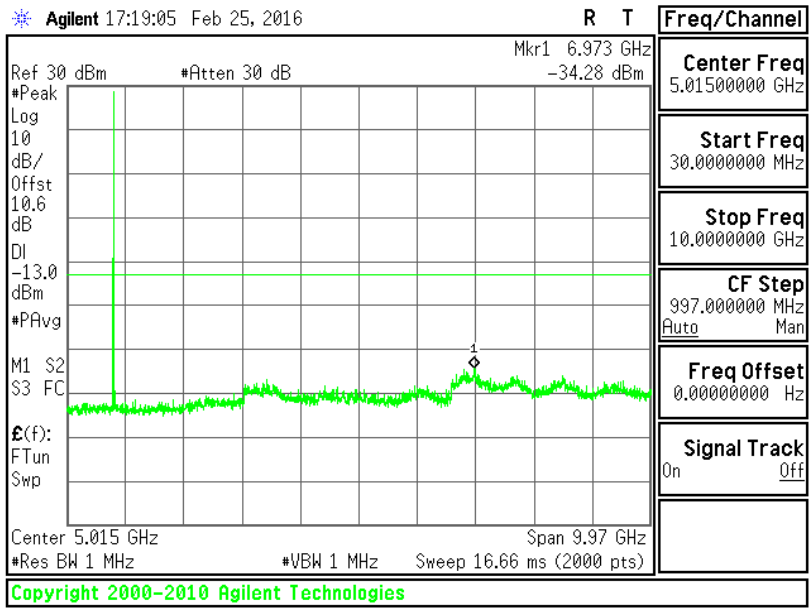
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

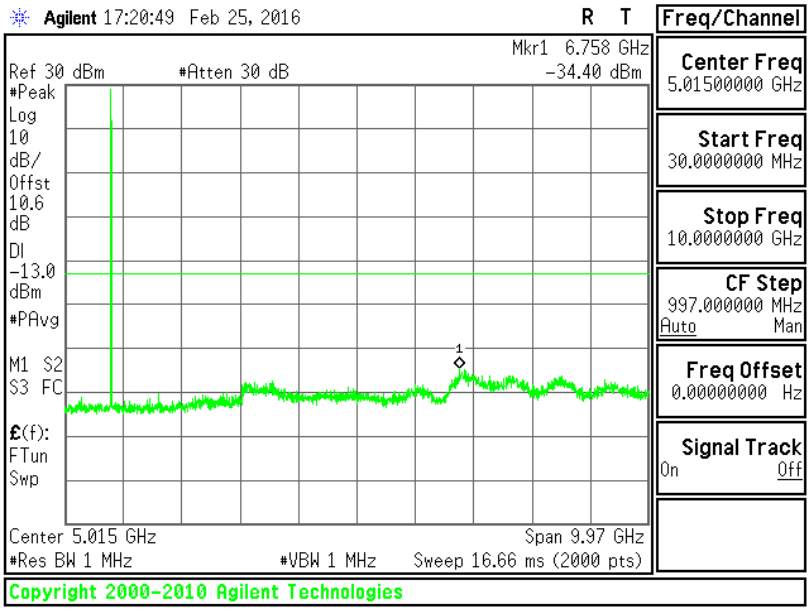


HIGH, RB1-0, 30 TO 10000 MHz

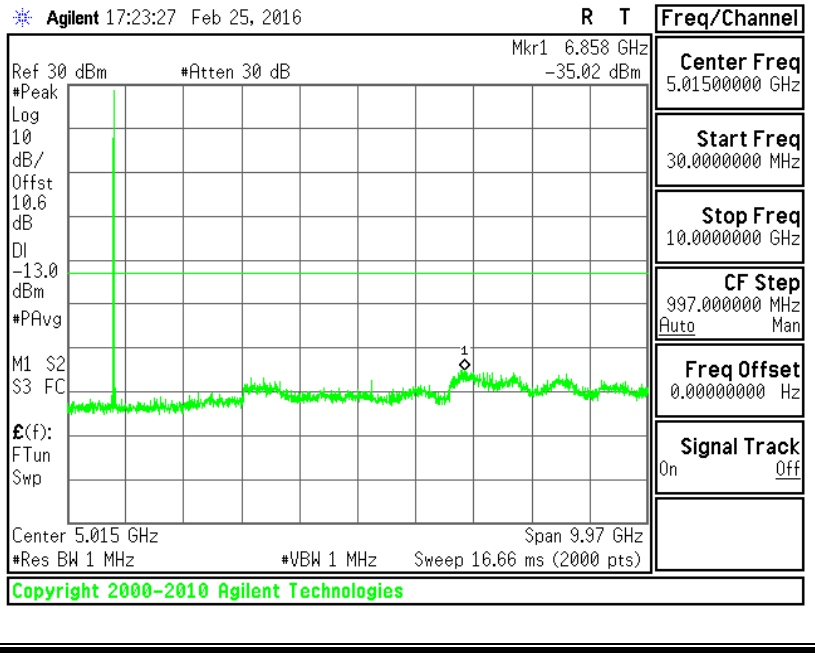


QPSK, (5.0 MHz BAND WIDTH)

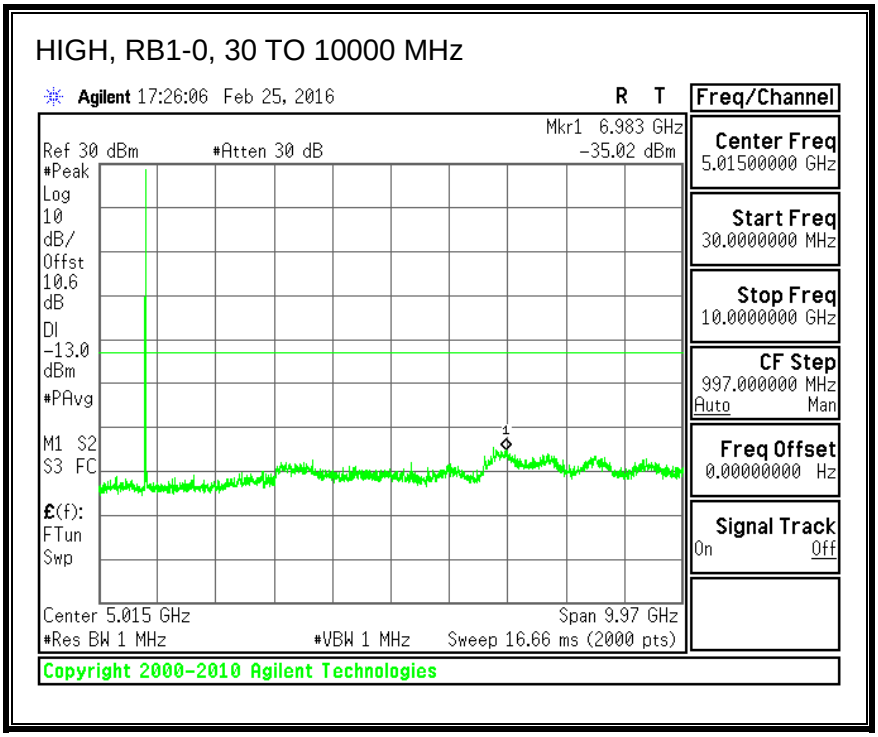
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

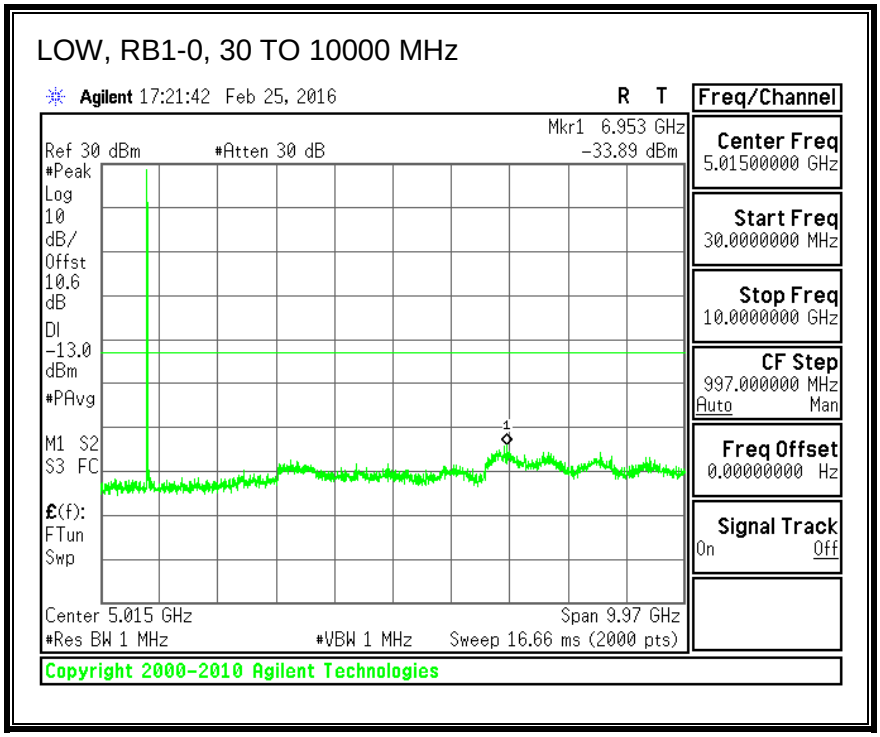


HIGH, RB1-0, 30 TO 10000 MHz

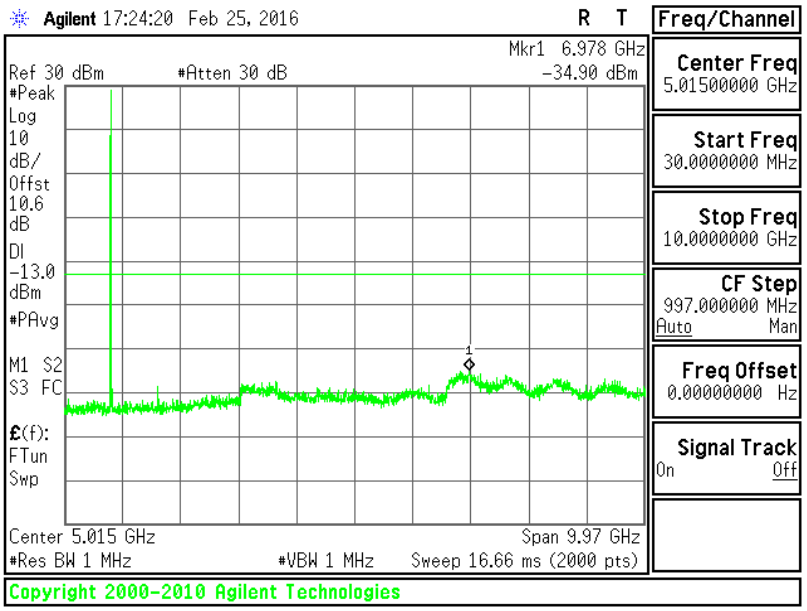


16QAM, (5.0 MHz BAND WIDTH)

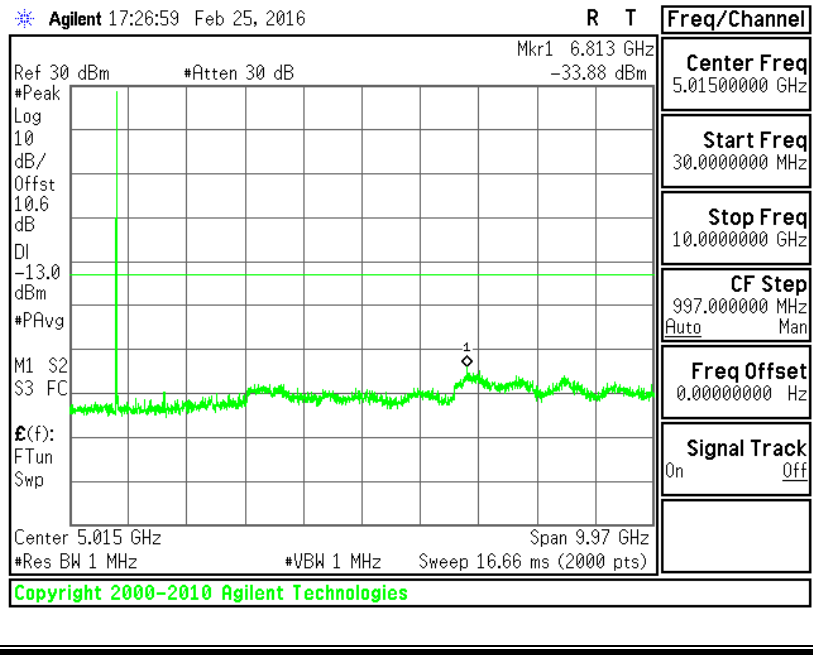
LOW, RB1-0, 30 TO 10000 MHz



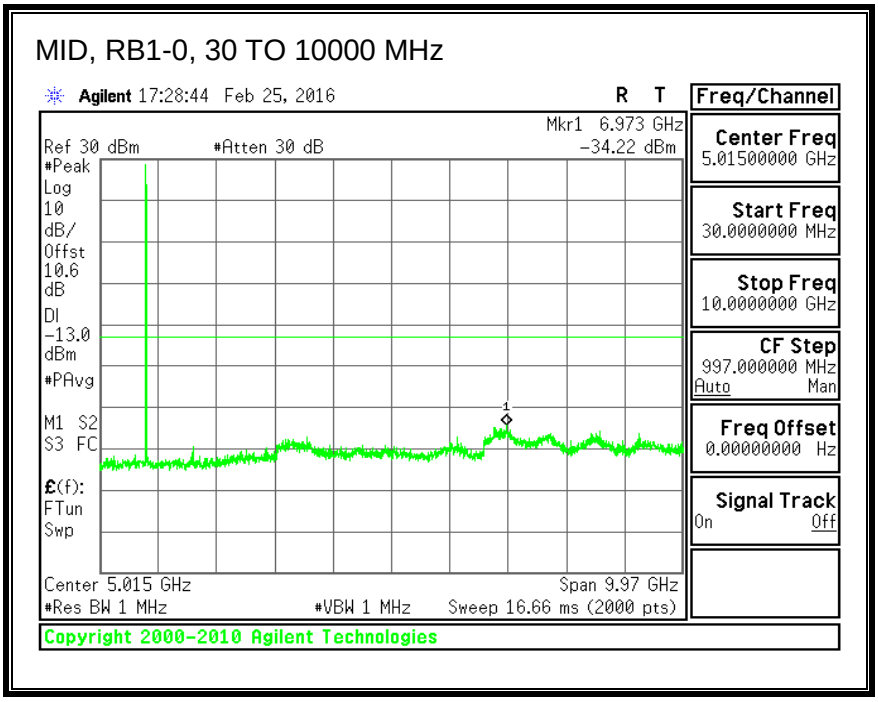
MID, RB1-0, 30 TO 10000 MHz



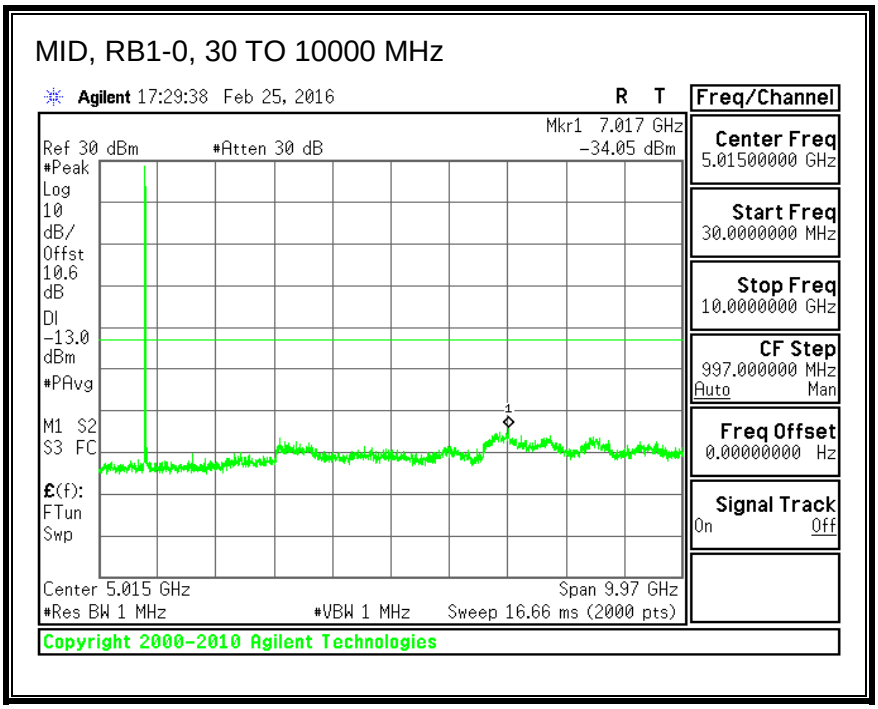
HIGH, RB1-0, 30 TO 10000 MHz



QPSK, (10.0 MHz BAND WIDTH)



16QAM, (10.0 MHz BAND WIDTH)

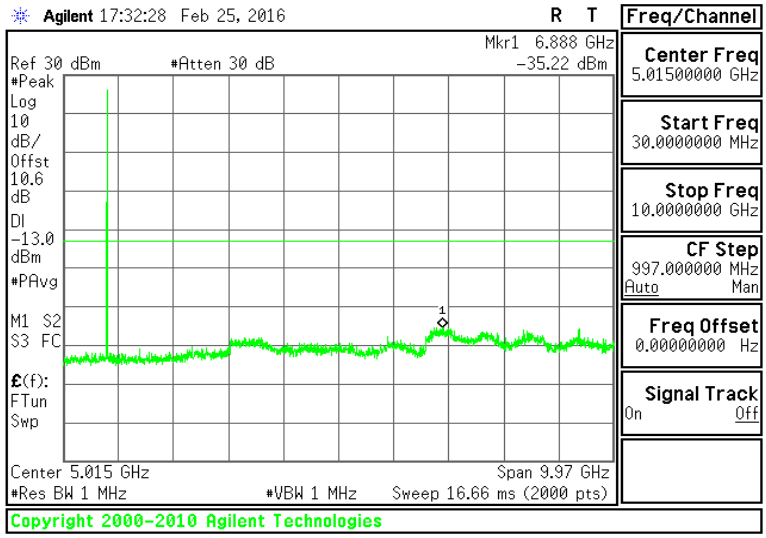


8.3.10. LTE BAND 27

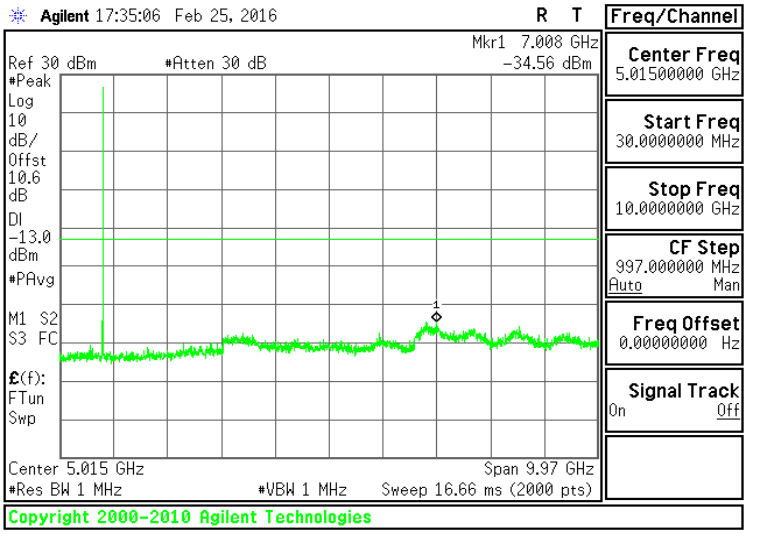
ID:	39472	Date:	2/25/16

QPSK, (1.4 MHz BAND WIDTH)

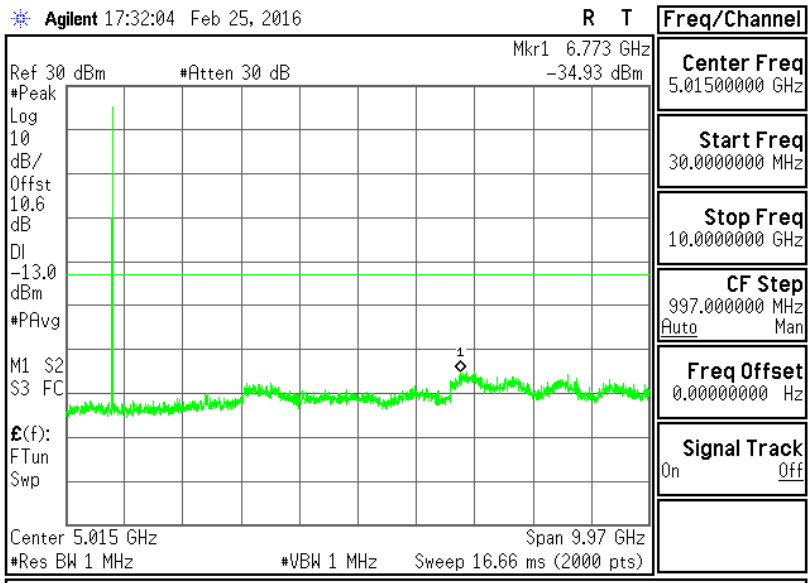
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

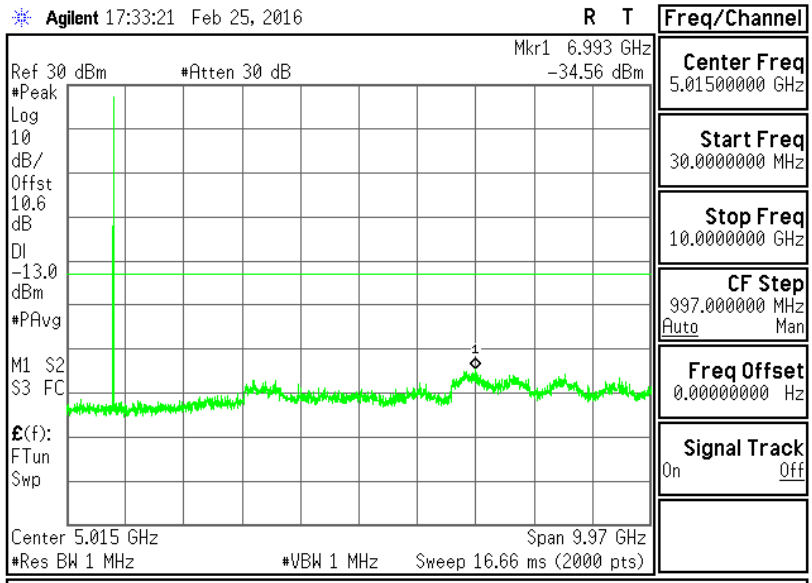


HIGH, RB1-0, 30 TO 10000 MHz

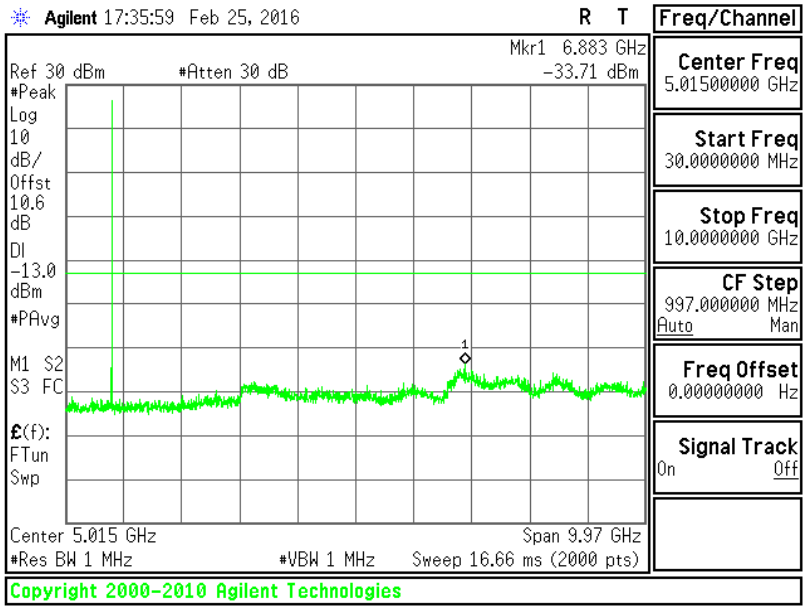


16QAM, (1.4 MHz BAND WIDTH)

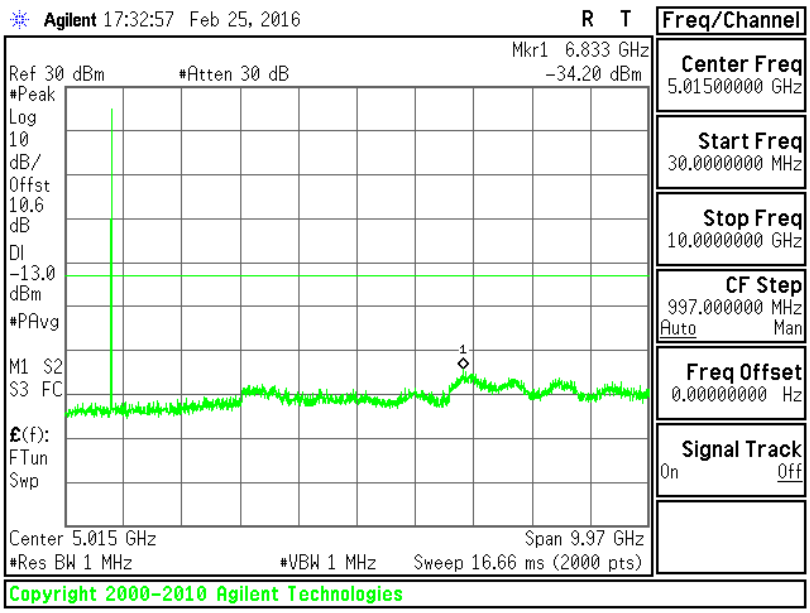
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

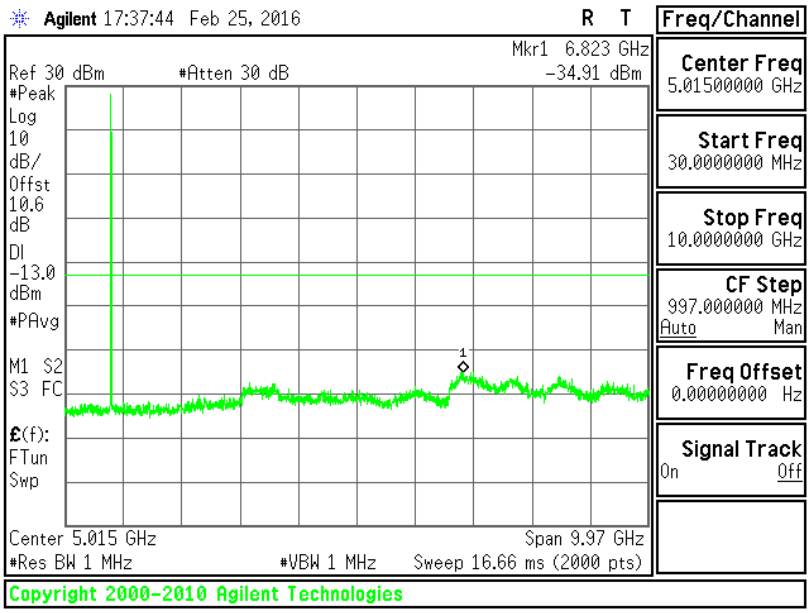


HIGH, RB1-0, 30 TO 10000 MHz

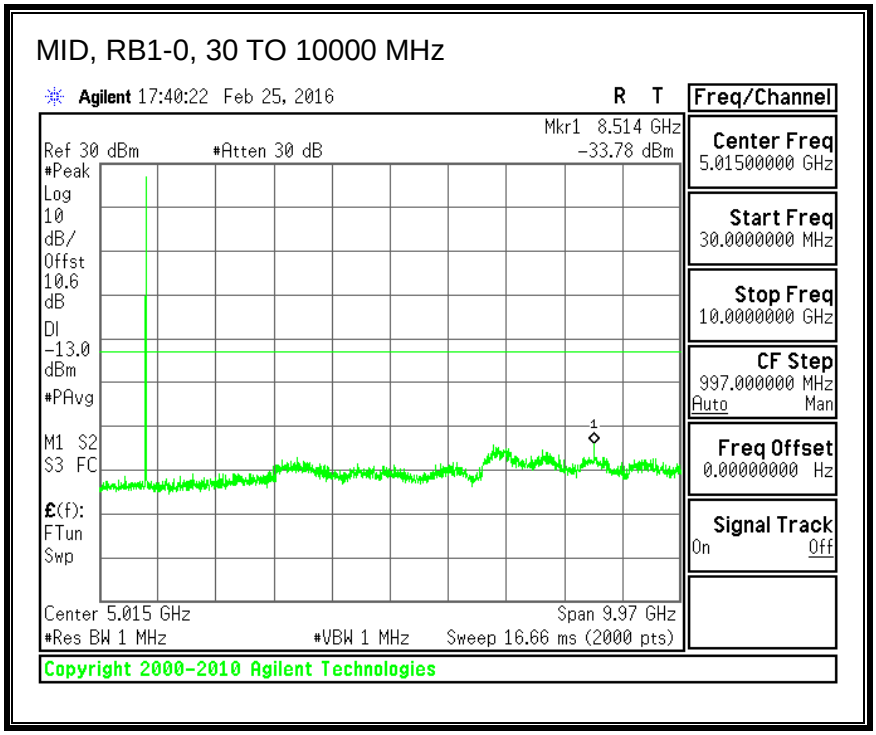


QPSK, (3.0 MHz BAND WIDTH)

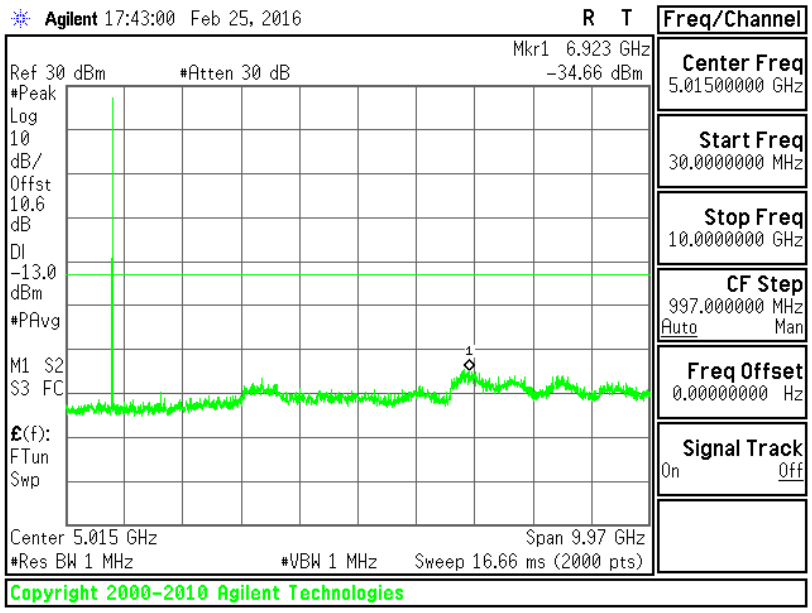
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

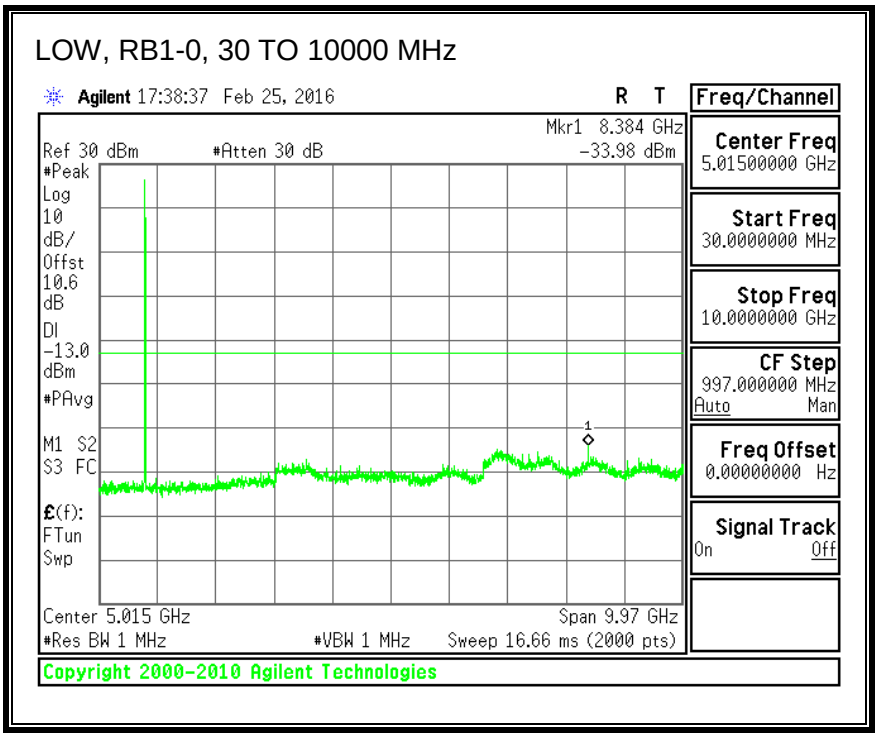


HIGH, RB1-0, 30 TO 10000 MHz

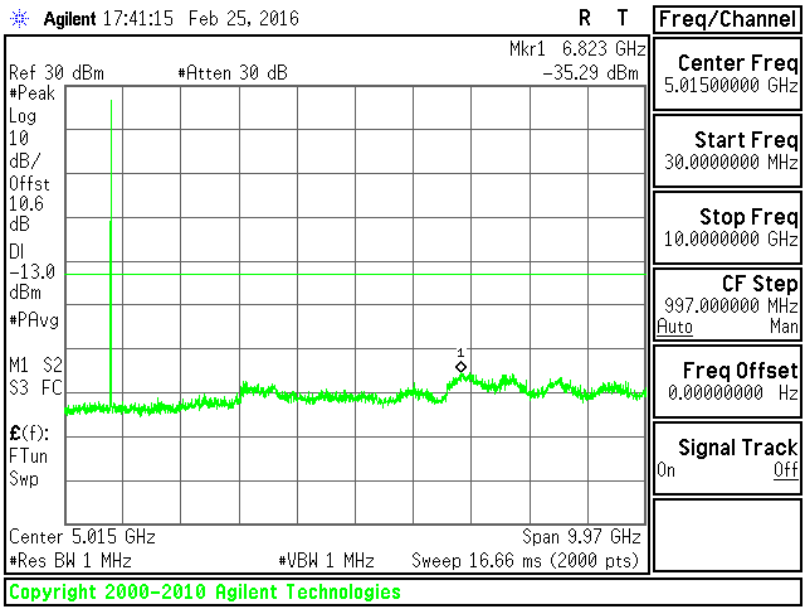


16QAM, (3.0 MHz BAND WIDTH)

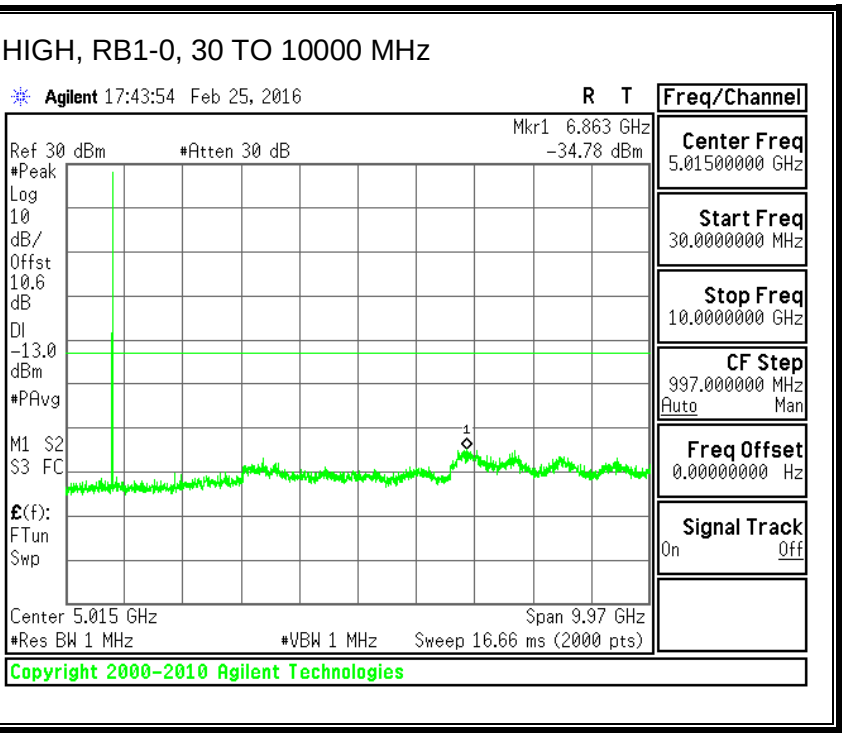
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

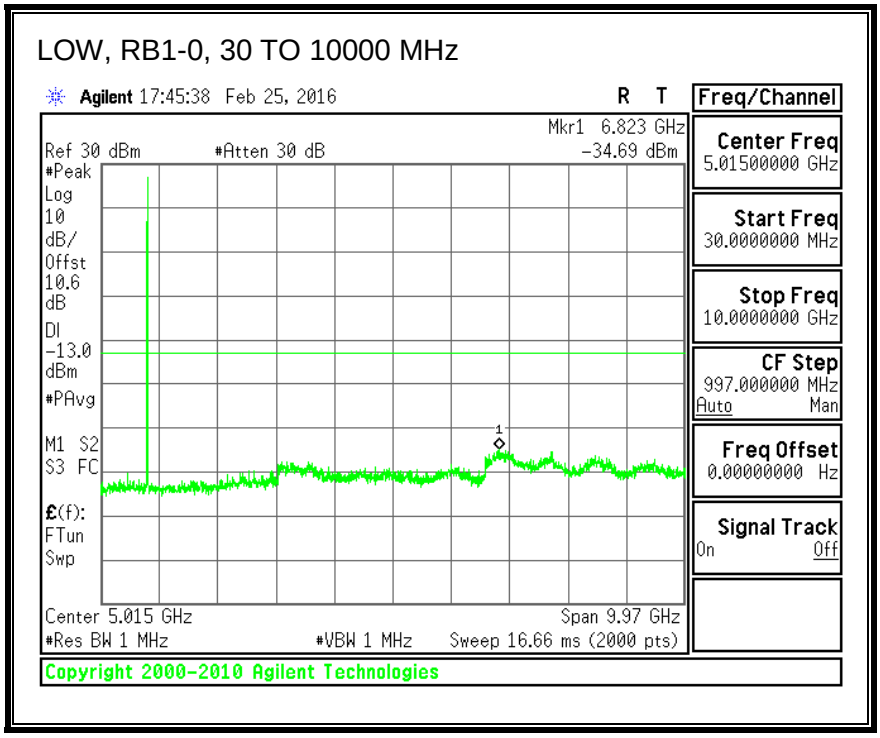


HIGH, RB1-0, 30 TO 10000 MHz

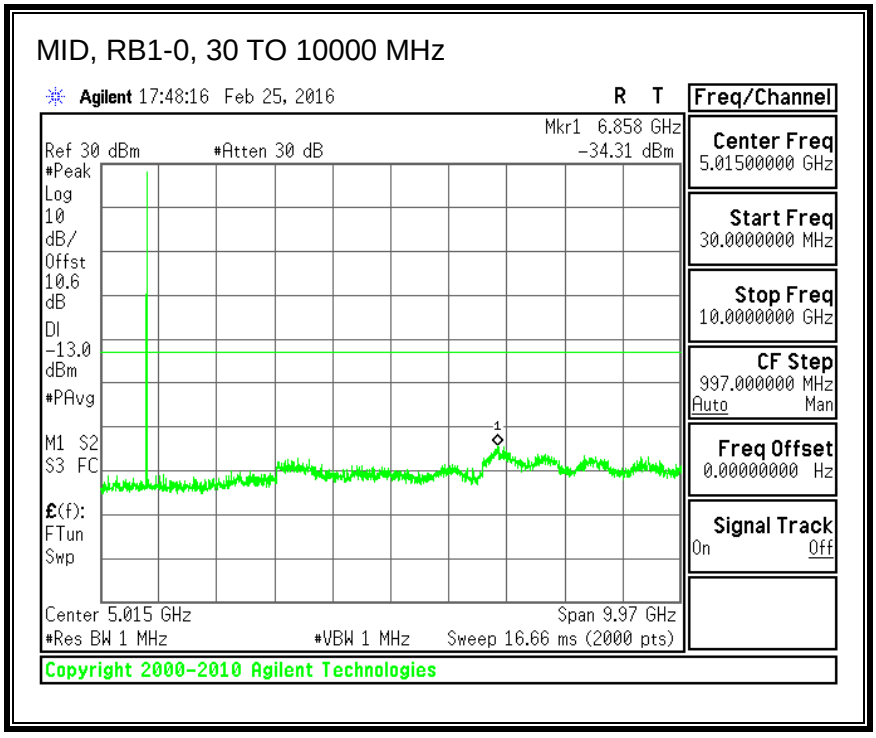


QPSK, (5.0 MHz BAND WIDTH)

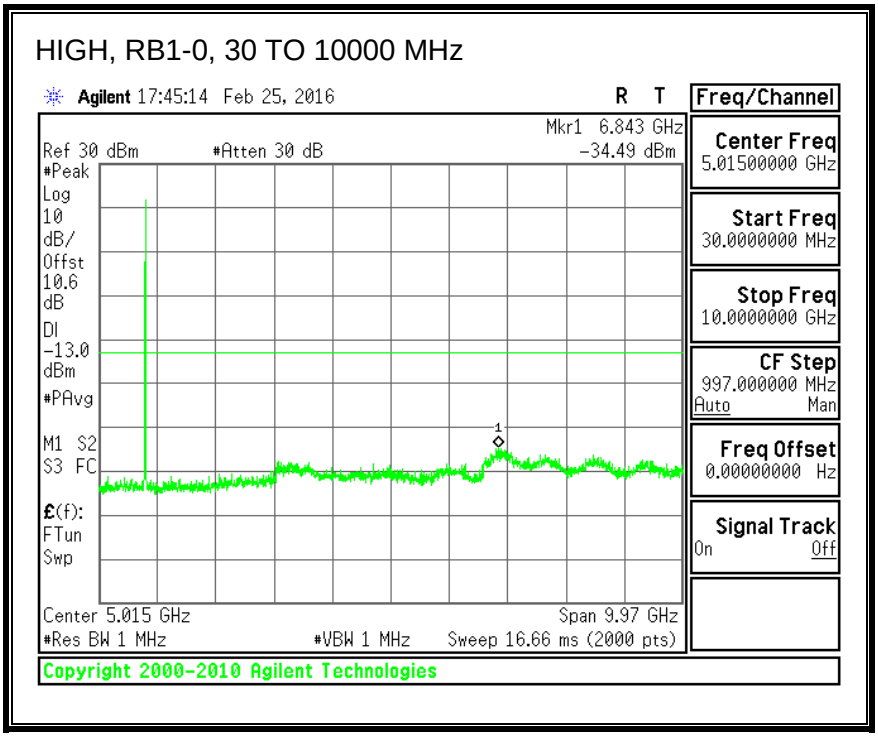
LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz

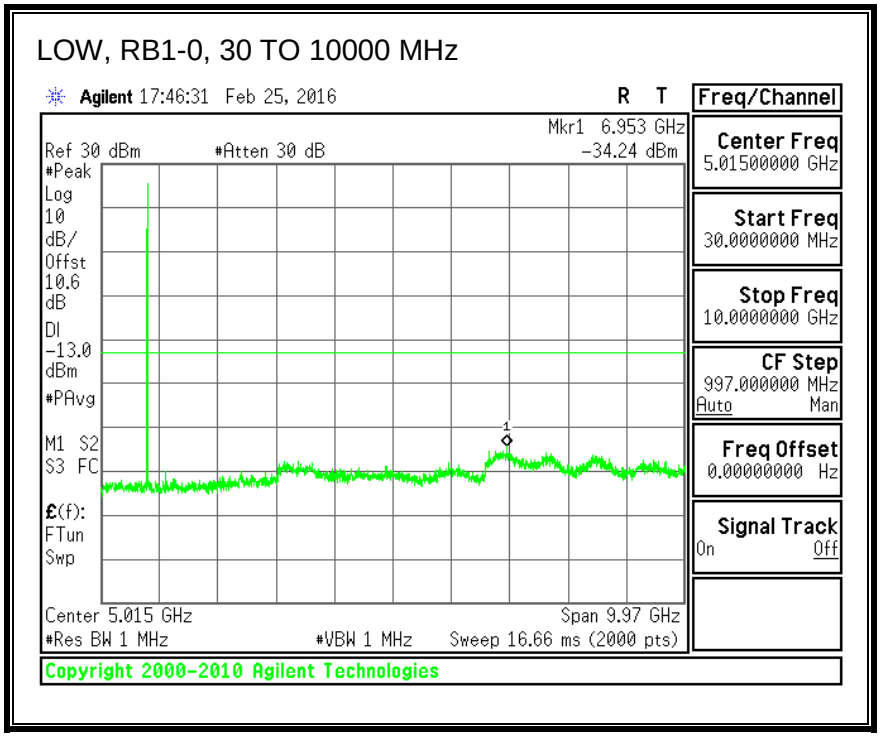


HIGH, RB1-0, 30 TO 10000 MHz

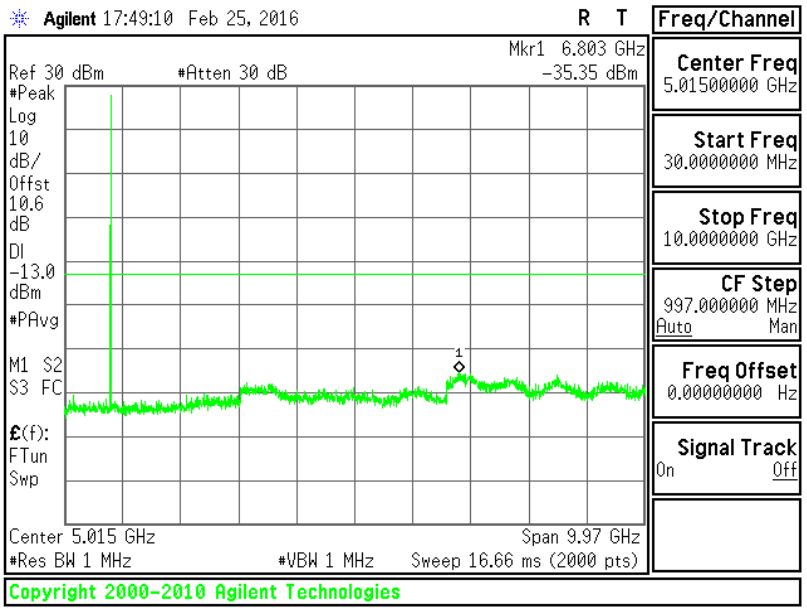


16QAM, (5.0 MHz BAND WIDTH)

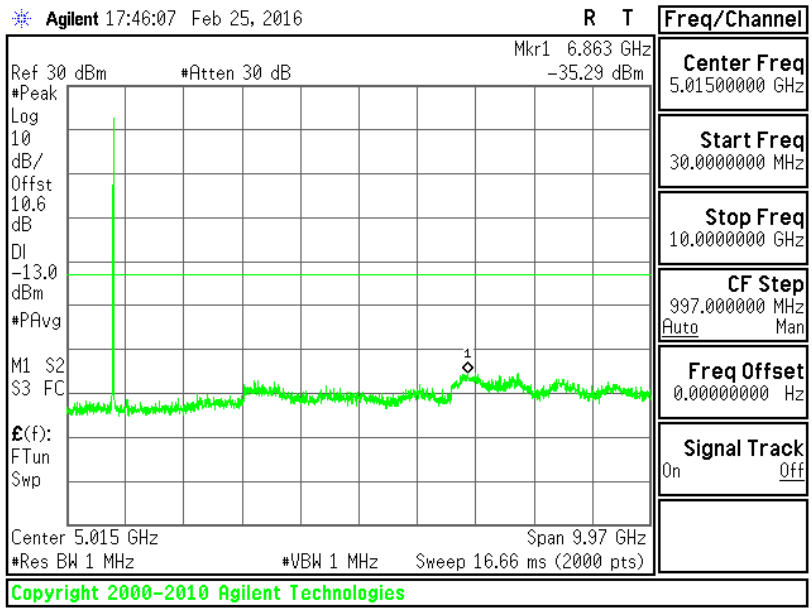
LOW, RB1-0, 30 TO 10000 MHz



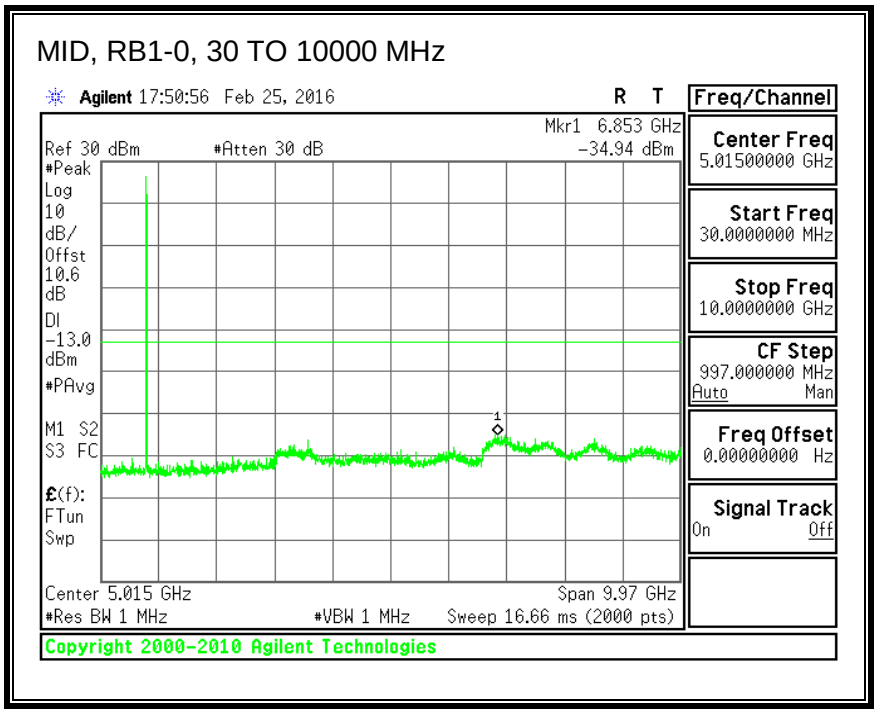
MID, RB1-0, 30 TO 10000 MHz



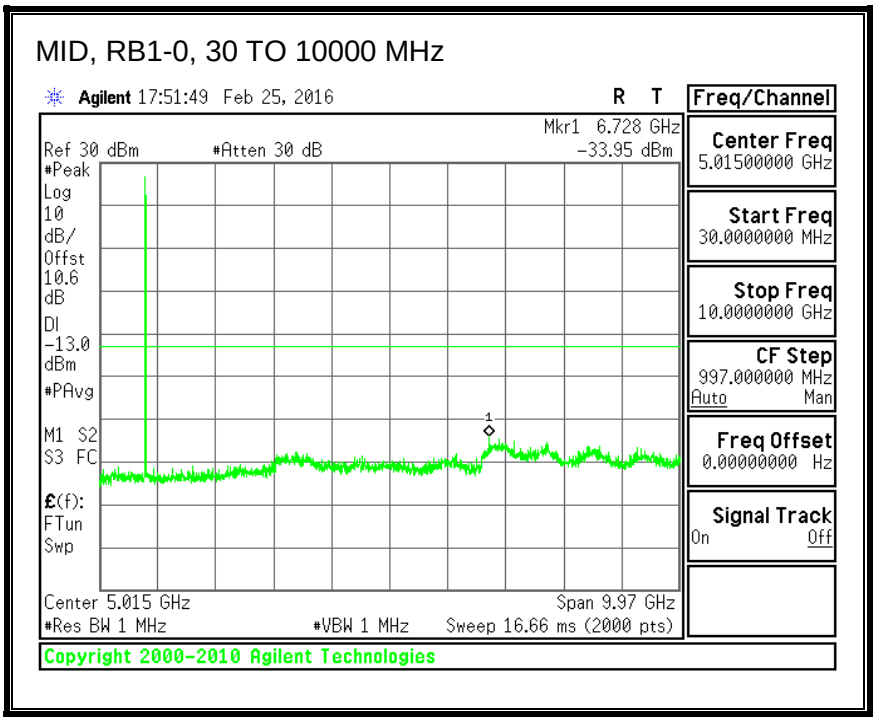
HIGH, RB1-0, 30 TO 10000 MHz



QPSK, (10.0 MHz BAND WIDTH)



16QAM, (10.0 MHz BAND WIDTH)

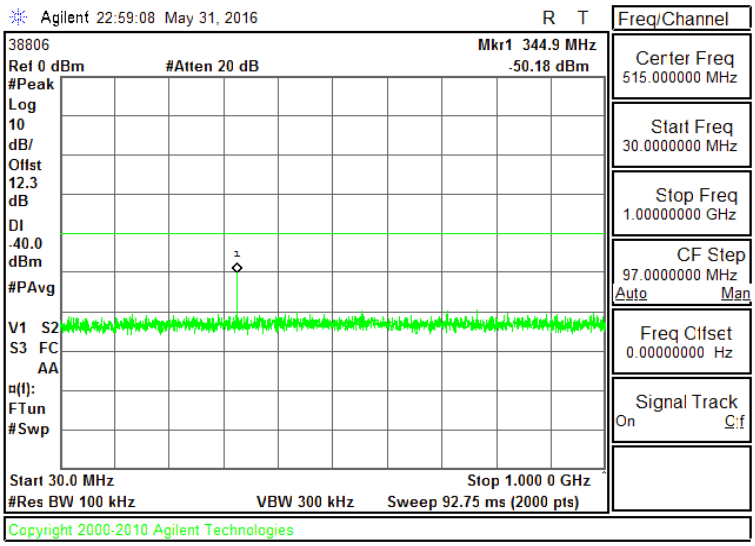


8.3.11. LTE BAND 30

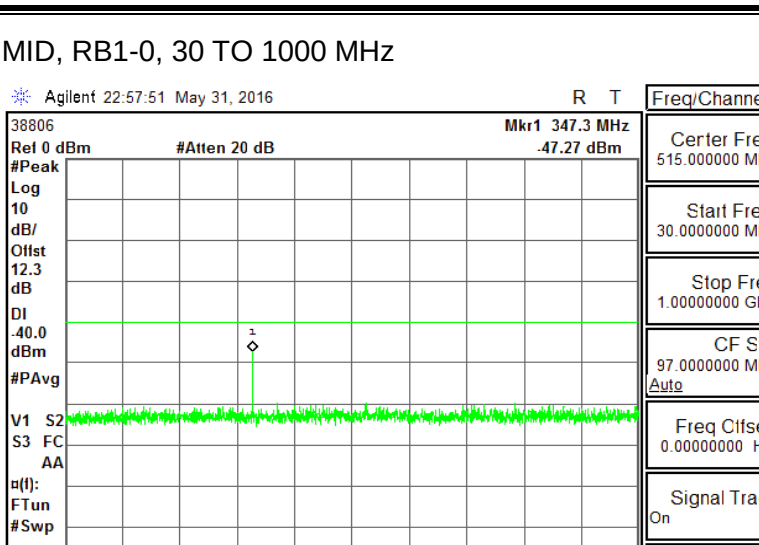
ID:	38806	Date:	5/31/16

QPSK, (5.0 MHz BAND WIDTH)

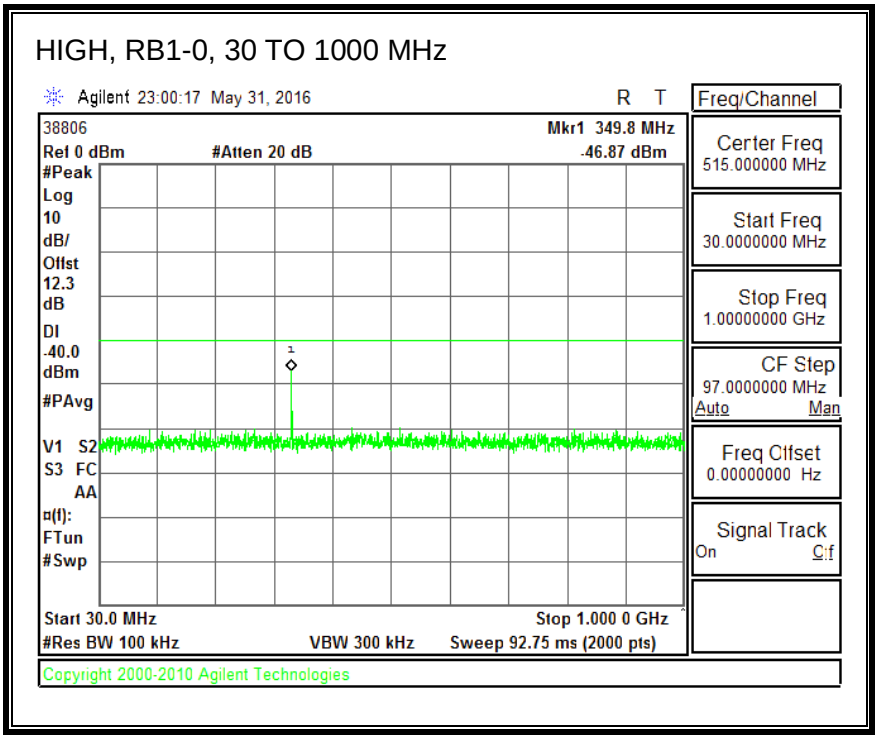
LOW, RB1-0, 30 TO 1000 MHz



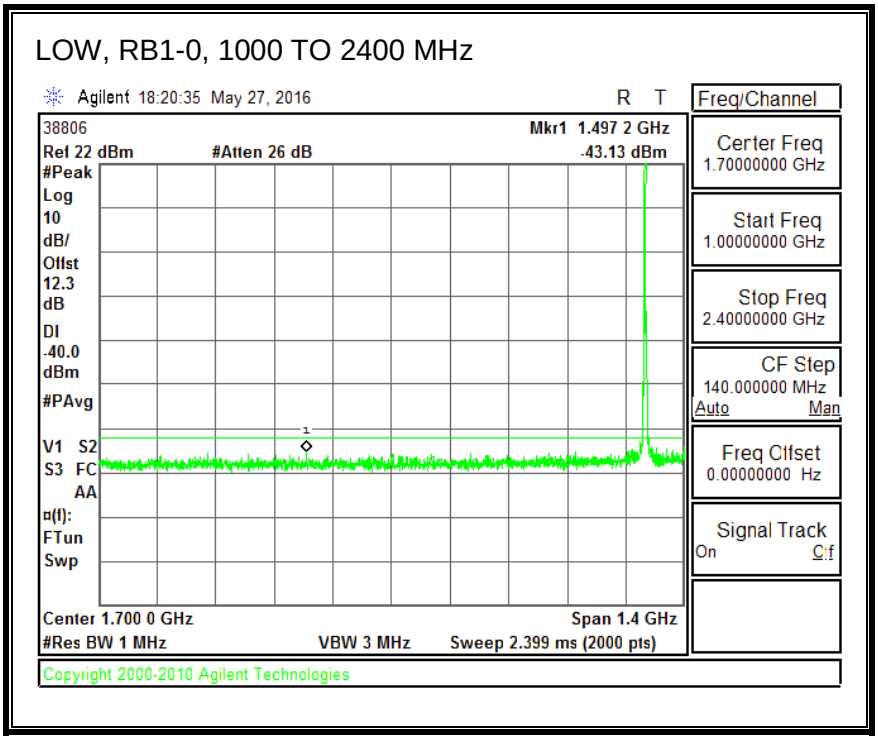
MID, RB1-0, 30 TO 1000 MHz



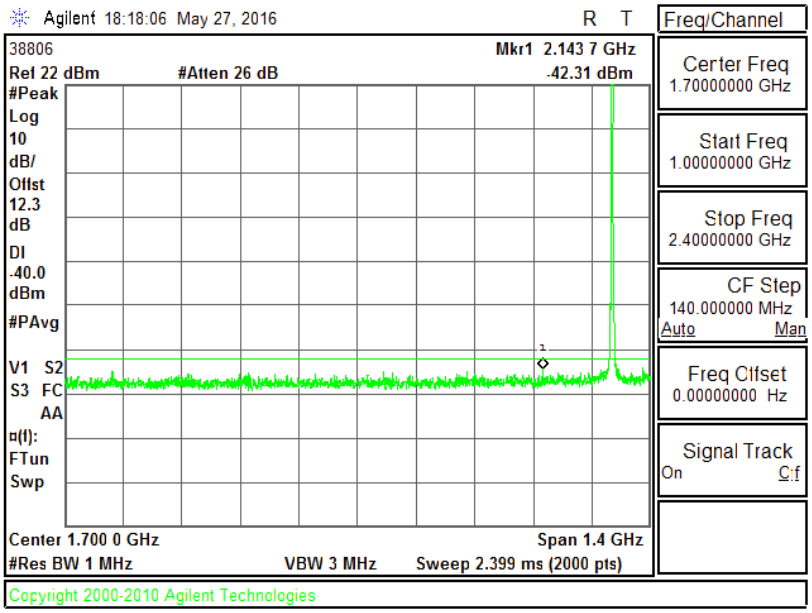
HIGH, RB1-0, 30 TO 1000 MHz



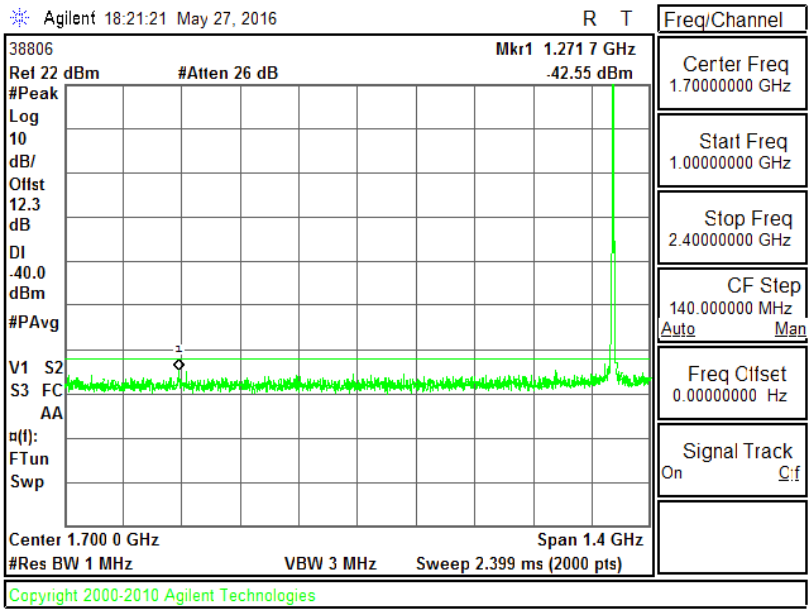
LOW, RB1-0, 1000 TO 2400 MHz



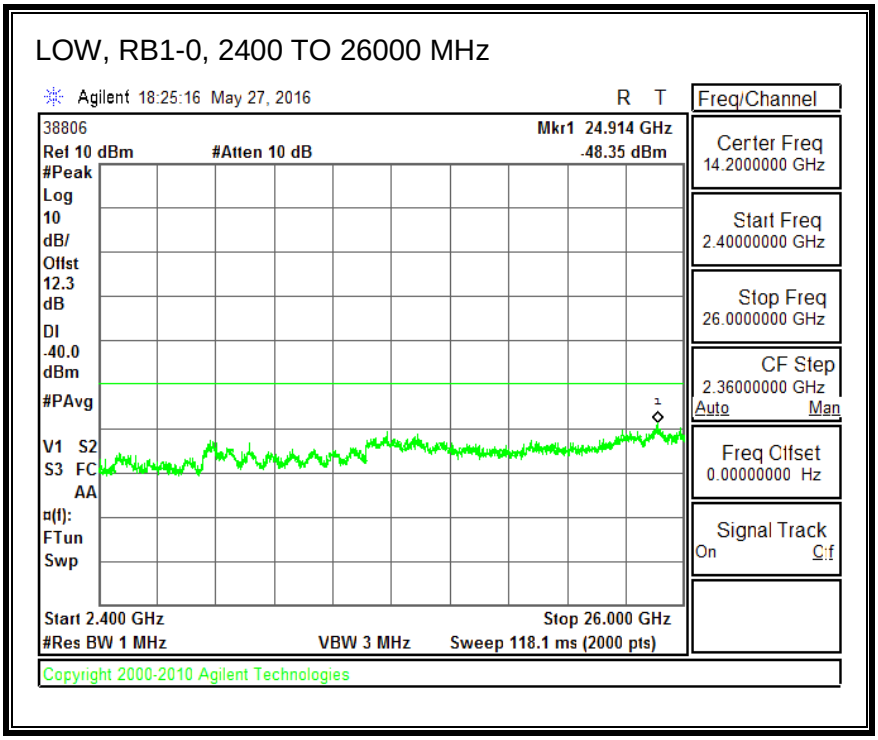
MID, RB1-0, 1000 TO 2400 MHz



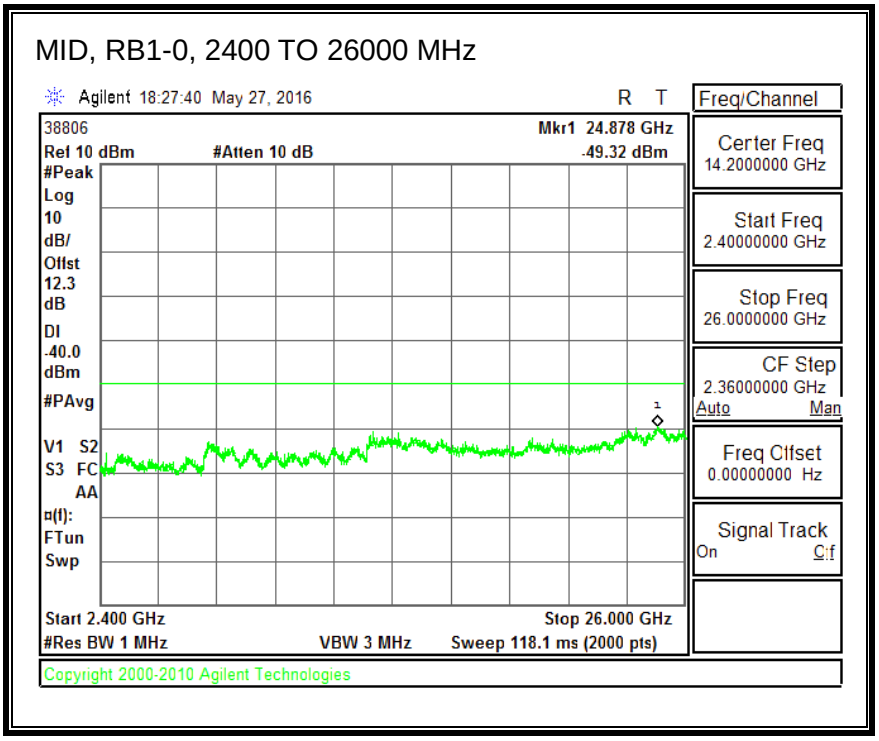
HIGH, RB1-0, 1000 TO 2400 MHz



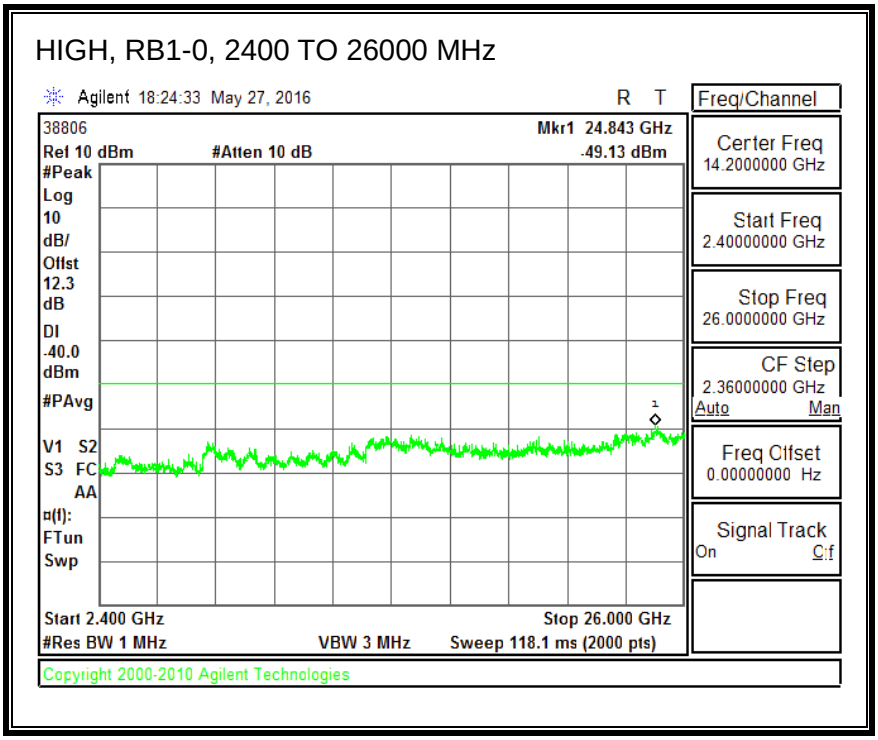
LOW, RB1-0, 2400 TO 26000 MHz



MID, RB1-0, 2400 TO 26000 MHz

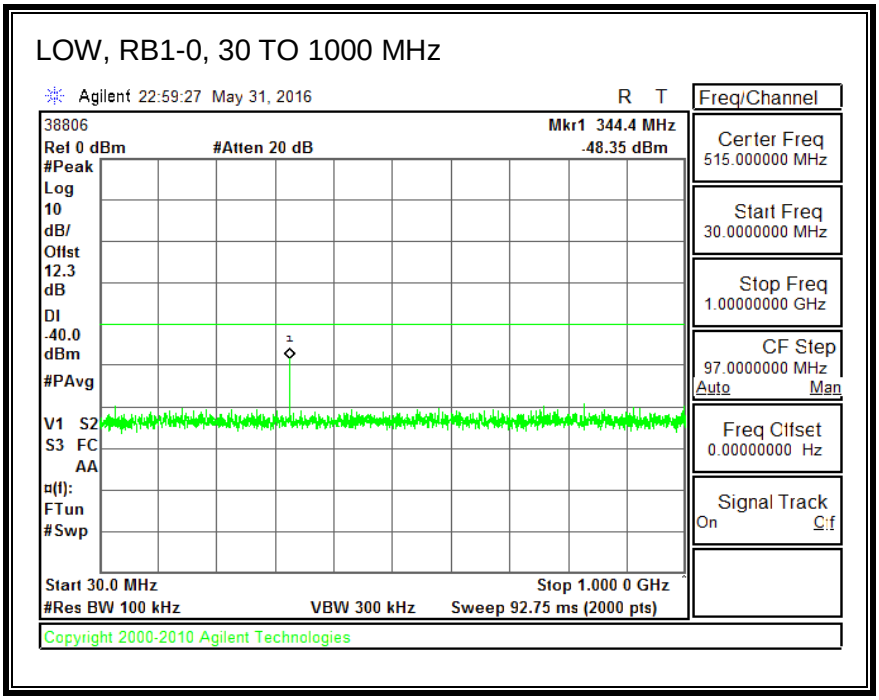


HIGH, RB1-0, 2400 TO 26000 MHz

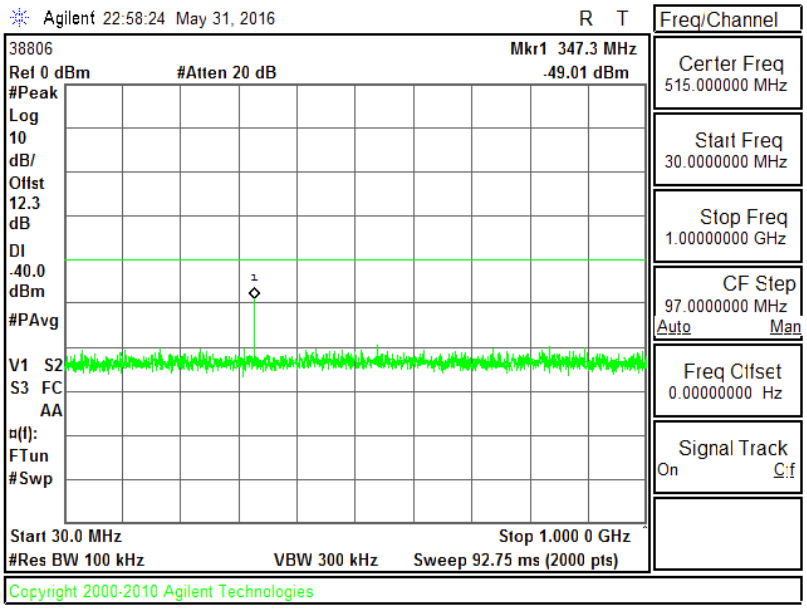


QPSK, (5.0 MHz BAND WIDTH)

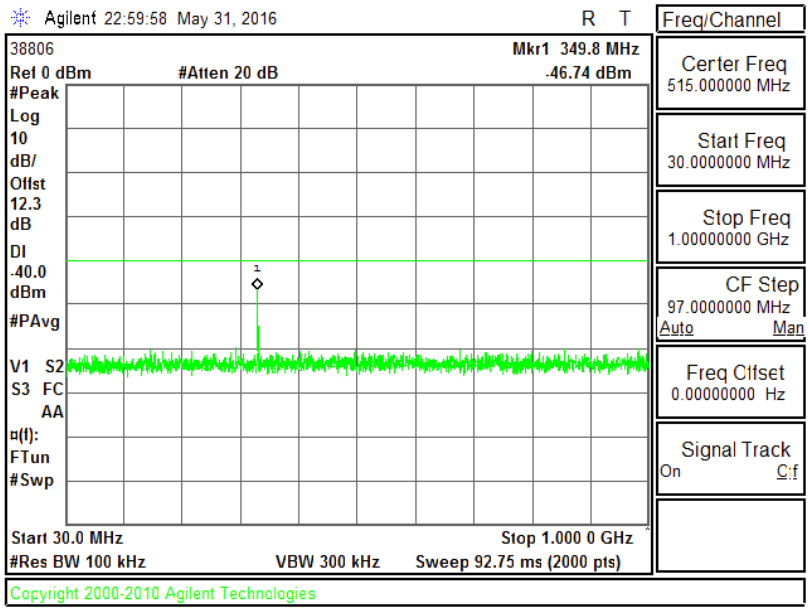
LOW, RB1-0, 30 TO 1000 MHz



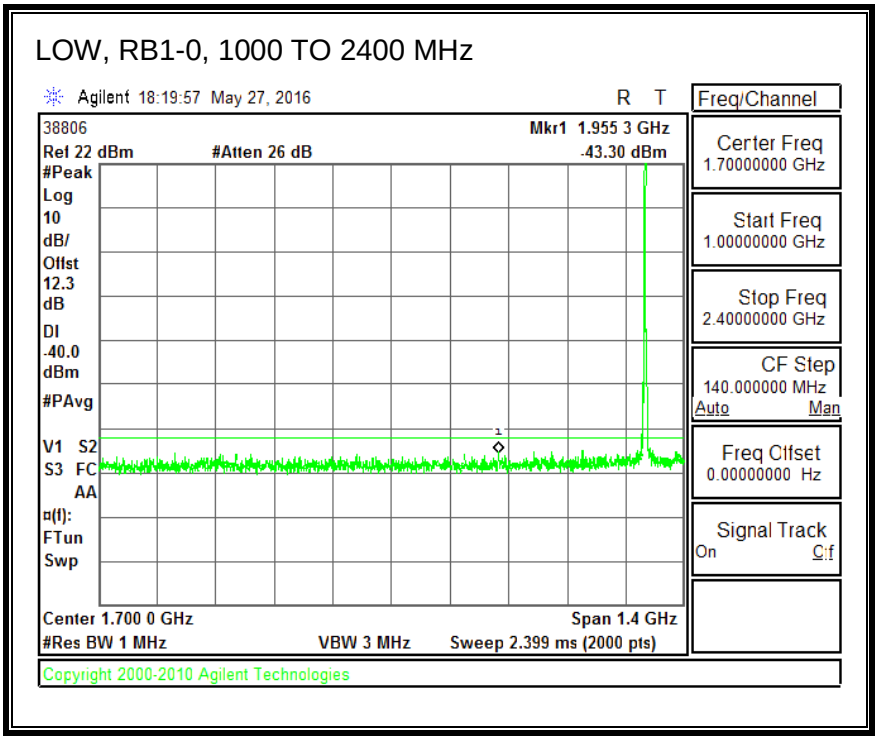
MID, RB1-0, 30 TO 1000 MHz



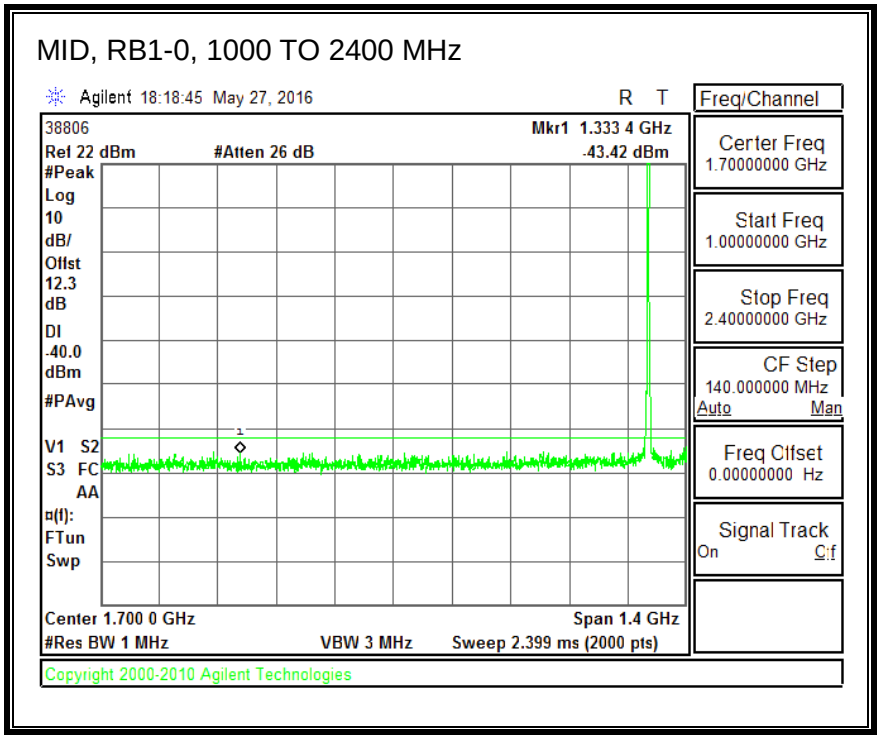
HIGH, RB1-0, 30 TO 1000 MHz



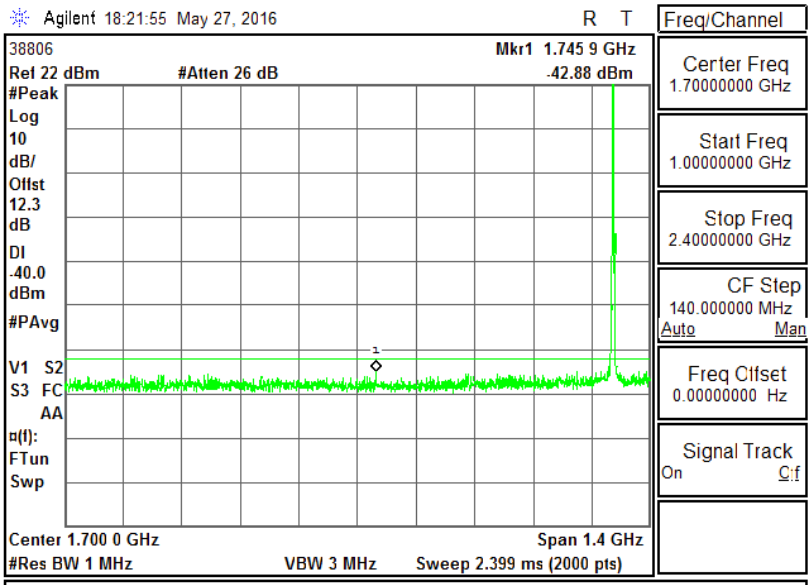
LOW, RB1-0, 1000 TO 2400 MHz



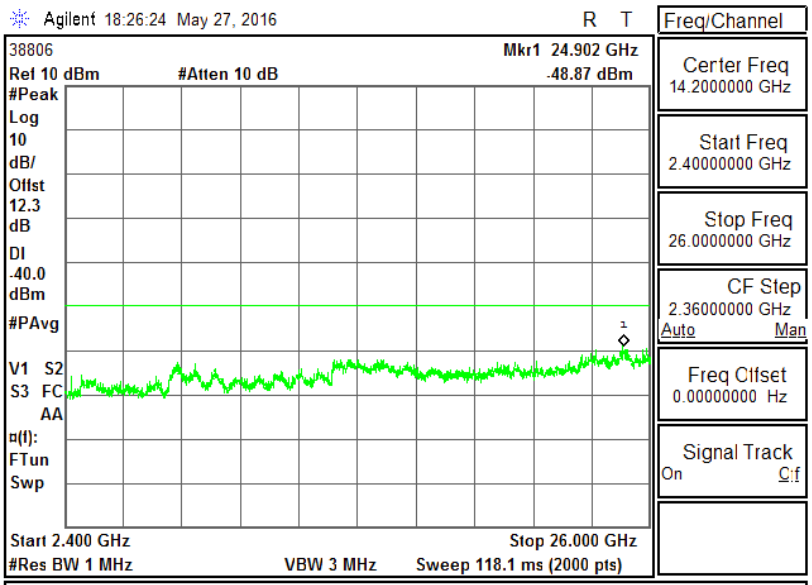
MID, RB1-0, 1000 TO 2400 MHz



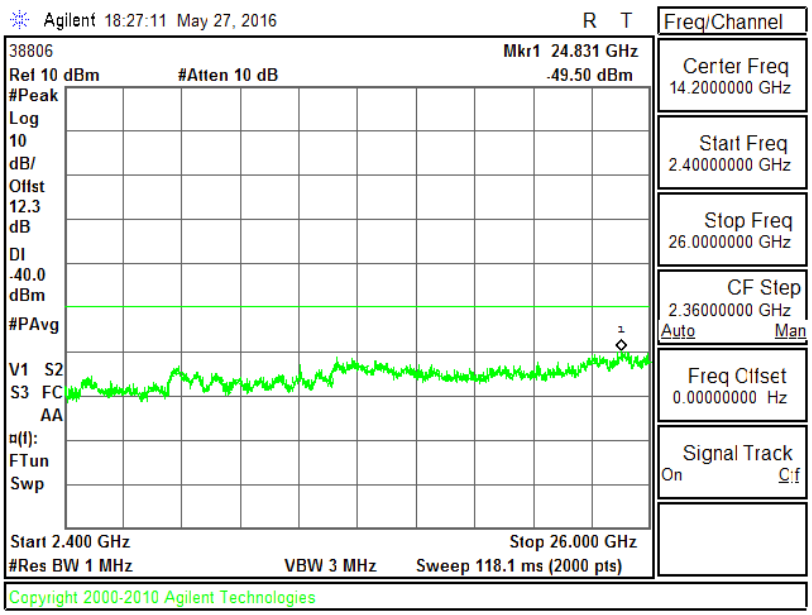
HIGH, RB1-0, 1000 TO 2400 MHz



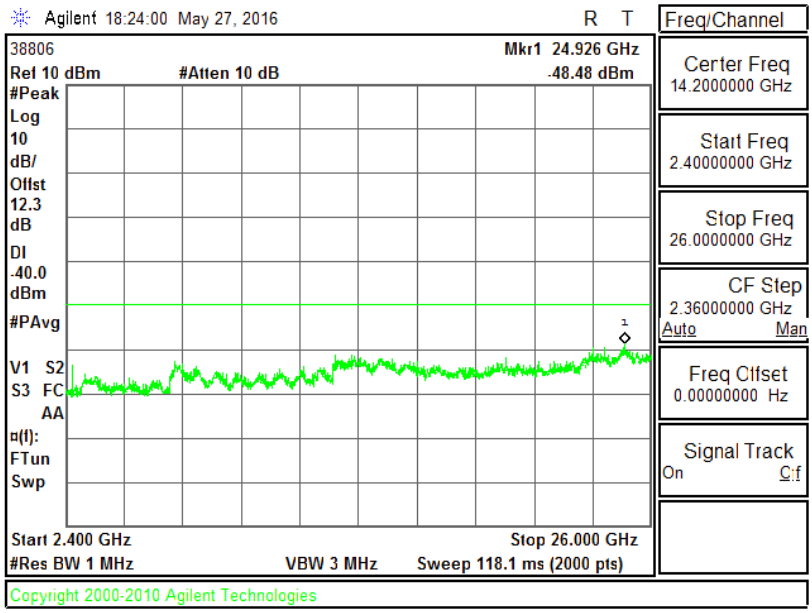
LOW, RB1-0, 2400 TO 26000 MHz



MID, RB1-0, 2400 TO 26000 MHz

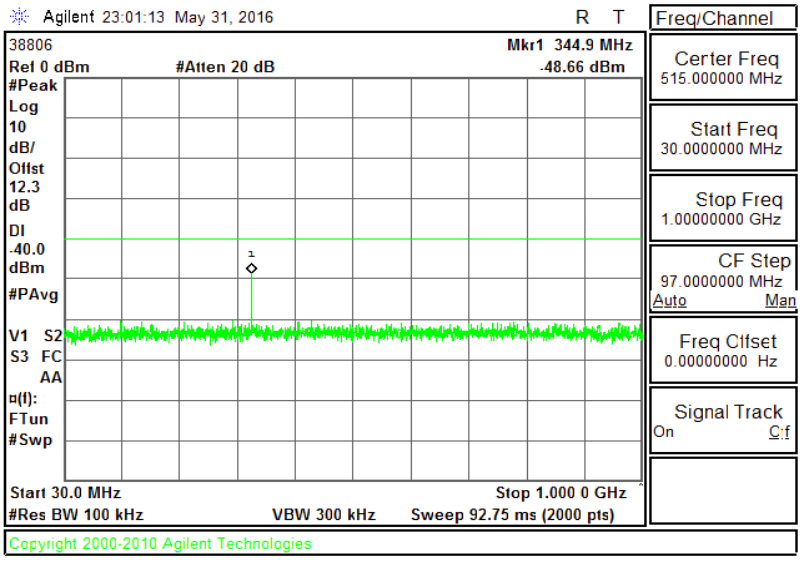


HIGH, RB1-0, 2400 TO 26000 MHz

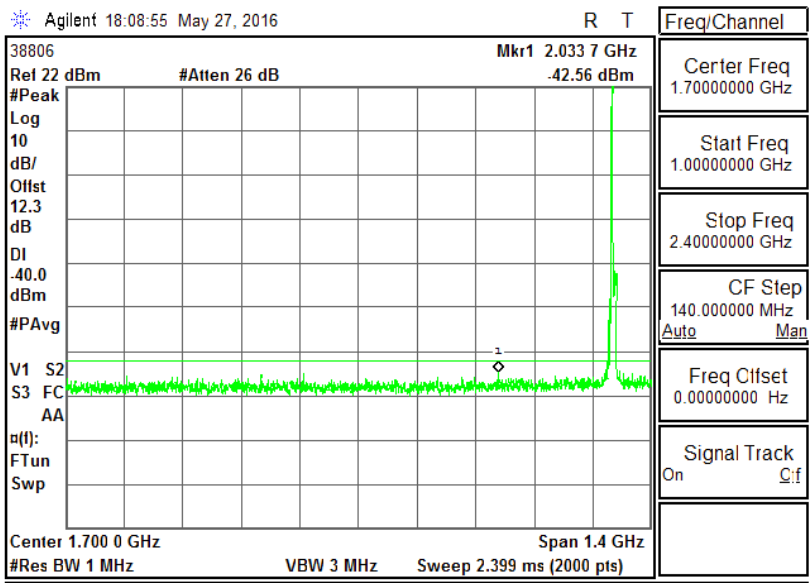


QPSK, (10.0 MHz BAND WIDTH)

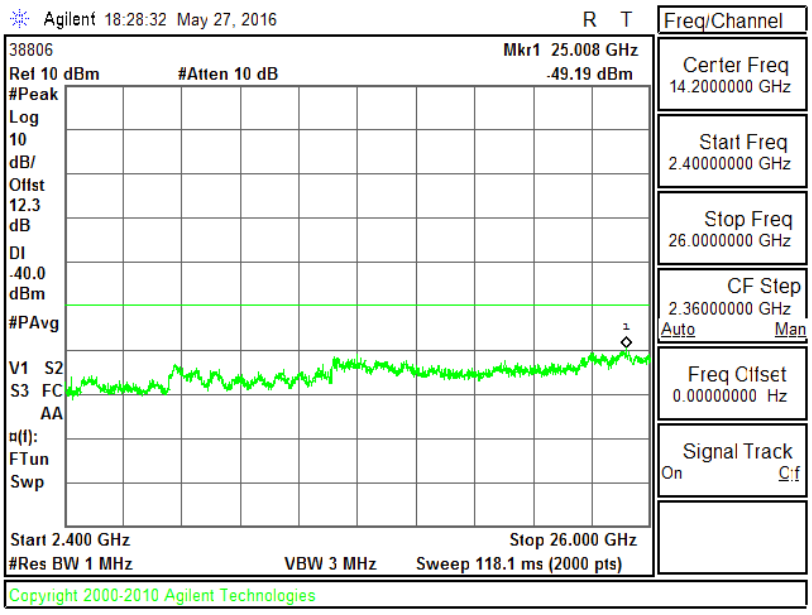
MID, RB1-0, 30 TO 1000 MHz



MID, RB1-0, 1000 TO 2400 MHz

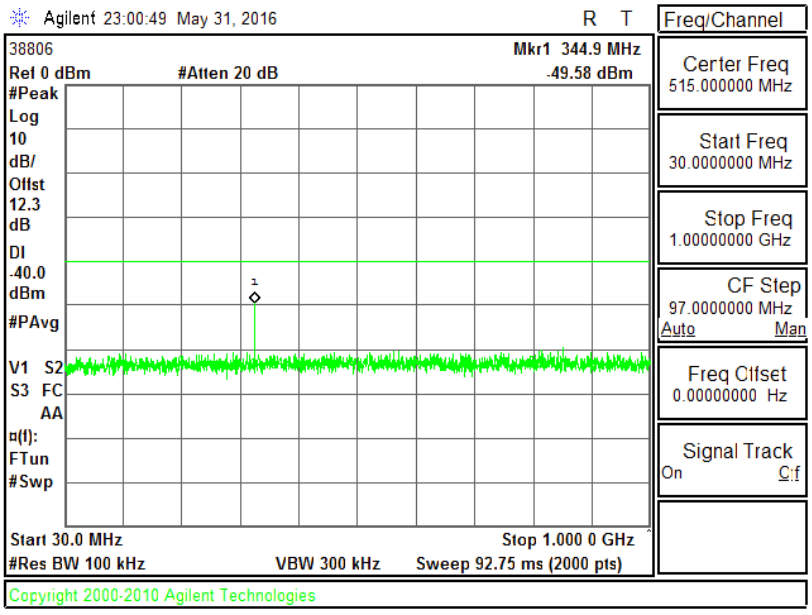


MID, RB1-0, 2400 TO 26000 MHz

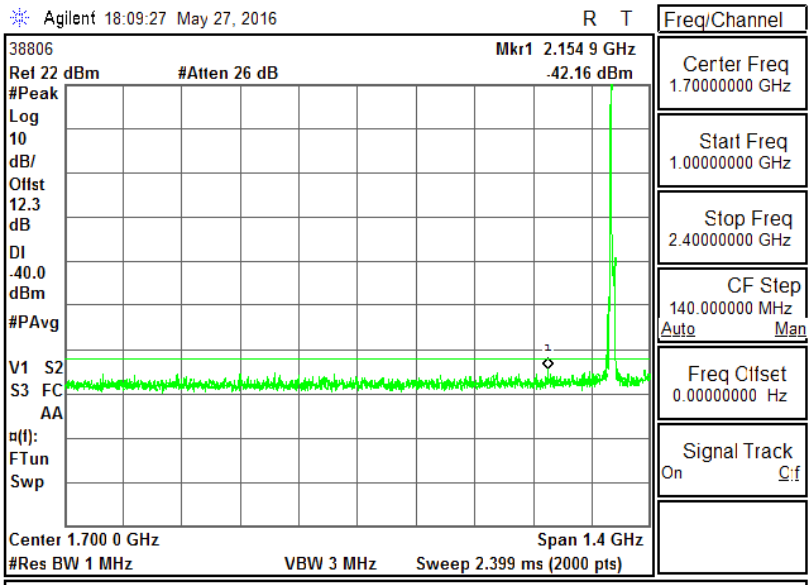


16QAM, (10.0 MHz BAND WIDTH)

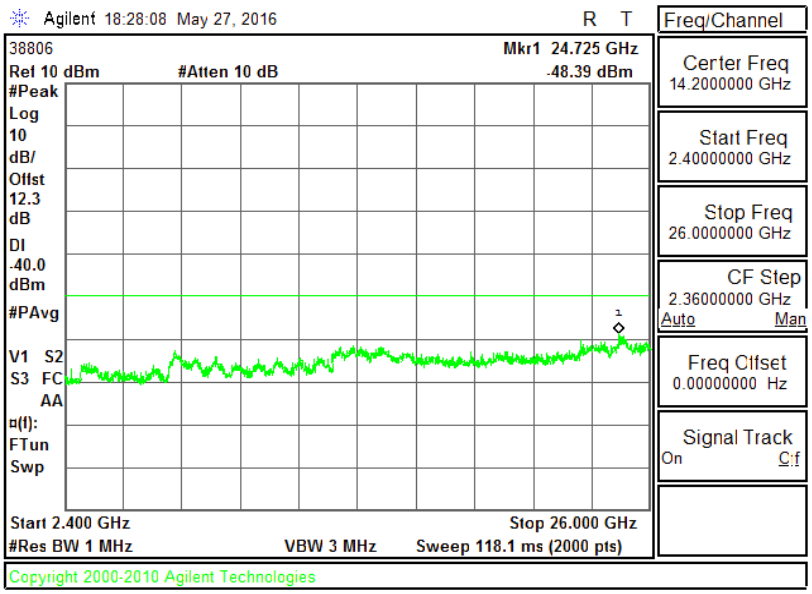
MID, RB1-0, 30 TO 1000 MHz



MID, RB1-0, 1000 TO 2400 MHz



MID, RB1-0, 2400 TO 26000 MHz

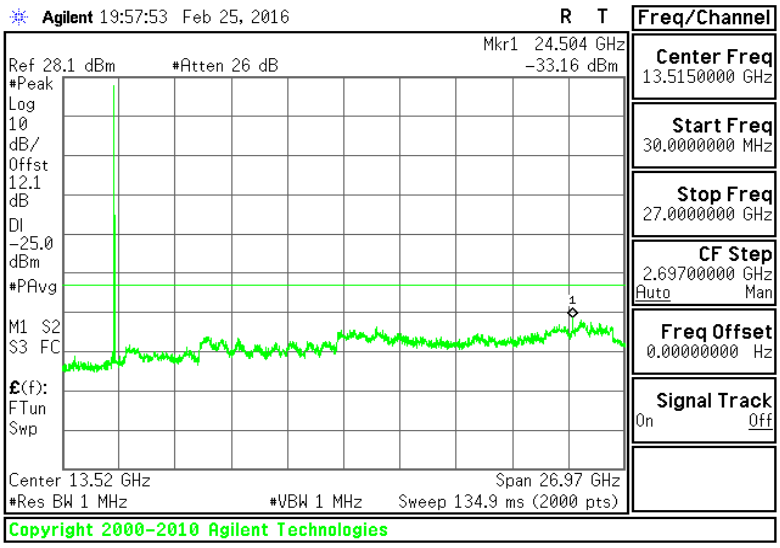


8.3.12. LTE BAND 41

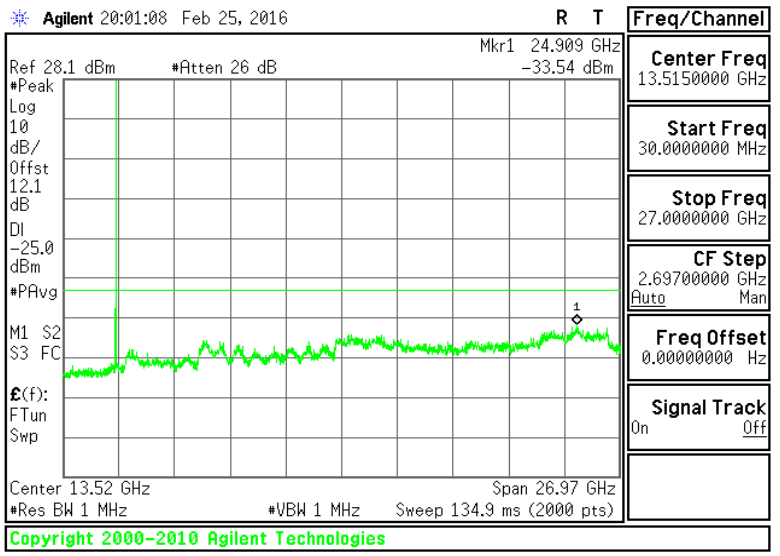
ID:	38806	Date:	2/25/16

QPSK, (5.0 MHz BAND WIDTH)

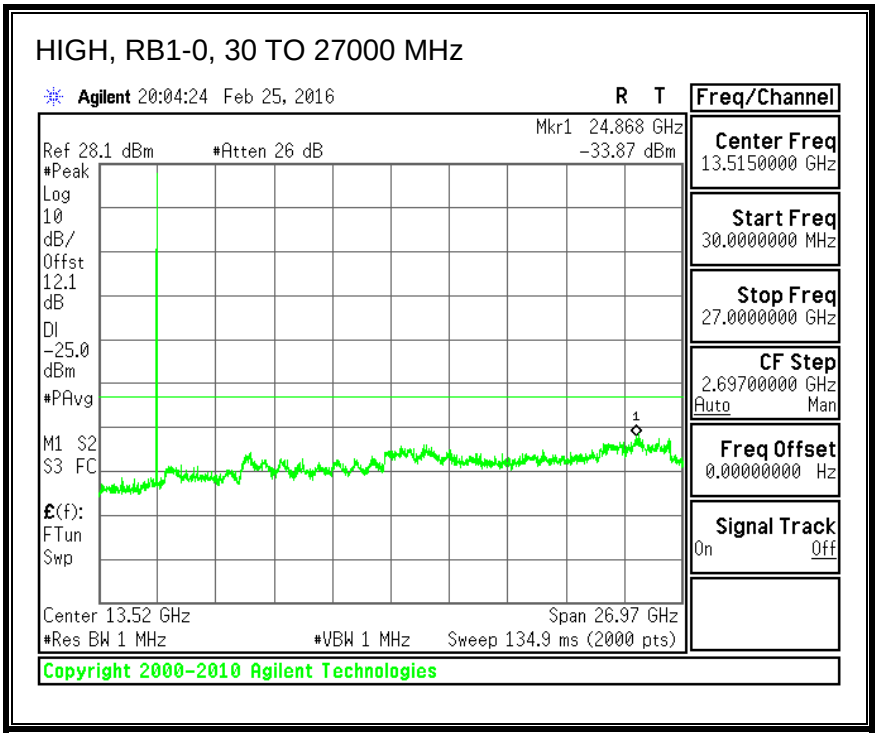
LOW, RB1-0, 30 TO 27000 MHz



MID, RB1-0, 30 TO 27000 MHz

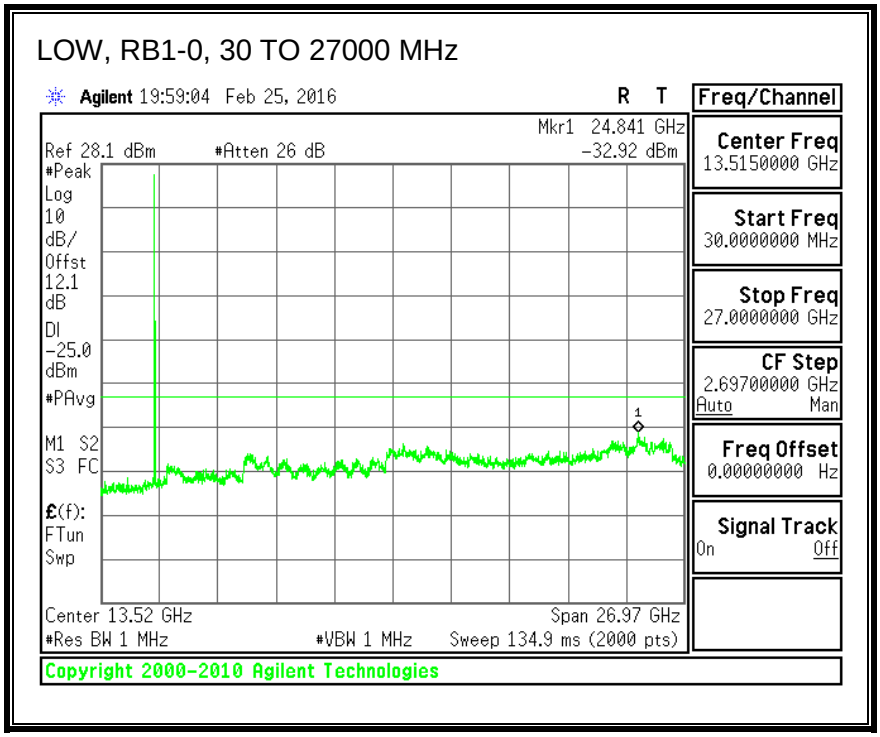


HIGH, RB1-0, 30 TO 27000 MHz

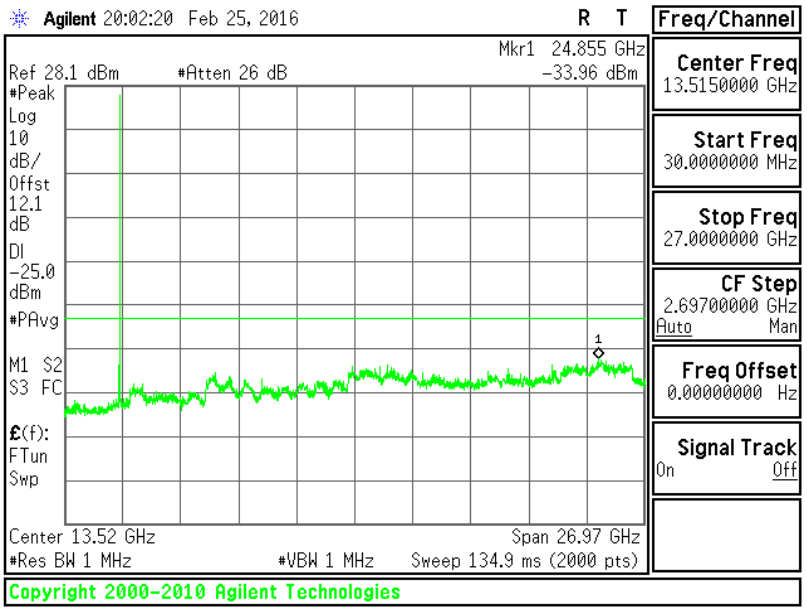


16QAM, (5.0 MHz BAND WIDTH)

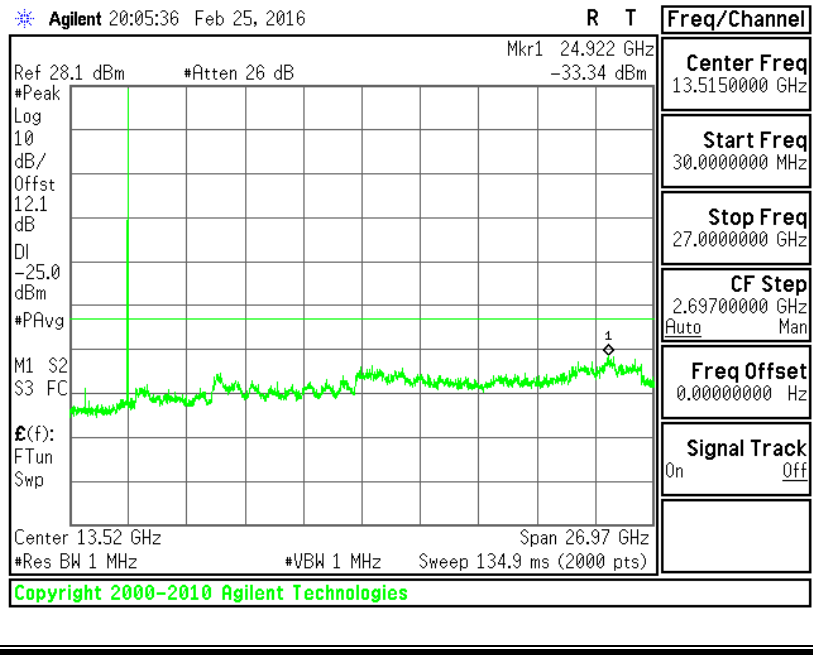
LOW, RB1-0, 30 TO 27000 MHz



MID, RB1-0, 30 TO 27000 MHz

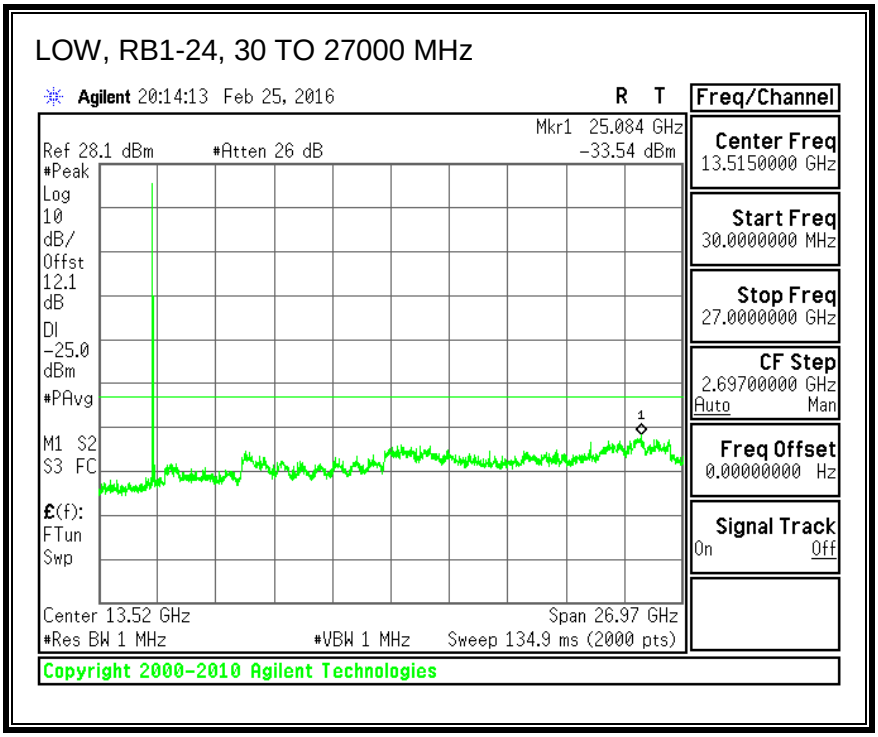


HIGH, RB1-0, 30 TO 27000 MHz

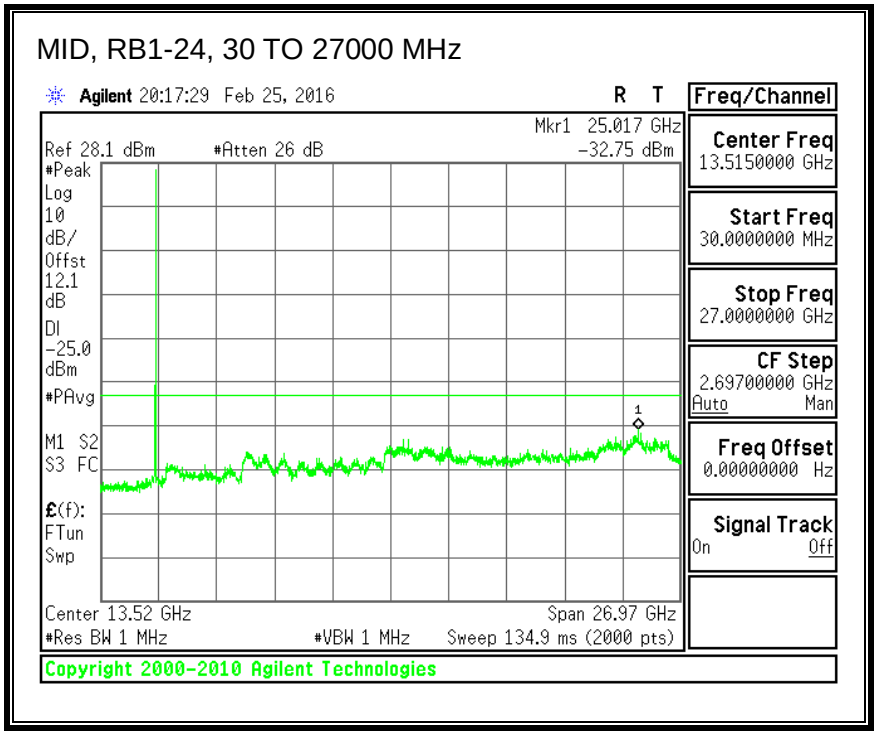


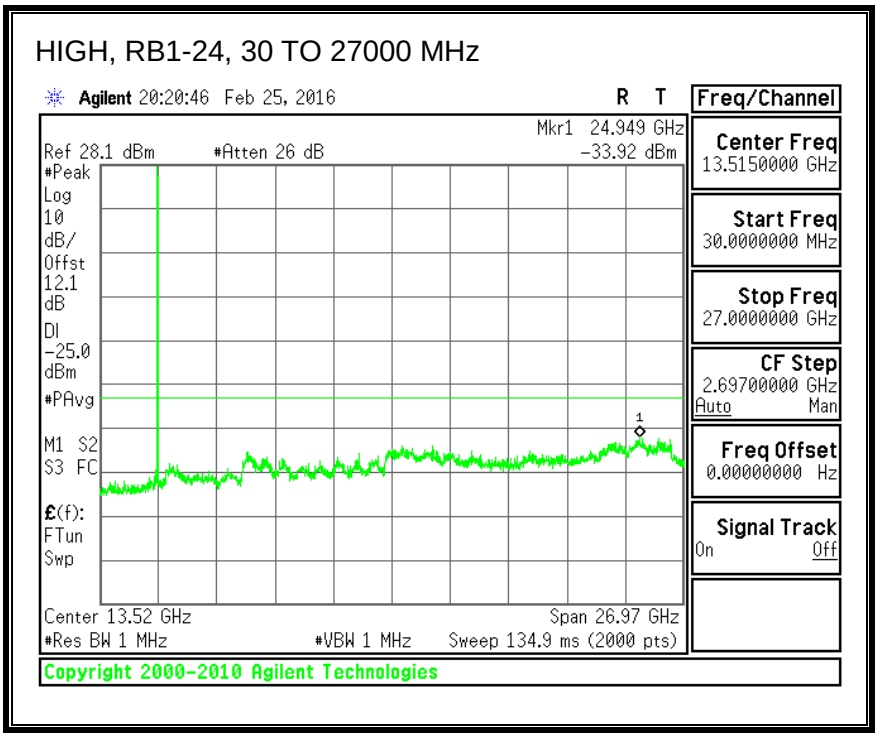
QPSK, (10.0 MHz BAND WIDTH)

LOW, RB1-24, 30 TO 27000 MHz

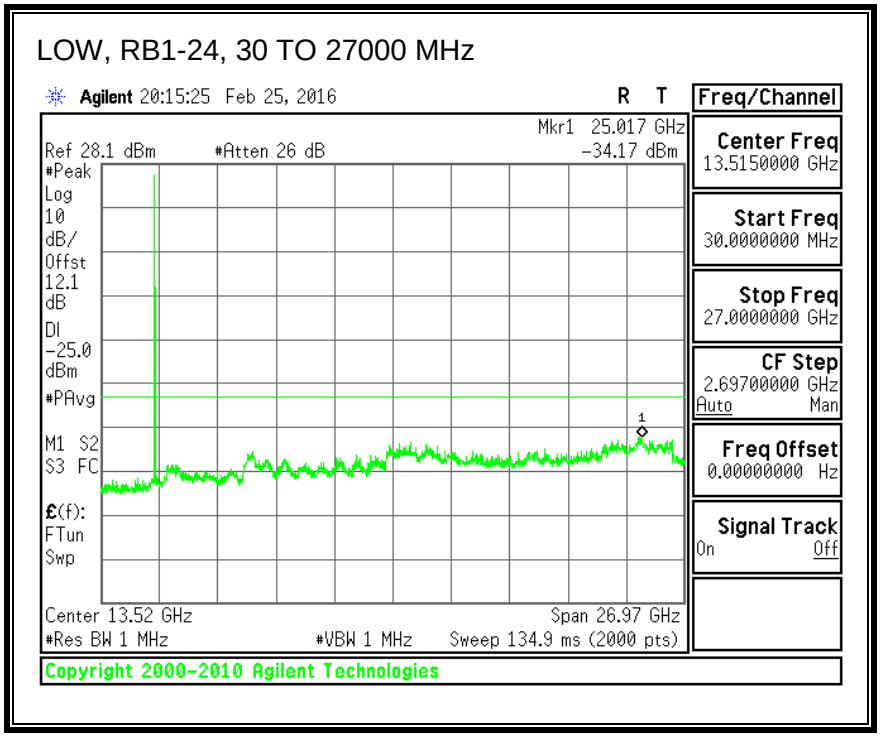


MID, RB1-24, 30 TO 27000 MHz

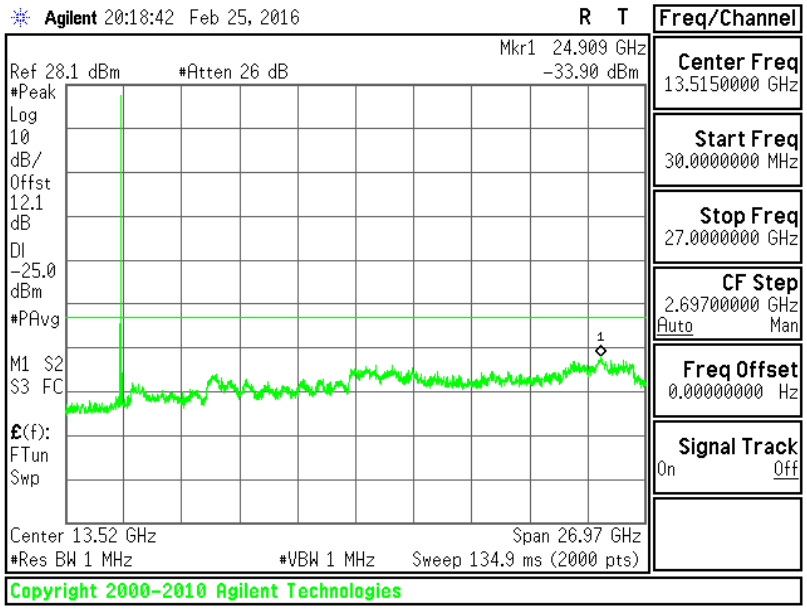




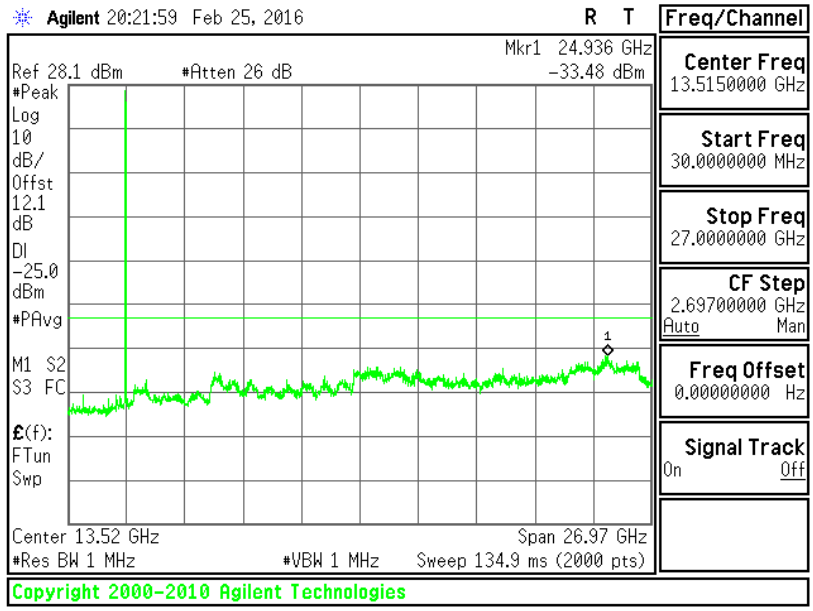
16QAM, (10.0 MHz BAND WIDTH)



MID, RB1-24, 30 TO 27000 MHz

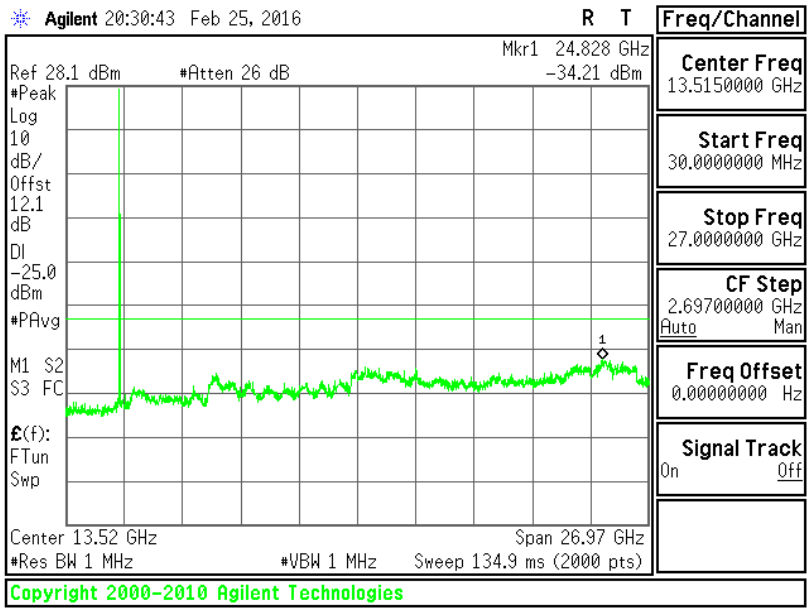


HIGH, RB1-24, 30 TO 27000 MHz

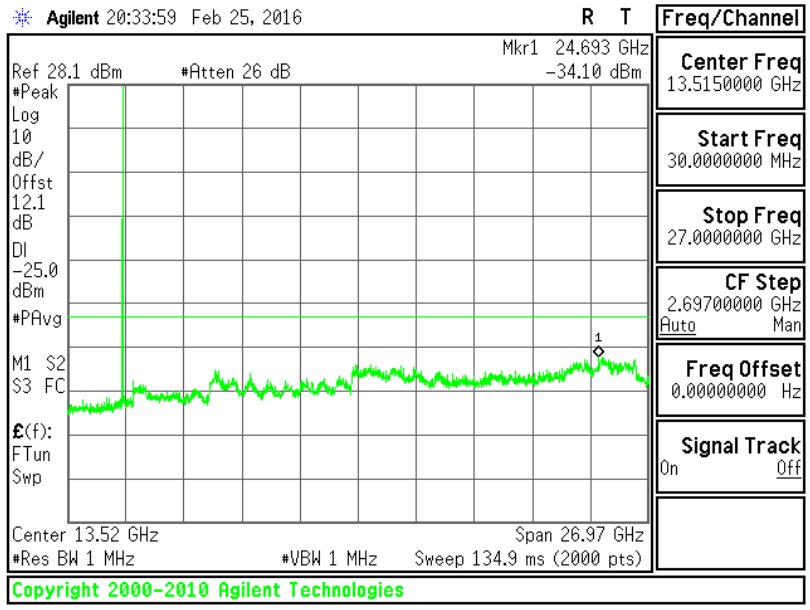


QPSK, (15.0 MHz BAND WIDTH)

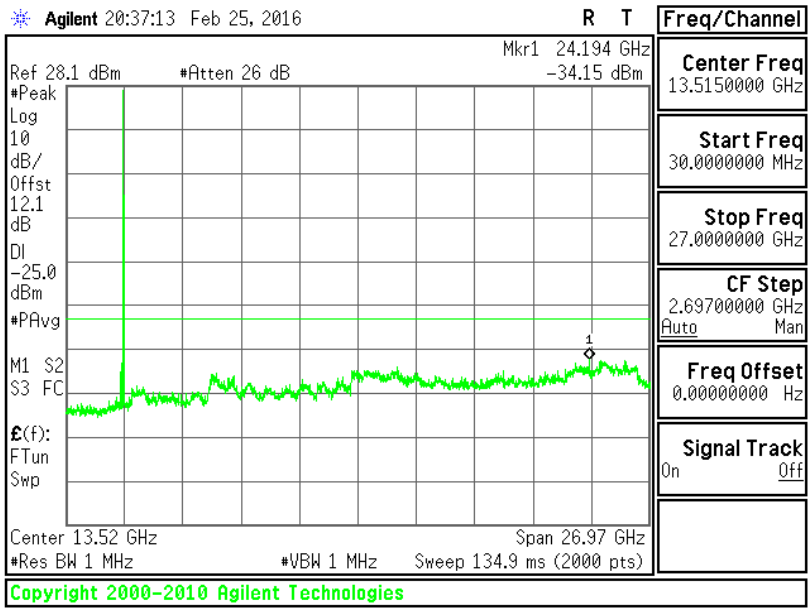
LOW, RB1-37, 30 TO 27000 MHz



MID, RB1-37, 30 TO 27000 MHz

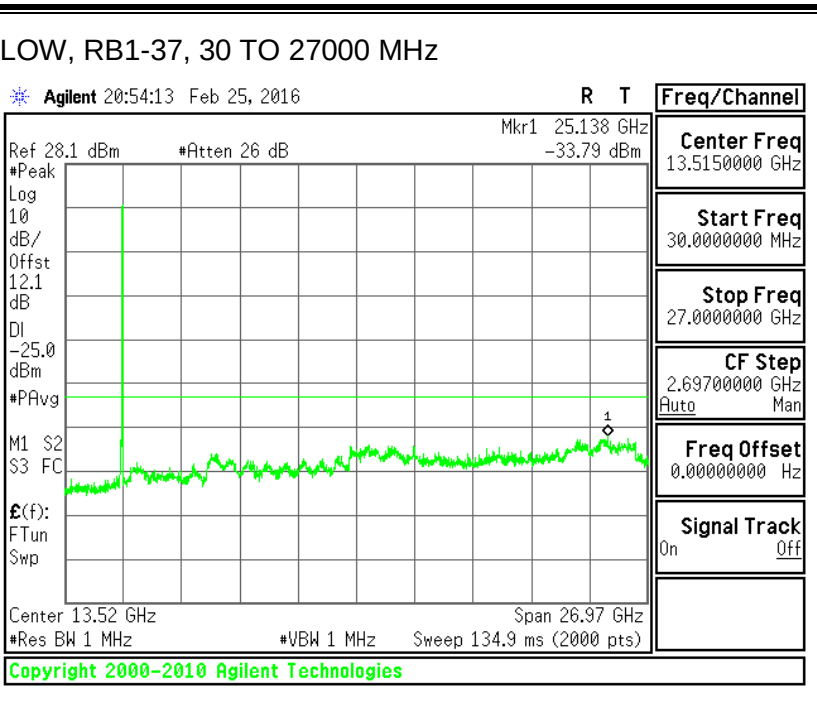


HIGH, RB1-37, 30 TO 27000 MHz

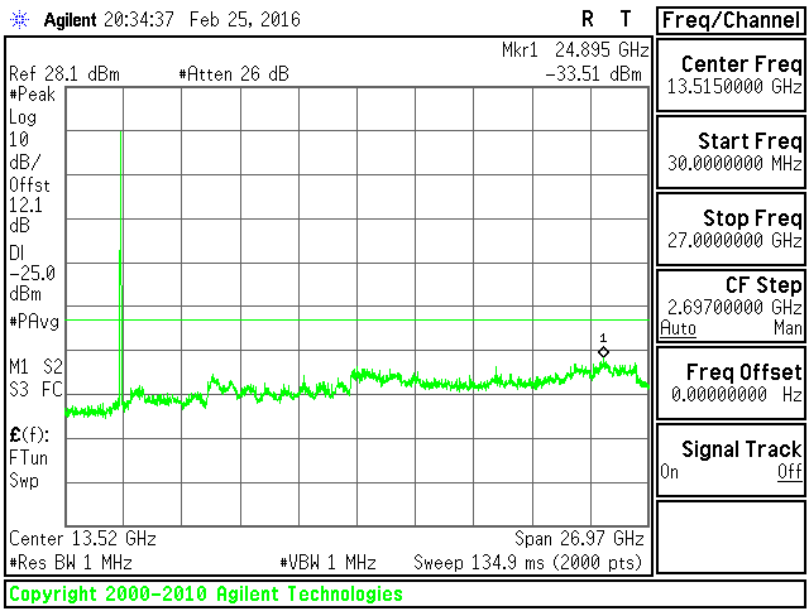


16QAM, (15.0 MHz BAND WIDTH)

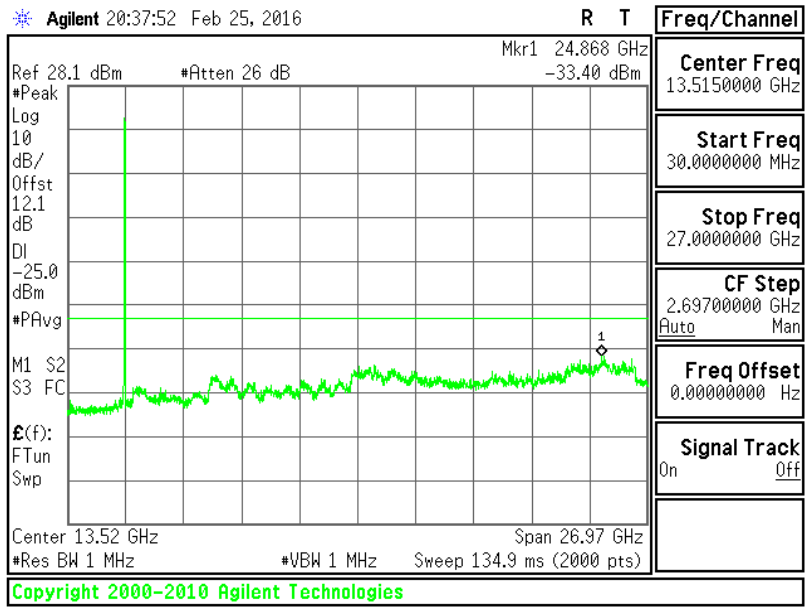
LOW, RB1-37, 30 TO 27000 MHz



MID, RB1-37, 30 TO 27000 MHz

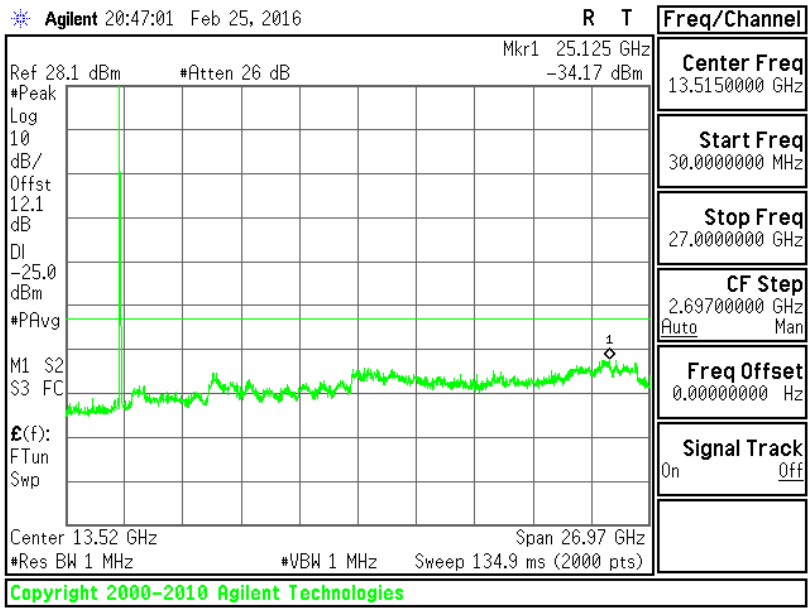


HIGH, RB1-37, 30 TO 27000 MHz

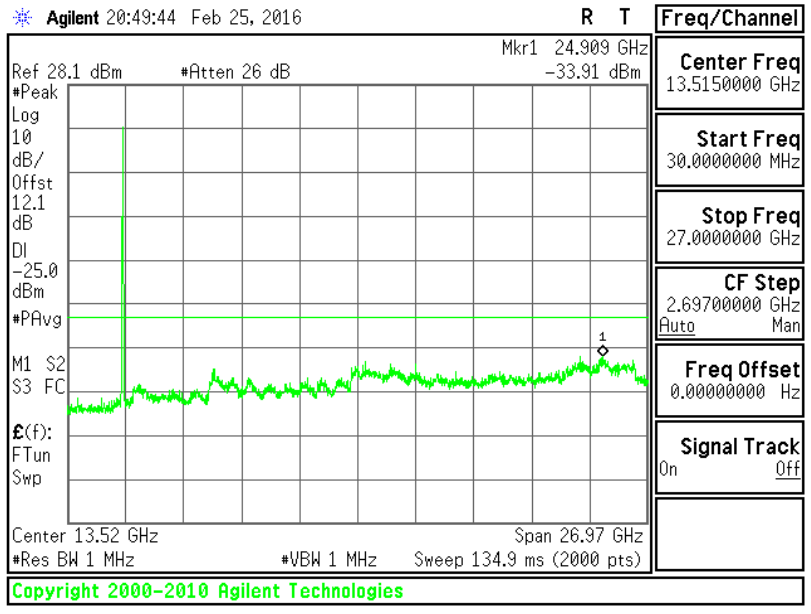


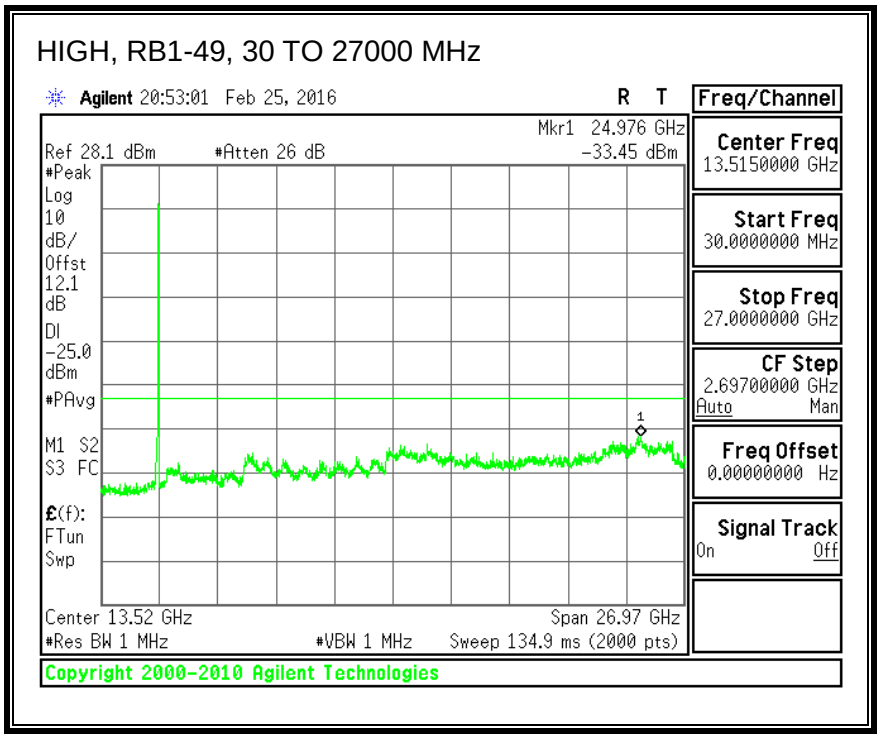
QPSK, (20.0 MHz BAND WIDTH)

LOW, RB1-49, 30 TO 27000 MHz

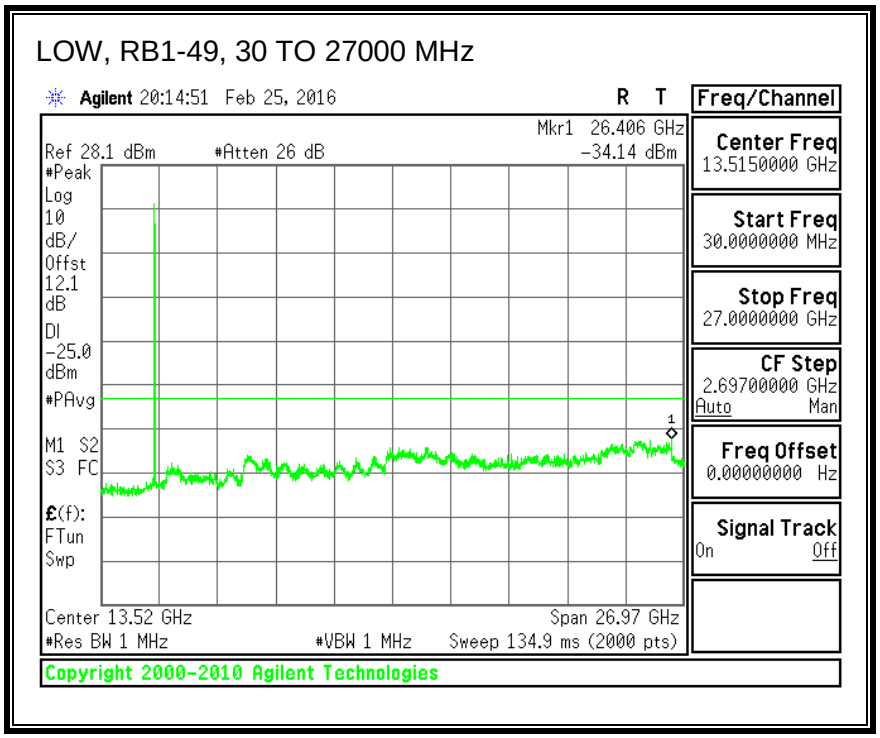


MID, RB1-49, 30 TO 27000 MHz

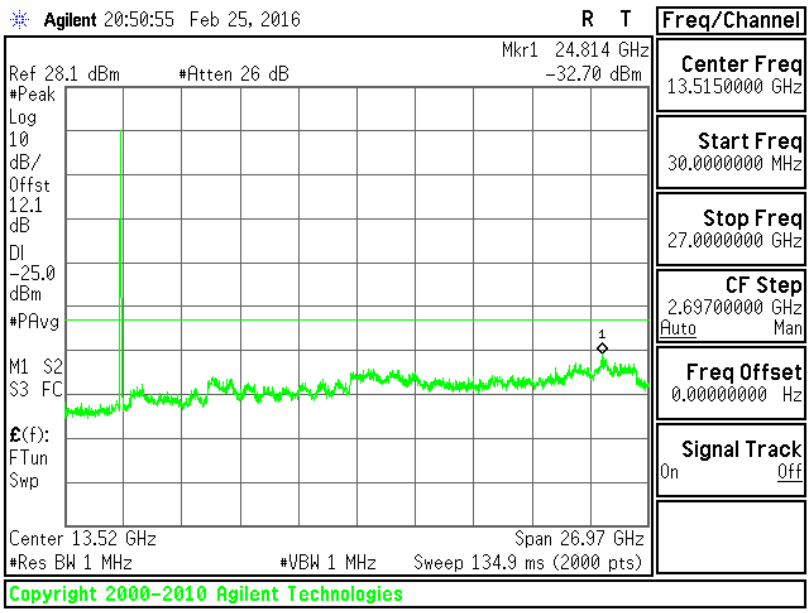




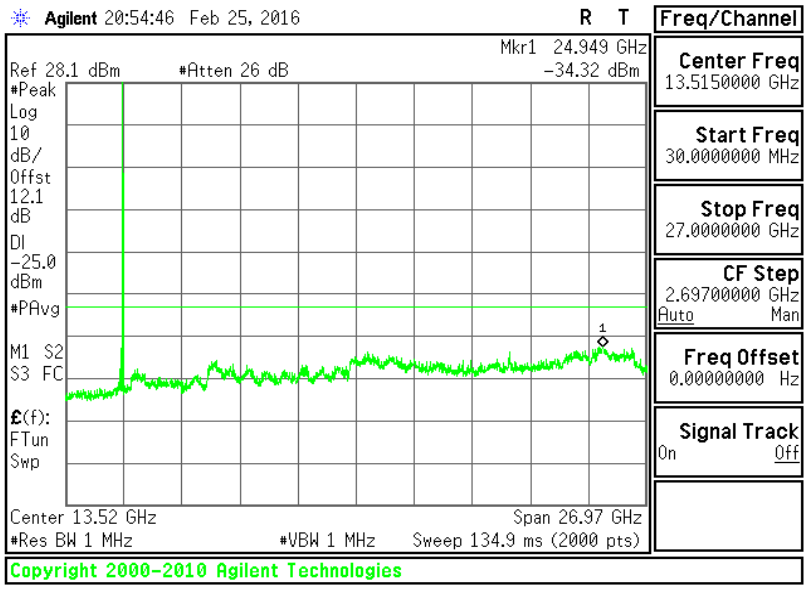
16QAM, (20.0 MHz BAND WIDTH)



MID, RB1-49, 30 TO 27000 MHz



HIGH, RB1-49, 30 TO 27000 MHz



9. FREQUENCY STABILITY

FCC: §2.1055, §22.355, §24.235, §27.54 and §90.691

LIMITS

§22.355
The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

§24.235 & §27.54
The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

§90.213 - The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = −30° to +50°C
- Voltage =low voltage, 3.4VDC, Normal, 3.8VDC and High voltage, 4.3VDC.

Frequency Stability vs Temperature:
The EUT is place inside a temperature chamber. The temperature is set to 20ºC and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50ºC is reached.

Frequency Stability vs Voltage:
The peak frequency error is recorded (worst-case).

MODES TESTED

- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 27
- LTE Band 30
- LTE Band 41

RESULTS

See the following pages.

9.1. LTE BAND 2

ID:	38806	Date:	2/19/16

QPSK, (20MHz BANDWIDTH)

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (25C)	Normal	1851.0080	1908.9930		
Extreme (50C)		1851.0081	1908.9931	50.7	0.027
Extreme (40C)		1851.0080	1908.9930	46.7	0.025
Extreme (30C)		1851.0080	1908.9930	46.7	0.025
Extreme (10C)		1851.0080	1908.9930	24.3	0.013
Extreme (0C)		1851.0080	1908.9930	-22.6	-0.012
Extreme (-10C)		1851.0080	1908.9930	-23.2	-0.012
Extreme (-20C)		1851.0080	1908.9930	-23.5	-0.013
Extreme (-30C)		1851.0080	1908.9930	-24.6	-0.013
25C	10%	1851.0080	1908.9930	45.4	0.024
	-10%	1851.0080	1908.9930	43.5	0.023
	End Point	1851.0080	1908.9930	35.7	0.019

16QAM, (20MHz BANDWIDTH)

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm (MHz)	F high @ -13dBm (MHz)		
Temperature	Voltage				
Normal (25C)	Normal	1851.0180	1908.9820		
Extreme (50C)		1851.0181	1908.9821	57.3	0.030
Extreme (40C)		1851.0181	1908.9821	56.2	0.030
Extreme (30C)		1851.0181	1908.9821	52.3	0.028
Extreme (10C)		1851.0180	1908.9820	16.7	0.009
Extreme (0C)		1851.0180	1908.9820	18.5	0.010
Extreme (-10C)		1851.0180	1908.9820	-17.4	-0.009
Extreme (-20C)		1851.0180	1908.9820	-18.2	-0.010
Extreme (-30C)		1851.0180	1908.9820	-15.7	-0.008
25C	10%	1851.0180	1908.9820	-24.5	-0.013
	-10%	1851.0180	1908.9820	-26.0	-0.014
	End Point	1851.0180	1908.9820	-23.2	-0.012

9.2. LTE BAND 4

ID:	38806	Date:	2/19/16

QPSK, (20MHz BANDWIDTH

Limit		1710	1755	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	1711.0140	1753.9840		
Extreme (50C)		1711.0141	1753.9841	56.0	0.032
Extreme (40C)		1711.0141	1753.9841	53.0	0.031
Extreme (30C)		1711.0141	1753.9841	76.9	0.044
Extreme (10C)		1711.0141	1753.9841	82.0	0.047
Extreme (0C)		1711.0141	1753.9841	90.8	0.052
Extreme (-10C)		1711.0141	1753.9841	82.7	0.048
Extreme (-20C)		1711.0139	1753.9839	-68.9	-0.040
Extreme (-30C)		1711.0139	1753.9839	-74.0	-0.043
25C	10%	1711.0139	1753.9839	-78.9	-0.046
	-10%	1711.0139	1753.9839	-87.3	-0.050
	End Point	1711.0141	1753.9841	90.1	0.052

16QAM, (20MHz BANDWIDTH)

Limit		1710	1755	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	1711.0150	1753.9840		
Extreme (50C)		1711.0151	1753.9841	98.0	0.057
Extreme (40C)		1711.0151	1753.9841	111.6	0.064
Extreme (30C)		1711.0151	1753.9841	99.8	0.058
Extreme (10C)		1711.0151	1753.9841	88.0	0.051
Extreme (0C)		1711.0151	1753.9841	121.0	0.070
Extreme (-10C)		1711.0151	1753.9841	133.0	0.077
Extreme (-20C)		1711.0151	1753.9841	122.0	0.070
Extreme (-30C)		1711.0151	1753.9841	112.0	0.065
25C	10%	1711.0151	1753.9841	108.6	0.063
	-10%	1711.0151	1753.9841	125.3	0.072
	End Point	1711.0151	1753.9841	116.1	0.067

9.3. LTE BAND 5

ID:	38806	Date:	2/19/16

QPSK, (10MHz BANDWIDTH)

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	824.5051	848.4993		
Extreme (50C)		824.5051	848.4992	-21.4	-0.026
Extreme (40C)		824.5051	848.4992	-18.3	-0.022
Extreme (30C)		824.5051	848.4992	-18.8	-0.022
Extreme (10C)		824.5051	848.4993	16.0	0.019
Extreme (0C)		824.5051	848.4993	16.2	0.019
Extreme (-10C)		824.5051	848.4992	-19.9	-0.024
Extreme (-20C)		824.5051	848.4993	-10.0	-0.012
Extreme (-30C)		824.5051	848.4993	-5.3	-0.006
25C	10%	824.5051	848.4992	-17.7	-0.021
	-10%	824.5051	848.4992	-19.9	-0.024
	End Point	824.5051	848.4992	-16.8	-0.020

16QAM, (10MHz BANDWIDTH)

Limit		824	849	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	824.5083	848.4973		
Extreme (50C)		824.5083	848.4972	-20.7	-0.025
Extreme (40C)		824.5083	848.4973	28.9	0.035
Extreme (30C)		824.5083	848.4973	15.9	0.019
Extreme (10C)		824.5083	848.4972	-19.7	-0.024
Extreme (0C)		824.5083	848.4973	14.9	0.018
Extreme (-10C)		824.5083	848.4973	15.4	0.018
Extreme (-20C)		824.5083	848.4973	13.0	0.015
Extreme (-30C)		824.5083	848.4972	-5.8	-0.007
25C	10%	824.5083	848.4973	25.7	0.031
	-10%	824.5083	848.4973	16.6	0.020
	End Point	824.5083	848.4973	19.0	0.023

9.4. LTE BAND 7

ID:	38806	Date:	2/23/16

QPSK, (20MHz BANDWIDTH)

Limit		2500	2570	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	2501.0227	2568.9988		
Extreme (50C)		2501.0227	2568.9988	-12.4	-0.005
Extreme (40C)		2501.0227	2568.9988	-53.7	-0.021
Extreme (30C)		2501.0228	2568.9989	59.2	0.023
Extreme (10C)		2501.0227	2568.9988	-59.4	-0.023
Extreme (0C)		2501.0228	2568.9989	55.2	0.022
Extreme (-10C)		2501.0227	2568.9988	-40.1	-0.016
Extreme (-20C)		2501.0227	2568.9988	-42.0	-0.017
Extreme (-30C)		2501.0227	2568.9988	-52.2	-0.021
25C	10%	2501.0227	2568.9988	-52.7	-0.021
	-10%	2501.0227	2568.9988	-57.0	-0.022
	End Point	2501.0227	2568.9988	-55.3	-0.022

16QAM, (20MHz BANDWIDTH)

Limit		2500	2570	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	2501.0237	2569.0035		
Extreme (50C)		2501.0237	2569.0035	-11.9	-0.005
Extreme (40C)		2501.0236	2569.0034	-117.5	-0.046
Extreme (30C)		2501.0236	2569.0034	-127.1	-0.050
Extreme (10C)		2501.0236	2569.0034	-131.9	-0.052
Extreme (0C)		2501.0237	2569.0036	40.2	0.016
Extreme (-10C)		2501.0237	2569.0036	38.9	0.015
Extreme (-20C)		2501.0237	2569.0036	39.2	0.015
Extreme (-30C)		2501.0236	2569.0034	-128.4	-0.051
25C	10%	2501.0236	2569.0034	-114.7	-0.045
	-10%	2501.0236	2569.0034	-122.8	-0.048
	End Point	2501.0236	2569.0034	-100.3	-0.040

9.5. LTE BAND 12

ID:	38806	Date:	2/23/16

QPSK, (10MHz BANDWIDTH)

Limit		699	716	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	699.5032	715.4954		
Extreme (50C)		699.5032	715.4954	-4.2	-0.01
Extreme (40C)		699.5032	715.4954	4.1	0.01
Extreme (30C)		699.5032	715.4954	-3.6	-0.01
Extreme (10C)		699.5032	715.4954	-4.3	-0.01
Extreme (0C)		699.5032	715.4954	-4.0	-0.01
Extreme (-10C)		699.5032	715.4954	-3.9	-0.01
Extreme (-20C)		699.5032	715.4954	3.9	0.01
Extreme (-30C)		699.5032	715.4954	-4.0	-0.01
25C	10%	699.5032	715.4954	-4.7	-0.01
	-10%	699.5032	715.4954	-3.7	-0.01
	End Point	699.5032	715.4954	-4.0	-0.01

16QAM, (10MHz BANDWIDTH)

Limit		699	716	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	699.5053	715.4925		
Extreme (50C)		699.5053	715.4925	4.0	0.01
Extreme (40C)		699.5053	715.4925	3.9	0.01
Extreme (30C)		699.5053	715.4925	-3.1	0.00
Extreme (10C)		699.5053	715.4925	5.2	0.01
Extreme (0C)		699.5053	715.4925	5.2	0.01
Extreme (-10C)		699.5053	715.4925	4.8	0.01
Extreme (-20C)		699.5053	715.4925	4.9	0.01
Extreme (-30C)		699.5053	715.4925	-4.7	-0.01
25C	10%	699.5053	715.4925	3.9	0.01
	-10%	699.5053	715.4925	4.4	0.01
	End Point	699.5053	715.4925	4.7	0.01

9.6. LTE BAND 13

ID:	38806	Date:	2/23/16

QPSK, (10MHz BANDWIDTH)

Limit		777	787	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	777.4971	786.4978		
Extreme (50C)		777.4971	786.4978	-3.9	-0.005
Extreme (40C)		777.4971	786.4978	-42.4	-0.054
Extreme (30C)		777.4971	786.4978	-3.6	-0.005
Extreme (10C)		777.4972	786.4978	6.8	0.009
Extreme (0C)		777.4971	786.4978	5.4	0.007
Extreme (-10C)		777.4971	786.4978	-5.3	-0.007
Extreme (-20C)		777.4971	786.4978	-4.6	-0.006
Extreme (-30C)		777.4971	786.4978	5.7	0.007
25C	10%	777.4971	786.4978	-4.6	-0.006
	-10%	777.4971	786.4978	-3.1	-0.004
	End Point	777.4971	786.4978	6.4	0.008

16QAM, (10MHz BANDWIDTH)

Limit		777	787	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	777.5050	786.4948		
Extreme (50C)		777.5050	786.4948	-3.1	-0.004
Extreme (40C)		777.5050	786.4948	-4.6	-0.006
Extreme (30C)		777.5050	786.4948	-3.2	-0.004
Extreme (10C)		777.5050	786.4948	-5.6	-0.007
Extreme (0C)		777.5050	786.4948	4.9	0.006
Extreme (-10C)		777.5050	786.4948	-4.7	-0.006
Extreme (-20C)		777.5050	786.4948	4.3	0.005
Extreme (-30C)		777.5050	786.4948	4.0	0.005
25C	10%	777.5050	786.4948	-4.8	-0.006
	-10%	777.5050	786.4948	-4.5	-0.006
	End Point	777.5050	786.4948	-5.9	-0.008

9.7. LTE BAND 17

ID:	38806	Date:	2/23/16

QPSK, (10MHz BANDWIDTH)

Limit		704	716	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	704.5069	715.4958		
Extreme (50C)		704.5069	715.4958	-6.2	-0.009
Extreme (40C)		704.5069	715.4958	-7.9	-0.011
Extreme (30C)		704.5069	715.4958	7.6	0.011
Extreme (10C)		704.5069	715.4958	4.5	0.006
Extreme (0C)		704.5069	715.4958	-6.1	-0.009
Extreme (-10C)		704.5069	715.4958	4.1	0.006
Extreme (-20C)		704.5069	715.4958	5.0	0.007
Extreme (-30C)		704.5069	715.4958	5.4	0.008
25C	10%	704.5069	715.4958	7.3	0.010
	-10%	704.5069	715.4958	6.7	0.009
	End Point	704.5069	715.4958	5.7	0.008

16QAM, (10MHz BANDWIDTH)

Limit		704	716	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	704.5072	715.4905		
Extreme (50C)		704.5072	715.4905	9.3	0.013
Extreme (40C)		704.5072	715.4905	14.0	0.020
Extreme (30C)		704.5072	715.4905	-8.2	-0.012
Extreme (10C)		704.5072	715.4905	-6.2	-0.009
Extreme (0C)		704.5072	715.4905	13.2	0.019
Extreme (-10C)		704.5072	715.4905	4.3	0.006
Extreme (-20C)		704.5072	715.4905	4.1	0.006
Extreme (-30C)		704.5072	715.4905	-4.2	-0.006
25C	10%	704.5072	715.4905	10.0	0.014
	-10%	704.5072	715.4905	7.3	0.010
	End Point	704.5072	715.4905	-7.6	-0.011

9.8. LTE BAND 25

ID:	38806	Date:	2/23/16

QPSK, (20MHz BANDWIDTH)

Limit		1850	1915	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	1851.0216	1913.9819		
Extreme (50C)		1851.0216	1913.9818	-25.5	-0.014
Extreme (40C)		1851.0216	1913.9819	21.8	0.012
Extreme (30C)		1851.0216	1913.9819	14.4	0.008
Extreme (10C)		1851.0216	1913.9819	12.3	0.007
Extreme (0C)		1851.0216	1913.9819	15.2	0.008
Extreme (-10C)		1851.0216	1913.9819	14.4	0.008
Extreme (-20C)		1851.0215	1913.9818	-26.7	-0.014
Extreme (-30C)		1851.0216	1913.9818	-24.9	-0.013
25C	10%	1851.0216	1913.9819	15.1	0.008
	-10%	1851.0216	1913.9819	15.9	0.008
	End Point	1851.0216	1913.9819	17.9	0.010

16QAM, (20MHz BANDWIDTH)

Limit		1850	1915	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	1851.0210	1913.9922		
Extreme (50C)		1851.0210	1913.9922	23.4	0.012
Extreme (40C)		1851.0210	1913.9922	26.6	0.014
Extreme (30C)		1851.0210	1913.9922	11.4	0.006
Extreme (10C)		1851.0210	1913.9922	12.7	0.007
Extreme (0C)		1851.0210	1913.9922	13.1	0.007
Extreme (-10C)		1851.0210	1913.9922	13.9	0.007
Extreme (-20C)		1851.0210	1913.9922	-27.4	-0.015
Extreme (-30C)		1851.0210	1913.9922	-32.0	-0.017
25C	10%	1851.0210	1913.9922	13.0	0.007
	-10%	1851.0210	1913.9922	14.4	0.008
	End Point	1851.0210	1913.9922	11.5	0.006

9.9. LTE BAND 26

ID:	38806	Date:	2/23/16

QPSK, (10MHz BANDWIDTH)

Limit		814	824	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	814.5054	823.4981		
Extreme (50C)		814.5054	823.4981	-3.7	-0.005
Extreme (40C)		814.5054	823.4981	-4.4	-0.005
Extreme (30C)		814.5054	823.4981	-3.6	-0.004
Extreme (10C)		814.5055	823.4981	4.3	0.005
Extreme (0C)		814.5055	823.4981	3.4	0.004
Extreme (-10C)		814.5055	823.4981	6.4	0.008
Extreme (-20C)		814.5055	823.4981	6.7	0.008
Extreme (-30C)		814.5054	823.4981	-4.9	-0.006
25C	10%	814.5054	823.4981	-3.1	-0.004
	-10%	814.5054	823.4981	-3.9	-0.005
	End Point	814.5055	823.4981	4.5	0.005

16QAM, (10MHz BANDWIDTH)

Limit		814	824	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	814.5058	823.4931		
Extreme (50C)		814.5058	823.4931	3.6	0.004
Extreme (40C)		814.5058	823.4931	-4.0	-0.005
Extreme (30C)		814.5058	823.4931	-4.5	-0.005
Extreme (10C)		814.5058	823.4931	4.0	0.005
Extreme (0C)		814.5058	823.4931	4.0	0.005
Extreme (-10C)		814.5058	823.4931	4.5	0.006
Extreme (-20C)		814.5058	823.4931	5.1	0.006
Extreme (-30C)		814.5058	823.4931	4.3	0.005
25C	10%	814.5058	823.4931	-4.7	-0.006
	-10%	814.5058	823.4931	-4.2	-0.005
	End Point	814.5058	823.4931	3.7	0.005

9.10. LTE BAND 27

ID:	38806	Date:	2/18/16

QPSK, (10MHz BANDWIDTH)

Limit		814	824	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	814.5026	823.5000		
Extreme (50C)		814.5026	823.5000	-6.0	-0.007
Extreme (40C)		814.5026	823.5000	-5.5	-0.007
Extreme (30C)		814.5026	823.5000	-4.6	-0.006
Extreme (10C)		814.5026	823.5000	-3.1	-0.004
Extreme (0C)		814.5026	823.5000	6.2	0.008
Extreme (-10C)		814.5026	823.5000	5.1	0.006
Extreme (-20C)		814.5026	823.5000	4.6	0.006
Extreme (-30C)		814.5026	823.5000	7.4	0.009
25C	10%	814.5026	823.5000	-5.6	-0.007
	-10%	814.5026	823.5000	6.2	0.008
	End Point	814.5026	823.5000	-4.9	-0.006

16QAM, (10MHz BANDWIDTH)

Limit		814	824	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	814.5056	823.4946		
Extreme (50C)		814.5056	823.4946	-8.7	-0.011
Extreme (40C)		814.5056	823.4946	-6.4	-0.008
Extreme (30C)		814.5056	823.4946	-4.8	-0.006
Extreme (10C)		814.5056	823.4946	-4.2	-0.005
Extreme (0C)		814.5056	823.4946	5.2	0.006
Extreme (-10C)		814.5056	823.4946	4.7	0.006
Extreme (-20C)		814.5056	823.4946	4.7	0.006
Extreme (-30C)		814.5056	823.4946	6.6	0.008
25C	10%	814.5056	823.4946	-5.2	-0.006
	-10%	814.5056	823.4946	-4.7	-0.006
	End Point	814.5056	823.4946	-6.8	-0.008

9.11. LTE BAND 30

ID:	38806	Date:	2/19/16

QPSK, (20MHz BANDWIDTH)

Limit		2305	2315	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	2305.5072	2314.4912		
Extreme (50C)		2305.5071	2314.4912	-64.5	-0.028
Extreme (40C)		2305.5071	2314.4912	-59.9	-0.026
Extreme (30C)		2305.5072	2314.4913	30.7	0.013
Extreme (10C)		2305.5073	2314.4913	60.0	0.026
Extreme (0C)		2305.5071	2314.4912	-55.9	-0.024
Extreme (-10C)		2305.5071	2314.4912	-57.3	-0.025
Extreme (-20C)		2305.5072	2314.4913	54.3	0.024
Extreme (-30C)		2305.5072	2314.4913	56.2	0.024
25C	10%	2305.5071	2314.4912	-55.5	-0.024
	-10%	2305.5071	2314.4912	-48.9	-0.021
	End Point	2305.5071	2314.4912	-47.8	-0.021

16QAM, (20MHz BANDWIDTH)

Limit		2305	2315	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	2305.5096	2314.4880		
Extreme (50C)		2305.5095	2314.4879	-95.6	-0.041
Extreme (40C)		2305.5095	2314.4879	-77.3	-0.033
Extreme (30C)		2305.5097	2314.4880	34.2	0.015
Extreme (10C)		2305.5095	2314.4879	-78.6	-0.034
Extreme (0C)		2305.5096	2314.4880	20.3	0.009
Extreme (-10C)		2305.5095	2314.4879	-100.0	-0.043
Extreme (-20C)		2305.5095	2314.4879	-101.5	-0.044
Extreme (-30C)		2305.5095	2314.4879	-83.2	-0.036
25C	10%	2305.5097	2314.4880	46.6	0.020
	-10%	2305.5095	2314.4879	-73.3	-0.032
	End Point	2305.5096	2314.4879	-69.6	-0.030

9.12. LTE BAND 41

ID:	38806	Date:	2/18/16

QPSK, (20MHz BANDWIDTH)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)		2496.9690	2689.0830		
Extreme (50C)		2496.9690	2689.0830	37.2	0.014
Extreme (40C)		2496.9690	2689.0830	36.7	0.014
Extreme (30C)		2496.9690	2689.0830	45.4	0.017
Extreme (10C)	Normal	2496.9690	2689.0830	44.1	0.017
Extreme (0C)		2496.9690	2689.0830	46.9	0.018
Extreme (-10C)		2496.9690	2689.0830	56.5	0.022
Extreme (-20C)		2496.9690	2689.0830	50.2	0.019
Extreme (-30C)		2496.9690	2689.0830	51.4	0.020
25C	10%	2496.9690	2689.0830	46.8	0.018
	-10%	2496.9690	2689.0830	40.0	0.015
	End Point	2496.9690	2689.0830	43.4	0.017

16QAM, (20MHz BANDWIDTH)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)		2496.9170	2689.0773		
Extreme (50C)		2496.9170	2689.0774	35.5	0.014
Extreme (40C)		2496.9170	2689.0774	42.9	0.017
Extreme (30C)		2496.9170	2689.0774	44.2	0.017
Extreme (10C)	Normal	2496.9170	2689.0774	42.2	0.016
Extreme (0C)		2496.9170	2689.0774	52.7	0.020
Extreme (-10C)		2496.9170	2689.0774	46.5	0.018
Extreme (-20C)		2496.9170	2689.0774	56.5	0.022
Extreme (-30C)		2496.9170	2689.0774	52.4	0.020
25C	10%	2496.9170	2689.0774	54.6	0.021
	-10%	2496.9170	2689.0774	42.9	0.017
	End Point	2496.9170	2689.0774	42.3	0.016

10. RADIATED TEST RESULTS

10.1. RADIATED POWER (ERP & EIRP), LAT

FCC: §2.1046, §22.913, §24.232, §27.50 and §90.635

LIMITS:

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

24.232(c) - Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

27.50 (c) (10) the following power and antenna height requirements apply to stations transmitting in the 698–746 MHz band, the portable stations (hand-held devices) are limited to 3 watts ERP.

27.50 (b)(10) Portable stations (hand-held devices) transmitting in the 746–757 MHz, 758–763 MHz, 776–793 MHz, and 805–806 MHz bands are limited to 3 watts ERP.

27.50 (d)(4) The following power and antenna height requirements apply to stations transmitting in the 1710–1755 MHz and 2110–2155 MHz bands: Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP

§90.635 Limitations on power and antenna height.

(a) The effective radiated power and antenna height for base stations may not exceed 1 kilowatt (30 dBw) and 304 m. (1,000 ft.) above average terrain (AAT), respectively, or the equivalent thereof as determined from the Table. These are maximum values, and applicants will be required to justify power levels and antenna heights requested.

(b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).

Table—Equivalent Power and Antenna Heights for Base Stations in the 851–869 MHz and 935–940 MHz Bands Which Have a Requirement for a 32 km (20 mi) Service Area Radius

Antenna height (ATT) meters (feet)	Effective radiated power (watts)[1,2,4]
Above 1,372 (4,500)	65
Above 1,220 (4,000) to 1,372 (4,500)	70
Above 1,067 (3,500) to 1,220 (4,000)	75
Above 915 (3,000) to 1,067 (3,500)	100
Above 763 (2,500) to 915 (3,000)	140
Above 610 (2,000) to 763 (2,500)	200
Above 458 (1,500) to 610 (2,000)	350
Above 305 (1,000) to 458 (1,500)	600
Up to 305 (1,000)	31,000

1 Power is given in terms of effective radiated power (ERP).

2 Applicants in the Los Angeles, CA, area who demonstrate a need to serve both the downtown and fringe areas will be permitted to utilize an ERP of 1 kw at the following mountaintop sites: Santiago Park, Sierra Peak, Mount Lukens, and Mount Wilson.

3 Stations with antennas below 305 m (1,000 ft) (AAT) will be restricted to a maximum power of 1 kw (ERP).In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

TEST PROCEDURE

ANSI C63.26:2015/ TIA / EIA 603-D Clause 2.2.17
KDB 971168 D01 RF power output using broadband peak and average power meter method.

MODES TESTED

- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 27
- LTE Band 30
- LTE Band 41

RESULTS

EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
1.4MHz Band QPSK	1/0	1850.7	21.80	151.36
		1880.0	22.39	173.38
		1909.3	**22.76**	188.80
1.4MHz Band 16QAM	1/0	1850.7	21.15	130.32
		1880.0	21.82	152.05
		1909.3	**21.99**	158.12

EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
3.0MHz Band QPSK	1/0	1851.5	21.81	151.71
		1880.0	22.39	173.38
		1908.5	**22.92**	195.88
3.0MHz Band 16QAM	1/0	1851.5	21.11	129.12
		1880.0	21.83	152.41
		1908.5	**22.34**	171.40

EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
5.0MHz Band QPSK	1/0	1852.5	21.88	154.17
		1880.0	22.38	172.98
		1907.5	**22.85**	192.75
5.0MHz Band 16QAM	1/0	1852.5	21.15	130.32
		1880.0	21.75	149.62
		1907.5	**22.39**	173.38

EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
10.0MHz Band QPSK	1/0	1855.0	21.89	154.53
		1880.0	22.38	172.98
		1905.0	**22.75**	188.36
10.0MHz Band 16QAM	1/0	1855.0	21.26	133.66
		1880.0	21.74	149.28
		1905.0	**22.22**	166.72

EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
15MHz Band QPSK	1/0	1857.5	21.87	153.82
		1880.0	22.33	171.00
		1902.5	**22.75**	188.36
15MHz Band 16QAM	1/0	1857.5	21.26	133.66
		1880.0	21.76	149.97
		1902.5	**22.02**	159.22

EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
20.0MHz Band QPSK	1/0	1860.0	21.74	149.28
		1880.0	22.23	167.11
		1900.0	**22.73**	187.50
20MHz Band 16QAM	1/0	1860.0	21.12	129.42
		1880.0	21.73	148.94
		1900.0	**22.11**	162.55

EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
1.4 MHZ BAND QPSK	1/0	1710.7	22.95	197.24
		1732.5	22.70	186.21
		1754.3	**23.11**	204.64
1.4 MHZ BAND 16QAM	1/0	1710.7	22.05	160.32
		1732.5	21.80	151.36
		1754.3	**22.21**	166.34

EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	1711.5	22.96	197.70
		1732.5	22.80	190.55
		1753.5	**23.13**	205.59
3.0 MHZ BAND 16QAM	1/0	1711.5	22.06	160.69
		1732.5	21.90	154.88
		1753.5	**22.23**	167.11

EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
5.0 MHZ BAND QPSK	1/0	1712.5	22.61	182.39
		1732.5	22.91	195.43
		1752.5	**23.10**	204.17
5.0 MHZ BAND 16QAM	1/0	1712.5	21.71	148.25
		1732.5	22.01	158.85
		1752.5	**22.20**	165.96

EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	1715.0	22.90	194.98
		1732.5	22.60	181.97
		1750.0	**23.12**	205.12
10.0 MHZ BAND 16QAM	1/0	1715.0	22.10	162.18
		1732.5	21.80	151.36
		1750.0	**22.32**	170.61

EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
15.0 MHZ BAND QPSK	1/0	1717.5	22.54	179.47
		1732.5	22.90	194.98
		1747.5	**23.19**	208.45
15.0 MHZ BAND 16QAM	1/0	1717.5	21.64	145.88
		1732.5	22.00	158.49
		1747.5	**22.25**	167.88

EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
20.0 MHZ BAND QPSK	1/0	1720.0	22.99	199.07
		1732.5	22.60	181.97
		1745.0	**23.18**	207.97
20.0 MHZ BAND 16QAM	1/0	1720.0	22.12	162.93
		1732.5	21.80	151.36
		1745.0	**22.26**	168.27

ERP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
1.4MHz Band QPSK	1/0	824.7	**17.82**	60.53
		836.5	17.49	56.10
		848.3	17.30	53.70
1.4MHz Band 16QAM	1/0	824.7	**16.75**	47.32
		836.5	16.44	44.06
		848.3	16.15	41.21

ERP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	825.5	**17.85**	60.95
		836.5	17.70	58.88
		847.5	17.37	54.58
3.0 MHZ BAND 16QAM	1/0	825.5	**16.80**	47.86
		836.5	16.60	45.71
		847.5	16.30	42.66

ERP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
5MHz Band QPSK	1/0	826.5	**17.89**	61.52
		836.5	17.68	58.61
		846.5	17.62	57.81
5MHz Band 16QAM	1/0	826.5	**16.87**	48.64
		836.5	16.60	45.71
		846.5	16.57	45.39

ERP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	829.0	**17.92**	61.94
		836.5	17.58	57.28
		844.0	17.63	57.94
10.0 MHZ BAND 16QAM	1/0	829.0	**16.89**	48.87
		836.5	16.47	44.36
		844.0	16.60	45.71

EIRP POWER FOR LTE BAND 7 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
5.0 MHZ BAND QPSK	25/0	2502.5	25.88	387.26
		2535.0	25.79	379.31
		2567.5	**26.06**	403.65
5.0 MHZ BAND 16QAM	25/0	2502.5	24.98	314.77
		2535.0	24.89	308.32
		2567.5	**25.16**	328.10

EIRP POWER FOR LTE BAND 7 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	50/0	2505.0	25.91	389.94
		2535.0	**26.10**	407.38
		2565.0	25.98	396.28
10.0 MHZ BAND 16QAM	50/0	2505.0	24.94	311.89
		2535.0	**25.09**	322.85
		2565.0	24.86	306.20

EIRP POWER FOR LTE BAND 7 (15.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
15.0 MHZ BAND QPSK	75/0	2507.5	26.01	399.02
		2535.0	25.89	388.15
		2562.5	**26.07**	404.58
15.0 MHZ BAND 16QAM	75/0	2507.5	25.01	316.96
		2535.0	24.89	308.32
		2562.5	**25.07**	321.37

EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
20.0 MHZ BAND QPSK	100/0	2510.0	25.85	384.59
		2535.0	**25.98**	396.28
		2560.0	25.67	368.98
20.0 MHZ BAND 16QAM	100/0	2510.0	25.05	319.89
		2535.0	**25.18**	329.61
		2560.0	24.92	310.46

ERP POWER FOR LTE BAND 12 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
1.4MHz Band QPSK	1/0	699.7	**17.11**	51.40
		707.5	17.01	50.23
		715.3	17.01	50.23
1.4MHz Band 16QAM	1/0	699.7	**16.42**	43.85
		707.5	**16.42**	43.85
		715.3	16.34	43.05

ERP POWER FOR LTE BAND 12 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	700.5	**17.10**	51.29
		707.5	17.01	50.23
		714.5	17.00	50.12
3.0 MHZ BAND 16QAM	1/0	700.5	**16.44**	44.06
		707.5	16.42	43.85
		714.5	16.35	43.15

ERP POWER FOR LTE BAND 12 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
5MHz Band QPSK	1/0	701.5	**17.11**	51.40
		707.5	17.00	50.12
		713.5	16.98	49.89
5MHz Band 16QAM	1/0	701.5	16.42	43.85
		707.5	**16.43**	43.95
		713.5	16.38	43.45

ERP POWER FOR LTE BAND 12 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP (Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	704.0	17.01	50.23
		707.5	**17.15**	51.88
		711.0	17.00	50.12
10.0 MHZ BAND 16QAM	1/0	704.0	16.41	43.75
		707.5	**16.45**	44.16
		711.0	16.34	43.05

ERP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
5.0 MHZ BAND QPSK	1/0	779.5	17.59	57.41
		782.0	18.39	69.02
		784.5	**18.44**	69.82
5.0 MHZ BAND 16QAM	1/0	779.5	16.74	47.21
		782.0	**17.94**	62.23
		784.5	17.81	60.39

ERP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
10 MHZ BAND QPSK	1/0	782.0	**18.24**	66.68
10 MHz BAND 16QAM	1/0		**17.29**	53.58

ERP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
5MHz Band QPSK	1/0	706.5	**17.23**	52.84
		710.0	17.22	52.72
		713.5	17.19	52.36
5MHz Band 16QAM	1/0	706.5	**16.68**	46.56
		710.0	16.66	46.34
		713.5	16.61	45.81

EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	710.0	**17.30**	53.70
10.0 MHZ BAND 16QAM		710.0	**16.72**	46.99

EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
1.4 MHZ BAND QPSK	1/0	1850.7	21.15	130.32
		1882.5	22.74	187.93
		1914.3	**23.33**	215.28
1.4 MHZ BAND 16QAM	1/0	1850.7	20.18	104.23
		1882.5	21.83	152.41
		1914.3	**22.41**	174.18

EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	1851.5	21.18	131.22
		1882.5	22.78	189.67
		1913.5	**23.49**	223.36
3.0 MHZ BAND 16QAM	1/0	1851.5	20.31	107.40
		1882.5	21.79	151.01
		1913.5	**22.44**	175.39

EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
5.0 MHZ BAND QPSK	1/0	1852.5	21.07	127.94
		1882.5	22.87	193.64
		1912.5	**23.41**	219.28
5.0 MHZ BAND 16QAM	1/0	1852.5	20.08	101.86
		1882.5	21.87	153.82
		1912.5	**22.50**	177.83

EIRP POWER FOR LTE BAND 25 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	1855.0	21.12	129.42
		1882.5	22.86	193.20
		1910.0	**23.13**	205.59
10.0 MHZ BAND 16QAM	1/0	1855.0	20.27	106.41
		1882.5	21.86	153.46
		1910.0	**22.23**	167.11

EIRP POWER FOR LTE BAND 25 (15.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
15.0 MHZ BAND QPSK	1/0	1857.5	21.37	137.09
		1882.5	**23.03**	200.91
		1907.5	22.72	187.07
15.0 MHZ BAND 16QAM	1/0	1857.5	20.78	119.67
		1882.5	**22.12**	162.93
		1907.5	21.91	155.24

EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
20.0 MHZ BAND QPSK	1/0	1860.0	21.51	141.58
		1882.5	**23.21**	209.41
		1905.0	22.70	186.21
20.0 MHZ BAND 16QAM	1/0	1860.0	20.95	124.45
		1882.5	**22.44**	175.39
		1905.0	22.20	165.96

ERP POWER FOR LTE BAND 26 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
1.4 MHZ BAND QPSK	1/0	814.7	18.84	76.56
		819.0	18.91	77.80
		823.3	**19.23**	83.75
1.4 MHZ BAND 16QAM	1/0	814.7	17.94	62.23
		819.0	18.01	63.24
		823.3	**18.33**	68.08

ERP POWER FOR LTE BAND 26 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	815.5	18.99	79.25
		819.0	18.87	77.09
		822.5	**19.17**	82.60
3.0 MHZ BAND 16QAM	1/0	815.5	18.19	65.92
		819.0	18.07	64.12
		822.5	**18.37**	68.71

ERP POWER FOR LTE BAND 26 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
5.0 MHZ BAND QPSK	1/0	816.5	19.02	79.80
		819.0	18.97	78.89
		821.5	**19.25**	84.14
5.0 MHZ BAND 16QAM	1/0	816.5	18.22	66.37
		819.0	18.17	65.61
		821.5	**18.45**	69.98

ERP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	819.0	**19.12**	81.66
10.0 MHZ BAND 16QAM	1/0	819.0	**18.22**	66.37

ERP POWER FOR LTE BAND 27 (1.4MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
1.4 MHZ BAND QPSK	1/0	814.7	19.13	81.85
		819.0	18.76	75.16
		823.3	**19.20**	83.18
1.4 MHZ BAND 16QAM	1/0	814.7	18.33	68.08
		819.0	17.96	62.52
		823.3	**18.40**	69.18

ERP POWER FOR LTE BAND 27 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
3.0 MHZ BAND QPSK	1/0	815.5	19.00	79.43
		819.0	18.92	77.98
		822.5	**19.16**	82.41
3.0 MHZ BAND 16QAM	1/0	815.5	18.20	66.07
		819.0	18.12	64.86
		822.5	**18.36**	68.55

ERP POWER FOR LTE BAND 27 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
5.0 MHZ BAND QPSK	1/0	816.5	19.01	79.62
		819.0	18.91	77.80
		821.5	**19.24**	83.95
5.0 MHZ BAND 16QAM	1/0	816.5	18.11	64.71
		819.0	18.01	63.24
		821.5	**18.34**	68.23

ERP POWER FOR LTE BAND 27 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	ERP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	819.0	**18.76**	75.16
10.0 MHZ BAND 16QAM	1/0	819.0	**17.96**	62.52

EIRP POWER FOR LTE BAND 30 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
5MHz Band QPSK	1/0	2307.5	20.86	121.90
		2310.0	20.95	124.45
		2312.5	**21.36**	136.77
5MHz Band 16QAM	1/0	2307.5	19.96	99.08
		2310.0	20.05	101.16
		2312.5	**20.46**	111.17

EIRP POWER FOR LTE BAND 30 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	1/0	2310.0	**21.07**	127.94
10.0 MHZ BAND 16QAM		2310.0	**20.07**	101.62

EIRP POWER FOR LTE BAND 41 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
5.0 MHZ BAND QPSK	25/0	2498.5	25.44	349.95
		2593.0	25.60	363.08
		2687.5	**26.09**	406.44
5.0 MHZ BAND 16QAM	25/0	2498.5	24.63	290.40
		2593.0	24.79	301.30
		2687.5	**25.28**	337.29

EIRP POWER FOR LTE BAND 41 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
10.0 MHZ BAND QPSK	50/0	2501.0	25.55	358.92
		2593.0	25.70	371.54
		2685.0	**26.12**	409.26
10.0 MHZ BAND 16QAM	50/0	2501.0	24.55	285.10
		2593.0	24.70	295.12
		2685.0	**25.15**	327.34

EIRP POWER FOR LTE BAND 41 (15.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
15.0 MHZ BAND QPSK	75/0	2503.5	25.55	358.92
		2593.0	25.59	362.24
		2682.5	**26.05**	402.72
15.0 MHZ BAND 16QAM	75/0	2503.5	24.45	278.61
		2593.0	24.49	281.19
		2682.5	**24.96**	313.33

EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Average)	
			dBm	mW
20.0 MHZ BAND QPSK	100/0	2506.0	25.53	357.27
		2593.0	25.66	368.13
		2680.0	**26.13**	410.20
20.0 MHZ BAND 16QAM	100/0	2506.0	24.60	288.40
		2593.0	24.73	297.17
		2680.0	**25.20**	331.13

10.1.1. LTE BAND 2

QPSK EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)

High Frequency Fundamental Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/13/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 QPSK 1.4MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.851	11.8	V	0.98	8.05	18.85	33.0	-14.2	
1.851	14.7	H	0.98	8.05	21.80	33.0	-11.2	
Mid Ch								
1.880	14.9	V	0.98	8.03	21.99	33.0	-11.0	
1.880	15.3	H	0.98	8.03	22.39	33.0	-10.6	
High Ch								
1.909	14.6	V	0.98	8.05	21.62	33.0	-11.4	
1.909	15.7	H	0.98	8.05	22.76	33.0	-10.2	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 2 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/13/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 16QAM 1.4MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.851	11.0	V	0.98	8.05	18.04	33.0	-15.0	
1.851	14.1	H	0.98	8.05	21.15	33.0	-11.9	
Mid Ch								
1.880	14.3	V	0.98	8.03	21.37	33.0	-11.6	
1.880	14.8	H	0.98	8.03	21.82	33.0	-11.2	
High Ch								
1.909	13.9	V	0.98	8.05	20.97	33.0	-12.0	
1.909	14.9	H	0.98	8.05	21.99	33.0	-11.0	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/13/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 QPSK 3MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.852	11.8	V	0.98	8.05	18.88	33.0	-14.1	
1.852	14.7	H	0.98	8.05	21.81	33.0	-11.2	
Mid Ch								
1.880	15.0	V	0.98	8.03	22.00	33.0	-11.0	
1.880	15.3	H	0.98	8.03	22.39	33.0	-10.6	
High Ch								
1.909	14.7	V	0.98	8.05	21.72	33.0	-11.3	
1.909	15.9	H	0.98	8.05	22.92	33.0	-10.1	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/13/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 16QAM 3MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.852	11.2	V	0.98	8.05	18.25	33.0	-14.8	
1.852	14.0	H	0.98	8.05	21.11	33.0	-11.9	
Mid Ch								
1.880	14.3	V	0.98	8.03	21.38	33.0	-11.6	
1.880	14.8	H	0.98	8.03	21.83	33.0	-11.2	
High Ch								
1.909	14.0	V	0.98	8.05	21.07	33.0	-11.9	
1.909	15.3	H	0.98	8.05	22.34	33.0	-10.7	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/13/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.853	11.9	V	0.98	8.05	18.95	33.0	-14.1	
1.853	14.8	H	0.98	8.05	21.88	33.0	-11.1	
Mid Ch								
1.880	15.0	V	0.98	8.03	22.05	33.0	-11.0	
1.880	15.3	H	0.98	8.03	22.38	33.0	-10.6	
High Ch								
1.908	14.6	V	0.98	8.04	21.70	33.0	-11.3	
1.908	15.8	H	0.98	8.04	22.85	33.0	-10.1	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 2 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/13/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.853	11.2	V	0.98	8.05	18.26	33.0	-14.7	
1.853	14.1	H	0.98	8.05	21.15	33.0	-11.9	
Mid Ch								
1.880	14.4	V	0.98	8.03	21.42	33.0	-11.6	
1.880	14.7	H	0.98	8.03	21.75	33.0	-11.3	
High Ch								
1.908	14.0	V	0.98	8.04	21.05	33.0	-11.9	
1.908	15.3	H	0.98	8.04	22.39	33.0	-10.6	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/13/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.855	11.9	V	0.98	8.05	18.95	33.0	-14.1	
1.855	14.8	H	0.98	8.05	21.89	33.0	-11.1	
Mid Ch								
1.880	15.1	V	0.98	8.03	22.10	33.0	-10.9	
1.880	15.3	H	0.98	8.03	22.38	33.0	-10.6	
High Ch								
1.905	14.7	V	0.98	8.04	21.71	33.0	-11.3	
1.905	15.7	H	0.98	8.04	22.75	33.0	-10.3	

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16QAM EIRP POWER FOR LTE BAND 2 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/13/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.855	11.2	V	0.98	8.05	18.26	33.0	-14.7	
1.855	14.2	H	0.98	8.05	21.26	33.0	-11.7	
Mid Ch								
1.880	14.4	V	0.98	8.03	21.48	33.0	-11.5	
1.880	14.7	H	0.98	8.03	21.74	33.0	-11.3	
High Ch								
1.905	14.0	V	0.98	8.04	21.05	33.0	-12.0	
1.905	15.2	H	0.98	8.04	22.22	33.0	-10.8	

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QPSK EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/13/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.858	11.9	V	0.98	8.04	18.96	33.0	-14.0	
1.858	14.8	H	0.98	8.04	21.87	33.0	-11.1	
Mid Ch								
1.880	15.1	V	0.98	8.03	22.12	33.0	-10.9	
1.880	15.3	H	0.98	8.03	22.33	33.0	-10.7	
High Ch								
1.903	14.7	V	0.98	8.03	21.71	33.0	-11.3	
1.903	15.7	H	0.98	8.03	22.75	33.0	-10.3	

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16QAM EIRP POWER FOR LTE BAND 2 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/13/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 16QAM 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.858	11.2	V	0.98	8.04	18.25	33.0	-14.7	
1.858	14.2	H	0.98	8.04	21.26	33.0	-11.7	
Mid Ch								
1.880	14.4	V	0.98	8.03	21.47	33.0	-11.5	
1.880	14.7	H	0.98	8.03	21.76	33.0	-11.2	
High Ch								
1.903	14.0	V	0.98	8.03	21.05	33.0	-12.0	
1.903	15.0	H	0.98	8.03	22.02	33.0	-11.0	

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QPSK EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/13/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.860	11.9	V	0.98	8.04	18.94	33.0	-14.1	
1.860	14.7	H	0.98	8.04	21.74	33.0	-11.3	
Mid Ch								
1.880	15.0	V	0.98	8.03	22.08	33.0	-10.9	
1.880	15.2	H	0.98	8.03	22.23	33.0	-10.8	
High Ch								
1.900	14.7	V	0.98	8.02	21.77	33.0	-11.2	
1.900	15.7	H	0.98	8.02	22.73	33.0	-10.3	

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16QAM EIRP POWER FOR LTE BAND 2 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/13/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 2 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.860	11.2	V	0.98	8.04	18.24	33.0	-14.8	
1.860	14.1	H	0.98	8.04	21.12	33.0	-11.9	
Mid Ch								
1.880	14.5	V	0.98	8.03	21.50	33.0	-11.5	
1.880	14.7	H	0.98	8.03	21.73	33.0	-11.3	
High Ch								
1.900	14.0	V	0.98	8.02	21.06	33.0	-11.9	
1.900	15.1	H	0.98	8.02	22.11	33.0	-10.9	

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10.1.2. LTE BAND 4

QPSK EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4 QPSK 1.4MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.711	14.4	V	0.95	8.27	21.76	30.0	-8.2	
1.711	15.6	H	0.95	8.27	22.95	30.0	-7.0	
Mid Ch								
1.733	15.0	V	0.95	8.23	22.30	30.0	-7.7	
1.733	15.4	H	0.95	8.23	22.70	30.0	-7.3	
High Ch								
1.754	15.5	V	0.95	8.18	22.71	30.0	-7.3	
1.754	15.9	H	0.95	8.18	23.11	30.0	-6.9	

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16QAM EIRP POWER FOR LTE BAND 4 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4 16QAM 1.4MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.711	13.5	V	0.95	8.27	20.86	30.0	-9.1	
1.711	14.7	H	0.95	8.27	22.05	30.0	-7.9	
Mid Ch								
1.733	14.1	V	0.95	8.23	21.40	30.0	-8.6	
1.733	14.5	H	0.95	8.23	21.80	30.0	-8.2	
High Ch								
1.754	14.6	V	0.95	8.18	21.81	30.0	-8.2	
1.754	15.0	H	0.95	8.18	22.21	30.0	-7.8	

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QPSK EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4 QPSK 3MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.712	14.4	V	0.95	8.27	21.76	30.0	-8.2	
1.712	15.6	H	0.95	8.27	22.96	30.0	-7.0	
Mid Ch								
1.733	14.7	V	0.95	8.23	22.00	30.0	-8.0	
1.733	15.5	H	0.95	8.23	22.80	30.0	-7.2	
High Ch								
1.754	15.4	V	0.95	8.18	22.65	30.0	-7.3	
1.754	15.9	H	0.95	8.18	23.13	30.0	-6.9	

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16QAM EIRP POWER FOR LTE BAND 4 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4 16QAM 3MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.712	13.5	V	0.95	8.27	20.86	30.0	-9.1	
1.712	14.7	H	0.95	8.27	22.06	30.0	-7.9	
Mid Ch								
1.733	13.8	V	0.95	8.23	21.10	30.0	-8.9	
1.733	14.6	H	0.95	8.23	21.90	30.0	-8.1	
High Ch								
1.754	14.5	V	0.95	8.18	21.75	30.0	-8.2	
1.754	15.0	H	0.95	8.18	22.23	30.0	-7.8	

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QPSK EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.713	14.4	V	0.95	8.27	21.76	30.0	-8.2	
1.713	15.3	H	0.95	8.27	22.61	30.0	-7.4	
Mid Ch								
1.733	15.2	V	0.95	8.23	22.50	30.0	-7.5	
1.733	15.6	H	0.95	8.23	22.91	30.0	-7.1	
High Ch								
1.753	15.6	V	0.95	8.18	22.85	30.0	-7.1	
1.753	15.9	H	0.95	8.18	23.10	30.0	-6.9	

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16QAM EIRP POWER FOR LTE BAND 4 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.713	13.5	V	0.95	8.27	20.86	30.0	-9.1	
1.713	14.4	H	0.95	8.27	21.71	30.0	-8.3	
Mid Ch								
1.733	14.3	V	0.95	8.23	21.60	30.0	-8.4	
1.733	14.7	H	0.95	8.23	22.01	30.0	-8.0	
High Ch								
1.753	14.7	V	0.95	8.18	21.95	30.0	-8.0	
1.753	15.0	H	0.95	8.18	22.20	30.0	-7.8	

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QPSK EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.715	14.4	V	0.95	8.26	21.69	30.0	-8.3	
1.715	15.6	H	0.95	8.26	22.90	30.0	-7.1	
Mid Ch								
1.733	15.0	V	0.95	8.23	22.30	30.0	-7.7	
1.733	15.3	H	0.95	8.23	22.60	30.0	-7.4	
High Ch								
1.750	15.6	V	0.95	8.19	22.80	30.0	-7.2	
1.750	15.9	H	0.95	8.19	23.12	30.0	-6.9	

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16QAM EIRP POWER FOR LTE BAND 4 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.715	13.6	V	0.95	8.26	20.89	30.0	-9.1	
1.715	14.8	H	0.95	8.26	22.10	30.0	-7.9	
Mid Ch								
1.733	14.2	V	0.95	8.23	21.50	30.0	-8.5	
1.733	14.5	H	0.95	8.23	21.80	30.0	-8.2	
High Ch								
1.750	14.8	V	0.95	8.19	22.00	30.0	-8.0	
1.750	15.1	H	0.95	8.19	22.32	30.0	-7.7	

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QPSK EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4 QPSK 15MHz BW

Test Equipment:
UL Fremont Radiated Chamber G
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.718	14.6	V	0.95	8.26	21.88	30.0	-8.1	
1.718	15.2	H	0.95	8.26	22.54	30.0	-7.5	
Mid Ch								
1.733	14.9	V	0.95	8.23	22.16	30.0	-7.8	
1.733	15.6	H	0.95	8.23	22.90	30.0	-7.1	
High Ch								
1.748	15.6	V	0.95	8.19	22.85	30.0	-7.1	
1.748	16.0	H	0.95	8.19	23.19	30.0	-6.8	

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16QAM EIRP POWER FOR LTE BAND 4 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.718	13.7	V	0.95	8.26	20.98	30.0	-9.0	
1.718	14.3	H	0.95	8.26	21.64	30.0	-8.4	
Mid Ch								
1.733	14.0	V	0.95	8.23	21.26	30.0	-8.7	
1.733	14.7	H	0.95	8.23	22.00	30.0	-8.0	
High Ch								
1.748	14.7	V	0.95	8.19	21.95	30.0	-8.0	
1.748	15.0	H	0.95	8.19	22.25	30.0	-7.7	

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QPSK EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.720	14.4	V	0.95	8.25	21.67	30.0	-8.3	
1.720	15.7	H	0.95	8.25	22.99	30.0	-7.0	
Mid Ch								
1.733	14.8	V	0.95	8.23	22.10	30.0	-7.9	
1.733	15.3	H	0.95	8.23	22.60	30.0	-7.4	
High Ch								
1.745	15.7	V	0.95	8.20	22.94	30.0	-7.1	
1.745	15.9	H	0.95	8.20	23.18	30.0	-6.8	

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16QAM EIRP POWER FOR LTE BAND 4 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 4 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.720	13.6	V	0.95	8.25	20.87	30.0	-9.1	
1.720	14.8	H	0.95	8.25	22.12	30.0	-7.9	
Mid Ch								
1.733	14.0	V	0.95	8.23	21.30	30.0	-8.7	
1.733	14.5	H	0.95	8.23	21.80	30.0	-8.2	
High Ch								
1.745	14.9	V	0.95	8.20	22.14	30.0	-7.9	
1.745	15.0	H	0.95	8.20	22.26	30.0	-7.7	

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10.1.3. LTE BAND 5

QPSK EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/15/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 5 QPSK 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
824.70	10.40	V	0.6	0.0	9.78	11.93	38.45	40.60	-28.7	
824.70	18.44	H	0.6	0.0	17.82	19.97	38.45	40.60	-20.6	
Mid Ch										
836.50	10.52	V	0.6	0.0	9.90	12.05	38.45	40.60	-28.5	
836.50	18.11	H	0.6	0.0	17.49	19.64	38.45	40.60	-21.0	
High Ch										
848.30	9.83	V	0.6	0.0	9.21	11.36	38.45	40.60	-29.2	
848.30	17.92	H	0.6	0.0	17.30	19.45	38.45	40.60	-21.1	

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16QAM EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/15/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 5 16QAM 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
824.70	9.36	V	0.6	0.0	8.74	10.89	38.45	40.60	-29.7	
824.70	17.37	H	0.6	0.0	16.75	18.90	38.45	40.60	-21.7	
Mid Ch										
836.50	9.37	V	0.6	0.0	8.75	10.90	38.45	40.60	-29.7	
836.50	17.06	H	0.6	0.0	16.44	18.59	38.45	40.60	-22.0	
High Ch										
848.30	8.78	V	0.6	0.0	8.16	10.31	38.45	40.60	-30.3	
848.30	16.77	H	0.6	0.0	16.15	18.30	38.45	40.60	-22.3	

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QPSK EIRP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/15/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 5 QPSK 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
825.50	10.44	V	0.6	0.0	9.82	11.97	38.45	40.60	-28.6	
825.50	18.47	H	0.6	0.0	17.85	20.00	38.45	40.60	-20.6	
Mid Ch										
836.50	10.54	V	0.6	0.0	9.92	12.07	38.45	40.60	-28.5	
836.50	18.32	H	0.6	0.0	17.70	19.85	38.45	40.60	-20.7	
High Ch										
847.50	9.86	V	0.6	0.0	9.24	11.39	38.45	40.60	-29.2	
847.50	17.99	H	0.6	0.0	17.37	19.52	38.45	40.60	-21.1	

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16QAM EIRP POWER FOR LTE BAND 5 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/15/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 5 16QAM 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
825.50	9.41	V	0.6	0.0	8.79	10.94	38.45	40.60	-29.7	
825.50	17.42	H	0.6	0.0	16.80	18.95	38.45	40.60	-21.6	
Mid Ch										
836.50	9.43	V	0.6	0.0	8.81	10.96	38.45	40.60	-29.6	
836.50	17.22	H	0.6	0.0	16.60	18.75	38.45	40.60	-21.8	
High Ch										
847.50	8.82	V	0.6	0.0	8.20	10.35	38.45	40.60	-30.2	
847.50	16.92	H	0.6	0.0	16.30	18.45	38.45	40.60	-22.1	

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QPSK EIRP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/15/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 5 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
826.50	10.57	V	0.6	0.0	9.95	12.10	38.45	40.60	-28.5	
826.50	18.51	H	0.6	0.0	17.89	20.04	38.45	40.60	-20.6	
Mid Ch										
836.50	10.59	V	0.6	0.0	9.97	12.12	38.45	40.60	-28.5	
836.50	18.30	H	0.6	0.0	17.68	19.83	38.45	40.60	-20.8	
High Ch										
846.50	9.97	V	0.6	0.0	9.35	11.50	38.45	40.60	-29.1	
846.50	18.24	H	0.6	0.0	17.62	19.77	38.45	40.60	-20.8	

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16QAM EIRP POWER FOR LTE BAND 5 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/15/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 5 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
826.50	9.43	V	0.6	0.0	8.81	10.96	38.45	40.60	-29.6	
826.50	17.49	H	0.6	0.0	16.87	19.02	38.45	40.60	-21.6	
Mid Ch										
836.50	9.54	V	0.6	0.0	8.92	11.07	38.45	40.60	-29.5	
836.50	17.22	H	0.6	0.0	16.60	18.75	38.45	40.60	-21.8	
High Ch										
846.50	8.88	V	0.6	0.0	8.26	10.41	38.45	40.60	-30.2	
846.50	17.19	H	0.6	0.0	16.57	18.72	38.45	40.60	-21.9	

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QPSK EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/15/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 5 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
829.00	10.55	V	0.6	0.0	9.93	12.08	38.45	40.60	-28.5	
829.00	18.54	H	0.6	0.0	17.92	20.07	38.45	40.60	-20.5	
Mid Ch										
836.50	10.60	V	0.6	0.0	9.98	12.13	38.45	40.60	-28.5	
836.50	18.20	H	0.6	0.0	17.58	19.73	38.45	40.60	-20.9	
High Ch										
844.00	9.97	V	0.6	0.0	9.35	11.50	38.45	40.60	-29.1	
844.00	18.25	H	0.6	0.0	17.63	19.78	38.45	40.60	-20.8	

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16QAM EIRP POWER FOR LTE BAND 5 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/15/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 5 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
829.00	9.45	V	0.6	0.0	8.83	10.98	38.45	40.60	-29.6	
829.00	17.51	H	0.6	0.0	16.89	19.04	38.45	40.60	-21.6	
Mid Ch										
836.50	9.56	V	0.6	0.0	8.94	11.09	38.45	40.60	-29.5	
836.50	17.09	H	0.6	0.0	16.47	18.62	38.45	40.60	-22.0	
High Ch										
844.00	8.91	V	0.6	0.0	8.29	10.44	38.45	40.60	-30.2	
844.00	17.22	H	0.6	0.0	16.60	18.75	38.45	40.60	-21.8	

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10.1.4. LTE BAND 7

QPSK EIRP POWER FOR LTE BAND 7 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 30606
Configuration: EUT Only
Mode: LTE Band 7 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.503	13.7	V	1.15	9.34	21.90	33.0	-11.1	
2.503	17.7	H	1.15	9.34	25.88	33.0	-7.1	
Mid Ch								
2.535	13.8	V	1.16	9.38	21.99	33.0	-11.0	
2.535	17.6	H	1.16	9.38	25.79	33.0	-7.2	
High Ch								
2.568	14.0	V	1.17	9.43	22.29	33.0	-10.7	
2.568	17.8	H	1.17	9.43	26.06	33.0	-6.9	

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16QAM EIRP POWER FOR LTE BAND 7 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 30606
Configuration: EUT Only
Mode: LTE Band 7 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.5025	12.8	V	1.15	9.34	21.00	33.0	-12.0	
2.5025	16.8	H	1.15	9.34	24.98	33.0	-8.0	
Mid Ch								
2.535	12.9	V	1.16	9.38	21.09	33.0	-11.9	
2.535	16.7	H	1.16	9.38	24.89	33.0	-8.1	
High Ch								
2.5675	13.1	V	1.17	9.43	21.39	33.0	-11.6	
2.5675	16.9	H	1.17	9.43	25.16	33.0	-7.8	

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QPSK EIRP POWER FOR LTE BAND 7 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 30606
Configuration: EUT Only
Mode: LTE Band 7 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.505	13.6	V	1.15	9.34	21.74	33.0	-11.3	
2.505	17.7	H	1.15	9.34	25.91	33.0	-7.1	
Mid Ch								
2.535	13.8	V	1.16	9.38	22.01	33.0	-11.0	
2.535	17.9	H	1.16	9.38	26.10	33.0	-6.9	
High Ch								
2.565	13.8	V	1.17	9.43	22.10	33.0	-10.9	
2.565	17.7	H	1.17	9.43	25.98	33.0	-7.0	

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16QAM EIRP POWER FOR LTE BAND 7 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 30606
Configuration: EUT Only
Mode: LTE Band 7 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.505	12.6	V	1.15	9.34	20.74	33.0	-12.3	
2.505	16.8	H	1.15	9.34	24.94	33.0	-8.1	
Mid Ch								
2.535	12.8	V	1.16	9.38	21.01	33.0	-12.0	
2.535	16.9	H	1.16	9.38	25.09	33.0	-7.9	
High Ch								
2.565	12.8	V	1.17	9.43	21.10	33.0	-11.9	
2.565	16.6	H	1.17	9.43	24.86	33.0	-8.1	

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QPSK EIRP POWER FOR LTE BAND 7 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 30606
Configuration: EUT Only
Mode: LTE Band 7 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.5075	13.6	V	1.15	9.34	21.76	33.0	-11.2	
2.5075	17.8	H	1.15	9.34	26.01	33.0	-7.0	
Mid Ch								
2.535	13.7	V	1.16	9.38	21.89	33.0	-11.1	
2.535	17.7	H	1.16	9.38	25.89	33.0	-7.1	
High Ch								
2.5625	13.7	V	1.17	9.42	21.99	33.0	-11.0	
2.5625	17.8	H	1.17	9.42	26.07	33.0	-6.9	

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16QAM EIRP POWER FOR LTE BAND 7 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 30606
Configuration: EUT Only
Mode: LTE Band 7 16QAM 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.5075	12.6	V	1.15	9.34	20.76	33.0	-12.2	
2.5075	16.8	H	1.15	9.34	25.01	33.0	-8.0	
Mid Ch								
2.535	12.7	V	1.16	9.38	20.89	33.0	-12.1	
2.535	16.7	H	1.16	9.38	24.89	33.0	-8.1	
High Ch								
2.5625	12.7	V	1.17	9.42	20.99	33.0	-12.0	
2.5625	16.8	H	1.17	9.42	25.07	33.0	-7.9	

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QPSK EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 30606
Configuration: EUT Only
Mode: LTE Band 7 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.510	13.3	V	1.15	9.35	21.53	33.0	-11.5	
2.510	17.7	H	1.15	9.35	25.85	33.0	-7.2	
Mid Ch								
2.535	13.2	V	1.16	9.38	21.46	33.0	-11.5	
2.535	17.8	H	1.16	9.38	25.98	33.0	-7.0	
High Ch								
2.560	13.6	V	1.17	9.42	21.88	33.0	-11.1	
2.560	17.4	H	1.17	9.42	25.67	33.0	-7.3	

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16QAM EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 30606
Configuration: EUT Only
Mode: LTE Band 7 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.510	12.5	V	1.15	9.35	20.73	33.0	-12.3	
2.510	16.9	H	1.15	9.35	25.05	33.0	-8.0	
Mid Ch								
2.535	12.4	V	1.16	9.38	20.66	33.0	-12.3	
2.535	17.0	H	1.16	9.38	25.18	33.0	-7.8	
High Ch								
2.560	12.8	V	1.17	9.42	21.08	33.0	-11.9	
2.560	16.7	H	1.17	9.42	24.92	33.0	-8.1	

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10.1.5. LTE BAND 12

QPSK EIRP POWER FOR LTE BAND 12 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 12 QPSK 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
699.70	10.12	V	0.55	0.0	9.57	11.72	34.77	36.99	-25.3	
699.70	17.66	H	0.55	0.0	17.11	19.26	34.77	36.99	-17.7	
Mid Ch										
707.50	9.90	V	0.55	0.0	9.35	11.50	34.77	36.99	-25.5	
707.50	17.56	H	0.55	0.0	17.01	19.16	34.77	36.99	-17.8	
High Ch										
715.30	10.02	V	0.55	0.0	9.47	11.62	34.77	36.99	-25.4	
715.30	17.56	H	0.55	0.0	17.01	19.16	34.77	36.99	-17.8	

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16QAM EIRP POWER FOR LTE BAND 12 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 12 16QAM 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
699.70	9.50	V	0.55	0.0	8.95	11.10	34.77	36.99	-25.9	
699.70	16.97	H	0.55	0.0	16.42	18.57	34.77	36.99	-18.4	
Mid Ch										
707.50	9.36	V	0.55	0.0	8.81	10.96	34.77	36.99	-26.0	
707.50	16.97	H	0.55	0.0	16.42	18.57	34.77	36.99	-18.4	
High Ch										
715.30	9.35	V	0.55	0.0	8.80	10.95	34.77	36.99	-26.0	
715.30	16.89	H	0.55	0.0	16.34	18.49	34.77	36.99	-18.5	

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QPSK EIRP POWER FOR LTE BAND 12 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 12 QPSK 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
700.50	10.17	V	0.55	0.0	9.62	11.77	34.77	36.99	-25.2	
700.50	17.65	H	0.55	0.0	17.10	19.25	34.77	36.99	-17.7	
Mid Ch										
707.50	9.90	V	0.55	0.0	9.35	11.50	34.77	36.99	-25.5	
707.50	17.56	H	0.55	0.0	17.01	19.16	34.77	36.99	-17.8	
High Ch										
714.50	10.01	V	0.55	0.0	9.46	11.61	34.77	36.99	-25.4	
714.50	17.55	H	0.55	0.0	17.00	19.15	34.77	36.99	-17.8	

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16QAM EIRP POWER FOR LTE BAND 12 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 12 16QAM 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
700.50	9.65	V	0.55	0.0	9.10	11.25	34.77	36.99	-25.7	
700.50	16.99	H	0.55	0.0	16.44	18.59	34.77	36.99	-18.4	
Mid Ch										
707.50	9.37	V	0.55	0.0	8.82	10.97	34.77	36.99	-26.0	
707.50	16.97	H	0.55	0.0	16.42	18.57	34.77	36.99	-18.4	
High Ch										
714.50	9.28	V	0.55	0.0	8.73	10.88	34.77	36.99	-26.1	
714.50	16.90	H	0.55	0.0	16.35	18.50	34.77	36.99	-18.5	

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QPSK EIRP POWER FOR LTE BAND 12 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 12 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
701.50	10.03	V	0.55	0.0	9.48	11.63	34.77	36.99	-25.4	
701.50	17.66	H	0.55	0.0	17.11	19.26	34.77	36.99	-17.7	
Mid Ch										
707.50	9.93	V	0.55	0.0	9.38	11.53	34.77	36.99	-25.5	
707.50	17.55	H	0.55	0.0	17.00	19.15	34.77	36.99	-17.8	
High Ch										
713.50	10.02	V	0.55	0.0	9.47	11.62	34.77	36.99	-25.4	
713.50	17.53	H	0.55	0.0	16.98	19.13	34.77	36.99	-17.9	

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16QAM EIRP POWER FOR LTE BAND 12 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 12 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
701.50	9.41	V	0.55	0.0	8.86	11.01	34.77	36.99	-26.0	
701.50	16.97	H	0.55	0.0	16.42	18.57	34.77	36.99	-18.4	
Mid Ch										
707.50	9.42	V	0.55	0.0	8.87	11.02	34.77	36.99	-26.0	
707.50	16.98	H	0.55	0.0	16.43	18.58	34.77	36.99	-18.4	
High Ch										
713.50	9.36	V	0.55	0.0	8.81	10.96	34.77	36.99	-26.0	
713.50	16.93	H	0.55	0.0	16.38	18.53	34.77	36.99	-18.5	

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QPSK EIRP POWER FOR LTE BAND 12 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 12 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
704.00	10.02	V	0.55	0.0	9.47	11.62	34.77	36.99	-25.4	
704.00	17.56	H	0.55	0.0	17.01	19.16	34.77	36.99	-17.8	
Mid Ch										
707.50	9.86	V	0.55	0.0	9.31	11.46	34.77	36.99	-25.5	
707.50	17.70	H	0.55	0.0	17.15	19.30	34.77	36.99	-17.7	
High Ch										
711.00	10.06	V	0.55	0.0	9.51	11.66	34.77	36.99	-25.3	
711.00	17.55	H	0.55	0.0	17.00	19.15	34.77	36.99	-17.8	

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16QAM EIRP POWER FOR LTE BAND 12 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 12 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
704.00	9.32	V	0.55	0.0	8.77	10.92	34.77	36.99	-26.1	
704.00	16.96	H	0.55	0.0	16.41	18.56	34.77	36.99	-18.4	
Mid Ch										
707.50	9.40	V	0.55	0.0	8.85	11.00	34.77	36.99	-26.0	
707.50	17.00	H	0.55	0.0	16.45	18.60	34.77	36.99	-18.4	
High Ch										
711.00	9.40	V	0.55	0.0	8.85	11.00	34.77	36.99	-26.0	
711.00	16.89	H	0.55	0.0	16.34	18.49	34.77	36.99	-18.5	

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10.1.6. LTE BAND 13

QPSK EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 13 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
779.50	12.26	V	0.55	0.0	11.71	13.86	34.77	36.99	-23.1	
779.50	18.14	H	0.55	0.0	17.59	19.74	34.77	36.99	-17.2	
Mid Ch										
782.00	12.37	V	0.55	0.0	11.82	13.97	34.77	36.99	-23.0	
782.00	18.94	H	0.55	0.0	18.39	20.54	34.77	36.99	-16.4	
High Ch										
784.50	12.67	V	0.55	0.0	12.12	14.27	34.77	36.99	-22.7	
784.50	18.99	H	0.55	0.0	18.44	20.59	34.77	36.99	-16.4	

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16QAM EIRP POWER FOR LTE BAND 13 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 13 16QAM5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
779.50	11.79	V	0.55	0.0	11.24	13.39	34.77	36.99	-23.6	
779.50	17.29	H	0.55	0.0	16.74	18.89	34.77	36.99	-18.1	
Mid Ch										
782.00	11.69	V	0.55	0.0	11.14	13.29	34.77	36.99	-23.7	
782.00	18.49	H	0.55	0.0	17.94	20.09	34.77	36.99	-16.9	
High Ch										
784.50	12.18	V	0.55	0.0	11.63	13.78	34.77	36.99	-23.2	
784.50	18.36	H	0.55	0.0	17.81	19.96	34.77	36.99	-17.0	

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QPSK EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 13 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
782.00	12.38	V	0.55	0.0	11.83	13.98	34.77	36.99	-23.0	
782.00	18.79	H	0.55	0.0	18.24	20.39	34.77	36.99	-16.6	

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16QAM EIRP POWER FOR LTE BAND 13 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 13 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
782.00	11.68	V	0.55	0.0	11.13	13.28	34.77	36.99	-23.7	
782.00	17.84	H	0.55	0.0	17.29	19.44	34.77	36.99	-17.5	

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10.1.7. LTE BAND 17

QPSK EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 17 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
706.50	10.63	V	0.55	0.0	10.08	12.23	34.77	36.99	-24.8	
706.50	17.78	H	0.55	0.0	17.23	19.38	34.77	36.99	-17.6	
Mid Ch										
710.00	10.63	V	0.55	0.0	10.08	12.23	34.77	36.99	-24.8	
710.00	17.77	H	0.55	0.0	17.22	19.37	34.77	36.99	-17.6	
High Ch										
713.50	10.72	V	0.55	0.0	10.17	12.32	34.77	36.99	-24.7	
713.50	17.74	H	0.55	0.0	17.19	19.34	34.77	36.99	-17.6	

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16QAM EIRP POWER FOR LTE BAND 17 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 17 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
706.50	10.01	V	0.55	0.0	9.46	11.61	34.77	36.99	-25.4	
706.50	17.23	H	0.55	0.0	16.68	18.83	34.77	36.99	-18.2	
Mid Ch										
710.00	10.01	V	0.55	0.0	9.46	11.61	34.77	36.99	-25.4	
710.00	17.21	H	0.55	0.0	16.66	18.81	34.77	36.99	-18.2	
High Ch										
713.50	10.10	V	0.55	0.0	9.55	11.70	34.77	36.99	-25.3	
713.50	17.16	H	0.55	0.0	16.61	18.76	34.77	36.99	-18.2	

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QPSK EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 17 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
710.00	10.64	V	0.55	0.0	10.09	12.24	34.77	36.99	-24.7	
710.00	17.85	H	0.55	0.0	17.30	19.45	34.77	36.99	-17.5	

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16QAM EIRP POWER FOR LTE BAND 17 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 17 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f MHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
710.00	10.02	V	0.55	0.0	9.47	11.62	34.77	36.99	-25.4	
710.00	17.27	H	0.55	0.0	16.72	18.87	34.77	36.99	-18.1	

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10.1.8. LTE BAND 25

QPSK EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 25 QPSK 1.4MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.851	11.9	V	0.98	8.05	18.93	33.0	-14.1	
1.851	14.1	H	0.98	8.05	21.15	33.0	-11.9	
Mid Ch								
1.883	13.5	V	0.98	8.03	20.58	33.0	-12.4	
1.883	15.7	H	0.98	8.03	22.74	33.0	-10.3	
High Ch								
1.914	13.7	V	0.98	8.07	20.80	33.0	-12.2	
1.914	16.2	H	0.98	8.07	23.33	33.0	-9.7	

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16QAM EIRP POWER FOR LTE BAND 25 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 25 16QAM 1.4MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.851	10.9	V	0.98	8.05	17.94	33.0	-15.1	
1.851	13.1	H	0.98	8.05	20.18	33.0	-12.8	
Mid Ch								
1.883	12.6	V	0.98	8.03	19.66	33.0	-13.3	
1.883	14.8	H	0.98	8.03	21.83	33.0	-11.2	
High Ch								
1.914	12.7	V	0.98	8.07	19.74	33.0	-13.3	
1.914	15.3	H	0.98	8.07	22.41	33.0	-10.6	

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QPSK EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 25 QPSK 3MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.852	12.1	V	0.98	8.05	19.12	33.0	-13.9	
1.852	14.1	H	0.98	8.05	21.18	33.0	-11.8	
Mid Ch								
1.883	13.6	V	0.98	8.03	20.68	33.0	-12.3	
1.883	15.7	H	0.98	8.03	22.78	33.0	-10.2	
High Ch								
1.914	14.0	V	0.98	8.07	21.11	33.0	-11.9	
1.914	16.4	H	0.98	8.07	23.49	33.0	-9.5	

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16QAM EIRP POWER FOR LTE BAND 25 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 25 16QAM 3MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.852	11.1	V	0.98	8.05	18.15	33.0	-14.9	
1.852	13.2	H	0.98	8.05	20.31	33.0	-12.7	
Mid Ch								
1.883	12.7	V	0.98	8.03	19.70	33.0	-13.3	
1.883	14.7	H	0.98	8.03	21.79	33.0	-11.2	
High Ch								
1.914	13.2	V	0.98	8.07	20.24	33.0	-12.8	
1.914	15.4	H	0.98	8.07	22.44	33.0	-10.6	

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QPSK EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 25 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.853	12.1	V	0.98	8.05	19.20	33.0	-13.8	
1.853	14.0	H	0.98	8.05	21.07	33.0	-11.9	
Mid Ch								
1.883	13.4	V	0.98	8.03	20.41	33.0	-12.6	
1.883	15.8	H	0.98	8.03	22.87	33.0	-10.1	
High Ch								
1.913	14.5	V	0.98	8.06	21.54	33.0	-11.5	
1.913	16.3	H	0.98	8.06	23.41	33.0	-9.6	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 25 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 25 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.853	11.2	V	0.98	8.05	18.27	33.0	-14.7	
1.853	13.0	H	0.98	8.05	20.08	33.0	-12.9	
Mid Ch								
1.883	12.5	V	0.98	8.03	19.52	33.0	-13.5	
1.883	14.8	H	0.98	8.03	21.87	33.0	-11.1	
High Ch								
1.913	13.5	V	0.98	8.06	20.60	33.0	-12.4	
1.913	15.4	H	0.98	8.06	22.50	33.0	-10.5	

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QPSK EIRP POWER FOR LTE BAND 25 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 25 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.855	12.0	V	0.98	8.05	19.02	33.0	-14.0	
1.855	14.1	H	0.98	8.05	21.12	33.0	-11.9	
Mid Ch								
1.883	13.6	V	0.98	8.03	20.61	33.0	-12.4	
1.883	15.8	H	0.98	8.03	22.86	33.0	-10.1	
High Ch								
1.910	14.7	V	0.98	8.05	21.75	33.0	-11.2	
1.910	16.1	H	0.98	8.05	23.13	33.0	-9.9	

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16QAM EIRP POWER FOR LTE BAND 25 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 38602
Configuration: EUT only
Mode: LTE Band 25 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.855	11.0	V	0.98	8.05	18.04	33.0	-15.0	
1.855	13.2	H	0.98	8.05	20.27	33.0	-12.7	
Mid Ch								
1.883	12.6	V	0.98	8.03	19.67	33.0	-13.3	
1.883	14.8	H	0.98	8.03	21.86	33.0	-11.1	
High Ch								
1.910	13.6	V	0.98	8.05	20.65	33.0	-12.3	
1.910	15.2	H	0.98	8.05	22.23	33.0	-10.8	

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QPSK EIRP POWER FOR LTE BAND 25 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.858	11.7	V	0.98	8.04	18.72	33.0	-14.3	
1.858	14.3	H	0.98	8.04	21.37	33.0	-11.6	
Mid Ch								
1.883	14.5	V	0.98	8.03	21.55	33.0	-11.5	
1.883	16.0	H	0.98	8.03	23.03	33.0	-10.0	
High Ch								
1.908	14.6	V	0.98	8.04	21.61	33.0	-11.4	
1.908	15.7	H	0.98	8.04	22.72	33.0	-10.3	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 25 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 16QAM 15MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.858	10.9	V	0.98	8.04	17.92	33.0	-15.1	
1.858	13.7	H	0.98	8.04	20.78	33.0	-12.2	
Mid Ch								
1.883	13.5	V	0.98	8.03	20.58	33.0	-12.4	
1.883	15.1	H	0.98	8.03	22.12	33.0	-10.9	
High Ch								
1.908	13.8	V	0.98	8.04	20.87	33.0	-12.1	
1.908	14.9	H	0.98	8.04	21.91	33.0	-11.1	

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QPSK EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.860	11.6	V	0.98	8.04	18.70	33.0	-14.3	
1.860	14.5	H	0.98	8.04	21.51	33.0	-11.5	
Mid Ch								
1.883	14.5	V	0.98	8.03	21.55	33.0	-11.5	
1.883	16.2	H	0.98	8.03	23.21	33.0	-9.8	
High Ch								
1.905	14.5	V	0.98	8.04	21.54	33.0	-11.5	
1.905	15.6	H	0.98	8.04	22.70	33.0	-10.3	

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16QAM EIRP POWER FOR LTE BAND 25 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 6/14/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 25 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T136, and Chamber G SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
1.860	10.9	V	0.98	8.04	17.95	33.0	-15.0	
1.860	13.9	H	0.98	8.04	20.95	33.0	-12.0	
Mid Ch								
1.883	13.8	V	0.98	8.03	20.88	33.0	-12.1	
1.883	15.4	H	0.98	8.03	22.44	33.0	-10.6	
High Ch								
1.905	13.9	V	0.98	8.04	20.96	33.0	-12.0	
1.905	15.1	H	0.98	8.04	22.20	33.0	-10.8	

Rev. 10.24.13

10.1.9. LTE BAND 26

QPSK EIRP POWER FOR LTE BAND 26 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 26 QPSK 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
814.70	11.33	V	0.62	0.0	10.71	12.86	38.45	40.60	-27.7	
814.70	19.46	H	0.62	0.0	18.84	20.99	38.45	40.60	-19.6	
Mid Ch										
819.00	11.76	V	0.62	0.0	11.14	13.29	38.45	40.60	-27.3	
819.00	19.53	H	0.62	0.0	18.91	21.06	38.45	40.60	-19.5	
High Ch										
823.30	12.14	V	0.62	0.0	11.52	13.67	38.45	40.60	-26.9	
823.30	19.85	H	0.62	0.0	19.23	21.38	38.45	40.60	-19.2	

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16QAM EIRP POWER FOR LTE BAND 26 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 26 16QAM 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
814.70	10.43	V	0.62	0.0	9.81	11.96	38.45	40.60	-28.6	
814.70	18.56	H	0.62	0.0	17.94	20.09	38.45	40.60	-20.5	
Mid Ch										
819.00	10.86	V	0.62	0.0	10.24	12.39	38.45	40.60	-28.2	
819.00	18.63	H	0.62	0.0	18.01	20.16	38.45	40.60	-20.4	
High Ch										
823.30	11.24	V	0.62	0.0	10.62	12.77	38.45	40.60	-27.8	
823.30	18.95	H	0.62	0.0	18.33	20.48	38.45	40.60	-20.1	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 26 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 26 QPSK 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
815.50	11.17	V	0.62	0.0	10.55	12.70	38.45	40.60	-27.9	
815.50	19.61	H	0.62	0.0	18.99	21.14	38.45	40.60	-19.5	
Mid Ch										
819.00	11.67	V	0.62	0.0	11.05	13.20	38.45	40.60	-27.4	
819.00	19.49	H	0.62	0.0	18.87	21.02	38.45	40.60	-19.6	
High Ch										
822.50	12.06	V	0.62	0.0	11.44	13.59	38.45	40.60	-27.0	
822.50	19.79	H	0.62	0.0	19.17	21.32	38.45	40.60	-19.3	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 26 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 26 16QAM 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
815.50	10.37	V	0.62	0.0	9.75	11.90	38.45	40.60	-28.7	
815.50	18.81	H	0.62	0.0	18.19	20.34	38.45	40.60	-20.3	
Mid Ch										
819.00	10.87	V	0.62	0.0	10.25	12.40	38.45	40.60	-28.2	
819.00	18.69	H	0.62	0.0	18.07	20.22	38.45	40.60	-20.4	
High Ch										
822.50	11.26	V	0.62	0.0	10.64	12.79	38.45	40.60	-27.8	
822.50	18.99	H	0.62	0.0	18.37	20.52	38.45	40.60	-20.1	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 26 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 26 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
816.50	11.31	V	0.62	0.0	10.69	12.84	38.45	40.60	-27.8	
816.50	19.64	H	0.62	0.0	19.02	21.17	38.45	40.60	-19.4	
Mid Ch										
819.00	11.68	V	0.62	0.0	11.06	13.21	38.45	40.60	-27.4	
819.00	19.59	H	0.62	0.0	18.97	21.12	38.45	40.60	-19.5	
High Ch										
821.50	12.11	V	0.62	0.0	11.49	13.64	38.45	40.60	-27.0	
821.50	19.87	H	0.62	0.0	19.25	21.40	38.45	40.60	-19.2	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 26 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 26 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Low Ch										
816.50	10.51	V	0.62	0.0	9.89	12.04	38.45	40.60	-28.6	
816.50	18.84	H	0.62	0.0	18.22	20.37	38.45	40.60	-20.2	
Mid Ch										
819.00	10.88	V	0.62	0.0	10.26	12.41	38.45	40.60	-28.2	
819.00	18.79	H	0.62	0.0	18.17	20.32	38.45	40.60	-20.3	
High Ch										
821.50	11.31	V	0.62	0.0	10.69	12.84	38.45	40.60	-27.8	
821.50	19.07	H	0.62	0.0	18.45	20.60	38.45	40.60	-20.0	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 26 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin EIRP (dB)	Notes
Mid Ch										
819.00	11.88	V	0.62	0.0	11.26	13.41	38.45	40.60	-27.2	
819.00	19.74	H	0.62	0.0	19.12	21.27	38.45	40.60	-19.3	

Rev. 10.24.13

16QAM EIRP POWER FOR LTE BAND 26 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 26 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	EIRP (dBm)	ERP Limit (dBm)	EIRP Limit (dBm)	Margin (dB)	Notes
Mid Ch										
819.00	10.98	V	0.62	0.0	10.36	12.51	38.45	40.60	-28.1	
819.00	18.84	H	0.62	0.0	18.22	20.37	38.45	40.60	-20.2	

Rev. 10.24.13

10.1.10. LTE BAND 27

QPSK EIRP POWER FOR LTE BAND 27 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 27 QPSK 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Low Ch								
814.70	11.78	V	0.62	0.0	11.16	50.00	-38.8	
814.70	19.75	H	0.62	0.0	19.13	50.00	-30.9	
Mid Ch								
819.00	11.34	V	0.62	0.0	10.72	50.00	-39.3	
819.00	19.38	H	0.62	0.0	18.76	50.00	-31.2	
High Ch								
823.30	11.20	V	0.62	0.0	10.58	50.00	-39.4	
823.30	19.82	H	0.62	0.0	19.20	50.00	-30.8	

Rev. 04.28.15

16QAM EIRP POWER FOR LTE BAND 27 (1.4MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 27 16QAM 1.4MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Low Ch								
814.70	10.98	V	0.62	0.0	10.36	50.00	-39.6	
814.70	18.95	H	0.62	0.0	18.33	50.00	-31.7	
Mid Ch								
819.00	10.54	V	0.62	0.0	9.92	50.00	-40.1	
819.00	18.58	H	0.62	0.0	17.96	50.00	-32.0	
High Ch								
823.30	10.40	V	0.62	0.0	9.78	50.00	-40.2	
823.30	19.02	H	0.62	0.0	18.40	50.00	-31.6	

Rev. 04.28.15

QPSK EIRP POWER FOR LTE BAND 27 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 27 QPSK 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Low Ch								
815.50	11.56	V	0.62	0.0	10.94	50.00	-39.1	
815.50	19.62	H	0.62	0.0	19.00	50.00	-31.0	
Mid Ch								
819.00	11.07	V	0.62	0.0	10.45	50.00	-39.5	
819.00	19.54	H	0.62	0.0	18.92	50.00	-31.1	
High Ch								
822.50	11.04	V	0.62	0.0	10.42	50.00	-39.6	
822.50	19.78	H	0.62	0.0	19.16	50.00	-30.8	

Rev. 04.28.15

16QAM EIRP POWER FOR LTE BAND 27 (3.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 27 16QAM 3MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Low Ch								
815.50	10.76	V	0.62	0.0	10.14	50.00	-39.9	
815.50	18.82	H	0.62	0.0	18.20	50.00	-31.8	
Mid Ch								
819.00	10.27	V	0.62	0.0	9.65	50.00	-40.3	
819.00	18.74	H	0.62	0.0	18.12	50.00	-31.9	
High Ch								
822.50	10.24	V	0.62	0.0	9.62	50.00	-40.4	
822.50	18.98	H	0.62	0.0	18.36	50.00	-31.6	

Rev. 04.28.15

QPSK EIRP POWER FOR LTE BAND 27 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 27 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Low Ch								
816.50	11.74	V	0.62	0.0	11.12	50.00	-38.9	
816.50	19.63	H	0.62	0.0	19.01	50.00	-31.0	
Mid Ch								
819.00	11.27	V	0.62	0.0	10.65	50.00	-39.3	
819.00	19.53	H	0.62	0.0	18.91	50.00	-31.1	
High Ch								
821.50	11.22	V	0.62	0.0	10.60	50.00	-39.4	
821.50	19.86	H	0.62	0.0	19.24	50.00	-30.8	

Rev. 04.28.15

16QAM EIRP POWER FOR LTE BAND 27 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 27 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Low Ch								
816.50	10.84	V	0.62	0.0	10.22	50.00	-39.8	
816.50	18.73	H	0.62	0.0	18.11	50.00	-31.9	
Mid Ch								
819.00	10.37	V	0.62	0.0	9.75	50.00	-40.2	
819.00	18.63	H	0.62	0.0	18.01	50.00	-32.0	
High Ch								
821.50	10.32	V	0.62	0.0	9.70	50.00	-40.3	
821.50	18.96	H	0.62	0.0	18.34	50.00	-31.7	

Rev. 04.28.15

QPSK EIRP POWER FOR LTE BAND 27 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 27 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Mid Ch								
819.00	11.25	V	0.62	0.0	10.63	50.00	-39.4	
819.00	19.38	H	0.62	0.0	18.76	50.00	-31.2	

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16QAM EIRP POWER FOR LTE BAND 27 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 16U23287
Date: 7/1/2016
Test Engineer: 39005
Configuration: EUT only
Mode: LTE Band 27 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T900, and Chamber G Cable
Substitution: Dipole S/N: 00022117, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP Limit (dBm)	Margin (dB)	Notes
Mid Ch								
819.00	10.45	V	0.62	0.0	9.83	50.00	-40.2	
819.00	18.58	H	0.62	0.0	17.96	50.00	-32.0	

Rev. 04.28.15

10.1.11. LTE BAND 30

QPSK EIRP POWER FOR LTE BAND 30 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber E

Company:
Project #: 16U23287
Date: 6/30/2016
Test Engineer: 52279
Configuration: EUT Only
Mode: LTE Band 30 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T711, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.308	7.0	V	1.15	9.37	15.17	24.0	-8.8	
2.308	12.6	H	1.15	9.37	20.86	24.0	-3.1	
Mid Ch								
2.310	7.1	V	1.16	9.37	15.31	24.0	-8.7	
2.310	12.7	H	1.16	9.37	20.95	24.0	-3.1	
High Ch								
2.313	7.4	V	1.17	9.37	15.58	24.0	-8.4	
2.313	13.2	H	1.17	9.37	21.36	24.0	-2.6	

Rev. 04.24.15

16QAM EIRP POWER FOR LTE BAND 30 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber E

Company:
Project #: 16U23287
Date: 6/30/2016
Test Engineer: 52279
Configuration: EUT Only
Mode: LTE Band 30 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T711, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.308	6.1	V	1.15	9.37	14.27	24.0	-9.7	
2.308	11.7	H	1.15	9.37	19.96	24.0	-4.0	
Mid Ch								
2.310	6.2	V	1.16	9.37	14.41	24.0	-9.6	
2.310	11.8	H	1.16	9.37	20.05	24.0	-4.0	
High Ch								
2.313	6.5	V	1.17	9.37	14.68	24.0	-9.3	
2.313	12.3	H	1.17	9.37	20.46	24.0	-3.5	

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QPSK EIRP POWER FOR LTE BAND 30 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber E

Company:
Project #: 16U23287
Date: 6/30/2016
Test Engineer: 52279
Configuration: EUT Only
Mode: LTE Band 30 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T711, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
2.310	7.1	V	1.15	9.37	15.33	24.0	-8.7	
2.310	12.9	H	1.15	9.37	21.07	24.0	-2.9	

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16QAM EIRP POWER FOR LTE BAND 30 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber E

Company:
Project #: 16U23287
Date: 6/22/2016
Test Engineer: 52279
Configuration: EUT Only
Mode: LTE Band 30 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T711, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
2.310	6.1	V	1.15	9.37	14.33	24.0	-9.7	
2.310	11.9	H	1.15	9.37	20.07	24.0	-3.9	

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10.1.12. LTE BAND 41

QPSK EIRP POWER FOR LTE BAND 41 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber E

Company:
Project #: 16U23287
Date: 6/30/2016
Test Engineer: 52279
Configuration: EUT Only
Mode: LTE Band 41 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T711, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.499	12.4	V	1.15	9.33	20.53	33.0	-12.5	
2.499	17.3	H	1.15	9.33	25.44	33.0	-7.6	
Mid Ch								
2.593	13.4	V	1.16	9.47	21.70	33.0	-11.3	
2.593	17.3	H	1.16	9.47	25.60	33.0	-7.4	
High Ch								
2.688	13.3	V	1.17	9.78	21.92	33.0	-11.1	
2.688	17.5	H	1.17	9.78	26.09	33.0	-6.9	

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16QAM EIRP POWER FOR LTE BAND 41 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber H

Company:
Project #: 16U23287
Date: 6/30/2016
Test Engineer: 52279
Configuration: EUT Only
Mode: LTE Band 41 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T711, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.499	11.5	V	1.15	9.33	19.72	33.0	-13.3	
2.499	16.5	H	1.15	9.33	24.63	33.0	-8.4	
Mid Ch								
2.593	12.6	V	1.16	9.47	20.89	33.0	-12.1	
2.593	16.5	H	1.16	9.47	24.79	33.0	-8.2	
High Ch								
2.688	12.5	V	1.17	9.78	21.11	33.0	-11.9	
2.688	16.7	H	1.17	9.78	25.28	33.0	-7.7	

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QPSK EIRP POWER FOR LTE BAND 41 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber E

Company:
Project #: 16U23287
Date: 6/30/2016
Test Engineer: 52279
Configuration: EUT Only
Mode: LTE Band 41 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T711, and Chamber GESMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.501	12.2	V	1.15	9.33	20.41	33.0	-12.6	
2.501	17.4	H	1.15	9.33	25.55	33.0	-7.5	
Mid Ch								
2.593	13.3	V	1.16	9.47	21.62	33.0	-11.4	
2.593	17.4	H	1.16	9.47	25.70	33.0	-7.3	
High Ch								
2.685	13.0	V	1.17	9.77	21.56	33.0	-11.4	
2.685	17.5	H	1.17	9.77	26.12	33.0	-6.9	

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16QAM EIRP POWER FOR LTE BAND 41 (10.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber E

Company:
Project #: 16U23287
Date: 6/30/2016
Test Engineer: 52279
Configuration: EUT Only
Mode: LTE Band 41 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T711, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.501	11.2	V	1.15	9.33	19.41	33.0	-13.6	
2.501	16.4	H	1.15	9.33	24.55	33.0	-8.5	
Mid Ch								
2.593	12.3	V	1.16	9.47	20.62	33.0	-12.4	
2.593	16.4	H	1.16	9.47	24.70	33.0	-8.3	
High Ch								
2.685	12.0	V	1.17	9.77	20.56	33.0	-12.4	
2.685	16.5	H	1.17	9.77	25.15	33.0	-7.9	

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QPSK EIRP POWER FOR LTE BAND 41 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber E

Company:
Project #: 16U23287
Date: 6/30/2016
Test Engineer: 52279
Configuration: EUT Only
Mode: LTE Band 41 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T711, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.504	12.1	V	1.15	9.34	20.32	33.0	-12.7	
2.504	17.4	H	1.15	9.34	25.55	33.0	-7.4	
Mid Ch								
2.593	13.2	V	1.16	9.47	21.54	33.0	-11.5	
2.593	17.3	H	1.16	9.47	25.59	33.0	-7.4	
High Ch								
2.683	12.9	V	1.17	9.76	21.51	33.0	-11.5	
2.683	17.5	H	1.17	9.76	26.05	33.0	-6.9	

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16QAM EIRP POWER FOR LTE BAND 41 (15.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber E

Company:
Project #: 16U23287
Date: 6/30/2016
Test Engineer: 52279
Configuration: EUT Only
Mode: LTE Band 41 16QAM 15MHz BW

Test Equipment:
Receiving: Horn T711, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.504	11.0	V	1.15	9.34	19.22	33.0	-13.8	
2.504	16.3	H	1.15	9.34	24.45	33.0	-8.5	
Mid Ch								
2.593	12.1	V	1.16	9.47	20.44	33.0	-12.6	
2.593	16.2	H	1.16	9.47	24.49	33.0	-8.5	
High Ch								
2.683	11.8	V	1.17	9.76	20.41	33.0	-12.6	
2.683	16.4	H	1.17	9.76	24.96	33.0	-8.0	

Rev. 10.24.13

QPSK EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber E

Company:
Project #: 16U23287
Date: 6/30/2016
Test Engineer: 52279
Configuration: EUT Only
Mode: LTE Band 41 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T711, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.506	12.0	V	1.15	9.34	20.23	33.0	-12.8	
2.506	17.3	H	1.15	9.34	25.53	33.0	-7.5	
Mid Ch								
2.593	12.9	V	1.16	9.47	21.25	33.0	-11.7	
2.593	17.4	H	1.16	9.47	25.66	33.0	-7.3	
High Ch								
2.680	12.8	V	1.17	9.76	21.36	33.0	-11.6	
2.680	17.5	H	1.17	9.76	26.13	33.0	-6.9	

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16QAM EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber H

Company:
Project #: 16U23287
Date: 6/30/2016
Test Engineer: 52279
Configuration: EUT Only
Mode: LTE Band 41 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T711, and Chamber E SMA Cables
Substitution: Horn T59 Substitution, 4ft SMA Cable (s/n 245182-003; SUCOFLEX 104PEA)

f GHz	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin EIRP (dB)	Notes
Low Ch								
2.506	11.1	V	1.15	9.34	19.30	33.0	-13.7	
2.506	16.4	H	1.15	9.34	24.60	33.0	-8.4	
Mid Ch								
2.593	12.0	V	1.16	9.47	20.32	33.0	-12.7	
2.593	16.4	H	1.16	9.47	24.73	33.0	-8.3	
High Ch								
2.680	11.8	V	1.17	9.76	20.43	33.0	-12.6	
2.680	16.6	H	1.17	9.76	25.20	33.0	-7.8	

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