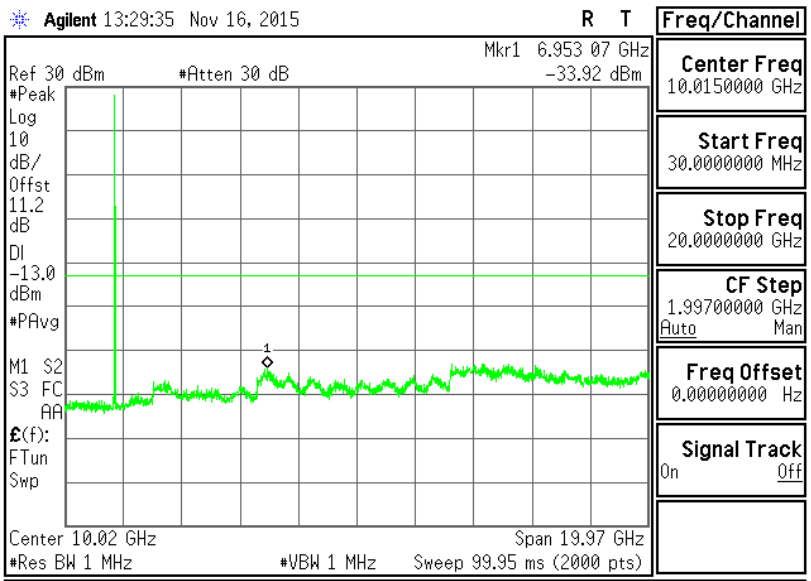
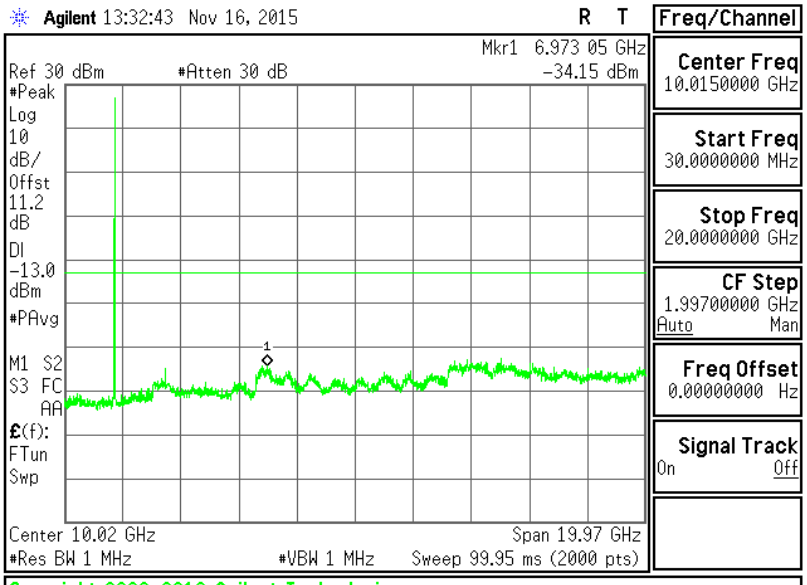
MID, RB1-0, 30 TO 20000 MHz



HIGH, RB1-0, 30 TO 20000 MHz



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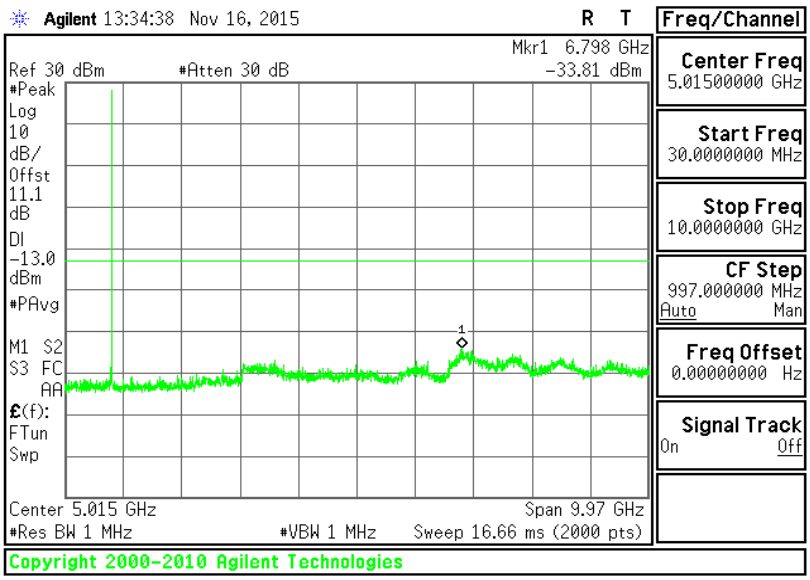
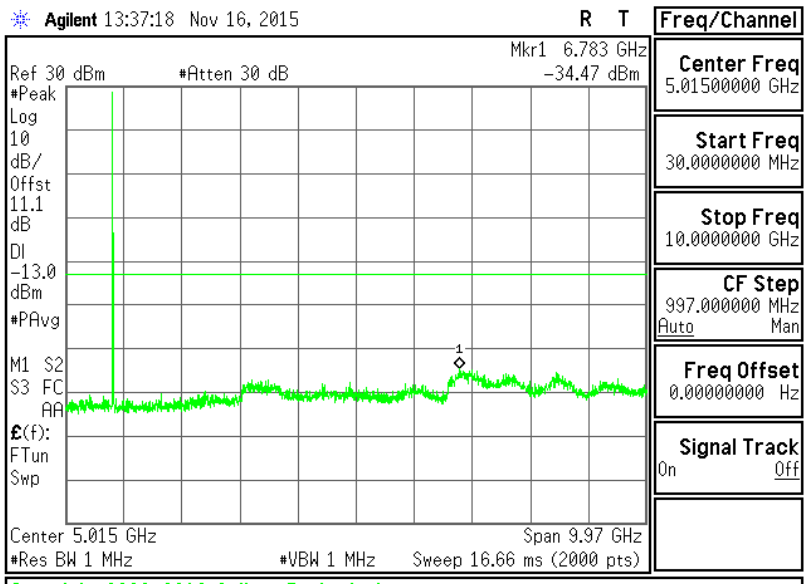
8.3.3. LTE BAND 5

QPSK, (1.4 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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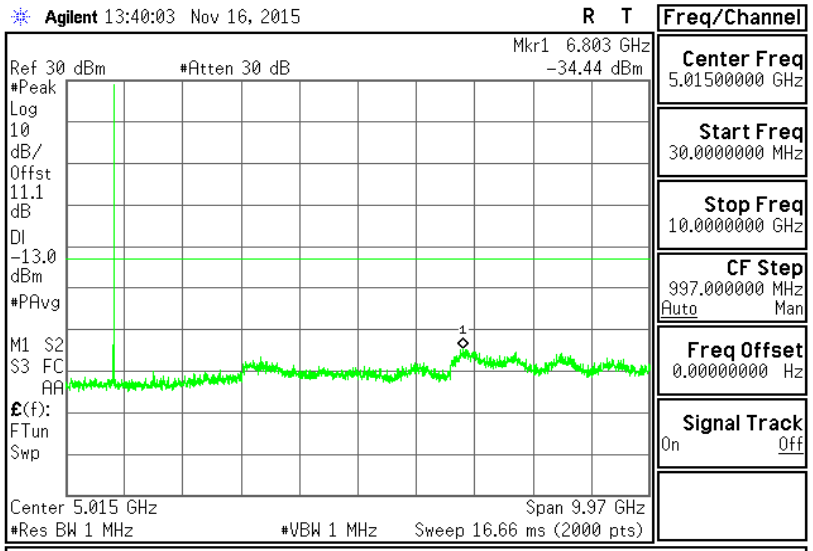
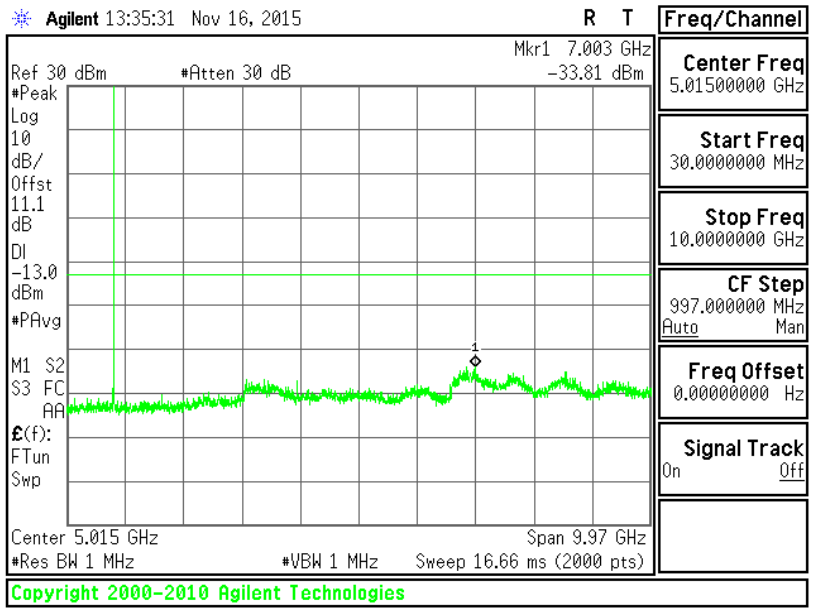
HIGH, RB1-0, 30 TO 10000 MHz



16QAM, (1.4 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



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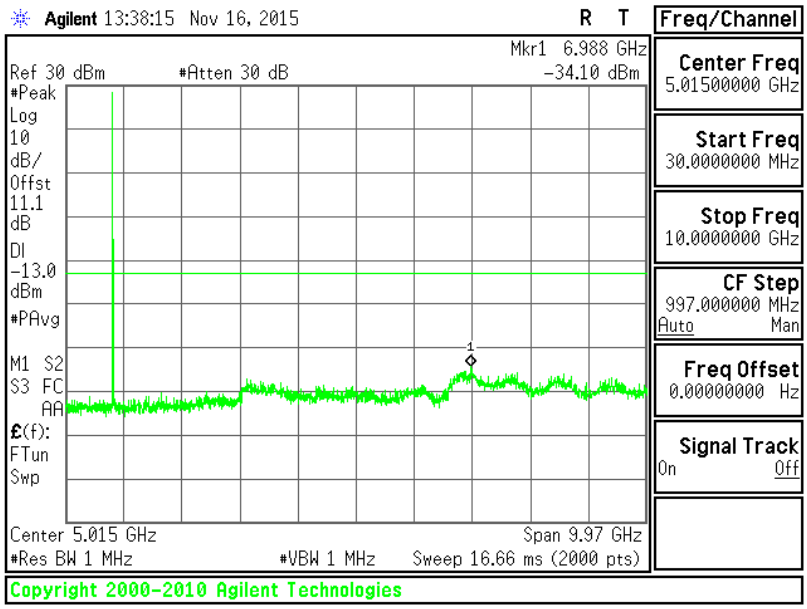
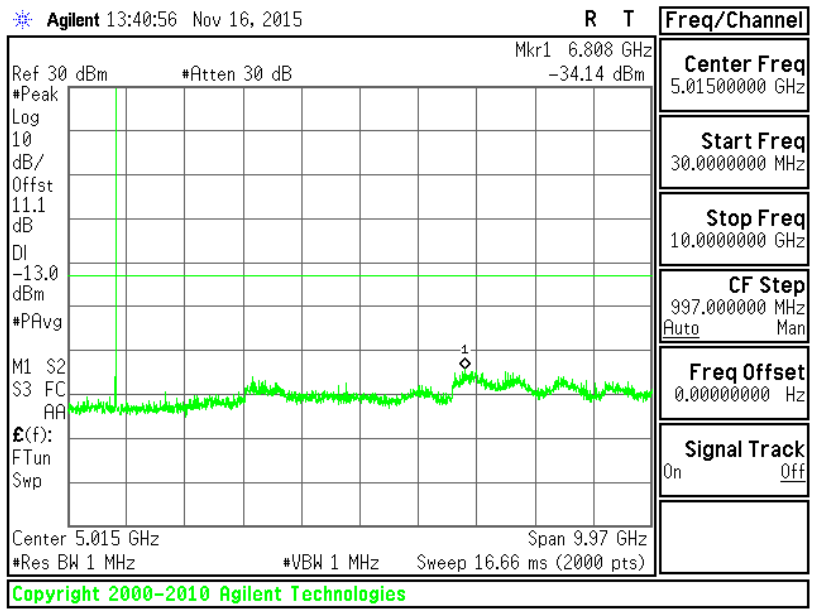
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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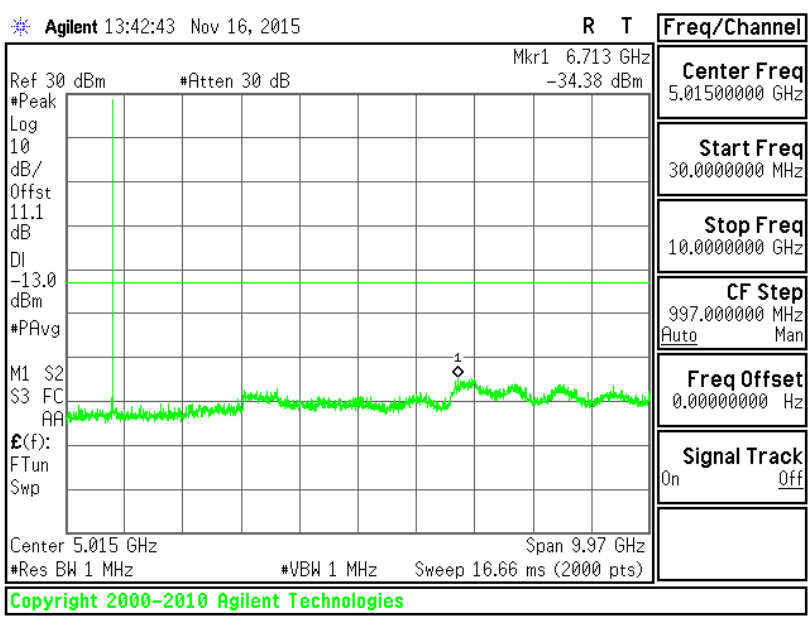
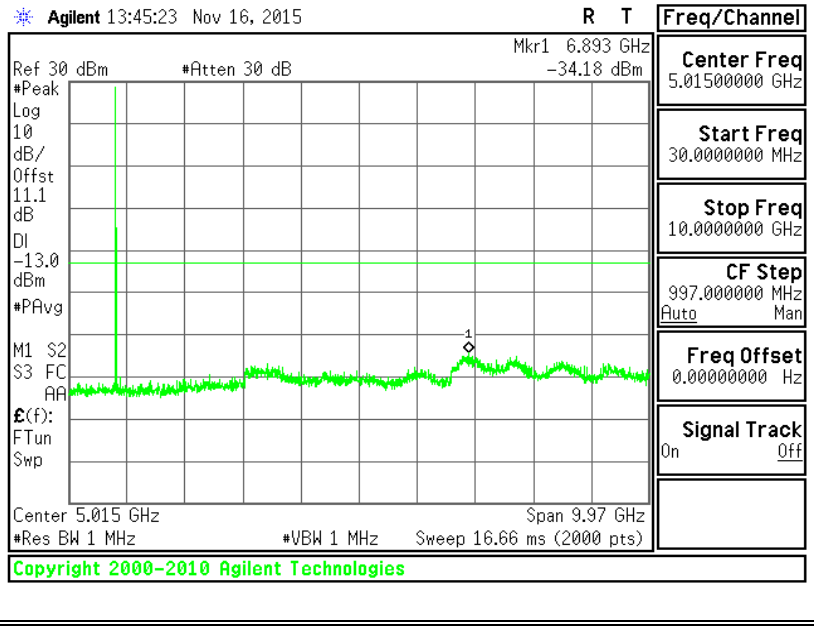
QPSK, (3.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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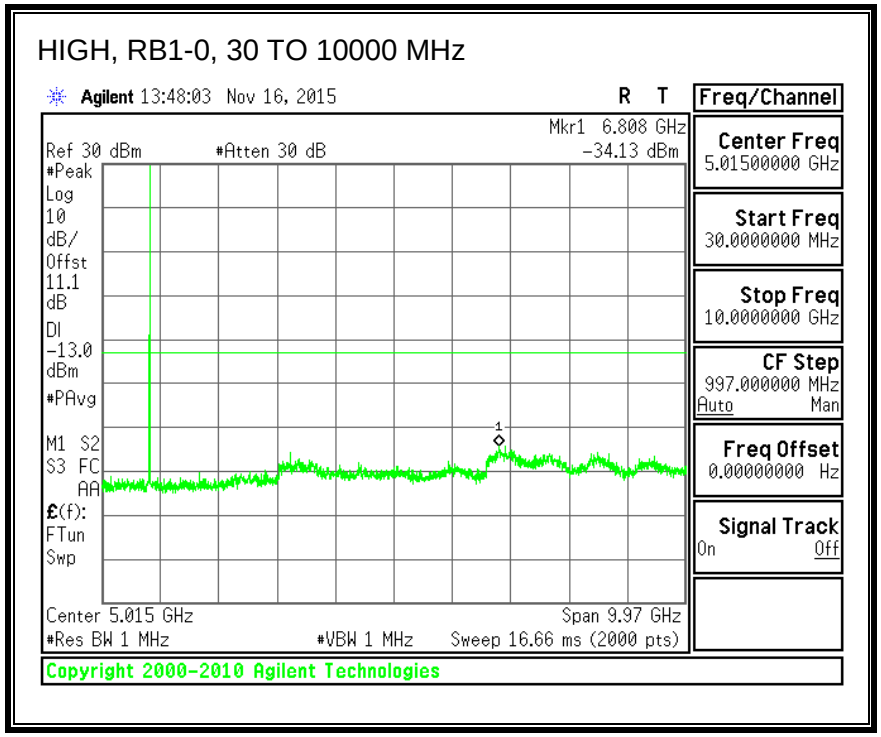
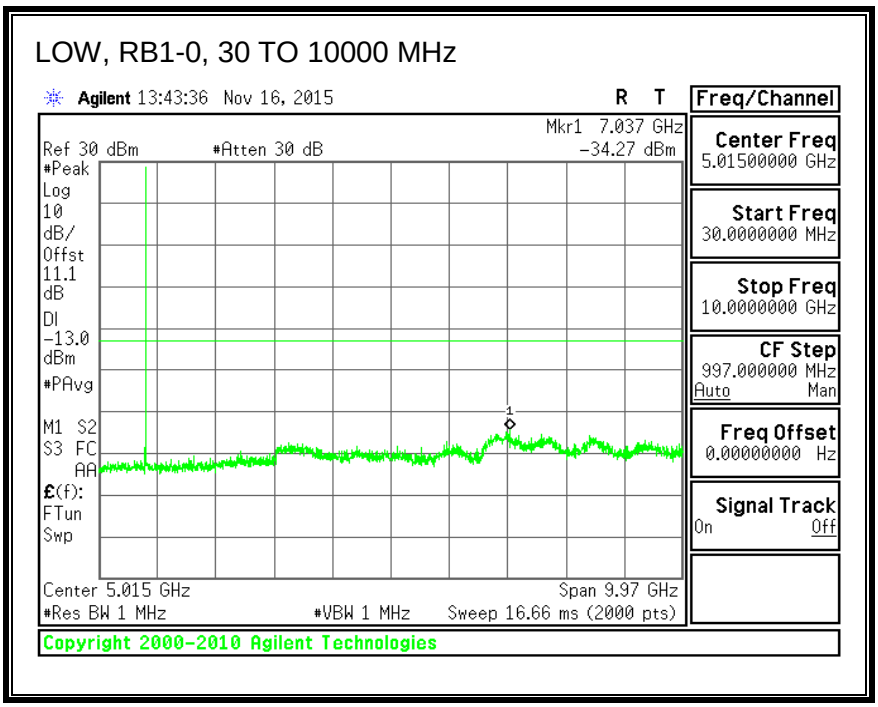


16QAM, (3.0 MHz BAND WIDTH)



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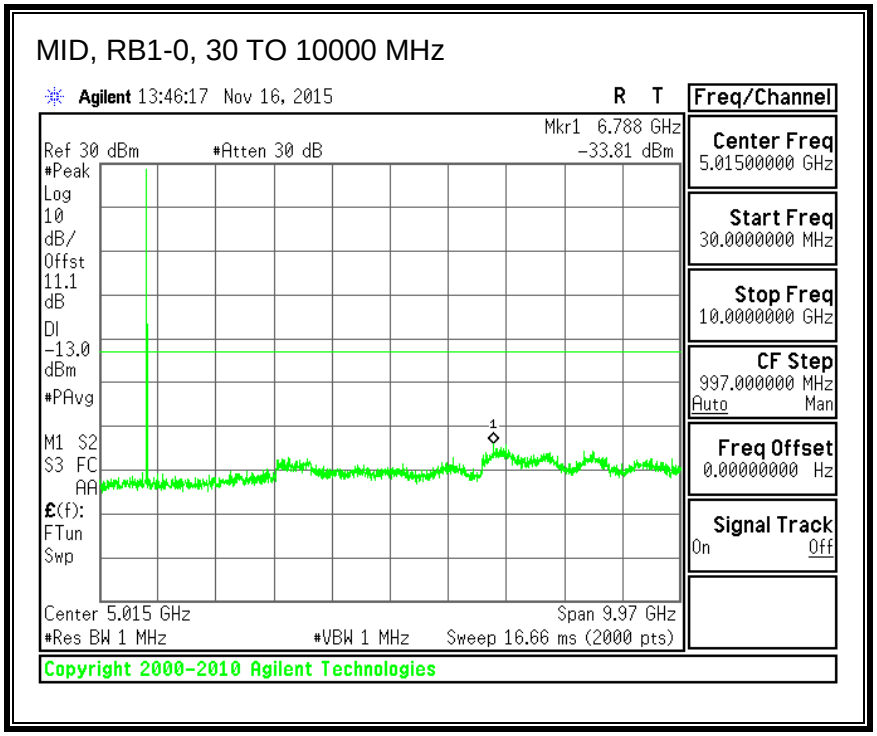
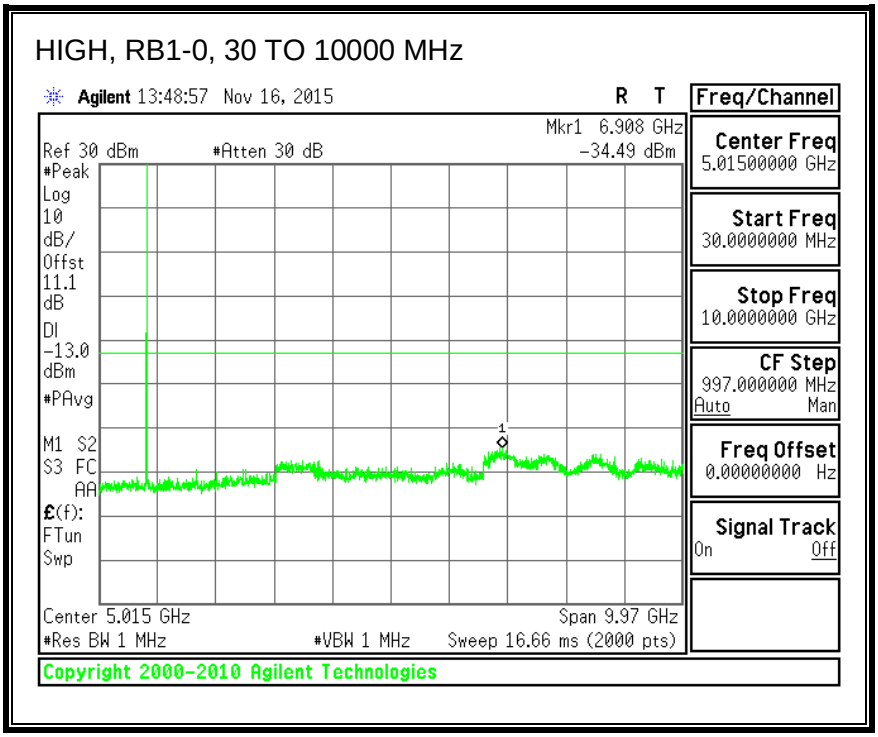
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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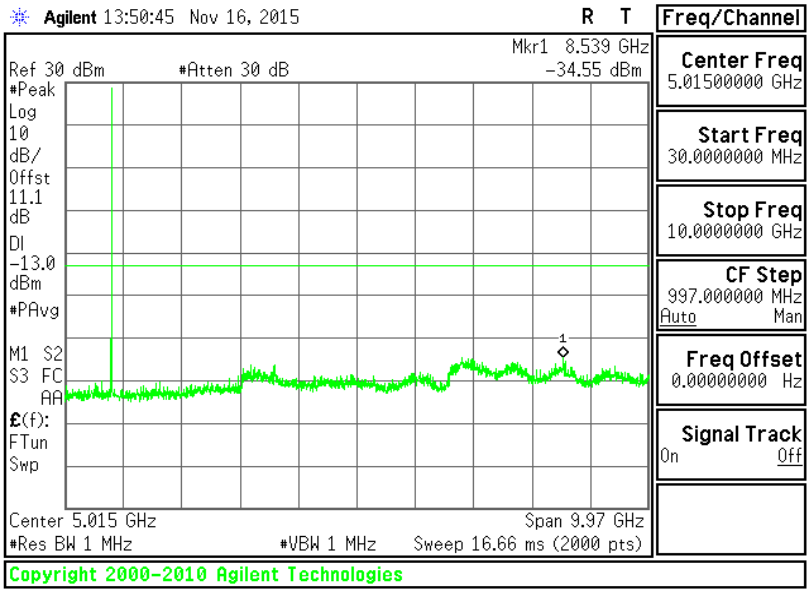
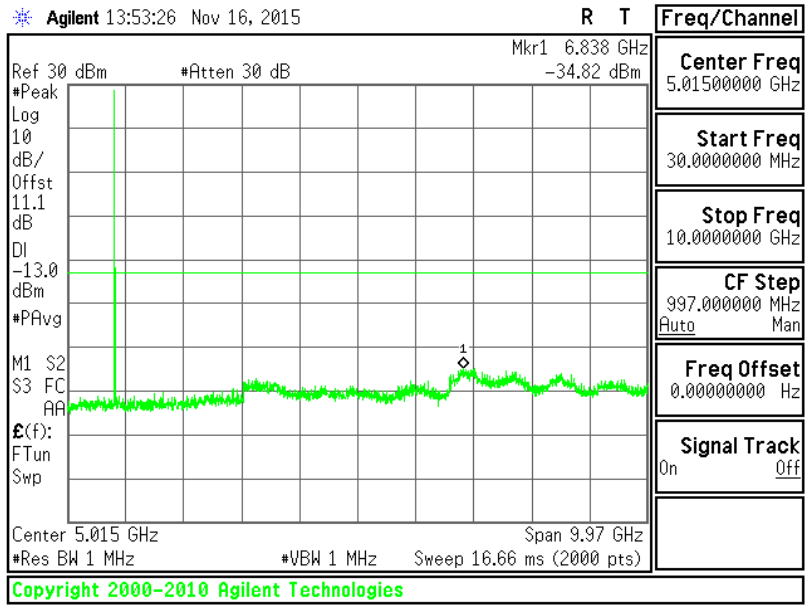
QPSK, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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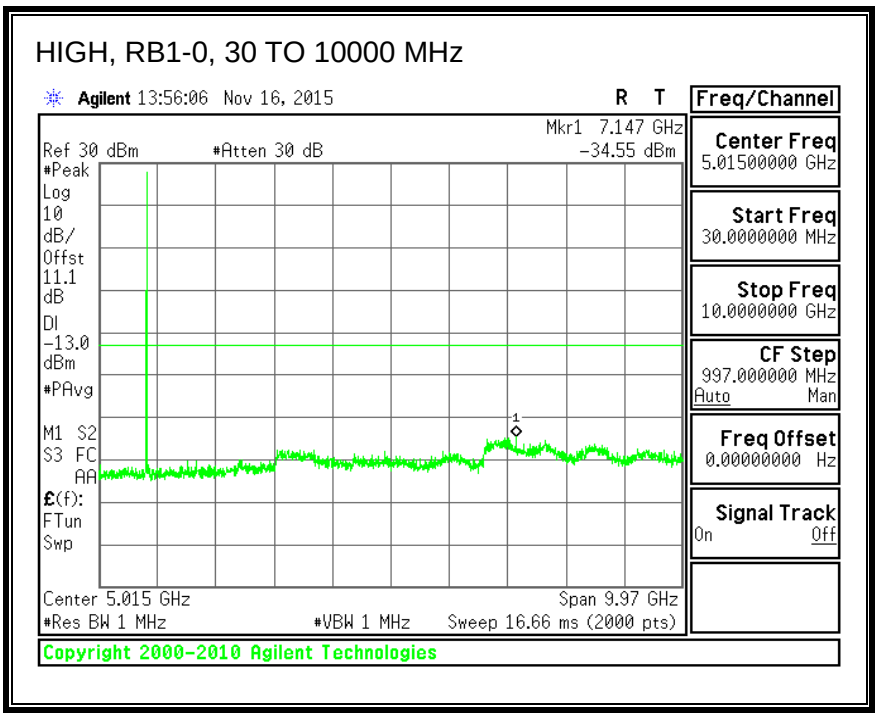
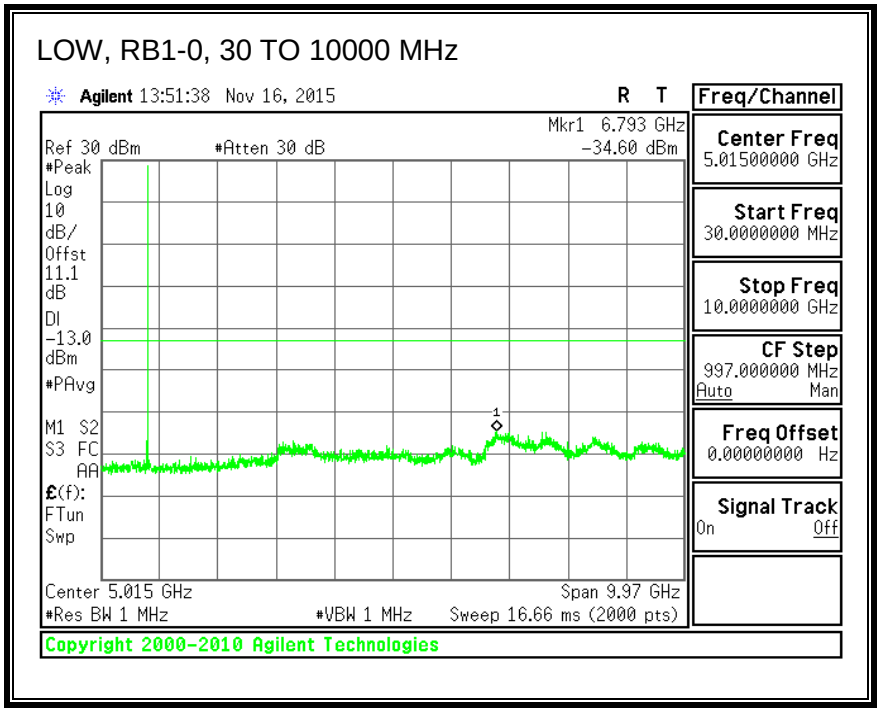


16QAM, (5.0 MHz BAND WIDTH)



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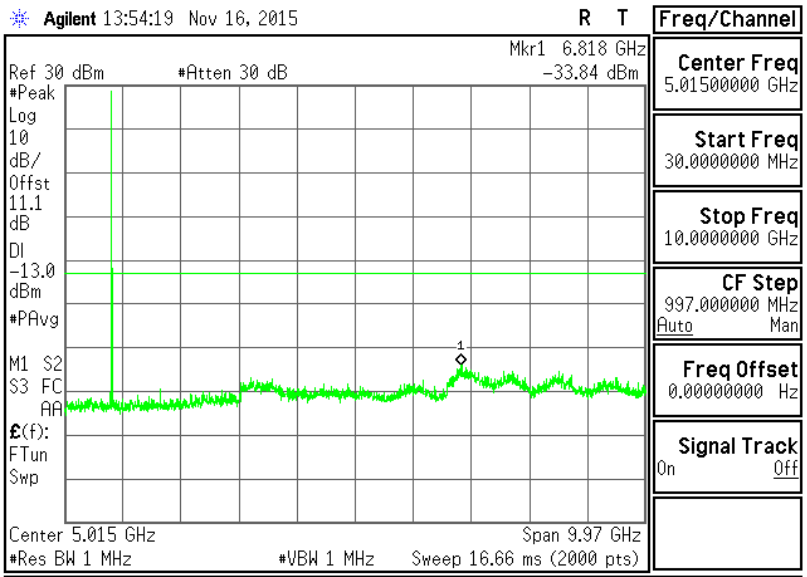
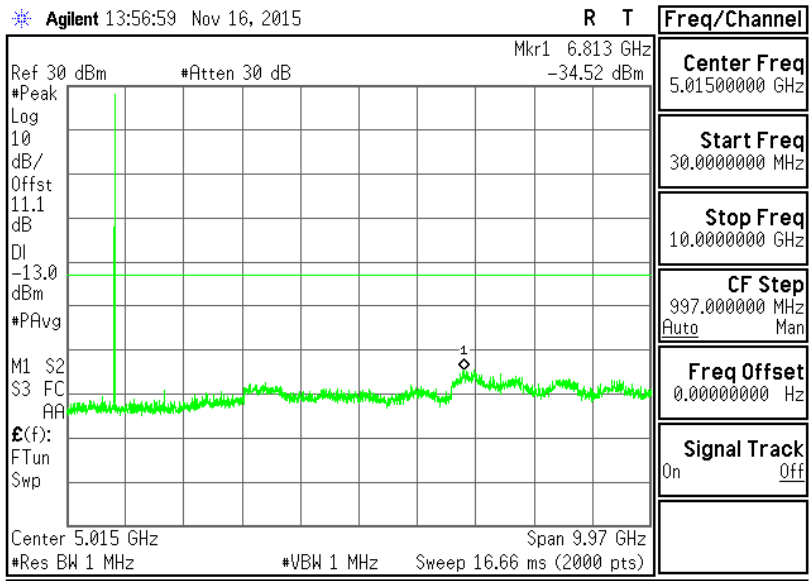
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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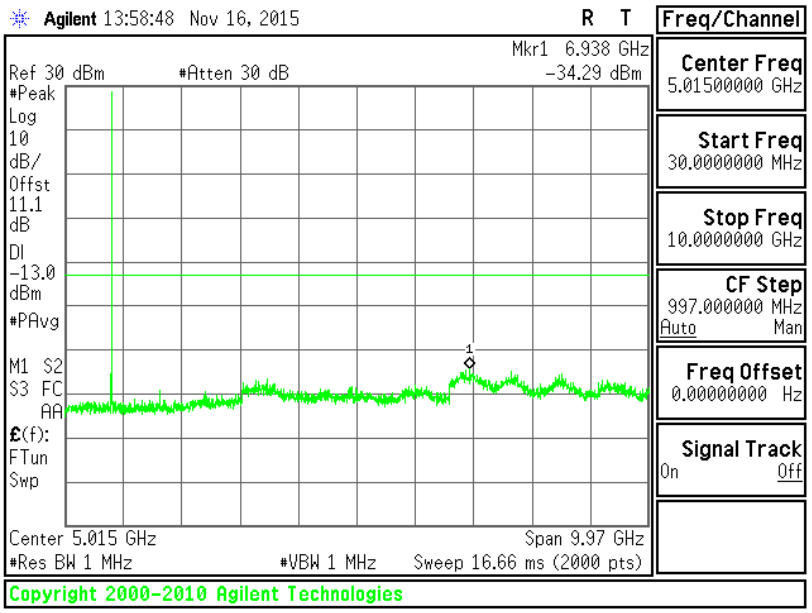
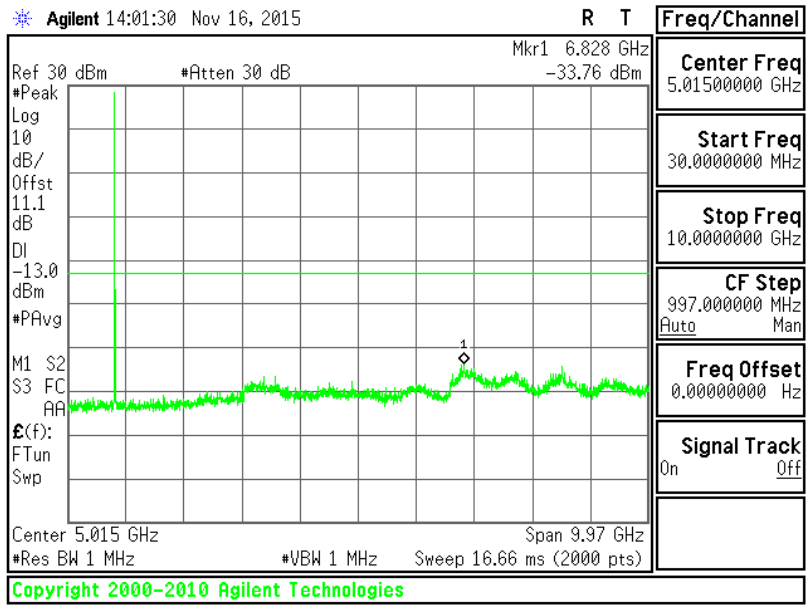
QPSK, (10.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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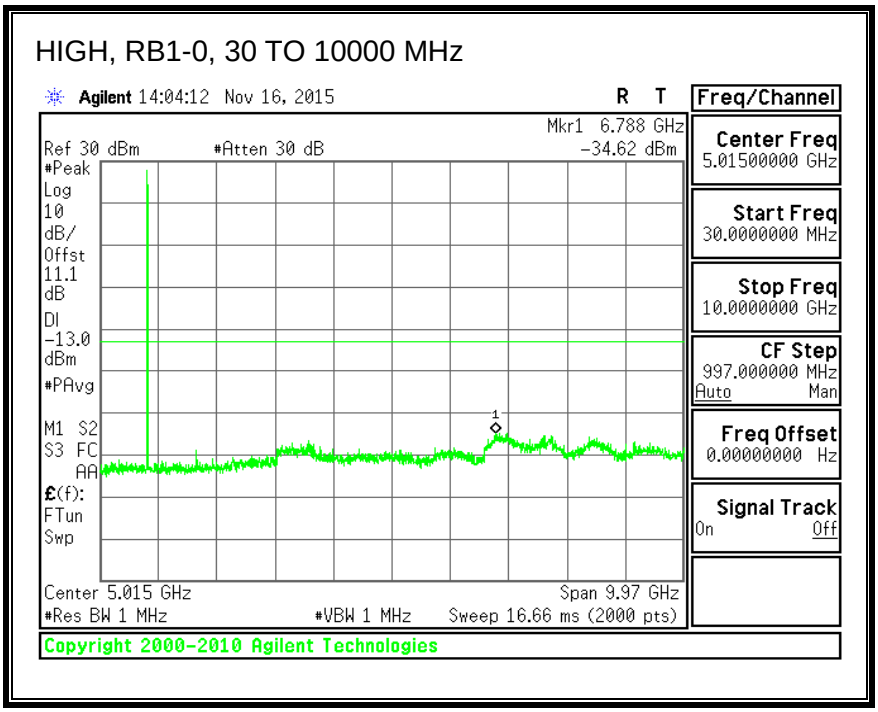
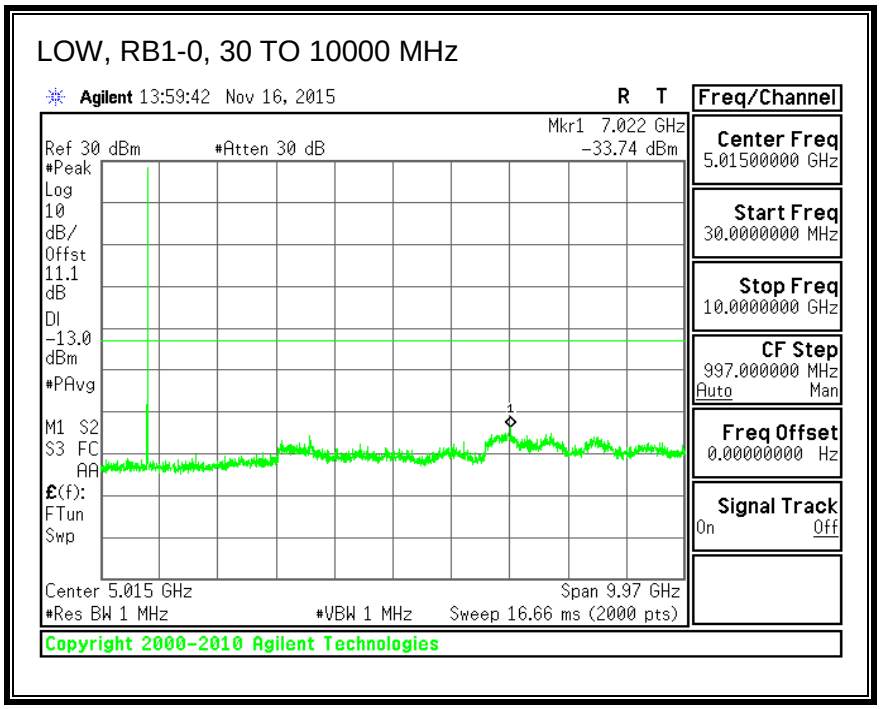


16QAM, (10.0 MHz BAND WIDTH)



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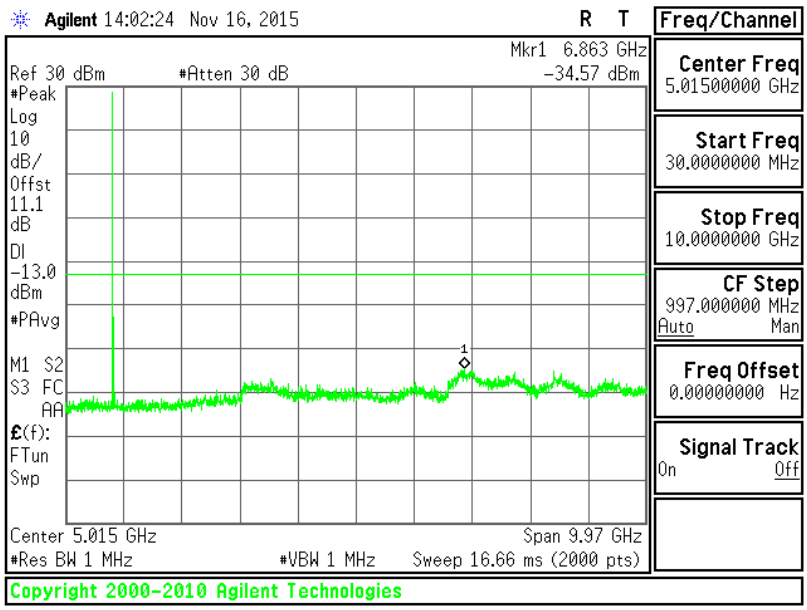
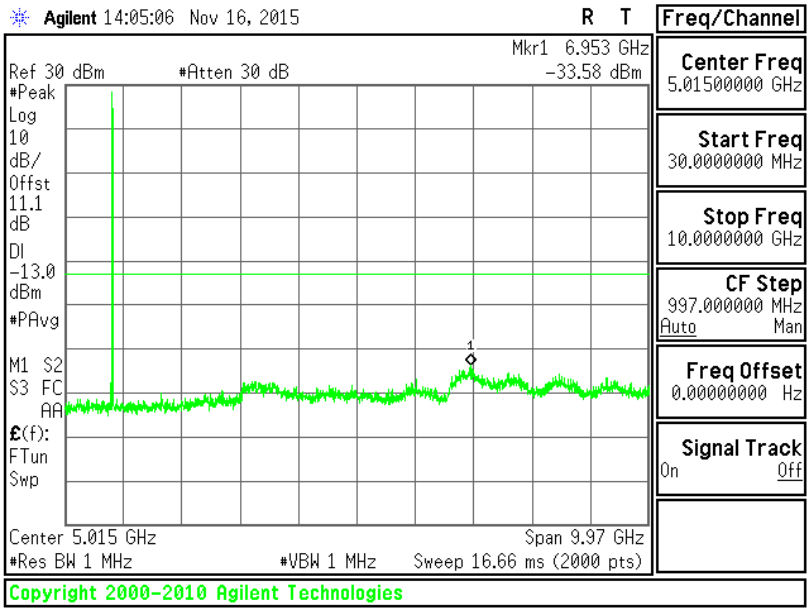
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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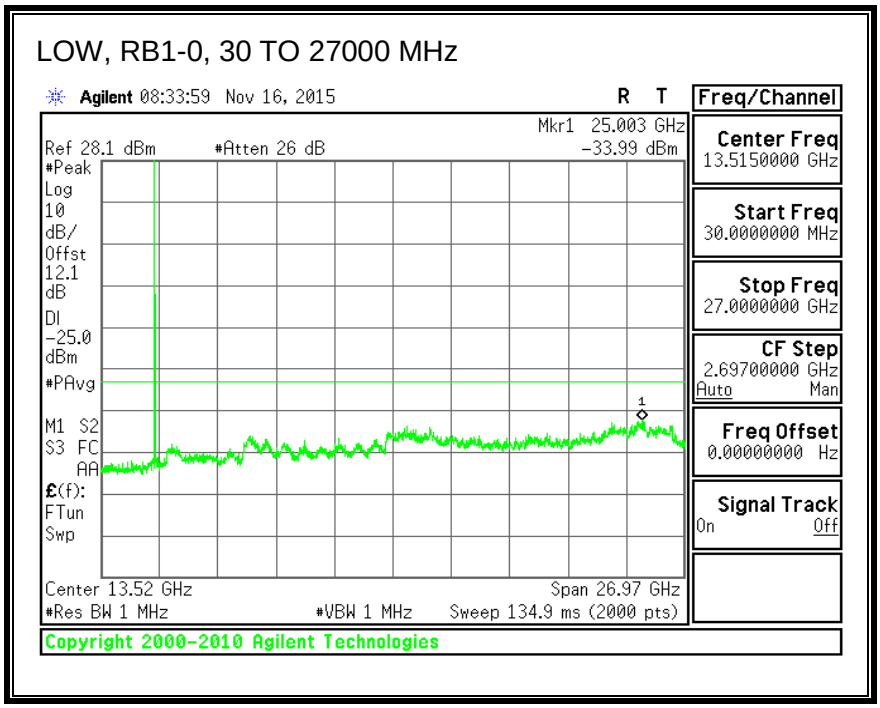
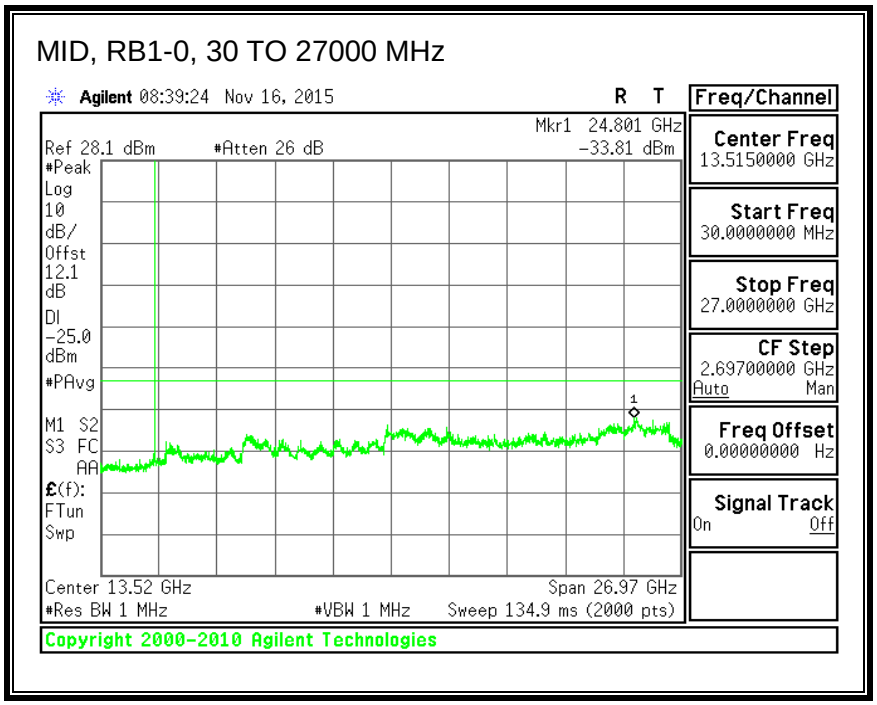
8.3.4. LTE BAND 7

QPSK, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz



MID, RB1-0, 30 TO 27000 MHz



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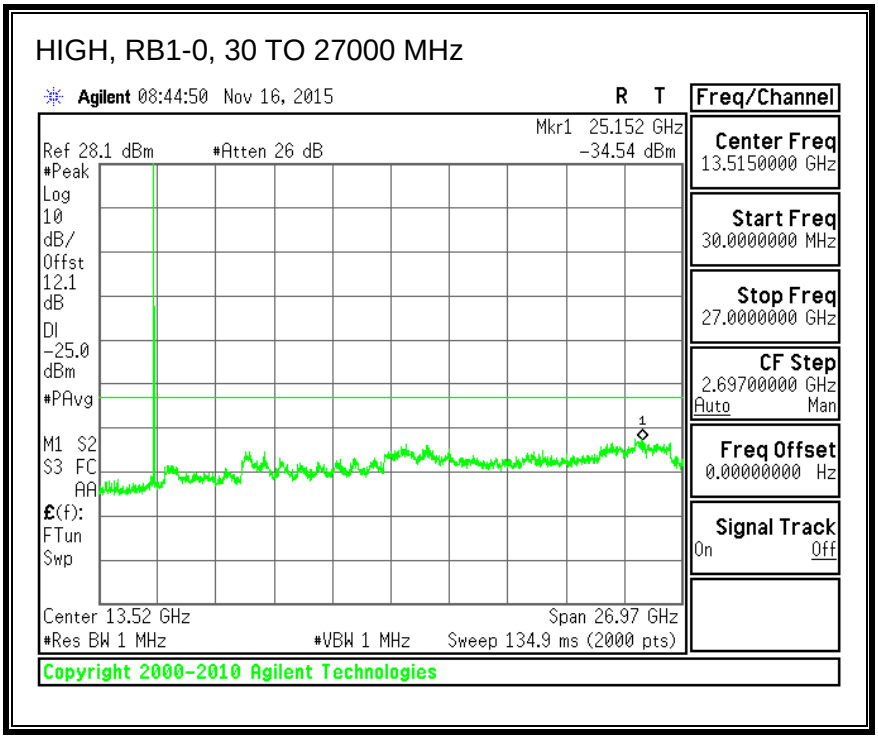
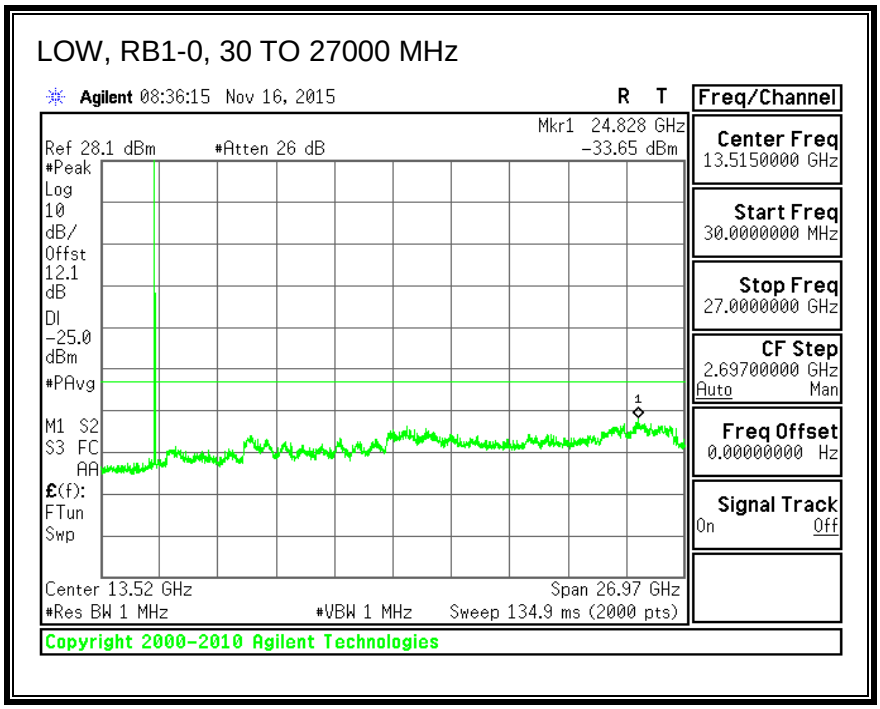


16QAM, (5.0 MHz BAND WIDTH)



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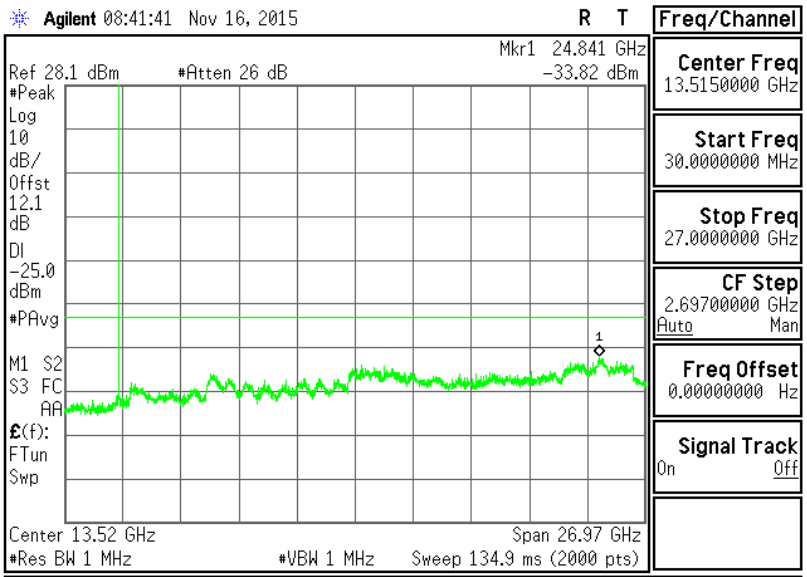
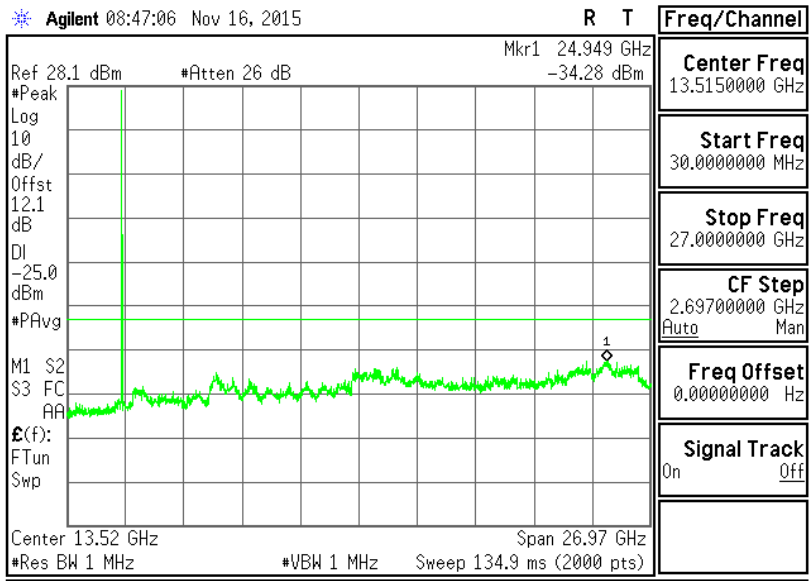
MID, RB1-0, 30 TO 27000 MHz



HIGH, RB1-0, 30 TO 27000 MHz



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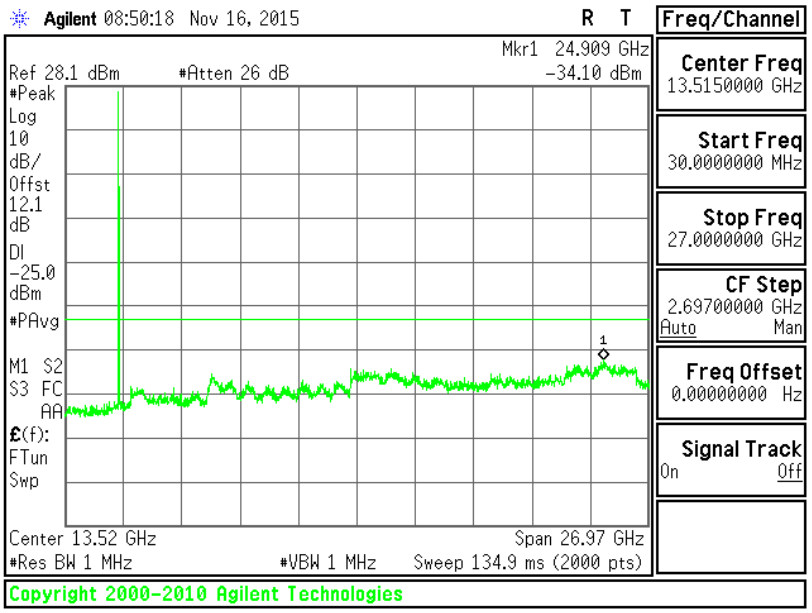
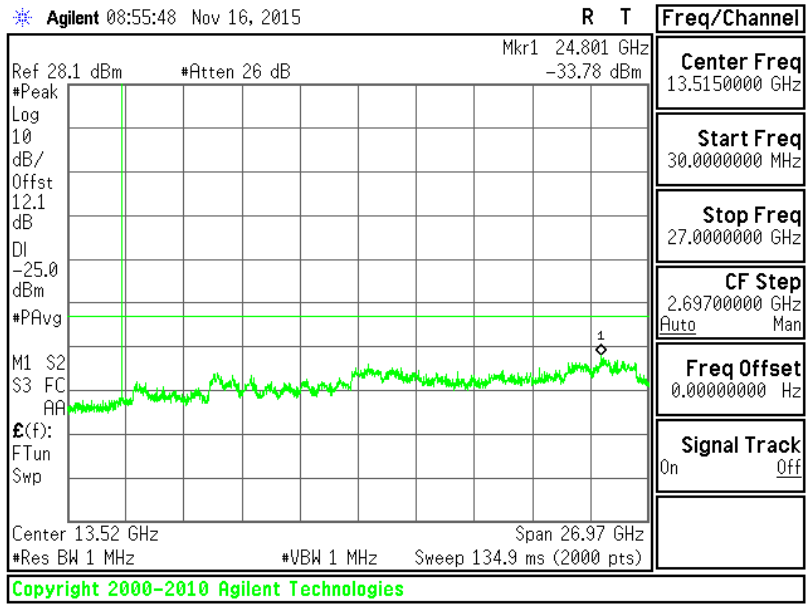
QPSK, (10.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz



MID, RB1-0, 30 TO 27000 MHz



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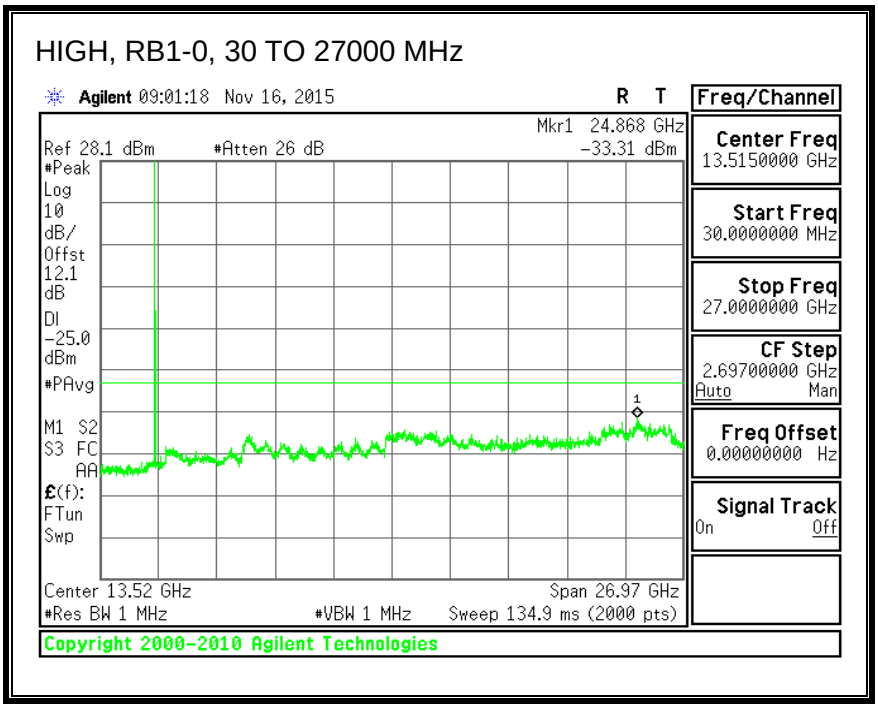
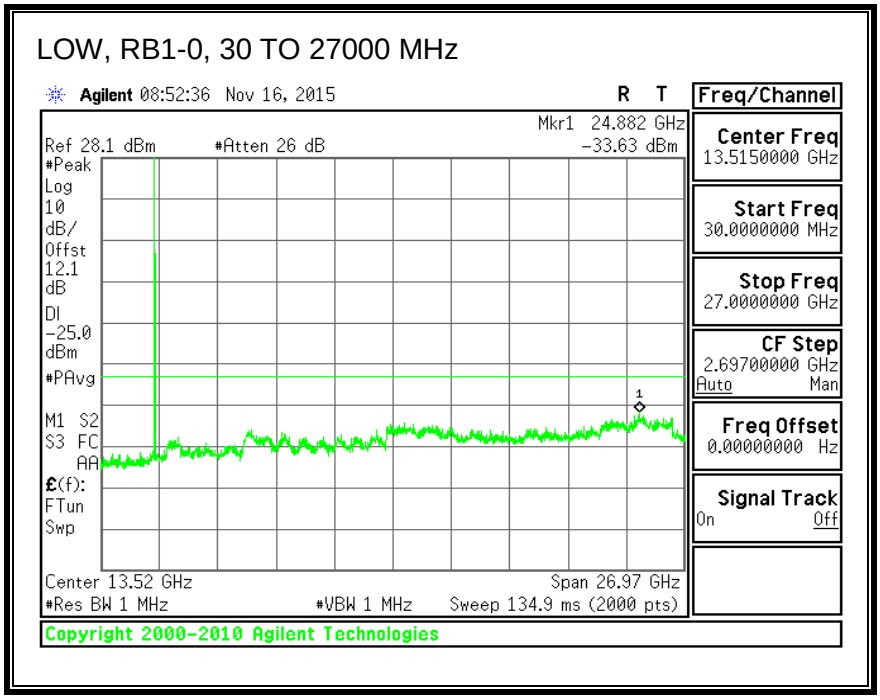


16QAM, (10.0 MHz BAND WIDTH)



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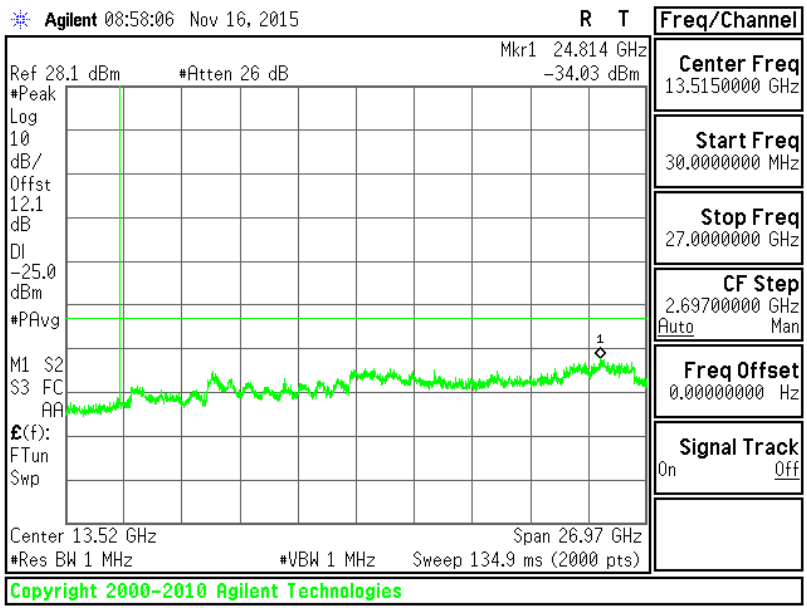
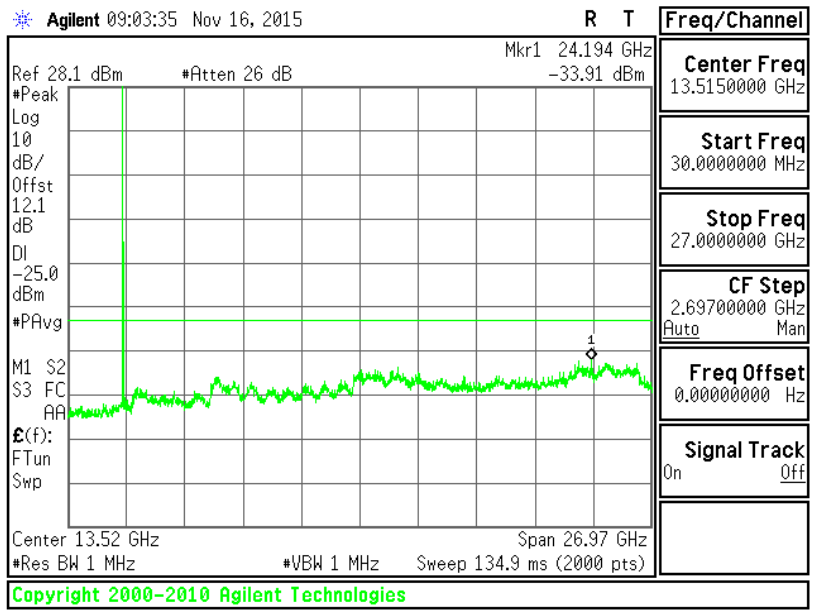
MID, RB1-0, 30 TO 27000 MHz



HIGH, RB1-0, 30 TO 27000 MHz



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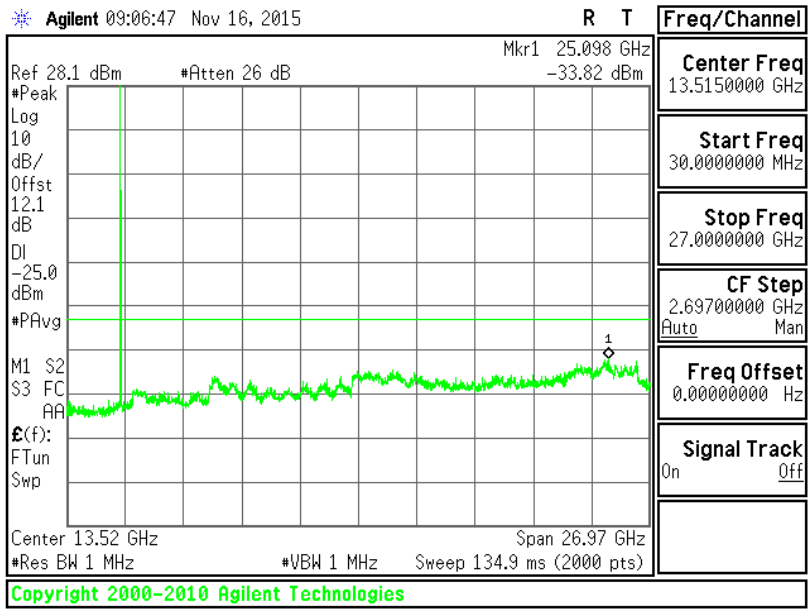
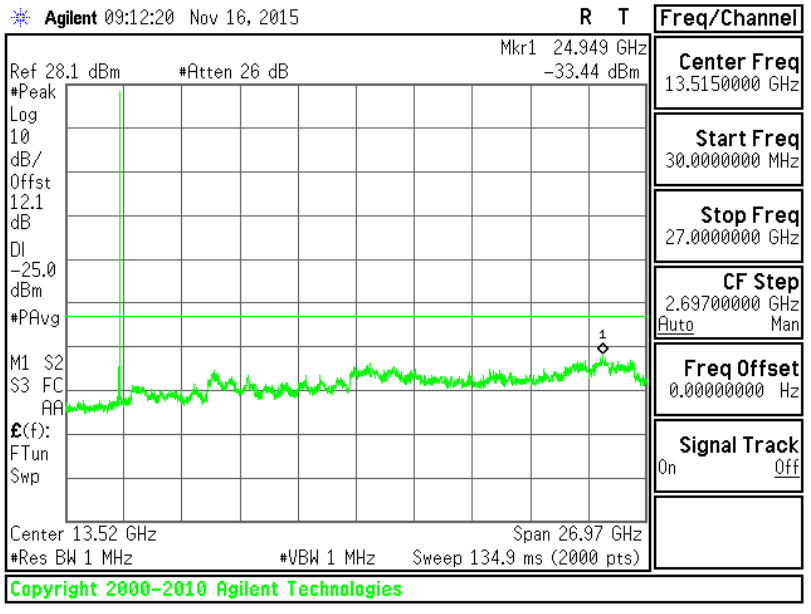
QPSK, (15.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz



MID, RB1-0, 30 TO 27000 MHz



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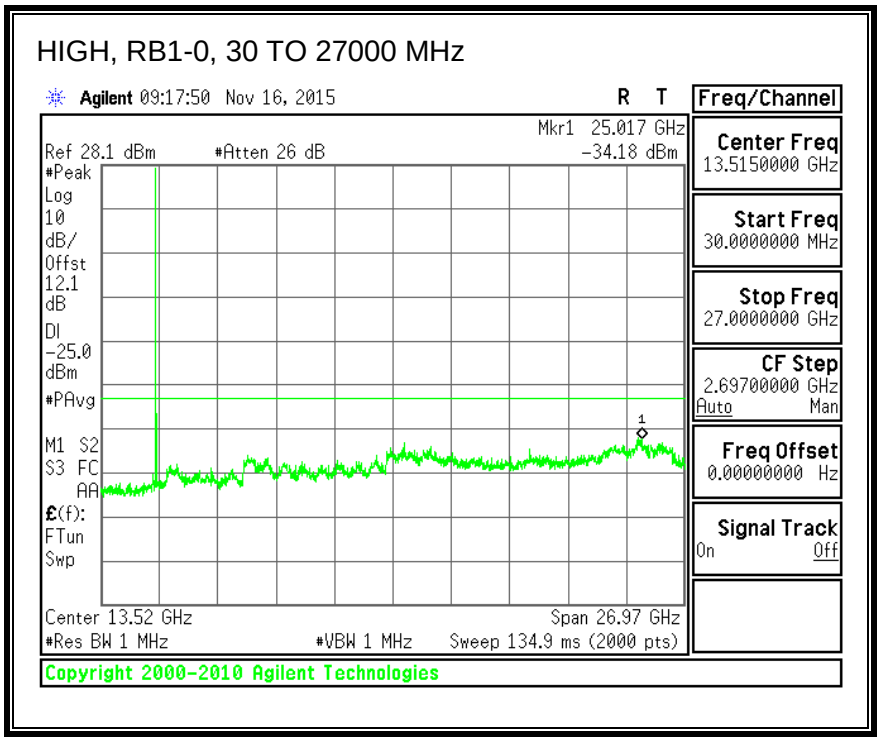
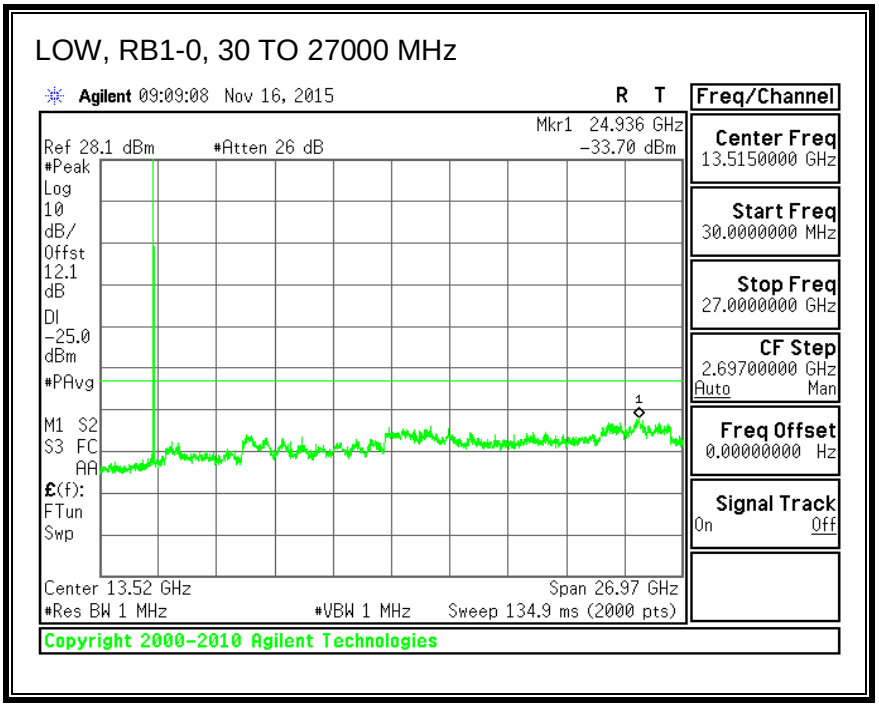


16QAM, (15.0 MHz BAND WIDTH)



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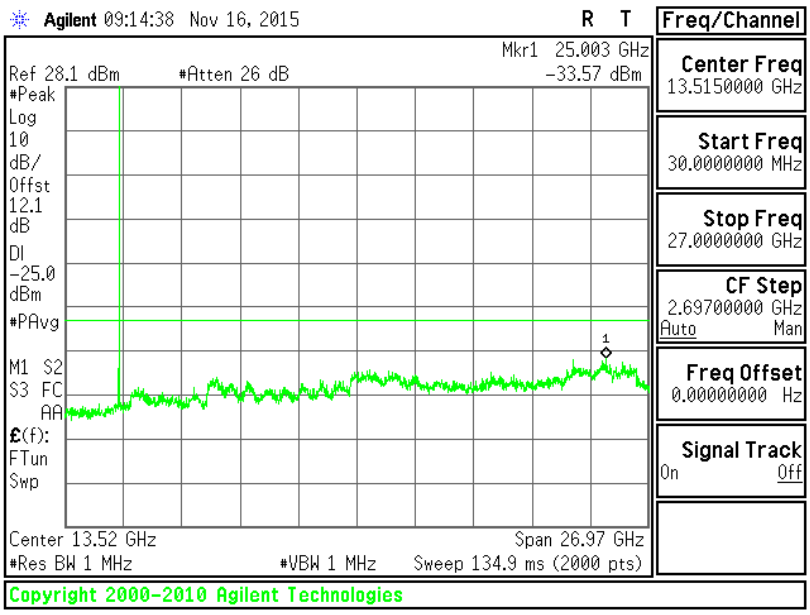
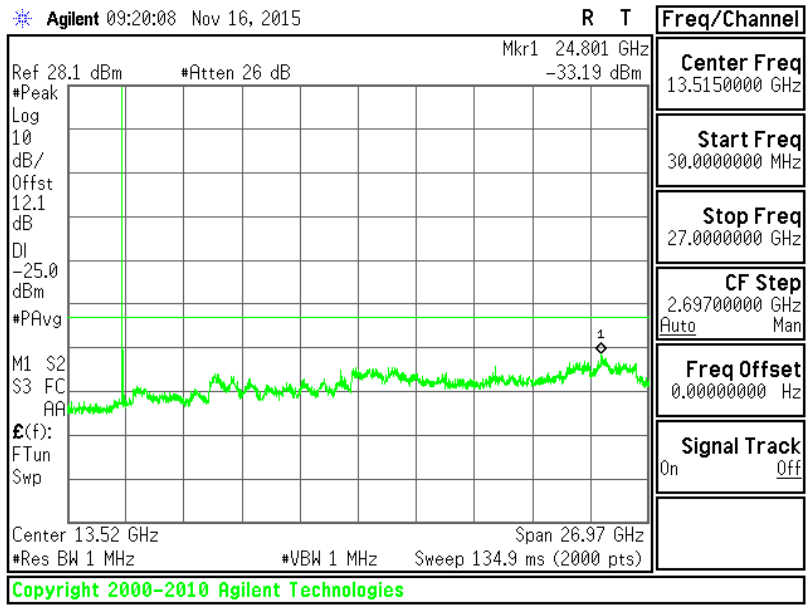
MID, RB1-0, 30 TO 27000 MHz



HIGH, RB1-0, 30 TO 27000 MHz



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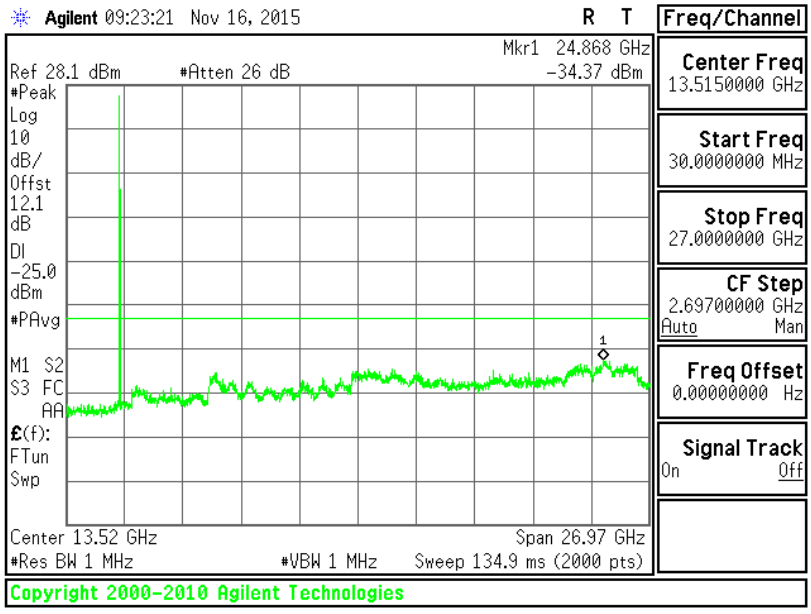
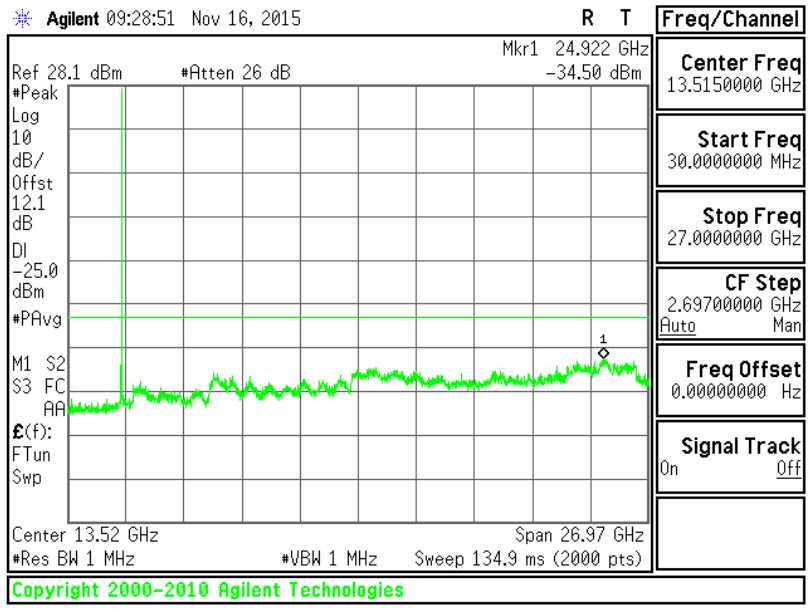
QPSK, (20.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz



MID, RB1-0, 30 TO 27000 MHz



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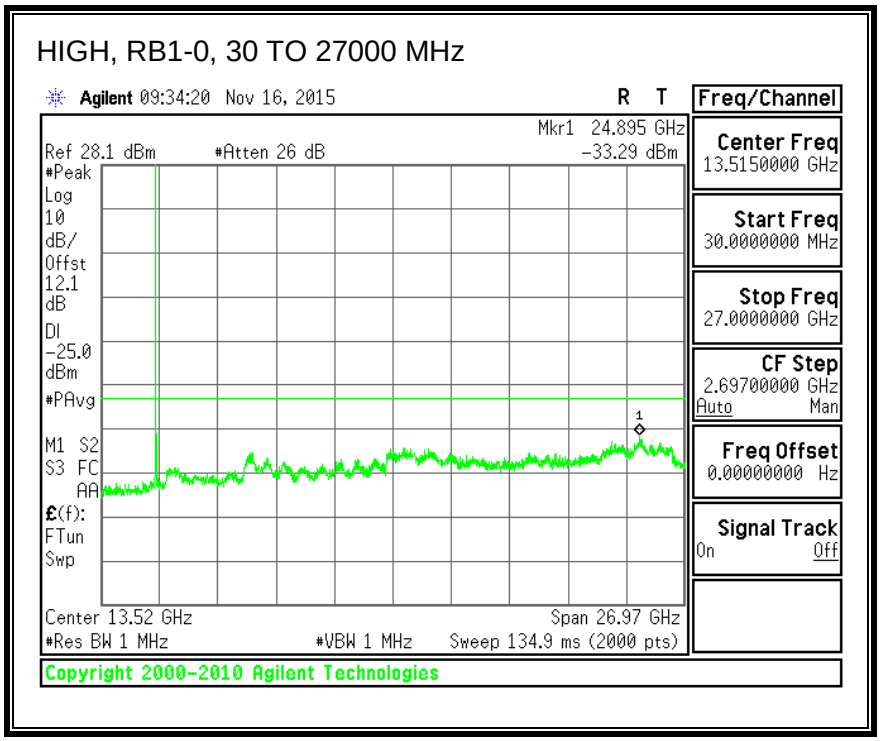
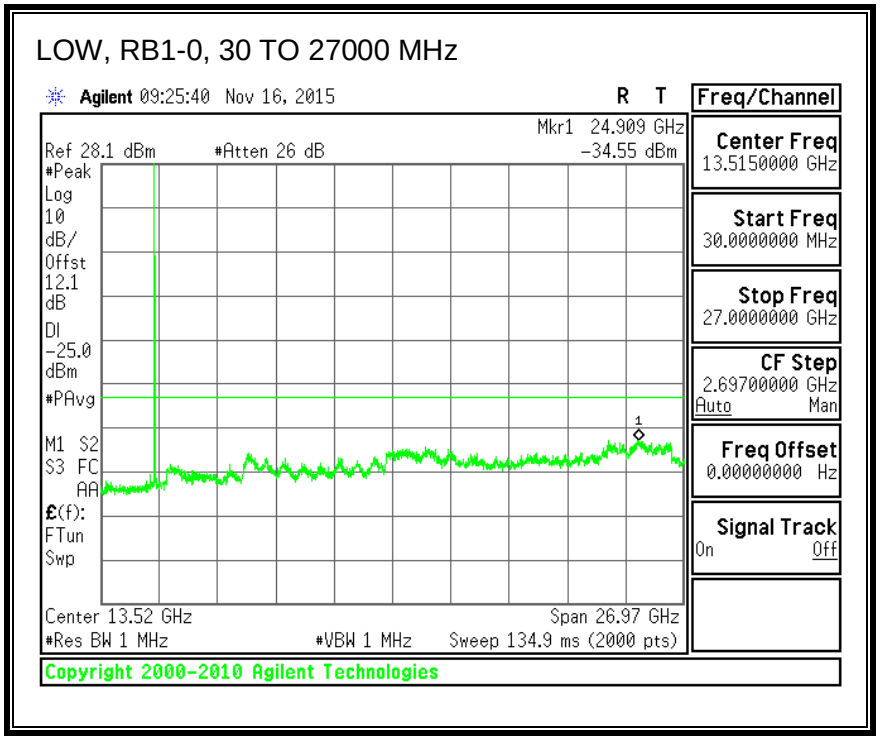


16QAM, (20.0 MHz BAND WIDTH)



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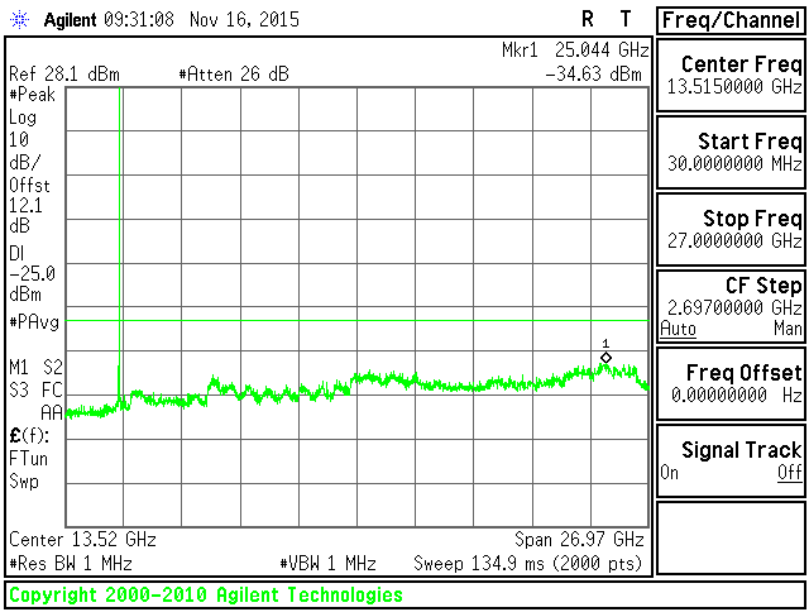
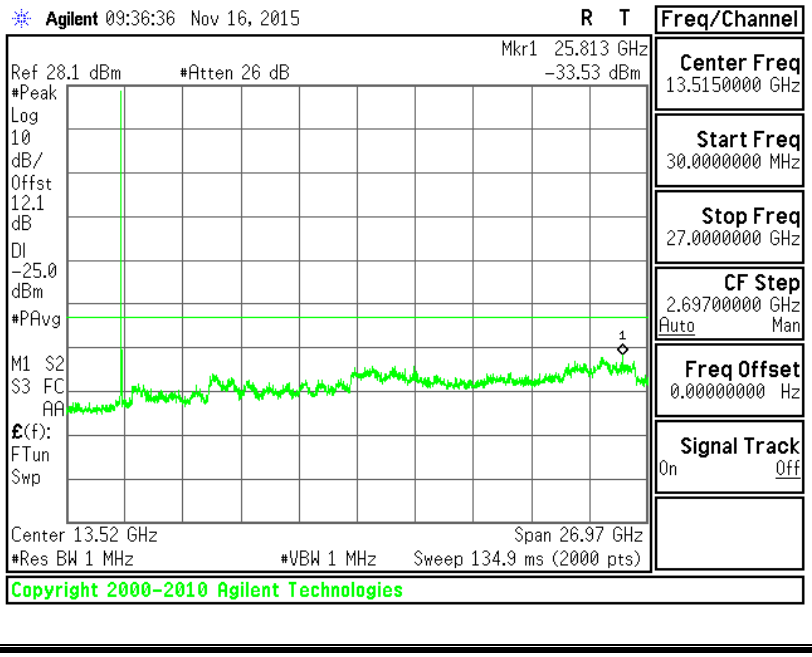
MID, RB1-0, 30 TO 27000 MHz



HIGH, RB1-0, 30 TO 27000 MHz



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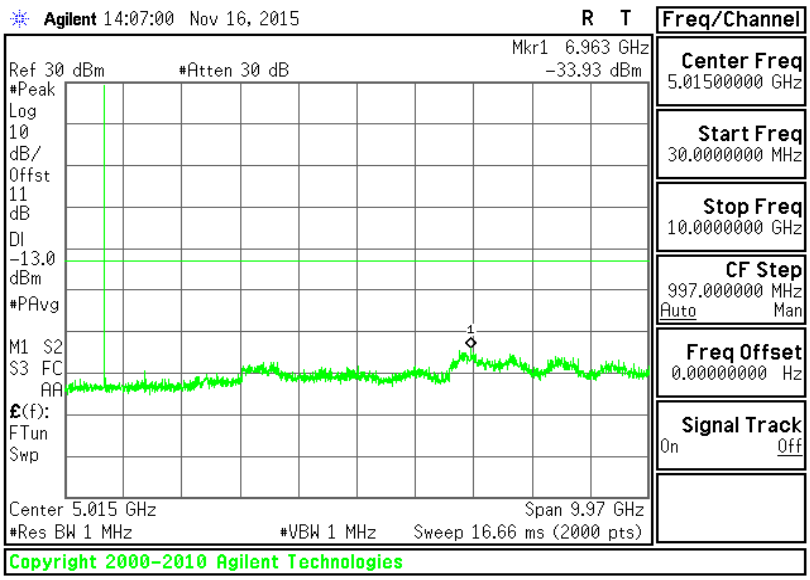
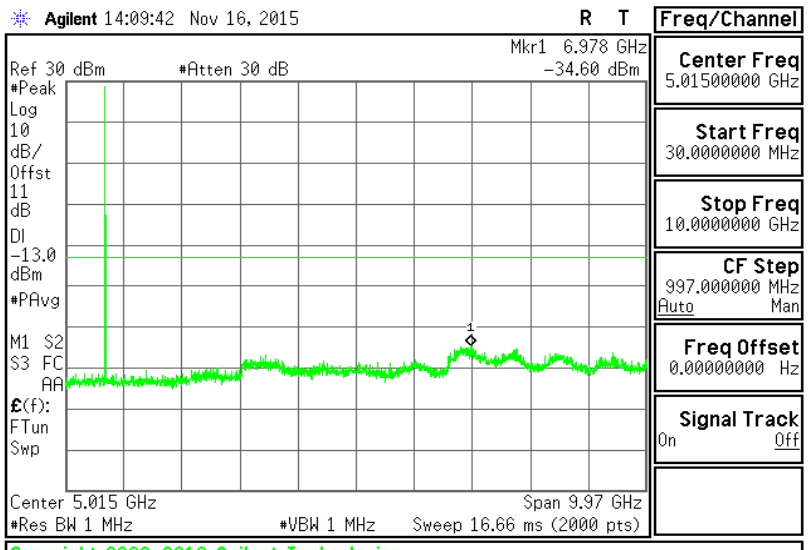
8.3.5. LTE BAND 12

QPSK, (1.4 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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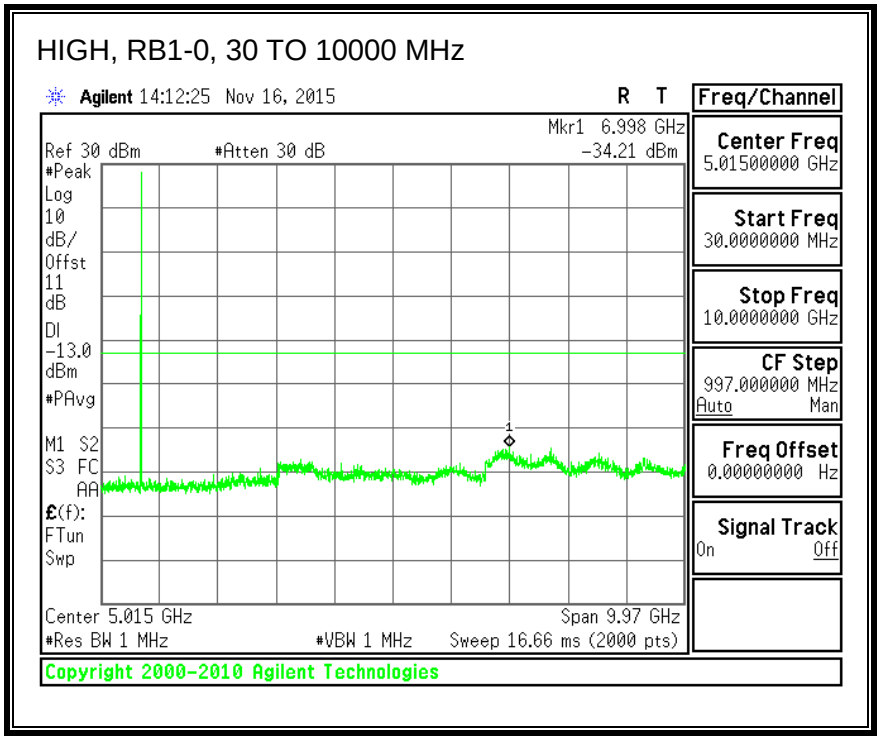
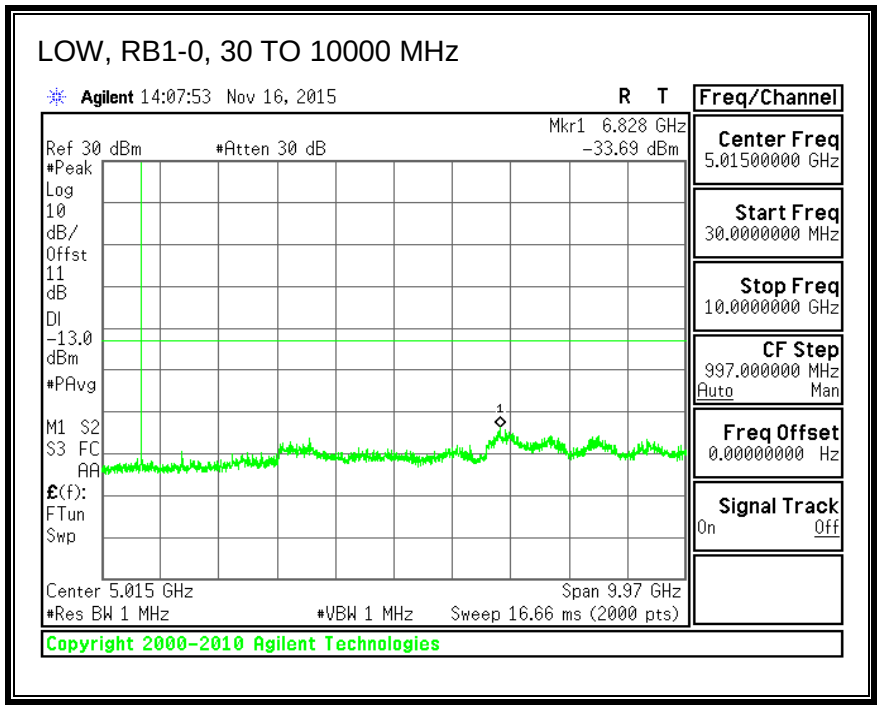
HIGH, RB1-0, 30 TO 10000 MHz



16QAM, (1.4 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



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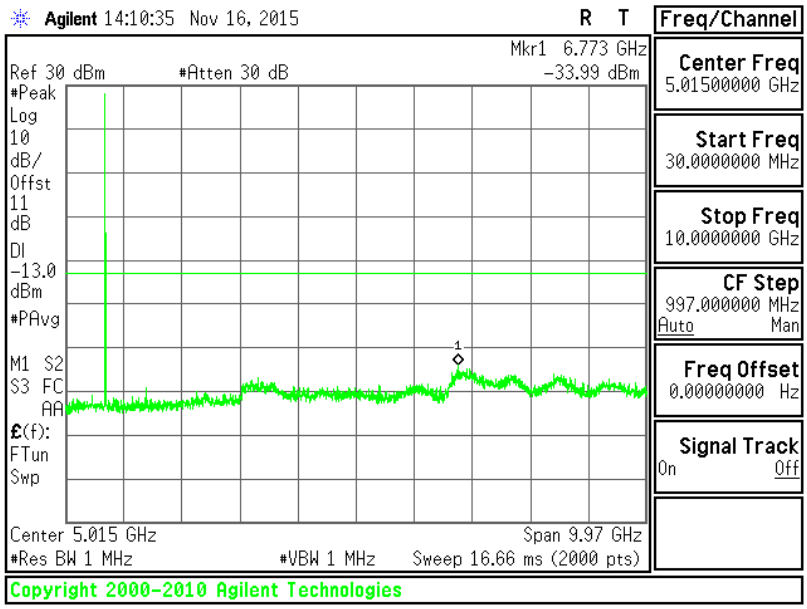
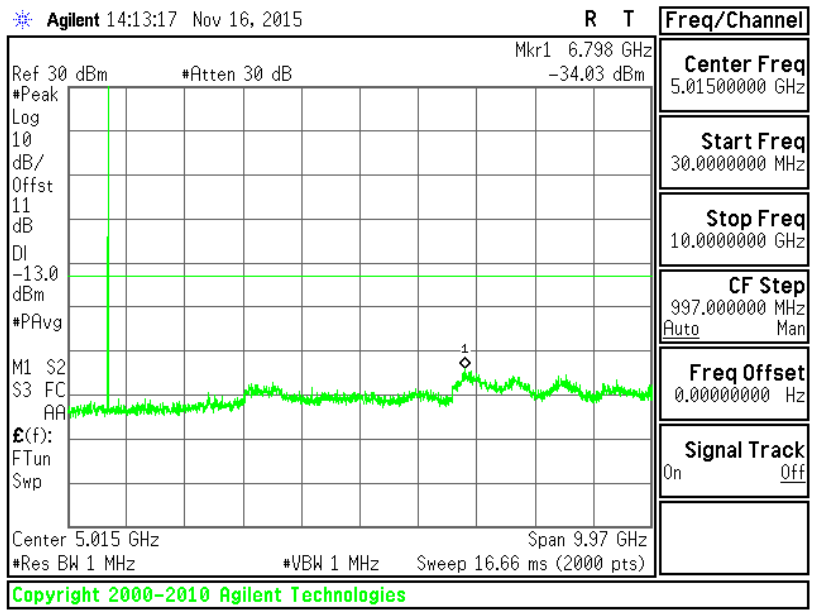
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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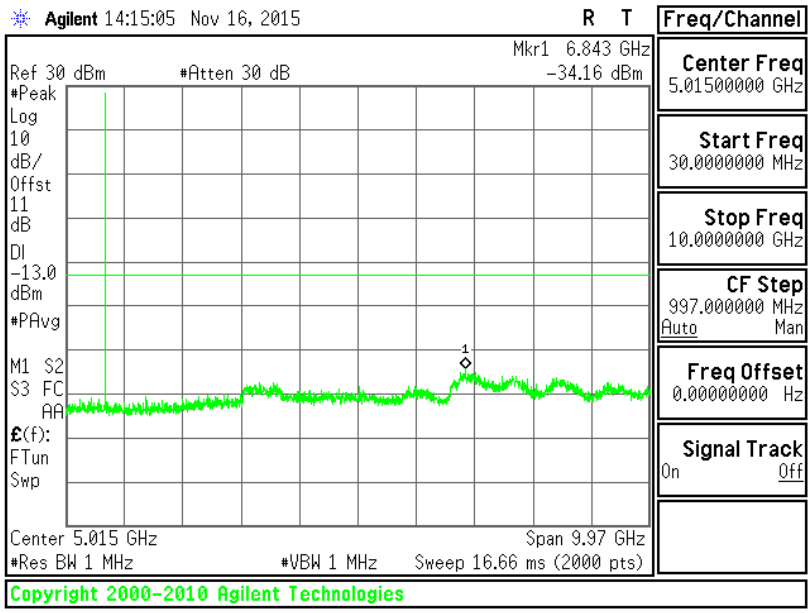
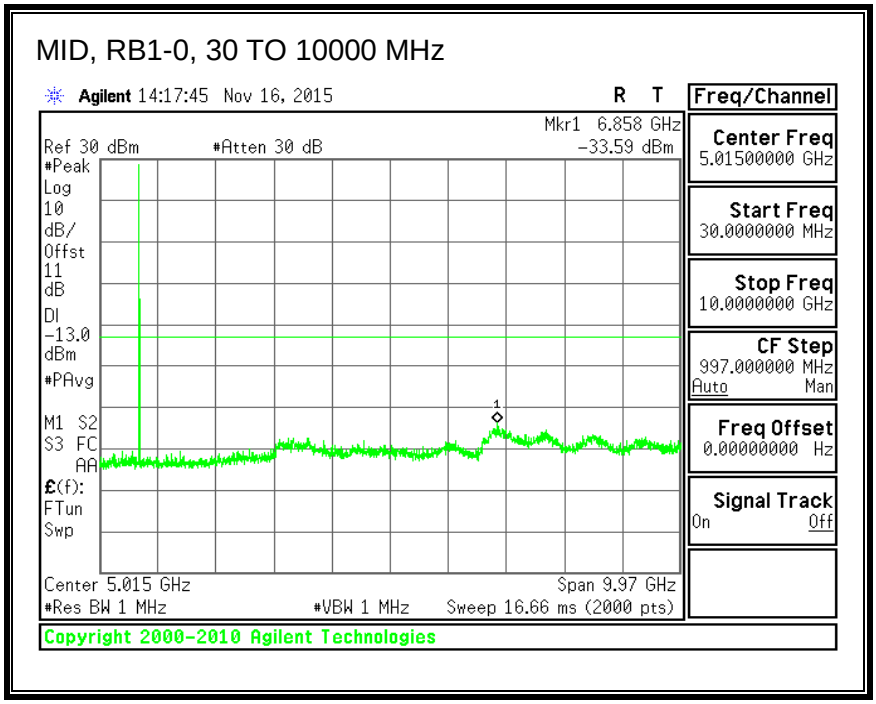
QPSK, (3.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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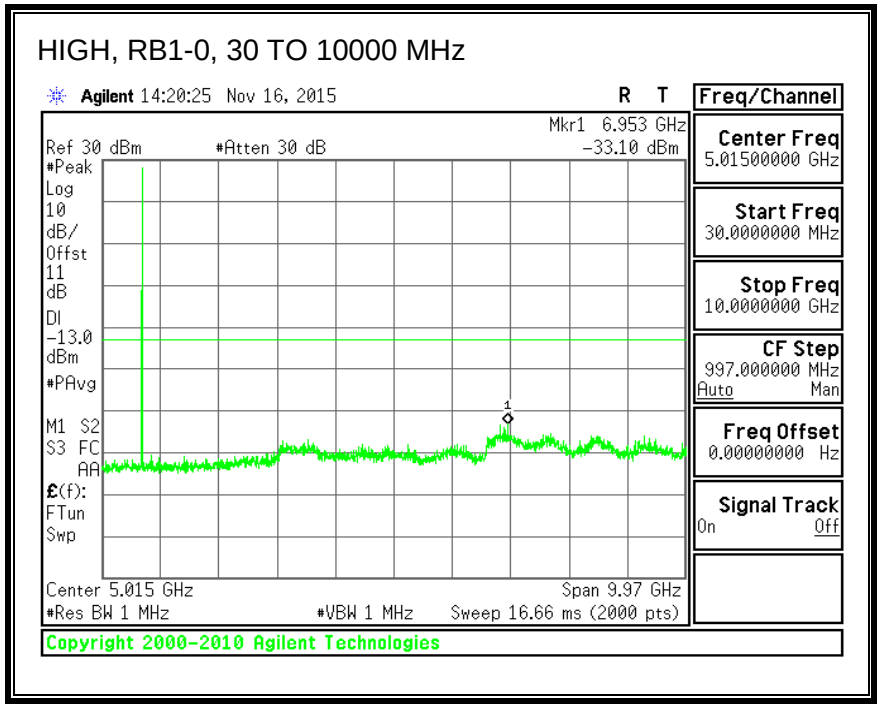
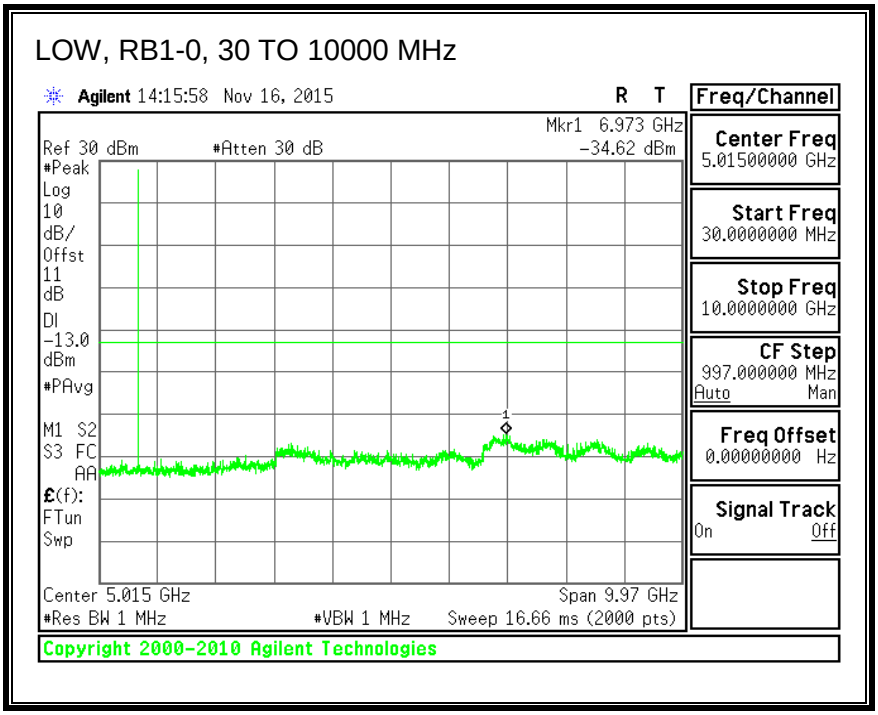


16QAM, (3.0 MHz BAND WIDTH)



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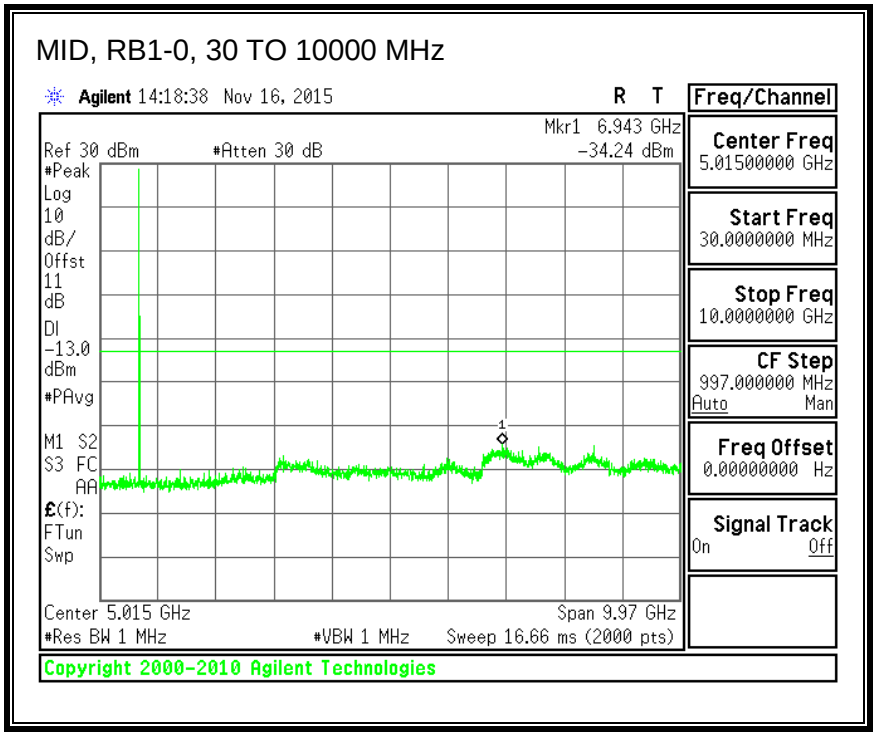
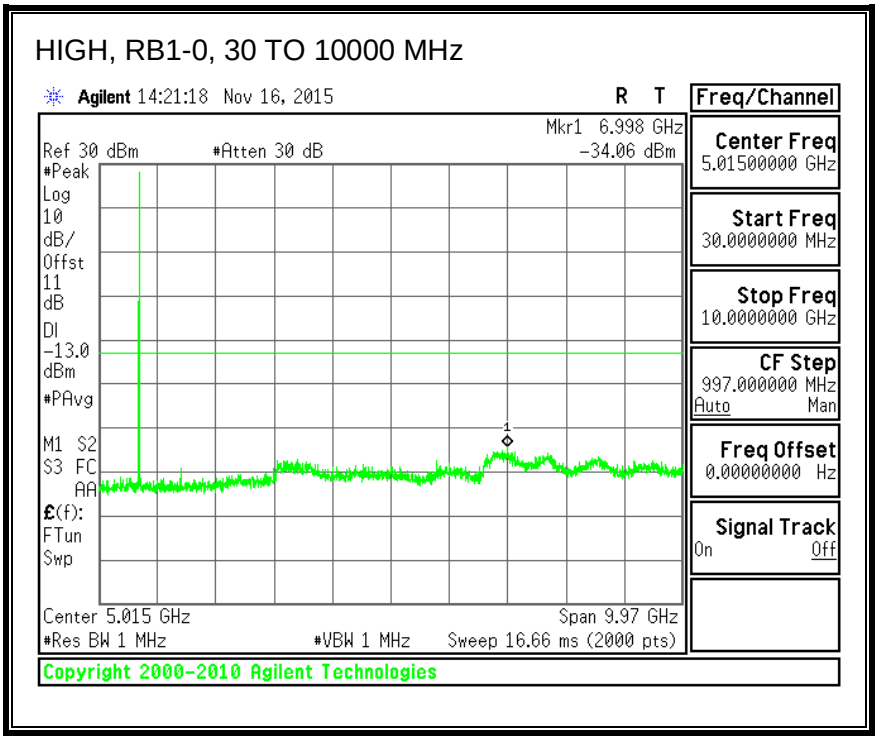
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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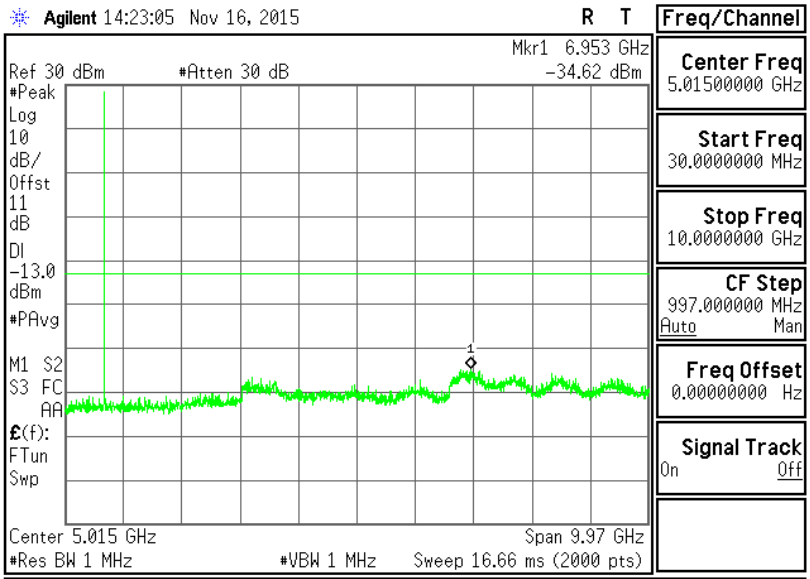
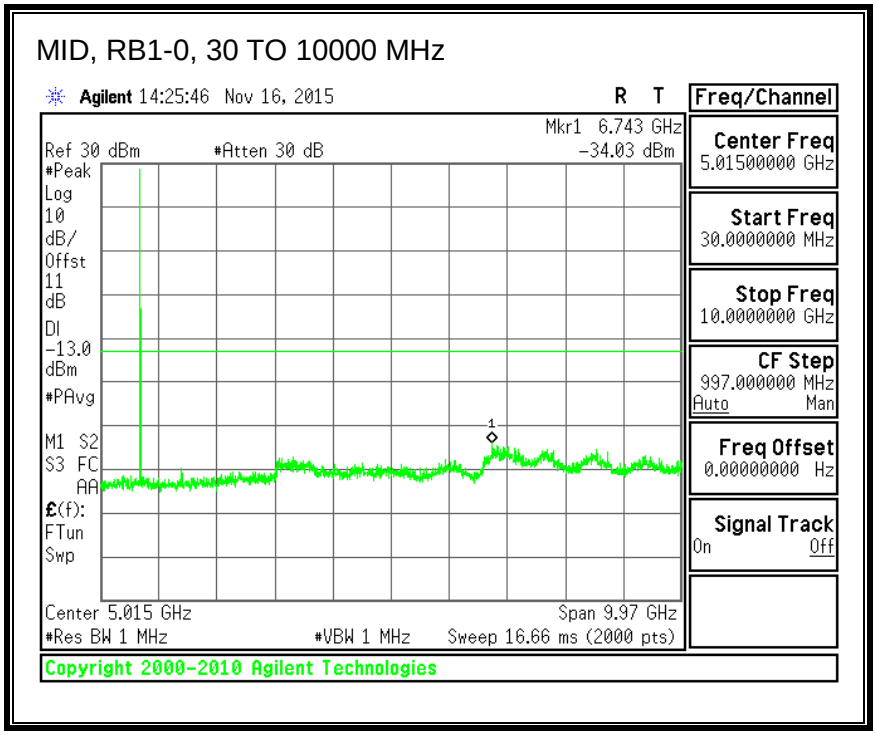
QPSK, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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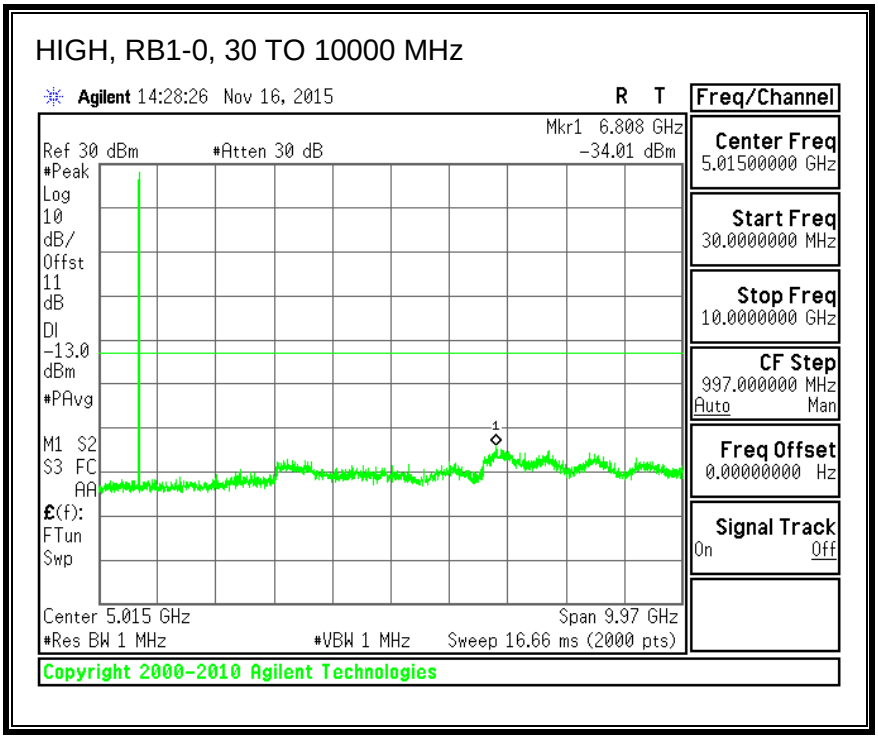
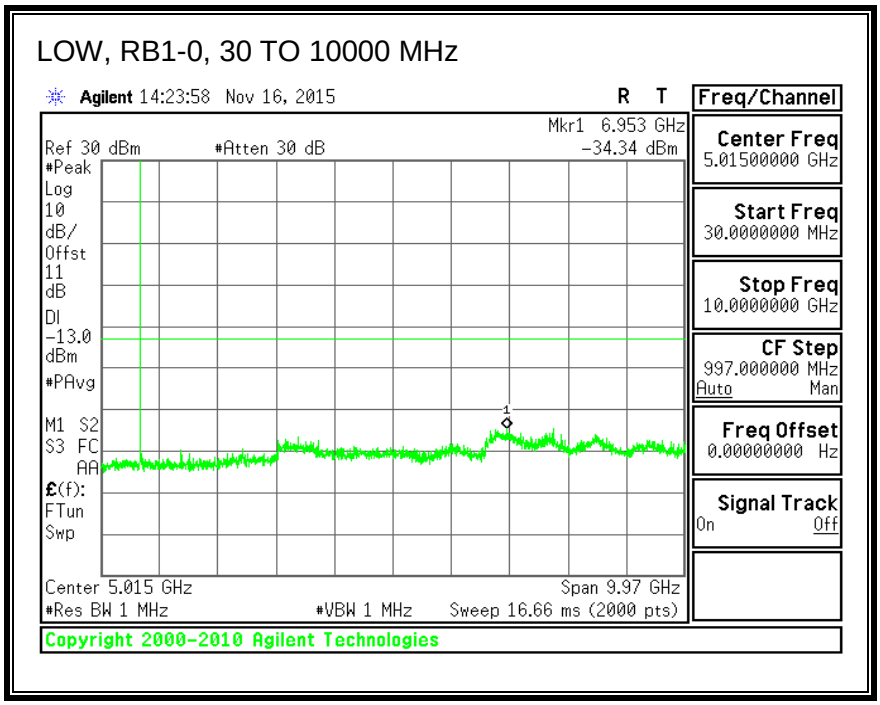
HIGH, RB1-0, 30 TO 10000 MHz



16QAM, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



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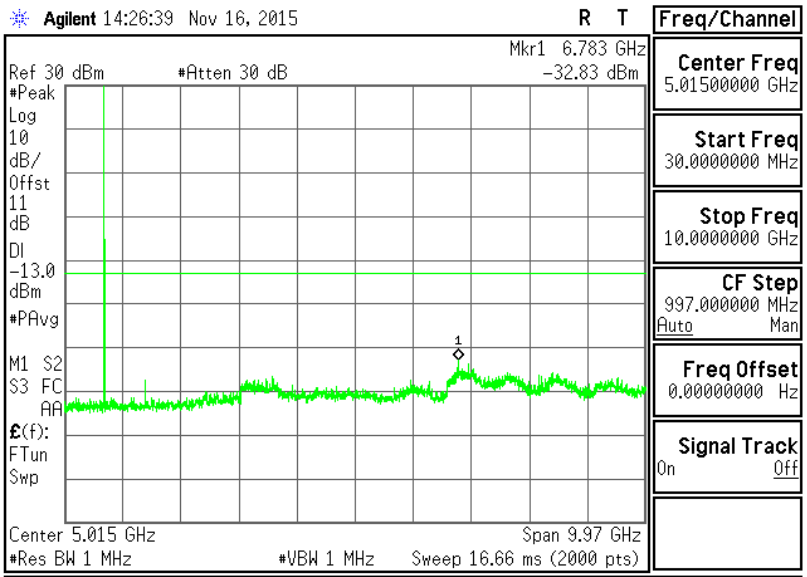
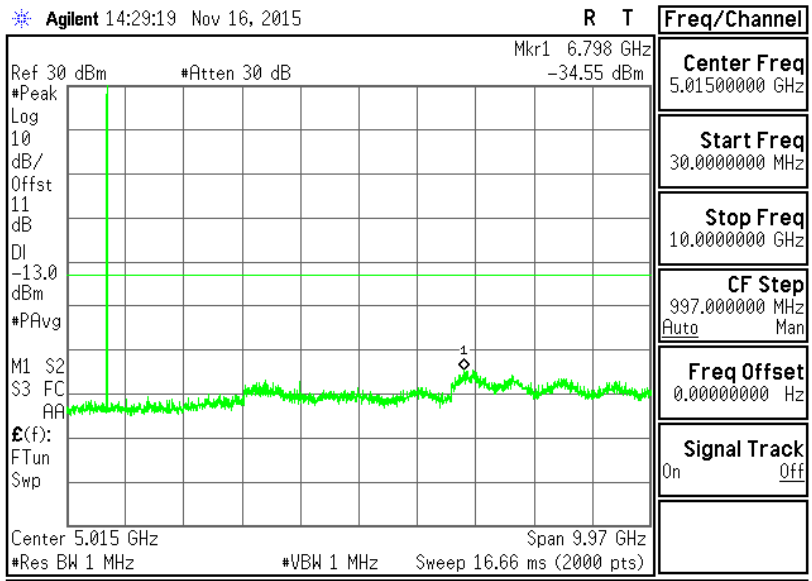
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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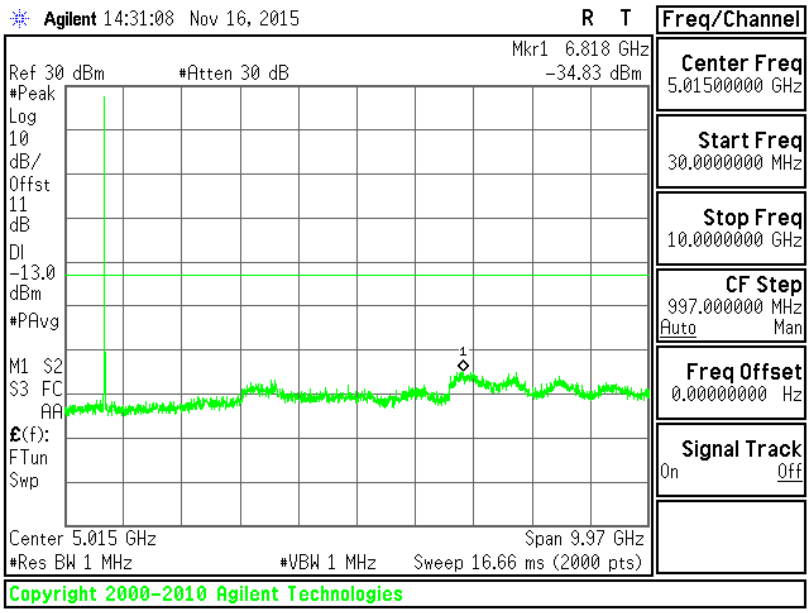
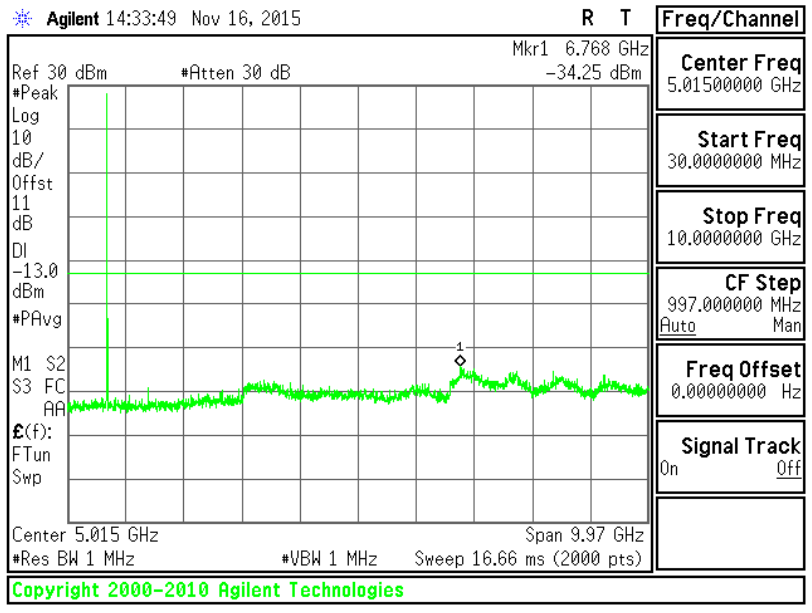
QPSK, (10.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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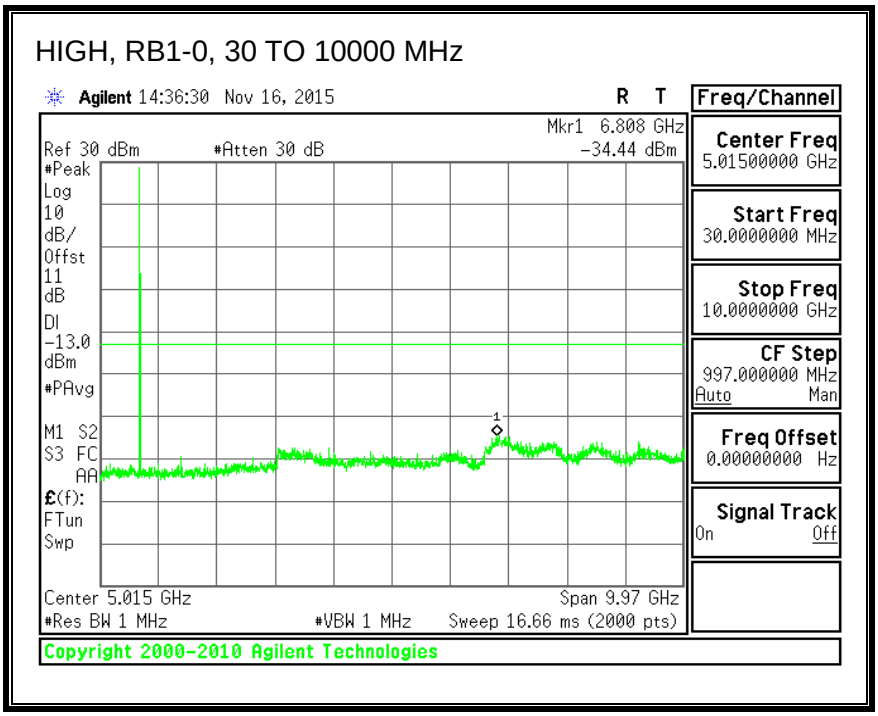
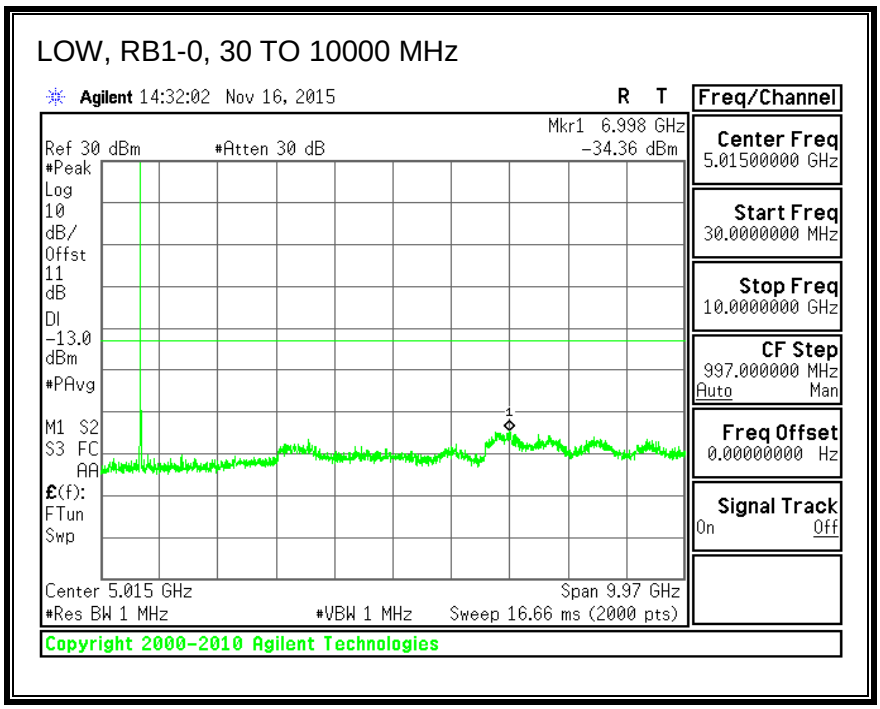


16QAM, (10.0 MHz BAND WIDTH)



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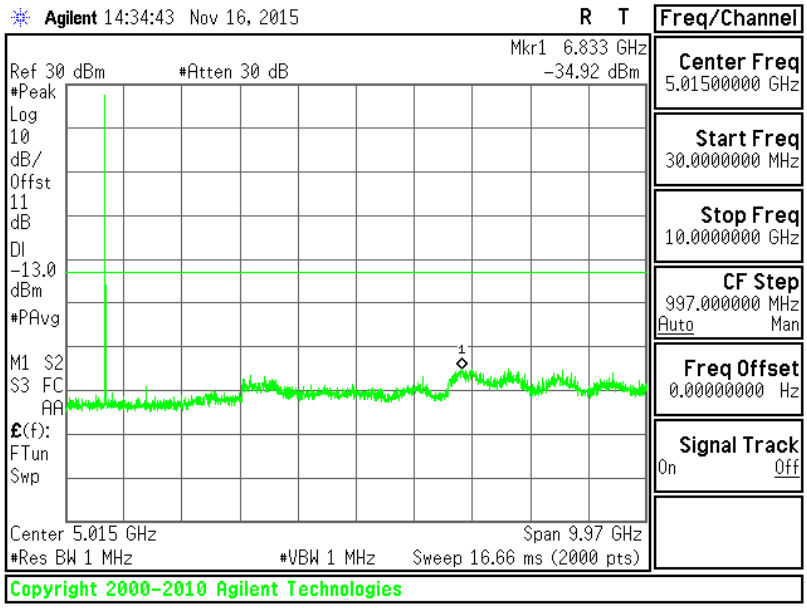
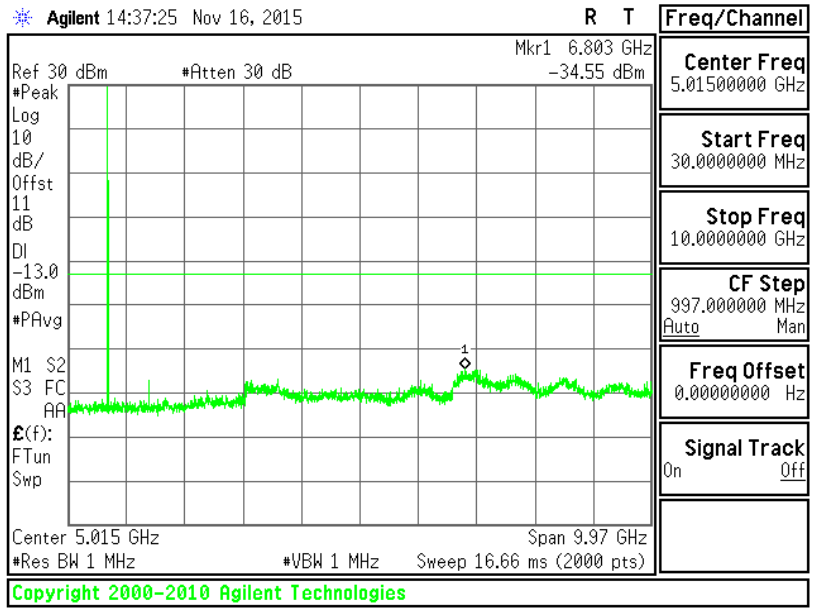
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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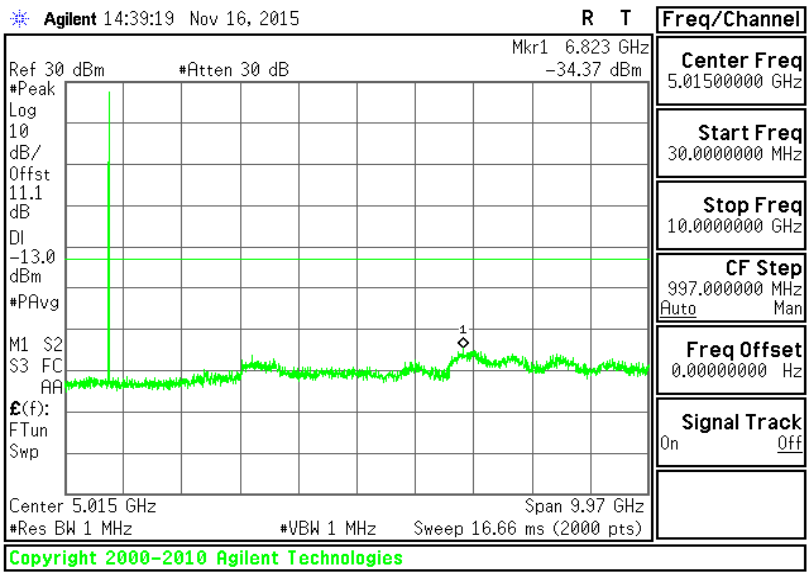
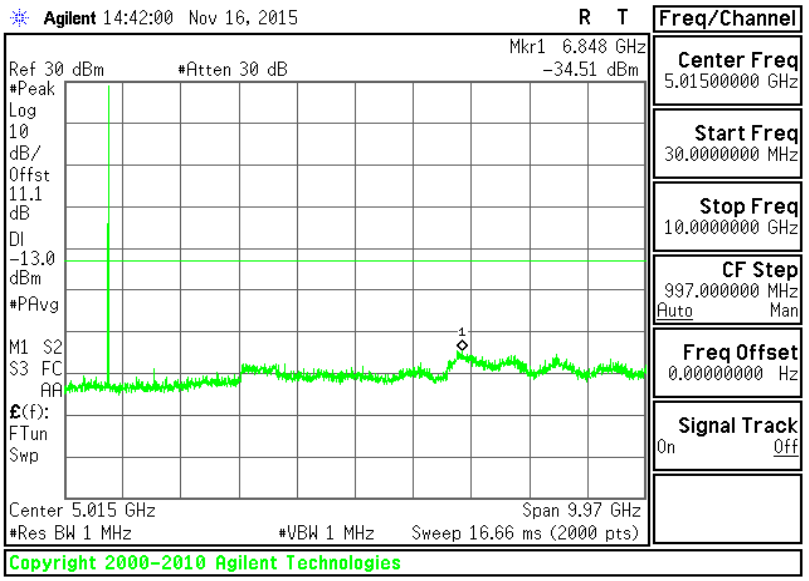
8.3.6. LTE BAND 13

QPSK, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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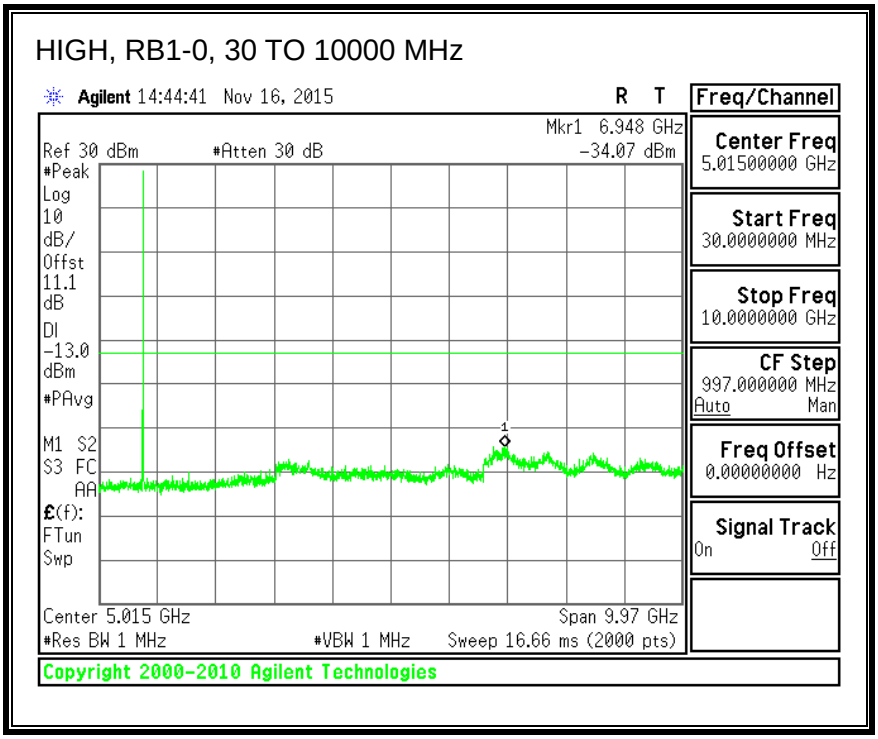
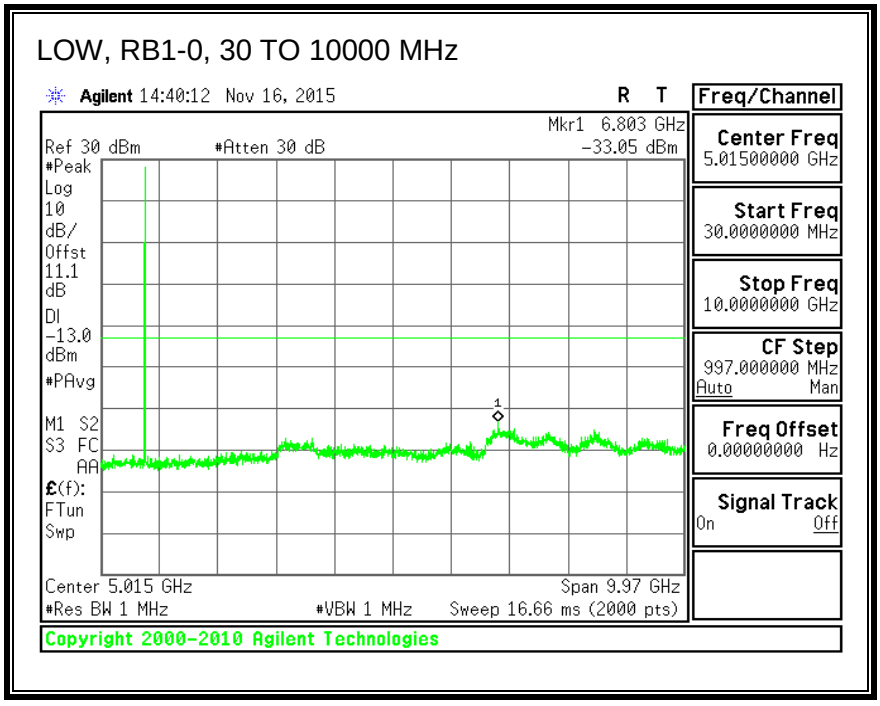


16QAM, (5.0 MHz BAND WIDTH)



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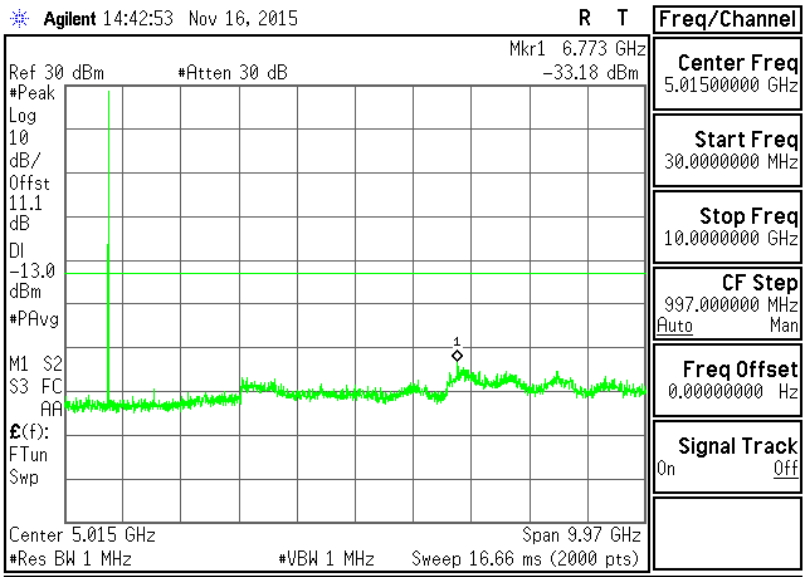
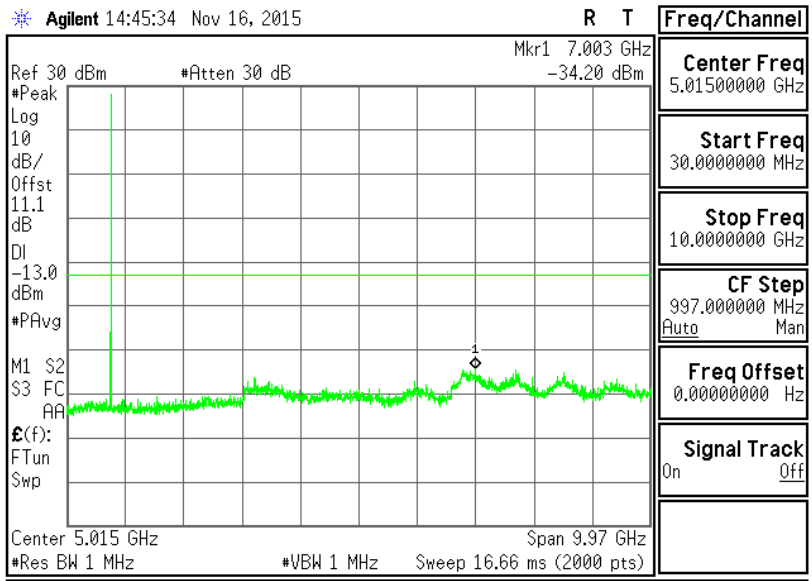
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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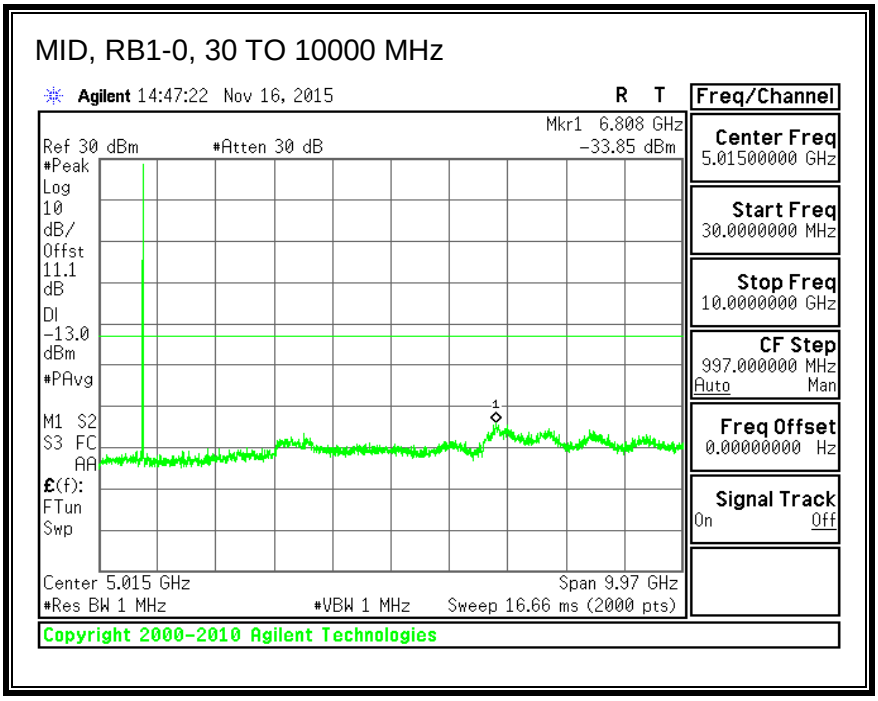
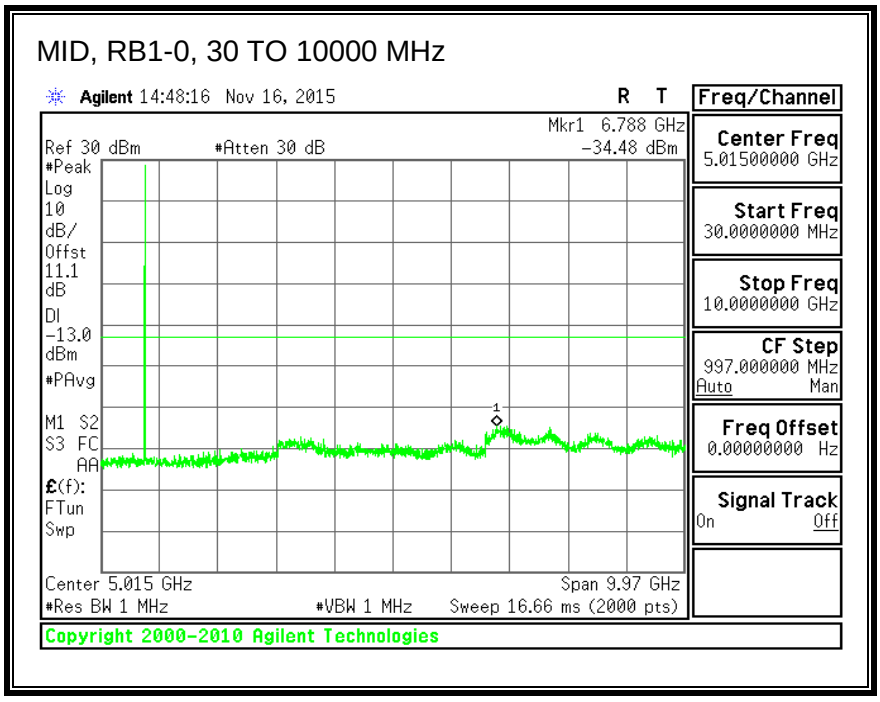
QPSK, (10.0 MHz BAND WIDTH)



16QAM, (10.0 MHz BAND WIDTH)



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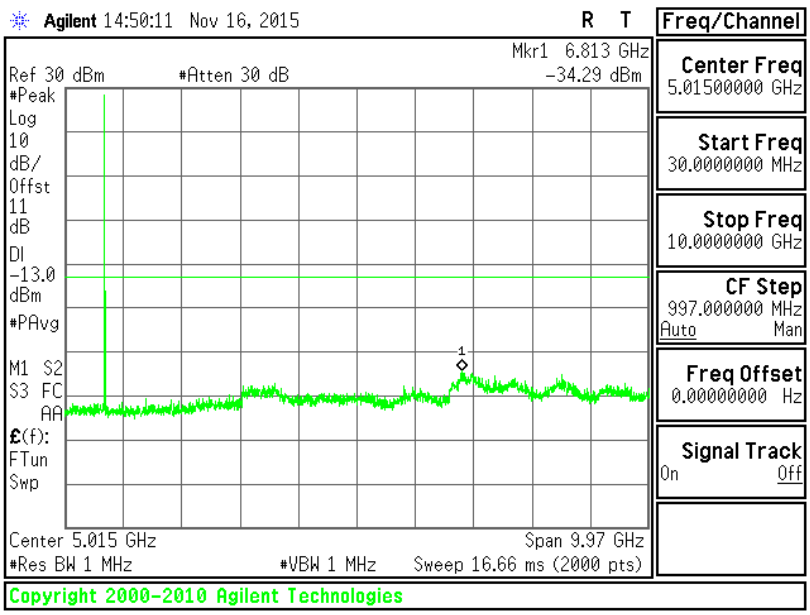
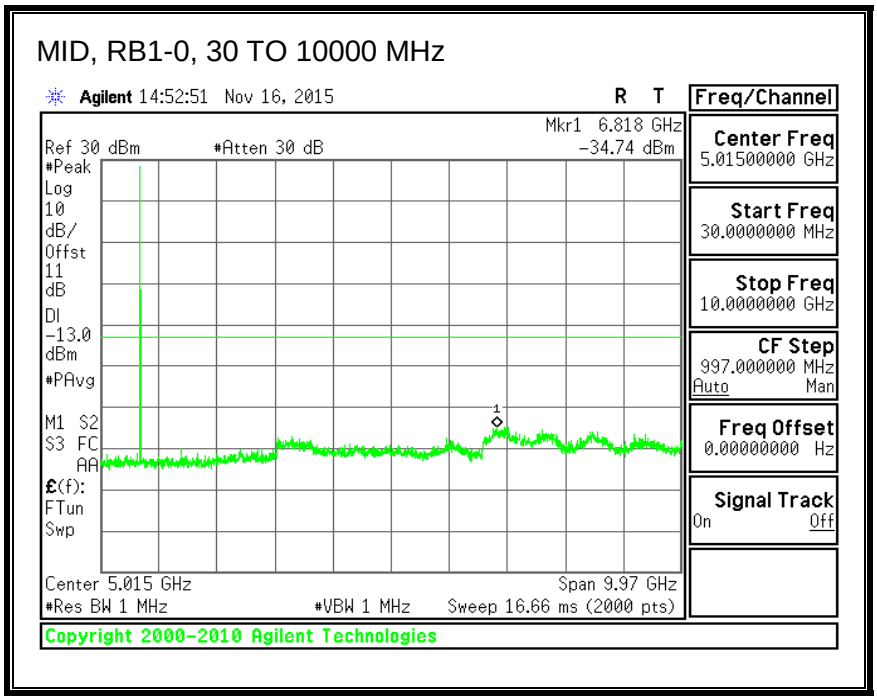
8.3.7. LTE BAND 17

QPSK, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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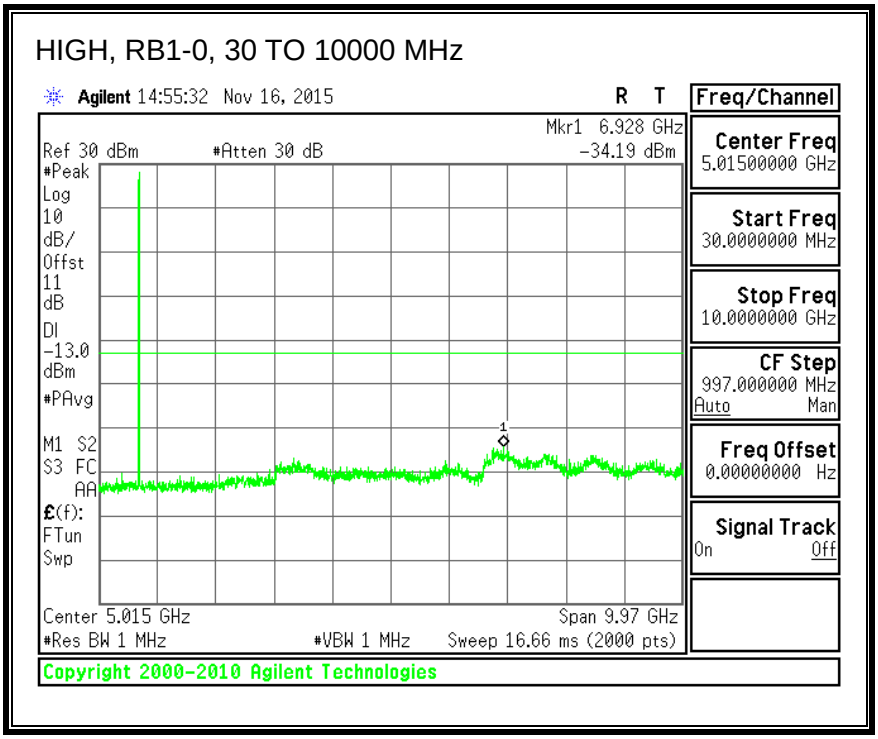
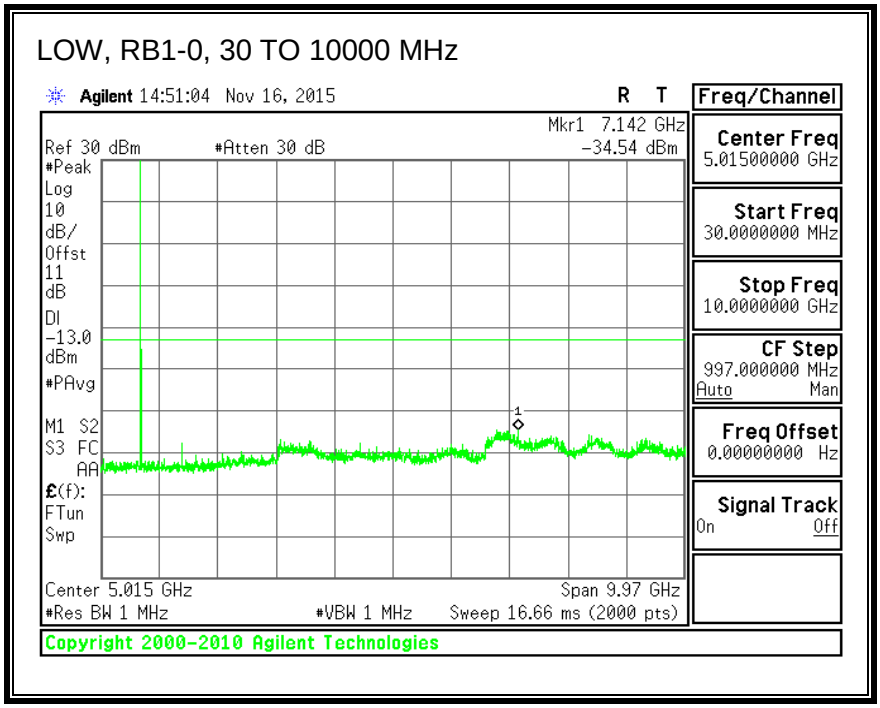
HIGH, RB1-0, 30 TO 10000 MHz



16QAM, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



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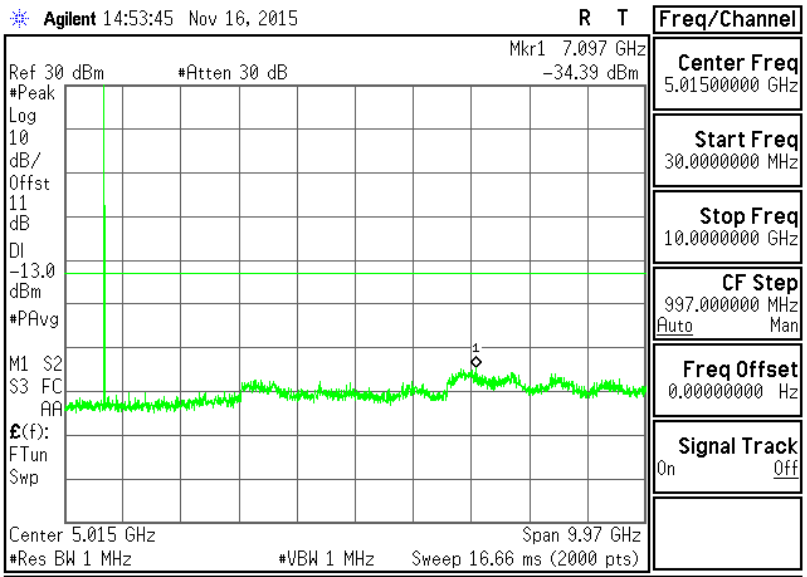
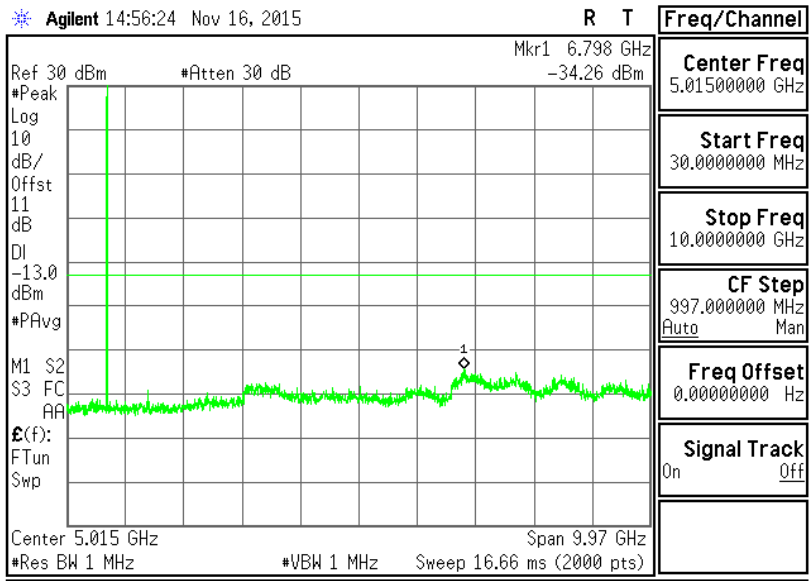
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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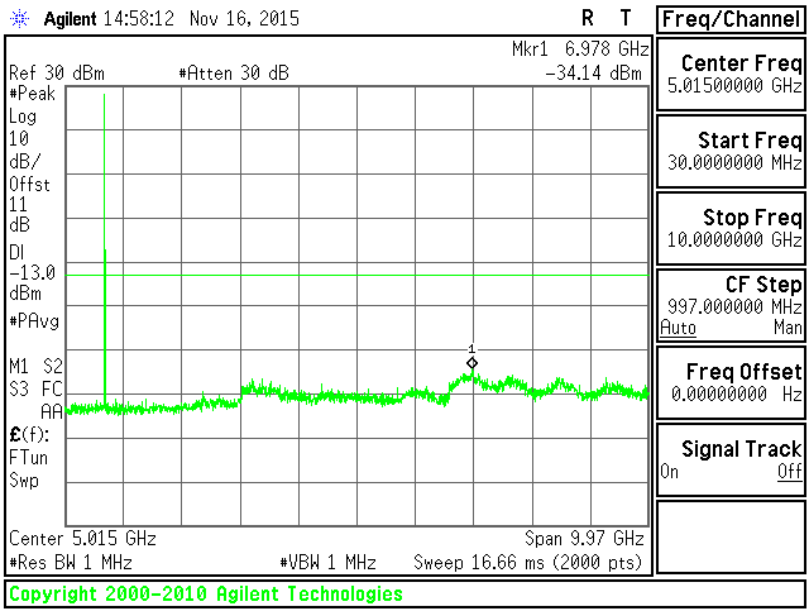
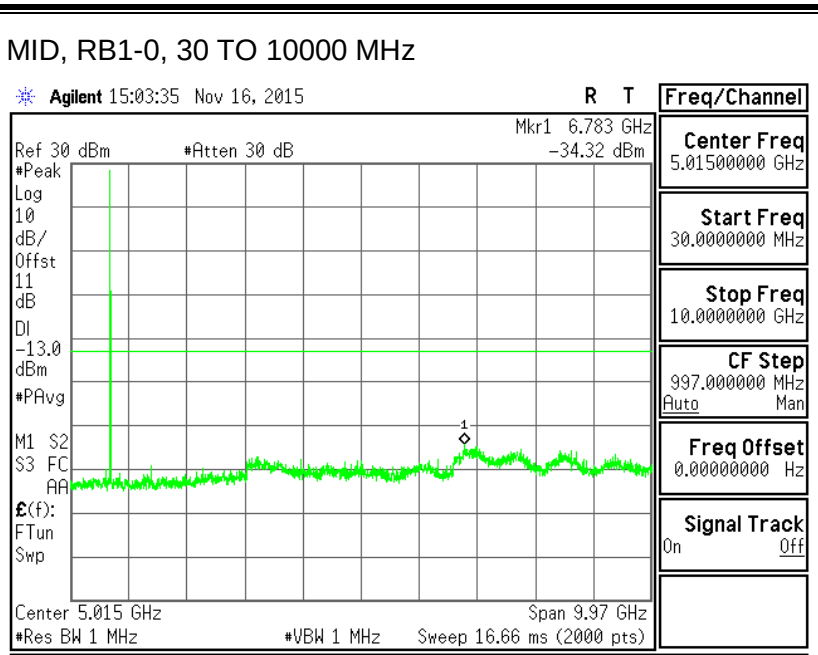
QPSK, (10.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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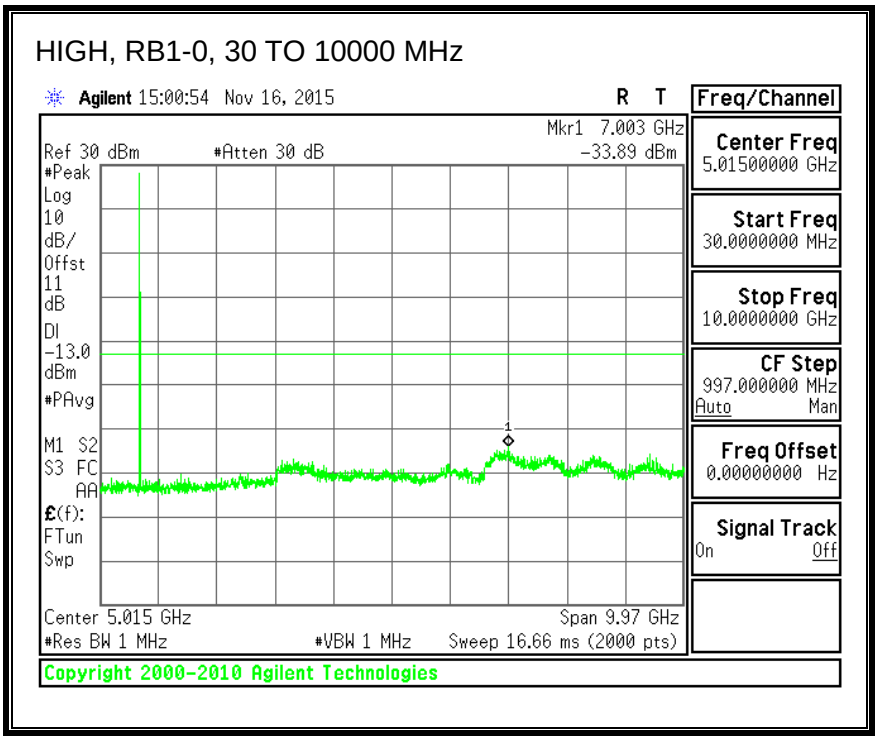
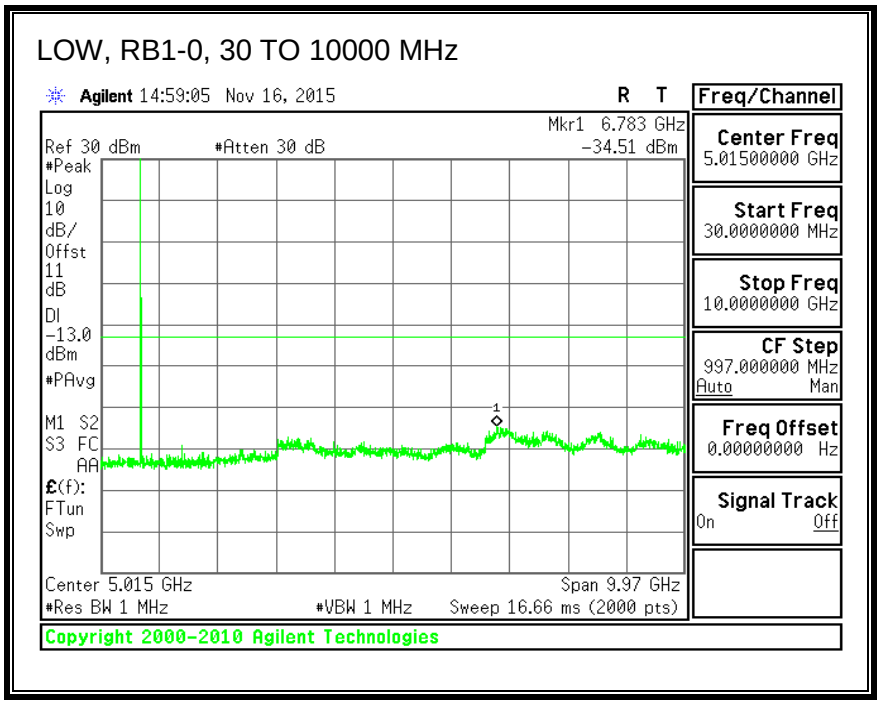


16QAM, (10.0 MHz BAND WIDTH)



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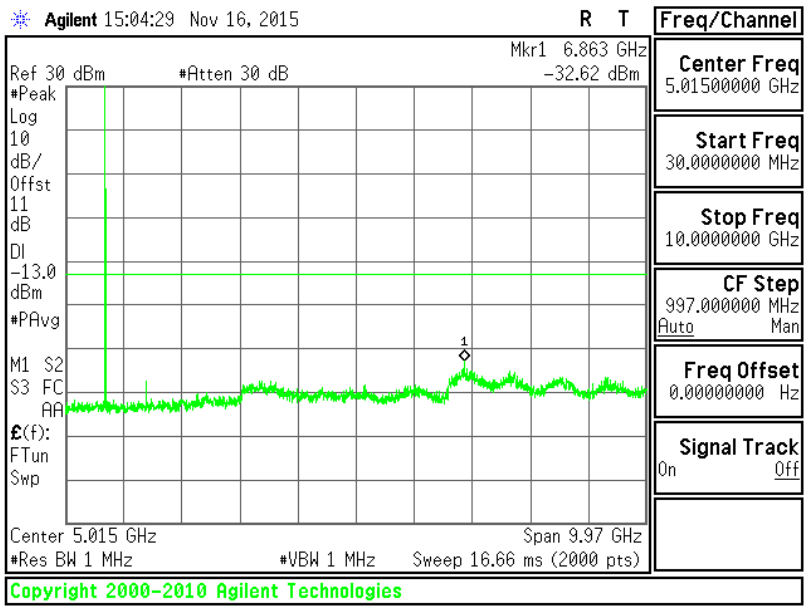
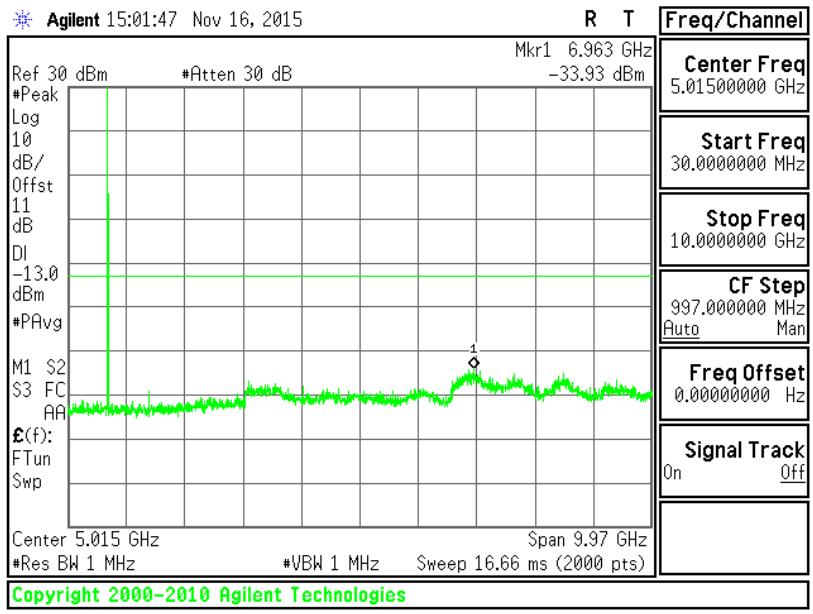
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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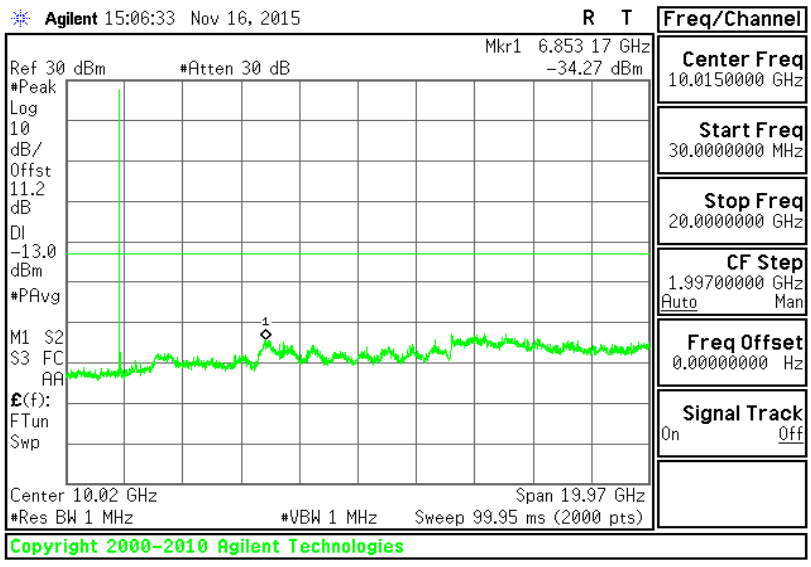
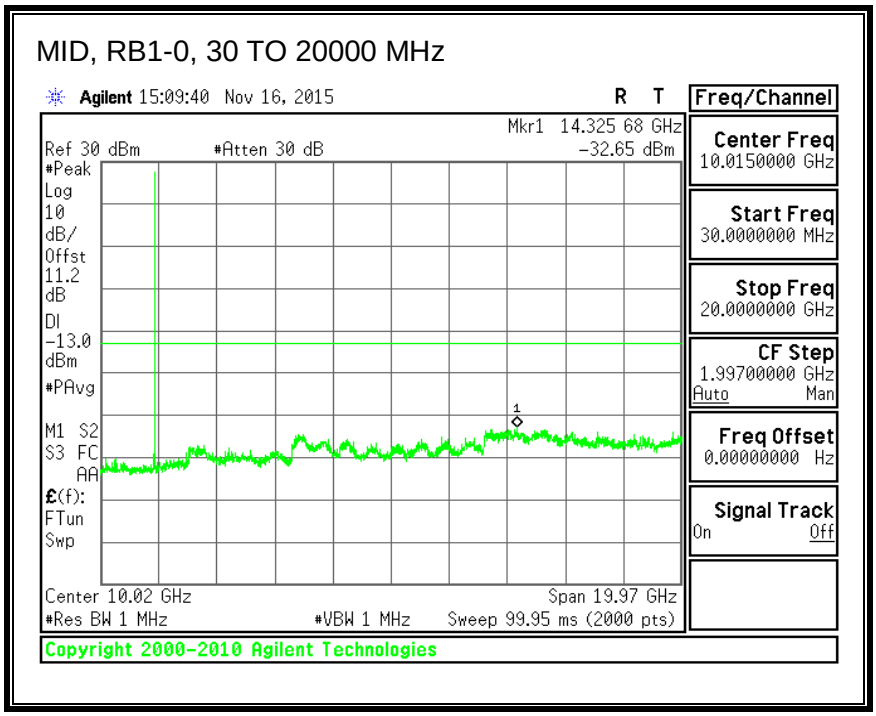
8.3.8. LTE BAND 25

QPSK, (1.4 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz



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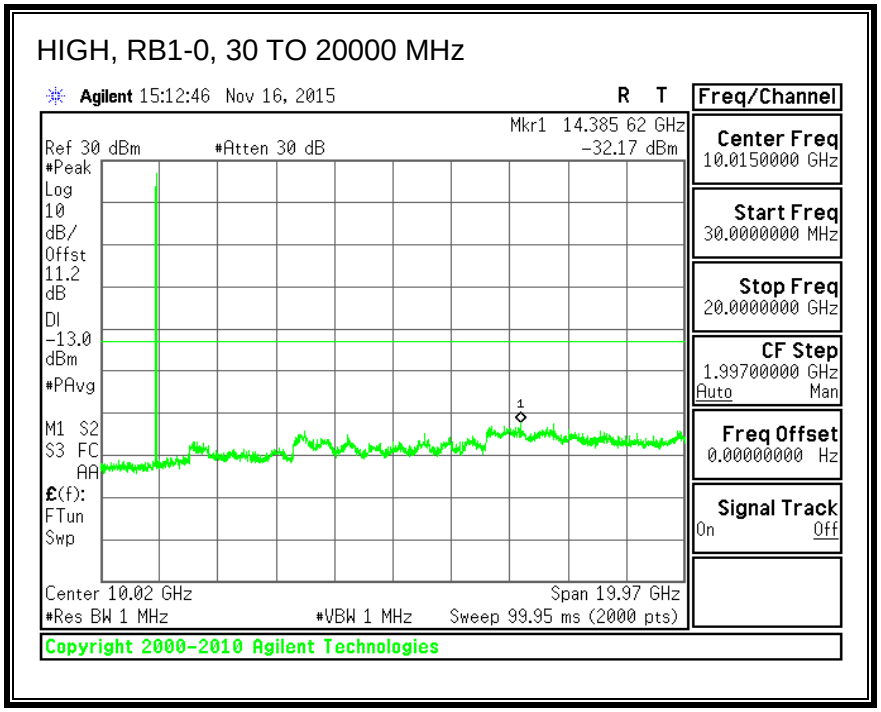
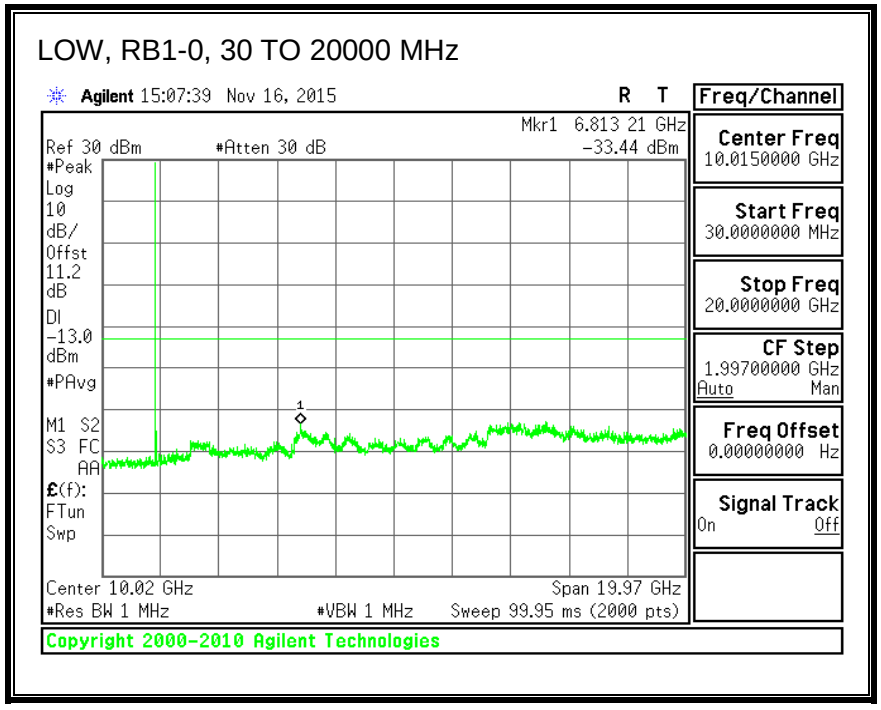
HIGH, RB1-0, 30 TO 20000 MHz



16QAM, (1.4 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz



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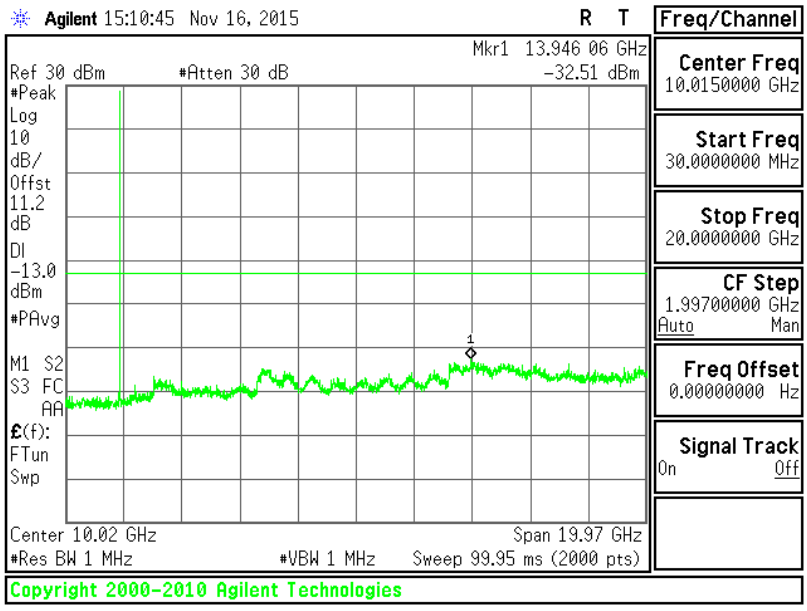
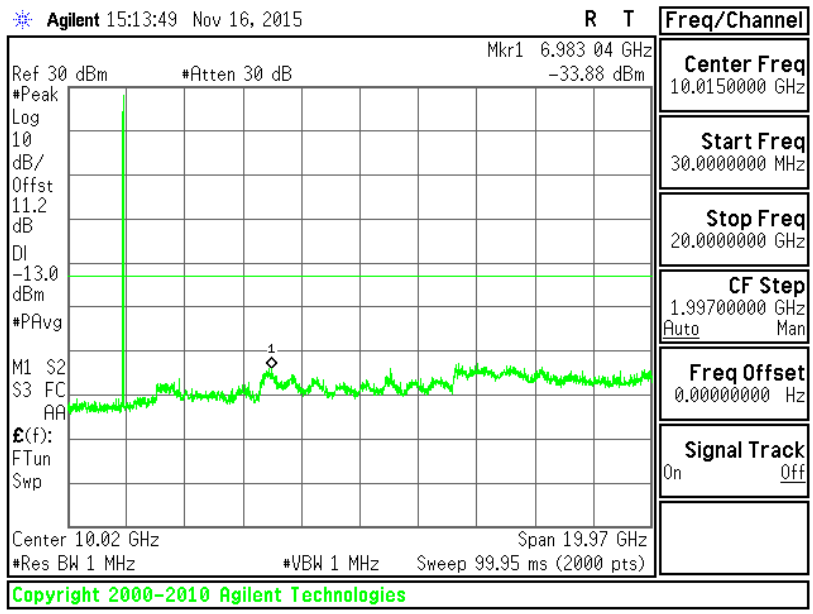
MID, RB1-0, 30 TO 20000 MHz



HIGH, RB1-0, 30 TO 20000 MHz



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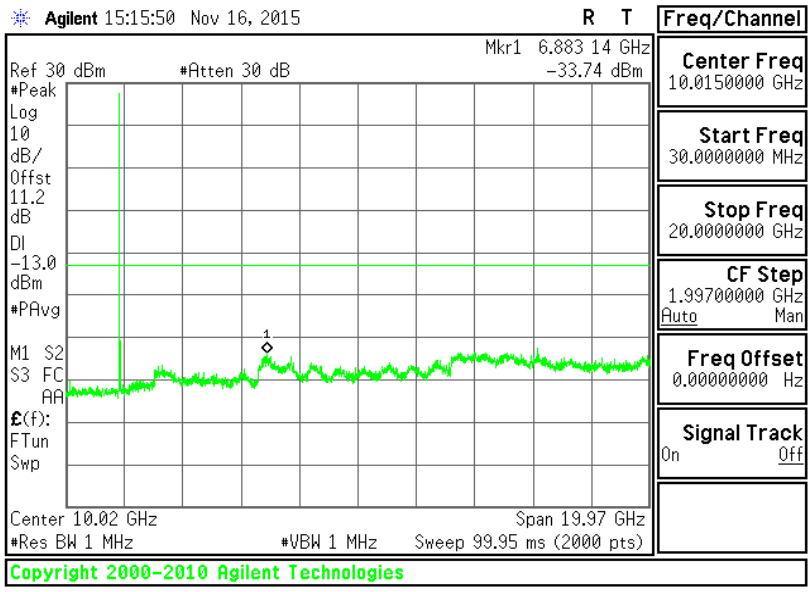
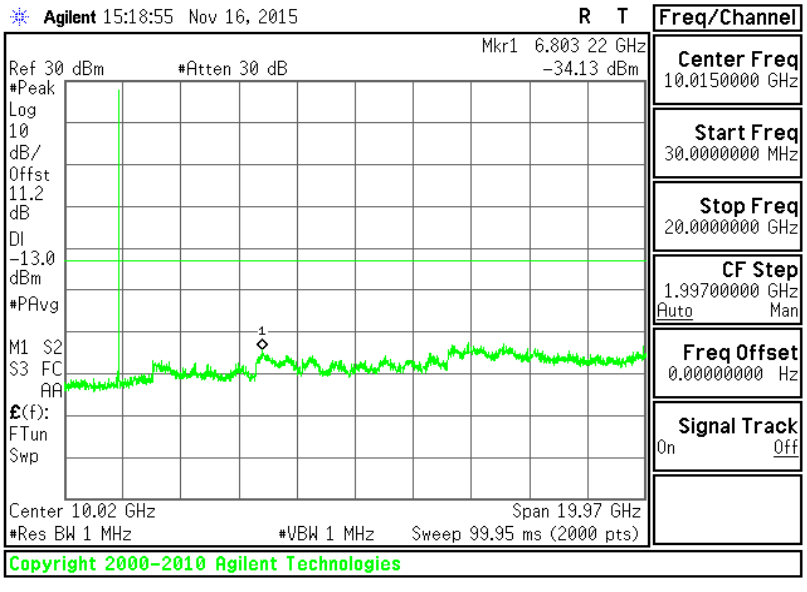
QPSK, (3.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz



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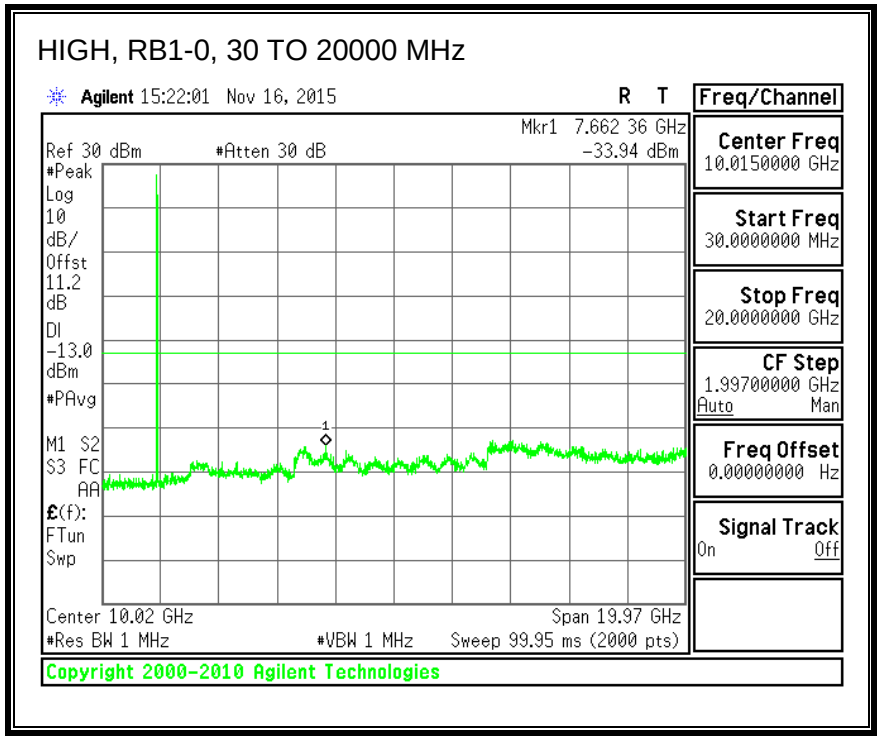
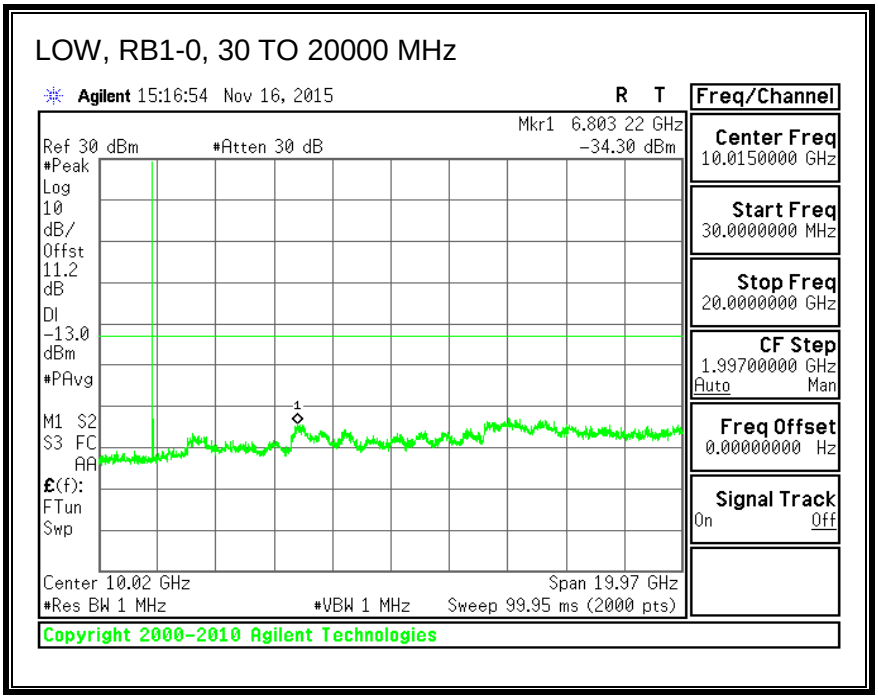


16QAM, (3.0 MHz BAND WIDTH)



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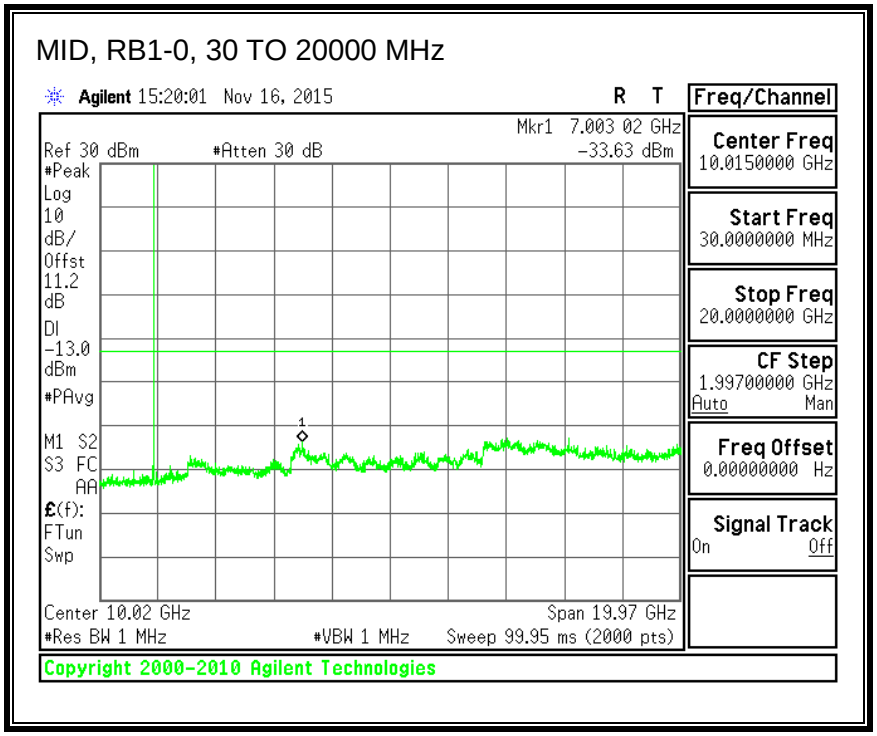
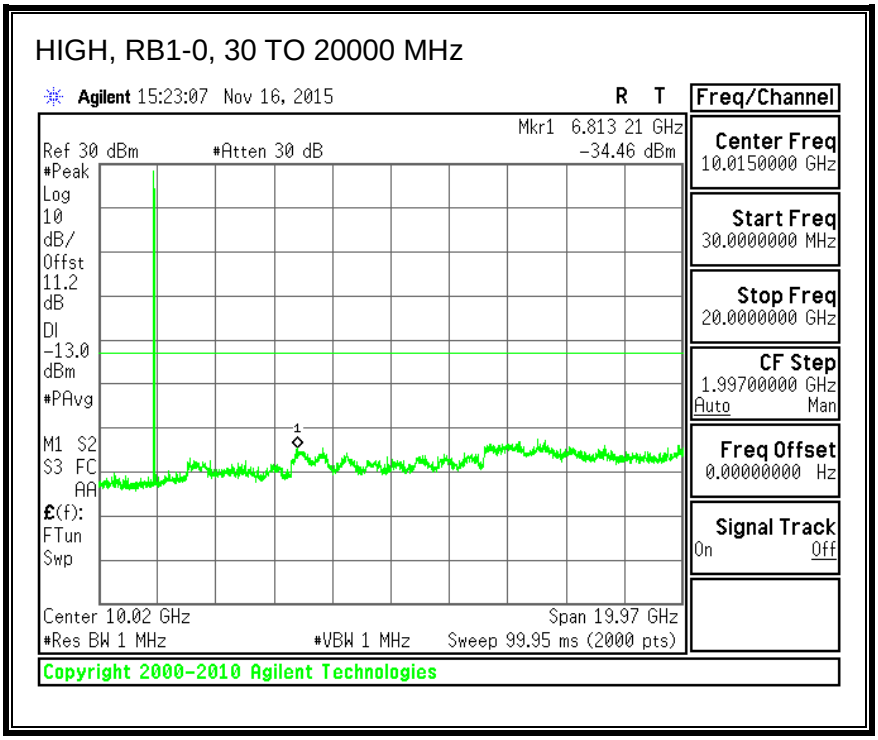
MID, RB1-0, 30 TO 20000 MHz



HIGH, RB1-0, 30 TO 20000 MHz



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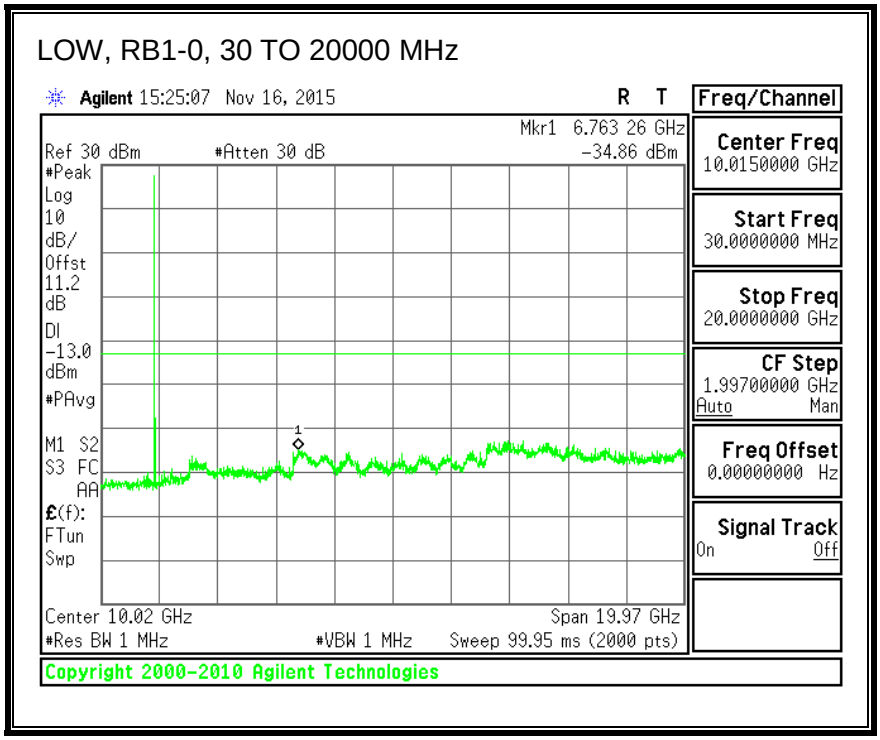
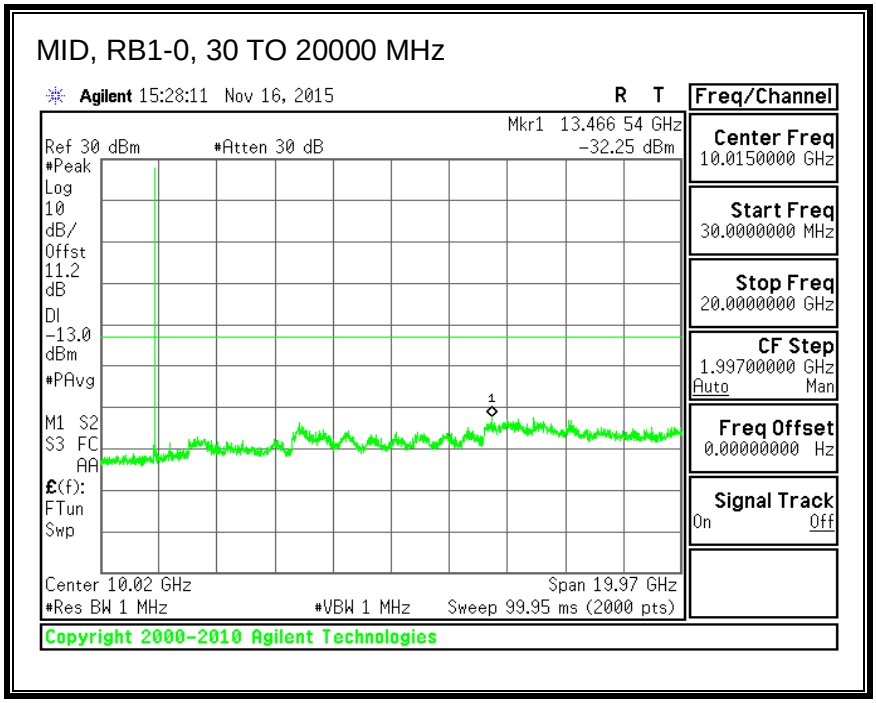
QPSK, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz



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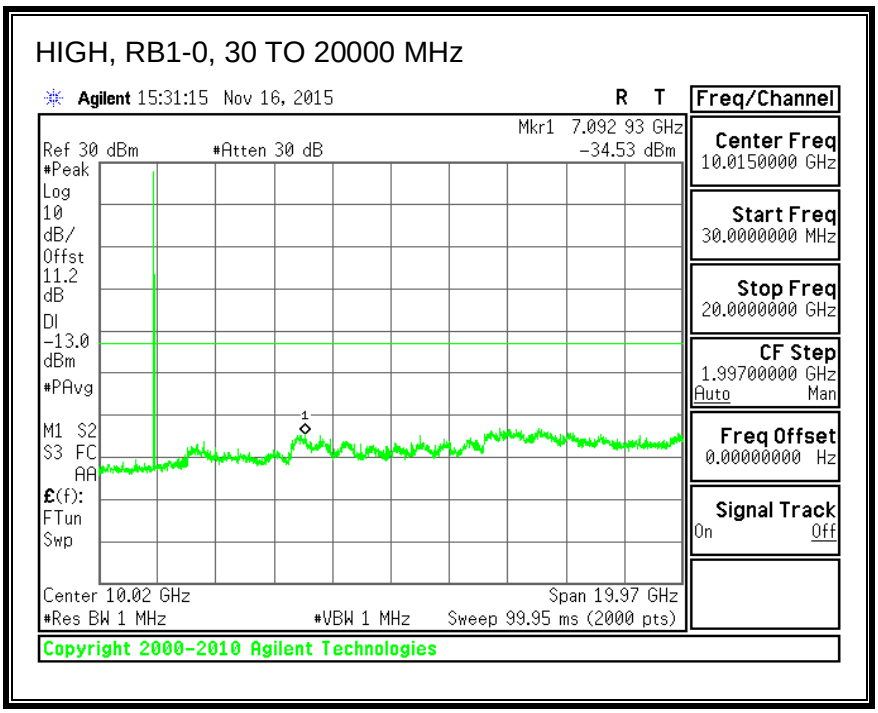
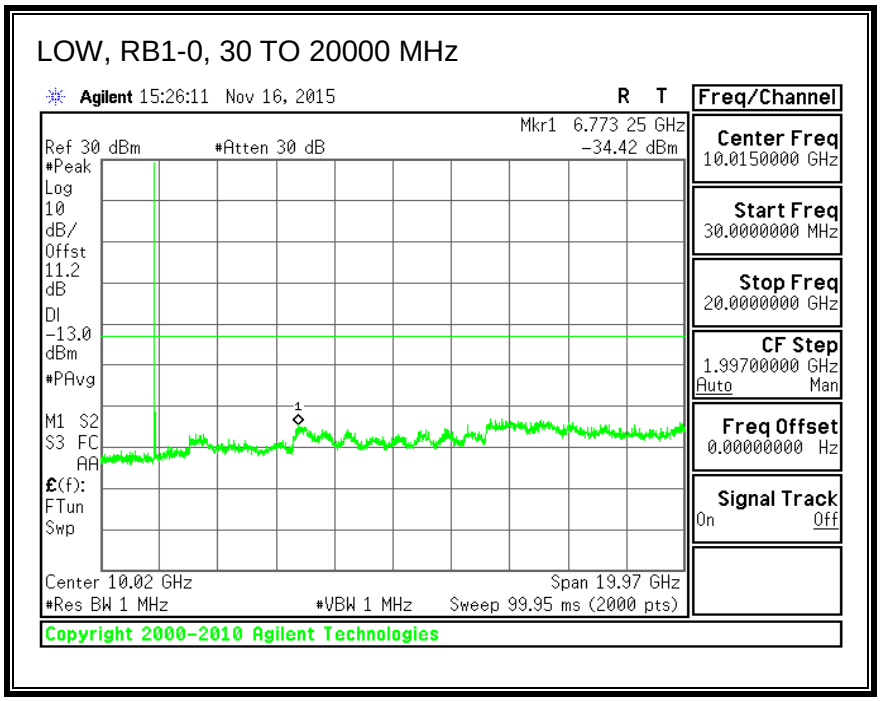


16QAM, (5.0 MHz BAND WIDTH)



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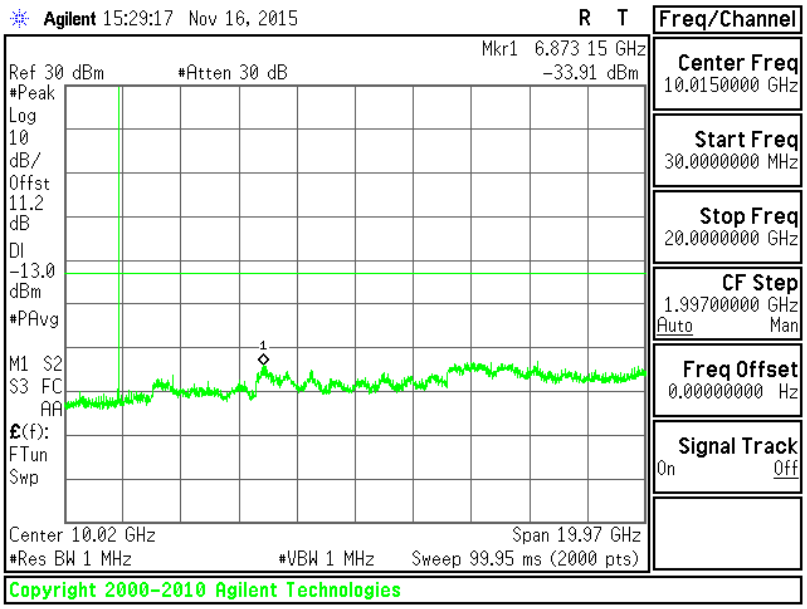
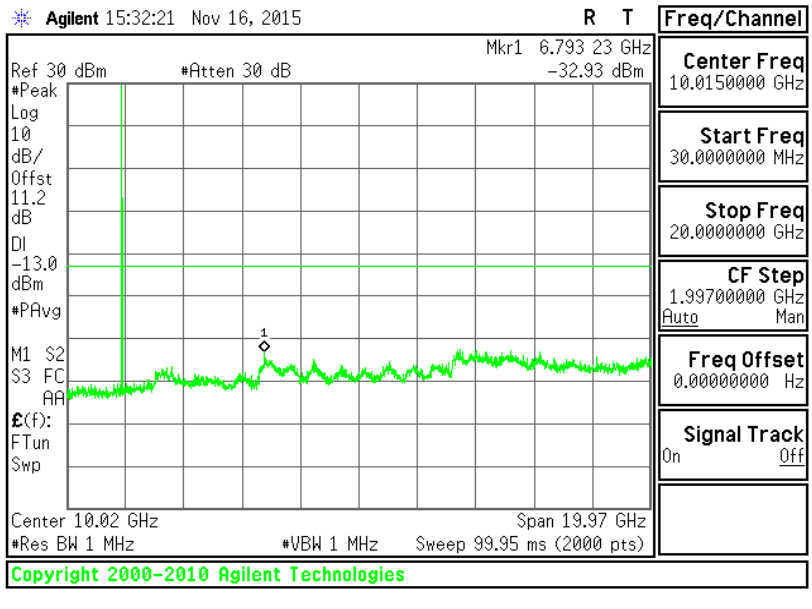
MID, RB1-0, 30 TO 20000 MHz



HIGH, RB1-0, 30 TO 20000 MHz



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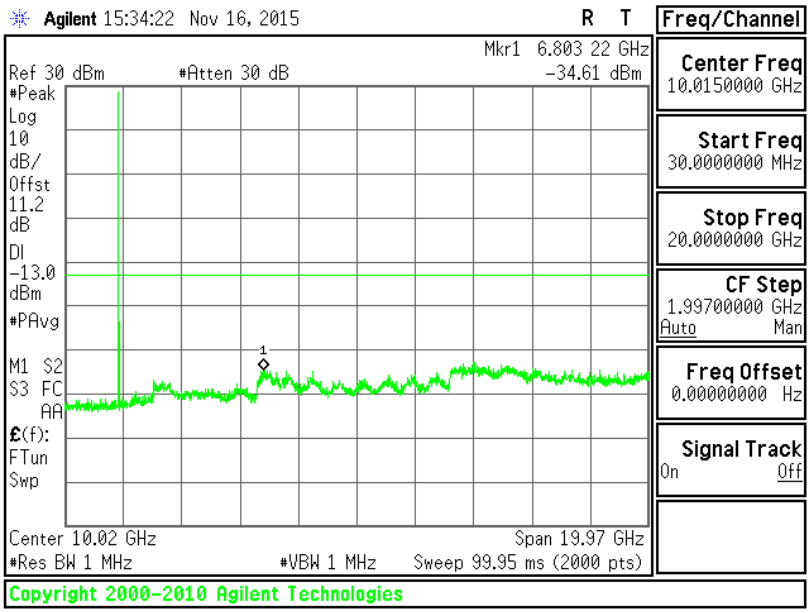
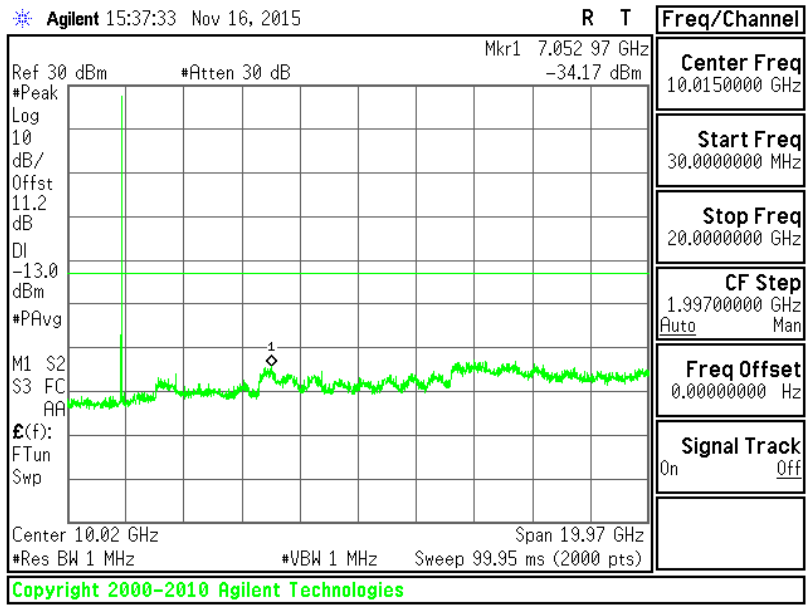
QPSK, (10.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz



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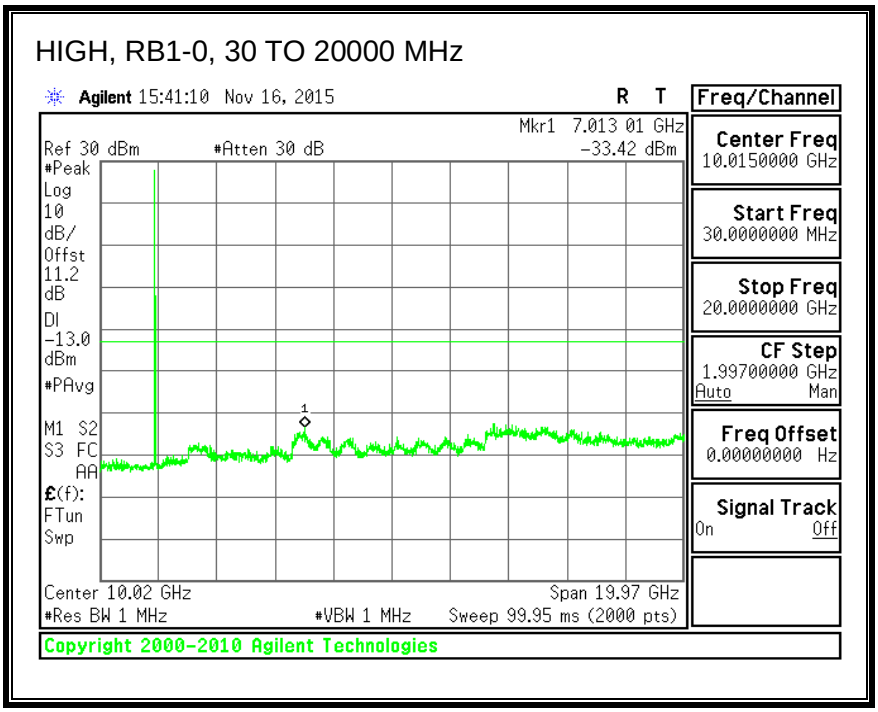
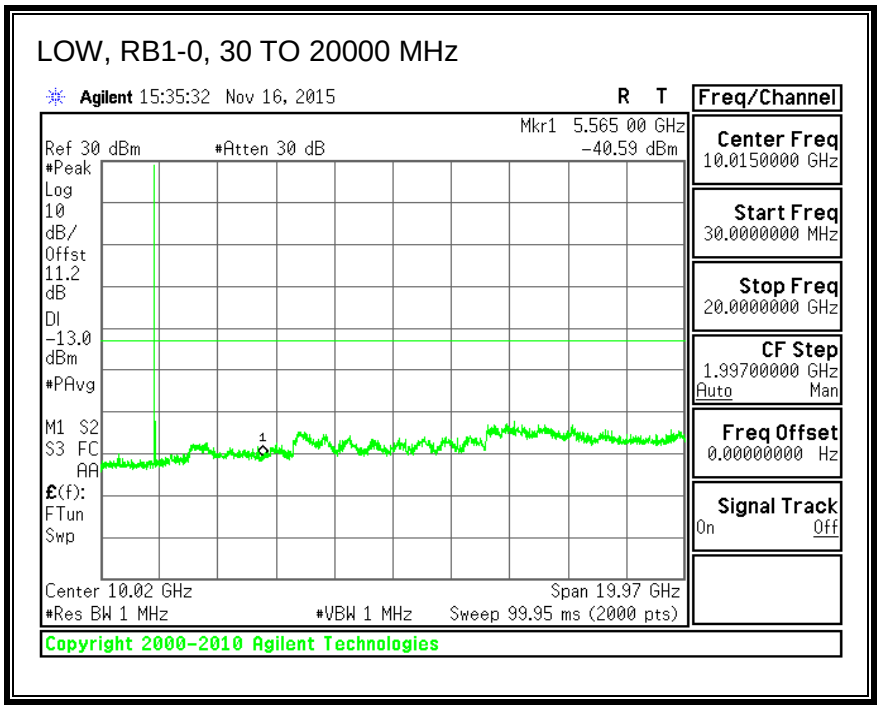


16QAM, (10.0 MHz BAND WIDTH)



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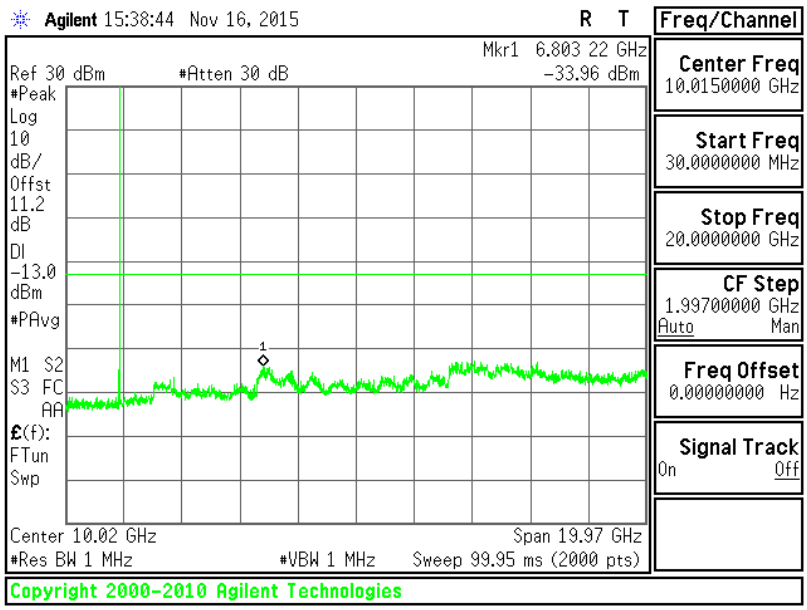
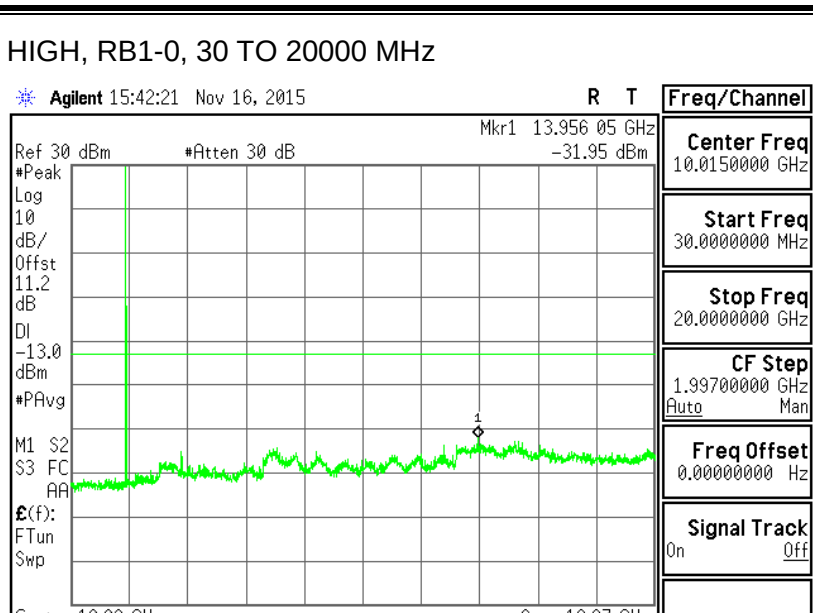
MID, RB1-0, 30 TO 20000 MHz



HIGH, RB1-0, 30 TO 20000 MHz



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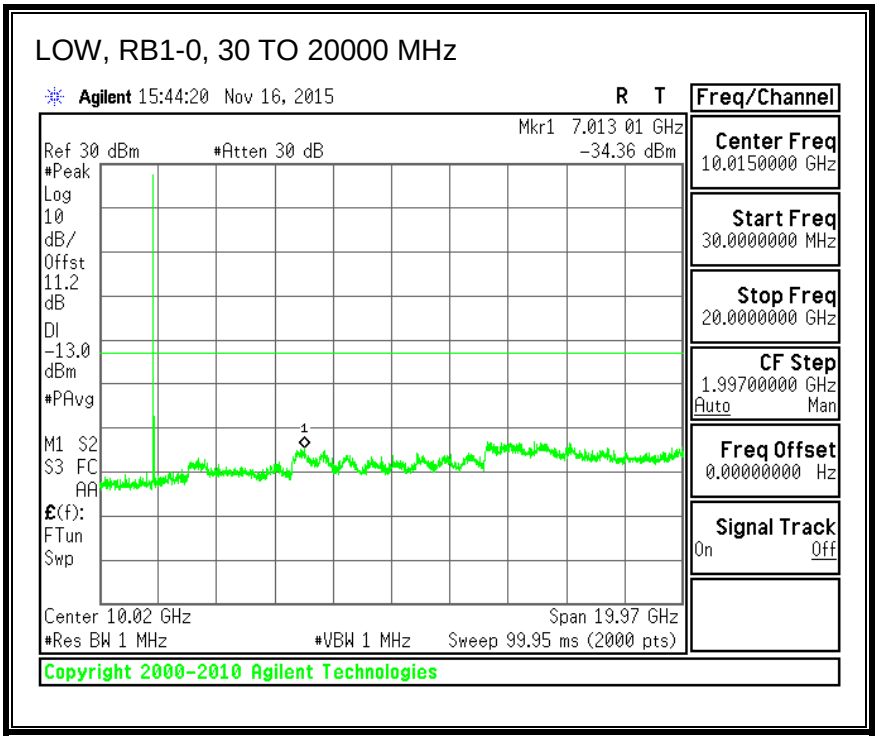
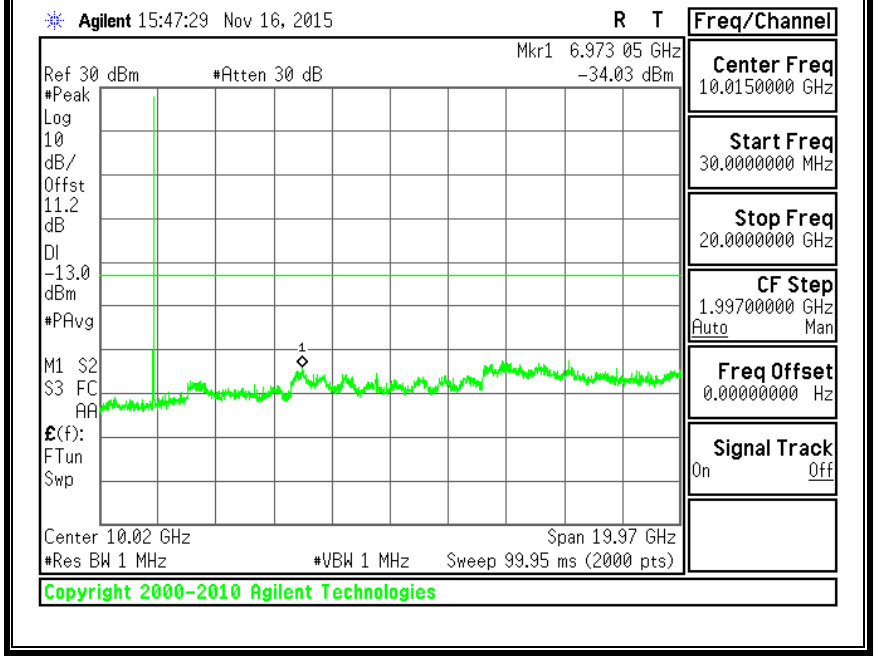
QPSK, (15.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz



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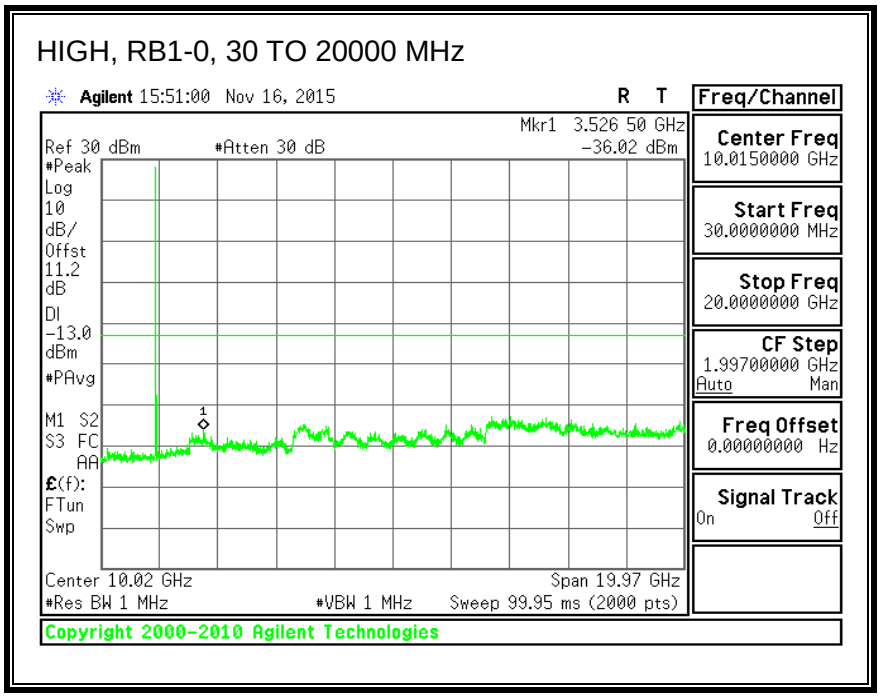
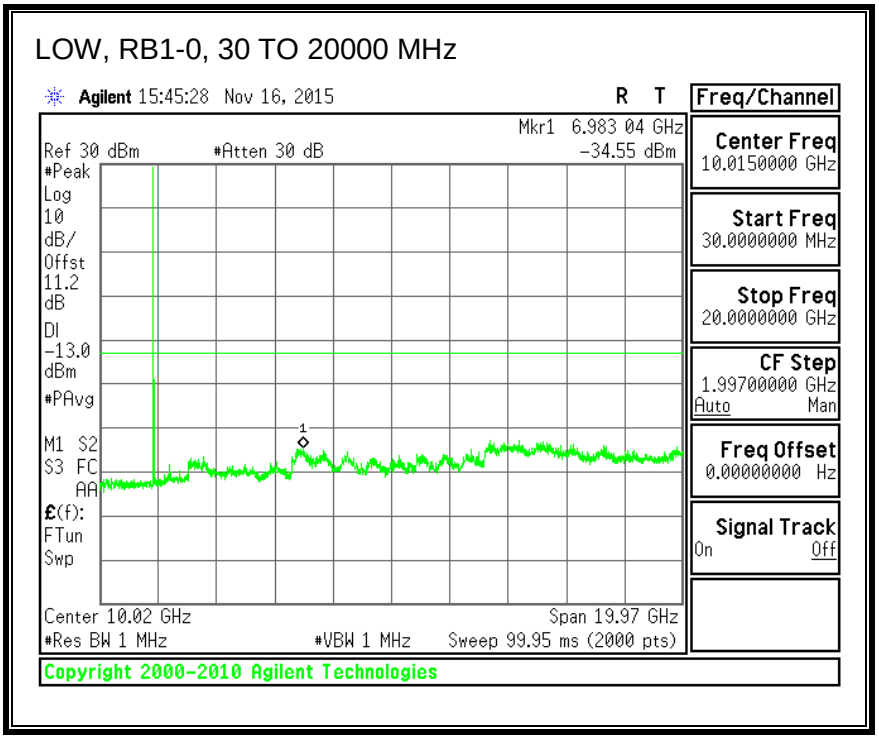


16QAM, (15.0 MHz BAND WIDTH)



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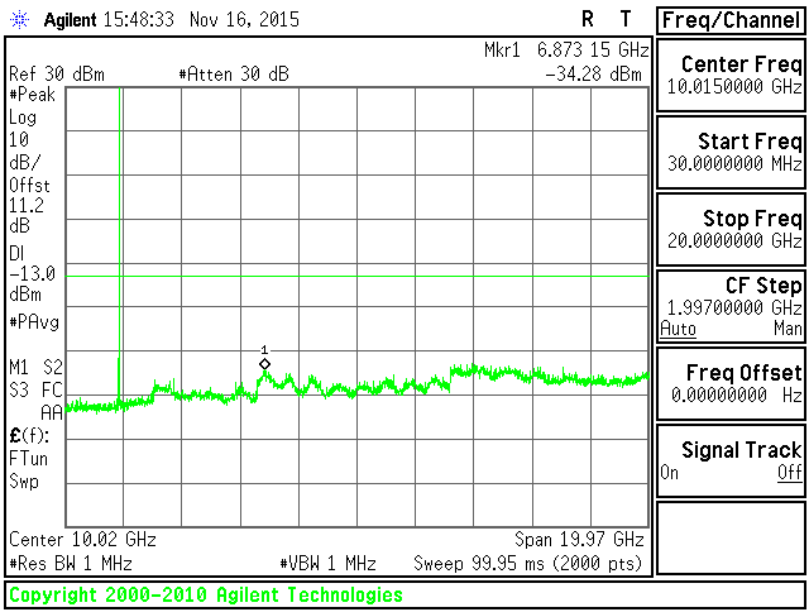
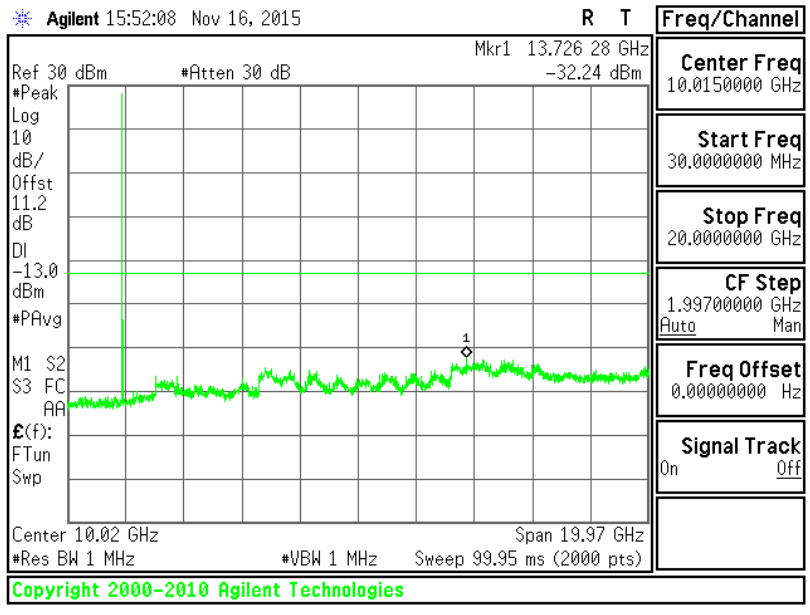
MID, RB1-0, 30 TO 20000 MHz



HIGH, RB1-0, 30 TO 20000 MHz



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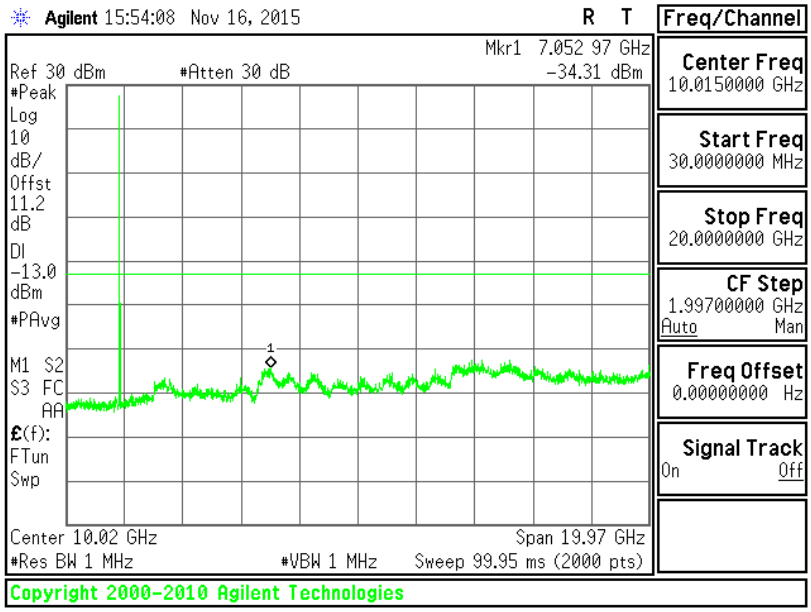
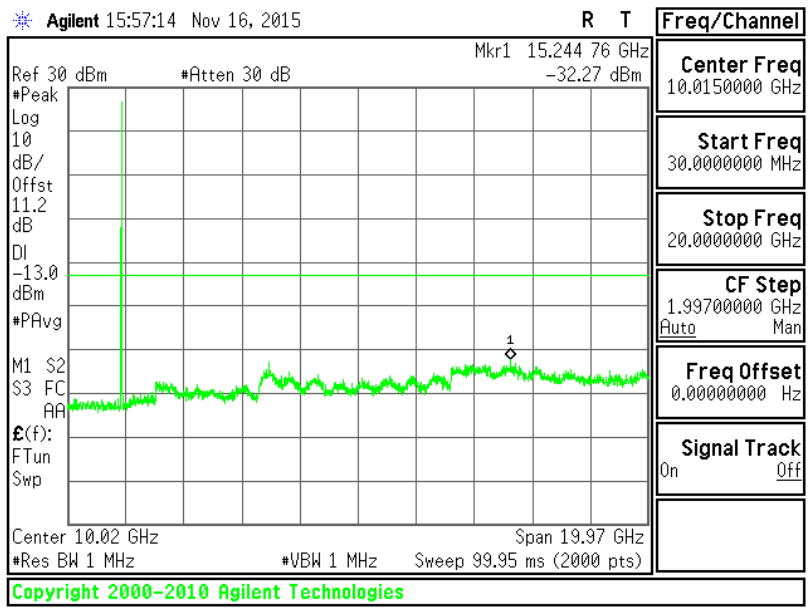
QPSK, (20.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz



MID, RB1-0, 30 TO 20000 MHz



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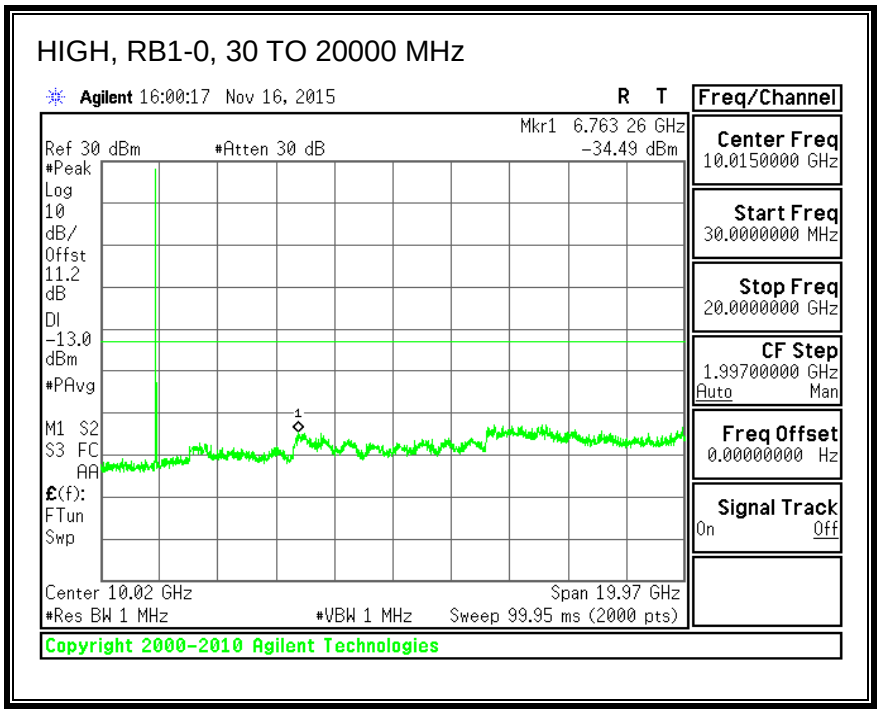
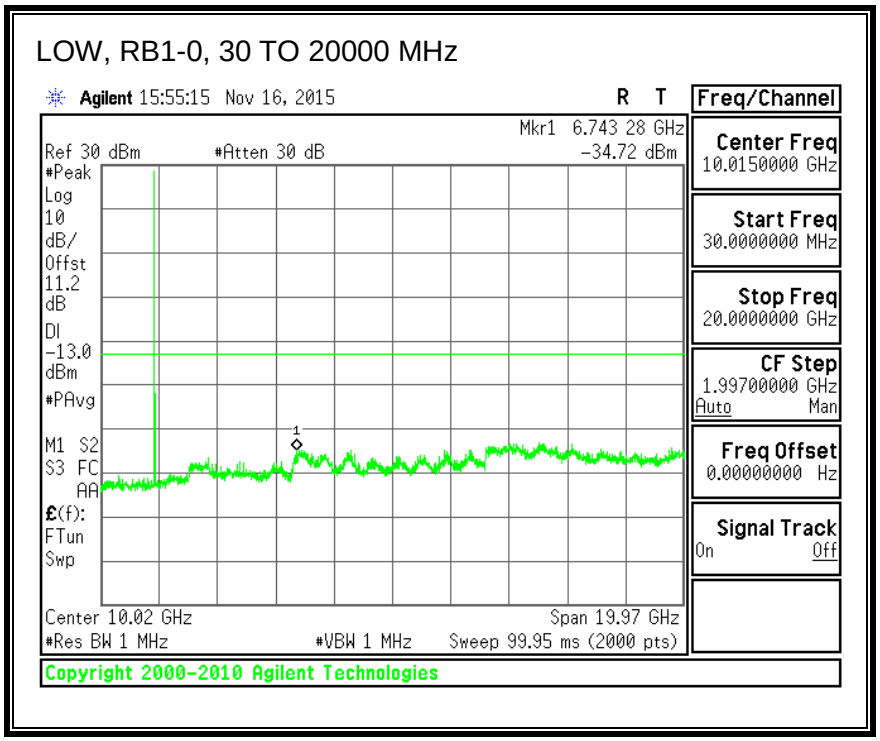


16QAM, (20.0 MHz BAND WIDTH)



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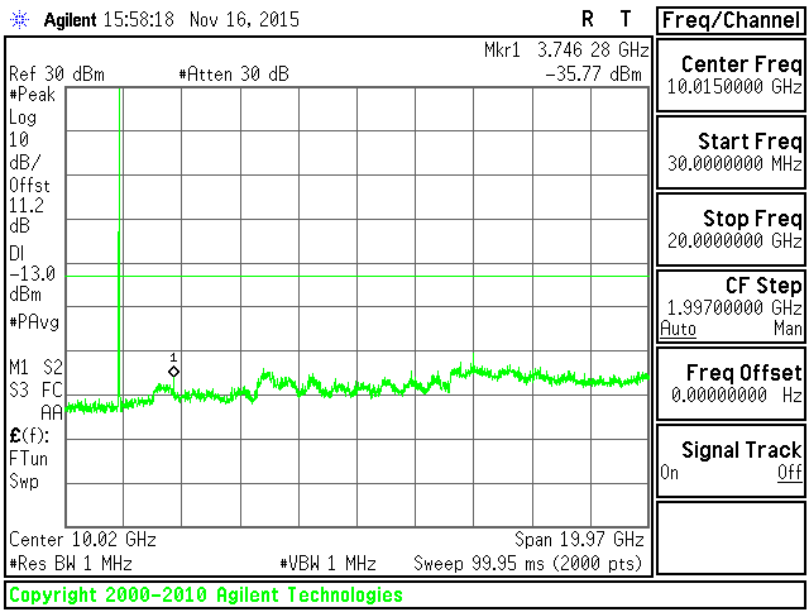
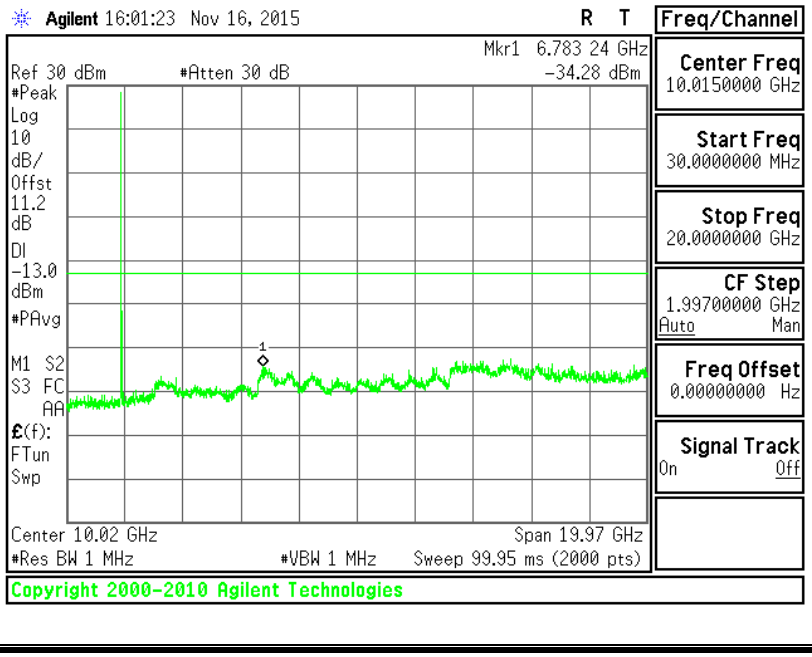
MID, RB1-0, 30 TO 20000 MHz



HIGH, RB1-0, 30 TO 20000 MHz



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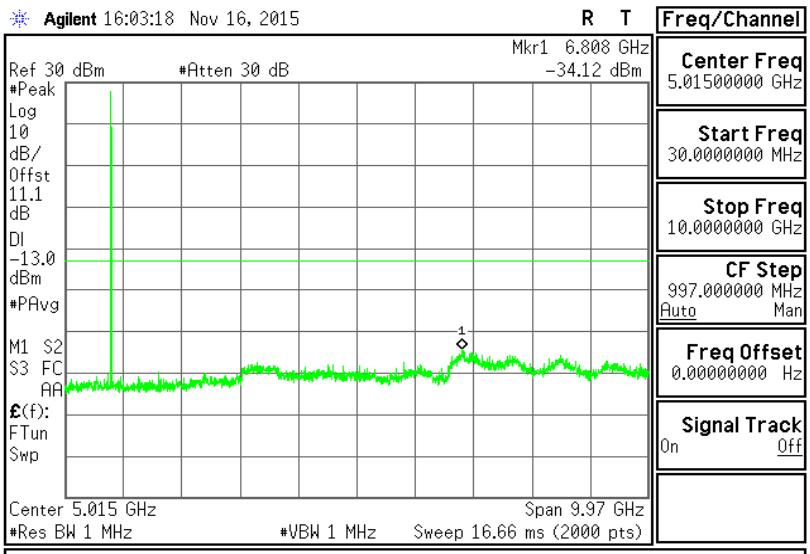
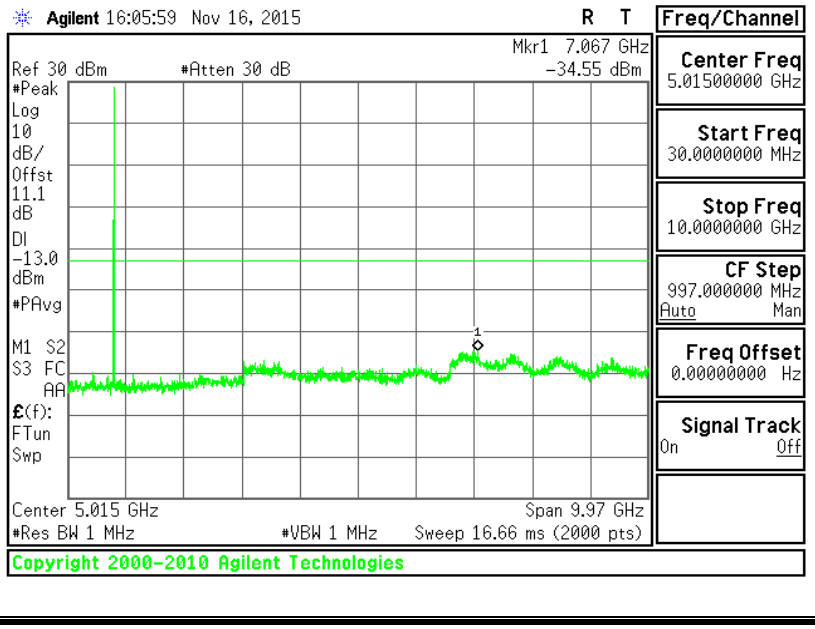
8.3.9. LTE BAND 26

QPSK, (1.4 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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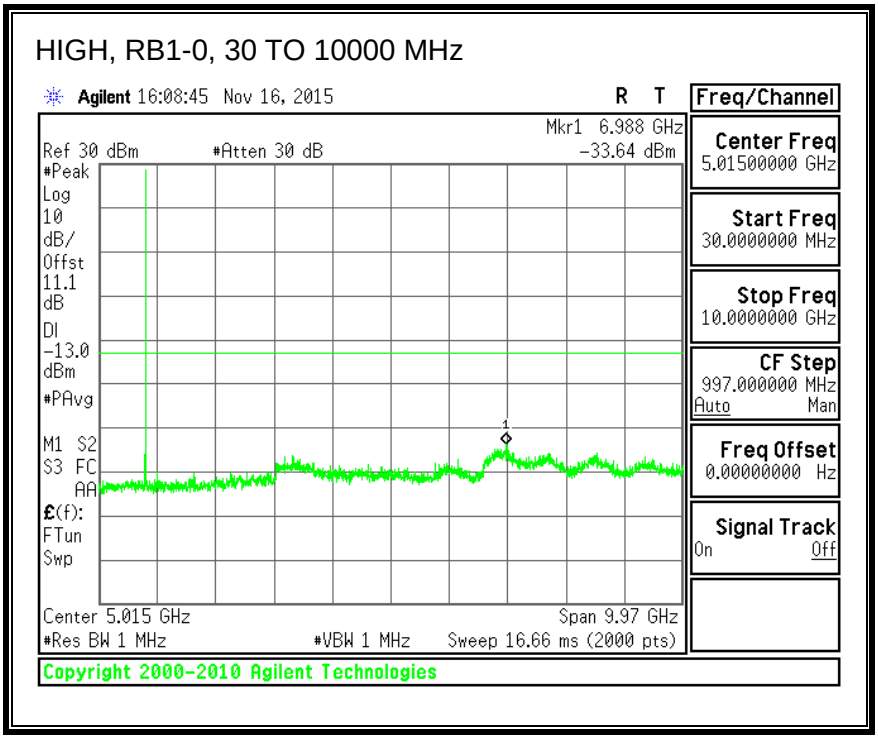
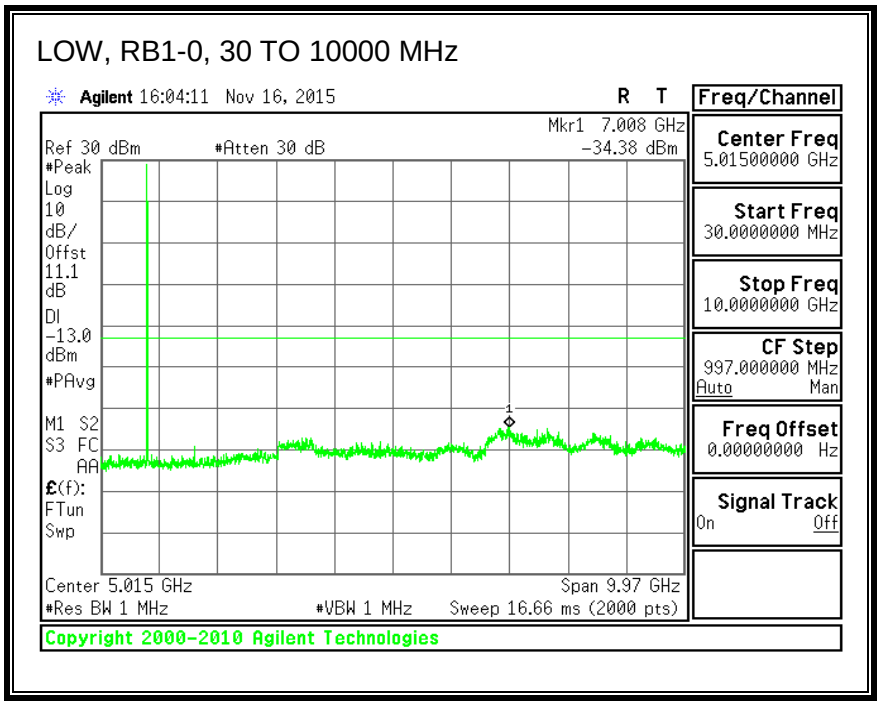
HIGH, RB1-0, 30 TO 10000 MHz



16QAM, (1.4 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



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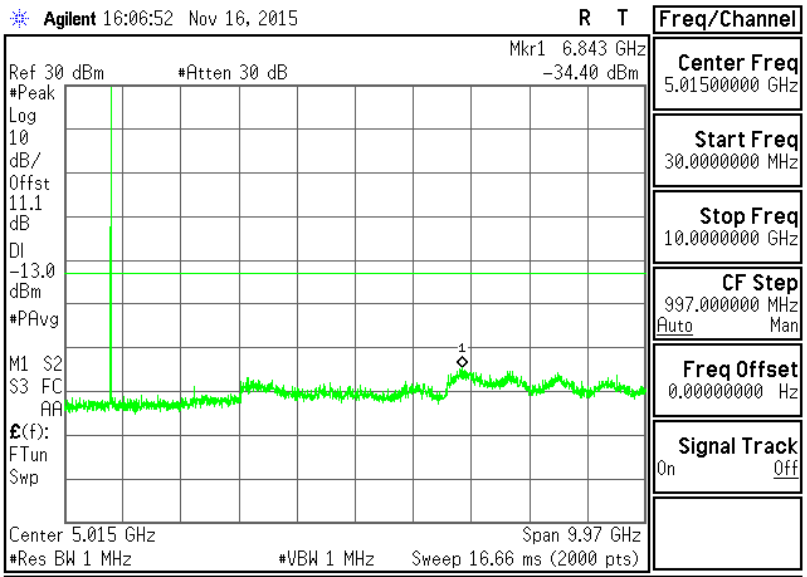
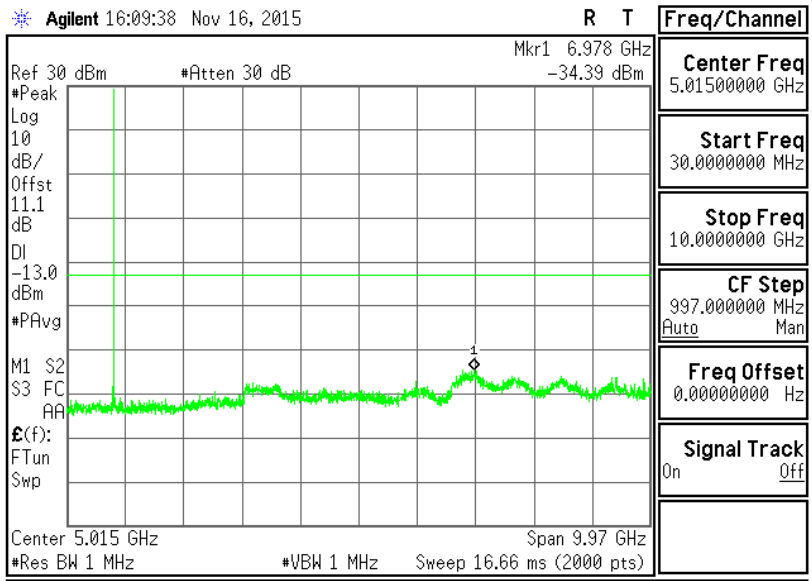
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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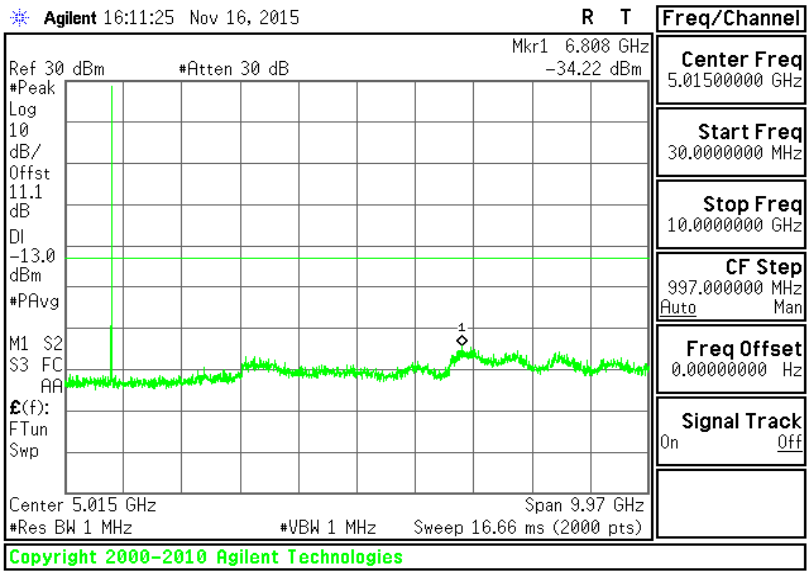
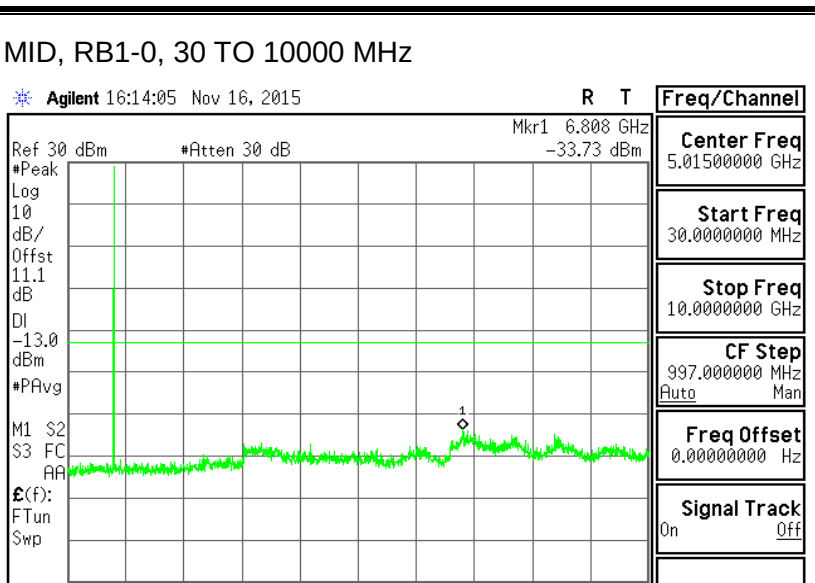
QPSK, (3.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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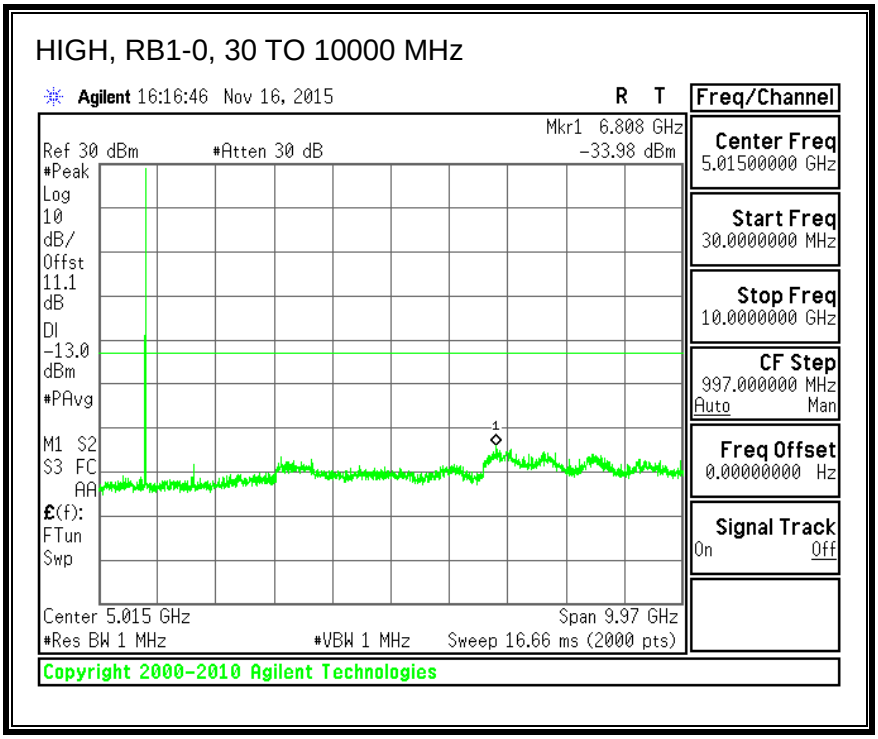
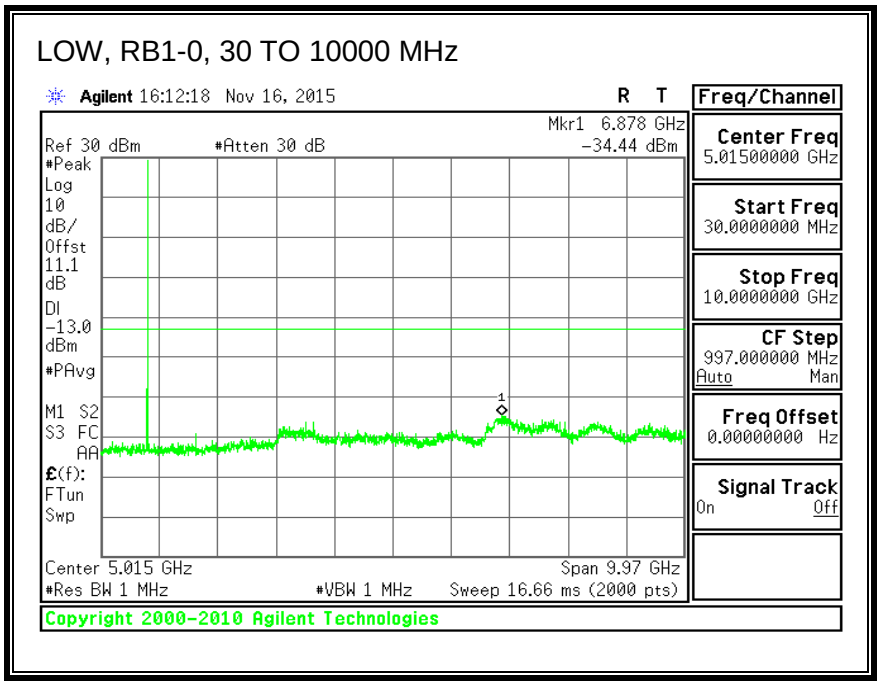
HIGH, RB1-0, 30 TO 10000 MHz



16QAM, (3.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



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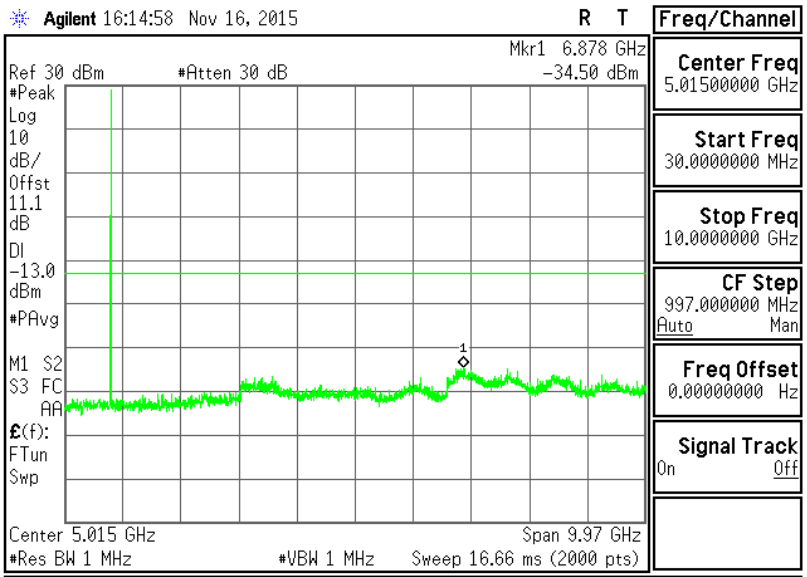
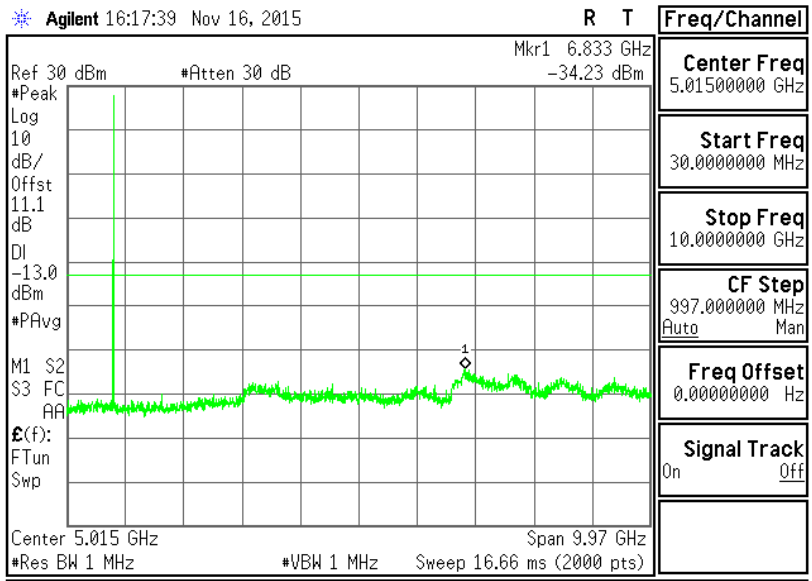
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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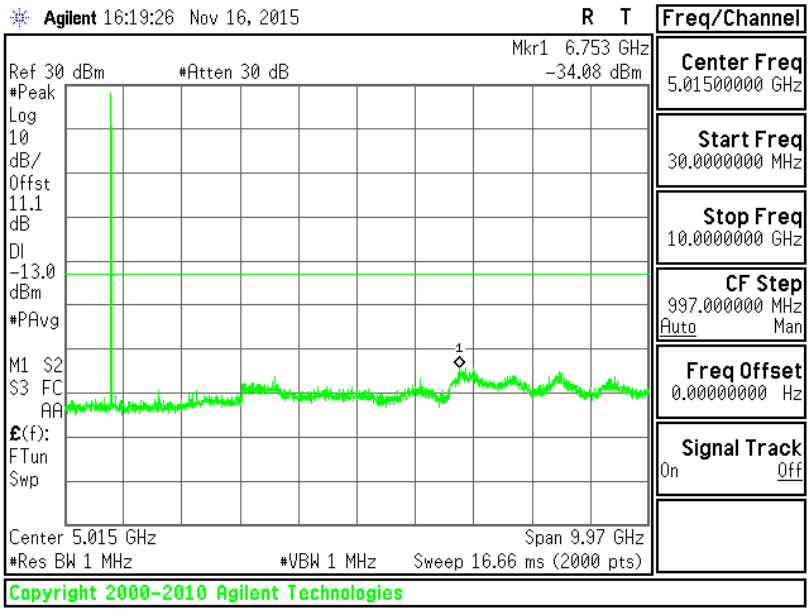
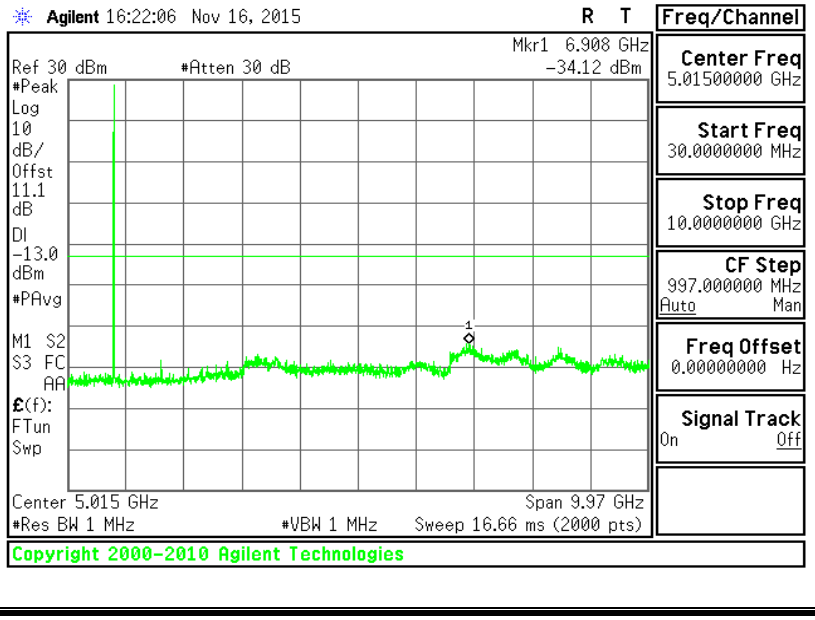
QPSK, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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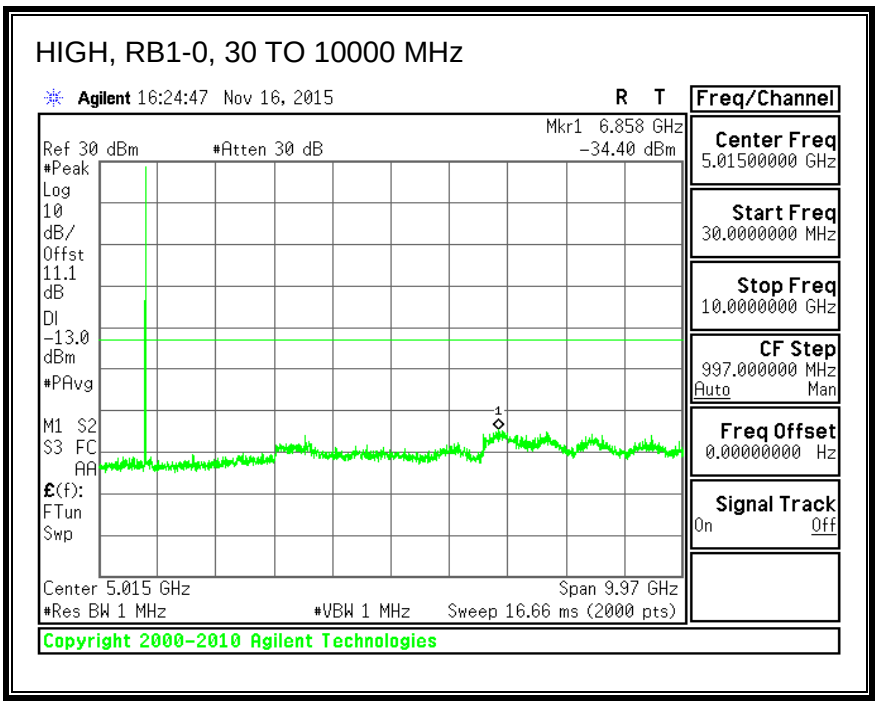
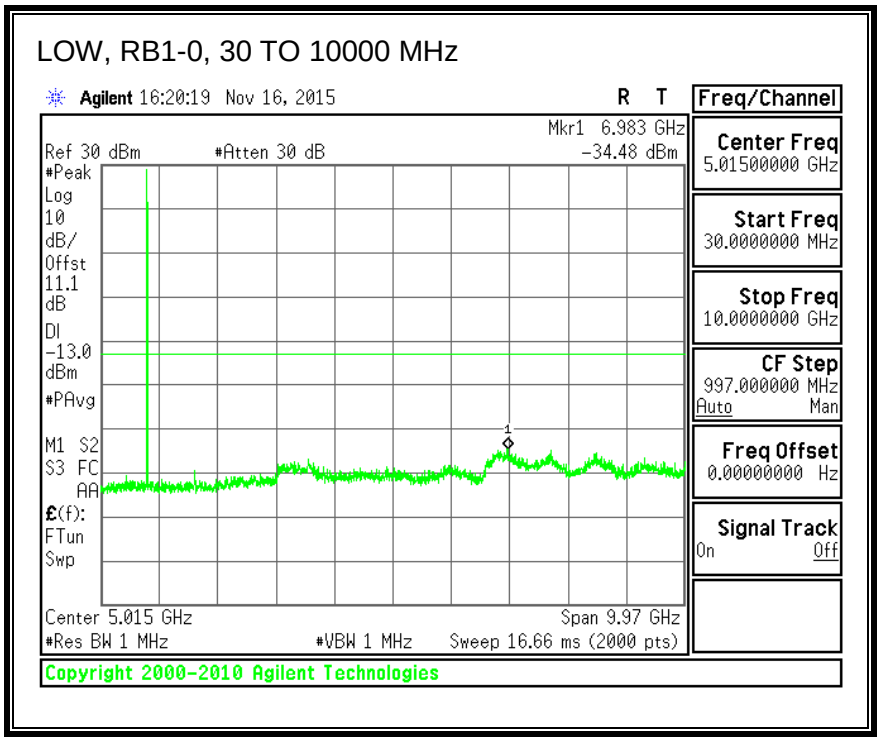


16QAM, (5.0 MHz BAND WIDTH)



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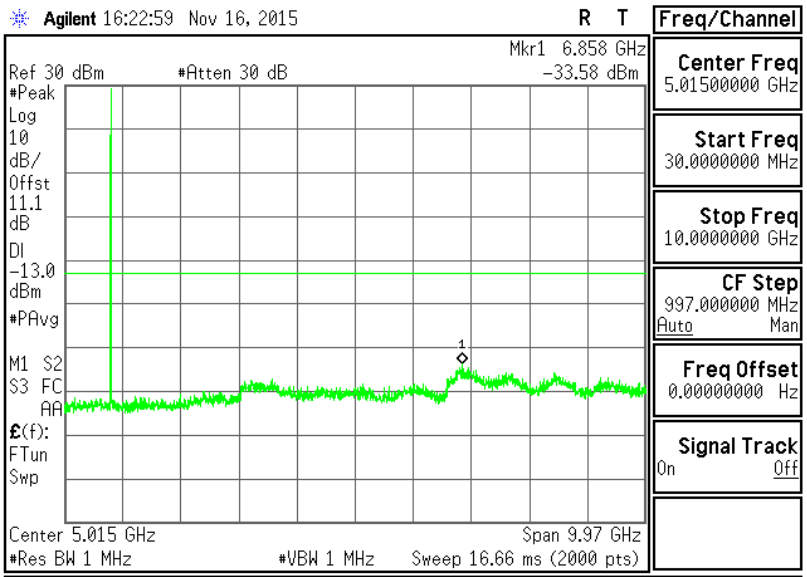
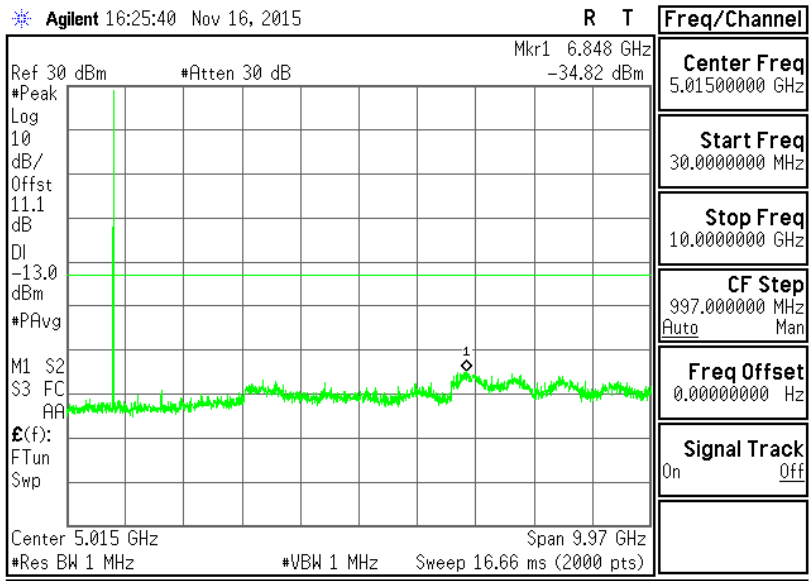
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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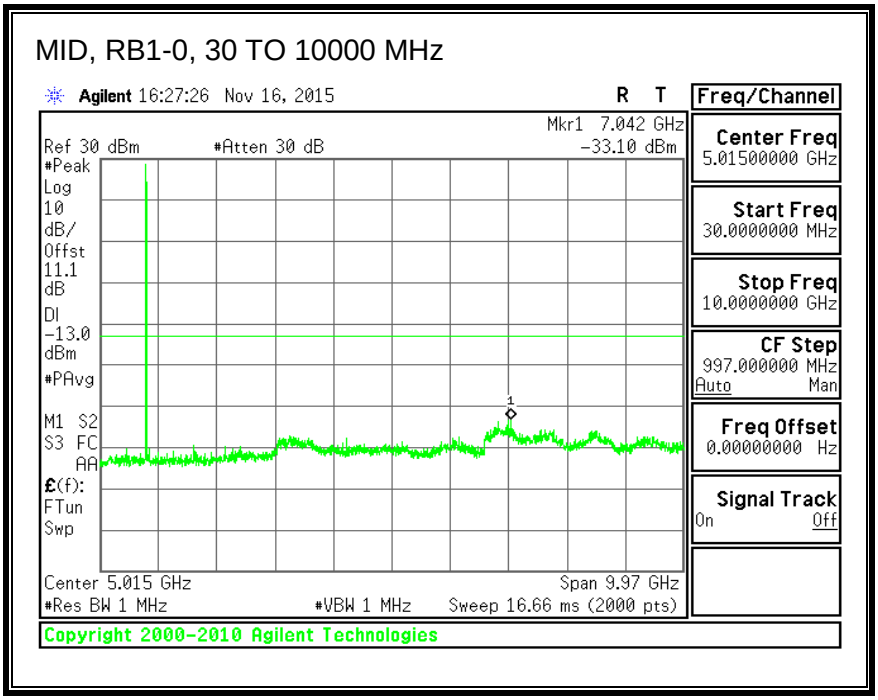
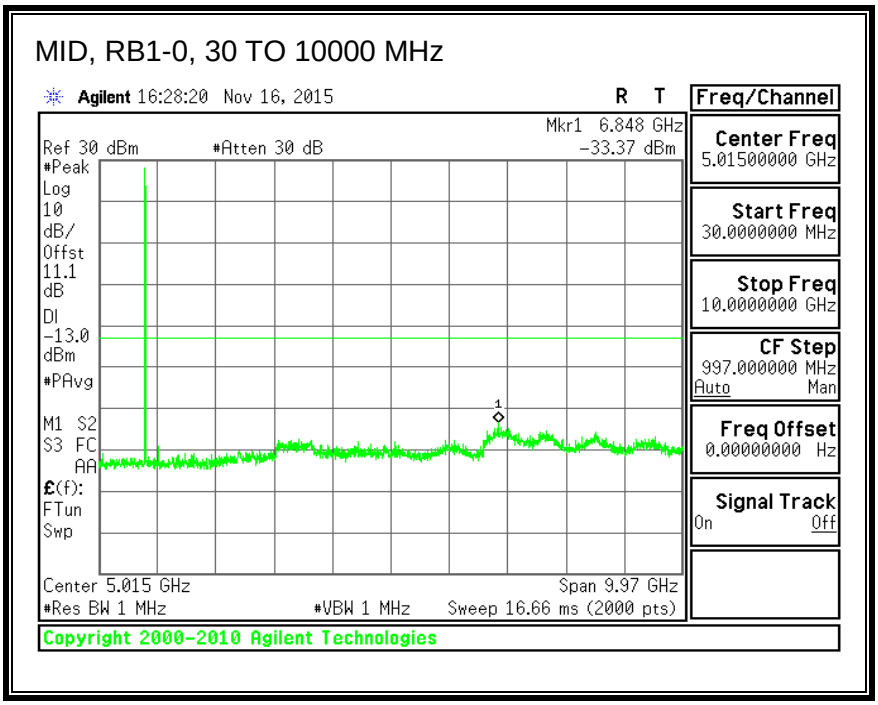
QPSK, (10.0 MHz BAND WIDTH)



16QAM, (10.0 MHz BAND WIDTH)



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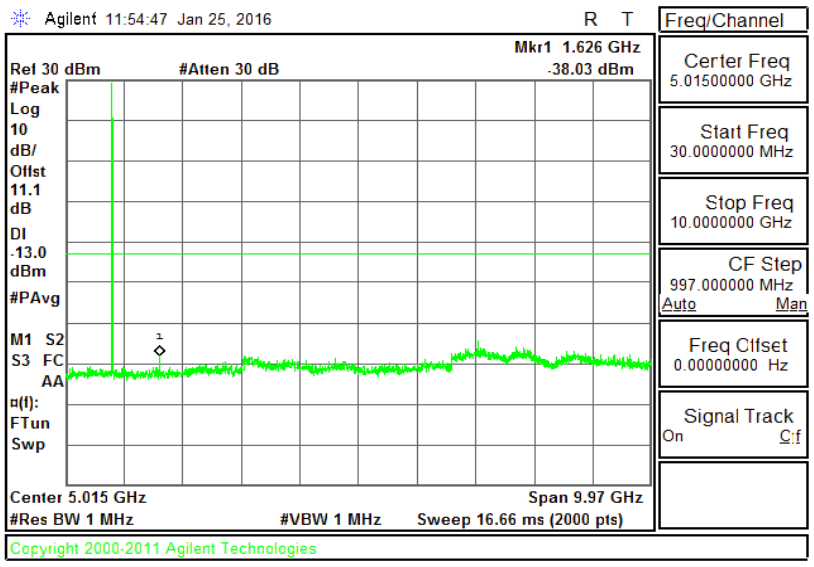
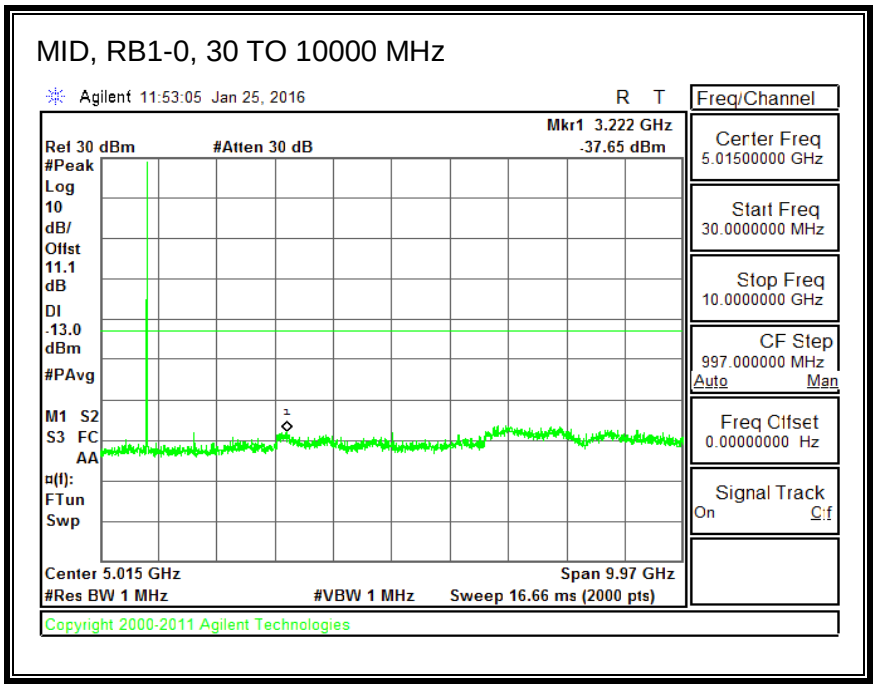
8.3.10. LTE BAND 27

QPSK, (1.4 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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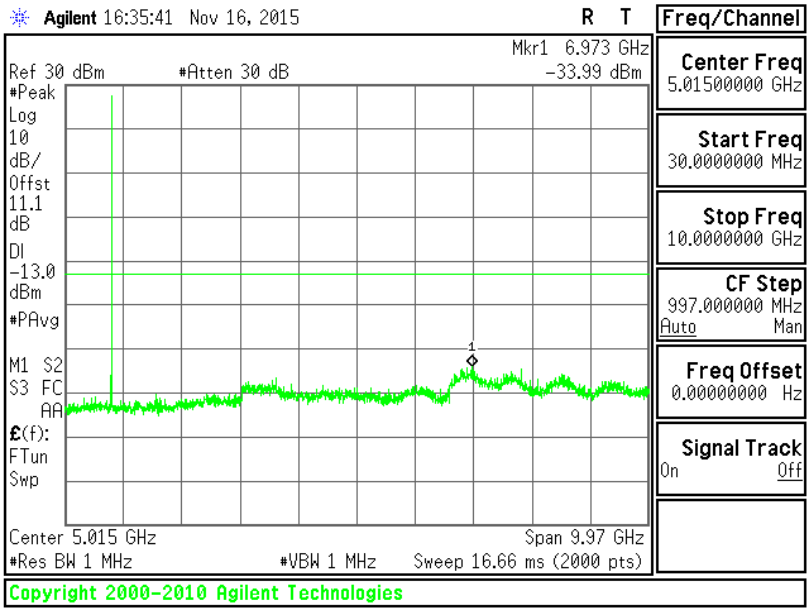
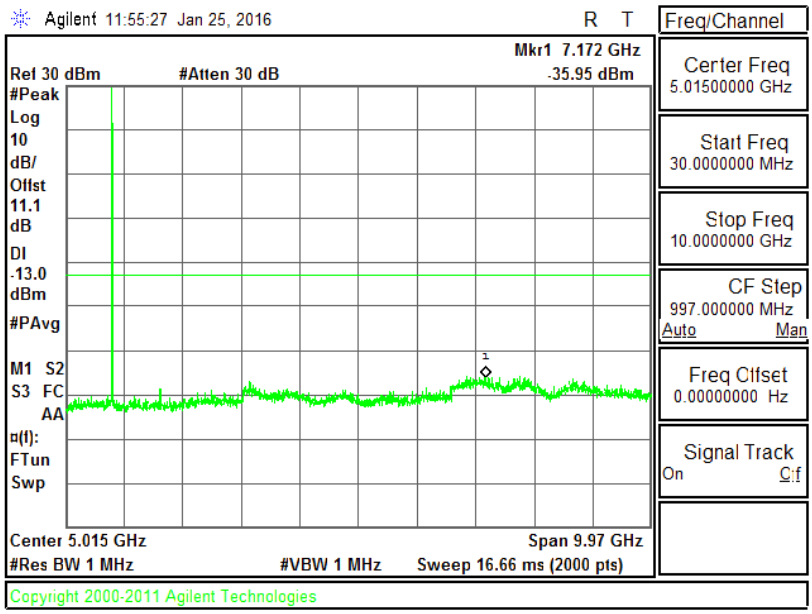
HIGH, RB1-0, 30 TO 10000 MHz



16QAM, (1.4 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



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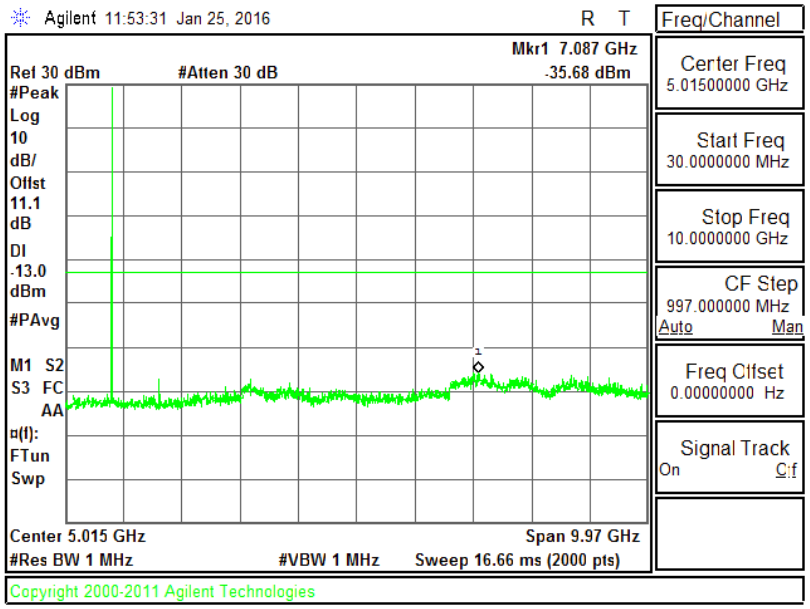
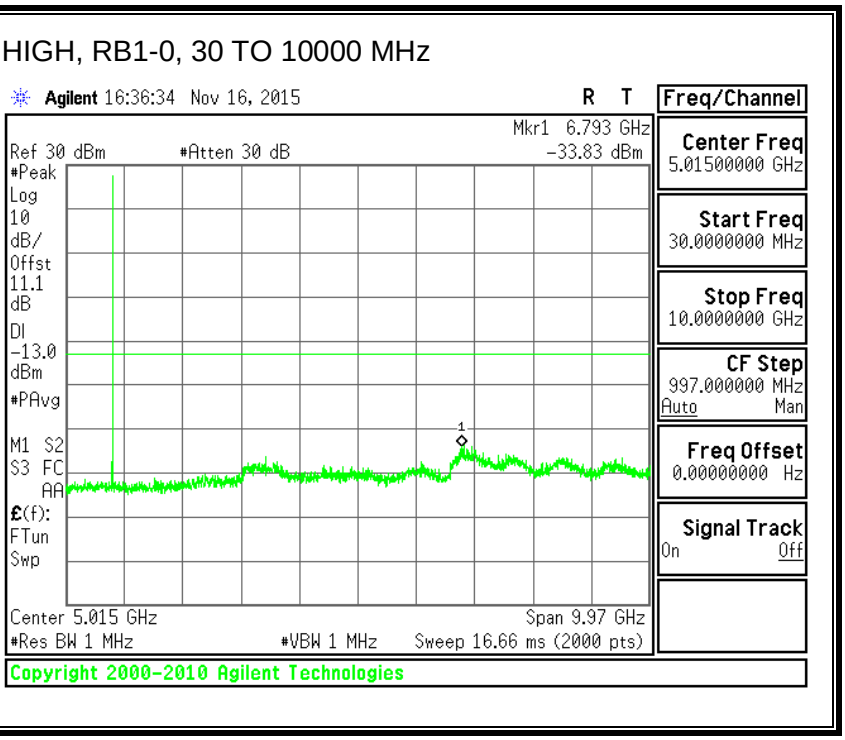
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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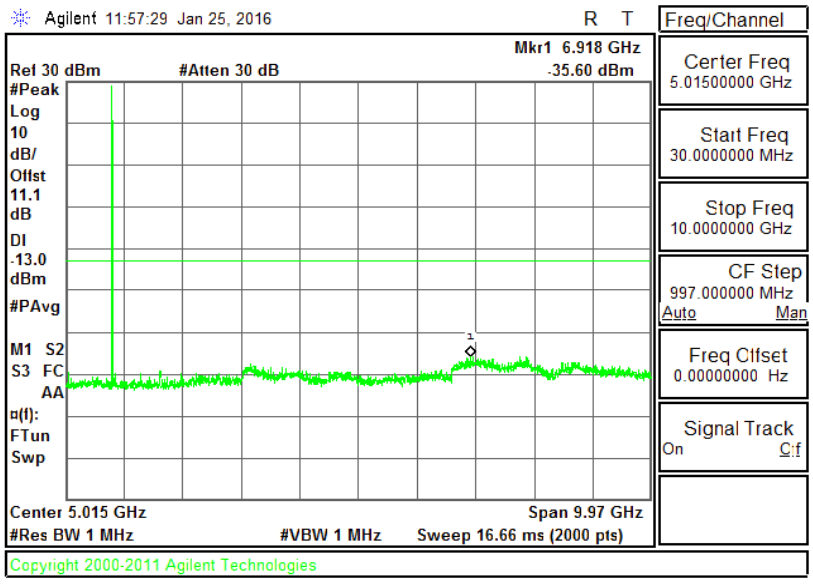
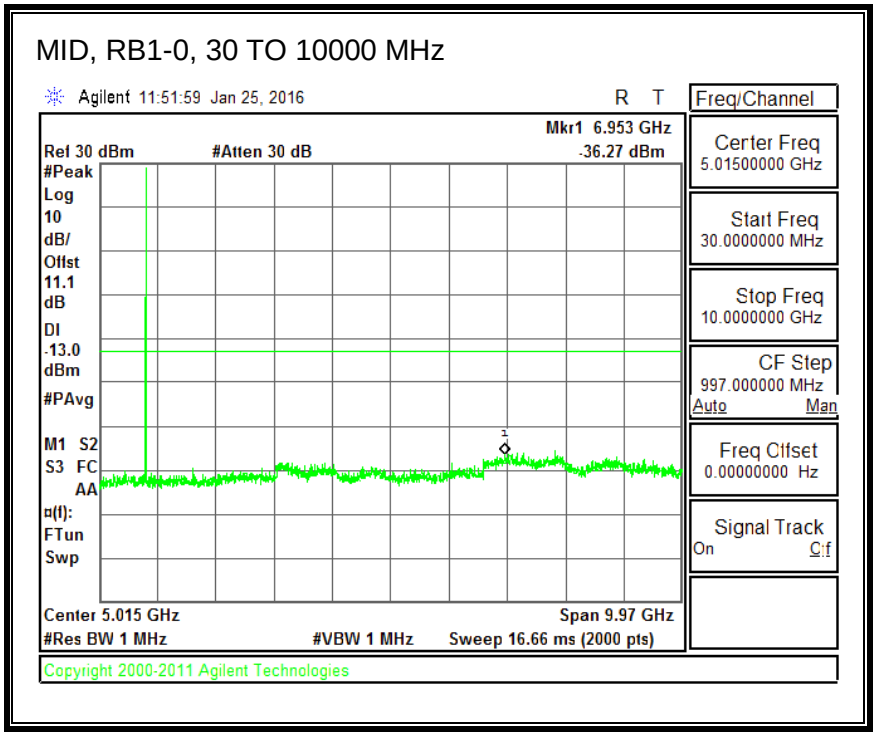
QPSK, (3.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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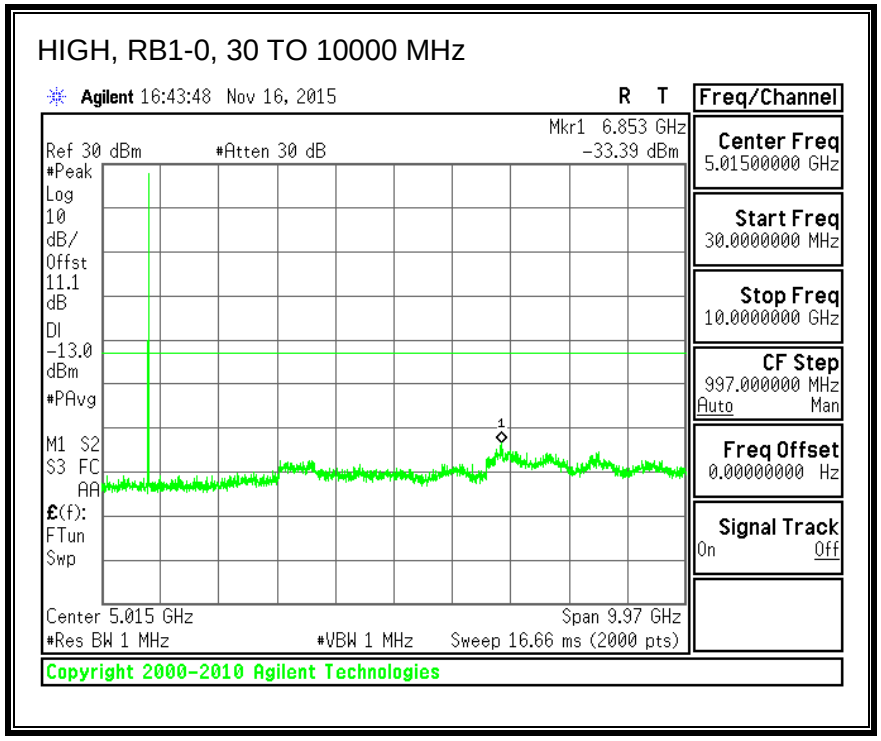
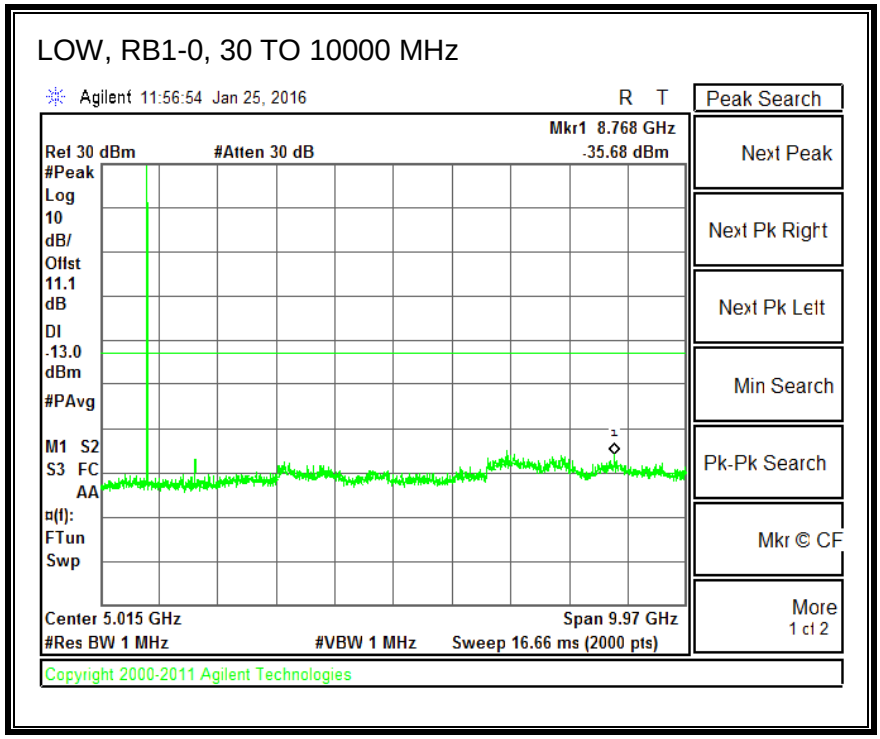


16QAM, (3.0 MHz BAND WIDTH)



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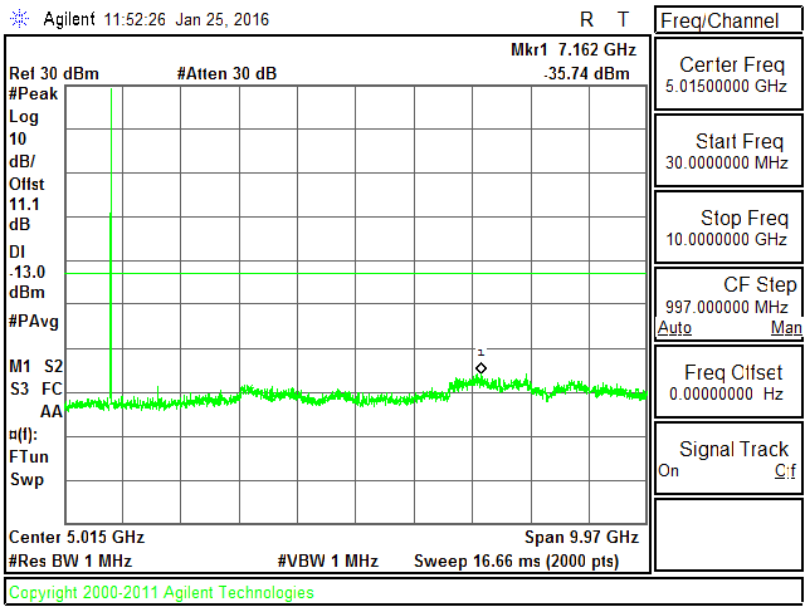
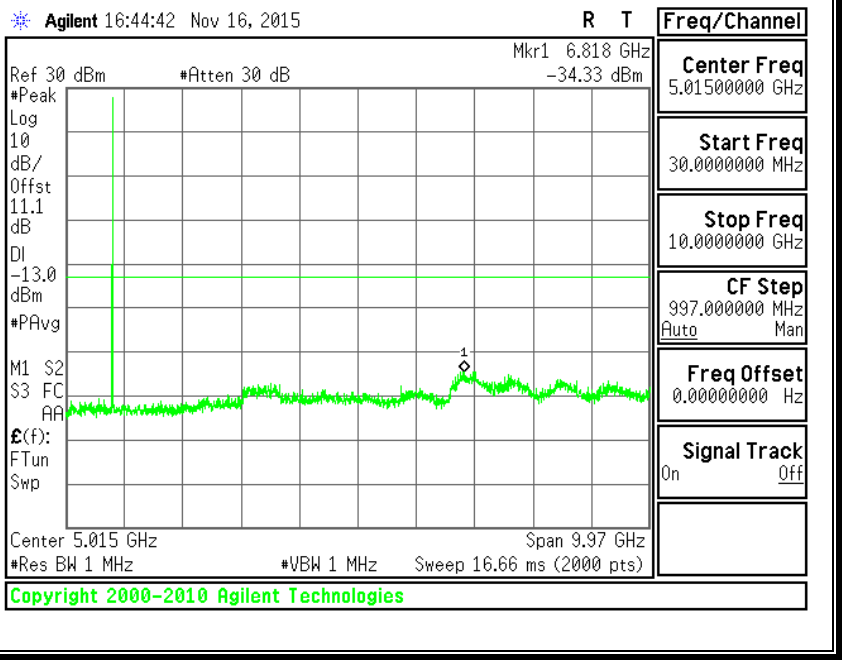
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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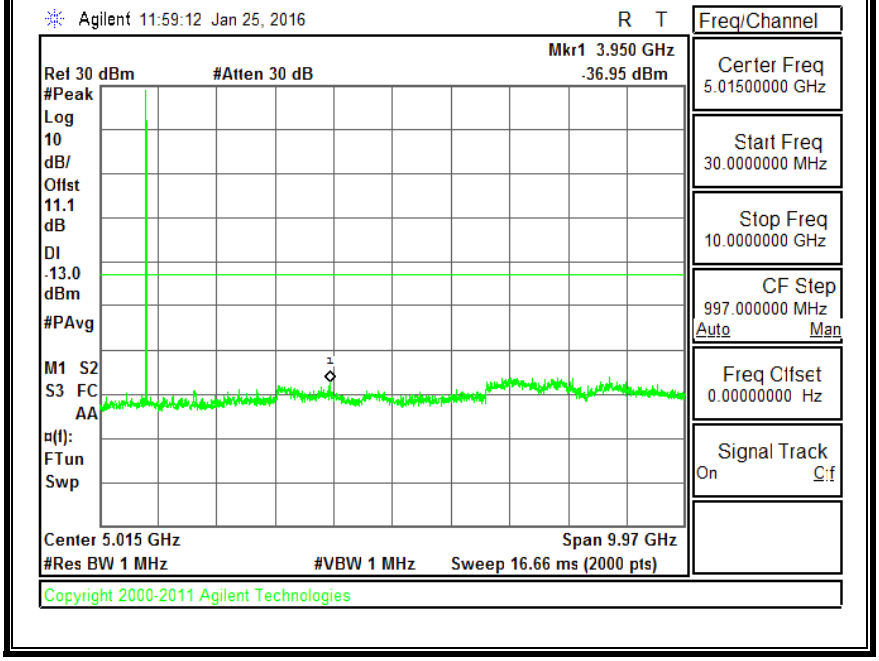
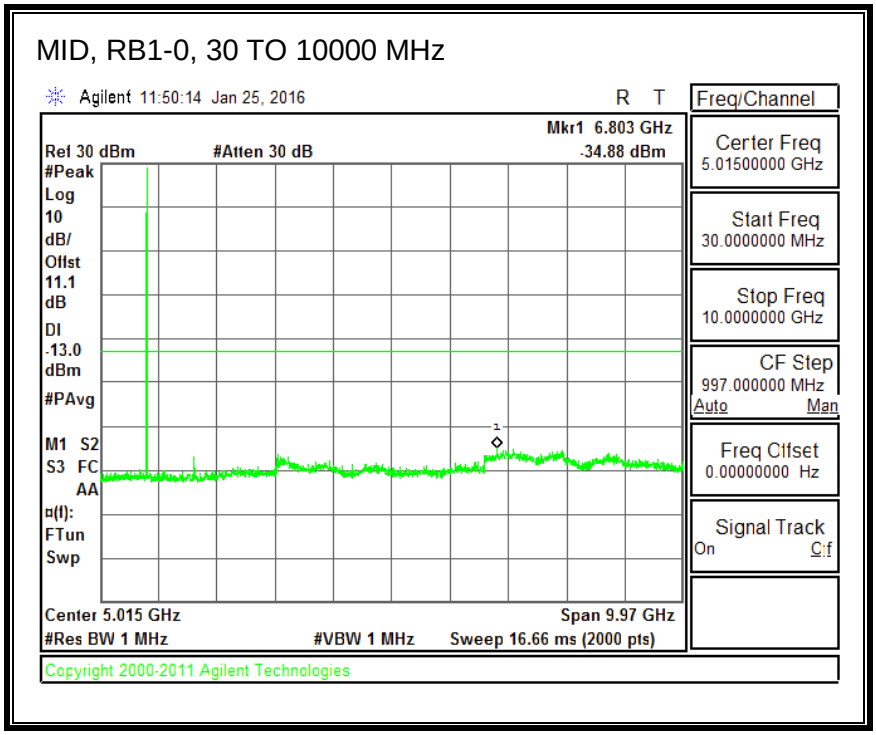
QPSK, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 10000 MHz



MID, RB1-0, 30 TO 10000 MHz



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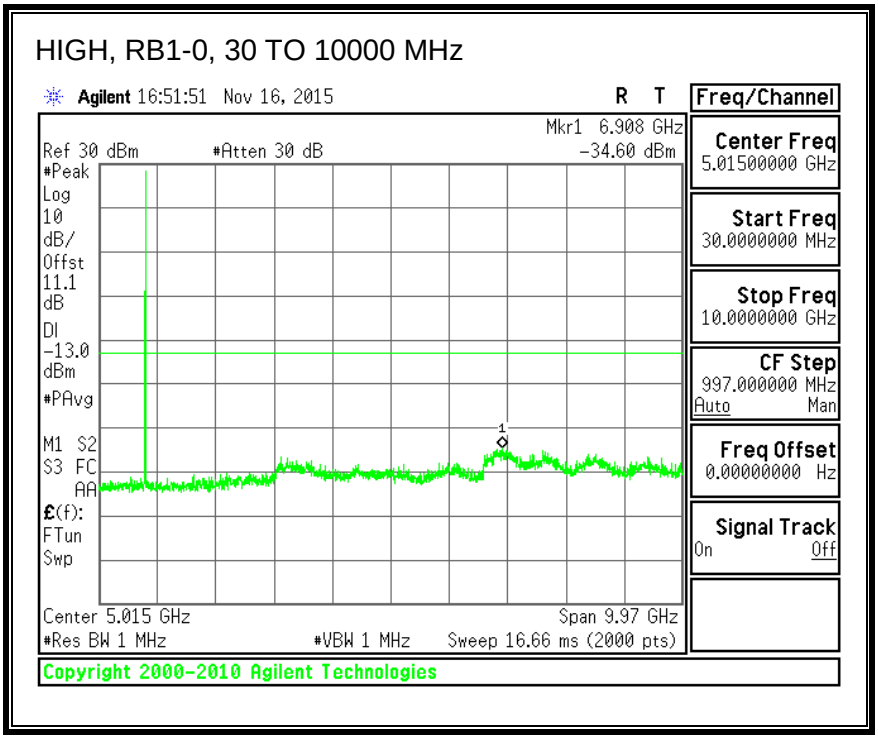
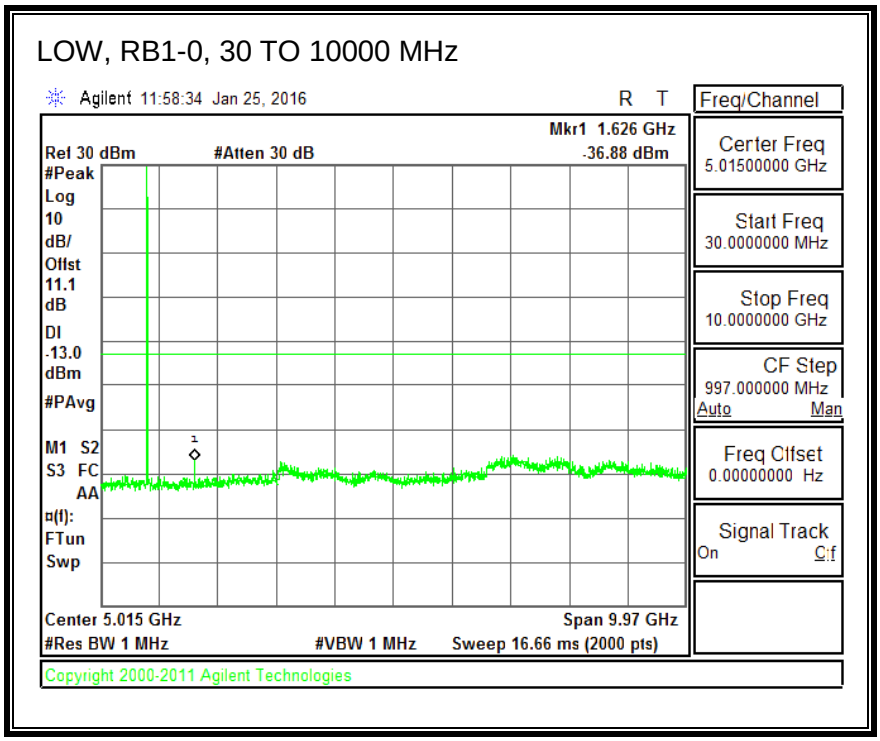


16QAM, (5.0 MHz BAND WIDTH)



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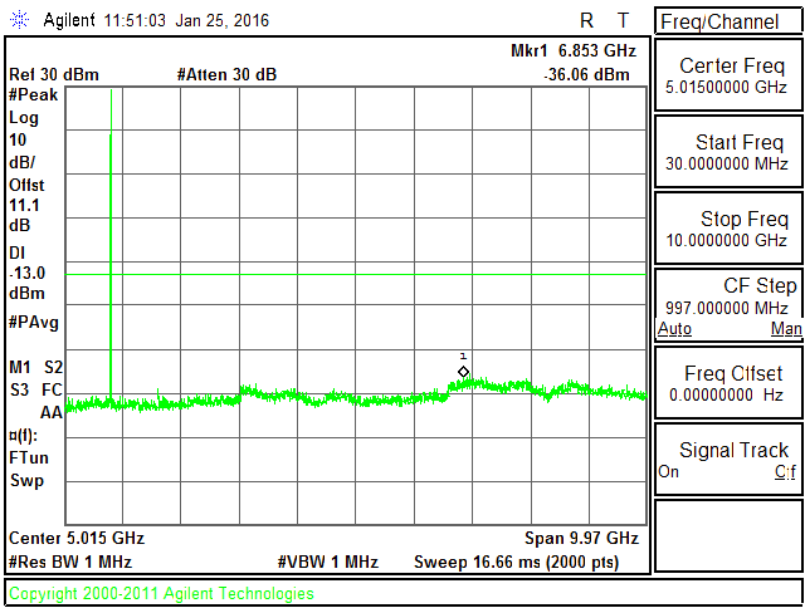
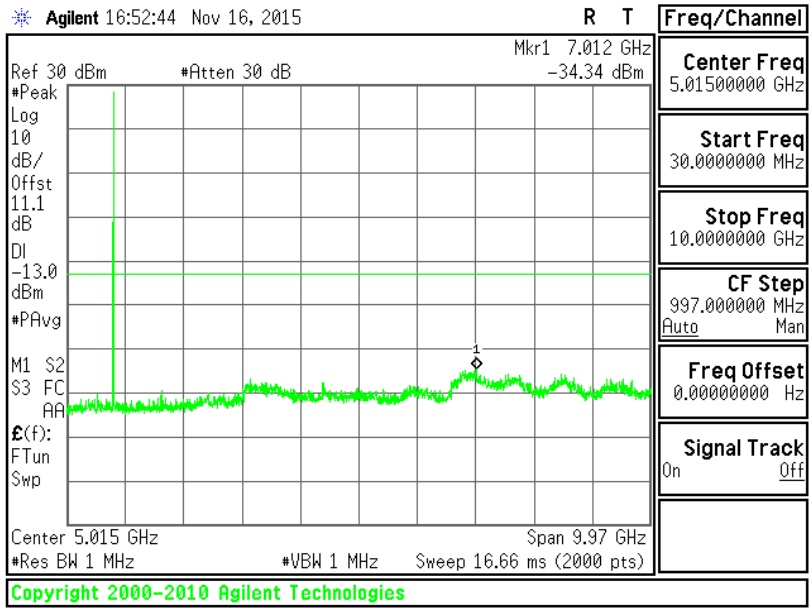
MID, RB1-0, 30 TO 10000 MHz



HIGH, RB1-0, 30 TO 10000 MHz



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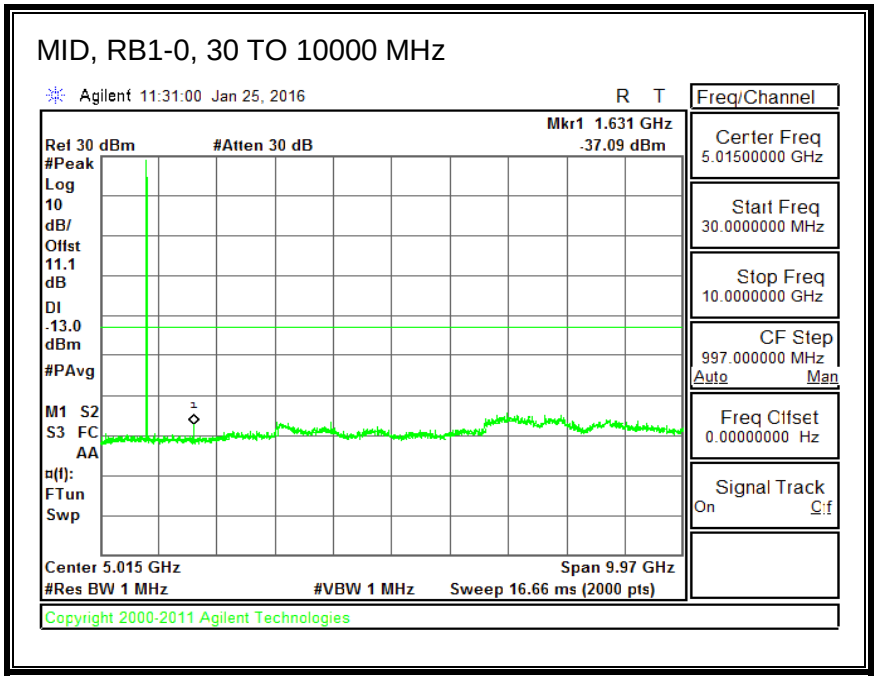
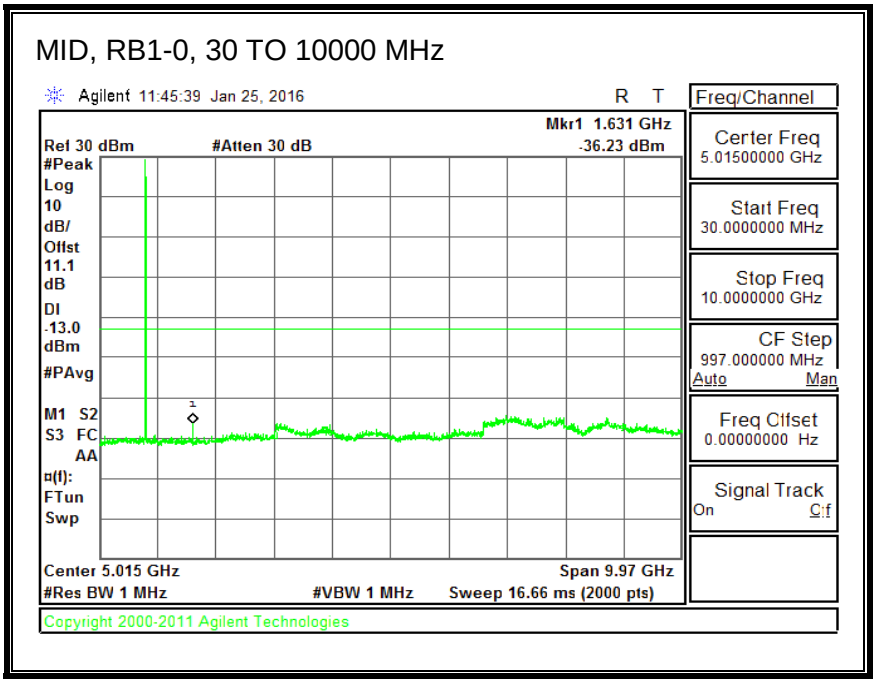
QPSK, (10.0 MHz BAND WIDTH)



16QAM, (10.0 MHz BAND WIDTH)



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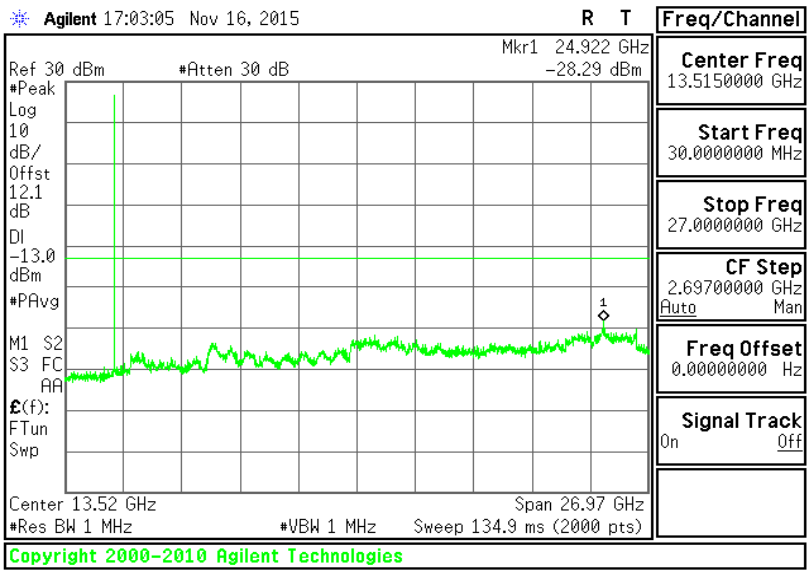
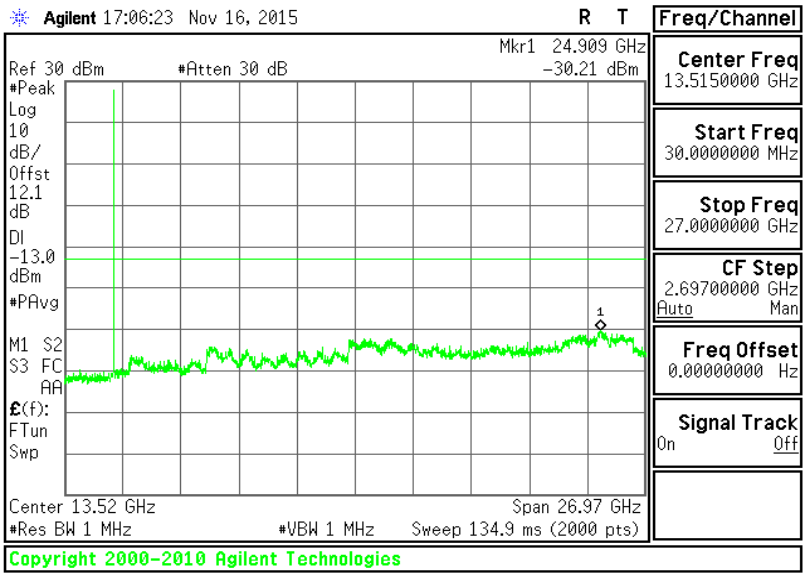
8.3.11. LTE BAND 30

QPSK, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 24000 MHz



MID, RB1-0, 30 TO 24000 MHz



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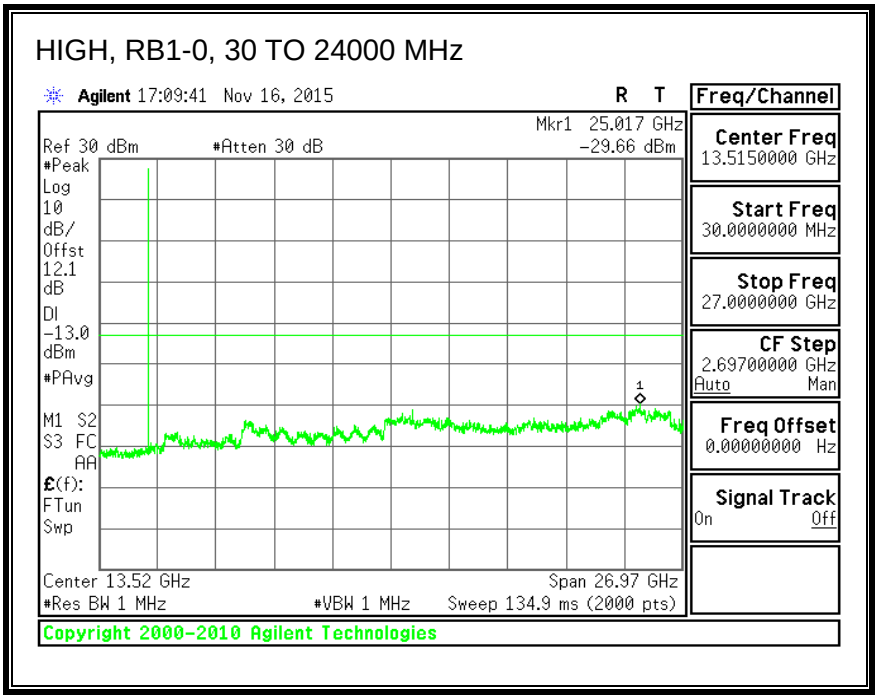
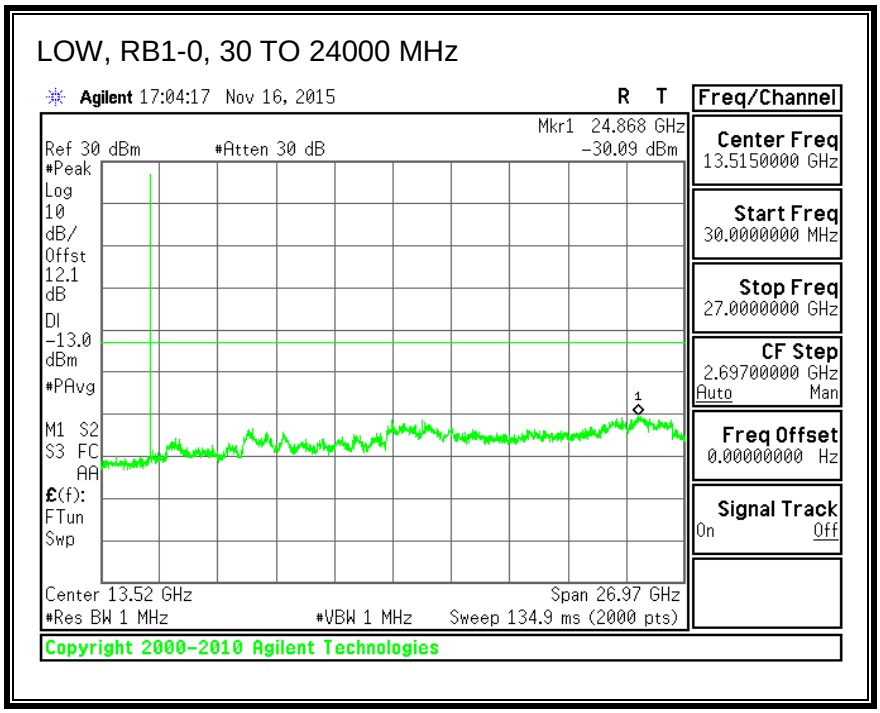
HIGH, RB1-0, 30 TO 24000 MHz



16QAM, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 24000 MHz



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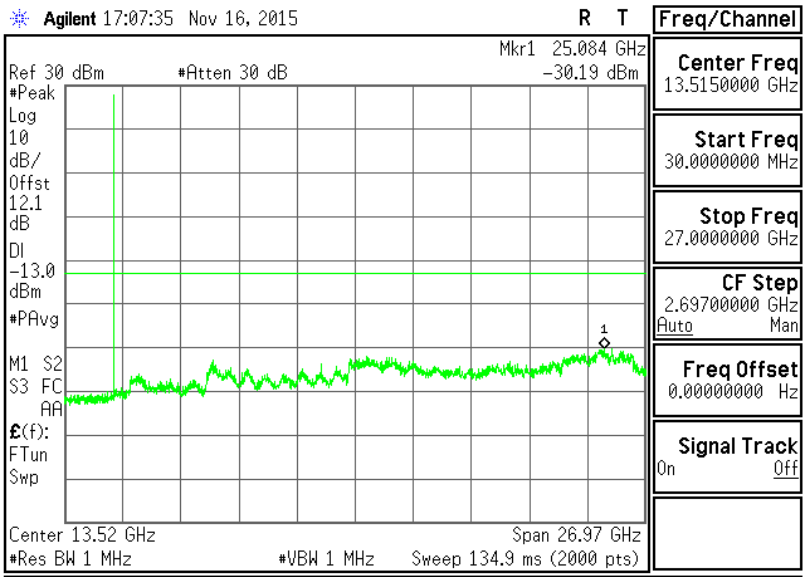
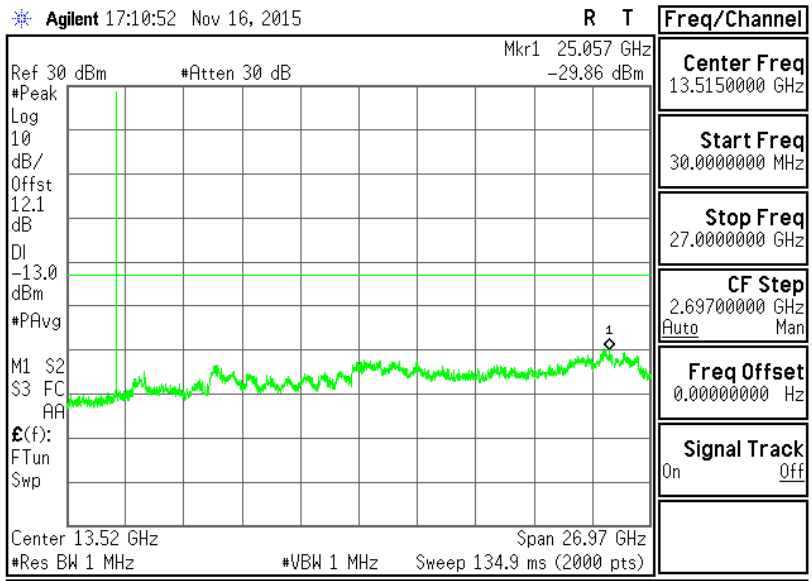
MID, RB1-0, 30 TO 24000 MHz



HIGH, RB1-0, 30 TO 24000 MHz



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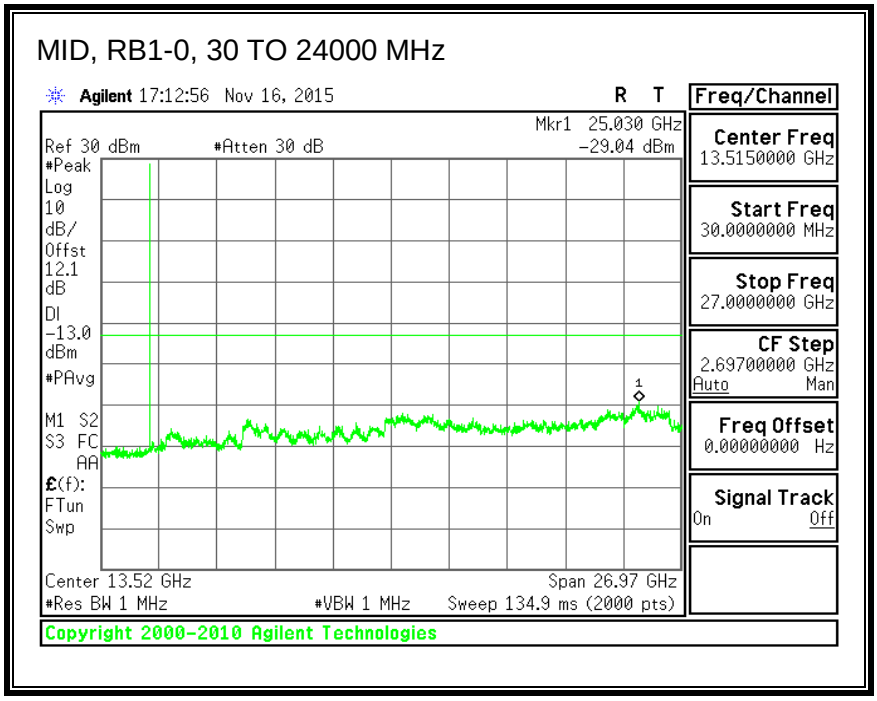
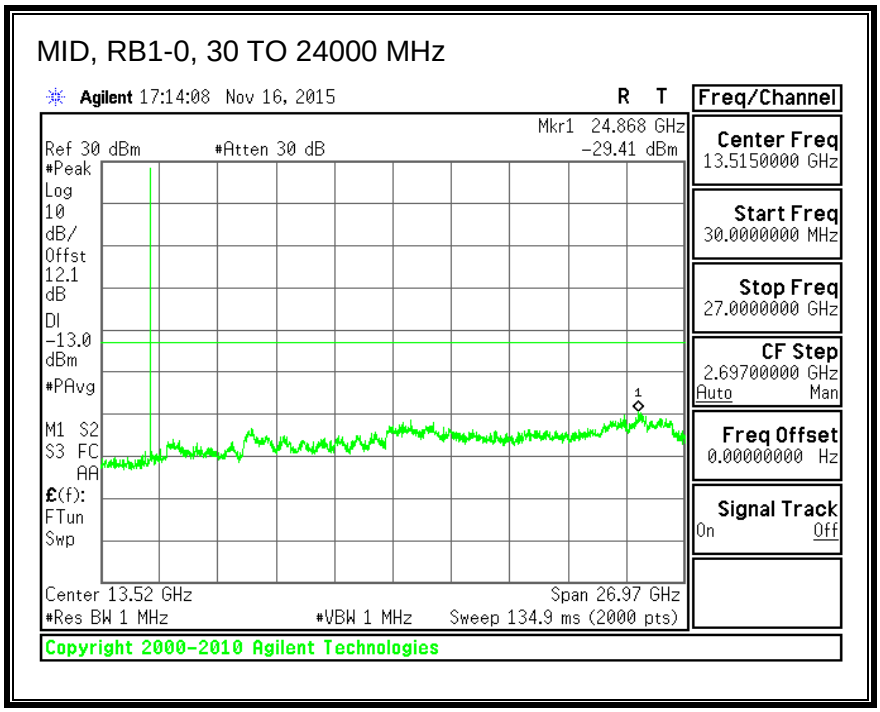
QPSK, (10.0 MHz BAND WIDTH)



16QAM, (10.0 MHz BAND WIDTH)



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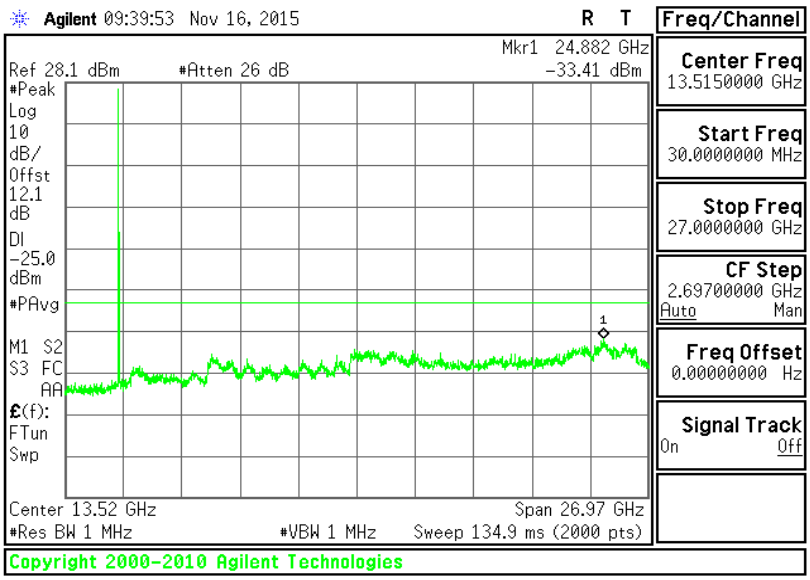
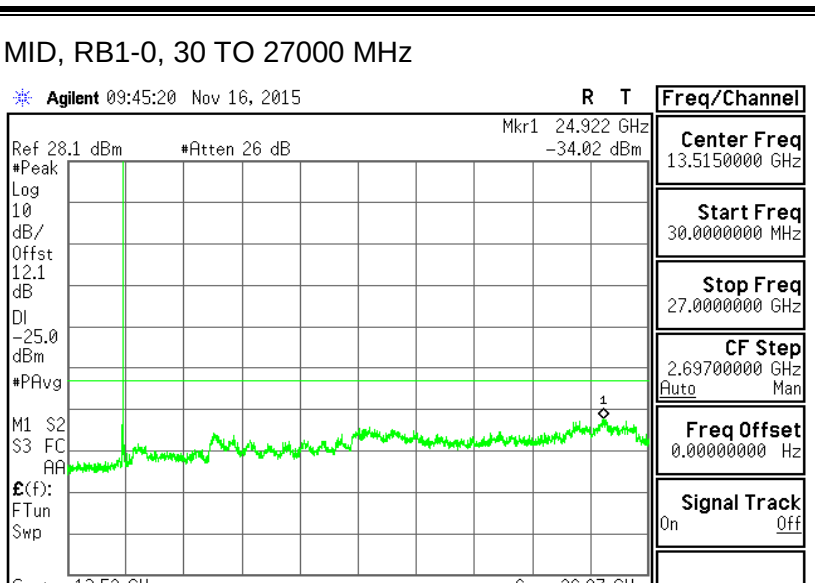
8.3.12. LTE BAND 41

QPSK, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz



MID, RB1-0, 30 TO 27000 MHz



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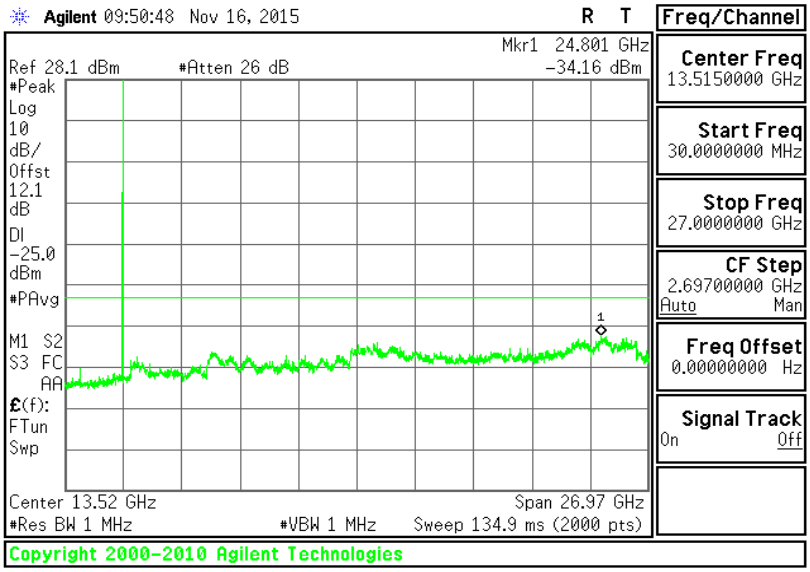
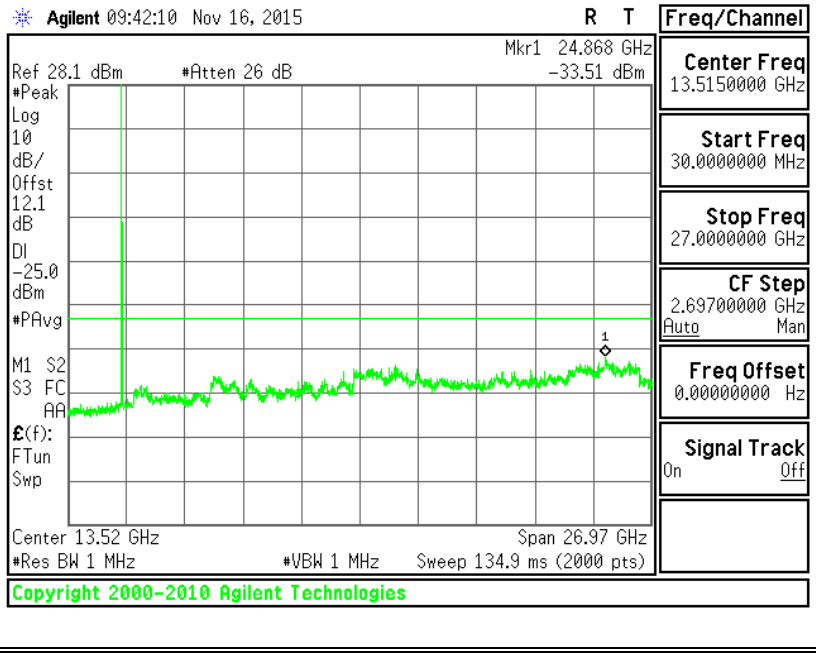
HIGH, RB1-0, 30 TO 27000 MHz



16QAM, (5.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz



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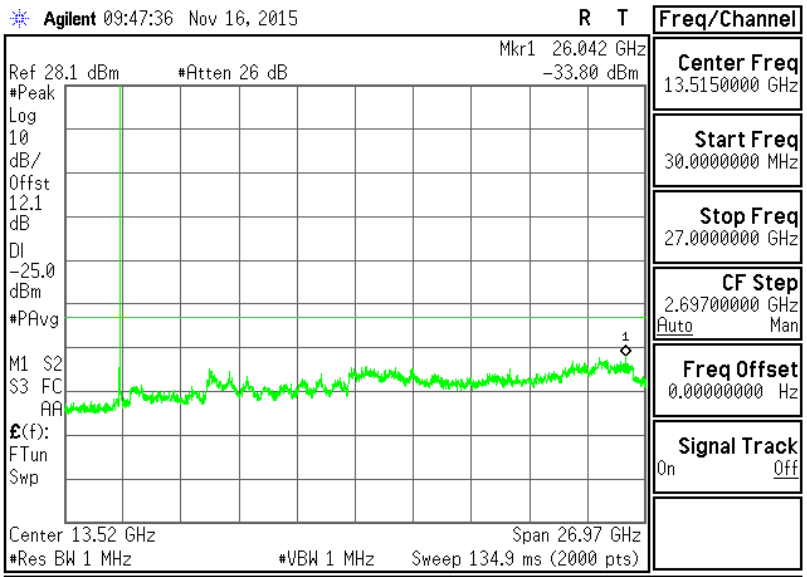
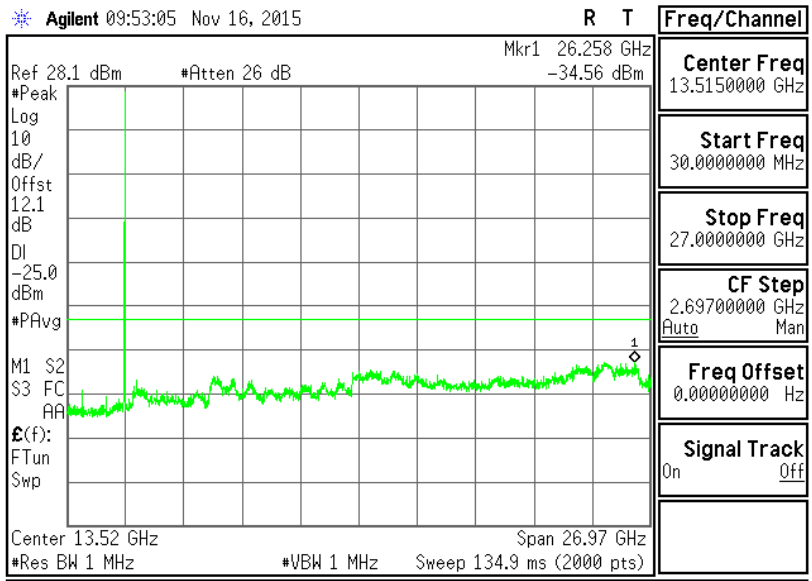
MID, RB1-0, 30 TO 27000 MHz



HIGH, RB1-0, 30 TO 27000 MHz



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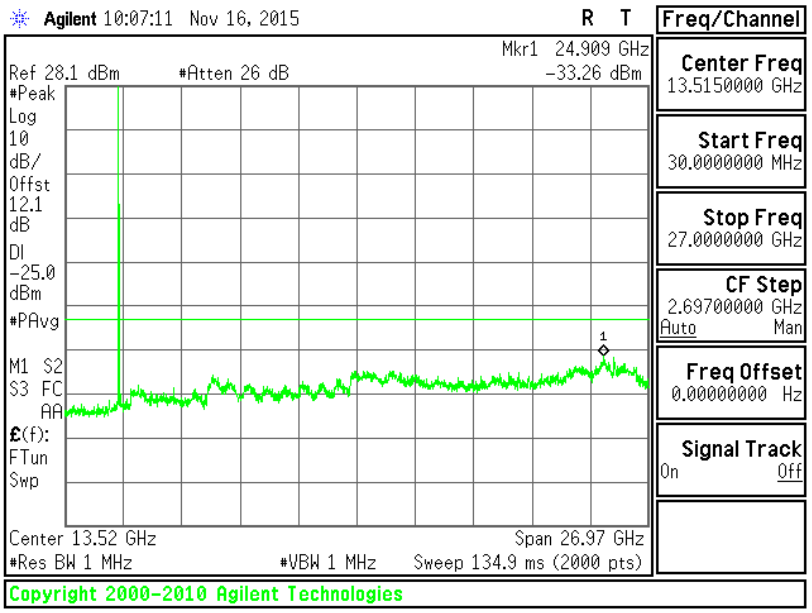
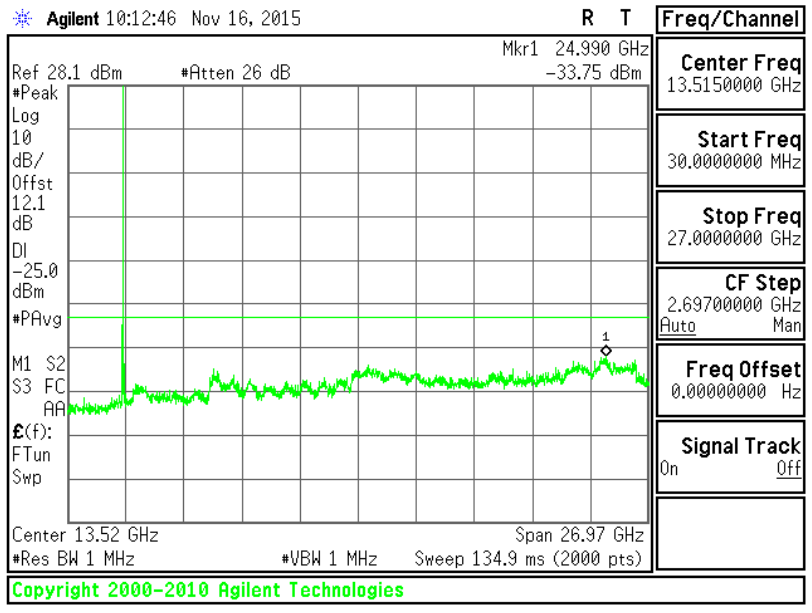
QPSK, (10.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz



MID, RB1-0, 30 TO 27000 MHz



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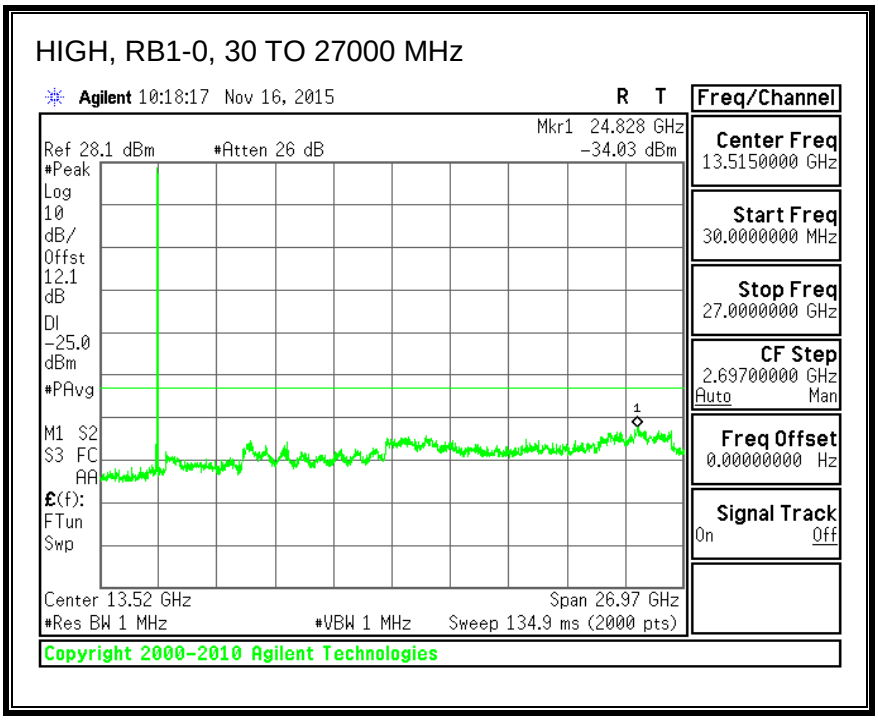
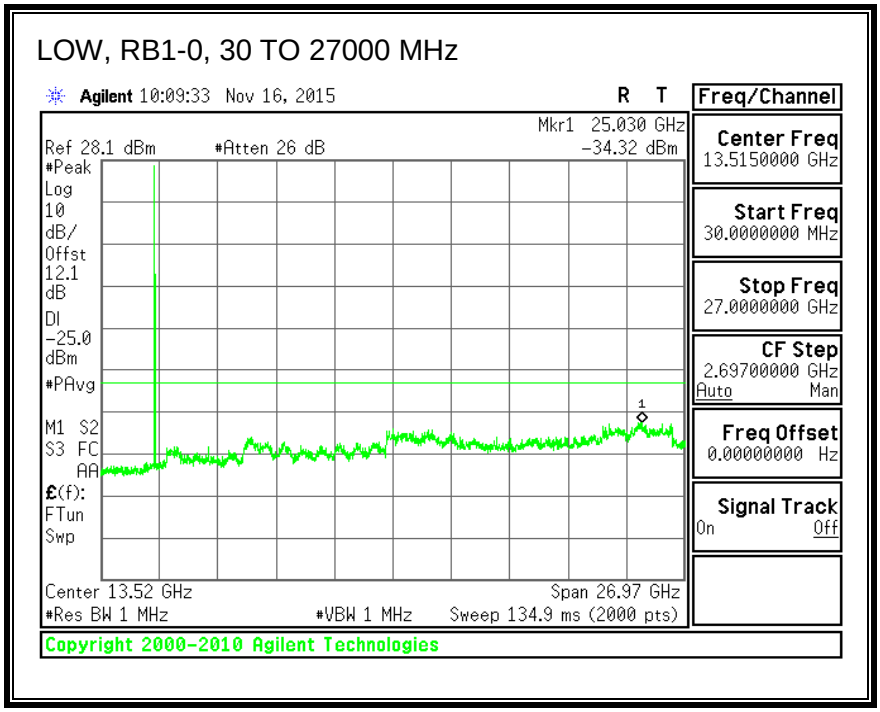


16QAM, (10.0 MHz BAND WIDTH)



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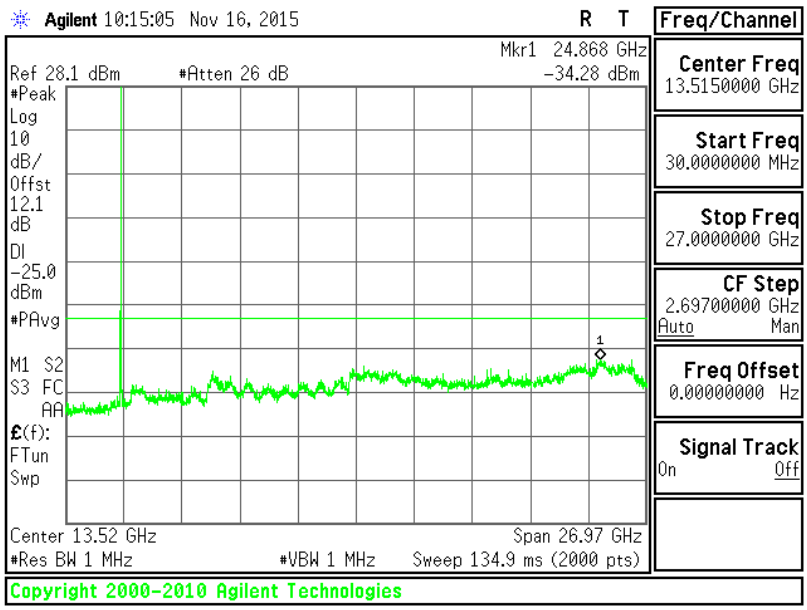
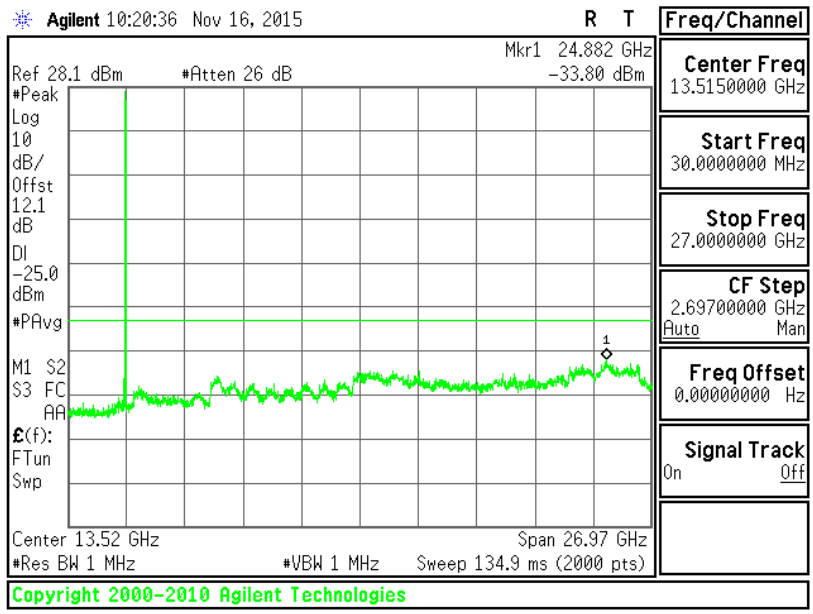
MID, RB1-0, 30 TO 27000 MHz



HIGH, RB1-0, 30 TO 27000 MHz



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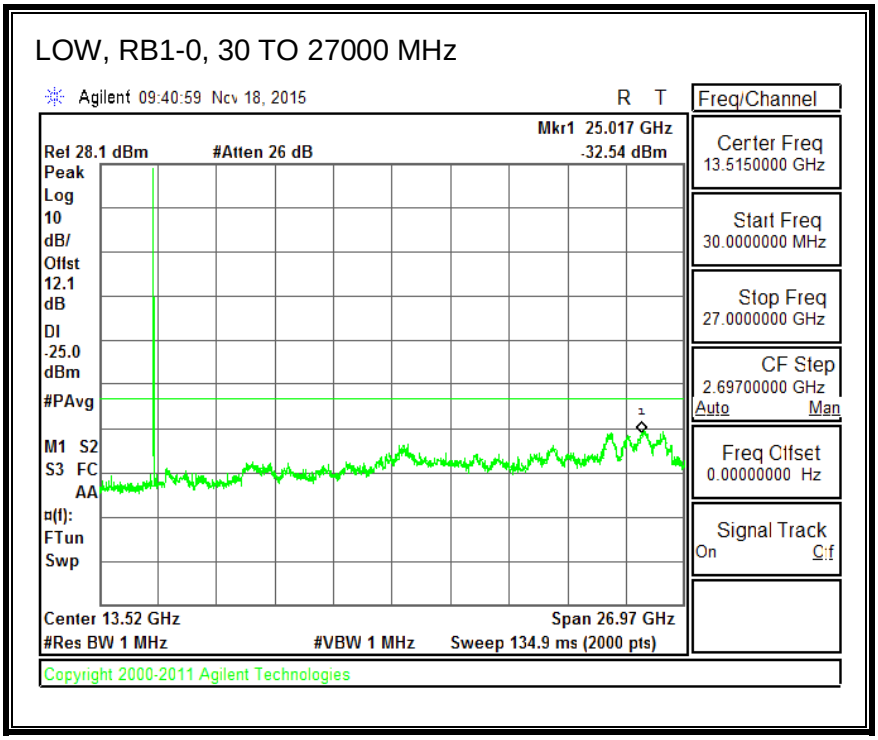
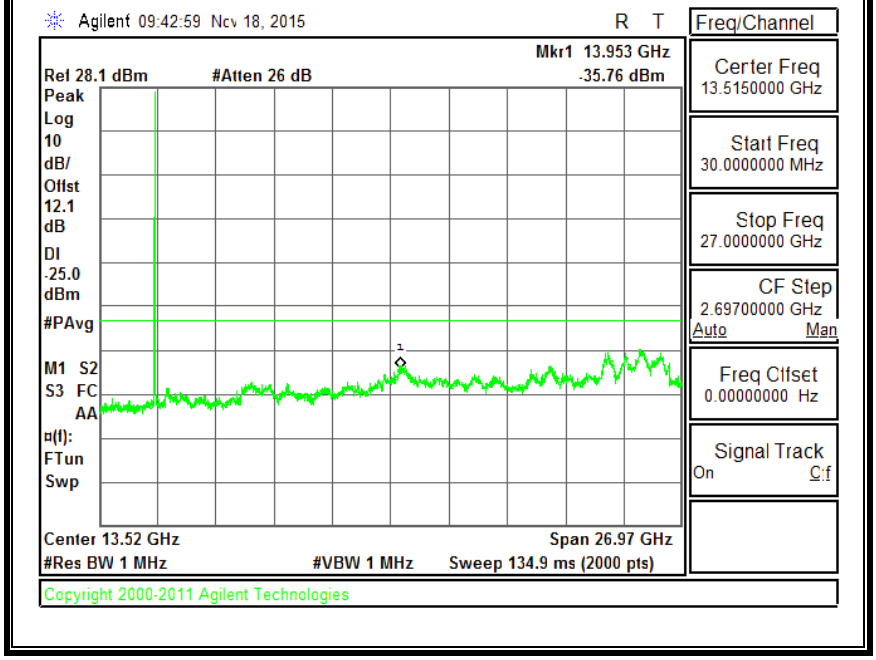
QPSK, (15.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz



MID, RB1-0, 30 TO 27000 MHz



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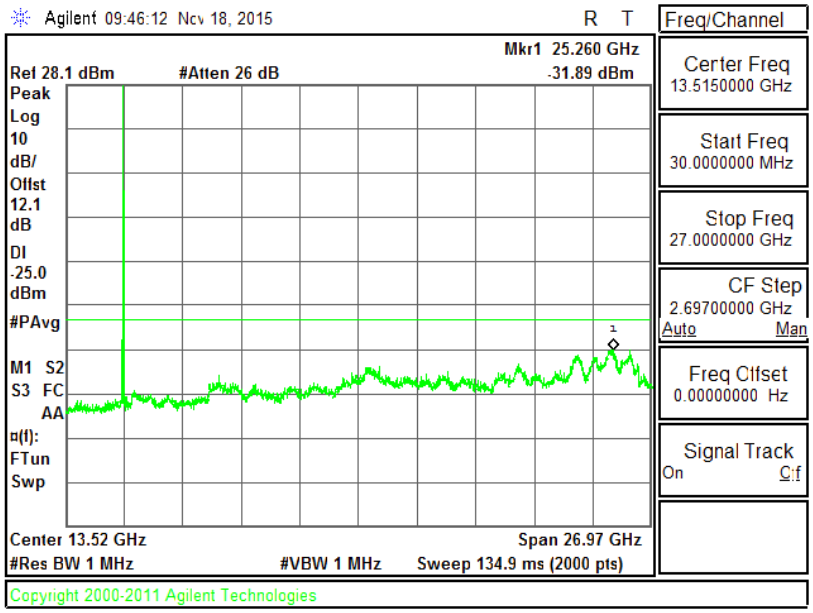
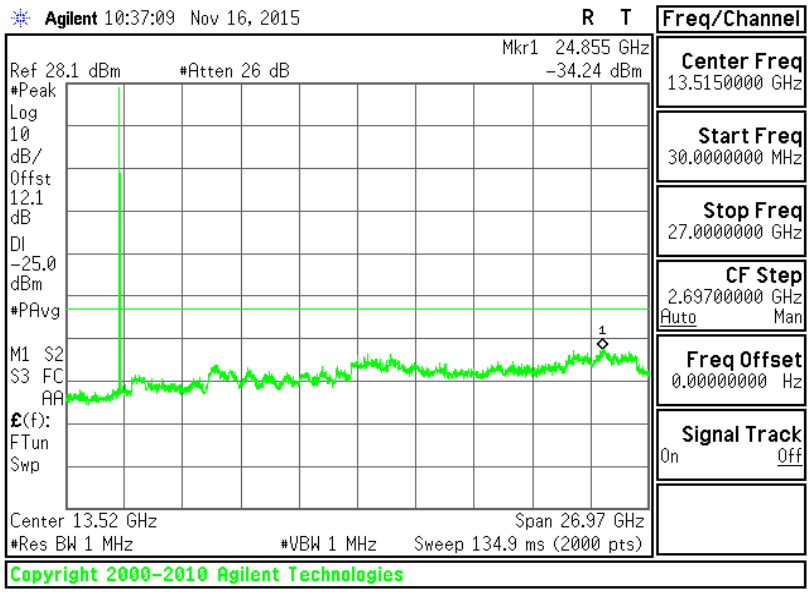
HIGH, RB1-0, 30 TO 27000 MHz



16QAM, (15.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz



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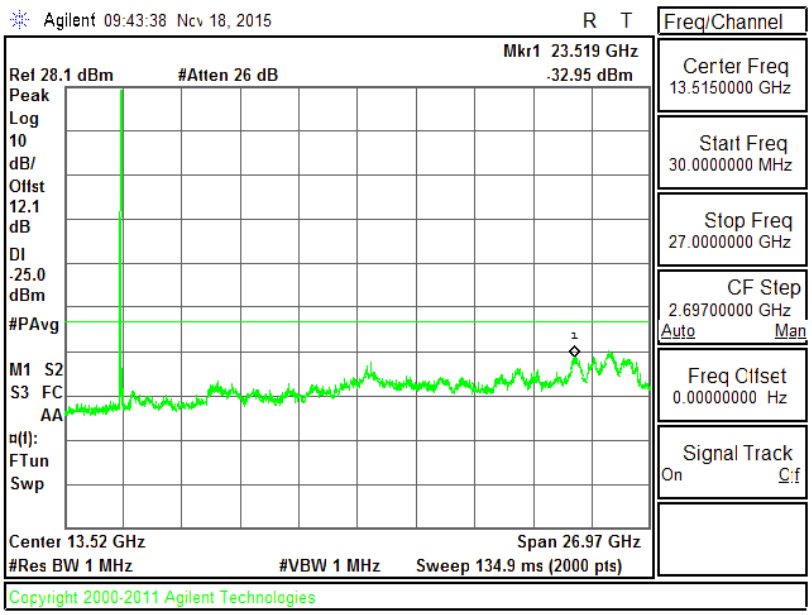
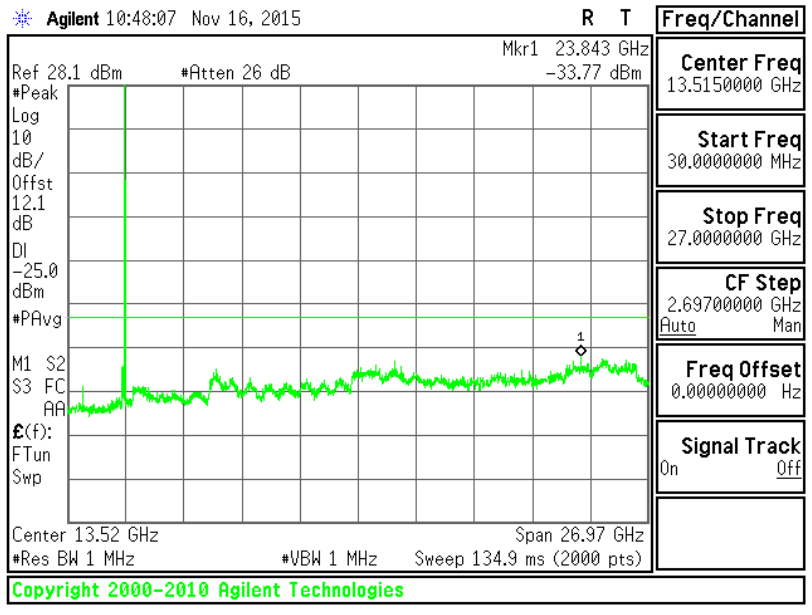
MID, RB1-0, 30 TO 27000 MHz



HIGH, RB1-0, 30 TO 27000 MHz



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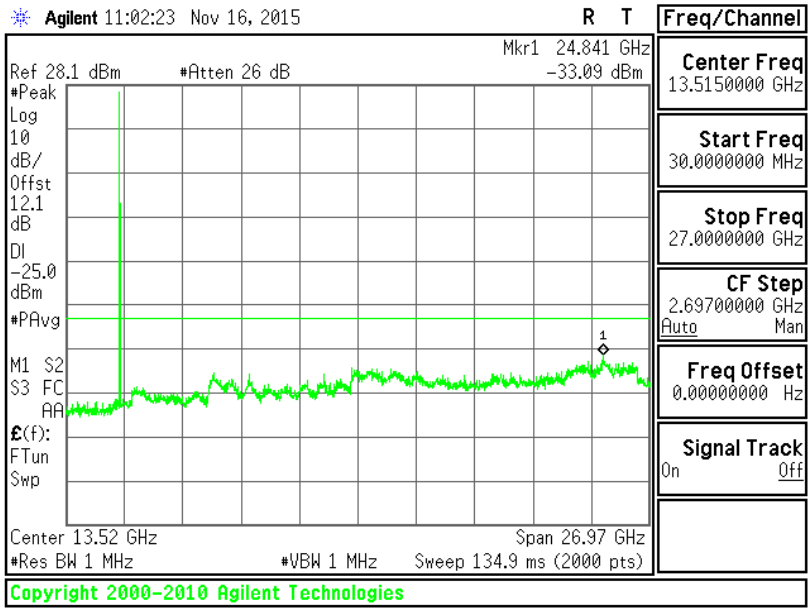
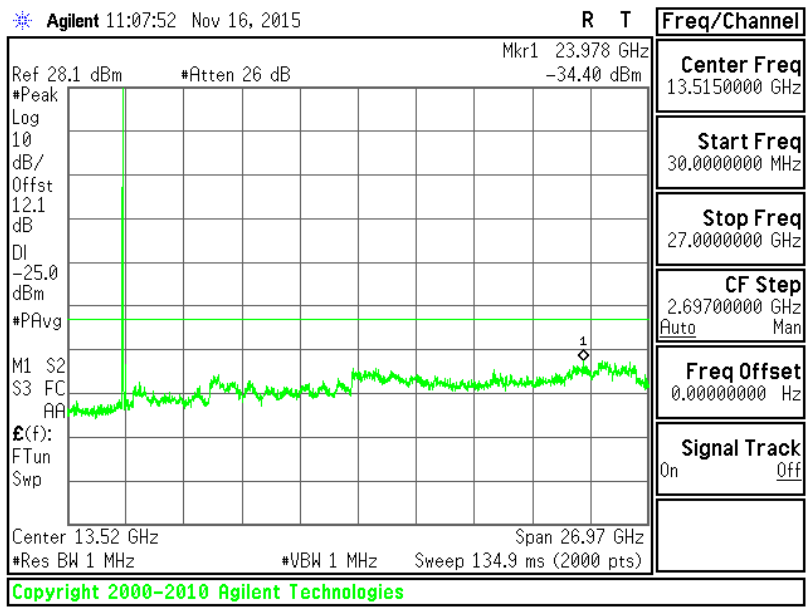
QPSK, (20.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz



MID, RB1-0, 30 TO 27000 MHz



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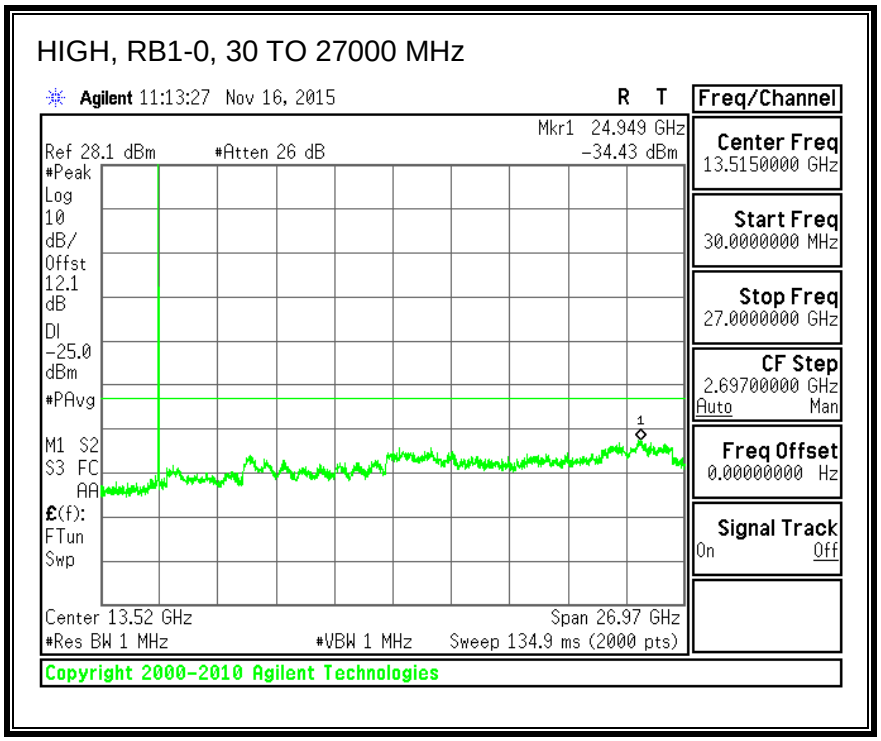
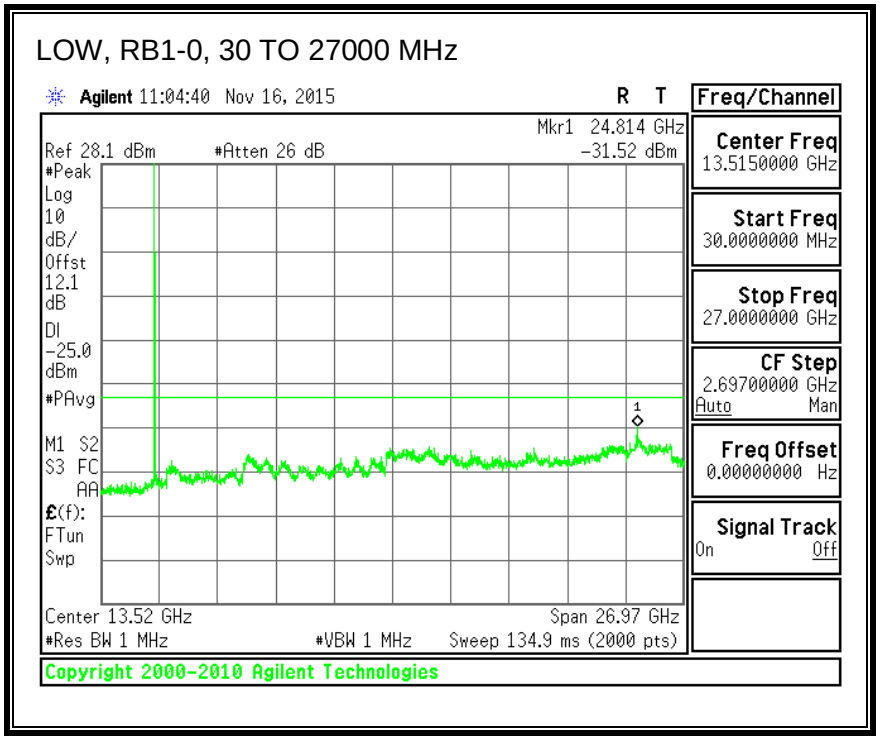


16QAM, (20.0 MHz BAND WIDTH)



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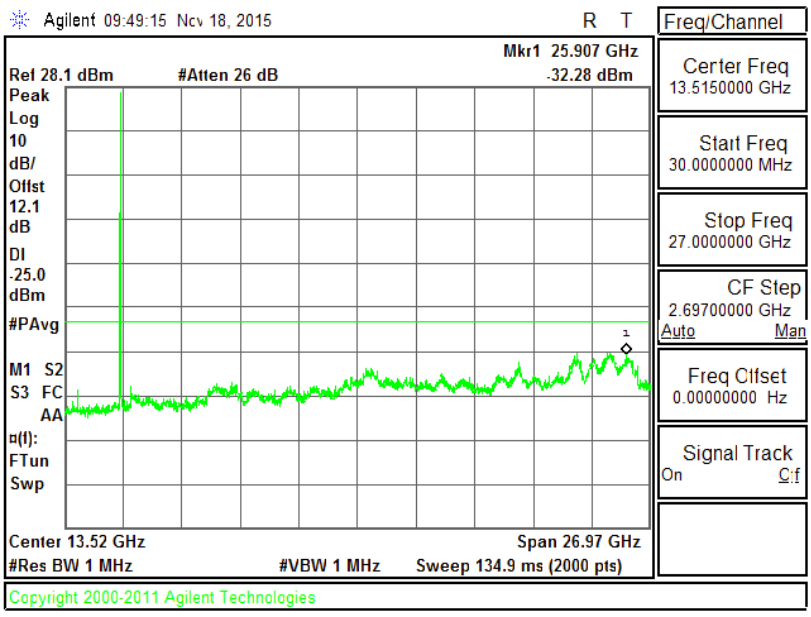
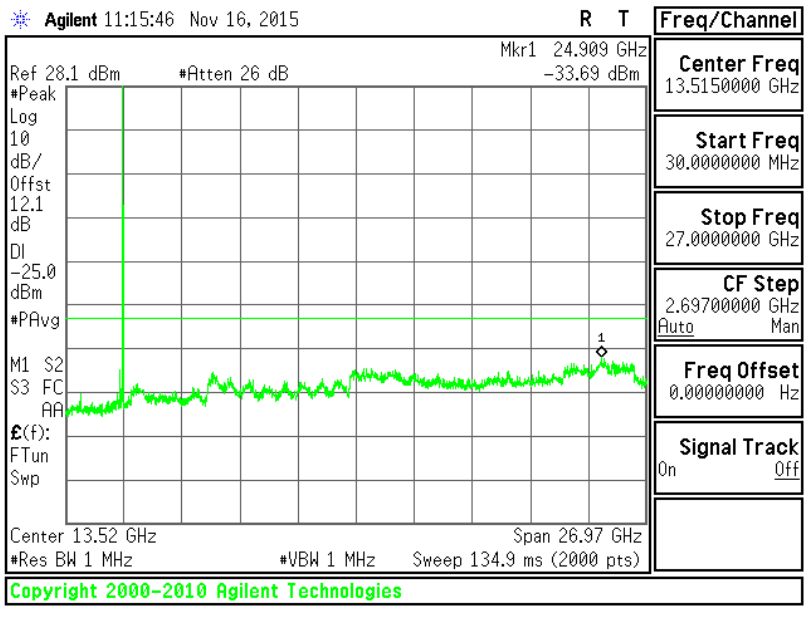
MID, RB1-0, 30 TO 27000 MHz



HIGH, RB1-0, 30 TO 27000 MHz



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9. FREQUENCY STABILITY

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

LIMITS

§22.355 & RSS-132 5.3
The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

RSS-133 6.3 - 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.

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.

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9.1. LTE BAND 2

QPSK, (20MHz BANDWIDTH

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)		1851.0138	1908.9853		
Extreme (50C)		1851.0138	1908.9853	-4.4	-0.002
Extreme (40C)		1851.0138	1908.9853	-3.9	-0.002
Extreme (30C)		1851.0138	1908.9853	2.1	0.001
Extreme (10C)	Normal	1851.0138	1908.9853	-6.1	-0.003
Extreme (0C)		1851.0138	1908.9853	-5.8	-0.003
Extreme (-10C)		1851.0138	1908.9853	0.0	0.000
Extreme (-20C)		1851.0138	1908.9853	-3.0	-0.002
Extreme (-30C)		1851.0138	1908.9853	-2.1	-0.001
25C	10%	1851.0138	1908.9853	-1.3	-0.001
	-10%	1851.0138	1908.9853	-2.0	-0.001
	End Point	1851.0138	1908.9853	-2.9	-0.002

16QAM, (20MHz BANDWIDTH)

Limit		1850	1910	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)		1851.0139	1908.9827		
Extreme (50C)		1851.0139	1908.9826	-4.0	-0.002
Extreme (40C)		1851.0139	1908.9826	-5.1	-0.003
Extreme (30C)		1851.0139	1908.9827	4.0	0.002
Extreme (10C)	Normal	1851.0139	1908.9826	-3.7	-0.002
Extreme (0C)		1851.0139	1908.9826	-4.3	-0.002
Extreme (-10C)		1851.0139	1908.9826	-3.4	-0.002
Extreme (-20C)		1851.0139	1908.9826	-4.6	-0.002
Extreme (-30C)		1851.0139	1908.9826	-3.0	-0.002
25C	10%	1851.0139	1908.9826	-2.0	-0.001
	-10%	1851.0139	1908.9826	-3.1	-0.002
	End Point	1851.0139	1908.9826	-3.7	-0.002

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9.2. LTE BAND 4

QPSK, (20MHz BANDWIDTH

Limit		1710	1755	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)		1711.0147	1753.9846		
Extreme (50C)		1711.0147	1753.9846	-5.7	-0.003
Extreme (40C)		1711.0147	1753.9846	-5.2	-0.003
Extreme (30C)		1711.0147	1753.9846	-4.1	-0.002
Extreme (10C)	Normal	1711.0147	1753.9846	-3.7	-0.002
Extreme (0C)		1711.0147	1753.9846	-4.3	-0.002
Extreme (-10C)		1711.0147	1753.9846	-3.0	-0.002
Extreme (-20C)		1711.0147	1753.9846	-5.1	-0.003
Extreme (-30C)		1711.0147	1753.9846	-4.3	-0.002
	10%	1711.0147	1753.9846	-6.2	-0.004
25C	-10%	1711.0147	1753.9846	-6.3	-0.004
	End Point	1711.0147	1753.9846	-6.0	-0.003

16QAM, (20MHz BANDWIDTH)

Limit		1710	1755	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)		1711.0131	1753.9835		
Extreme (50C)		1711.0131	1753.9835	-4.7	-0.003
Extreme (40C)		1711.0131	1753.9835	-4.9	-0.003
Extreme (30C)		1711.0131	1753.9835	-2.9	-0.002
Extreme (10C)	Normal	1711.0131	1753.9835	-3.1	-0.002
Extreme (0C)		1711.0131	1753.9835	-2.8	-0.002
Extreme (-10C)		1711.0131	1753.9835	-5.0	-0.003
Extreme (-20C)		1711.0131	1753.9835	-5.1	-0.003
Extreme (-30C)		1711.0131	1753.9835	-4.9	-0.003
	10%	1711.0131	1753.9835	-6.0	-0.003
25C	-10%	1711.0131	1753.9835	-5.2	-0.003
	End Point	1711.0131	1753.9835	-5.3	-0.003

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9.3. LTE BAND 5

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	824.4993	848.4956		
Extreme (50C)		824.4993	848.4956	-1.8	-0.002
Extreme (40C)		824.4993	848.4956	-2.5	-0.003
Extreme (30C)		824.4993	848.4956	-2.1	-0.003
Extreme (10C)		824.4993	848.4956	-2.3	-0.003
Extreme (0C)		824.4993	848.4956	-3.4	-0.004
Extreme (-10C)		824.4993	848.4956	-2.8	-0.003
Extreme (-20C)		824.4993	848.4956	-2.2	-0.003
Extreme (-30C)		824.4993	848.4956	-2.4	-0.003
25C	10%	824.4993	848.4956	-2.2	-0.003
	-10%	824.4993	848.4956	-3.2	-0.004
	End Point	824.4993	848.4956	-0.2	0.000

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	824.5057	848.4956		
Extreme (50C)		824.5056	848.4956	-3.2	-0.004
Extreme (40C)		824.5056	848.4956	-2.9	-0.003
Extreme (30C)		824.5056	848.4956	-3.1	-0.004
Extreme (10C)		824.5057	848.4956	-2.8	-0.003
Extreme (0C)		824.5057	848.4956	-1.1	-0.001
Extreme (-10C)		824.5056	848.4956	-4.7	-0.006
Extreme (-20C)		824.5056	848.4956	-4.3	-0.005
Extreme (-30C)		824.5056	848.4956	-5.1	-0.006
25C	10%	824.5057	848.4956	-1.1	-0.001
	-10%	824.5057	848.4956	-0.1	0.000
	End Point	824.5057	848.4956	-0.8	-0.001

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9.4. LTE BAND 7

QPSK, (20MHz BANDWIDTH)

Limit		2500	2570	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)		2501.0198	2568.9861		
Extreme (50C)		2501.0198	2568.9861	-0.3	0.00
Extreme (40C)		2501.0198	2568.9861	-1.4	0.00
Extreme (30C)		2501.0198	2568.9861	-1.4	0.00
Extreme (10C)	Normal	2501.0198	2568.9861	-1.7	0.00
Extreme (0C)		2501.0198	2568.9861	-2.0	0.00
Extreme (-10C)		2501.0198	2568.9861	-1.5	0.00
Extreme (-20C)		2501.0198	2568.9861	-1.2	0.00
Extreme (-30C)		2501.0198	2568.9861	-1.0	0.00
25C	10%	2501.0198	2568.9861	-3.3	0.00
	-10%	2501.0198	2568.9861	-4.0	0.00
	End Point	2501.0198	2568.9861	-3.8	0.00

16QAM, (20MHz BANDWIDTH)

Limit		2500	2570	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)		2501.0197	2568.9779		
Extreme (50C)		2501.0197	2568.9779	-1.9	0.00
Extreme (40C)		2501.0197	2568.9779	-2.1	0.00
Extreme (30C)		2501.0197	2568.9779	-1.8	0.00
Extreme (10C)	Normal	2501.0197	2568.9779	-1.8	0.00
Extreme (0C)		2501.0197	2568.9779	-1.0	0.00
Extreme (-10C)		2501.0197	2568.9779	-1.6	0.00
Extreme (-20C)		2501.0197	2568.9779	-1.8	0.00
Extreme (-30C)		2501.0197	2568.9779	-2.0	0.00
25C	10%	2501.0197	2568.9779	-3.0	0.00
	-10%	2501.0197	2568.9779	-2.5	0.00
	End Point	2501.0197	2568.9779	-2.4	0.00

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9.5. LTE BAND 12

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	699.5029	715.5006		
Extreme (50C)		699.5029	715.5006	-6.7	-0.01
Extreme (40C)		699.5029	715.5006	-5.9	-0.01
Extreme (30C)		699.5029	715.5006	-5.9	-0.01
Extreme (10C)		699.5029	715.5006	-5.1	-0.01
Extreme (0C)		699.5029	715.5006	-5.0	-0.01
Extreme (-10C)		699.5029	715.5006	-4.2	-0.01
Extreme (-20C)		699.5029	715.5006	-4.3	-0.01
Extreme (-30C)		699.5029	715.5006	-3.2	0.00
25C	10%	699.5029	715.5006	-3.0	0.00
	-10%	699.5029	715.5006	-3.7	-0.01
	End Point	699.5029	715.5006	-4.1	-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	699.5023	715.4981		
Extreme (50C)		699.5023	715.4981	-5.0	-0.01
Extreme (40C)		699.5023	715.4981	-4.0	-0.01
Extreme (30C)		699.5023	715.4981	-4.2	-0.01
Extreme (10C)		699.5023	715.4981	-4.5	-0.01
Extreme (0C)		699.5023	715.4981	-3.2	0.00
Extreme (-10C)		699.5023	715.4981	-3.4	0.00
Extreme (-20C)		699.5023	715.4981	-2.2	0.00
Extreme (-30C)		699.5023	715.4981	-0.6	0.00
25C	10%	699.5023	715.4981	-0.9	0.00
	-10%	699.5023	715.4981	0.2	0.00
	End Point	699.5023	715.4981	1.2	0.00

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9.6. LTE BAND 13

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	777.5052	786.5070		
Extreme (50C)		777.5052	786.5070	-7.5	-0.01
Extreme (40C)		777.5052	786.5070	-7.1	-0.01
Extreme (30C)		777.5052	786.5070	-6.3	-0.01
Extreme (10C)		777.5052	786.5070	-5.2	-0.01
Extreme (0C)		777.5052	786.5070	-5.4	-0.01
Extreme (-10C)		777.5052	786.5070	-3.5	0.00
Extreme (-20C)		777.5052	786.5070	-3.2	0.00
Extreme (-30C)		777.5052	786.5070	-4.9	-0.01
25C	10%	777.5052	786.5070	1.1	0.00
	-10%	777.5052	786.5070	0.1	0.00
	End Point	777.5052	786.5070	0.9	0.00

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	777.5065	786.4940		
Extreme (50C)		777.5065	786.4940	-2.0	0.00
Extreme (40C)		777.5065	786.4940	-2.0	0.00
Extreme (30C)		777.5065	786.4940	-1.5	0.00
Extreme (10C)		777.5065	786.4940	-1.7	0.00
Extreme (0C)		777.5065	786.4940	-2.1	0.00
Extreme (-10C)		777.5065	786.4939	-3.1	0.00
Extreme (-20C)		777.5065	786.4940	-2.9	0.00
Extreme (-30C)		777.5065	786.4939	-3.3	0.00
25C	10%	777.5065	786.4940	1.9	0.00
	-10%	777.5065	786.4940	1.3	0.00
	End Point	777.5065	786.4940	1.0	0.00

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9.7. LTE BAND 17

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	704.4986	715.4975		
Extreme (50C)		704.4986	715.4975	-0.7	-0.001
Extreme (40C)		704.4986	715.4975	-0.6	-0.001
Extreme (30C)		704.4986	715.4975	-0.5	-0.001
Extreme (10C)		704.4986	715.4975	-0.2	0.000
Extreme (0C)		704.4986	715.4975	0.9	0.001
Extreme (-10C)		704.4986	715.4975	1.5	0.002
Extreme (-20C)		704.4986	715.4975	0.1	0.000
Extreme (-30C)		704.4986	715.4975	0.7	0.001
25C	10%	704.4986	715.4975	1.6	0.002
	-10%	704.4986	715.4975	2.0	0.003
	End Point	704.4986	715.4975	2.9	0.004

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	704.5007	715.4959		
Extreme (50C)		704.5007	715.4959	-0.7	-0.001
Extreme (40C)		704.5007	715.4959	-0.5	-0.001
Extreme (30C)		704.5007	715.4959	-0.6	-0.001
Extreme (10C)		704.5007	715.4959	0.1	0.000
Extreme (0C)		704.5007	715.4959	0.8	0.001
Extreme (-10C)		704.5007	715.4959	1.3	0.002
Extreme (-20C)		704.5007	715.4959	0.2	0.000
Extreme (-30C)		704.5007	715.4959	0.4	0.001
25C	10%	704.5007	715.4959	1.0	0.001
	-10%	704.5007	715.4959	2.0	0.003
	End Point	704.5007	715.4959	1.6	0.002

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9.8. LTE BAND 25

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	1851.0217	1913.9847		
Extreme (50C)		1851.0217	1913.9847	-7.0	-0.004
Extreme (40C)		1851.0217	1913.9847	-6.5	-0.003
Extreme (30C)		1851.0217	1913.9847	-6.7	-0.004
Extreme (10C)		1851.0217	1913.9847	-4.9	-0.003
Extreme (0C)		1851.0217	1913.9847	-3.7	-0.002
Extreme (-10C)		1851.0217	1913.9847	-4.2	-0.002
Extreme (-20C)		1851.0217	1913.9847	-5.2	-0.003
Extreme (-30C)		1851.0217	1913.9847	-2.1	-0.001
25C	10%	1851.0217	1913.9847	-3.1	-0.002
	-10%	1851.0217	1913.9847	-3.0	-0.002
	End Point	1851.0217	1913.9847	-1.2	-0.001

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	1851.0217	1913.9851		
Extreme (50C)		1851.0217	1913.9851	-8.6	-0.005
Extreme (40C)		1851.0217	1913.9851	-8.1	-0.004
Extreme (30C)		1851.0217	1913.9851	-7.5	-0.004
Extreme (10C)		1851.0217	1913.9851	-5.5	-0.003
Extreme (0C)		1851.0217	1913.9851	-6.1	-0.003
Extreme (-10C)		1851.0217	1913.9851	-5.0	-0.003
Extreme (-20C)		1851.0217	1913.9851	-3.9	-0.002
Extreme (-30C)		1851.0217	1913.9851	-3.9	-0.002
25C	10%	1851.0217	1913.9851	-2.9	-0.002
	-10%	1851.0217	1913.9851	-3.3	-0.002
	End Point	1851.0217	1913.9851	-4.9	-0.003

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9.9. LTE BAND 26

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	814.5029	823.4986		
Extreme (50C)		814.5029	823.4986	-1.6	-0.002
Extreme (40C)		814.5029	823.4986	-0.9	-0.001
Extreme (30C)		814.5029	823.4986	-0.5	-0.001
Extreme (10C)		814.5029	823.4986	1.1	0.001
Extreme (0C)		814.5029	823.4986	1.1	0.001
Extreme (-10C)		814.5029	823.4986	1.3	0.002
Extreme (-20C)		814.5029	823.4986	1.5	0.002
Extreme (-30C)		814.5029	823.4986	-0.9	-0.001
25C	10%	814.5029	823.4986	-2.0	-0.002
	-10%	814.5029	823.4986	-3.1	-0.004
	End Point	814.5029	823.4986	-3.2	-0.004

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	814.5078	823.4924		
Extreme (50C)		814.5078	823.4924	-0.3	0.000
Extreme (40C)		814.5078	823.4924	-0.6	-0.001
Extreme (30C)		814.5078	823.4924	-1.6	-0.002
Extreme (10C)		814.5078	823.4924	-0.1	0.000
Extreme (0C)		814.5078	823.4924	-0.3	0.000
Extreme (-10C)		814.5078	823.4924	1.6	0.002
Extreme (-20C)		814.5078	823.4924	1.3	0.002
Extreme (-30C)		814.5078	823.4924	1.8	0.002
25C	10%	814.5078	823.4924	2.0	0.002
	-10%	814.5078	823.4924	2.2	0.003
	End Point	814.5078	823.4924	2.0	0.002

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9.10. LTE BAND 27

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	814.5031	823.4972		
Extreme (50C)		814.5031	823.4972	-0.4	-0.001
Extreme (40C)		814.5031	823.4972	-1.2	-0.002
Extreme (30C)		814.5031	823.4972	-0.5	-0.001
Extreme (10C)		814.5031	823.4972	1.0	0.001
Extreme (0C)		814.5031	823.4972	0.1	0.000
Extreme (-10C)		814.5031	823.4972	0.5	0.001
Extreme (-20C)		814.5031	823.4972	0.7	0.001
Extreme (-30C)		814.5031	823.4972	0.3	0.000
25C	10%	814.5031	823.4972	1.0	0.001
	-10%	814.5031	823.4972	0.9	0.001
	End Point	814.5031	823.4972	1.0	0.001

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	814.5038	823.4935		
Extreme (50C)		814.5038	823.4935	-0.7	-0.001
Extreme (40C)		814.5038	823.4935	-0.8	-0.001
Extreme (30C)		814.5038	823.4935	-0.9	-0.001
Extreme (10C)		814.5038	823.4935	0.7	0.001
Extreme (0C)		814.5038	823.4935	-0.4	0.000
Extreme (-10C)		814.5038	823.4935	1.7	0.002
Extreme (-20C)		814.5038	823.4935	0.7	0.001
Extreme (-30C)		814.5038	823.4935	1.2	0.002
25C	10%	814.5038	823.4935	-2.0	-0.002
	-10%	814.5038	823.4935	-1.9	-0.002
	End Point	814.5038	823.4935	-2.4	-0.003

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9.11. LTE BAND 30

QPSK, (10MHz BANDWIDTH)

Limit		2305	2315	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	2305.5026	2314.5007		
Extreme (50C)		2305.5026	2314.5007	-4.3	-0.002
Extreme (40C)		2305.5026	2314.5007	-2.6	-0.001
Extreme (30C)		2305.5026	2314.5007	-3.7	-0.002
Extreme (10C)		2305.5026	2314.5007	-1.9	-0.001
Extreme (0C)		2305.5026	2314.5007	-0.8	0.000
Extreme (-10C)		2305.5026	2314.5007	-1.1	0.000
Extreme (-20C)		2305.5026	2314.5007	-3.1	-0.001
Extreme (-30C)		2305.5026	2314.5007	-2.1	-0.001
25C	10%	2305.5026	2314.5007	-3.0	-0.001
	-10%	2305.5026	2314.5007	-3.2	-0.001
	End Point	2305.5026	2314.5007	-4.0	-0.002

16QAM, (10MHz BANDWIDTH)

Limit		2305	2315	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	2305.5054	2314.4931		
Extreme (50C)		2305.5054	2314.4931	-3.9	-0.002
Extreme (40C)		2305.5054	2314.4931	-3.1	-0.001
Extreme (30C)		2305.5054	2314.4931	-3.1	-0.001
Extreme (10C)		2305.5054	2314.4931	-3.0	-0.001
Extreme (0C)		2305.5054	2314.4931	-1.8	-0.001
Extreme (-10C)		2305.5054	2314.4931	-2.8	-0.001
Extreme (-20C)		2305.5054	2314.4931	-4.8	-0.002
Extreme (-30C)		2305.5054	2314.4931	-5.0	-0.002
25C	10%	2305.5054	2314.4931	-3.9	-0.002
	-10%	2305.5054	2314.4931	-3.8	-0.002
	End Point	2305.5054	2314.4931	-3.5	-0.002

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9.12. LTE BAND 41

QPSK, (20MHz BANDWIDTH)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	2496.9378	2689.0161		
Extreme (50C)		2496.9378	2689.0161	-3.6	-0.001
Extreme (40C)		2496.9378	2689.0161	-1.8	-0.001
Extreme (30C)		2496.9378	2689.0161	-4.3	-0.002
Extreme (10C)		2496.9378	2689.0161	-2.5	-0.001
Extreme (0C)		2496.9378	2689.0161	-2.0	-0.001
Extreme (-10C)		2496.9378	2689.0161	-1.7	-0.001
Extreme (-20C)		2496.9378	2689.0161	-1.8	-0.001
Extreme (-30C)		2496.9378	2689.0161	-2.5	-0.001
25C	10%	2496.9378	2689.0161	-3.1	-0.001
	-10%	2496.9378	2689.0161	-3.2	-0.001
	End Point	2496.9378	2689.0161	-4.0	-0.002

16QAM, (20MHz BANDWIDTH)

Limit		2496	2690	Delta (Hz)	Frequency Stability (ppm)
Condition		F low @ -13dBm	F high @ -13dBm		
Temperature	Voltage	(MHz)	(MHz)		
Normal (25C)	Normal	2496.9891	2688.9934		
Extreme (50C)		2496.9891	2688.9934	1.9	0.001
Extreme (40C)		2496.9891	2688.9934	2.8	0.001
Extreme (30C)		2496.9891	2688.9934	3.1	0.001
Extreme (10C)		2496.9891	2688.9934	1.3	0.000
Extreme (0C)		2496.9891	2688.9934	1.0	0.000
Extreme (-10C)		2496.9891	2688.9934	0.8	0.000
Extreme (-20C)		2496.9891	2688.9934	-0.9	0.000
Extreme (-30C)		2496.9891	2688.9934	1.2	0.000
25C	10%	2496.9891	2688.9934	1.4	0.001
	-10%	2496.9891	2688.9934	1.5	0.001
	End Point	2496.9891	2688.9934	2.0	0.001

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10. RADIATED TEST RESULTS

10.1. RADIATED POWER (ERP & EIRP), ANTENNA C

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

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.

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

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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

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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	**25.96**	394.46
		1880.0	25.38	345.14
		1909.3	25.09	322.85
1.4MHz Band 16QAM	1/0	1850.7	**24.98**	314.77
		1880.0	24.25	266.07
		1909.3	24.00	251.19

EIRP POWER FOR LTE BAND 2 (3.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	dBm	mW
3.0MHz Band QPSK	1/0	1851.5	**26.14**	411.15
		1880.0	25.82	381.94
		1908.5	25.25	334.97
3.0MHz Band 16QAM	1/0	1851.5	**25.96**	394.46
		1880.0	25.88	387.26
		1908.5	24.97	314.05

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	**26.44**	440.55
		1880.0	25.28	337.29
		1907.5	25.14	326.59
5.0MHz Band 16QAM	1/0	1852.5	**25.63**	365.59
		1880.0	24.43	277.33
		1907.5	24.36	272.90

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	**25.81**	381.07
		1880.0	25.46	351.56
		1905.0	25.41	347.54
10.0MHz Band 16QAM	1/0	1855.0	**25.01**	316.96
		1880.0	24.66	292.42
		1905.0	24.61	289.07

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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	25.78	378.44
		1880.0	25.15	327.34
		1902.5	25.55	358.92
15MHz Band 16QAM	1/0	1857.5	24.93	311.17
		1880.0	24.30	269.15
		1902.5	24.70	295.12

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	**26.41**	437.52
		1880.0	25.49	354.00
		1900.0	25.82	381.94
20MHz Band 16QAM	1/0	1860.0	**25.51**	355.63
		1880.0	24.36	272.90
		1900.0	24.81	302.69

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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	22.44	175.39
		1732.5	22.48	177.01
		1754.3	**22.79**	190.11
1.4 MHZ BAND 16QAM	1/0	1710.7	21.51	141.58
		1732.5	21.52	141.91
		1754.3	**21.74**	149.28

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	22.13	163.31
		1732.5	22.11	162.55
		1753.5	**22.89**	194.54
3.0 MHZ BAND 16QAM	1/0	1711.5	21.43	139.00
		1732.5	21.51	141.58
		1753.5	**22.21**	166.34

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	22.34	171.40
		1732.5	22.36	172.19
		1752.5	**22.55**	179.89
5.0 MHZ BAND 16QAM	1/0	1712.5	21.27	133.97
		1732.5	21.52	141.91
		1752.5	**21.98**	157.76

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	22.60	181.97
		1732.5	**22.89**	194.54
		1750.0	22.40	173.78
10.0 MHZ BAND 16QAM	1/0	1715.0	21.90	154.88
		1732.5	**22.17**	164.82
		1750.0	21.49	140.93

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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	**22.83**	191.87
		1732.5	22.58	181.13
		1747.5	22.70	186.21
15.0 MHZ BAND 16QAM	1/0	1717.5	21.89	154.53
		1732.5	21.99	158.12
		1747.5	**22.15**	164.06

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	22.46	176.20
		1732.5	**23.16**	207.01
		1745.0	21.82	152.05
20.0 MHZ BAND 16QAM	1/0	1720.0	21.91	155.24
		1732.5	**22.17**	164.82
		1745.0	21.66	146.55

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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	22.55	179.89
		836.5	22.31	170.22
		848.3	**22.57**	180.72
1.4MHz Band 16QAM	1/0	824.7	21.85	153.11
		836.5	21.82	152.05
		848.3	**21.89**	154.53

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	22.24	167.49
		836.5	**22.75**	188.36
		847.5	22.47	176.60
3.0 MHZ BAND 16QAM	1/0	825.5	21.50	141.25
		836.5	**21.63**	145.55
		847.5	21.41	138.36

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	22.21	166.34
		836.5	22.54	179.47
		846.5	**22.84**	192.31
5MHz Band 16QAM	1/0	826.5	21.68	147.23
		836.5	**22.21**	166.34
		846.5	21.66	146.55

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	22.25	167.88
		836.5	22.61	182.39
		844.0	**22.77**	189.23
10.0 MHZ BAND 16QAM	1/0	829.0	21.65	146.22
		836.5	21.68	147.23
		844.0	**22.47**	176.60

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EIRP POWER FOR LTE BAND 7 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
5.0 MHZ BAND QPSK	25/0	2502.5	**31.40**	1380.38
		2535.0	31.38	1374.04
		2567.5	30.78	1196.74
5.0 MHZ BAND 16QAM	25/0	2502.5	30.45	1109.17
		2535.0	**30.51**	1124.60
		2567.5	29.68	928.97

EIRP POWER FOR LTE BAND 7 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
10.0 MHZ BAND QPSK	50/0	2505.0	31.39	1377.21
		2535.0	**31.49**	1409.29
		2565.0	30.53	1129.80
10.0 MHZ BAND 16QAM	50/0	2505.0	**30.35**	1083.93
		2535.0	30.34	1081.43
		2565.0	29.64	920.45

EIRP POWER FOR LTE BAND 7 (15.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
15.0 MHZ BAND QPSK	75/0	2507.5	31.34	1361.44
		2535.0	**31.45**	1396.37
		2562.5	30.71	1177.61
15.0 MHZ BAND 16QAM	75/0	2507.5	**30.79**	1199.50
		2535.0	30.39	1093.96
		2562.5	29.88	972.75

EIRP POWER FOR LTE BAND 7 (20.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
20.0 MHZ BAND QPSK	100/0	2510.0	**31.41**	1383.57
		2535.0	31.16	1306.17
		2560.0	30.63	1156.11
20.0 MHZ BAND 16QAM	100/0	2510.0	**30.55**	1135.01
		2535.0	30.26	1061.70
		2560.0	29.63	918.33

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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	20.21	104.95
		707.5	**20.42**	110.15
		715.3	20.10	102.33
1.4MHz Band 16QAM	1/0	699.7	18.75	74.99
		707.5	19.16	82.41
		715.3	**19.31**	85.31

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	**20.07**	101.62
		707.5	19.84	96.38
		714.5	19.74	94.19
3.0 MHZ BAND 16QAM	1/0	700.5	**18.97**	78.89
		707.5	18.92	77.98
		714.5	18.93	78.16

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	19.80	95.50
		707.5	20.10	102.33
		713.5	**20.14**	103.28
5MHz Band 16QAM	1/0	701.5	19.20	83.18
		707.5	**19.49**	88.92
		713.5	19.01	79.62

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	19.67	92.68
		707.5	**19.99**	99.77
		711.0	19.65	92.26
10.0 MHZ BAND 16QAM	1/0	704.0	19.10	81.28
		707.5	19.06	80.54
		711.0	**19.23**	83.75

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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	17.75	59.57
		782.0	**18.27**	67.14
		784.5	18.24	66.68
5.0 MHZ BAND 16QAM	1/0	779.5	17.30	53.70
		782.0	**17.52**	56.49
		784.5	17.47	55.85

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	**17.85**	60.95
10 MHz BAND 16QAM	1/0		**17.14**	51.76

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	20.88	122.46
		710.0	20.95	124.45
		713.5	**21.37**	137.09
5MHz Band 16QAM	1/0	706.5	20.13	103.04
		710.0	20.27	106.41
		713.5	**20.50**	112.20

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	**20.28**	106.66
10.0 MHZ BAND 16QAM		710.0	**19.33**	85.70

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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	**26.18**	414.95
		1882.5	26.02	399.94
		1914.3	25.33	341.19
1.4 MHZ BAND 16QAM	1/0	1850.7	**25.60**	363.08
		1882.5	25.36	343.56
		1914.3	24.56	285.76

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	**26.34**	430.53
		1882.5	25.90	389.05
		1913.5	25.23	333.43
3.0 MHZ BAND 16QAM	1/0	1851.5	**25.61**	363.92
		1882.5	25.10	323.59
		1913.5	24.37	273.53

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	**26.33**	429.54
		1882.5	26.00	398.11
		1912.5	25.66	368.13
5.0 MHZ BAND 16QAM	1/0	1852.5	25.50	354.81
		1882.5	**25.55**	358.92
		1912.5	24.78	300.61

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	26.36	432.51
		1882.5	26.30	426.58
		1910.0	**26.37**	433.51
10.0 MHZ BAND 16QAM	1/0	1855.0	25.48	353.18
		1882.5	**25.64**	366.44
		1910.0	25.57	360.58

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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	**26.41**	437.52
		1882.5	26.20	416.87
		1907.5	26.36	432.51
15.0 MHZ BAND 16QAM	1/0	1857.5	**25.57**	360.58
		1882.5	25.40	346.74
		1907.5	25.41	347.54

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	**26.50**	446.68
		1882.5	26.20	416.87
		1905.0	26.35	431.52
20.0 MHZ BAND 16QAM	1/0	1860.0	**25.59**	362.24
		1882.5	25.28	337.29
		1905.0	25.41	347.54

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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	21.31	135.21
		819.0	**22.17**	164.82
		823.3	22.07	161.06
1.4 MHZ BAND 16QAM	1/0	814.7	20.58	114.29
		819.0	21.32	135.52
		823.3	**21.59**	144.21

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	21.15	130.32
		819.0	**21.87**	153.82
		822.5	21.80	151.36
3.0 MHZ BAND 16QAM	1/0	815.5	20.17	103.99
		819.0	21.05	127.35
		822.5	**21.12**	129.42

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	21.36	136.77
		819.0	21.55	142.89
		821.5	**22.03**	159.59
5.0 MHZ BAND 16QAM	1/0	816.5	20.34	108.14
		819.0	21.16	130.62
		821.5	**21.23**	132.74

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	**21.80**	151.36
10.0 MHZ BAND 16QAM	1/0	819.0	**20.68**	116.95

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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	19.54	89.95
		819.0	**20.06**	101.39
		823.3	19.45	88.10
1.4 MHZ BAND 16QAM	1/0	814.7	18.64	73.11
		819.0	**19.13**	81.85
		823.3	18.50	70.79

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	19.34	85.90
		819.0	**19.61**	91.41
		822.5	19.40	87.10
3.0 MHZ BAND 16QAM	1/0	815.5	18.37	68.71
		819.0	**18.90**	77.62
		822.5	18.61	72.61

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	19.54	89.95
		819.0	19.66	92.47
		821.5	**20.12**	102.80
5.0 MHZ BAND 16QAM	1/0	816.5	18.54	71.45
		819.0	19.05	80.35
		821.5	**19.23**	83.75

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	**20.00**	100.00
10.0 MHZ BAND 16QAM	1/0	819.0	**19.08**	80.91

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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	**22.69**	185.78
		2310.0	22.44	175.39
		2312.5	22.33	171.00
5MHz Band 16QAM	1/0	2307.5	**21.98**	157.76
		2310.0	21.50	141.25
		2312.5	21.45	139.64

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	**22.70**	186.21
10.0 MHZ BAND 16QAM		2310.0	**22.03**	159.59

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EIRP POWER FOR LTE BAND 41 (5.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
5.0 MHZ BAND QPSK	25/0	2498.5	**31.56**	1432.19
		2593.0	30.27	1064.14
		2687.5	28.56	717.79
5.0 MHZ BAND 16QAM	25/0	2498.5	**30.38**	1091.44
		2593.0	29.41	872.97
		2687.5	27.57	571.48

EIRP POWER FOR LTE BAND 41 (10.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
10.0 MHZ BAND QPSK	50/0	2501.0	**31.41**	1383.57
		2593.0	30.59	1145.51
		2685.0	29.23	837.53
10.0 MHZ BAND 16QAM	50/0	2501.0	**30.51**	1124.60
		2593.0	29.66	924.70
		2685.0	28.38	688.65

EIRP POWER FOR LTE BAND 41(15.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
15.0 MHZ BAND QPSK	75/0	2503.5	**31.88**	1541.70
		2593.0	30.82	1207.81
		2682.5	29.56	903.65
15.0 MHZ BAND 16QAM	75/0	2503.5	**30.81**	1205.04
		2593.0	29.83	961.61
		2682.5	28.38	688.65

EIRP POWER FOR LTE BAND 41 (20.0MHZ BANDWIDTH)

Mode	RB/RB SIZE	f (MHz)	EIRP(Peak)	
			dBm	mW
20.0 MHZ BAND QPSK	100/0	2506.0	**31.67**	1468.93
		2593.0	30.81	1205.04
		2680.0	29.64	920.45
20.0 MHZ BAND 16QAM	100/0	2506.0	**30.72**	1180.32
		2593.0	29.94	986.28
		2680.0	29.05	803.53

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10.1.1. LTE BAND 2

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

High Frequency Fundamental Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: F. Guarnero
Configuration: EUT Only
Mode: LTE Band 2 QPSK 1.4MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	18.9	V	0.98	8.05	25.96	33.0	-7.0	
1.851	17.3	H	0.98	8.05	24.41	33.0	-8.6	
Mid Ch								
1.880	18.3	V	0.98	8.03	25.38	33.0	-7.6	
1.880	17.3	H	0.98	8.03	24.33	33.0	-8.7	
High Ch								
1.909	18.0	V	0.98	8.05	25.09	33.0	-7.9	
1.909	17.1	H	0.98	8.05	24.20	33.0	-8.8	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: F. Guarnero
Configuration: EUT Only
Mode: LTE Band 2 16QAM 1.4MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	17.9	V	0.98	8.05	24.98	33.0	-8.0	
1.851	17.2	H	0.98	8.05	24.25	33.0	-8.8	
Mid Ch								
1.880	17.2	V	0.98	8.03	24.25	33.0	-8.7	
1.880	16.3	H	0.98	8.03	23.33	33.0	-9.7	
High Ch								
1.909	16.9	V	0.98	8.05	24.00	33.0	-9.0	
1.909	16.4	H	0.98	8.05	23.48	33.0	-9.5	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: F. Guarnero
Configuration: EUT Only
Mode: LTE Band 2 QPSK 3MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	19.1	V	0.98	8.05	26.14	33.0	-6.9	
1.852	17.6	H	0.98	8.05	24.64	33.0	-8.4	
Mid Ch								
1.880	18.8	V	0.98	8.03	25.82	33.0	-7.2	
1.880	17.2	H	0.98	8.03	24.28	33.0	-8.7	
High Ch								
1.909	18.2	V	0.98	8.05	25.25	33.0	-7.8	
1.909	17.3	H	0.98	8.05	24.35	33.0	-8.7	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: F. Guarnero
Configuration: EUT Only
Mode: LTE Band 2 16QAM 3MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	18.9	V	0.98	8.05	25.96	33.0	-7.0	
1.852	17.5	H	0.98	8.05	24.62	33.0	-8.4	
Mid Ch								
1.880	18.8	V	0.98	8.03	25.88	33.0	-7.1	
1.880	16.9	H	0.98	8.03	23.95	33.0	-9.0	
High Ch								
1.909	17.9	V	0.98	8.05	24.97	33.0	-8.0	
1.909	17.1	H	0.98	8.05	24.15	33.0	-8.9	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: F. Guarnero
Configuration: EUT Only
Mode: LTE Band 2 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	19.4	V	0.98	8.05	26.44	33.0	-6.6	
1.853	17.2	H	0.98	8.05	24.29	33.0	-8.7	
Mid Ch								
1.880	18.2	V	0.98	8.03	25.28	33.0	-7.7	
1.880	17.4	H	0.98	8.03	24.40	33.0	-8.6	
High Ch								
1.908	18.1	V	0.98	8.04	25.14	33.0	-7.9	
1.908	17.9	H	0.98	8.04	24.97	33.0	-8.0	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: F. Guarnero
Configuration: EUT Only
Mode: LTE Band 2 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	18.6	V	0.98	8.05	25.63	33.0	-7.4	
1.853	16.3	H	0.98	8.05	23.41	33.0	-9.6	
Mid Ch								
1.880	17.4	V	0.98	8.03	24.43	33.0	-8.6	
1.880	16.2	H	0.98	8.03	23.28	33.0	-9.7	
High Ch								
1.908	17.3	V	0.98	8.04	24.36	33.0	-8.6	
1.908	16.6	H	0.98	8.04	23.67	33.0	-9.3	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: F. Guarnero
Configuration: EUT Only
Mode: LTE Band 2 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	18.7	V	0.98	8.05	25.81	33.0	-7.2	
1.855	17.2	H	0.98	8.05	24.29	33.0	-8.7	
Mid Ch								
1.880	18.4	V	0.98	8.03	25.46	33.0	-7.5	
1.880	17.6	H	0.98	8.03	24.63	33.0	-8.4	
High Ch								
1.905	18.4	V	0.98	8.04	25.41	33.0	-7.6	
1.905	17.2	H	0.98	8.04	24.25	33.0	-8.8	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: F. Guarnero
Configuration: EUT Only
Mode: LTE Band 2 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	17.9	V	0.98	8.05	25.01	33.0	-8.0	
1.855	16.4	H	0.98	8.05	23.49	33.0	-9.5	
Mid Ch								
1.880	17.6	V	0.98	8.03	24.66	33.0	-8.3	
1.880	16.8	H	0.98	8.03	23.83	33.0	-9.2	
High Ch								
1.905	17.6	V	0.98	8.04	24.61	33.0	-8.4	
1.905	16.4	H	0.98	8.04	23.45	33.0	-9.6	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: F. Guarnero
Configuration: EUT Only
Mode: LTE Band 2 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	18.7	V	0.98	8.04	25.78	33.0	-7.2	
1.858	17.8	H	0.98	8.04	24.91	33.0	-8.1	
Mid Ch								
1.880	18.1	V	0.98	8.03	25.15	33.0	-7.8	
1.880	17.3	H	0.98	8.03	24.34	33.0	-8.7	
High Ch								
1.903	18.5	V	0.98	8.03	25.55	33.0	-7.5	
1.903	17.2	H	0.98	8.03	24.28	33.0	-8.7	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: F. Guarnero
Configuration: EUT Only
Mode: LTE Band 2 16QAM 15MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	17.9	V	0.98	8.04	24.93	33.0	-8.1	
1.858	17.0	H	0.98	8.04	24.06	33.0	-8.9	
Mid Ch								
1.880	17.3	V	0.98	8.03	24.30	33.0	-8.7	
1.880	16.4	H	0.98	8.03	23.49	33.0	-9.5	
High Ch								
1.903	17.7	V	0.98	8.03	24.70	33.0	-8.3	
1.903	16.4	H	0.98	8.03	23.43	33.0	-9.6	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: F. Guarnero
Configuration: EUT Only
Mode: LTE Band 2 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	19.4	V	0.98	8.04	26.41	33.0	-6.6	
1.860	17.6	H	0.98	8.04	24.69	33.0	-8.3	
Mid Ch								
1.880	18.4	V	0.98	8.03	25.49	33.0	-7.5	
1.880	17.2	H	0.98	8.03	24.28	33.0	-8.7	
High Ch								
1.900	18.8	V	0.98	8.02	25.82	33.0	-7.2	
1.900	17.3	H	0.98	8.02	24.32	33.0	-8.7	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: F. Guarnero
Configuration: EUT Only
Mode: LTE Band 2 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	18.5	V	0.98	8.04	25.51	33.0	-7.5	
1.860	16.4	H	0.98	8.04	23.48	33.0	-9.5	
Mid Ch								
1.880	17.3	V	0.98	8.03	24.36	33.0	-8.6	
1.880	16.0	H	0.98	8.03	23.06	33.0	-9.9	
High Ch								
1.900	17.8	V	0.98	8.02	24.81	33.0	-8.2	
1.900	16.0	H	0.98	8.02	23.07	33.0	-9.9	

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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 D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 4 QPSK 1.4MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	15.1	V	0.95	8.27	22.44	30.0	-7.6	
1.711	14.9	H	0.95	8.27	22.23	30.0	-7.8	
Mid Ch								
1.733	15.0	V	0.95	8.23	22.26	30.0	-7.7	
1.733	15.2	H	0.95	8.23	22.48	30.0	-7.5	
High Ch								
1.754	14.1	V	0.95	8.18	21.30	30.0	-8.7	
1.754	15.6	H	0.95	8.18	22.79	30.0	-7.2	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 4 16QAM 1.4MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	14.2	V	0.95	8.27	21.51	30.0	-8.5	
1.711	14.1	H	0.95	8.27	21.42	30.0	-8.6	
Mid Ch								
1.733	13.8	V	0.95	8.23	21.09	30.0	-8.9	
1.733	14.2	H	0.95	8.23	21.52	30.0	-8.5	
High Ch								
1.754	12.9	V	0.95	8.18	20.08	30.0	-9.9	
1.754	14.5	H	0.95	8.18	21.74	30.0	-8.3	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 4 QPSK 3MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	14.8	V	0.95	8.27	22.08	30.0	-7.9	
1.712	14.8	H	0.95	8.27	22.13	30.0	-7.9	
Mid Ch								
1.733	14.3	V	0.95	8.23	21.55	30.0	-8.4	
1.733	14.8	H	0.95	8.23	22.11	30.0	-7.9	
High Ch								
1.754	13.6	V	0.95	8.18	20.86	30.0	-9.1	
1.754	15.7	H	0.95	8.18	22.89	30.0	-7.1	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 4 16QAM 3MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	14.1	V	0.95	8.27	21.43	30.0	-8.6	
1.712	14.1	H	0.95	8.27	21.40	30.0	-8.6	
Mid Ch								
1.733	13.5	V	0.95	8.23	20.76	30.0	-9.2	
1.733	14.2	H	0.95	8.23	21.51	30.0	-8.5	
High Ch								
1.754	12.6	V	0.95	8.18	19.81	30.0	-10.2	
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 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 4 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	14.8	V	0.95	8.27	22.10	30.0	-7.9	
1.713	15.0	H	0.95	8.27	22.34	30.0	-7.7	
Mid Ch								
1.733	14.2	V	0.95	8.23	21.44	30.0	-8.6	
1.733	15.1	H	0.95	8.23	22.36	30.0	-7.6	
High Ch								
1.753	14.0	V	0.95	8.18	21.21	30.0	-8.8	
1.753	15.3	H	0.95	8.18	22.55	30.0	-7.4	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 4 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	13.8	V	0.95	8.27	21.16	30.0	-8.8	
1.713	14.0	H	0.95	8.27	21.27	30.0	-8.7	
Mid Ch								
1.733	13.9	V	0.95	8.23	21.16	30.0	-8.8	
1.733	14.2	H	0.95	8.23	21.52	30.0	-8.5	
High Ch								
1.753	13.7	V	0.95	8.18	20.91	30.0	-9.1	
1.753	14.7	H	0.95	8.18	21.98	30.0	-8.0	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 4 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	14.8	V	0.95	8.26	22.14	30.0	-7.9	
1.715	15.3	H	0.95	8.26	22.60	30.0	-7.4	
Mid Ch								
1.733	14.3	V	0.95	8.23	21.61	30.0	-8.4	
1.733	15.6	H	0.95	8.23	22.89	30.0	-7.1	
High Ch								
1.750	14.1	V	0.95	8.19	21.31	30.0	-8.7	
1.750	15.2	H	0.95	8.19	22.40	30.0	-7.6	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 4 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	14.6	V	0.95	8.26	21.90	30.0	-8.1	
1.715	14.6	H	0.95	8.26	21.87	30.0	-8.1	
Mid Ch								
1.733	13.8	V	0.95	8.23	21.10	30.0	-8.9	
1.733	14.9	H	0.95	8.23	22.17	30.0	-7.8	
High Ch								
1.750	13.6	V	0.95	8.19	20.81	30.0	-9.2	
1.750	14.2	H	0.95	8.19	21.49	30.0	-8.5	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 4 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	15.5	V	0.95	8.26	22.83	30.0	-7.2	
1.718	15.2	H	0.95	8.26	22.54	30.0	-7.5	
Mid Ch								
1.733	14.7	V	0.95	8.23	21.99	30.0	-8.0	
1.733	15.3	H	0.95	8.23	22.58	30.0	-7.4	
High Ch								
1.748	14.5	V	0.95	8.19	21.72	30.0	-8.3	
1.748	15.5	H	0.95	8.19	22.70	30.0	-7.3	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 4 16QAM 15MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	14.4	V	0.95	8.26	21.71	30.0	-8.3	
1.718	14.6	H	0.95	8.26	21.89	30.0	-8.1	
Mid Ch								
1.733	13.9	V	0.95	8.23	21.18	30.0	-8.8	
1.733	14.7	H	0.95	8.23	21.99	30.0	-8.0	
High Ch								
1.748	13.7	V	0.95	8.19	20.92	30.0	-9.1	
1.748	14.9	H	0.95	8.19	22.15	30.0	-7.8	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 4 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	15.0	V	0.95	8.25	22.26	30.0	-7.7	
1.720	15.2	H	0.95	8.25	22.46	30.0	-7.5	
Mid Ch								
1.733	14.7	V	0.95	8.23	22.00	30.0	-8.0	
1.733	15.9	H	0.95	8.23	23.16	30.0	-6.8	
High Ch								
1.745	14.3	V	0.95	8.20	21.52	30.0	-8.5	
1.745	14.6	H	0.95	8.20	21.82	30.0	-8.2	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 4 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	21.69	30.0	-8.3	
1.720	14.6	H	0.95	8.25	21.91	30.0	-8.1	
Mid Ch								
1.733	13.8	V	0.95	8.23	21.04	30.0	-9.0	
1.733	14.9	H	0.95	8.23	22.17	30.0	-7.8	
High Ch								
1.745	13.6	V	0.95	8.20	20.86	30.0	-9.1	
1.745	14.4	H	0.95	8.20	21.66	30.0	-8.3	

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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 D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 5 QPSK 1.4MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	15.77	V	0.6	0.0	15.15	17.30	38.45	40.60	-23.3	
824.70	23.17	H	0.6	0.0	22.55	24.70	38.45	40.60	-15.9	
Mid Ch										
836.50	15.77	V	0.6	0.0	15.16	17.31	38.45	40.60	-23.3	
836.50	22.93	H	0.6	0.0	22.31	24.46	38.45	40.60	-16.1	
High Ch										
848.30	14.49	V	0.6	0.0	13.87	16.02	38.45	40.60	-24.6	
848.30	23.19	H	0.6	0.0	22.57	24.72	38.45	40.60	-15.9	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 5 16QAM 1.4MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	15.04	V	0.6	0.0	14.42	16.57	38.45	40.60	-24.0	
824.70	22.47	H	0.6	0.0	21.85	24.00	38.45	40.60	-16.6	
Mid Ch										
836.50	14.73	V	0.6	0.0	14.12	16.27	38.45	40.60	-24.3	
836.50	22.44	H	0.6	0.0	21.82	23.97	38.45	40.60	-16.6	
High Ch										
848.30	13.89	V	0.6	0.0	13.27	15.42	38.45	40.60	-25.2	
848.30	22.51	H	0.6	0.0	21.89	24.04	38.45	40.60	-16.6	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 5 QPSK 3MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	15.65	V	0.6	0.0	15.03	17.18	38.45	40.60	-23.4	
825.50	22.86	H	0.6	0.0	22.24	24.39	38.45	40.60	-16.2	
Mid Ch										
836.50	15.51	V	0.6	0.0	14.90	17.05	38.45	40.60	-23.6	
836.50	23.37	H	0.6	0.0	22.75	24.90	38.45	40.60	-15.7	
High Ch										
847.50	14.90	V	0.6	0.0	14.28	16.43	38.45	40.60	-24.2	
847.50	23.09	H	0.6	0.0	22.47	24.62	38.45	40.60	-16.0	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 5 16QAM 3MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	15.13	V	0.6	0.0	14.51	16.66	38.45	40.60	-23.9	
825.50	22.12	H	0.6	0.0	21.50	23.65	38.45	40.60	-16.9	
Mid Ch										
836.50	14.78	V	0.6	0.0	14.17	16.32	38.45	40.60	-24.3	
836.50	22.25	H	0.6	0.0	21.63	23.78	38.45	40.60	-16.8	
High Ch										
847.50	14.21	V	0.6	0.0	13.59	15.74	38.45	40.60	-24.9	
847.50	22.03	H	0.6	0.0	21.41	23.56	38.45	40.60	-17.0	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 5 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	15.86	V	0.6	0.0	15.24	17.39	38.45	40.60	-23.2	
826.50	22.83	H	0.6	0.0	22.21	24.36	38.45	40.60	-16.2	
Mid Ch										
836.50	15.61	V	0.6	0.0	15.00	17.15	38.45	40.60	-23.5	
836.50	23.16	H	0.6	0.0	22.54	24.69	38.45	40.60	-15.9	
High Ch										
846.50	15.40	V	0.6	0.0	14.78	16.93	38.45	40.60	-23.7	
846.50	23.46	H	0.6	0.0	22.84	24.99	38.45	40.60	-15.6	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 5 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	15.17	V	0.6	0.0	14.55	16.70	38.45	40.60	-23.9	
826.50	22.30	H	0.6	0.0	21.68	23.83	38.45	40.60	-16.8	
Mid Ch										
836.50	15.49	V	0.6	0.0	14.88	17.03	38.45	40.60	-23.6	
836.50	22.83	H	0.6	0.0	22.21	24.36	38.45	40.60	-16.2	
High Ch										
846.50	14.66	V	0.6	0.0	14.04	16.19	38.45	40.60	-24.4	
846.50	22.28	H	0.6	0.0	21.66	23.81	38.45	40.60	-16.8	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 5 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	15.56	V	0.6	0.0	14.94	17.09	38.45	40.60	-23.5	
829.00	22.87	H	0.6	0.0	22.25	24.40	38.45	40.60	-16.2	
Mid Ch										
836.50	15.97	V	0.6	0.0	15.36	17.51	38.45	40.60	-23.1	
836.50	23.23	H	0.6	0.0	22.61	24.76	38.45	40.60	-15.8	
High Ch										
844.00	15.55	V	0.6	0.0	14.93	17.08	38.45	40.60	-23.5	
844.00	23.39	H	0.6	0.0	22.77	24.92	38.45	40.60	-15.7	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 5 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	15.06	V	0.6	0.0	14.44	16.59	38.45	40.60	-24.0	
829.00	22.27	H	0.6	0.0	21.65	23.80	38.45	40.60	-16.8	
Mid Ch										
836.50	14.83	V	0.6	0.0	14.22	16.37	38.45	40.60	-24.2	
836.50	22.30	H	0.6	0.0	21.68	23.83	38.45	40.60	-16.8	
High Ch										
844.00	14.96	V	0.6	0.0	14.34	16.49	38.45	40.60	-24.1	
844.00	23.09	H	0.6	0.0	22.47	24.62	38.45	40.60	-16.0	

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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 F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: F. Guarnero
Configuration: EUT only
Mode: LTE Band 7 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	23.2	V	1.15	9.34	31.40	33.0	-1.6	
2.503	21.7	H	1.15	9.34	29.91	33.0	-3.1	
Mid Ch								
2.535	23.2	V	1.16	9.38	31.38	33.0	-1.6	
2.535	21.3	H	1.16	9.38	29.57	33.0	-3.4	
High Ch								
2.568	22.5	V	1.17	9.43	30.78	33.0	-2.2	
2.568	21.7	H	1.17	9.43	29.91	33.0	-3.1	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: F. Guarnero
Configuration: EUT only
Mode: LTE Band 7 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	22.3	V	1.15	9.34	30.45	33.0	-2.6	
2.503	20.8	H	1.15	9.34	28.95	33.0	-4.1	
Mid Ch								
2.535	22.3	V	1.16	9.38	30.51	33.0	-2.5	
2.535	20.8	H	1.16	9.38	29.00	33.0	-4.0	
High Ch								
2.568	21.4	V	1.17	9.43	29.68	33.0	-3.3	
2.568	20.8	H	1.17	9.43	29.06	33.0	-3.9	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: F. Guarnero
Configuration: EUT only
Mode: LTE Band 7 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	23.2	V	1.15	9.34	31.39	33.0	-1.6	
2.505	21.5	H	1.15	9.34	29.68	33.0	-3.3	
Mid Ch								
2.535	23.3	V	1.16	9.38	31.49	33.0	-1.5	
2.535	21.7	H	1.16	9.38	29.91	33.0	-3.1	
High Ch								
2.565	22.3	V	1.17	9.43	30.53	33.0	-2.5	
2.565	21.6	H	1.17	9.43	29.89	33.0	-3.1	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: F. Guarnero
Configuration: EUT only
Mode: LTE Band 7 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	22.2	V	1.15	9.34	30.35	33.0	-2.6	
2.505	20.3	H	1.15	9.34	28.53	33.0	-4.5	
Mid Ch								
2.535	22.1	V	1.16	9.38	30.34	33.0	-2.7	
2.535	20.8	H	1.16	9.38	29.03	33.0	-4.0	
High Ch								
2.565	21.4	V	1.17	9.43	29.64	33.0	-3.4	
2.565	20.8	H	1.17	9.43	29.01	33.0	-4.0	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: F. Guarnero
Configuration: EUT only
Mode: LTE Band 7 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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								
2.508	23.2	V	1.15	9.34	31.34	33.0	-1.7	
2.508	22.0	H	1.15	9.34	30.19	33.0	-2.8	
Mid Ch								
2.535	23.2	V	1.16	9.38	31.45	33.0	-1.5	
2.535	21.9	H	1.16	9.38	30.10	33.0	-2.9	
High Ch								
2.563	22.5	V	1.17	9.42	30.71	33.0	-2.3	
2.563	22.3	H	1.17	9.42	30.55	33.0	-2.5	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: F. Guarnero
Configuration: EUT only
Mode: LTE Band 7 16QAM 15MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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								
2.508	22.6	V	1.15	9.34	30.79	33.0	-2.2	
2.508	21.0	H	1.15	9.34	29.18	33.0	-3.8	
Mid Ch								
2.535	22.2	V	1.16	9.38	30.39	33.0	-2.6	
2.535	20.7	H	1.16	9.38	28.93	33.0	-4.1	
High Ch								
2.563	21.6	V	1.17	9.42	29.88	33.0	-3.1	
2.563	21.3	H	1.17	9.42	29.54	33.0	-3.5	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: F. Guarnero
Configuration: EUT only
Mode: LTE Band 7 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	23.2	V	1.15	9.35	31.41	33.0	-1.6	
2.510	21.7	H	1.15	9.35	29.94	33.0	-3.1	
Mid Ch								
2.535	22.9	V	1.16	9.38	31.16	33.0	-1.8	
2.535	21.7	H	1.16	9.38	29.91	33.0	-3.1	
High Ch								
2.560	22.4	V	1.17	9.42	30.63	33.0	-2.4	
2.560	21.5	H	1.17	9.42	29.71	33.0	-3.3	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: F. Guarnero
Configuration: EUT only
Mode: LTE Band 7 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	22.4	V	1.15	9.35	30.55	33.0	-2.5	
2.510	20.6	H	1.15	9.35	28.83	33.0	-4.2	
Mid Ch								
2.535	22.0	V	1.16	9.38	30.26	33.0	-2.7	
2.535	21.6	H	1.16	9.38	29.79	33.0	-3.2	
High Ch								
2.560	21.4	V	1.17	9.42	29.63	33.0	-3.4	
2.560	20.7	H	1.17	9.42	28.99	33.0	-4.0	

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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 D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 12 QPSK 1.4MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	13.03	V	0.55	0.0	12.48	14.63	34.77	36.99	-22.4	
699.70	20.76	H	0.55	0.0	20.21	22.36	34.77	36.99	-14.6	
Mid Ch										
707.50	13.25	V	0.55	0.0	12.70	14.85	34.77	36.99	-22.1	
707.50	20.97	H	0.55	0.0	20.42	22.57	34.77	36.99	-14.4	
High Ch										
715.30	11.96	V	0.55	0.0	11.41	13.56	34.77	36.99	-23.4	
715.30	20.65	H	0.55	0.0	20.10	22.25	34.77	36.99	-14.7	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 12 16QAM 1.4MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	12.16	V	0.55	0.0	11.61	13.76	34.77	36.99	-23.2	
699.70	19.30	H	0.55	0.0	18.75	20.90	34.77	36.99	-16.1	
Mid Ch										
707.50	11.84	V	0.55	0.0	11.29	13.44	34.77	36.99	-23.5	
707.50	19.71	H	0.55	0.0	19.16	21.31	34.77	36.99	-15.7	
High Ch										
715.30	10.82	V	0.55	0.0	10.27	12.42	34.77	36.99	-24.6	
715.30	19.86	H	0.55	0.0	19.31	21.46	34.77	36.99	-15.5	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 12 QPSK 3MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	12.78	V	0.55	0.0	12.23	14.38	34.77	36.99	-22.6	
700.50	20.62	H	0.55	0.0	20.07	22.22	34.77	36.99	-14.8	
Mid Ch										
707.50	12.76	V	0.55	0.0	12.21	14.36	34.77	36.99	-22.6	
707.50	20.39	H	0.55	0.0	19.84	21.99	34.77	36.99	-15.0	
High Ch										
714.50	12.03	V	0.55	0.0	11.48	13.63	34.77	36.99	-23.4	
714.50	20.29	H	0.55	0.0	19.74	21.89	34.77	36.99	-15.1	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 12 16QAM 3MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	12.26	V	0.55	0.0	11.71	13.86	34.77	36.99	-23.1	
700.50	19.52	H	0.55	0.0	18.97	21.12	34.77	36.99	-15.9	
Mid Ch										
707.50	11.91	V	0.55	0.0	11.36	13.51	34.77	36.99	-23.5	
707.50	19.47	H	0.55	0.0	18.92	21.07	34.77	36.99	-15.9	
High Ch										
714.50	11.08	V	0.55	0.0	10.53	12.68	34.77	36.99	-24.3	
714.50	19.48	H	0.55	0.0	18.93	21.08	34.77	36.99	-15.9	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 12 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	13.54	V	0.55	0.0	12.99	15.14	34.77	36.99	-21.9	
701.50	20.35	H	0.55	0.0	19.80	21.95	34.77	36.99	-15.0	
Mid Ch										
707.50	12.94	V	0.55	0.0	12.39	14.54	34.77	36.99	-22.4	
707.50	20.65	H	0.55	0.0	20.10	22.25	34.77	36.99	-14.7	
High Ch										
713.50	12.82	V	0.55	0.0	12.27	14.42	34.77	36.99	-22.6	
713.50	20.69	H	0.55	0.0	20.14	22.29	34.77	36.99	-14.7	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 12 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	12.51	V	0.55	0.0	11.96	14.11	34.77	36.99	-22.9	
701.50	19.75	H	0.55	0.0	19.20	21.35	34.77	36.99	-15.6	
Mid Ch										
707.50	12.37	V	0.55	0.0	11.82	13.97	34.77	36.99	-23.0	
707.50	20.04	H	0.55	0.0	19.49	21.64	34.77	36.99	-15.4	
High Ch										
713.50	11.74	V	0.55	0.0	11.19	13.34	34.77	36.99	-23.7	
713.50	19.56	H	0.55	0.0	19.01	21.16	34.77	36.99	-15.8	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 12 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	12.70	V	0.55	0.0	12.15	14.30	34.77	36.99	-22.7	
704.00	20.22	H	0.55	0.0	19.67	21.82	34.77	36.99	-15.2	
Mid Ch										
707.50	12.32	V	0.55	0.0	11.77	13.92	34.77	36.99	-23.1	
707.50	20.54	H	0.55	0.0	19.99	22.14	34.77	36.99	-14.9	
High Ch										
711.00	12.63	V	0.55	0.0	12.08	14.23	34.77	36.99	-22.8	
711.00	20.20	H	0.55	0.0	19.65	21.80	34.77	36.99	-15.2	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 12 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	12.09	V	0.55	0.0	11.54	13.69	34.77	36.99	-23.3	
704.00	19.65	H	0.55	0.0	19.10	21.25	34.77	36.99	-15.7	
Mid Ch										
707.50	12.06	V	0.55	0.0	11.51	13.66	34.77	36.99	-23.3	
707.50	19.61	H	0.55	0.0	19.06	21.21	34.77	36.99	-15.8	
High Ch										
711.00	12.63	V	0.55	0.0	12.08	14.23	34.77	36.99	-22.8	
711.00	10.78	H	0.55	0.0	19.23	12.38	34.77	36.99	-24.6	

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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 D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 13 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	14.57	V	0.55	0.0	14.02	16.17	34.77	36.99	-20.8	
779.50	18.30	H	0.55	0.0	17.75	19.90	34.77	36.99	-17.1	
Mid Ch										
782.00	15.34	V	0.55	0.0	14.79	16.94	34.77	36.99	-20.1	
782.00	18.82	H	0.55	0.0	18.27	20.42	34.77	36.99	-16.6	
High Ch										
784.50	16.16	V	0.55	0.0	15.61	17.76	34.77	36.99	-19.2	
784.50	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 (5.0MHZ BANDWIDTH)

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 13 16QAM5MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	13.74	V	0.55	0.0	13.19	15.34	34.77	36.99	-21.7	
779.50	17.85	H	0.55	0.0	17.30	19.45	34.77	36.99	-17.5	
Mid Ch										
782.00	14.79	V	0.55	0.0	14.24	16.39	34.77	36.99	-20.6	
782.00	18.07	H	0.55	0.0	17.52	19.67	34.77	36.99	-17.3	
High Ch										
784.50	15.43	V	0.55	0.0	14.88	17.03	34.77	36.99	-20.0	
784.50	18.02	H	0.55	0.0	17.47	19.62	34.77	36.99	-17.4	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 13 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	15.12	V	0.55	0.0	14.57	16.72	34.77	36.99	-20.3	
782.00	18.40	H	0.55	0.0	17.85	20.00	34.77	36.99	-17.0	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 13 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	14.12	V	0.55	0.0	13.57	15.72	34.77	36.99	-21.3	
782.00	17.69	H	0.55	0.0	17.14	19.29	34.77	36.99	-17.7	

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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 #: 15U22428
Date: 1/25/2016
Test Engineer: G. Chan
Configuration: EUT Only
Mode: LTE Band 17 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	15.54	V	0.55	0.0	14.99	17.14	34.77	36.99	-19.9	
706.50	21.43	H	0.55	0.0	20.88	23.03	34.77	36.99	-14.0	
Mid Ch										
710.00	15.24	V	0.55	0.0	14.69	16.84	34.77	36.99	-20.2	
710.00	21.50	H	0.55	0.0	20.95	23.10	34.77	36.99	-13.9	
High Ch										
713.50	15.87	V	0.55	0.0	15.32	17.47	34.77	36.99	-19.5	
713.50	21.92	H	0.55	0.0	21.37	23.52	34.77	36.99	-13.5	

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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 #: 15U22428
Date: 1/25/2016
Test Engineer: G. Chan
Configuration: EUT Only
Mode: LTE Band 17 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	14.64	V	0.55	0.0	14.09	16.24	34.77	36.99	-20.8	
706.50	20.68	H	0.55	0.0	20.13	22.28	34.77	36.99	-14.7	
Mid Ch										
710.00	14.43	V	0.55	0.0	13.88	16.03	34.77	36.99	-21.0	
710.00	20.82	H	0.55	0.0	20.27	22.42	34.77	36.99	-14.6	
High Ch										
713.50	14.93	V	0.55	0.0	14.38	16.53	34.77	36.99	-20.5	
713.50	21.05	H	0.55	0.0	20.50	22.65	34.77	36.99	-14.3	

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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 #: 15U22428
Date: 1/25/2016
Test Engineer: G. Chan
Configuration: EUT Only
Mode: LTE Band 17 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	14.69	V	0.55	0.0	14.14	16.29	34.77	36.99	-20.7	
710.00	20.83	H	0.55	0.0	20.28	22.43	34.77	36.99	-14.6	

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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 #: 15U22428
Date: 1/25/2016
Test Engineer: G. Chan
Configuration: EUT Only
Mode: LTE Band 17 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	14.09	V	0.55	0.0	13.54	15.69	34.77	36.99	-21.3	
710.00	19.88	H	0.55	0.0	19.33	21.48	34.77	36.99	-15.5	

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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 D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 25 QPSK 1.4MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	19.1	V	0.98	8.05	26.18	33.0	-6.8	
1.851	17.1	H	0.98	8.05	24.13	33.0	-8.9	
Mid Ch								
1.883	19.0	V	0.98	8.03	26.02	33.0	-7.0	
1.883	17.0	H	0.98	8.03	24.09	33.0	-8.9	
High Ch								
1.914	18.2	V	0.98	8.07	25.33	33.0	-7.7	
1.914	17.0	H	0.98	8.07	24.08	33.0	-8.9	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 25 16QAM 1.4MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	18.5	V	0.98	8.05	25.60	33.0	-7.4	
1.851	16.3	H	0.98	8.05	23.36	33.0	-9.6	
Mid Ch								
1.883	18.3	V	0.98	8.03	25.36	33.0	-7.6	
1.883	16.1	H	0.98	8.03	23.18	33.0	-9.8	
High Ch								
1.914	17.5	V	0.98	8.07	24.56	33.0	-8.4	
1.914	16.2	H	0.98	8.07	23.29	33.0	-9.7	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 25 QPSK 3MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	19.3	V	0.98	8.05	26.34	33.0	-6.7	
1.852	17.1	H	0.98	8.05	24.22	33.0	-8.8	
Mid Ch								
1.883	18.9	V	0.98	8.03	25.90	33.0	-7.1	
1.883	17.1	H	0.98	8.03	24.19	33.0	-8.8	
High Ch								
1.914	18.1	V	0.98	8.07	25.23	33.0	-7.8	
1.914	17.0	H	0.98	8.07	24.12	33.0	-8.9	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 25 16QAM 3MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	18.5	V	0.98	8.05	25.61	33.0	-7.4	
1.852	16.3	H	0.98	8.05	23.39	33.0	-9.6	
Mid Ch								
1.883	18.1	V	0.98	8.03	25.10	33.0	-7.9	
1.883	16.0	H	0.98	8.03	23.03	33.0	-10.0	
High Ch								
1.914	17.3	V	0.98	8.07	24.37	33.0	-8.6	
1.914	15.9	H	0.98	8.07	22.97	33.0	-10.0	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 25 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	19.3	V	0.98	8.05	26.33	33.0	-6.7	
1.853	17.8	H	0.98	8.05	24.91	33.0	-8.1	
Mid Ch								
1.883	19.0	V	0.98	8.03	26.00	33.0	-7.0	
1.883	16.9	H	0.98	8.03	23.90	33.0	-9.1	
High Ch								
1.913	18.6	V	0.98	8.06	25.66	33.0	-7.3	
1.913	16.7	H	0.98	8.06	23.76	33.0	-9.2	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 25 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	18.4	V	0.98	8.05	25.50	33.0	-7.5	
1.853	17.0	H	0.98	8.05	24.08	33.0	-8.9	
Mid Ch								
1.883	18.5	V	0.98	8.03	25.55	33.0	-7.5	
1.883	16.4	H	0.98	8.03	23.43	33.0	-9.6	
High Ch								
1.913	17.7	V	0.98	8.06	24.78	33.0	-8.2	
1.913	15.8	H	0.98	8.06	22.86	33.0	-10.1	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 25 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	19.3	V	0.98	8.05	26.36	33.0	-6.6	
1.855	17.5	H	0.98	8.05	24.54	33.0	-8.5	
Mid Ch								
1.883	19.3	V	0.98	8.03	26.30	33.0	-6.7	
1.883	17.0	H	0.98	8.03	24.01	33.0	-9.0	
High Ch								
1.910	19.3	V	0.98	8.05	26.37	33.0	-6.6	
1.910	17.9	H	0.98	8.05	24.92	33.0	-8.1	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 25 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	18.4	V	0.98	8.05	25.48	33.0	-7.5	
1.855	16.6	H	0.98	8.05	23.67	33.0	-9.3	
Mid Ch								
1.883	18.6	V	0.98	8.03	25.64	33.0	-7.4	
1.883	16.2	H	0.98	8.03	23.27	33.0	-9.7	
High Ch								
1.910	18.5	V	0.98	8.05	25.57	33.0	-7.4	
1.910	17.1	H	0.98	8.05	24.15	33.0	-8.8	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 25 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	19.3	V	0.98	8.04	26.41	33.0	-6.6	
1.858	17.9	H	0.98	8.04	24.92	33.0	-8.1	
Mid Ch								
1.883	19.2	V	0.98	8.03	26.20	33.0	-6.8	
1.883	17.0	H	0.98	8.03	24.07	33.0	-8.9	
High Ch								
1.908	19.3	V	0.98	8.04	26.36	33.0	-6.6	
1.908	17.5	H	0.98	8.04	24.58	33.0	-8.4	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 25 16QAM 15MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	18.5	V	0.98	8.04	25.57	33.0	-7.4	
1.858	17.0	H	0.98	8.04	24.08	33.0	-8.9	
Mid Ch								
1.883	18.4	V	0.98	8.03	25.40	33.0	-7.6	
1.883	16.3	H	0.98	8.03	23.34	33.0	-9.7	
High Ch								
1.908	18.4	V	0.98	8.04	25.41	33.0	-7.6	
1.908	16.7	H	0.98	8.04	23.75	33.0	-9.3	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 25 QPSK 20MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	19.4	V	0.98	8.04	26.50	33.0	-6.5	
1.860	17.5	H	0.98	8.04	24.61	33.0	-8.4	
Mid Ch								
1.883	19.2	V	0.98	8.03	26.20	33.0	-6.8	
1.883	17.3	H	0.98	8.03	24.38	33.0	-8.6	
High Ch								
1.905	19.3	V	0.98	8.04	26.35	33.0	-6.7	
1.905	17.1	H	0.98	8.04	24.14	33.0	-8.9	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/20/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 25 16QAM 20MHz BW

Test Equipment:
Receiving: Horn T344, and Chamber D SMA Cables
Substitution: Horn T60 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	18.5	V	0.98	8.04	25.59	33.0	-7.4	
1.860	16.3	H	0.98	8.04	23.41	33.0	-9.6	
Mid Ch								
1.883	18.2	V	0.98	8.03	25.28	33.0	-7.7	
1.883	16.2	H	0.98	8.03	23.28	33.0	-9.7	
High Ch								
1.905	18.4	V	0.98	8.04	25.41	33.0	-7.6	
1.905	16.1	H	0.98	8.04	23.14	33.0	-9.9	

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10.1.9. LTE BAND 26

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 26 QPSK 1.4MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	15.03	V	0.62	0.0	14.41	16.56	38.45	40.60	-24.0	
814.70	21.93	H	0.62	0.0	21.31	23.46	38.45	40.60	-17.1	
Mid Ch										
819.00	15.40	V	0.62	0.0	14.78	16.93	38.45	40.60	-23.7	
819.00	22.79	H	0.62	0.0	22.17	24.32	38.45	40.60	-16.3	
High Ch										
823.30	15.91	V	0.62	0.0	15.29	17.44	38.45	40.60	-23.2	
823.30	22.69	H	0.62	0.0	22.07	24.22	38.45	40.60	-16.4	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 26 16QAM 1.4MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	14.17	V	0.62	0.0	13.55	15.70	38.45	40.60	-24.9	
814.70	21.20	H	0.62	0.0	20.58	22.73	38.45	40.60	-17.9	
Mid Ch										
819.00	14.83	V	0.62	0.0	14.21	16.36	38.45	40.60	-24.2	
819.00	21.94	H	0.62	0.0	21.32	23.47	38.45	40.60	-17.1	
High Ch										
823.30	15.22	V	0.62	0.0	14.60	16.75	38.45	40.60	-23.9	
823.30	22.21	H	0.62	0.0	21.59	23.74	38.45	40.60	-16.9	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 26 QPSK 3MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	15.06	V	0.62	0.0	14.44	16.59	38.45	40.60	-24.0	
815.50	21.77	H	0.62	0.0	21.15	23.30	38.45	40.60	-17.3	
Mid Ch										
819.00	15.18	V	0.62	0.0	14.56	16.71	38.45	40.60	-23.9	
819.00	22.49	H	0.62	0.0	21.87	24.02	38.45	40.60	-16.6	
High Ch										
822.50	15.48	V	0.62	0.0	14.86	17.01	38.45	40.60	-23.6	
822.50	22.42	H	0.62	0.0	21.80	23.95	38.45	40.60	-16.7	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 26 16QAM 3MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	14.01	V	0.62	0.0	13.39	15.54	38.45	40.60	-25.1	
815.50	20.79	H	0.62	0.0	20.17	22.32	38.45	40.60	-18.3	
Mid Ch										
819.00	14.40	V	0.62	0.0	13.78	15.93	38.45	40.60	-24.7	
819.00	21.67	H	0.62	0.0	21.05	23.20	38.45	40.60	-17.4	
High Ch										
822.50	14.91	V	0.62	0.0	14.29	16.44	38.45	40.60	-24.2	
822.50	21.74	H	0.62	0.0	21.12	23.27	38.45	40.60	-17.3	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 26 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	15.00	V	0.62	0.0	14.38	16.53	38.45	40.60	-24.1	
816.50	21.98	H	0.62	0.0	21.36	23.51	38.45	40.60	-17.1	
Mid Ch										
819.00	15.24	V	0.62	0.0	14.62	16.77	38.45	40.60	-23.8	
819.00	22.17	H	0.62	0.0	21.55	23.70	38.45	40.60	-16.9	
High Ch										
821.50	15.43	V	0.62	0.0	14.81	16.96	38.45	40.60	-23.6	
821.50	22.65	H	0.62	0.0	22.03	24.18	38.45	40.60	-16.4	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 26 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	14.33	V	0.62	0.0	13.71	15.86	38.45	40.60	-24.7	
816.50	20.96	H	0.62	0.0	20.34	22.49	38.45	40.60	-18.1	
Mid Ch										
819.00	14.42	V	0.62	0.0	13.80	15.95	38.45	40.60	-24.7	
819.00	21.78	H	0.62	0.0	21.16	23.31	38.45	40.60	-17.3	
High Ch										
821.50	14.58	V	0.62	0.0	13.96	16.11	38.45	40.60	-24.5	
821.50	21.85	H	0.62	0.0	21.23	23.38	38.45	40.60	-17.2	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 26 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	14.84	V	0.62	0.0	14.22	16.37	38.45	40.60	-24.2	
819.00	22.42	H	0.62	0.0	21.80	23.95	38.45	40.60	-16.6	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber D

Company:
Project #: 15U22428
Date: 11/23/2015
Test Engineer: M. Hua
Configuration: EUT Only
Mode: LTE Band 26 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T408, and Chamber D 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	14.26	V	0.62	0.0	13.64	15.79	38.45	40.60	-24.8	
819.00	21.30	H	0.62	0.0	20.68	22.83	38.45	40.60	-17.8	

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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 #: 15U22428
Date: 1/25/2016
Test Engineer: G. Chan
Configuration: EUT Only
Mode: LTE Band 27 QPSK 1.4MHz BW

Test Equipment:
Receiving: Sunol T899, 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	14.99	V	0.62	0.0	14.37	24.00	-9.6	
814.70	20.16	H	0.62	0.0	19.54	24.00	-4.5	
Mid Ch								
819.00	15.26	V	0.62	0.0	14.64	24.00	-9.4	
819.00	20.68	H	0.62	0.0	20.06	24.00	-3.9	
High Ch								
823.30	13.73	V	0.62	0.0	13.11	24.00	-10.9	
823.30	20.07	H	0.62	0.0	19.45	24.00	-4.6	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 15U22428
Date: 1/25/2016
Test Engineer: G. Chan
Configuration: EUT Only
Mode: LTE Band 27 16QAM 1.4MHz BW

Test Equipment:
Receiving: Sunol T899, 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	14.24	V	0.62	0.0	13.62	24.00	-10.4	
814.70	19.26	H	0.62	0.0	18.64	24.00	-5.4	
Mid Ch								
819.00	14.42	V	0.62	0.0	13.80	24.00	-10.2	
819.00	19.75	H	0.62	0.0	19.13	24.00	-4.9	
High Ch								
823.30	12.96	V	0.62	0.0	12.34	24.00	-11.7	
823.30	19.12	H	0.62	0.0	18.50	24.00	-5.5	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 15U22428
Date: 1/25/2016
Test Engineer: G. Chan
Configuration: EUT Only
Mode: LTE Band 27 QPSK 3MHz BW

Test Equipment:
Receiving: Sunol T899, 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	14.75	V	0.62	0.0	14.13	24.00	-9.9	
815.50	19.96	H	0.62	0.0	19.34	24.00	-4.7	
Mid Ch								
819.00	14.93	V	0.62	0.0	14.31	24.00	-9.7	
819.00	20.23	H	0.62	0.0	19.61	24.00	-4.4	
High Ch								
822.50	14.30	V	0.62	0.0	13.68	24.00	-10.3	
822.50	20.02	H	0.62	0.0	19.40	24.00	-4.6	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 15U22428
Date: 1/25/2016
Test Engineer: G. Chan
Configuration: EUT Only
Mode: LTE Band 27 16QAM 3MHz BW

Test Equipment:
Receiving: Sunol T899, 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	13.86	V	0.62	0.0	13.24	24.00	-10.8	
815.50	18.99	H	0.62	0.0	18.37	24.00	-5.6	
Mid Ch								
819.00	14.24	V	0.62	0.0	13.62	24.00	-10.4	
819.00	19.52	H	0.62	0.0	18.90	24.00	-5.1	
High Ch								
822.50	13.52	V	0.62	0.0	12.90	24.00	-11.1	
822.50	19.23	H	0.62	0.0	18.61	24.00	-5.4	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 15U22428
Date: 1/25/2016
Test Engineer: G. Chan
Configuration: EUT Only
Mode: LTE Band 27 QPSK 5MHz BW

Test Equipment:
Receiving: Sunol T899, 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								
816.5	14.91	V	0.62	0.0	14.29	24.00	-9.7	
816.5	20.16	H	0.62	0.0	19.54	24.00	-4.5	
Mid Ch								
819.0	14.98	V	0.62	0.0	14.36	24.00	-9.6	
819.0	20.28	H	0.62	0.0	19.66	24.00	-4.3	
High Ch								
821.5	15.27	V	0.62	0.0	14.65	24.00	-9.4	
821.5	20.74	H	0.62	0.0	20.12	24.00	-3.9	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 15U22428
Date: 1/25/2016
Test Engineer: G. Chan
Configuration: EUT Only
Mode: LTE Band 27 16QAM 5MHz BW

Test Equipment:
Receiving: Sunol T899, 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								
816.5	14.05	V	0.62	0.0	13.43	24.00	-10.6	
816.5	19.16	H	0.62	0.0	18.54	24.00	-5.5	
Mid Ch								
819.0	14.26	V	0.62	0.0	13.64	24.00	-10.4	
819.0	19.67	H	0.62	0.0	19.05	24.00	-5.0	
High Ch								
821.5	14.60	V	0.62	0.0	13.98	24.00	-10.0	
821.5	19.85	H	0.62	0.0	19.23	24.00	-4.8	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber G

Company:
Project #: 15U22428
Date: 1/25/2016
Test Engineer: G. Chan
Configuration: EUT Only
Mode: LTE Band 27 QPSK 10MHz BW

Test Equipment:
Receiving: Sunol T899, 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	14.64	V	0.62	0.0	14.02	24.00	-10.0	
819.00	20.62	H	0.62	0.0	20.00	24.00	-4.0	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/25/2016
Test Engineer: G. Chan
Configuration: EUT Only
Mode: LTE Band 27 16QAM 10MHz BW

Test Equipment:
Receiving: Sunol T120, and Chamber F 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	13.97	V	0.62	0.0	13.35	24.00	-10.7	
819.00	19.70	H	0.62	0.0	19.08	24.00	-4.9	

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10.1.11. LTE BAND 30

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: M. Hua
Configuration: EUT only
Mode: LTE Band 30 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	14.5	V	1.15	9.37	22.69	24.0	-1.3	
2.308	13.1	H	1.15	9.37	21.32	24.0	-2.7	
Mid Ch								
2.310	14.2	V	1.16	9.37	22.44	24.0	-1.6	
2.310	12.9	H	1.16	9.37	21.14	24.0	-2.9	
High Ch								
2.313	14.1	V	1.17	9.37	22.33	24.0	-1.7	
2.313	12.9	H	1.17	9.37	21.09	24.0	-2.9	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: M. Hua
Configuration: EUT only
Mode: LTE Band 30 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	13.8	V	1.15	9.37	21.98	24.0	-2.0	
2.308	12.3	H	1.15	9.37	20.48	24.0	-3.5	
Mid Ch								
2.310	13.3	V	1.16	9.37	21.50	24.0	-2.5	
2.310	12.2	H	1.16	9.37	20.39	24.0	-3.6	
High Ch								
2.313	13.3	V	1.17	9.37	21.45	24.0	-2.6	
2.313	11.9	H	1.17	9.37	20.13	24.0	-3.9	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: M. Hua
Configuration: EUT only
Mode: LTE Band 30 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	14.5	V	1.15	9.37	22.70	24.0	-1.3	
2.310	13.1	H	1.15	9.37	21.36	24.0	-2.6	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: M. Hua
Configuration: EUT only
Mode: LTE Band 30 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	13.8	V	1.15	9.37	22.03	24.0	-2.0	
2.310	12.6	H	1.15	9.37	20.81	24.0	-3.2	

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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 F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: M. Hua
Configuration: EUT only
Mode: LTE Band 41 QPSK 5MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	23.4	V	1.15	9.33	31.56	33.0	-1.4	
2.499	22.0	H	1.15	9.33	30.14	33.0	-2.9	
Mid Ch								
2.593	21.7	V	1.16	9.47	30.05	33.0	-2.9	
2.593	22.0	H	1.16	9.47	30.27	33.0	-2.7	
High Ch								
2.688	18.8	V	1.17	9.78	27.36	33.0	-5.6	
2.688	19.9	H	1.17	9.78	28.56	33.0	-4.4	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: M. Hua
Configuration: EUT only
Mode: LTE Band 41 16QAM 5MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	22.2	V	1.15	9.33	30.38	33.0	-2.6	
2.499	21.1	H	1.15	9.33	29.30	33.0	-3.7	
Mid Ch								
2.593	20.9	V	1.16	9.47	29.24	33.0	-3.8	
2.593	21.1	H	1.16	9.47	29.41	33.0	-3.6	
High Ch								
2.688	17.7	V	1.17	9.78	26.35	33.0	-6.6	
2.688	19.0	H	1.17	9.78	27.57	33.0	-5.4	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: M. Hua
Configuration: EUT only
Mode: LTE Band 41 QPSK 10MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	23.2	V	1.15	9.33	31.41	33.0	-1.6	
2.501	22.3	H	1.15	9.33	30.51	33.0	-2.5	
Mid Ch								
2.593	21.9	V	1.16	9.47	30.16	33.0	-2.8	
2.593	22.3	H	1.16	9.47	30.59	33.0	-2.4	
High Ch								
2.685	19.2	V	1.17	9.77	27.79	33.0	-5.2	
2.685	20.6	H	1.17	9.77	29.23	33.0	-3.8	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: M. Hua
Configuration: EUT only
Mode: LTE Band 41 16QAM 10MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	22.3	V	1.15	9.33	30.51	33.0	-2.5	
2.501	21.6	H	1.15	9.33	29.81	33.0	-3.2	
Mid Ch								
2.593	21.0	V	1.16	9.47	29.28	33.0	-3.7	
2.593	21.4	H	1.16	9.47	29.66	33.0	-3.3	
High Ch								
2.685	18.3	V	1.17	9.77	26.93	33.0	-6.1	
2.685	19.8	H	1.17	9.77	28.38	33.0	-4.6	

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

High Frequency Substitution Measurement
UL Fremont Radiated Chamber F

Company:
Project #: 15U22428
Date: 1/4/2016
Test Engineer: M. Hua
Configuration: EUT only
Mode: LTE Band 41 QPSK 15MHz BW

Test Equipment:
Receiving: Horn T120, and Chamber F 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	23.7	V	1.15	9.34	31.88	33.0	-1.1	
2.504	22.8	H	1.15	9.34	31.03	33.0	-2.0	
Mid Ch								
2.593	21.9	V	1.16	9.47	30.25	33.0	-2.7	
2.593	22.5	H	1.16	9.47	30.82	33.0	-2.2	
High Ch								
2.683	19.6	V	1.17	9.76	28.22	33.0	-4.8	
2.683	21.0	H	1.17	9.76	29.56	33.0	-3.4	

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