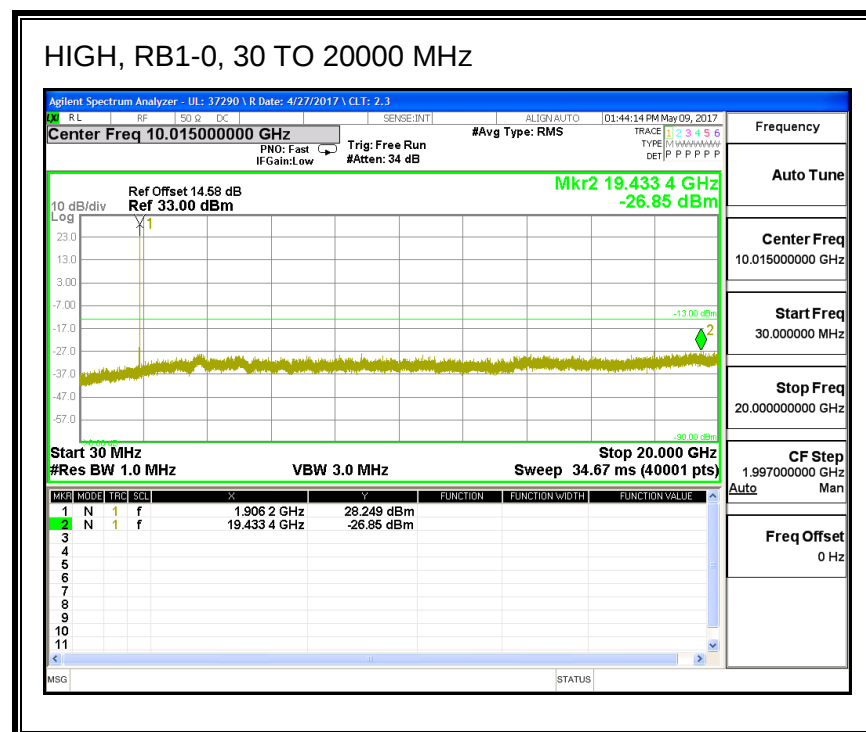
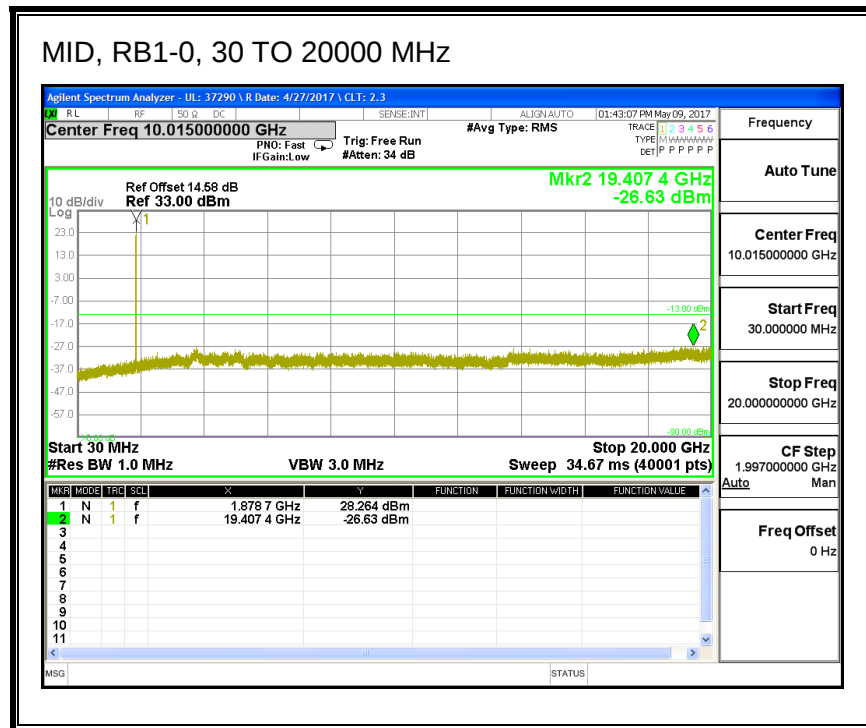
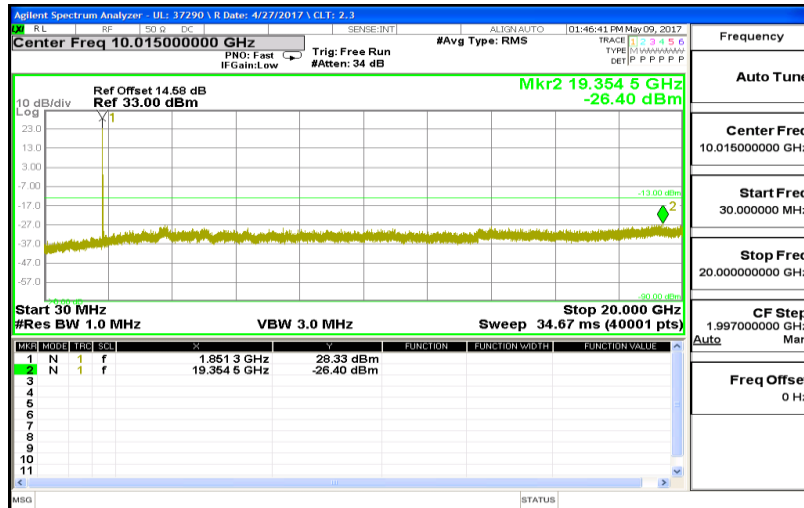


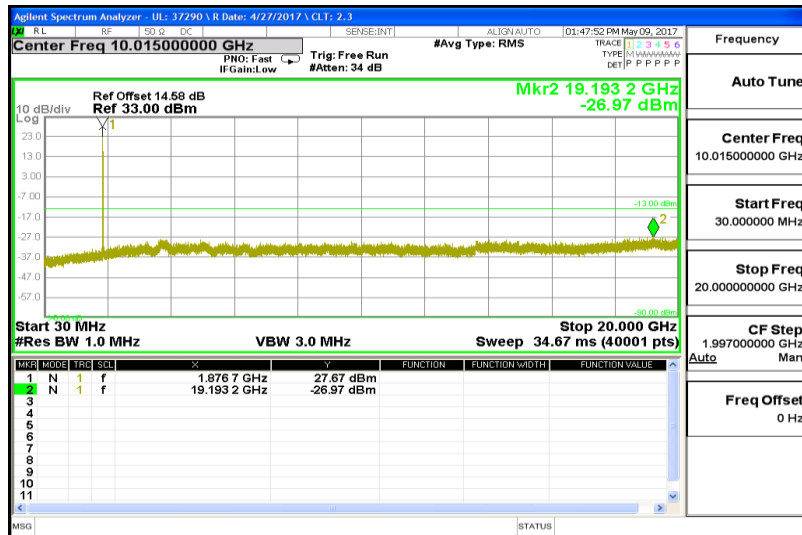


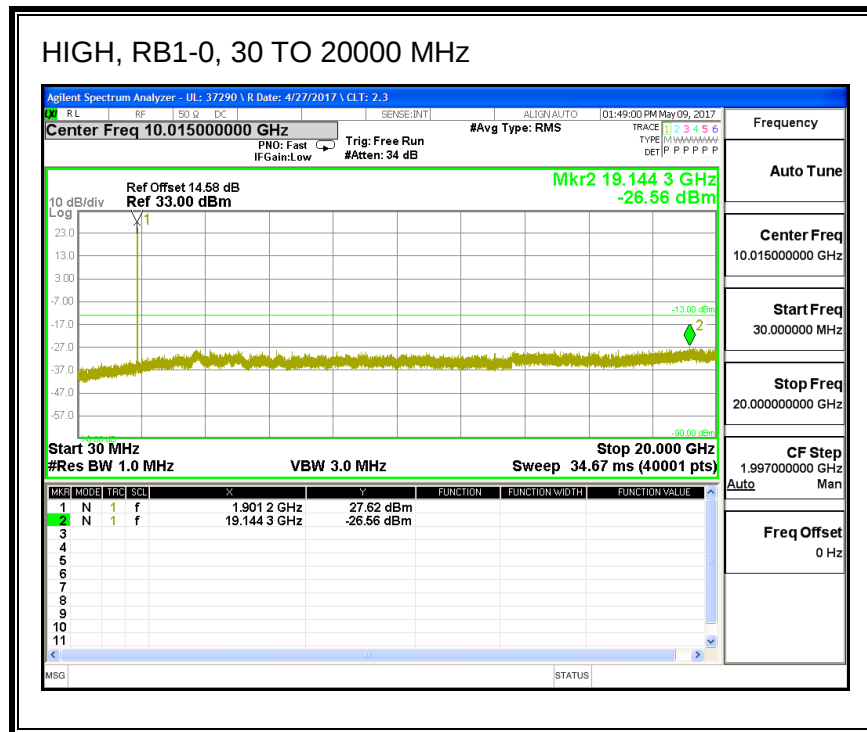
QPSK, (15.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 20000 MHz

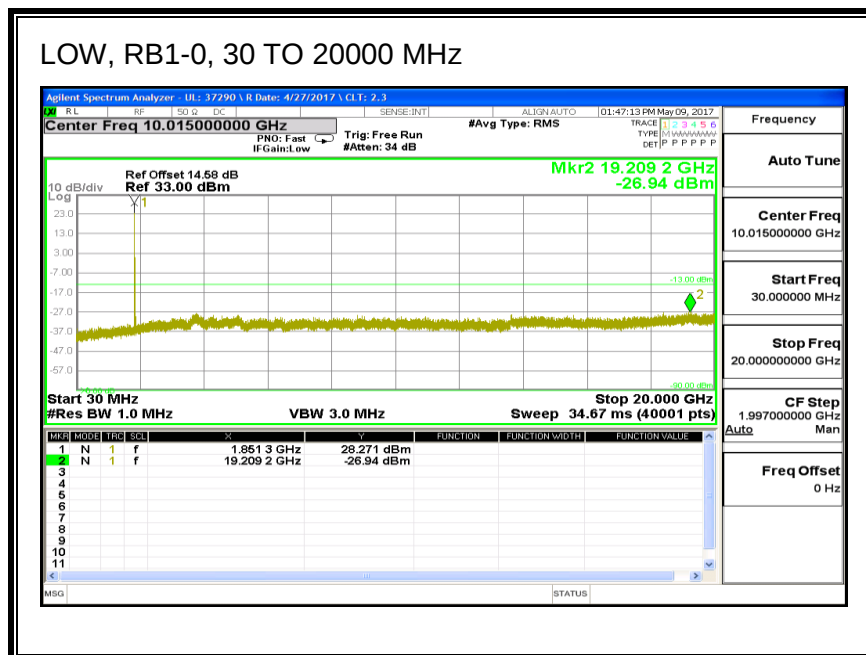


MID, RB1-0, 30 TO 20000 MHz

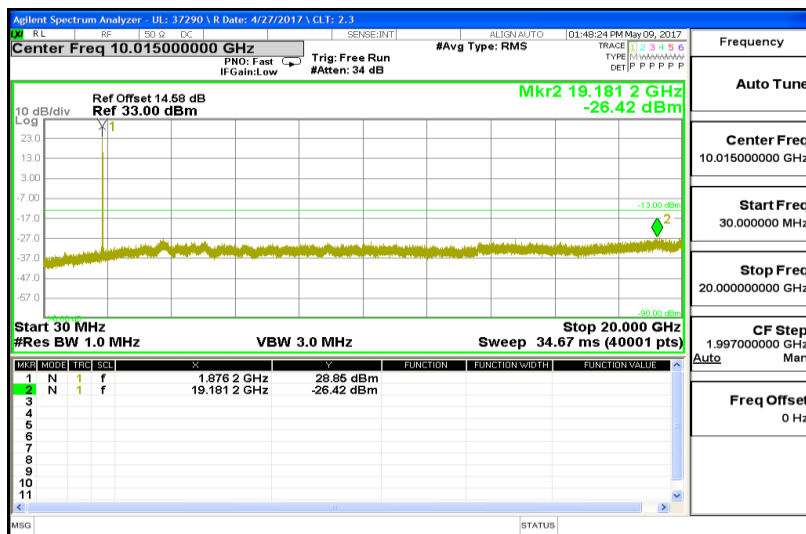




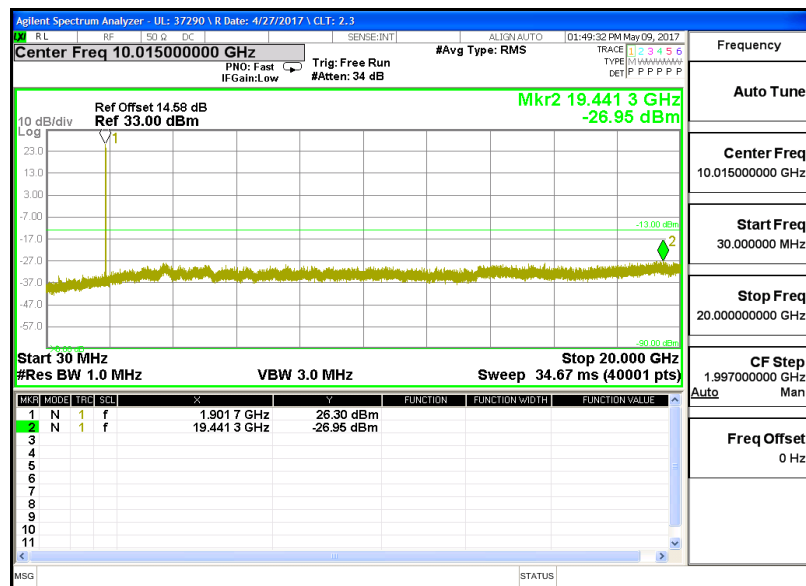
16QAM, (15.0 MHz BAND WIDTH)



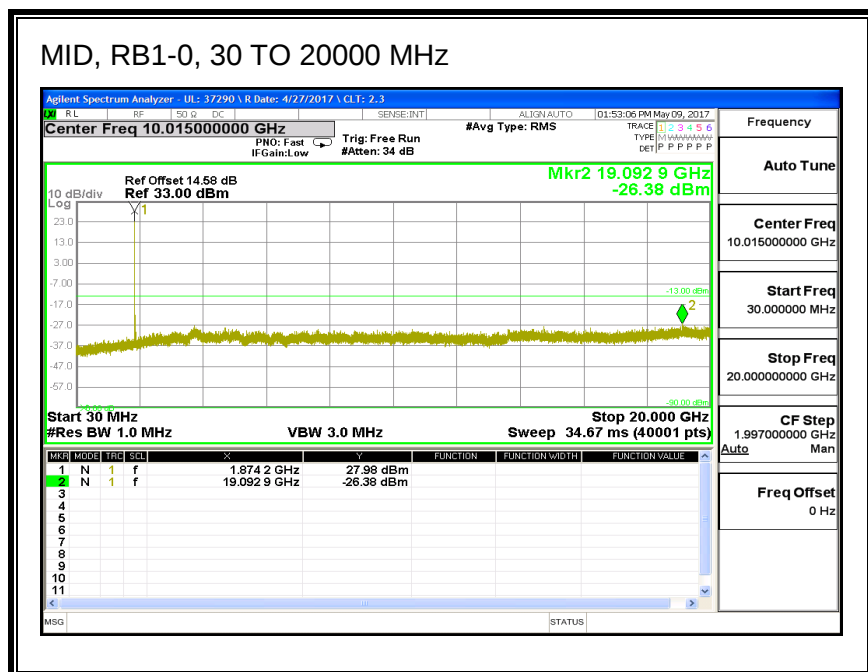
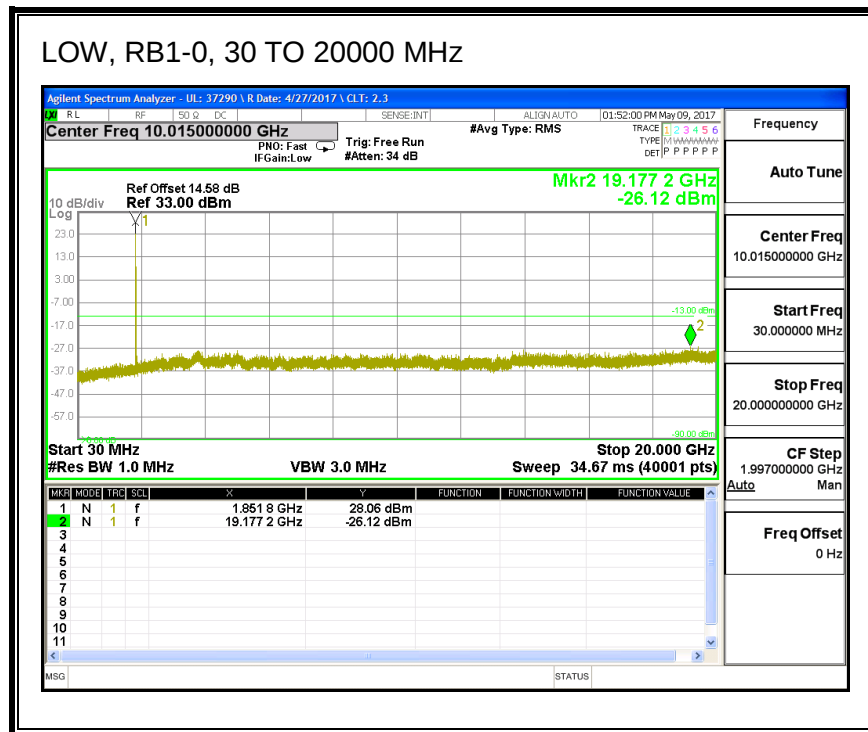
MID, RB1-0, 30 TO 20000 MHz

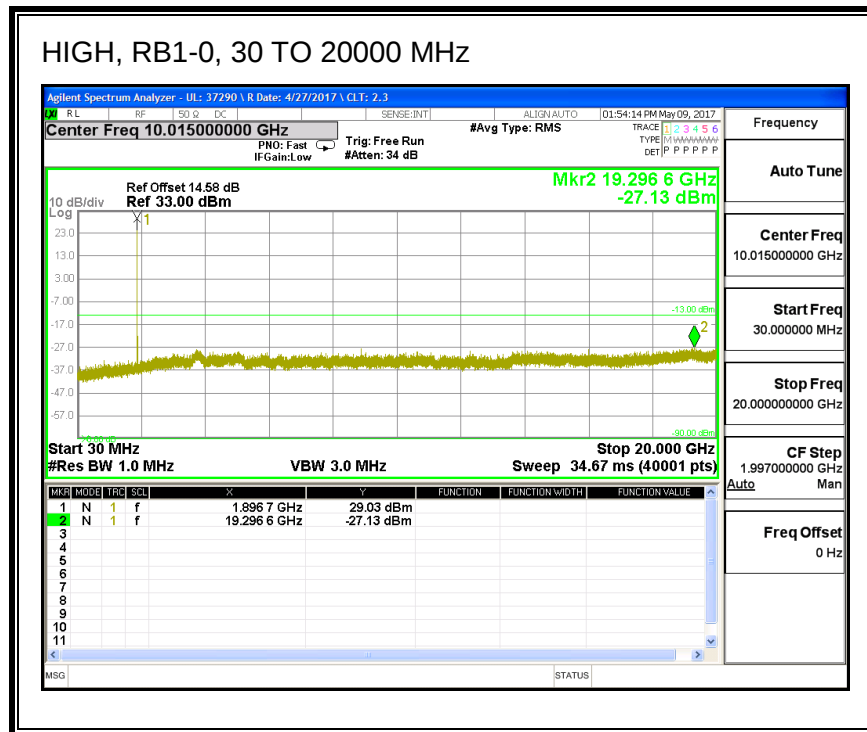


HIGH, RB1-0, 30 TO 20000 MHz

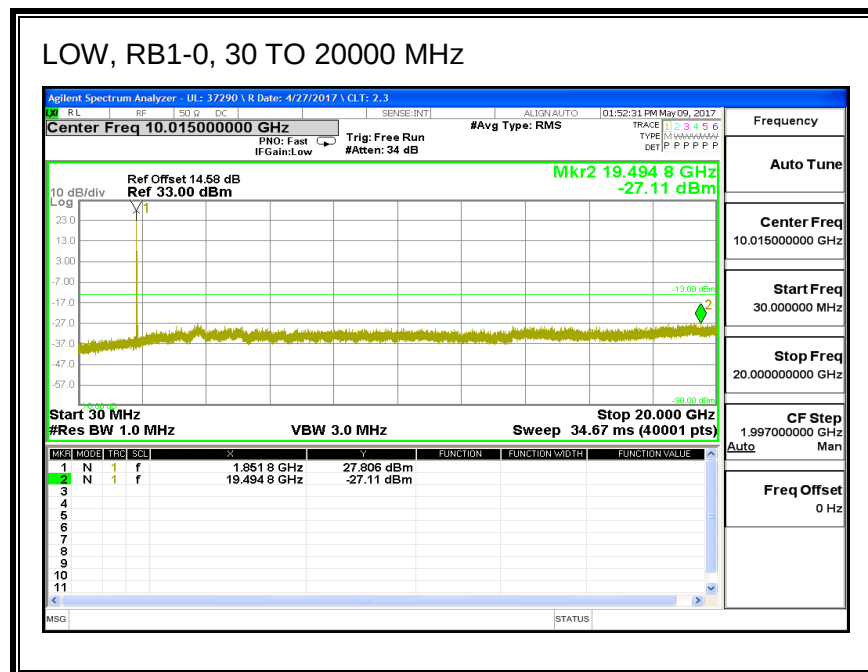


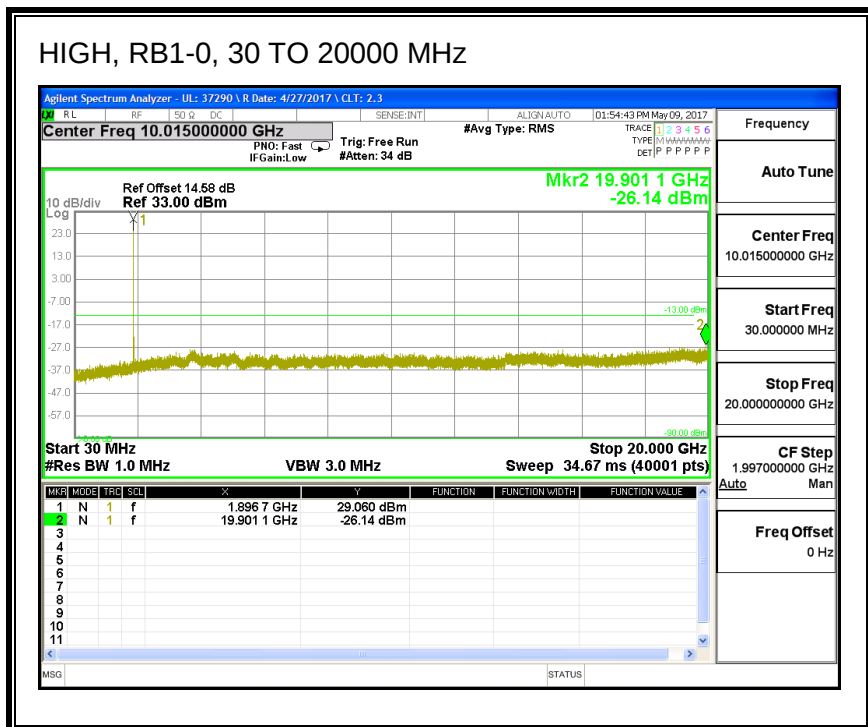
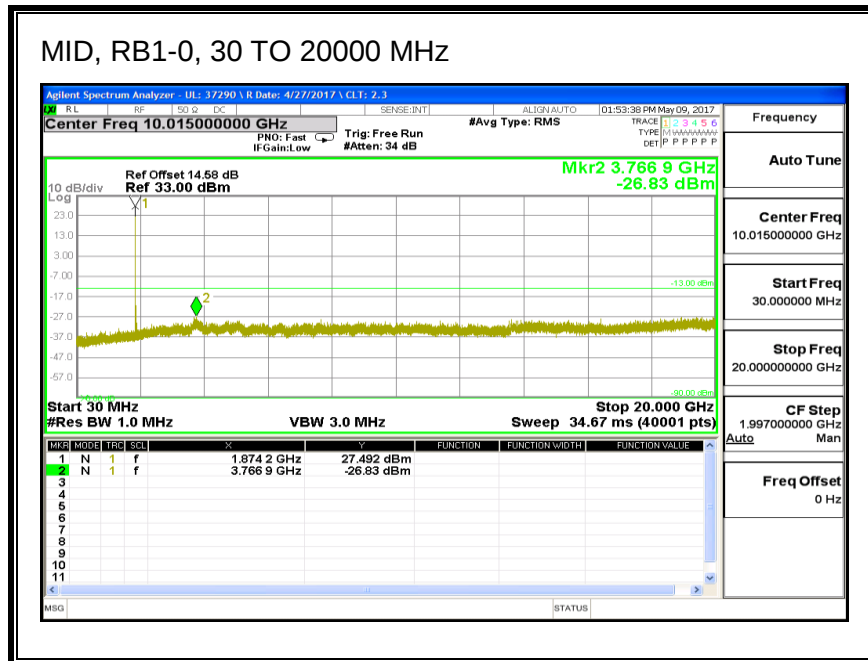
QPSK, (20.0 MHz BAND WIDTH)





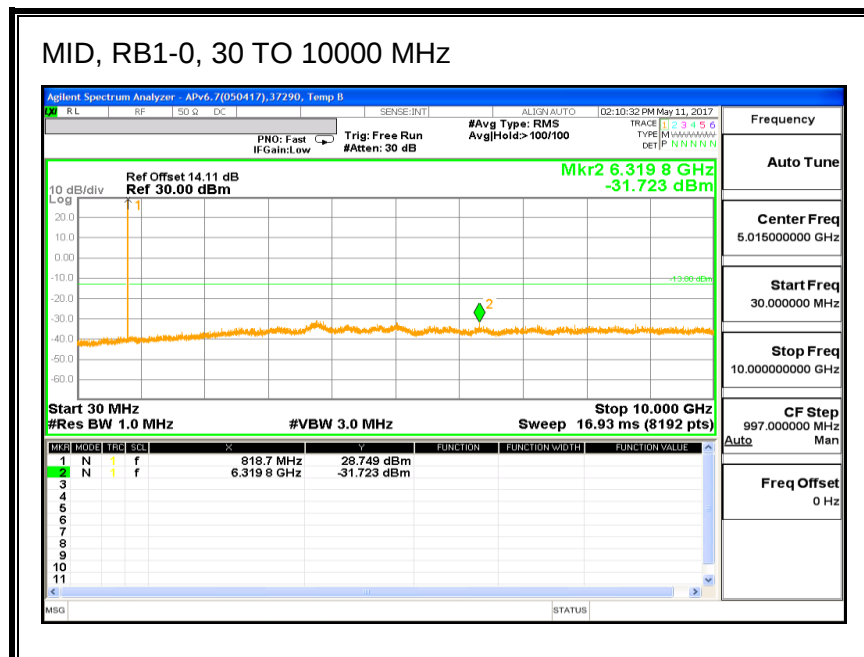
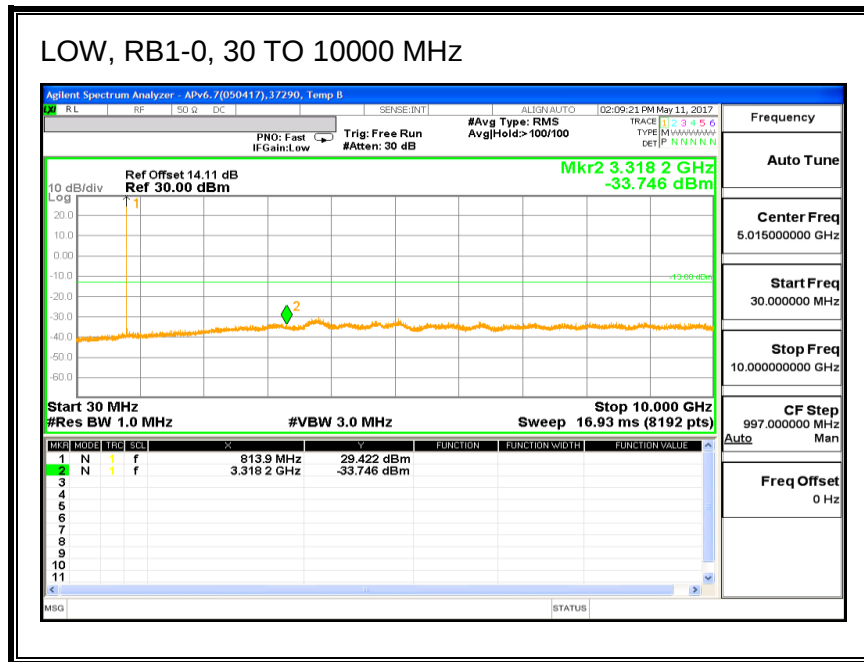
16QAM, (20.0 MHz BAND WIDTH)

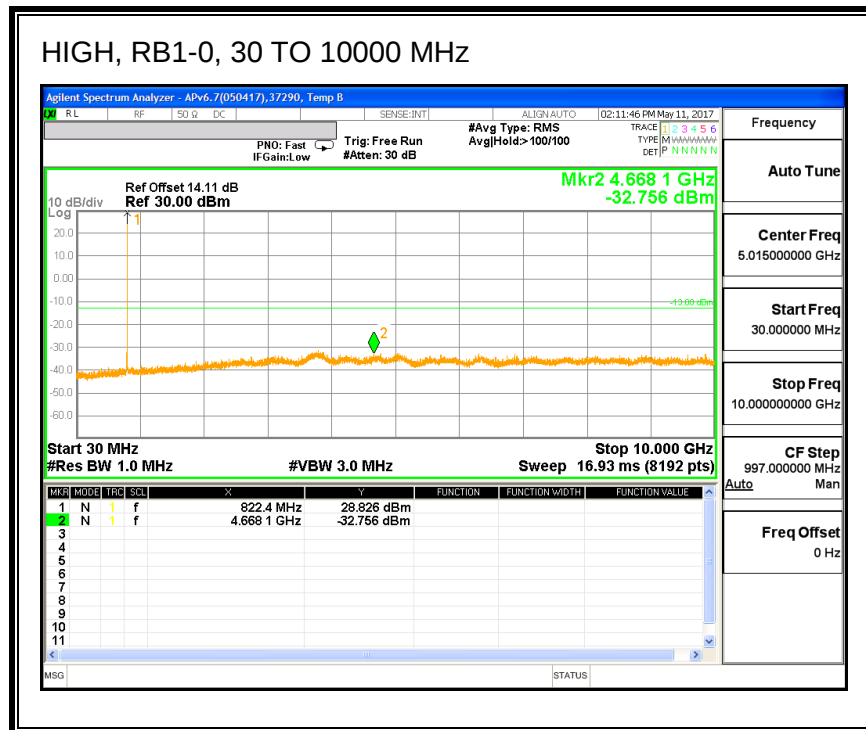




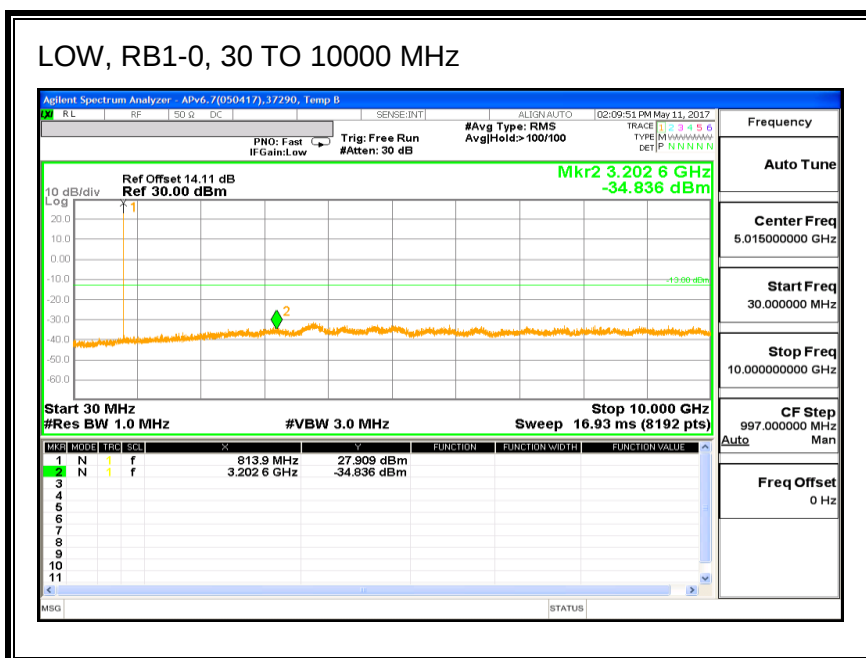
8.3.9. LTE BAND 26

QPSK, (1.4 MHz BAND WIDTH)

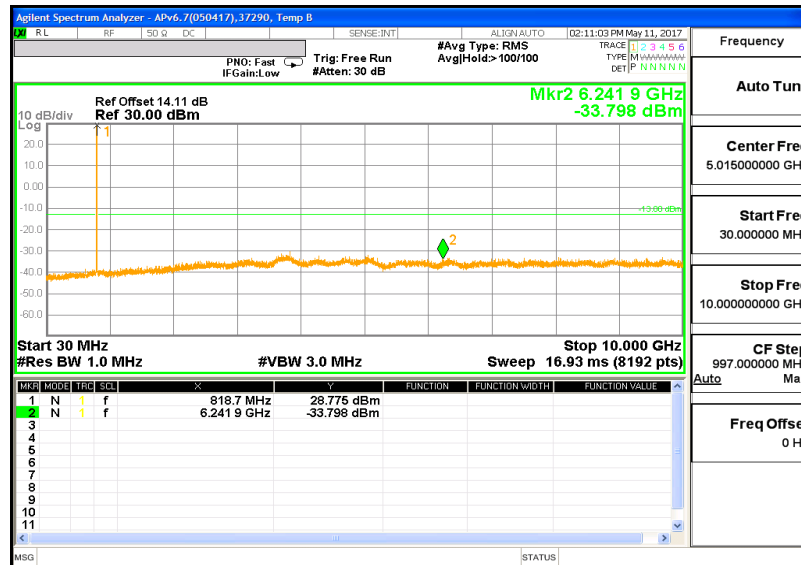




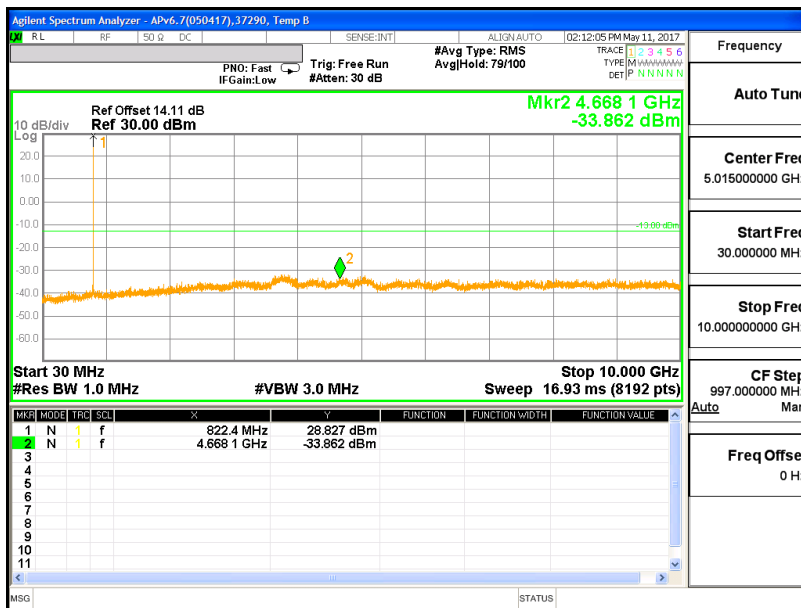
16QAM, (1.4 MHz BAND WIDTH)



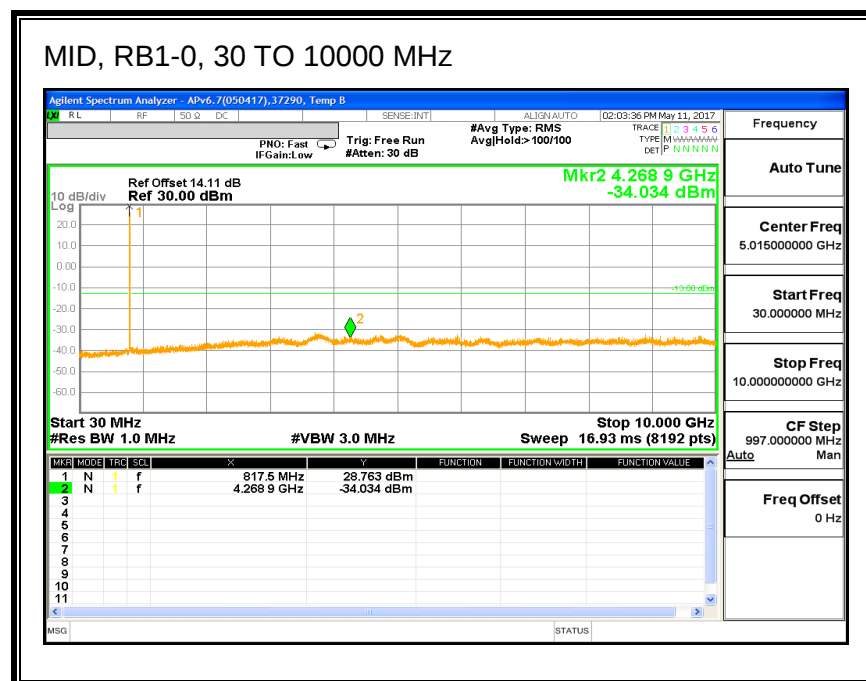
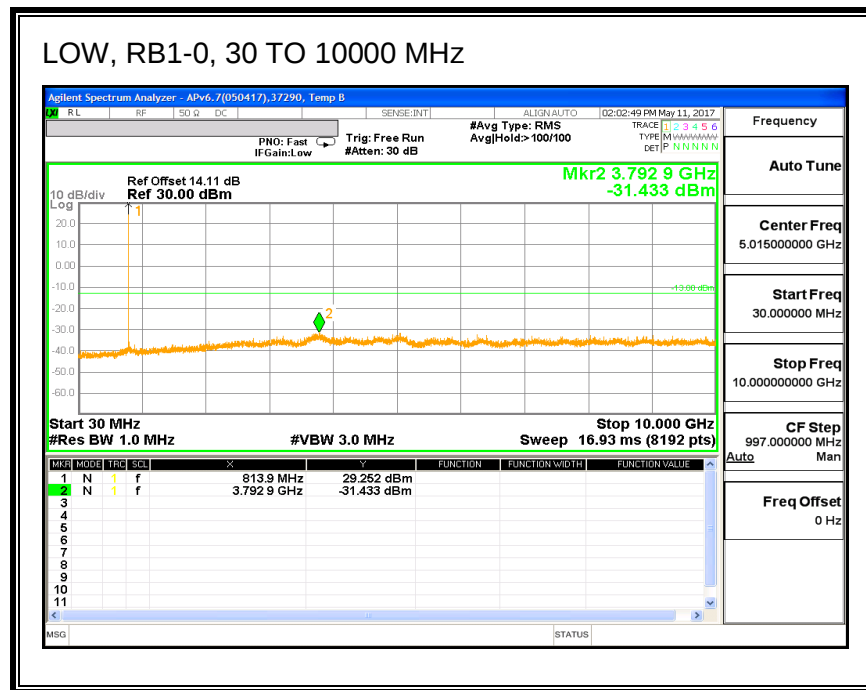
MID, RB1-0, 30 TO 10000 MHz

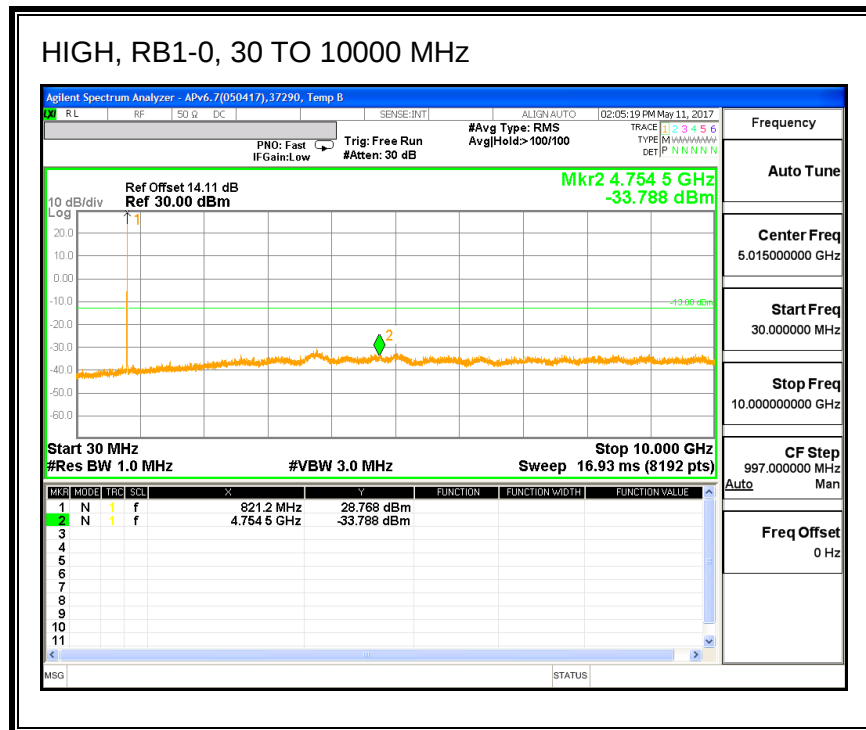


HIGH, RB1-0, 30 TO 10000 MHz

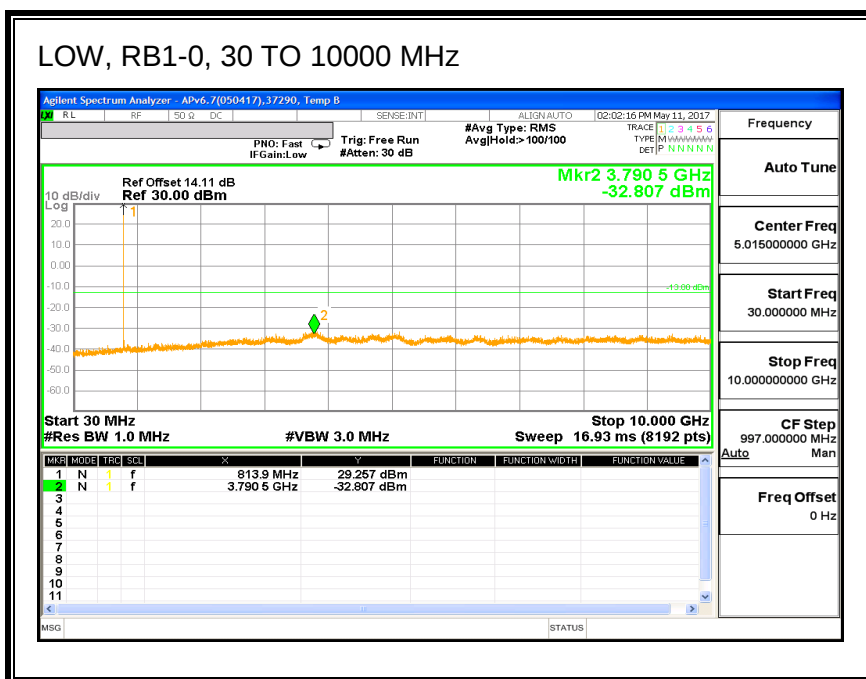


QPSK, (3.0 MHz BAND WIDTH)

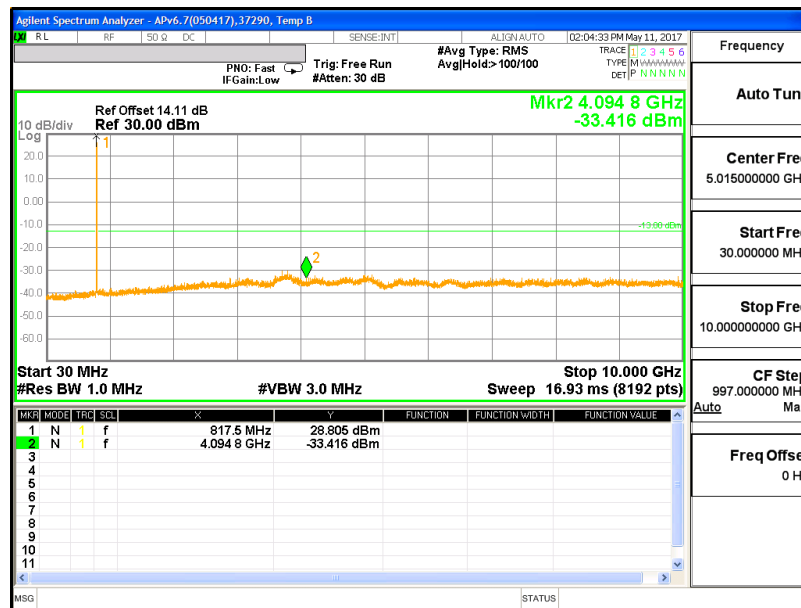




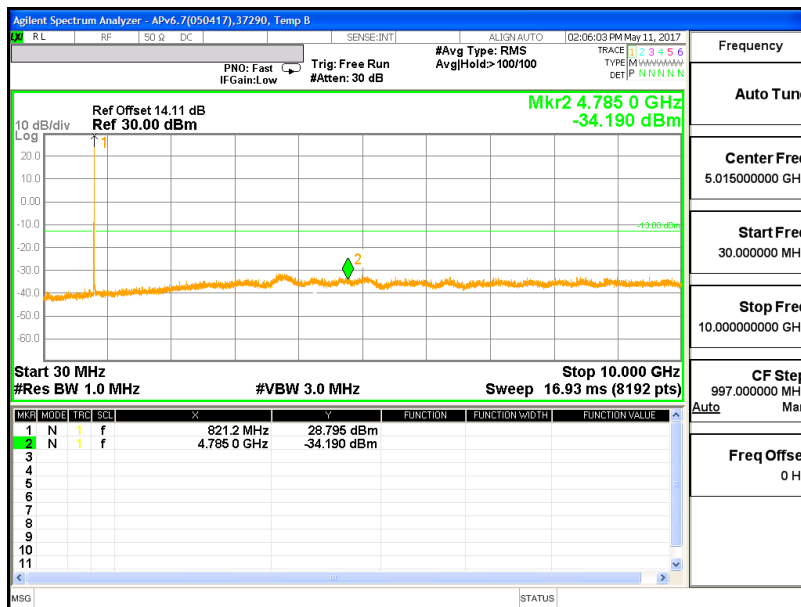
16QAM, (3.0 MHz BAND WIDTH)



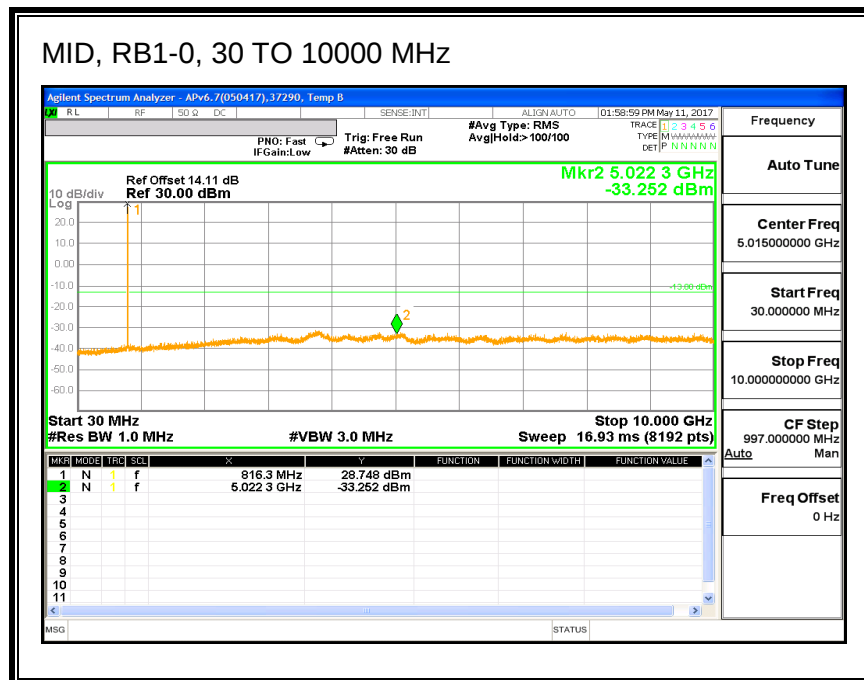
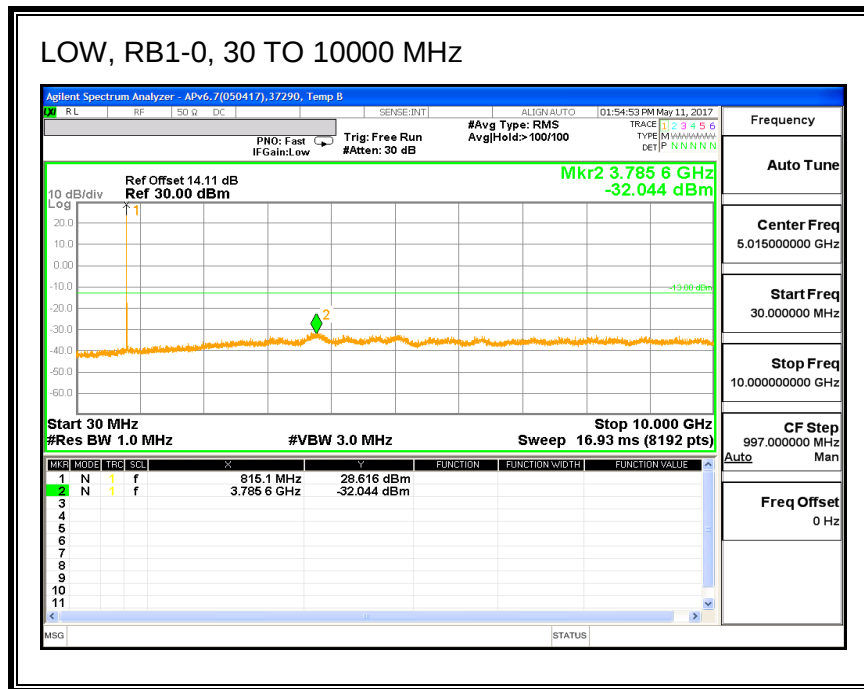
MID, RB1-0, 30 TO 10000 MHz

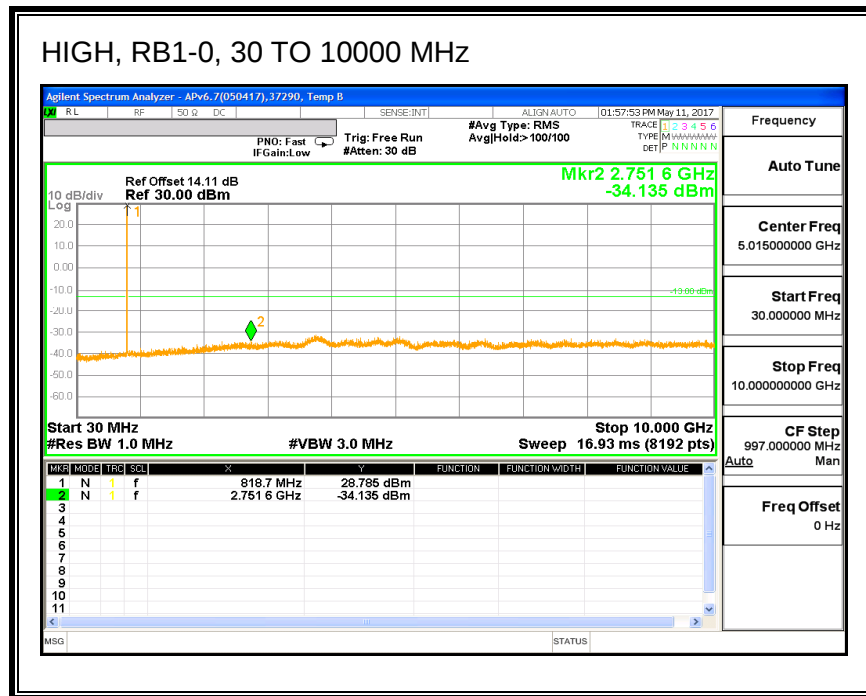


HIGH, RB1-0, 30 TO 10000 MHz

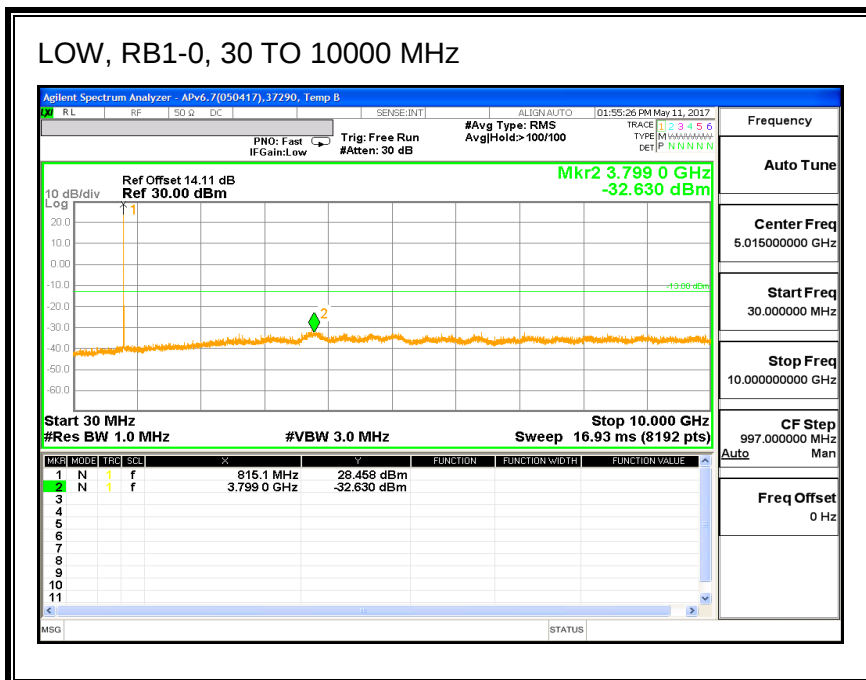


QPSK, (5.0 MHz BAND WIDTH)

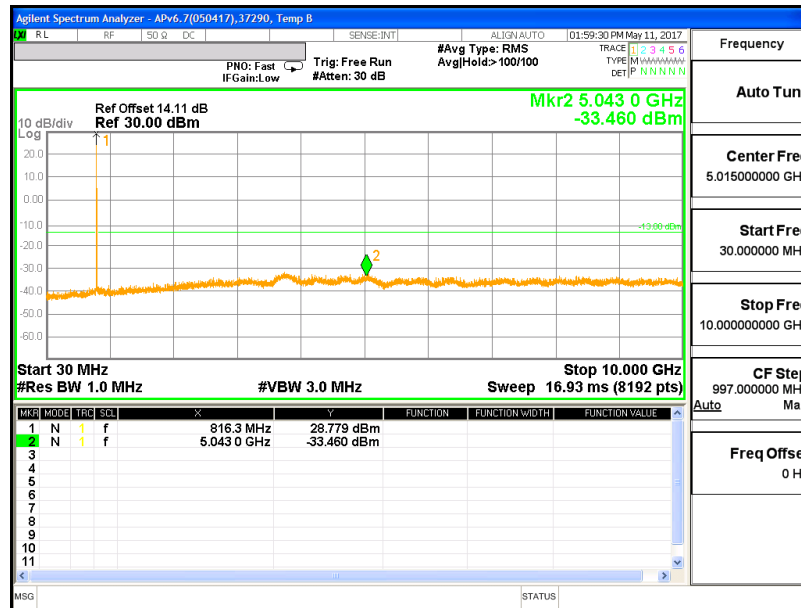




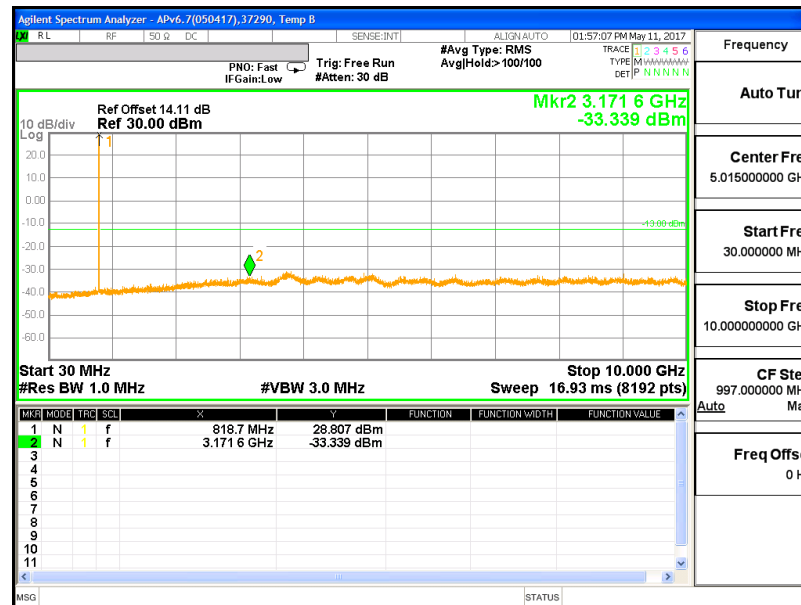
16QAM, (5.0 MHz BAND WIDTH)



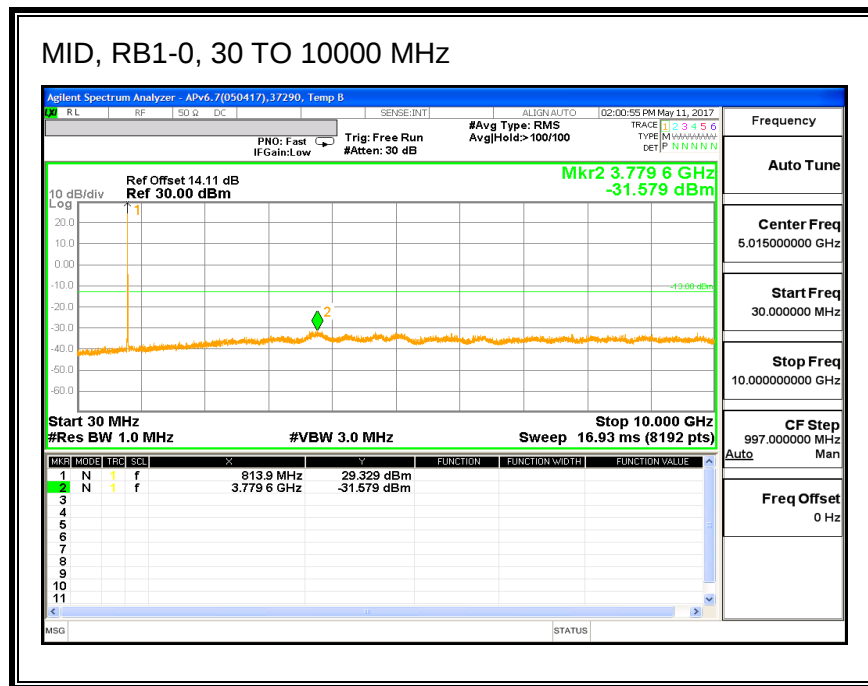
MID, RB1-0, 30 TO 10000 MHz



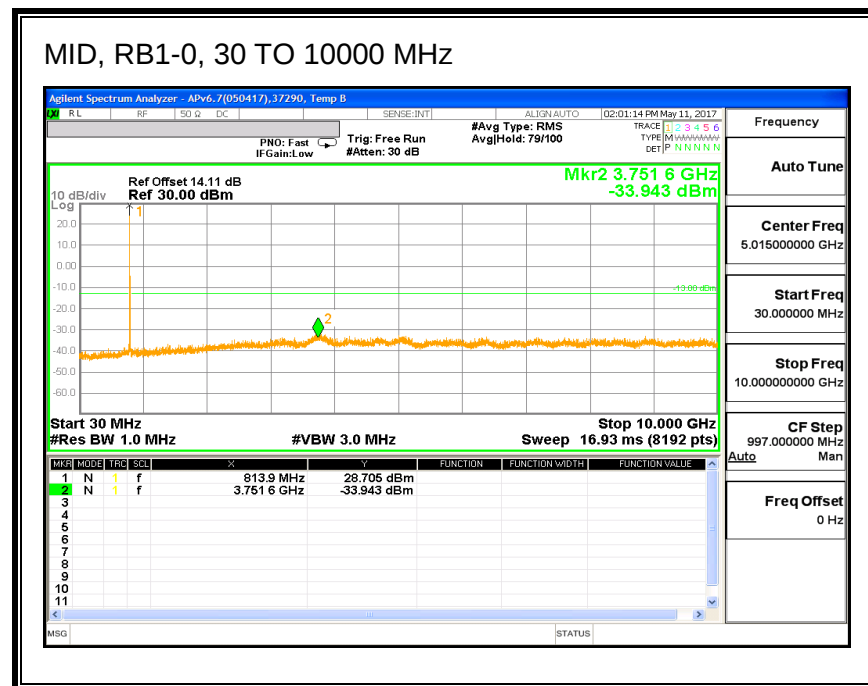
HIGH, RB1-0, 30 TO 10000 MHz



QPSK, (10.0 MHz BAND WIDTH)

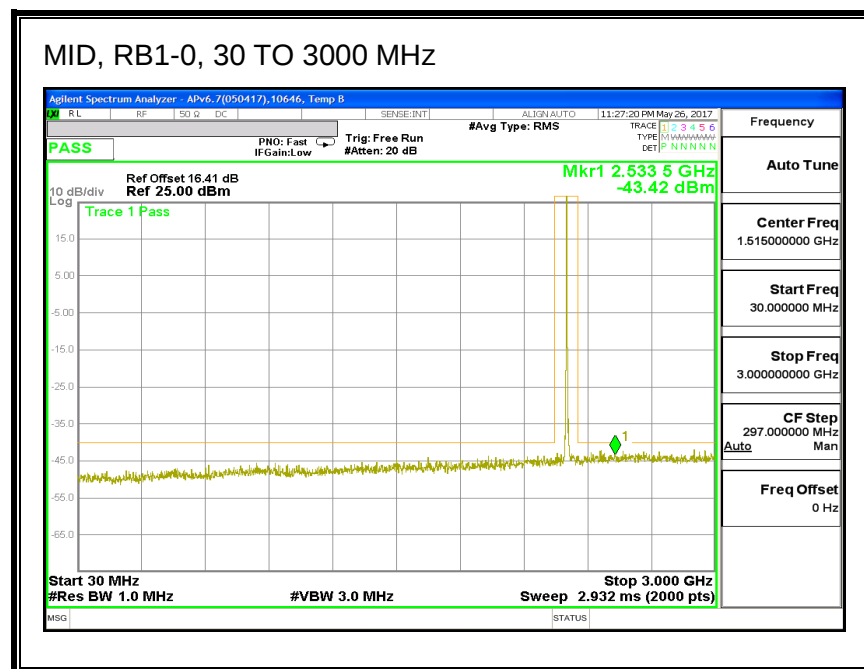
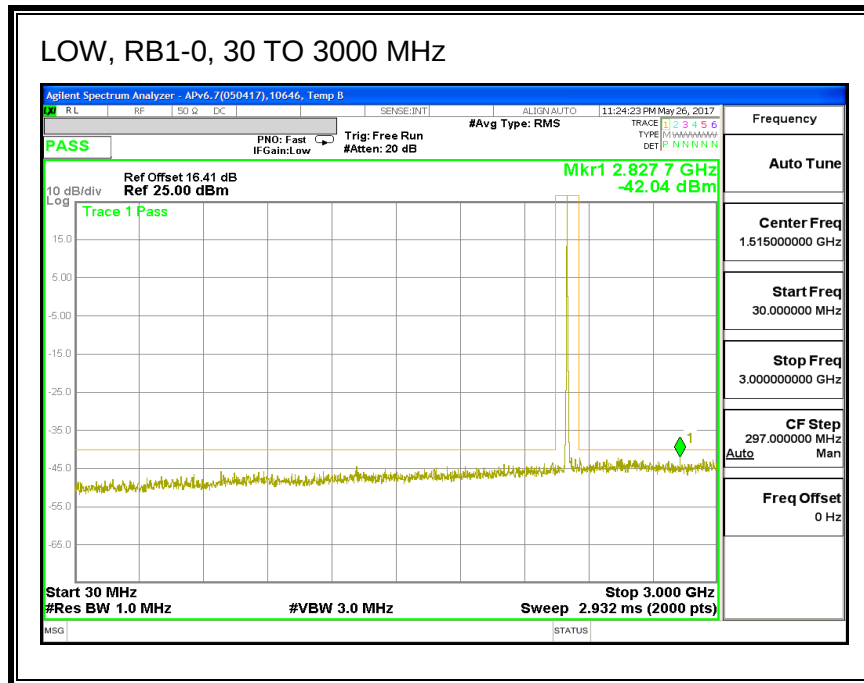


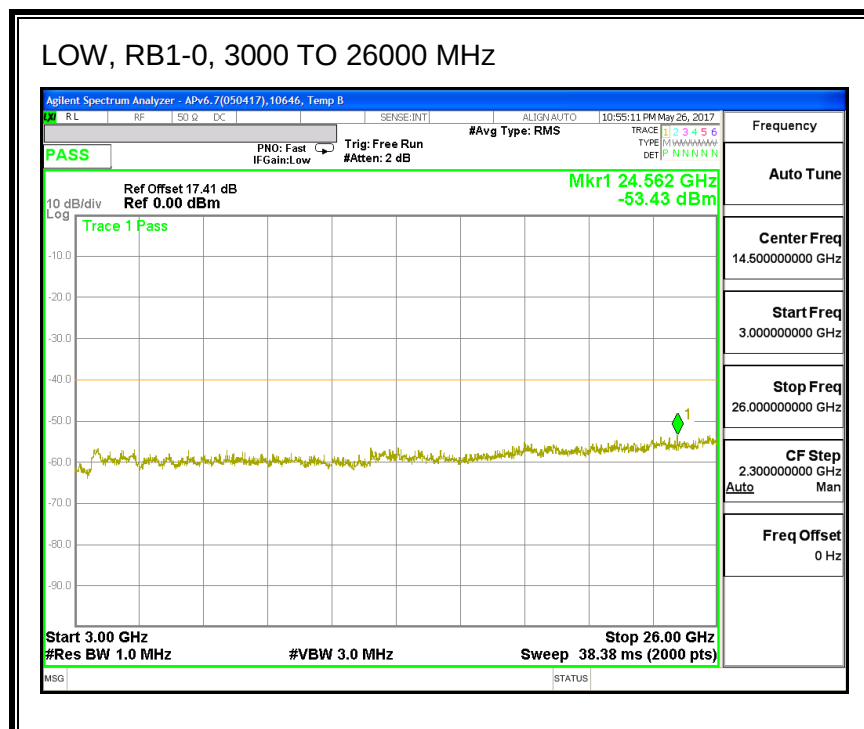
16QAM, (10.0 MHz BAND WIDTH)

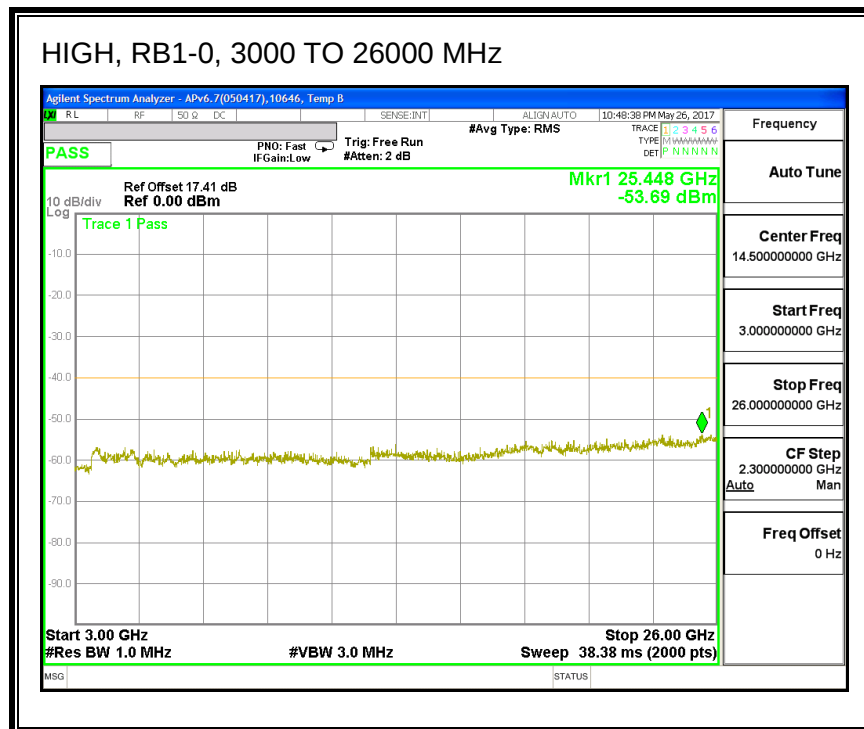


8.3.1. LTE BAND 30

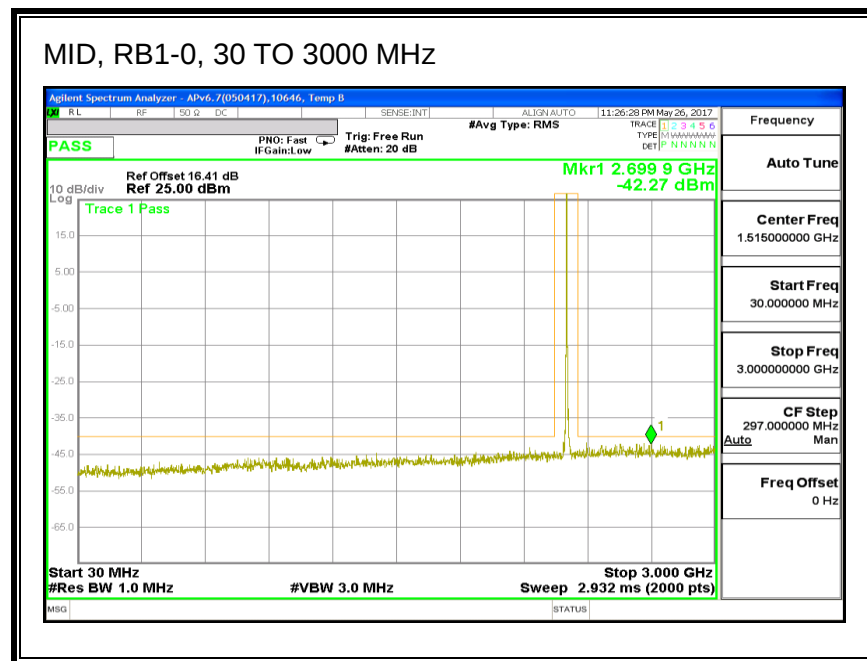
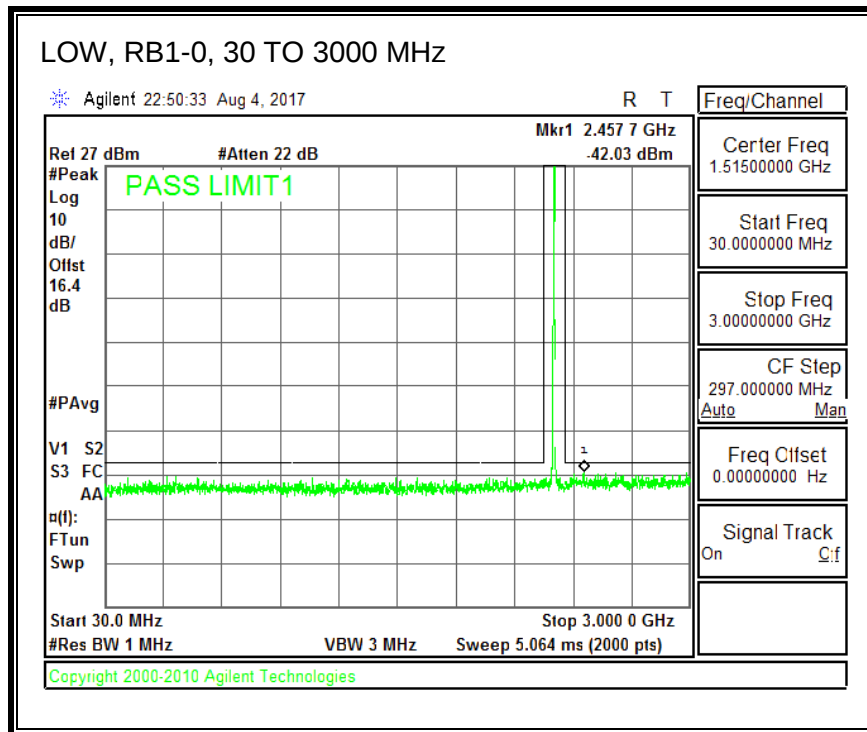
QPSK, (5.0 MHz BAND WIDTH)

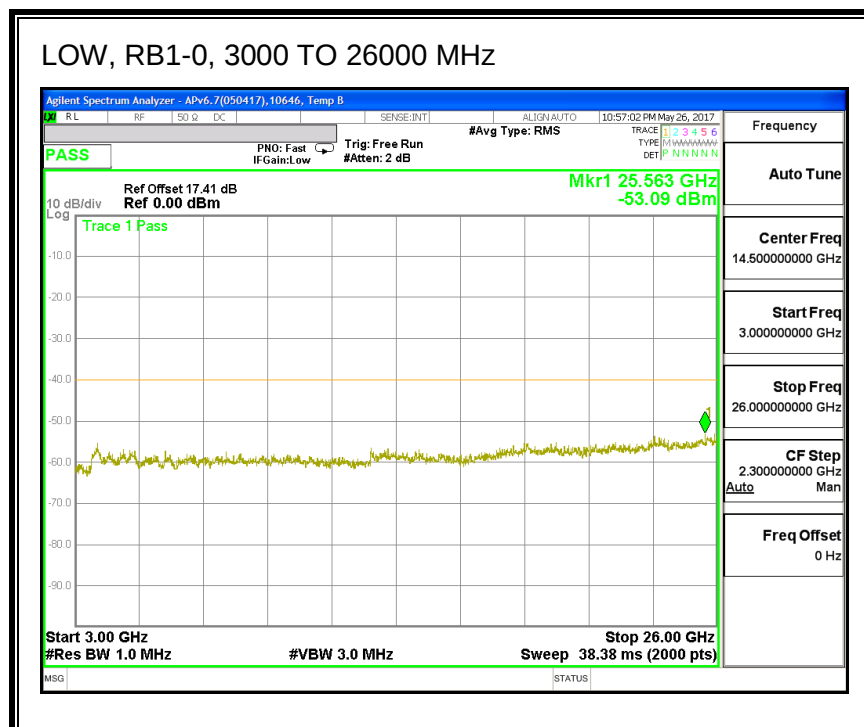


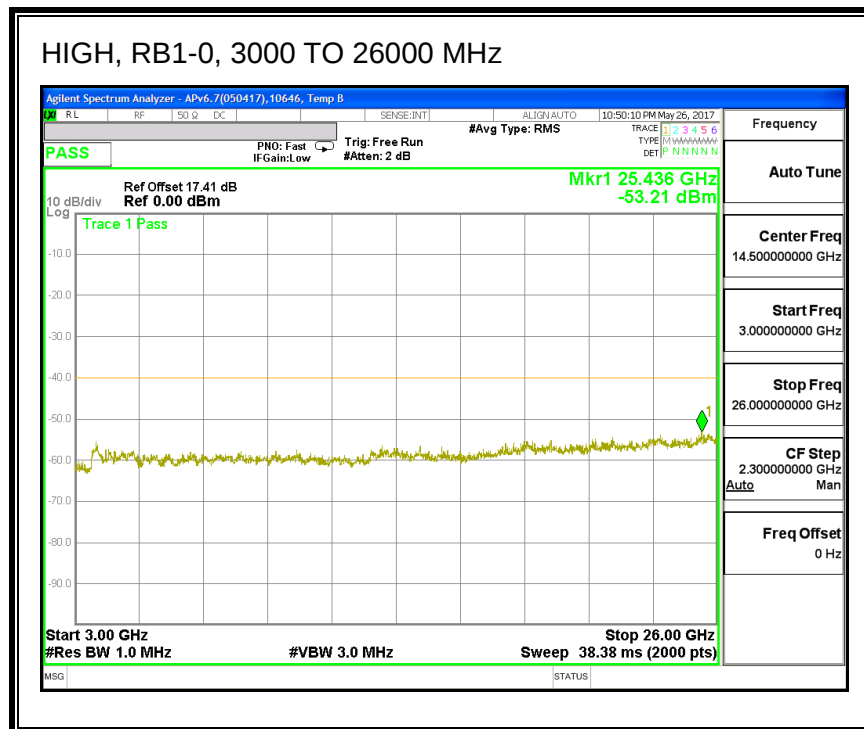




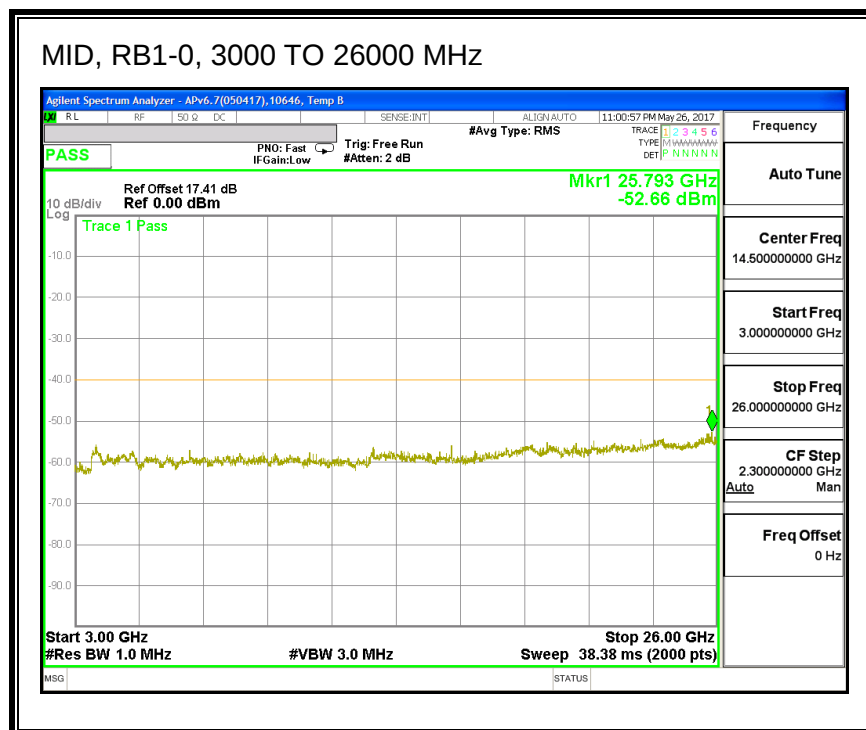
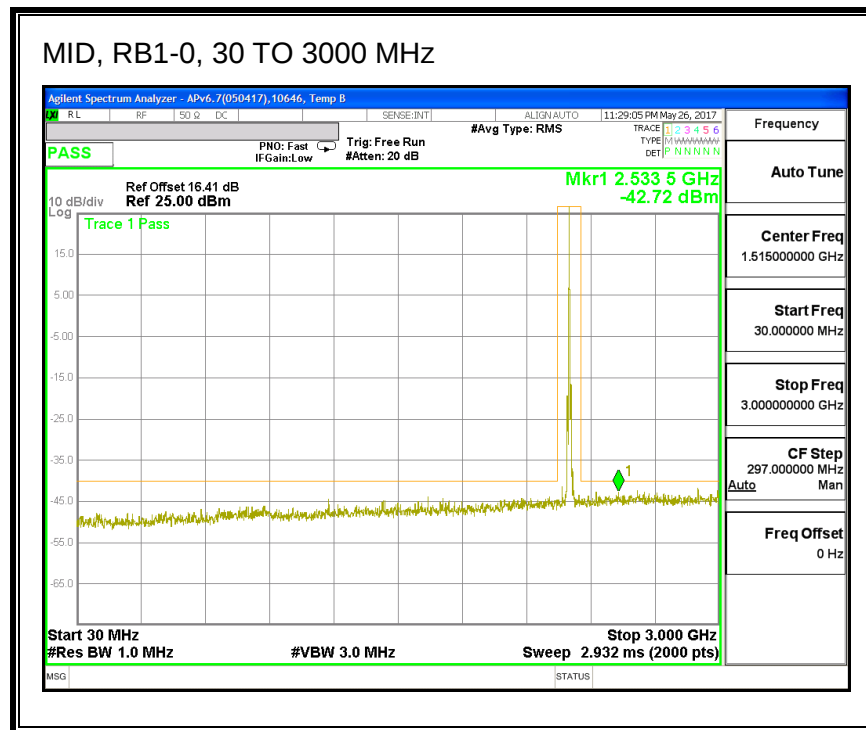
16QAM, (5.0 MHz BAND WIDTH)







QPSK, (10.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 3000 MHz

Agilent Spectrum Analyzer - APv6.7(050417),10646, Temp B

RL RF 50 Ω DC SENSE:INT1 ALIGN: AUTO 11:29:49 PM May 26, 2017

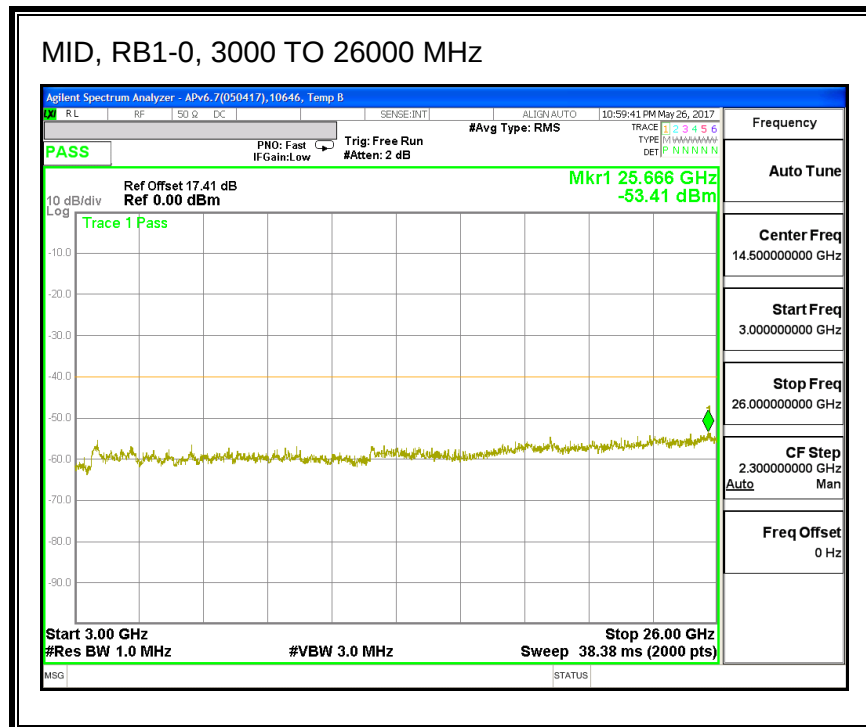
PASS PNO: Fast IF Gain: Low Trig: Free Run #Avg Type: RMS TYPE: P P P P P P P P DET: P N N N N N N

Ref Offset 16.41 dB Ref 25.00 dBm Mkr1 2.763 8 GHz -42.62 dBm

10 dB/div Log Trace 1 Pass

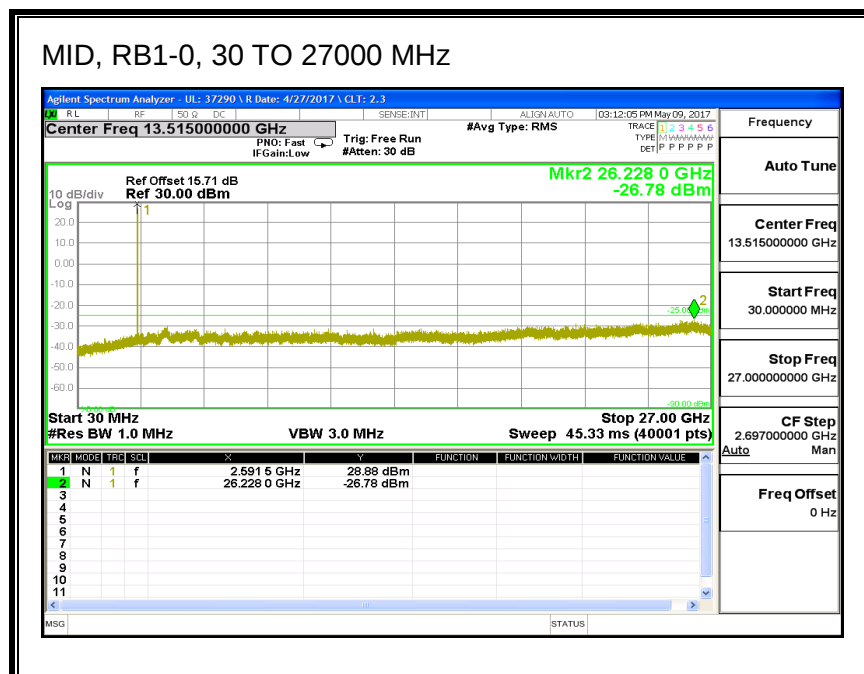
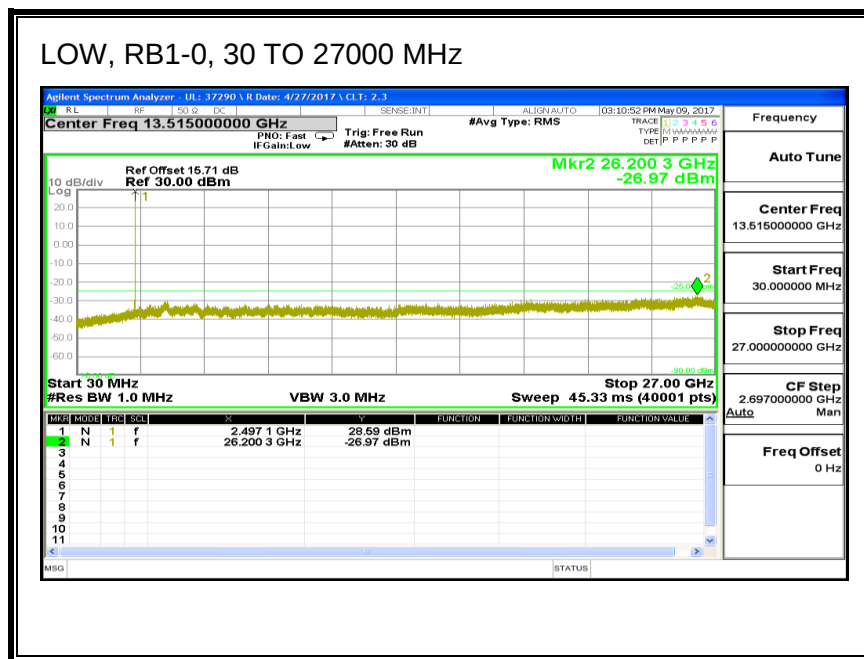
Start 30 MHz Stop 3.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 2.932 ms (2000 pts)

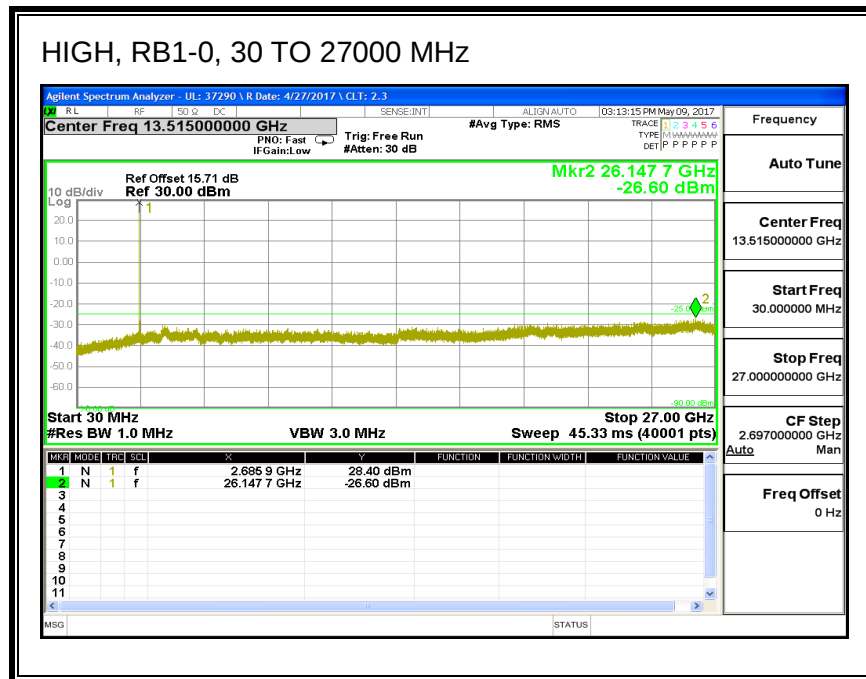
Frequency Auto Tune Center Freq 1.515000000 GHz Start Freq 30.000000 MHz Stop Freq 3.000000000 GHz CF Step 297.000000 MHz Auto Man Freq Offset 0 Hz



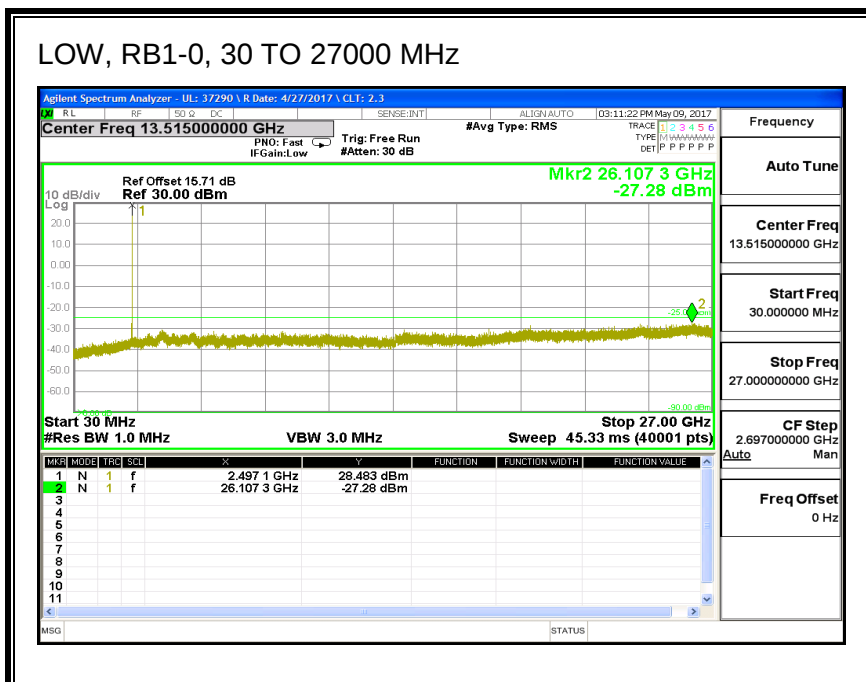
8.3.2. LTE BAND 41

QPSK, (5.0 MHz BAND WIDTH)

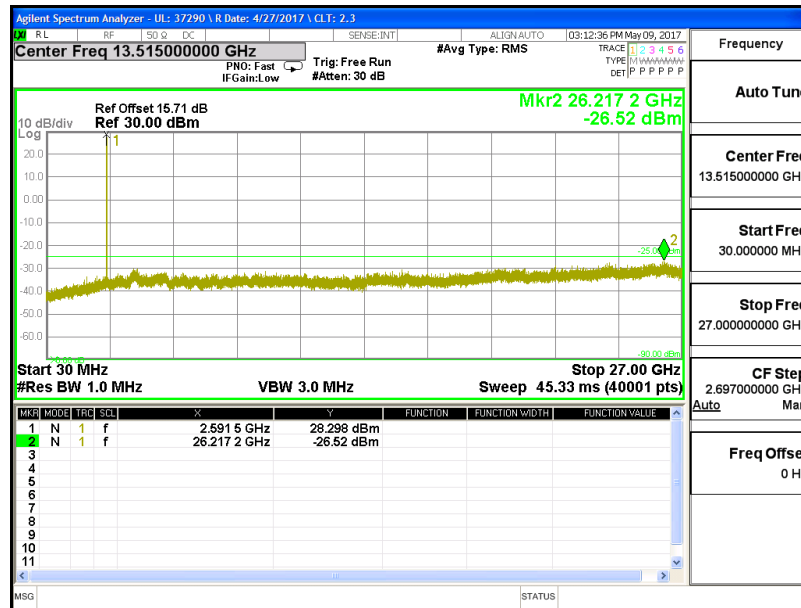




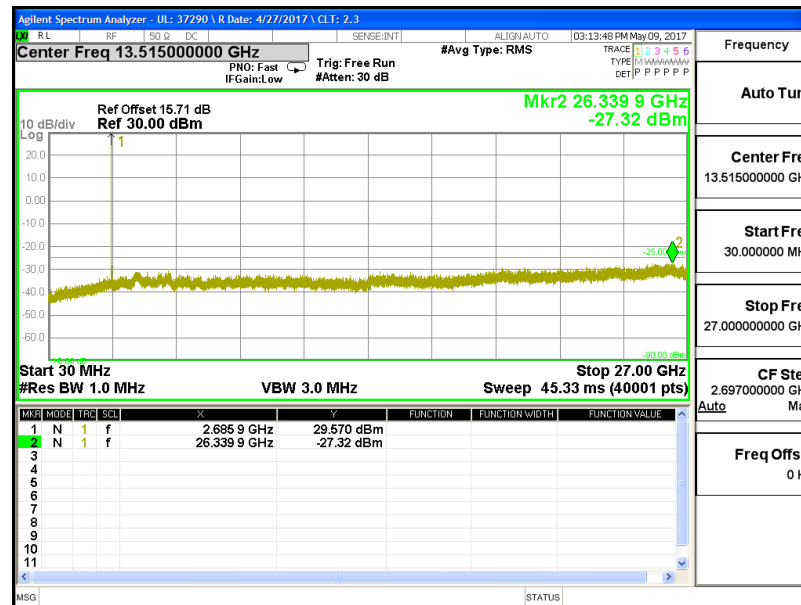
16QAM, (5.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 27000 MHz

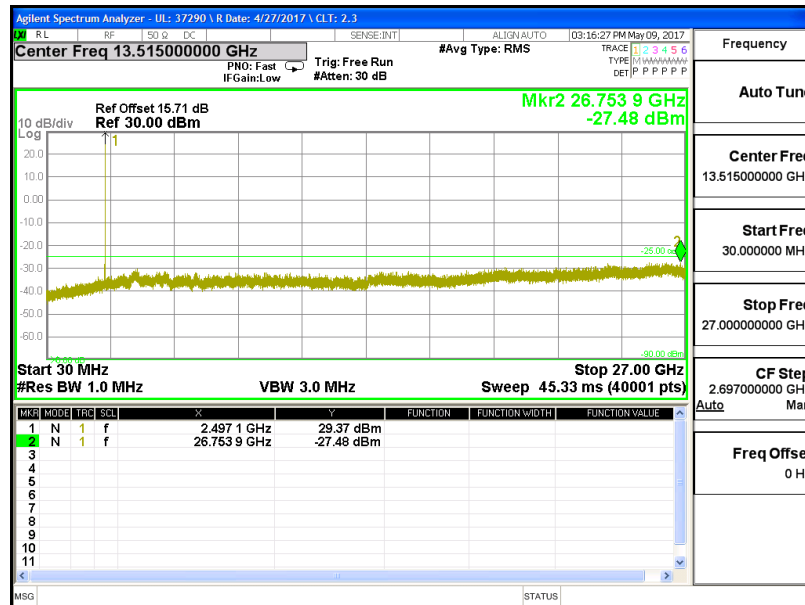


HIGH, RB1-0, 30 TO 27000 MHz

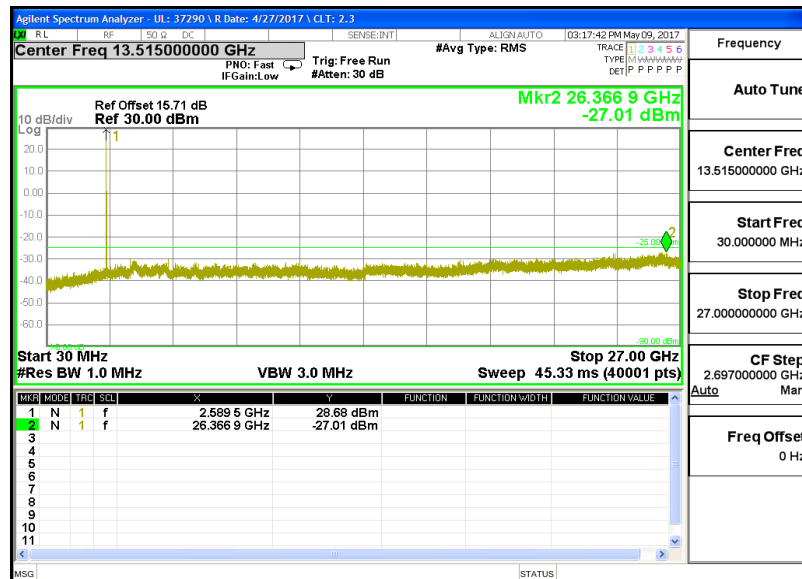


QPSK, (10.0 MHz BAND WIDTH)

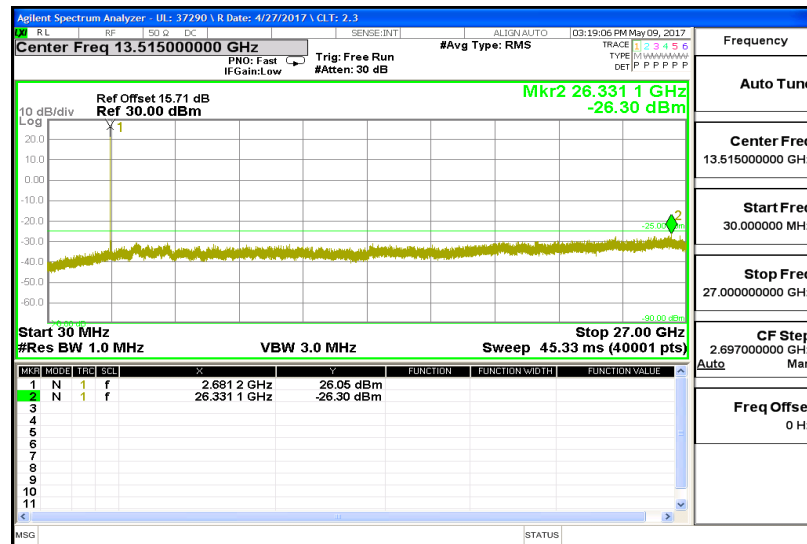
LOW, RB1-0, 30 TO 27000 MHz



MID, RB1-0, 30 TO 27000 MHz

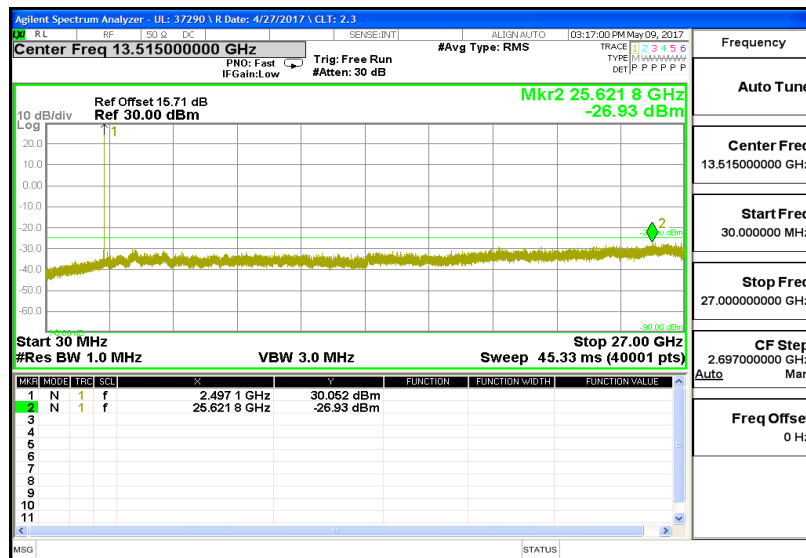


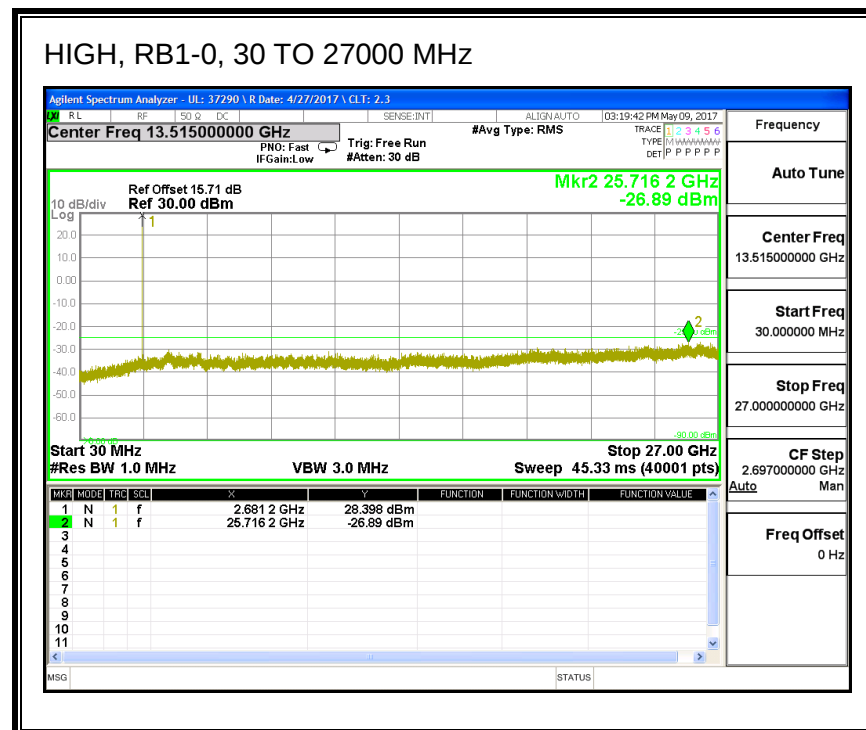
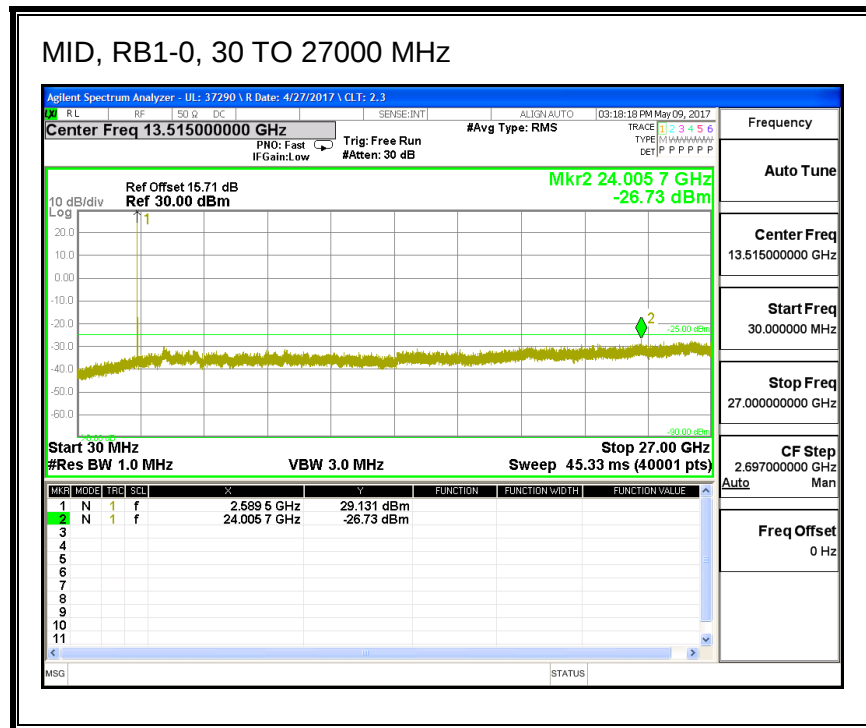
HIGH, RB1-0, 30 TO 27000 MHz



16QAM, (10.0 MHz BAND WIDTH)

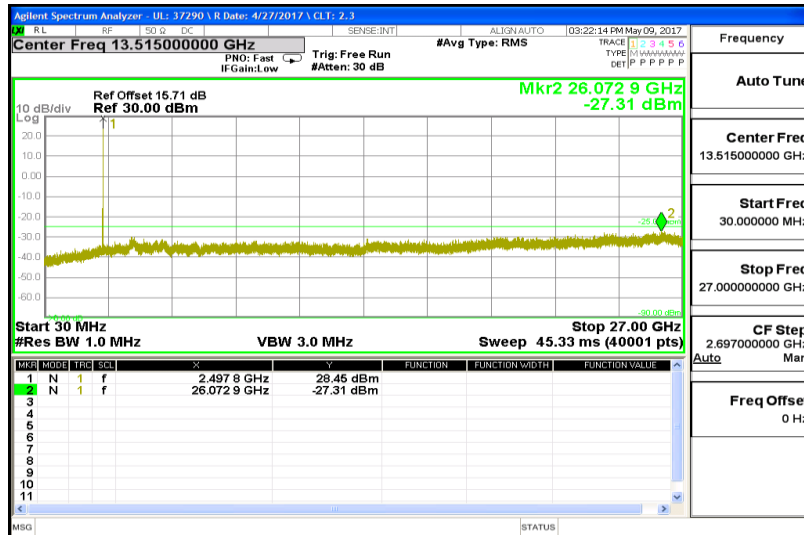
LOW, RB1-0, 30 TO 27000 MHz



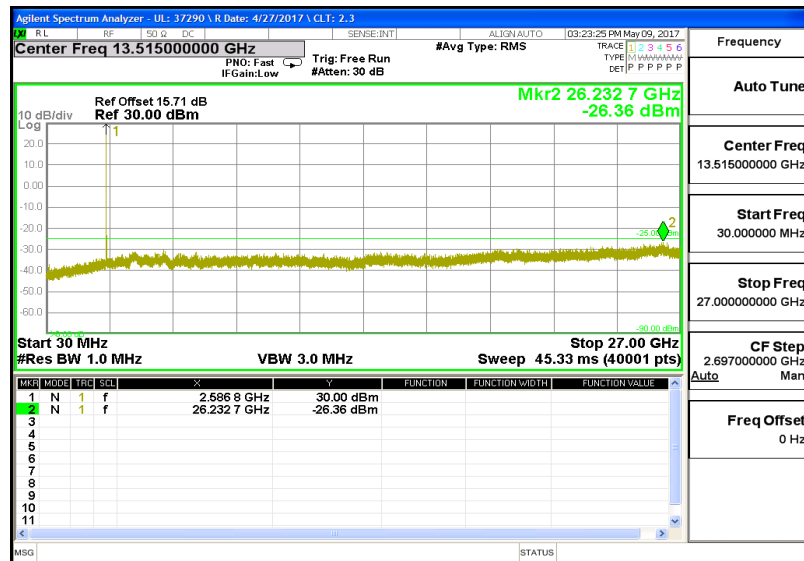


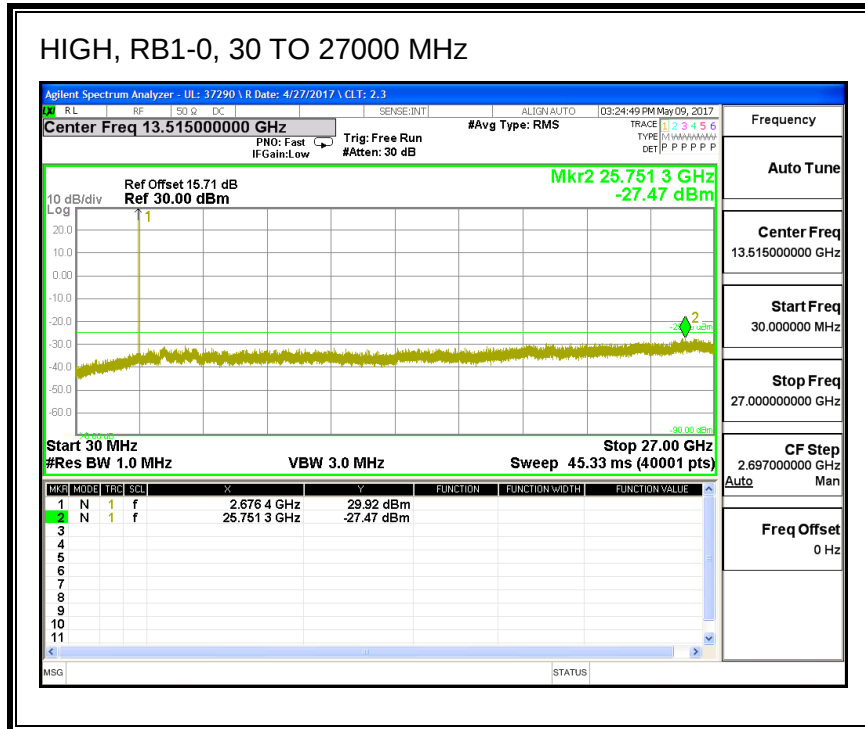
QPSK, (15.0 MHz BAND WIDTH)

LOW, RB1-0, 30 TO 27000 MHz

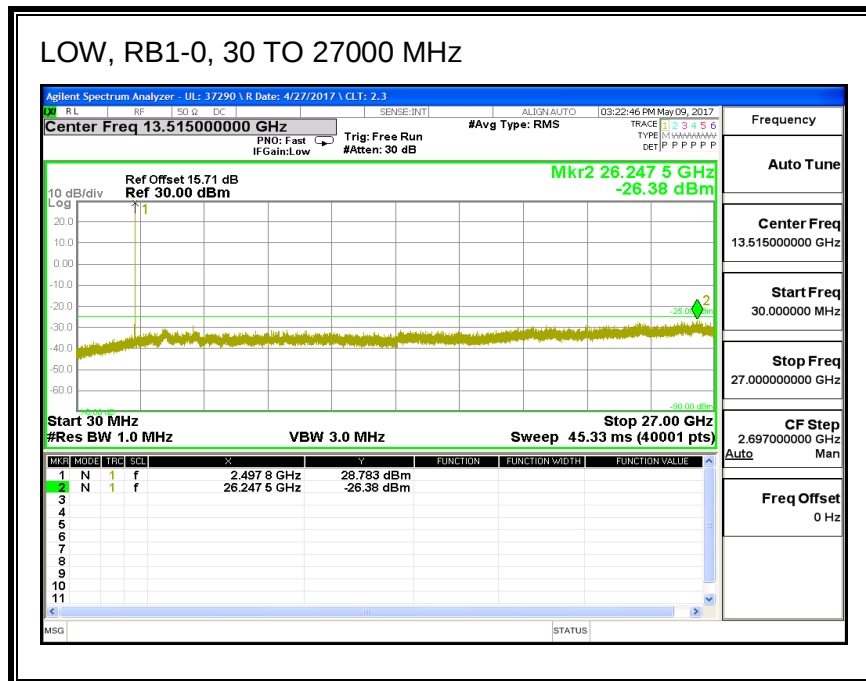


MID, RB1-0, 30 TO 27000 MHz

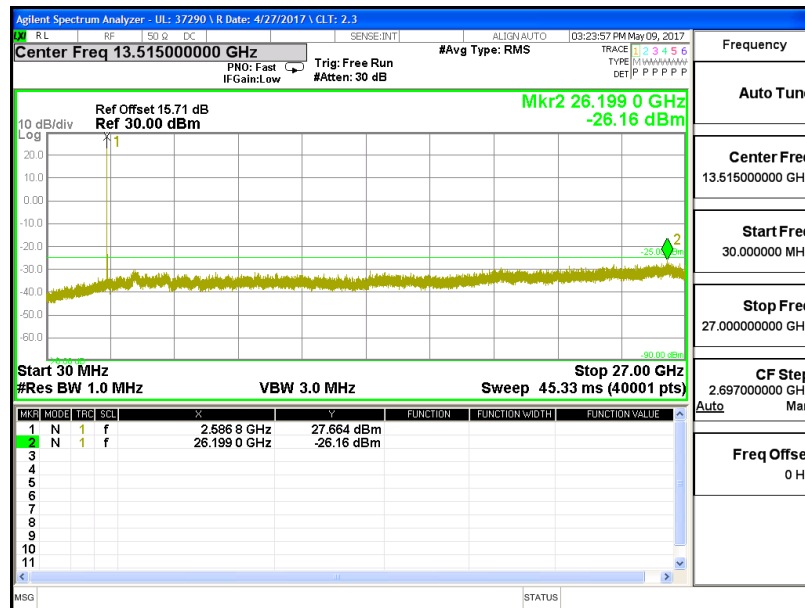




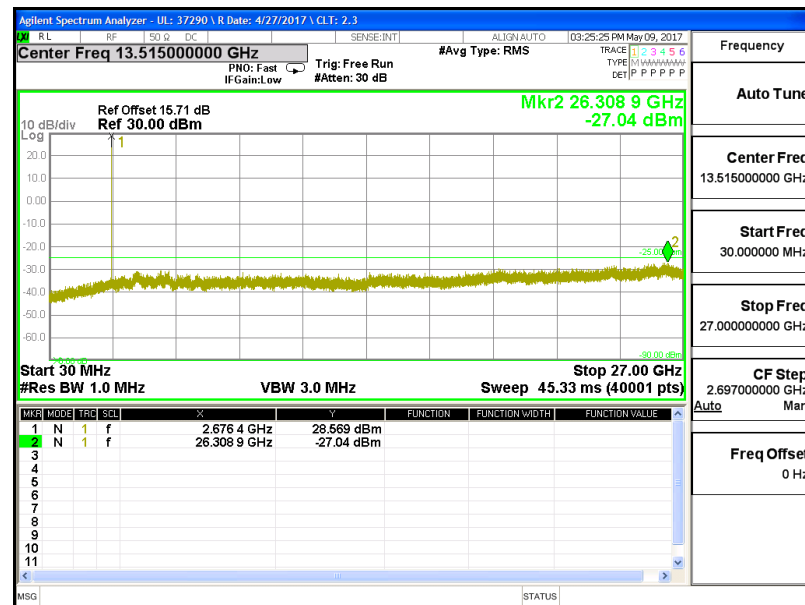
16QAM, (15.0 MHz BAND WIDTH)



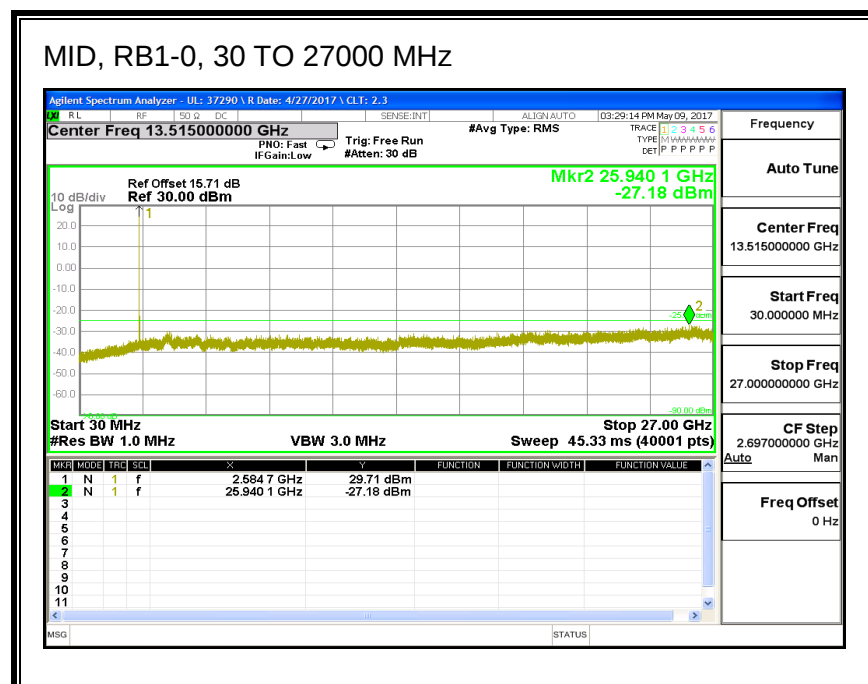
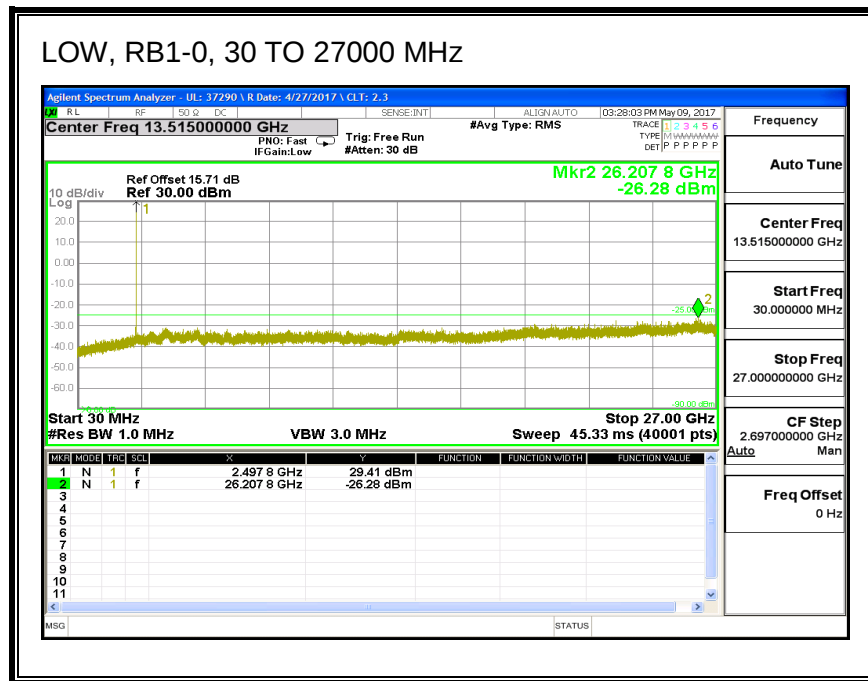
MID, RB1-0, 30 TO 27000 MHz

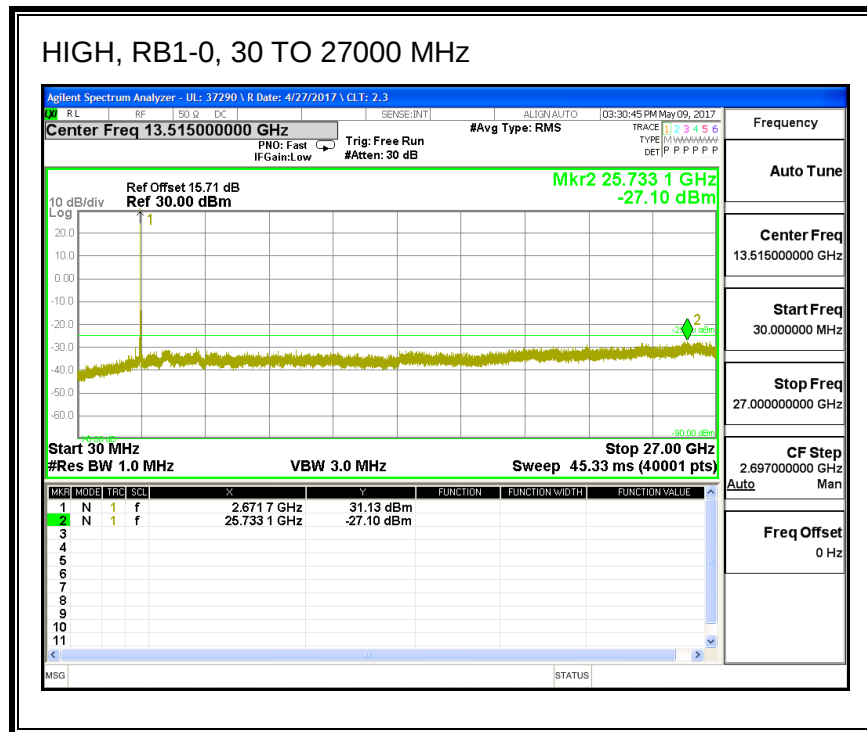


HIGH, RB1-0, 30 TO 27000 MHz

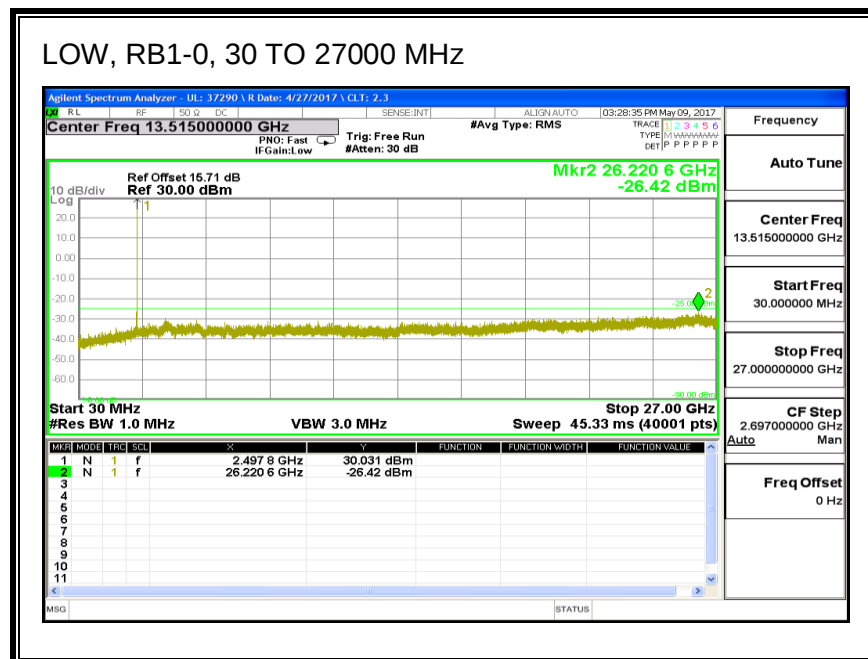


QPSK, (20.0 MHz BAND WIDTH)

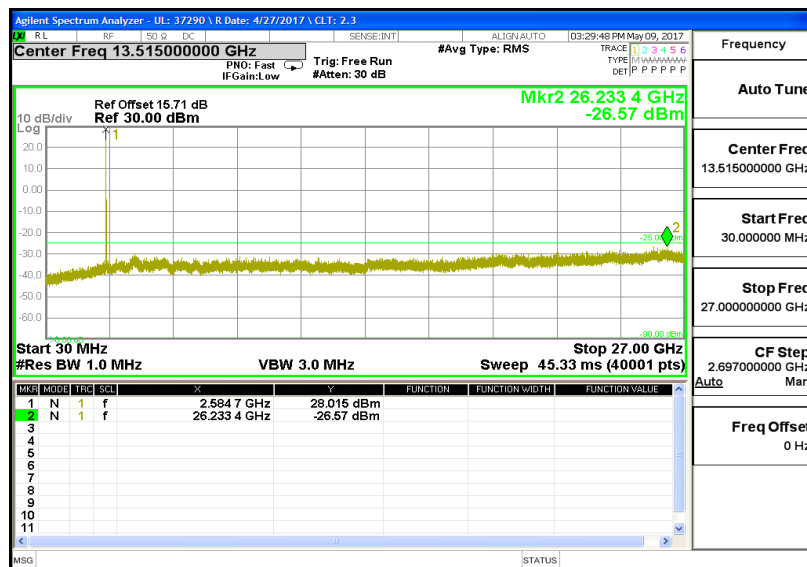




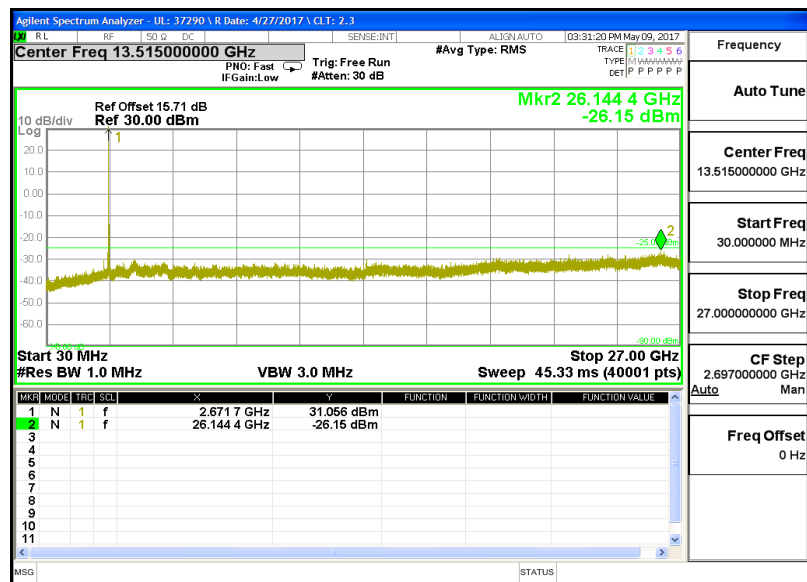
16QAM, (20.0 MHz BAND WIDTH)



MID, RB1-0, 30 TO 27000 MHz

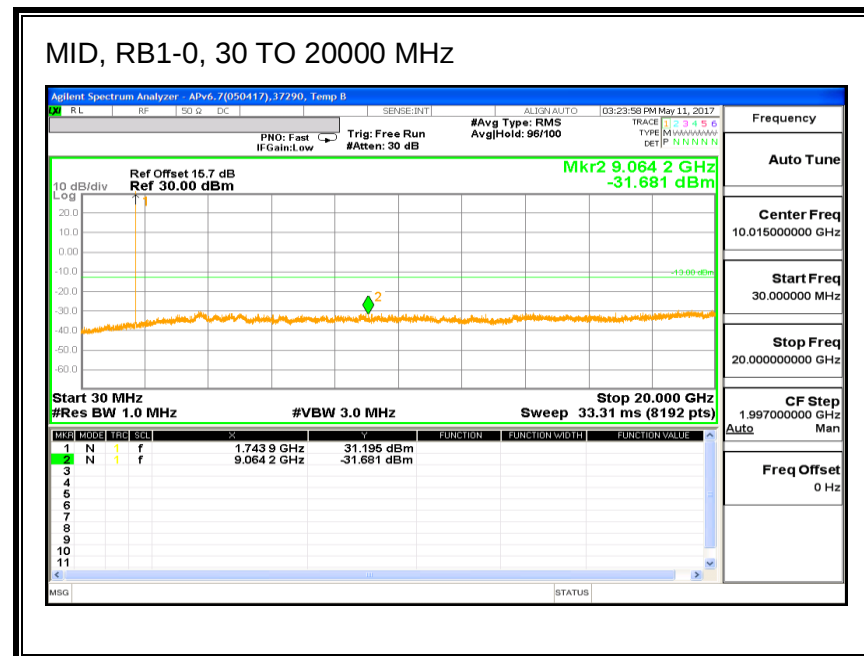
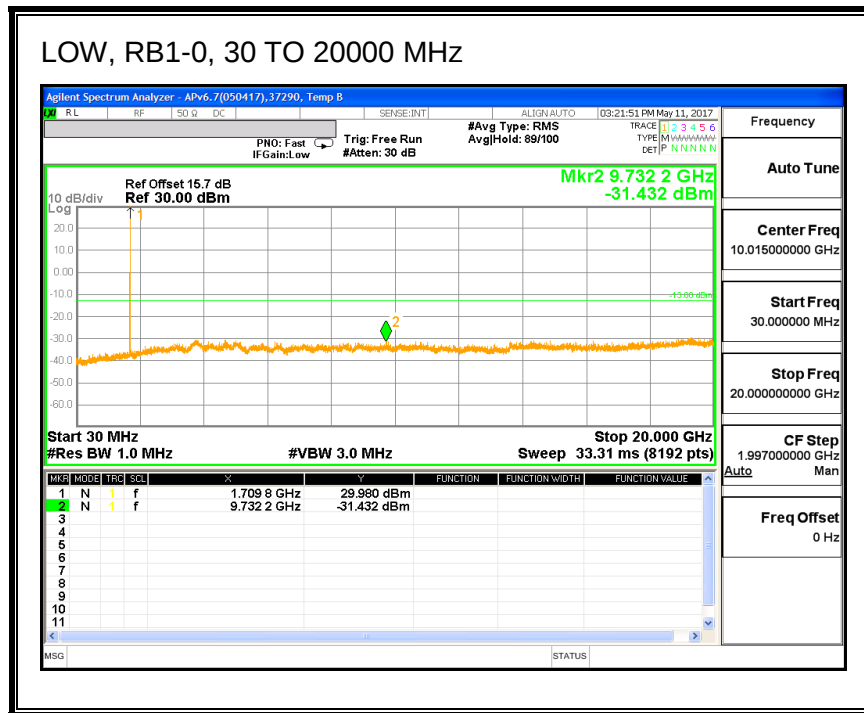


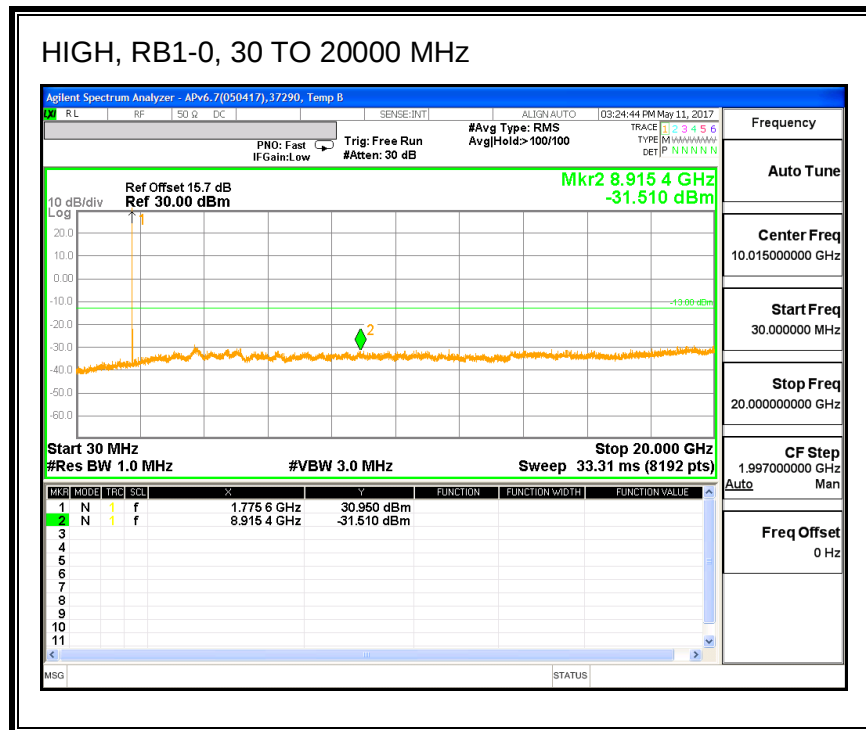
HIGH, RB1-0, 30 TO 27000 MHz



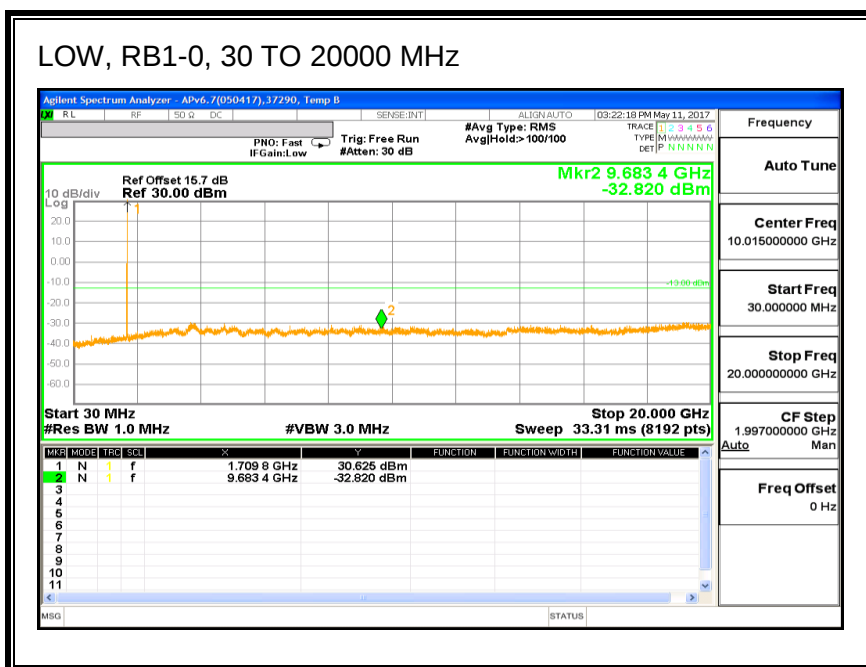
8.3.3. LTE BAND 66

QPSK, (5.0 MHz BAND WIDTH)

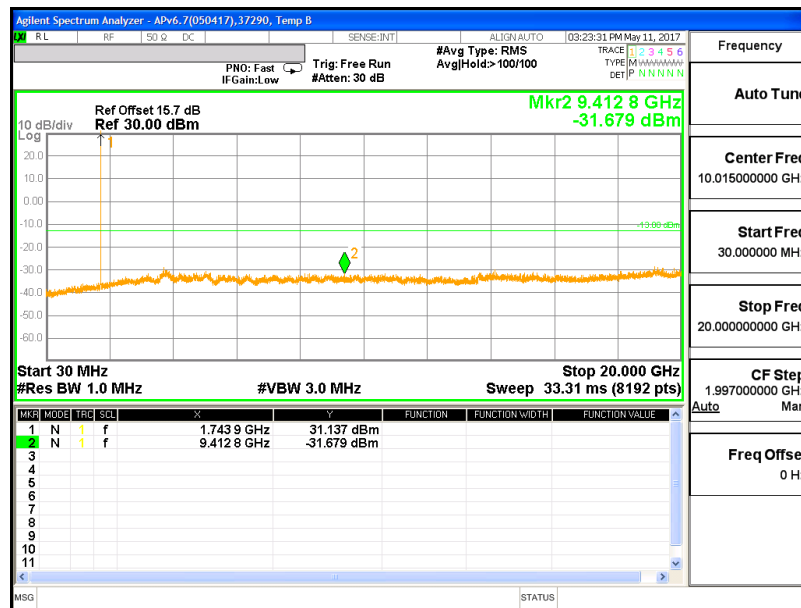




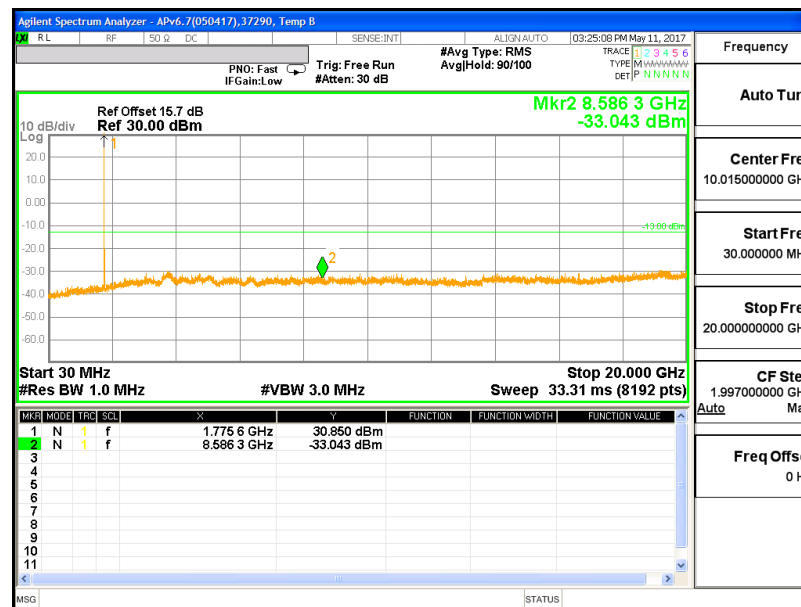
16QAM, (5.0 MHz BAND WIDTH)



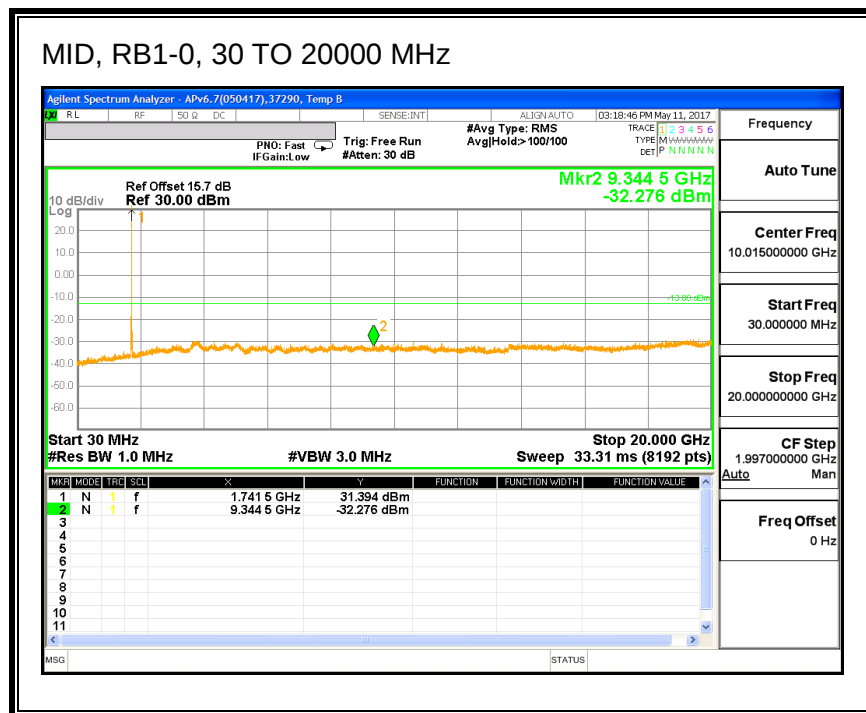
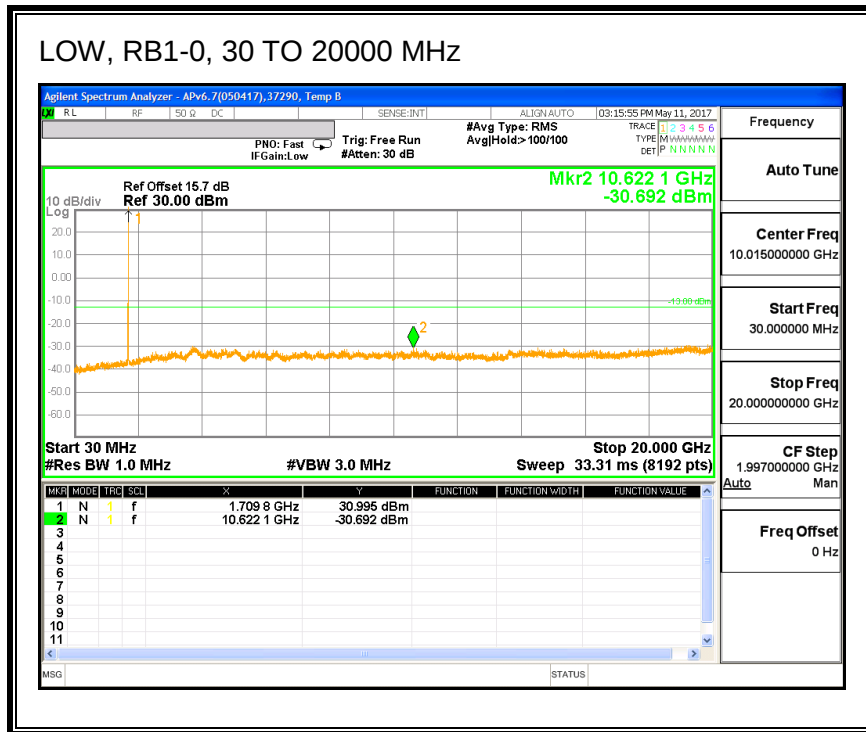
MID, RB1-0, 30 TO 20000 MHz

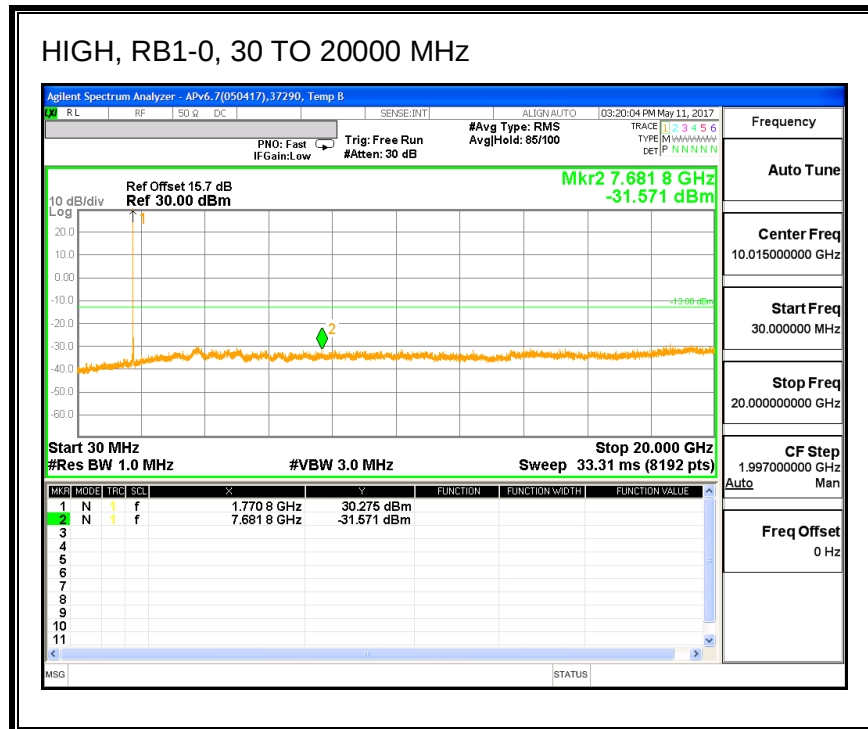


HIGH, RB1-0, 30 TO 20000 MHz

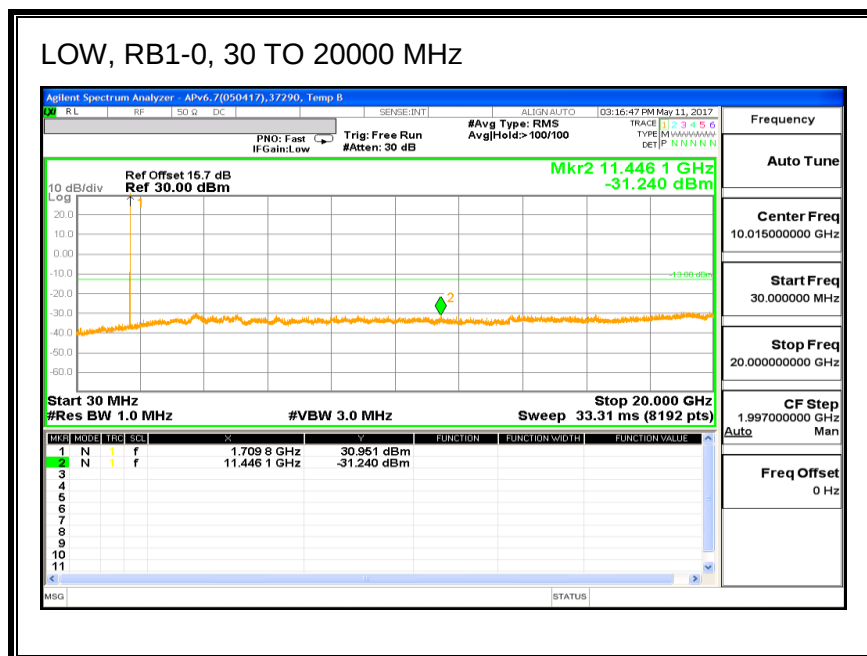


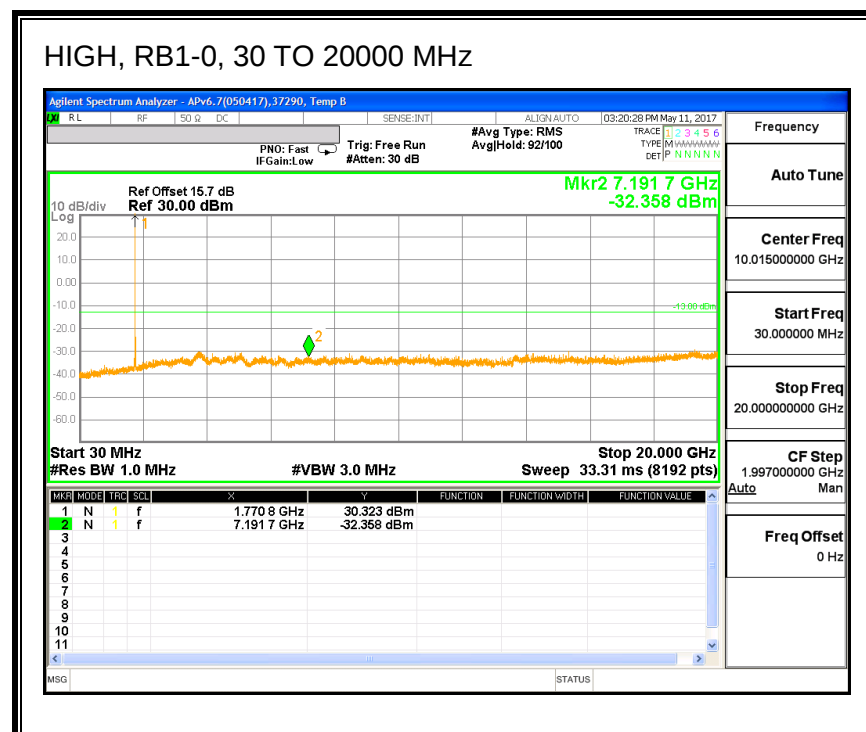
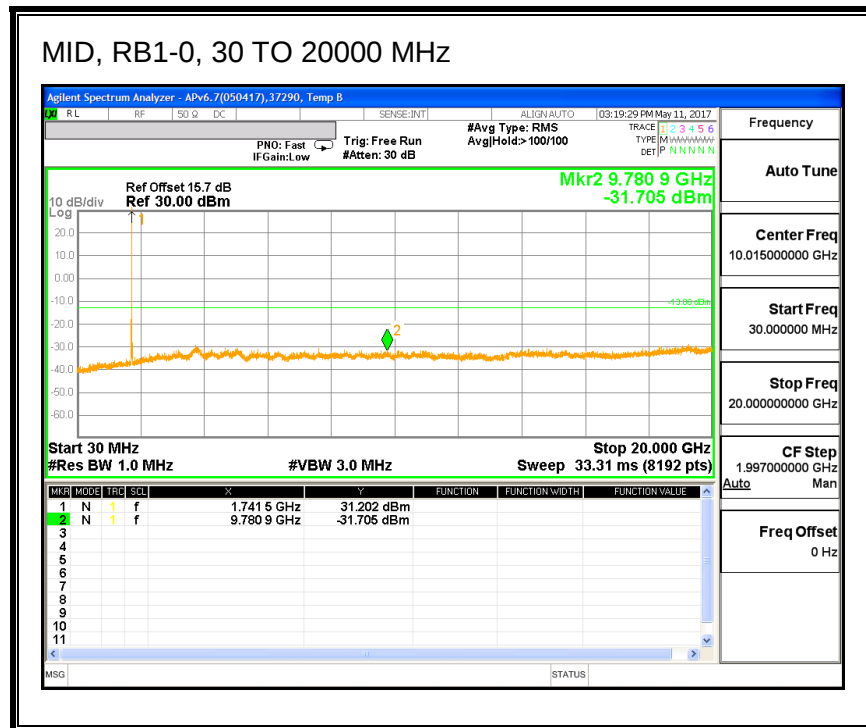
QPSK, (10.0 MHz BAND WIDTH)



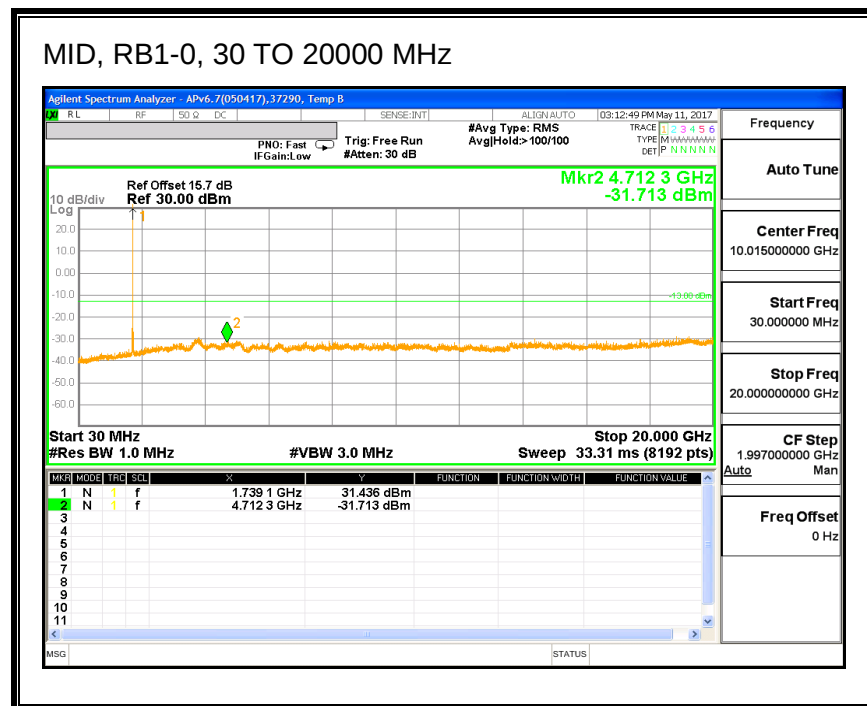
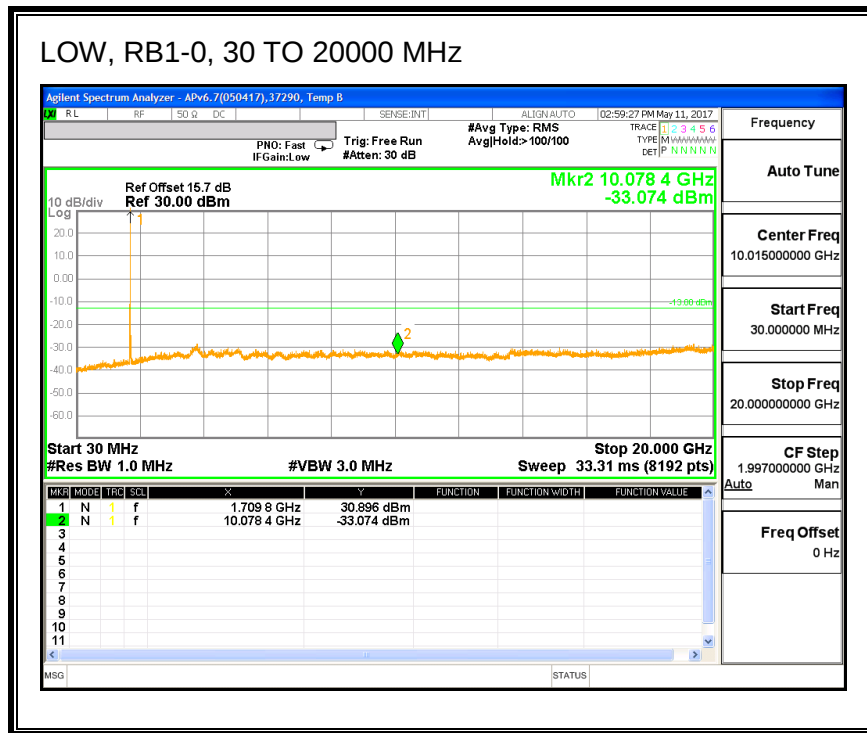


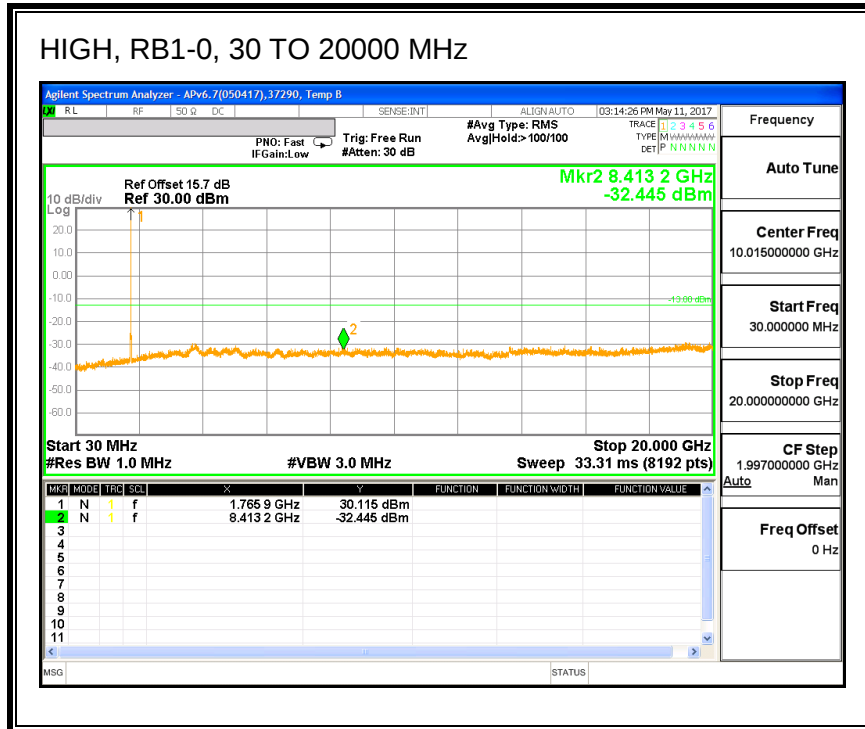
16QAM, (10.0 MHz BAND WIDTH)



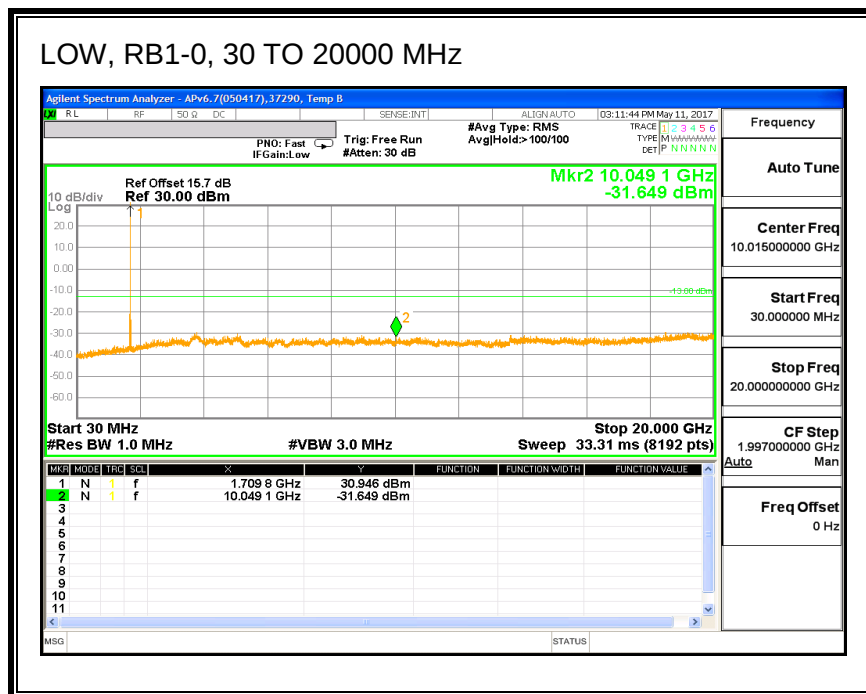


QPSK, (15.0 MHz BAND WIDTH)

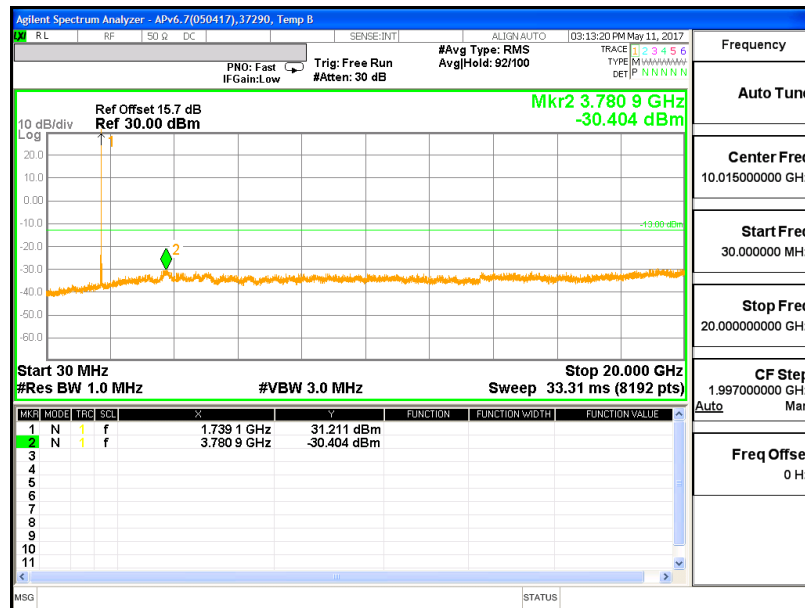




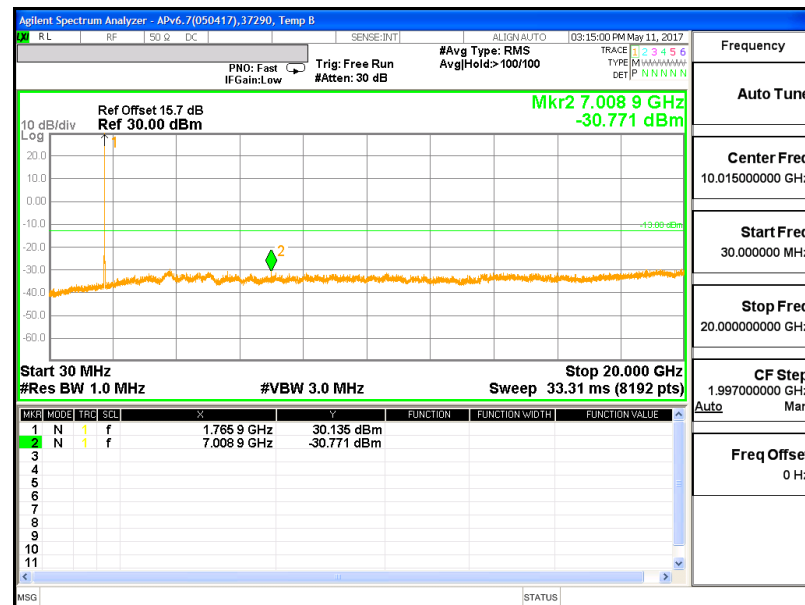
16QAM, (15.0 MHz BAND WIDTH)



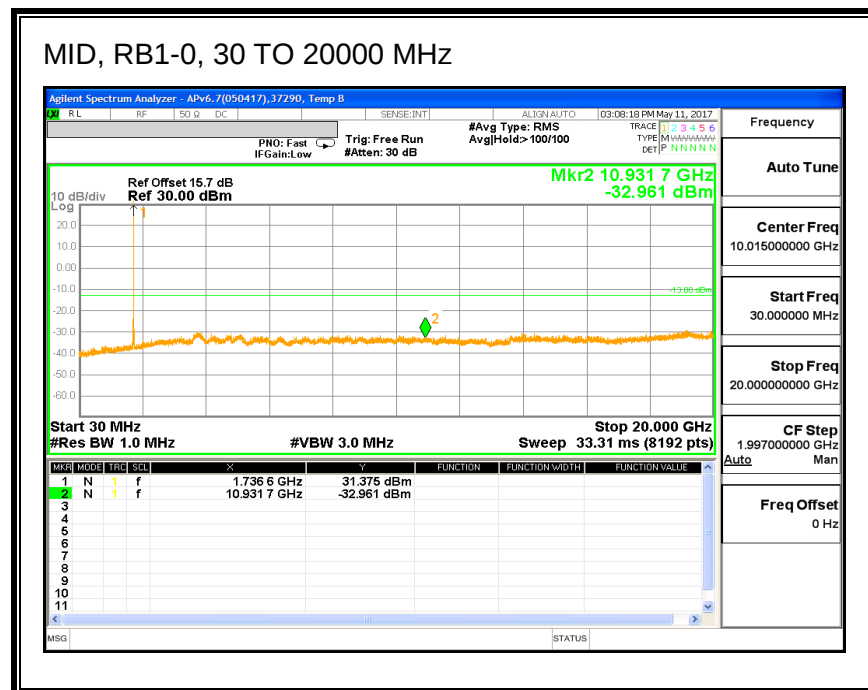
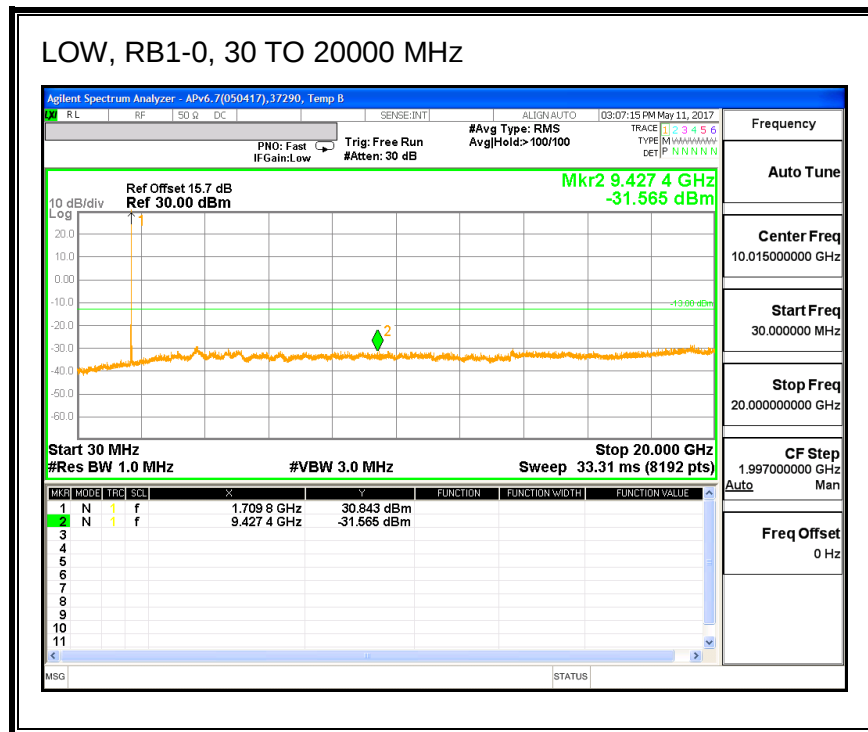
MID, RB1-0, 30 TO 20000 MHz

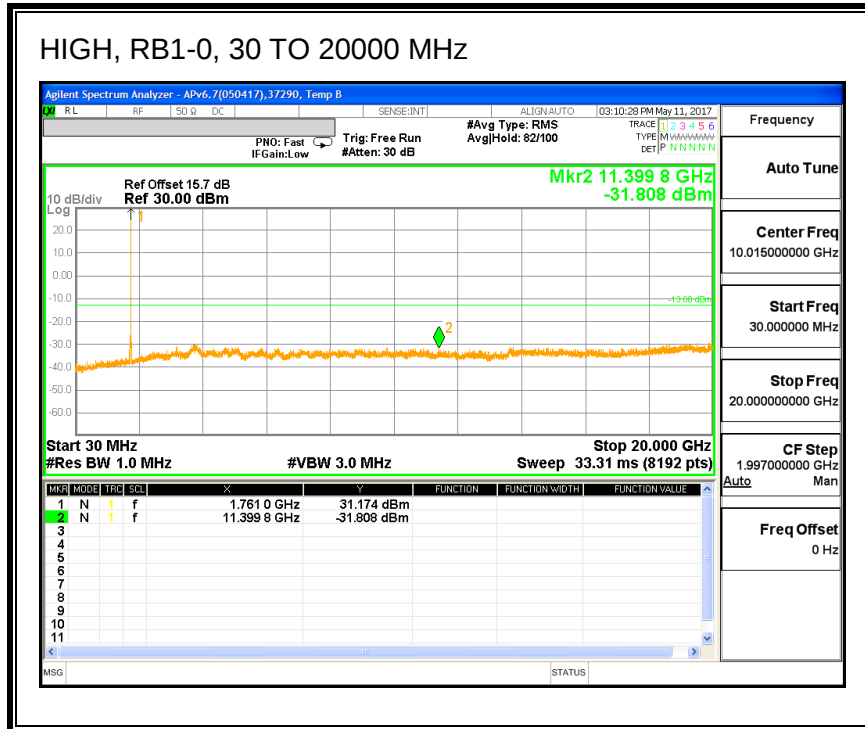


HIGH, RB1-0, 30 TO 20000 MHz

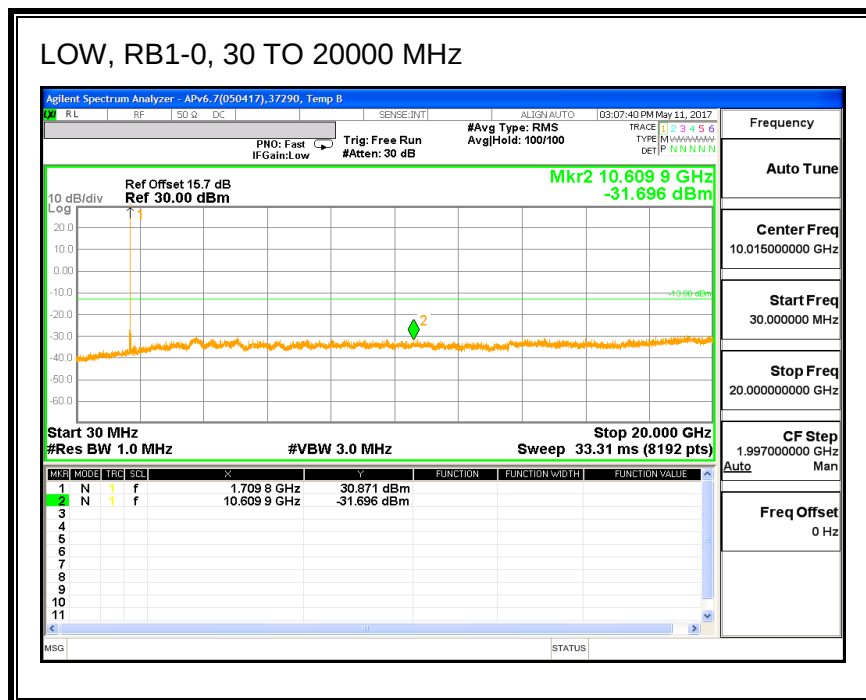


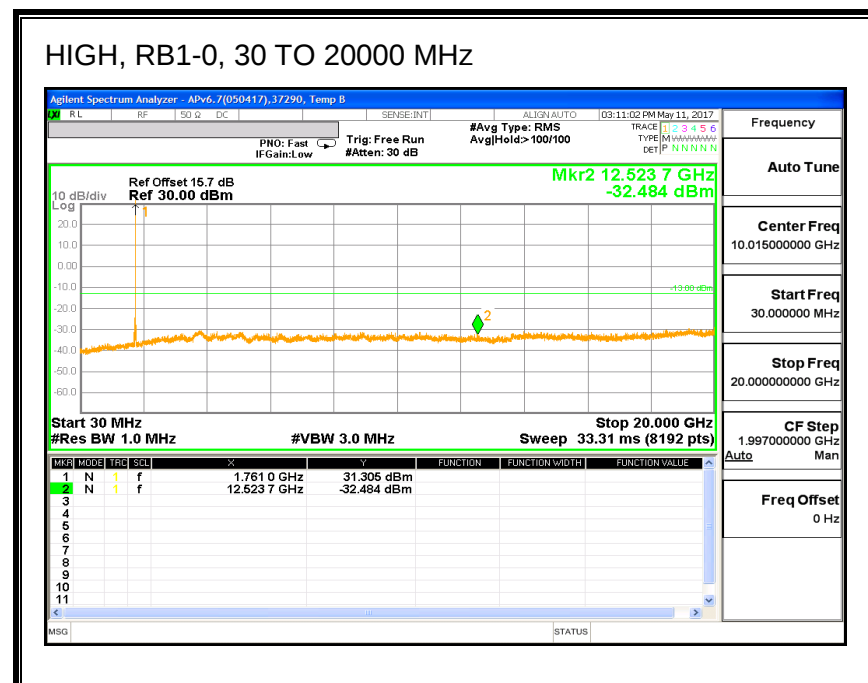
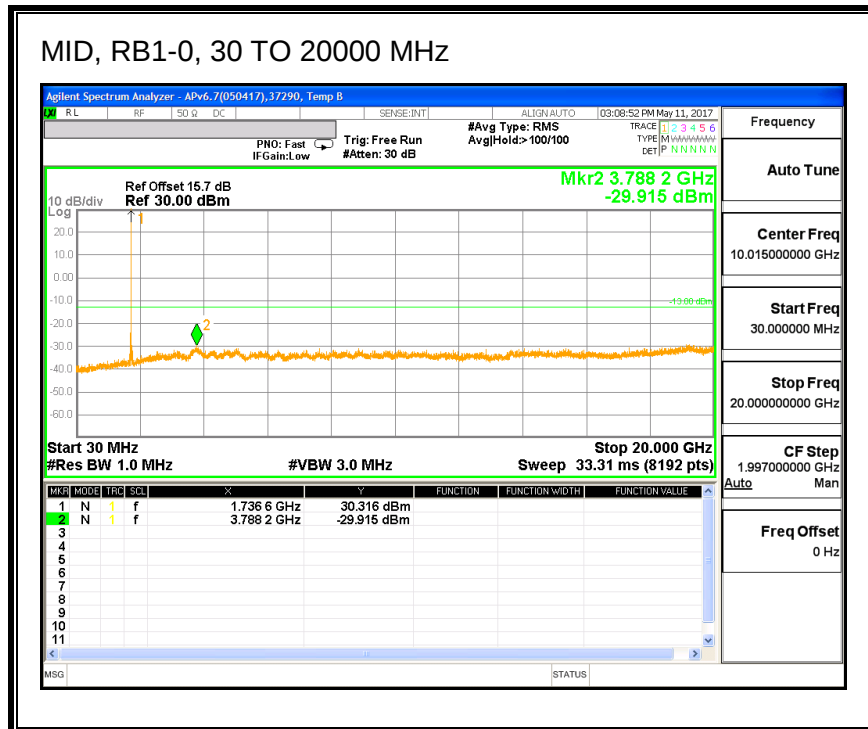
QPSK, (20.0 MHz BAND WIDTH)





16QAM, (20.0 MHz BAND WIDTH)





8.4. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355, §24.235, §27.54 and §90.213

LIMITS

FCC: §22.355

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

FCC: §24.235 & §27.54

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

FCC: §90.213

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

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = -30° to $+50^{\circ}\text{C}$
- Voltage = (85% - 115%)
 - Low voltage, 3.23VDC, Normal, 3.8VDC and High voltage, 4.37VDC.
 - End Voltage, 3.2VDC.

Frequency Stability vs Temperature:

The EUT is place inside a temperature chamber. The temperature is set to 20°C 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 $+50^{\circ}\text{C}$ 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 30
- LTE Band 41
- LTE Band 66

RESULTS

See the following pages.