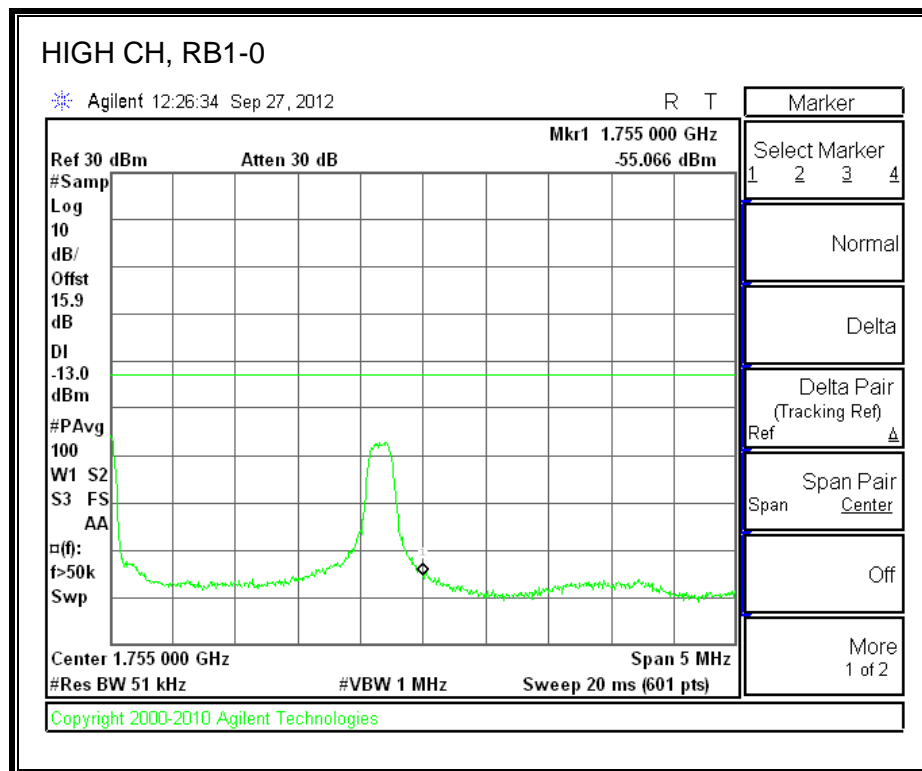
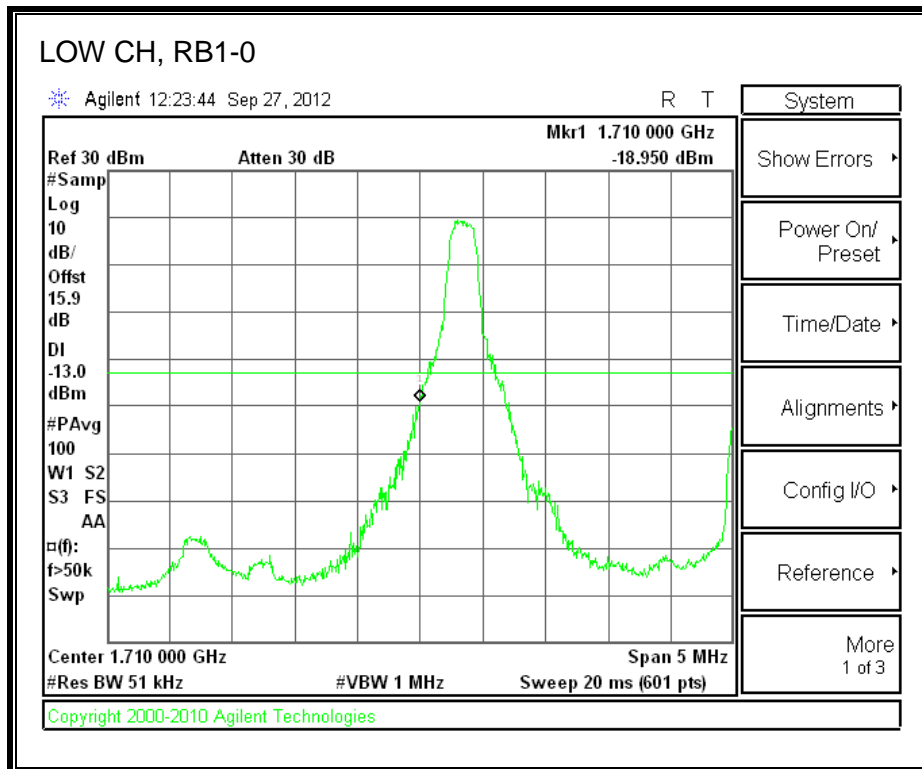
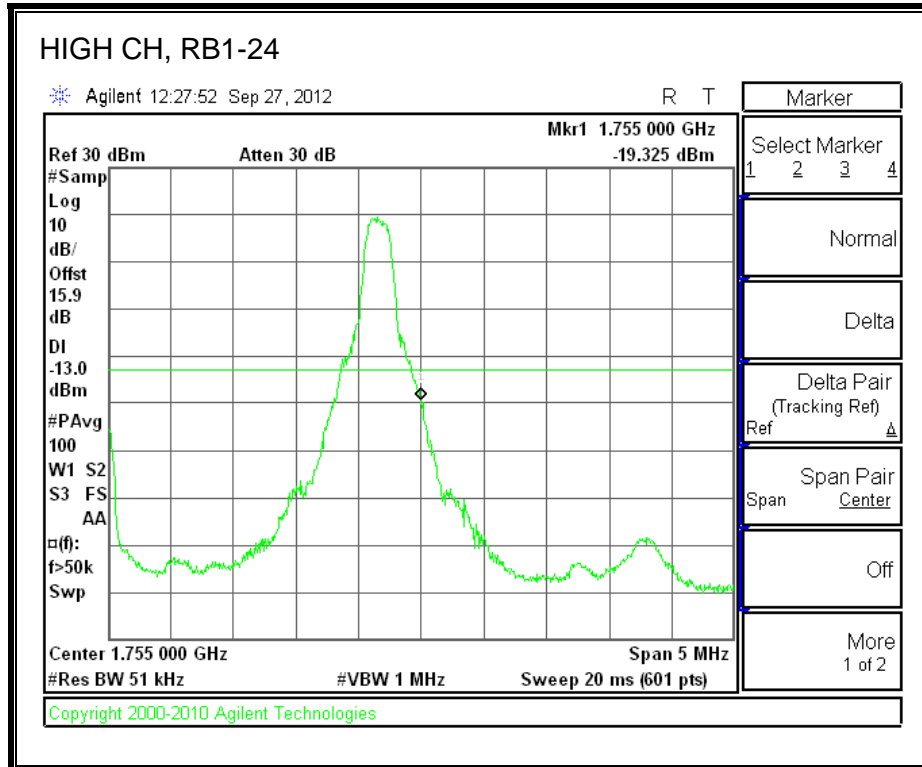
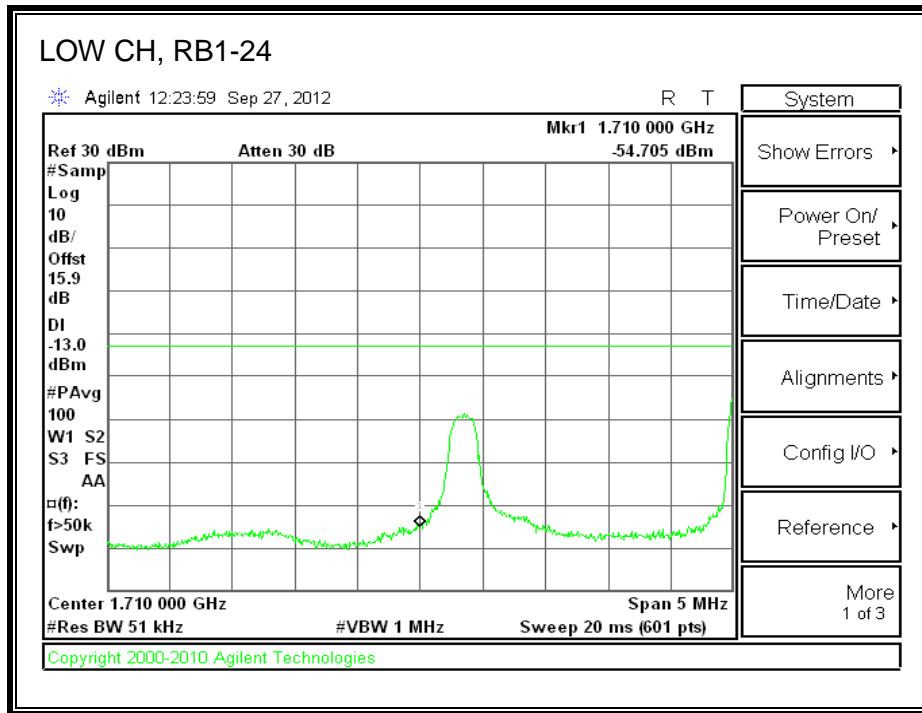
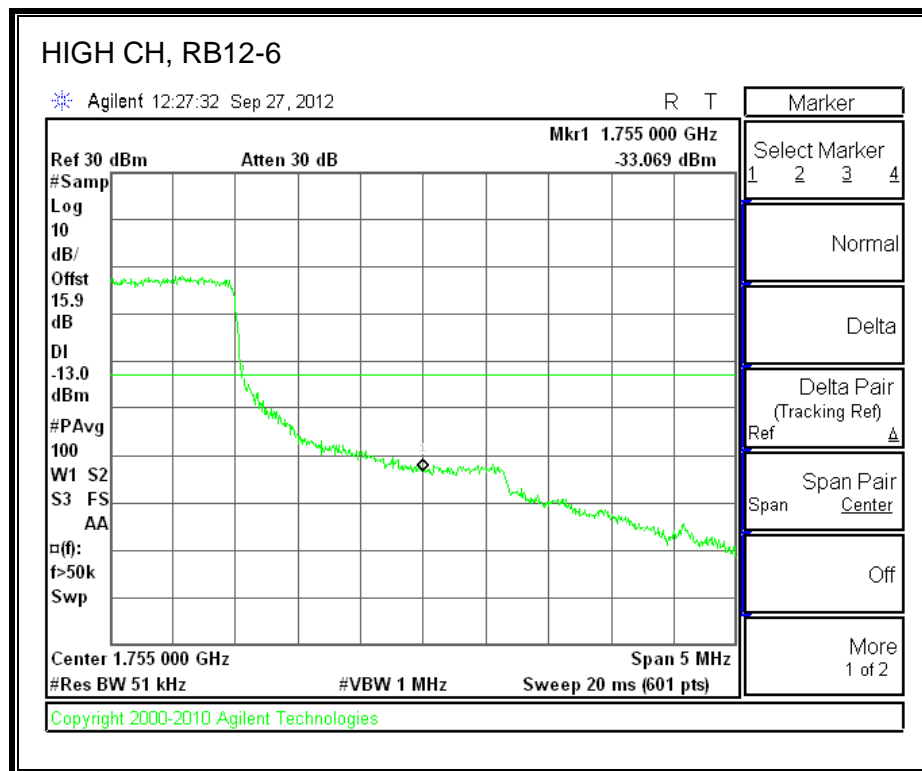
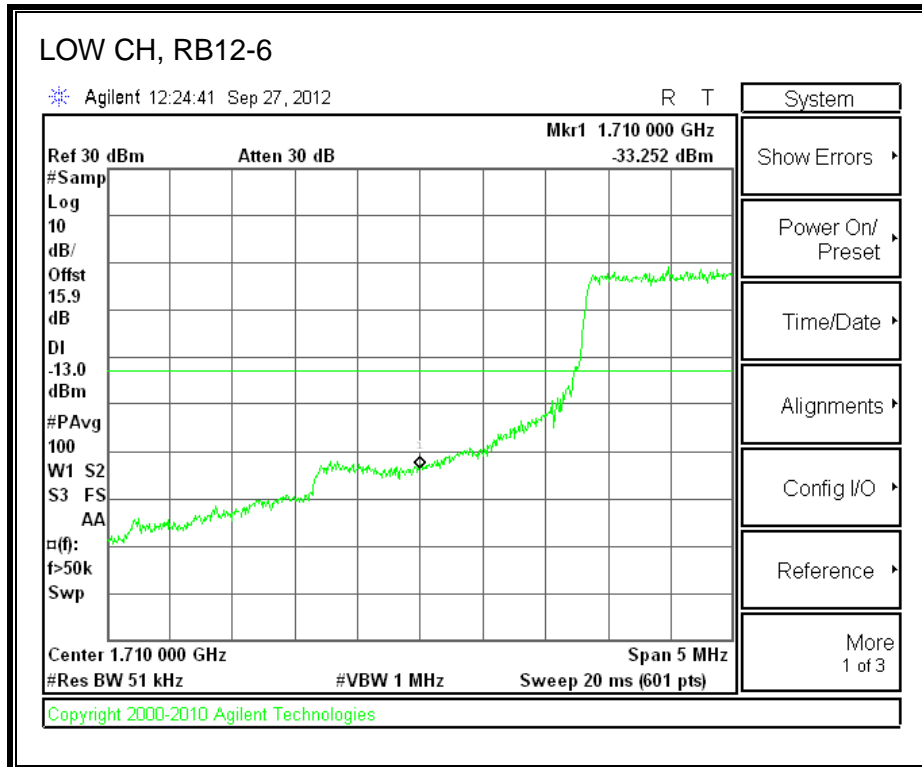
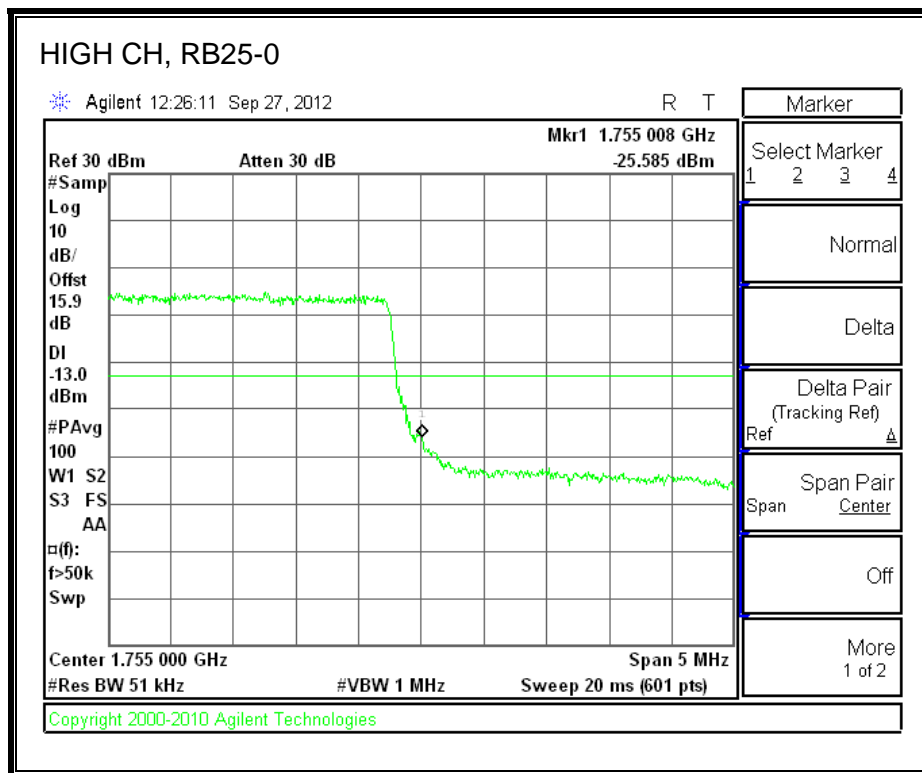
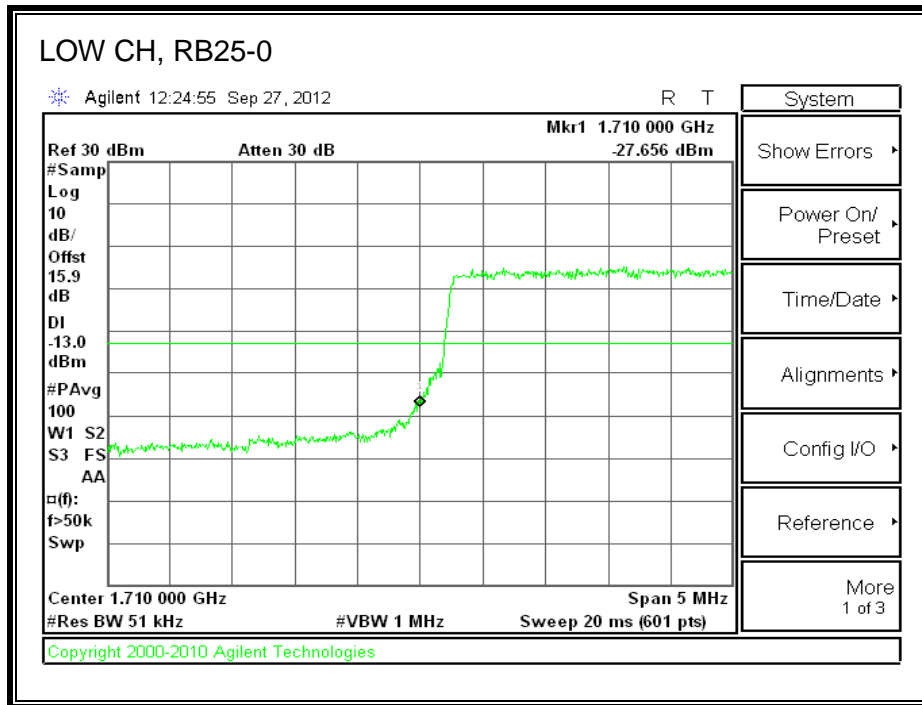


**QPSK Band 4 (5 MHz BANDWIDTH)**

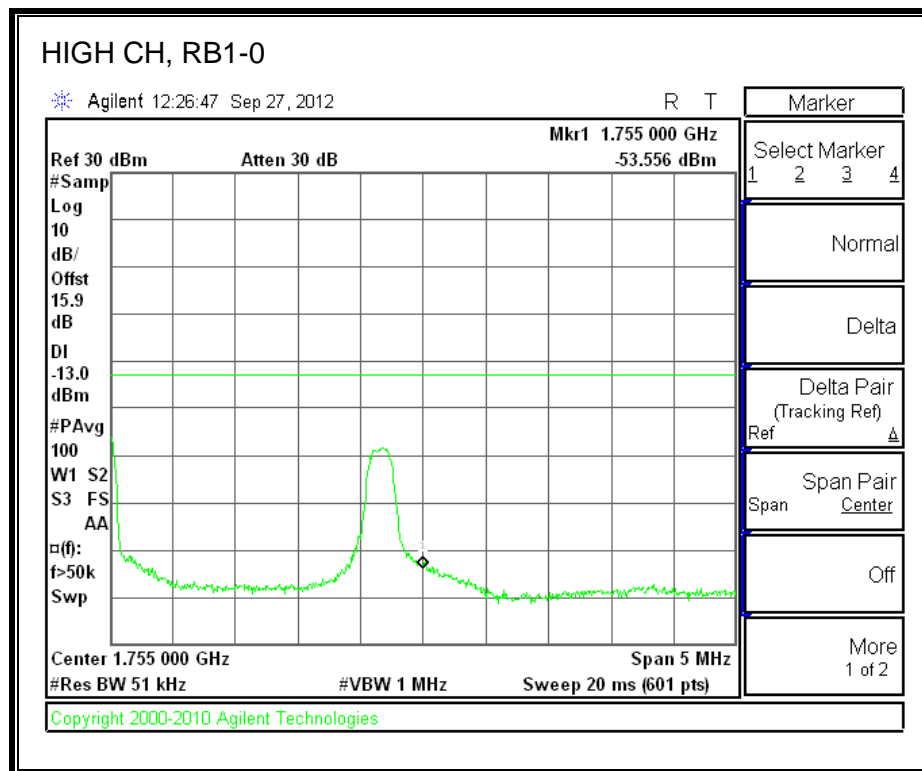
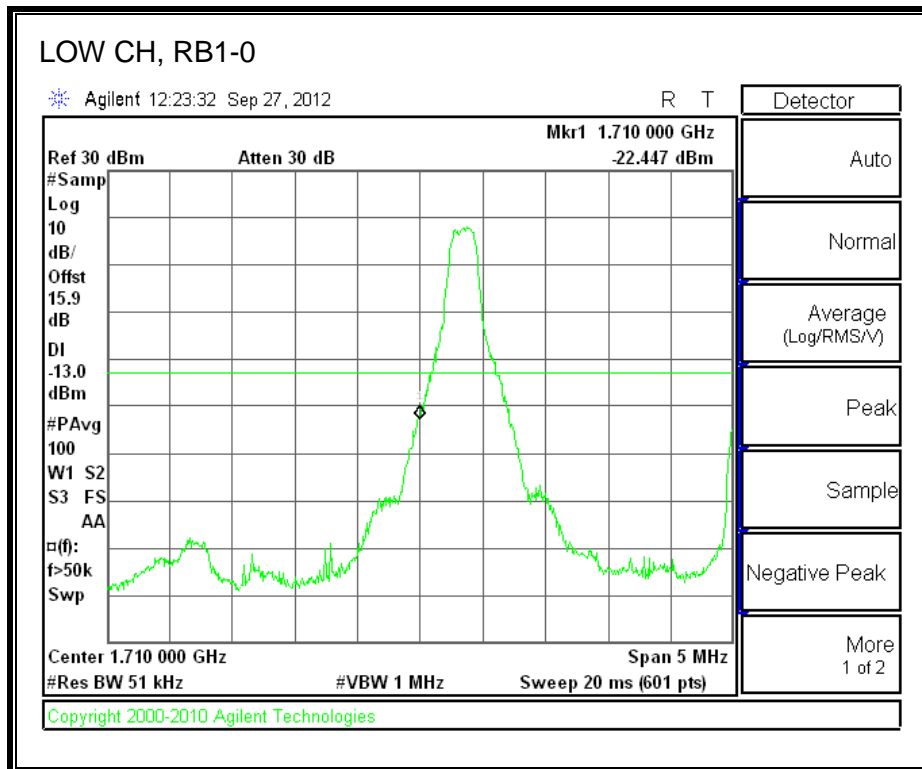


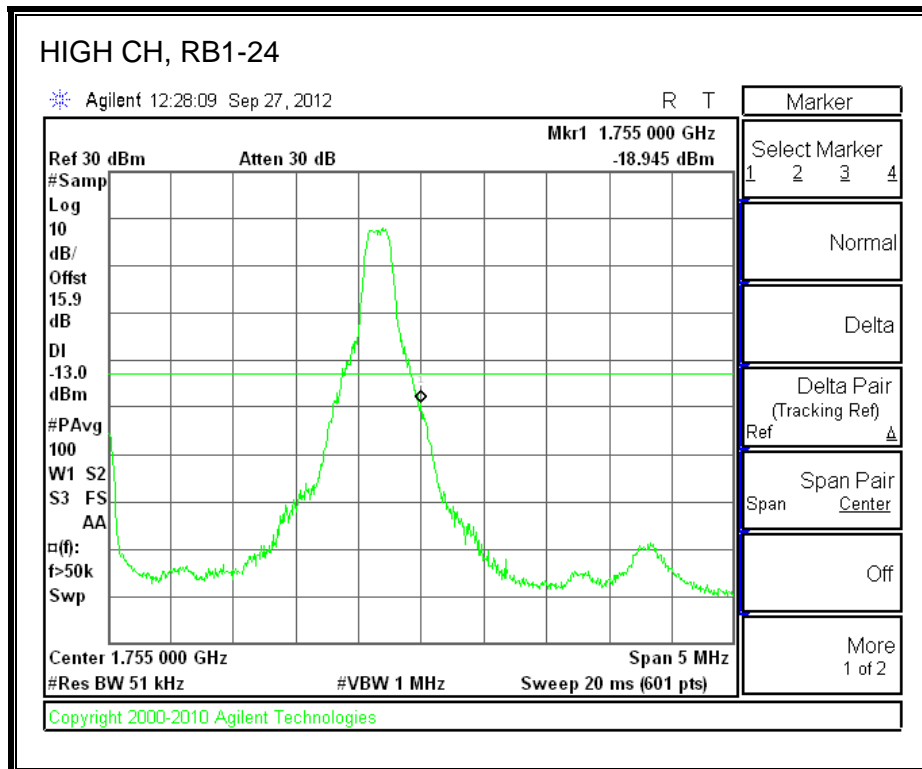
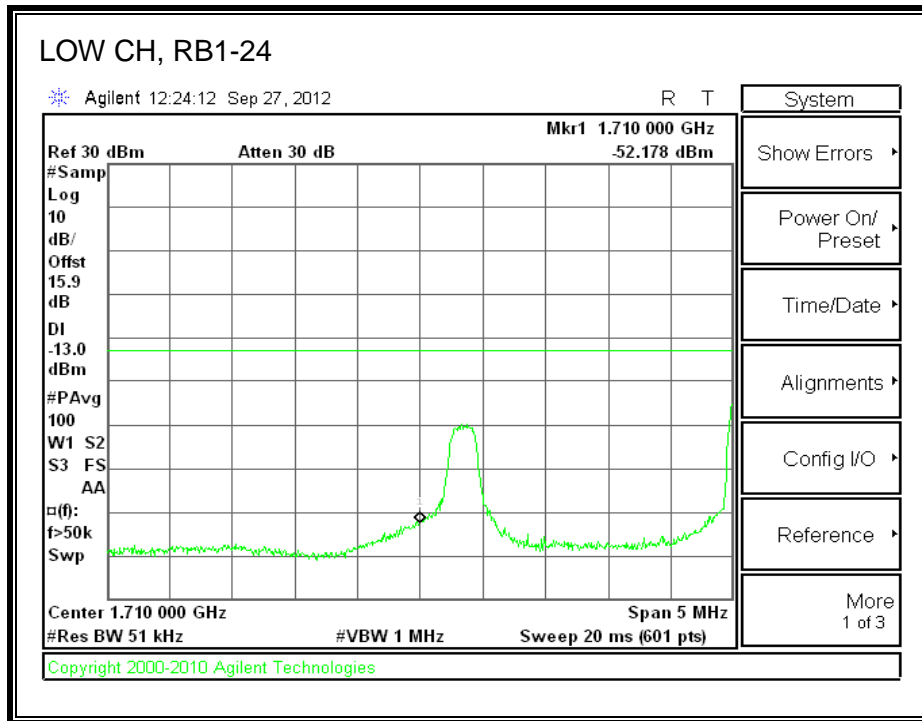


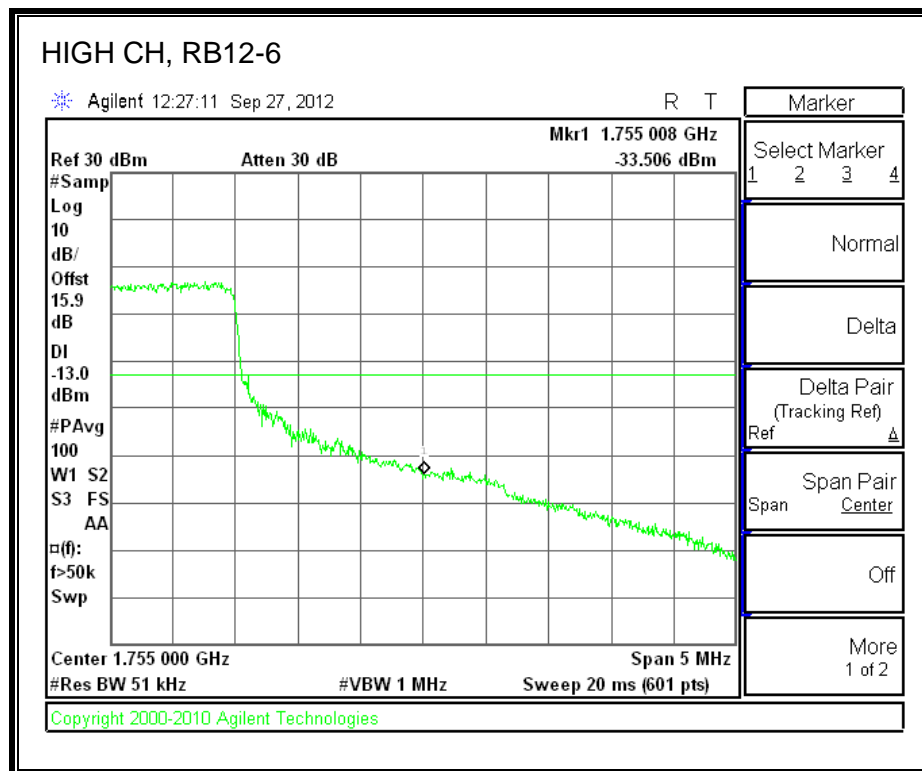
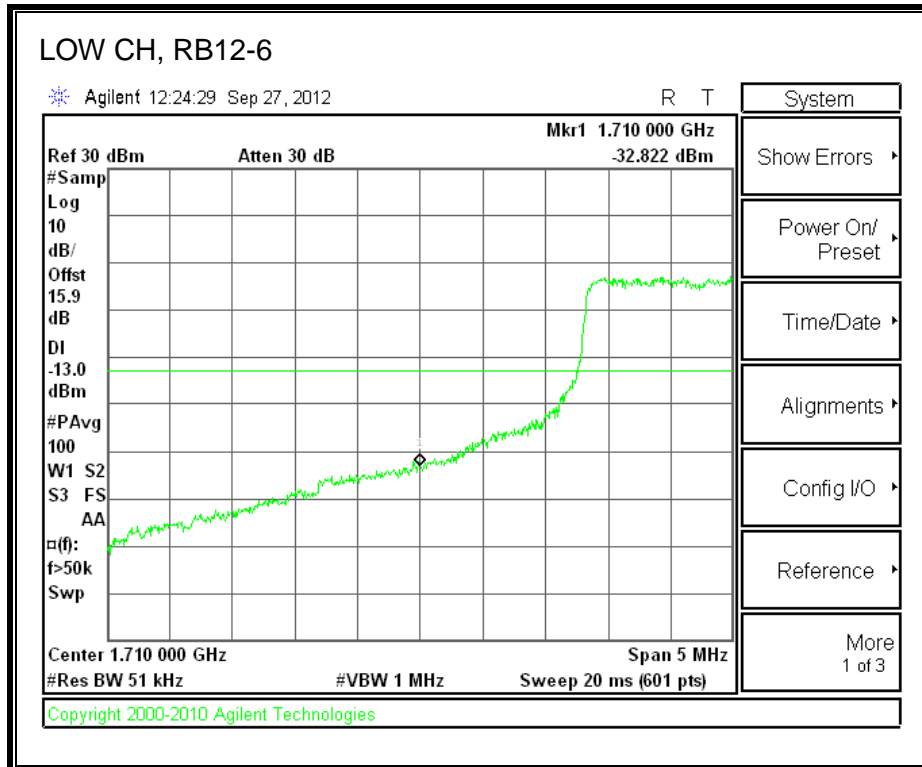


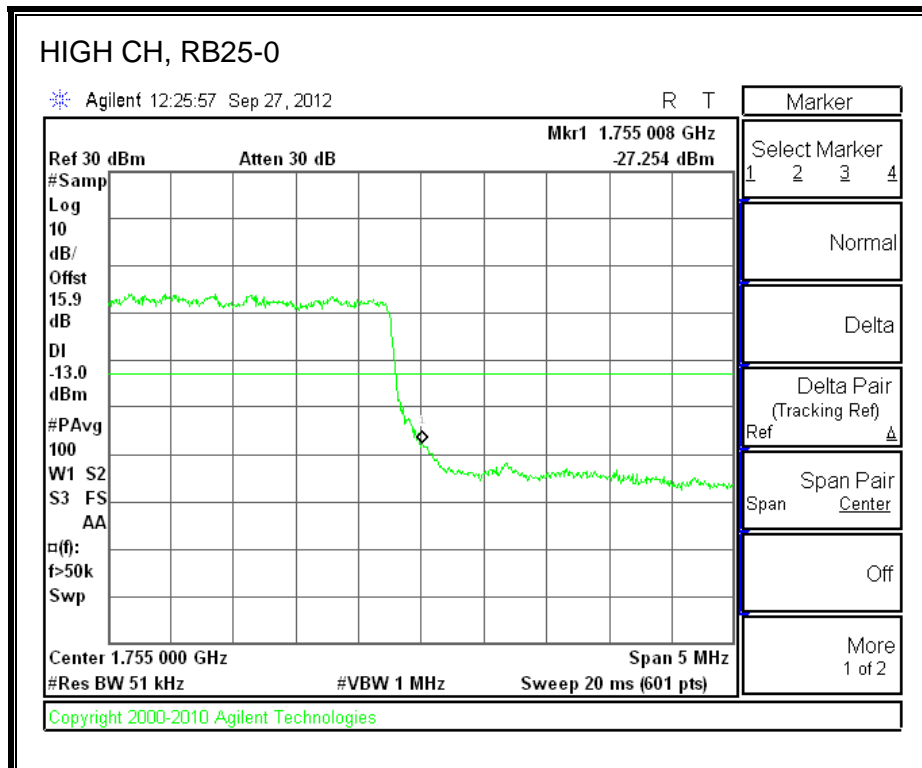
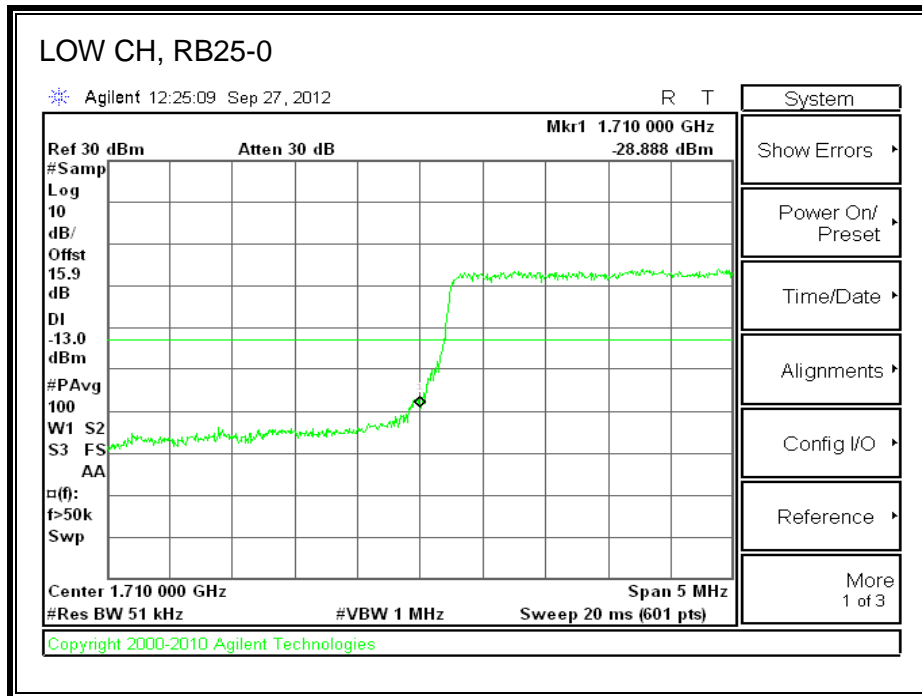


**16QAM Band 4 (5 MHz BANDWIDTH)**



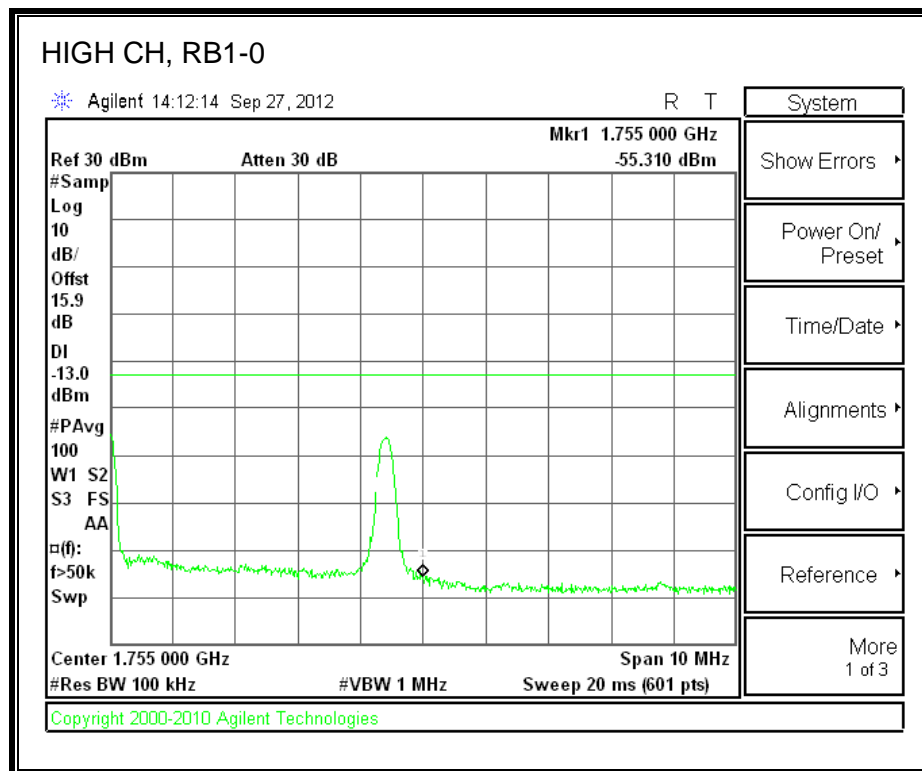
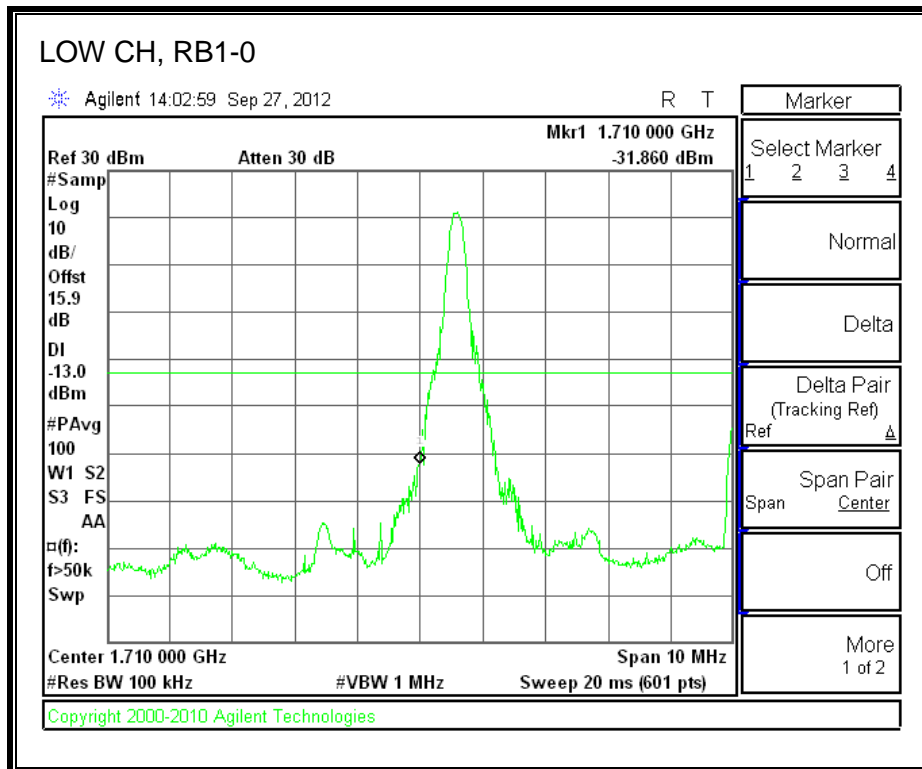


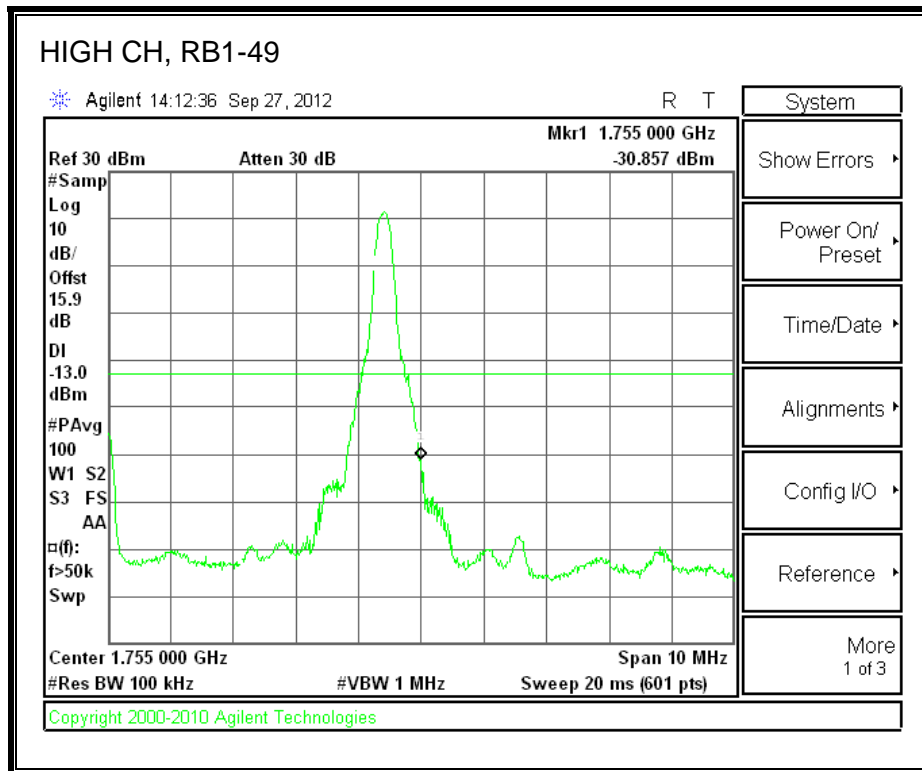
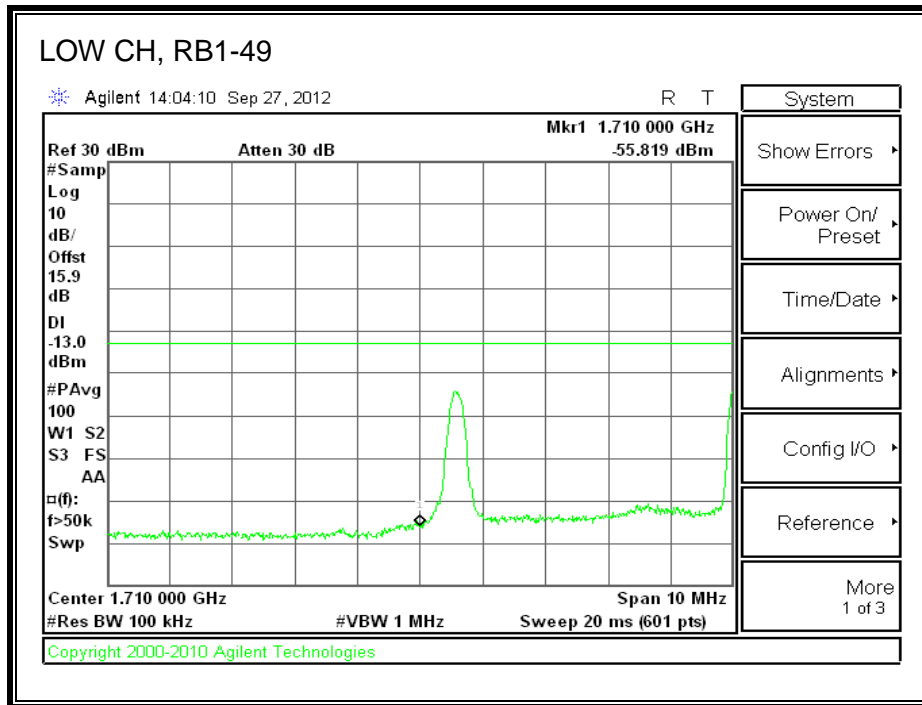


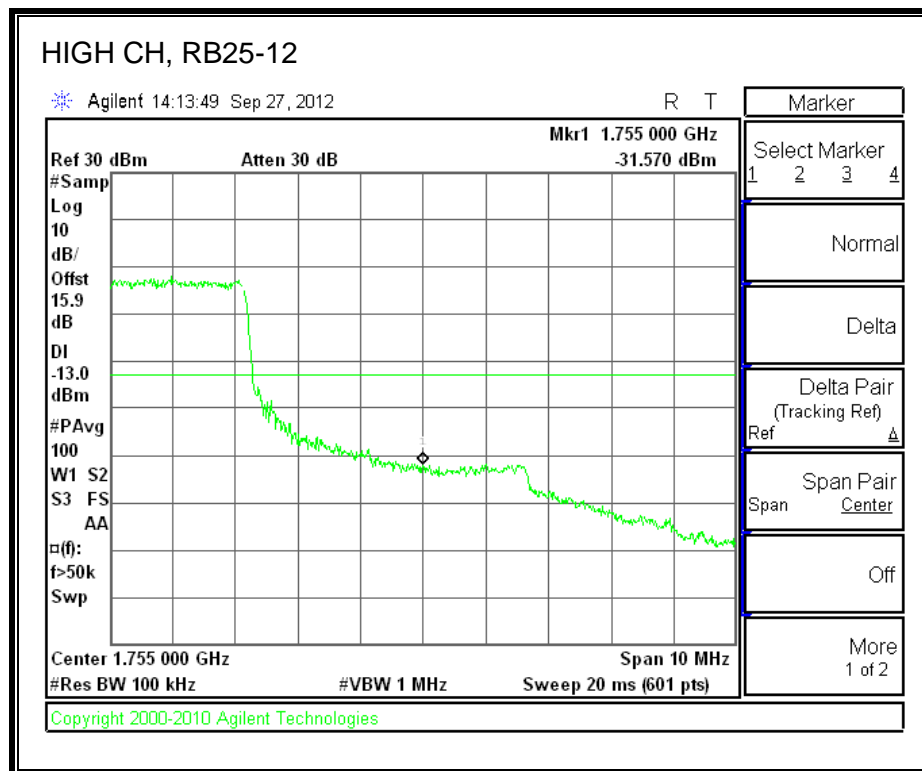
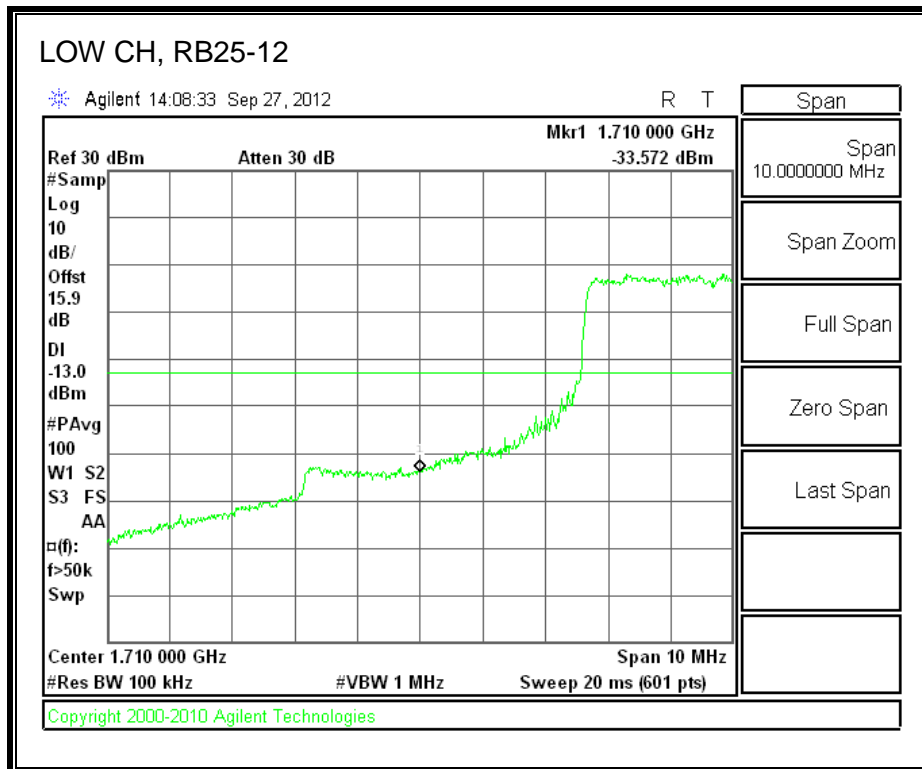


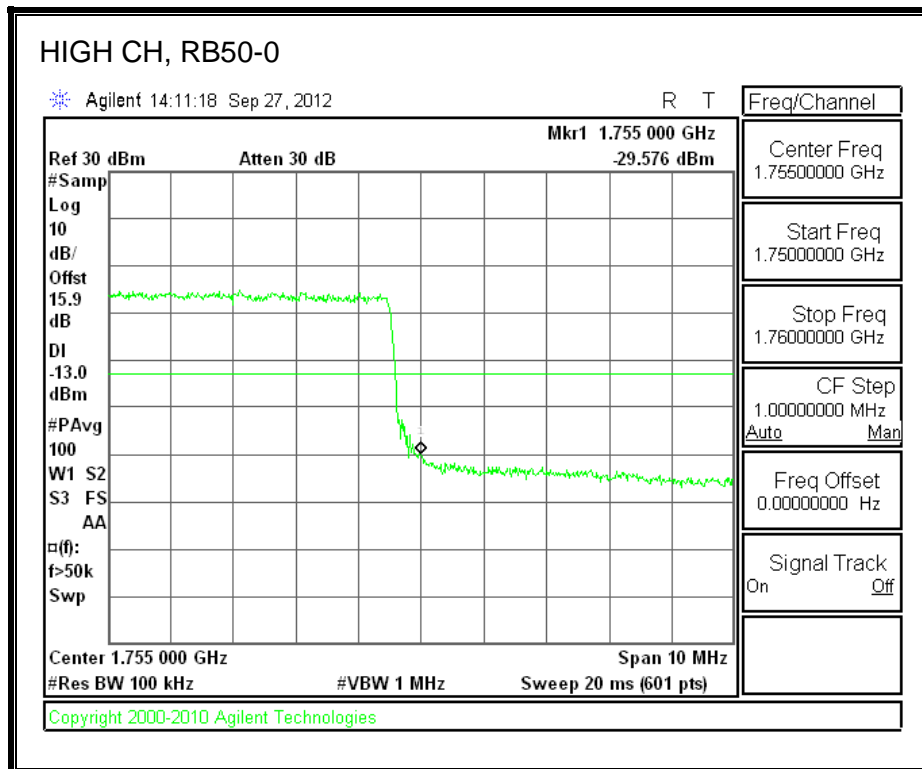
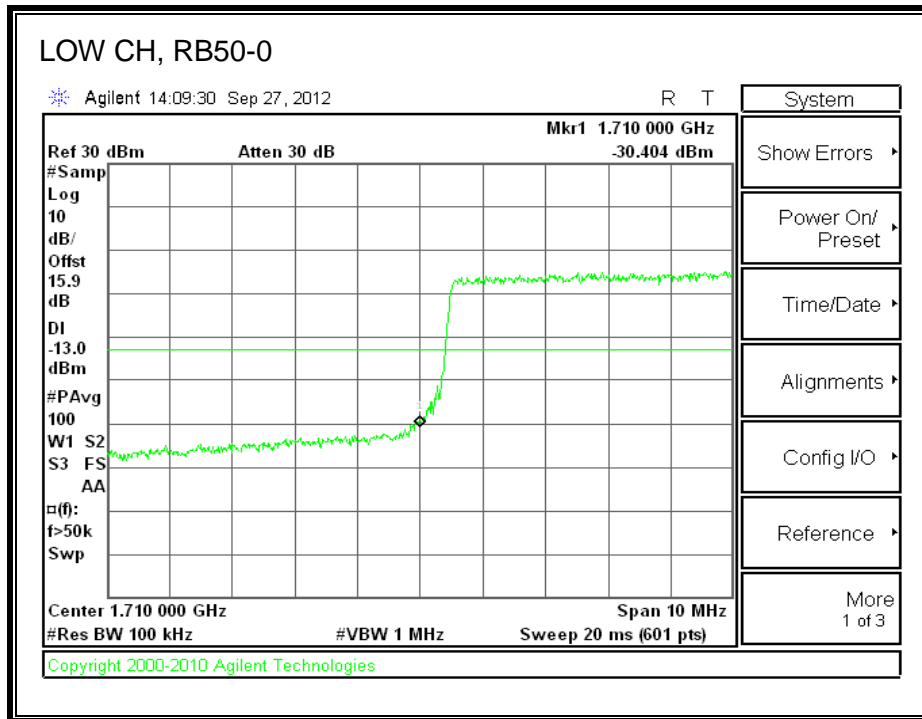


**QPSK Band 4 (10 MHz BANDWIDTH)**

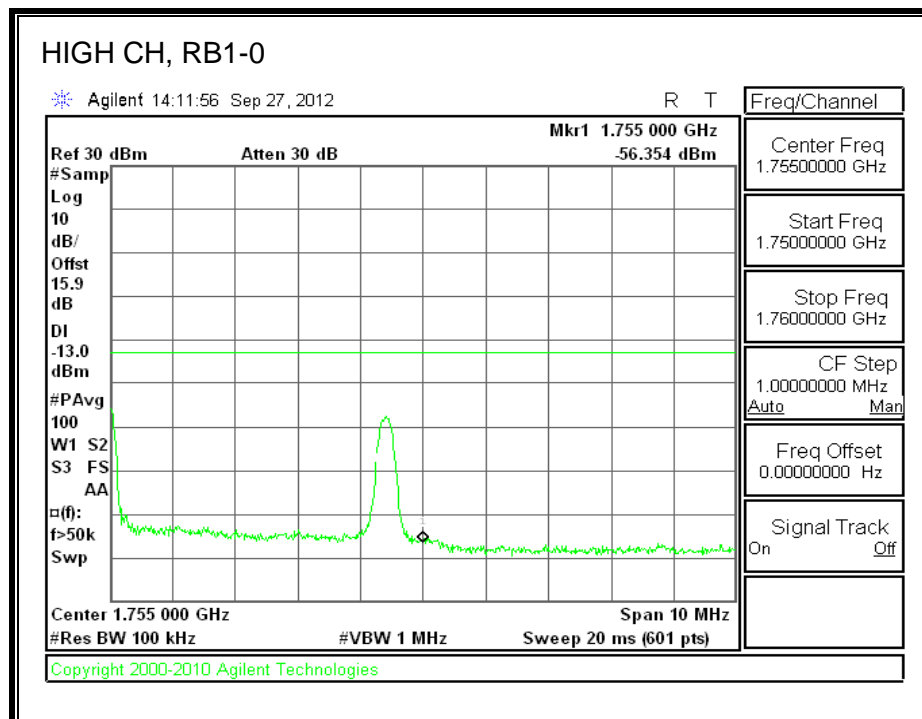
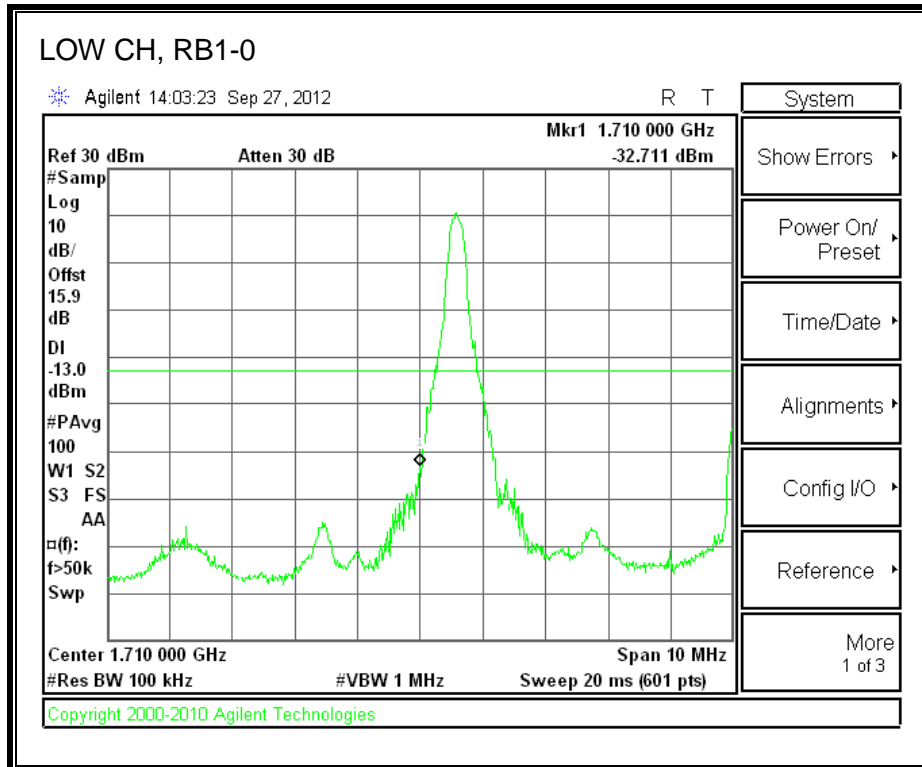


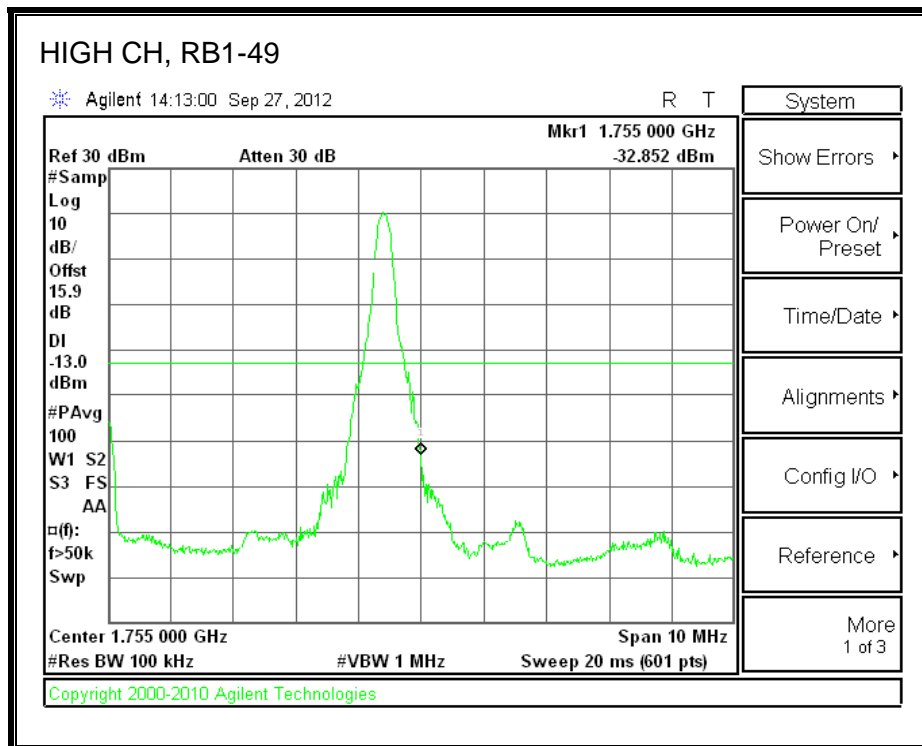
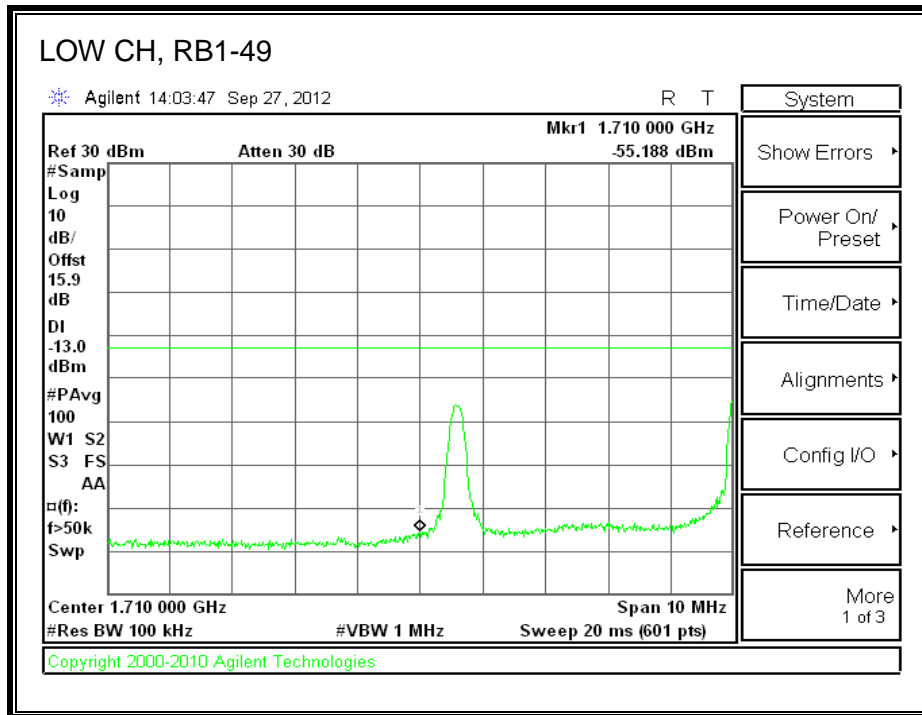


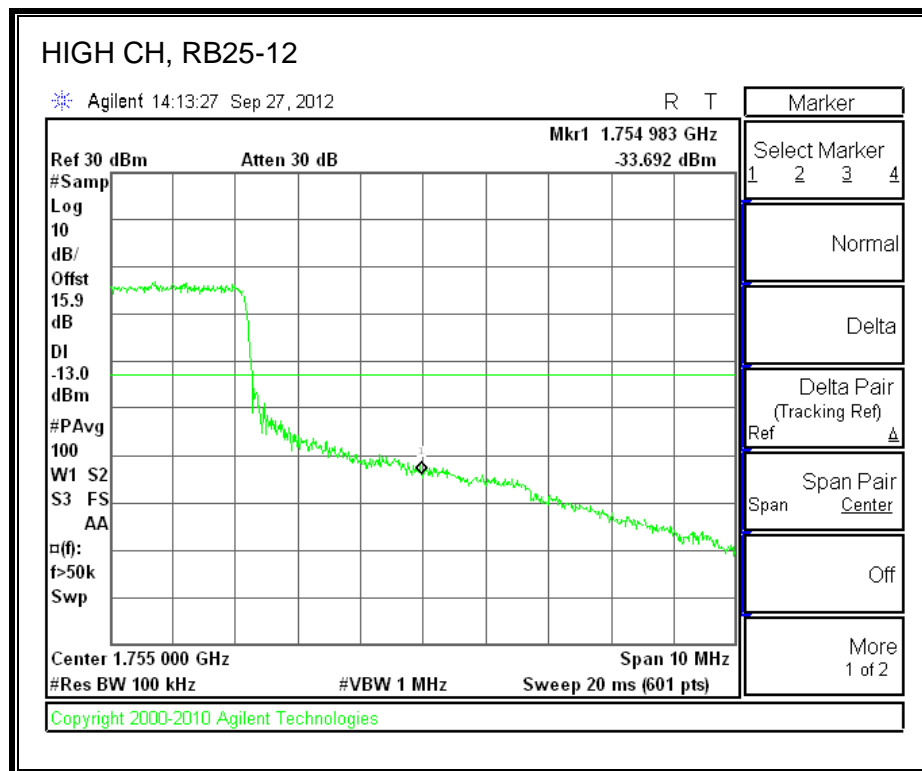
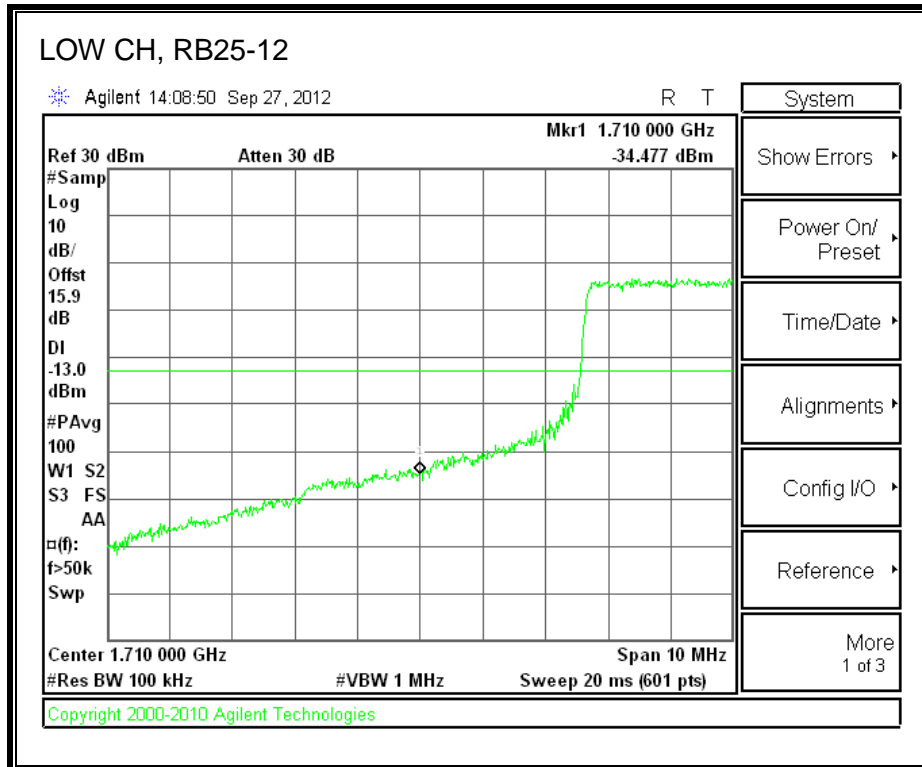


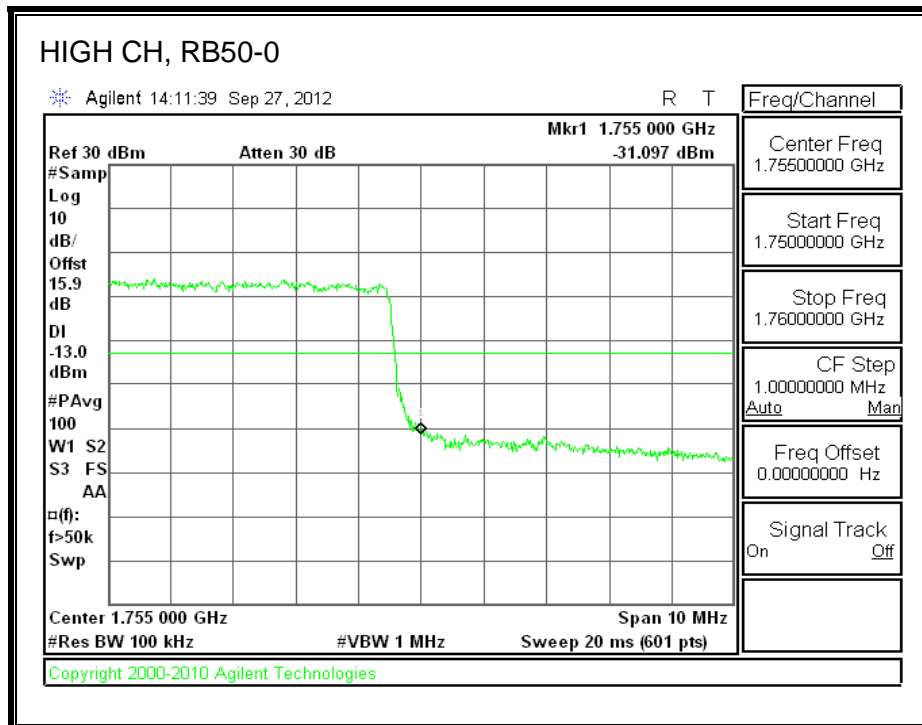
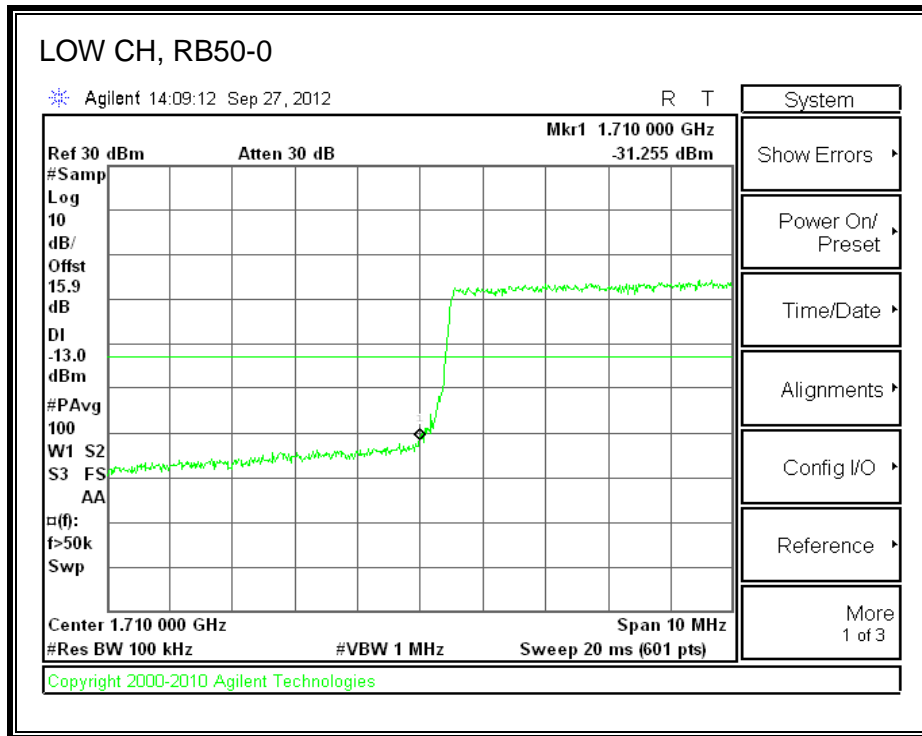


**16QAM Band 4 (10 MHz BANDWIDTH)**



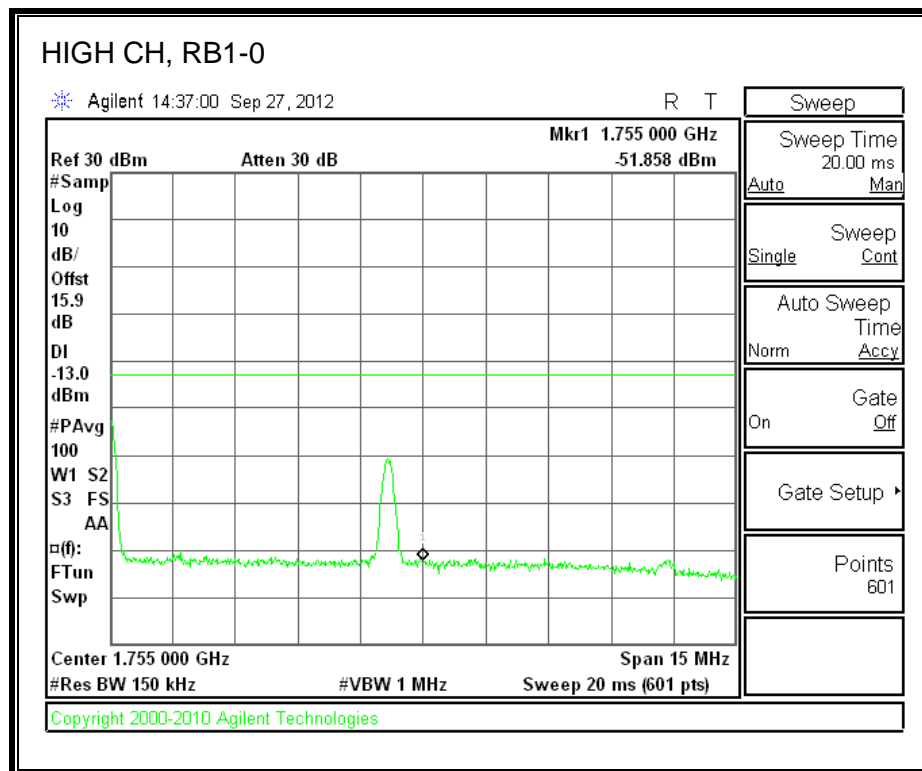
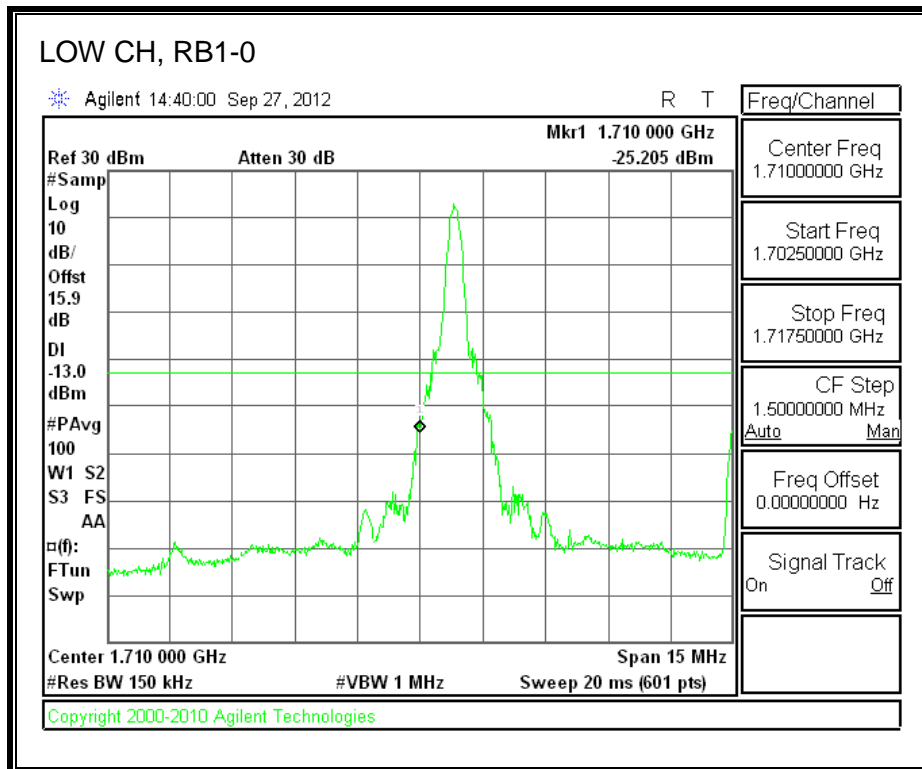


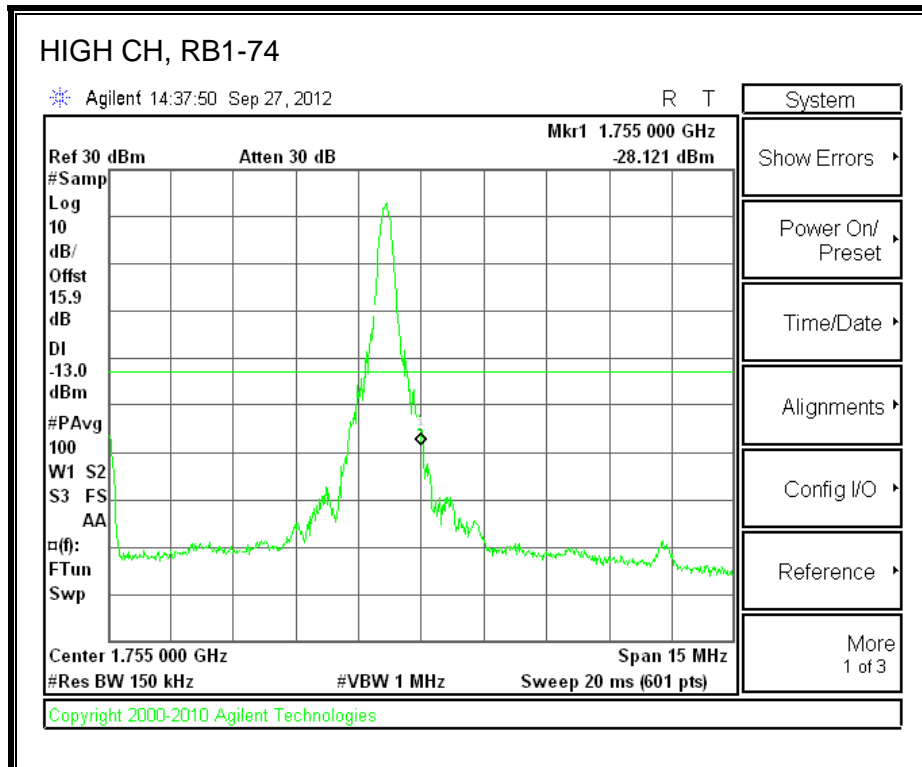
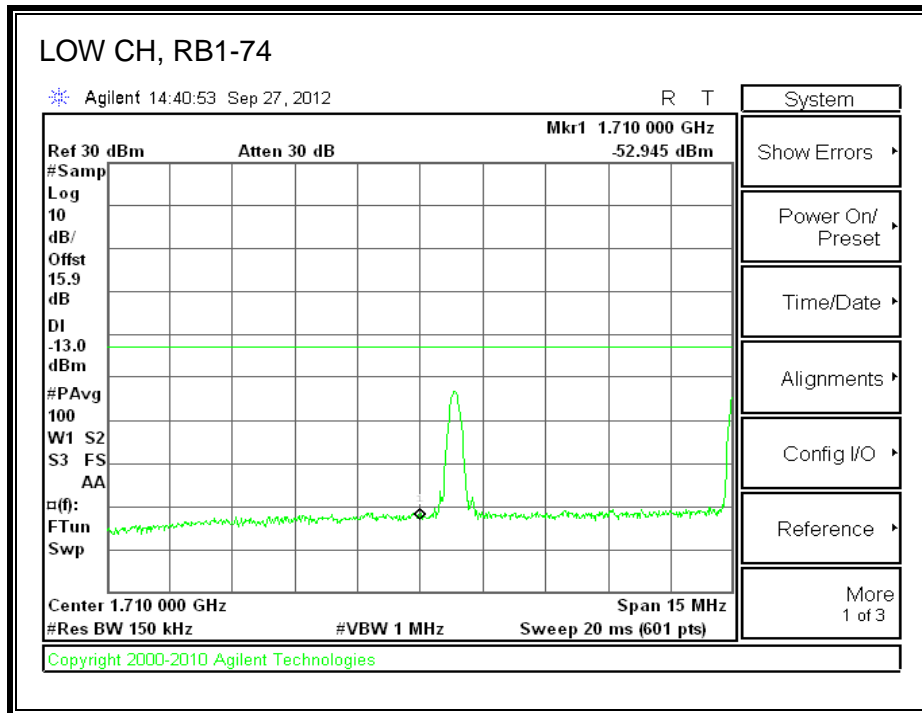


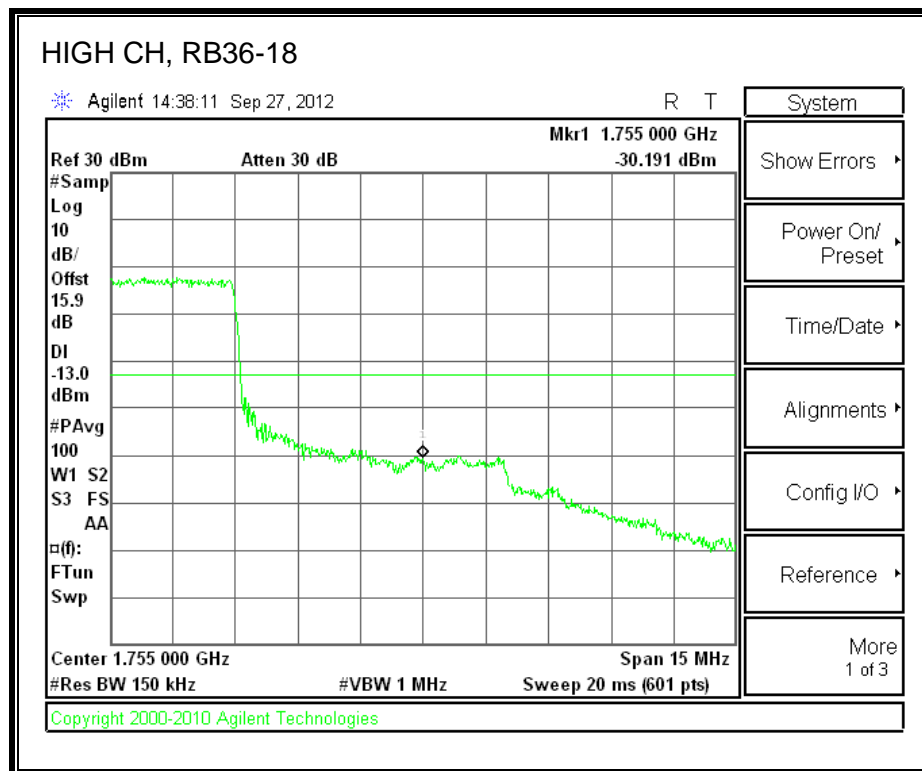
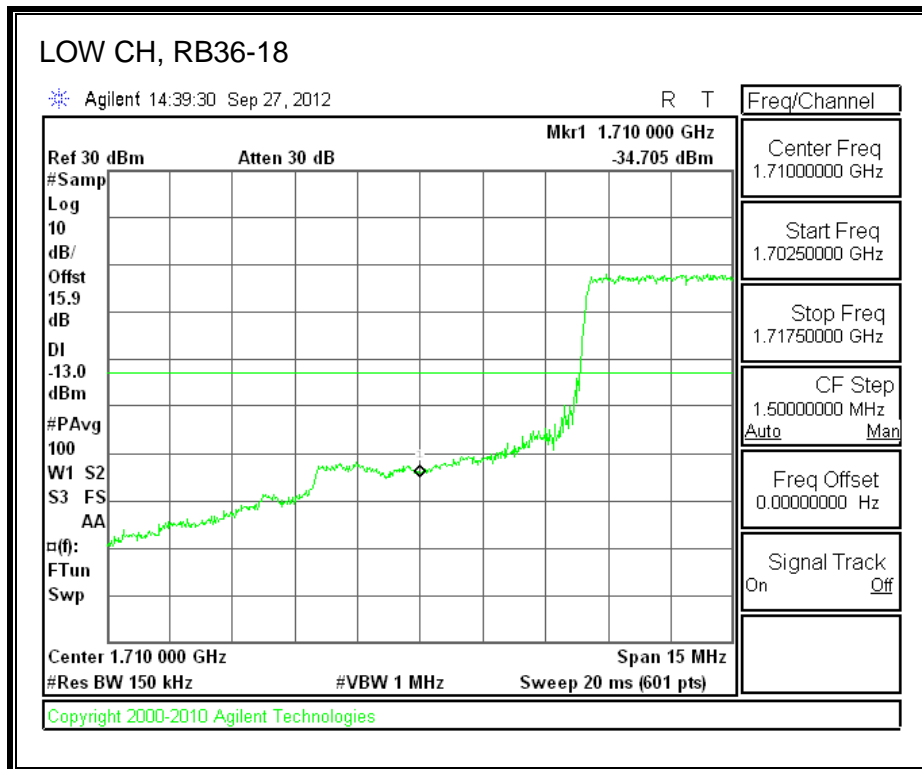


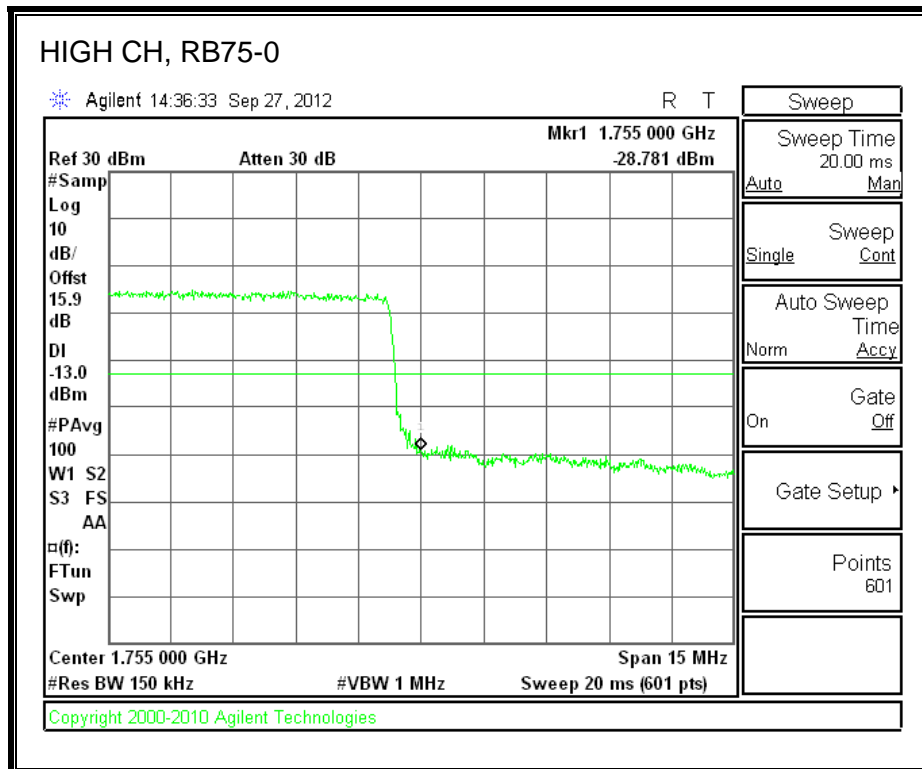
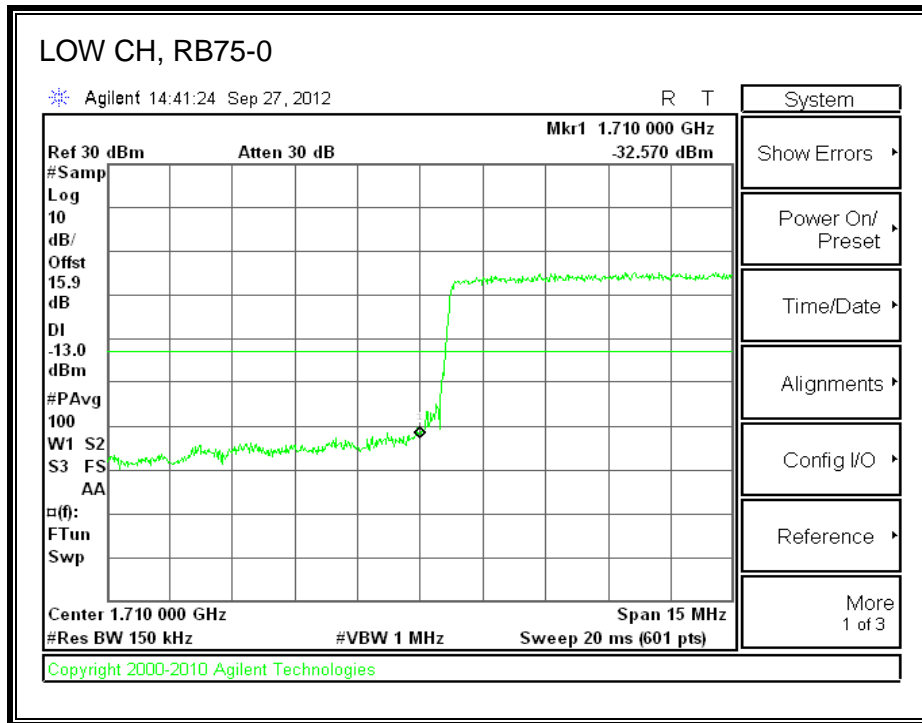


**QPSK Band 4 (15 MHz BANDWIDTH)**

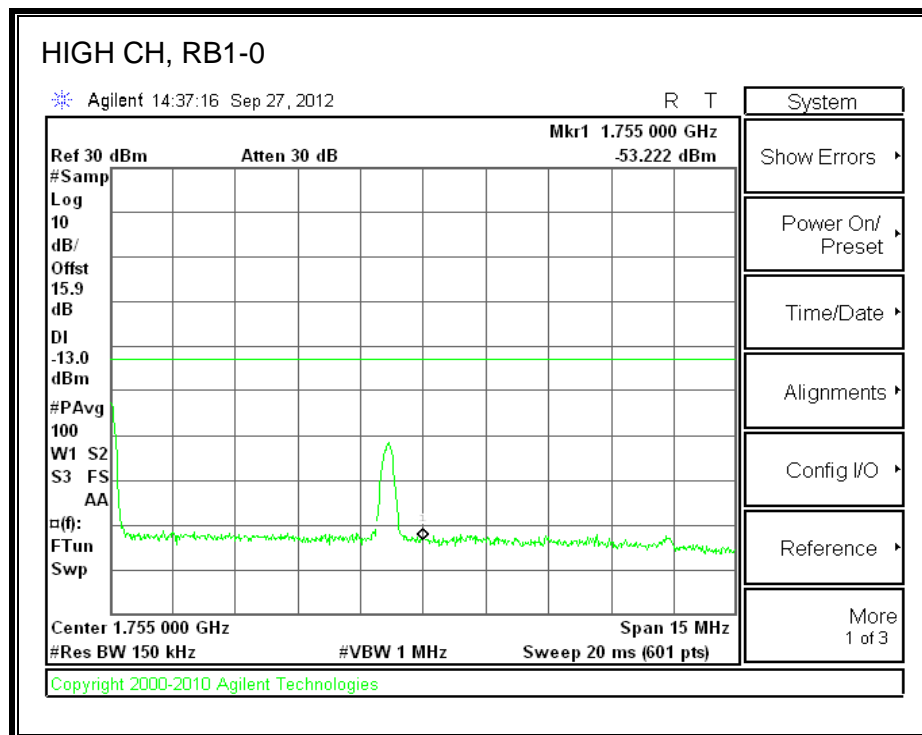
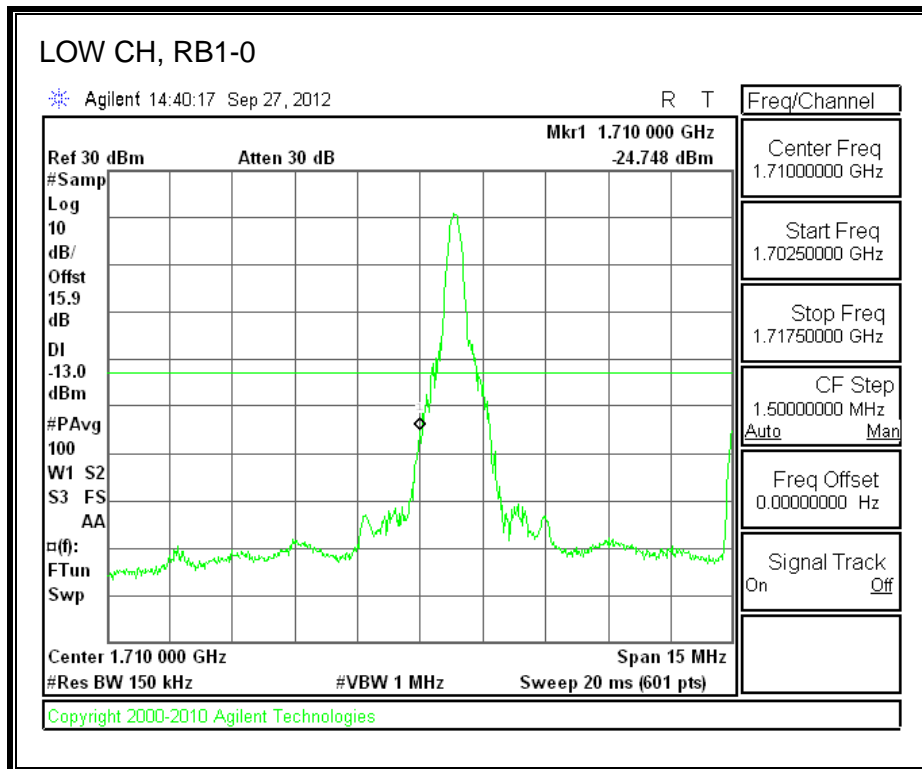


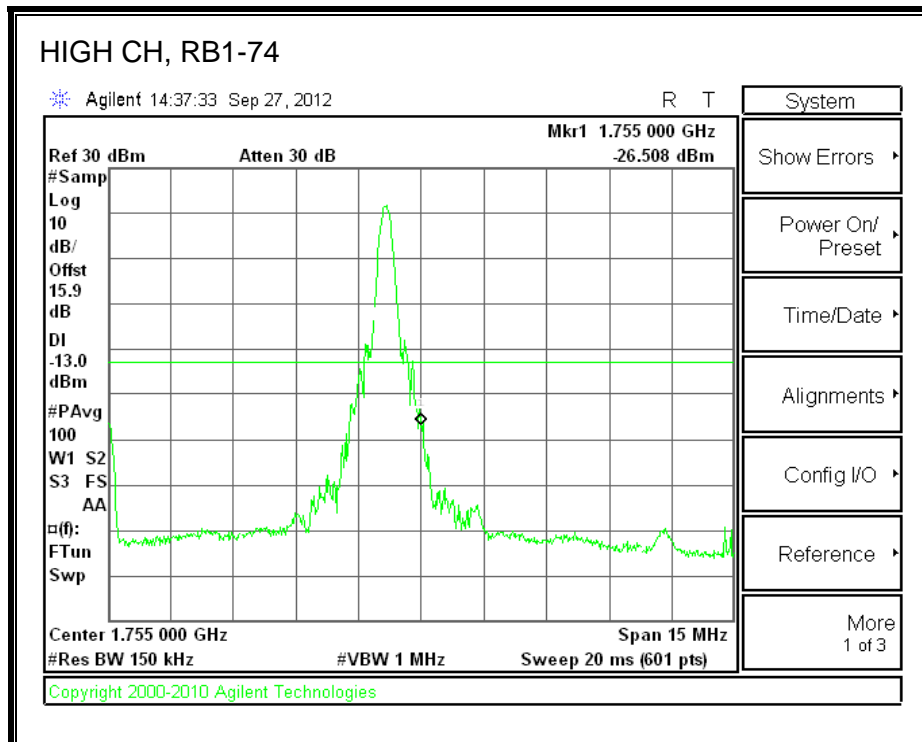
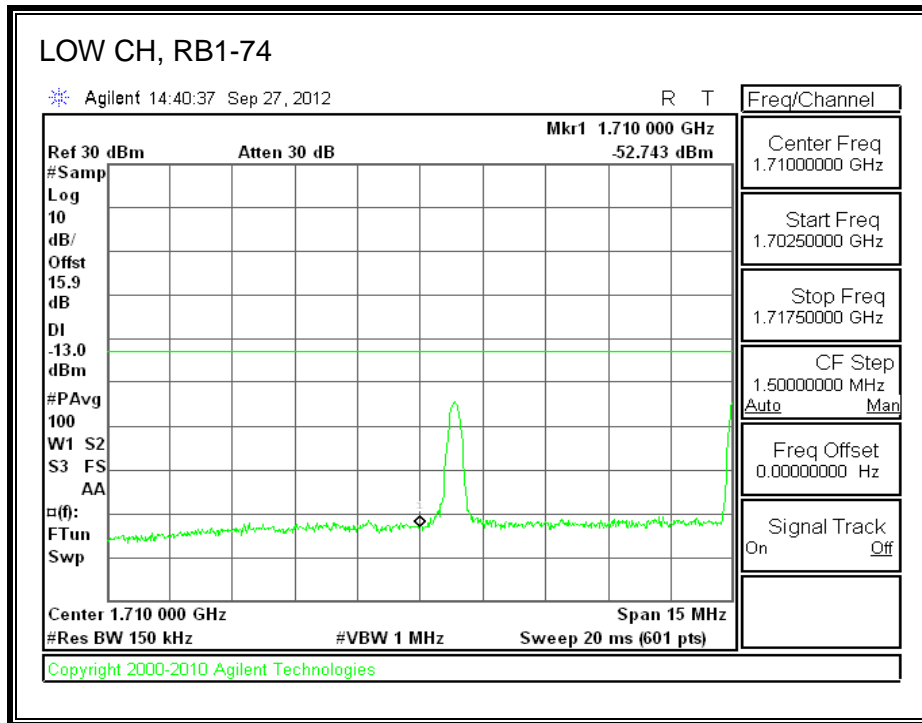


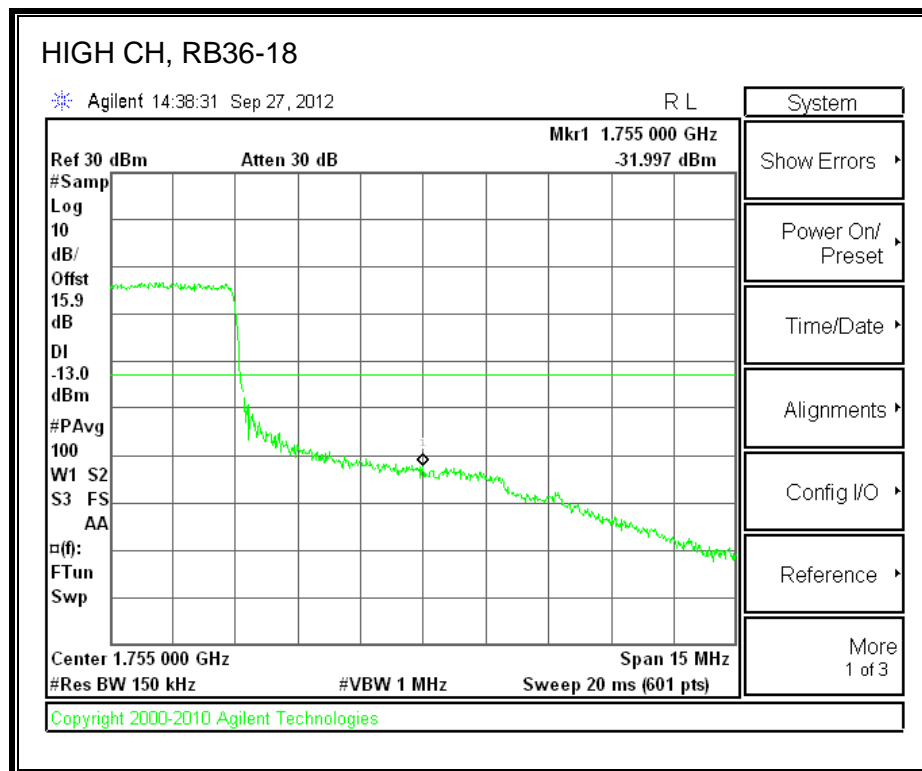
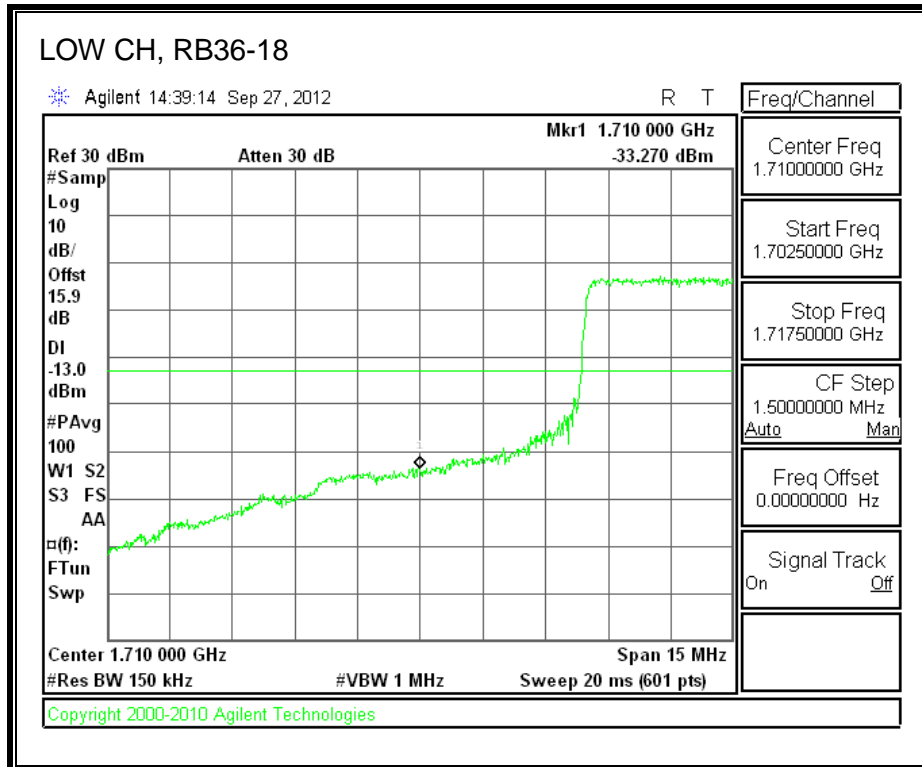


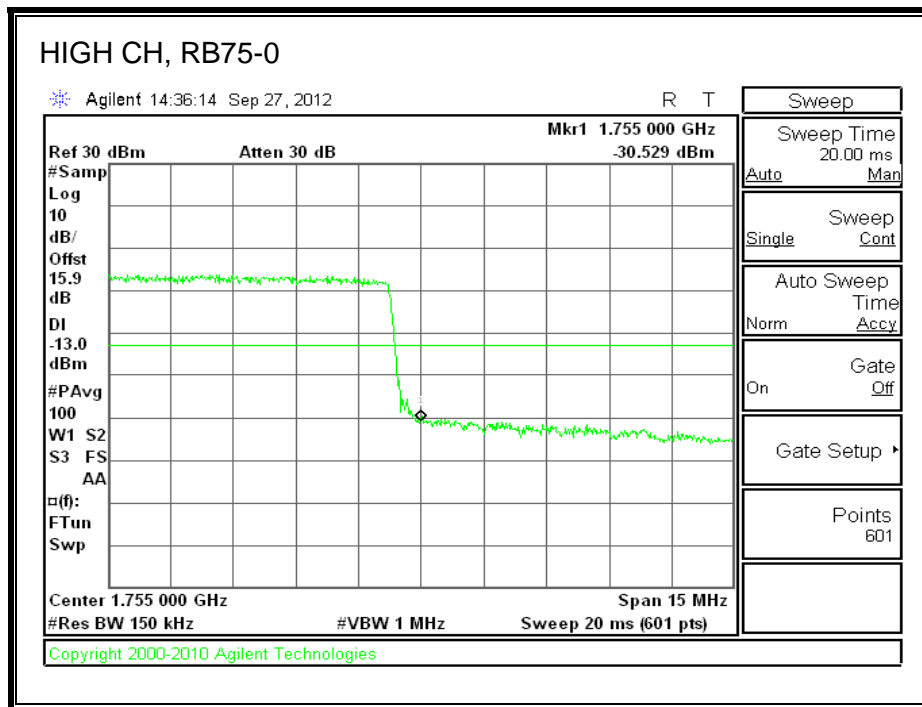
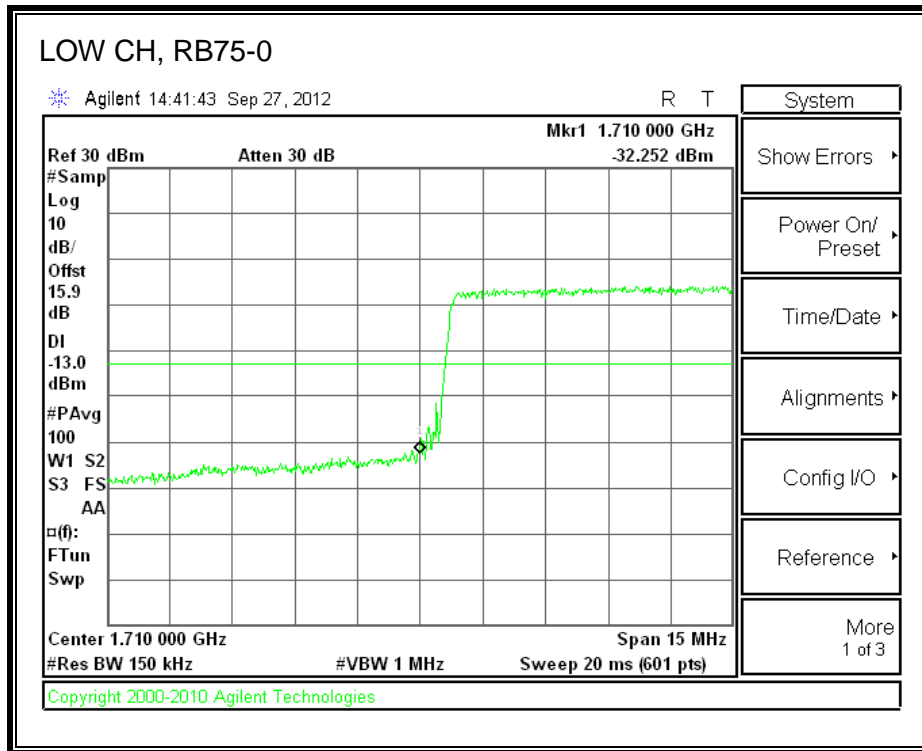


**16QAM Band 4 (15 MHz BANDWIDTH)**



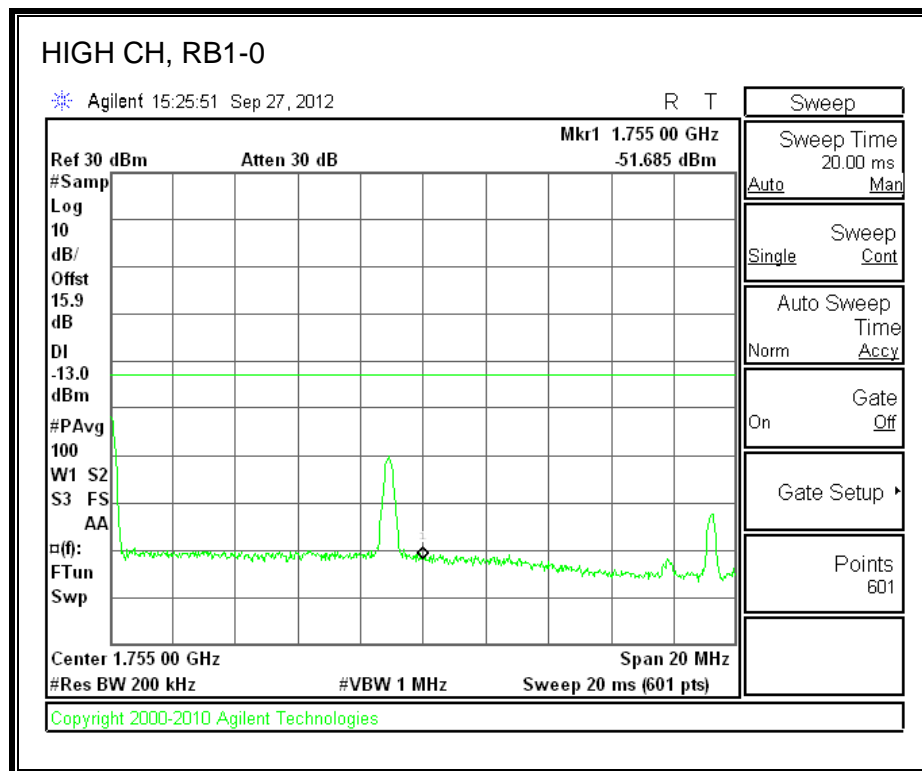
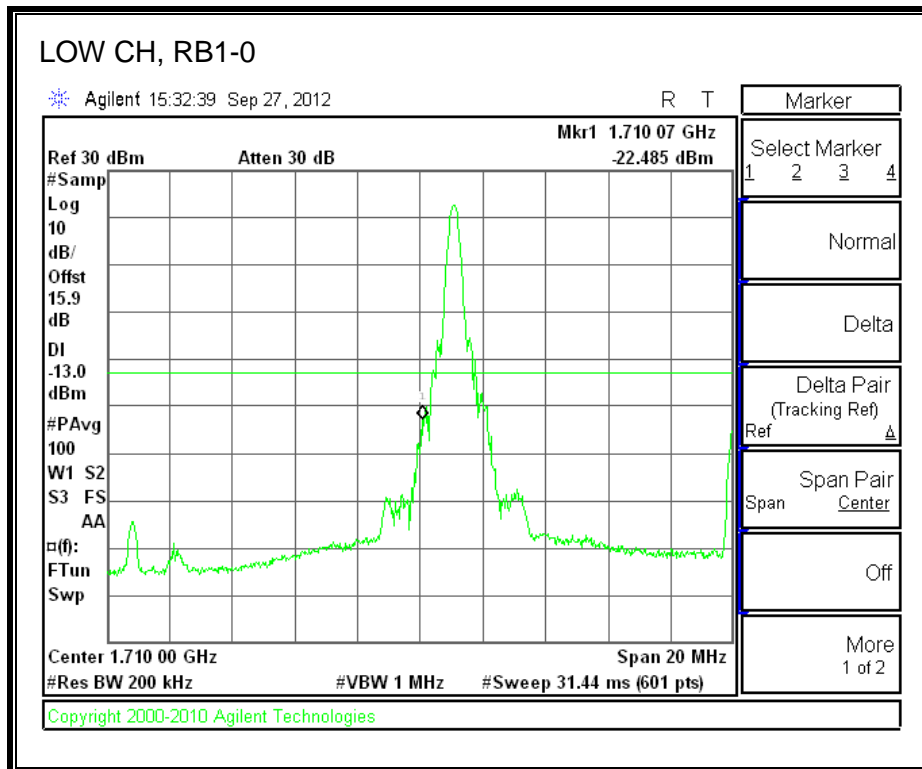


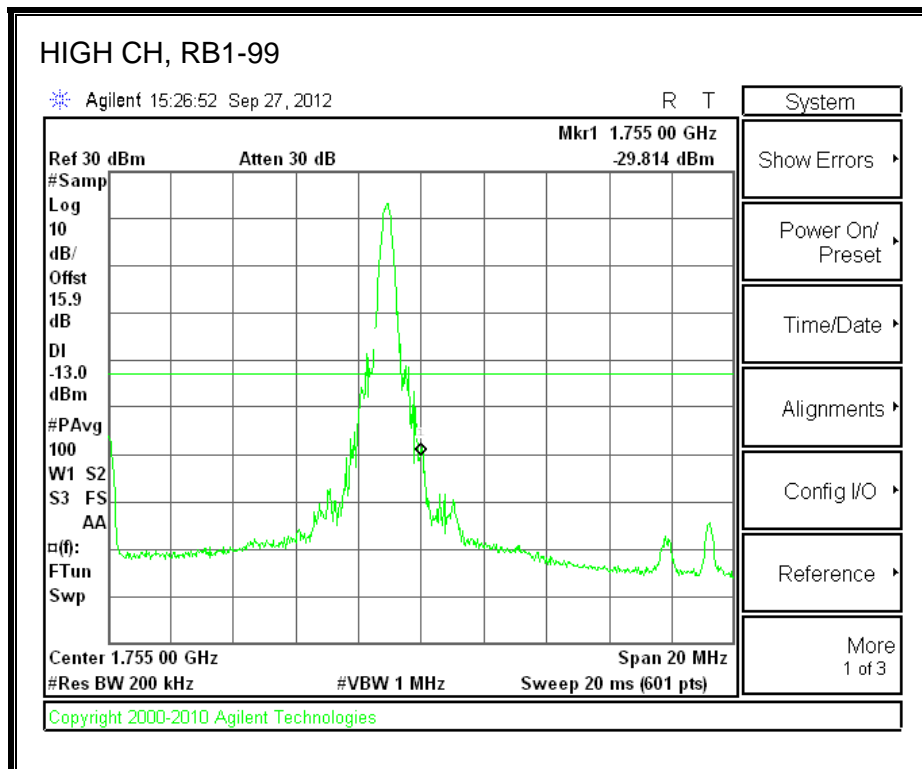
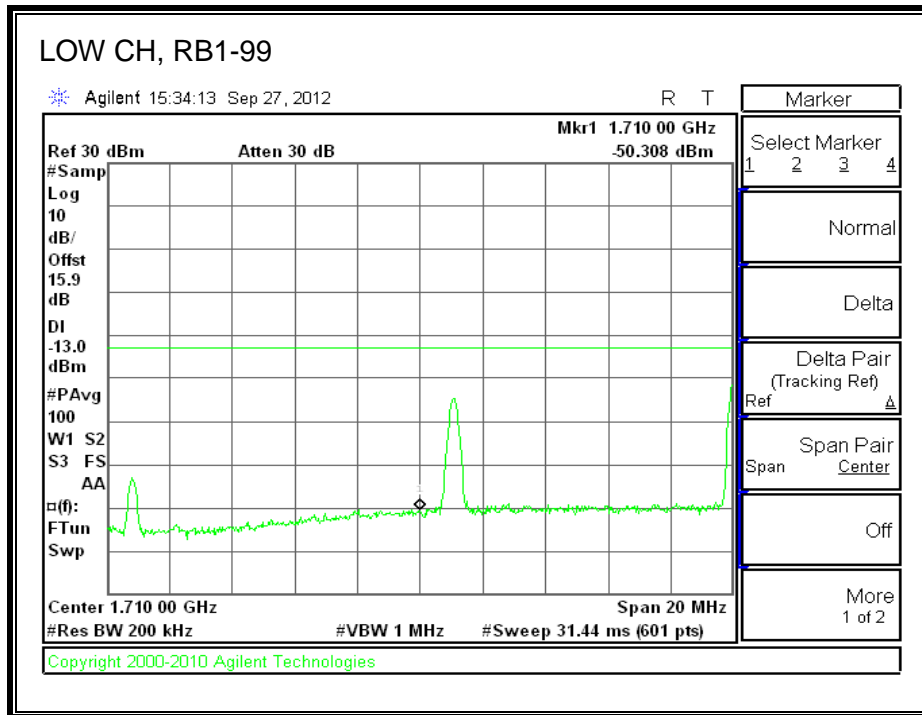


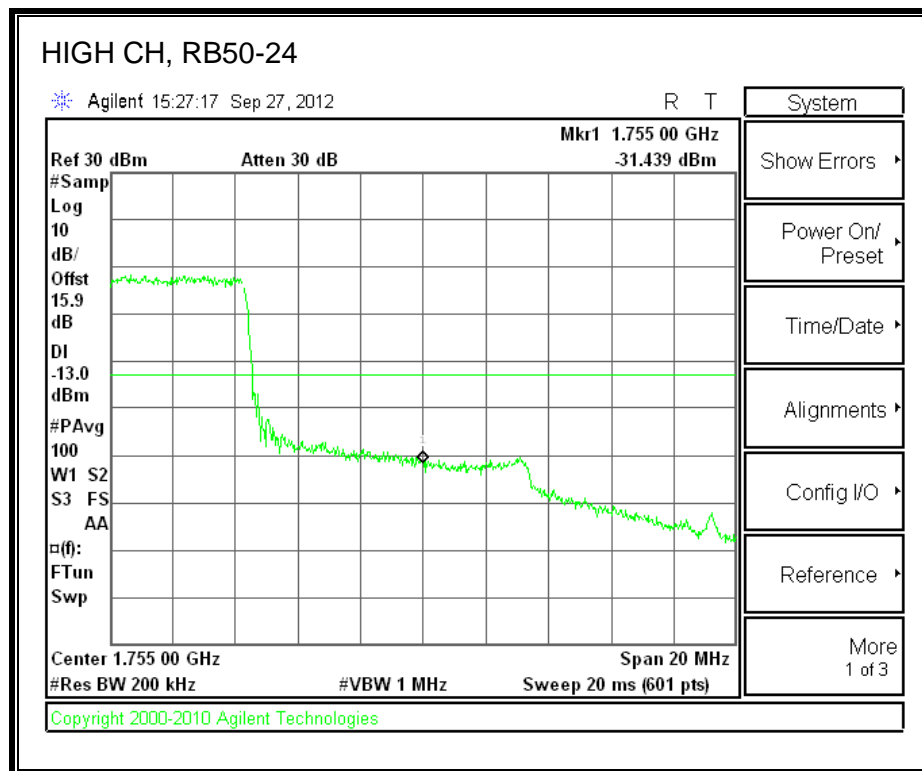
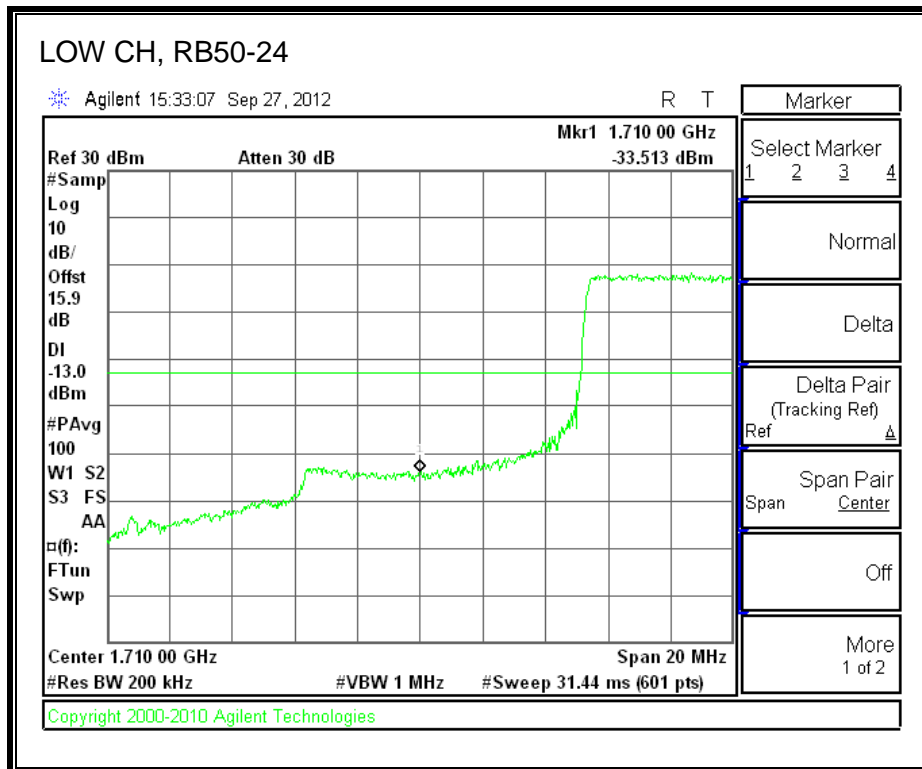


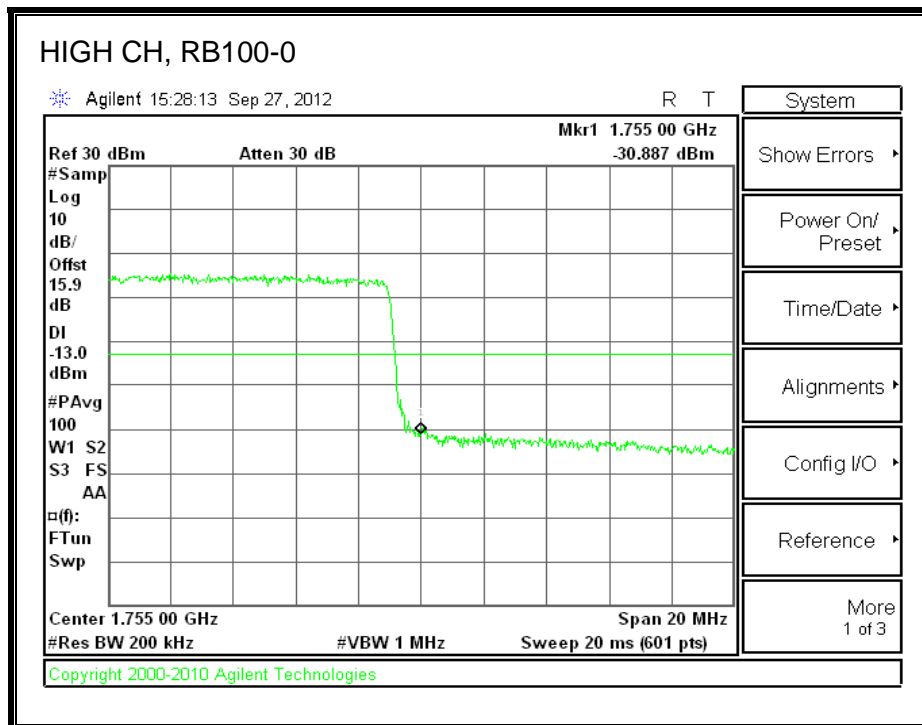
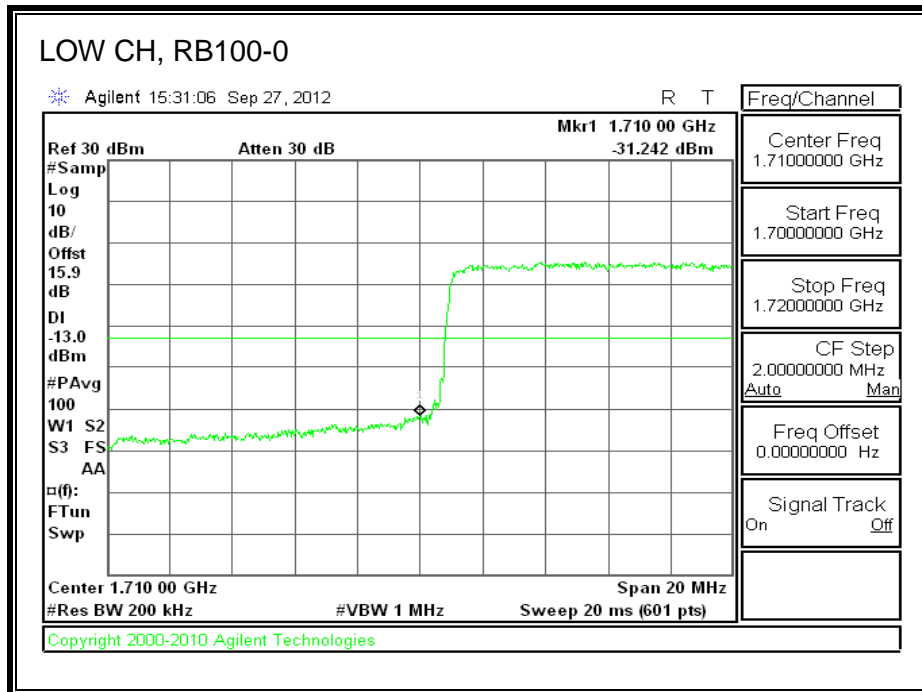


**QPSK Band 4 (20 MHz BANDWIDTH)**

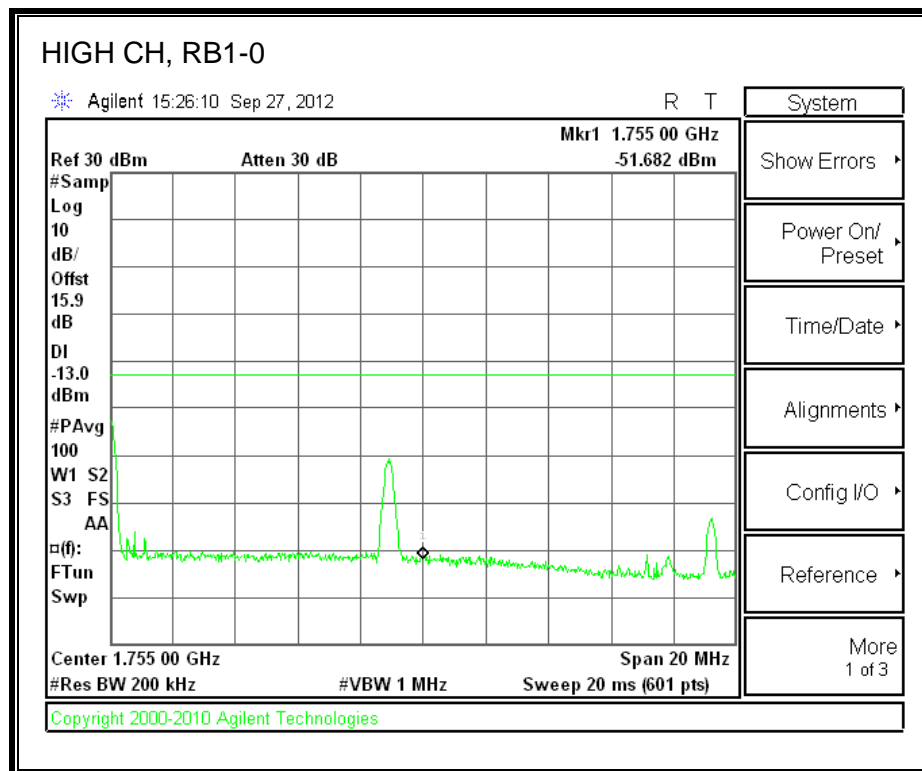
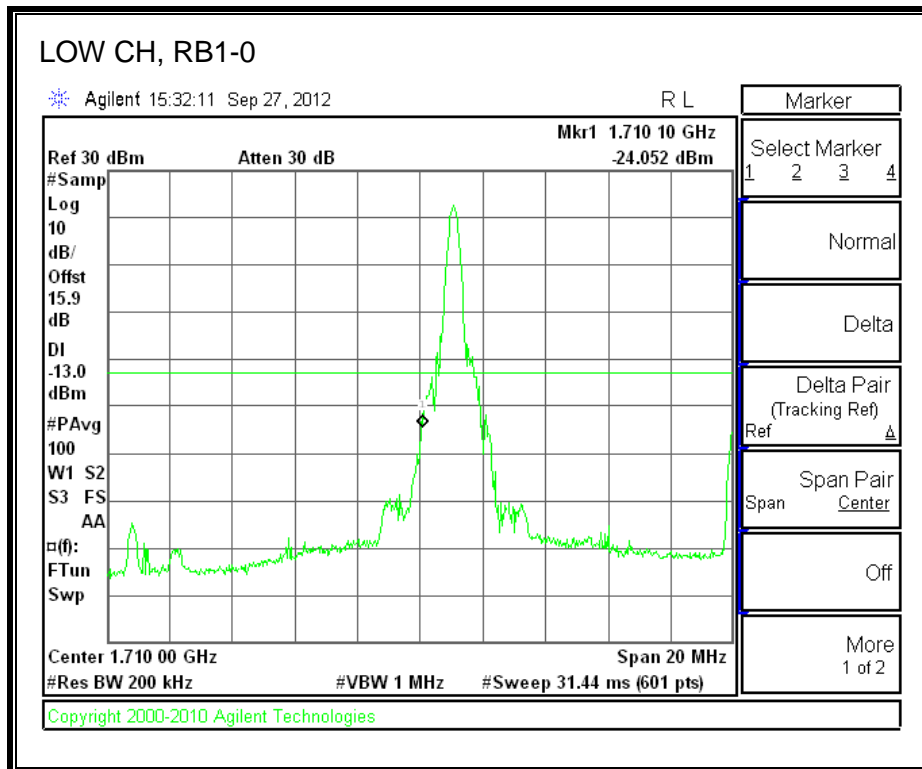


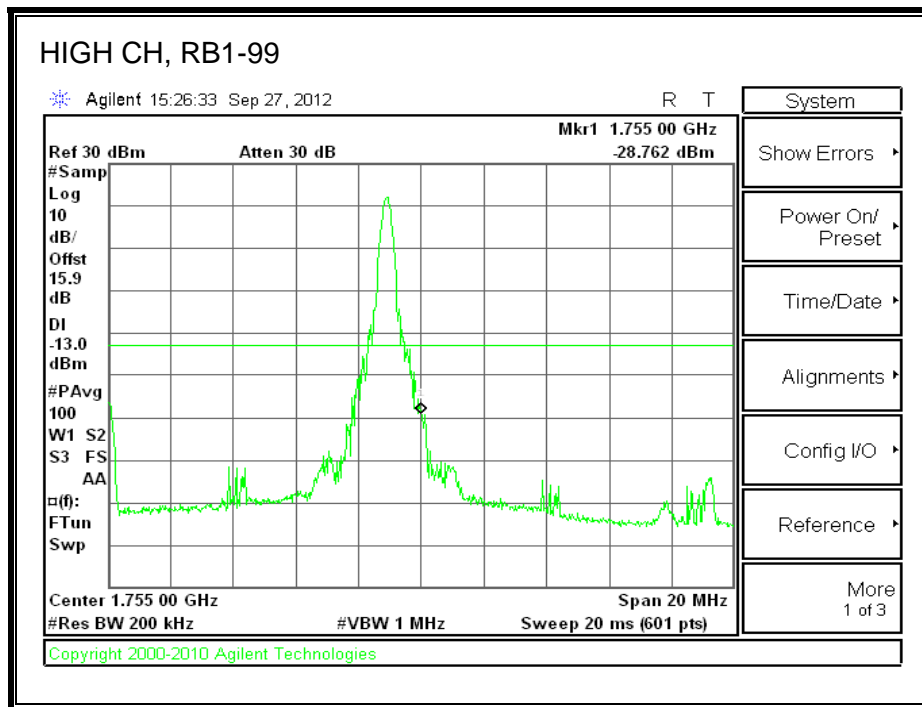
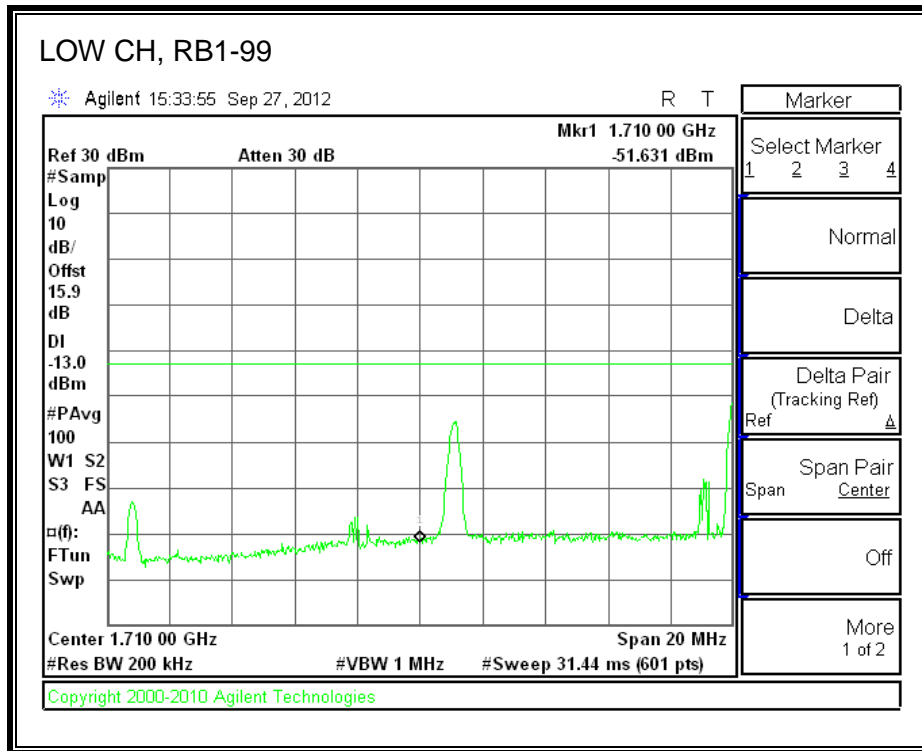


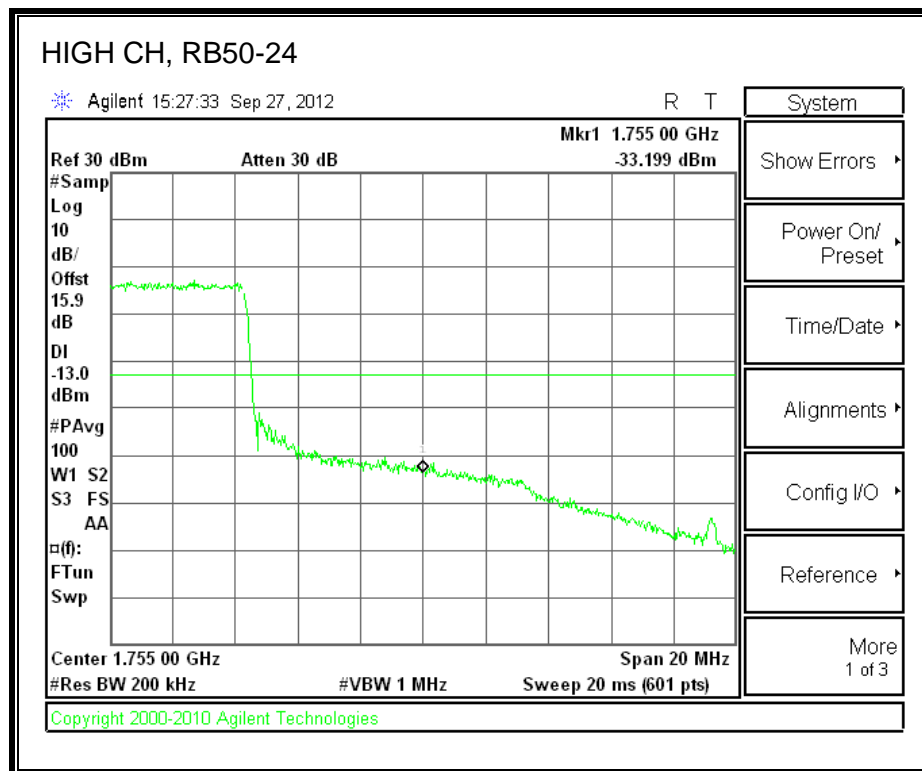
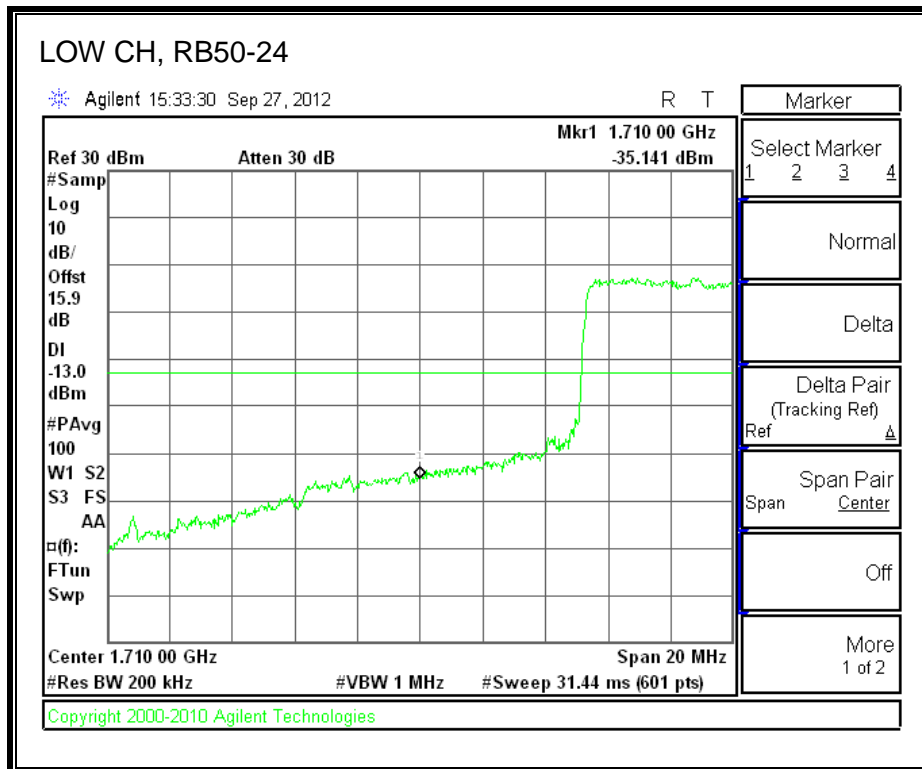


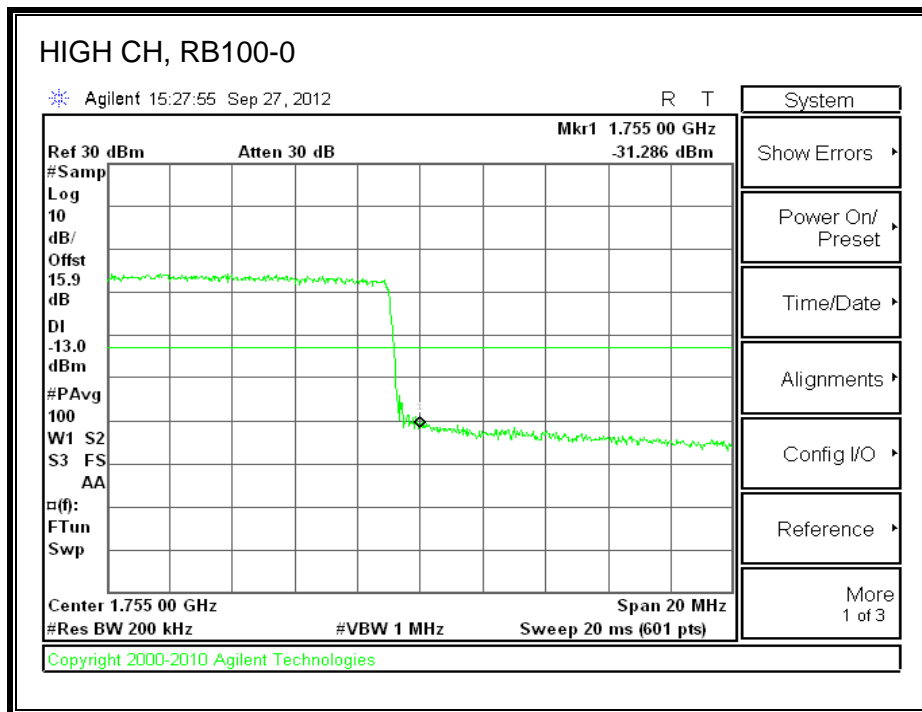
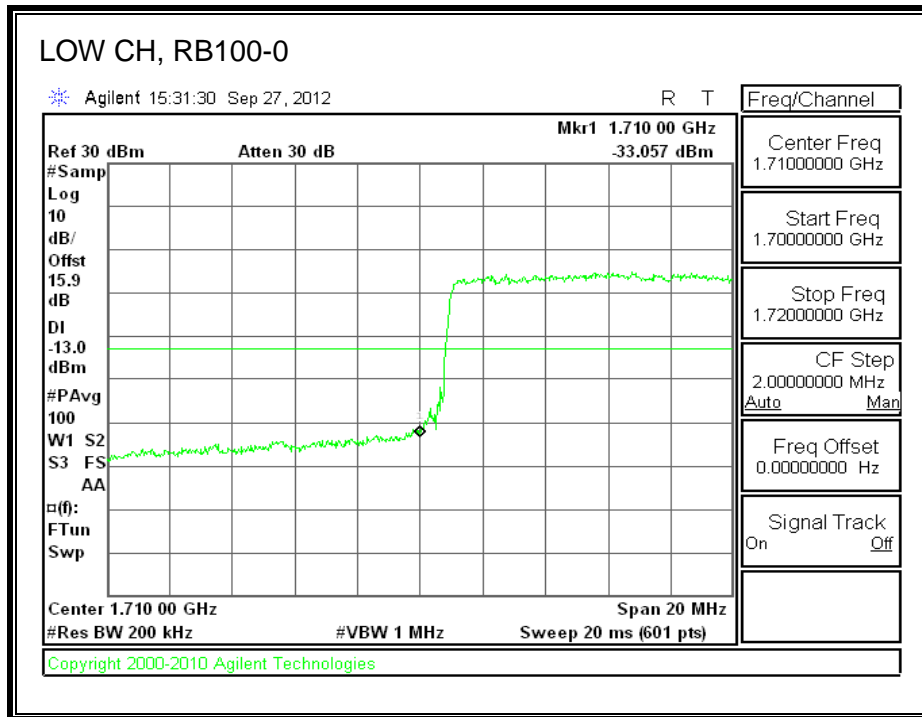


**16QAM Band 4 (20 MHz BANDWIDTH)**





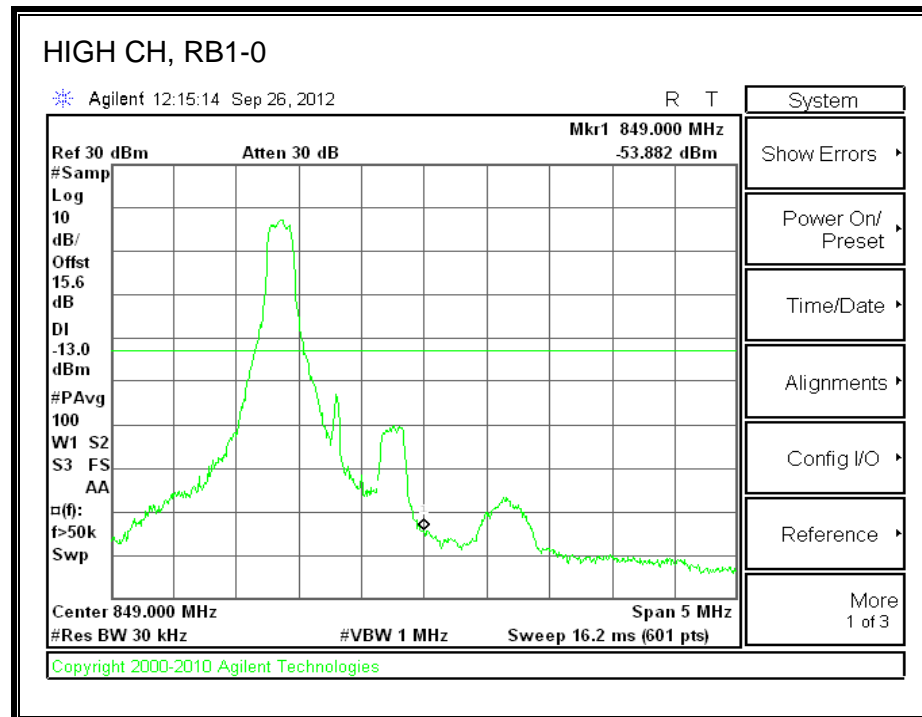
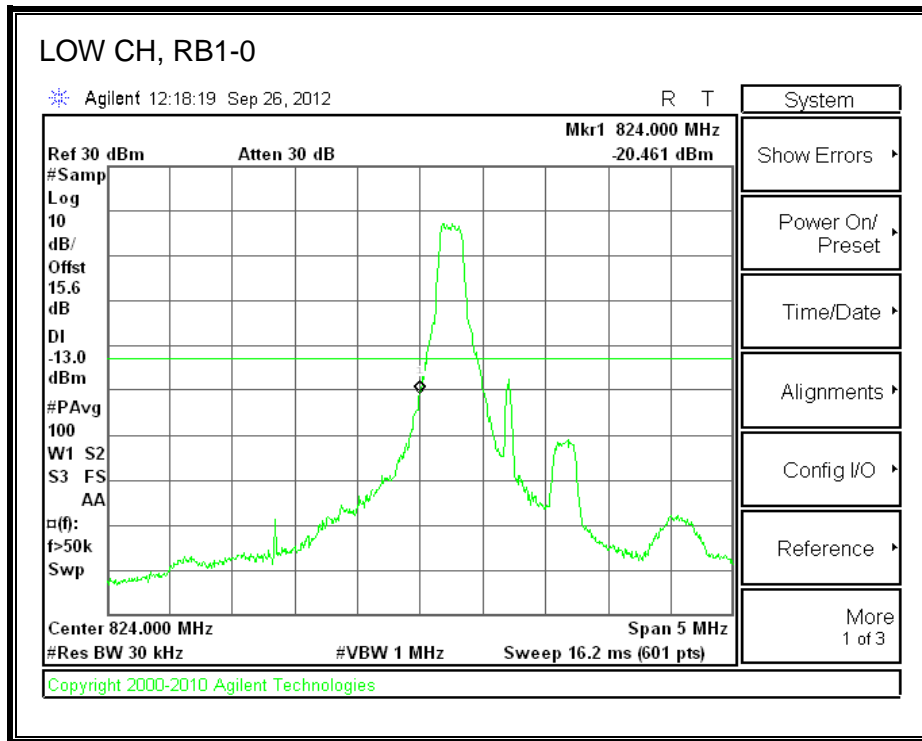


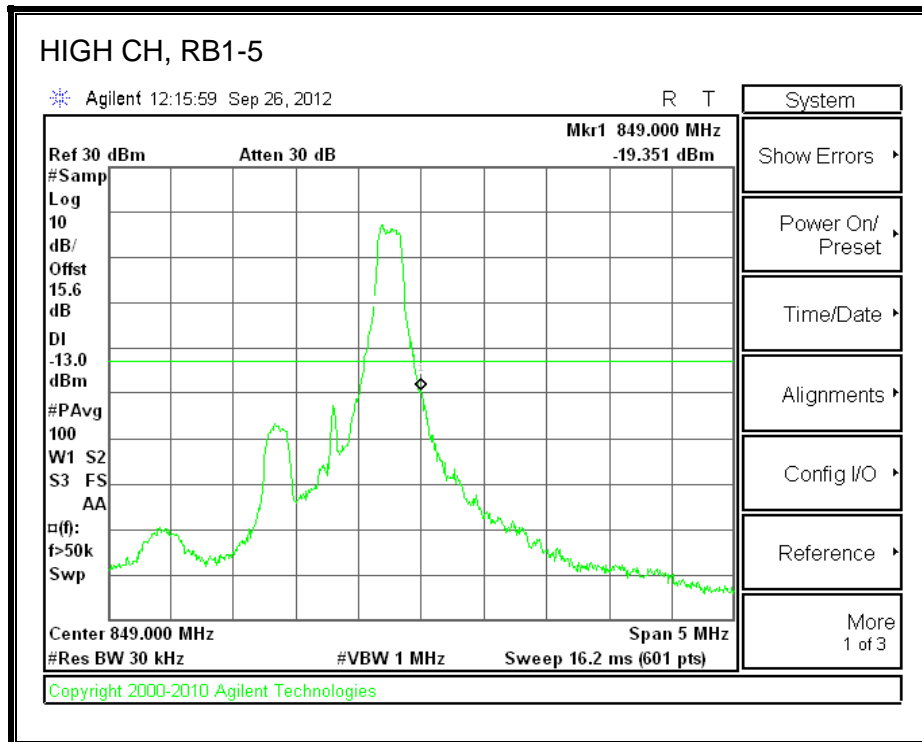
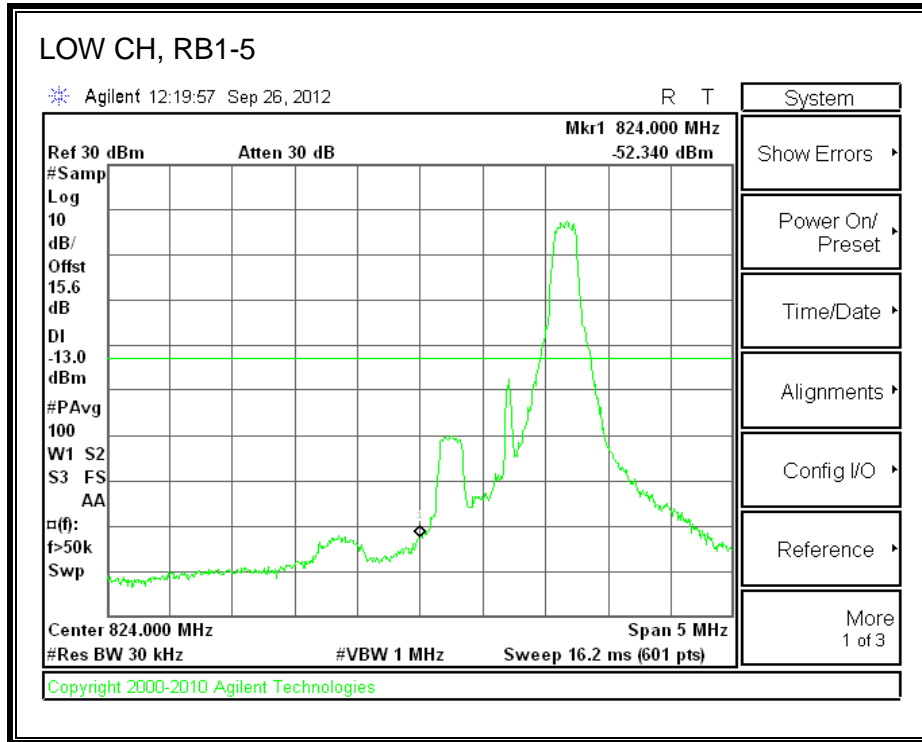


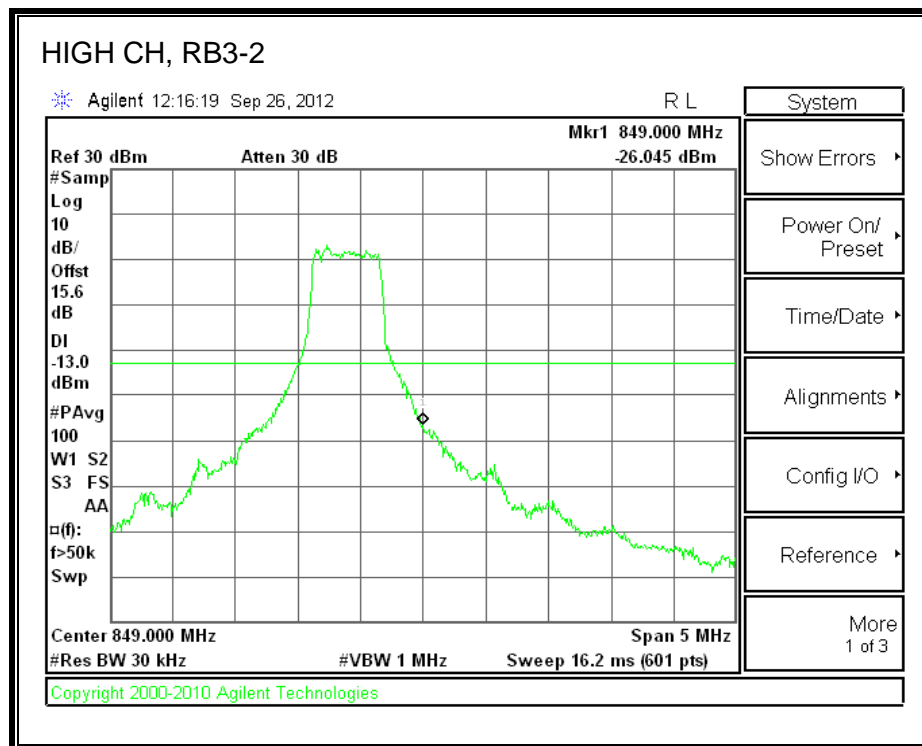
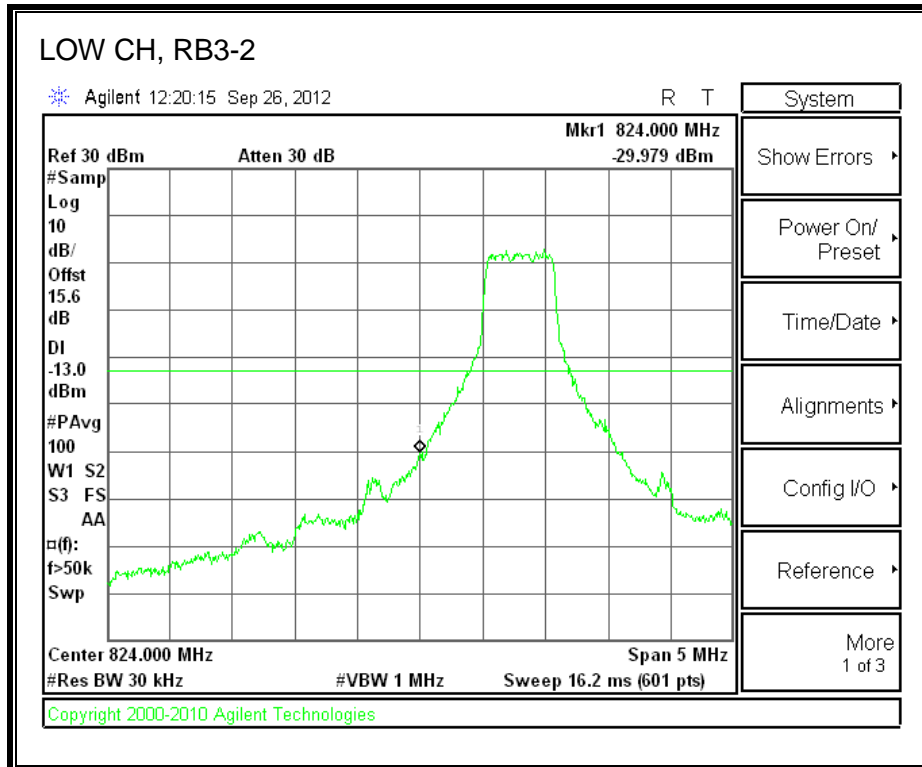


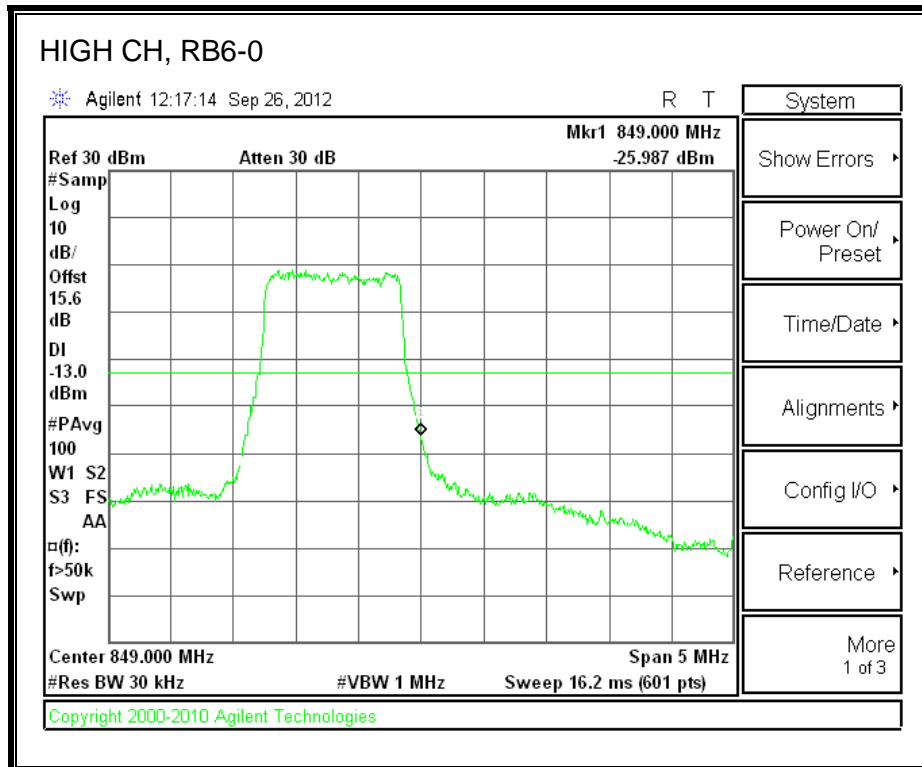
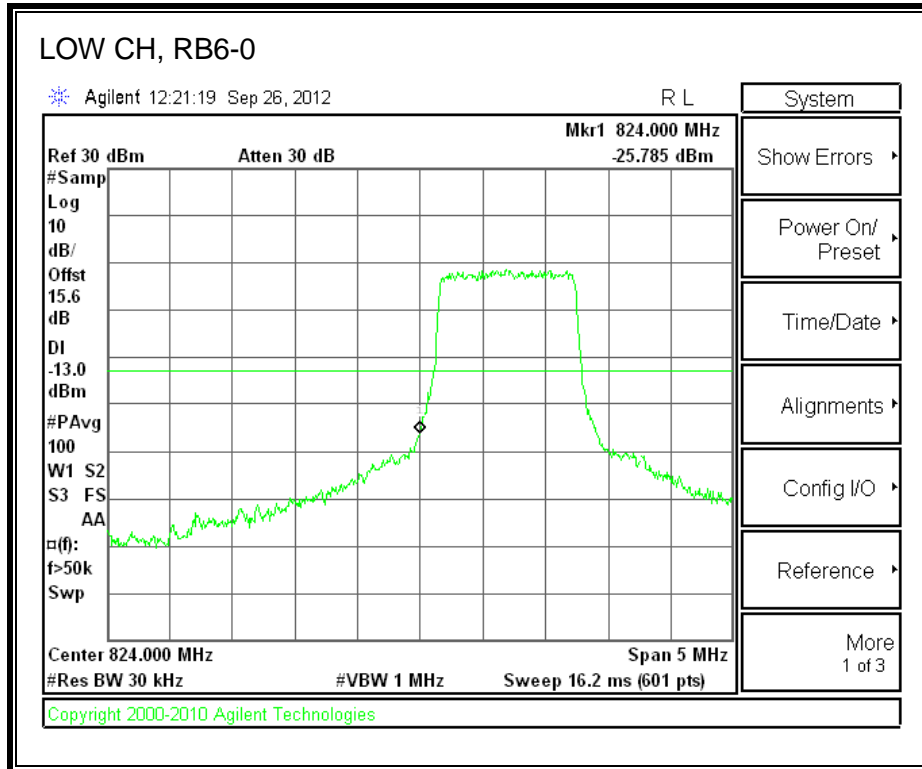
### 8.2.3. LTE BAND 5

#### QPSK Band 5 (1.4 MHz BANDWIDTH)

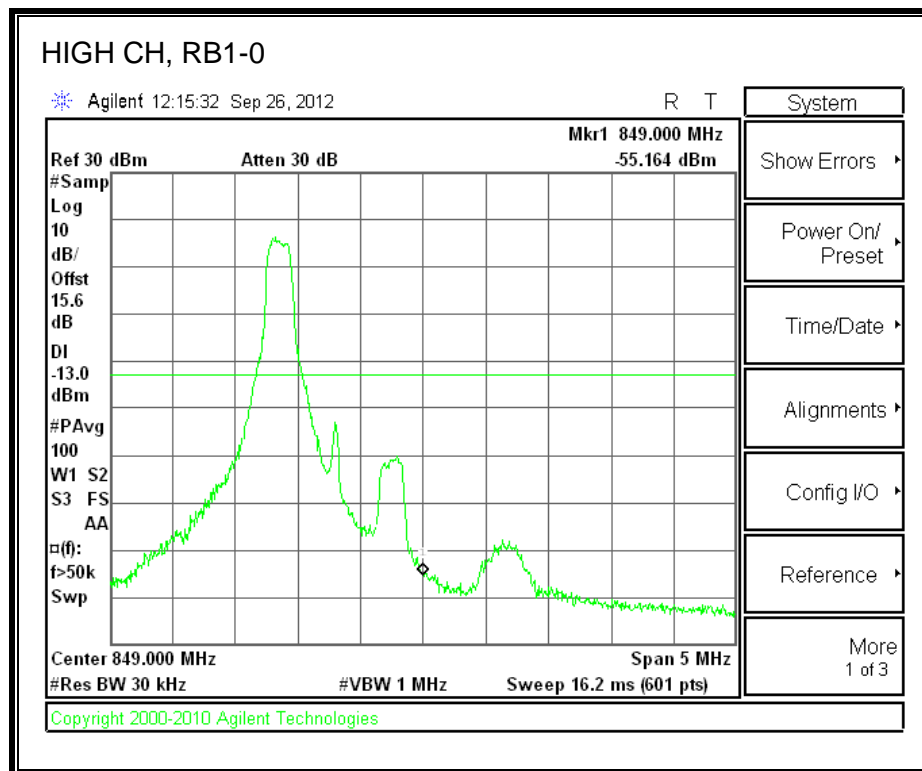
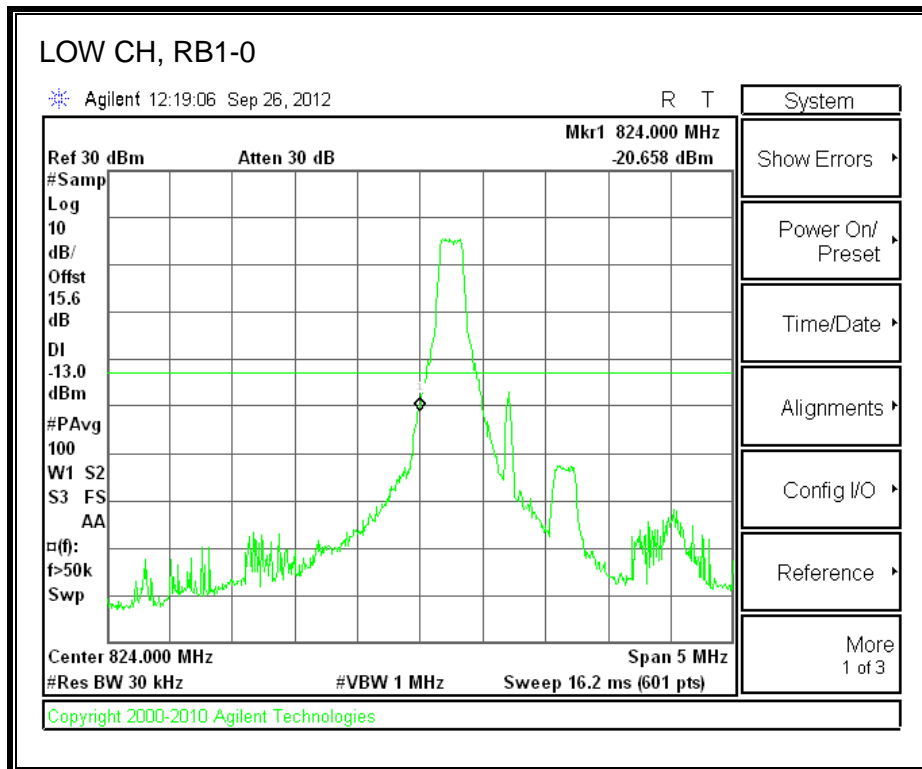


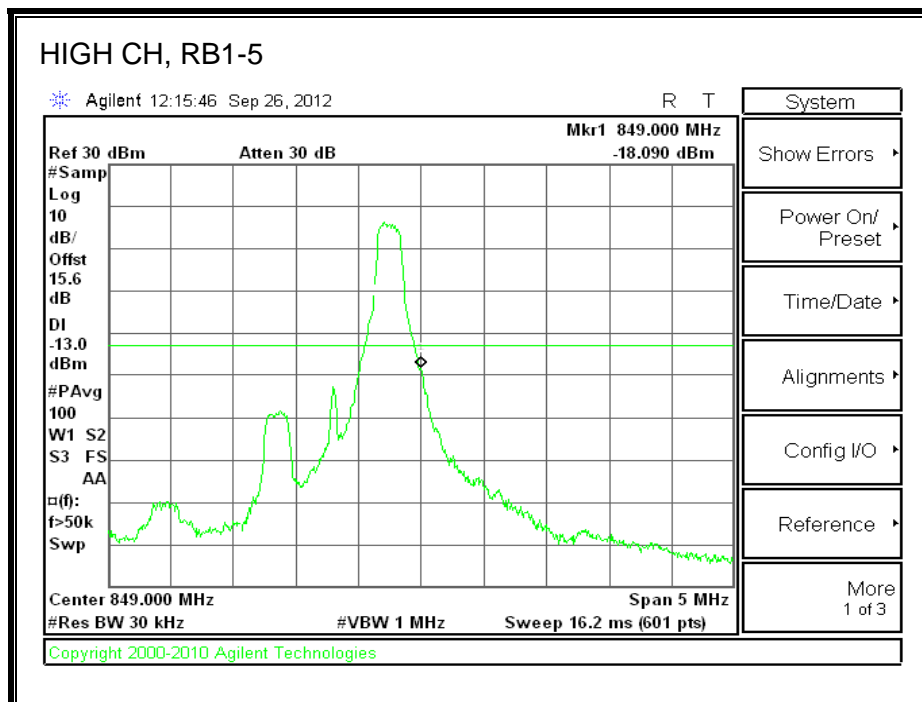
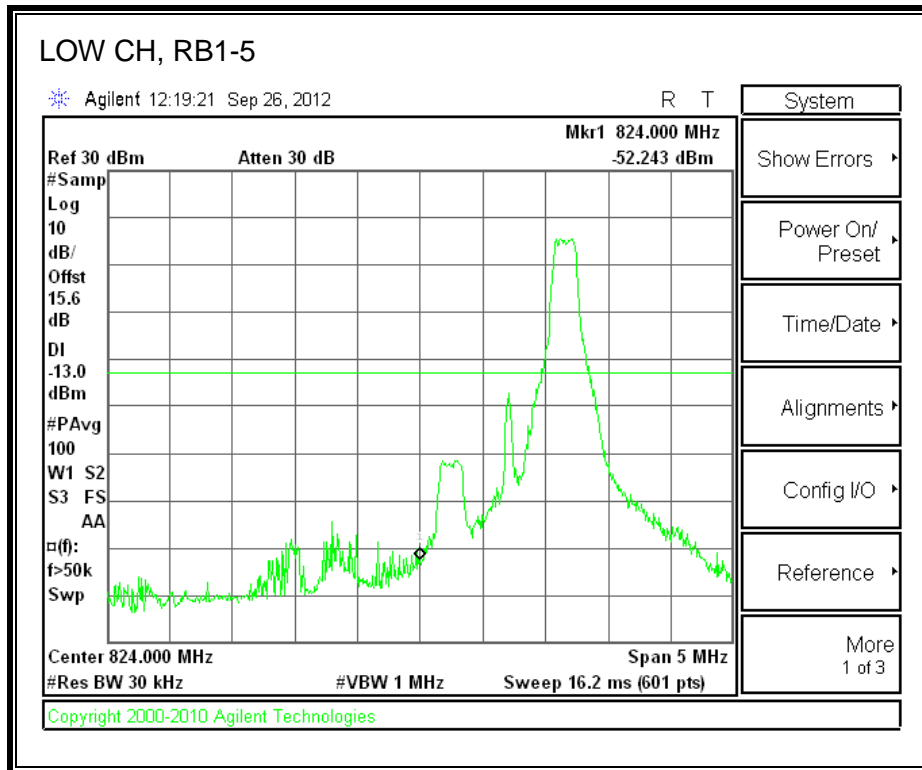


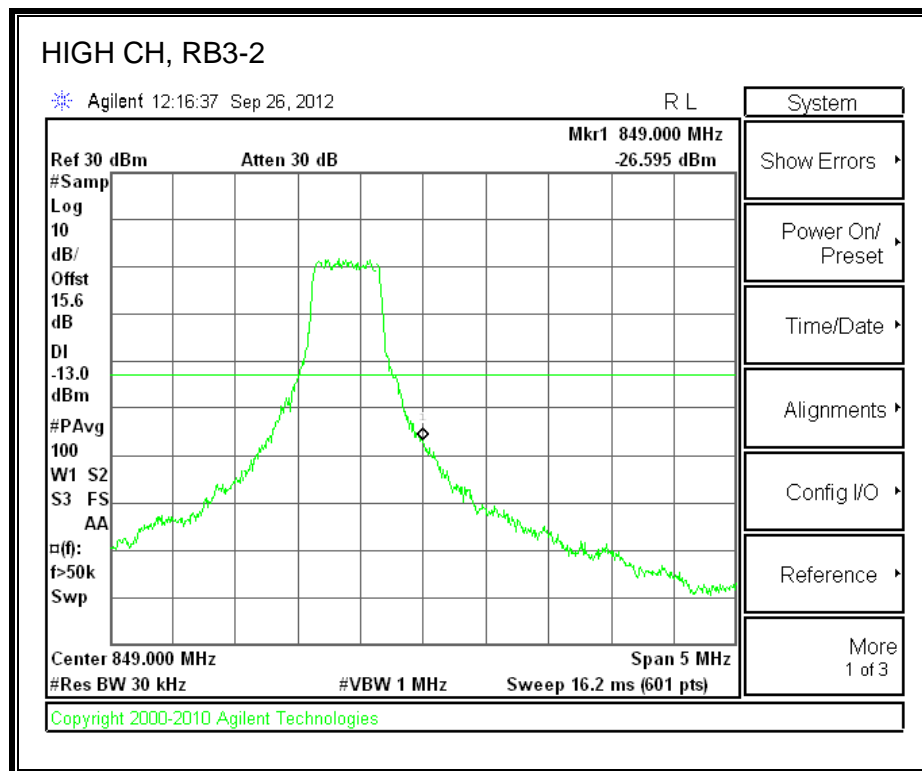
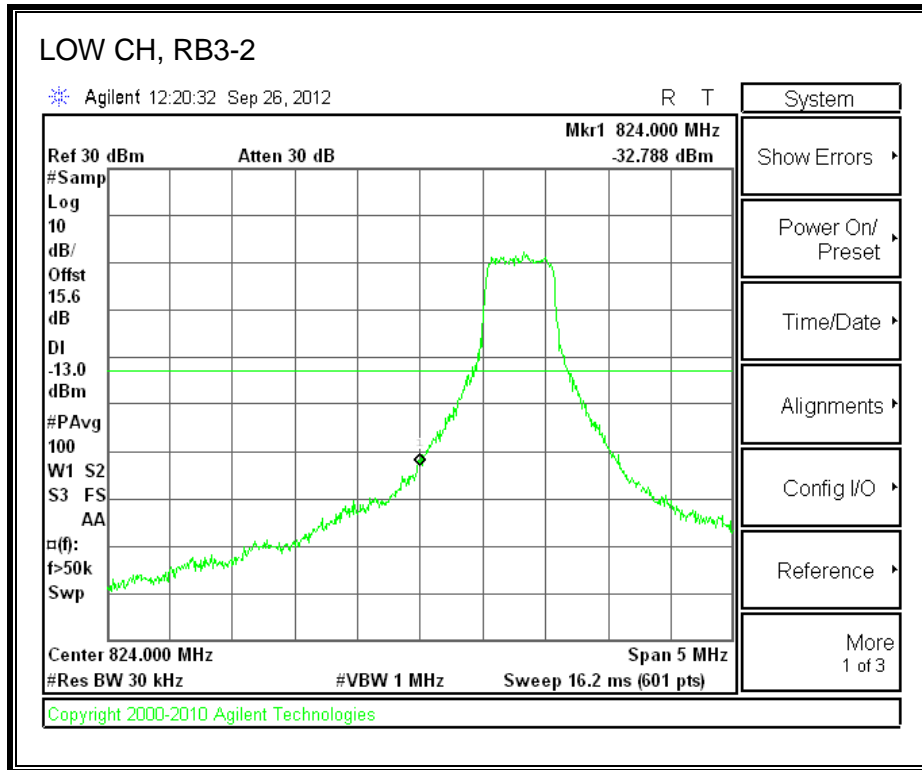


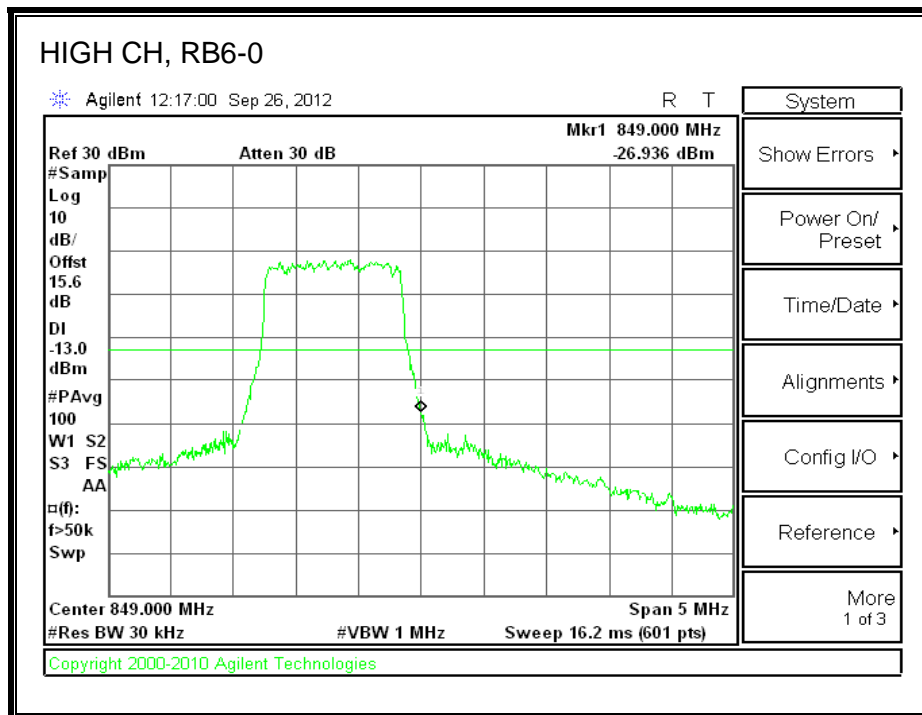
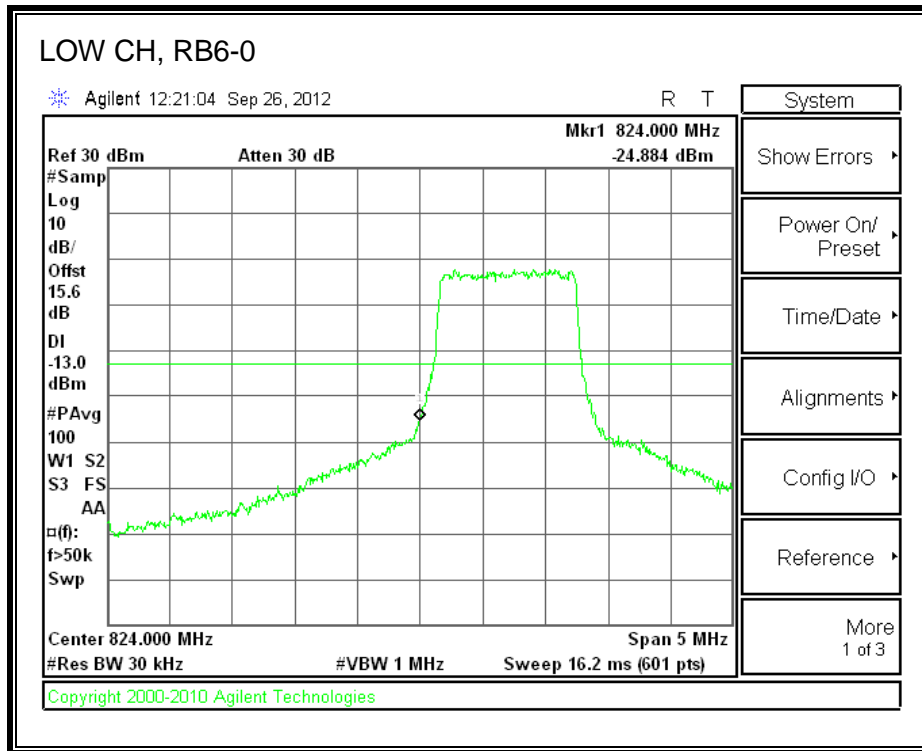


**16QAM Band 5 (1.4 MHz BANDWIDTH)**



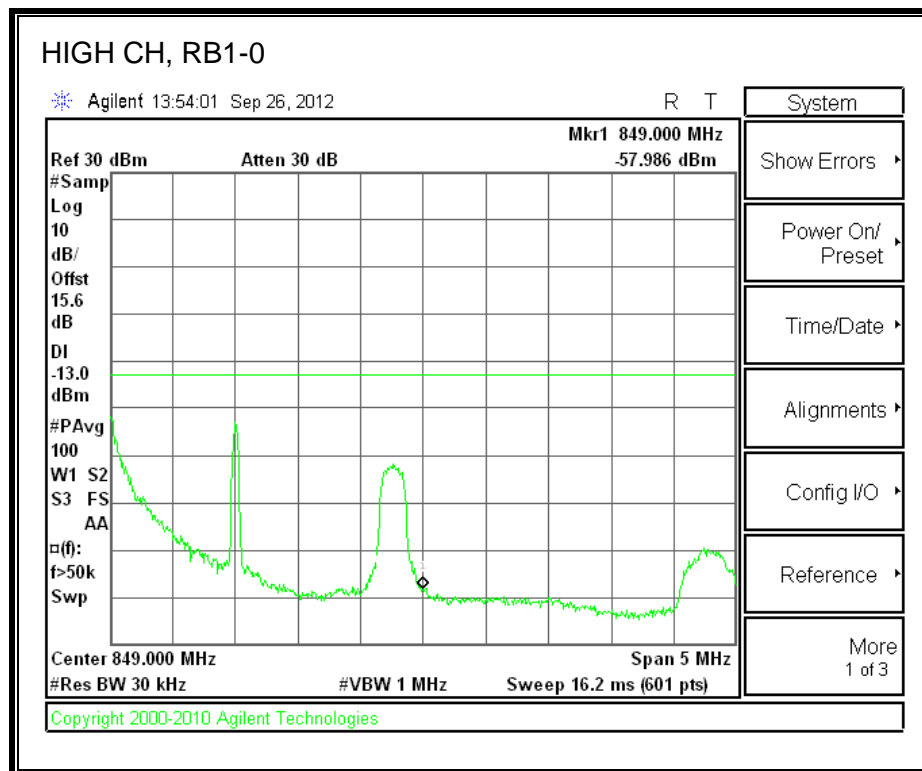
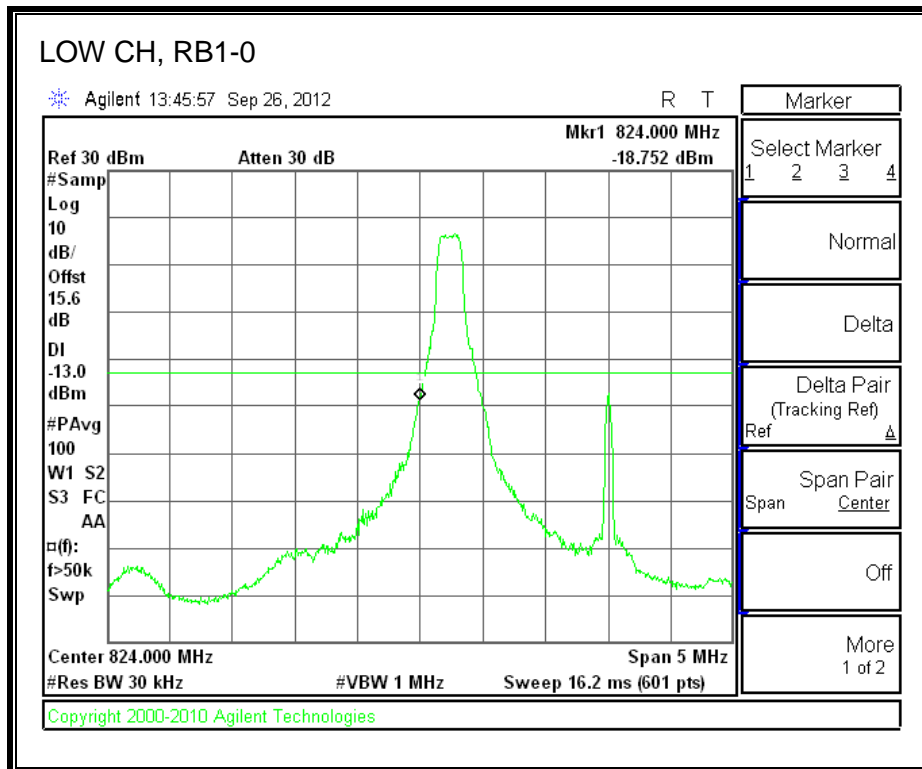


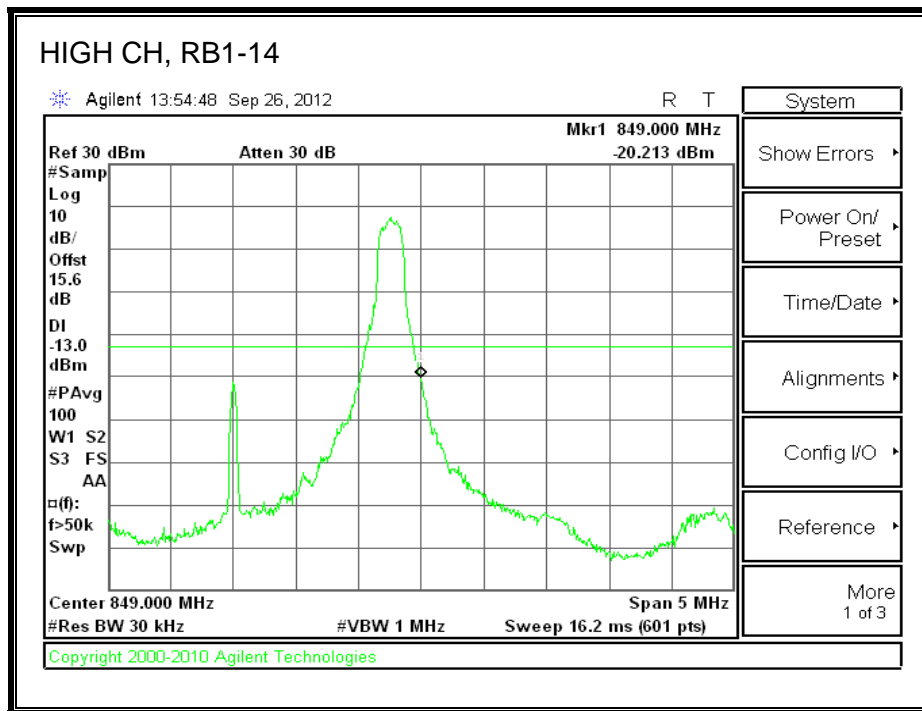
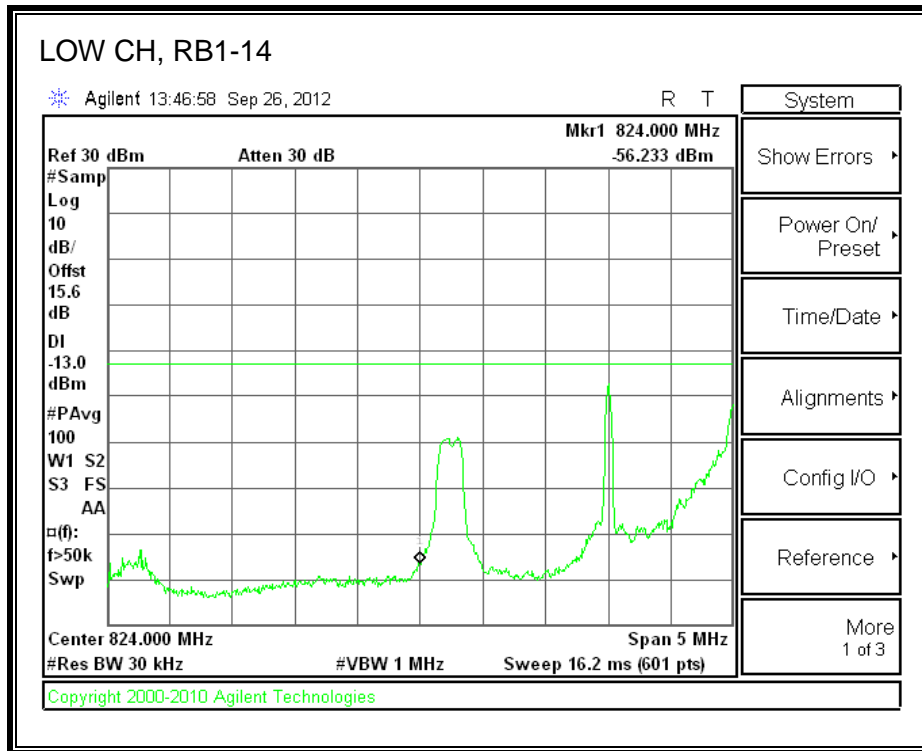


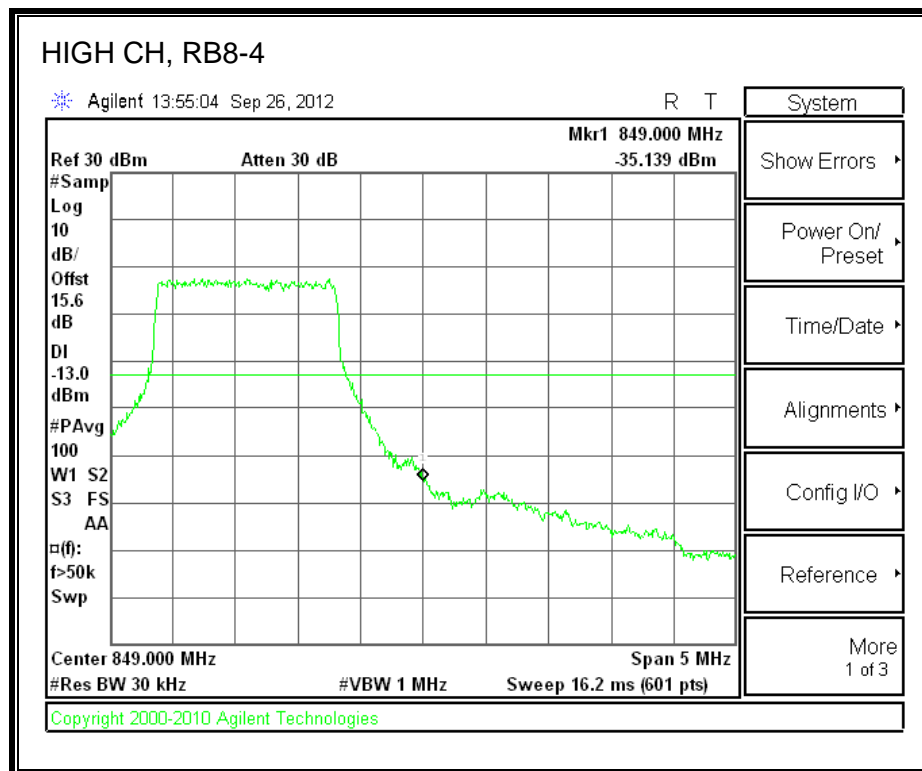
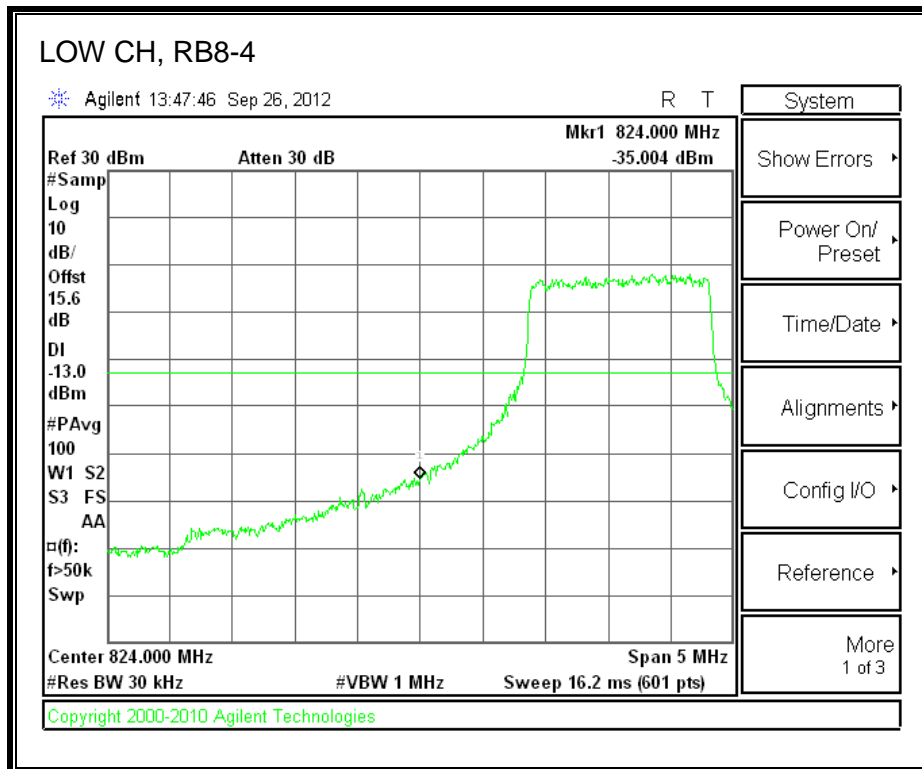


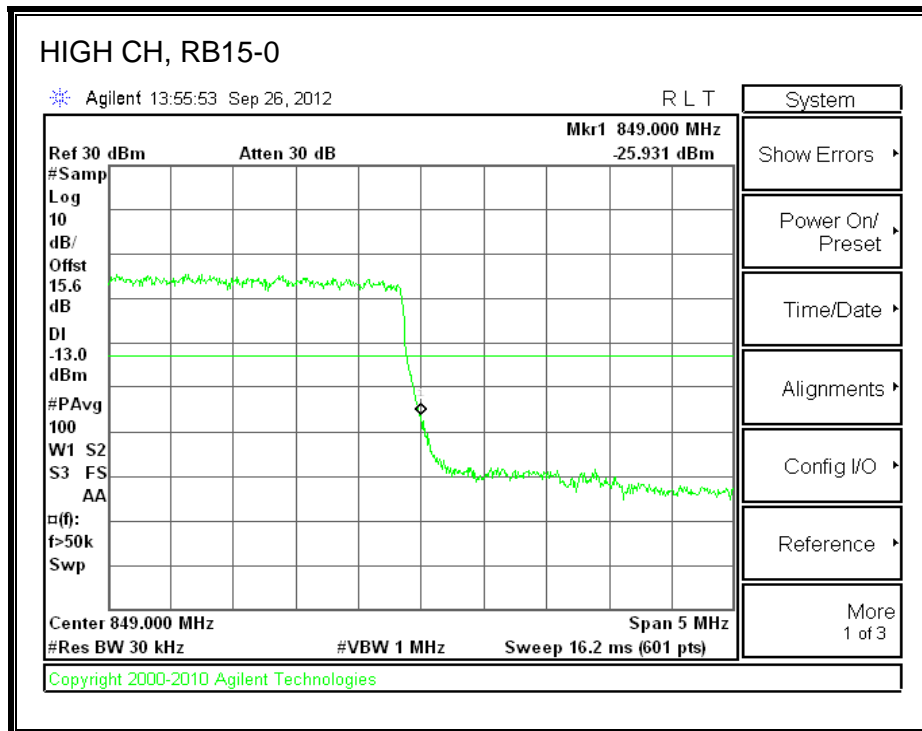
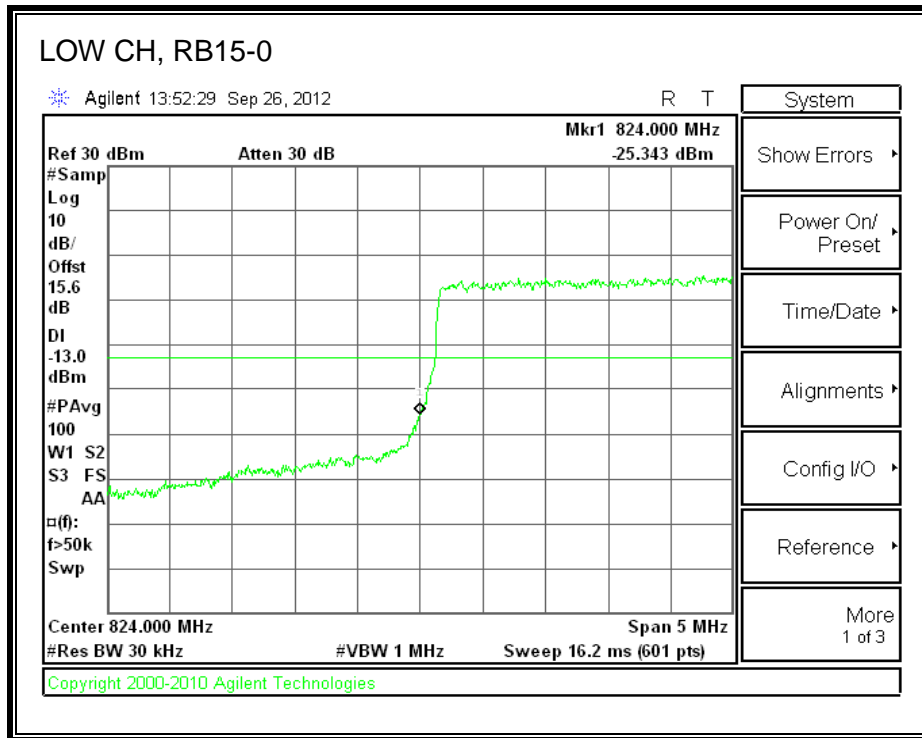


**QPSK Band 5 (3 MHz BANDWIDTH)**

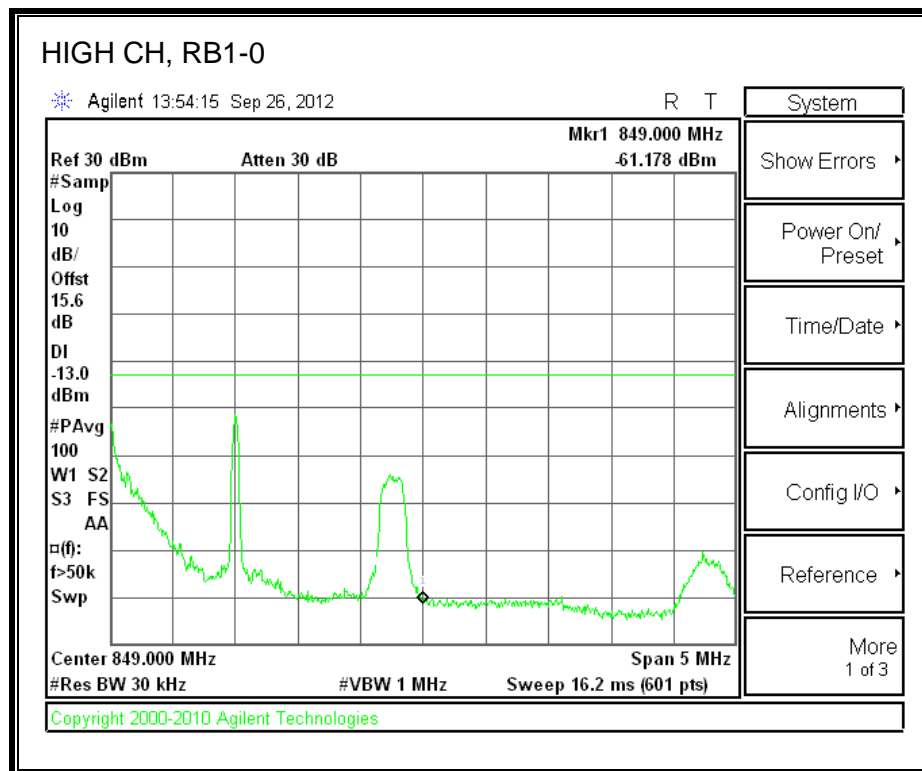
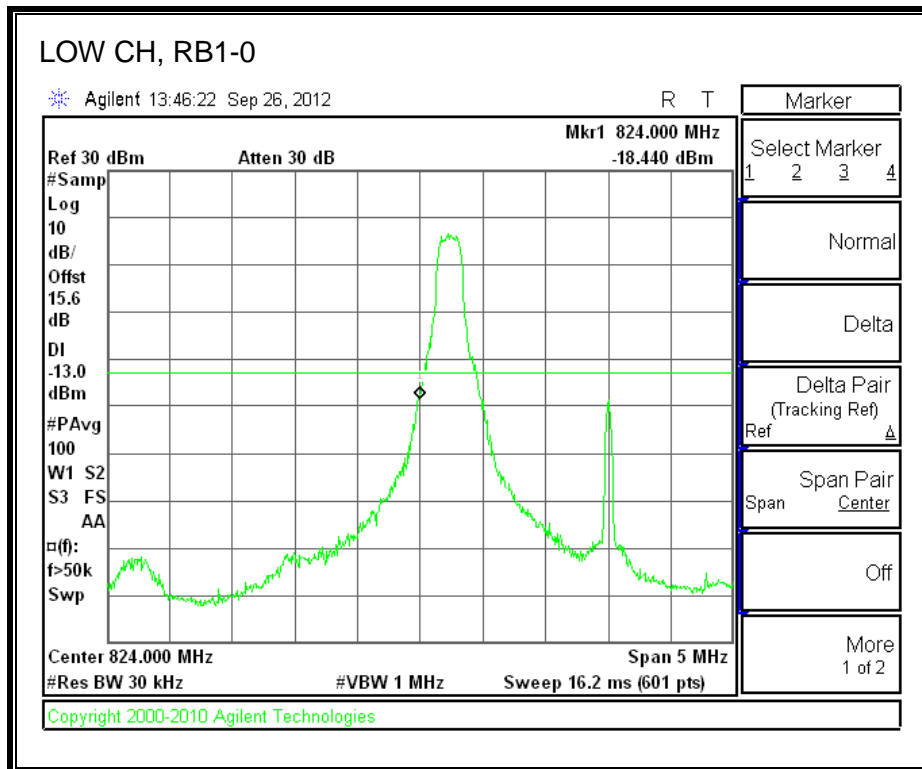


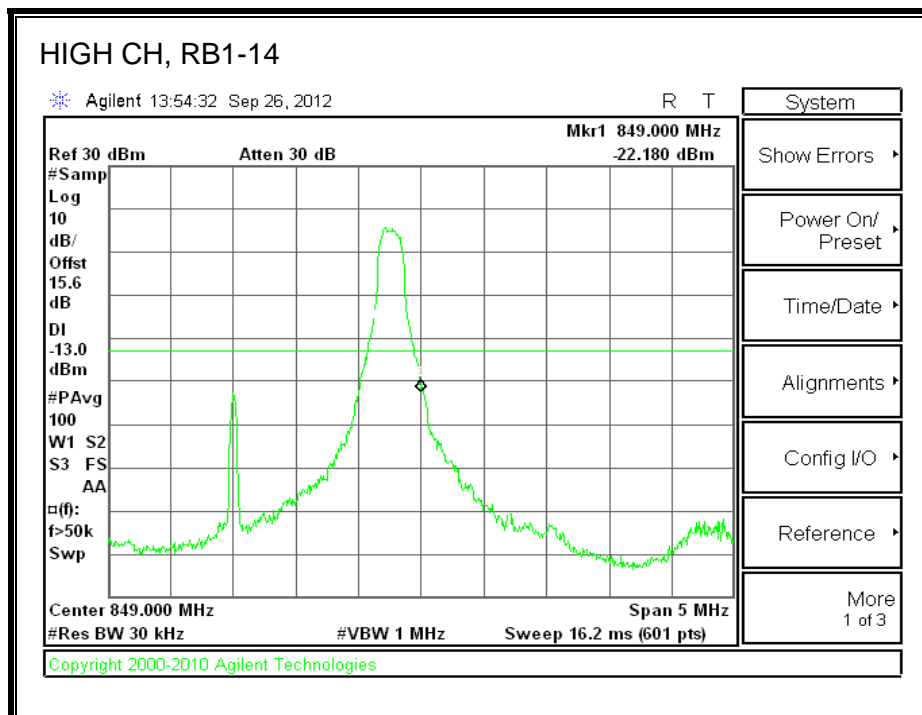
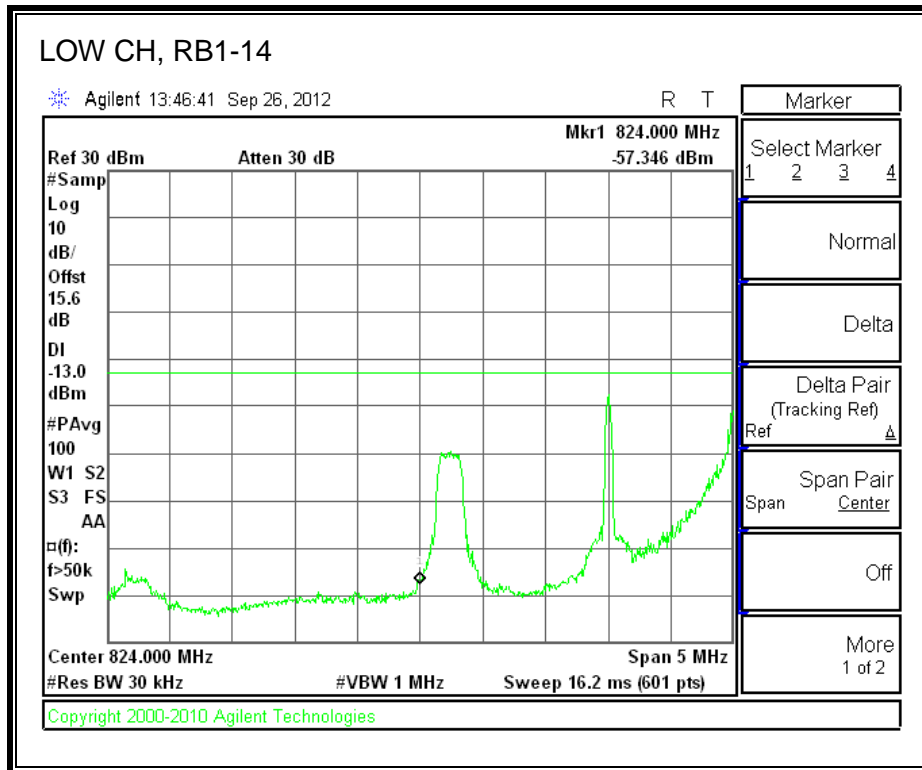


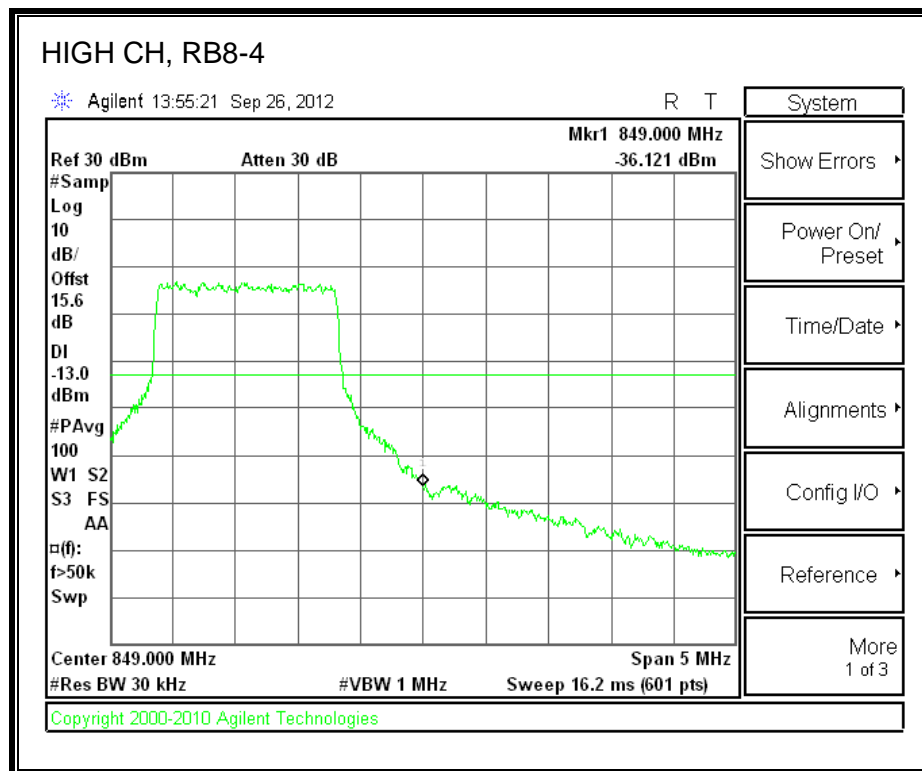
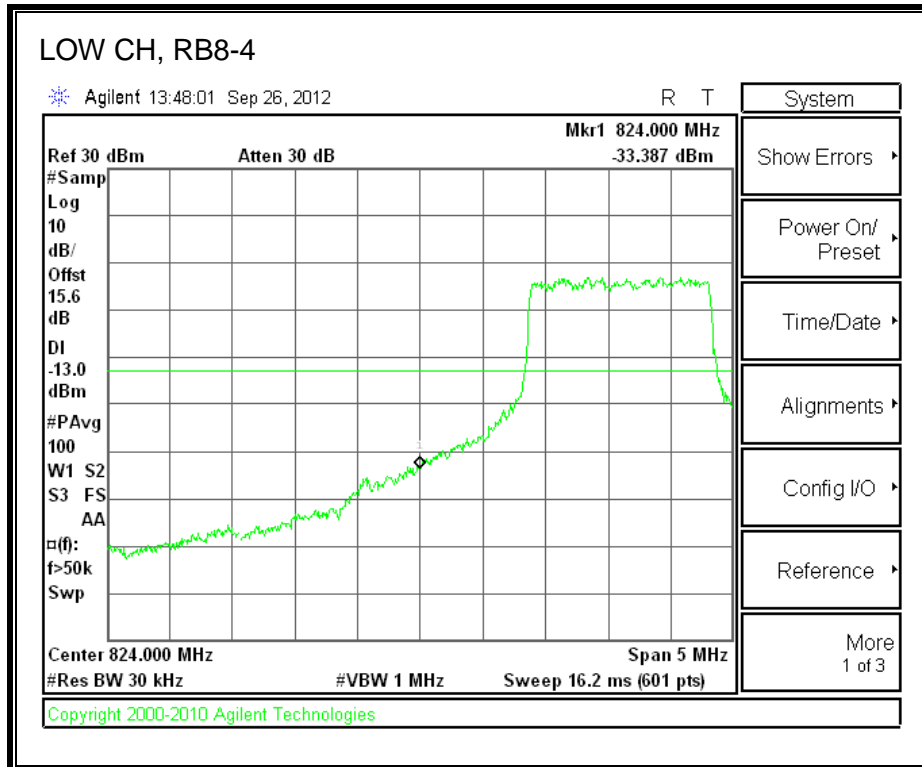


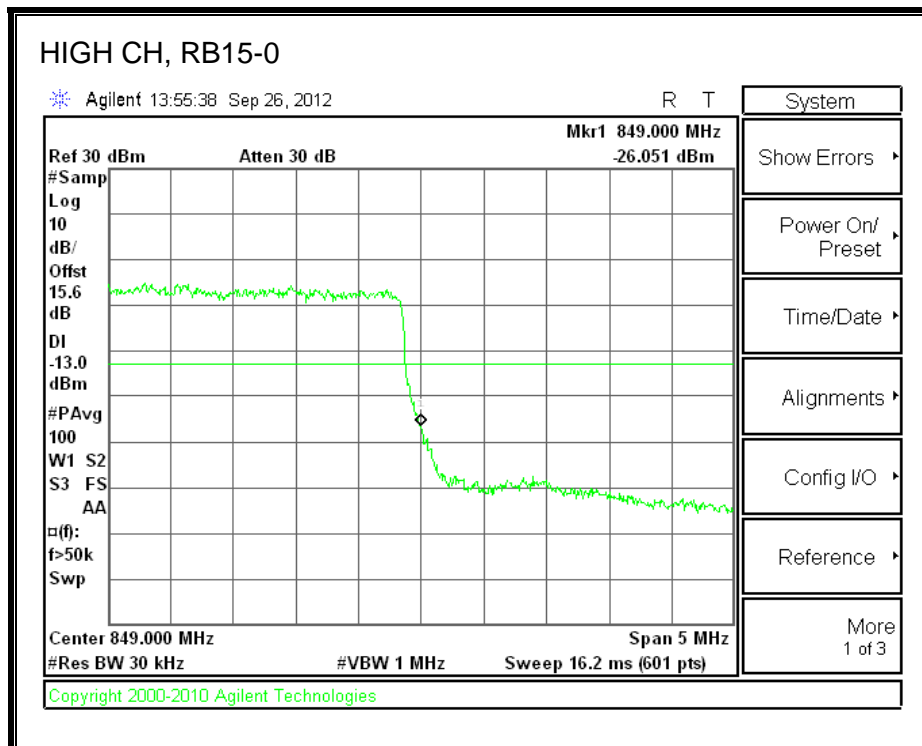
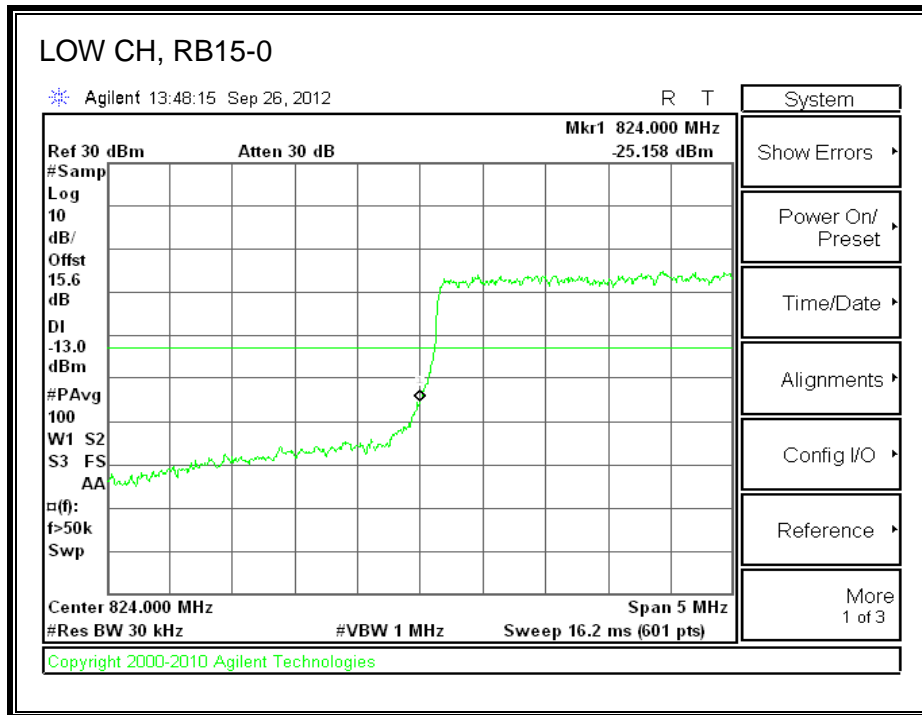


**16QAM Band 5 (3 MHz BANDWIDTH)**



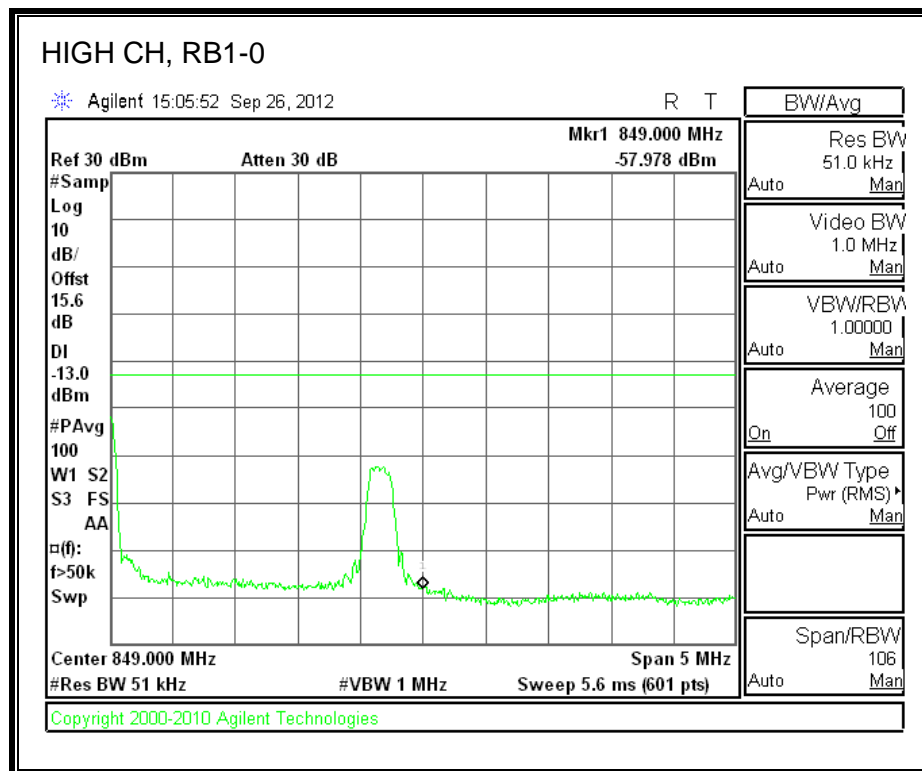
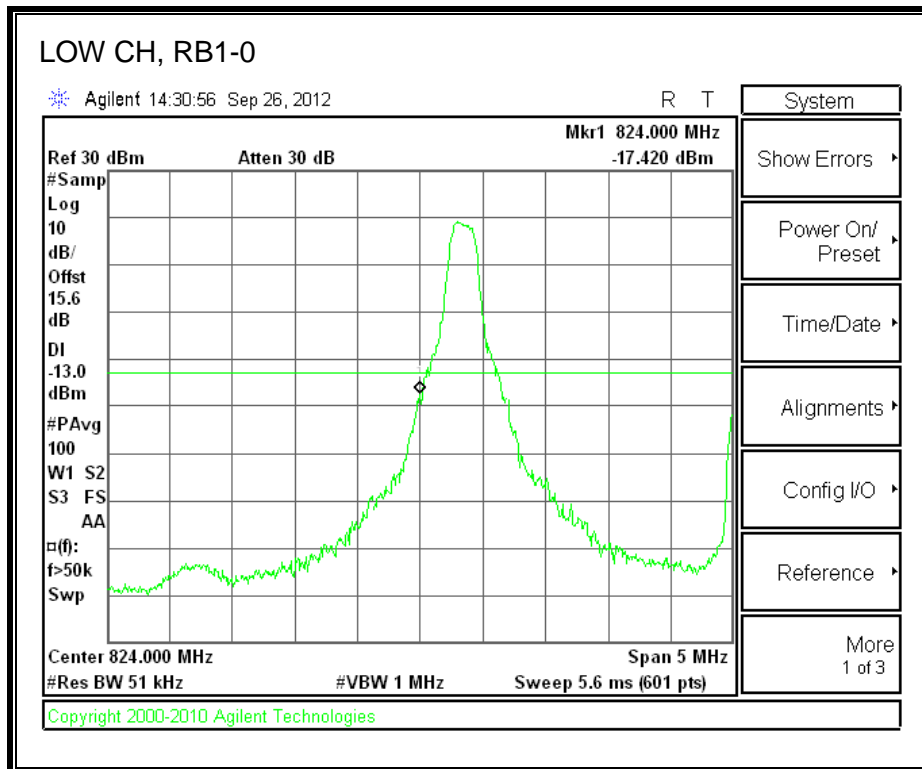


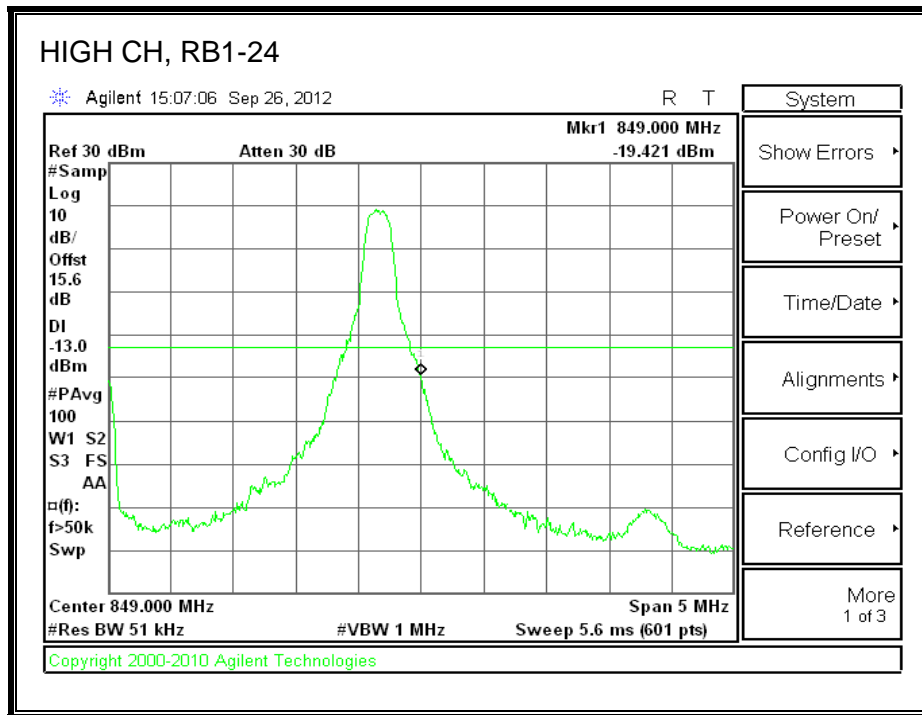
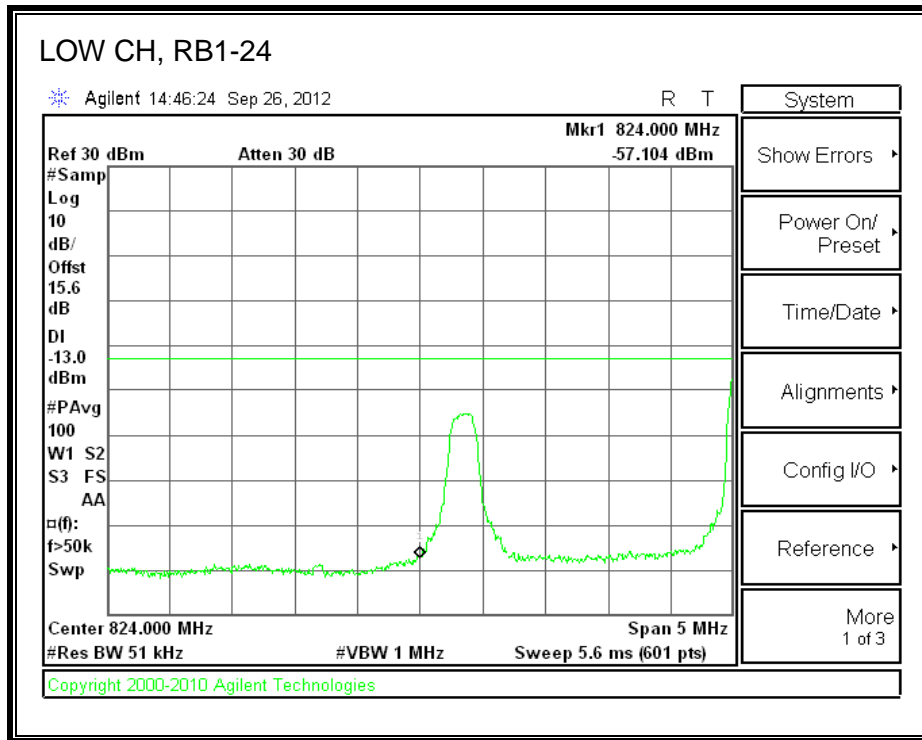


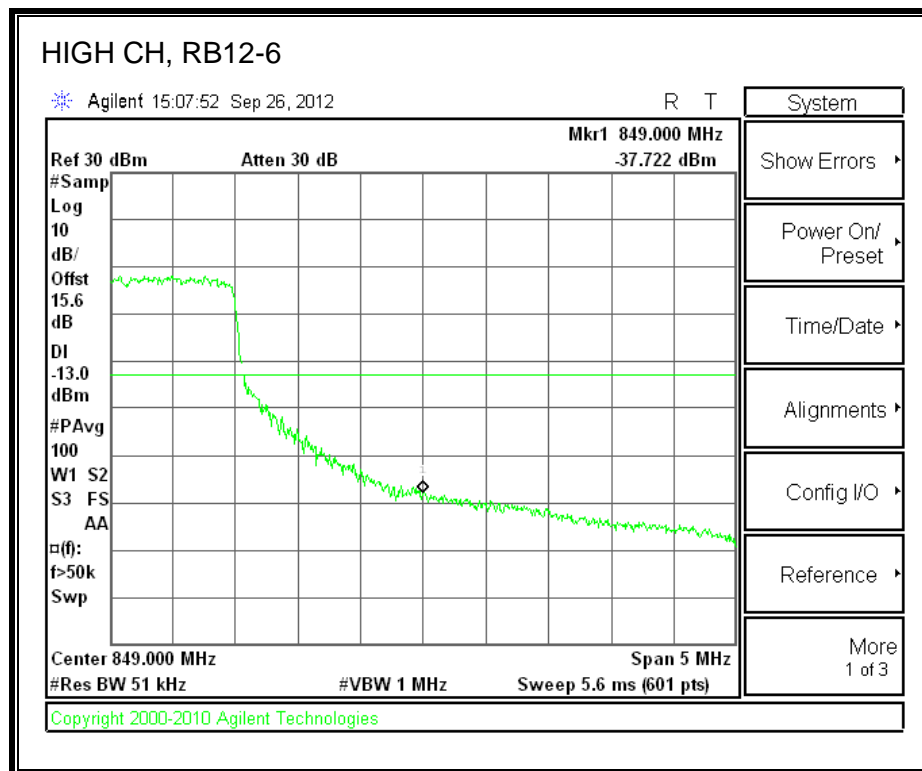
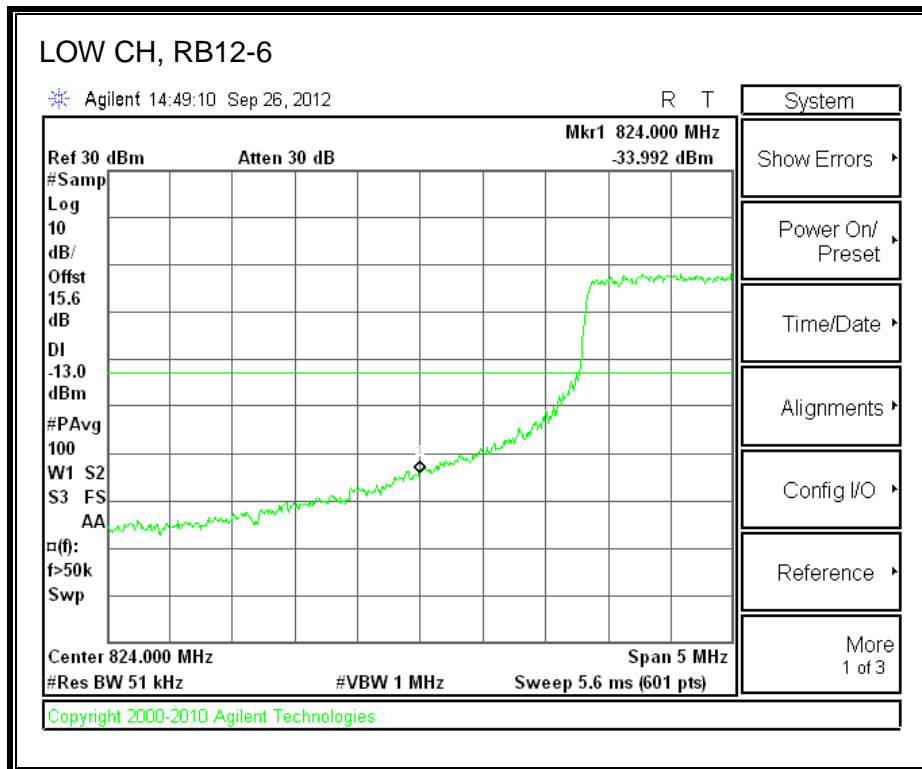


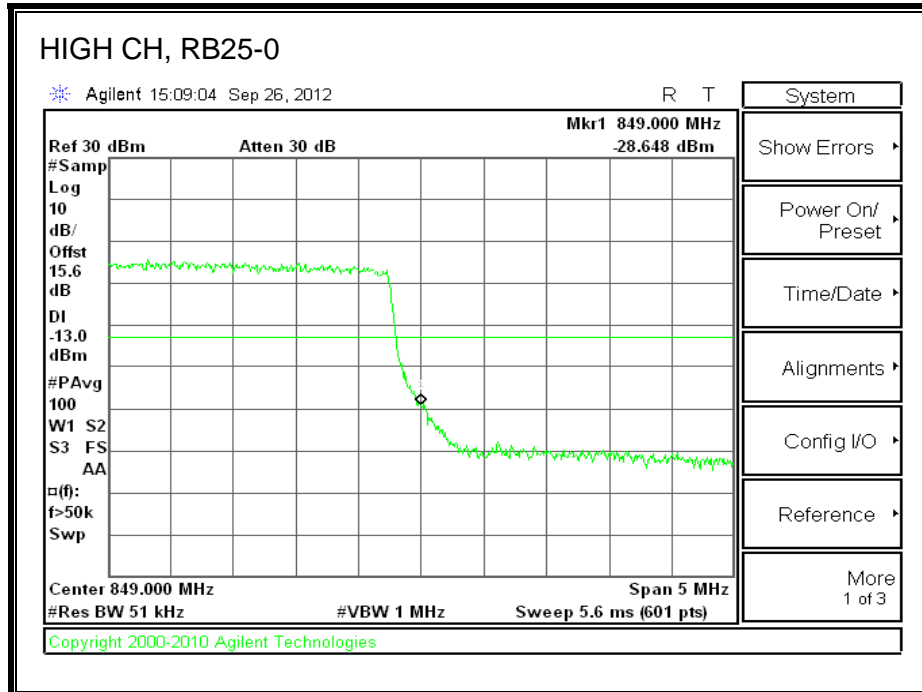
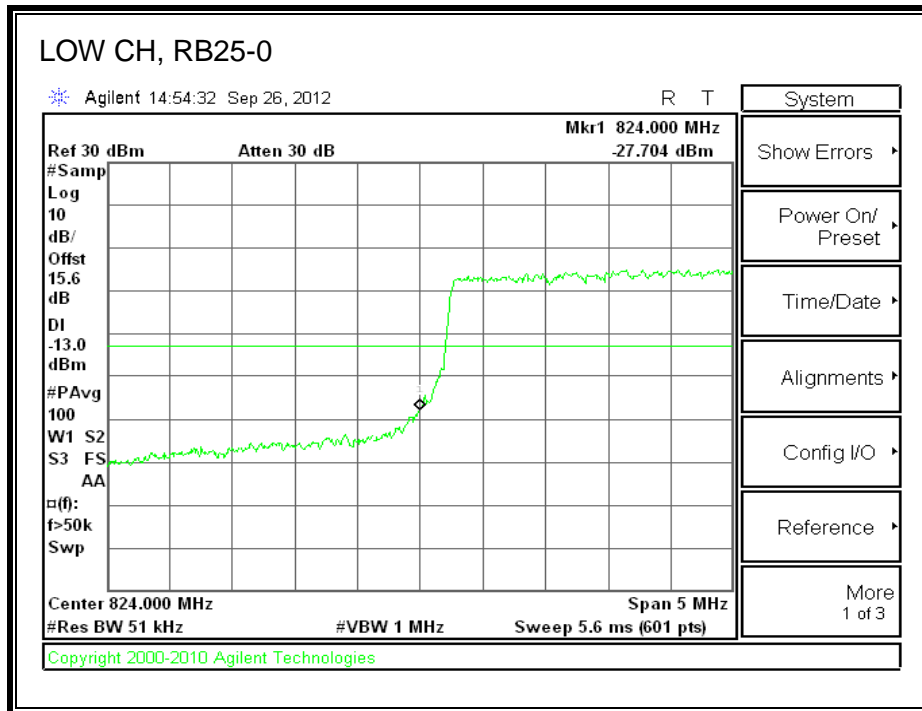


**QPSK Band 5 (5 MHz BANDWIDTH)**

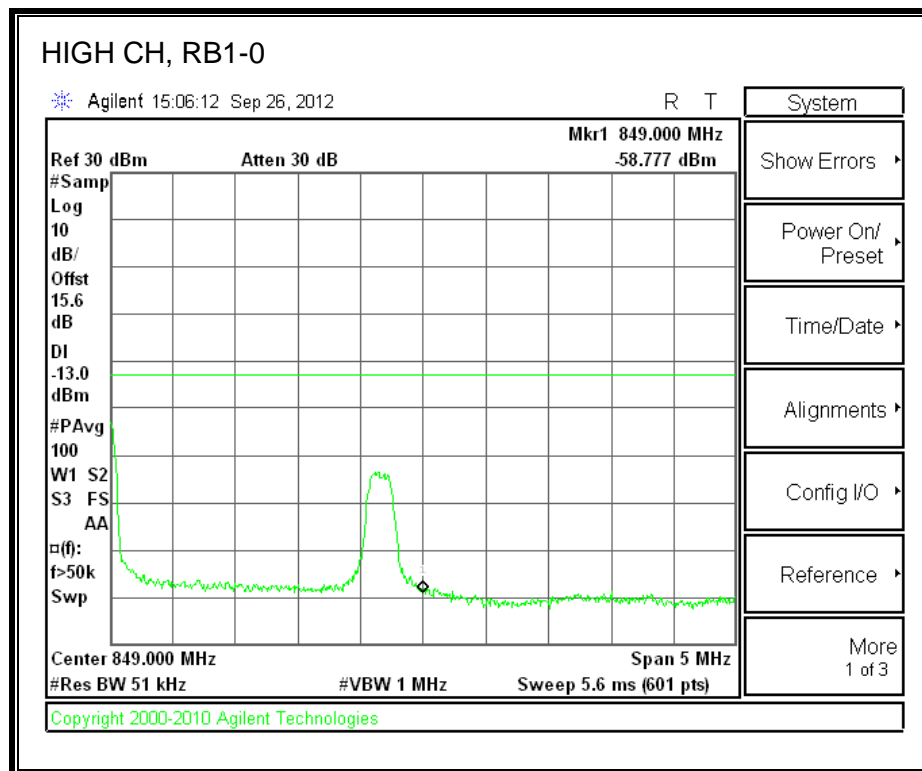
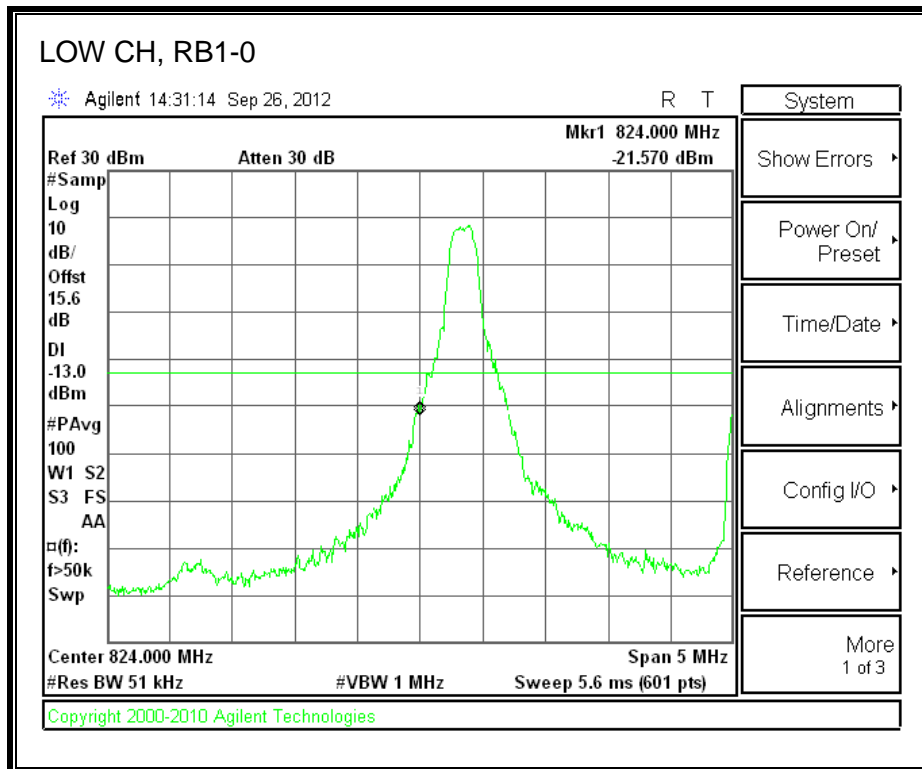


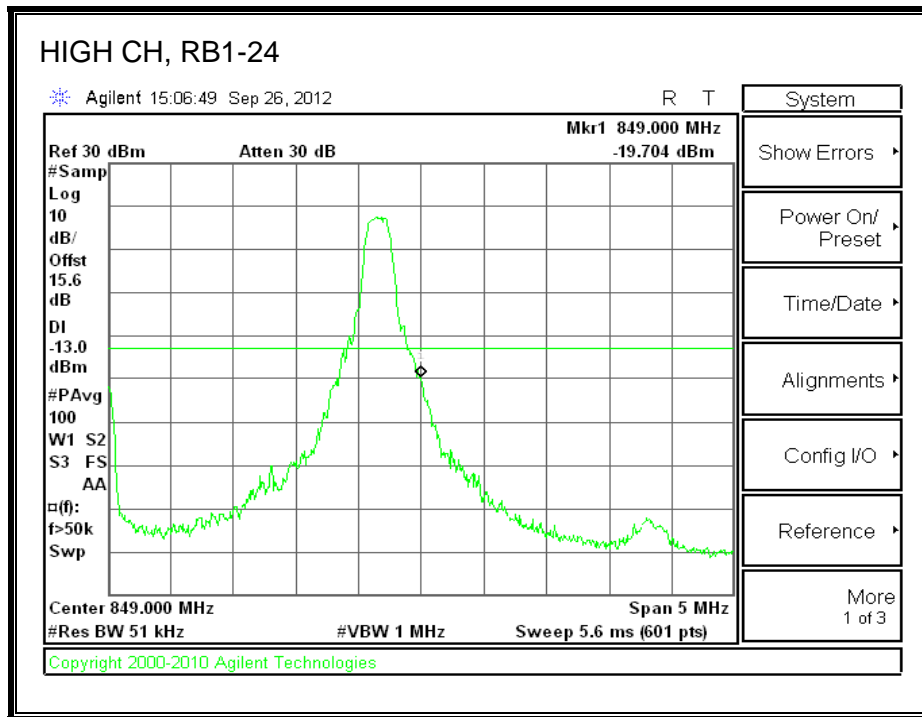
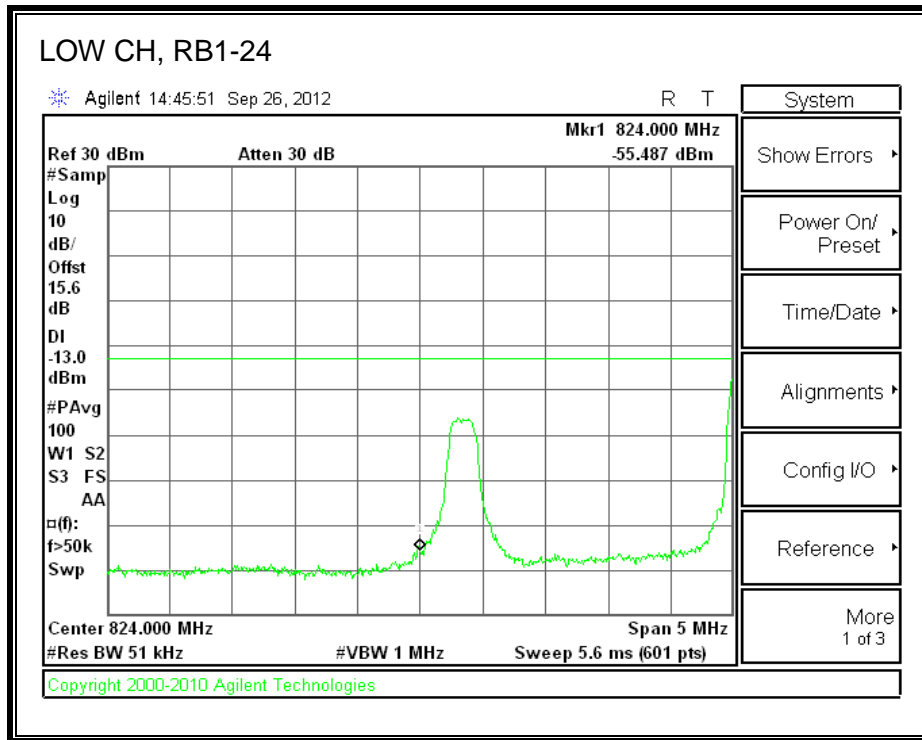


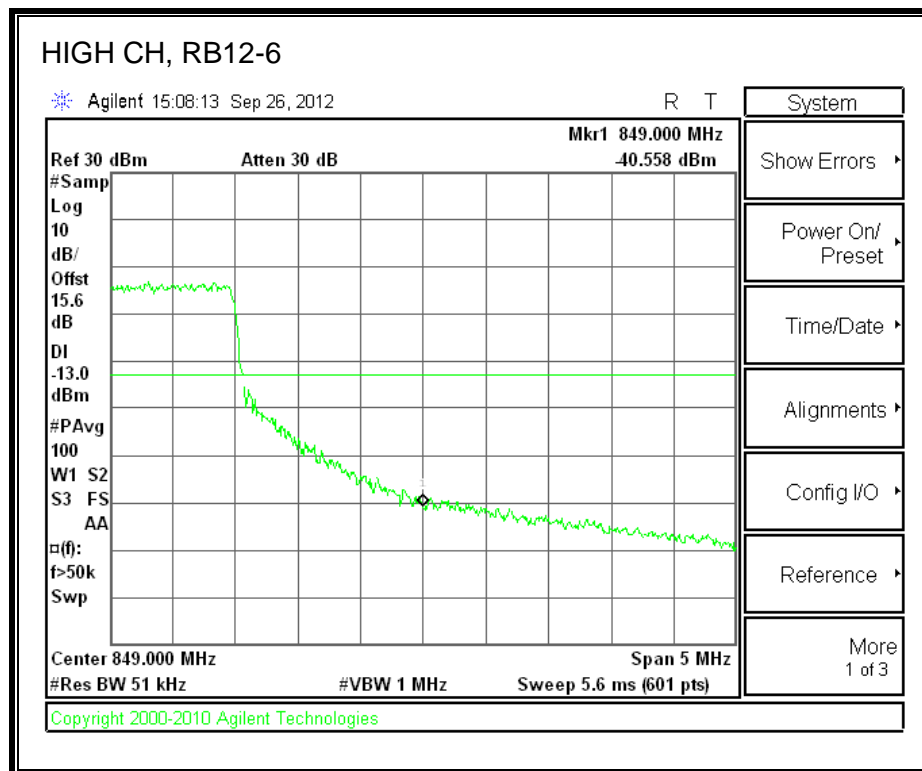
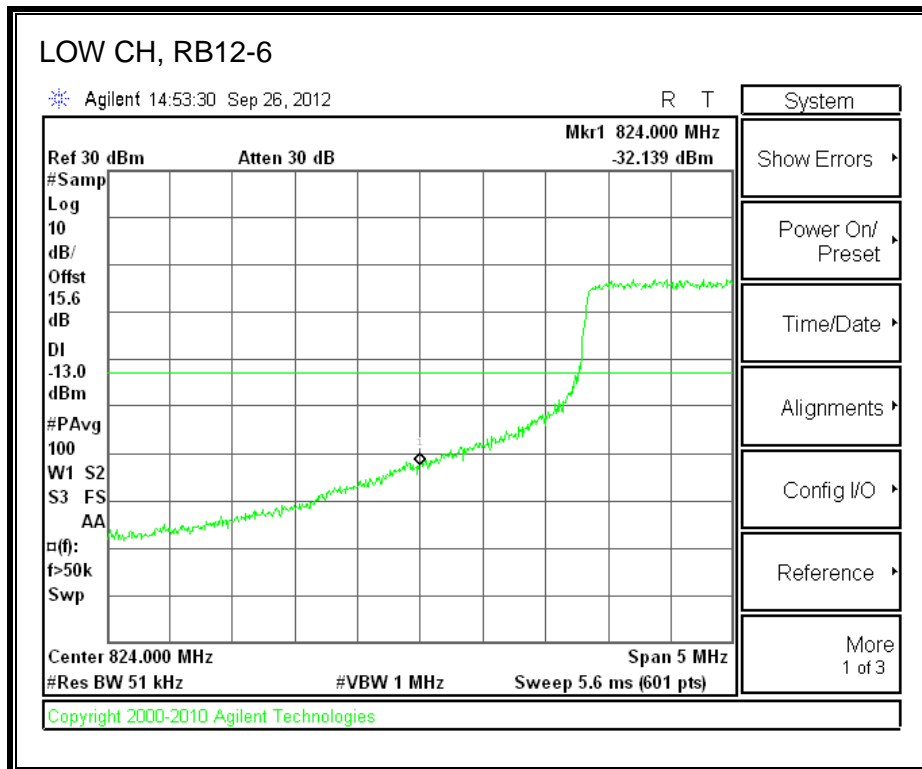


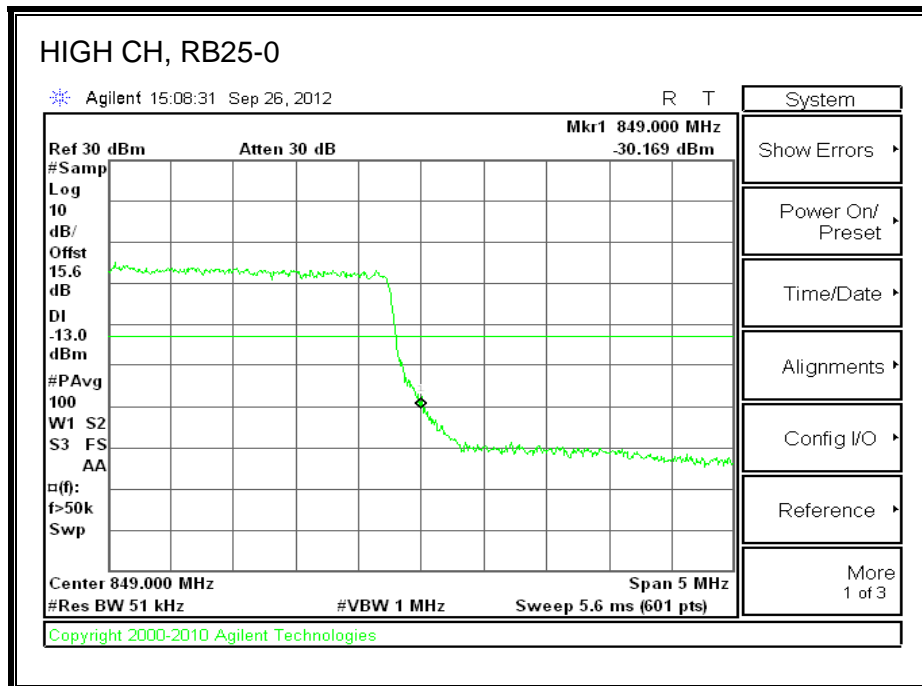
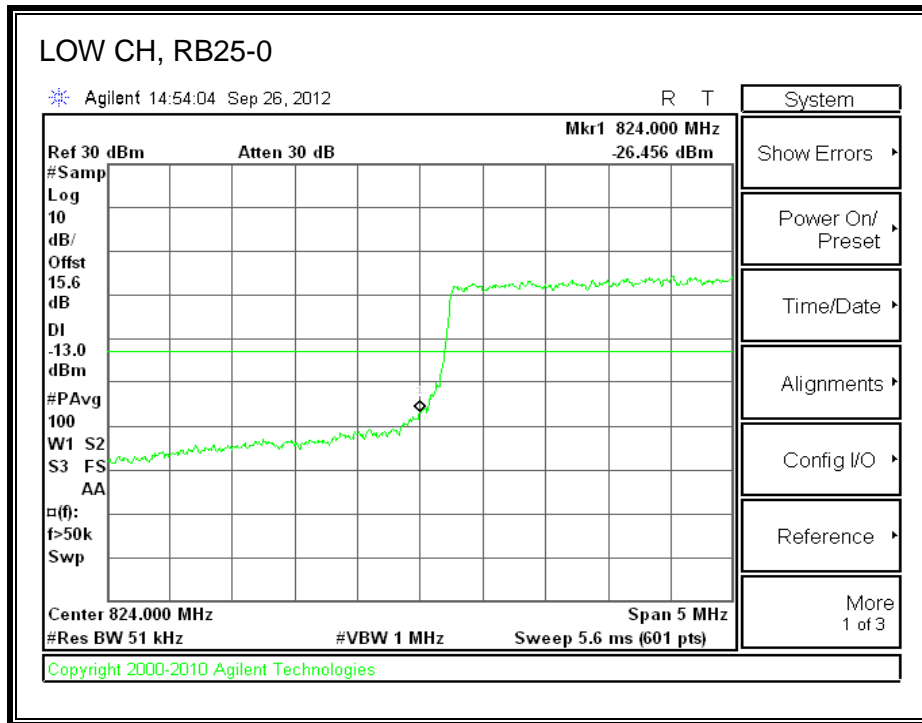


**16QAM Band 5 (5 MHz BANDWIDTH)**



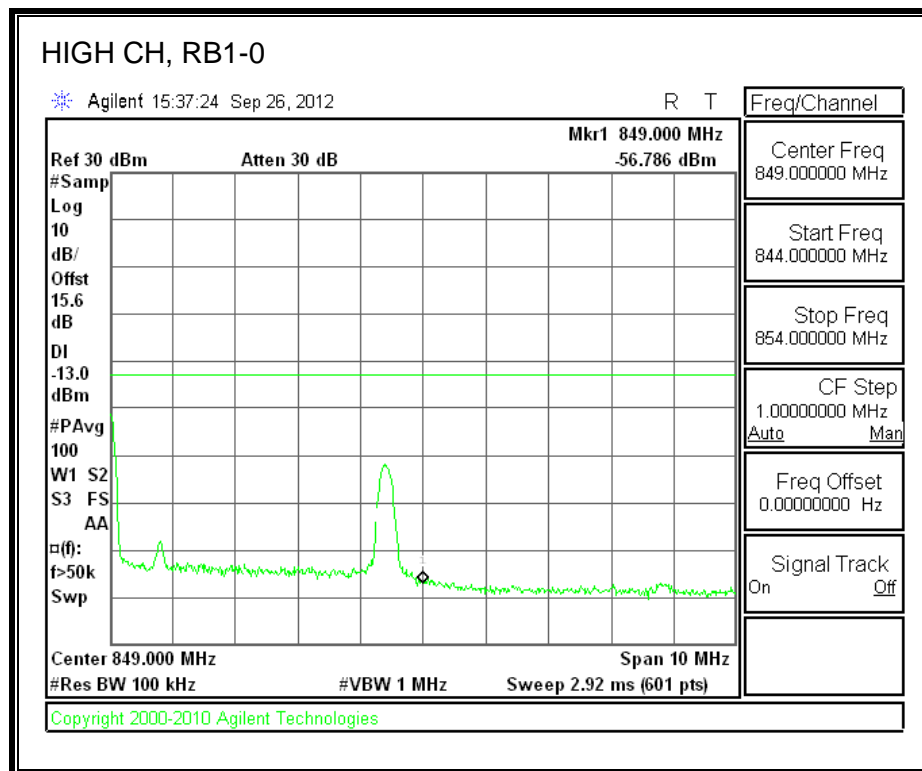
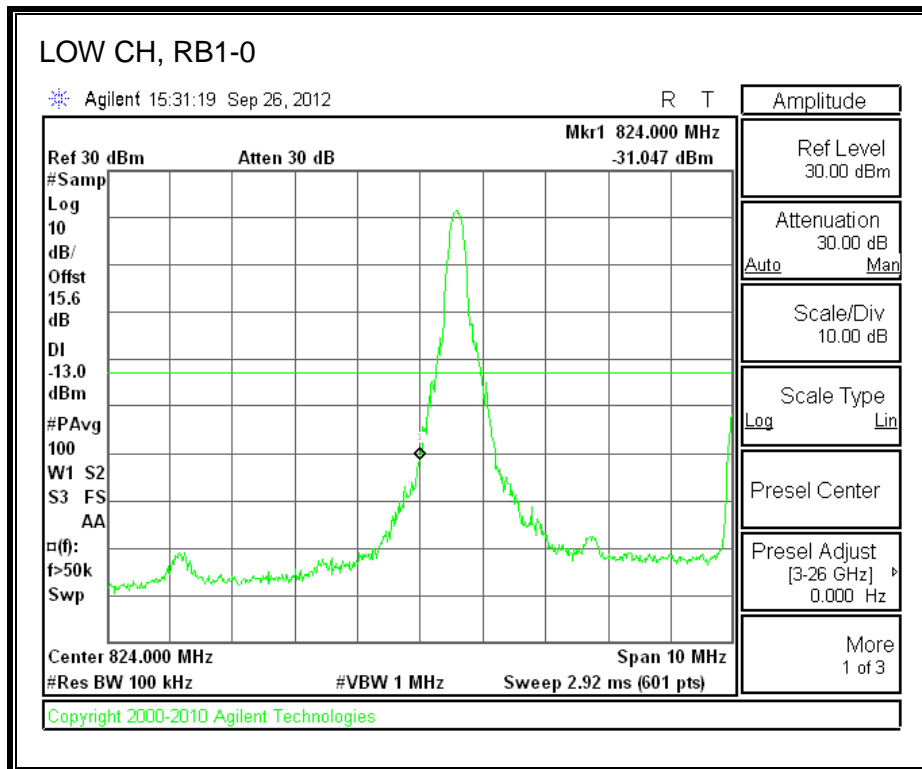


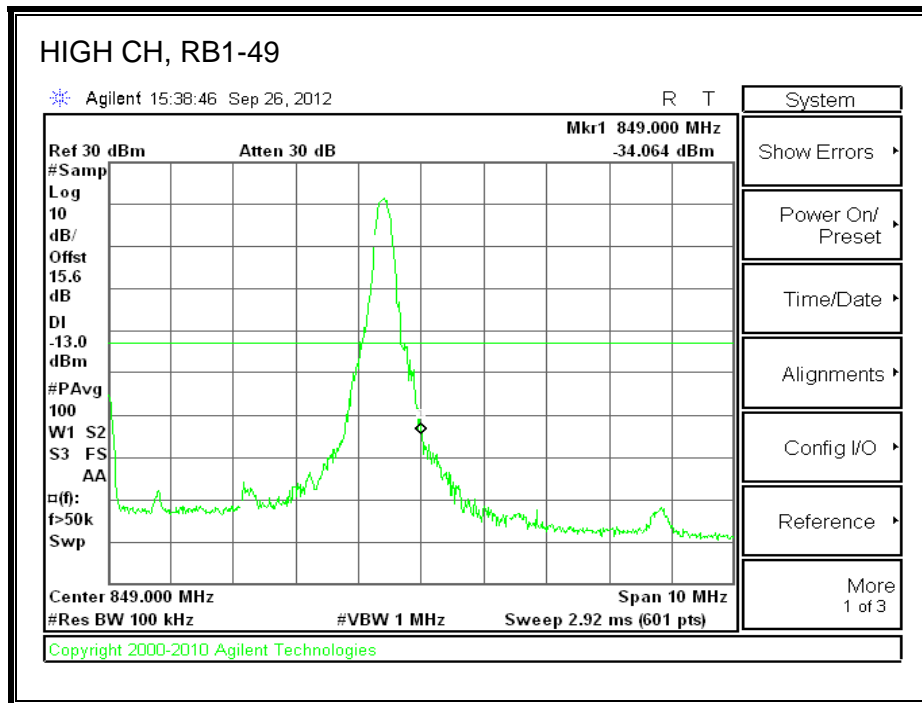
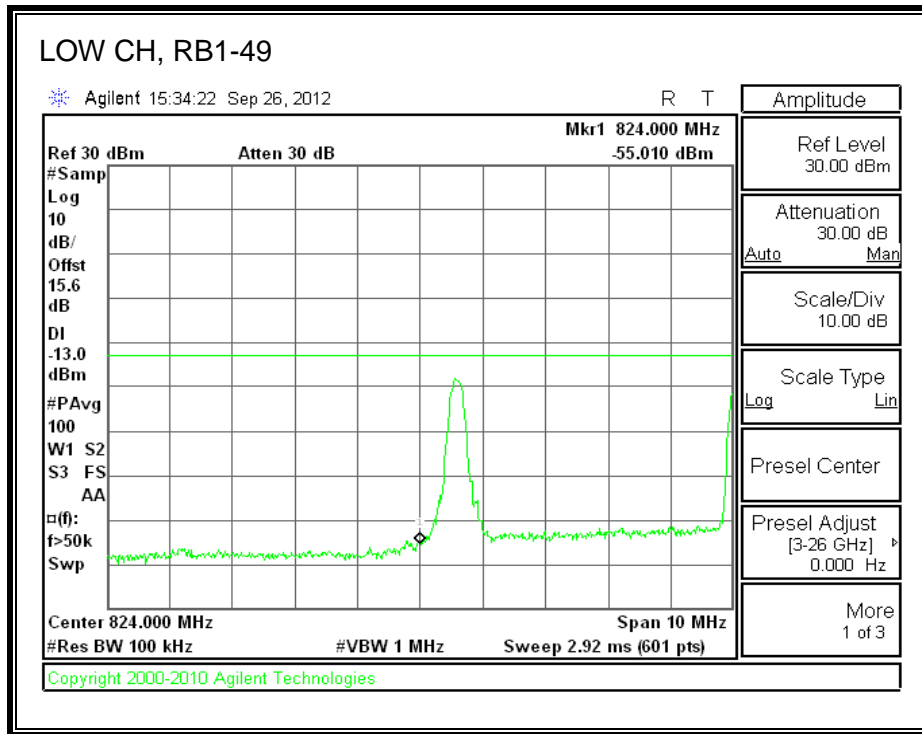


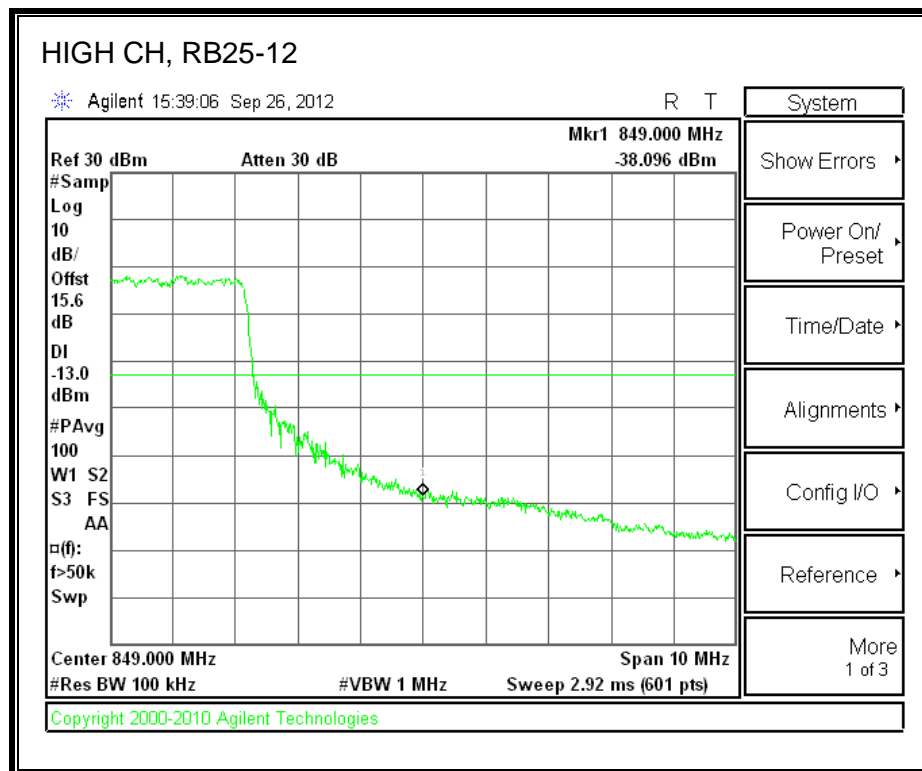
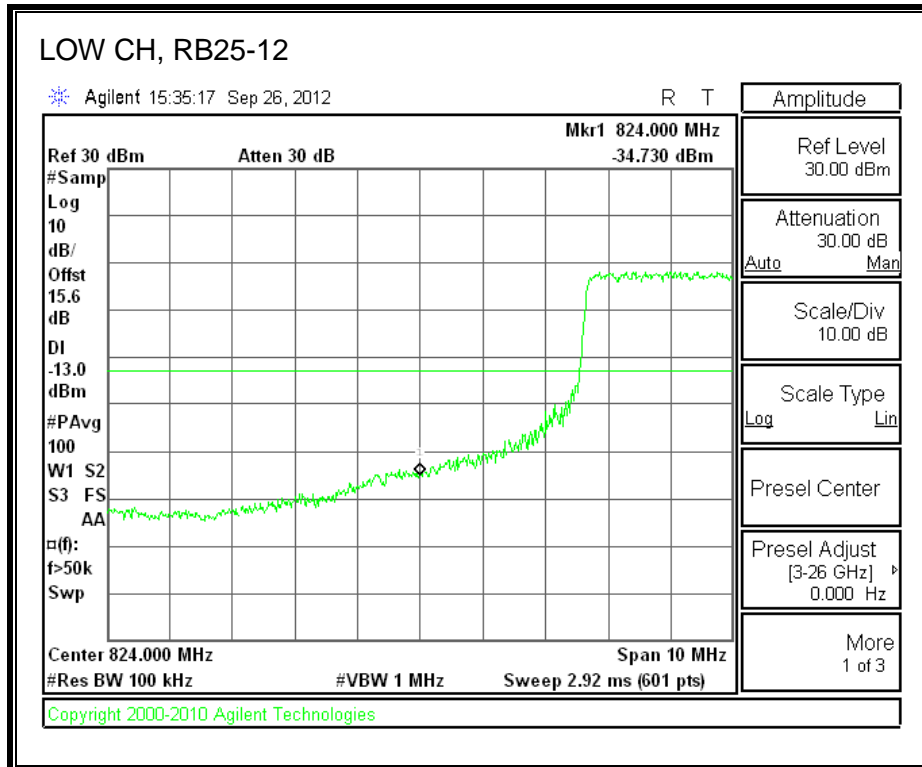


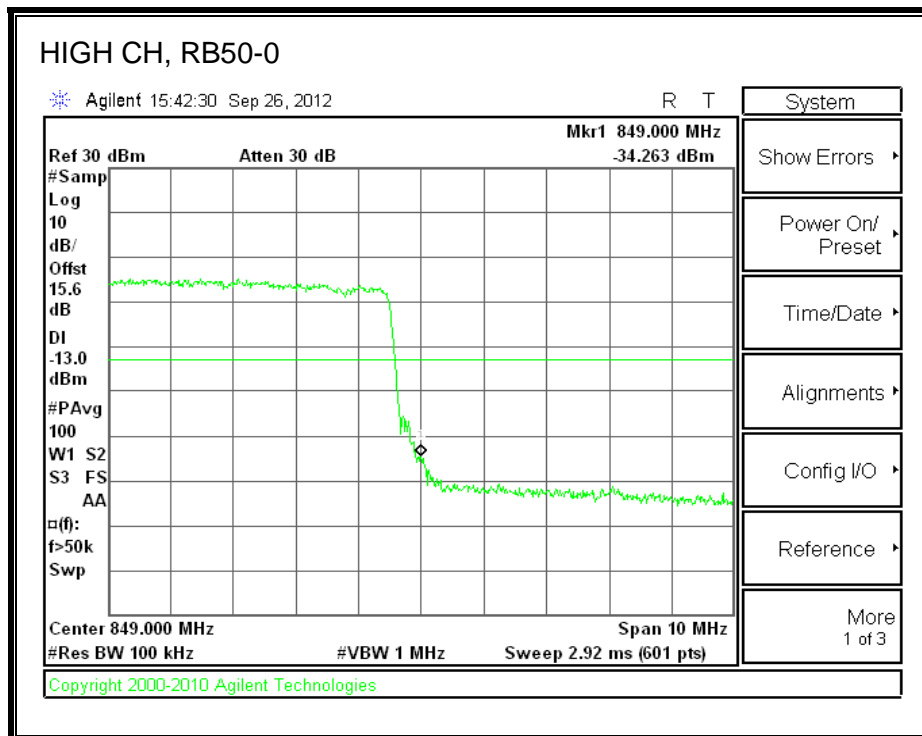
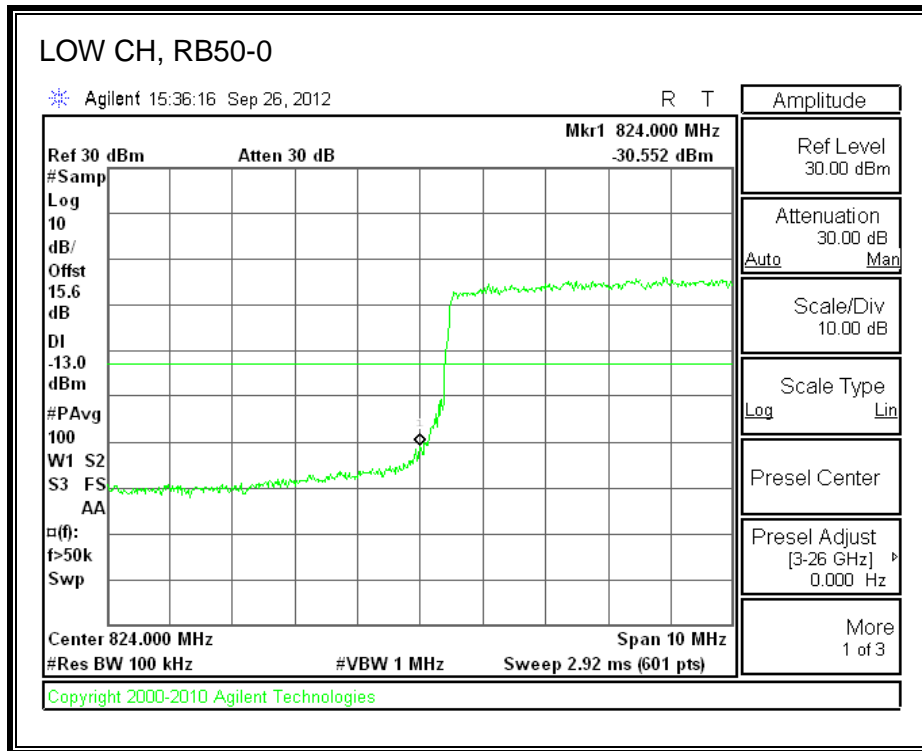


**QPSK Band 5 (10 MHz BANDWIDTH)**

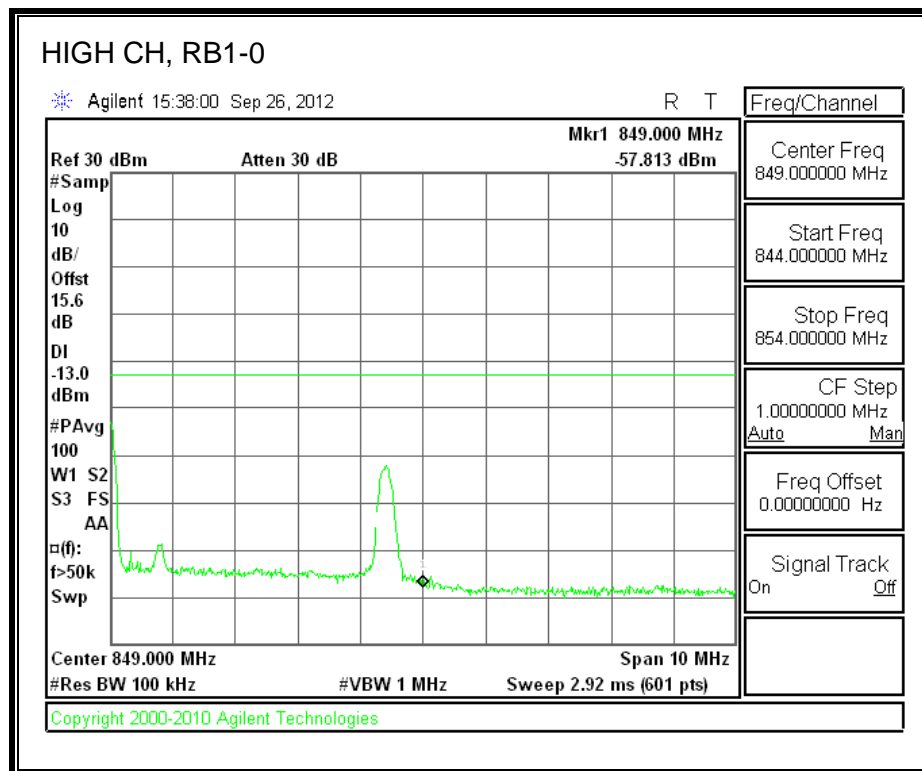
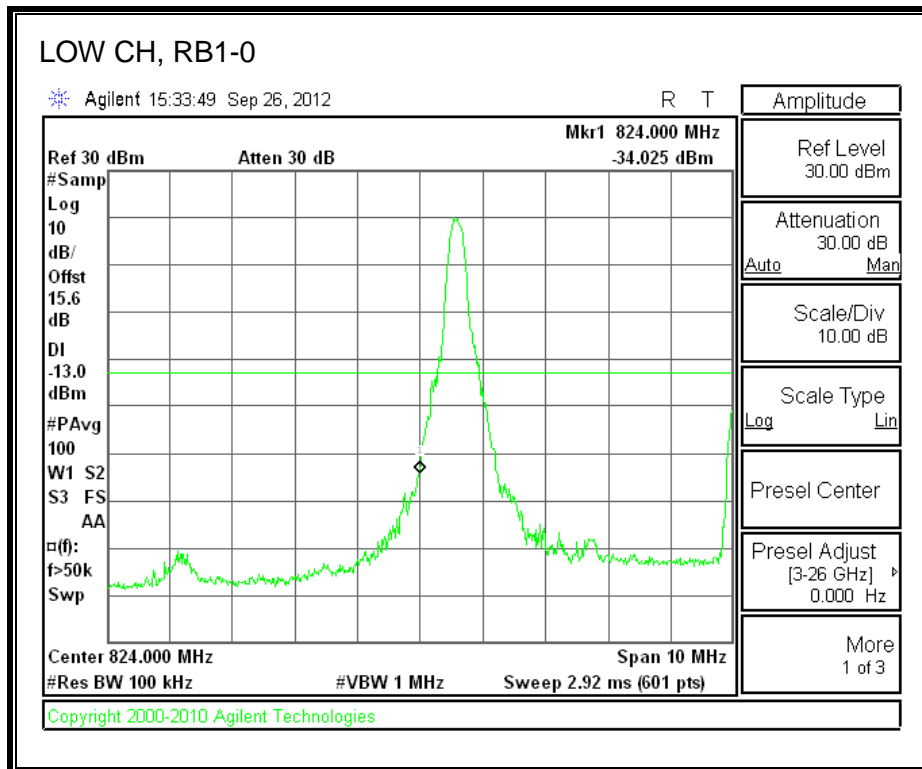


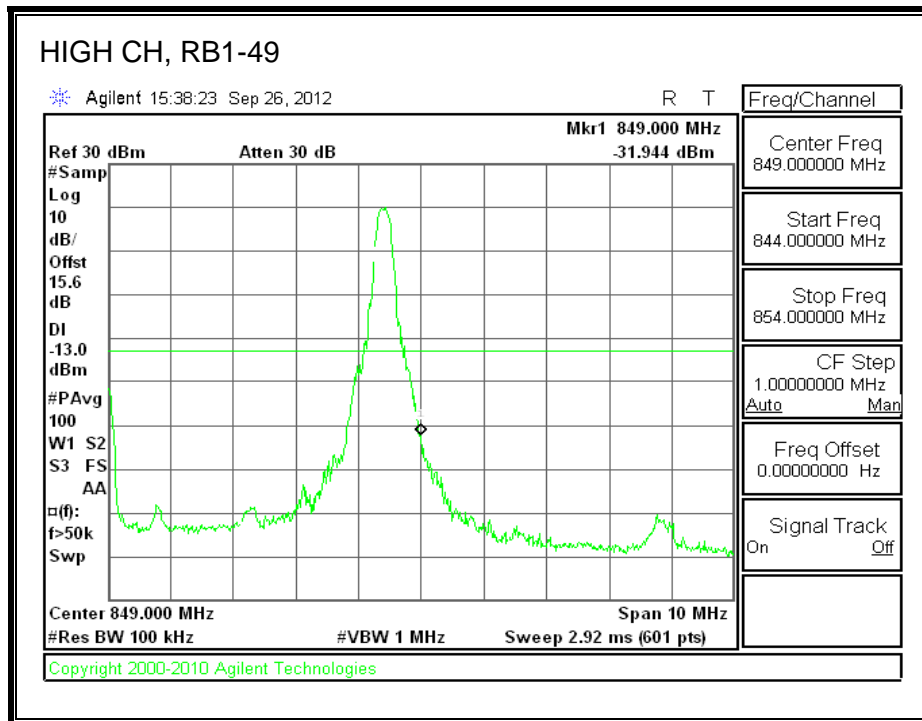
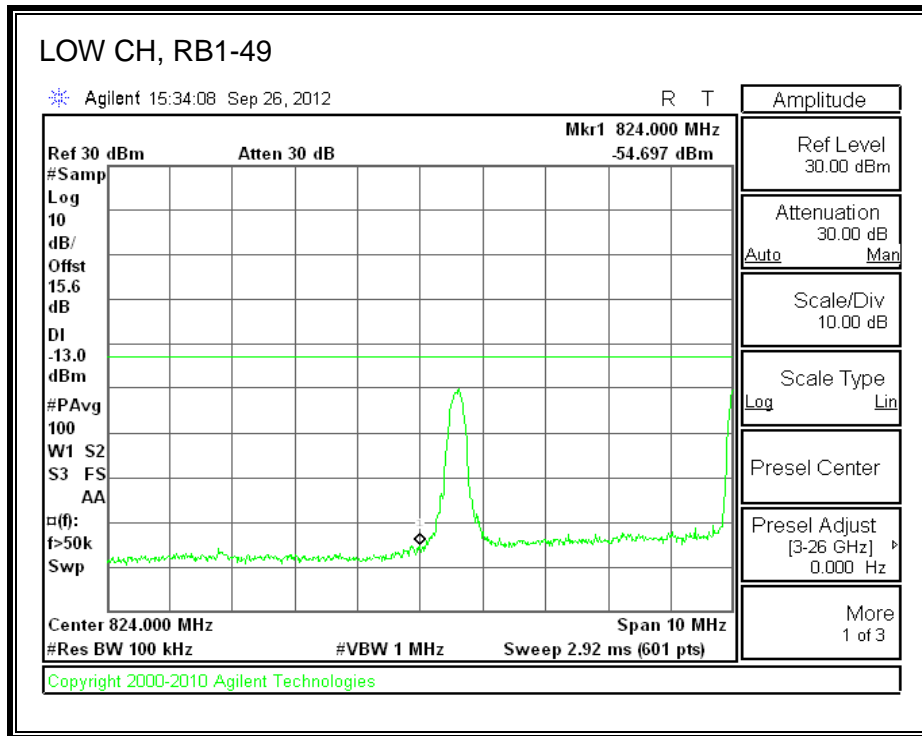


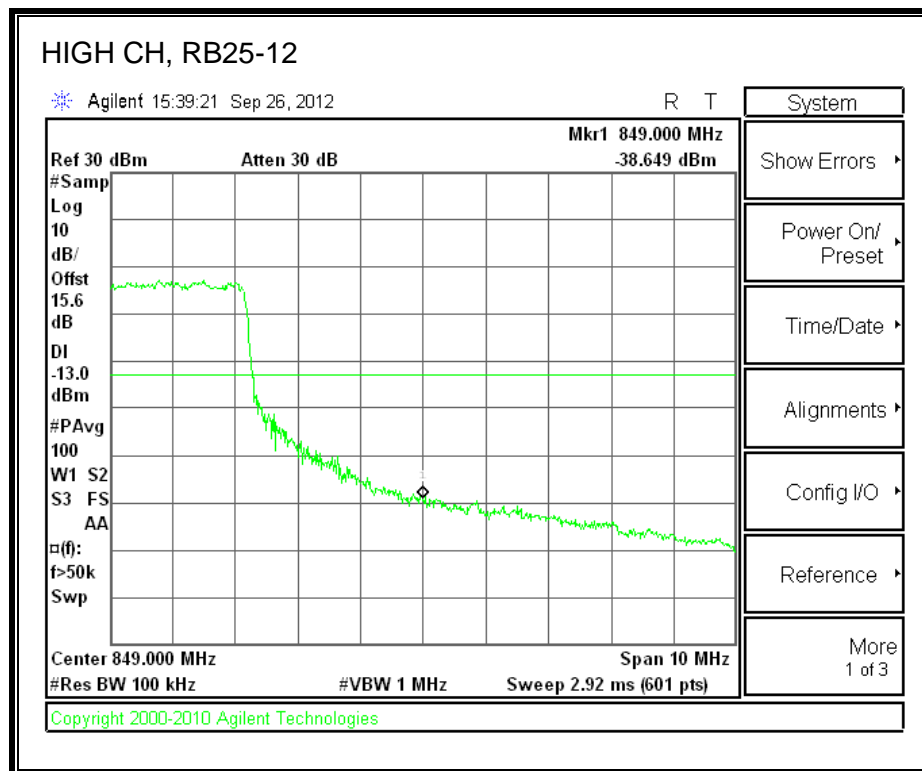
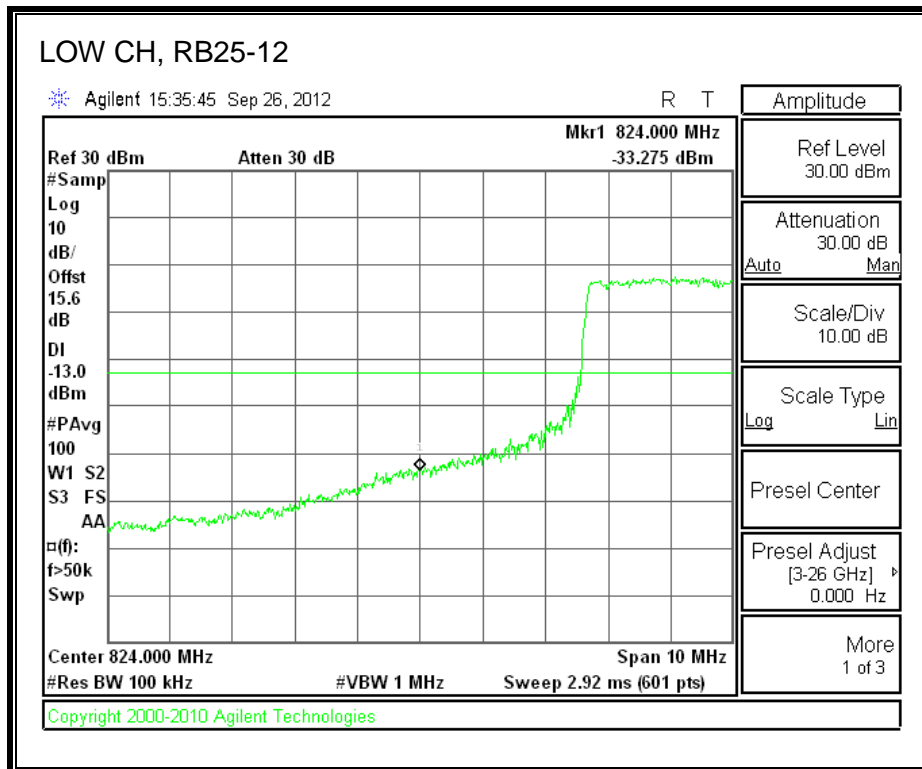


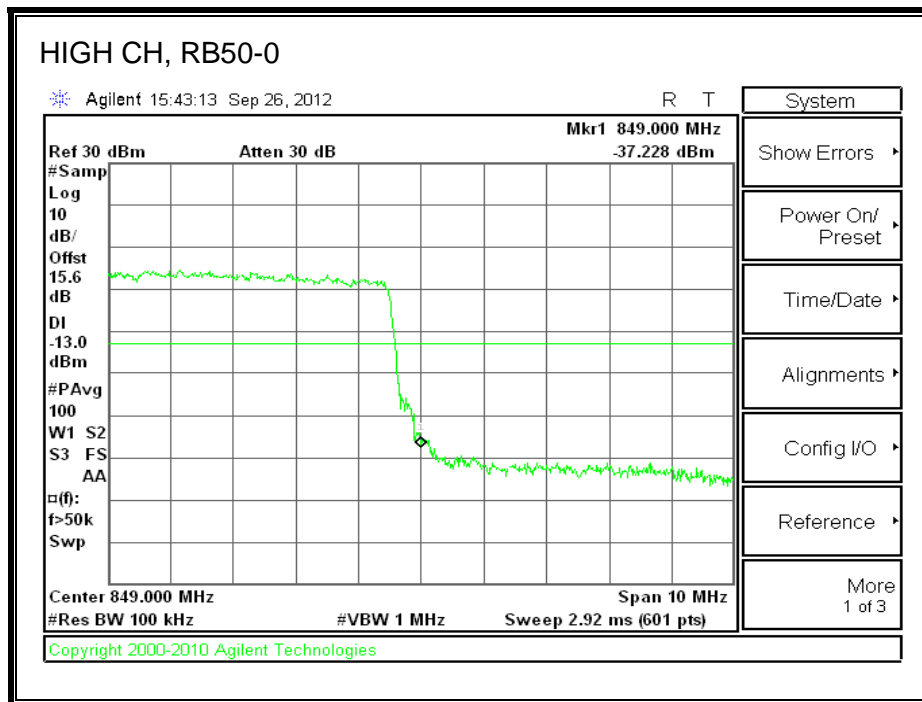
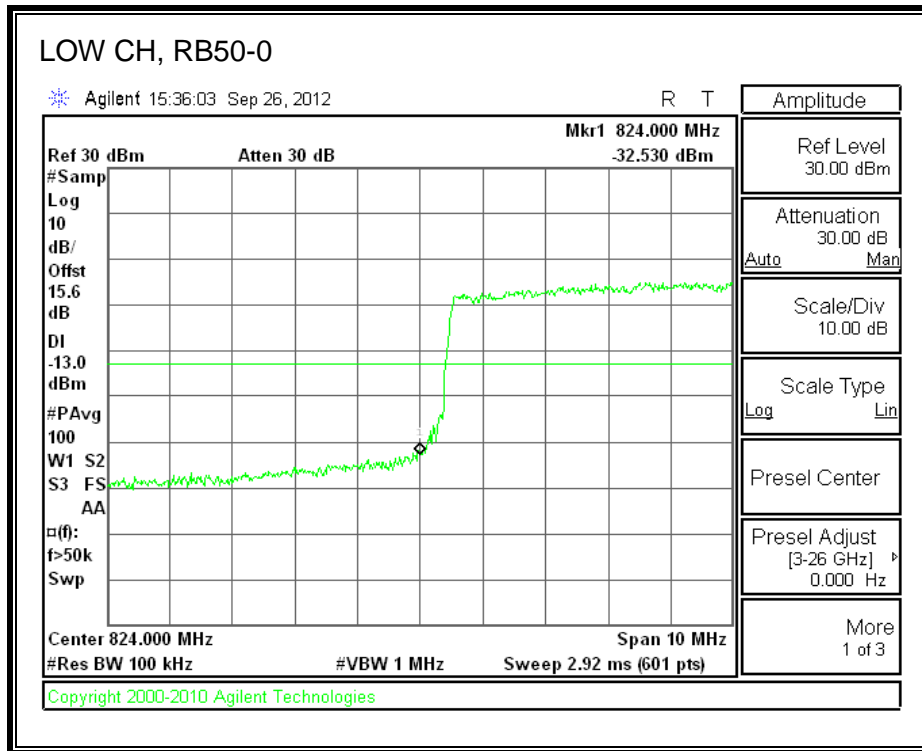


**16QAM Band 5 (10 MHz BANDWIDTH)**





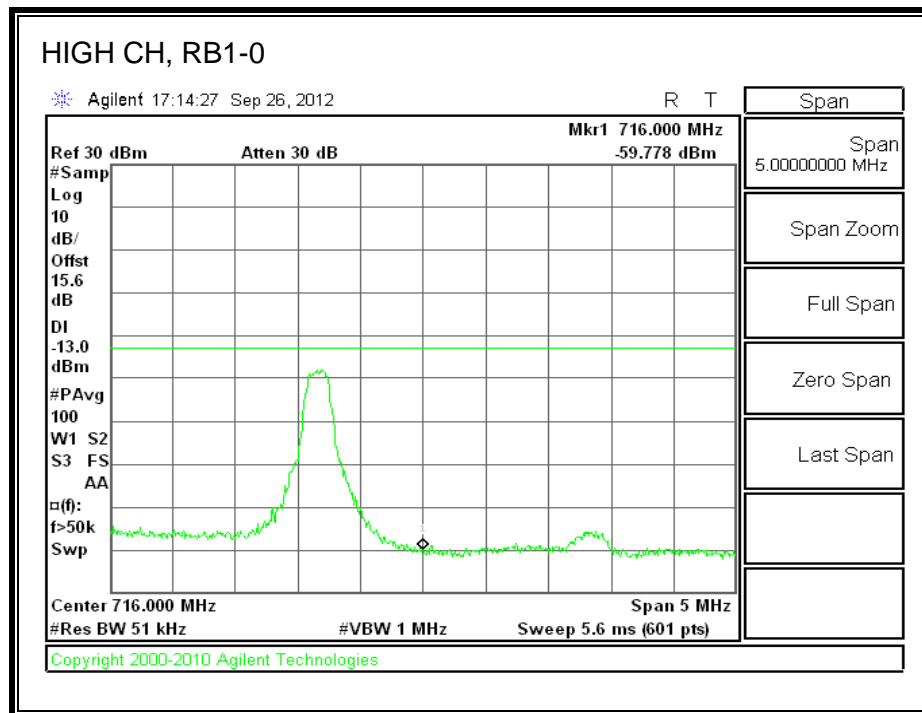
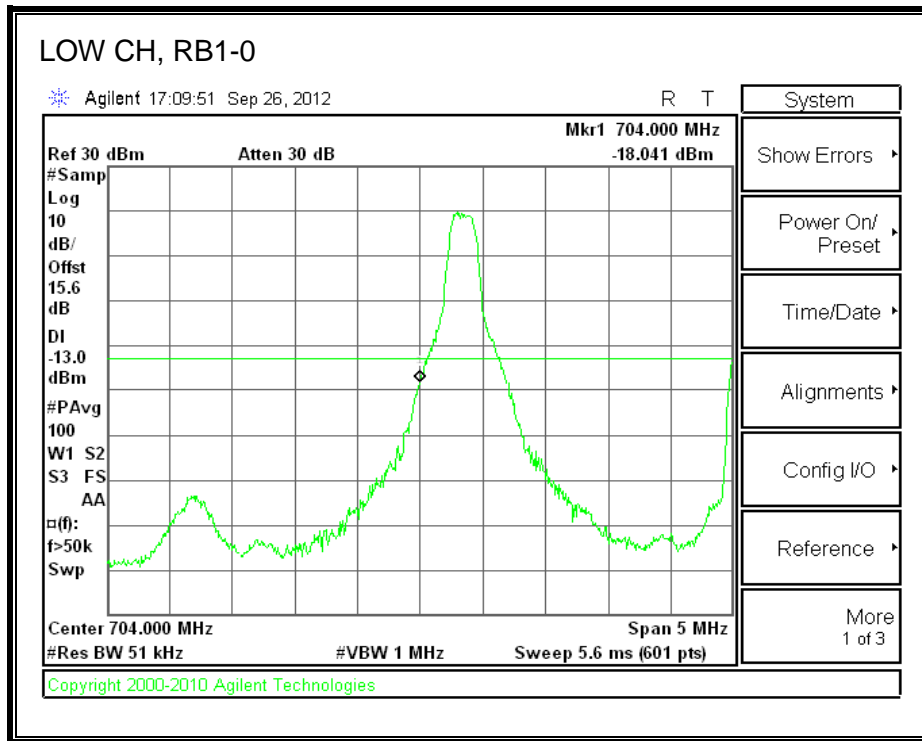


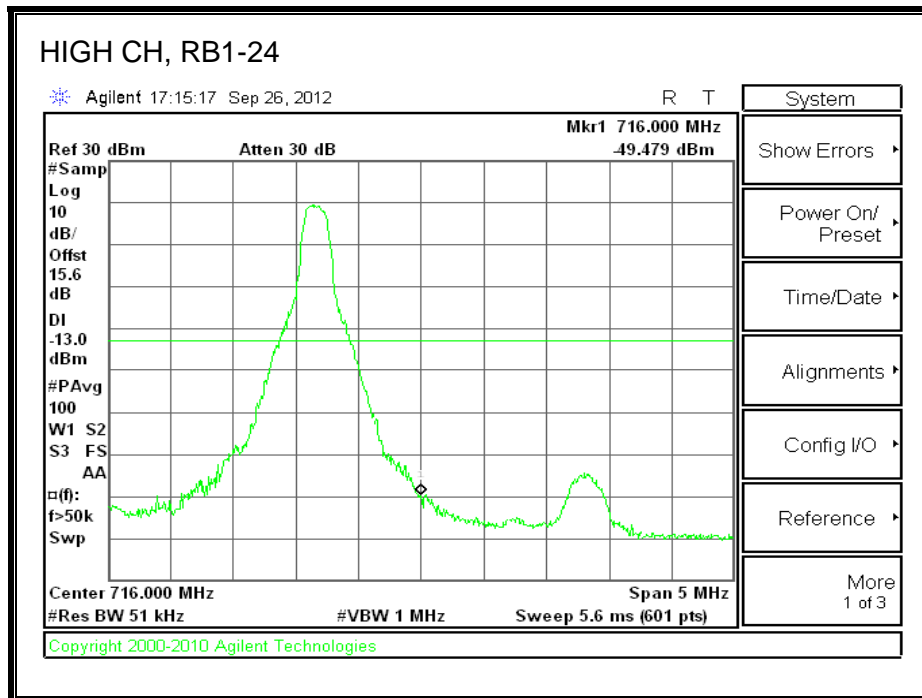
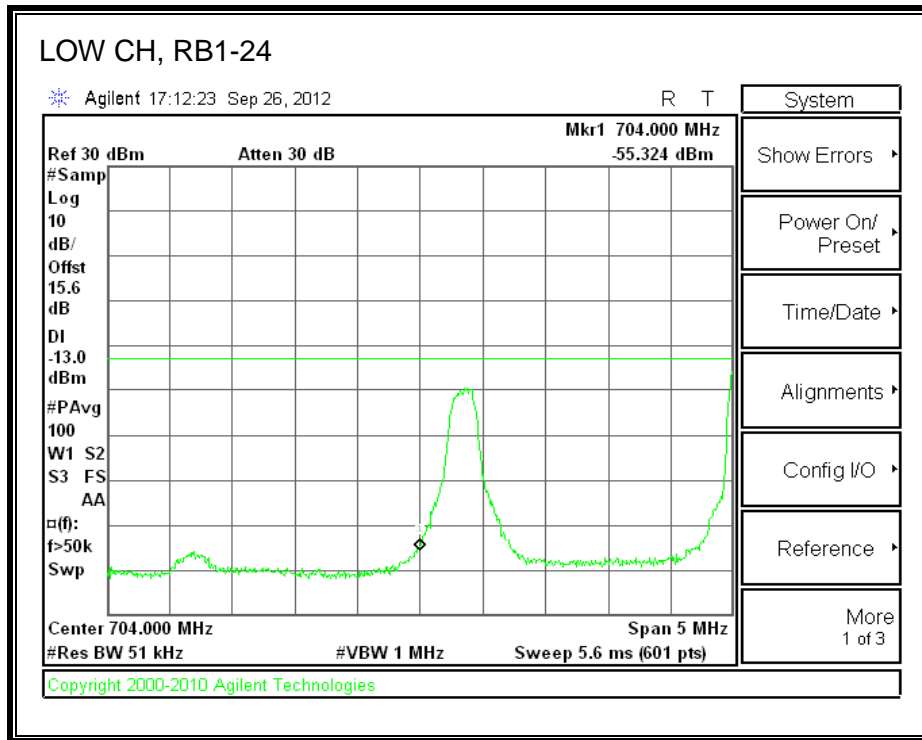


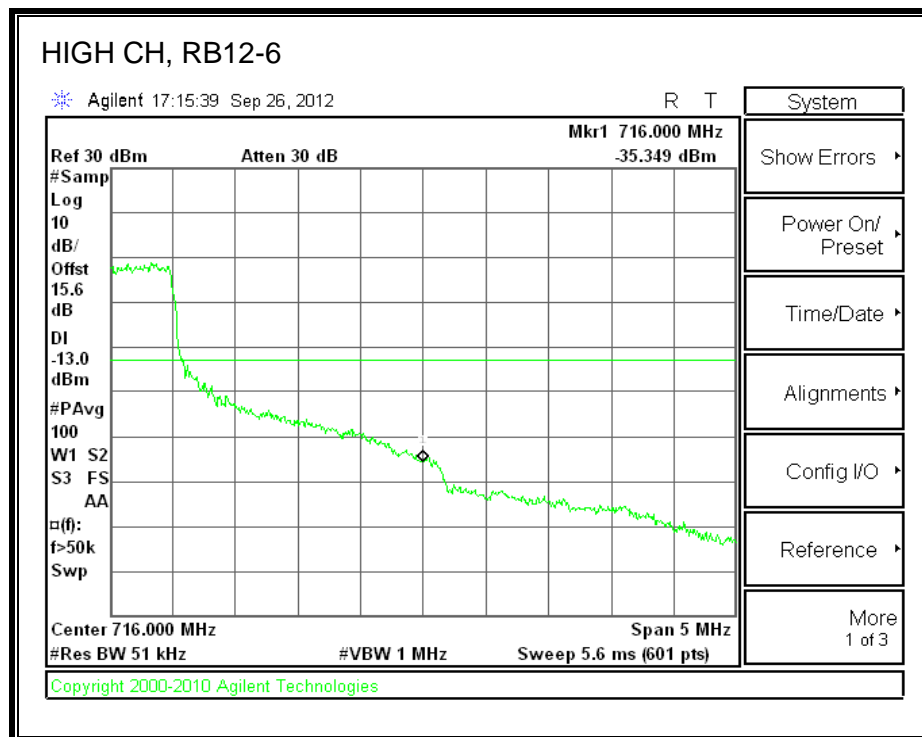
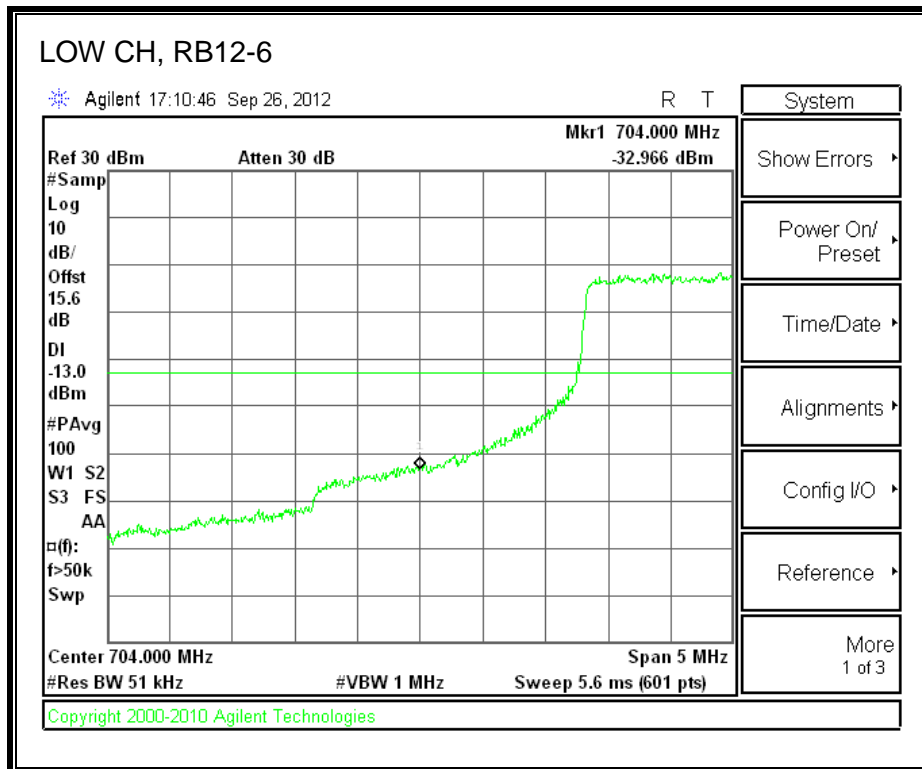


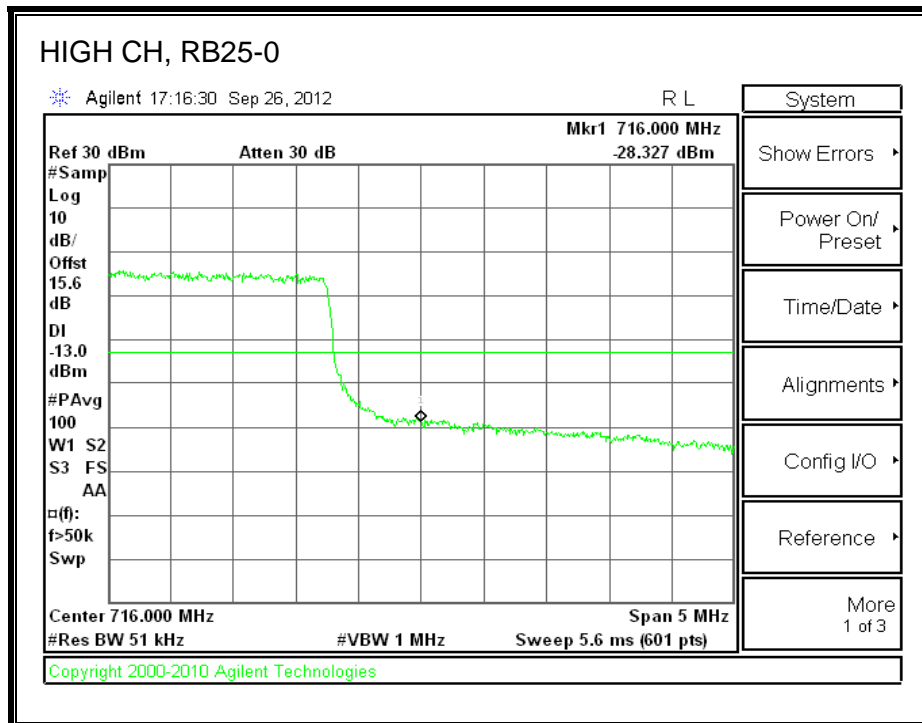
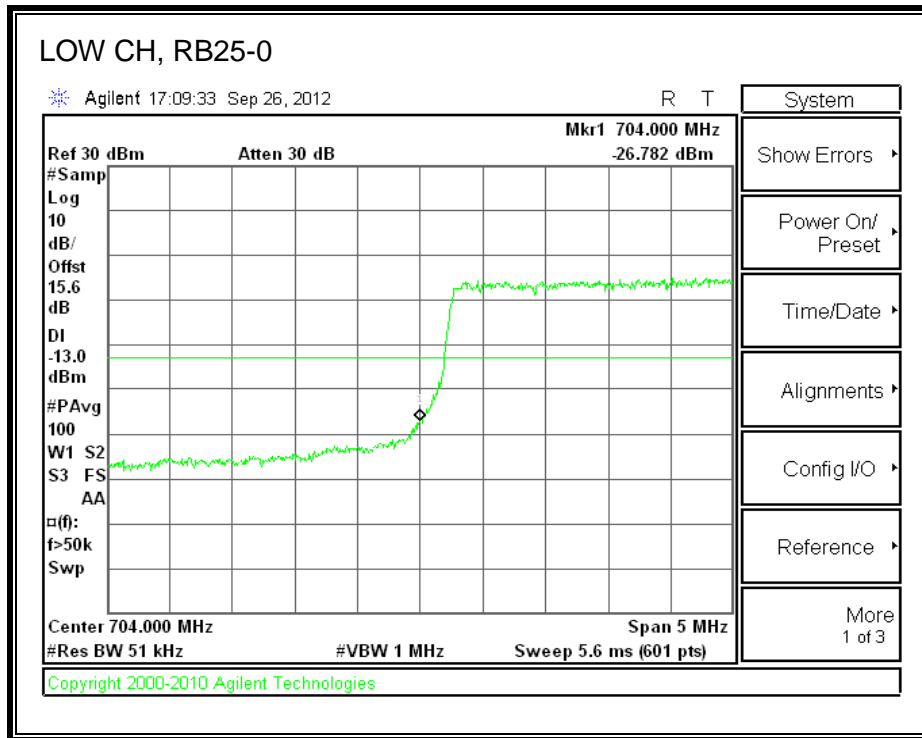
### 8.2.4. LTE BAND 17

#### QPSK Band 17 (5 MHz BANDWIDTH)

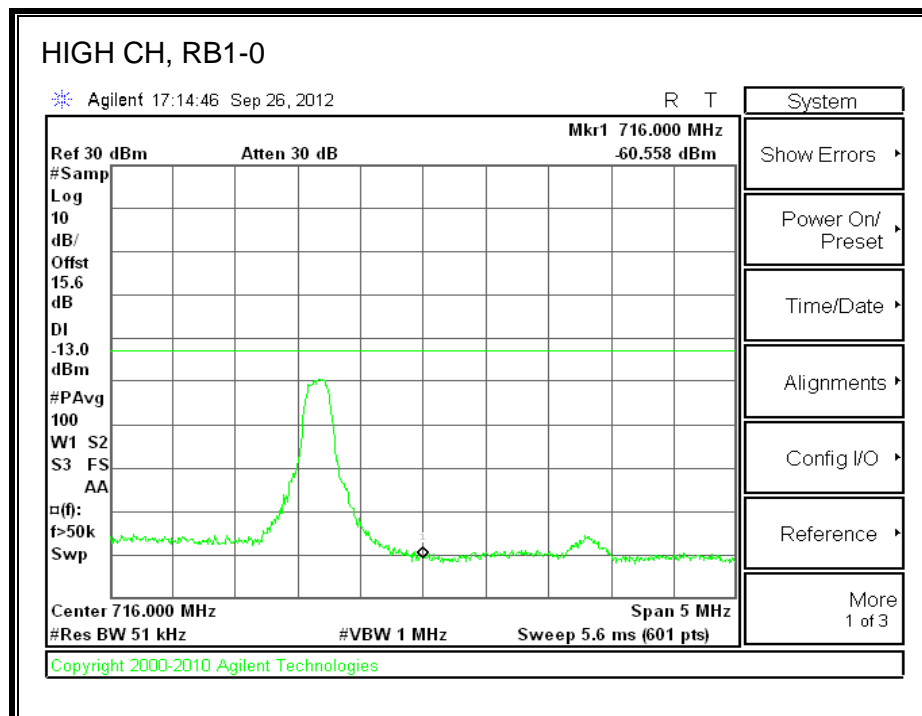
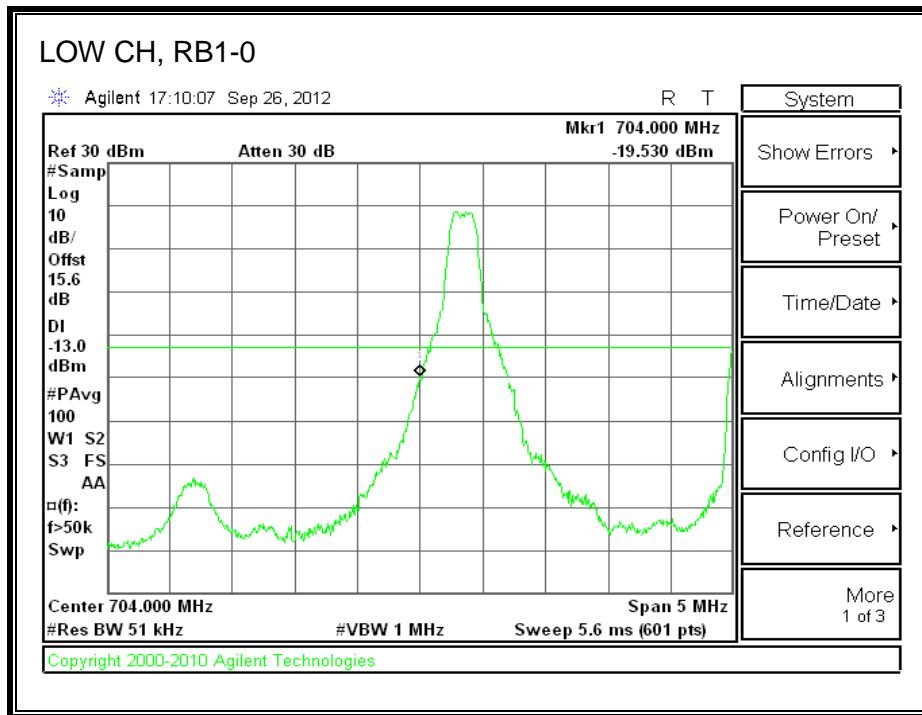


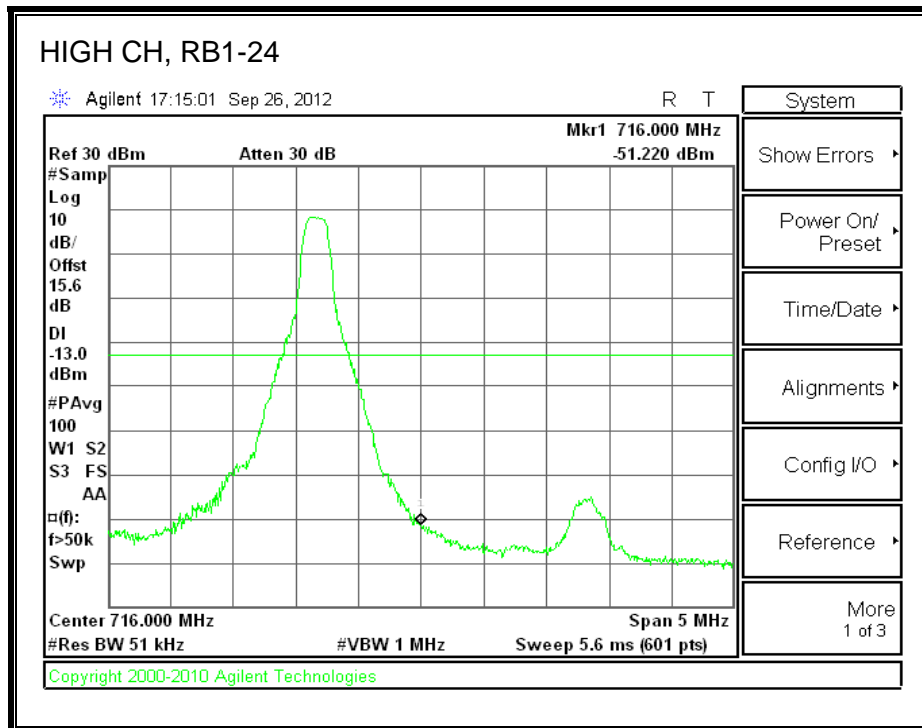
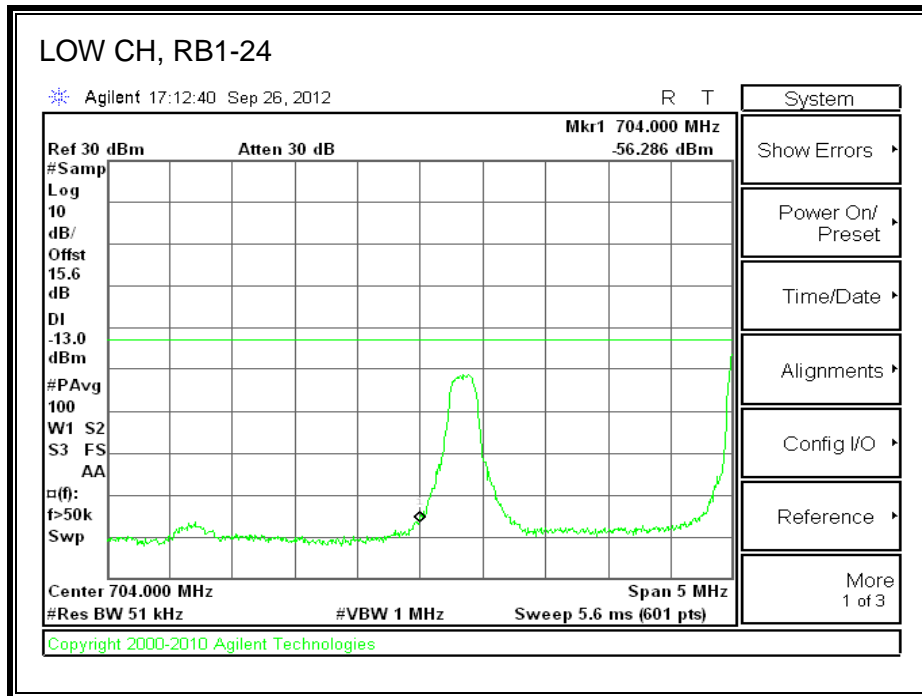


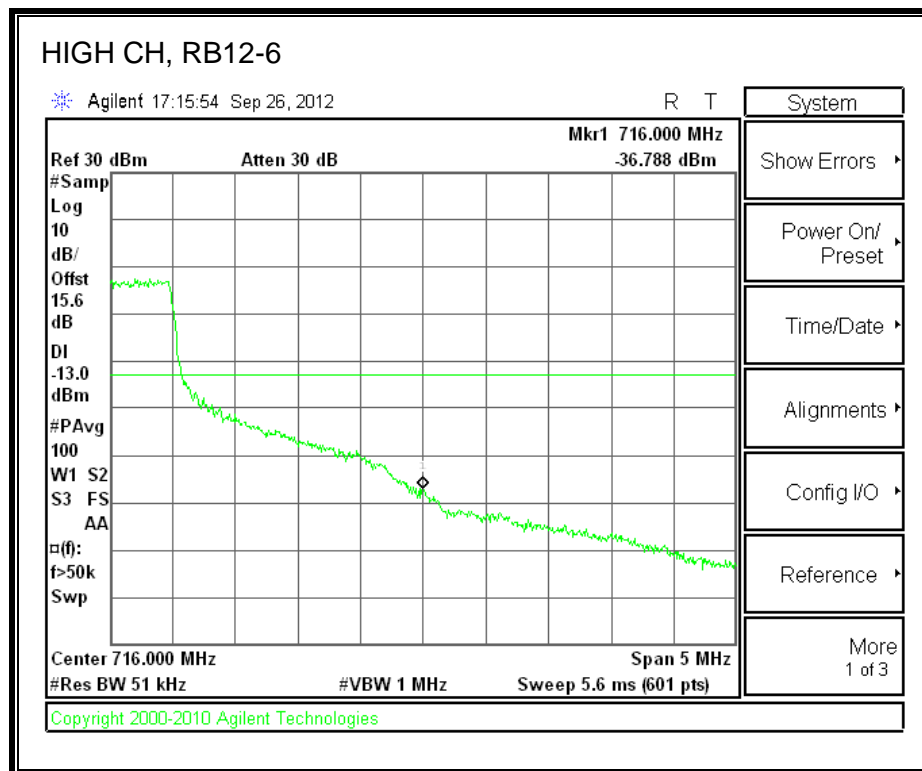
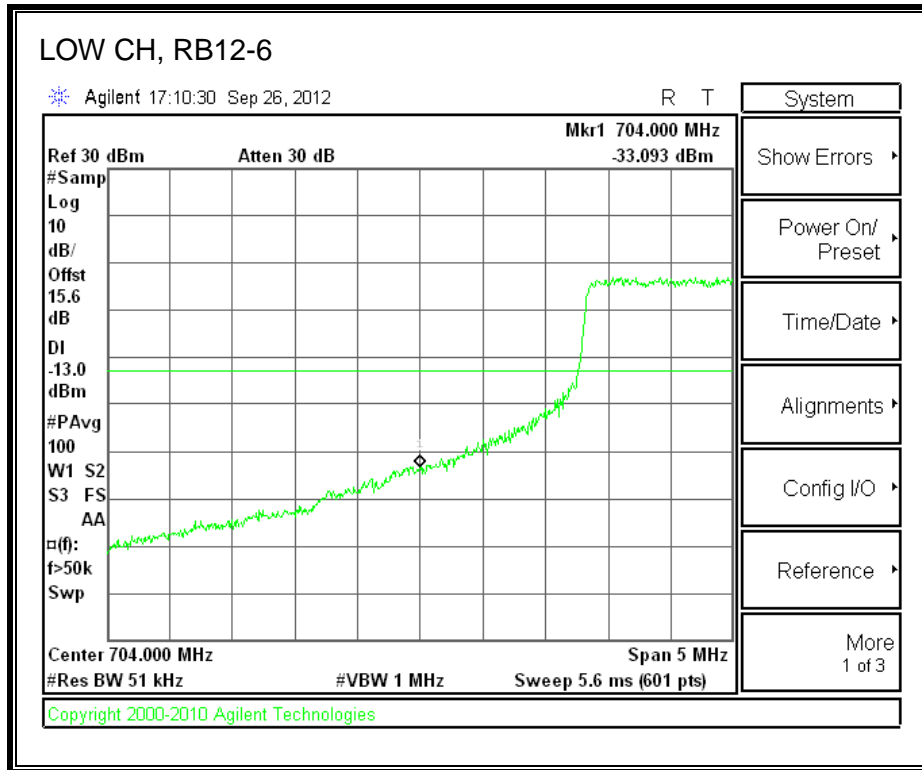


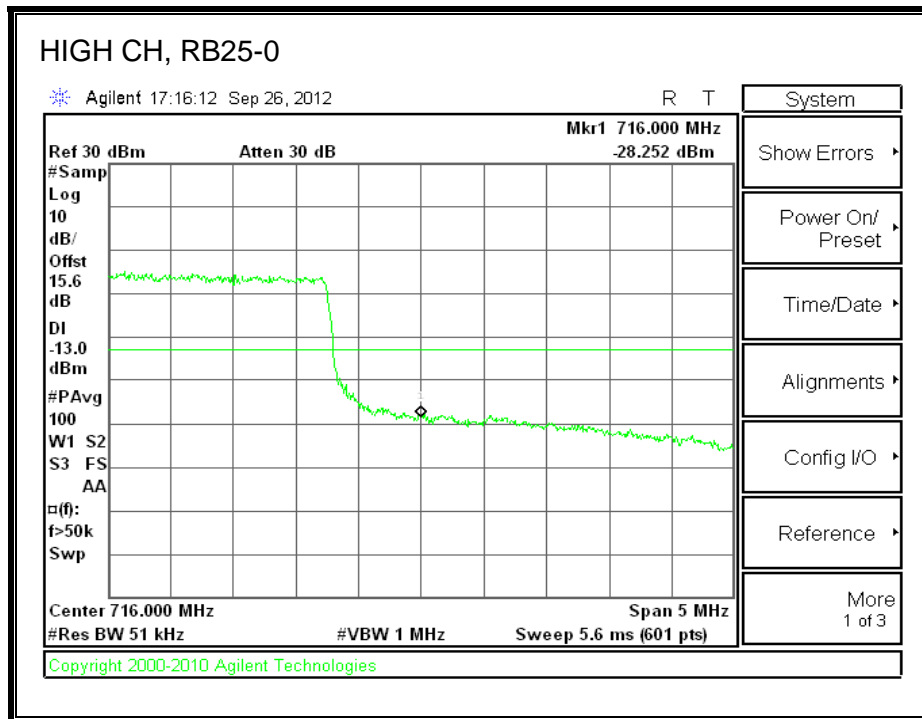
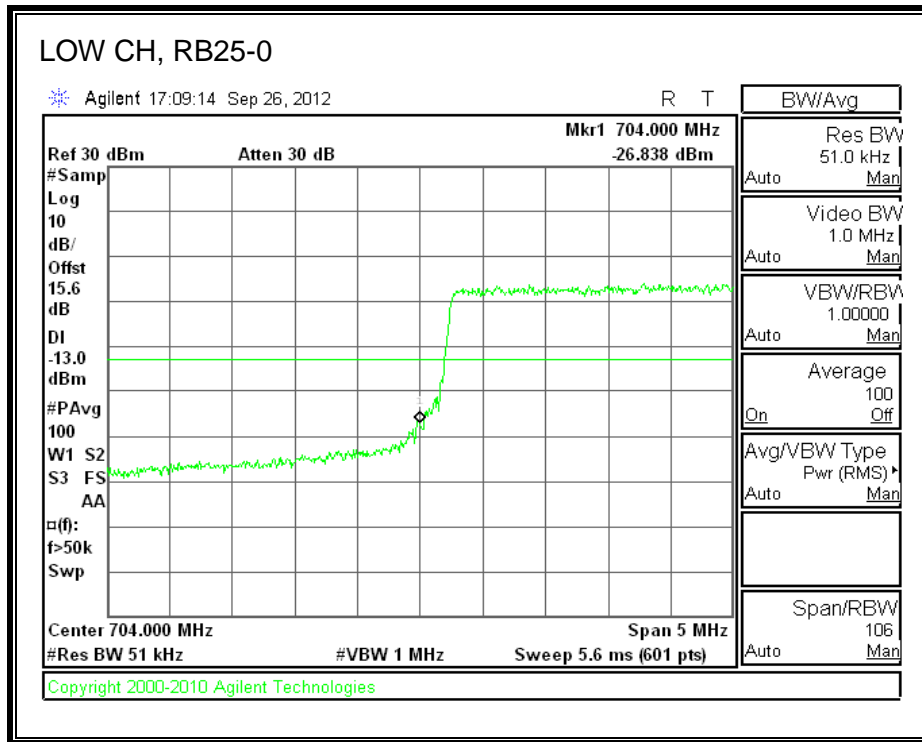


**16QAM Band 17 (5 MHz BANDWIDTH)**



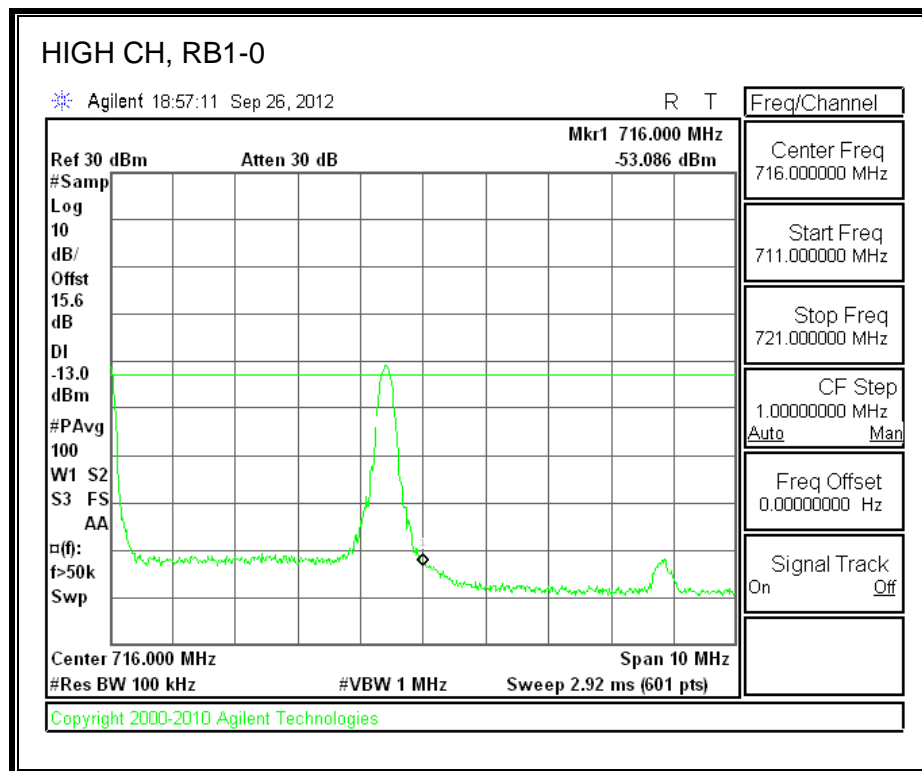
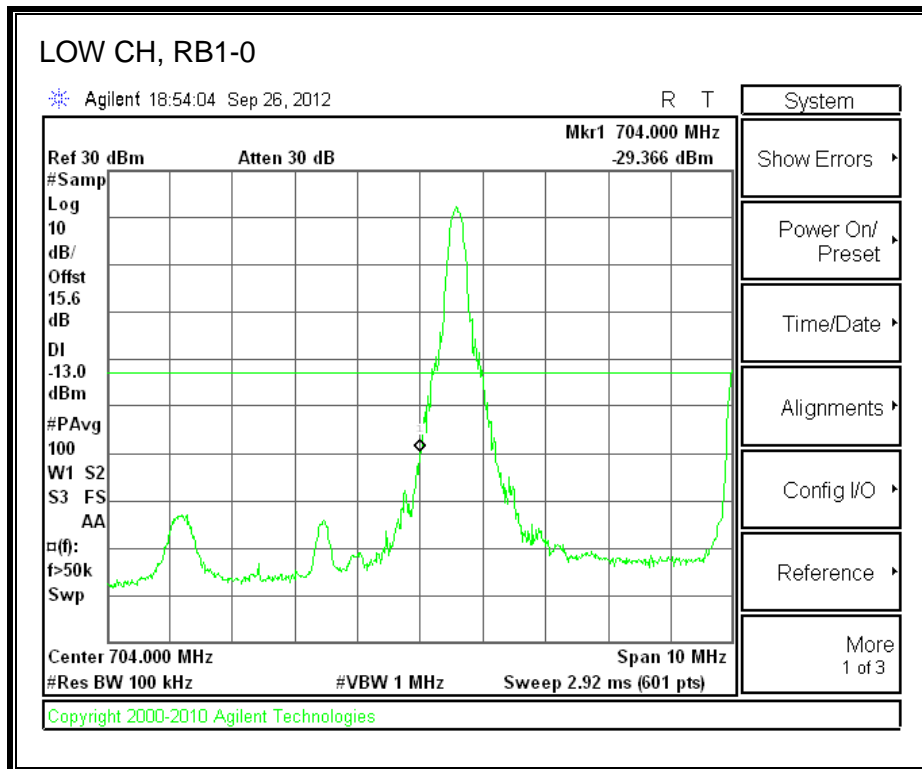


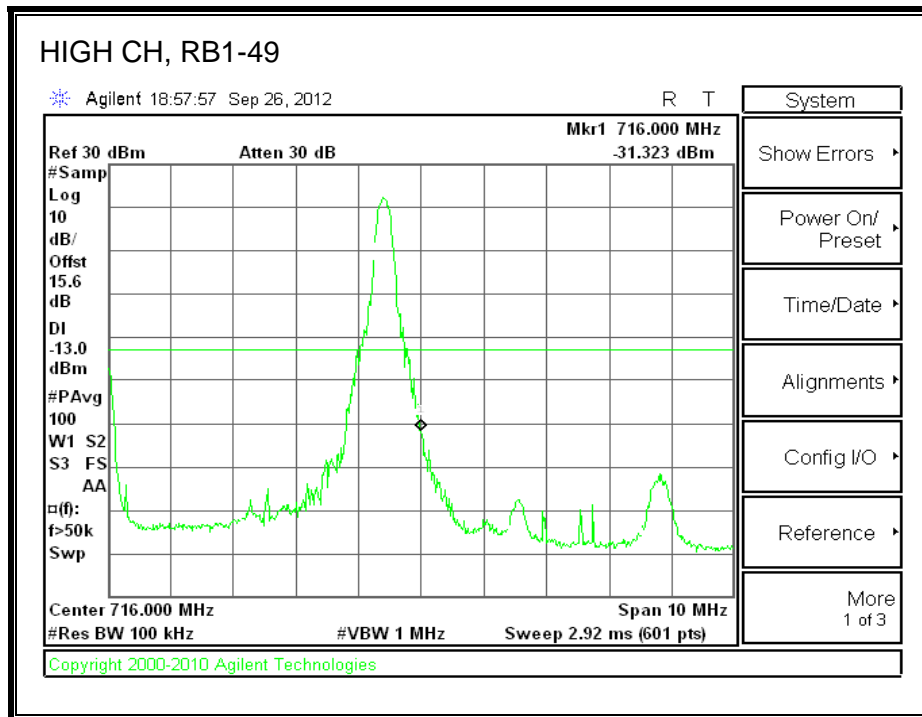
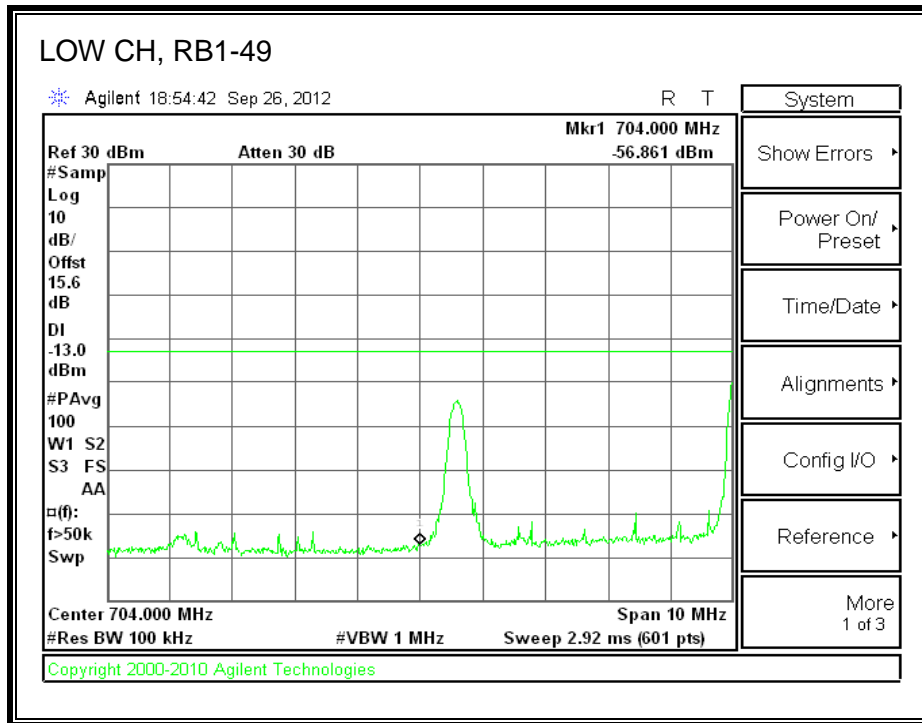


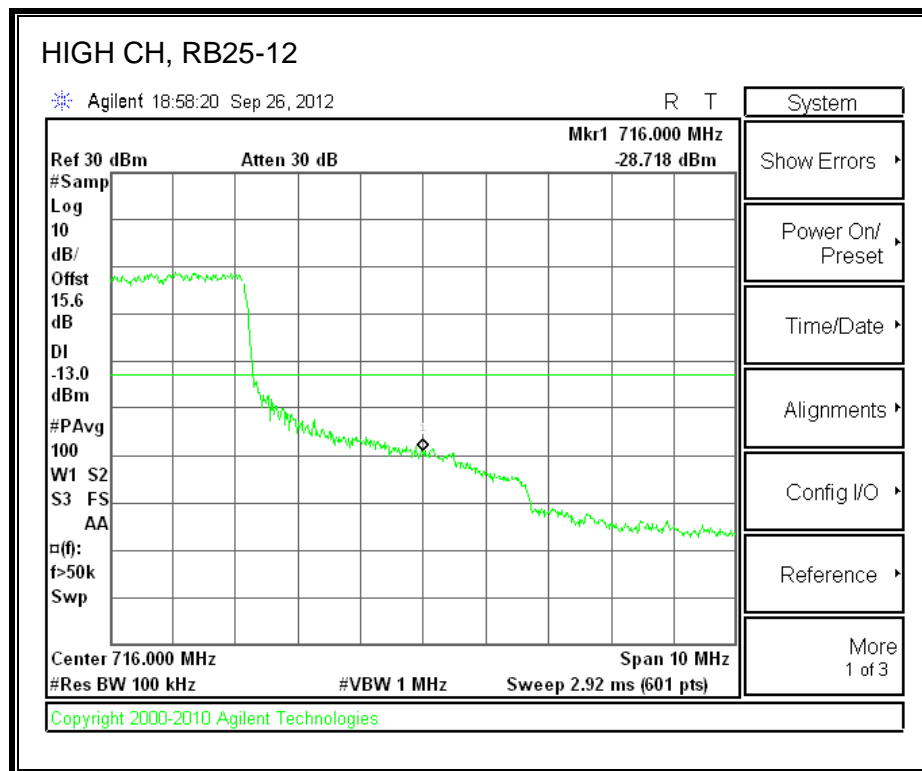
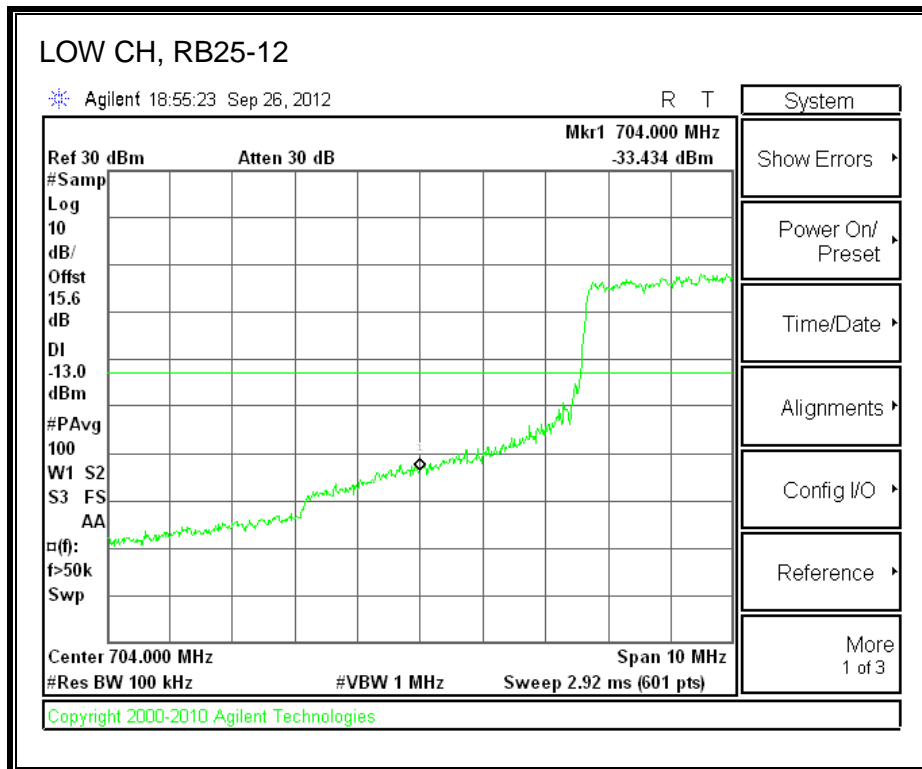


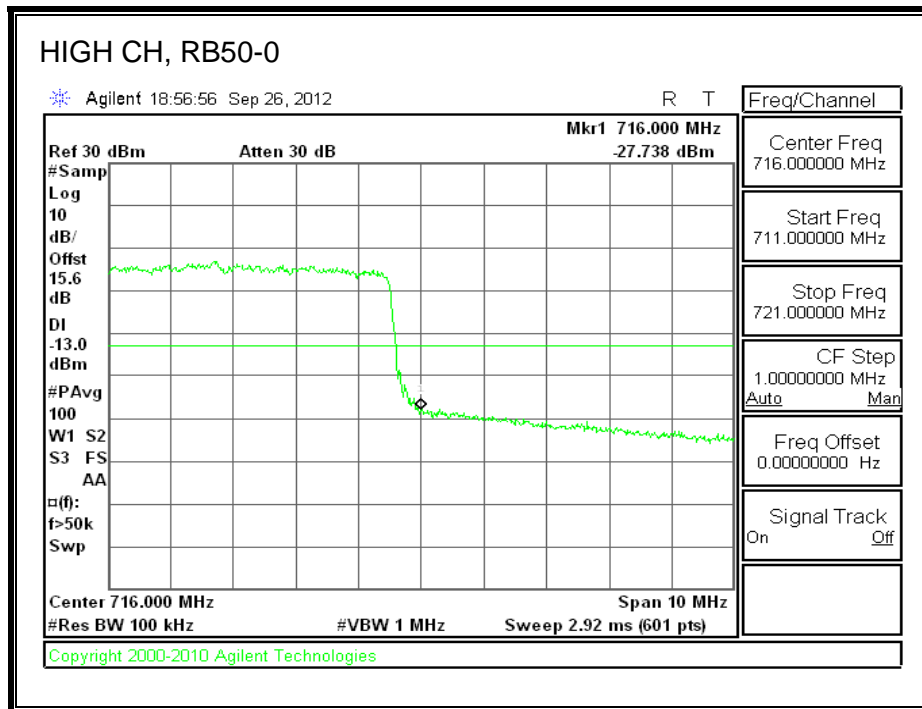
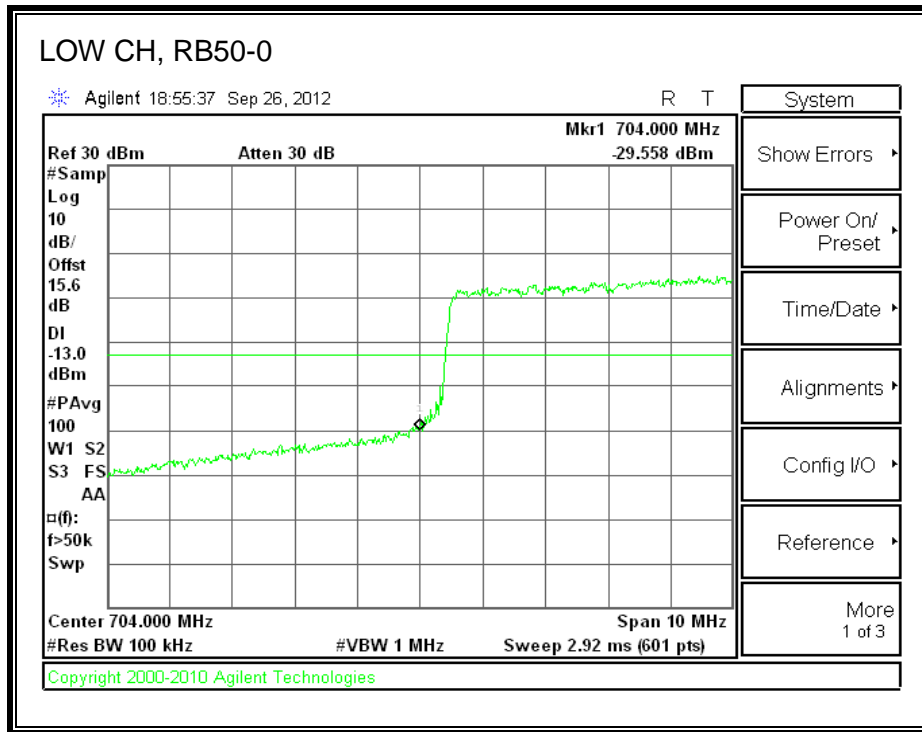


**QPSK Band 17 (10 MHz BANDWIDTH)**

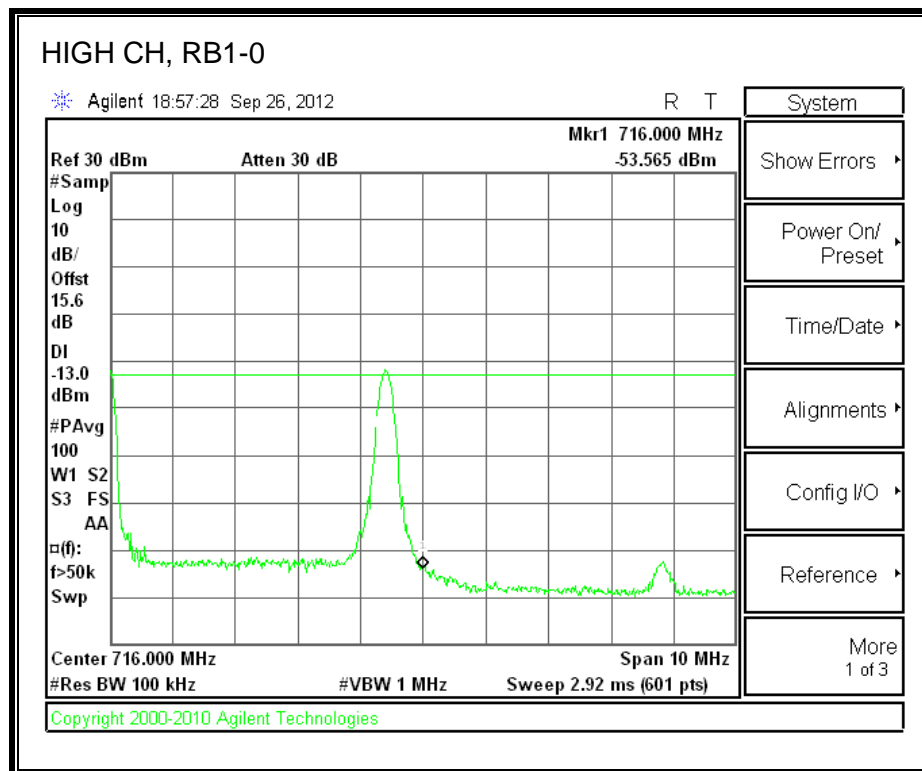
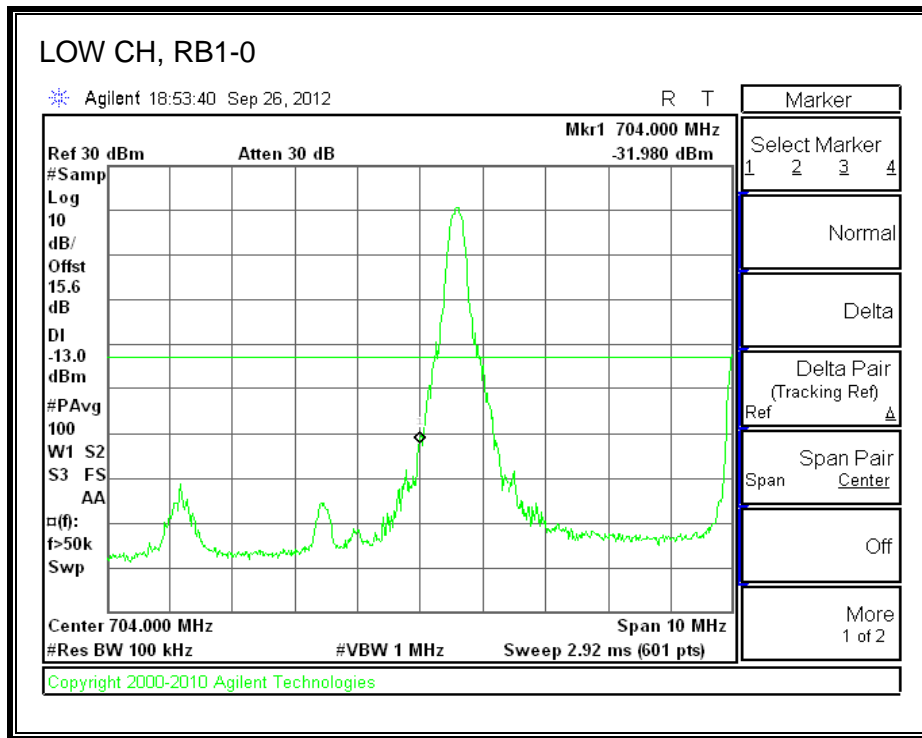


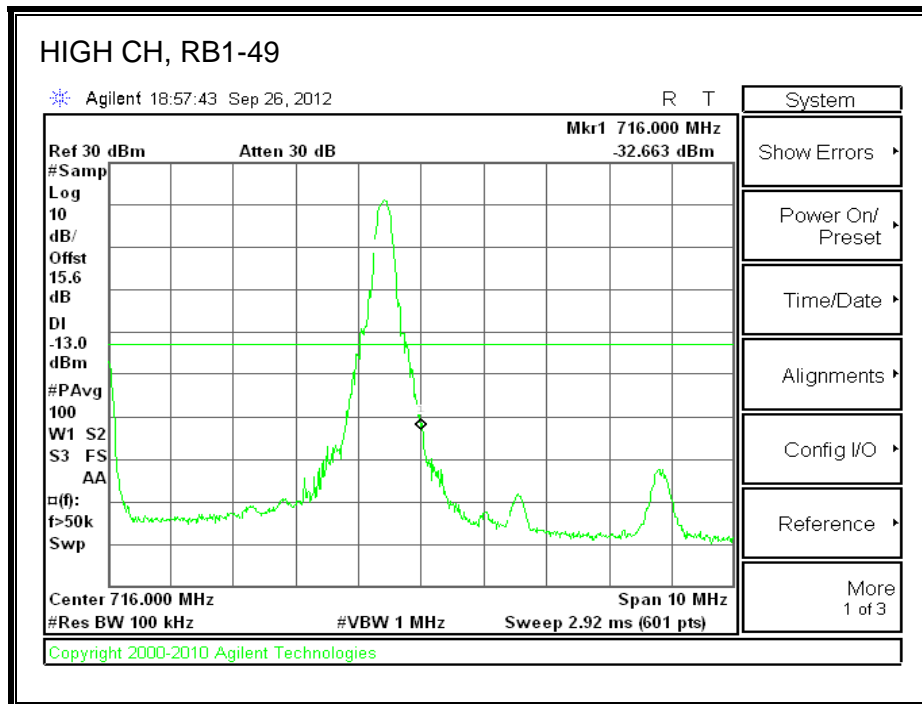
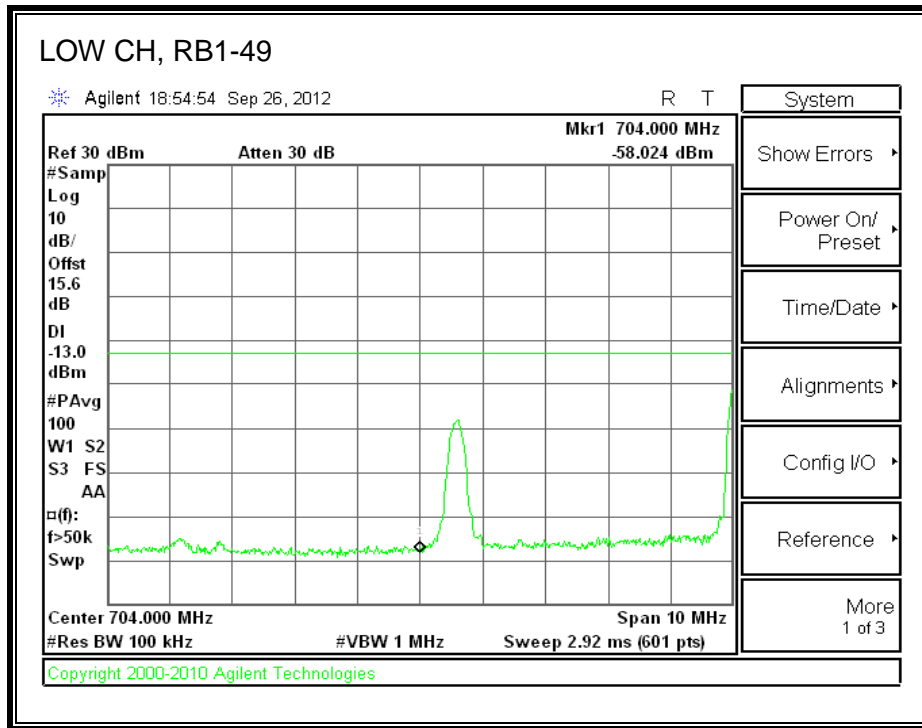


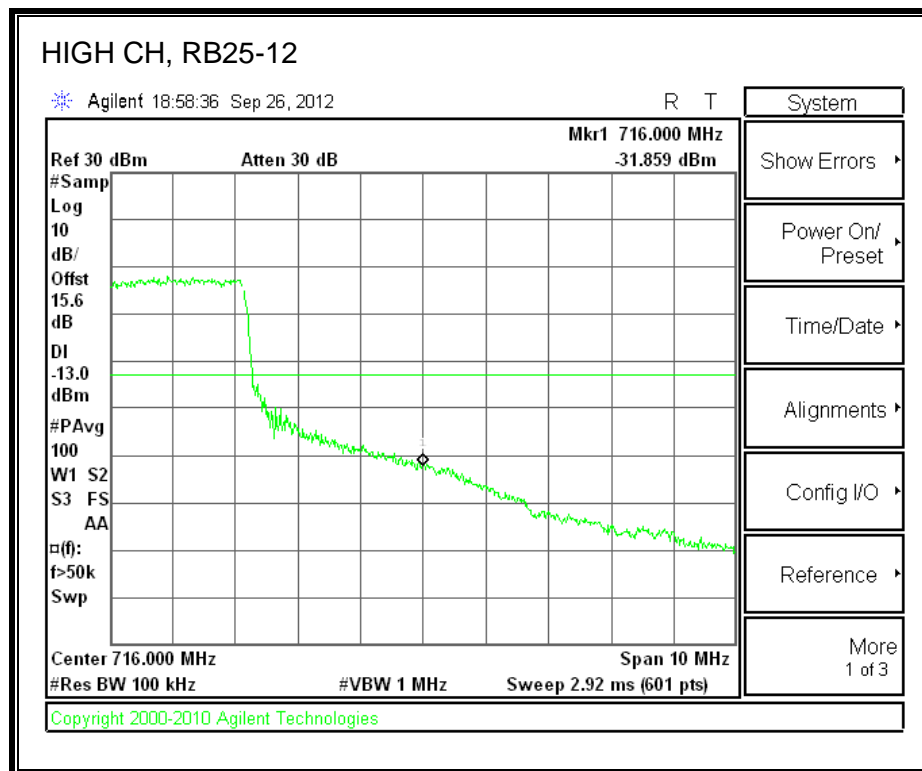
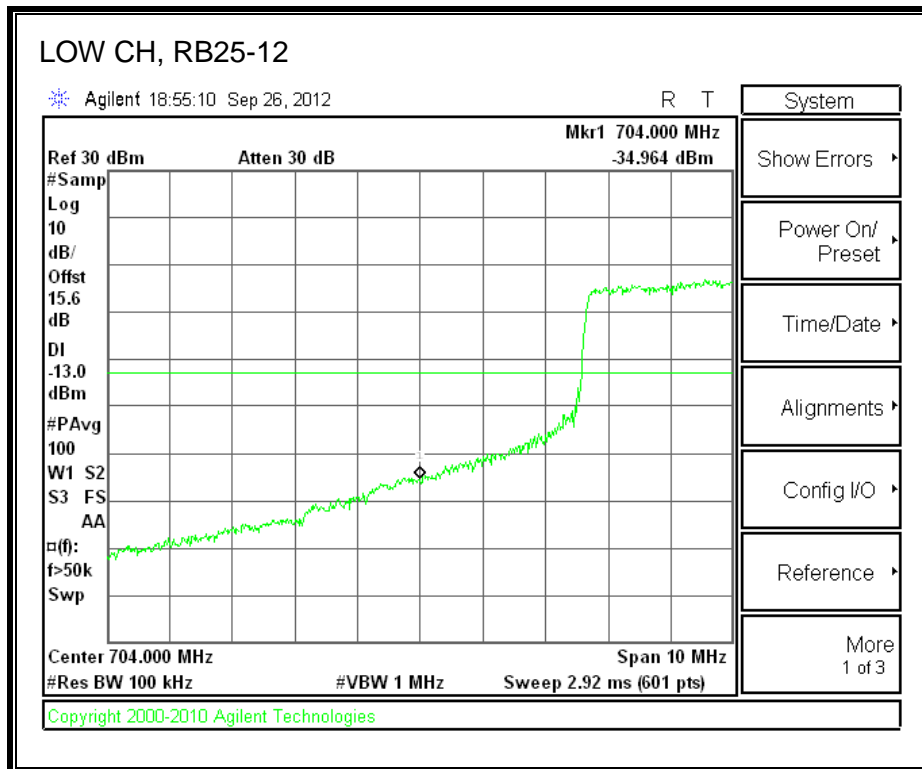


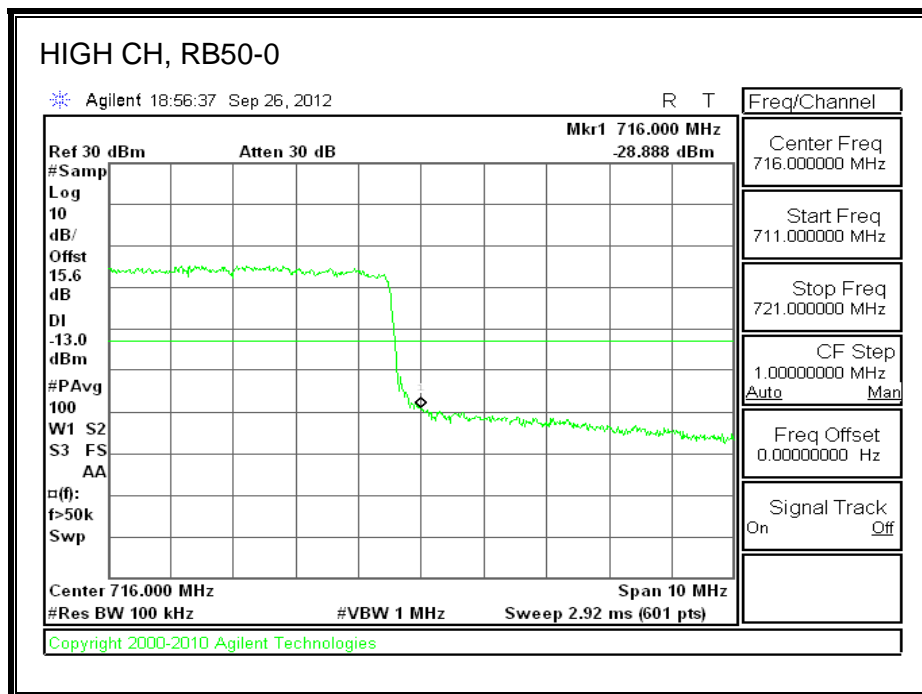
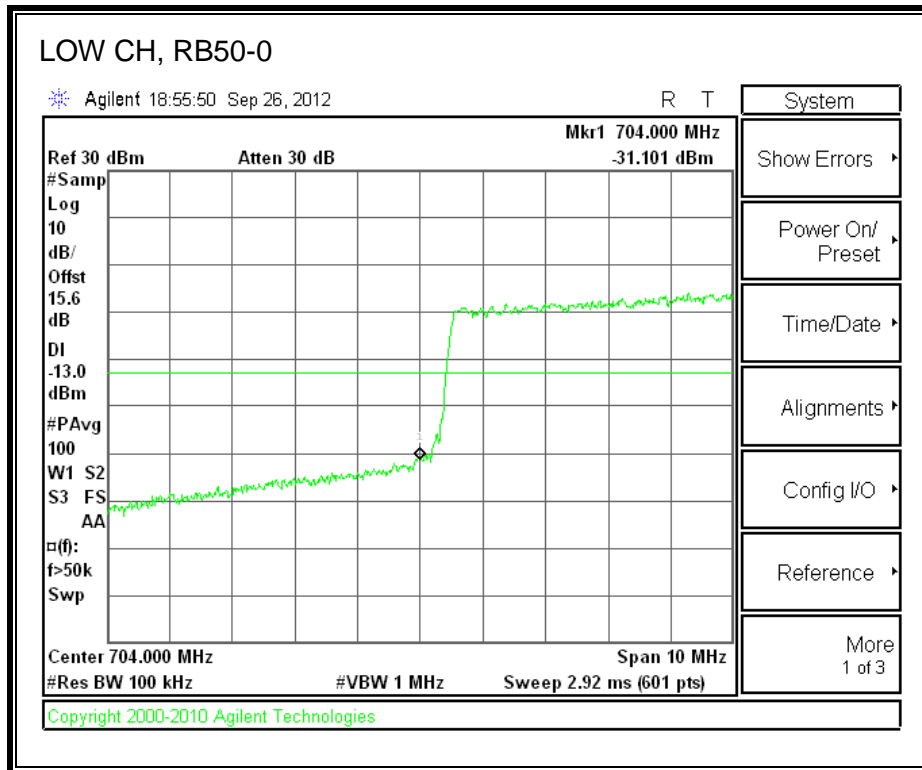


**16QAM Band 17 (10 MHz BANDWIDTH)**











### **8.3. OUT OF BAND EMISSIONS**

#### **RULE PART(S)**

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

#### **LIMITS**

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

#### **TEST PROCEDURE**

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

For each out of band emissions measurement:

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

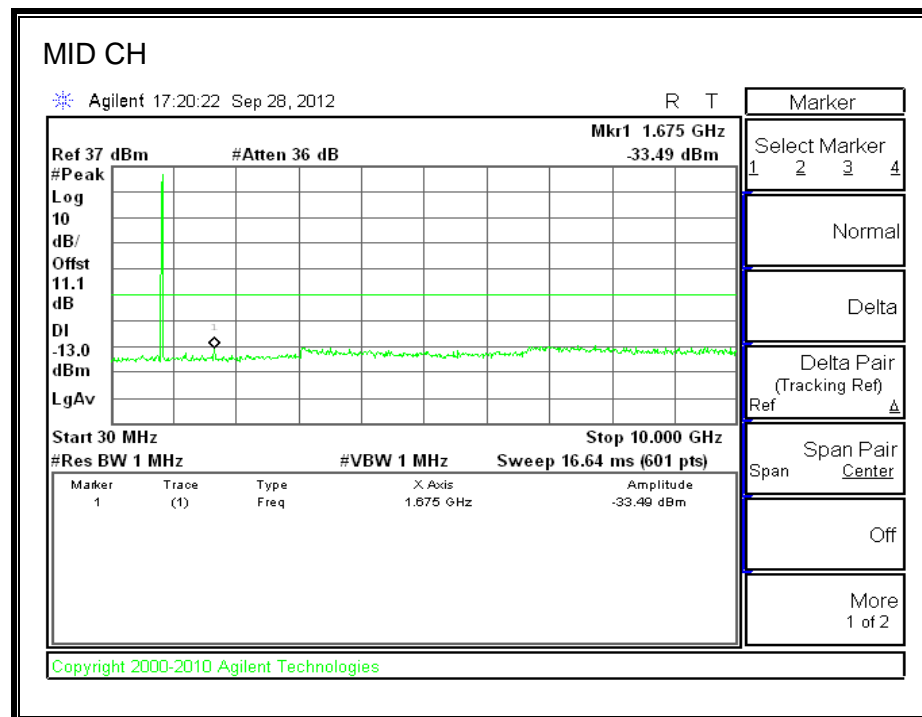
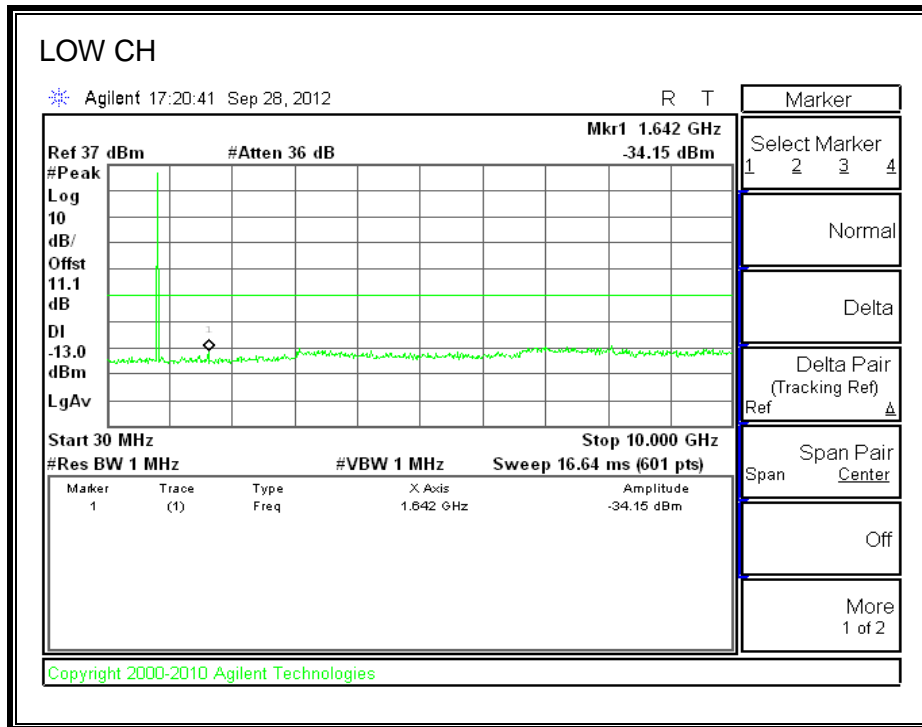
#### **MODES TESTED**

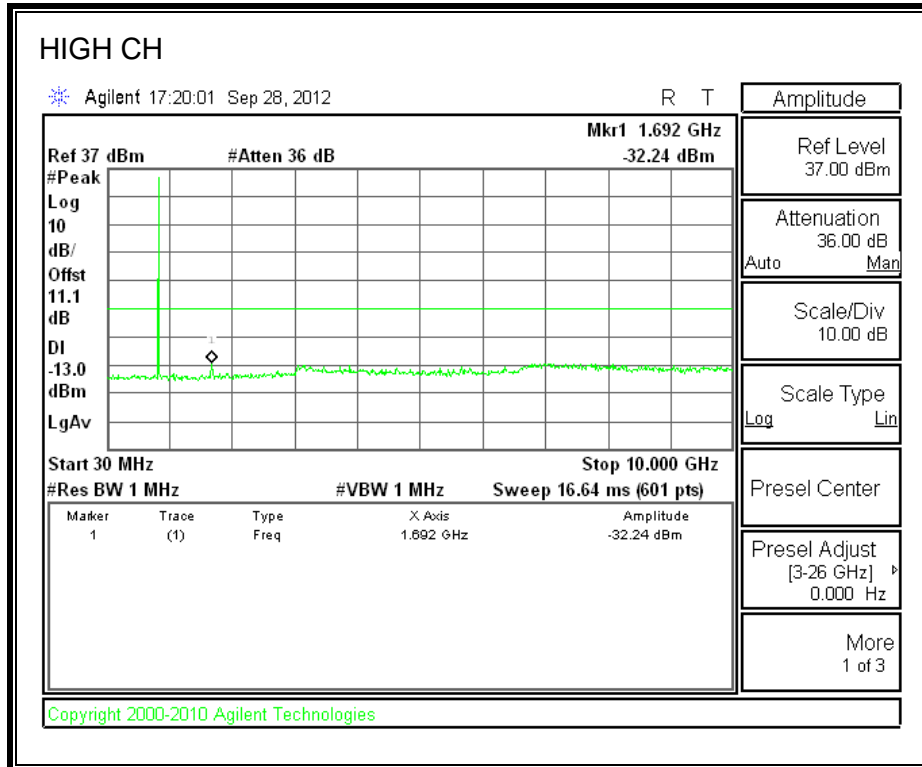
- GPRS and EGPRS
- UMTS, REL 99 and HSDPA
- LTE BAND 2
- LTE BAND 4
- LTE BAND 5
- LTE BAND 17

#### **RESULTS**

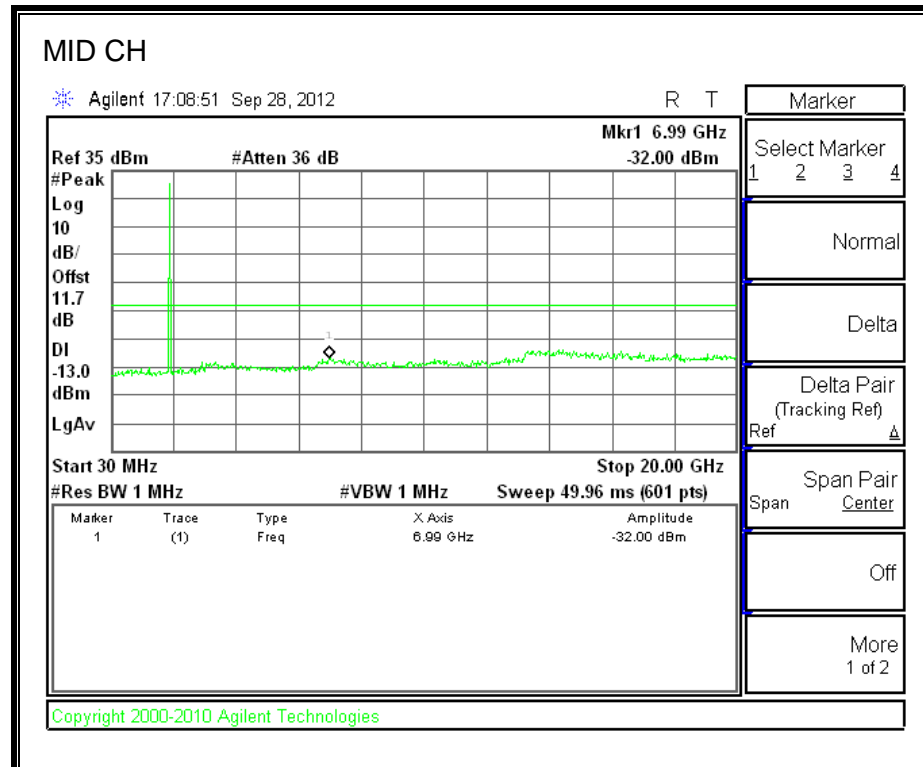
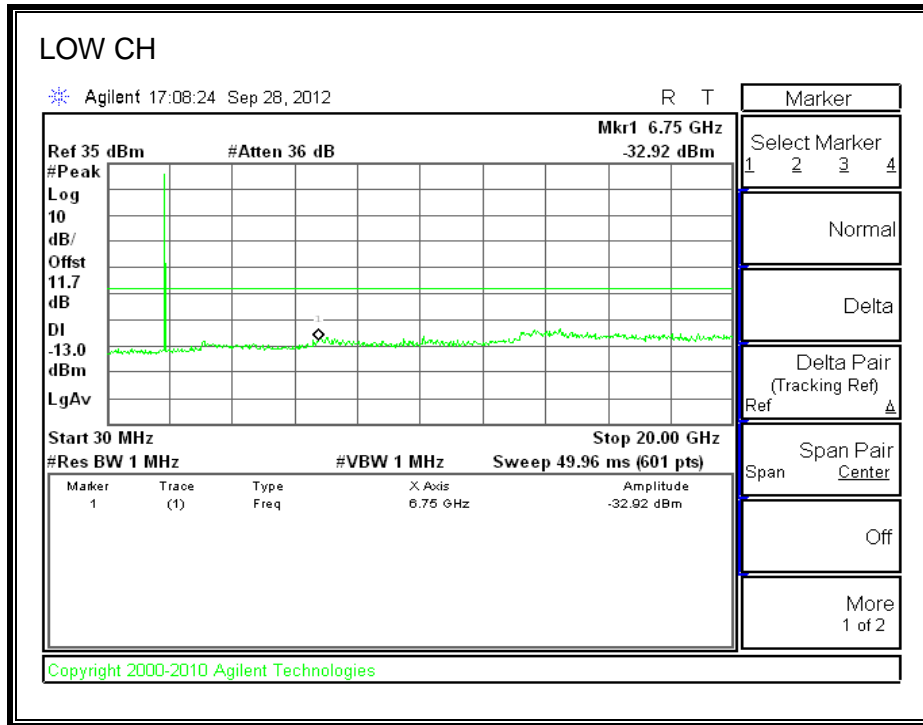
### 8.3.1. GSM

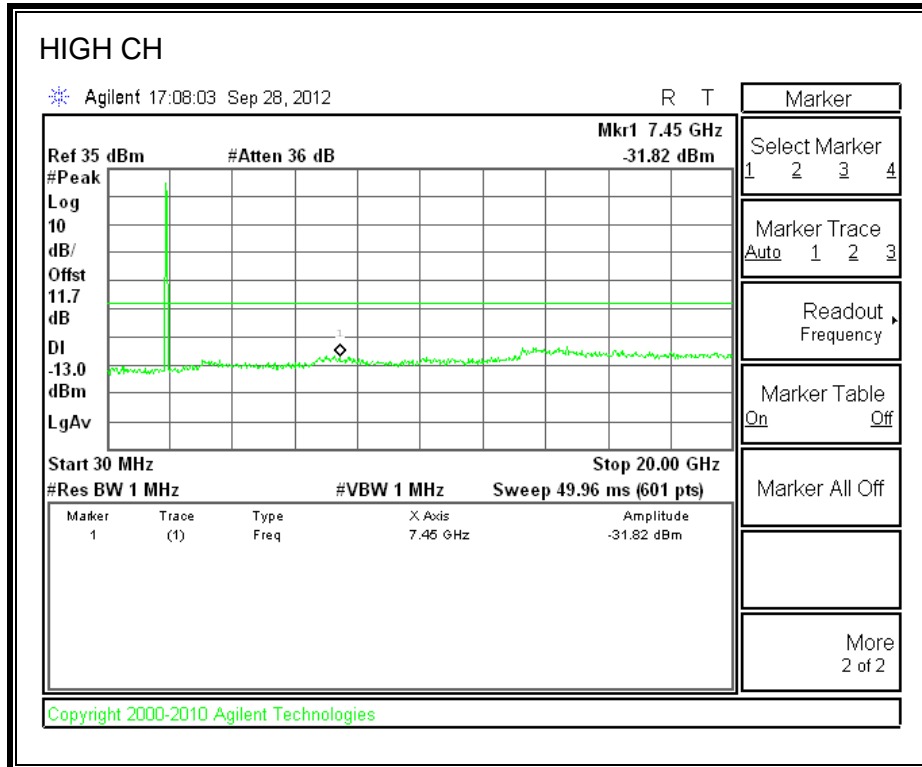
#### GPRS Mode (Cellular Band)



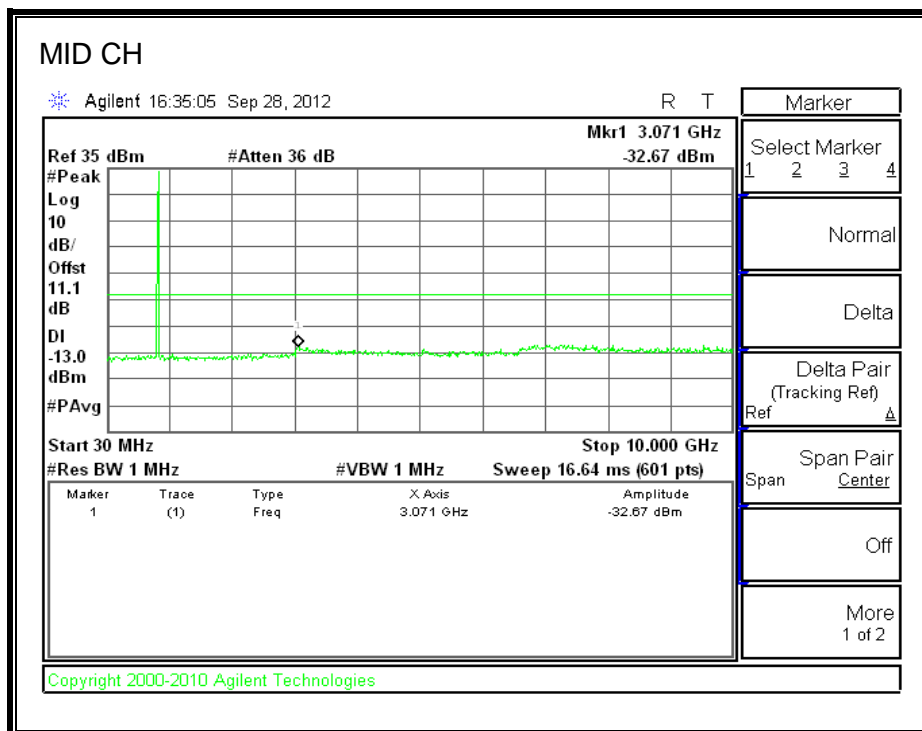
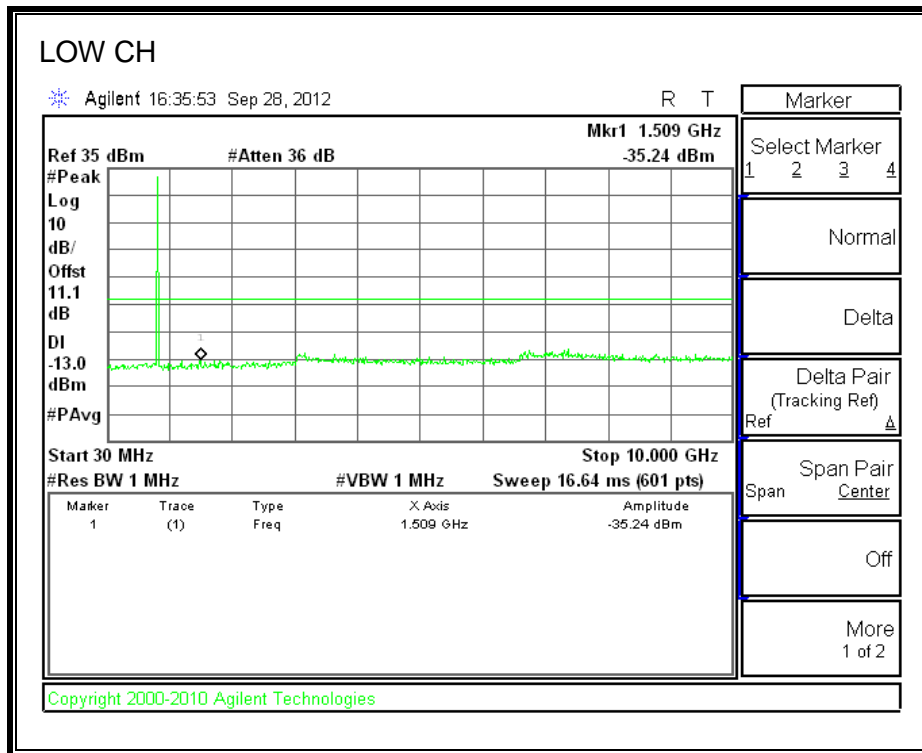


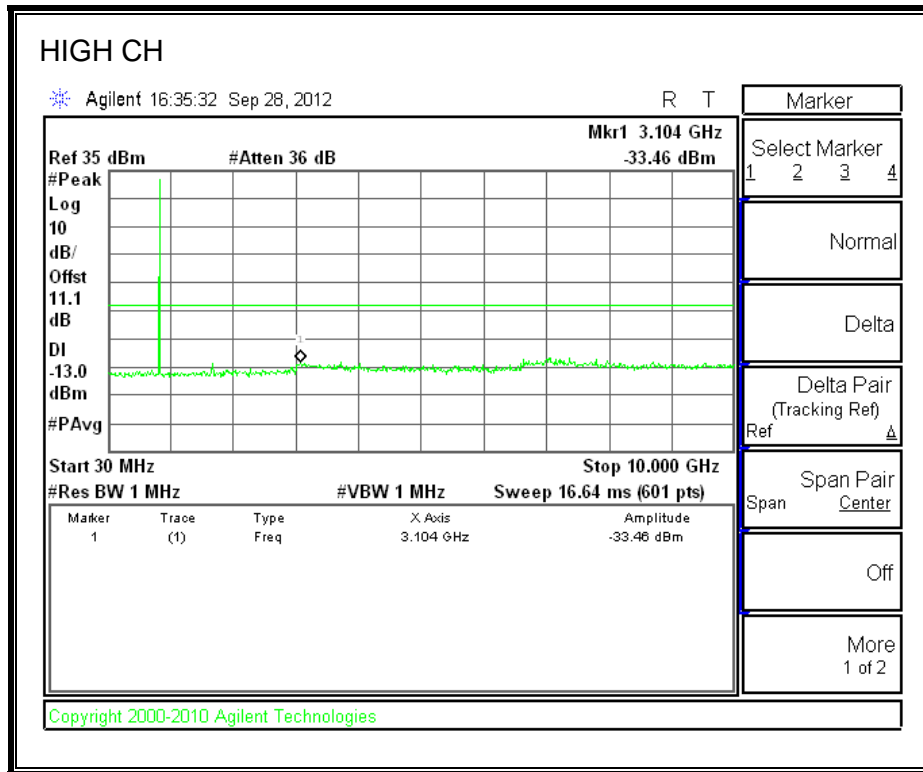
**GPRS PCS BAND**



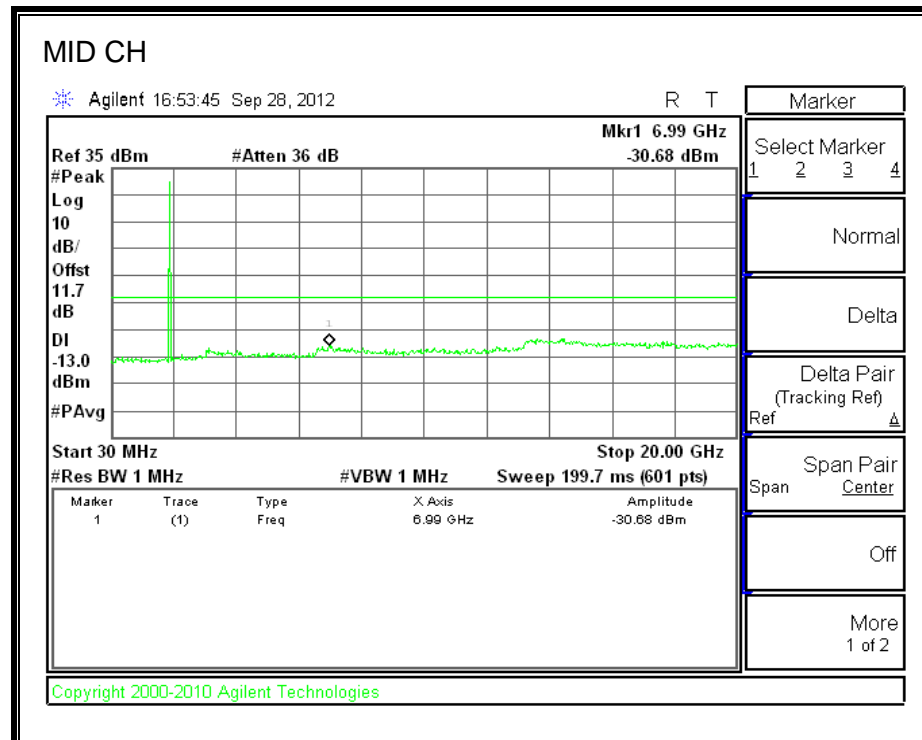
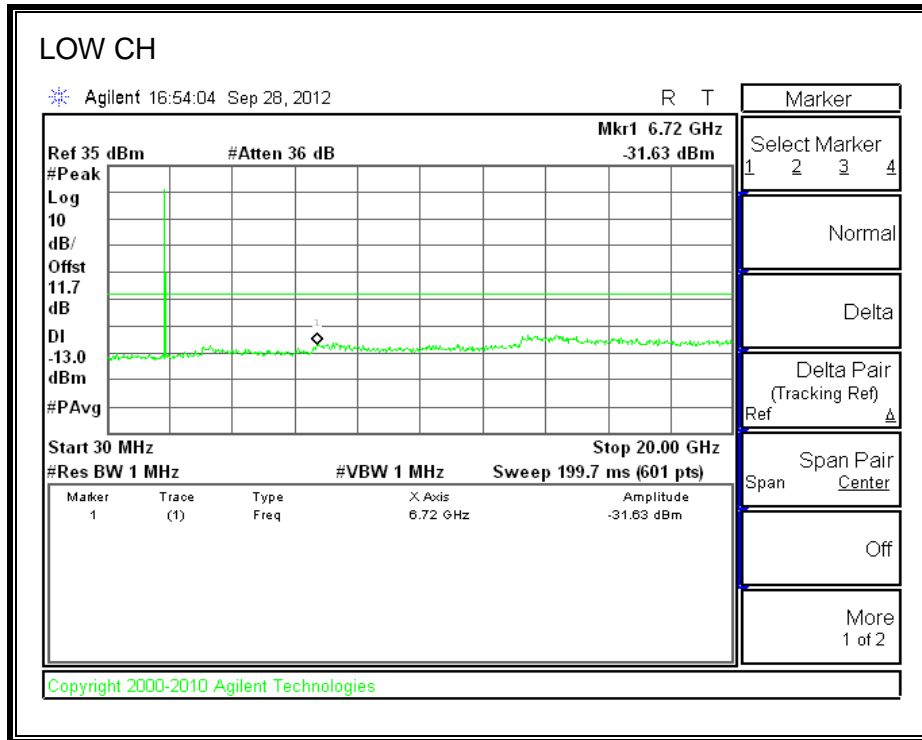


**EGPRS Mode (Cellular Band)**

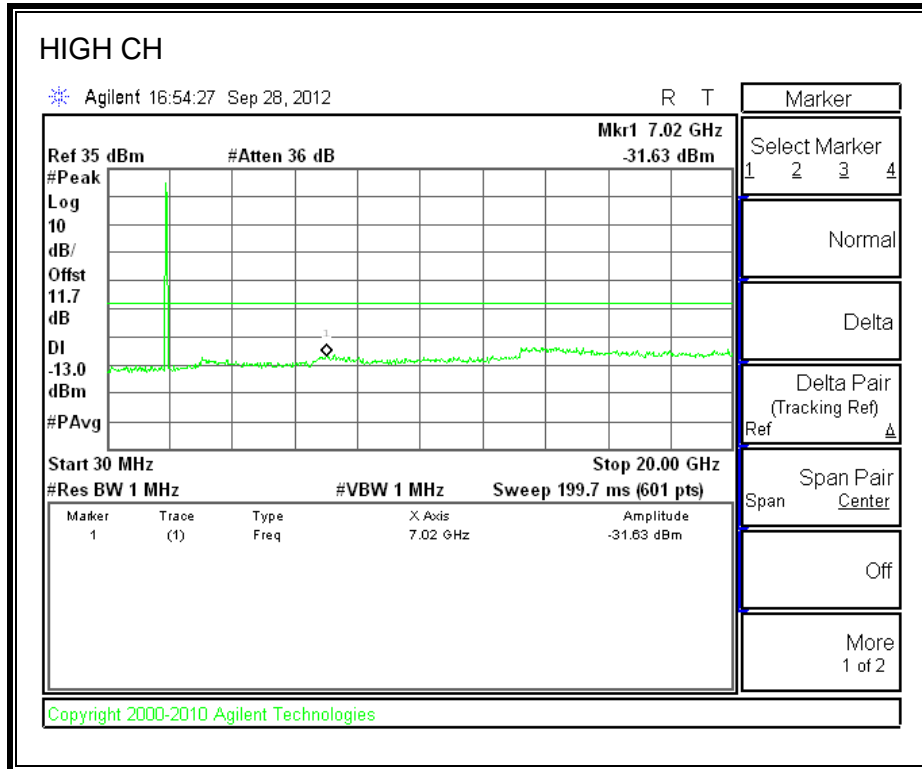




**EGPRS PCS Band**

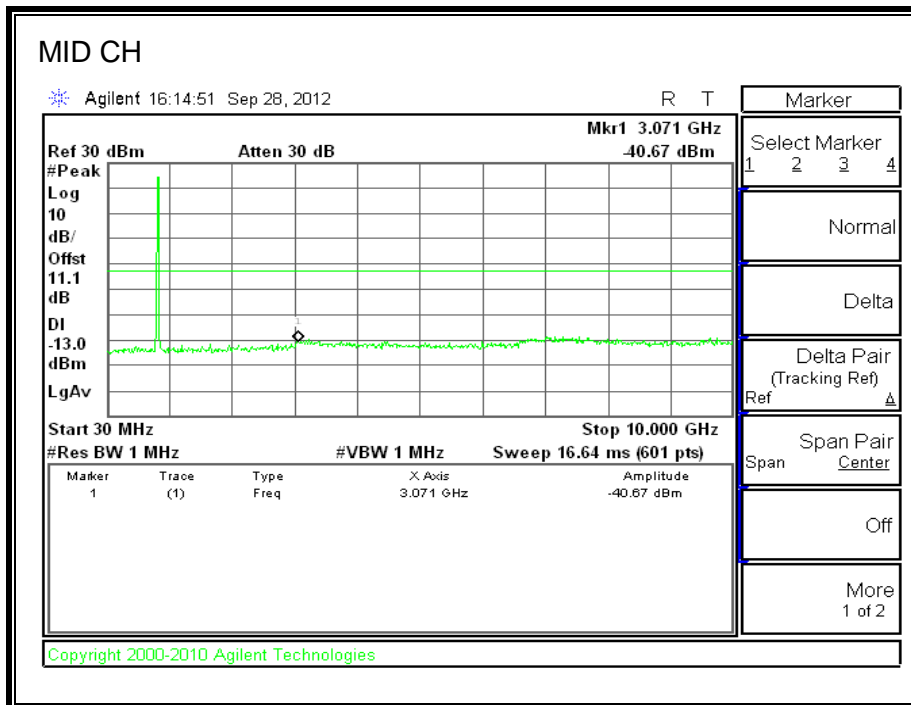
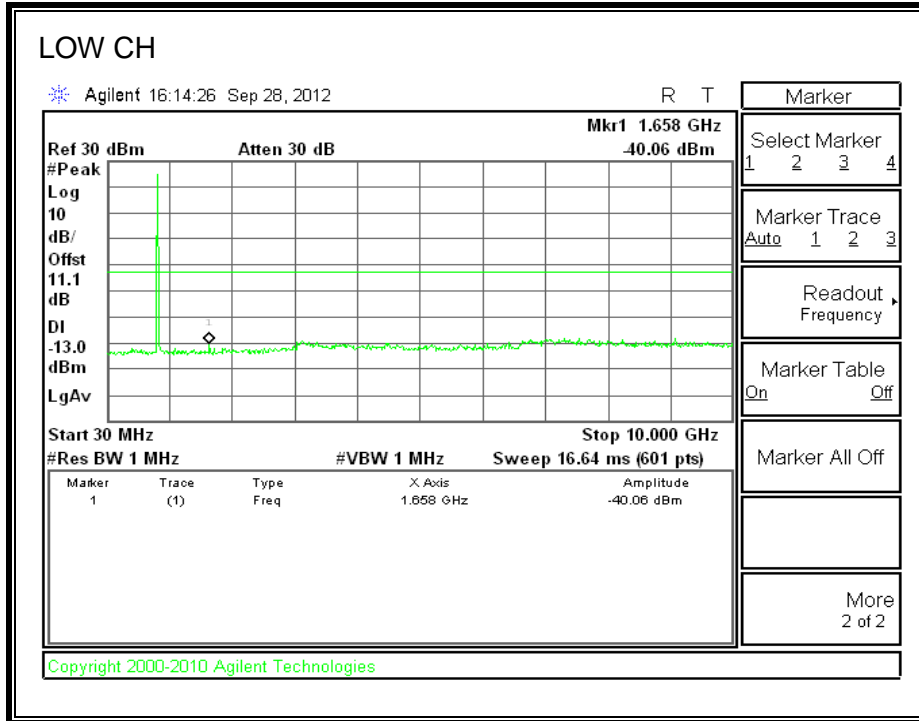


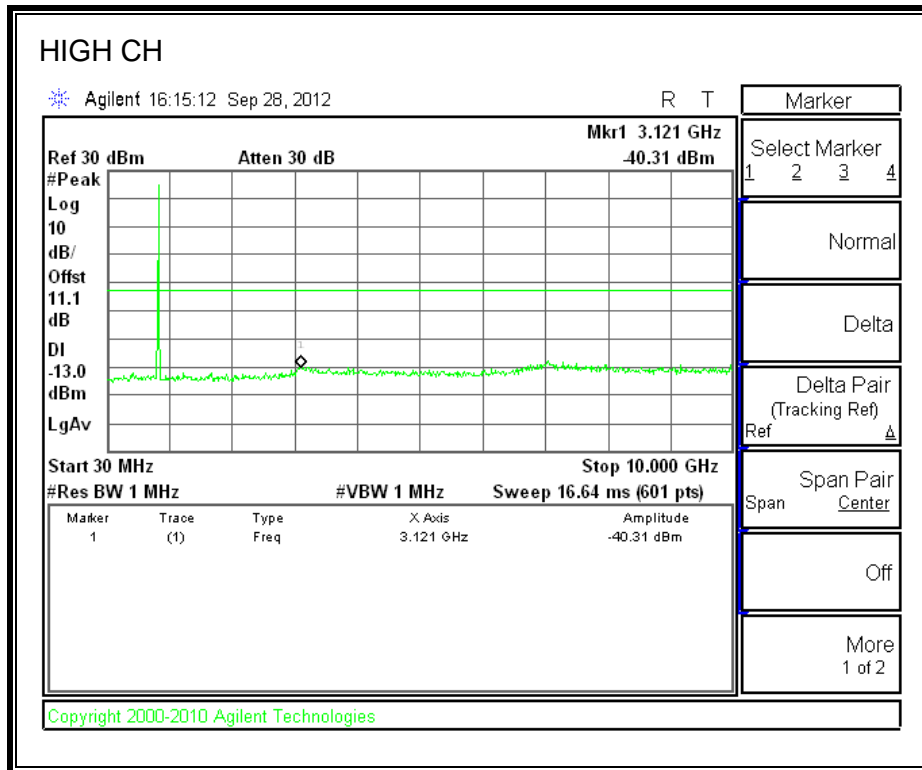




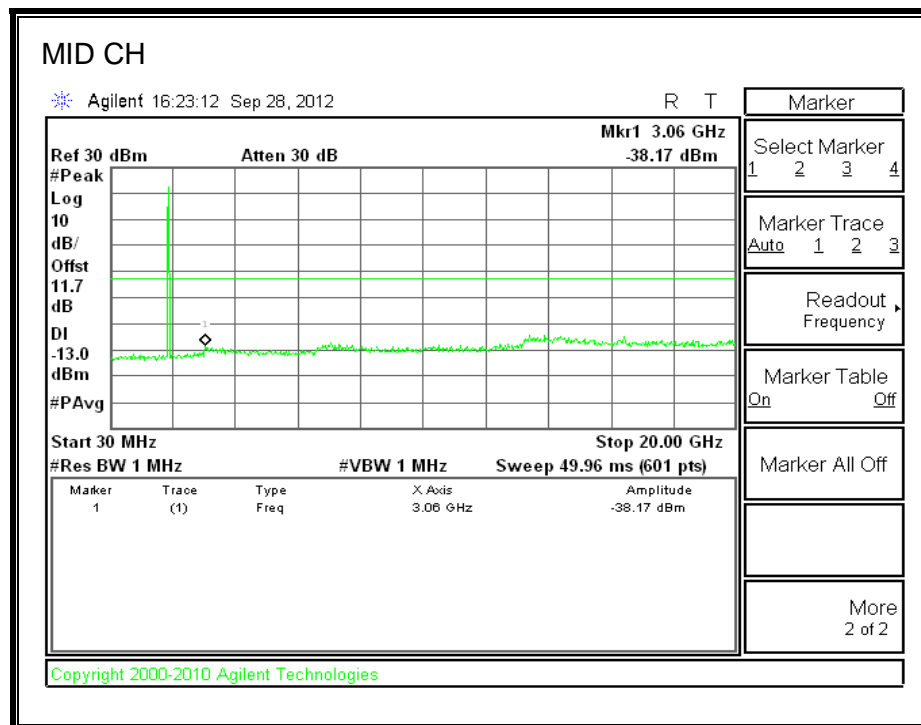
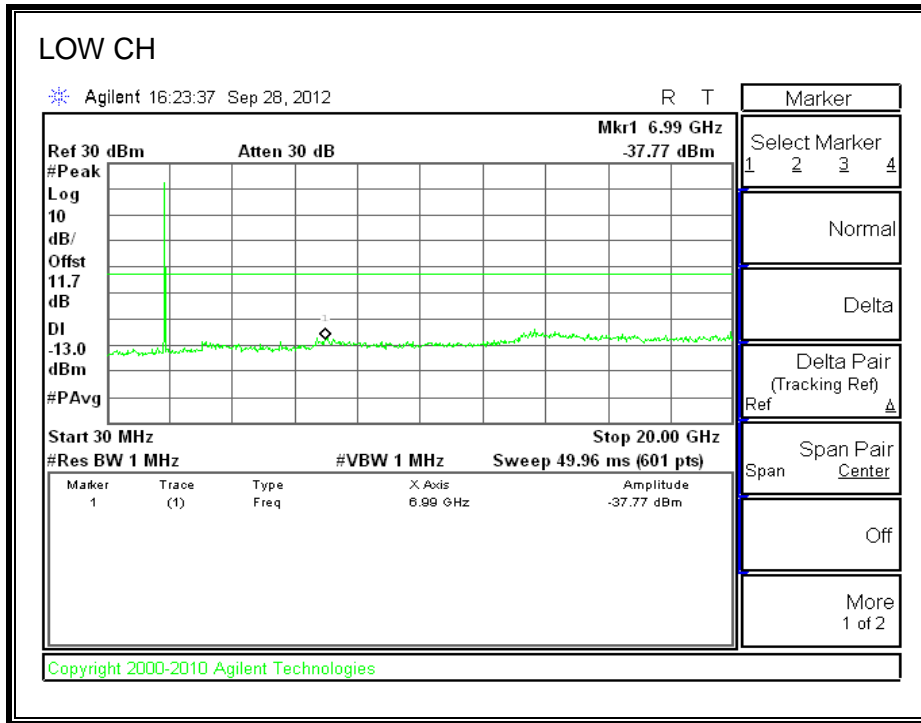
### 8.3.2. WCDMA

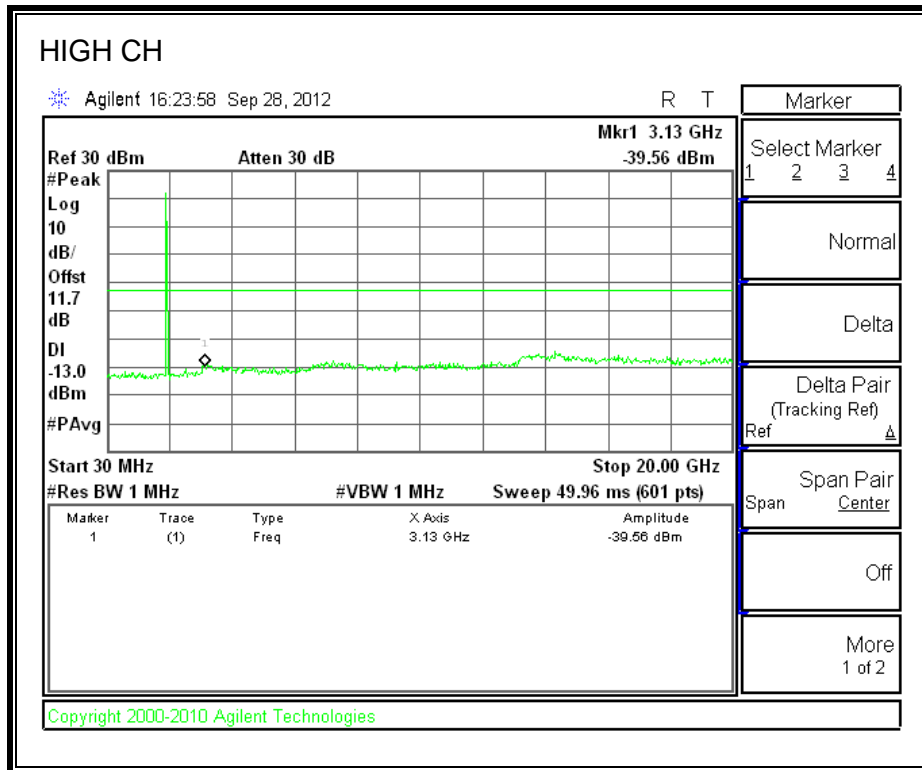
#### CELL BAND, REL 99



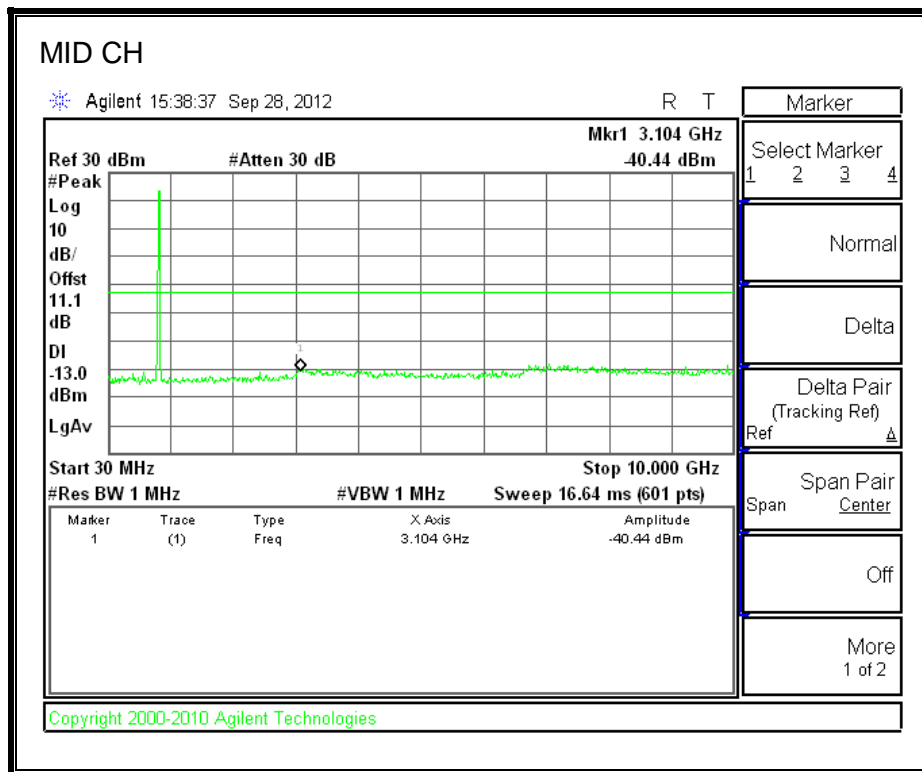
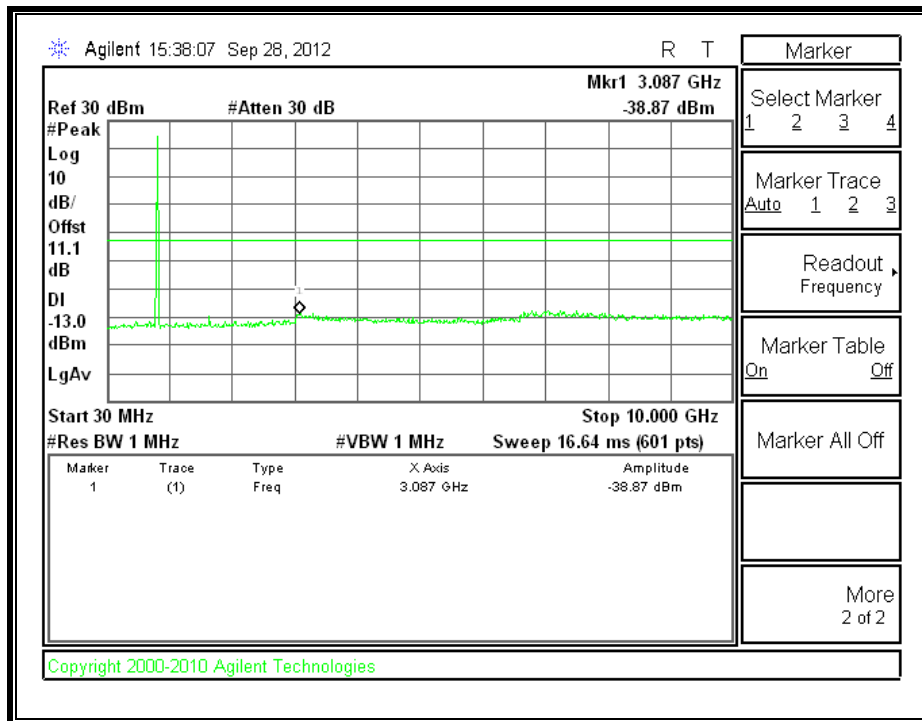


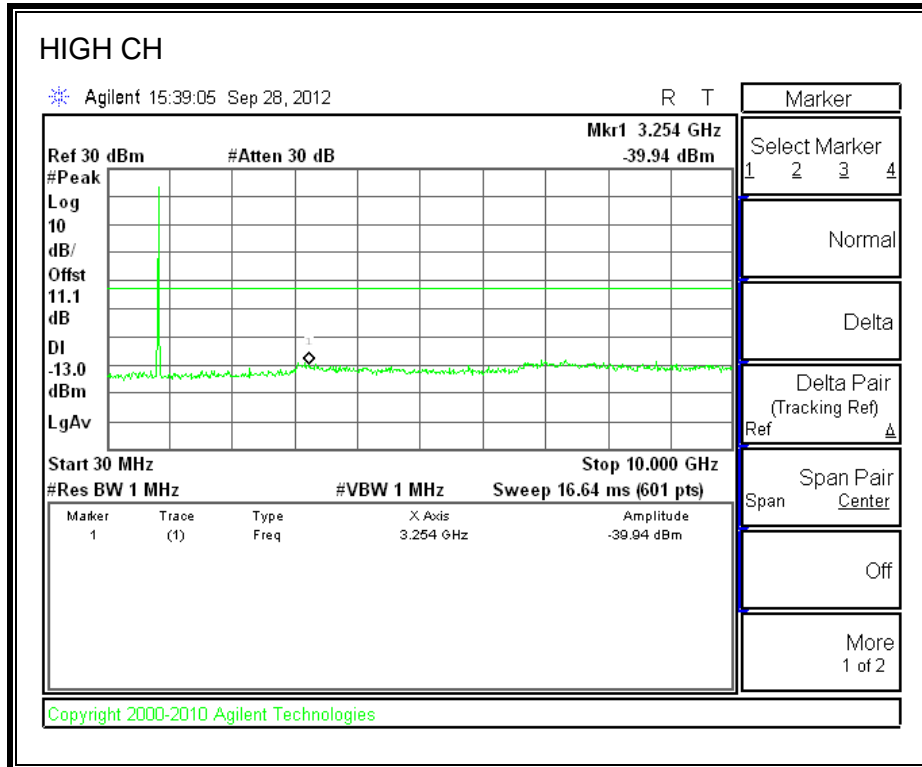
**PCS BAND, REL 99**



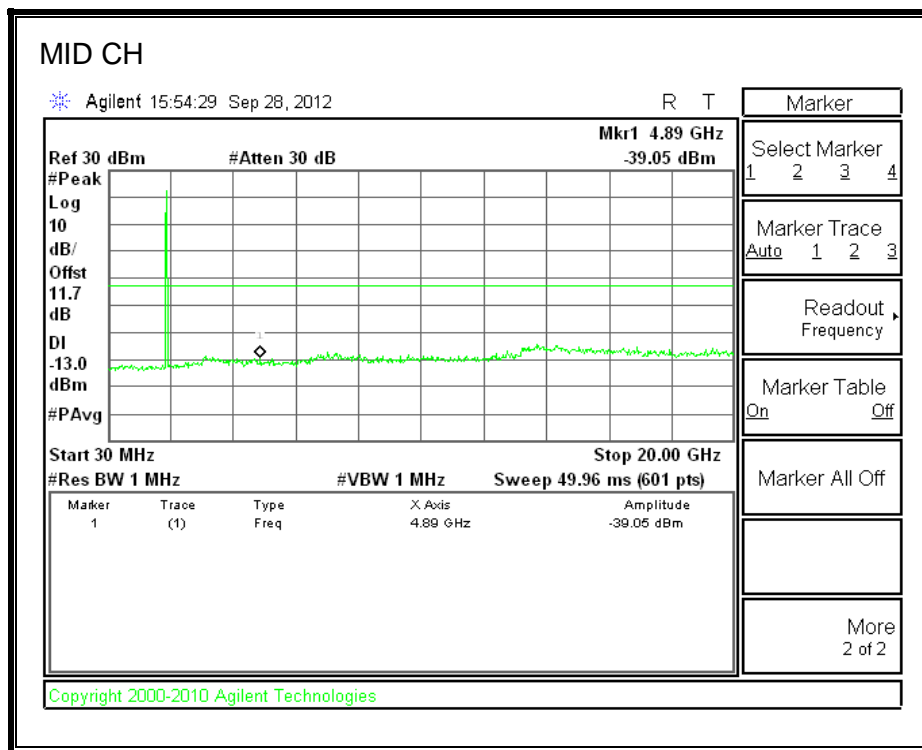
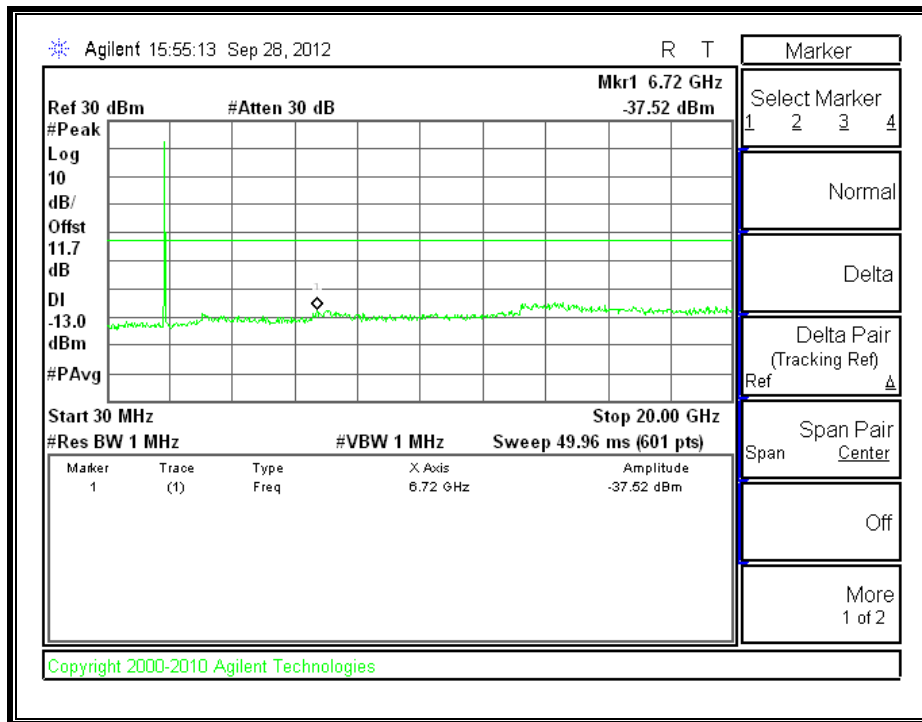


**CELL BAND, HSUPA,**

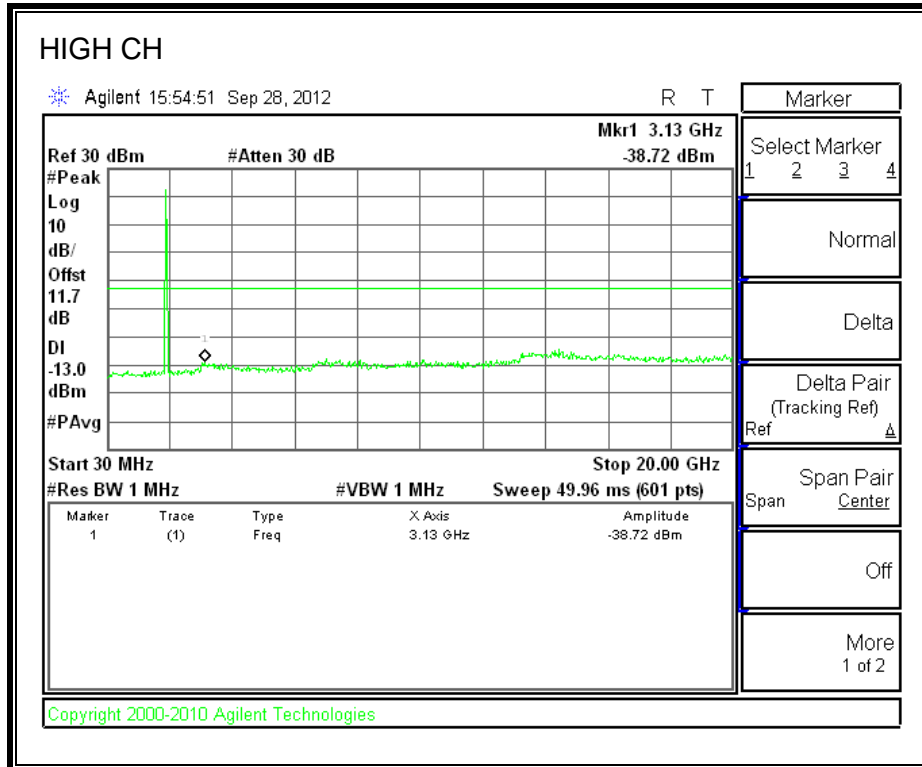




**PCS BAND, HSUPA**

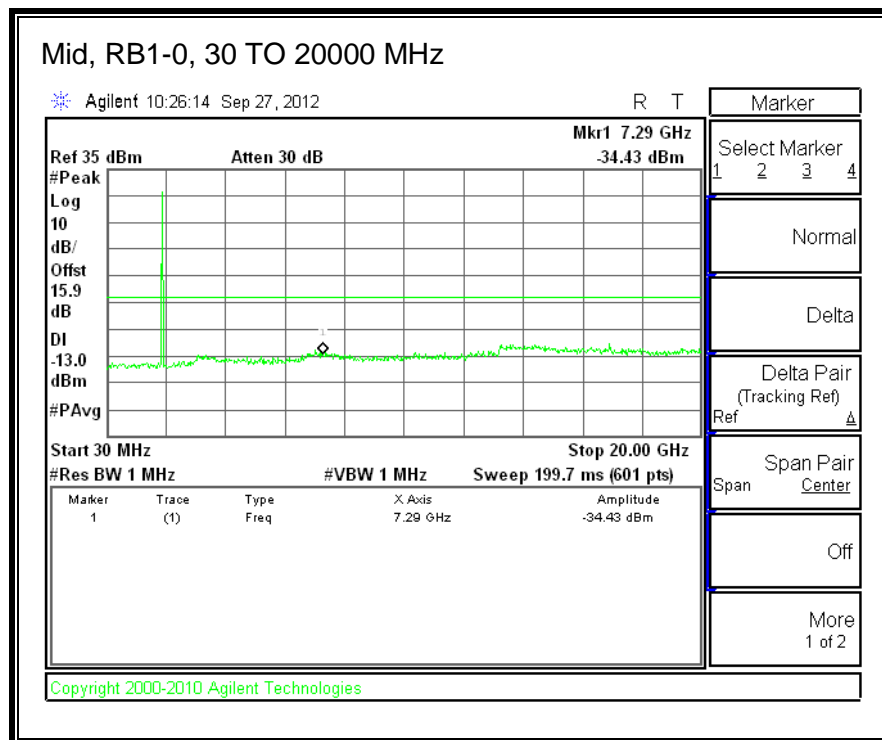
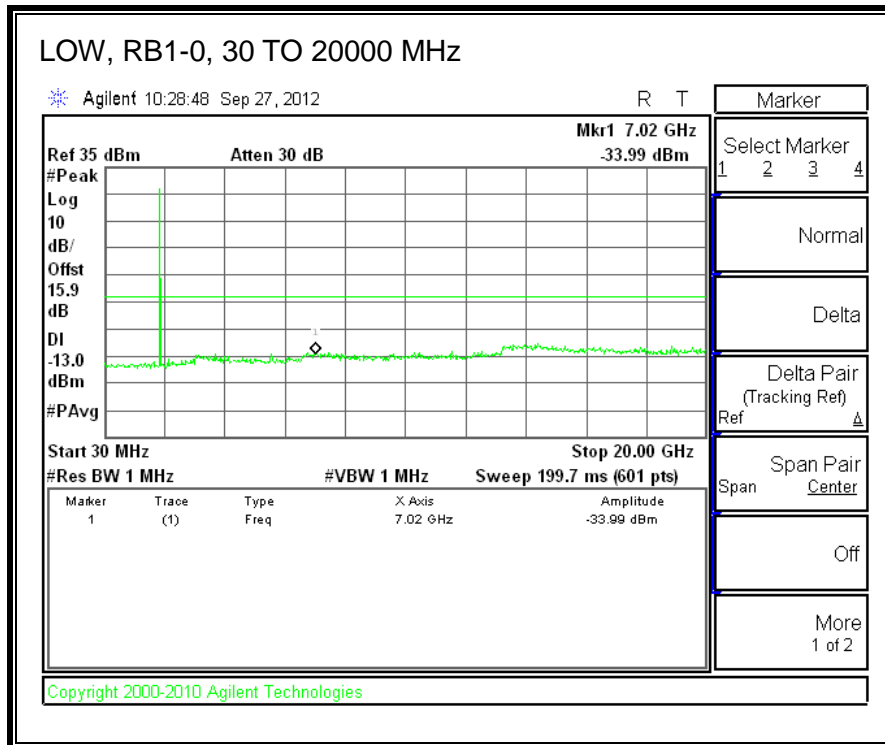


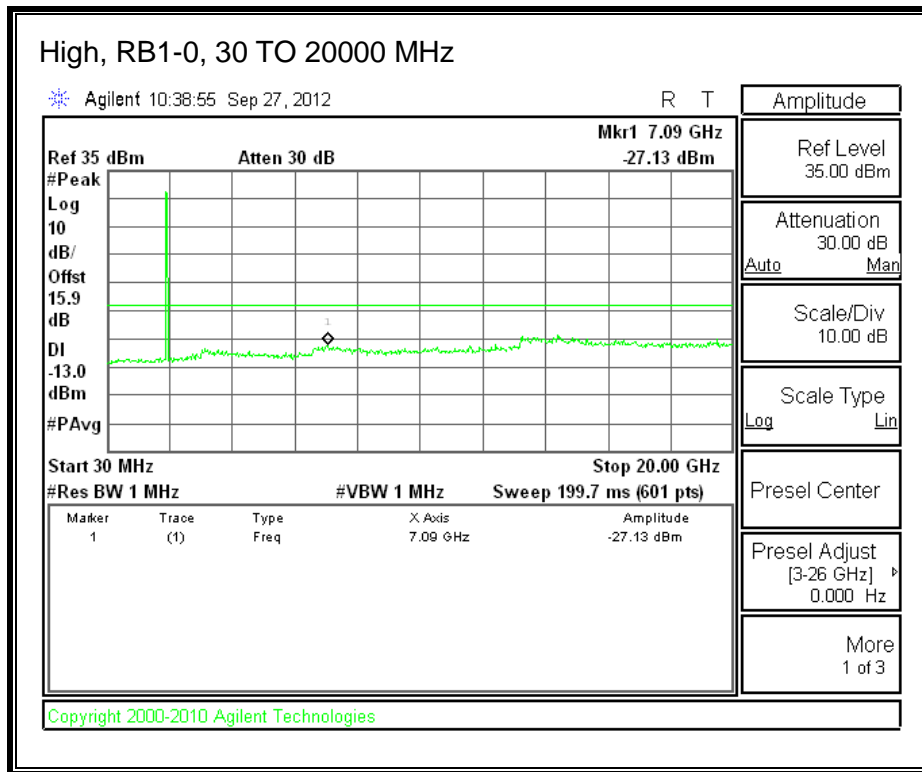




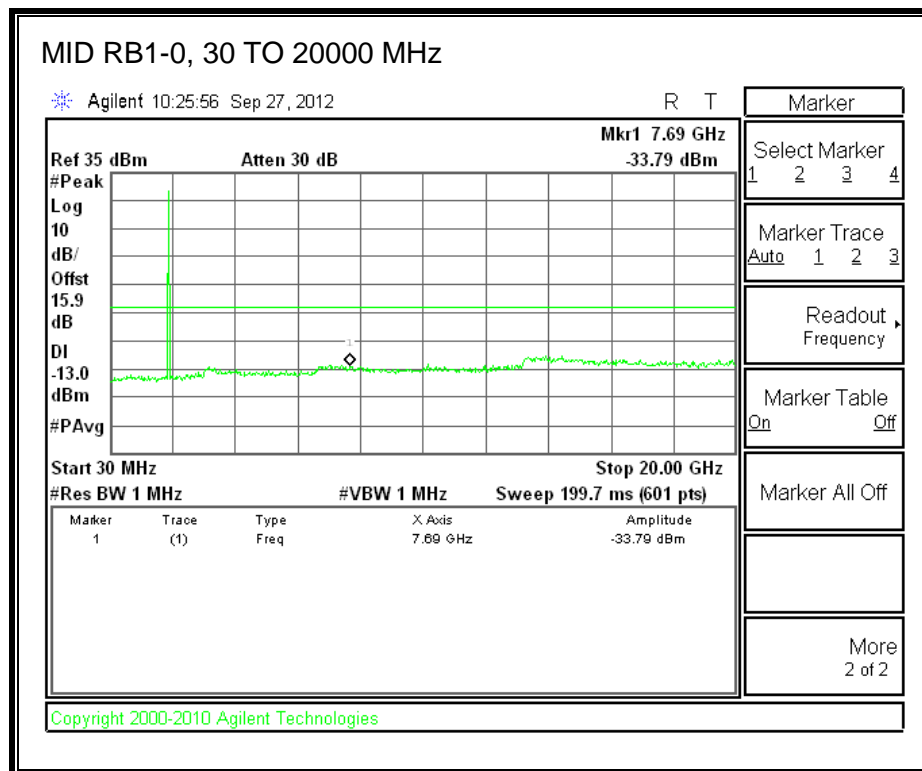
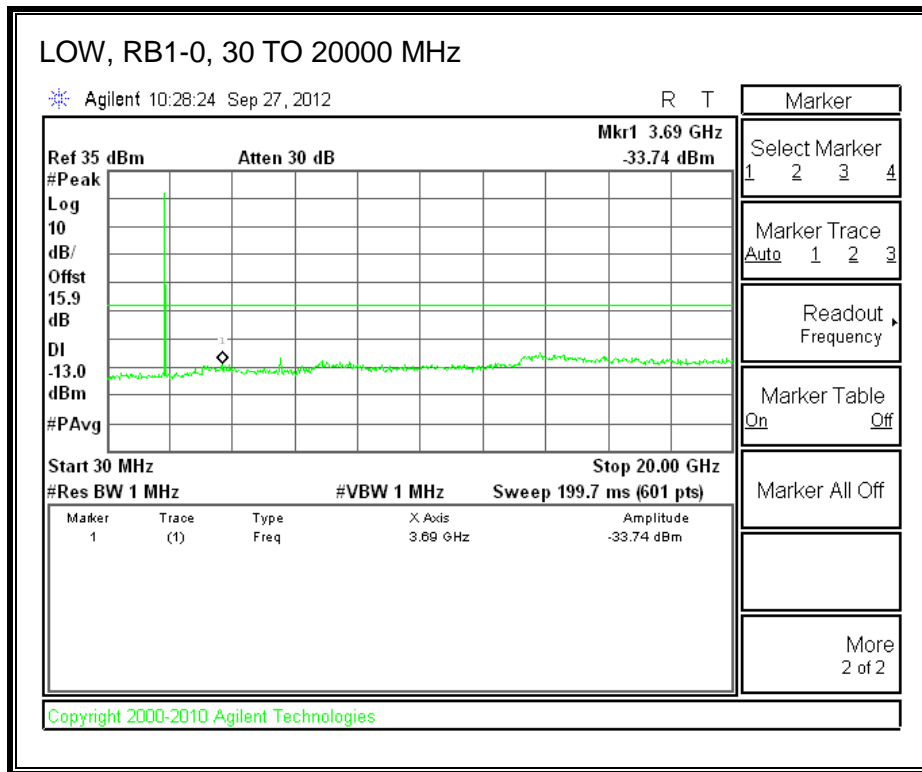
### 8.3.3. LTE BAND 2

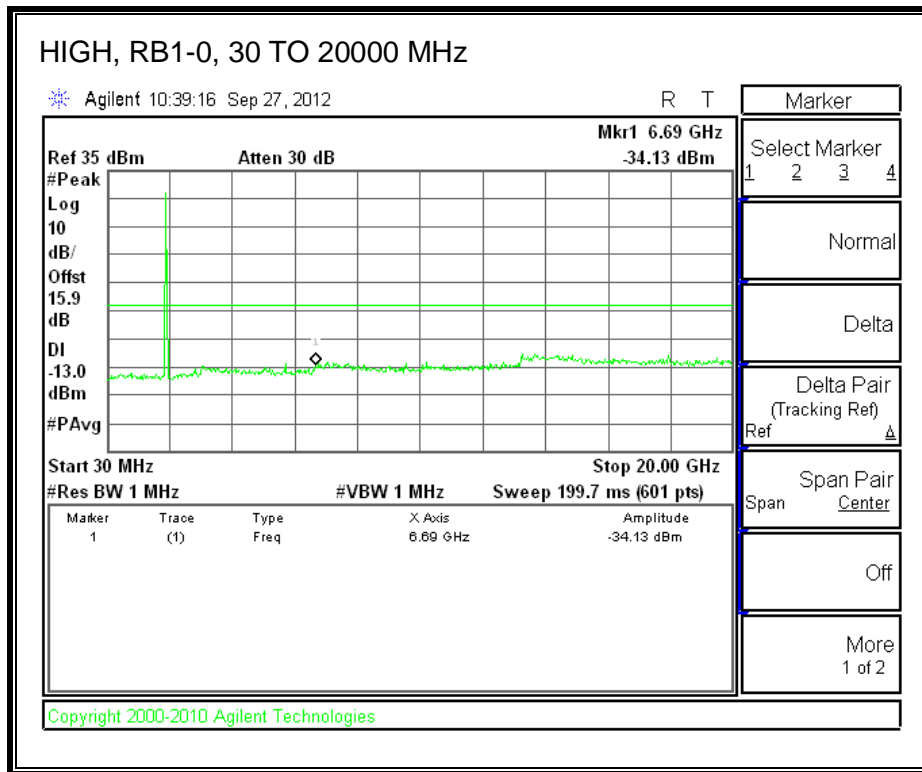
#### QPSK, 1.4 MHz BANDWIDTH



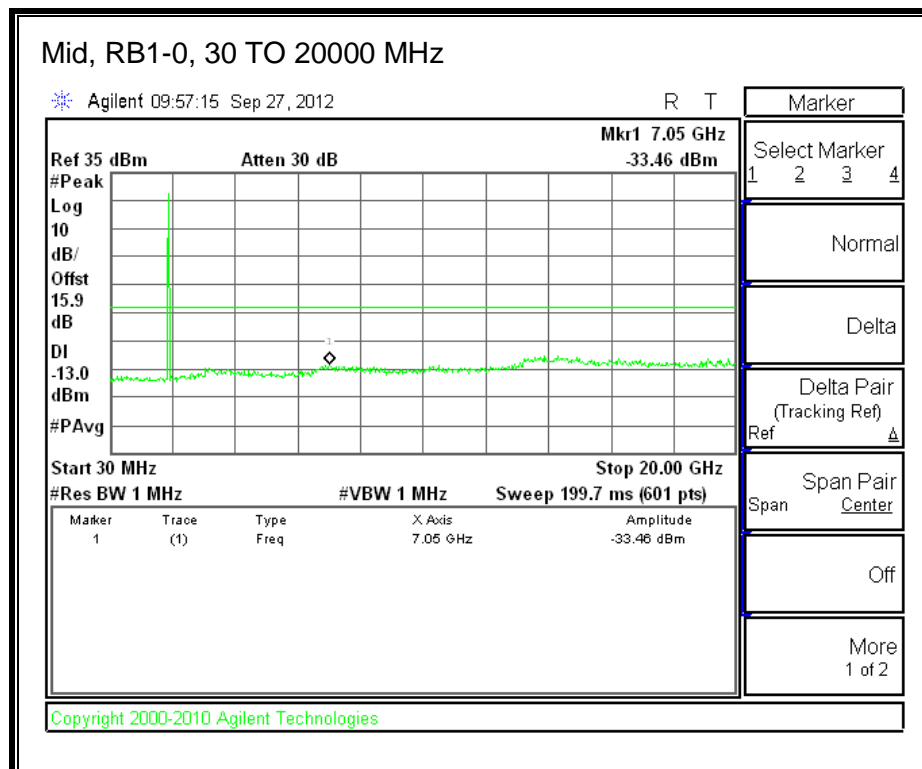
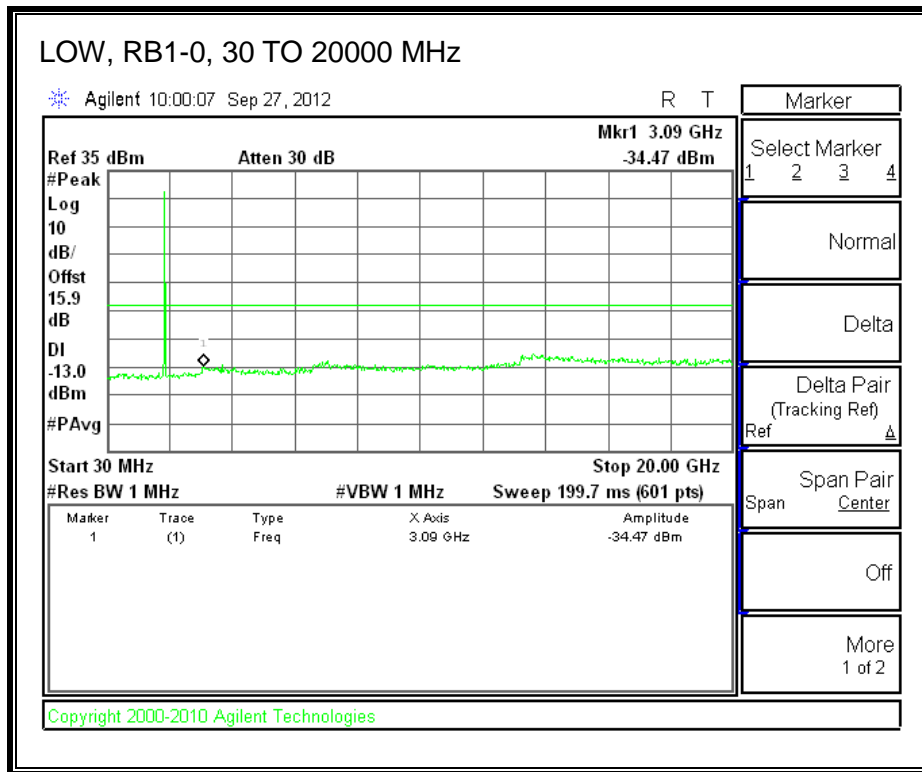


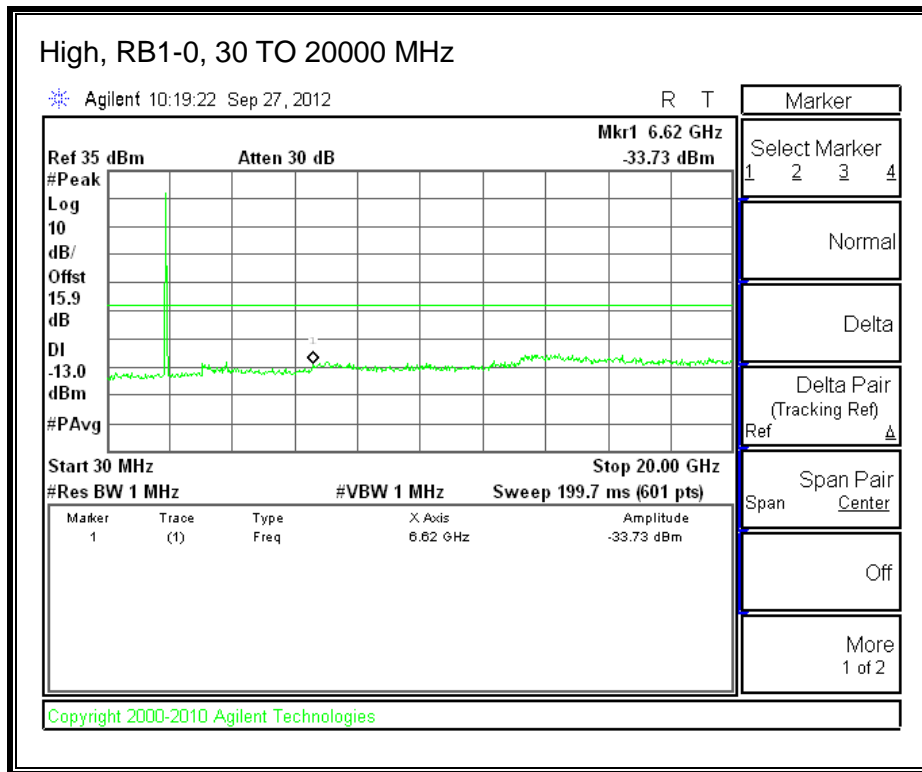
**16QAM**



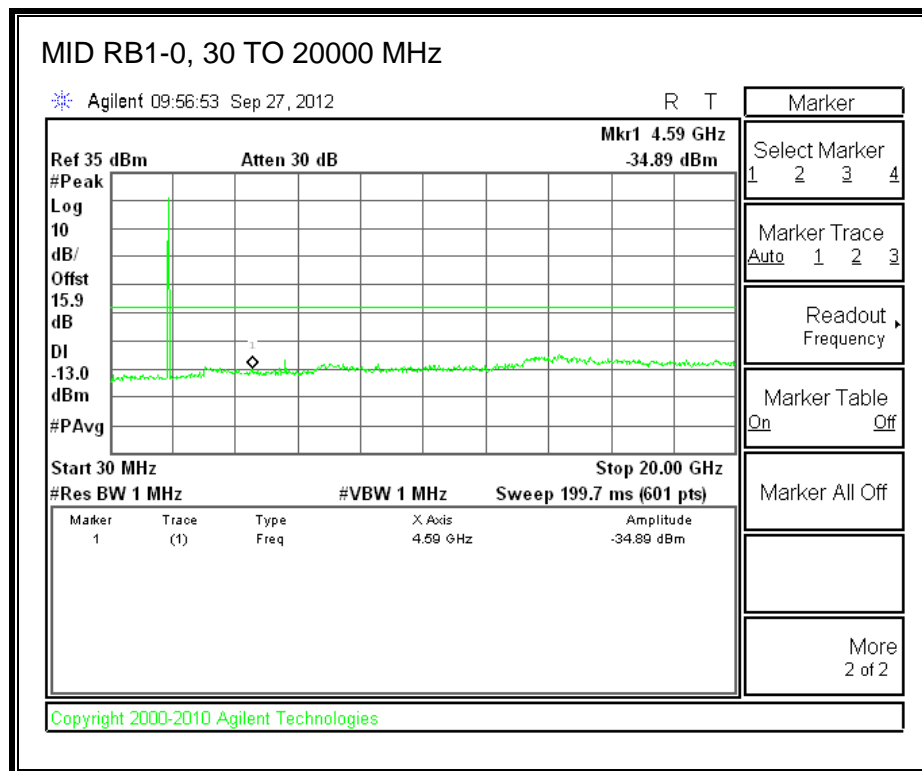
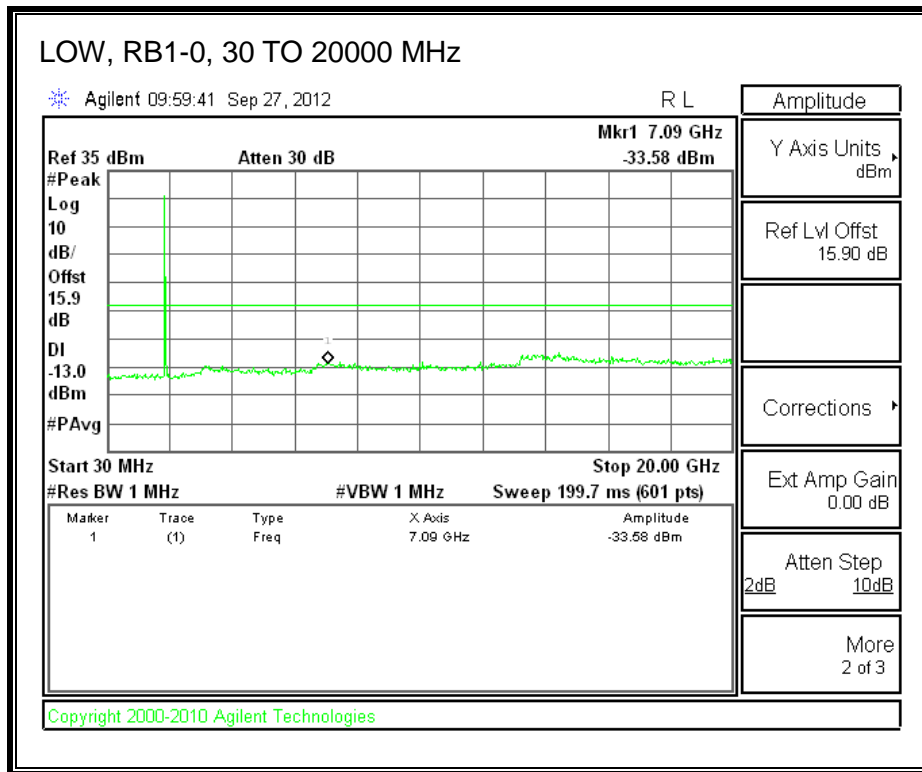


**QPSK, 3 MHz BANDWIDTH**

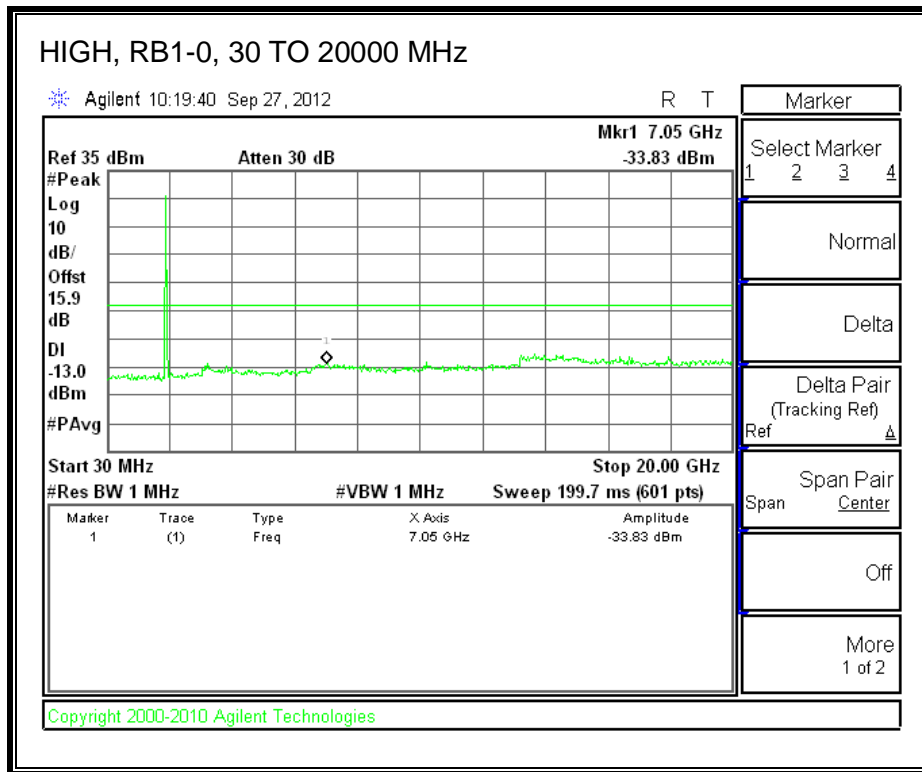




**16QAM**

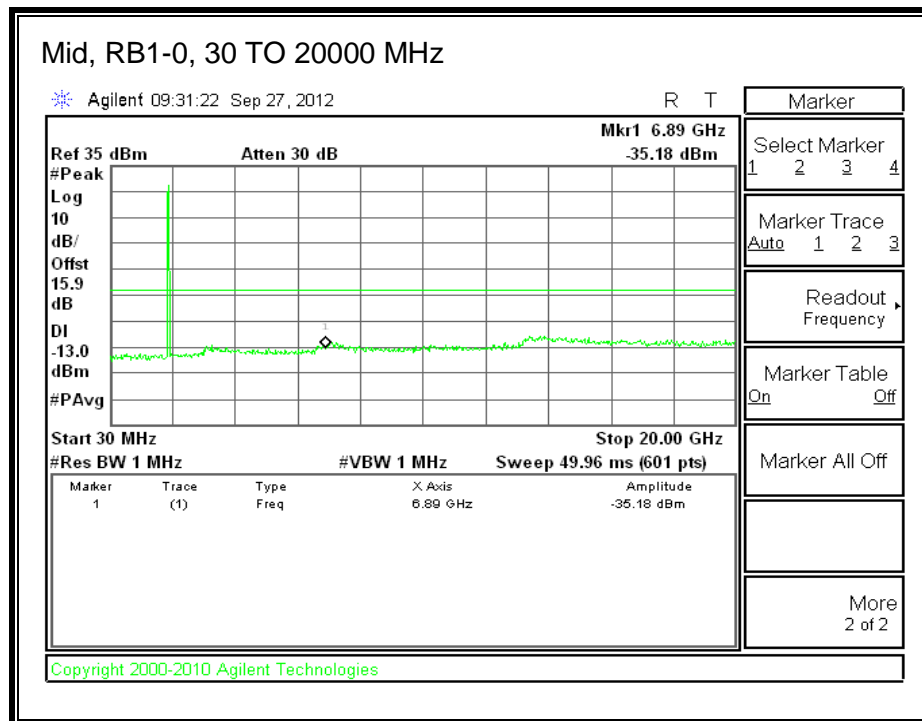
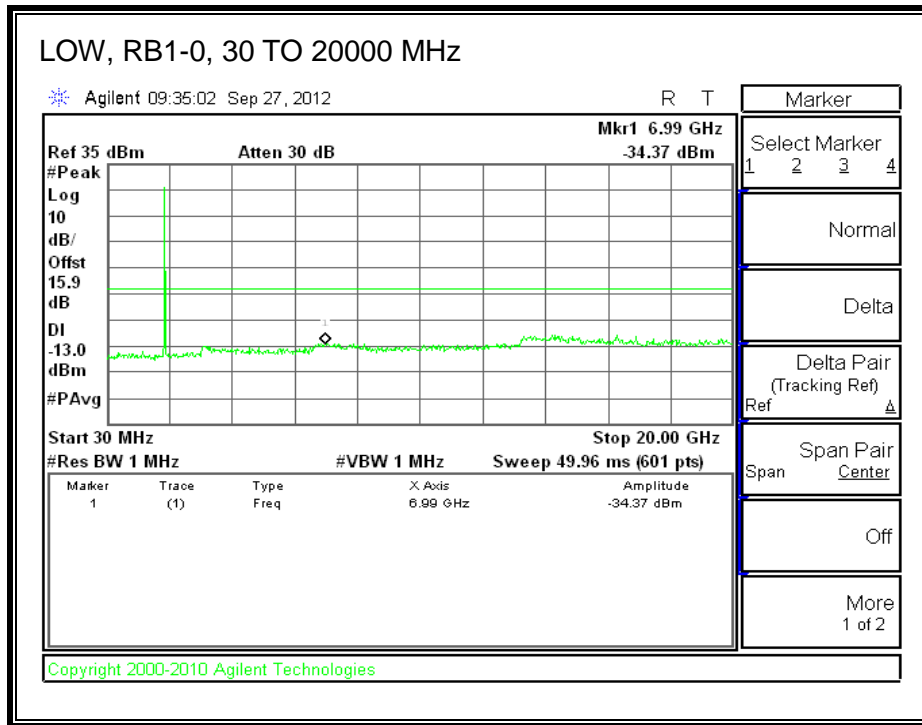


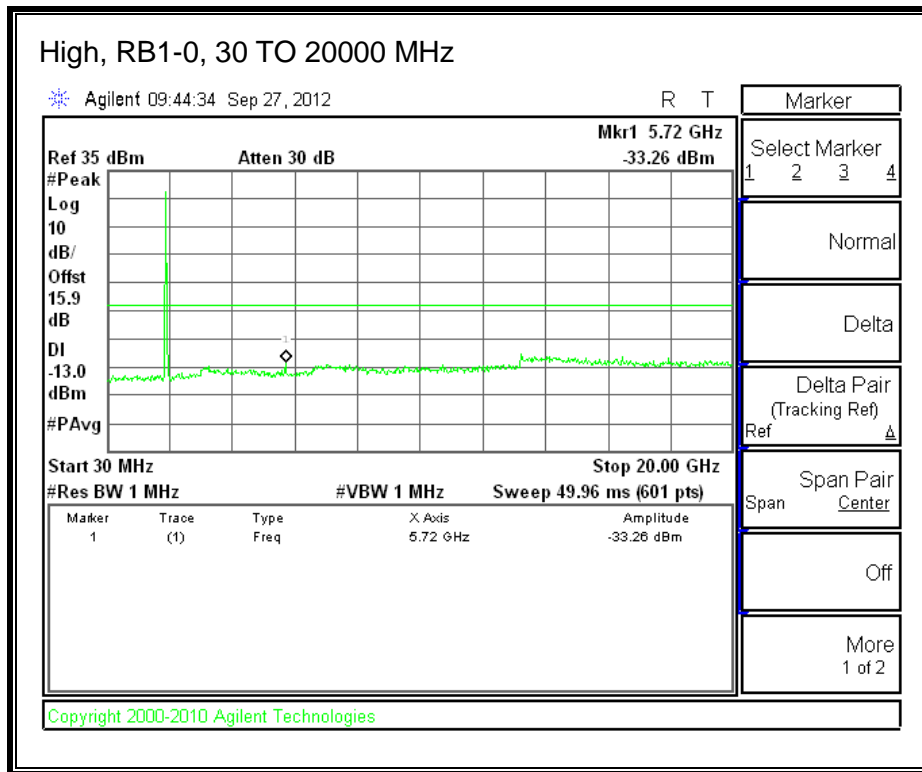




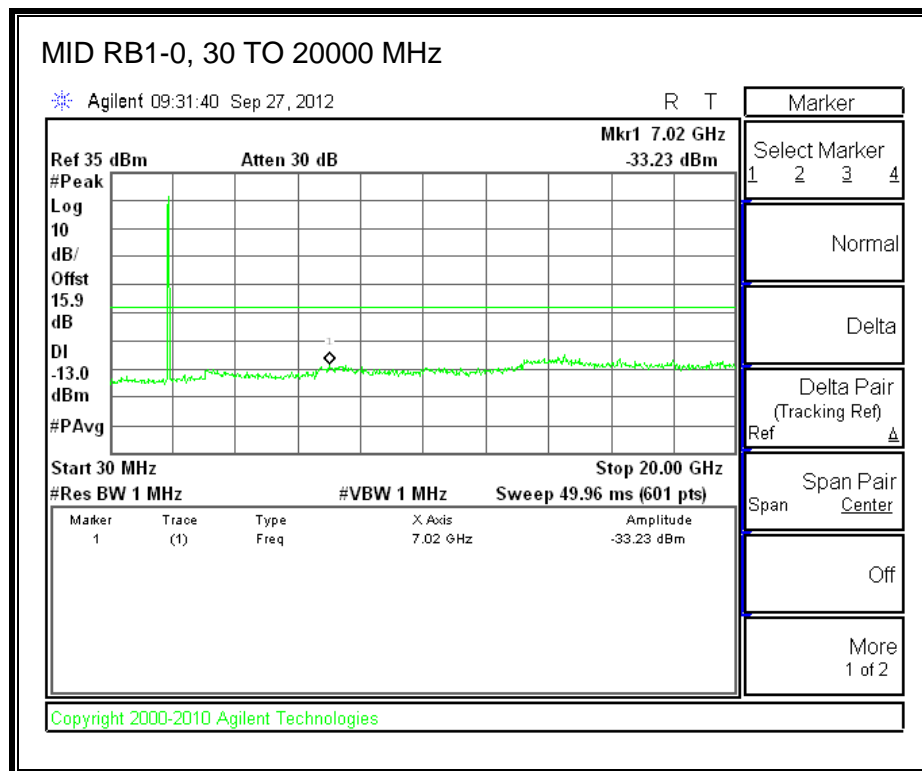
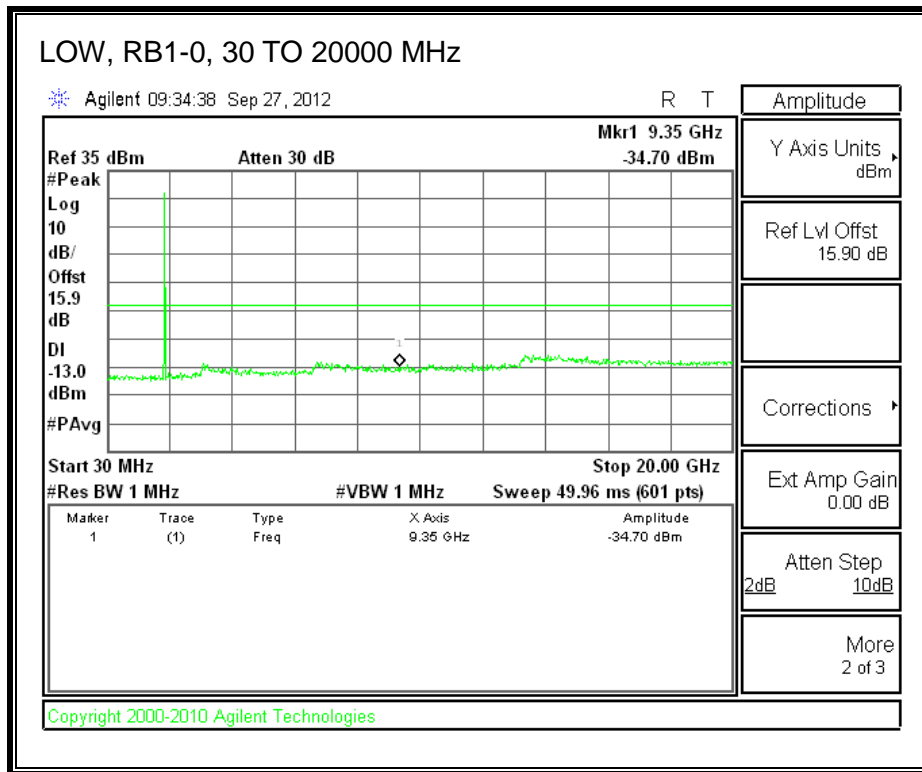
**Band 2 (5 MHz BANDWIDTH)**

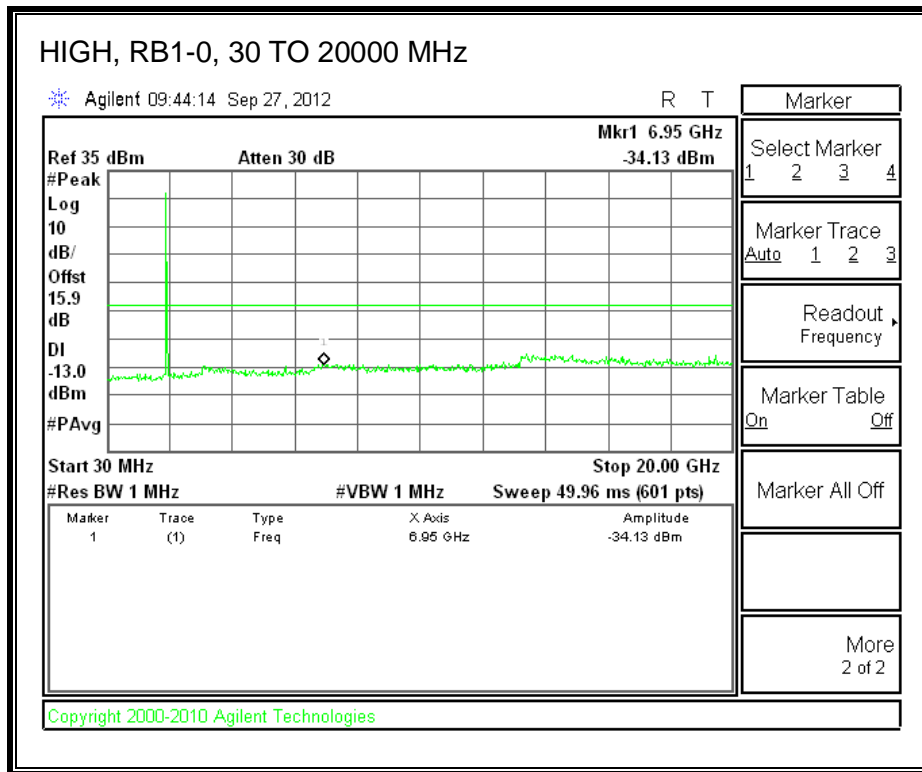
**QPSK**





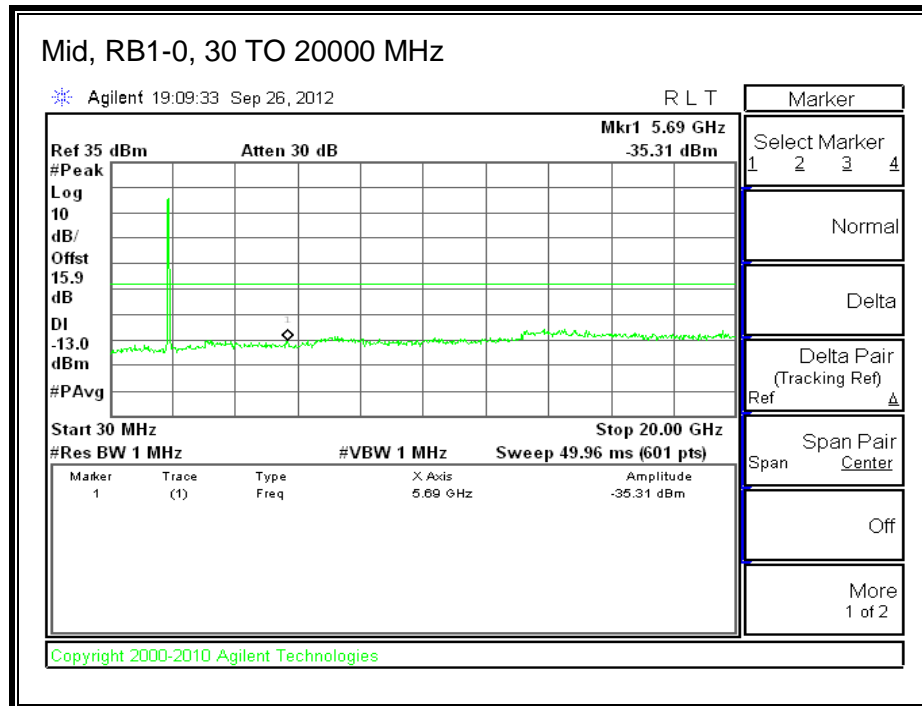
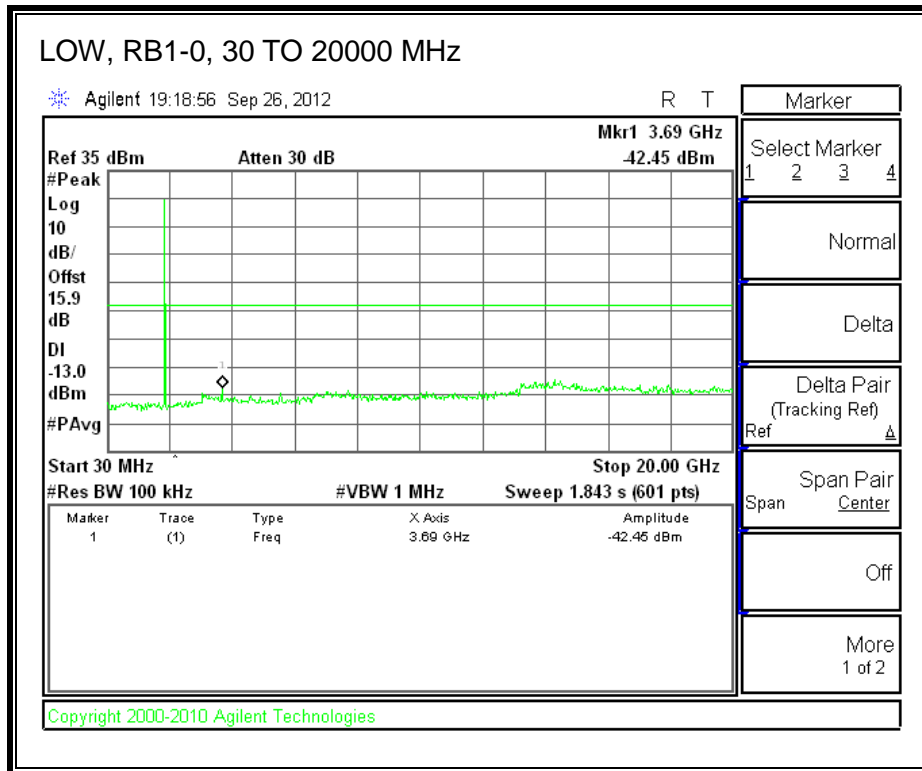
**16QAM**

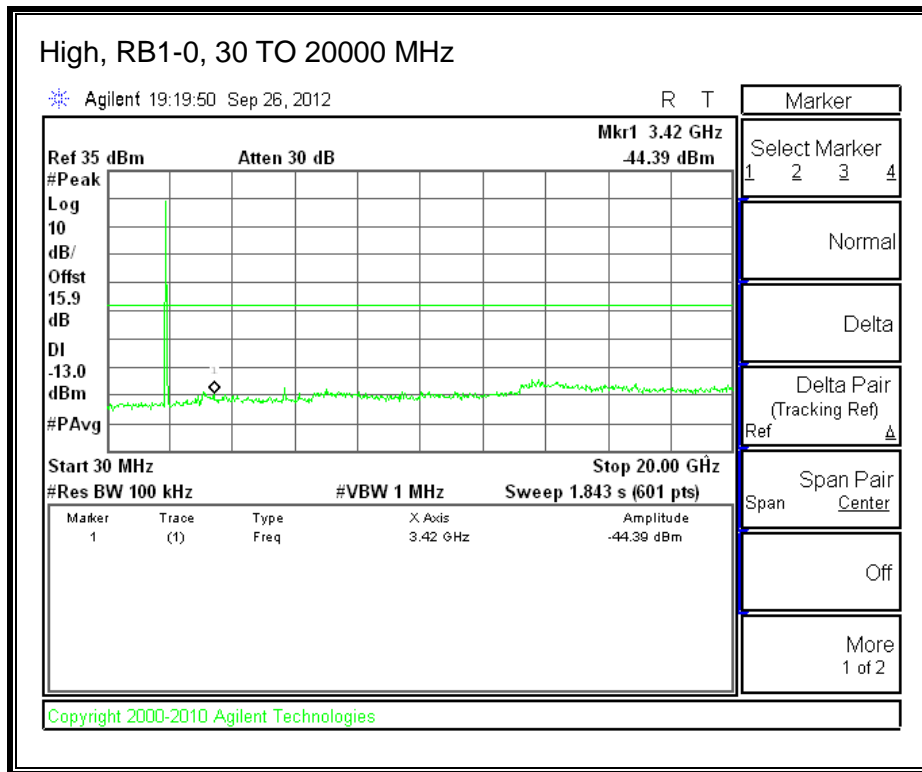




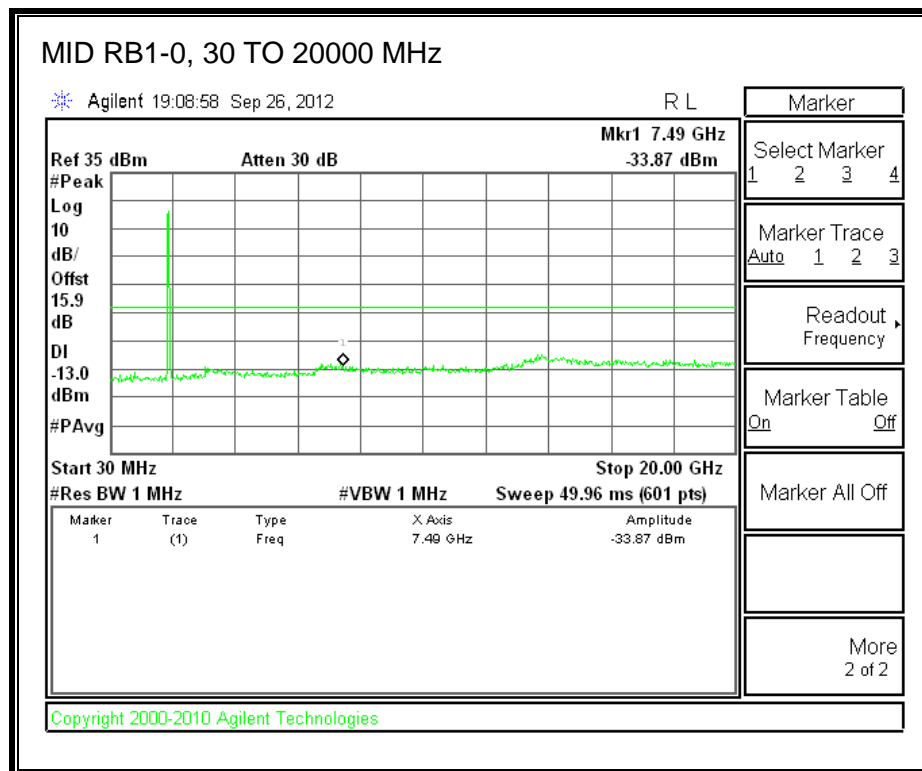
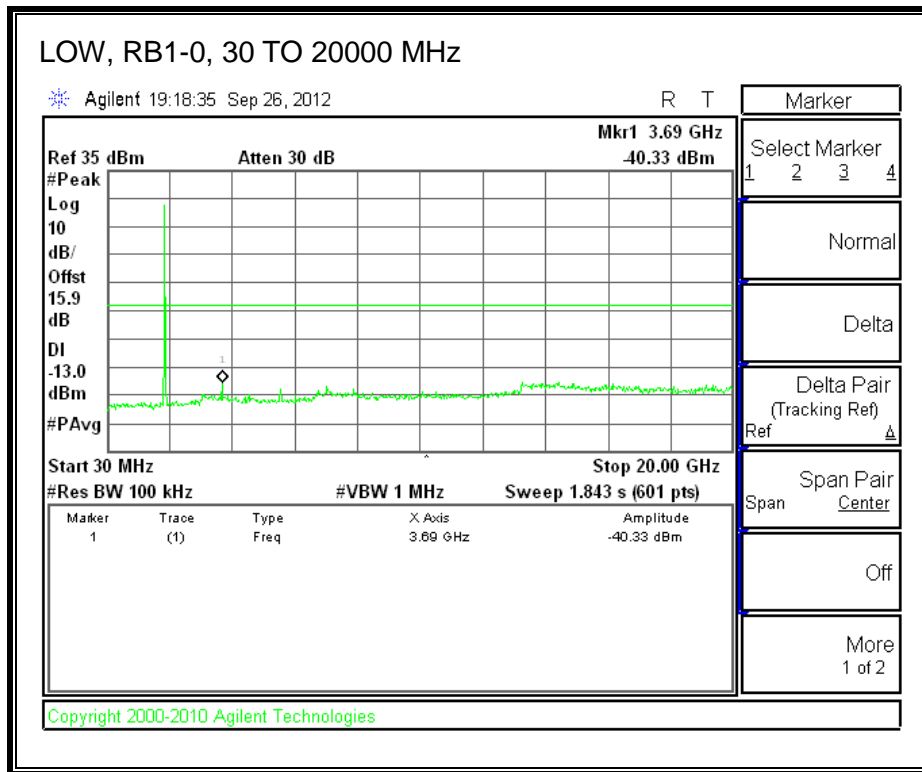
**Band 2 (10 MHz BANDWIDTH)**

**QPSK**

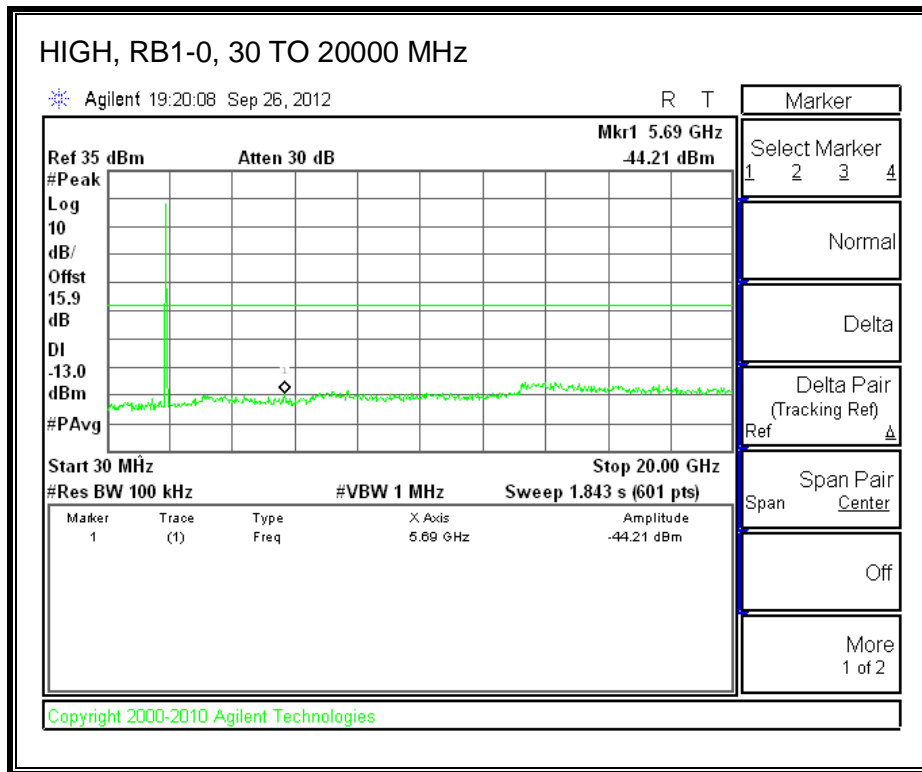




**16QAM**

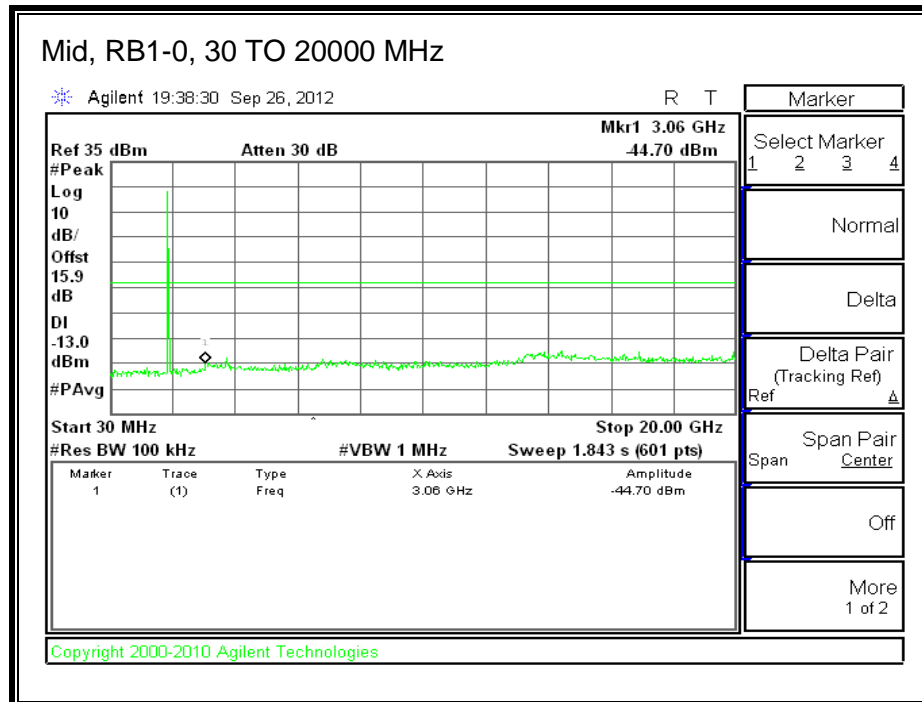
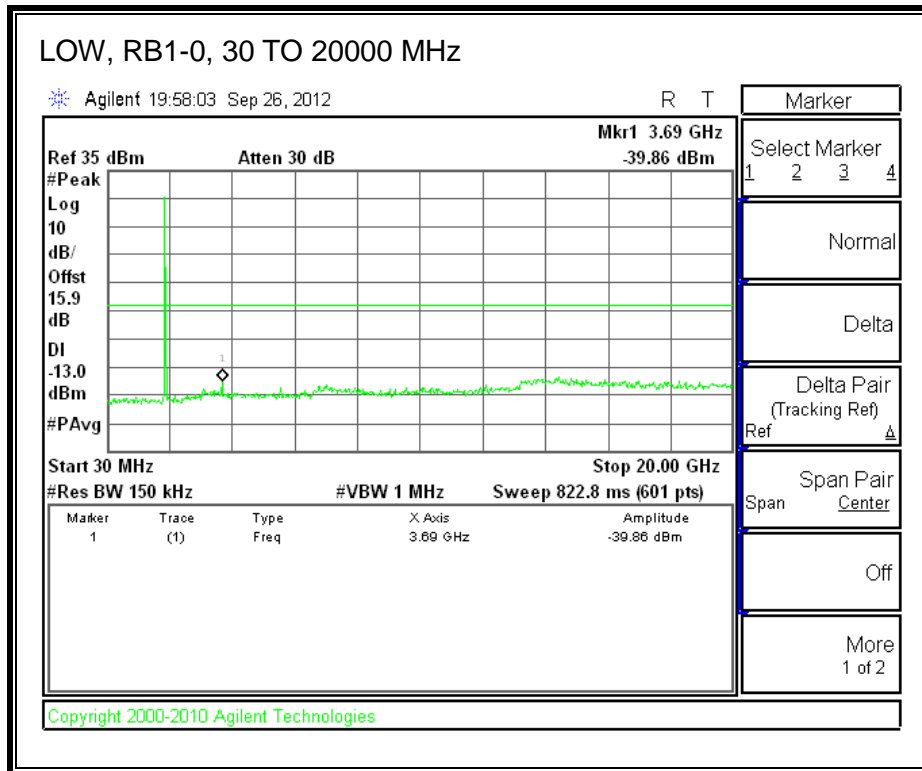


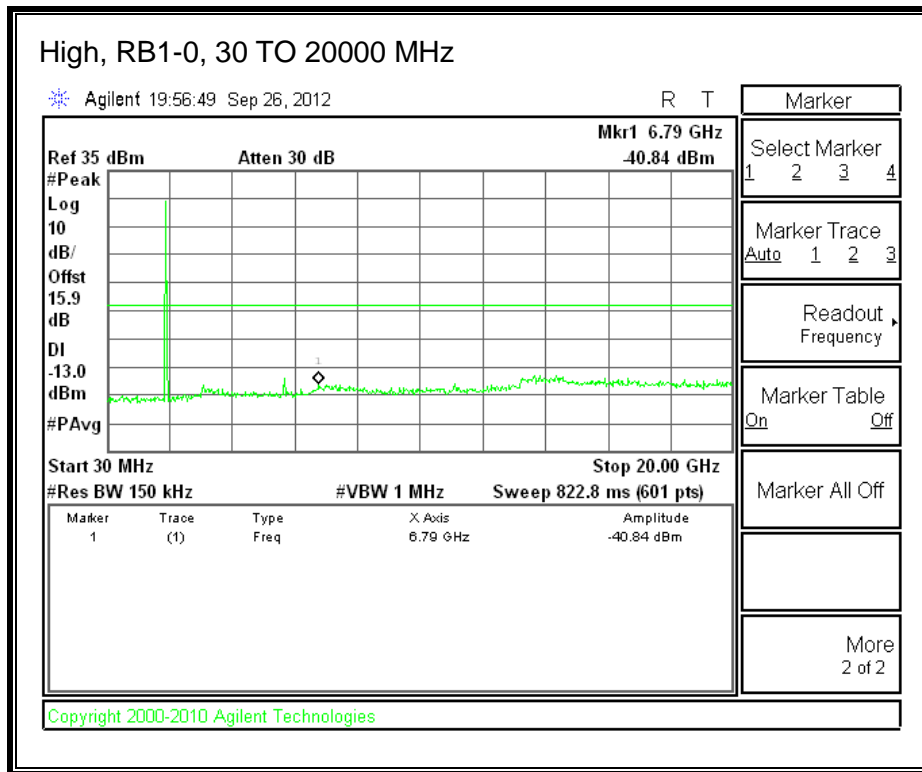




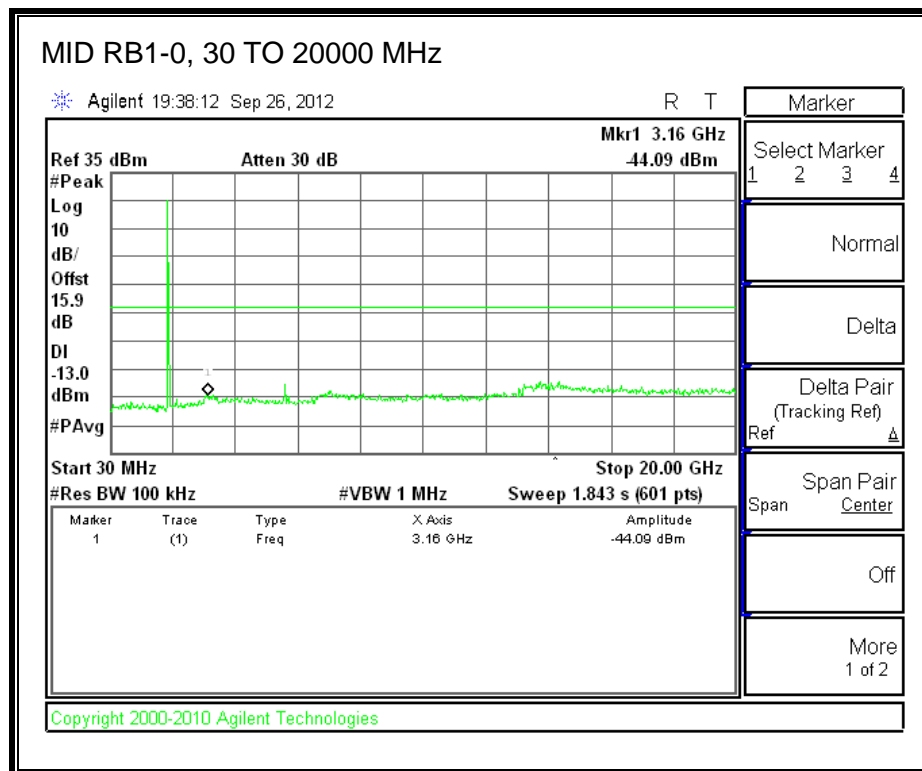
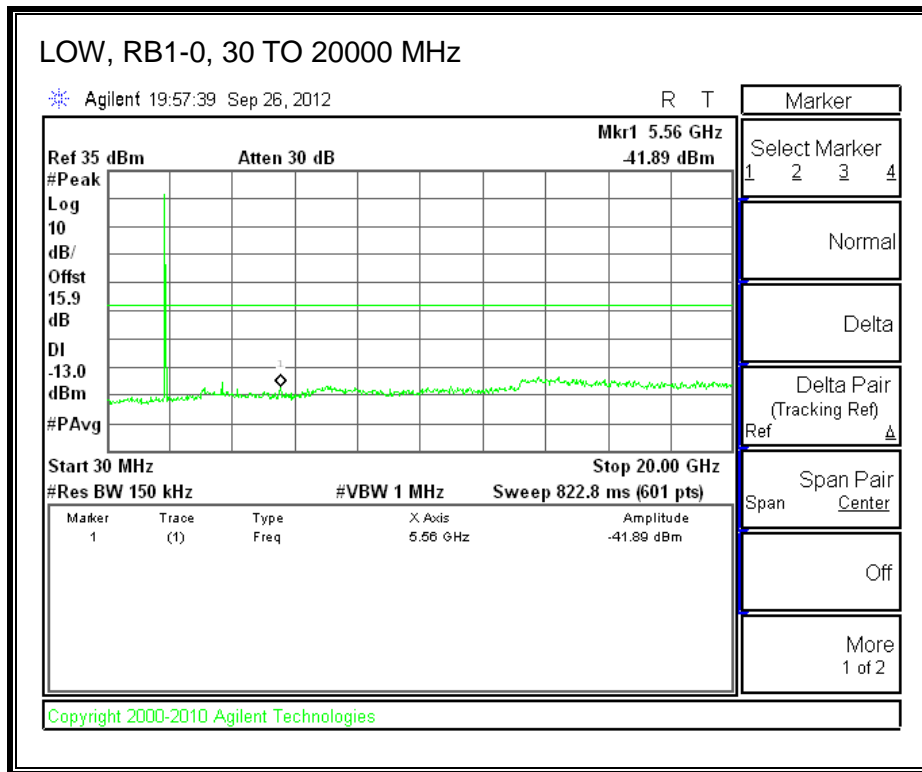
**Band 2 (15 MHz BANDWIDTH)**

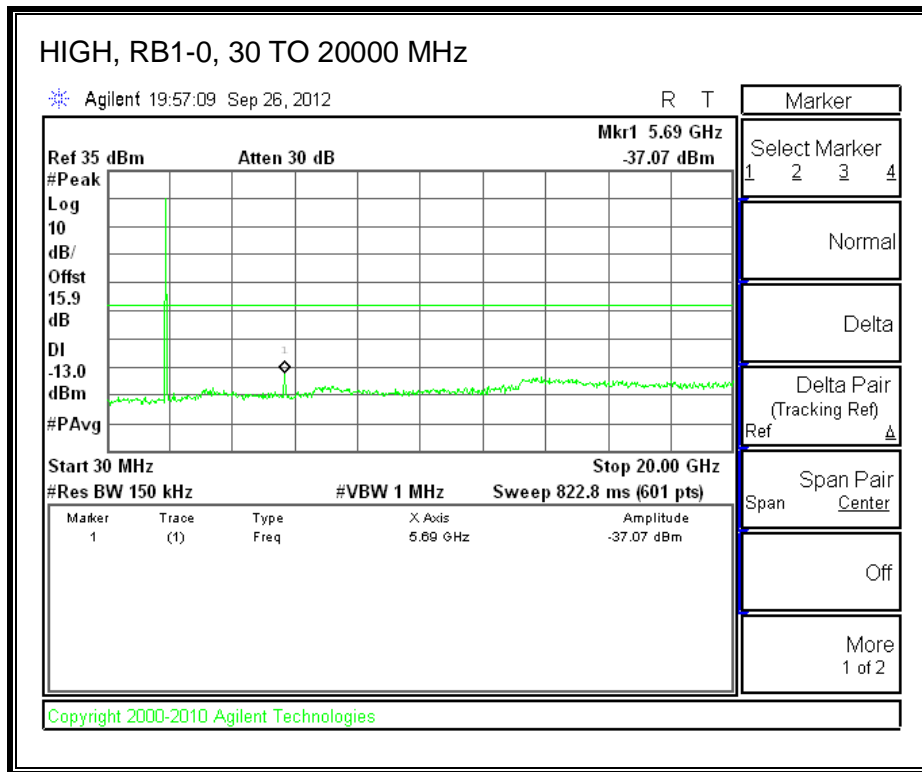
**QPSK**





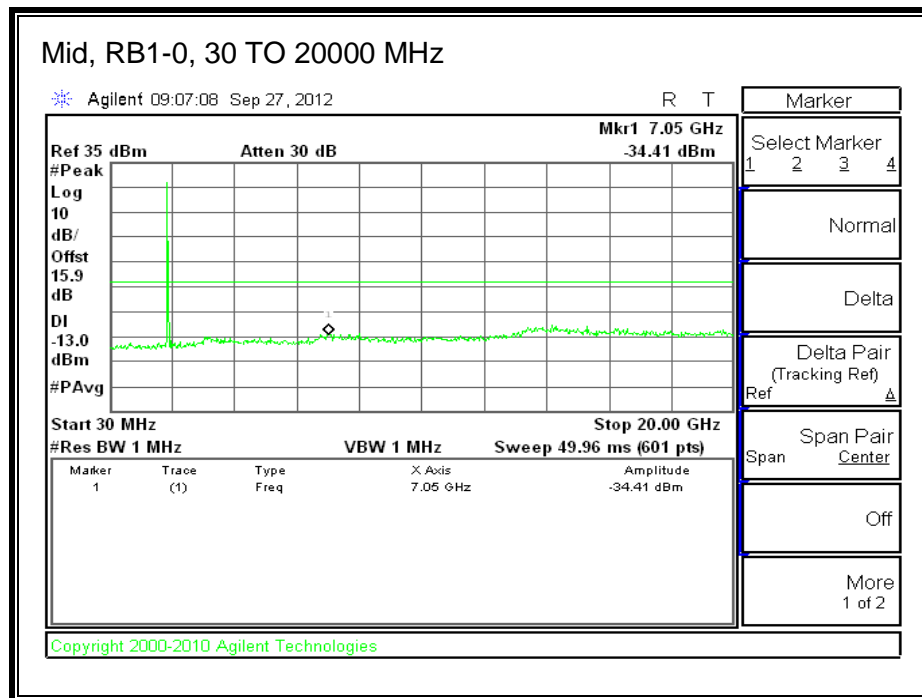
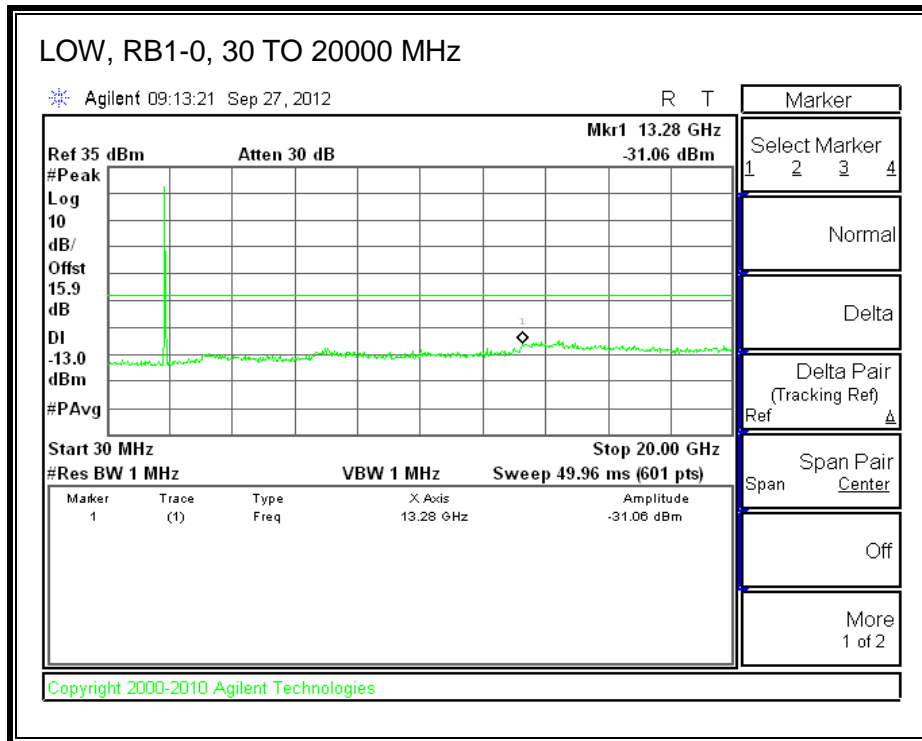
**16QAM**

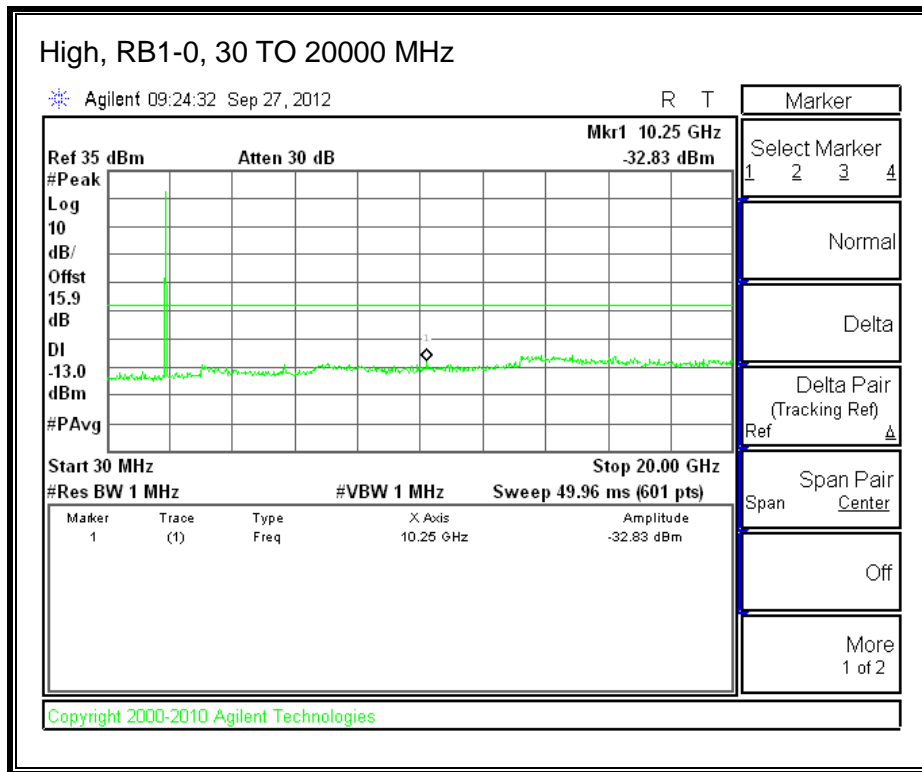




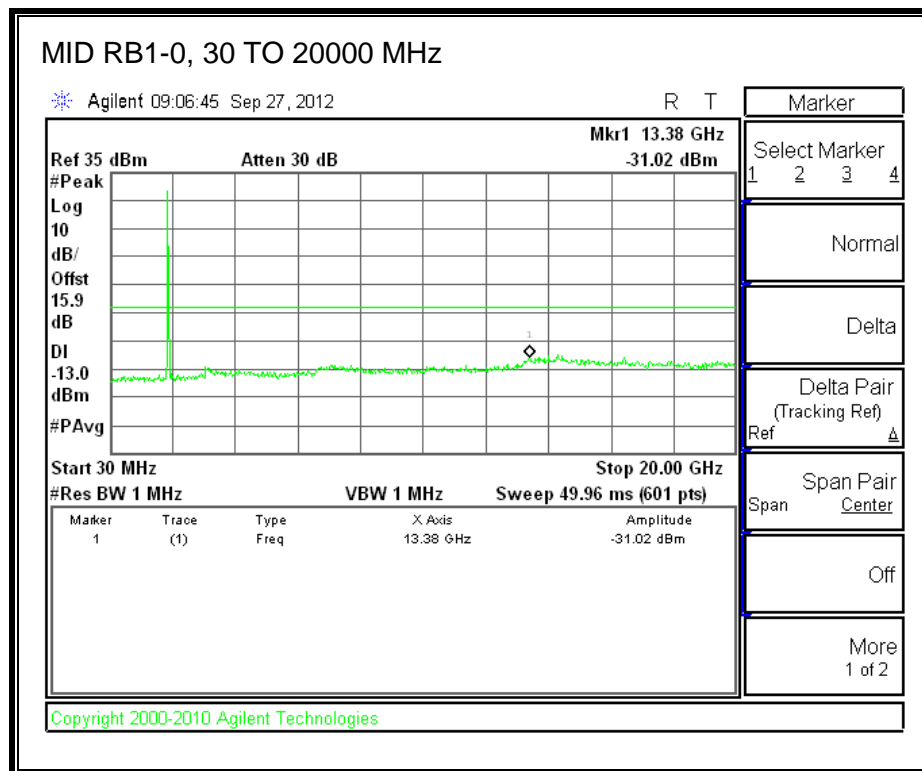
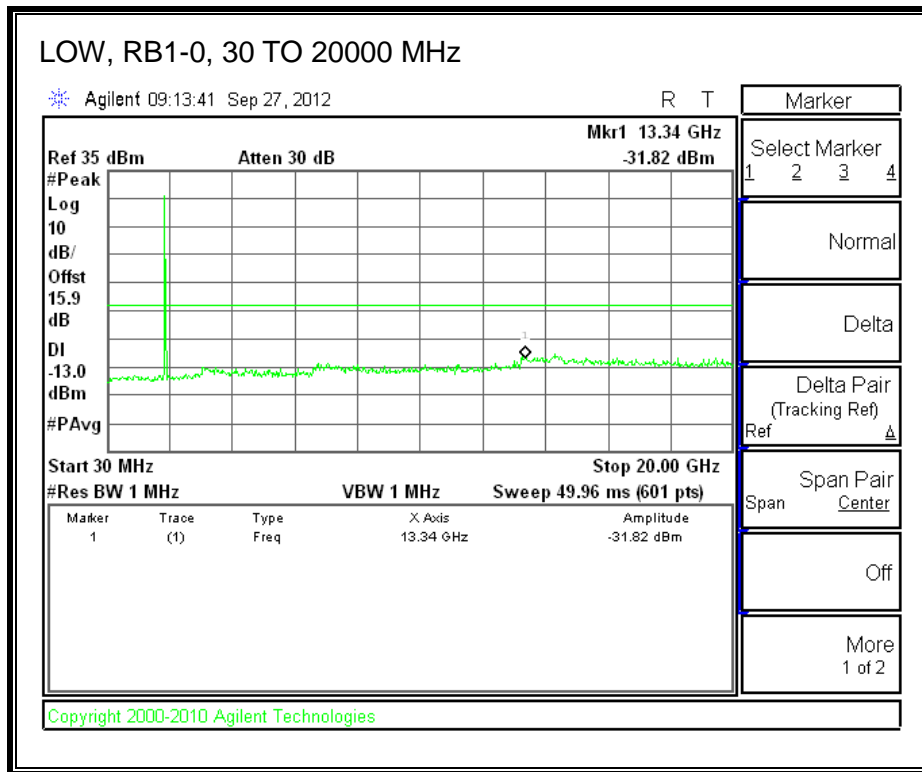
**Band 2 (20 MHz BANDWIDTH)**

**QPSK**

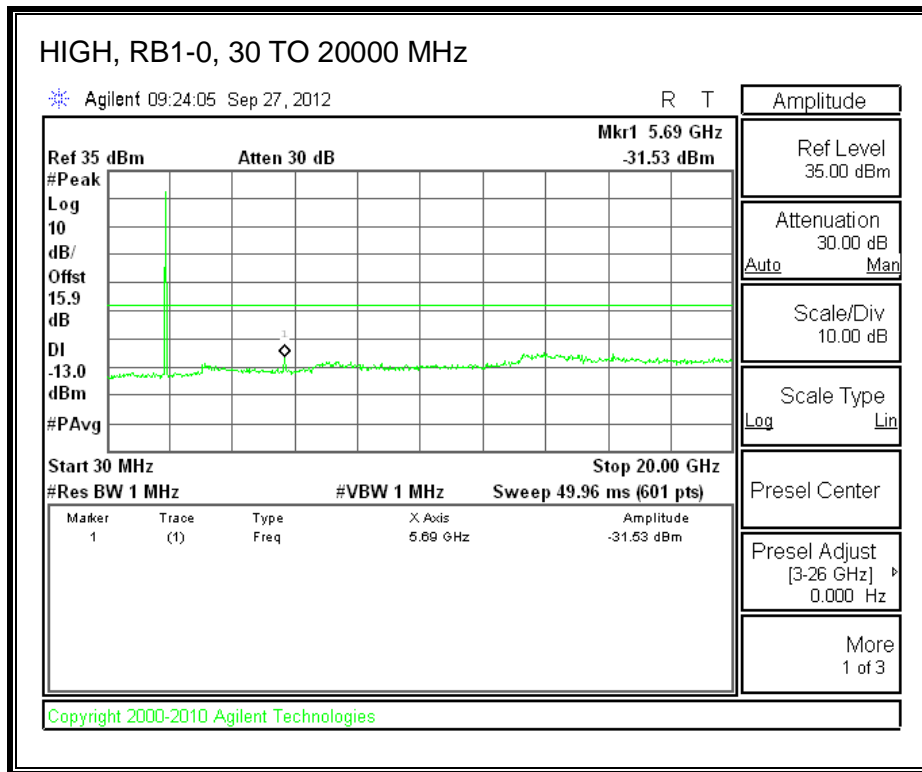




**16QAM**

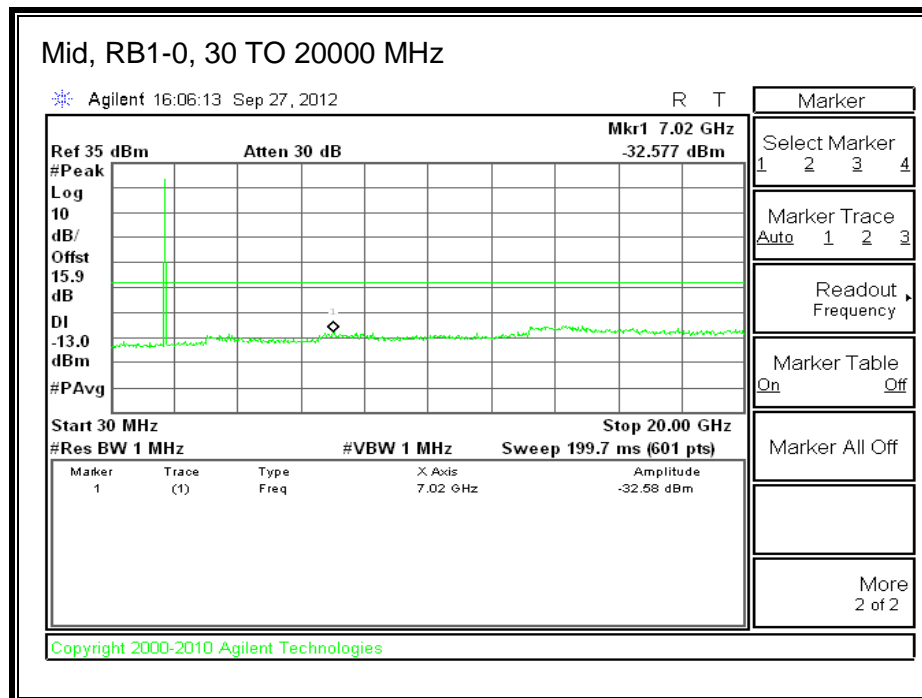
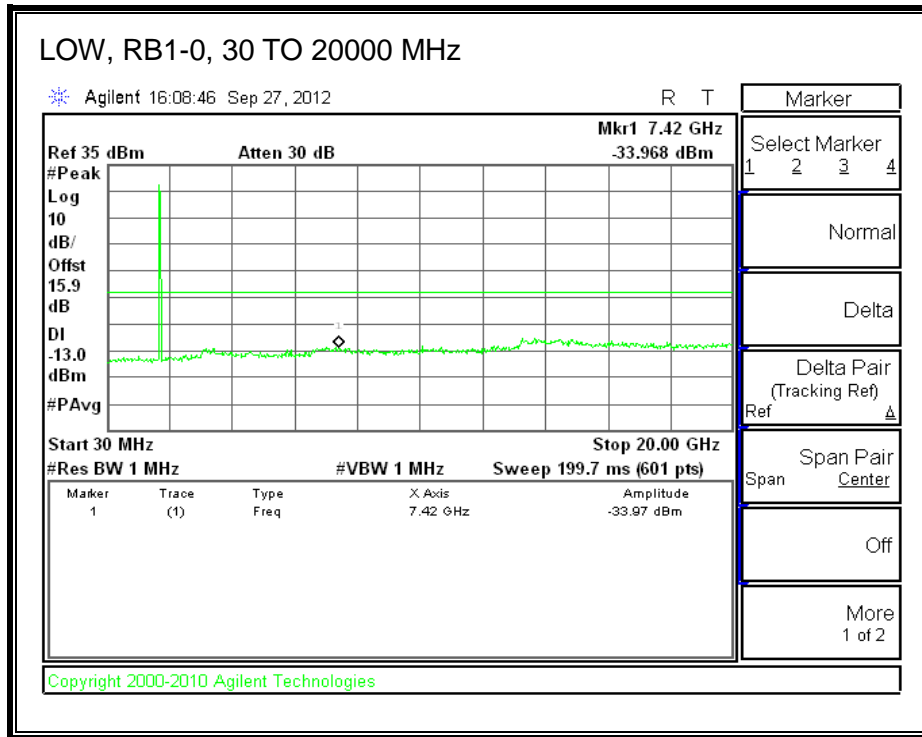


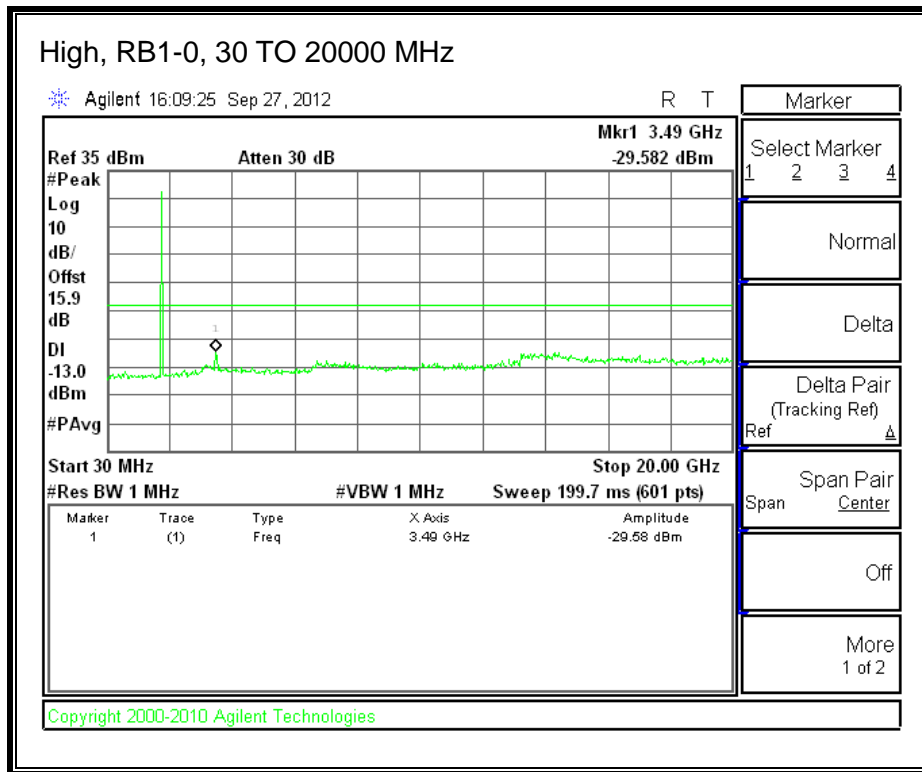




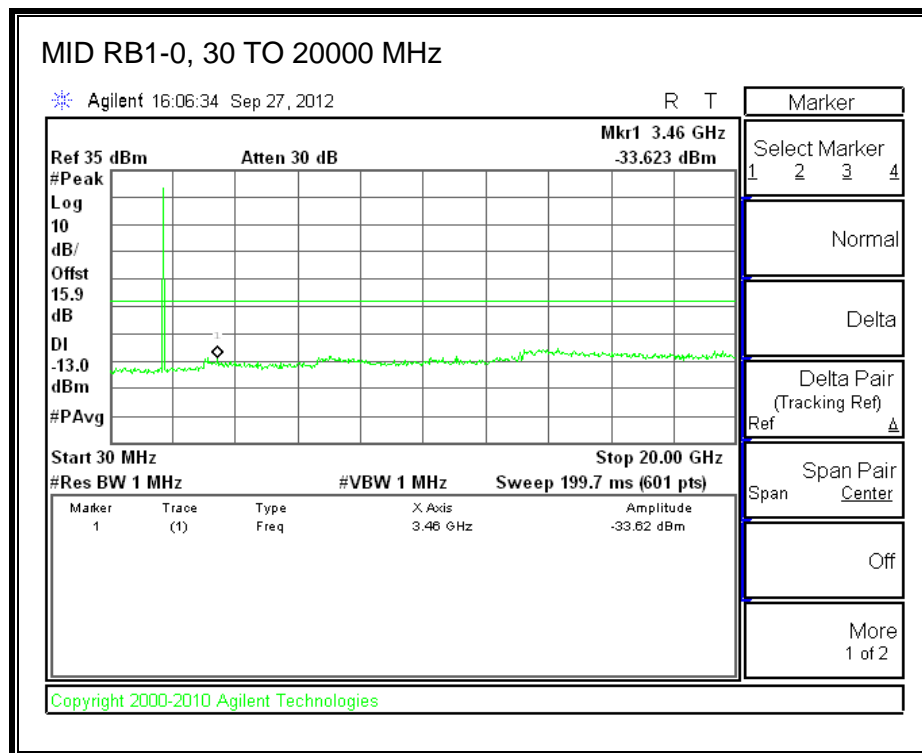
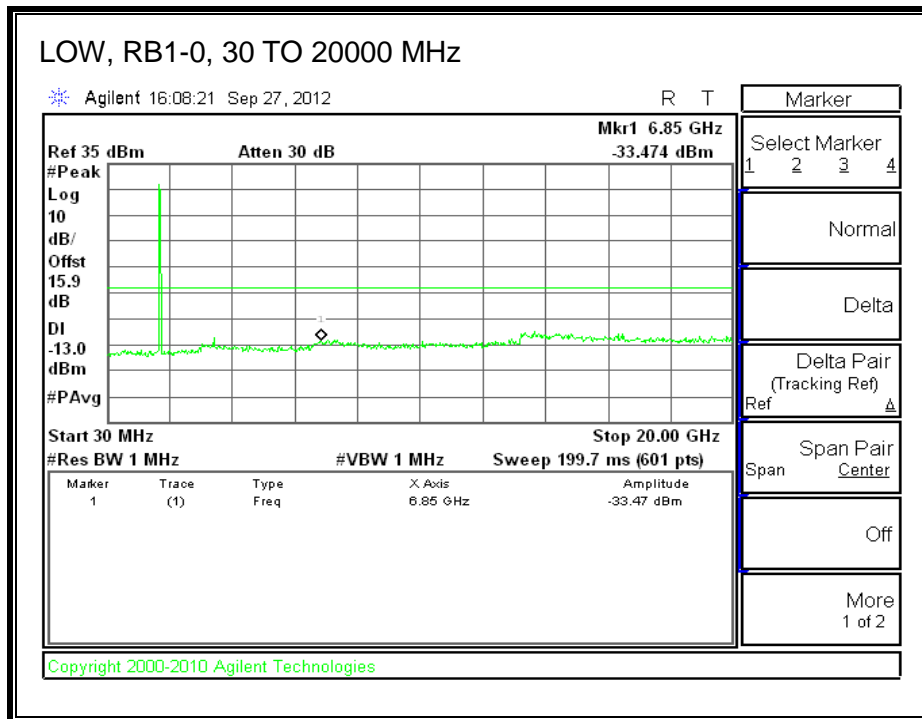
### 8.3.4. LTE BAND 4

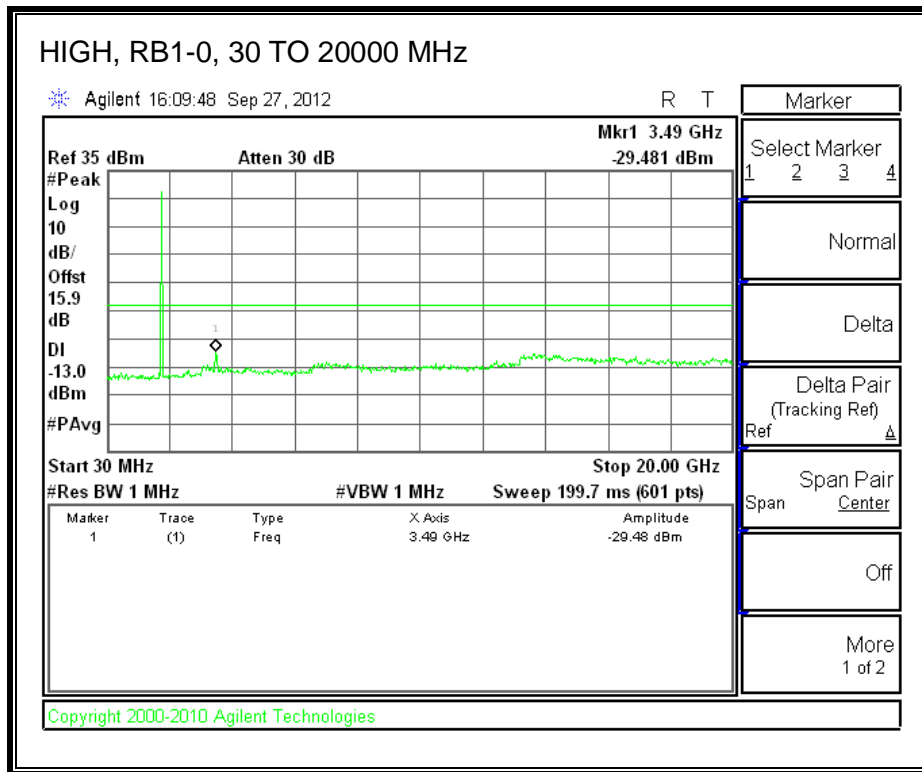
#### QPSK (1.4 MHz BANDWIDTH)





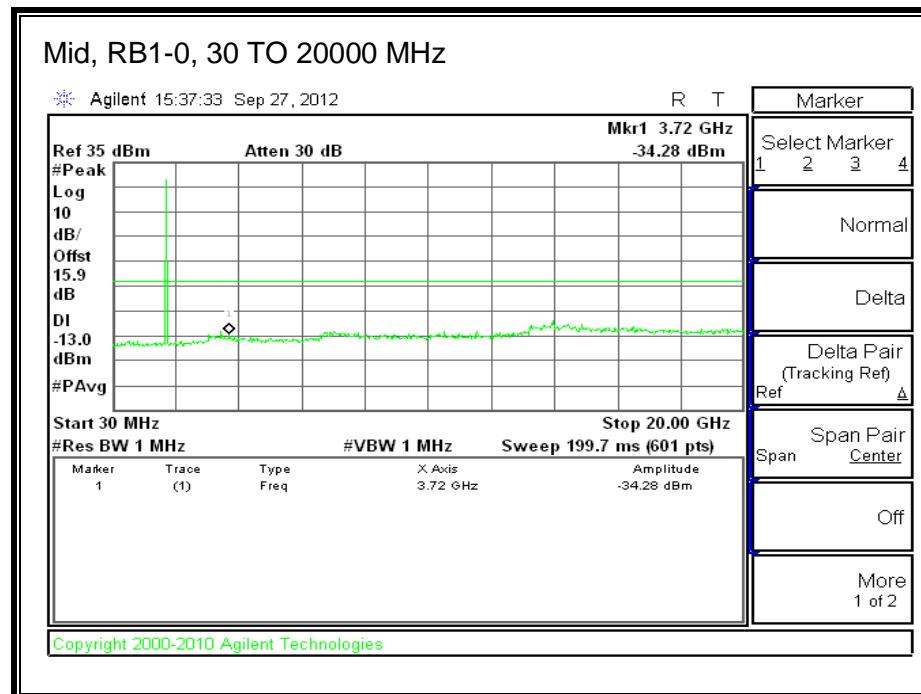
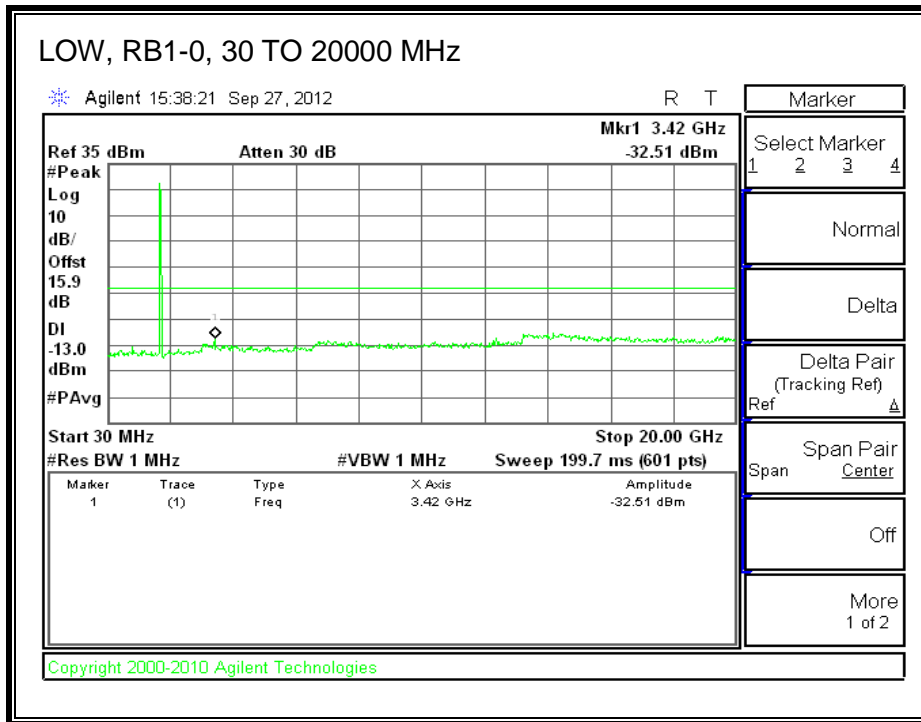
**16QAM**

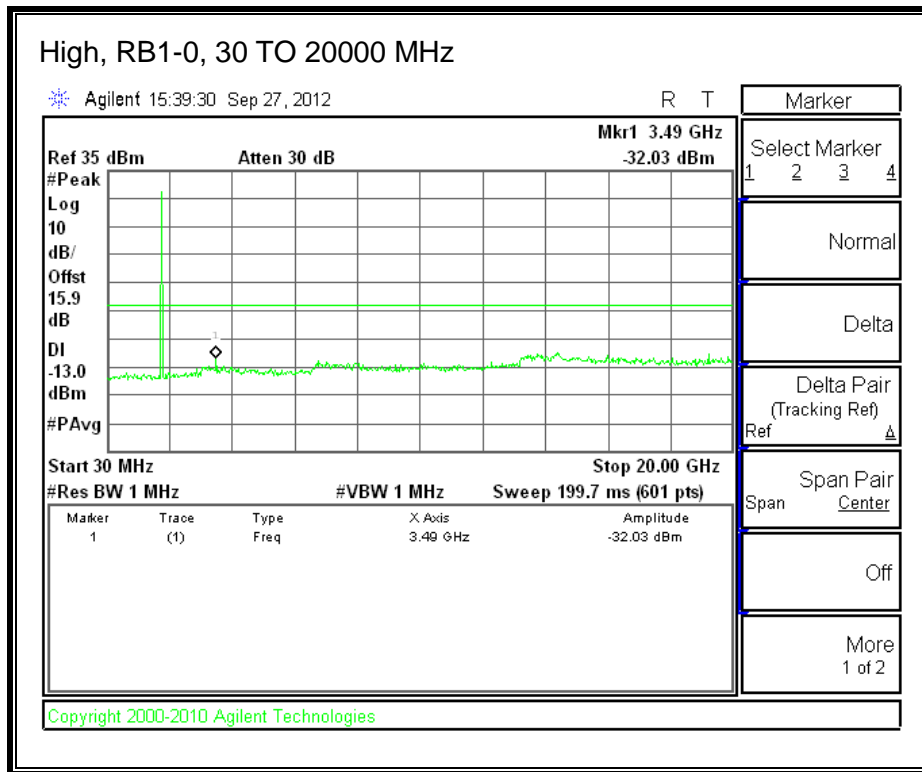




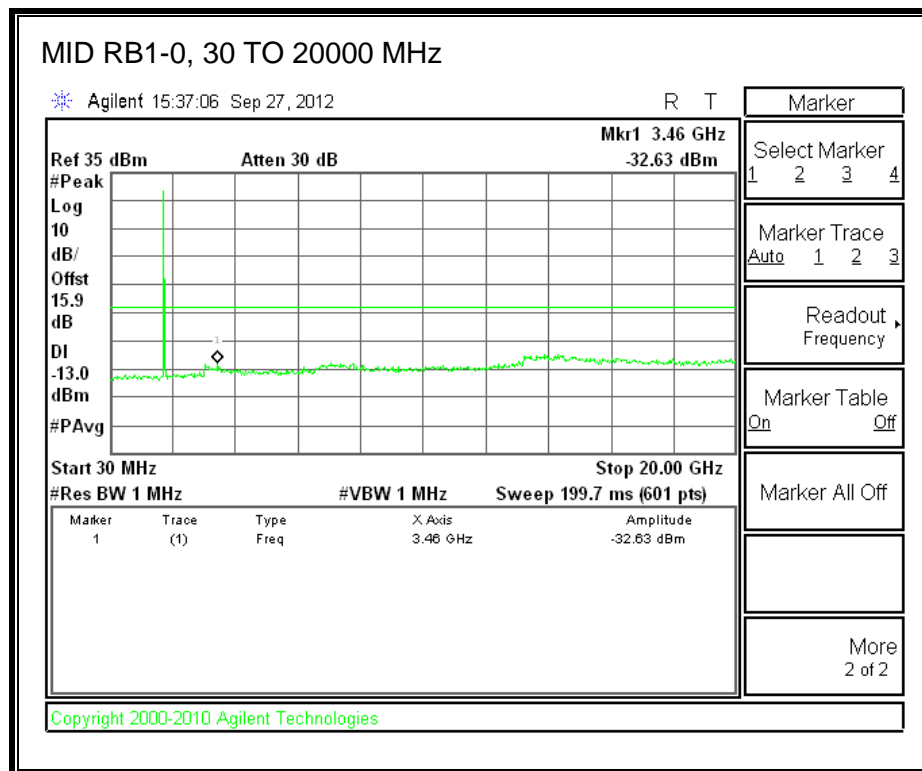
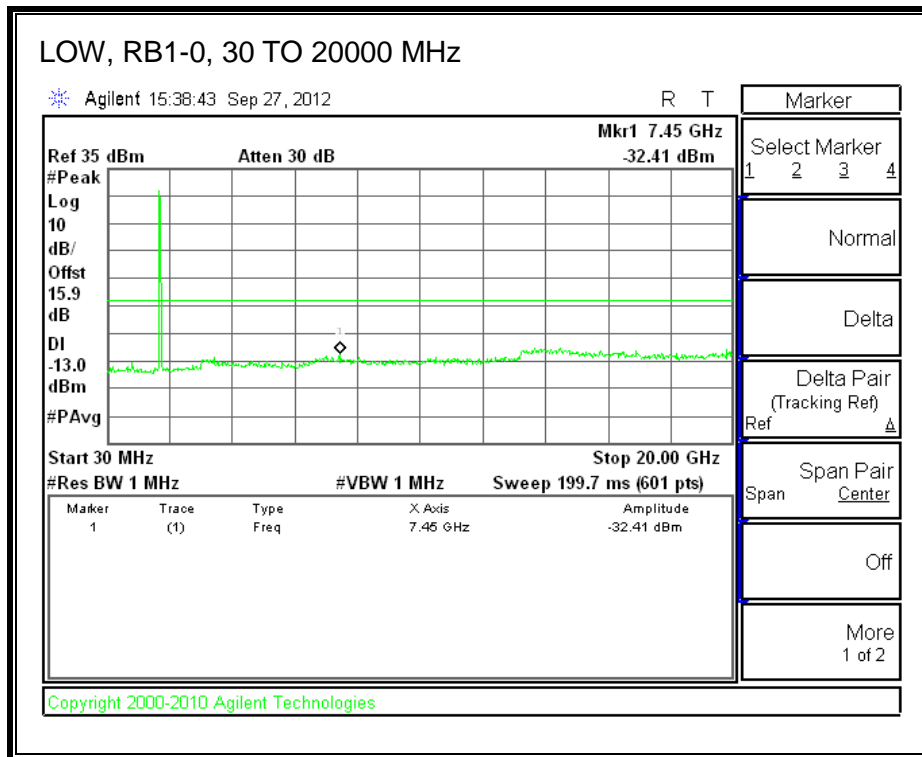
**Band 4 (3 MHz BANDWIDTH)**

**QPSK**

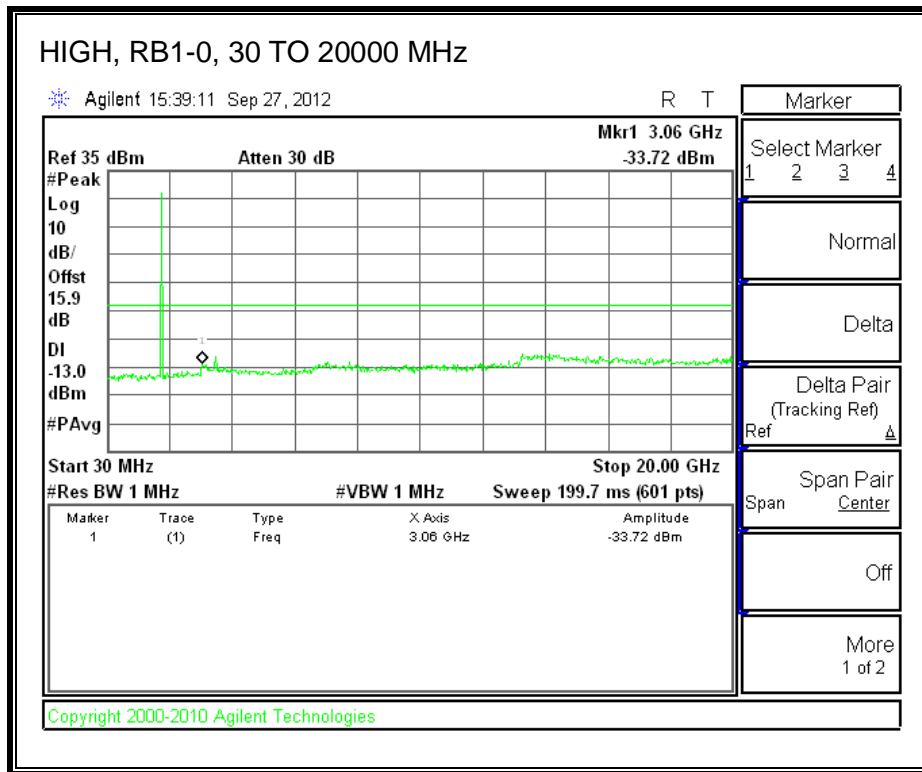




**16QAM**

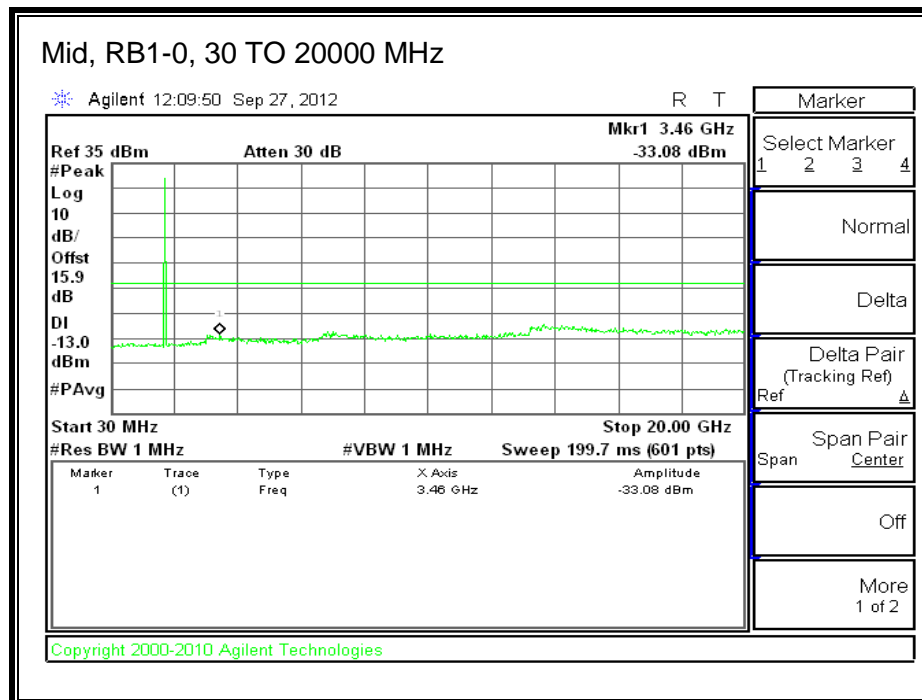
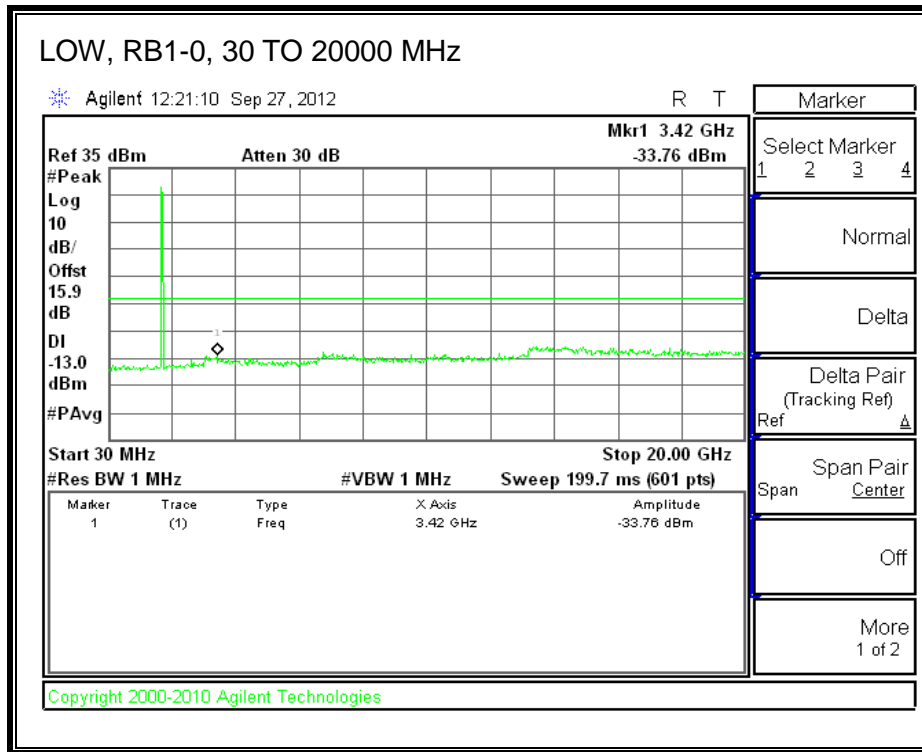


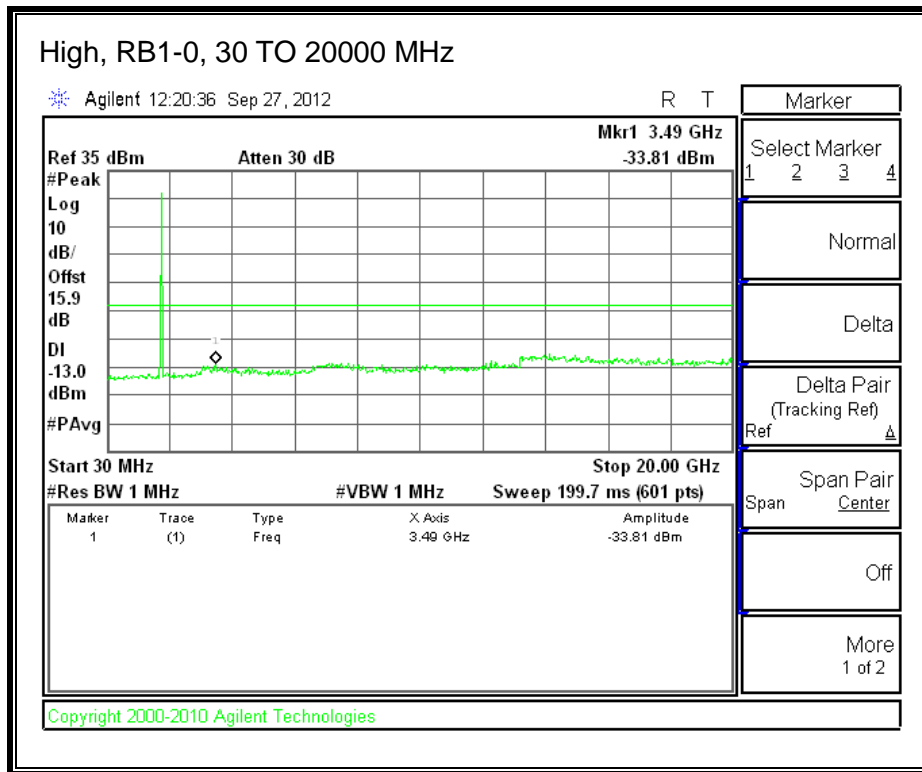




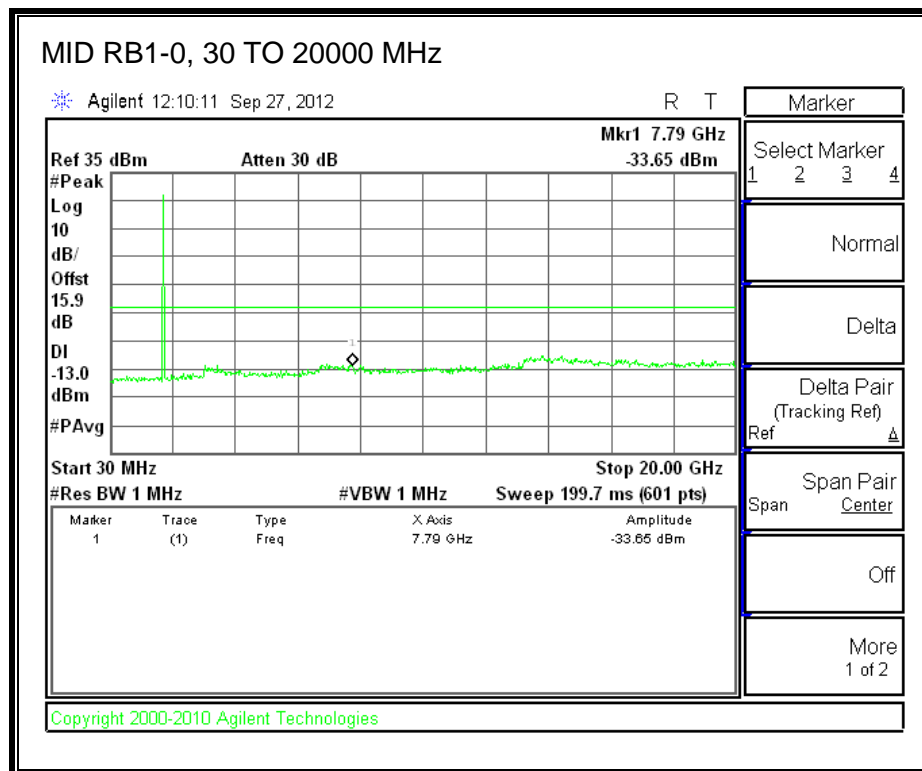
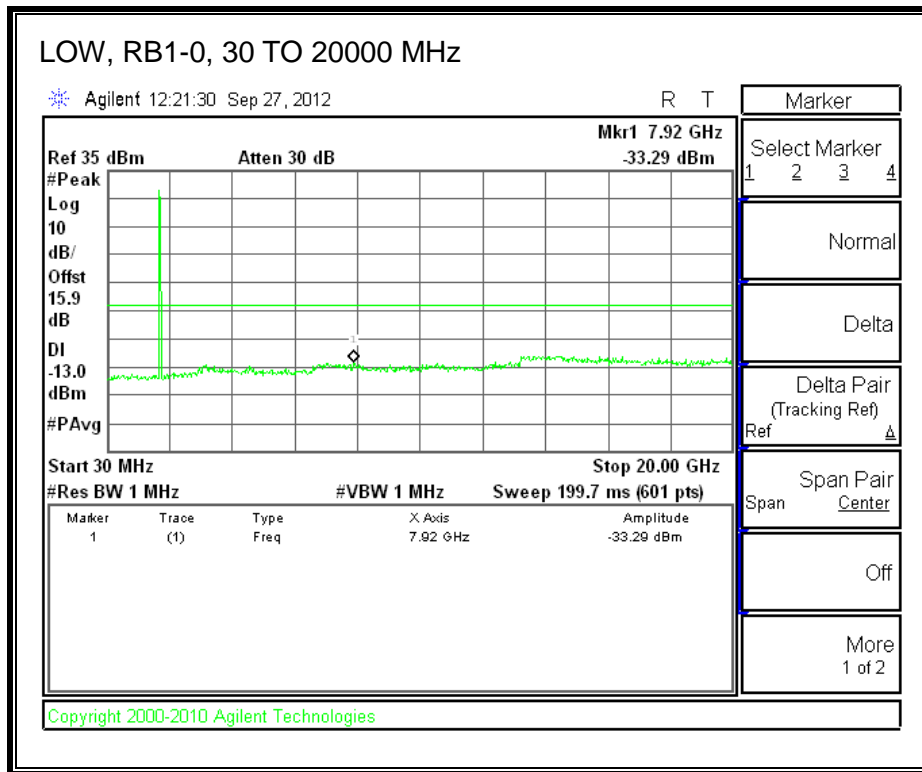
**Band 4 (5 MHz BANDWIDTH)**

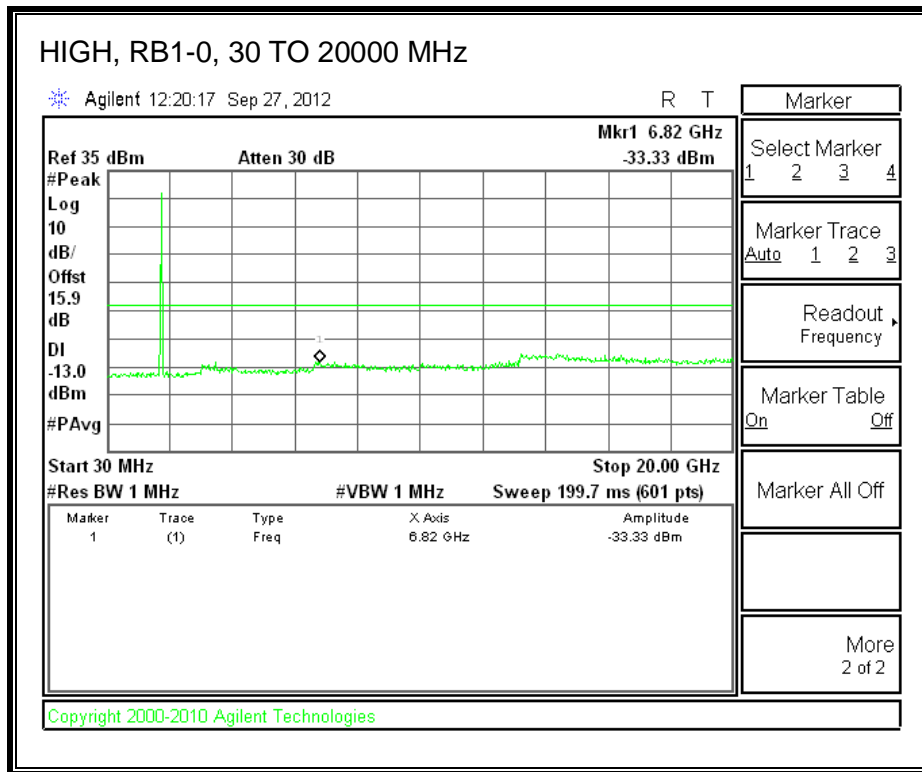
**QPSK**





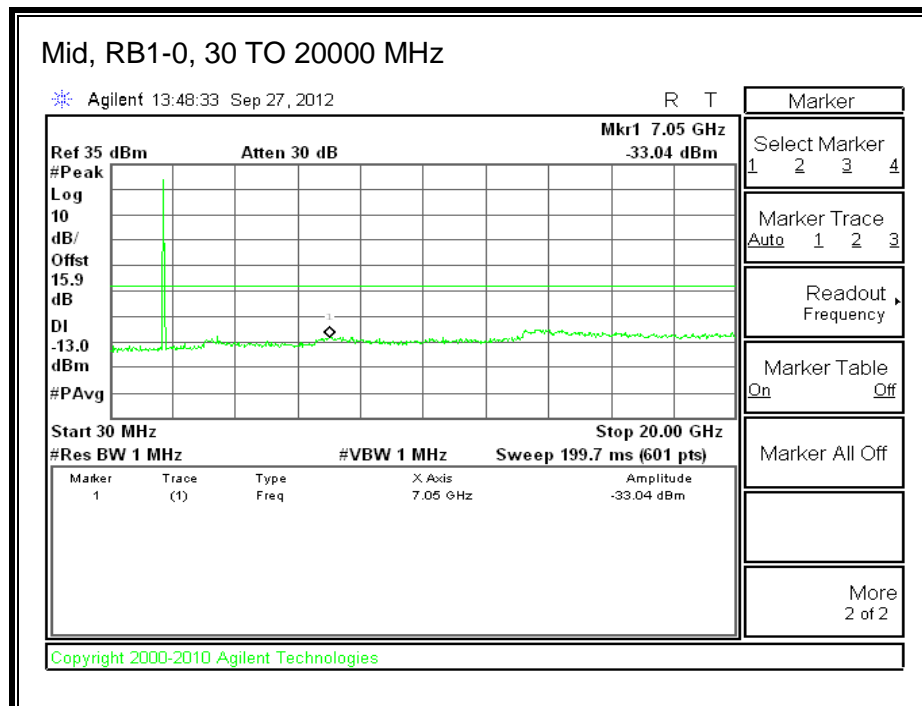
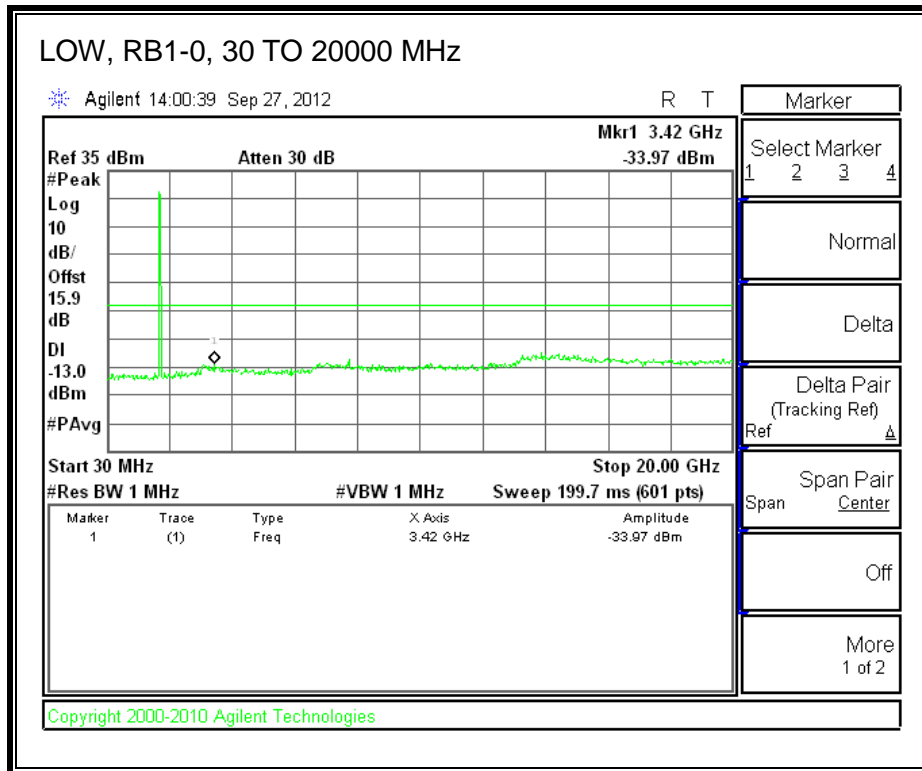
**16QAM**

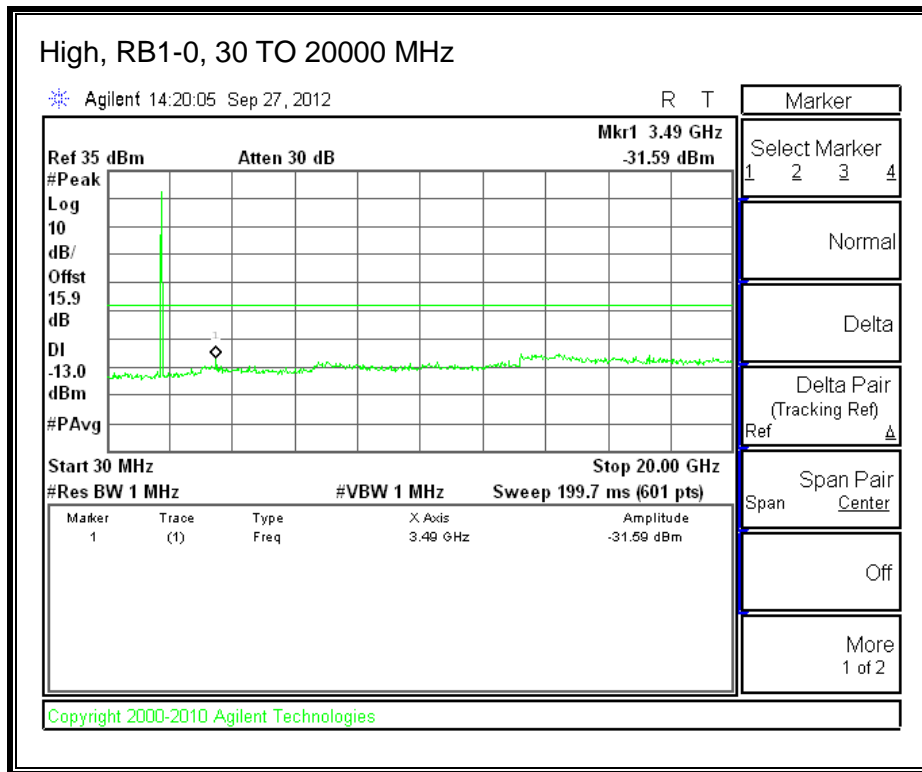




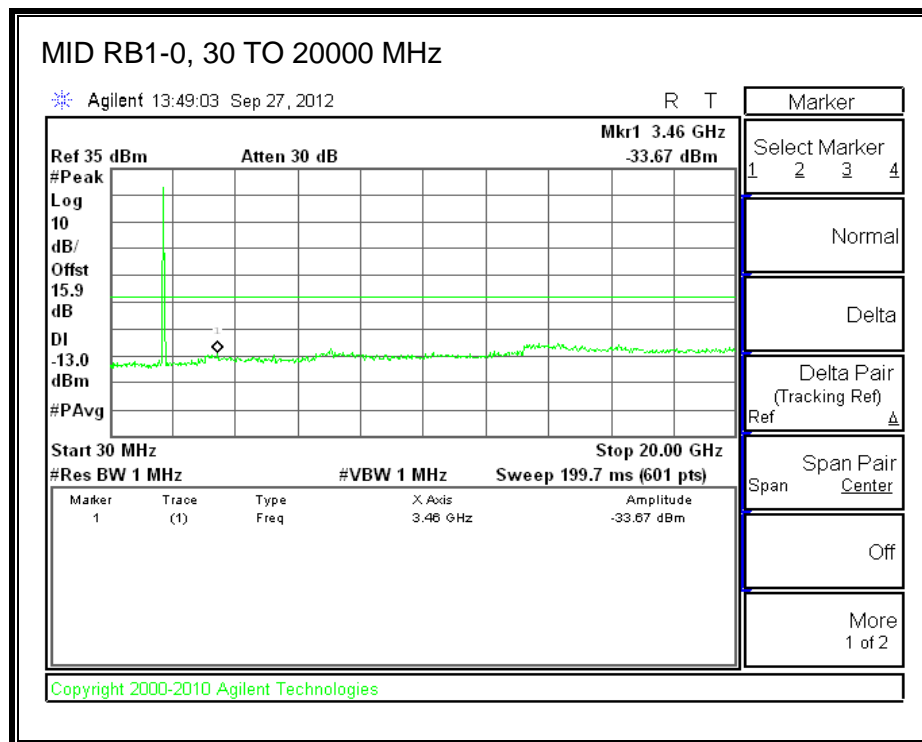
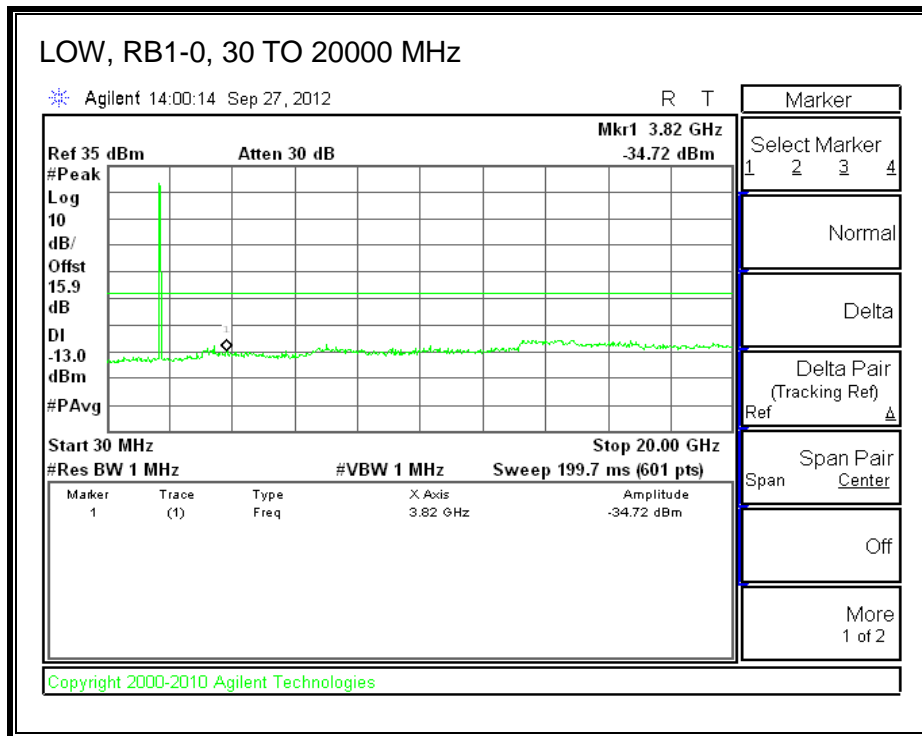
**Band 4 (10 MHz BANDWIDTH)**

**QPSK**

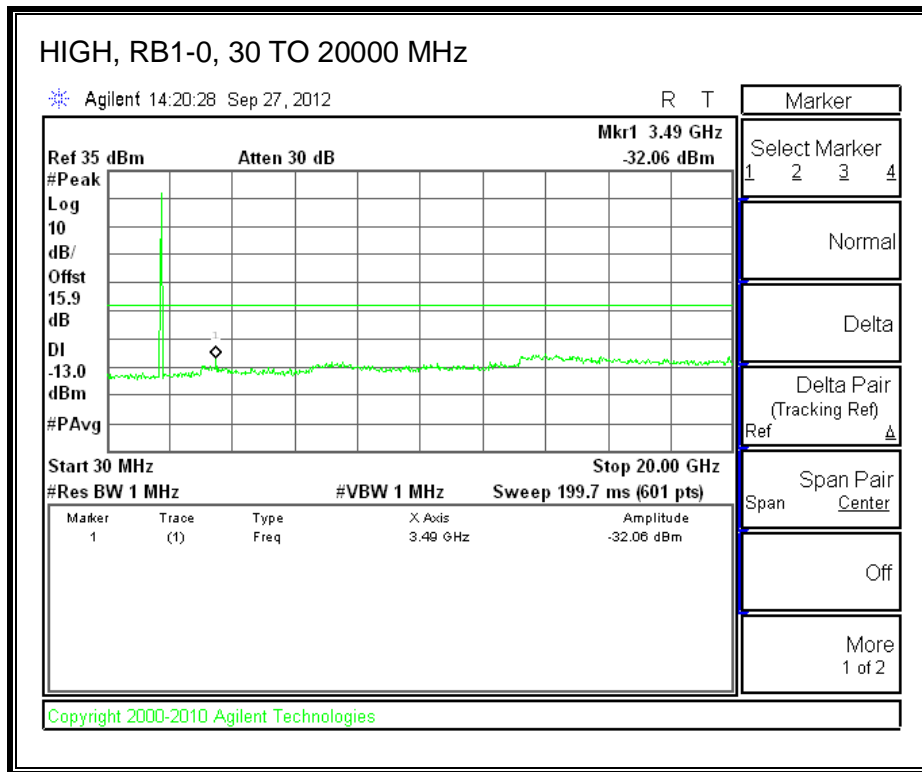




**16QAM**

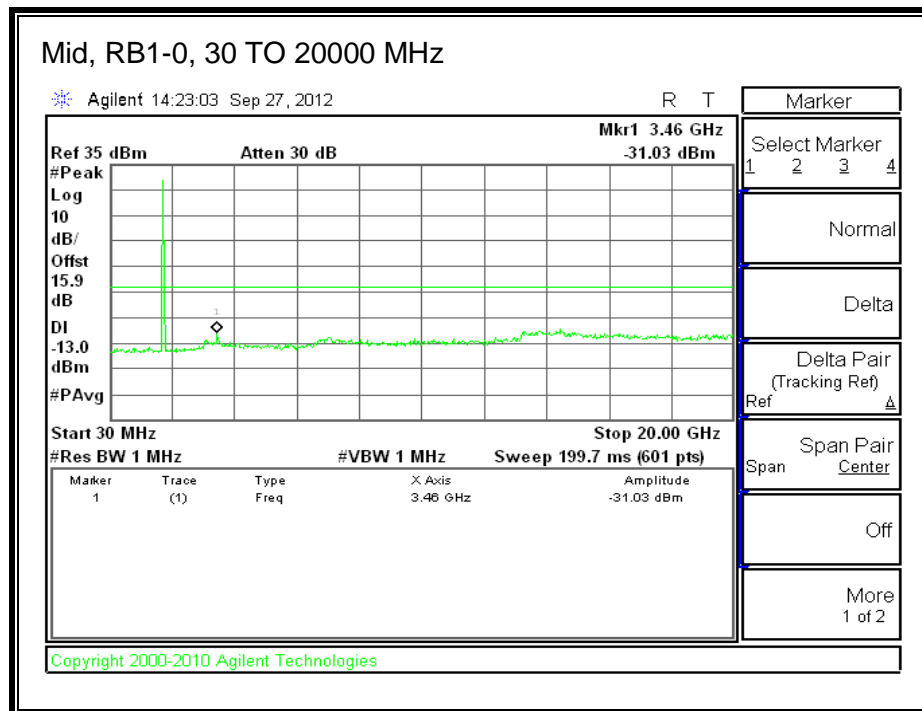
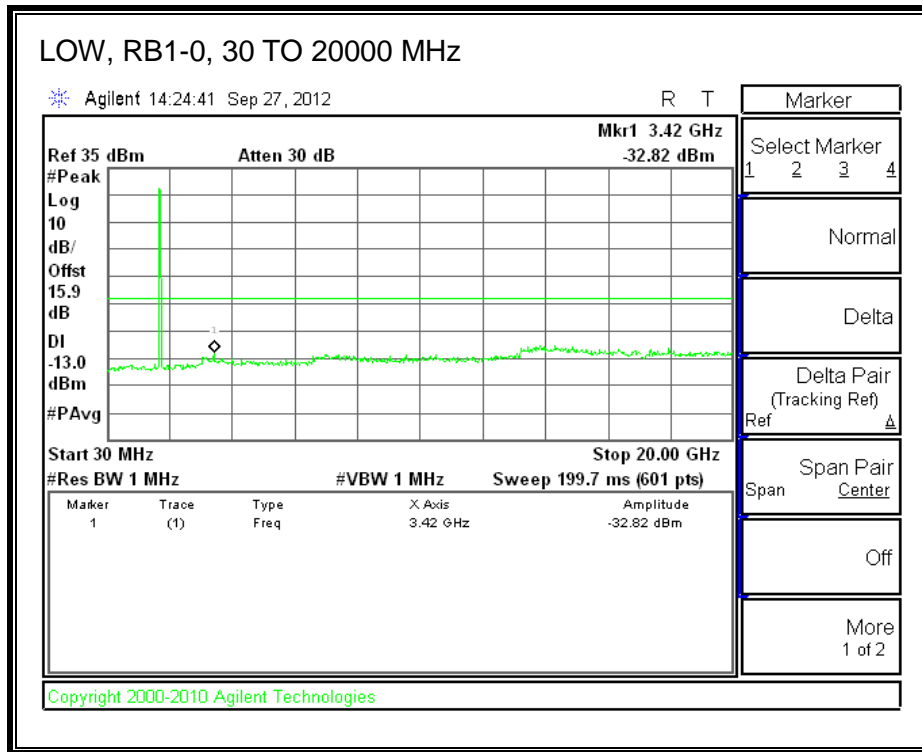


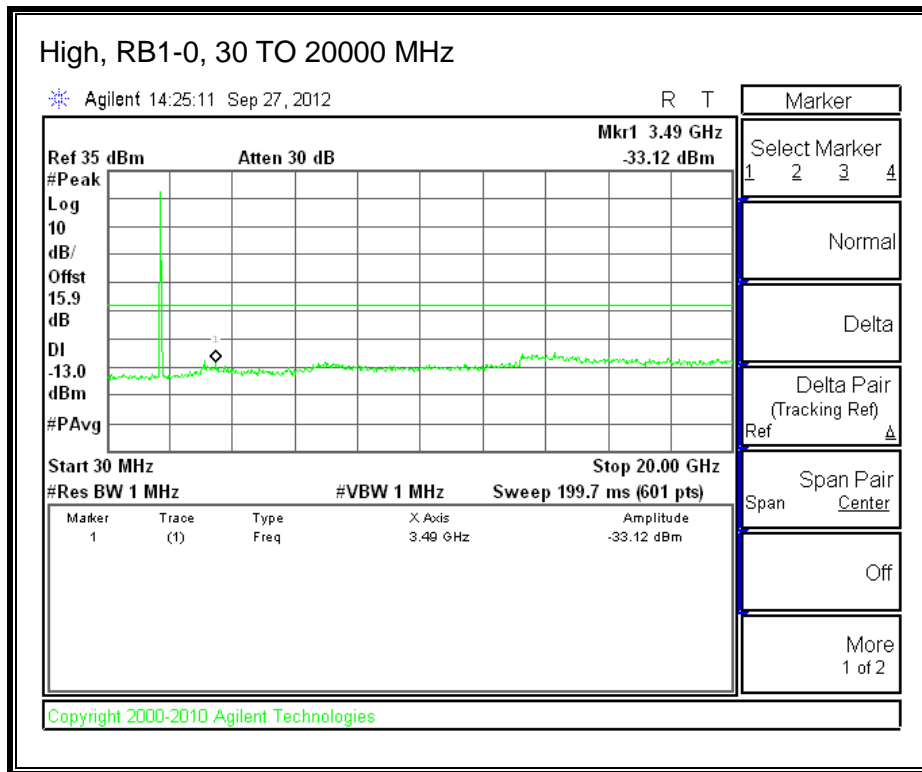




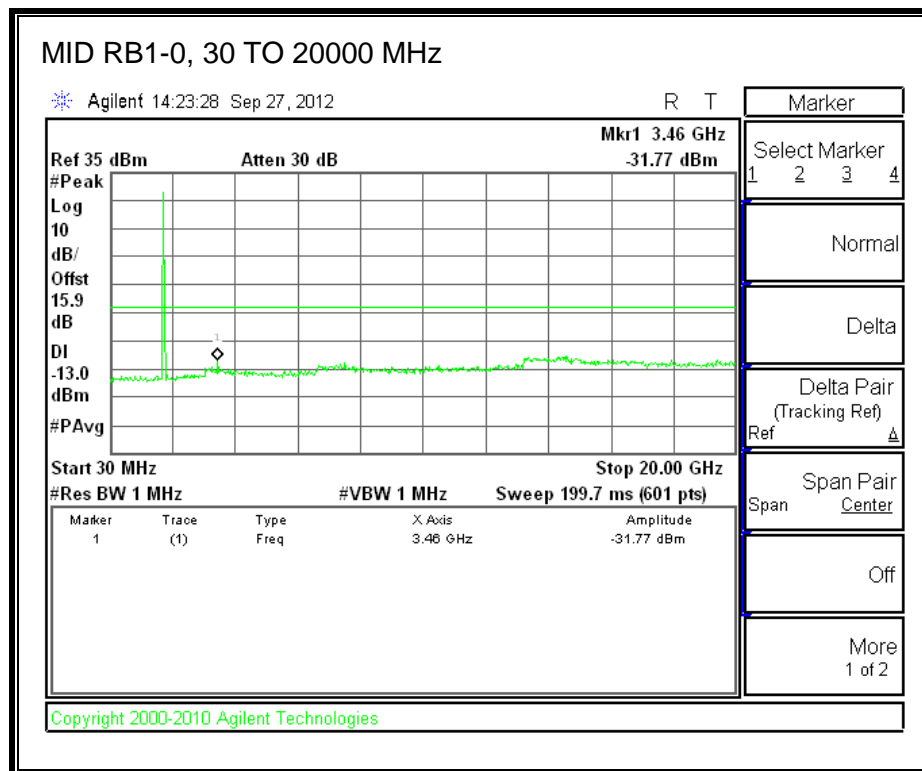
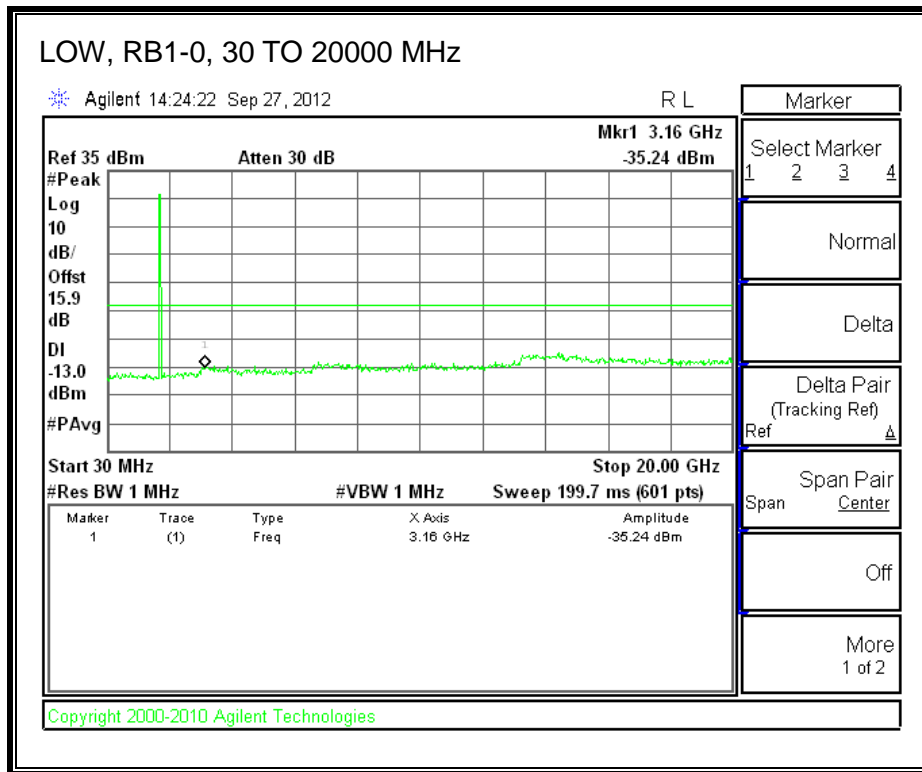
**Band 4 (15 MHz BANDWIDTH)**

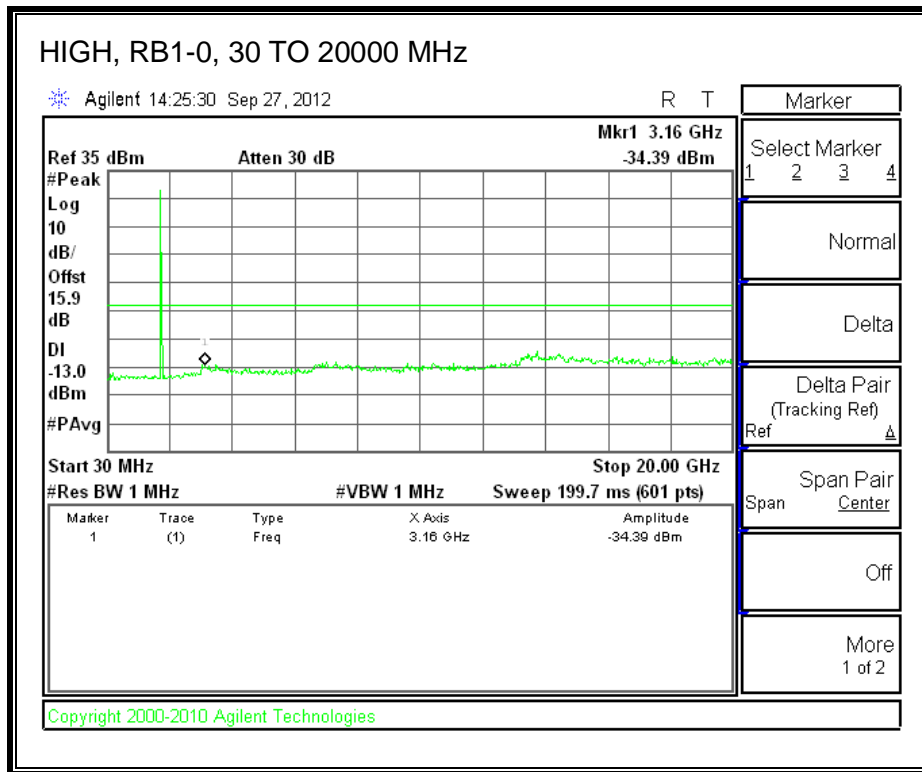
**QPSK**





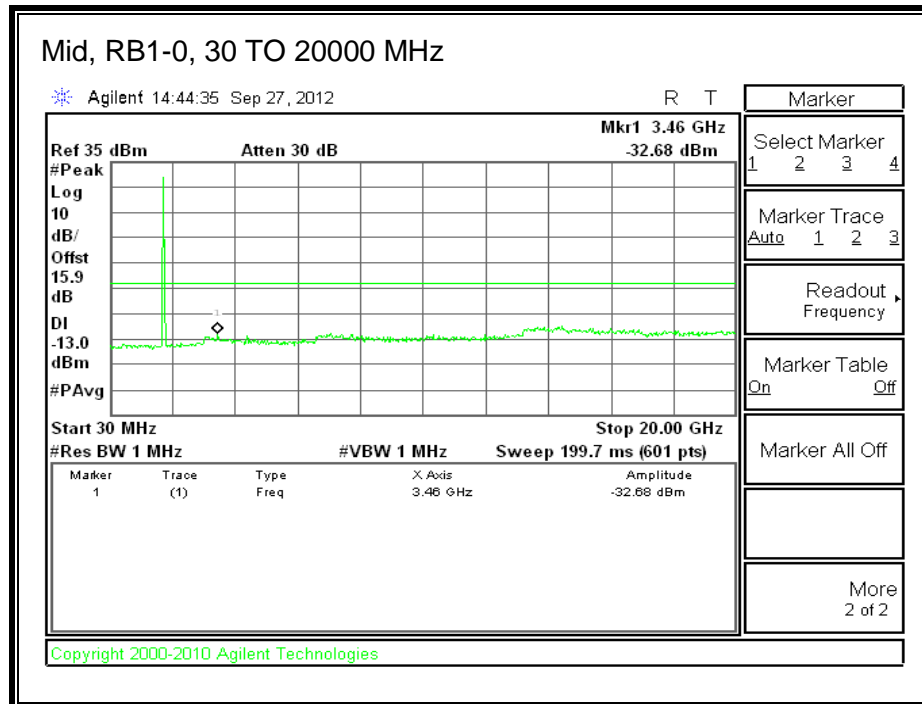
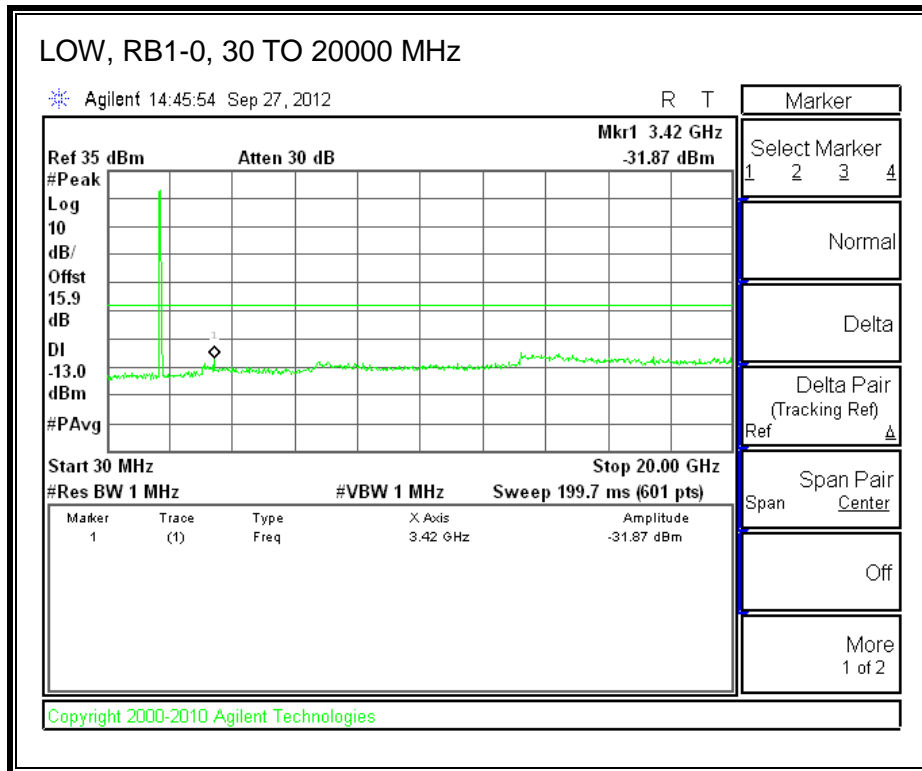
**16QAM**

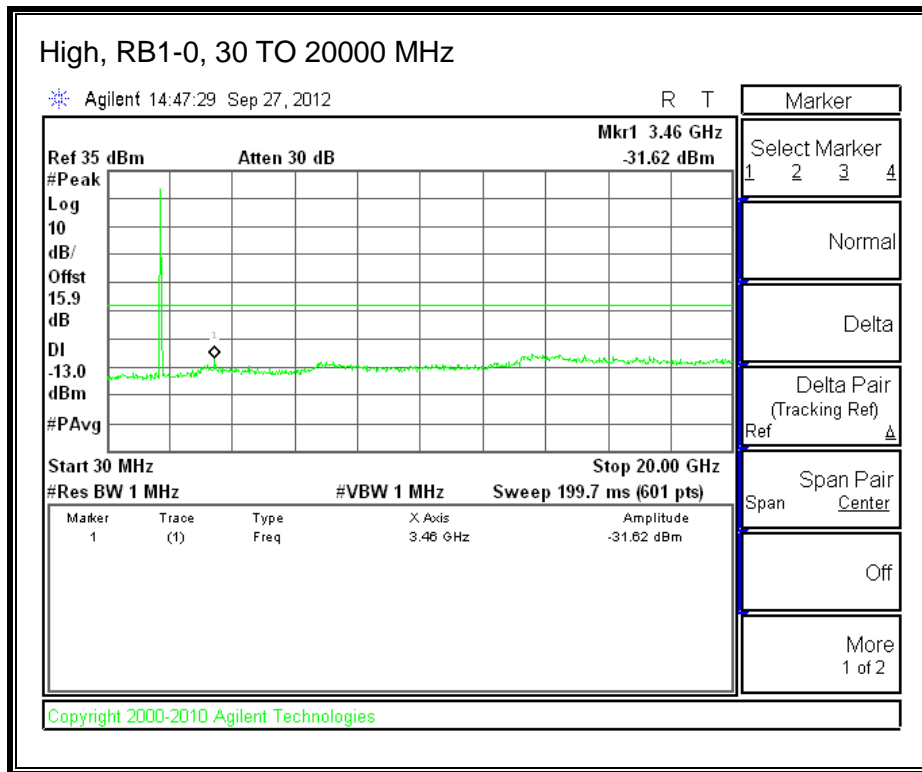




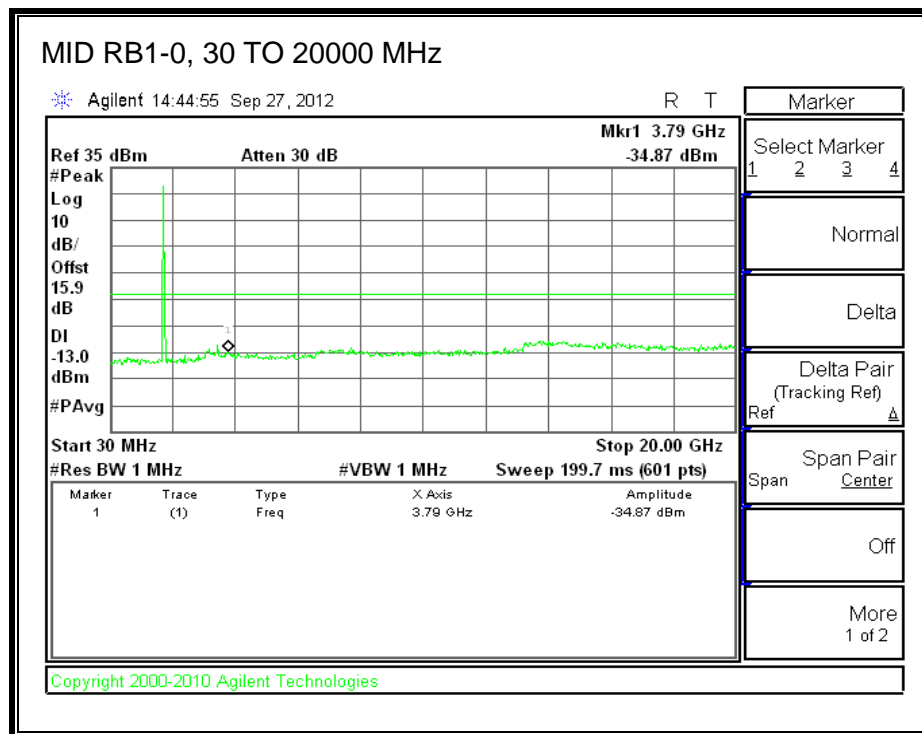
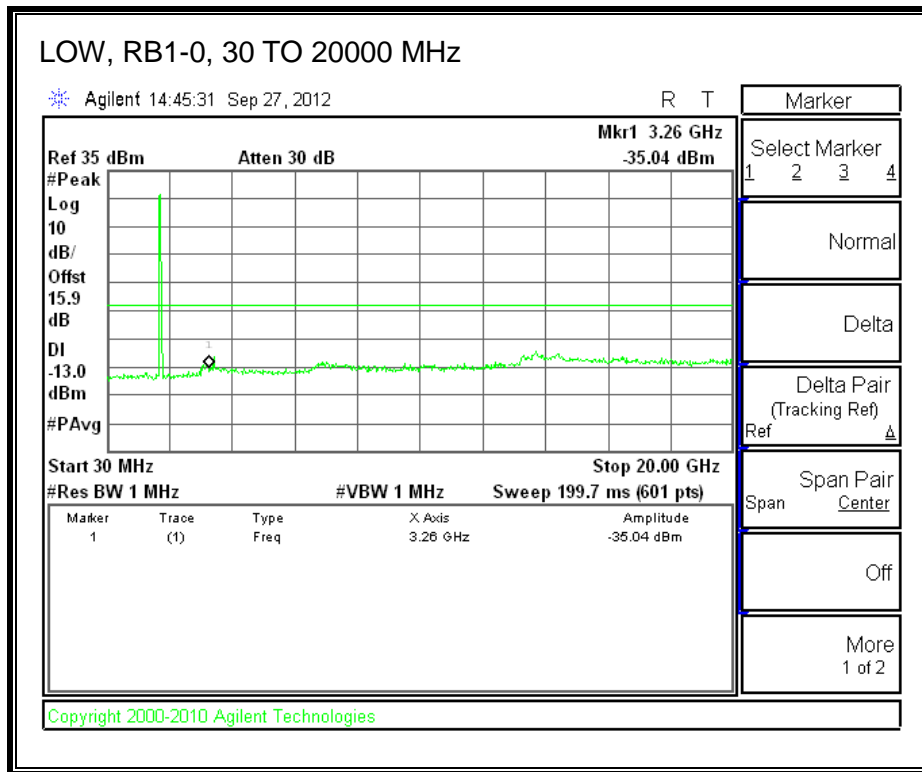
**Band 4 (20 MHz BANDWIDTH)**

**QPSK**

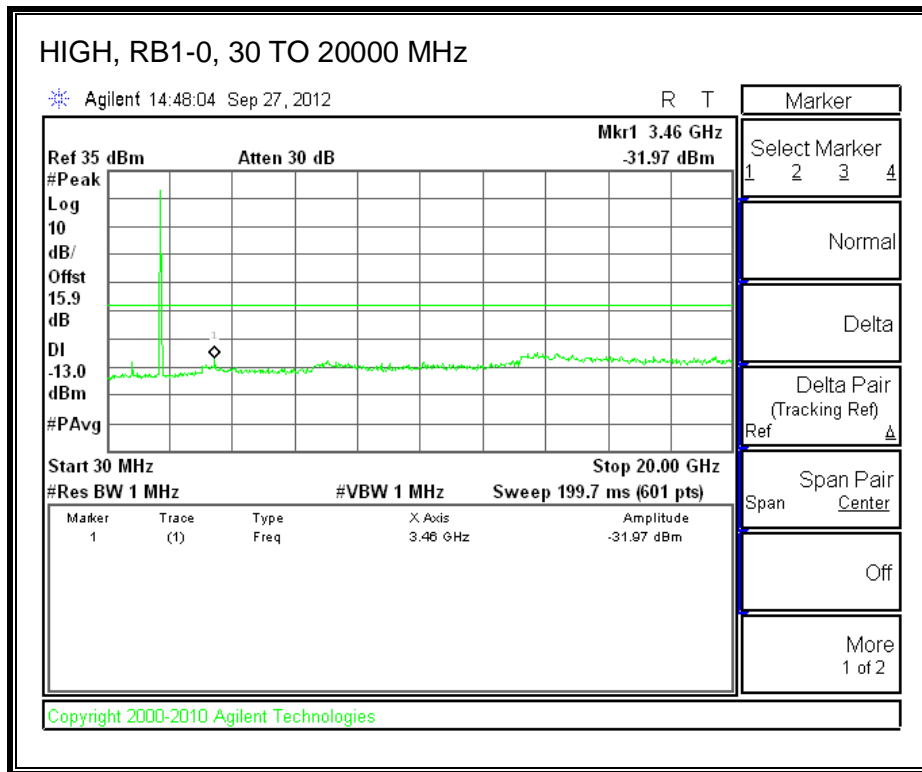




**16QAM**

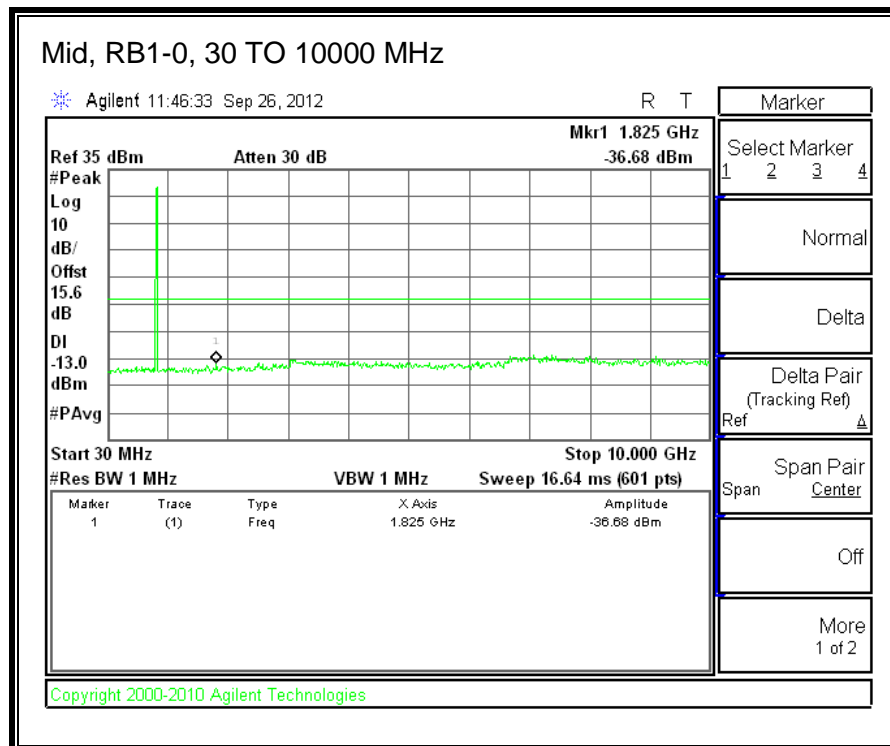
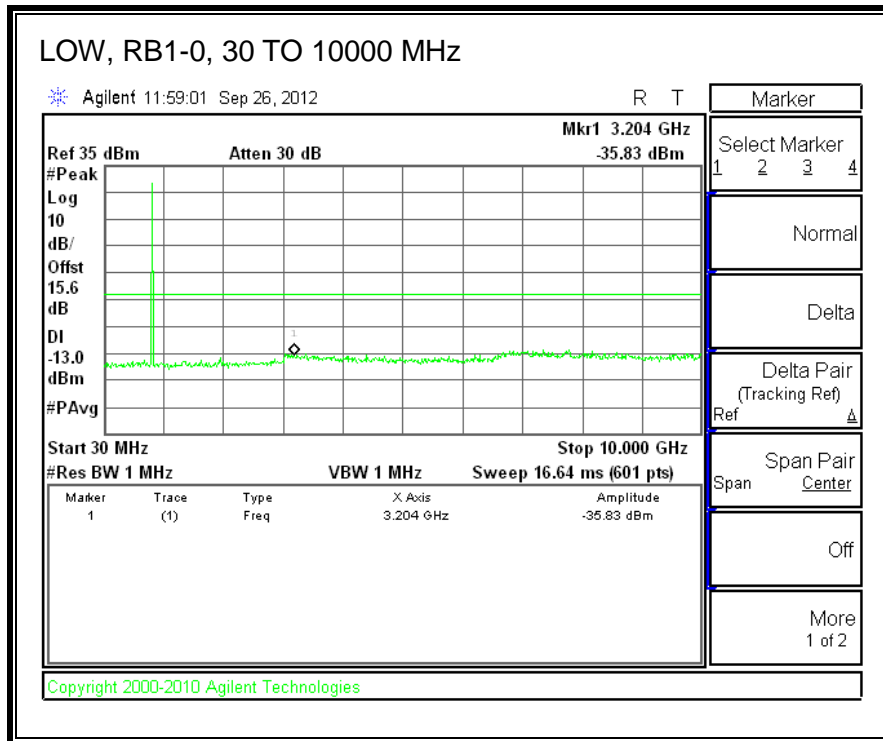


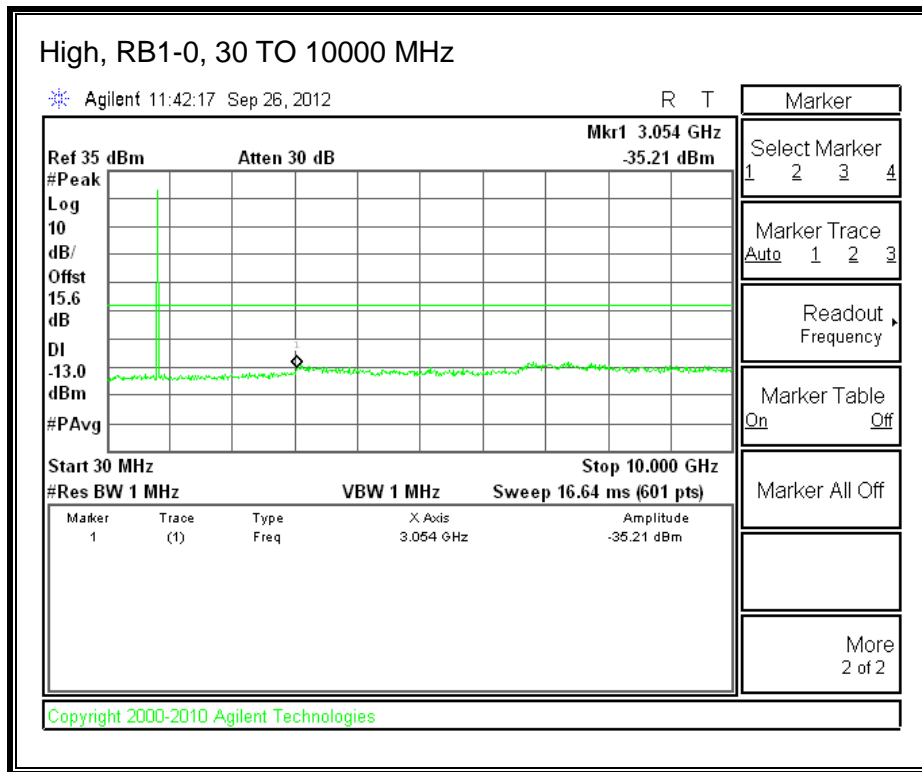




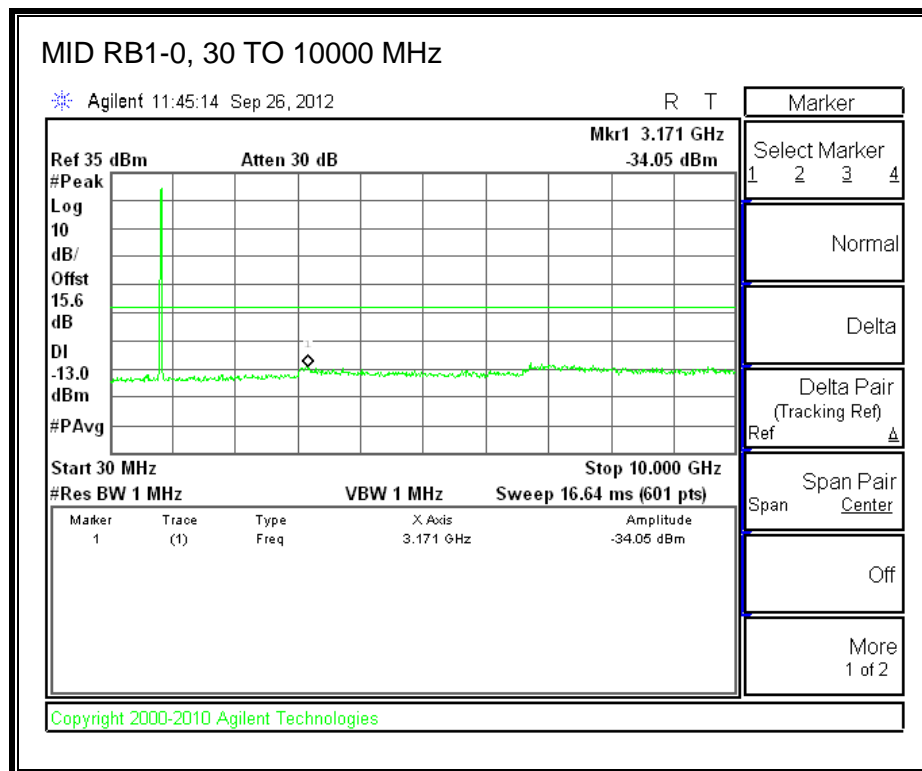
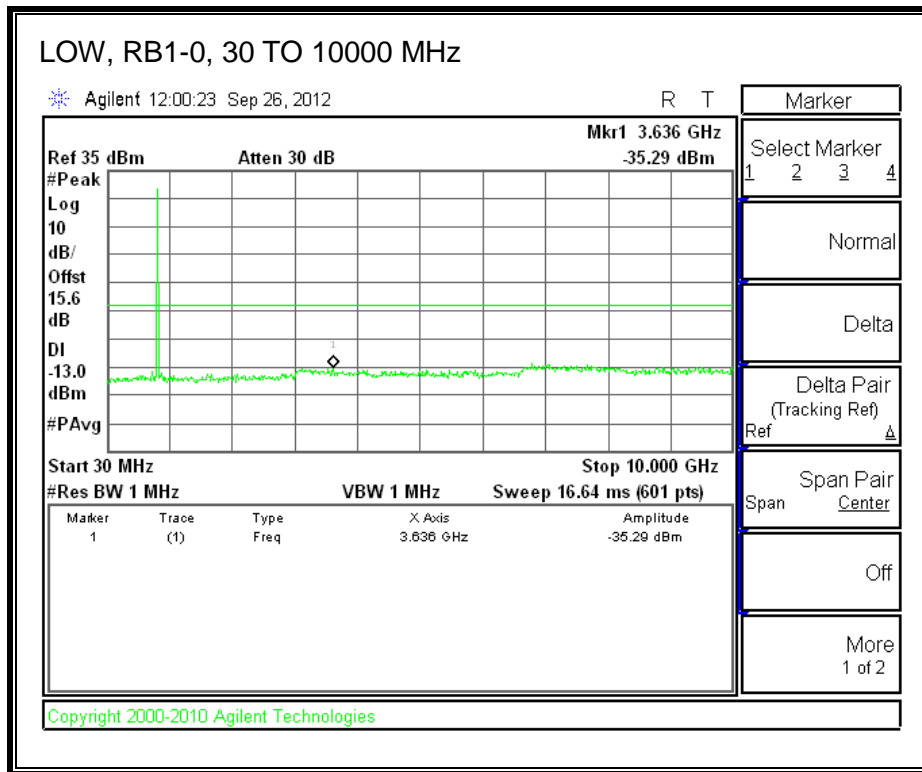
### 8.3.5. LTE BAND 5

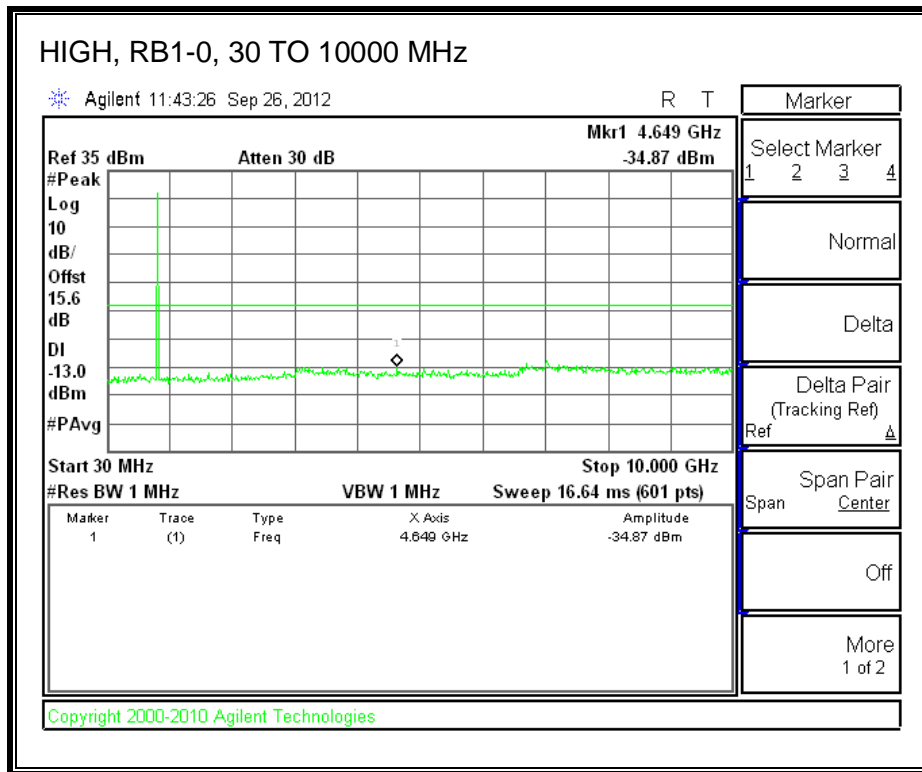
#### QPSK (1.4 MHz BANDWIDTH)





**16QAM**





**Band 5 (3 MHz BANDWIDTH)**

**QPSK**

