

## 7. OUT OF BAND EMISSIONS

### RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238 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**

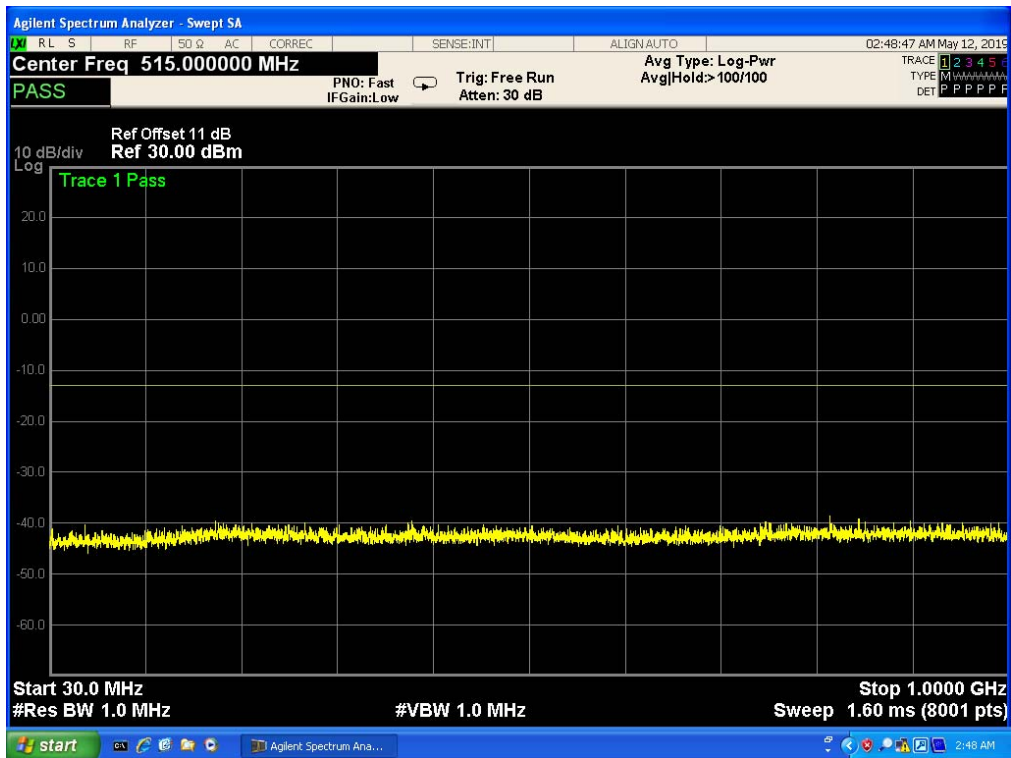
LTE Band 2  
LTE Band 4  
LTE Band 5  
LTE Band 12  
LTE Band 17  
LTE Band 25

### 7.1 MEASUREMENT METHOD

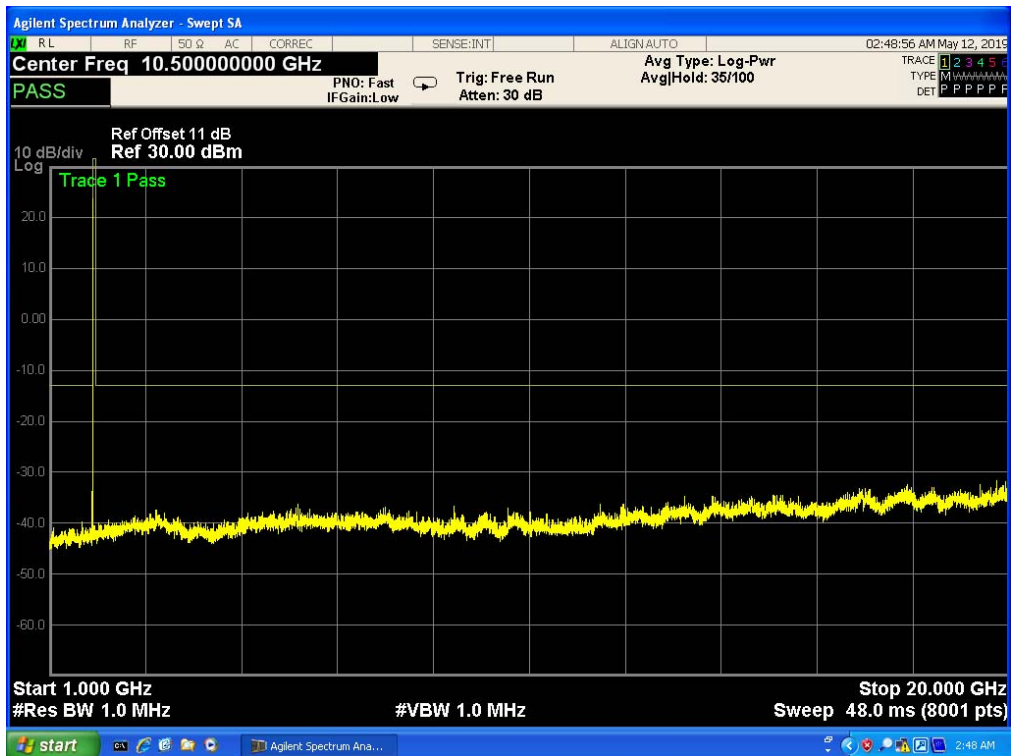
The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

### 7.1 LTE BAND 2

Band 2,UL Channel 18607,UL Frequency 1850.7,BW 1.4,NO. RB 6,RB POS. Low,QPSK

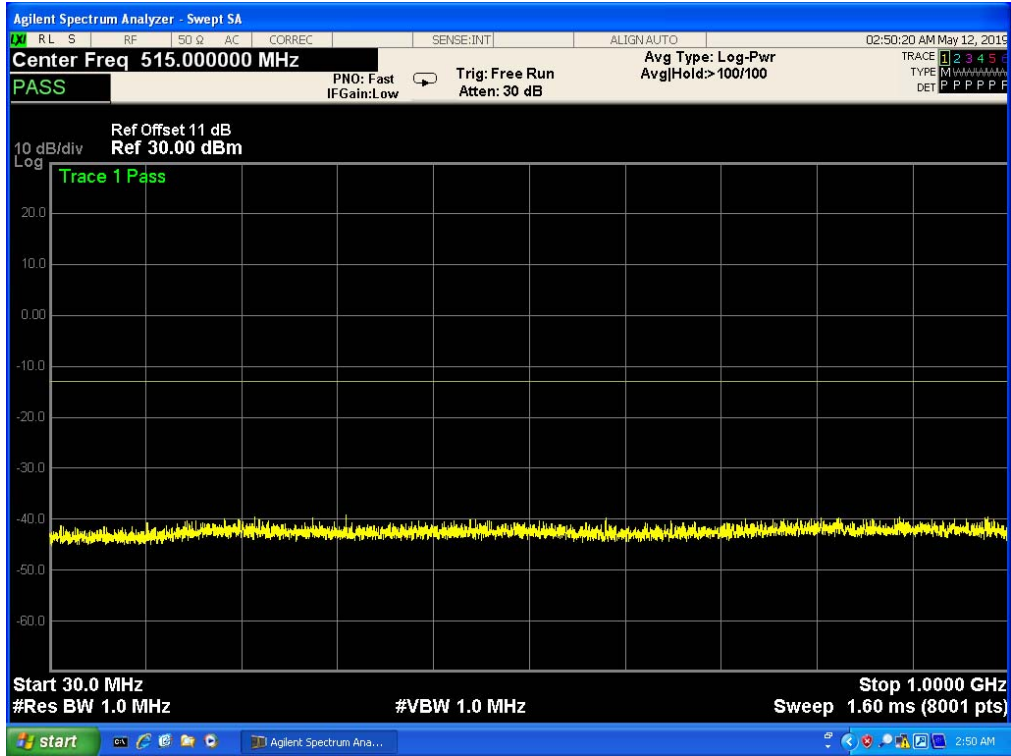


Band 2,UL Channel 18607,UL Frequency 1850.7,BW 1.4,NO. RB 6,RB POS. Low,QPSK

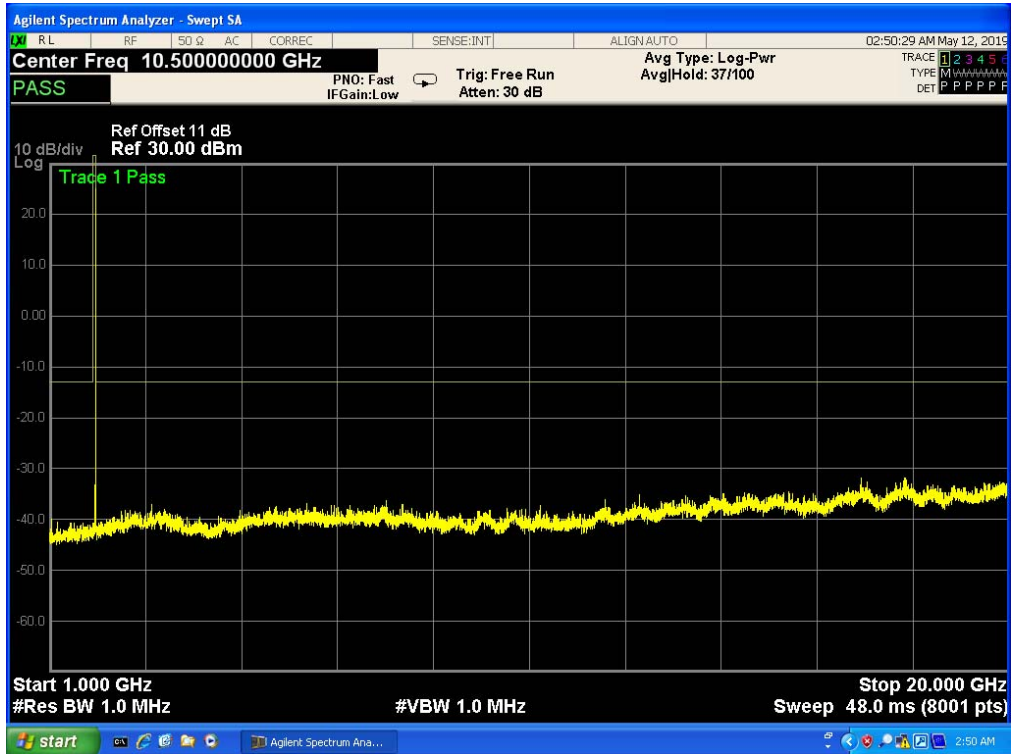




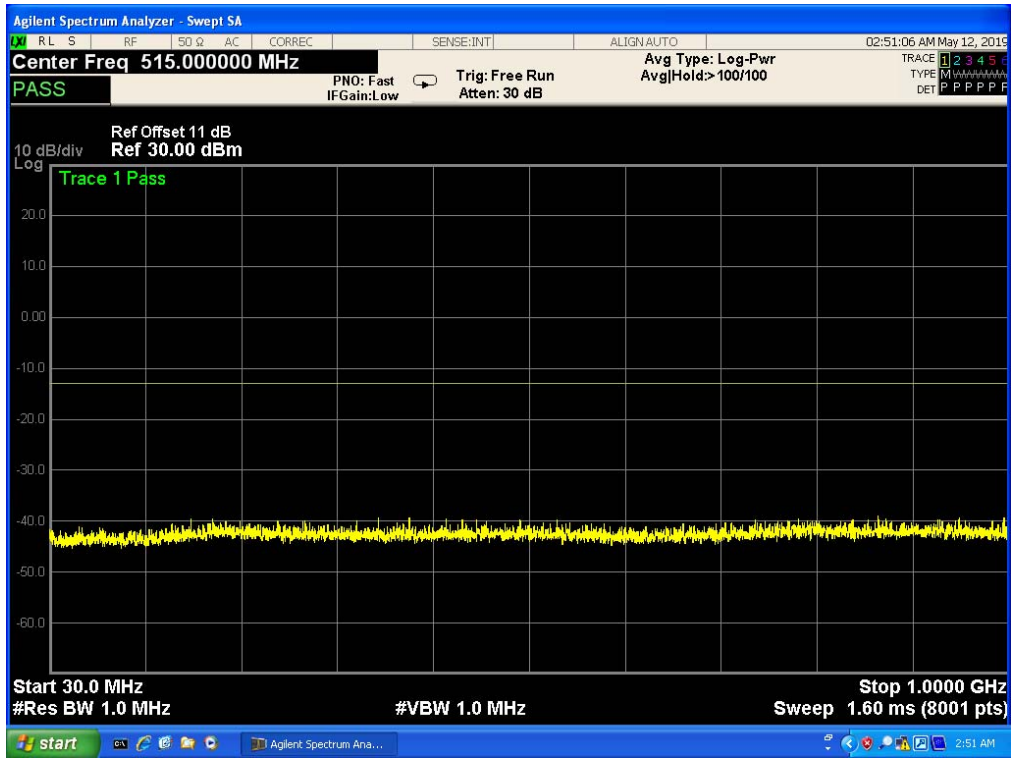
Band 2,UL Channel 19193,UL Frequency 1909.3,BW 1.4,NO. RB 6,RB POS. Low,QPSK



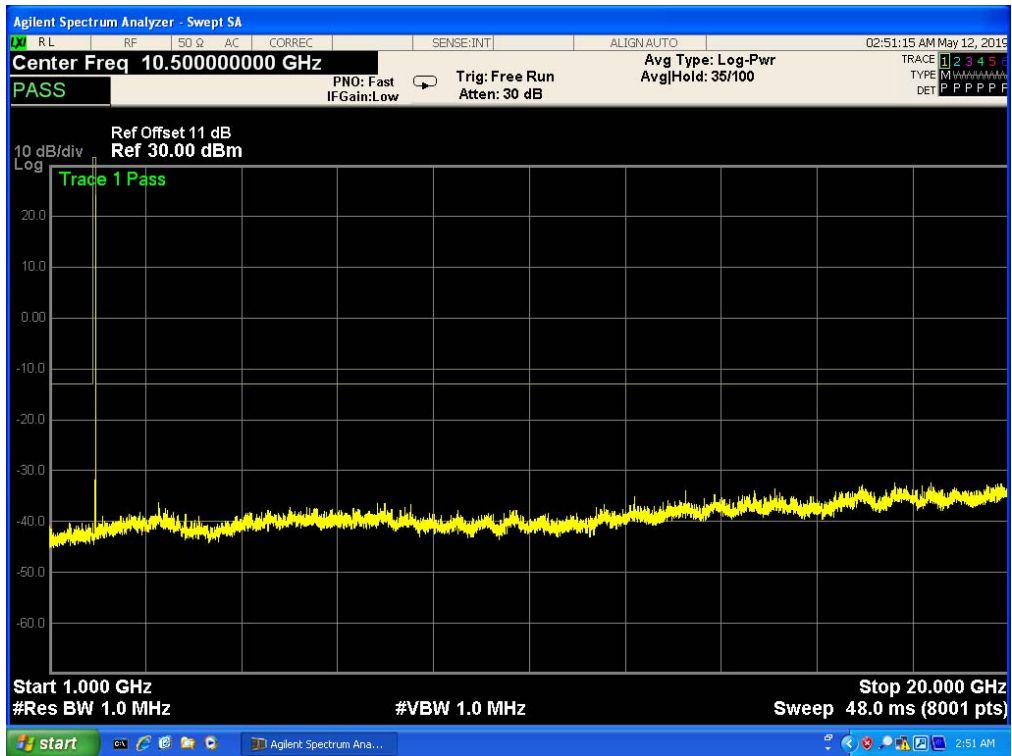
Band 2,UL Channel 19193,UL Frequency 1909.3,BW 1.4,NO. RB 6,RB POS. Low,QPSK



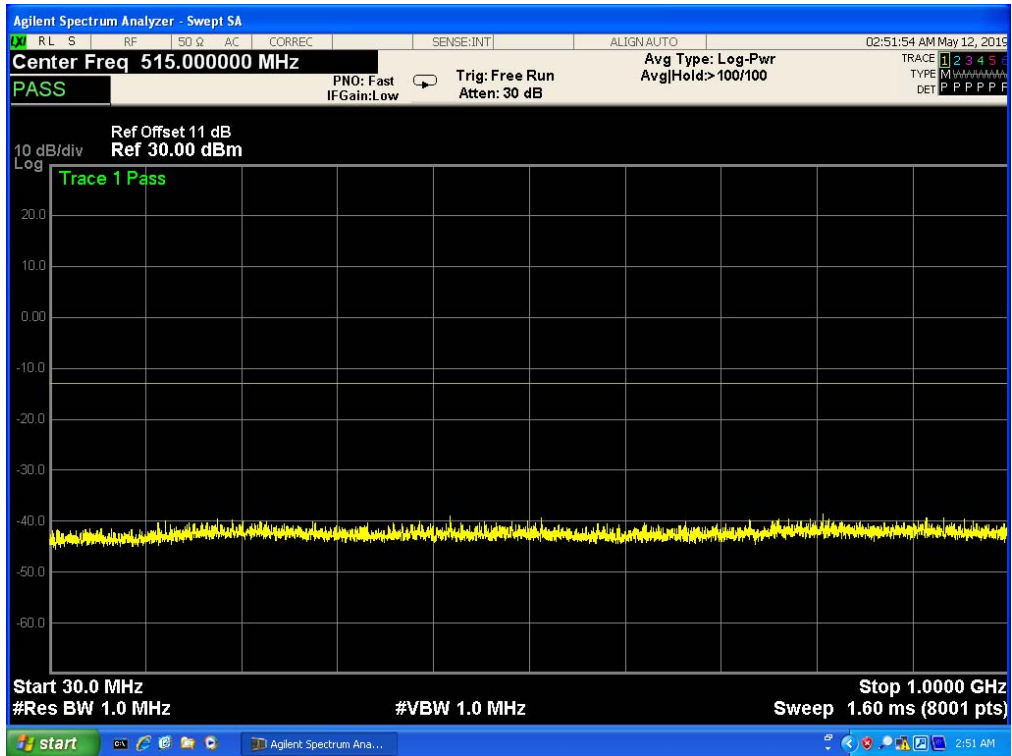
Band 2,UL Channel 19193,UL Frequency 1909.3,BW 1.4,NO. RB 6,RB POS. Low,16QAM



Band 2,UL Channel 19193,UL Frequency 1909.3,BW 1.4,NO. RB 6,RB POS. Low,16QAM



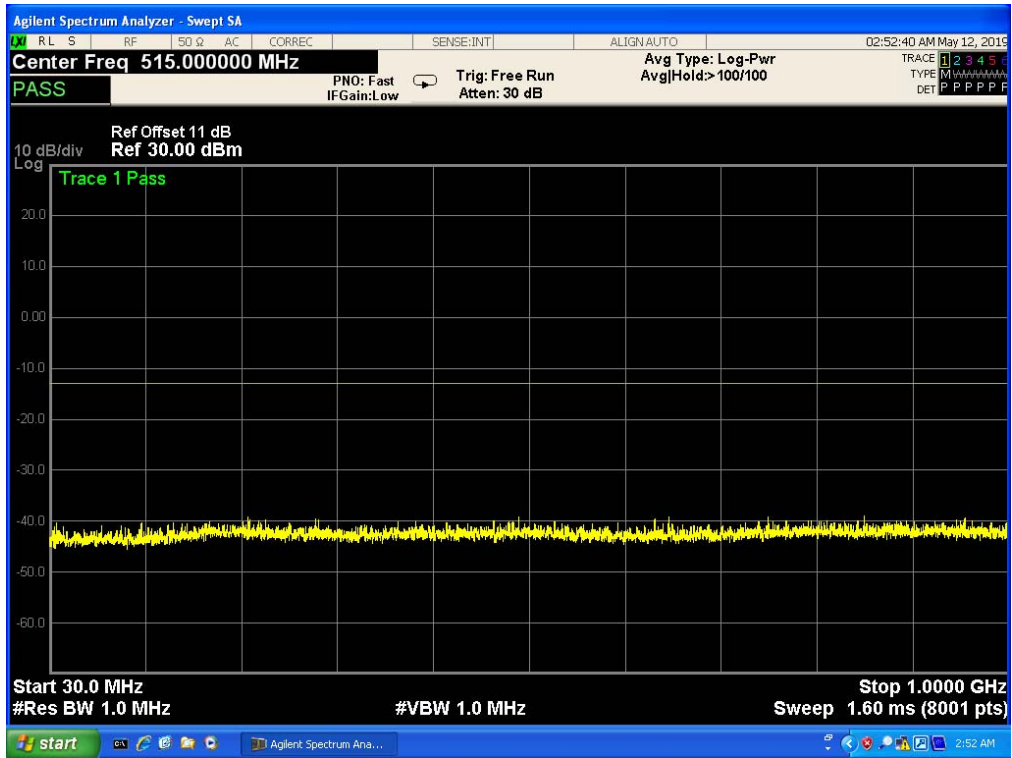
Band 2,UL Channel 18615,UL Frequency 1851.5,BW 3.0,NO. RB 15,RB POS. Low,QPSK



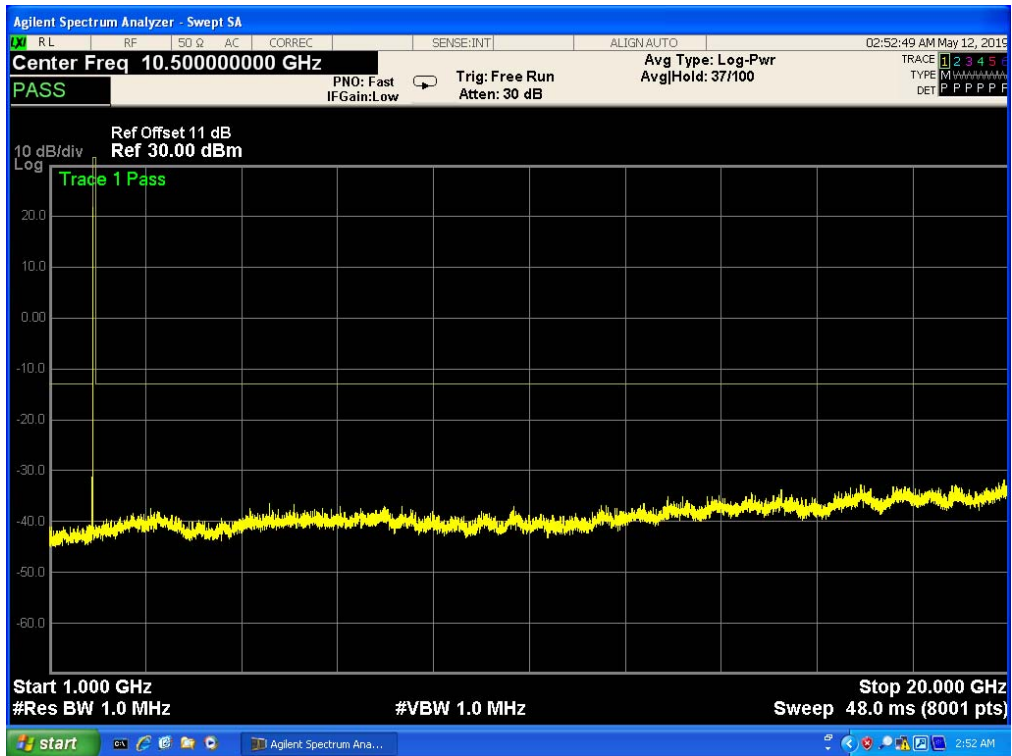
Band 2,UL Channel 18615,UL Frequency 1851.5,BW 3.0,NO. RB 15,RB POS. Low,QPSK



Band 2,UL Channel 18615,UL Frequency 1851.5,BW 3.0,NO. RB 15,RB POS. Low,16QAM



Band 2,UL Channel 18615,UL Frequency 1851.5,BW 3.0,NO. RB 15,RB POS. Low,16QAM

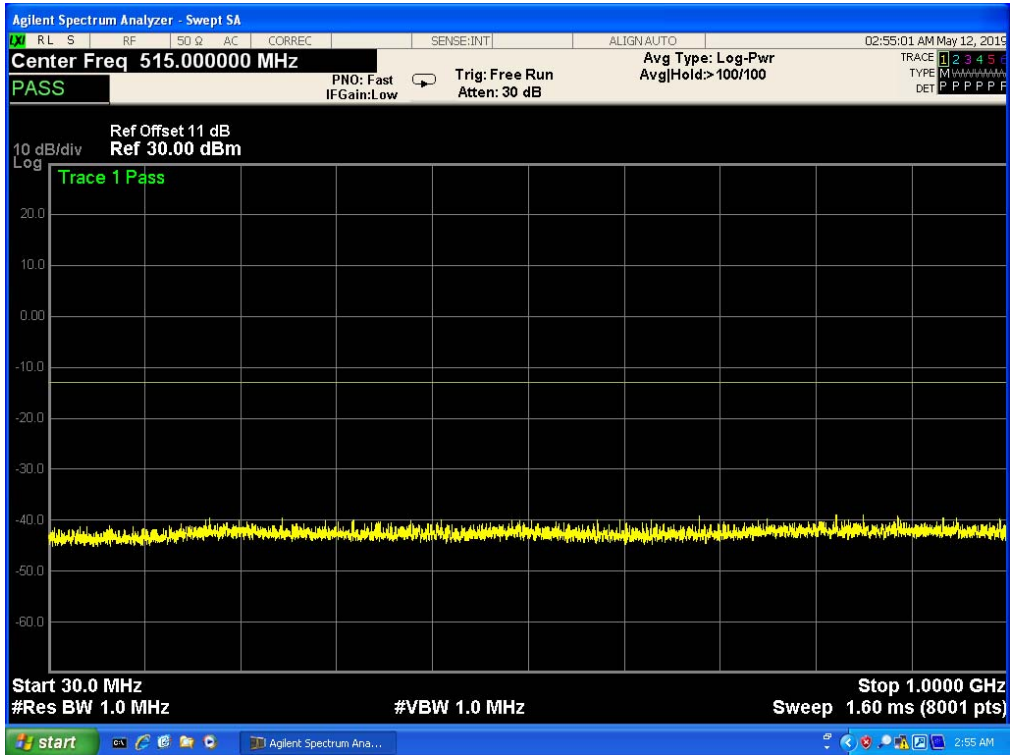




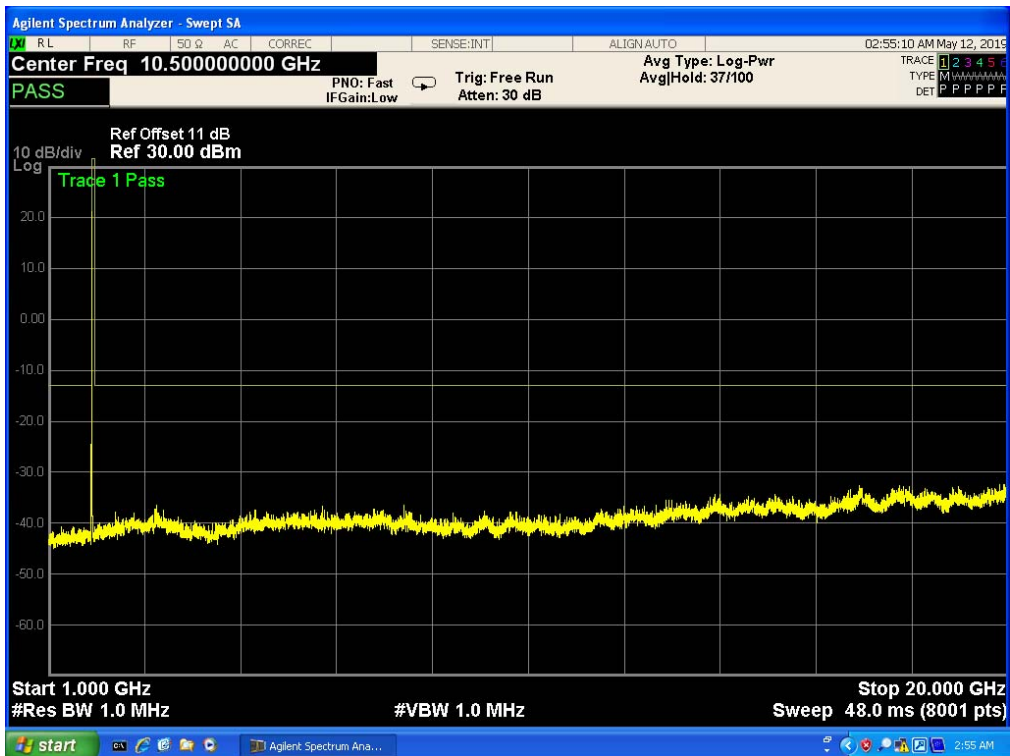




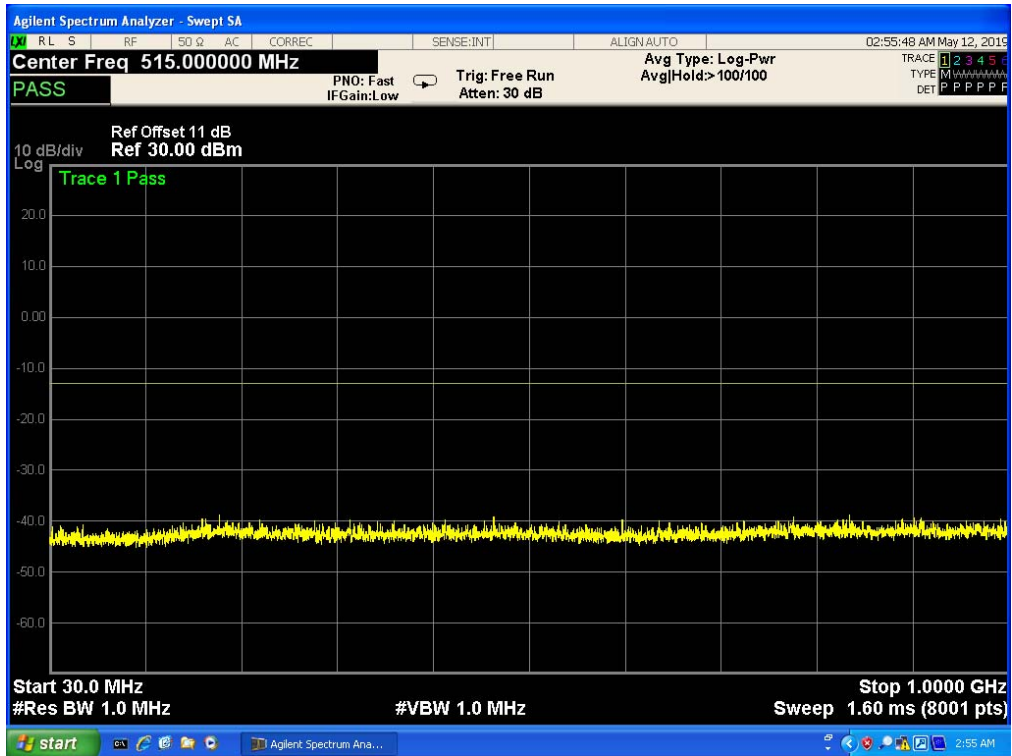
Band 2,UL Channel 18625,UL Frequency 1852.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



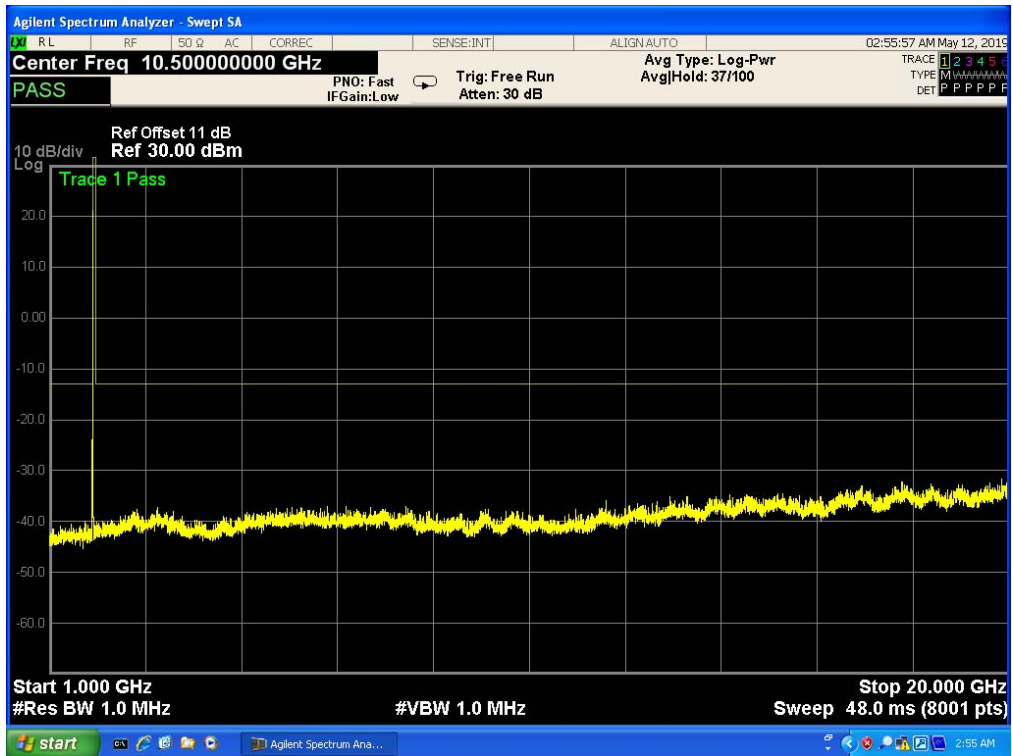
Band 2,UL Channel 18625,UL Frequency 1852.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



Band 2,UL Channel 18625,UL Frequency 1852.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



Band 2,UL Channel 18625,UL Frequency 1852.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



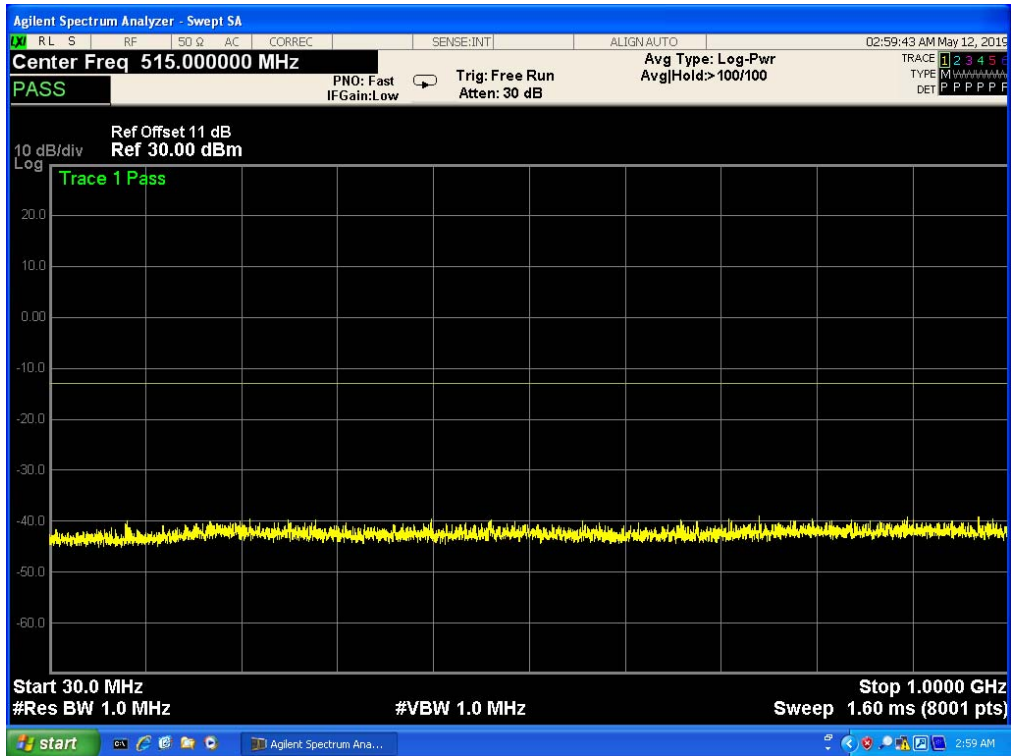




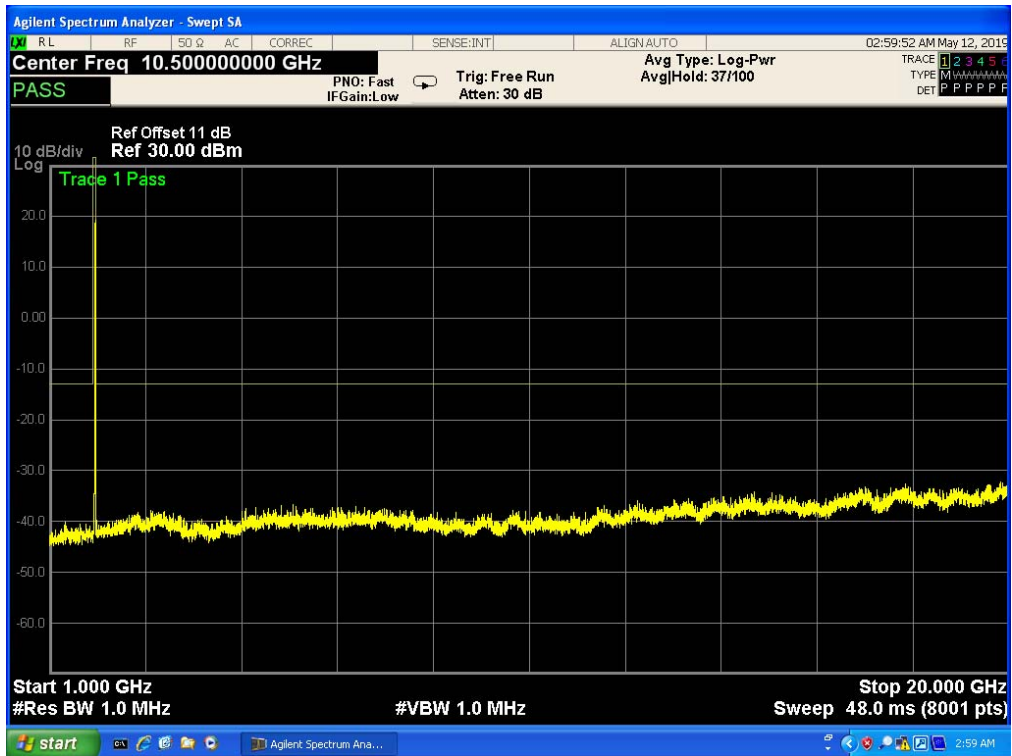




Band 2,UL Channel 19150,UL Frequency 1905.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK

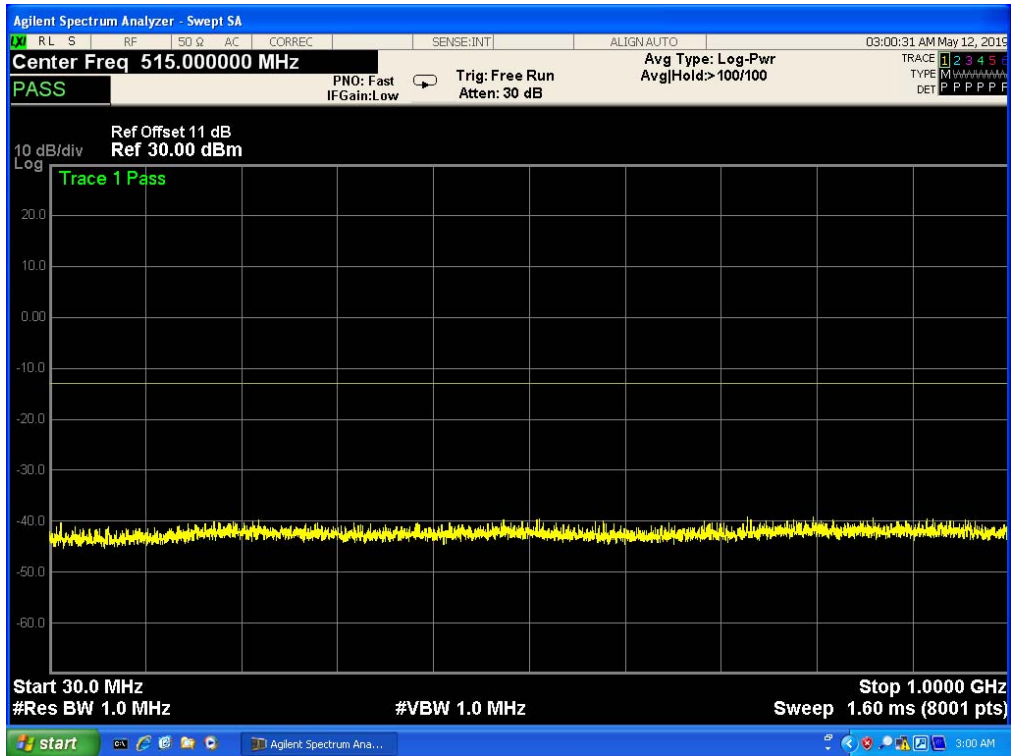


Band 2,UL Channel 19150,UL Frequency 1905.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK

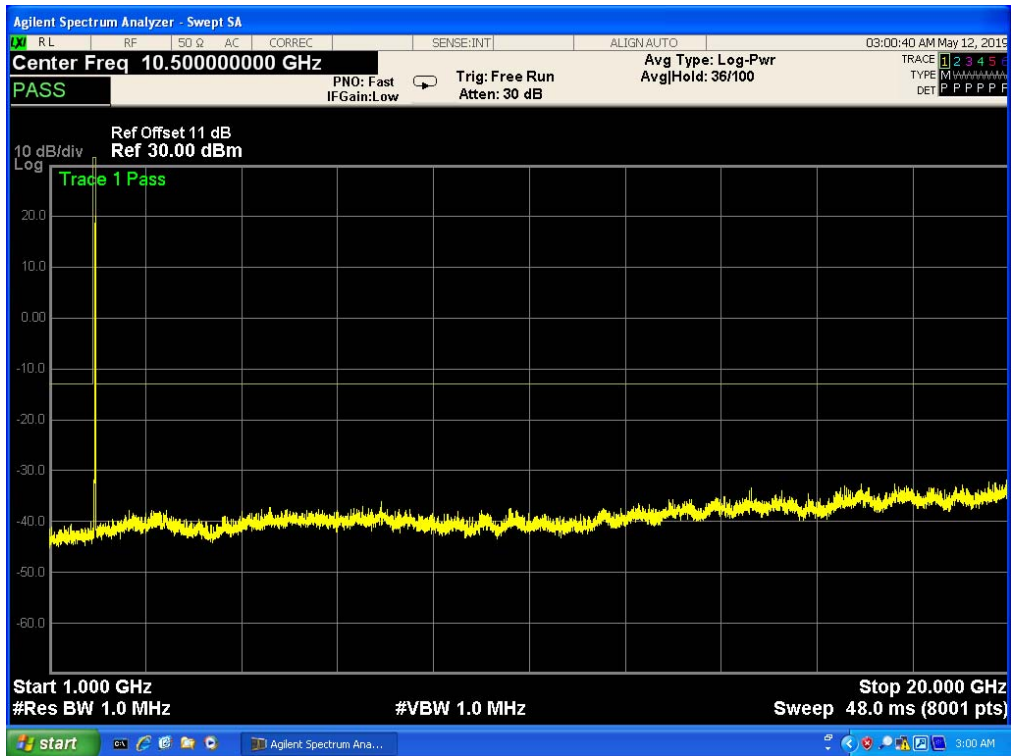




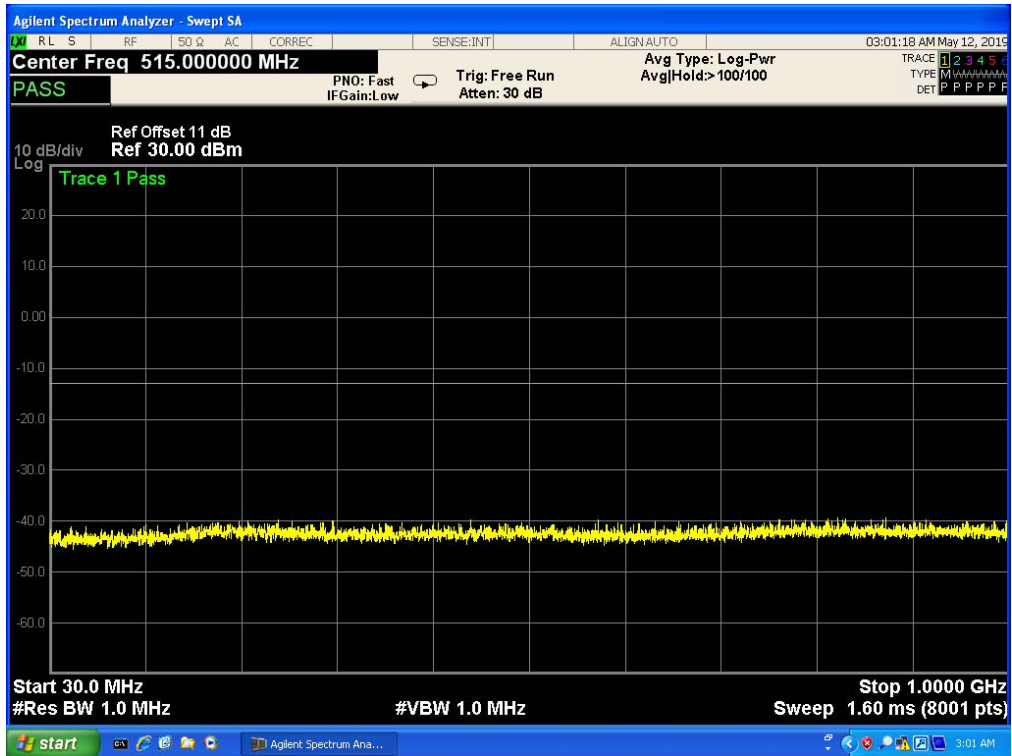
Band 2,UL Channel 19150,UL Frequency 1905.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



Band 2,UL Channel 19150,UL Frequency 1905.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



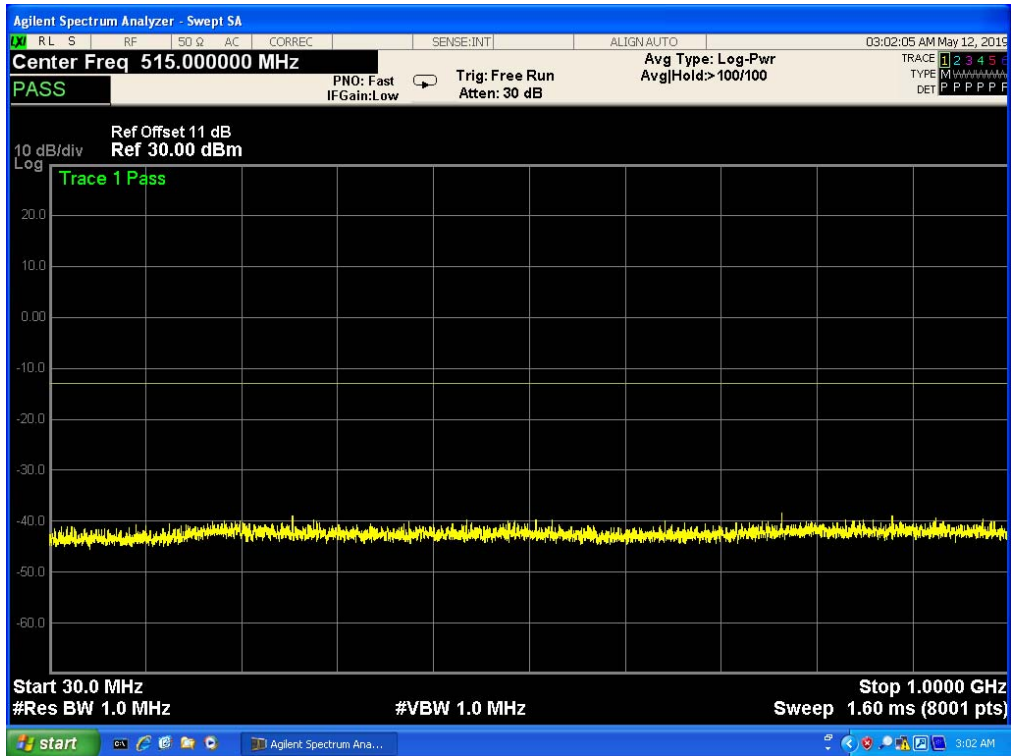
Band 2,UL Channel 18675,UL Frequency 1857.5,BW 15.0,NO. RB 75,RB POS. Low,QPSK



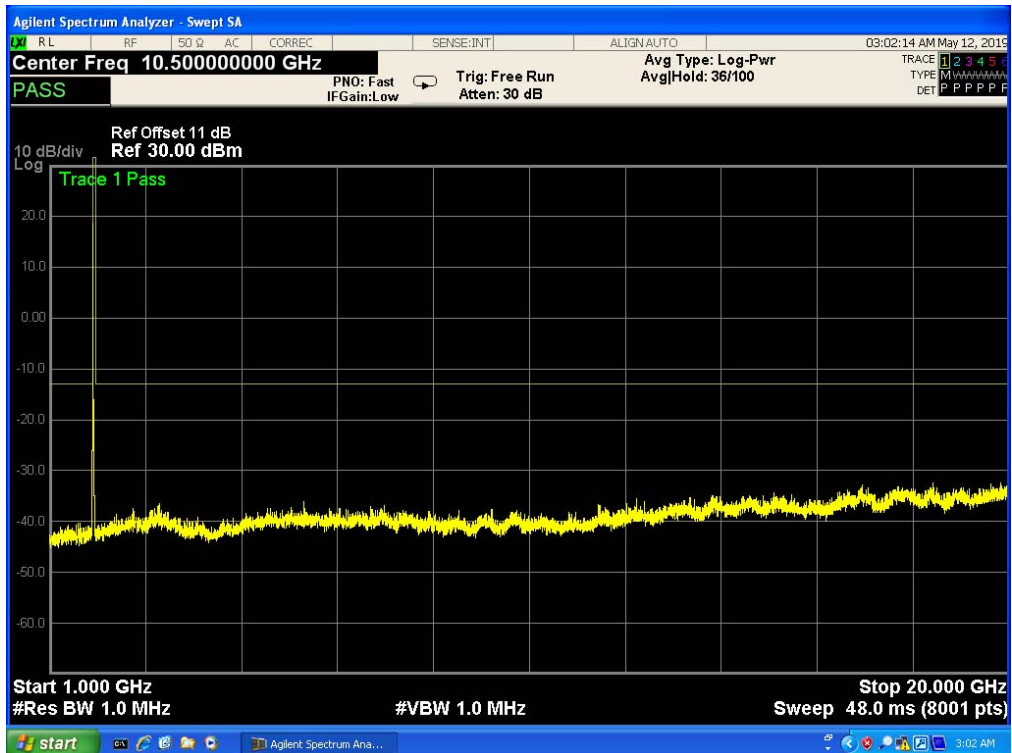
Band 2,UL Channel 18675,UL Frequency 1857.5,BW 15.0,NO. RB 75,RB POS. Low,QPSK



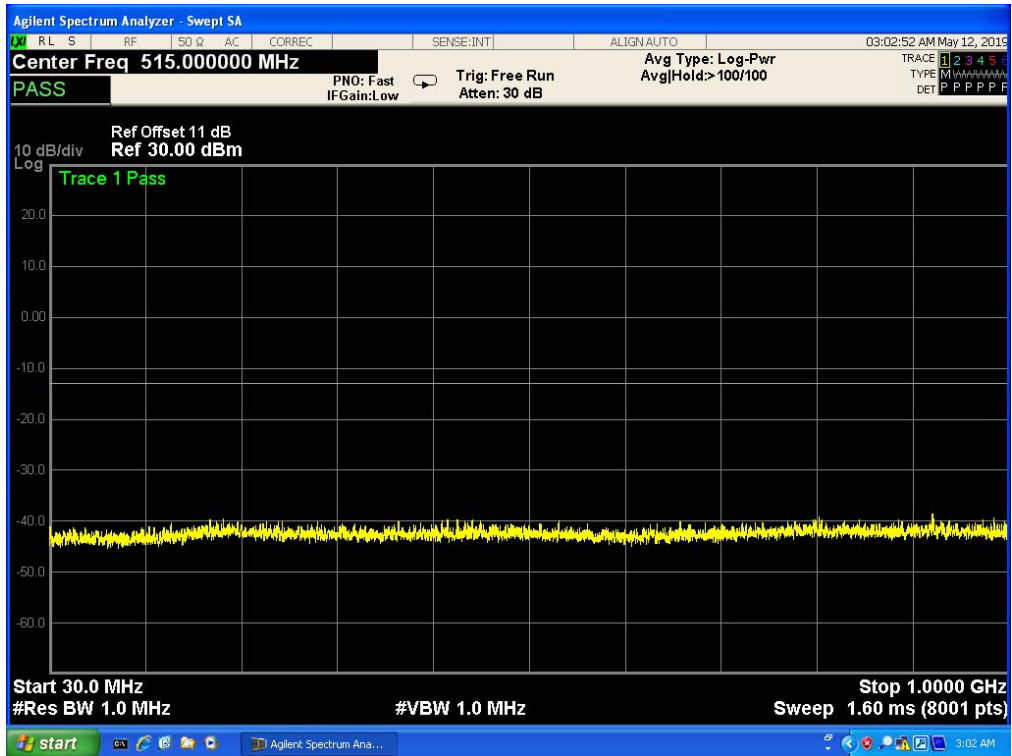
Band 2,UL Channel 18675,UL Frequency 1857.5,BW 15.0,NO. RB 75,RB POS. Low,16QAM



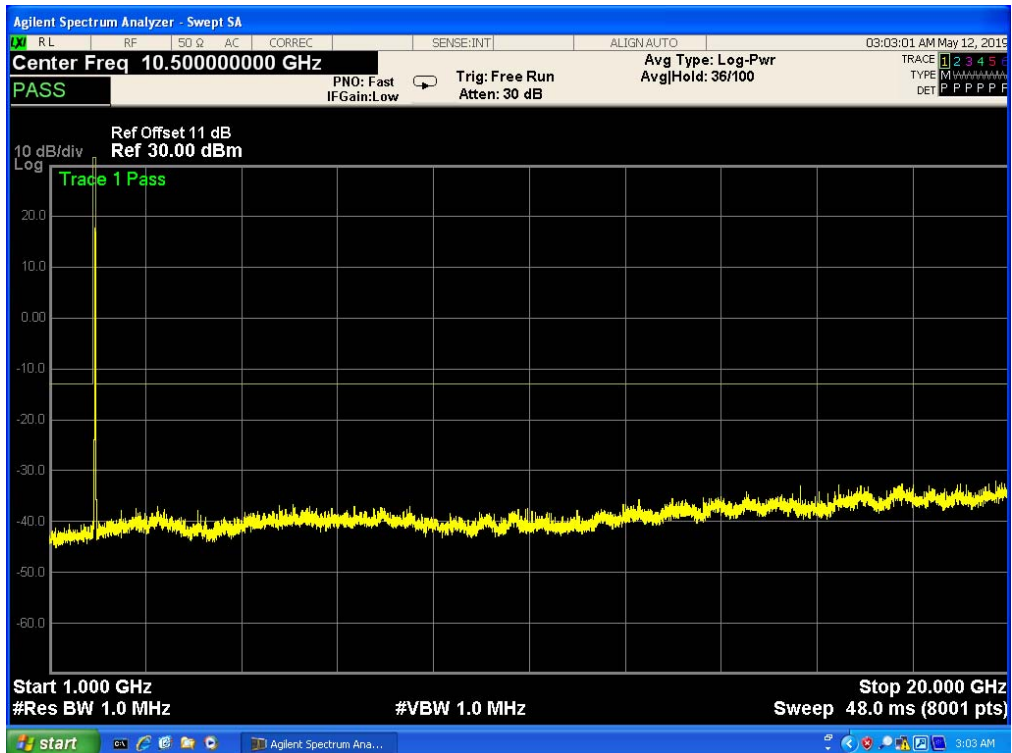
Band 2,UL Channel 18675,UL Frequency 1857.5,BW 15.0,NO. RB 75,RB POS. Low,16QAM



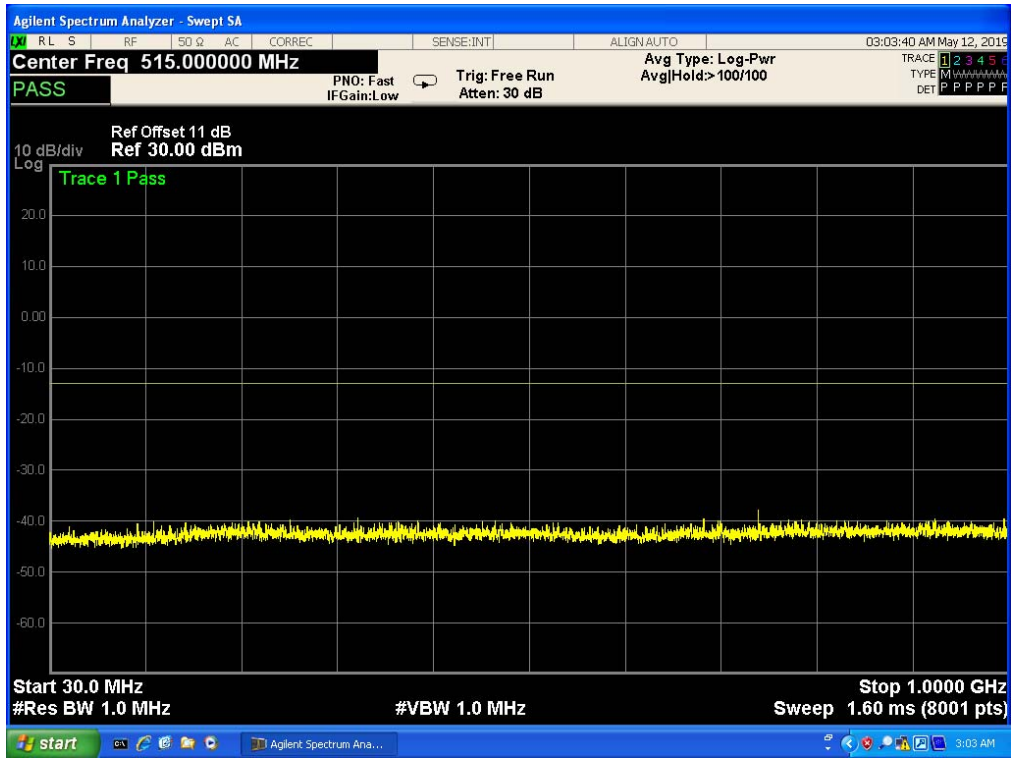
Band 2,UL Channel 19125,UL Frequency 1902.5,BW 15.0,NO. RB 75,RB POS. Low,QPSK



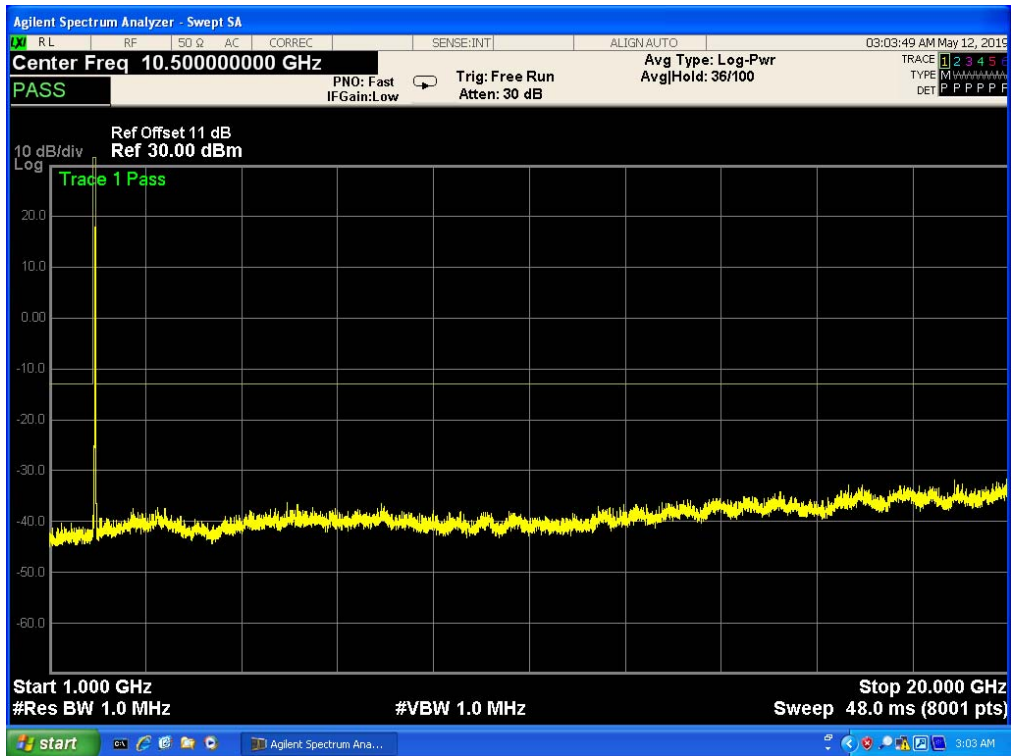
Band 2,UL Channel 19125,UL Frequency 1902.5,BW 15.0,NO. RB 75,RB POS. Low,QPSK



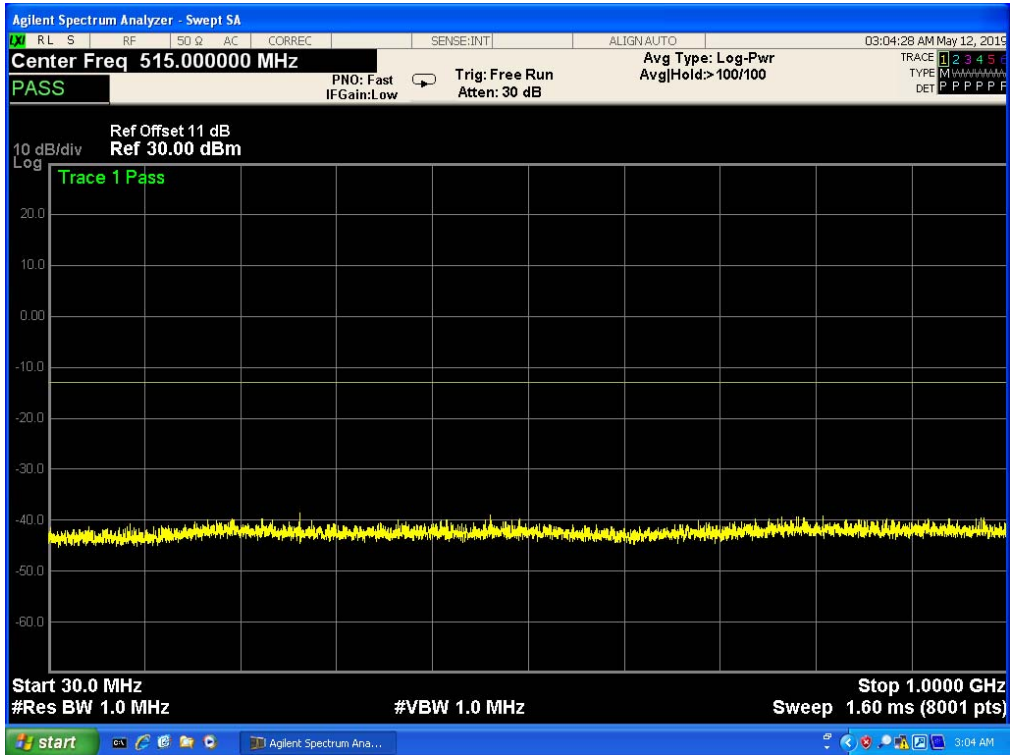
Band 2,UL Channel 19125,UL Frequency 1902.5,BW 15.0,NO. RB 75,RB POS. Low,16QAM



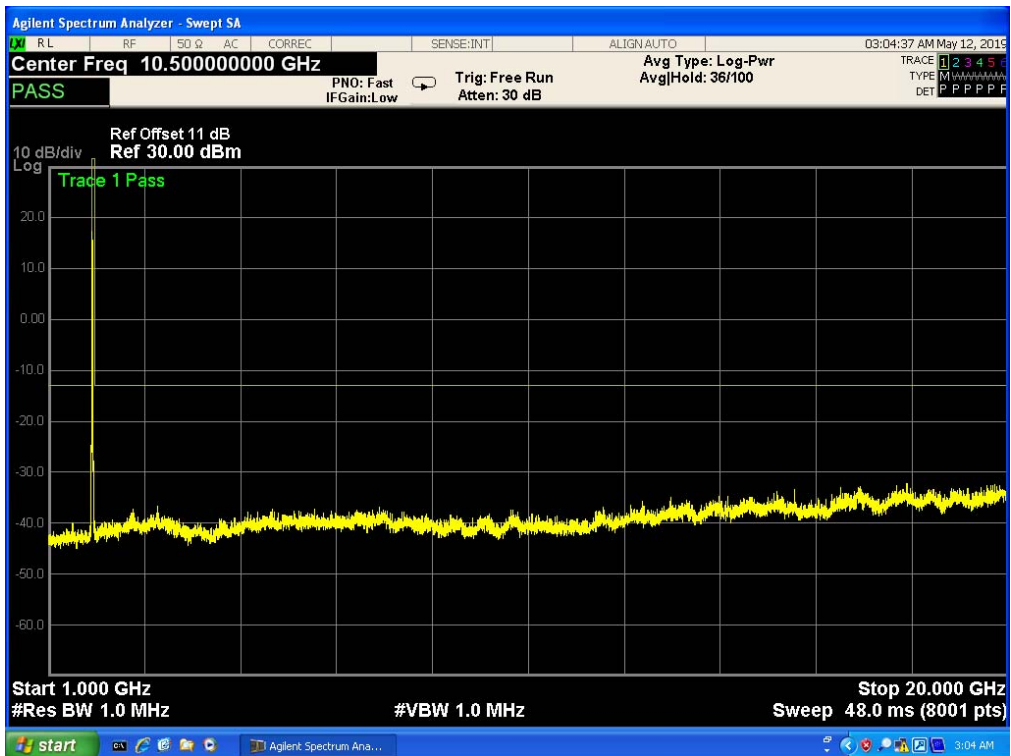
Band 2,UL Channel 19125,UL Frequency 1902.5,BW 15.0,NO. RB 75,RB POS. Low,16QAM



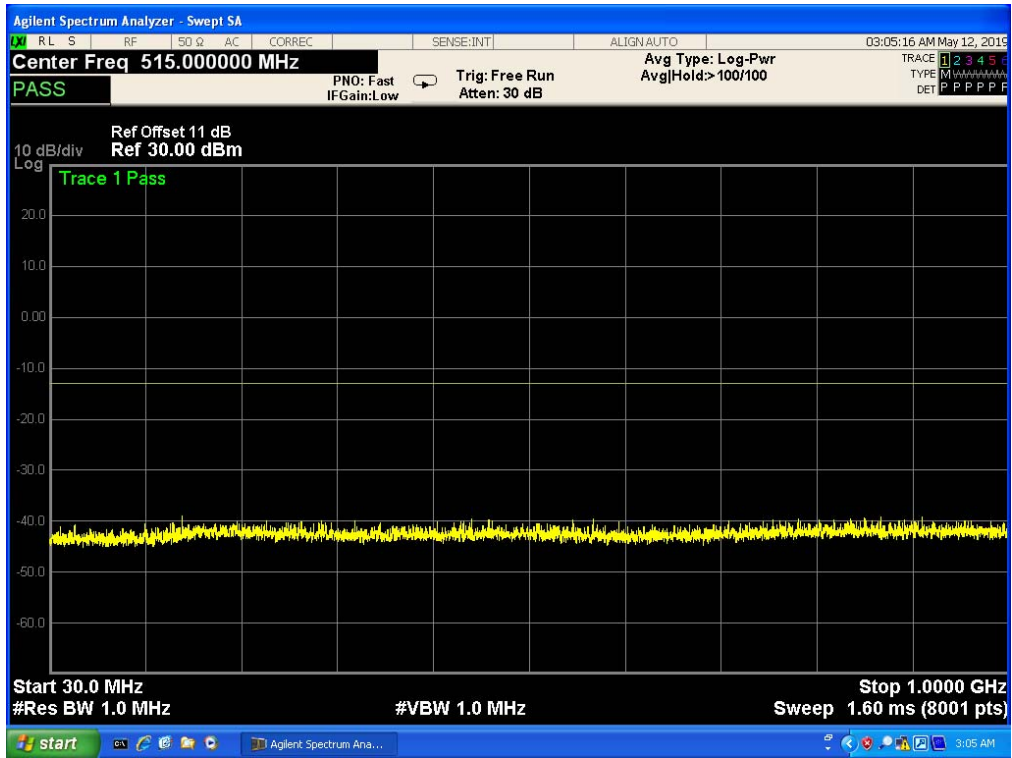
Band 2,UL Channel 18700,UL Frequency 1860.0,BW 20.0,NO. RB 100,RB POS. Low,QPSK



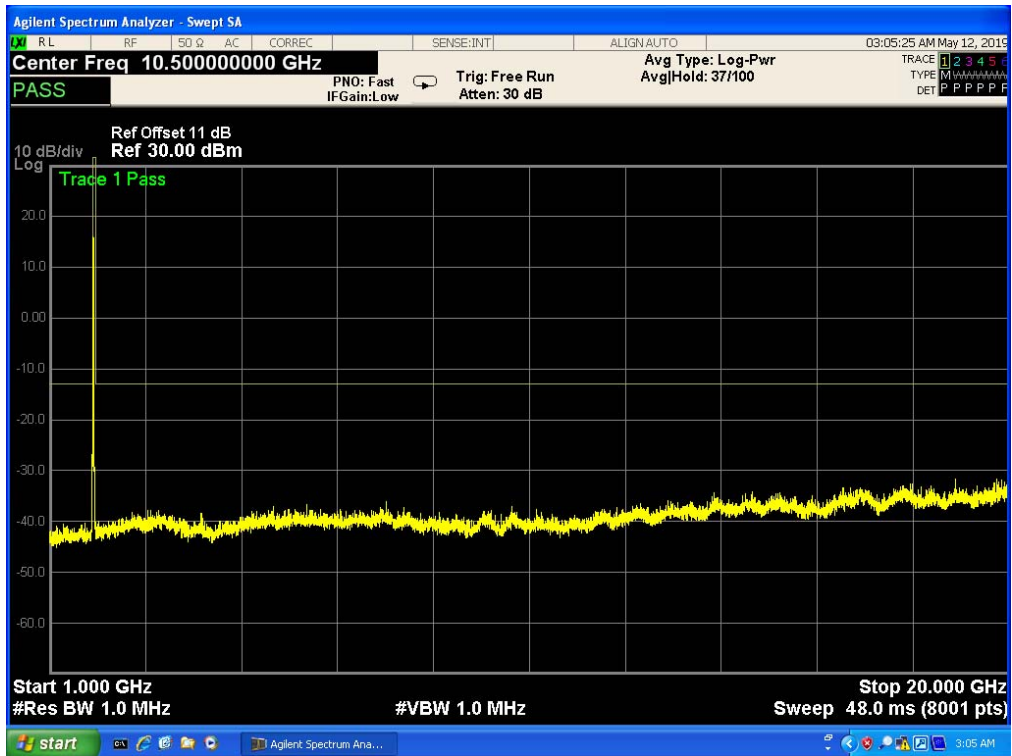
Band 2,UL Channel 18700,UL Frequency 1860.0,BW 20.0,NO. RB 100,RB POS. Low,QPSK



Band 2,UL Channel 18700,UL Frequency 1860.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM



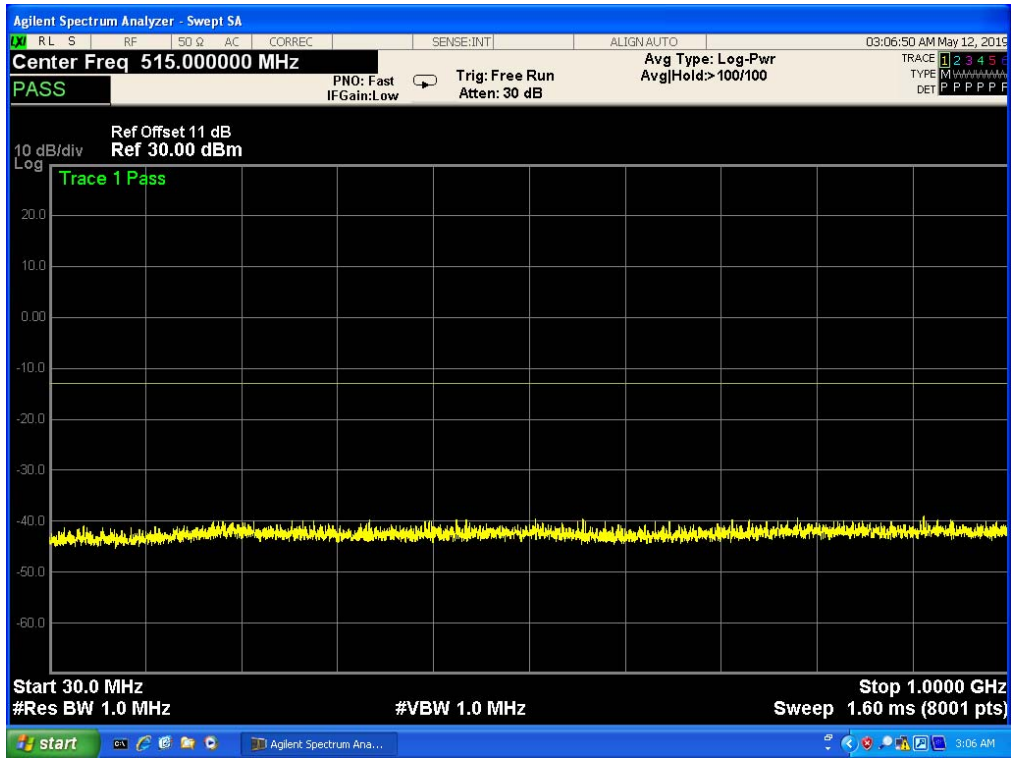
Band 2,UL Channel 18700,UL Frequency 1860.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM







Band 2,UL Channel 19100,UL Frequency 1900.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM



Band 2,UL Channel 19100,UL Frequency 1900.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM

