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 7

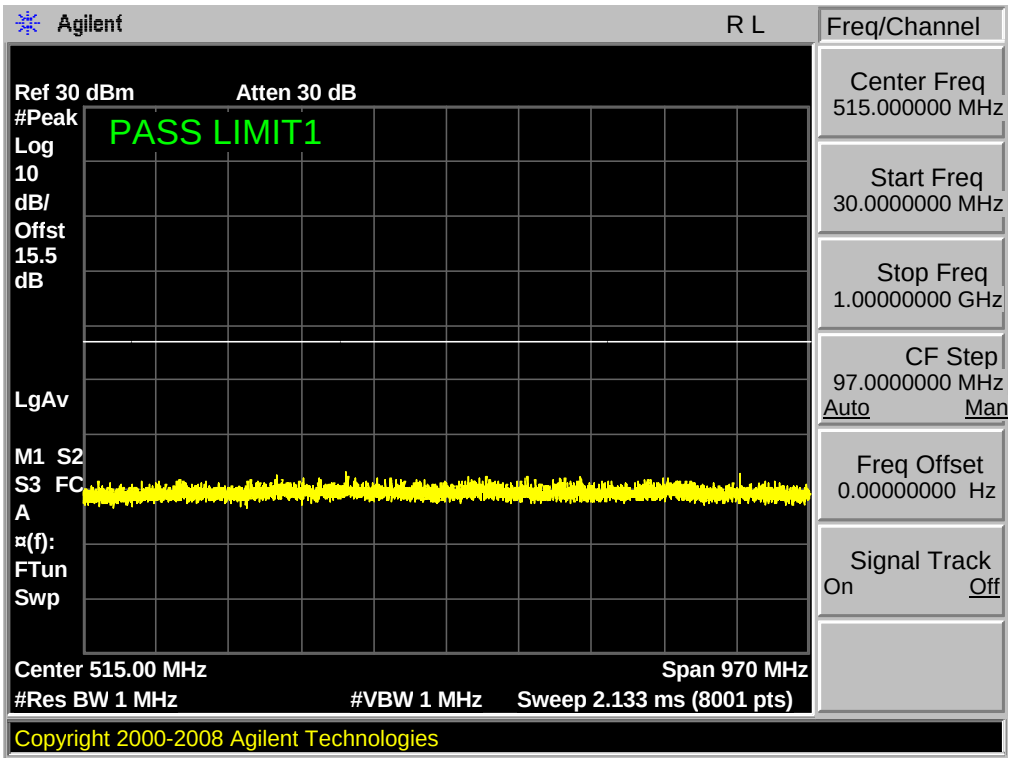
LTE Band 17

7.1 MEASUREMENT METHOD

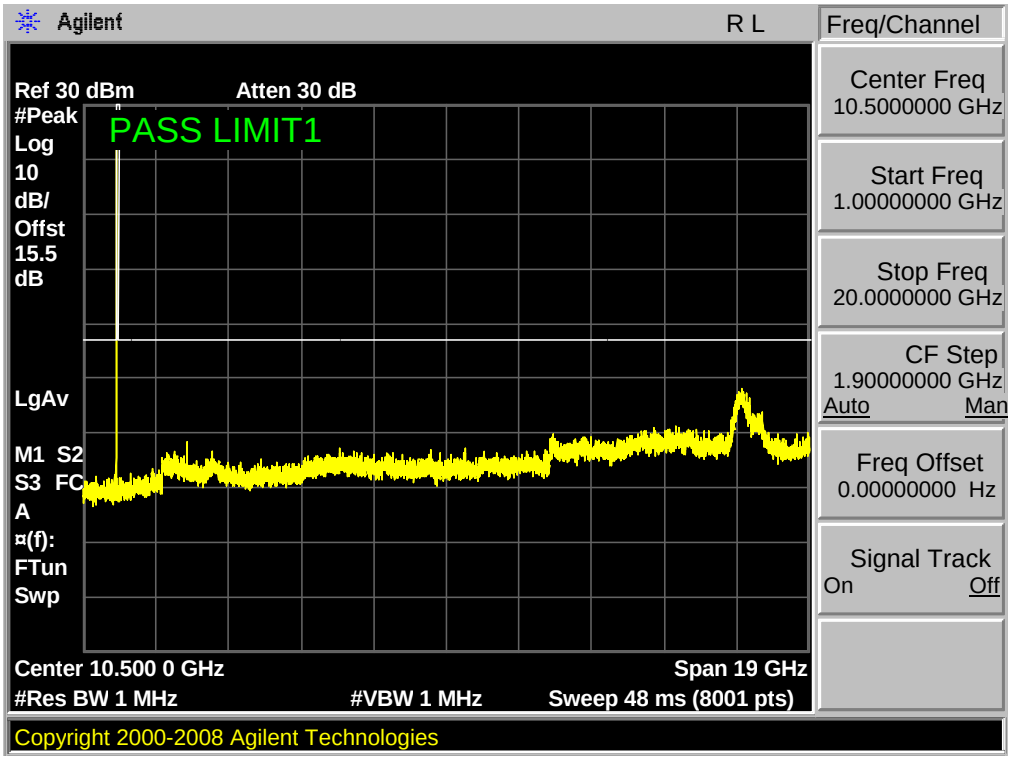
The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

7.1.1. LTE BAND 2

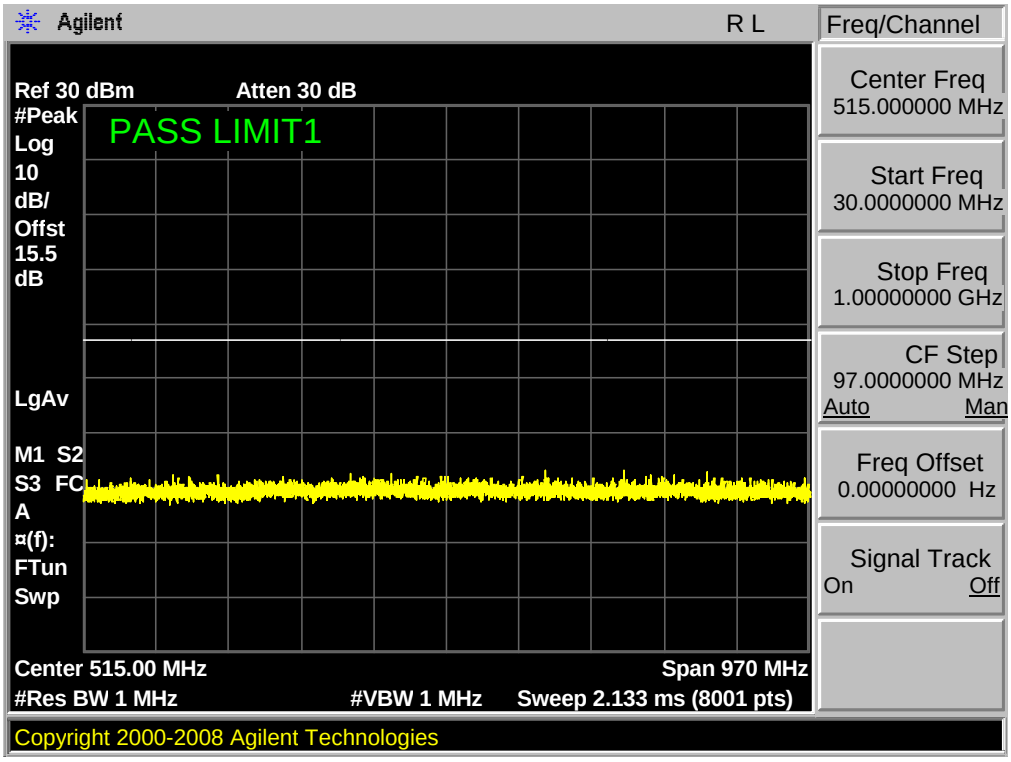
Band 2,UL Channel 18607,UL Frequency 1850.7,BW 1.4,NO. RB 1,RB POS. Low,QPSK



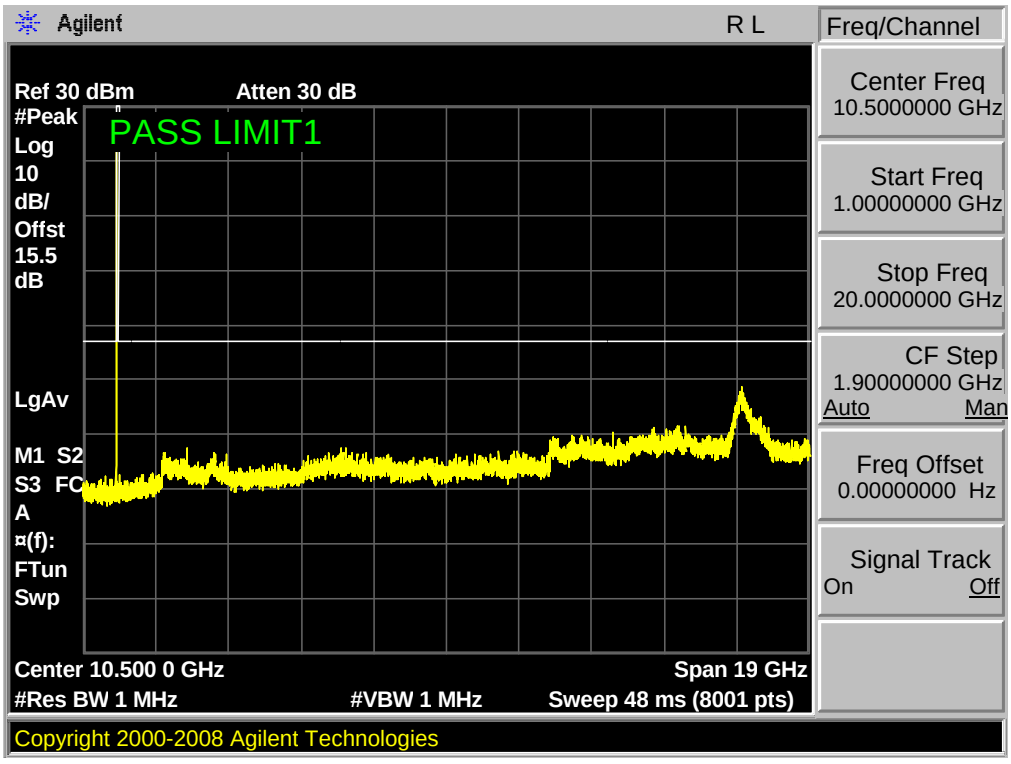
Band 2,UL Channel 18607,UL Frequency 1850.7,BW 1.4,NO. RB 1,RB POS. Low,QPSK



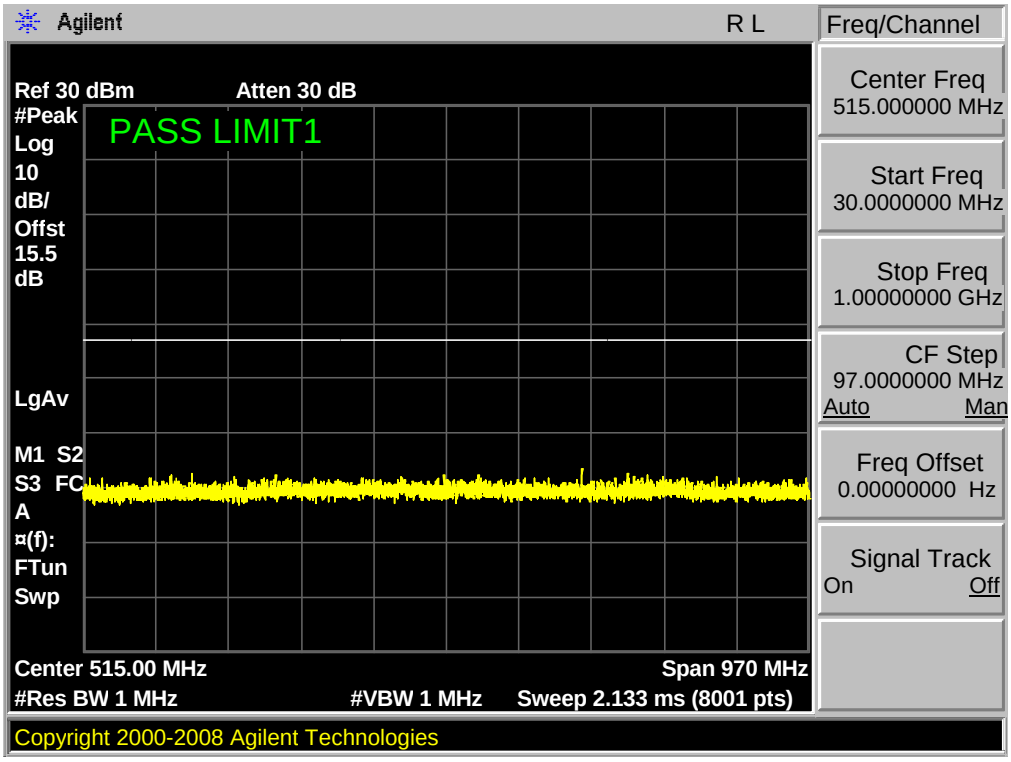
Band 2,UL Channel 18607,UL Frequency 1850.7,BW 1.4,NO. RB 1,RB POS. Low,16QAM



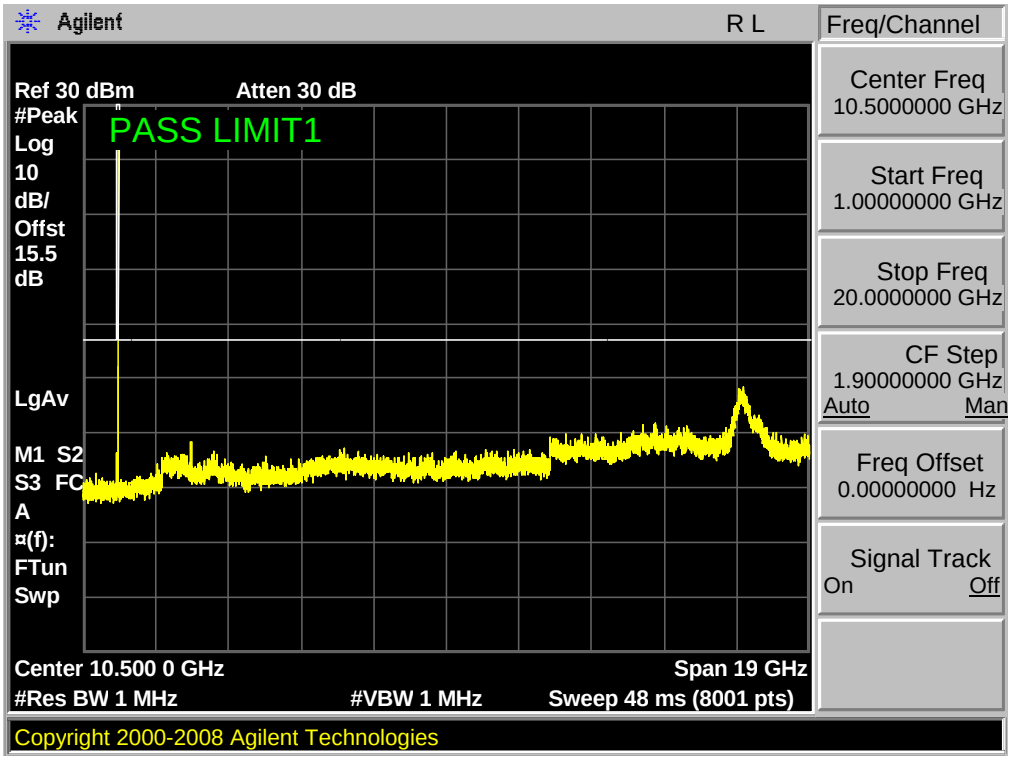
Band 2,UL Channel 18607,UL Frequency 1850.7,BW 1.4,NO. RB 1,RB POS. Low,16QAM



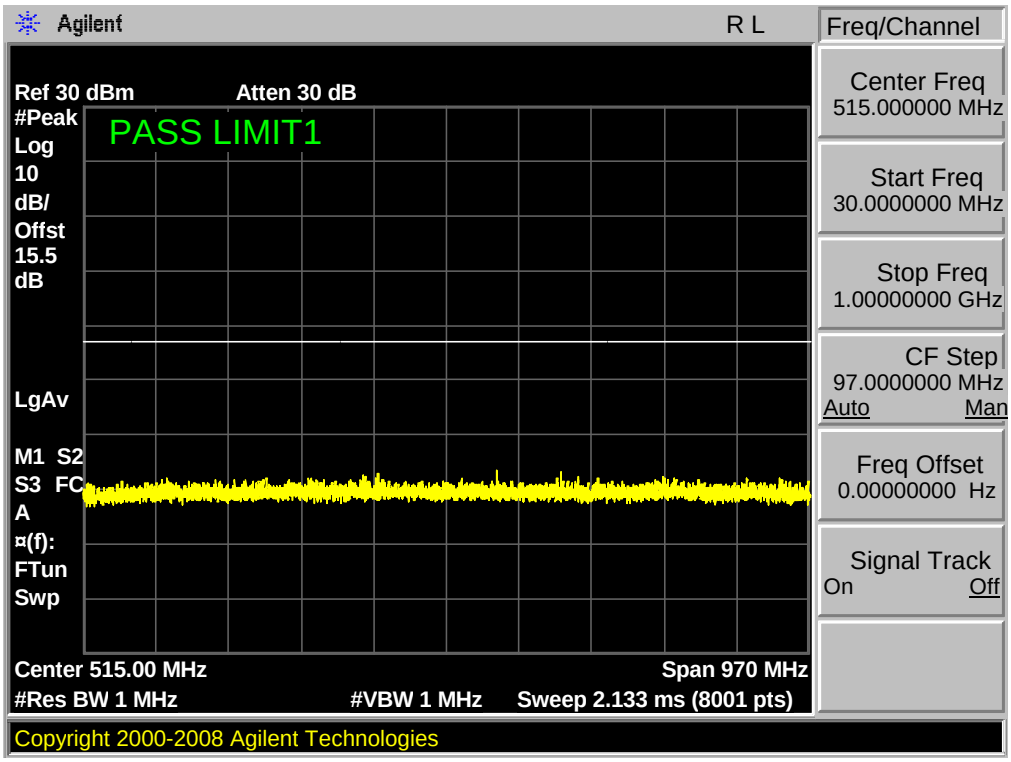
Band 2,UL Channel 19193,UL Frequency 1909.3,BW 1.4,NO. RB 1,RB POS. Low,QPSK



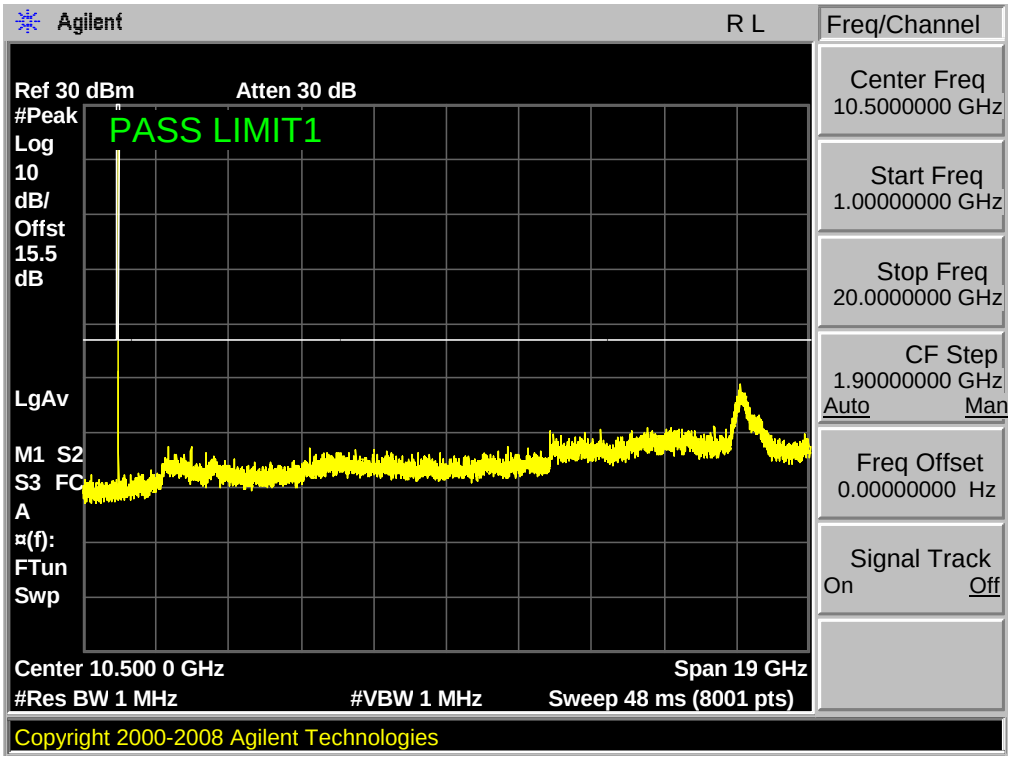
Band 2,UL Channel 19193,UL Frequency 1909.3,BW 1.4,NO. RB 1,RB POS. Low,QPSK



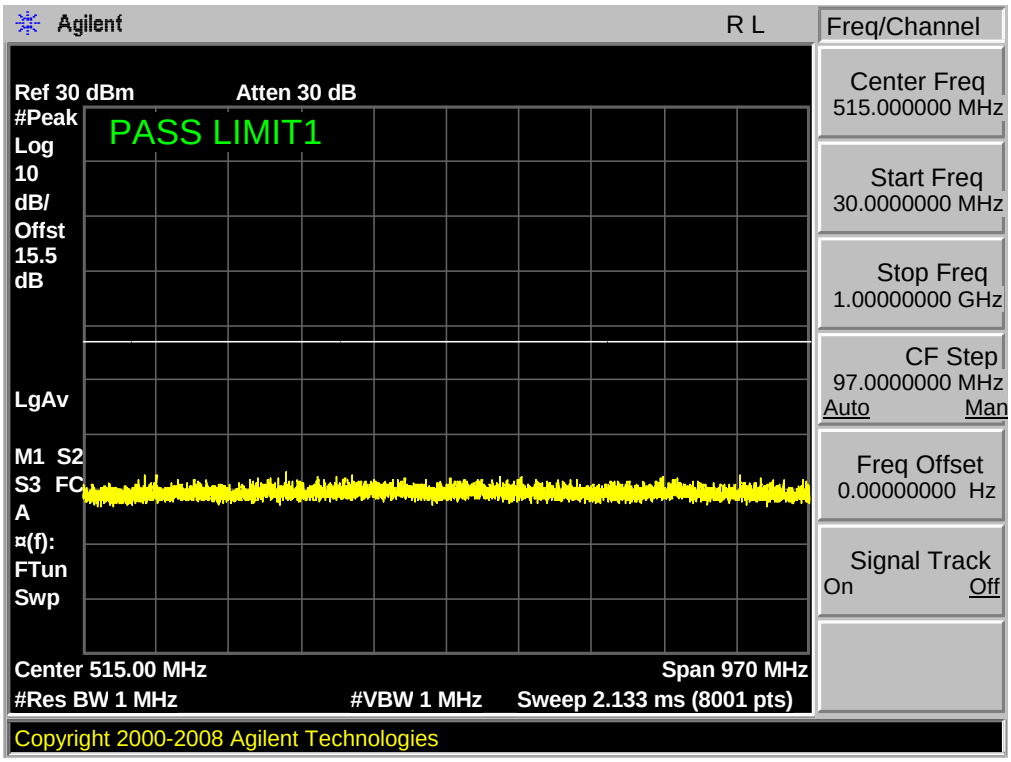
Band 2,UL Channel 19193,UL Frequency 1909.3,BW 1.4,NO. RB 1,RB POS. Low,16QAM



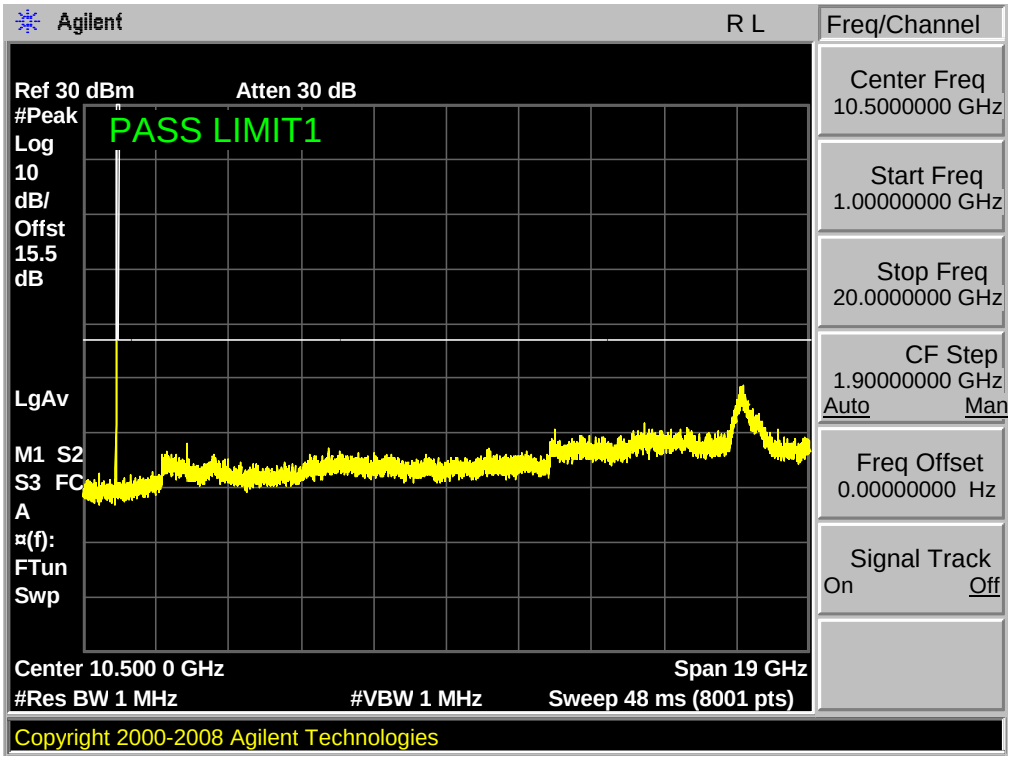
Band 2,UL Channel 19193,UL Frequency 1909.3,BW 1.4,NO. RB 1,RB POS. Low,16QAM



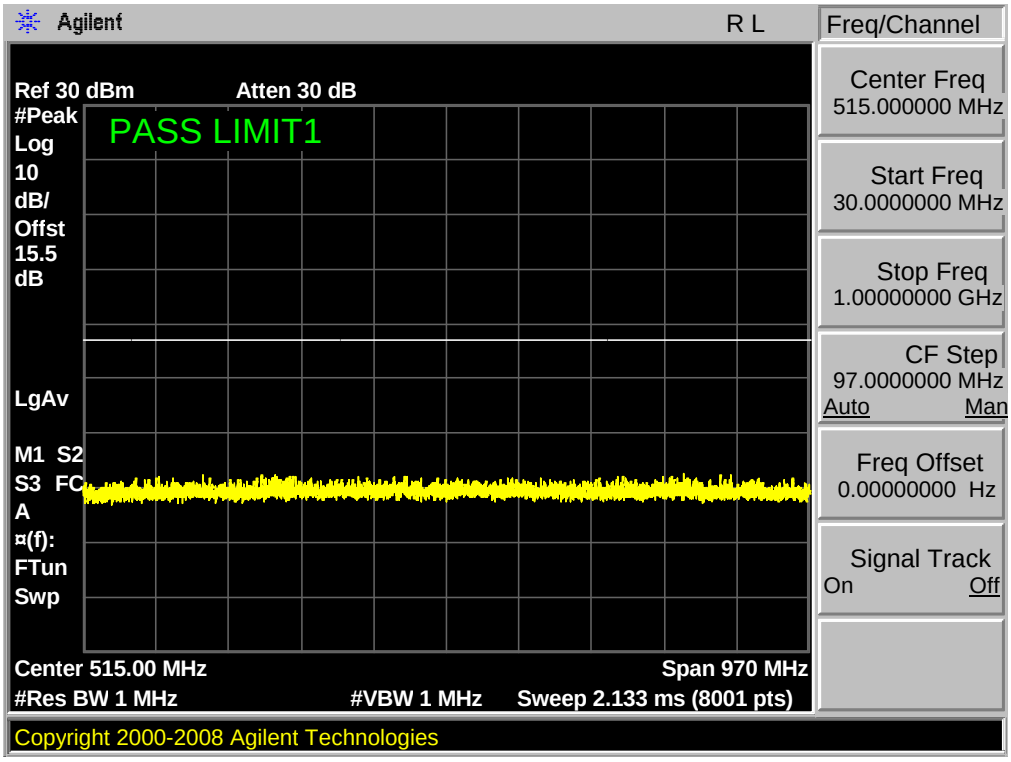
Band 2,UL Channel 18615,UL Frequency 1851.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



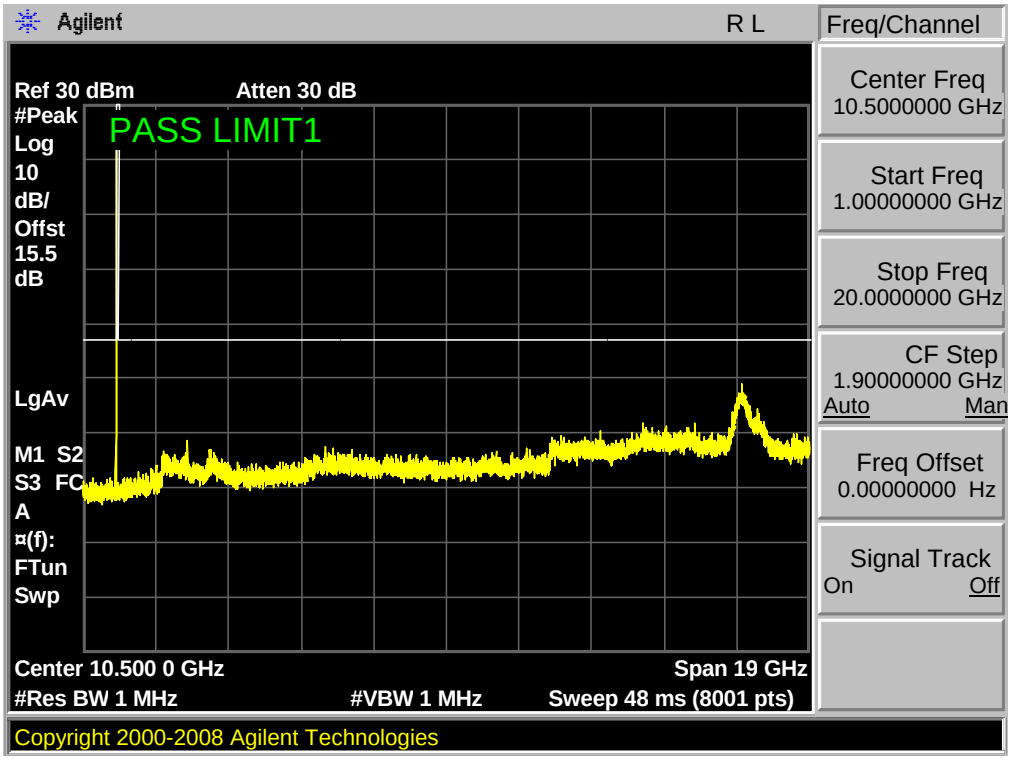
Band 2,UL Channel 18615,UL Frequency 1851.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



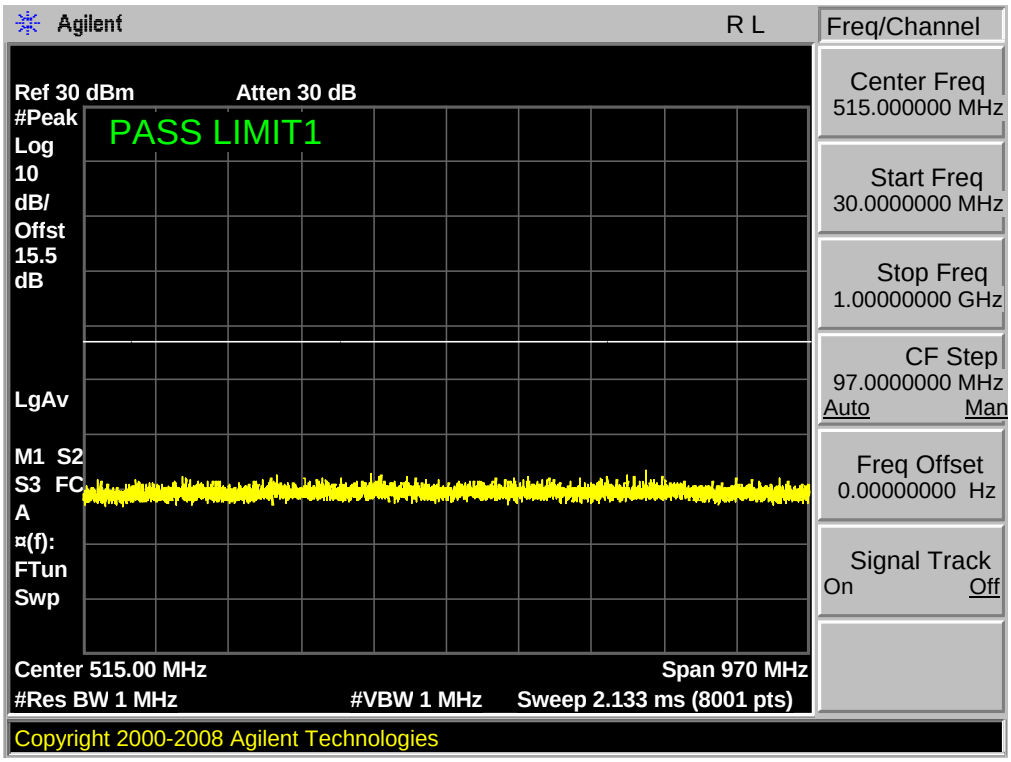
Band 2,UL Channel 18615,UL Frequency 1851.5,BW 3.0,NO. RB 1,RB POS. Low,16QAM



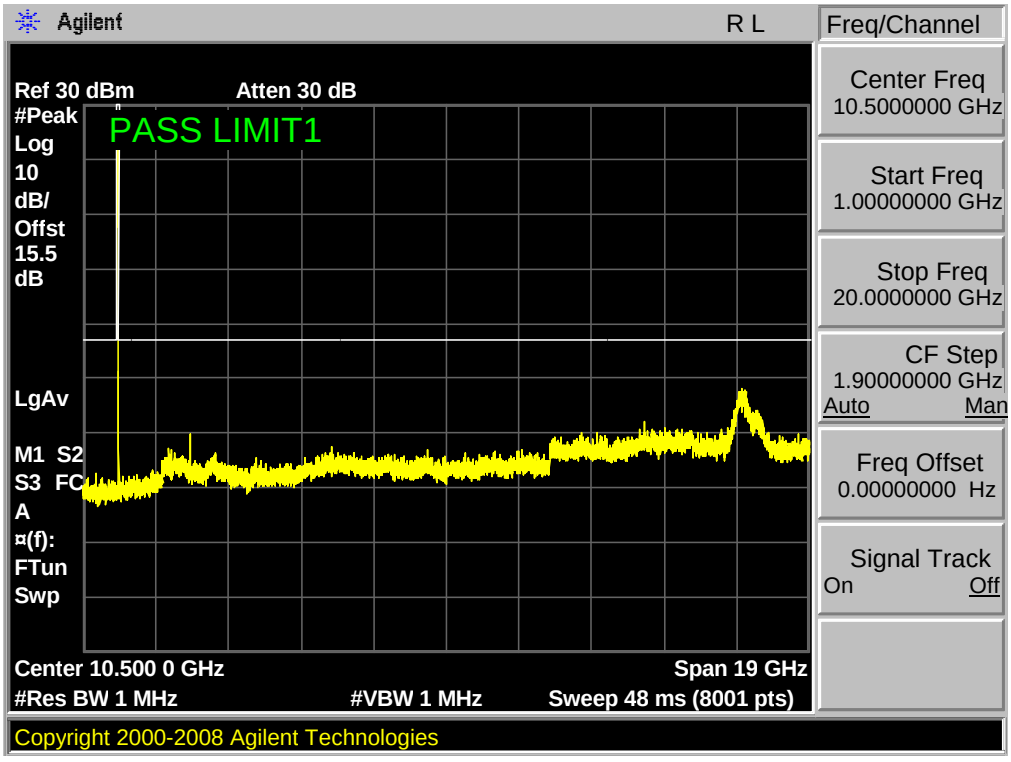
Band 2,UL Channel 18615,UL Frequency 1851.5,BW 3.0,NO. RB 1,RB POS. Low,16QAM



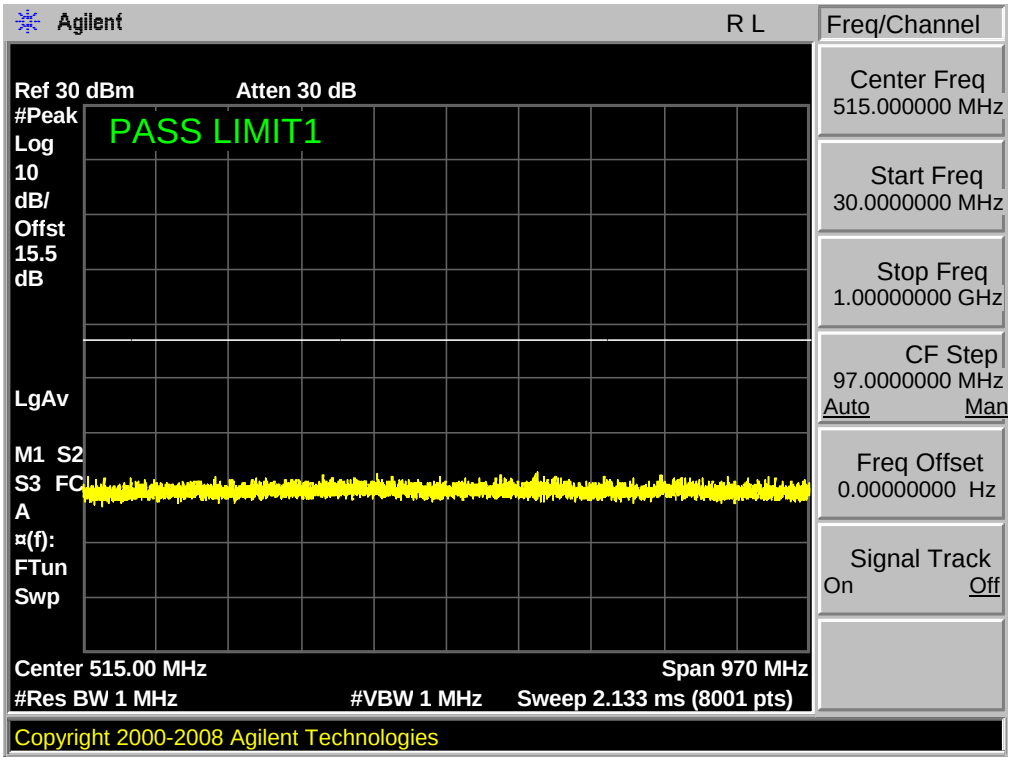
Band 2,UL Channel 19185,UL Frequency 1908.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



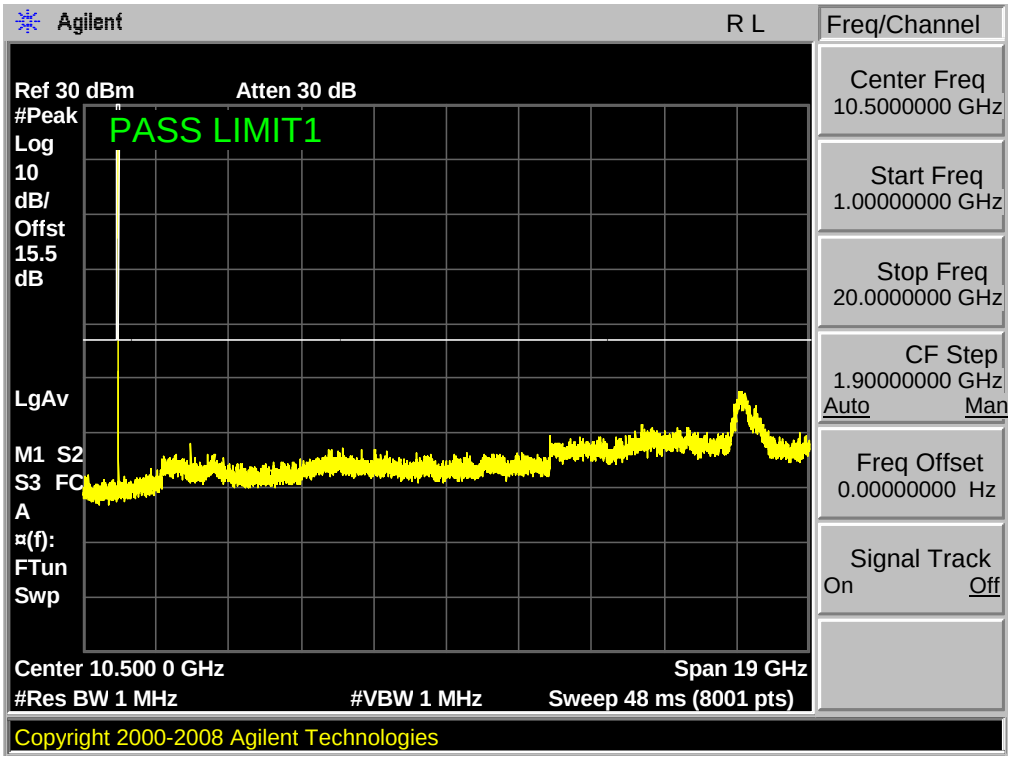
Band 2,UL Channel 19185,UL Frequency 1908.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



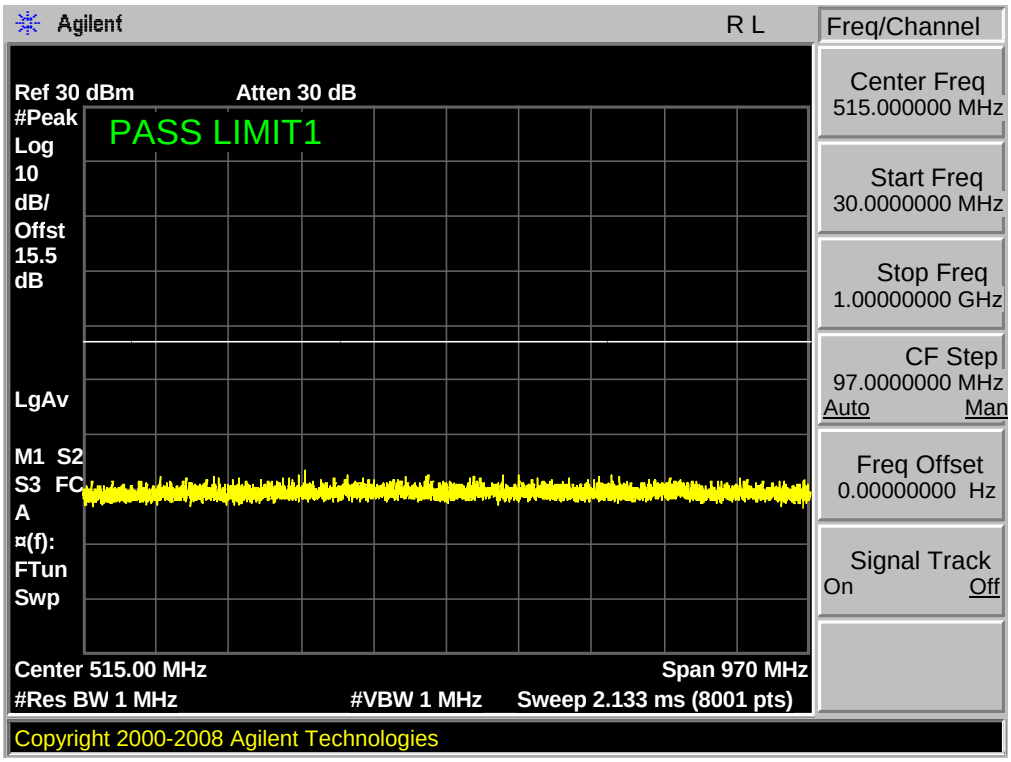
Band 2,UL Channel 19185,UL Frequency 1908.5,BW 3.0,NO. RB 1,RB POS. Low,16QAM



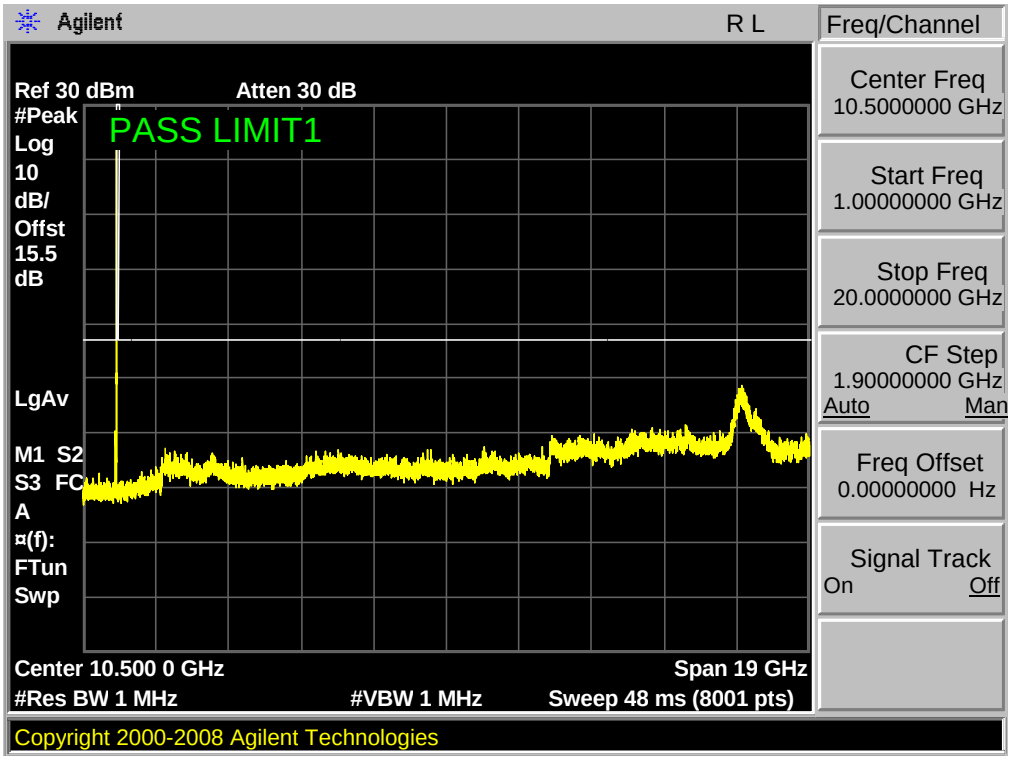
Band 2,UL Channel 19185,UL Frequency 1908.5,BW 3.0,NO. RB 1,RB POS. Low,16QAM



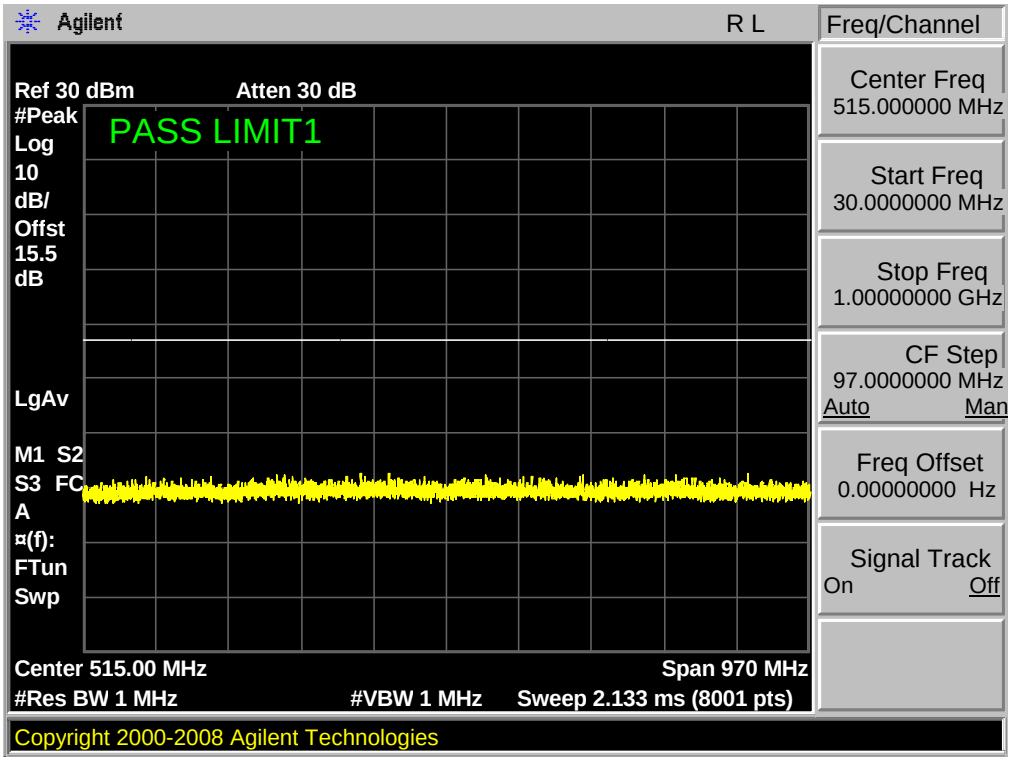
Band 2,UL Channel 18625,UL Frequency 1852.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



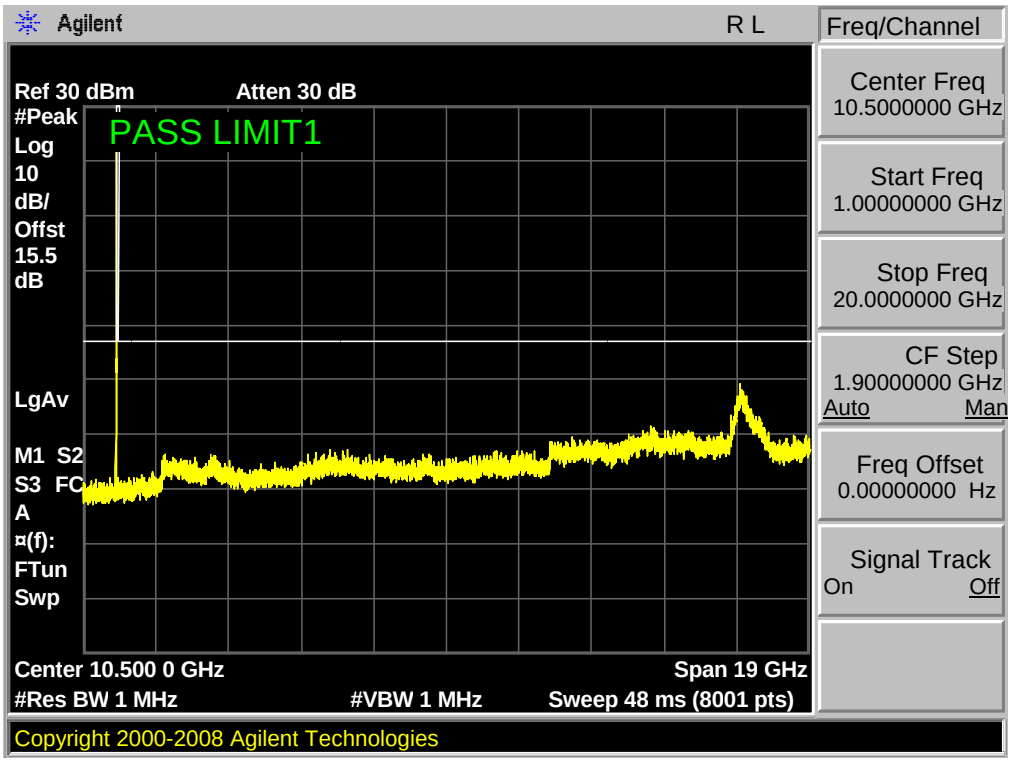
Band 2,UL Channel 18625,UL Frequency 1852.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



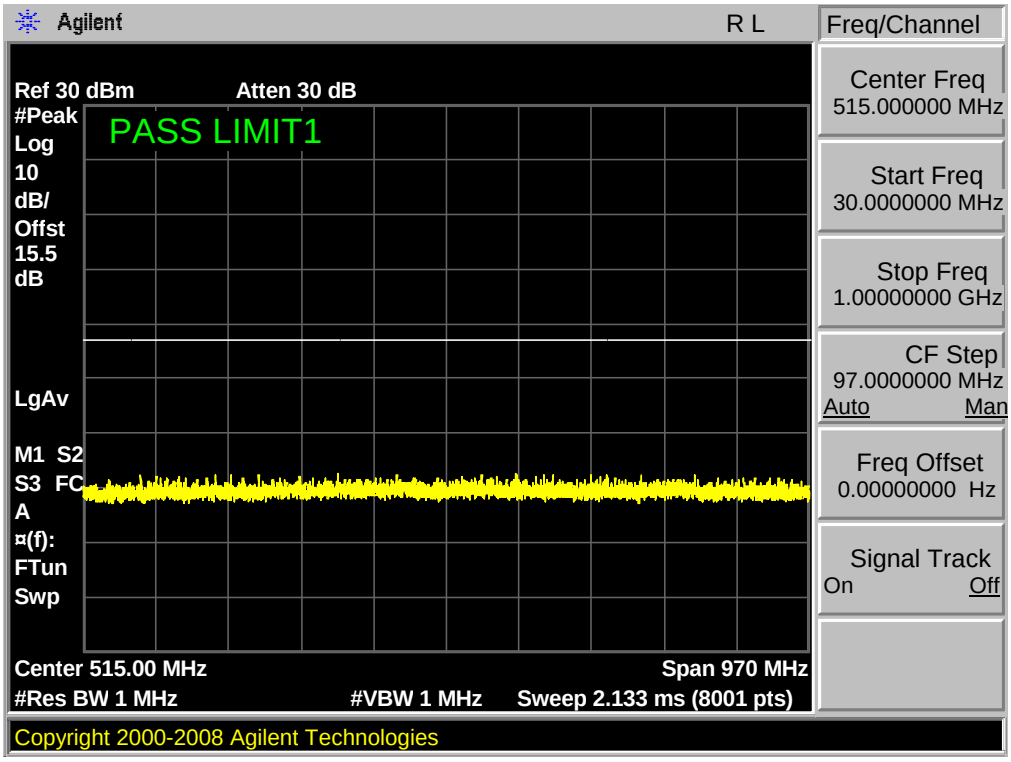
Band 2,UL Channel 18625,UL Frequency 1852.5,BW 5.0,NO. RB 1,RB POS. Low,16QAM



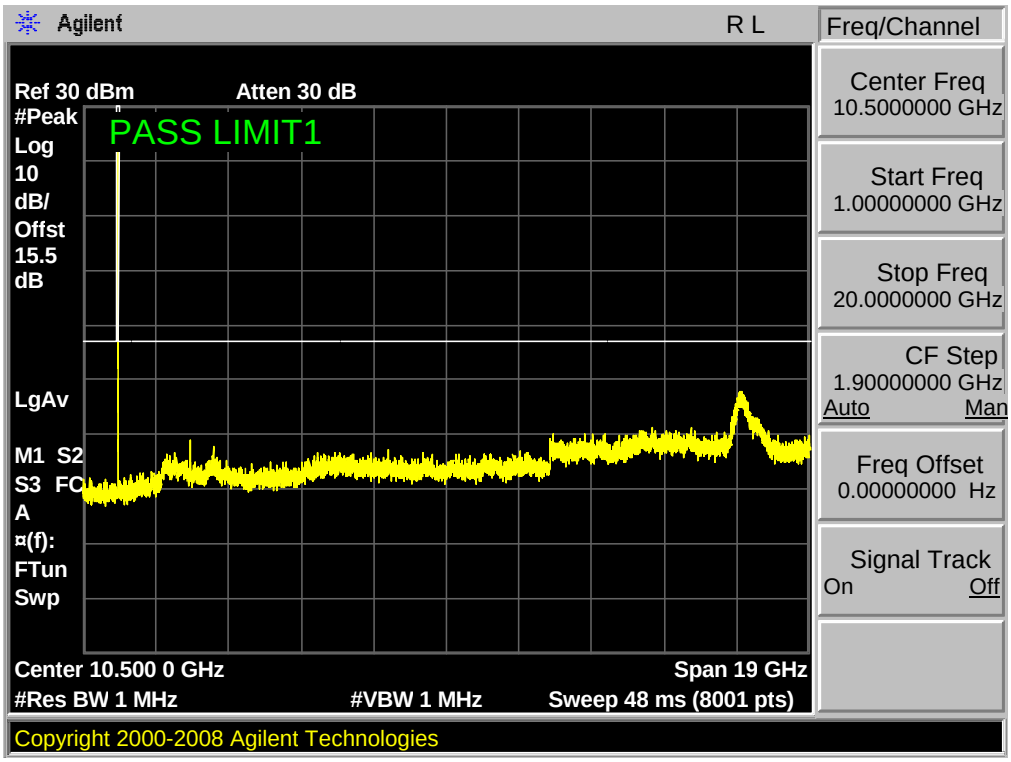
Band 2,UL Channel 18625,UL Frequency 1852.5,BW 5.0,NO. RB 1,RB POS. Low,16QAM



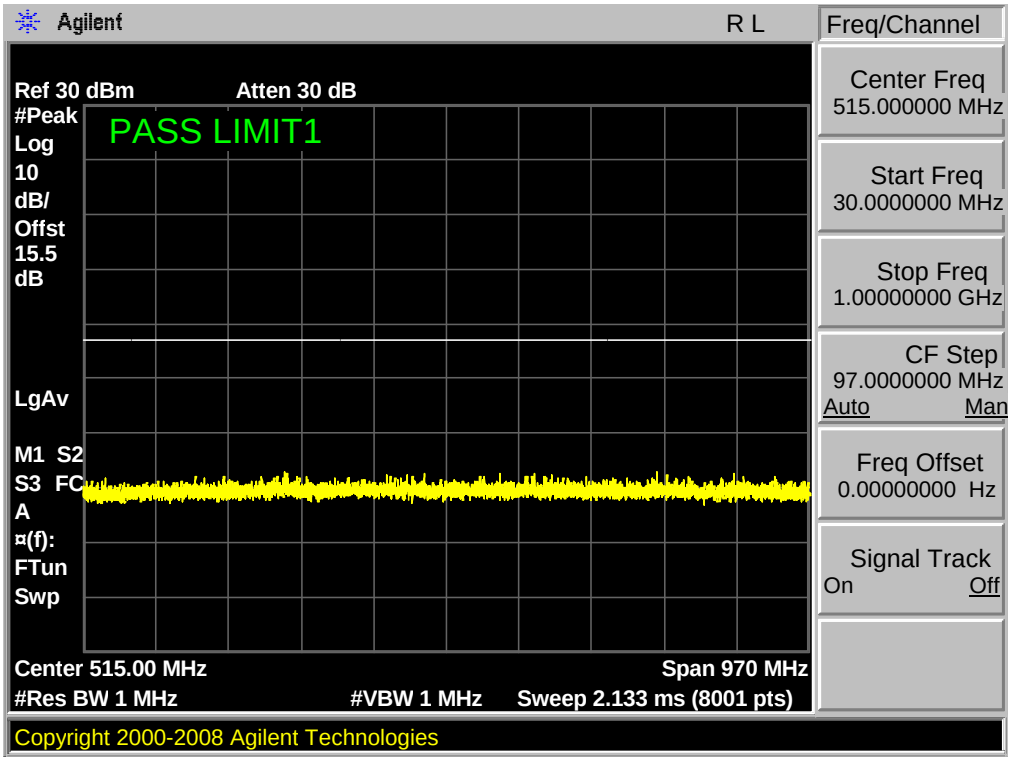
Band 2,UL Channel 19175,UL Frequency 1907.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



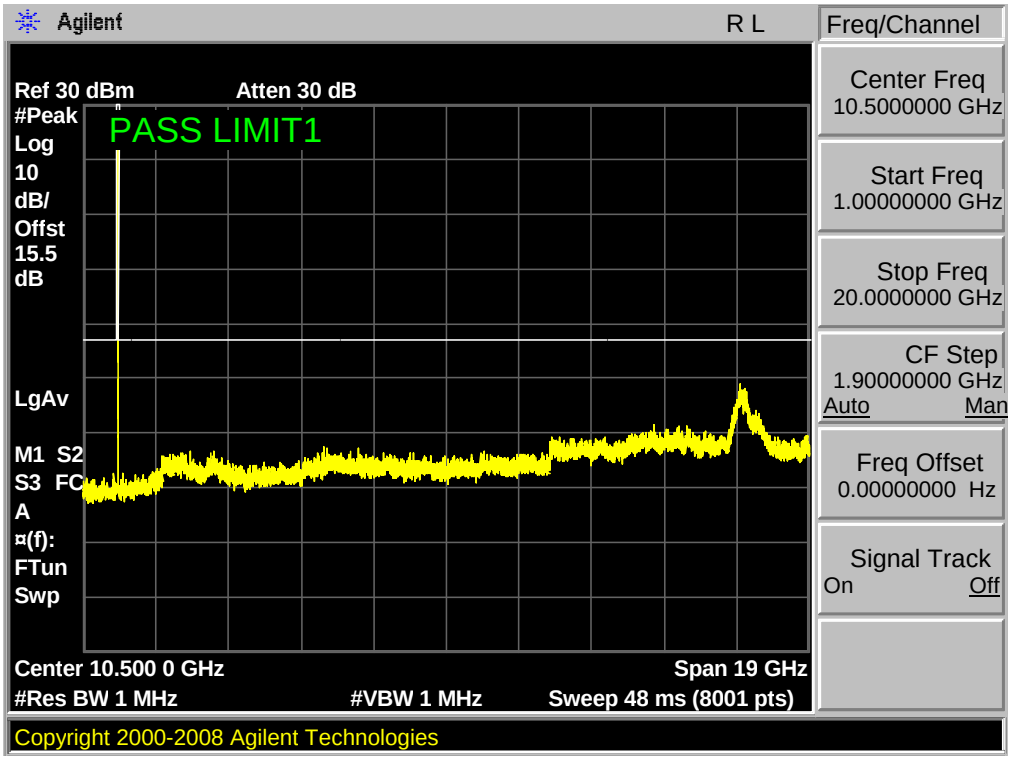
Band 2,UL Channel 19175,UL Frequency 1907.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



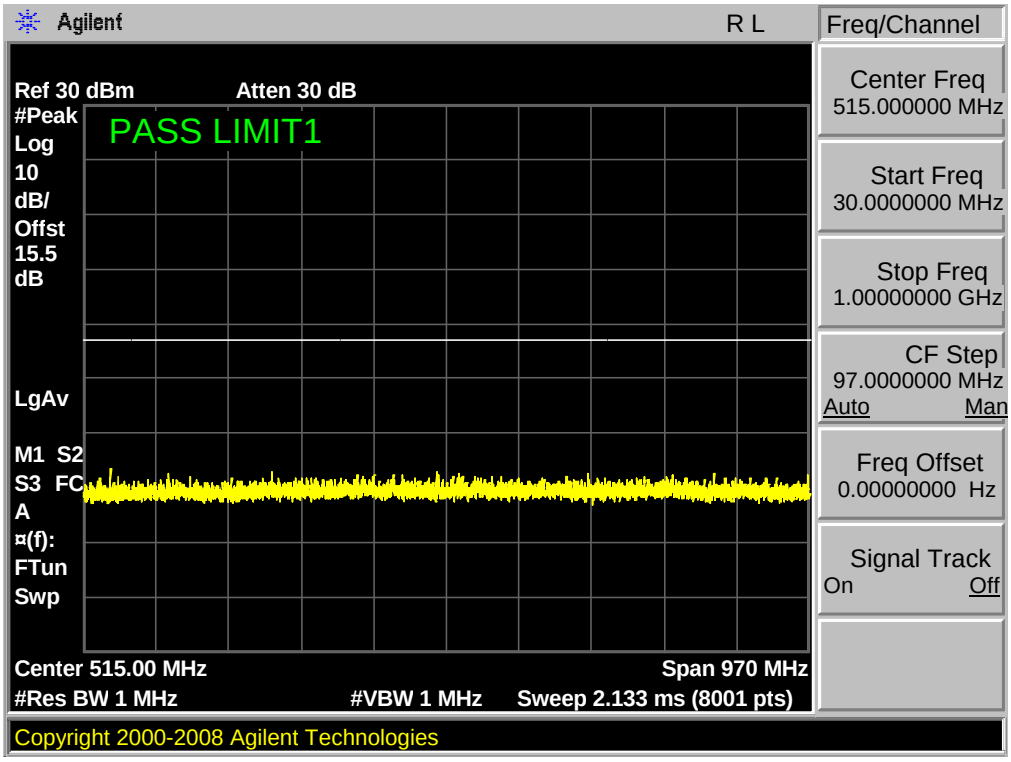
Band 2,UL Channel 19175,UL Frequency 1907.5,BW 5.0,NO. RB 1,RB POS. Low,16QAM



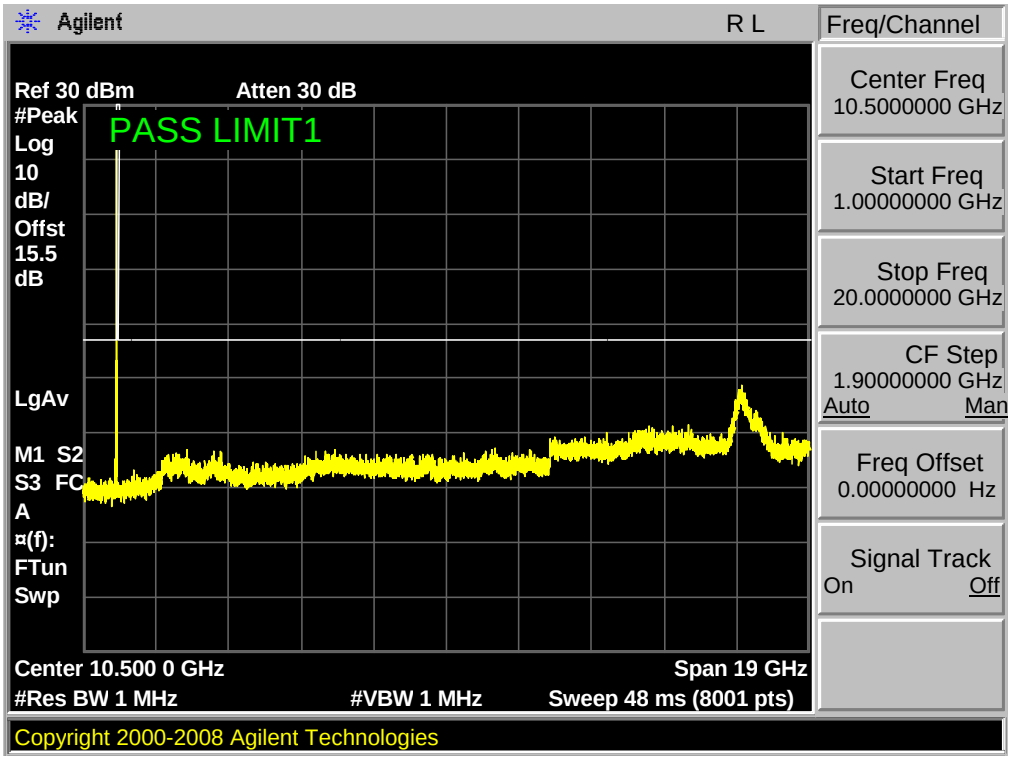
Band 2,UL Channel 19175,UL Frequency 1907.5,BW 5.0,NO. RB 1,RB POS. Low,16QAM



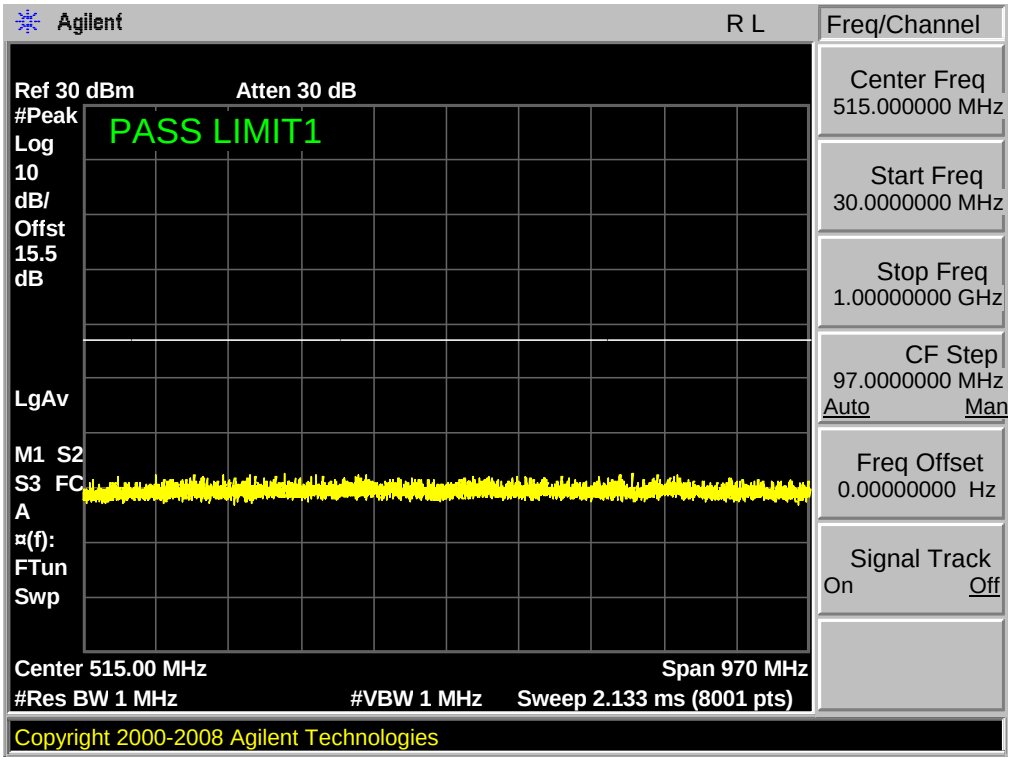
Band 2,UL Channel 18650,UL Frequency 1855.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



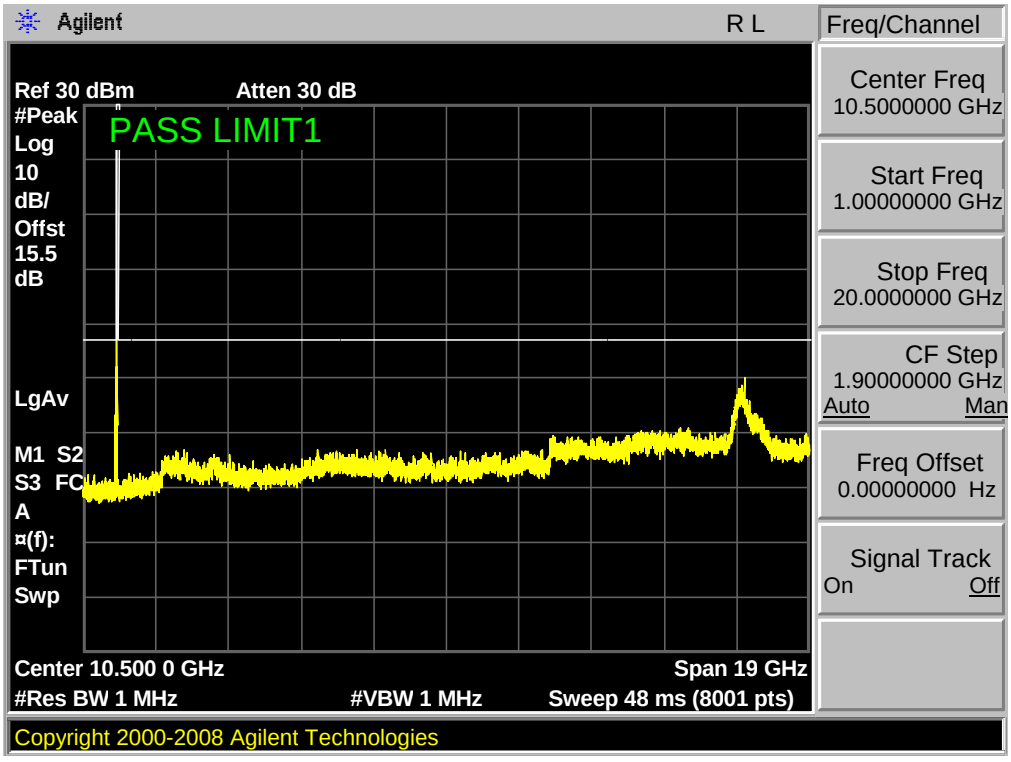
Band 2,UL Channel 18650,UL Frequency 1855.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



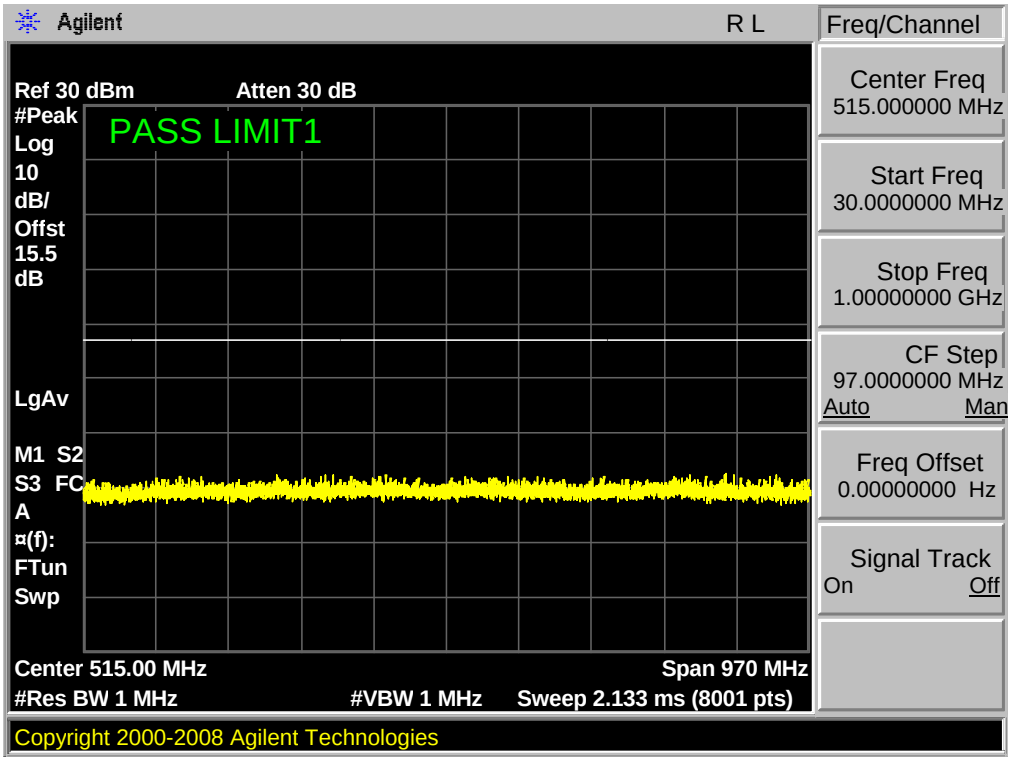
Band 2,UL Channel 18650,UL Frequency 1855.0,BW 10.0,NO. RB 1,RB POS. Low,16QAM



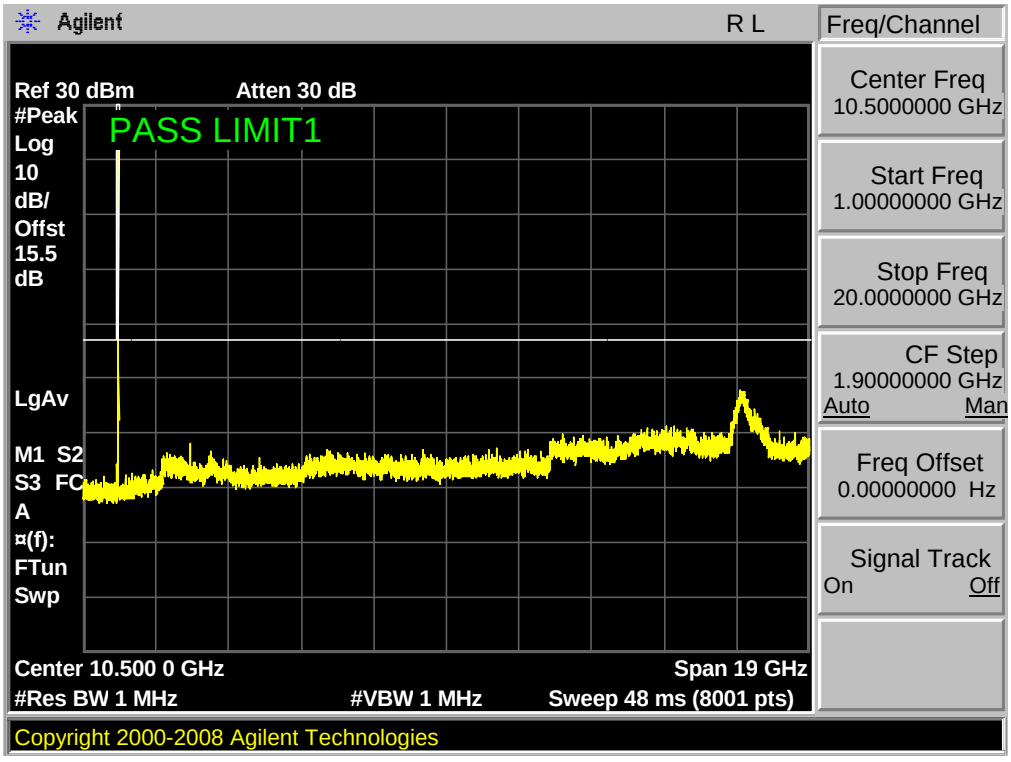
Band 2,UL Channel 18650,UL Frequency 1855.0,BW 10.0,NO. RB 1,RB POS. Low,16QAM



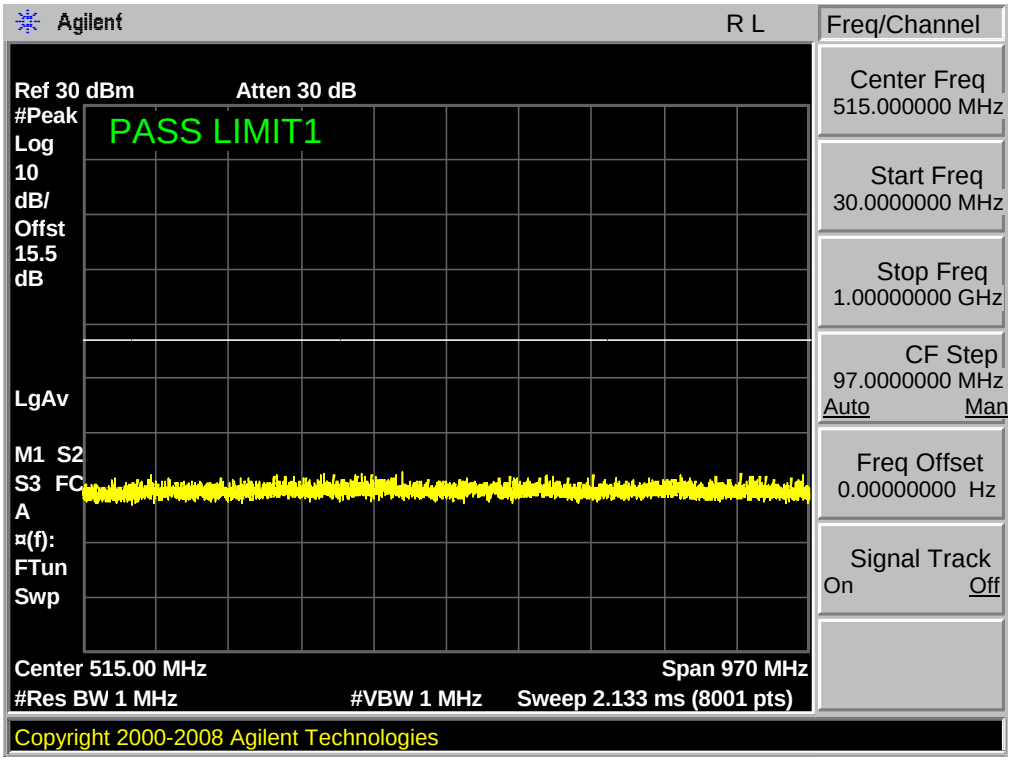
Band 2,UL Channel 19150,UL Frequency 1905.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



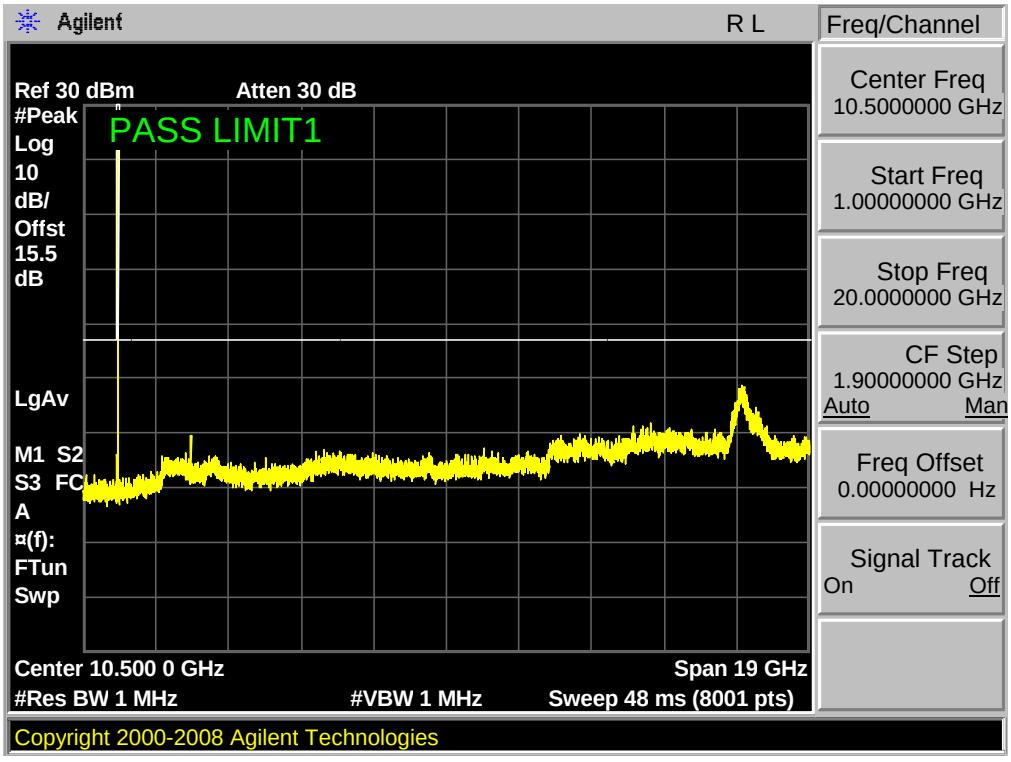
Band 2,UL Channel 19150,UL Frequency 1905.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



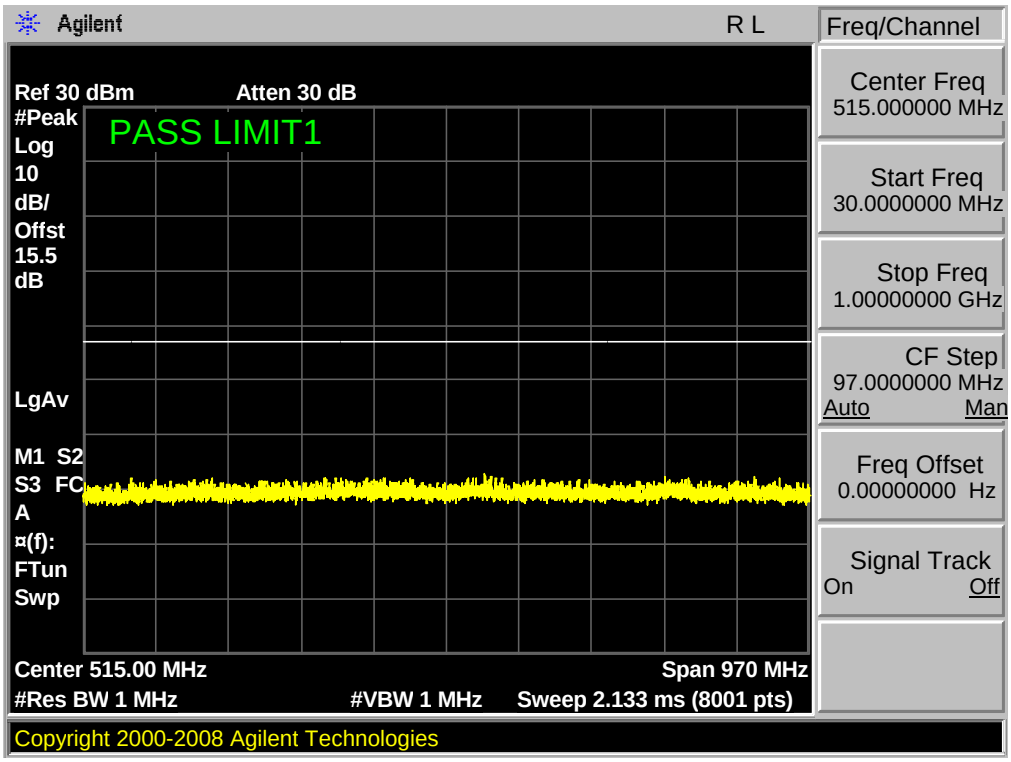
Band 2,UL Channel 19150,UL Frequency 1905.0,BW 10.0,NO. RB 1,RB POS. Low,16QAM



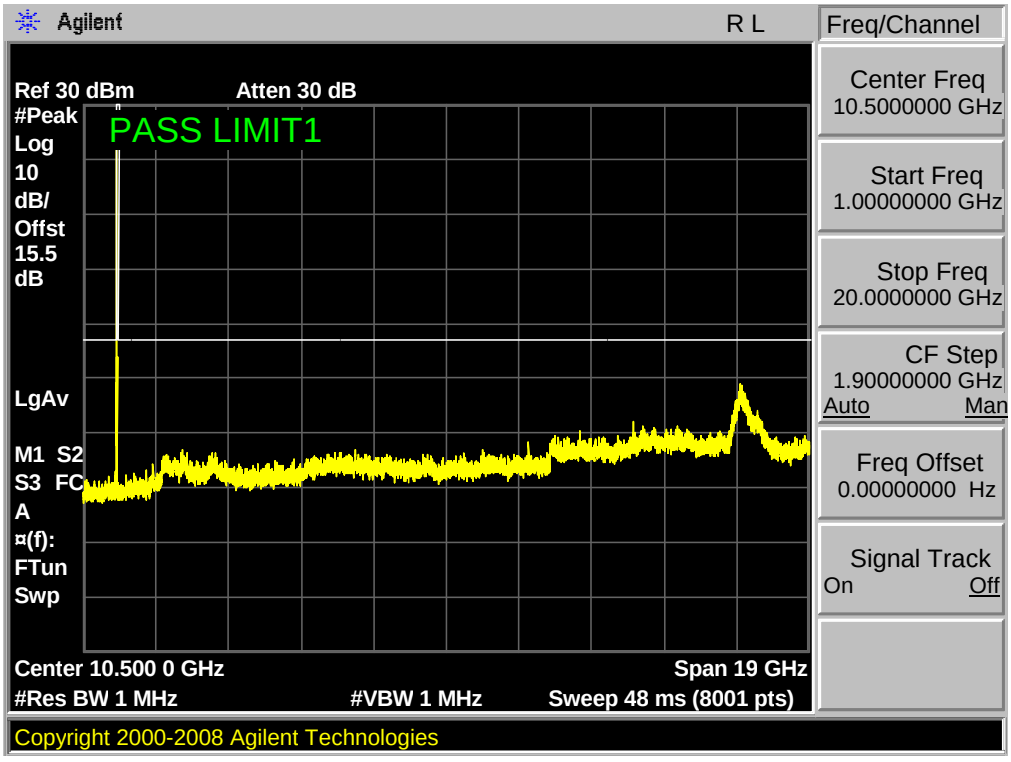
Band 2,UL Channel 19150,UL Frequency 1905.0,BW 10.0,NO. RB 1,RB POS. Low,16QAM



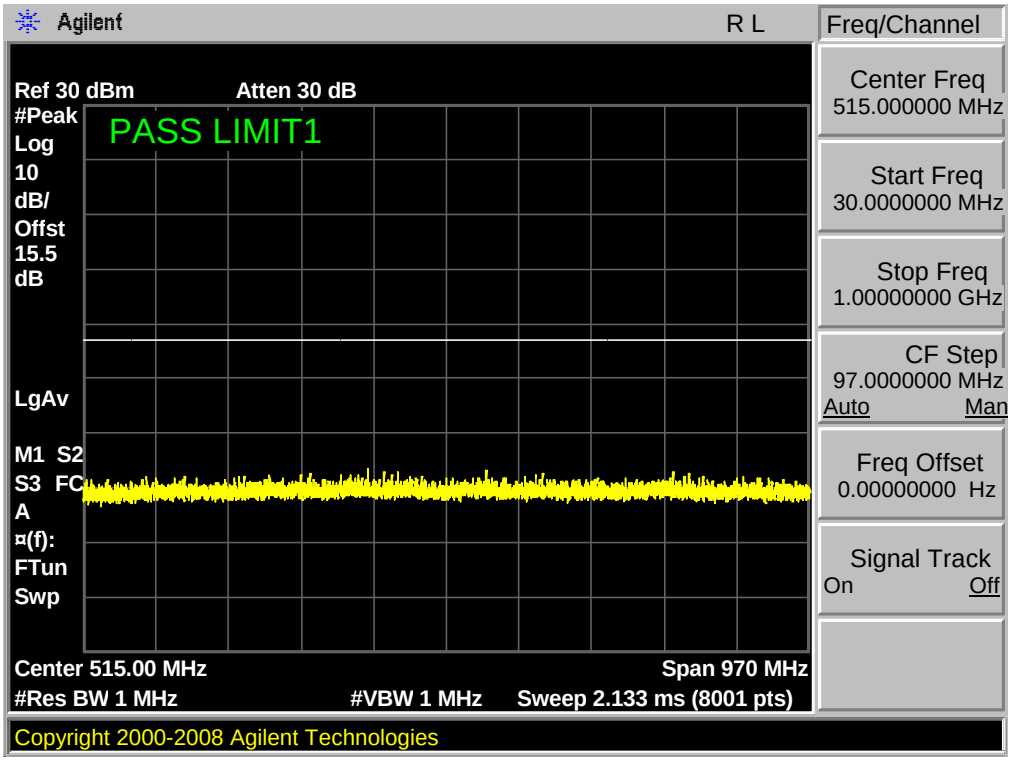
Band 2,UL Channel 18675,UL Frequency 1857.5,BW 15.0,NO. RB 1,RB POS. Low,QPSK



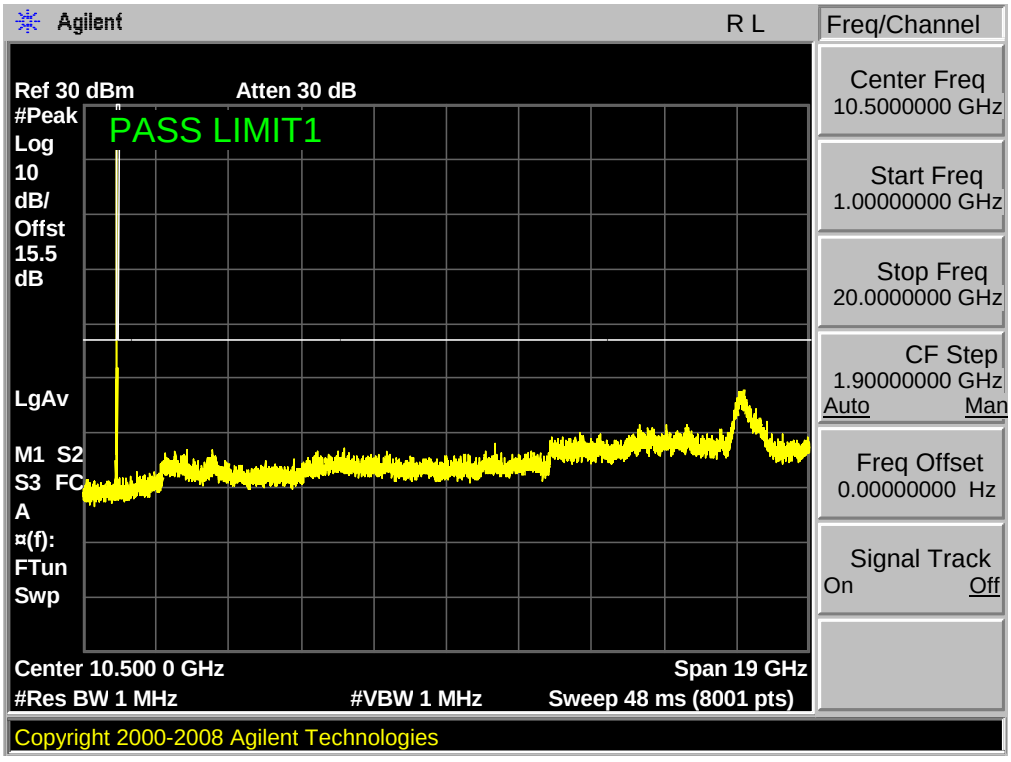
Band 2,UL Channel 18675,UL Frequency 1857.5,BW 15.0,NO. RB 1,RB POS. Low,QPSK



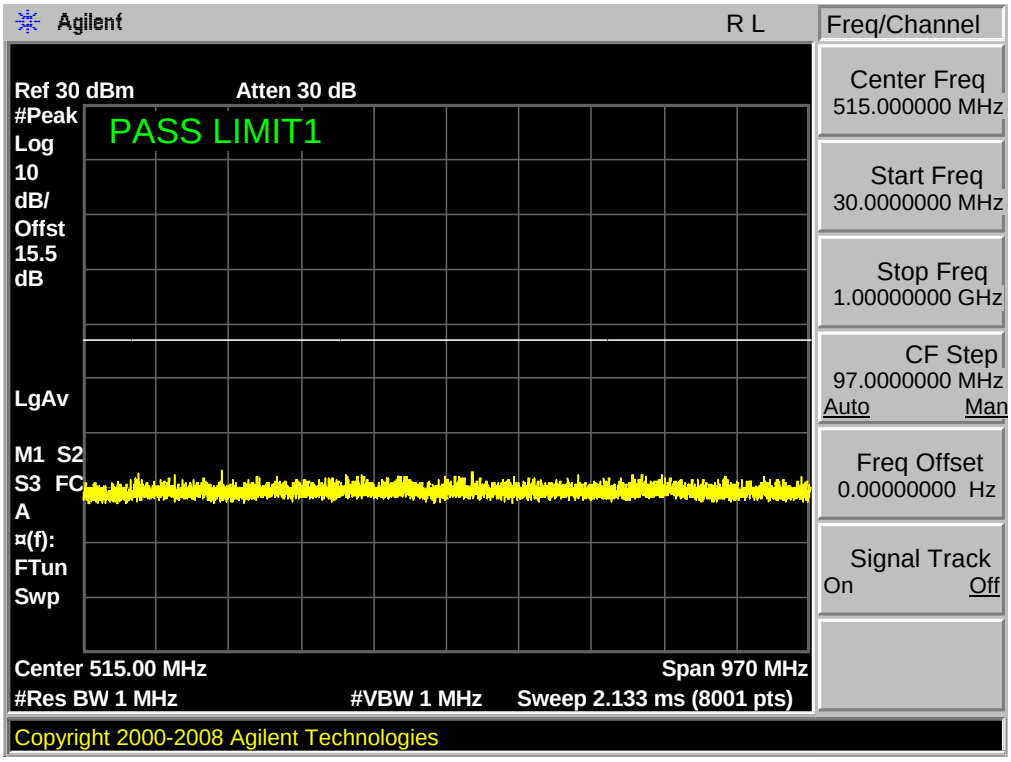
Band 2,UL Channel 18675,UL Frequency 1857.5,BW 15.0,NO. RB 1,RB POS. Low,16QAM



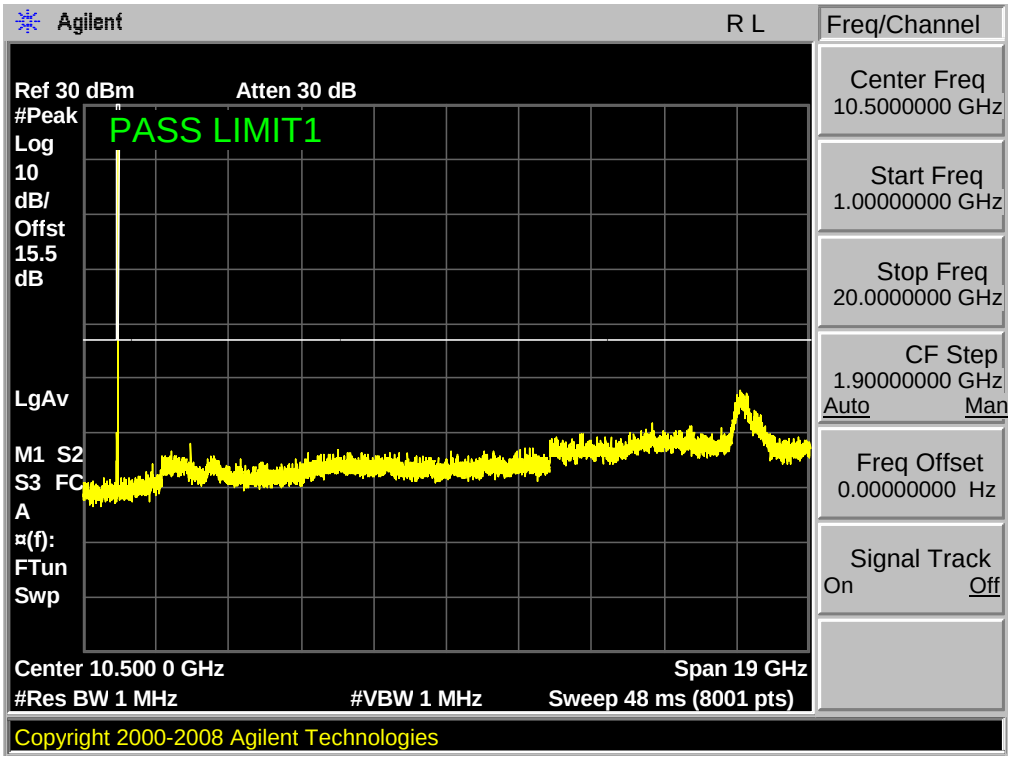
Band 2,UL Channel 18675,UL Frequency 1857.5,BW 15.0,NO. RB 1,RB POS. Low,16QAM



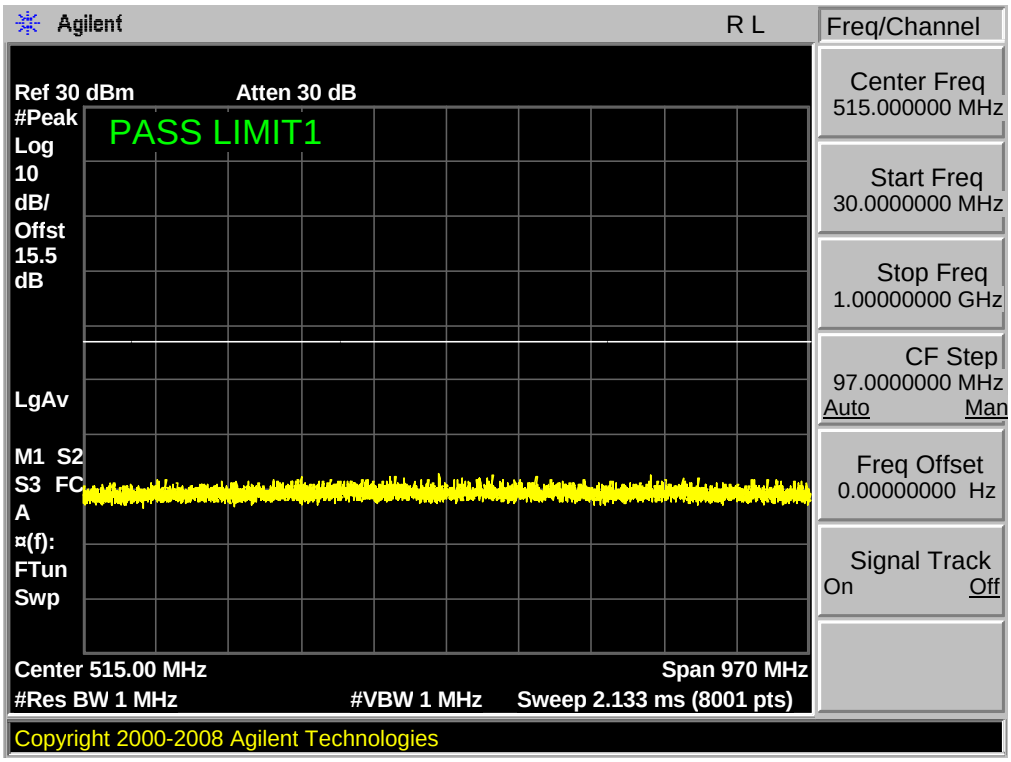
Band 2,UL Channel 19125,UL Frequency 1902.5,BW 15.0,NO. RB 1,RB POS. Low,QPSK



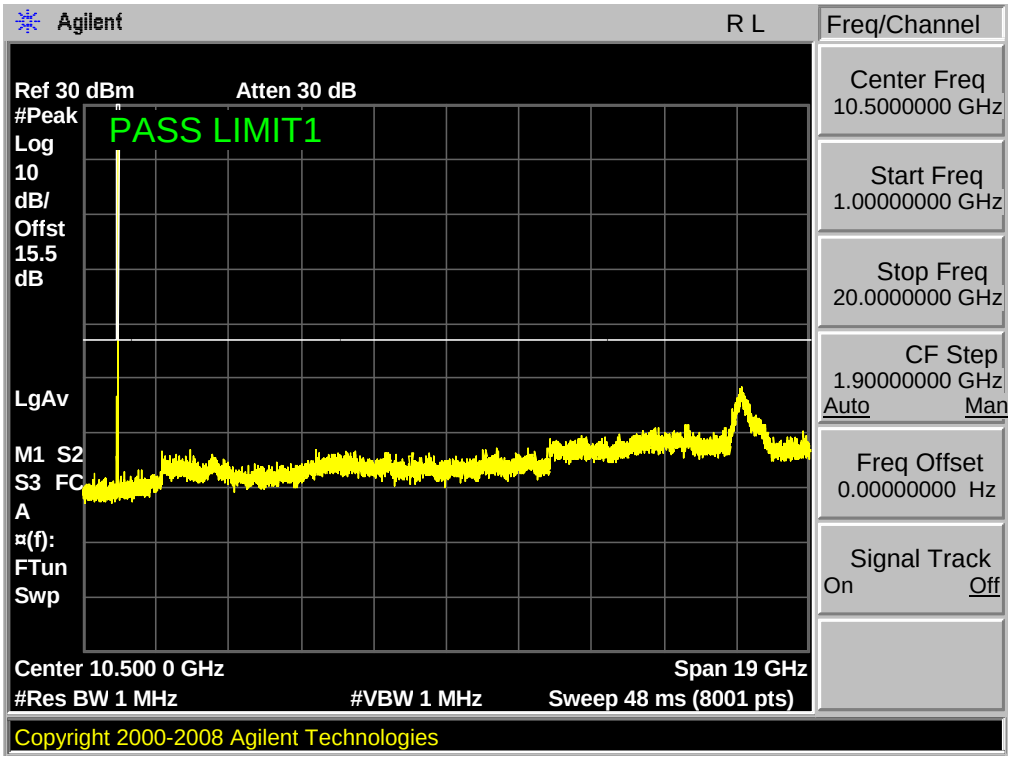
Band 2,UL Channel 19125,UL Frequency 1902.5,BW 15.0,NO. RB 1,RB POS. Low,QPSK



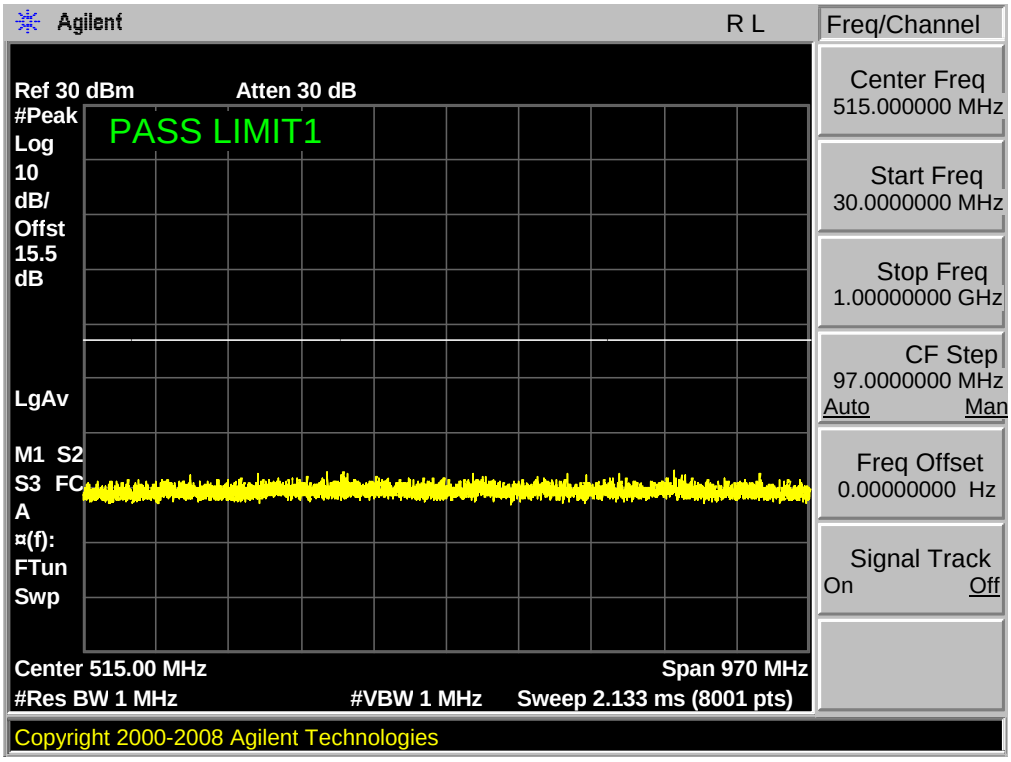
Band 2,UL Channel 19125,UL Frequency 1902.5,BW 15.0,NO. RB 1,RB POS. Low,16QAM



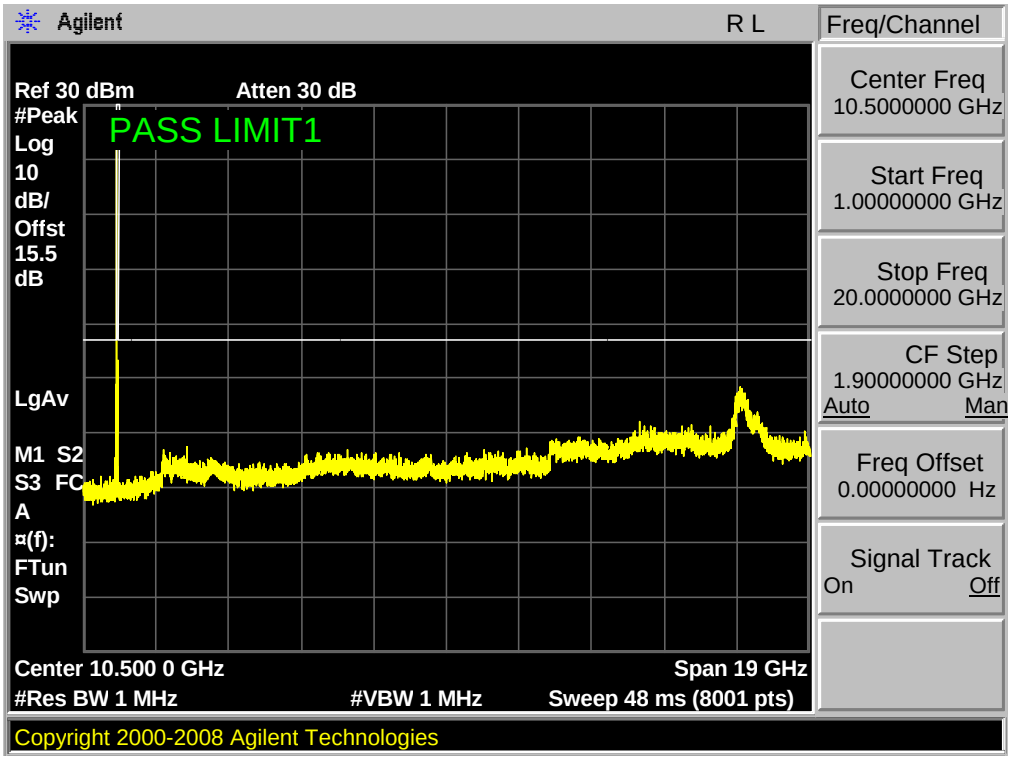
Band 2,UL Channel 19125,UL Frequency 1902.5,BW 15.0,NO. RB 1,RB POS. Low,16QAM



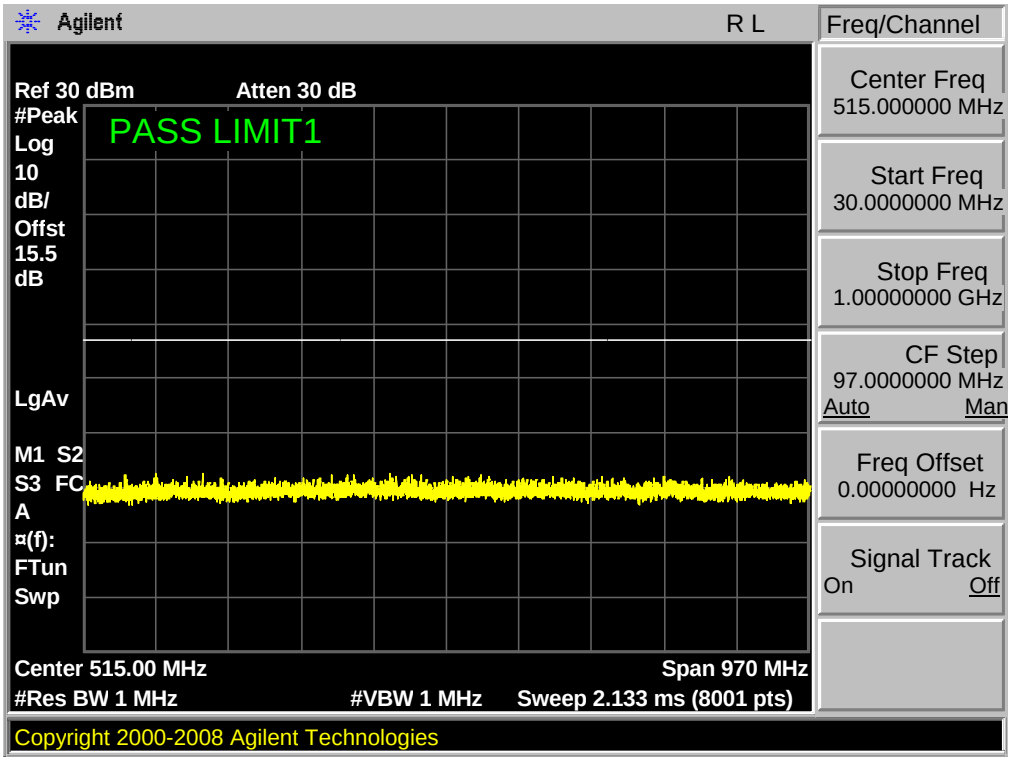
Band 2,UL Channel 18700,UL Frequency 1860.0,BW 20.0,NO. RB 1,RB POS. Low,QPSK



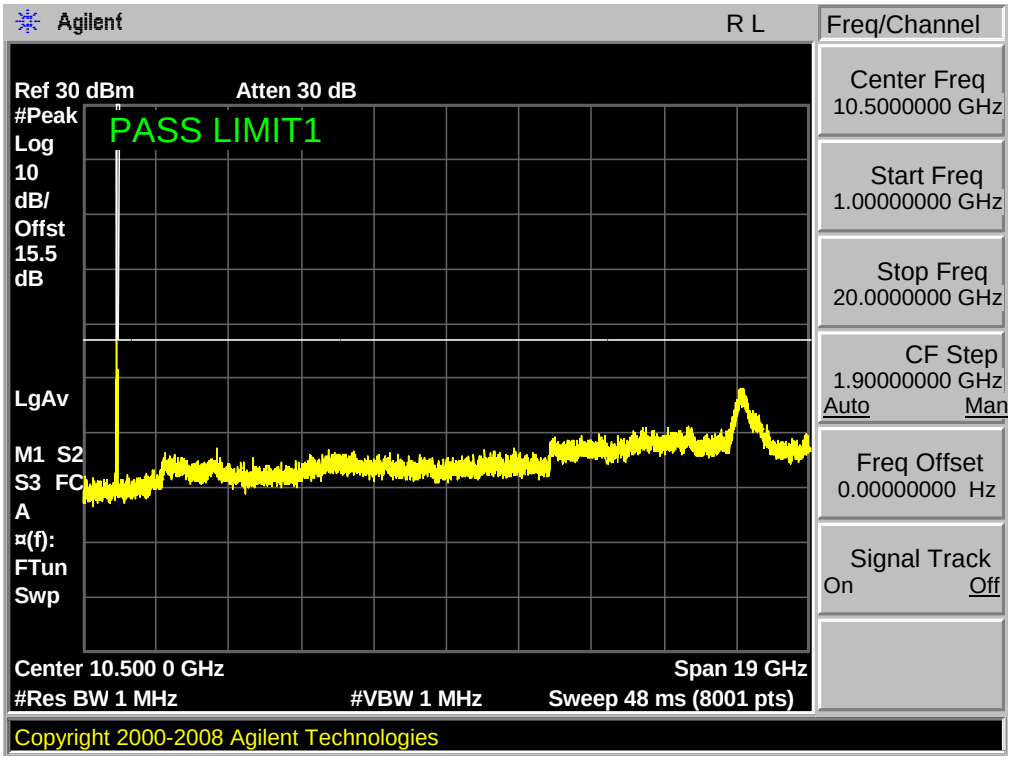
Band 2,UL Channel 18700,UL Frequency 1860.0,BW 20.0,NO. RB 1,RB POS. Low,QPSK



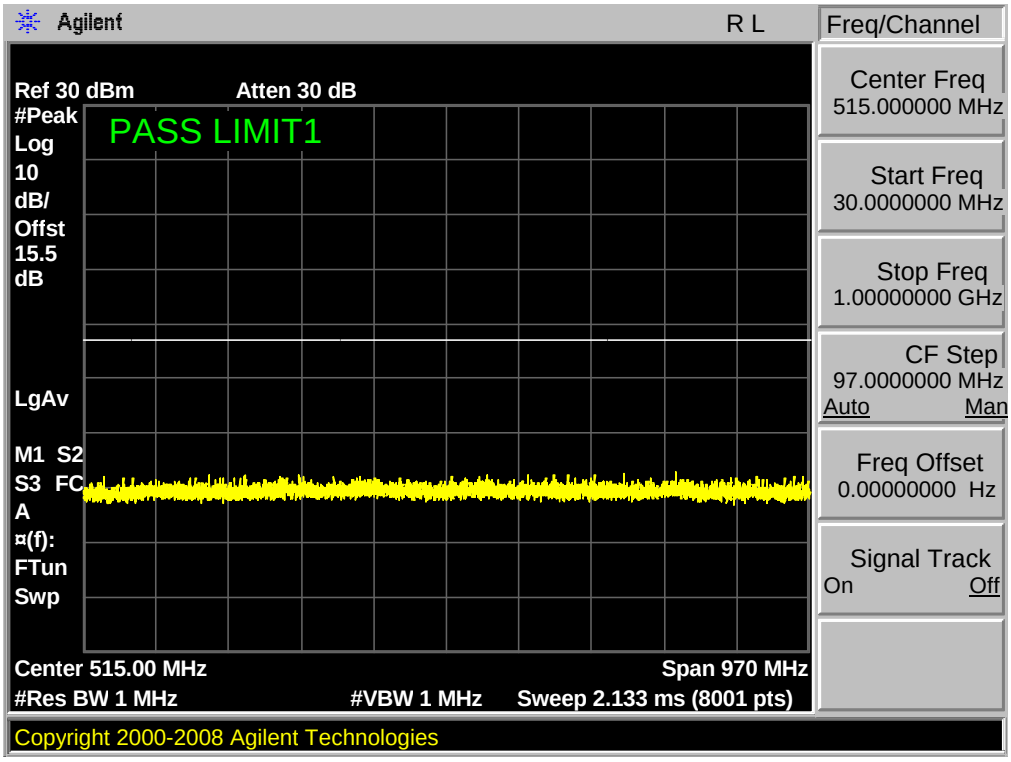
Band 2,UL Channel 18700,UL Frequency 1860.0,BW 20.0,NO. RB 1,RB POS. Low,16QAM



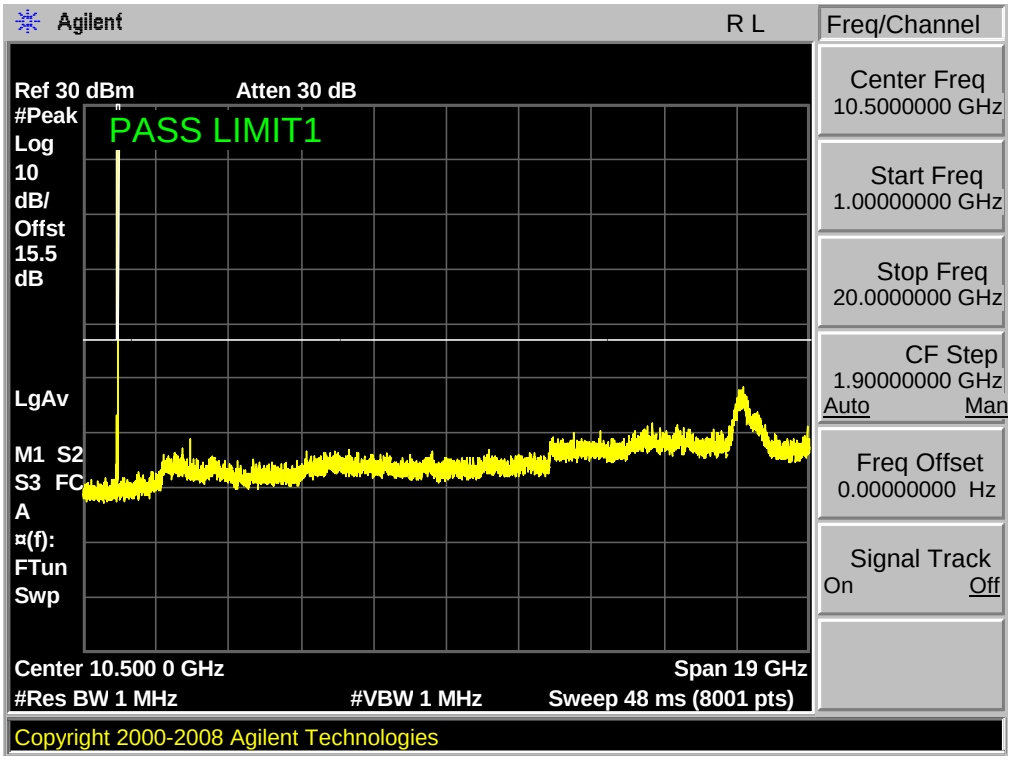
Band 2,UL Channel 18700,UL Frequency 1860.0,BW 20.0,NO. RB 1,RB POS. Low,16QAM



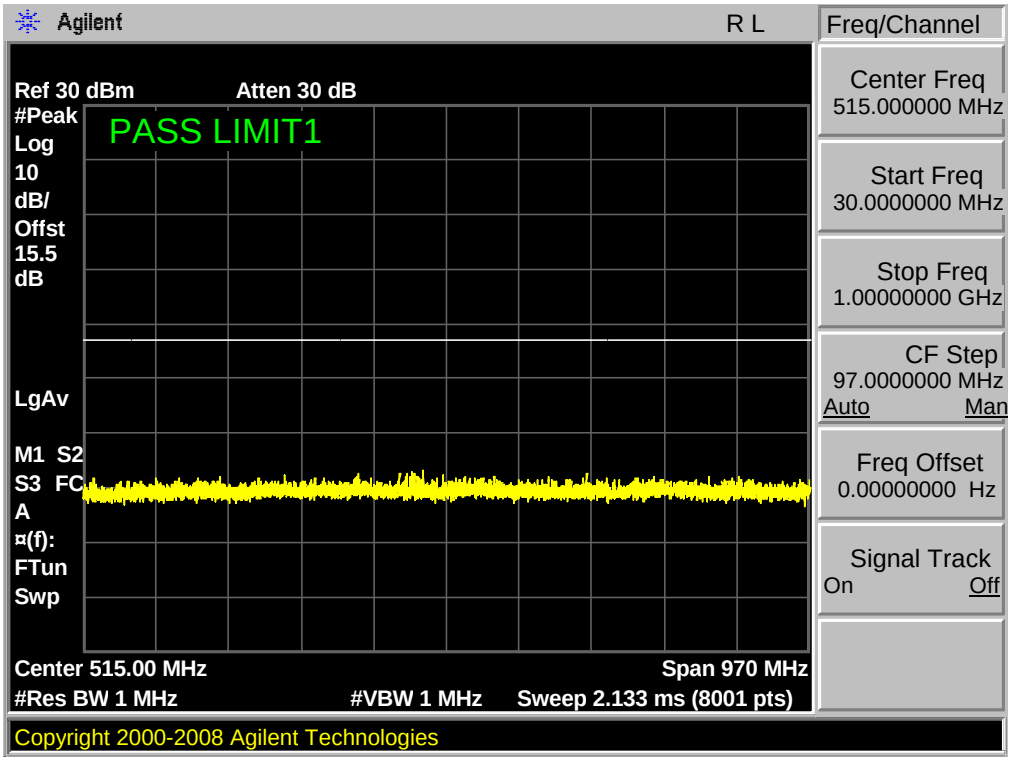
Band 2,UL Channel 19100,UL Frequency 1900.0,BW 20.0,NO. RB 1,RB POS. Low,QPSK



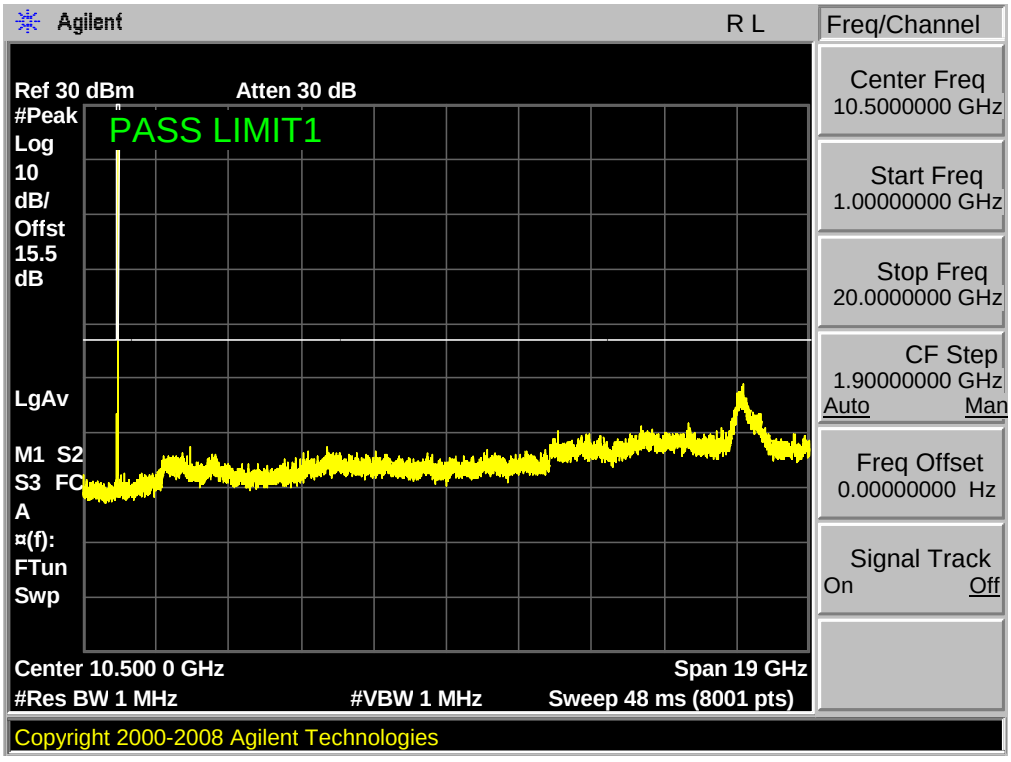
Band 2,UL Channel 19100,UL Frequency 1900.0,BW 20.0,NO. RB 1,RB POS. Low,QPSK



Band 2,UL Channel 19100,UL Frequency 1900.0,BW 20.0,NO. RB 1,RB POS. Low,16QAM

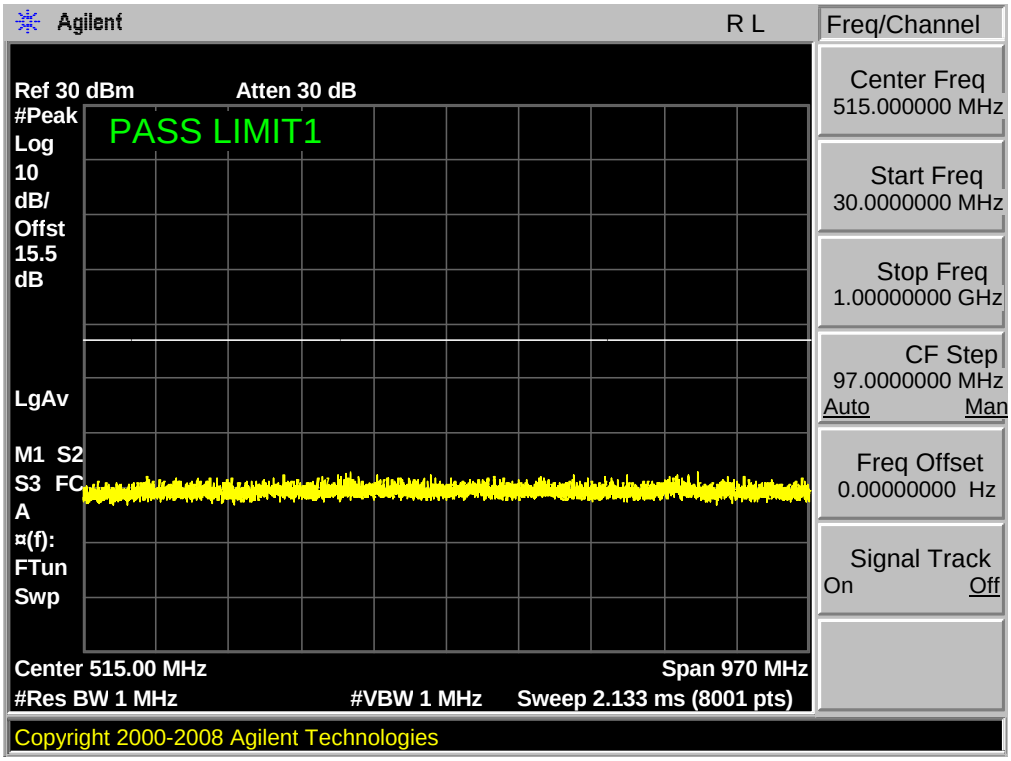


Band 2,UL Channel 19100,UL Frequency 1900.0,BW 20.0,NO. RB 1,RB POS. Low,16QAM

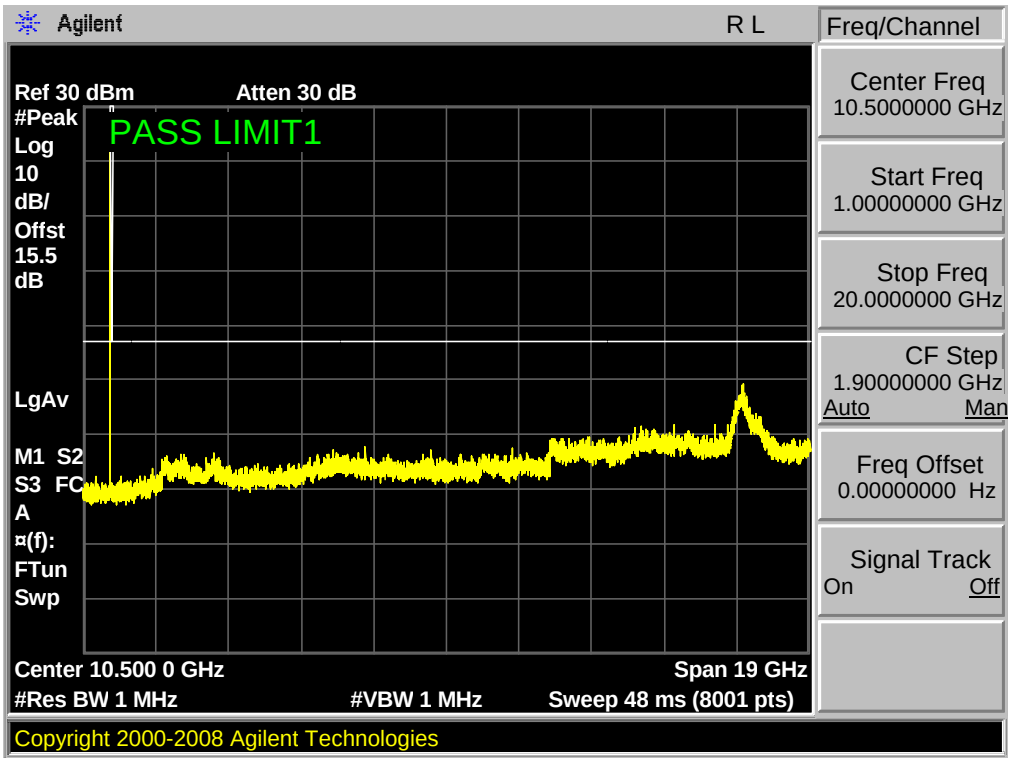


7.1.2 LTE BAND 4

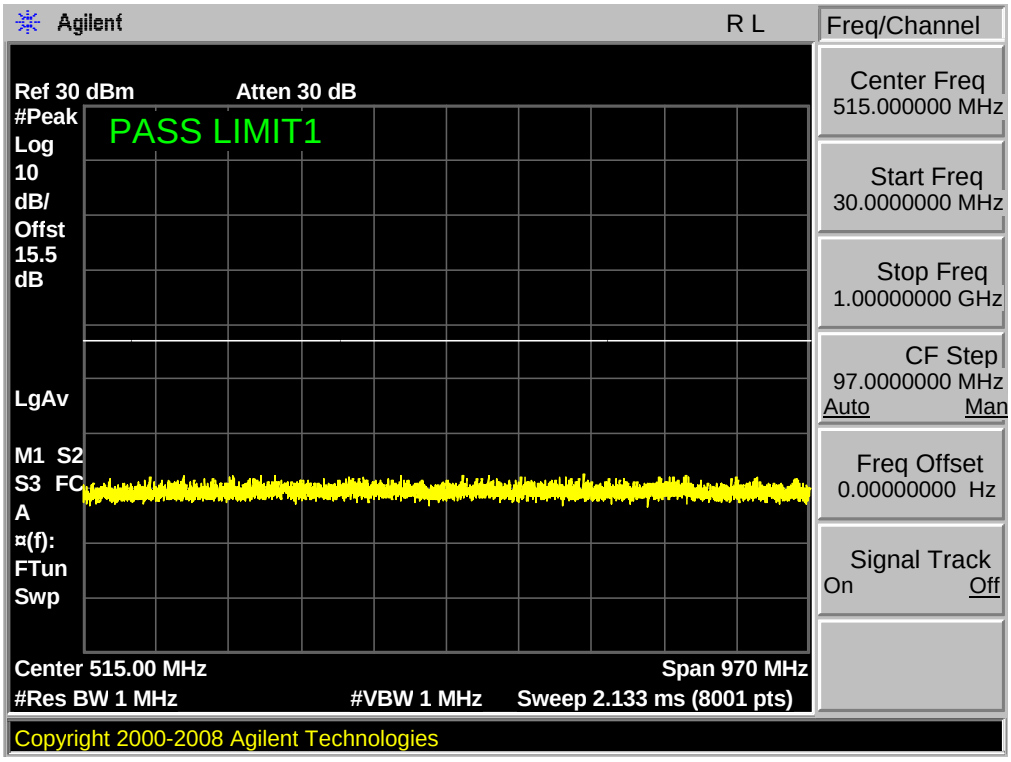
Band 4,UL Channel 19957,UL Frequency 1710.7,BW 1.4,NO. RB 1,RB POS. Low,QPSK



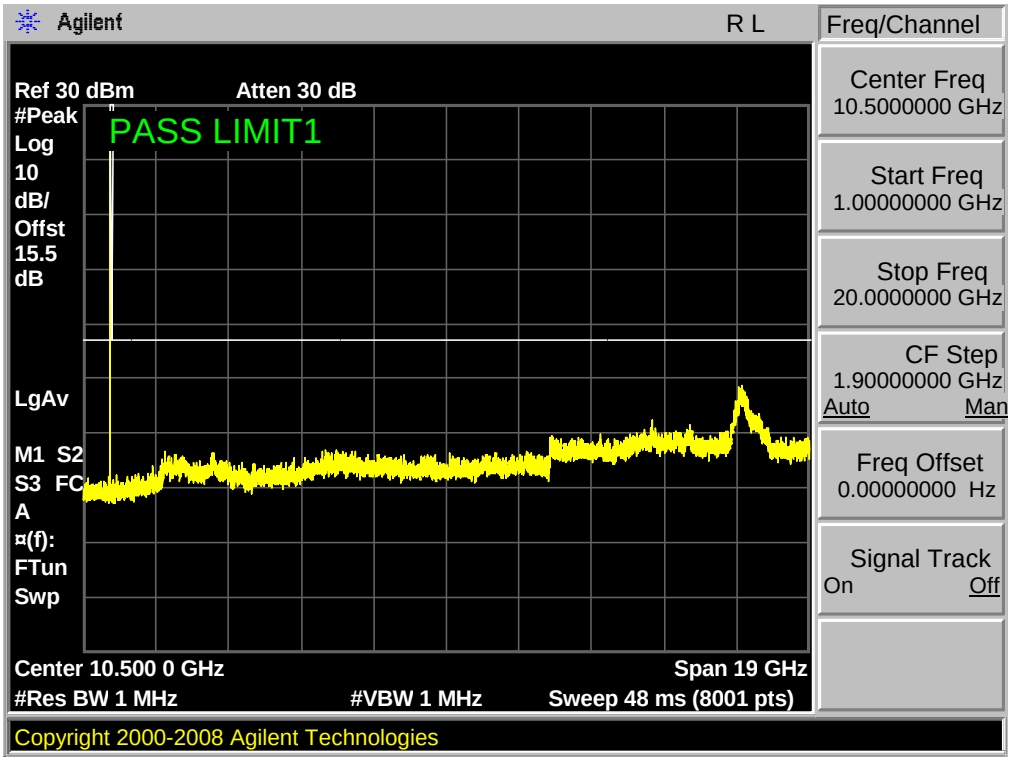
Band 4,UL Channel 19957,UL Frequency 1710.7,BW 1.4,NO. RB 1,RB POS. Low,QPSK



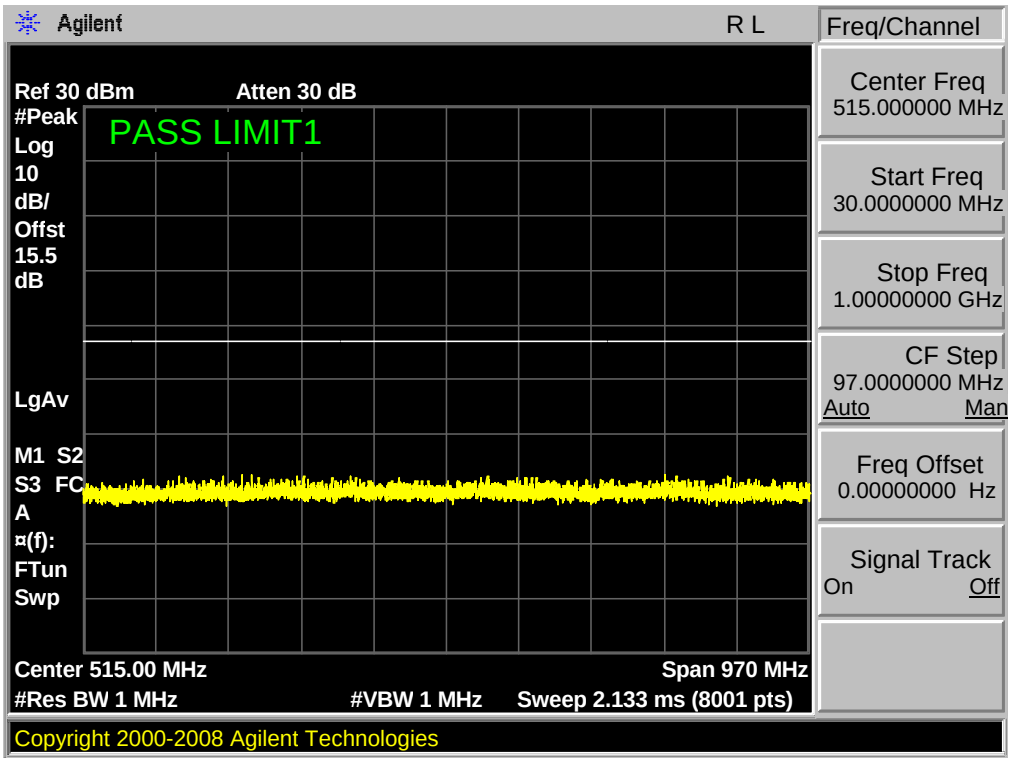
Band 4,UL Channel 19957,UL Frequency 1710.7,BW 1.4,NO. RB 1,RB POS. Low,16QAM



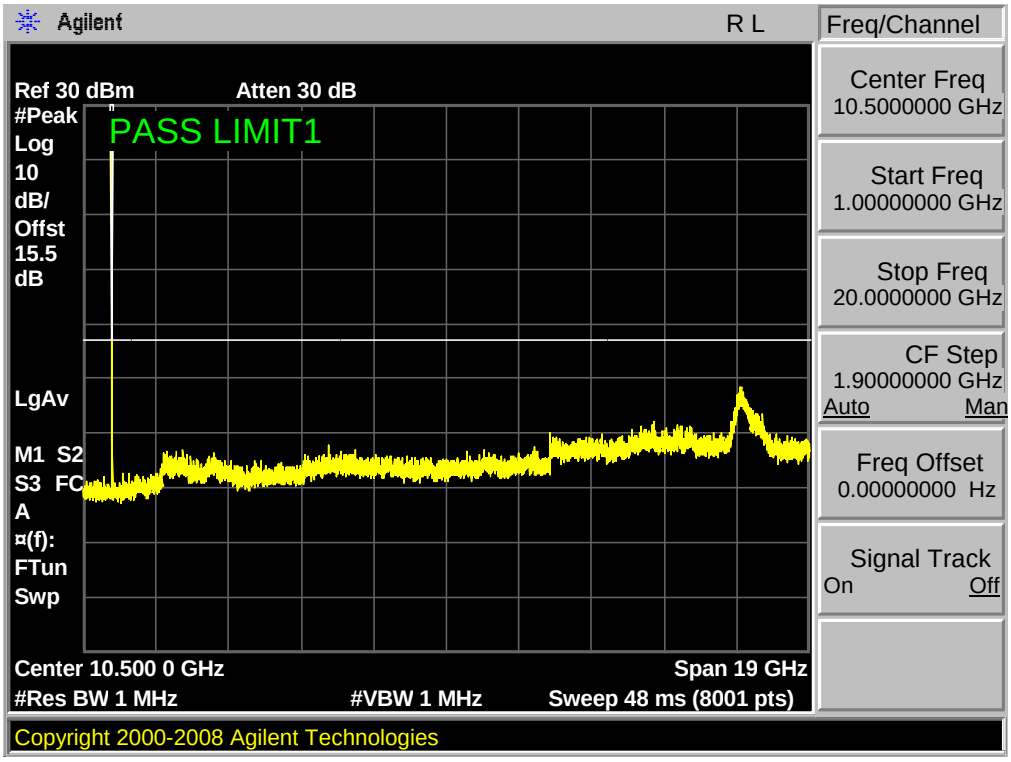
Band 4,UL Channel 19957,UL Frequency 1710.7,BW 1.4,NO. RB 1,RB POS. Low,16QAM



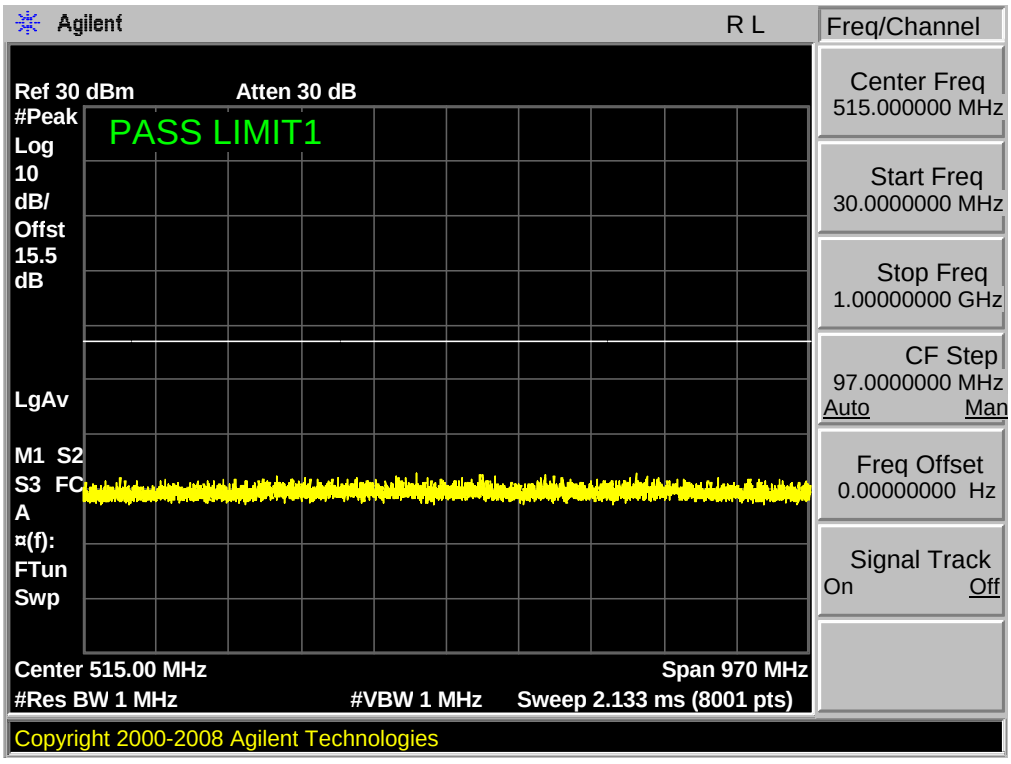
Band 4,UL Channel 20393,UL Frequency 1754.3,BW 1.4,NO. RB 1,RB POS. Low,QPSK



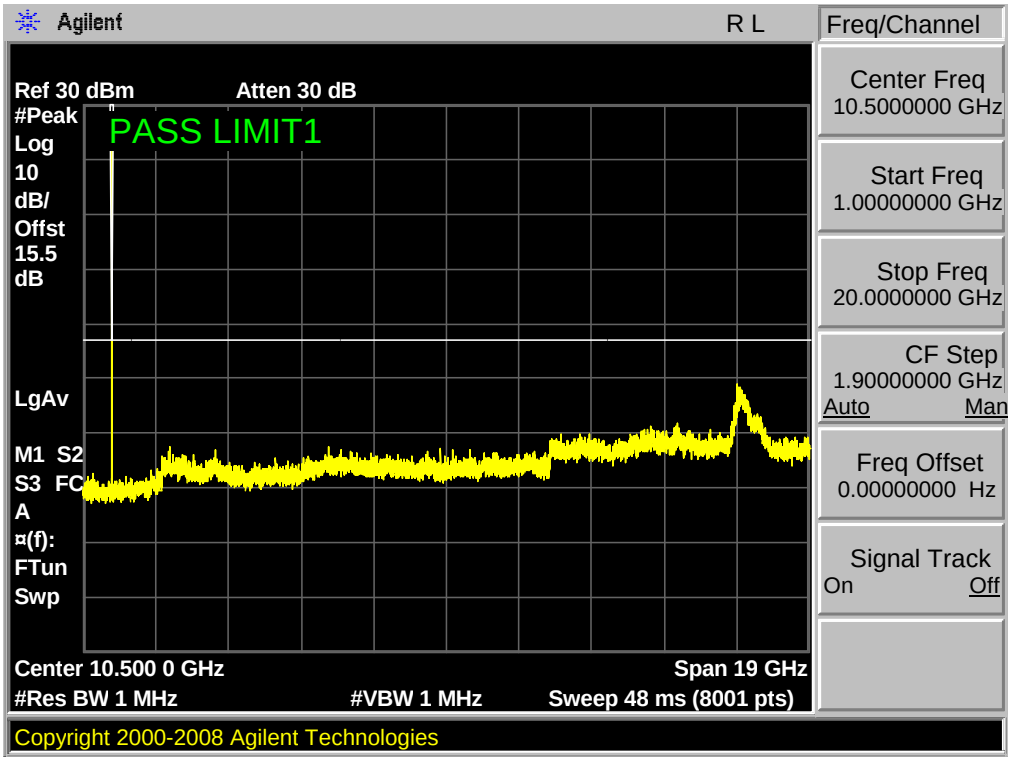
Band 4,UL Channel 20393,UL Frequency 1754.3,BW 1.4,NO. RB 1,RB POS. Low,QPSK



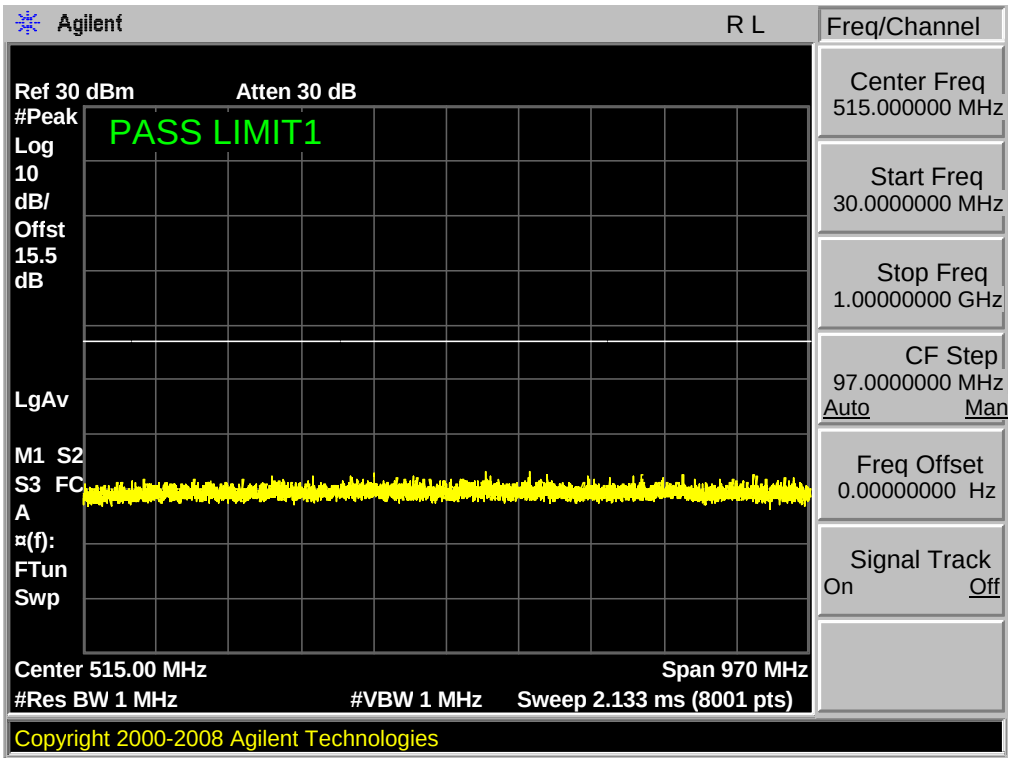
Band 4,UL Channel 20393,UL Frequency 1754.3,BW 1.4,NO. RB 1,RB POS. Low,16QAM



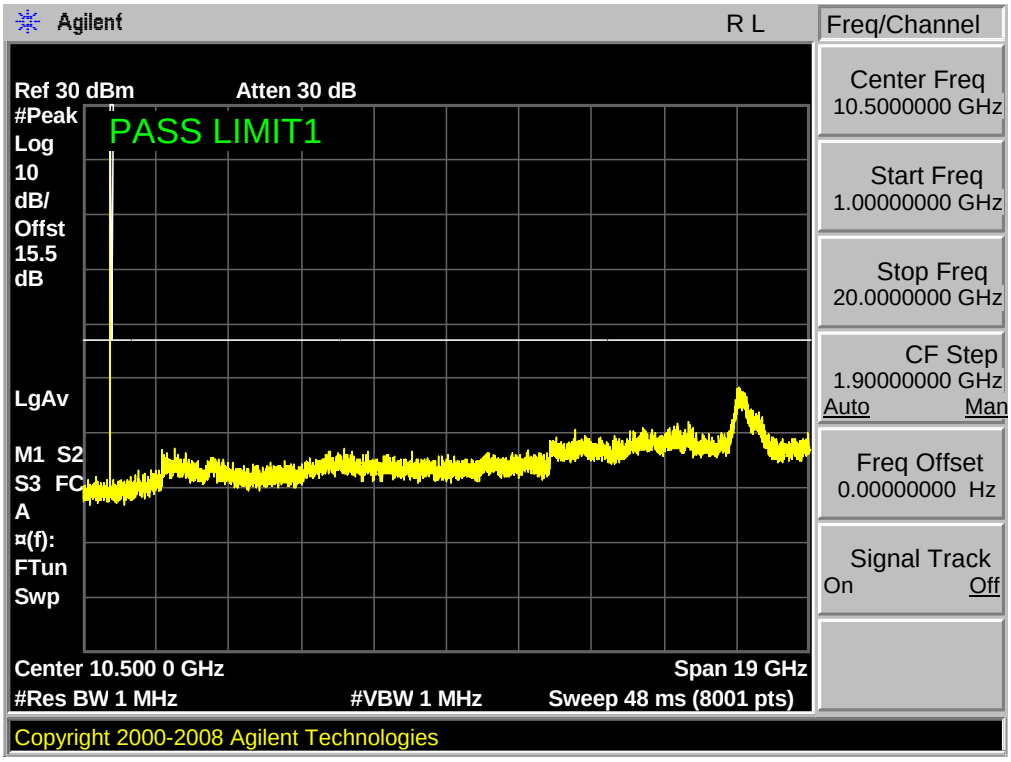
Band 4,UL Channel 20393,UL Frequency 1754.3,BW 1.4,NO. RB 1,RB POS. Low,16QAM



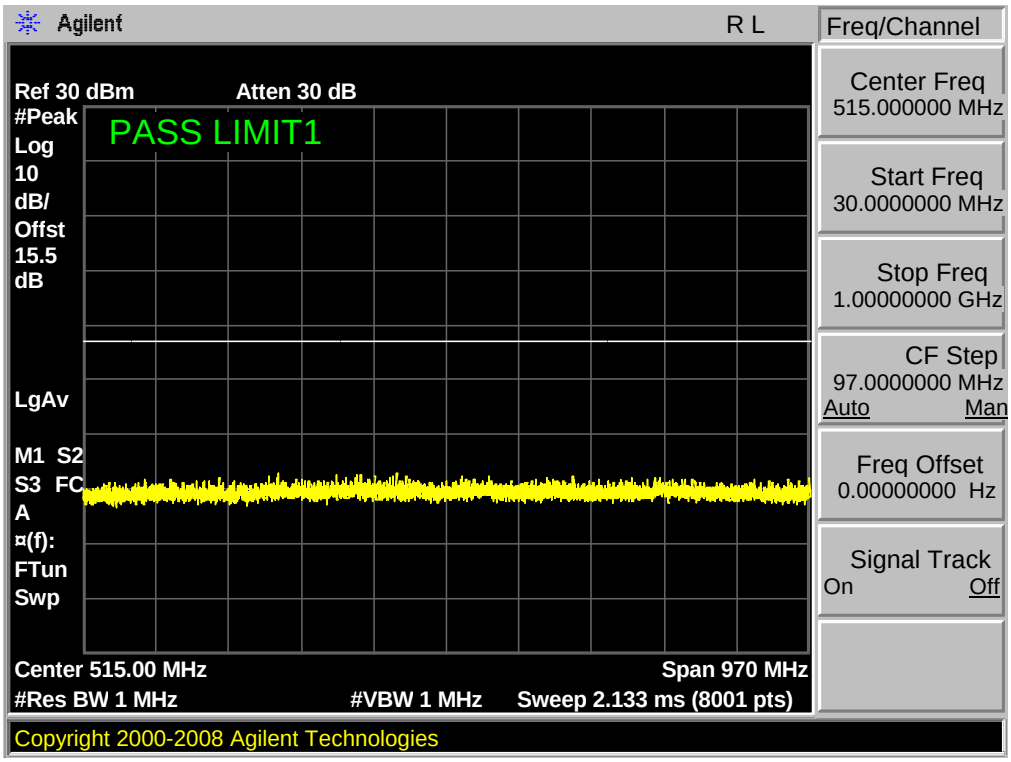
Band 4,UL Channel 19965,UL Frequency 1711.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



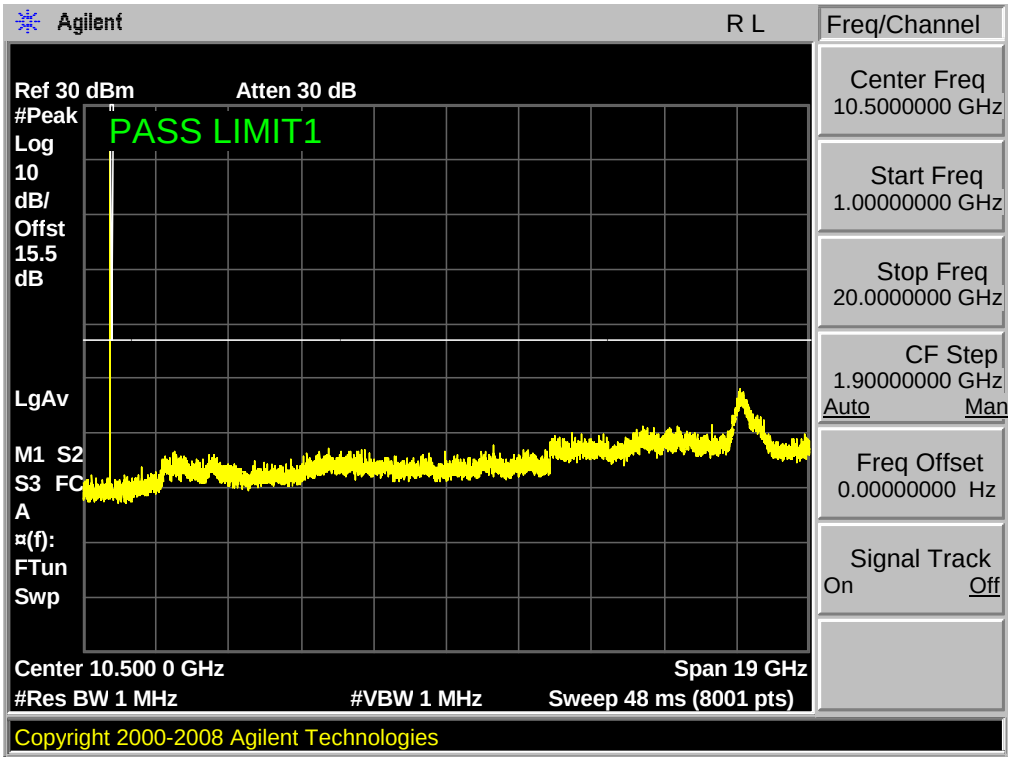
Band 4,UL Channel 19965,UL Frequency 1711.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



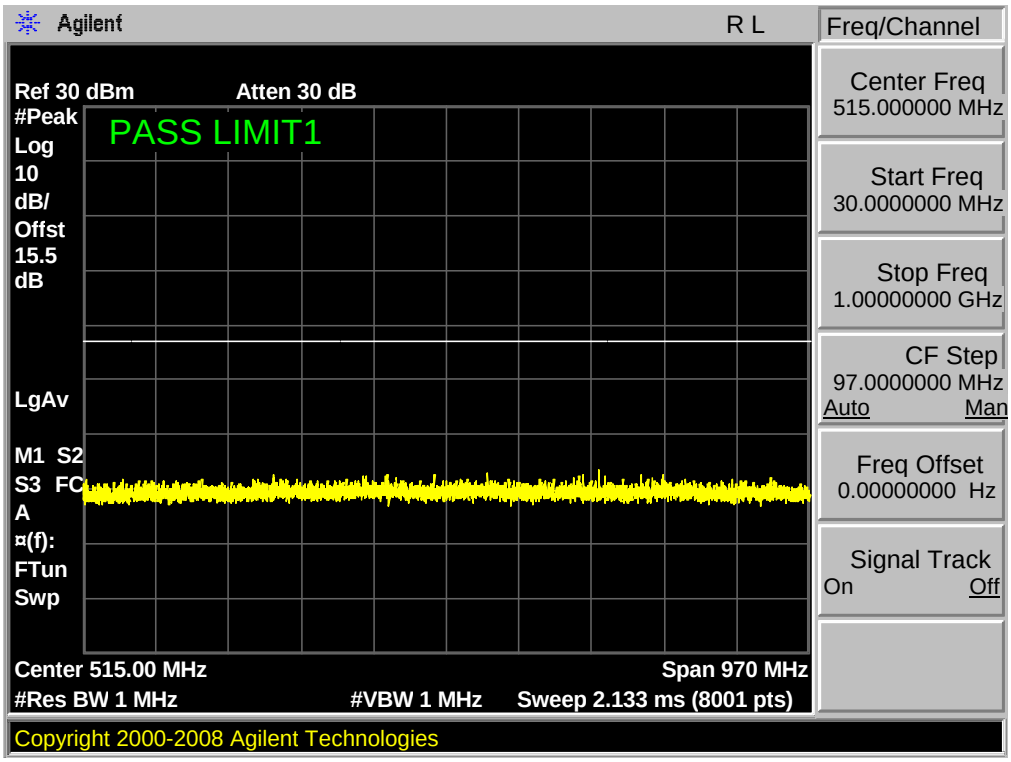
Band 4,UL Channel 19965,UL Frequency 1711.5,BW 3.0,NO. RB 1,RB POS. High,16QAM



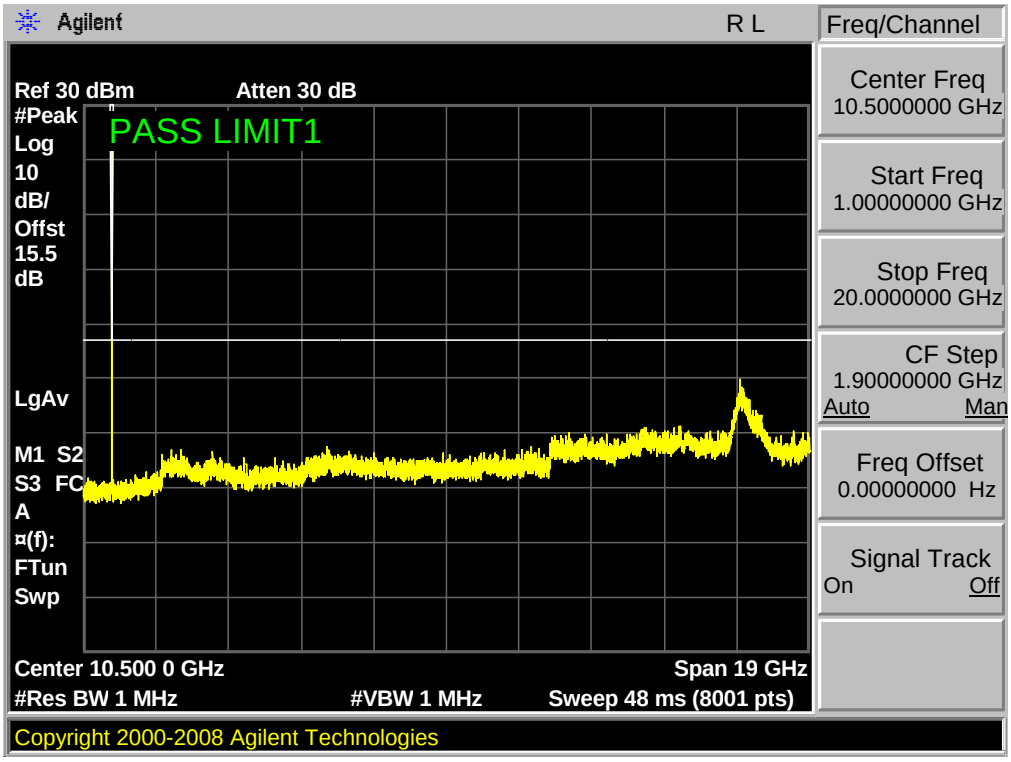
Band 4,UL Channel 19965,UL Frequency 1711.5,BW 3.0,NO. RB 1,RB POS. High,16QAM



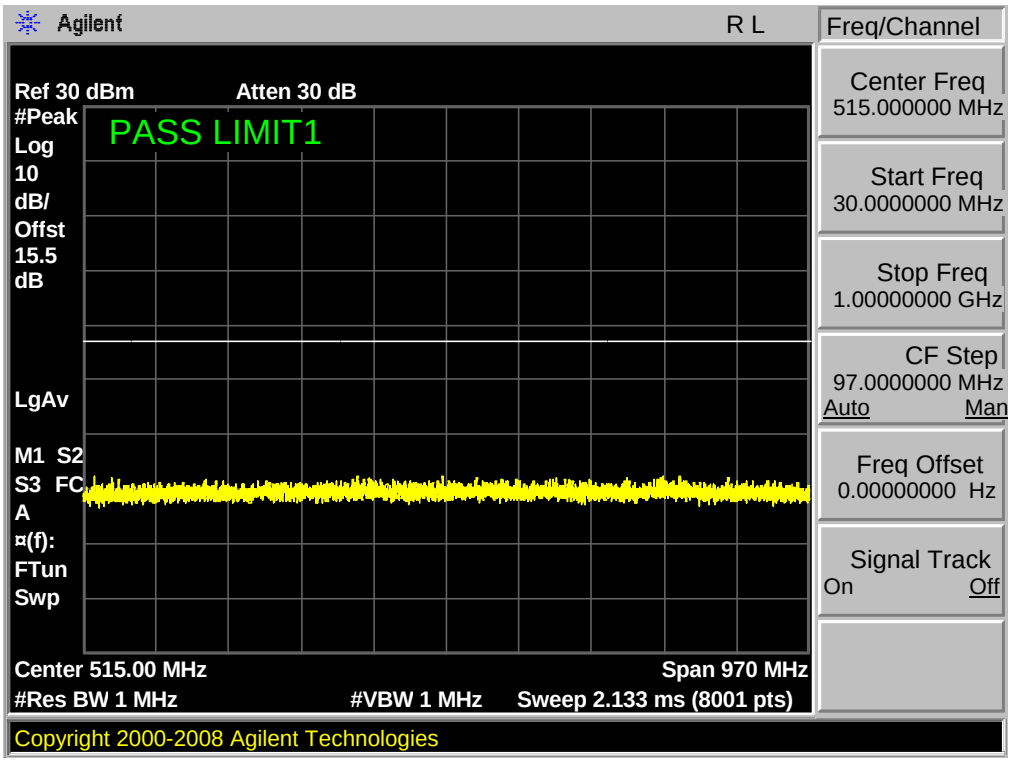
Band 4,UL Channel 20385,UL Frequency 1753.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



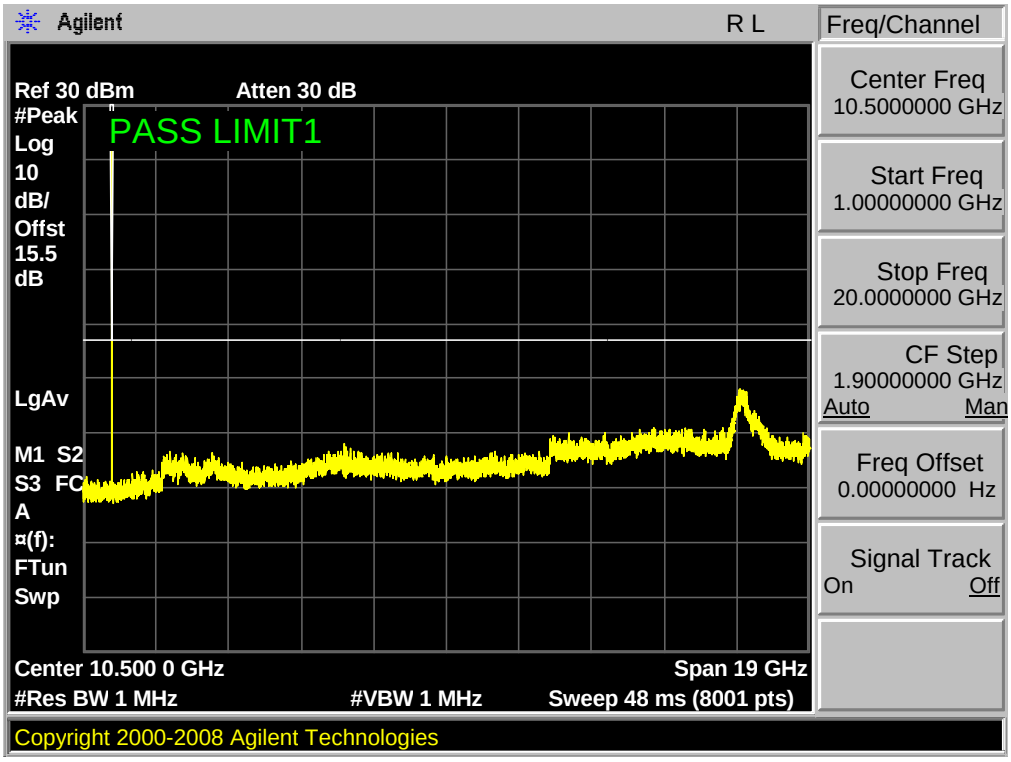
Band 4,UL Channel 20385,UL Frequency 1753.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



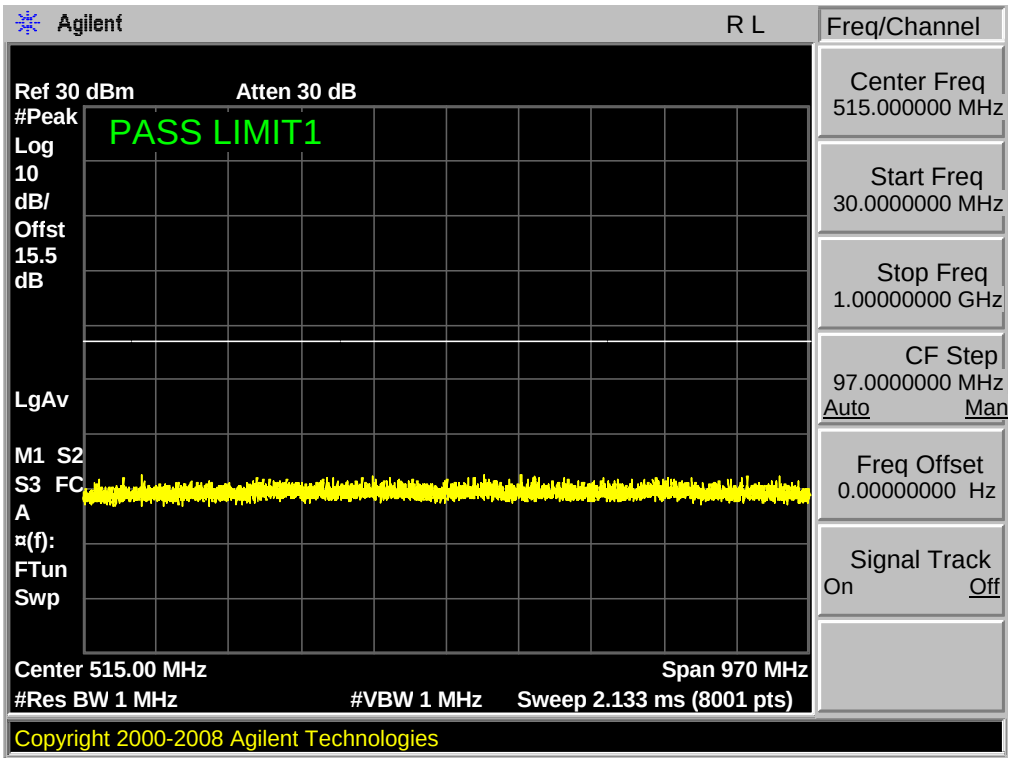
Band 4,UL Channel 20385,UL Frequency 1753.5,BW 3.0,NO. RB 1,RB POS. Low,16QAM



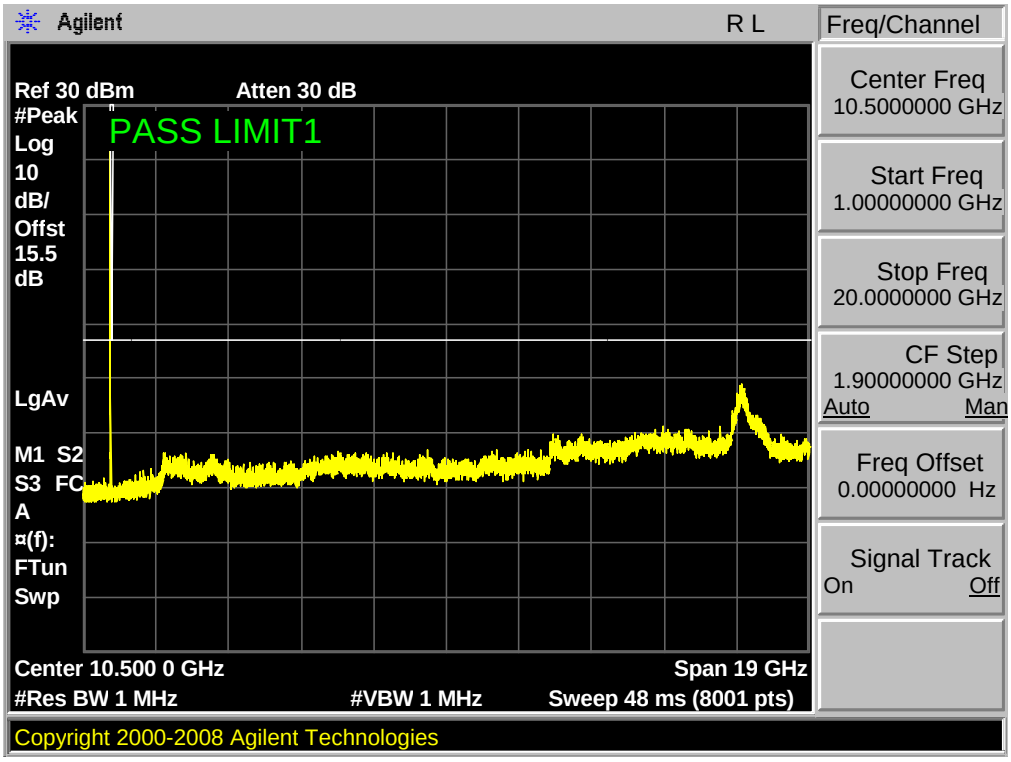
Band 4,UL Channel 20385,UL Frequency 1753.5,BW 3.0,NO. RB 1,RB POS. Low,16QAM



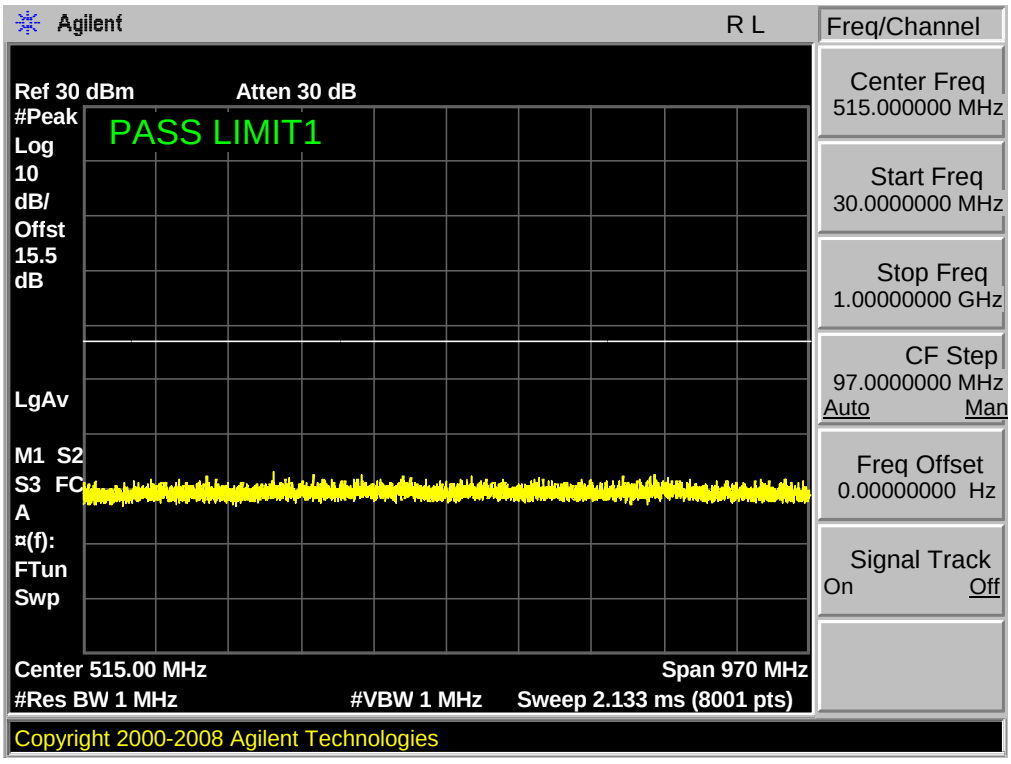
Band 4,UL Channel 19975,UL Frequency 1712.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



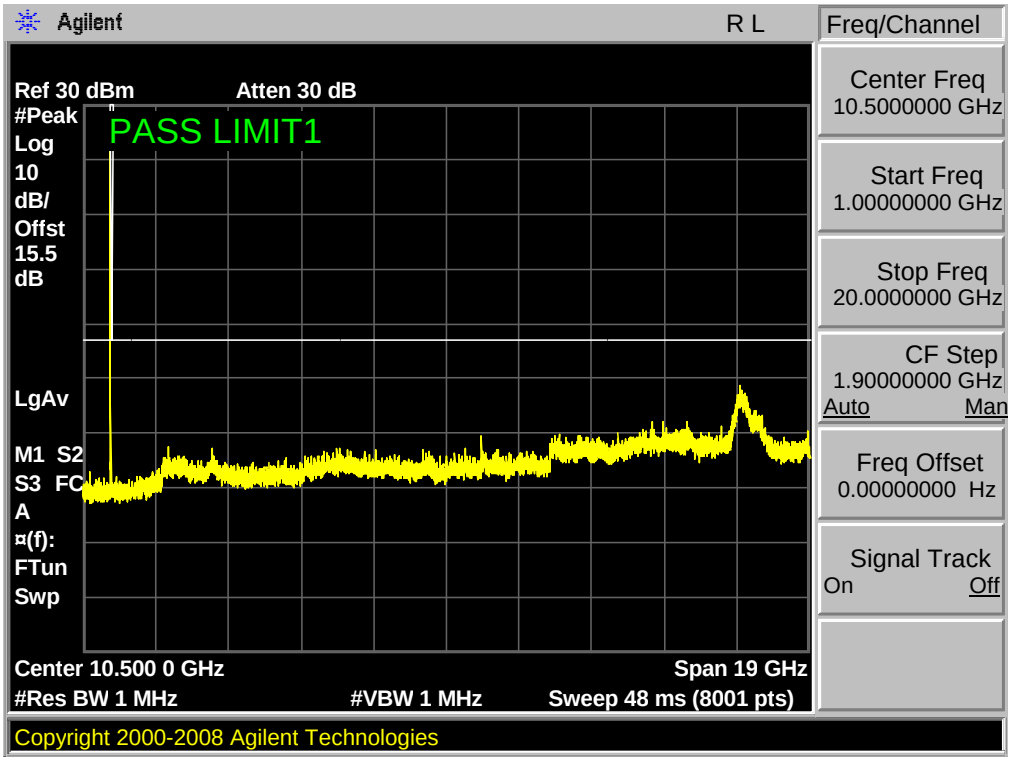
Band 4,UL Channel 19975,UL Frequency 1712.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



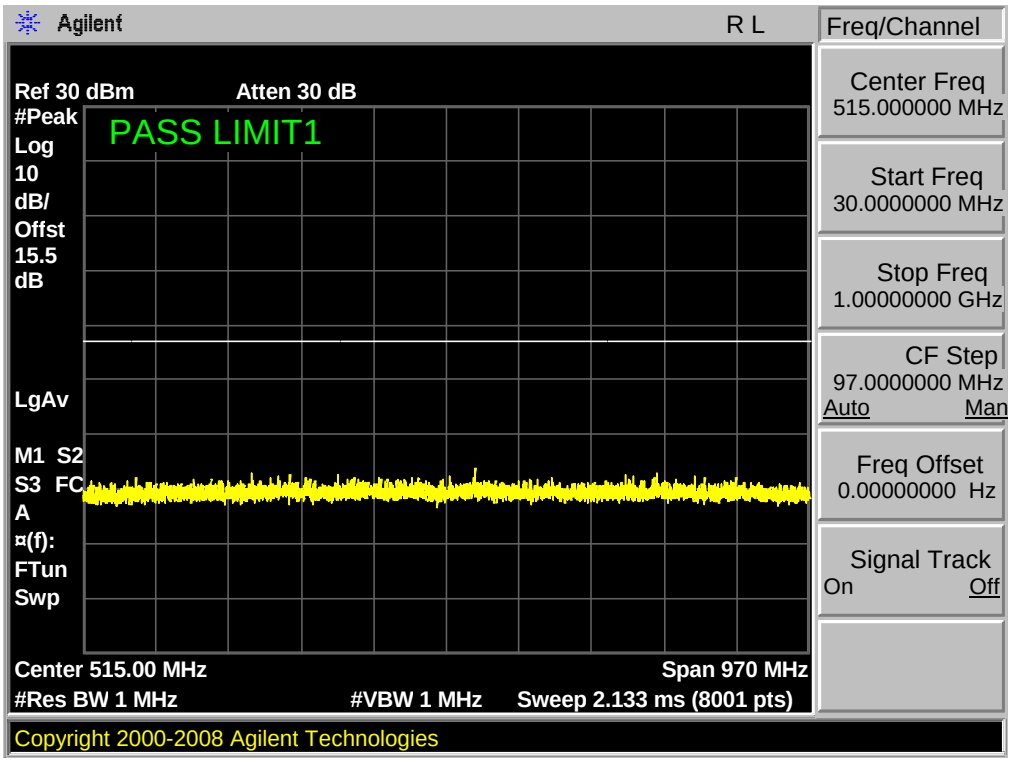
Band 4,UL Channel 19975,UL Frequency 1712.5,BW 5.0,NO. RB 1,RB POS. Low,16QAM



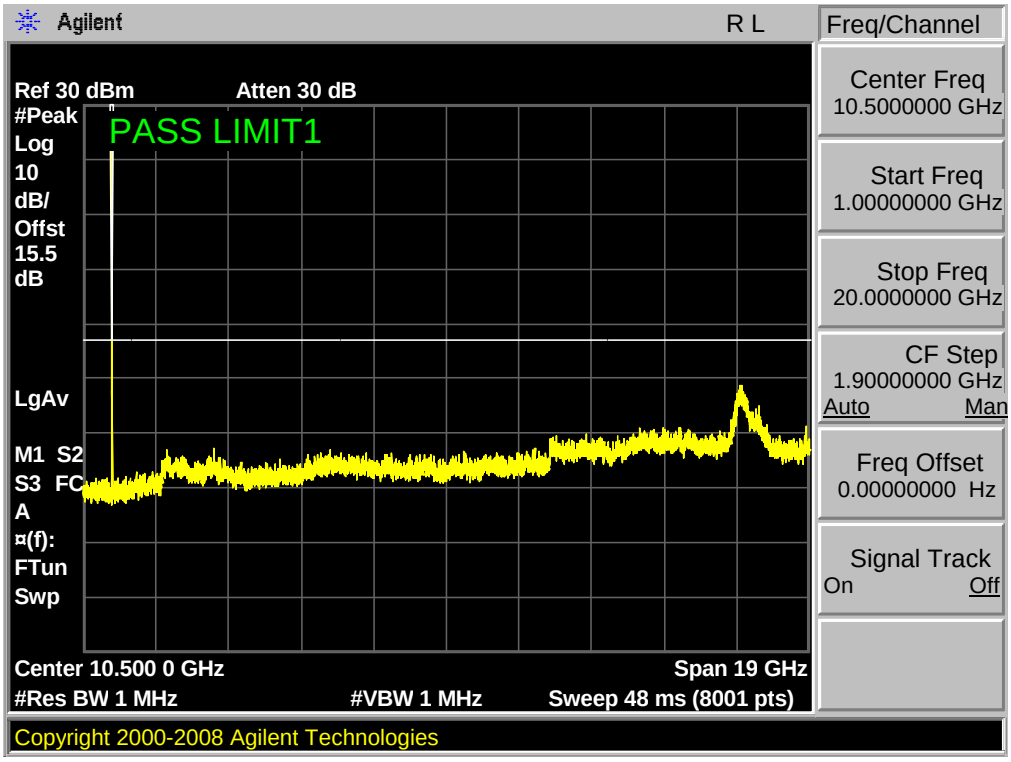
Band 4,UL Channel 19975,UL Frequency 1712.5,BW 5.0,NO. RB 1,RB POS. Low,16QAM



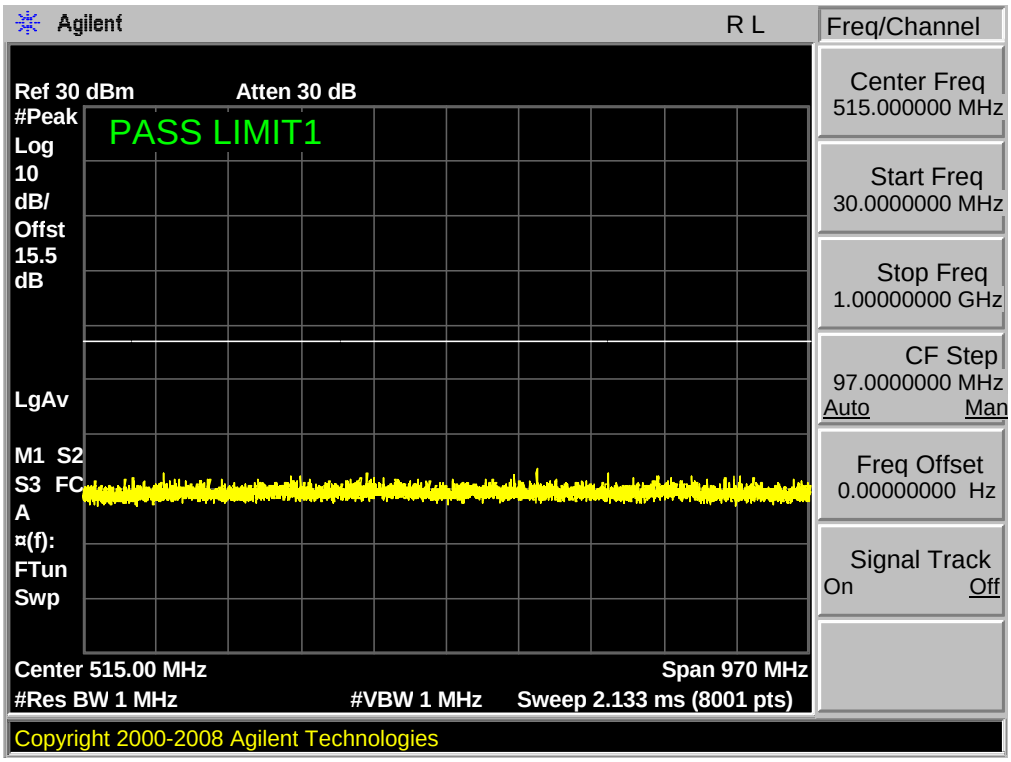
Band 4,UL Channel 20375,UL Frequency 1752.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



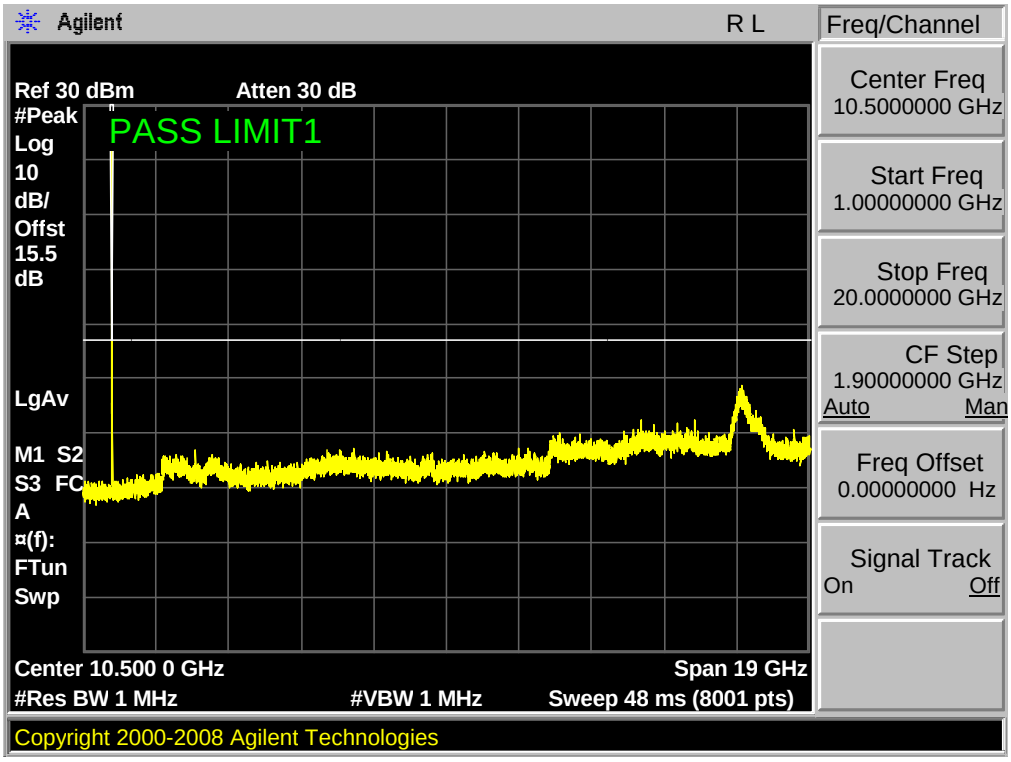
Band 4,UL Channel 20375,UL Frequency 1752.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



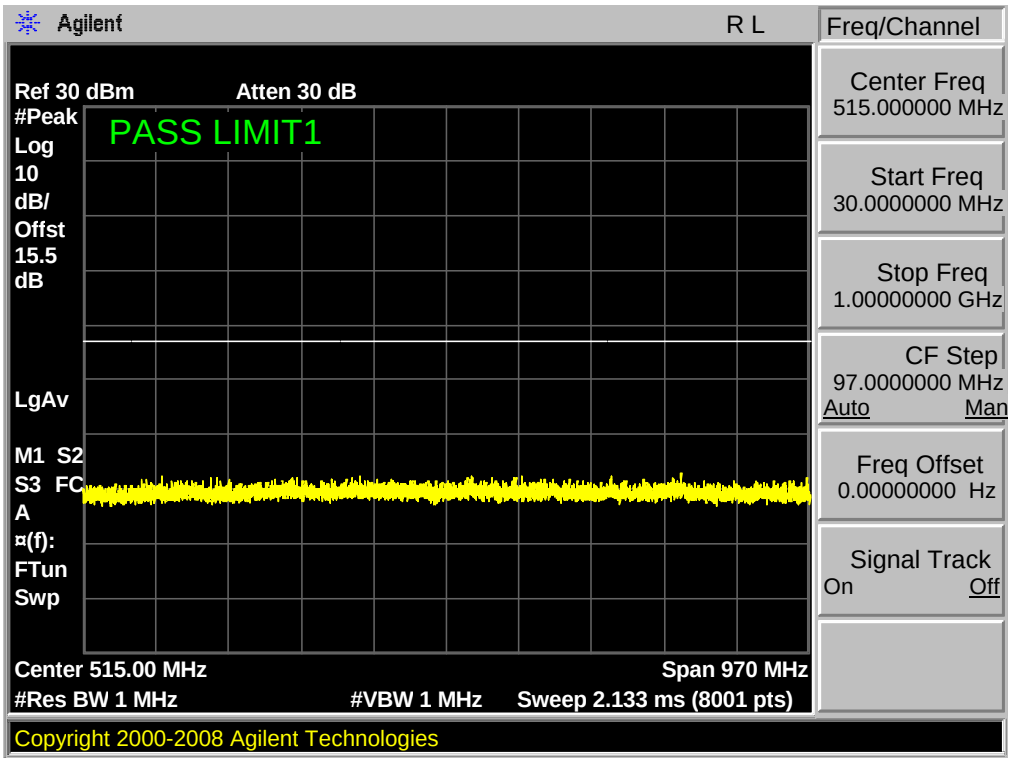
Band 4,UL Channel 20375,UL Frequency 1752.5,BW 5.0,NO. RB 1,RB POS. Low,16QAM



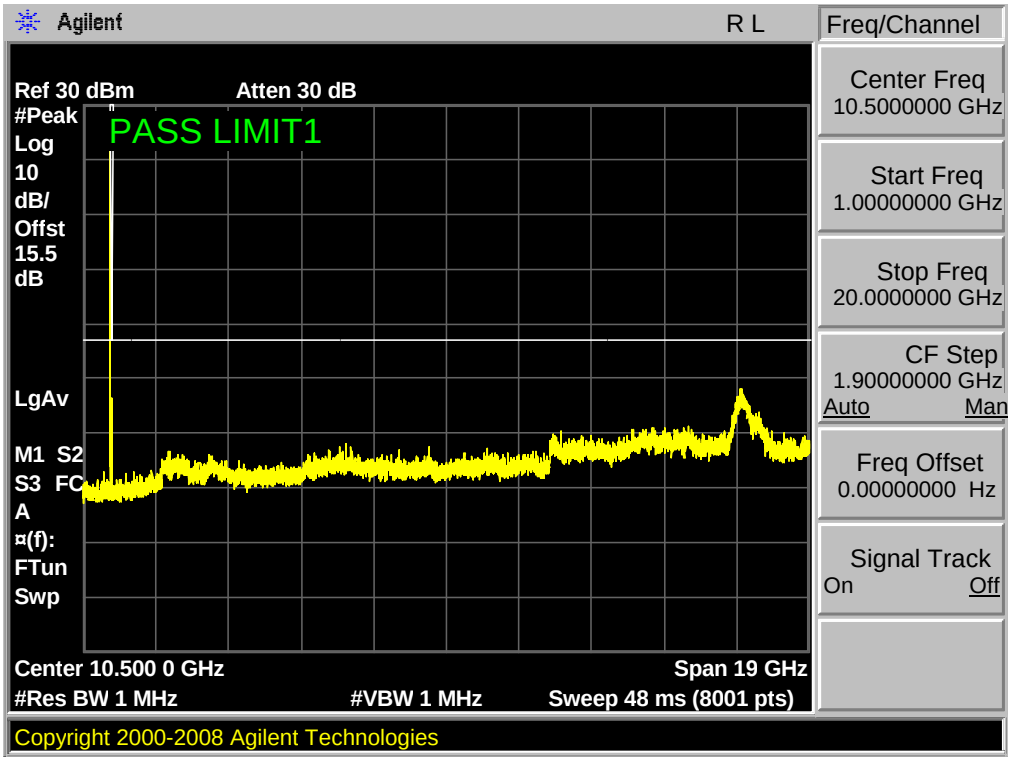
Band 4,UL Channel 20375,UL Frequency 1752.5,BW 5.0,NO. RB 1,RB POS. Low,16QAM



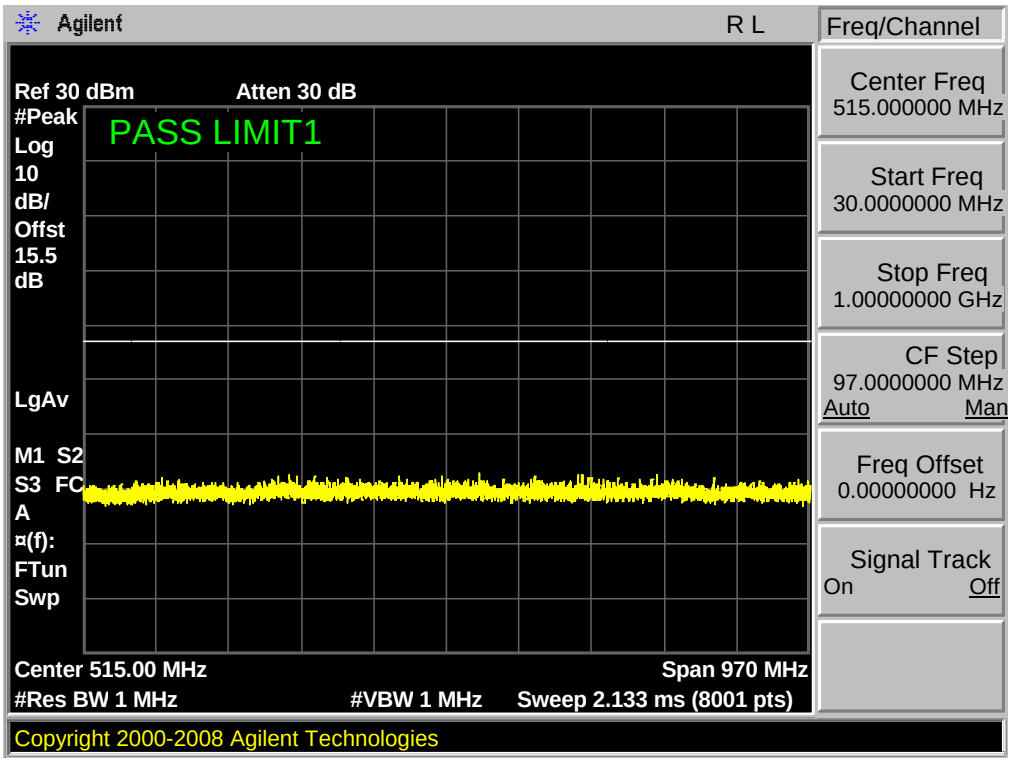
Band 4,UL Channel 20000,UL Frequency 1715.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



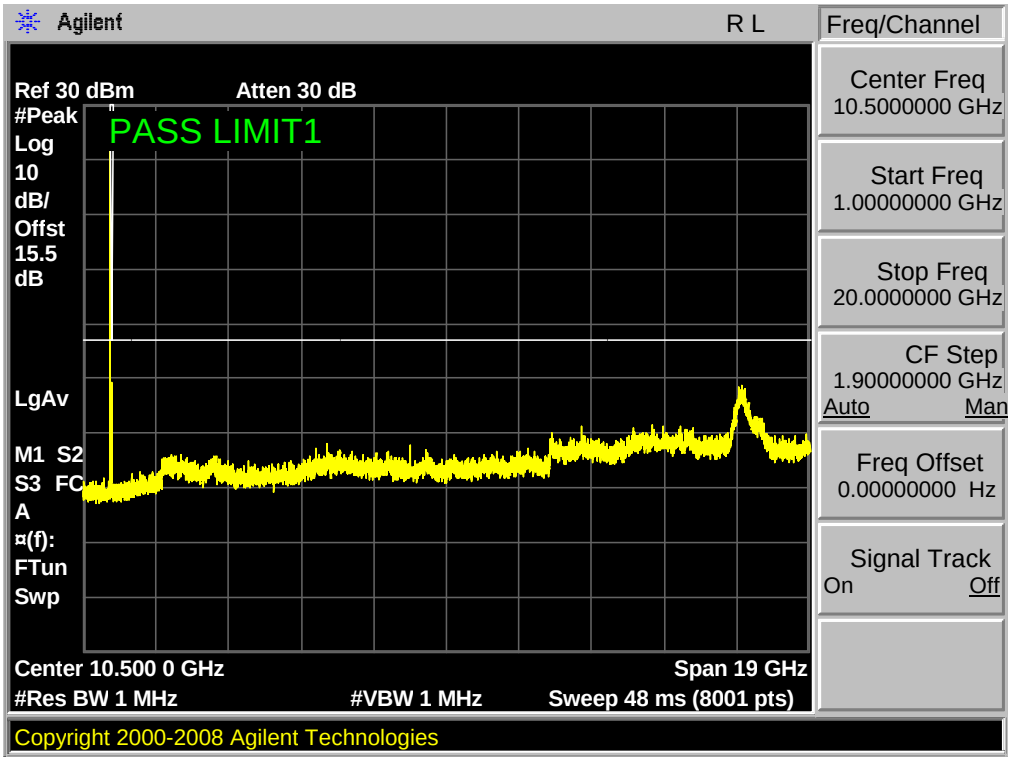
Band 4,UL Channel 20000,UL Frequency 1715.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



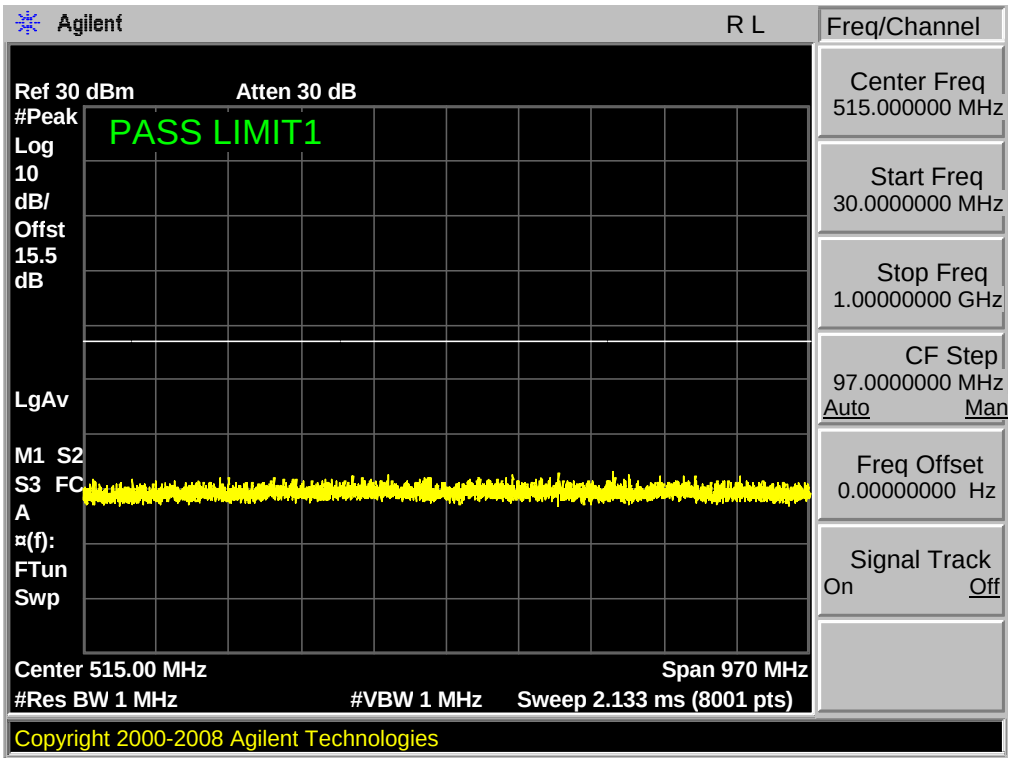
Band 4,UL Channel 20000,UL Frequency 1715.0,BW 10.0,NO. RB 1,RB POS. Low,16QAM



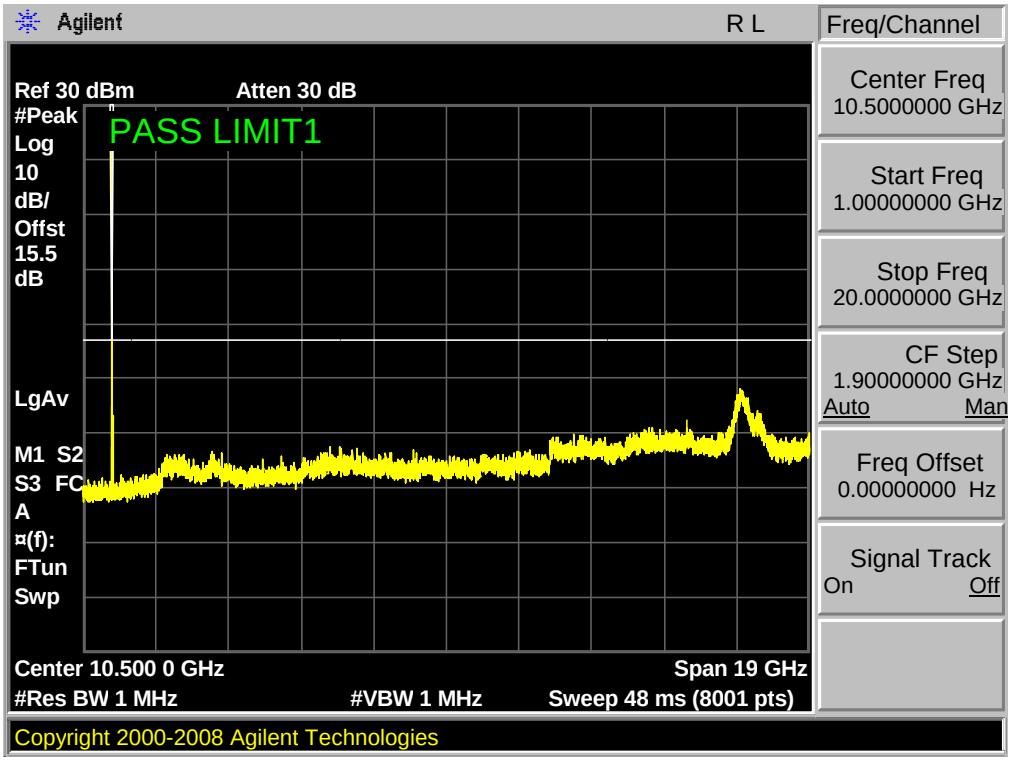
Band 4,UL Channel 20000,UL Frequency 1715.0,BW 10.0,NO. RB 1,RB POS. Low,16QAM



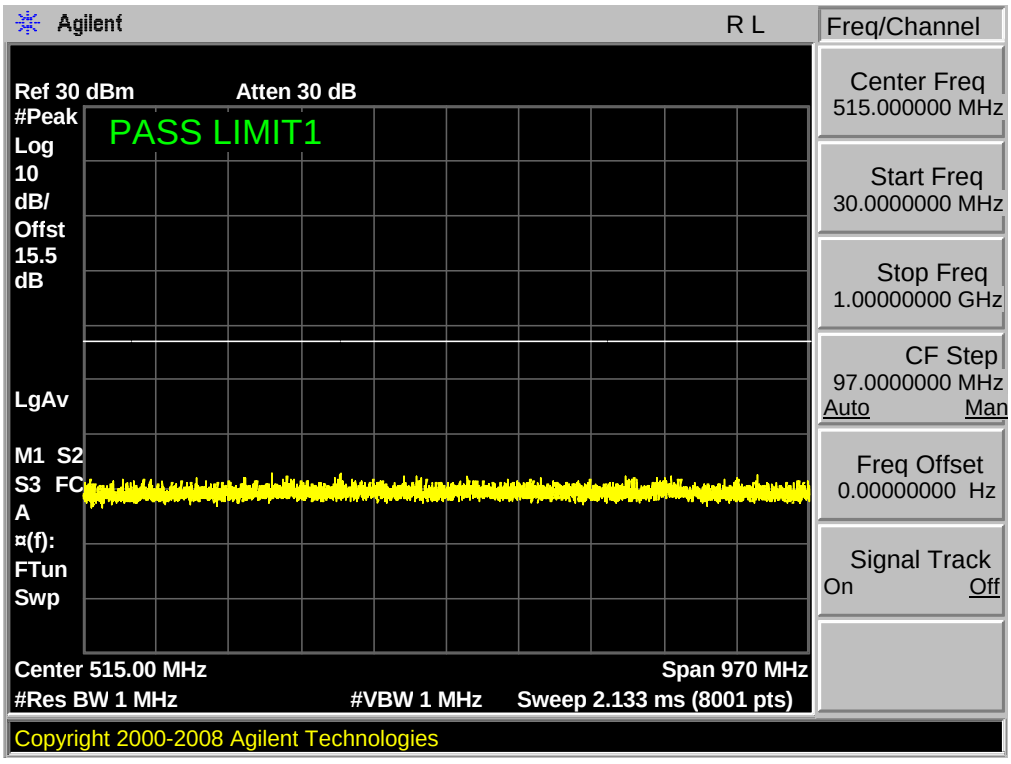
Band 4,UL Channel 20350,UL Frequency 1750.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



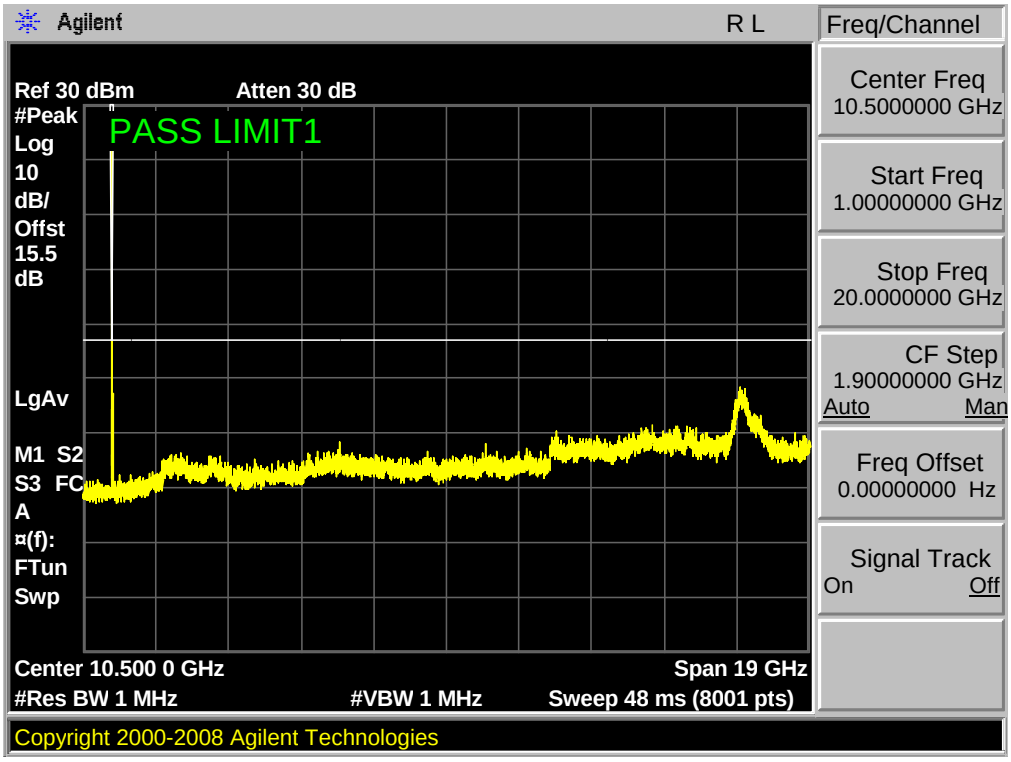
Band 4,UL Channel 20350,UL Frequency 1750.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



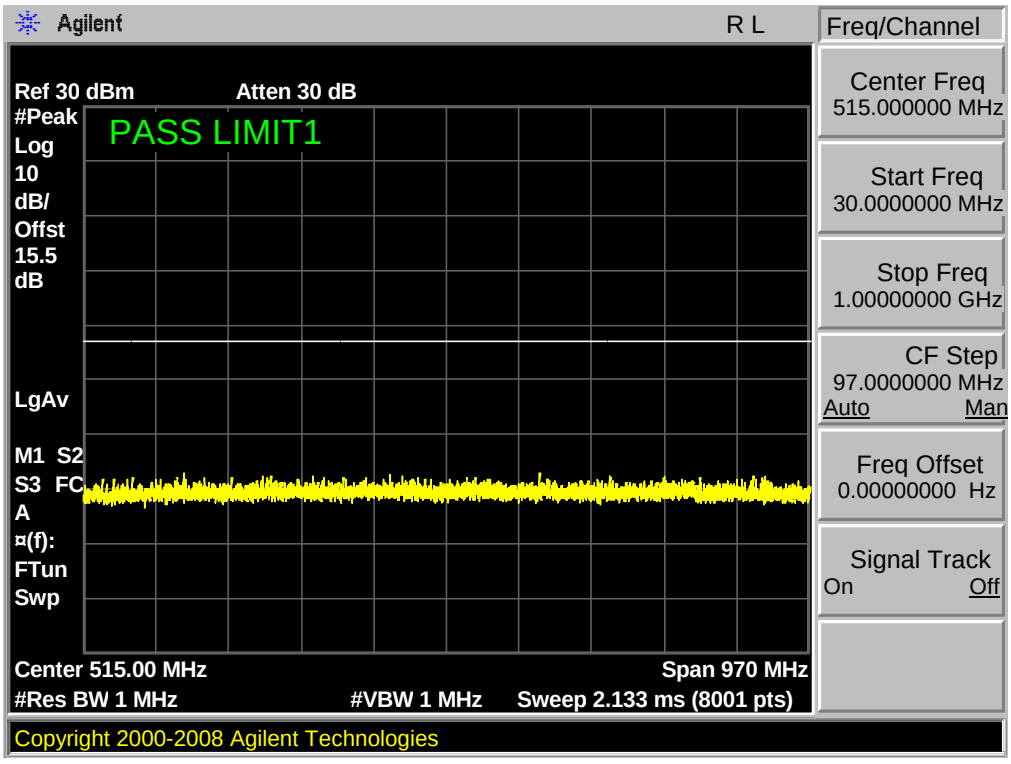
Band 4,UL Channel 20350,UL Frequency 1750.0,BW 10.0,NO. RB 1,RB POS. Low,16QAM



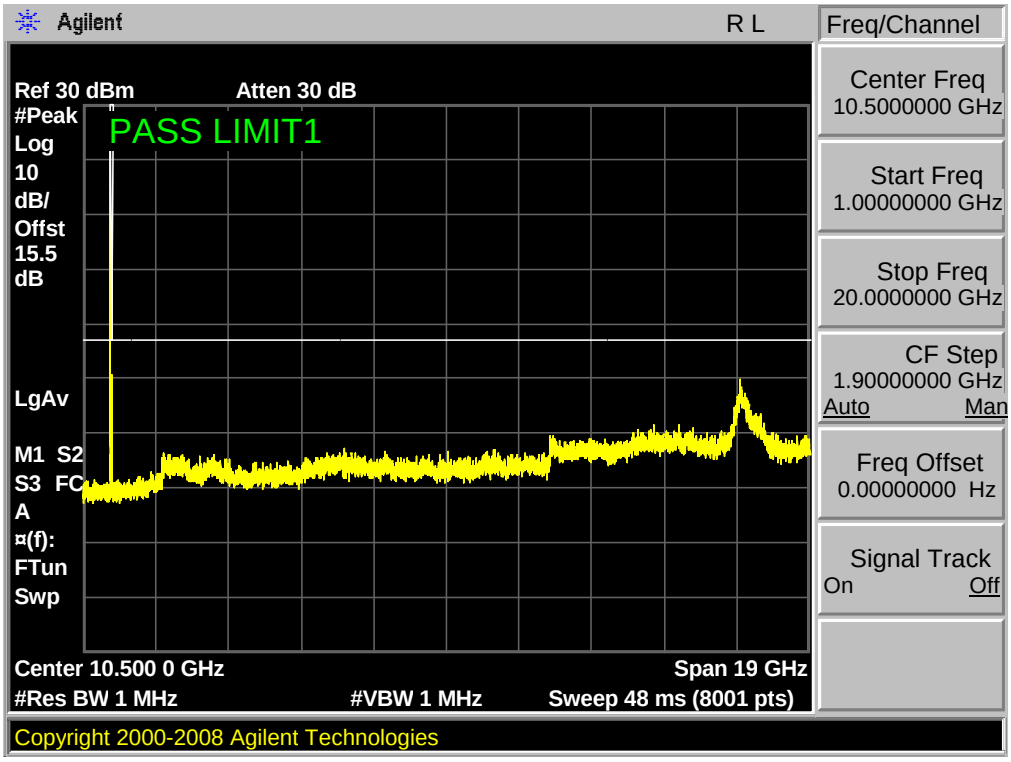
Band 4,UL Channel 20350,UL Frequency 1750.0,BW 10.0,NO. RB 1,RB POS. Low,16QAM



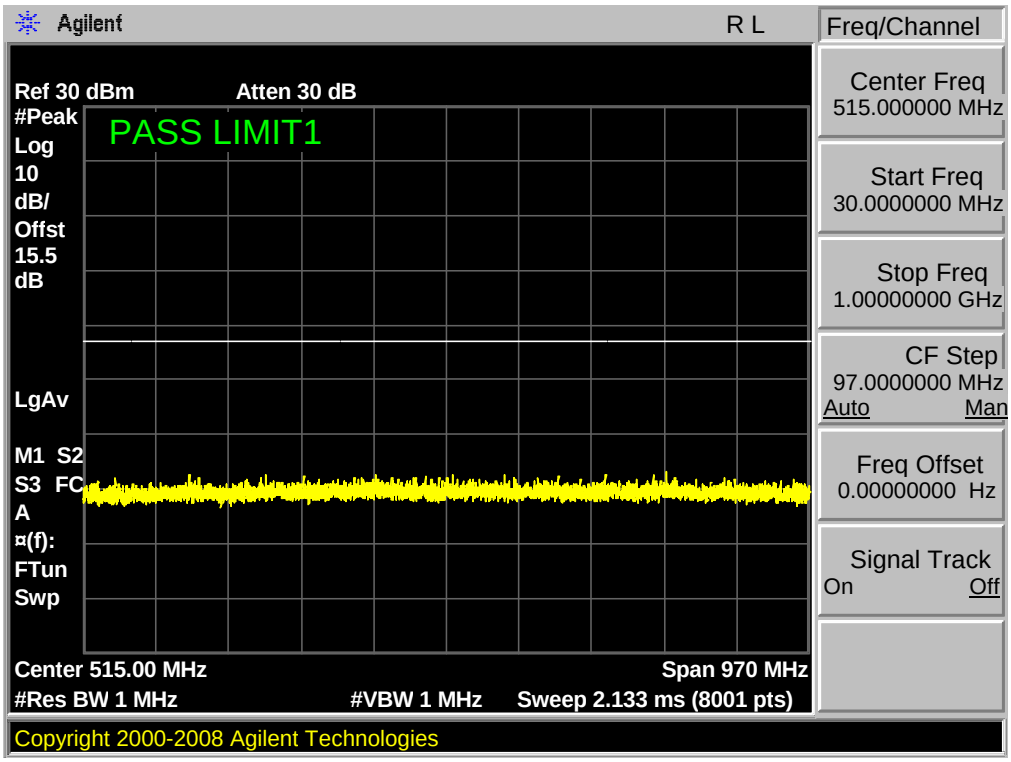
Band 4,UL Channel 20025,UL Frequency 1717.5,BW 15.0,NO. RB 1,RB POS. Low,QPSK



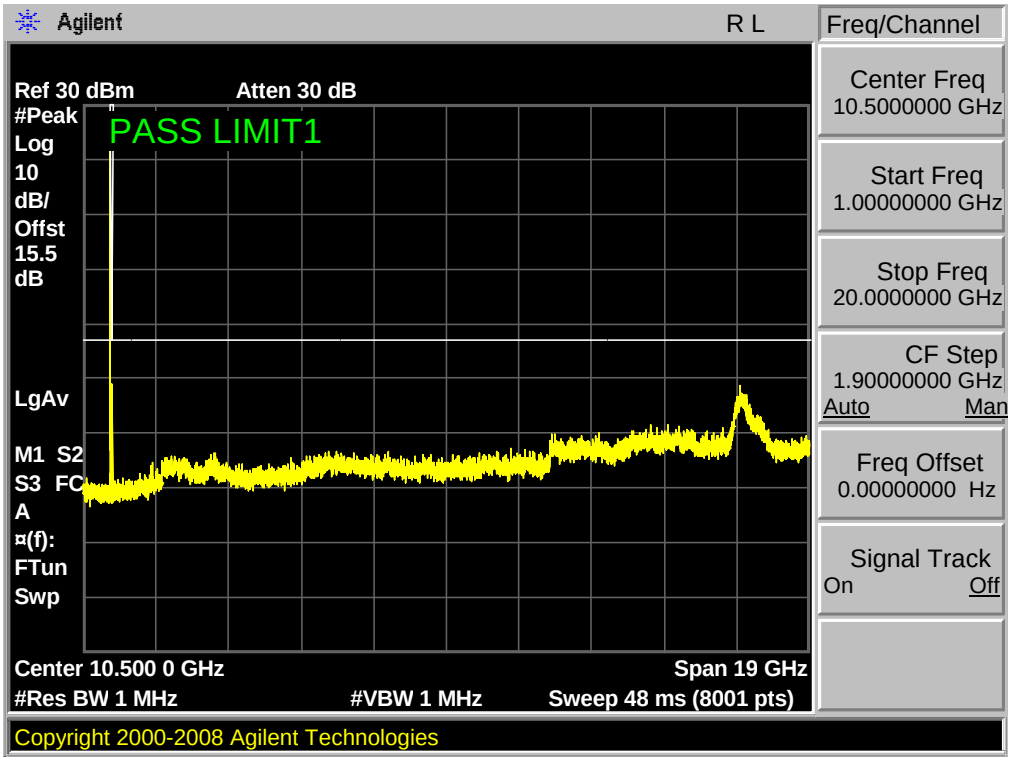
Band 4,UL Channel 20025,UL Frequency 1717.5,BW 15.0,NO. RB 1,RB POS. Low,QPSK



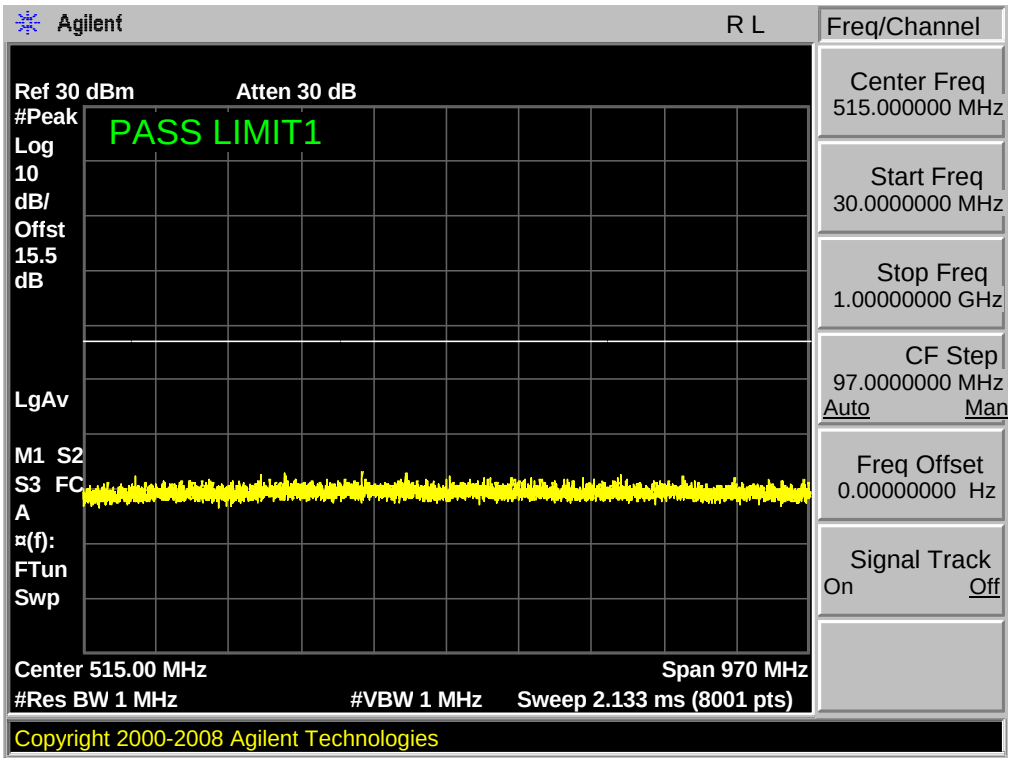
Band 4,UL Channel 20025,UL Frequency 1717.5,BW 15.0,NO. RB 1,RB POS. Low,16QAM



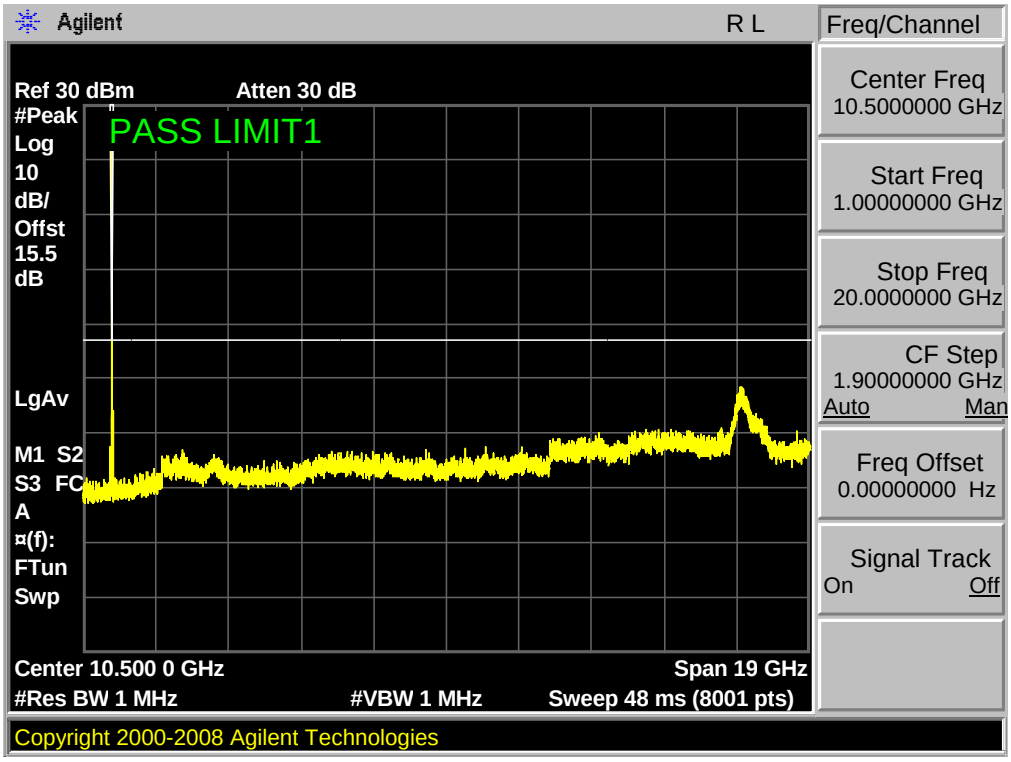
Band 4,UL Channel 20025,UL Frequency 1717.5,BW 15.0,NO. RB 1,RB POS. Low,16QAM



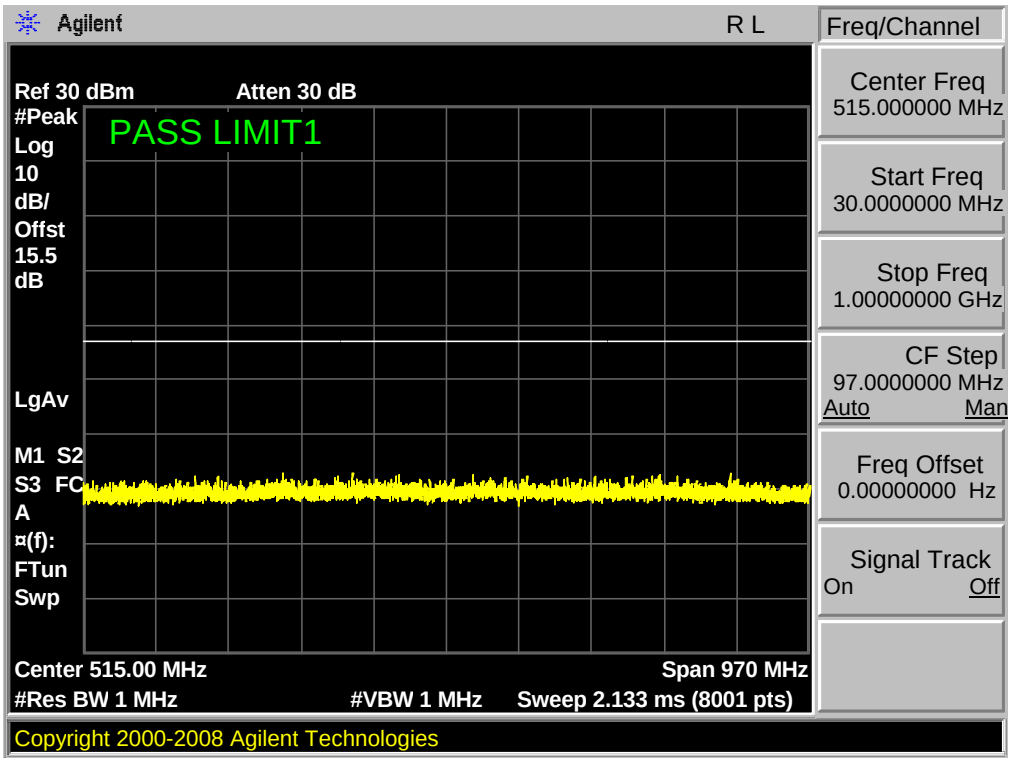
Band 4,UL Channel 20325,UL Frequency 1747.5,BW 15.0,NO. RB 1,RB POS. Low,QPSK



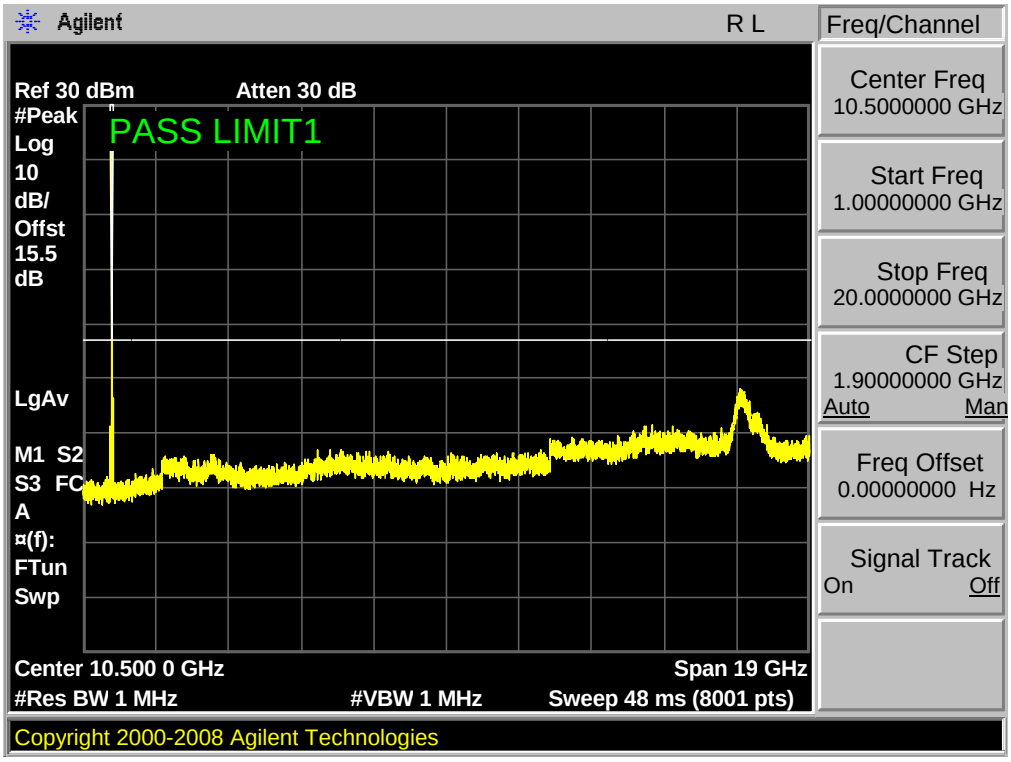
Band 4,UL Channel 20325,UL Frequency 1747.5,BW 15.0,NO. RB 1,RB POS. Low,QPSK



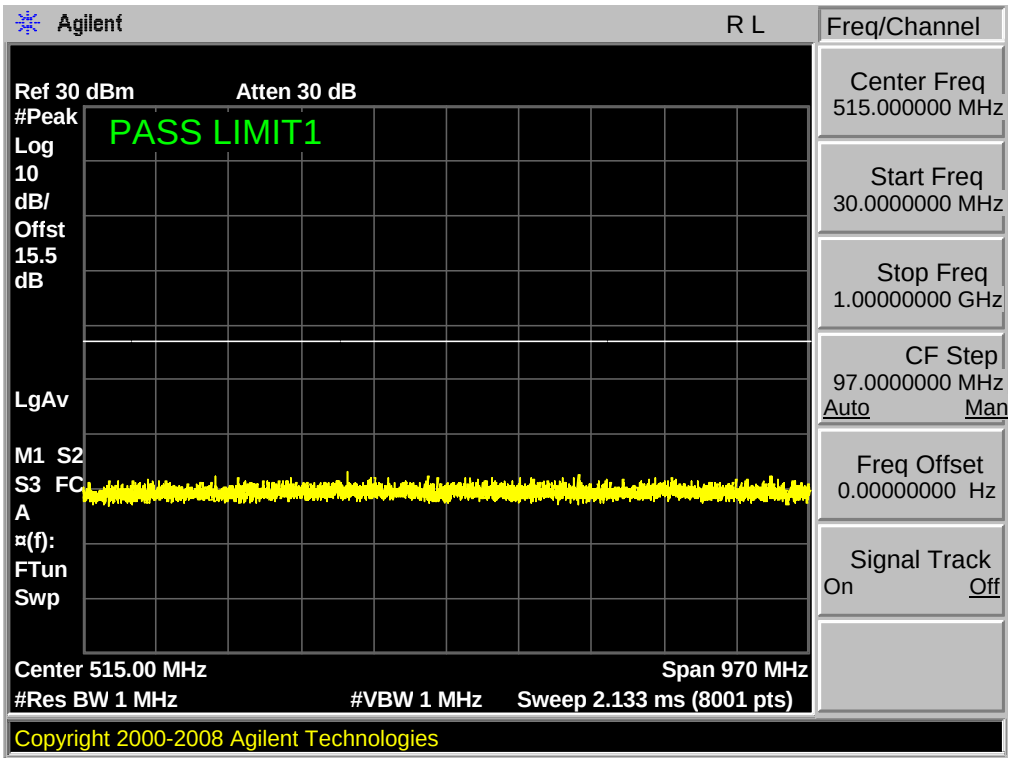
Band 4,UL Channel 20325,UL Frequency 1747.5,BW 15.0,NO. RB 1,RB POS. Low,16QAM



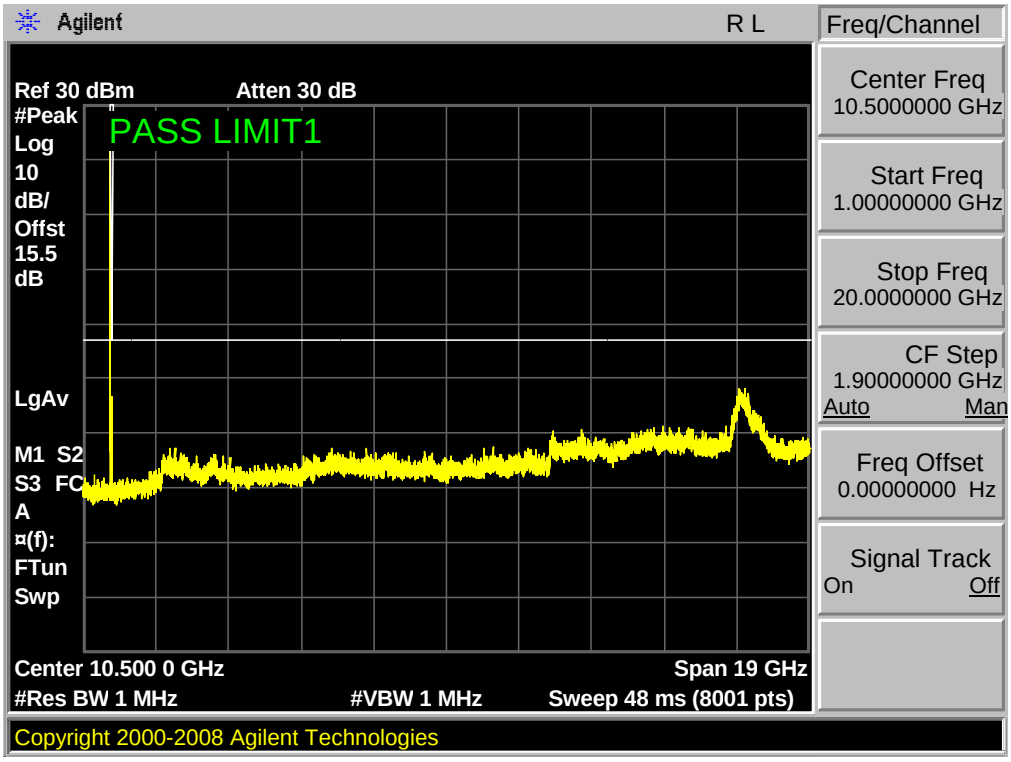
Band 4,UL Channel 20325,UL Frequency 1747.5,BW 15.0,NO. RB 1,RB POS. Low,16QAM



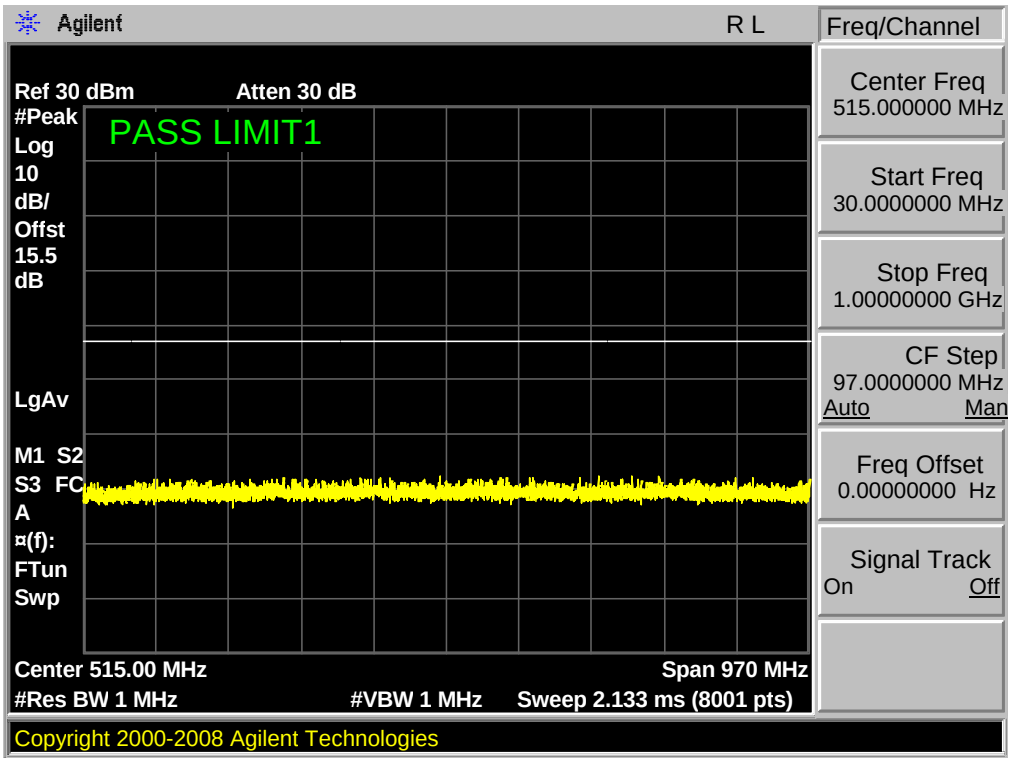
Band 4,UL Channel 20050,UL Frequency 1720.0,BW 20.0,NO. RB 1,RB POS. Low,QPSK



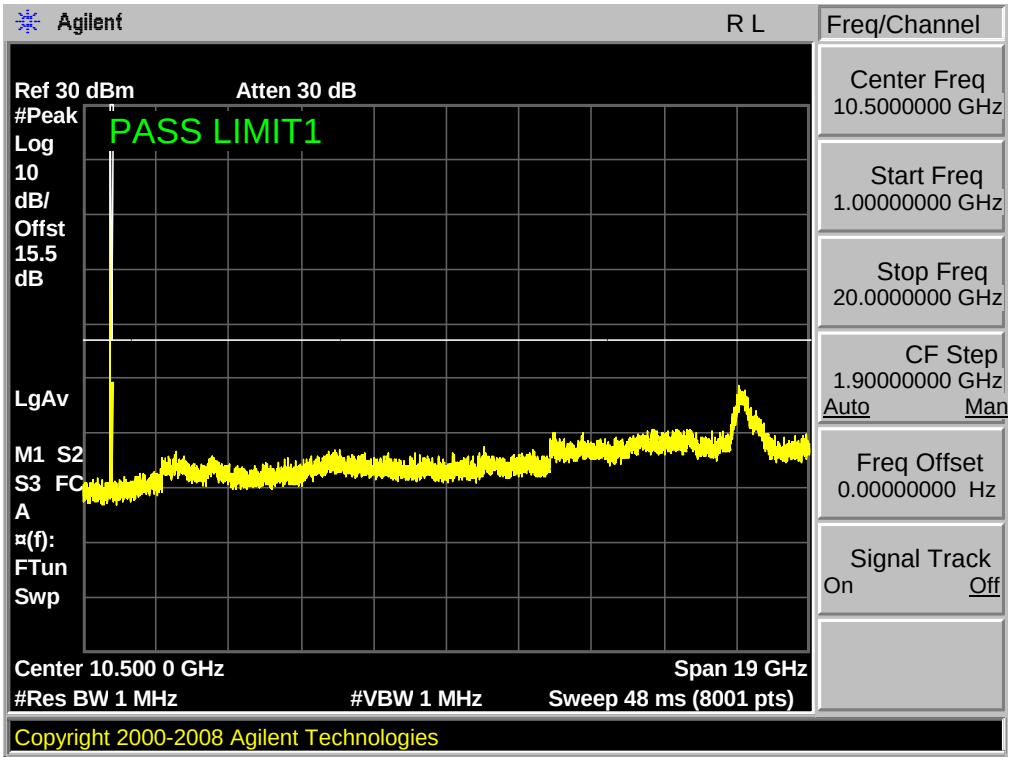
Band 4,UL Channel 20050,UL Frequency 1720.0,BW 20.0,NO. RB 1,RB POS. Low,QPSK



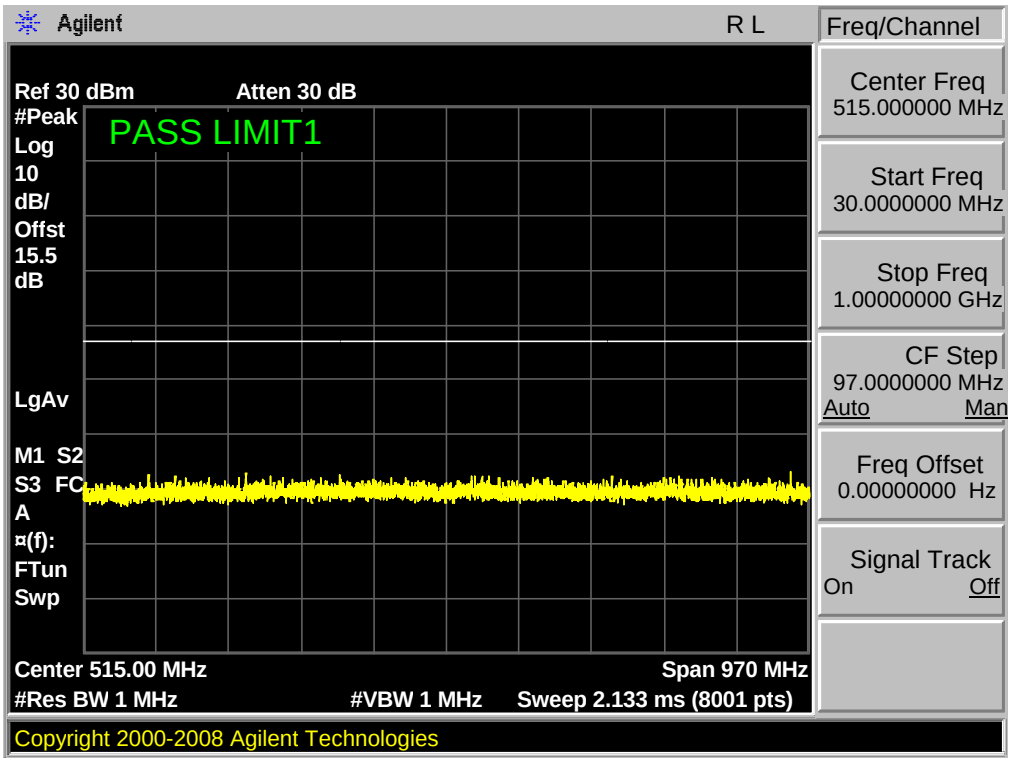
Band 4,UL Channel 20050,UL Frequency 1720.0,BW 20.0,NO. RB 1,RB POS. Low,16QAM



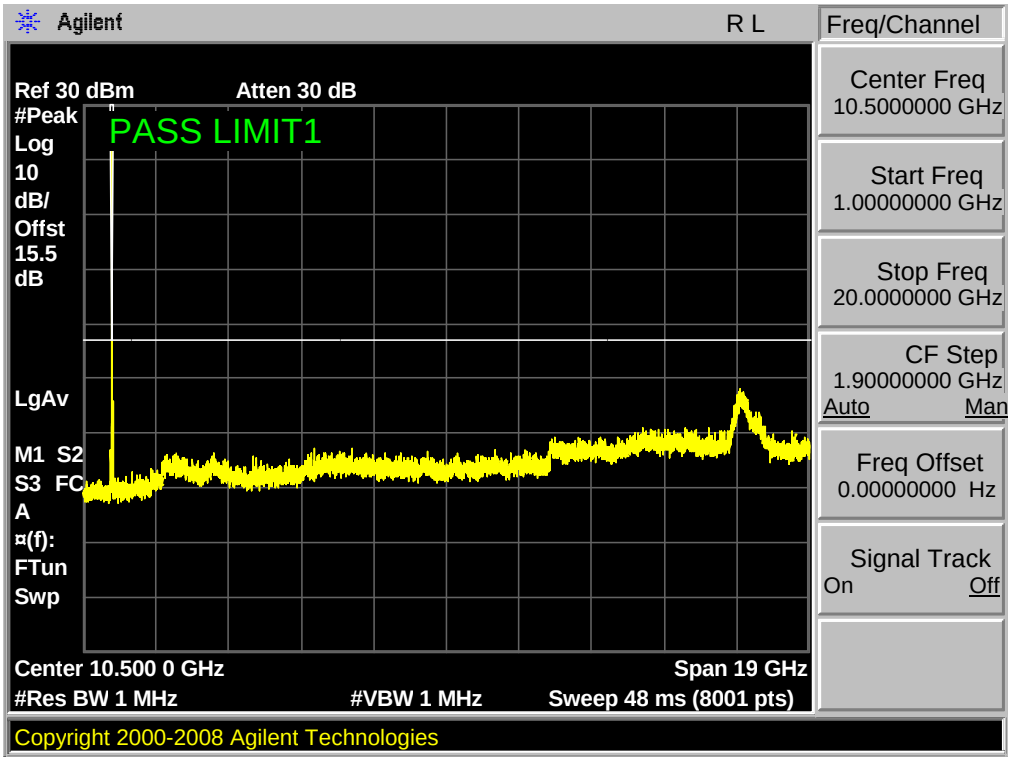
Band 4,UL Channel 20050,UL Frequency 1720.0,BW 20.0,NO. RB 1,RB POS. Low,16QAM



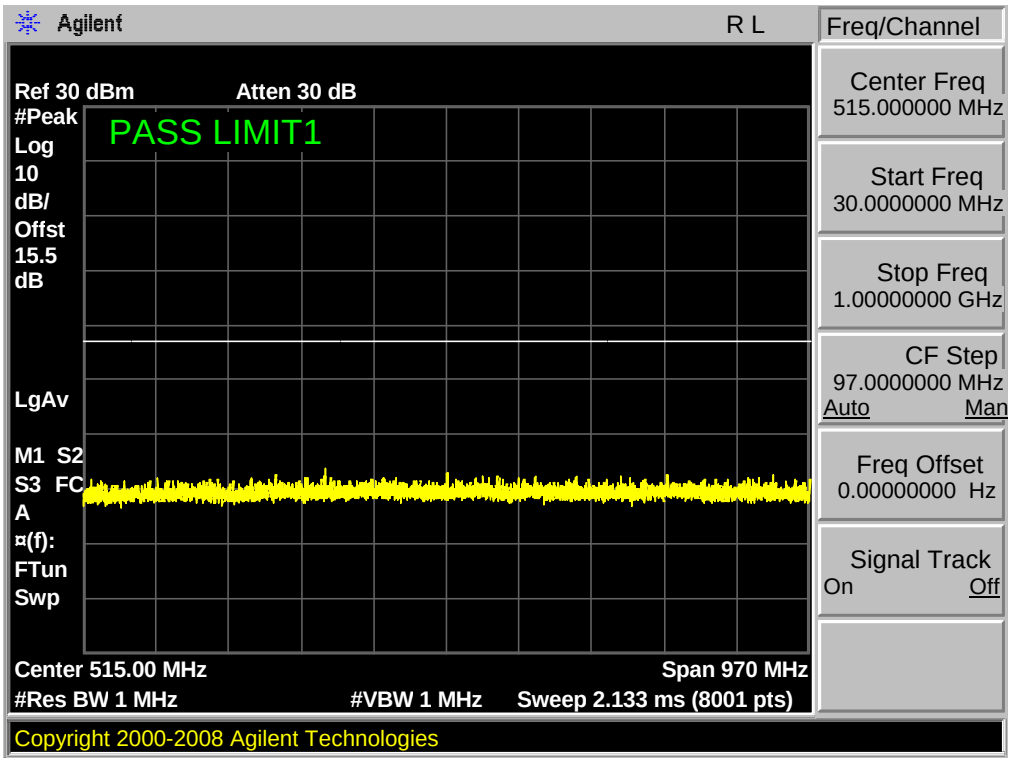
Band 4,UL Channel 20300,UL Frequency 1745.0,BW 20.0,NO. RB 1,RB POS. Low,QPSK



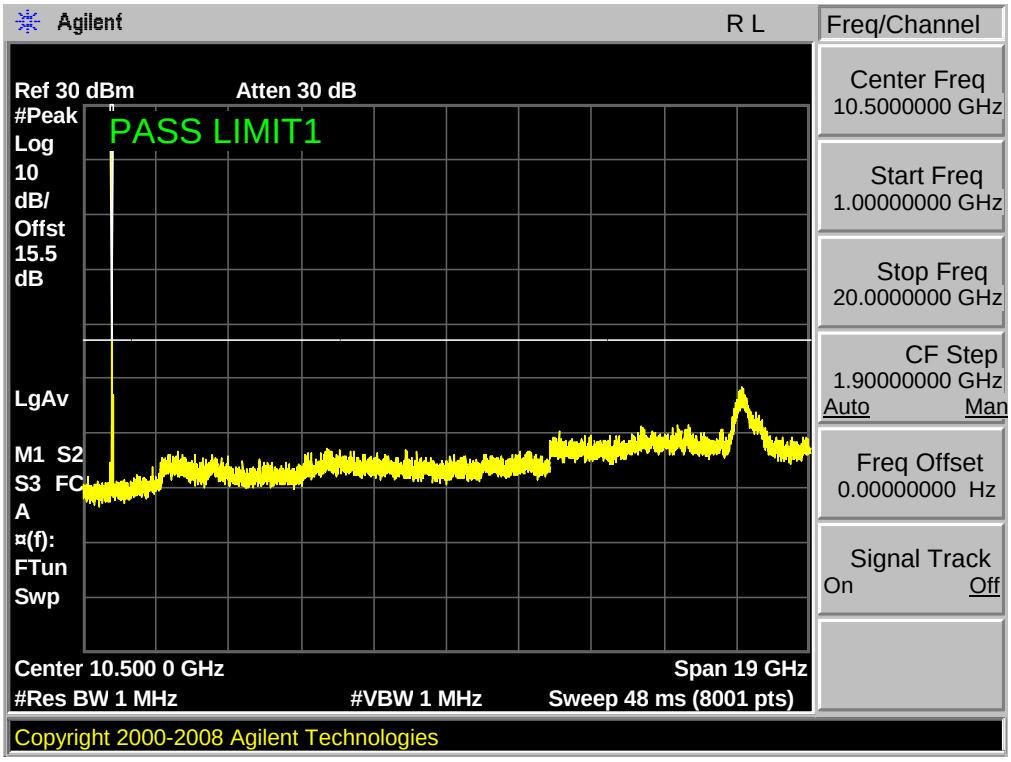
Band 4,UL Channel 20300,UL Frequency 1745.0,BW 20.0,NO. RB 1,RB POS. Low,QPSK



Band 4,UL Channel 20300,UL Frequency 1745.0,BW 20.0,NO. RB 1,RB POS. Low,16QAM

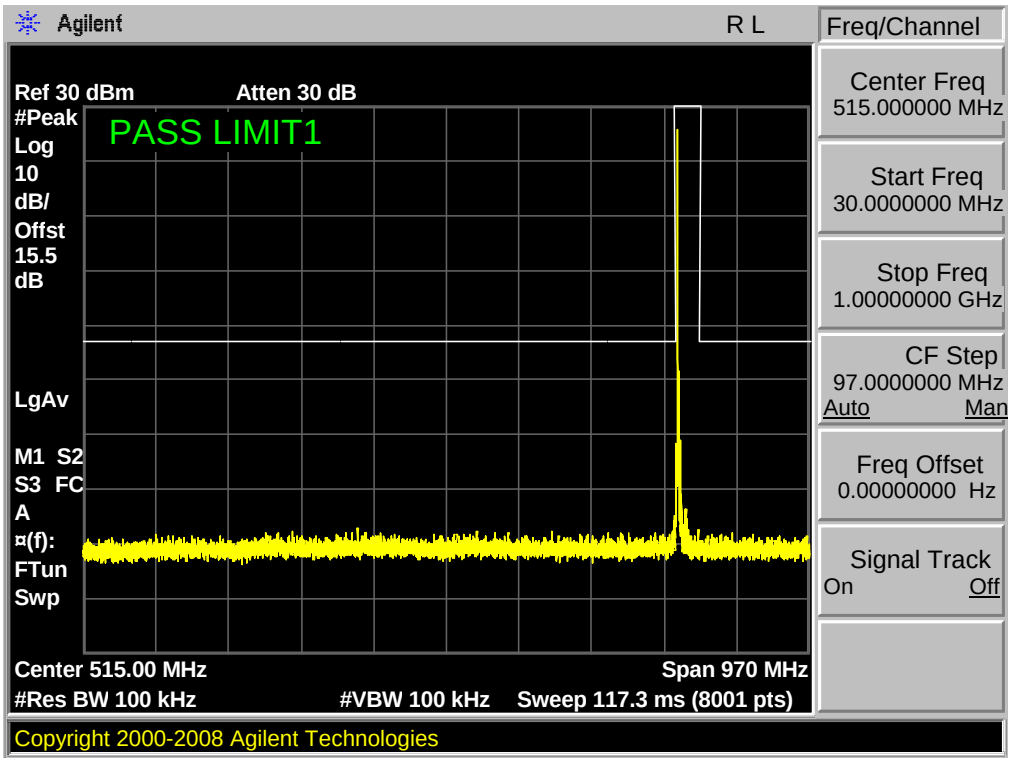


Band 4,UL Channel 20300,UL Frequency 1745.0,BW 20.0,NO. RB 1,RB POS. Low,16QAM

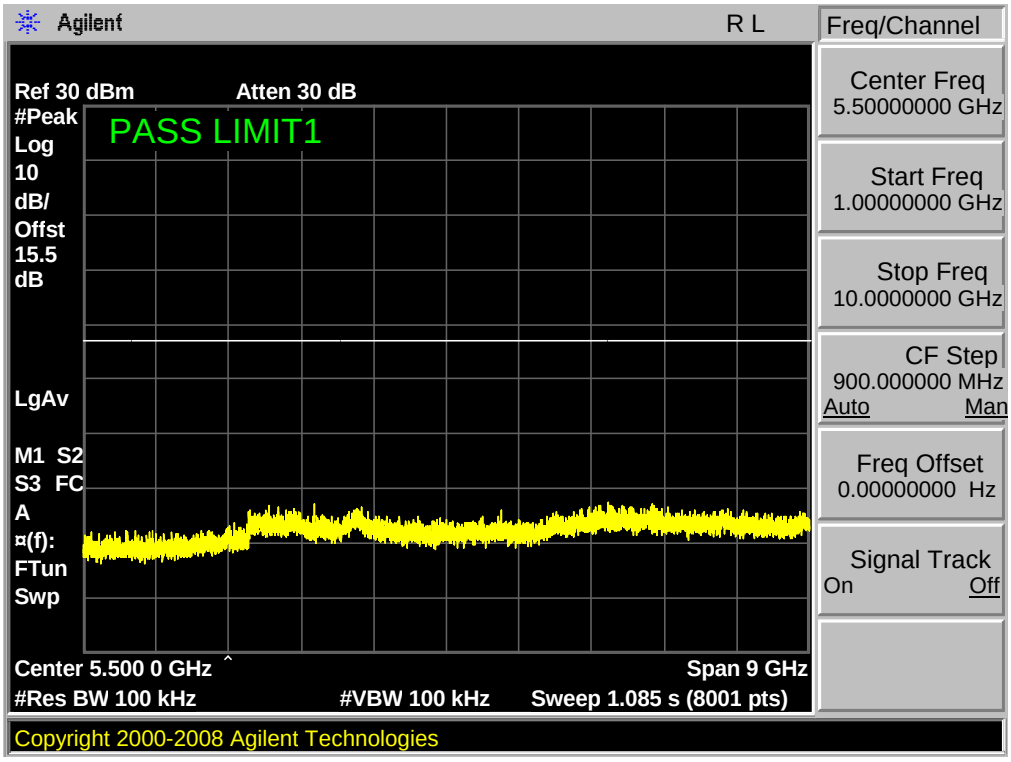


7.1.3 LTE BAND 5

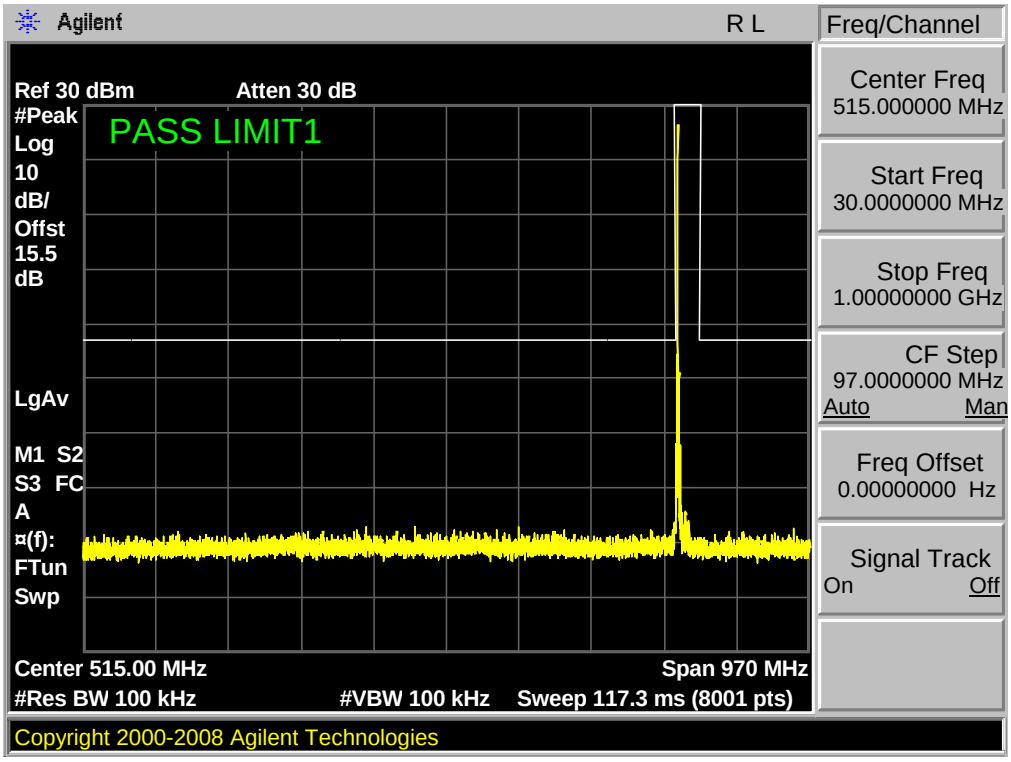
Band 5,UL Channel 20407,UL Frequency 824.7,BW 1.4,NO. RB 1,RB POS. Low,QPSK



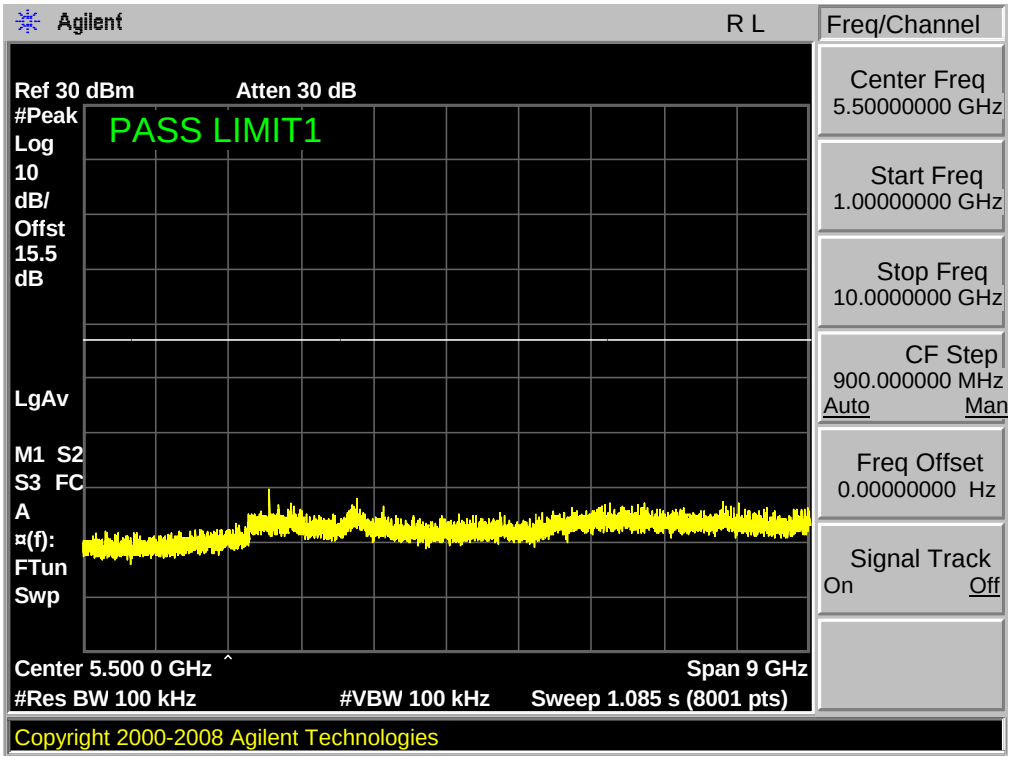
Band 5,UL Channel 20407,UL Frequency 824.7,BW 1.4,NO. RB 1,RB POS. Low,QPSK



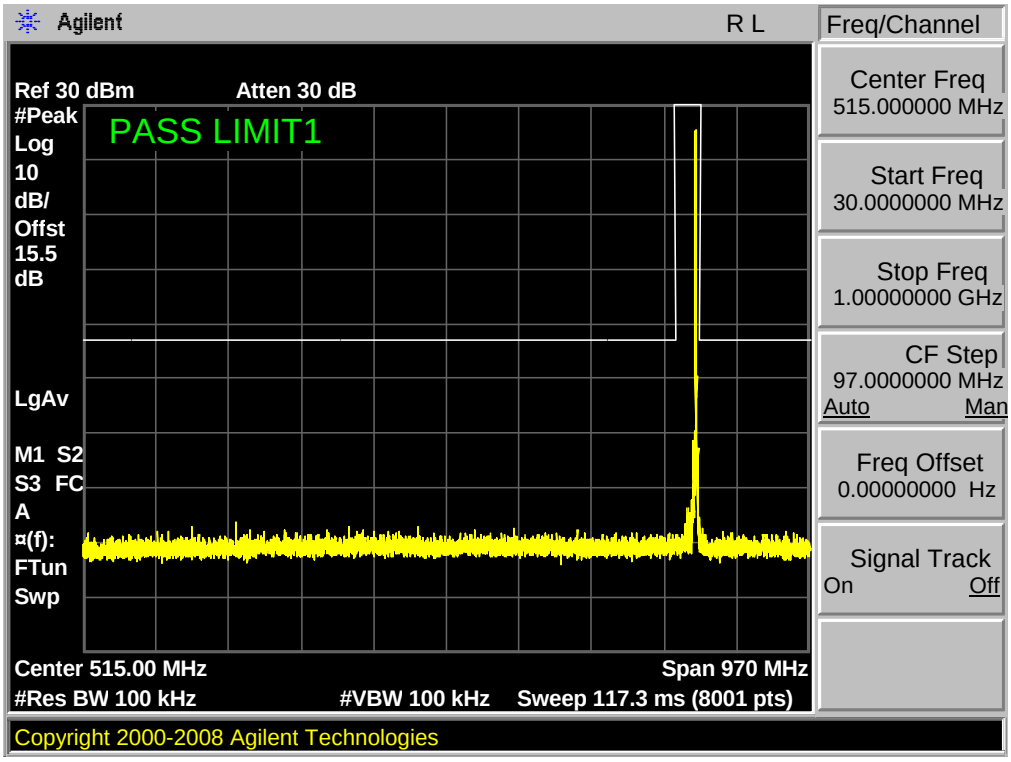
Band 5,UL Channel 20407,UL Frequency 824.7,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



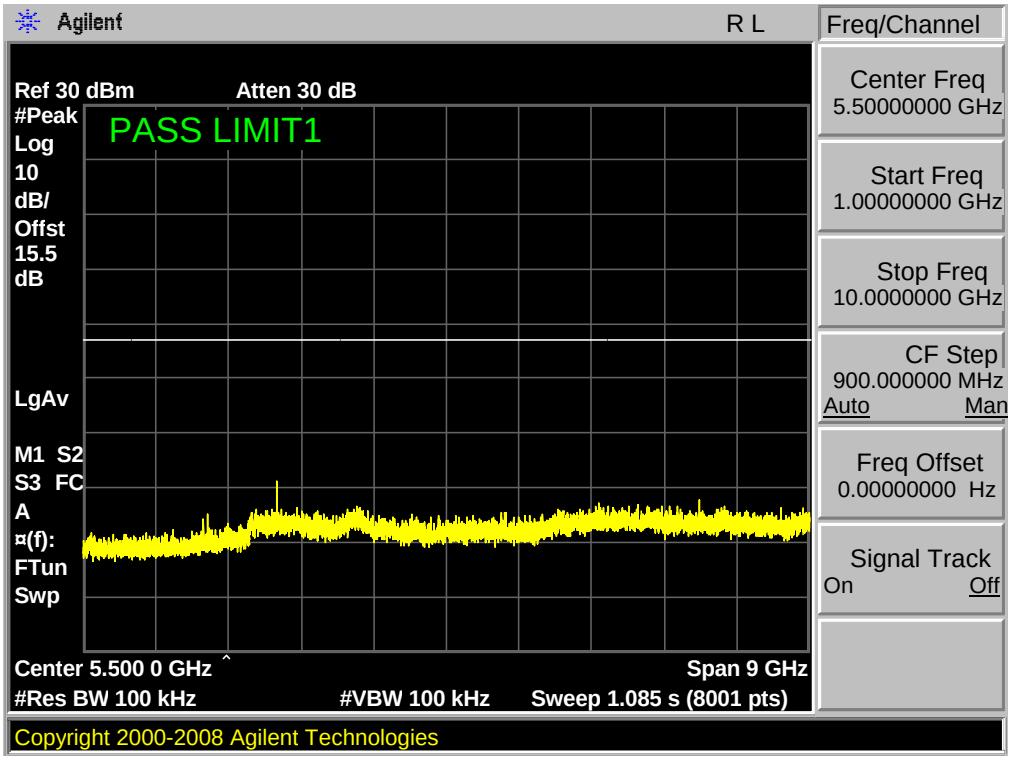
Band 5,UL Channel 20407,UL Frequency 824.7,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



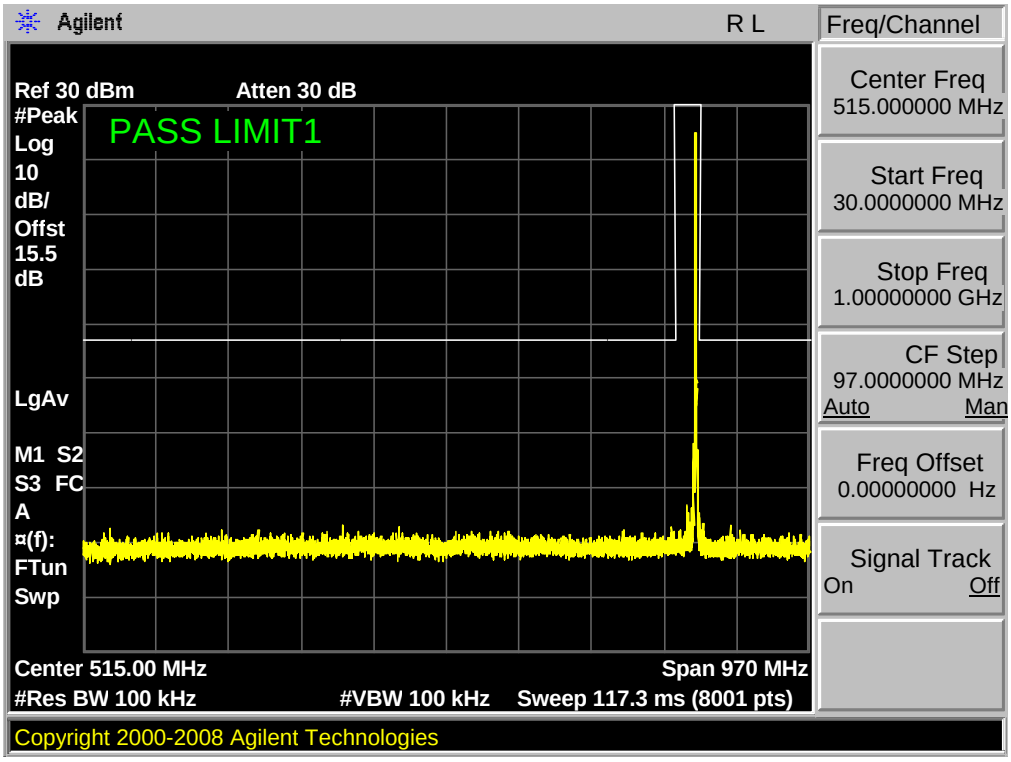
Band 5,UL Channel 20643,UL Frequency 848.3,BW 1.4,NO. RB 1,RB POS. Low,QPSK



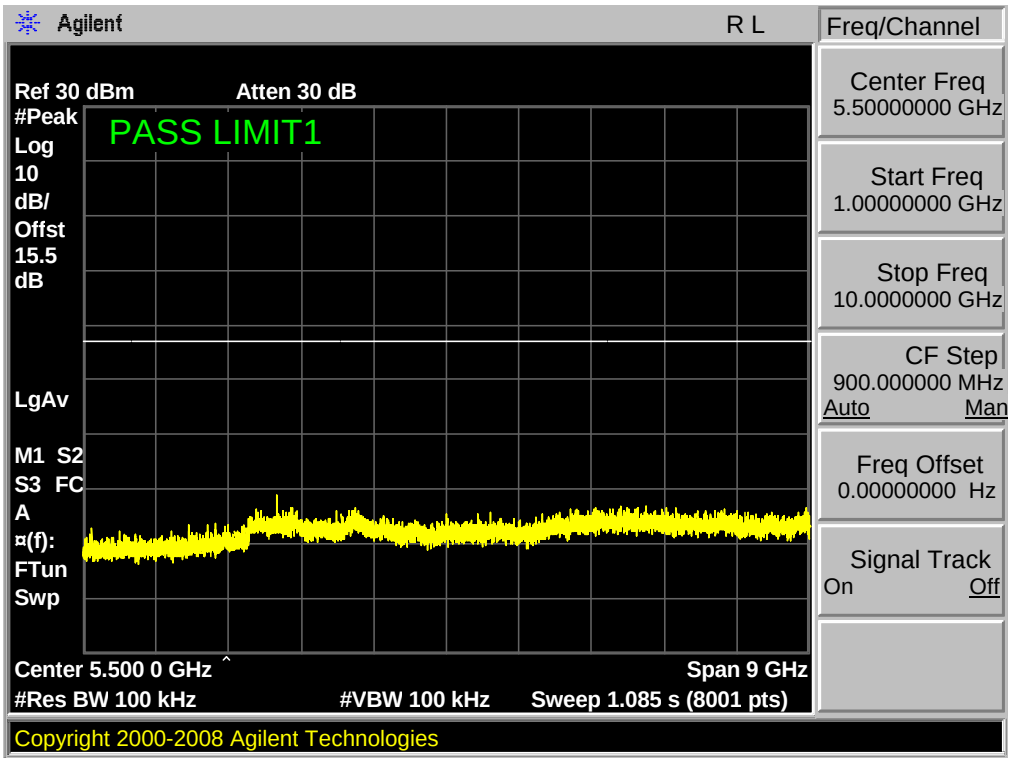
Band 5,UL Channel 20643,UL Frequency 848.3,BW 1.4,NO. RB 1,RB POS. Low,QPSK



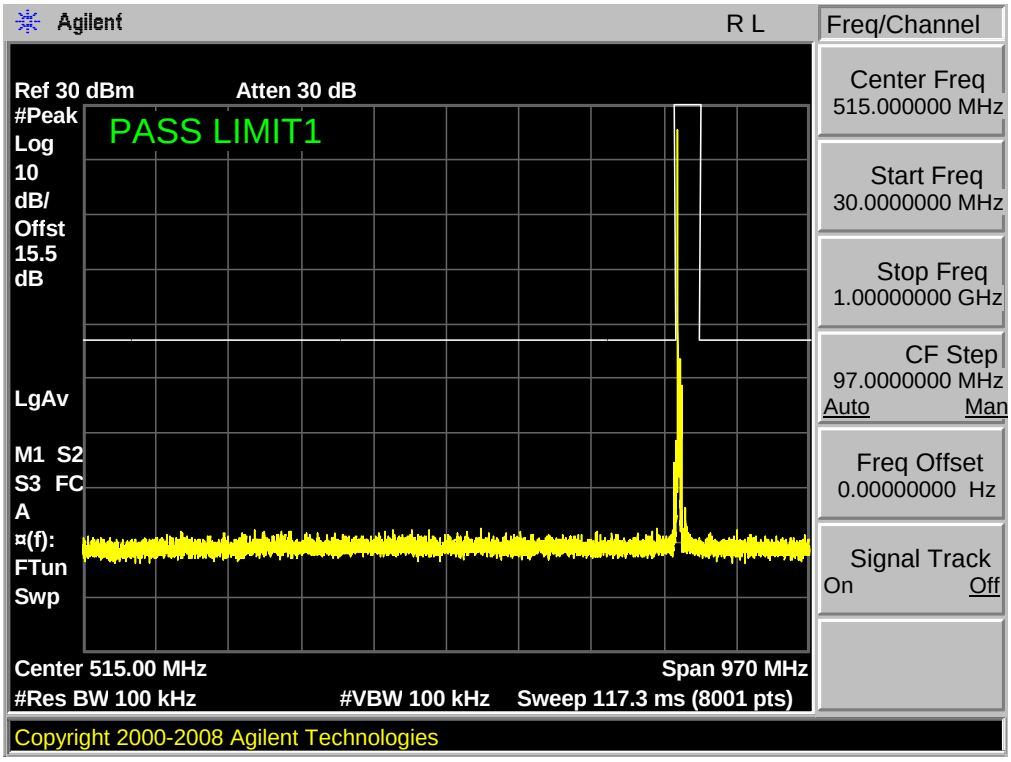
Band 5,UL Channel 20643,UL Frequency 848.3,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



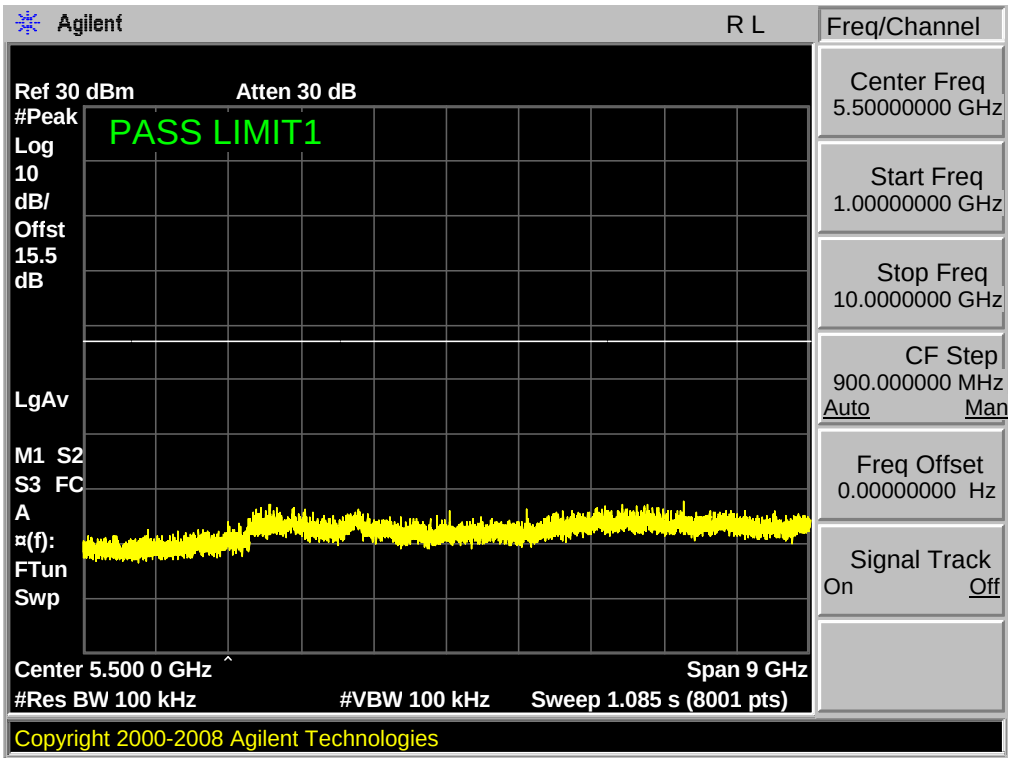
Band 5,UL Channel 20643,UL Frequency 848.3,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



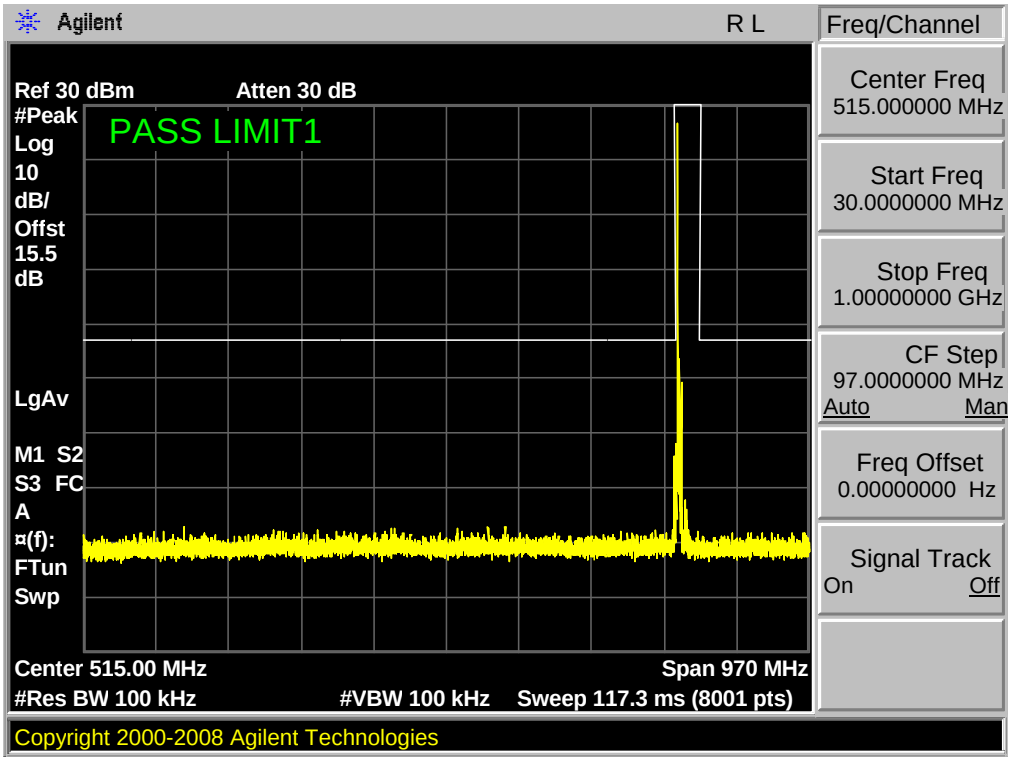
Band 5,UL Channel 20415,UL Frequency 825.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



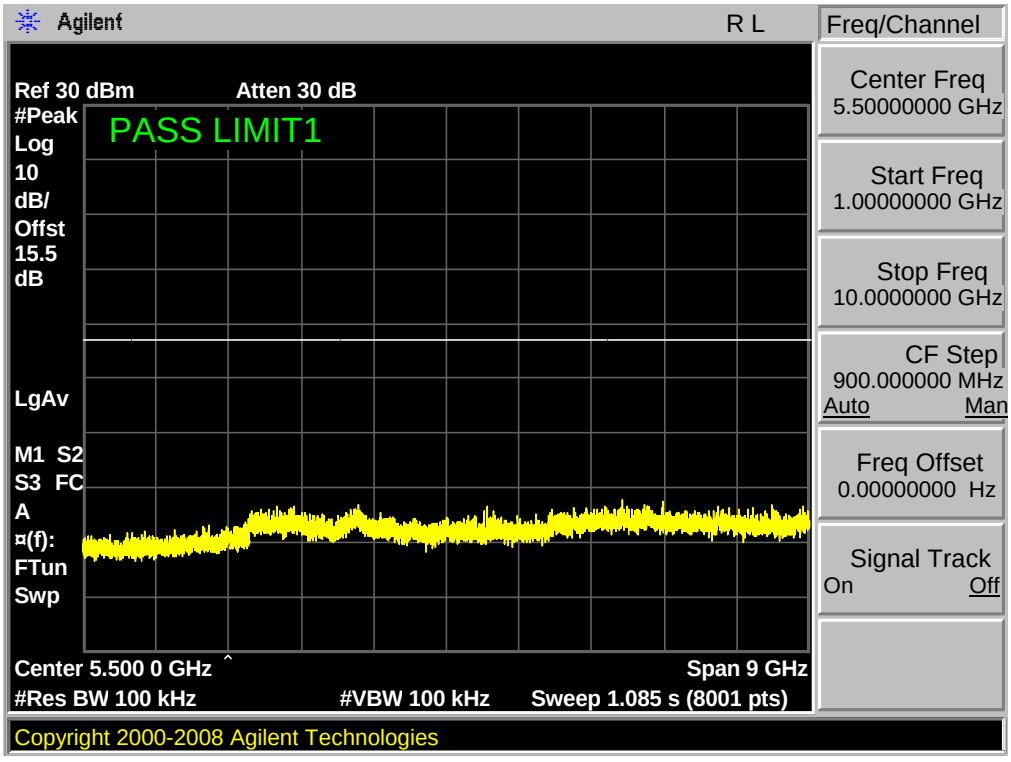
Band 5,UL Channel 20415,UL Frequency 825.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



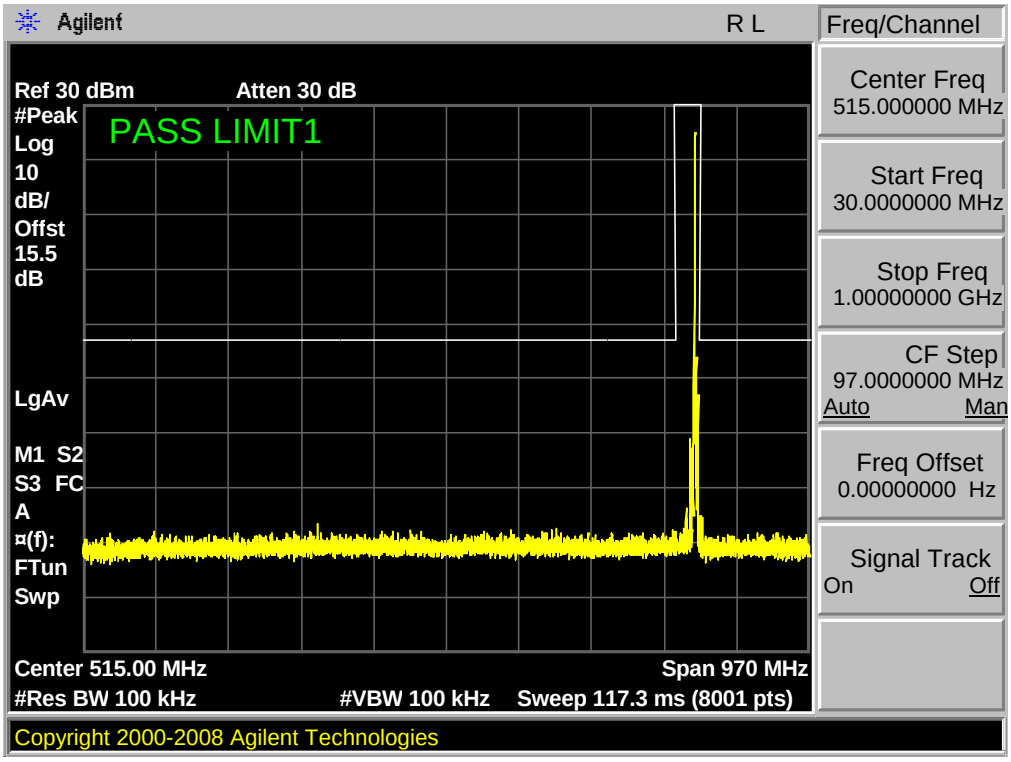
Band 5,UL Channel 20415,UL Frequency 825.5,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



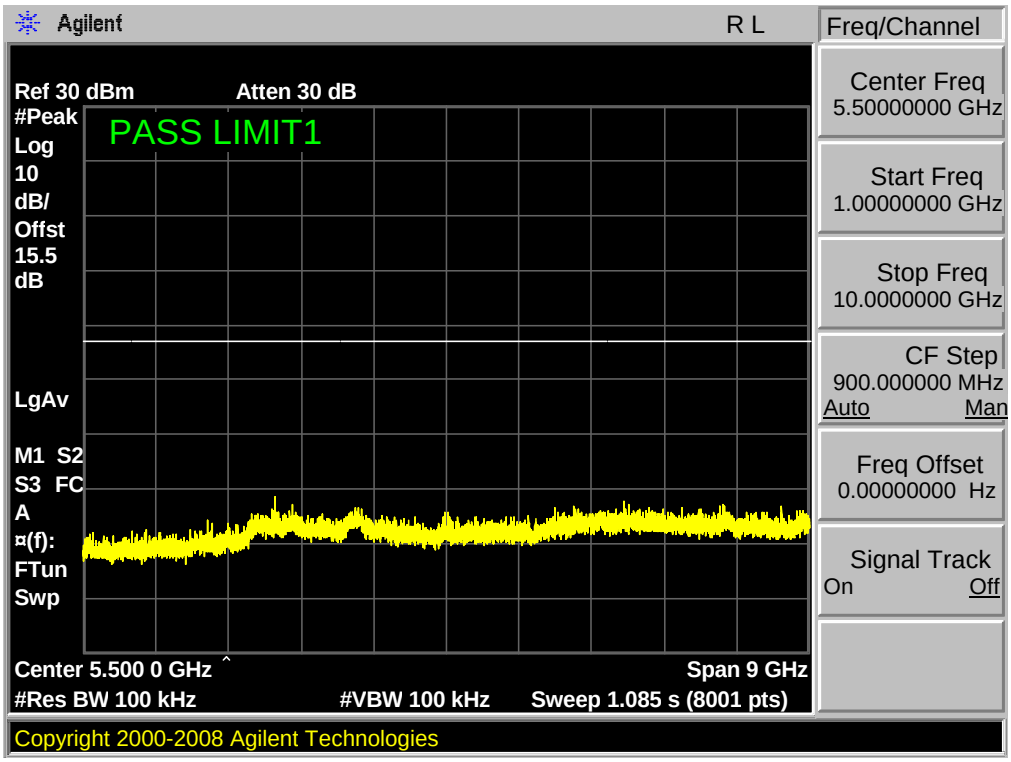
Band 5,UL Channel 20415,UL Frequency 825.5,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



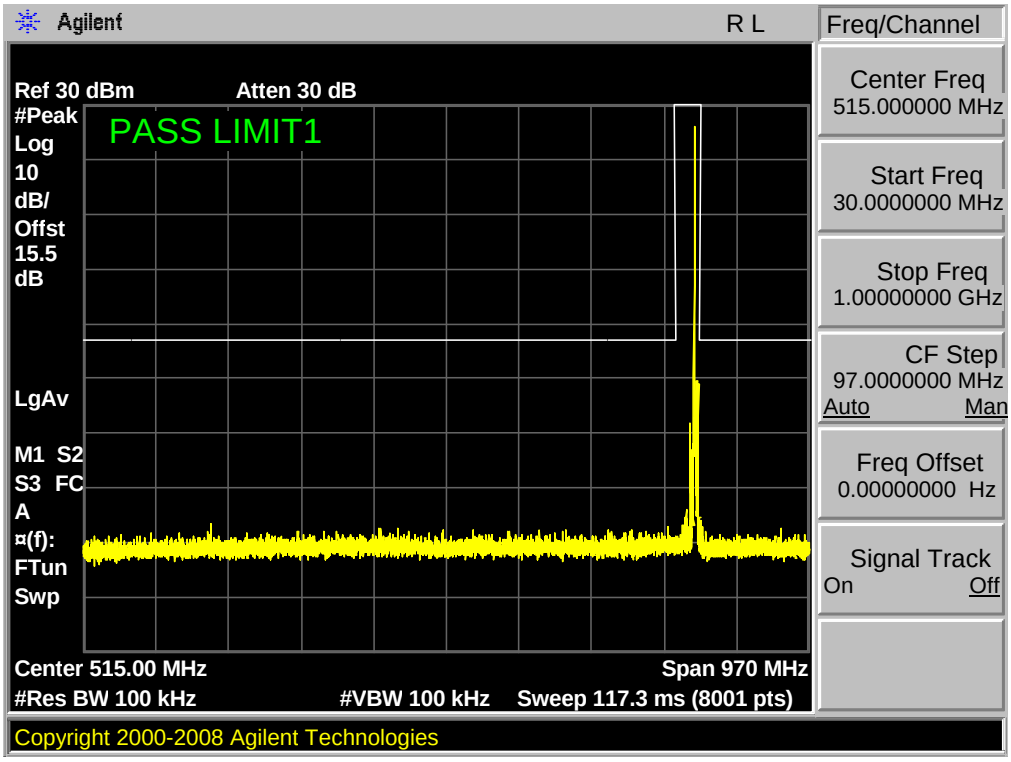
Band 5,UL Channel 20635,UL Frequency 847.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



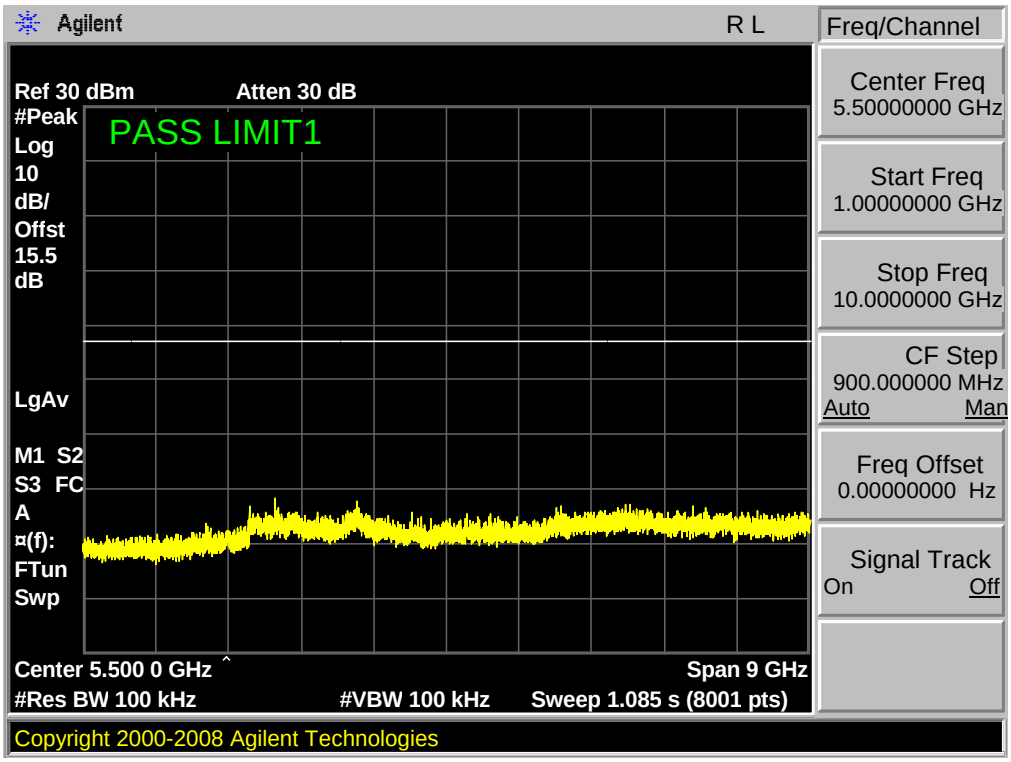
Band 5,UL Channel 20635,UL Frequency 847.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



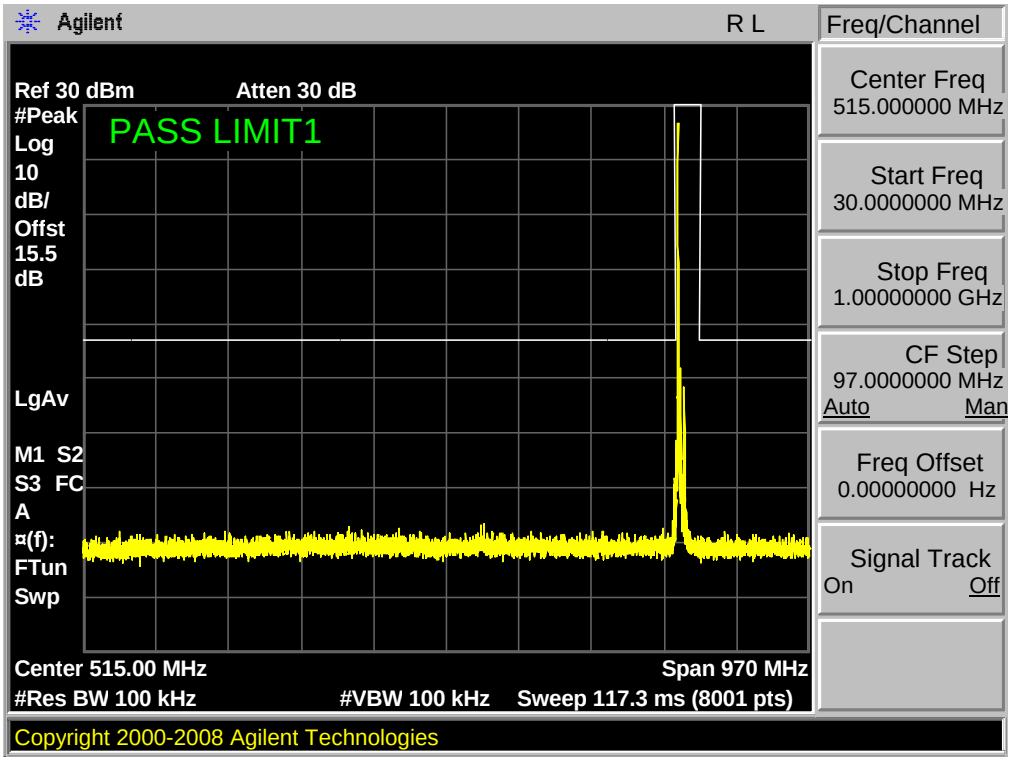
Band 5,UL Channel 20635,UL Frequency 847.5,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



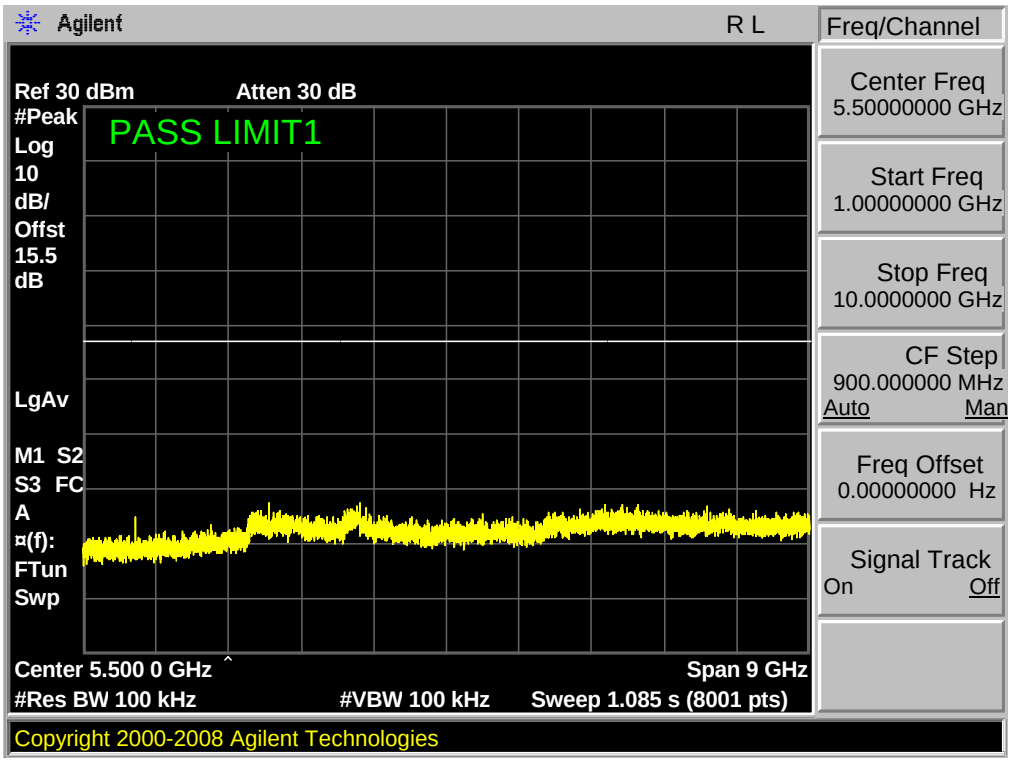
Band 5,UL Channel 20635,UL Frequency 847.5,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



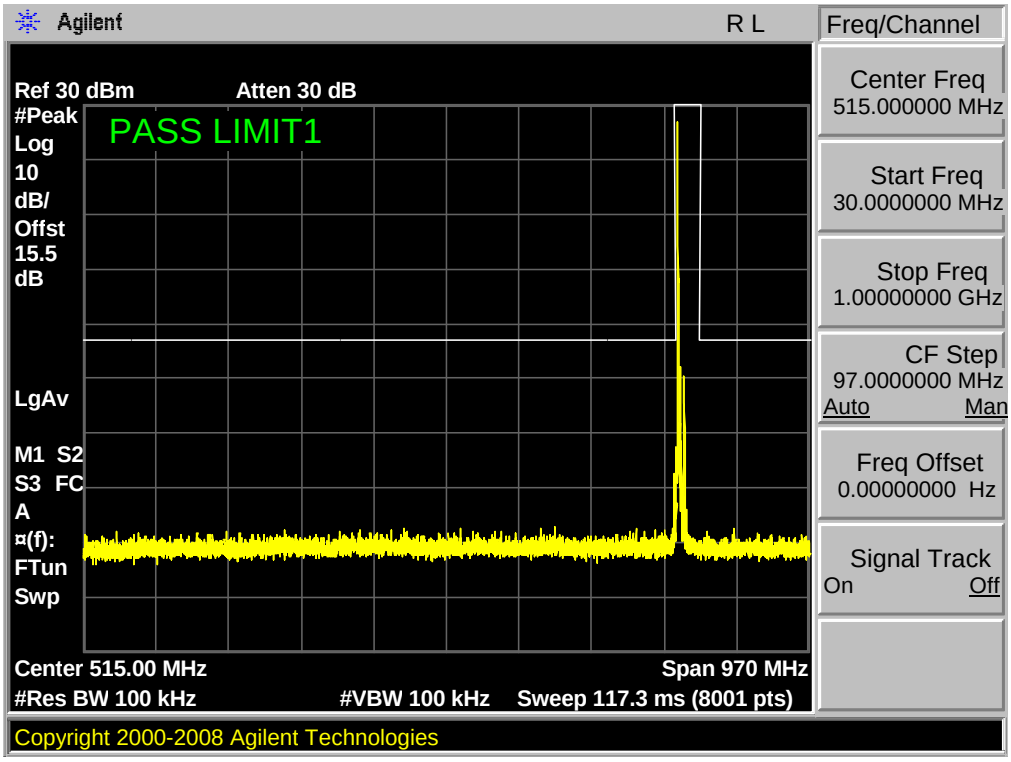
Band 5,UL Channel 20425,UL Frequency 826.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



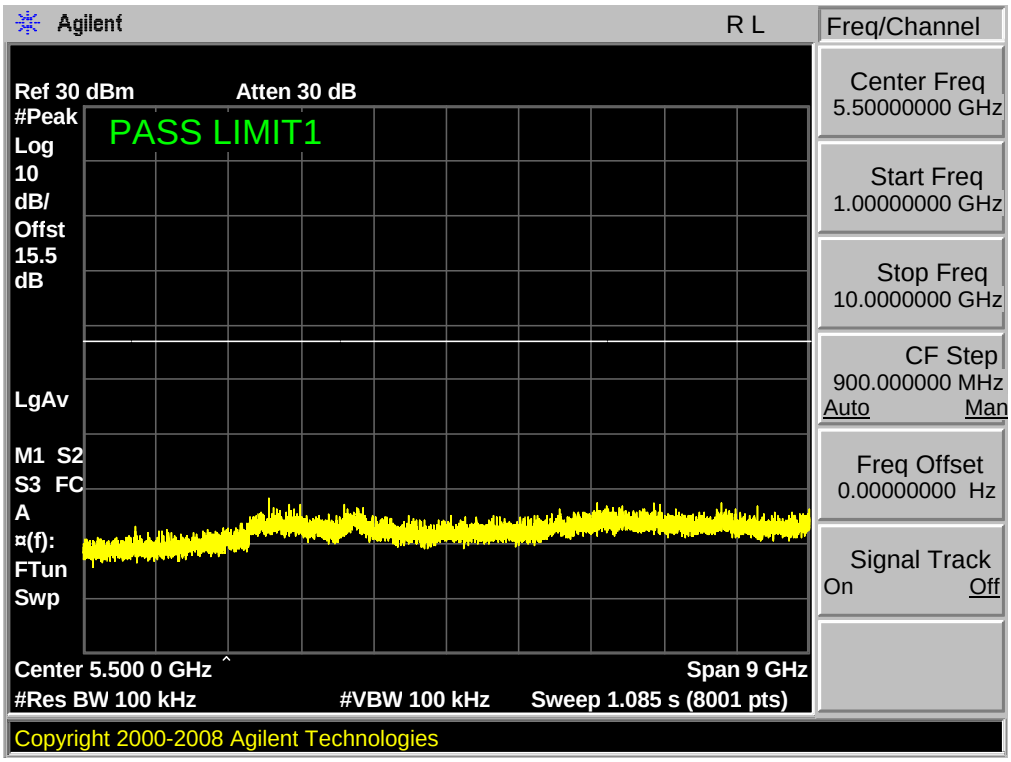
Band 5,UL Channel 20425,UL Frequency 826.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



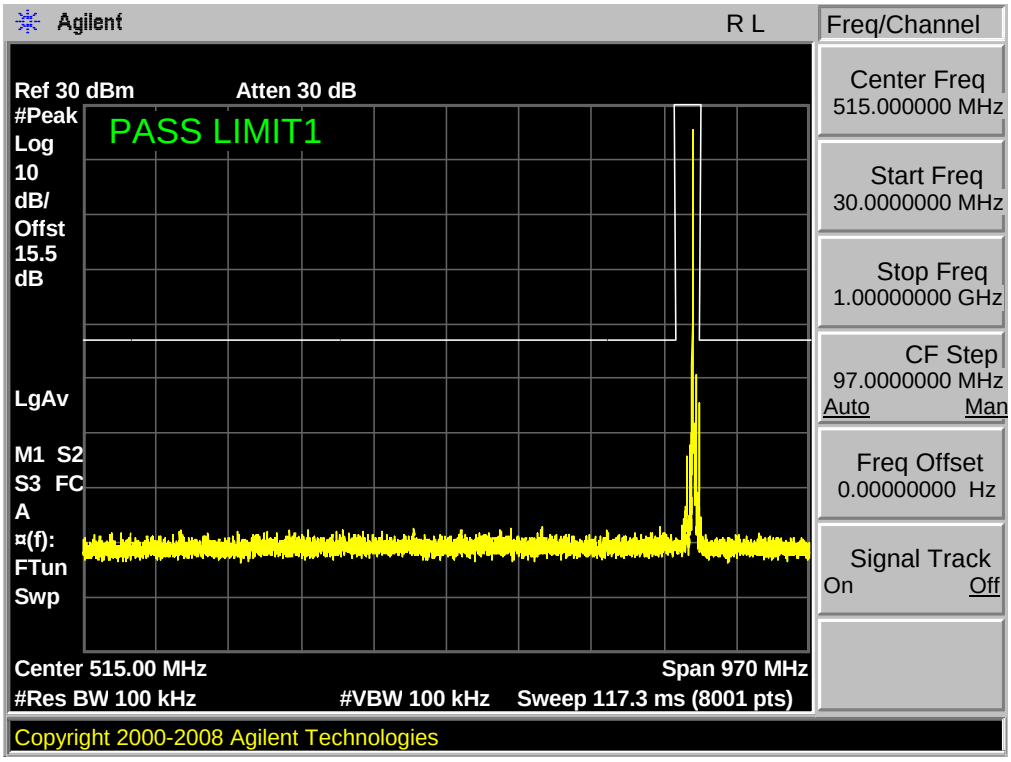
Band 5,UL Channel 20425,UL Frequency 826.5,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



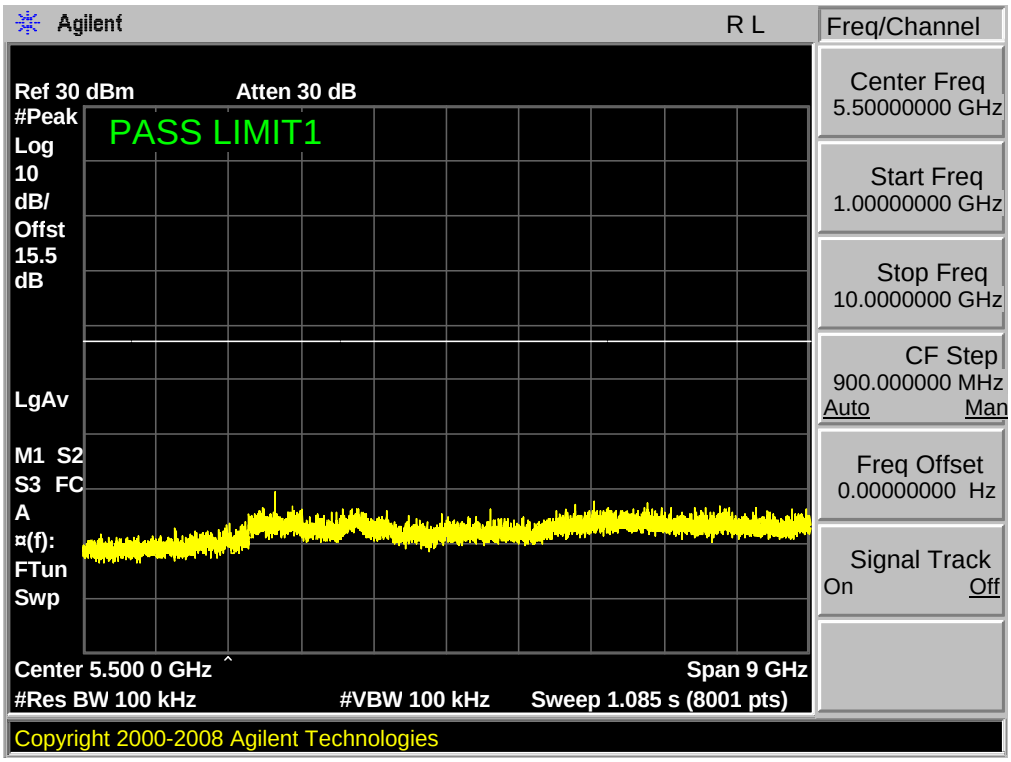
Band 5,UL Channel 20425,UL Frequency 826.5,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



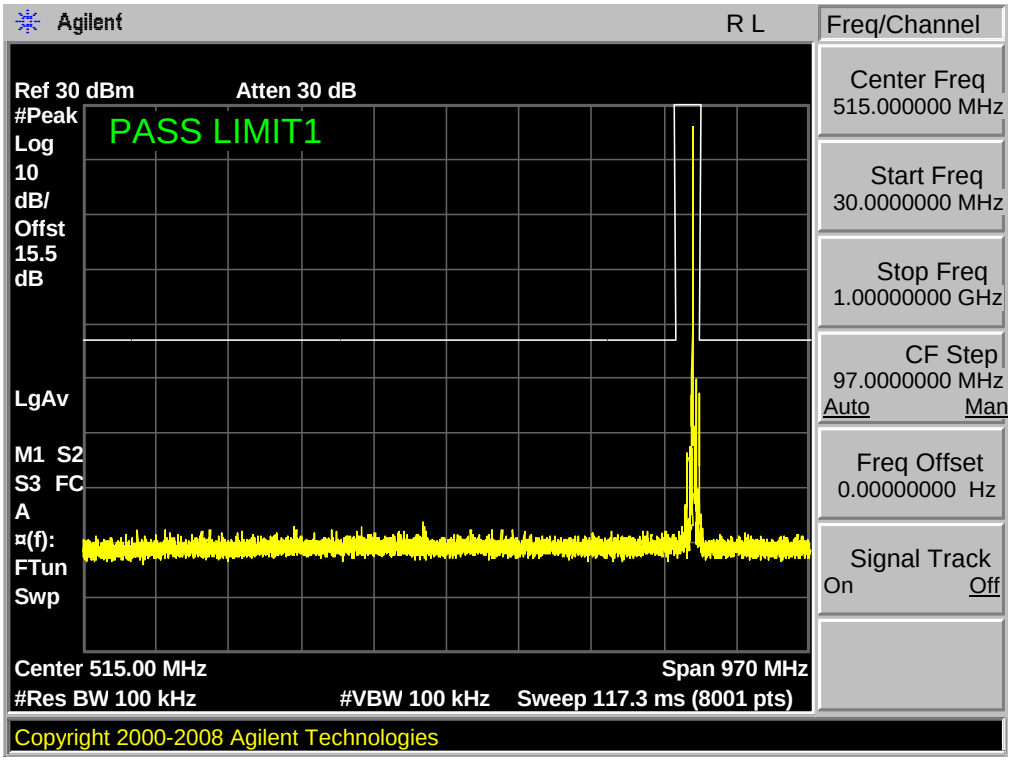
Band 5,UL Channel 20625,UL Frequency 846.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



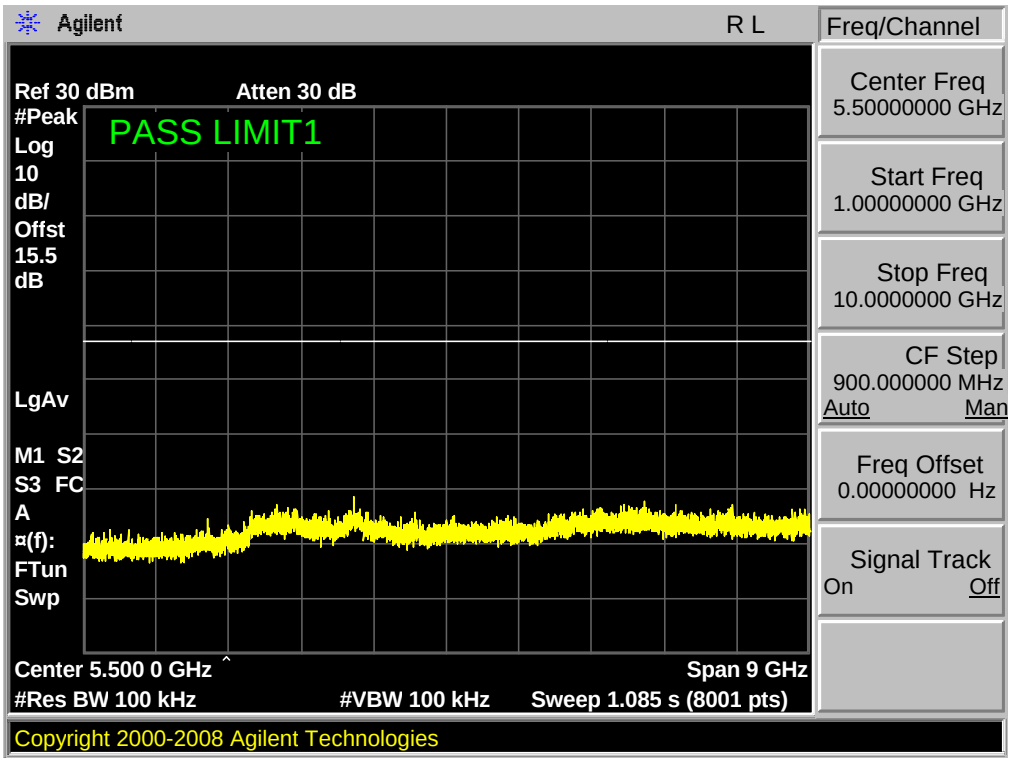
Band 5,UL Channel 20625,UL Frequency 846.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



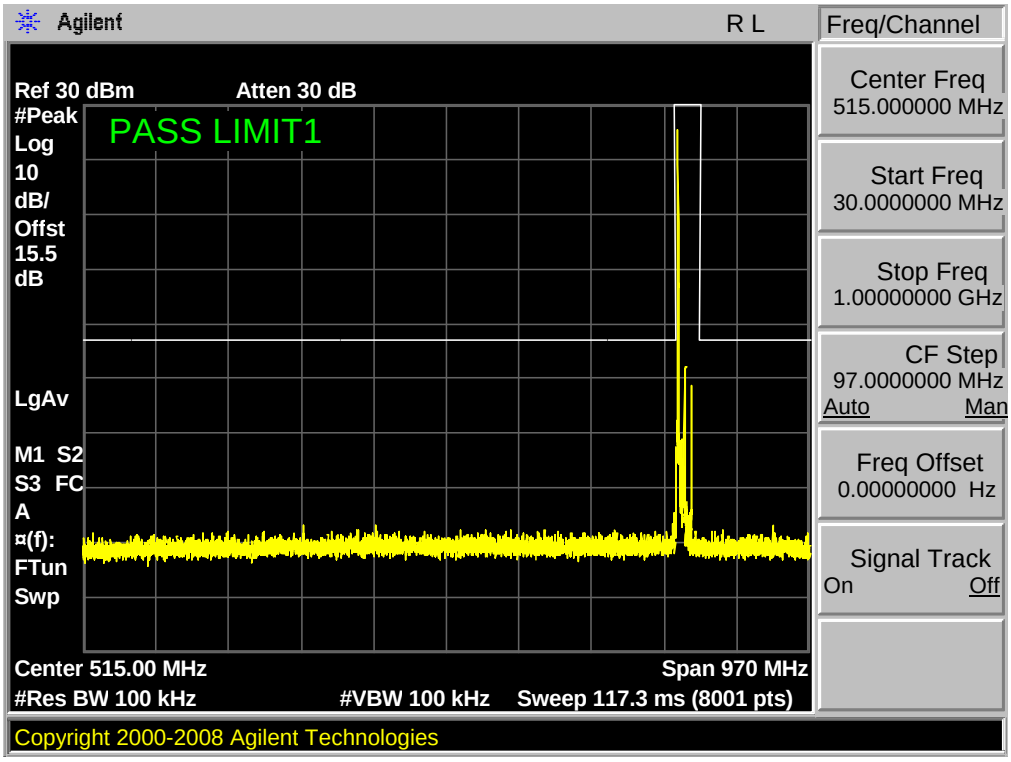
Band 5,UL Channel 20625,UL Frequency 846.5,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



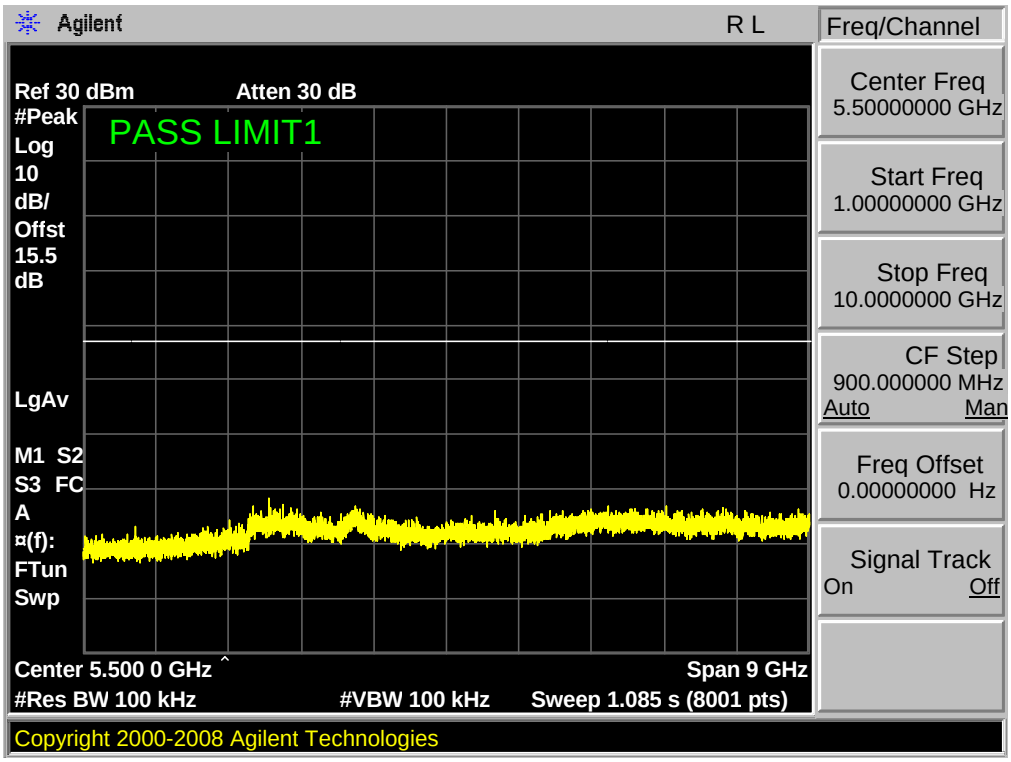
Band 5,UL Channel 20625,UL Frequency 846.5,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



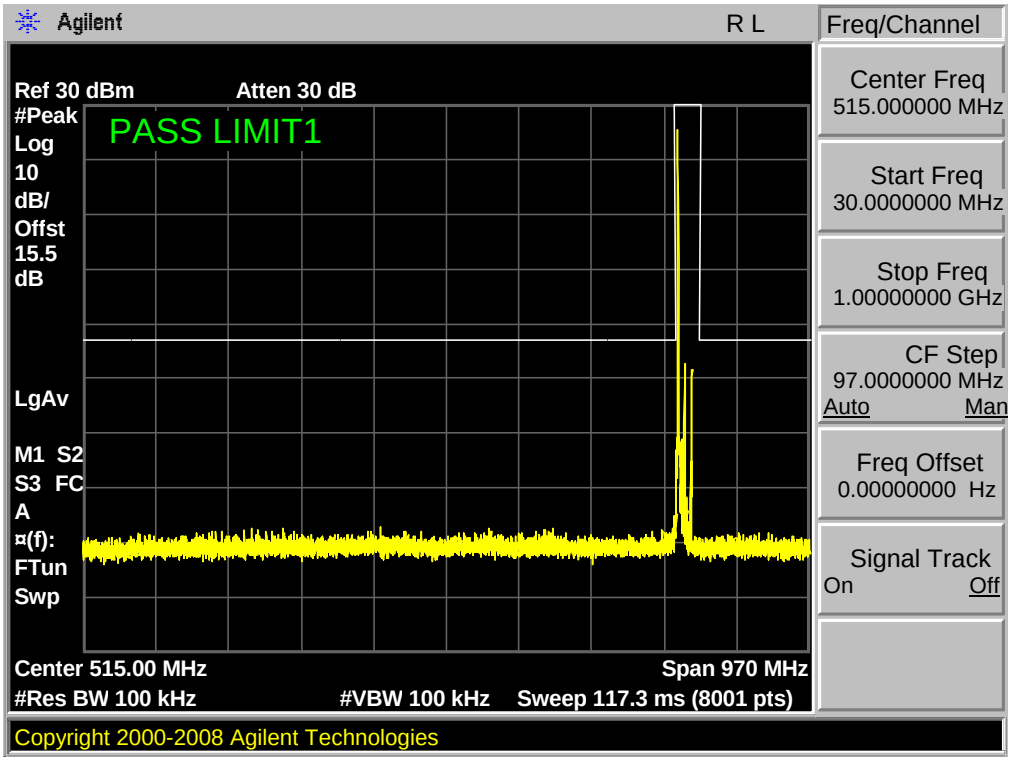
Band 5,UL Channel 20450,UL Frequency 829.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



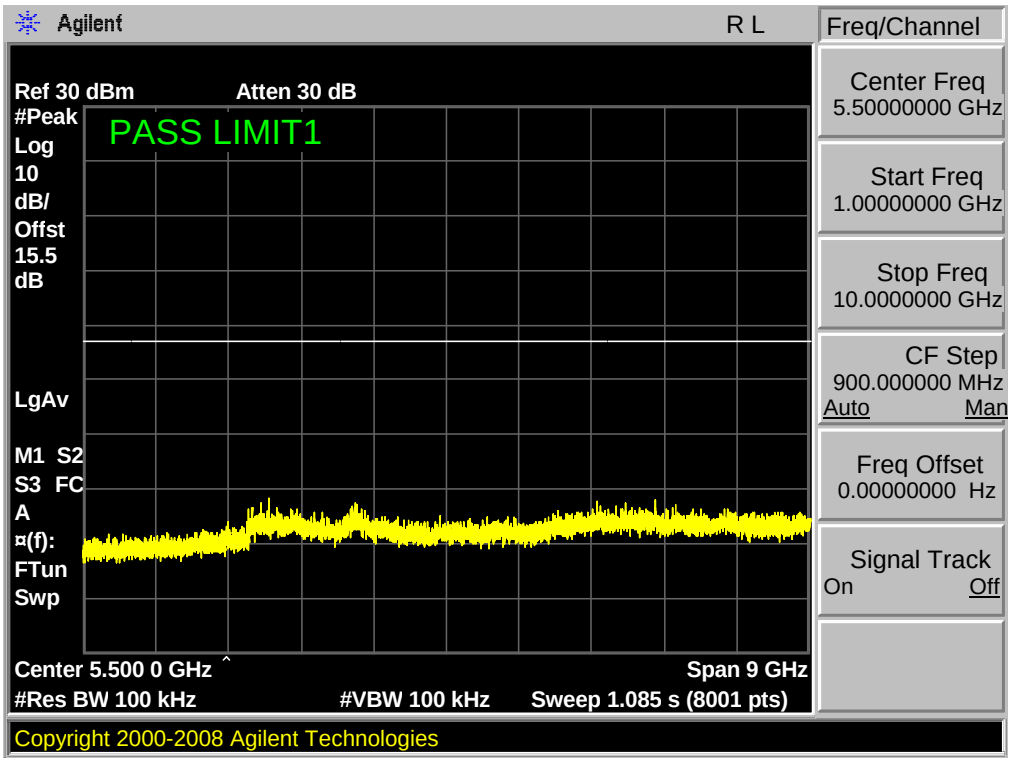
Band 5,UL Channel 20450,UL Frequency 829.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



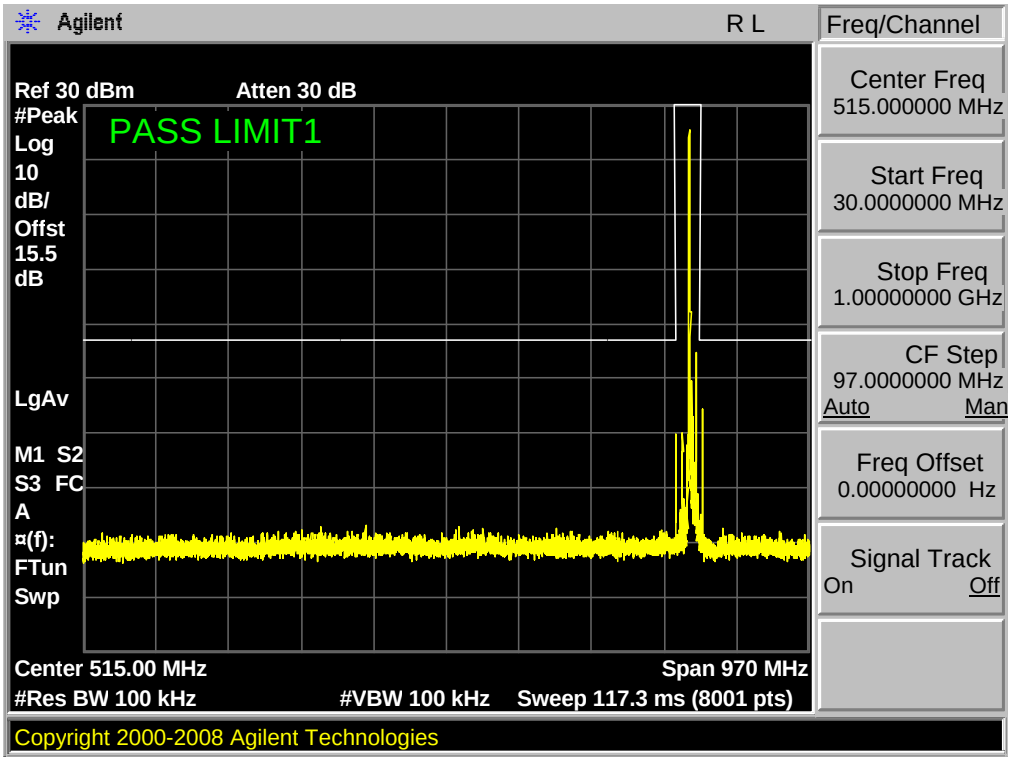
Band 5,UL Channel 20450,UL Frequency 829.0,BW 10.0,NO. RB 1,RB POS. Low,16-QAM



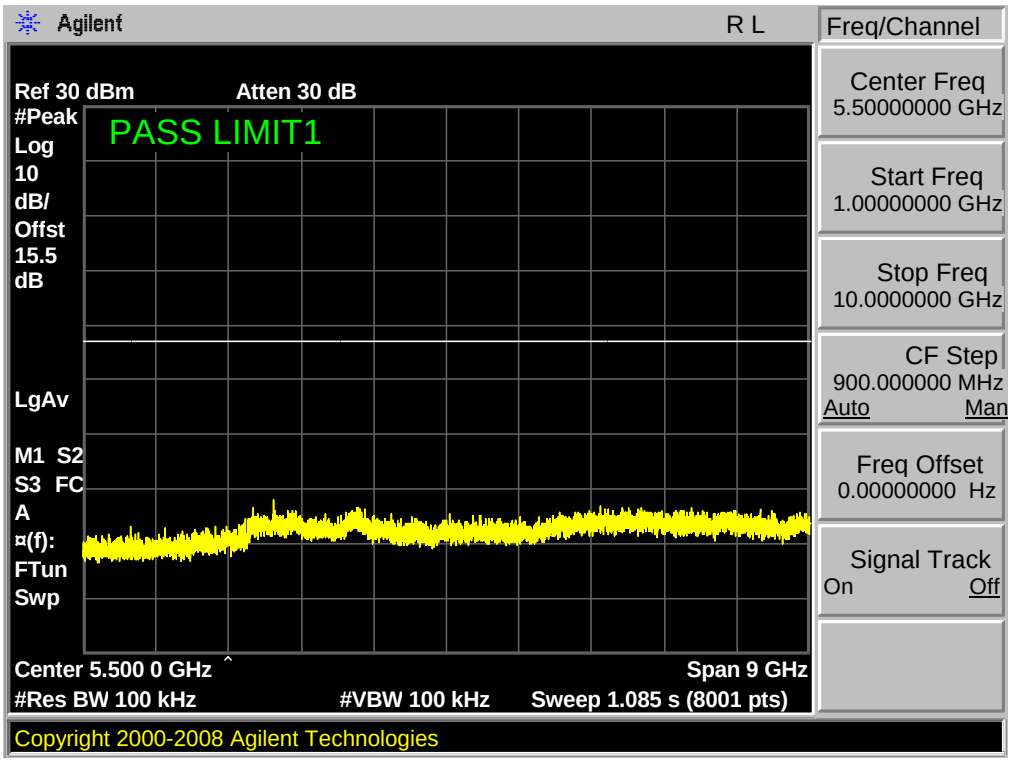
Band 5,UL Channel 20450,UL Frequency 829.0,BW 10.0,NO. RB 1,RB POS. Low,16-QAM



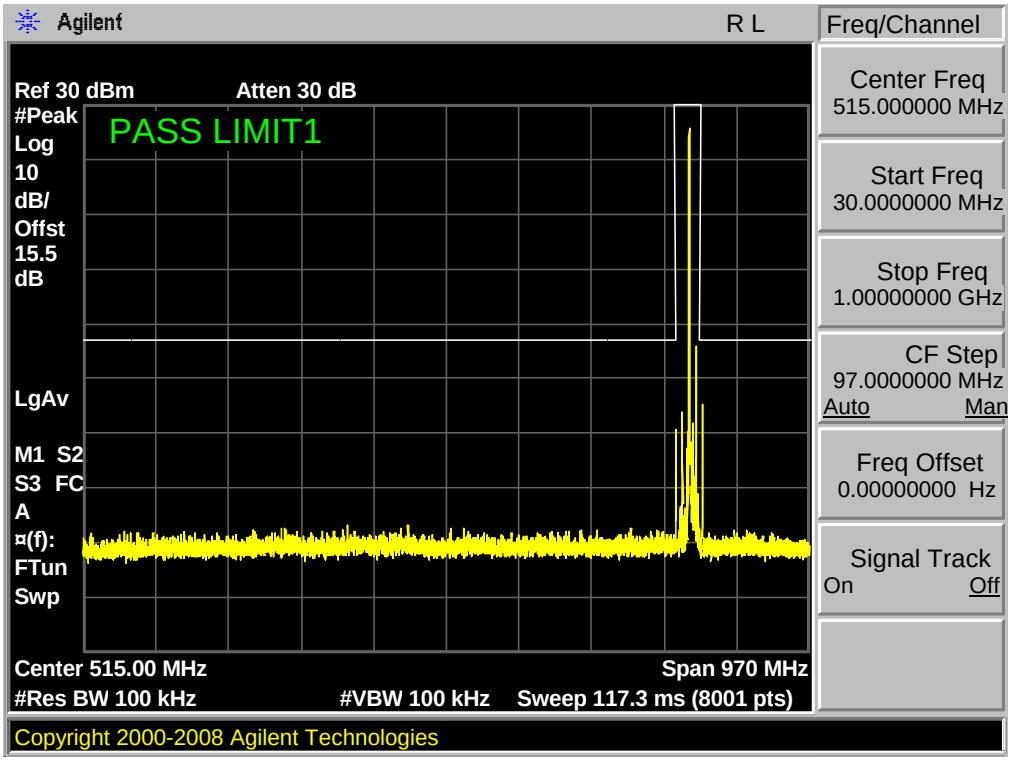
Band 5,UL Channel 20600,UL Frequency 844.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



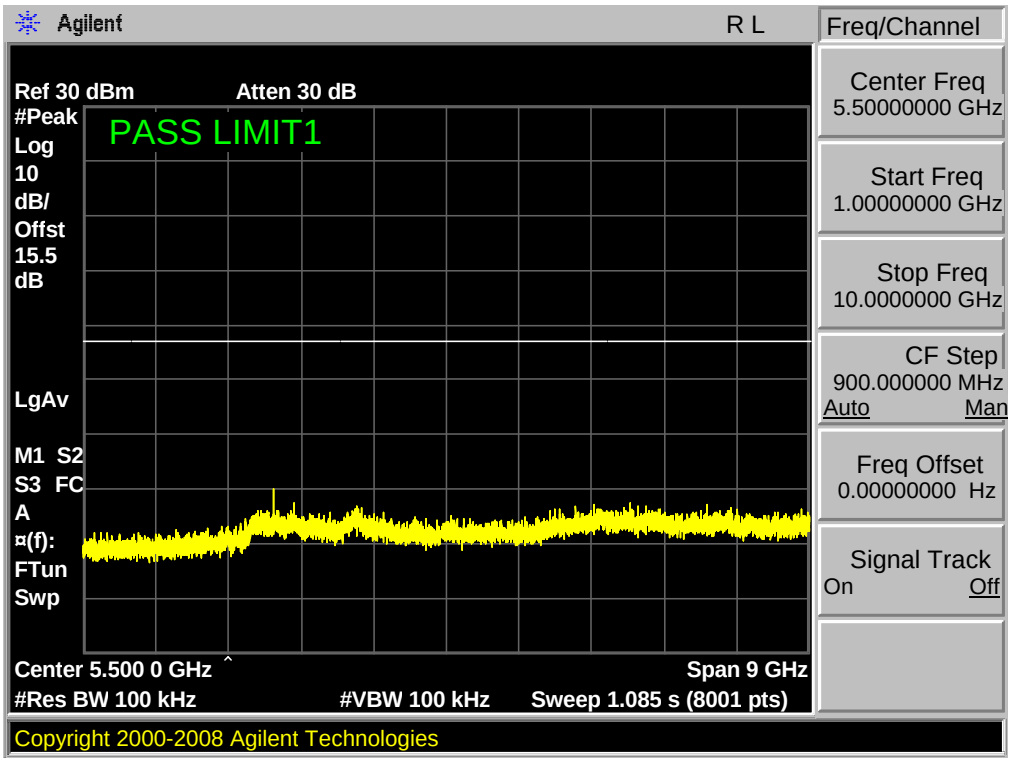
Band 5,UL Channel 20600,UL Frequency 844.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



Band 5,UL Channel 20600,UL Frequency 844.0,BW 10.0,NO. RB 1,RB POS. Low,16-QAM

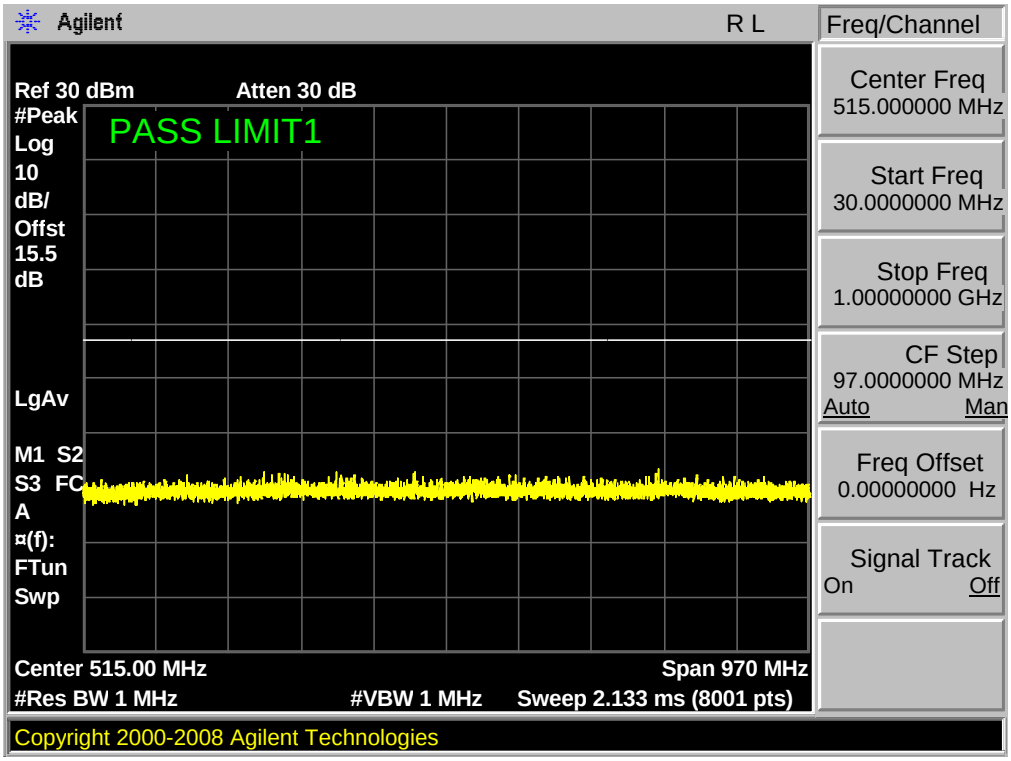


Band 5,UL Channel 20600,UL Frequency 844.0,BW 10.0,NO. RB 1,RB POS. Low,16-QAM

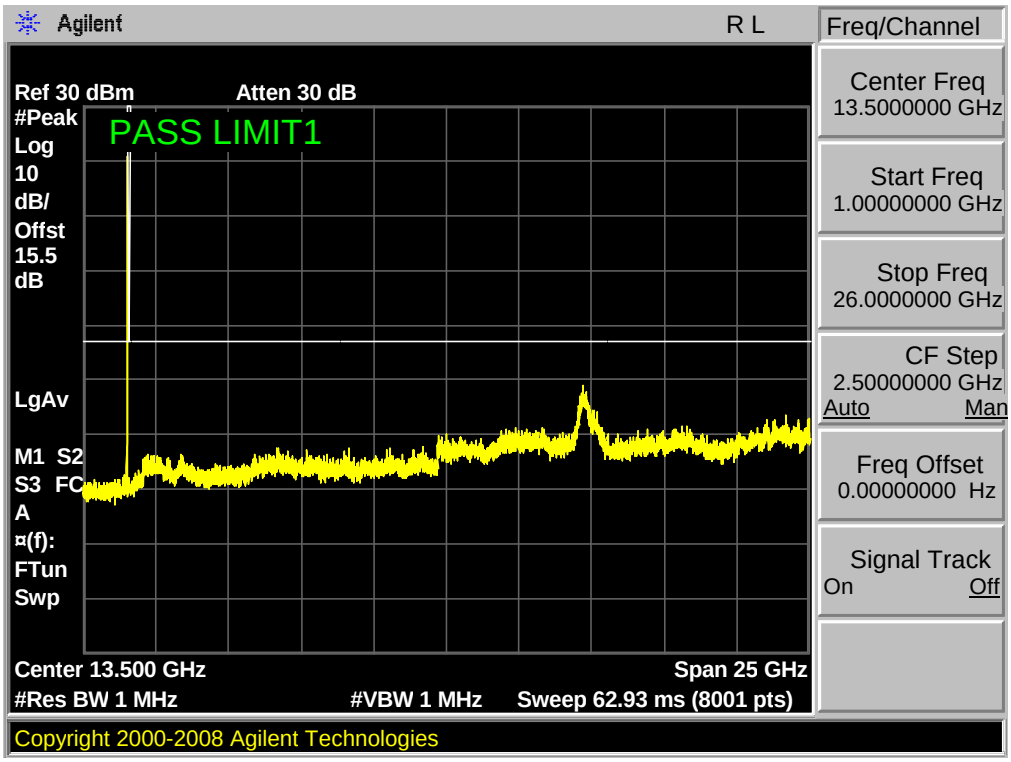


7.1.4 LTE BAND 7

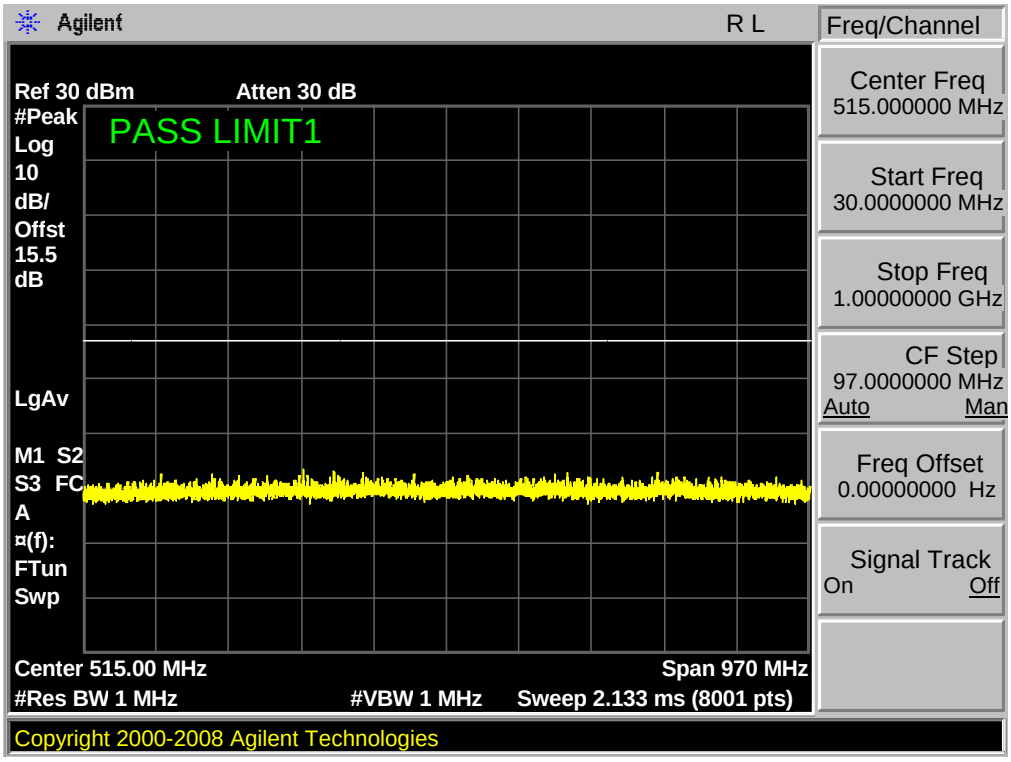
Band 7,UL Channel 20775,UL Frequency 2502.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



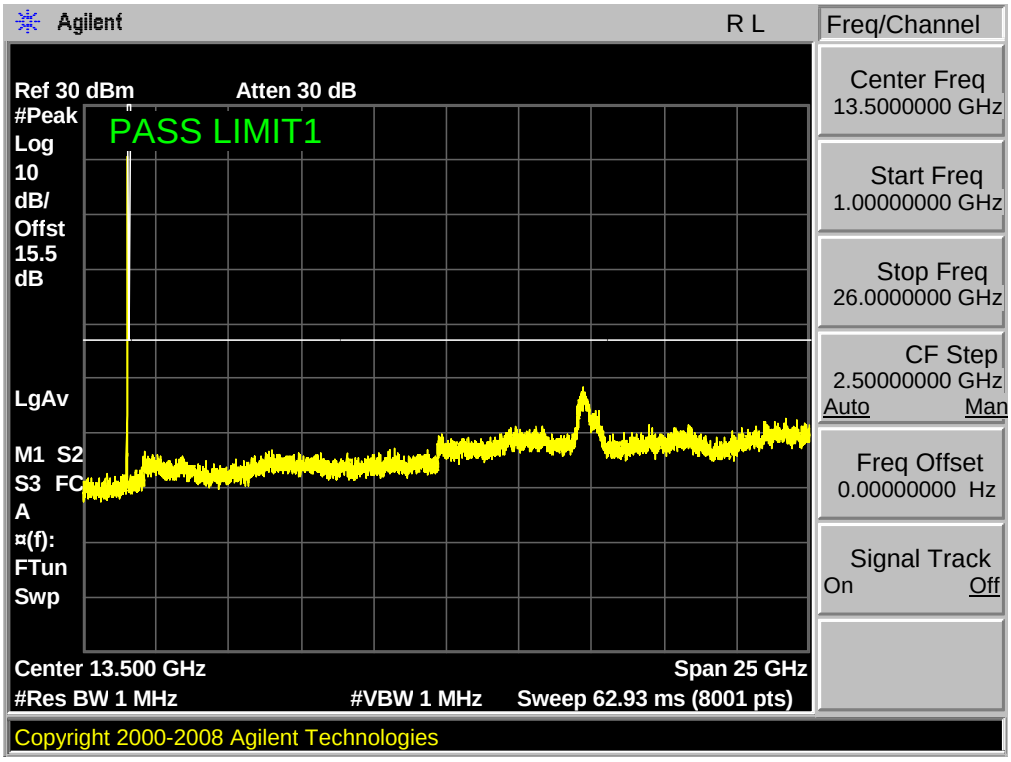
Band 7,UL Channel 20775,UL Frequency 2502.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



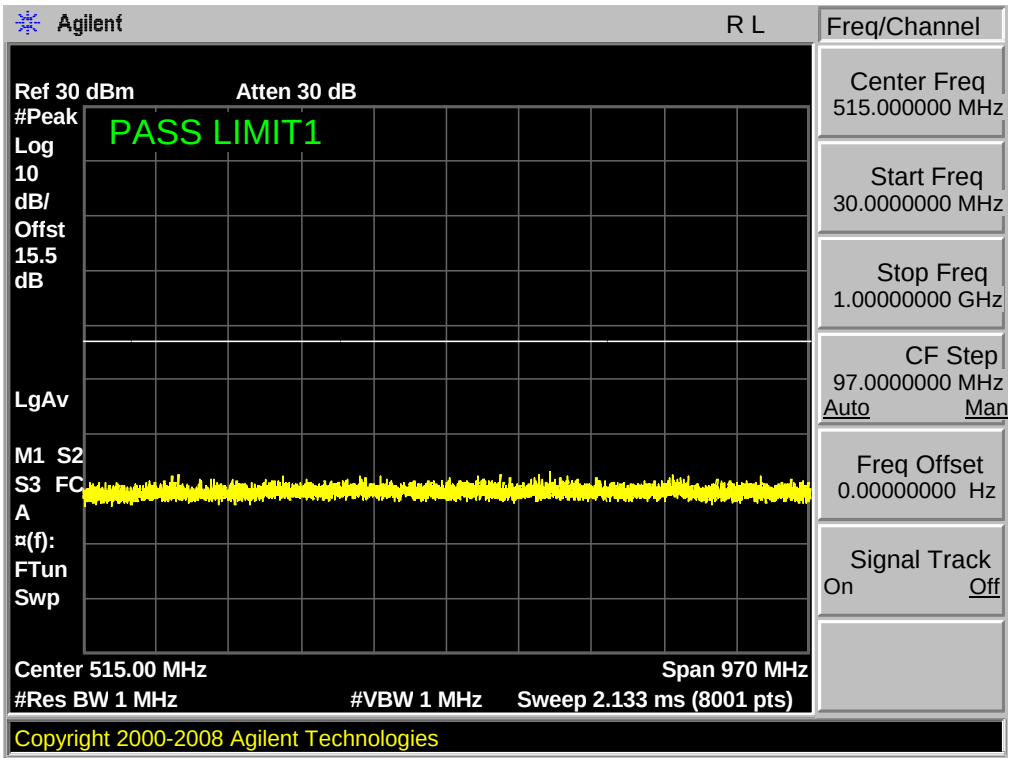
Band 7,UL Channel 20775,UL Frequency 2502.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



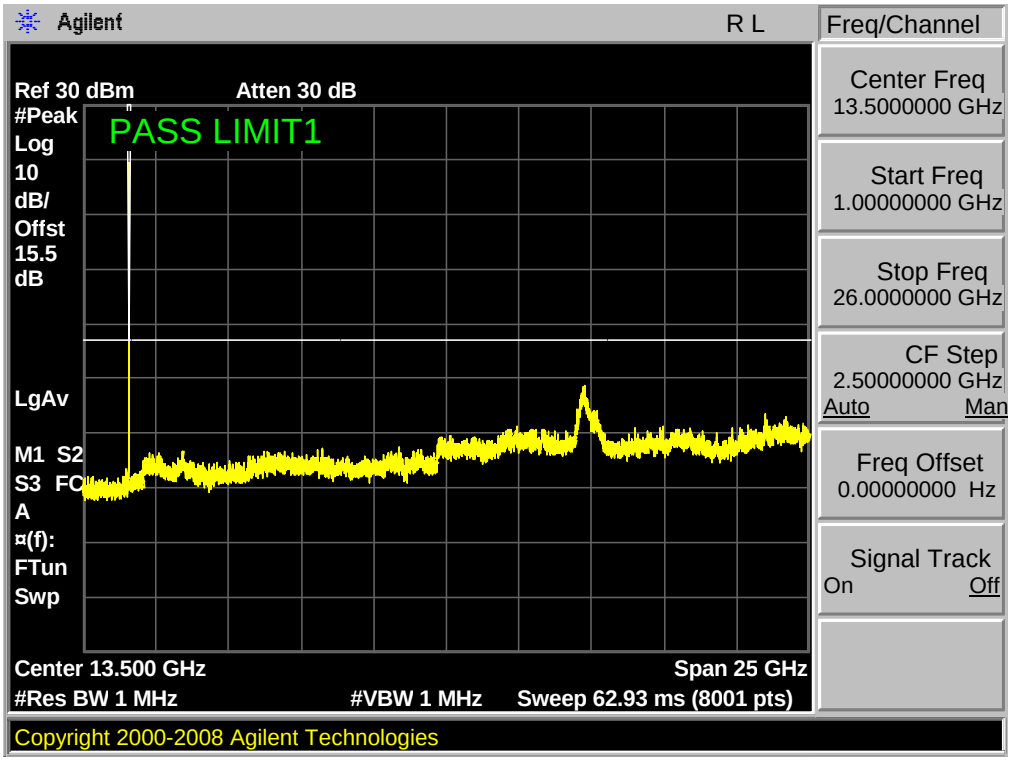
Band 7,UL Channel 20775,UL Frequency 2502.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



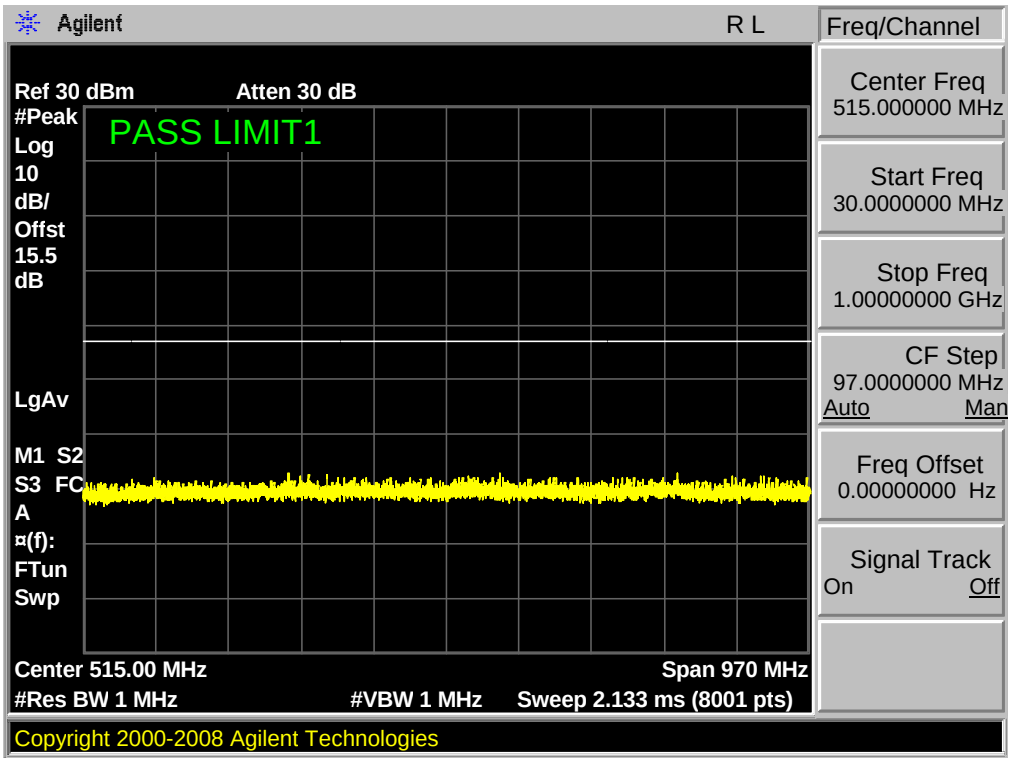
Band 7,UL Channel 21425,UL Frequency 2567.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



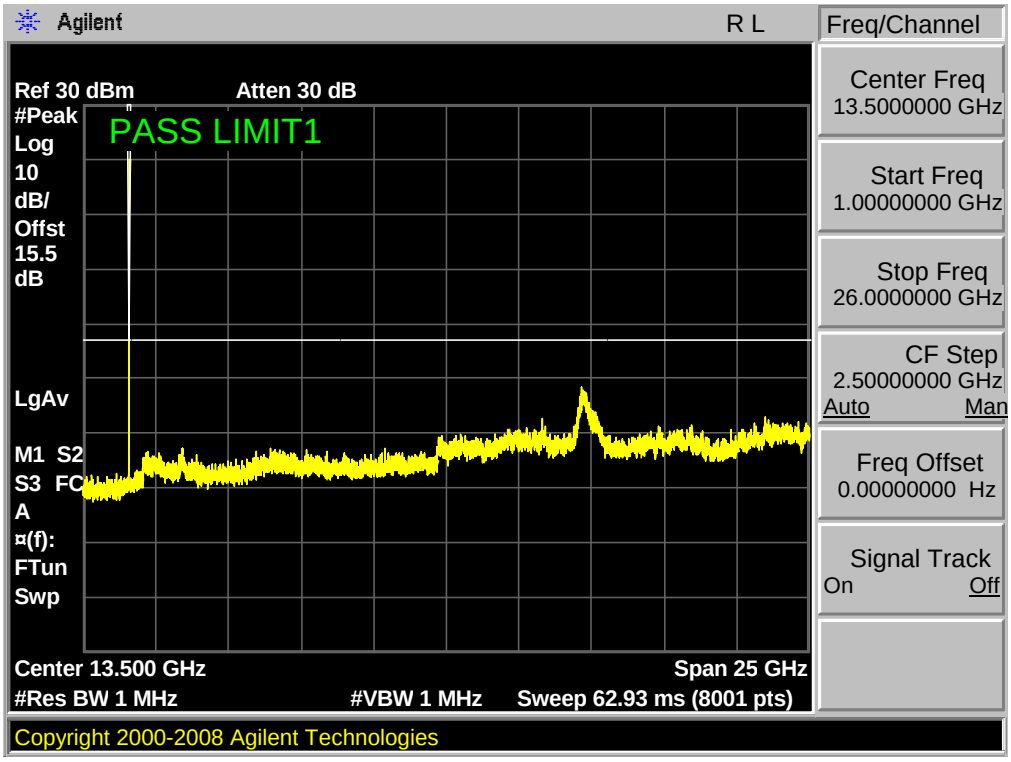
Band 7,UL Channel 21425,UL Frequency 2567.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



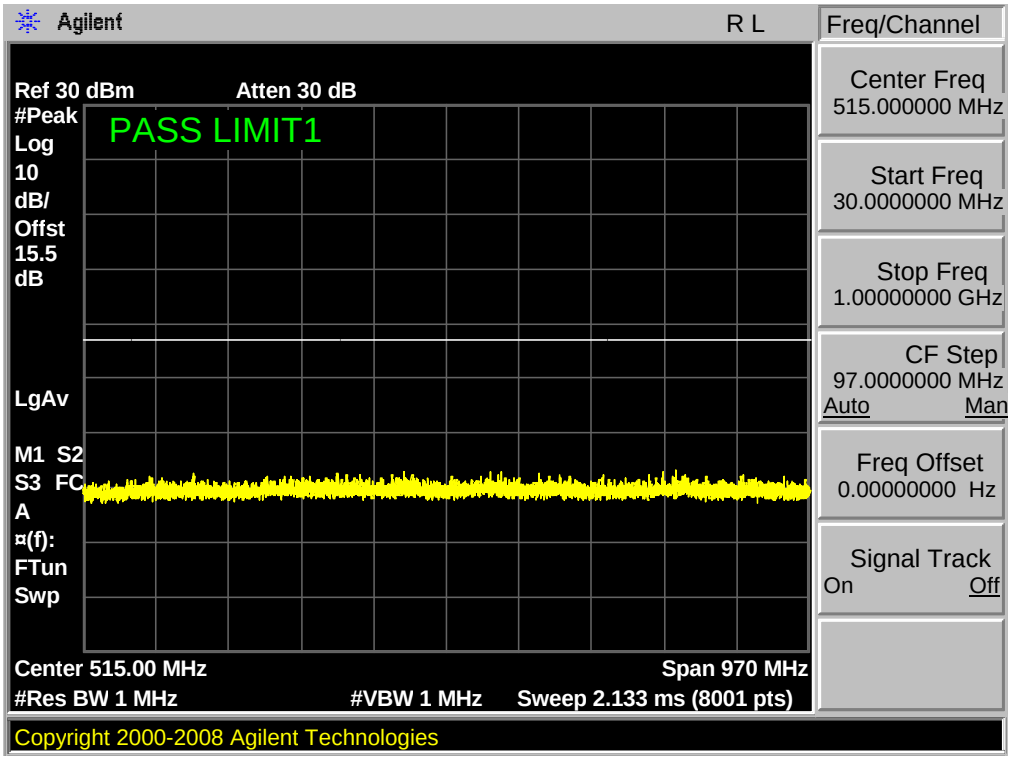
Band 7,UL Channel 21425,UL Frequency 2567.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



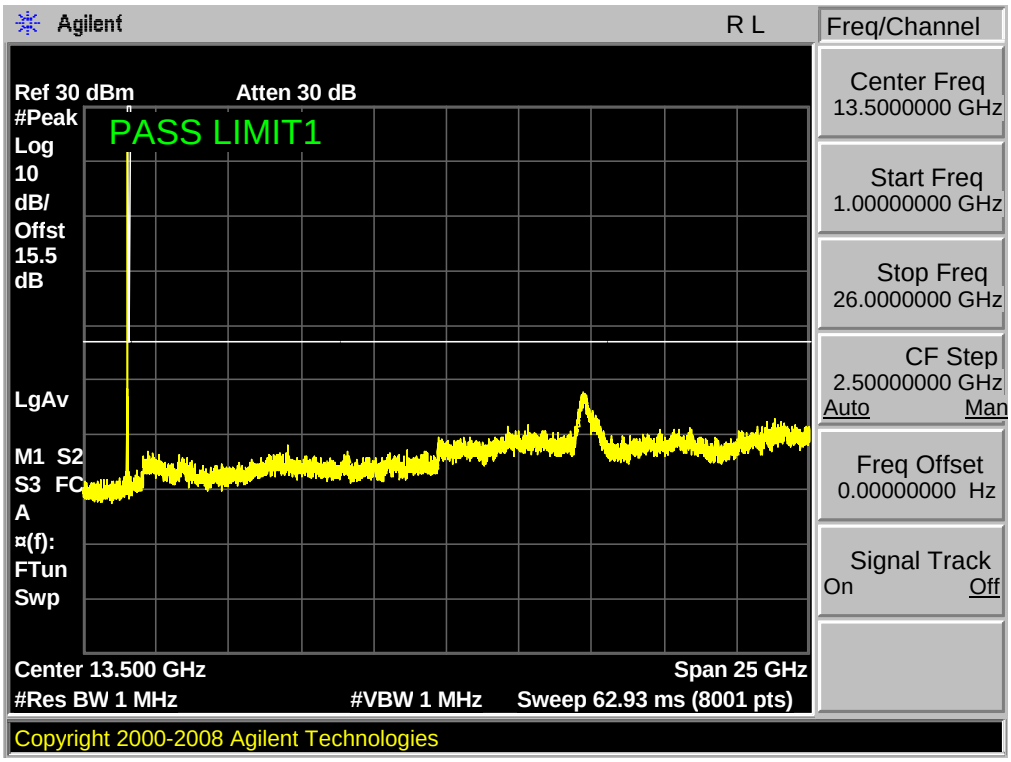
Band 7,UL Channel 21425,UL Frequency 2567.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



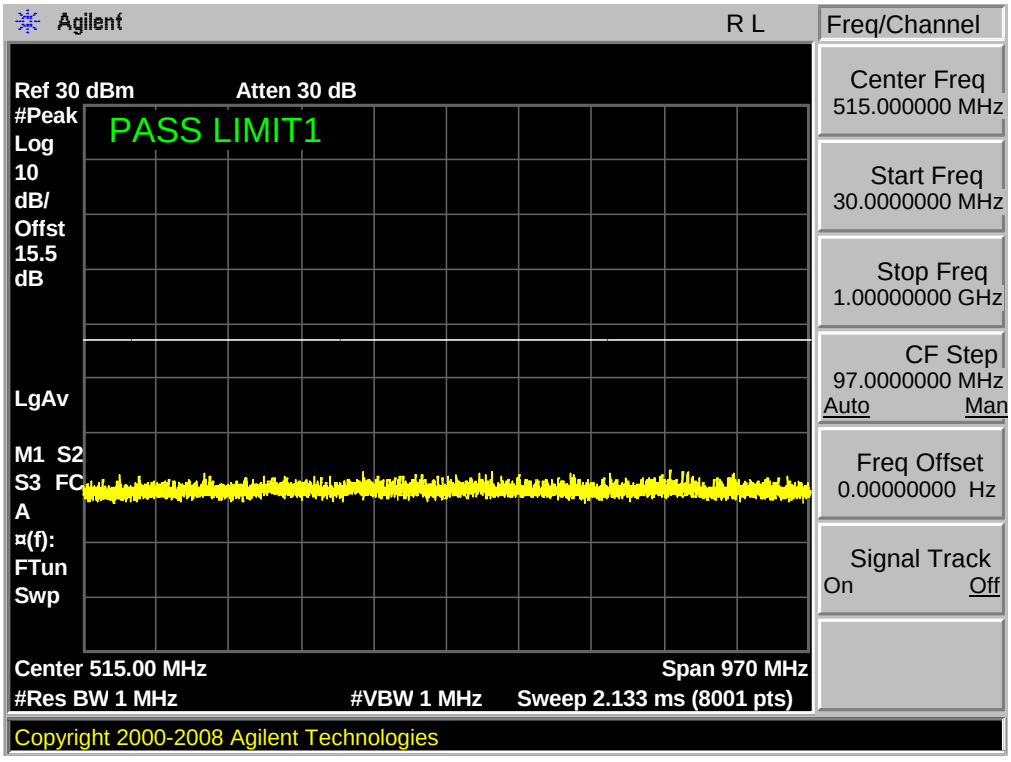
Band 7,UL Channel 20800,UL Frequency 2505.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



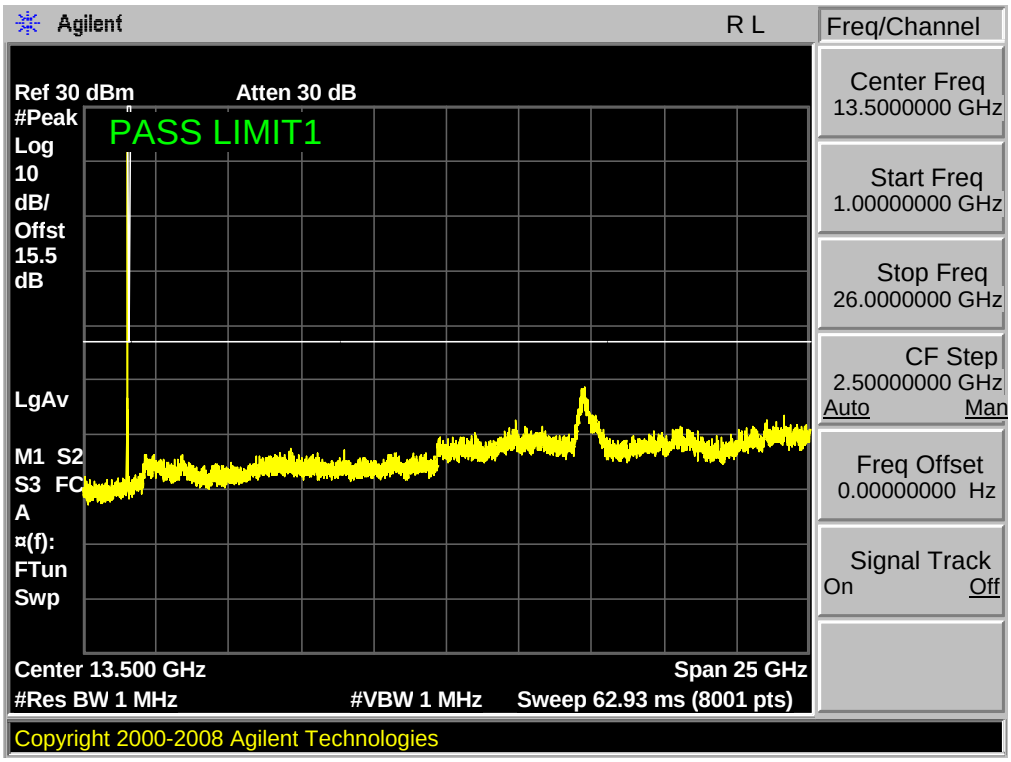
Band 7,UL Channel 20800,UL Frequency 2505.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



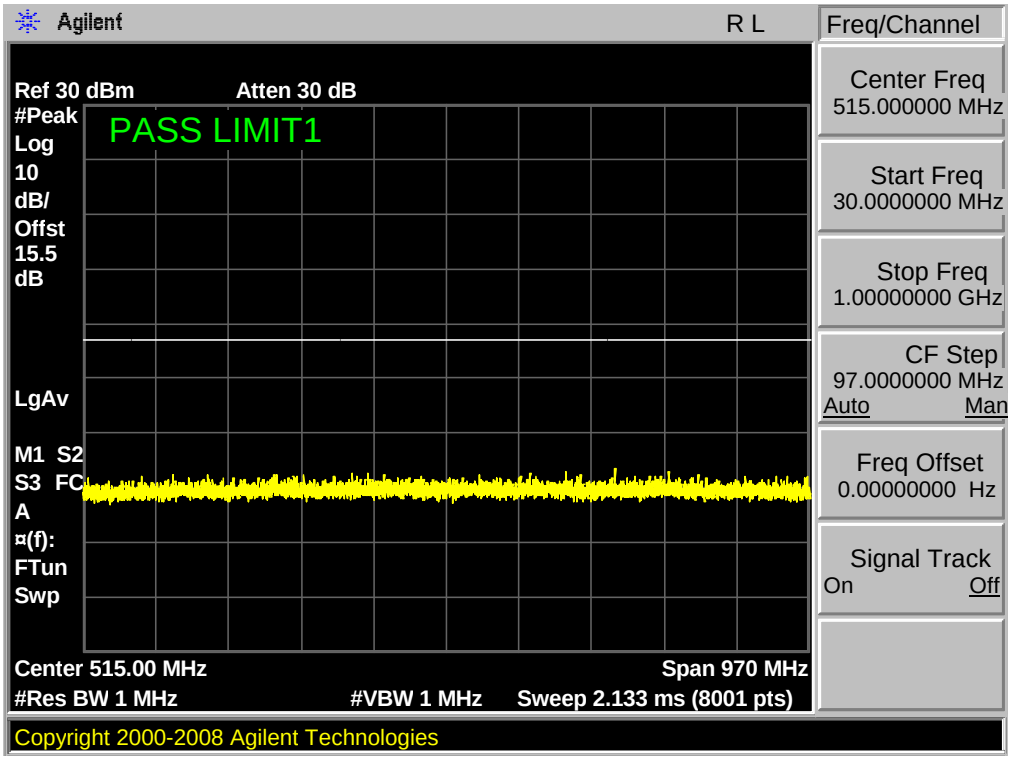
Band 7,UL Channel 20800,UL Frequency 2505.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



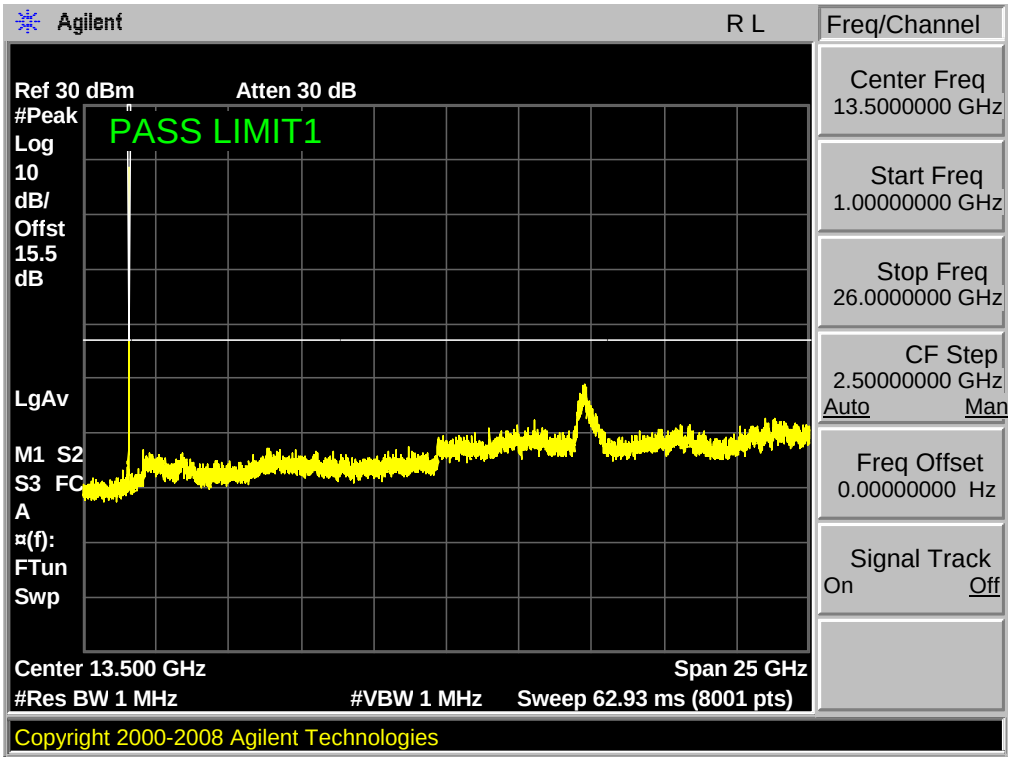
Band 7,UL Channel 20800,UL Frequency 2505.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



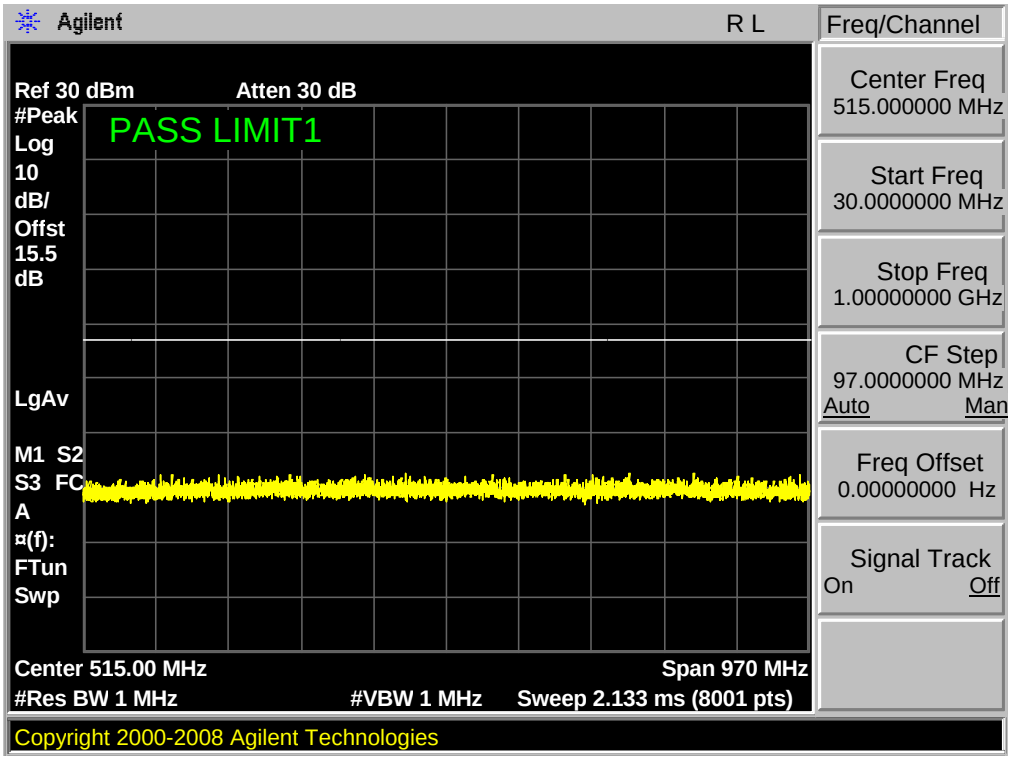
Band 7,UL Channel 21400,UL Frequency 2565.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



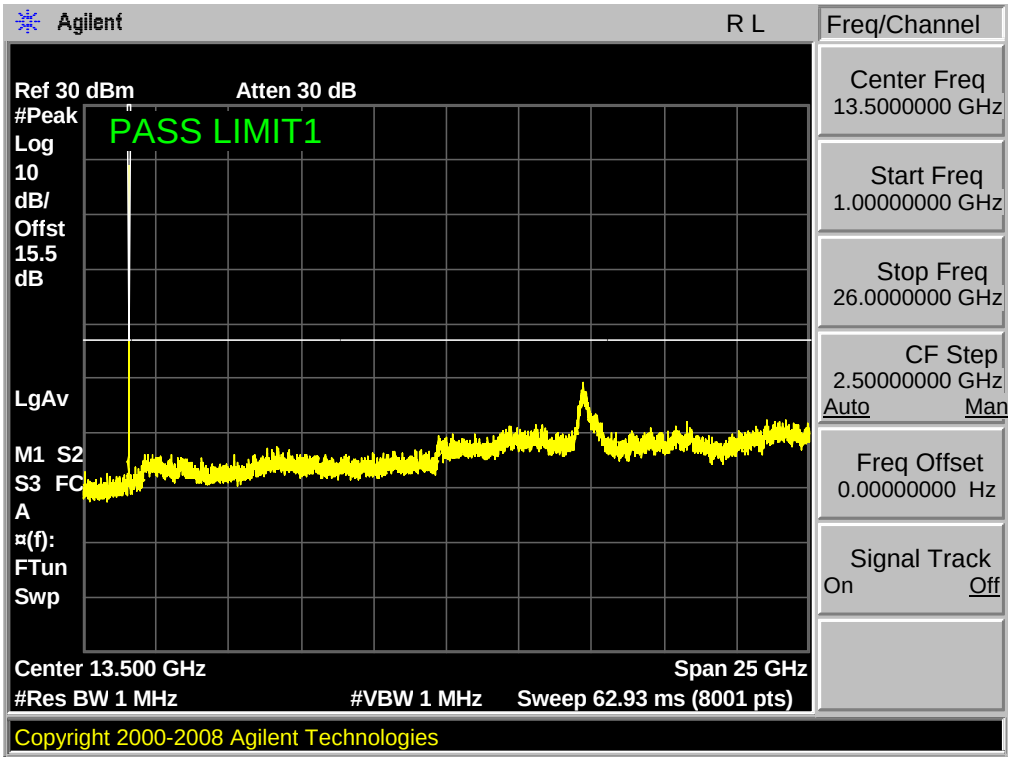
Band 7,UL Channel 21400,UL Frequency 2565.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



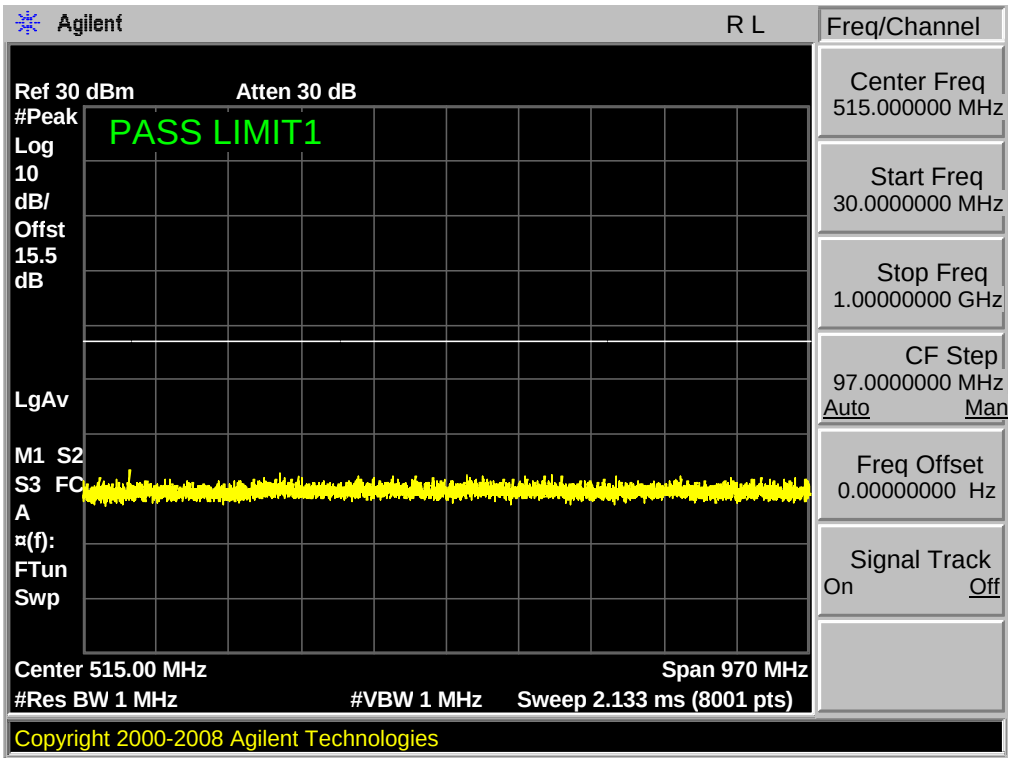
Band 7,UL Channel 21400,UL Frequency 2565.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



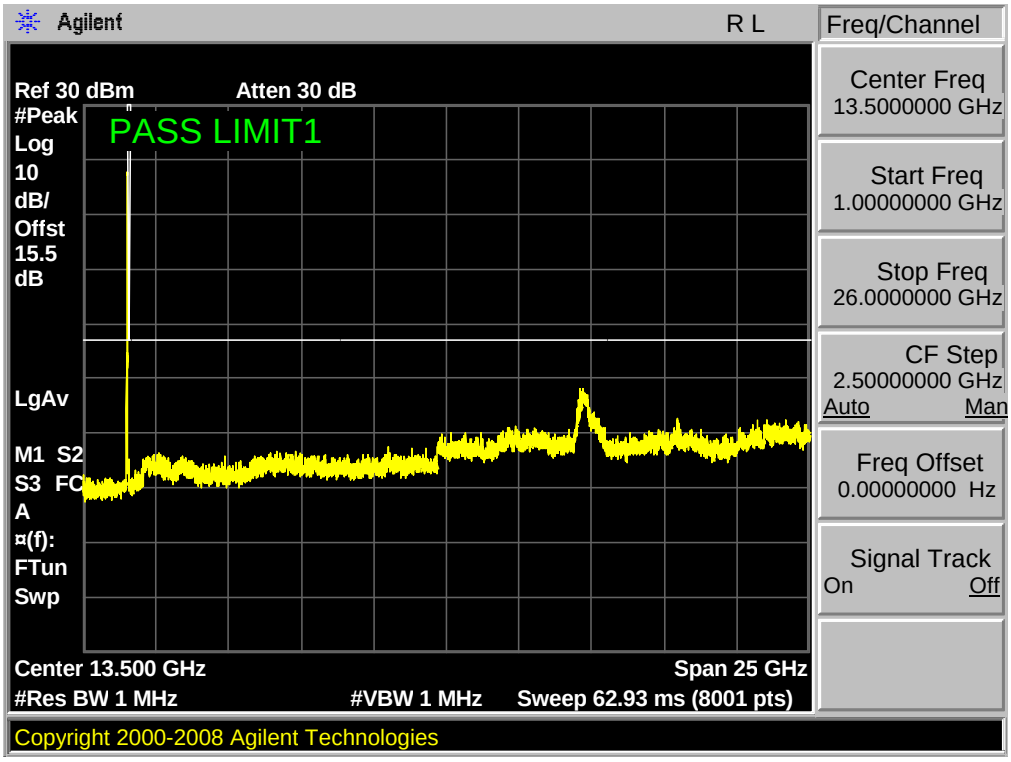
Band 7,UL Channel 21400,UL Frequency 2565.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



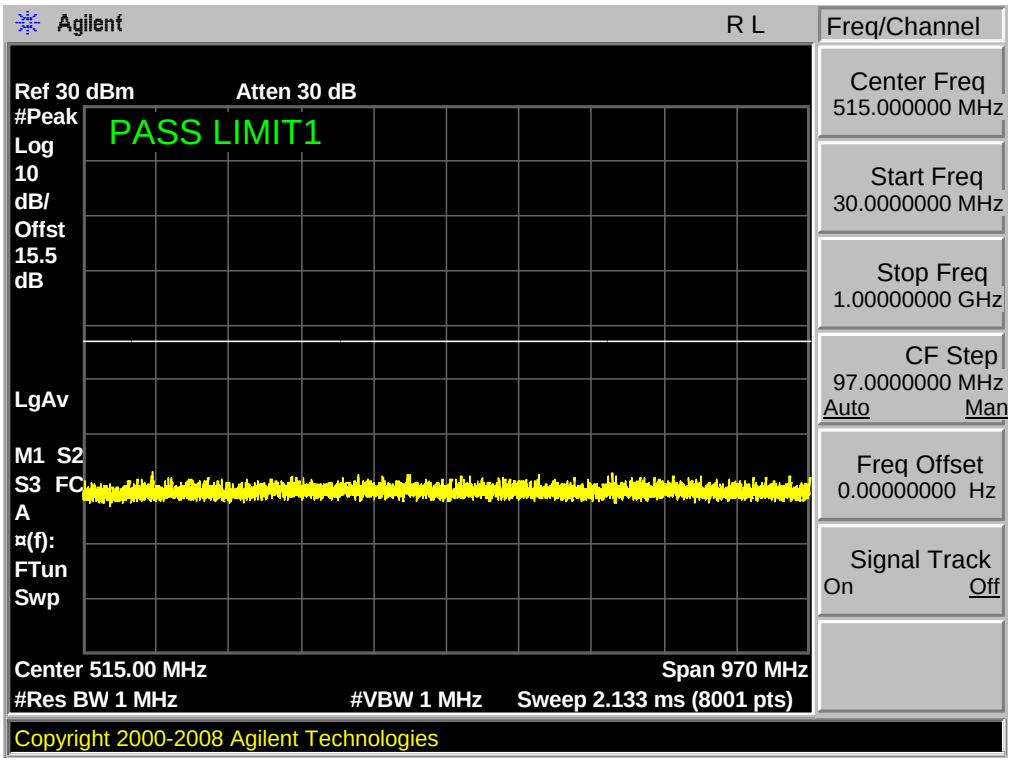
Band 7,UL Channel 20825,UL Frequency 2507.5,BW 15.0,NO. RB 75,RB POS. Low,QPSK



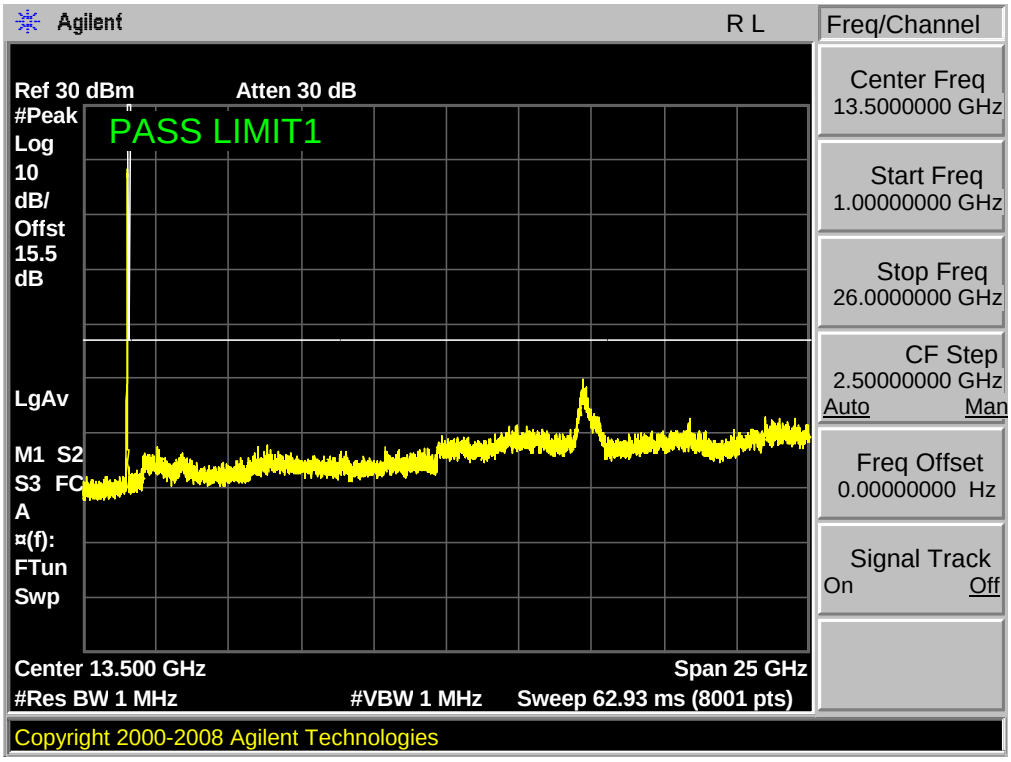
Band 7,UL Channel 20825,UL Frequency 2507.5,BW 15.0,NO. RB 75,RB POS. Low,QPSK



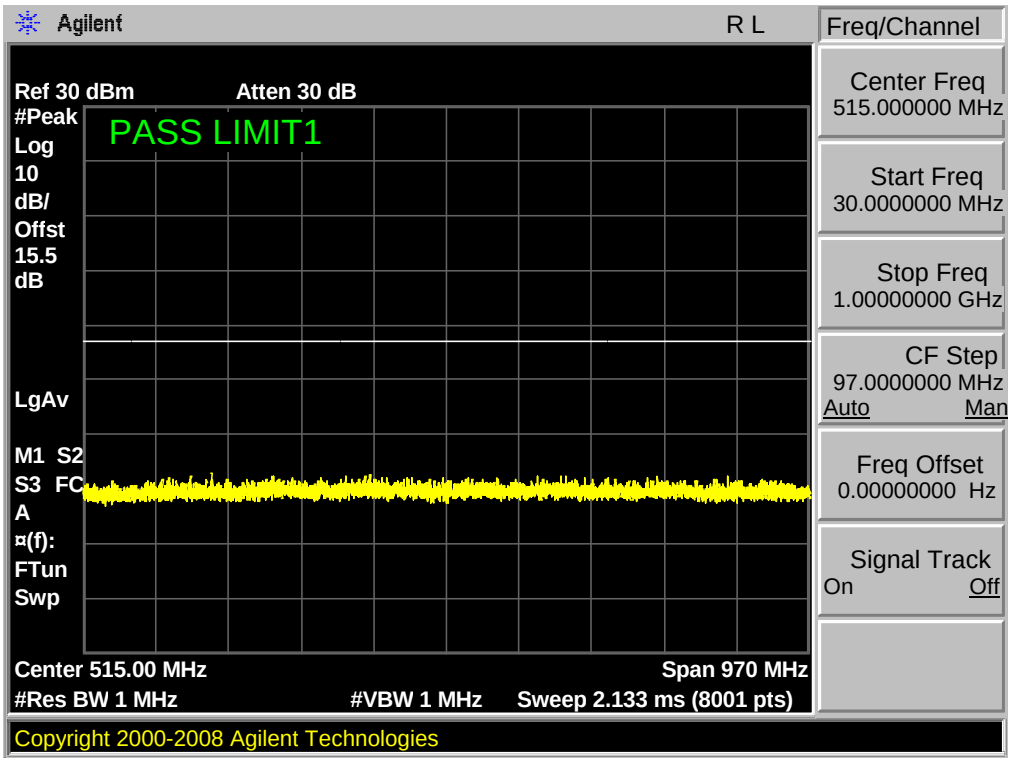
Band 7,UL Channel 20825,UL Frequency 2507.5,BW 15.0,NO. RB 75,RB POS. Low,16QAM



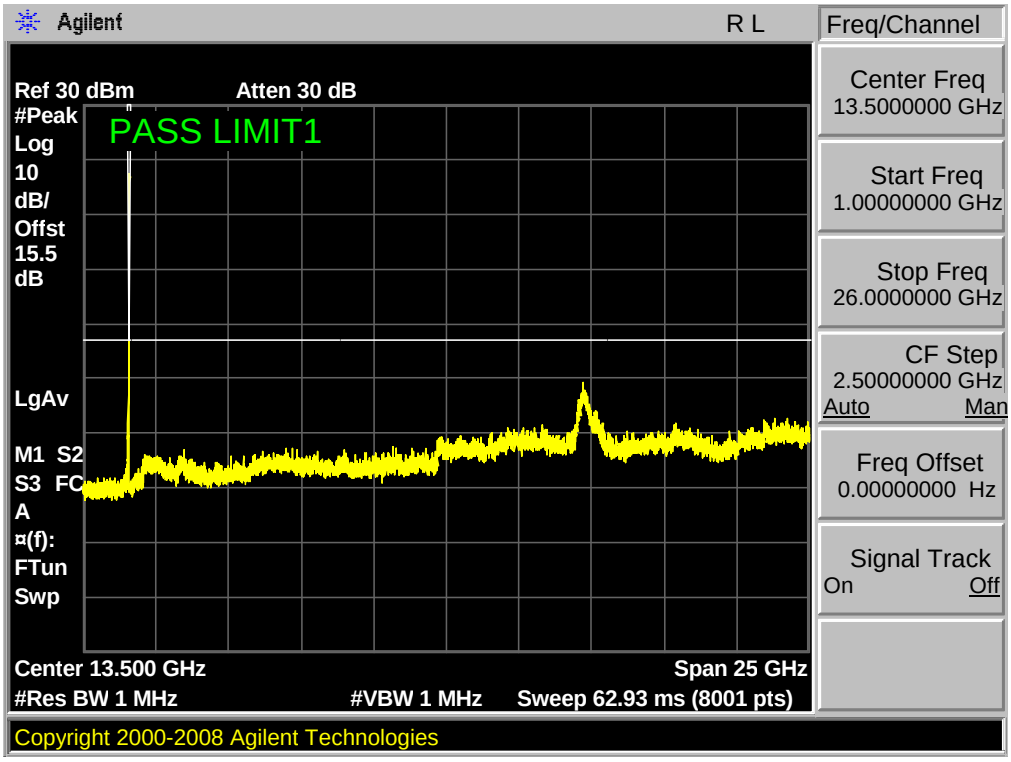
Band 7,UL Channel 20825,UL Frequency 2507.5,BW 15.0,NO. RB 75,RB POS. Low,16QAM



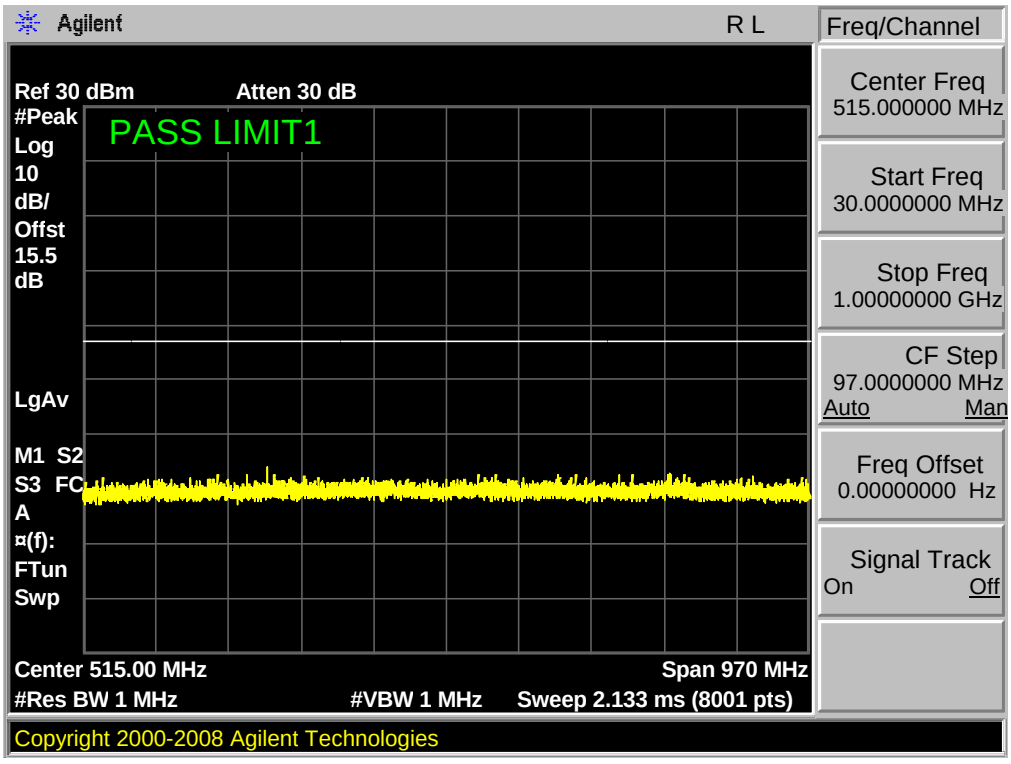
Band 7,UL Channel 21375,UL Frequency 2562.5,BW 15.0,NO. RB 75,RB POS. Low,QPSK



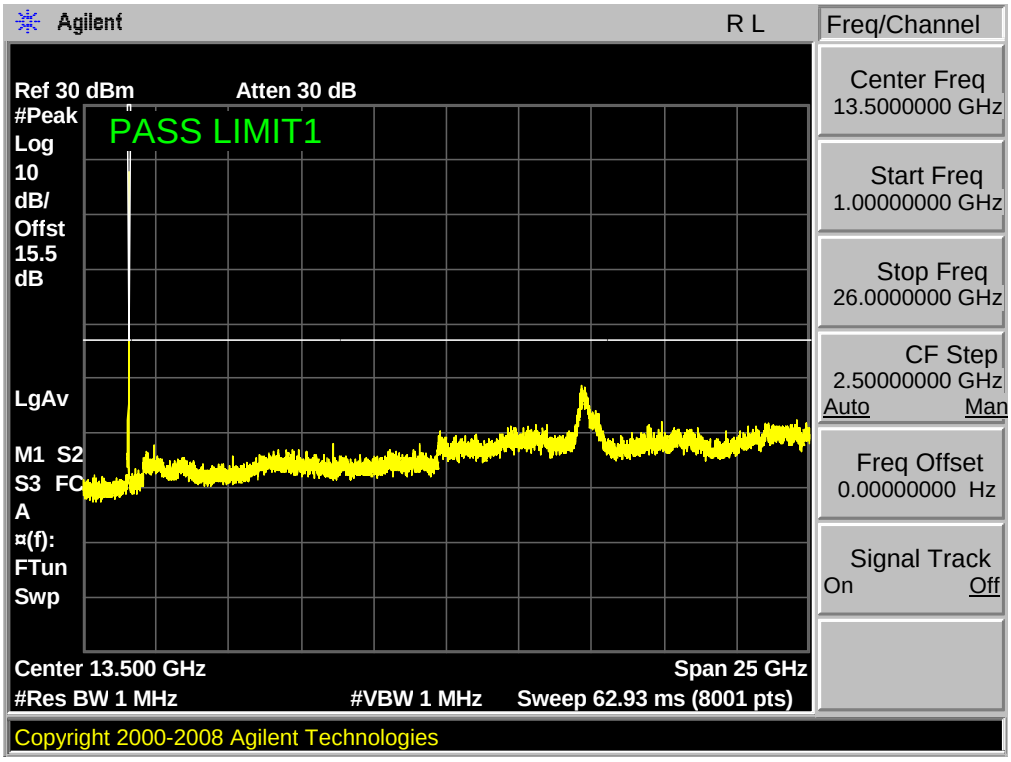
Band 7,UL Channel 21375,UL Frequency 2562.5,BW 15.0,NO. RB 75,RB POS. Low,QPSK



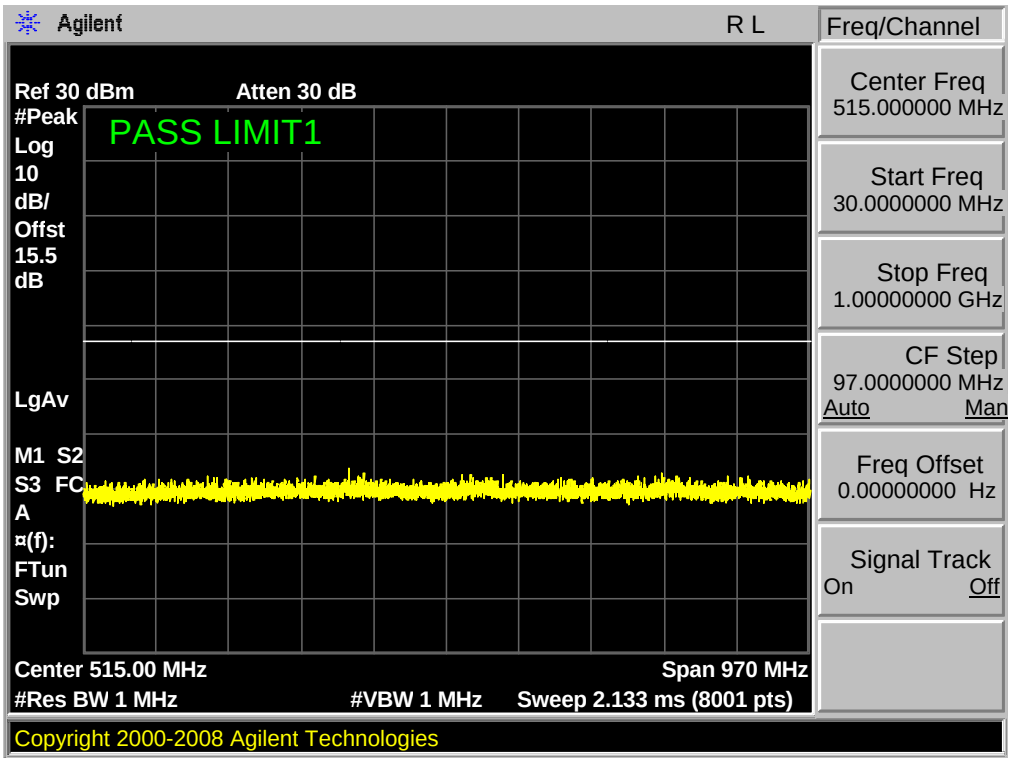
Band 7,UL Channel 21375,UL Frequency 2562.5,BW 15.0,NO. RB 75,RB POS. Low,16QAM



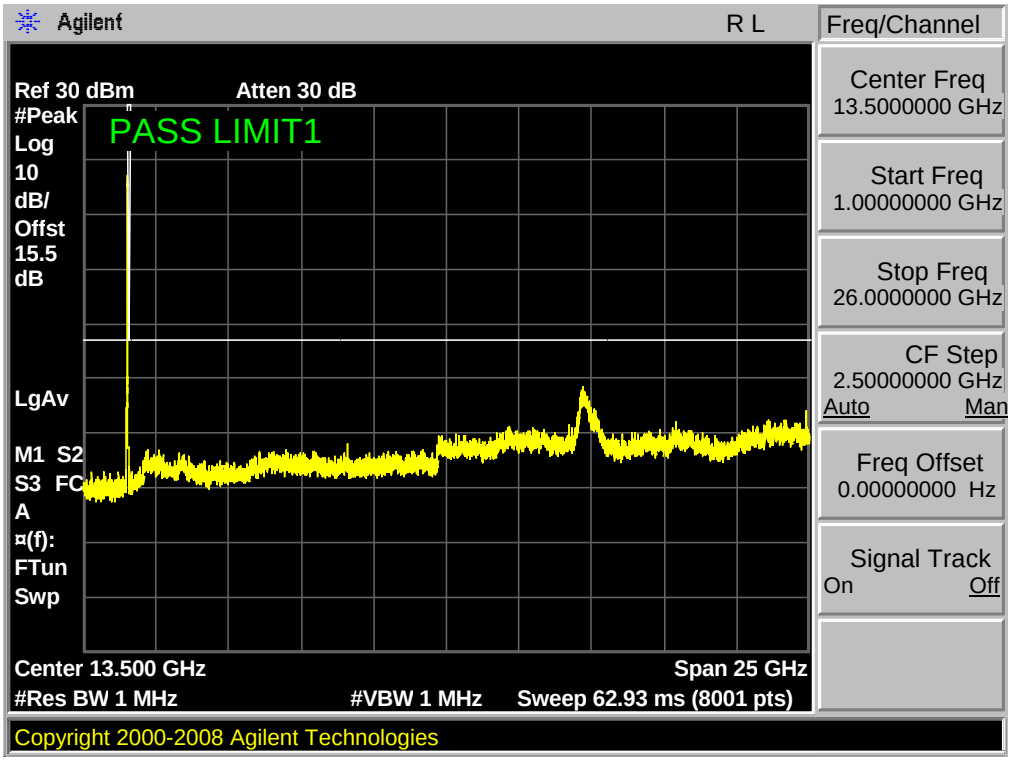
Band 7,UL Channel 21375,UL Frequency 2562.5,BW 15.0,NO. RB 75,RB POS. Low,16QAM



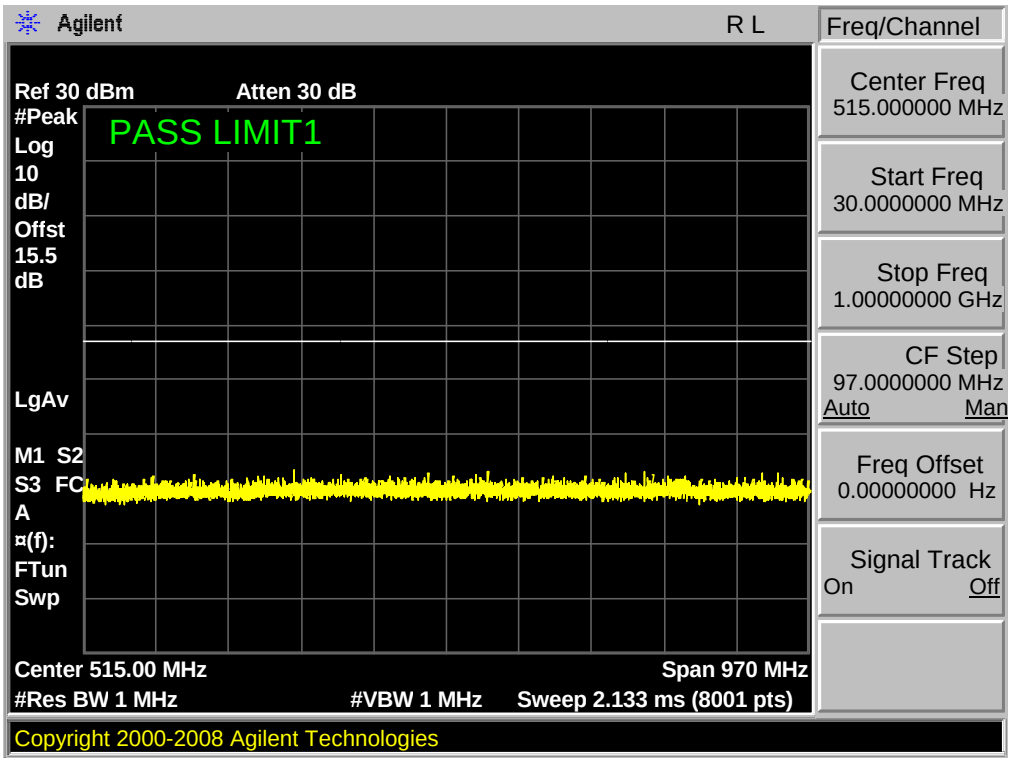
Band 7,UL Channel 20850,UL Frequency 2510.0,BW 20.0,NO. RB 100,RB POS. Low,QPSK



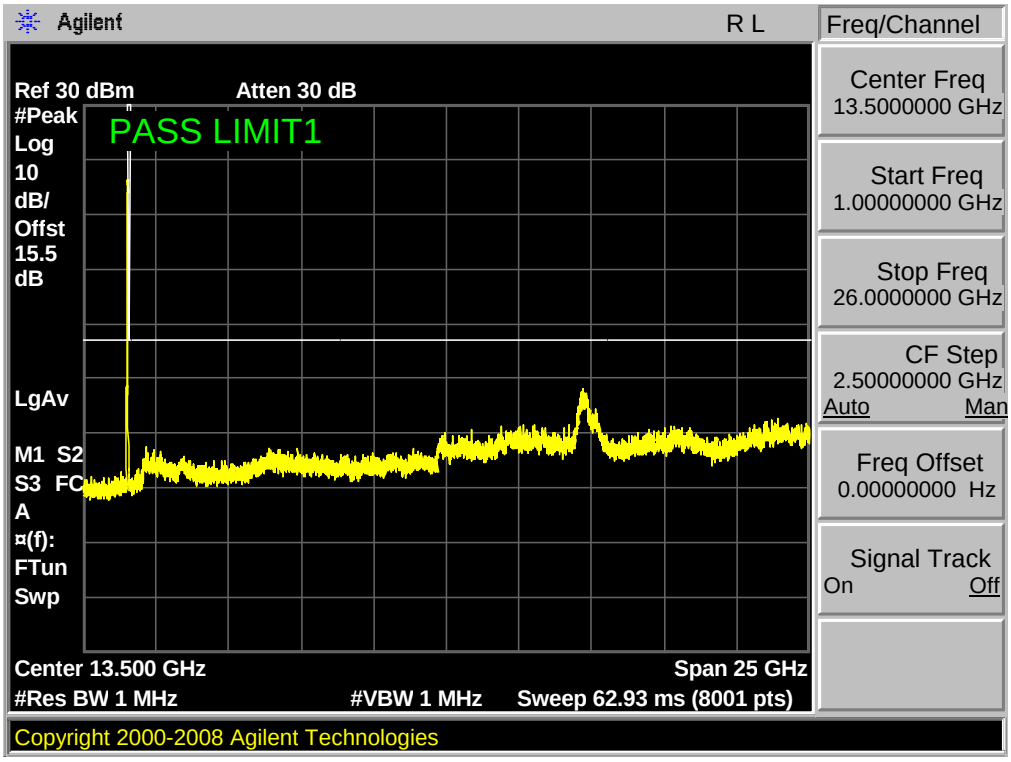
Band 7,UL Channel 20850,UL Frequency 2510.0,BW 20.0,NO. RB 100,RB POS. Low,QPSK



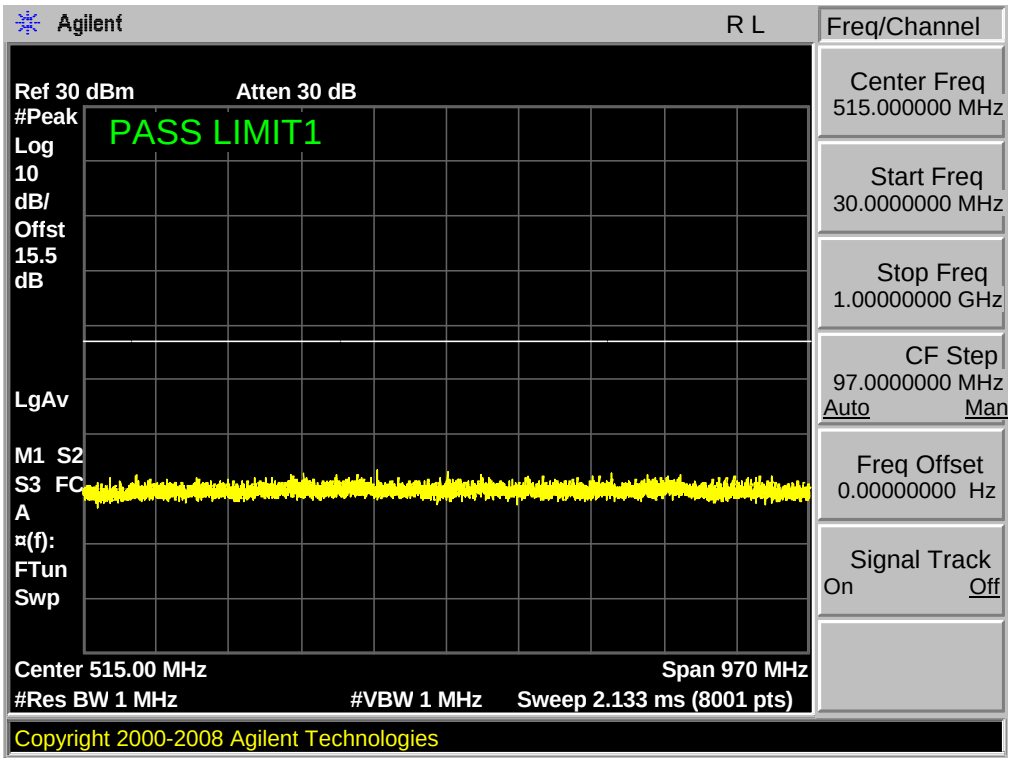
Band 7,UL Channel 20850,UL Frequency 2510.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM



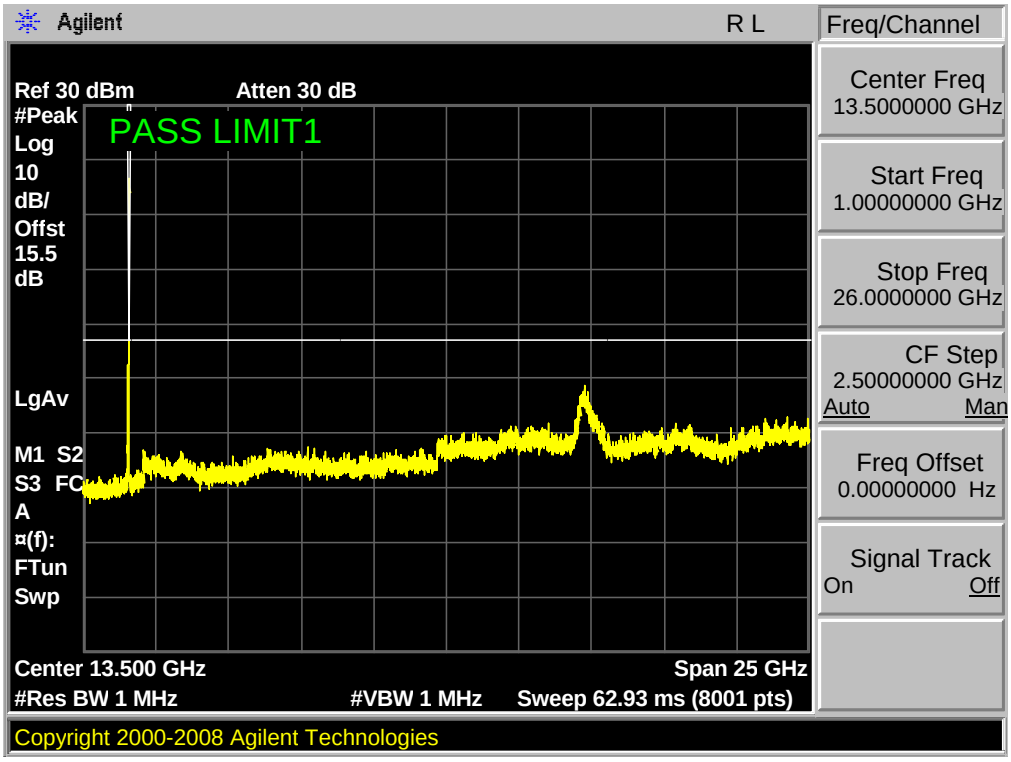
Band 7,UL Channel 20850,UL Frequency 2510.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM



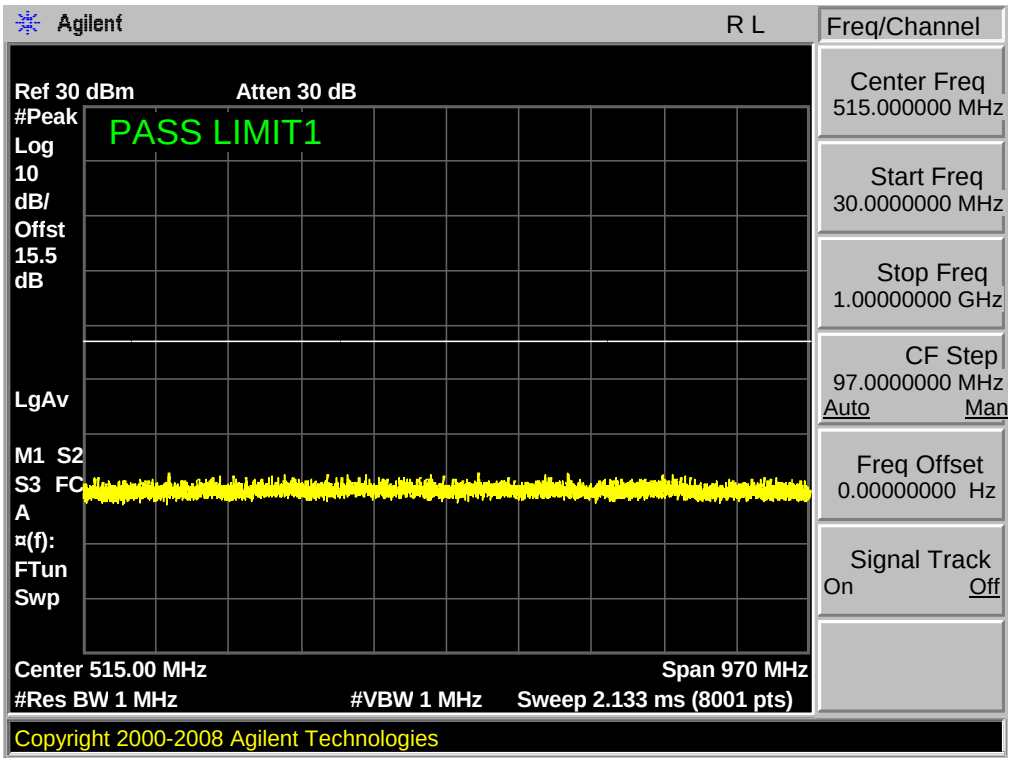
Band 7,UL Channel 21350,UL Frequency 2560.0,BW 20.0,NO. RB 100,RB POS. Low,QPSK



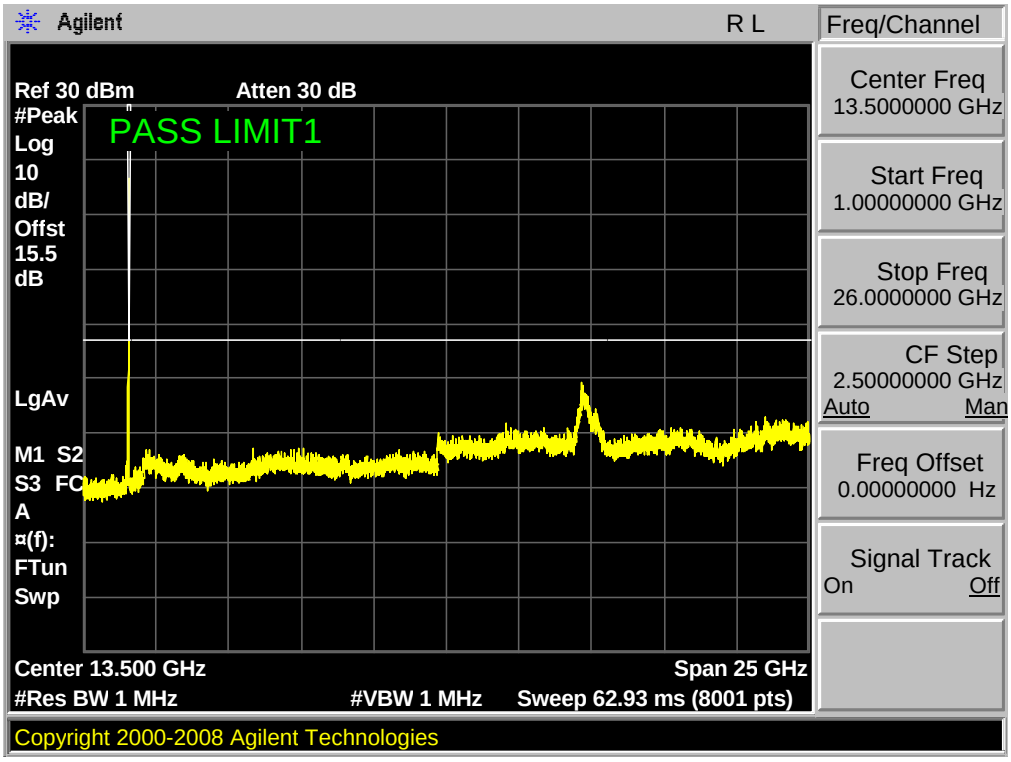
Band 7,UL Channel 21350,UL Frequency 2560.0,BW 20.0,NO. RB 100,RB POS. Low,QPSK



Band 7,UL Channel 21350,UL Frequency 2560.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM

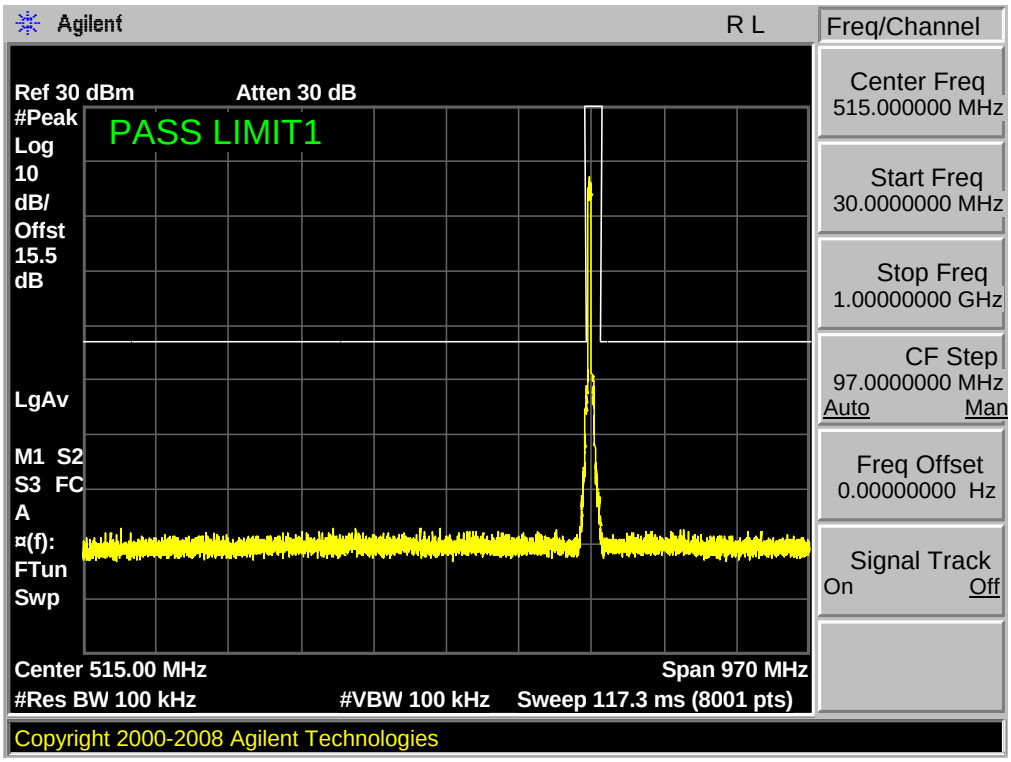


Band 7,UL Channel 21350,UL Frequency 2560.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM

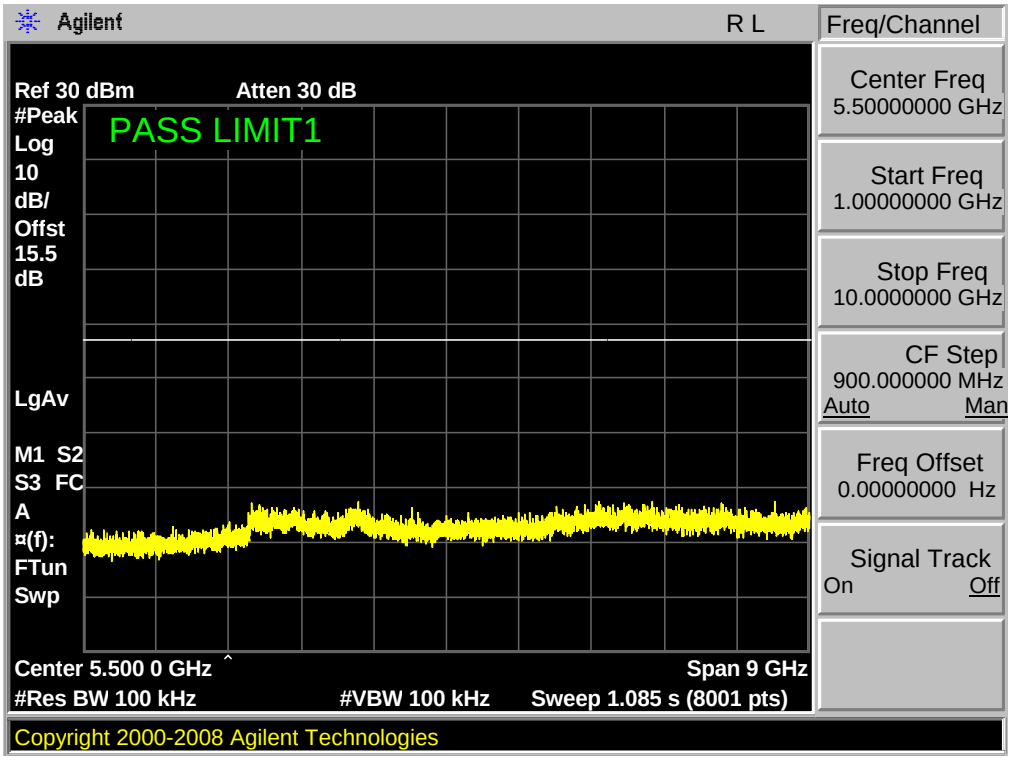


7.1.5. LTE BAND 17

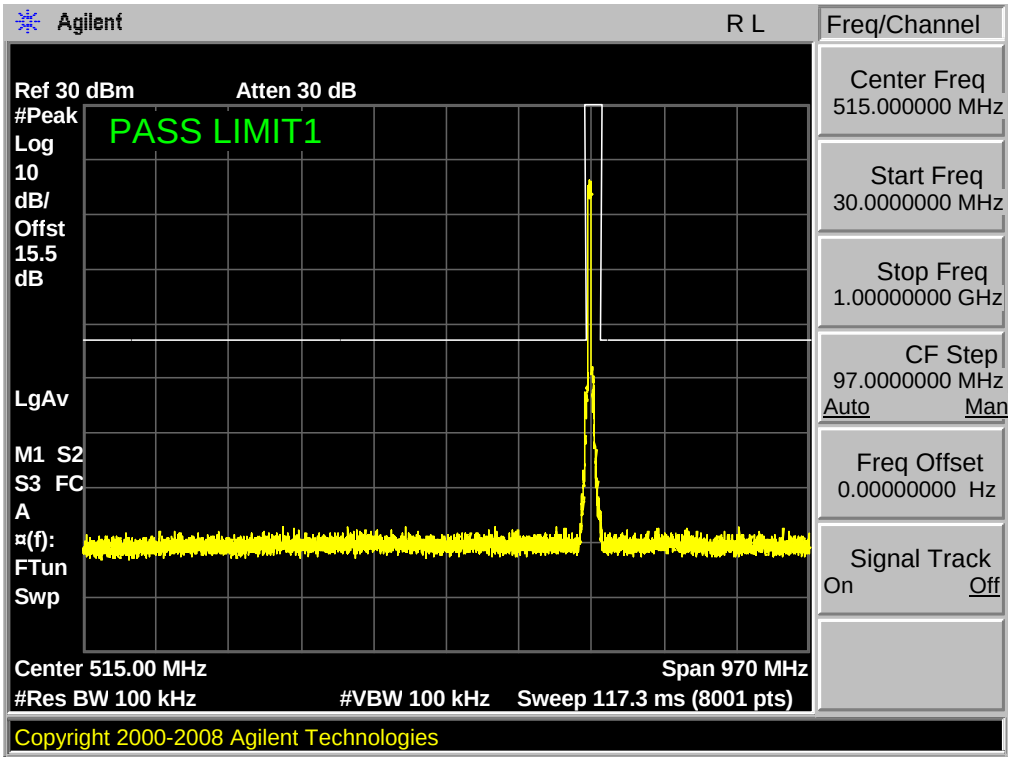
Band 17,UL Channel 23755,UL Frequency 706.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



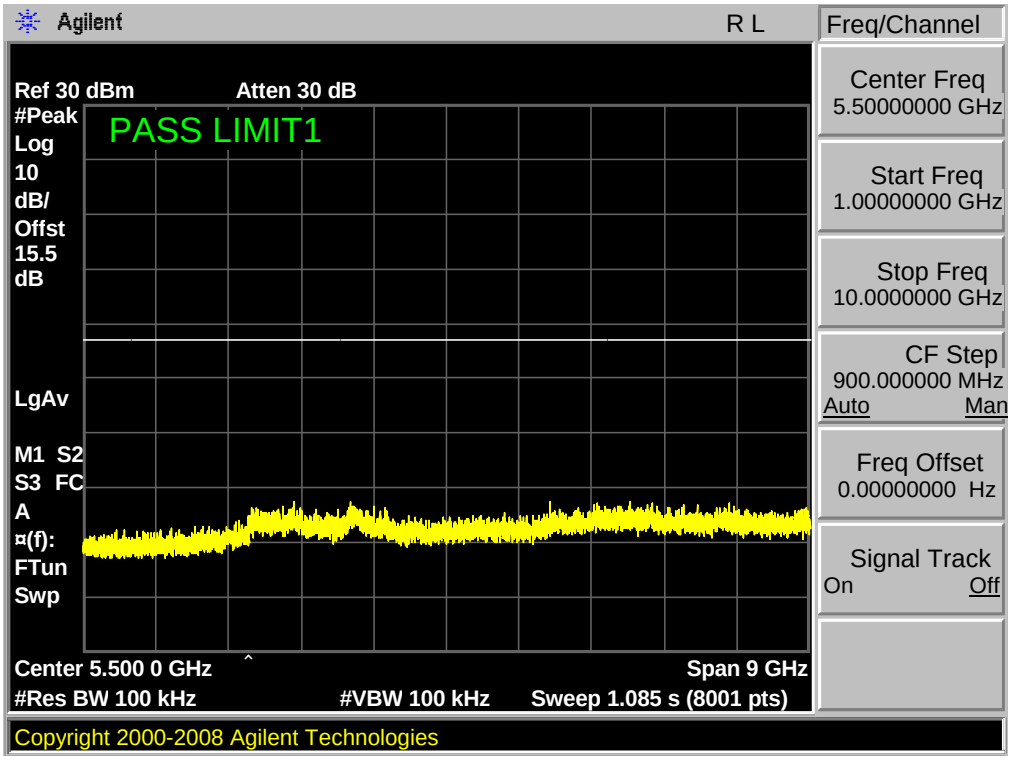
Band 17,UL Channel 23755,UL Frequency 706.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



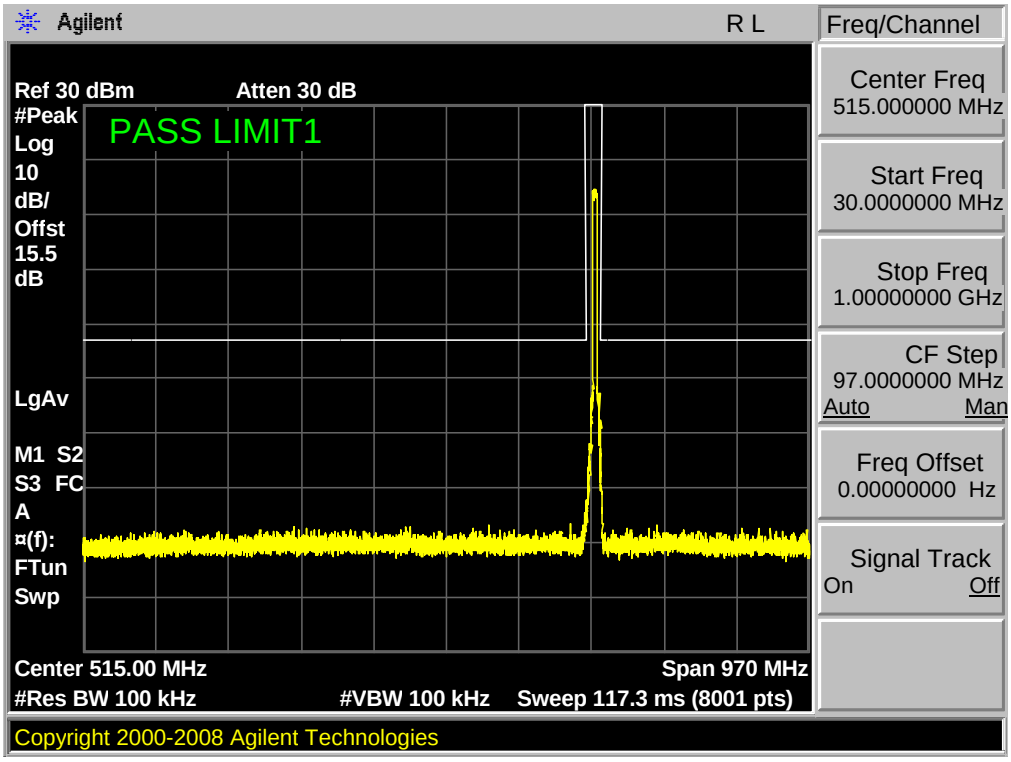
Band 17,UL Channel 23755,UL Frequency 706.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



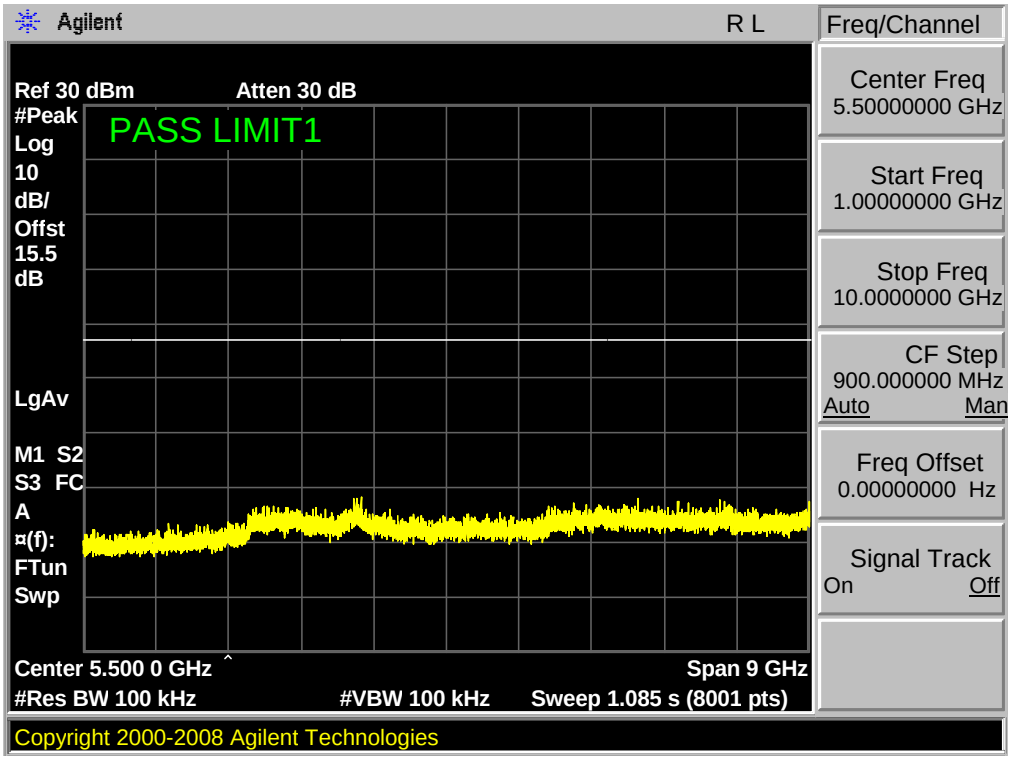
Band 17,UL Channel 23755,UL Frequency 706.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



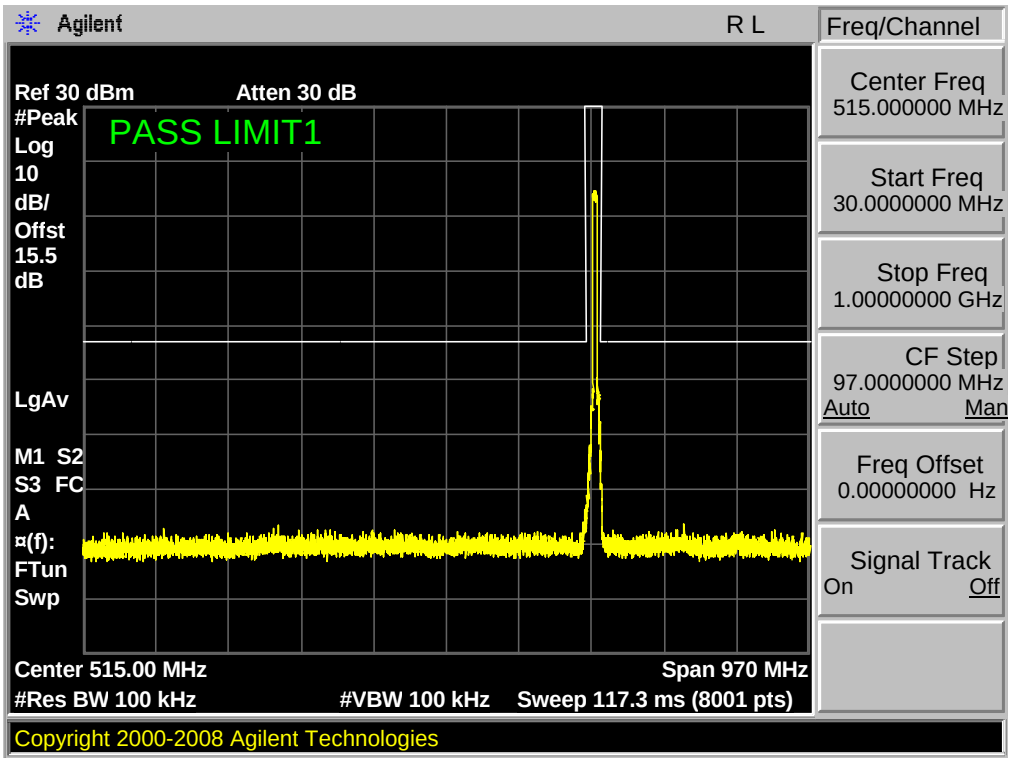
Band 17,UL Channel 23825,UL Frequency 713.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



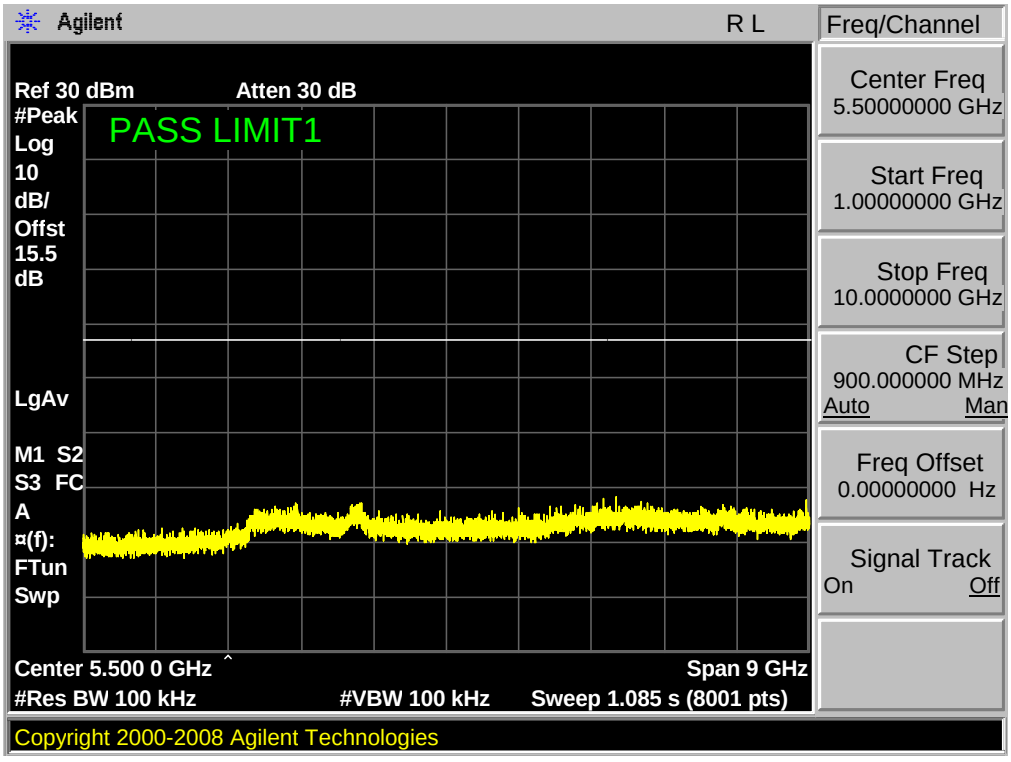
Band 17,UL Channel 23825,UL Frequency 713.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



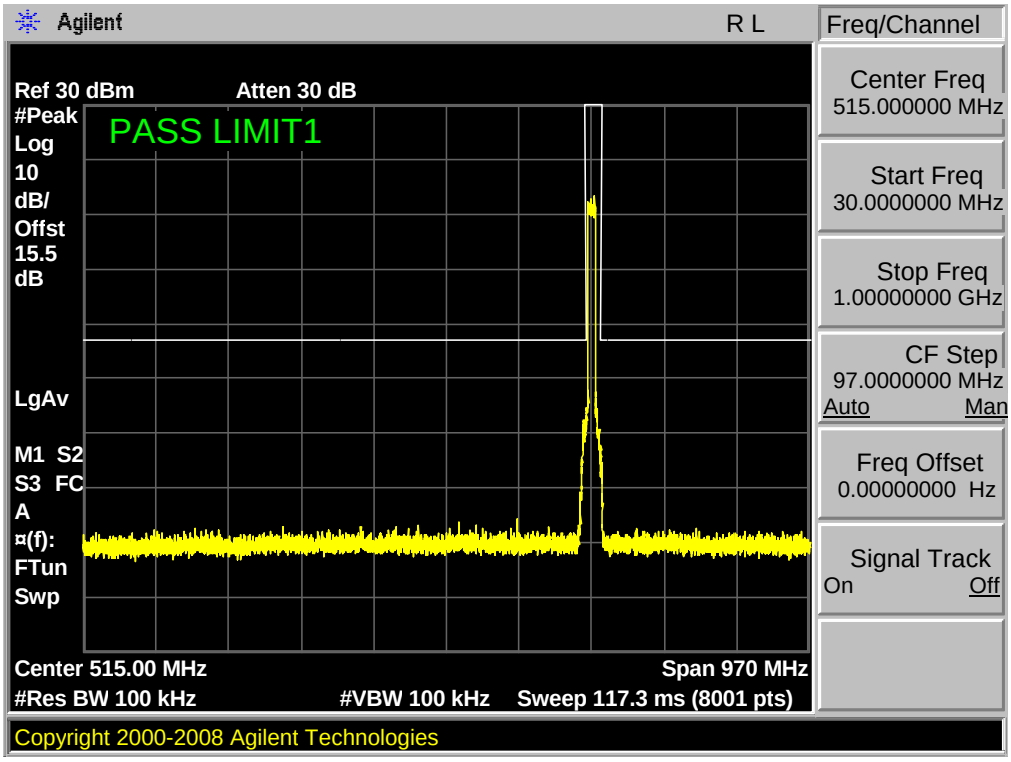
Band 17,UL Channel 23825,UL Frequency 713.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



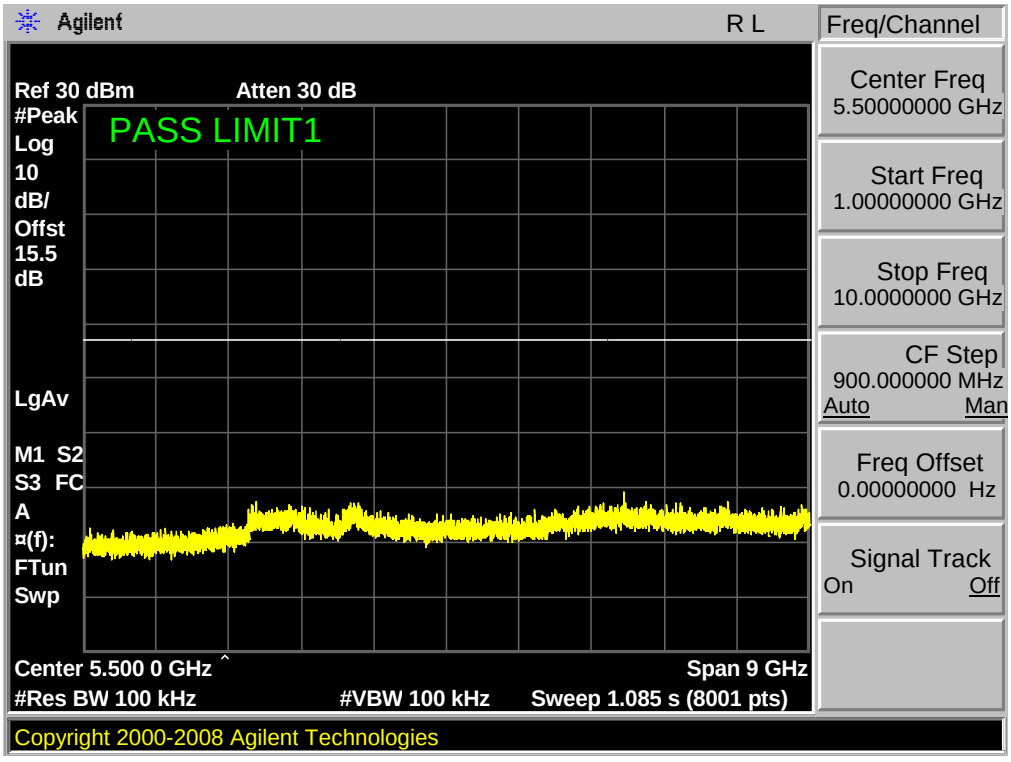
Band 17,UL Channel 23825,UL Frequency 713.5,BW 5.0,NO. RB 25,RB POS. Low,16QAM



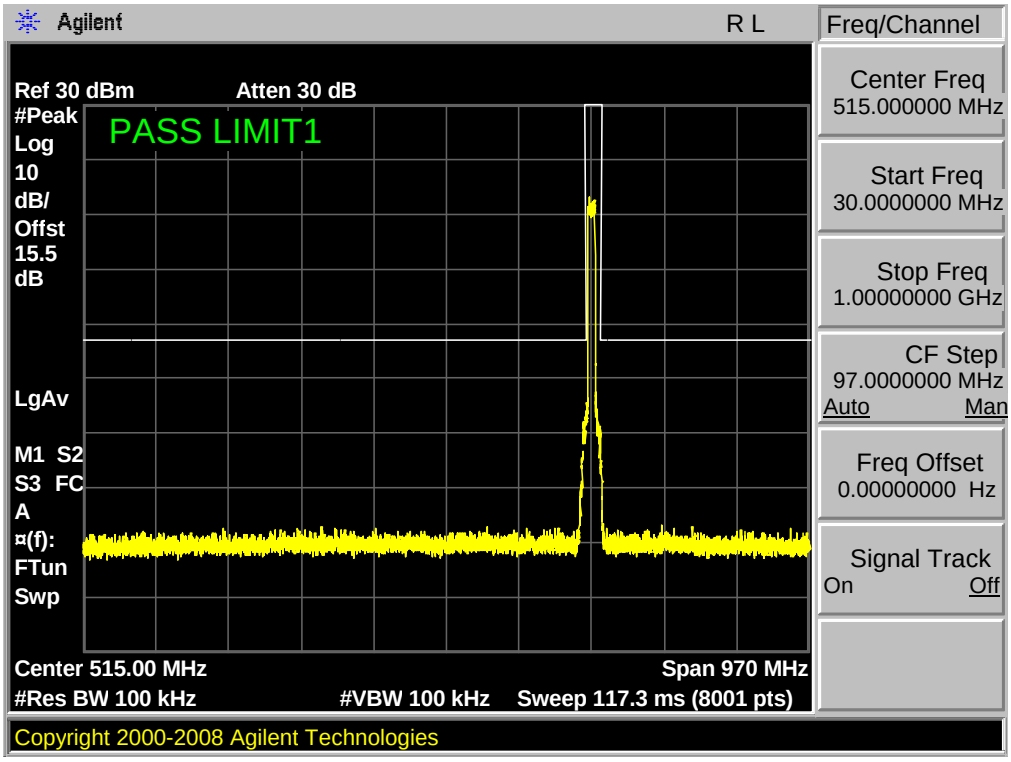
Band 17,UL Channel 23780,UL Frequency 709.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



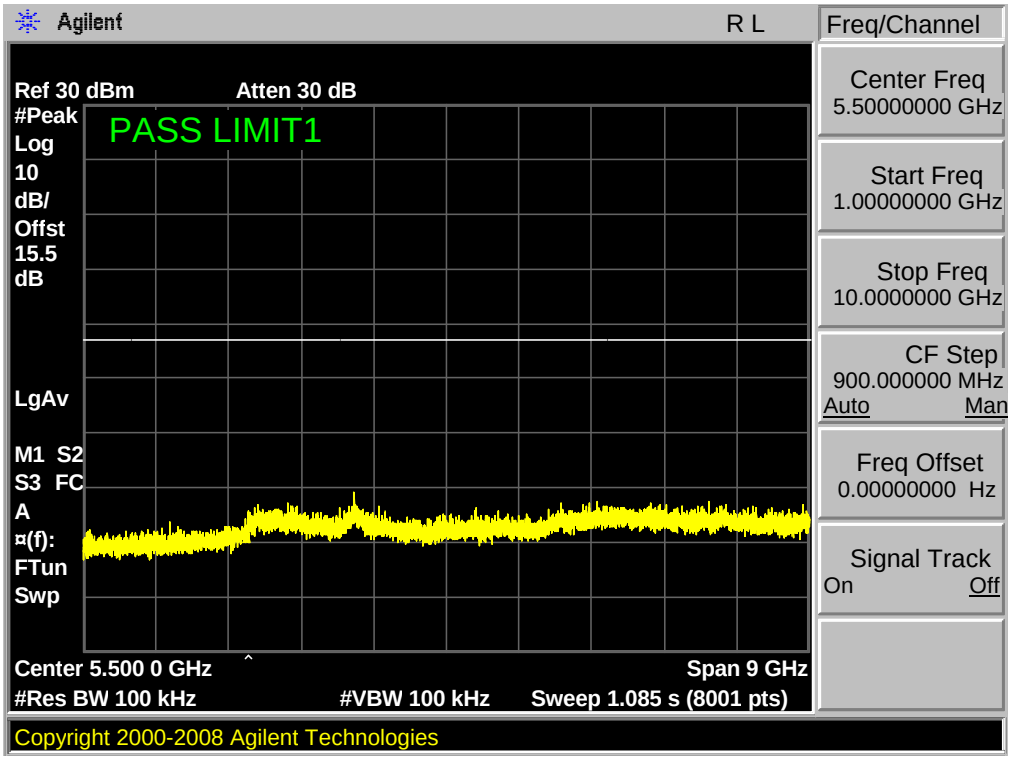
Band 17,UL Channel 23780,UL Frequency 709.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



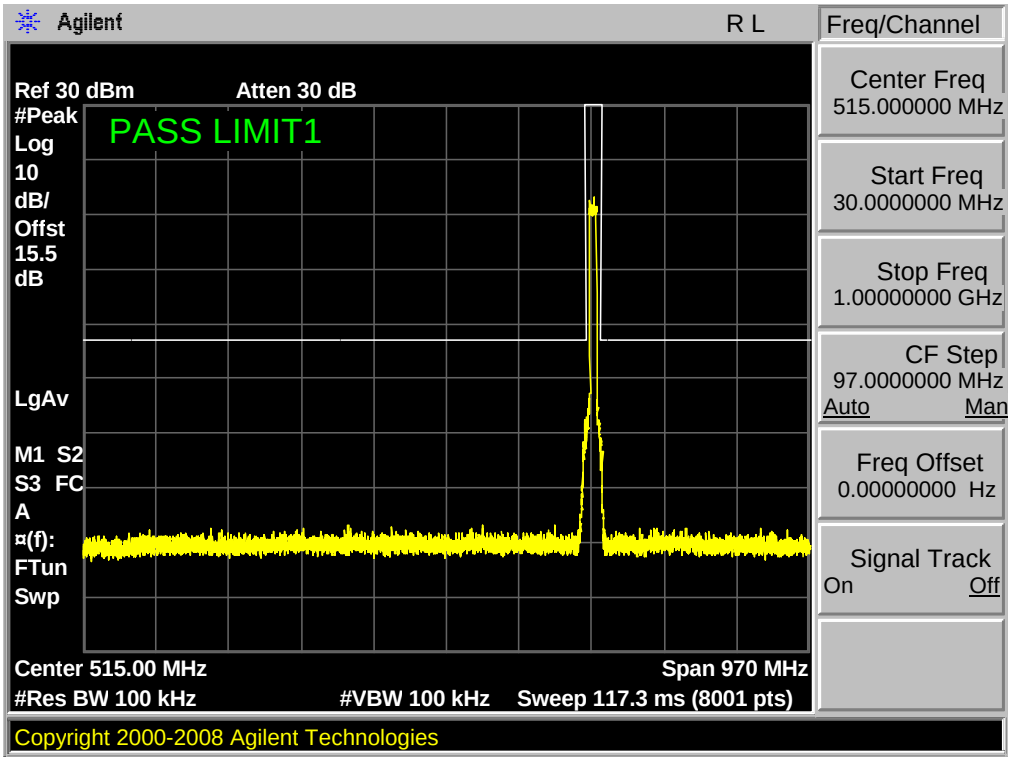
Band 17,UL Channel 23780,UL Frequency 709.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



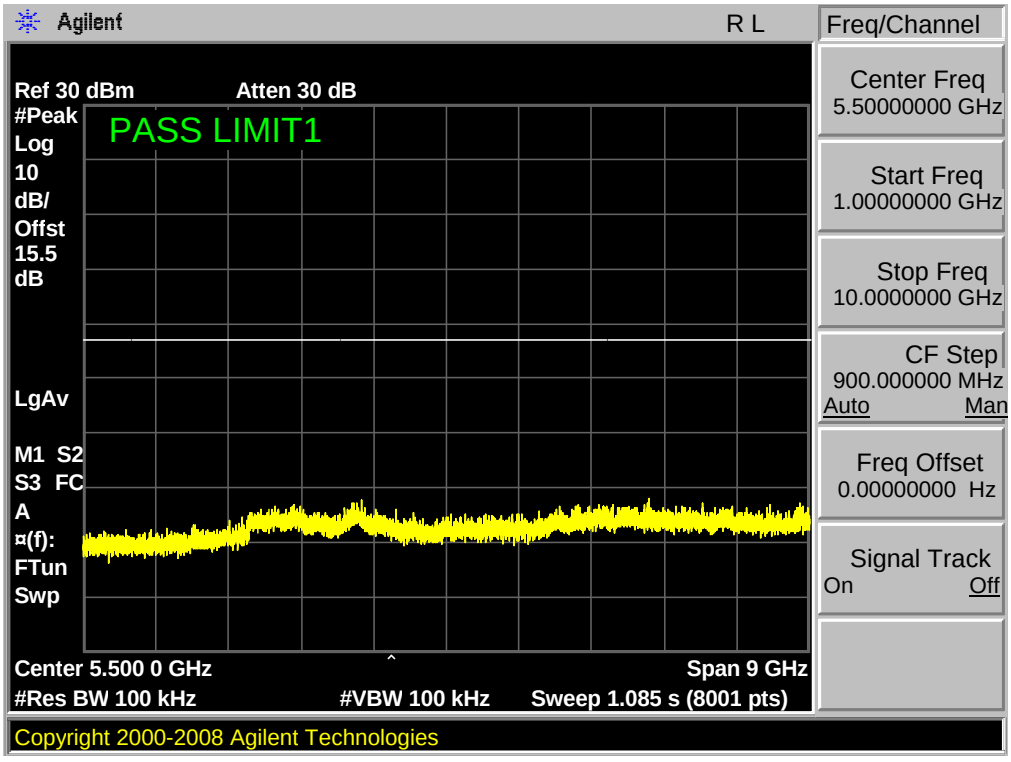
Band 17,UL Channel 23780,UL Frequency 709.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



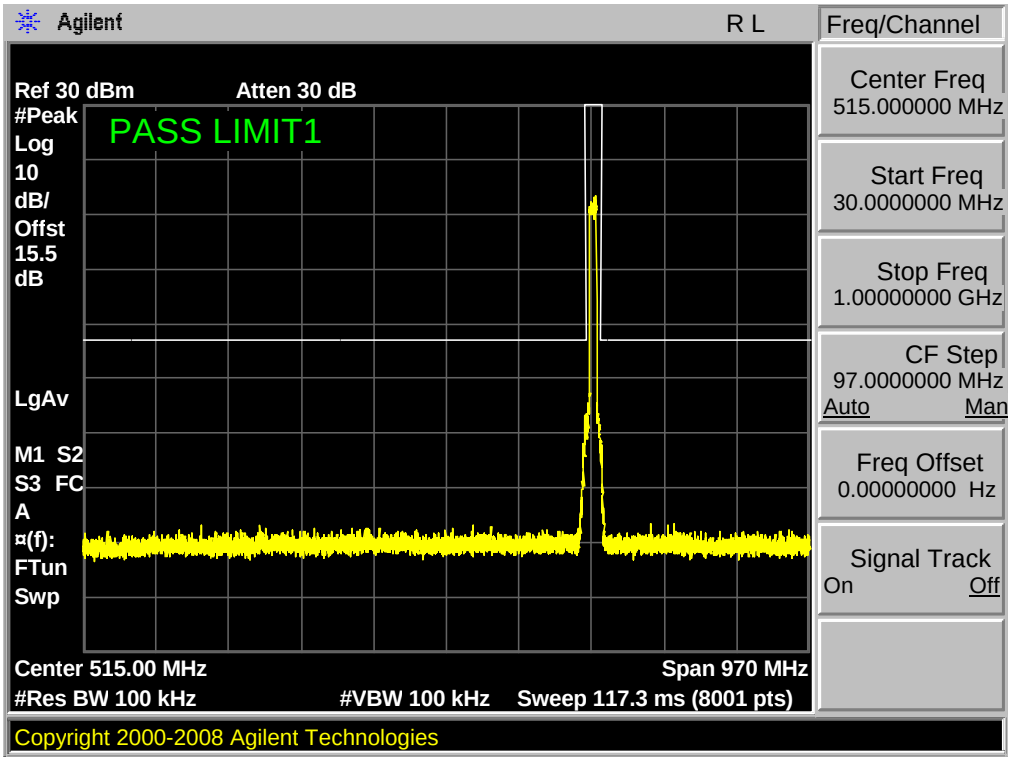
Band 17,UL Channel 23800,UL Frequency 711.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



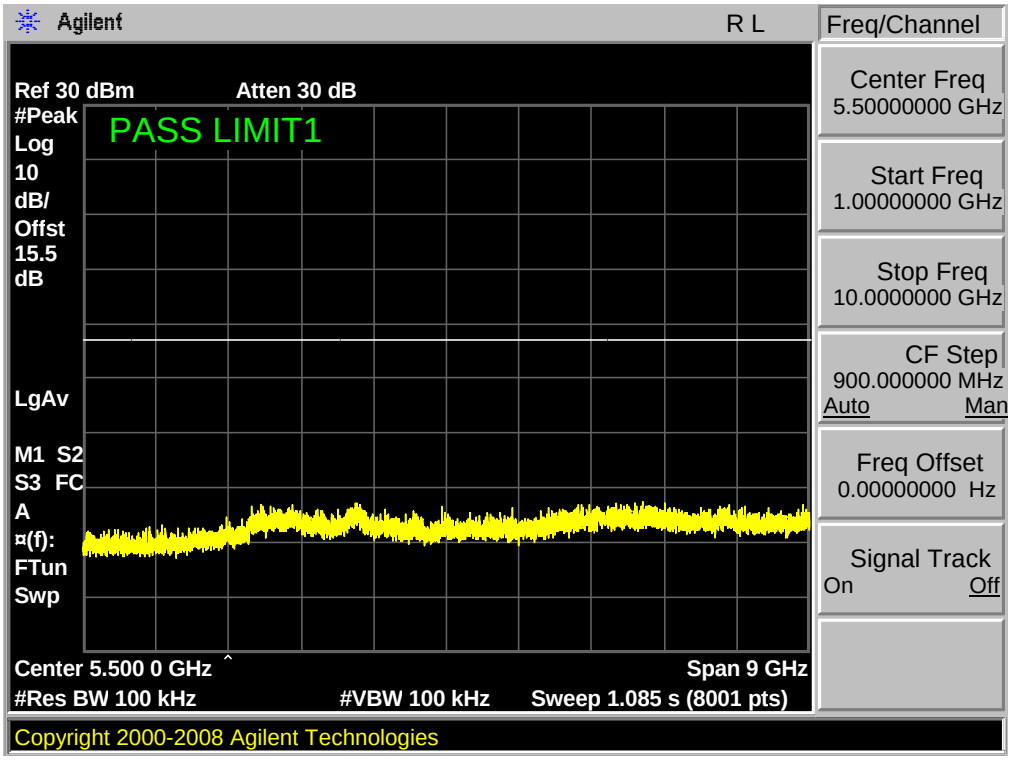
Band 17,UL Channel 23800,UL Frequency 711.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



Band 17,UL Channel 23800,UL Frequency 711.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



Band 17,UL Channel 23800,UL Frequency 711.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



9. Radiated Spurious Emission

9.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

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

LIMITS:

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.
27.50 (c) (10) the following power and antenna height requirements apply to stations transmitting in the 698–746 MHz band, the portable stations (hand-held devices) are limited to 3 watts ERP.
27.50 (b)(10) Portable stations (hand-held devices) transmitting in the 746–757 MHz, 758–763 MHz, 776–793 MHz, and 805–806 MHz bands are limited to 3 watts ERP.
27.50 (d)(4) The following power and antenna height requirements apply to stations transmitting in the 1710–1755 MHz and 2110–2155 MHz bands: Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.

TEST PROCEDURE

ANSI / TIA / EIA 603C Clause 2.2.17
KDB 971168 v02r01 RF power output using broadband peak and average power meter method.
KDB 971168 D01 Power Meas License Digital Systems v02r01, “Measurement Guidance for Certification of Licensed Digital Transmitters”

MODES TESTED

LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 17

RESULTS

9.1.2 LTE BAND 2

EIRP POWER FOR LTE BAND 2

Radiated Power (EIRP) for Band 2										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1850.7	-26.95	3.76	-48.5	-4.72	22.54	179.473	Horizont	Pass
		1880	-29.03	3.91	-50.5	-4.59	22.18	165.196	Horizont	Pass
		1909.3	-28.64	3.93	-50.5	-4.38	22.34	171.396	Horizont	Pass
1.4MHz Band 16 QAM	6/0	1850.7	-27.12	3.76	-48.5	-4.72	22.37	172.584	Horizont	Pass
		1880	-28.6	3.91	-50.5	-4.59	22.61	182.390	Horizont	Pass
		1909.3	-28.72	3.93	-50.5	-4.38	22.26	168.267	Horizont	Pass
3.0MHz Band QPSK	15/0	1851.5	-27.22	3.77	-48.5	-4.72	22.22	166.725	Horizont	Pass
		1880	-29.06	3.91	-50.5	-4.59	22.13	163.305	Horizont	Pass
		1908.5	-28.78	3.94	-50.5	-4.38	22.18	165.196	Horizont	Pass
3.0MHz Band 16 QAM	15/0	1851.5	-26.78	3.77	-48.5	-4.7	22.64	183.654	Horizont	Pass
		1880	-29.22	3.91	-50.5	-4.53	21.91	155.239	Horizont	Pass
		1908.5	-28.96	3.94	-50.5	-4.35	21.97	157.398	Horizont	Pass
5.0MHz Band QPSK	25/0	1851.5	-27.08	3.77	-48.5	-4.7	22.34	171.396	Horizont	Pass
		1880	-28.52	3.91	-50.5	-4.53	22.61	182.390	Horizont	Pass
		1908.5	-28.22	3.94	-50.5	-4.35	22.71	186.638	Horizont	Pass
5.0MHz Band 16 QAM	25/0	1851.5	-27.9	3.77	-48.5	-4.72	21.54	142.561	Horizont	Pass
		1880	-29.37	3.91	-50.5	-4.59	21.82	152.055	Horizont	Pass
		1908.5	-29.27	3.94	-50.5	-4.38	21.69	147.571	Horizont	Pass
10.0MHz Band QPSK	50/0	1855	-27.56	3.79	-48.5	-4.72	21.86	153.462	Horizont	Pass
		1880	-29.16	3.95	-50.5	-4.59	21.99	158.125	Horizont	Pass
		1905	-28.92	3.97	-50.5	-4.38	22.01	158.855	Horizont	Pass
10.0MHz Band 16 QAM	50/0	1855	-27.09	3.79	-48.5	-4.72	22.33	171.002	Horizont	Pass
		1880	-28.81	3.95	-50.5	-4.59	22.34	171.396	Horizont	Pass
		1905	-28.57	3.97	-50.5	-4.38	22.36	172.187	Horizont	Pass
15.0MHz Band QPSK	75/0	1857.5	-26.86	3.79	-48.5	-4.72	22.56	180.302	Horizont	Pass
		1880	-28.64	3.95	-50.5	-4.59	22.51	178.238	Horizont	Pass
		1902.5	-28.95	3.97	-50.5	-4.38	21.98	157.761	Horizont	Pass
15.0MHz Band 16 QAM	75/0	1857.5	-27.61	3.79	-48.5	-4.72	21.81	151.705	Horizont	Pass
		1880	-29.02	3.95	-50.5	-4.59	22.13	163.305	Horizont	Pass
		1902.5	-28.78	3.97	-50.5	-4.38	22.15	164.059	Horizont	Pass
20.0MHz Band QPSK	100/0	1860	-27.12	3.81	-48.4	-4.68	22.17	164.816	Horizont	Pass
		1880	-28.63	3.96	-50.5	-4.55	22.43	174.985	Horizont	Pass
		1900	-28.74	4	-50.5	-4.33	22.05	160.325	Horizont	Pass
20.0MHz Band 16 QAM	100/0	1860	-27.22	3.81	-48.4	-4.68	22.07	161.065	Horizont	Pass
		1880	-29.1	3.96	-50.5	-4.55	21.96	157.036	Horizont	Pass
		1900	-28.42	4	-50.5	-4.33	22.37	172.584	Horizont	Pass

Radiated Power (EIRP) for Band 2										
Mode	RB/ RB SIZE	Frequency	Result							Conclusion
			PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1850.7	-27.24	3.8	-48.53	-4.72	22.25	167.880	Vertical	Pass
		1880	-29.32	3.9	-50.53	-4.59	21.89	154.525	Vertical	Pass
		1909.3	-28.93	3.9	-50.53	-4.38	22.05	160.325	Vertical	Pass
1.4MHz Band 16 QAM	6/0	1850.7	-27.41	3.8	-48.53	-4.72	22.08	161.436	Vertical	Pass
		1880	-28.89	3.9	-50.53	-4.59	22.32	170.608	Vertical	Pass
		1909.3	-29.01	3.9	-50.53	-4.38	21.97	157.398	Vertical	Pass
3.0MHz Band QPSK	15/0	1851.5	-27.51	3.8	-48.49	-4.72	21.93	155.955	Vertical	Pass
		1880	-29.35	3.9	-50.51	-4.59	21.84	152.757	Vertical	Pass
		1908.5	-29.07	3.9	-50.52	-4.38	21.89	154.525	Vertical	Pass
3.0MHz Band 16 QAM	15/0	1851.5	-27.07	3.8	-48.49	-4.7	22.35	171.791	Vertical	Pass
		1880	-29.51	3.9	-50.51	-4.53	21.62	145.211	Vertical	Pass
		1908.5	-29.25	3.9	-50.52	-4.35	21.68	147.231	Vertical	Pass
5.0MHz Band QPSK	25/0	1851.5	-27.37	3.8	-48.49	-4.7	22.05	160.325	Vertical	Pass
		1880	-28.81	3.9	-50.51	-4.53	22.32	170.608	Vertical	Pass
		1908.5	-28.51	3.9	-50.52	-4.35	22.42	174.582	Vertical	Pass
5.0MHz Band 16 QAM	25/0	1851.5	-28.19	3.8	-48.49	-4.72	21.25	133.352	Vertical	Pass
		1880	-29.66	3.9	-50.51	-4.59	21.53	142.233	Vertical	Pass
		1908.5	-29.56	3.9	-50.52	-4.38	21.4	138.038	Vertical	Pass
10.0MHz Band QPSK	50/0	1855	-27.85	3.8	-48.49	-4.72	21.57	143.549	Vertical	Pass
		1880	-29.45	4	-50.51	-4.59	21.7	147.911	Vertical	Pass
		1905	-29.21	4	-50.52	-4.38	21.72	148.594	Vertical	Pass
10.0MHz Band 16 QAM	50/0	1855	-27.38	3.8	-48.49	-4.72	22.04	159.956	Vertical	Pass
		1880	-29.1	4	-50.51	-4.59	22.05	160.325	Vertical	Pass
		1905	-28.86	4	-50.52	-4.38	22.07	161.065	Vertical	Pass
15.0MHz Band QPSK	75/0	1857.5	-27.15	3.8	-48.49	-4.72	22.27	168.655	Vertical	Pass
		1880	-28.93	4	-50.51	-4.59	22.22	166.725	Vertical	Pass
		1902.5	-29.24	4	-50.52	-4.38	21.69	147.571	Vertical	Pass
15.0MHz Band 16 QAM	75/0	1857.5	-27.9	3.8	-48.49	-4.72	21.52	141.906	Vertical	Pass
		1880	-29.31	4	-50.51	-4.59	21.84	152.757	Vertical	Pass
		1902.5	-29.07	4	-50.52	-4.38	21.86	153.462	Vertical	Pass
20.0MHz Band QPSK	100/0	1860	-27.41	3.8	-48.42	-4.68	21.88	154.170	Vertical	Pass
		1880	-28.92	4	-50.47	-4.55	22.14	163.682	Vertical	Pass
		1900	-29.03	4	-50.46	-4.33	21.76	149.968	Vertical	Pass
20.0MHz Band 16 QAM	100/0	1860	-27.51	3.8	-48.42	-4.68	21.78	150.661	Vertical	Pass
		1880	-29.39	4	-50.47	-4.55	21.67	146.893	Vertical	Pass
		1900	-28.71	4	-50.46	-4.33	22.08	161.436	Vertical	Pass

9.1.3 LTE BAND 4

EIRP POWER FOR LTE BAND 4

Radiated Power (EIRP) for Band 4										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	Max. EIRP Average (dBm	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1710.7	-28.7	3.12	-49.2	-5.36	22.69	185.780	Horizonta	Pass
		1732.5	-30.1	3.27	-51.2	-5.23	23.01	199.986	Horizonta	Pass
		1754.3	-30.7	3.29	-51.2	-5.02	22.24	167.494	Horizonta	Pass
1.4MHz Band 16 QAM	6/0	1710.7	-29.1	3.12	-49.2	-5.36	22.28	169.044	Horizonta	Pass
		1732.5	-30.6	3.27	-51.2	-5.23	22.52	178.649	Horizonta	Pass
		1754.3	-30.3	3.29	-51.2	-5.02	22.64	183.654	Horizonta	Pass
3.0MHz Band QPSK	15/0	1711.5	-29.2	3.13	-49.1	-5.36	22.18	165.196	Horizonta	Pass
		1732.5	-30.4	3.27	-51.2	-5.23	22.74	187.932	Horizonta	Pass
		1753.5	-30.7	3.3	-51.2	-5.02	22.18	165.196	Horizonta	Pass
3.0MHz Band 16 QAM	15/0	1711.5	-29.2	3.13	-49.1	-5.34	22.17	164.816	Horizonta	Pass
		1732.5	-30.6	3.27	-51.2	-5.17	22.46	176.198	Horizonta	Pass
		1753.5	-30.2	3.3	-51.2	-4.99	22.68	185.353	Horizonta	Pass
5.0MHz Band QPSK	25/0	1712.5	-28.5	3.13	-49.1	-5.34	22.83	191.867	Horizonta	Pass
		1732.5	-30.1	3.27	-51.2	-5.17	22.96	197.697	Horizonta	Pass
		1752.5	-29.8	3.3	-51.2	-4.99	23.02	200.447	Horizonta	Pass
5.0MHz Band 16 QAM	25/0	1712.5	-29	3.13	-49.1	-5.36	22.35	171.791	Horizonta	Pass
		1732.5	-30.6	3.27	-51.2	-5.23	22.51	178.238	Horizonta	Pass
		1752.5	-30.2	3.3	-51.2	-5.02	22.65	184.077	Horizonta	Pass
10.0MHz Band QPSK	50/0	1715	-28.7	3.15	-49.1	-5.36	22.69	185.780	Horizonta	Pass
		1732.5	-30.1	3.31	-51.2	-5.23	22.96	197.697	Horizonta	Pass
		1750	-30	3.33	-51.2	-5.02	22.85	192.752	Horizonta	Pass
10.0MHz Band 16 QAM	50/0	1715	-28.7	3.15	-49.1	-5.36	22.64	183.654	Horizonta	Pass
		1732.5	-30.3	3.31	-51.2	-5.23	22.77	189.234	Horizonta	Pass
		1750	-30.3	3.33	-51.2	-5.02	22.57	180.717	Horizonta	Pass
15.0MHz Band QPSK	75/0	1717.5	-28.7	3.15	-49.1	-5.36	22.64	183.654	Horizonta	Pass
		1732.5	-30.6	3.31	-51.2	-5.23	22.51	178.238	Horizonta	Pass
		1747.5	-30.3	3.33	-51.2	-5.02	22.59	181.552	Horizonta	Pass
15.0MHz Band 16 QAM	75/0	1717.5	-29	3.15	-49.1	-5.36	22.36	172.187	Horizonta	Pass
		1732.5	-30.4	3.31	-51.2	-5.23	22.69	185.780	Horizonta	Pass
		1747.5	-30	3.33	-51.2	-5.02	22.85	192.752	Horizonta	Pass
20.0MHz Band QPSK	100/0	1720	-29	3.17	-49.1	-5.32	22.18	165.196	Horizonta	Pass
		1732.5	-30.8	3.32	-51.1	-5.19	22.22	166.725	Horizonta	Pass
		1745	-30.4	3.36	-51.1	-4.97	22.35	171.791	Horizonta	Pass
20.0MHz Band 16 QAM	100/0	1720	-28.7	3.17	-49.1	-5.32	22.56	180.302	Horizonta	Pass
		1732.5	-30.6	3.32	-51.1	-5.19	22.41	174.181	Horizonta	Pass
		1745	-30.5	3.36	-51.1	-4.97	22.18	165.196	Horizonta	Pass

Radiated Power (EIRP) for Band 4										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	6/0	1710.7	-28.89	3.12	-49.17	-5.36	22.52	178.649	Vertical	Pass
		1732.5	-30.29	3.27	-51.17	-5.23	22.84	192.309	Vertical	Pass
		1754.3	-30.83	3.29	-51.17	-5.02	22.07	161.065	Vertical	Pass
1.4MHz Band 16 QAM	6/0	1710.7	-29.3	3.12	-49.17	-5.36	22.11	162.555	Vertical	Pass
		1732.5	-30.78	3.27	-51.17	-5.23	22.35	171.791	Vertical	Pass
		1754.3	-30.43	3.29	-51.17	-5.02	22.47	176.604	Vertical	Pass
3.0MHz Band QPSK	15/0	1711.5	-29.35	3.13	-49.13	-5.36	22.01	158.855	Vertical	Pass
		1732.5	-30.54	3.27	-51.15	-5.23	22.57	180.717	Vertical	Pass
		1753.5	-30.87	3.3	-51.16	-5.02	22.01	158.855	Vertical	Pass
3.0MHz Band 16 QAM	15/0	1711.5	-29.34	3.13	-49.13	-5.34	22	158.489	Vertical	Pass
		1732.5	-30.76	3.27	-51.15	-5.17	22.29	169.434	Vertical	Pass
		1753.5	-30.34	3.3	-51.16	-4.99	22.51	178.238	Vertical	Pass
5.0MHz Band QPSK	25/0	1712.5	-28.68	3.13	-49.13	-5.34	22.66	184.502	Vertical	Pass
		1732.5	-30.26	3.27	-51.15	-5.17	22.79	190.108	Vertical	Pass
		1752.5	-30	3.3	-51.16	-4.99	22.85	192.752	Vertical	Pass
5.0MHz Band 16 QAM	25/0	1712.5	-29.18	3.13	-49.13	-5.36	22.18	165.196	Vertical	Pass
		1732.5	-30.77	3.27	-51.15	-5.23	22.34	171.396	Vertical	Pass
		1752.5	-30.4	3.3	-51.16	-5.02	22.48	177.011	Vertical	Pass
10.0MHz Band QPSK	50/0	1715	-28.82	3.15	-49.13	-5.36	22.52	178.649	Vertical	Pass
		1732.5	-30.28	3.31	-51.15	-5.23	22.79	190.108	Vertical	Pass
		1750	-30.17	3.33	-51.16	-5.02	22.68	185.353	Vertical	Pass
10.0MHz Band 16 QAM	50/0	1715	-28.87	3.15	-49.13	-5.36	22.47	176.604	Vertical	Pass
		1732.5	-30.47	3.31	-51.15	-5.23	22.6	181.970	Vertical	Pass
		1750	-30.45	3.33	-51.16	-5.02	22.4	173.780	Vertical	Pass
15.0MHz Band QPSK	75/0	1717.5	-28.87	3.15	-49.13	-5.36	22.47	176.604	Vertical	Pass
		1732.5	-30.73	3.31	-51.15	-5.23	22.34	171.396	Vertical	Pass
		1747.5	-30.43	3.33	-51.16	-5.02	22.42	174.582	Vertical	Pass
15.0MHz Band 16 QAM	75/0	1717.5	-29.15	3.15	-49.13	-5.36	22.19	165.577	Vertical	Pass
		1732.5	-30.55	3.31	-51.15	-5.23	22.52	178.649	Vertical	Pass
		1747.5	-30.17	3.33	-51.16	-5.02	22.68	185.353	Vertical	Pass
20.0MHz Band QPSK	100/0	1720	-29.2	3.17	-49.06	-5.32	22.01	158.855	Vertical	Pass
		1732.5	-30.93	3.32	-51.11	-5.19	22.05	160.325	Vertical	Pass
		1745	-30.53	3.36	-51.1	-4.97	22.18	165.196	Vertical	Pass
20.0MHz Band 16 QAM	100/0	1720	-28.82	3.17	-49.06	-5.32	22.39	173.380	Vertical	Pass
		1732.5	-30.74	3.32	-51.11	-5.19	22.24	167.494	Vertical	Pass
		1745	-30.7	3.36	-51.1	-4.97	22.01	158.855	Vertical	Pass

9.1.3 LTE BAND 5

EIRP POWER FOR LTE BAND 5

Radiated Power (ERP) for Band 5												
Mode	RB/ RB SIZE	Frequency	Result									
			PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna (dB)	Correction (dB)	ERP (dBm)	ERP (W)	Polarization Of Max. ERP	Conclusion
1.4MHz Band QPSK	6/0	824.7	-27.48	2.01	-52.88	0.91	2.15	20.33	107.895	Horizonta	Pass
		836.5	-27.67	2.01	-52.88	0.91	2.15	20.14	103.276	Horizonta	Pass
		848.3	-27.24	2.02	-52.88	0.91	2.15	20.56	113.763	Horizonta	Pass
1.4MHz Band 16 QAM	6/0	824.7	-27.22	2.01	-52.88	0.91	2.15	20.59	114.551	Horizonta	Pass
		836.5	-26.76	2.01	-52.88	0.91	2.15	21.05	127.350	Horizonta	Pass
		848.3	-26.73	2.02	-52.88	0.91	2.15	21.07	127.938	Horizonta	Pass
3.0MHz Band QPSK	15/0	825.5	-26.54	2.01	-52.88	0.85	2.15	21.33	135.831	Horizonta	Pass
		836.5	-27.33	2.01	-52.88	0.91	2.15	20.48	111.686	Horizonta	Pass
		847.5	-27.65	2.02	-52.88	0.95	2.15	20.11	102.565	Horizonta	Pass
3.0MHz Band 16 QAM	15/0	825.5	-27.62	2.01	-52.88	0.85	2.15	20.25	105.925	Horizonta	Pass
		836.5	-26.98	2.01	-52.88	0.91	2.15	20.83	121.060	Horizonta	Pass
		847.5	-27.37	2.02	-52.88	0.95	2.15	20.39	109.396	Horizonta	Pass
5.0MHz Band QPSK	25/0	826.5	-27.01	2.01	-52.68	0.87	2.15	20.64	115.878	Horizonta	Pass
		836.5	-27.46	2.01	-52.68	0.87	2.15	20.19	104.472	Horizonta	Pass
		846.5	-27.28	2.02	-52.68	0.87	2.15	20.36	108.643	Horizonta	Pass
5.0MHz Band 16 QAM	25/0	826.5	-27.22	2.01	-52.68	0.87	2.15	20.43	110.408	Horizonta	Pass
		836.5	-27.24	2.01	-52.68	0.87	2.15	20.41	109.901	Horizonta	Pass
		846.5	-27.28	2.02	-52.68	0.87	2.15	20.36	108.643	Horizonta	Pass
10.0MHz Band QPSK	50/0	829	-27.07	2.01	-52.76	0.88	2.15	20.65	116.145	Horizonta	Pass
		836.5	-25.70	2.01	-51.76	0.94	2.15	20.96	124.738	Horizonta	Pass
		844	-24.59	2.02	-50.76	0.98	2.15	21.02	126.474	Horizonta	Pass
10.0MHz Band 16 QAM	50/0	829	-23.87	2.01	-49.76	0.88	2.15	20.85	121.619	Horizonta	Pass
		836.5	-27.43	2.01	-52.88	0.91	2.15	20.38	109.144	Horizonta	Pass
		844	-21.22	2.02	-47.76	0.98	2.15	21.39	137.721	Horizonta	Pass

Radiated Power (ERP) for Band 5												
Mode	RB/RB SIZE	Frequency	Result									Conclusion
			PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	Correction (dB)	ERP (dBm)	ERP (W)	Polarization Of Max. ERP		
1.4MHz Band QPSK	6/0	824.7	-27.95	2.01	-52.88	0.91	2.15	19.86	96.828	Vertical		Pass
		836.5	-28.14	2.01	-52.88	0.91	2.15	19.67	92.683	Vertical		Pass
		848.3	-27.71	2.02	-52.88	0.91	2.15	20.09	102.094	Vertical		Pass
1.4MHz Band 16 QAM	6/0	824.7	-27.69	2.01	-52.88	0.91	2.15	20.12	102.802	Vertical		Pass
		836.5	-27.23	2.01	-52.88	0.91	2.15	20.58	114.288	Vertical		Pass
		848.3	-27.20	2.02	-52.88	0.91	2.15	20.6	114.815	Vertical		Pass
3.0MHz Band QPSK	15/0	825.5	-27.01	2.01	-52.88	0.85	2.15	20.86	121.899	Vertical		Pass
		836.5	-27.80	2.01	-52.88	0.91	2.15	20.01	100.231	Vertical		Pass
		847.5	-28.12	2.02	-52.88	0.95	2.15	19.64	92.045	Vertical		Pass
3.0MHz Band 16 QAM	15/0	825.5	-28.09	2.01	-52.88	0.85	2.15	19.78	95.060	Vertical		Pass
		836.5	-27.45	2.01	-52.88	0.91	2.15	20.36	108.643	Vertical		Pass
		847.5	-27.84	2.02	-52.88	0.95	2.15	19.92	98.175	Vertical		Pass
5.0MHz Band QPSK	25/0	826.5	-27.48	2.01	-52.68	0.87	2.15	20.17	103.992	Vertical		Pass
		836.5	-27.93	2.01	-52.68	0.87	2.15	19.72	93.756	Vertical		Pass
		846.5	-27.75	2.02	-52.68	0.87	2.15	19.89	97.499	Vertical		Pass
5.0MHz Band 16 QAM	25/0	826.5	-27.69	2.01	-52.68	0.87	2.15	19.96	99.083	Vertical		Pass
		836.5	-27.71	2.01	-52.68	0.87	2.15	19.94	98.628	Vertical		Pass
		846.5	-27.75	2.02	-52.68	0.87	2.15	19.89	97.499	Vertical		Pass
10.0MHz Band QPSK	50/0	829	-27.54	2.01	-52.76	0.88	2.15	20.18	104.232	Vertical		Pass
		836.5	-26.17	2.01	-51.76	0.94	2.15	20.49	111.944	Vertical		Pass
		844	-25.06	2.02	-50.76	0.98	2.15	20.55	113.501	Vertical		Pass
10.0MHz Band 16 QAM	50/0	829	-24.34	2.01	-49.76	0.88	2.15	20.38	109.144	Vertical		Pass
		836.5	-27.90	2.01	-52.88	0.91	2.15	19.91	97.949	Vertical		Pass
		844	-21.69	2.02	-47.76	0.98	2.15	20.92	123.595	Vertical		Pass

9.1.4 LTE BAND 7

EIRP POWER FOR LTE BAND 7

Radiated Power (EIRP) for Band 7										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	25/0	2502.5	-25.54	4.54	-47.75	-3.94	21.61	144.877	Horizonta	Pass
		2535	-26.84	4.69	-49.75	-3.81	22.03	159.588	Horizonta	Pass
		2567.5	-26.45	4.71	-49.75	-3.6	22.19	165.577	Horizonta	Pass
5.0MHz Band 16 QAM	25/0	2502.5	-26.2	4.54	-47.75	-3.94	20.95	124.451	Horizonta	Pass
		2535	-26.9	4.69	-49.75	-3.81	21.97	157.398	Horizonta	Pass
		2567.5	-26.21	4.71	-49.75	-3.6	22.43	174.985	Horizonta	Pass
10.0MHz Band QPSK	50/0	2505	-24.59	4.55	-47.71	-3.94	22.51	178.238	Horizonta	Pass
		2535	-26.39	4.69	-49.73	-3.81	22.46	176.198	Horizonta	Pass
		2565	-25.91	4.72	-49.74	-3.6	22.71	186.638	Horizonta	Pass
10.0MHz Band 16 QAM	50/0	2505	-24.2	4.55	-47.71	-3.92	22.88	194.089	Horizonta	Pass
		2535	-26.14	4.69	-49.73	-3.75	22.65	184.077	Horizonta	Pass
		2565	-27.54	4.72	-49.74	-3.57	21.05	127.350	Horizonta	Pass
15.0MHz Band QPSK	75/0	2507.5	-25.54	4.55	-47.71	-3.92	21.54	142.561	Horizonta	Pass
		2535	-27.11	4.69	-49.73	-3.75	21.68	147.231	Horizonta	Pass
		2562.5	-27.22	4.72	-49.74	-3.57	21.37	137.088	Horizonta	Pass
15.0MHz Band 16 QAM	75/0	2507.5	-25.34	4.55	-47.71	-3.94	21.76	149.968	Horizonta	Pass
		2535	-26.79	4.69	-49.73	-3.81	22.06	160.694	Horizonta	Pass
		2562.5	-26.09	4.72	-49.74	-3.6	22.53	179.061	Horizonta	Pass
20.0MHz Band QPSK	100/0	2510	-24.89	4.57	-47.71	-3.94	22.19	165.577	Horizonta	Pass
		2535	-26.83	4.73	-49.73	-3.81	21.98	157.761	Horizonta	Pass
		2560	-27.21	4.75	-49.74	-3.6	21.38	137.404	Horizonta	Pass
20.0MHz Band 16 QAM	100/0	2510	-25.22	4.57	-47.71	-3.94	21.86	153.462	Horizonta	Pass
		2535	-27.27	4.73	-49.73	-3.81	21.54	142.561	Horizonta	Pass
		2560	-27.03	4.75	-49.74	-3.6	21.56	143.219	Horizonta	Pass

Radiated Power (EIRP) for Band 7										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	25/0	2502.5	-25.9	4.54	-47.8	-3.94	21.3	134.896	Vertical	Pass
		2535	-27.2	4.69	-49.8	-3.81	21.72	148.594	Vertical	Pass
		2567.5	-26.8	4.71	-49.8	-3.6	21.88	154.170	Vertical	Pass
5.0MHz Band 16 QAM	25/0	2502.5	-26.5	4.54	-47.8	-3.94	20.64	115.878	Vertical	Pass
		2535	-27.2	4.69	-49.8	-3.81	21.66	146.555	Vertical	Pass
		2567.5	-26.5	4.71	-49.8	-3.6	22.12	162.930	Vertical	Pass
10.0MHz Band QPSK	50/0	2505	-24.9	4.55	-47.7	-3.94	22.2	165.959	Vertical	Pass
		2535	-26.7	4.69	-49.7	-3.81	22.15	164.059	Vertical	Pass
		2565	-26.2	4.72	-49.7	-3.6	22.4	173.780	Vertical	Pass
10.0MHz Band 16 QAM	50/0	2505	-24.5	4.55	-47.7	-3.92	22.57	180.717	Vertical	Pass
		2535	-26.5	4.69	-49.7	-3.75	22.34	171.396	Vertical	Pass
		2565	-27.9	4.72	-49.7	-3.57	20.74	118.577	Vertical	Pass
15.0MHz Band QPSK	75/0	2507.5	-25.9	4.55	-47.7	-3.92	21.23	132.739	Vertical	Pass
		2535	-27.4	4.69	-49.7	-3.75	21.37	137.088	Vertical	Pass
		2562.5	-27.5	4.72	-49.7	-3.57	21.06	127.644	Vertical	Pass
15.0MHz Band 16 QAM	75/0	2507.5	-25.7	4.55	-47.7	-3.94	21.45	139.637	Vertical	Pass
		2535	-27.1	4.69	-49.7	-3.81	21.75	149.624	Vertical	Pass
		2562.5	-26.4	4.72	-49.7	-3.6	22.22	166.725	Vertical	Pass
20.0MHz Band QPSK	100/0	2510	-25.2	4.57	-47.7	-3.94	21.88	154.170	Vertical	Pass
		2535	-27.1	4.73	-49.7	-3.81	21.67	146.893	Vertical	Pass
		2560	-27.5	4.75	-49.7	-3.6	21.07	127.938	Vertical	Pass
20.0MHz Band 16 QAM	100/0	2510	-25.5	4.57	-47.7	-3.94	21.55	142.889	Vertical	Pass
		2535	-27.6	4.73	-49.7	-3.81	21.23	132.739	Vertical	Pass
		2560	-27.3	4.75	-49.7	-3.6	21.25	133.352	Vertical	Pass

9.1.5 LTE BAND 17

EIRP POWER FOR LTE BAND 17

Radiated Power (ERP) for Band 17											
Mode	RB/RB SIZE	Frequency	Result								Conclusion
			PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	Correctio (dB)	ERP (dBm)	ERP (W)	Polarization Of Max. ERP	
5.0MHz Band QPSK	25/0	706.5	-28.06	1.44	-53	0.7	2.15	21.05	127.350	Horizonta	Pass
		710	-28.07	1.46	-53	0.76	2.15	20.96	124.738	Horizonta	Pass
		713.5	-28.64	1.46	-53	0.8	2.15	20.35	108.393	Horizonta	Pass
5.0MHz Band 16 QAM	25/0	706.5	-28.47	1.44	-53	0.7	2.15	20.64	115.878	Horizonta	Pass
		710	-28.36	1.46	-53	0.76	2.15	20.67	116.681	Horizonta	Pass
		713.5	-28.51	1.46	-53	0.8	2.15	20.48	111.686	Horizonta	Pass
10.0MHz Band QPSK	50/0	709	-27.86	1.46	-53	0.72	2.15	21.01	126.183	Horizonta	Pass
		710	-27.82	1.46	-53	0.72	2.15	21.05	127.350	Horizonta	Pass
		711	-27.74	1.46	-53	0.72	2.15	21.13	129.718	Horizonta	Pass
10.0MHz Band 16 QAM	50/0	709	-28.21	1.46	-53	0.72	2.15	20.66	116.413	Horizonta	Pass
		710	-28.18	1.46	-53	0.72	2.15	20.69	117.220	Horizonta	Pass
		711	-28.02	1.46	-53	0.72	2.15	20.85	121.619	Horizonta	Pass

Radiated Power (ERP) for Band 17											
Mode	RB/RB SIZE	Frequency	Result								Conclusion
			PMea (dBm)	Pcl (dB)	PAg (dB)	Ga Antenna Gain (dB)	Correction (dB)	ERP (dBm)	ERP (W)	Polarization Of Max. ERP	
5.0MHz Band QPSK	25/0	706.5	-28.51	1.44	-53.4	0.7	2.15	20.6	114.815	Vertical	Pass
		710	-28.52	1.46	-53.4	0.76	2.15	20.51	112.460	Vertical	Pass
		713.5	-29.09	1.46	-53.4	0.8	2.15	19.9	97.724	Vertical	Pass
5.0MHz Band 16 QAM	25/0	706.5	-28.92	1.44	-53.4	0.7	2.15	20.19	104.472	Vertical	Pass
		710	-28.81	1.46	-53.4	0.76	2.15	20.22	105.196	Vertical	Pass
		713.5	-28.96	1.46	-53.4	0.8	2.15	20.03	100.693	Vertical	Pass
10.0MHz Band QPSK	50/0	709	-28.31	1.46	-53.2	0.72	2.15	20.56	113.763	Vertical	Pass
		710	-28.27	1.46	-53.2	0.72	2.15	20.6	114.815	Vertical	Pass
		711	-28.19	1.46	-53.2	0.72	2.15	20.68	116.950	Vertical	Pass
10.0MHz Band 16 QAM	50/0	709	-28.66	1.46	-53.2	0.72	2.15	20.21	104.954	Vertical	Pass
		710	-28.63	1.46	-53.2	0.72	2.15	20.24	105.682	Vertical	Pass
		711	-28.47	1.46	-53.2	0.72	2.15	20.4	109.648	Vertical	Pass

10.0 FIELD STRENGTH OF SPURIOUS RADIATION

RULE PART(S)

FCC: §2.1053, §22.917, §24.238 and §27.53

LIMIT

§22.917 (e) and §24.238 (a): Out of band emissions. 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.

§27.53 (g) For operations in the 698–746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB.

§27.53 (h) For operations in the 1710–1755 MHz and 2110–2155 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

The unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth in the 1 MHz band immediately outside and adjacent to the channel edge of the equipment. Beyond the 1 MHz band immediately outside the channel edge of the equipment, a resolution bandwidth of 1 MHz shall be employed. A narrower resolution bandwidth is allowed to be used provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz or 1% of the occupied bandwidth as applicable.

The power of any unwanted emissions measured from the channel edge of the equipment shall be attenuated below the transmitter power, P (dBW), as follows:
a. for base station and subscriber equipment, other than mobile subscriber equipment, the attenuation shall not be less than 43 + 10 Log10 (p), dB; and
b. for mobile subscriber equipment, the attenuation shall not be less than 43 + 10 Log10 (p), dB at the channel edges and 55 + 10 Log10 (p) at 5.5 MHz away and beyond the channel edges where p in (a) and (b) is the transmitter power measured in watts.

MODES TESTED

LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 17

RESULTS

10.1.2. LTE BAND 2

QPSK EIRP POWER FOR LTE BAND 2 (1.4.0MHZ BANDWIDTH)

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	A_{Rpl} (dBm)	P_{Mea}(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3701.4	-34.51	12.42	-22.09	-13	-9.09	Horizontal
3701.4	-35.59	12.42	-23.17	-13	-10.17	Vertical
5552.1	-37.68	14.12	-23.56	-13	-10.56	Vertical
5552.1	-36.64	14.12	-22.52	-13	-9.52	Horizontal
Test Results for Mid Channel 1732.5MHz						
3760	-35.11	11.76	-23.35	-13	-10.35	Horizontal
3760	-35.59	11.76	-23.83	-13	-10.83	Vertical
5640	-36.95	14.56	-22.39	-13	-9.39	Vertical
5640	-37.46	14.56	-22.9	-13	-9.9	Horizontal
Test Results for High Channel 1754.3MHz						
3818.6	-33.41	11.87	-21.54	-13	-8.54	Horizontal
3818.6	-36.66	11.87	-24.79	-13	-11.79	Vertical
5727.9	-39.98	14.66	-25.32	-13	-12.32	Vertical
5727.9	-35.51	14.66	-20.85	-13	-7.85	Horizontal

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

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	ARpl (dBm)	PMea(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3720	-33.51	12.42	-21.09	-13	-8.09	Horizontal
3720	-35.52	12.42	-23.1	-13	-10.1	Vertical
5580	-36.74	14.12	-22.62	-13	-9.62	Vertical
5580	-36.69	14.12	-22.57	-13	-9.57	Horizontal
Test Results for Mid Channel 1732.5MHz						
3760	-35.54	11.76	-23.78	-13	-10.78	Horizontal
3760	-36.59	11.76	-24.83	-13	-11.83	Vertical
5640	-34.61	14.56	-20.05	-13	-7.05	Vertical
5640	-36.69	14.56	-22.13	-13	-9.13	Horizontal
Test Results for High Channel 1754.3MHz						
3800	-34.41	11.87	-22.54	-13	-9.54	Horizontal
3800	-33.36	11.87	-21.49	-13	-8.49	Vertical
5700	-35.52	14.66	-20.86	-13	-7.86	Vertical
5700	-34.41	14.66	-19.75	-13	-6.75	Horizontal

10.1.3. LTE BAND 4

QPSK EIRP POWER FOR LTE BAND 4 (1.4.0MHZ BANDWIDTH)

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	ARpl (dBm)	PMea(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3421.4	-34.45	12.42	-22.03	-13	-9.03	Horizontal
3421.4	-34.26	12.42	-21.84	-13	-8.84	Vertical
5132.1	-36.95	14.12	-22.83	-13	-9.83	Vertical
5132.1	-34.67	14.12	-20.55	-13	-7.55	Horizontal
Test Results for Mid Channel 1732.5MHz						
3465	-35.52	11.76	-23.76	-13	-10.76	Horizontal
3465	-34.41	11.76	-22.65	-13	-9.65	Vertical
5197.5	-35.59	14.56	-21.03	-13	-8.03	Vertical
5197.5	-37.66	14.56	-23.1	-13	-10.1	Horizontal
Test Results for High Channel 1754.3MHz						
3508.6	-34.25	11.87	-22.38	-13	-9.38	Horizontal
3508.6	-34.61	11.87	-22.74	-13	-9.74	Vertical
5262.9	-39.96	14.66	-25.3	-13	-12.3	Vertical
5262.9	-34.46	14.66	-19.8	-13	-6.8	Horizontal

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

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	A_{Rpl} (dBm)	P_{Mea}(dBm)	Limit （dBm）	Margin(dBm)	Polarity
3440	-36.69	12.42	-24.27	-13	-11.27	Horizontal
3440	-34.47	12.42	-22.05	-13	-9.05	Vertical
5160	-35.58	14.12	-21.46	-13	-8.46	Vertical
5160	-35.61	14.12	-21.49	-13	-8.49	Horizontal
Test Results for Mid Channel 1732.5MHz						
3465	-38.88	11.76	-27.12	-13	-14.12	Horizontal
3465	-36.62	11.76	-24.86	-13	-11.86	Vertical
5197.5	-34.41	14.56	-19.85	-13	-6.85	Vertical
5197.5	-36.65	14.56	-22.09	-13	-9.09	Horizontal
Test Results for High Channel 1754.3MHz						
2490	-34.45	11.87	-22.58	-13	-9.58	Horizontal
3490	-35.56	11.87	-23.69	-13	-10.69	Vertical
5235	-39.96	14.66	-25.3	-13	-12.3	Vertical
5235	-37.78	14.66	-23.12	-13	-10.12	Horizontal

10.1.3. LTE BAND 5

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

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	ARpl (dBm)	PMea(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1649.4	-36.52	12.42	-24.1	-13	-11.1	Horizontal
1649.4	-34.41	12.42	-21.99	-13	-8.99	Vertical
2474.1	-33.69	14.12	-19.57	-13	-6.57	Vertical
2474.1	-36.57	14.12	-22.45	-13	-9.45	Horizontal
Test Results for Mid Channel 1732.5MHz						
1673	-35.56	11.76	-23.8	-13	-10.8	Horizontal
1673	-33.47	11.76	-21.71	-13	-8.71	Vertical
2509.5	-36.55	14.56	-21.99	-13	-8.99	Vertical
2509.5	-36.56	14.56	-22	-13	-9	Horizontal
Test Results for High Channel 1754.3MHz						
1696.6	-33.22	11.87	-21.35	-13	-8.35	Horizontal
1696.6	-34.96	11.87	-23.09	-13	-10.09	Vertical
2544.9	-37.56	14.66	-22.9	-13	-9.9	Vertical
2544.9	-35.62	14.66	-20.96	-13	-7.96	Horizontal

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

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	ARpl (dBm)	PMea(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1658	-32.24	12.42	-19.82	-13	-6.82	Horizontal
1658	-33.36	12.42	-20.94	-13	-7.94	Vertical
2487	-36.69	14.12	-22.57	-13	-9.57	Vertical
2487	-34.47	14.12	-20.35	-13	-7.35	Horizontal
Test Results for Mid Channel 1732.5MHz						
1673	-32.52	11.76	-20.76	-13	-7.76	Horizontal
1673	-35.56	11.76	-23.8	-13	-10.8	Vertical
2509.5	-34.41	14.56	-19.85	-13	-6.85	Vertical
2509.5	-36.69	14.56	-22.13	-13	-9.13	Horizontal
Test Results for High Channel 1754.3MHz						
1688	-33.26	11.87	-21.39	-13	-8.39	Horizontal
1688	-34.41	11.87	-22.54	-13	-9.54	Vertical
2532	-39.68	14.66	-25.02	-13	-12.02	Vertical
2532	-36.67	14.66	-22.01	-13	-9.01	Horizontal

10.1.4. LTE BAND 7

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

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	A_{Rpl} (dBm)	P_{Mea}(dBm)	Limit （dBm）	Margin(dBm)	Polarity
5005	-34.46	12.42	-22.04	-13	-9.04	Horizontal
5005	-35.52	12.42	-23.1	-13	-10.1	Vertical
7507.5	-37.59	14.12	-23.47	-13	-10.47	Vertical
7507.5	-35.64	14.12	-21.52	-13	-8.52	Horizontal
Test Results for Mid Channel 1732.5MHz						
5070	-36.94	11.76	-25.18	-13	-12.18	Horizontal
5070	-35.61	11.76	-23.85	-13	-10.85	Vertical
7605	-36.64	14.56	-22.08	-13	-9.08	Vertical
7605	-38.86	14.56	-24.3	-13	-11.3	Horizontal
Test Results for High Channel 1754.3MHz						
5135	-34.41	11.87	-22.54	-13	-9.54	Horizontal
5135	-33.26	11.87	-21.39	-13	-8.39	Vertical
7702.5	-36.67	14.66	-22.01	-13	-9.01	Vertical
7702.5	-37.11	14.66	-22.45	-13	-9.45	Horizontal

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

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	A_{Rpl} (dBm)	P_{Mea}(dBm)	Limit （dBm）	Margin(dBm)	Polarity
5020	-36.69	12.42	-24.27	-13	-11.27	Horizontal
5020	-35.51	12.42	-23.09	-13	-10.09	Vertical
7530	-36.69	14.12	-22.57	-13	-9.57	Vertical
7530	-37.47	14.12	-23.35	-13	-10.35	Horizontal
Test Results for Mid Channel 1732.5MHz						
5070	-36.65	11.76	-24.89	-13	-11.89	Horizontal
5070	-37.51	11.76	-25.75	-13	-12.75	Vertical
7605	-34.41	14.56	-19.85	-13	-6.85	Vertical
7605	-37.78	14.56	-23.22	-13	-10.22	Horizontal
Test Results for High Channel 1754.3MHz						
5120	-34.46	11.87	-22.59	-13	-9.59	Horizontal
5120	-35.52	11.87	-23.65	-13	-10.65	Vertical
7680	-39.69	14.66	-25.03	-13	-12.03	Vertical
7680	-35.46	14.66	-20.8	-13	-7.8	Horizontal

10.1.5. LTE BAND 17

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

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	A_{Rpl} (dBm)	P_{Mea}(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1413	-34.41	12.42	-21.99	-13	-8.99	Horizontal
1413	-35.56	12.42	-23.14	-13	-10.14	Vertical
2119.5	-36.69	14.12	-22.57	-13	-9.57	Vertical
2119.5	-35.57	14.12	-21.45	-13	-8.45	Horizontal
Test Results for Mid Channel 1732.5MHz						
1420	-34.44	11.76	-22.68	-13	-9.68	Horizontal
1420	-36.69	11.76	-24.93	-13	-11.93	Vertical
2130	-35.51	14.56	-20.95	-13	-7.95	Vertical
2130	-37.77	14.56	-23.21	-13	-10.21	Horizontal
Test Results for High Channel 1754.3MHz						
1427	-34.46	11.87	-22.59	-13	-9.59	Horizontal
1427	-33.62	11.87	-21.75	-13	-8.75	Vertical
2140.5	-36.85	14.66	-22.19	-13	-9.19	Vertical
2140.5	-33.42	14.66	-18.76	-13	-5.76	Horizontal

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

Test Results for Low Channel 1710.7MHz						
Frequency(MHz)	Power(dBm)	A_{Rpl} (dBm)	P_{Mea}(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1418	-35.56	12.42	-23.14	-13	-10.14	Horizontal
1418	-33.41	12.42	-20.99	-13	-7.99	Vertical
2127	-36.69	14.12	-22.57	-13	-9.57	Vertical
2127	-35.52	14.12	-21.4	-13	-8.4	Horizontal
Test Results for Mid Channel 1732.5MHz						
1420	-36.61	11.76	-24.85	-13	-11.85	Horizontal
1420	-34.52	11.76	-22.76	-13	-9.76	Vertical
2130	-37.77	14.56	-23.21	-13	-10.21	Vertical
2130	-36.95	14.56	-22.39	-13	-9.39	Horizontal
Test Results for High Channel 1754.3MHz						
1422	-32.24	11.87	-20.37	-13	-7.37	Horizontal
1422	-35.56	11.87	-23.69	-13	-10.69	Vertical
2133	-33.34	14.66	-18.68	-13	-5.68	Vertical
2133	-31.16	14.66	-16.5	-13	-3.5	Horizontal

11. FREQUENCY STABILITY

RULE PART(S)

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

LIMITS

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

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

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

Temp. = −30° to +50°C

Voltage =low voltage, 3.4VDC, Normal, 3.8VDC and High voltage, 4.3VDC.

Frequency Stability vs Temperature:

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

Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

MODES TESTED

LTE Band 2

LTE Band 4

LTE Band 5

LTE Band 7

LTE Band 17

RESULTS

See the following pages.

11.1.1. LTE BAND 2

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 2 QPSK, (CH *18900* RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	1880	-9.4	-0.004999	2.5
3.8	1880	-7.6	-0.004056	2.5
4.4	1880	-13.8	-0.00732	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 2 QPSK, (CH *18900* RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1880	-9.3	-0.004954	2.5
Extreme (50C)	1880	-5.5	-0.00293	2.5
Extreme (40C)	1880	-9.6	-0.005098	2.5
Extreme (30C)	1880	-6.7	-0.003569	2.5
Extreme (10C)	1880	-8.2	-0.00436	2.5
Extreme (0C)	1880	-7.9	-0.004215	2.5
Extreme (-10C)	1880	7.1	0.003797	2.5
Extreme (-20C)	1880	-5	-0.002648	2.5
Extreme (-30C)	1880	-10.2	-0.005433	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 2 16QAM, (CH *18900* RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	1880	-5.2	-0.002766	2.5
3.8	1880	11.4	0.006064	2.5
4.4	1880	-12.9	-0.006862	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 2 16QAM, (CH *18900* RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1880	-6.9	-0.003670	2.5
Extreme (50C)	1880	-4.7	-0.002500	2.5
Extreme (40C)	1880	-9.2	-0.004894	2.5
Extreme (30C)	1880	-5.3	-0.002819	2.5
Extreme (10C)	1880	-6.8	-0.003617	2.5
Extreme (0C)	1880	-4.2	-0.002234	2.5
Extreme (-10C)	1880	8.9	0.004734	2.5
Extreme (-20C)	1880	-5.7	-0.003032	2.5
Extreme (-30C)	1880	-8.9	-0.004734	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

11.1.2. LTE BAND 4

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 4 QPSK, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	1732.5	-4.9	-0.002832	2.5
3.8	1732.5	13.7	0.007894	2.5
4.4	1732.5	-13.2	-0.007646	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 4 QPSK, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1732.5	-7.9	-0.004566	2.5
Extreme (50C)	1732.5	-9.2	-0.005284	2.5
Extreme (40C)	1732.5	-4.6	-0.002659	2.5
Extreme (30C)	1732.5	-6.9	-0.00398	2.5
Extreme (10C)	1732.5	-4.1	-0.002386	2.5
Extreme (0C)	1732.5	8.5	0.004921	2.5
Extreme (-10C)	1732.5	-7.3	-0.004236	2.5
Extreme (-20C)	1732.5	-8	-0.004607	2.5
Extreme (-30C)	1732.5	-7.9	-0.004566	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 4 16QAM, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	1732.5	-6.9	-0.003983	2.5
3.8	1732.5	5.8	0.003348	2.5
4.4	1732.5	-9.9	-0.005714	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 4 16QAM, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	1732.5	-10.6	-0.006118	2.5
Extreme (50C)	1732.5	-8.3	-0.004791	2.5
Extreme (40C)	1732.5	-7.4	-0.004271	2.5
Extreme (30C)	1732.5	-6.5	-0.003752	2.5
Extreme (10C)	1732.5	-5.1	-0.002944	2.5
Extreme (0C)	1732.5	7.4	0.004271	2.5
Extreme (-10C)	1732.5	6.9	0.003983	2.5
Extreme (-20C)	1732.5	8.8	0.005079	2.5
Extreme (-30C)	1732.5	-9.4	-0.005426	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

11.1.3. LTE BAND 5

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 QPSK, (CH *20525* RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.6	836.5	-4.4	-0.005216	2.5
3.8	836.5	12.5	0.014964	2.5
4.4	836.5	-10.9	-0.013014	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 QPSK, (CH *20525* RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	836.5	-9.2	-0.010945	2.5
Extreme (50C)	836.5	-5.5	-0.006567	2.5
Extreme (40C)	836.5	-9.3	-0.011167	2.5
Extreme (30C)	836.5	-6.7	-0.008055	2.5
Extreme (10C)	836.5	-8.6	-0.010278	2.5
Extreme (0C)	836.5	-10.4	-0.012433	2.5
Extreme (-10C)	836.5	-6.9	-0.008249	2.5
Extreme (-20C)	836.5	-7.8	-0.009325	2.5
Extreme (-30C)	836.5	-8.5	-0.010161	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 16QAM, (CH *20525* RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.6	836.5	-15.2	-0.018171	2.5
3.8	836.5	-10.3	-0.012313	2.5
4.4	836.5	-9.7	-0.011596	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 5 16QAM, (CH *20525* RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	836.5	-7.6	-0.009085	2.5
Extreme (50C)	836.5	-6.9	-0.008249	2.5
Extreme (40C)	836.5	-10.4	-0.012433	2.5
Extreme (30C)	836.5	-10.2	-0.012194	2.5
Extreme (10C)	836.5	-5.6	-0.006695	2.5
Extreme (0C)	836.5	-6.1	-0.007292	2.5
Extreme (-10C)	836.5	-5.9	-0.007053	2.5
Extreme (-20C)	836.5	-10.1	-0.012074	2.5
Extreme (-30C)	836.5	-7.5	-0.008966	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

11.1.4. LTE BAND 7

QPSK, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 7 QPSK, (CH *21100* RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	2535	-38.2	-0.015056	2.5
3.8	2535	-24.8	-0.009774	2.5
4.4	2535	-22.5	-0.008888	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 7 QPSK, (CH *21100* RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	2535	20.2	0.007979	2.5
Extreme (50C)	2535	-23.4	-0.009215	2.5
Extreme (40C)	2535	19	0.007505	2.5
Extreme (30C)	2535	-19.6	-0.007731	2.5
Extreme (10C)	2535	-22	-0.008679	2.5
Extreme (0C)	2535	32	0.012623	2.5
Extreme (-10C)	2535	-26.5	-0.010454	2.5
Extreme (-20C)	2535	-11.4	-0.004497	2.5
Extreme (-30C)	2535	-30.7	-0.012110	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 7 16QAM, (CH *21100* RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.6	2535	15.4	0.006075	2.5
3.8	2535	-16.9	-0.006667	2.5
4.4	2535	-32.2	-0.012702	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 7 16QAM, (CH *21100* RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	2535	-15.7	-0.006193	2.5
Extreme (50C)	2535	-18.8	-0.007416	2.5
Extreme (40C)	2535	-24.4	-0.009625	2.5
Extreme (30C)	2535	-10.9	-0.004300	2.5
Extreme (10C)	2535	23.5	0.009270	2.5
Extreme (0C)	2535	21.4	0.008442	2.5
Extreme (-10C)	2535	19.5	0.007692	2.5
Extreme (-20C)	2535	17.6	0.006943	2.5
Extreme (-30C)	2535	22.5	0.008876	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

11.1.5. LTE BAND 17

QPSK, (10MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 17 QPSK, (CH *23790* RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.6	710	-3.7	-0.005198	2.5
3.8	710	-3.6	-0.005118	2.5
4.4	710	-5.4	-0.007535	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 17 QPSK, (CH *23790* RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	710	-6.5	-0.009155	2.5
Extreme (50C)	710	-3.4	-0.004789	2.5
Extreme (40C)	710	-7.4	-0.010423	2.5
Extreme (30C)	710	-8.5	-0.011972	2.5
Extreme (10C)	710	-11.2	-0.015775	2.5
Extreme (0C)	710	5.9	0.008310	2.5
Extreme (-10C)	710	8.3	0.011690	2.5
Extreme (-20C)	710	6.6	0.009296	2.5
Extreme (-30C)	710	-12.1	-0.017042	2.5

16QAM, (20MHz BANDWIDTH)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 17 16QAM, (CH *23790* RB size 50 RB Offset 0 10MHz BANDWIDTH)				
3.6	710	3.6	0.005070	2.5
3.8	710	6.6	0.009296	2.5
4.4	710	-4.7	-0.006620	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 17 16QAM, (CH *23790* RB size 50 RB Offset 0 10MHz BANDWIDTH)				
Normal (25C)	710	6.9	0.009718	2.5
Extreme (50C)	710	7.1	0.010000	2.5
Extreme (40C)	710	-5.2	-0.007324	2.5
Extreme (30C)	710	6.9	0.009718	2.5
Extreme (10C)	710	3.1	0.004366	2.5
Extreme (0C)	710	2.9	0.004085	2.5
Extreme (-10C)	710	8.5	0.011972	2.5
Extreme (-20C)	710	7.4	0.010423	2.5
Extreme (-30C)	710	7.7	0.010845	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

12. Peak-to-Average Ratio

12.1.1 DESCRIPTION OF THE PAR MEASUREMENT

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

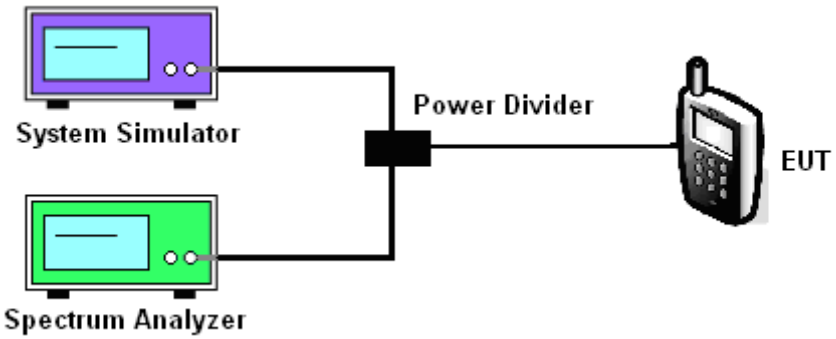
12.1.2 MEASURING INSTRUMENTS

See list of measuring instruments of this test report.

12.1.3 TEST PROCEDURES

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. For GSM/EGPRS operating modes:
   a. Set the RBW = 1MHz, VBW = 1MHz, Peak detector in spectrum analyzer.
   b. Set EUT in maximum power output, and triggered the burst signal.
   c. Measured respectively the Peak level and Mean level, and the deviation was recorded as Peak to Average Ratio.
4. For UMTS operating modes:
   a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
   b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.

12.1.4 TEST SETUP



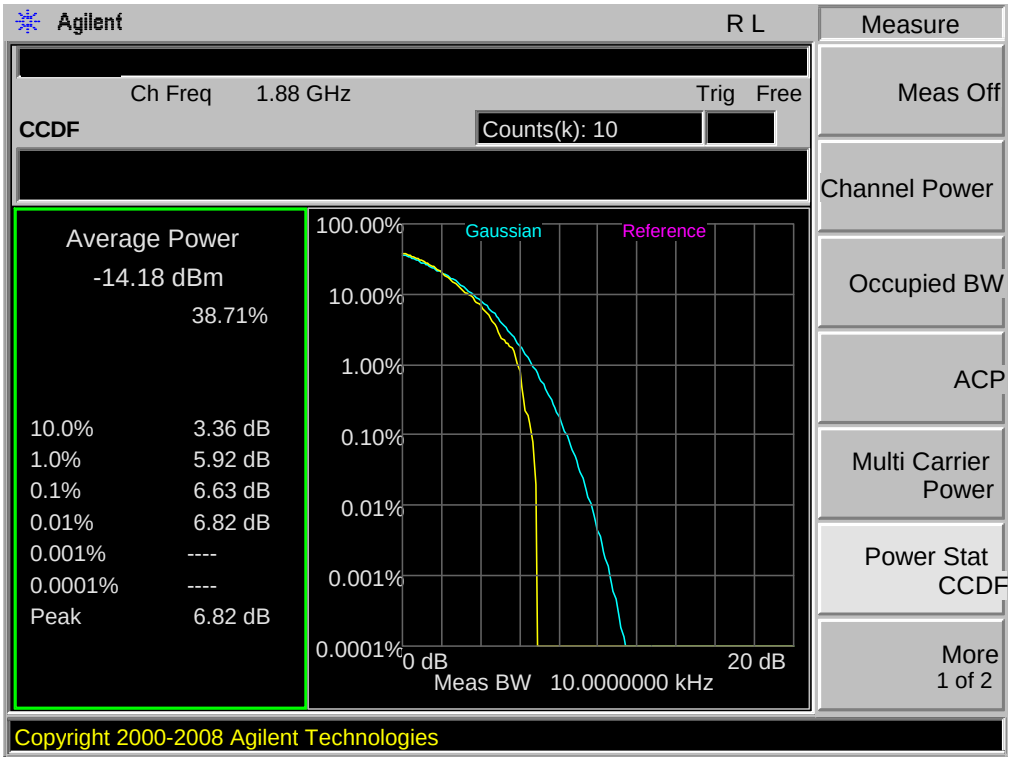
BAND	CHANNEL	Frequency [MHz]	BANDWIDTH	NO. RB	RB POS.	MODULATION	PAR [dB]
2	18900	1880.0	1.4	6	Low	QPSK	6.63
2	18900	1880.0	1.4	6	Low	16QAM	6.75
2	18900	1880.0	3.0	15	Low	QPSK	7.47
2	18900	1880.0	3.0	15	Low	16QAM	8.33
2	18900	1880.0	5.0	25	Low	QPSK	8.23
2	18900	1880.0	5.0	25	Low	16QAM	9.26
2	18900	1880.0	10.0	50	Low	QPSK	7.58
2	18900	1880.0	10.0	50	Low	16QAM	7.80
2	18900	1880.0	15.0	75	Low	QPSK	7.41
2	18900	1880.0	15.0	75	Low	16QAM	8.85
2	18900	1880.0	20.0	100	Low	QPSK	7.10
2	18900	1880.0	20.0	100	Low	16QAM	8.00
4	20175	1732.5	1.4	6	Low	QPSK	6.50
4	20175	1732.5	1.4	6	Low	16QAM	6.66
4	20175	1732.5	3.0	15	Low	QPSK	7.55
4	20175	1732.5	3.0	15	Low	16QAM	8.31
4	20175	1732.5	5.0	25	Low	QPSK	8.18
4	20175	1732.5	5.0	25	Low	16QAM	9.34
4	20175	1732.5	10.0	50	Low	QPSK	7.30
4	20175	1732.5	10.0	50	Low	16QAM	7.80
4	20175	1732.5	15.0	75	Low	QPSK	7.30

4	20175	1732.5	15.0	75	Low	16QAM	9.02
4	20175	1732.5	20.0	100	Low	QPSK	7.74
4	20175	1732.5	20.0	100	Low	16QAM	7.83
5	20525	2535.0	5.0	6	Low	QPSK	6.62
5	20525	2535.0	5.0	6	Low	16QAM	6.68
5	20525	2535.0	10.0	15	Low	QPSK	7.51
5	20525	2535.0	10.0	15	Low	16QAM	8.47
5	20525	2535.0	15.0	25	Low	QPSK	8.24
5	20525	2535.0	15.0	25	Low	16QAM	9.07
5	20525	2535.0	20.0	50	Low	QPSK	7.50
5	20525	2535.0	20.0	50	Low	16QAM	7.76
7	21100	710.0	5.0	25	Low	QPSK	8.15
7	21100	710.0	5.0	25	Low	16QAM	8.20
7	21100	710.0	10.0	50	Low	QPSK	7.52
7	21100	710.0	10.0	50	Low	16QAM	7.60
7	21100	736.8	3.0	75	Low	QPSK	7.28
7	21100	736.8	3.0	75	Low	16QAM	7.33
7	21100	736.8	5.0	100	Low	QPSK	7.50
7	21100	736.8	5.0	100	Low	16QAM	7.70
17	23790	736.8	10.0	25	Low	QPSK	8.05
17	23790	736.8	10.0	25	Low	16QAM	8.22
17	23790	736.8	15.0	50	Low	QPSK	7.60

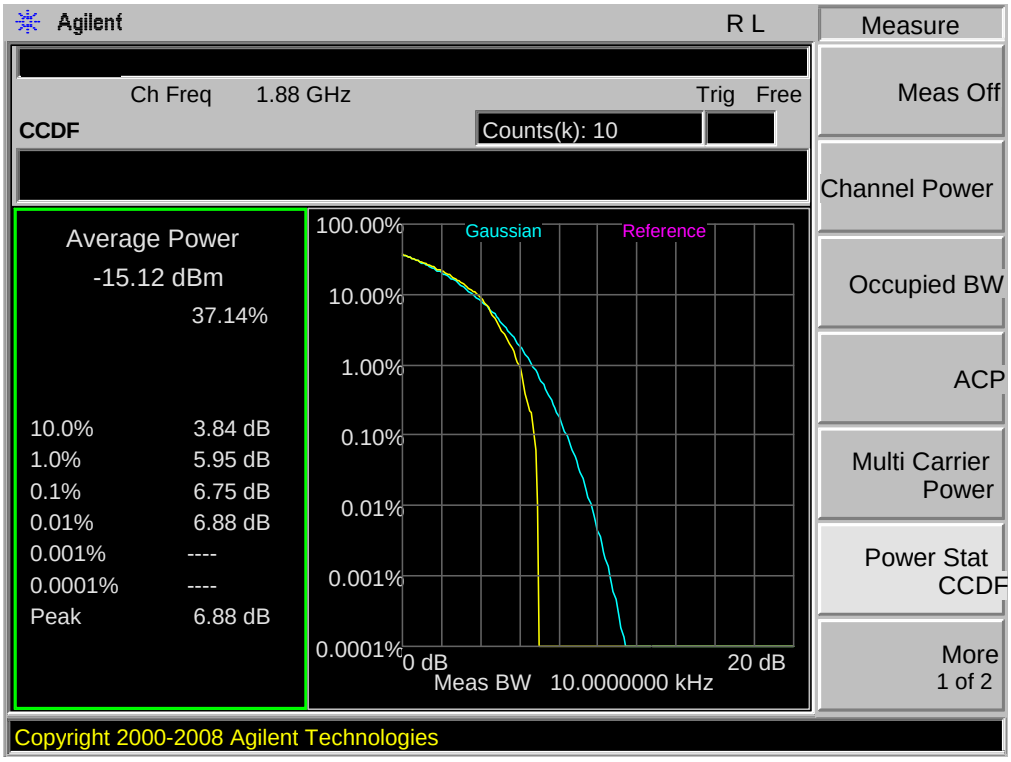
17	23790	736.8	15.0	50	Low	16QAM	7.56

12.1.5. LTE BAND 2

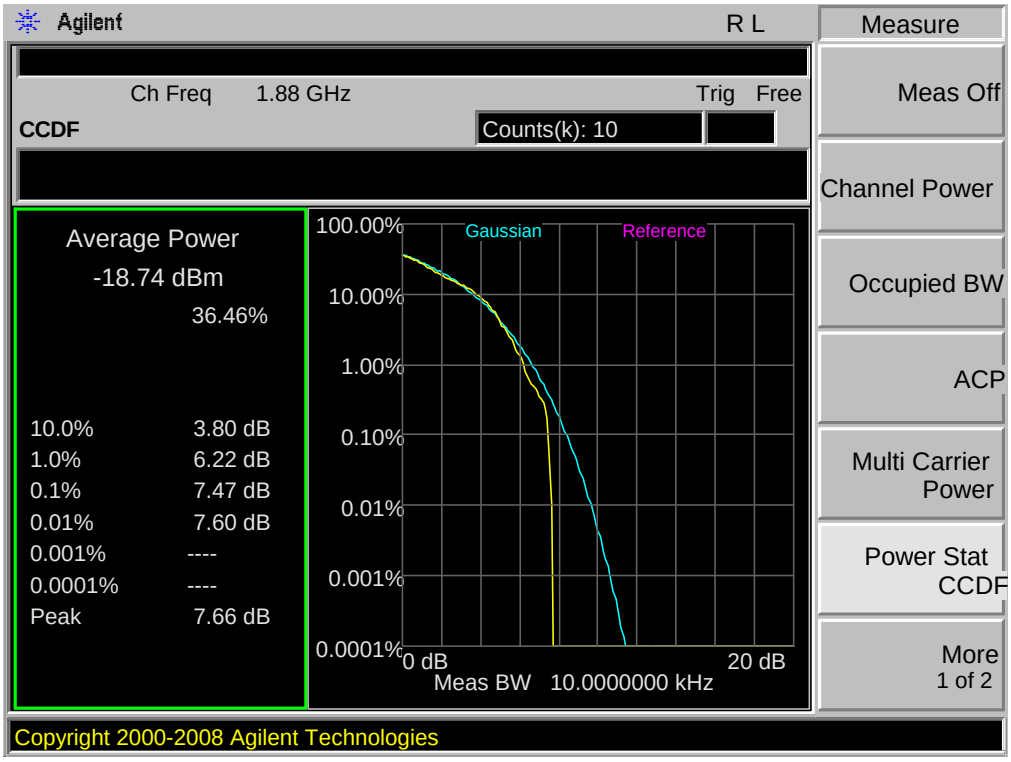
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 1.4,NO. RB 6,RB POS. Low,QPSK



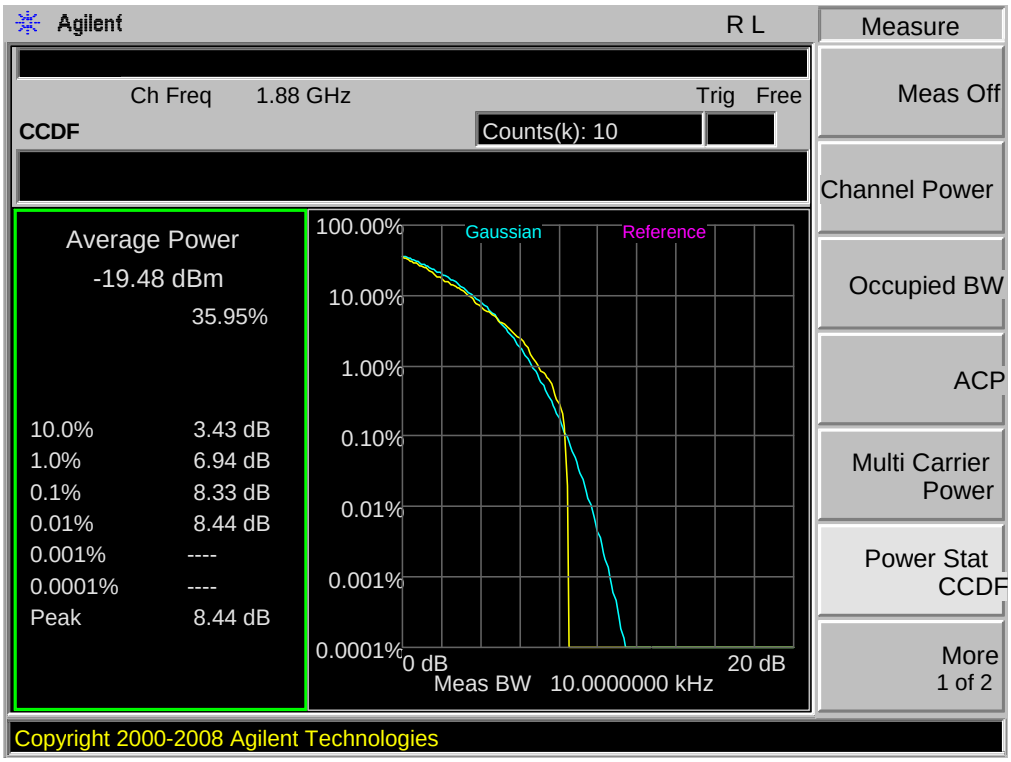
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 1.4,NO. RB 6,RB POS. Low,16QAM



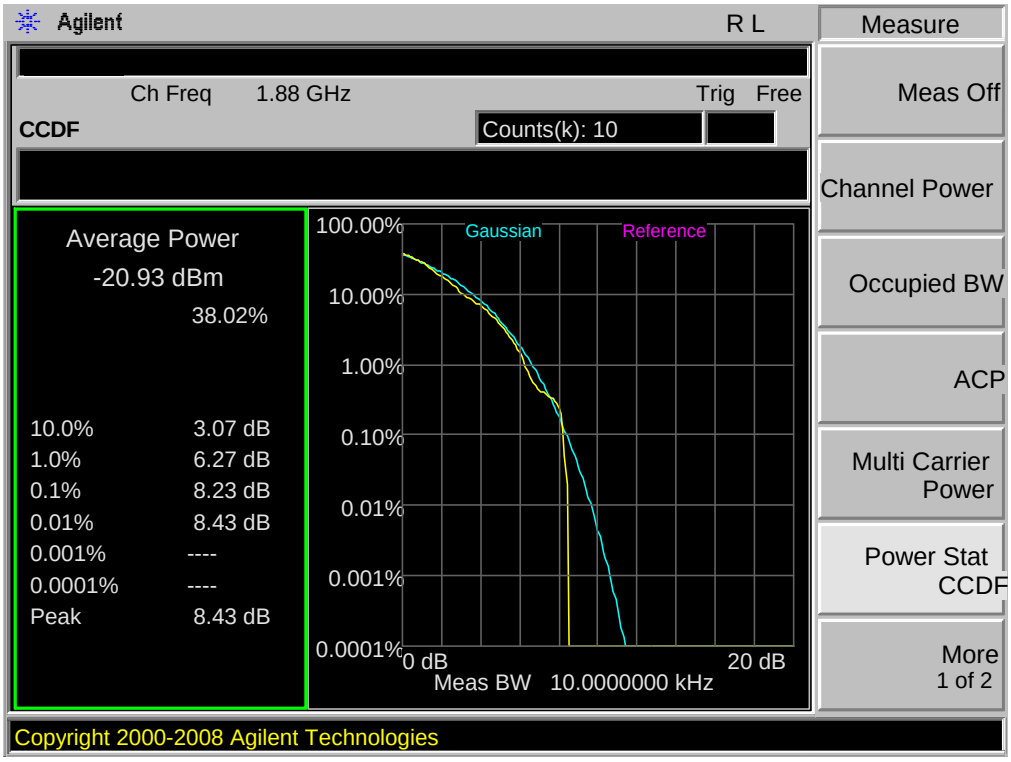
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 3.0,NO. RB 15,RB POS. Low,QPSK



Band 2,UL Channel 18900,UL Frequency 1880.0,BW 3.0,NO. RB 15,RB POS. Low,16QAM

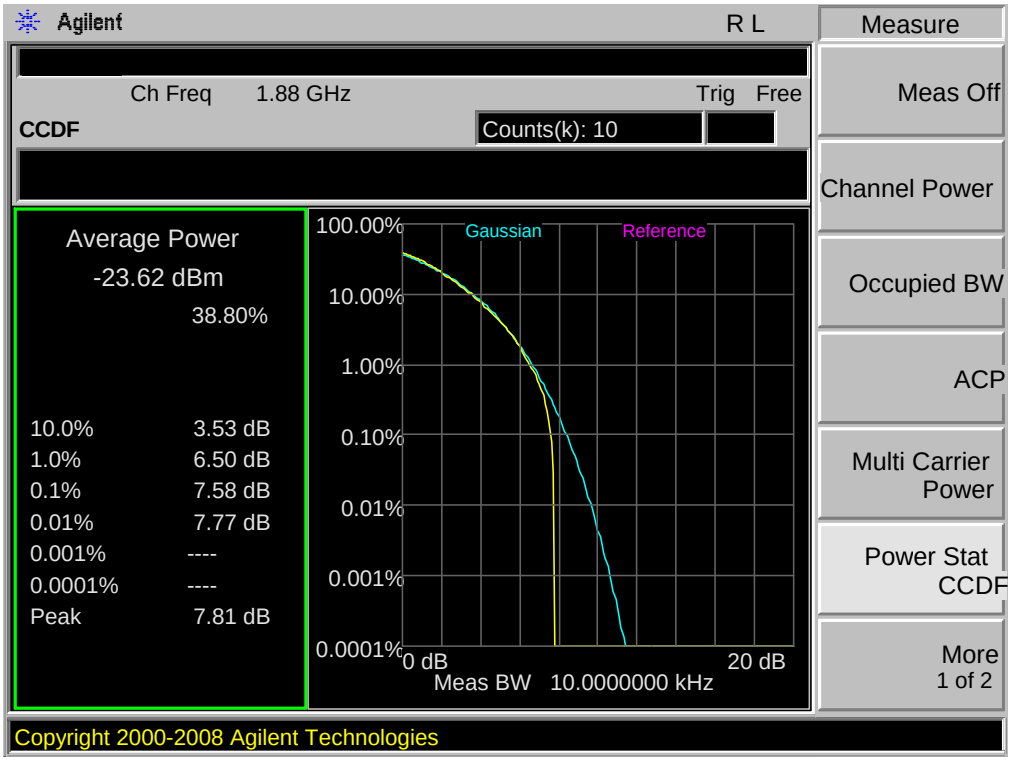


Band 2,UL Channel 18900,UL Frequency 1880.0,BW 5.0,NO. RB 25,RB POS. Low,QPSK

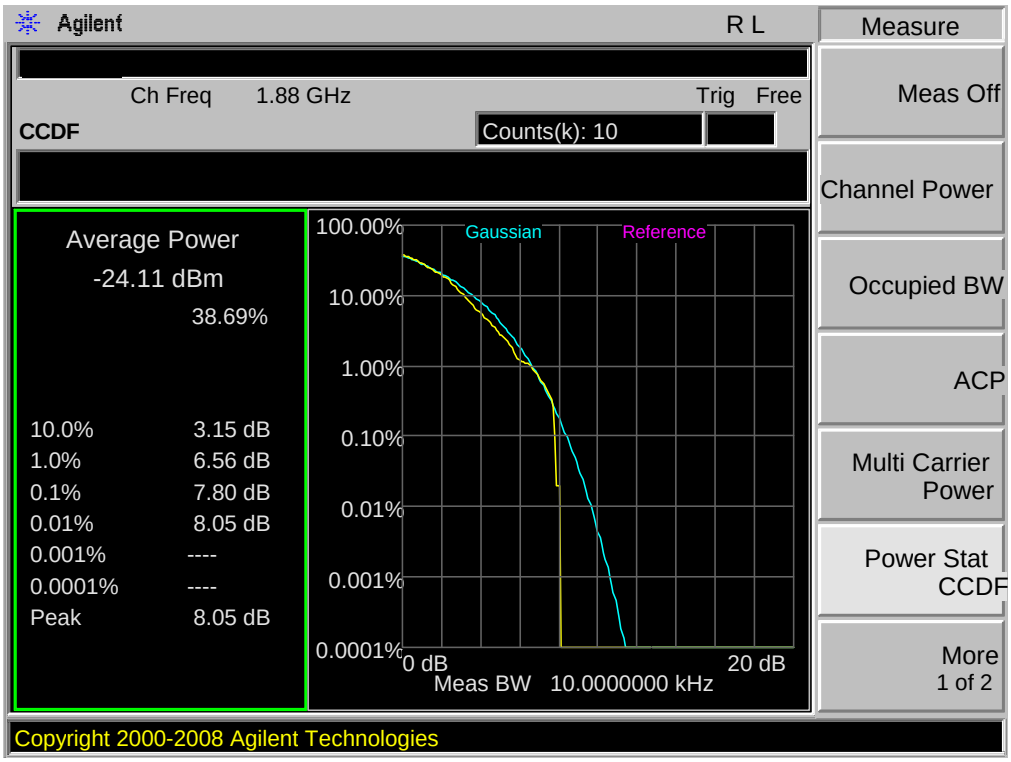


Band 2,UL Channel 18900,UL Frequency 1880.0,BW 5.0,NO. RB 25,RB POS. Low,16QAM

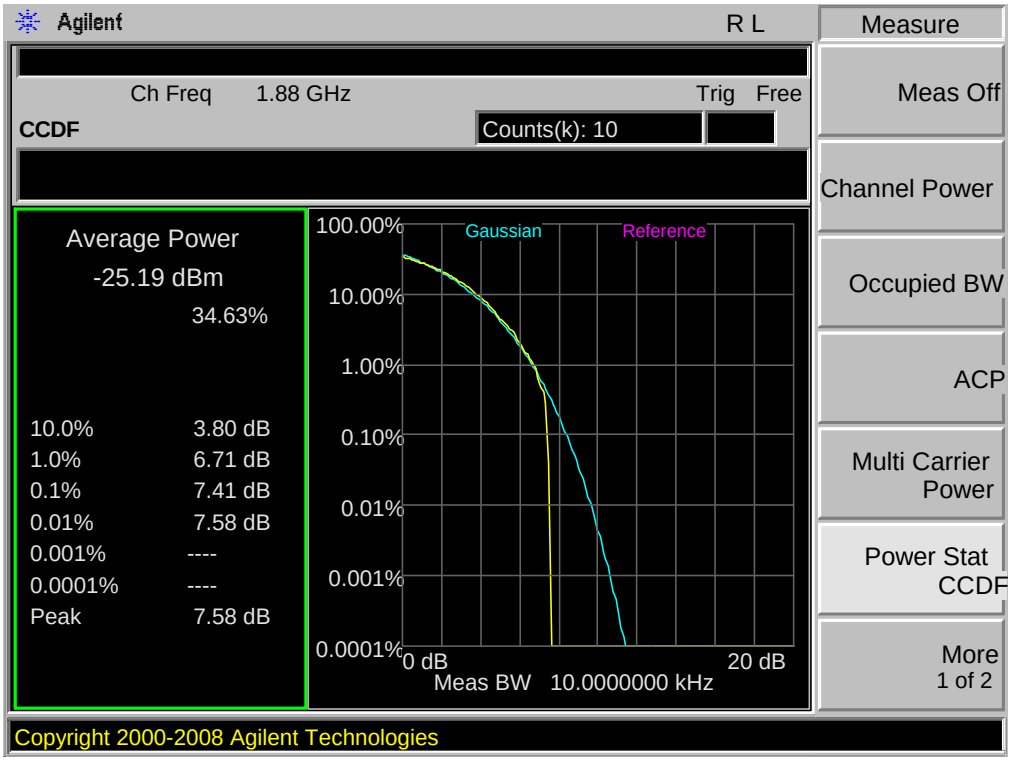
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



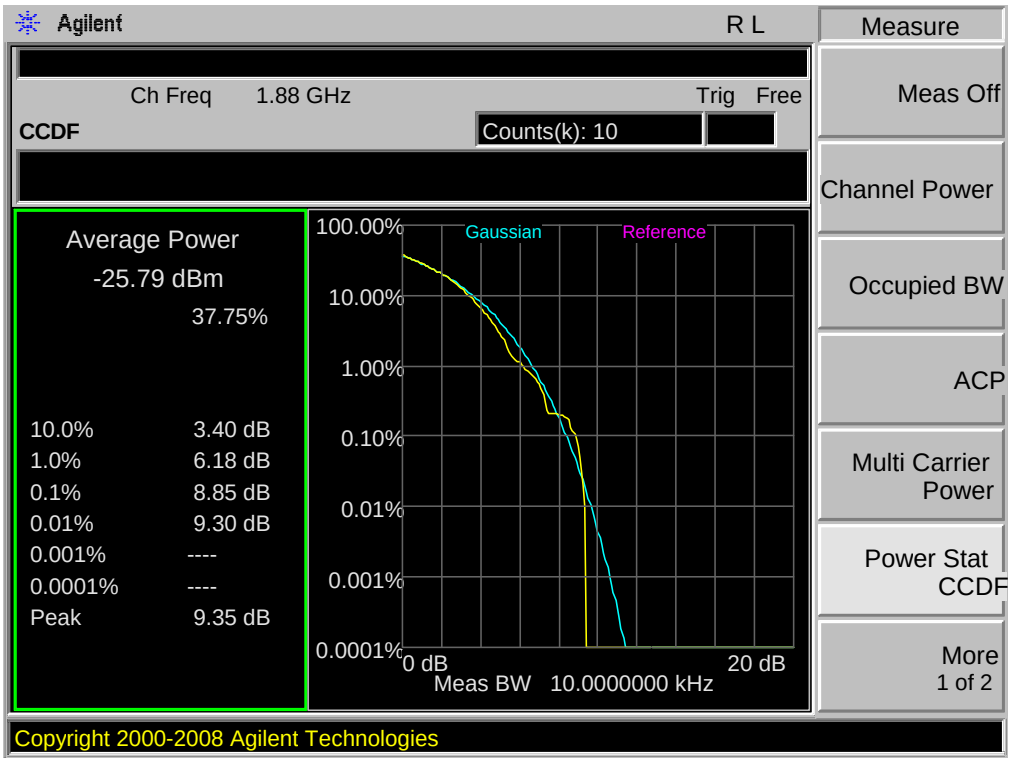
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



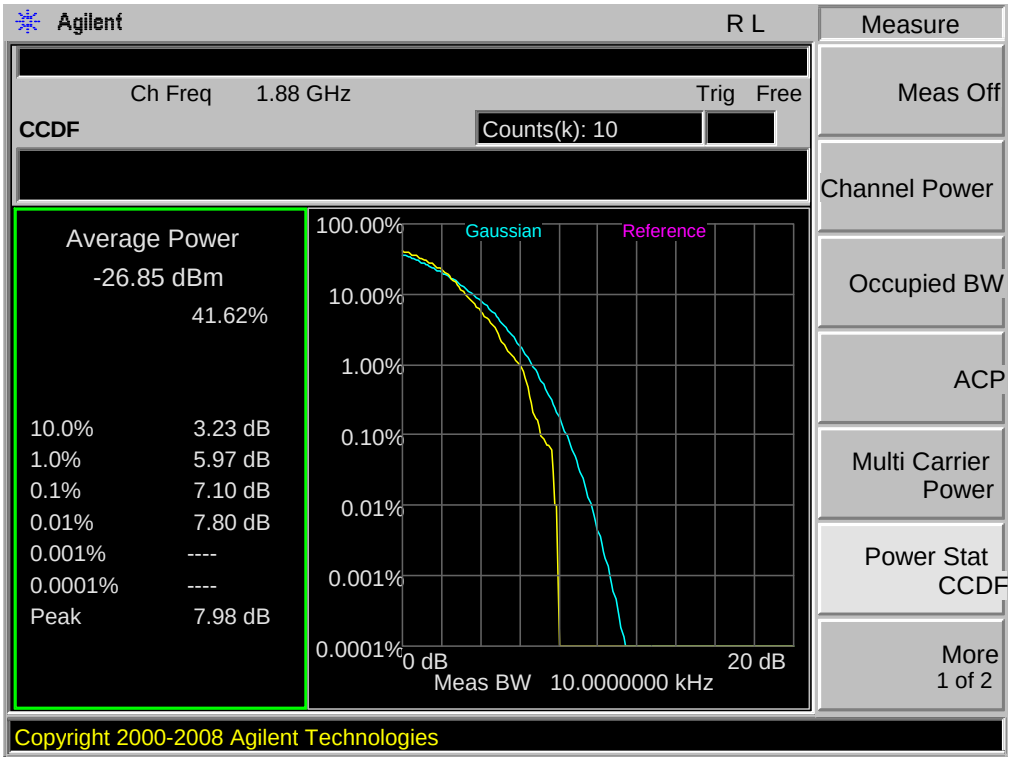
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 15.0,NO. RB 75,RB POS. Low,QPSK



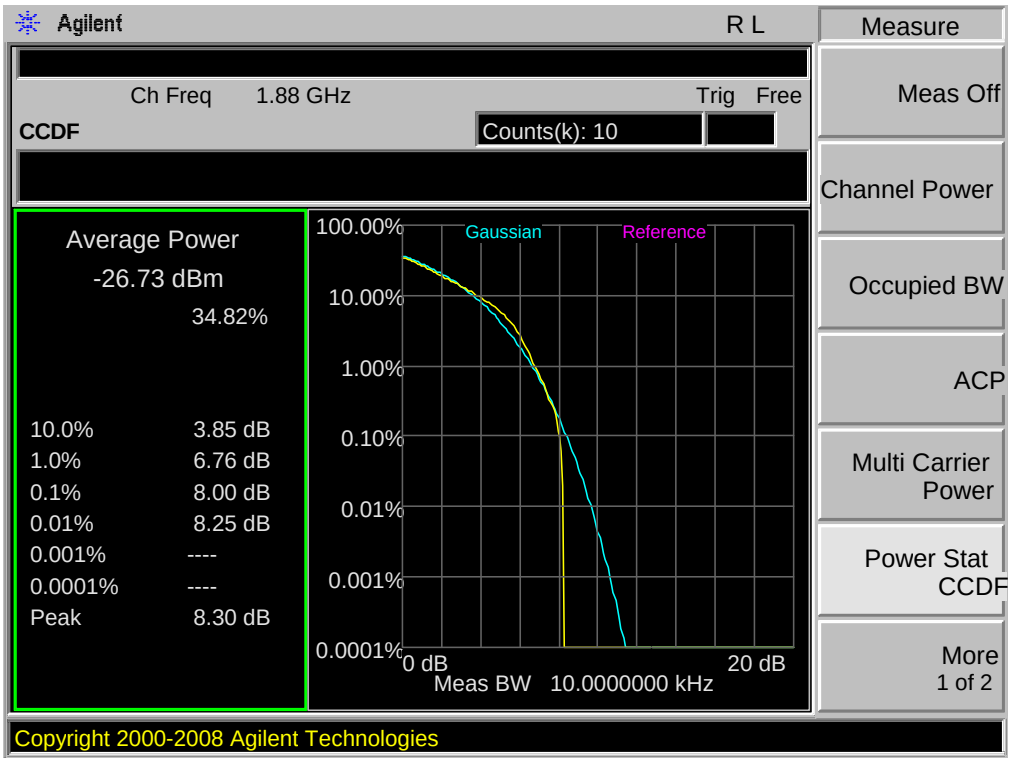
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 15.0,NO. RB 75,RB POS. Low,16QAM



Band 2,UL Channel 18900,UL Frequency 1880.0,BW 20.0,NO. RB 100,RB POS. Low,QPSK

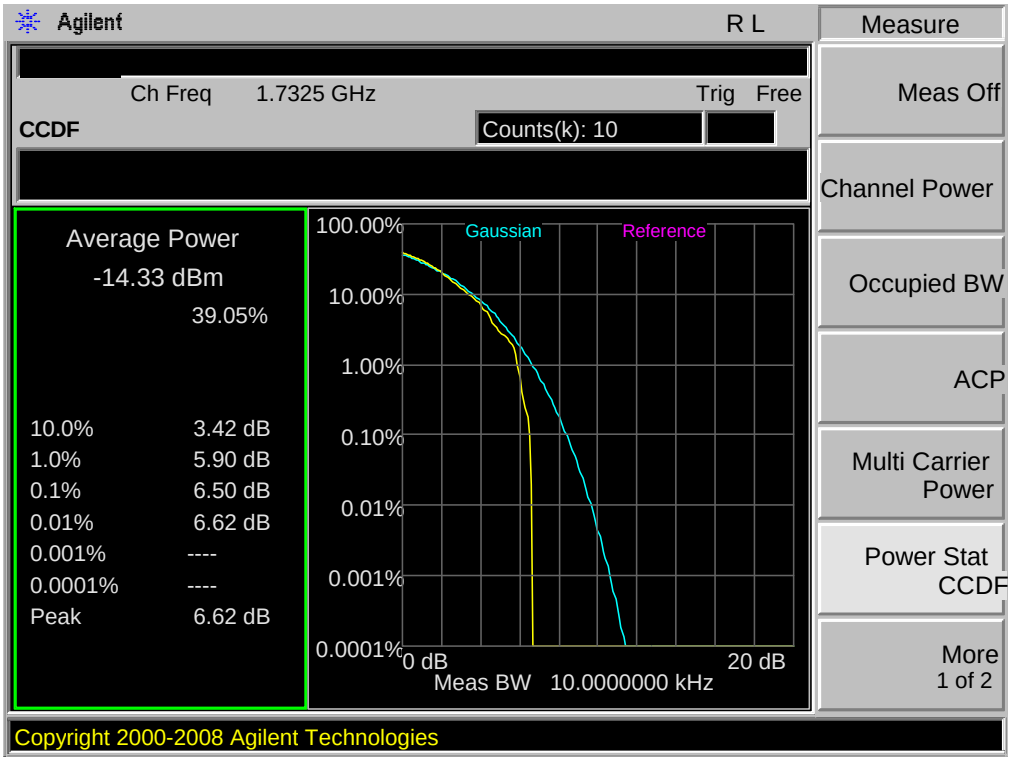


Band 2,UL Channel 18900,UL Frequency 1880.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM

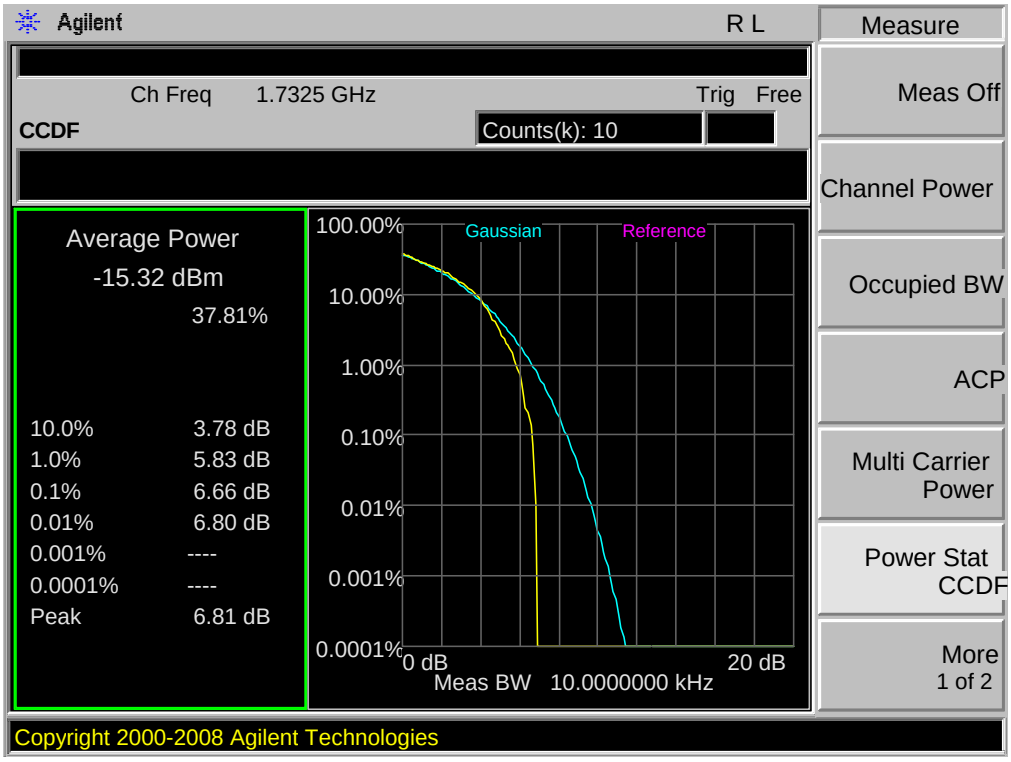


12.1.6. LTE BAND 4

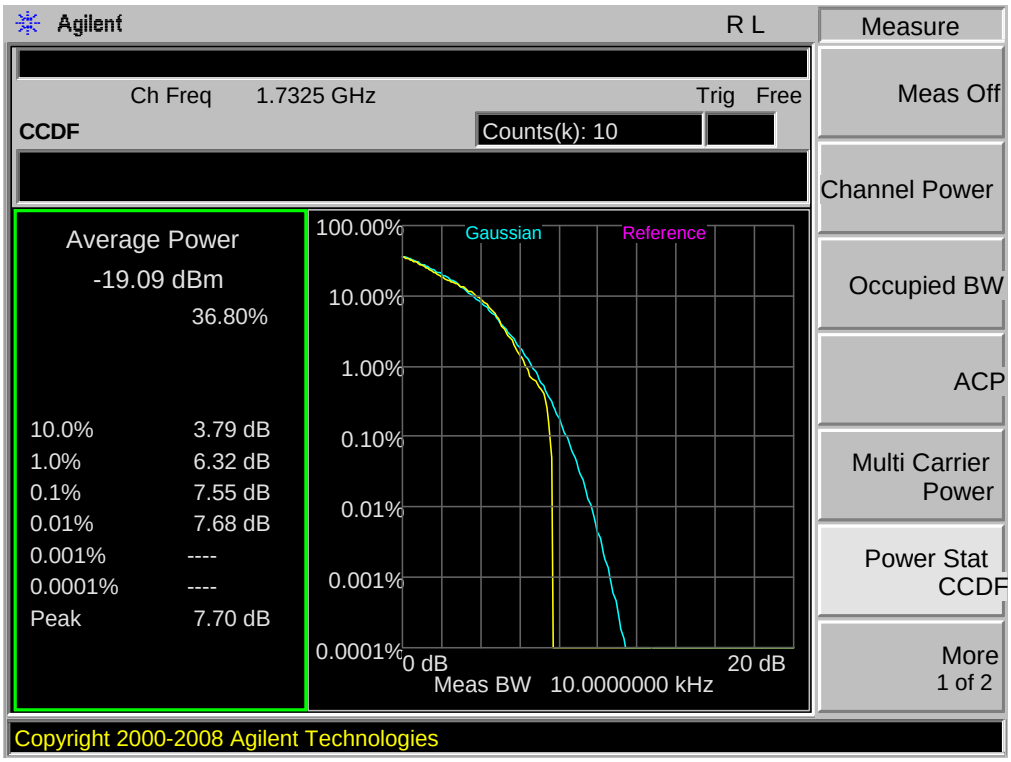
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 1.4,NO. RB 6,RB POS. Low,QPSK



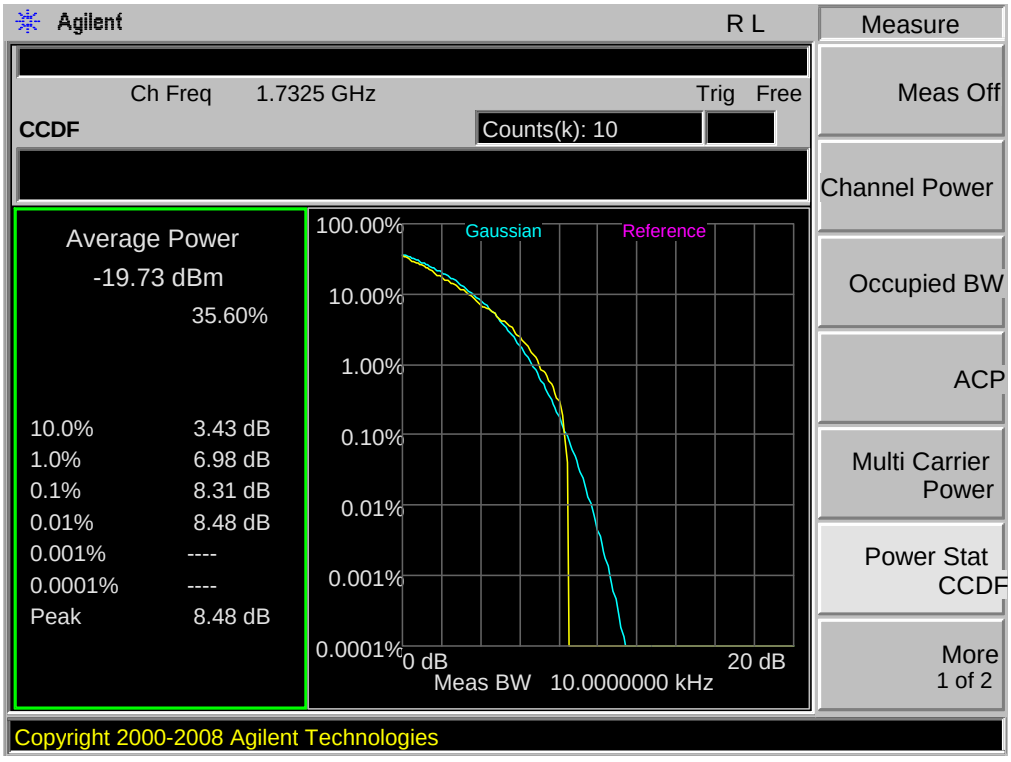
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 1.4,NO. RB 6,RB POS. Low,16QAM



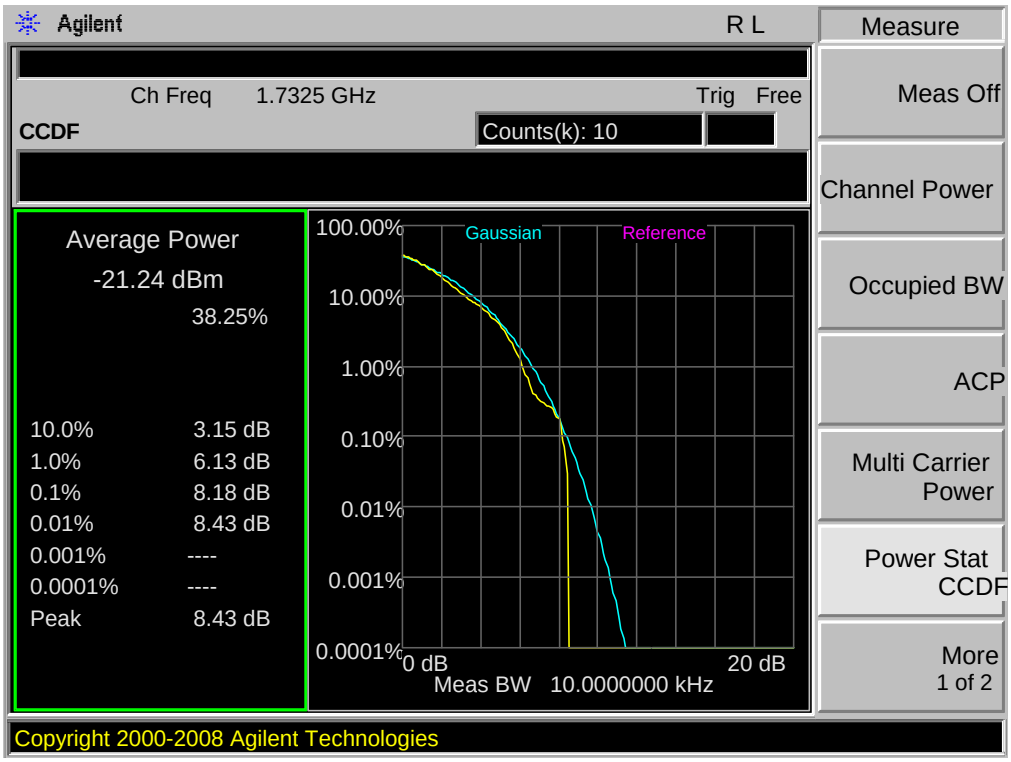
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 3.0,NO. RB 15,RB POS. Low,QPSK



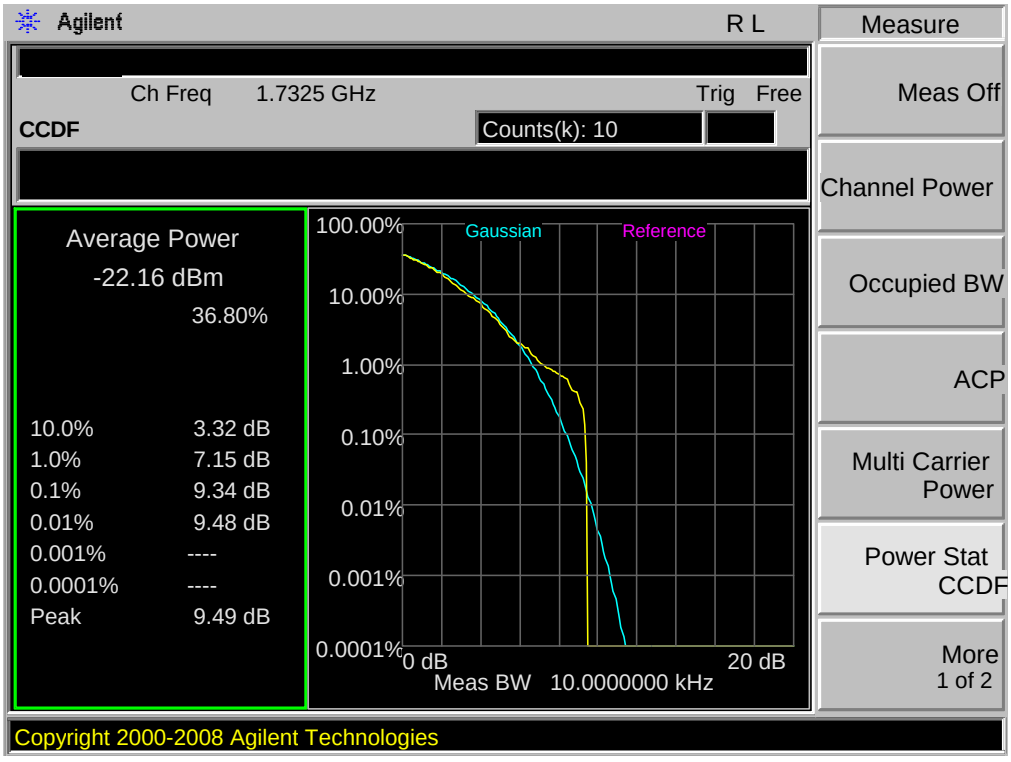
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 3.0,NO. RB 15,RB POS. Low,16QAM



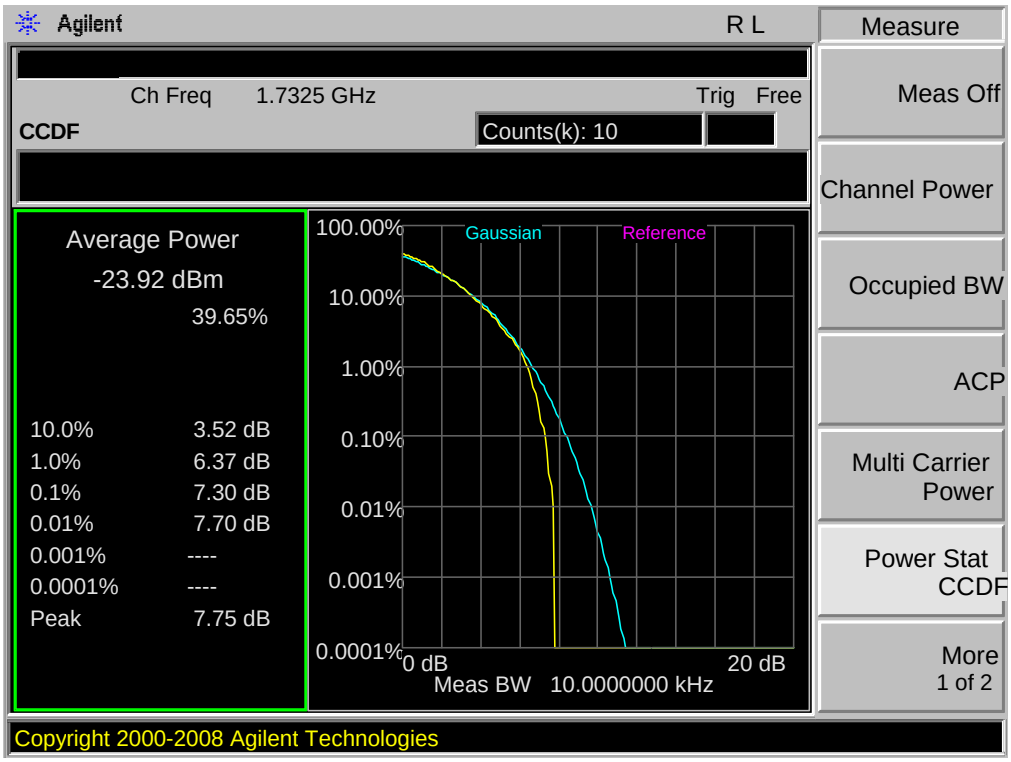
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 5.0,NO. RB 75,RB POS. Low,QPSK



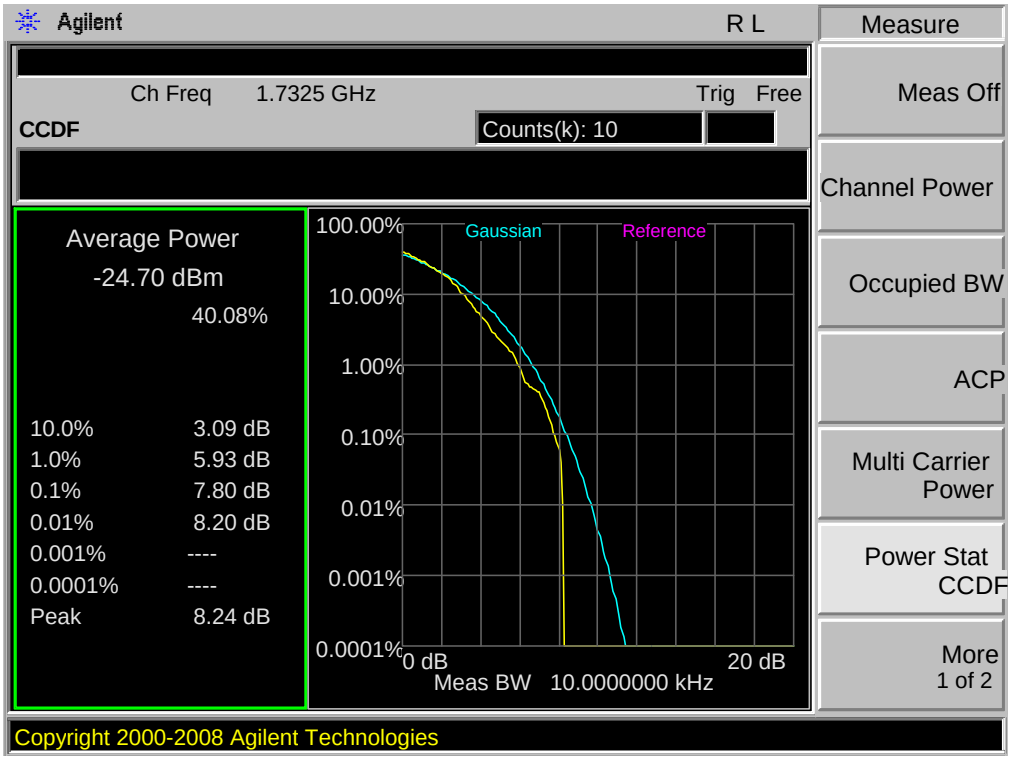
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 5.0,NO. RB 75,RB POS. Low,16QAM



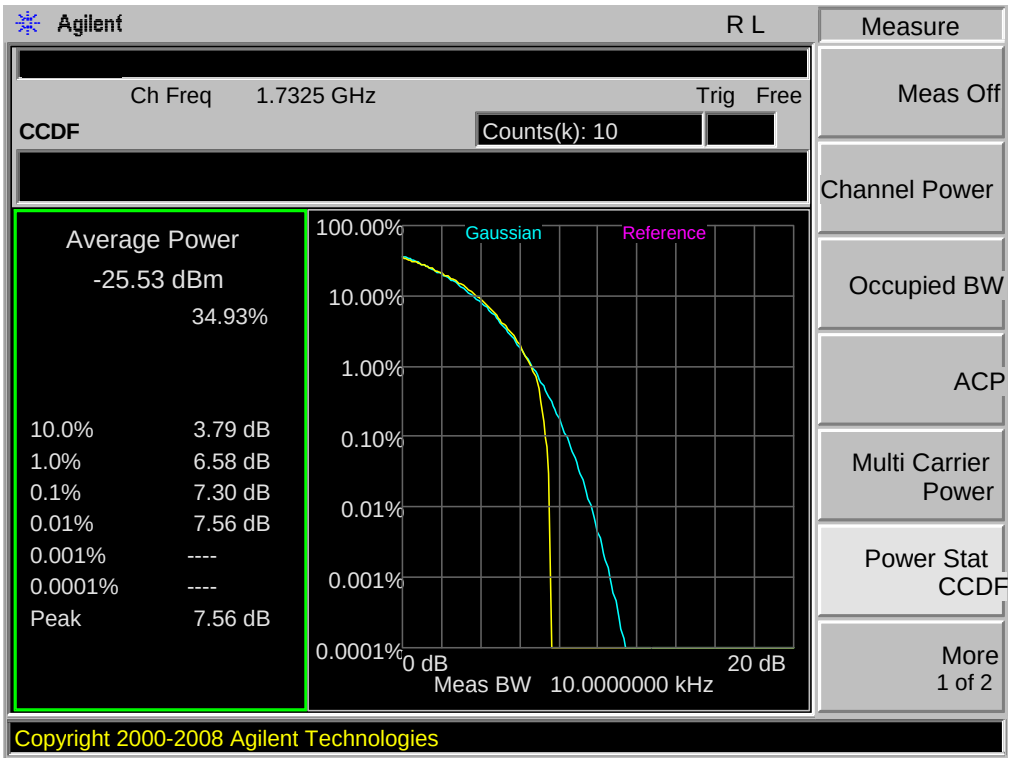
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 10.0,NO. RB 50,RB POS. Low,QPSK



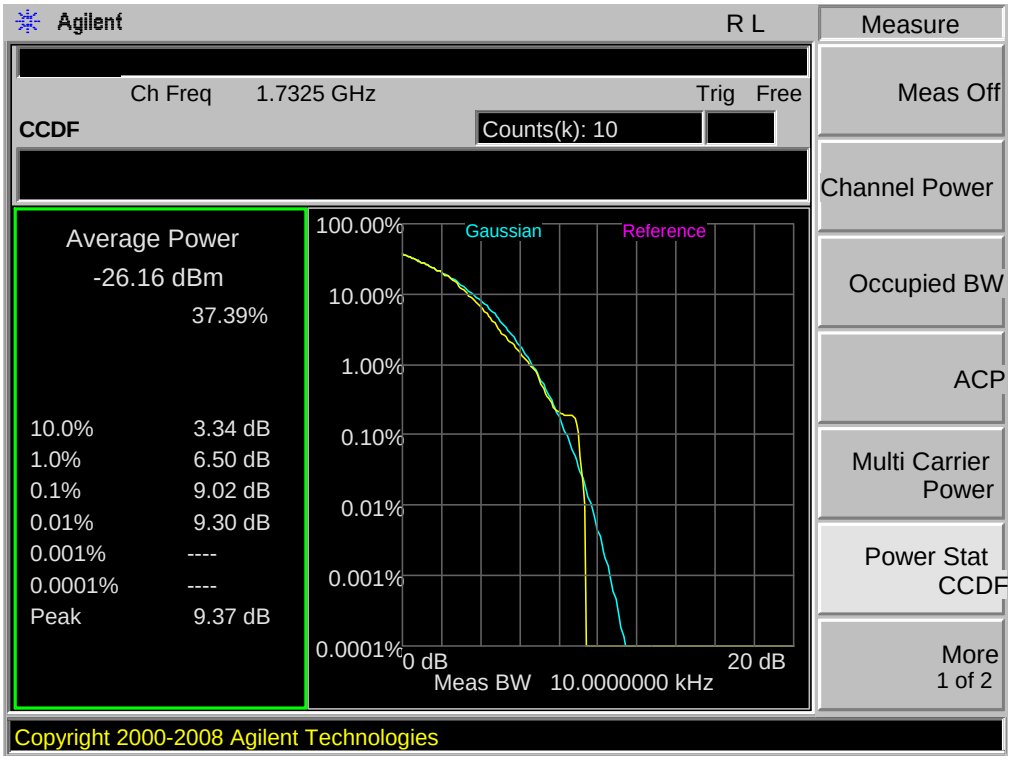
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 10.0,NO. RB 50,RB POS. Low,16QAM



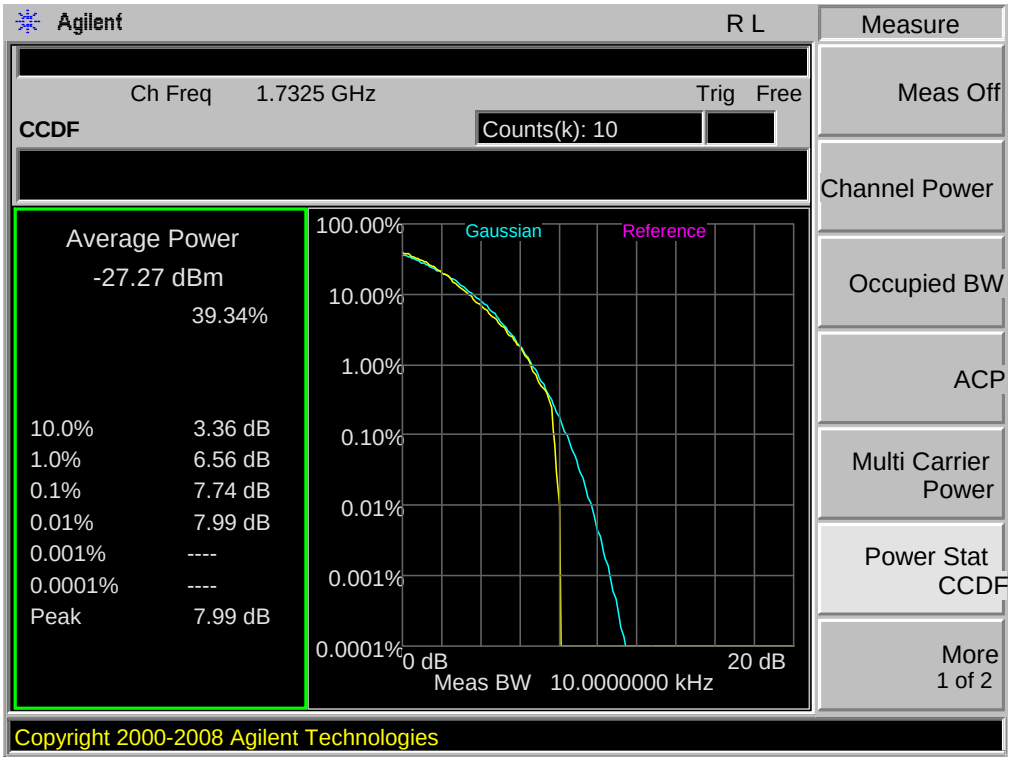
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 15.0,NO. RB 75,RB POS. Low,QPSK



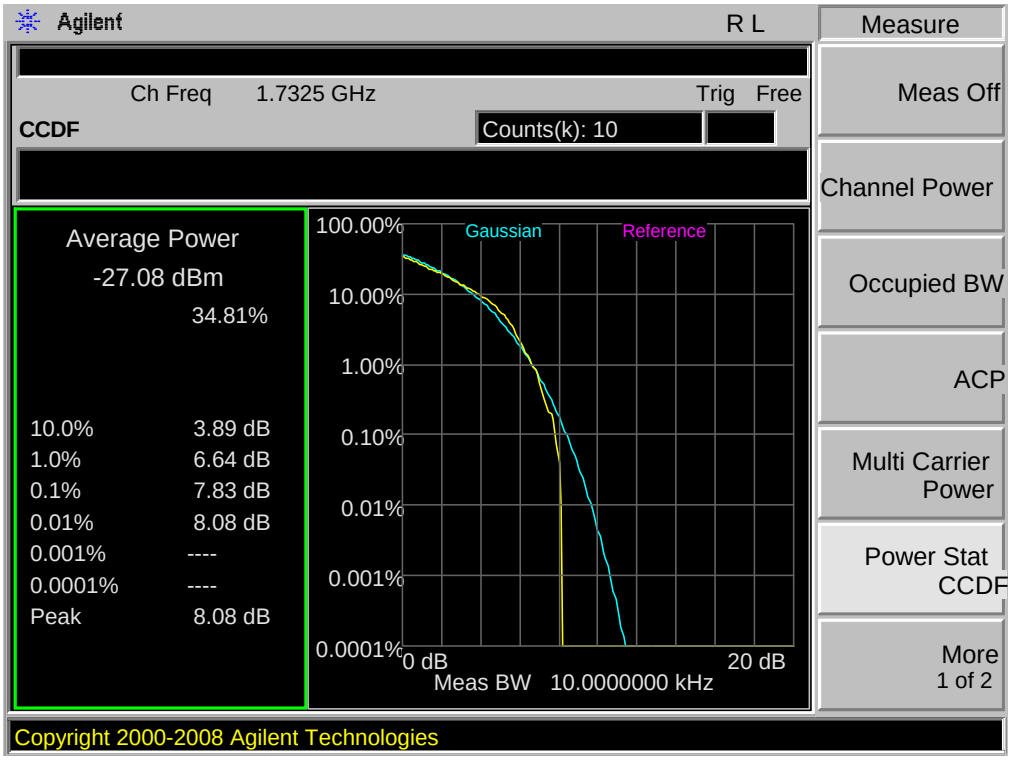
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 15.0,NO. RB 75,RB POS. Low,16QAM



Band 4,UL Channel 20175,UL Frequency 1732.5,BW 20.0,NO. RB 100,RB POS. Low,QPSK

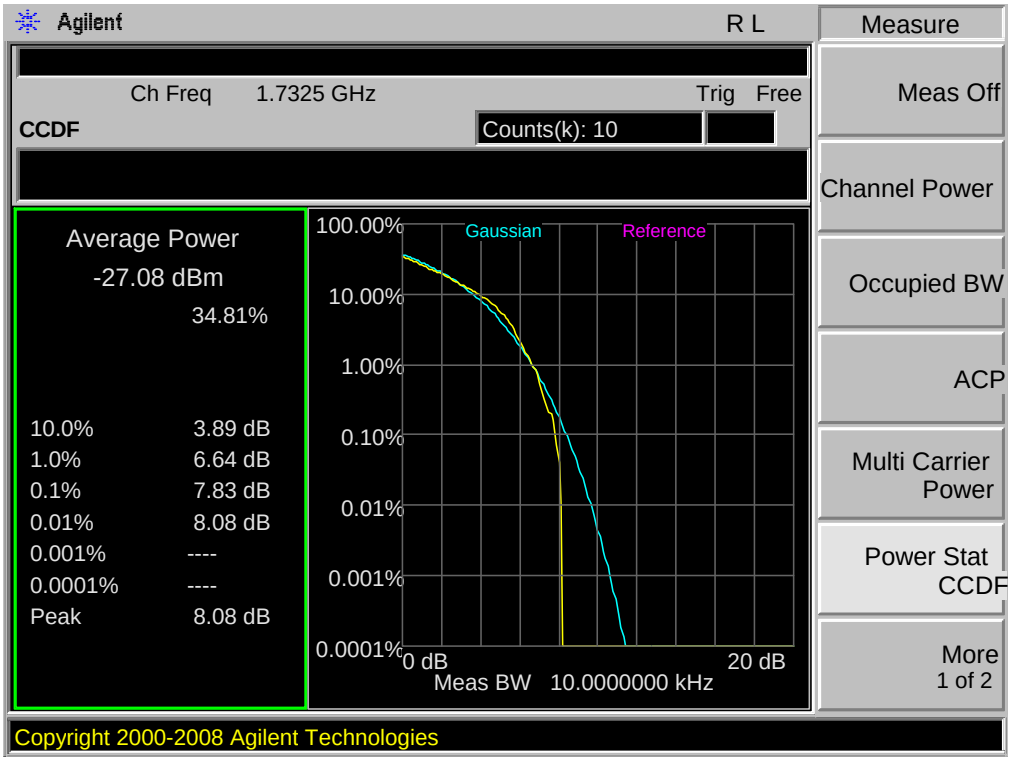


Band 4,UL Channel 20175,UL Frequency 1732.5,BW 20.0,NO. RB 100,RB POS. Low,16QAM

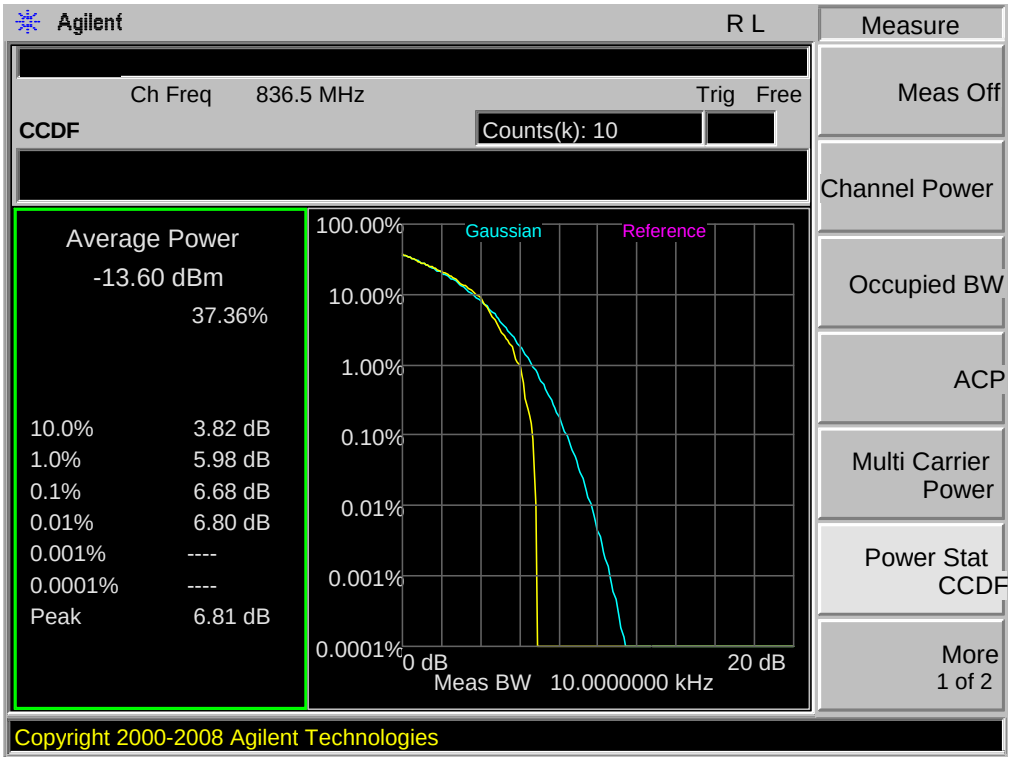


12.1.6. LTE BAND 5

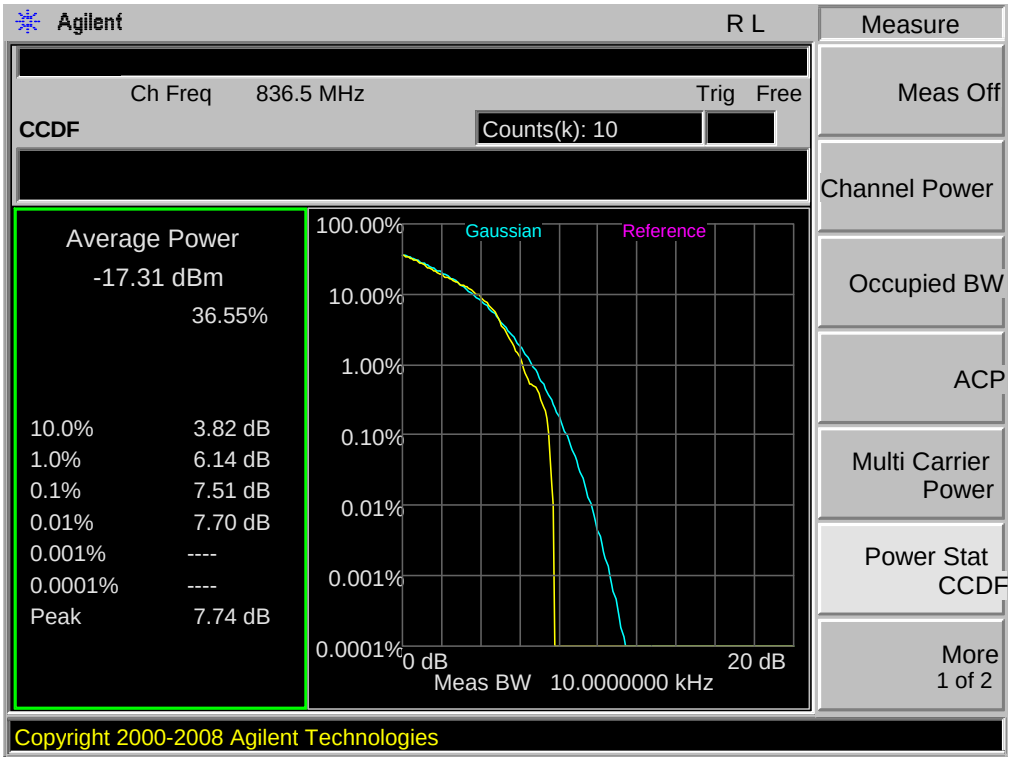
Band 5,UL Channel 20525,UL Frequency 836.5,BW 1.4,NO. RB 6,RB POS. Low,QPSK



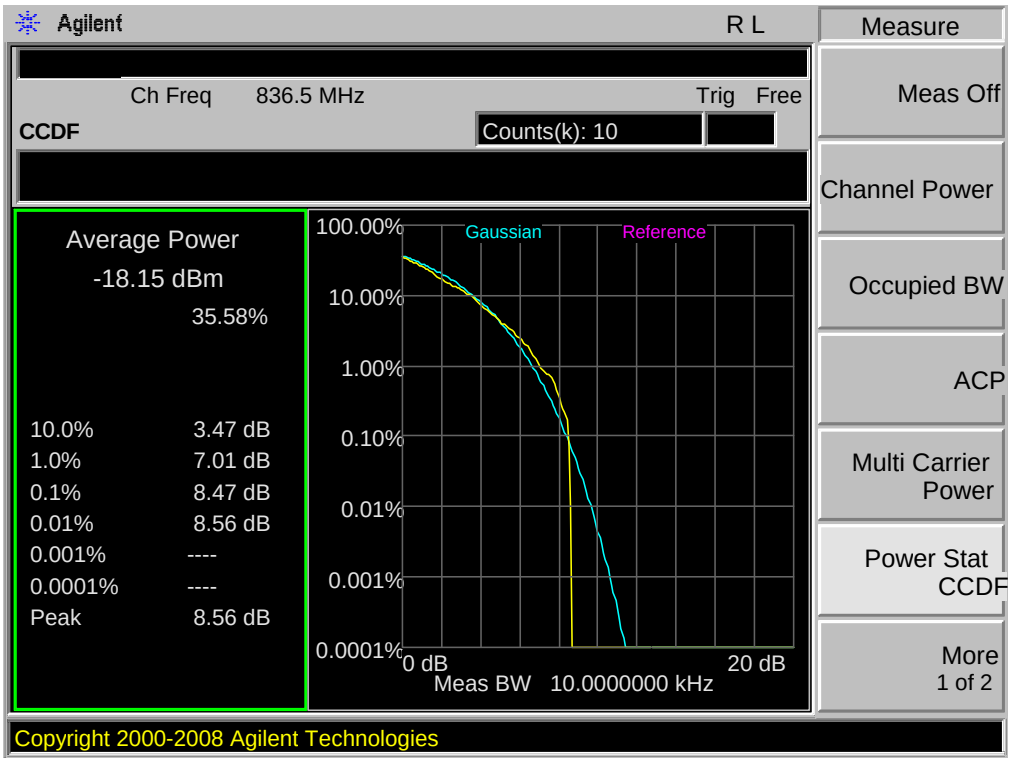
Band 5,UL Channel 20525,UL Frequency 836.5,BW 1.4,NO. RB 6,RB POS. Low,16-QAM



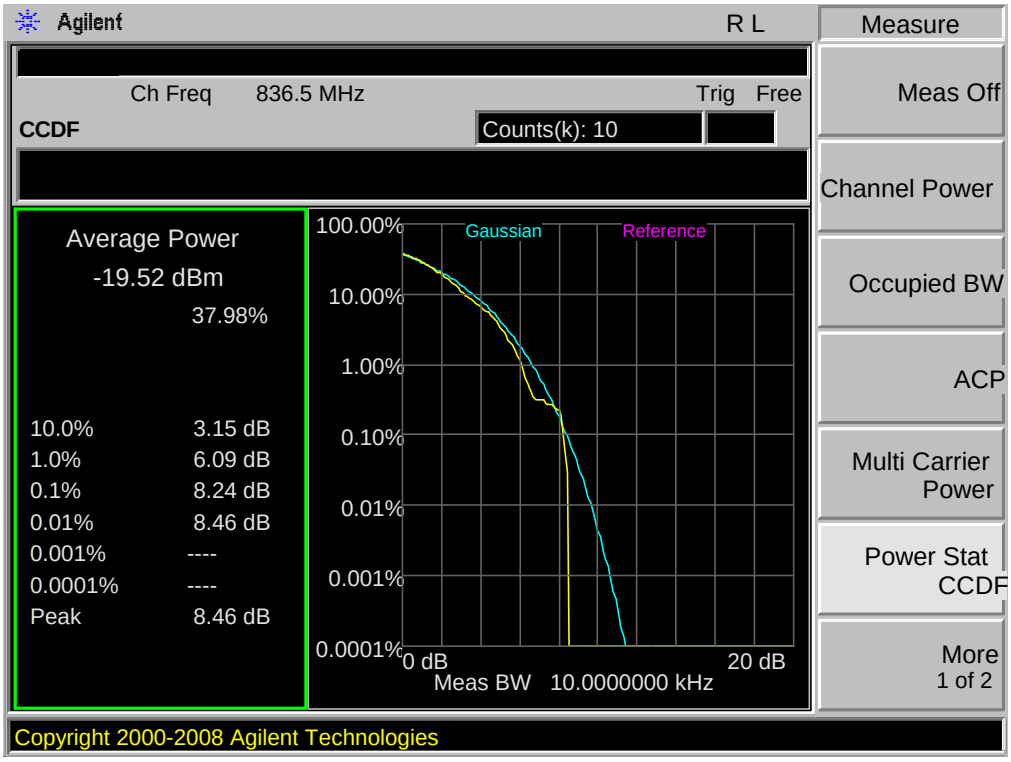
Band 5,UL Channel 20525,UL Frequency 836.5,BW 3.0,NO. RB 15,RB POS. Low,QPSK



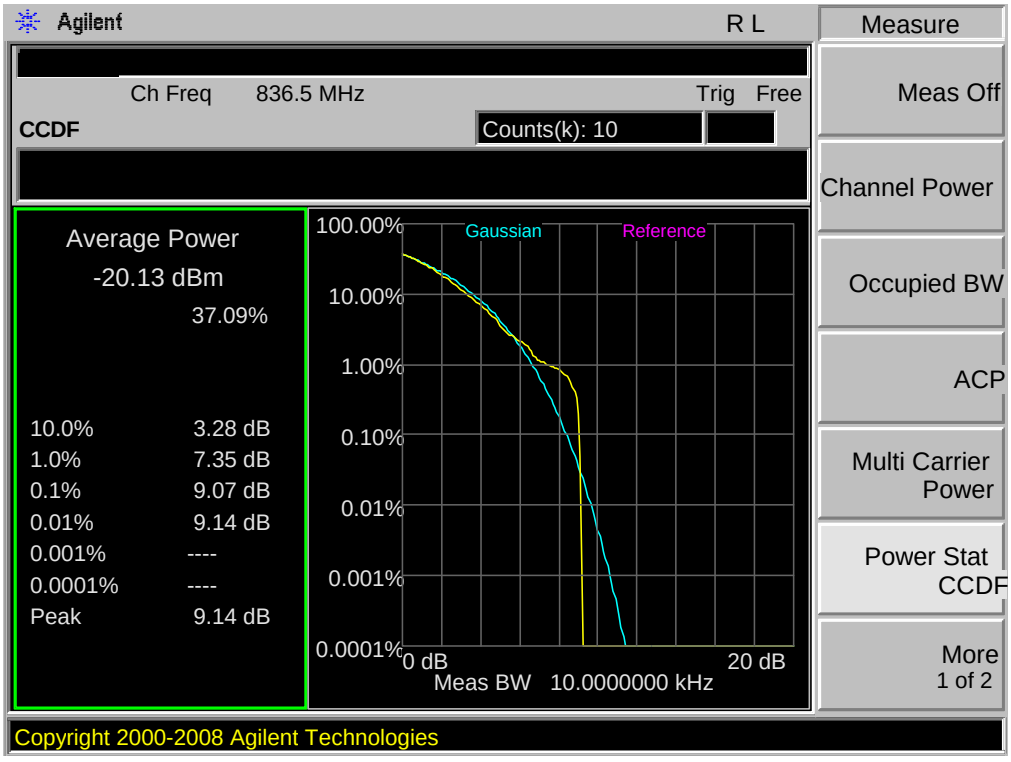
Band 5,UL Channel 20525,UL Frequency 836.5,BW 3.0,NO. RB 15,RB POS. Low,16-QAM



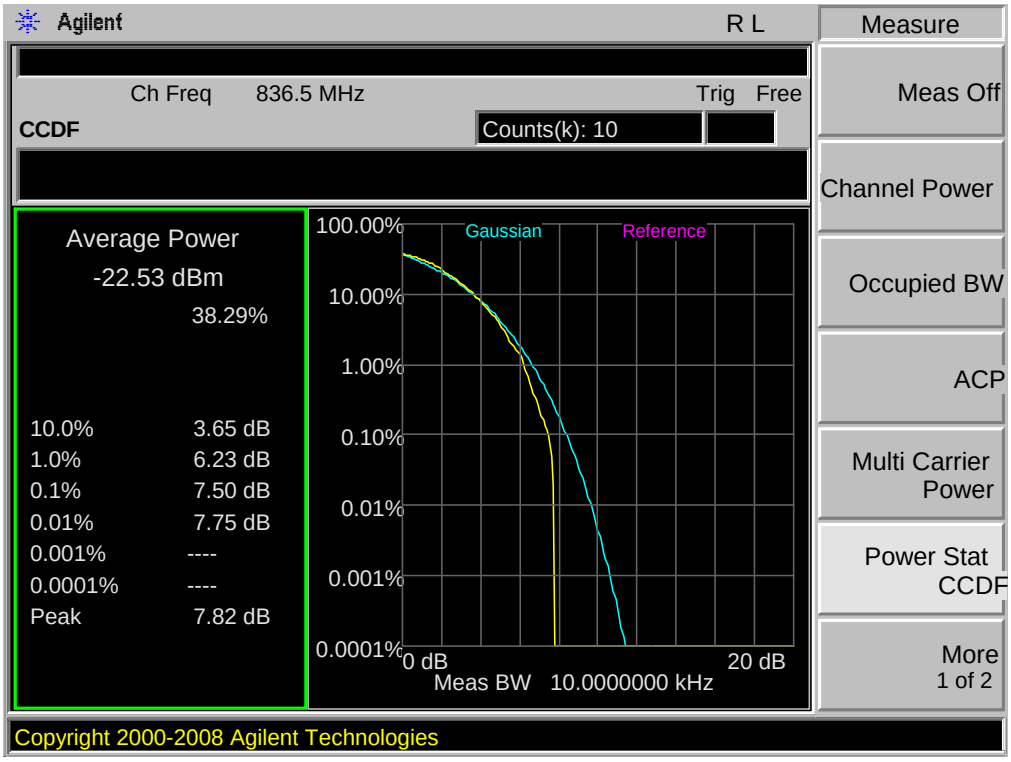
Band 5,UL Channel 20525,UL Frequency 836.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



Band 5,UL Channel 20525,UL Frequency 836.5,BW 5.0,NO. RB 25,RB POS. Low,16-QAM



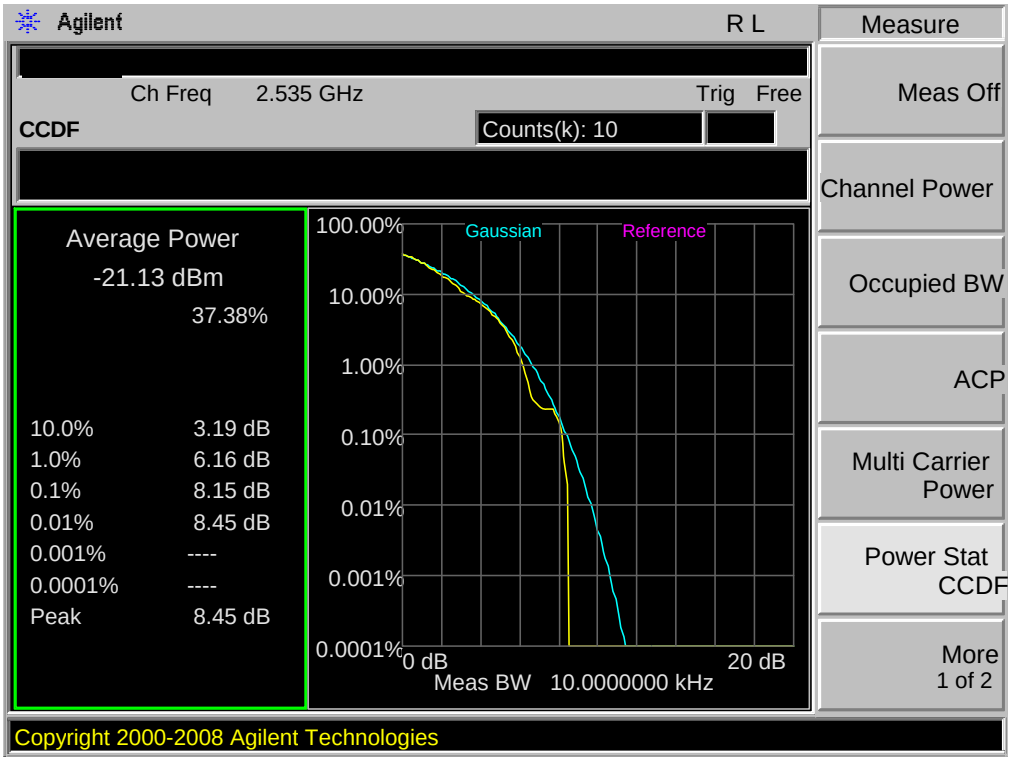
Band 5,UL Channel 20525,UL Frequency 836.5,BW 10.0,NO. RB 50,RB POS. Low,QPSK



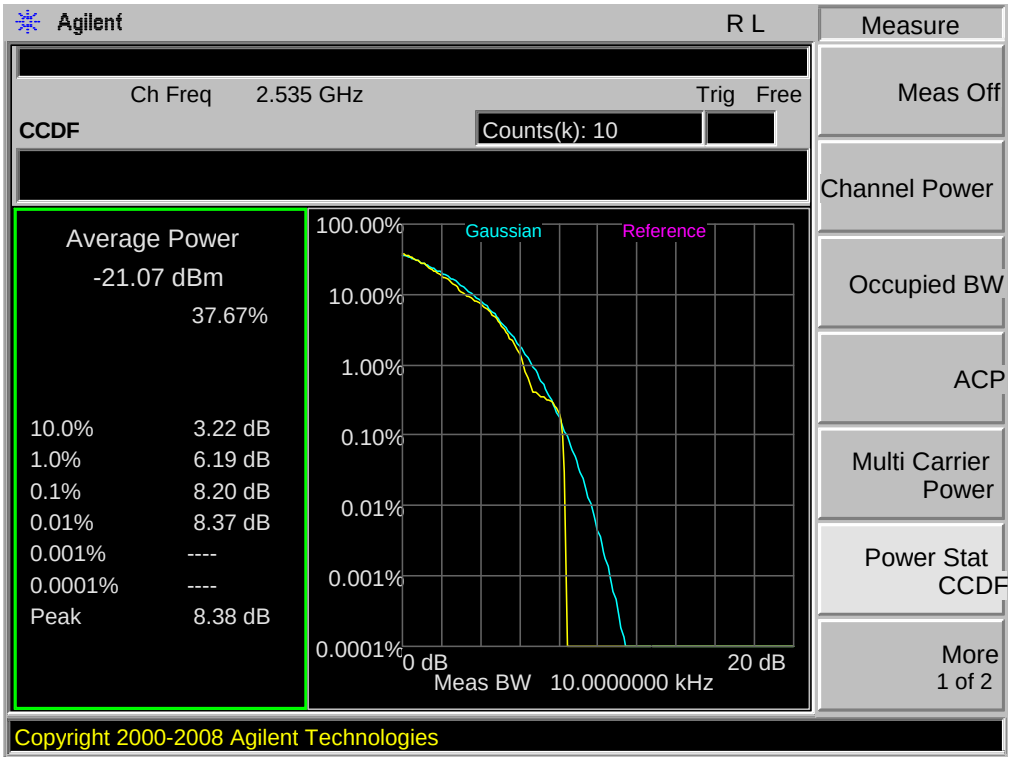
Band 5,UL Channel 20525,UL Frequency 836.5,BW 10.0,NO. RB 50,RB POS. Low,16-QAM

12.1.7. LTE BAND 7

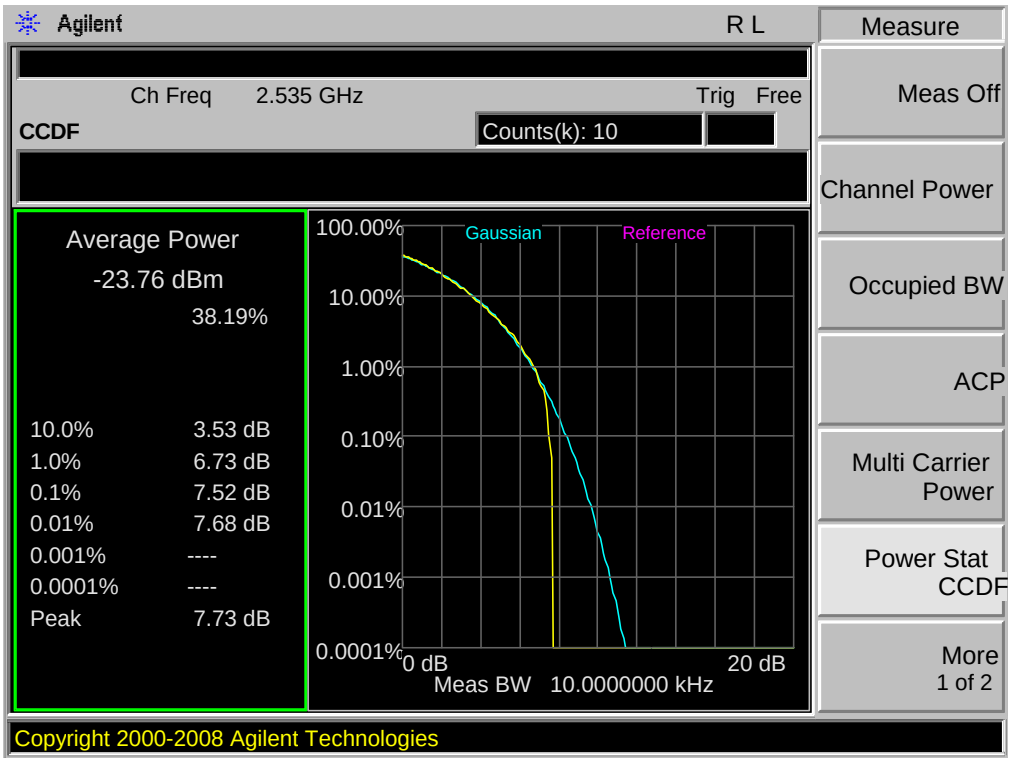
Band 7,UL Channel 18900,UL Frequency 2315.0,BW 5.0,NO. RB 25,RB POS. Low,QPSK



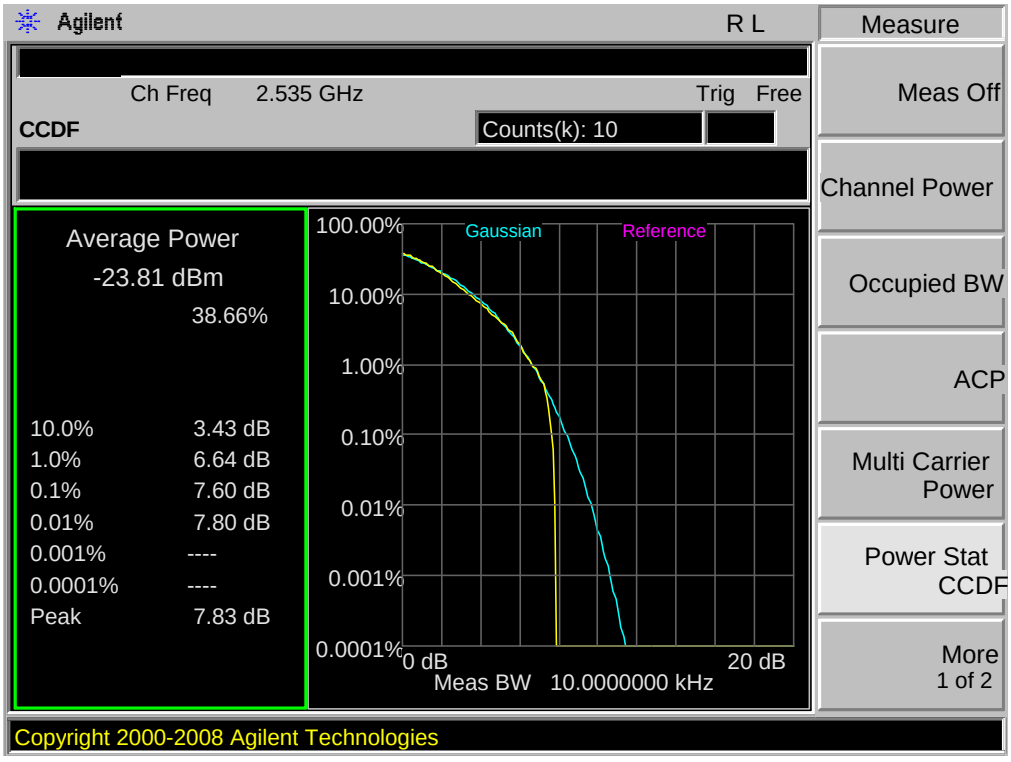
Band 7,UL Channel 18900,UL Frequency 2315.0,BW 5.0,NO. RB 25,RB POS. Low,16QAM



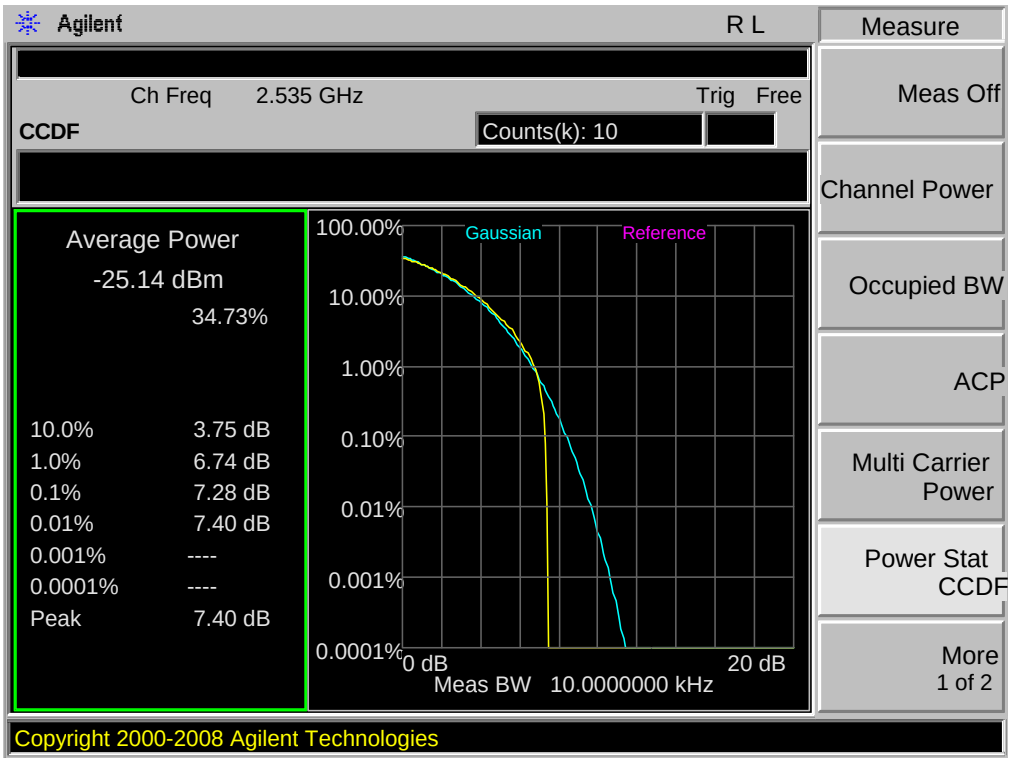
Band 7,UL Channel 18900,UL Frequency 2315.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



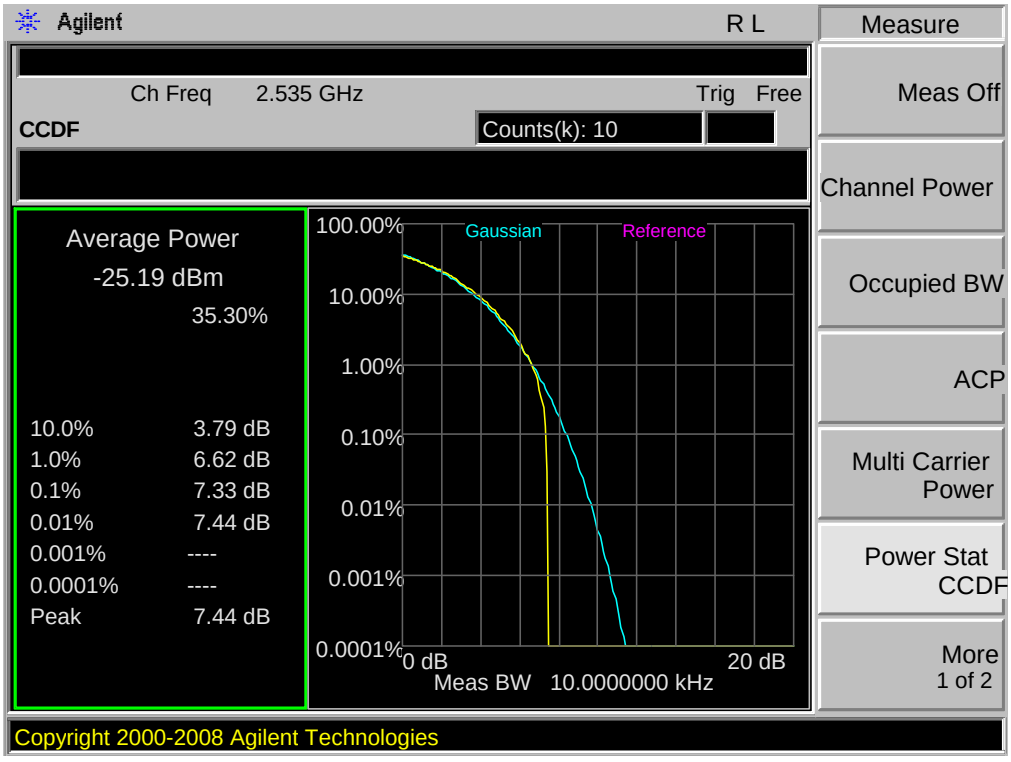
Band 7,UL Channel 18900,UL Frequency 2315.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



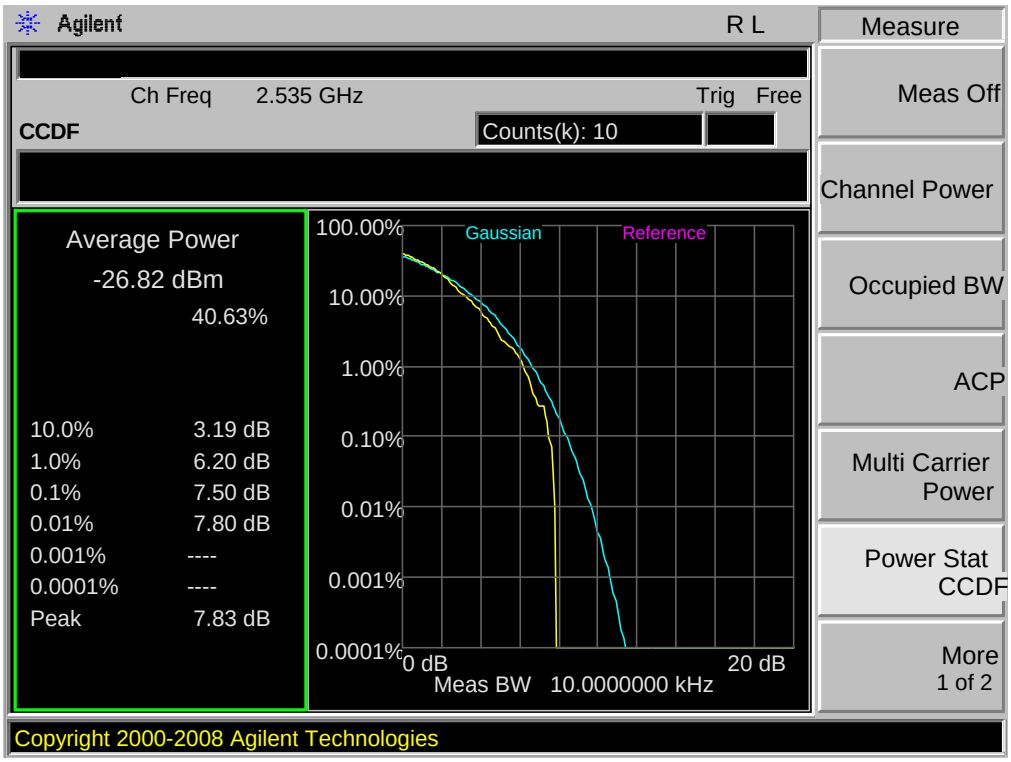
Band 7,UL Channel 18900,UL Frequency 2315.0,BW 15.0,NO. RB 75,RB POS. Low,QPSK



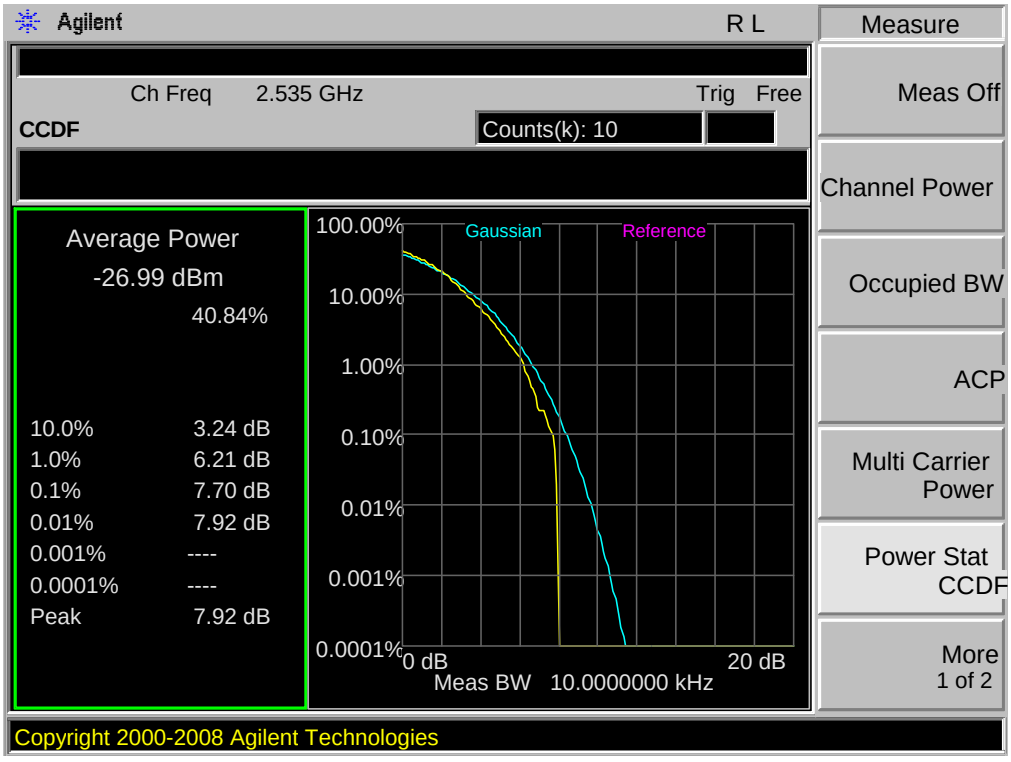
Band 7,UL Channel 18900,UL Frequency 2315.0,BW 15.0,NO. RB 75,RB POS. Low,16QAM



Band 7,UL Channel 18900,UL Frequency 2315.0,BW 20.0,NO. RB 100,RB POS. Low,QPSK

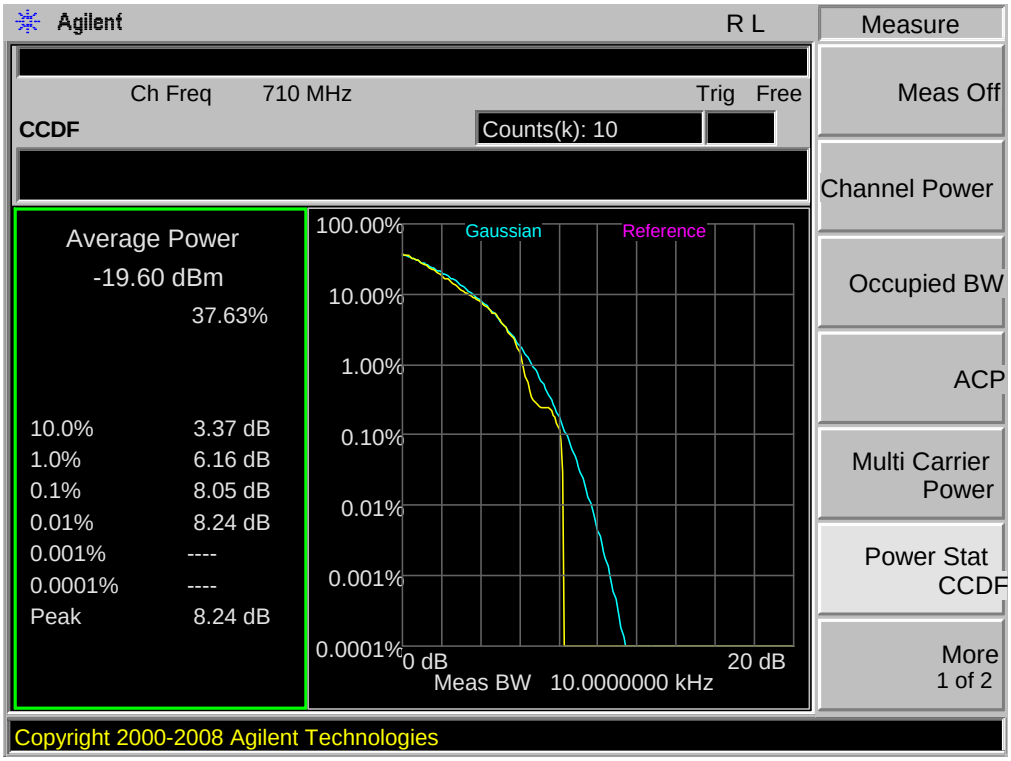


Band 7,UL Channel 18900,UL Frequency 2315.0,BW 20.0,NO. RB 100,RB POS. Low,16QAM

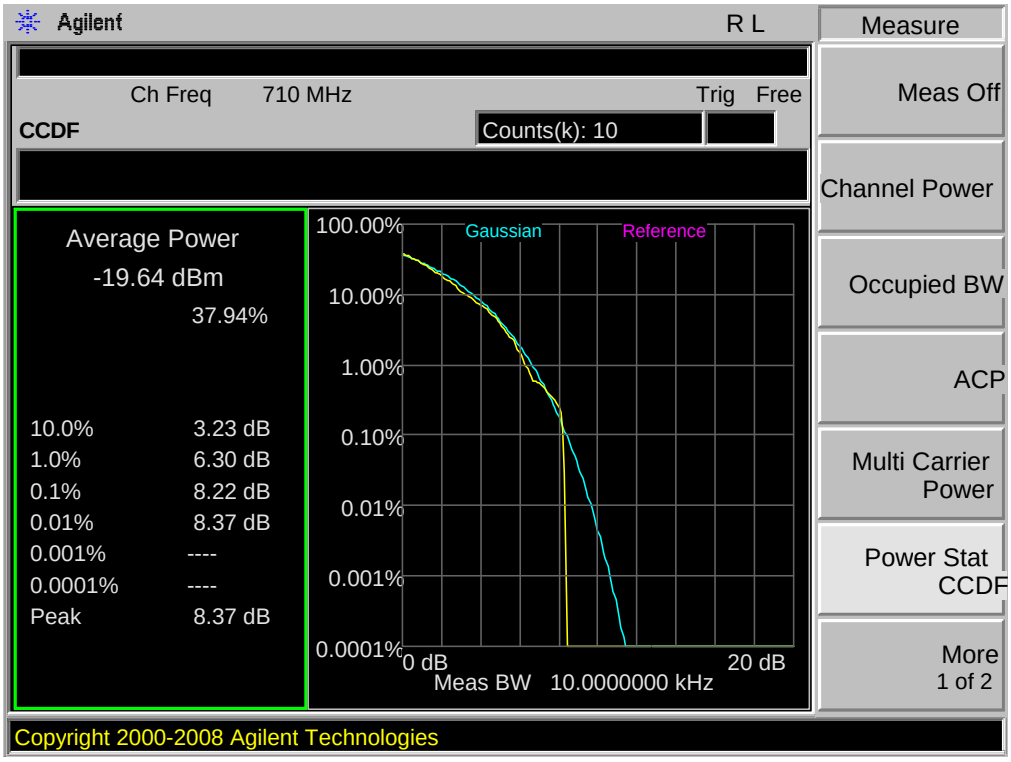


12.1.8. LTE BAND 17

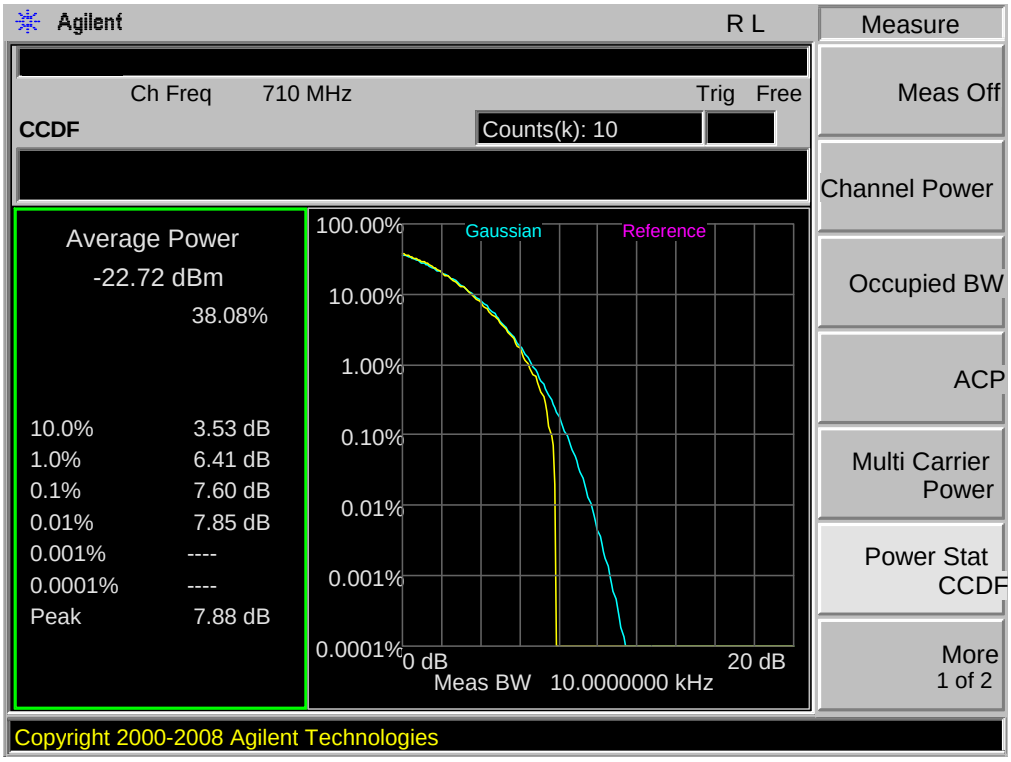
Band 17,UL Channel 23790,UL Frequency 710.0,BW 5.0,NO. RB 25,RB POS. Low,QPSK



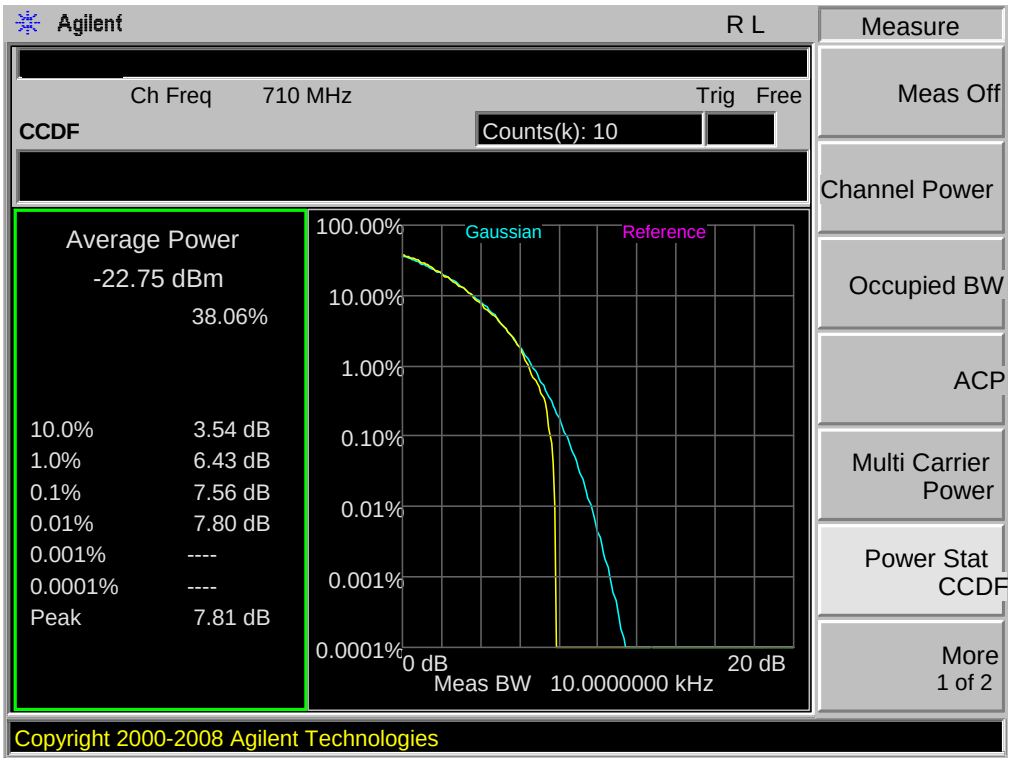
Band 17,UL Channel 23790,UL Frequency 710.0,BW 5.0,NO. RB 25,RB POS. Low,16QAM



Band 17,UL Channel 23790,UL Frequency 710.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



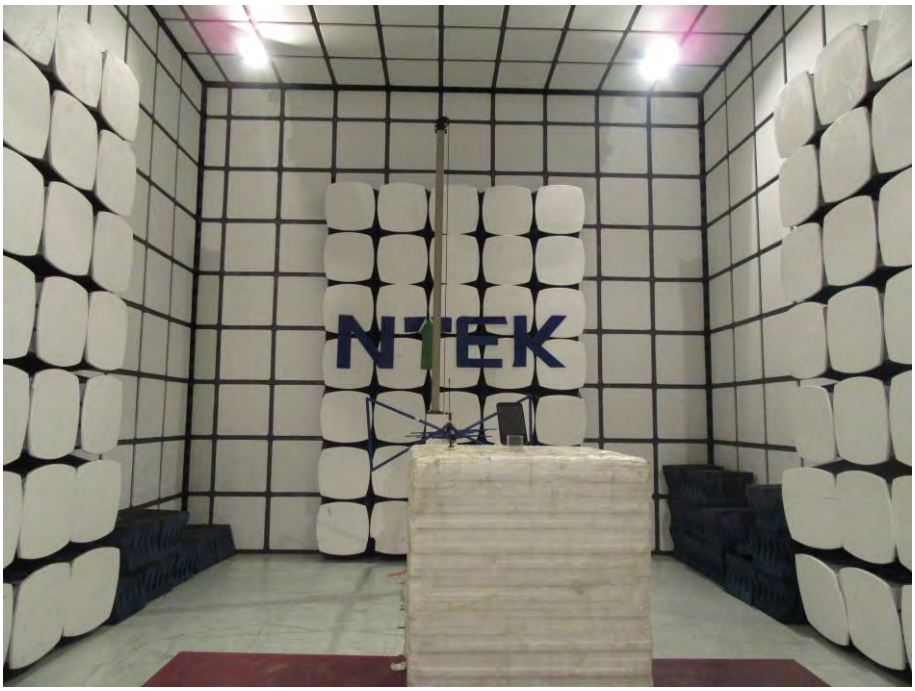
Band 17,UL Channel 23790,UL Frequency 710.0,BW 10.0,NO. RB 50,RB POS. Low,16QAM



APPENDIX IV

PHOTOGRAPHS OF TEST SETUP

RADIATED SPURIOUS EMISSION



----END OF REPORT----