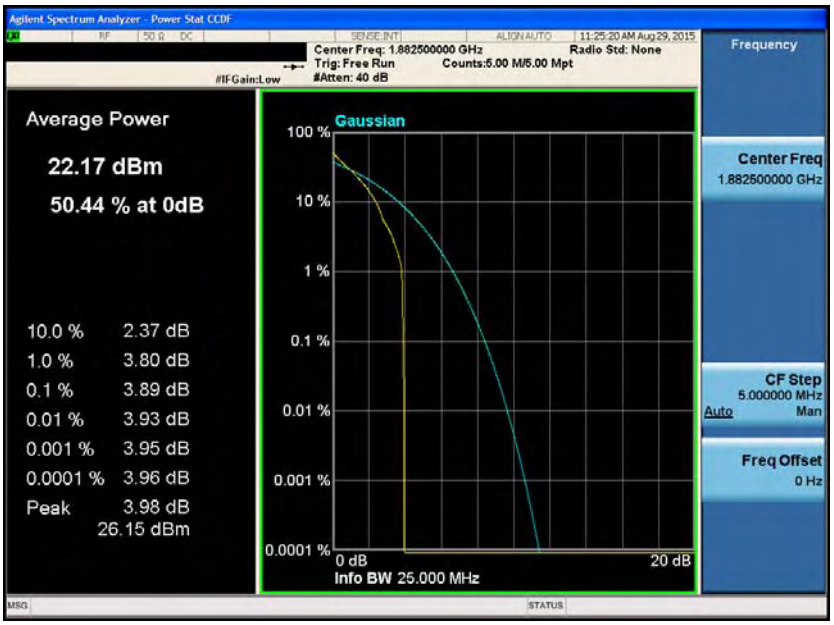
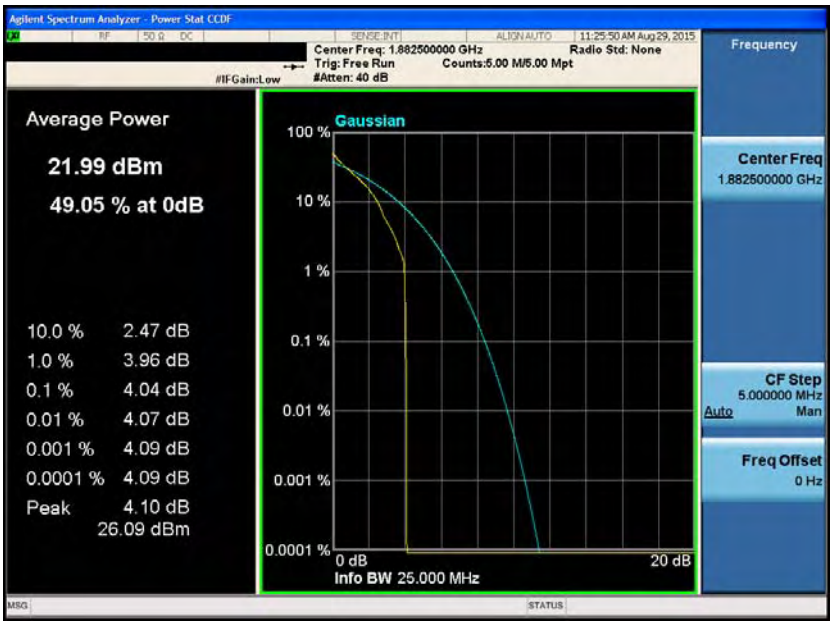
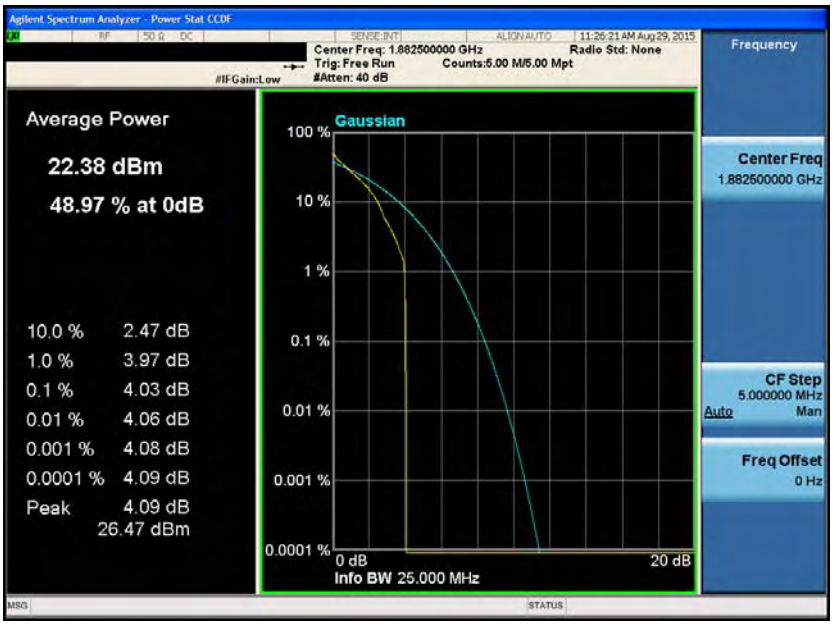
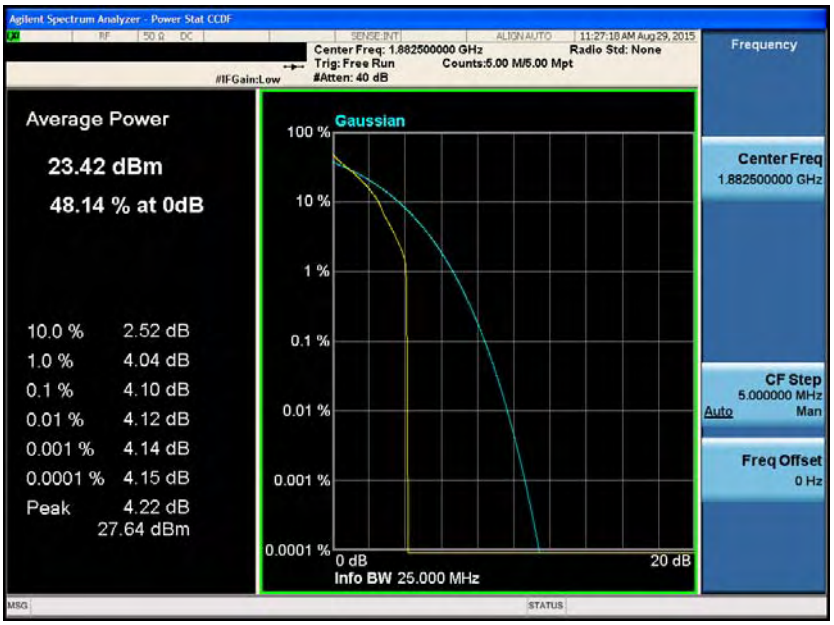
| LTE Band 25 (Channel Bandwidth: 5 MHz) _ QPSK | |
|---|---|
| 1882.5 MHz |  |

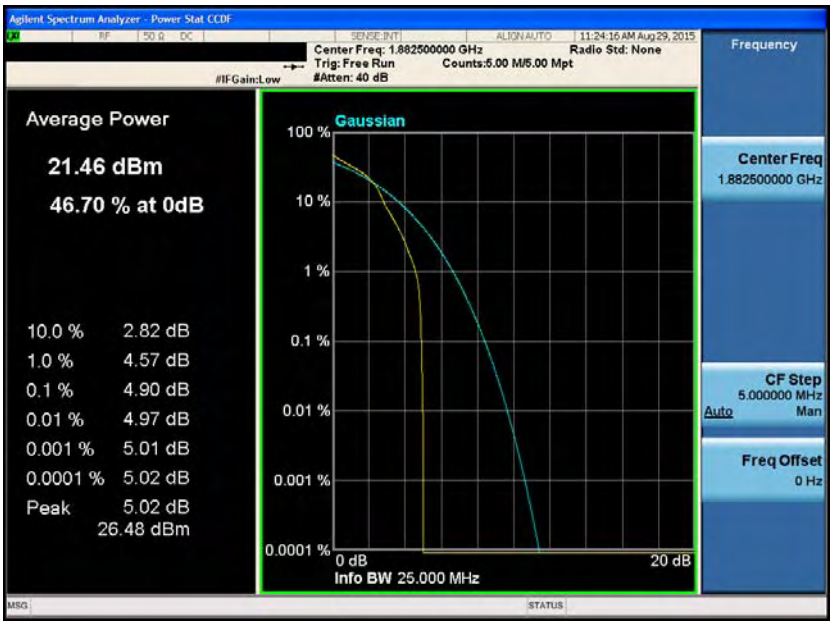


| LTE Band 25 (Channel Bandwidth: 10 MHz) _ QPSK | |
|---|---|
| 1882.5 MHz |  |

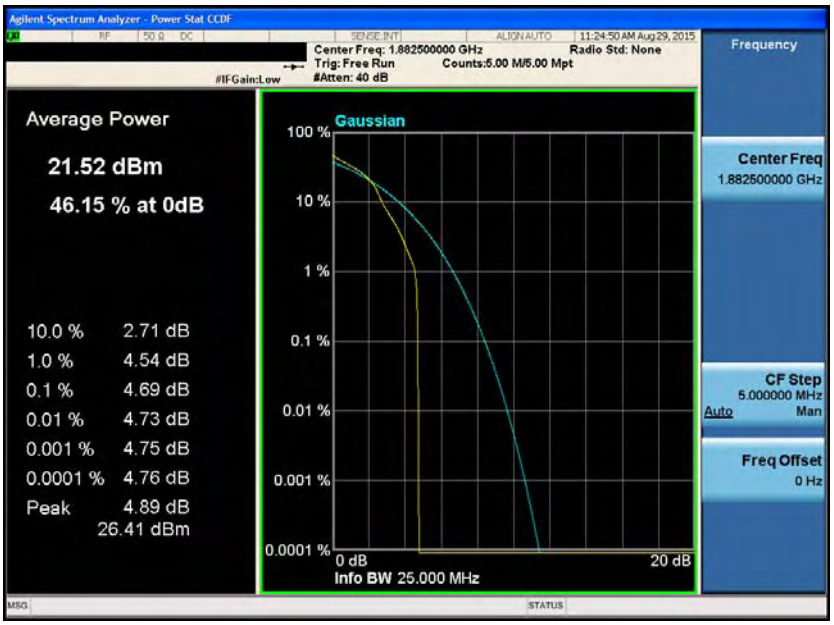
| LTE Band 25 (Channel Bandwidth: 15 MHz) _ QPSK | |
|---|---|
| 1882.5 MHz |  |

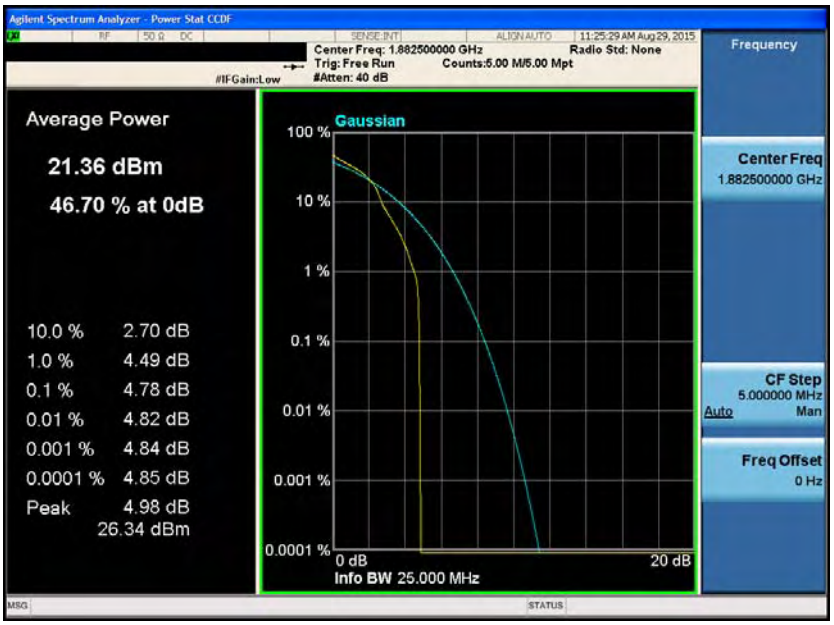


| LTE Band 25 (Channel Bandwidth: 20 MHz) _ QPSK | |
|---|---|
| 1882.5 MHz |  |

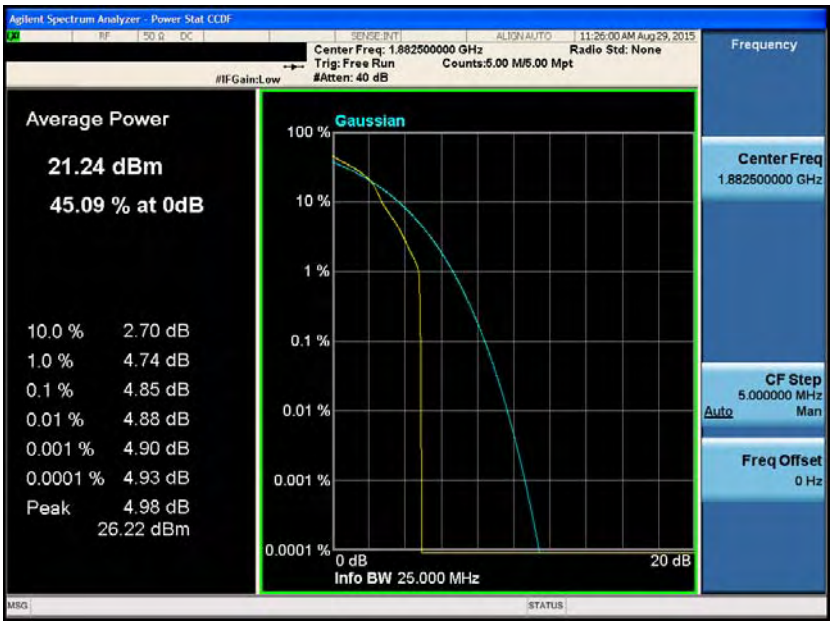
| LTE Band 25 (Channel Bandwidth: 1.4 MHz) _ 16QAM | |
|---|---|
| 1882.5 MHz |  |

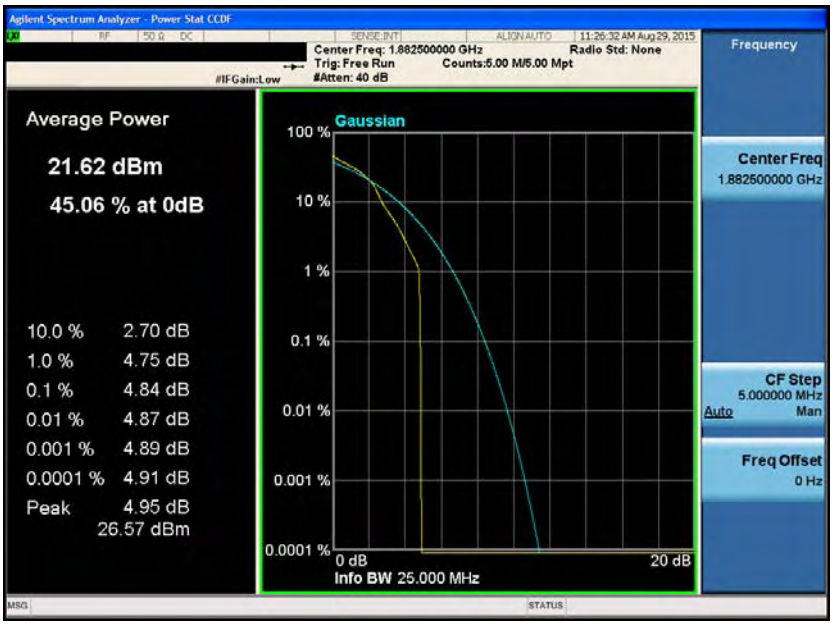


| LTE Band 25 (Channel Bandwidth: 3 MHz) _ 16QAM | |
|---|---|
| 1882.5 MHz |  |

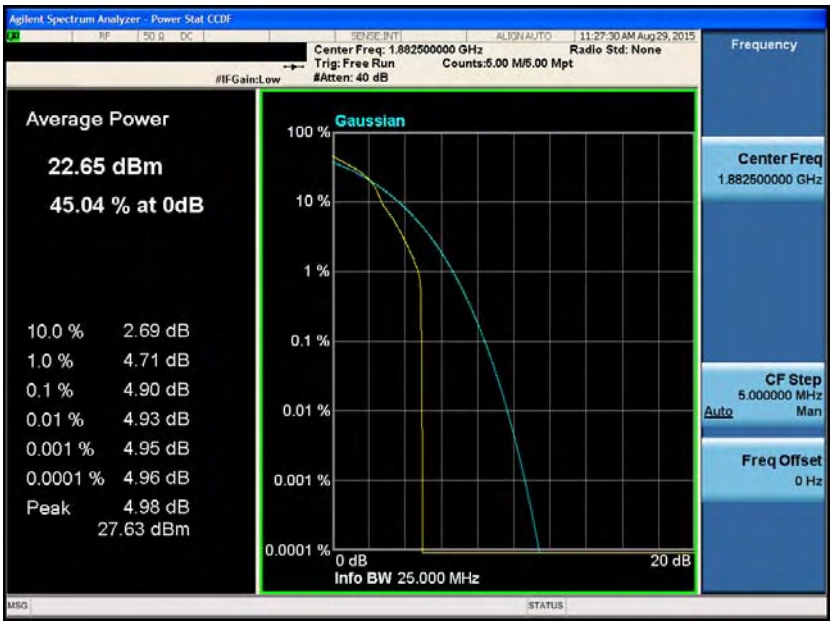
| LTE Band 25 (Channel Bandwidth: 5 MHz) _ 16QAM | |
|---|---|
| 1882.5 MHz |  |

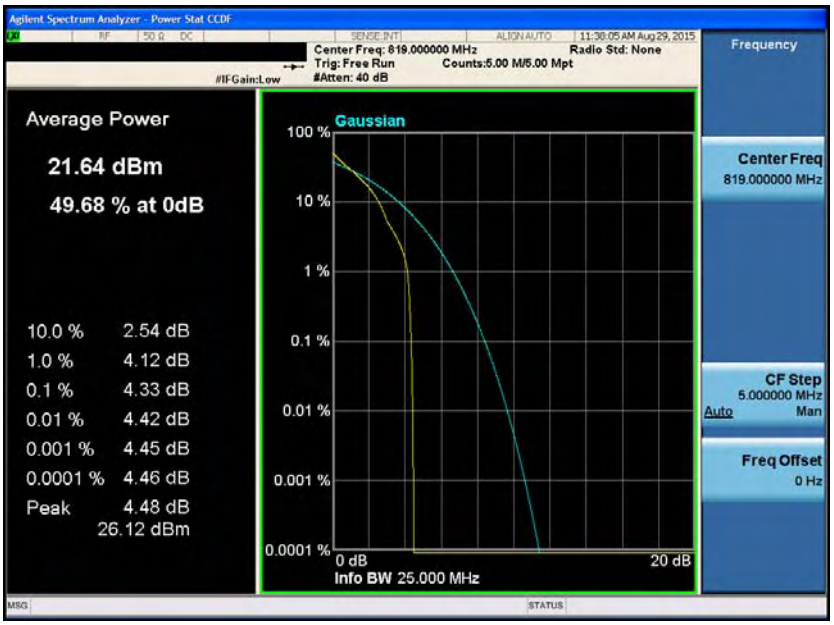


| LTE Band 25 (Channel Bandwidth: 10 MHz) _ 16QAM | |
|---|---|
| 1882.5 MHz |  |

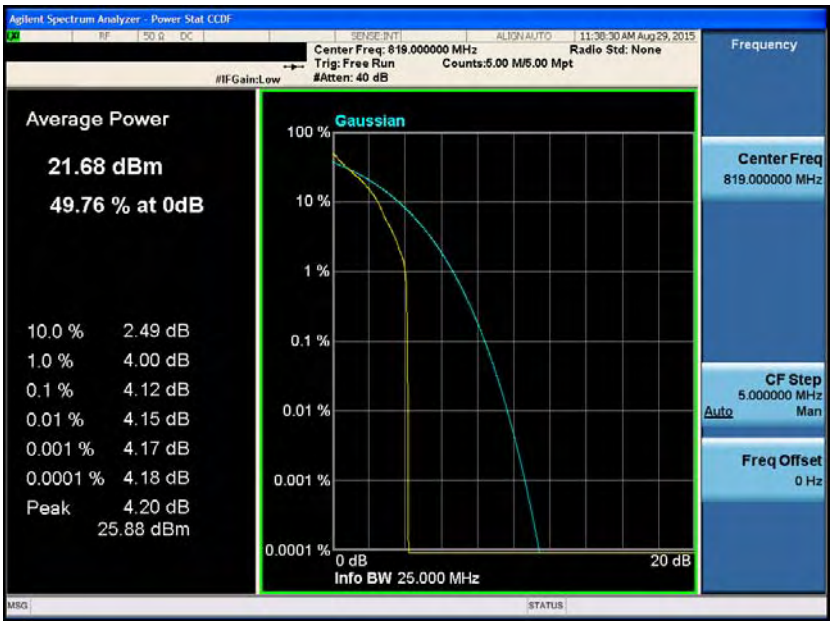
| LTE Band 25 (Channel Bandwidth: 15 MHz) _ 16QAM | |
|---|---|
| 1882.5 MHz |  |

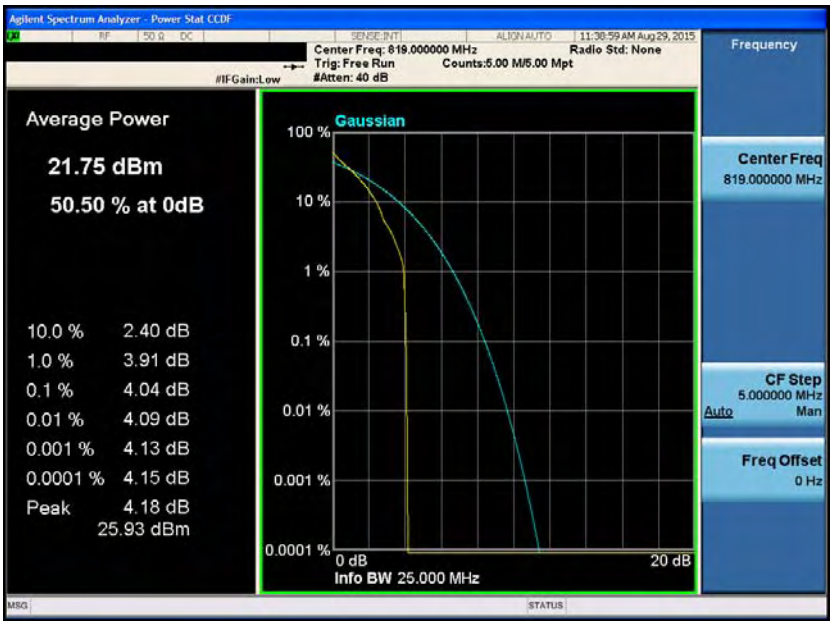


| LTE Band 25 (Channel Bandwidth: 20 MHz) _ 16QAM | |
|---|---|
| 1882.5 MHz |  |

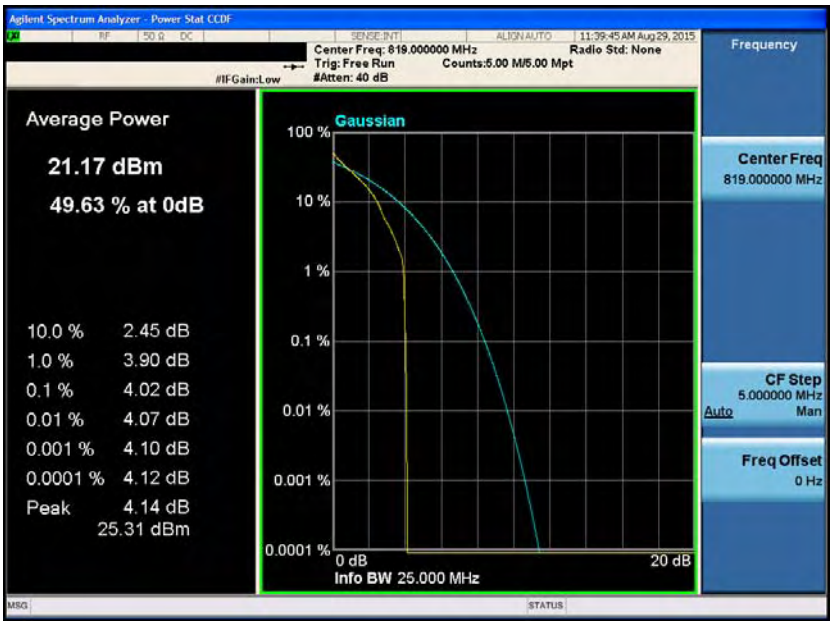
| LTE Band 26_Part 90S (Channel Bandwidth: 1.4 MHz) _ QPSK | |
|---|---|
| 819.0 MHz |  |

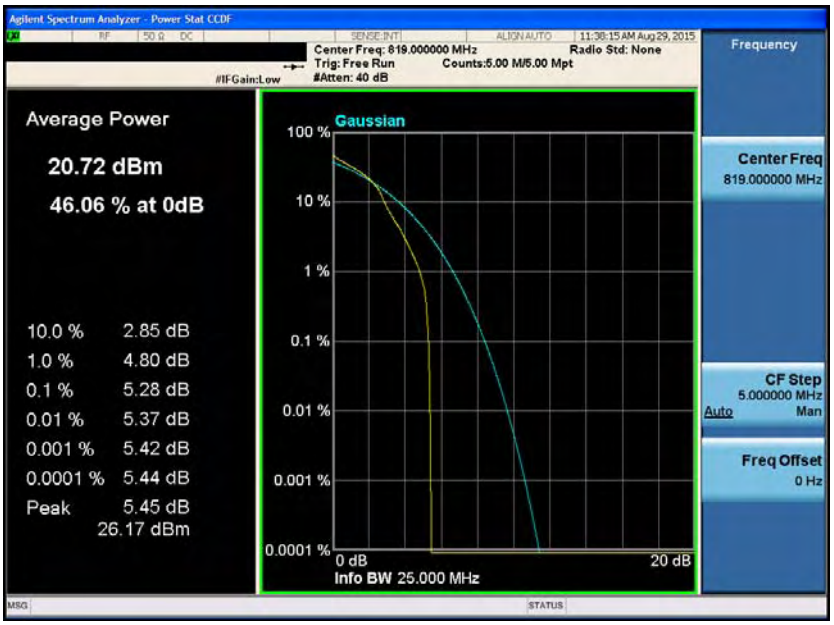


| LTE Band 26_Part 90S (Channel Bandwidth: 3 MHz) _ QPSK | |
|---|---|
| 819.0 MHz |  |

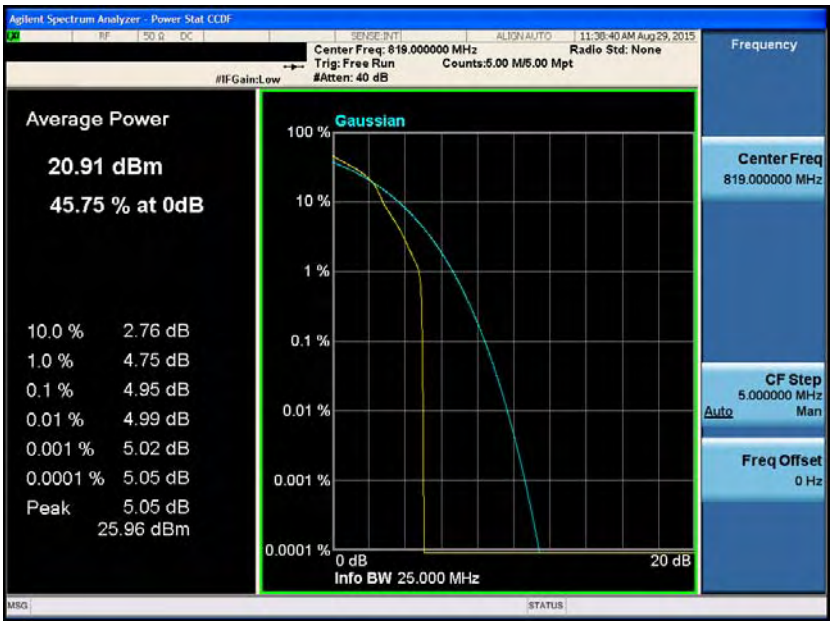
| LTE Band 26_Part 90S (Channel Bandwidth: 5 MHz) _ QPSK | |
|---|---|
| 819.0 MHz |  |

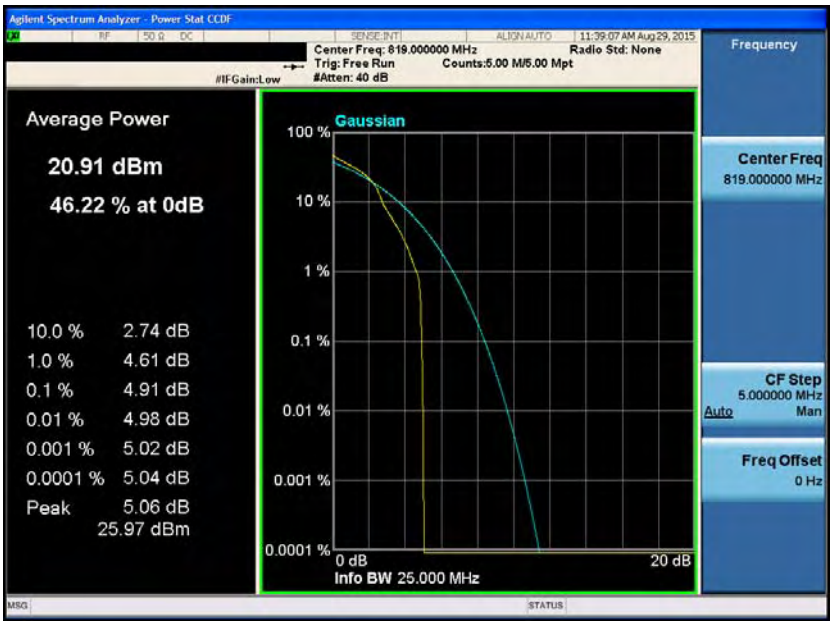


| LTE Band 26_Part 90S (Channel Bandwidth: 10 MHz) _ QPSK | |
|---|---|
| 819.0 MHz |  |

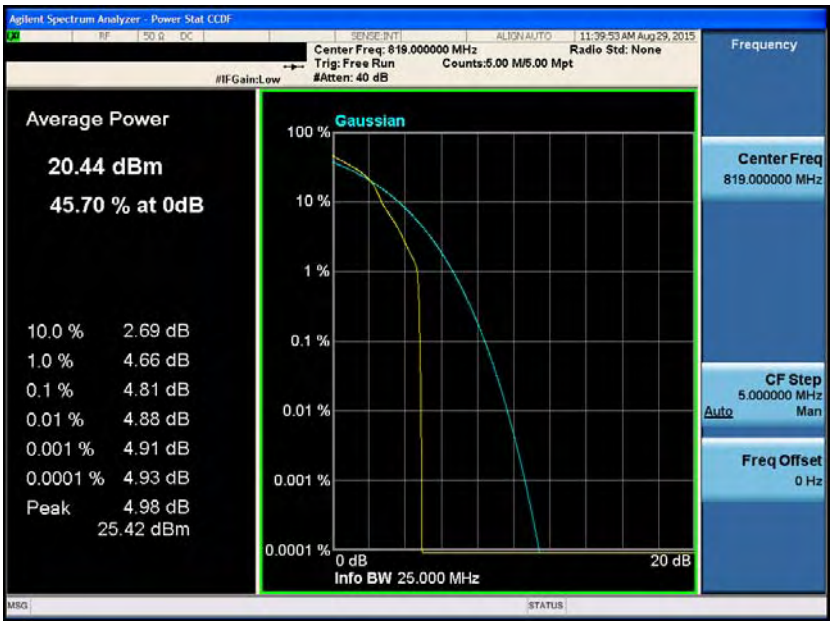
| LTE Band 26_Part 90S (Channel Bandwidth: 1.4 MHz) _ 16QAM | |
|---|---|
| 819.0 MHz |  |

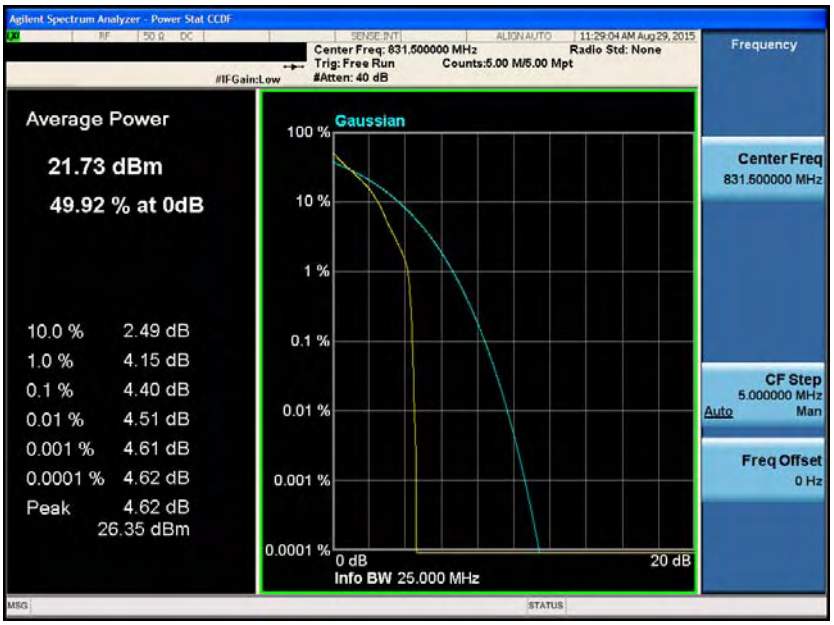


| LTE Band 26_Part 90S (Channel Bandwidth: 3 MHz) _ 16QAM | |
|---|---|
| 819.0 MHz |  |

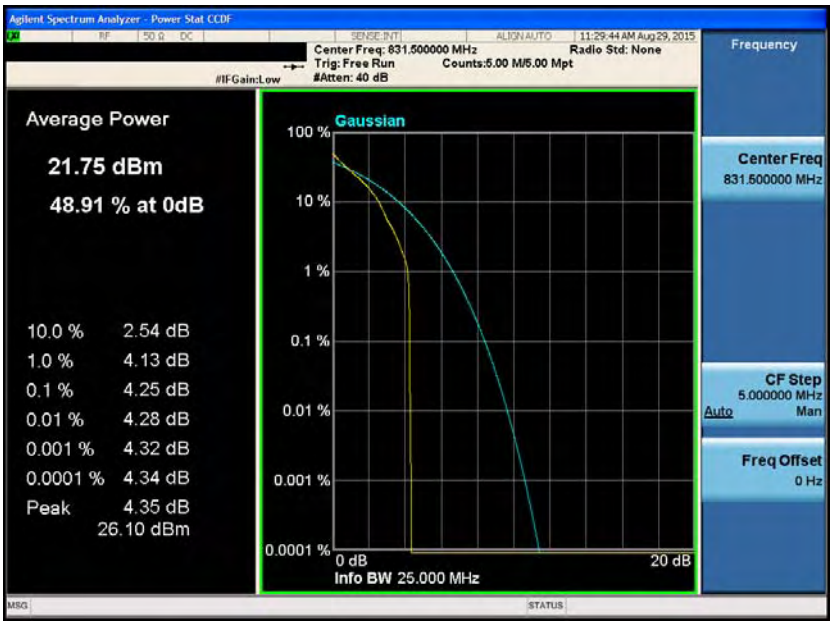
| LTE Band 26_Part 90S (Channel Bandwidth: 5 MHz) _ 16QAM | |
|---|---|
| 819.0 MHz |  |

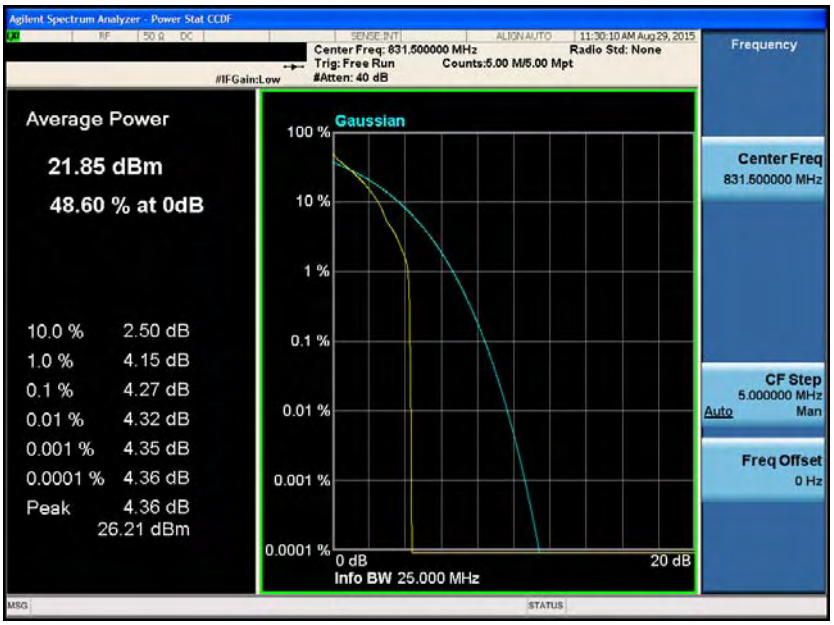


| LTE Band 26_Part 90S (Channel Bandwidth: 10 MHz) _ 16QAM | |
|---|---|
| 819.0 MHz |  |

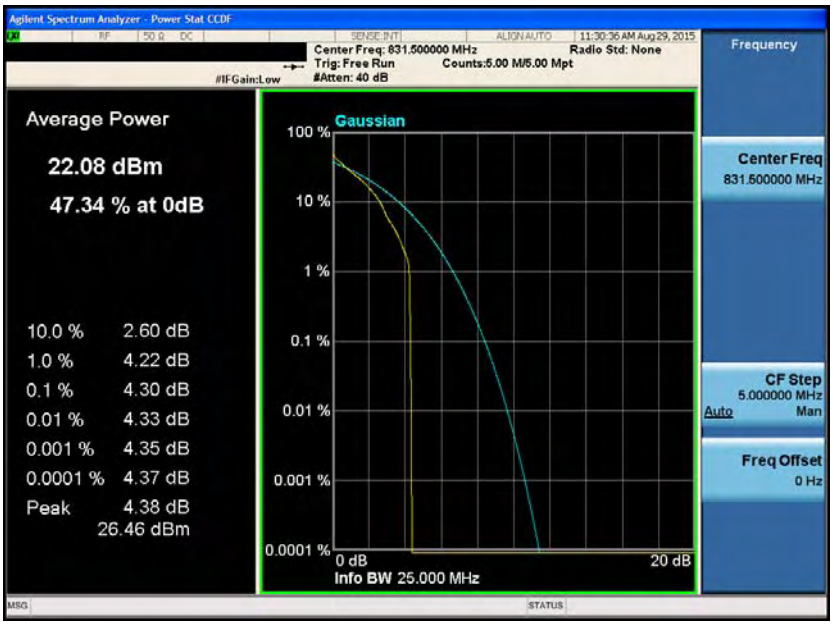
| LTE Band 26_Part 22H (Channel Bandwidth: 1.4 MHz) _ QPSK | |
|---|---|
| 831.5 MHz |  |

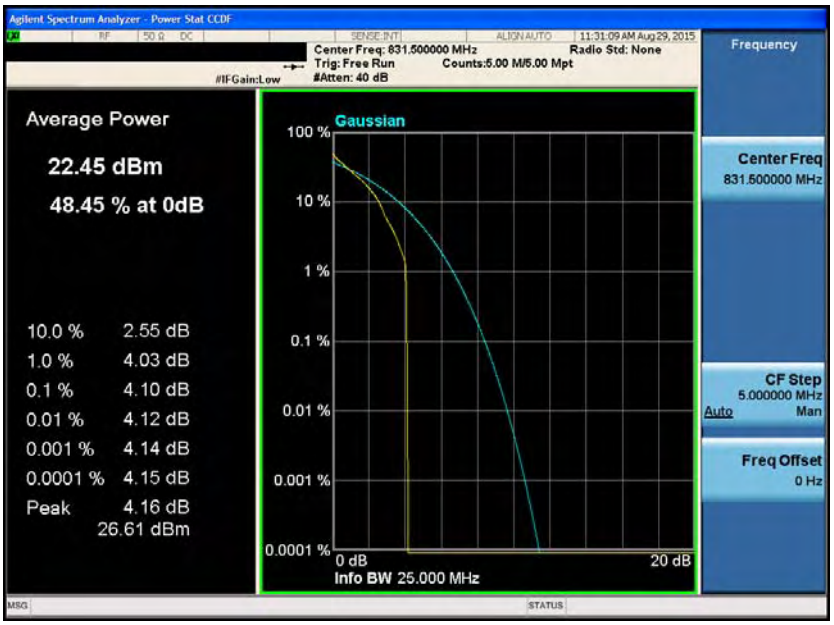


| LTE Band 26_Part 22H (Channel Bandwidth: 3 MHz) _ QPSK | |
|---|---|
| 831.5 MHz |  |

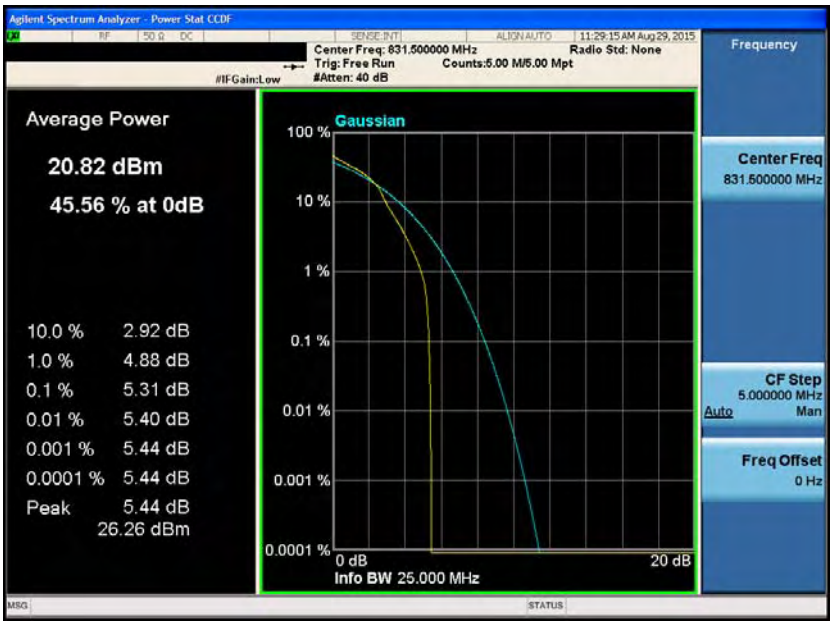
| LTE Band 26_Part 22H (Channel Bandwidth: 5 MHz) _ QPSK | |
|---|---|
| 831.5 MHz |  |

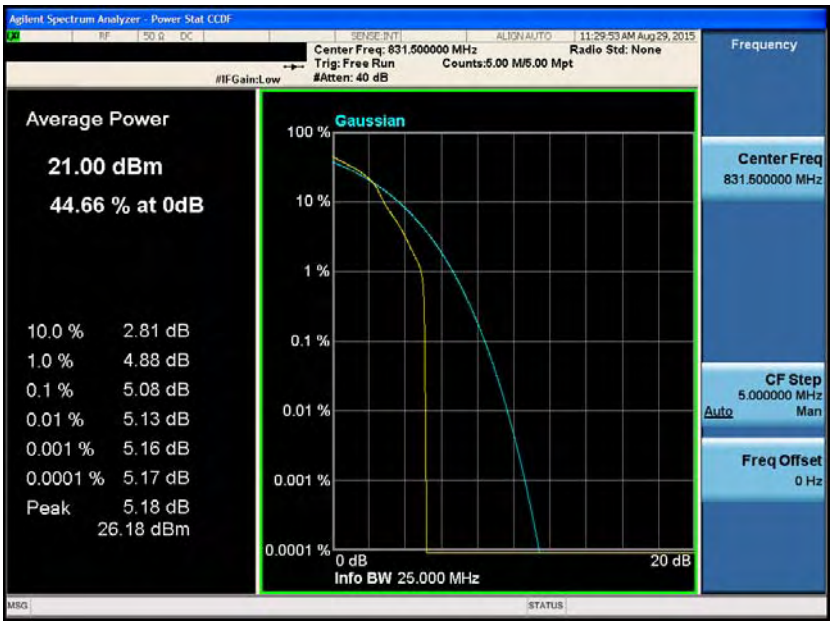


| LTE Band 26_Part 22H (Channel Bandwidth: 10 MHz) _ QPSK | |
|---|---|
| 831.5 MHz |  |

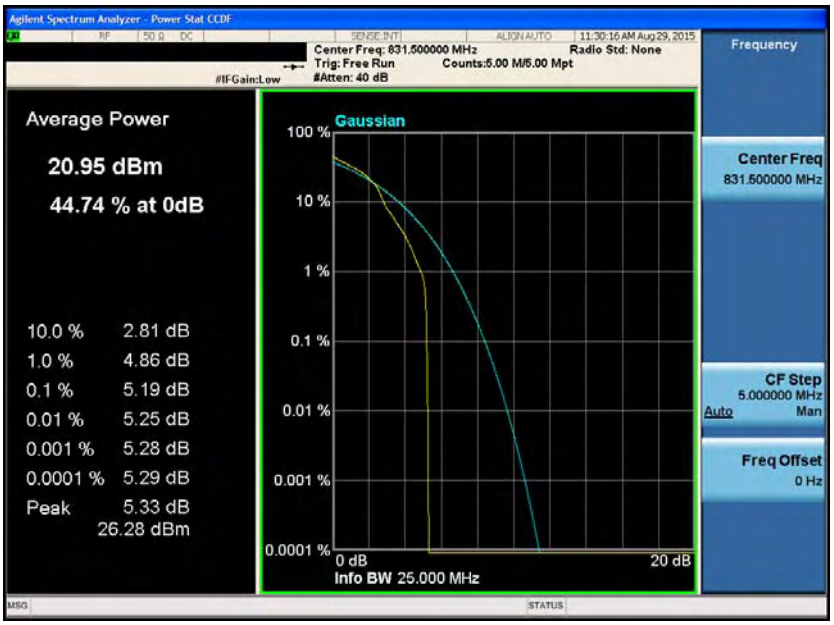
| LTE Band 26_Part 22H (Channel Bandwidth: 15 MHz) _ QPSK | |
|---|---|
| 831.5 MHz |  |

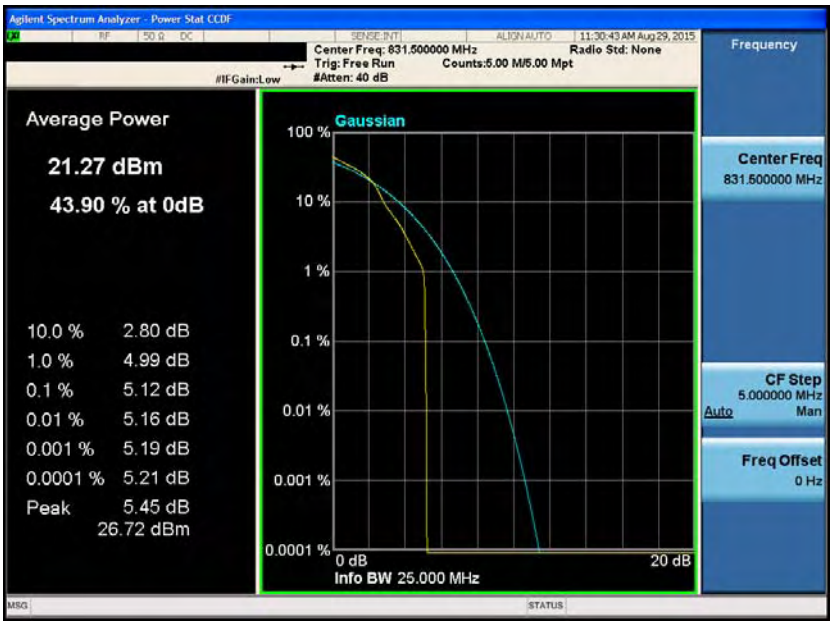


| LTE Band 26_Part 22H (Channel Bandwidth: 1.4 MHz) _ 16QAM | |
|---|---|
| 831.5 MHz |  |

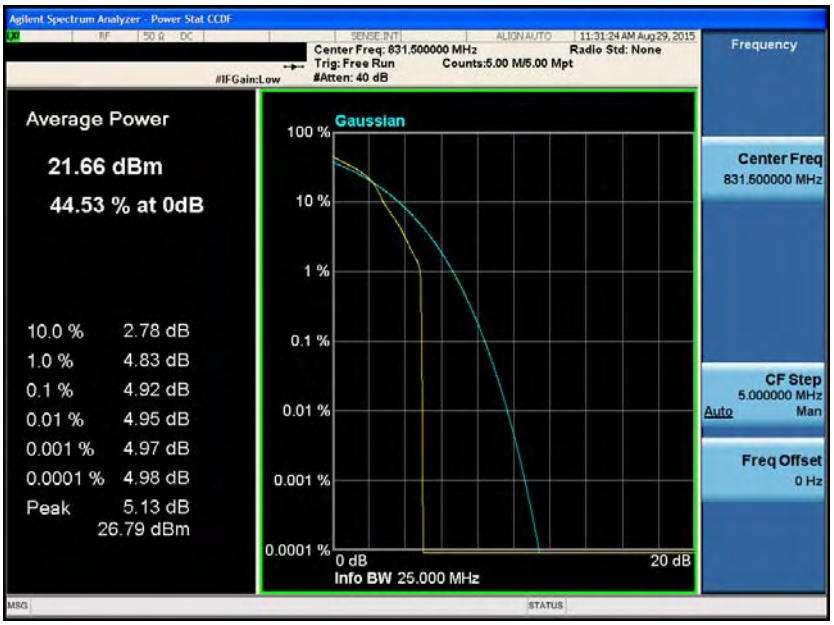
| LTE Band 26_Part 22H (Channel Bandwidth: 3 MHz) _ 16QAM | |
|---|---|
| 831.5 MHz |  |

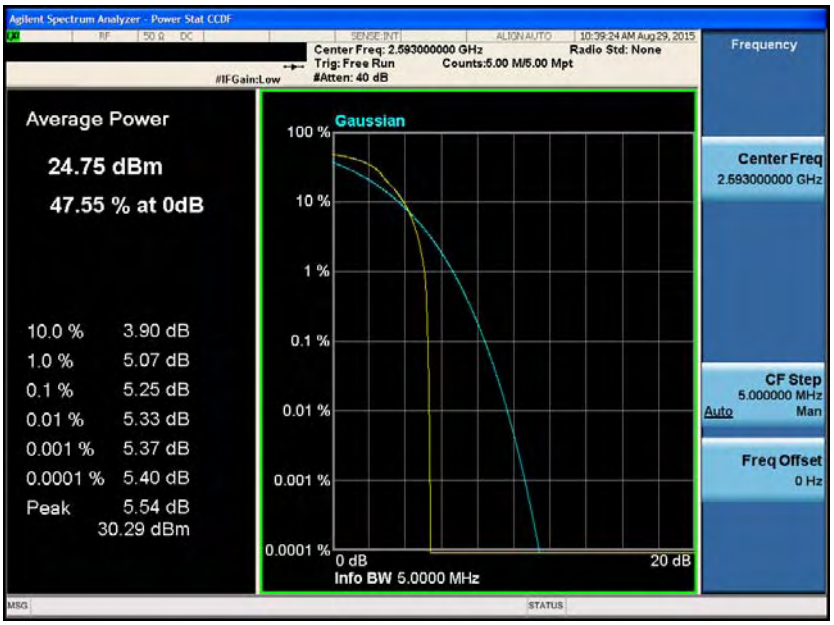


| LTE Band 26_Part 22H (Channel Bandwidth: 5 MHz) _ 16QAM | |
|---|---|
| 831.5 MHz |  |

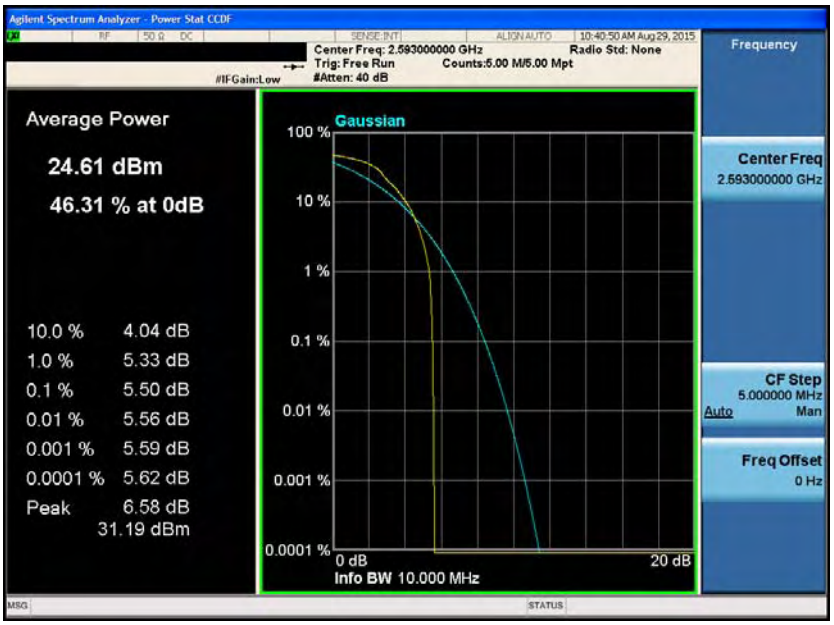
| LTE Band 26_Part 22H (Channel Bandwidth: 10 MHz) _ 16QAM | |
|---|---|
| 831.5 MHz |  |

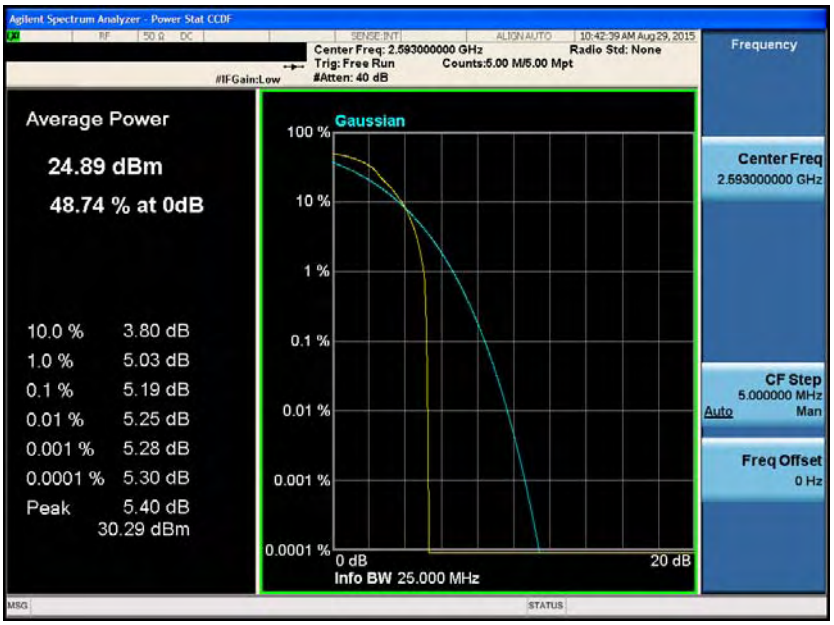


| LTE Band 26_Part 22H (Channel Bandwidth: 15 MHz) _ 16QAM | |
|---|---|
| 831.5 MHz |  |

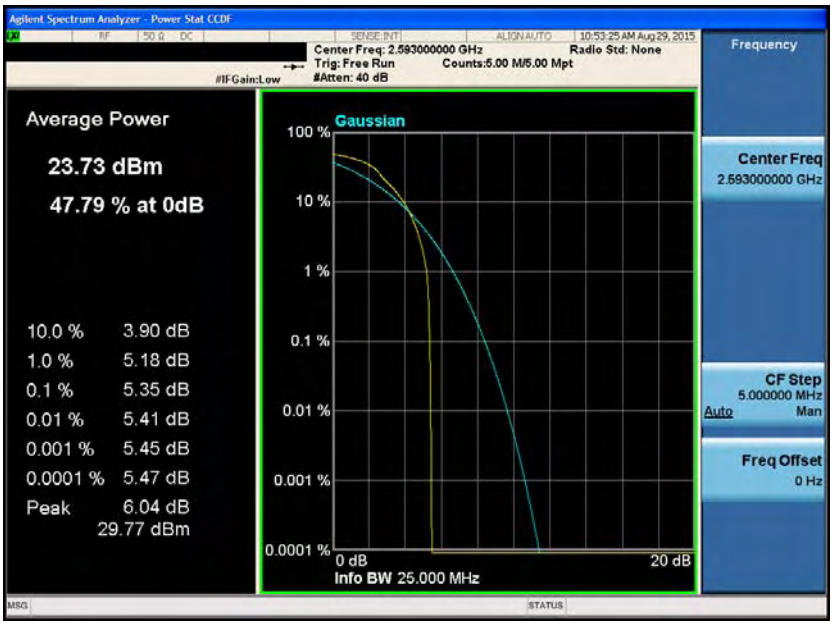
| LTE Band 41 (Channel Bandwidth: 5 MHz) _ QPSK | |
|---|---|
| 2593.0 MHz |  |

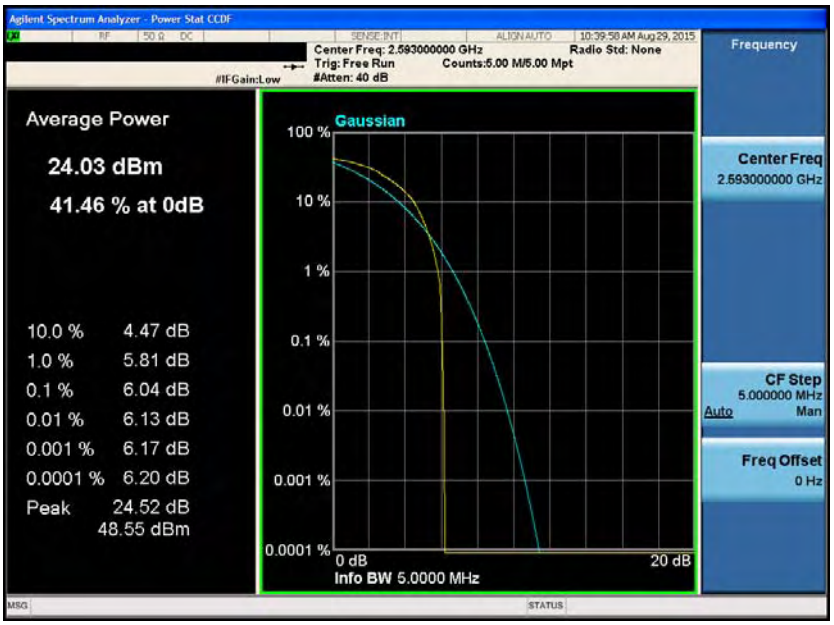


| LTE Band 41 (Channel Bandwidth: 10 MHz) _ QPSK | |
|---|---|
| 2593.0 MHz |  |

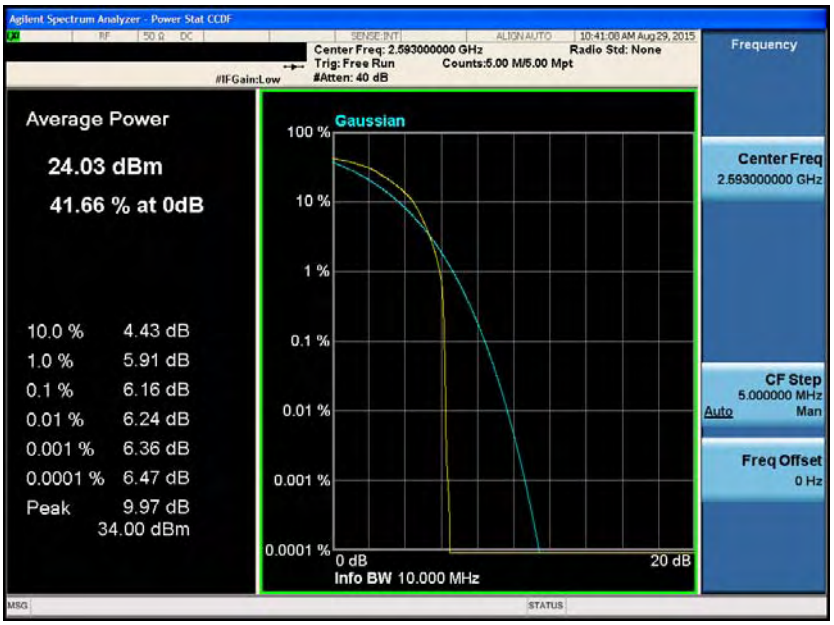
| LTE Band 41 (Channel Bandwidth: 15 MHz) _ QPSK | |
|---|---|
| 2593.0 MHz |  |



| LTE Band 41 (Channel Bandwidth: 20 MHz) _ QPSK | |
|---|---|
| 2593.0 MHz |  |

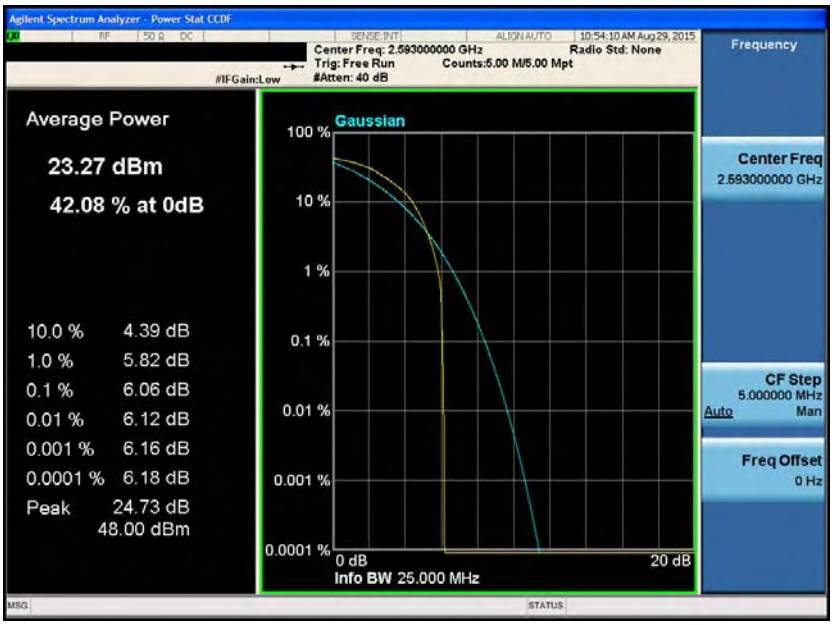
| LTE Band 41 (Channel Bandwidth: 5 MHz) _ 16QAM | |
|---|---|
| 2593.0 MHz |  |



| LTE Band 41 (Channel Bandwidth: 10 MHz) _ 16QAM | |
|---|---|
| 2593.0 MHz |  |

| LTE Band 41 (Channel Bandwidth: 15 MHz) _ 16QAM | |
|---|---|
| 2593.0 MHz |  |



| LTE Band 41 (Channel Bandwidth: 20 MHz) _ 16QAM | |
|---|---|
| 2593.0 MHz |  |

# 7 Band Edge Test

## 7.1. Limit

The Band Edge Limit:

§22.917(a), §24.238(a)

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 + 10log(P) dB.

§27.53(g)

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 $\log_{10}$ (P) dB.

§27.53(m)

For mobile digital stations,the attenuation factor shall be not less than 43 + 10log10(P) dB at the channel edge and 55 + 10log10(P) dB

at 5.5 megahertz from the channel edges.

§90.691

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 50 + 10log10 (P[Watts]) at Band Edge and for all out-of-band emissions within 37.5Khz of Block Edge.

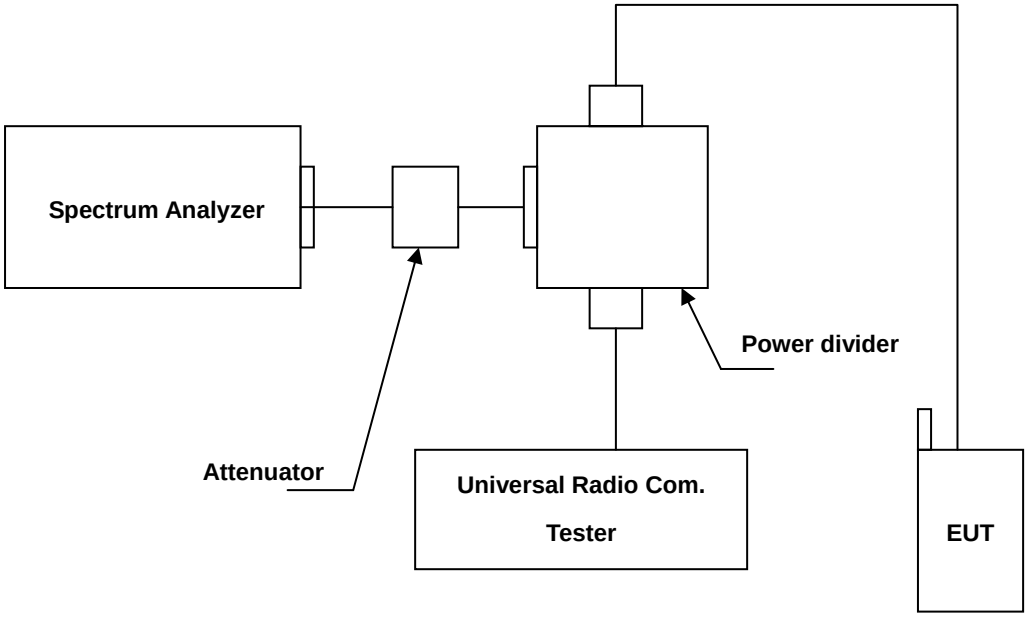
## 7.2. Test Instruments

| Equipment | Manufacturer | Model No. | Serial No. | Cal. Date | Remark |
|---|---|---|---|---|---|
| Spectrum Analyzer | Agilent | E4445A | MY46181986 | 05/14/2015 | (1) |
| Wideband Radio Communication Test | R & S | CMW500 | 103168 | 11/05/2014 | (1) |
| Attenuator | RADIALL | R41572000 | 0603033073 | N.C.R. | ----- |
| Power divider | Agilent | 87302C | 3239A00760 | N.C.R. | ----- |
| Test Site | ATL | TE05 | TE05 | N.C.R. | ----- |

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

Note: N.C.R. = No Calibration Request.

## 7.3. Setup




## 7.4. Test Procedure

The measurement is made according to FCC rules:

a. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with Spectrum Analyzer.

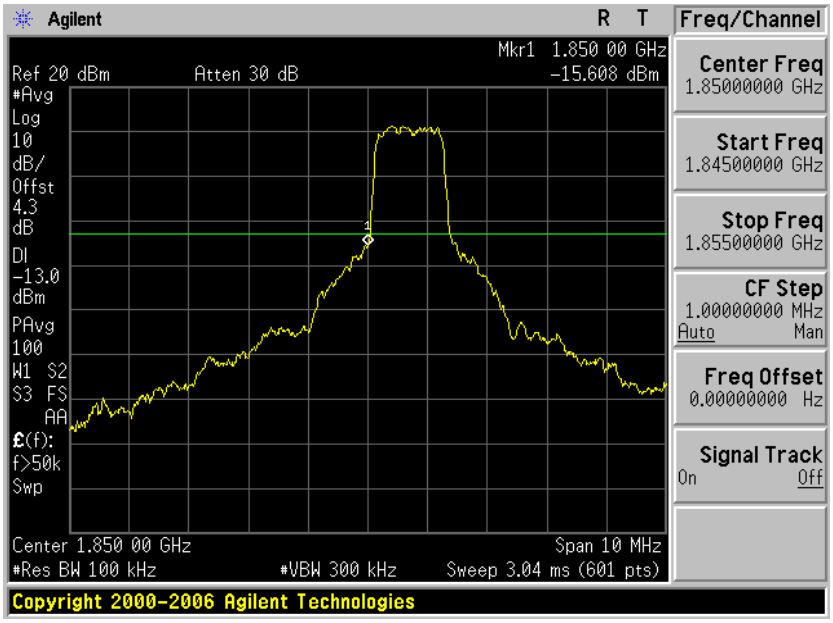
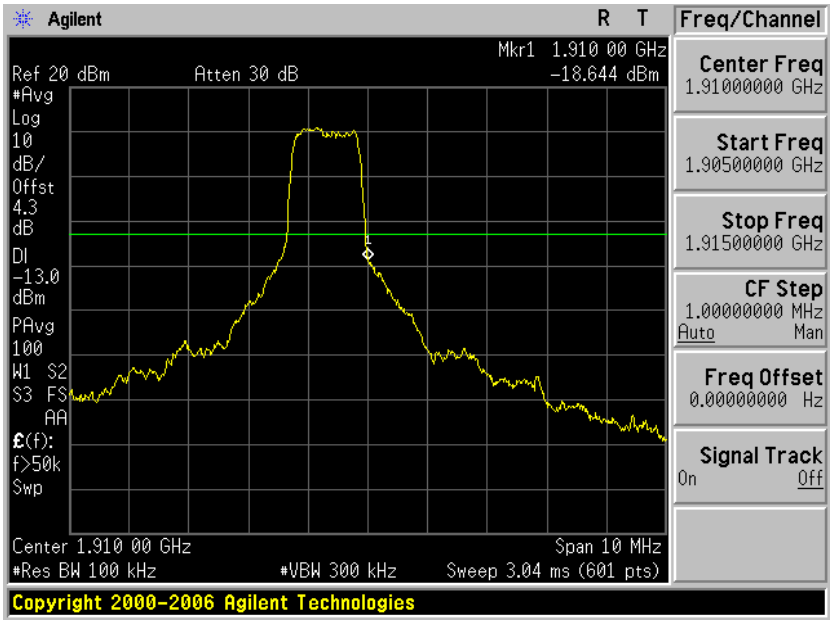
b. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

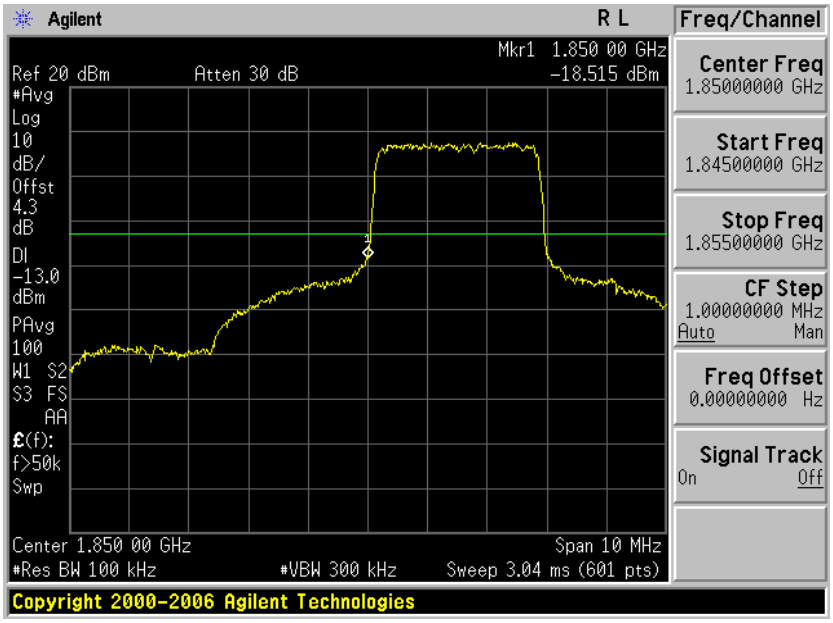
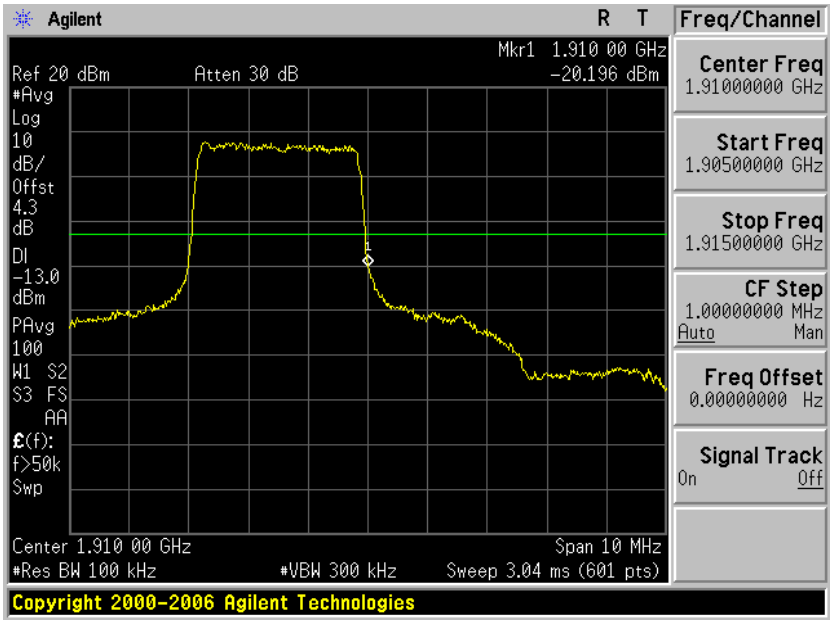
c. Record the max trace plot into the test report.

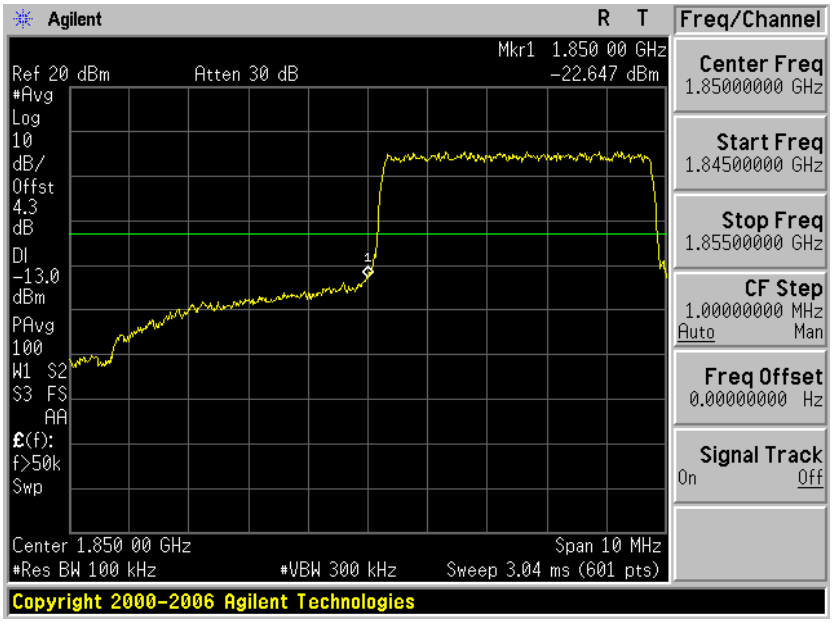
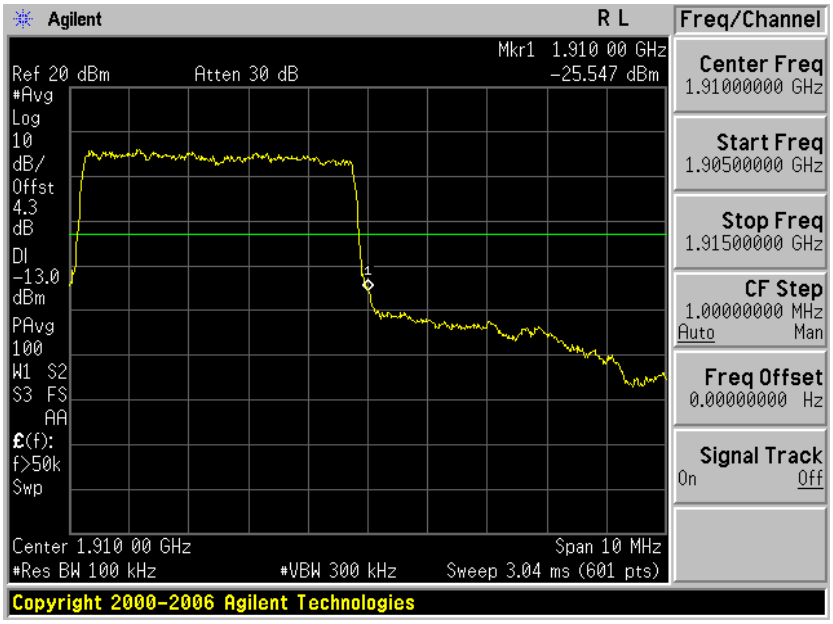
## 7.5. Uncertainty

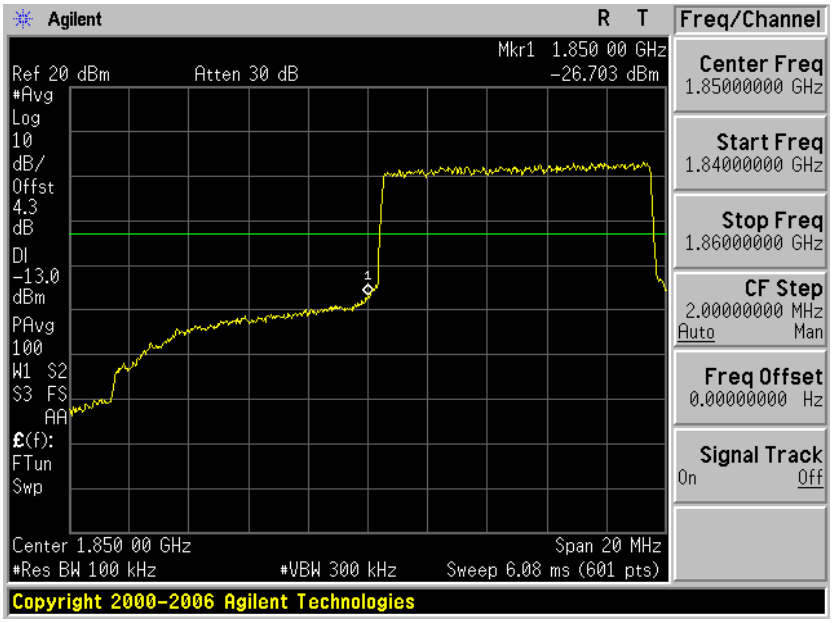
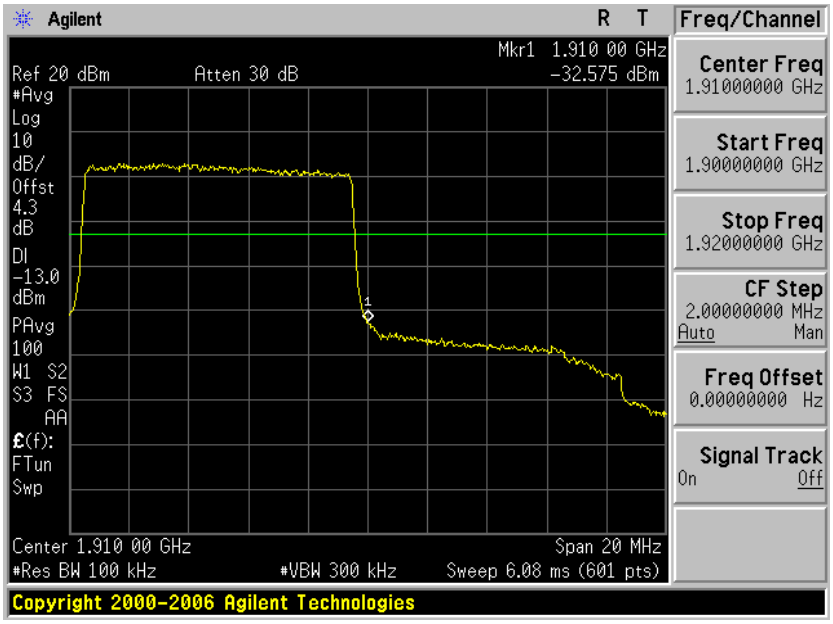
The measurement uncertainty is defined as for Conducted Power measurement is 1.2 dB.

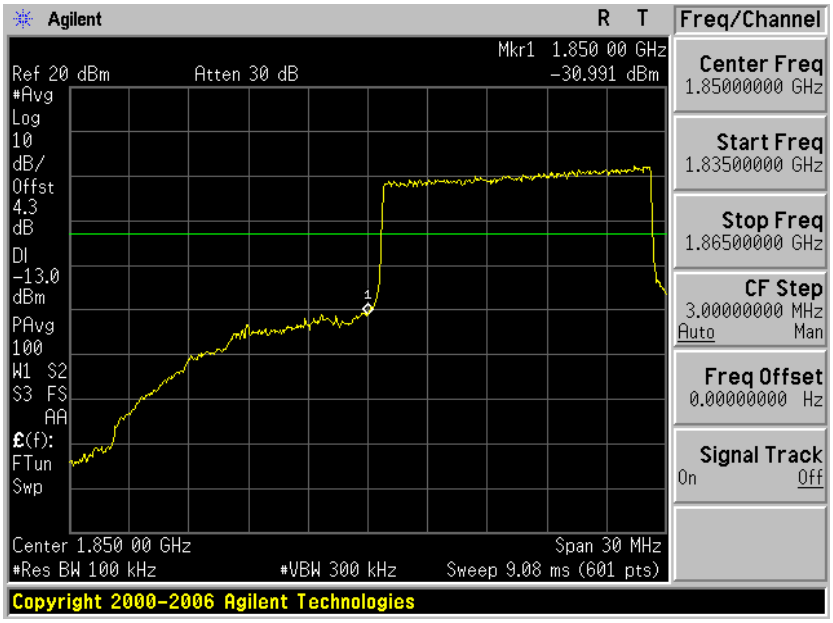
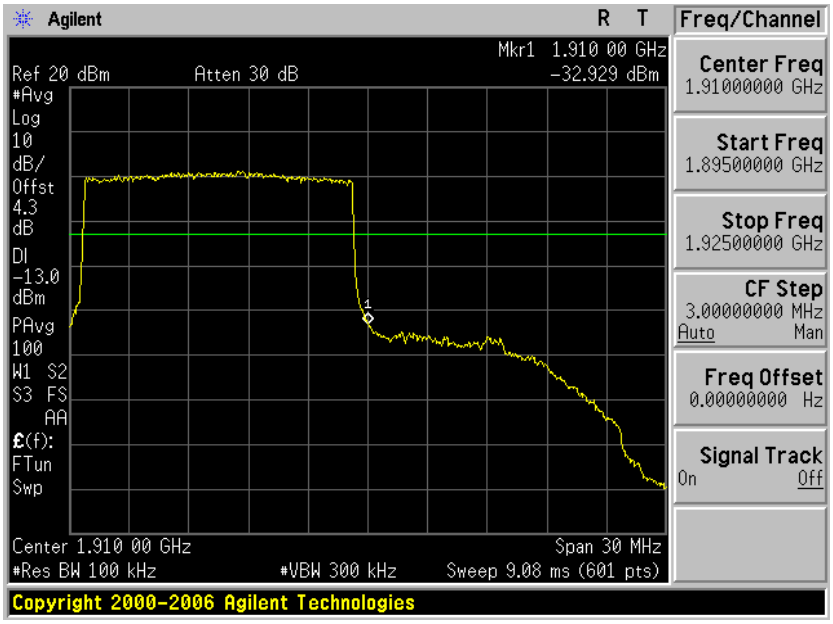
## 7.6. Test Result

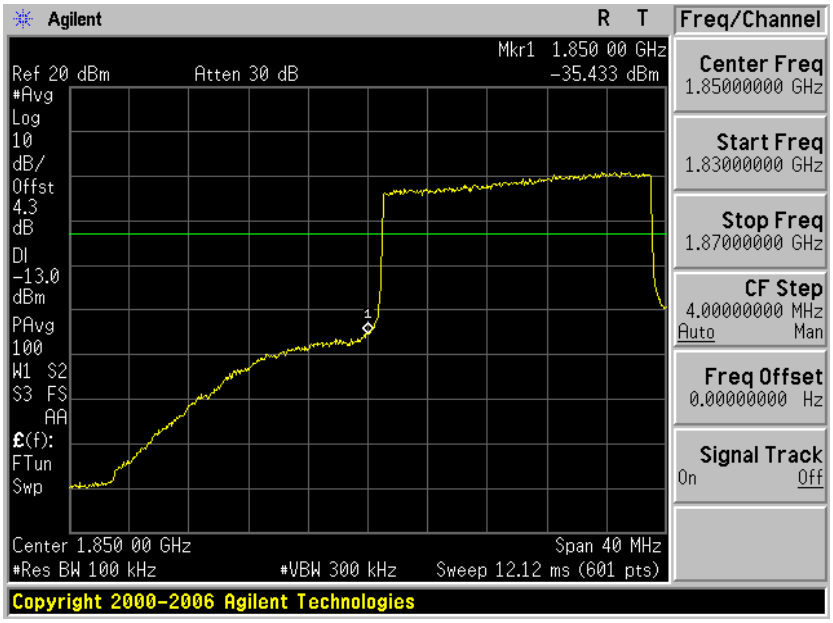
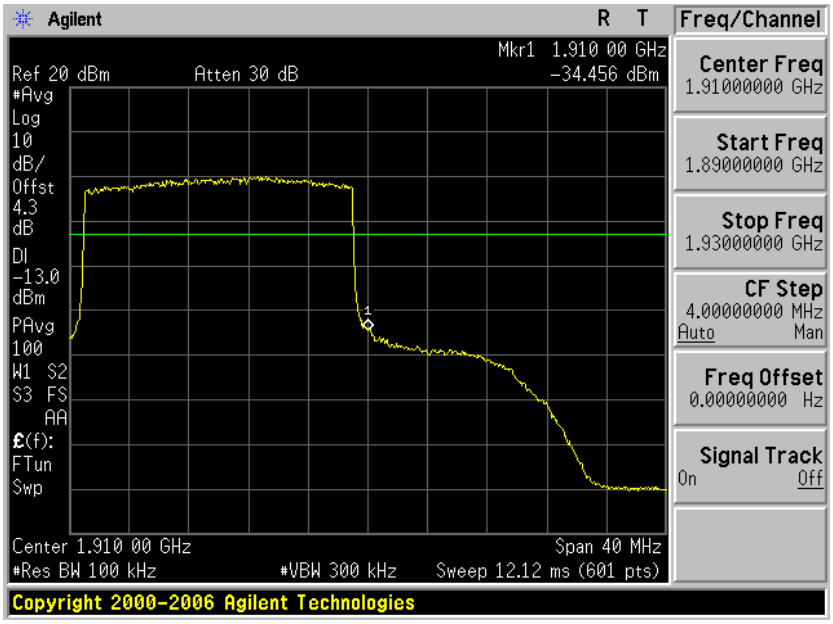
| Frequency | LTE Band 2 | Channel Bandwidth | 1.4 MHz | RB Allocated | 6 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

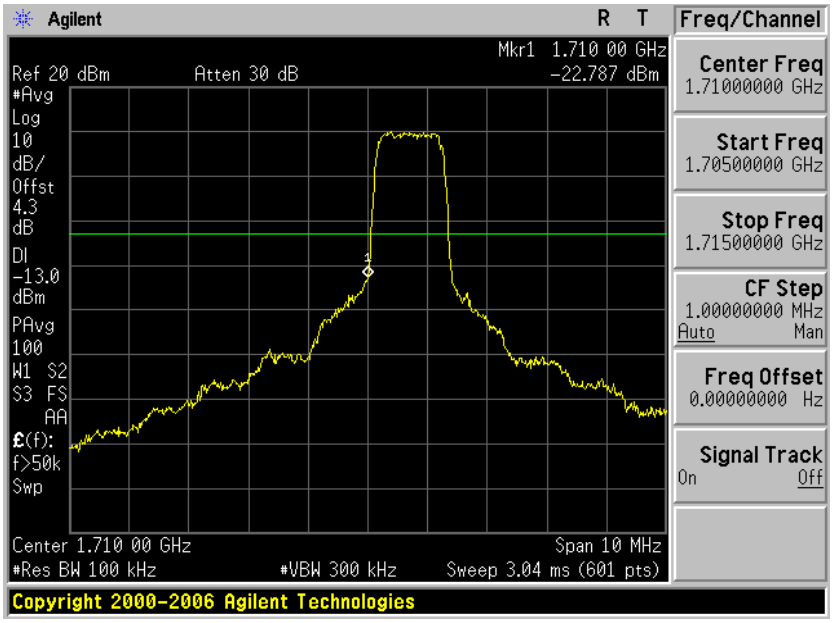
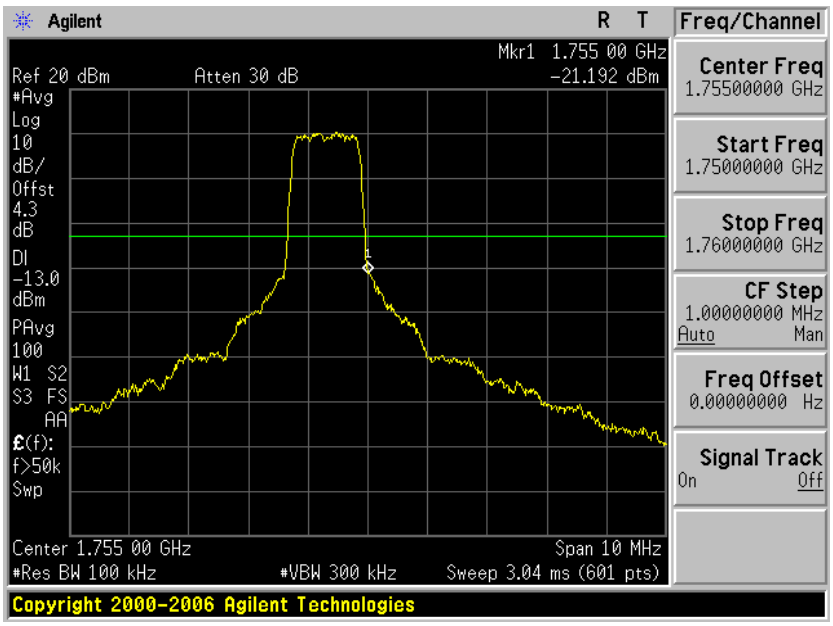
| Frequency | LTE Band 2 | Channel Bandwidth | 3 MHz | RB Allocated | 15 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

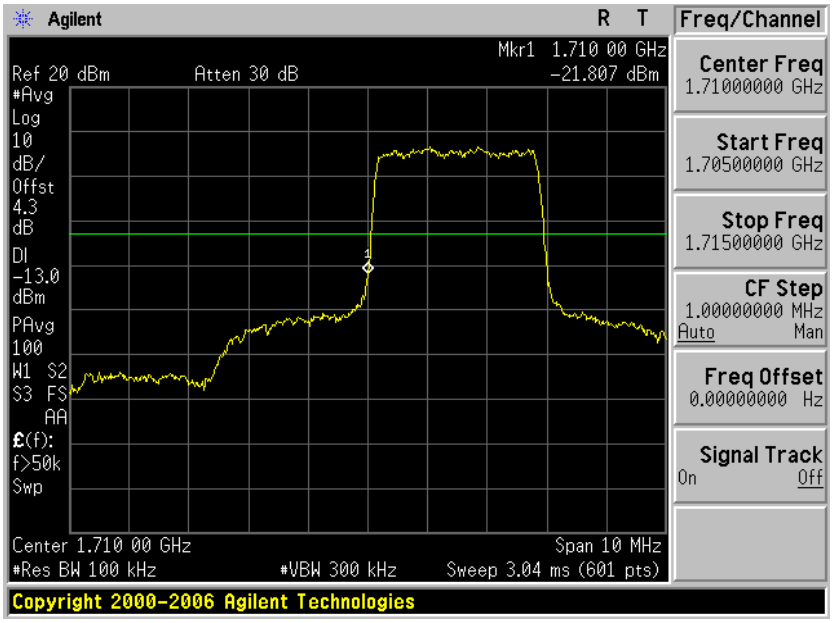
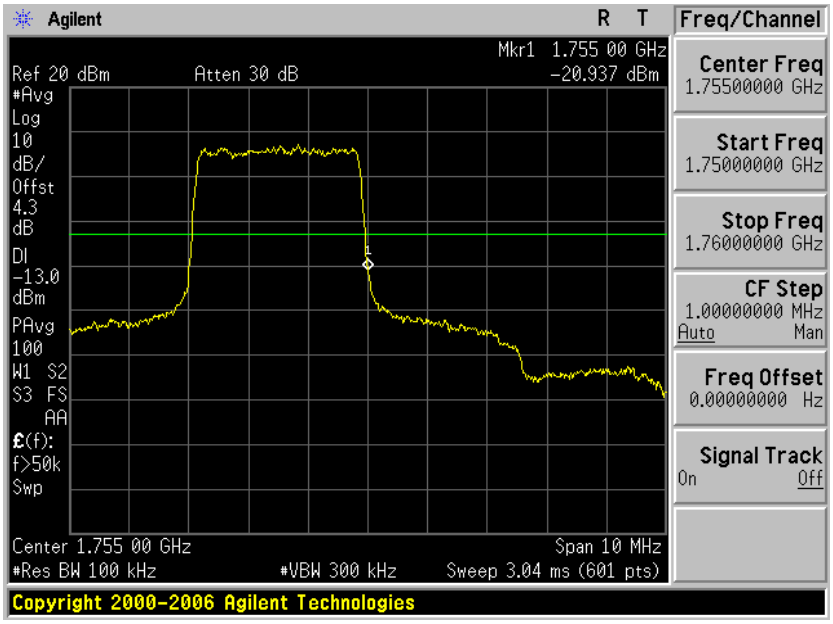
| Frequency | LTE Band 2 | Channel Bandwidth | 5 MHz | RB Allocated | 25 |
|---|---|---|---|---|---|
| Lower Band Edge |  |
| Higher Band Edge |  |

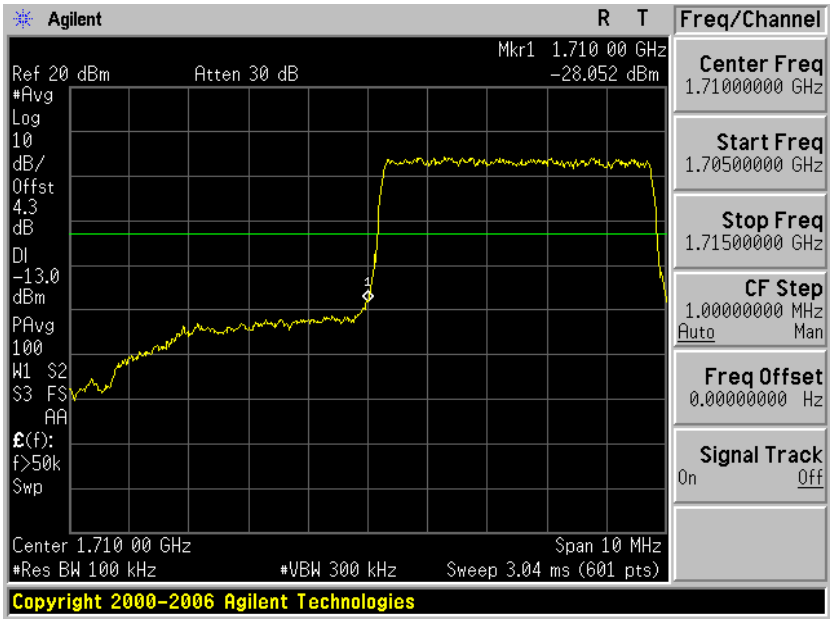
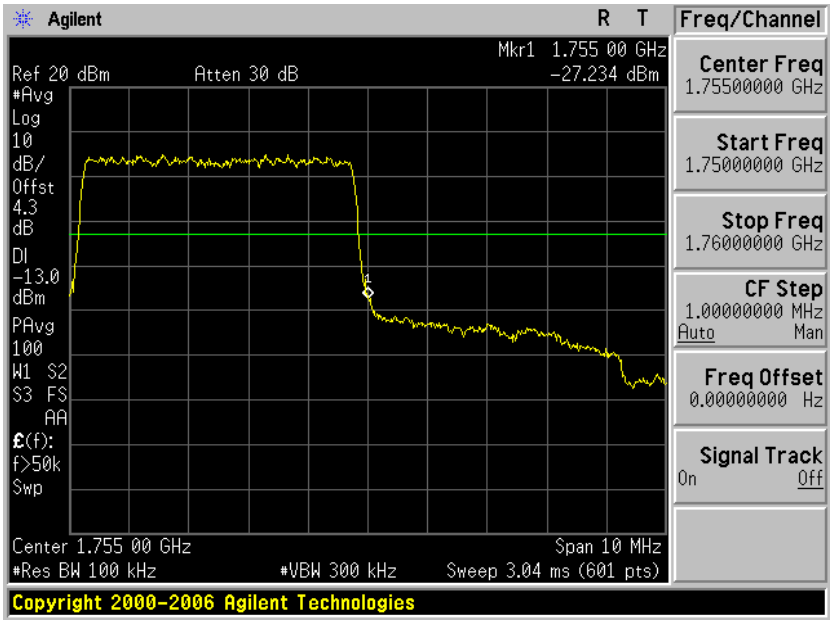
| Frequency | LTE Band 2 | Channel Bandwidth | 10 MHz | RB Allocated | 50 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

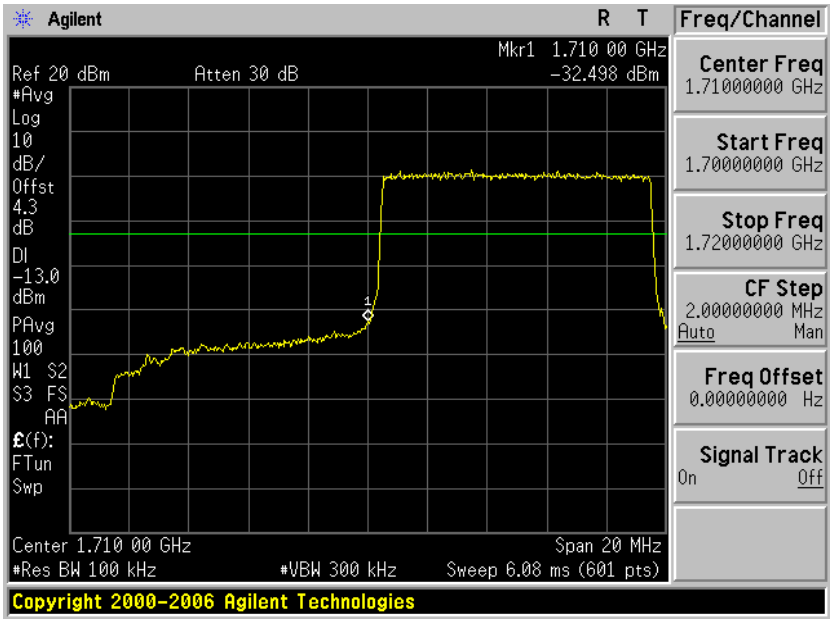
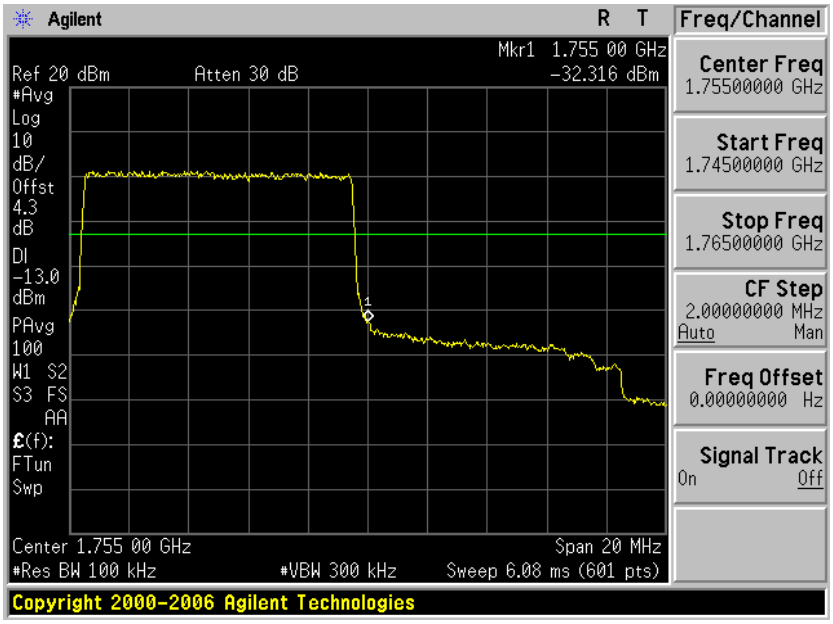
| Frequency | LTE Band 2 | Channel Bandwidth | 15 MHz | RB Allocated | 75 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

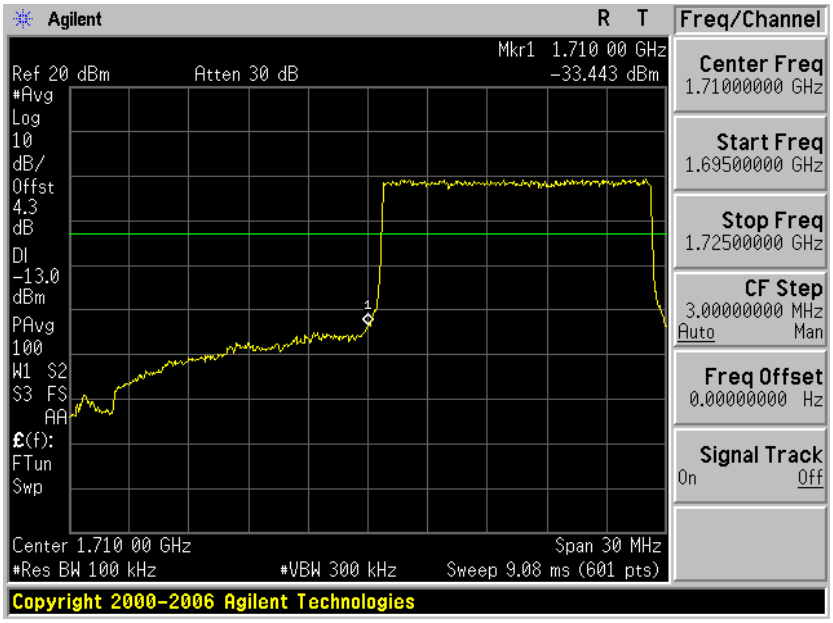
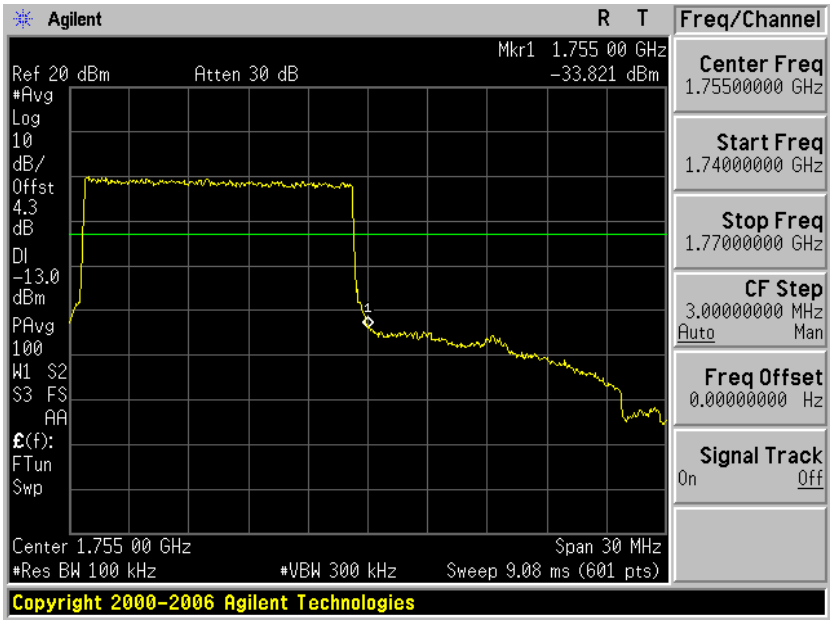
| Frequency | LTE Band 2 | Channel Bandwidth | 20 MHz | RB Allocated | 100 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

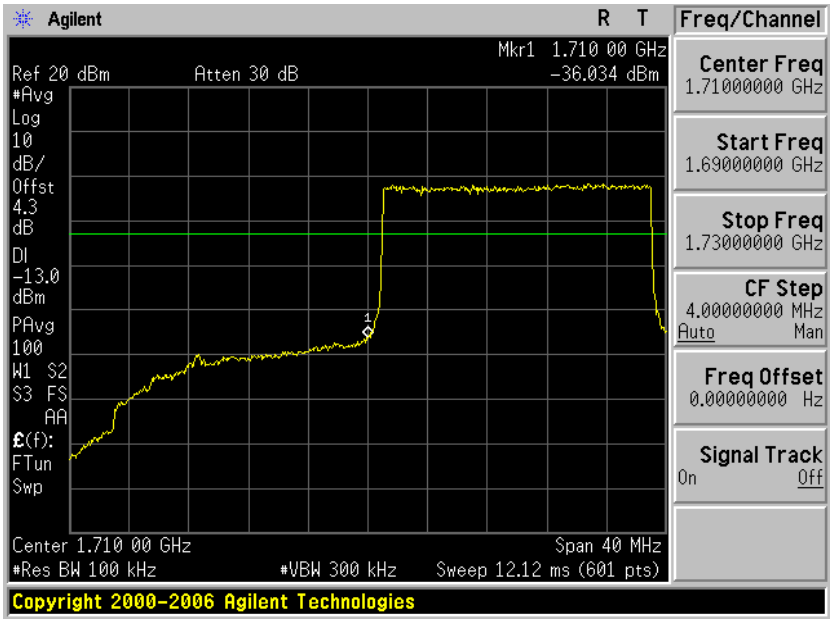
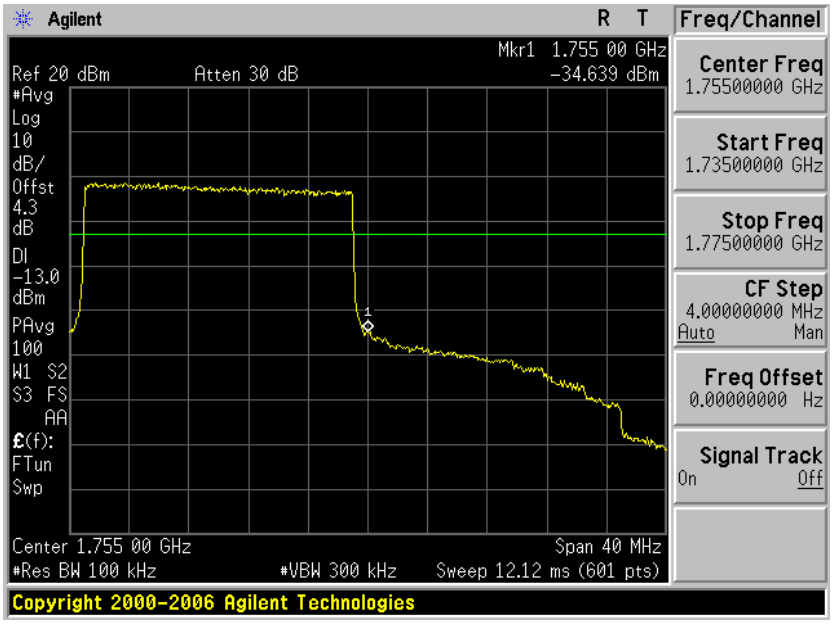
| Frequency | LTE Band 4 | Channel Bandwidth | 1.4 MHz | RB Allocated | 6 |
|---|---|---|---|---|---|
| Lower Band Edge |  |
| Higher Band Edge |  |

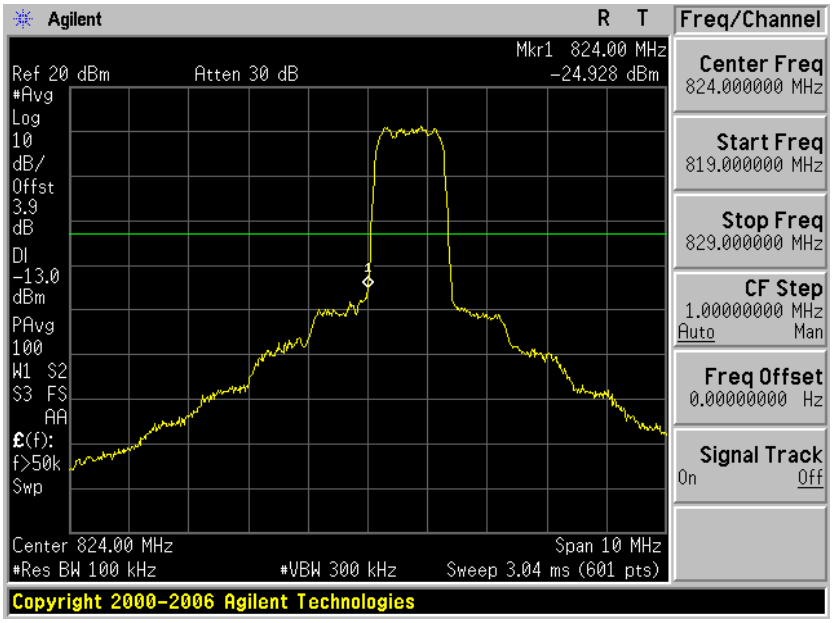
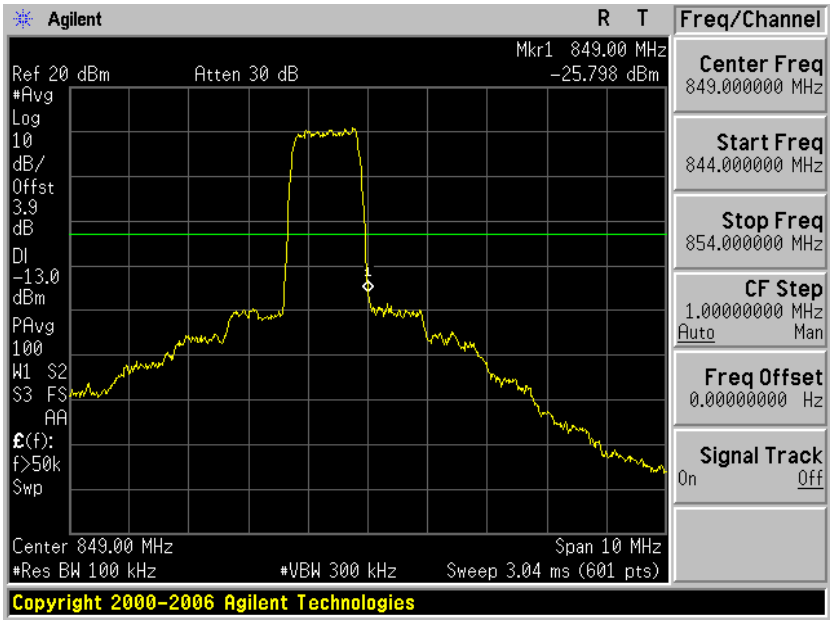
| Frequency | LTE Band 4 | Channel Bandwidth | 3 MHz | RB Allocated | 15 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

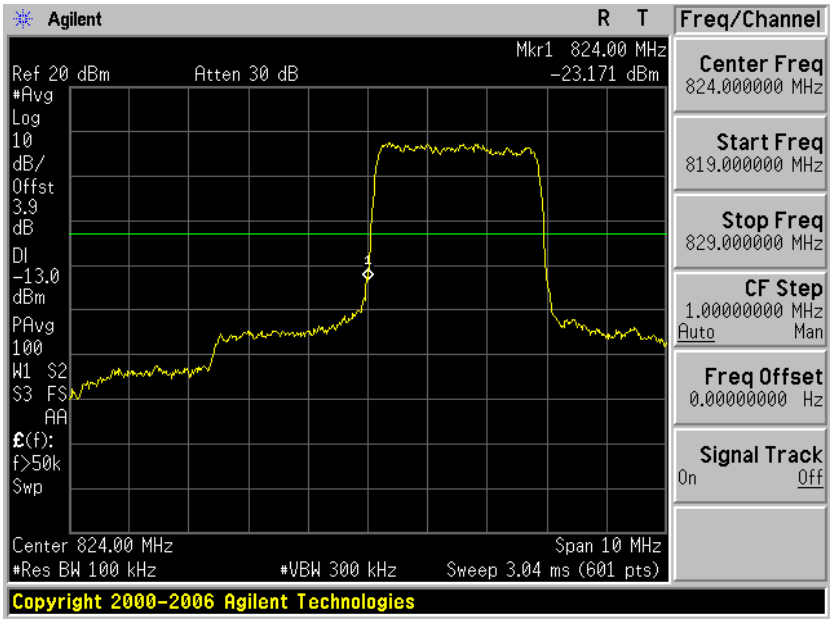
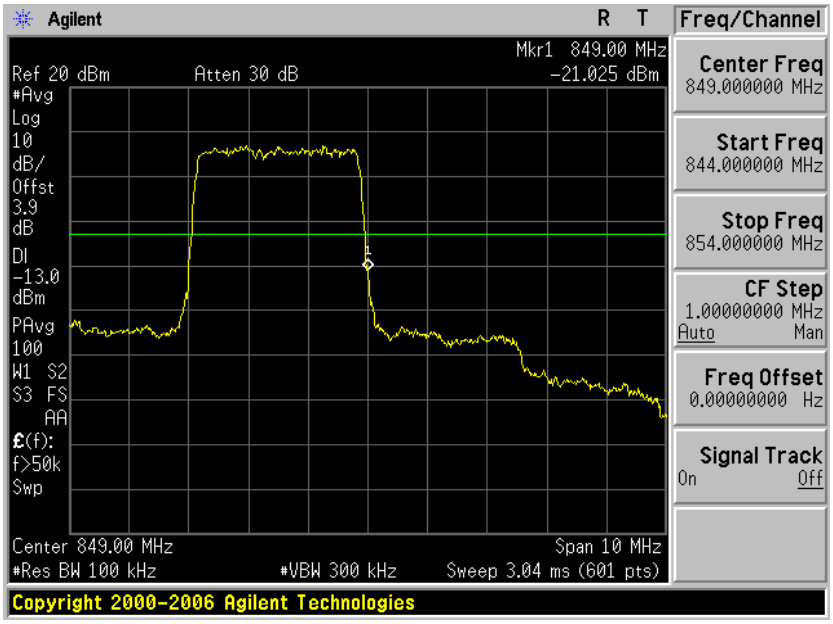
| Frequency | LTE Band 4 | Channel Bandwidth | 5 MHz | RB Allocated | 25 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

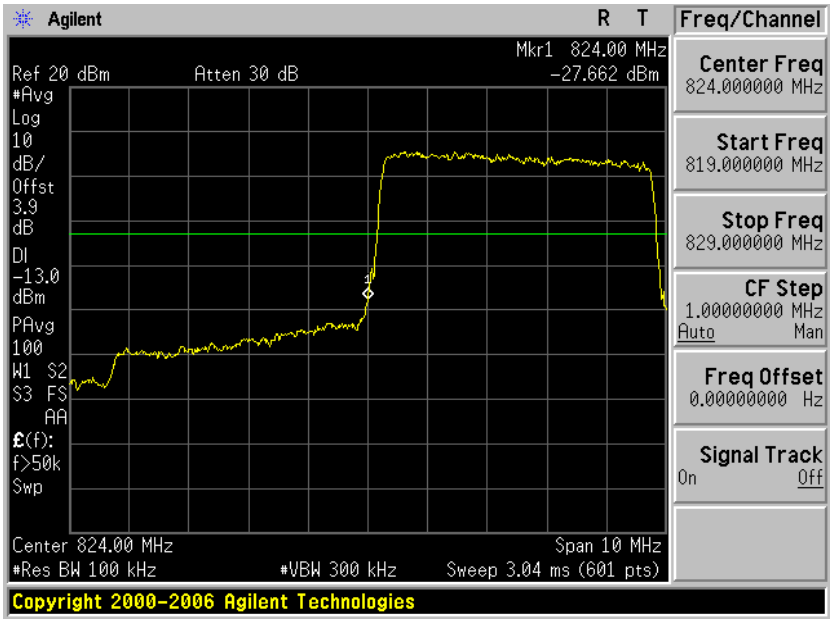
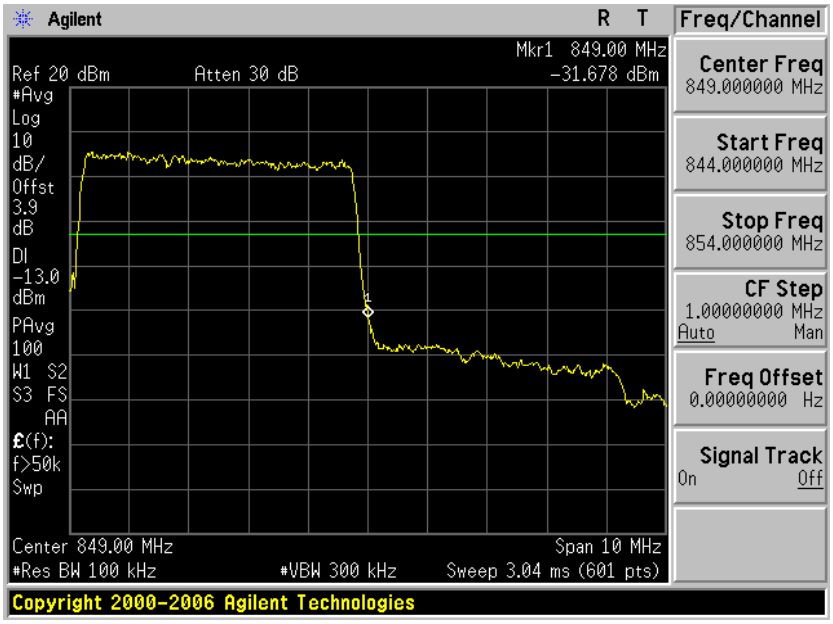
| Frequency | LTE Band 4 | Channel Bandwidth | 10 MHz | RB Allocated | 50 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

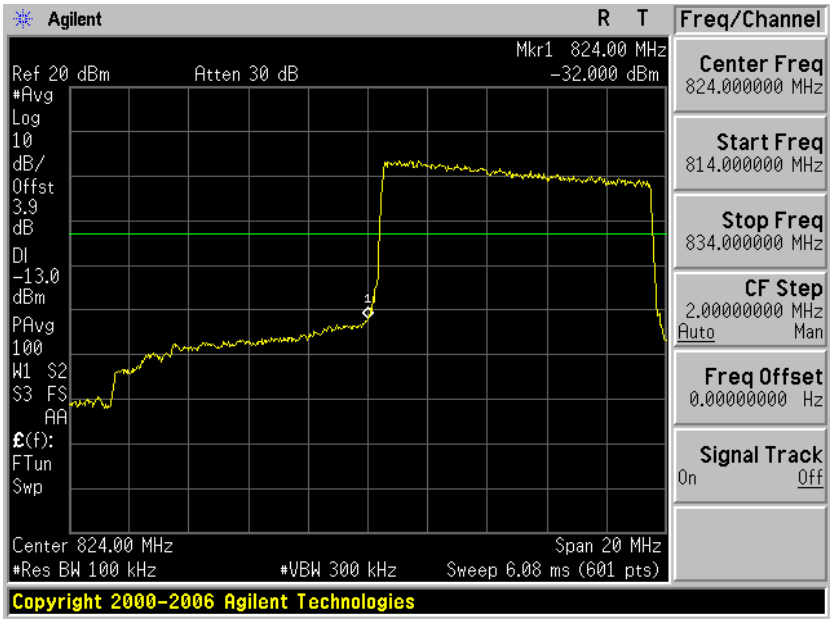
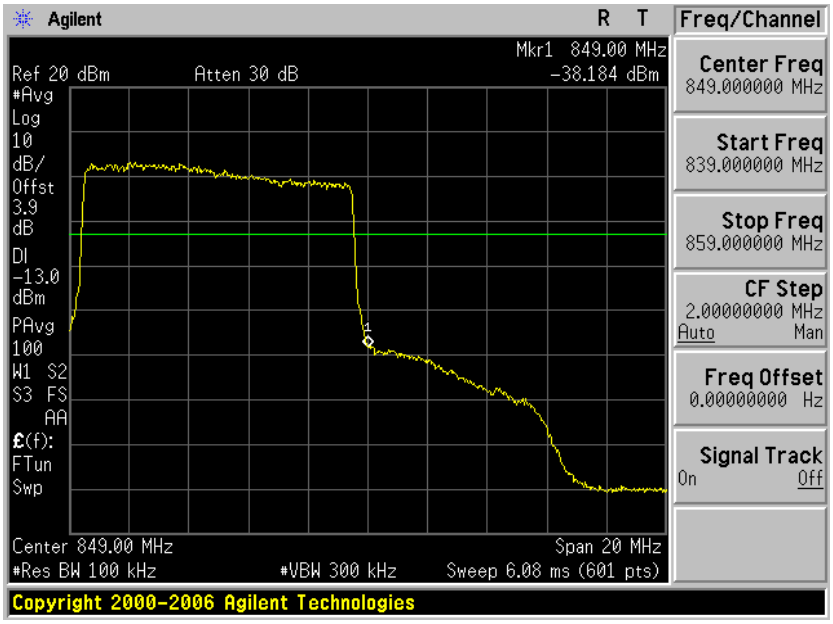
| Frequency | LTE Band 5 | Channel Bandwidth | 15 MHz | RB Allocated | 75 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

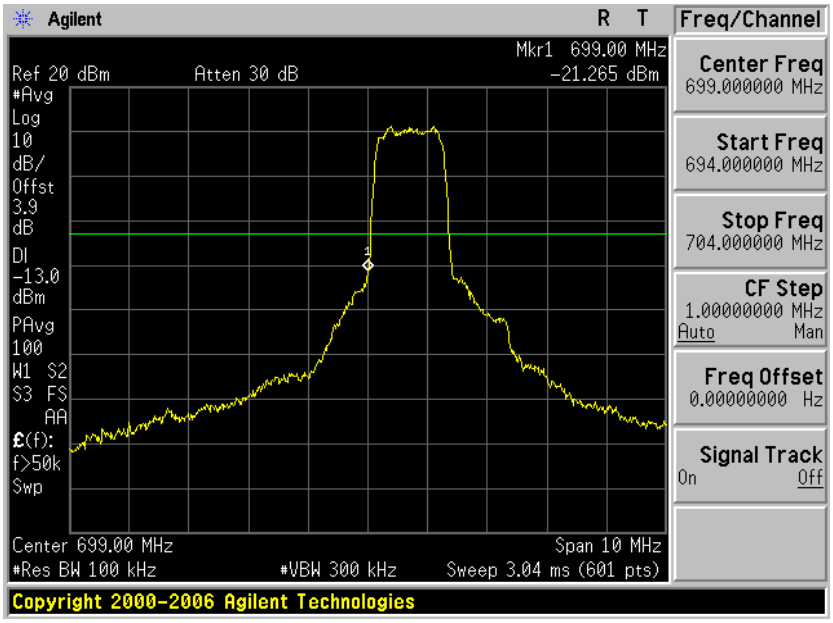
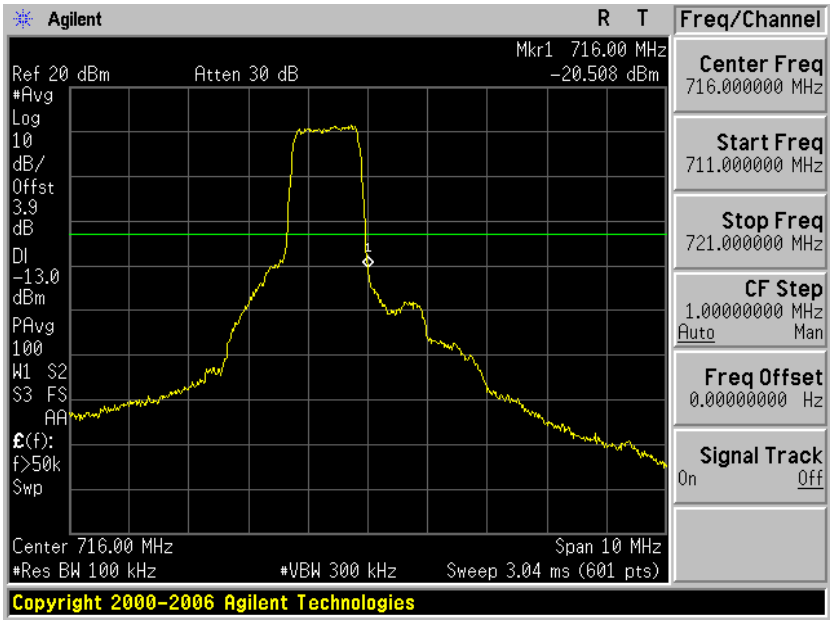
| Frequency | LTE Band 4 | Channel Bandwidth | 20 MHz | RB Allocated | 100 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

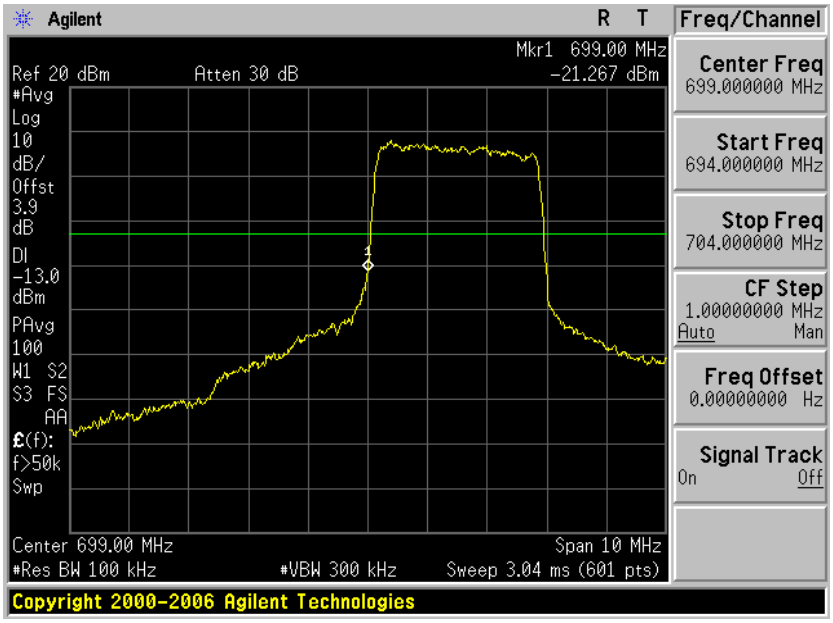
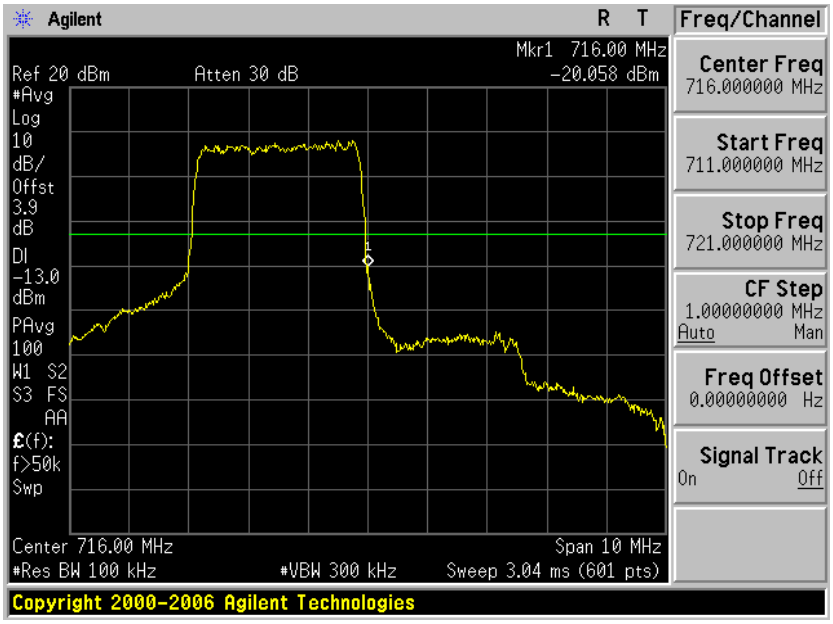
| Frequency | LTE Band 5 | Channel Bandwidth | 1.4 MHz | RB Allocated | 6 |
|---|---|---|---|---|---|
| Lower Band Edge |  |
| Higher Band Edge |  |

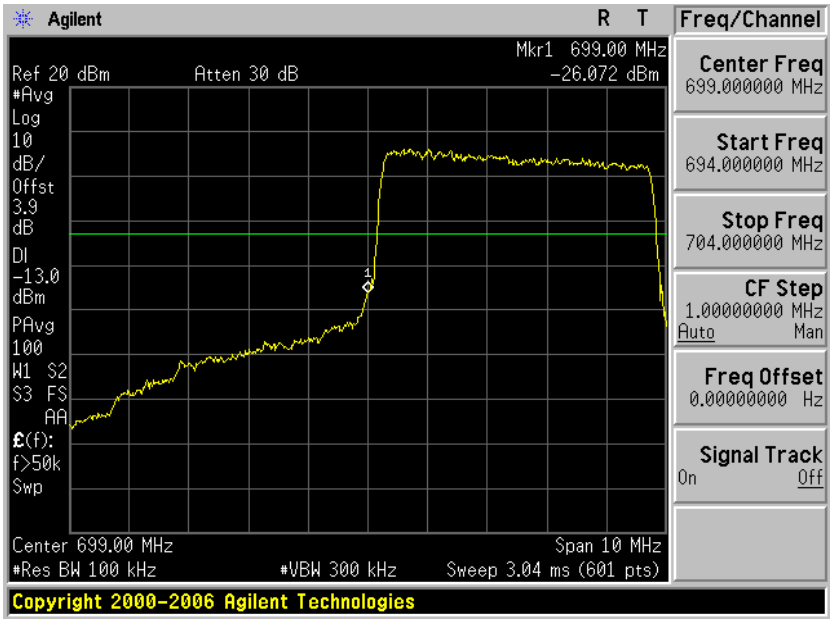
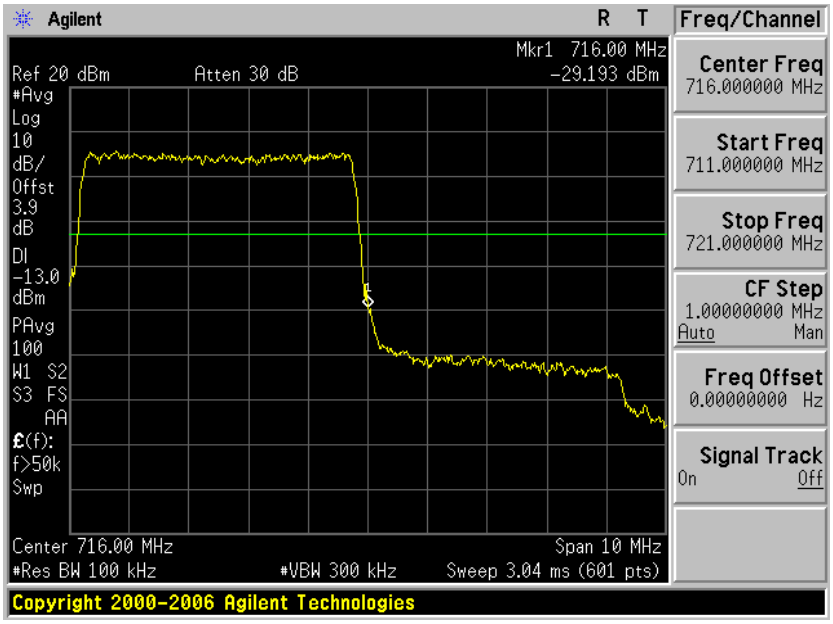
| Frequency | LTE Band 5 | Channel Bandwidth | 3 MHz | RB Allocated | 15 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

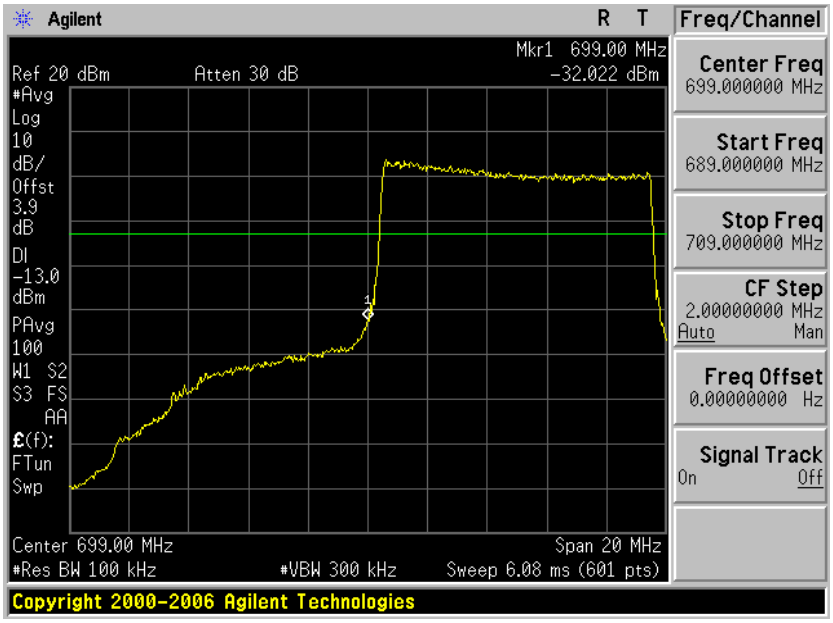
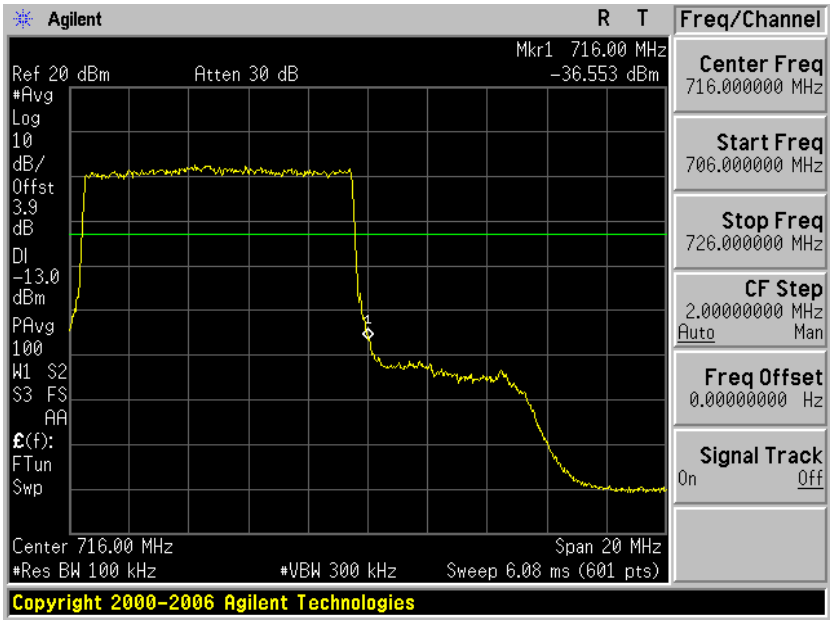
| Frequency | LTE Band 5 | Channel Bandwidth | 5 MHz | RB Allocated | 25 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | | |
| Higher Band Edge |  | | | | | |

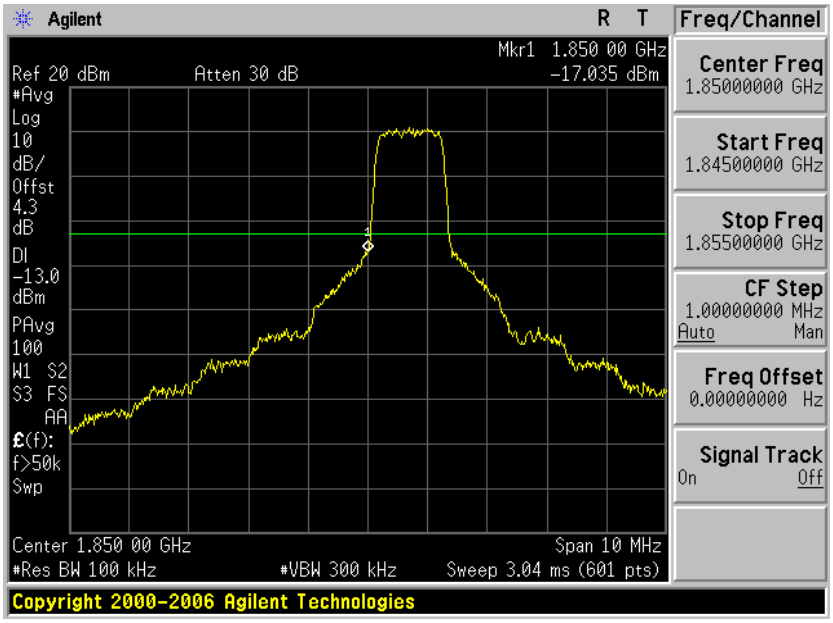
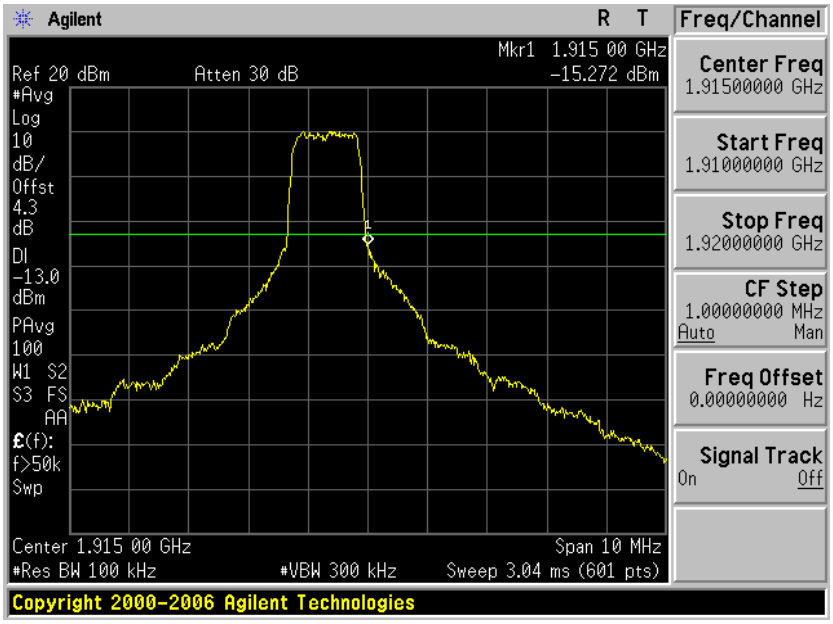
| Frequency | LTE Band 5 | Channel Bandwidth | 10 MHz | RB Allocated | 50 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

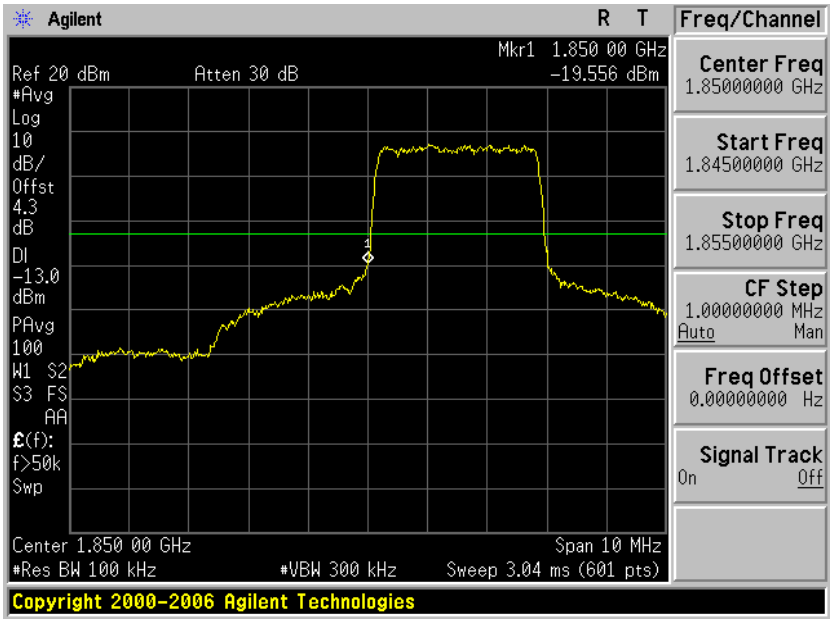
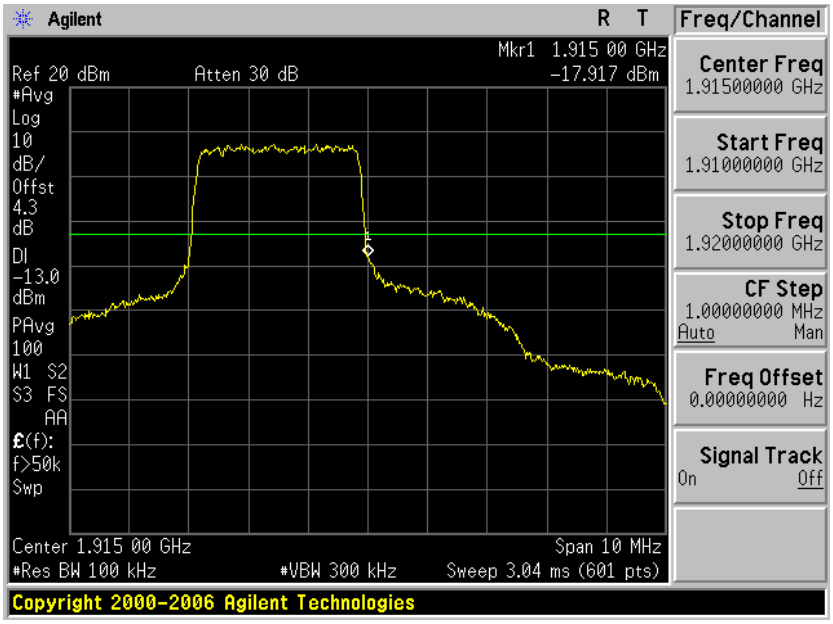
| Frequency | LTE Band 12 | Channel Bandwidth | 1.4 MHz | RB Allocated | 6 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

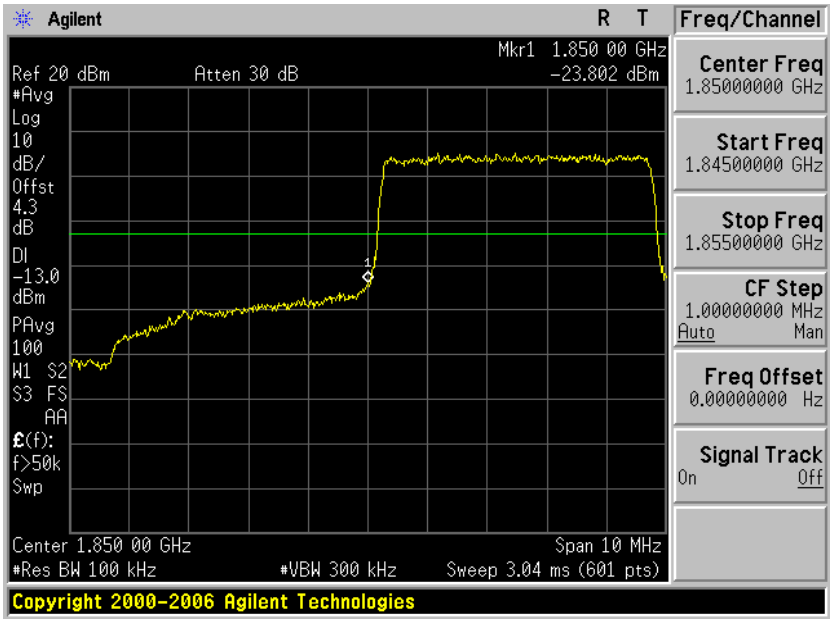
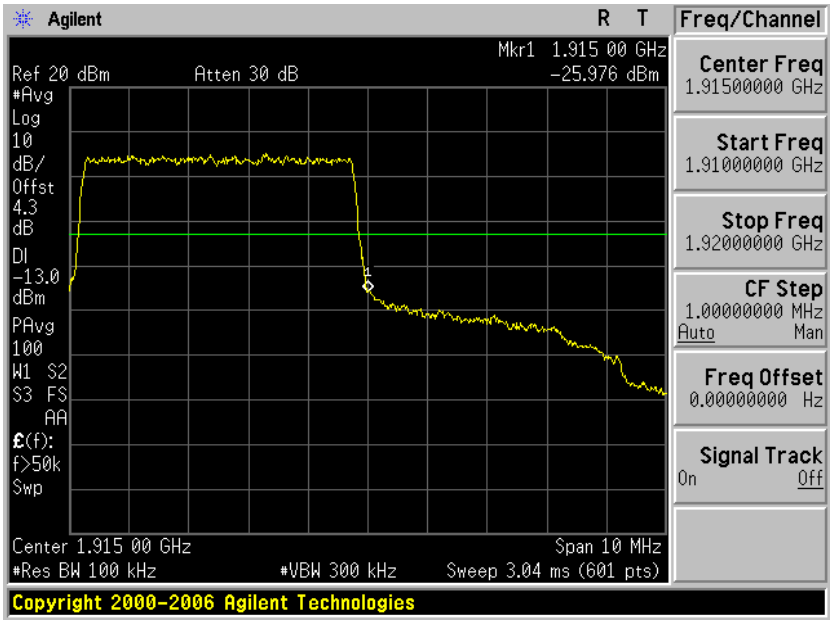
| Frequency | LTE Band 12 | Channel Bandwidth | 3 MHz | RB Allocated | 15 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

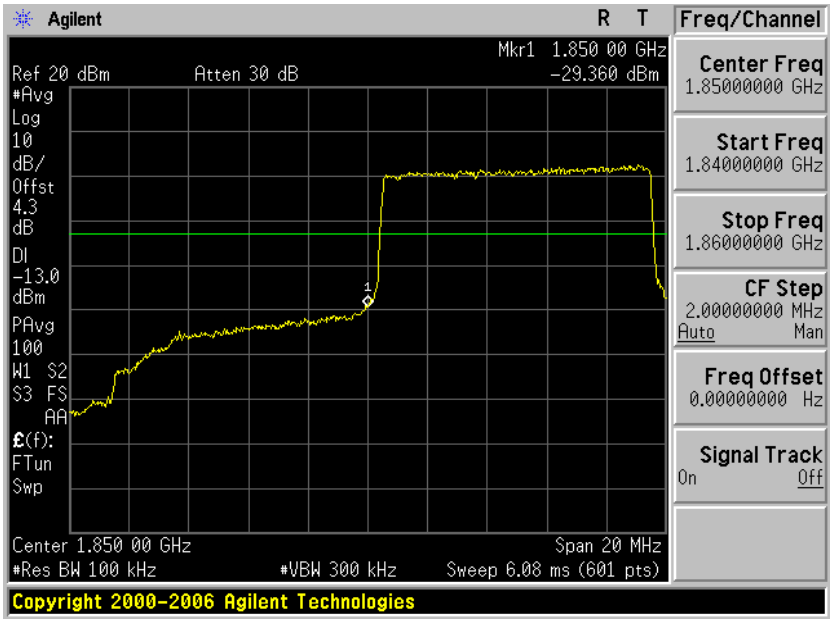
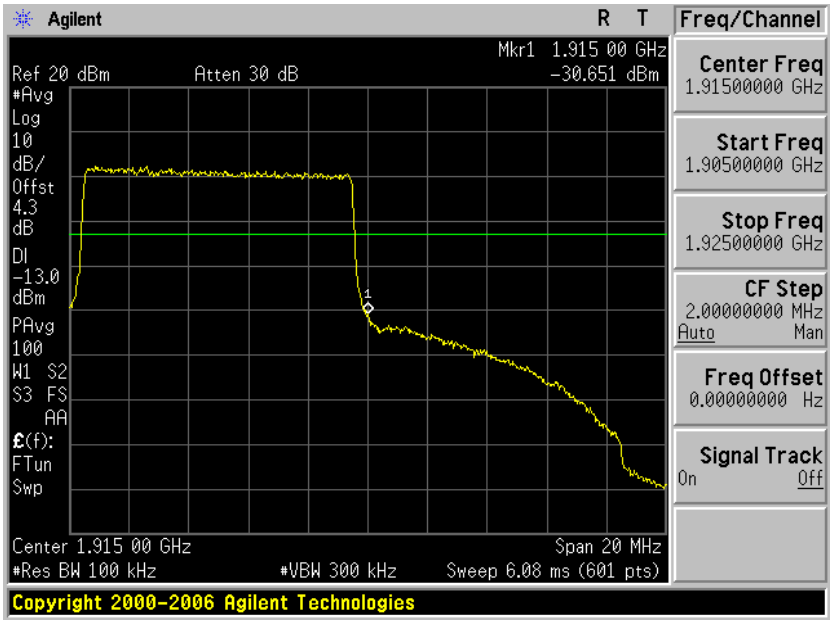
| Frequency | LTE Band 12 | Channel Bandwidth | 5 MHz | RB Allocated | 25 |
|---|---|---|---|---|---|
| Lower Band Edge |  |
| Higher Band Edge |  |

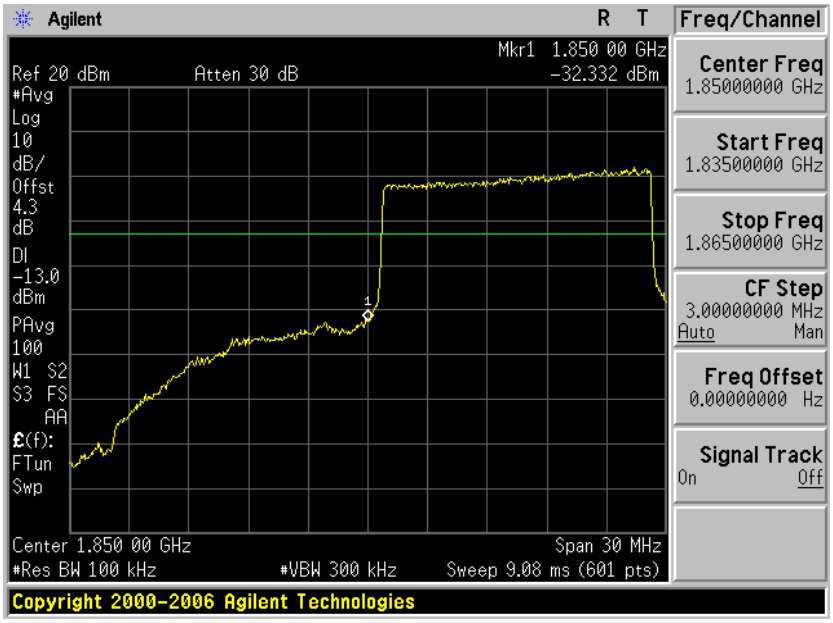
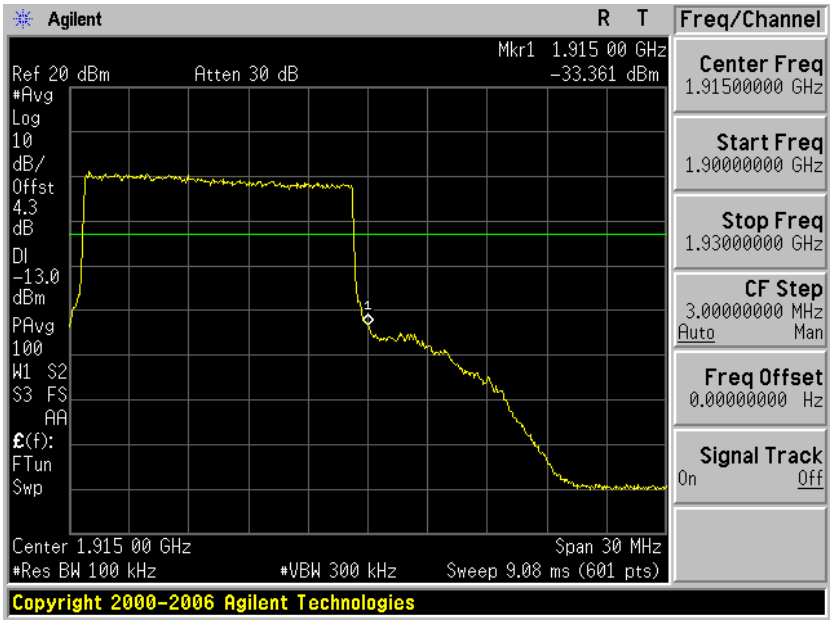
| Frequency | LTE Band 12 | Channel Bandwidth | 10 MHz | RB Allocated | 50 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

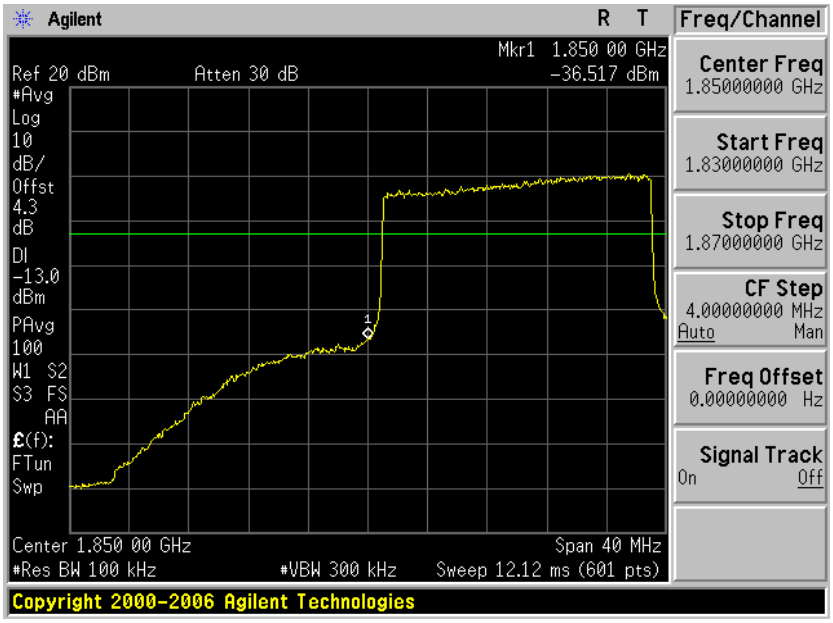
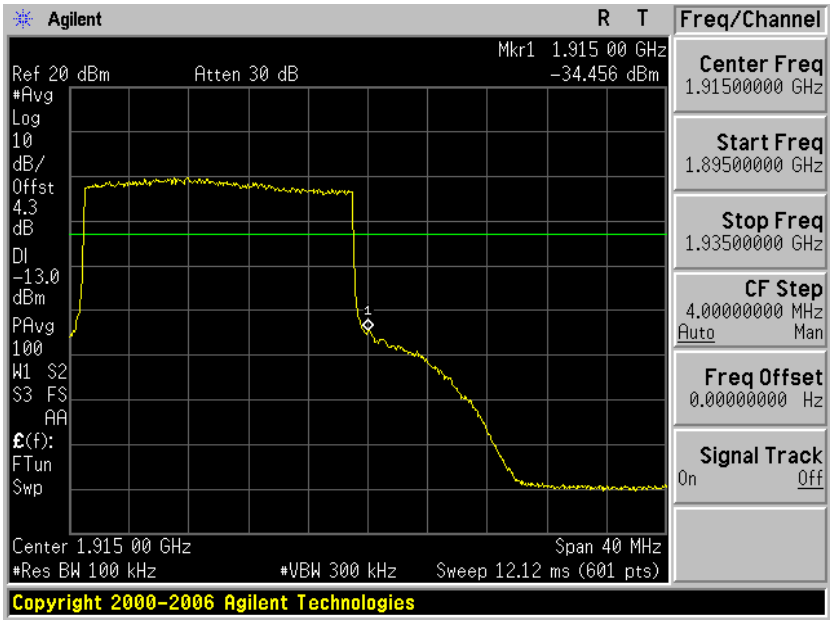
| Frequency | LTE Band 25 | Channel Bandwidth | 1.4 MHz | RB Allocated | 6 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

| Frequency | LTE Band 25 | Channel Bandwidth | 3 MHz | RB Allocated | 15 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

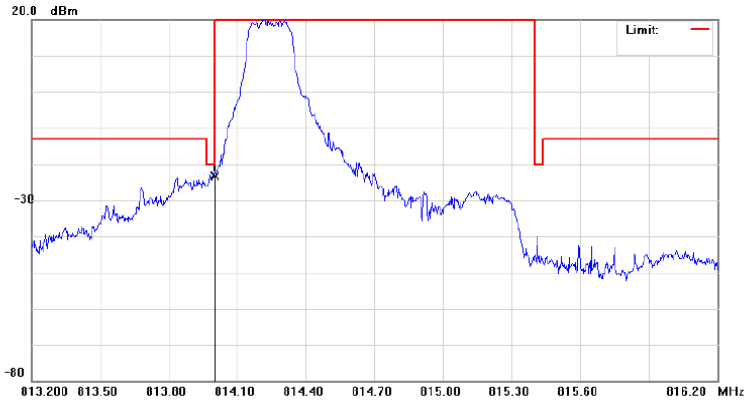
| Frequency | LTE Band 25 | Channel Bandwidth | 5 MHz | RB Allocated | 25 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

| Frequency | LTE Band 25 | Channel Bandwidth | 10 MHz | RB Allocated | 50 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

| Frequency | LTE Band 25 | Channel Bandwidth | 15 MHz | RB Allocated | 75 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

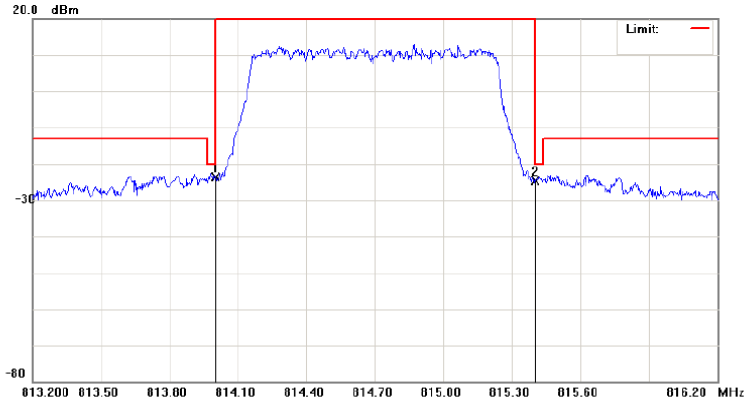
| Frequency | LTE Band 25 | Channel Bandwidth | 20 MHz | RB Allocated | 100 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

| Frequency | LTE Band 26 | Channel Bandwidth | 1.4 MHz | RB Allocated | 6 |
|---|---|---|---|---|---|
| Part 90S | | | | | |
| Lower Band Edge | | | | | |




Site: site #1 | Polarization: *Conducted* | Temperature: 26 °C
Limit: LTE Band 26_1.4M_Low | Power: | Humidity: 55 %
EUT: | Distance: | RBW: 15 KHz VBW: 15 KHz
M/N:
Mode: LTE Band 26_1.4M
Note: LTE_Band 26_CH26697(814.7MHz)_RB=1,Offset=0

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 814.0000 | -26.48 | 3.11 | -23.37 | -20.00 | -3.37 | peak | | | |

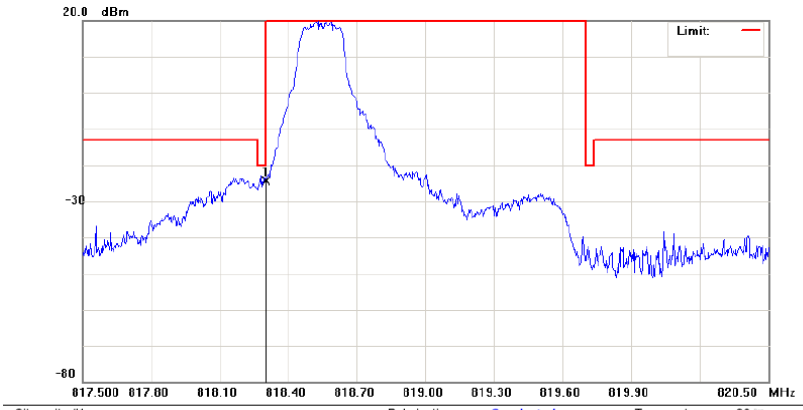



Site: site #1 | Polarization: *Conducted* | Temperature: 26 °C
Limit: LTE Band 26_1.4M_Low | Power: | Humidity: 55 %
EUT: | Distance: | RBW: 15 KHz VBW: 15 KHz
M/N:
Mode: LTE Band 26_1.4M
Note: LTE_Band 26_CH26697(814.7MHz)_RB=6,Offset=0

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 814.0000 | -26.68 | 3.11 | -23.57 | -20.00 | -3.57 | peak | | | |
| 2 | | 815.4000 | -27.84 | 3.11 | -24.73 | -20.00 | -4.73 | peak | | | |

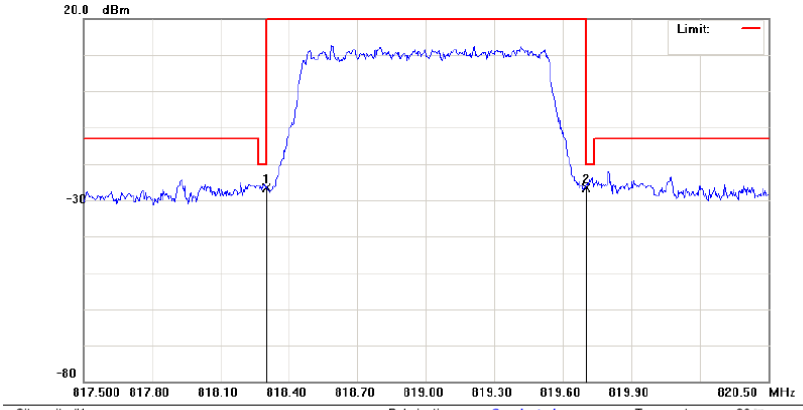
| Frequency | LTE Band 26 | Channel Bandwidth | 1.4 MHz | RB Allocated | 6 |
|---|---|---|---|---|---|
| Part 90S | | | | | |

Middle Band Edge




Site: site #1 Polarization: Conducted Temperature: 26 °C
Limit: LTE Band 26_1.4M_Middle Power: Humidity: 55 %
EUT: Distance: RBW: 15 KHz VBW: 15 KHz
M/N:
Mode: LTE Band 26_1.4M
Note: LTE_Band 26_CH26740(819MHz)_RB=1,Offset=0

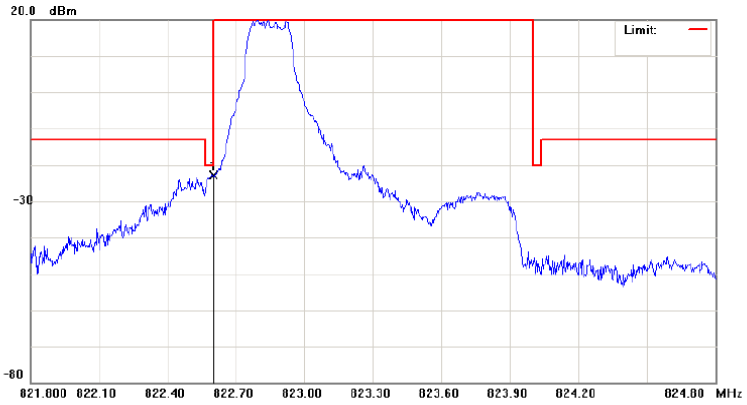
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 818.3000 | -27.39 | 3.11 | -24.28 | -20.00 | -4.28 | peak | | | |




Site: site #1 Polarization: Conducted Temperature: 26 °C
Limit: LTE Band 26_1.4M_Middle Power: Humidity: 55 %
EUT: Distance: RBW: 15 KHz VBW: 15 KHz
M/N:
Mode: LTE Band 26_1.4M
Note: LTE_Band 26_CH26740(819MHz)_RB=6,Offset=0

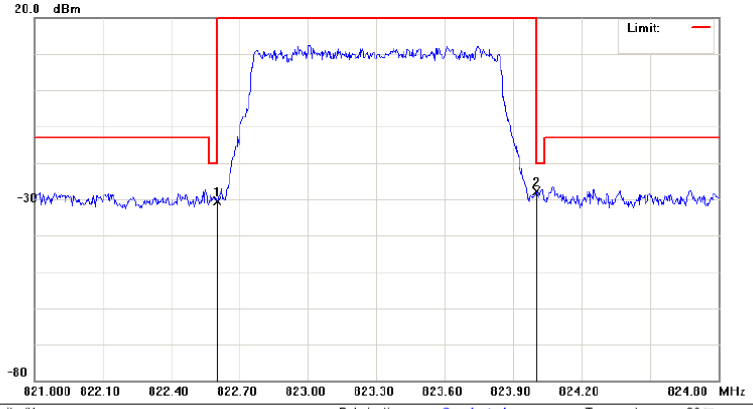
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | | 818.3000 | -29.78 | 3.11 | -26.67 | -20.00 | -6.67 | peak | | | |
| 2 | * | 819.7000 | -29.63 | 3.11 | -26.52 | -20.00 | -6.52 | peak | | | |

| Frequency | LTE Band 26 | Channel Bandwidth | 1.4 MHz | RB Allocated | 6 |
|---|---|---|---|---|---|
| Part 90S | | | | | |
| Higher Band Edge | | | | | |



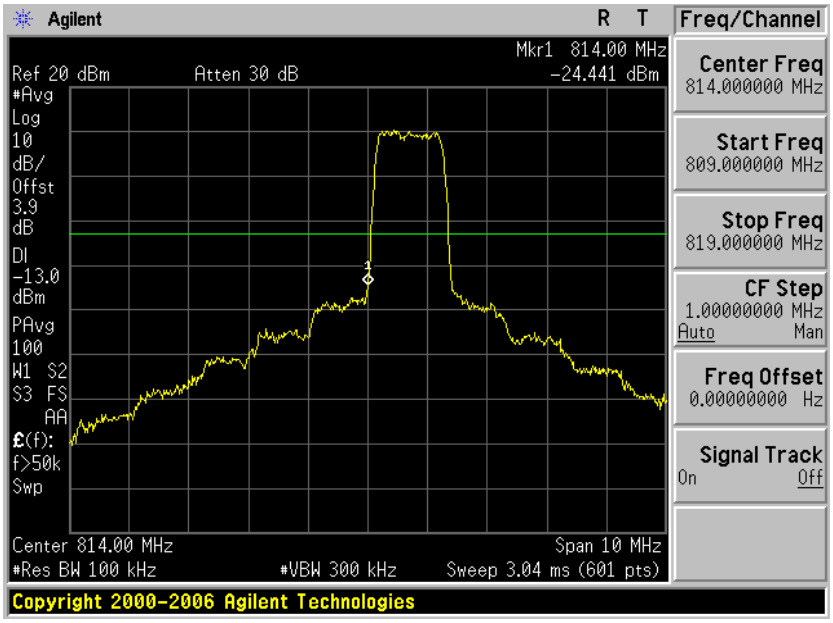
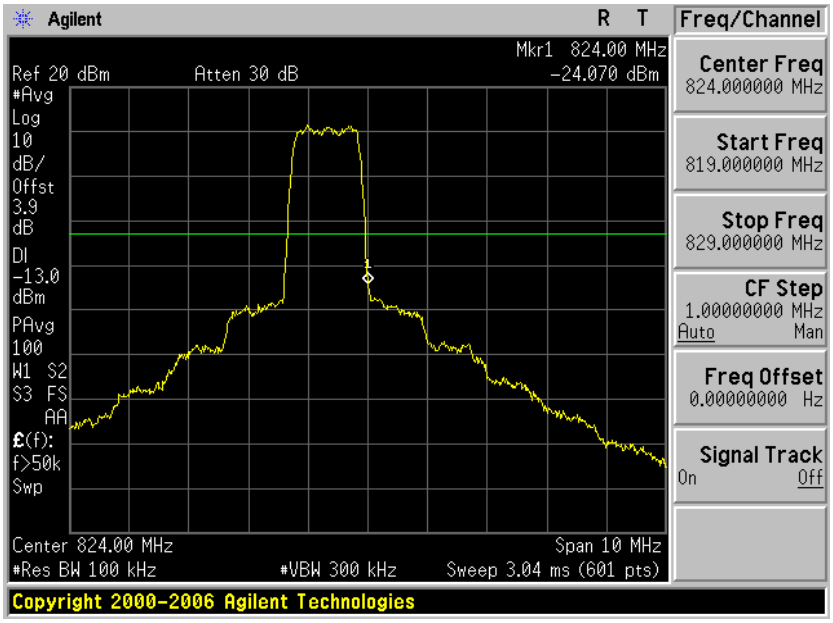

Site: site #1 Polarization: Conducted Temperature: 26 °C
Limit: LTE Band 26_1.4M_High Power: Humidity: 55 %
EUT: Distance: RBW: 15 KHz VBW: 15 KHz
M/N:
Mode: LTE Band 26_1.4M
Note: LTE_Band 26_CH26783(823.3MHz)_RB=1,Offset=0

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 822.6000 | -25.87 | 3.11 | -22.76 | -20.00 | -2.76 | peak | | | |



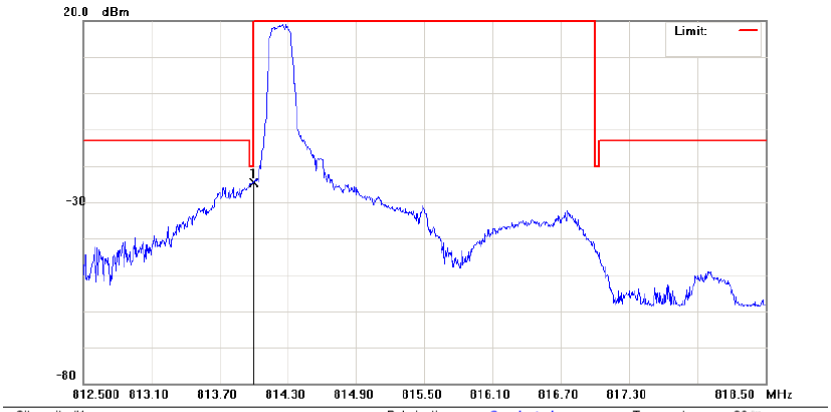

Site: site #1 Polarization: Conducted Temperature: 26 °C
Limit: LTE Band 26_1.4M_High Power: Humidity: 55 %
EUT: Distance: RBW: 15 KHz VBW: 15 KHz
M/N:
Mode: LTE Band 26_1.4M
Note: LTE_Band 26_CH26783(823.3MHz)_RB=6,Offset=0

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | | 822.6000 | -33.65 | 3.11 | -30.54 | -20.00 | -10.54 | peak | | | |
| 2 | * | 824.0000 | -31.03 | 3.11 | -27.92 | -20.00 | -7.92 | peak | | | |

| Frequency | LTE Band 26 | Channel Bandwidth | 1.4 MHz | RB Allocated | 6 |
|---|---|---|---|---|---|
| Part 90S | | | | | |
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

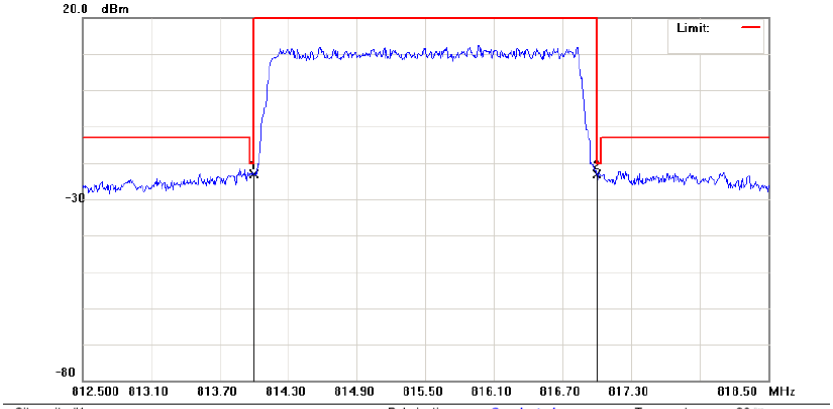
| Frequency | LTE Band 26 | Channel Bandwidth | 3 MHz | RB Allocated | 15 |
|---|---|---|---|---|---|
| Part 90S | | | | | |

Lower Band Edge




Site: site #1 Polarization: Conducted Temperature: 26 ℃
Limit: LTE Band 26_3M_Low Power: Humidity: 55 %
EUT: Distance: RBW: 33 KHz VBW: 33 KHz
M/N:
Mode: LTE Band 26_3M
Note: LTE_Band 26_CH26705(815.5MHz)_RB=1,Offset=0

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 814.0000 | -27.75 | 3.11 | -24.64 | -20.00 | -4.64 | peak | | | |

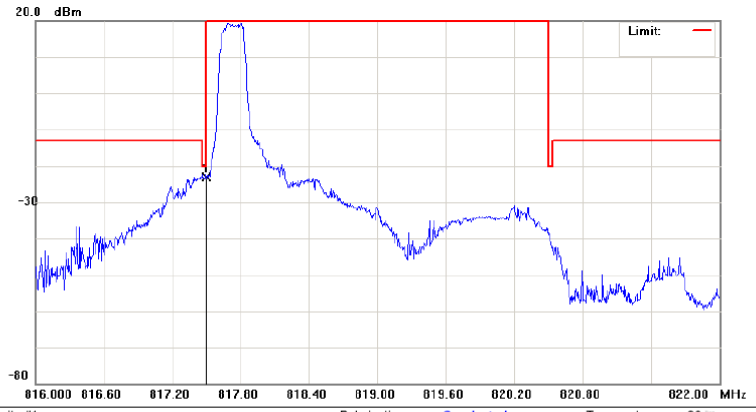



Site: site #1 Polarization: Conducted Temperature: 26 ℃
Limit: LTE Band 26_3M_Low Power: Humidity: 55 %
EUT: Distance: RBW: 33 KHz VBW: 33 KHz
M/N:
Mode: LTE Band 26_3M
Note: LTE_Band 26_CH26705(815.5MHz)_RB=15,Offset=0

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 814.0000 | -26.19 | 3.11 | -23.08 | -20.00 | -3.08 | peak | | | |
| 2 | | 817.0000 | -26.32 | 3.11 | -23.21 | -20.00 | -3.21 | peak | | | |

| Frequency | LTE Band 26 | Channel Bandwidth | 3 MHz | RB Allocated | 15 |
|---|---|---|---|---|---|
| Part 90S | | | | | |

Middle Band Edge

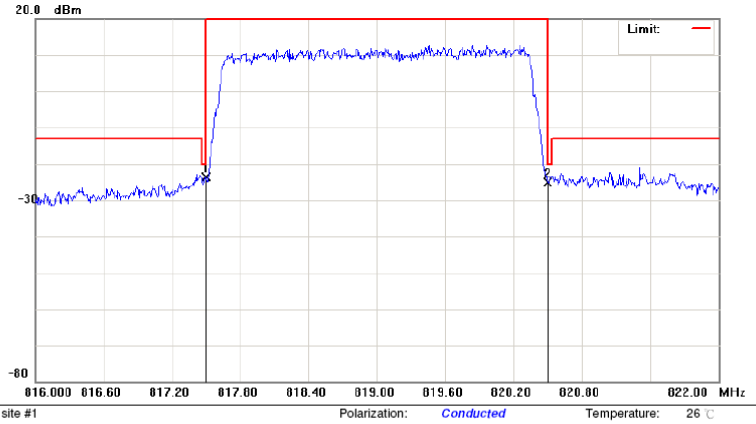



Site: site #1
Limit: LTE Band 26_3M_Middle
EUT:
M/N:
Mode: LTE Band 26_3M
Note: LTE_Band 26_CH26740(819MHz)_RB=1,Offset=0

Polarization: Conducted
Power:
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 33 KHz VBW: 33 KHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 817.5000 | -26.34 | 3.11 | -23.23 | -20.00 | -3.23 | peak | | | |

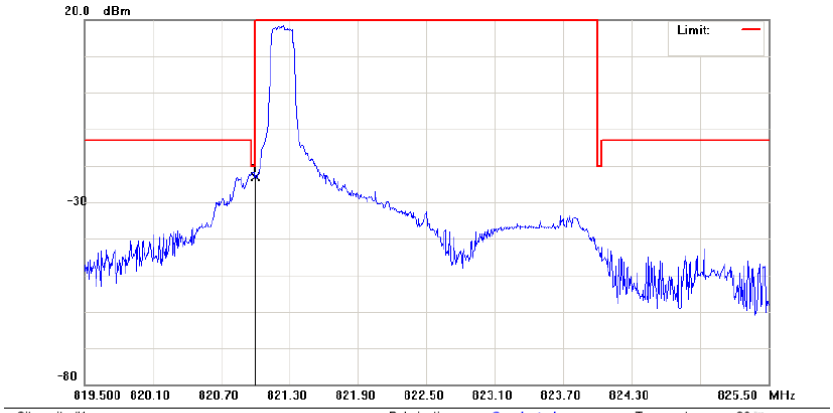



Site: site #1
Limit: LTE Band 26_3M_Middle
EUT:
M/N:
Mode: LTE Band 26_3M
Note: LTE_Band 26_CH26740(819MHz)_RB=15,Offset=0

Polarization: Conducted
Power:
Distance:

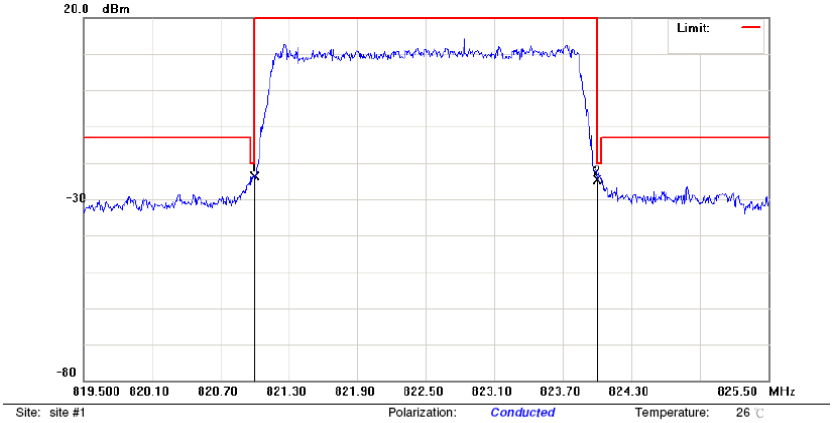
Temperature: 26 ℃
Humidity: 55 %
RBW: 33 KHz VBW: 33 KHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 817.5000 | -26.72 | 3.11 | -23.61 | -20.00 | -3.61 | peak | | | |
| 2 | | 820.5000 | -28.15 | 3.11 | -25.04 | -20.00 | -5.04 | peak | | | |

| Frequency | LTE Band 26 | Channel Bandwidth | 3 MHz | RB Allocated | 15 |
|---|---|---|---|---|---|
| Part 90S | | | | | |
| Higher Band Edge |  | | | | |

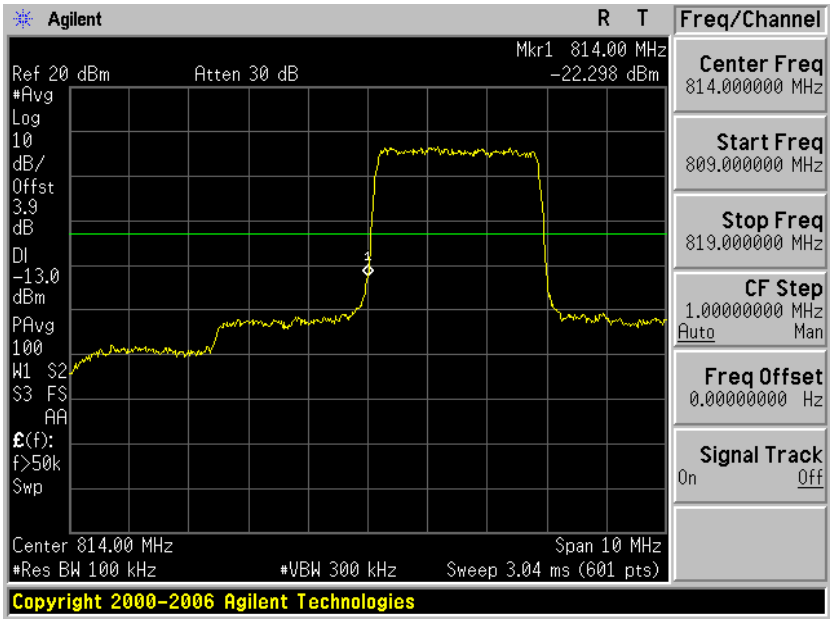
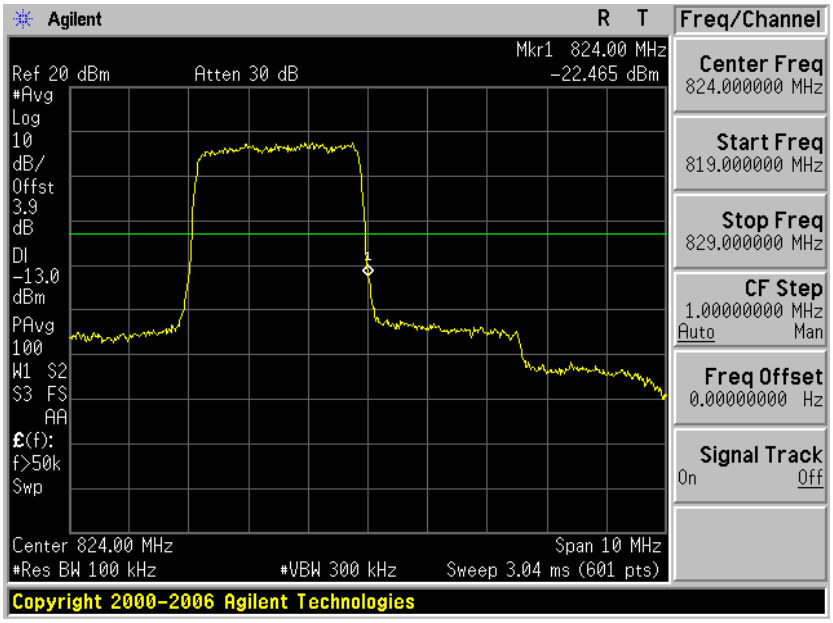
Site: site #1 Polarization: Conducted Temperature: 26 °C
Limit: LTE Band 26_3M_High Power: Humidity: 55 %
EUT: Distance: RBW: 33 KHz VBW: 33 KHz
M/N:
Mode: LTE Band 26_3M
Note: LTE_Band 26_CH26775(822.5MHz)_RB=1,Offset=0

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 821.0000 | -26.31 | 3.11 | -23.20 | -20.00 | -3.20 | peak | | | |



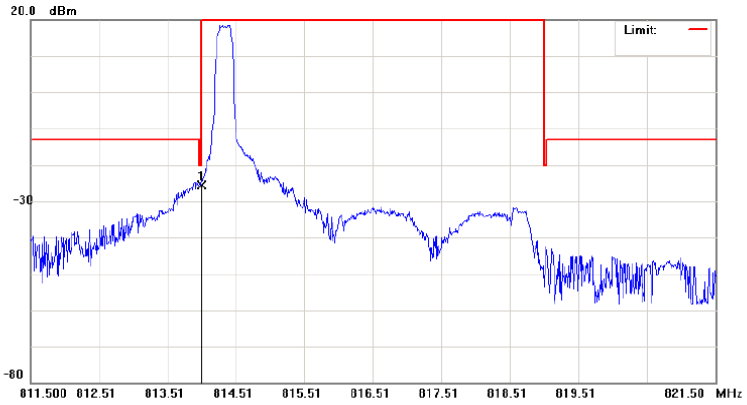

Site: site #1 Polarization: Conducted Temperature: 26 °C
Limit: LTE Band 26_3M_High Power: Humidity: 55 %
EUT: Distance: RBW: 33 KHz VBW: 33 KHz
M/N:
Mode: LTE Band 26_3M
Note: LTE_Band 26_CH26775(822.5MHz)_RB=15,Offset=0

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 821.0000 | -26.78 | 3.11 | -23.67 | -20.00 | -3.67 | peak | | | |
| 2 | | 824.0000 | -27.78 | 3.11 | -24.67 | -20.00 | -4.67 | peak | | | |

| Frequency | LTE Band 26 | Channel Bandwidth | 3 MHz | RB Allocated | 15 |
|---|---|---|---|---|---|
| Part 90S | | | | | |
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

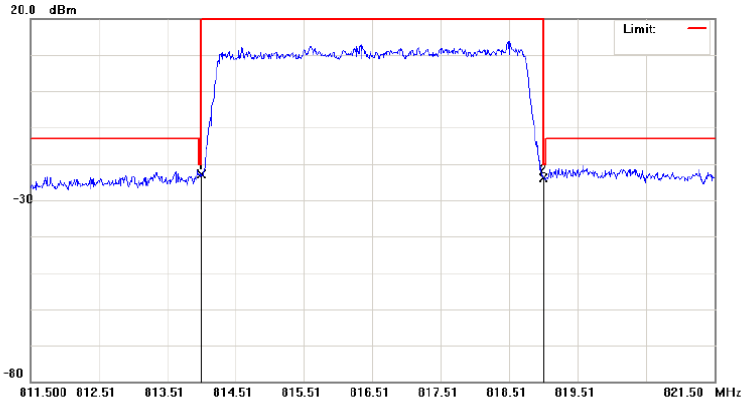
| Frequency | LTE Band 26 | Channel Bandwidth | 5 MHz | RB Allocated | 25 |
|---|---|---|---|---|---|
| Part 90S | | | | | |

Lower Band Edge




Site: site #1 | Polarization: Conducted | Temperature: 26 °C
Limit: LTE Band 26_5M_Low | Power: | Humidity: 55 %
EUT: | Distance: | RBW: 51 KHz | VBW: 51 KHz
M/N:
Mode: LTE Band 26_5M
Note: LTE_Band 26_CH26715(816.5MHz)_RB=1,Offset=0

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 814.0000 | -28.82 | 3.11 | -25.71 | -20.00 | -5.71 | peak | | | |

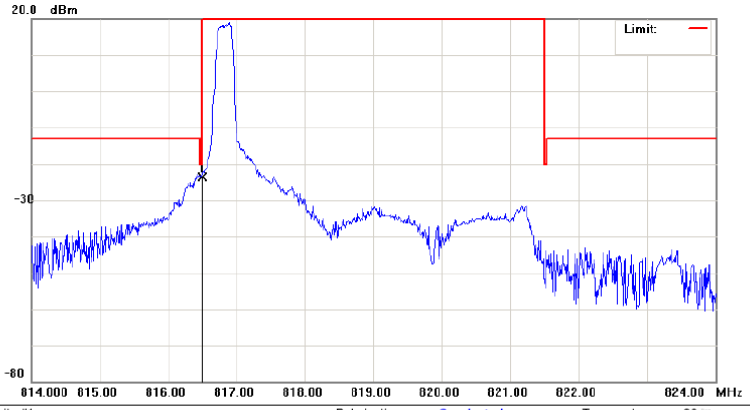



Site: site #1 | Polarization: Conducted | Temperature: 26 °C
Limit: LTE Band 26_5M_Low | Power: | Humidity: 55 %
EUT: | Distance: | RBW: 51 KHz | VBW: 51 KHz
M/N:
Mode: LTE Band 26_5M
Note: LTE_Band 26_CH26715(816.5MHz)_RB=25,Offset=0

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 814.0000 | -25.93 | 3.11 | -22.82 | -20.00 | -2.82 | peak | | | |
| 2 | | 819.0000 | -26.98 | 3.11 | -23.87 | -20.00 | -3.87 | peak | | | |

| Frequency | LTE Band 26 | Channel Bandwidth | 5 MHz | RB Allocated | 25 |
|---|---|---|---|---|---|
| Part 90S | | | | | |

Midde Band Edge

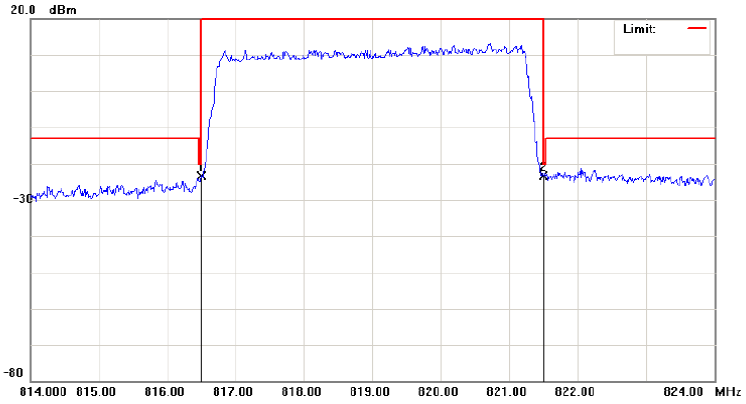



Site: site #1
Limit: LTE Band 26_5M_Middle
EUT:
M/N:
Mode: LTE Band 26_5M
Note: LTE_Band 26_CH26740(819MHz)_RB=1,Offset=0

Polarization: Conducted
Power:
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 51 KHz VBW: 51 KHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 816.5000 | -26.71 | 3.11 | -23.60 | -20.00 | -3.60 | peak | | | |




Site: site #1
Limit: LTE Band 26_5M_Middle
EUT:
M/N:
Mode: LTE Band 26_5M
Note: LTE_Band 26_CH26740(819MHz)_RB=25,Offset=0

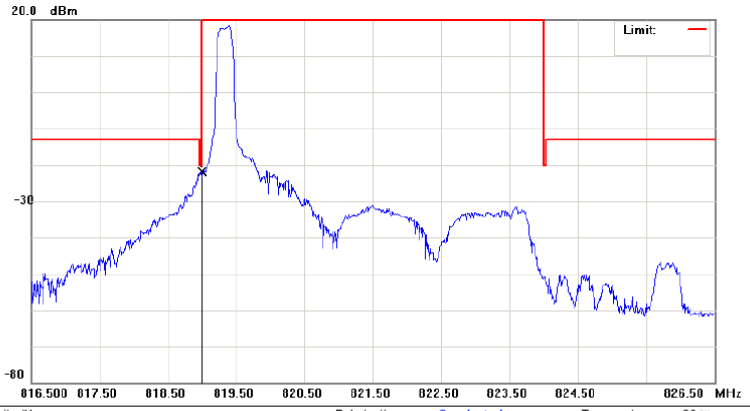
Polarization: Conducted
Power:
Distance:

Temperature: 26 ℃
Humidity: 55 %
RBW: 51 KHz VBW: 51 KHz

| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 816.5000 | -26.36 | 3.11 | -23.25 | -20.00 | -3.25 | peak | | | |
| 2 | | 821.5000 | -26.49 | 3.11 | -23.38 | -20.00 | -3.38 | peak | | | |

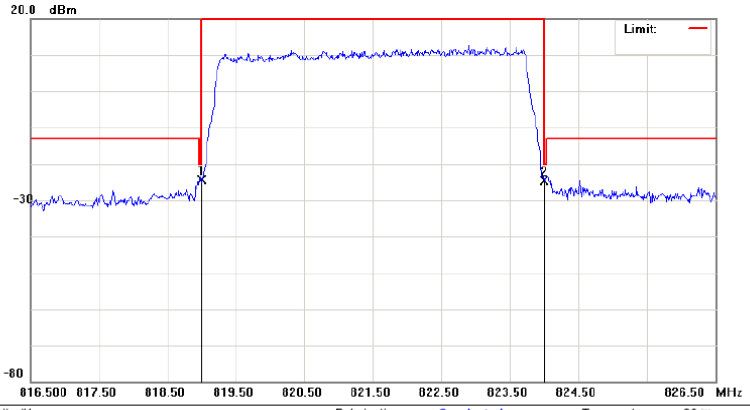
| Frequency | LTE Band 26 | Channel Bandwidth | 5 MHz | RB Allocated | 25 |
|---|---|---|---|---|---|
| Part 90S | | | | | |

Higher Band Edge



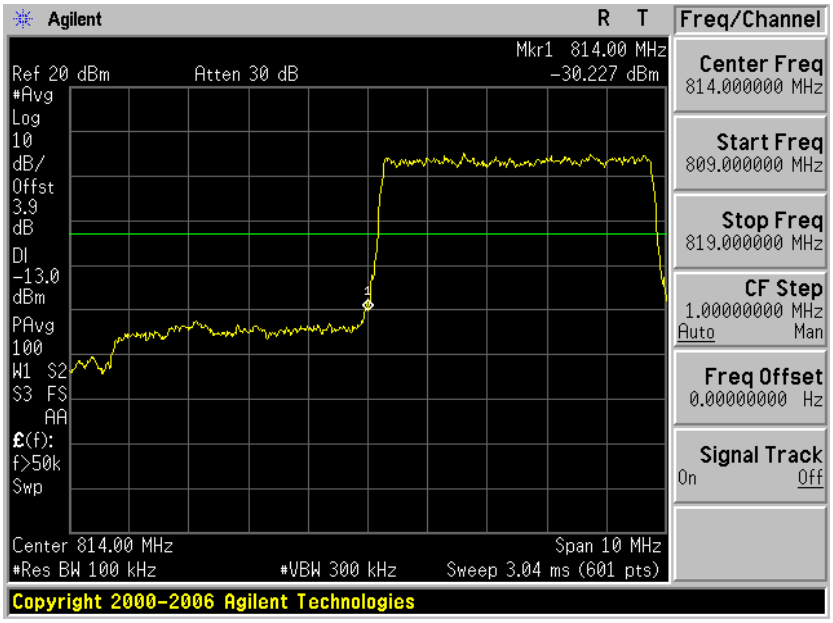
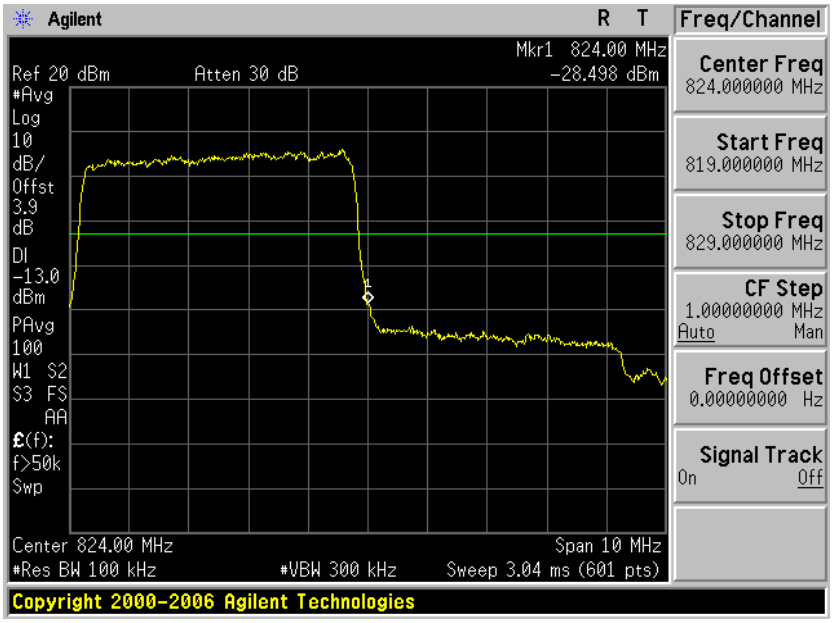

Site: site #1 | Polarization: Conducted | Temperature: 26 °C
Limit: LTE Band 26_5M_High | Power: | Humidity: 55 %
EUT: | Distance: | RBW: 51 KHz | VBW: 51 KHz
M/N:
Mode: LTE Band 26_5M
Note: LTE_Band 26_CH26765(821.5MHz)_RB=1,Offset=0

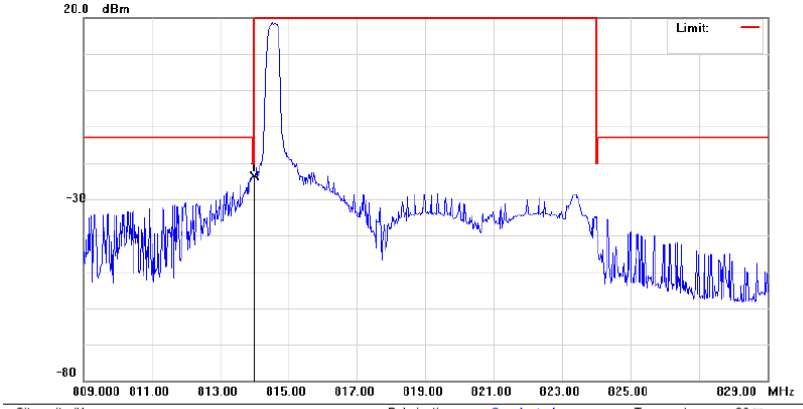
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 819.0000 | -24.91 | 3.11 | -21.80 | -20.00 | -1.80 | peak | | | |




Site: site #1 | Polarization: Conducted | Temperature: 26 °C
Limit: LTE Band 26_5M_High | Power: | Humidity: 55 %
EUT: | Distance: | RBW: 51 KHz | VBW: 51 KHz
M/N:
Mode: LTE Band 26_5M
Note: LTE_Band 26_CH26765(821.5MHz)_RB=25,Offset=0

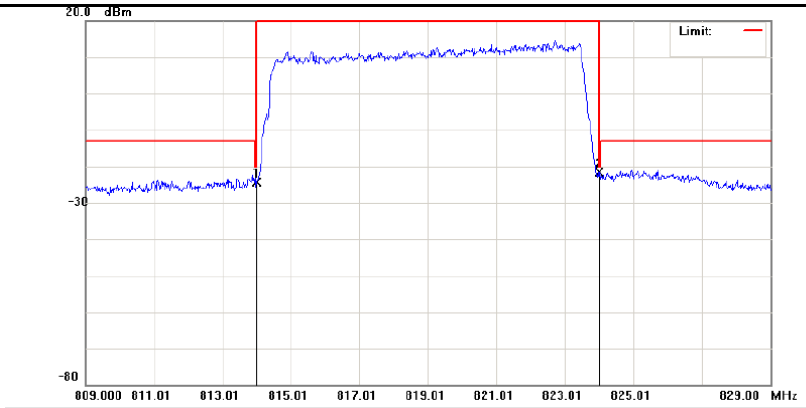
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 819.0000 | -27.57 | 3.11 | -24.46 | -20.00 | -4.46 | peak | | | |
| 2 | | 824.0000 | -27.79 | 3.11 | -24.68 | -20.00 | -4.68 | peak | | | |

| Frequency | LTE Band 26 | Channel Bandwidth | 5 MHz | RB Allocated | 25 |
|---|---|---|---|---|---|
| Part 90S | | | | | |
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

| Frequency | LTE Band 26 | Channel Bandwidth | 10 MHz | RB Allocated | 50 |
|---|---|---|---|---|---|
| Part 90S | | | | | |
| Band Edge |  | | | | |

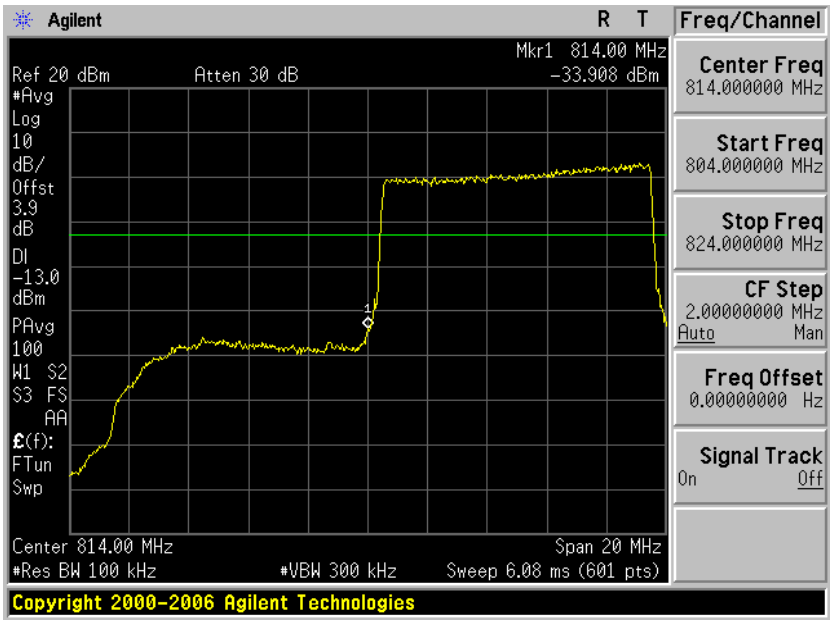
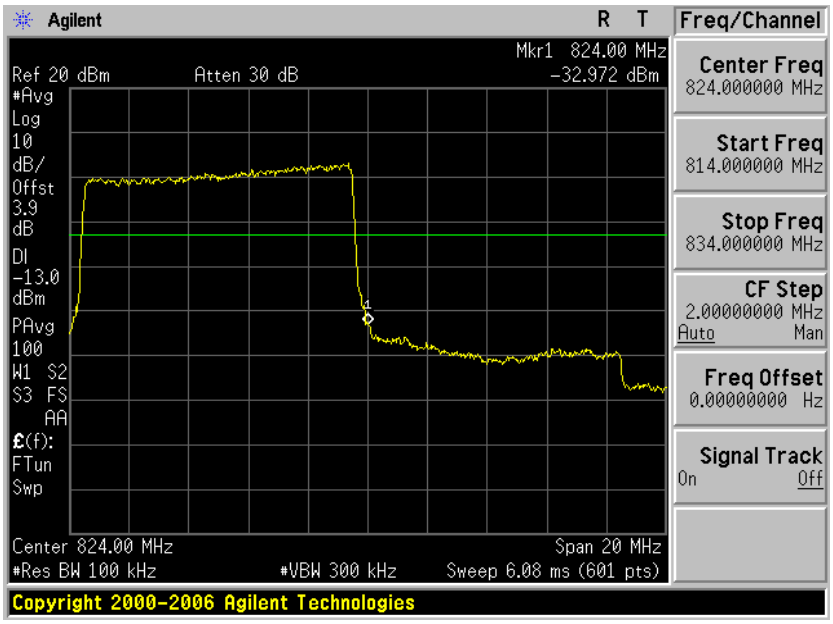
Site: site #1 Polarization: *Conducted* Temperature: 26 °C
Limit: LTE Band 26_10M_Middle Power: Humidity: 55 %
EUT: Distance: RBW: 110 KHz VBW: 110
M/N:
Mode: LTE Band 26_10M
Note: LTE_Band 26_CH26740(819MHz)_RB=1,Offset=0

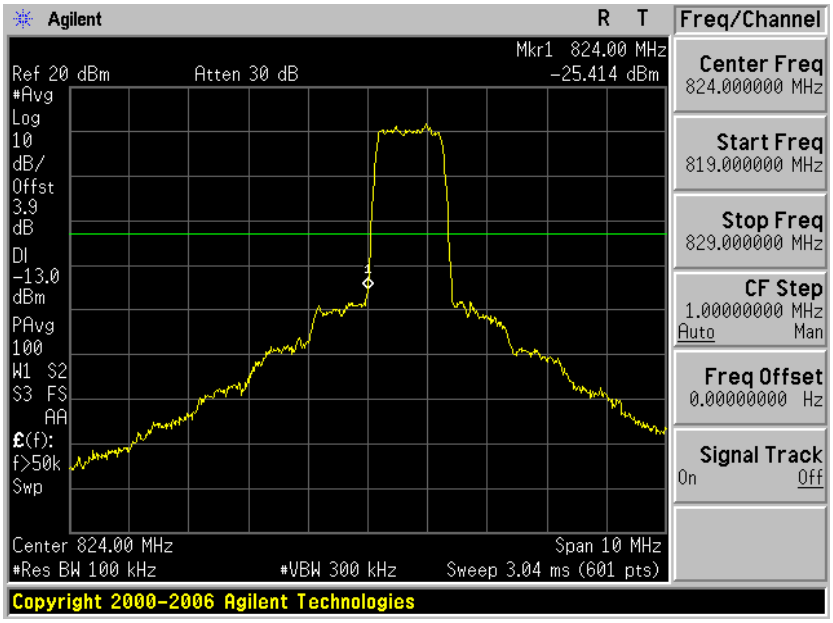
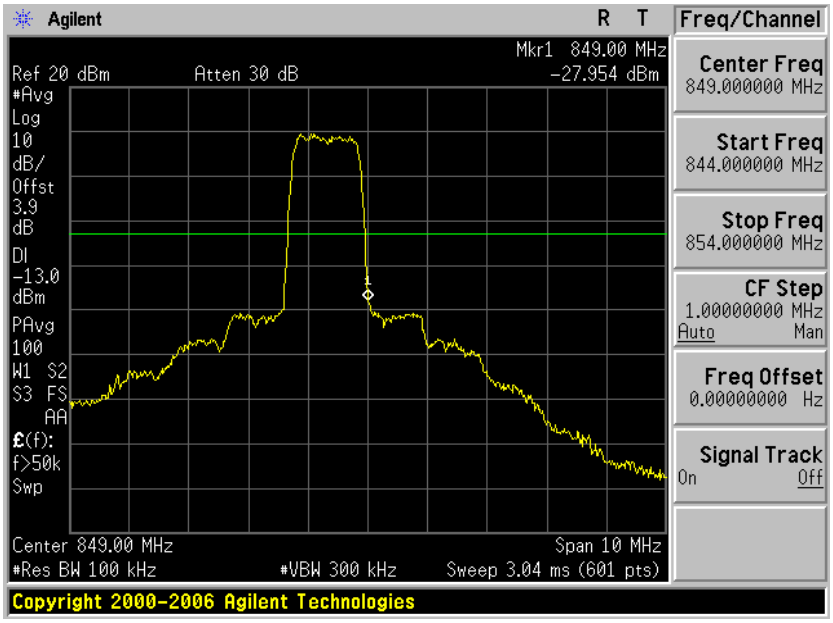
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | * | 814.0000 | -26.73 | 3.11 | -23.62 | -20.00 | -3.62 | peak | | | |

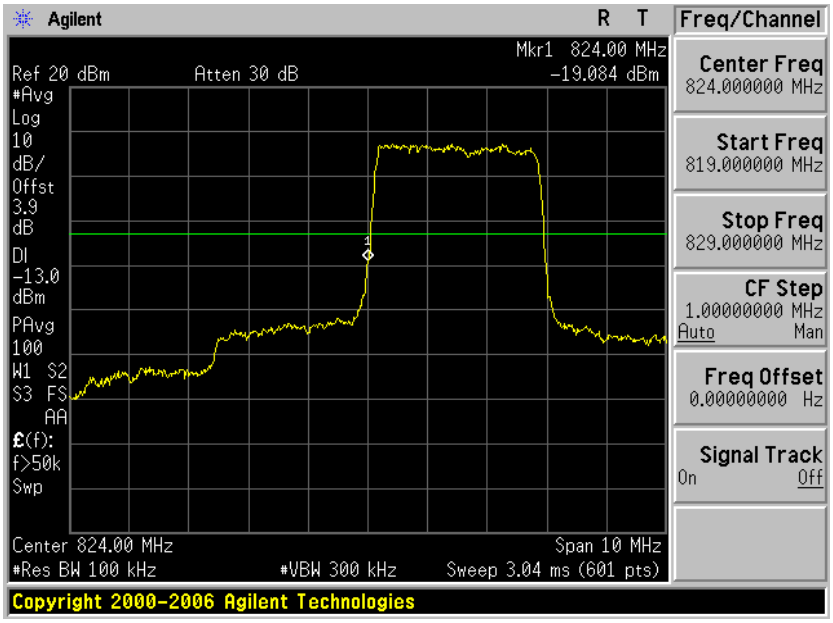
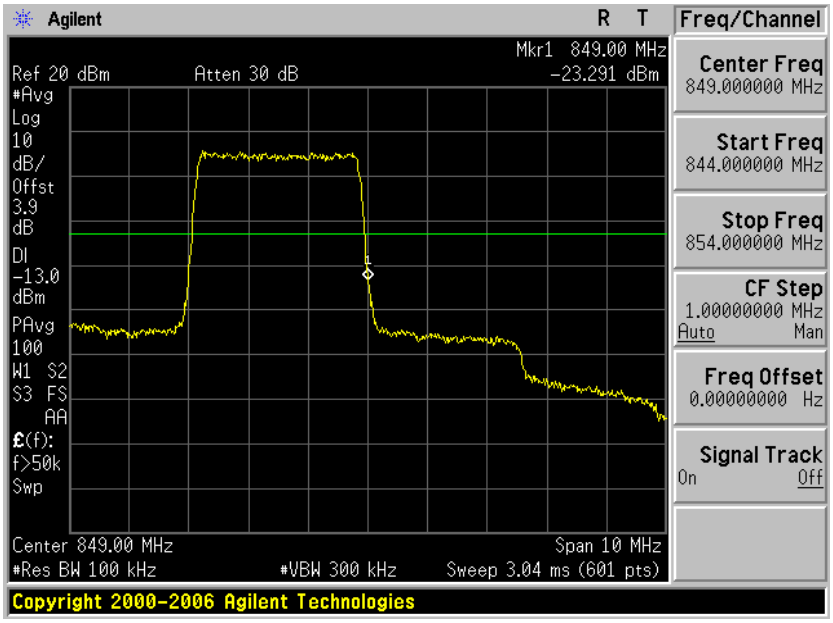


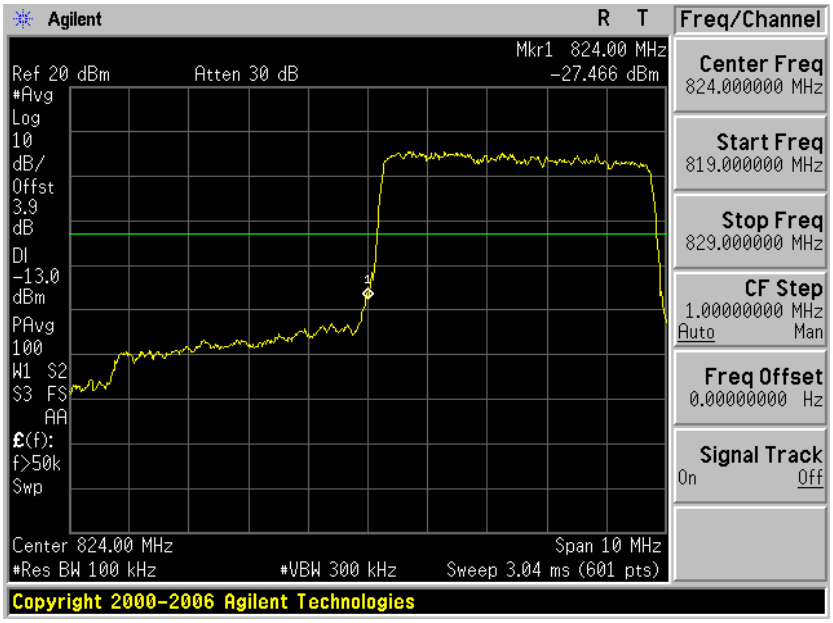
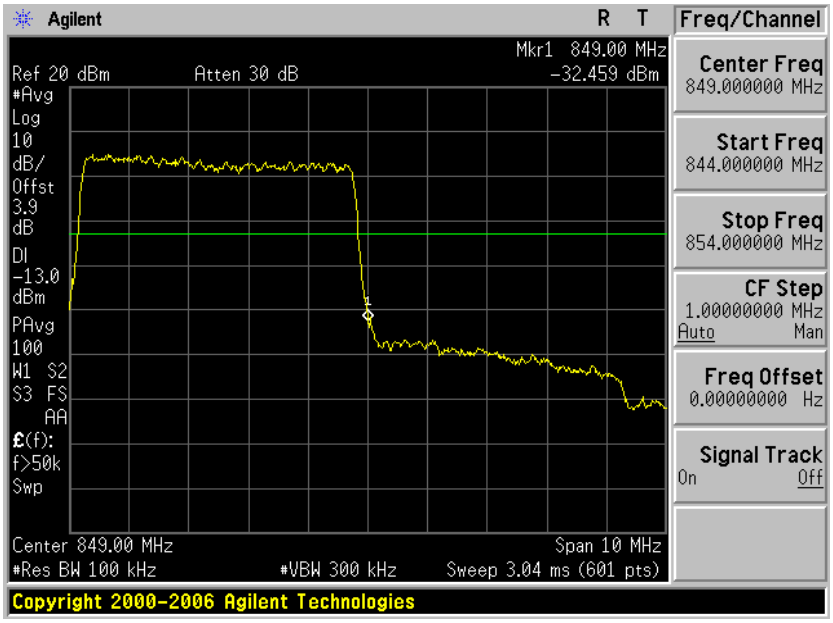

Site: site #1 Polarization: *Conducted* Temperature: 26 °C
Limit: LTE Band 26_10M_Middle Power: Humidity: 55 %
EUT: Distance: RBW: 110 KHz VBW: 110
M/N:
Mode: LTE Band 26_10M
Note: LTE_Band 26_CH26740(819MHz)_RB=50,Offset=0

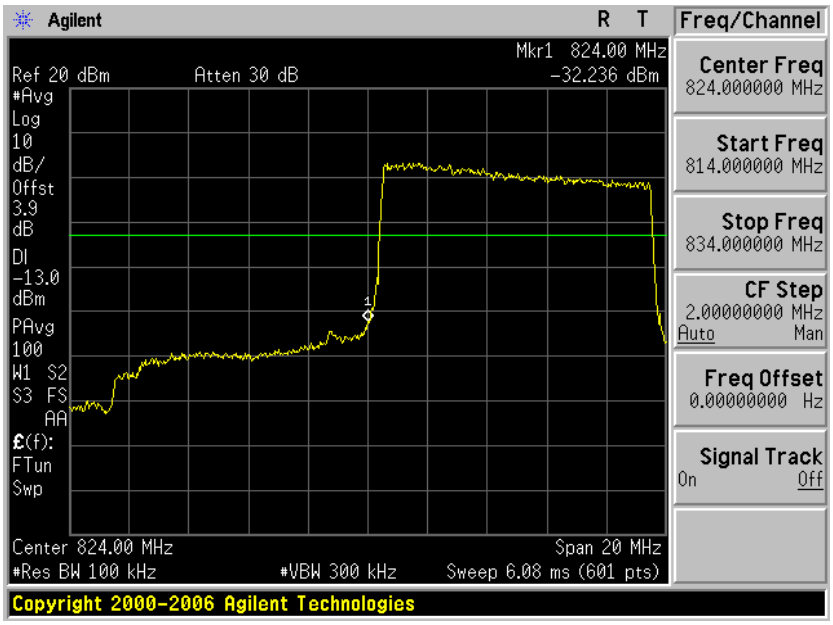
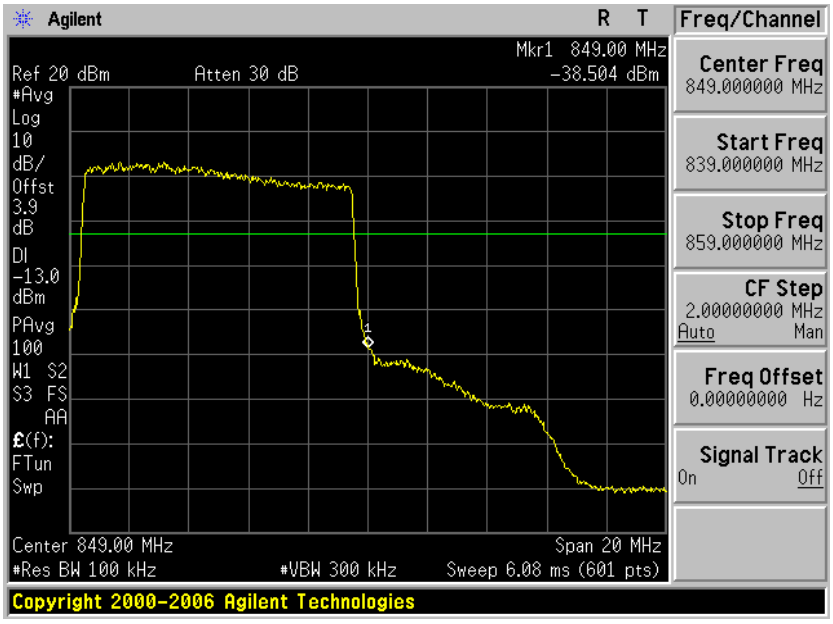
| No. | Mk. | Freq. | Reading Level | Correct Factor | Measure-ment | Limit | Over | | Antenna Height | Table Degree | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MHz | dBm | dB | dBm | dBm | dB | Detector | cm | degree | Comment |
| 1 | | 814.0000 | -27.48 | 3.11 | -24.37 | 23.00 | -47.37 | peak | | | |
| 2 | * | 824.0000 | -24.79 | 3.11 | -21.68 | -20.00 | -1.68 | peak | | | |

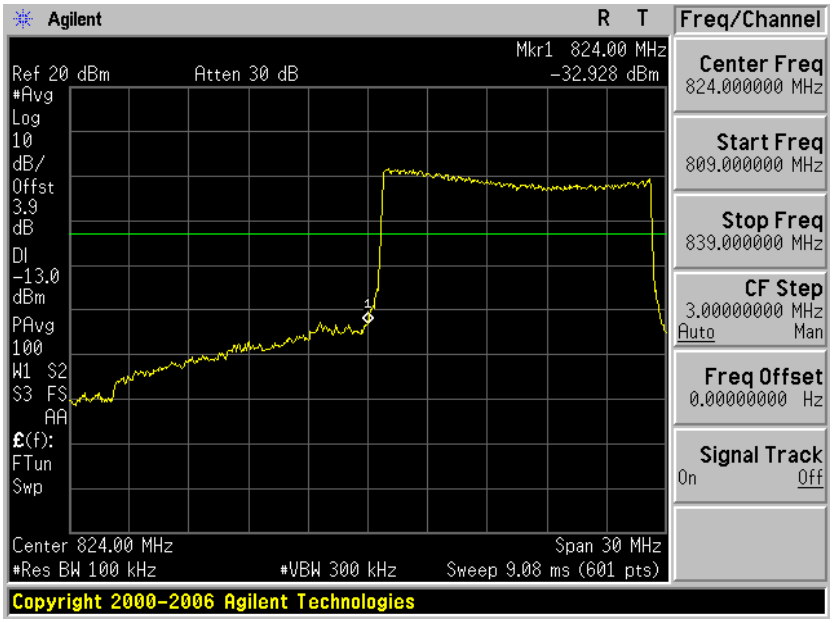
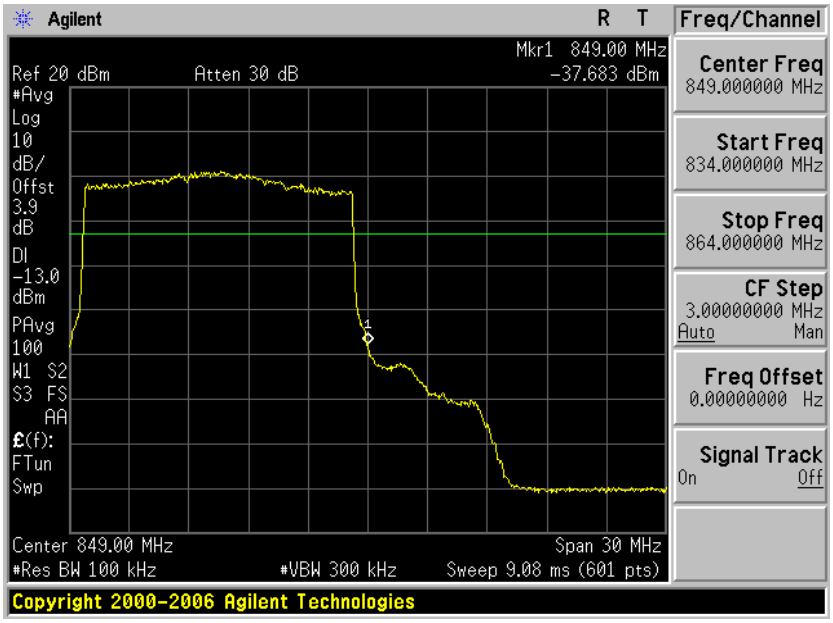
| Frequency | LTE Band 26 | Channel Bandwidth | 10 MHz | RB Allocated | 50 |
|---|---|---|---|---|---|
| Part 90S | | | | | |
| Band Edge |  <br>  | | | | | |

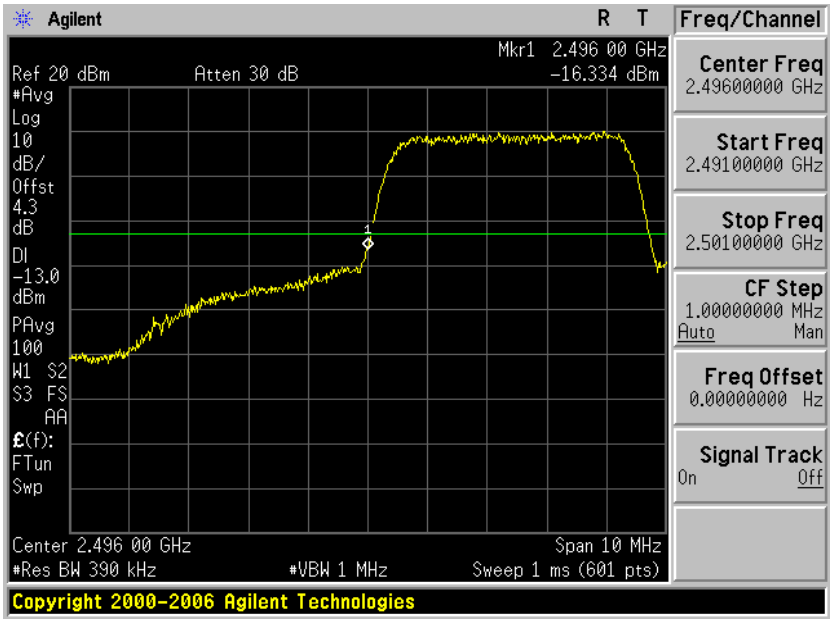
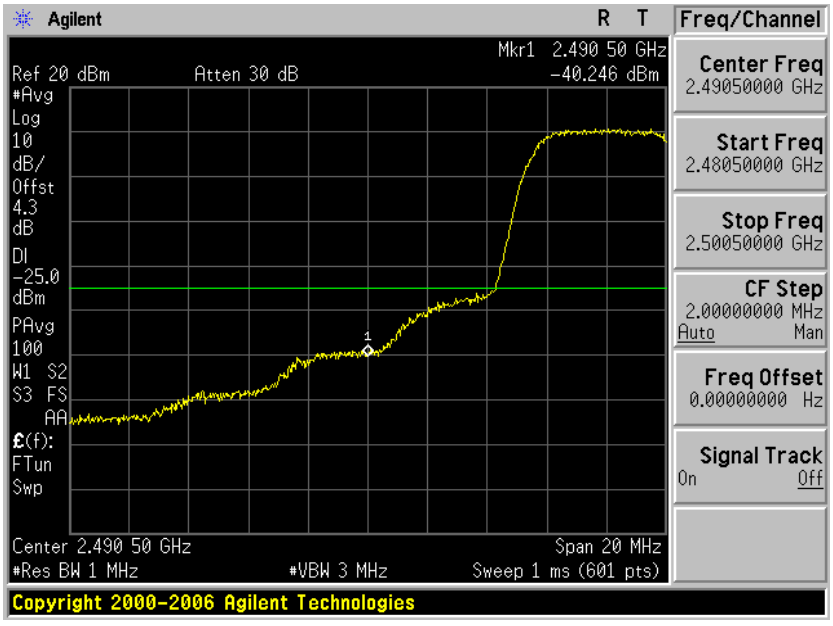
| Frequency | LTE Band 26 | Channel Bandwidth | 1.4 MHz | RB Allocated | 6 |
|---|---|---|---|---|---|
| Part 22H | | | | | |
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

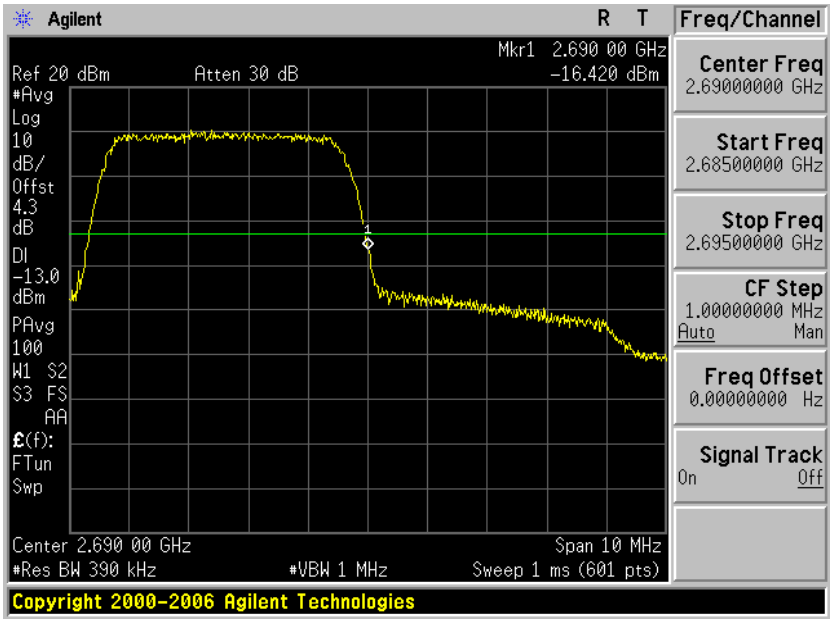
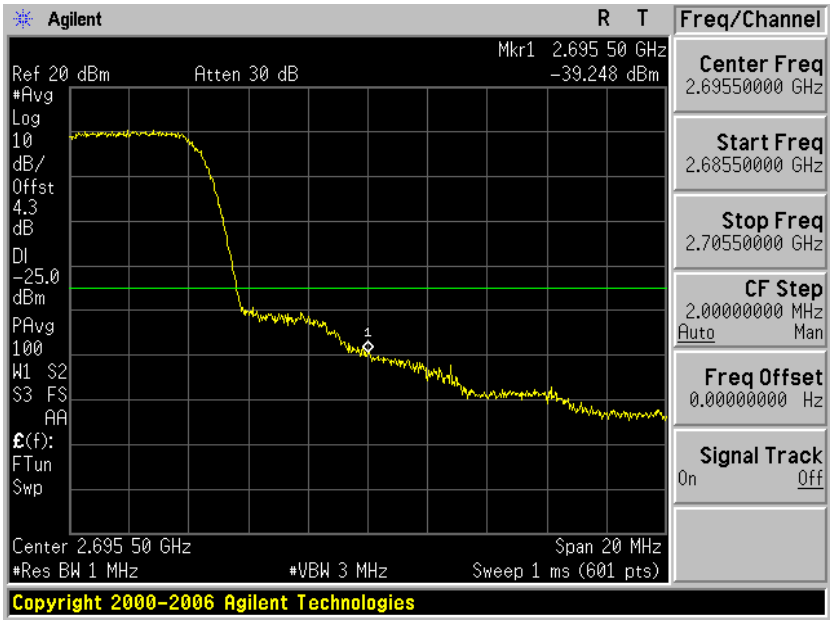
| Frequency | LTE Band 26 | Channel Bandwidth | 3 MHz | RB Allocated | 15 |
|---|---|---|---|---|---|
| Part 22H | | | | | |
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

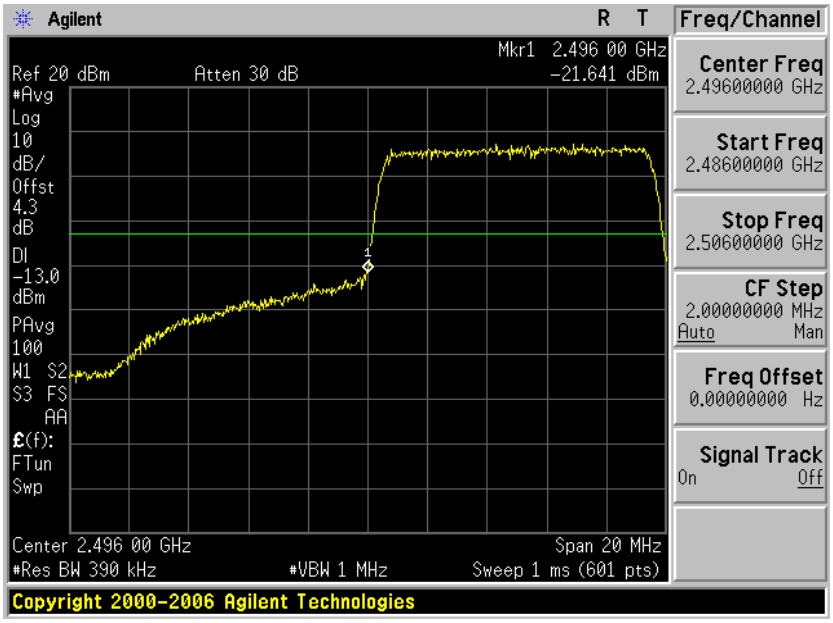
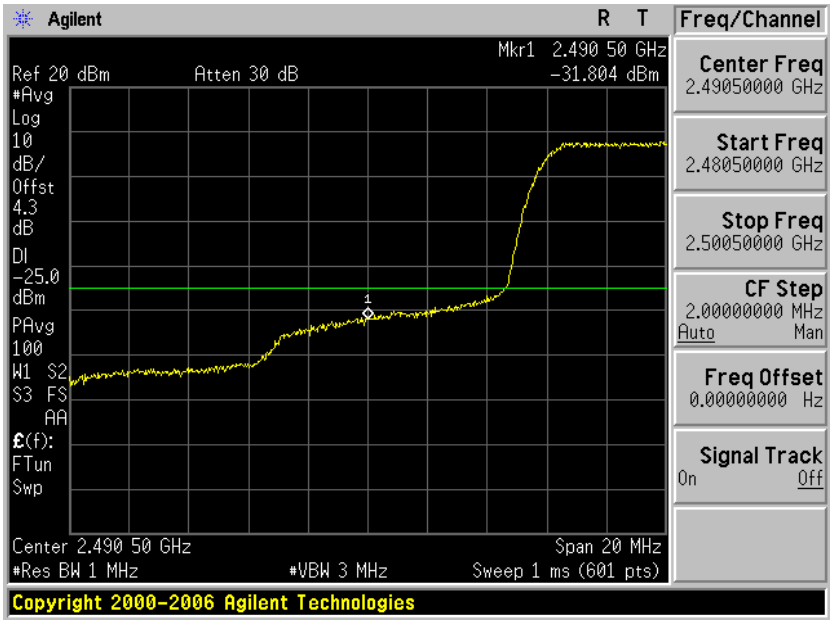
| Frequency | LTE Band 26 | Channel Bandwidth | 5 MHz | RB Allocated | 25 |
|---|---|---|---|---|---|
| Part 22H | | | | | |
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

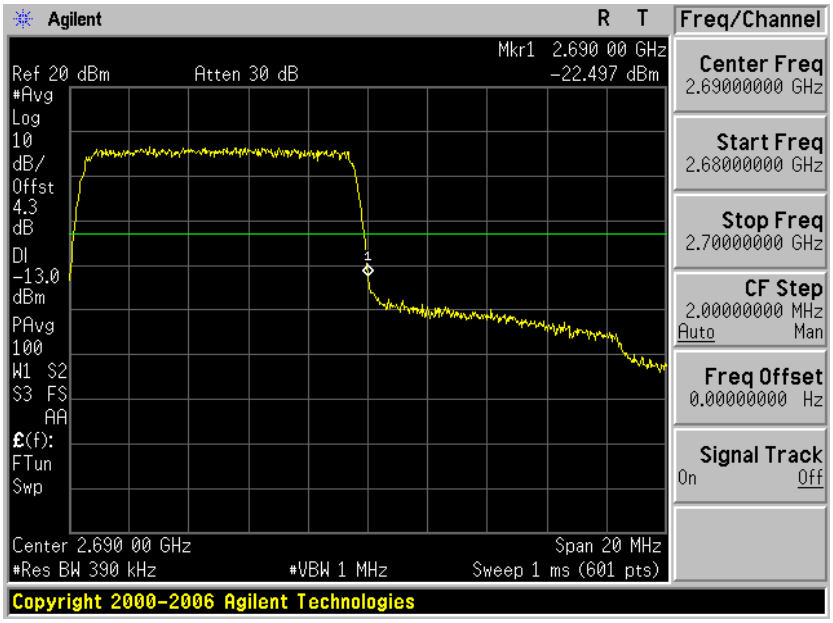
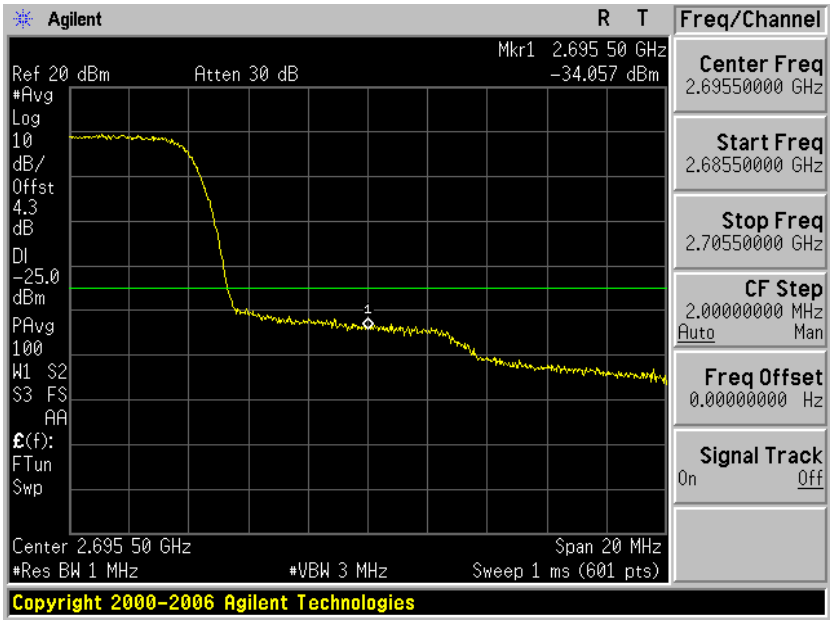
| Frequency | LTE Band 26 | Channel Bandwidth | 10 MHz | RB Allocated | 50 |
|---|---|---|---|---|---|
| Part 22H | | | | | |
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

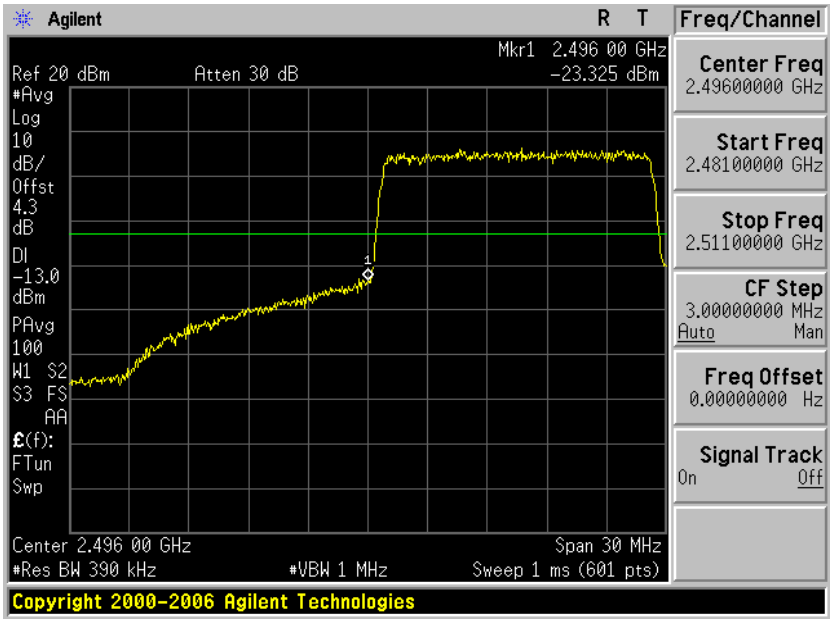
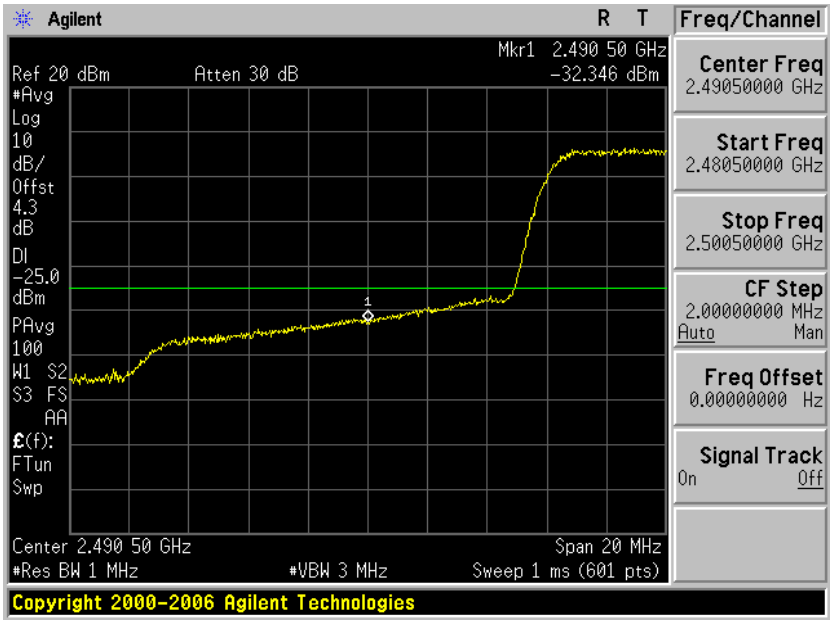
| Frequency | LTE Band 26 | Channel Bandwidth | 15 MHz | RB Allocated | 75 |
|---|---|---|---|---|---|
| Part 22H | | | | | |
| Lower Band Edge |  | | | | |
| Higher Band Edge |  | | | | |

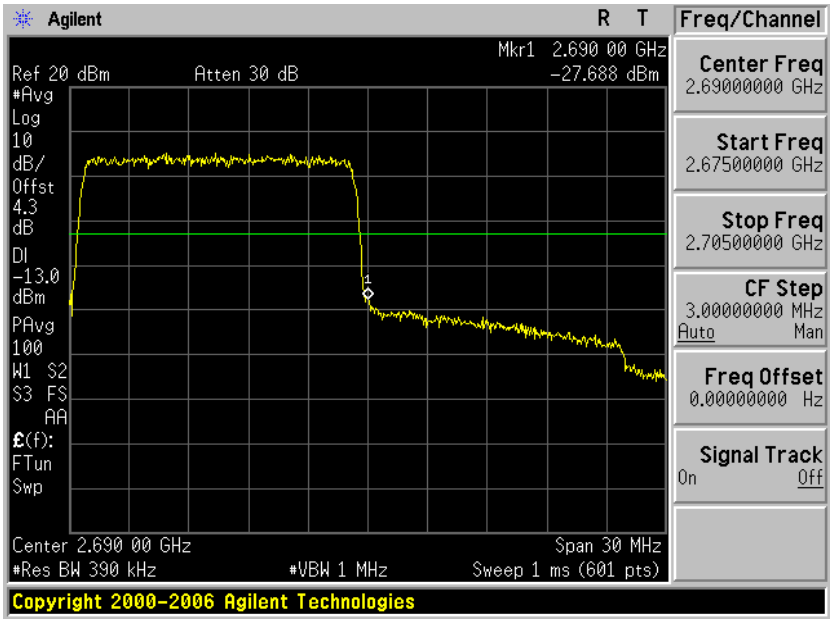
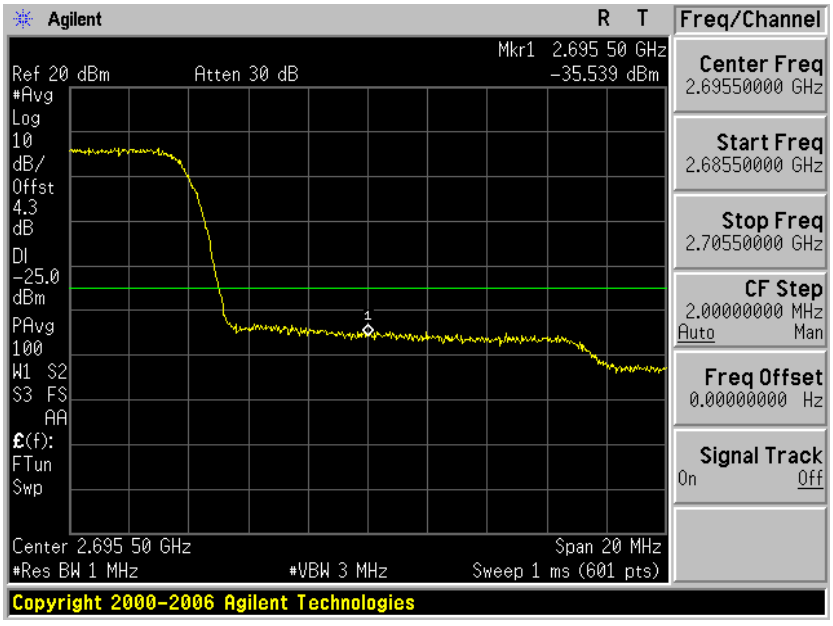
| Frequency | LTE Band 41 | Channel Bandwidth | 5 MHz | RB Allocated | 25 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| |  | | | | |

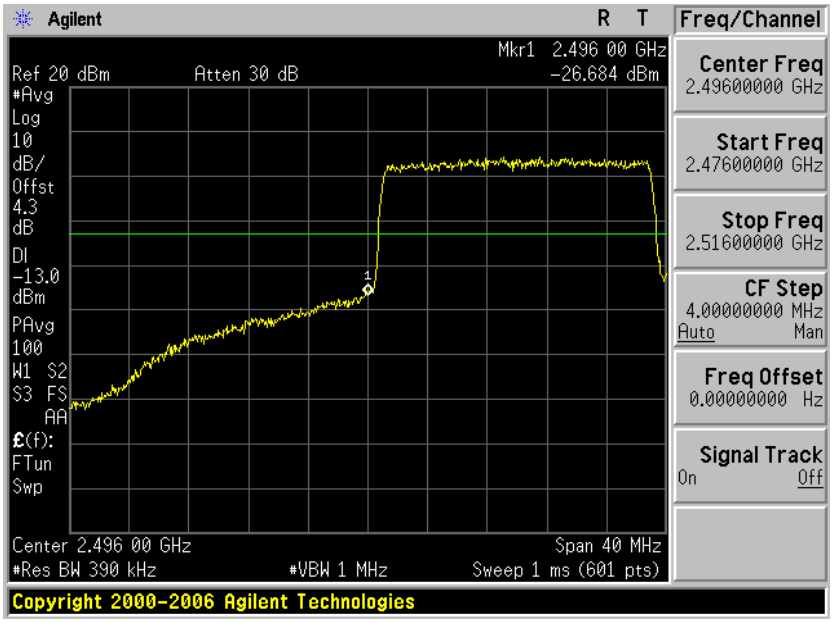
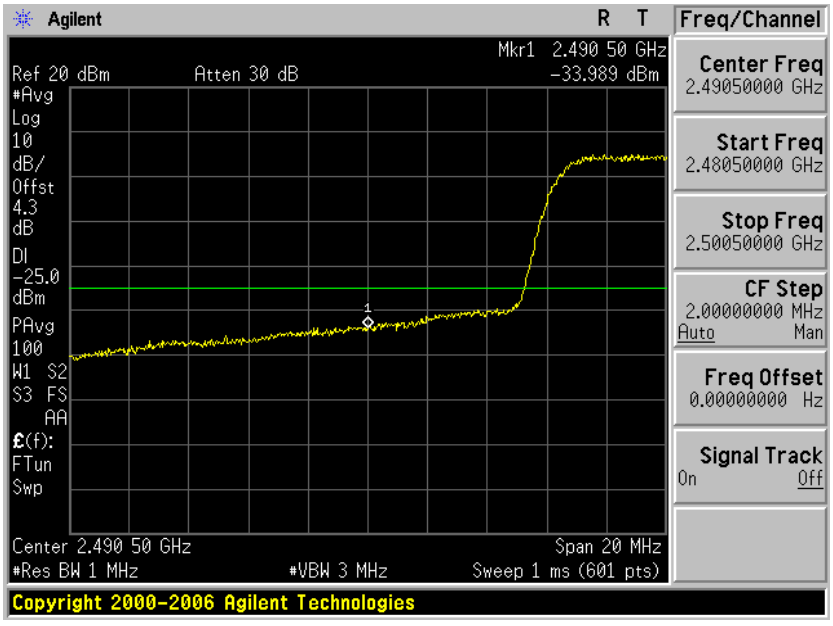
| Frequency | LTE Band 41 | Channel Bandwidth | 5 MHz | RB Allocated | 25 |
|---|---|---|---|---|---|
| Higher Band Edge |  | | | | |
| |  | | | | |

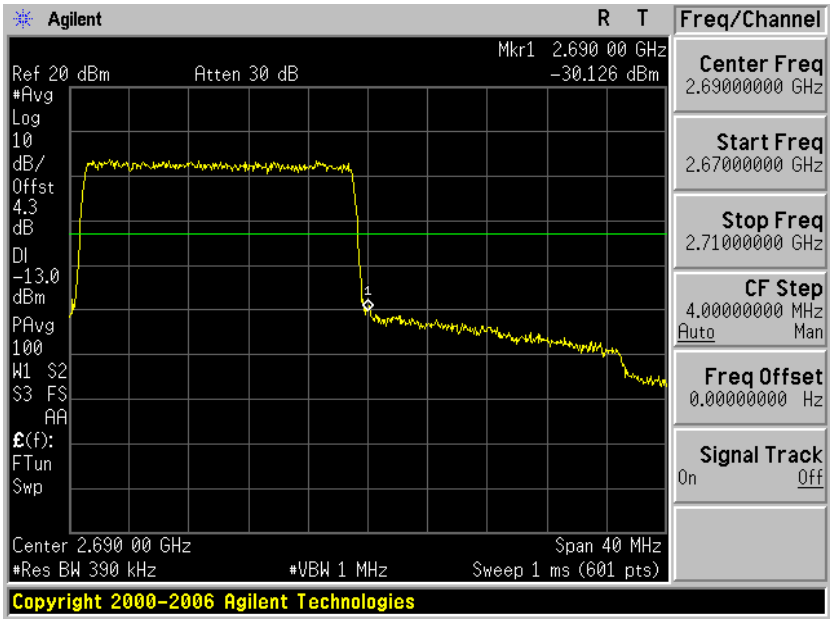
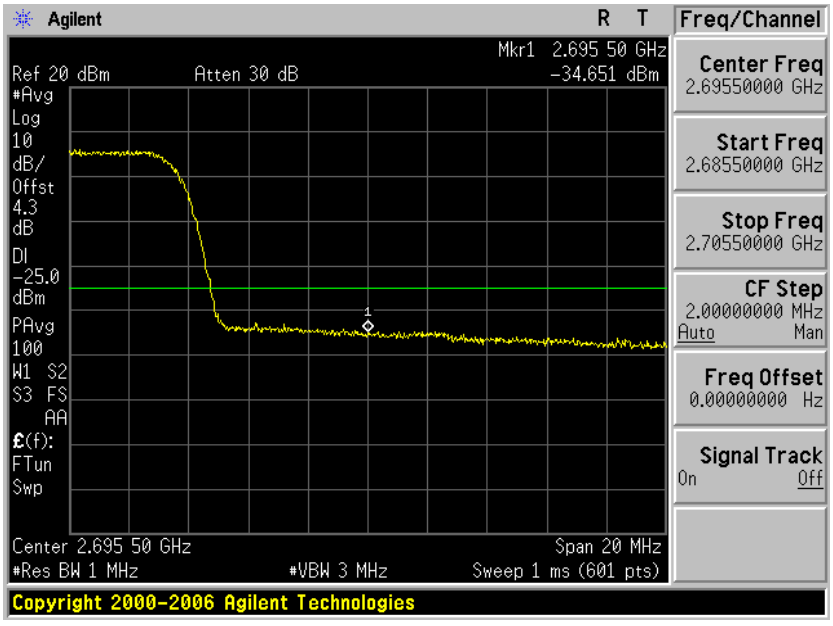
| Frequency | LTE Band 41 | Channel Bandwidth | 10 MHz | RB Allocated | 50 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| |  | | | | |

| Frequency | LTE Band 41 | Channel Bandwidth | 10 MHz | RB Allocated | 50 |
|---|---|---|---|---|---|
| Higher Band Edge |  | | | | |
| |  | | | | |

| Frequency | LTE Band 41 | Channel Bandwidth | 15 MHz | RB Allocated | 75 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| |  | | | | |

| Frequency | LTE Band 41 | Channel Bandwidth | 15 MHz | RB Allocated | 75 |
|---|---|---|---|---|---|
| Higher Band Edge |  | | | | |
| |  | | | | |

| Frequency | LTE Band 41 | Channel Bandwidth | 20 MHz | RB Allocated | 100 |
|---|---|---|---|---|---|
| Lower Band Edge |  | | | | |
| |  | | | | |

| Frequency | LTE Band 41 | Channel Bandwidth | 20 MHz | RB Allocated | 100 |
|---|---|---|---|---|---|
| Higher Band Edge |  | | | | |
| |  | | | | |

# 8 Conducted Spurious Emission Test

## 8.1. Limit

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 $\log_{10}$(P) dB. The limit of emission equal to -13dBm

## 8.2. Test Instruments

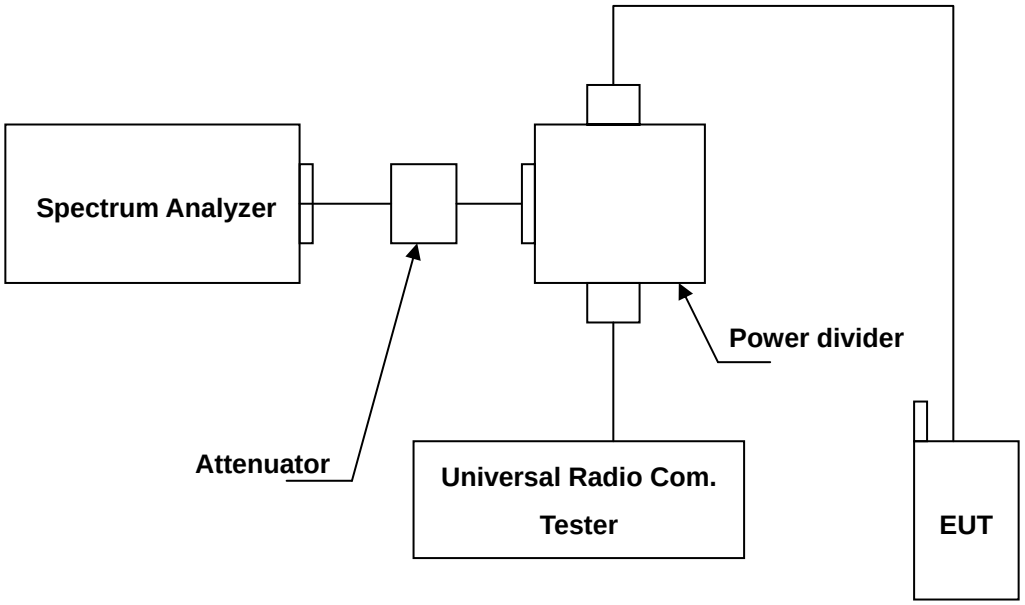
| Equipment | Manufacturer | Model No. | Serial No. | Cal. Date | Remark |
|---|---|---|---|---|---|
| Spectrum Analyzer | Agilent | E4445A | MY46181986 | 05/14/2015 | (1) |
| Wideband Radio Communication Test | R & S | CMW500 | 103168 | 11/05/2014 | (1) |
| Attenuator | RADIALL | R41572000 | 0603033073 | N.C.R. | ----- |
| Power divider | Agilent | 87302C | 3239A00760 | N.C.R. | ----- |
| Test Site | ATL | TE02 | TE02 | N.C.R. | ----- |

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

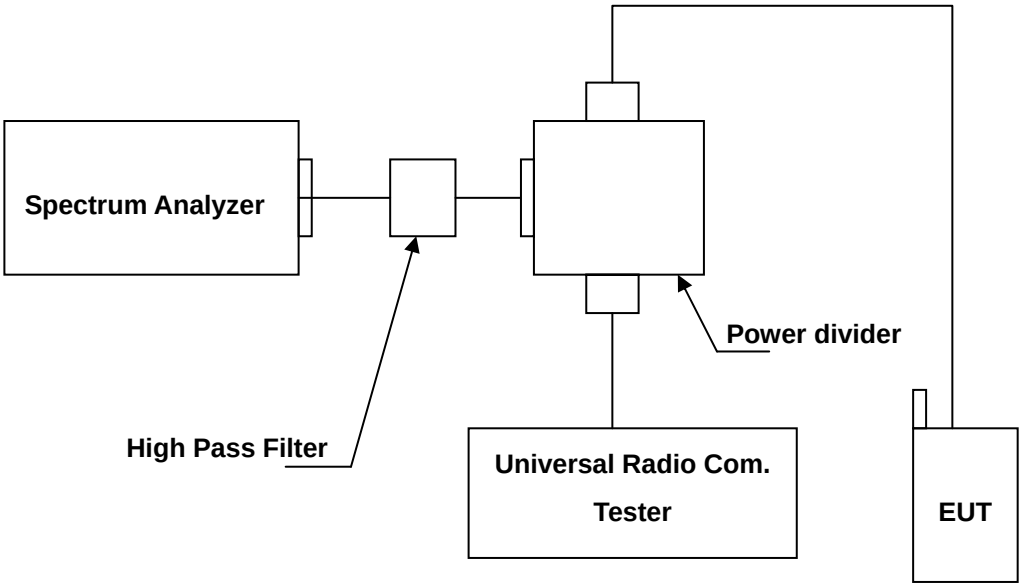
Note: N.C.R. = No Calibration Request.

## 8.3. Setup

**Below 2.8GHz**



**Above 2.8GHz**




## 8.4. Test Procedure

a. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range.).

b. The conducted spurious emission used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

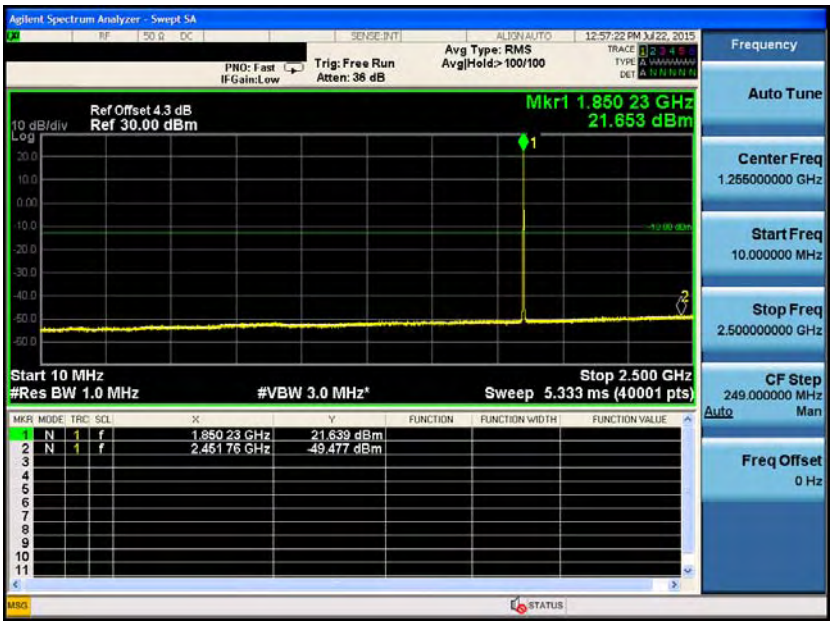
c. When the spectrum scanned from 10MHz to 2.5GHz / 3GHz (for LTE Band7 & 41), shall be connected to the band reject filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=1MHz.

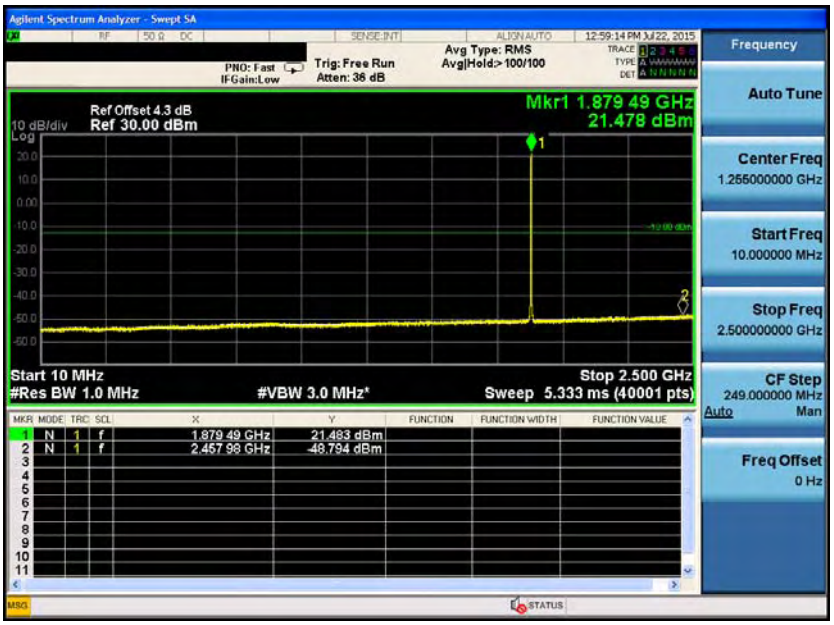
d. When the spectrum scanned from 2.5GHz / 3GHz (for LTE Band7 & 41) to 10$^{th}$ harmonic, it shall be connected to the high pass filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=1MHz.

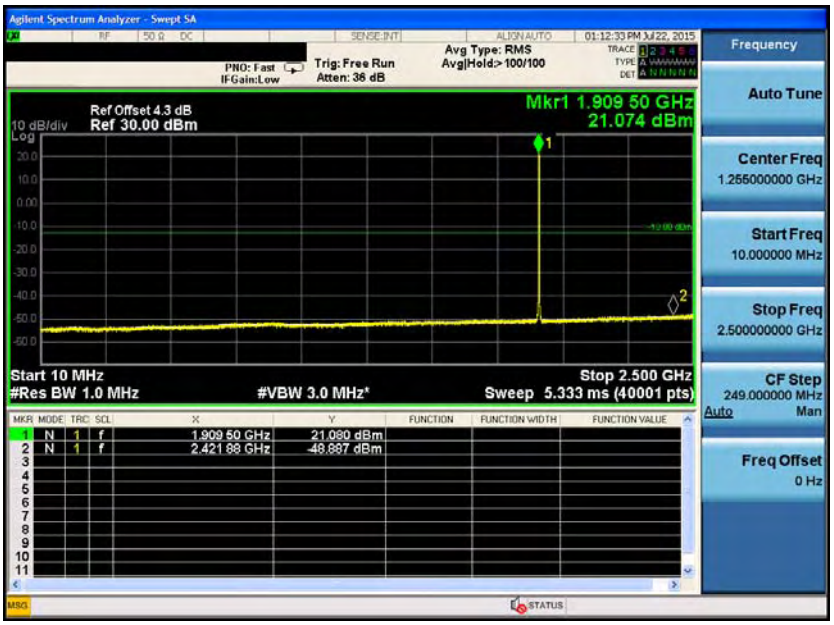
## 8.5. Uncertainty

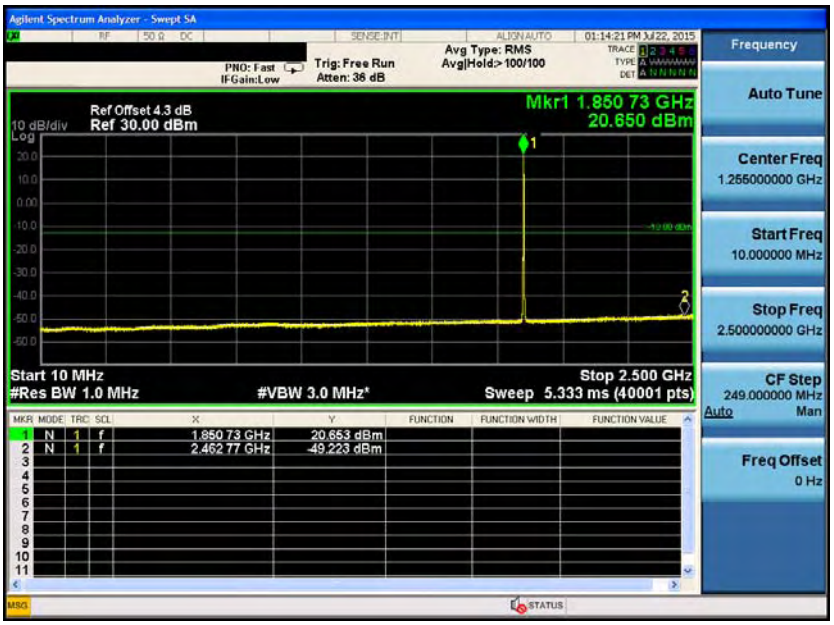
The measurement uncertainty is evaluated as ± 2.24 dB.

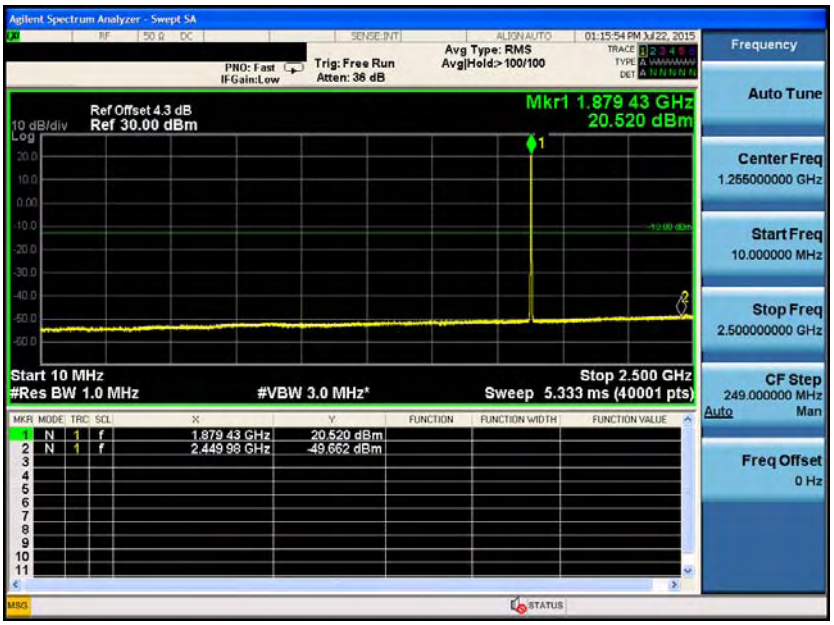
## 8.6. Test Graphs

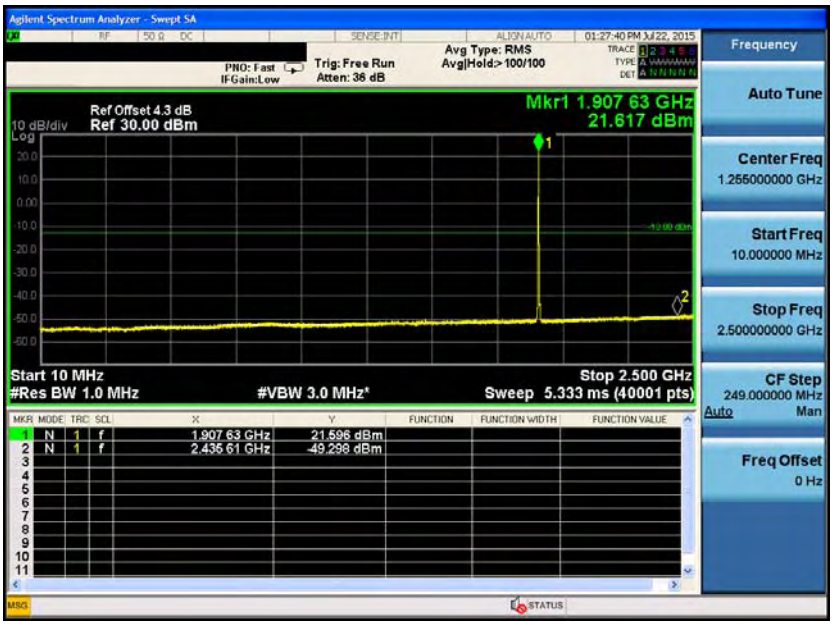
| LTE Band 2 (Channel Bandwidth: 1.4 MHz) _ QPSK | |
|---|---|
| 1850.7 MHz |  |
| |  |

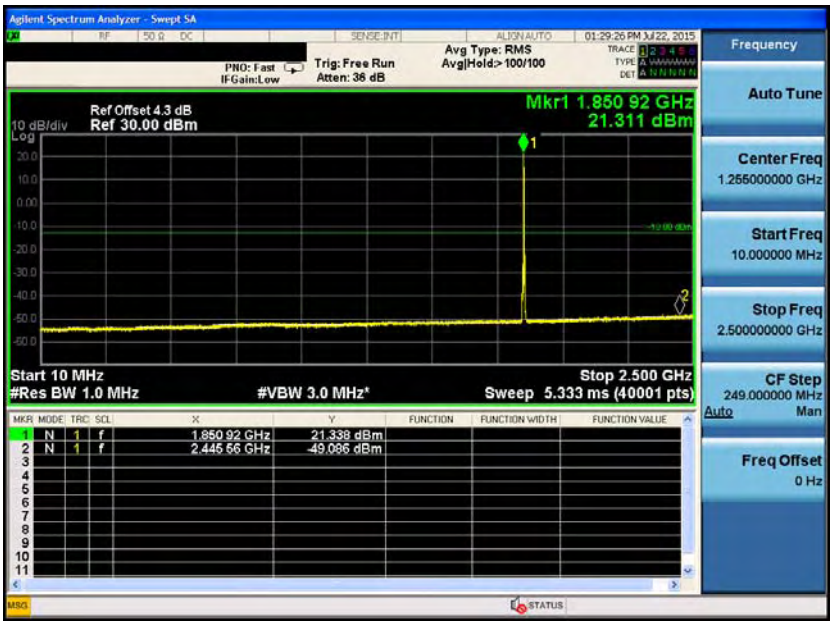
| LTE Band 2 (Channel Bandwidth: 1.4 MHz) _ QPSK | |
|---|---|
| 1880.0 MHz |  <br>  |

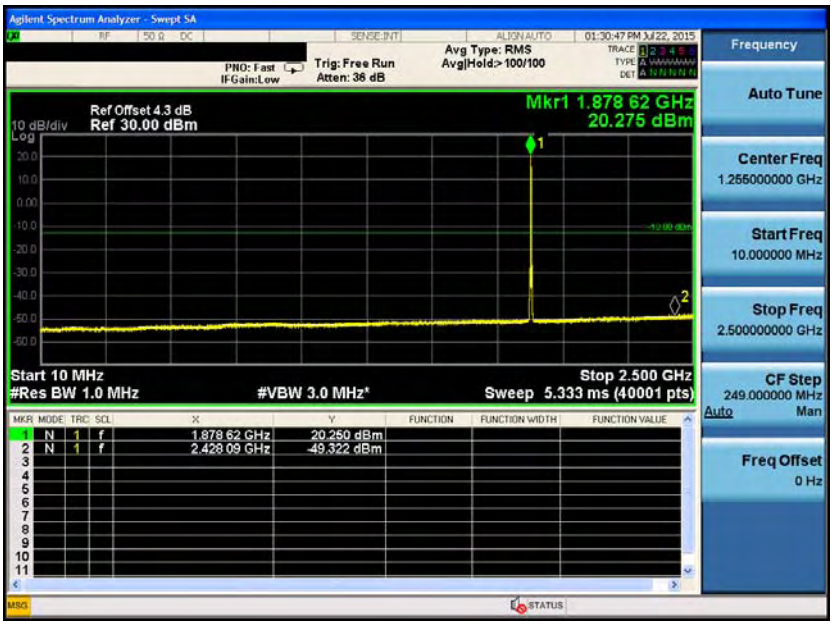
| LTE Band 2 (Channel Bandwidth: 1.4 MHz) _ QPSK | |
|---|---|
| 1909.3 MHz |  <br>  |

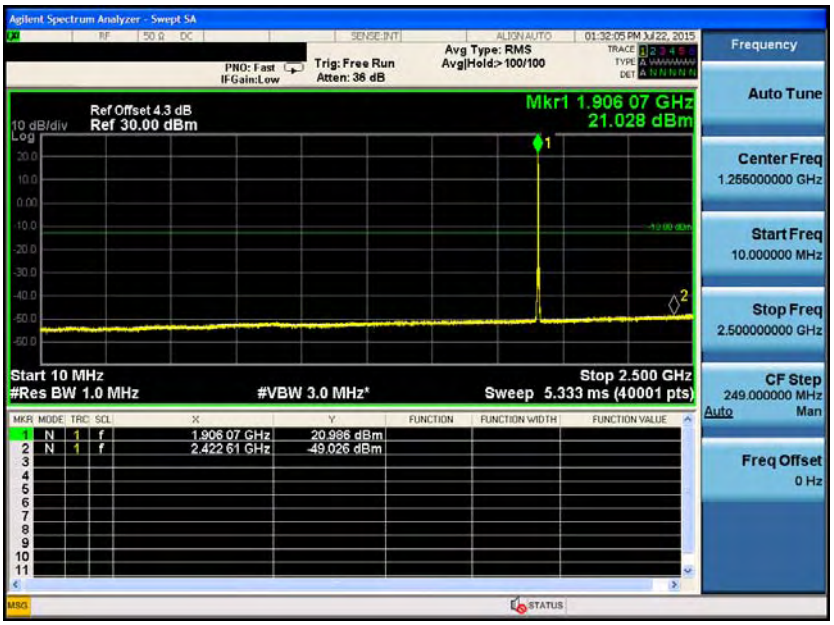
| LTE Band 2 (Channel Bandwidth: 3 MHz) _ QPSK | |
|---|---|
| 1851.5 MHz |  <br>  |

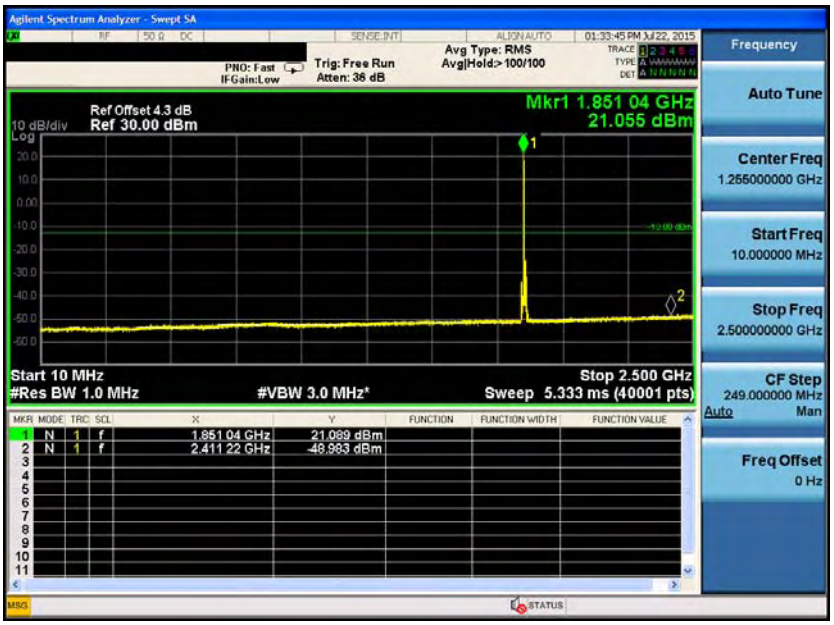
| LTE Band 2 (Channel Bandwidth: 3 MHz) _ QPSK | |
|---|---|
| 1880.0 MHz |  <br>  |

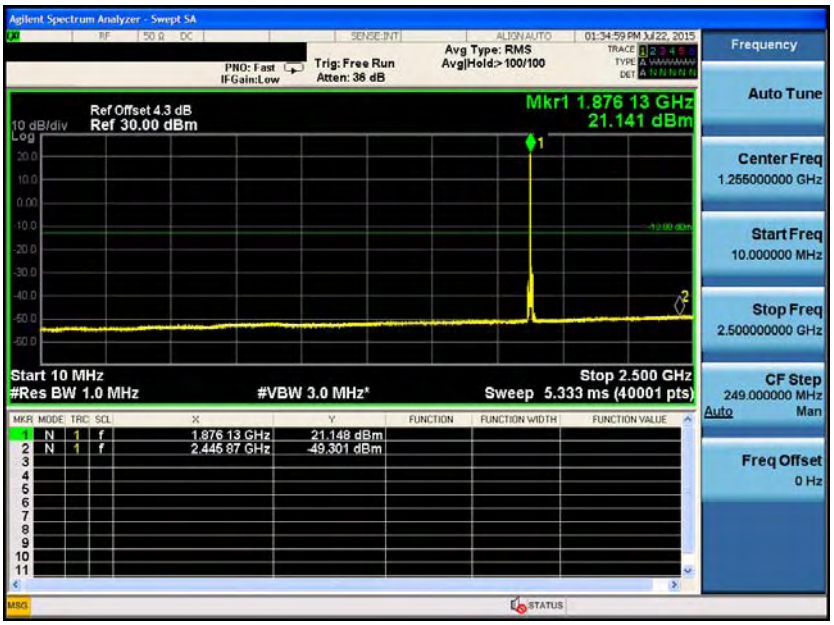
| LTE Band 2 (Channel Bandwidth: 3 MHz) _ QPSK | |
|---|---|
| 1908.5 MHz |  <br>  |

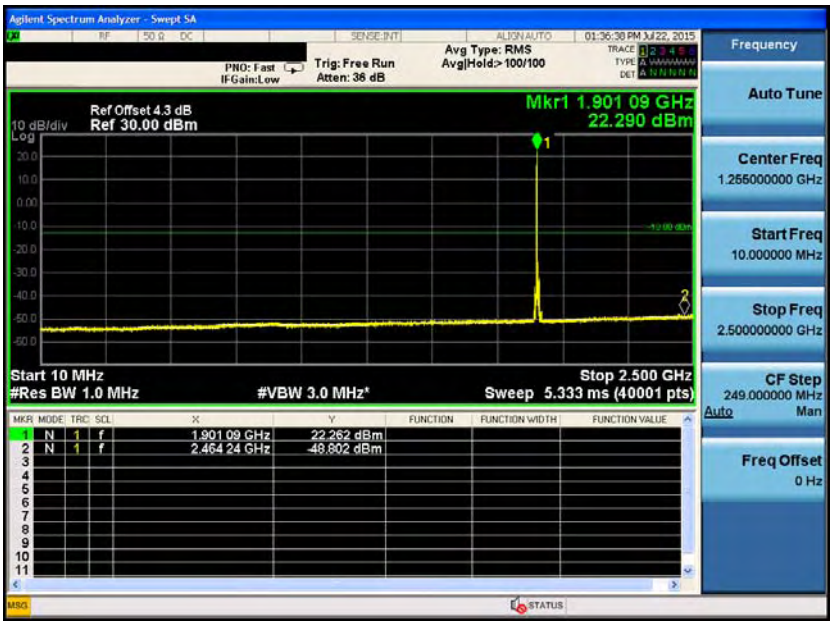
| LTE Band 2 (Channel Bandwidth: 5 MHz) _ QPSK | |
|---|---|
| 1852.5 MHz |  <br>  |

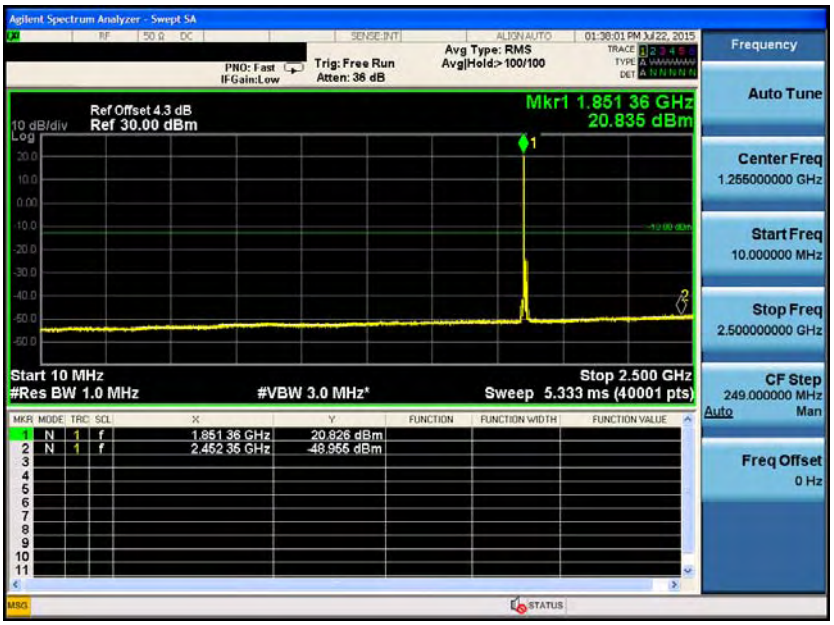
| LTE Band 2 (Channel Bandwidth: 5 MHz) _ QPSK | |
|---|---|
| 1880.0 MHz |  <br>  |

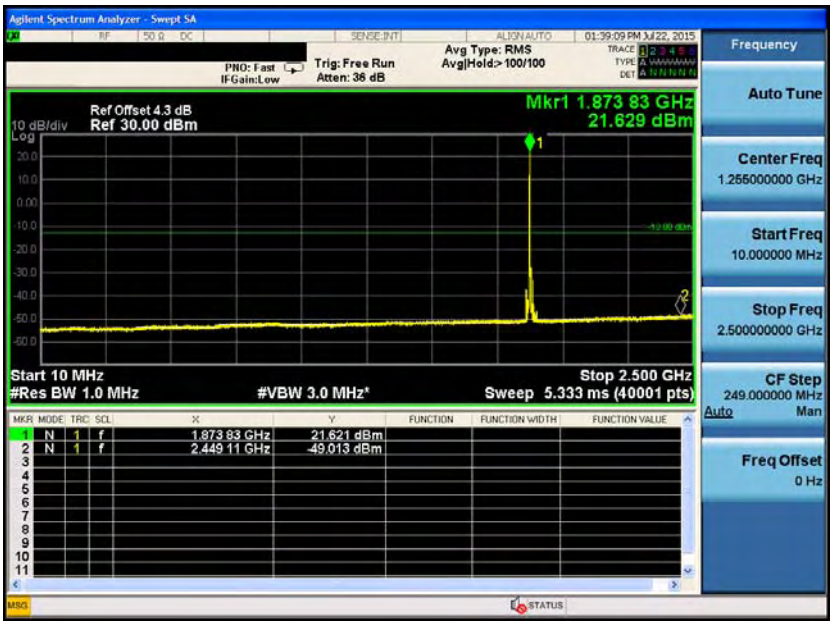
| LTE Band 2 (Channel Bandwidth: 5 MHz) _ QPSK | |
|---|---|
| 1907.5 MHz |  <br>  |

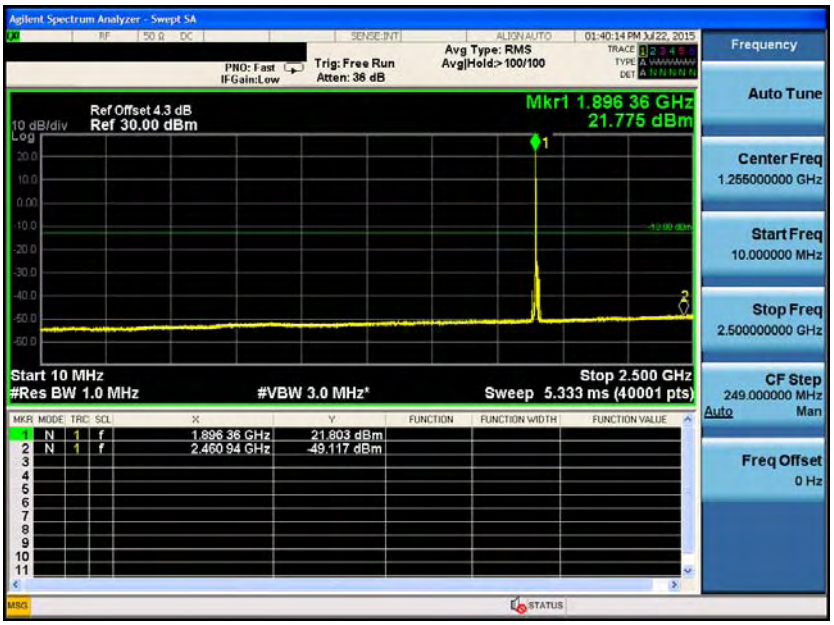
| LTE Band 2 (Channel Bandwidth: 10 MHz) _ QPSK | |
|---|---|
| 1855.0 MHz |  |
| |  |

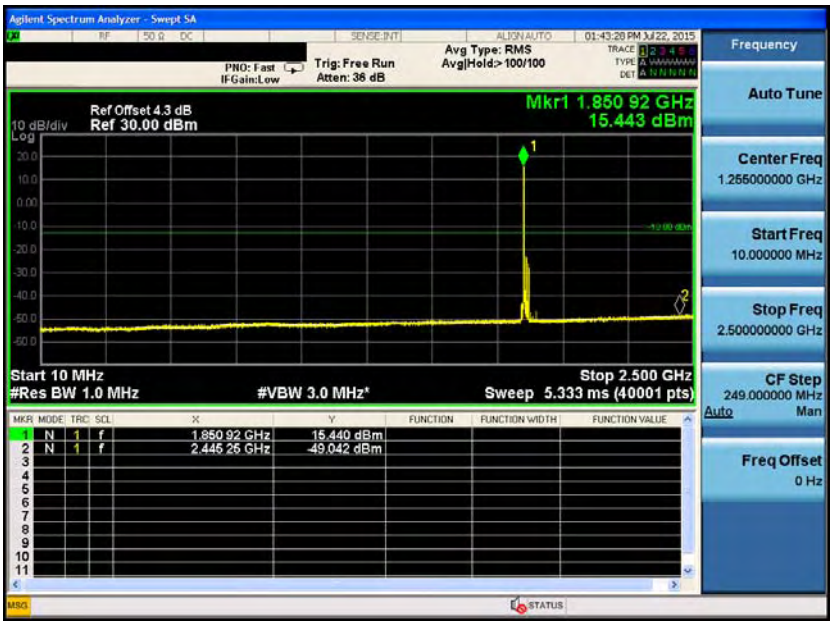
| LTE Band 2 (Channel Bandwidth: 10 MHz) _ QPSK | |
|---|---|
| 1880.0 MHz |  <br>  |

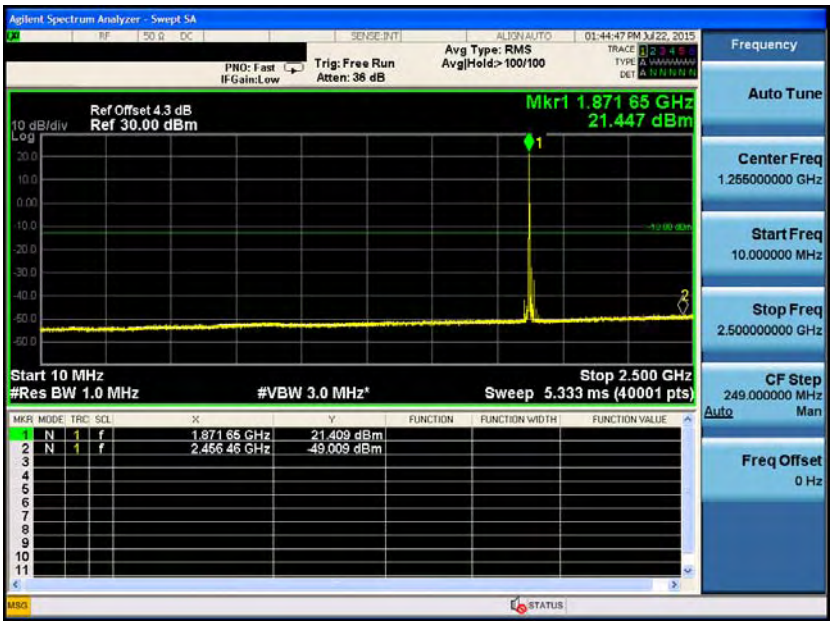
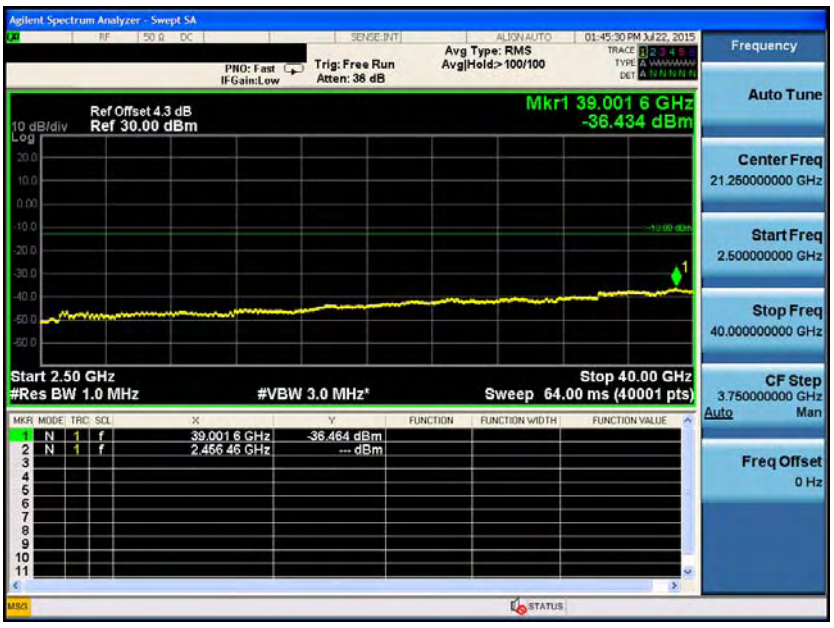
| LTE Band 2 (Channel Bandwidth: 10 MHz) _ QPSK | |
|---|---|
| 1905.0 MHz |  <br>  |

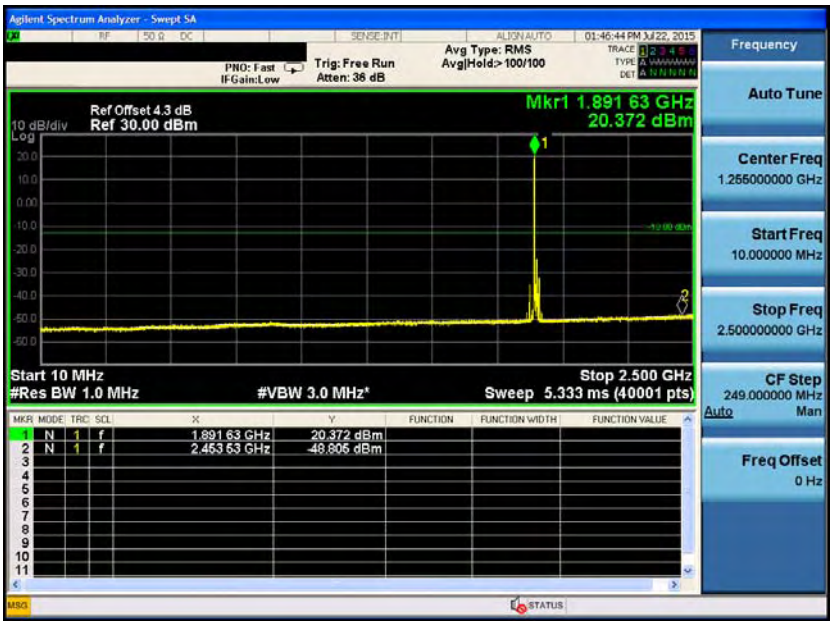
| LTE Band 2 (Channel Bandwidth: 15 MHz) _ QPSK | |
|---|---|
| 1857.5 MHz |  <br>  |

| LTE Band 2 (Channel Bandwidth: 15 MHz) _ QPSK | |
|---|---|
| 1880.0 MHz |  <br>  |

| LTE Band 2 (Channel Bandwidth: 15 MHz) _ QPSK | |
|---|---|
| 1902.5 MHz |  <br>  |

| LTE Band 2 (Channel Bandwidth: 20 MHz) _ QPSK | |
|---|---|
| 1860.0 MHz |  <br>  |

| LTE Band 2 (Channel Bandwidth: 20 MHz) _ QPSK | |
|---|---|
| 1880.0 MHz |  <br>  |

| LTE Band 2 (Channel Bandwidth: 20 MHz) _ QPSK | |
|---|---|
| 1900.0 MHz |  <br>  |