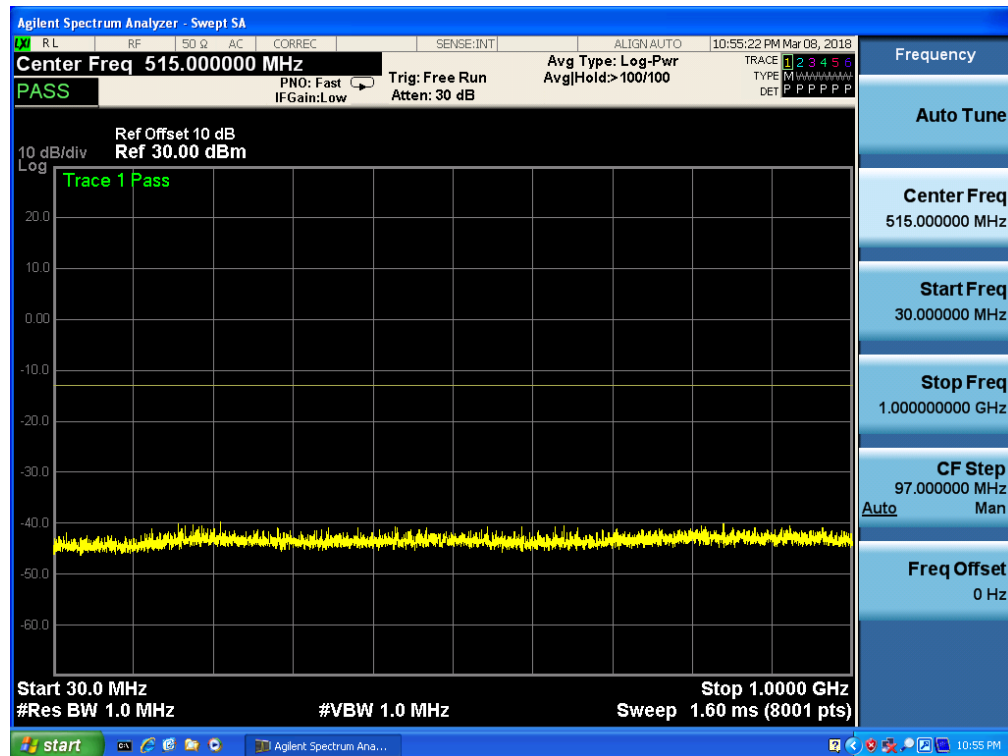




Report No.: SER180207605007E

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



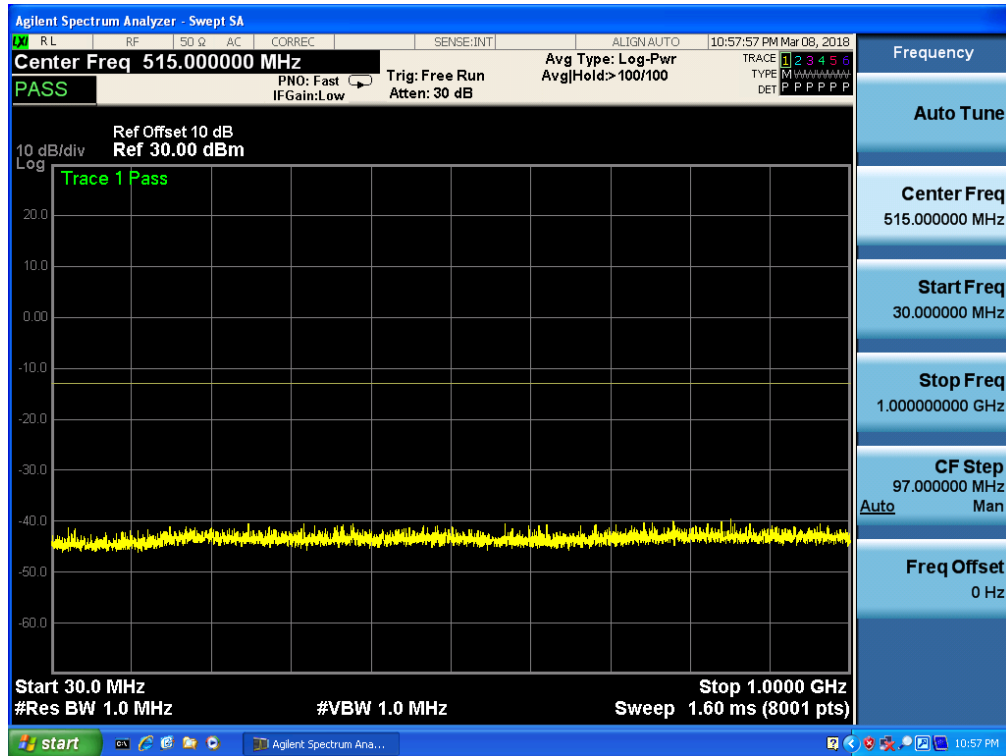
Band 7,UL Channel 21350,UL Frequency 2560.0,BW 20.0,NO. RB 100,RB POS. Low,QPSK





Report No.: SER180207605007E

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

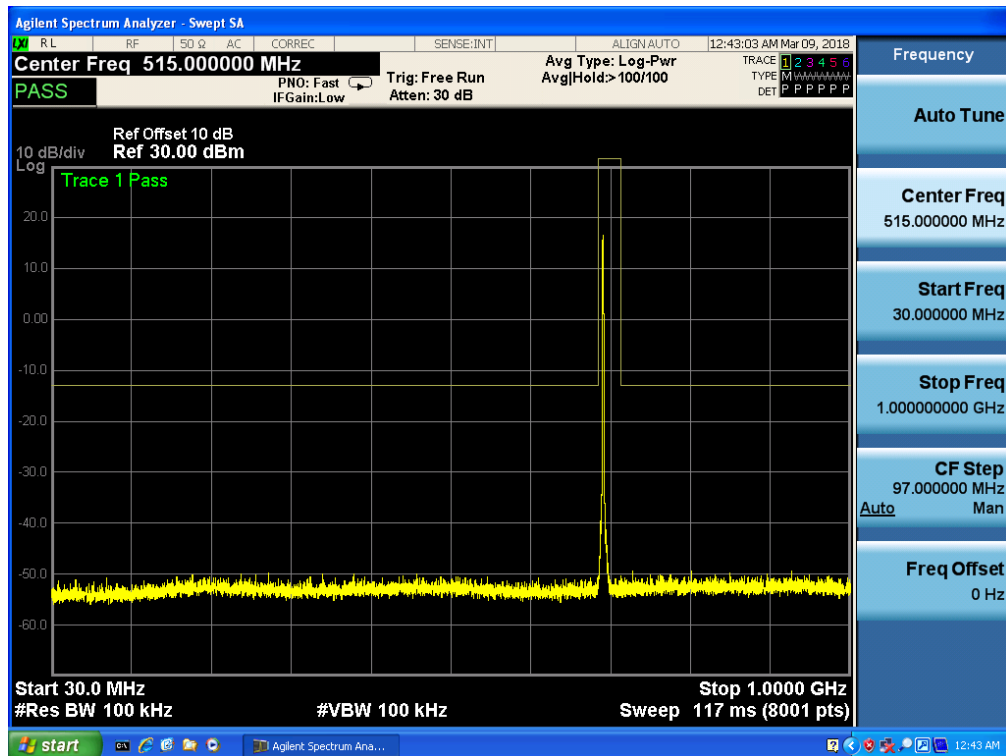


Band 7,UL Channel 21350,UL Frequency 2560.0,BW 20.0,NO. RB 100,RB POS. Low,16-QAM

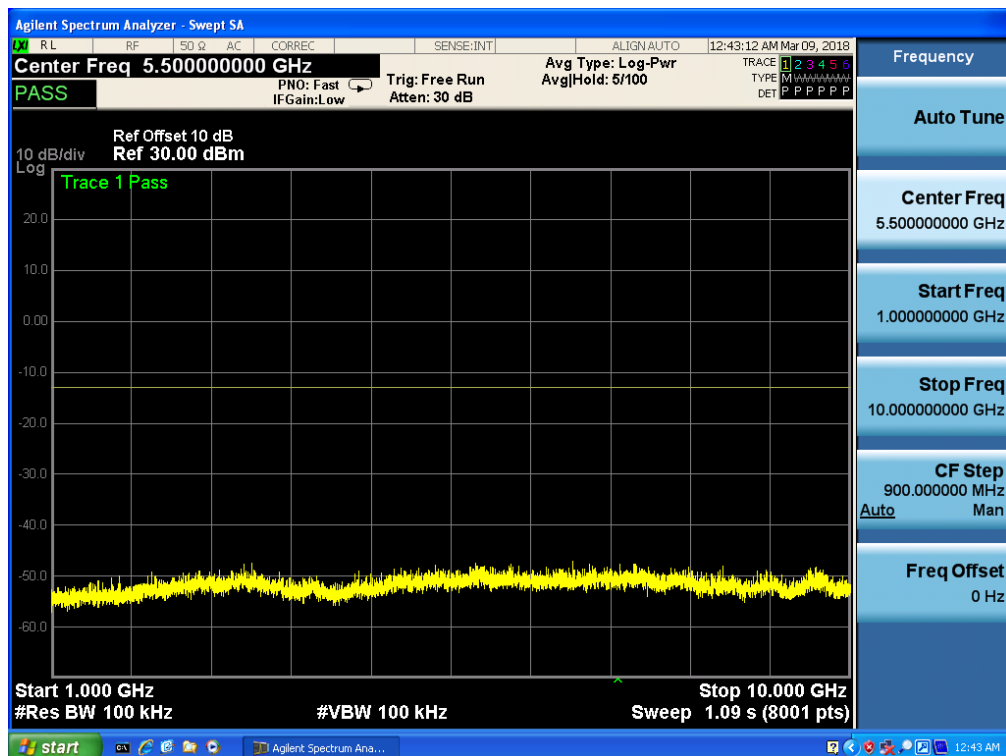


## 7.5 LTE BAND 12

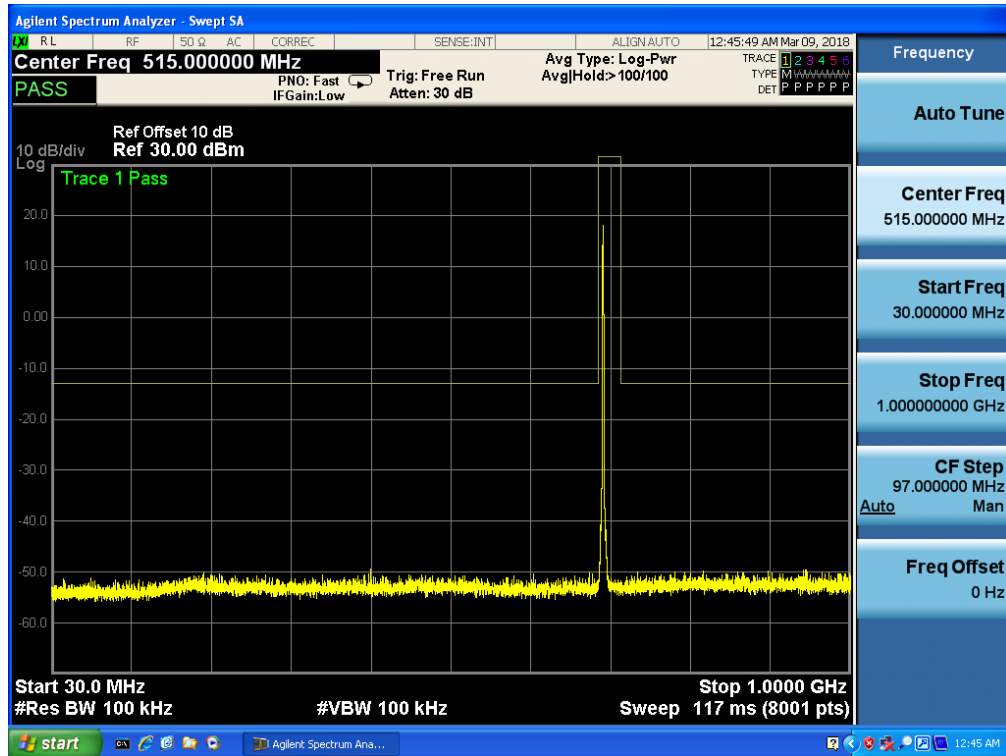
*Band 12, UL Channel 23017, UL Frequency 699.7, BW 1.4, NO. RB 6, RB POS. Low, QPSK*



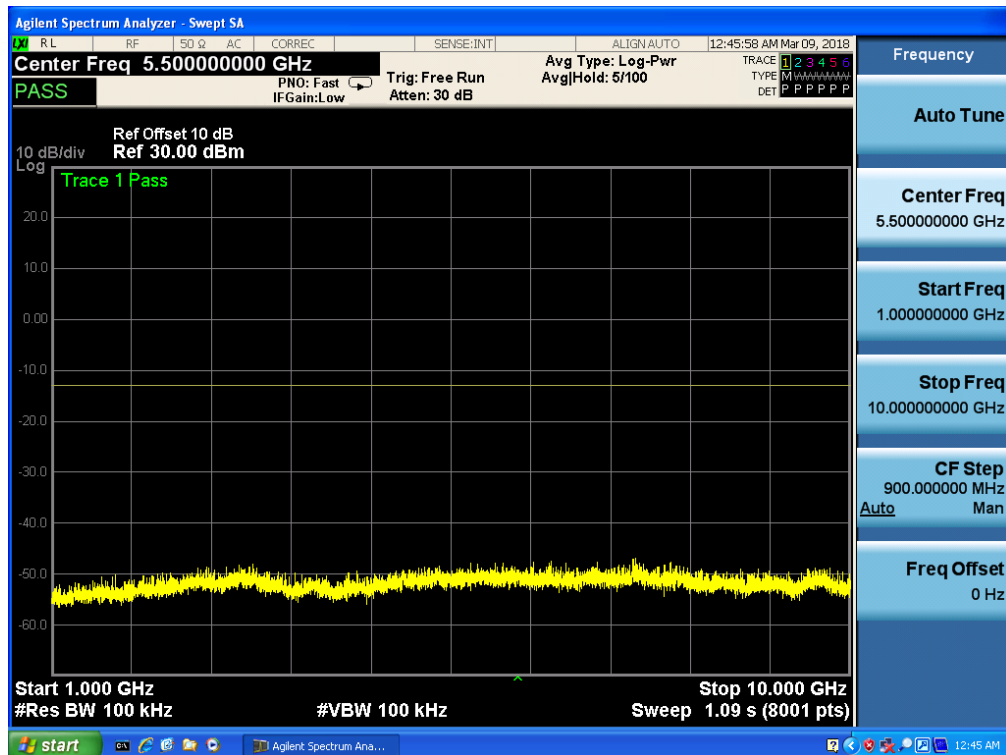
*Band 12, UL Channel 23017, UL Frequency 699.7, BW 1.4, NO. RB 6, RB POS. Low, QPSK*



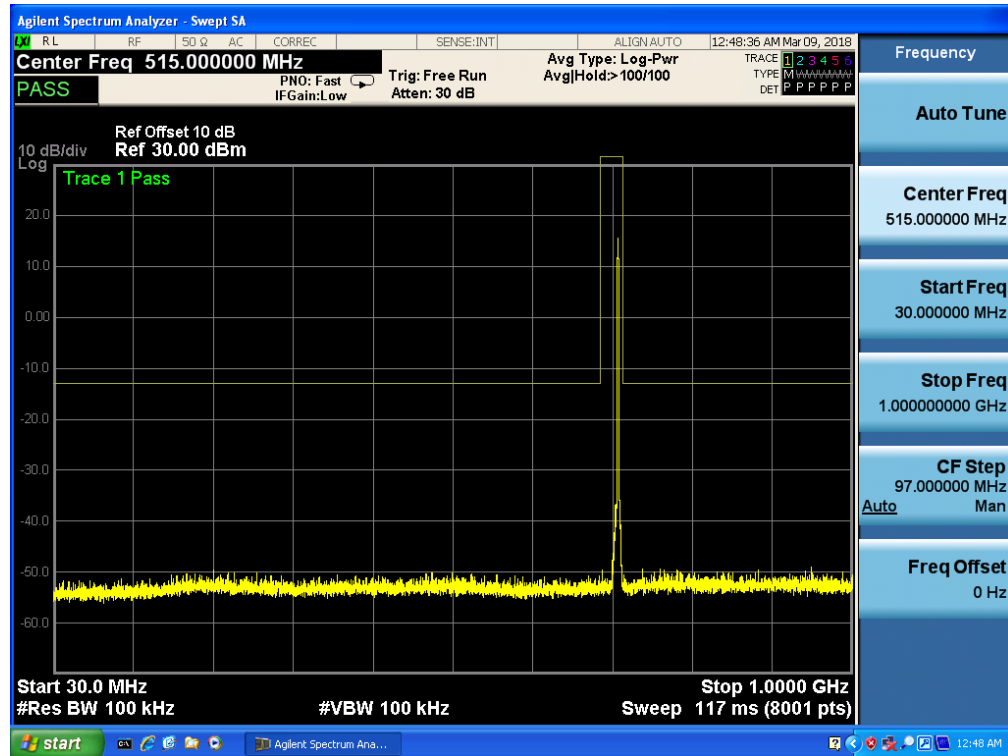
Band 12,UL Channel 23017,UL Frequency 699.7,BW 1.4,NO. RB 6,RB POS. Low,16-QAM



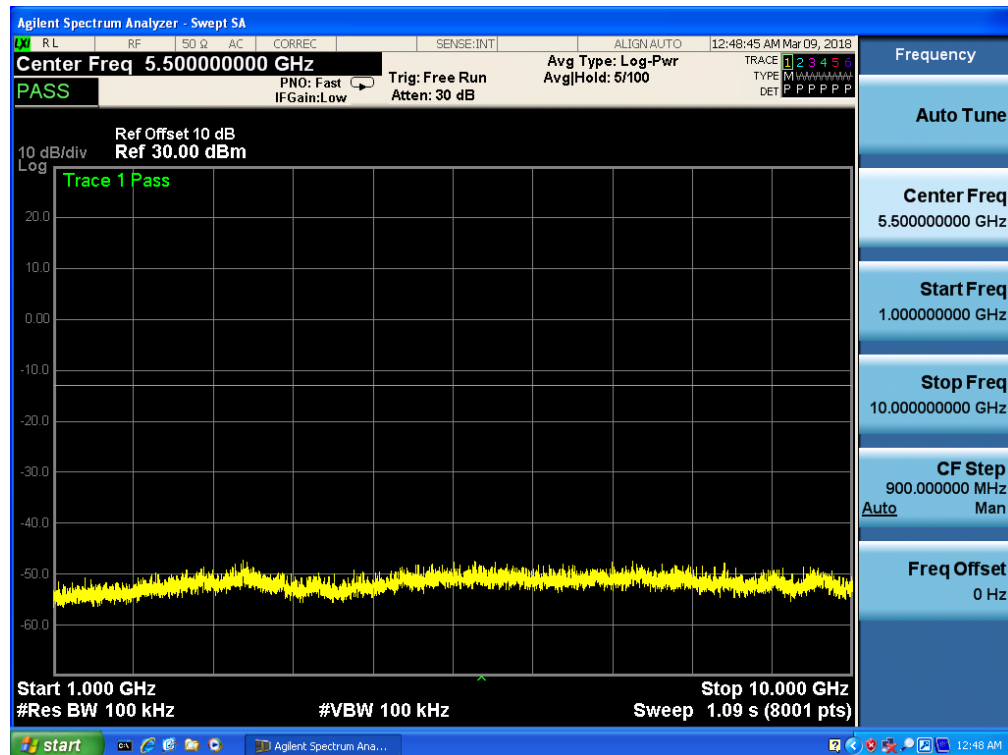
Band 12,UL Channel 23017,UL Frequency 699.7,BW 1.4,NO. RB 6,RB POS. Low,16-QAM



Band 12,UL Channel 23173,UL Frequency 715.3,BW 1.4,NO. RB 6,RB POS. Low,QPSK



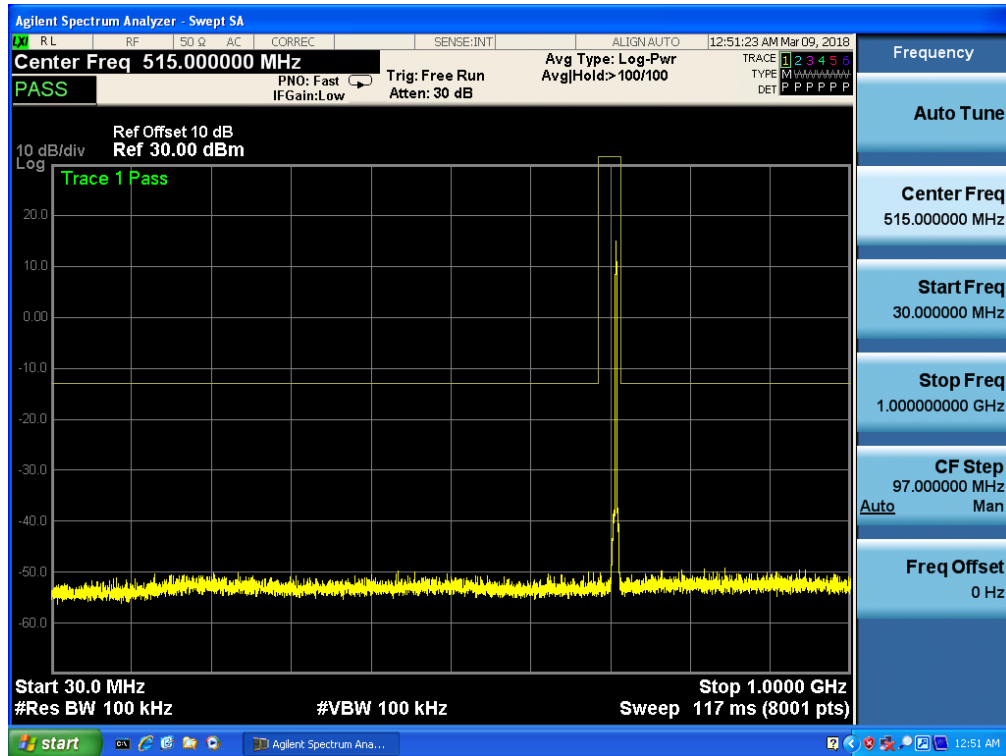
Band 12,UL Channel 23173,UL Frequency 715.3,BW 1.4,NO. RB 6,RB POS. Low,QPSK



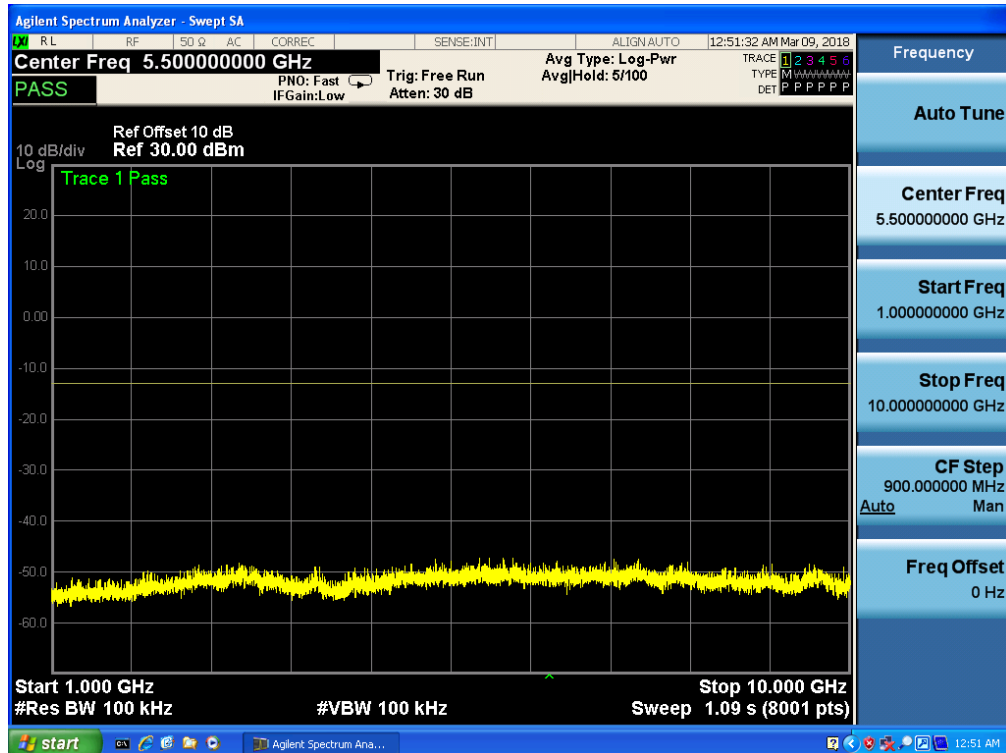


Report No.: SER180207605007E

Band 12,UL Channel 23173,UL Frequency 715.3,BW 1.4,NO. RB 6,RB POS. Low,16-QAM



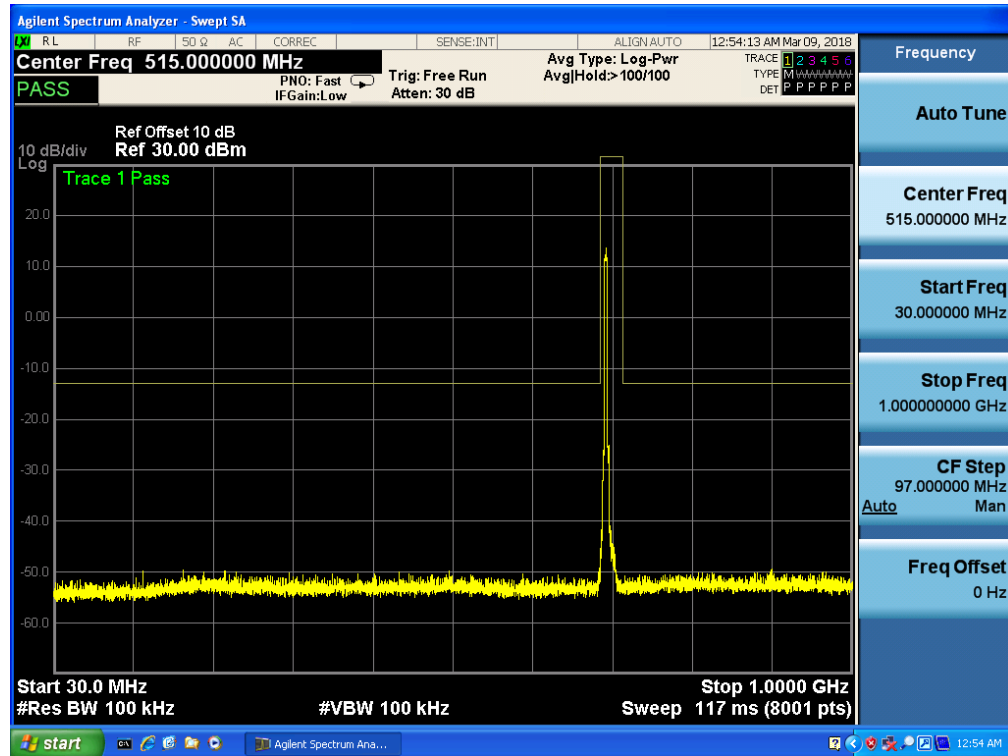
Band 12,UL Channel 23173,UL Frequency 715.3,BW 1.4,NO. RB 6,RB POS. Low,16-QAM



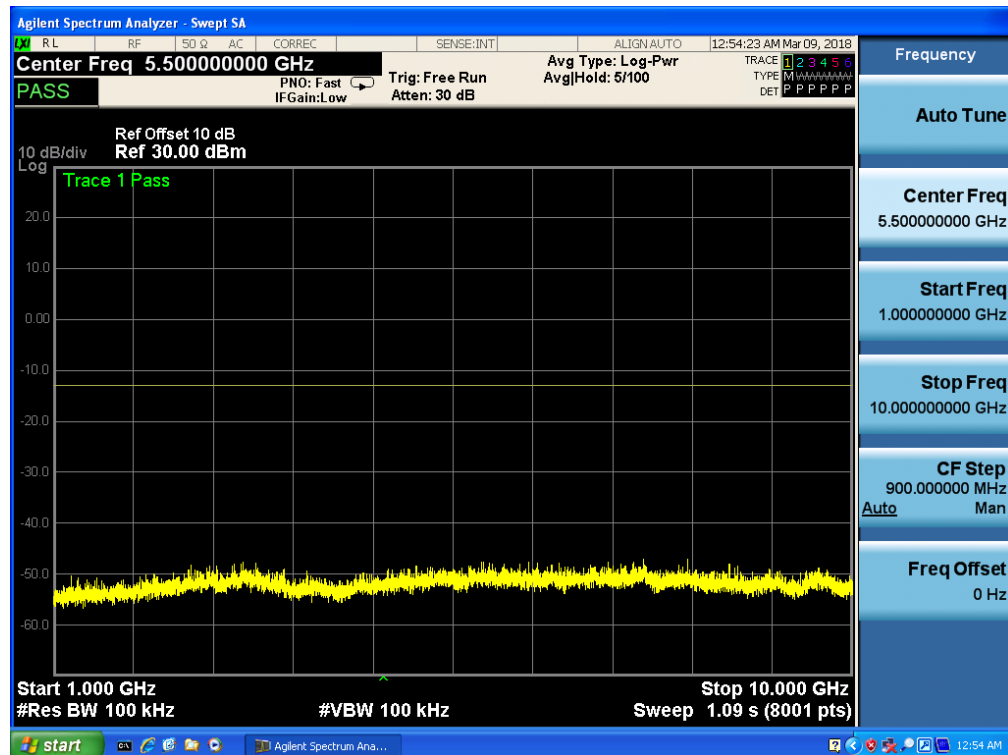


Report No.: SER180207605007E

Band 12,UL Channel 23025,UL Frequency 700.5,BW 3.0,NO. RB 15,RB POS. Low,QPSK



Band 12,UL Channel 23025,UL Frequency 700.5,BW 3.0,NO. RB 15,RB POS. Low,QPSK

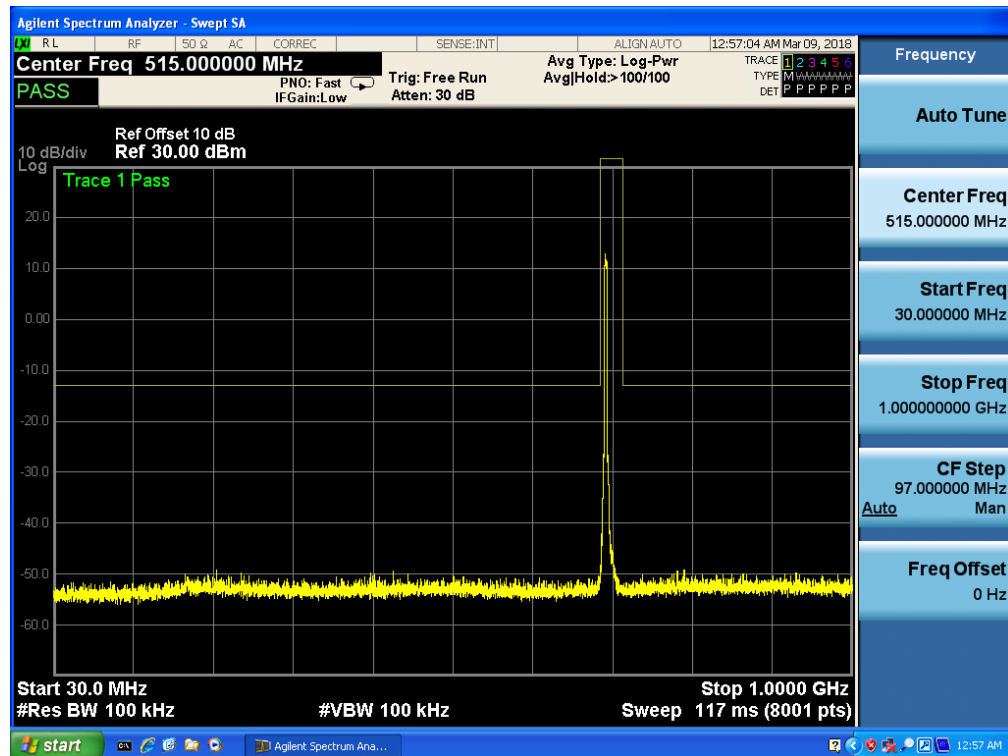




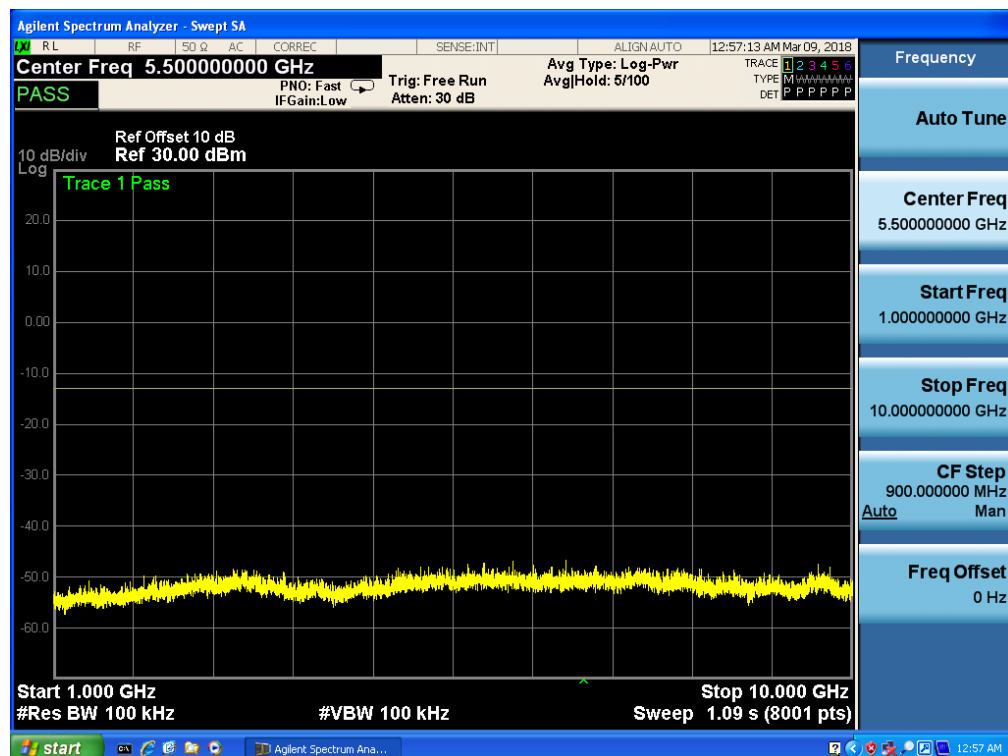


Report No.: SER180207605007E

Band 12,UL Channel 23025,UL Frequency 700.5,BW 3.0,NO. RB 15,RB POS. Low,16-QAM



Band 12,UL Channel 23025,UL Frequency 700.5,BW 3.0,NO. RB 15,RB POS. Low,16-QAM

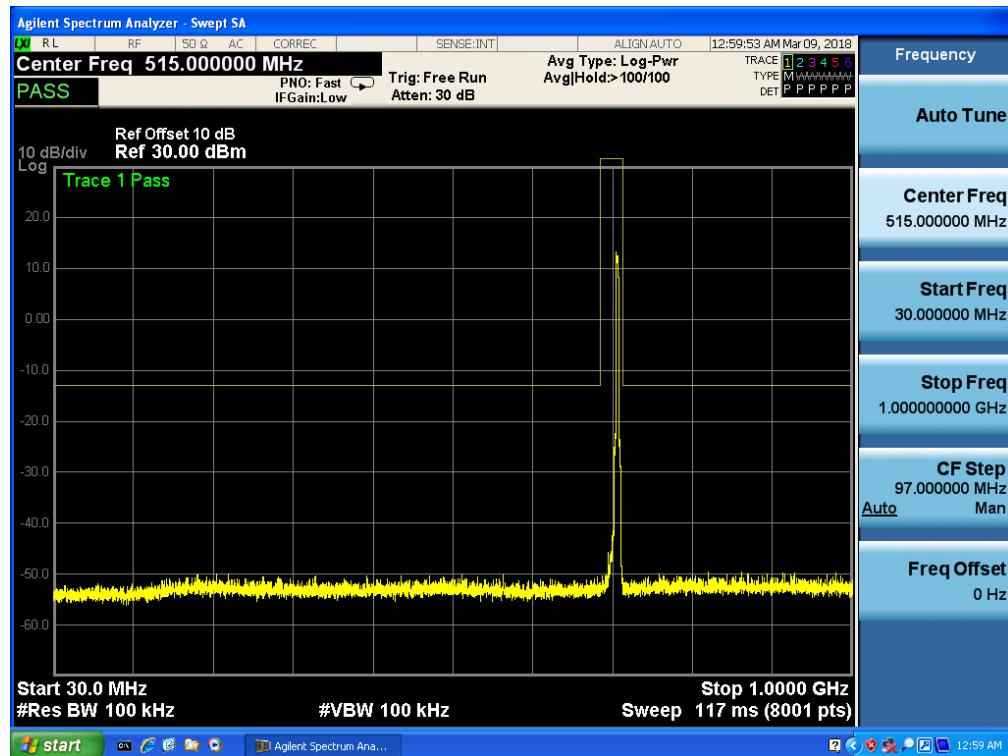




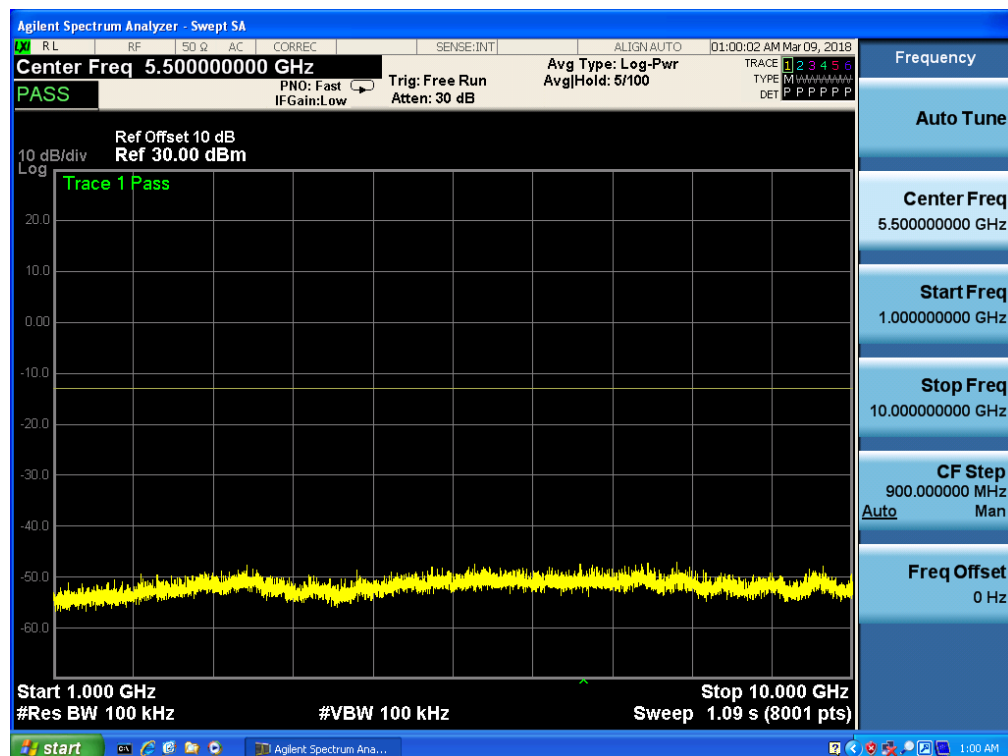


Report No.: SER180207605007E

Band 12,UL Channel 23165,UL Frequency 714.5,BW 3.0,NO. RB 15,RB POS. Low,QPSK



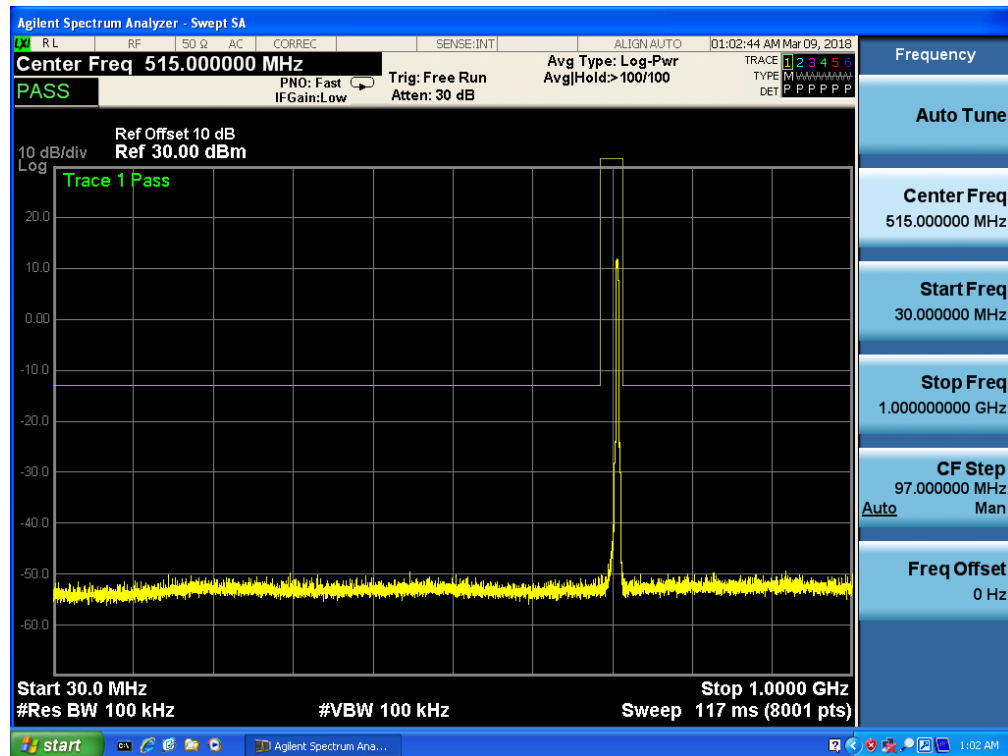
Band 12,UL Channel 23165,UL Frequency 714.5,BW 3.0,NO. RB 15,RB POS. Low,QPSK



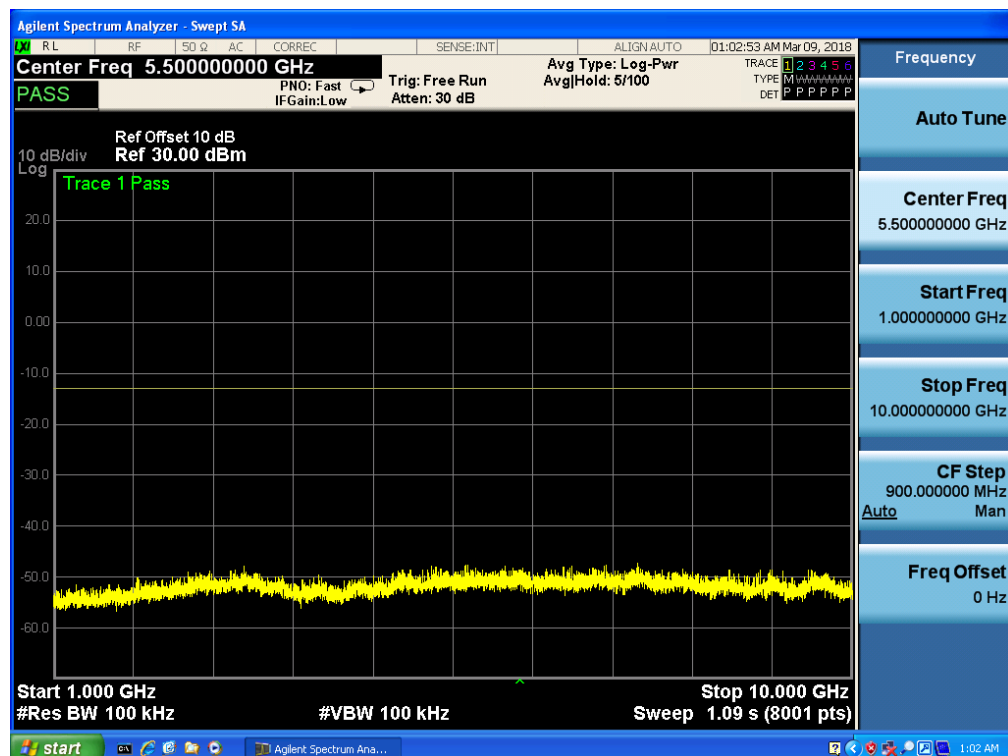


Report No.: SER180207605007E

Band 12,UL Channel 23165,UL Frequency 714.5,BW 3.0,NO. RB 15,RB POS. Low,16-QAM



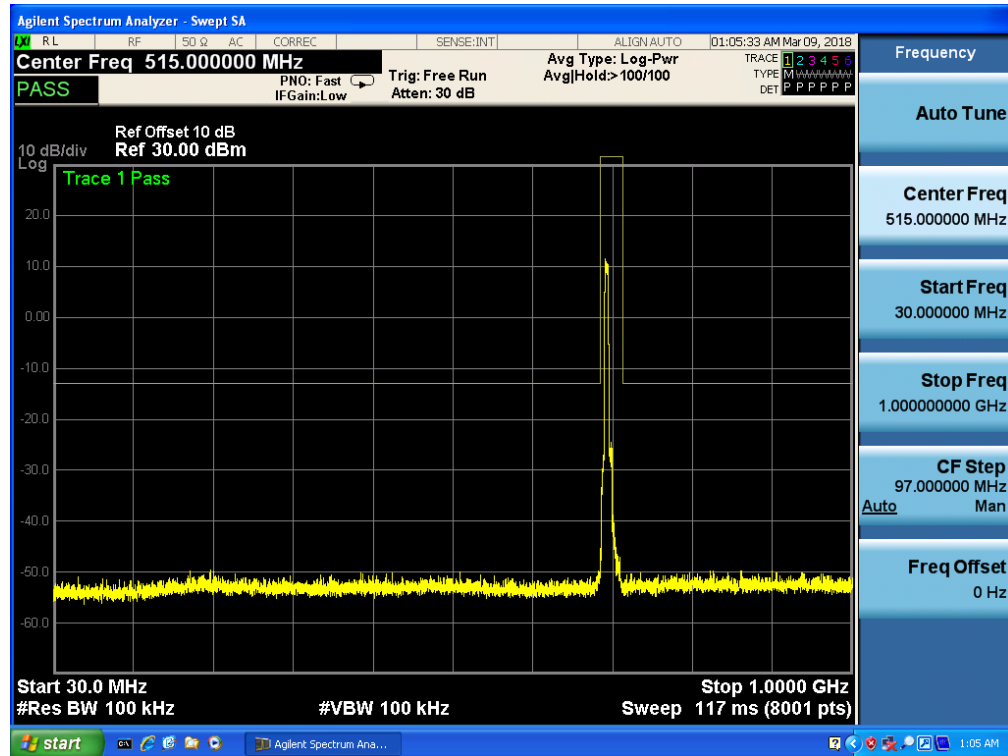
Band 12,UL Channel 23165,UL Frequency 714.5,BW 3.0,NO. RB 15,RB POS. Low,16-QAM



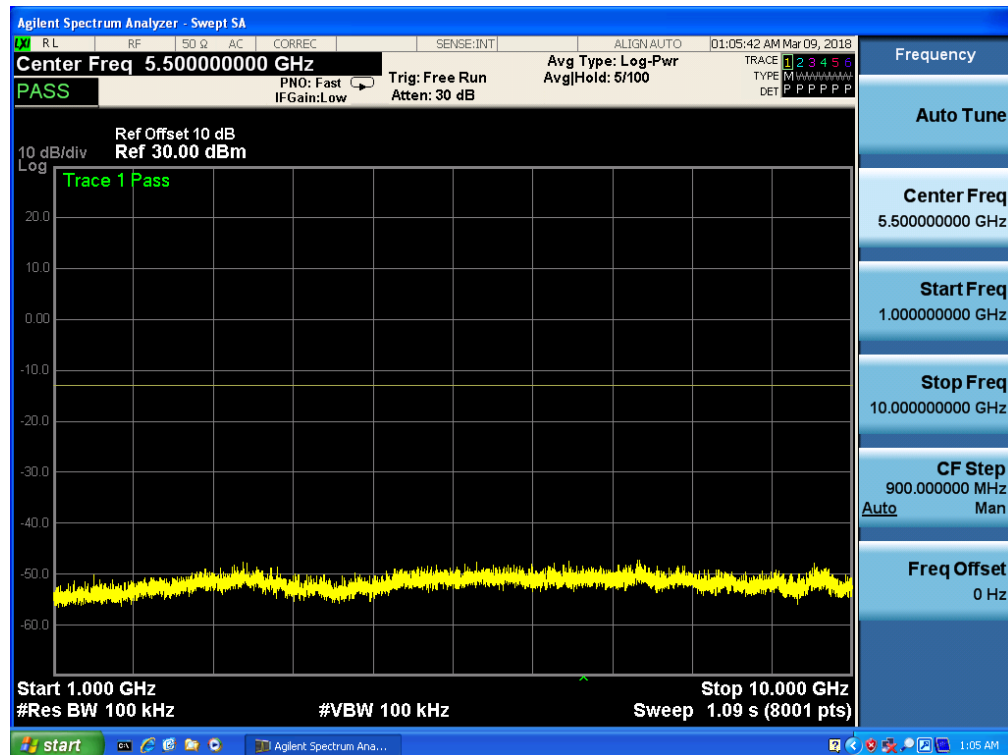


Report No.: SER180207605007E

Band 12,UL Channel 23035,UL Frequency 701.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



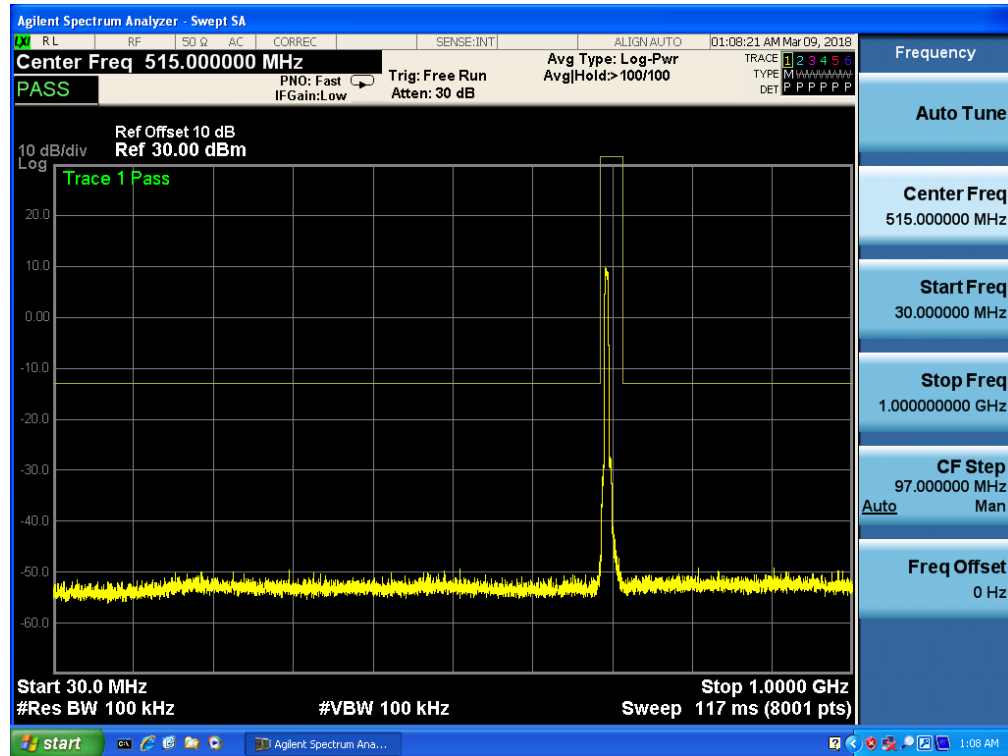
Band 12,UL Channel 23035,UL Frequency 701.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



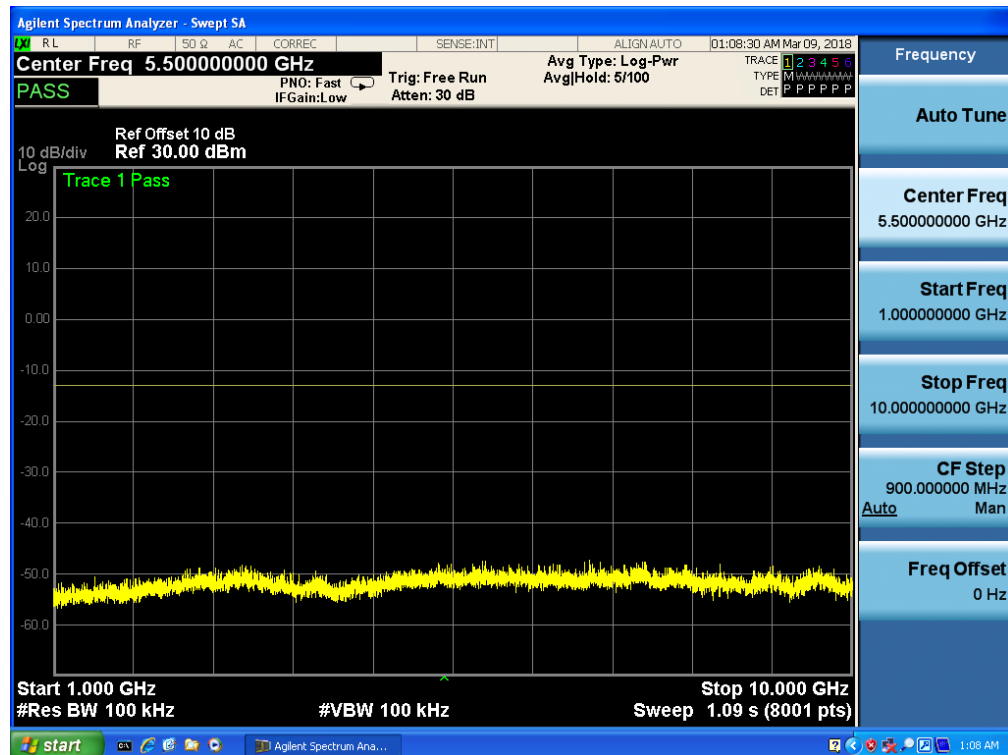


Report No.: SER180207605007E

Band 12,UL Channel 23035,UL Frequency 701.5,BW 5.0,NO. RB 25,RB POS. Low,16-QAM



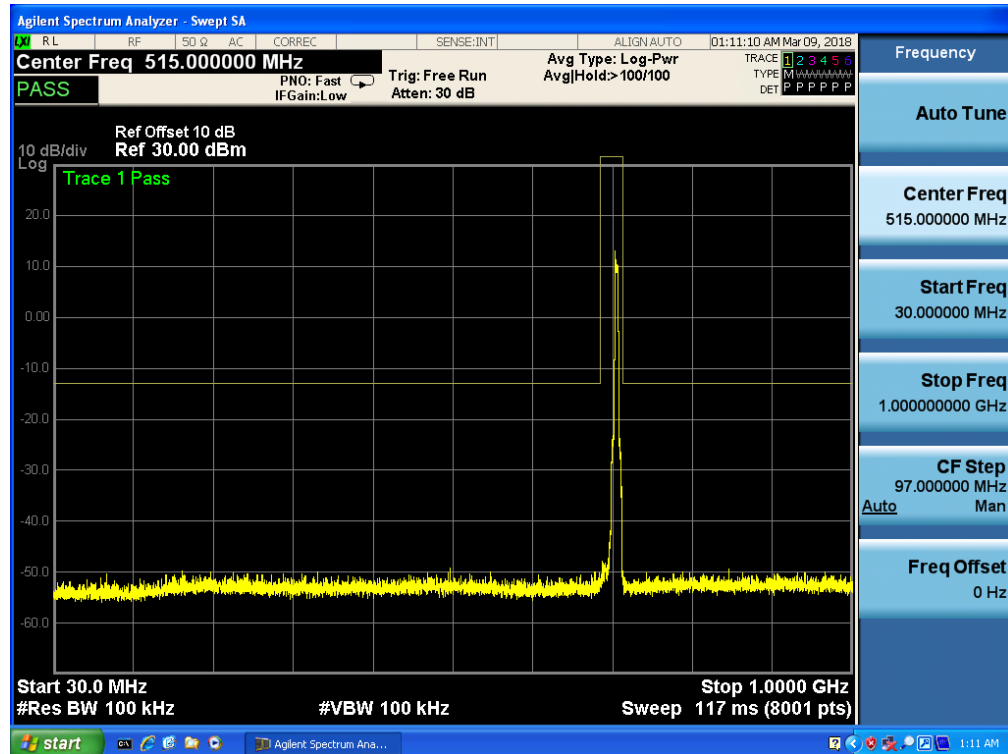
Band 12,UL Channel 23035,UL Frequency 701.5,BW 5.0,NO. RB 25,RB POS. Low,16-QAM



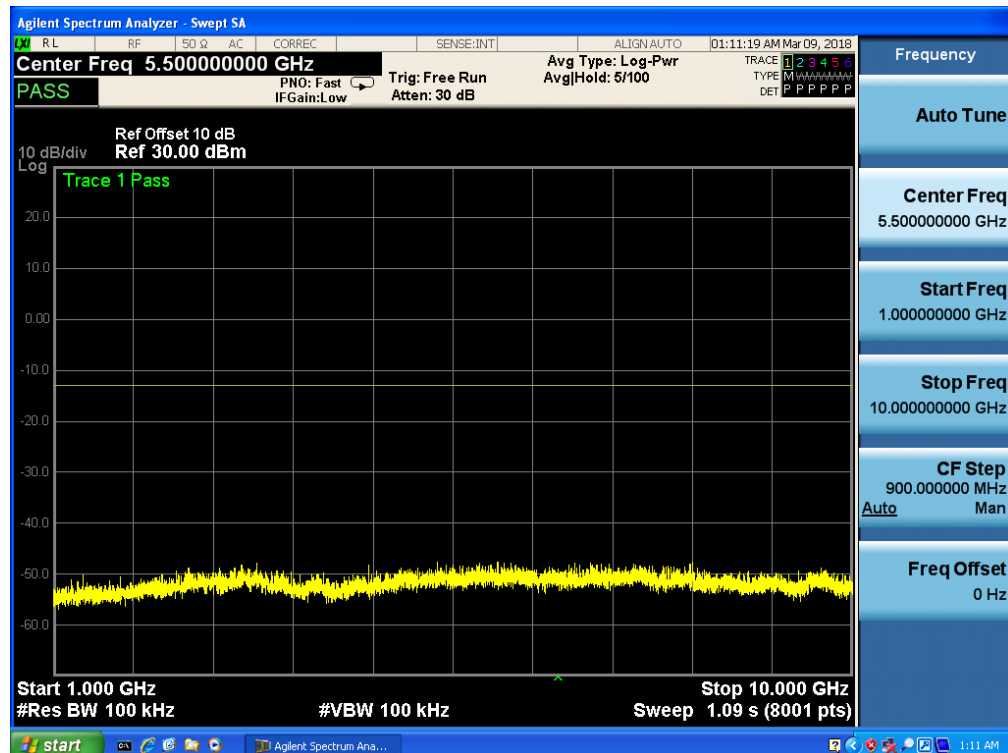


Report No.: SER180207605007E

Band 12,UL Channel 23155,UL Frequency 713.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



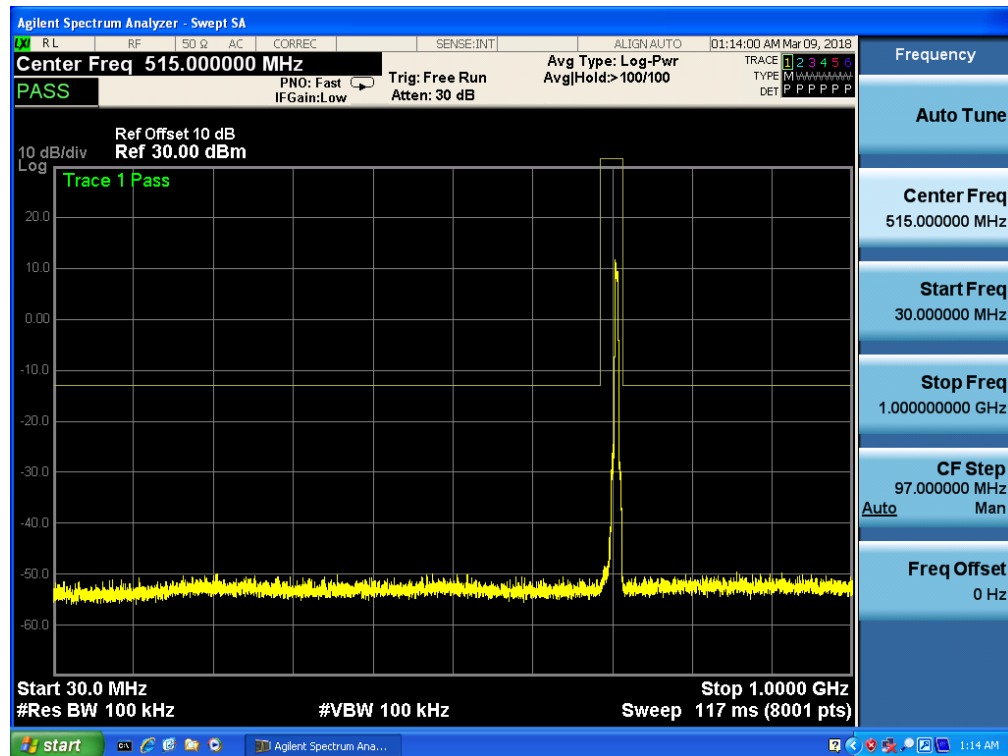
Band 12,UL Channel 23155,UL Frequency 713.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK





Report No.: SER180207605007E

Band 12,UL Channel 23155,UL Frequency 713.5,BW 5.0,NO. RB 25,RB POS. Low,16-QAM



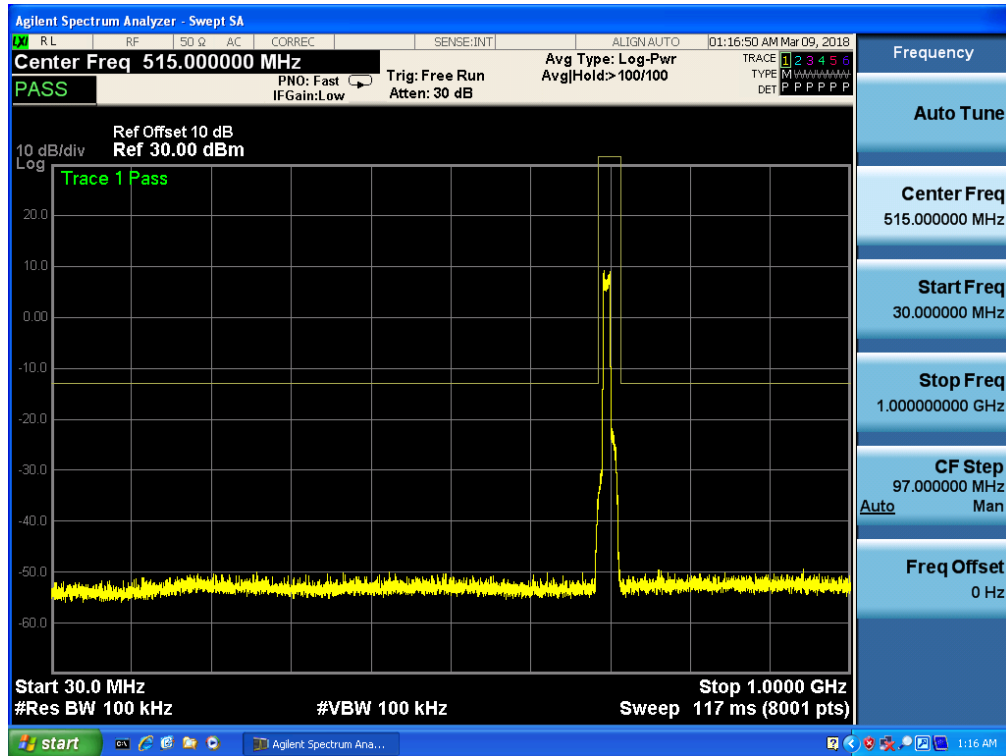
Band 12,UL Channel 23155,UL Frequency 713.5,BW 5.0,NO. RB 25,RB POS. Low,16-QAM



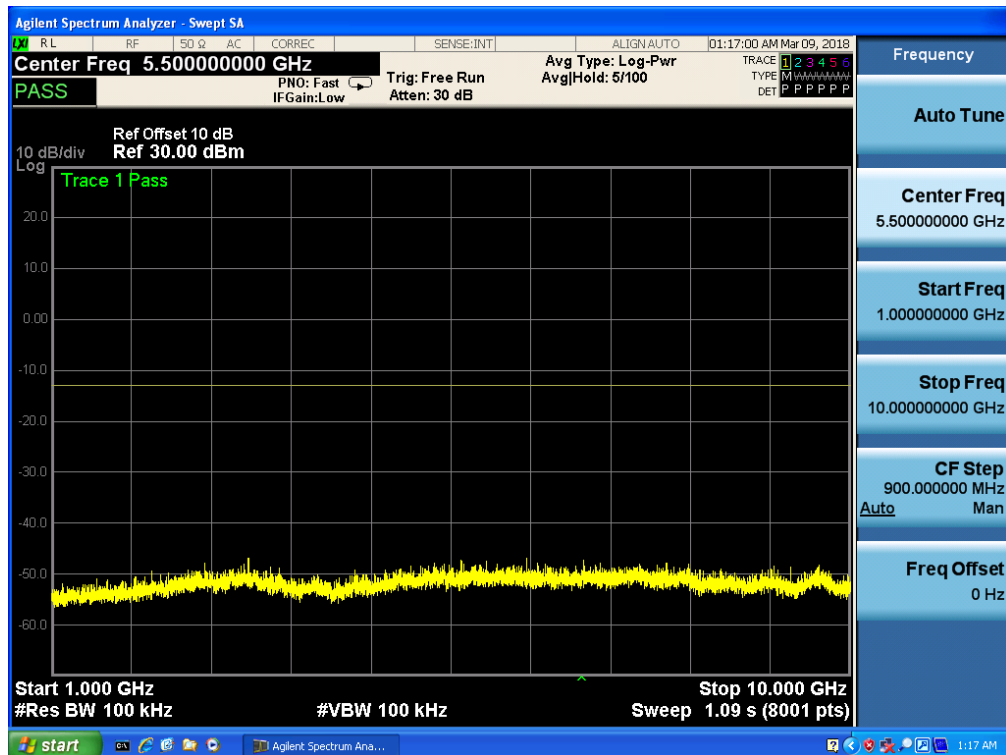


Report No.: SER180207605007E

Band 12, UL Channel 23060, UL Frequency 704.0, BW 10.0, NO. RB 50, RB POS. Low, QPSK



Band 12, UL Channel 23060, UL Frequency 704.0, BW 10.0, NO. RB 50, RB POS. Low, QPSK

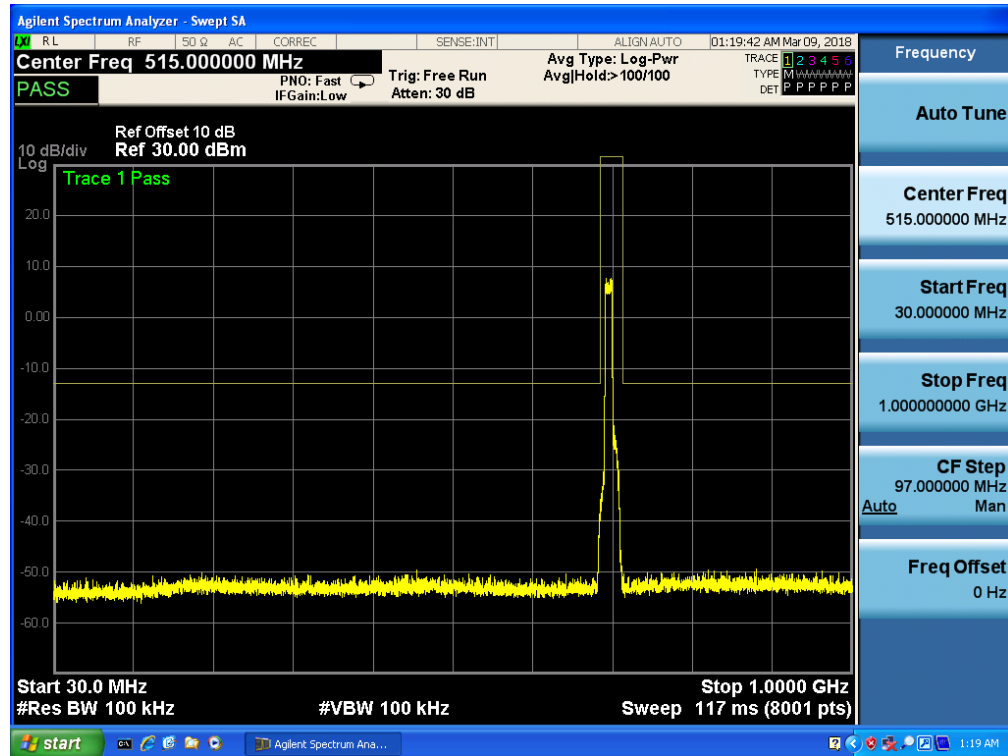




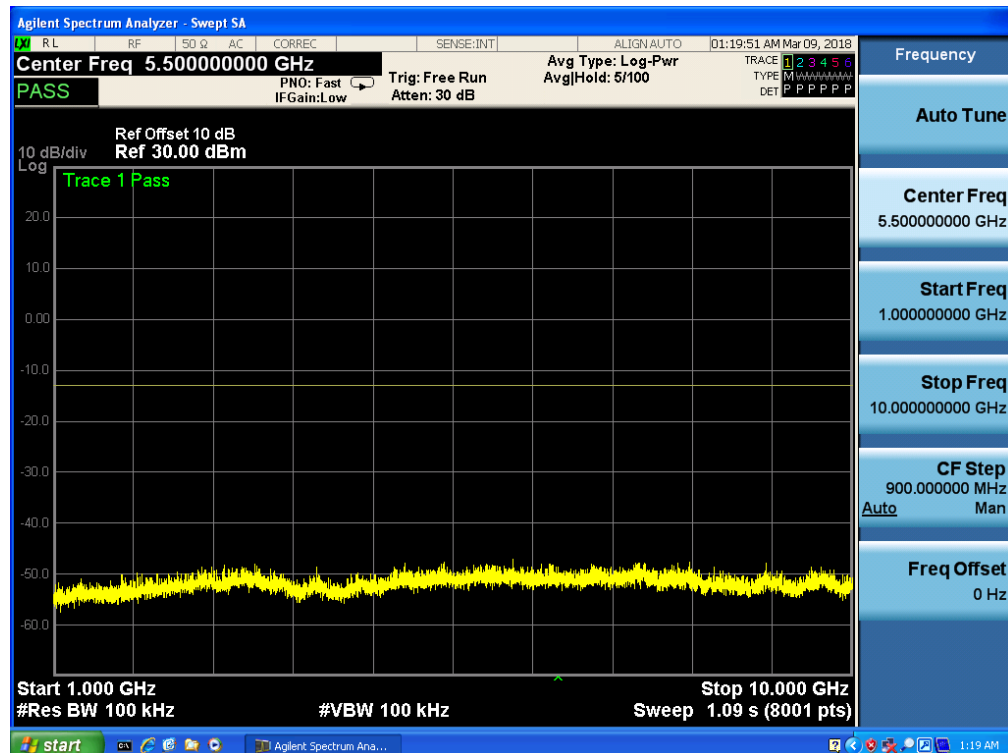


Report No.: SER180207605007E

Band 12,UL Channel 23060,UL Frequency 704.0,BW 10.0,NO. RB 50,RB POS. Low,16-QAM



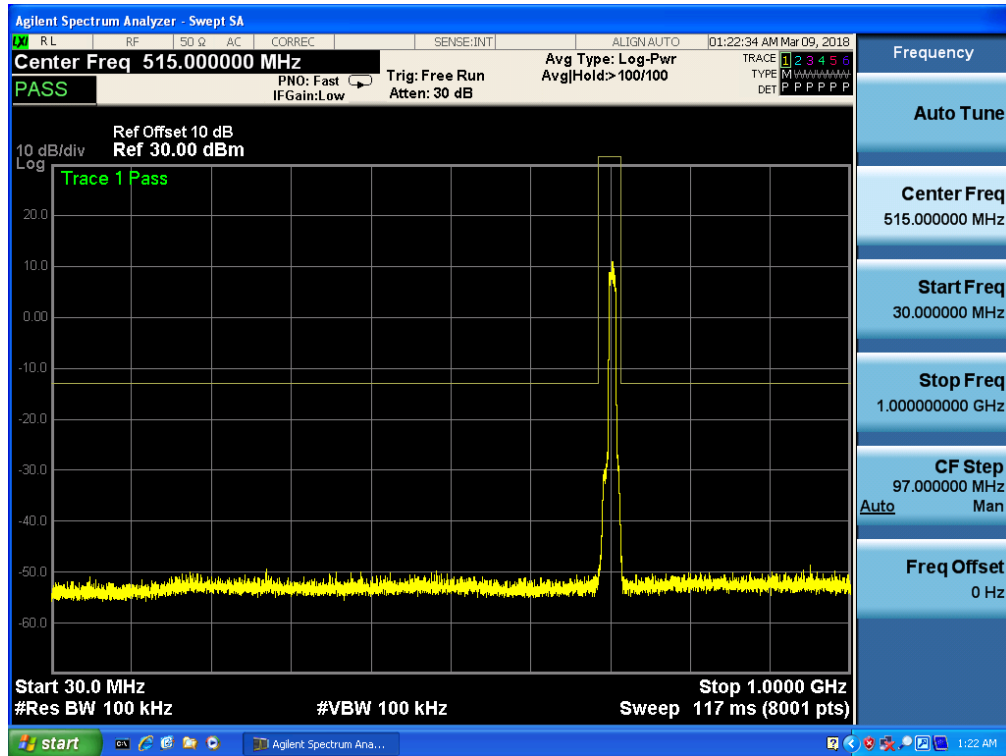
Band 12,UL Channel 23060,UL Frequency 704.0,BW 10.0,NO. RB 50,RB POS. Low,16-QAM



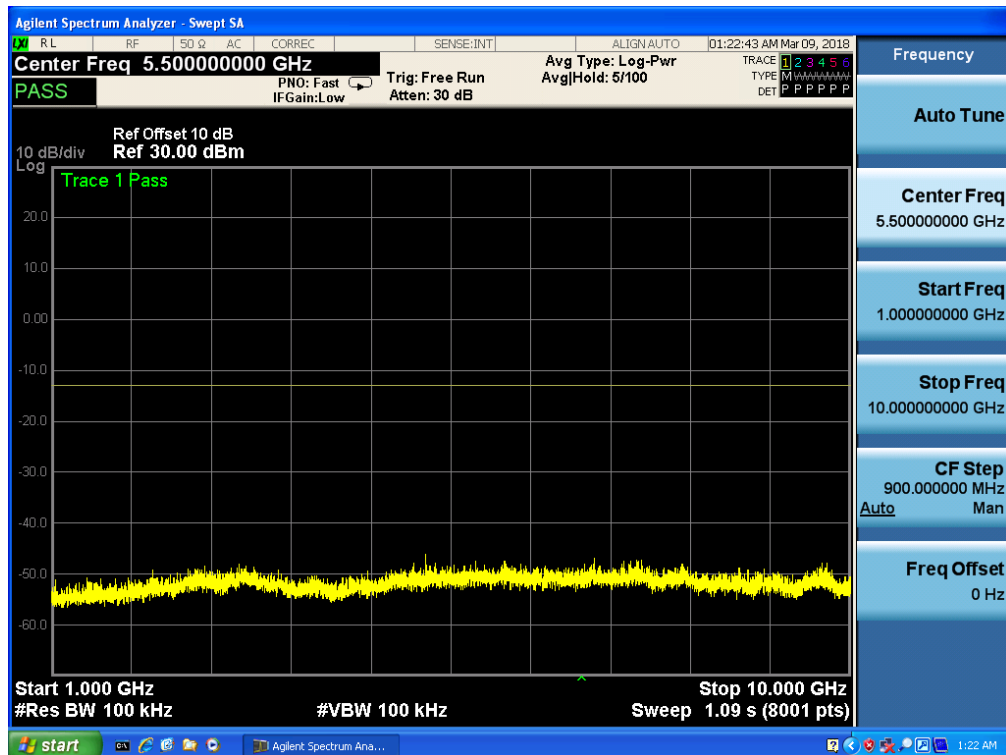


Report No.: SER180207605007E

Band 12,UL Channel 23130,UL Frequency 711.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



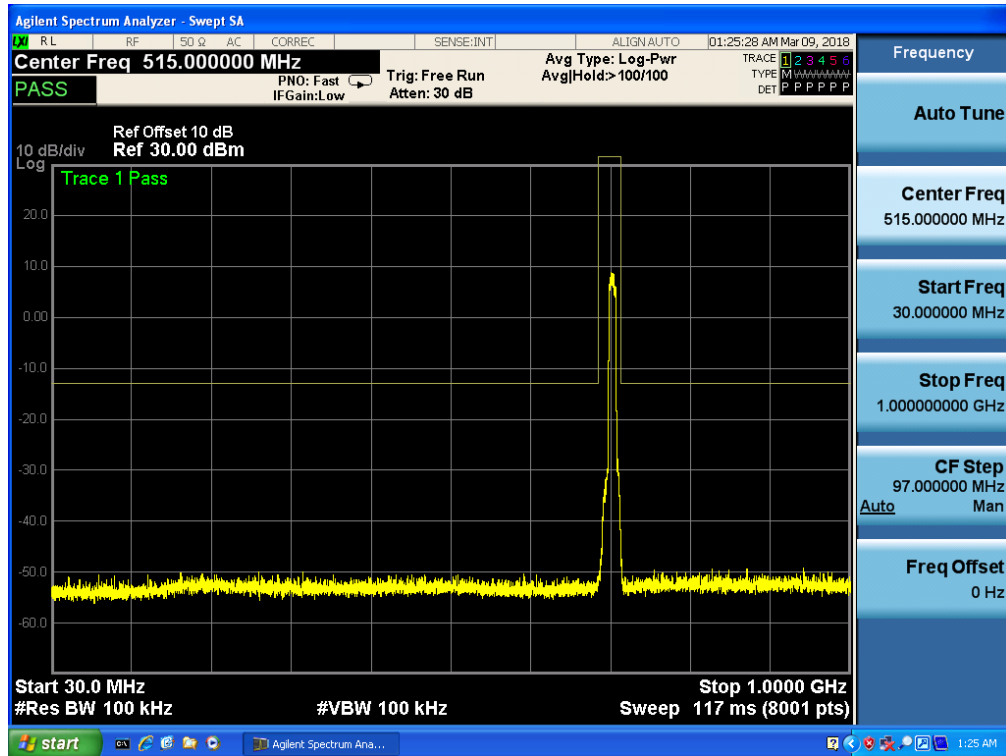
Band 12,UL Channel 23130,UL Frequency 711.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



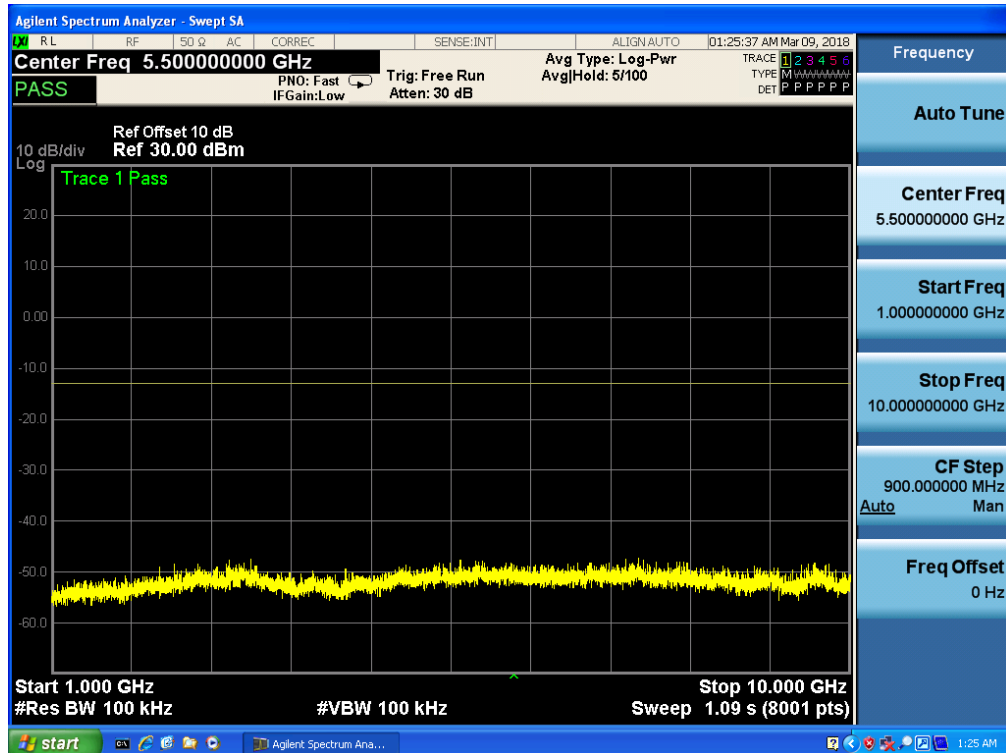


Report No.: SER180207605007E

Band 12,UL Channel 23130,UL Frequency 711.0,BW 10.0,NO. RB 50,RB POS. Low,16-QAM

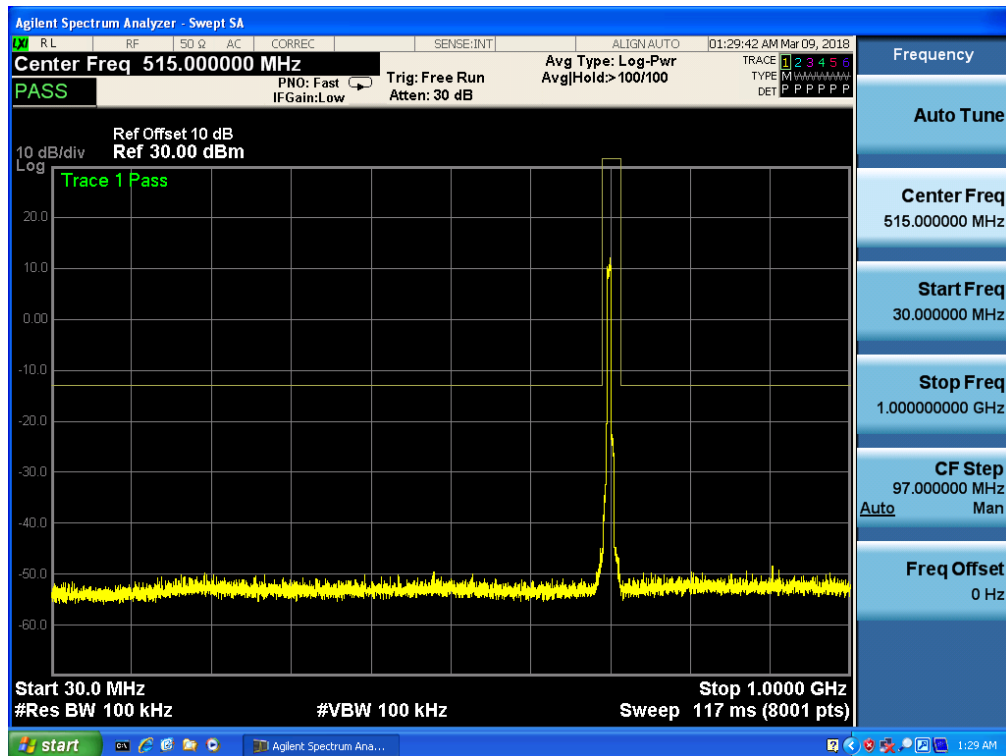


Band 12,UL Channel 23130,UL Frequency 711.0,BW 10.0,NO. RB 50,RB POS. Low,16-QAM



## 7.6 LTE BAND 17

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



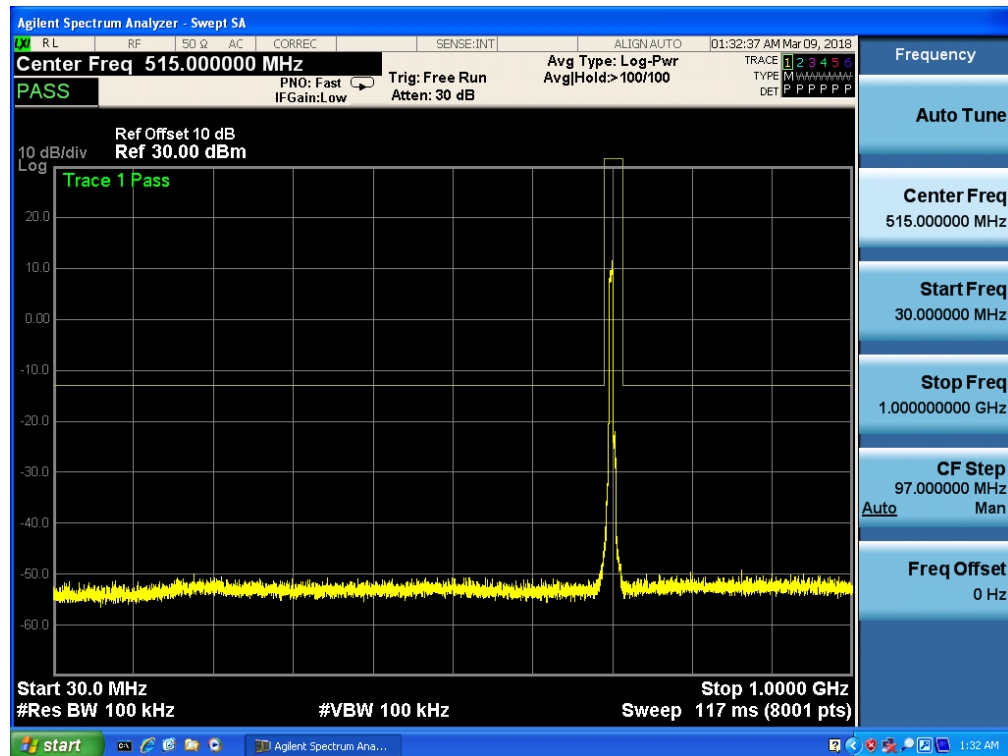
*Band 17,UL Channel 23755,UL Frequency 706.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK*





Report No.: SER180207605007E

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



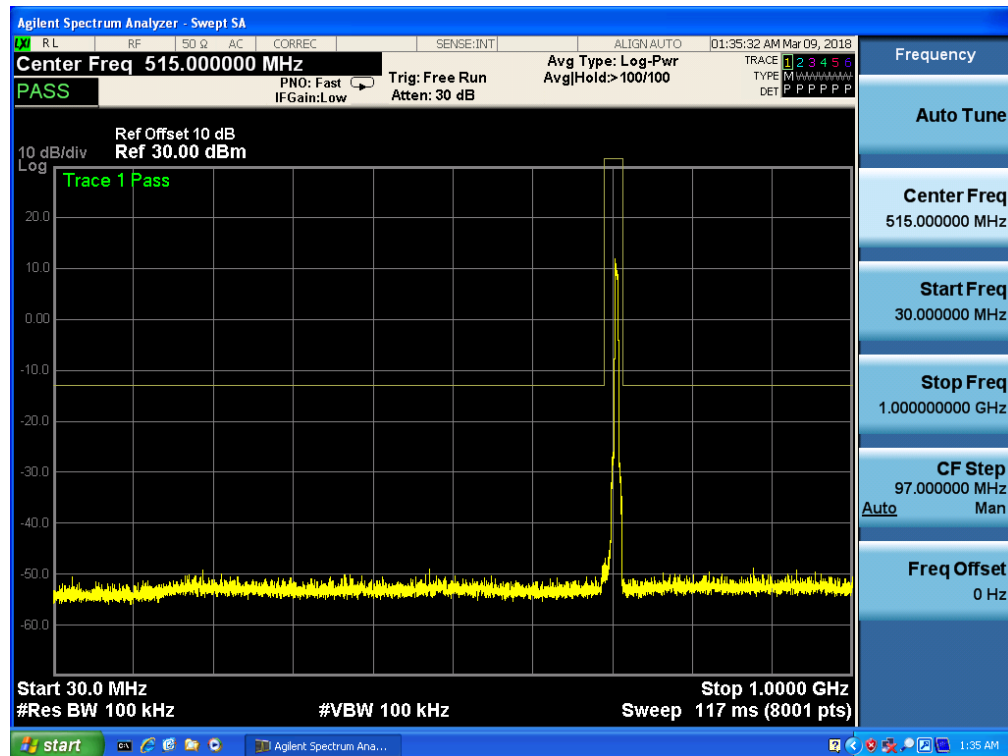
Band 17,UL Channel 23755,UL Frequency 706.5,BW 5.0,NO. RB 25,RB POS. Low,16-QAM



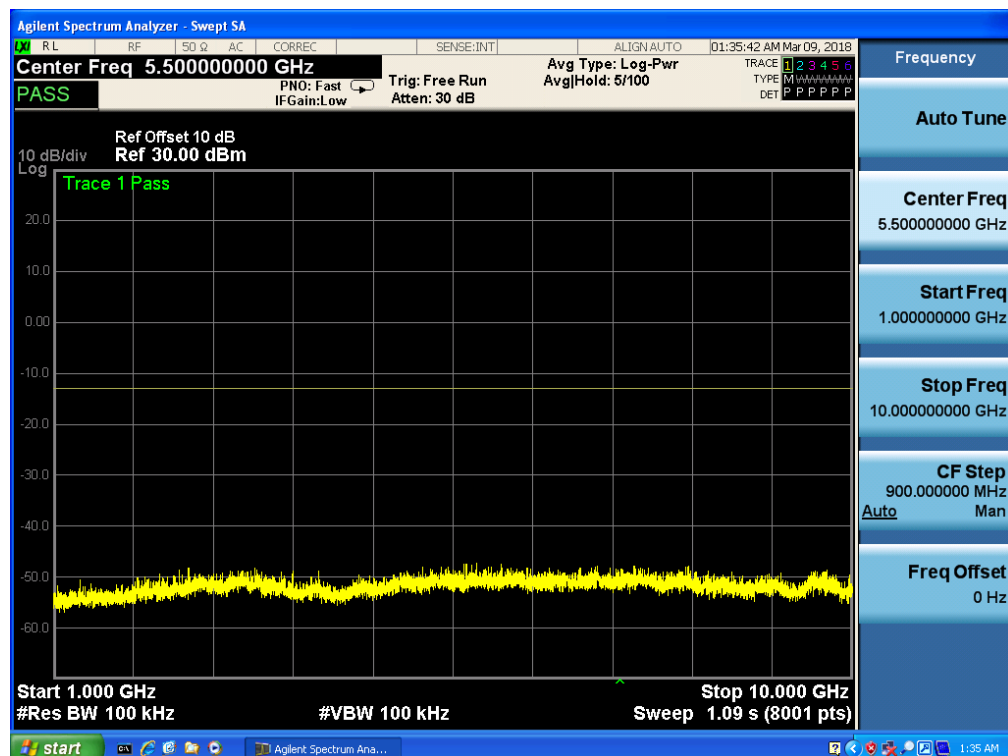


Report No.: SER180207605007E

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



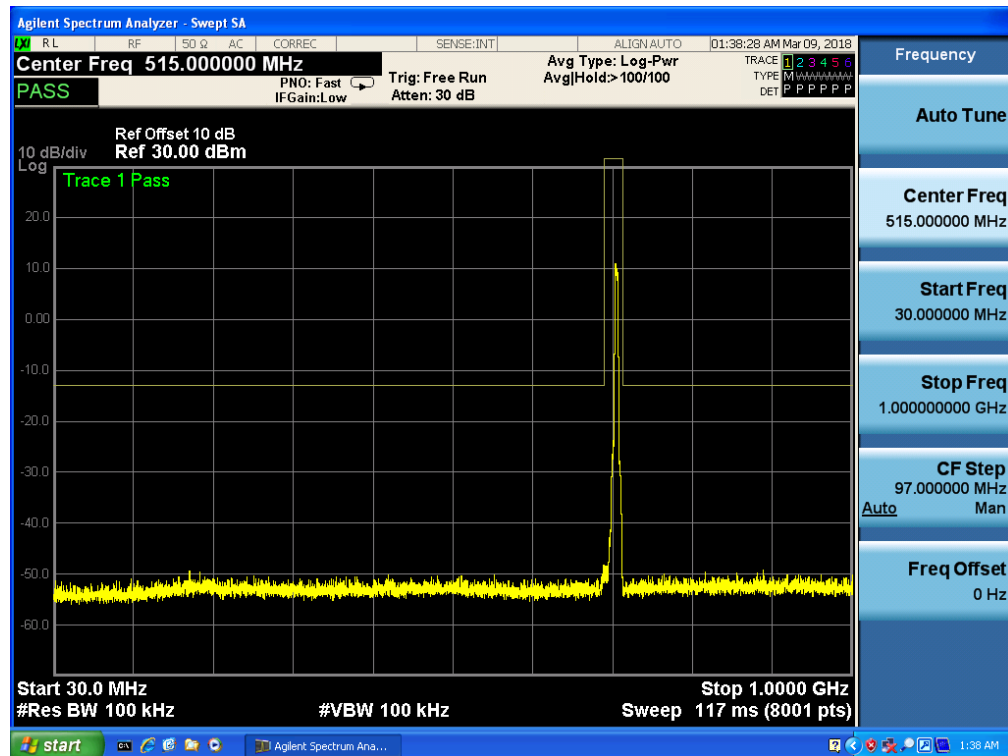
Band 17,UL Channel 23825,UL Frequency 713.5,BW 5.0,NO. RB 25,RB POS. Low,QPSK



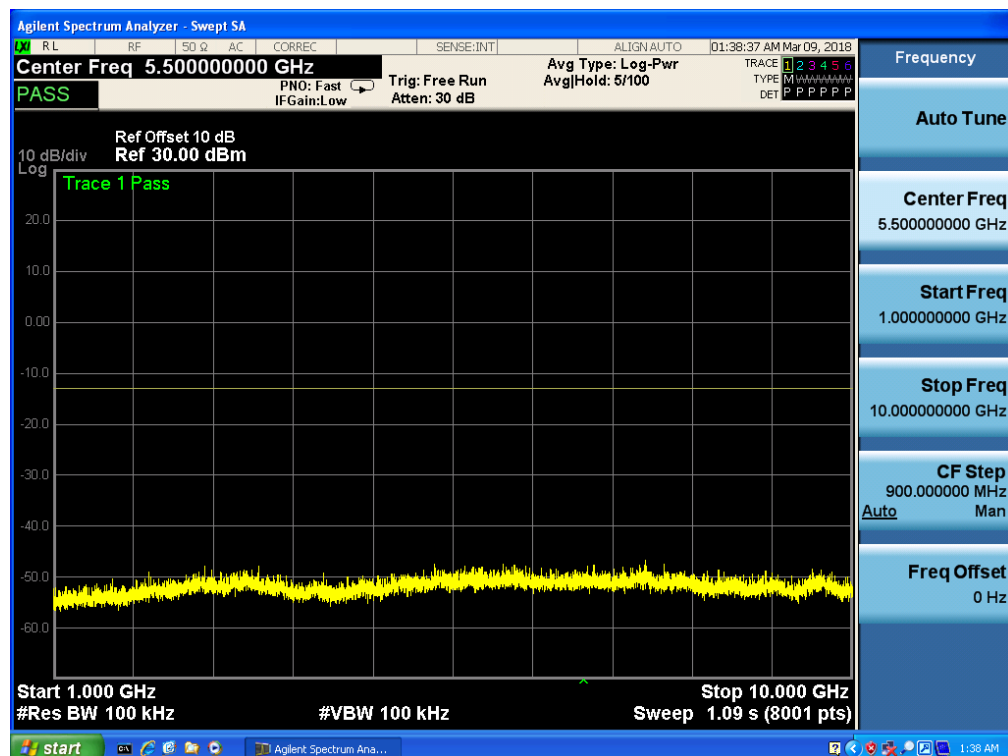


Report No.: SER180207605007E

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



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

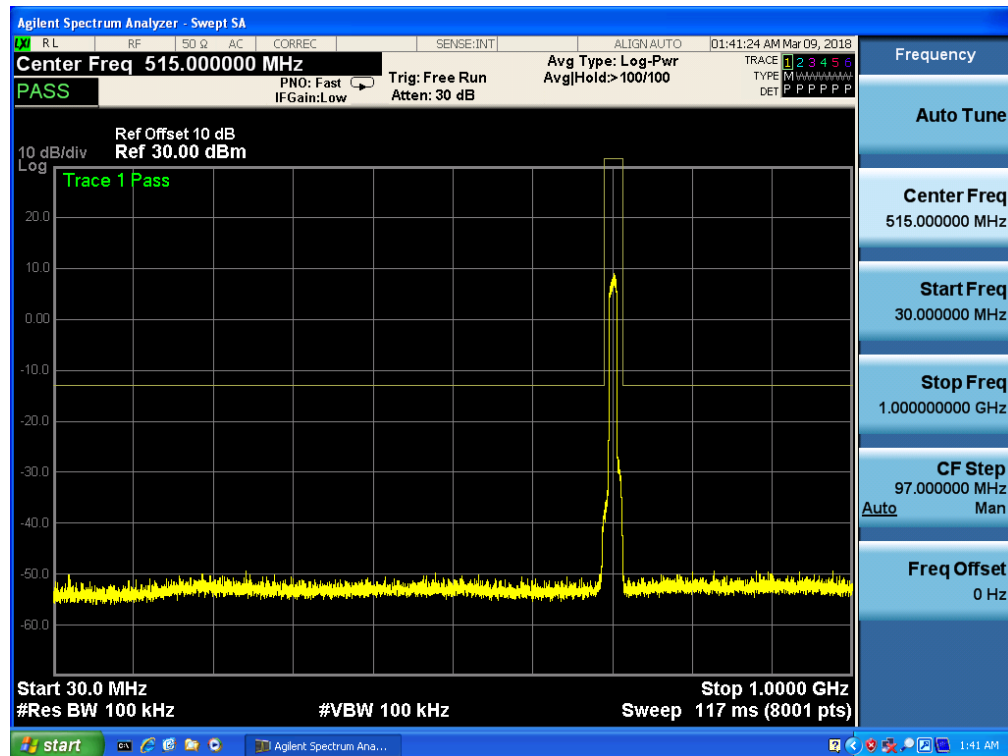




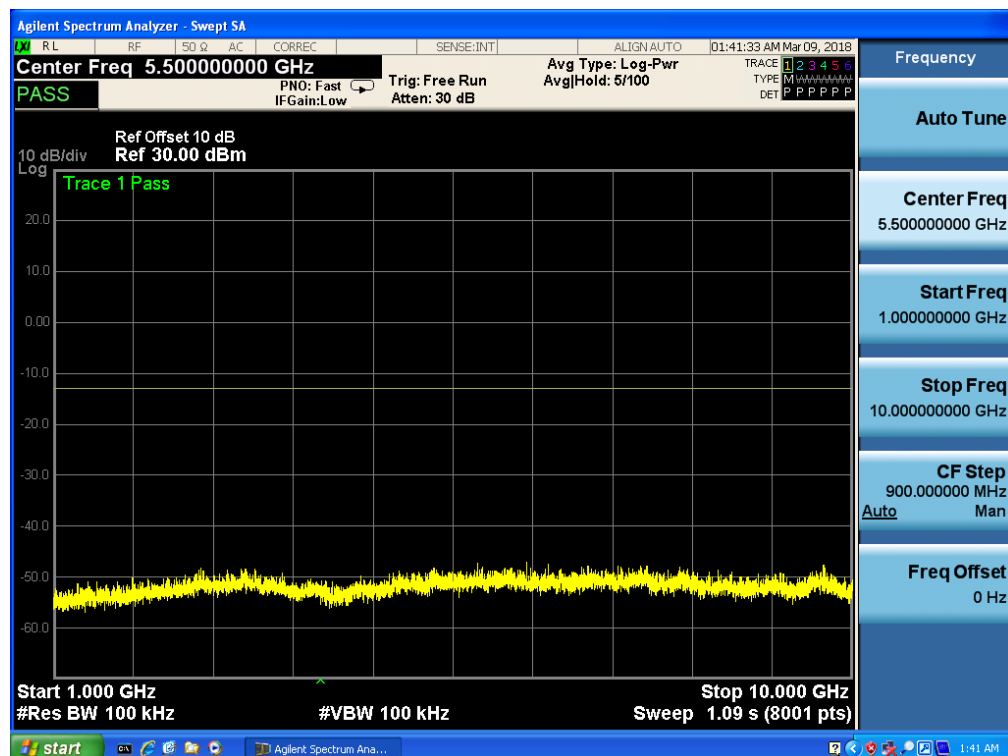


Report No.: SER180207605007E

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



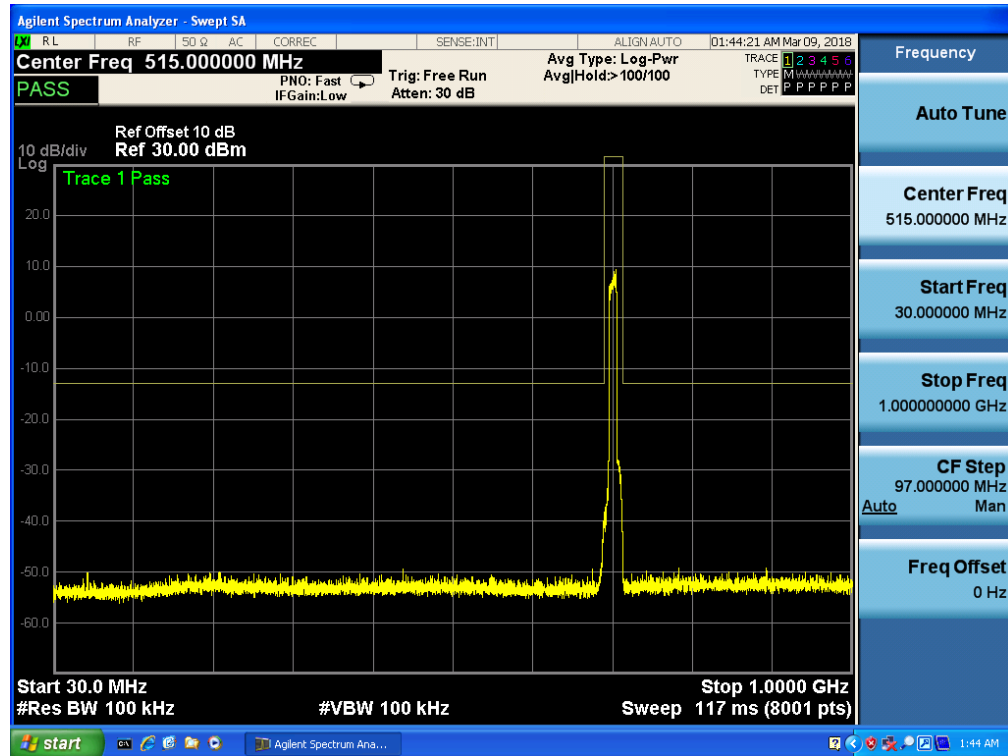
Band 17,UL Channel 23780,UL Frequency 709.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



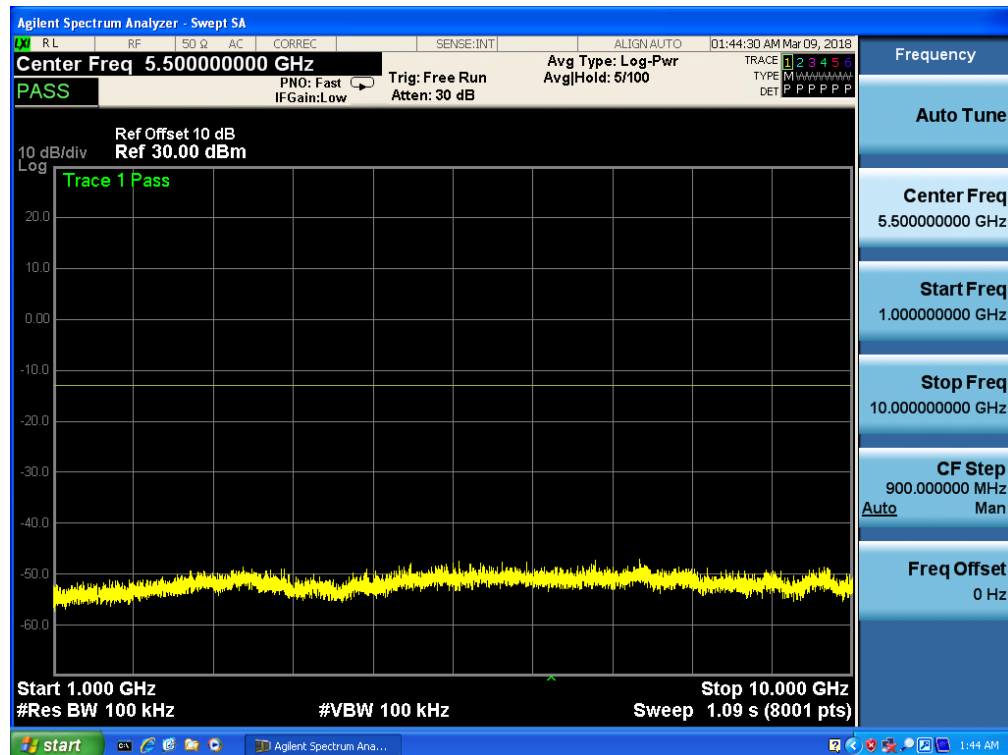


Report No.: SER180207605007E

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



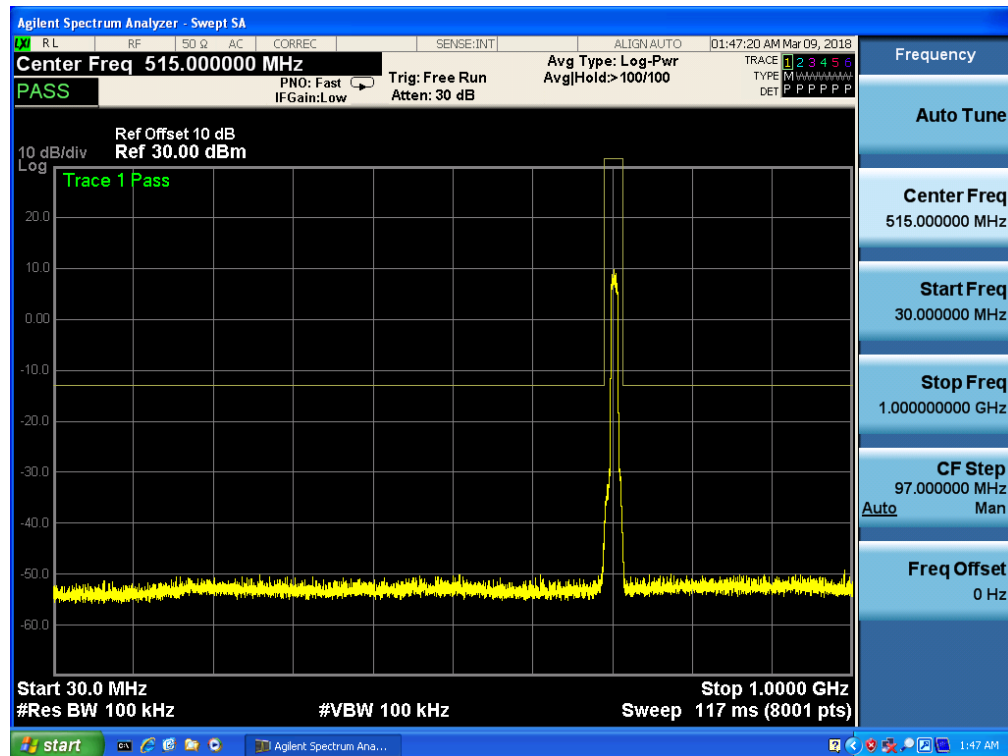
Band 17,UL Channel 23780,UL Frequency 709.0,BW 10.0,NO. RB 50,RB POS. Low,16-QAM



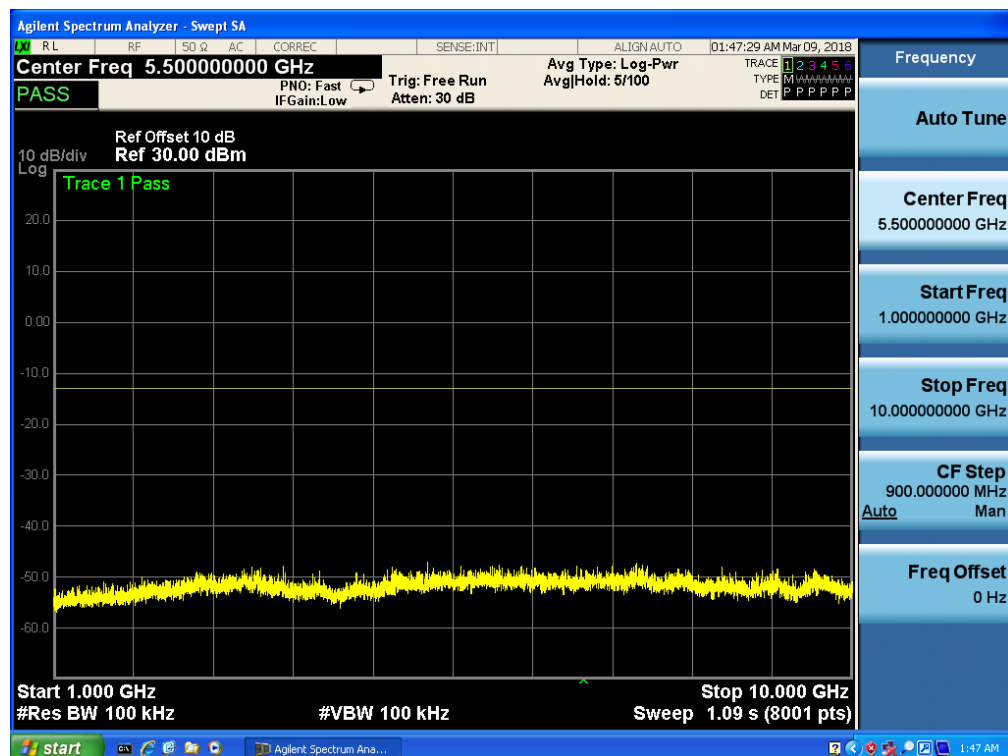


Report No.: SER180207605007E

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



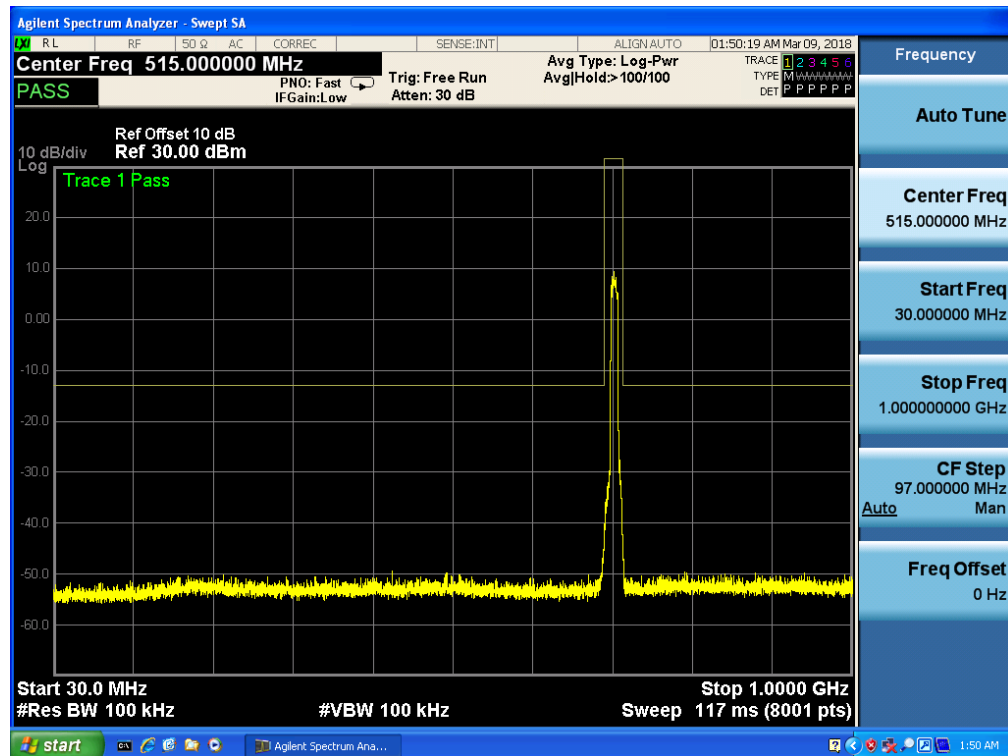
Band 17,UL Channel 23800,UL Frequency 711.0,BW 10.0,NO. RB 50,RB POS. Low,QPSK



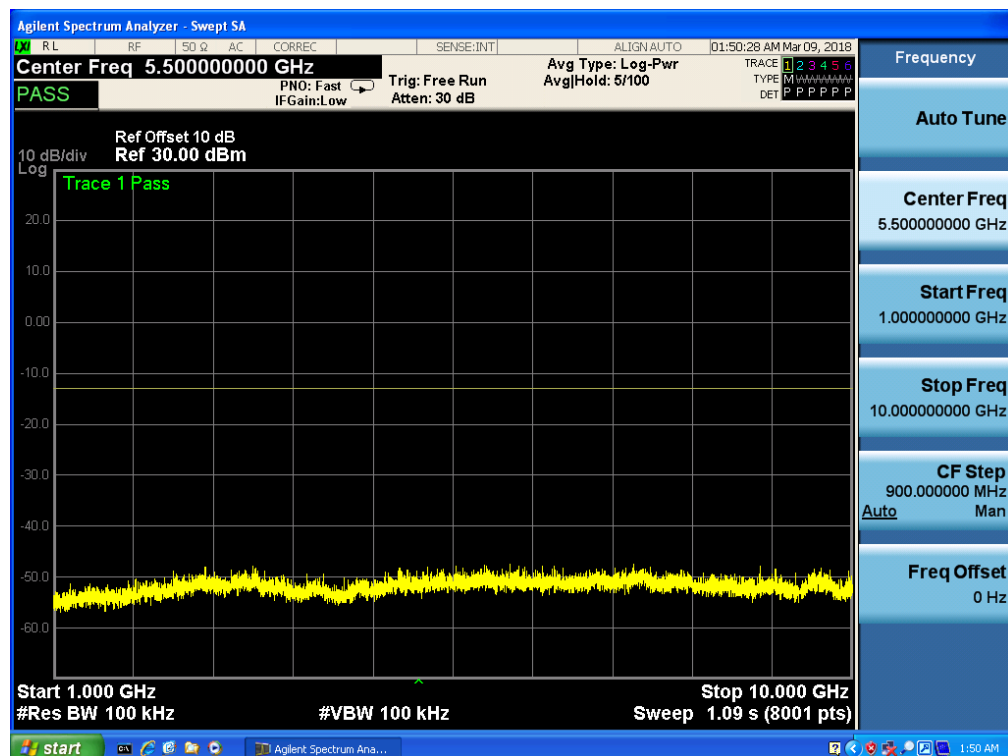


Report No.: SER180207605007E

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



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



## 8. Radiated Spurious Emission

### 8.1. 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-603-E 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 Band5
- LTE Band 7
- LTE Band 12
- LTE Band 17

#### **RESULTS**

## 8.2 LTE BAND 2

| Radiated Power (EIRP) for Band 2 |                   |           |                          |                        |                          |                                      |              |                                 |                |
|----------------------------------|-------------------|-----------|--------------------------|------------------------|--------------------------|--------------------------------------|--------------|---------------------------------|----------------|
| Mode                             | RB/<br>RB<br>SIZE | Frequency | Result                   |                        |                          |                                      |              |                                 | Conclusio<br>n |
|                                  |                   |           | SG<br>Level<br>(dBm<br>) | Cable<br>Loss<br>(dBm) | Antenn<br>a Gain<br>(dB) | Max.<br>EIRP<br>Avera<br>ge<br>(dBm) | Max.<br>EIRP | Polarizati<br>on Of<br>Max. ERP |                |
|                                  |                   |           |                          |                        |                          |                                      | Average      |                                 |                |
|                                  |                   |           |                          |                        |                          |                                      | (mW)         |                                 |                |
| 1.4MHz<br>Band<br>QPSK           | 6/0               | 1850.7    | -1.23                    | 3.76                   | 28.24                    | 23.25                                | 211.349      | Horizontal                      | Pass           |
|                                  |                   | 1880      | -0.25                    | 3.91                   | 28.22                    | 24.06                                | 254.683      | Horizontal                      | Pass           |
|                                  |                   | 1909.3    | -0.25                    | 3.93                   | 28.20                    | 24.02                                | 252.348      | Horizontal                      | Pass           |
| 1.4MHz<br>Band 16<br>QAM         | 6/0               | 1850.7    | -0.79                    | 3.76                   | 28.24                    | 23.69                                | 233.884      | Horizontal                      | Pass           |
|                                  |                   | 1880      | -0.76                    | 3.91                   | 28.22                    | 23.55                                | 226.464      | Horizontal                      | Pass           |
|                                  |                   | 1909.3    | -0.36                    | 3.93                   | 28.20                    | 23.91                                | 246.037      | Horizontal                      | Pass           |
| 3.0MHz<br>Band<br>QPSK           | 15/0              | 1851.5    | -0.64                    | 3.77                   | 28.23                    | 23.82                                | 240.991      | Horizontal                      | Pass           |
|                                  |                   | 1880      | -0.94                    | 3.91                   | 28.24                    | 23.39                                | 218.273      | Horizontal                      | Pass           |
|                                  |                   | 1908.5    | -0.79                    | 3.94                   | 28.25                    | 23.52                                | 224.905      | Horizontal                      | Pass           |
| 3.0MHz<br>Band 16<br>QAM         | 15/0              | 1851.5    | -0.67                    | 3.77                   | 28.23                    | 23.79                                | 239.332      | Horizontal                      | Pass           |
|                                  |                   | 1880      | -0.29                    | 3.91                   | 28.24                    | 24.04                                | 253.513      | Horizontal                      | Pass           |
|                                  |                   | 1908.5    | -0.73                    | 3.94                   | 28.25                    | 23.58                                | 228.034      | Horizontal                      | Pass           |
| 5.0MHz<br>Band<br>QPSK           | 25/0              | 1852.5    | -1.31                    | 3.77                   | 28.31                    | 23.23                                | 210.378      | Horizontal                      | Pass           |
|                                  |                   | 1880      | -0.43                    | 3.91                   | 28.22                    | 23.88                                | 244.343      | Horizontal                      | Pass           |
|                                  |                   | 1907.5    | -0.94                    | 3.94                   | 28.20                    | 23.32                                | 214.783      | Horizontal                      | Pass           |
| 5.0MHz<br>Band 16<br>QAM         | 25/0              | 1852.5    | -1.41                    | 3.77                   | 28.31                    | 23.13                                | 205.589      | Horizontal                      | Pass           |
|                                  |                   | 1880      | -0.58                    | 3.91                   | 28.22                    | 23.73                                | 236.048      | Horizontal                      | Pass           |
|                                  |                   | 1907.5    | -0.79                    | 3.94                   | 28.20                    | 23.47                                | 222.331      | Horizontal                      | Pass           |
| 10.0MH<br>z Band<br>QPSK         | 50/0              | 1855      | -0.64                    | 3.79                   | 28.33                    | 23.90                                | 245.471      | Horizontal                      | Pass           |
|                                  |                   | 1880      | -0.99                    | 3.95                   | 28.22                    | 23.28                                | 212.814      | Horizontal                      | Pass           |
|                                  |                   | 1905      | -3.97                    | 3.97                   | 28.19                    | 20.25                                | 105.925      | Horizontal                      | Pass           |
| 10.0MH<br>z Band<br>16 QAM       | 50/0              | 1855      | -0.64                    | 3.79                   | 28.33                    | 23.90                                | 245.471      | Horizontal                      | Pass           |
|                                  |                   | 1880      | -3.60                    | 3.95                   | 28.22                    | 20.67                                | 116.681      | Horizontal                      | Pass           |
|                                  |                   | 1905      | -0.44                    | 3.97                   | 28.19                    | 23.78                                | 238.781      | Horizontal                      | Pass           |
| 15.0MH<br>z Band<br>QPSK         | 75/0              | 1857.5    | -0.87                    | 3.79                   | 28.34                    | 23.68                                | 233.346      | Horizontal                      | Pass           |
|                                  |                   | 1880      | -0.59                    | 3.95                   | 28.22                    | 23.68                                | 233.346      | Horizontal                      | Pass           |
|                                  |                   | 1902.5    | -0.93                    | 3.97                   | 28.18                    | 23.28                                | 212.814      | Horizontal                      | Pass           |
| 15.0MH<br>z Band<br>16 QAM       | 75/0              | 1857.5    | -0.52                    | 3.79                   | 28.34                    | 24.03                                | 252.930      | Horizontal                      | Pass           |
|                                  |                   | 1880      | -0.81                    | 3.95                   | 28.22                    | 23.46                                | 221.820      | Horizontal                      | Pass           |
|                                  |                   | 1902.5    | -0.61                    | 3.97                   | 28.18                    | 23.60                                | 229.087      | Horizontal                      | Pass           |

|                             |           |      |       |      |       |       |         |            |      |
|-----------------------------|-----------|------|-------|------|-------|-------|---------|------------|------|
| 20.0MHz<br>z Band<br>QPSK   | 100/<br>0 | 1860 | -0.80 | 3.81 | 28.35 | 23.74 | 236.592 | Horizontal | Pass |
|                             |           | 1880 | -1.07 | 3.96 | 28.22 | 23.19 | 208.449 | Horizontal | Pass |
|                             |           | 1900 | -0.86 | 4    | 28.16 | 23.3  | 213.796 | Horizontal | Pass |
| 20.0MHz<br>z Band<br>16 QAM | 100/<br>0 | 1860 | -1.42 | 3.81 | 28.35 | 23.12 | 205.116 | Horizontal | Pass |
|                             |           | 1880 | -1.01 | 3.96 | 28.22 | 23.25 | 211.349 | Horizontal | Pass |
|                             |           | 1900 | -0.97 | 4    | 28.16 | 23.19 | 208.449 | Horizontal | Pass |

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)



| Radiated Power (EIRP) for Band 2 |                   |           |                          |                        |                             |                                  |                                     |                                 |            |
|----------------------------------|-------------------|-----------|--------------------------|------------------------|-----------------------------|----------------------------------|-------------------------------------|---------------------------------|------------|
| Mode                             | RB/<br>RB<br>SIZE | Frequency | Result                   |                        |                             |                                  |                                     |                                 | Conclusion |
|                                  |                   |           | SG<br>Level<br>(dBm<br>) | Cable<br>Loss<br>(dBm) | Anten<br>na<br>Gain<br>(dB) | Max.<br>EIRP<br>Average<br>(dBm) | Max.<br>EIRP<br>Averag<br>e<br>(mW) | Polarizati<br>on Of<br>Max. ERP |            |
| 1.4MHz<br>Band<br>QPSK           | 6/0               | 1850.7    | -0.69                    | 3.76                   | 28.24                       | 23.79                            | 239.332                             | Vertical                        | Pass       |
|                                  |                   | 1880      | -0.94                    | 3.91                   | 28.22                       | 23.37                            | 217.270                             | Vertical                        | Pass       |
|                                  |                   | 1909.3    | -0.75                    | 3.93                   | 28.2                        | 23.52                            | 224.905                             | Vertical                        | Pass       |
| 1.4MHz<br>Band 16<br>QAM         | 6/0               | 1850.7    | -0.79                    | 3.76                   | 28.24                       | 23.69                            | 233.884                             | Vertical                        | Pass       |
|                                  |                   | 1880      | -0.52                    | 3.91                   | 28.22                       | 23.79                            | 239.332                             | Vertical                        | Pass       |
|                                  |                   | 1909.3    | -0.51                    | 3.93                   | 28.2                        | 23.76                            | 237.684                             | Vertical                        | Pass       |
| 3.0MHz<br>Band<br>QPSK           | 15/0              | 1851.5    | -0.60                    | 3.77                   | 28.23                       | 23.86                            | 243.220                             | Vertical                        | Pass       |
|                                  |                   | 1880      | -0.69                    | 3.91                   | 28.24                       | 23.64                            | 231.206                             | Vertical                        | Pass       |
|                                  |                   | 1908.5    | -1.18                    | 3.94                   | 28.25                       | 23.13                            | 205.589                             | Vertical                        | Pass       |
| 3.0MHz<br>Band 16<br>QAM         | 15/0              | 1851.5    | -0.38                    | 3.77                   | 28.23                       | 24.08                            | 255.859                             | Vertical                        | Pass       |
|                                  |                   | 1880      | -1.07                    | 3.91                   | 28.24                       | 23.26                            | 211.836                             | Vertical                        | Pass       |
|                                  |                   | 1908.5    | -1.01                    | 3.94                   | 28.25                       | 23.3                             | 213.796                             | Vertical                        | Pass       |
| 5.0MHz<br>Band<br>QPSK           | 25/0              | 1852.5    | -0.67                    | 3.77                   | 28.31                       | 23.87                            | 243.781                             | Vertical                        | Pass       |
|                                  |                   | 1880      | -0.71                    | 3.91                   | 28.22                       | 23.6                             | 229.087                             | Vertical                        | Pass       |
|                                  |                   | 1907.5    | -0.97                    | 3.94                   | 28.2                        | 23.29                            | 213.304                             | Vertical                        | Pass       |
| 5.0MHz<br>Band 16<br>QAM         | 25/0              | 1852.5    | -0.54                    | 3.77                   | 28.31                       | 24                               | 251.189                             | Vertical                        | Pass       |
|                                  |                   | 1880      | -0.94                    | 3.91                   | 28.22                       | 23.37                            | 217.270                             | Vertical                        | Pass       |
|                                  |                   | 1907.5    | -0.30                    | 3.94                   | 28.2                        | 23.96                            | 248.886                             | Vertical                        | Pass       |
| 10.0MH<br>z Band<br>QPSK         | 50/0              | 1855      | -1.37                    | 3.79                   | 28.33                       | 23.17                            | 207.491                             | Vertical                        | Pass       |
|                                  |                   | 1880      | -0.70                    | 3.95                   | 28.22                       | 23.57                            | 227.510                             | Vertical                        | Pass       |
|                                  |                   | 1905      | -1.01                    | 3.97                   | 28.19                       | 23.21                            | 209.411                             | Vertical                        | Pass       |
| 10.0MH<br>z Band<br>16 QAM       | 50/0              | 1855      | -0.85                    | 3.79                   | 28.33                       | 23.69                            | 233.884                             | Vertical                        | Pass       |
|                                  |                   | 1880      | -0.24                    | 3.95                   | 28.22                       | 24.03                            | 252.930                             | Vertical                        | Pass       |
|                                  |                   | 1905      | -0.98                    | 3.97                   | 28.19                       | 23.24                            | 210.863                             | Vertical                        | Pass       |
| 15.0MH<br>z Band<br>QPSK         | 75/0              | 1857.5    | -0.56                    | 3.79                   | 28.34                       | 23.99                            | 250.611                             | Vertical                        | Pass       |
|                                  |                   | 1880      | -0.62                    | 3.95                   | 28.22                       | 23.65                            | 231.739                             | Vertical                        | Pass       |
|                                  |                   | 1902.5    | -0.67                    | 3.97                   | 28.18                       | 23.54                            | 225.944                             | Vertical                        | Pass       |
| 15.0MH<br>z Band<br>16 QAM       | 75/0              | 1857.5    | -0.85                    | 3.79                   | 28.34                       | 23.7                             | 234.423                             | Vertical                        | Pass       |
|                                  |                   | 1880      | -0.40                    | 3.95                   | 28.22                       | 23.87                            | 243.781                             | Vertical                        | Pass       |
|                                  |                   | 1902.5    | -0.69                    | 3.97                   | 28.18                       | 23.52                            | 224.905                             | Vertical                        | Pass       |
| 20.0MH<br>z Band                 | 100/<br>0         | 1860      | -1.15                    | 3.81                   | 28.35                       | 23.39                            | 218.273                             | Vertical                        | Pass       |
|                                  |                   | 1880      | -0.95                    | 3.96                   | 28.22                       | 23.31                            | 214.289                             | Vertical                        | Pass       |



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|              |       |      |       |      |       |       |         |          |      |
|--------------|-------|------|-------|------|-------|-------|---------|----------|------|
| QPSK         |       | 1900 | -0.84 | 4    | 28.16 | 23.32 | 214.783 | Vertical | Pass |
| 20.0MHz Band | 100/0 | 1860 | -0.77 | 3.81 | 28.35 | 23.77 | 238.232 | Vertical | Pass |
| 16 QAM       |       | 1880 | -0.65 | 3.96 | 28.22 | 23.61 | 229.615 | Vertical | Pass |
|              |       | 1900 | -0.35 | 4    | 28.16 | 23.81 | 240.436 | Vertical | Pass |

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

### 8.3 LTE BAND 4

| Radiated Power (EIRP) for Band 4 |            |           |                |                  |                   |                         |                        |                          |            |
|----------------------------------|------------|-----------|----------------|------------------|-------------------|-------------------------|------------------------|--------------------------|------------|
| Mode                             | RB/RB SIZE | Frequency | Result         |                  |                   |                         |                        |                          | Conclusion |
|                                  |            |           | SG Level (dBm) | Cable Loss (dBm) | Antenna Gain (dB) | Max. EIRP Average (dBm) | Max. EIRP Average (mW) | Polarization Of Max. ERP |            |
| 1.4MHz Band QPSK                 | 6/0        | 1710.7    | -0.97          | 3.12             | 27.58             | 23.49                   | 223.357                | Horizontal               | Pass       |
|                                  |            | 1732.5    | -1.02          | 3.27             | 27.61             | 23.32                   | 214.783                | Horizontal               | Pass       |
|                                  |            | 1754.3    | -1.31          | 3.29             | 27.63             | 23.03                   | 200.909                | Horizontal               | Pass       |
| 1.4MHz Band 16 QAM               | 6/0        | 1710.7    | -1.52          | 3.12             | 27.58             | 22.94                   | 196.789                | Horizontal               | Pass       |
|                                  |            | 1732.5    | -2.00          | 3.27             | 27.61             | 22.34                   | 171.396                | Horizontal               | Pass       |
|                                  |            | 1754.3    | -1.76          | 3.29             | 27.63             | 22.58                   | 181.134                | Horizontal               | Pass       |
| 3.0MHz Band QPSK                 | 15/0       | 1711.5    | -1.70          | 3.13             | 27.61             | 22.78                   | 189.671                | Horizontal               | Pass       |
|                                  |            | 1732.5    | -1.82          | 3.27             | 27.61             | 22.52                   | 178.649                | Horizontal               | Pass       |
|                                  |            | 1753.5    | -1.84          | 3.3              | 27.62             | 22.48                   | 177.011                | Horizontal               | Pass       |
| 3.0MHz Band 16 QAM               | 15/0       | 1711.5    | -2.17          | 3.13             | 27.61             | 22.31                   | 170.216                | Horizontal               | Pass       |
|                                  |            | 1732.5    | -2.15          | 3.27             | 27.61             | 22.19                   | 165.577                | Horizontal               | Pass       |
|                                  |            | 1753.5    | -1.97          | 3.3              | 27.62             | 22.35                   | 171.791                | Horizontal               | Pass       |
| 5.0MHz Band QPSK                 | 25/0       | 1712.5    | -1.65          | 3.13             | 27.63             | 22.85                   | 192.752                | Horizontal               | Pass       |
|                                  |            | 1732.5    | -1.50          | 3.27             | 27.61             | 22.84                   | 192.309                | Horizontal               | Pass       |
|                                  |            | 1752.5    | -2.03          | 3.3              | 27.6              | 22.27                   | 168.655                | Horizontal               | Pass       |
| 5.0MHz Band 16 QAM               | 25/0       | 1712.5    | -2.35          | 3.13             | 27.63             | 22.15                   | 164.059                | Horizontal               | Pass       |
|                                  |            | 1732.5    | -2.17          | 3.27             | 27.61             | 22.17                   | 164.816                | Horizontal               | Pass       |
|                                  |            | 1752.5    | -2.12          | 3.3              | 27.6              | 22.18                   | 165.196                | Horizontal               | Pass       |
| 10.0MHz Band QPSK                | 50/0       | 1715      | -1.81          | 3.15             | 27.64             | 22.68                   | 185.353                | Horizontal               | Pass       |
|                                  |            | 1732.5    | -1.51          | 3.31             | 27.61             | 22.79                   | 190.108                | Horizontal               | Pass       |
|                                  |            | 1750      | -1.89          | 3.33             | 27.59             | 22.37                   | 172.584                | Horizontal               | Pass       |
| 10.0MHz Band 16 QAM              | 50/0       | 1715      | -1.92          | 3.15             | 27.64             | 22.57                   | 180.717                | Horizontal               | Pass       |
|                                  |            | 1732.5    | -2.10          | 3.31             | 27.61             | 22.2                    | 165.959                | Horizontal               | Pass       |
|                                  |            | 1750      | -1.80          | 3.33             | 27.59             | 22.46                   | 176.198                | Horizontal               | Pass       |
| 15.0MHz Band QPSK                | 75/0       | 1717.5    | -2.08          | 3.15             | 27.65             | 22.42                   | 174.582                | Horizontal               | Pass       |
|                                  |            | 1732.5    | -2.26          | 3.31             | 27.61             | 22.04                   | 159.956                | Horizontal               | Pass       |
|                                  |            | 1747.5    | -2.00          | 3.33             | 27.57             | 22.24                   | 167.494                | Horizontal               | Pass       |
| 15.0MHz Band 16 QAM              | 75/0       | 1717.5    | -2.15          | 3.15             | 27.65             | 22.35                   | 171.791                | Horizontal               | Pass       |
|                                  |            | 1732.5    | -1.56          | 3.31             | 27.61             | 22.74                   | 187.932                | Horizontal               | Pass       |
|                                  |            | 1747.5    | -1.67          | 3.33             | 27.57             | 22.57                   | 180.717                | Horizontal               | Pass       |

|                             |       |        |       |      |       |       |         |            |      |
|-----------------------------|-------|--------|-------|------|-------|-------|---------|------------|------|
| 20.0MHz<br>z Band<br>QPSK   | 100/0 | 1720   | -2.36 | 3.17 | 27.66 | 22.13 | 163.305 | Horizontal | Pass |
|                             |       | 1732.5 | -1.72 | 3.32 | 27.61 | 22.57 | 180.717 | Horizontal | Pass |
|                             |       | 1745   | -1.77 | 3.36 | 27.56 | 22.43 | 174.985 | Horizontal | Pass |
| 20.0MHz<br>z Band<br>16 QAM | 100/0 | 1720   | -1.98 | 3.17 | 27.66 | 22.51 | 178.238 | Horizontal | Pass |
|                             |       | 1732.5 | -1.80 | 3.32 | 27.61 | 22.49 | 177.419 | Horizontal | Pass |
|                             |       | 1745   | -1.08 | 3.36 | 27.56 | 23.12 | 205.116 | Horizontal | Pass |

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

| Radiated Power (EIRP) for Band 4 |            |           |                |                  |                   |                         |                        |                          |            |
|----------------------------------|------------|-----------|----------------|------------------|-------------------|-------------------------|------------------------|--------------------------|------------|
| Mode                             | RB/RB SIZE | Frequency | Result         |                  |                   |                         |                        |                          | Conclusion |
|                                  |            |           | SG Level (dBm) | Cable Loss (dBm) | Antenna Gain (dB) | Max. EIRP Average (dBm) | Max. EIRP Average (mW) | Polarization Of Max. ERP |            |
| 1.4MHz Band QPSK                 | 6/0        | 1710.7    | -1.77          | 3.12             | 27.58             | 22.69                   | 185.780                | Vertical                 | Pass       |
|                                  |            | 1732.5    | -2.04          | 3.27             | 27.61             | 22.3                    | 169.824                | Vertical                 | Pass       |
|                                  |            | 1754.3    | -1.39          | 3.29             | 27.63             | 22.95                   | 197.242                | Vertical                 | Pass       |
| 1.4MHz Band 16 QAM               | 6/0        | 1710.7    | -1.44          | 3.12             | 27.58             | 23.02                   | 200.447                | Vertical                 | Pass       |
|                                  |            | 1732.5    | -1.48          | 3.27             | 27.61             | 22.86                   | 193.197                | Vertical                 | Pass       |
|                                  |            | 1754.3    | -1.48          | 3.29             | 27.63             | 22.86                   | 193.197                | Vertical                 | Pass       |
| 3.0MHz Band QPSK                 | 15/0       | 1711.5    | -1.35          | 3.13             | 27.61             | 23.13                   | 205.589                | Vertical                 | Pass       |
|                                  |            | 1732.5    | -1.12          | 3.27             | 27.61             | 23.22                   | 209.894                | Vertical                 | Pass       |
|                                  |            | 1753.5    | -2.06          | 3.3              | 27.62             | 22.26                   | 168.267                | Vertical                 | Pass       |
| 3.0MHz Band 16 QAM               | 15/0       | 1711.5    | -1.74          | 3.13             | 27.61             | 22.74                   | 187.932                | Vertical                 | Pass       |
|                                  |            | 1732.5    | -1.30          | 3.27             | 27.61             | 23.04                   | 201.372                | Vertical                 | Pass       |
|                                  |            | 1753.5    | -1.55          | 3.3              | 27.62             | 22.77                   | 189.234                | Vertical                 | Pass       |
| 5.0MHz Band QPSK                 | 25/0       | 1712.5    | -1.58          | 3.13             | 27.63             | 22.92                   | 195.884                | Vertical                 | Pass       |
|                                  |            | 1732.5    | -1.59          | 3.27             | 27.61             | 22.75                   | 188.365                | Vertical                 | Pass       |
|                                  |            | 1752.5    | -1.47          | 3.3              | 27.6              | 22.83                   | 191.867                | Vertical                 | Pass       |
| 5.0MHz Band 16 QAM               | 25/0       | 1712.5    | -2.09          | 3.13             | 27.63             | 22.41                   | 174.181                | Vertical                 | Pass       |
|                                  |            | 1732.5    | -1.29          | 3.27             | 27.61             | 23.05                   | 201.837                | Vertical                 | Pass       |
|                                  |            | 1752.5    | -1.31          | 3.3              | 27.6              | 22.99                   | 199.067                | Vertical                 | Pass       |
| 10.0MHz z Band QPSK              | 50/0       | 1715      | -2.08          | 3.15             | 27.64             | 22.41                   | 174.181                | Vertical                 | Pass       |
|                                  |            | 1732.5    | -1.47          | 3.31             | 27.61             | 22.83                   | 191.867                | Vertical                 | Pass       |
|                                  |            | 1750      | -1.67          | 3.33             | 27.59             | 22.59                   | 181.552                | Vertical                 | Pass       |
| 10.0MHz z Band 16 QAM            | 50/0       | 1715      | -2.10          | 3.15             | 27.64             | 22.39                   | 173.380                | Vertical                 | Pass       |
|                                  |            | 1732.5    | -2.12          | 3.31             | 27.61             | 22.18                   | 165.196                | Vertical                 | Pass       |
|                                  |            | 1750      | -1.74          | 3.33             | 27.59             | 22.52                   | 178.649                | Vertical                 | Pass       |
| 15.0MHz z Band QPSK              | 75/0       | 1717.5    | -1.93          | 3.15             | 27.65             | 22.57                   | 180.717                | Vertical                 | Pass       |
|                                  |            | 1732.5    | -2.02          | 3.31             | 27.61             | 22.28                   | 169.044                | Vertical                 | Pass       |
|                                  |            | 1747.5    | -1.74          | 3.33             | 27.57             | 22.5                    | 177.828                | Vertical                 | Pass       |
| 15.0MHz z Band 16 QAM            | 75/0       | 1717.5    | -2.26          | 3.15             | 27.65             | 22.24                   | 167.494                | Vertical                 | Pass       |
|                                  |            | 1732.5    | -1.59          | 3.31             | 27.61             | 22.71                   | 186.638                | Vertical                 | Pass       |
|                                  |            | 1747.5    | -1.97          | 3.33             | 27.57             | 22.27                   | 168.655                | Vertical                 | Pass       |
| 20.0MHz z Band                   | 100/0      | 1720      | -1.57          | 3.17             | 27.66             | 22.92                   | 195.884                | Vertical                 | Pass       |
|                                  |            | 1732.5    | -1.81          | 3.32             | 27.61             | 22.48                   | 177.011                | Vertical                 | Pass       |



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|         |       |        |       |      |       |       |         |          |      |
|---------|-------|--------|-------|------|-------|-------|---------|----------|------|
| QPSK    |       | 1745   | -1.28 | 3.36 | 27.56 | 22.92 | 195.884 | Vertical | Pass |
| 20.0MHz | 100/0 | 1720   | -2.23 | 3.17 | 27.66 | 22.26 | 168.267 | Vertical | Pass |
| z Band  |       | 1732.5 | -2.14 | 3.32 | 27.61 | 22.15 | 164.059 | Vertical | Pass |
| 16 QAM  |       | 1745   | -1.39 | 3.36 | 27.56 | 22.81 | 190.985 | Vertical | Pass |

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

#### 8.4 LTE BAND 5

| Radiated Power (EIRP) for Band 5 |                   |           |                      |                        |                         |                    |                                  |                                 |                                |            |
|----------------------------------|-------------------|-----------|----------------------|------------------------|-------------------------|--------------------|----------------------------------|---------------------------------|--------------------------------|------------|
| Mode                             | RB/<br>RB<br>SIZE | Frequency | Result               |                        |                         |                    |                                  |                                 |                                | Conclusion |
|                                  |                   |           | SG<br>Level<br>(dBm) | Cable<br>Loss<br>(dBm) | Antenna<br>Gain<br>(dB) | Correction<br>(dB) | Max.<br>EIRP<br>Average<br>(dBm) | Max.<br>EIRP<br>Average<br>(mW) | Polarization<br>Of<br>Max. ERP |            |
| 1.4MHz<br>Band<br>QPSK           | 6/0               | 824.7     | 7.50                 | 2.01                   | 19.68                   | 2.15               | 23.02                            | 200.447                         | Horizontal                     | Pass       |
|                                  |                   | 836.5     | 7.83                 | 2.01                   | 19.77                   | 2.15               | 23.44                            | 220.800                         | Horizontal                     | Pass       |
|                                  |                   | 848.3     | 7.24                 | 2.02                   | 19.82                   | 2.15               | 22.89                            | 194.536                         | Horizontal                     | Pass       |
| 1.4MHz<br>Band 16<br>QAM         | 6/0               | 824.7     | 7.67                 | 2.01                   | 19.68                   | 2.15               | 23.19                            | 208.449                         | Horizontal                     | Pass       |
|                                  |                   | 836.5     | 7.21                 | 2.01                   | 19.77                   | 2.15               | 22.82                            | 191.426                         | Horizontal                     | Pass       |
|                                  |                   | 848.3     | 6.77                 | 2.02                   | 19.82                   | 2.15               | 22.42                            | 174.582                         | Horizontal                     | Pass       |
| 3.0MHz<br>Band<br>QPSK           | 15/0              | 825.5     | 7.19                 | 2.01                   | 19.7                    | 2.15               | 22.73                            | 187.499                         | Horizontal                     | Pass       |
|                                  |                   | 836.5     | 7.04                 | 2.01                   | 19.77                   | 2.15               | 22.65                            | 184.077                         | Horizontal                     | Pass       |
|                                  |                   | 847.5     | 6.64                 | 2.02                   | 19.81                   | 2.15               | 22.28                            | 169.044                         | Horizontal                     | Pass       |
| 3.0MHz<br>Band 16<br>QAM         | 15/0              | 825.5     | 6.89                 | 2.01                   | 19.7                    | 2.15               | 22.43                            | 174.985                         | Horizontal                     | Pass       |
|                                  |                   | 836.5     | 7.28                 | 2.01                   | 19.77                   | 2.15               | 22.89                            | 194.536                         | Horizontal                     | Pass       |
|                                  |                   | 847.5     | 6.59                 | 2.02                   | 19.81                   | 2.15               | 22.23                            | 167.109                         | Horizontal                     | Pass       |
| 5.0MHz<br>Band<br>QPSK           | 25/0              | 826.5     | 6.95                 | 2.01                   | 19.71                   | 2.15               | 22.5                             | 177.828                         | Horizontal                     | Pass       |
|                                  |                   | 836.5     | 6.80                 | 2.01                   | 19.77                   | 2.15               | 22.41                            | 174.181                         | Horizontal                     | Pass       |
|                                  |                   | 846.5     | 6.55                 | 2.02                   | 19.79                   | 2.15               | 22.17                            | 164.816                         | Horizontal                     | Pass       |
| 5.0MHz<br>Band 16<br>QAM         | 25/0              | 826.5     | 6.99                 | 2.01                   | 19.71                   | 2.15               | 22.54                            | 179.473                         | Horizontal                     | Pass       |
|                                  |                   | 836.5     | 6.80                 | 2.01                   | 19.77                   | 2.15               | 22.41                            | 174.181                         | Horizontal                     | Pass       |
|                                  |                   | 846.5     | 7.11                 | 2.02                   | 19.79                   | 2.15               | 22.73                            | 187.499                         | Horizontal                     | Pass       |
| 10.0MHz<br>z Band<br>QPSK        | 50/0              | 829       | 6.66                 | 2.01                   | 19.73                   | 2.15               | 22.23                            | 167.109                         | Horizontal                     | Pass       |
|                                  |                   | 836.5     | 6.91                 | 2.01                   | 19.77                   | 2.15               | 22.52                            | 178.649                         | Horizontal                     | Pass       |
|                                  |                   | 844       | 7.62                 | 2.02                   | 19.78                   | 2.15               | 23.23                            | 210.378                         | Horizontal                     | Pass       |
| 10.0MHz<br>z Band<br>16 QAM      | 50/0              | 829       | 7.41                 | 2.01                   | 19.73                   | 2.15               | 22.98                            | 198.609                         | Horizontal                     | Pass       |
|                                  |                   | 836.5     | 7.11                 | 2.01                   | 19.77                   | 2.15               | 22.72                            | 187.068                         | Horizontal                     | Pass       |
|                                  |                   | 844       | 7.55                 | 2.02                   | 19.78                   | 2.15               | 23.16                            | 207.014                         | Horizontal                     | Pass       |

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

| Radiated Power (EIRP) for Band 5 |                   |               |                      |                        |                             |                        |                                      |                                     |                                 |                |
|----------------------------------|-------------------|---------------|----------------------|------------------------|-----------------------------|------------------------|--------------------------------------|-------------------------------------|---------------------------------|----------------|
| Mode                             | RB/<br>RB<br>SIZE | Freque<br>ncy | Result               |                        |                             |                        |                                      |                                     |                                 | Conclu<br>sion |
|                                  |                   |               | SG<br>Level<br>(dBm) | Cable<br>Loss<br>(dBm) | Anten<br>na<br>Gain<br>(dB) | Corre<br>ction<br>(dB) | Max.<br>EIRP<br>Averag<br>e<br>(dBm) | Max.<br>EIRP<br>Averag<br>e<br>(mW) | Polarizati<br>on Of<br>Max. ERP |                |
| 1.4MHz<br>Band<br>QPSK           | 6/0               | 824.7         | 7.29                 | 2.01                   | 19.68                       | 2.15                   | 22.81                                | 190.985                             | Vertical                        | Pass           |
|                                  |                   | 836.5         | 6.89                 | 2.01                   | 19.77                       | 2.15                   | 22.5                                 | 177.828                             | Vertical                        | Pass           |
|                                  |                   | 848.3         | 6.77                 | 2.02                   | 19.82                       | 2.15                   | 22.42                                | 174.582                             | Vertical                        | Pass           |
| 1.4MHz<br>Band 16<br>QAM         | 6/0               | 824.7         | 7.38                 | 2.01                   | 19.68                       | 2.15                   | 22.9                                 | 194.984                             | Vertical                        | Pass           |
|                                  |                   | 836.5         | 7.44                 | 2.01                   | 19.77                       | 2.15                   | 23.05                                | 201.837                             | Vertical                        | Pass           |
|                                  |                   | 848.3         | 7.29                 | 2.02                   | 19.82                       | 2.15                   | 22.94                                | 196.789                             | Vertical                        | Pass           |
| 3.0MHz<br>Band<br>QPSK           | 15/0              | 825.5         | 7.93                 | 2.01                   | 19.7                        | 2.15                   | 23.47                                | 222.331                             | Vertical                        | Pass           |
|                                  |                   | 836.5         | 7.57                 | 2.01                   | 19.77                       | 2.15                   | 23.18                                | 207.970                             | Vertical                        | Pass           |
|                                  |                   | 847.5         | 7.62                 | 2.02                   | 19.81                       | 2.15                   | 23.26                                | 211.836                             | Vertical                        | Pass           |
| 3.0MHz<br>Band 16<br>QAM         | 15/0              | 825.5         | 7.28                 | 2.01                   | 19.7                        | 2.15                   | 22.82                                | 191.426                             | Vertical                        | Pass           |
|                                  |                   | 836.5         | 6.86                 | 2.01                   | 19.77                       | 2.15                   | 22.47                                | 176.604                             | Vertical                        | Pass           |
|                                  |                   | 847.5         | 7.28                 | 2.02                   | 19.81                       | 2.15                   | 22.92                                | 195.884                             | Vertical                        | Pass           |
| 5.0MHz<br>Band<br>QPSK           | 25/0              | 826.5         | 6.86                 | 2.01                   | 19.71                       | 2.15                   | 22.41                                | 174.181                             | Vertical                        | Pass           |
|                                  |                   | 836.5         | 6.73                 | 2.01                   | 19.77                       | 2.15                   | 22.34                                | 171.396                             | Vertical                        | Pass           |
|                                  |                   | 846.5         | 7.24                 | 2.02                   | 19.79                       | 2.15                   | 22.86                                | 193.197                             | Vertical                        | Pass           |
| 5.0MHz<br>Band 16<br>QAM         | 25/0              | 826.5         | 7.55                 | 2.01                   | 19.71                       | 2.15                   | 23.1                                 | 204.174                             | Vertical                        | Pass           |
|                                  |                   | 836.5         | 7.15                 | 2.01                   | 19.77                       | 2.15                   | 22.76                                | 188.799                             | Vertical                        | Pass           |
|                                  |                   | 846.5         | 7.11                 | 2.02                   | 19.79                       | 2.15                   | 22.73                                | 187.499                             | Vertical                        | Pass           |
| 10.0MH<br>z Band<br>QPSK         | 50/0              | 829           | 7.05                 | 2.01                   | 19.73                       | 2.15                   | 22.62                                | 182.810                             | Vertical                        | Pass           |
|                                  |                   | 836.5         | 6.98                 | 2.01                   | 19.77                       | 2.15                   | 22.59                                | 181.552                             | Vertical                        | Pass           |
|                                  |                   | 844           | 6.82                 | 2.02                   | 19.78                       | 2.15                   | 22.43                                | 174.985                             | Vertical                        | Pass           |
| 10.0MH<br>z Band<br>16 QAM       | 50/0              | 829           | 6.97                 | 2.01                   | 19.73                       | 2.15                   | 22.54                                | 179.473                             | Vertical                        | Pass           |
|                                  |                   | 836.5         | 6.71                 | 2.01                   | 19.77                       | 2.15                   | 22.32                                | 170.608                             | Vertical                        | Pass           |
|                                  |                   | 844           | 6.96                 | 2.02                   | 19.78                       | 2.15                   | 22.57                                | 180.717                             | Vertical                        | Pass           |

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)



### 8.5 LTE BAND 7

| Radiated Power (EIRP) for Band 7 |                   |           |                          |                                |                          |                                      |                                     |                                 |            |
|----------------------------------|-------------------|-----------|--------------------------|--------------------------------|--------------------------|--------------------------------------|-------------------------------------|---------------------------------|------------|
| Mode                             | RB/<br>RB<br>SIZE | Frequency | Result                   |                                |                          |                                      |                                     |                                 | Conclusion |
|                                  |                   |           | SG<br>Level<br>(dBm<br>) | Cabl<br>e<br>Loss<br>(dBm<br>) | Antenn<br>a Gain<br>(dB) | Max.<br>EIRP<br>Averag<br>e<br>(dBm) | Max.<br>EIRP<br>Averag<br>e<br>(mW) | Polarizati<br>on Of<br>Max. ERP |            |
| 5.0MHz<br>Band<br>QPSK           | 25/0              | 2502.5    | -1.18                    | 4.54                           | 27.75                    | 22.03                                | 159.588                             | Horizontal                      | Pass       |
|                                  |                   | 2535      | -1.46                    | 4.69                           | 27.72                    | 21.57                                | 143.549                             | Horizontal                      | Pass       |
|                                  |                   | 2567.5    | -1.25                    | 4.71                           | 27.71                    | 21.75                                | 149.624                             | Horizontal                      | Pass       |
| 5.0MHz<br>Band 16<br>QAM         | 25/0              | 2502.5    | -2.02                    | 4.54                           | 27.75                    | 21.19                                | 131.522                             | Horizontal                      | Pass       |
|                                  |                   | 2535      | -1.15                    | 4.69                           | 27.72                    | 21.88                                | 154.170                             | Horizontal                      | Pass       |
|                                  |                   | 2567.5    | -1.02                    | 4.71                           | 27.71                    | 21.98                                | 157.761                             | Horizontal                      | Pass       |
| 10.0MH<br>z Band<br>QPSK         | 50/0              | 2505      | -1.27                    | 4.55                           | 27.76                    | 21.94                                | 156.315                             | Horizontal                      | Pass       |
|                                  |                   | 2535      | -1.46                    | 4.69                           | 27.72                    | 21.57                                | 143.549                             | Horizontal                      | Pass       |
|                                  |                   | 2565      | -0.89                    | 4.72                           | 27.7                     | 22.09                                | 161.808                             | Horizontal                      | Pass       |
| 10.0MH<br>z Band<br>16 QAM       | 50/0              | 2505      | -1.70                    | 4.55                           | 27.76                    | 21.51                                | 141.579                             | Horizontal                      | Pass       |
|                                  |                   | 2535      | -1.88                    | 4.69                           | 27.72                    | 21.15                                | 130.317                             | Horizontal                      | Pass       |
|                                  |                   | 2565      | -1.77                    | 4.72                           | 27.7                     | 21.21                                | 132.130                             | Horizontal                      | Pass       |
| 15.0MH<br>z Band<br>QPSK         | 75/0              | 2507.5    | -1.60                    | 4.55                           | 27.77                    | 21.62                                | 145.211                             | Horizontal                      | Pass       |
|                                  |                   | 2535      | -1.29                    | 4.69                           | 27.72                    | 21.74                                | 149.279                             | Horizontal                      | Pass       |
|                                  |                   | 2562.5    | -1.67                    | 4.72                           | 27.69                    | 21.3                                 | 134.896                             | Horizontal                      | Pass       |
| 15.0MH<br>z Band<br>16 QAM       | 75/0              | 2507.5    | -1.41                    | 4.55                           | 27.77                    | 21.81                                | 151.705                             | Horizontal                      | Pass       |
|                                  |                   | 2535      | -1.18                    | 4.69                           | 27.72                    | 21.85                                | 153.109                             | Horizontal                      | Pass       |
|                                  |                   | 2562.5    | -1.32                    | 4.72                           | 27.69                    | 21.65                                | 146.218                             | Horizontal                      | Pass       |
| 20.0MH<br>z Band<br>QPSK         | 100/0             | 2510      | -2.04                    | 4.57                           | 27.78                    | 21.17                                | 130.918                             | Horizontal                      | Pass       |
|                                  |                   | 2535      | -1.41                    | 4.73                           | 27.72                    | 21.58                                | 143.880                             | Horizontal                      | Pass       |
|                                  |                   | 2560      | -1.71                    | 4.75                           | 27.68                    | 21.22                                | 132.434                             | Horizontal                      | Pass       |
| 20.0MH<br>z Band<br>16 QAM       | 100/0             | 2510      | -1.71                    | 4.57                           | 27.78                    | 21.5                                 | 141.254                             | Horizontal                      | Pass       |
|                                  |                   | 2535      | -1.15                    | 4.73                           | 27.72                    | 21.84                                | 152.757                             | Horizontal                      | Pass       |
|                                  |                   | 2560      | -0.87                    | 4.75                           | 27.68                    | 22.06                                | 160.694                             | Horizontal                      | Pass       |

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

| Radiated Power (EIRP) for Band 7 |                   |           |                          |                                |                          |                                      |                                     |                                 |            |
|----------------------------------|-------------------|-----------|--------------------------|--------------------------------|--------------------------|--------------------------------------|-------------------------------------|---------------------------------|------------|
| Mode                             | RB/<br>RB<br>SIZE | Frequency | Result                   |                                |                          |                                      |                                     |                                 | Conclusion |
|                                  |                   |           | SG<br>Level<br>(dBm<br>) | Cabl<br>e<br>Loss<br>(dBm<br>) | Antenn<br>a Gain<br>(dB) | Max.<br>EIRP<br>Averag<br>e<br>(dBm) | Max.<br>EIRP<br>Averag<br>e<br>(mW) | Polarizati<br>on Of<br>Max. ERP |            |
| 5.0MHz<br>Band<br>QPSK           | 25/0              | 2502.5    | -1.51                    | 4.54                           | 27.75                    | 21.7                                 | 147.911                             | Vertical                        | Pass       |
|                                  |                   | 2535      | -1.37                    | 4.69                           | 27.72                    | 21.66                                | 146.555                             | Vertical                        | Pass       |
|                                  |                   | 2567.5    | -1.72                    | 4.71                           | 27.71                    | 21.28                                | 134.276                             | Vertical                        | Pass       |
| 5.0MHz<br>Band 16<br>QAM         | 25/0              | 2502.5    | -1.51                    | 4.54                           | 27.75                    | 21.7                                 | 147.911                             | Vertical                        | Pass       |
|                                  |                   | 2535      | -1.91                    | 4.69                           | 27.72                    | 21.12                                | 129.420                             | Vertical                        | Pass       |
|                                  |                   | 2567.5    | -1.32                    | 4.71                           | 27.71                    | 21.68                                | 147.231                             | Vertical                        | Pass       |
| 10.0MH<br>z Band<br>QPSK         | 50/0              | 2505      | -1.98                    | 4.55                           | 27.76                    | 21.23                                | 132.739                             | Vertical                        | Pass       |
|                                  |                   | 2535      | -1.68                    | 4.69                           | 27.72                    | 21.35                                | 136.458                             | Vertical                        | Pass       |
|                                  |                   | 2565      | -1.67                    | 4.72                           | 27.7                     | 21.31                                | 135.207                             | Vertical                        | Pass       |
| 10.0MH<br>z Band<br>16 QAM       | 50/0              | 2505      | -1.59                    | 4.55                           | 27.76                    | 21.62                                | 145.211                             | Vertical                        | Pass       |
|                                  |                   | 2535      | -1.12                    | 4.69                           | 27.72                    | 21.91                                | 155.239                             | Vertical                        | Pass       |
|                                  |                   | 2565      | -1.30                    | 4.72                           | 27.7                     | 21.68                                | 147.231                             | Vertical                        | Pass       |
| 15.0MH<br>z Band<br>QPSK         | 75/0              | 2507.5    | -1.54                    | 4.55                           | 27.77                    | 21.68                                | 147.231                             | Vertical                        | Pass       |
|                                  |                   | 2535      | -1.11                    | 4.69                           | 27.72                    | 21.92                                | 155.597                             | Vertical                        | Pass       |
|                                  |                   | 2562.5    | -1.43                    | 4.72                           | 27.69                    | 21.54                                | 142.561                             | Vertical                        | Pass       |
| 15.0MH<br>z Band<br>16 QAM       | 75/0              | 2507.5    | -1.29                    | 4.55                           | 27.77                    | 21.93                                | 155.955                             | Vertical                        | Pass       |
|                                  |                   | 2535      | -1.90                    | 4.69                           | 27.72                    | 21.13                                | 129.718                             | Vertical                        | Pass       |
|                                  |                   | 2562.5    | -1.56                    | 4.72                           | 27.69                    | 21.41                                | 138.357                             | Vertical                        | Pass       |
| 20.0MH<br>z Band<br>QPSK         | 100/<br>0         | 2510      | -1.78                    | 4.57                           | 27.78                    | 21.43                                | 138.995                             | Vertical                        | Pass       |
|                                  |                   | 2535      | -1.78                    | 4.73                           | 27.72                    | 21.21                                | 132.130                             | Vertical                        | Pass       |
|                                  |                   | 2560      | -1.29                    | 4.75                           | 27.68                    | 21.64                                | 145.881                             | Vertical                        | Pass       |
| 20.0MH<br>z Band<br>16 QAM       | 100/<br>0         | 2510      | -1.41                    | 4.57                           | 27.78                    | 21.8                                 | 151.356                             | Vertical                        | Pass       |
|                                  |                   | 2535      | -1.30                    | 4.73                           | 27.72                    | 21.69                                | 147.571                             | Vertical                        | Pass       |
|                                  |                   | 2560      | -1.08                    | 4.75                           | 27.68                    | 21.85                                | 153.109                             | Vertical                        | Pass       |

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

## 8.6 LTE BAND 12

| Radiated Power (EIRP) for Band 12 |                   |           |                      |                        |                         |                    |                                  |                                 |                                |            |
|-----------------------------------|-------------------|-----------|----------------------|------------------------|-------------------------|--------------------|----------------------------------|---------------------------------|--------------------------------|------------|
| Mode                              | RB/<br>RB<br>SIZE | Frequency | Result               |                        |                         |                    |                                  |                                 |                                | Conclusion |
|                                   |                   |           | SG<br>Level<br>(dBm) | Cable<br>Loss<br>(dBm) | Antenna<br>Gain<br>(dB) | Correction<br>(dB) | Max.<br>EIRP<br>Average<br>(dBm) | Max.<br>EIRP<br>Average<br>(mW) | Polarization<br>Of<br>Max. ERP |            |
| 1.4MHz<br>Band<br>QPSK            | 6/0               | 699.7     | 7.20                 | 1.91                   | 19.21                   | 2.15               | 22.35                            | 171.791                         | Horizontal                     | Pass       |
|                                   |                   | 707.5     | 7.57                 | 1.91                   | 19.26                   | 2.15               | 22.77                            | 189.234                         | Horizontal                     | Pass       |
|                                   |                   | 715.3     | 7.96                 | 1.93                   | 19.34                   | 2.15               | 23.22                            | 209.894                         | Horizontal                     | Pass       |
| 1.4MHz<br>Band 16<br>QAM          | 6/0               | 699.7     | 7.37                 | 1.91                   | 19.21                   | 2.15               | 22.52                            | 178.649                         | Horizontal                     | Pass       |
|                                   |                   | 707.5     | 6.95                 | 1.91                   | 19.26                   | 2.15               | 22.15                            | 164.059                         | Horizontal                     | Pass       |
|                                   |                   | 715.3     | 7.49                 | 1.93                   | 19.34                   | 2.15               | 22.75                            | 188.365                         | Horizontal                     | Pass       |
| 3.0MHz<br>Band<br>QPSK            | 15/0              | 700.5     | 7.91                 | 1.91                   | 19.21                   | 2.15               | 23.06                            | 202.302                         | Horizontal                     | Pass       |
|                                   |                   | 707.5     | 7.78                 | 1.91                   | 19.26                   | 2.15               | 22.98                            | 198.609                         | Horizontal                     | Pass       |
|                                   |                   | 714.5     | 7.35                 | 1.93                   | 19.34                   | 2.15               | 22.61                            | 182.390                         | Horizontal                     | Pass       |
| 3.0MHz<br>Band 16<br>QAM          | 15/0              | 700.5     | 7.61                 | 1.91                   | 19.21                   | 2.15               | 22.76                            | 188.799                         | Horizontal                     | Pass       |
|                                   |                   | 707.5     | 7.02                 | 1.91                   | 19.26                   | 2.15               | 22.22                            | 166.725                         | Horizontal                     | Pass       |
|                                   |                   | 714.5     | 7.30                 | 1.93                   | 19.34                   | 2.15               | 22.56                            | 180.302                         | Horizontal                     | Pass       |
| 5.0MHz<br>Band<br>QPSK            | 25/0              | 701.5     | 7.66                 | 1.91                   | 19.23                   | 2.15               | 22.83                            | 191.867                         | Horizontal                     | Pass       |
|                                   |                   | 707.5     | 7.54                 | 1.91                   | 19.26                   | 2.15               | 22.74                            | 187.932                         | Horizontal                     | Pass       |
|                                   |                   | 713.5     | 7.24                 | 1.92                   | 19.33                   | 2.15               | 22.5                             | 177.828                         | Horizontal                     | Pass       |
| 5.0MHz<br>Band 16<br>QAM          | 25/0              | 701.5     | 7.70                 | 1.91                   | 19.23                   | 2.15               | 22.87                            | 193.642                         | Horizontal                     | Pass       |
|                                   |                   | 707.5     | 7.54                 | 1.91                   | 19.26                   | 2.15               | 22.74                            | 187.932                         | Horizontal                     | Pass       |
|                                   |                   | 713.5     | 7.80                 | 1.92                   | 19.33                   | 2.15               | 23.06                            | 202.302                         | Horizontal                     | Pass       |
| 10.0MHz<br>z Band<br>QPSK         | 50/0              | 704       | 7.37                 | 1.91                   | 19.25                   | 2.15               | 22.56                            | 180.302                         | Horizontal                     | Pass       |
|                                   |                   | 707.5     | 7.65                 | 1.91                   | 19.26                   | 2.15               | 22.85                            | 192.752                         | Horizontal                     | Pass       |
|                                   |                   | 711       | 7.31                 | 1.92                   | 19.32                   | 2.15               | 22.56                            | 180.302                         | Horizontal                     | Pass       |
| 10.0MHz<br>z Band<br>16 QAM       | 50/0              | 704       | 7.12                 | 1.91                   | 19.25                   | 2.15               | 22.31                            | 170.216                         | Horizontal                     | Pass       |
|                                   |                   | 707.5     | 7.85                 | 1.91                   | 19.26                   | 2.15               | 23.05                            | 201.837                         | Horizontal                     | Pass       |
|                                   |                   | 711       | 7.24                 | 1.92                   | 19.32                   | 2.15               | 22.49                            | 177.419                         | Horizontal                     | Pass       |

| Radiated Power (EIRP) for Band 12 |                   |               |                      |                        |                             |                        |                                      |                                     |                                 |                |
|-----------------------------------|-------------------|---------------|----------------------|------------------------|-----------------------------|------------------------|--------------------------------------|-------------------------------------|---------------------------------|----------------|
| Mode                              | RB/<br>RB<br>SIZE | Freque<br>ncy | Result               |                        |                             |                        |                                      |                                     |                                 | Conclu<br>sion |
|                                   |                   |               | SG<br>Level<br>(dBm) | Cable<br>Loss<br>(dBm) | Anten<br>na<br>Gain<br>(dB) | Corre<br>ction<br>(dB) | Max.<br>EIRP<br>Averag<br>e<br>(dBm) | Max.<br>EIRP<br>Averag<br>e<br>(mW) | Polarizati<br>on Of<br>Max. ERP |                |
| 1.4MHz<br>Band<br>QPSK            | 6/0               | 699.7         | 7.10                 | 1.91                   | 19.21                       | 2.15                   | 22.25                                | 167.880                             | Vertical                        | Pass           |
|                                   |                   | 707.5         | 7.74                 | 1.91                   | 19.26                       | 2.15                   | 22.94                                | 196.789                             | Vertical                        | Pass           |
|                                   |                   | 715.3         | 7.60                 | 1.93                   | 19.34                       | 2.15                   | 22.86                                | 193.197                             | Vertical                        | Pass           |
| 1.4MHz<br>Band 16<br>QAM          | 6/0               | 699.7         | 7.19                 | 1.91                   | 19.21                       | 2.15                   | 22.34                                | 171.396                             | Vertical                        | Pass           |
|                                   |                   | 707.5         | 7.29                 | 1.91                   | 19.26                       | 2.15                   | 22.49                                | 177.419                             | Vertical                        | Pass           |
|                                   |                   | 715.3         | 7.12                 | 1.93                   | 19.34                       | 2.15                   | 22.38                                | 172.982                             | Vertical                        | Pass           |
| 3.0MHz<br>Band<br>QPSK            | 15/0              | 700.5         | 7.76                 | 1.91                   | 19.21                       | 2.15                   | 22.91                                | 195.434                             | Vertical                        | Pass           |
|                                   |                   | 707.5         | 7.42                 | 1.91                   | 19.26                       | 2.15                   | 22.62                                | 182.810                             | Vertical                        | Pass           |
|                                   |                   | 714.5         | 7.44                 | 1.93                   | 19.34                       | 2.15                   | 22.7                                 | 186.209                             | Vertical                        | Pass           |
| 3.0MHz<br>Band 16<br>QAM          | 15/0              | 700.5         | 7.11                 | 1.91                   | 19.21                       | 2.15                   | 22.26                                | 168.267                             | Vertical                        | Pass           |
|                                   |                   | 707.5         | 7.71                 | 1.91                   | 19.26                       | 2.15                   | 22.91                                | 195.434                             | Vertical                        | Pass           |
|                                   |                   | 714.5         | 7.10                 | 1.93                   | 19.34                       | 2.15                   | 22.36                                | 172.187                             | Vertical                        | Pass           |
| 5.0MHz<br>Band<br>QPSK            | 25/0              | 701.5         | 7.68                 | 1.91                   | 19.23                       | 2.15                   | 22.85                                | 192.752                             | Vertical                        | Pass           |
|                                   |                   | 707.5         | 7.58                 | 1.91                   | 19.26                       | 2.15                   | 22.78                                | 189.671                             | Vertical                        | Pass           |
|                                   |                   | 713.5         | 7.04                 | 1.92                   | 19.33                       | 2.15                   | 22.3                                 | 169.824                             | Vertical                        | Pass           |
| 5.0MHz<br>Band 16<br>QAM          | 25/0              | 701.5         | 7.37                 | 1.91                   | 19.23                       | 2.15                   | 22.54                                | 179.473                             | Vertical                        | Pass           |
|                                   |                   | 707.5         | 8.00                 | 1.91                   | 19.26                       | 2.15                   | 23.2                                 | 208.930                             | Vertical                        | Pass           |
|                                   |                   | 713.5         | 6.91                 | 1.92                   | 19.33                       | 2.15                   | 22.17                                | 164.816                             | Vertical                        | Pass           |
| 10.0MH<br>z Band<br>QPSK          | 50/0              | 704           | 7.87                 | 1.91                   | 19.25                       | 2.15                   | 23.06                                | 202.302                             | Vertical                        | Pass           |
|                                   |                   | 707.5         | 7.83                 | 1.91                   | 19.26                       | 2.15                   | 23.03                                | 200.909                             | Vertical                        | Pass           |
|                                   |                   | 711           | 7.62                 | 1.92                   | 19.32                       | 2.15                   | 22.87                                | 193.642                             | Vertical                        | Pass           |
| 10.0MH<br>z Band<br>16 QAM        | 50/0              | 704           | 7.79                 | 1.91                   | 19.25                       | 2.15                   | 22.98                                | 198.609                             | Vertical                        | Pass           |
|                                   |                   | 707.5         | 7.56                 | 1.91                   | 19.26                       | 2.15                   | 22.76                                | 188.799                             | Vertical                        | Pass           |
|                                   |                   | 711           | 7.76                 | 1.92                   | 19.32                       | 2.15                   | 23.01                                | 199.986                             | Vertical                        | Pass           |

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

## 8.7 LTE BAND 17

| Radiated Power (EIRP) for Band 17 |                   |           |                      |                        |                         |                    |                                  |                                 |                             |            |
|-----------------------------------|-------------------|-----------|----------------------|------------------------|-------------------------|--------------------|----------------------------------|---------------------------------|-----------------------------|------------|
| Mode                              | RB/<br>RB<br>SIZE | Frequency | Result               |                        |                         |                    |                                  |                                 |                             | Conclusion |
|                                   |                   |           | SG<br>Level<br>(dBm) | Cable<br>Loss<br>(dBm) | Antenna<br>Gain<br>(dB) | Correction<br>(dB) | Max.<br>EIRP<br>Average<br>(dBm) | Max.<br>EIRP<br>Average<br>(mW) | Polarization Of<br>Max. ERP |            |
| 5.0MHz<br>Band<br>QPSK            | 25/0              | 706.5     | 6.58                 | 1.91                   | 19.23                   | 2.15               | 21.75                            | 149.624                         | Horizontal                  | Pass       |
|                                   |                   | 710       | 6.46                 | 1.91                   | 19.26                   | 2.15               | 21.66                            | 146.555                         | Horizontal                  | Pass       |
|                                   |                   | 713.5     | 6.16                 | 1.92                   | 19.33                   | 2.15               | 21.42                            | 138.676                         | Horizontal                  | Pass       |
| 5.0MHz<br>Band 16<br>QAM          | 25/0              | 706.5     | 6.62                 | 1.91                   | 19.23                   | 2.15               | 21.79                            | 151.008                         | Horizontal                  | Pass       |
|                                   |                   | 710       | 6.46                 | 1.91                   | 19.26                   | 2.15               | 21.66                            | 146.555                         | Horizontal                  | Pass       |
|                                   |                   | 713.5     | 6.72                 | 1.92                   | 19.33                   | 2.15               | 21.98                            | 157.761                         | Horizontal                  | Pass       |
| 10.0MHz<br>z Band<br>QPSK         | 50/0              | 709       | 6.89                 | 1.91                   | 19.25                   | 2.15               | 22.08                            | 161.436                         | Horizontal                  | Pass       |
|                                   |                   | 710       | 6.57                 | 1.91                   | 19.26                   | 2.15               | 21.77                            | 150.314                         | Horizontal                  | Pass       |
|                                   |                   | 711       | 6.23                 | 1.92                   | 19.32                   | 2.15               | 21.48                            | 140.605                         | Horizontal                  | Pass       |
| 10.0MHz<br>z Band<br>16 QAM       | 50/0              | 709       | 7.04                 | 1.91                   | 19.25                   | 2.15               | 22.23                            | 167.109                         | Horizontal                  | Pass       |
|                                   |                   | 710       | 6.77                 | 1.91                   | 19.26                   | 2.15               | 21.97                            | 157.398                         | Horizontal                  | Pass       |
|                                   |                   | 711       | 6.16                 | 1.92                   | 19.32                   | 2.15               | 21.41                            | 138.357                         | Horizontal                  | Pass       |

| Radiated Power (EIRP) for Band 17 |                   |           |                      |                        |                         |                    |                                  |                                 |                                |            |
|-----------------------------------|-------------------|-----------|----------------------|------------------------|-------------------------|--------------------|----------------------------------|---------------------------------|--------------------------------|------------|
| Mode                              | RB/<br>RB<br>SIZE | Frequency | Result               |                        |                         |                    |                                  |                                 |                                | Conclusion |
|                                   |                   |           | SG<br>Level<br>(dBm) | Cable<br>Loss<br>(dBm) | Antenna<br>Gain<br>(dB) | Correction<br>(dB) | Max.<br>EIRP<br>Average<br>(dBm) | Max.<br>EIRP<br>Average<br>(mW) | Polarization<br>Of<br>Max. ERP |            |
| 5.0MHz<br>Band<br>QPSK            | 25/0              | 706.5     | 6.46                 | 1.91                   | 19.23                   | 2.15               | 21.63                            | 145.546                         | Vertical                       | Pass       |
|                                   |                   | 710       | 6.36                 | 1.91                   | 19.26                   | 2.15               | 21.56                            | 143.219                         | Vertical                       | Pass       |
|                                   |                   | 713.5     | 6.82                 | 1.92                   | 19.33                   | 2.15               | 22.08                            | 161.436                         | Vertical                       | Pass       |
| 5.0MHz<br>Band 16<br>QAM          | 25/0              | 706.5     | 6.15                 | 1.91                   | 19.23                   | 2.15               | 21.32                            | 135.519                         | Vertical                       | Pass       |
|                                   |                   | 710       | 6.78                 | 1.91                   | 19.26                   | 2.15               | 21.98                            | 157.761                         | Vertical                       | Pass       |
|                                   |                   | 713.5     | 6.69                 | 1.92                   | 19.33                   | 2.15               | 21.95                            | 156.675                         | Vertical                       | Pass       |
| 10.0MHz<br>Band<br>QPSK           | 50/0              | 709       | 6.65                 | 1.91                   | 19.25                   | 2.15               | 21.84                            | 152.757                         | Vertical                       | Pass       |
|                                   |                   | 710       | 6.61                 | 1.91                   | 19.26                   | 2.15               | 21.81                            | 151.705                         | Vertical                       | Pass       |
|                                   |                   | 711       | 6.40                 | 1.92                   | 19.32                   | 2.15               | 21.65                            | 146.218                         | Vertical                       | Pass       |
| 10.0MHz<br>Band<br>16 QAM         | 50/0              | 709       | 6.57                 | 1.91                   | 19.25                   | 2.15               | 21.76                            | 149.968                         | Vertical                       | Pass       |
|                                   |                   | 710       | 6.34                 | 1.91                   | 19.26                   | 2.15               | 21.54                            | 142.561                         | Vertical                       | Pass       |
|                                   |                   | 711       | 6.54                 | 1.92                   | 19.32                   | 2.15               | 21.79                            | 151.008                         | Vertical                       | Pass       |

Note:

SG Level= Signal generator output

Max. EIRP Average (dBm)= Antenna Gain(dB)+ SG Level (dBm)- Cable Loss(dBm)

## 9. 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  $43 + 10 \log_{10}(P)$  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  $43 + 10 \log_{10}(p)$ , dB; and
- b. for mobile subscriber equipment, the attenuation shall not be less than  $43 + 10 \log_{10}(p)$ , dB at the channel edges and  $55 + 10 \log_{10}(p)$  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 Band5  
LTE Band 7  
LTE Band 12  
LTE Band 17

**RESULTS**

PASS



## 9.1 LTE BAND 2

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

| Test Results for Low Channel 1710.7MHz  |               |                |                  |                     |             |             |            |
|-----------------------------------------|---------------|----------------|------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                          | SG Level(dBm) | Cable Loss(dB) | Antenna Gain(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 3701.4                                  | -53.15        | 4.04           | 33.51            | -23.68              | -13         | -10.68      | Horizontal |
| 3701.4                                  | -52.16        | 4.04           | 33.51            | -22.69              | -13         | -9.69       | Vertical   |
| 5552.1                                  | -53.27        | 5.24           | 35.84            | -22.67              | -13         | -9.67       | Vertical   |
| 5552.1                                  | -55.19        | 5.24           | 35.84            | -24.59              | -13         | -11.59      | Horizontal |
| Test Results for Mid Channel 1732.5MHz  |               |                |                  |                     |             |             |            |
| 3760                                    | -53.68        | 4.04           | 33.56            | -24.16              | -13         | -11.16      | Horizontal |
| 3760                                    | -52.14        | 4.04           | 33.56            | -22.62              | -13         | -9.62       | Vertical   |
| 5640                                    | -52.69        | 5.24           | 35.91            | -22.02              | -13         | -9.02       | Vertical   |
| 5640                                    | -53.11        | 5.24           | 35.91            | -22.44              | -13         | -9.44       | Horizontal |
| Test Results for High Channel 1754.3MHz |               |                |                  |                     |             |             |            |
| 3818.6                                  | -52.68        | 4.04           | 34               | -22.72              | -13         | -9.72       | Horizontal |
| 3818.6                                  | -54.26        | 4.04           | 34               | -24.30              | -13         | -11.30      | Vertical   |
| 5727.9                                  | -52.36        | 5.24           | 36.04            | -21.56              | -13         | -8.56       | Vertical   |
| 5727.9                                  | -53.44        | 5.24           | 36.04            | -22.64              | -13         | -9.64       | Horizontal |

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

| Test Results for Low Channel 1710.7MHz  |               |                |                  |                     |             |             |            |
|-----------------------------------------|---------------|----------------|------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                          | SG Level(dBm) | Cable Loss(dB) | Antenna Gain(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 3720                                    | -55.26        | 4.07           | 33.54            | -25.79              | -13         | -12.79      | Horizontal |
| 3720                                    | -51.36        | 4.07           | 33.54            | -21.89              | -13         | -8.89       | Vertical   |
| 5580                                    | -55.17        | 5.28           | 35.86            | -24.59              | -13         | -11.59      | Vertical   |
| 5580                                    | -53.64        | 5.28           | 35.86            | -23.06              | -13         | -10.06      | Horizontal |
| Test Results for Mid Channel 1732.5MHz  |               |                |                  |                     |             |             |            |
| 3760                                    | -52.69        | 4.04           | 33.56            | -23.17              | -13         | -10.17      | Horizontal |
| 3760                                    | -53.67        | 4.04           | 33.56            | -24.15              | -13         | -11.15      | Vertical   |
| 5640                                    | -52.55        | 5.24           | 35.91            | -21.88              | -13         | -8.88       | Vertical   |
| 5640                                    | -55.26        | 5.24           | 35.91            | -24.59              | -13         | -11.59      | Horizontal |
| Test Results for High Channel 1754.3MHz |               |                |                  |                     |             |             |            |
| 3800                                    | -54.68        | 4.04           | 34               | -24.72              | -13         | -11.72      | Horizontal |
| 3800                                    | -53.27        | 4.04           | 34               | -23.31              | -13         | -10.31      | Vertical   |
| 5700                                    | -56.59        | 5.24           | 36.04            | -25.79              | -13         | -12.79      | Vertical   |
| 5700                                    | -57.78        | 5.24           | 36.04            | -26.98              | -13         | -13.98      | Horizontal |

Note:  $P_{Mea}(dBm) = Power(dBm) + ARpl(dBm)$

. Over Limit =  $P_{Mea}(dBm) - Limit(dBm)$

. We test both H direction and V direction, recorded worst case direction.

## 9.2 LTE BAND 4

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

| Test Results for Low Channel 1710.7MHz  |               |                |                  |                     |             |             |            |
|-----------------------------------------|---------------|----------------|------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                          | SG Level(dBm) | Cable Loss(dB) | Antenna Gain(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 3421.4                                  | -54.22        | 4.02           | 29.8             | -28.44              | -13         | -15.44      | Horizontal |
| 3421.4                                  | -53.57        | 4.02           | 29.8             | -27.79              | -13         | -14.79      | Vertical   |
| 5132.1                                  | -54.45        | 5.24           | 35.84            | -23.85              | -13         | -10.85      | Vertical   |
| 5132.1                                  | -53.69        | 5.24           | 35.84            | -23.09              | -13         | -10.09      | Horizontal |
| Test Results for Mid Channel 1732.5MHz  |               |                |                  |                     |             |             |            |
| 3465                                    | -55.27        | 4.03           | 30               | -29.30              | -13         | -16.30      | Horizontal |
| 3465                                    | -53.26        | 4.03           | 30               | -27.29              | -13         | -14.29      | Vertical   |
| 5197.5                                  | -54.47        | 5.25           | 35.86            | -23.86              | -13         | -10.86      | Vertical   |
| 5197.5                                  | -53.66        | 5.25           | 35.86            | -23.05              | -13         | -10.05      | Horizontal |
| Test Results for High Channel 1754.3MHz |               |                |                  |                     |             |             |            |
| 3508.6                                  | -54.48        | 4.05           | 30.01            | -28.52              | -13         | -15.52      | Horizontal |
| 3508.6                                  | -55.64        | 4.05           | 30.01            | -29.68              | -13         | -16.68      | Vertical   |
| 5262.9                                  | -56.62        | 5.26           | 35.86            | -26.02              | -13         | -13.02      | Vertical   |
| 5262.9                                  | -54.15        | 5.26           | 35.86            | -23.55              | -13         | -10.55      | Horizontal |

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

| Test Results for Low Channel 1710.7MHz  |               |                |                  |                     |             |             |            |
|-----------------------------------------|---------------|----------------|------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                          | SG Level(dBm) | Cable Loss(dB) | Antenna Gain(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 3440                                    | -54.25        | 4.02           | 29.8             | -28.47              | -13         | -15.47      | Horizontal |
| 3440                                    | -53.64        | 4.02           | 29.8             | -27.86              | -13         | -14.86      | Vertical   |
| 5160                                    | -56.58        | 5.24           | 35.84            | -25.98              | -13         | -12.98      | Vertical   |
| 5160                                    | -55.87        | 5.24           | 35.84            | -25.27              | -13         | -12.27      | Horizontal |
| Test Results for Mid Channel 1732.5MHz  |               |                |                  |                     |             |             |            |
| 3465                                    | -53.54        | 4.03           | 30               | -27.57              | -13         | -14.57      | Horizontal |
| 3465                                    | -55.27        | 4.03           | 30               | -29.30              | -13         | -16.30      | Vertical   |
| 5197.5                                  | -56.28        | 5.25           | 35.86            | -25.67              | -13         | -12.67      | Vertical   |
| 5197.5                                  | -57.62        | 5.25           | 35.86            | -27.01              | -13         | -14.01      | Horizontal |
| Test Results for High Channel 1754.3MHz |               |                |                  |                     |             |             |            |
| 2490                                    | -56.01        | 2.91           | 27.68            | -31.24              | -13         | -18.24      | Horizontal |
| 3490                                    | -55.27        | 2.91           | 27.68            | -30.50              | -13         | -17.50      | Vertical   |
| 5235                                    | -57.94        | 5.26           | 35.86            | -27.34              | -13         | -14.34      | Vertical   |
| 5235                                    | -56.62        | 5.26           | 35.86            | -26.02              | -13         | -13.02      | Horizontal |

Note: P<sub>Mea</sub>(dBm)= Power(dBm)+ AR<sub>pl</sub> (dBm)

. Over Limit= : P<sub>Mea</sub>(dBm)-Limit(dBm)

. We test both H direction and V direction, recorded worst case direction.

### 9.3 LTE BAND 5

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

| Test Results for Low Channel 824.7MHz  |               |                |                  |                     |             |             |            |
|----------------------------------------|---------------|----------------|------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                         | SG Level(dBm) | Cable Loss(dB) | Antenna Gain(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1649.4                                 | -53.27        | 2.78           | 27.5             | -28.55              | -13         | -15.55      | Horizontal |
| 1649.4                                 | -53.28        | 2.78           | 27.5             | -28.56              | -13         | -15.56      | Vertical   |
| 2474.1                                 | -54.91        | 2.9            | 27.8             | -30.01              | -13         | -17.01      | Vertical   |
| 2474.1                                 | -53.25        | 2.9            | 27.8             | -28.35              | -13         | -15.35      | Horizontal |
| Test Results For Mid Channel 836.5MHz  |               |                |                  |                     |             |             |            |
| 1673                                   | -53.22        | 2.8            | 27.48            | -28.54              | -13         | -15.54      | Horizontal |
| 1673                                   | -53.27        | 2.8            | 27.48            | -28.59              | -13         | -15.59      | Vertical   |
| 2509.5                                 | -52.27        | 2.91           | 27.7             | -27.48              | -13         | -14.48      | Vertical   |
| 2509.5                                 | -53.74        | 2.91           | 27.7             | -28.95              | -13         | -15.95      | Horizontal |
| Test Results for High Channel 848.3MHz |               |                |                  |                     |             |             |            |
| 1696.6                                 | -53.68        | 2.82           | 27.43            | -29.07              | -13         | -16.07      | Horizontal |
| 1696.6                                 | -55.27        | 2.82           | 27.43            | -30.66              | -13         | -17.66      | Vertical   |
| 2544.9                                 | -52.61        | 2.92           | 27.74            | -27.79              | -13         | -14.79      | Vertical   |
| 2544.9                                 | -53.95        | 2.92           | 27.74            | -29.13              | -13         | -16.13      | Horizontal |

#### QPSK EIRP POWER FOR LTE BAND 5 (10MHZ BANDWIDTH)

| Test Results for Low Channel 824.7MHz  |               |                |                  |                     |             |             |            |
|----------------------------------------|---------------|----------------|------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                         | SG Level(dBm) | Cable Loss(dB) | Antenna Gain(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1658                                   | -54.74        | 2.78           | 27.5             | -30.02              | -13         | -17.02      | Horizontal |
| 1658                                   | -55.27        | 2.78           | 27.5             | -30.55              | -13         | -17.55      | Vertical   |
| 2487                                   | -54.18        | 2.9            | 27.8             | -29.28              | -13         | -16.28      | Vertical   |
| 2487                                   | -55.62        | 2.9            | 27.8             | -30.72              | -13         | -17.72      | Horizontal |
| Test Results For Mid Channel 836.5MHz  |               |                |                  |                     |             |             |            |
| 1673                                   | -53.27        | 2.8            | 27.48            | -28.59              | -13         | -15.59      | Horizontal |
| 1673                                   | -53.58        | 2.8            | 27.48            | -28.90              | -13         | -15.90      | Vertical   |
| 2509.5                                 | -54.02        | 2.91           | 27.7             | -29.23              | -13         | -16.23      | Vertical   |
| 2509.5                                 | -52.67        | 2.91           | 27.7             | -27.88              | -13         | -14.88      | Horizontal |
| Test Results for High Channel 848.3MHz |               |                |                  |                     |             |             |            |
| 1688                                   | -54.29        | 2.82           | 27.43            | -29.68              | -13         | -16.68      | Horizontal |
| 1688                                   | -53.24        | 2.82           | 27.43            | -28.63              | -13         | -15.63      | Vertical   |
| 2532                                   | -52.65        | 2.92           | 27.74            | -27.83              | -13         | -14.83      | Vertical   |
| 2532                                   | -53.67        | 2.92           | 27.74            | -28.85              | -13         | -15.85      | Horizontal |

Note:  $P_{Mea}(dBm) = Power(dBm) + AR_{pl}(dBm)$

Over Limit =  $P_{Mea}(dBm) - Limit(dBm)$

We test both H direction and V direction, recorded worst case direction.

#### 9.4 LTE BAND 7

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

| Test Results for Low Channel 1710.7MHz  |               |                |                  |                     |             |             |            |
|-----------------------------------------|---------------|----------------|------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                          | SG Level(dBm) | Cable Loss(dB) | Antenna Gain(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 5005                                    | -54.28        | 5.23           | 35.81            | -23.70              | -13         | -10.70      | Horizontal |
| 5005                                    | -55.37        | 5.23           | 35.81            | -24.79              | -13         | -11.79      | Vertical   |
| 7507.5                                  | -57.46        | 5.67           | 36.85            | -26.28              | -13         | -13.28      | Vertical   |
| 7507.5                                  | -56.95        | 5.67           | 36.85            | -25.77              | -13         | -12.77      | Horizontal |
| Test Results for Mid Channel 1732.5MHz  |               |                |                  |                     |             |             |            |
| 5070                                    | -54.41        | 5.23           | 35.82            | -23.82              | -13         | -10.82      | Horizontal |
| 5070                                    | -55.37        | 5.23           | 35.82            | -24.78              | -13         | -11.78      | Vertical   |
| 7605                                    | -54.84        | 5.67           | 36.85            | -23.66              | -13         | -10.66      | Vertical   |
| 7605                                    | -56.97        | 5.67           | 36.85            | -25.79              | -13         | -12.79      | Horizontal |
| Test Results for High Channel 1754.3MHz |               |                |                  |                     |             |             |            |
| 5135                                    | -55.24        | 5.24           | 35.83            | -24.65              | -13         | -11.65      | Horizontal |
| 5135                                    | -53.95        | 5.24           | 35.83            | -23.36              | -13         | -10.36      | Vertical   |
| 7702.5                                  | -52.31        | 5.68           | 36.87            | -21.12              | -13         | -8.12       | Vertical   |
| 7702.5                                  | -56.69        | 5.68           | 36.87            | -25.50              | -13         | -12.50      | Horizontal |

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

| Test Results for Low Channel 1710.7MHz  |               |                |                  |                     |             |             |            |
|-----------------------------------------|---------------|----------------|------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                          | SG Level(dBm) | Cable Loss(dB) | Antenna Gain(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 5020                                    | -54.68        | 5.23           | 35.82            | -24.09              | -13         | -11.09      | Horizontal |
| 5020                                    | -56.94        | 5.23           | 35.82            | -26.35              | -13         | -13.35      | Vertical   |
| 7530                                    | -56.18        | 5.67           | 36.86            | -24.99              | -13         | -11.99      | Vertical   |
| 7530                                    | -54.37        | 5.67           | 36.86            | -23.18              | -13         | -10.18      | Horizontal |
| Test Results for Mid Channel 1732.5MHz  |               |                |                  |                     |             |             |            |
| 5070                                    | -55.06        | 5.23           | 35.82            | -24.47              | -13         | -11.47      | Horizontal |
| 5070                                    | -53.28        | 5.23           | 35.82            | -22.69              | -13         | -9.69       | Vertical   |
| 7605                                    | -55.59        | 5.67           | 36.85            | -24.41              | -13         | -11.41      | Vertical   |
| 7605                                    | -56.64        | 5.67           | 36.85            | -25.46              | -13         | -12.46      | Horizontal |
| Test Results for High Channel 1754.3MHz |               |                |                  |                     |             |             |            |
| 5120                                    | -52.85        | 5.24           | 35.83            | -22.26              | -13         | -9.26       | Horizontal |

|      |        |      |       |        |     |        |            |
|------|--------|------|-------|--------|-----|--------|------------|
| 5120 | -53.27 | 5.24 | 35.83 | -22.68 | -13 | -9.68  | Vertical   |
| 7680 | -56.95 | 5.7  | 36.88 | -25.77 | -13 | -12.77 | Vertical   |
| 7680 | -53.68 | 5.7  | 36.88 | -22.50 | -13 | -9.50  | Horizontal |

Note: P<sub>Mea</sub>(dBm)= Power(dBm)+ AR<sub>pl</sub> (dBm)

Over Limit= : P<sub>Mea</sub>(dBm)-Limit(dBm)

We test both H direction and V direction, recorded worst case direction.

## 9.5 LTE BAND 12

### QPSK EIRP POWER FOR LTE BAND 12 (1.4MHZ BANDWIDTH)

| Test Results for Low Channel 699.7MHz  |               |                |                  |                     |             |             |            |
|----------------------------------------|---------------|----------------|------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                         | SG Level(dBm) | Cable Loss(dB) | Antenna Gain(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1399.4                                 | -52.69        | 2.6            | 27.2             | -28.09              | -13         | -15.09      | Horizontal |
| 1399.4                                 | -53.29        | 2.6            | 27.2             | -28.69              | -13         | -15.69      | Vertical   |
| 2099.1                                 | -54.44        | 2.85           | 27.54            | -29.75              | -13         | -16.75      | Vertical   |
| 2099.1                                 | -52.87        | 2.85           | 27.54            | -28.18              | -13         | -15.18      | Horizontal |
| Test Results For Mid Channel 707.5MHz  |               |                |                  |                     |             |             |            |
| 1415                                   | -53.26        | 2.61           | 27.28            | -28.59              | -13         | -15.59      | Horizontal |
| 1415                                   | -52.37        | 2.61           | 27.28            | -27.70              | -13         | -14.70      | Vertical   |
| 2122.5                                 | -52.91        | 2.87           | 27.59            | -28.19              | -13         | -15.19      | Vertical   |
| 2122.5                                 | -54.25        | 2.87           | 27.59            | -29.53              | -13         | -16.53      | Horizontal |
| Test Results for High Channel 715.3MHz |               |                |                  |                     |             |             |            |
| 1430.6                                 | -53.64        | 2.63           | 27.28            | -28.99              | -13         | -15.99      | Horizontal |
| 1430.6                                 | -53.26        | 2.63           | 27.28            | -28.61              | -13         | -15.61      | Vertical   |
| 2145.9                                 | -52.98        | 2.88           | 27.6             | -28.26              | -13         | -15.26      | Vertical   |
| 2145.9                                 | -52.33        | 2.88           | 27.6             | -27.61              | -13         | -14.61      | Horizontal |

### QPSK EIRP POWER FOR LTE BAND 12 (10MHZ BANDWIDTH)

| Test Results for Low Channel 704MHz   |               |                |                  |                     |             |             |            |
|---------------------------------------|---------------|----------------|------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                        | SG Level(dBm) | Cable Loss(dB) | Antenna Gain(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1408                                  | -52.47        | 2.61           | 27.26            | -27.82              | -13         | -14.82      | Horizontal |
| 1408                                  | -52.22        | 2.61           | 27.26            | -27.57              | -13         | -14.57      | Vertical   |
| 2112                                  | -53.56        | 2.87           | 27.58            | -28.85              | -13         | -15.85      | Vertical   |
| 2112                                  | -53.58        | 2.87           | 27.58            | -28.87              | -13         | -15.87      | Horizontal |
| Test Results for Mid Channel 707.5MHz |               |                |                  |                     |             |             |            |
| 1415                                  | -53.64        | 2.61           | 27.28            | -28.97              | -13         | -15.97      | Horizontal |
| 1415                                  | -53.29        | 2.61           | 27.28            | -28.62              | -13         | -15.62      | Vertical   |
| 2122.5                                | -54.27        | 2.87           | 27.59            | -29.55              | -13         | -16.55      | Vertical   |

|                                             |        |      |       |        |     |        |            |
|---------------------------------------------|--------|------|-------|--------|-----|--------|------------|
| 2122.5                                      | -53.26 | 2.87 | 27.59 | -28.54 | -13 | -15.54 | Horizontal |
| <b>Test Results for High Channel 711MHz</b> |        |      |       |        |     |        |            |
| 1422                                        | -55.26 | 2.62 | 27.28 | -30.60 | -13 | -17.60 | Horizontal |
| 1422                                        | -52.32 | 2.62 | 27.28 | -27.66 | -13 | -14.66 | Vertical   |
| 2133                                        | -54.14 | 2.87 | 27.60 | -29.41 | -13 | -16.41 | Vertical   |
| 2133                                        | -53.62 | 2.87 | 27.60 | -28.89 | -13 | -15.89 | Horizontal |

Note: P<sub>Mea</sub>(dBm)= Power(dBm)+ AR<sub>pl</sub> (dBm)

. Over Limit= : P<sub>Mea</sub>(dBm)-Limit(dBm)

. We test both H direction and V direction, recorded worst case direction.

## 9.6 LTE BAND 17

### QPSK EIRP POWER FOR LTE BAND 17 (5MHZ BANDWIDTH)

| <b>Test Results for Low Channel 706.5MHz</b>  |               |                |                  |                     |             |             |            |
|-----------------------------------------------|---------------|----------------|------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                                | SG Level(dBm) | Cable Loss(dB) | Antenna Gain(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1413                                          | -50.26        | 2.61           | 27.28            | -25.59              | -13         | -12.59      | Horizontal |
| 1413                                          | -52.36        | 2.61           | 27.28            | -27.69              | -13         | -14.69      | Vertical   |
| 2119.5                                        | -52.64        | 2.87           | 27.59            | -27.92              | -13         | -14.92      | Vertical   |
| 2119.5                                        | -51.98        | 2.87           | 27.59            | -27.26              | -13         | -14.26      | Horizontal |
| <b>Test Results For Mid Channel 710MHz</b>    |               |                |                  |                     |             |             |            |
| 1420                                          | -51.22        | 2.62           | 27.3             | -26.54              | -13         | -13.54      | Horizontal |
| 1420                                          | -51.74        | 2.62           | 27.3             | -27.06              | -13         | -14.06      | Vertical   |
| 2130                                          | -52.33        | 2.87           | 27.62            | -27.58              | -13         | -14.58      | Vertical   |
| 2130                                          | -53.26        | 2.87           | 27.62            | -28.51              | -13         | -15.51      | Horizontal |
| <b>Test Results for High Channel 713.5MHz</b> |               |                |                  |                     |             |             |            |
| 1427                                          | -53.27        | 2.66           | 27.28            | -28.65              | -13         | -15.65      | Horizontal |
| 1427                                          | -52.47        | 2.66           | 27.28            | -27.85              | -13         | -14.85      | Vertical   |
| 2140.5                                        | -53.26        | 2.88           | 27.6             | -28.54              | -13         | -15.54      | Vertical   |
| 2140.5                                        | -52.68        | 2.88           | 27.6             | -27.96              | -13         | -14.96      | Horizontal |

### QPSK EIRP POWER FOR LTE BAND 17 (10MHZ BANDWIDTH)

| Test Results for Low Channel 709MHz  |               |                |                  |                     |             |             |            |
|--------------------------------------|---------------|----------------|------------------|---------------------|-------------|-------------|------------|
| Frequency(MHz)                       | SG Level(dBm) | Cable Loss(dB) | Antenna Gain(dB) | Absolute Level(dBm) | Limit (dBm) | Margin(dBm) | Polarity   |
| 1418                                 | -53.24        | 2.62           | 27.3             | -28.56              | -13         | -15.56      | Horizontal |
| 1418                                 | -52.26        | 2.62           | 27.3             | -27.58              | -13         | -14.58      | Vertical   |
| 2127                                 | -53.34        | 2.87           | 27.62            | -28.59              | -13         | -15.59      | Vertical   |
| 2127                                 | -54.49        | 2.87           | 27.62            | -29.74              | -13         | -16.74      | Horizontal |
| Test Results for Mid Channel 710MHz  |               |                |                  |                     |             |             |            |
| 1420                                 | -52.55        | 2.62           | 27.3             | -27.87              | -13         | -14.87      | Horizontal |
| 1420                                 | -52.65        | 2.62           | 27.3             | -27.97              | -13         | -14.97      | Vertical   |
| 2130                                 | -55.27        | 2.87           | 27.62            | -30.52              | -13         | -17.52      | Vertical   |
| 2130                                 | -53.26        | 2.87           | 27.62            | -28.51              | -13         | -15.51      | Horizontal |
| Test Results for High Channel 711MHz |               |                |                  |                     |             |             |            |
| 1422                                 | -51.33        | 2.62           | 27.3             | -26.65              | -13         | -13.65      | Horizontal |
| 1422                                 | -51.23        | 2.62           | 27.3             | -26.55              | -13         | -13.55      | Vertical   |
| 2133                                 | -52.24        | 2.87           | 27.62            | -27.49              | -13         | -14.49      | Vertical   |
| 2133                                 | -53.34        | 2.87           | 27.62            | -28.59              | -13         | -15.59      | Horizontal |

Note:  $P_{Mea}(dBm) = Power(dBm) + ARpl(dBm)$

. Over Limit =  $P_{Mea}(dBm) - Limit(dBm)$

. We test both H direction and V direction, recorded worst case direction.



## 10. 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  $\pm 2.5$  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. =  $-30^{\circ}$  to  $+50^{\circ}\text{C}$
- ☐ Voltage = low voltage, DC 3.66V, Normal, DC 3.85V and High voltage, DC 4.43V.

### Frequency Stability vs Temperature:

The EUT is placed inside a temperature chamber. The temperature is set to  $-30^{\circ}\text{C}$  and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until  $+50^{\circ}\text{C}$  is reached.

### Frequency Stability vs Voltage:

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

### MODES TESTED

- ☐ LTE Band 2  
LTE Band 4
- ☐ LTE Band 5  
LTE Band 7  
LTE Band 12  
LTE Band 17

### RESULTS

See the following pages.

## 10.1 LTE BAND 2

### QPSK, (20MHz BANDWIDTH)

#### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                       | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 2 QPSK, (CH 18900 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.6                                                                    | 1880               | 7                       | 0.003723                | 2.5            |
| 3.8                                                                    | 1880               | -7.3                    | -0.003883               | 2.5            |
| 4.4                                                                    | 1880               | 8.5                     | 0.004521                | 2.5            |

#### Frequency error vs. Temperature

| Temperature<br>[° C]                                                   | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 2 QPSK, (CH 18900 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                           | 1880               | -6.3                    | -0.003351               | 2.5            |
| Extreme (50C)                                                          | 1880               | -5                      | -0.002660               | 2.5            |
| Extreme (40C)                                                          | 1880               | -9                      | -0.004787               | 2.5            |
| Extreme (30C)                                                          | 1880               | 5                       | 0.002660                | 2.5            |
| Extreme (10C)                                                          | 1880               | 8                       | 0.004255                | 2.5            |
| Extreme (0C)                                                           | 1880               | 11                      | 0.005851                | 2.5            |
| Extreme (-10C)                                                         | 1880               | 14                      | 0.007447                | 2.5            |
| Extreme (-20C)                                                         | 1880               | 6.3                     | 0.003351                | 2.5            |
| Extreme (-30C)                                                         | 1880               | 6.7                     | 0.003564                | 2.5            |

### 16QAM, (20MHz BANDWIDTH)

#### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                        | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 2 16QAM, (CH 18900 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.6                                                                     | 1880               | 8                       | 0.004255                | 2.5            |
| 3.8                                                                     | 1880               | -6.5                    | -0.003457               | 2.5            |
| 4.4                                                                     | 1880               | 7                       | 0.003723                | 2.5            |

### Frequency error vs. Temperature

| Temperature<br>[° C]                                                    | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 2 16QAM, (CH 18900 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                            | 1880               | 7.4                     | 0.003936                | 2.5            |
| Extreme (50C)                                                           | 1880               | 6.6                     | 0.003511                | 2.5            |
| Extreme (40C)                                                           | 1880               | -8.5                    | -0.004521               | 2.5            |
| Extreme (30C)                                                           | 1880               | -11                     | -0.005851               | 2.5            |
| Extreme (10C)                                                           | 1880               | -10.2                   | -0.005426               | 2.5            |
| Extreme (0C)                                                            | 1880               | 5.3                     | 0.002819                | 2.5            |
| Extreme (-10C)                                                          | 1880               | 4                       | 0.002128                | 2.5            |
| Extreme (-20C)                                                          | 1880               | 8                       | 0.004255                | 2.5            |
| Extreme (-30C)                                                          | 1880               | 7                       | 0.003723                | 2.5            |

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

## 10.2 LTE BAND 4

### QPSK, (10MHz BANDWIDTH)

#### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                       | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 4 QPSK, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.6                                                                    | 1732.5             | -4.2                    | -0.002424               | 2.5            |
| 3.8                                                                    | 1732.5             | -4.4                    | -0.002540               | 2.5            |
| 4.4                                                                    | 1732.5             | -5.2                    | -0.003001               | 2.5            |

#### Frequency error vs. Temperature

| Temperature<br>[°C]                                                    | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 4 QPSK, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                           | 1732.5             | 6                       | 0.003463                | 2.5            |
| Extreme (50C)                                                          | 1732.5             | -4.1                    | -0.002367               | 2.5            |
| Extreme (40C)                                                          | 1732.5             | -3.9                    | -0.002251               | 2.5            |
| Extreme (30C)                                                          | 1732.5             | -3                      | -0.001732               | 2.5            |
| Extreme (10C)                                                          | 1732.5             | -2.8                    | -0.001616               | 2.5            |
| Extreme (0C)                                                           | 1732.5             | 5                       | 0.002886                | 2.5            |
| Extreme (-10C)                                                         | 1732.5             | 5.1                     | 0.002944                | 2.5            |
| Extreme (-20C)                                                         | 1732.5             | 3.3                     | 0.001905                | 2.5            |
| Extreme (-30C)                                                         | 1732.5             | 3                       | 0.001732                | 2.5            |

### 16QAM, (20MHz BANDWIDTH)

#### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                        | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 4 16QAM, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.6                                                                     | 1732.5             | -4.8                    | -0.002771               | 2.5            |
| 3.8                                                                     | 1732.5             | -5.1                    | -0.002944               | 2.5            |
| 4.4                                                                     | 1732.5             | -6                      | -0.003463               | 2.5            |

### Frequency error vs. Temperature

| Temperature<br>[°C]                                                     | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 4 16QAM, (CH 20175 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                            | 1732.5             | 3                       | 0.001732                | 2.5            |
| Extreme (50C)                                                           | 1732.5             | 4.5                     | 0.002597                | 2.5            |
| Extreme (40C)                                                           | 1732.5             | 6.9                     | 0.003983                | 2.5            |
| Extreme (30C)                                                           | 1732.5             | -5.4                    | -0.003117               | 2.5            |
| Extreme (10C)                                                           | 1732.5             | -7                      | -0.004040               | 2.5            |
| Extreme (0C)                                                            | 1732.5             | 6.8                     | 0.003925                | 2.5            |
| Extreme (-10C)                                                          | 1732.5             | 6                       | 0.003463                | 2.5            |
| Extreme (-20C)                                                          | 1732.5             | -10                     | -0.005772               | 2.5            |
| Extreme (-30C)                                                          | 1732.5             | -9.8                    | -0.005657               | 2.5            |

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

### 10.3 LTE BAND 5

#### QPSK, (10MHz BANDWIDTH)

##### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                      | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-----------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 5 QPSK, (CH 20525 RB size 50 RB Offset 0 10MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.6                                                                   | 836.5              | -2.1                    | -0.002510               | 2.5            |
| 3.8                                                                   | 836.5              | -5.6                    | -0.006695               | 2.5            |
| 4.4                                                                   | 836.5              | -3.6                    | -0.004304               | 2.5            |

##### Frequency error vs. Temperature

| Temperature<br>[° C]                                                  | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-----------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 5 QPSK, (CH 20525 RB size 50 RB Offset 0 10MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                          | 836.5              | -2                      | -0.002391               | 2.5            |
| Extreme (50C)                                                         | 836.5              | -2.4                    | -0.002869               | 2.5            |
| Extreme (40C)                                                         | 836.5              | -3.1                    | -0.003706               | 2.5            |
| Extreme (30C)                                                         | 836.5              | -5.9                    | -0.007053               | 2.5            |
| Extreme (10C)                                                         | 836.5              | -6                      | -0.007173               | 2.5            |
| Extreme (0C)                                                          | 836.5              | 5.5                     | 0.006575                | 2.5            |
| Extreme (-10C)                                                        | 836.5              | 4                       | 0.004782                | 2.5            |
| Extreme (-20C)                                                        | 836.5              | 6.6                     | 0.007890                | 2.5            |
| Extreme (-30C)                                                        | 836.5              | 4.8                     | 0.005738                | 2.5            |

#### 16QAM, (10MHz BANDWIDTH)

##### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                       | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 5 16QAM, (CH 20525 RB size 50 RB Offset 0 10MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.6                                                                    | 836.5              | -3.6                    | -0.004304               | 2.5            |
| 3.8                                                                    | 836.5              | -4.4                    | -0.005260               | 2.5            |
| 4.4                                                                    | 836.5              | 5.8                     | 0.006934                | 2.5            |

### Frequency error vs. Temperature

| Temperature<br>[° C]                                                   | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 5 16QAM, (CH 20525 RB size 50 RB Offset 0 10MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                           | 836.5              | -4.1                    | -0.004901               | 2.5            |
| Extreme (50C)                                                          | 836.5              | -4.7                    | -0.005619               | 2.5            |
| Extreme (40C)                                                          | 836.5              | -5.2                    | -0.006216               | 2.5            |
| Extreme (30C)                                                          | 836.5              | 6.9                     | 0.008249                | 2.5            |
| Extreme (10C)                                                          | 836.5              | 7.5                     | 0.008966                | 2.5            |
| Extreme (0C)                                                           | 836.5              | 4.3                     | 0.005140                | 2.5            |
| Extreme (-10C)                                                         | 836.5              | 2.8                     | 0.003347                | 2.5            |
| Extreme (-20C)                                                         | 836.5              | 3.3                     | 0.003945                | 2.5            |
| Extreme (-30C)                                                         | 836.5              | 3.4                     | 0.004065                | 2.5            |

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

### 10.4 LTE BAND 7

#### QPSK, (20MHz BANDWIDTH)

### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                       | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 7 QPSK, (CH 21100 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.6                                                                    | 2535               | 9.7                     | 0.003826                | 2.5            |
| 3.8                                                                    | 2535               | 5.1                     | 0.002012                | 2.5            |
| 4.4                                                                    | 2535               | 10                      | 0.003945                | 2.5            |

### Frequency error vs. Temperature

| Temperature<br>[° C]                                                   | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 7 QPSK, (CH 21100 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                           | 2535               | -7.7                    | -0.003037               | 2.5            |
| Extreme (50C)                                                          | 2535               | -10.2                   | -0.004024               | 2.5            |
| Extreme (40C)                                                          | 2535               | 11                      | 0.004339                | 2.5            |
| Extreme (30C)                                                          | 2535               | 11.4                    | 0.004497                | 2.5            |
| Extreme (10C)                                                          | 2535               | 5.8                     | 0.002288                | 2.5            |

|                |      |     |          |     |
|----------------|------|-----|----------|-----|
| Extreme (0C)   | 2535 | 6.6 | 0.002604 | 2.5 |
| Extreme (-10C) | 2535 | 7.3 | 0.002880 | 2.5 |
| Extreme (-20C) | 2535 | 9   | 0.003550 | 2.5 |
| Extreme (-30C) | 2535 | 8.9 | 0.003511 | 2.5 |

#### 16QAM, (20MHz BANDWIDTH)

##### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                        | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 7 16QAM, (CH 21100 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.6                                                                     | 2535               | -8.6                    | -0.003393               | 2.5            |
| 3.8                                                                     | 2535               | -7                      | -0.002761               | 2.5            |
| 4.4                                                                     | 2535               | 7.4                     | 0.002919                | 2.5            |

##### Frequency error vs. Temperature

| Temperature<br>[° C]                                                    | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 7 16QAM, (CH 21100 RB size 100 RB Offset 0 20MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                            | 2535               | 8                       | 0.003156                | 2.5            |
| Extreme (50C)                                                           | 2535               | -4.5                    | -0.001775               | 2.5            |
| Extreme (40C)                                                           | 2535               | -6.5                    | -0.002564               | 2.5            |
| Extreme (30C)                                                           | 2535               | -8.7                    | -0.003432               | 2.5            |
| Extreme (10C)                                                           | 2535               | -10.3                   | -0.004063               | 2.5            |
| Extreme (0C)                                                            | 2535               | 8.8                     | 0.003471                | 2.5            |
| Extreme (-10C)                                                          | 2535               | 7.9                     | 0.003116                | 2.5            |
| Extreme (-20C)                                                          | 2535               | 7.6                     | 0.002998                | 2.5            |
| Extreme (-30C)                                                          | 2535               | -9.1                    | -0.003590               | 2.5            |

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



# 10.5 LTE BAND 12

## QPSK, (10MHz BANDWIDTH)

### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                       | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 12 QPSK, (CH 23095 RB size 50 RB Offset 0 10MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.6                                                                    | 707.5              | 3.6                     | 0.005088                | 2.5            |
| 3.8                                                                    | 707.5              | -7.2                    | -0.010177               | 2.5            |
| 4.4                                                                    | 707.5              | 4.4                     | 0.006219                | 2.5            |

### Frequency error vs. Temperature

| Temperature<br>[° C]                                                   | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 12 QPSK, (CH 23095 RB size 50 RB Offset 0 10MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                           | 707.5              | -6.8                    | -0.009611               | 2.5            |
| Extreme (50C)                                                          | 707.5              | -6                      | -0.008481               | 2.5            |
| Extreme (40C)                                                          | 707.5              | -7                      | -0.009894               | 2.5            |
| Extreme (30C)                                                          | 707.5              | -11                     | -0.015548               | 2.5            |
| Extreme (10C)                                                          | 707.5              | -6.8                    | -0.009611               | 2.5            |
| Extreme (0C)                                                           | 707.5              | -6.9                    | -0.009753               | 2.5            |
| Extreme (-10C)                                                         | 707.5              | -7.1                    | -0.010035               | 2.5            |
| Extreme (-20C)                                                         | 707.5              | -7.5                    | -0.010601               | 2.5            |
| Extreme (-30C)                                                         | 707.5              | -5.3                    | -0.007491               | 2.5            |

## 16QAM, (10MHz BANDWIDTH)

### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                        | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 12 16QAM, (CH 23095 RB size 50 RB Offset 0 10MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.6                                                                     | 707.5              | 4                       | 0.005654                | 2.5            |
| 3.8                                                                     | 707.5              | 4.5                     | 0.006360                | 2.5            |
| 4.4                                                                     | 707.5              | -6.9                    | -0.009753               | 2.5            |

### Frequency error vs. Temperature

| Temperature<br>[° C]                                                   | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 12 QPSK, (CH 23095 RB size 50 RB Offset 0 10MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                           | 707.5              | -7                      | -0.009894               | 2.5            |
| Extreme (50C)                                                          | 707.5              | -6.2                    | -0.008763               | 2.5            |
| Extreme (40C)                                                          | 707.5              | 8                       | 0.011307                | 2.5            |
| Extreme (30C)                                                          | 707.5              | 10                      | 0.014134                | 2.5            |
| Extreme (10C)                                                          | 707.5              | 5.8                     | 0.008198                | 2.5            |
| Extreme (0C)                                                           | 707.5              | -7                      | -0.009894               | 2.5            |
| Extreme (-10C)                                                         | 707.5              | -7.2                    | -0.010177               | 2.5            |
| Extreme (-20C)                                                         | 707.5              | -3.9                    | -0.005512               | 2.5            |
| Extreme (-30C)                                                         | 707.5              | -4.5                    | -0.006360               | 2.5            |

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

### 10.6 LTE BAND 17

#### QPSK, (10MHz BANDWIDTH)

### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                       | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 17 QPSK, (CH 23790 RB size 50 RB Offset 0 10MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.6                                                                    | 710.0              | -3.9                    | -0.005493               | 2.5            |
| 3.8                                                                    | 710.0              | -3.5                    | -0.004930               | 2.5            |
| 4.4                                                                    | 710.0              | -4.1                    | -0.005775               | 2.5            |

### Frequency error vs. Temperature

| Temperature<br>[° C]                                                   | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 17 QPSK, (CH 23790 RB size 50 RB Offset 0 10MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                           | 710.0              | 3.3                     | 0.004648                | 2.5            |
| Extreme (50C)                                                          | 710.0              | 2.8                     | 0.003944                | 2.5            |

|                |       |      |           |     |
|----------------|-------|------|-----------|-----|
| Extreme (40C)  | 710.0 | -5.5 | -0.007746 | 2.5 |
| Extreme (30C)  | 710.0 | -5   | -0.007042 | 2.5 |
| Extreme (10C)  | 710.0 | -6.8 | -0.009577 | 2.5 |
| Extreme (0C)   | 710.0 | -7.2 | -0.010141 | 2.5 |
| Extreme (-10C) | 710.0 | -4.1 | -0.005775 | 2.5 |
| Extreme (-20C) | 710.0 | -6   | -0.008451 | 2.5 |
| Extreme (-30C) | 710.0 | 8    | 0.011268  | 2.5 |

### 16QAM, (10MHz BANDWIDTH)

#### Frequency error vs. Voltage

| Voltage<br>[Vdc]                                                        | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|-------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 17 16QAM, (CH 23790 RB size 50 RB Offset 0 10MHz BANDWIDTH)</b> |                    |                         |                         |                |
| 3.6                                                                     | 710.0              | -4.1                    | -0.005775               | 2.5            |
| 3.8                                                                     | 710.0              | -4.2                    | -0.005915               | 2.5            |
| 4.4                                                                     | 710.0              | 3                       | 0.004225                | 2.5            |

#### Frequency error vs. Temperature

| Temperature<br>[° C]                                                   | Frequency<br>[MHz] | Frequency*<br>Error[Hz] | Frequency<br>Error[ppm] | Limit<br>[ppm] |
|------------------------------------------------------------------------|--------------------|-------------------------|-------------------------|----------------|
| <b>BAND 17 QPSK, (CH 23790 RB size 50 RB Offset 0 10MHz BANDWIDTH)</b> |                    |                         |                         |                |
| Normal (25C)                                                           | 710.0              | 6.4                     | 0.009014                | 2.5            |
| Extreme (50C)                                                          | 710.0              | 5.5                     | 0.007746                | 2.5            |
| Extreme (40C)                                                          | 710.0              | 7.1                     | 0.010000                | 2.5            |
| Extreme (30C)                                                          | 710.0              | 9                       | 0.012676                | 2.5            |
| Extreme (10C)                                                          | 710.0              | 9.5                     | 0.013380                | 2.5            |
| Extreme (0C)                                                           | 710.0              | -4.2                    | -0.005915               | 2.5            |
| Extreme (-10C)                                                         | 710.0              | -2.8                    | -0.003944               | 2.5            |
| Extreme (-20C)                                                         | 710.0              | -6                      | -0.008451               | 2.5            |
| Extreme (-30C)                                                         | 710.0              | 5.6                     | 0.007887                | 2.5            |

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

## 11. Peak-to-Average Ratio

### 11.1 Description of the PAR Measurement

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

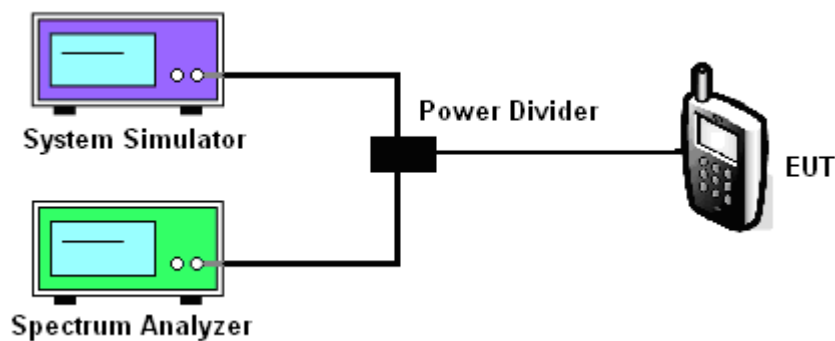
### 11.2 Measuring Instruments

See list of measuring instruments of this test report.

### 11.3 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 %.

### 11.4 Test Setup



#### MODES TESTED

- ☐ LTE Band2
- ☐ LTE Band 4
- ☐ LTE Band5
- ☐ LTE Band 7
- ☐ LTE Band 12
- ☐ LTE Band 17

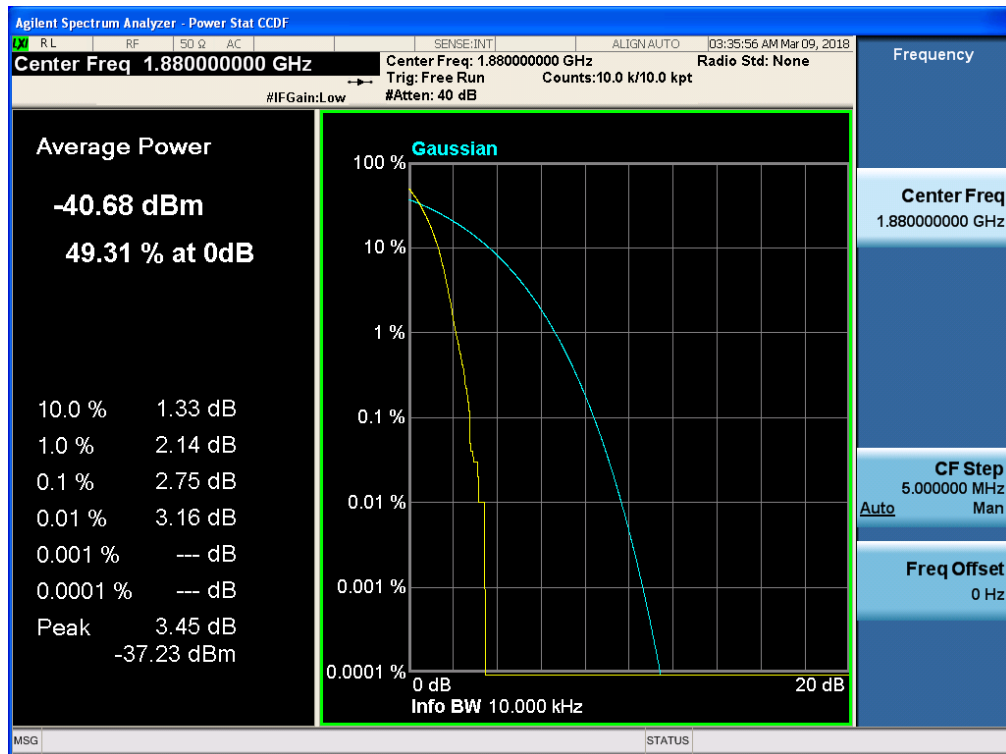
| BAND | CHANNEL | Frequency [MHz] | BANDWIDTH | NO. RB | RB POS. | MODULATION | PAR [dB] |
|------|---------|-----------------|-----------|--------|---------|------------|----------|
| 2    | 18900   | 1880.0          | 1.4       | 1      | Low     | QPSK       | 2.75     |
| 2    | 18900   | 1880.0          | 1.4       | 1      | Low     | 16-QAM     | 4.60     |
| 2    | 18900   | 1880.0          | 3.0       | 1      | Low     | QPSK       | 5.04     |
| 2    | 18900   | 1880.0          | 3.0       | 1      | Low     | 16-QAM     | 5.61     |
| 2    | 18900   | 1880.0          | 5.0       | 1      | Low     | QPSK       | 5.42     |
| 2    | 18900   | 1880.0          | 5.0       | 1      | Low     | 16-QAM     | 4.01     |
| 2    | 18900   | 1880.0          | 10.0      | 1      | Low     | QPSK       | 2.53     |
| 2    | 18900   | 1880.0          | 10.0      | 1      | Low     | 16-QAM     | 2.40     |
| 2    | 18900   | 1880.0          | 15.0      | 1      | Low     | QPSK       | 2.08     |
| 2    | 18900   | 1880.0          | 15.0      | 1      | Low     | 16-QAM     | 2.03     |
| 2    | 18900   | 1880.0          | 20.0      | 1      | Low     | QPSK       | 1.91     |
| 2    | 18900   | 1880.0          | 20.0      | 1      | Low     | 16-QAM     | 1.96     |
| 4    | 20175   | 1732.5          | 1.4       | 1      | Low     | QPSK       | 5.27     |
| 4    | 20175   | 1732.5          | 1.4       | 1      | Low     | 16-QAM     | 6.91     |
| 4    | 20175   | 1732.5          | 3.0       | 1      | Low     | QPSK       | 6.78     |
| 4    | 20175   | 1732.5          | 3.0       | 1      | Low     | 16-QAM     | 5.98     |
| 4    | 20175   | 1732.5          | 5.0       | 1      | Low     | QPSK       | 4.48     |
| 4    | 20175   | 1732.5          | 5.0       | 1      | Low     | 16-QAM     | 3.89     |
| 4    | 20175   | 1732.5          | 10.0      | 1      | Low     | QPSK       | 2.29     |
| 4    | 20175   | 1732.5          | 10.0      | 1      | Low     | 16-QAM     | 2.16     |
| 4    | 20175   | 1732.5          | 15.0      | 1      | Low     | QPSK       | 1.99     |

|    |       |        |      |   |     |        |      |
|----|-------|--------|------|---|-----|--------|------|
| 4  | 20175 | 1732.5 | 15.0 | 1 | Low | 16-QAM | 1.88 |
| 4  | 20175 | 1732.5 | 20.0 | 1 | Low | QPSK   | 1.95 |
| 4  | 20175 | 1732.5 | 20.0 | 1 | Low | 16-QAM | 2.02 |
| 5  | 20525 | 836.5  | 1.4  | 1 | Low | QPSK   | 6.76 |
| 5  | 20525 | 836.5  | 1.4  | 1 | Low | 16-QAM | 9.10 |
| 5  | 20525 | 836.5  | 3.0  | 1 | Low | QPSK   | 8.34 |
| 5  | 20525 | 836.5  | 3.0  | 1 | Low | 16-QAM | 7.79 |
| 5  | 20525 | 836.5  | 5.0  | 1 | Low | QPSK   | 5.21 |
| 5  | 20525 | 836.5  | 5.0  | 1 | Low | 16-QAM | 5.96 |
| 5  | 20525 | 836.5  | 10.0 | 1 | Low | QPSK   | 2.40 |
| 5  | 20525 | 836.5  | 10.0 | 1 | Low | 16-QAM | 2.75 |
| 7  | 21100 | 2535.0 | 5.0  | 1 | Low | QPSK   | 2.04 |
| 7  | 21100 | 2535.0 | 5.0  | 1 | Low | 16-QAM | 2.28 |
| 7  | 21100 | 2535.0 | 10.0 | 1 | Low | QPSK   | 1.78 |
| 7  | 21100 | 2535.0 | 10.0 | 1 | Low | 16-QAM | 2.11 |
| 7  | 21100 | 2535.0 | 15.0 | 1 | Low | QPSK   | 1.75 |
| 7  | 21100 | 2535.0 | 15.0 | 1 | Low | 16-QAM | 1.96 |
| 7  | 21100 | 2535.0 | 20.0 | 1 | Low | QPSK   | 2.24 |
| 7  | 21100 | 2535.0 | 20.0 | 1 | Low | 16-QAM | 2.17 |
| 12 | 23095 | 707.5  | 1.4  | 1 | Low | QPSK   | 6.60 |
| 12 | 23095 | 707.5  | 1.4  | 1 | Low | 16-QAM | 5.62 |
| 12 | 23095 | 707.5  | 3.0  | 1 | Low | QPSK   | 3.56 |

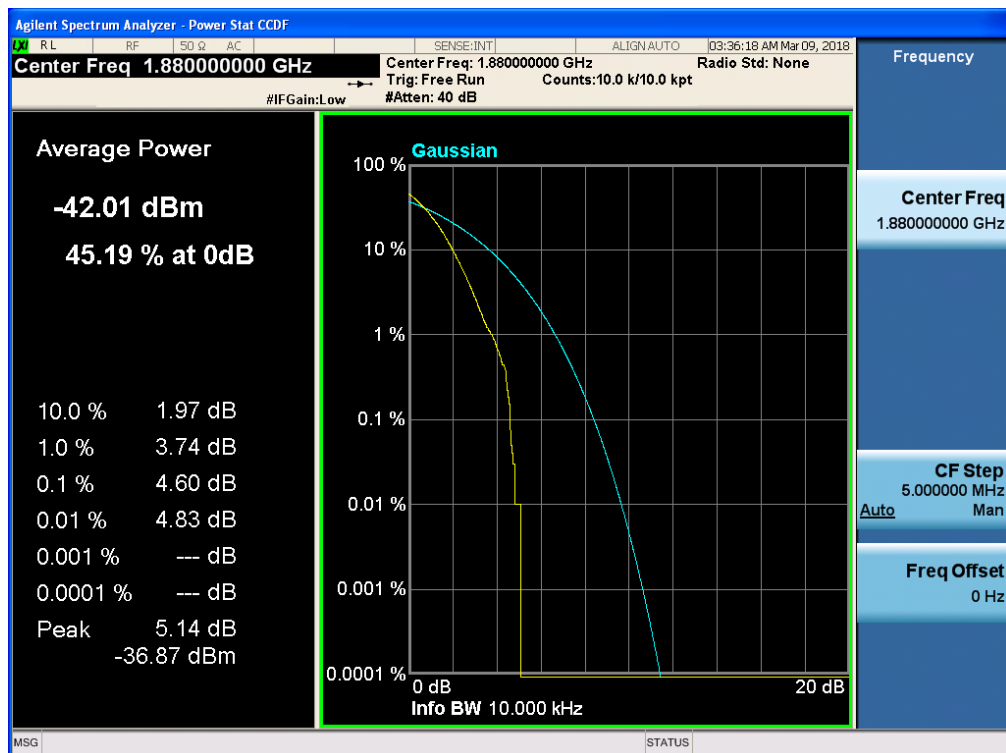
|    |       |       |      |   |     |        |      |
|----|-------|-------|------|---|-----|--------|------|
| 12 | 23095 | 707.5 | 3.0  | 1 | Low | 16-QAM | 3.74 |
| 12 | 23095 | 707.5 | 5.0  | 1 | Low | QPSK   | 3.04 |
| 12 | 23095 | 707.5 | 5.0  | 1 | Low | 16-QAM | 3.02 |
| 12 | 23095 | 707.5 | 10.0 | 1 | Low | QPSK   | 2.12 |
| 12 | 23095 | 707.5 | 10.0 | 1 | Low | 16-QAM | 2.62 |
| 17 | 23790 | 710.0 | 5.0  | 1 | Low | QPSK   | 3.42 |
| 17 | 23790 | 710.0 | 5.0  | 1 | Low | 16-QAM | 3.43 |
| 17 | 23790 | 710.0 | 10.0 | 1 | Low | QPSK   | 2.19 |
| 17 | 23790 | 710.0 | 10.0 | 1 | Low | 16-QAM | 2.50 |

## 11.5 LTE BAND 2

Band 2,UL Channel 18900,UL Frequency 1880.0,BW 1.4,NO. RB 1,RB POS. Low,QPSK

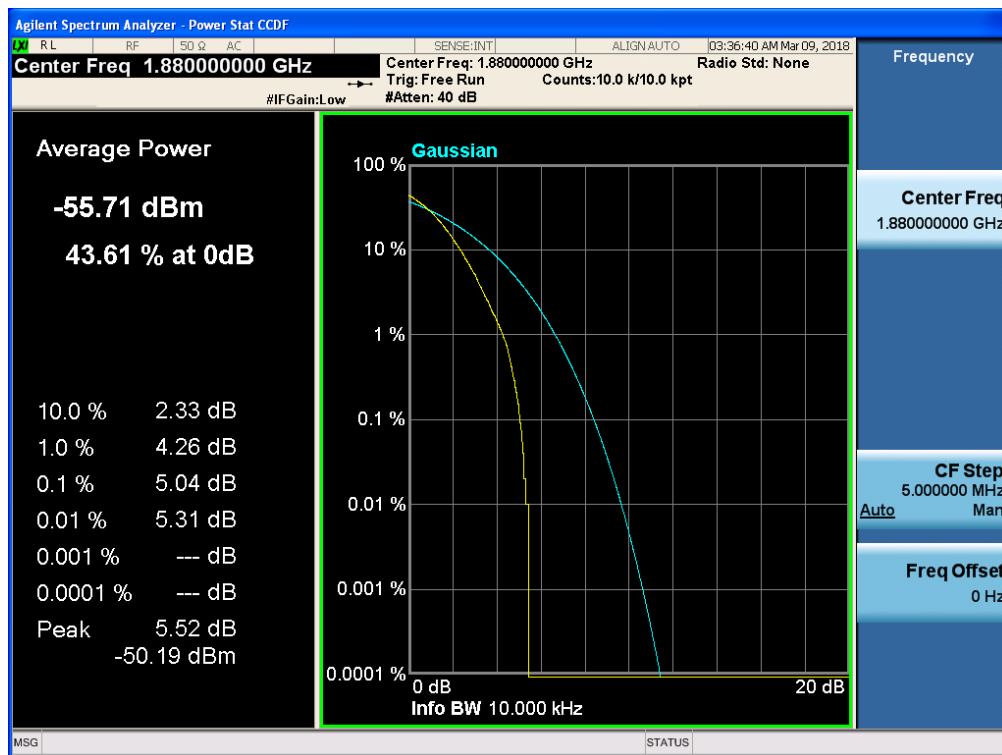


Band 2,UL Channel 18900,UL Frequency 1880.0,BW 1.4,NO. RB 1,RB POS. Low,16-QAM

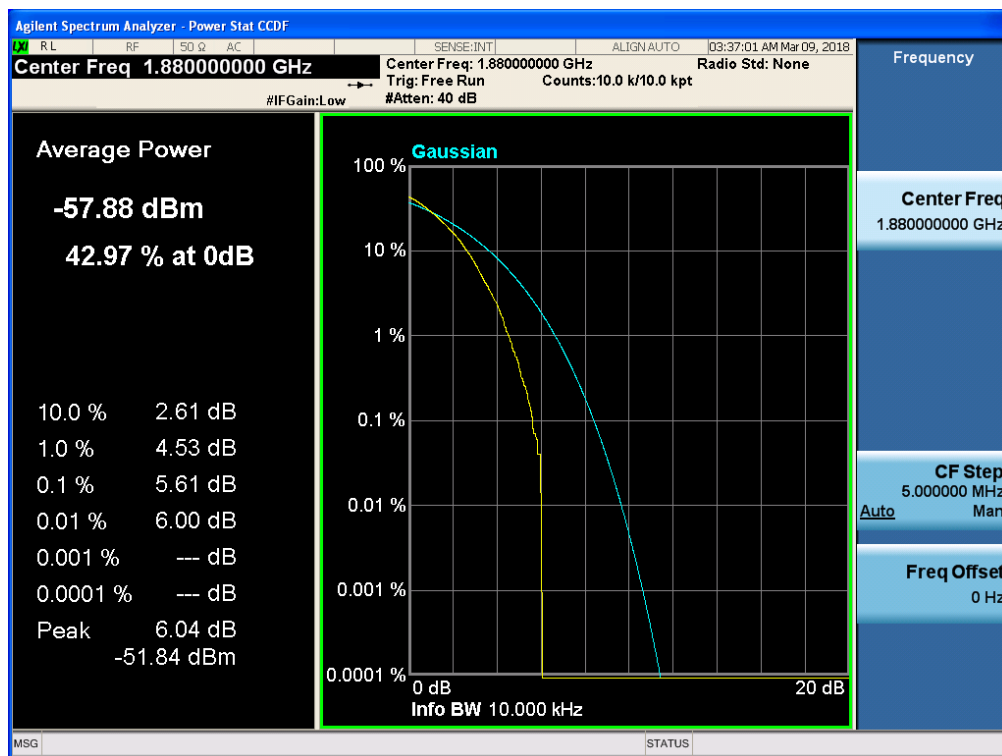




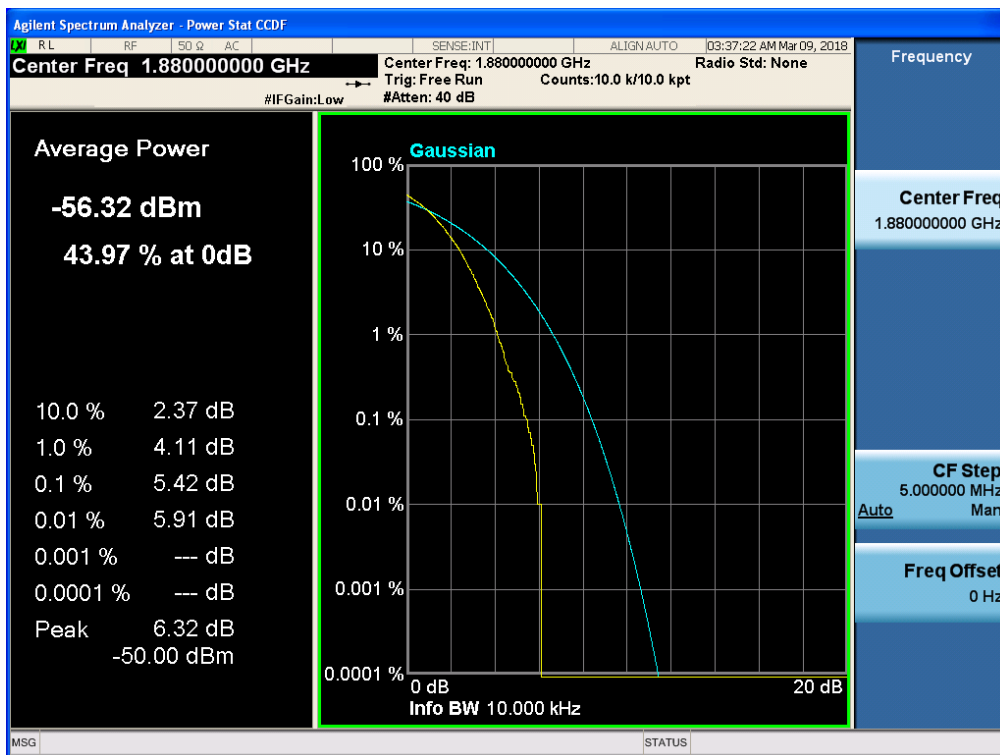
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 3.0,NO. RB 1,RB POS. Low,QPSK



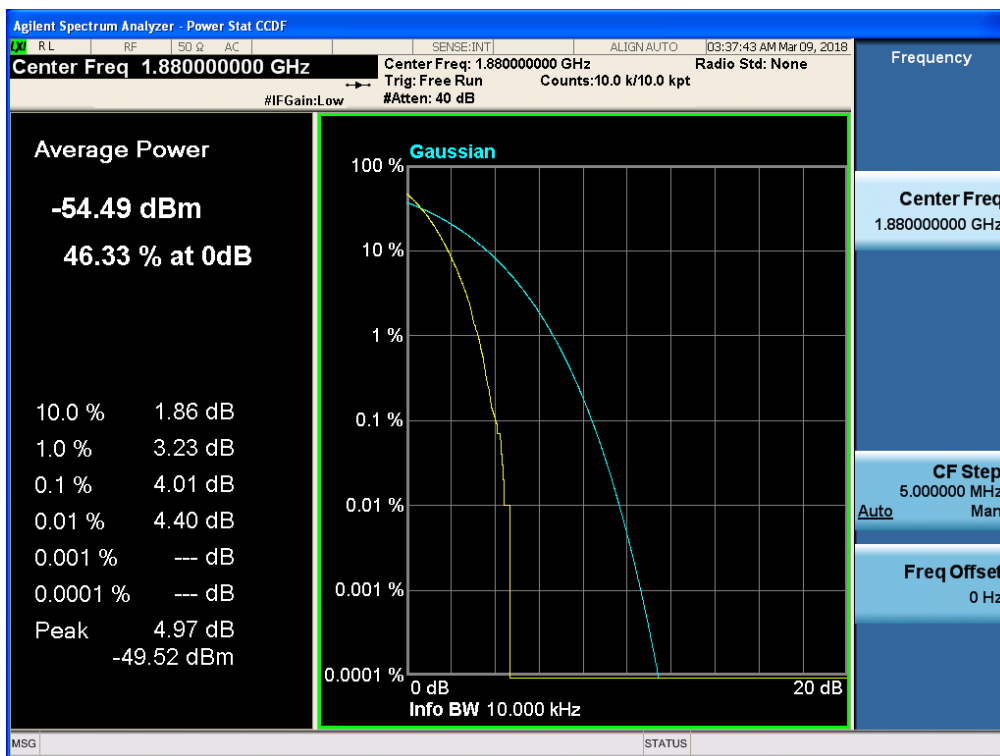
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



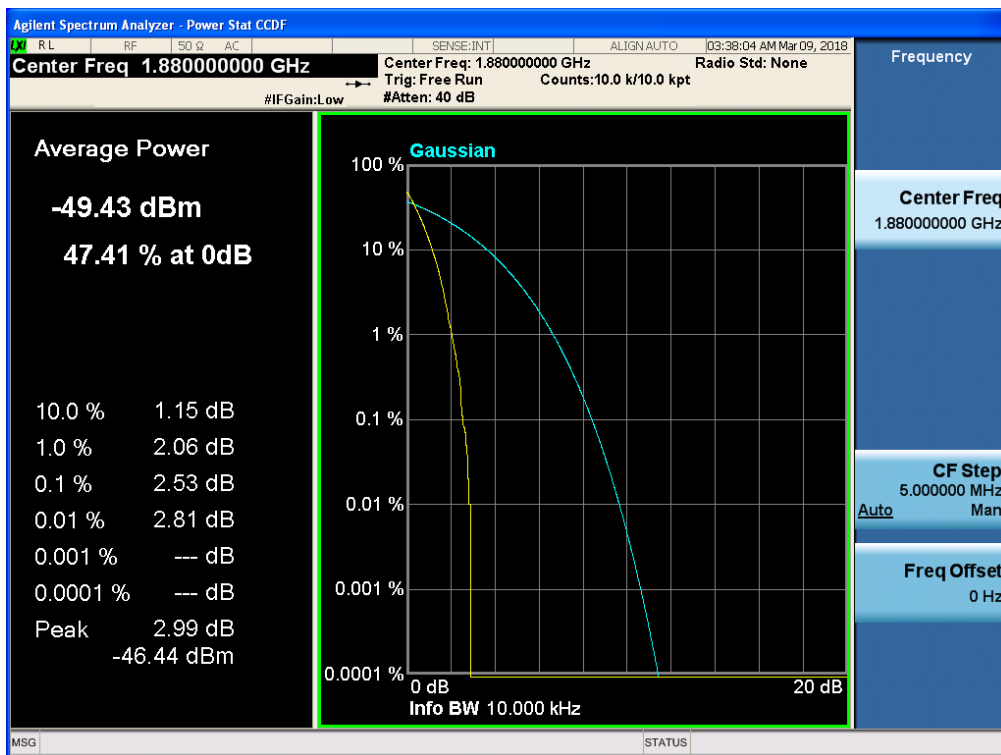
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 5.0,NO. RB 1,RB POS. Low,QPSK



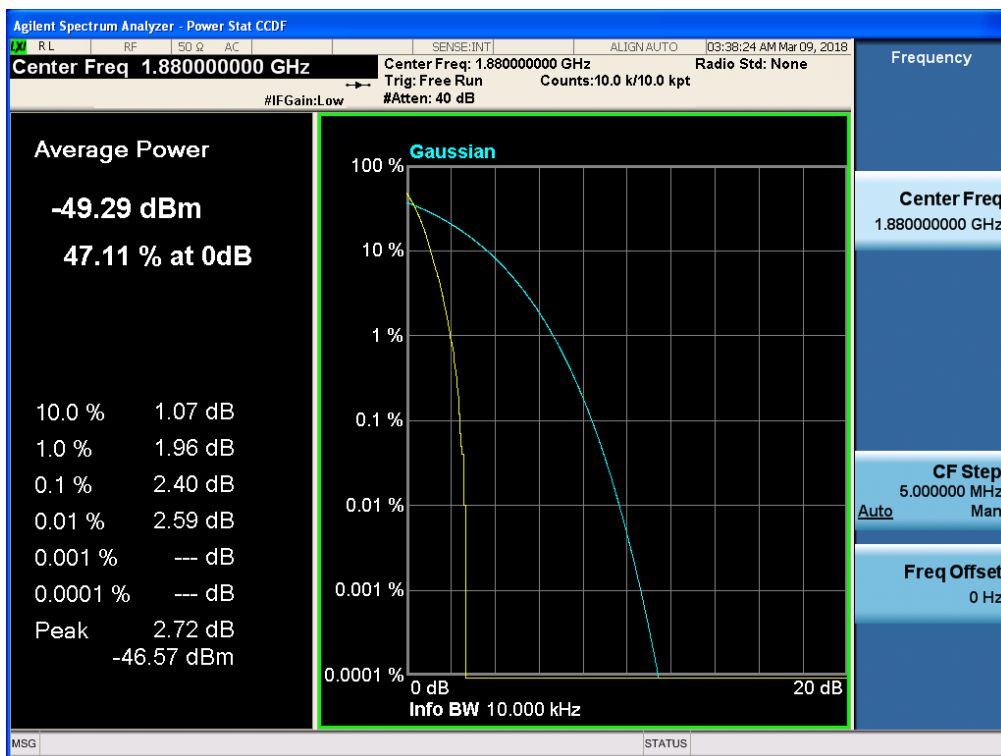
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



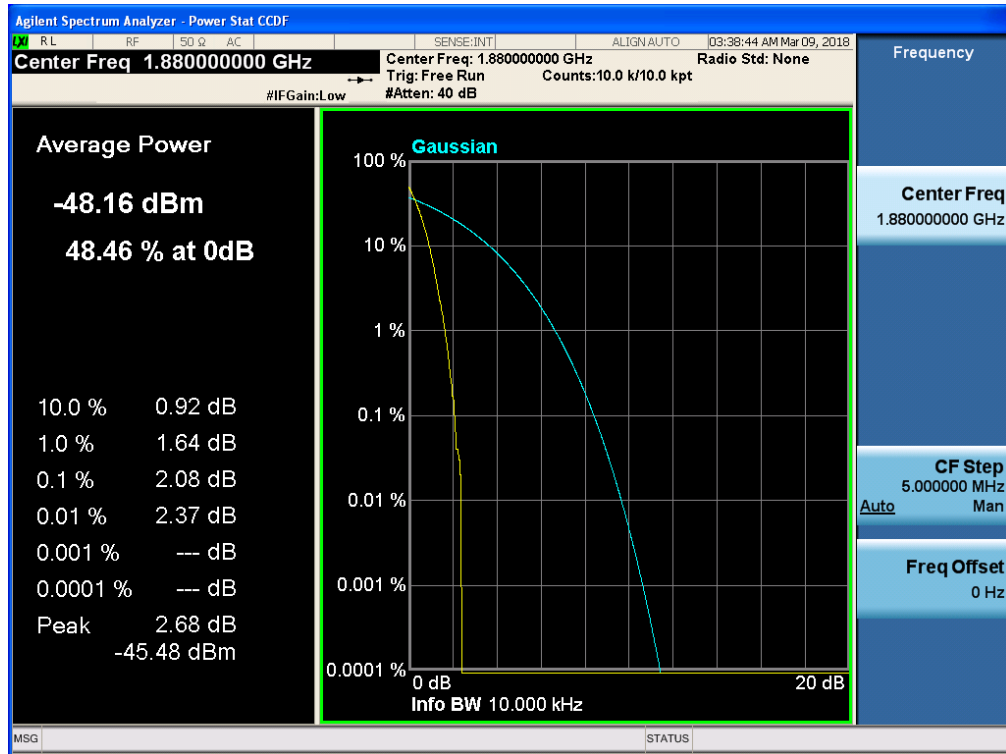
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



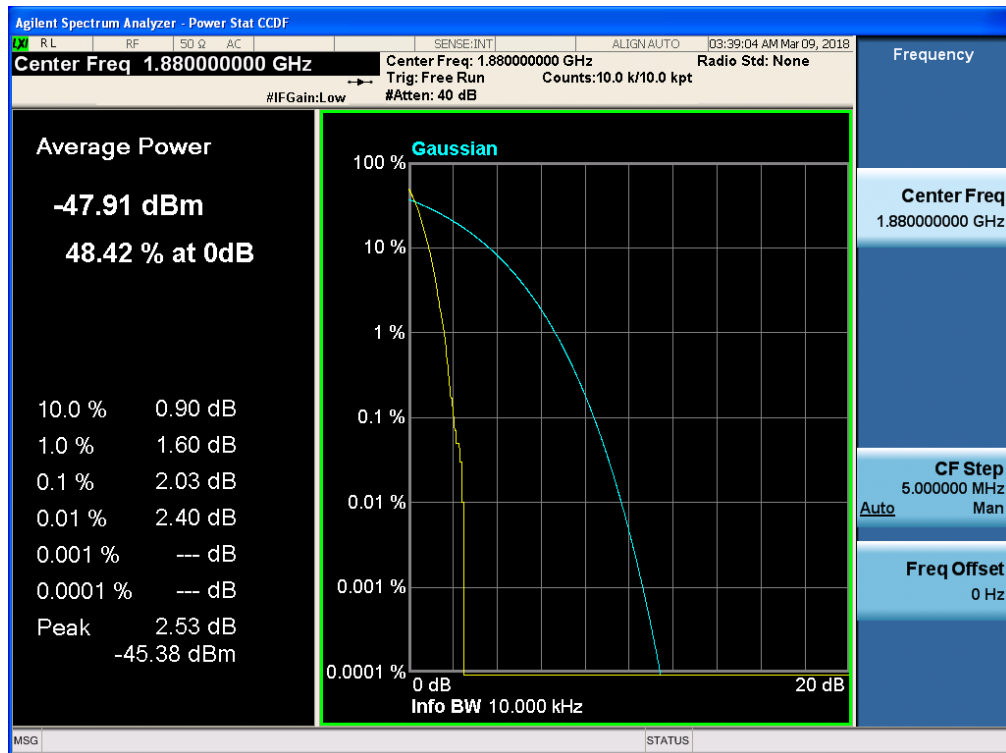
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 10.0,NO. RB 1,RB POS. Low,16-QAM



Band 2,UL Channel 18900,UL Frequency 1880.0,BW 15.0,NO. RB 1,RB POS. Low,QPSK



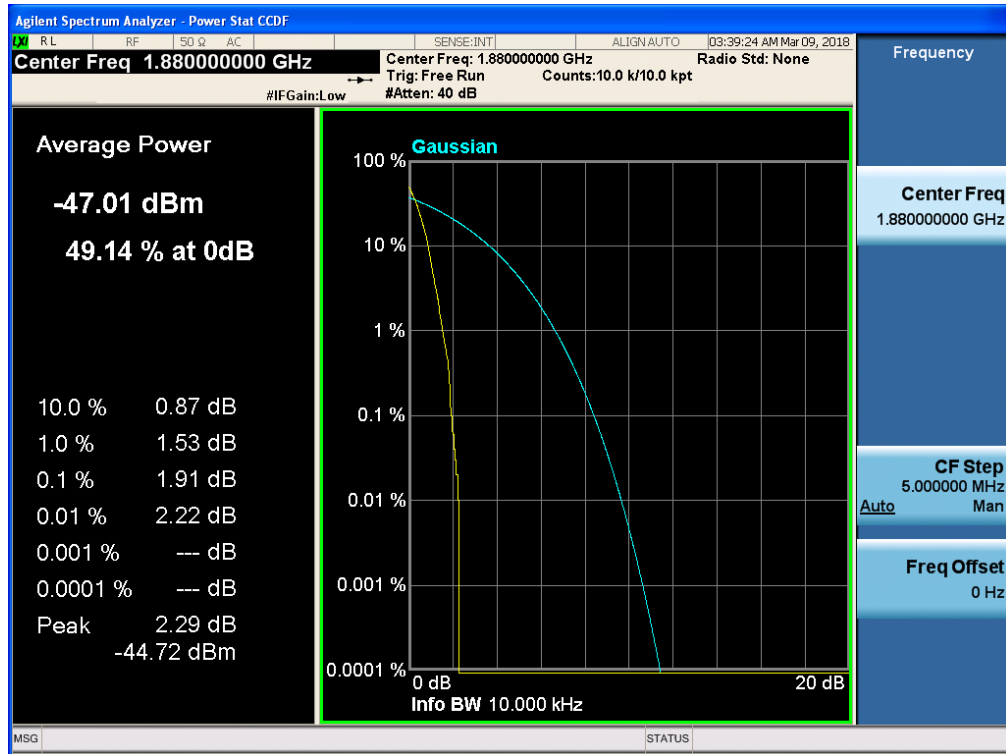
Band 2,UL Channel 18900,UL Frequency 1880.0,BW 15.0,NO. RB 1,RB POS. Low,16-QAM



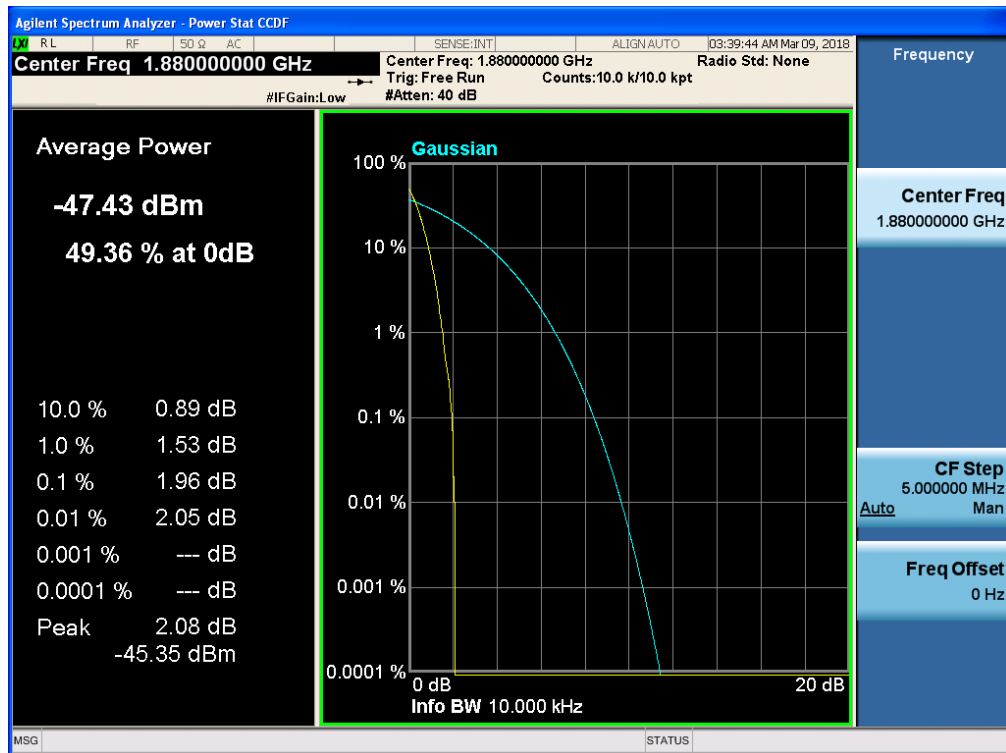


Report No.: SER180207605007E

Band 2,UL Channel 18900,UL Frequency 1880.0,BW 20.0,NO. RB 1,RB POS. Low,QPSK

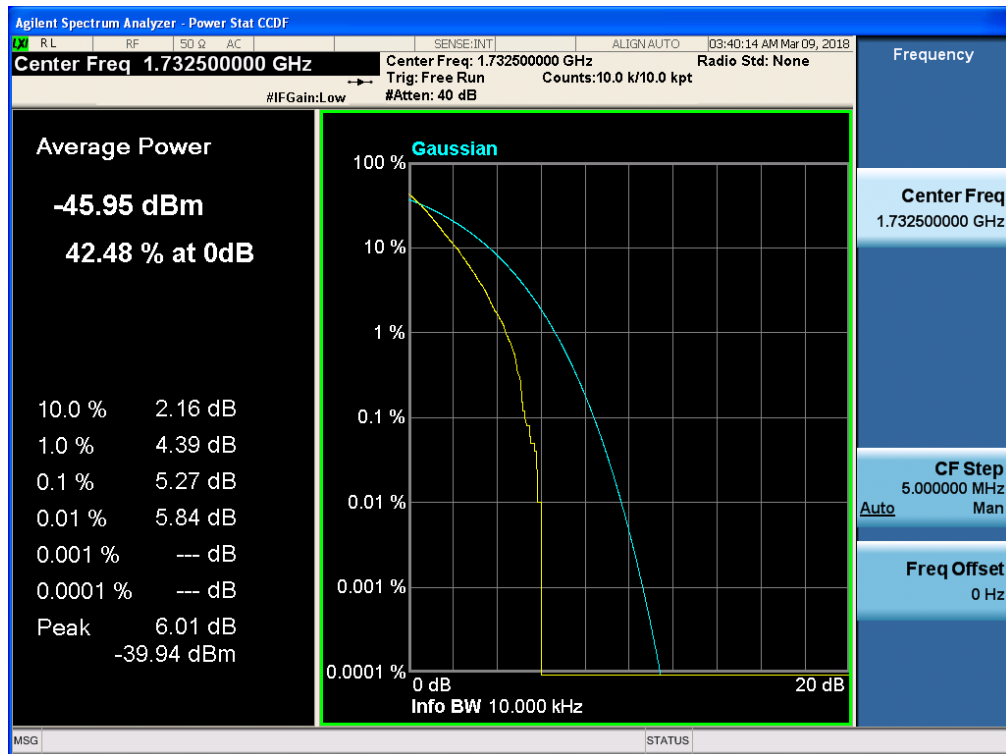


Band 2,UL Channel 18900,UL Frequency 1880.0,BW 20.0,NO. RB 1,RB POS. Low,16-QAM

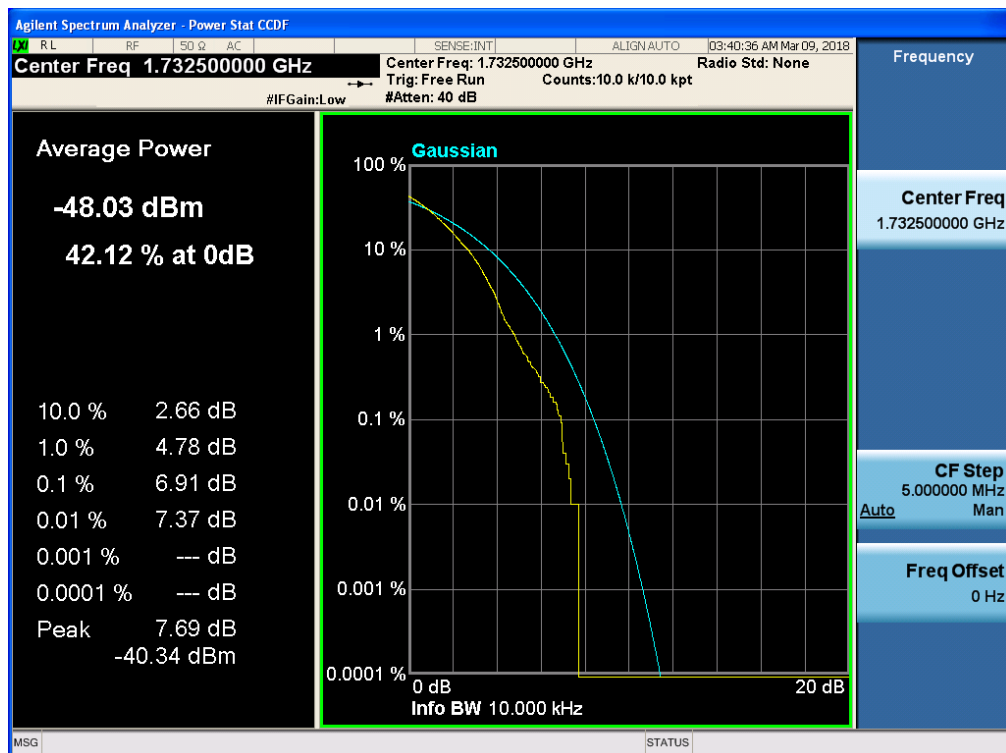


## 11.6 LTE BAND 4

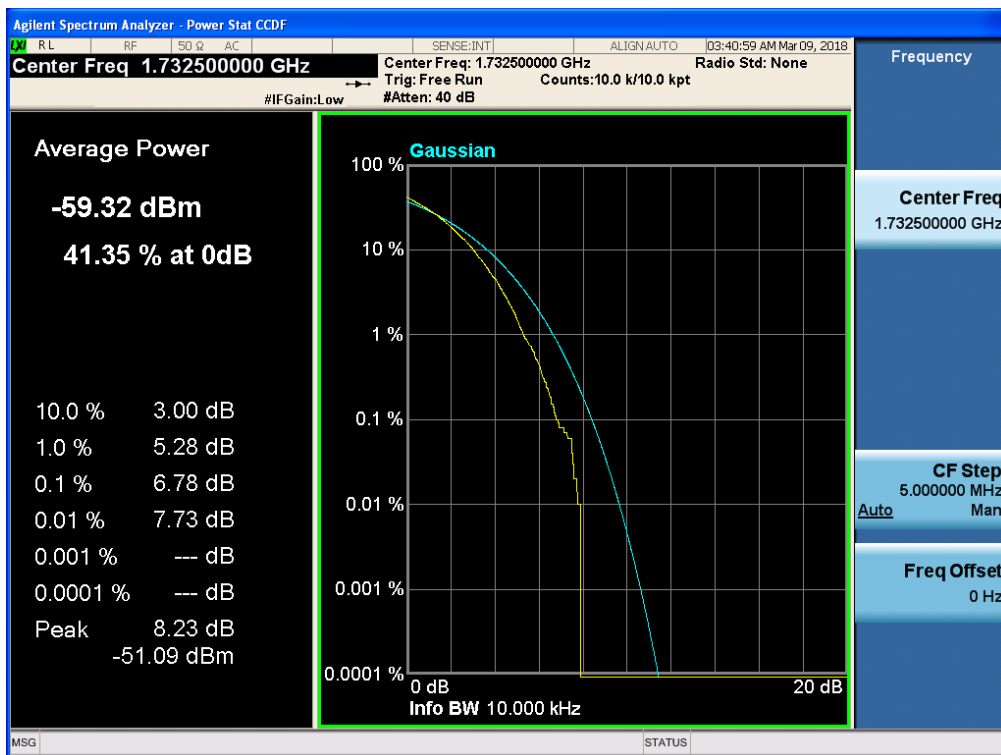
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 1.4,NO. RB 1,RB POS. Low,QPSK



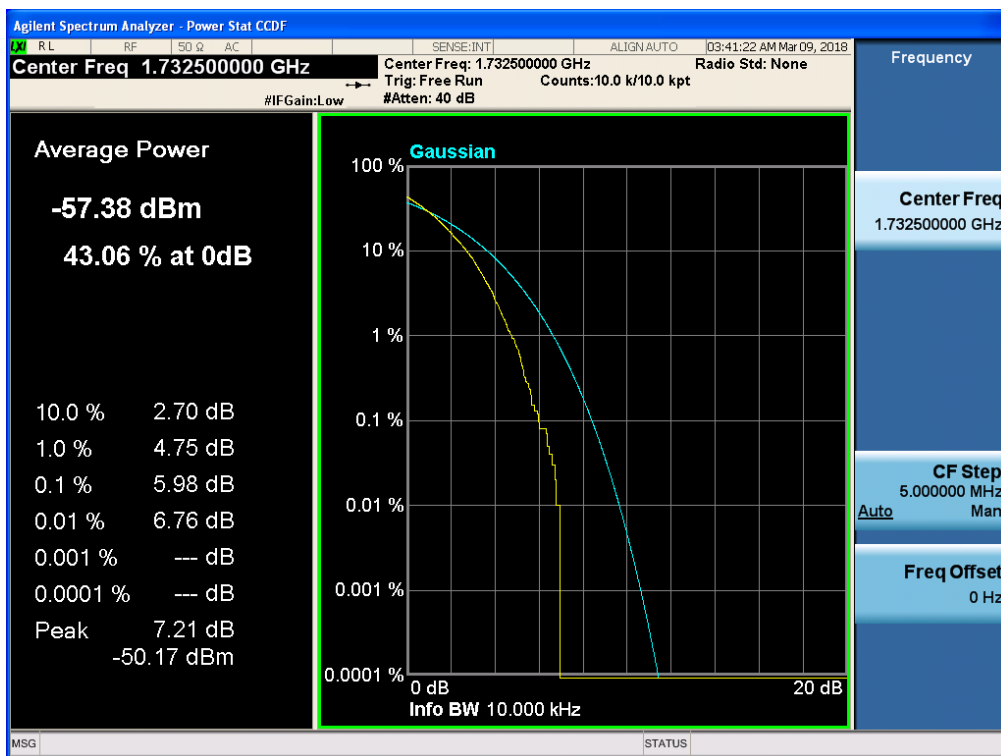
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



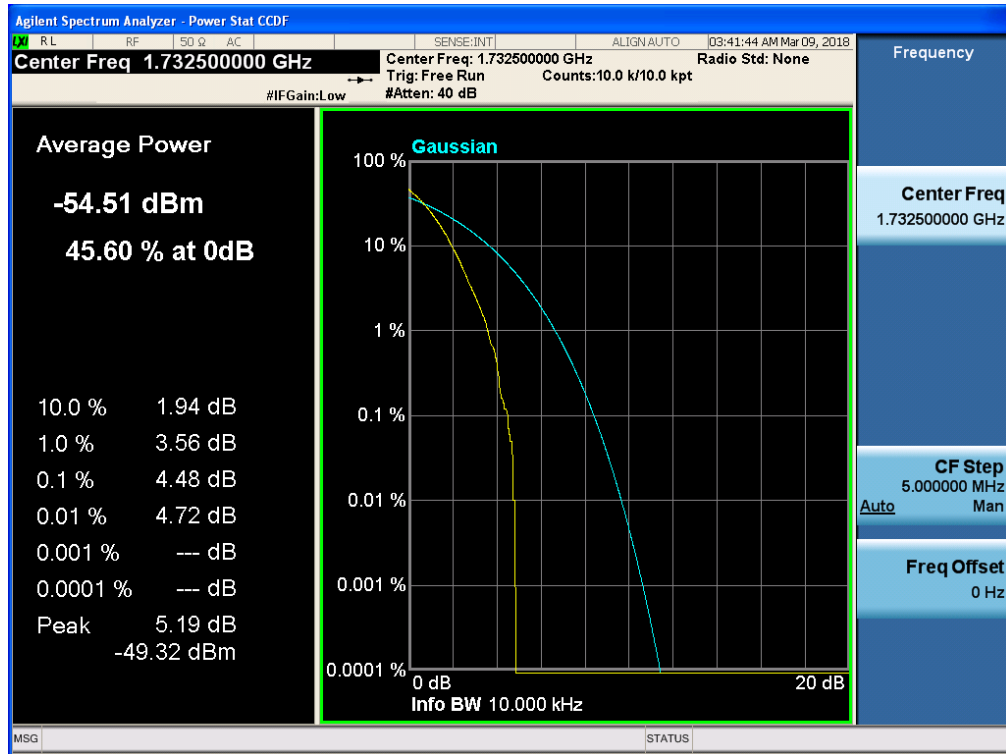
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



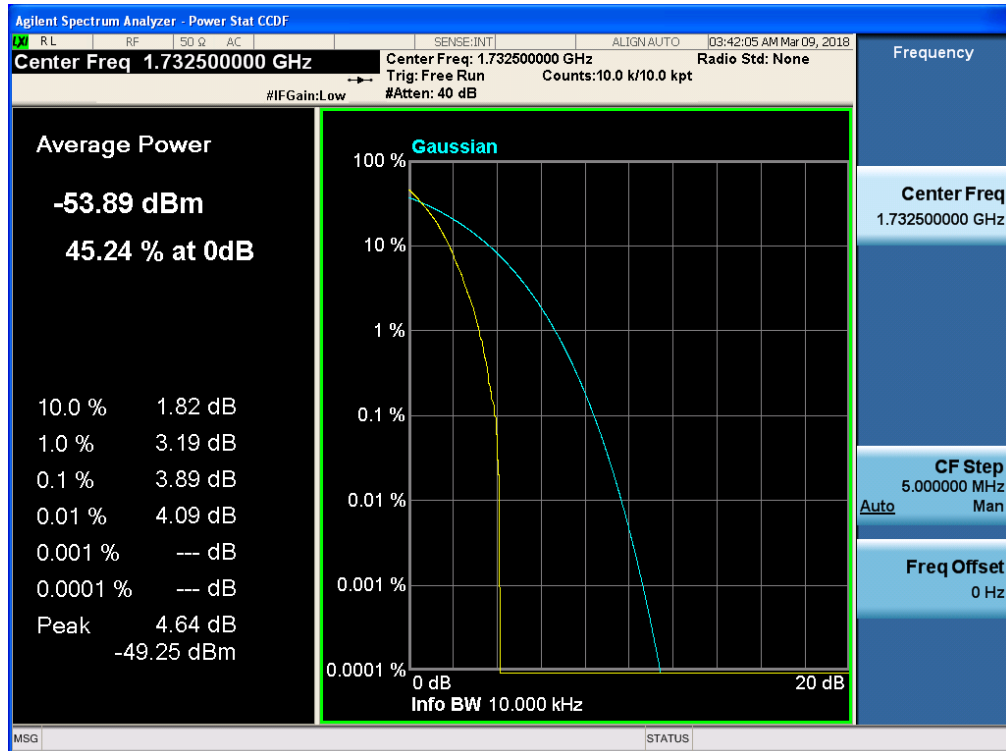
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



Band 4,UL Channel 20175,UL Frequency 1732.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK

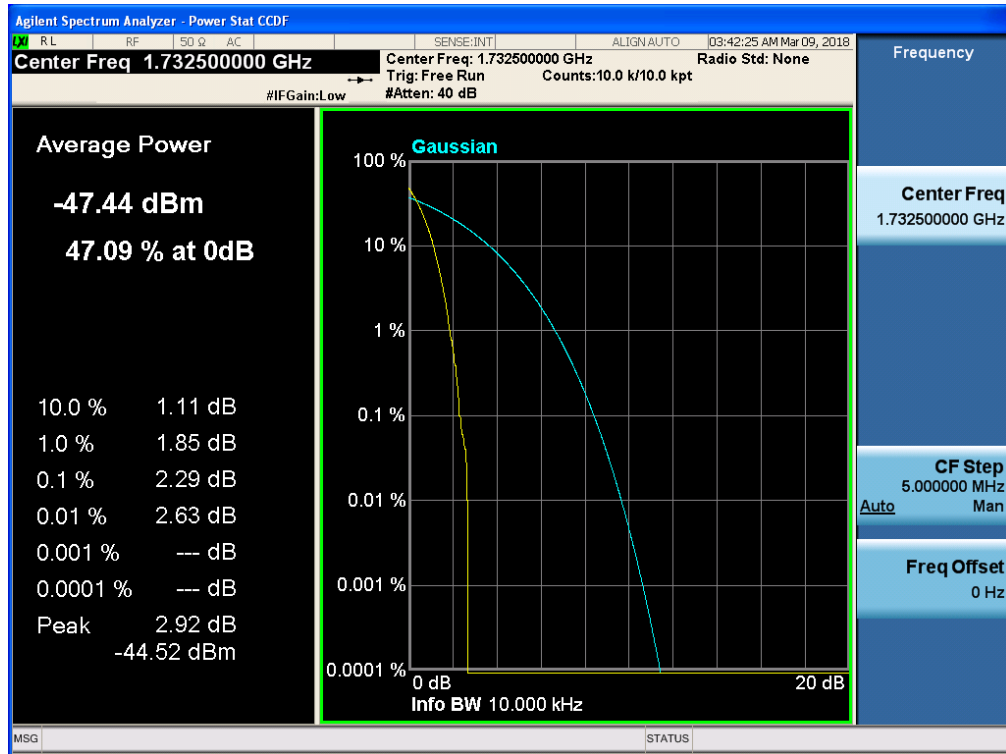


Band 4,UL Channel 20175,UL Frequency 1732.5,BW 5.0,NO. RB 1,RB POS. Low,16-QAM

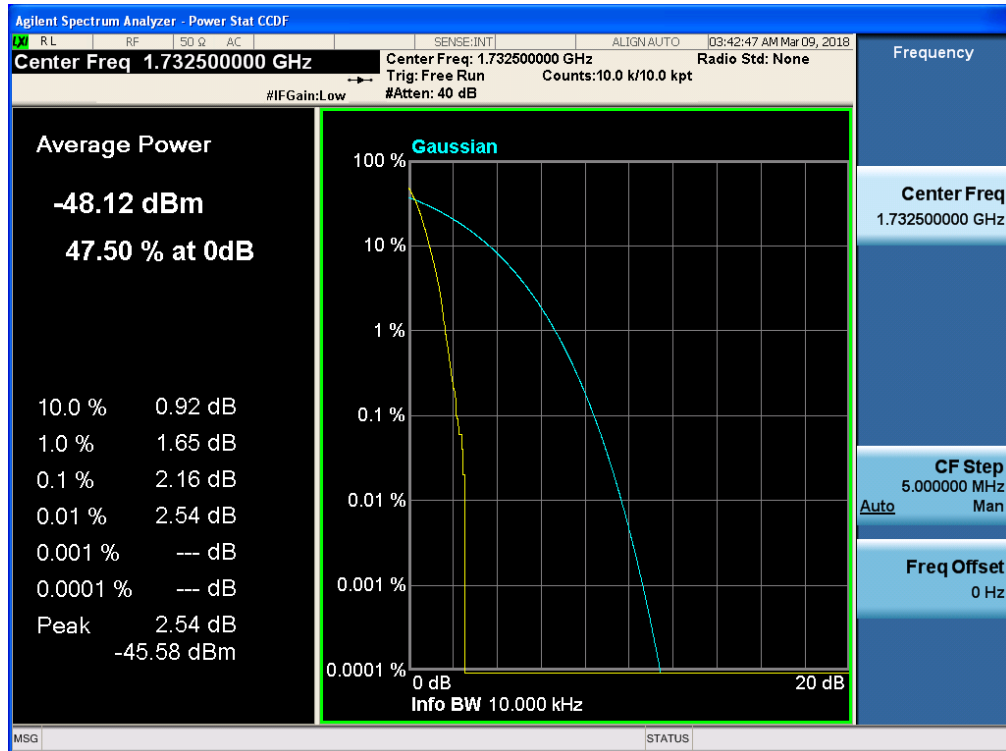




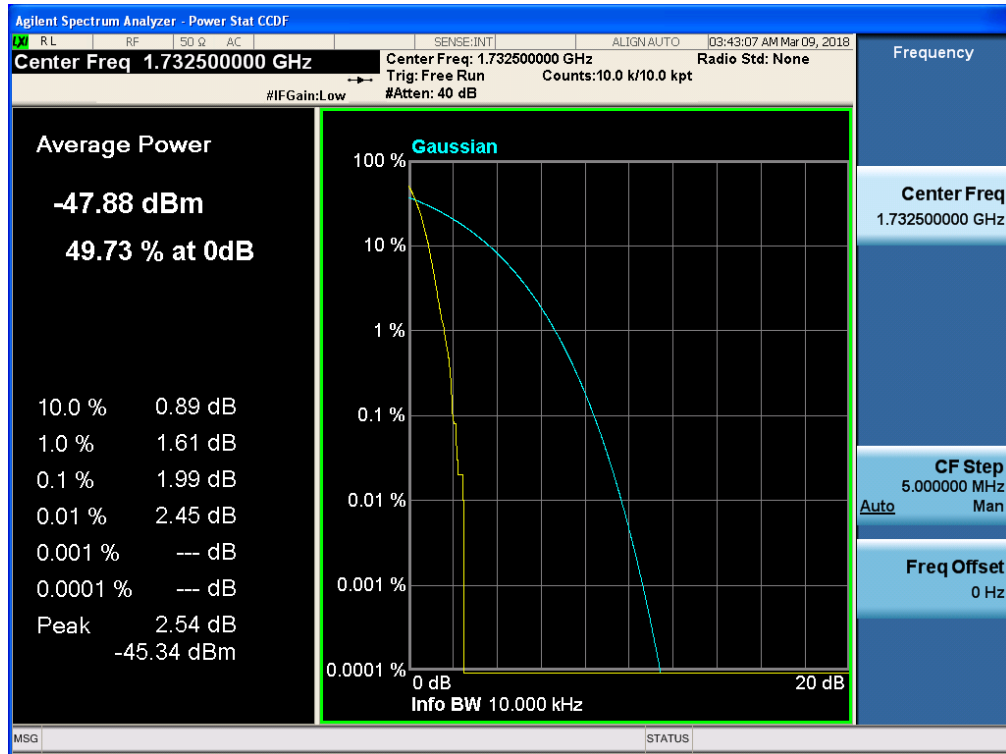
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 10.0,NO. RB 1,RB POS. Low,QPSK



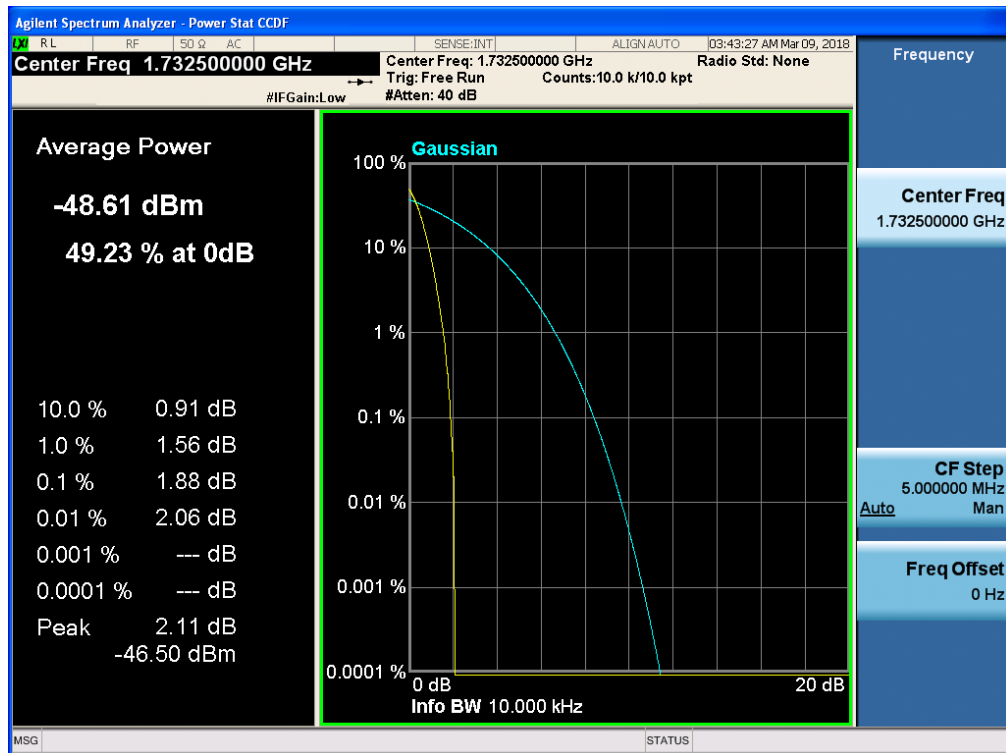
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 10.0,NO. RB 1,RB POS. Low,16-QAM



Band 4,UL Channel 20175,UL Frequency 1732.5,BW 15.0,NO. RB 1,RB POS. Low,QPSK



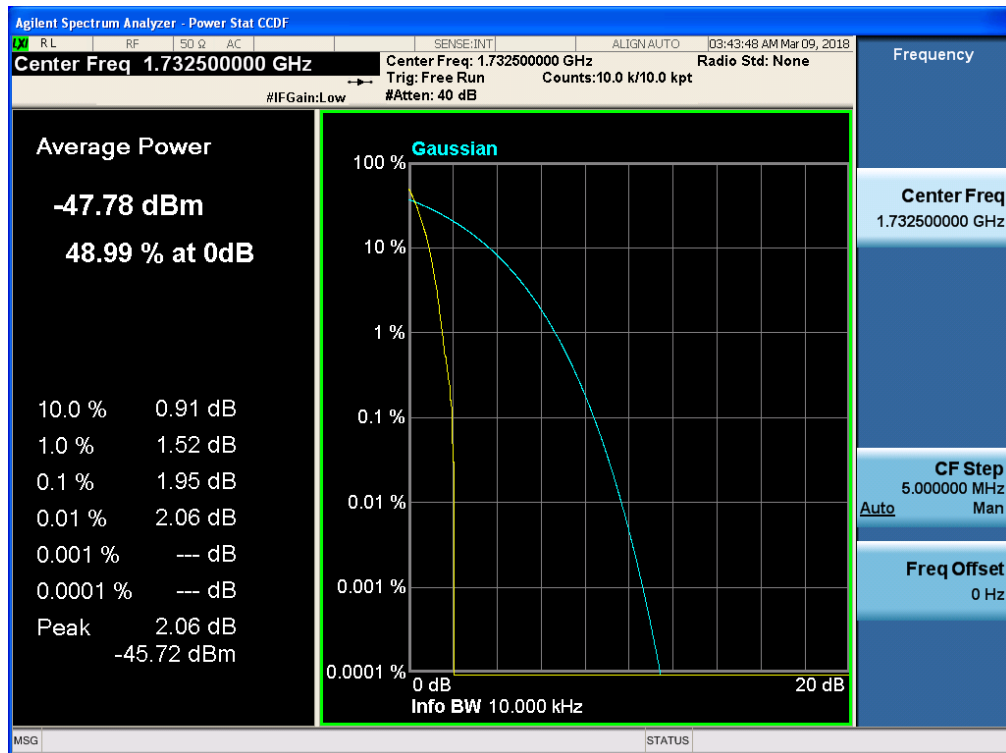
Band 4,UL Channel 20175,UL Frequency 1732.5,BW 15.0,NO. RB 1,RB POS. Low,16-QAM



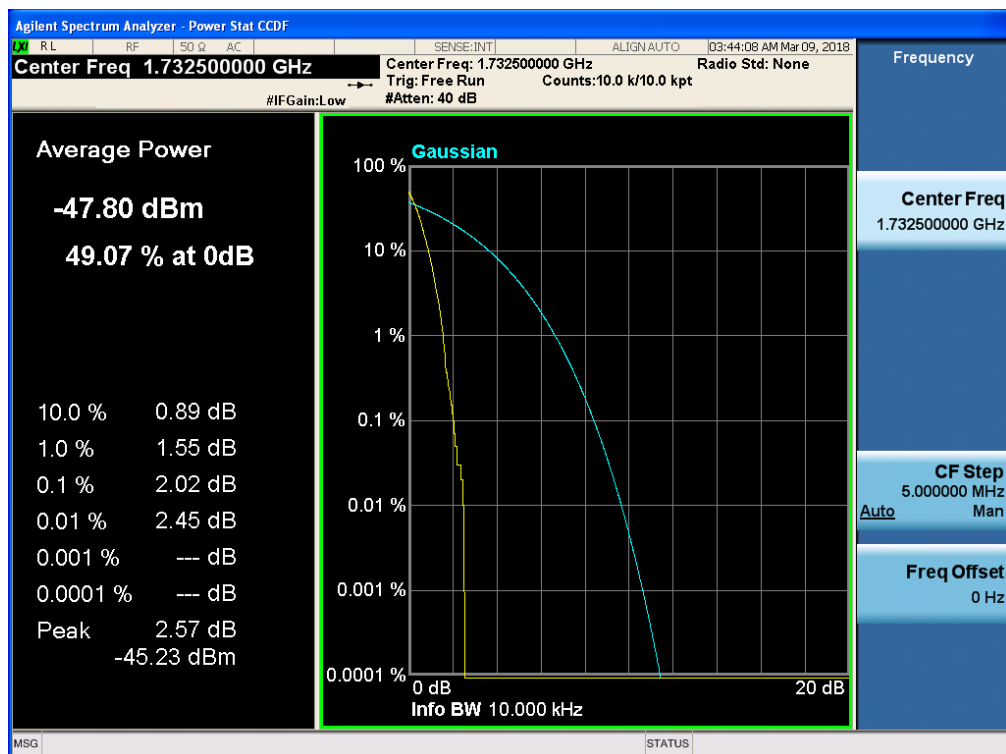


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Band 4,UL Channel 20175,UL Frequency 1732.5,BW 20.0,NO. RB 1,RB POS. Low,QPSK

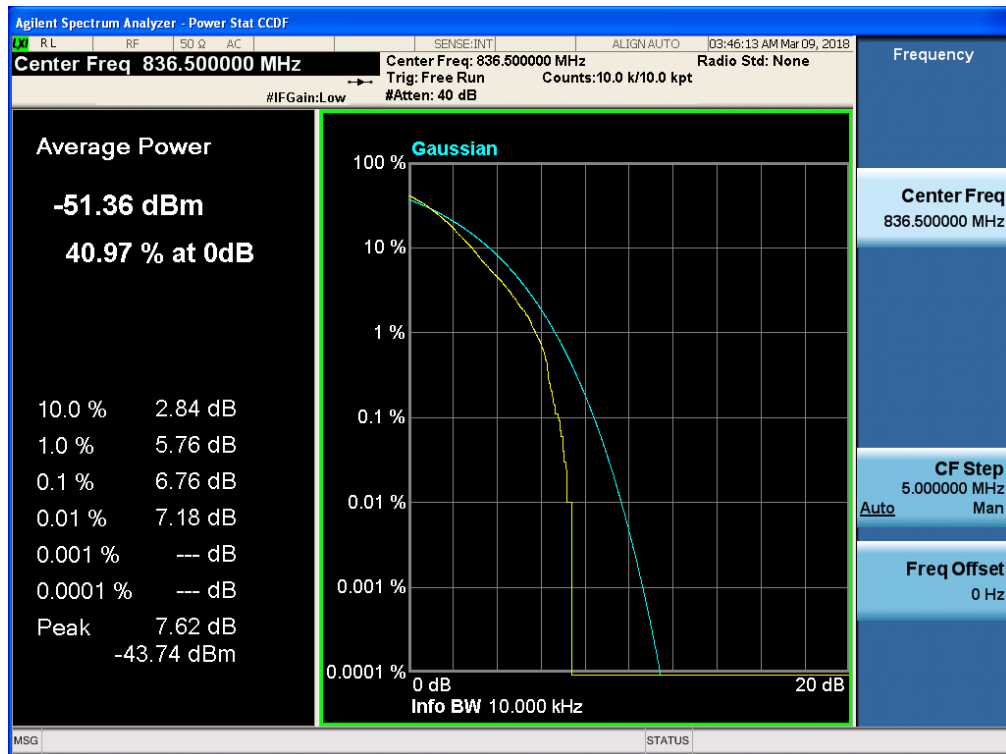


Band 4,UL Channel 20175,UL Frequency 1732.5,BW 20.0,NO. RB 1,RB POS. Low,16-QAM



## 11.7 LTE BAND 5

Band 5,UL Channel 20525,UL Frequency 836.5,BW 1.4,NO. RB 1,RB POS. Low,QPSK



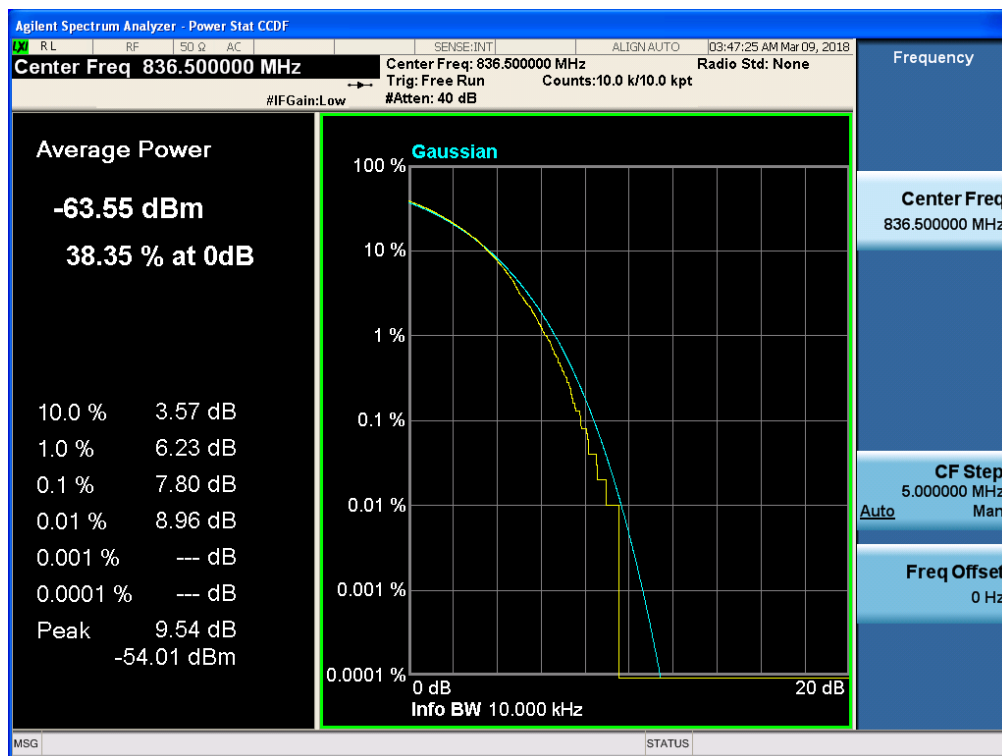
Band 5,UL Channel 20525,UL Frequency 836.5,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



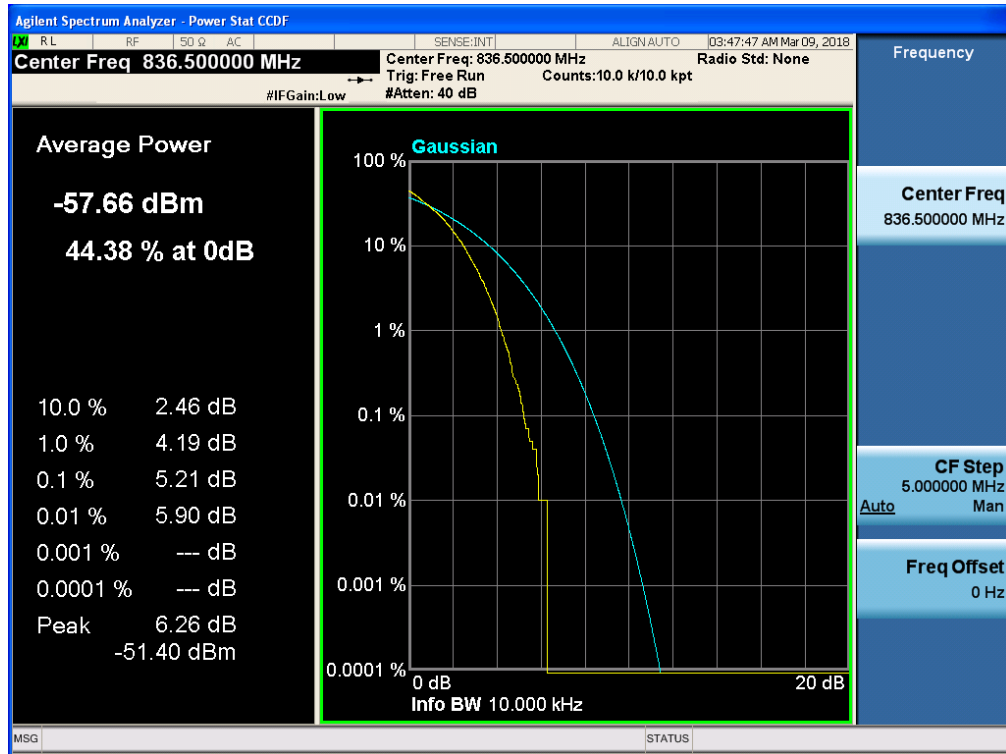
Band 5,UL Channel 20525,UL Frequency 836.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



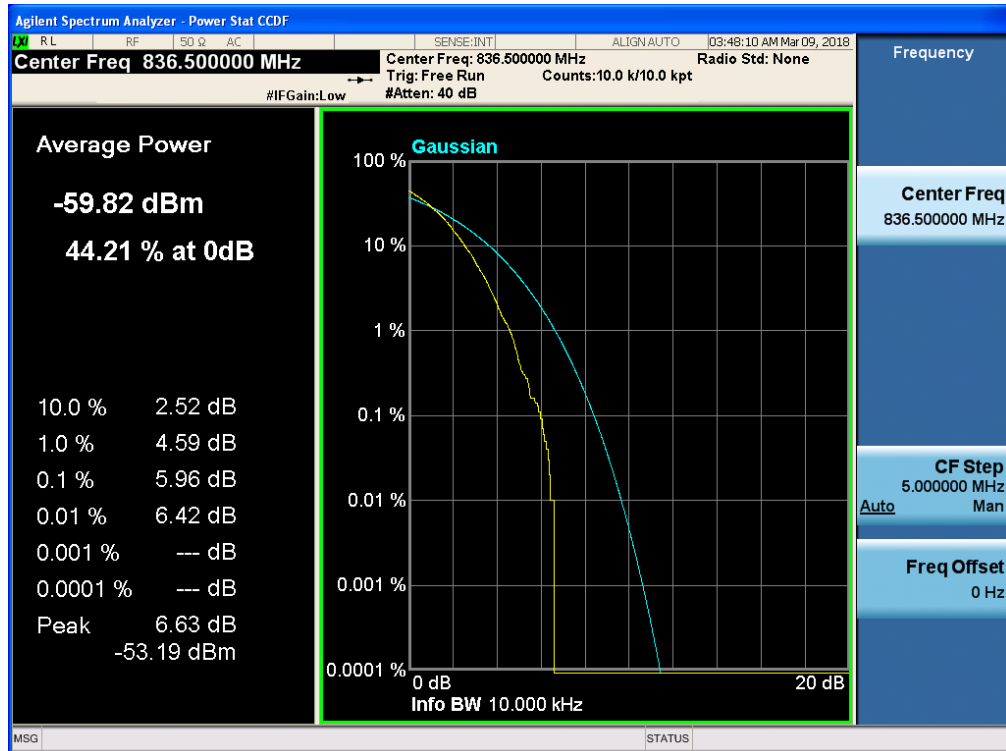
Band 5,UL Channel 20525,UL Frequency 836.5,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



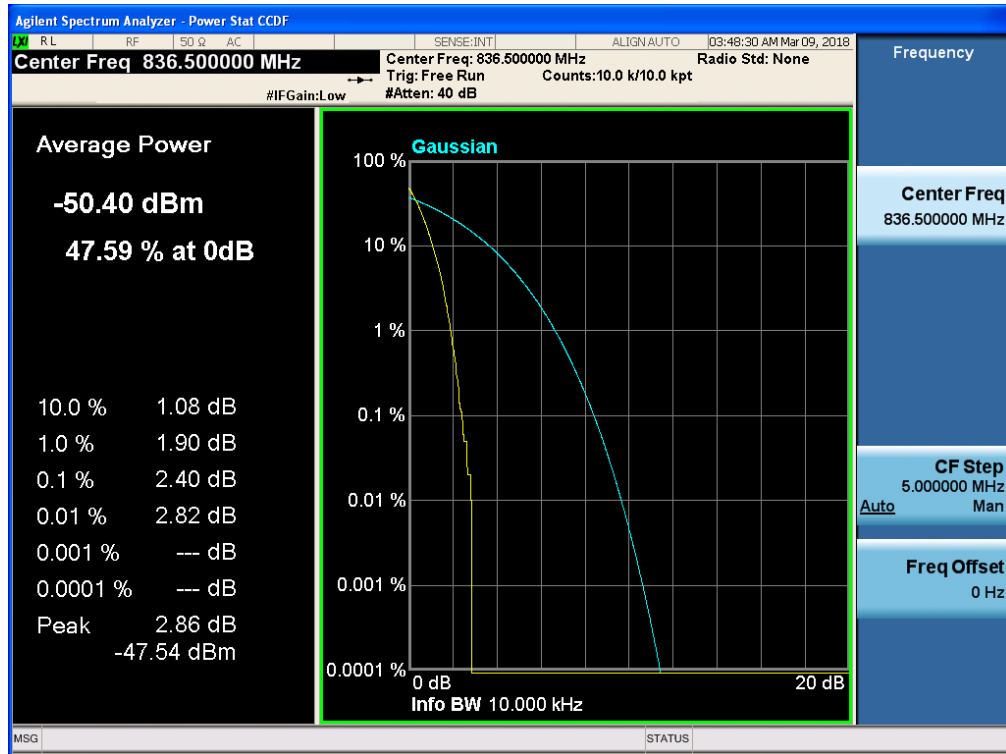
Band 5,UL Channel 20525,UL Frequency 836.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



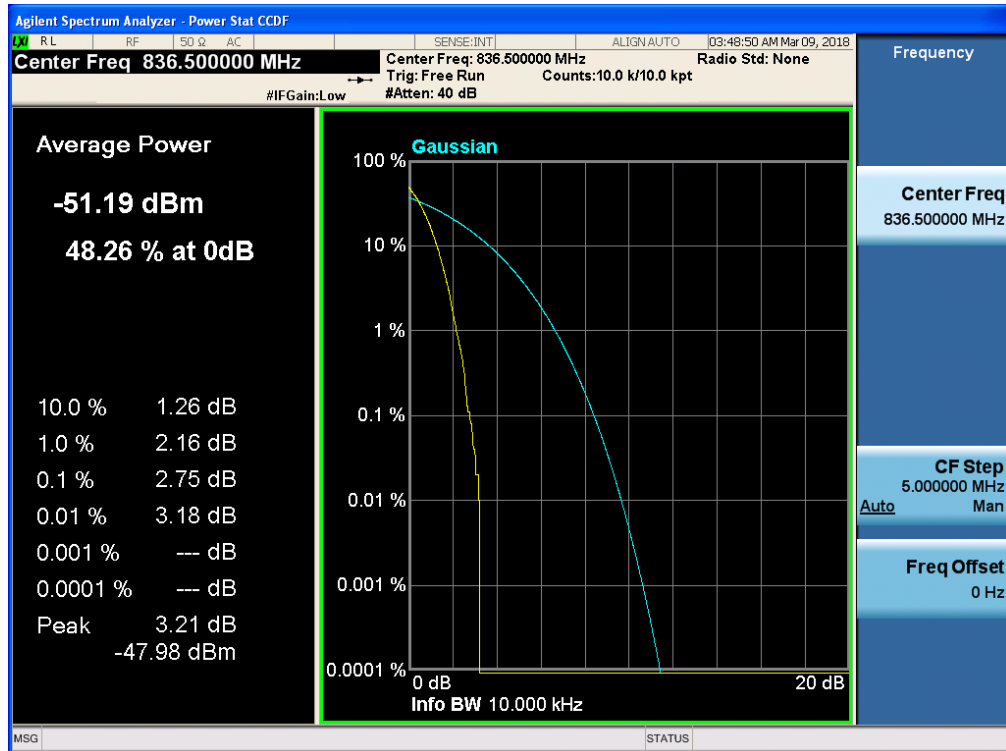
Band 5,UL Channel 20525,UL Frequency 836.5,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



Band 5,UL Channel 20525,UL Frequency 836.5,BW 10.0,NO. RB 1,RB POS. Low,QPSK

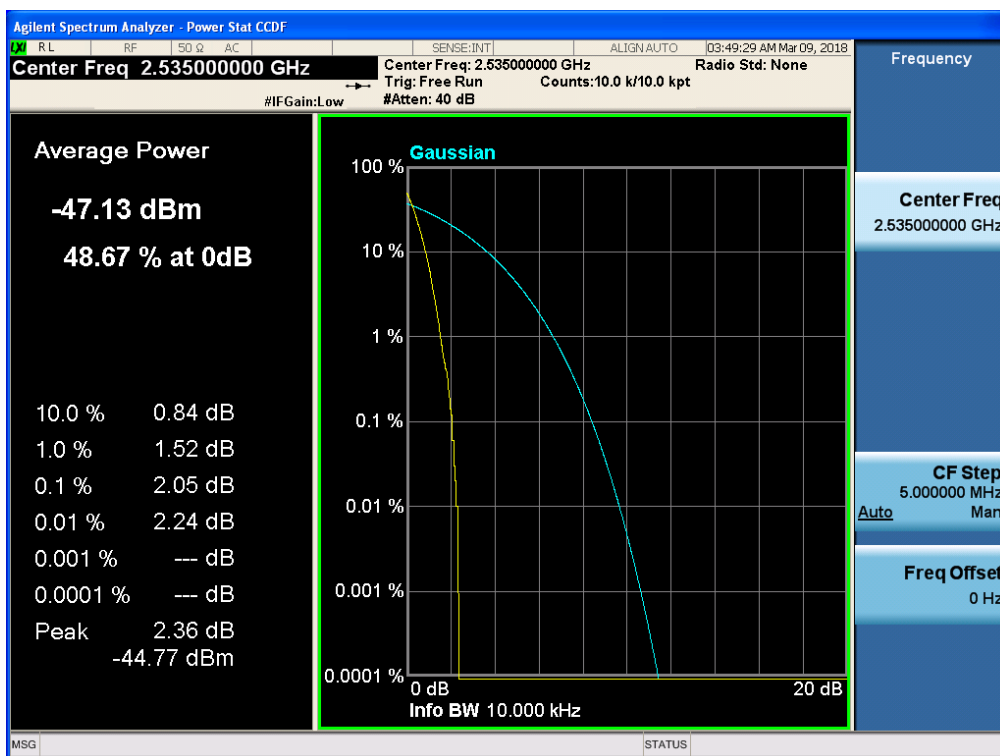


Band 5,UL Channel 20525,UL Frequency 836.5,BW 10.0,NO. RB 1,RB POS. Low,16-QAM

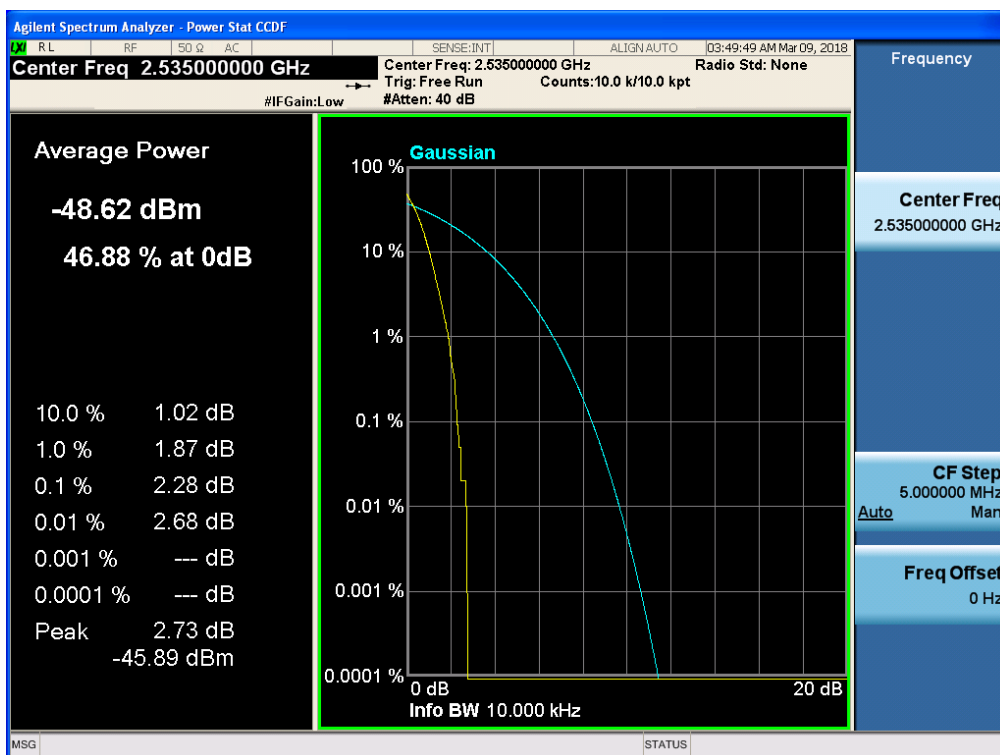


## 11.8 LTE BAND 7

Band 7,UL Channel 21100,UL Frequency 2535.0,BW 5.0,NO. RB 1,RB POS. Low,QPSK

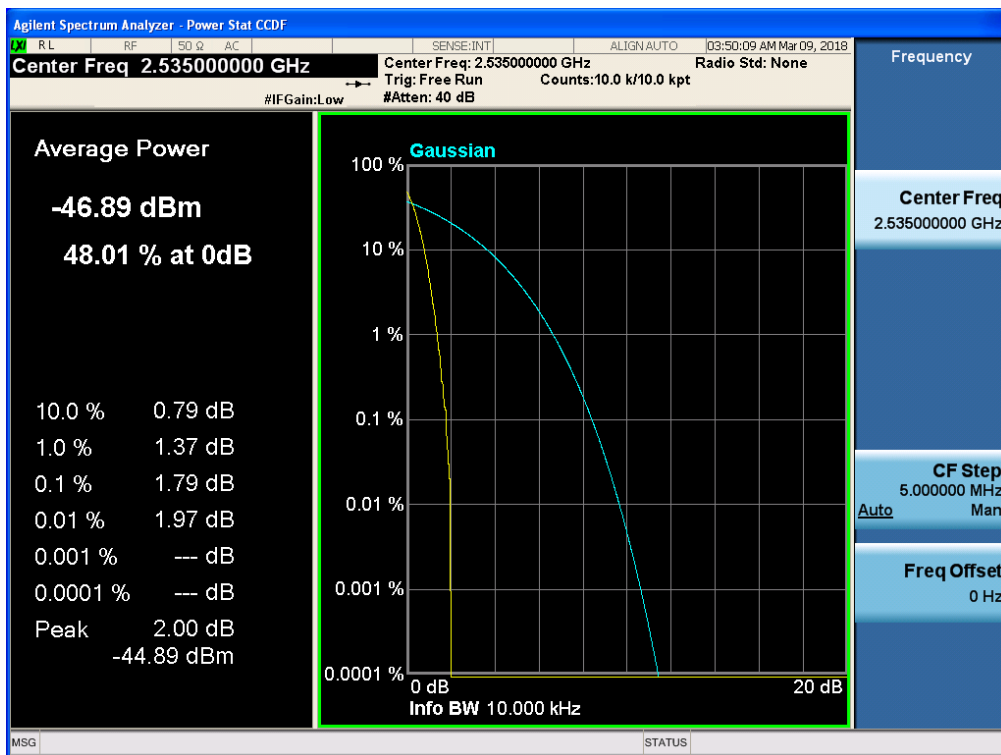


Band 7,UL Channel 21100,UL Frequency 2535.0,BW 5.0,NO. RB 1,RB POS. Low,16-QAM

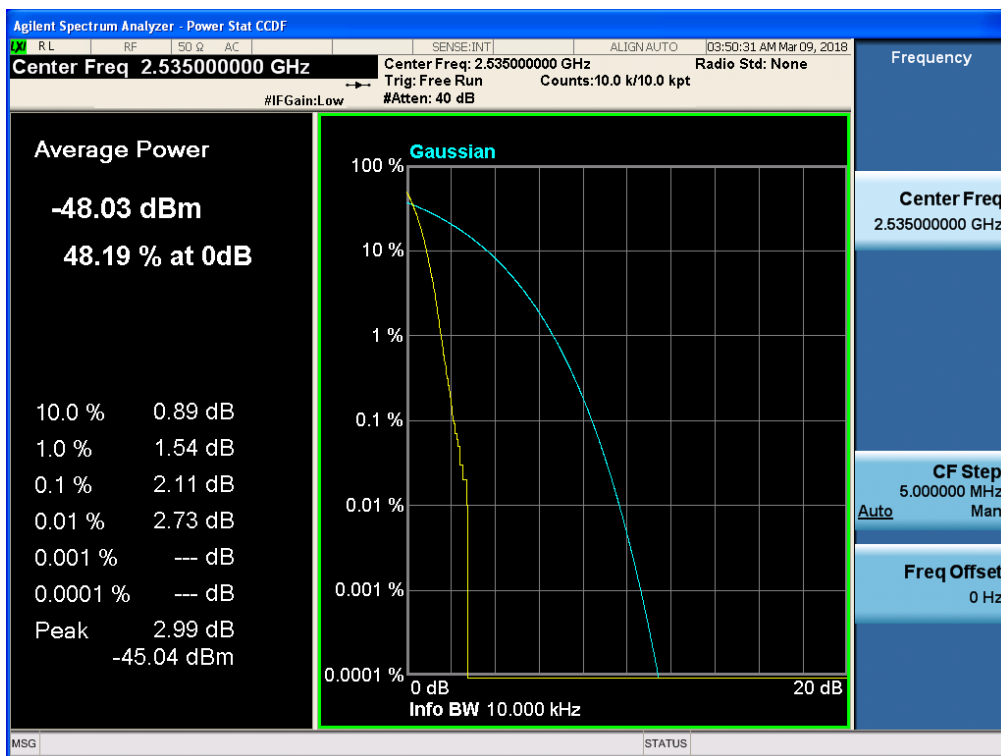




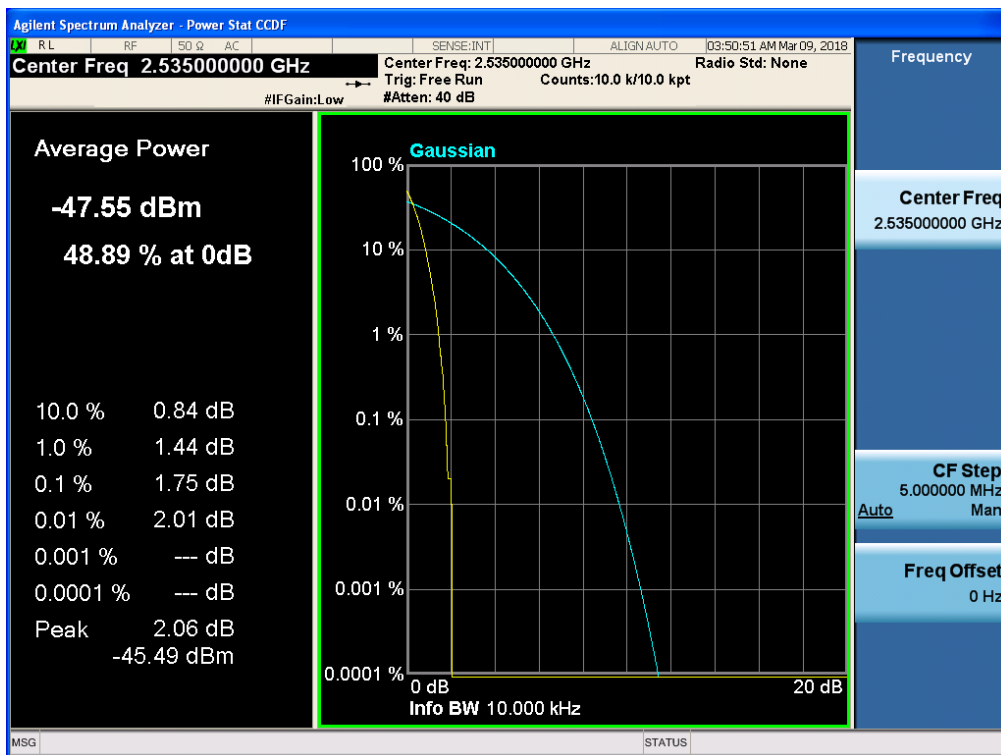
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



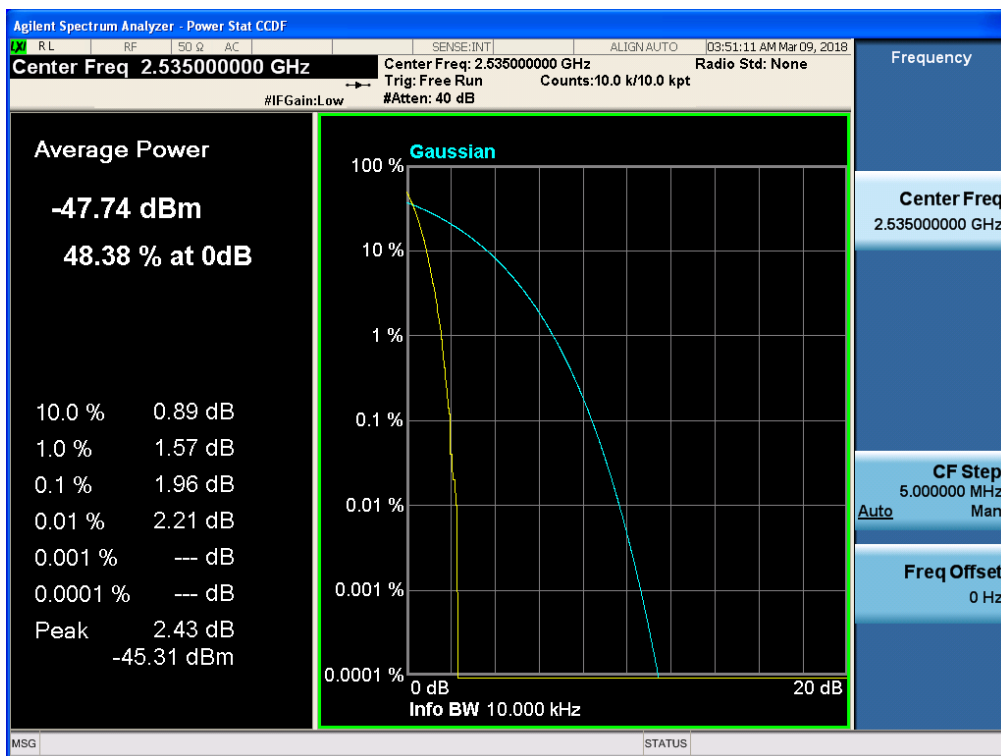
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 10.0,NO. RB 1,RB POS. Low,16-QAM



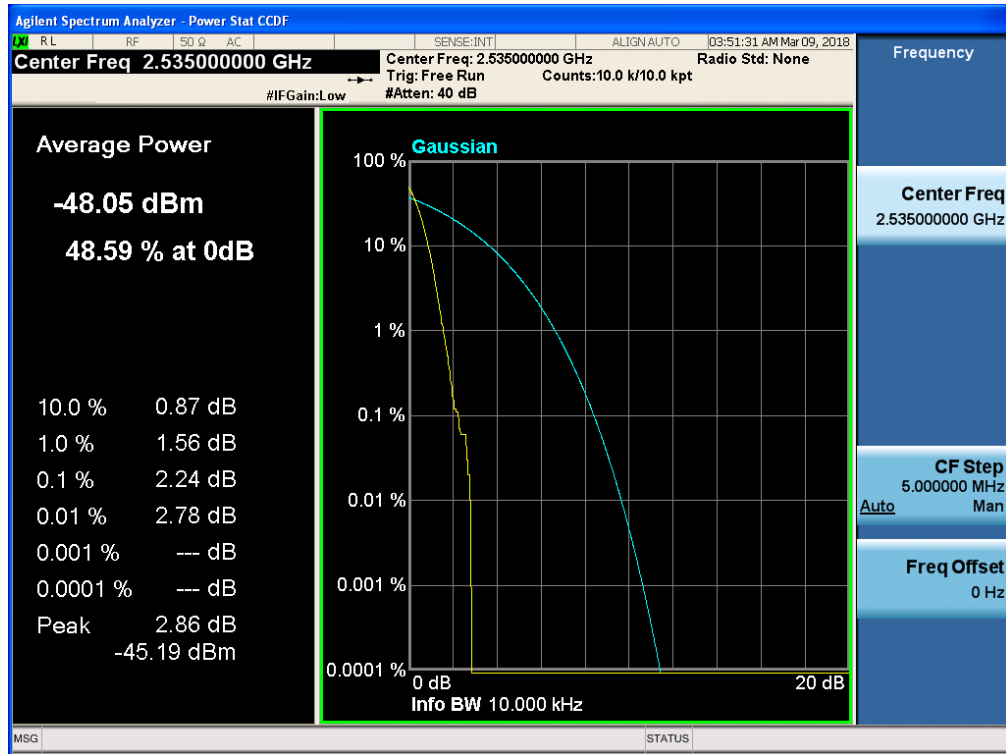
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 15.0,NO. RB 1,RB POS. Low,QPSK



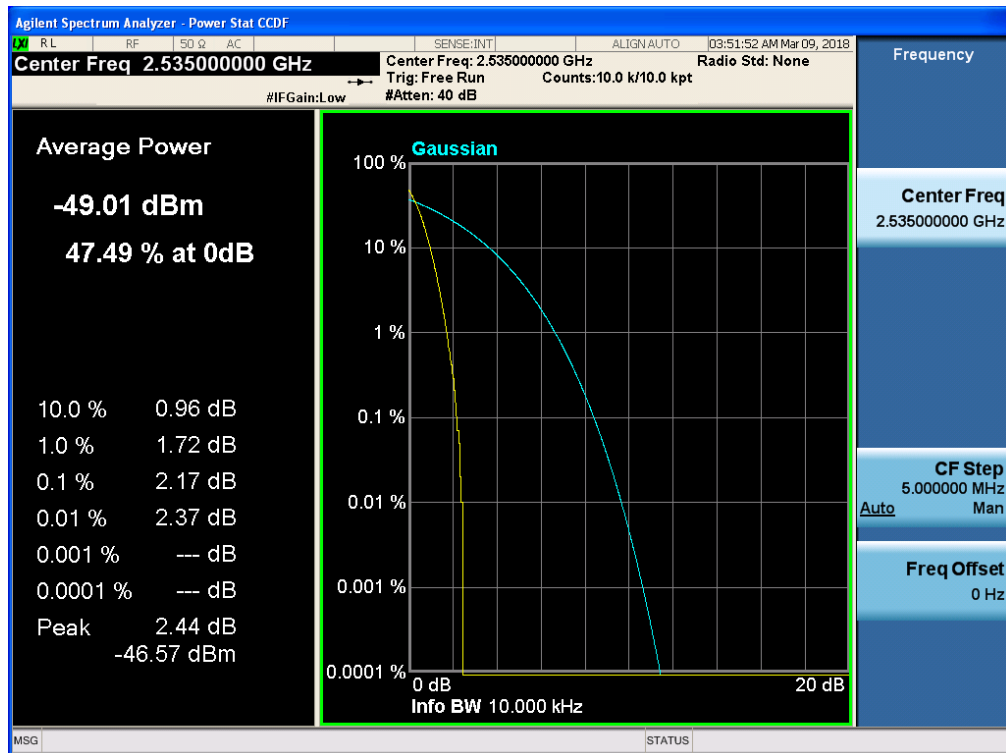
Band 7,UL Channel 21100,UL Frequency 2535.0,BW 15.0,NO. RB 1,RB POS. Low,16-QAM



Band 7,UL Channel 21100,UL Frequency 2535.0,BW 20.0,NO. RB 1,RB POS. Low,QPSK

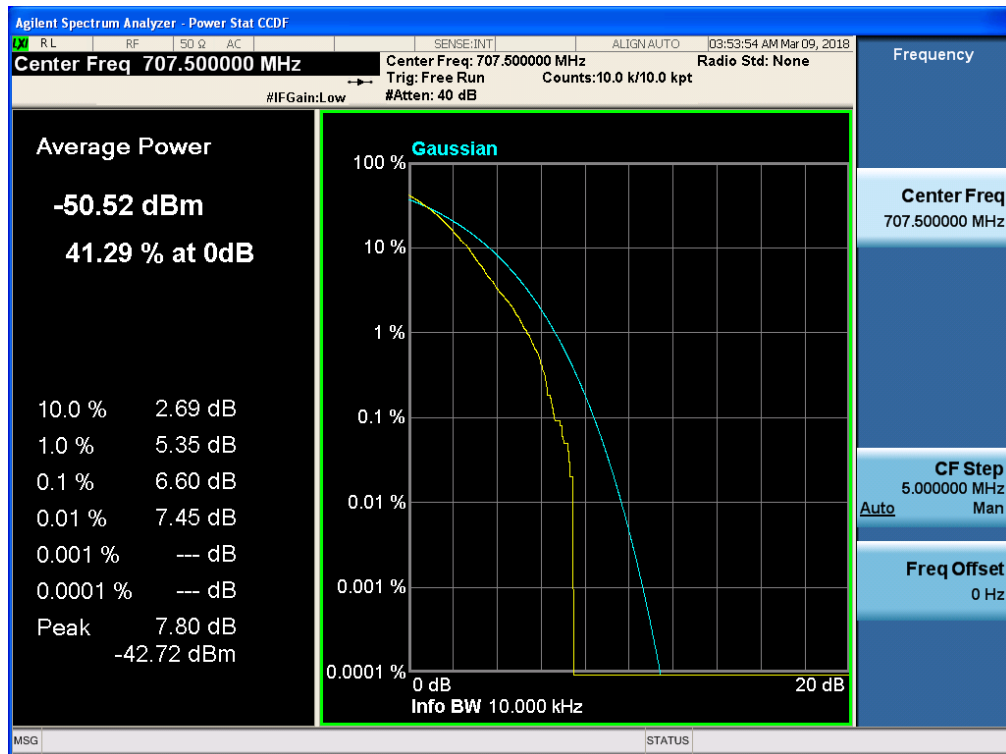


Band 7,UL Channel 21100,UL Frequency 2535.0,BW 20.0,NO. RB 1,RB POS. Low,16-QAM

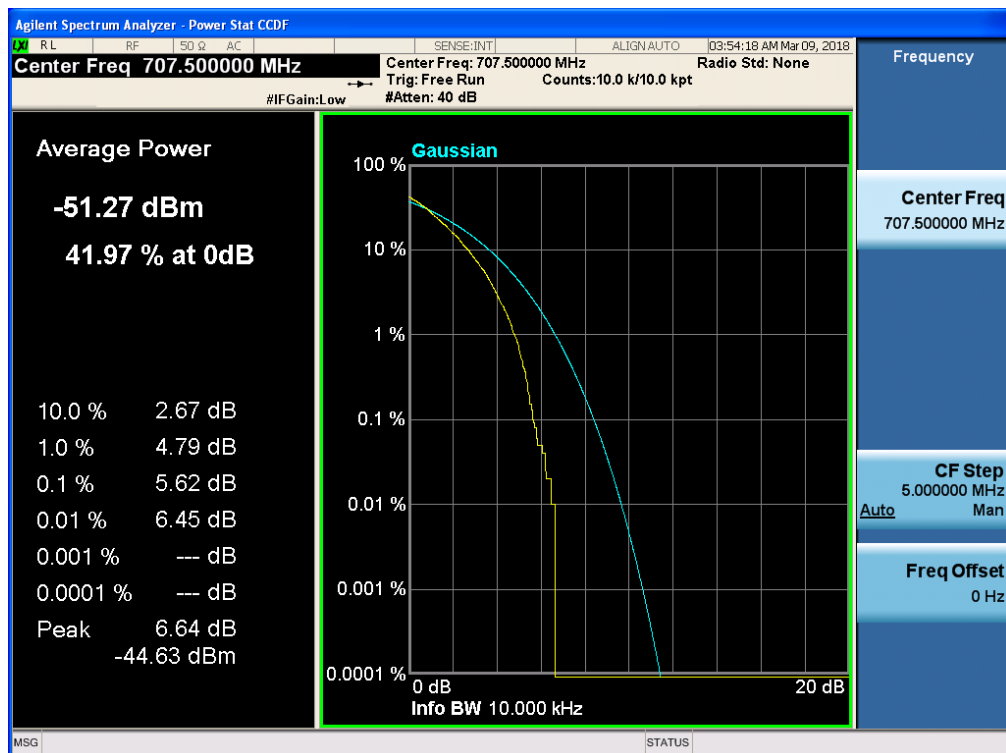


## 11.9 LTE BAND 12

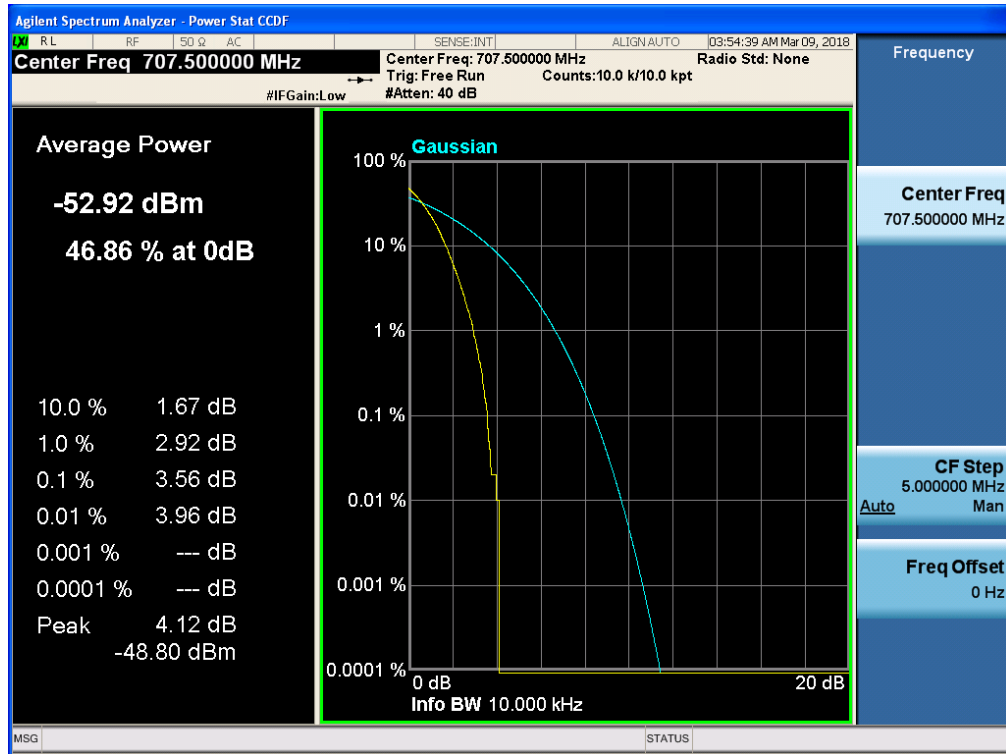
Band 12,UL Channel 23095,UL Frequency 707.5,BW 1.4,NO. RB 1,RB POS. Low,QPSK



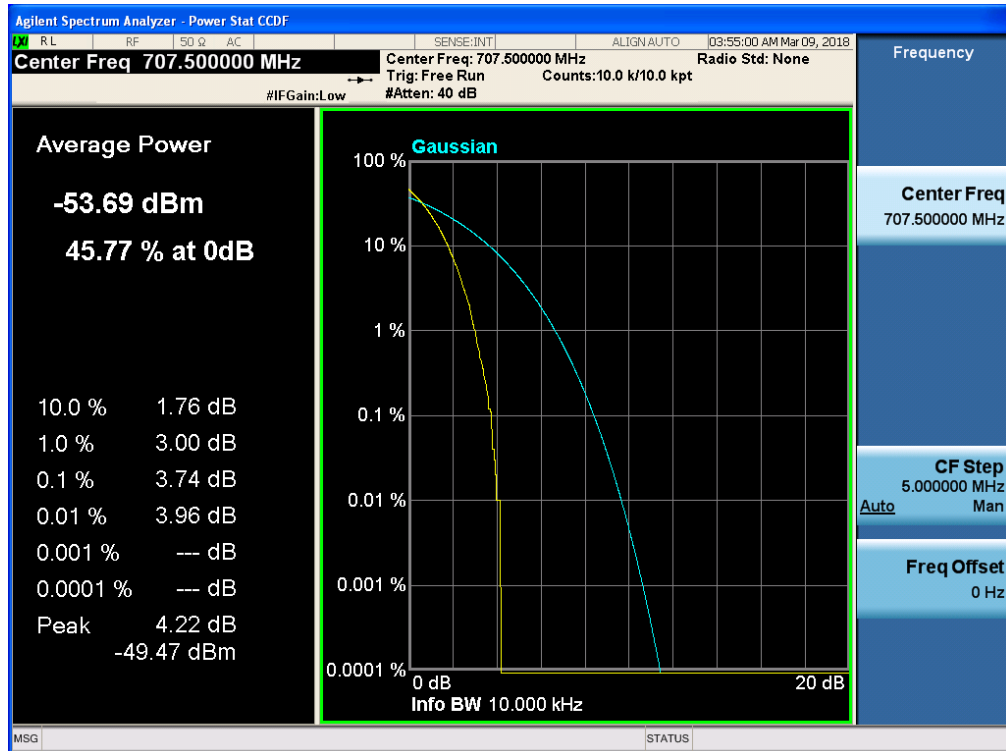
Band 12,UL Channel 23095,UL Frequency 707.5,BW 1.4,NO. RB 1,RB POS. Low,16-QAM



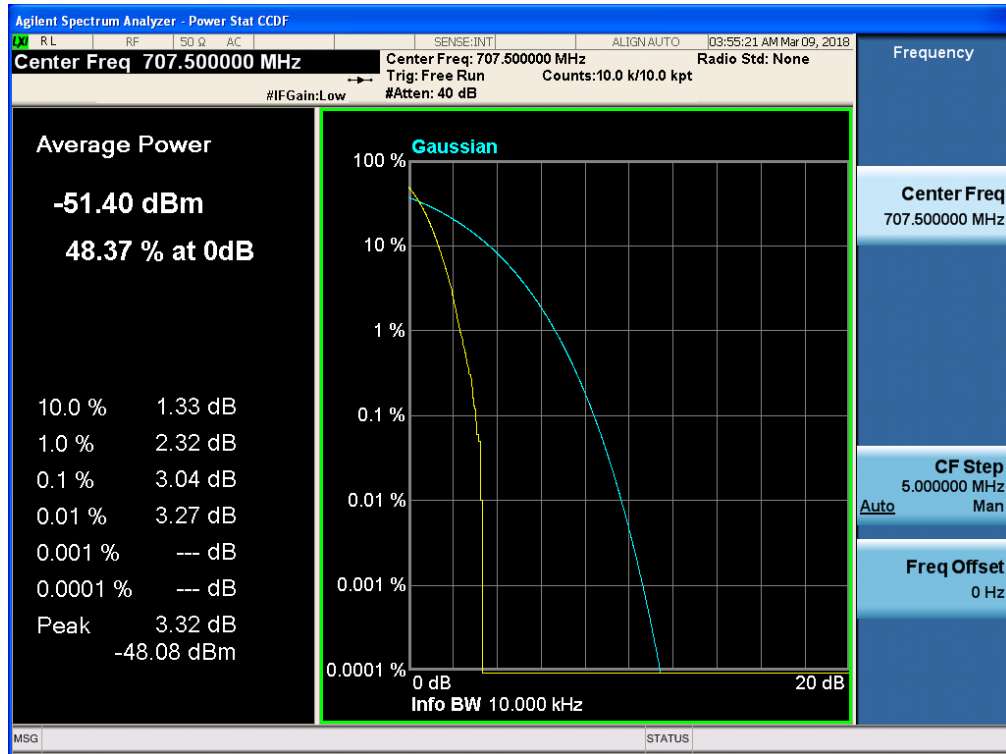
Band 12,UL Channel 23095,UL Frequency 707.5,BW 3.0,NO. RB 1,RB POS. Low,QPSK



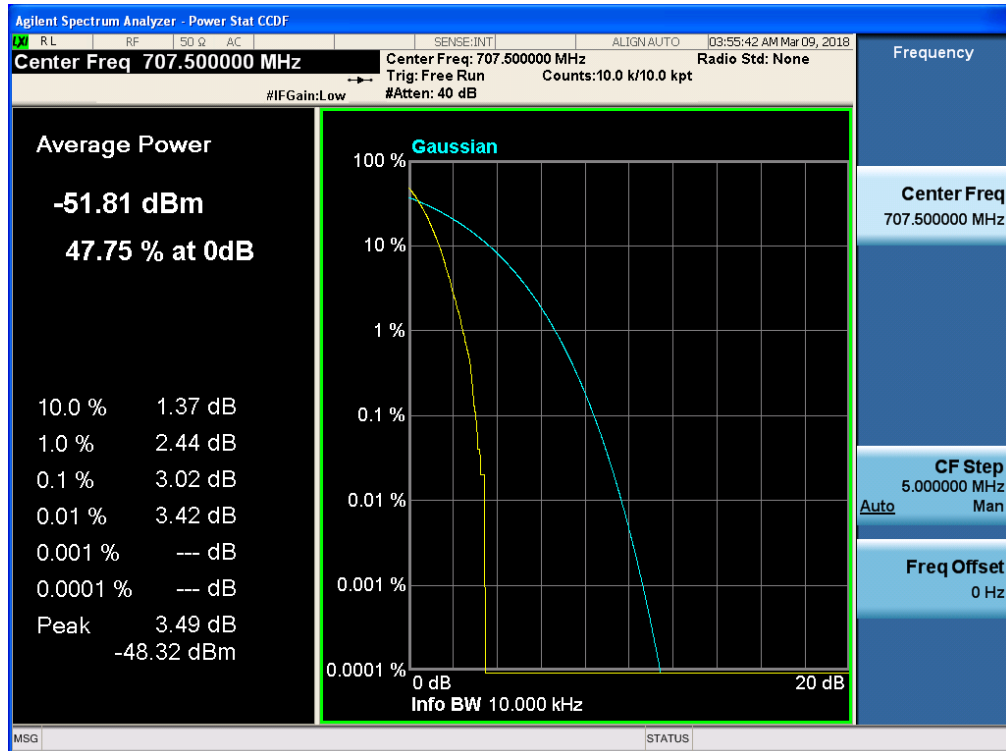
Band 12,UL Channel 23095,UL Frequency 707.5,BW 3.0,NO. RB 1,RB POS. Low,16-QAM



Band 12,UL Channel 23095,UL Frequency 707.5,BW 5.0,NO. RB 1,RB POS. Low,QPSK



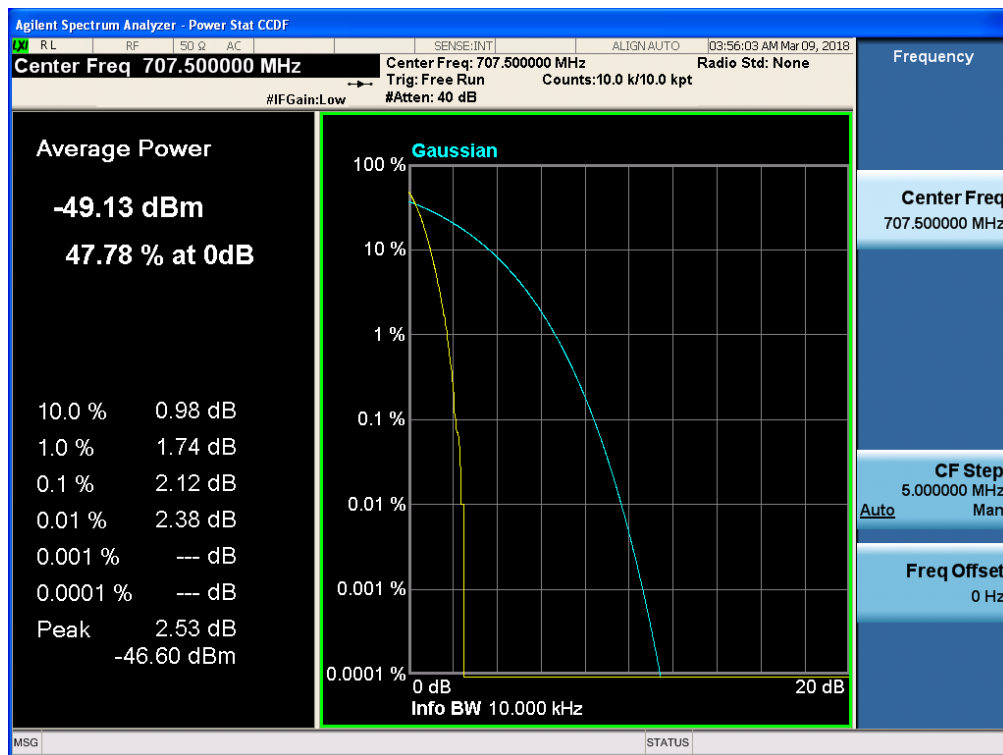
Band 12,UL Channel 23095,UL Frequency 707.5,BW 5.0,NO. RB 1,RB POS. Low,16-QAM



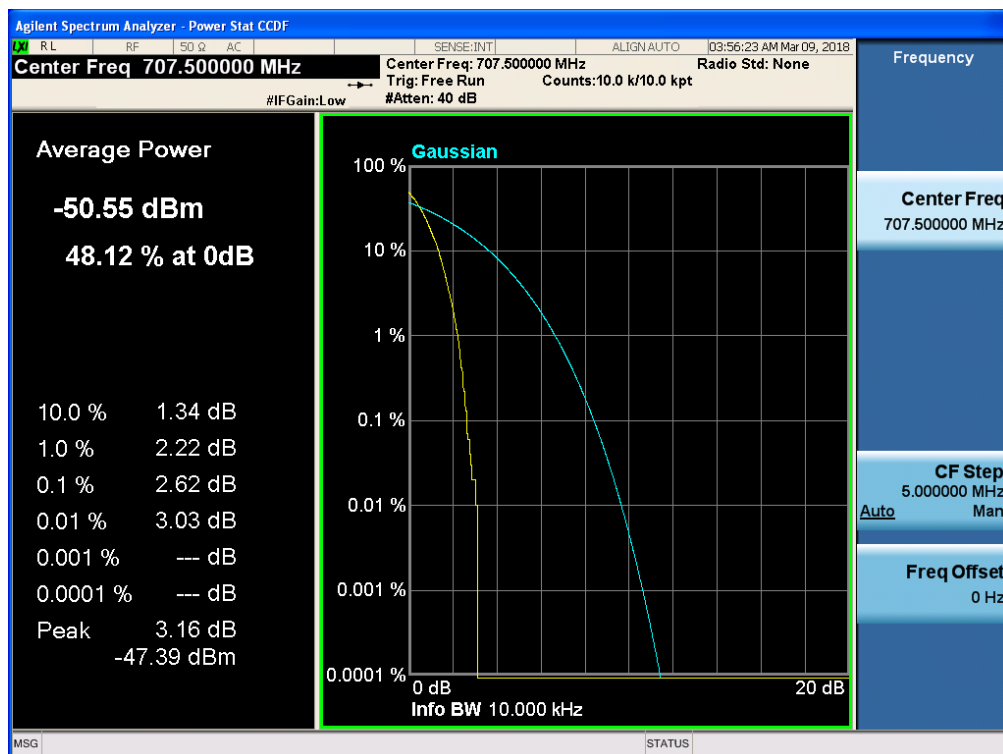


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Band 12,UL Channel 23095,UL Frequency 707.5,BW 10.0,NO. RB 1,RB POS. Low,QPSK

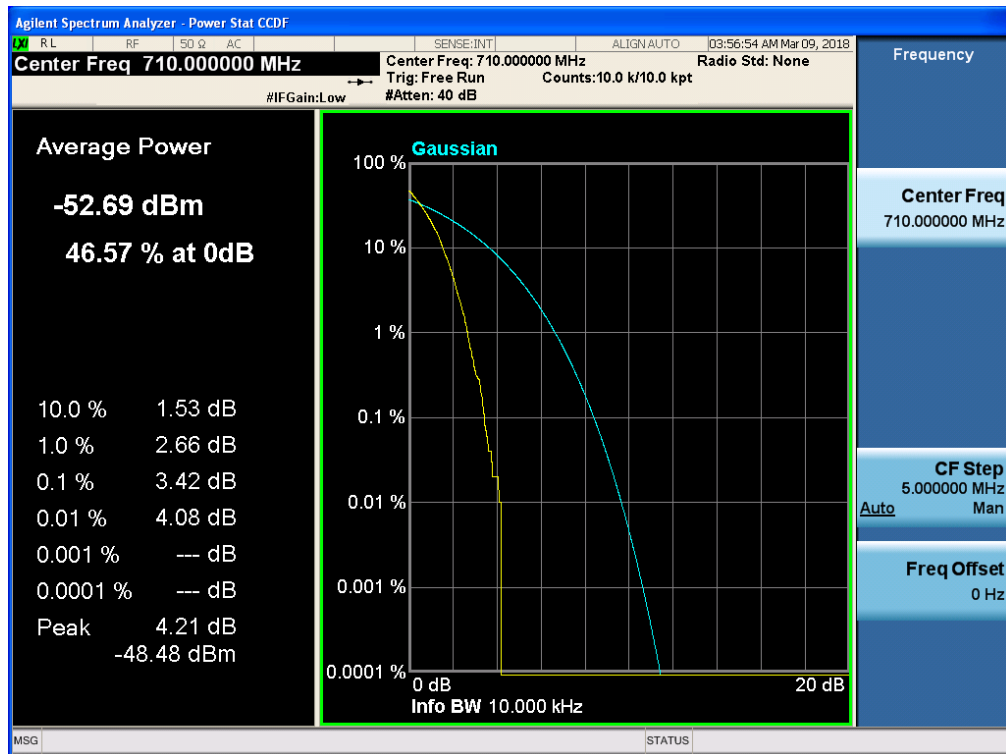


Band 12,UL Channel 23095,UL Frequency 707.5,BW 10.0,NO. RB 1,RB POS. Low,16-QAM

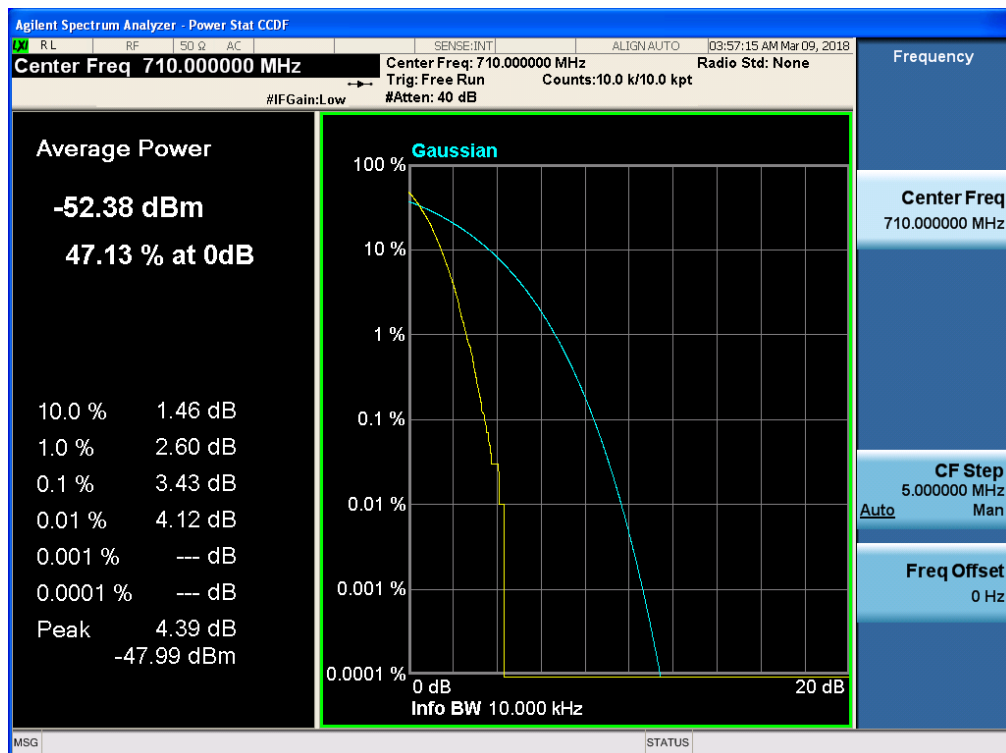


## 11.10 LTE BAND 17

Band 17,UL Channel 23790,UL Frequency 710.0,BW 5.0,NO. RB 1,RB POS. Low,QPSK



Band 17,UL Channel 23790,UL Frequency 710.0,BW 5.0,NO. RB 1,RB POS. Low,16-QAM

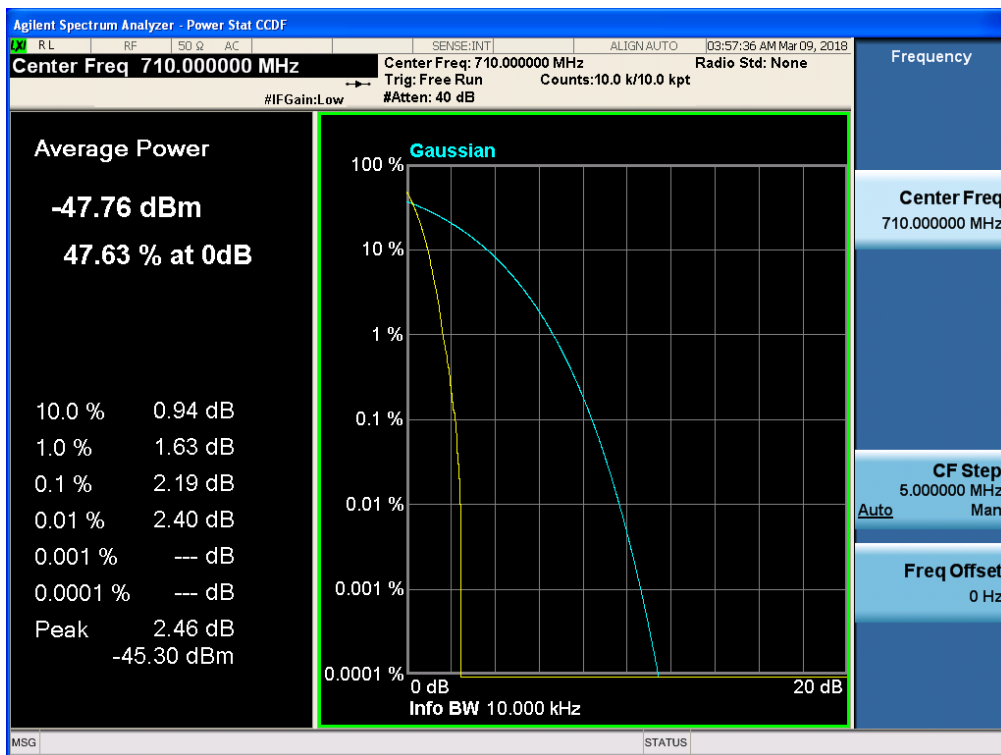




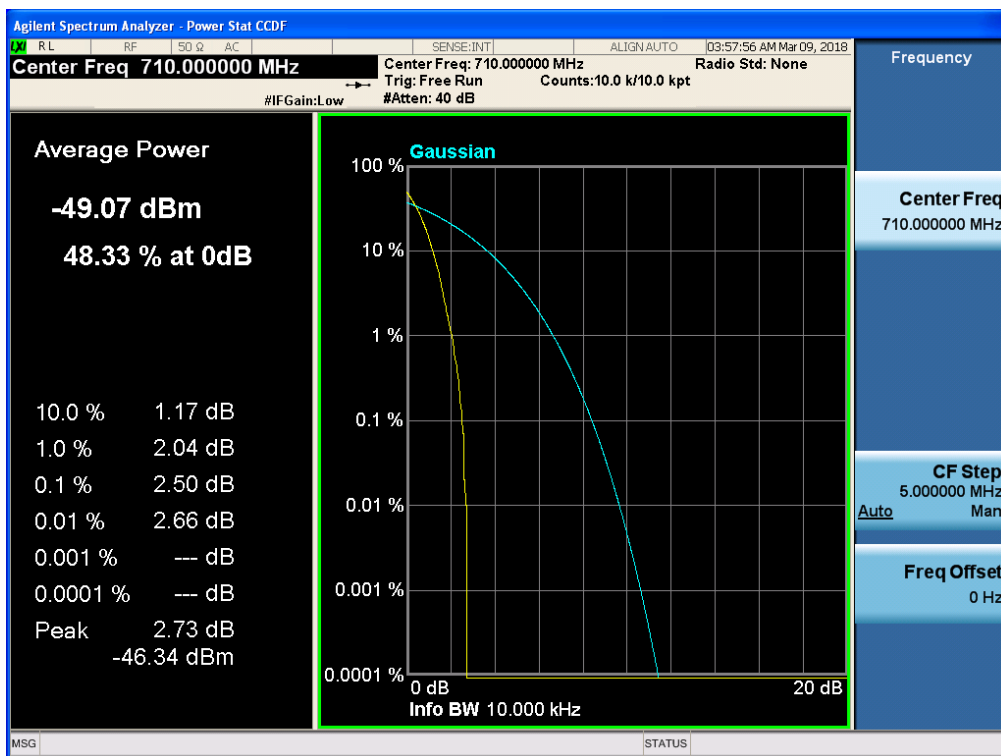


Report No.: SER180207605007E

Band 17,UL Channel 23790,UL Frequency 710.0,BW 10.0,NO. RB 1,RB POS. Low,QPSK



Band 17,UL Channel 23790,UL Frequency 710.0,BW 10.0,NO. RB 1,RB POS. Low,16-QAM



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