

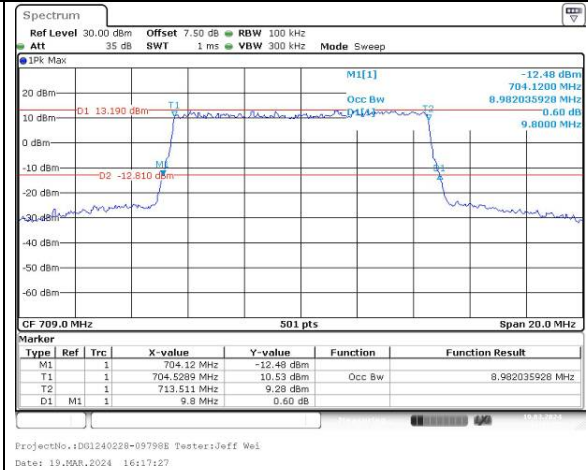
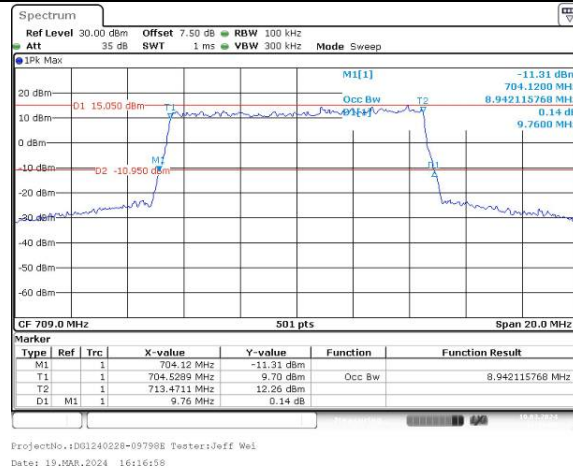
## Occupied Bandwidth

## Channel

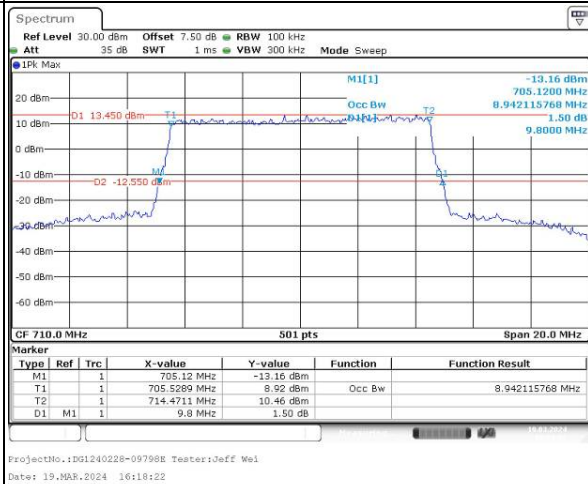
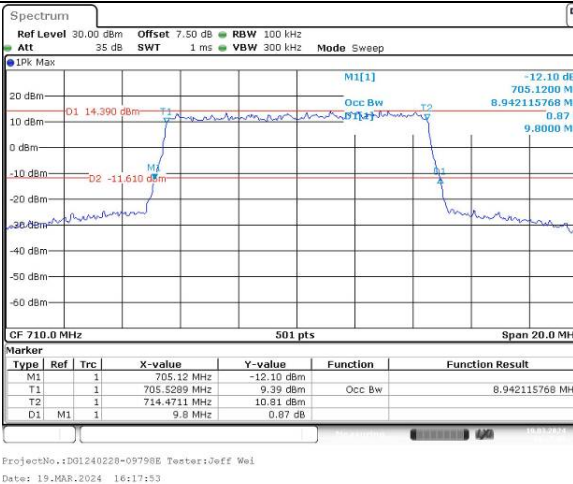
## 10MHz Bandwidth QPSK

## 10MHz Bandwidth 16QAM

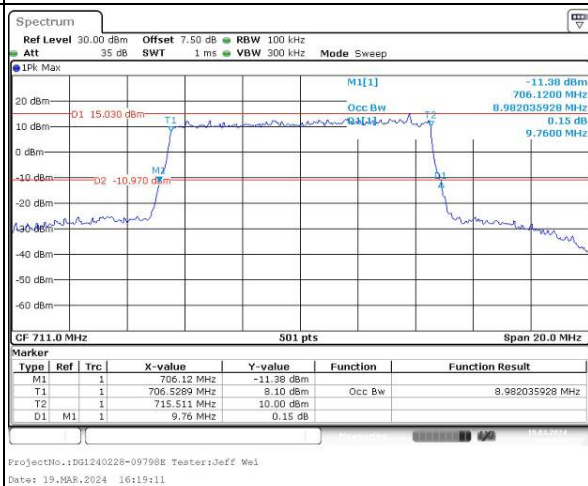
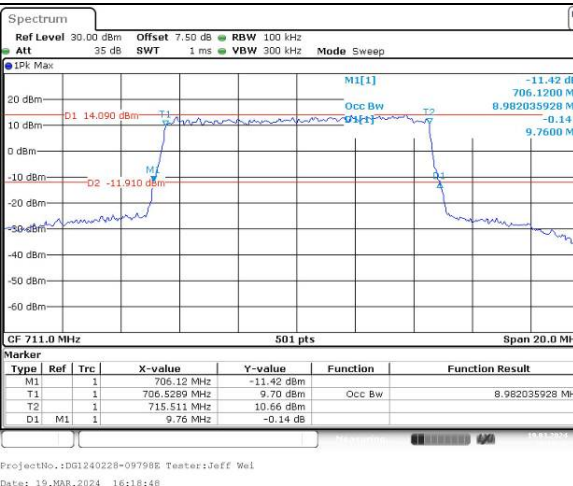
## Lowest



## Middle



## Highest

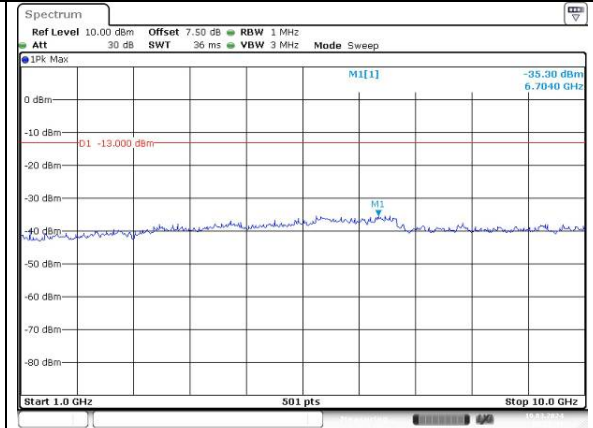
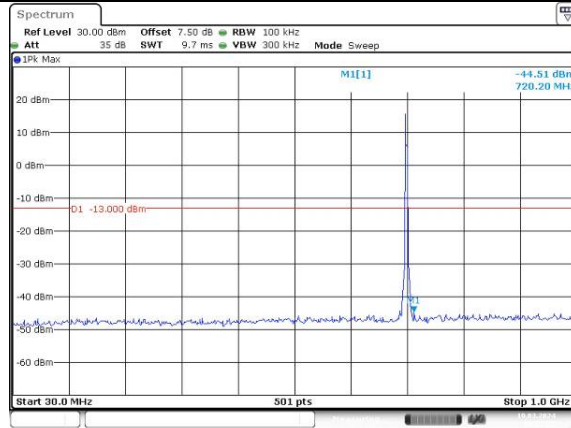


# Spurious Emissions at Antenna Terminal

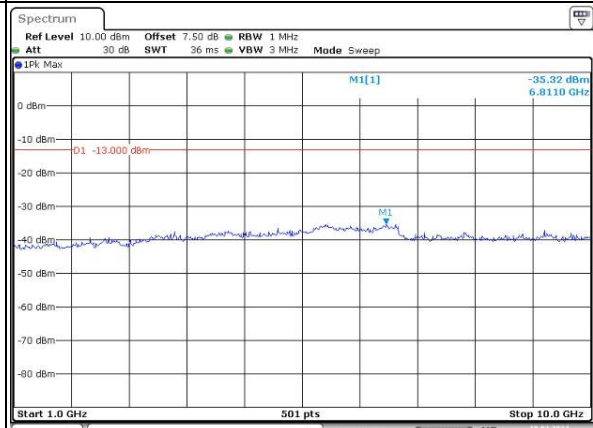
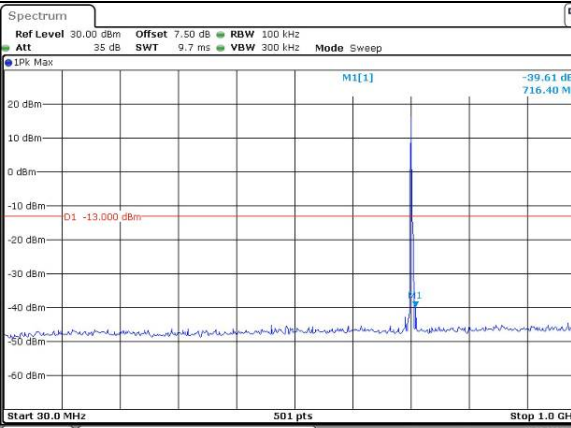
Channel

5MHz Bandwidth QPSK

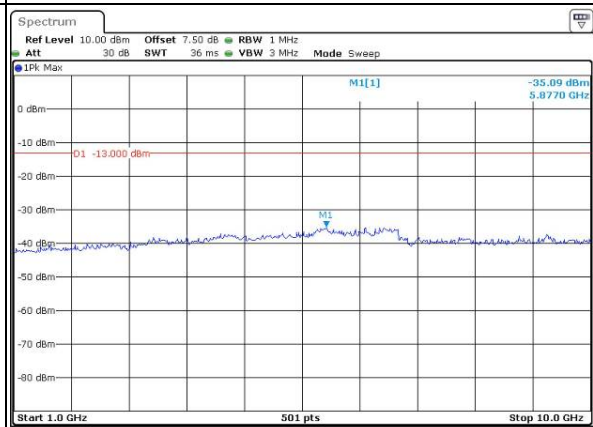
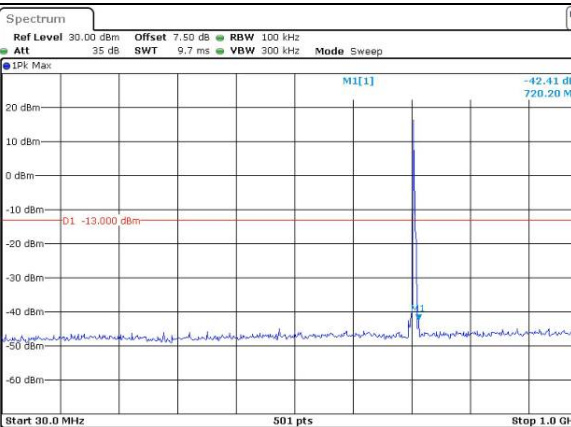
Lowest



Middle



Highest

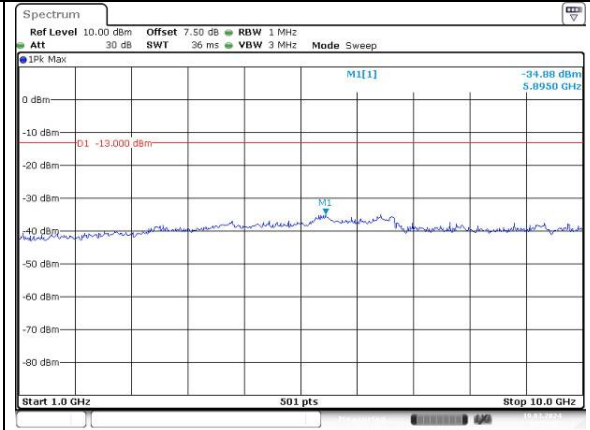
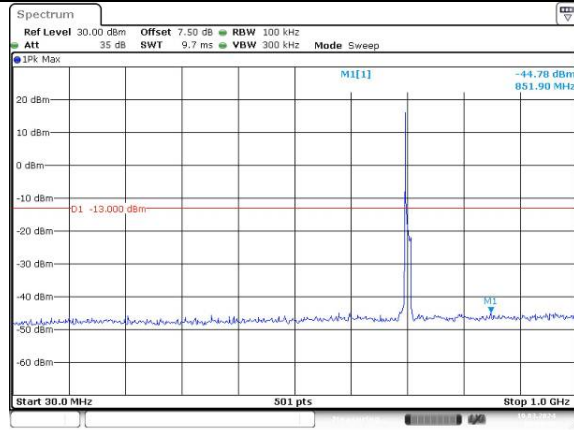


# Spurious Emissions at Antenna Terminal

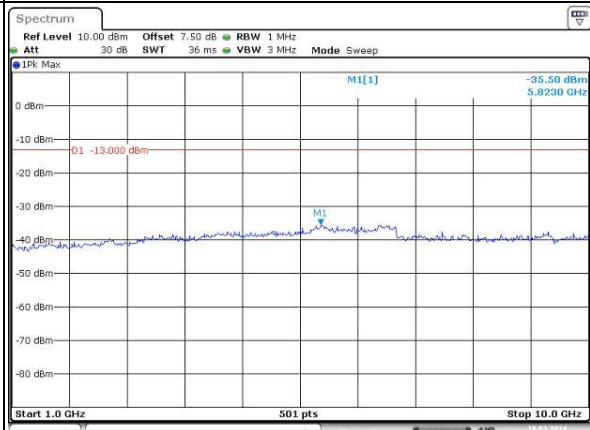
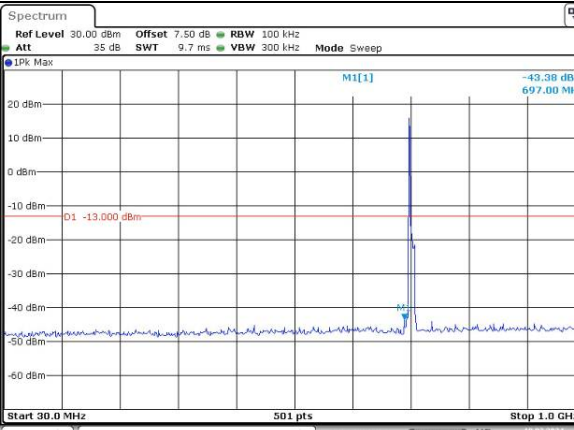
Channel

10MHz Bandwidth QPSK

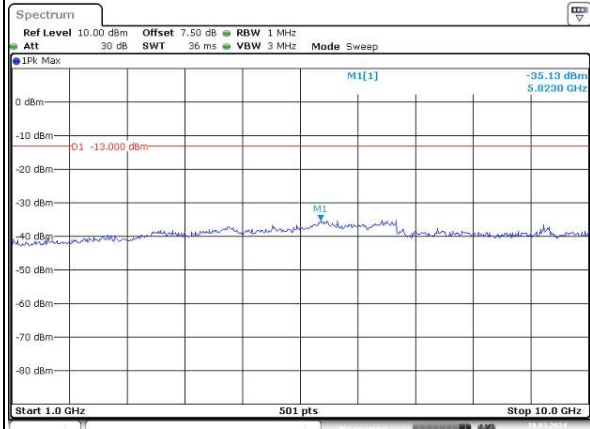
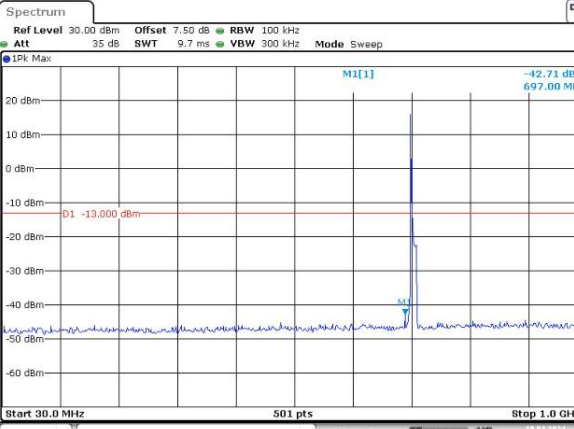
Lowest



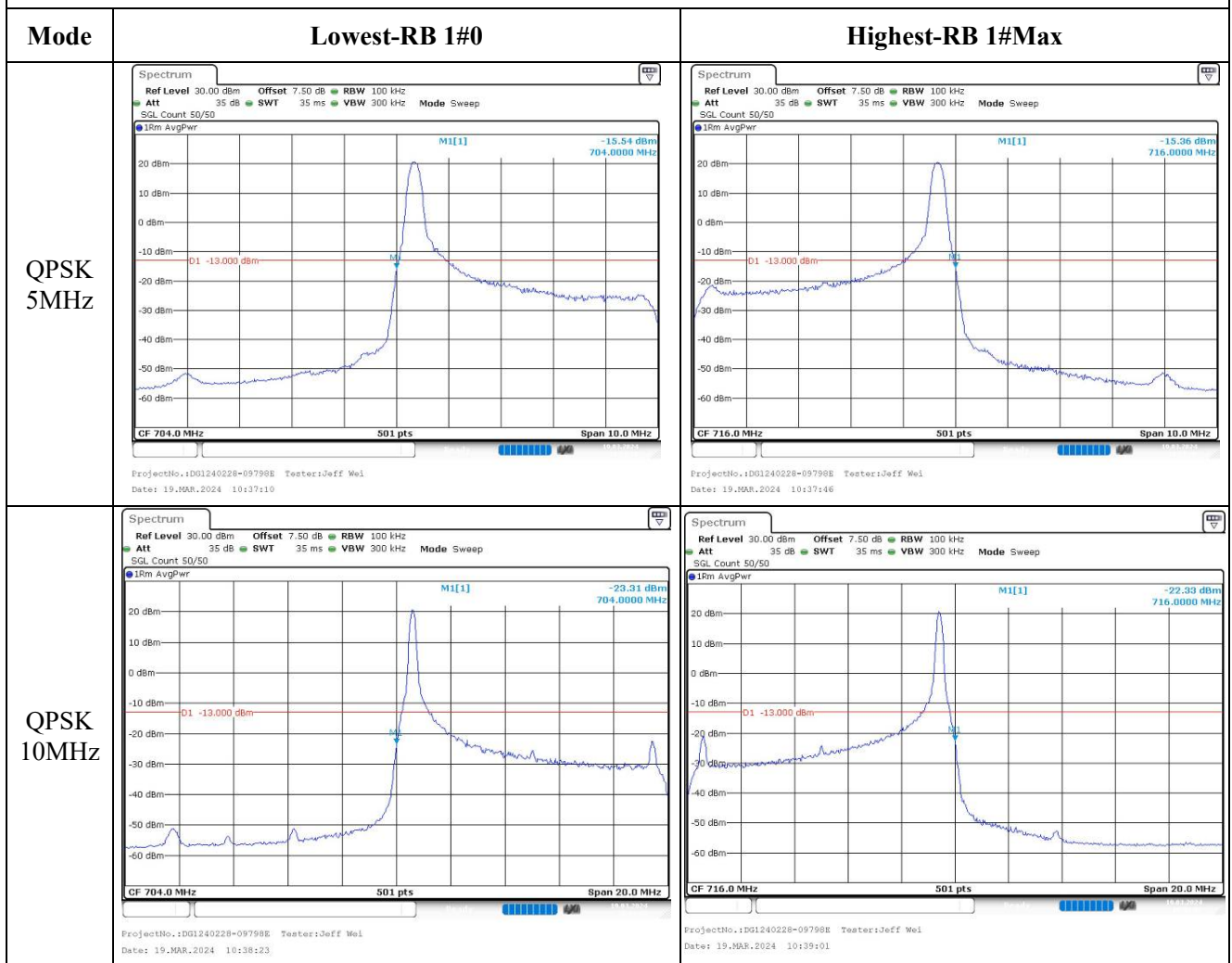
Middle



Highest



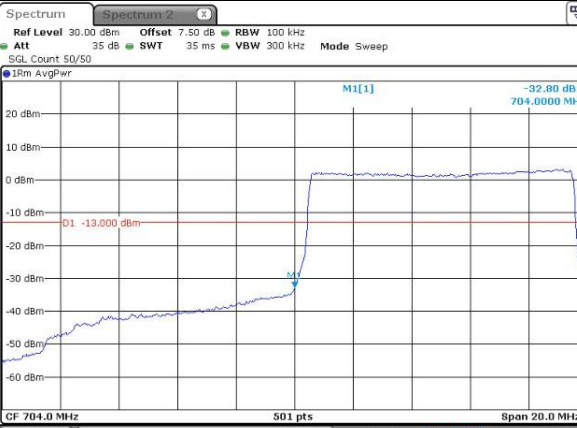
## Out of band emission, Band Edge



Out of band emission, Band Edge

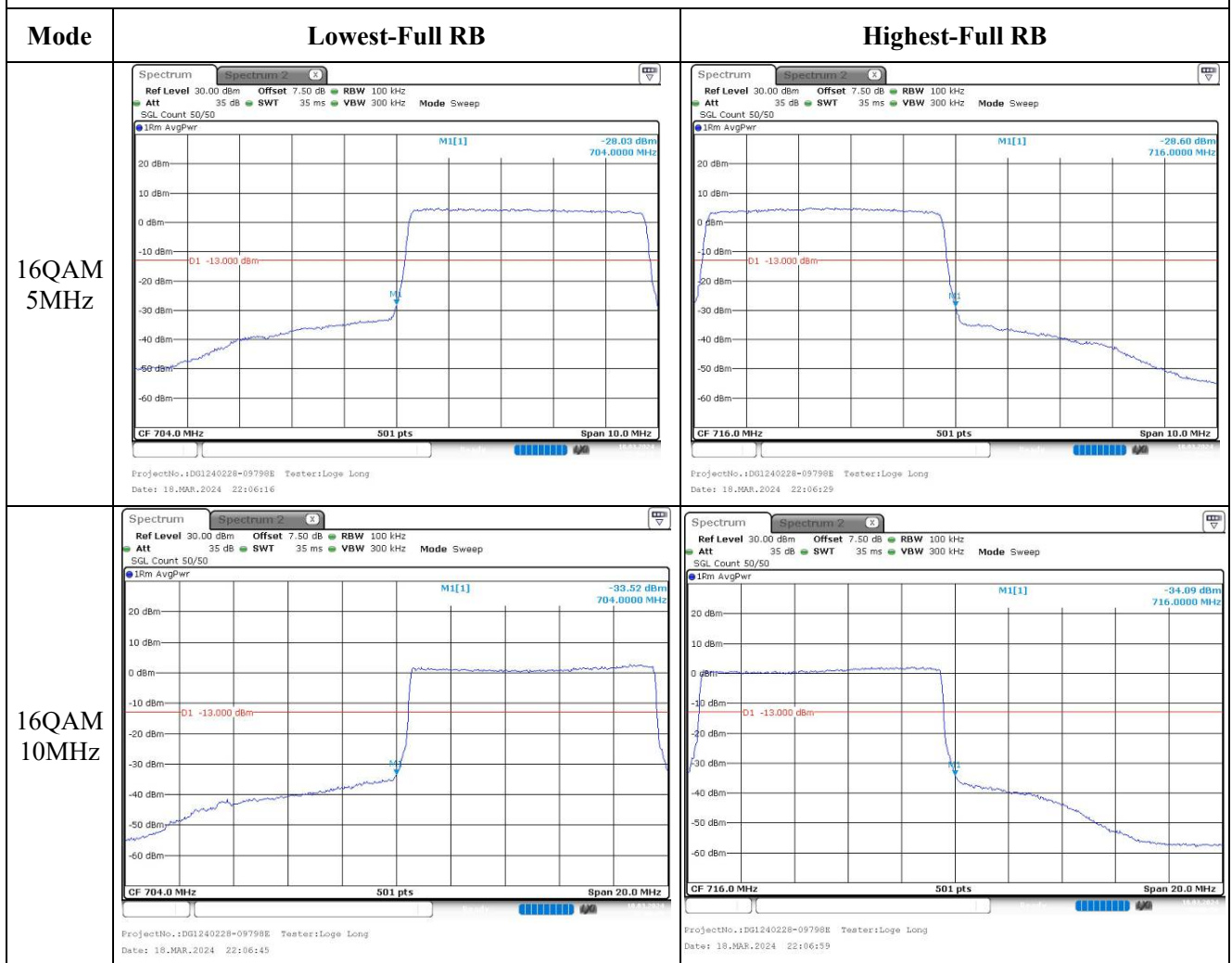
| Mode        | Lowest-RB 1#0                                                                     | Highest-RB 1#Max                                                                  |
|-------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 16QAM 5MHz  | <p>ProjectNo.:DG1240228-09798E Tester:Jeff Wei<br/>Date: 19.MAR.2024 10:37:29</p> | <p>ProjectNo.:DG1240228-09798E Tester:Jeff Wei<br/>Date: 19.MAR.2024 10:38:04</p> |
| 16QAM 10MHz | <p>ProjectNo.:DG1240228-09798E Tester:Jeff Wei<br/>Date: 19.MAR.2024 10:38:42</p> | <p>ProjectNo.:DG1240228-09798E Tester:Jeff Wei<br/>Date: 19.MAR.2024 10:39:15</p> |

Out of band emission, Band Edge

| Mode       | Lowest-Full RB                                                                                                                                                        | Highest-Full RB                                                                                                                                                        |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QPSK 5MHz  |  <p>ProjectNo.:DG1240228-09798E Tester:Loge Long<br/>Date: 18.MAR.2024 21:52:22</p>  |  <p>ProjectNo.:DG1240228-09798E Tester:Loge Long<br/>Date: 18.MAR.2024 22:06:23</p>  |
| QPSK 10MHz |  <p>ProjectNo.:DG1240228-09798E Tester:Loge Long<br/>Date: 18.MAR.2024 22:06:38</p> |  <p>ProjectNo.:DG1240228-09798E Tester:Loge Long<br/>Date: 18.MAR.2024 22:06:52</p> |



## Out of band emission, Band Edge



5.9 Radiated Spurious Emissions

|                |                      |              |                                                |
|----------------|----------------------|--------------|------------------------------------------------|
| Serial Number: | 2145-1               | Test Date:   | Below 1GHz: 2024/3/16<br>Above 1GHz: 2024/3/23 |
| Test Site:     | Chamber A, Chamber B | Test Mode:   | Transmitting                                   |
| Tester:        | Alan Xie,Bill Yang   | Test Result: | Pass                                           |

Environmental Conditions:

|                      |           |                           |       |                           |             |
|----------------------|-----------|---------------------------|-------|---------------------------|-------------|
| Temperature:<br>(°C) | 22.5~26.1 | Relative Humidity:<br>(%) | 60~62 | ATM<br>Pressure:<br>(kPa) | 100.6~101.2 |
|----------------------|-----------|---------------------------|-------|---------------------------|-------------|

Test Equipment List and Details:

| Manufacturer   | Description               | Model     | Serial<br>Number | Calibration<br>Date | Calibration<br>Due Date |
|----------------|---------------------------|-----------|------------------|---------------------|-------------------------|
| 30MHz~1000MHz  |                           |           |                  |                     |                         |
| Sunol Sciences | Hybrid Antenna            | JB3       | A060611-3        | 2024/1/12           | 2027/1/11               |
| Wilson         | Attenuator                | 859936    | F-08-EM014       | 2023/7/1            | 2024/6/30               |
| Unknown        | Coaxial Cable             | C-NJNJ-50 | C-0075-01        | 2023/7/1            | 2024/6/30               |
| Unknown        | Coaxial Cable             | C-NJNJ-50 | C-0400-01        | 2023/7/1            | 2024/6/30               |
| Unknown        | Coaxial Cable             | C-NJNJ-50 | C-1400-01        | 2023/7/1            | 2024/6/30               |
| Sonoma         | Amplifier                 | 310N      | 372193           | 2023/7/1            | 2024/6/30               |
| R&S            | EMI Test Receiver         | ESR3      | 102453           | 2023/8/18           | 2024/8/17               |
| EMCO           | Adjustable Dipole Antenna | 3121C     | 9109-753         | N/A                 | N/A                     |
| Unknown        | Coaxial Cable             | C-NJNJ-50 | C-0200-02        | 2023/9/4            | 2024/9/3                |
| Agilent        | Signal Generator          | E8247C    | MY43321350       | 2023/10/18          | 2024/10/17              |



| Manufacturer          | Description           | Model                     | Serial Number     | Calibration Date | Calibration Due Date |
|-----------------------|-----------------------|---------------------------|-------------------|------------------|----------------------|
| Above 1GHz            |                       |                           |                   |                  |                      |
| ETS-Lindgren          | Horn Antenna          | 3115                      | 000 527 35        | 2023/9/7         | 2026/9/6             |
| AH                    | Horn Antenna          | SAS-571                   | 1177              | 2023/2/22        | 2026/2/21            |
| Xinhang Macrowave     | Coaxial Cable         | XH750A-N/J-SMA/J-10M      | 20231117004 #0001 | 2023/11/17       | 2024/11/16           |
| Xinhang Macrowave     | Coaxial Cable         | XH360A-2.92/J-2.92/J-6M-A | 20231208001 #0001 | 2023/12/11       | 2024/12/10           |
| Micro-Coax            | Coaxial Cable         | UFA210B                   | 99G1448           | 2023/9/9         | 2024/9/8             |
| Agilent               | Signal Generator      | E8247C                    | MY43321350        | 2023/10/18       | 2024/10/17           |
| AH                    | Preamplifier          | PAM-0118P                 | 469               | 2023/8/19        | 2024/8/18            |
| R&S                   | Spectrum Analyzer     | FSV40                     | 101944            | 2023/10/18       | 2024/10/17           |
| E-Microwave           | Band Rejection Filter | OBF-ZP-703-748-SMAF       | OE01902425        | 2023/6/16        | 2024/6/15            |
| E-Microwave           | Band Rejection Filter | BSF-ZP-777-787-SMAF       | OE01902430        | 2023/6/16        | 2024/6/15            |
| Sinoscite             | Band Rejection Filter | BSF824-862MS              | 1438001           | 2023/6/16        | 2024/6/15            |
| Sinoscite             | Band Rejection Filter | BSF1710-1785MN            | 0383003           | 2023/6/16        | 2024/6/15            |
| Sinoscite             | Band Rejection Filter | BSF1850-1910MS            | 0935V2001         | 2023/6/16        | 2024/6/15            |
| AH                    | Preamplifier          | PAM-1840VH                | 191               | 2023/9/7         | 2024/9/6             |
| Ducommun Technologies | Horn Antenna          | ARH-4223-02               | 1007726-02 1304   | 2023/2/22        | 2026/2/21            |
| Ducommun Technologies | Horn Antenna          | ARH-4223-02               | 1007726-03 1304   | 2023/2/22        | 2026/2/21            |
| Mini-Circuits         | High Pass Filter      | VHF-1200+                 | 31102             | 2023/8/1         | 2024/7/31            |
| Mini-Circuits         | High-Pass Filter      | VHF-2700A+                | 31223             | 2023/12/1        | 2024/11/30           |

\* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

#### Test Data:

After pre-scan in the X, Y and Z axes of orientation, the worst case is below:

**Cellular Band (30MHz-10GHz)**

| Frequency<br>(MHz)         | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                    | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------|----------------|-------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|----------------|----------------|
|                            |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable Loss<br>(dB) |                            |                |                |
| GSM 850 Frequency:824.2MHz |                |                               |                               |                              |                    |                            |                |                |
| 325.50                     | H              | 49.82                         | -64.44                        | 0.00                         | 0.20               | -64.64                     | -13.00         | 51.64          |
| 741.00                     | V              | 53.42                         | -55.38                        | 0.00                         | 0.32               | -55.70                     | -13.00         | 42.70          |
| 1648.40                    | H              | 57.32                         | -60.79                        | 10.44                        | 0.71               | -51.06                     | -13.00         | 38.06          |
| 1648.40                    | V              | 55.49                         | -63.22                        | 10.44                        | 0.71               | -53.49                     | -13.00         | 40.49          |
| 2472.60                    | H              | 56.71                         | -59.37                        | 12.88                        | 1.25               | -47.74                     | -13.00         | 34.74          |
| 2472.60                    | V              | 60.84                         | -55.30                        | 12.88                        | 1.25               | -43.67                     | -13.00         | 30.67          |
| 3296.80                    | H              | 53.25                         | -59.72                        | 13.60                        | 1.59               | -47.71                     | -13.00         | 34.71          |
| 3296.80                    | V              | 54.43                         | -58.54                        | 13.60                        | 1.59               | -46.53                     | -13.00         | 33.53          |
| GSM 850 Frequency:836.6MHz |                |                               |                               |                              |                    |                            |                |                |
| 325.80                     | H              | 50.15                         | -64.09                        | 0.00                         | 0.20               | -64.29                     | -13.00         | 51.29          |
| 741.00                     | V              | 53.12                         | -55.68                        | 0.00                         | 0.32               | -56.00                     | -13.00         | 43.00          |
| 1673.20                    | H              | 56.16                         | -61.58                        | 10.61                        | 0.73               | -51.70                     | -13.00         | 38.70          |
| 1673.20                    | V              | 54.02                         | -64.32                        | 10.61                        | 0.73               | -54.44                     | -13.00         | 41.44          |
| 2509.80                    | H              | 56.68                         | -59.59                        | 13.11                        | 1.25               | -47.73                     | -13.00         | 34.73          |
| 2509.80                    | V              | 60.74                         | -55.56                        | 13.11                        | 1.25               | -43.70                     | -13.00         | 30.70          |
| 3346.40                    | H              | 51.98                         | -60.87                        | 13.83                        | 1.61               | -48.65                     | -13.00         | 35.65          |
| 3346.40                    | V              | 53.65                         | -59.25                        | 13.83                        | 1.61               | -47.03                     | -13.00         | 34.03          |
| GSM 850 Frequency:848.8MHz |                |                               |                               |                              |                    |                            |                |                |
| 327.30                     | H              | 50.84                         | -63.34                        | 0.00                         | 0.20               | -63.54                     | -13.00         | 50.54          |
| 739.60                     | V              | 51.92                         | -56.91                        | 0.00                         | 0.32               | -57.23                     | -13.00         | 44.23          |
| 1697.60                    | H              | 57.88                         | -59.50                        | 10.78                        | 0.75               | -49.47                     | -13.00         | 36.47          |
| 1697.60                    | V              | 52.67                         | -65.31                        | 10.78                        | 0.75               | -55.28                     | -13.00         | 42.28          |
| 2546.40                    | H              | 58.72                         | -57.71                        | 13.15                        | 1.27               | -45.83                     | -13.00         | 32.83          |
| 2546.40                    | V              | 58.36                         | -58.21                        | 13.15                        | 1.27               | -46.33                     | -13.00         | 33.33          |
| 3395.20                    | H              | 55.64                         | -57.05                        | 14.08                        | 1.64               | -44.61                     | -13.00         | 31.61          |
| 3395.20                    | V              | 50.88                         | -61.91                        | 14.08                        | 1.64               | -49.47                     | -13.00         | 36.47          |

**PCS Band (30MHz-20GHz)**

| Frequency<br>(MHz)           | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                    | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|----------------|----------------|
|                              |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable Loss<br>(dB) |                            |                |                |
| GSM 1900 Frequency:1850.2MHz |                |                               |                               |                              |                    |                            |                |                |
| 82.60                        | H              | 46.75                         | -73.54                        | 0.00                         | 0.10               | -73.64                     | -13.00         | 60.64          |
| 81.20                        | V              | 50.25                         | -72.99                        | 0.00                         | 0.10               | -73.09                     | -13.00         | 60.09          |
| 3700.40                      | H              | 63.22                         | -48.63                        | 14.00                        | 1.83               | -36.46                     | -13.00         | 23.46          |
| 3700.40                      | V              | 56.23                         | -55.60                        | 14.00                        | 1.83               | -43.43                     | -13.00         | 30.43          |
| 5550.60                      | H              | 66.29                         | -41.28                        | 13.95                        | 1.27               | -28.60                     | -13.00         | 15.60          |
| 5550.60                      | V              | 65.32                         | -42.10                        | 13.95                        | 1.27               | -29.42                     | -13.00         | 16.42          |
| GSM 1900 Frequency:1880MHz   |                |                               |                               |                              |                    |                            |                |                |
| 200.60                       | H              | 45.84                         | -69.30                        | 0.00                         | 0.18               | -69.48                     | -13.00         | 56.48          |
| 82.60                        | V              | 51.66                         | -70.89                        | 0.00                         | 0.10               | -70.99                     | -13.00         | 57.99          |
| 3760.00                      | H              | 63.15                         | -48.19                        | 13.76                        | 1.63               | -36.06                     | -13.00         | 23.06          |
| 3760.00                      | V              | 58.29                         | -52.92                        | 13.76                        | 1.63               | -40.79                     | -13.00         | 27.79          |
| 5640.00                      | H              | 65.21                         | -42.11                        | 14.02                        | 1.31               | -29.40                     | -13.00         | 16.40          |
| 5640.00                      | V              | 62.31                         | -44.89                        | 14.02                        | 1.31               | -32.18                     | -13.00         | 19.18          |
| GSM 1900 Frequency:1909.8MHz |                |                               |                               |                              |                    |                            |                |                |
| 225.80                       | H              | 45.74                         | -69.79                        | 0.00                         | 0.19               | -69.98                     | -13.00         | 56.98          |
| 53.20                        | V              | 48.21                         | -60.88                        | -13.43                       | 0.07               | -74.38                     | -13.00         | 61.38          |
| 3819.60                      | H              | 64.19                         | -46.71                        | 13.56                        | 1.50               | -34.65                     | -13.00         | 21.65          |
| 3819.60                      | V              | 57.62                         | -53.10                        | 13.56                        | 1.50               | -41.04                     | -13.00         | 28.04          |
| 5729.40                      | H              | 66.26                         | -41.19                        | 13.96                        | 1.31               | -28.54                     | -13.00         | 15.54          |
| 5729.40                      | V              | 64.31                         | -43.10                        | 13.96                        | 1.31               | -30.45                     | -13.00         | 17.45          |

**WCDMA Band 5(30MHz-10GHz):**

| Frequency<br>(MHz)               | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                    | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|----------------|----------------|
|                                  |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable Loss<br>(dB) |                            |                |                |
| WCDMA Band 5 Frequency:826.4 MHz |                |                               |                               |                              |                    |                            |                |                |
| 360.60                           | H              | 40.20                         | -72.46                        | 0.00                         | 0.19               | -72.65                     | -13.00         | 59.65          |
| 499.60                           | V              | 40.87                         | -71.88                        | 0.00                         | 0.26               | -72.14                     | -13.00         | 59.14          |
| 1652.80                          | H              | 56.29                         | -61.76                        | 10.47                        | 0.72               | -52.01                     | -13.00         | 39.01          |
| 1652.80                          | V              | 62.84                         | -55.81                        | 10.47                        | 0.72               | -46.06                     | -13.00         | 33.06          |
| 2479.20                          | H              | 67.98                         | -48.14                        | 12.93                        | 1.25               | -36.46                     | -13.00         | 23.46          |
| 2479.20                          | V              | 72.05                         | -44.11                        | 12.93                        | 1.25               | -32.43                     | -13.00         | 19.43          |
| 3305.60                          | H              | 65.32                         | -47.66                        | 13.63                        | 1.59               | -35.62                     | -13.00         | 22.62          |
| 3305.60                          | V              | 67.90                         | -45.09                        | 13.63                        | 1.59               | -33.05                     | -13.00         | 20.05          |
| WCDMA Band 5 Frequency:836.6MHz  |                |                               |                               |                              |                    |                            |                |                |
| 433.80                           | H              | 45.87                         | -64.60                        | 0.00                         | 0.21               | -64.81                     | -13.00         | 51.81          |
| 559.90                           | V              | 41.12                         | -70.47                        | 0.00                         | 0.24               | -70.71                     | -13.00         | 57.71          |
| 1673.20                          | H              | 56.84                         | -60.90                        | 10.61                        | 0.73               | -51.02                     | -13.00         | 38.02          |
| 1673.20                          | V              | 61.55                         | -56.79                        | 10.61                        | 0.73               | -46.91                     | -13.00         | 33.91          |
| 2509.80                          | H              | 66.59                         | -49.68                        | 13.11                        | 1.25               | -37.82                     | -13.00         | 24.82          |
| 2509.80                          | V              | 70.00                         | -46.30                        | 13.11                        | 1.25               | -34.44                     | -13.00         | 21.44          |
| 3346.40                          | H              | 65.95                         | -46.90                        | 13.83                        | 1.61               | -34.68                     | -13.00         | 21.68          |
| 3346.40                          | V              | 67.49                         | -45.41                        | 13.83                        | 1.61               | -33.19                     | -13.00         | 20.19          |
| WCDMA Band 5 Frequency:846.6MHz  |                |                               |                               |                              |                    |                            |                |                |
| 399.70                           | H              | 46.30                         | -64.57                        | 0.00                         | 0.19               | -64.76                     | -13.00         | 51.76          |
| 374.60                           | V              | 41.27                         | -73.60                        | 0.00                         | 0.19               | -73.79                     | -13.00         | 60.79          |
| 1693.20                          | H              | 52.32                         | -65.12                        | 10.75                        | 0.75               | -55.12                     | -13.00         | 42.12          |
| 1693.20                          | V              | 62.32                         | -55.72                        | 10.75                        | 0.75               | -45.72                     | -13.00         | 32.72          |
| 2539.80                          | H              | 62.35                         | -54.05                        | 13.14                        | 1.27               | -42.18                     | -13.00         | 29.18          |
| 2539.80                          | V              | 64.55                         | -51.97                        | 13.14                        | 1.27               | -40.10                     | -13.00         | 27.10          |
| 3386.40                          | H              | 65.84                         | -46.88                        | 14.03                        | 1.63               | -34.48                     | -13.00         | 21.48          |
| 3386.40                          | V              | 64.28                         | -48.53                        | 14.03                        | 1.63               | -36.13                     | -13.00         | 23.13          |

**LTE Bands:**

(The Worst modulation and bandwidth was below)

**LTE Band 2(30MHz-20GHz):**

| Frequency<br>(MHz)                     | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                    | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|----------------|----------------|
|                                        |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable Loss<br>(dB) |                            |                |                |
| 1RB, 1.4MHz, QPSK,Frequency:1850.7 MHz |                |                               |                               |                              |                    |                            |                |                |
| 799.80                                 | H              | 53.23                         | -50.81                        | 0.00                         | 0.36               | -51.17                     | -13.00         | 38.17          |
| 433.60                                 | V              | 45.07                         | -68.65                        | 0.00                         | 0.21               | -68.86                     | -13.00         | 55.86          |
| 3701.40                                | H              | 50.30                         | -61.55                        | 13.99                        | 1.83               | -49.39                     | -13.00         | 36.39          |
| 3701.40                                | V              | 50.16                         | -61.66                        | 13.99                        | 1.83               | -49.50                     | -13.00         | 36.50          |
| 5552.10                                | H              | 50.29                         | -57.27                        | 13.96                        | 1.27               | -44.58                     | -13.00         | 31.58          |
| 5552.10                                | V              | 50.41                         | -57.00                        | 13.96                        | 1.27               | -44.31                     | -13.00         | 31.31          |
| 1RB, 1.4MHz, QPSK,Frequency:1880 MHz   |                |                               |                               |                              |                    |                            |                |                |
| 800.00                                 | H              | 54.10                         | -49.93                        | 0.00                         | 0.36               | -50.29                     | -13.00         | 37.29          |
| 399.90                                 | V              | 44.57                         | -69.65                        | 0.00                         | 0.19               | -69.84                     | -13.00         | 56.84          |
| 3760.00                                | H              | 50.95                         | -60.39                        | 13.76                        | 1.63               | -48.26                     | -13.00         | 35.26          |
| 3760.00                                | V              | 50.20                         | -61.01                        | 13.76                        | 1.63               | -48.88                     | -13.00         | 35.88          |
| 5640.00                                | H              | 50.41                         | -56.91                        | 14.02                        | 1.31               | -44.20                     | -13.00         | 31.20          |
| 5640.00                                | V              | 50.56                         | -56.64                        | 14.02                        | 1.31               | -43.93                     | -13.00         | 30.93          |
| 1RB, 1.4MHz, QPSK,Frequency:1909.3 MHz |                |                               |                               |                              |                    |                            |                |                |
| 795.60                                 | H              | 52.84                         | -51.32                        | 0.00                         | 0.36               | -51.68                     | -13.00         | 38.68          |
| 433.80                                 | V              | 45.24                         | -68.48                        | 0.00                         | 0.21               | -68.69                     | -13.00         | 55.69          |
| 3818.60                                | H              | 50.74                         | -60.17                        | 13.56                        | 1.50               | -48.11                     | -13.00         | 35.11          |
| 3818.60                                | V              | 50.65                         | -60.07                        | 13.56                        | 1.50               | -48.01                     | -13.00         | 35.01          |
| 5727.90                                | H              | 50.50                         | -56.95                        | 13.96                        | 1.31               | -44.30                     | -13.00         | 31.30          |
| 5727.90                                | V              | 50.85                         | -56.56                        | 13.96                        | 1.31               | -43.91                     | -13.00         | 30.91          |

**LTE Band 4(30MHz-20GHz):**

| Frequency<br>(MHz)                     | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                    | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|----------------|----------------|
|                                        |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable Loss<br>(dB) |                            |                |                |
| 1RB, 1.4MHz, QPSK,Frequency:1710.7 MHz |                |                               |                               |                              |                    |                            |                |                |
| 802.20                                 | H              | 53.62                         | -50.37                        | 0.00                         | 0.36               | -50.73                     | -13.00         | 37.73          |
| 433.70                                 | V              | 45.41                         | -68.31                        | 0.00                         | 0.21               | -68.52                     | -13.00         | 55.52          |
| 3421.40                                | H              | 50.32                         | -62.28                        | 14.04                        | 1.63               | -49.87                     | -13.00         | 36.87          |
| 3421.40                                | V              | 50.64                         | -62.04                        | 14.04                        | 1.63               | -49.63                     | -13.00         | 36.63          |
| 5132.10                                | H              | 50.19                         | -57.88                        | 13.93                        | 1.37               | -45.32                     | -13.00         | 32.32          |
| 5132.10                                | V              | 50.88                         | -57.10                        | 13.93                        | 1.37               | -44.54                     | -13.00         | 31.54          |
| 1RB, 1.4MHz, QPSK,Frequency:1732.5 MHz |                |                               |                               |                              |                    |                            |                |                |
| 800.50                                 | H              | 53.38                         | -50.64                        | 0.00                         | 0.36               | -51.00                     | -13.00         | 38.00          |
| 435.20                                 | V              | 46.28                         | -67.42                        | 0.00                         | 0.21               | -67.63                     | -13.00         | 54.63          |
| 3465.00                                | H              | 50.84                         | -61.60                        | 13.91                        | 1.62               | -49.31                     | -13.00         | 36.31          |
| 3465.00                                | V              | 50.66                         | -61.82                        | 13.91                        | 1.62               | -49.53                     | -13.00         | 36.53          |
| 5197.50                                | H              | 50.49                         | -57.03                        | 14.00                        | 1.52               | -44.55                     | -13.00         | 31.55          |
| 5197.50                                | V              | 50.84                         | -56.76                        | 14.00                        | 1.52               | -44.28                     | -13.00         | 31.28          |
| 1RB, 1.4MHz, QPSK,Frequency:1754.3MHz  |                |                               |                               |                              |                    |                            |                |                |
| 799.90                                 | H              | 54.20                         | -49.83                        | 0.00                         | 0.36               | -50.19                     | -13.00         | 37.19          |
| 374.60                                 | V              | 41.70                         | -73.17                        | 0.00                         | 0.19               | -73.36                     | -13.00         | 60.36          |
| 3508.60                                | H              | 50.64                         | -61.70                        | 13.83                        | 1.60               | -49.47                     | -13.00         | 36.47          |
| 3508.60                                | V              | 50.20                         | -62.14                        | 13.83                        | 1.60               | -49.91                     | -13.00         | 36.91          |
| 5262.90                                | H              | 50.24                         | -58.38                        | 14.19                        | 1.29               | -45.48                     | -13.00         | 32.48          |
| 5262.90                                | V              | 50.17                         | -58.53                        | 14.19                        | 1.29               | -45.63                     | -13.00         | 32.63          |

**LTE Band 12(30MHz-10GHz):**

| Frequency<br>(MHz)                      | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                    | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|-----------------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|----------------|----------------|
|                                         |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable Loss<br>(dB) |                            |                |                |
| 1RB, 1.4MHz, QPSK, Frequency: 699.7 MHz |                |                               |                               |                              |                    |                            |                |                |
| 800.10                                  | H              | 54.02                         | -50.01                        | 0.00                         | 0.36               | -50.37                     | -13.00         | 37.37          |
| 399.50                                  | V              | 45.65                         | -68.58                        | 0.00                         | 0.19               | -68.77                     | -13.00         | 55.77          |
| 1399.40                                 | H              | 50.62                         | -66.52                        | 9.00                         | 1.20               | -58.72                     | -13.00         | 45.72          |
| 1399.40                                 | V              | 50.24                         | -67.50                        | 9.00                         | 1.20               | -59.70                     | -13.00         | 46.70          |
| 2099.10                                 | H              | 50.18                         | -66.25                        | 11.41                        | 1.10               | -55.94                     | -13.00         | 42.94          |
| 2099.10                                 | V              | 50.32                         | -66.11                        | 11.41                        | 1.10               | -55.80                     | -13.00         | 42.80          |
| 2798.80                                 | H              | 50.48                         | -65.27                        | 13.10                        | 1.36               | -53.53                     | -13.00         | 40.53          |
| 2798.80                                 | V              | 50.47                         | -65.47                        | 13.10                        | 1.36               | -53.73                     | -13.00         | 40.73          |
| 1RB, 1.4MHz,QPSK, Frequency:707.5 MHz   |                |                               |                               |                              |                    |                            |                |                |
| 802.70                                  | H              | 54.15                         | -49.83                        | 0.00                         | 0.36               | -50.19                     | -13.00         | 37.19          |
| 398.00                                  | V              | 46.23                         | -68.04                        | 0.00                         | 0.19               | -68.23                     | -13.00         | 55.23          |
| 1415.00                                 | H              | 50.26                         | -67.22                        | 9.08                         | 1.22               | -59.36                     | -13.00         | 46.36          |
| 1415.00                                 | V              | 50.14                         | -67.87                        | 9.08                         | 1.22               | -60.01                     | -13.00         | 47.01          |
| 2122.50                                 | H              | 50.55                         | -65.88                        | 11.27                        | 1.11               | -55.72                     | -13.00         | 42.72          |
| 2122.50                                 | V              | 50.30                         | -66.11                        | 11.27                        | 1.11               | -55.95                     | -13.00         | 42.95          |
| 2830.00                                 | H              | 50.29                         | -65.04                        | 13.34                        | 1.36               | -53.06                     | -13.00         | 40.06          |
| 2830.00                                 | V              | 50.77                         | -64.79                        | 13.34                        | 1.36               | -52.81                     | -13.00         | 39.81          |
| 1RB, 1.4MHz,QPSK, Frequency: 715.3 MHz  |                |                               |                               |                              |                    |                            |                |                |
| 789.80                                  | H              | 53.85                         | -50.49                        | 0.00                         | 0.35               | -50.84                     | -13.00         | 37.84          |
| 388.68                                  | V              | 46.82                         | -67.69                        | 0.00                         | 0.19               | -67.88                     | -13.00         | 54.88          |
| 1430.60                                 | H              | 50.84                         | -67.01                        | 9.15                         | 1.25               | -59.11                     | -13.00         | 46.11          |
| 1430.60                                 | V              | 50.32                         | -67.97                        | 9.15                         | 1.25               | -60.07                     | -13.00         | 47.07          |
| 2145.90                                 | H              | 50.74                         | -65.71                        | 11.12                        | 1.12               | -55.71                     | -13.00         | 42.71          |
| 2145.90                                 | V              | 50.66                         | -65.74                        | 11.12                        | 1.12               | -55.74                     | -13.00         | 42.74          |
| 2861.20                                 | H              | 50.41                         | -64.48                        | 13.59                        | 1.35               | -52.24                     | -13.00         | 39.24          |
| 2861.20                                 | V              | 50.27                         | -64.88                        | 13.59                        | 1.35               | -52.64                     | -13.00         | 39.64          |





**LTE Band 17(30MHz-10GHz):**

| Frequency<br>(MHz)                   | Polar<br>(H/V) | Receiver<br>Reading<br>(dBμV) | Substituted Method            |                              |                    | Absolute<br>Level<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------------------------|----------------|-------------------------------|-------------------------------|------------------------------|--------------------|----------------------------|----------------|----------------|
|                                      |                |                               | Substituted<br>Level<br>(dBm) | Antenna<br>Gain<br>(dBd/dBi) | Cable Loss<br>(dB) |                            |                |                |
| 1RB, 5MHz,QPSK, Frequency: 706.5 MHz |                |                               |                               |                              |                    |                            |                |                |
| 797.60                               | H              | 54.13                         | -49.97                        | 0.00                         | 0.36               | -50.33                     | -13.00         | 37.33          |
| 442.20                               | V              | 45.59                         | -68.01                        | 0.00                         | 0.22               | -68.23                     | -13.00         | 55.23          |
| 1413.00                              | H              | 56.26                         | -61.18                        | 9.07                         | 1.22               | -53.33                     | -13.00         | 40.33          |
| 1413.00                              | V              | 57.84                         | -60.13                        | 9.07                         | 1.22               | -52.28                     | -13.00         | 39.28          |
| 2119.50                              | H              | 50.62                         | -65.81                        | 11.28                        | 1.11               | -55.64                     | -13.00         | 42.64          |
| 2119.50                              | V              | 50.48                         | -65.93                        | 11.28                        | 1.11               | -55.76                     | -13.00         | 42.76          |
| 2826.00                              | H              | 50.19                         | -65.19                        | 13.31                        | 1.36               | -53.24                     | -13.00         | 40.24          |
| 2826.00                              | V              | 50.33                         | -65.28                        | 13.31                        | 1.36               | -53.33                     | -13.00         | 40.33          |
| 1RB, 5MHz,QPSK, Frequency:710 MHz    |                |                               |                               |                              |                    |                            |                |                |
| 800.60                               | H              | 52.69                         | -51.33                        | 0.00                         | 0.36               | -51.69                     | -13.00         | 38.69          |
| 432.70                               | V              | 46.03                         | -67.71                        | 0.00                         | 0.21               | -67.92                     | -13.00         | 54.92          |
| 1420.00                              | H              | 56.74                         | -60.86                        | 9.10                         | 1.23               | -52.99                     | -13.00         | 39.99          |
| 1420.00                              | V              | 57.21                         | -60.89                        | 9.10                         | 1.23               | -53.02                     | -13.00         | 40.02          |
| 2130.00                              | H              | 50.32                         | -66.12                        | 11.22                        | 1.11               | -56.01                     | -13.00         | 43.01          |
| 2130.00                              | V              | 50.48                         | -65.93                        | 11.22                        | 1.11               | -55.82                     | -13.00         | 42.82          |
| 2840.00                              | H              | 50.32                         | -64.87                        | 13.42                        | 1.36               | -52.81                     | -13.00         | 39.81          |
| 2840.00                              | V              | 50.17                         | -65.26                        | 13.42                        | 1.36               | -53.20                     | -13.00         | 40.20          |
| 1RB, 5MHz,QPSK, Frequency: 713.5 MHz |                |                               |                               |                              |                    |                            |                |                |
| 806.40                               | H              | 51.95                         | -51.97                        | 0.00                         | 0.36               | -52.33                     | -13.00         | 39.33          |
| 396.60                               | V              | 45.84                         | -68.47                        | 0.00                         | 0.19               | -68.66                     | -13.00         | 55.66          |
| 1427.00                              | H              | 56.88                         | -60.88                        | 9.14                         | 1.24               | -52.98                     | -13.00         | 39.98          |
| 1427.00                              | V              | 57.49                         | -60.74                        | 9.14                         | 1.24               | -52.84                     | -13.00         | 39.84          |
| 2140.50                              | H              | 50.32                         | -66.13                        | 11.16                        | 1.12               | -56.09                     | -13.00         | 43.09          |
| 2140.50                              | V              | 50.14                         | -66.27                        | 11.16                        | 1.12               | -56.23                     | -13.00         | 43.23          |
| 2854.00                              | H              | 50.08                         | -64.91                        | 13.53                        | 1.35               | -52.73                     | -13.00         | 39.73          |
| 2854.00                              | V              | 50.65                         | -64.59                        | 13.53                        | 1.35               | -52.41                     | -13.00         | 39.41          |

Note:

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Absolute Level = Substituted Level - Cable loss + Antenna Gain
- 3) Margin = Limit-Absolute Level

## **APPENDIX A - EUT PHOTOGRAPHS**

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Please refer to the attachment DG1240228-09798E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and DG1240228-09798E-RF-INP EUT INTERNAL PHOTOGRAPHS

## **APPENDIX B - TEST SETUP PHOTOGRAPHS**

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Please refer to the attachment DG1240228-09798E-RF-00D-TSP TEST SETUP PHOTOGRAPHS.

**==== END OF REPORT =====**