

# GSM Test Data

| General Description of EUT                                                                                                                    |                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Product Name:                                                                                                                                 | Tractive Dog 6          |
| Test Model:                                                                                                                                   | TG6A                    |
| Sample ID:                                                                                                                                    | HC-C-202403-0336-01-04# |
| Environmental Conditions                                                                                                                      |                         |
| Temperature:                                                                                                                                  | 22°C-25°C               |
| Relative Humidity:                                                                                                                            | 43%-55%                 |
| Test Voltage:                                                                                                                                 | DC 3.87V                |
| Test Engineer:                                                                                                                                | Mike Yan                |
| Note: For a more detailed features description, please refer to the report TBR-C-202403-0336-92.<br>The report only show the worst case data. |                         |

## Contents

|                                          |    |
|------------------------------------------|----|
| <b>GSM Test Data</b>                     | 1  |
| 1. Conducted Output Power Data           | 3  |
| Test Result                              | 3  |
| 2. Peak-to-Average Ratio(CCDF)           | 5  |
| Test Result                              | 5  |
| Test Graphs                              | 6  |
| 3. 26dB Bandwidth and Occupied Bandwidth | 8  |
| Test Result                              | 8  |
| Test Graphs                              | 9  |
| 4. Band Edge                             | 11 |
| Test Result                              | 11 |
| Test Graphs                              | 12 |
| 5. Conducted Spurious Emission           | 14 |
| Test Result                              | 14 |
| Test Graphs                              | 16 |
| 6. Frequency Stability                   | 25 |
| Test Result                              | 25 |
| 7. Modulation Characteristics            | 27 |
| Test Result                              | 27 |
| Test Graphs                              | 28 |

## 1. Conducted Output Power Data

### Test Result

| Band     | Channel | Slot | Power(dBm) | Limit(dBm) | Verdict |
|----------|---------|------|------------|------------|---------|
| GPRS850  | 128     | 1    | 32.76      | 38.45      | PASS    |
| GPRS850  | 190     | 1    | 32.68      | 38.45      | PASS    |
| GPRS850  | 251     | 1    | 32.77      | 38.45      | PASS    |
| GPRS850  | 128     | 2    | 31.17      | 38.45      | PASS    |
| GPRS850  | 190     | 2    | 31.28      | 38.45      | PASS    |
| GPRS850  | 251     | 2    | 31.23      | 38.45      | PASS    |
| GPRS850  | 128     | 3    | 29.58      | 38.45      | PASS    |
| GPRS850  | 190     | 3    | 29.62      | 38.45      | PASS    |
| GPRS850  | 251     | 3    | 29.62      | 38.45      | PASS    |
| GPRS850  | 128     | 4    | 28.82      | 38.45      | PASS    |
| GPRS850  | 190     | 4    | 28.85      | 38.45      | PASS    |
| GPRS850  | 251     | 4    | 28.89      | 38.45      | PASS    |
| GPRS1900 | 512     | 1    | 29.23      | 33.00      | PASS    |
| GPRS1900 | 661     | 1    | 29.00      | 33.00      | PASS    |
| GPRS1900 | 810     | 1    | 29.07      | 33.00      | PASS    |
| GPRS1900 | 512     | 2    | 27.69      | 33.00      | PASS    |
| GPRS1900 | 661     | 2    | 27.55      | 33.00      | PASS    |
| GPRS1900 | 810     | 2    | 27.57      | 33.00      | PASS    |
| GPRS1900 | 512     | 3    | 25.79      | 33.00      | PASS    |
| GPRS1900 | 661     | 3    | 25.80      | 33.00      | PASS    |
| GPRS1900 | 810     | 3    | 25.77      | 33.00      | PASS    |
| GPRS1900 | 512     | 4    | 24.75      | 33.00      | PASS    |
| GPRS1900 | 661     | 4    | 24.77      | 33.00      | PASS    |
| GPRS1900 | 810     | 4    | 24.63      | 33.00      | PASS    |

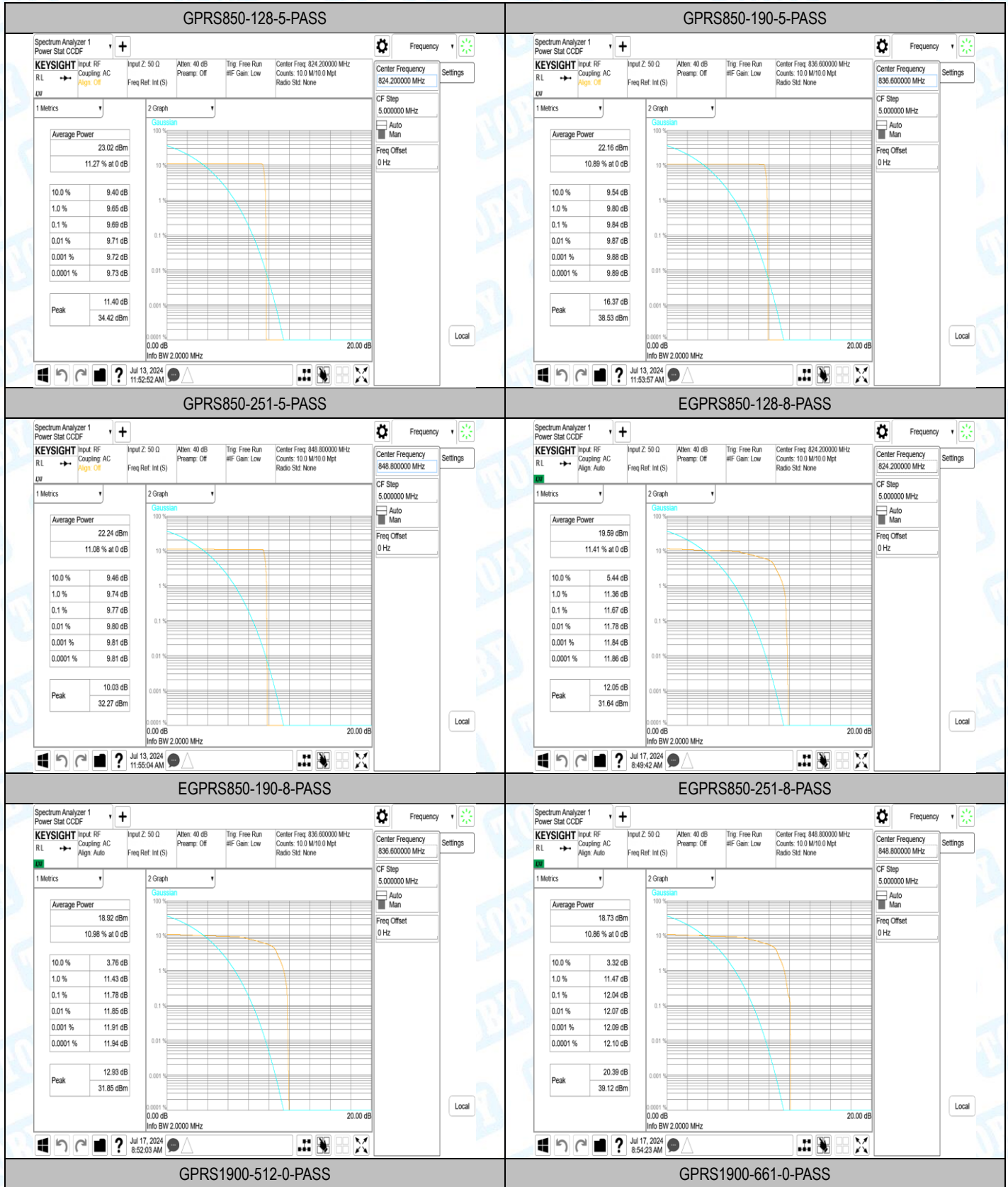
| Band      | Channel | Slot | Power(dBm) | Limit(dBm) | Verdict |
|-----------|---------|------|------------|------------|---------|
| EGPRS850  | 128     | 1    | 26.79      | 38.45      | PASS    |
| EGPRS850  | 190     | 1    | 26.83      | 38.45      | PASS    |
| EGPRS850  | 251     | 1    | 26.82      | 38.45      | PASS    |
| EGPRS850  | 128     | 2    | 26.62      | 38.45      | PASS    |
| EGPRS850  | 190     | 2    | 26.65      | 38.45      | PASS    |
| EGPRS850  | 251     | 2    | 26.57      | 38.45      | PASS    |
| EGPRS850  | 128     | 3    | 26.41      | 38.45      | PASS    |
| EGPRS850  | 190     | 3    | 26.42      | 38.45      | PASS    |
| EGPRS850  | 251     | 3    | 26.38      | 38.45      | PASS    |
| EGPRS850  | 128     | 4    | 26.13      | 38.45      | PASS    |
| EGPRS850  | 190     | 4    | 26.11      | 38.45      | PASS    |
| EGPRS850  | 251     | 4    | 26.08      | 38.45      | PASS    |
| EGPRS1900 | 512     | 1    | 25.31      | 33.00      | PASS    |
| EGPRS1900 | 661     | 1    | 25.18      | 33.00      | PASS    |
| EGPRS1900 | 810     | 1    | 25.16      | 33.00      | PASS    |
| EGPRS1900 | 512     | 2    | 25.33      | 33.00      | PASS    |
| EGPRS1900 | 661     | 2    | 25.08      | 33.00      | PASS    |
| EGPRS1900 | 810     | 2    | 25.12      | 33.00      | PASS    |
| EGPRS1900 | 512     | 3    | 25.23      | 33.00      | PASS    |
| EGPRS1900 | 661     | 3    | 24.99      | 33.00      | PASS    |
| EGPRS1900 | 810     | 3    | 25.03      | 33.00      | PASS    |
| EGPRS1900 | 512     | 4    | 25.01      | 33.00      | PASS    |
| EGPRS1900 | 661     | 4    | 24.85      | 33.00      | PASS    |
| EGPRS1900 | 810     | 4    | 24.92      | 33.00      | PASS    |

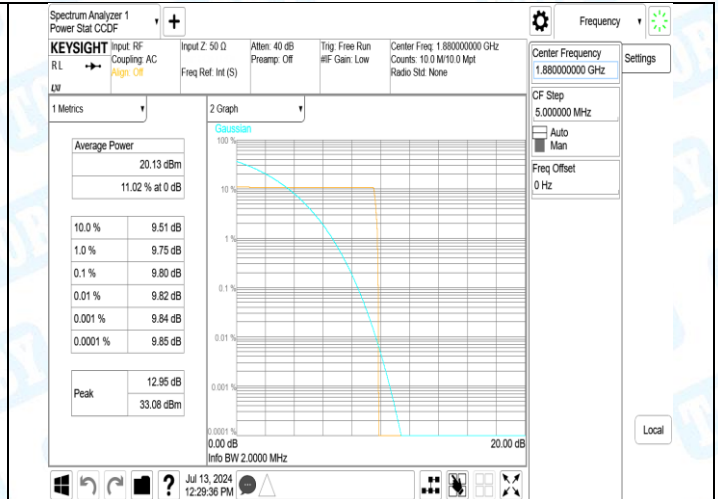
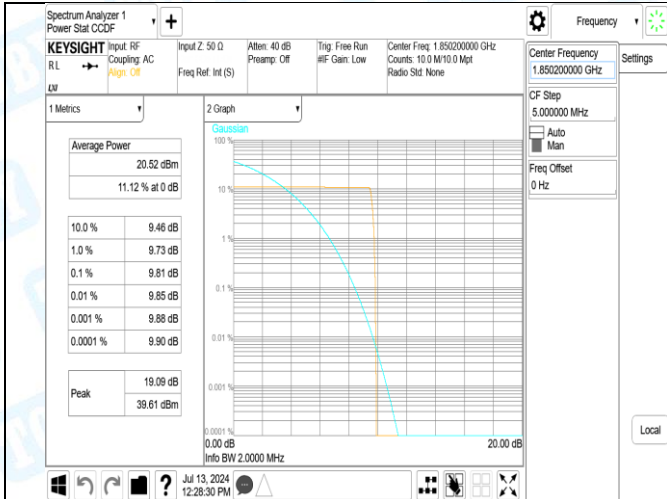
## 2. Peak-to-Average Ratio(CCDF)

### Test Result

| Band      | Channel | Result(dB) | Limit(dB) | Verdict |
|-----------|---------|------------|-----------|---------|
| GPRS850   | 128     | 9.69       | 13        | PASS    |
| GPRS850   | 190     | 9.84       | 13        | PASS    |
| GPRS850   | 251     | 9.77       | 13        | PASS    |
| EGPRS850  | 128     | 11.67      | 13        | PASS    |
| EGPRS850  | 190     | 11.78      | 13        | PASS    |
| EGPRS850  | 251     | 12.04      | 13        | PASS    |
| GPRS1900  | 512     | 9.81       | 13        | PASS    |
| GPRS1900  | 661     | 9.80       | 13        | PASS    |
| GPRS1900  | 810     | 9.87       | 13        | PASS    |
| EGPRS1900 | 512     | 12.12      | 13        | PASS    |
| EGPRS1900 | 661     | 12.02      | 13        | PASS    |
| EGPRS1900 | 810     | 12.18      | 13        | PASS    |

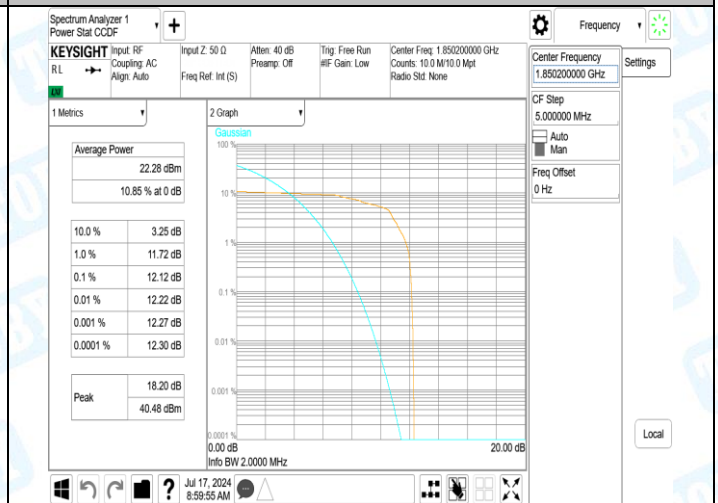
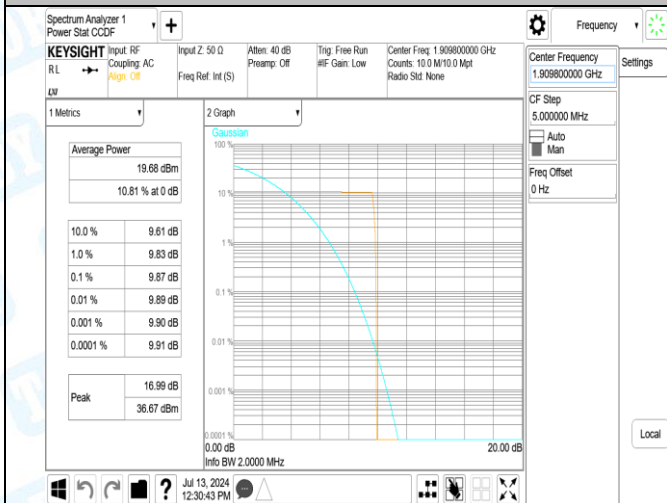
## Test Graphs





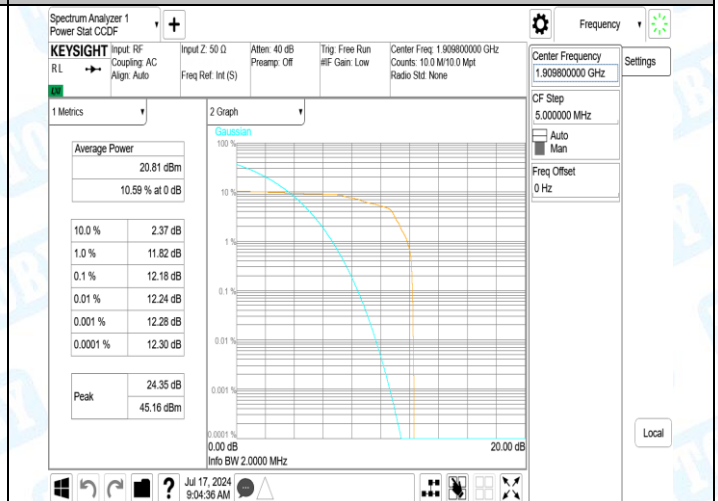
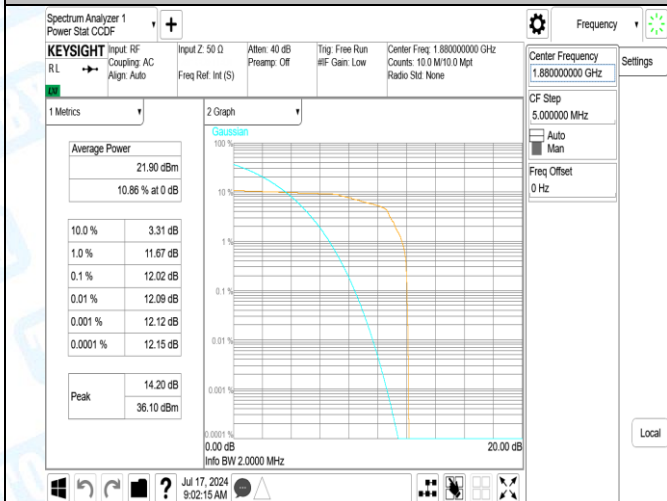
GPRS1900-810-0-PASS

EGPRS1900-512-2-PASS



EGPRS1900-661-2-PASS

EGPRS1900-810-2-PASS

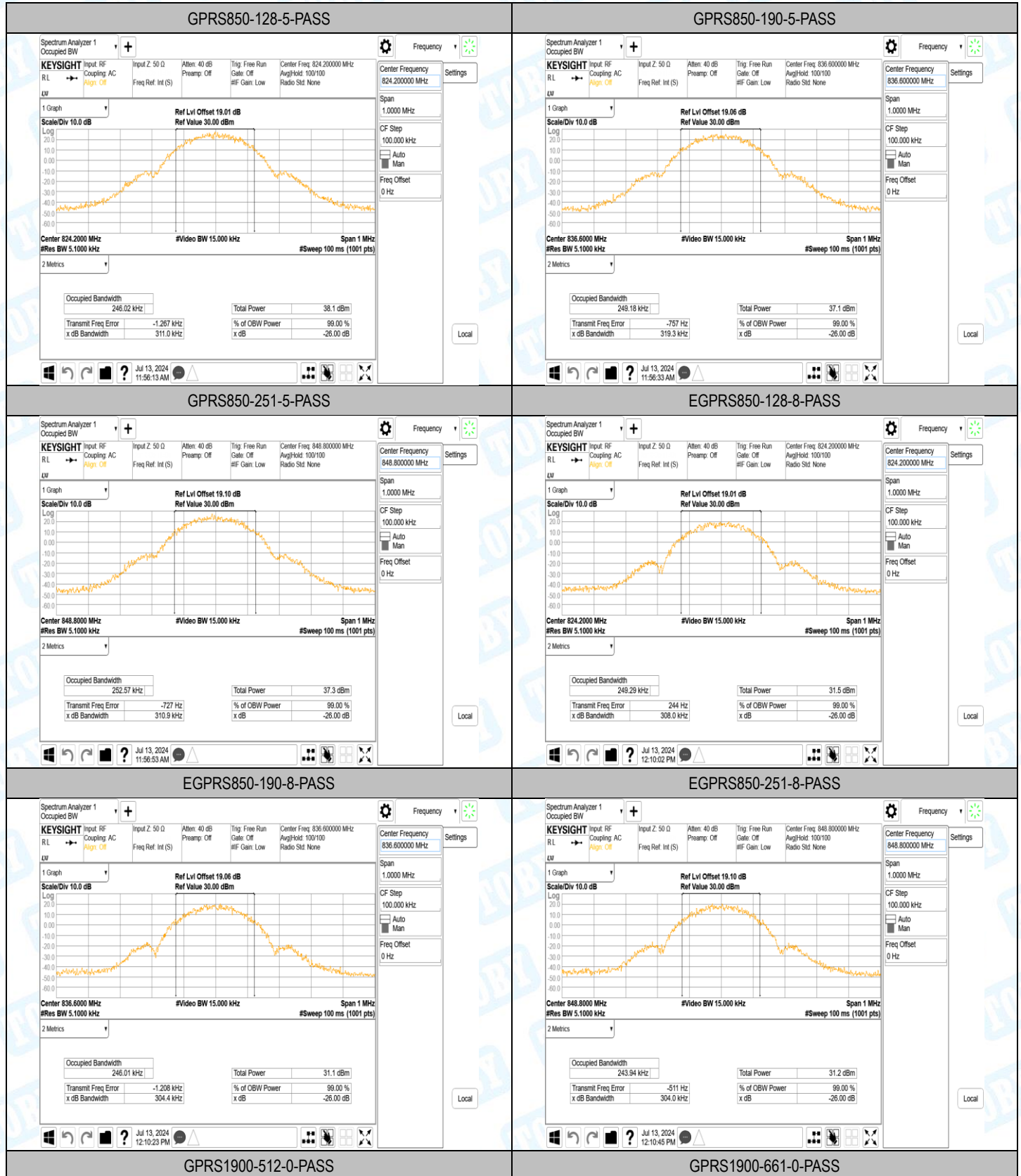


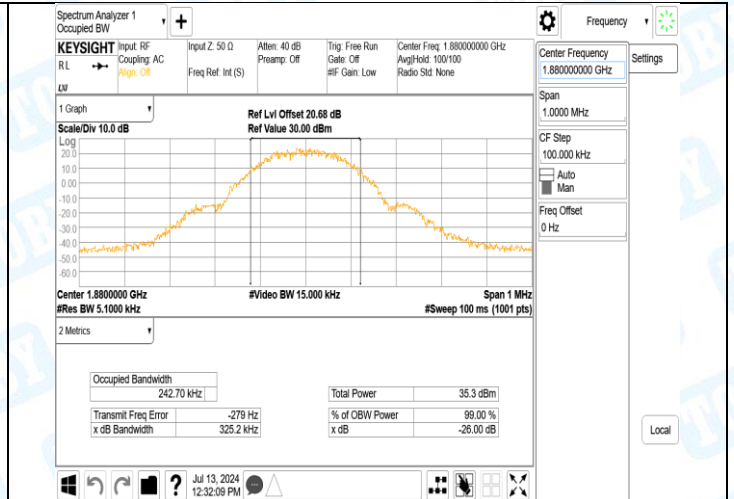
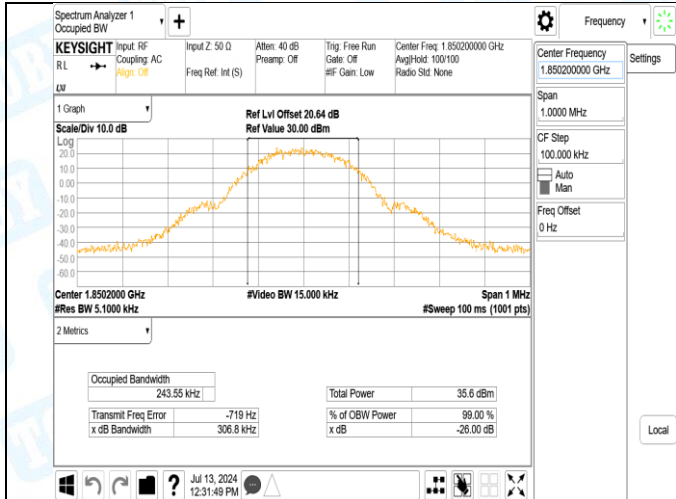
### 3. 26dB Bandwidth and Occupied Bandwidth

#### Test Result

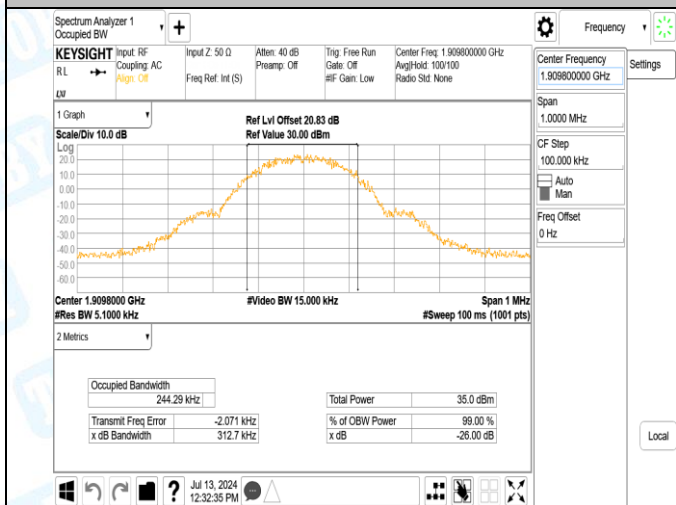
| Band      | Channel | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Limit (MHz) | Verdict |
|-----------|---------|--------------------------|----------------------|-------------|---------|
| GPRS850   | 128     | 0.24602                  | 0.3110               | ---         | PASS    |
| GPRS850   | 190     | 0.24918                  | 0.3193               | ---         | PASS    |
| GPRS850   | 251     | 0.25257                  | 0.3109               | ---         | PASS    |
| EGPRS850  | 128     | 0.24929                  | 0.3080               | ---         | PASS    |
| EGPRS850  | 190     | 0.24601                  | 0.3044               | ---         | PASS    |
| EGPRS850  | 251     | 0.24394                  | 0.3040               | ---         | PASS    |
| GPRS1900  | 512     | 0.24355                  | 0.3068               | ---         | PASS    |
| GPRS1900  | 661     | 0.24270                  | 0.3252               | ---         | PASS    |
| GPRS1900  | 810     | 0.24429                  | 0.3127               | ---         | PASS    |
| EGPRS1900 | 512     | 0.24653                  | 0.3046               | ---         | PASS    |
| EGPRS1900 | 661     | 0.24887                  | 0.3148               | ---         | PASS    |
| EGPRS1900 | 810     | 0.24921                  | 0.3056               | ---         | PASS    |

## Test Graphs

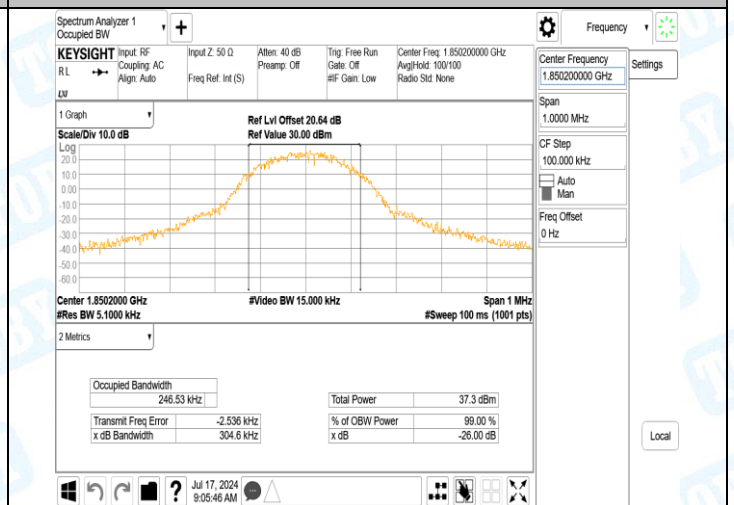




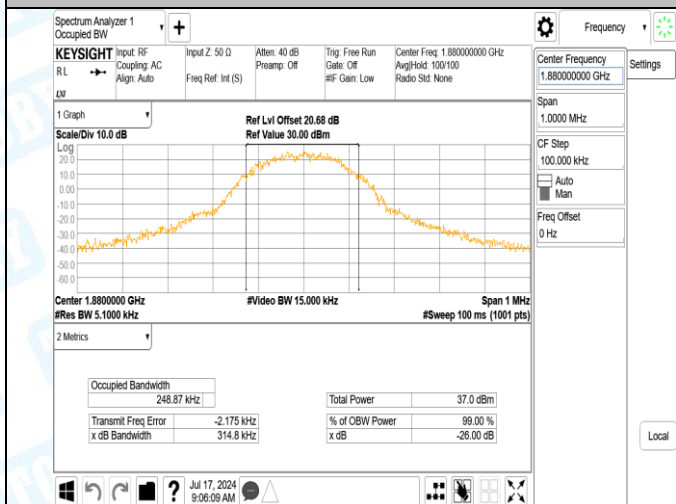
GPERS1900-810-0-PASS



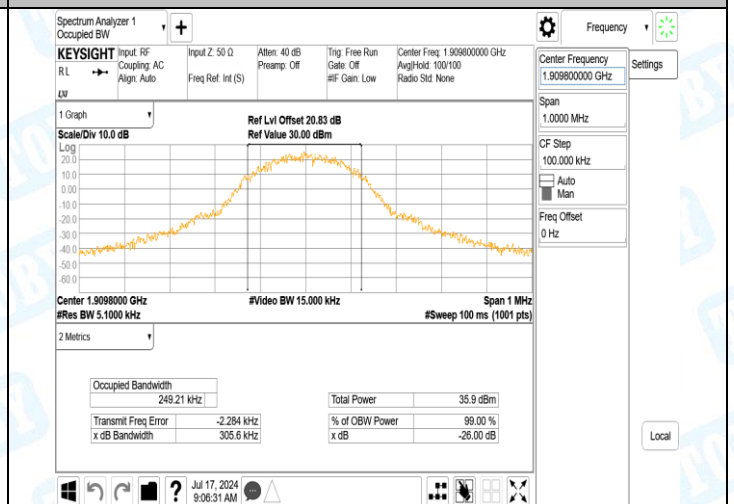
EGPRS1900-512-2-PASS



EGPRS1900-661-2-PASS



EGPRS1900-810-2-PASS



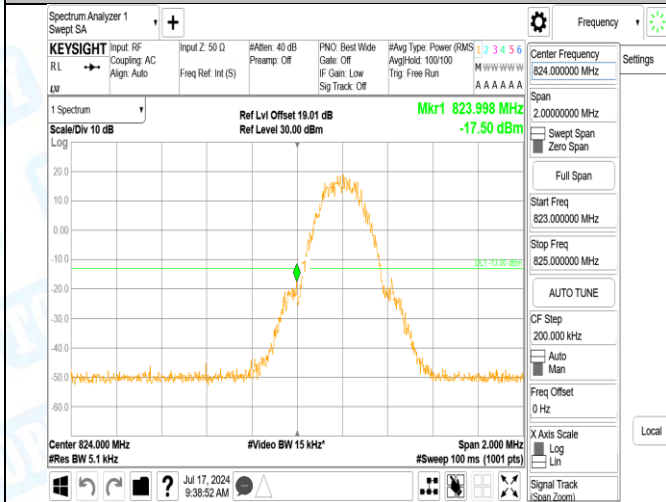
## 4. Band Edge

### Test Result

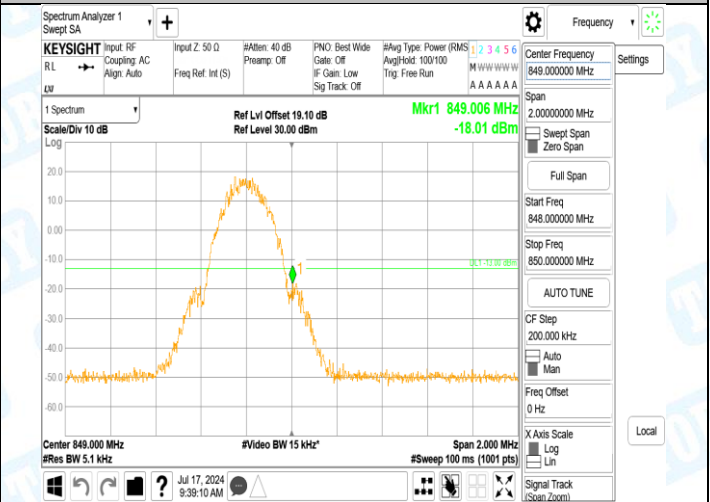
| Band      | Channel | Freq (MHz) | Result (dBm) | Limit(dBm) | Verdict |
|-----------|---------|------------|--------------|------------|---------|
| GPRS850   | 128     | 824.00     | -17.50       | -13        | PASS    |
| GPRS850   | 251     | 849.01     | -18.01       | -13        | PASS    |
| EGPRS850  | 128     | 824.00     | -17.34       | -13        | PASS    |
| EGPRS850  | 251     | 849.02     | -13.92       | -13        | PASS    |
| GPRS1900  | 512     | 1849.99    | -20.90       | -13        | PASS    |
| GPRS1900  | 810     | 1910.00    | -22.50       | -13        | PASS    |
| EGPRS1900 | 512     | 1849.98    | -14.57       | -13        | PASS    |
| EGPRS1900 | 810     | 1910.00    | -15.74       | -13        | PASS    |

## Test Graphs

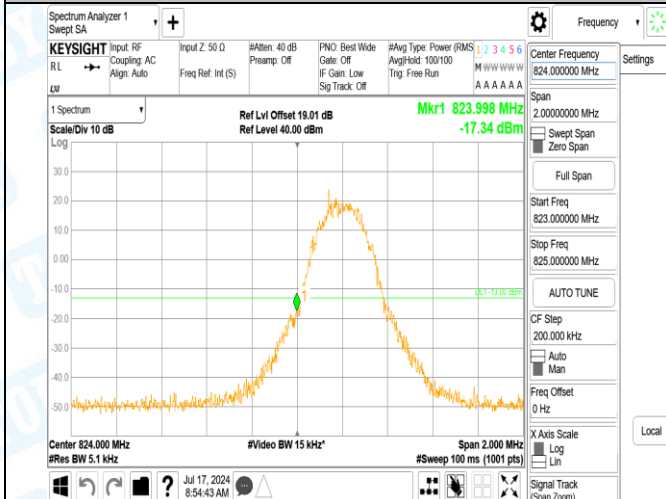
GPRS850-128-5-PASS



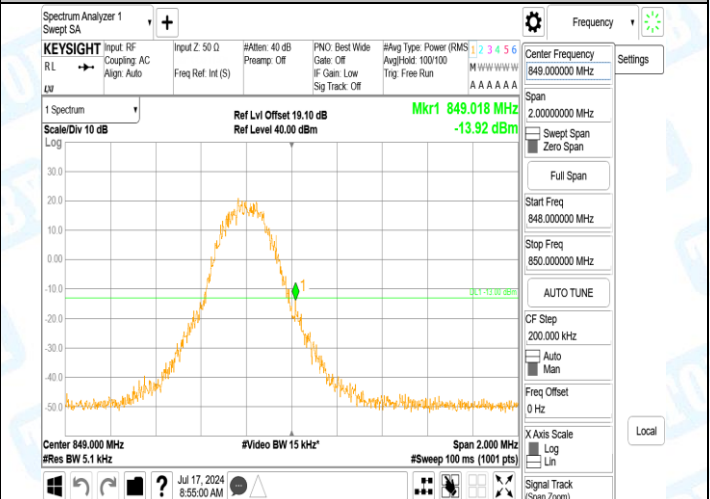
GPRS850-251-5-PASS



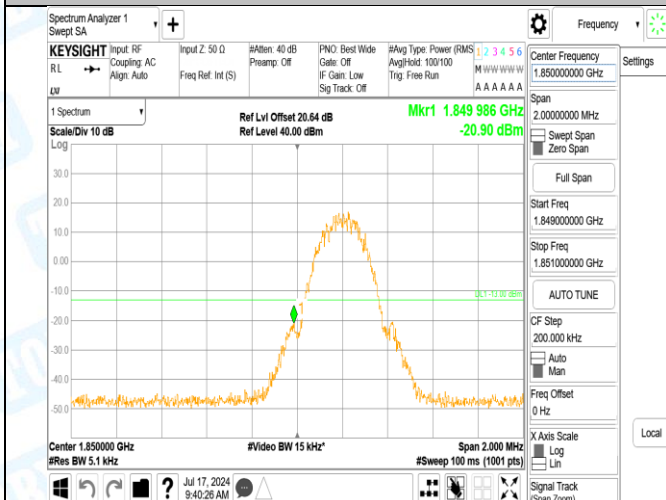
EGPRS850-128-8-PASS



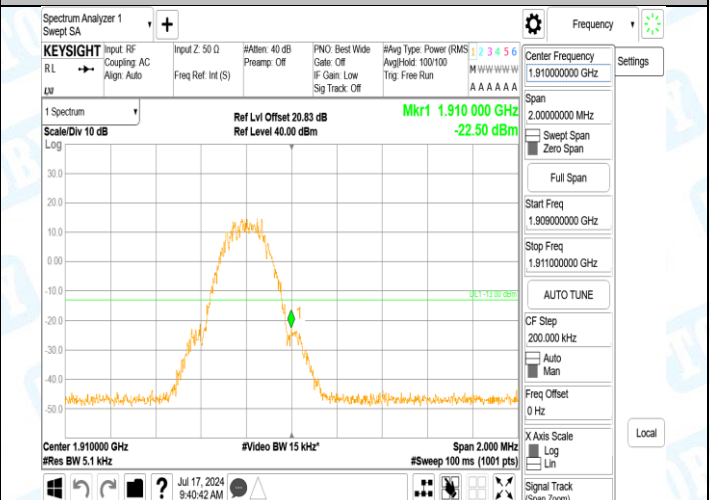
EGPRS850-251-8-PASS



GPRS1900-512-0-PASS



GPRS1900-810-0-PASS

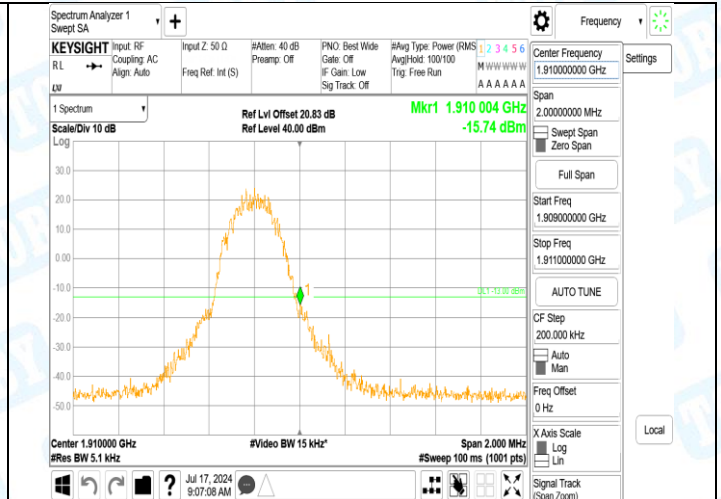
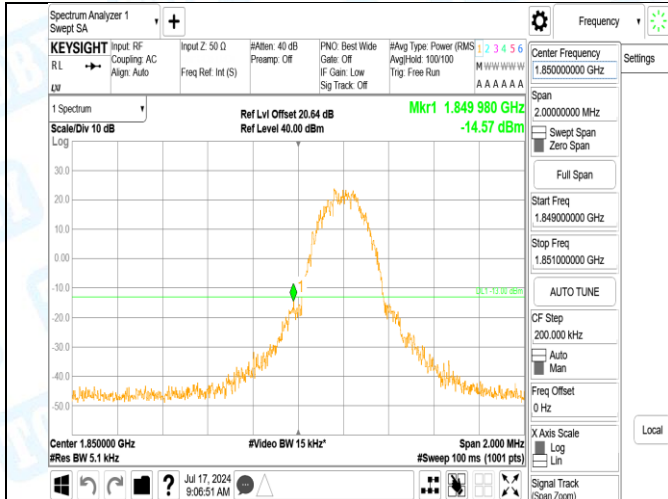


EGPRS1900-512-2-PASS



EGPRS1900-810-2-PASS





## 5. Conducted Spurious Emission

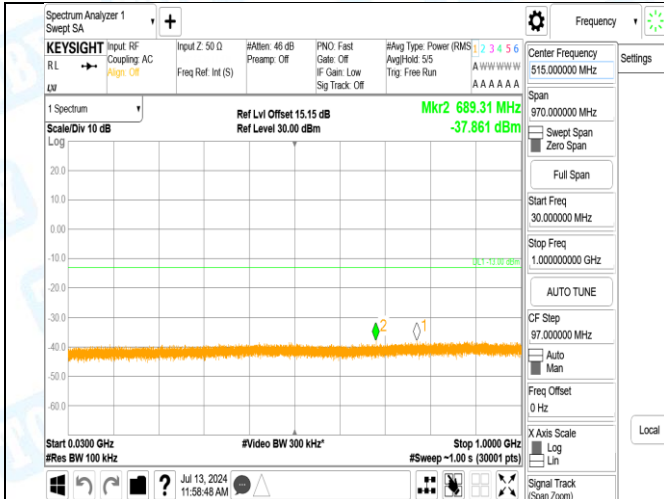
### Test Result

| Band      | Channel | Frequency Range(MHz) | Max.Freq. (MHz) | Result (dBm) | Limit (dBm) | Verdict |
|-----------|---------|----------------------|-----------------|--------------|-------------|---------|
| GPRS850   | 128     | 0.009~0.15MHz        | 0.01            | -68.93       | -33         | PASS    |
| GPRS850   | 128     | 0.15~30MHz           | 0.16            | -65.06       | -23         | PASS    |
| GPRS850   | 128     | 30~1000MHz           | 951.5           | -37.63       | -13         | PASS    |
| GPRS850   | 128     | 1000~10000MHz        | 2665.9          | -38.12       | -13         | PASS    |
| GPRS850   | 190     | 0.009~0.15MHz        | 0.01            | -66.95       | -33         | PASS    |
| GPRS850   | 190     | 0.15~30MHz           | 0.16            | -64.95       | -23         | PASS    |
| GPRS850   | 190     | 30~1000MHz           | 689.31          | -37.86       | -13         | PASS    |
| GPRS850   | 190     | 1000~10000MHz        | 3188.5          | -38.05       | -13         | PASS    |
| GPRS850   | 251     | 0.009~0.15MHz        | 0.01            | -70.02       | -33         | PASS    |
| GPRS850   | 251     | 0.15~30MHz           | 0.15            | -64.53       | -23         | PASS    |
| GPRS850   | 251     | 30~1000MHz           | 373.74          | -38.09       | -13         | PASS    |
| GPRS850   | 251     | 1000~10000MHz        | 3167.2          | -37.86       | -13         | PASS    |
| EGPRS850  | 128     | 0.009~0.15MHz        | 0.14            | -69.17       | -33         | PASS    |
| EGPRS850  | 128     | 0.15~30MHz           | 0.16            | -64.09       | -23         | PASS    |
| EGPRS850  | 128     | 30~1000MHz           | 957.42          | -38.1        | -13         | PASS    |
| EGPRS850  | 128     | 1000~10000MHz        | 3179.5          | -37.85       | -13         | PASS    |
| EGPRS850  | 190     | 0.009~0.15MHz        | 0.12            | -68.75       | -33         | PASS    |
| EGPRS850  | 190     | 0.15~30MHz           | 0.16            | -63.92       | -23         | PASS    |
| EGPRS850  | 190     | 30~1000MHz           | 946.59          | -38.35       | -13         | PASS    |
| EGPRS850  | 190     | 1000~10000MHz        | 2702.8          | -37.97       | -13         | PASS    |
| EGPRS850  | 251     | 0.009~0.15MHz        | 0.11            | -68.72       | -33         | PASS    |
| EGPRS850  | 251     | 0.15~30MHz           | 0.16            | -65.49       | -23         | PASS    |
| EGPRS850  | 251     | 30~1000MHz           | 450.27          | -38.28       | -13         | PASS    |
| EGPRS850  | 251     | 1000~10000MHz        | 3172.3          | -38.06       | -13         | PASS    |
| GPRS1900  | 512     | 0.009~0.15MHz        | 0.09            | -69.86       | -43         | PASS    |
| GPRS1900  | 512     | 0.15~30MHz           | 0.15            | -64.94       | -33         | PASS    |
| GPRS1900  | 512     | 30~1000MHz           | 881.85          | -35.61       | -13         | PASS    |
| GPRS1900  | 512     | 1000~3000MHz         | 2681.2          | -21.91       | -13         | PASS    |
| GPRS1900  | 512     | 3000~18000MHz        | 16485.5         | -40.26       | -13         | PASS    |
| GPRS1900  | 661     | 0.009~0.15MHz        | 0.14            | -69.26       | -43         | PASS    |
| GPRS1900  | 661     | 0.15~30MHz           | 0.15            | -65.51       | -33         | PASS    |
| GPRS1900  | 661     | 30~1000MHz           | 840.63          | -35.94       | -13         | PASS    |
| GPRS1900  | 661     | 1000~3000MHz         | 2702.93         | -21.95       | -13         | PASS    |
| GPRS1900  | 661     | 3000~18000MHz        | 16423.5         | -40.36       | -13         | PASS    |
| GPRS1900  | 810     | 0.009~0.15MHz        | 0.03            | -69.93       | -43         | PASS    |
| GPRS1900  | 810     | 0.15~30MHz           | 0.16            | -64.41       | -33         | PASS    |
| GPRS1900  | 810     | 30~1000MHz           | 883.5           | -35.64       | -13         | PASS    |
| GPRS1900  | 810     | 1000~3000MHz         | 2693.2          | -22.01       | -13         | PASS    |
| GPRS1900  | 810     | 3000~18000MHz        | 16434           | -40.32       | -13         | PASS    |
| EGPRS1900 | 512     | 0.009~0.15MHz        | 0.15            | -69.12       | -43         | PASS    |

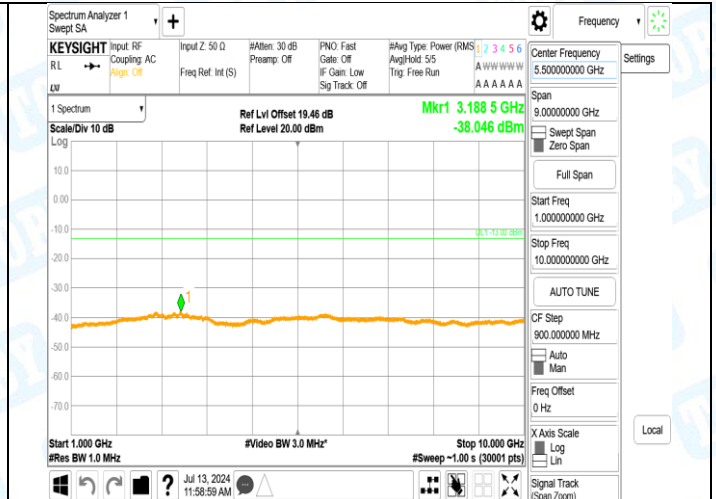
|           |     |               |         |        |     |      |
|-----------|-----|---------------|---------|--------|-----|------|
| EGPRS1900 | 512 | 0.15~30MHz    | 0.15    | -64.2  | -33 | PASS |
| EGPRS1900 | 512 | 30~1000MHz    | 923.21  | -35.76 | -13 | PASS |
| EGPRS1900 | 512 | 1000~3000MHz  | 2679.6  | -21.93 | -13 | PASS |
| EGPRS1900 | 512 | 3000~18000MHz | 16473.5 | -40.26 | -13 | PASS |
| EGPRS1900 | 661 | 0.009~0.15MHz | 0.07    | -69.38 | -43 | PASS |
| EGPRS1900 | 661 | 0.15~30MHz    | 0.16    | -63.78 | -33 | PASS |
| EGPRS1900 | 661 | 30~1000MHz    | 891.49  | -35.76 | -13 | PASS |
| EGPRS1900 | 661 | 1000~3000MHz  | 2700.67 | -21.63 | -13 | PASS |
| EGPRS1900 | 661 | 3000~18000MHz | 16354.5 | -40.08 | -13 | PASS |
| EGPRS1900 | 810 | 0.009~0.15MHz | 0.01    | -69.37 | -43 | PASS |
| EGPRS1900 | 810 | 0.15~30MHz    | 0.15    | -64.32 | -33 | PASS |
| EGPRS1900 | 810 | 30~1000MHz    | 905.94  | -35.67 | -13 | PASS |
| EGPRS1900 | 810 | 1000~3000MHz  | 2686.8  | -21.79 | -13 | PASS |
| EGPRS1900 | 810 | 3000~18000MHz | 16466   | -40.24 | -13 | PASS |

## Test Graphs

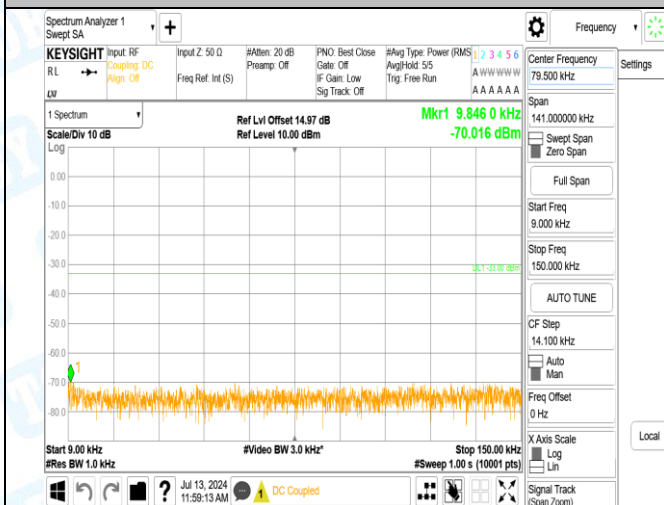




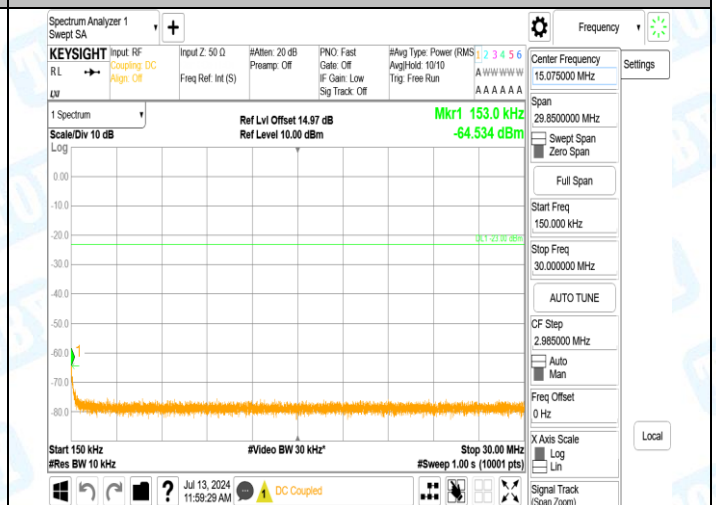
GPRS850-251-5-0.009~0.15MHz-PASS



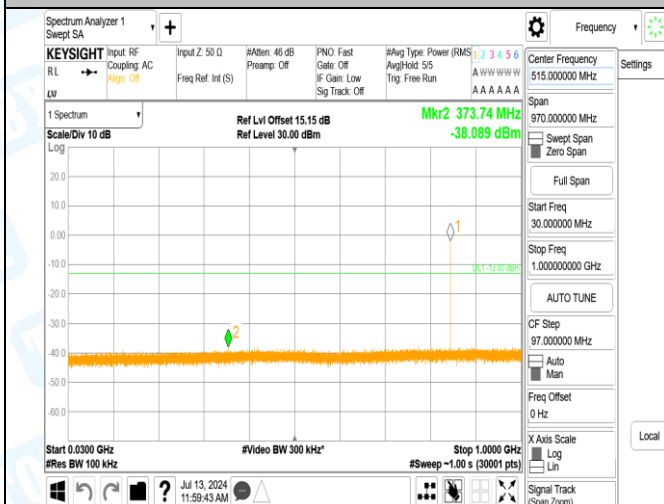
GPRS850-251-5-0.15~30MHz-PASS



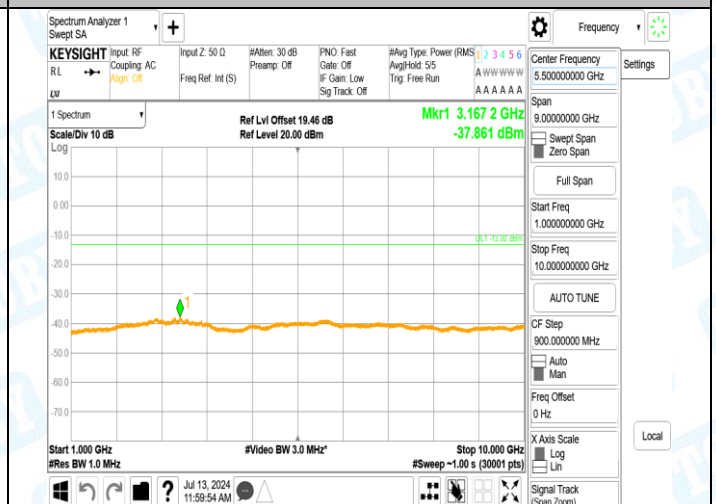
GPRS850-251-5-30~100MHz-PASS



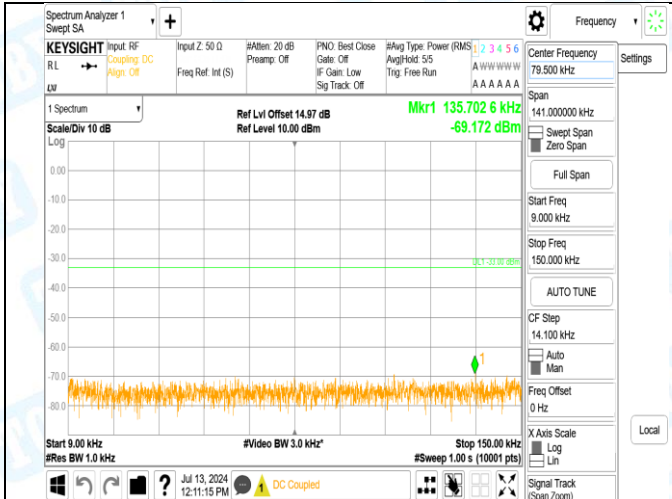
GPRS850-251-5-1000~10000MHz-PASS



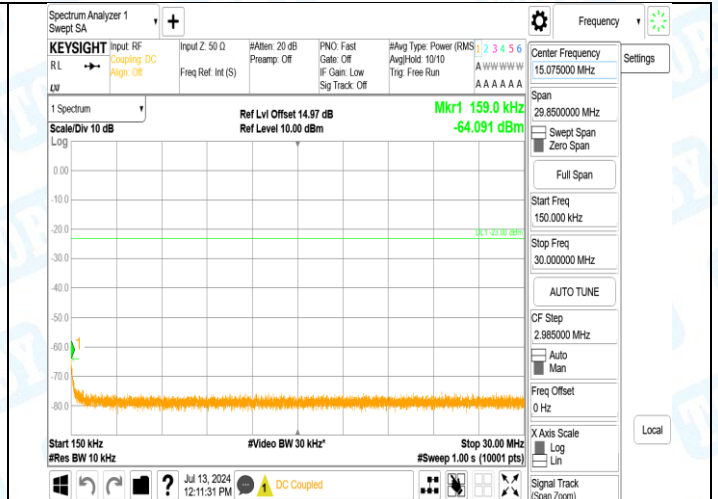
EGPRS850-128-8-0.009~0.15MHz-PASS



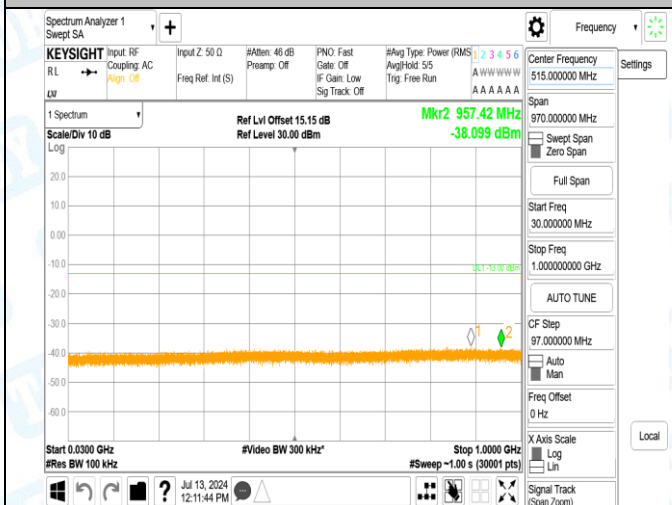
EGPRS850-128-8-0.15~30MHz-PASS



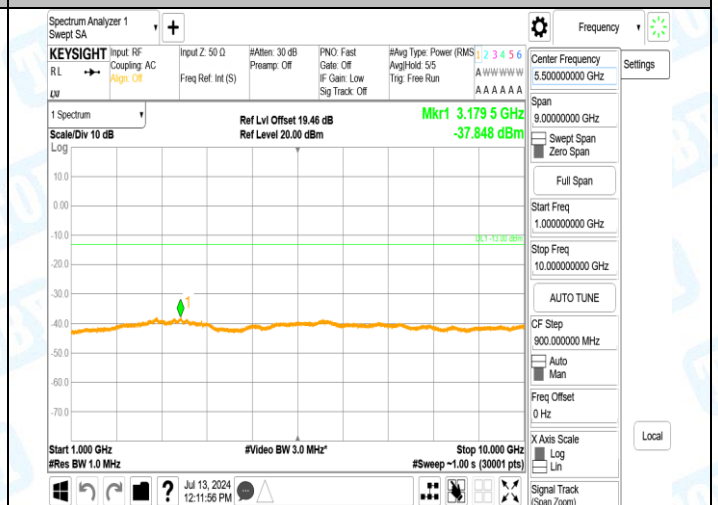
EGPRS850-128-8-30~1000MHz-PASS



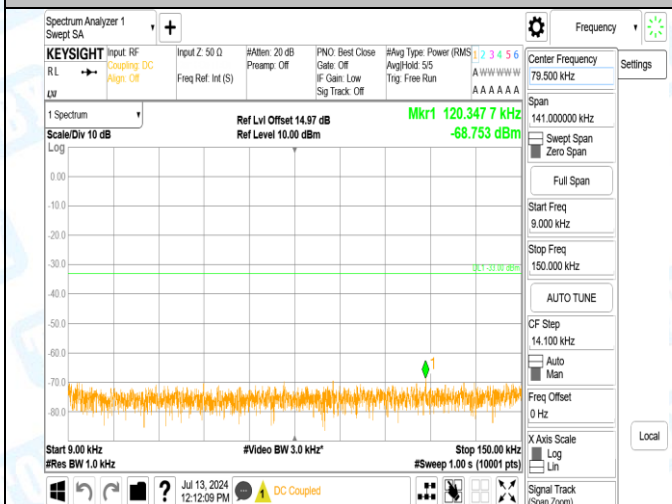
EGPRS850-128-8-1000~10000MHz-PASS



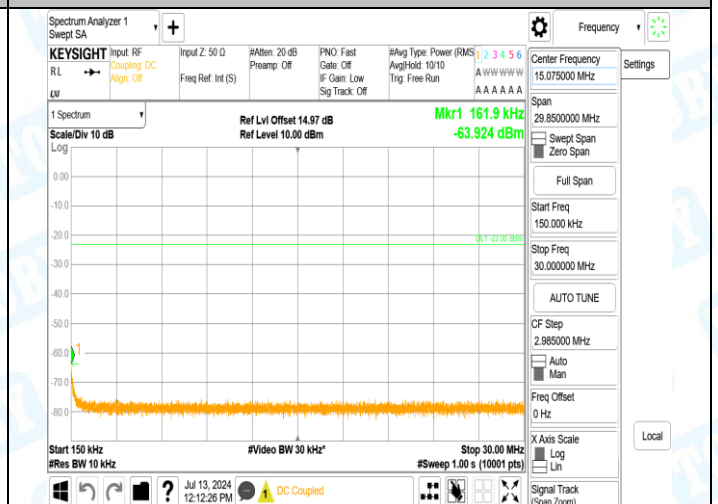
EGPRS850-190-8-0.009~0.15MHz-PASS



EGPRS850-190-8-0.15~30MHz-PASS



EGPRS850-190-8-30~1000MHz-PASS



EGPRS850-190-8-1000~10000MHz-PASS