

## Appendix A: Effective (Isotropic) Radiated Power Output Data

### Test Result

| Band    | Channel | PCL | Conducted Power (dBm) | ERP/EIRP (dBm) | ERP/EIRP Limit (dBm) | Verdict |
|---------|---------|-----|-----------------------|----------------|----------------------|---------|
| GSM850  | 128     | 5   | 33.39                 | 31.44          | 38.45                | PASS    |
| GSM850  | 190     | 5   | 33.41                 | 31.46          | 38.45                | PASS    |
| GSM850  | 251     | 5   | 33.52                 | 31.57          | 38.45                | PASS    |
| GSM1900 | 512     | 0   | 25.79                 | 26.59          | 33.00                | PASS    |
| GSM1900 | 661     | 0   | 26.00                 | 26.8           | 33.00                | PASS    |
| GSM1900 | 810     | 0   | 25.96                 | 26.76          | 33.00                | PASS    |

| Band     | Channel | PCL | Slot | Conducted Power (dBm) | ERP/EIRP (dBm) | ERP/EIRP Limit (dBm) | Verdict |
|----------|---------|-----|------|-----------------------|----------------|----------------------|---------|
| GPRS850  | 128     | 5   | 1    | 33.38                 | 31.43          | 38.45                | PASS    |
| GPRS850  | 128     | 5   | 2    | 32.58                 | 30.63          | 38.45                | PASS    |
| GPRS850  | 128     | 5   | 3    | 30.75                 | 28.8           | 38.45                | PASS    |
| GPRS850  | 128     | 5   | 4    | 29.54                 | 27.59          | 38.45                | PASS    |
| GPRS850  | 190     | 5   | 1    | 33.39                 | 31.44          | 38.45                | PASS    |
| GPRS850  | 190     | 5   | 2    | 32.59                 | 30.64          | 38.45                | PASS    |
| GPRS850  | 190     | 5   | 3    | 30.75                 | 28.8           | 38.45                | PASS    |
| GPRS850  | 190     | 5   | 4    | 29.53                 | 27.58          | 38.45                | PASS    |
| GPRS850  | 251     | 5   | 1    | 33.49                 | 31.54          | 38.45                | PASS    |
| GPRS850  | 251     | 5   | 2    | 32.69                 | 30.74          | 38.45                | PASS    |
| GPRS850  | 251     | 5   | 3    | 30.89                 | 28.94          | 38.45                | PASS    |
| GPRS850  | 251     | 5   | 4    | 29.69                 | 27.74          | 38.45                | PASS    |
| GPRS1900 | 512     | 0   | 1    | 25.78                 | 26.58          | 33.00                | PASS    |
| GPRS1900 | 512     | 0   | 2    | 24.57                 | 25.37          | 33.00                | PASS    |
| GPRS1900 | 512     | 0   | 3    | 23.49                 | 24.29          | 33.00                | PASS    |
| GPRS1900 | 512     | 0   | 4    | 22.19                 | 22.99          | 33.00                | PASS    |
| GPRS1900 | 661     | 0   | 1    | 26.01                 | 26.81          | 33.00                | PASS    |
| GPRS1900 | 661     | 0   | 2    | 24.76                 | 25.56          | 33.00                | PASS    |
| GPRS1900 | 661     | 0   | 3    | 23.78                 | 24.58          | 33.00                | PASS    |
| GPRS1900 | 661     | 0   | 4    | 22.54                 | 23.34          | 33.00                | PASS    |
| GPRS1900 | 810     | 0   | 1    | 25.98                 | 26.78          | 33.00                | PASS    |
| GPRS1900 | 810     | 0   | 2    | 24.74                 | 25.54          | 33.00                | PASS    |
| GPRS1900 | 810     | 0   | 3    | 23.76                 | 24.56          | 33.00                | PASS    |
| GPRS1900 | 810     | 0   | 4    | 22.56                 | 23.36          | 33.00                | PASS    |

| Band      | Channel | PCL | Slot | Conducted Power (dBm) | ERP/EIRP (dBm) | ERP/EIRP Limit (dBm) | Verdict |
|-----------|---------|-----|------|-----------------------|----------------|----------------------|---------|
| EGPRS850  | 128     | 8   | 1    | 28.50                 | 26.55          | 38.45                | PASS    |
| EGPRS850  | 128     | 8   | 2    | 27.38                 | 25.43          | 38.45                | PASS    |
| EGPRS850  | 128     | 8   | 3    | 24.94                 | 22.99          | 38.45                | PASS    |
| EGPRS850  | 128     | 8   | 4    | 23.68                 | 21.73          | 38.45                | PASS    |
| EGPRS850  | 190     | 8   | 1    | 28.49                 | 26.54          | 38.45                | PASS    |
| EGPRS850  | 190     | 8   | 2    | 27.42                 | 25.47          | 38.45                | PASS    |
| EGPRS850  | 190     | 8   | 3    | 25.15                 | 23.2           | 38.45                | PASS    |
| EGPRS850  | 190     | 8   | 4    | 23.70                 | 21.75          | 38.45                | PASS    |
| EGPRS850  | 251     | 8   | 1    | 28.58                 | 26.63          | 38.45                | PASS    |
| EGPRS850  | 251     | 8   | 2    | 27.41                 | 25.46          | 38.45                | PASS    |
| EGPRS850  | 251     | 8   | 3    | 25.19                 | 23.24          | 38.45                | PASS    |
| EGPRS850  | 251     | 8   | 4    | 23.77                 | 21.82          | 38.45                | PASS    |
| EGPRS1900 | 512     | 2   | 1    | 22.27                 | 23.07          | 33.00                | PASS    |
| EGPRS1900 | 512     | 2   | 2    | 21.12                 | 21.92          | 33.00                | PASS    |
| EGPRS1900 | 512     | 2   | 3    | 19.89                 | 20.69          | 33.00                | PASS    |
| EGPRS1900 | 512     | 2   | 4    | 18.71                 | 19.51          | 33.00                | PASS    |
| EGPRS1900 | 661     | 2   | 1    | 22.34                 | 23.14          | 33.00                | PASS    |
| EGPRS1900 | 661     | 2   | 2    | 21.21                 | 22.01          | 33.00                | PASS    |
| EGPRS1900 | 661     | 2   | 3    | 20.00                 | 20.8           | 33.00                | PASS    |
| EGPRS1900 | 661     | 2   | 4    | 18.77                 | 19.57          | 33.00                | PASS    |
| EGPRS1900 | 810     | 2   | 1    | 22.24                 | 23.04          | 33.00                | PASS    |
| EGPRS1900 | 810     | 2   | 2    | 21.17                 | 21.97          | 33.00                | PASS    |
| EGPRS1900 | 810     | 2   | 3    | 20.05                 | 20.85          | 33.00                | PASS    |
| EGPRS1900 | 810     | 2   | 4    | 18.83                 | 19.63          | 33.00                | PASS    |

Remark: EIRP (dBm) = Conducted power (dBm) + Antenna Gain (dBi). (For GSM1900)

ERP (dBm) = EIRP (dBm) - 2.15 (dB). (For GSM850)

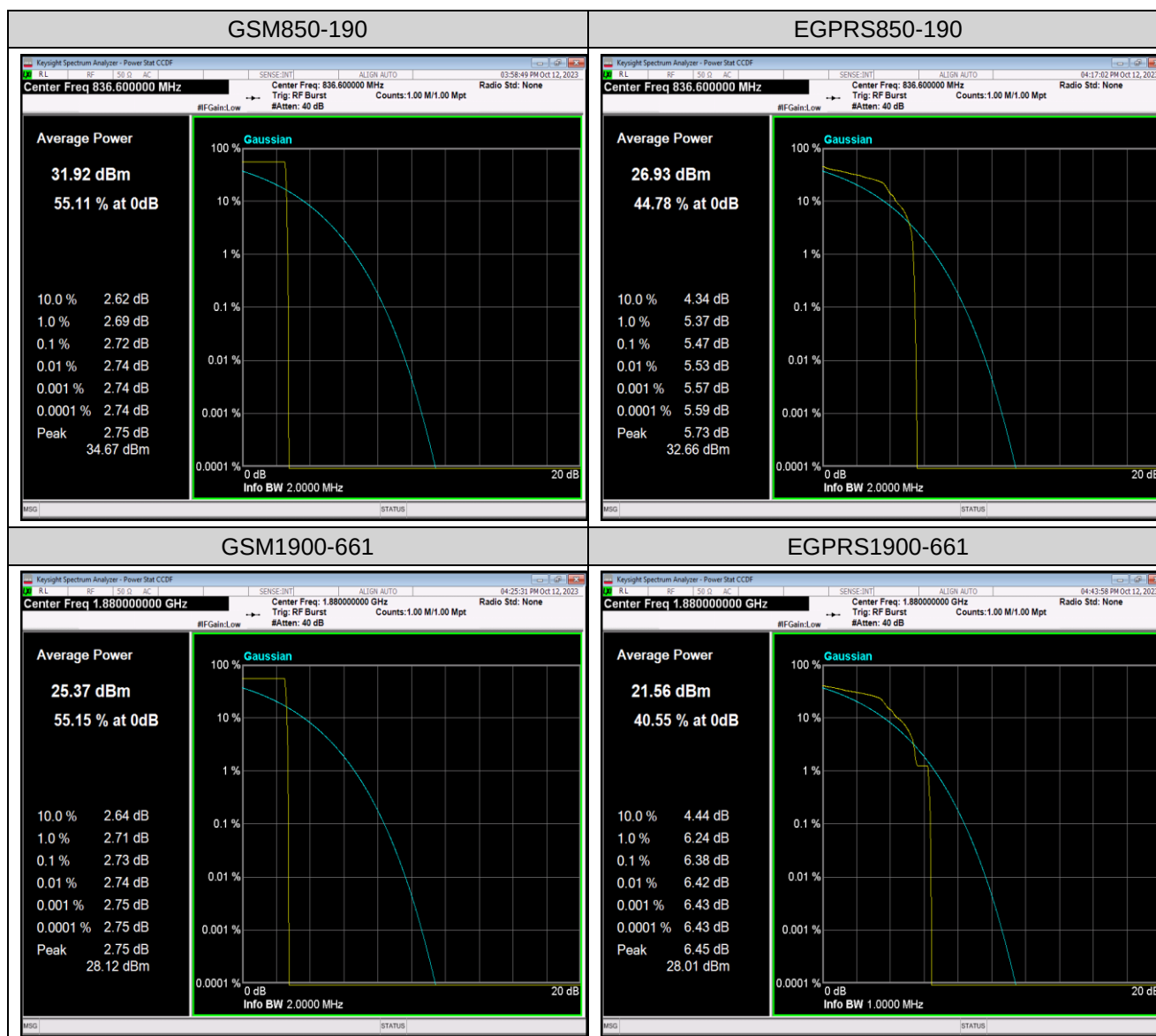
## Appendix B: Peak-to-Average Ratio(CCDF)

### Test Result

| Band      | Channel | PCL | Result(dB) | Limit(dB) | Verdict |
|-----------|---------|-----|------------|-----------|---------|
| GSM850    | 190     | 5   | 2.72       | 13        | PASS    |
| EGPRS850  | 190     | 8   | 5.47       | 13        | PASS    |
| GSM1900   | 661     | 0   | 2.73       | 13        | PASS    |
| EGPRS1900 | 661     | 2   | 6.38       | 13        | PASS    |

Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

### Test Graphs

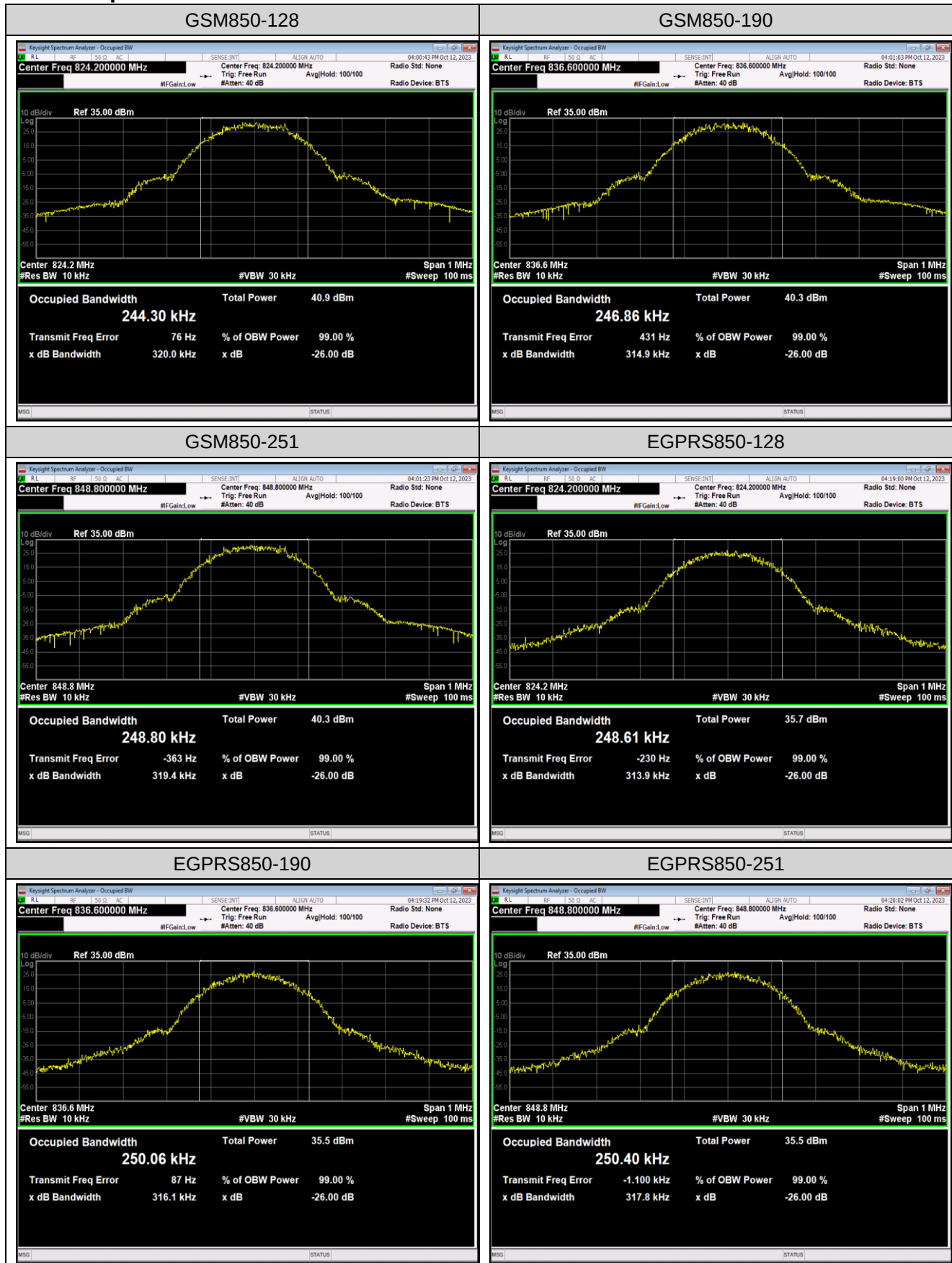


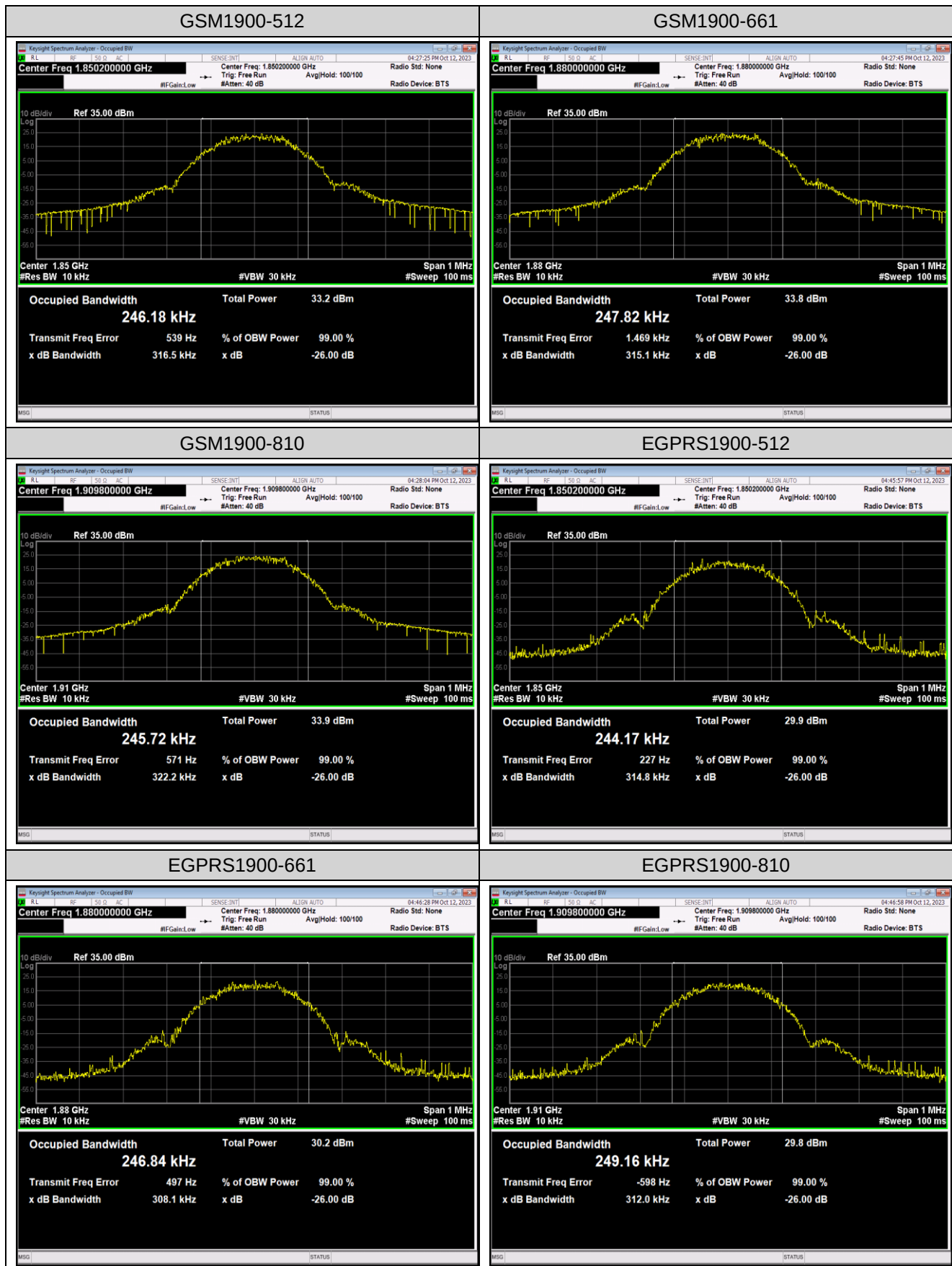
## Appendix C: 26dB Bandwidth and Occupied Bandwidth

### Test Result

| Band      | Channel | PCL | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Limit (MHz) | Verdict |
|-----------|---------|-----|--------------------------|----------------------|-------------|---------|
| GSM850    | 128     | 5   | 0.24430                  | 0.3200               | ---         | PASS    |
| GSM850    | 190     | 5   | 0.24686                  | 0.3149               | ---         | PASS    |
| GSM850    | 251     | 5   | 0.24880                  | 0.3194               | ---         | PASS    |
| EGPRS850  | 128     | 8   | 0.24861                  | 0.3139               | ---         | PASS    |
| EGPRS850  | 190     | 8   | 0.25006                  | 0.3161               | ---         | PASS    |
| EGPRS850  | 251     | 8   | 0.25040                  | 0.3178               | ---         | PASS    |
| GSM1900   | 512     | 0   | 0.24618                  | 0.3165               | ---         | PASS    |
| GSM1900   | 661     | 0   | 0.24782                  | 0.3151               | ---         | PASS    |
| GSM1900   | 810     | 0   | 0.24572                  | 0.3222               | ---         | PASS    |
| EGPRS1900 | 512     | 2   | 0.24417                  | 0.3148               | ---         | PASS    |
| EGPRS1900 | 661     | 2   | 0.24684                  | 0.3081               | ---         | PASS    |
| EGPRS1900 | 810     | 2   | 0.24916                  | 0.3120               | ---         | PASS    |

# Test Graphs



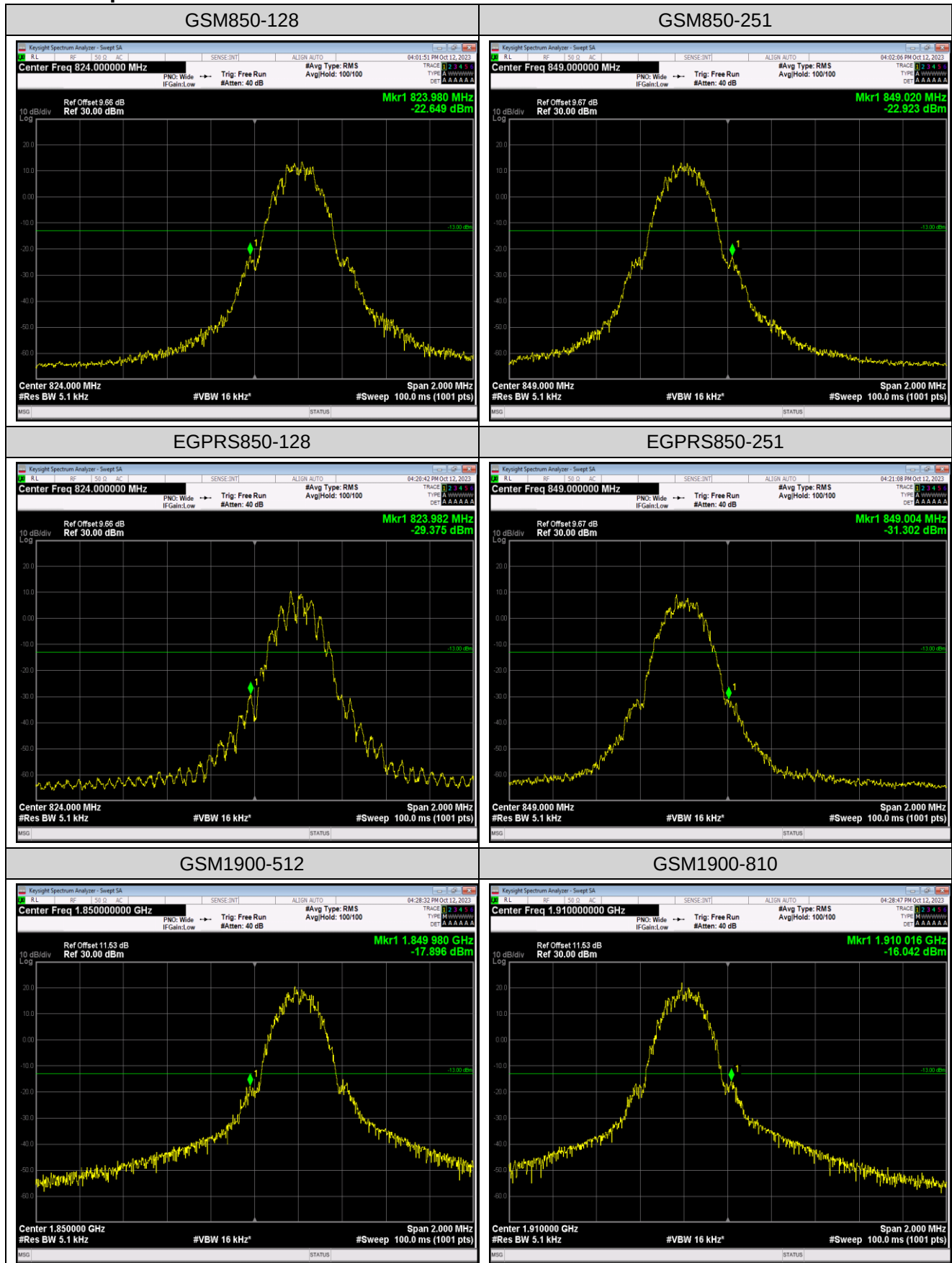


## Appendix D: Band Edge

### Test Result

| Band      | Channel | PCL | Freq (MHz) | Result (dBm) | Limit(dBm) | Verdict |
|-----------|---------|-----|------------|--------------|------------|---------|
| GSM850    | 128     | 5   | 823.98     | -22.65       | -13        | PASS    |
| GSM850    | 251     | 5   | 849.02     | -22.92       | -13        | PASS    |
| EGPRS850  | 128     | 8   | 823.98     | -29.37       | -13        | PASS    |
| EGPRS850  | 251     | 8   | 849.00     | -31.30       | -13        | PASS    |
| GSM1900   | 512     | 0   | 1849.98    | -17.90       | -13        | PASS    |
| GSM1900   | 810     | 0   | 1910.02    | -16.04       | -13        | PASS    |
| EGPRS1900 | 512     | 2   | 1849.99    | -18.12       | -13        | PASS    |
| EGPRS1900 | 810     | 2   | 1910.02    | -23.49       | -13        | PASS    |

# Test Graphs



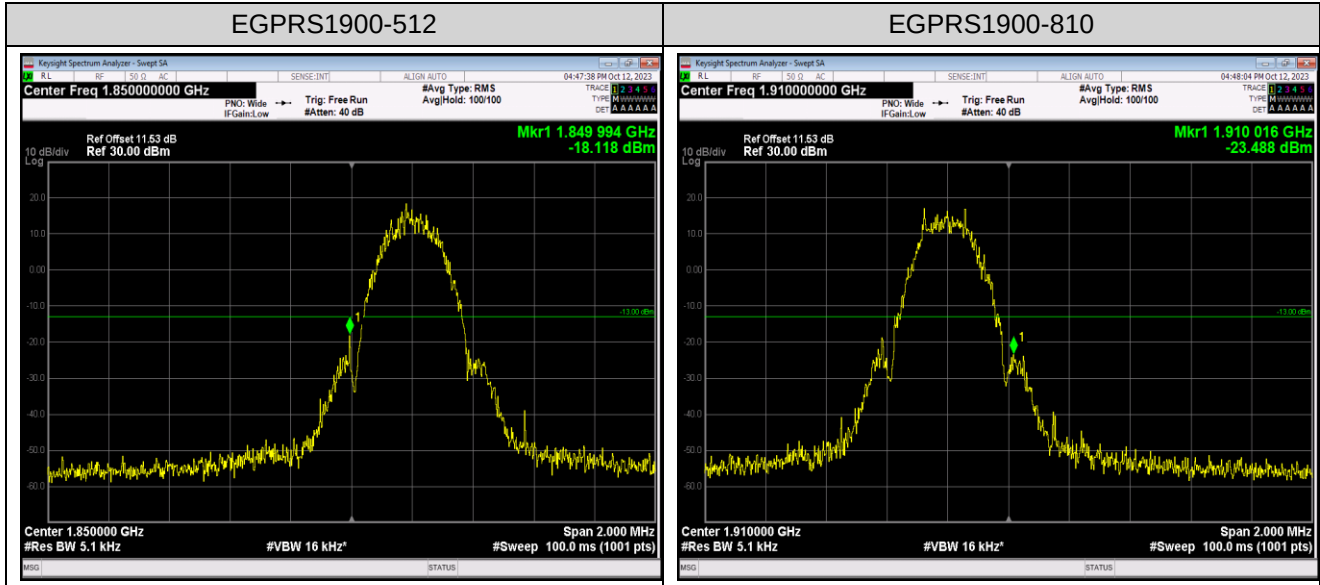
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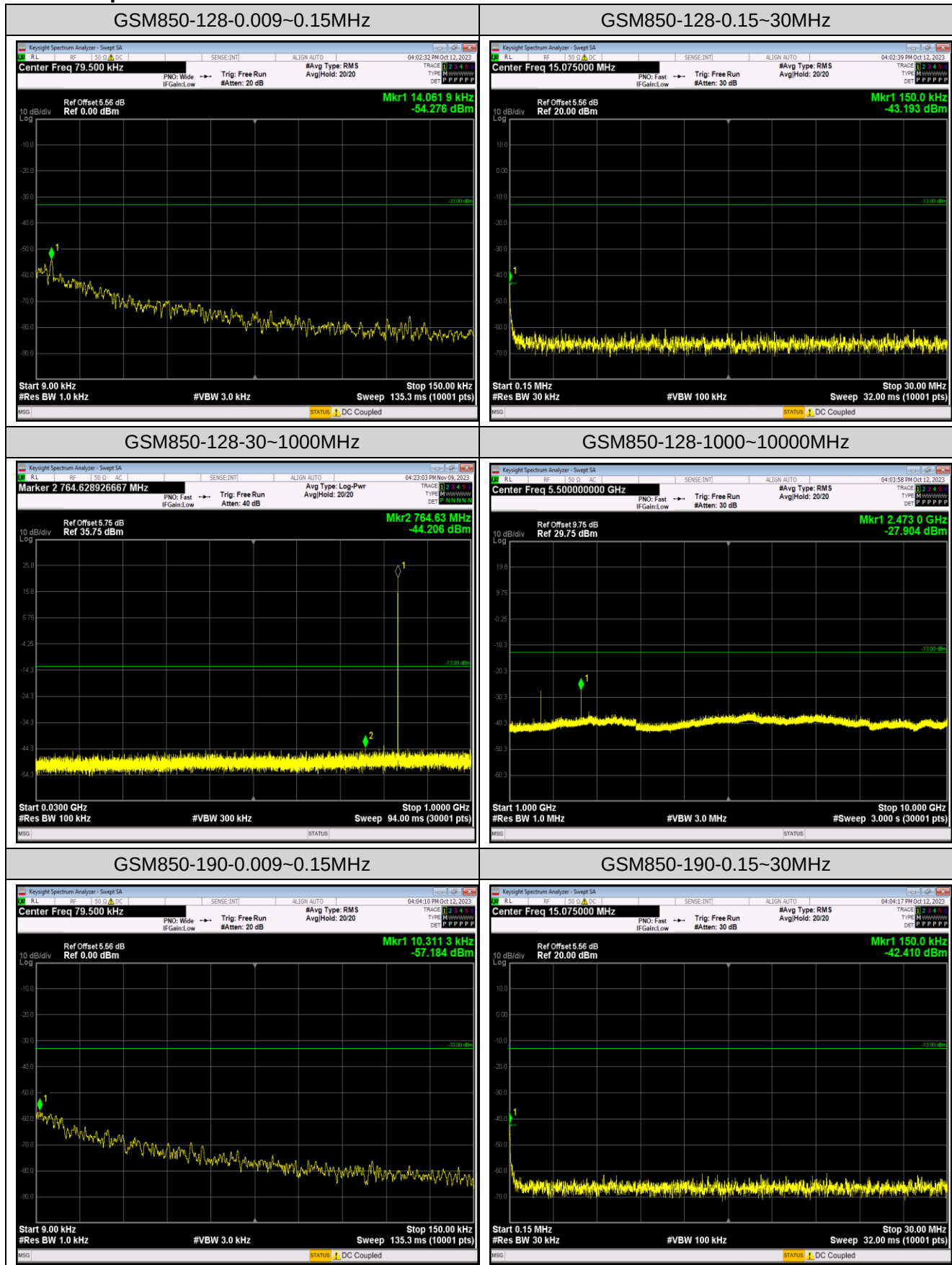
## Appendix E: Conducted Spurious Emission

### Test Result

| Band    | Channel | PCL | Frequency Range(MHz) | Max.Freq. (MHz) | Result (dBm) | Limit (dBm) | Verdict |
|---------|---------|-----|----------------------|-----------------|--------------|-------------|---------|
| GSM850  | 128     | 5   | 0.009~0.15MHz        | 0.01            | -54.28       | -33         | PASS    |
| GSM850  | 128     | 5   | 0.15~30MHz           | 0.15            | -43.19       | -13         | PASS    |
| GSM850  | 128     | 5   | 30~1000MHz           | 707.22          | -44.43       | -13         | PASS    |
| GSM850  | 128     | 5   | 1000~10000MHz        | 2473            | -27.9        | -13         | PASS    |
| GSM850  | 190     | 5   | 0.009~0.15MHz        | 0.01            | -57.18       | -33         | PASS    |
| GSM850  | 190     | 5   | 0.15~30MHz           | 0.15            | -42.41       | -13         | PASS    |
| GSM850  | 190     | 5   | 30~1000MHz           | 946.04          | -43.97       | -13         | PASS    |
| GSM850  | 190     | 5   | 1000~10000MHz        | 1673.5          | -28.97       | -13         | PASS    |
| GSM850  | 251     | 5   | 0.009~0.15MHz        | 0.01            | -55.31       | -33         | PASS    |
| GSM850  | 251     | 5   | 0.15~30MHz           | 0.15            | -44.63       | -13         | PASS    |
| GSM850  | 251     | 5   | 30~1000MHz           | 391.91          | -44.43       | -13         | PASS    |
| GSM850  | 251     | 5   | 1000~10000MHz        | 2546.5          | -28.1        | -13         | PASS    |
| GSM1900 | 512     | 0   | 0.009~0.15MHz        | 0.01            | -56.81       | -43         | PASS    |
| GSM1900 | 512     | 0   | 0.15~30MHz           | 0.15            | -43.5        | -23         | PASS    |
| GSM1900 | 512     | 0   | 30~1000MHz           | 782.01          | -44.81       | -13         | PASS    |
| GSM1900 | 512     | 0   | 1000~18000MHz        | 16960.17        | -21.84       | -13         | PASS    |
| GSM1900 | 661     | 0   | 0.009~0.15MHz        | 0.01            | -56.86       | -43         | PASS    |
| GSM1900 | 661     | 0   | 0.15~30MHz           | 0.15            | -42.62       | -23         | PASS    |
| GSM1900 | 661     | 0   | 30~1000MHz           | 790.61          | -45.3        | -13         | PASS    |
| GSM1900 | 661     | 0   | 1000~18000MHz        | 16205.93        | -20.95       | -13         | PASS    |
| GSM1900 | 810     | 0   | 0.009~0.15MHz        | 0.01            | -56.57       | -43         | PASS    |
| GSM1900 | 810     | 0   | 0.15~30MHz           | 0.15            | -43.75       | -23         | PASS    |
| GSM1900 | 810     | 0   | 30~1000MHz           | 912.96          | -44.71       | -13         | PASS    |
| GSM1900 | 810     | 0   | 1000~18000MHz        | 17023.63        | -21.18       | -13         | PASS    |

Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

# Test Graphs

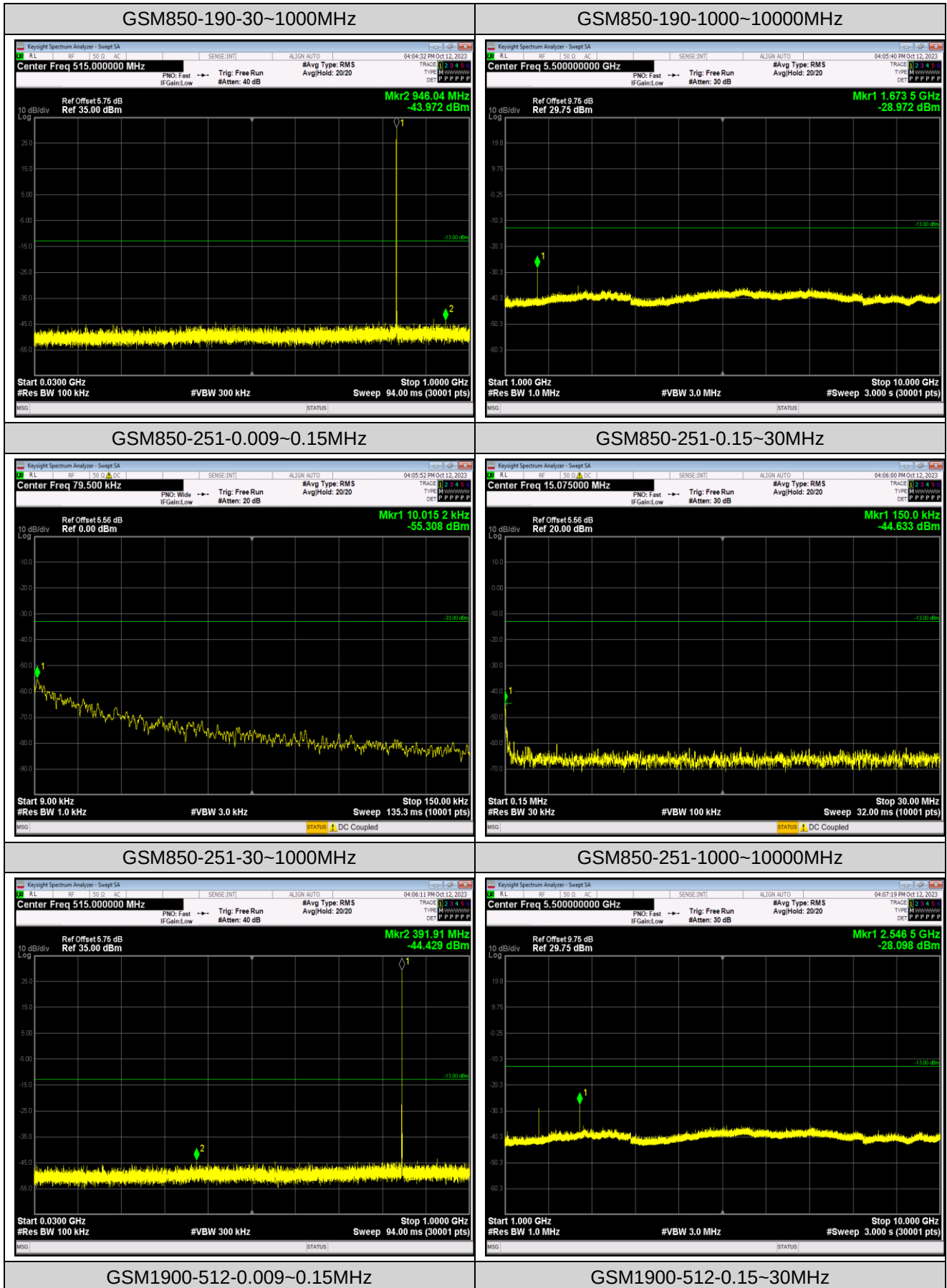


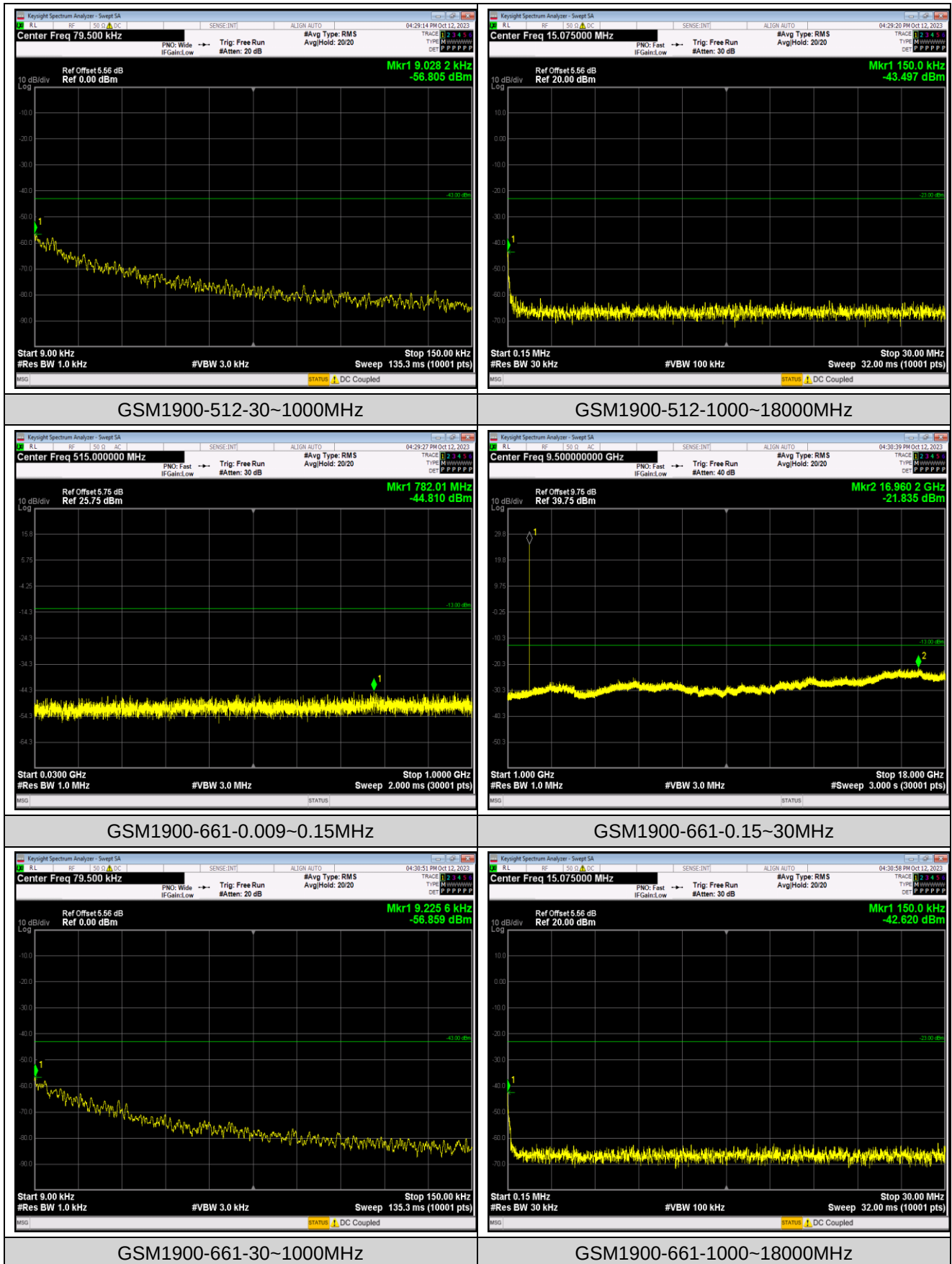
JianYan Testing Group Shenzhen Co., Ltd.

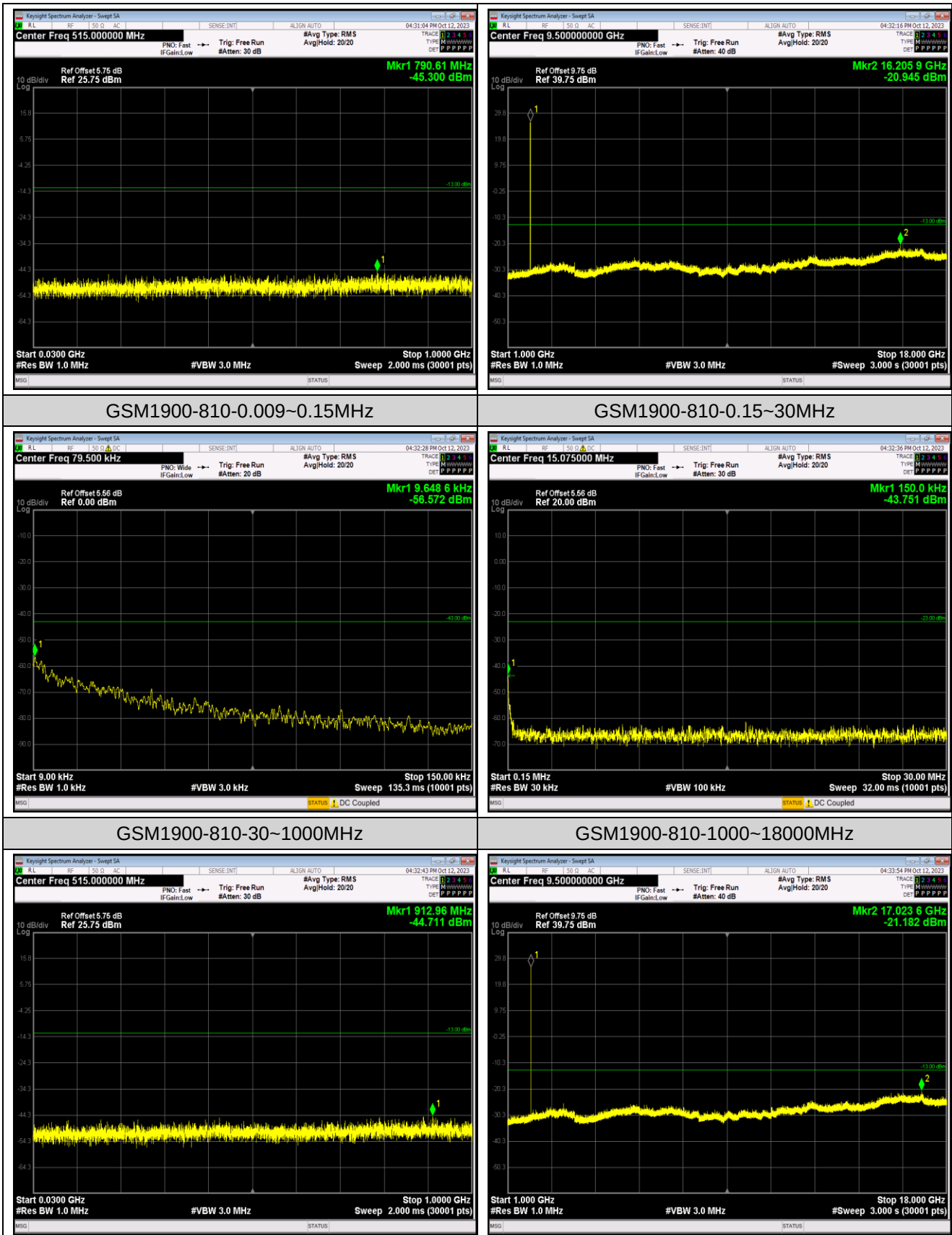
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Project No.: JYTSZR2310002







## Appendix F: Frequency Stability

### Test Result

| Reference Frequency: GSM850 Middle channel=190 Frequency=836.6MHz                           |                         |                 |          |             |        |
|---------------------------------------------------------------------------------------------|-------------------------|-----------------|----------|-------------|--------|
| Temperature                                                                                 |                         |                 |          |             |        |
| Power supplied<br>(Vdc)                                                                     | Temperature<br>(°C)     | Frequency error |          | Limit (ppm) | Result |
|                                                                                             |                         | Hz              | ppm      |             |        |
| 3.80                                                                                        | -30                     | 8.75            | 0.010459 | ±2.5        | Pass   |
|                                                                                             | -20                     | 12.88           | 0.015396 |             |        |
|                                                                                             | -10                     | 6.88            | 0.008224 |             |        |
|                                                                                             | 0                       | 11.43           | 0.013662 |             |        |
|                                                                                             | 10                      | 10.40           | 0.012431 |             |        |
|                                                                                             | 20                      | 11.82           | 0.014129 |             |        |
|                                                                                             | 30                      | 9.33            | 0.011152 |             |        |
|                                                                                             | 40                      | 8.59            | 0.010268 |             |        |
|                                                                                             | 50                      | 12.91           | 0.015432 |             |        |
| Voltage                                                                                     |                         |                 |          |             |        |
| Temperature<br>(°C)                                                                         | Power supplied<br>(Vdc) | Frequency error |          | Limit (ppm) | Result |
|                                                                                             |                         | Hz              | ppm      |             |        |
| 25                                                                                          | 3.50                    | 10.88           | 0.013005 | ±2.5        | Pass   |
|                                                                                             | 3.80                    | 8.46            | 0.010112 |             |        |
|                                                                                             | 4.35                    | 9.65            | 0.011535 |             |        |
| Remark: All channel had been tested, but only the worst case data displayed in this report. |                         |                 |          |             |        |

| Reference Frequency: EGPRS850 Middle channel=190 Frequency=836.6MHz                         |                         |                 |          |             |        |
|---------------------------------------------------------------------------------------------|-------------------------|-----------------|----------|-------------|--------|
| Temperature                                                                                 |                         |                 |          |             |        |
| Power supplied<br>(Vdc)                                                                     | Temperature<br>(°C)     | Frequency error |          | Limit (ppm) | Result |
|                                                                                             |                         | Hz              | ppm      |             |        |
| 3.80                                                                                        | -30                     | 9.69            | 0.011583 | ±2.5        | Pass   |
|                                                                                             | -20                     | 7.59            | 0.009072 |             |        |
|                                                                                             | -10                     | 7.65            | 0.009144 |             |        |
|                                                                                             | 0                       | 11.59           | 0.013854 |             |        |
|                                                                                             | 10                      | 22.34           | 0.026703 |             |        |
|                                                                                             | 20                      | 17.24           | 0.020607 |             |        |
|                                                                                             | 30                      | 17.72           | 0.021181 |             |        |
|                                                                                             | 40                      | 17.66           | 0.021109 |             |        |
|                                                                                             | 50                      | 15.24           | 0.018217 |             |        |
| Voltage                                                                                     |                         |                 |          |             |        |
| Temperature<br>(°C)                                                                         | Power supplied<br>(Vdc) | Frequency error |          | Limit (ppm) | Result |
|                                                                                             |                         | Hz              | ppm      |             |        |
| 25                                                                                          | 3.50                    | 12.40           | 0.014822 | ±2.5        | Pass   |
|                                                                                             | 3.80                    | 7.52            | 0.008989 |             |        |
|                                                                                             | 4.35                    | 10.33           | 0.012348 |             |        |
| Remark: All channel had been tested, but only the worst case data displayed in this report. |                         |                 |          |             |        |



| Reference Frequency: PCS1900 Middle channel=661 Frequency=1880MHz                           |                         |                 |          |                                           |        |
|---------------------------------------------------------------------------------------------|-------------------------|-----------------|----------|-------------------------------------------|--------|
| Temperature                                                                                 |                         |                 |          |                                           |        |
| Power supplied<br>(Vdc)                                                                     | Temperature<br>(°C)     | Frequency error |          | Limit (ppm)                               | Result |
|                                                                                             |                         | Hz              | ppm      |                                           |        |
| 3.80                                                                                        | -30                     | 12.20           | 0.006489 | Within<br>authorized band<br>for PCS 1900 | Pass   |
|                                                                                             | -20                     | 10.11           | 0.005378 |                                           |        |
|                                                                                             | -10                     | 14.30           | 0.007606 |                                           |        |
|                                                                                             | 0                       | 23.05           | 0.012261 |                                           |        |
|                                                                                             | 10                      | 23.25           | 0.012367 |                                           |        |
|                                                                                             | 20                      | 16.95           | 0.009016 |                                           |        |
|                                                                                             | 30                      | 16.63           | 0.008846 |                                           |        |
|                                                                                             | 40                      | 17.98           | 0.009564 |                                           |        |
|                                                                                             | 50                      | 14.40           | 0.007660 |                                           |        |
| Voltage                                                                                     |                         |                 |          |                                           |        |
| Temperature<br>(°C)                                                                         | Power supplied<br>(Vdc) | Frequency error |          | Limit (ppm)                               | Result |
|                                                                                             |                         | Hz              | ppm      |                                           |        |
| 25                                                                                          | 3.50                    | 22.34           | 0.011883 | Within<br>authorized band<br>for PCS 1900 | Pass   |
|                                                                                             | 3.80                    | 21.70           | 0.011543 |                                           |        |
|                                                                                             | 4.35                    | 16.21           | 0.008622 |                                           |        |
| Remark: All channel had been tested, but only the worst case data displayed in this report. |                         |                 |          |                                           |        |

| Reference Frequency: EGPRS1900 Middle channel=661 Frequency=1880MHz                         |                         |                 |          |                                           |        |
|---------------------------------------------------------------------------------------------|-------------------------|-----------------|----------|-------------------------------------------|--------|
| Temperature                                                                                 |                         |                 |          |                                           |        |
| Power supplied<br>(Vdc)                                                                     | Temperature<br>(°C)     | Frequency error |          | Limit (ppm)                               | Result |
|                                                                                             |                         | Hz              | ppm      |                                           |        |
| 3.80                                                                                        | -30                     | 18.56           | 0.009872 | Within<br>authorized band<br>for PCS 1900 | Pass   |
|                                                                                             | -20                     | 19.66           | 0.010457 |                                           |        |
|                                                                                             | -10                     | 20.70           | 0.011011 |                                           |        |
|                                                                                             | 0                       | 15.82           | 0.008415 |                                           |        |
|                                                                                             | 10                      | 28.06           | 0.014926 |                                           |        |
|                                                                                             | 20                      | 36.97           | 0.019665 |                                           |        |
|                                                                                             | 30                      | 35.06           | 0.018649 |                                           |        |
|                                                                                             | 40                      | 35.58           | 0.018926 |                                           |        |
|                                                                                             | 50                      | 37.35           | 0.019867 |                                           |        |
| Voltage                                                                                     |                         |                 |          |                                           |        |
| Temperature<br>(°C)                                                                         | Power supplied<br>(Vdc) | Frequency error |          | Limit (ppm)                               | Result |
|                                                                                             |                         | Hz              | ppm      |                                           |        |
| 25                                                                                          | 3.50                    | 19.27           | 0.010250 | Within<br>authorized band<br>for PCS 1900 | Pass   |
|                                                                                             | 3.80                    | 17.56           | 0.009340 |                                           |        |
|                                                                                             | 4.35                    | 14.85           | 0.007899 |                                           |        |
| Remark: All channel had been tested, but only the worst case data displayed in this report. |                         |                 |          |                                           |        |

## Appendix G: Modulation Characteristics

### Test Result

| Band      | Channel | Result | Verdict |
|-----------|---------|--------|---------|
| GSM850    | 190     | PASS   | PASS    |
| EGPRS850  | 190     | PASS   | PASS    |
| GSM1900   | 661     | PASS   | PASS    |
| EGPRS1900 | 661     | PASS   | PASS    |

*Remark: All channel had been tested, but only the worst case data displayed in this report.*

## Test Graphs

