

## 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   | 33.23                 | 26.08          | 38.45                | PASS    |
| GSM850  | 190     | 5   | 33.26                 | 26.11          | 38.45                | PASS    |
| GSM850  | 251     | 5   | 33.13                 | 25.98          | 38.45                | PASS    |
| GSM1900 | 512     | 0   | 27.35                 | 25.35          | 33.00                | PASS    |
| GSM1900 | 661     | 0   | 27.31                 | 25.31          | 33.00                | PASS    |
| GSM1900 | 810     | 0   | 26.98                 | 24.98          | 33.00                | PASS    |

| Band     | Channel | PCL | Slot | Conducted Power (dBm) | ERP/EIRP (dBm) | ERP/EIRP Limit (dBm) | Verdict |
|----------|---------|-----|------|-----------------------|----------------|----------------------|---------|
| GPRS850  | 128     | 5   | 1    | 33.19                 | 26.04          | 38.45                | PASS    |
| GPRS850  | 128     | 5   | 2    | 31.15                 | 24             | 38.45                | PASS    |
| GPRS850  | 128     | 5   | 3    | 29.13                 | 21.98          | 38.45                | PASS    |
| GPRS850  | 128     | 5   | 4    | 27.09                 | 19.94          | 38.45                | PASS    |
| GPRS850  | 190     | 5   | 1    | 33.23                 | 26.08          | 38.45                | PASS    |
| GPRS850  | 190     | 5   | 2    | 31.18                 | 24.03          | 38.45                | PASS    |
| GPRS850  | 190     | 5   | 3    | 29.16                 | 22.01          | 38.45                | PASS    |
| GPRS850  | 190     | 5   | 4    | 27.12                 | 19.97          | 38.45                | PASS    |
| GPRS850  | 251     | 5   | 1    | 33.10                 | 25.95          | 38.45                | PASS    |
| GPRS850  | 251     | 5   | 2    | 31.04                 | 23.89          | 38.45                | PASS    |
| GPRS850  | 251     | 5   | 3    | 29.02                 | 21.87          | 38.45                | PASS    |
| GPRS850  | 251     | 5   | 4    | 26.98                 | 19.83          | 38.45                | PASS    |
| GPRS1900 | 512     | 0   | 1    | 29.18                 | 27.18          | 33.00                | PASS    |
| GPRS1900 | 512     | 0   | 2    | 27.31                 | 25.31          | 33.00                | PASS    |
| GPRS1900 | 512     | 0   | 3    | 25.80                 | 23.8           | 33.00                | PASS    |
| GPRS1900 | 512     | 0   | 4    | 23.69                 | 21.69          | 33.00                | PASS    |
| GPRS1900 | 661     | 0   | 1    | 29.24                 | 27.24          | 33.00                | PASS    |
| GPRS1900 | 661     | 0   | 2    | 27.25                 | 25.25          | 33.00                | PASS    |
| GPRS1900 | 661     | 0   | 3    | 25.76                 | 23.76          | 33.00                | PASS    |
| GPRS1900 | 661     | 0   | 4    | 23.68                 | 21.68          | 33.00                | PASS    |
| GPRS1900 | 810     | 0   | 1    | 29.08                 | 27.08          | 33.00                | PASS    |
| GPRS1900 | 810     | 0   | 2    | 26.99                 | 24.99          | 33.00                | PASS    |
| GPRS1900 | 810     | 0   | 3    | 25.49                 | 23.49          | 33.00                | PASS    |
| GPRS1900 | 810     | 0   | 4    | 23.42                 | 21.42          | 33.00                | PASS    |

| Band      | Channel | PCL | Slot | Conducted Power (dBm) | ERP/EIRP (dBm) | ERP/EIRP Limit (dBm) | Verdict |
|-----------|---------|-----|------|-----------------------|----------------|----------------------|---------|
| EGPRS850  | 128     | 8   | 1    | 25.50                 | 18.35          | 38.45                | PASS    |
| EGPRS850  | 128     | 8   | 2    | 24.28                 | 17.13          | 38.45                | PASS    |
| EGPRS850  | 128     | 8   | 3    | 21.83                 | 14.68          | 38.45                | PASS    |
| EGPRS850  | 128     | 8   | 4    | 19.53                 | 12.38          | 38.45                | PASS    |
| EGPRS850  | 190     | 8   | 1    | 26.00                 | 18.85          | 38.45                | PASS    |
| EGPRS850  | 190     | 8   | 2    | 24.83                 | 17.68          | 38.45                | PASS    |
| EGPRS850  | 190     | 8   | 3    | 22.51                 | 15.36          | 38.45                | PASS    |
| EGPRS850  | 190     | 8   | 4    | 19.95                 | 12.8           | 38.45                | PASS    |
| EGPRS850  | 251     | 8   | 1    | 25.45                 | 18.3           | 38.45                | PASS    |
| EGPRS850  | 251     | 8   | 2    | 24.20                 | 17.05          | 38.45                | PASS    |
| EGPRS850  | 251     | 8   | 3    | 21.94                 | 14.79          | 38.45                | PASS    |
| EGPRS850  | 251     | 8   | 4    | 19.43                 | 12.28          | 38.45                | PASS    |
| EGPRS1900 | 512     | 2   | 1    | 25.14                 | 23.14          | 33.00                | PASS    |
| EGPRS1900 | 512     | 2   | 2    | 23.59                 | 21.59          | 33.00                | PASS    |
| EGPRS1900 | 512     | 2   | 3    | 21.21                 | 19.21          | 33.00                | PASS    |
| EGPRS1900 | 512     | 2   | 4    | 18.34                 | 16.34          | 33.00                | PASS    |
| EGPRS1900 | 661     | 2   | 1    | 25.83                 | 23.83          | 33.00                | PASS    |
| EGPRS1900 | 661     | 2   | 2    | 24.31                 | 22.31          | 33.00                | PASS    |
| EGPRS1900 | 661     | 2   | 3    | 22.04                 | 20.04          | 33.00                | PASS    |
| EGPRS1900 | 661     | 2   | 4    | 19.63                 | 17.63          | 33.00                | PASS    |
| EGPRS1900 | 810     | 2   | 1    | 24.33                 | 22.33          | 33.00                | PASS    |
| EGPRS1900 | 810     | 2   | 2    | 22.59                 | 20.59          | 33.00                | PASS    |
| EGPRS1900 | 810     | 2   | 3    | 20.34                 | 18.34          | 33.00                | PASS    |
| EGPRS1900 | 810     | 2   | 4    | 17.47                 | 15.47          | 33.00                | PASS    |

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

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

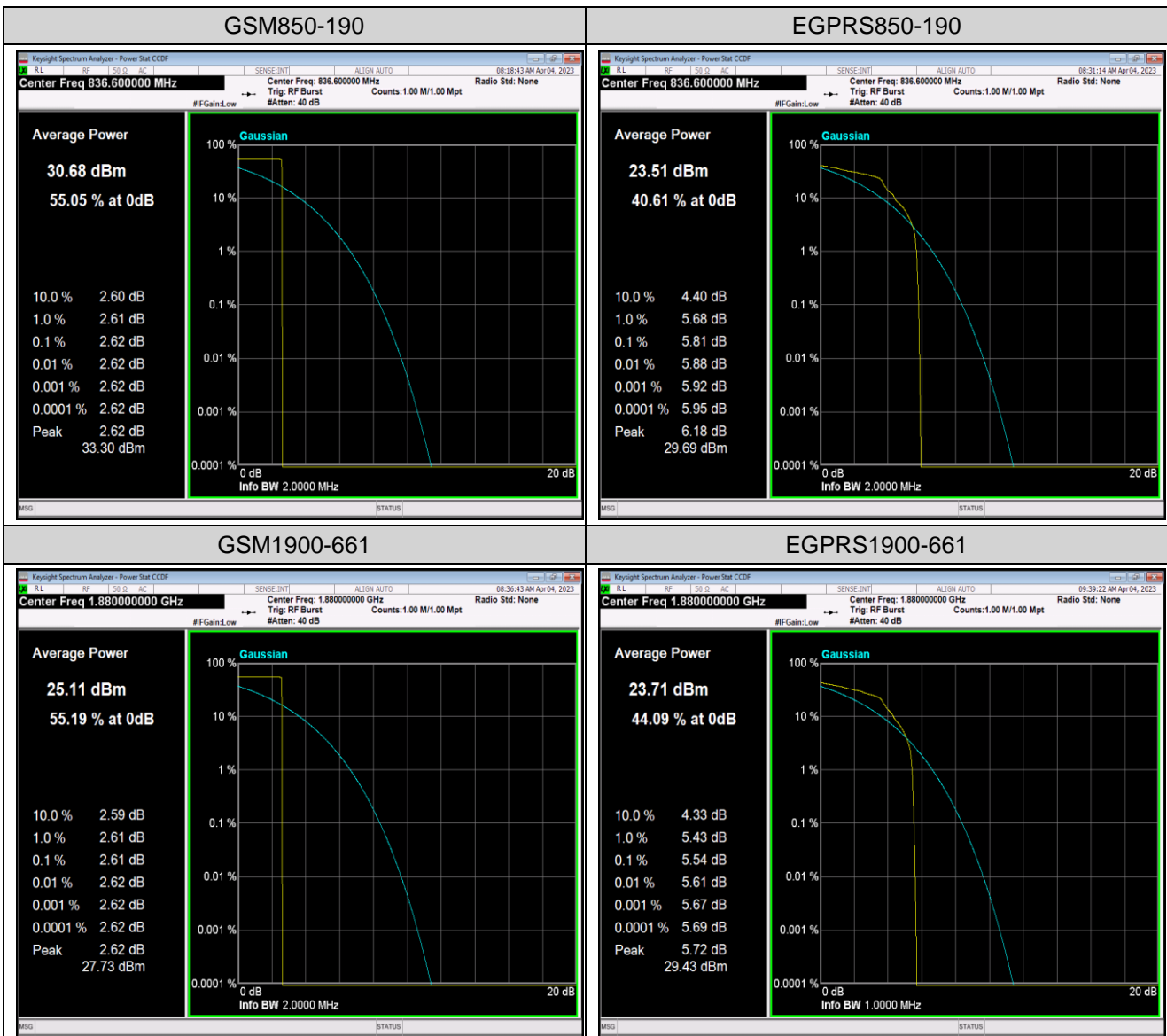
## Appendix B: Peak-to-Average Ratio(CCDF)

### Test Result

| Band      | Channel | PCL | Result(dB) | Limit(dB) | Verdict |
|-----------|---------|-----|------------|-----------|---------|
| GSM850    | 190     | 5   | 2.62       | 13        | PASS    |
| EGPRS850  | 190     | 8   | 5.81       | 13        | PASS    |
| GSM1900   | 661     | 0   | 2.61       | 13        | PASS    |
| EGPRS1900 | 661     | 2   | 5.54       | 13        | PASS    |

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

### Test Graphs



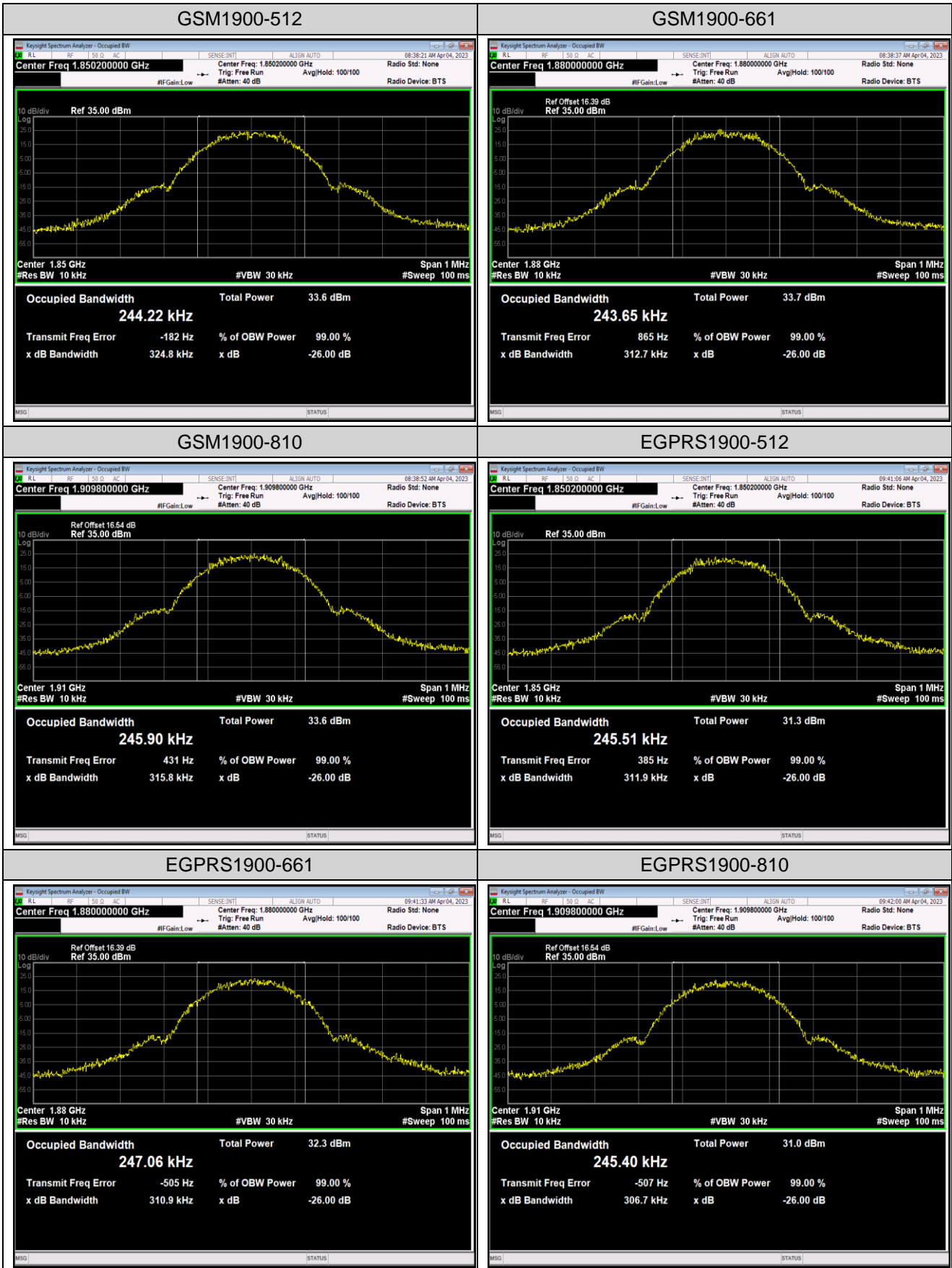
## Appendix C: 26dB Bandwidth and Occupied Bandwidth

### Test Result

| Band      | Channel | PCL | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Limit (MHz) | Verdict |
|-----------|---------|-----|--------------------------|----------------------|-------------|---------|
| GSM850    | 128     | 5   | 0.24563                  | 0.3147               | ---         | PASS    |
| GSM850    | 190     | 5   | 0.24374                  | 0.3179               | ---         | PASS    |
| GSM850    | 251     | 5   | 0.24279                  | 0.3144               | ---         | PASS    |
| EGPRS850  | 128     | 8   | 0.24188                  | 0.3004               | ---         | PASS    |
| EGPRS850  | 190     | 8   | 0.23990                  | 0.3029               | ---         | PASS    |
| EGPRS850  | 251     | 8   | 0.24055                  | 0.3031               | ---         | PASS    |
| GSM1900   | 512     | 0   | 0.24422                  | 0.3248               | ---         | PASS    |
| GSM1900   | 661     | 0   | 0.24365                  | 0.3127               | ---         | PASS    |
| GSM1900   | 810     | 0   | 0.24590                  | 0.3158               | ---         | PASS    |
| EGPRS1900 | 512     | 2   | 0.24551                  | 0.3119               | ---         | PASS    |
| EGPRS1900 | 661     | 2   | 0.24706                  | 0.3109               | ---         | PASS    |
| EGPRS1900 | 810     | 2   | 0.24540                  | 0.3067               | ---         | PASS    |

Test Graphs

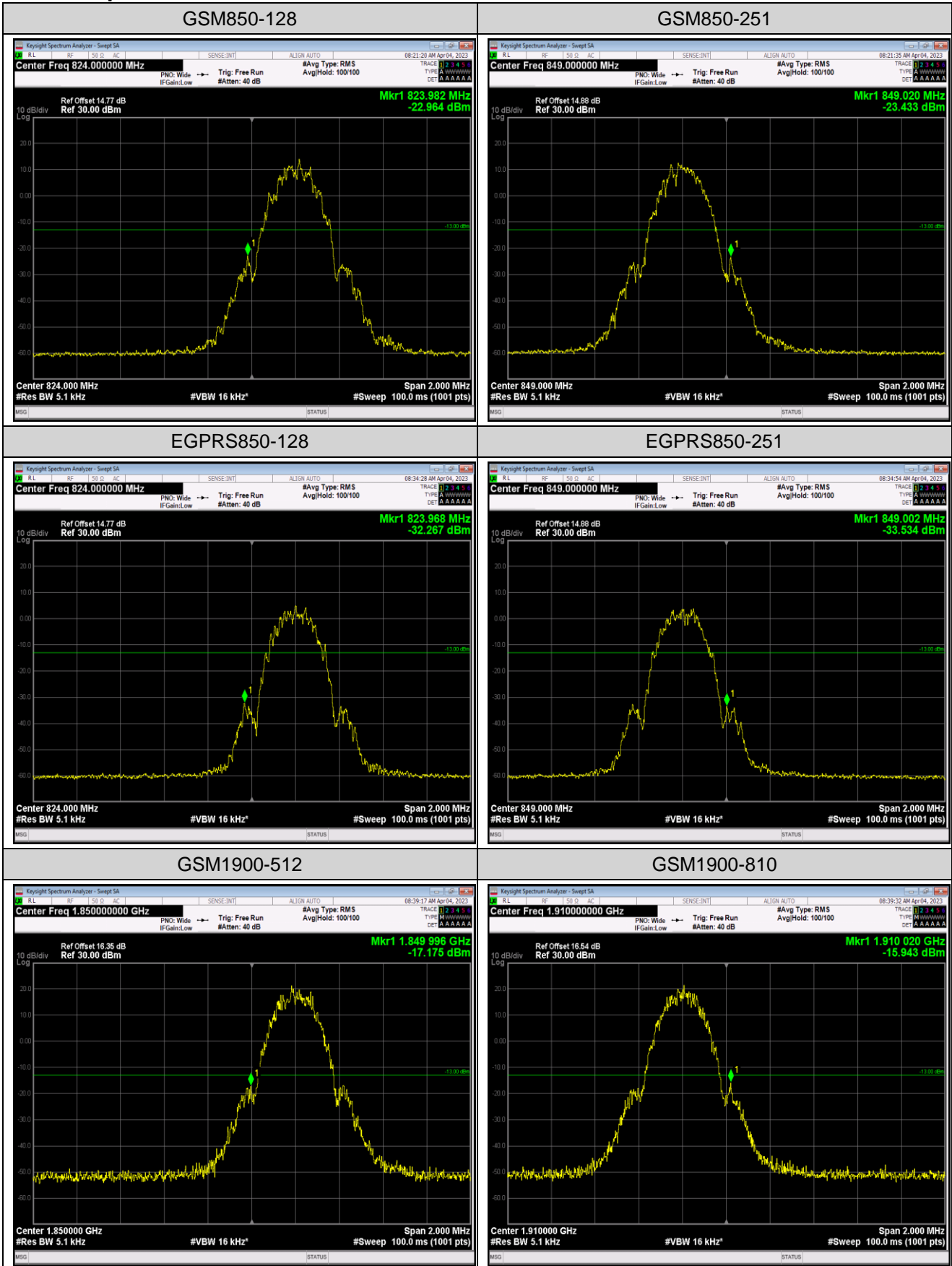




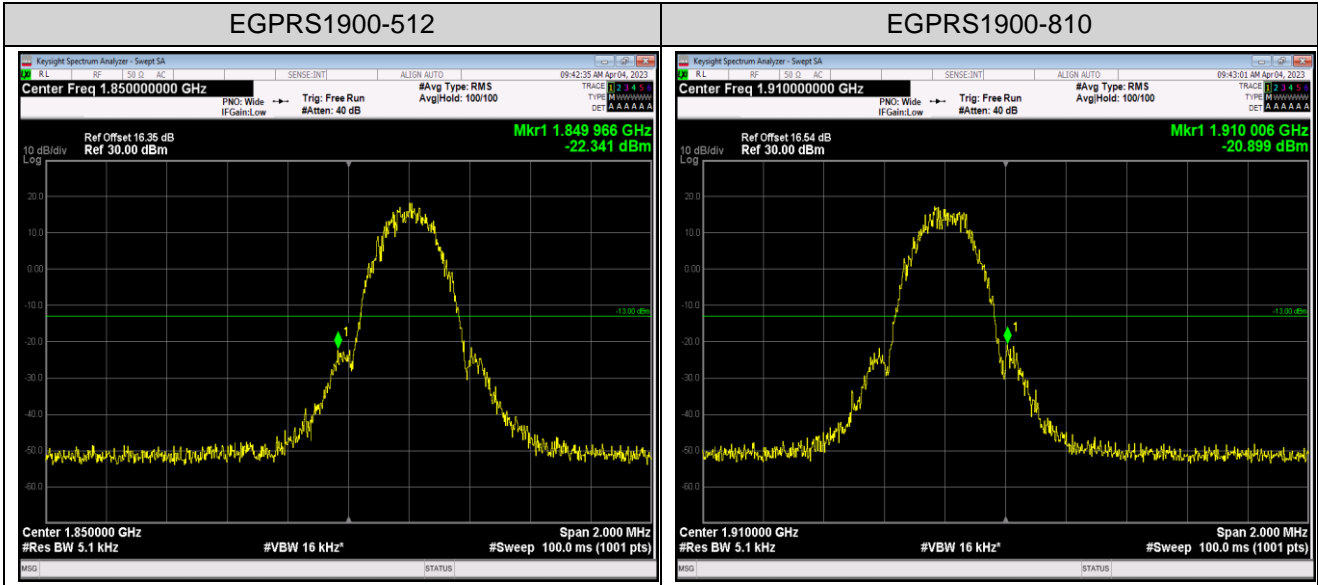
**Appendix D: Band Edge****Test Result**

| Band      | Channel | PCL | Freq (MHz) | Result (dBm) | Limit(dBm) | Verdict |
|-----------|---------|-----|------------|--------------|------------|---------|
| GSM850    | 128     | 5   | 823.98     | -22.96       | -13        | PASS    |
| GSM850    | 251     | 5   | 849.02     | -23.43       | -13        | PASS    |
| EGPRS850  | 128     | 8   | 823.97     | -32.27       | -13        | PASS    |
| EGPRS850  | 251     | 8   | 849.00     | -33.53       | -13        | PASS    |
| GSM1900   | 512     | 0   | 1850.00    | -17.18       | -13        | PASS    |
| GSM1900   | 810     | 0   | 1910.02    | -15.94       | -13        | PASS    |
| EGPRS1900 | 512     | 2   | 1849.97    | -22.34       | -13        | PASS    |
| EGPRS1900 | 810     | 2   | 1910.01    | -20.90       | -13        | PASS    |

Test Graphs







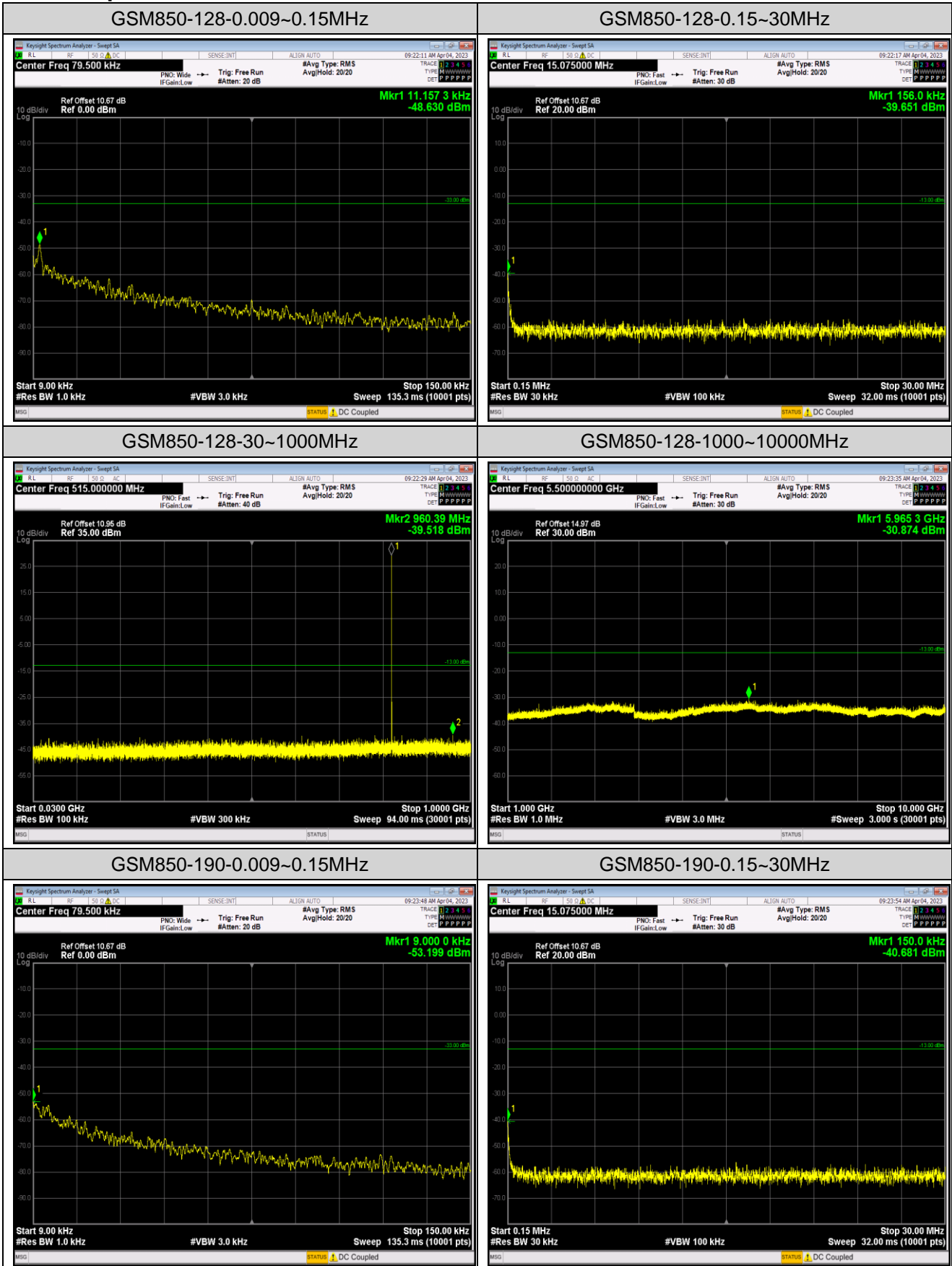
## Appendix E: Conducted Spurious Emission

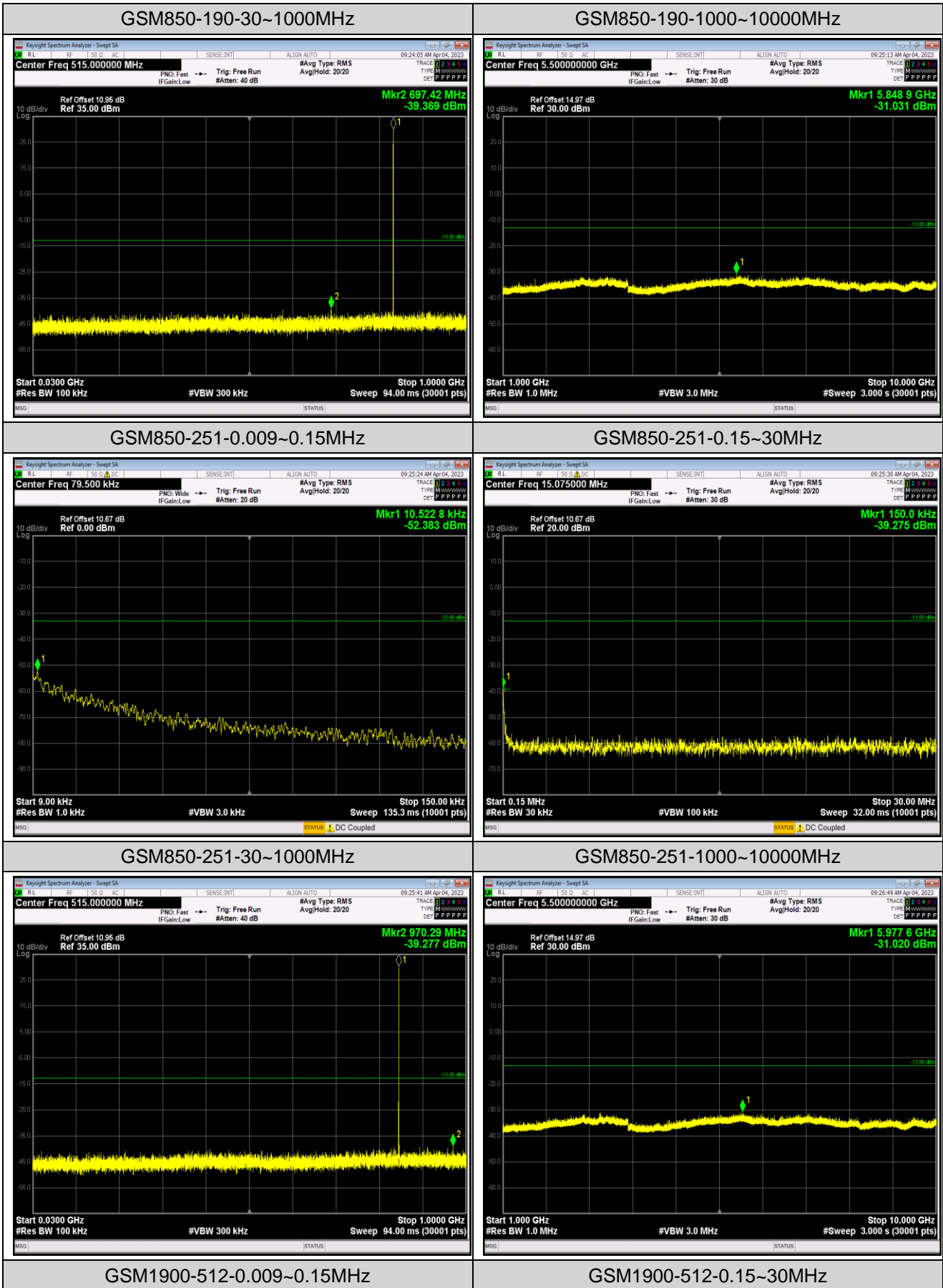
### Test Result

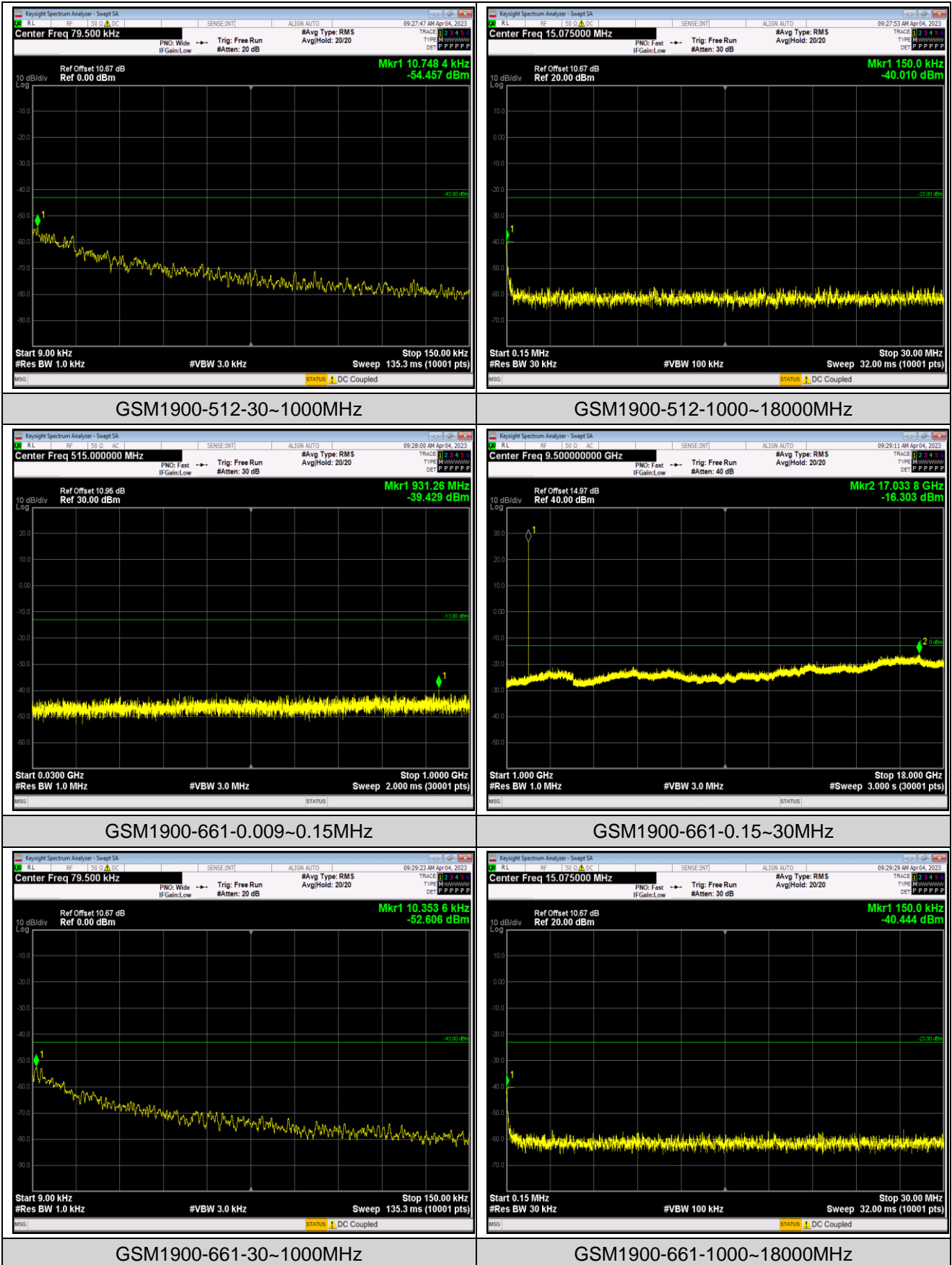
| Band    | Channel | PCL | Frequency Range(MHz) | Max.Freq. (MHz) | Result (dBm) | Limit (dBm) | Verdict |
|---------|---------|-----|----------------------|-----------------|--------------|-------------|---------|
| GSM850  | 128     | 5   | 0.009~0.15MHz        | 0.01            | -48.63       | -33         | PASS    |
| GSM850  | 128     | 5   | 0.15~30MHz           | 0.16            | -39.65       | -13         | PASS    |
| GSM850  | 128     | 5   | 30~1000MHz           | 960.39          | -39.52       | -13         | PASS    |
| GSM850  | 128     | 5   | 1000~10000MHz        | 5965.3          | -30.87       | -13         | PASS    |
| GSM850  | 190     | 5   | 0.009~0.15MHz        | 0.01            | -53.2        | -33         | PASS    |
| GSM850  | 190     | 5   | 0.15~30MHz           | 0.15            | -40.68       | -13         | PASS    |
| GSM850  | 190     | 5   | 30~1000MHz           | 697.42          | -39.37       | -13         | PASS    |
| GSM850  | 190     | 5   | 1000~10000MHz        | 5848.9          | -31.03       | -13         | PASS    |
| GSM850  | 251     | 5   | 0.009~0.15MHz        | 0.01            | -52.38       | -33         | PASS    |
| GSM850  | 251     | 5   | 0.15~30MHz           | 0.15            | -39.28       | -13         | PASS    |
| GSM850  | 251     | 5   | 30~1000MHz           | 970.29          | -39.28       | -13         | PASS    |
| GSM850  | 251     | 5   | 1000~10000MHz        | 5977.6          | -31.02       | -13         | PASS    |
| GSM1900 | 512     | 0   | 0.009~0.15MHz        | 0.01            | -54.46       | -43         | PASS    |
| GSM1900 | 512     | 0   | 0.15~30MHz           | 0.15            | -40.01       | -23         | PASS    |
| GSM1900 | 512     | 0   | 30~1000MHz           | 931.26          | -39.43       | -13         | PASS    |
| GSM1900 | 512     | 0   | 1000~18000MHz        | 17033.83        | -16.3        | -13         | PASS    |
| GSM1900 | 661     | 0   | 0.009~0.15MHz        | 0.01            | -52.61       | -43         | PASS    |
| GSM1900 | 661     | 0   | 0.15~30MHz           | 0.15            | -40.44       | -23         | PASS    |
| GSM1900 | 661     | 0   | 30~1000MHz           | 810.27          | -39.82       | -13         | PASS    |
| GSM1900 | 661     | 0   | 1000~18000MHz        | 17050.27        | -15.79       | -13         | PASS    |
| GSM1900 | 810     | 0   | 0.009~0.15MHz        | 0.01            | -53.05       | -43         | PASS    |
| GSM1900 | 810     | 0   | 0.15~30MHz           | 0.15            | -41.38       | -23         | PASS    |
| GSM1900 | 810     | 0   | 30~1000MHz           | 862.29          | -40.62       | -13         | PASS    |
| GSM1900 | 810     | 0   | 1000~18000MHz        | 17020.23        | -16.19       | -13         | PASS    |

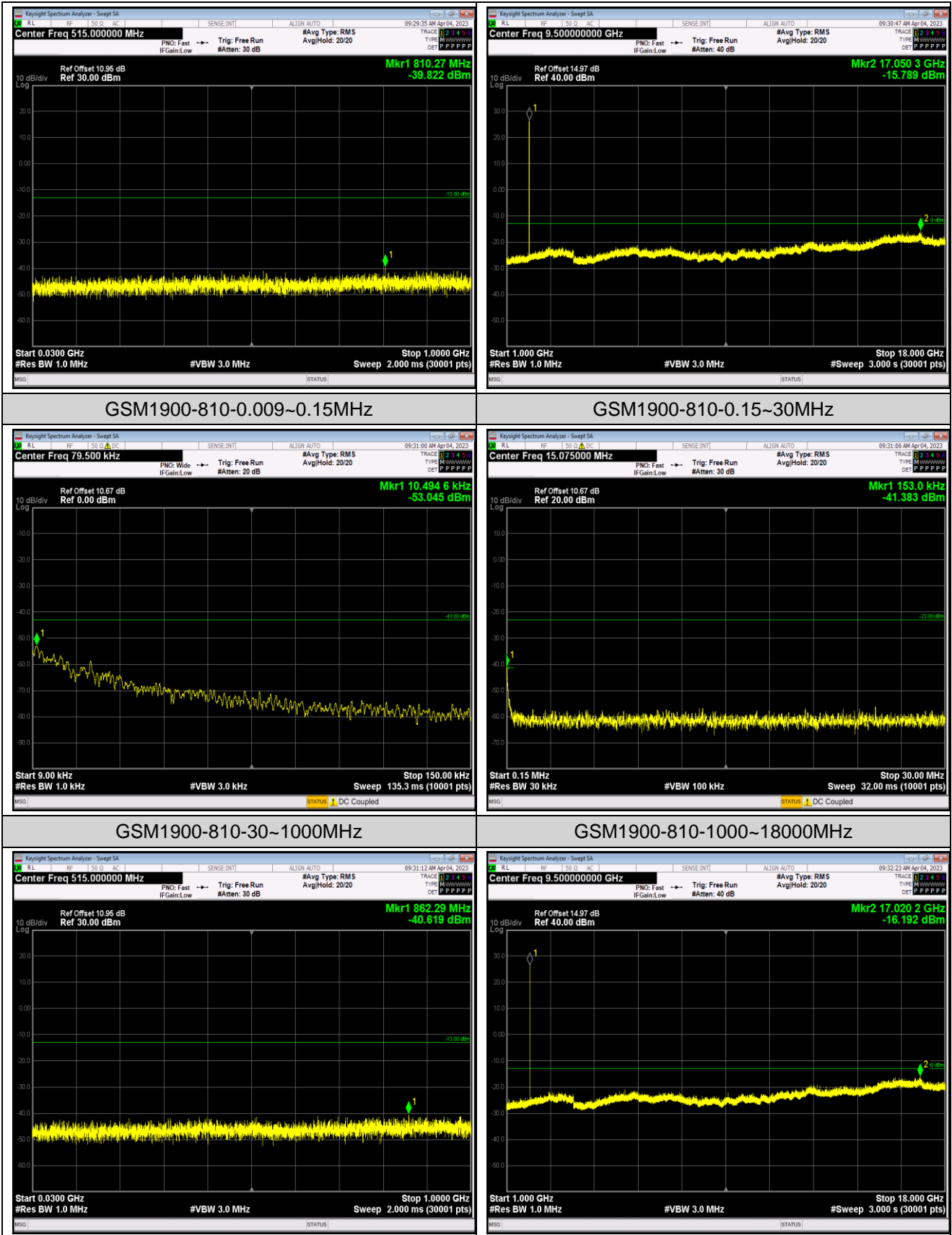
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs









## Appendix F: Frequency Stability

### Test Result

| Reference Frequency: GSM850 Middle channel=190 Frequency=836.6MHz                           |                      |                 |           |             |        |
|---|----------------------|-----------------|-----------|-------------|--------|
| Temperature   |                      |                 |           |             |        |
| Power supplied (Vdc)  | Temperature (°C)     | Frequency error |           | Limit (ppm) | Result |
|   |                      | Hz              | ppm       |             |        |
| 3.87  | -30                  | 3.36            | 0.004016  | ±2.5        | Pass   |
|   | -20                  | 11.75           | 0.014045  |             |        |
|   | -10                  | 1.87            | 0.002235  |             |        |
|   | 0                    | -1.81           | -0.002164 |             |        |
|   | 10                   | 5.26            | 0.006287  |             |        |
|   | 20                   | 2.26            | 0.002701  |             |        |
|   | 30                   | 8.81            | 0.010531  |             |        |
|   | 40                   | 3.65            | 0.004363  |             |        |
|   | 50                   | 9.27            | 0.011081  |             |        |
| Voltage   |                      |                 |           |             |        |
| Temperature (°C)  | Power supplied (Vdc) | Frequency error |           | Limit (ppm) | Result |
|   |                      | Hz              | ppm       |             |        |
| 25  | 3.45                 | 6.59            | 0.007877  | ±2.5        | Pass   |
|   | 3.87                 | 3.71            | 0.004435  |             |        |
|   | 4.45                 | -1.78           | -0.002128 |             |        |
| 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 (Vdc)   | Temperature (°C)     | Frequency error |          | Limit (ppm) | Result |
|  |                      | Hz              | ppm      |             |        |
| 3.87   | -30                  | 19.82           | 0.023691 | ±2.5        | Pass   |
|  | -20                  | 16.34           | 0.019531 |             |        |
|  | -10                  | 13.85           | 0.016555 |             |        |
|  | 0                    | 14.56           | 0.017404 |             |        |
|  | 10                   | 15.98           | 0.019101 |             |        |
|  | 20                   | 17.18           | 0.020536 |             |        |
|  | 30                   | 14.33           | 0.017129 |             |        |
|  | 40                   | 15.34           | 0.018336 |             |        |
|  | 50                   | 19.11           | 0.022842 |             |        |
| Voltage  |                      |                 |          |             |        |
| Temperature (°C)   | Power supplied (Vdc) | Frequency error |          | Limit (ppm) | Result |
|  |                      | Hz              | ppm      |             |        |
| 25   | 3.45                 | 19.27           | 0.023034 | ±2.5        | Pass   |
|  | 3.87                 | 17.01           | 0.020332 |             |        |
|  | 4.45                 | 21.41           | 0.025592 |             |        |
| <i>Remark: All channel had been tested, but only the worst case data displayed in this report.</i> |                      |                 |          |             |        |



| Reference Frequency: PCS1900 Middle channel=661 Frequency=1880MHz                                  |                      |                 |           |                                     |        |
|--|----------------------|-----------------|-----------|-------------------------------------|--------|
| Temperature  |                      |                 |           |                                     |        |
| Power supplied (Vdc)   | Temperature (°C)     | Frequency error |           | Limit (ppm)                         | Result |
|  |                      | Hz              | ppm       |                                     |        |
| 3.87   | -30                  | 16.05           | 0.008537  | Within authorized band for PCS 1900 | Pass   |
|  | -20                  | 17.85           | 0.009495  |                                     |        |
|  | -10                  | 0.61            | 0.000324  |                                     |        |
|  | 0                    | 21.15           | 0.011250  |                                     |        |
|  | 10                   | 0.16            | 0.000085  |                                     |        |
|  | 20                   | 3.39            | 0.001803  |                                     |        |
|  | 30                   | 16.66           | 0.008862  |                                     |        |
|  | 40                   | 12.04           | 0.006404  |                                     |        |
|  | 50                   | 4.75            | 0.002527  |                                     |        |
| Voltage  |                      |                 |           |                                     |        |
| Temperature (°C)   | Power supplied (Vdc) | Frequency error |           | Limit (ppm)                         | Result |
|  |                      | Hz              | ppm       |                                     |        |
| 25   | 3.45                 | 0.45            | 0.000239  | Within authorized band for PCS 1900 | Pass   |
|  | 3.87                 | -0.32           | -0.000170 |                                     |        |
|  | 4.45                 | 6.20            | 0.003298  |                                     |        |
| <i>Remark: All channel had been tested, but only the worst case data displayed in this report.</i> |                      |                 |           |                                     |        |

| Reference Frequency: EGPRS1900 Middle channel=661 Frequency=1880MHz                                |                      |                 |          |                                     |        |
|--|----------------------|-----------------|----------|-------------------------------------|--------|
| Temperature  |                      |                 |          |                                     |        |
| Power supplied (Vdc)   | Temperature (°C)     | Frequency error |          | Limit (ppm)                         | Result |
|  |                      | Hz              | ppm      |                                     |        |
| 3.87   | -30                  | 3.16            | 0.001681 | Within authorized band for PCS 1900 | Pass   |
|  | -20                  | 4.68            | 0.002489 |                                     |        |
|  | -10                  | 8.52            | 0.004532 |                                     |        |
|  | 0                    | 21.28           | 0.011319 |                                     |        |
|  | 10                   | 7.52            | 0.004000 |                                     |        |
|  | 20                   | 1.26            | 0.000670 |                                     |        |
|  | 30                   | 6.04            | 0.003213 |                                     |        |
|  | 40                   | 9.56            | 0.005085 |                                     |        |
|  | 50                   | 15.76           | 0.008383 |                                     |        |
| Voltage  |                      |                 |          |                                     |        |
| Temperature (°C)   | Power supplied (Vdc) | Frequency error |          | Limit (ppm)                         | Result |
|  |                      | Hz              | ppm      |                                     |        |
| 25   | 3.45                 | 2.32            | 0.001234 | Within authorized band for PCS 1900 | Pass   |
|  | 3.87                 | 2.55            | 0.001356 |                                     |        |
|  | 4.45                 | 8.65            | 0.004601 |                                     |        |
| <i>Remark: All channel had been tested, but only the worst case data displayed in this report.</i> |                      |                 |          |                                     |        |

## 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

