

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 | 33.84 | 27.19 | 38.45 | PASS |
| GSM850 | 190 | 5 | 34.01 | 27.36 | 38.45 | PASS |
| GSM850 | 251 | 5 | 33.86 | 27.21 | 38.45 | PASS |
| GSM1900 | 512 | 0 | 30.23 | 25.63 | 33.00 | PASS |
| GSM1900 | 661 | 0 | 30.59 | 25.99 | 33.00 | PASS |
| GSM1900 | 810 | 0 | 30.33 | 25.73 | 33.00 | PASS |

| Band | Channel | PCL | Slot | Conducted Power (dBm) | ERP/EIRP (dBm) | ERP/EIRP Limit (dBm) | Verdict |
|----------|---------|-----|------|-----------------------|----------------|----------------------|---------|
| GPRS850 | 128 | 5 | 1 | 33.84 | 27.19 | 38.45 | PASS |
| GPRS850 | 128 | 5 | 2 | 32.82 | 26.17 | 38.45 | PASS |
| GPRS850 | 128 | 5 | 3 | 30.74 | 24.09 | 38.45 | PASS |
| GPRS850 | 128 | 5 | 4 | 29.63 | 22.98 | 38.45 | PASS |
| GPRS850 | 190 | 5 | 1 | 34.00 | 27.35 | 38.45 | PASS |
| GPRS850 | 190 | 5 | 2 | 32.99 | 26.34 | 38.45 | PASS |
| GPRS850 | 190 | 5 | 3 | 30.92 | 24.27 | 38.45 | PASS |
| GPRS850 | 190 | 5 | 4 | 29.82 | 23.17 | 38.45 | PASS |
| GPRS850 | 251 | 5 | 1 | 33.86 | 27.21 | 38.45 | PASS |
| GPRS850 | 251 | 5 | 2 | 32.87 | 26.22 | 38.45 | PASS |
| GPRS850 | 251 | 5 | 3 | 30.84 | 24.19 | 38.45 | PASS |
| GPRS850 | 251 | 5 | 4 | 29.73 | 23.08 | 38.45 | PASS |
| GPRS1900 | 512 | 0 | 1 | 30.23 | 25.63 | 33.00 | PASS |
| GPRS1900 | 512 | 0 | 2 | 29.44 | 24.84 | 33.00 | PASS |
| GPRS1900 | 512 | 0 | 3 | 27.48 | 22.88 | 33.00 | PASS |
| GPRS1900 | 512 | 0 | 4 | 26.32 | 21.72 | 33.00 | PASS |
| GPRS1900 | 661 | 0 | 1 | 30.56 | 25.96 | 33.00 | PASS |
| GPRS1900 | 661 | 0 | 2 | 29.81 | 25.21 | 33.00 | PASS |
| GPRS1900 | 661 | 0 | 3 | 27.96 | 23.36 | 33.00 | PASS |
| GPRS1900 | 661 | 0 | 4 | 26.80 | 22.20 | 33.00 | PASS |
| GPRS1900 | 810 | 0 | 1 | 30.32 | 25.72 | 33.00 | PASS |
| GPRS1900 | 810 | 0 | 2 | 29.60 | 25.00 | 33.00 | PASS |
| GPRS1900 | 810 | 0 | 3 | 27.88 | 23.28 | 33.00 | PASS |
| GPRS1900 | 810 | 0 | 4 | 26.75 | 22.15 | 33.00 | PASS |

| Band | Channel | PCL | Slot | Conducted Power (dBm) | ERP/EIRP (dBm) | ERP/EIRP Limit (dBm) | Verdict |
|-----------|---------|-----|------|-----------------------|----------------|----------------------|---------|
| EGPRS850 | 128 | 8 | 1 | 27.80 | 21.15 | 38.45 | PASS |
| EGPRS850 | 128 | 8 | 2 | 26.67 | 20.02 | 38.45 | PASS |
| EGPRS850 | 128 | 8 | 3 | 24.50 | 17.85 | 38.45 | PASS |
| EGPRS850 | 128 | 8 | 4 | 24.47 | 17.82 | 38.45 | PASS |
| EGPRS850 | 190 | 8 | 1 | 27.73 | 21.08 | 38.45 | PASS |
| EGPRS850 | 190 | 8 | 2 | 26.66 | 20.01 | 38.45 | PASS |
| EGPRS850 | 190 | 8 | 3 | 24.45 | 17.8 | 38.45 | PASS |
| EGPRS850 | 190 | 8 | 4 | 24.51 | 17.86 | 38.45 | PASS |
| EGPRS850 | 251 | 8 | 1 | 27.89 | 21.24 | 38.45 | PASS |
| EGPRS850 | 251 | 8 | 2 | 26.80 | 20.15 | 38.45 | PASS |
| EGPRS850 | 251 | 8 | 3 | 24.59 | 17.94 | 38.45 | PASS |
| EGPRS850 | 251 | 8 | 4 | 24.68 | 18.03 | 38.45 | PASS |
| EGPRS1900 | 512 | 2 | 1 | 26.30 | 21.70 | 33.00 | PASS |
| EGPRS1900 | 512 | 2 | 2 | 25.21 | 20.61 | 33.00 | PASS |
| EGPRS1900 | 512 | 2 | 3 | 23.13 | 18.53 | 33.00 | PASS |
| EGPRS1900 | 512 | 2 | 4 | 23.58 | 18.98 | 33.00 | PASS |
| EGPRS1900 | 661 | 2 | 1 | 26.56 | 21.96 | 33.00 | PASS |
| EGPRS1900 | 661 | 2 | 2 | 25.57 | 20.97 | 33.00 | PASS |
| EGPRS1900 | 661 | 2 | 3 | 23.47 | 18.87 | 33.00 | PASS |
| EGPRS1900 | 661 | 2 | 4 | 23.94 | 19.34 | 33.00 | PASS |
| EGPRS1900 | 810 | 2 | 1 | 26.59 | 21.99 | 33.00 | PASS |
| EGPRS1900 | 810 | 2 | 2 | 25.59 | 20.99 | 33.00 | PASS |
| EGPRS1900 | 810 | 2 | 3 | 23.49 | 18.89 | 33.00 | PASS |
| EGPRS1900 | 810 | 2 | 4 | 23.93 | 19.33 | 33.00 | PASS |

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

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

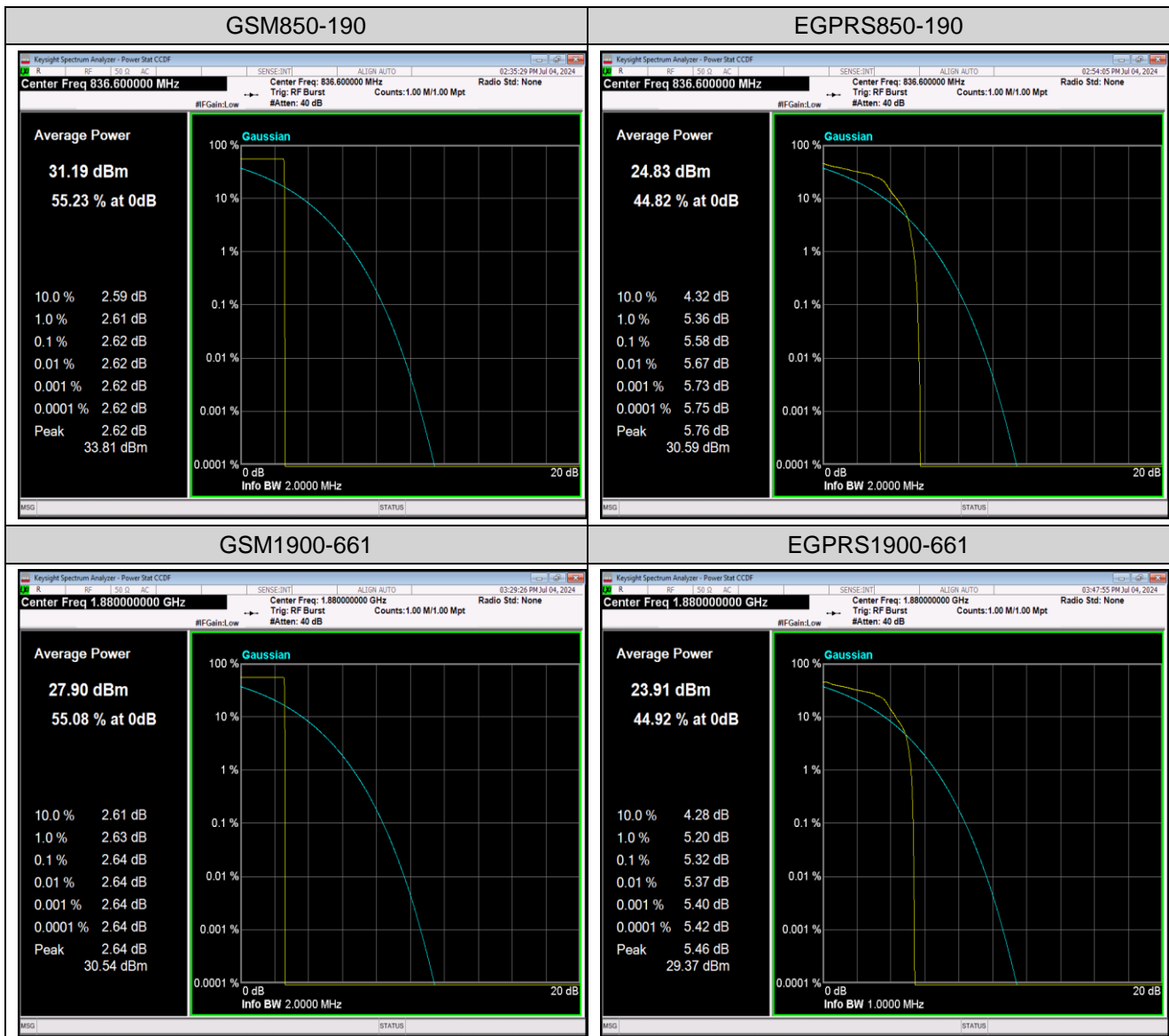
Appendix B: Peak-to-Average Ratio(CCDF)

Test Result

| Band | Channel | PCL | Result(dB) | Limit(dB) | Verdict |
|-----------|---------|-----|------------|-----------|---------|
| GSM850 | 190 | 5 | 2.62 | 13 | PASS |
| EGPRS850 | 190 | 8 | 5.58 | 13 | PASS |
| GSM1900 | 661 | 0 | 2.64 | 13 | PASS |
| EGPRS1900 | 661 | 2 | 5.32 | 13 | PASS |

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

Test Graphs



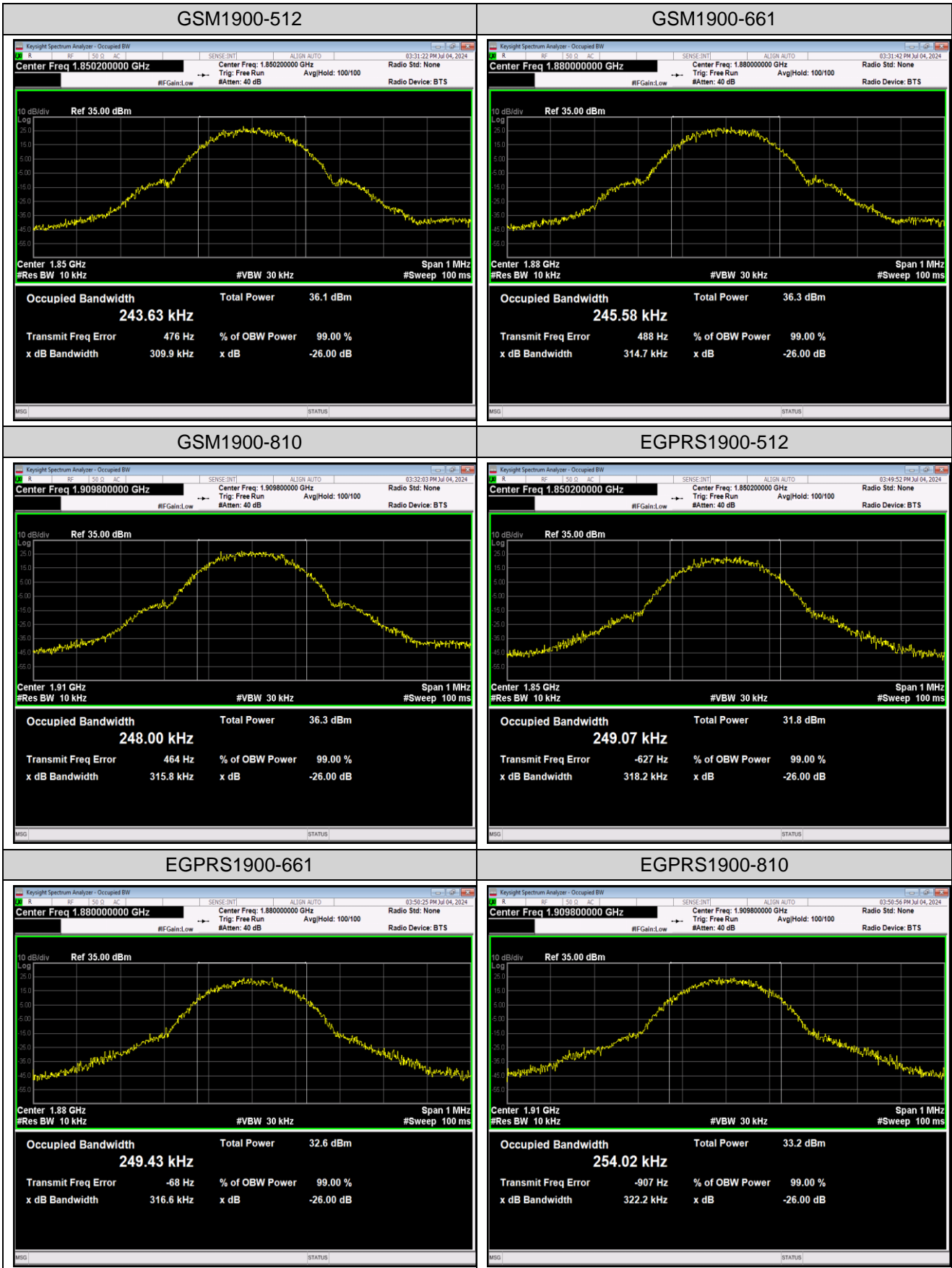
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

| Band | Channel | PCL | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Limit (MHz) | Verdict |
|-----------|---------|-----|--------------------------|----------------------|-------------|---------|
| GSM850 | 128 | 5 | 0.24585 | 0.3187 | --- | PASS |
| GSM850 | 190 | 5 | 0.24750 | 0.3115 | --- | PASS |
| GSM850 | 251 | 5 | 0.24370 | 0.3137 | --- | PASS |
| EGPRS850 | 128 | 8 | 0.25046 | 0.3137 | --- | PASS |
| EGPRS850 | 190 | 8 | 0.25037 | 0.3147 | --- | PASS |
| EGPRS850 | 251 | 8 | 0.25052 | 0.3110 | --- | PASS |
| GSM1900 | 512 | 0 | 0.24363 | 0.3099 | --- | PASS |
| GSM1900 | 661 | 0 | 0.24558 | 0.3147 | --- | PASS |
| GSM1900 | 810 | 0 | 0.24800 | 0.3158 | --- | PASS |
| EGPRS1900 | 512 | 2 | 0.24907 | 0.3182 | --- | PASS |
| EGPRS1900 | 661 | 2 | 0.24943 | 0.3166 | --- | PASS |
| EGPRS1900 | 810 | 2 | 0.25402 | 0.3222 | --- | PASS |

Test Graphs



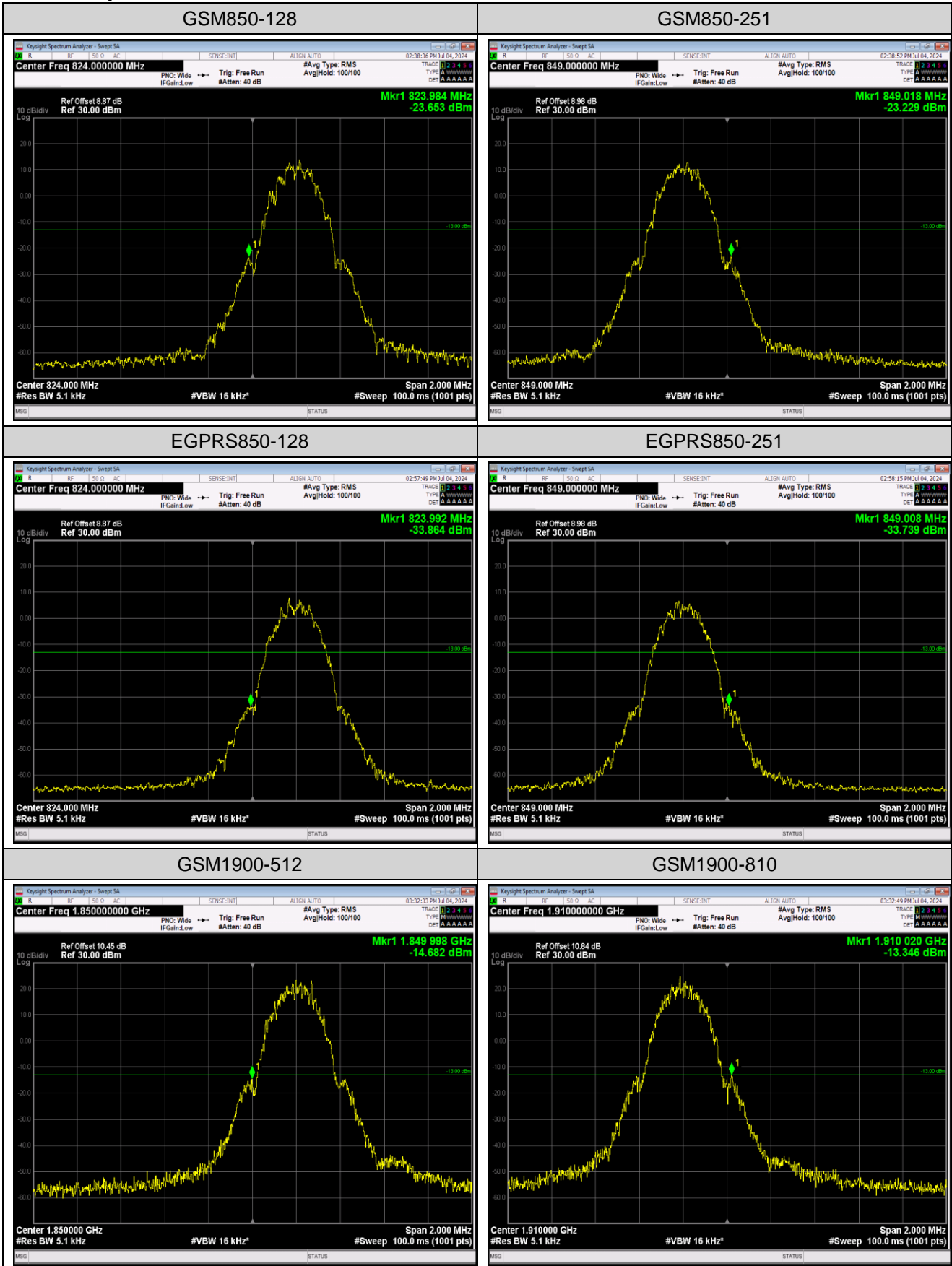


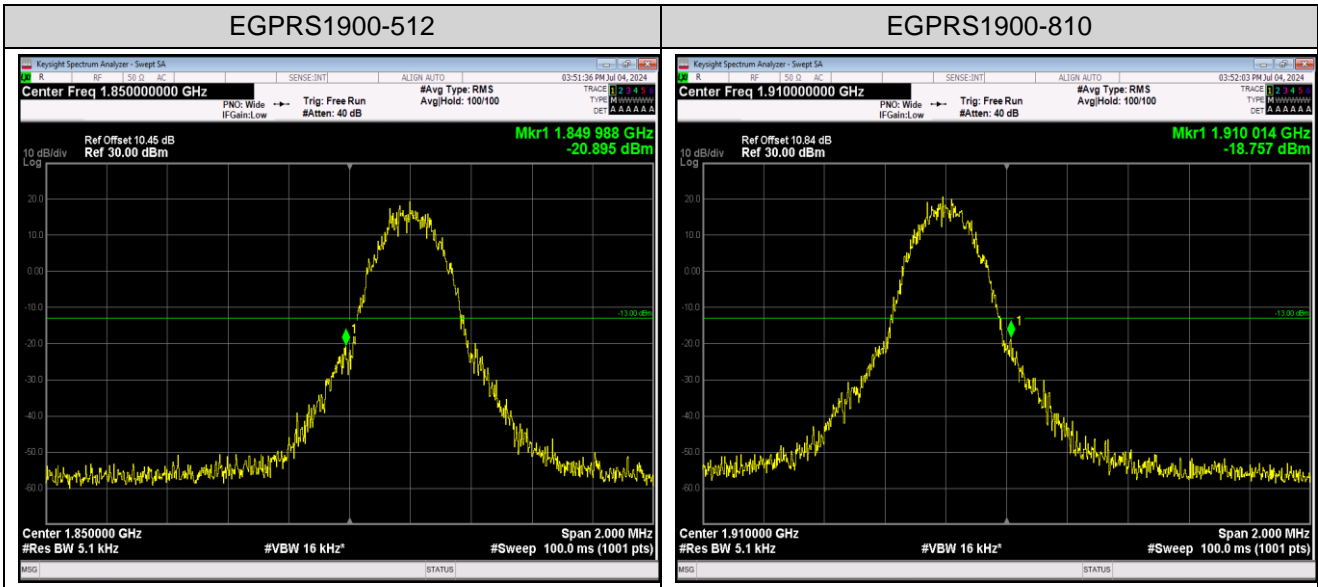
Appendix D: Band Edge

Test Result

| Band | Channel | PCL | Freq (MHz) | Result (dBm) | Limit(dBm) | Verdict |
|-----------|---------|-----|------------|--------------|------------|---------|
| GSM850 | 128 | 5 | 823.98 | -23.65 | -13 | PASS |
| GSM850 | 251 | 5 | 849.02 | -23.23 | -13 | PASS |
| EGPRS850 | 128 | 8 | 823.99 | -33.86 | -13 | PASS |
| EGPRS850 | 251 | 8 | 849.01 | -33.74 | -13 | PASS |
| GSM1900 | 512 | 0 | 1850.00 | -14.68 | -13 | PASS |
| GSM1900 | 810 | 0 | 1910.02 | -13.35 | -13 | PASS |
| EGPRS1900 | 512 | 2 | 1849.99 | -20.89 | -13 | PASS |
| EGPRS1900 | 810 | 2 | 1910.01 | -18.76 | -13 | PASS |

Test Graphs





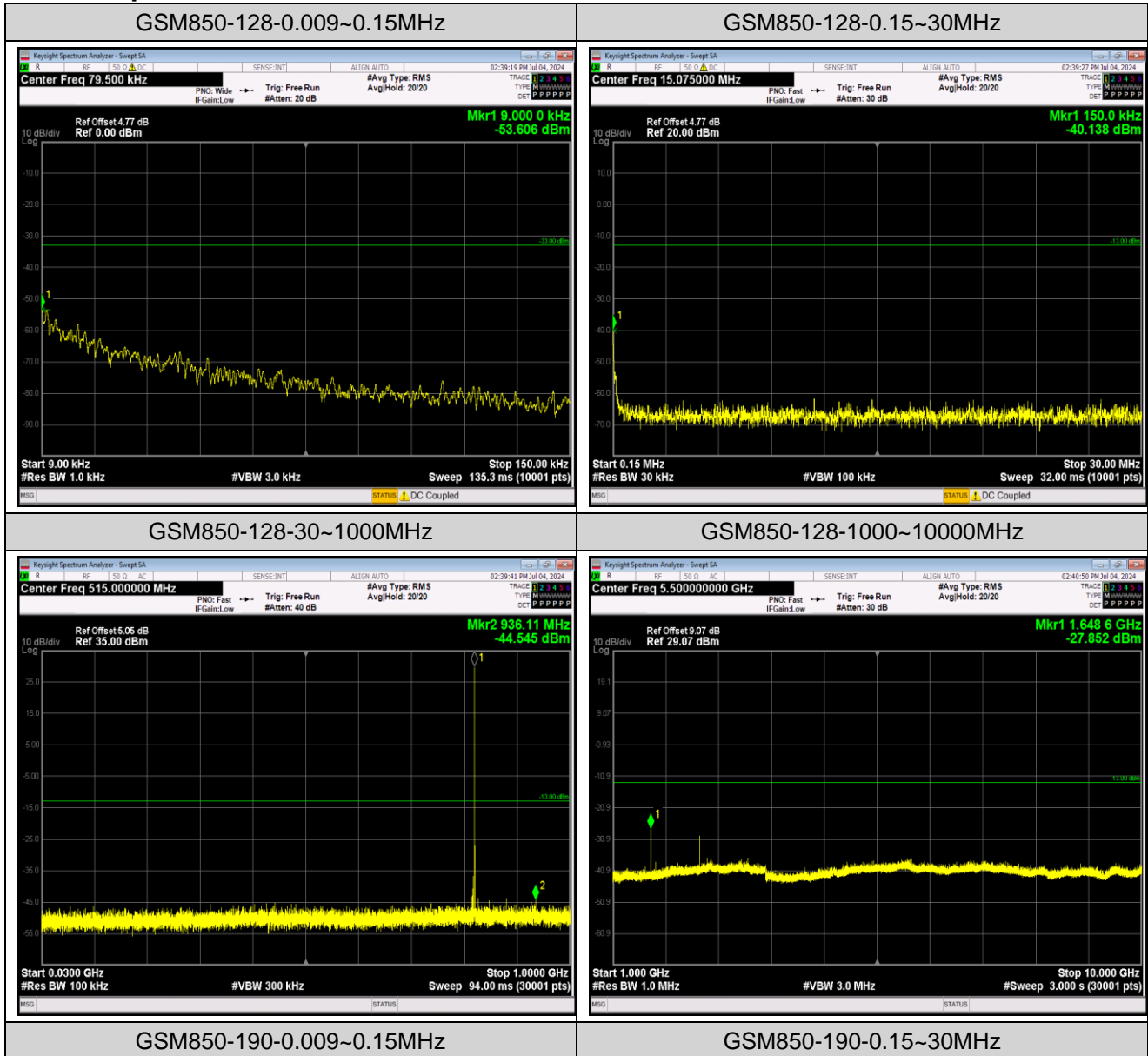
Appendix E: Conducted Spurious Emission

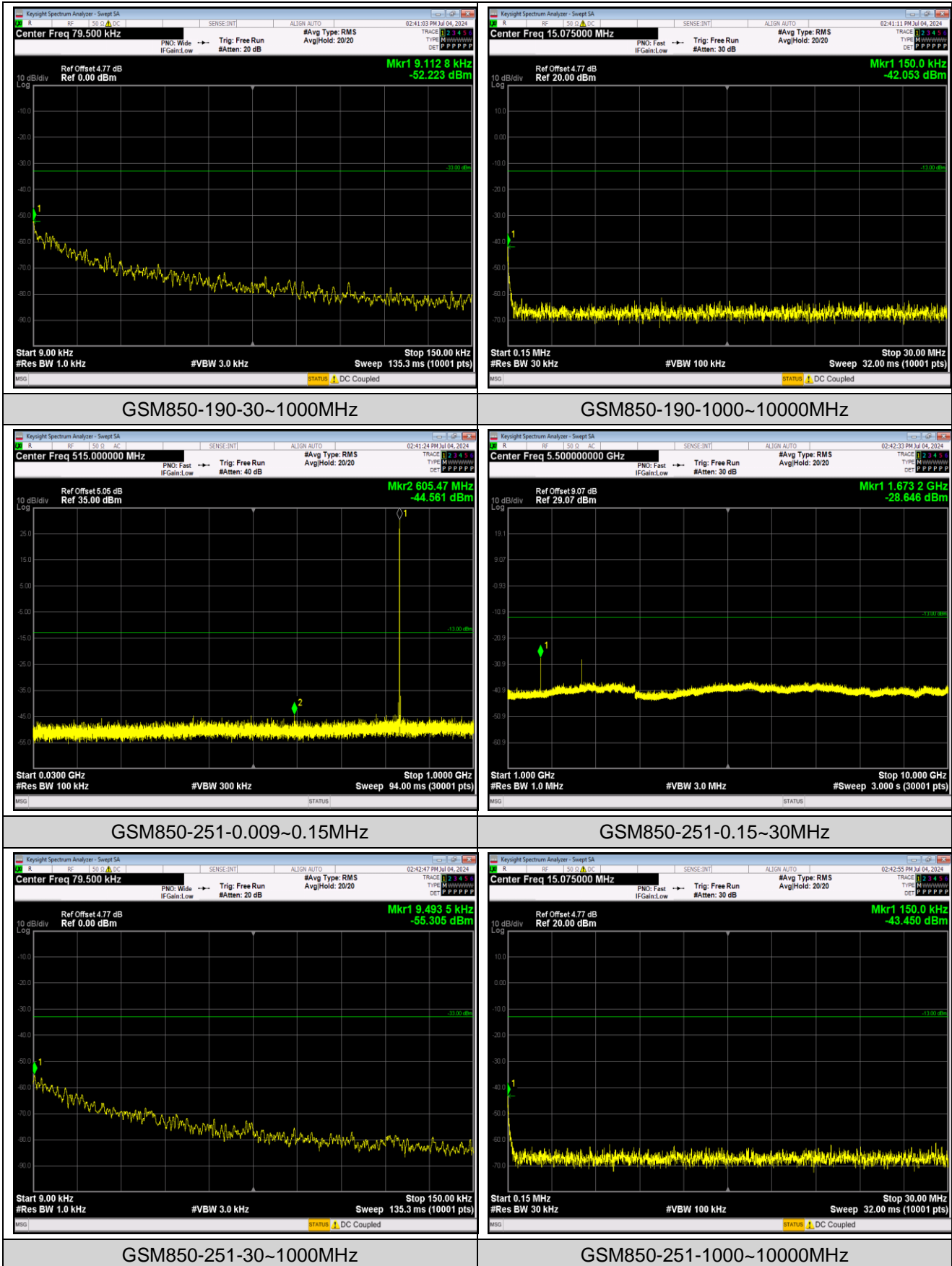
Test Result

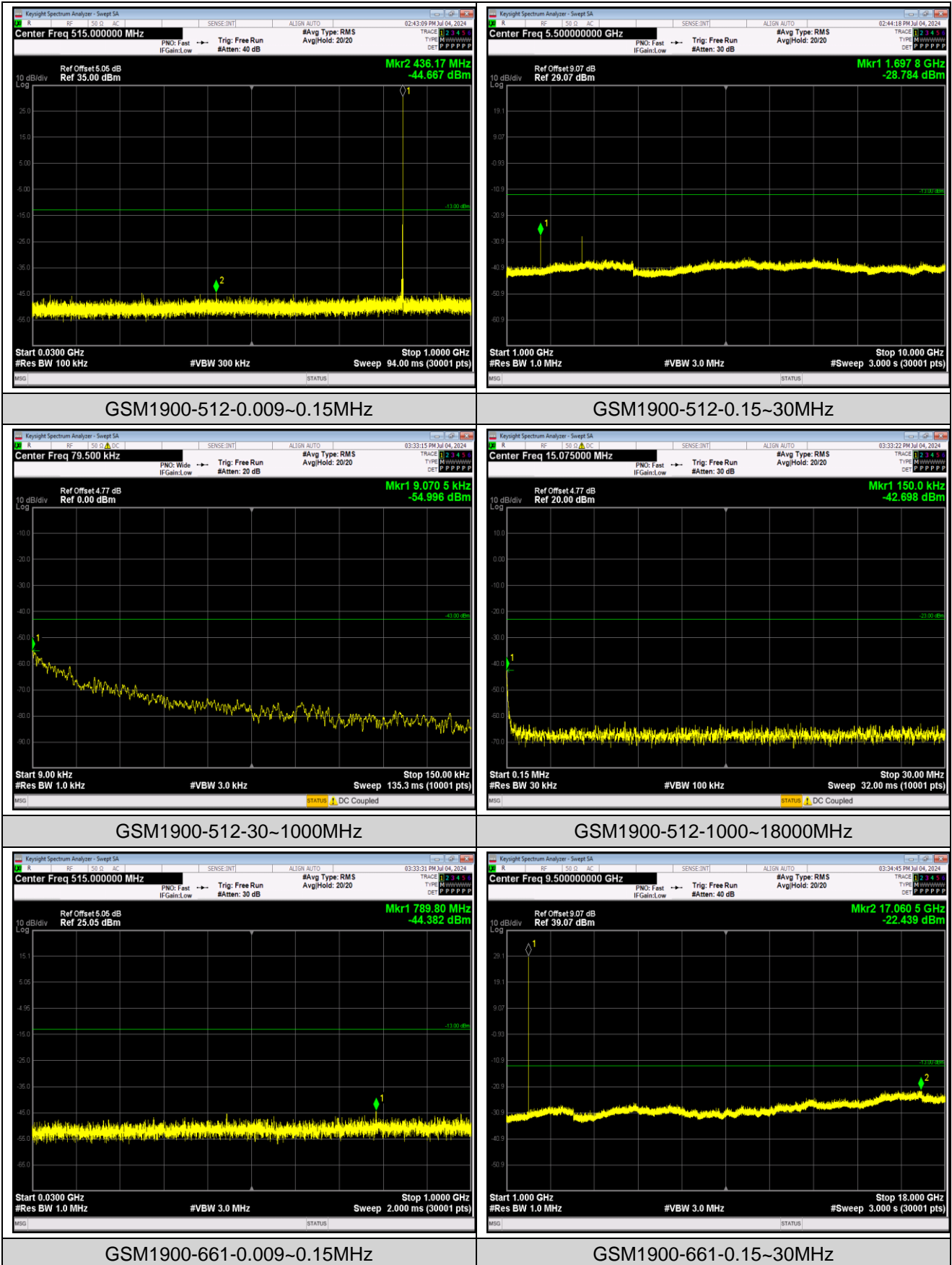
| Band | Channel | PCL | Frequency Range(MHz) | Max.Freq. (MHz) | Result (dBm) | Limit (dBm) | Verdict |
|---------|---------|-----|----------------------|-----------------|--------------|-------------|---------|
| GSM850 | 128 | 5 | 0.009~0.15MHz | 0.01 | -53.61 | -33 | PASS |
| GSM850 | 128 | 5 | 0.15~30MHz | 0.15 | -40.14 | -13 | PASS |
| GSM850 | 128 | 5 | 30~1000MHz | 936.11 | -44.55 | -13 | PASS |
| GSM850 | 128 | 5 | 1000~10000MHz | 1648.6 | -27.85 | -13 | PASS |
| GSM850 | 190 | 5 | 0.009~0.15MHz | 0.01 | -52.22 | -33 | PASS |
| GSM850 | 190 | 5 | 0.15~30MHz | 0.15 | -42.05 | -13 | PASS |
| GSM850 | 190 | 5 | 30~1000MHz | 605.47 | -44.56 | -13 | PASS |
| GSM850 | 190 | 5 | 1000~10000MHz | 1673.2 | -28.65 | -13 | PASS |
| GSM850 | 251 | 5 | 0.009~0.15MHz | 0.01 | -55.31 | -33 | PASS |
| GSM850 | 251 | 5 | 0.15~30MHz | 0.15 | -43.45 | -13 | PASS |
| GSM850 | 251 | 5 | 30~1000MHz | 436.17 | -44.67 | -13 | PASS |
| GSM850 | 251 | 5 | 1000~10000MHz | 1697.8 | -28.78 | -13 | PASS |
| GSM1900 | 512 | 0 | 0.009~0.15MHz | 0.01 | -55 | -43 | PASS |
| GSM1900 | 512 | 0 | 0.15~30MHz | 0.15 | -42.7 | -23 | PASS |
| GSM1900 | 512 | 0 | 30~1000MHz | 789.8 | -44.38 | -13 | PASS |
| GSM1900 | 512 | 0 | 1000~18000MHz | 17060.47 | -22.44 | -13 | PASS |
| GSM1900 | 661 | 0 | 0.009~0.15MHz | 0.01 | -56.4 | -43 | PASS |
| GSM1900 | 661 | 0 | 0.15~30MHz | 0.16 | -41.22 | -23 | PASS |
| GSM1900 | 661 | 0 | 30~1000MHz | 964.05 | -45.45 | -13 | PASS |
| GSM1900 | 661 | 0 | 1000~18000MHz | 16915.4 | -22.13 | -13 | PASS |
| GSM1900 | 810 | 0 | 0.009~0.15MHz | 0.01 | -56.52 | -43 | PASS |
| GSM1900 | 810 | 0 | 0.15~30MHz | 0.15 | -43.19 | -23 | PASS |
| GSM1900 | 810 | 0 | 30~1000MHz | 891.49 | -44.57 | -13 | PASS |
| GSM1900 | 810 | 0 | 1000~18000MHz | 17010.03 | -22.26 | -13 | PASS |

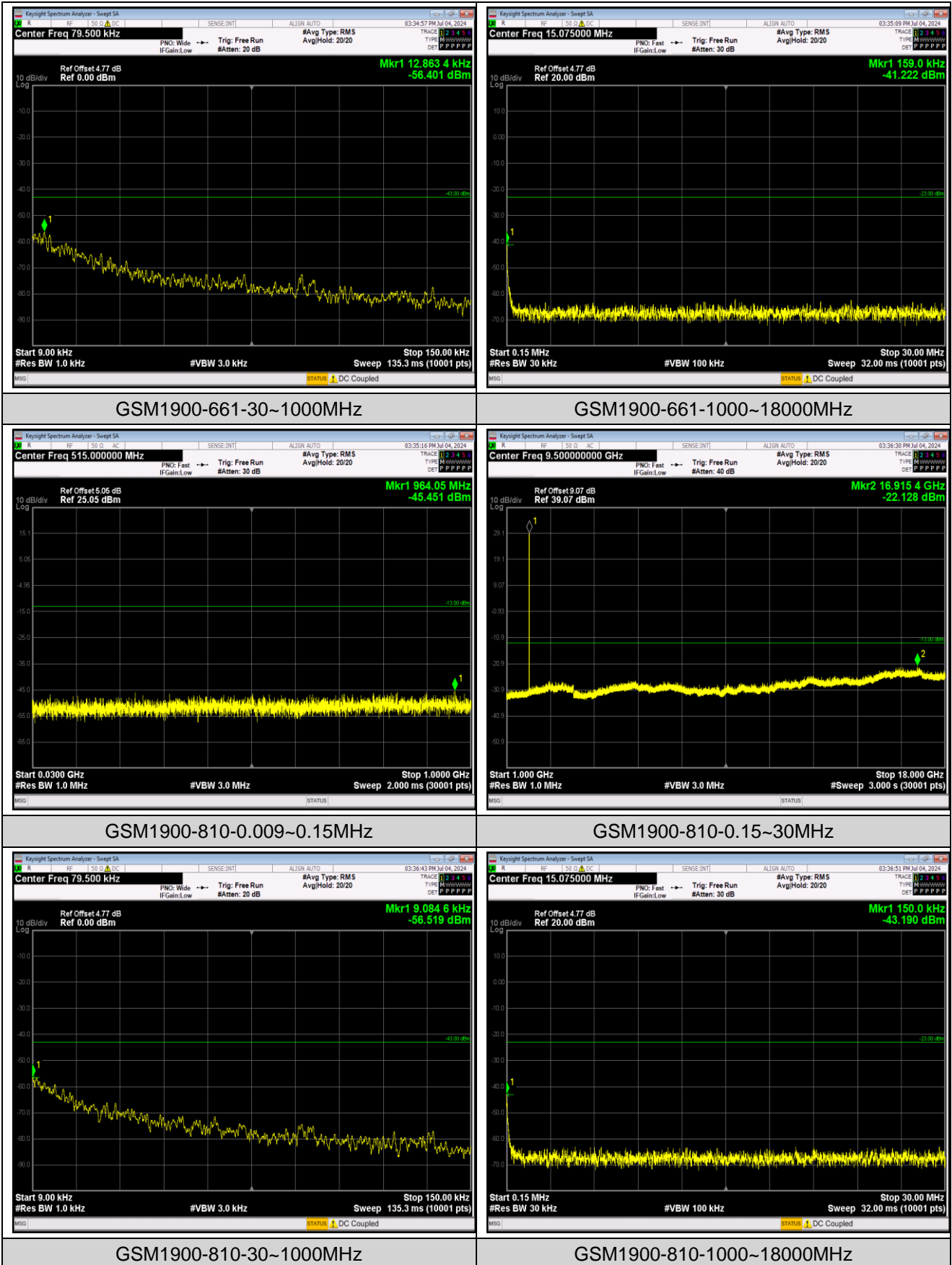
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

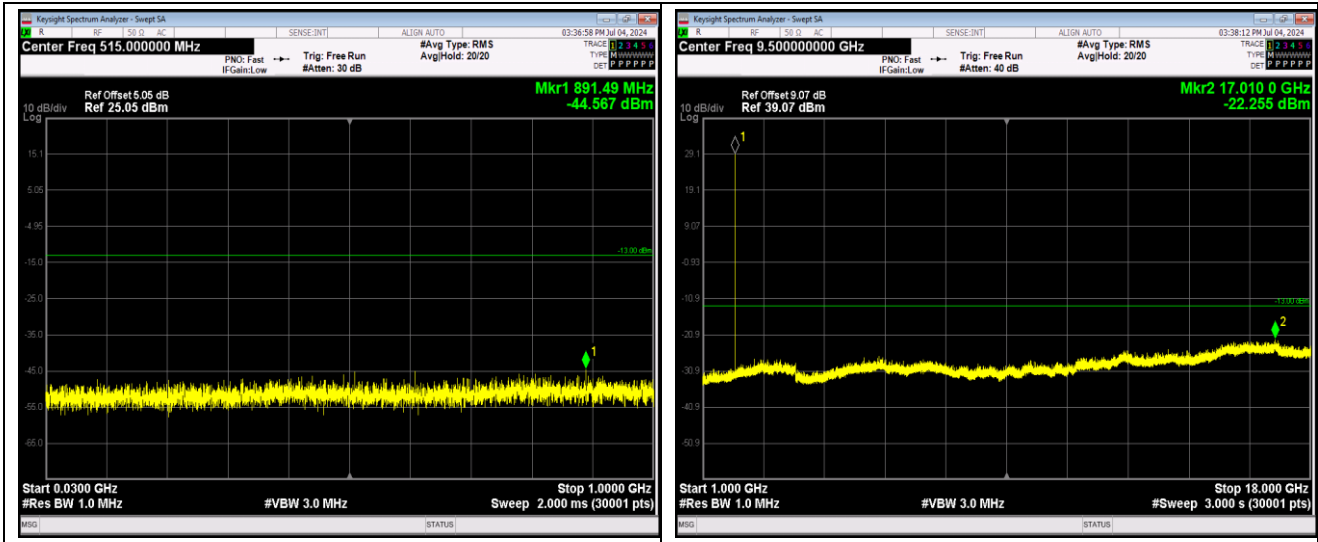
Test Graphs











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 | 1.39 | 0.001661 | ±2.5 | Pass |
| | -20 | -1.87 | -0.002235 | | |
| | -10 | -1.39 | -0.001661 | | |
| | 0 | 3.81 | 0.004554 | | |
| | 10 | -0.77 | -0.000920 | | |
| | 20 | -0.39 | -0.000466 | | |
| | 30 | 2.32 | 0.002773 | | |
| | 40 | -0.90 | -0.001076 | | |
| 50 | 1.13 | 0.001351 | | | |
| Voltage | | | | | |
| Temperature (°C) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.45 | -0.84 | -0.001004 | ±2.5 | Pass |
| | 3.87 | -5.88 | -0.007028 | | |
| | 4.45 | 0.74 | 0.000885 | | |
| 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 | 1.39 | 0.001661 | ±2.5 | Pass |
| | -20 | -0.68 | -0.000813 | | |
| | -10 | -0.06 | -0.000072 | | |
| | 0 | 0.48 | 0.000574 | | |
| | 10 | 4.52 | 0.005403 | | |
| | 20 | 5.10 | 0.006096 | | |
| | 30 | 5.36 | 0.006407 | | |
| | 40 | 4.55 | 0.005439 | | |
| | 50 | 3.94 | 0.004710 | | |
| Voltage | | | | | |
| Temperature (°C) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.45 | 3.91 | 0.004674 | ±2.5 | Pass |
| | 3.87 | 2.58 | 0.003084 | | |
| | 4.45 | 3.97 | 0.004745 | | |
| <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 | 8.17 | 0.004346 | Within authorized band for PCS 1900 | Pass |
| | -20 | 2.32 | 0.001234 | | |
| | -10 | 7.43 | 0.003952 | | |
| | 0 | 10.59 | 0.005633 | | |
| | 10 | 9.78 | 0.005202 | | |
| | 20 | 12.46 | 0.006628 | | |
| | 30 | 8.17 | 0.004346 | | |
| | 40 | 17.43 | 0.009271 | | |
| | 50 | 6.01 | 0.003197 | | |
| Voltage | | | | | |
| Temperature (°C) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.45 | 4.29 | 0.002282 | Within authorized band for PCS 1900 | Pass |
| | 3.87 | 17.40 | 0.009255 | | |
| | 4.45 | 0.97 | 0.000516 | | |
| <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 | | |
| 3.75 | -30 | -3.20 | -0.001702 | Within authorized band for PCS 1900 | Pass |
| | -20 | -11.30 | -0.006011 | | |
| | -10 | -7.30 | -0.003883 | | |
| | 0 | -0.90 | -0.000479 | | |
| | 10 | -0.65 | -0.000346 | | |
| | 20 | 1.87 | 0.000995 | | |
| | 30 | -1.42 | -0.000755 | | |
| | 40 | 9.07 | 0.004824 | | |
| | 50 | 8.33 | 0.004431 | | |
| Voltage | | | | | |
| Temperature (°C) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.45 | -8.39 | -0.004463 | Within authorized band for PCS 1900 | Pass |
| | 3.87 | -2.78 | -0.001479 | | |
| | 4.45 | -4.42 | -0.002351 | | |
| 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

