

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 | 33.56 | 28.29 | 38.45 | PASS |
| GSM850 | 190 | 5 | 33.46 | 28.19 | 38.45 | PASS |
| GSM850 | 251 | 5 | 33.38 | 28.11 | 38.45 | PASS |
| GSM1900 | 512 | 0 | 30.49 | 29.93 | 33.00 | PASS |
| GSM1900 | 661 | 0 | 29.99 | 29.43 | 33.00 | PASS |
| GSM1900 | 810 | 0 | 29.76 | 29.20 | 33.00 | PASS |

| Band | Channel | PCL | Slot | Conducted Power (dBm) | ERP/EIRP (dBm) | ERP/EIRP Limit (dBm) | Verdict |
|----------|---------|-----|------|-----------------------|----------------|----------------------|---------|
| GPRS850 | 128 | 5 | 1 | 33.57 | 28.30 | 38.45 | PASS |
| GPRS850 | 128 | 5 | 2 | 32.57 | 27.30 | 38.45 | PASS |
| GPRS850 | 128 | 5 | 3 | 30.56 | 25.29 | 38.45 | PASS |
| GPRS850 | 128 | 5 | 4 | 29.43 | 24.16 | 38.45 | PASS |
| GPRS850 | 190 | 5 | 1 | 33.40 | 28.13 | 38.45 | PASS |
| GPRS850 | 190 | 5 | 2 | 32.44 | 27.17 | 38.45 | PASS |
| GPRS850 | 190 | 5 | 3 | 30.42 | 25.15 | 38.45 | PASS |
| GPRS850 | 190 | 5 | 4 | 29.30 | 24.03 | 38.45 | PASS |
| GPRS850 | 251 | 5 | 1 | 33.32 | 28.05 | 38.45 | PASS |
| GPRS850 | 251 | 5 | 2 | 32.36 | 27.09 | 38.45 | PASS |
| GPRS850 | 251 | 5 | 3 | 30.32 | 25.05 | 38.45 | PASS |
| GPRS850 | 251 | 5 | 4 | 29.22 | 23.95 | 38.45 | PASS |
| GPRS1900 | 512 | 0 | 1 | 30.49 | 29.93 | 33.00 | PASS |
| GPRS1900 | 512 | 0 | 2 | 29.30 | 28.74 | 33.00 | PASS |
| GPRS1900 | 512 | 0 | 3 | 26.99 | 26.43 | 33.00 | PASS |
| GPRS1900 | 512 | 0 | 4 | 25.88 | 25.32 | 33.00 | PASS |
| GPRS1900 | 661 | 0 | 1 | 29.97 | 29.41 | 33.00 | PASS |
| GPRS1900 | 661 | 0 | 2 | 28.87 | 28.31 | 33.00 | PASS |
| GPRS1900 | 661 | 0 | 3 | 26.63 | 26.07 | 33.00 | PASS |
| GPRS1900 | 661 | 0 | 4 | 25.56 | 25.00 | 33.00 | PASS |
| GPRS1900 | 810 | 0 | 1 | 29.75 | 29.19 | 33.00 | PASS |
| GPRS1900 | 810 | 0 | 2 | 28.69 | 28.13 | 33.00 | PASS |
| GPRS1900 | 810 | 0 | 3 | 26.52 | 25.96 | 33.00 | PASS |
| GPRS1900 | 810 | 0 | 4 | 25.52 | 24.96 | 33.00 | PASS |

| Band | Channel | PCL | Slot | Conducted Power (dBm) | ERP/EIRP (dBm) | ERP/EIRP Limit (dBm) | Verdict |
|-----------|---------|-----|------|-----------------------|----------------|----------------------|---------|
| EGPRS850 | 128 | 8 | 1 | 28.35 | 23.08 | 38.45 | PASS |
| EGPRS850 | 128 | 8 | 2 | 27.19 | 21.92 | 38.45 | PASS |
| EGPRS850 | 128 | 8 | 3 | 24.92 | 19.65 | 38.45 | PASS |
| EGPRS850 | 128 | 8 | 4 | 23.69 | 18.42 | 38.45 | PASS |
| EGPRS850 | 190 | 8 | 1 | 28.07 | 22.80 | 38.45 | PASS |
| EGPRS850 | 190 | 8 | 2 | 27.03 | 21.76 | 38.45 | PASS |
| EGPRS850 | 190 | 8 | 3 | 24.80 | 19.53 | 38.45 | PASS |
| EGPRS850 | 190 | 8 | 4 | 23.52 | 18.25 | 38.45 | PASS |
| EGPRS850 | 251 | 8 | 1 | 28.04 | 22.77 | 38.45 | PASS |
| EGPRS850 | 251 | 8 | 2 | 27.07 | 21.80 | 38.45 | PASS |
| EGPRS850 | 251 | 8 | 3 | 24.77 | 19.50 | 38.45 | PASS |
| EGPRS850 | 251 | 8 | 4 | 23.54 | 18.27 | 38.45 | PASS |
| EGPRS1900 | 512 | 2 | 1 | 25.42 | 24.86 | 33.00 | PASS |
| EGPRS1900 | 512 | 2 | 2 | 24.42 | 23.86 | 33.00 | PASS |
| EGPRS1900 | 512 | 2 | 3 | 22.49 | 21.93 | 33.00 | PASS |
| EGPRS1900 | 512 | 2 | 4 | 21.45 | 20.89 | 33.00 | PASS |
| EGPRS1900 | 661 | 2 | 1 | 25.71 | 25.15 | 33.00 | PASS |
| EGPRS1900 | 661 | 2 | 2 | 24.74 | 24.18 | 33.00 | PASS |
| EGPRS1900 | 661 | 2 | 3 | 22.79 | 22.23 | 33.00 | PASS |
| EGPRS1900 | 661 | 2 | 4 | 21.76 | 21.20 | 33.00 | PASS |
| EGPRS1900 | 810 | 2 | 1 | 25.96 | 25.4 | 33.00 | PASS |
| EGPRS1900 | 810 | 2 | 2 | 25.11 | 24.55 | 33.00 | PASS |
| EGPRS1900 | 810 | 2 | 3 | 23.20 | 22.64 | 33.00 | PASS |
| EGPRS1900 | 810 | 2 | 4 | 22.16 | 21.60 | 33.00 | PASS |

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

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

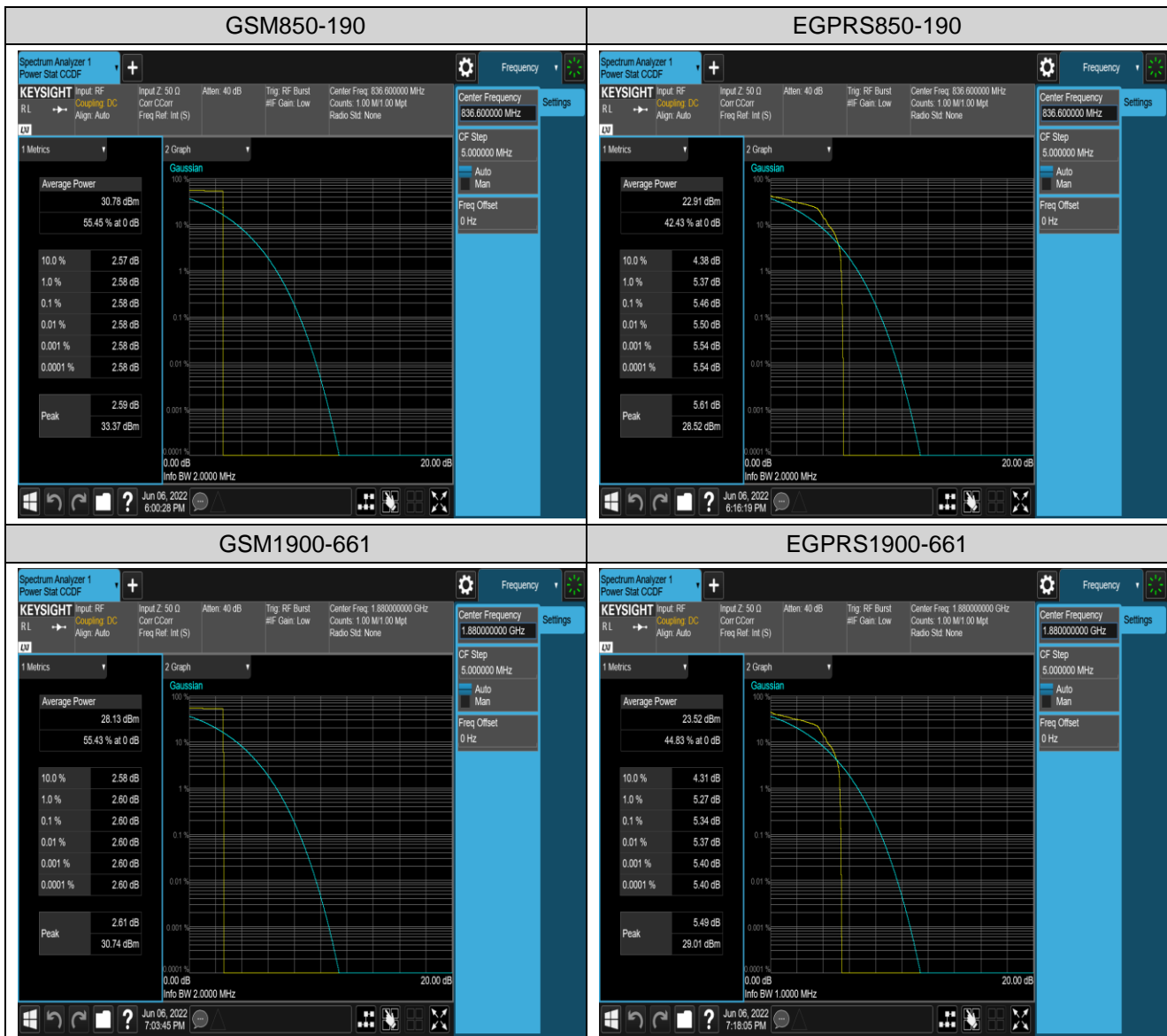
Appendix B: Peak-to-Average Ratio(CCDF)

Test Result

| Band | Channel | PCL | Result(dB) | Limit(dB) | Verdict |
|-----------|---------|-----|------------|-----------|---------|
| GSM850 | 190 | 5 | 2.58 | 13 | PASS |
| EGPRS850 | 190 | 8 | 5.46 | 13 | PASS |
| GSM1900 | 661 | 0 | 2.6 | 13 | PASS |
| EGPRS1900 | 661 | 2 | 5.34 | 13 | PASS |

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

Test Graphs

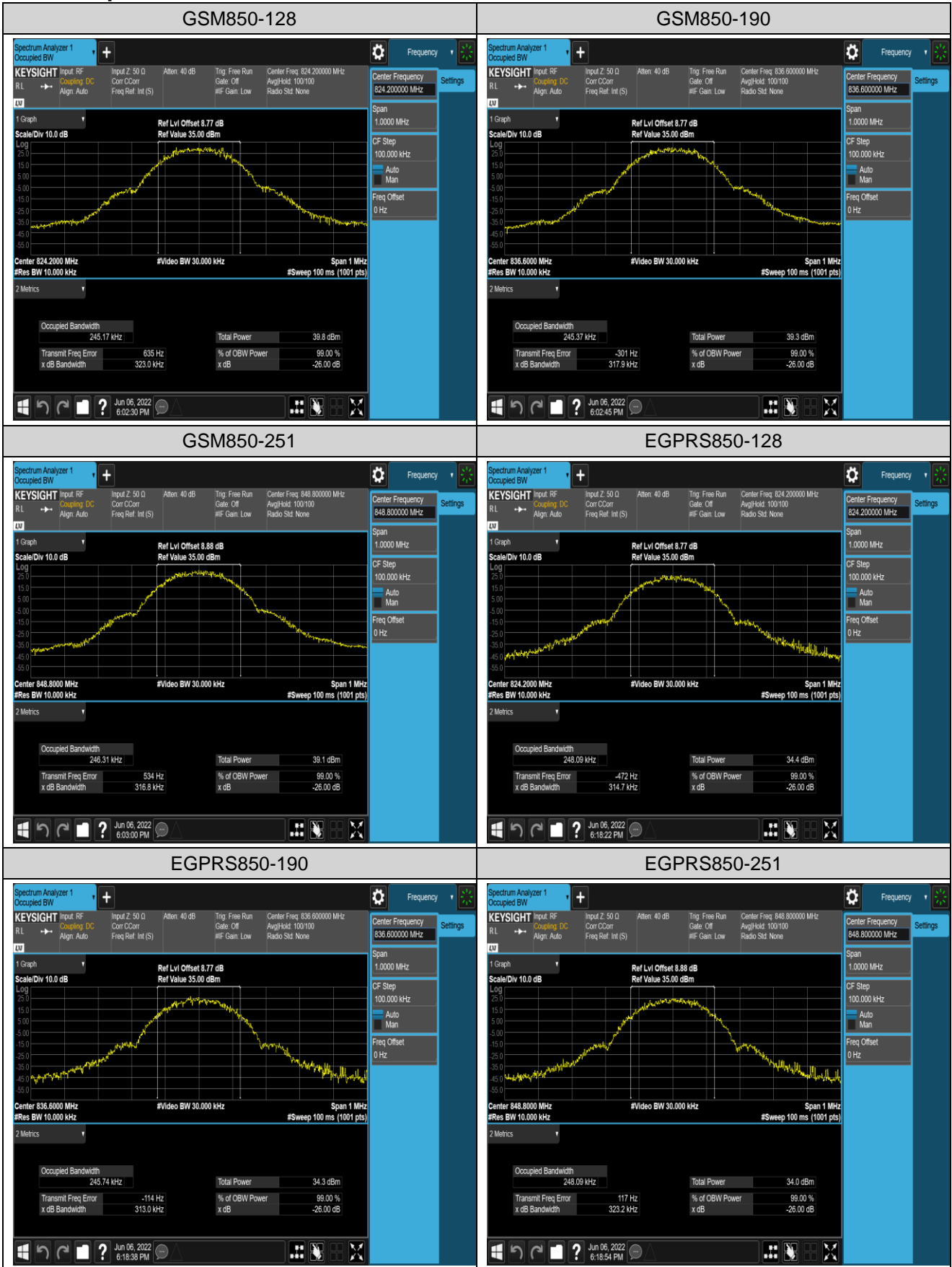


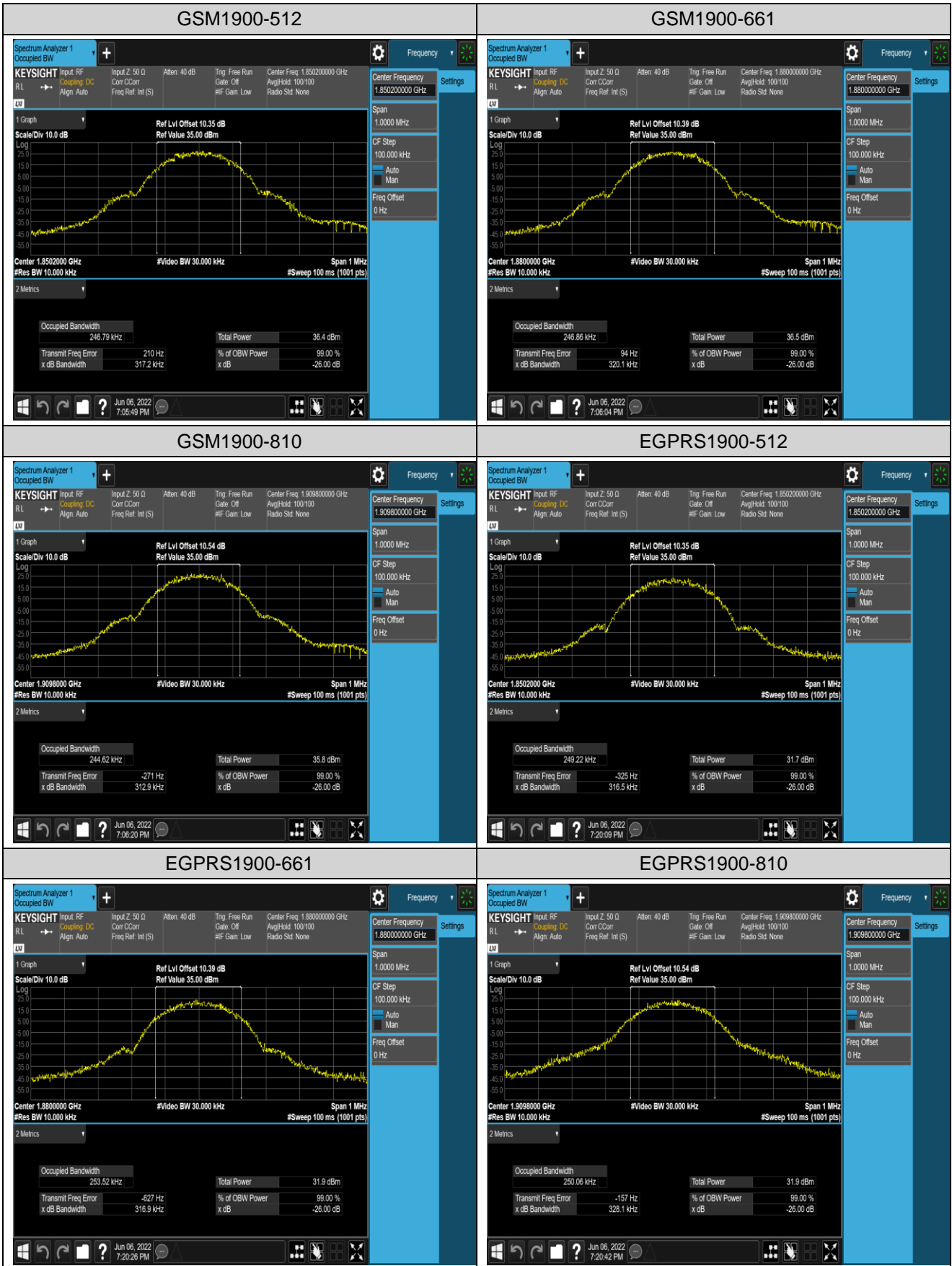
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

| Band | Channel | PCL | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Limit (MHz) | Verdict |
|-----------|---------|-----|--------------------------|----------------------|-------------|---------|
| GSM850 | 128 | 5 | 0.24517 | 0.3230 | --- | PASS |
| GSM850 | 190 | 5 | 0.24537 | 0.3179 | --- | PASS |
| GSM850 | 251 | 5 | 0.24631 | 0.3168 | --- | PASS |
| EGPRS850 | 128 | 8 | 0.24809 | 0.3147 | --- | PASS |
| EGPRS850 | 190 | 8 | 0.24574 | 0.3130 | --- | PASS |
| EGPRS850 | 251 | 8 | 0.24809 | 0.3232 | --- | PASS |
| GSM1900 | 512 | 0 | 0.24679 | 0.3172 | --- | PASS |
| GSM1900 | 661 | 0 | 0.24686 | 0.3201 | --- | PASS |
| GSM1900 | 810 | 0 | 0.24462 | 0.3129 | --- | PASS |
| EGPRS1900 | 512 | 2 | 0.24922 | 0.3165 | --- | PASS |
| EGPRS1900 | 661 | 2 | 0.25352 | 0.3169 | --- | PASS |
| EGPRS1900 | 810 | 2 | 0.25006 | 0.3281 | --- | PASS |

Test Graphs

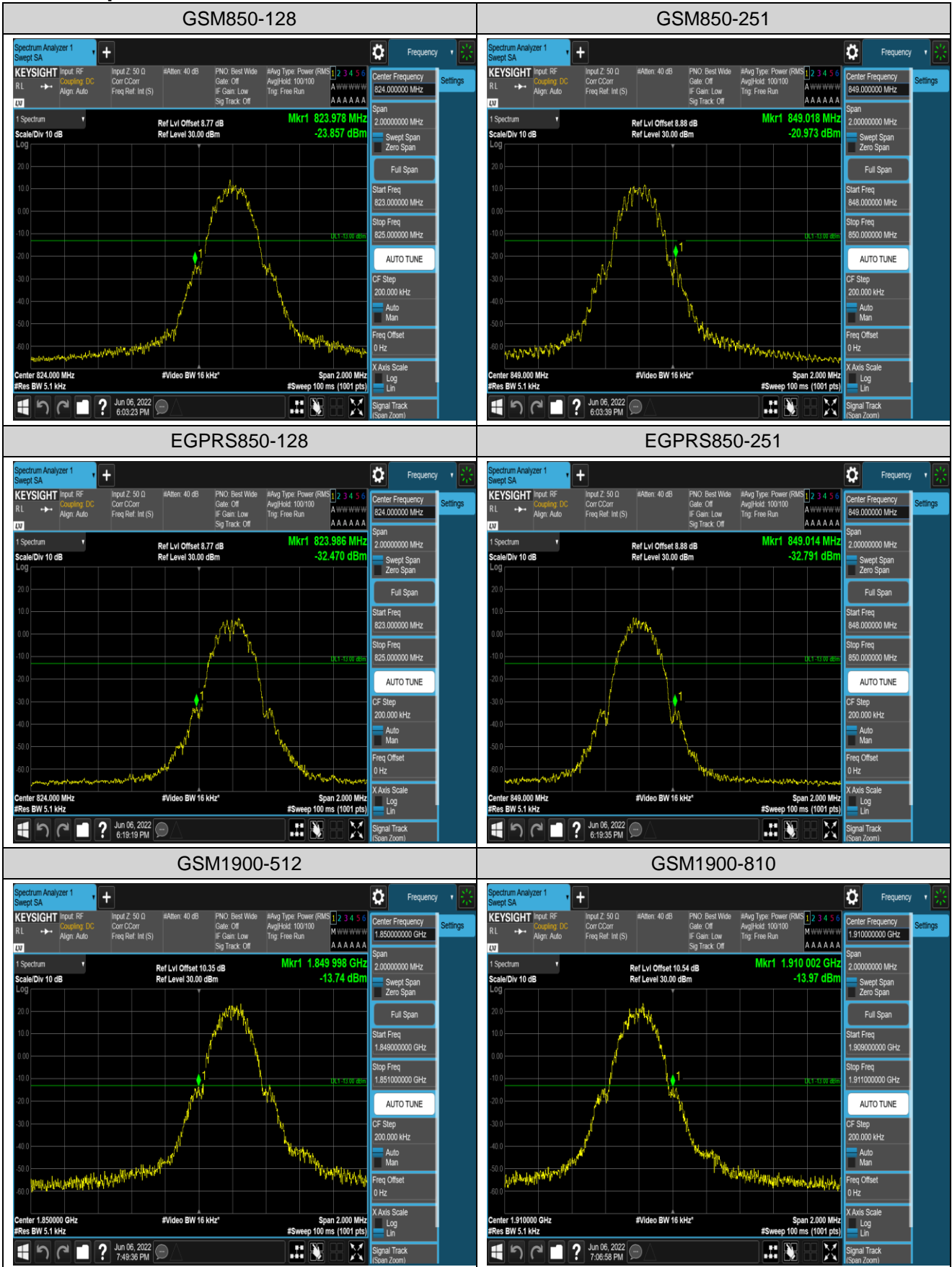


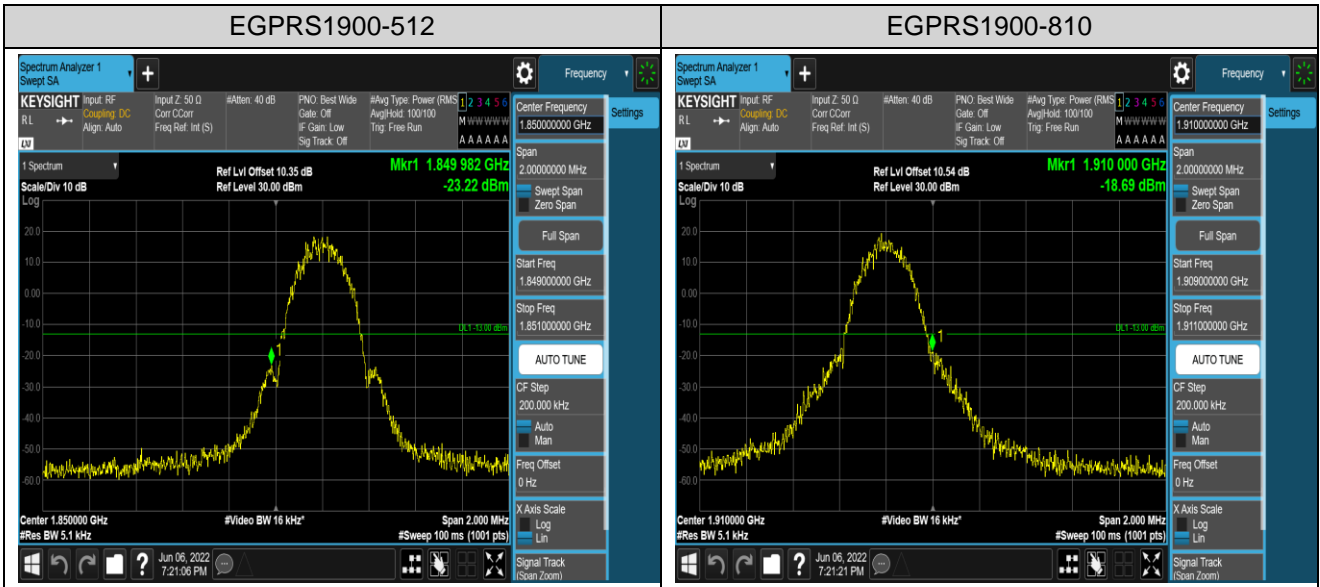


Appendix D: Band Edge**Test Result**

| Band | Channel | PCL | Freq (MHz) | Result (dBm) | Limit(dBm) | Verdict |
|-----------|---------|-----|------------|--------------|------------|---------|
| GSM850 | 128 | 5 | 823.98 | -23.86 | -13 | PASS |
| GSM850 | 251 | 5 | 849.02 | -20.97 | -13 | PASS |
| EGPRS850 | 128 | 8 | 823.99 | -32.47 | -13 | PASS |
| EGPRS850 | 251 | 8 | 849.01 | -32.79 | -13 | PASS |
| GSM1900 | 512 | 0 | 1850.00 | -13.74 | -13 | PASS |
| GSM1900 | 810 | 0 | 1910.00 | -13.97 | -13 | PASS |
| EGPRS1900 | 512 | 2 | 1849.98 | -23.22 | -13 | PASS |
| EGPRS1900 | 810 | 2 | 1910.00 | -18.69 | -13 | PASS |

Test Graphs





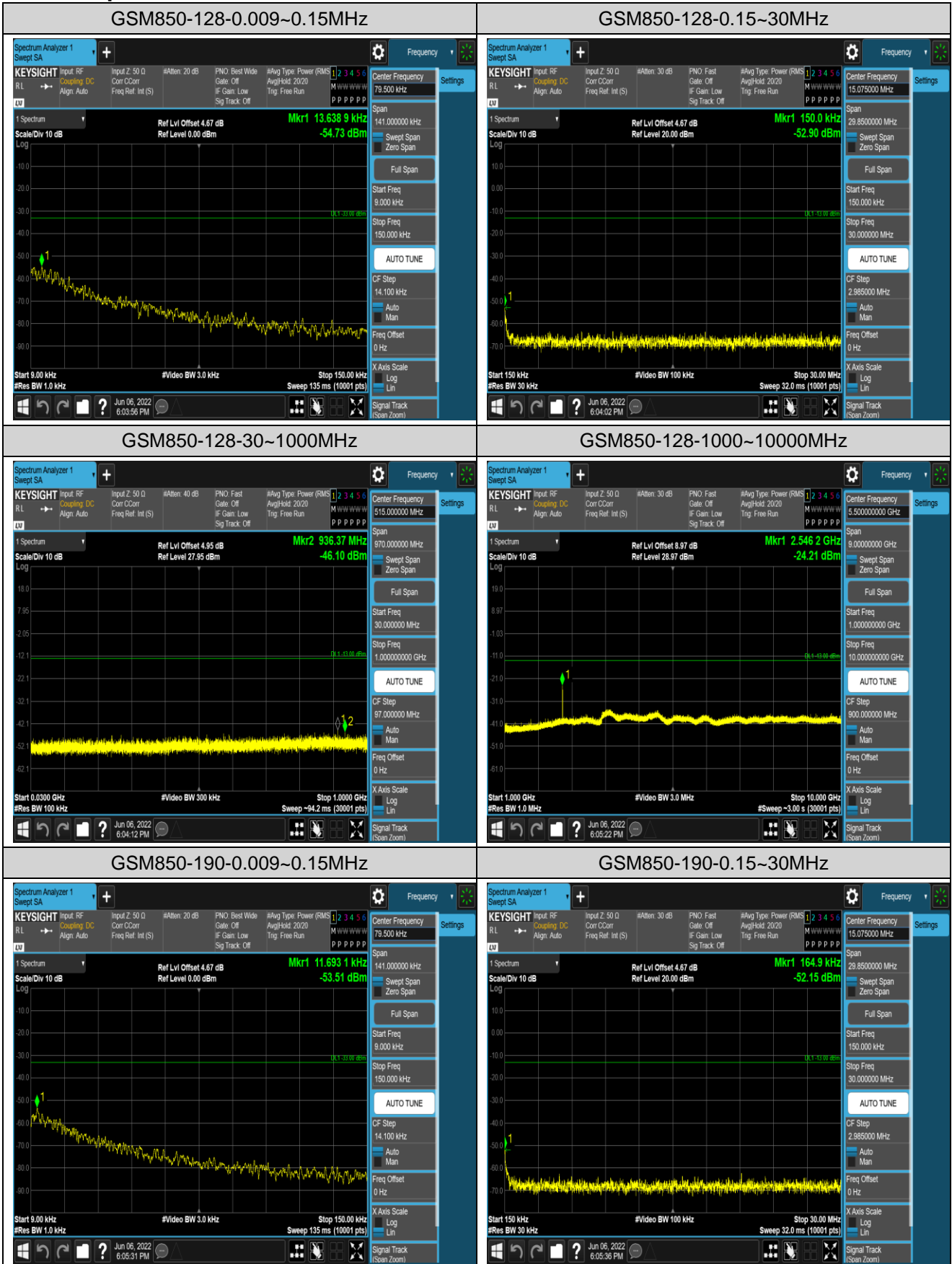
Appendix E: Conducted Spurious Emission

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 | -54.73 | -33 | PASS |
| GSM850 | 128 | 5 | 0.15~30MHz | 0.15 | -52.9 | -13 | PASS |
| GSM850 | 128 | 5 | 30~1000MHz | 936.37 | -46.1 | -13 | PASS |
| GSM850 | 128 | 5 | 1000~10000MHz | 2546.2 | -24.21 | -13 | PASS |
| GSM850 | 190 | 5 | 0.009~0.15MHz | 0.01 | -53.51 | -33 | PASS |
| GSM850 | 190 | 5 | 0.15~30MHz | 0.16 | -52.15 | -13 | PASS |
| GSM850 | 190 | 5 | 30~1000MHz | 986.52 | -46.76 | -13 | PASS |
| GSM850 | 190 | 5 | 1000~10000MHz | 2546.5 | -24.38 | -13 | PASS |
| GSM850 | 251 | 5 | 0.009~0.15MHz | 0.01 | -53.74 | -33 | PASS |
| GSM850 | 251 | 5 | 0.15~30MHz | 0.17 | -53.39 | -13 | PASS |
| GSM850 | 251 | 5 | 30~1000MHz | 995.64 | -46.3 | -13 | PASS |
| GSM850 | 251 | 5 | 1000~10000MHz | 2546.5 | -24.36 | -13 | PASS |
| GSM1900 | 512 | 0 | 0.009~0.15MHz | 0.01 | -56.05 | -43 | PASS |
| GSM1900 | 512 | 0 | 0.15~30MHz | 0.17 | -53.44 | -23 | PASS |
| GSM1900 | 512 | 0 | 30~1000MHz | 830.54 | -45.88 | -13 | PASS |
| GSM1900 | 512 | 0 | 1000~18000MHz | 3819.73 | -31.77 | -13 | PASS |
| GSM1900 | 661 | 0 | 0.009~0.15MHz | 0.01 | -56.55 | -43 | PASS |
| GSM1900 | 661 | 0 | 0.15~30MHz | 0.15 | -52.55 | -23 | PASS |
| GSM1900 | 661 | 0 | 30~1000MHz | 850.75 | -45.41 | -13 | PASS |
| GSM1900 | 661 | 0 | 1000~18000MHz | 3819.73 | -31.5 | -13 | PASS |
| GSM1900 | 810 | 0 | 0.009~0.15MHz | 0.01 | -56.66 | -43 | PASS |
| GSM1900 | 810 | 0 | 0.15~30MHz | 0.16 | -53.35 | -23 | PASS |
| GSM1900 | 810 | 0 | 30~1000MHz | 998.38 | -46.64 | -13 | PASS |
| GSM1900 | 810 | 0 | 1000~18000MHz | 3819.17 | -32.37 | -13 | PASS |

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

Test Graphs

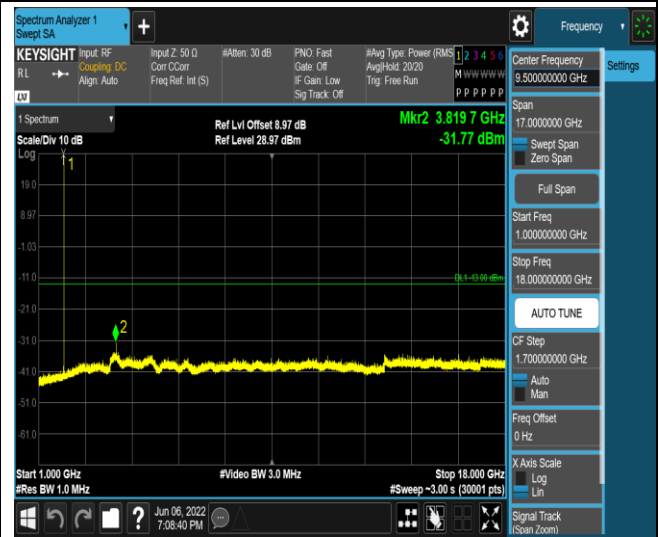






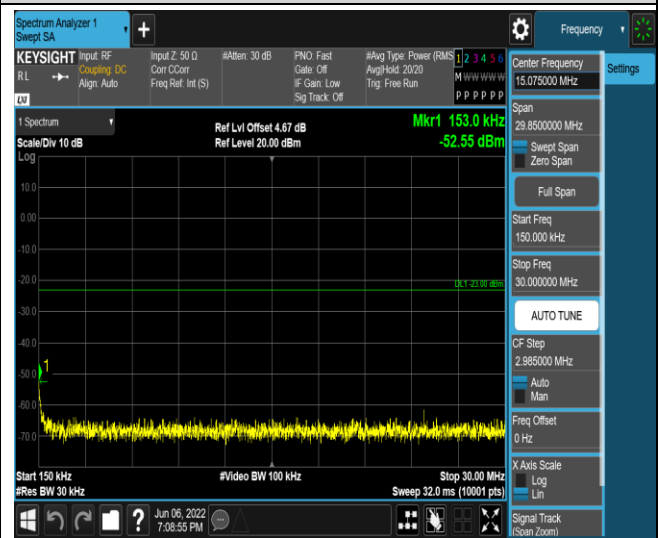
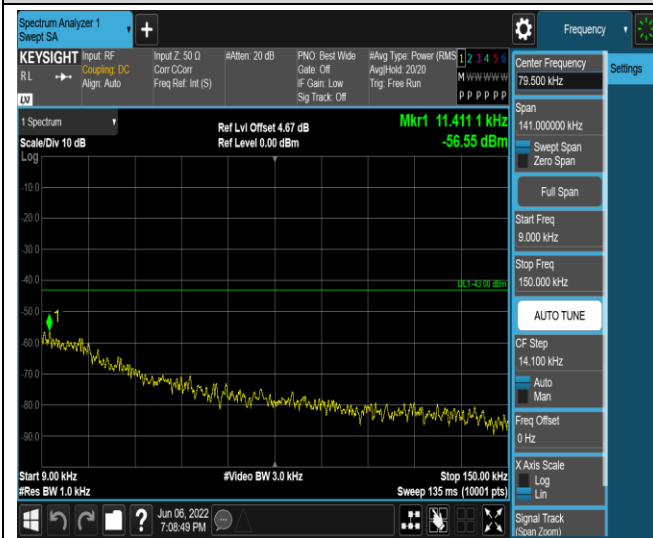
GSM1900-512-30~1000MHz

GSM1900-512-1000~18000MHz



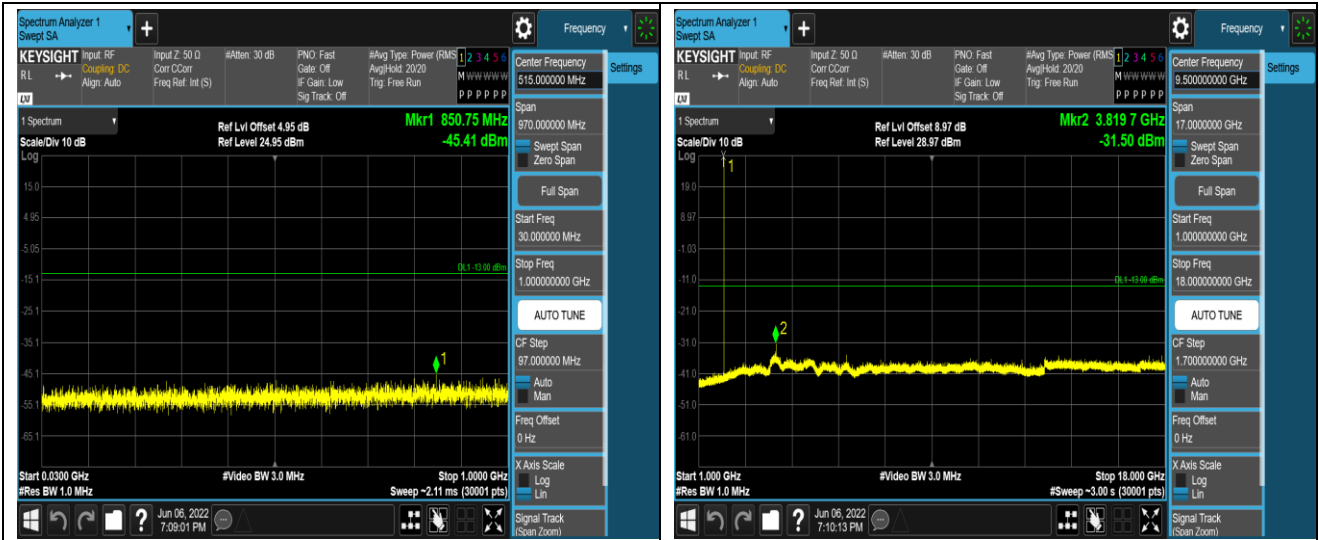
GSM1900-661-0.009~0.15MHz

GSM1900-661-0.15~30MHz



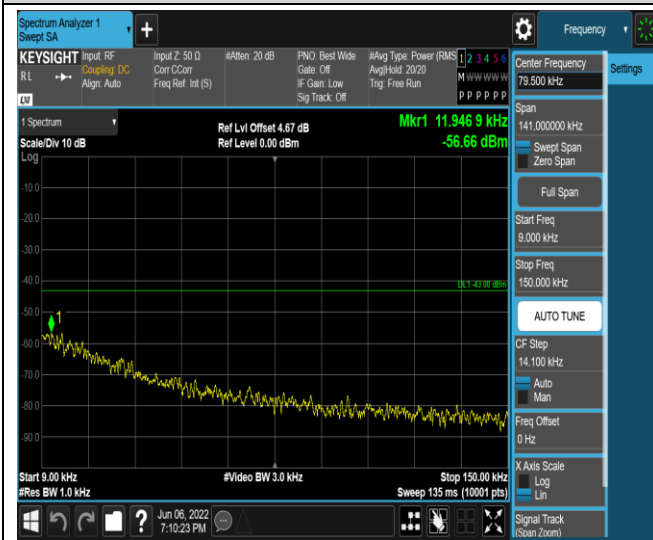
GSM1900-661-30~1000MHz

GSM1900-661-1000~18000MHz

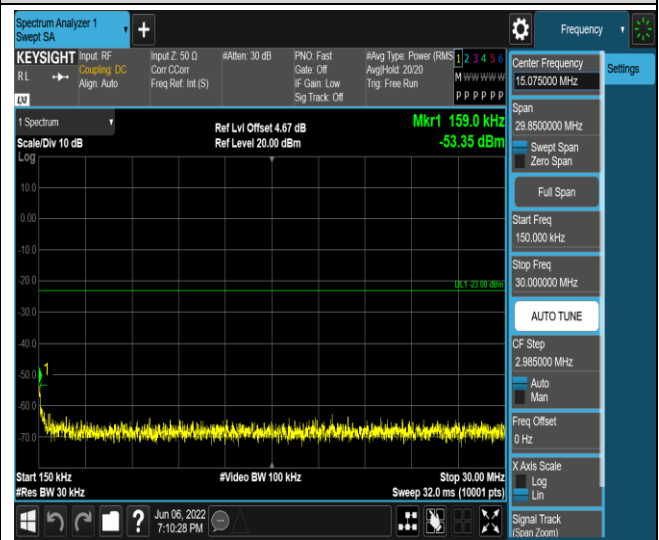


GSM1900-810-0.009~0.15MHz

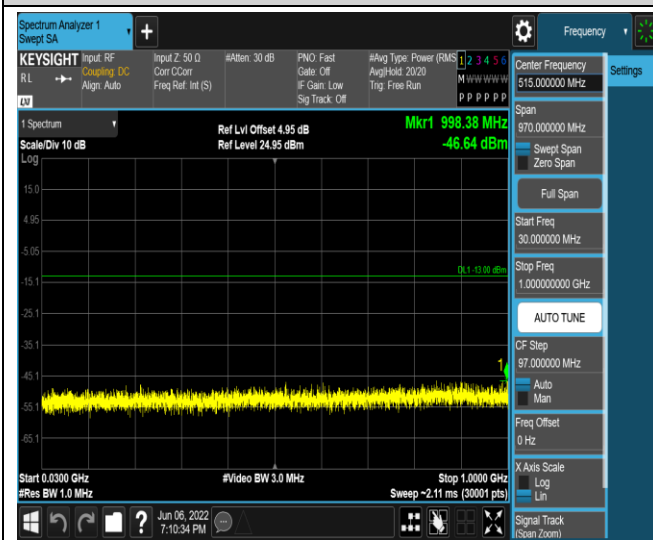
GSM1900-810-0.15~30MHz



GSM1900-810-30~1000MHz



GSM1900-810-1000~18000MHz



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 | | |
| 3.85 | -30 | 2.78 | 0.003323 | ±2.5 | Pass |
| | -20 | 2.10 | 0.002510 | | |
| | -10 | 2.03 | 0.002426 | | |
| | 0 | 5.29 | 0.006323 | | |
| | 10 | 4.55 | 0.005439 | | |
| | 20 | 4.07 | 0.004865 | | |
| | 30 | 3.87 | 0.004626 | | |
| | 40 | -0.19 | -0.000227 | | |
| | 50 | 5.07 | 0.006060 | | |
| Voltage | | | | | |
| Temperature (°C) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.45 | 2.78 | 0.003323 | ±2.5 | Pass |
| | 3.85 | 5.68 | 0.006789 | | |
| | 4.40 | 6.33 | 0.007566 | | |
| 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 | | |
| 3.85 | -30 | -2.10 | -0.002510 | ±2.5 | Pass |
| | -20 | -4.16 | -0.004973 | | |
| | -10 | 3.55 | 0.004243 | | |
| | 0 | 6.68 | 0.007985 | | |
| | 10 | 2.32 | 0.002773 | | |
| | 20 | 3.87 | 0.004626 | | |
| | 30 | 3.16 | 0.003777 | | |
| | 40 | 2.91 | 0.003478 | | |
| | 50 | -0.03 | -0.000036 | | |
| Voltage | | | | | |
| Temperature (°C) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.45 | 1.16 | 0.001387 | ±2.5 | Pass |
| | 3.85 | 1.81 | 0.002164 | | |
| | 4.40 | -2.00 | -0.002391 | | |
| 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 (Vdc) | Temperature (°C) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 3.85 | -30 | -3.87 | -0.002059 | Within authorized band for PCS 1900 | Pass |
| | -20 | -6.84 | -0.003638 | | |
| | -10 | -4.10 | -0.002181 | | |
| | 0 | -2.81 | -0.001495 | | |
| | 10 | -8.72 | -0.004638 | | |
| | 20 | -5.75 | -0.003059 | | |
| | 30 | -10.53 | -0.005601 | | |
| | 40 | -4.04 | -0.002149 | | |
| | 50 | -5.23 | -0.002782 | | |
| Voltage | | | | | |
| Temperature (°C) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.45 | 1.65 | 0.000878 | Within authorized band for PCS 1900 | Pass |
| | 3.85 | 1.68 | 0.000894 | | |
| | 4.40 | -5.23 | -0.002782 | | |
| 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 (Vdc) | Temperature (°C) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 3.85 | -30 | -5.13 | -0.002729 | Within authorized band for PCS 1900 | Pass |
| | -20 | -5.94 | -0.003160 | | |
| | -10 | 4.88 | 0.002596 | | |
| | 0 | 2.03 | 0.001080 | | |
| | 10 | 8.94 | 0.004755 | | |
| | 20 | 3.94 | 0.002096 | | |
| | 30 | 0.58 | 0.000309 | | |
| | 40 | -3.00 | -0.001596 | | |
| | 50 | -2.07 | -0.001101 | | |
| Voltage | | | | | |
| Temperature (°C) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.45 | -4.58 | -0.002436 | Within authorized band for PCS 1900 | Pass |
| | 3.85 | -4.68 | -0.002489 | | |
| | 4.40 | -6.26 | -0.003330 | | |
| <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

