

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 | 32.86 | 25.71 | 38.5 | PASS |
| GSM850 | 190 | 5 | 33.25 | 26.1 | 38.5 | PASS |
| GSM850 | 251 | 5 | 33.05 | 25.9 | 38.5 | PASS |
| GSM1900 | 512 | 0 | 29.66 | 29.16 | 33 | PASS |
| GSM1900 | 661 | 0 | 29.56 | 29.06 | 33 | PASS |
| GSM1900 | 810 | 0 | 29.31 | 28.81 | 33 | PASS |

| Band | Channel | PCL | Slot | Conducted Power (dBm) | ERP/EIRP (dBm) | ERP/EIRP Limit (dBm) | Verdict |
|----------|---------|-----|------|-----------------------|----------------|----------------------|---------|
| GPRS850 | 128 | 5 | 1 | 32.87 | 25.72 | 38.5 | PASS |
| GPRS850 | 128 | 5 | 2 | 32.00 | 24.85 | 38.5 | PASS |
| GPRS850 | 128 | 5 | 3 | 30.09 | 22.94 | 38.5 | PASS |
| GPRS850 | 128 | 5 | 4 | 28.98 | 21.83 | 38.5 | PASS |
| GPRS850 | 190 | 5 | 1 | 33.21 | 26.06 | 38.5 | PASS |
| GPRS850 | 190 | 5 | 2 | 32.36 | 25.21 | 38.5 | PASS |
| GPRS850 | 190 | 5 | 3 | 30.45 | 23.3 | 38.5 | PASS |
| GPRS850 | 190 | 5 | 4 | 29.37 | 22.22 | 38.5 | PASS |
| GPRS850 | 251 | 5 | 1 | 33.02 | 25.87 | 38.5 | PASS |
| GPRS850 | 251 | 5 | 2 | 32.17 | 25.02 | 38.5 | PASS |
| GPRS850 | 251 | 5 | 3 | 30.27 | 23.12 | 38.5 | PASS |
| GPRS850 | 251 | 5 | 4 | 29.21 | 22.06 | 38.5 | PASS |
| GPRS1900 | 512 | 0 | 1 | 29.67 | 29.17 | 33 | PASS |
| GPRS1900 | 512 | 0 | 2 | 28.93 | 28.43 | 33 | PASS |
| GPRS1900 | 512 | 0 | 3 | 27.11 | 26.61 | 33 | PASS |
| GPRS1900 | 512 | 0 | 4 | 26.00 | 25.50 | 33 | PASS |
| GPRS1900 | 661 | 0 | 1 | 29.50 | 29.00 | 33 | PASS |
| GPRS1900 | 661 | 0 | 2 | 28.82 | 28.32 | 33 | PASS |
| GPRS1900 | 661 | 0 | 3 | 27.05 | 26.55 | 33 | PASS |
| GPRS1900 | 661 | 0 | 4 | 25.99 | 25.49 | 33 | PASS |
| GPRS1900 | 810 | 0 | 1 | 29.27 | 28.77 | 33 | PASS |
| GPRS1900 | 810 | 0 | 2 | 28.61 | 28.11 | 33 | PASS |
| GPRS1900 | 810 | 0 | 3 | 26.92 | 26.42 | 33 | PASS |
| GPRS1900 | 810 | 0 | 4 | 25.87 | 25.37 | 33 | PASS |

| Band | Channel | PCL | Slot | Conducted Power (dBm) | ERP/EIRP (dBm) | ERP/EIRP Limit (dBm) | Verdict |
|-----------|---------|-----|------|-----------------------|----------------|----------------------|---------|
| EGPRS850 | 128 | 8 | 1 | 27.48 | 20.33 | 38.5 | PASS |
| EGPRS850 | 128 | 8 | 2 | 26.40 | 19.25 | 38.5 | PASS |
| EGPRS850 | 128 | 8 | 3 | 24.22 | 17.07 | 38.5 | PASS |
| EGPRS850 | 128 | 8 | 4 | 23.11 | 15.96 | 38.5 | PASS |
| EGPRS850 | 190 | 8 | 1 | 27.11 | 19.96 | 38.5 | PASS |
| EGPRS850 | 190 | 8 | 2 | 26.17 | 19.02 | 38.5 | PASS |
| EGPRS850 | 190 | 8 | 3 | 24.00 | 16.85 | 38.5 | PASS |
| EGPRS850 | 190 | 8 | 4 | 22.89 | 15.74 | 38.5 | PASS |
| EGPRS850 | 251 | 8 | 1 | 27.11 | 19.96 | 38.5 | PASS |
| EGPRS850 | 251 | 8 | 2 | 26.20 | 19.05 | 38.5 | PASS |
| EGPRS850 | 251 | 8 | 3 | 24.02 | 16.87 | 38.5 | PASS |
| EGPRS850 | 251 | 8 | 4 | 22.86 | 15.71 | 38.5 | PASS |
| EGPRS1900 | 512 | 2 | 1 | 26.25 | 25.75 | 33 | PASS |
| EGPRS1900 | 512 | 2 | 2 | 25.16 | 24.66 | 33 | PASS |
| EGPRS1900 | 512 | 2 | 3 | 23.10 | 22.60 | 33 | PASS |
| EGPRS1900 | 512 | 2 | 4 | 21.92 | 21.42 | 33 | PASS |
| EGPRS1900 | 661 | 2 | 1 | 26.43 | 25.93 | 33 | PASS |
| EGPRS1900 | 661 | 2 | 2 | 25.50 | 25.00 | 33 | PASS |
| EGPRS1900 | 661 | 2 | 3 | 23.49 | 22.99 | 33 | PASS |
| EGPRS1900 | 661 | 2 | 4 | 22.26 | 21.76 | 33 | PASS |
| EGPRS1900 | 810 | 2 | 1 | 26.38 | 25.88 | 33 | PASS |
| EGPRS1900 | 810 | 2 | 2 | 25.49 | 24.99 | 33 | PASS |
| EGPRS1900 | 810 | 2 | 3 | 23.45 | 22.95 | 33 | PASS |
| EGPRS1900 | 810 | 2 | 4 | 22.25 | 21.75 | 33 | PASS |

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

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

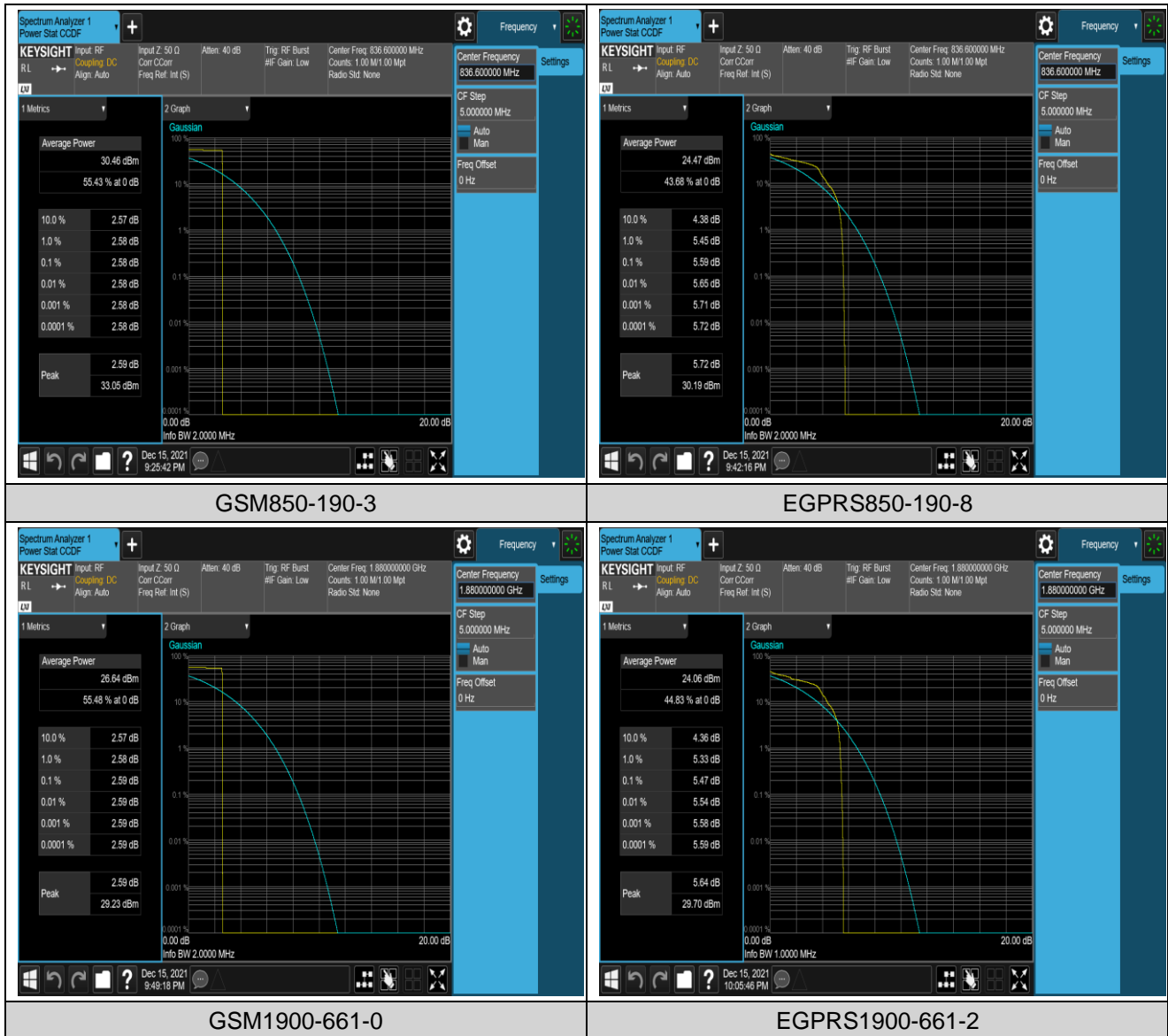
Appendix B: Peak-to-Average Ratio(CCDF)

Test Result

| Band | Channel | PCL | Result(dB) | Limit(dB) | Verdict |
|-----------|---------|-----|------------|-----------|---------|
| GSM850 | 190 | 5 | 2.58 | 13 | PASS |
| EGPRS850 | 190 | 8 | 5.59 | 13 | PASS |
| GSM1900 | 661 | 0 | 2.59 | 13 | PASS |
| EGPRS1900 | 661 | 2 | 5.47 | 13 | PASS |

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

Test Graphs

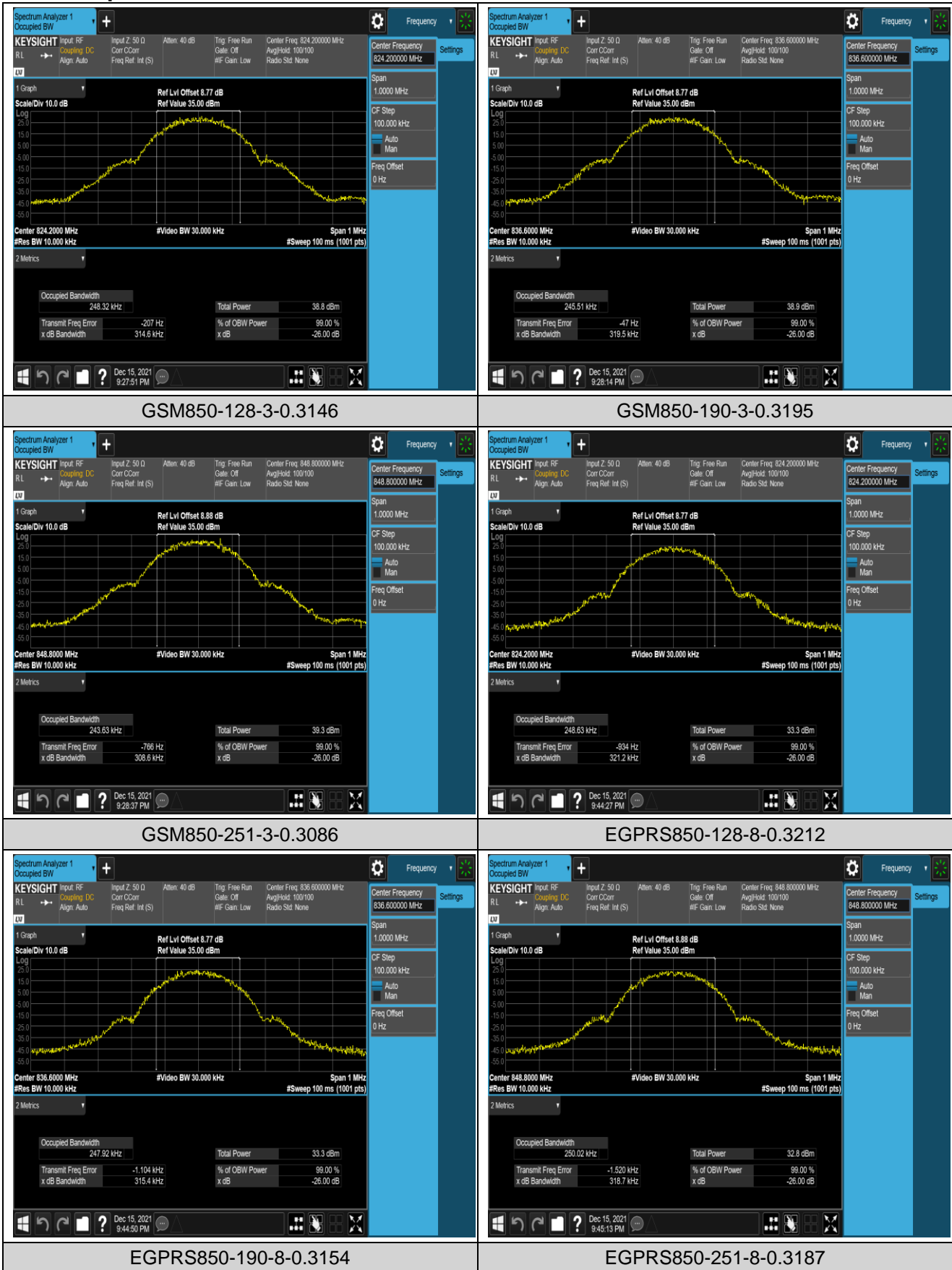


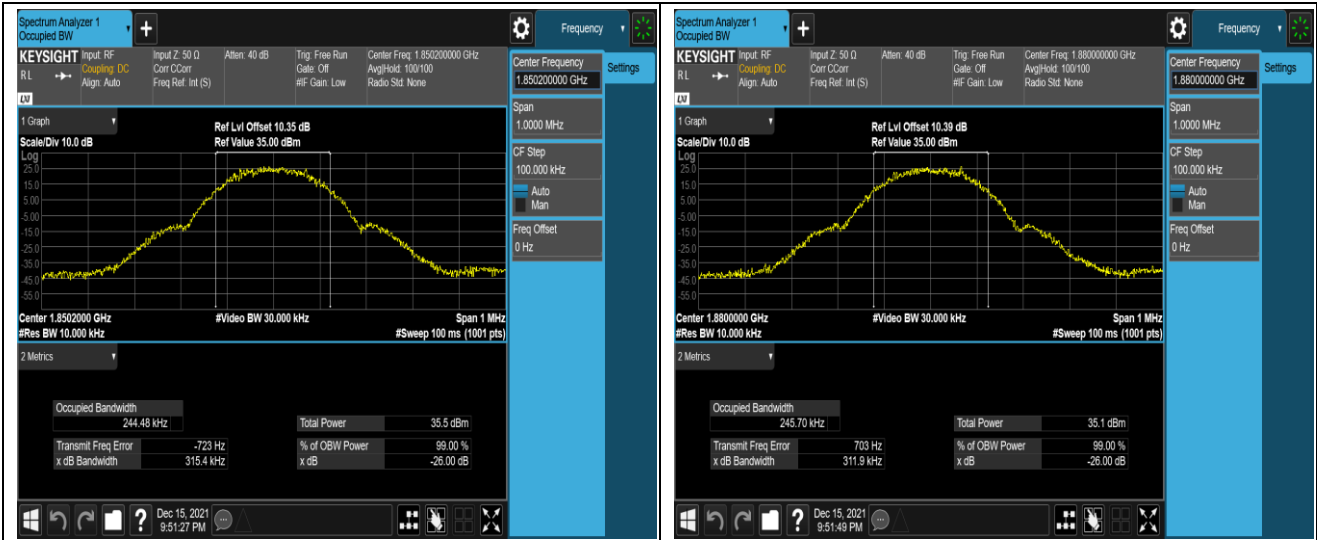
Appendix C: 26dB Bandwidth and Occupied Bandwidth

Test Result

| Band | Channel | PCL | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Limit (MHz) | Verdict |
|-----------|---------|-----|--------------------------|----------------------|-------------|---------|
| GSM850 | 128 | 5 | 0.24832 | 0.3146 | --- | PASS |
| GSM850 | 190 | 5 | 0.24551 | 0.3195 | --- | PASS |
| GSM850 | 251 | 5 | 0.24363 | 0.3086 | --- | PASS |
| EGPRS850 | 128 | 8 | 0.24863 | 0.3212 | --- | PASS |
| EGPRS850 | 190 | 8 | 0.24792 | 0.3154 | --- | PASS |
| EGPRS850 | 251 | 8 | 0.25002 | 0.3187 | --- | PASS |
| GSM1900 | 512 | 0 | 0.24448 | 0.3154 | --- | PASS |
| GSM1900 | 661 | 0 | 0.24570 | 0.3119 | --- | PASS |
| GSM1900 | 810 | 0 | 0.24340 | 0.3060 | --- | PASS |
| EGPRS1900 | 512 | 2 | 0.24906 | 0.3135 | --- | PASS |
| EGPRS1900 | 661 | 2 | 0.25250 | 0.3151 | --- | PASS |
| EGPRS1900 | 810 | 2 | 0.24928 | 0.3206 | --- | PASS |

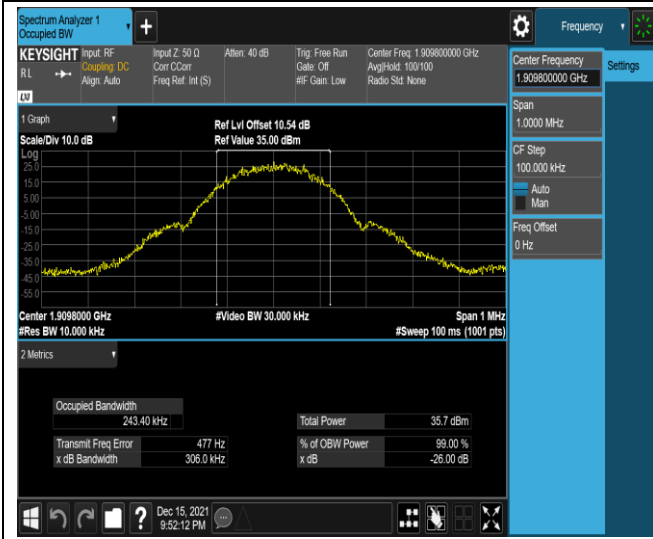
Test Graphs



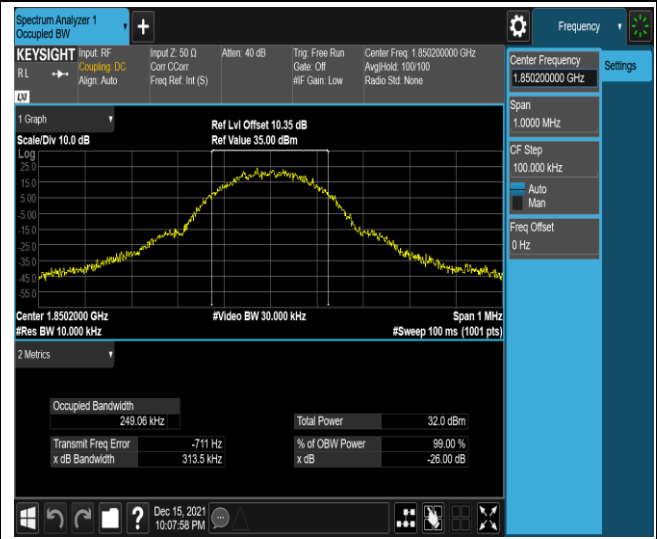


GSM1900-512-0-0.3154

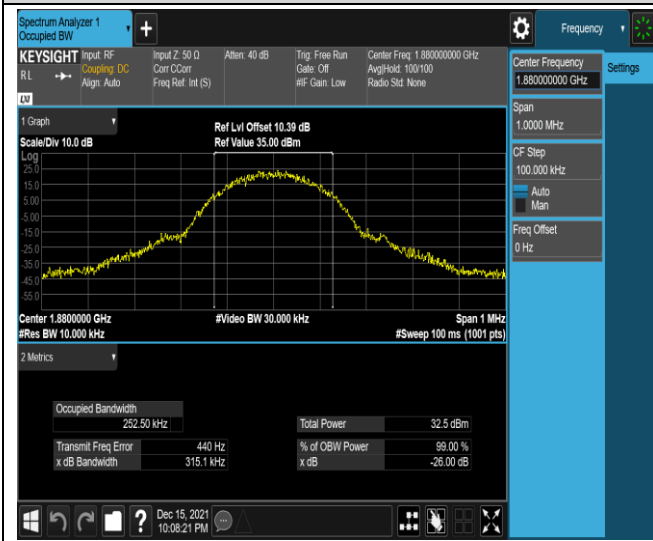
GSM1900-661-0-0.3119



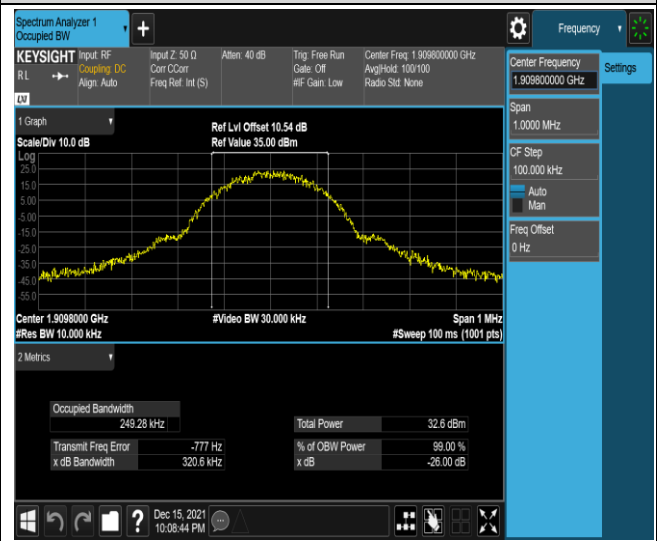
GSM1900-810-0-0.3060



EGPRS1900-512-2-0.3135



EGPRS1900-661-2-0.3151



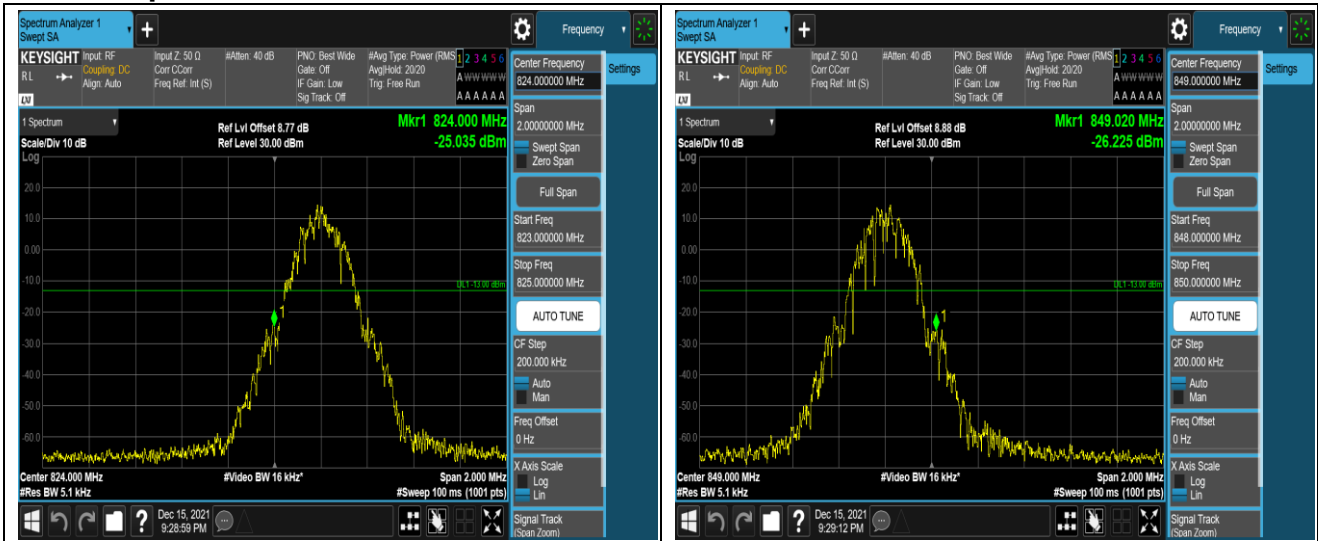
EGPRS1900-810-2-0.3206

Appendix D: Band Edge

Test Result

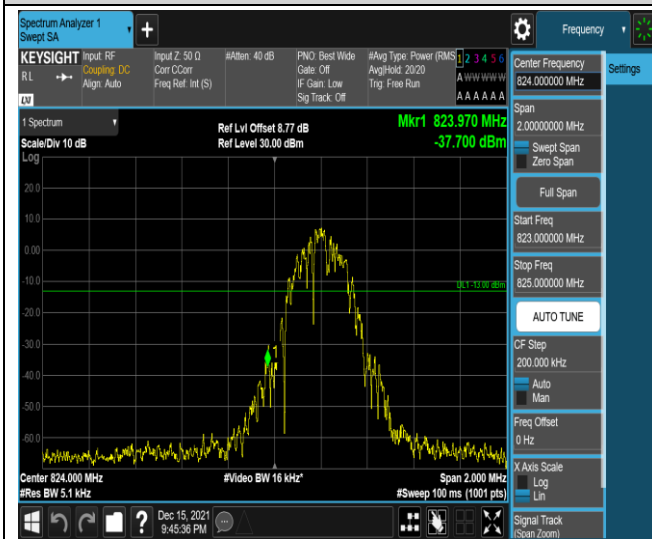
| Band | Channel | PCL | Freq (MHz) | Result (dBm) | Limit(dBm) | Verdict |
|-----------|---------|-----|------------|--------------|------------|---------|
| GSM850 | 128 | 5 | 824.00 | -23.00 | -13 | PASS |
| GSM850 | 251 | 5 | 849.02 | -22.21 | -13 | PASS |
| EGPRS850 | 128 | 8 | 823.97 | -30.63 | -13 | PASS |
| EGPRS850 | 251 | 8 | 849.02 | -31.63 | -13 | PASS |
| GSM1900 | 512 | 0 | 1849.98 | -15.96 | -13 | PASS |
| GSM1900 | 810 | 0 | 1910.02 | -13.63 | -13 | PASS |
| EGPRS1900 | 512 | 2 | 1849.96 | -23.82 | -13 | PASS |
| EGPRS1900 | 810 | 2 | 1910.04 | -21.31 | -13 | PASS |

Test Graphs

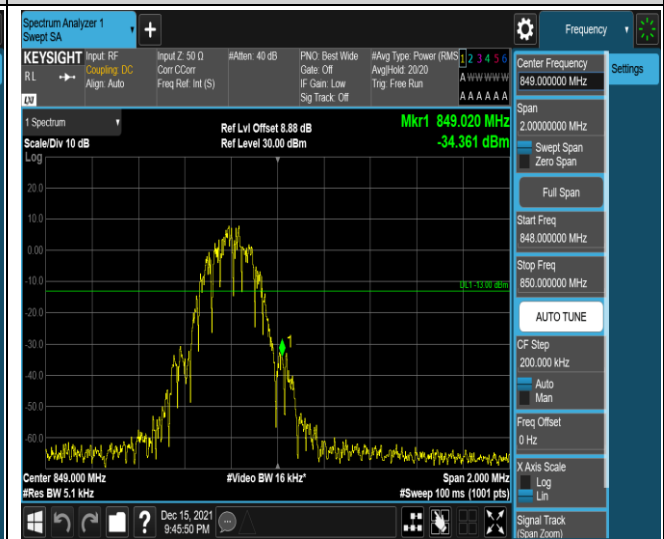


GSM850-128-3

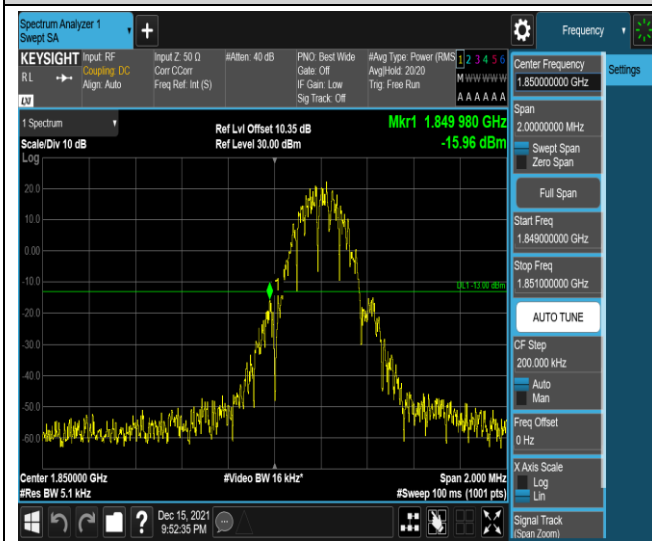
GSM850-251-3



EGPRS850-128-8



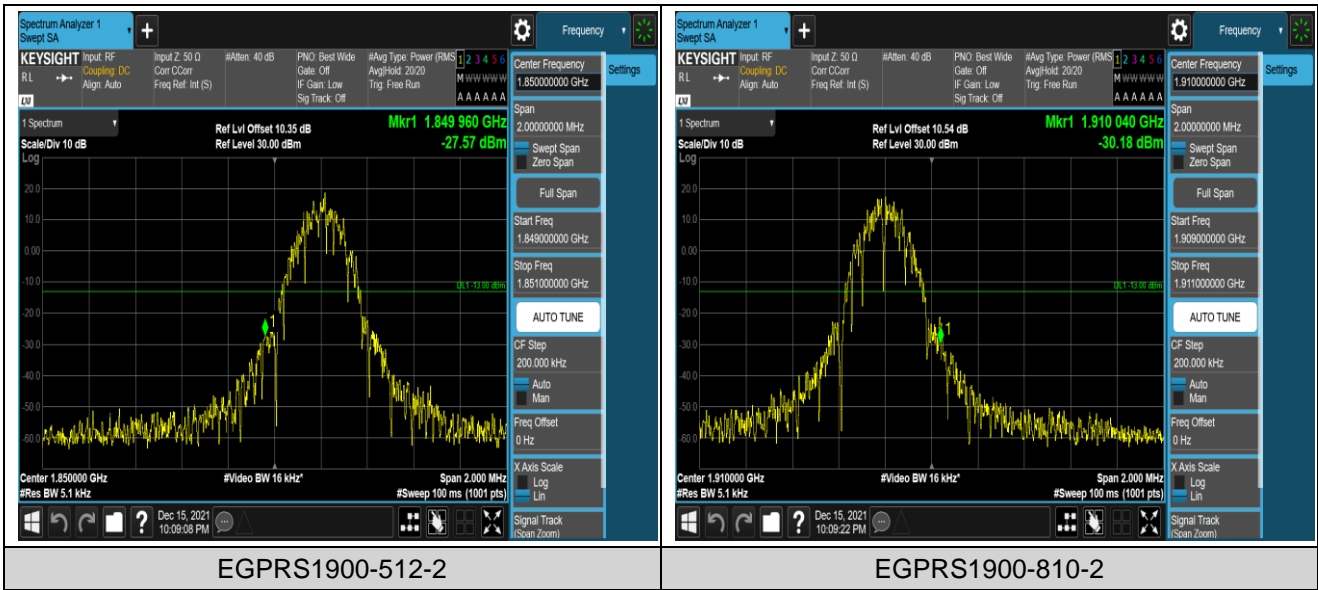
EGPRS850-251-8



GSM1900-512-0



GSM1900-810-0



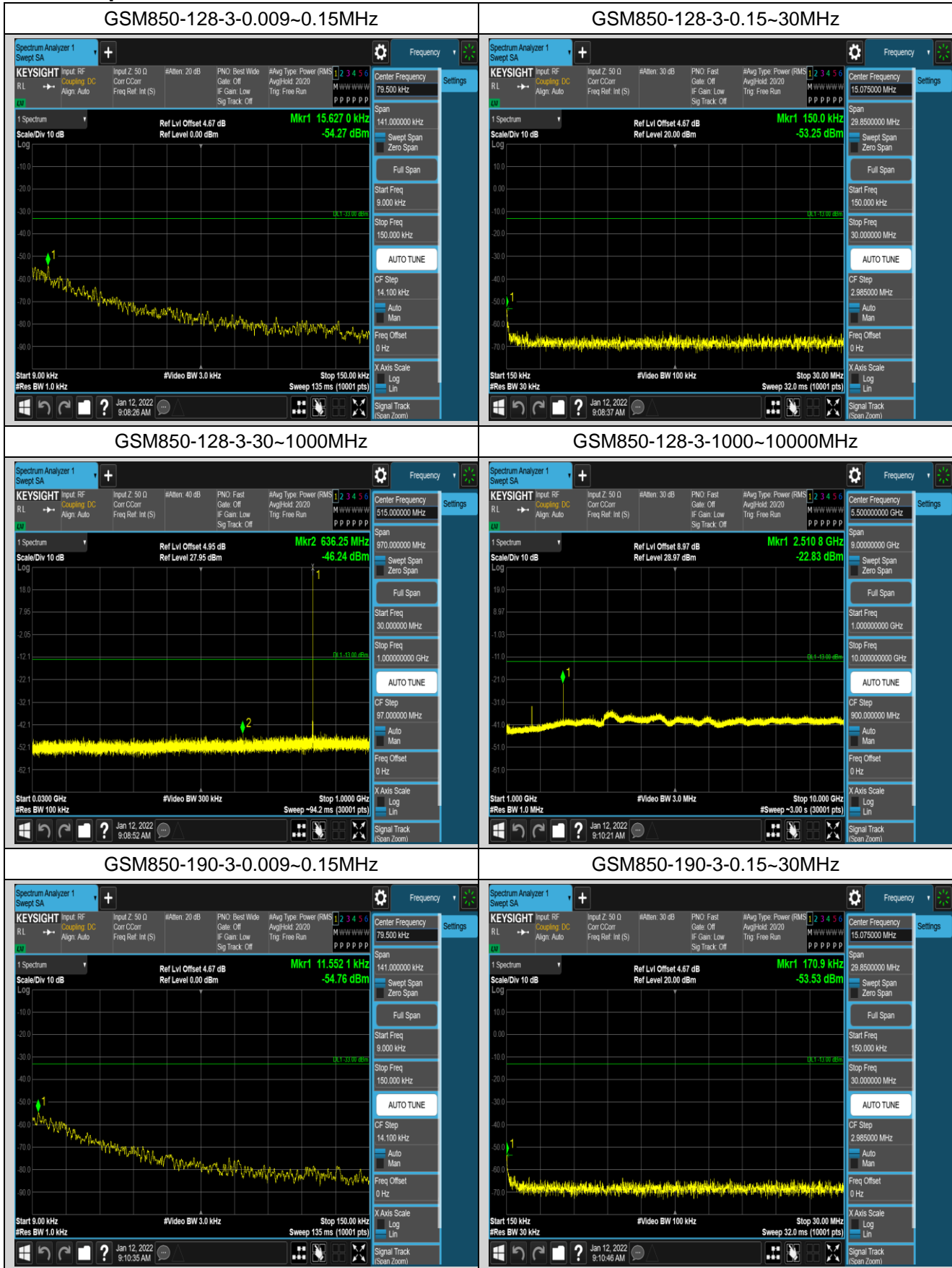
Appendix E: Conducted Spurious Emission

Test Result

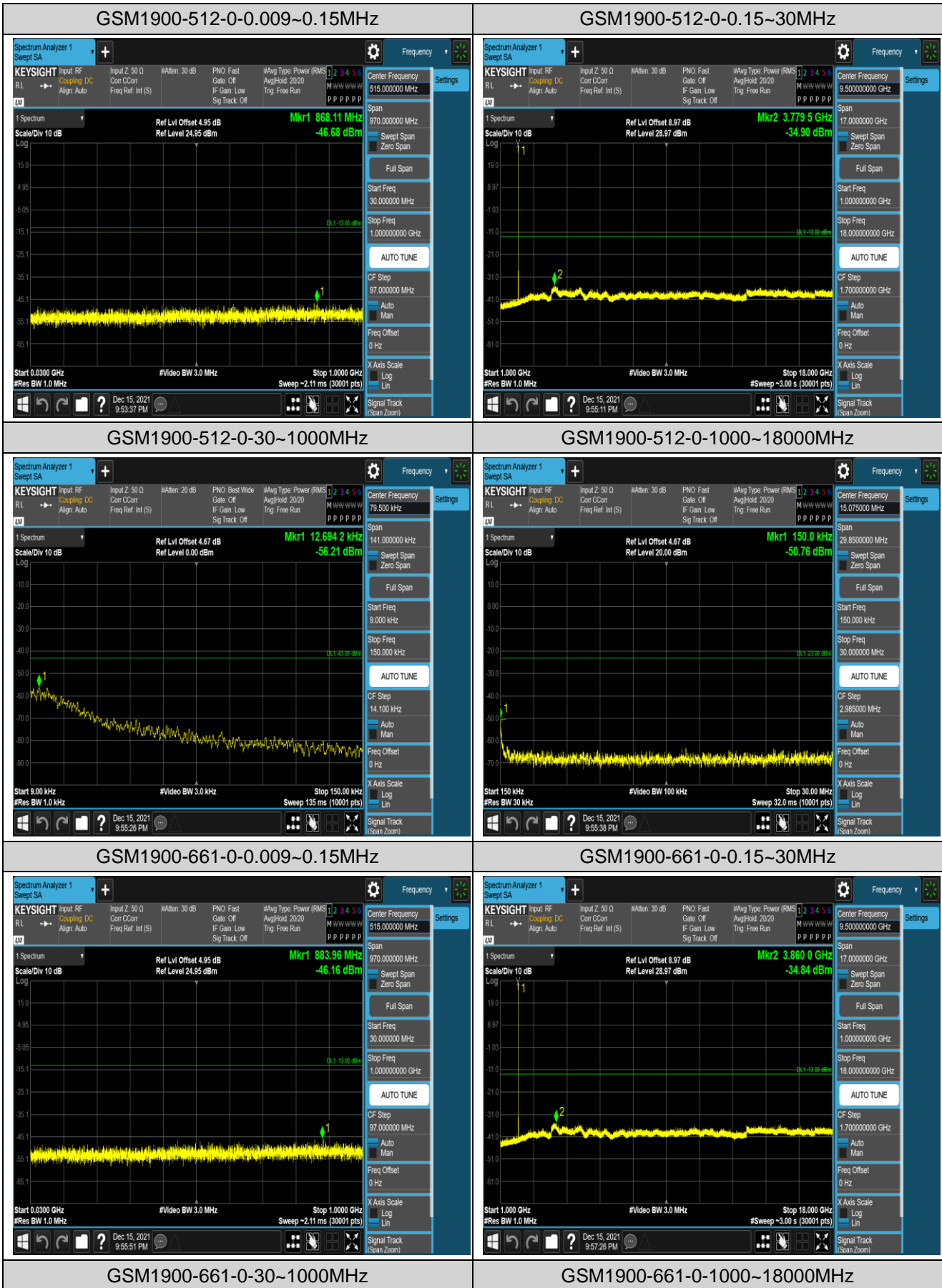
| Band | Channel | PCL | Frequency Range(MHz) | Max.Freq. (MHz) | Result (dBm) | Limit (dBm) | Verdict |
|---------|---------|-----|----------------------|-----------------|--------------|-------------|---------|
| GSM850 | 128 | 5 | 0.009~0.15MHz | 0.02 | -54.27 | -33 | PASS |
| GSM850 | 128 | 5 | 0.15~30MHz | 0.15 | -53.25 | -13 | PASS |
| GSM850 | 128 | 5 | 30~1000MHz | 636.25 | -46.24 | -13 | PASS |
| GSM850 | 128 | 5 | 1000~10000MHz | 2510.8 | -22.83 | -13 | PASS |
| GSM850 | 190 | 5 | 0.009~0.15MHz | 0.01 | -54.76 | -33 | PASS |
| GSM850 | 190 | 5 | 0.15~30MHz | 0.17 | -53.53 | -13 | PASS |
| GSM850 | 190 | 5 | 30~1000MHz | 626.32 | -45.76 | -13 | PASS |
| GSM850 | 190 | 5 | 1000~10000MHz | 2511.1 | -22.9 | -13 | PASS |
| GSM850 | 251 | 5 | 0.009~0.15MHz | 0.01 | -54.31 | -33 | PASS |
| GSM850 | 251 | 5 | 0.15~30MHz | 0.19 | -54.49 | -13 | PASS |
| GSM850 | 251 | 5 | 30~1000MHz | 991.43 | -45.64 | -13 | PASS |
| GSM850 | 251 | 5 | 1000~10000MHz | 2511.1 | -23.07 | -13 | PASS |
| GSM1900 | 512 | 0 | 0.009~0.15MHz | 0.01 | -56.38 | -43 | PASS |
| GSM1900 | 512 | 0 | 0.15~30MHz | 0.15 | -49.81 | -23 | PASS |
| GSM1900 | 512 | 0 | 30~1000MHz | 868.11 | -46.68 | -13 | PASS |
| GSM1900 | 512 | 0 | 1000~18000MHz | 3779.5 | -34.9 | -13 | PASS |
| GSM1900 | 661 | 0 | 0.009~0.15MHz | 0.01 | -56.21 | -43 | PASS |
| GSM1900 | 661 | 0 | 0.15~30MHz | 0.15 | -50.76 | -23 | PASS |
| GSM1900 | 661 | 0 | 30~1000MHz | 883.96 | -46.16 | -13 | PASS |
| GSM1900 | 661 | 0 | 1000~18000MHz | 3859.97 | -34.84 | -13 | PASS |
| GSM1900 | 810 | 0 | 0.009~0.15MHz | 0.01 | -56.05 | -43 | PASS |
| GSM1900 | 810 | 0 | 0.15~30MHz | 0.17 | -53.35 | -23 | PASS |
| GSM1900 | 810 | 0 | 30~1000MHz | 889.68 | -45.97 | -13 | PASS |
| GSM1900 | 810 | 0 | 1000~18000MHz | 3763.07 | -34.03 | -13 | PASS |

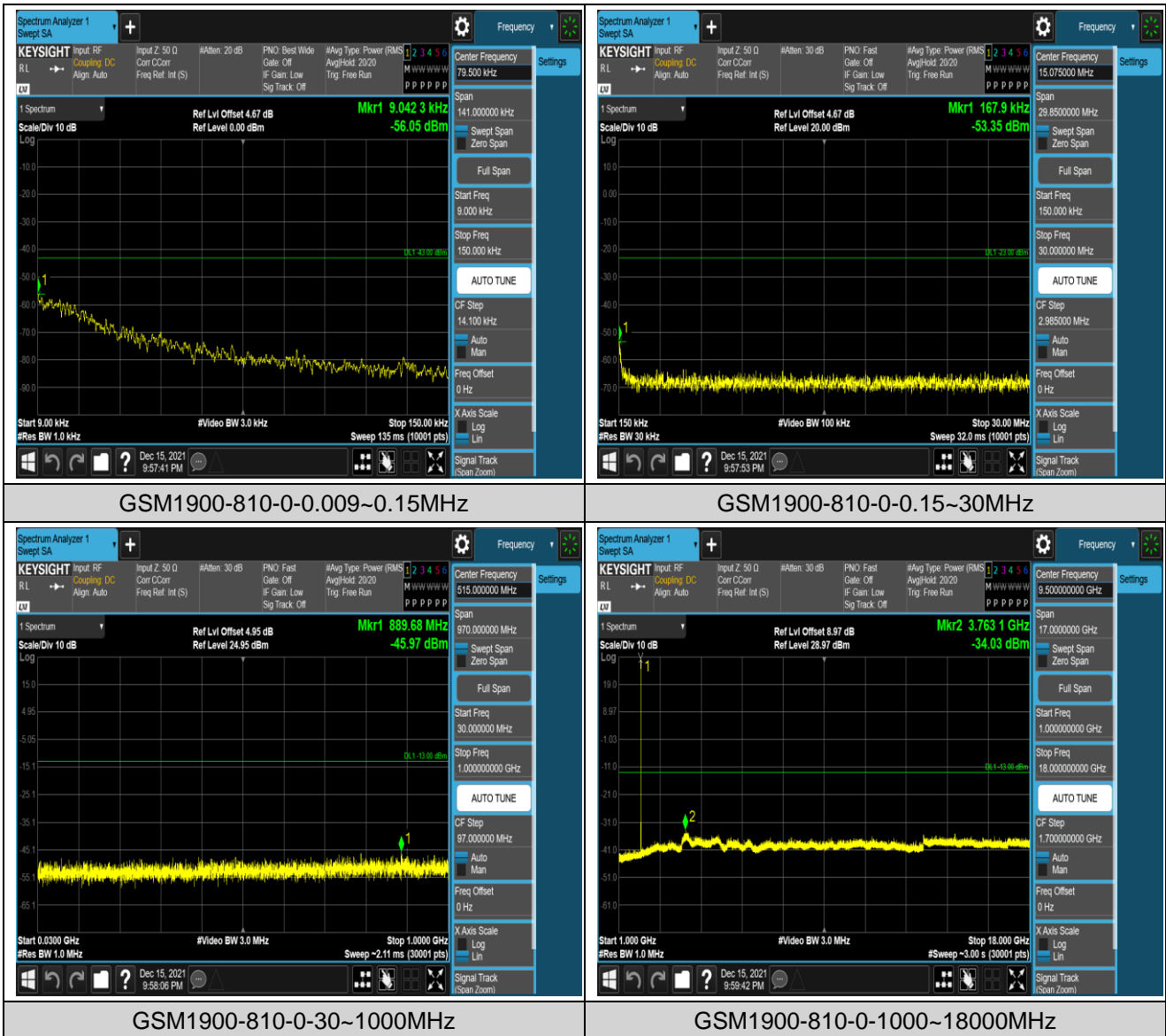
Remark: All channel and all modulation had been tested, but only the worst case data displayed in this report.

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 | -5.42 | -0.006479 | ±2.5 | Pass |
| | -20 | -5.46 | -0.006526 | | |
| | -10 | -1.90 | -0.002271 | | |
| | 0 | -3.03 | -0.003622 | | |
| | 10 | -2.94 | -0.003514 | | |
| | 20 | -3.03 | -0.003622 | | |
| | 30 | -1.84 | -0.002199 | | |
| | 40 | -3.68 | -0.004399 | | |
| | 50 | -5.00 | -0.005977 | | |
| Voltage | | | | | |
| Temperature (°C) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.50 | -2.36 | -0.002821 | ±2.5 | Pass |
| | 3.87 | -2.94 | -0.003514 | | |
| | 4.45 | 0.39 | 0.000466 | | |
| 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 | -8.65 | -0.010339 | ±2.5 | Pass |
| | -20 | -8.20 | -0.009802 | | |
| | -10 | -5.94 | -0.007100 | | |
| | 0 | -0.74 | -0.000885 | | |
| | 10 | -1.07 | -0.001279 | | |
| | 20 | -2.65 | -0.003168 | | |
| | 30 | -4.97 | -0.005941 | | |
| | 40 | -6.72 | -0.008033 | | |
| | 50 | -6.17 | -0.007375 | | |
| Voltage | | | | | |
| Temperature (°C) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.50 | -7.97 | -0.009527 | ±2.5 | Pass |
| | 3.87 | -5.88 | -0.007028 | | |
| | 4.45 | -4.94 | -0.005905 | | |
| <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 | -1.52 | -0.000809 | Within authorized band for PCS 1900 | Pass |
| | -20 | -2.65 | -0.001410 | | |
| | -10 | 1.29 | 0.000686 | | |
| | 0 | -7.65 | -0.004069 | | |
| | 10 | -3.81 | -0.002027 | | |
| | 20 | -2.87 | -0.001527 | | |
| | 30 | -3.49 | -0.001856 | | |
| | 40 | -0.65 | -0.000346 | | |
| | 50 | -5.52 | -0.002936 | | |
| Voltage | | | | | |
| Temperature (°C) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.50 | 4.97 | 0.002644 | Within authorized band for PCS 1900 | Pass |
| | 3.87 | 0.68 | 0.000362 | | |
| | 4.45 | -5.26 | -0.002798 | | |
| <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 | -16.18 | -0.008606 | Within authorized band for PCS 1900 | Pass |
| | -20 | -8.72 | -0.004638 | | |
| | -10 | -5.29 | -0.002814 | | |
| | 0 | -7.26 | -0.003862 | | |
| | 10 | -11.95 | -0.006356 | | |
| | 20 | -8.88 | -0.004723 | | |
| | 30 | -17.31 | -0.009207 | | |
| | 40 | -15.21 | -0.008090 | | |
| | 50 | -14.21 | -0.007559 | | |
| Voltage | | | | | |
| Temperature (°C) | Power supplied (Vdc) | Frequency error | | Limit (ppm) | Result |
| | | Hz | ppm | | |
| 25 | 3.50 | -13.79 | -0.007335 | Within authorized band for PCS 1900 | Pass |
| | 3.87 | -14.43 | -0.007676 | | |
| | 4.45 | -14.88 | -0.007915 | | |
| <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

