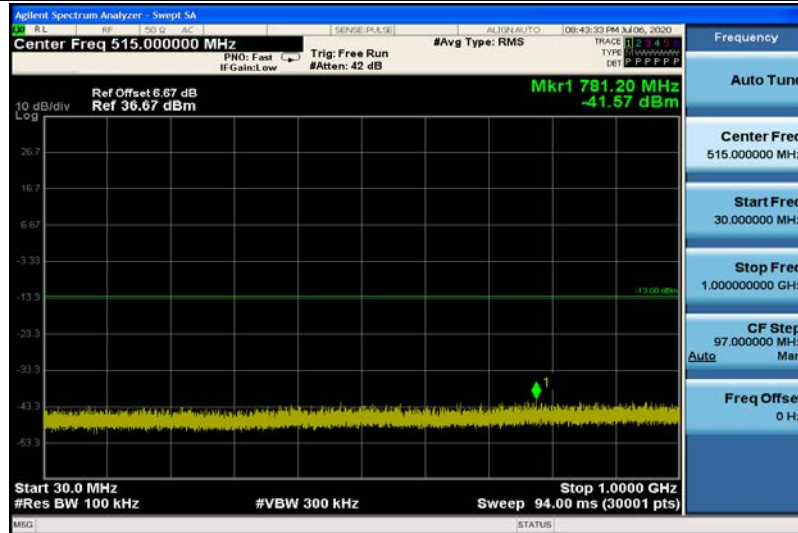
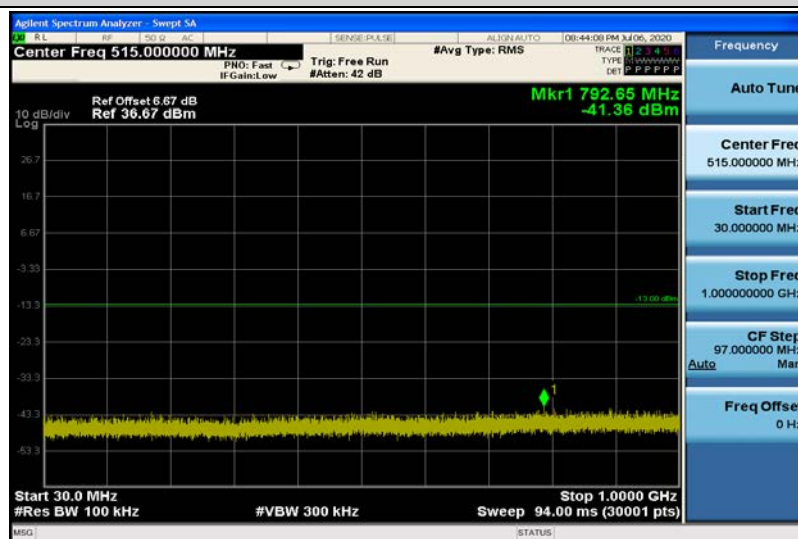




GPRS1900-512-30~1000



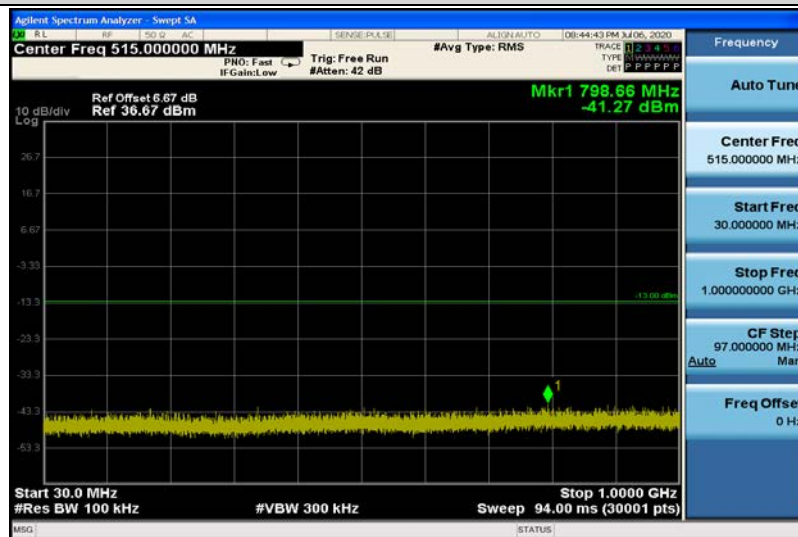
GPRS1900-512-1000~20000



GPRS1900-661-30~1000



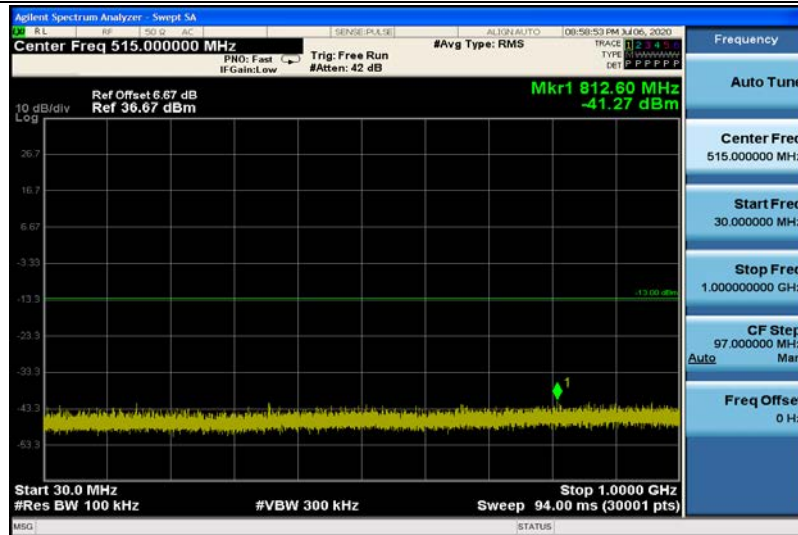
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GPRS1900-810-30~1000



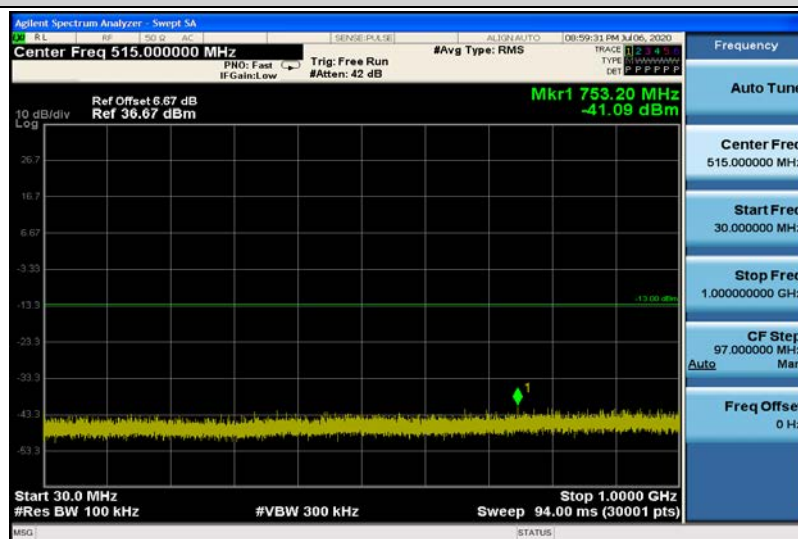
GPRS1900-810-1000~20000



EGPRS1900-512-30~1000



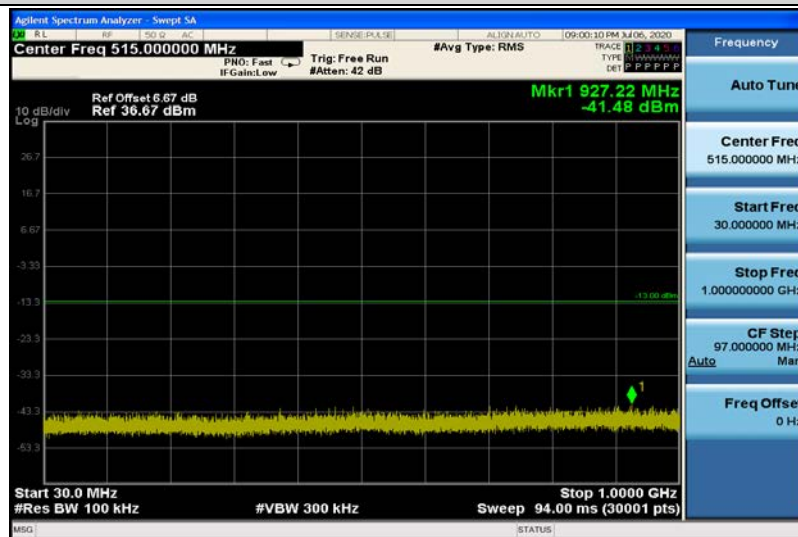
EGPRS1900-512-1000~20000



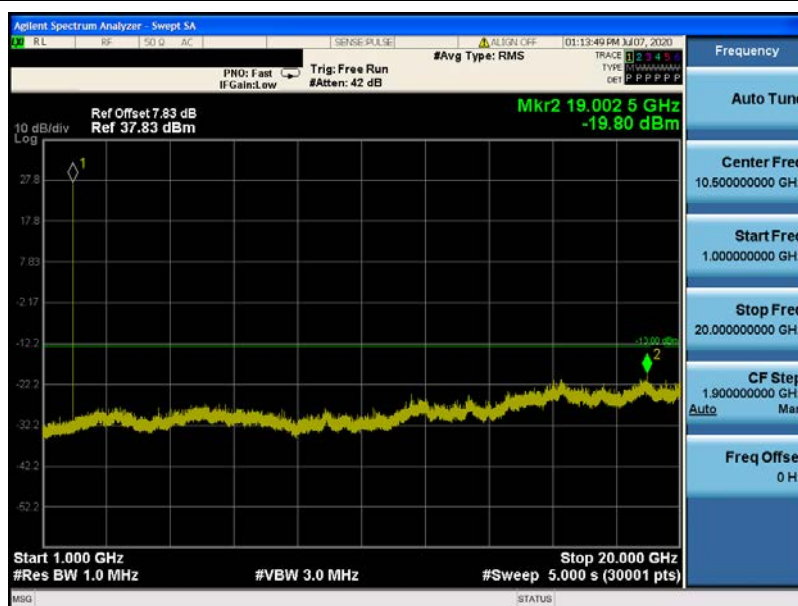
EGPRS1900-661-30~1000



EGPRS1900-661-1000~20000



EGPRS1900-810-30~1000



EGPRS1900-810-1000~20000



## 8.6 Appendix F: Frequency Stability

### Test Result

| Voltage   |         |               |                  |                |                 |             |         |
|-----------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band      | Channel | Voltage (Vdc) | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| GPRS850   | 128     | VL            | TN               | 17.40          | 0.021114        | 2.5         | PASS    |
| GPRS850   | 128     | VN            | TN               | -1.13          | -0.001371       | 2.5         | PASS    |
| GPRS850   | 128     | VH            | TN               | 2.07           | 0.002507        | 2.5         | PASS    |
| GPRS850   | 190     | VL            | TN               | 15.05          | 0.017984        | 2.5         | PASS    |
| GPRS850   | 190     | VN            | TN               | 5.49           | 0.006561        | 2.5         | PASS    |
| GPRS850   | 190     | VH            | TN               | 9.85           | 0.011770        | 2.5         | PASS    |
| GPRS850   | 251     | VL            | TN               | 12.85          | 0.015139        | 2.5         | PASS    |
| GPRS850   | 251     | VN            | TN               | 8.88           | 0.010460        | 2.5         | PASS    |
| GPRS850   | 251     | VH            | TN               | 9.98           | 0.011753        | 2.5         | PASS    |
| EGPRS850  | 128     | VL            | TN               | -2.42          | -0.002938       | 2.5         | PASS    |
| EGPRS850  | 128     | VN            | TN               | -2.52          | -0.003055       | 2.5         | PASS    |
| EGPRS850  | 128     | VH            | TN               | -14.11         | -0.017118       | 2.5         | PASS    |
| EGPRS850  | 190     | VL            | TN               | -1.19          | -0.001428       | 2.5         | PASS    |
| EGPRS850  | 190     | VN            | TN               | 5.81           | 0.006947        | 2.5         | PASS    |
| EGPRS850  | 190     | VH            | TN               | 3.45           | 0.004129        | 2.5         | PASS    |
| EGPRS850  | 251     | VL            | TN               | 4.55           | 0.005363        | 2.5         | PASS    |
| EGPRS850  | 251     | VN            | TN               | 0.39           | 0.000456        | 2.5         | PASS    |
| EGPRS850  | 251     | VH            | TN               | -3.49          | -0.004108       | 2.5         | PASS    |
| GPRS1900  | 512     | VL            | TN               | 13.20          | 0.007137        | 2.5         | PASS    |
| GPRS1900  | 512     | VN            | TN               | 17.72          | 0.009580        | 2.5         | PASS    |
| GPRS1900  | 512     | VH            | TN               | 19.40          | 0.010487        | 2.5         | PASS    |
| GPRS1900  | 661     | VL            | TN               | -8.07          | -0.004293       | 2.5         | PASS    |
| GPRS1900  | 661     | VN            | TN               | 10.72          | 0.005702        | 2.5         | PASS    |
| GPRS1900  | 661     | VH            | TN               | 1.97           | 0.001048        | 2.5         | PASS    |
| GPRS1900  | 810     | VL            | TN               | 1.32           | 0.000693        | 2.5         | PASS    |
| GPRS1900  | 810     | VN            | TN               | 1.39           | 0.000727        | 2.5         | PASS    |
| GPRS1900  | 810     | VH            | TN               | 4.23           | 0.002215        | 2.5         | PASS    |
| EGPRS1900 | 512     | VL            | TN               | -5.04          | -0.002722       | 2.5         | PASS    |
| EGPRS1900 | 512     | VN            | TN               | 18.47          | 0.009981        | 2.5         | PASS    |
| EGPRS1900 | 512     | VH            | TN               | 3.84           | 0.002077        | 2.5         | PASS    |
| EGPRS1900 | 661     | VL            | TN               | 9.56           | 0.005083        | 2.5         | PASS    |
| EGPRS1900 | 661     | VN            | TN               | 5.55           | 0.002954        | 2.5         | PASS    |
| EGPRS1900 | 661     | VH            | TN               | 1.94           | 0.001030        | 2.5         | PASS    |
| EGPRS1900 | 810     | VL            | TN               | 1.97           | 0.001031        | 2.5         | PASS    |
| EGPRS1900 | 810     | VN            | TN               | 6.04           | 0.003161        | 2.5         | PASS    |

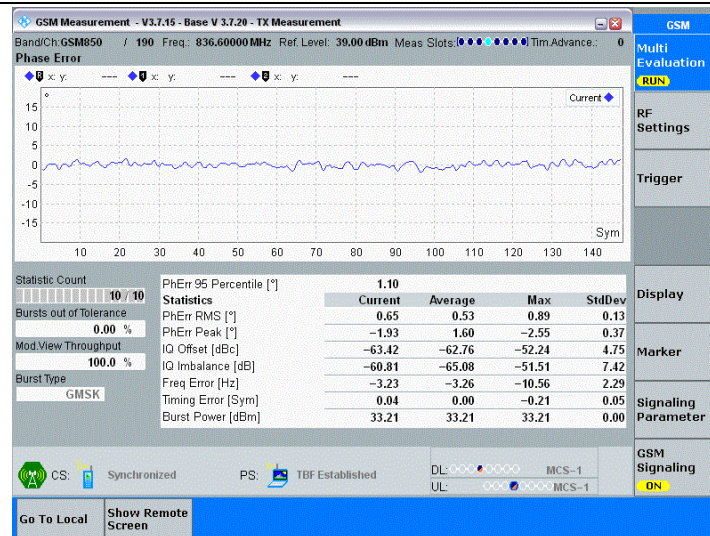
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|-----------|-----|----|----|--------|-----------|-----|------|
| EGPRS1900 | 810 | VH | TN | -13.01 | -0.006813 | 2.5 | PASS |
|-----------|-----|----|----|--------|-----------|-----|------|

| Temperature |         |               |                  |                |                 |             |         |
|-------------|---------|---------------|------------------|----------------|-----------------|-------------|---------|
| Band        | Channel | Voltage (Vdc) | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| GPRS850     | 128     | VN            | -30              | 8.14           | 0.009871        | 2.5         | PASS    |
| GPRS850     | 128     | VN            | -20              | 9.78           | 0.011869        | 2.5         | PASS    |
| GPRS850     | 128     | VN            | -10              | 0.94           | 0.001136        | 2.5         | PASS    |
| GPRS850     | 128     | VN            | 0                | 13.04          | 0.015826        | 2.5         | PASS    |
| GPRS850     | 128     | VN            | 10               | 8.10           | 0.009832        | 2.5         | PASS    |
| GPRS850     | 128     | VN            | 20               | 7.10           | 0.008618        | 2.5         | PASS    |
| GPRS850     | 128     | VN            | 30               | 11.27          | 0.013671        | 2.5         | PASS    |
| GPRS850     | 128     | VN            | 40               | 10.85          | 0.013162        | 2.5         | PASS    |
| GPRS850     | 128     | VN            | 50               | 7.72           | 0.009362        | 2.5         | PASS    |
| GPRS850     | 190     | VN            | -30              | 7.39           | 0.008838        | 2.5         | PASS    |
| GPRS850     | 190     | VN            | -20              | 6.07           | 0.007255        | 2.5         | PASS    |
| GPRS850     | 190     | VN            | -10              | 0.36           | 0.000425        | 2.5         | PASS    |
| GPRS850     | 190     | VN            | 0                | 10.01          | 0.011963        | 2.5         | PASS    |
| GPRS850     | 190     | VN            | 10               | 8.65           | 0.010343        | 2.5         | PASS    |
| GPRS850     | 190     | VN            | 20               | 10.01          | 0.011963        | 2.5         | PASS    |
| GPRS850     | 190     | VN            | 30               | 12.49          | 0.014935        | 2.5         | PASS    |
| GPRS850     | 190     | VN            | 40               | 9.30           | 0.011114        | 2.5         | PASS    |
| GPRS850     | 190     | VN            | 50               | 10.27          | 0.012272        | 2.5         | PASS    |
| GPRS850     | 251     | VN            | -30              | 3.13           | 0.003690        | 2.5         | PASS    |
| GPRS850     | 251     | VN            | -20              | 4.65           | 0.005477        | 2.5         | PASS    |
| GPRS850     | 251     | VN            | -10              | 5.20           | 0.006124        | 2.5         | PASS    |
| GPRS850     | 251     | VN            | 0                | 10.88          | 0.012818        | 2.5         | PASS    |
| GPRS850     | 251     | VN            | 10               | 8.33           | 0.009814        | 2.5         | PASS    |
| GPRS850     | 251     | VN            | 20               | 6.94           | 0.008178        | 2.5         | PASS    |
| GPRS850     | 251     | VN            | 30               | 6.13           | 0.007227        | 2.5         | PASS    |
| GPRS850     | 251     | VN            | 40               | 4.91           | 0.005782        | 2.5         | PASS    |
| GPRS850     | 251     | VN            | 50               | 4.26           | 0.005021        | 2.5         | PASS    |
| EGPRS850    | 128     | VN            | -30              | -0.71          | -0.000862       | 2.5         | PASS    |
| EGPRS850    | 128     | VN            | -20              | -2.62          | -0.003173       | 2.5         | PASS    |
| EGPRS850    | 128     | VN            | -10              | 0.52           | 0.000627        | 2.5         | PASS    |
| EGPRS850    | 128     | VN            | 0                | -4.26          | -0.005171       | 2.5         | PASS    |
| EGPRS850    | 128     | VN            | 10               | -4.10          | -0.004975       | 2.5         | PASS    |
| EGPRS850    | 128     | VN            | 20               | 2.58           | 0.003134        | 2.5         | PASS    |
| EGPRS850    | 128     | VN            | 30               | 2.16           | 0.002625        | 2.5         | PASS    |
| EGPRS850    | 128     | VN            | 40               | 4.71           | 0.005719        | 2.5         | PASS    |
| EGPRS850    | 128     | VN            | 50               | -7.85          | -0.009519       | 2.5         | PASS    |
| EGPRS850    | 190     | VN            | -30              | -8.20          | -0.009802       | 2.5         | PASS    |
| EGPRS850    | 190     | VN            | -20              | -3.07          | -0.003666       | 2.5         | PASS    |

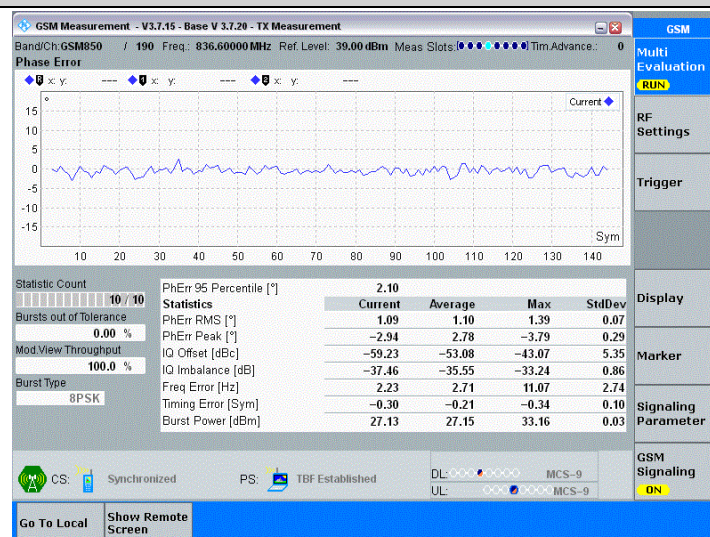
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| EGPRS850 | 190 | VN | -10 | 2.00  | 0.002393  | 2.5 | PASS |
| EGPRS850 | 190 | VN | 0   | 4.00  | 0.004785  | 2.5 | PASS |
| EGPRS850 | 190 | VN | 10  | 1.32  | 0.001582  | 2.5 | PASS |
| EGPRS850 | 190 | VN | 20  | -1.36 | -0.001621 | 2.5 | PASS |
| EGPRS850 | 190 | VN | 30  | 1.32  | 0.001582  | 2.5 | PASS |
| EGPRS850 | 190 | VN | 40  | 1.68  | 0.002007  | 2.5 | PASS |
| EGPRS850 | 190 | VN | 50  | 0.26  | 0.000309  | 2.5 | PASS |
| EGPRS850 | 251 | VN | -30 | -5.36 | -0.006314 | 2.5 | PASS |
| EGPRS850 | 251 | VN | -20 | 2.84  | 0.003347  | 2.5 | PASS |
| EGPRS850 | 251 | VN | -10 | -2.45 | -0.002891 | 2.5 | PASS |
| EGPRS850 | 251 | VN | 0   | -1.87 | -0.002206 | 2.5 | PASS |
| EGPRS850 | 251 | VN | 10  | -2.16 | -0.002548 | 2.5 | PASS |
| EGPRS850 | 251 | VN | 20  | 0.23  | 0.000266  | 2.5 | PASS |
| EGPRS850 | 251 | VN | 30  | 3.55  | 0.004184  | 2.5 | PASS |
| EGPRS850 | 251 | VN | 40  | -0.52 | -0.000609 | 2.5 | PASS |
| EGPRS850 | 251 | VN | 50  | -2.23 | -0.002625 | 2.5 | PASS |
| GPRS1900 | 512 | VN | -30 | 13.43 | 0.007259  | 2.5 | PASS |
| GPRS1900 | 512 | VN | -20 | 17.66 | 0.009545  | 2.5 | PASS |
| GPRS1900 | 512 | VN | -10 | 8.17  | 0.004415  | 2.5 | PASS |
| GPRS1900 | 512 | VN | 0   | 4.68  | 0.002530  | 2.5 | PASS |
| GPRS1900 | 512 | VN | 10  | 14.24 | 0.007695  | 2.5 | PASS |
| GPRS1900 | 512 | VN | 20  | -7.62 | -0.004118 | 2.5 | PASS |
| GPRS1900 | 512 | VN | 30  | 5.49  | 0.002966  | 2.5 | PASS |
| GPRS1900 | 512 | VN | 40  | 12.82 | 0.006928  | 2.5 | PASS |
| GPRS1900 | 512 | VN | 50  | 10.82 | 0.005846  | 2.5 | PASS |
| GPRS1900 | 661 | VN | -30 | -1.32 | -0.000704 | 2.5 | PASS |
| GPRS1900 | 661 | VN | -20 | -3.62 | -0.001923 | 2.5 | PASS |
| GPRS1900 | 661 | VN | -10 | -3.45 | -0.001838 | 2.5 | PASS |
| GPRS1900 | 661 | VN | 0   | 6.94  | 0.003692  | 2.5 | PASS |
| GPRS1900 | 661 | VN | 10  | -1.10 | -0.000584 | 2.5 | PASS |
| GPRS1900 | 661 | VN | 20  | 15.56 | 0.008278  | 2.5 | PASS |
| GPRS1900 | 661 | VN | 30  | 5.71  | 0.003040  | 2.5 | PASS |
| GPRS1900 | 661 | VN | 40  | -6.42 | -0.003417 | 2.5 | PASS |
| GPRS1900 | 661 | VN | 50  | -2.74 | -0.001460 | 2.5 | PASS |
| GPRS1900 | 810 | VN | -30 | 5.46  | 0.002857  | 2.5 | PASS |
| GPRS1900 | 810 | VN | -20 | 4.78  | 0.002502  | 2.5 | PASS |
| GPRS1900 | 810 | VN | -10 | 2.91  | 0.001521  | 2.5 | PASS |
| GPRS1900 | 810 | VN | 0   | 5.49  | 0.002874  | 2.5 | PASS |
| GPRS1900 | 810 | VN | 10  | 5.65  | 0.002958  | 2.5 | PASS |
| GPRS1900 | 810 | VN | 20  | 6.68  | 0.003499  | 2.5 | PASS |
| GPRS1900 | 810 | VN | 30  | 4.58  | 0.002401  | 2.5 | PASS |
| GPRS1900 | 810 | VN | 40  | 1.61  | 0.000845  | 2.5 | PASS |

|           |     |    |     |       |           |     |      |
|-----------|-----|----|-----|-------|-----------|-----|------|
| GPRS1900  | 810 | VN | 50  | 4.42  | 0.002316  | 2.5 | PASS |
| EGPRS1900 | 512 | VN | -30 | 0.68  | 0.000366  | 2.5 | PASS |
| EGPRS1900 | 512 | VN | -20 | 1.16  | 0.000628  | 2.5 | PASS |
| EGPRS1900 | 512 | VN | -10 | 16.24 | 0.008777  | 2.5 | PASS |
| EGPRS1900 | 512 | VN | 0   | 5.26  | 0.002844  | 2.5 | PASS |
| EGPRS1900 | 512 | VN | 10  | 8.23  | 0.004450  | 2.5 | PASS |
| EGPRS1900 | 512 | VN | 20  | -9.56 | -0.005165 | 2.5 | PASS |
| EGPRS1900 | 512 | VN | 30  | 7.33  | 0.003961  | 2.5 | PASS |
| EGPRS1900 | 512 | VN | 40  | 6.49  | 0.003507  | 2.5 | PASS |
| EGPRS1900 | 512 | VN | 50  | -2.94 | -0.001588 | 2.5 | PASS |
| EGPRS1900 | 661 | VN | -30 | -5.00 | -0.002662 | 2.5 | PASS |
| EGPRS1900 | 661 | VN | -20 | -0.16 | -0.000086 | 2.5 | PASS |
| EGPRS1900 | 661 | VN | -10 | 3.33  | 0.001769  | 2.5 | PASS |
| EGPRS1900 | 661 | VN | 0   | 1.84  | 0.000979  | 2.5 | PASS |
| EGPRS1900 | 661 | VN | 10  | -2.74 | -0.001460 | 2.5 | PASS |
| EGPRS1900 | 661 | VN | 20  | -8.04 | -0.004276 | 2.5 | PASS |
| EGPRS1900 | 661 | VN | 30  | 7.20  | 0.003830  | 2.5 | PASS |
| EGPRS1900 | 661 | VN | 40  | 0.87  | 0.000464  | 2.5 | PASS |
| EGPRS1900 | 661 | VN | 50  | 2.26  | 0.001202  | 2.5 | PASS |
| EGPRS1900 | 810 | VN | -30 | -6.84 | -0.003584 | 2.5 | PASS |
| EGPRS1900 | 810 | VN | -20 | -3.16 | -0.001657 | 2.5 | PASS |
| EGPRS1900 | 810 | VN | -10 | -0.13 | -0.000068 | 2.5 | PASS |
| EGPRS1900 | 810 | VN | 0   | 0.87  | 0.000456  | 2.5 | PASS |
| EGPRS1900 | 810 | VN | 10  | 2.65  | 0.001386  | 2.5 | PASS |
| EGPRS1900 | 810 | VN | 20  | 7.01  | 0.003668  | 2.5 | PASS |
| EGPRS1900 | 810 | VN | 30  | -0.29 | -0.000152 | 2.5 | PASS |
| EGPRS1900 | 810 | VN | 40  | 3.49  | 0.001826  | 2.5 | PASS |
| EGPRS1900 | 810 | VN | 50  | -2.49 | -0.001302 | 2.5 | PASS |

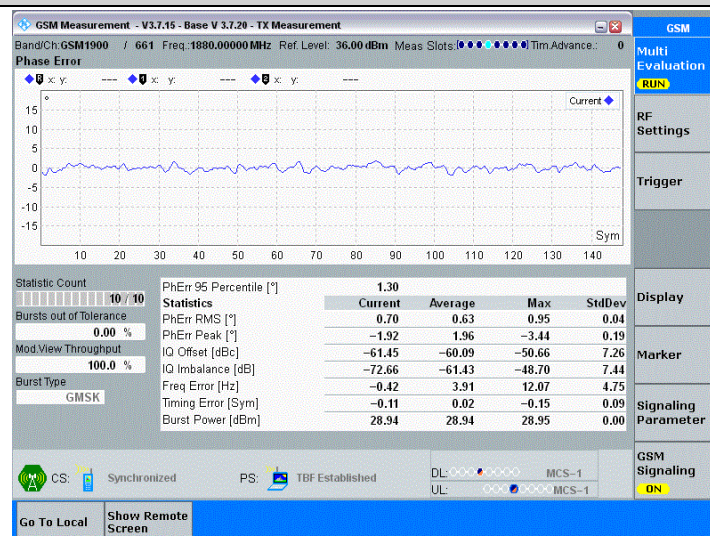
## Test Result



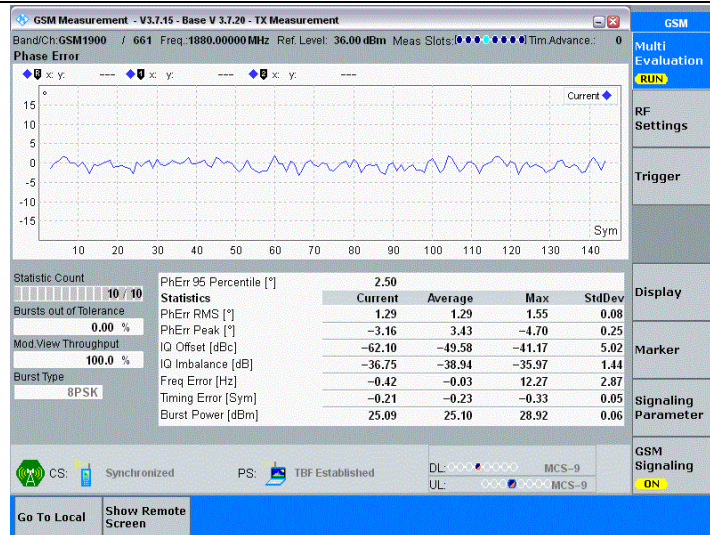
GPRS850-PE



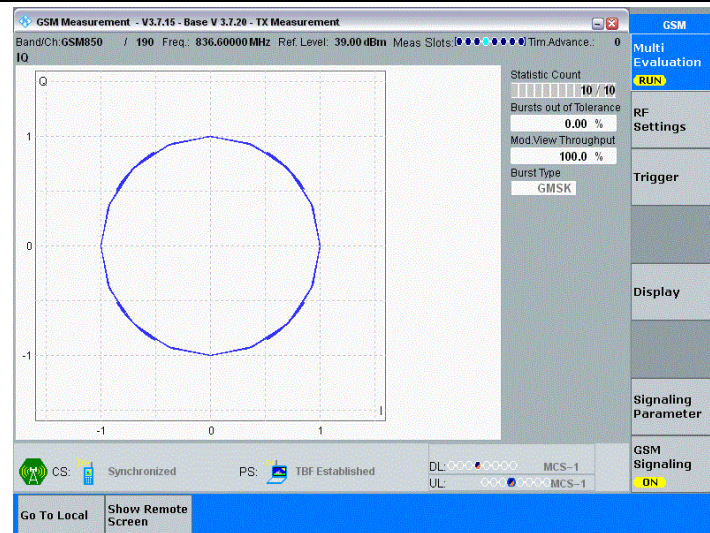
EGPRS850-PE



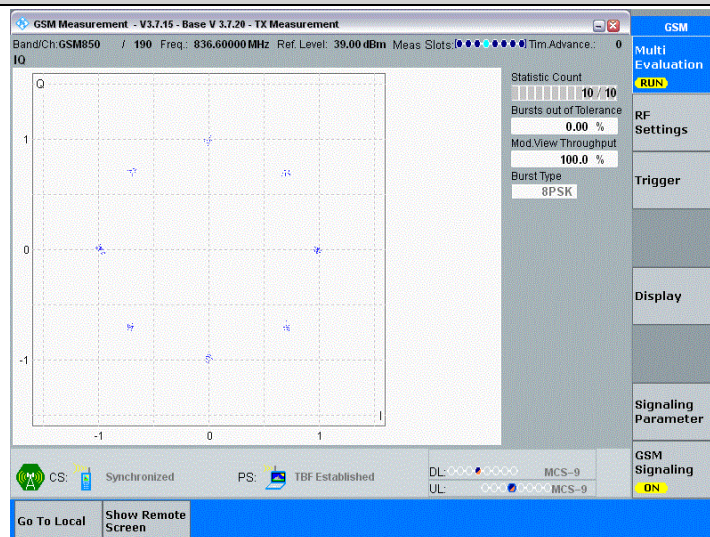
GPRS190-PE



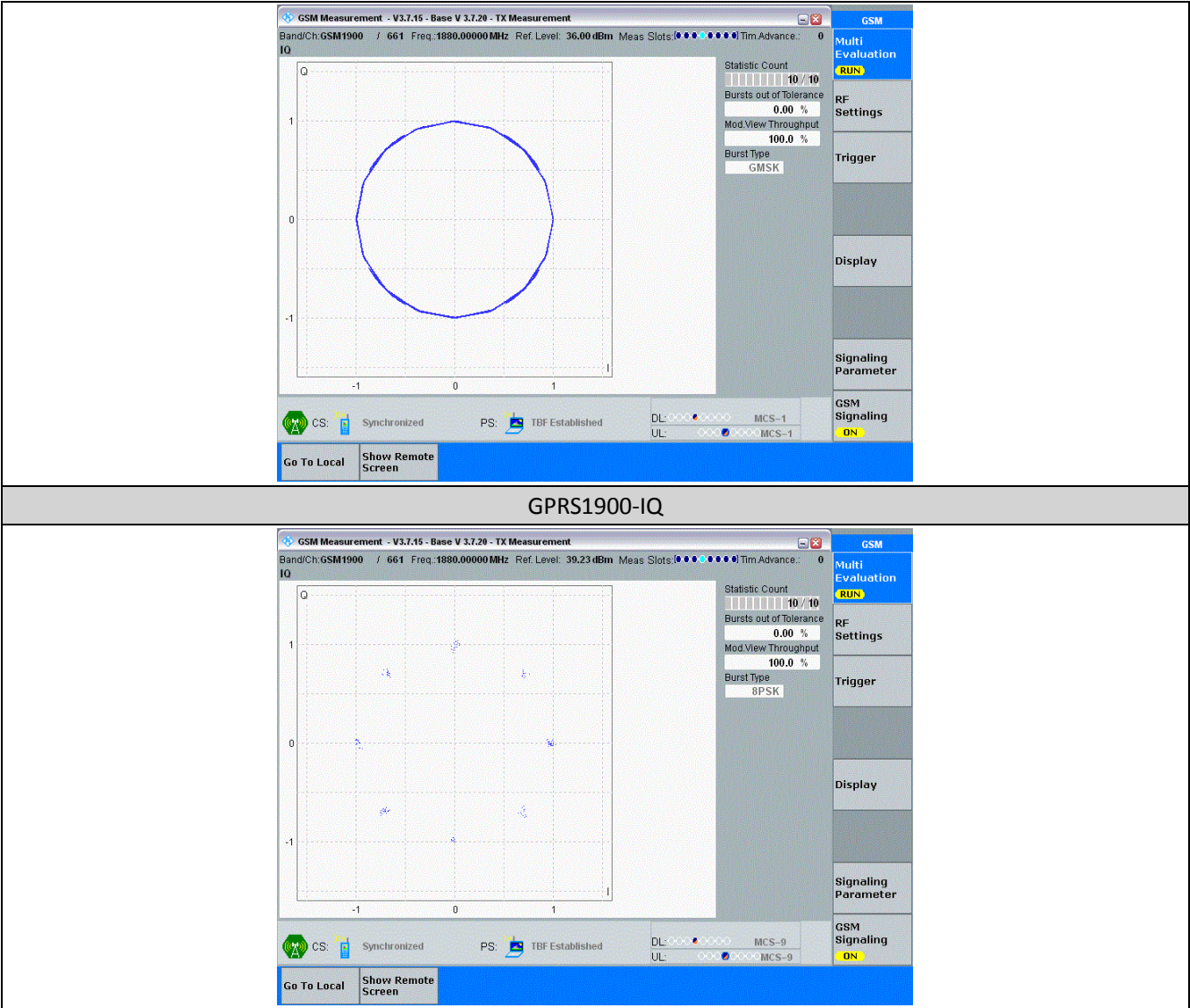
## EGPRS190-PE



## GPRS850-IQ



## EGPRS850-IQ



-----End of the Report -----