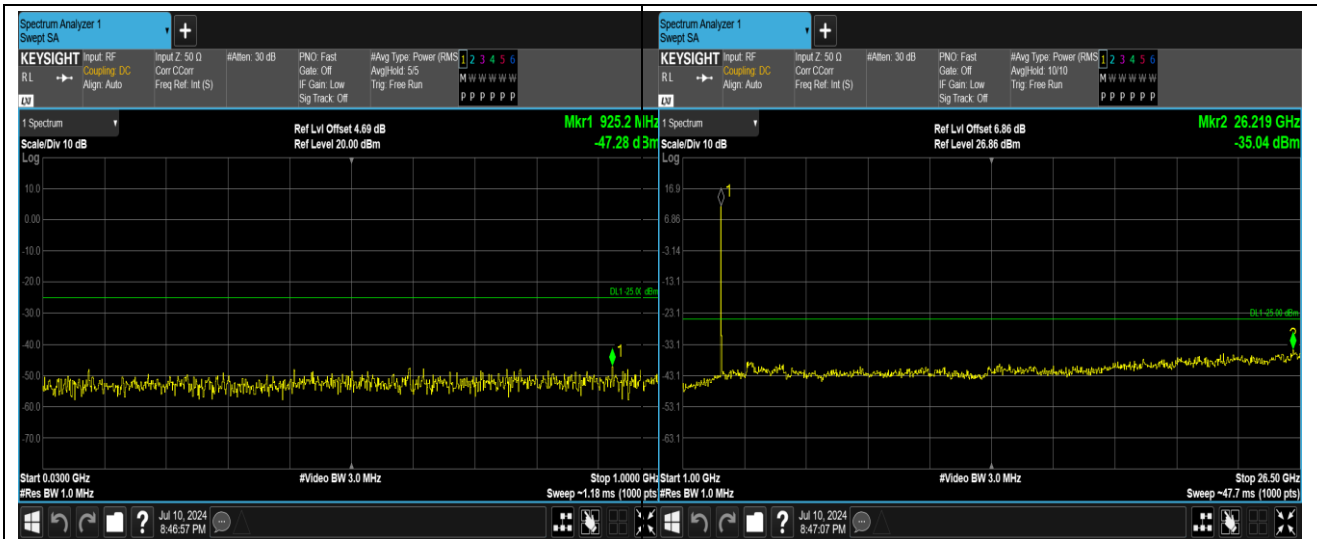
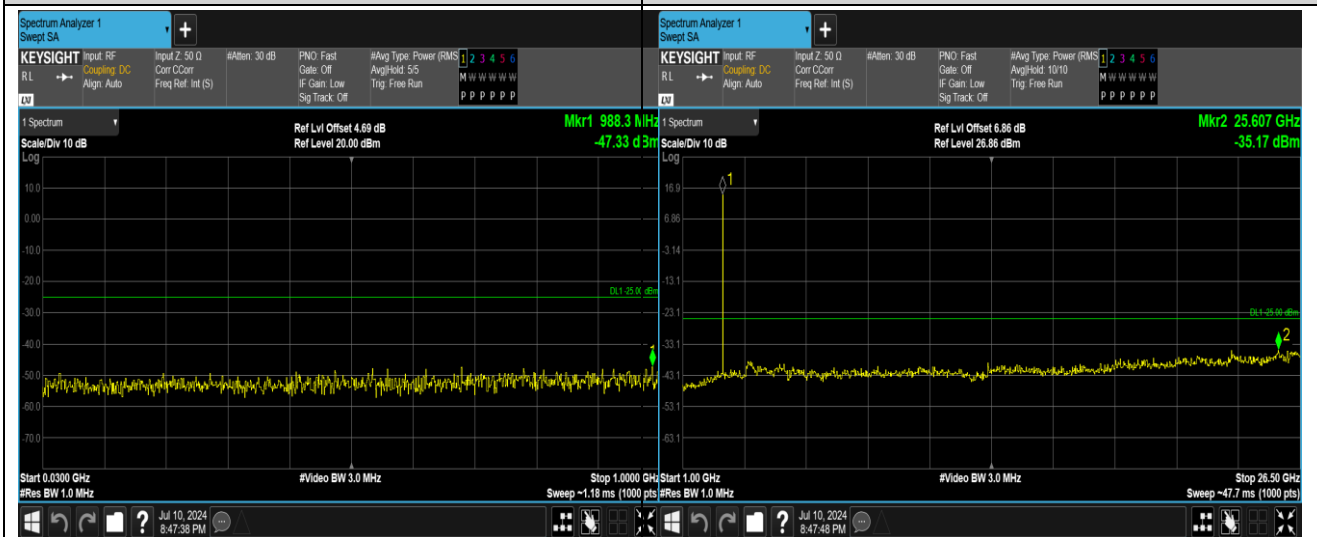




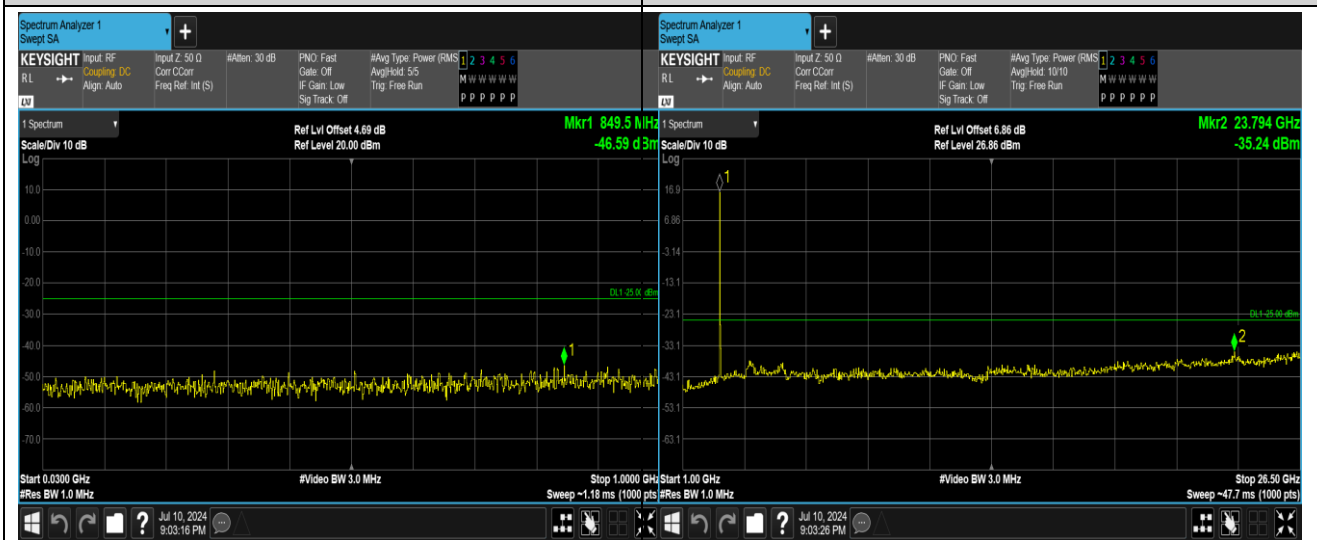
Band41-5MHz-16QAM-41215-1RB#0-Range1:30~1000MHz

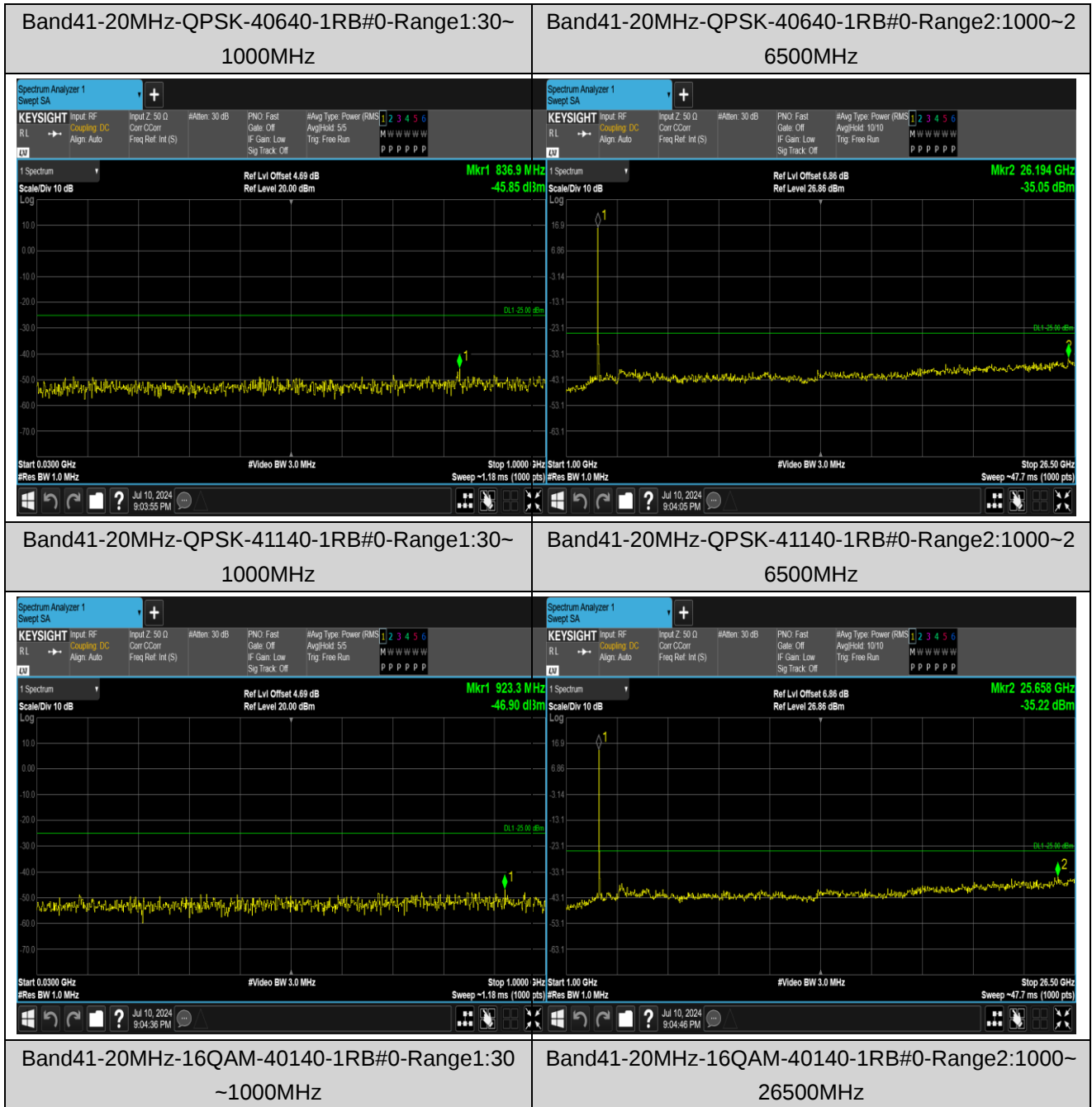
Band41-5MHz-16QAM-41215-1RB#0-Range2:1000~26500MHz

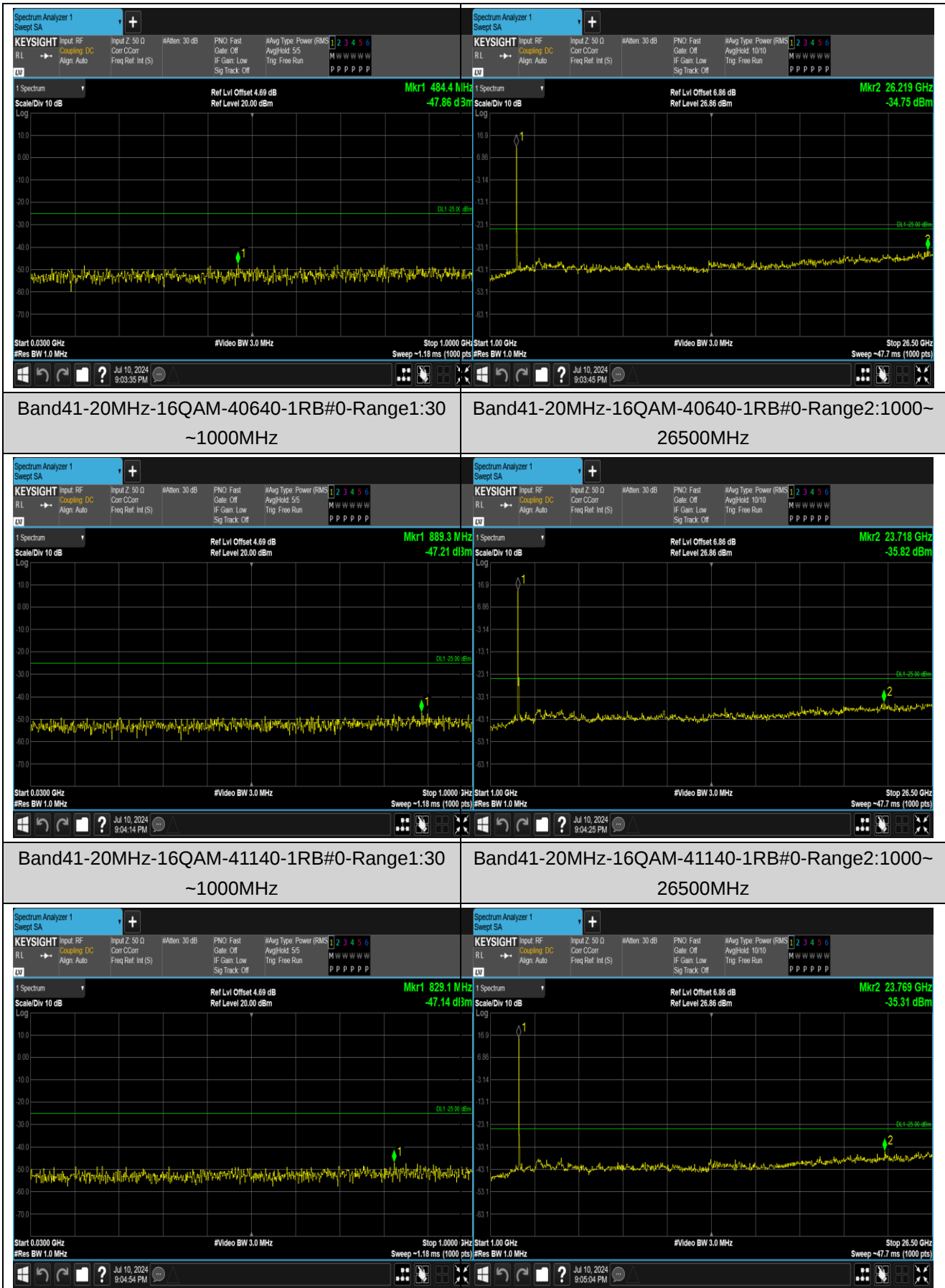


Band41-20MHz-QPSK-40140-1RB#0-Range1:30~1000MHz

Band41-20MHz-QPSK-40140-1RB#0-Range2:1000~26500MHz







## Appendix F: Frequency Stability

### Test Result

LTE Band 2 part:

| Reference Frequency: LTE Band 2 (10MHz) Middle channel=18900 Frequency=1880.0MHz                                 |                      |                 |           |                                   |        |
|------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|-----------|-----------------------------------|--------|
| Temperature                                                                                                      |                      |                 |           |                                   |        |
| Power supplied (Vdc)                                                                                             | Temperature (°C)     | Frequency error |           | Limit (ppm)                       | Result |
|                                                                                                                  |                      | Hz              | ppm       |                                   |        |
| QPSK                                                                                                             |                      |                 |           |                                   |        |
| 3.87                                                                                                             | -30                  | -9.81           | -0.005218 | Within authorized band for Band 2 | Pass   |
|                                                                                                                  | -20                  | -8.73           | -0.004644 |                                   |        |
|                                                                                                                  | -10                  | -15.11          | -0.008037 |                                   |        |
|                                                                                                                  | 0                    | -8.24           | -0.004383 |                                   |        |
|                                                                                                                  | 10                   | -10.84          | -0.005766 |                                   |        |
|                                                                                                                  | 20                   | -8.34           | -0.004436 |                                   |        |
|                                                                                                                  | 30                   | -10.14          | -0.005394 |                                   |        |
|                                                                                                                  | 40                   | -8.80           | -0.004681 |                                   |        |
|                                                                                                                  | 50                   | -6.22           | -0.003309 |                                   |        |
| 16QAM                                                                                                            |                      |                 |           |                                   |        |
| 3.87                                                                                                             | -30                  | -12.20          | -0.006489 | Within authorized band for Band 2 | Pass   |
|                                                                                                                  | -20                  | -5.41           | -0.002878 |                                   |        |
|                                                                                                                  | -10                  | 6.94            | 0.003691  |                                   |        |
|                                                                                                                  | 0                    | -11.60          | -0.006170 |                                   |        |
|                                                                                                                  | 10                   | 3.96            | 0.002106  |                                   |        |
|                                                                                                                  | 20                   | -7.98           | -0.004245 |                                   |        |
|                                                                                                                  | 30                   | -2.52           | -0.001340 |                                   |        |
|                                                                                                                  | 40                   | -7.00           | -0.003723 |                                   |        |
|                                                                                                                  | 50                   | -10.36          | -0.005511 |                                   |        |
| Voltage                                                                                                          |                      |                 |           |                                   |        |
| Temperature (°C)                                                                                                 | Power supplied (Vdc) | Frequency error |           | Limit (ppm)                       | Result |
|                                                                                                                  |                      | Hz              | ppm       |                                   |        |
| QPSK                                                                                                             |                      |                 |           |                                   |        |
| 25                                                                                                               | 3.45                 | -13.09          | -0.006963 | Within authorized band for Band 2 | Pass   |
|                                                                                                                  | 3.87                 | -15.35          | -0.008165 |                                   |        |
|                                                                                                                  | 4.45                 | -11.83          | -0.006293 |                                   |        |
| 16QAM                                                                                                            |                      |                 |           |                                   |        |
| 25                                                                                                               | 3.45                 | -5.48           | -0.002915 | Within authorized band for Band 2 | Pass   |
|                                                                                                                  | 3.87                 | -8.58           | -0.004564 |                                   |        |
|                                                                                                                  | 4.45                 | -9.26           | -0.004926 |                                   |        |
| Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report. |                      |                 |           |                                   |        |

## LTE Band 4 part:

| Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 Frequency=1732.5MHz                                  |                      |                 |           |                                   |        |
|------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|-----------|-----------------------------------|--------|
| Temperature                                                                                                      |                      |                 |           |                                   |        |
| Power supplied (Vdc)                                                                                             | Temperature (°C)     | Frequency error |           | Limit (ppm)                       | Result |
|                                                                                                                  |                      | Hz              | ppm       |                                   |        |
| QPSK                                                                                                             |                      |                 |           |                                   |        |
| 3.87                                                                                                             | -30                  | 6.85            | 0.003954  | Within authorized band for Band 4 | Pass   |
|                                                                                                                  | -20                  | -10.36          | -0.005980 |                                   |        |
|                                                                                                                  | -10                  | 4.66            | 0.002690  |                                   |        |
|                                                                                                                  | 0                    | -8.38           | -0.004837 |                                   |        |
|                                                                                                                  | 10                   | 5.98            | 0.003452  |                                   |        |
|                                                                                                                  | 20                   | -5.72           | -0.003302 |                                   |        |
|                                                                                                                  | 30                   | -8.23           | -0.004750 |                                   |        |
|                                                                                                                  | 40                   | -10.53          | -0.006078 |                                   |        |
|                                                                                                                  | 50                   | 3.72            | 0.002147  |                                   |        |
| 16QAM                                                                                                            |                      |                 |           |                                   |        |
| 3.87                                                                                                             | -30                  | -3.86           | -0.002228 | Within authorized band for Band 4 | Pass   |
|                                                                                                                  | -20                  | -7.88           | -0.004548 |                                   |        |
|                                                                                                                  | -10                  | -11.12          | -0.006418 |                                   |        |
|                                                                                                                  | 0                    | -10.94          | -0.006315 |                                   |        |
|                                                                                                                  | 10                   | -9.94           | -0.005737 |                                   |        |
|                                                                                                                  | 20                   | -9.81           | -0.005662 |                                   |        |
|                                                                                                                  | 30                   | -8.18           | -0.004722 |                                   |        |
|                                                                                                                  | 40                   | -8.14           | -0.004698 |                                   |        |
|                                                                                                                  | 50                   | -8.65           | -0.004993 |                                   |        |
| Voltage                                                                                                          |                      |                 |           |                                   |        |
| Temperature (°C)                                                                                                 | Power supplied (Vdc) | Frequency error |           | Limit (ppm)                       | Result |
|                                                                                                                  |                      | Hz              | ppm       |                                   |        |
| QPSK                                                                                                             |                      |                 |           |                                   |        |
| 25                                                                                                               | 3.45                 | -9.98           | -0.005760 | Within authorized band for Band 4 | Pass   |
|                                                                                                                  | 3.87                 | -10.96          | -0.006326 |                                   |        |
|                                                                                                                  | 4.45                 | -6.41           | -0.003700 |                                   |        |
| 16QAM                                                                                                            |                      |                 |           |                                   |        |
| 25                                                                                                               | 3.45                 | -3.43           | -0.001980 | Within authorized band for Band 4 | Pass   |
|                                                                                                                  | 3.87                 | -9.21           | -0.005316 |                                   |        |
|                                                                                                                  | 4.45                 | -11.72          | -0.006765 |                                   |        |
| Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report. |                      |                 |           |                                   |        |

## LTE Band 5 part:

| Reference Frequency: LTE Band 5(10MHz) Middle channel=20525 Frequency=836.5MHz                                   |                      |                 |           |             |        |
|------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|-----------|-------------|--------|
| Temperature                                                                                                      |                      |                 |           |             |        |
| Power supplied (Vdc)                                                                                             | Temperature (°C)     | Frequency error |           | Limit (ppm) | Result |
|                                                                                                                  |                      | Hz              | ppm       |             |        |
| QPSK                                                                                                             |                      |                 |           |             |        |
| 3.87                                                                                                             | -30                  | -3.62           | -0.004328 | ±2.5        | Pass   |
|                                                                                                                  | -20                  | -11.57          | -0.013831 |             |        |
|                                                                                                                  | -10                  | -7.44           | -0.008894 |             |        |
|                                                                                                                  | 0                    | -3.69           | -0.004411 |             |        |
|                                                                                                                  | 10                   | -8.05           | -0.009623 |             |        |
|                                                                                                                  | 20                   | -9.76           | -0.011668 |             |        |
|                                                                                                                  | 30                   | -12.69          | -0.015170 |             |        |
|                                                                                                                  | 40                   | -9.10           | -0.010879 |             |        |
|                                                                                                                  | 50                   | -12.27          | -0.014668 |             |        |
| 16QAM                                                                                                            |                      |                 |           |             |        |
| 3.87                                                                                                             | -30                  | -4.15           | -0.004961 | ±2.5        | Pass   |
|                                                                                                                  | -20                  | -7.81           | -0.009337 |             |        |
|                                                                                                                  | -10                  | -6.41           | -0.007663 |             |        |
|                                                                                                                  | 0                    | -8.44           | -0.010090 |             |        |
|                                                                                                                  | 10                   | -8.40           | -0.010042 |             |        |
|                                                                                                                  | 20                   | -12.27          | -0.014668 |             |        |
|                                                                                                                  | 30                   | -9.13           | -0.010915 |             |        |
|                                                                                                                  | 40                   | -8.13           | -0.009719 |             |        |
|                                                                                                                  | 50                   | -10.63          | -0.012708 |             |        |
| Voltage                                                                                                          |                      |                 |           |             |        |
| Temperature (°C)                                                                                                 | Power supplied (Vdc) | Frequency error |           | Limit (ppm) | Result |
|                                                                                                                  |                      | Hz              | ppm       |             |        |
| QPSK                                                                                                             |                      |                 |           |             |        |
| 25                                                                                                               | 3.45                 | -9.74           | -0.011644 | ±2.5        | Pass   |
|                                                                                                                  | 3.87                 | -9.76           | -0.011668 |             |        |
|                                                                                                                  | 4.45                 | -8.83           | -0.010556 |             |        |
| 16QAM                                                                                                            |                      |                 |           |             |        |
| 25                                                                                                               | 3.45                 | -8.23           | -0.009839 | ±2.5        | Pass   |
|                                                                                                                  | 3.87                 | -12.32          | -0.014728 |             |        |
|                                                                                                                  | 4.45                 | -5.31           | -0.006348 |             |        |
| Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report. |                      |                 |           |             |        |

## LTE Band 7 part:

| Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.0MHz                                  |                      |                 |           |                                   |        |
|------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|-----------|-----------------------------------|--------|
| Temperature                                                                                                      |                      |                 |           |                                   |        |
| Power supplied (Vdc)                                                                                             | Temperature (°C)     | Frequency error |           | Limit (ppm)                       | Result |
|                                                                                                                  |                      | Hz              | ppm       |                                   |        |
| QPSK                                                                                                             |                      |                 |           |                                   |        |
| 3.87                                                                                                             | -30                  | -13.56          | -0.005349 | Within authorized band for Band 7 | Pass   |
|                                                                                                                  | -20                  | -8.45           | -0.003333 |                                   |        |
|                                                                                                                  | -10                  | -13.42          | -0.005294 |                                   |        |
|                                                                                                                  | 0                    | -9.50           | -0.003748 |                                   |        |
|                                                                                                                  | 10                   | -12.13          | -0.004785 |                                   |        |
|                                                                                                                  | 20                   | -6.77           | -0.002671 |                                   |        |
|                                                                                                                  | 30                   | -10.96          | -0.004323 |                                   |        |
|                                                                                                                  | 40                   | -12.50          | -0.004931 |                                   |        |
|                                                                                                                  | 50                   | -8.40           | -0.003314 |                                   |        |
| 16QAM                                                                                                            |                      |                 |           |                                   |        |
| 3.87                                                                                                             | -30                  | -7.24           | -0.002856 | Within authorized band for Band 7 | Pass   |
|                                                                                                                  | -20                  | 2.70            | 0.001065  |                                   |        |
|                                                                                                                  | -10                  | -8.34           | -0.003290 |                                   |        |
|                                                                                                                  | 0                    | -11.01          | -0.004343 |                                   |        |
|                                                                                                                  | 10                   | -10.00          | -0.003945 |                                   |        |
|                                                                                                                  | 20                   | -2.95           | -0.001164 |                                   |        |
|                                                                                                                  | 30                   | -10.21          | -0.004028 |                                   |        |
|                                                                                                                  | 40                   | -10.81          | -0.004264 |                                   |        |
|                                                                                                                  | 50                   | -7.07           | -0.002789 |                                   |        |
| Voltage                                                                                                          |                      |                 |           |                                   |        |
| Temperature (°C)                                                                                                 | Power supplied (Vdc) | Frequency error |           | Limit (ppm)                       | Result |
|                                                                                                                  |                      | Hz              | ppm       |                                   |        |
| QPSK                                                                                                             |                      |                 |           |                                   |        |
| 25                                                                                                               | 3.45                 | 4.73            | 0.001866  | Within authorized band for Band 7 | Pass   |
|                                                                                                                  | 3.87                 | -9.41           | -0.003712 |                                   |        |
|                                                                                                                  | 4.45                 | -9.06           | -0.003574 |                                   |        |
| 16QAM                                                                                                            |                      |                 |           |                                   |        |
| 25                                                                                                               | 3.45                 | -4.99           | -0.001968 | Within authorized band for Band 7 | Pass   |
|                                                                                                                  | 3.87                 | -8.50           | -0.003353 |                                   |        |
|                                                                                                                  | 4.45                 | -6.27           | -0.002473 |                                   |        |
| Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report. |                      |                 |           |                                   |        |

## LTE Band 41 part:

| Reference Frequency: LTE Band 41 (10MHz) Middle channel=40640 Frequency=2595.0MHz                                |                      |                 |           |                                    |        |
|------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|-----------|------------------------------------|--------|
| Temperature                                                                                                      |                      |                 |           |                                    |        |
| Power supplied (Vdc)                                                                                             | Temperature (°C)     | Frequency error |           | Limit (ppm)                        | Result |
|                                                                                                                  |                      | Hz              | ppm       |                                    |        |
| QPSK                                                                                                             |                      |                 |           |                                    |        |
| 3.87                                                                                                             | -30                  | -13.22          | -0.005094 | Within authorized band for Band 41 | Pass   |
|                                                                                                                  | -20                  | -7.47           | -0.002879 |                                    |        |
|                                                                                                                  | -10                  | -11.59          | -0.004466 |                                    |        |
|                                                                                                                  | 0                    | -11.34          | -0.004370 |                                    |        |
|                                                                                                                  | 10                   | -8.18           | -0.003152 |                                    |        |
|                                                                                                                  | 20                   | -11.99          | -0.004620 |                                    |        |
|                                                                                                                  | 30                   | -14.20          | -0.005472 |                                    |        |
|                                                                                                                  | 40                   | -8.93           | -0.003441 |                                    |        |
|                                                                                                                  | 50                   | -11.56          | -0.004455 |                                    |        |
| 16QAM                                                                                                            |                      |                 |           |                                    |        |
| 3.87                                                                                                             | -30                  | -10.57          | -0.004073 | Within authorized band for Band 41 | Pass   |
|                                                                                                                  | -20                  | -14.83          | -0.005715 |                                    |        |
|                                                                                                                  | -10                  | -7.07           | -0.002724 |                                    |        |
|                                                                                                                  | 0                    | -15.61          | -0.006015 |                                    |        |
|                                                                                                                  | 10                   | -14.29          | -0.005507 |                                    |        |
|                                                                                                                  | 20                   | -9.61           | -0.003703 |                                    |        |
|                                                                                                                  | 30                   | -9.94           | -0.003830 |                                    |        |
|                                                                                                                  | 40                   | -13.95          | -0.005376 |                                    |        |
|                                                                                                                  | 50                   | -9.53           | -0.003672 |                                    |        |
| Voltage                                                                                                          |                      |                 |           |                                    |        |
| Temperature (°C)                                                                                                 | Power supplied (Vdc) | Frequency error |           | Limit (ppm)                        | Result |
|                                                                                                                  |                      | Hz              | ppm       |                                    |        |
| QPSK                                                                                                             |                      |                 |           |                                    |        |
| 25                                                                                                               | 3.45                 | -12.16          | -0.004686 | Within authorized band for Band 41 | Pass   |
|                                                                                                                  | 3.87                 | -12.12          | -0.004671 |                                    |        |
|                                                                                                                  | 4.45                 | -7.64           | -0.002944 |                                    |        |
| 16QAM                                                                                                            |                      |                 |           |                                    |        |
| 25                                                                                                               | 3.45                 | -11.47          | -0.004420 | Within authorized band for Band41  | Pass   |
|                                                                                                                  | 3.87                 | -14.55          | -0.005607 |                                    |        |
|                                                                                                                  | 4.45                 | -8.07           | -0.003110 |                                    |        |
| Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report. |                      |                 |           |                                    |        |

## Appendix G: Modulation Characteristics

### Test Result

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Result | Verdict |
|--------|-----------|------------|---------|------------------|--------|---------|
| Band2  | 20MHz     | QPSK       | 18900   | 100RB#0          | PASS   | PASS    |
| Band2  | 20MHz     | 16QAM      | 18900   | 100RB#0          | PASS   | PASS    |
| Band4  | 20MHz     | QPSK       | 20175   | 100RB#0          | PASS   | PASS    |
| Band4  | 20MHz     | 16QAM      | 20175   | 100RB#0          | PASS   | PASS    |
| Band5  | 10MHz     | QPSK       | 20525   | 50RB#0           | PASS   | PASS    |
| Band5  | 10MHz     | 16QAM      | 20525   | 50RB#0           | PASS   | PASS    |
| Band7  | 20MHz     | QPSK       | 21100   | 100RB#0          | PASS   | PASS    |
| Band7  | 20MHz     | 16QAM      | 21100   | 100RB#0          | PASS   | PASS    |
| Band41 | 20MHz     | QPSK       | 40640   | 100RB#0          | PASS   | PASS    |
| Band41 | 20MHz     | 16QAM      | 40640   | 100RB#0          | PASS   | PASS    |

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

## Test Graphs



