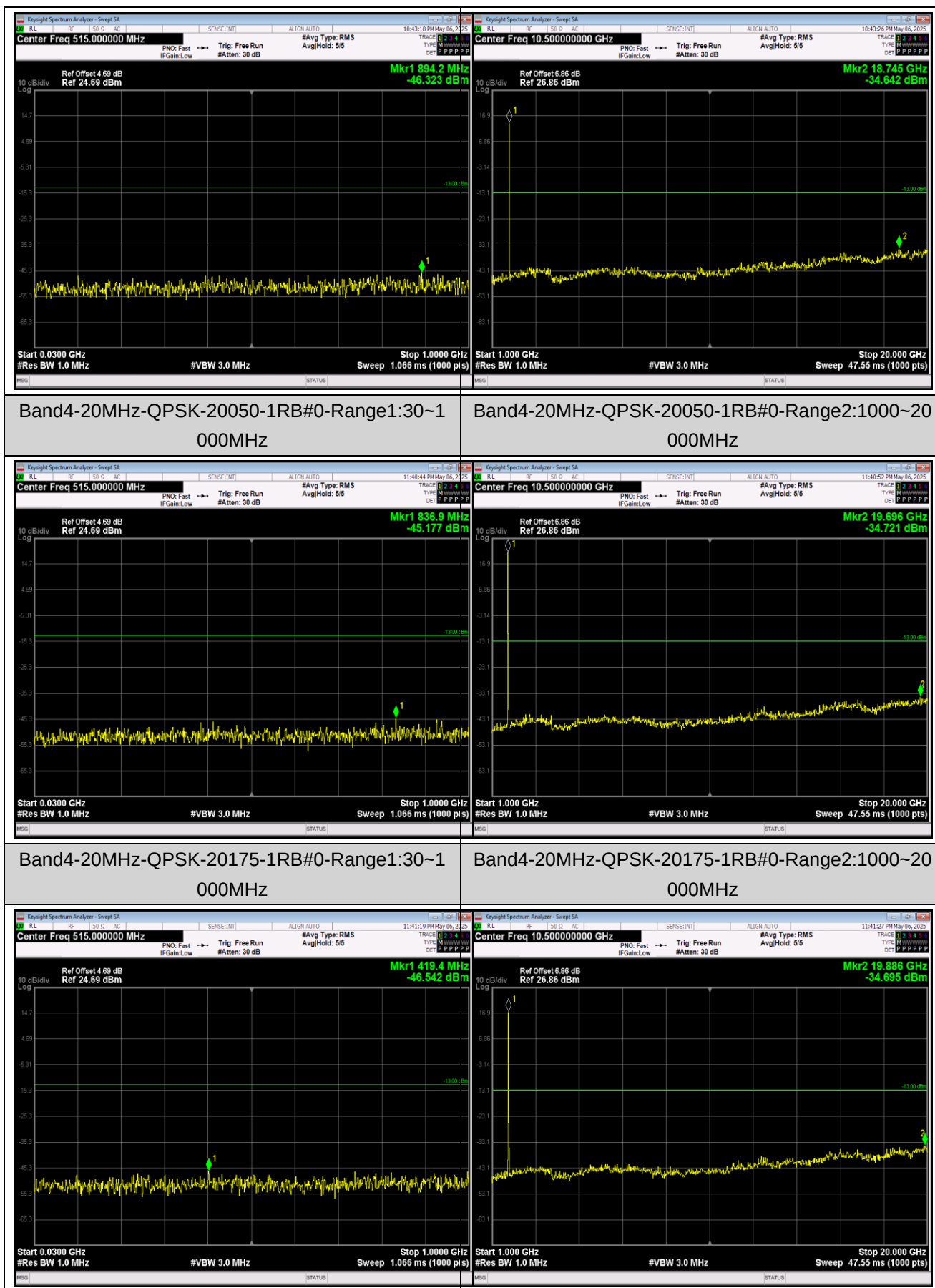
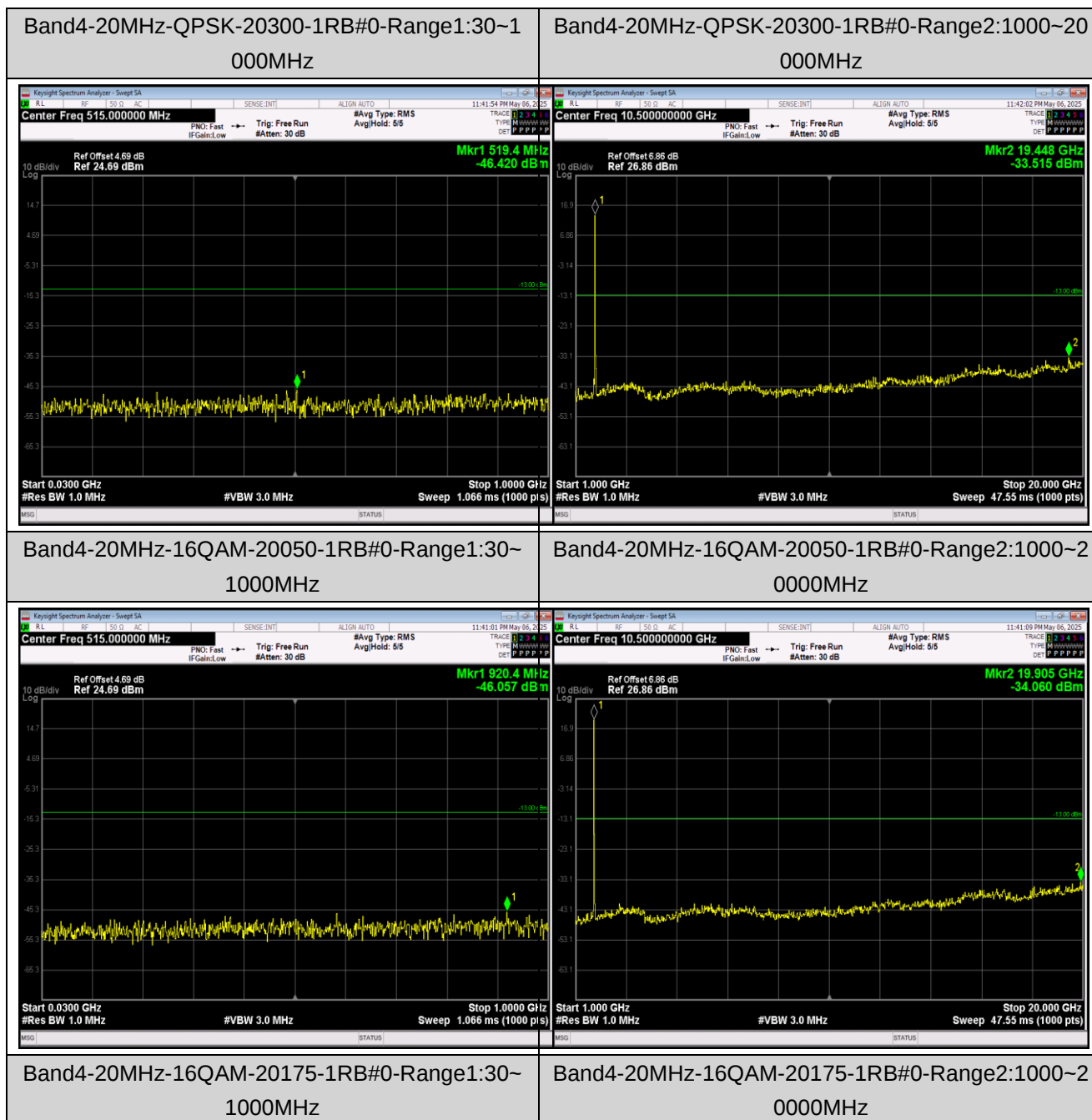
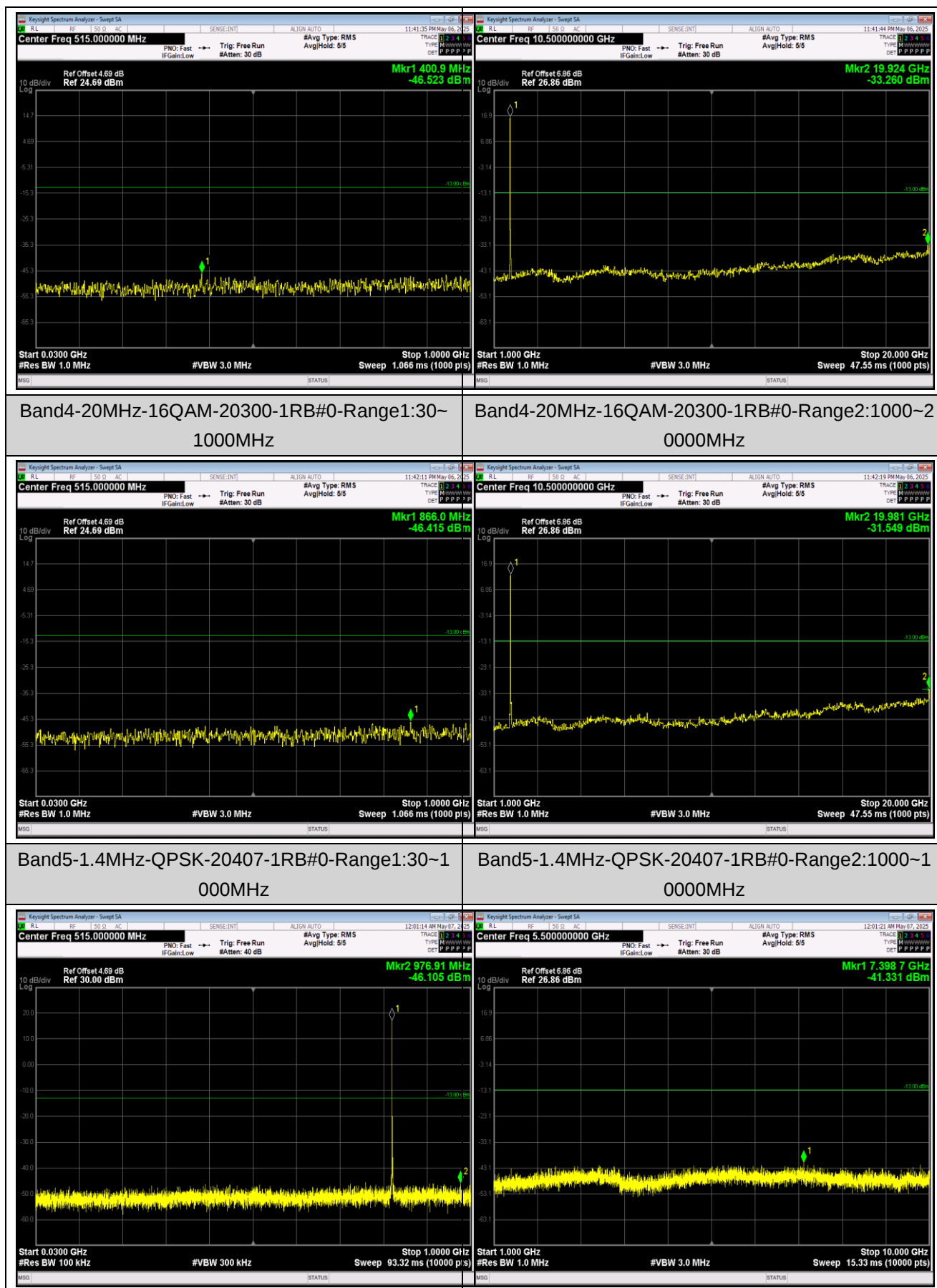
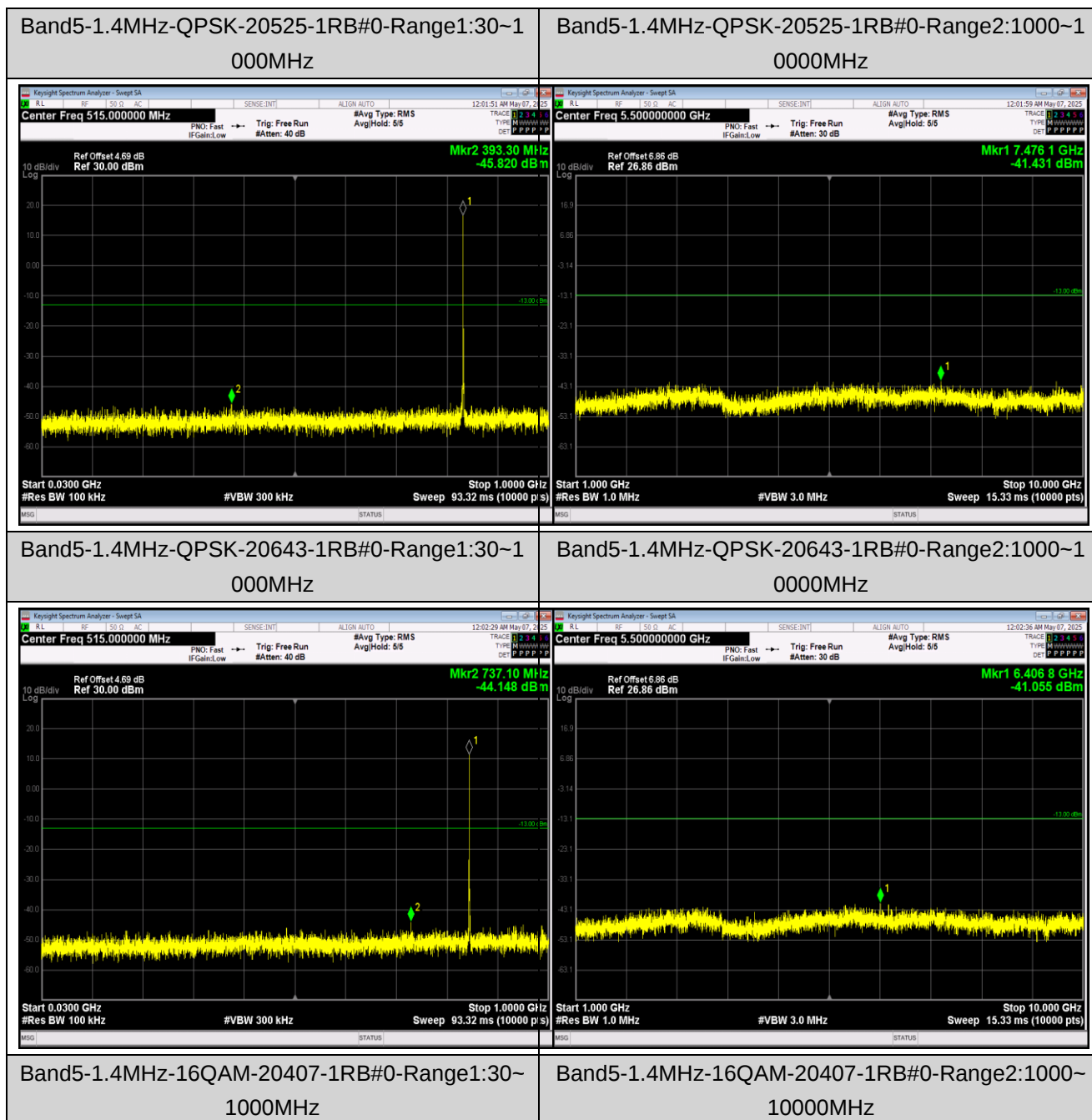
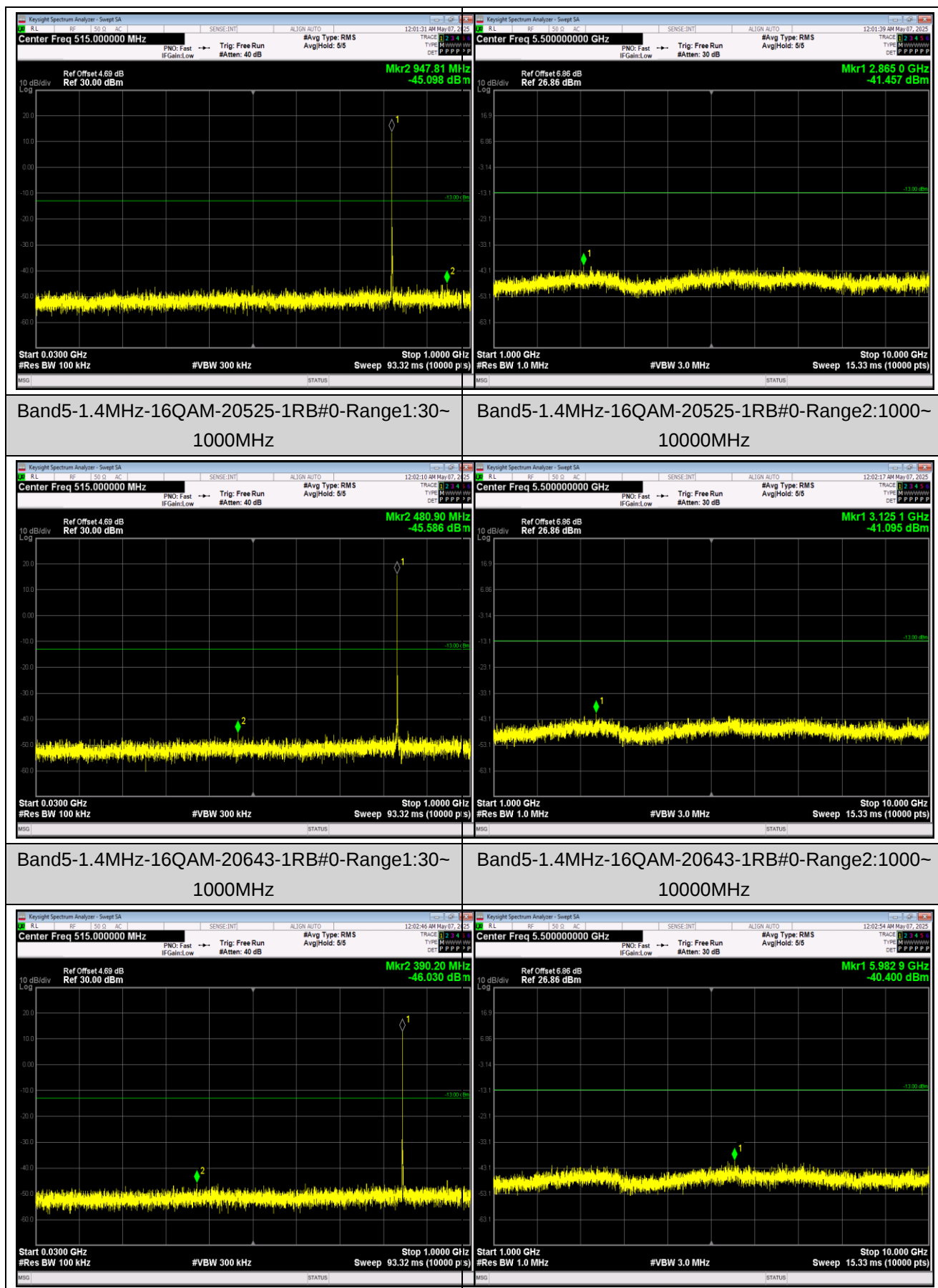


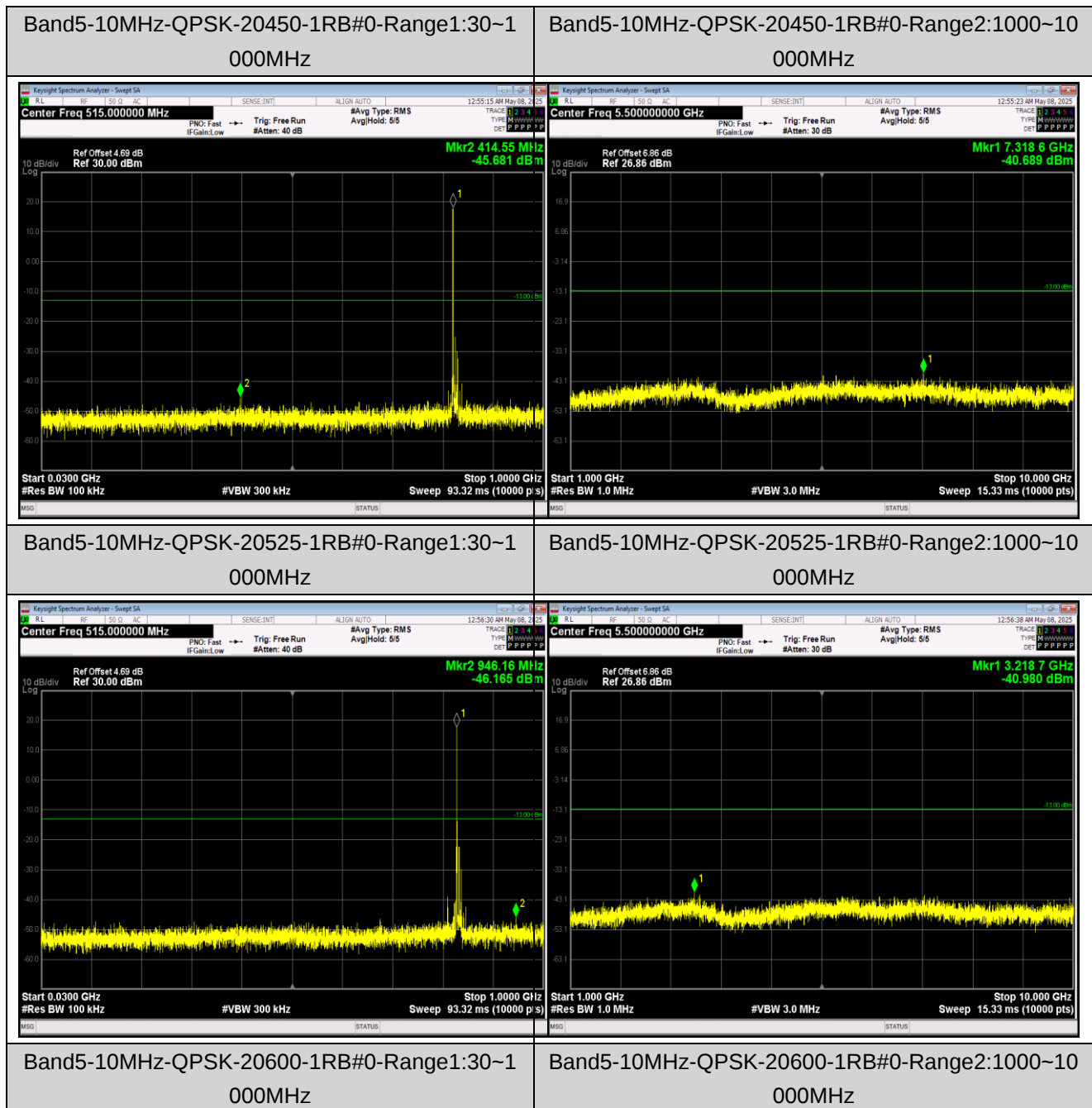


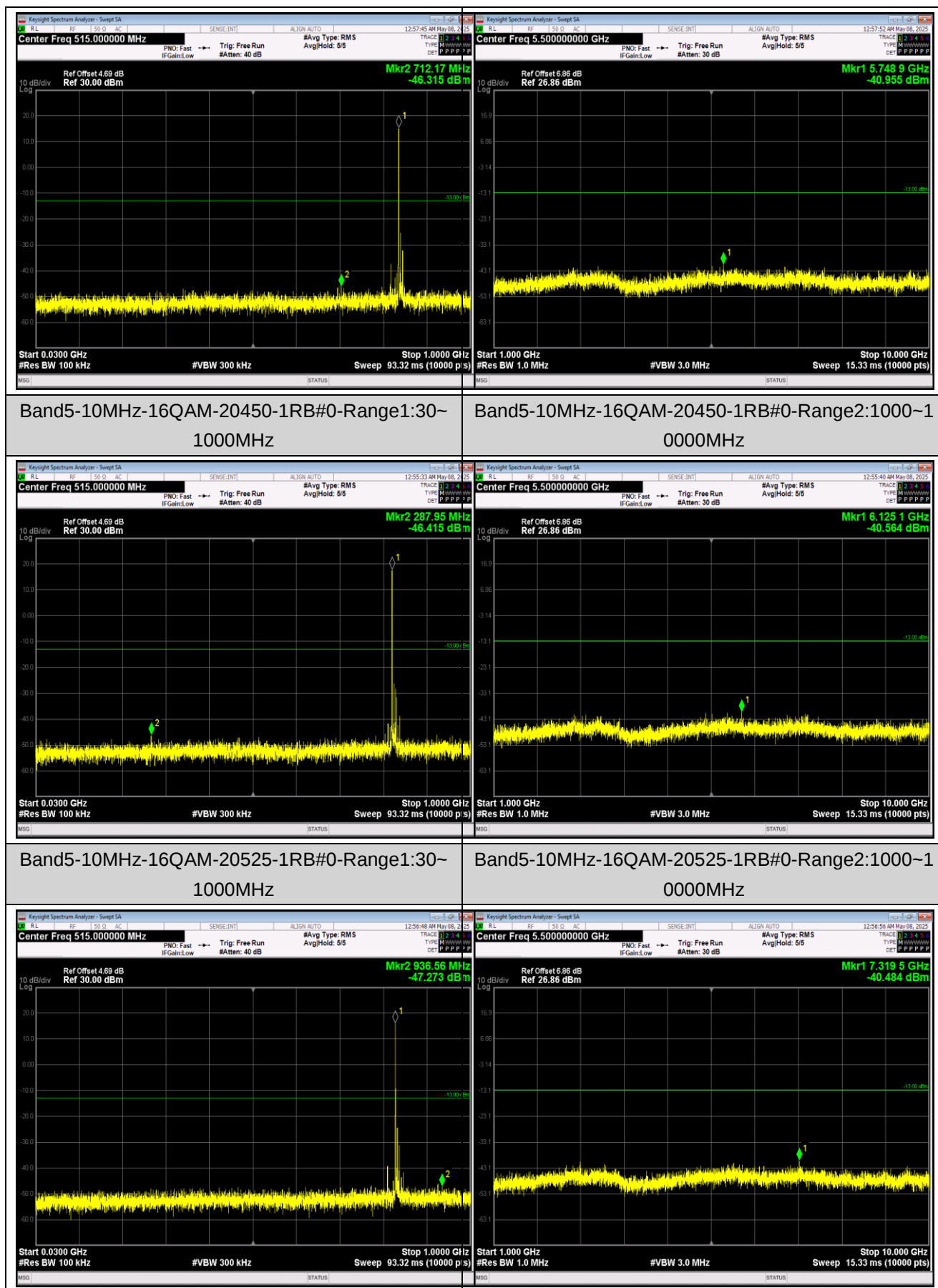










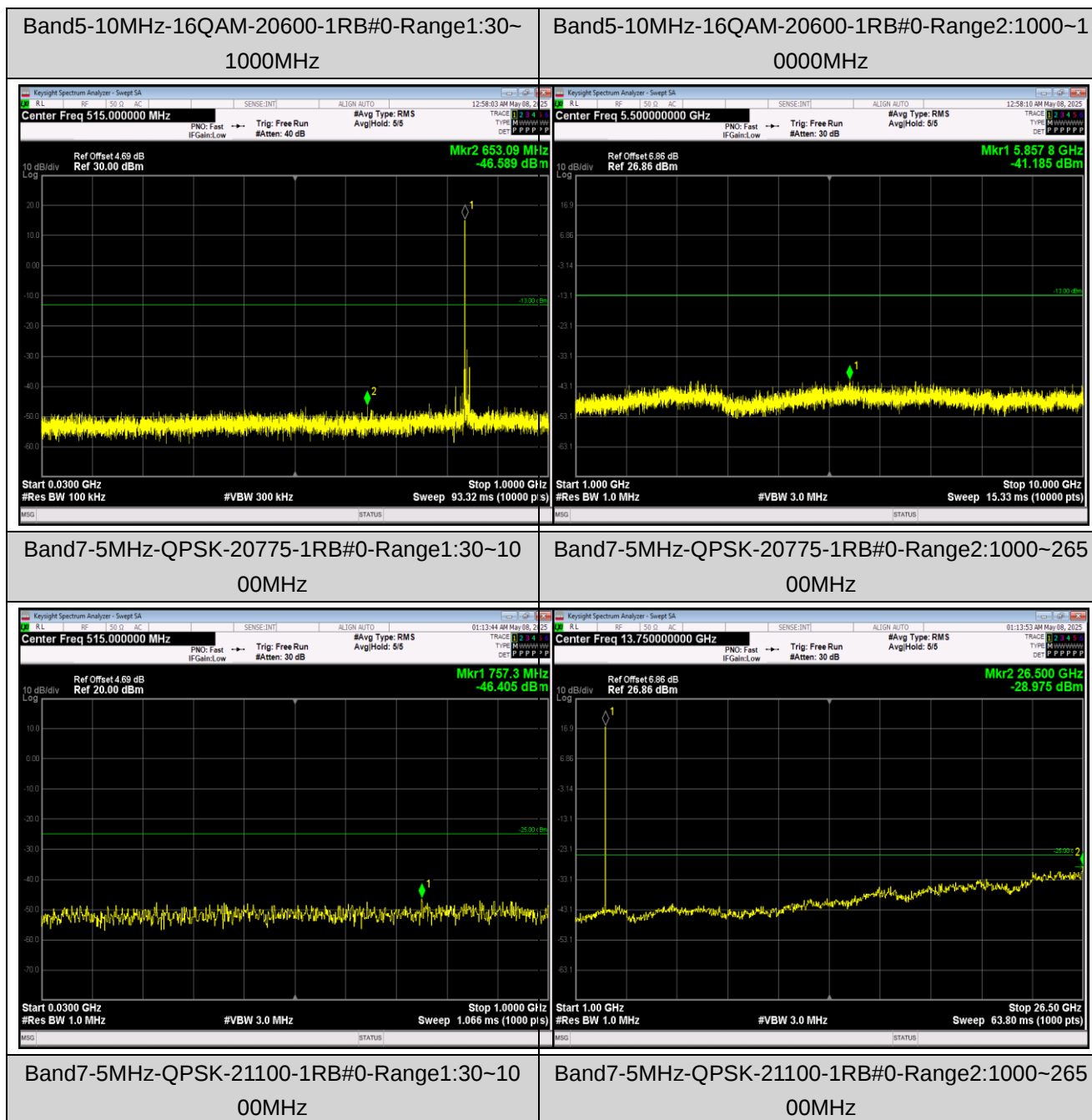


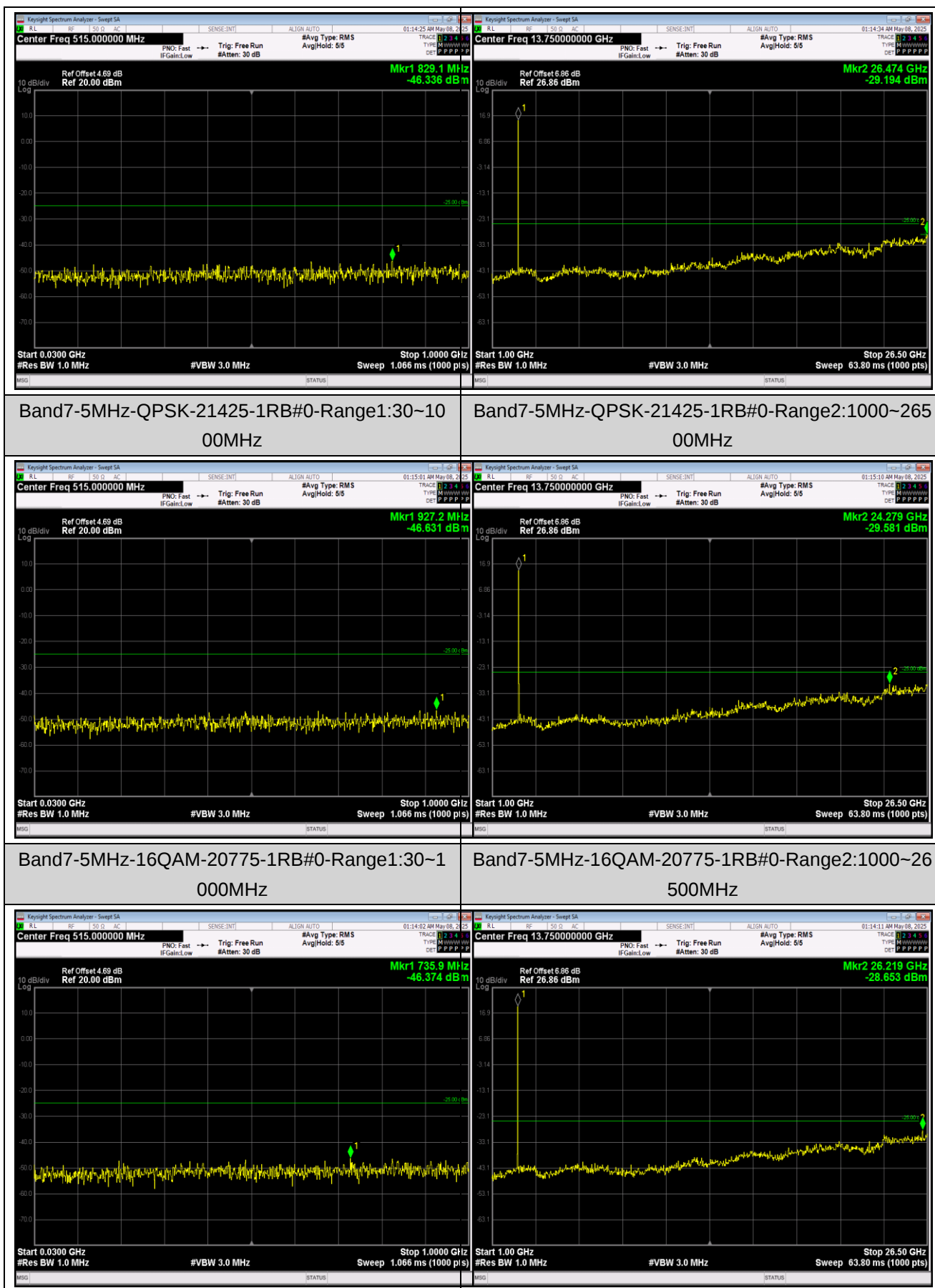
JianYan Testing Group Shenzhen Co., Ltd.

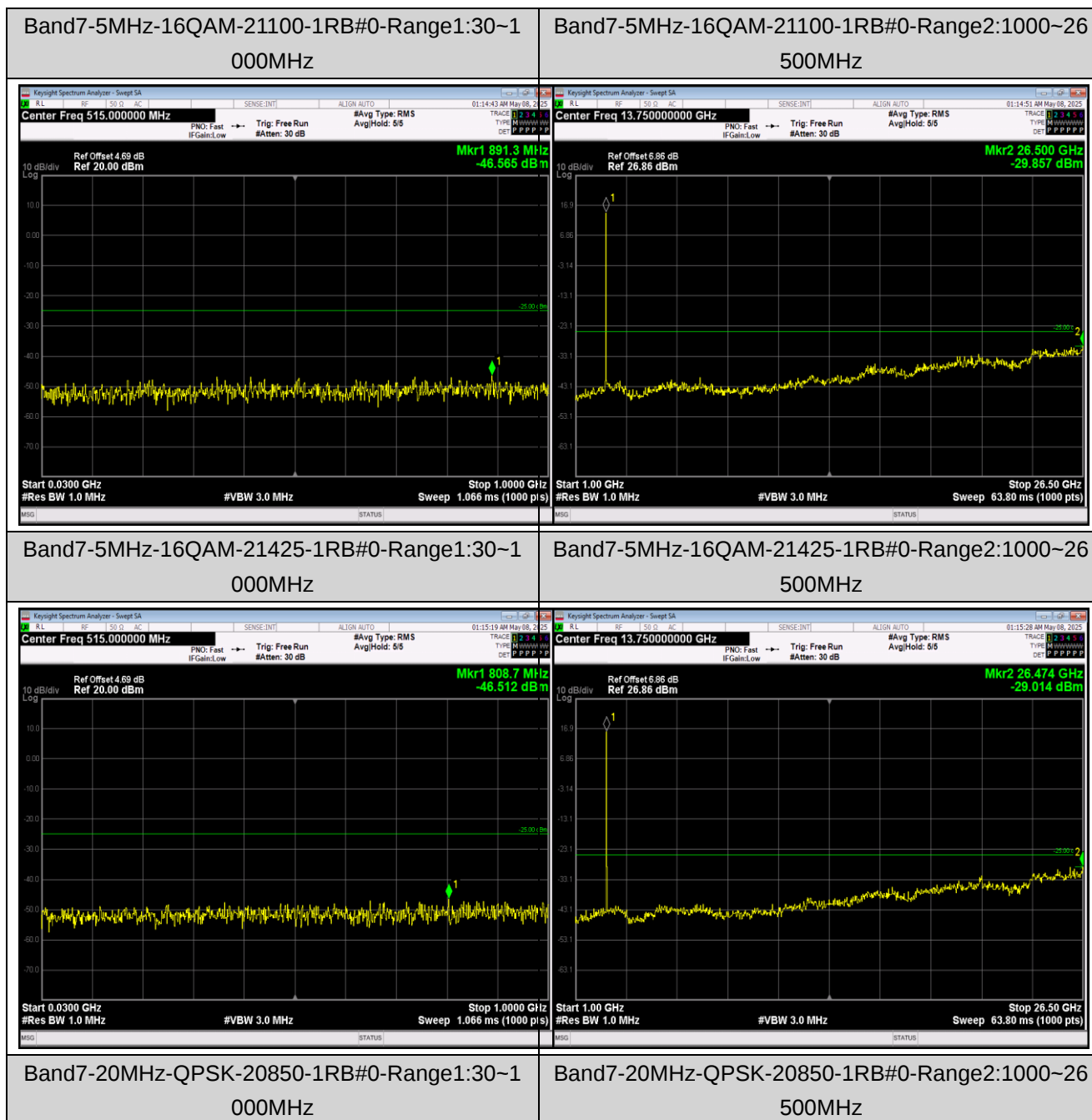
No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

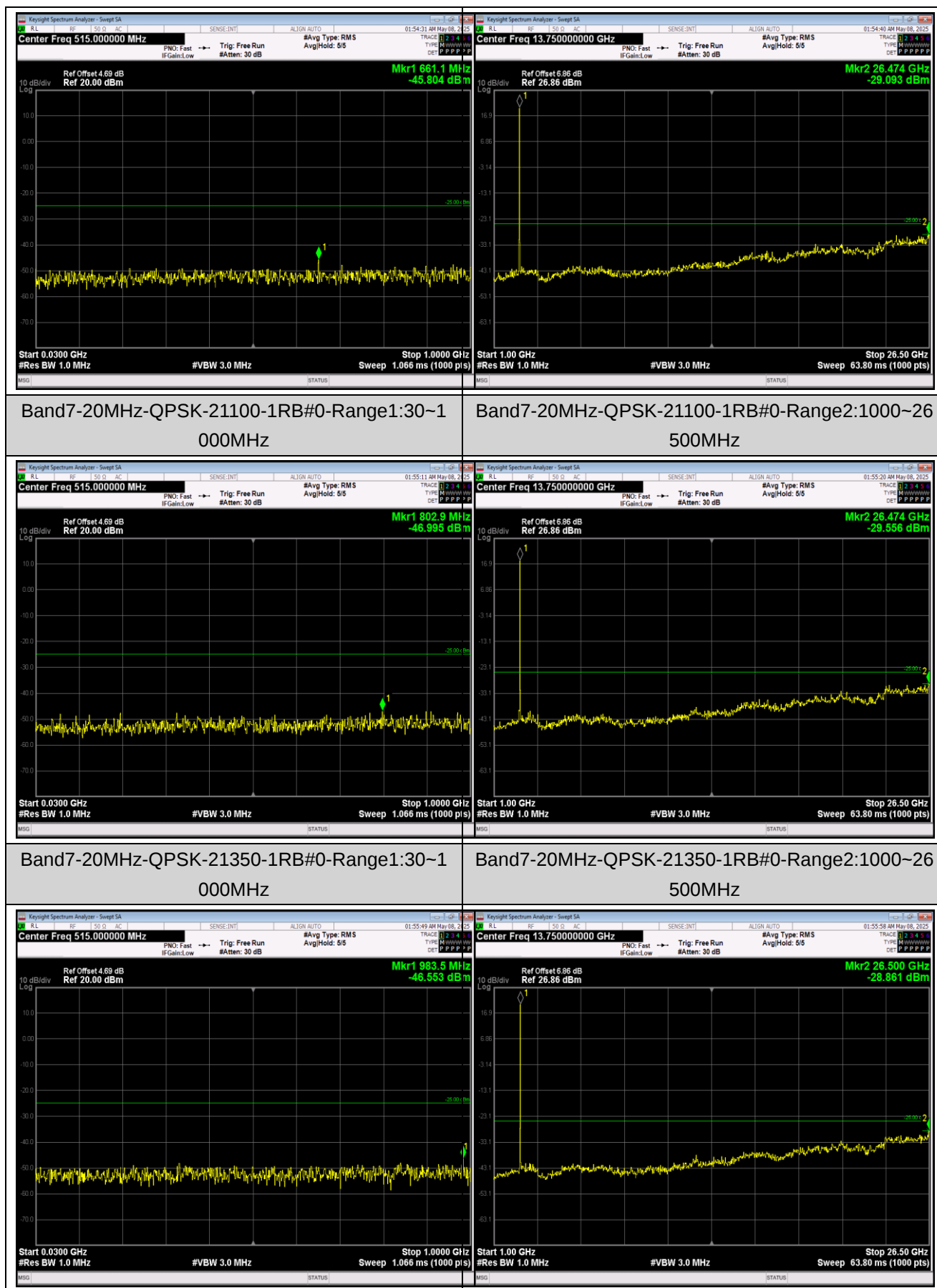
Tel: +86-755-23118282, Fax: +86-755-23116366

Project No.: JYTSZR2504042







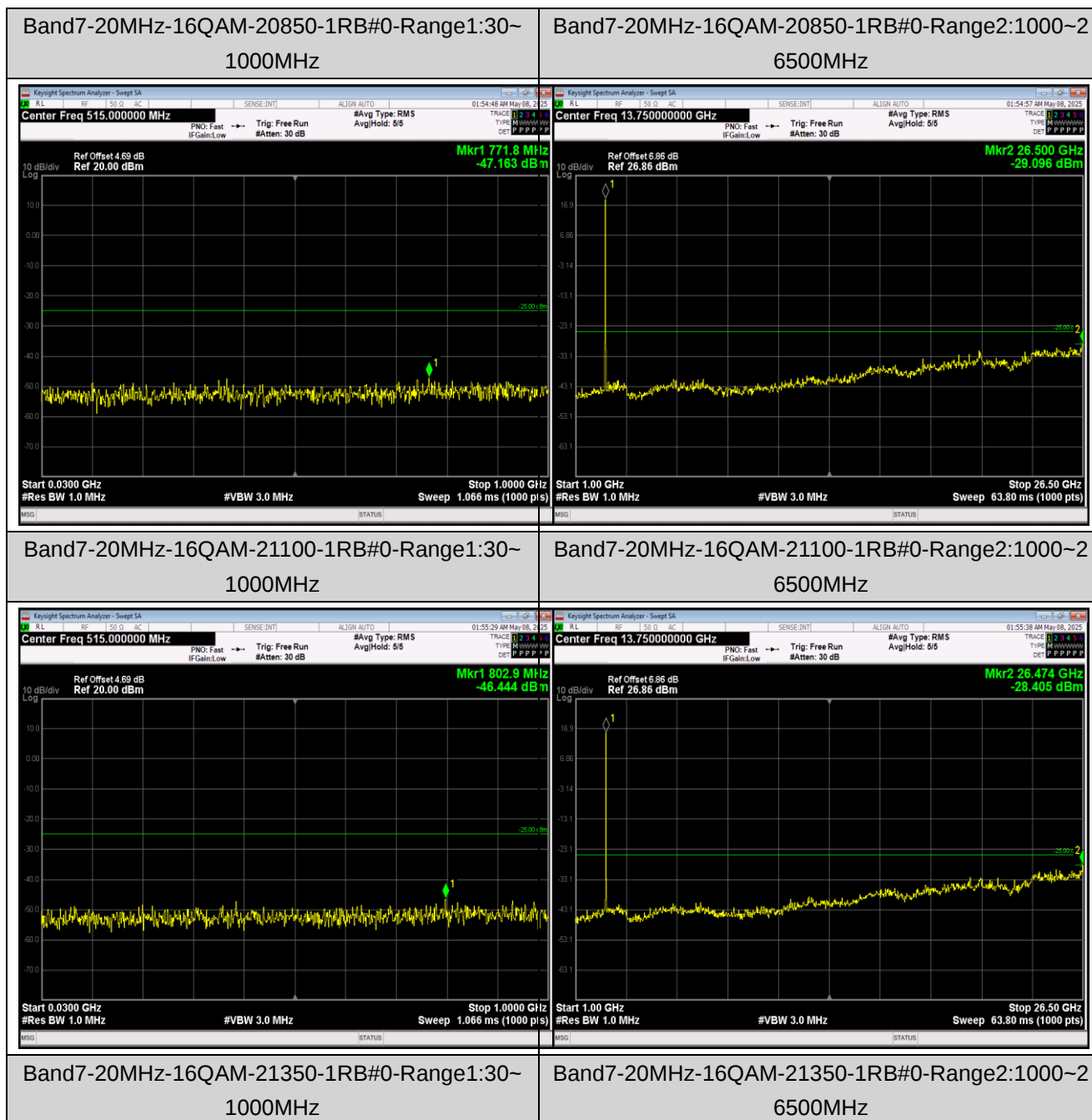


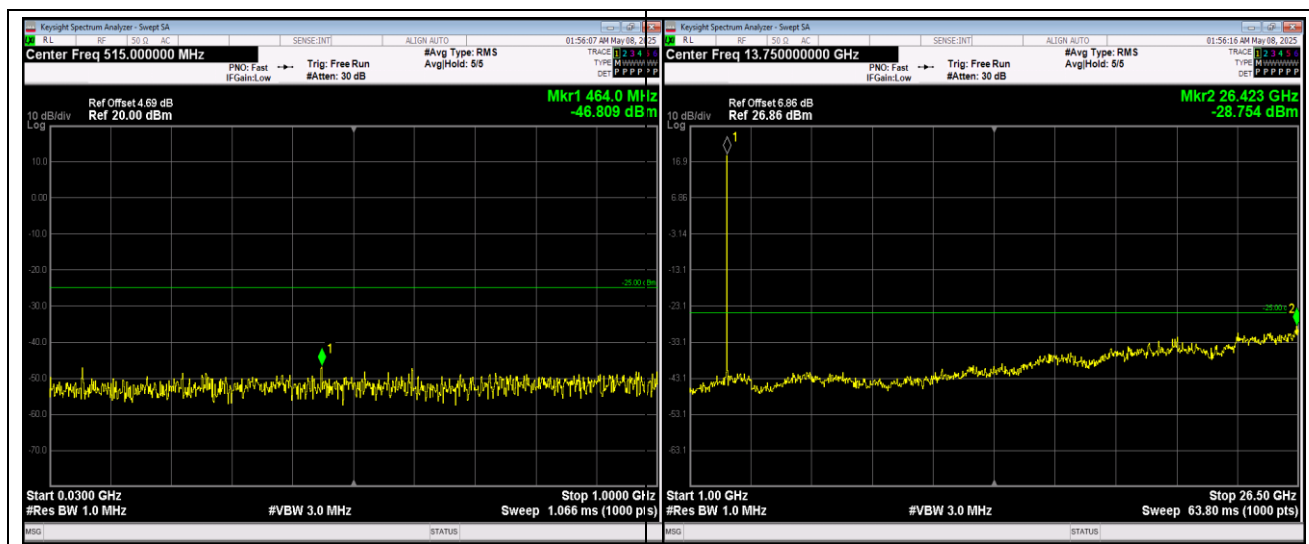
JianYan Testing Group Shenzhen Co., Ltd.

No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

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Project No.: JYTSZR2504042





## 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                                                                                                             |                      |                 |           |                                   |        |
| 3.70                                                                                                             | -30                  | -39.31          | -0.020910 | Within authorized band for Band 2 | Pass   |
|                                                                                                                  | -20                  | 41.10           | 0.021862  |                                   |        |
|                                                                                                                  | -10                  | 37.98           | 0.020202  |                                   |        |
|                                                                                                                  | 0                    | 30.67           | 0.016314  |                                   |        |
|                                                                                                                  | 10                   | -28.32          | -0.015064 |                                   |        |
|                                                                                                                  | 20                   | -24.82          | -0.013202 |                                   |        |
|                                                                                                                  | 30                   | -21.83          | -0.011612 |                                   |        |
|                                                                                                                  | 40                   | 40.01           | 0.021282  |                                   |        |
|                                                                                                                  | 50                   | 63.79           | 0.033931  |                                   |        |
| 16QAM                                                                                                            |                      |                 |           |                                   |        |
| 3.70                                                                                                             | -30                  | 40.97           | 0.021793  | Within authorized band for Band 2 | Pass   |
|                                                                                                                  | -20                  | 24.09           | 0.012814  |                                   |        |
|                                                                                                                  | -10                  | -27.84          | -0.014809 |                                   |        |
|                                                                                                                  | 0                    | -16.71          | -0.008888 |                                   |        |
|                                                                                                                  | 10                   | -41.81          | -0.022239 |                                   |        |
|                                                                                                                  | 20                   | 73.70           | 0.039202  |                                   |        |
|                                                                                                                  | 30                   | 28.37           | 0.015090  |                                   |        |
|                                                                                                                  | 40                   | 53.09           | 0.028239  |                                   |        |
|                                                                                                                  | 50                   | -30.91          | -0.016441 |                                   |        |
| Voltage                                                                                                          |                      |                 |           |                                   |        |
| Temperature (°C)                                                                                                 | Power supplied (Vdc) | Frequency error |           | Limit (ppm)                       | Result |
|                                                                                                                  |                      | Hz              | ppm       |                                   |        |
| QPSK                                                                                                             |                      |                 |           |                                   |        |
| 25                                                                                                               | 3.30                 | 54.30           | 0.028883  | Within authorized band for Band 2 | Pass   |
|                                                                                                                  | 3.70                 | -36.51          | -0.019420 |                                   |        |
|                                                                                                                  | 4.25                 | 20.60           | 0.010957  |                                   |        |
| 16QAM                                                                                                            |                      |                 |           |                                   |        |
| 25                                                                                                               | 3.30                 | -24.32          | -0.012936 | Within authorized band for Band 2 | Pass   |
|                                                                                                                  | 3.70                 | -30.20          | -0.016064 |                                   |        |
|                                                                                                                  | 4.25                 | 32.13           | 0.017090  |                                   |        |
| 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                                                                                                             |                      |                 |           |                                   |        |
| 3.70                                                                                                             | -30                  | 34.06           | 0.019659  | Within authorized band for Band 4 | Pass   |
|                                                                                                                  | -20                  | -23.65          | -0.013651 |                                   |        |
|                                                                                                                  | -10                  | -23.39          | -0.013501 |                                   |        |
|                                                                                                                  | 0                    | -27.37          | -0.015798 |                                   |        |
|                                                                                                                  | 10                   | 42.04           | 0.024266  |                                   |        |
|                                                                                                                  | 20                   | -20.51          | -0.011838 |                                   |        |
|                                                                                                                  | 30                   | -26.45          | -0.015267 |                                   |        |
|                                                                                                                  | 40                   | -22.30          | -0.012872 |                                   |        |
|                                                                                                                  | 50                   | 31.49           | 0.018176  |                                   |        |
| 16QAM                                                                                                            |                      |                 |           |                                   |        |
| 3.70                                                                                                             | -30                  | 40.14           | 0.023169  | Within authorized band for Band 4 | Pass   |
|                                                                                                                  | -20                  | 20.47           | 0.011815  |                                   |        |
|                                                                                                                  | -10                  | 32.03           | 0.018488  |                                   |        |
|                                                                                                                  | 0                    | -42.27          | -0.024398 |                                   |        |
|                                                                                                                  | 10                   | 43.64           | 0.025189  |                                   |        |
|                                                                                                                  | 20                   | -25.28          | -0.014592 |                                   |        |
|                                                                                                                  | 30                   | -15.72          | -0.009074 |                                   |        |
|                                                                                                                  | 40                   | 22.02           | 0.012710  |                                   |        |
|                                                                                                                  | 50                   | 26.66           | 0.015388  |                                   |        |
| Voltage                                                                                                          |                      |                 |           |                                   |        |
| Temperature (°C)                                                                                                 | Power supplied (Vdc) | Frequency error |           | Limit (ppm)                       | Result |
|                                                                                                                  |                      | Hz              | ppm       |                                   |        |
| QPSK                                                                                                             |                      |                 |           |                                   |        |
| 25                                                                                                               | 3.30                 | -19.84          | -0.011452 | Within authorized band for Band 4 | Pass   |
|                                                                                                                  | 3.70                 | 34.52           | 0.019925  |                                   |        |
|                                                                                                                  | 4.25                 | -24.88          | -0.014361 |                                   |        |
| 16QAM                                                                                                            |                      |                 |           |                                   |        |
| 25                                                                                                               | 3.30                 | -26.19          | -0.015117 | Within authorized band for Band 4 | Pass   |
|                                                                                                                  | 3.70                 | -24.59          | -0.014193 |                                   |        |
|                                                                                                                  | 4.25                 | -56.83          | -0.032802 |                                   |        |
| 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<br>(Vdc)                                                                                          | Temperature<br>(℃)      | Frequency error |           | Limit (ppm) | Result |
|                                                                                                                  |                         | Hz              | ppm       |             |        |
| QPSK                                                                                                             |                         |                 |           |             |        |
| 3.70                                                                                                             | -30                     | -17.41          | -0.020813 | ±2.5        | Pass   |
|                                                                                                                  | -20                     | 29.83           | 0.035660  |             |        |
|                                                                                                                  | -10                     | 12.47           | 0.014907  |             |        |
|                                                                                                                  | 0                       | 18.48           | 0.022092  |             |        |
|                                                                                                                  | 10                      | -15.92          | -0.019032 |             |        |
|                                                                                                                  | 20                      | 20.57           | 0.024591  |             |        |
|                                                                                                                  | 30                      | 21.83           | 0.026097  |             |        |
|                                                                                                                  | 40                      | 29.17           | 0.034871  |             |        |
|                                                                                                                  | 50                      | -27.08          | -0.032373 |             |        |
| 16QAM                                                                                                            |                         |                 |           |             |        |
| 3.70                                                                                                             | -30                     | -23.83          | -0.028488 | ±2.5        | Pass   |
|                                                                                                                  | -20                     | -21.13          | -0.025260 |             |        |
|                                                                                                                  | -10                     | 5.62            | 0.006718  |             |        |
|                                                                                                                  | 0                       | -16.79          | -0.020072 |             |        |
|                                                                                                                  | 10                      | -17.97          | -0.021482 |             |        |
|                                                                                                                  | 20                      | 32.94           | 0.039378  |             |        |
|                                                                                                                  | 30                      | -12.95          | -0.015481 |             |        |
|                                                                                                                  | 40                      | 23.30           | 0.027854  |             |        |
|                                                                                                                  | 50                      | 20.69           | 0.024734  |             |        |
| Voltage                                                                                                          |                         |                 |           |             |        |
| Temperature<br>(℃)                                                                                               | Power supplied<br>(Vdc) | Frequency error |           | Limit (ppm) | Result |
|                                                                                                                  |                         | Hz              | ppm       |             |        |
| QPSK                                                                                                             |                         |                 |           |             |        |
| 25                                                                                                               | 3.30                    | -15.13          | -0.018087 | ±2.5        | Pass   |
|                                                                                                                  | 3.70                    | 17.37           | 0.020765  |             |        |
|                                                                                                                  | 4.25                    | 14.79           | 0.017681  |             |        |
| 16QAM                                                                                                            |                         |                 |           |             |        |
| 25                                                                                                               | 3.30                    | 19.35           | 0.023132  | ±2.5        | Pass   |
|                                                                                                                  | 3.70                    | 26.16           | 0.031273  |             |        |
|                                                                                                                  | 4.25                    | 28.24           | 0.033760  |             |        |
| 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<br>(Vdc)                                                                                          | Temperature<br>(°C)     | Frequency error |           | Limit (ppm)                          | Result |
|                                                                                                                  |                         | Hz              | ppm       |                                      |        |
| QPSK                                                                                                             |                         |                 |           |                                      |        |
| 3.70                                                                                                             | -30                     | 48.67           | 0.019199  | Within authorized<br>band for Band 7 | Pass   |
|                                                                                                                  | -20                     | -24.95          | -0.009842 |                                      |        |
|                                                                                                                  | -10                     | -33.77          | -0.013321 |                                      |        |
|                                                                                                                  | 0                       | 52.30           | 0.020631  |                                      |        |
|                                                                                                                  | 10                      | -81.61          | -0.032193 |                                      |        |
|                                                                                                                  | 20                      | 40.96           | 0.016158  |                                      |        |
|                                                                                                                  | 30                      | -40.23          | -0.015870 |                                      |        |
|                                                                                                                  | 40                      | 31.86           | 0.012568  |                                      |        |
|                                                                                                                  | 50                      | -40.76          | -0.016079 |                                      |        |
| 16QAM                                                                                                            |                         |                 |           |                                      |        |
| 3.70                                                                                                             | -30                     | -44.02          | -0.017365 | Within authorized<br>band for Band 7 | Pass   |
|                                                                                                                  | -20                     | -38.42          | -0.015156 |                                      |        |
|                                                                                                                  | -10                     | -45.36          | -0.017893 |                                      |        |
|                                                                                                                  | 0                       | 68.59           | 0.027057  |                                      |        |
|                                                                                                                  | 10                      | 46.45           | 0.018323  |                                      |        |
|                                                                                                                  | 20                      | 55.95           | 0.022071  |                                      |        |
|                                                                                                                  | 30                      | -55.62          | -0.021941 |                                      |        |
|                                                                                                                  | 40                      | 32.39           | 0.012777  |                                      |        |
|                                                                                                                  | 50                      | -37.04          | -0.014611 |                                      |        |
| Voltage                                                                                                          |                         |                 |           |                                      |        |
| Temperature<br>(°C)                                                                                              | Power supplied<br>(Vdc) | Frequency error |           | Limit (ppm)                          | Result |
|                                                                                                                  |                         | Hz              | ppm       |                                      |        |
| QPSK                                                                                                             |                         |                 |           |                                      |        |
| 25                                                                                                               | 3.30                    | -55.12          | -0.021744 | Within authorized<br>band for Band 7 | Pass   |
|                                                                                                                  | 3.70                    | -56.43          | -0.022260 |                                      |        |
|                                                                                                                  | 4.25                    | -51.07          | -0.020146 |                                      |        |
| 16QAM                                                                                                            |                         |                 |           |                                      |        |
| 25                                                                                                               | 3.30                    | 63.61           | 0.025093  | Within authorized<br>band for Band 7 | Pass   |
|                                                                                                                  | 3.70                    | 73.08           | 0.028828  |                                      |        |
|                                                                                                                  | 4.25                    | 31.50           | 0.012426  |                                      |        |
| 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   | 27RB#0           | PASS   | PASS    |
| Band4 | 20MHz     | QPSK       | 20175   | 100RB#0          | PASS   | PASS    |
| Band4 | 20MHz     | 16QAM      | 20175   | 27RB#0           | PASS   | PASS    |
| Band5 | 10MHz     | QPSK       | 20525   | 50RB#0           | PASS   | PASS    |
| Band5 | 10MHz     | 16QAM      | 20525   | 27RB#0           | PASS   | PASS    |
| Band7 | 20MHz     | QPSK       | 21100   | 100RB#0          | PASS   | PASS    |
| Band7 | 20MHz     | 16QAM      | 21100   | 27RB#0           | PASS   | PASS    |

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

## Test Graphs

