

# Appendix-C LTE Band 7

## Effective (Isotropic) Radiated Power Output Data

### Test Result

| Band  | Bandwidth | Modulation | Channel | RB Configuration | Result (dBm) | EIRP (dBm) | Limit (dBm) | Verdict |
|-------|-----------|------------|---------|------------------|--------------|------------|-------------|---------|
| Band7 | 5MHz      | QPSK       | 20775   | 1RB#0            | 23.35        | 21.33      | 33          | PASS    |
| Band7 | 5MHz      | QPSK       | 20775   | 1RB#12           | 23.35        | 21.33      | 33          | PASS    |
| Band7 | 5MHz      | QPSK       | 20775   | 1RB#24           | 23.44        | 21.42      | 33          | PASS    |
| Band7 | 5MHz      | QPSK       | 20775   | 25RB#0           | 22.43        | 20.41      | 33          | PASS    |
| Band7 | 5MHz      | 16QAM      | 20775   | 1RB#0            | 22.41        | 20.39      | 33          | PASS    |
| Band7 | 5MHz      | 16QAM      | 20775   | 1RB#12           | 22.47        | 20.45      | 33          | PASS    |
| Band7 | 5MHz      | 16QAM      | 20775   | 1RB#24           | 22.5         | 20.48      | 33          | PASS    |
| Band7 | 5MHz      | 16QAM      | 20775   | 25RB#0           | 21.74        | 19.72      | 33          | PASS    |
| Band7 | 5MHz      | QPSK       | 21100   | 1RB#0            | 23.75        | 21.73      | 33          | PASS    |
| Band7 | 5MHz      | QPSK       | 21100   | 1RB#12           | 23.65        | 21.63      | 33          | PASS    |
| Band7 | 5MHz      | QPSK       | 21100   | 1RB#24           | 23.68        | 21.66      | 33          | PASS    |
| Band7 | 5MHz      | QPSK       | 21100   | 25RB#0           | 22.63        | 20.61      | 33          | PASS    |
| Band7 | 5MHz      | 16QAM      | 21100   | 1RB#0            | 23.48        | 21.46      | 33          | PASS    |
| Band7 | 5MHz      | 16QAM      | 21100   | 1RB#12           | 23.44        | 21.42      | 33          | PASS    |
| Band7 | 5MHz      | 16QAM      | 21100   | 1RB#24           | 23.44        | 21.42      | 33          | PASS    |
| Band7 | 5MHz      | 16QAM      | 21100   | 25RB#0           | 21.84        | 19.82      | 33          | PASS    |
| Band7 | 5MHz      | QPSK       | 21425   | 1RB#0            | 23.62        | 21.6       | 33          | PASS    |
| Band7 | 5MHz      | QPSK       | 21425   | 1RB#12           | 23.52        | 21.5       | 33          | PASS    |
| Band7 | 5MHz      | QPSK       | 21425   | 1RB#24           | 23.52        | 21.5       | 33          | PASS    |
| Band7 | 5MHz      | QPSK       | 21425   | 25RB#0           | 22.58        | 20.56      | 33          | PASS    |
| Band7 | 5MHz      | 16QAM      | 21425   | 1RB#0            | 22.74        | 20.72      | 33          | PASS    |
| Band7 | 5MHz      | 16QAM      | 21425   | 1RB#12           | 22.64        | 20.62      | 33          | PASS    |
| Band7 | 5MHz      | 16QAM      | 21425   | 1RB#24           | 22.63        | 20.61      | 33          | PASS    |
| Band7 | 5MHz      | 16QAM      | 21425   | 25RB#0           | 21.94        | 19.92      | 33          | PASS    |
| Band7 | 10MHz     | QPSK       | 20800   | 1RB#0            | 23.37        | 21.35      | 33          | PASS    |
| Band7 | 10MHz     | QPSK       | 20800   | 1RB#24           | 23.58        | 21.56      | 33          | PASS    |
| Band7 | 10MHz     | QPSK       | 20800   | 1RB#49           | 23.48        | 21.46      | 33          | PASS    |
| Band7 | 10MHz     | QPSK       | 20800   | 50RB#0           | 22.48        | 20.46      | 33          | PASS    |
| Band7 | 10MHz     | 16QAM      | 20800   | 1RB#0            | 22.37        | 20.35      | 33          | PASS    |
| Band7 | 10MHz     | 16QAM      | 20800   | 1RB#24           | 22.63        | 20.61      | 33          | PASS    |
| Band7 | 10MHz     | 16QAM      | 20800   | 1RB#49           | 22.54        | 20.52      | 33          | PASS    |
| Band7 | 10MHz     | 16QAM      | 20800   | 50RB#0           | 21.59        | 19.57      | 33          | PASS    |
| Band7 | 10MHz     | QPSK       | 21100   | 1RB#0            | 23.66        | 21.64      | 33          | PASS    |
| Band7 | 10MHz     | QPSK       | 21100   | 1RB#24           | 23.69        | 21.67      | 33          | PASS    |
| Band7 | 10MHz     | QPSK       | 21100   | 1RB#49           | 23.66        | 21.64      | 33          | PASS    |
| Band7 | 10MHz     | QPSK       | 21100   | 50RB#0           | 22.65        | 20.63      | 33          | PASS    |

|       |       |       |       |         |       |       |    |      |
|-------|-------|-------|-------|---------|-------|-------|----|------|
| Band7 | 10MHz | 16QAM | 21100 | 1RB#0   | 23.39 | 21.37 | 33 | PASS |
| Band7 | 10MHz | 16QAM | 21100 | 1RB#24  | 23.45 | 21.43 | 33 | PASS |
| Band7 | 10MHz | 16QAM | 21100 | 1RB#49  | 23.42 | 21.4  | 33 | PASS |
| Band7 | 10MHz | 16QAM | 21100 | 50RB#0  | 21.9  | 19.88 | 33 | PASS |
| Band7 | 10MHz | QPSK  | 21400 | 1RB#0   | 23.66 | 21.64 | 33 | PASS |
| Band7 | 10MHz | QPSK  | 21400 | 1RB#24  | 23.59 | 21.57 | 33 | PASS |
| Band7 | 10MHz | QPSK  | 21400 | 1RB#49  | 23.54 | 21.52 | 33 | PASS |
| Band7 | 10MHz | QPSK  | 21400 | 50RB#0  | 22.5  | 20.48 | 33 | PASS |
| Band7 | 10MHz | 16QAM | 21400 | 1RB#0   | 23.32 | 21.3  | 33 | PASS |
| Band7 | 10MHz | 16QAM | 21400 | 1RB#24  | 23.4  | 21.38 | 33 | PASS |
| Band7 | 10MHz | 16QAM | 21400 | 1RB#49  | 23.32 | 21.3  | 33 | PASS |
| Band7 | 10MHz | 16QAM | 21400 | 50RB#0  | 21.8  | 19.78 | 33 | PASS |
| Band7 | 15MHz | QPSK  | 20825 | 1RB#0   | 23.24 | 21.22 | 33 | PASS |
| Band7 | 15MHz | QPSK  | 20825 | 1RB#38  | 23.36 | 21.34 | 33 | PASS |
| Band7 | 15MHz | QPSK  | 20825 | 1RB#74  | 23.42 | 21.4  | 33 | PASS |
| Band7 | 15MHz | QPSK  | 20825 | 75RB#0  | 22.4  | 20.38 | 33 | PASS |
| Band7 | 15MHz | 16QAM | 20825 | 1RB#0   | 22.42 | 20.4  | 33 | PASS |
| Band7 | 15MHz | 16QAM | 20825 | 1RB#38  | 22.4  | 20.38 | 33 | PASS |
| Band7 | 15MHz | 16QAM | 20825 | 1RB#74  | 22.45 | 20.43 | 33 | PASS |
| Band7 | 15MHz | 16QAM | 20825 | 75RB#0  | 21.49 | 19.47 | 33 | PASS |
| Band7 | 15MHz | QPSK  | 21100 | 1RB#0   | 23.62 | 21.6  | 33 | PASS |
| Band7 | 15MHz | QPSK  | 21100 | 1RB#38  | 23.68 | 21.66 | 33 | PASS |
| Band7 | 15MHz | QPSK  | 21100 | 1RB#74  | 23.63 | 21.61 | 33 | PASS |
| Band7 | 15MHz | QPSK  | 21100 | 75RB#0  | 22.72 | 20.7  | 33 | PASS |
| Band7 | 15MHz | 16QAM | 21100 | 1RB#0   | 23.56 | 21.54 | 33 | PASS |
| Band7 | 15MHz | 16QAM | 21100 | 1RB#38  | 23.43 | 21.41 | 33 | PASS |
| Band7 | 15MHz | 16QAM | 21100 | 1RB#74  | 23.44 | 21.42 | 33 | PASS |
| Band7 | 15MHz | 16QAM | 21100 | 75RB#0  | 21.94 | 19.92 | 33 | PASS |
| Band7 | 15MHz | QPSK  | 21375 | 1RB#0   | 23.59 | 21.57 | 33 | PASS |
| Band7 | 15MHz | QPSK  | 21375 | 1RB#38  | 23.59 | 21.57 | 33 | PASS |
| Band7 | 15MHz | QPSK  | 21375 | 1RB#74  | 23.52 | 21.5  | 33 | PASS |
| Band7 | 15MHz | QPSK  | 21375 | 75RB#0  | 22.57 | 20.55 | 33 | PASS |
| Band7 | 15MHz | 16QAM | 21375 | 1RB#0   | 22.85 | 20.83 | 33 | PASS |
| Band7 | 15MHz | 16QAM | 21375 | 1RB#38  | 22.64 | 20.62 | 33 | PASS |
| Band7 | 15MHz | 16QAM | 21375 | 1RB#74  | 22.56 | 20.54 | 33 | PASS |
| Band7 | 15MHz | 16QAM | 21375 | 75RB#0  | 21.69 | 19.67 | 33 | PASS |
| Band7 | 20MHz | QPSK  | 20850 | 1RB#0   | 23.17 | 21.15 | 33 | PASS |
| Band7 | 20MHz | QPSK  | 20850 | 1RB#49  | 23.32 | 21.3  | 33 | PASS |
| Band7 | 20MHz | QPSK  | 20850 | 1RB#99  | 23.23 | 21.21 | 33 | PASS |
| Band7 | 20MHz | QPSK  | 20850 | 100RB#0 | 22.3  | 20.28 | 33 | PASS |
| Band7 | 20MHz | 16QAM | 20850 | 1RB#0   | 22.98 | 20.96 | 33 | PASS |
| Band7 | 20MHz | 16QAM | 20850 | 1RB#49  | 22.73 | 20.71 | 33 | PASS |
| Band7 | 20MHz | 16QAM | 20850 | 1RB#99  | 22.83 | 20.81 | 33 | PASS |
| Band7 | 20MHz | 16QAM | 20850 | 100RB#0 | 21.62 | 19.6  | 33 | PASS |

|       |       |       |       |         |       |       |    |      |
|-------|-------|-------|-------|---------|-------|-------|----|------|
| Band7 | 20MHz | QPSK  | 21100 | 1RB#0   | 23.48 | 21.46 | 33 | PASS |
| Band7 | 20MHz | QPSK  | 21100 | 1RB#49  | 23.7  | 21.68 | 33 | PASS |
| Band7 | 20MHz | QPSK  | 21100 | 1RB#99  | 23.58 | 21.56 | 33 | PASS |
| Band7 | 20MHz | QPSK  | 21100 | 100RB#0 | 22.61 | 20.59 | 33 | PASS |
| Band7 | 20MHz | 16QAM | 21100 | 1RB#0   | 22.99 | 20.97 | 33 | PASS |
| Band7 | 20MHz | 16QAM | 21100 | 1RB#49  | 22.84 | 20.82 | 33 | PASS |
| Band7 | 20MHz | 16QAM | 21100 | 1RB#99  | 22.92 | 20.9  | 33 | PASS |
| Band7 | 20MHz | 16QAM | 21100 | 100RB#0 | 21.82 | 19.8  | 33 | PASS |
| Band7 | 20MHz | QPSK  | 21350 | 1RB#0   | 23.46 | 21.44 | 33 | PASS |
| Band7 | 20MHz | QPSK  | 21350 | 1RB#49  | 23.47 | 21.45 | 33 | PASS |
| Band7 | 20MHz | QPSK  | 21350 | 1RB#99  | 23.43 | 21.41 | 33 | PASS |
| Band7 | 20MHz | QPSK  | 21350 | 100RB#0 | 22.52 | 20.5  | 33 | PASS |
| Band7 | 20MHz | 16QAM | 21350 | 1RB#0   | 22.86 | 20.84 | 33 | PASS |
| Band7 | 20MHz | 16QAM | 21350 | 1RB#49  | 22.79 | 20.77 | 33 | PASS |
| Band7 | 20MHz | 16QAM | 21350 | 1RB#99  | 22.72 | 20.7  | 33 | PASS |
| Band7 | 20MHz | 16QAM | 21350 | 100RB#0 | 21.76 | 19.74 | 33 | PASS |

**Peak-to-Average Ratio(CCDF)****Test Result**

| Band  | Bandwidth | Modulation | Channel | RB Configuration | Result (dB) | Limit (dB) | Verdict |
|-------|-----------|------------|---------|------------------|-------------|------------|---------|
| Band7 | 20MHz     | QPSK       | 20850   | 100RB#0          | 5.44        | 13         | PASS    |
| Band7 | 20MHz     | 16QAM      | 20850   | 100RB#0          | 6.14        | 13         | PASS    |
| Band7 | 20MHz     | QPSK       | 21100   | 100RB#0          | 5.36        | 13         | PASS    |
| Band7 | 20MHz     | 16QAM      | 21100   | 100RB#0          | 6.08        | 13         | PASS    |
| Band7 | 20MHz     | QPSK       | 21350   | 100RB#0          | 5.41        | 13         | PASS    |
| Band7 | 20MHz     | 16QAM      | 21350   | 100RB#0          | 6.12        | 13         | PASS    |

## Test Graphs

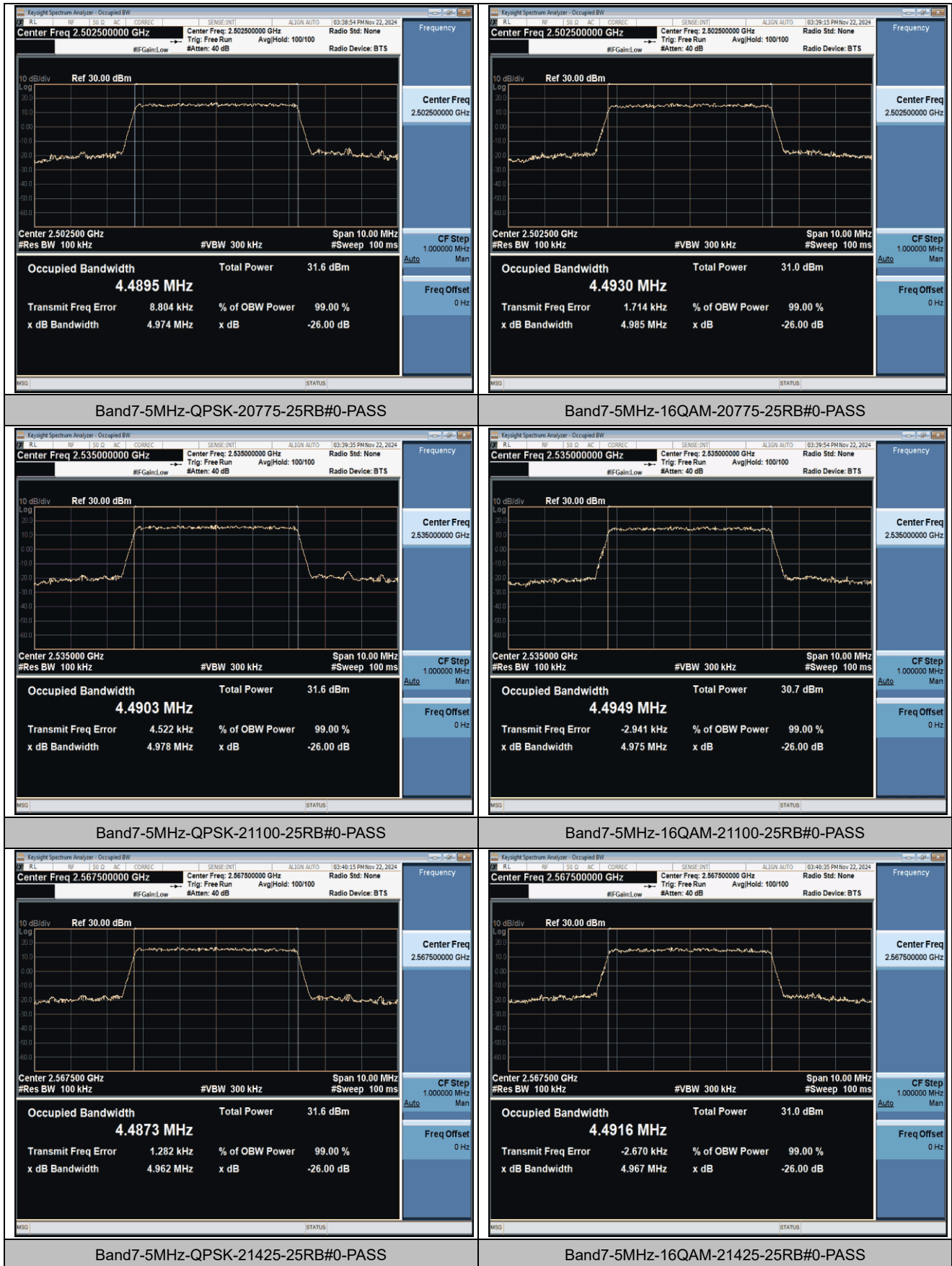


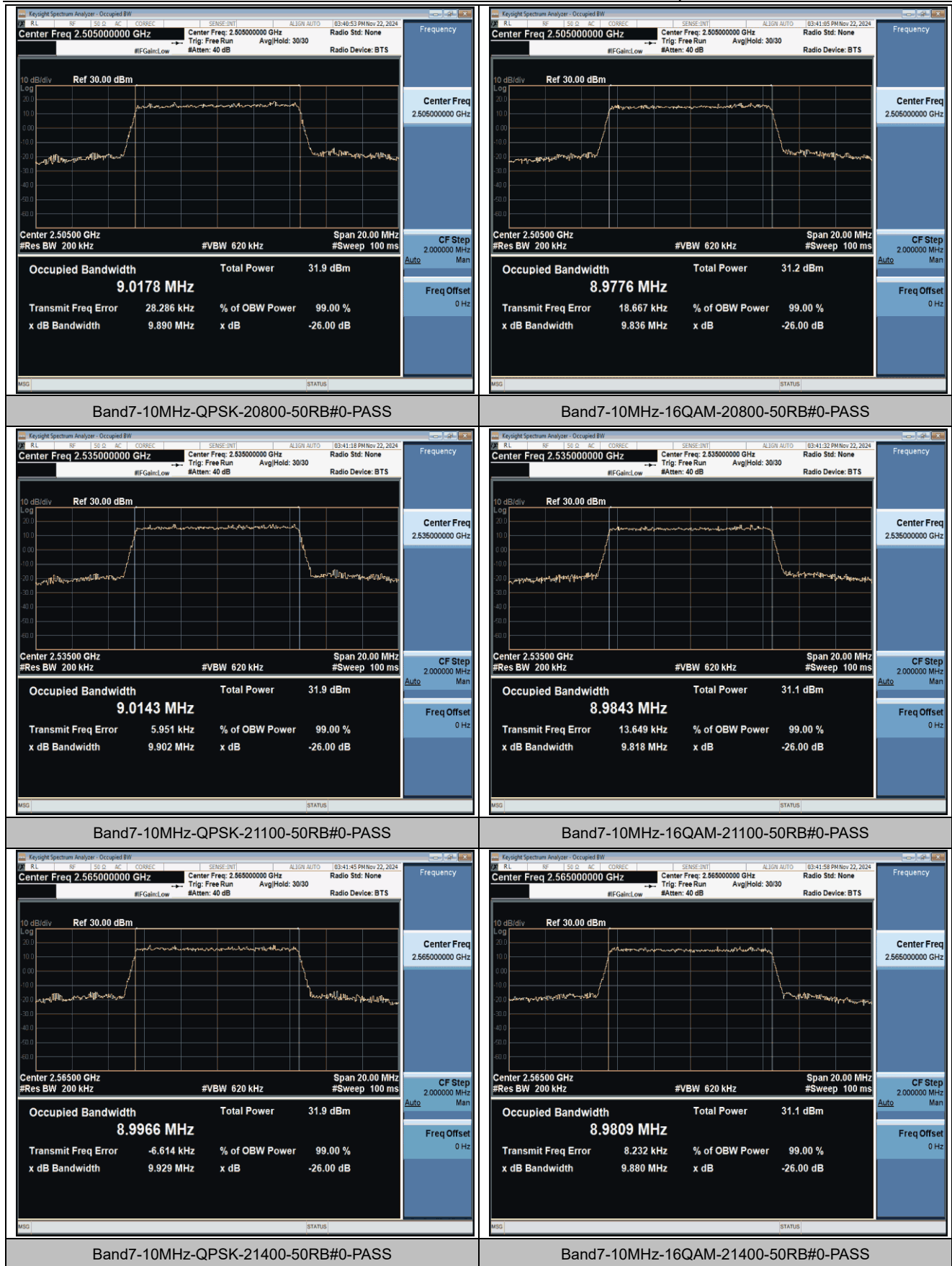
## 26dB Bandwidth and Occupied Bandwidth

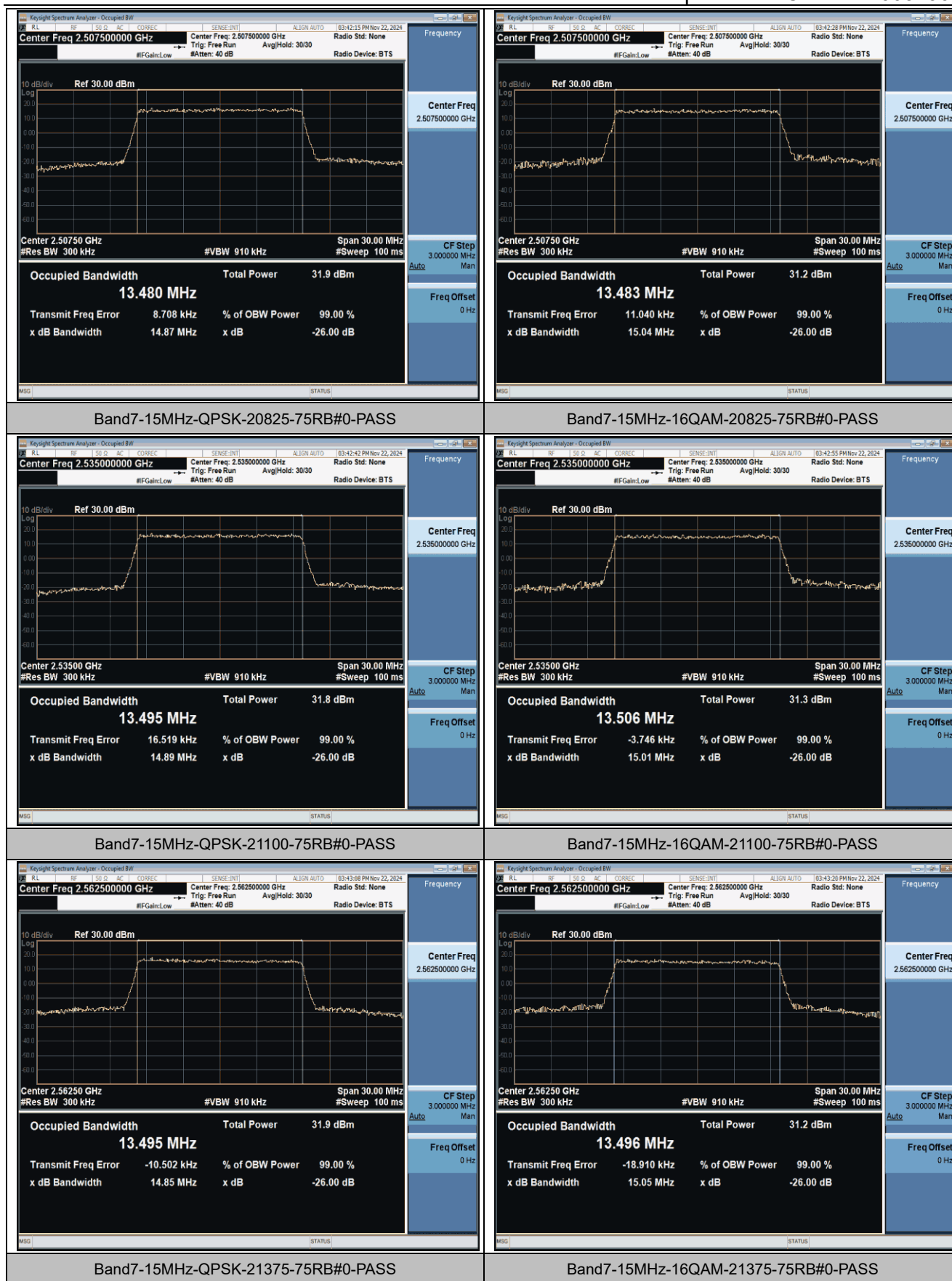
### Test Result

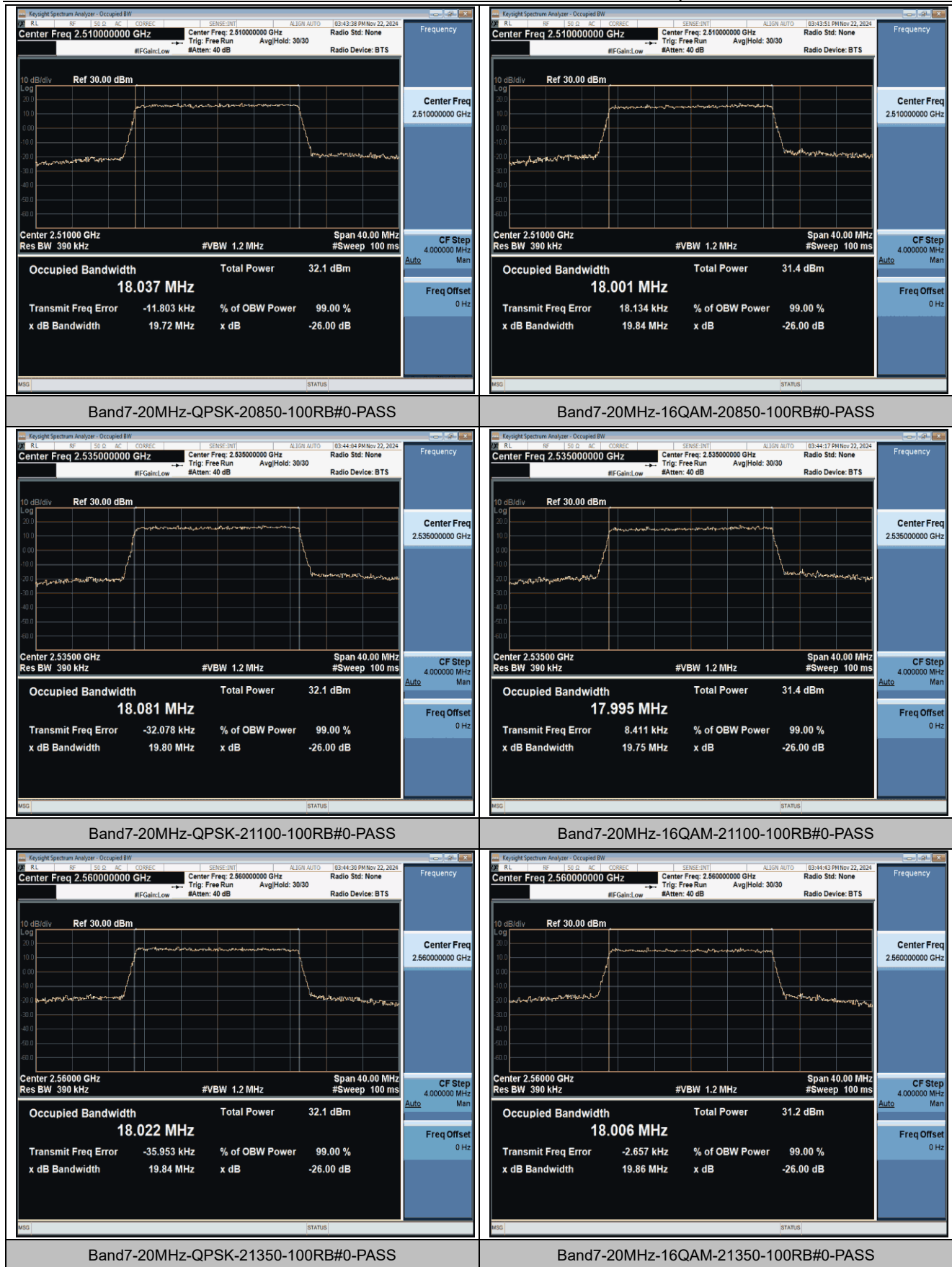
| Band  | Bandwidth | Modulation | Channel | RB Configuration | OBW (MHz) | 26dB EBW (MHz) | Verdict |
|-------|-----------|------------|---------|------------------|-----------|----------------|---------|
| Band7 | 5MHz      | QPSK       | 20775   | 25RB#0           | 4.4895    | 4.974          | PASS    |
| Band7 | 5MHz      | 16QAM      | 20775   | 25RB#0           | 4.4930    | 4.985          | PASS    |
| Band7 | 5MHz      | QPSK       | 21100   | 25RB#0           | 4.4903    | 4.978          | PASS    |
| Band7 | 5MHz      | 16QAM      | 21100   | 25RB#0           | 4.4949    | 4.975          | PASS    |
| Band7 | 5MHz      | QPSK       | 21425   | 25RB#0           | 4.4873    | 4.962          | PASS    |
| Band7 | 5MHz      | 16QAM      | 21425   | 25RB#0           | 4.4916    | 4.967          | PASS    |
| Band7 | 10MHz     | QPSK       | 20800   | 50RB#0           | 9.0178    | 9.890          | PASS    |
| Band7 | 10MHz     | 16QAM      | 20800   | 50RB#0           | 8.9776    | 9.836          | PASS    |
| Band7 | 10MHz     | QPSK       | 21100   | 50RB#0           | 9.0143    | 9.902          | PASS    |
| Band7 | 10MHz     | 16QAM      | 21100   | 50RB#0           | 8.9843    | 9.818          | PASS    |
| Band7 | 10MHz     | QPSK       | 21400   | 50RB#0           | 8.9966    | 9.929          | PASS    |
| Band7 | 10MHz     | 16QAM      | 21400   | 50RB#0           | 8.9809    | 9.880          | PASS    |
| Band7 | 15MHz     | QPSK       | 20825   | 75RB#0           | 13.480    | 14.87          | PASS    |
| Band7 | 15MHz     | 16QAM      | 20825   | 75RB#0           | 13.483    | 15.04          | PASS    |
| Band7 | 15MHz     | QPSK       | 21100   | 75RB#0           | 13.495    | 14.89          | PASS    |
| Band7 | 15MHz     | 16QAM      | 21100   | 75RB#0           | 13.506    | 15.01          | PASS    |
| Band7 | 15MHz     | QPSK       | 21375   | 75RB#0           | 13.495    | 14.85          | PASS    |
| Band7 | 15MHz     | 16QAM      | 21375   | 75RB#0           | 13.496    | 15.05          | PASS    |
| Band7 | 20MHz     | QPSK       | 20850   | 100RB#0          | 18.037    | 19.72          | PASS    |
| Band7 | 20MHz     | 16QAM      | 20850   | 100RB#0          | 18.001    | 19.84          | PASS    |
| Band7 | 20MHz     | QPSK       | 21100   | 100RB#0          | 18.081    | 19.80          | PASS    |
| Band7 | 20MHz     | 16QAM      | 21100   | 100RB#0          | 17.995    | 19.75          | PASS    |
| Band7 | 20MHz     | QPSK       | 21350   | 100RB#0          | 18.022    | 19.84          | PASS    |
| Band7 | 20MHz     | 16QAM      | 21350   | 100RB#0          | 18.006    | 19.86          | PASS    |

## Test Graphs



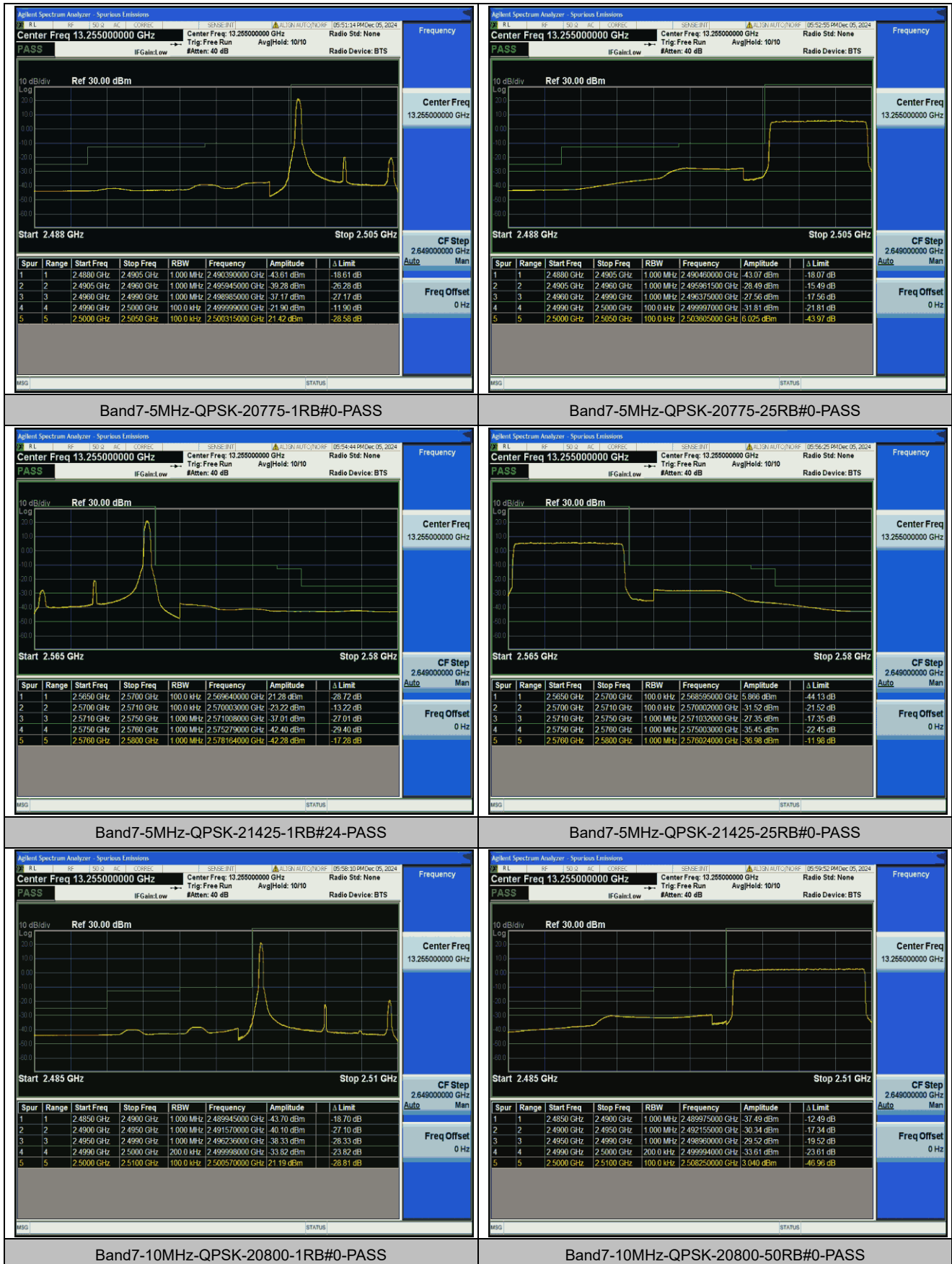


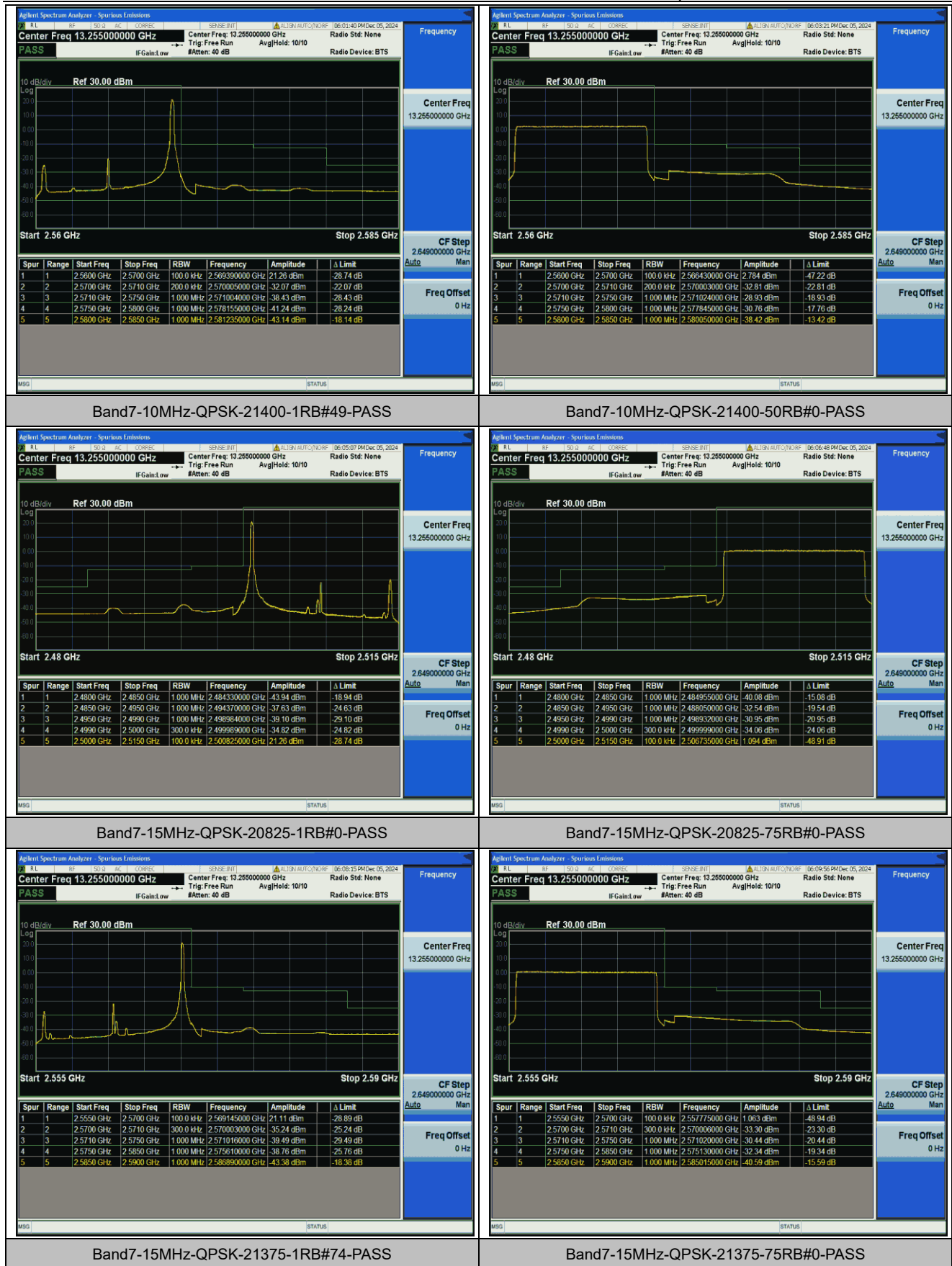


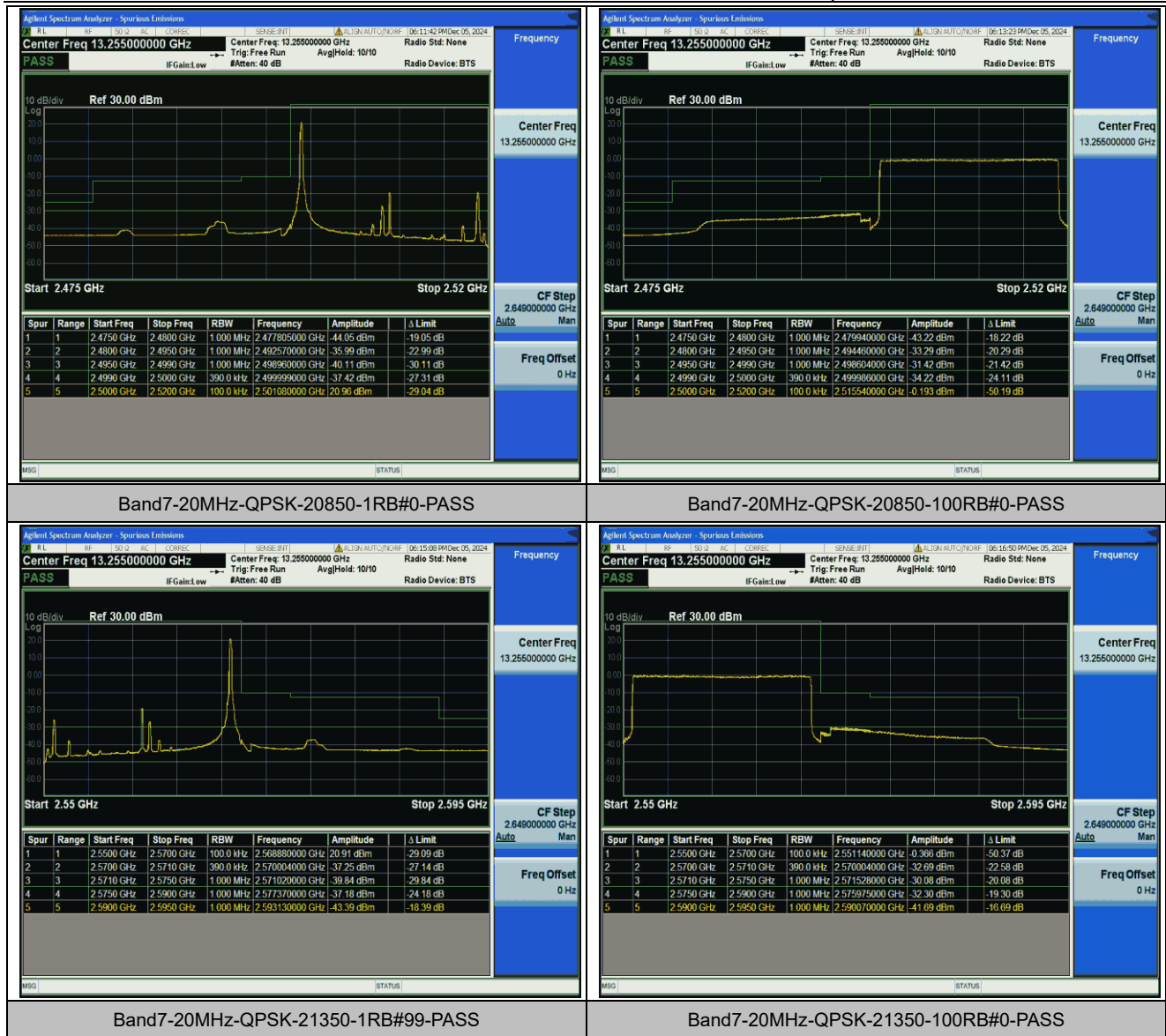


## Band Edge

## Test Graphs

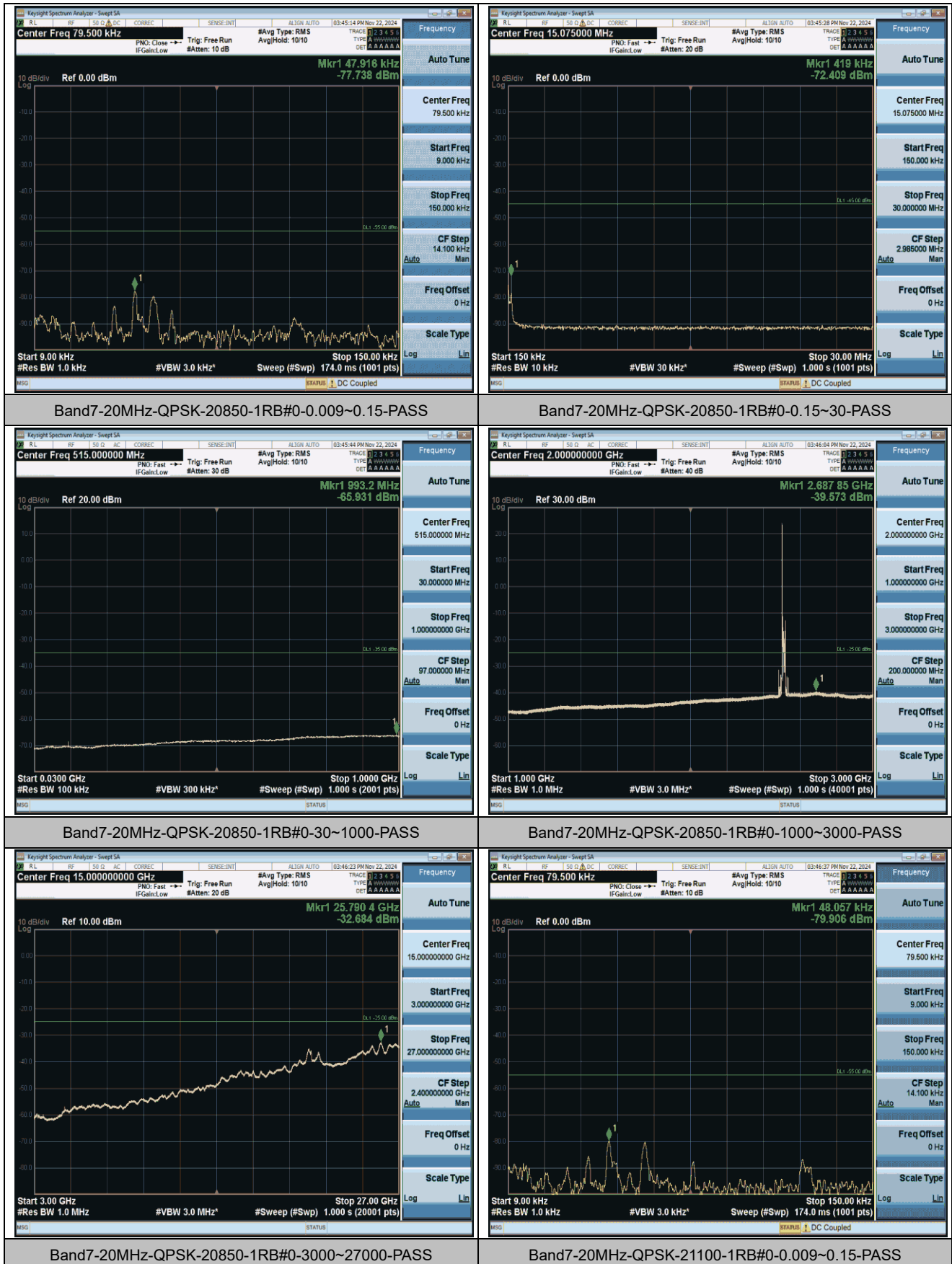


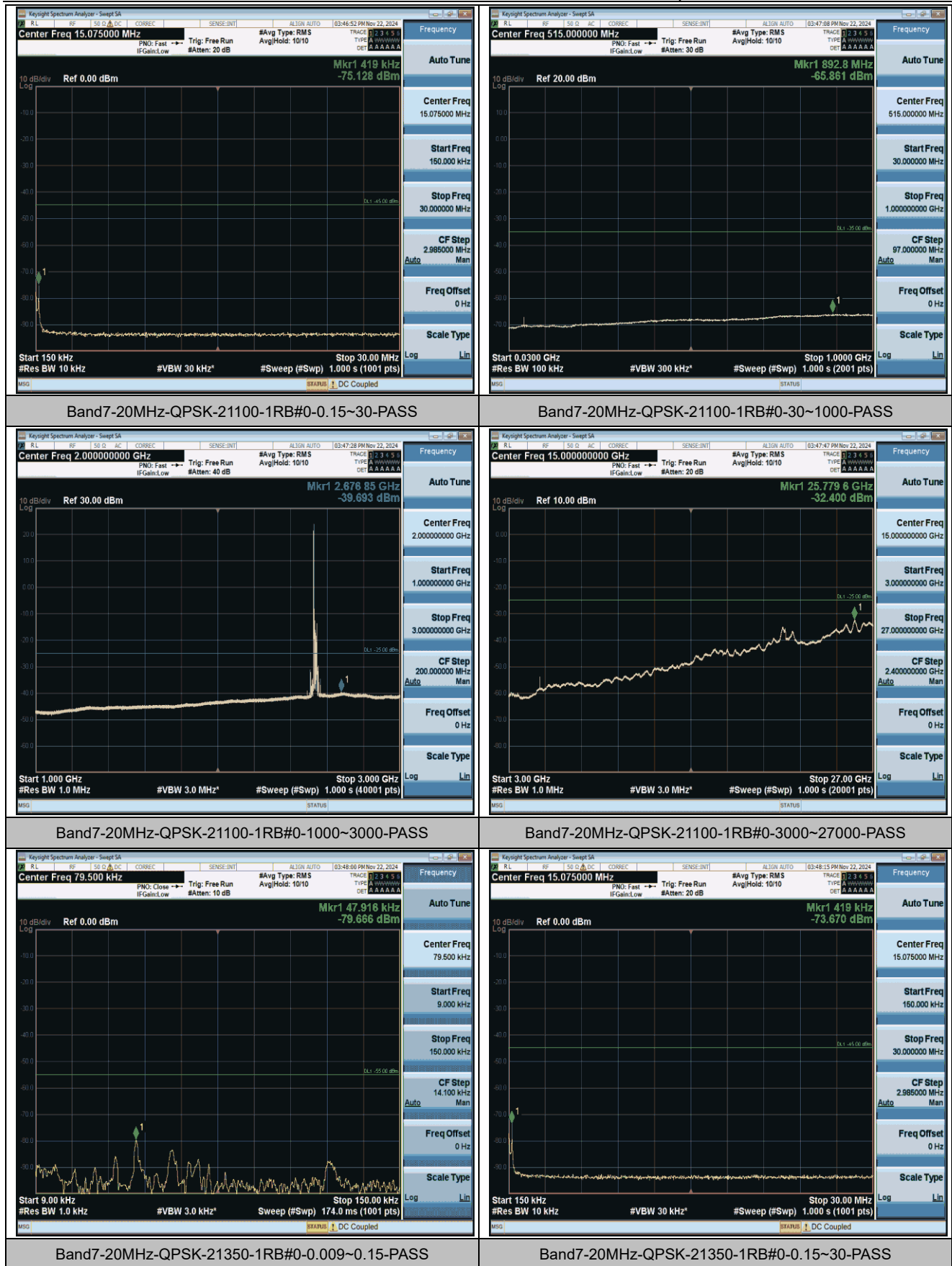


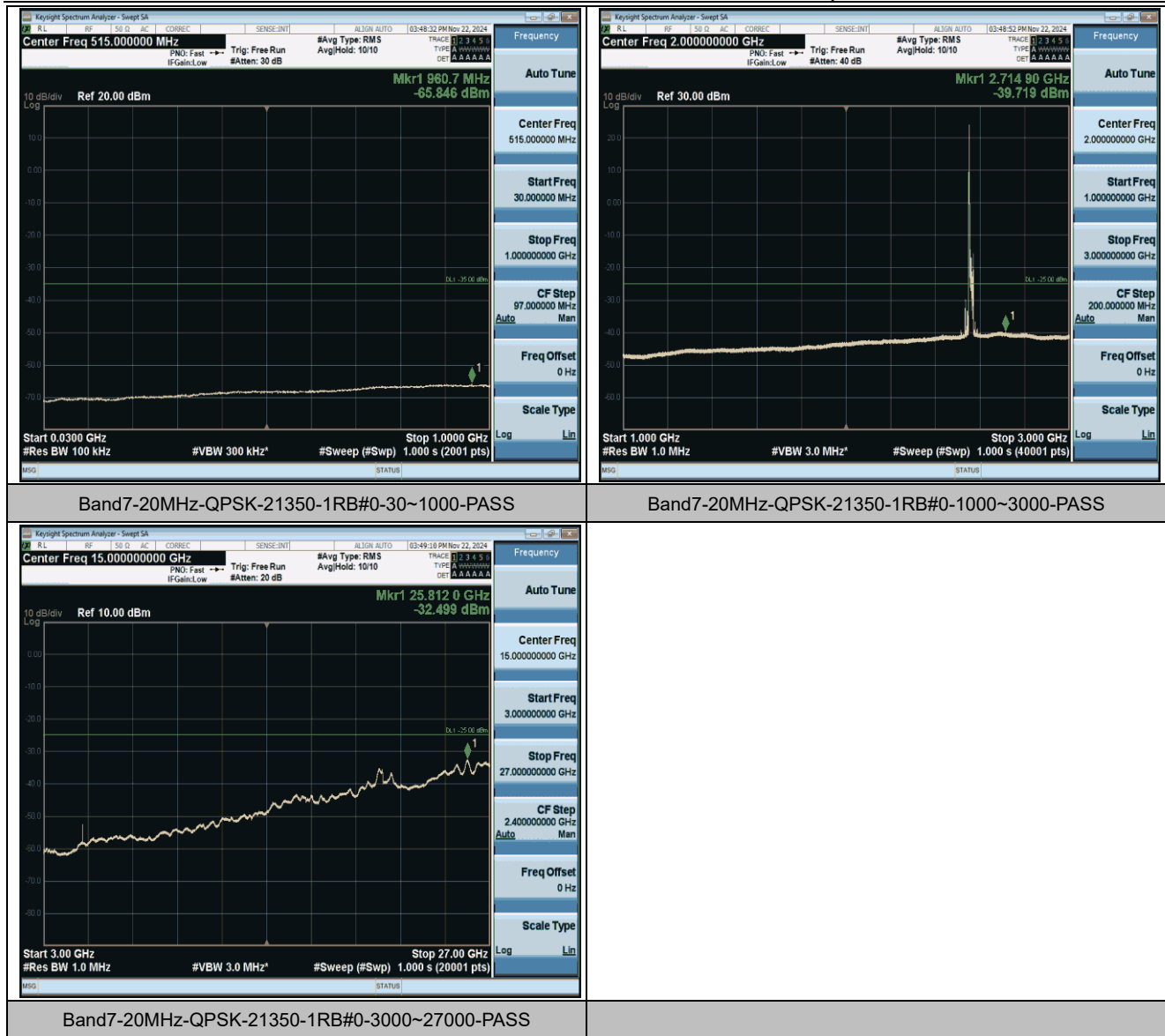


## Conducted Spurious Emission

## Test Graphs







## Frequency Stability

### Test Result

| Voltage |           |            |         |              |               |                  |                |                 |         |
|---------|-----------|------------|---------|--------------|---------------|------------------|----------------|-----------------|---------|
| Band    | Bandwidth | Modulation | Channel | RB Configure | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Verdict |
| Band7   | 20MHz     | QPSK       | 21100   | 100RB#0      | VN            | NT               | -26.20         | -0.010335       | PASS    |
| Band7   | 20MHz     | QPSK       | 21100   | 100RB#0      | VL            | NT               | -32.90         | -0.012978       | PASS    |
| Band7   | 20MHz     | QPSK       | 21100   | 100RB#0      | VH            | NT               | -6.80          | -0.002682       | PASS    |

| Temperature |           |            |         |              |               |                  |                |                 |         |
|-------------|-----------|------------|---------|--------------|---------------|------------------|----------------|-----------------|---------|
| Band        | Bandwidth | Modulation | Channel | RB Configure | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Verdict |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | -30              | -17.60         | -0.006943       | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | -20              | -27.20         | -0.010730       | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | -10              | -49.70         | -0.019606       | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | 0                | 3.70           | 0.001460        | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | 10               | -5.30          | -0.002091       | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | 20               | -15.60         | -0.006154       | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | 30               | -23.20         | -0.009152       | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | 40               | -29.10         | -0.011479       | PASS    |
| Band7       | 20MHz     | QPSK       | 21100   | 100RB#0      | NV            | 50               | -31.60         | -0.012465       | PASS    |

~The End~