

# Appendix-A LTE Band 30

## Effective (Isotropic) Radiated Power Output Data

### Test Result

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Result (dBm) | EIRP (dBm) | Verdict |
|--------|-----------|------------|---------|------------------|--------------|------------|---------|
| Band30 | 5MHz      | QPSK       | 27685   | 1RB#0            | 21.02        | 22         | PASS    |
| Band30 | 5MHz      | QPSK       | 27685   | 1RB#12           | 21.57        | 22.55      | PASS    |
| Band30 | 5MHz      | QPSK       | 27685   | 1RB#24           | 21.09        | 22.07      | PASS    |
| Band30 | 5MHz      | QPSK       | 27685   | 25RB#0           | 21.15        | 22.13      | PASS    |
| Band30 | 5MHz      | 16QAM      | 27685   | 1RB#0            | 21.03        | 22.01      | PASS    |
| Band30 | 5MHz      | 16QAM      | 27685   | 1RB#12           | 21.17        | 22.15      | PASS    |
| Band30 | 5MHz      | 16QAM      | 27685   | 1RB#24           | 21.07        | 22.05      | PASS    |
| Band30 | 5MHz      | 16QAM      | 27685   | 25RB#0           | 21.19        | 22.17      | PASS    |
| Band30 | 5MHz      | 64QAM      | 27685   | 1RB#0            | 21.1         | 22.08      | PASS    |
| Band30 | 5MHz      | 64QAM      | 27685   | 1RB#12           | 21.54        | 22.52      | PASS    |
| Band30 | 5MHz      | 64QAM      | 27685   | 1RB#24           | 21.29        | 22.27      | PASS    |
| Band30 | 5MHz      | 64QAM      | 27685   | 25RB#0           | 21.12        | 22.1       | PASS    |
| Band30 | 5MHz      | 256QAM     | 27685   | 1RB#0            | 20.83        | 21.81      | PASS    |
| Band30 | 5MHz      | 256QAM     | 27685   | 1RB#12           | 20.84        | 21.82      | PASS    |
| Band30 | 5MHz      | 256QAM     | 27685   | 1RB#24           | 20.7         | 21.68      | PASS    |
| Band30 | 5MHz      | 256QAM     | 27685   | 25RB#0           | 20.74        | 21.72      | PASS    |
| Band30 | 5MHz      | QPSK       | 27710   | 1RB#0            | 21.08        | 22.06      | PASS    |
| Band30 | 5MHz      | QPSK       | 27710   | 1RB#12           | 21.1         | 22.08      | PASS    |
| Band30 | 5MHz      | QPSK       | 27710   | 1RB#24           | 21.01        | 21.99      | PASS    |
| Band30 | 5MHz      | QPSK       | 27710   | 25RB#0           | 21.14        | 22.12      | PASS    |
| Band30 | 5MHz      | 16QAM      | 27710   | 1RB#0            | 21.01        | 21.99      | PASS    |
| Band30 | 5MHz      | 16QAM      | 27710   | 1RB#12           | 21.38        | 22.36      | PASS    |
| Band30 | 5MHz      | 16QAM      | 27710   | 1RB#24           | 21.18        | 22.16      | PASS    |
| Band30 | 5MHz      | 16QAM      | 27710   | 25RB#0           | 21.18        | 22.16      | PASS    |
| Band30 | 5MHz      | 64QAM      | 27710   | 1RB#0            | 21.17        | 22.15      | PASS    |
| Band30 | 5MHz      | 64QAM      | 27710   | 1RB#12           | 21.47        | 22.45      | PASS    |
| Band30 | 5MHz      | 64QAM      | 27710   | 1RB#24           | 21.23        | 22.21      | PASS    |
| Band30 | 5MHz      | 64QAM      | 27710   | 25RB#0           | 21.17        | 22.15      | PASS    |
| Band30 | 5MHz      | 256QAM     | 27710   | 1RB#0            | 20.93        | 21.91      | PASS    |
| Band30 | 5MHz      | 256QAM     | 27710   | 1RB#12           | 21.1         | 22.08      | PASS    |
| Band30 | 5MHz      | 256QAM     | 27710   | 1RB#24           | 20.7         | 21.68      | PASS    |
| Band30 | 5MHz      | 256QAM     | 27710   | 25RB#0           | 20.73        | 21.71      | PASS    |
| Band30 | 5MHz      | QPSK       | 27735   | 1RB#0            | 21.02        | 22         | PASS    |
| Band30 | 5MHz      | QPSK       | 27735   | 1RB#12           | 21.12        | 22.1       | PASS    |
| Band30 | 5MHz      | QPSK       | 27735   | 1RB#24           | 20.92        | 21.9       | PASS    |
| Band30 | 5MHz      | QPSK       | 27735   | 25RB#0           | 21.16        | 22.14      | PASS    |
| Band30 | 5MHz      | 16QAM      | 27735   | 1RB#0            | 21.05        | 22.03      | PASS    |

|        |       |        |       |        |       |       |      |
|--------|-------|--------|-------|--------|-------|-------|------|
| Band30 | 5MHz  | 16QAM  | 27735 | 1RB#12 | 20.9  | 21.88 | PASS |
| Band30 | 5MHz  | 16QAM  | 27735 | 1RB#24 | 21.11 | 22.09 | PASS |
| Band30 | 5MHz  | 16QAM  | 27735 | 25RB#0 | 21.24 | 22.22 | PASS |
| Band30 | 5MHz  | 64QAM  | 27735 | 1RB#0  | 21.36 | 22.34 | PASS |
| Band30 | 5MHz  | 64QAM  | 27735 | 1RB#12 | 21.32 | 22.3  | PASS |
| Band30 | 5MHz  | 64QAM  | 27735 | 1RB#24 | 21.37 | 22.35 | PASS |
| Band30 | 5MHz  | 64QAM  | 27735 | 25RB#0 | 21.12 | 22.1  | PASS |
| Band30 | 5MHz  | 256QAM | 27735 | 1RB#0  | 20.99 | 21.97 | PASS |
| Band30 | 5MHz  | 256QAM | 27735 | 1RB#12 | 20.76 | 21.74 | PASS |
| Band30 | 5MHz  | 256QAM | 27735 | 1RB#24 | 20.81 | 21.79 | PASS |
| Band30 | 5MHz  | 256QAM | 27735 | 25RB#0 | 20.85 | 21.83 | PASS |
| Band30 | 10MHz | QPSK   | 27710 | 1RB#0  | 21.06 | 22.04 | PASS |
| Band30 | 10MHz | QPSK   | 27710 | 1RB#24 | 21.15 | 22.13 | PASS |
| Band30 | 10MHz | QPSK   | 27710 | 1RB#49 | 21.05 | 22.03 | PASS |
| Band30 | 10MHz | QPSK   | 27710 | 50RB#0 | 21.22 | 22.2  | PASS |
| Band30 | 10MHz | 16QAM  | 27710 | 1RB#0  | 21.18 | 22.16 | PASS |
| Band30 | 10MHz | 16QAM  | 27710 | 1RB#24 | 21.31 | 22.29 | PASS |
| Band30 | 10MHz | 16QAM  | 27710 | 1RB#49 | 21.24 | 22.22 | PASS |
| Band30 | 10MHz | 16QAM  | 27710 | 50RB#0 | 21.34 | 22.32 | PASS |
| Band30 | 10MHz | 64QAM  | 27710 | 1RB#0  | 21.25 | 22.23 | PASS |
| Band30 | 10MHz | 64QAM  | 27710 | 1RB#24 | 21.41 | 22.39 | PASS |
| Band30 | 10MHz | 64QAM  | 27710 | 1RB#49 | 21.45 | 22.43 | PASS |
| Band30 | 10MHz | 64QAM  | 27710 | 50RB#0 | 21.26 | 22.24 | PASS |
| Band30 | 10MHz | 256QAM | 27710 | 1RB#0  | 21.09 | 22.07 | PASS |
| Band30 | 10MHz | 256QAM | 27710 | 1RB#24 | 20.91 | 21.89 | PASS |
| Band30 | 10MHz | 256QAM | 27710 | 1RB#49 | 21.09 | 22.07 | PASS |
| Band30 | 10MHz | 256QAM | 27710 | 50RB#0 | 20.92 | 21.9  | PASS |

## Maximum EIRP and Maximum PSD

### Test Result

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Result (dBm/5MHz) | EIRP (dBm/5MHz) | Limit (dBm/5MHz) | Verdict |
|--------|-----------|------------|---------|------------------|-------------------|-----------------|------------------|---------|
| Band30 | 5MHz      | QPSK       | 27685   | 1RB#0            | 21.58             | 22.56           | 23.98            | PASS    |
| Band30 | 5MHz      | QPSK       | 27685   | 1RB#12           | 21.62             | 22.6            | 23.98            | PASS    |
| Band30 | 5MHz      | QPSK       | 27685   | 1RB#24           | 21.77             | 22.75           | 23.98            | PASS    |
| Band30 | 5MHz      | QPSK       | 27685   | 25RB#0           | 20.79             | 21.77           | 23.98            | PASS    |
| Band30 | 5MHz      | QPSK       | 27710   | 1RB#0            | 21.69             | 22.67           | 23.98            | PASS    |
| Band30 | 5MHz      | QPSK       | 27710   | 1RB#12           | 21.87             | 22.85           | 23.98            | PASS    |
| Band30 | 5MHz      | QPSK       | 27710   | 1RB#24           | 21.5              | 22.48           | 23.98            | PASS    |
| Band30 | 5MHz      | QPSK       | 27710   | 25RB#0           | 20.72             | 21.7            | 23.98            | PASS    |
| Band30 | 5MHz      | QPSK       | 27735   | 1RB#0            | 21.57             | 22.55           | 23.98            | PASS    |
| Band30 | 5MHz      | QPSK       | 27735   | 1RB#12           | 21.61             | 22.59           | 23.98            | PASS    |
| Band30 | 5MHz      | QPSK       | 27735   | 1RB#24           | 21.66             | 22.64           | 23.98            | PASS    |
| Band30 | 5MHz      | QPSK       | 27735   | 25RB#0           | 20.79             | 21.77           | 23.98            | PASS    |
| Band30 | 10MHz     | QPSK       | 27710   | 1RB#0            | 21.59             | 22.57           | 23.98            | PASS    |
| Band30 | 10MHz     | QPSK       | 27710   | 1RB#24           | 21.63             | 22.61           | 23.98            | PASS    |
| Band30 | 10MHz     | QPSK       | 27710   | 1RB#49           | 21.5              | 22.48           | 23.98            | PASS    |
| Band30 | 10MHz     | QPSK       | 27710   | 50RB#0           | 18.9              | 19.88           | 23.98            | PASS    |

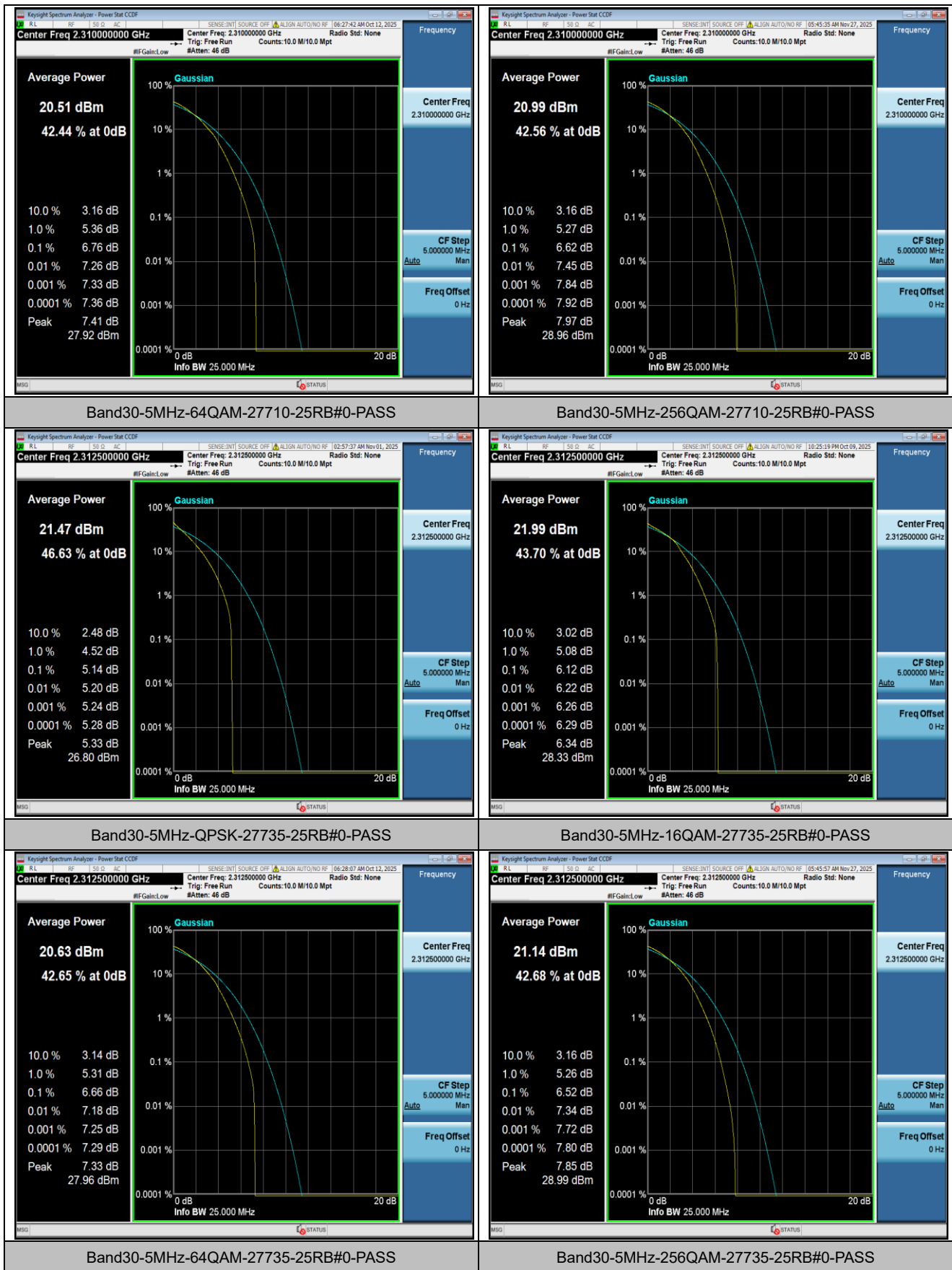
## Peak-to-Average Ratio(CCDF)

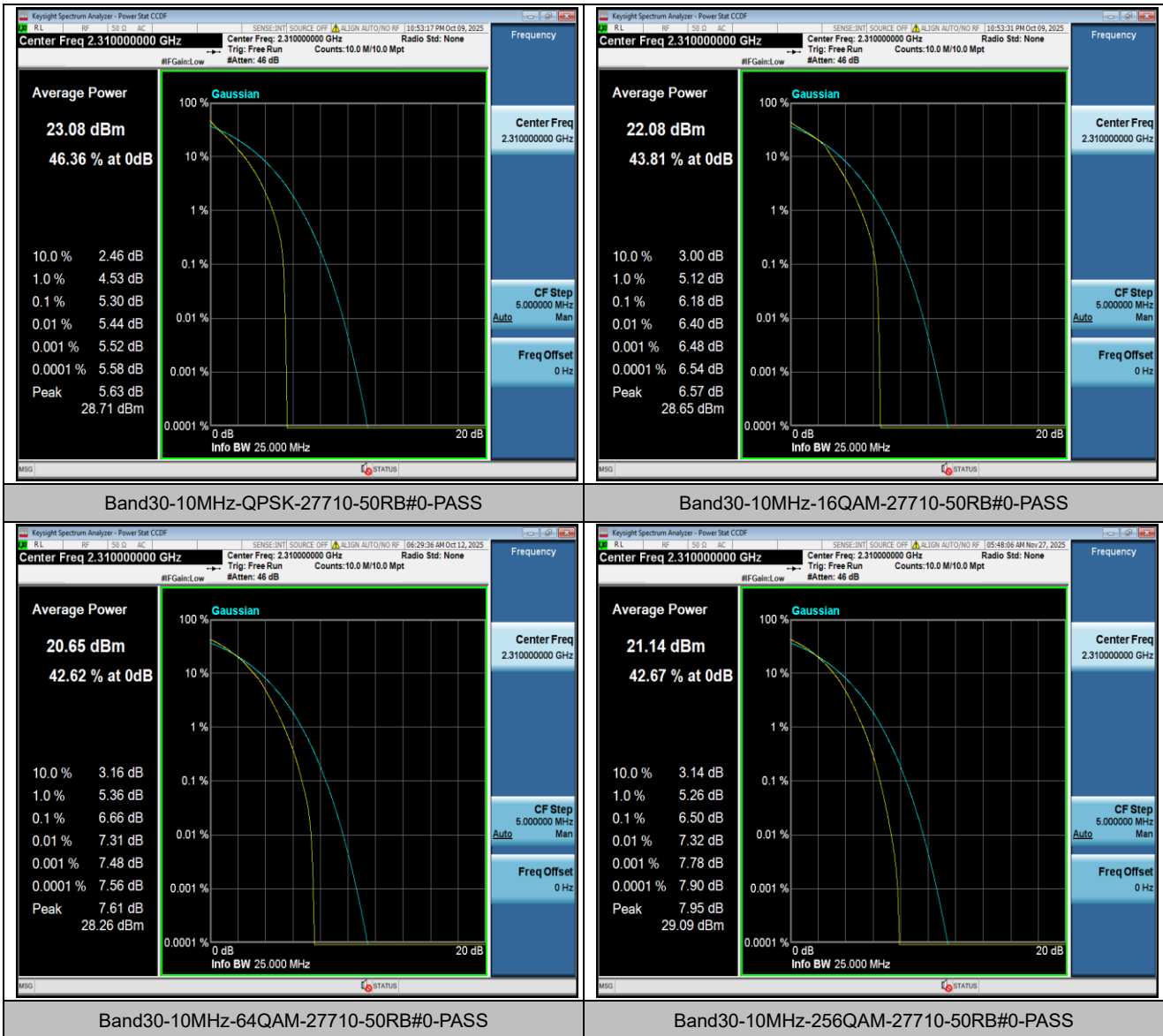
### Test Result

| Band   | Bandwidth | Modulation | Channel | RB Configuration | Result (dB) | Limit (dB) | Verdict |
|--------|-----------|------------|---------|------------------|-------------|------------|---------|
| Band30 | 5MHz      | QPSK       | 27685   | 25RB#0           | 5.19        | 13         | PASS    |
| Band30 | 5MHz      | 16QAM      | 27685   | 25RB#0           | 6.15        | 13         | PASS    |
| Band30 | 5MHz      | 64QAM      | 27685   | 25RB#0           | 6.67        | 13         | PASS    |
| Band30 | 5MHz      | 256QAM     | 27685   | 25RB#0           | 6.55        | 13         | PASS    |
| Band30 | 5MHz      | QPSK       | 27710   | 25RB#0           | 5.19        | 13         | PASS    |
| Band30 | 5MHz      | 16QAM      | 27710   | 25RB#0           | 6.15        | 13         | PASS    |
| Band30 | 5MHz      | 64QAM      | 27710   | 25RB#0           | 6.76        | 13         | PASS    |
| Band30 | 5MHz      | 256QAM     | 27710   | 25RB#0           | 6.62        | 13         | PASS    |
| Band30 | 5MHz      | QPSK       | 27735   | 25RB#0           | 5.14        | 13         | PASS    |
| Band30 | 5MHz      | 16QAM      | 27735   | 25RB#0           | 6.12        | 13         | PASS    |
| Band30 | 5MHz      | 64QAM      | 27735   | 25RB#0           | 6.66        | 13         | PASS    |
| Band30 | 5MHz      | 256QAM     | 27735   | 25RB#0           | 6.52        | 13         | PASS    |
| Band30 | 10MHz     | QPSK       | 27710   | 50RB#0           | 5.30        | 13         | PASS    |
| Band30 | 10MHz     | 16QAM      | 27710   | 50RB#0           | 6.18        | 13         | PASS    |
| Band30 | 10MHz     | 64QAM      | 27710   | 50RB#0           | 6.66        | 13         | PASS    |
| Band30 | 10MHz     | 256QAM     | 27710   | 50RB#0           | 6.50        | 13         | PASS    |

## Test Graphs







## 26dB Bandwidth and Occupied Bandwidth

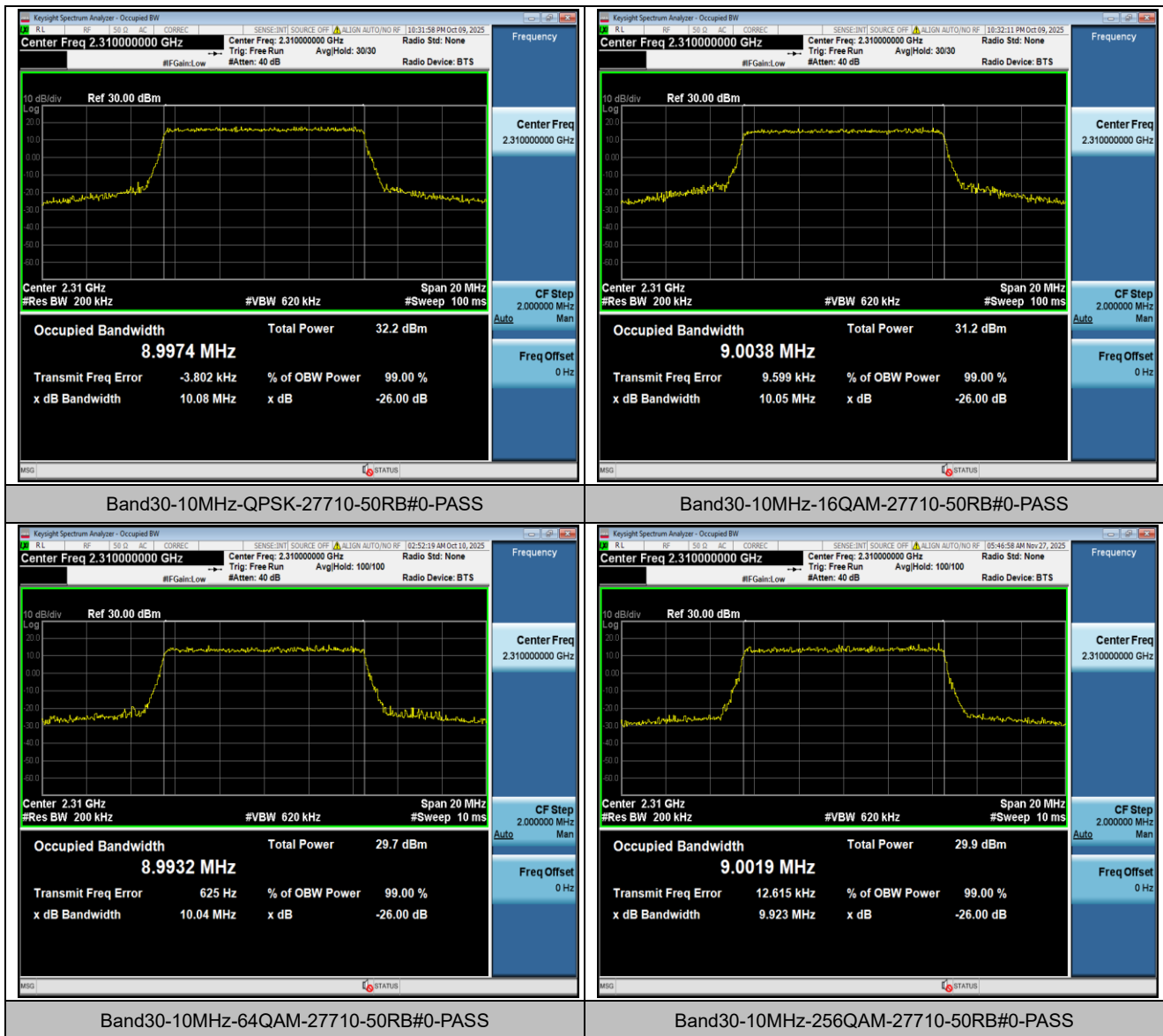
### Test Result

| Band   | Bandwidth | Modulation | Channel | RB Configuration | OBW (MHz) | 26dB EBW (MHz) | Verdict |
|--------|-----------|------------|---------|------------------|-----------|----------------|---------|
| Band30 | 5MHz      | QPSK       | 27685   | 25RB#0           | 4.5150    | 5.157          | PASS    |
| Band30 | 5MHz      | 16QAM      | 27685   | 25RB#0           | 4.5131    | 5.180          | PASS    |
| Band30 | 5MHz      | 64QAM      | 27685   | 25RB#0           | 4.5014    | 5.134          | PASS    |
| Band30 | 5MHz      | 256QAM     | 27685   | 25RB#0           | 4.5096    | 5.112          | PASS    |
| Band30 | 5MHz      | QPSK       | 27710   | 25RB#0           | 4.5096    | 5.173          | PASS    |
| Band30 | 5MHz      | 16QAM      | 27710   | 25RB#0           | 4.5083    | 5.181          | PASS    |
| Band30 | 5MHz      | 64QAM      | 27710   | 25RB#0           | 4.5098    | 5.163          | PASS    |
| Band30 | 5MHz      | 256QAM     | 27710   | 25RB#0           | 4.5016    | 5.147          | PASS    |
| Band30 | 5MHz      | QPSK       | 27735   | 25RB#0           | 4.5070    | 5.157          | PASS    |
| Band30 | 5MHz      | 16QAM      | 27735   | 25RB#0           | 4.5099    | 5.146          | PASS    |
| Band30 | 5MHz      | 64QAM      | 27735   | 25RB#0           | 4.4969    | 5.129          | PASS    |
| Band30 | 5MHz      | 256QAM     | 27735   | 25RB#0           | 4.5029    | 5.096          | PASS    |
| Band30 | 10MHz     | QPSK       | 27710   | 50RB#0           | 8.9974    | 10.08          | PASS    |
| Band30 | 10MHz     | 16QAM      | 27710   | 50RB#0           | 9.0038    | 10.05          | PASS    |
| Band30 | 10MHz     | 64QAM      | 27710   | 50RB#0           | 8.9932    | 10.04          | PASS    |
| Band30 | 10MHz     | 256QAM     | 27710   | 50RB#0           | 9.0019    | 9.923          | PASS    |

## Test Graphs

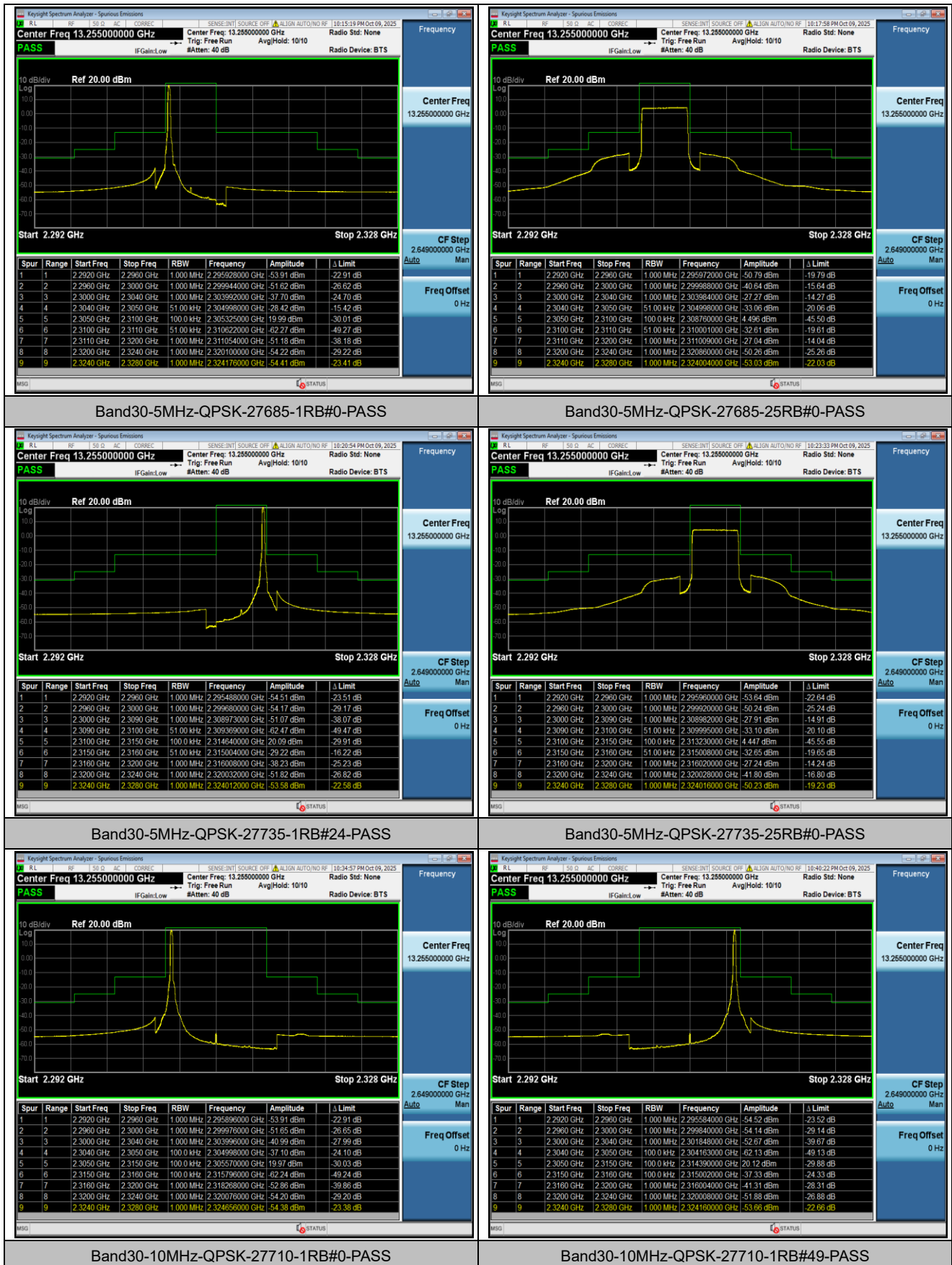






## Band Edge

## Test Graphs

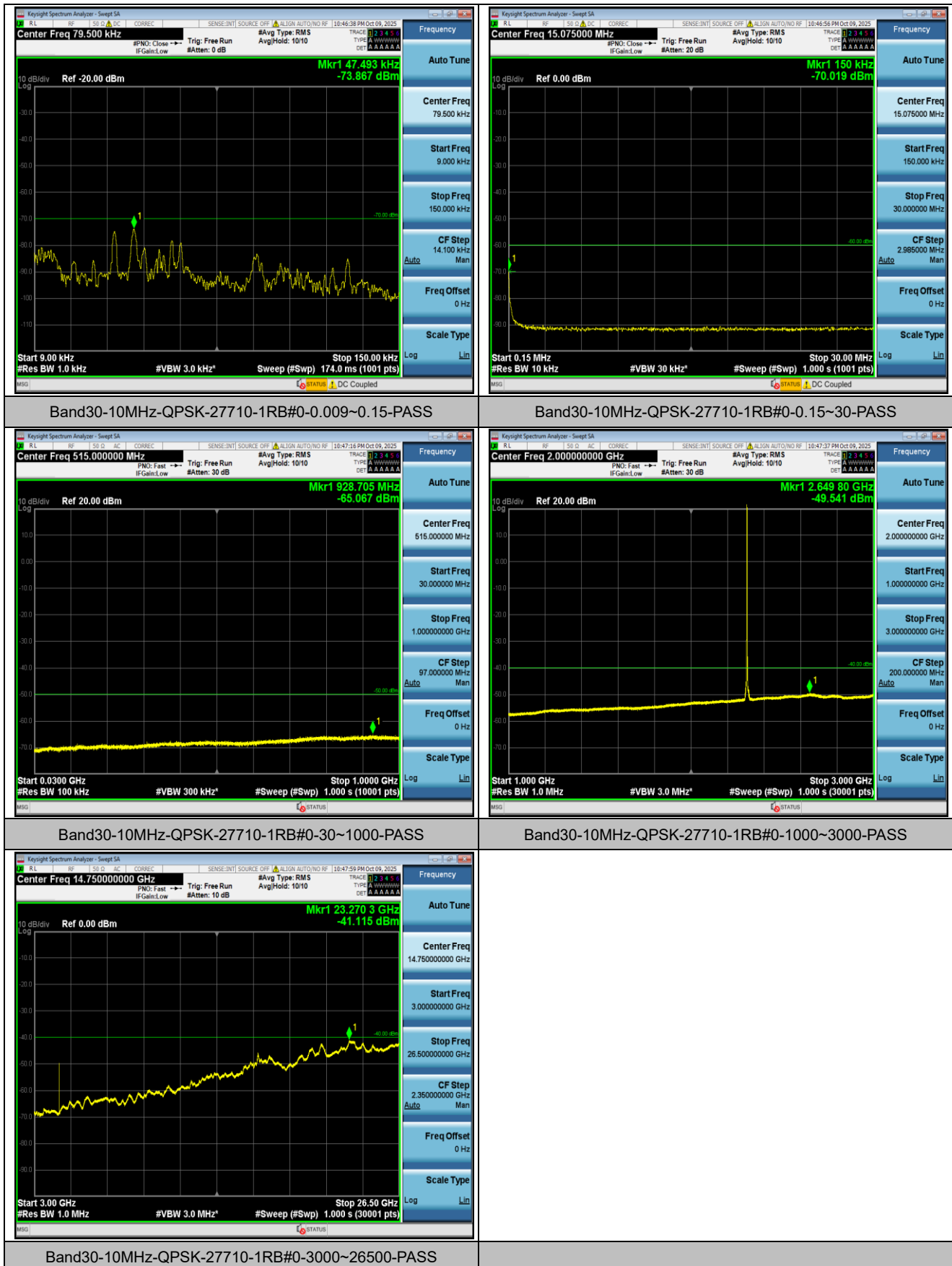




Band30-10MHz-QPSK-27710-50RB#0-PASS

## 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 |
| Band30  | 10MHz     | QPSK       | 27710   | 50RB#0       | VN            | NT               | -1.30          | -0.000563       | PASS    |
| Band30  | 10MHz     | QPSK       | 27710   | 50RB#0       | VL            | NT               | -0.20          | -0.000087       | PASS    |
| Band30  | 10MHz     | QPSK       | 27710   | 50RB#0       | VH            | NT               | -3.30          | -0.001429       | PASS    |

| Temperature |           |            |         |              |               |                  |                |                 |         |
|-------------|-----------|------------|---------|--------------|---------------|------------------|----------------|-----------------|---------|
| Band        | Bandwidth | Modulation | Channel | RB Configure | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Verdict |
| Band30      | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | -30              | -1.60          | -0.000693       | PASS    |
| Band30      | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | -20              | -2.00          | -0.000866       | PASS    |
| Band30      | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | -10              | -1.40          | -0.000606       | PASS    |
| Band30      | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | 0                | -3.30          | -0.001429       | PASS    |
| Band30      | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | 10               | -0.60          | -0.000260       | PASS    |
| Band30      | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | 20               | -2.50          | -0.001082       | PASS    |
| Band30      | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | 30               | -3.70          | -0.001602       | PASS    |
| Band30      | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | 40               | -2.50          | -0.001082       | PASS    |
| Band30      | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | 50               | -2.80          | -0.001212       | PASS    |

~The End~