Test Mode: QPSK

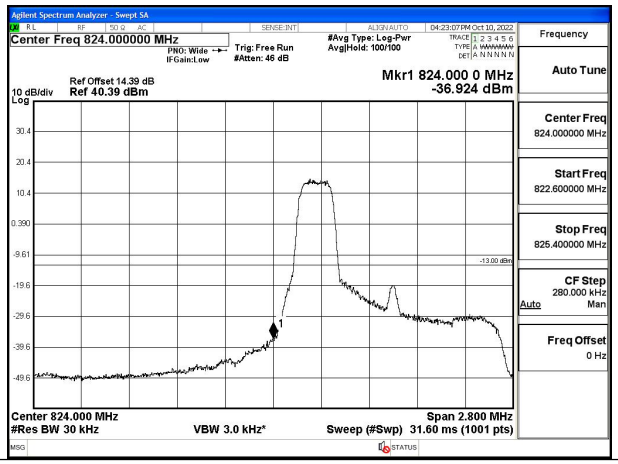


Fig.1

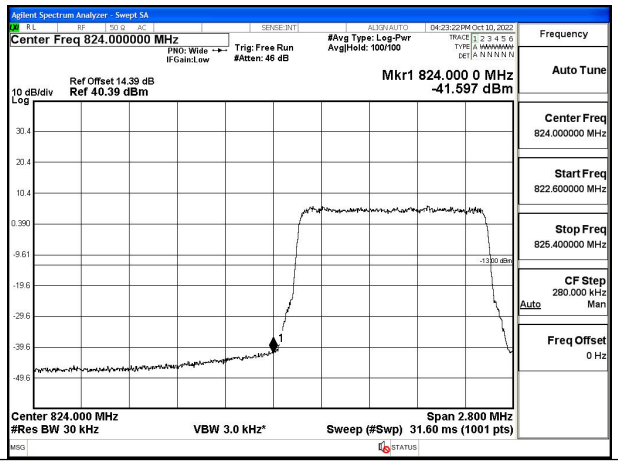


Fig.2

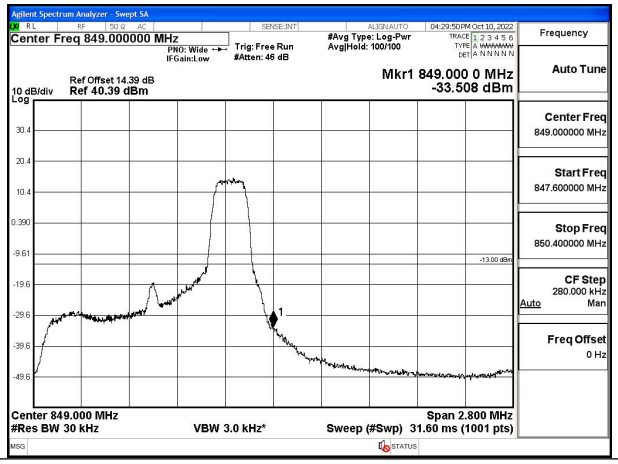


Fig.3

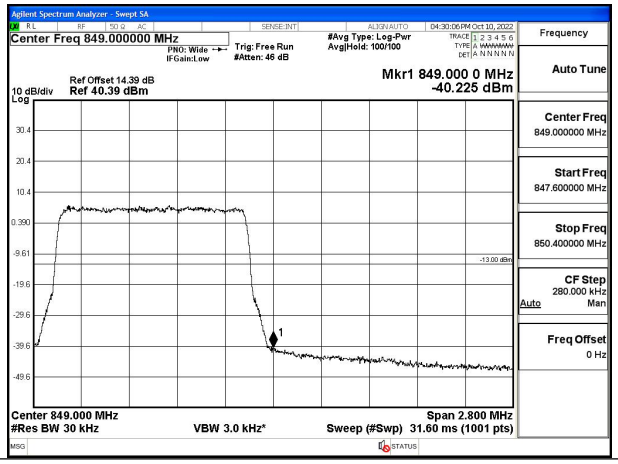


Fig.4

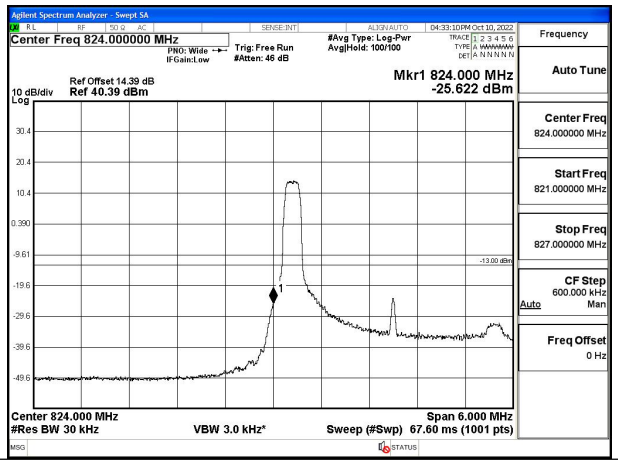


Fig.5

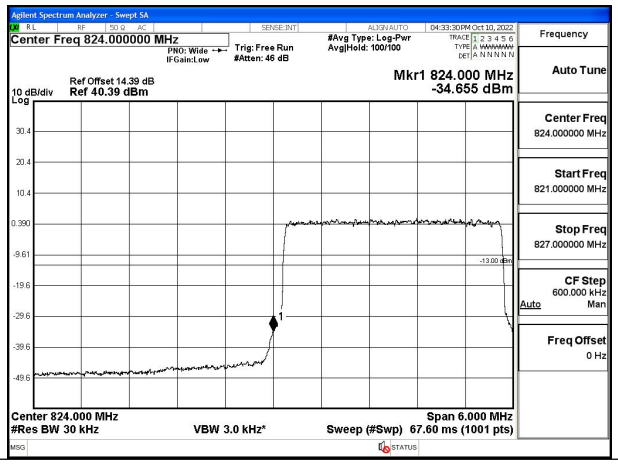


Fig.6

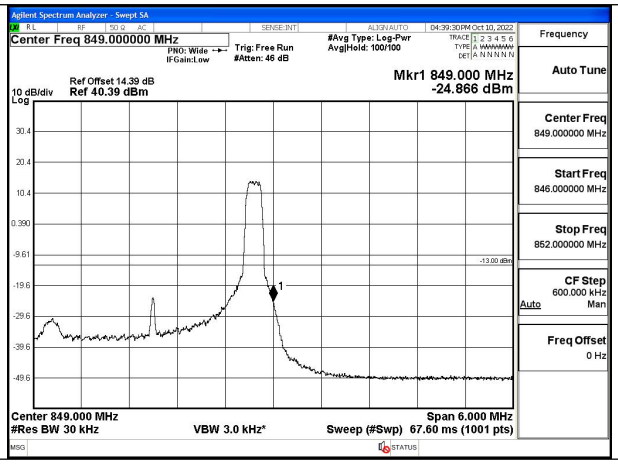


Fig.7

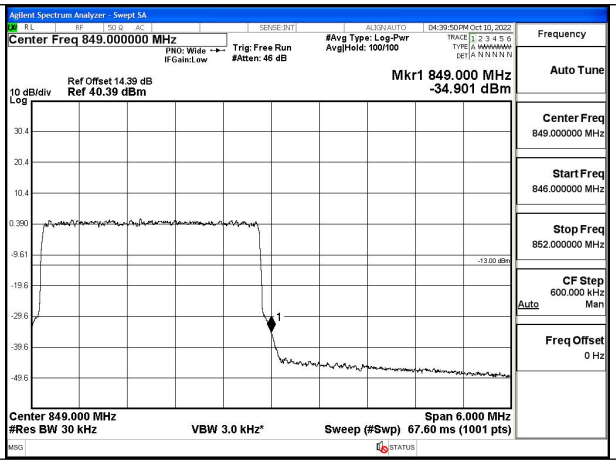


Fig.8

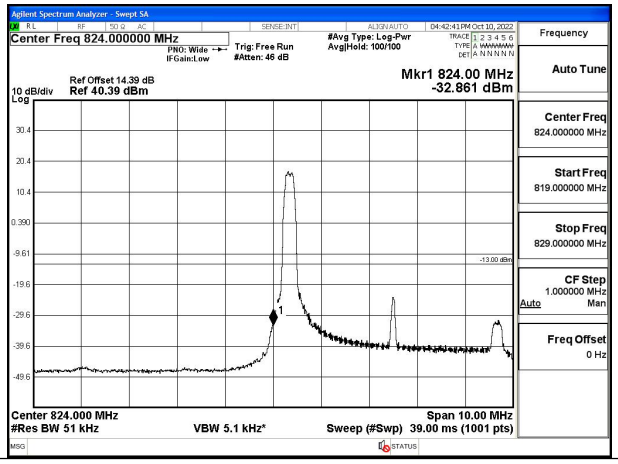


Fig.9

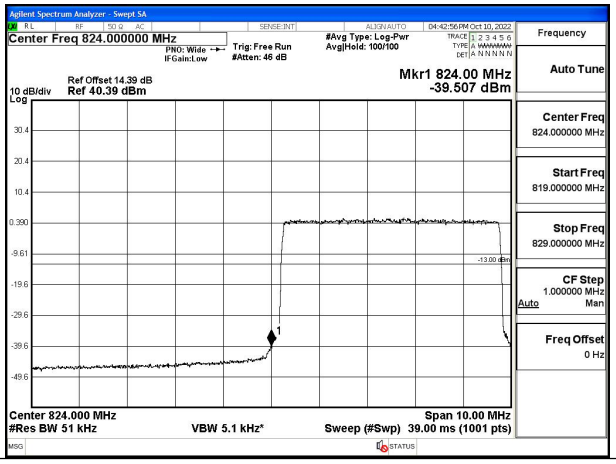


Fig.10

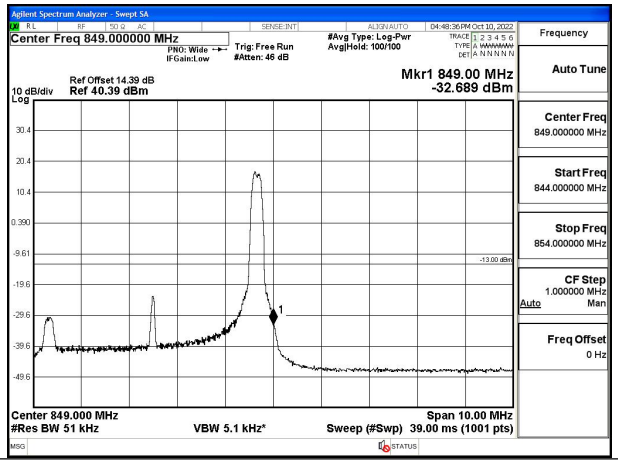


Fig.11

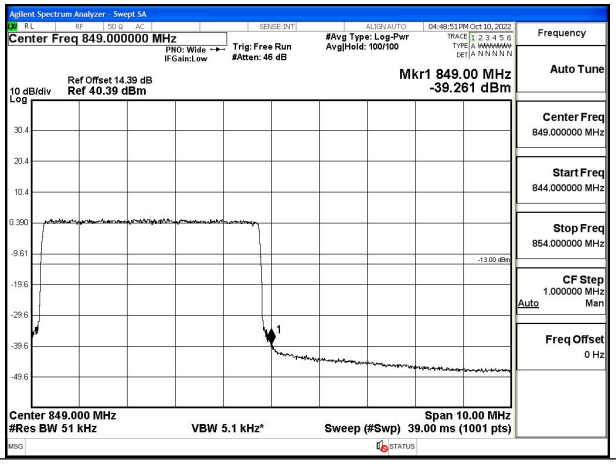


Fig.12

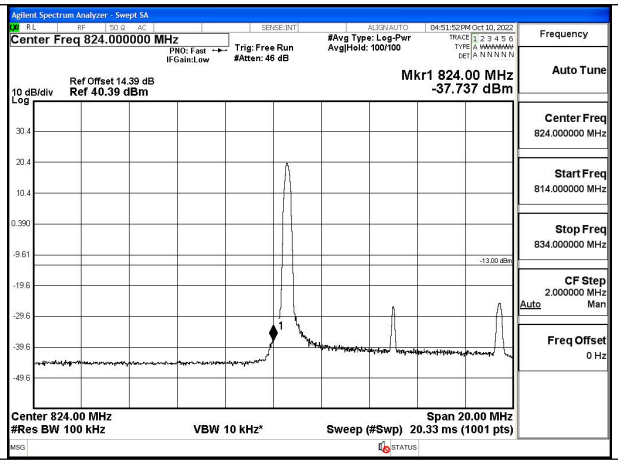


Fig.13

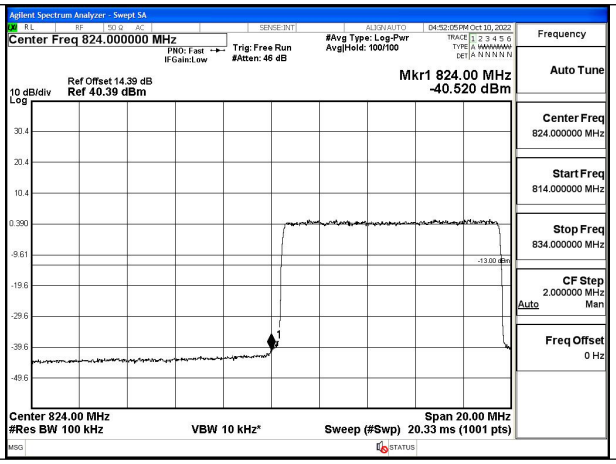


Fig.14

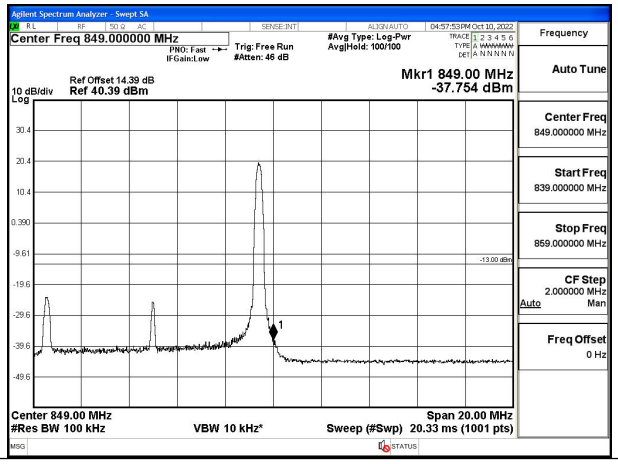


Fig.15

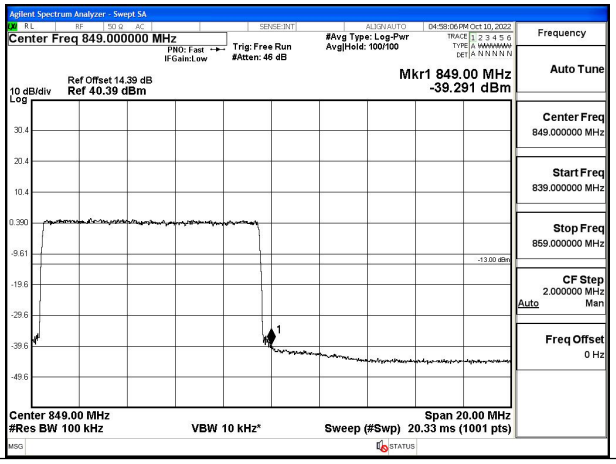


Fig.16

## 7 Frequency Stability

| Temperature(°C) | Voltage | Test Result (ppm) Band 5 Low Channel QPSK | | | |
|---|---|---|---|---|---|
| | | 1.4M | 3M | 5M | 10M |
| -20 | NV | -0.011 | 0.006 | -0.005 | 0.003 |
| -10 | NV | 0.001 | 0.006 | 0.003 | 0.005 |
| 0 | NV | 0.006 | 0.005 | 0.004 | 0.004 |
| +10 | NV | -0.002 | -0.004 | 0.002 | 0.006 |
| +20 | NV | 0.004 | -0.002 | -0.002 | 0.006 |
| +30 | NV | -0.004 | -0.003 | 0.001 | 0.003 |
| +40 | NV | 0.009 | 0.004 | 0.005 | -0.001 |
| +50 | NV | -0.006 | 0.004 | 0.005 | 0.006 |
| +60 | NV | -0.002 | 0.002 | -0.002 | -0.003 |
| +20 | LV | 0.007 | 0.004 | 0.005 | 0.005 |
| +20 | HV | 0.012 | -0.005 | -0.006 | -0.002 |

| Temperature(°C) | Voltage | Test Result (ppm) Band 5 High Channel QPSK | | | |
|---|---|---|---|---|---|
| | | 1.4M | 3M | 5M | 10M |
| -20 | NV | 0.008 | 0.008 | -0.014 | -0.006 |
| -10 | NV | -0.007 | 0.006 | -0.005 | -0.006 |
| 0 | NV | -0.005 | 0.009 | -0.008 | -0.005 |
| +10 | NV | -0.008 | 0.009 | -0.010 | -0.005 |
| +20 | NV | 0.003 | 0.010 | -0.003 | -0.005 |
| +30 | NV | 0.003 | 0.006 | -0.003 | -0.003 |
| +40 | NV | 0.002 | -0.005 | -0.007 | -0.004 |
| +50 | NV | 0.004 | -0.011 | 0.005 | -0.010 |
| +60 | NV | 0.002 | 0.002 | -0.004 | -0.012 |
| +20 | LV | 0.002 | -0.010 | -0.007 | 0.003 |
| +20 | HV | 0.001 | -0.016 | -0.011 | -0.002 |

## 8 Effective Radiated Power and Effective Isotropic Radiated Power

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted power (dBm) | ERP/ EIRP (dBm) | ERP/ EIRP (W) |
|---|---|---|---|---|---|---|---|---|
| QPSK | 824.7 | 20407 | 1.4 | 1 | 0 | 22.91 | 19.03 | 0.080 |
| QPSK | 824.7 | 20407 | 1.4 | 1 | 3 | 22.94 | 19.06 | 0.081 |
| QPSK | 824.7 | 20407 | 1.4 | 1 | 5 | 23.06 | 19.18 | 0.083 |
| QPSK | 824.7 | 20407 | 1.4 | 3 | 0 | 23.23 | 19.35 | 0.086 |
| QPSK | 824.7 | 20407 | 1.4 | 3 | 1 | 23.27 | 19.39 | 0.087 |
| QPSK | 824.7 | 20407 | 1.4 | 3 | 3 | 23.18 | 19.30 | 0.085 |
| QPSK | 824.7 | 20407 | 1.4 | 6 | 0 | 22.36 | 18.48 | 0.070 |
| QPSK | 836.5 | 20525 | 1.4 | 1 | 0 | 23.51 | 19.63 | 0.092 |
| QPSK | 836.5 | 20525 | 1.4 | 1 | 3 | 23.57 | 19.69 | 0.093 |
| QPSK | 836.5 | 20525 | 1.4 | 1 | 5 | 23.35 | 19.47 | 0.089 |
| QPSK | 836.5 | 20525 | 1.4 | 3 | 0 | 23.32 | 19.44 | 0.088 |
| QPSK | 836.5 | 20525 | 1.4 | 3 | 1 | 23.36 | 19.48 | 0.089 |
| QPSK | 836.5 | 20525 | 1.4 | 3 | 3 | 23.33 | 19.45 | 0.088 |
| QPSK | 836.5 | 20525 | 1.4 | 6 | 0 | 22.35 | 18.47 | 0.070 |
| QPSK | 848.3 | 20643 | 1.4 | 1 | 0 | 22.83 | 18.95 | 0.079 |
| QPSK | 848.3 | 20643 | 1.4 | 1 | 3 | 23.25 | 19.37 | 0.086 |
| QPSK | 848.3 | 20643 | 1.4 | 1 | 5 | 23.08 | 19.20 | 0.083 |
| QPSK | 848.3 | 20643 | 1.4 | 3 | 0 | 23.09 | 19.21 | 0.083 |
| QPSK | 848.3 | 20643 | 1.4 | 3 | 1 | 23.30 | 19.42 | 0.087 |
| QPSK | 848.3 | 20643 | 1.4 | 3 | 3 | 23.18 | 19.30 | 0.085 |
| QPSK | 848.3 | 20643 | 1.4 | 6 | 0 | 22.34 | 18.46 | 0.070 |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted power (dBm) | ERP/ EIRP (dBm) | ERP/ EIRP (W) |
|---|---|---|---|---|---|---|---|---|
| 16QAM | 824.7 | 20407 | 1.4 | 1 | 0 | 23.02 | 19.14 | 0.082 |
| 16QAM | 824.7 | 20407 | 1.4 | 1 | 3 | 23.11 | 19.23 | 0.084 |
| 16QAM | 824.7 | 20407 | 1.4 | 1 | 5 | 22.48 | 18.60 | 0.072 |
| 16QAM | 824.7 | 20407 | 1.4 | 3 | 0 | 22.66 | 18.78 | 0.076 |
| 16QAM | 824.7 | 20407 | 1.4 | 3 | 1 | 22.77 | 18.89 | 0.077 |
| 16QAM | 824.7 | 20407 | 1.4 | 3 | 3 | 22.67 | 18.79 | 0.076 |
| 16QAM | 824.7 | 20407 | 1.4 | 6 | 0 | 20.89 | 17.01 | 0.050 |
| 16QAM | 836.5 | 20525 | 1.4 | 1 | 0 | 22.99 | 19.11 | 0.081 |
| 16QAM | 836.5 | 20525 | 1.4 | 1 | 3 | 22.81 | 18.93 | 0.078 |
| 16QAM | 836.5 | 20525 | 1.4 | 1 | 5 | 22.50 | 18.62 | 0.073 |
| 16QAM | 836.5 | 20525 | 1.4 | 3 | 0 | 22.77 | 18.89 | 0.077 |
| 16QAM | 836.5 | 20525 | 1.4 | 3 | 1 | 22.55 | 18.67 | 0.074 |
| 16QAM | 836.5 | 20525 | 1.4 | 3 | 3 | 22.55 | 18.67 | 0.074 |
| 16QAM | 836.5 | 20525 | 1.4 | 6 | 0 | 21.04 | 17.16 | 0.052 |
| 16QAM | 848.3 | 20643 | 1.4 | 1 | 0 | 22.33 | 18.45 | 0.070 |
| 16QAM | 848.3 | 20643 | 1.4 | 1 | 3 | 22.47 | 18.59 | 0.072 |
| 16QAM | 848.3 | 20643 | 1.4 | 1 | 5 | 22.37 | 18.49 | 0.071 |
| 16QAM | 848.3 | 20643 | 1.4 | 3 | 0 | 22.17 | 18.29 | 0.067 |
| 16QAM | 848.3 | 20643 | 1.4 | 3 | 1 | 22.54 | 18.66 | 0.073 |
| 16QAM | 848.3 | 20643 | 1.4 | 3 | 3 | 22.33 | 18.45 | 0.070 |
| 16QAM | 848.3 | 20643 | 1.4 | 6 | 0 | 20.81 | 16.93 | 0.049 |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted power (dBm) | ERP/ EIRP (dBm) | ERP/ EIRP (W) |
|---|---|---|---|---|---|---|---|---|
| QPSK | 825.5 | 20415 | 3 | 1 | 0 | 23.53 | 19.65 | 0.092 |
| QPSK | 825.5 | 20415 | 3 | 1 | 8 | 23.52 | 19.64 | 0.092 |
| QPSK | 825.5 | 20415 | 3 | 1 | 14 | 23.48 | 19.60 | 0.091 |
| QPSK | 825.5 | 20415 | 3 | 8 | 0 | 22.34 | 18.46 | 0.070 |
| QPSK | 825.5 | 20415 | 3 | 8 | 4 | 22.43 | 18.55 | 0.072 |
| QPSK | 825.5 | 20415 | 3 | 8 | 7 | 22.40 | 18.52 | 0.071 |
| QPSK | 825.5 | 20415 | 3 | 15 | 0 | 22.40 | 18.52 | 0.071 |
| QPSK | 836.5 | 20525 | 3 | 1 | 0 | 23.22 | 19.34 | 0.086 |
| QPSK | 836.5 | 20525 | 3 | 1 | 8 | 23.30 | 19.42 | 0.087 |
| QPSK | 836.5 | 20525 | 3 | 1 | 14 | 23.16 | 19.28 | 0.085 |
| QPSK | 836.5 | 20525 | 3 | 8 | 0 | 22.37 | 18.49 | 0.071 |
| QPSK | 836.5 | 20525 | 3 | 8 | 4 | 22.37 | 18.49 | 0.071 |
| QPSK | 836.5 | 20525 | 3 | 8 | 7 | 22.32 | 18.44 | 0.070 |
| QPSK | 836.5 | 20525 | 3 | 15 | 0 | 22.34 | 18.46 | 0.070 |
| QPSK | 847.5 | 20635 | 3 | 1 | 0 | 23.01 | 19.13 | 0.082 |
| QPSK | 847.5 | 20635 | 3 | 1 | 8 | 23.06 | 19.18 | 0.083 |
| QPSK | 847.5 | 20635 | 3 | 1 | 14 | 23.08 | 19.20 | 0.083 |
| QPSK | 847.5 | 20635 | 3 | 8 | 0 | 22.09 | 18.21 | 0.066 |
| QPSK | 847.5 | 20635 | 3 | 8 | 4 | 22.15 | 18.27 | 0.067 |
| QPSK | 847.5 | 20635 | 3 | 8 | 7 | 22.10 | 18.22 | 0.066 |
| QPSK | 847.5 | 20635 | 3 | 15 | 0 | 22.11 | 18.23 | 0.067 |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted power (dBm) | ERP/ EIRP (dBm) | ERP/ EIRP (W) |
|---|---|---|---|---|---|---|---|---|
| 16QAM | 825.5 | 20415 | 3 | 1 | 0 | 22.61 | 18.73 | 0.075 |
| 16QAM | 825.5 | 20415 | 3 | 1 | 8 | 22.18 | 18.30 | 0.068 |
| 16QAM | 825.5 | 20415 | 3 | 1 | 14 | 22.68 | 18.80 | 0.076 |
| 16QAM | 825.5 | 20415 | 3 | 8 | 0 | 21.48 | 17.60 | 0.058 |
| 16QAM | 825.5 | 20415 | 3 | 8 | 4 | 21.51 | 17.63 | 0.058 |
| 16QAM | 825.5 | 20415 | 3 | 8 | 7 | 21.55 | 17.67 | 0.058 |
| 16QAM | 825.5 | 20415 | 3 | 15 | 0 | 21.51 | 17.63 | 0.058 |
| 16QAM | 836.5 | 20525 | 3 | 1 | 0 | 22.26 | 18.38 | 0.069 |
| 16QAM | 836.5 | 20525 | 3 | 1 | 8 | 22.59 | 18.71 | 0.074 |
| 16QAM | 836.5 | 20525 | 3 | 1 | 14 | 22.80 | 18.92 | 0.078 |
| 16QAM | 836.5 | 20525 | 3 | 8 | 0 | 21.59 | 17.71 | 0.059 |
| 16QAM | 836.5 | 20525 | 3 | 8 | 4 | 21.51 | 17.63 | 0.058 |
| 16QAM | 836.5 | 20525 | 3 | 8 | 7 | 21.22 | 17.34 | 0.054 |
| 16QAM | 836.5 | 20525 | 3 | 15 | 0 | 21.42 | 17.54 | 0.057 |
| 16QAM | 847.5 | 20635 | 3 | 1 | 0 | 22.92 | 19.04 | 0.080 |
| 16QAM | 847.5 | 20635 | 3 | 1 | 8 | 23.03 | 19.15 | 0.082 |
| 16QAM | 847.5 | 20635 | 3 | 1 | 14 | 22.78 | 18.90 | 0.078 |
| 16QAM | 847.5 | 20635 | 3 | 8 | 0 | 21.28 | 17.40 | 0.055 |
| 16QAM | 847.5 | 20635 | 3 | 8 | 4 | 21.30 | 17.42 | 0.055 |
| 16QAM | 847.5 | 20635 | 3 | 8 | 7 | 21.42 | 17.54 | 0.057 |
| 16QAM | 847.5 | 20635 | 3 | 15 | 0 | 21.18 | 17.30 | 0.054 |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted power (dBm) | ERP/ EIRP (dBm) | ERP/ EIRP (W) |
|---|---|---|---|---|---|---|---|---|
| QPSK | 826.5 | 20425 | 5 | 1 | 0 | 23.47 | 19.59 | 0.091 |
| QPSK | 826.5 | 20425 | 5 | 1 | 12 | 23.61 | 19.73 | 0.094 |
| QPSK | 826.5 | 20425 | 5 | 1 | 24 | 23.64 | 19.76 | 0.095 |
| QPSK | 826.5 | 20425 | 5 | 12 | 0 | 22.37 | 18.49 | 0.071 |
| QPSK | 826.5 | 20425 | 5 | 12 | 7 | 22.29 | 18.41 | 0.069 |
| QPSK | 826.5 | 20425 | 5 | 12 | 13 | 22.29 | 18.41 | 0.069 |
| QPSK | 826.5 | 20425 | 5 | 25 | 0 | 22.32 | 18.44 | 0.070 |
| QPSK | 836.5 | 20525 | 5 | 1 | 0 | 23.43 | 19.55 | 0.090 |
| QPSK | 836.5 | 20525 | 5 | 1 | 12 | 23.17 | 19.29 | 0.085 |
| QPSK | 836.5 | 20525 | 5 | 1 | 24 | 23.12 | 19.24 | 0.084 |
| QPSK | 836.5 | 20525 | 5 | 12 | 0 | 22.32 | 18.44 | 0.070 |
| QPSK | 836.5 | 20525 | 5 | 12 | 7 | 22.26 | 18.38 | 0.069 |
| QPSK | 836.5 | 20525 | 5 | 12 | 13 | 22.35 | 18.47 | 0.070 |
| QPSK | 836.5 | 20525 | 5 | 25 | 0 | 22.36 | 18.48 | 0.070 |
| QPSK | 846.5 | 20625 | 5 | 1 | 0 | 23.23 | 19.35 | 0.086 |
| QPSK | 846.5 | 20625 | 5 | 1 | 12 | 23.11 | 19.23 | 0.084 |
| QPSK | 846.5 | 20625 | 5 | 1 | 24 | 23.20 | 19.32 | 0.086 |
| QPSK | 846.5 | 20625 | 5 | 12 | 0 | 21.97 | 18.09 | 0.064 |
| QPSK | 846.5 | 20625 | 5 | 12 | 7 | 22.23 | 18.35 | 0.068 |
| QPSK | 846.5 | 20625 | 5 | 12 | 13 | 22.06 | 18.18 | 0.066 |
| QPSK | 846.5 | 20625 | 5 | 25 | 0 | 22.12 | 18.24 | 0.067 |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted power (dBm) | ERP/ EIRP (dBm) | ERP/ EIRP (W) |
|---|---|---|---|---|---|---|---|---|
| 16QAM | 826.5 | 20425 | 5 | 1 | 0 | 22.99 | 19.11 | 0.081 |
| 16QAM | 826.5 | 20425 | 5 | 1 | 12 | 22.53 | 18.65 | 0.073 |
| 16QAM | 826.5 | 20425 | 5 | 1 | 24 | 22.66 | 18.78 | 0.076 |
| 16QAM | 826.5 | 20425 | 5 | 12 | 0 | 21.45 | 17.57 | 0.057 |
| 16QAM | 826.5 | 20425 | 5 | 12 | 7 | 21.54 | 17.66 | 0.058 |
| 16QAM | 826.5 | 20425 | 5 | 12 | 13 | 21.53 | 17.65 | 0.058 |
| 16QAM | 826.5 | 20425 | 5 | 25 | 0 | 21.49 | 17.61 | 0.058 |
| 16QAM | 836.5 | 20525 | 5 | 1 | 0 | 22.93 | 19.05 | 0.080 |
| 16QAM | 836.5 | 20525 | 5 | 1 | 12 | 22.48 | 18.60 | 0.072 |
| 16QAM | 836.5 | 20525 | 5 | 1 | 24 | 22.75 | 18.87 | 0.077 |
| 16QAM | 836.5 | 20525 | 5 | 12 | 0 | 21.41 | 17.53 | 0.057 |
| 16QAM | 836.5 | 20525 | 5 | 12 | 7 | 21.42 | 17.54 | 0.057 |
| 16QAM | 836.5 | 20525 | 5 | 12 | 13 | 21.21 | 17.33 | 0.054 |
| 16QAM | 836.5 | 20525 | 5 | 25 | 0 | 21.32 | 17.44 | 0.055 |
| 16QAM | 846.5 | 20625 | 5 | 1 | 0 | 22.57 | 18.69 | 0.074 |
| 16QAM | 846.5 | 20625 | 5 | 1 | 12 | 22.63 | 18.75 | 0.075 |
| 16QAM | 846.5 | 20625 | 5 | 1 | 24 | 22.60 | 18.72 | 0.074 |
| 16QAM | 846.5 | 20625 | 5 | 12 | 0 | 21.32 | 17.44 | 0.055 |
| 16QAM | 846.5 | 20625 | 5 | 12 | 7 | 21.29 | 17.41 | 0.055 |
| 16QAM | 846.5 | 20625 | 5 | 12 | 13 | 21.21 | 17.33 | 0.054 |
| 16QAM | 846.5 | 20625 | 5 | 25 | 0 | 21.54 | 17.66 | 0.058 |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted power (dBm) | ERP/ EIRP (dBm) | ERP/ EIRP (W) |
|---|---|---|---|---|---|---|---|---|
| QPSK | 829 | 20450 | 10 | 1 | 0 | 23.43 | 19.55 | 0.090 |
| QPSK | 829 | 20450 | 10 | 1 | 25 | 23.52 | 19.64 | 0.092 |
| QPSK | 829 | 20450 | 10 | 1 | 49 | 23.57 | 19.69 | 0.093 |
| QPSK | 829 | 20450 | 10 | 25 | 0 | 22.38 | 18.50 | 0.071 |
| QPSK | 829 | 20450 | 10 | 25 | 12 | 22.19 | 18.31 | 0.068 |
| QPSK | 829 | 20450 | 10 | 25 | 25 | 22.34 | 18.46 | 0.070 |
| QPSK | 829 | 20450 | 10 | 50 | 0 | 22.25 | 18.37 | 0.069 |
| QPSK | 836.5 | 20525 | 10 | 1 | 0 | 23.61 | 19.73 | 0.094 |
| QPSK | 836.5 | 20525 | 10 | 1 | 25 | 23.52 | 19.64 | 0.092 |
| QPSK | 836.5 | 20525 | 10 | 1 | 49 | 23.54 | 19.66 | 0.092 |
| QPSK | 836.5 | 20525 | 10 | 25 | 0 | 22.34 | 18.46 | 0.070 |
| QPSK | 836.5 | 20525 | 10 | 25 | 12 | 22.27 | 18.39 | 0.069 |
| QPSK | 836.5 | 20525 | 10 | 25 | 25 | 22.16 | 18.28 | 0.067 |
| QPSK | 836.5 | 20525 | 10 | 50 | 0 | 22.34 | 18.46 | 0.070 |
| QPSK | 844 | 20600 | 10 | 1 | 0 | 23.30 | 19.42 | 0.087 |
| QPSK | 844 | 20600 | 10 | 1 | 25 | 23.24 | 19.36 | 0.086 |
| QPSK | 844 | 20600 | 10 | 1 | 49 | 23.08 | 19.20 | 0.083 |
| QPSK | 844 | 20600 | 10 | 25 | 0 | 22.28 | 18.40 | 0.069 |
| QPSK | 844 | 20600 | 10 | 25 | 12 | 22.15 | 18.27 | 0.067 |
| QPSK | 844 | 20600 | 10 | 25 | 25 | 22.17 | 18.29 | 0.067 |
| QPSK | 844 | 20600 | 10 | 50 | 0 | 22.14 | 18.26 | 0.067 |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted power (dBm) | ERP/ EIRP (dBm) | ERP/ EIRP (W) |
|---|---|---|---|---|---|---|---|---|
| 16QAM | 829 | 20450 | 10 | 1 | 0 | 22.51 | 18.63 | 0.073 |
| 16QAM | 829 | 20450 | 10 | 1 | 25 | 22.59 | 18.71 | 0.074 |
| 16QAM | 829 | 20450 | 10 | 1 | 49 | 23.12 | 19.24 | 0.084 |
| 16QAM | 829 | 20450 | 10 | 25 | 0 | 21.54 | 17.66 | 0.058 |
| 16QAM | 829 | 20450 | 10 | 25 | 12 | 21.78 | 17.90 | 0.062 |
| 16QAM | 829 | 20450 | 10 | 25 | 25 | 21.84 | 17.96 | 0.063 |
| 16QAM | 829 | 20450 | 10 | 50 | 0 | 21.33 | 17.45 | 0.056 |
| 16QAM | 836.5 | 20525 | 10 | 1 | 0 | 22.66 | 18.78 | 0.076 |
| 16QAM | 836.5 | 20525 | 10 | 1 | 25 | 22.77 | 18.89 | 0.077 |
| 16QAM | 836.5 | 20525 | 10 | 1 | 49 | 22.83 | 18.95 | 0.079 |
| 16QAM | 836.5 | 20525 | 10 | 25 | 0 | 21.36 | 17.48 | 0.056 |
| 16QAM | 836.5 | 20525 | 10 | 25 | 12 | 21.42 | 17.54 | 0.057 |
| 16QAM | 836.5 | 20525 | 10 | 25 | 25 | 21.50 | 17.62 | 0.058 |
| 16QAM | 836.5 | 20525 | 10 | 50 | 0 | 21.14 | 17.26 | 0.053 |
| 16QAM | 844 | 20600 | 10 | 1 | 0 | 22.36 | 18.48 | 0.070 |
| 16QAM | 844 | 20600 | 10 | 1 | 25 | 22.83 | 18.95 | 0.079 |
| 16QAM | 844 | 20600 | 10 | 1 | 49 | 22.50 | 18.62 | 0.073 |
| 16QAM | 844 | 20600 | 10 | 25 | 0 | 21.18 | 17.30 | 0.054 |
| 16QAM | 844 | 20600 | 10 | 25 | 12 | 21.14 | 17.26 | 0.053 |
| 16QAM | 844 | 20600 | 10 | 25 | 25 | 21.20 | 17.32 | 0.054 |
| 16QAM | 844 | 20600 | 10 | 50 | 0 | 21.16 | 17.28 | 0.053 |