# 1. Effective (Isotropic) Radiated Power Output Data

## 1.1 B17_5MHz_ERP

### 1.1.1 Test Result

| Band: 17 / Bandwidth: 5MHz / NTNV | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Conducted Power (dBm) | Gain (dBi) | ERP (dBm) | | Verdict |
| | | Size | Offset | | | Result | Limit | |
| QPSK | 706.5 | 1 | 0 | 21.32 | 0.11 | 19.28 | <=34.77 | Pass |
| | | | 13 | 21.30 | 0.11 | 19.26 | <=34.77 | Pass |
| | | | 24 | 21.44 | 0.11 | 19.40 | <=34.77 | Pass |
| | | 12 | 0 | 20.52 | 0.11 | 18.48 | <=34.77 | Pass |
| | | | 6 | 18.74 | 0.11 | 16.70 | <=34.77 | Pass |
| | | | 13 | 18.67 | 0.11 | 16.63 | <=34.77 | Pass |
| | | 25 | 0 | 18.71 | 0.11 | 16.67 | <=34.77 | Pass |
| | 710 | 1 | 0 | 19.61 | 0.11 | 17.57 | <=34.77 | Pass |
| | | | 13 | 19.25 | 0.11 | 17.21 | <=34.77 | Pass |
| | | | 24 | 19.47 | 0.11 | 17.43 | <=34.77 | Pass |
| | | 12 | 0 | 18.50 | 0.11 | 16.46 | <=34.77 | Pass |
| | | | 6 | 18.14 | 0.11 | 16.10 | <=34.77 | Pass |
| | | | 13 | 18.56 | 0.11 | 16.52 | <=34.77 | Pass |
| | | 25 | 0 | 18.05 | 0.11 | 16.01 | <=34.77 | Pass |
| | 713.5 | 1 | 0 | 17.08 | 0.11 | 15.04 | <=34.77 | Pass |
| | | | 13 | 17.36 | 0.11 | 15.32 | <=34.77 | Pass |
| | | | 24 | 16.51 | 0.11 | 14.47 | <=34.77 | Pass |
| | | 12 | 0 | 16.31 | 0.11 | 14.27 | <=34.77 | Pass |
| | | | 6 | 16.34 | 0.11 | 14.30 | <=34.77 | Pass |
| | | | 13 | 15.98 | 0.11 | 13.94 | <=34.77 | Pass |
| | | 25 | 0 | 16.17 | 0.11 | 14.13 | <=34.77 | Pass |
| 16QAM | 706.5 | 1 | 0 | 18.54 | 0.11 | 16.50 | <=34.77 | Pass |
| | | | 13 | 18.53 | 0.11 | 16.49 | <=34.77 | Pass |
| | | | 24 | 18.56 | 0.11 | 16.52 | <=34.77 | Pass |
| | | 12 | 0 | 17.04 | 0.11 | 15.00 | <=34.77 | Pass |
| | | | 6 | 17.09 | 0.11 | 15.05 | <=34.77 | Pass |
| | | | 13 | 16.85 | 0.11 | 14.81 | <=34.77 | Pass |
| | | 25 | 0 | 16.94 | 0.11 | 14.90 | <=34.77 | Pass |
| | 710 | 1 | 0 | 15.79 | 0.11 | 13.75 | <=34.77 | Pass |
| | | | 13 | 16.24 | 0.11 | 14.20 | <=34.77 | Pass |
| | | | 24 | 15.66 | 0.11 | 13.62 | <=34.77 | Pass |
| | | 12 | 0 | 15.29 | 0.11 | 13.25 | <=34.77 | Pass |
| | | | 6 | 15.45 | 0.11 | 13.41 | <=34.77 | Pass |
| | | | 13 | 15.33 | 0.11 | 13.29 | <=34.77 | Pass |
| | | 25 | 0 | 15.36 | 0.11 | 13.32 | <=34.77 | Pass |
| | 713.5 | 1 | 0 | 16.14 | 0.11 | 14.10 | <=34.77 | Pass |
| | | | 13 | 16.46 | 0.11 | 14.42 | <=34.77 | Pass |
| | | | 24 | 13.97 | 0.11 | 11.93 | <=34.77 | Pass |
| | | 12 | 0 | 13.54 | 0.11 | 11.50 | <=34.77 | Pass |
| | | | 6 | 13.60 | 0.11 | 11.56 | <=34.77 | Pass |
| | | | 13 | 13.25 | 0.11 | 11.21 | <=34.77 | Pass |
| | | 25 | 0 | 13.47 | 0.11 | 11.43 | <=34.77 | Pass |
| Note1: ERP=Conducted Power+Antenna Gain-2.15 | | | | | | | | |

## 1.2 B17_10MHz_ERP

### 1.2.1 Test Result

| Band: 17 / Bandwidth: 10MHz / NTNV | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Conducted Power (dBm) | Gain (dBi) | ERP (dBm) | | Verdict |
| | | Size | Offset | | | Result | Limit | |
| QPSK | 709 | 1 | 0 | 15.66 | 0.11 | 13.62 | <=34.77 | Pass |
| | | | 25 | 15.49 | 0.11 | 13.45 | <=34.77 | Pass |
| | | | 49 | 21.39 | 0.11 | 19.35 | <=34.77 | Pass |
| | | 25 | 0 | 20.39 | 0.11 | 18.35 | <=34.77 | Pass |
| | | | 13 | 20.30 | 0.11 | 18.26 | <=34.77 | Pass |
| | | | 25 | 20.59 | 0.11 | 18.55 | <=34.77 | Pass |
| | | 50 | 0 | 20.44 | 0.11 | 18.40 | <=34.77 | Pass |
| | 710 | 1 | 0 | 19.50 | 0.11 | 17.46 | <=34.77 | Pass |
| | | | 25 | 19.31 | 0.11 | 17.27 | <=34.77 | Pass |
| | | | 49 | 19.54 | 0.11 | 17.50 | <=34.77 | Pass |
| | | 25 | 0 | 18.58 | 0.11 | 16.54 | <=34.77 | Pass |
| | | | 13 | 18.43 | 0.11 | 16.39 | <=34.77 | Pass |
| | | | 25 | 18.82 | 0.11 | 16.78 | <=34.77 | Pass |
| | | 50 | 0 | 18.31 | 0.11 | 16.27 | <=34.77 | Pass |
| | 711 | 1 | 0 | 19.75 | 0.11 | 17.71 | <=34.77 | Pass |
| | | | 25 | 17.30 | 0.11 | 15.26 | <=34.77 | Pass |
| | | | 49 | 17.07 | 0.11 | 15.03 | <=34.77 | Pass |
| | | 25 | 0 | 16.32 | 0.11 | 14.28 | <=34.77 | Pass |
| | | | 13 | 16.41 | 0.11 | 14.37 | <=34.77 | Pass |
| | | | 25 | 16.39 | 0.11 | 14.35 | <=34.77 | Pass |
| | | 50 | 0 | 16.38 | 0.11 | 14.34 | <=34.77 | Pass |
| 16QAM | 709 | 1 | 0 | 21.05 | 0.11 | 19.01 | <=34.77 | Pass |
| | | | 25 | 20.99 | 0.11 | 18.95 | <=34.77 | Pass |
| | | | 49 | 20.97 | 0.11 | 18.93 | <=34.77 | Pass |
| | | 25 | 0 | 19.50 | 0.11 | 17.46 | <=34.77 | Pass |
| | | | 13 | 19.63 | 0.11 | 17.59 | <=34.77 | Pass |
| | | | 25 | 19.54 | 0.11 | 17.50 | <=34.77 | Pass |
| | | 50 | 0 | 18.88 | 0.11 | 16.84 | <=34.77 | Pass |
| | 710 | 1 | 0 | 18.97 | 0.11 | 16.93 | <=34.77 | Pass |
| | | | 25 | 18.58 | 0.11 | 16.54 | <=34.77 | Pass |
| | | | 49 | 18.97 | 0.11 | 16.93 | <=34.77 | Pass |
| | | 25 | 0 | 17.33 | 0.11 | 15.29 | <=34.77 | Pass |
| | | | 13 | 17.41 | 0.11 | 15.37 | <=34.77 | Pass |
| | | | 25 | 17.47 | 0.11 | 15.43 | <=34.77 | Pass |
| | | 50 | 0 | 17.43 | 0.11 | 15.39 | <=34.77 | Pass |
| | 711 | 1 | 0 | 16.24 | 0.11 | 14.20 | <=34.77 | Pass |
| | | | 25 | 16.44 | 0.11 | 14.40 | <=34.77 | Pass |
| | | | 49 | 16.08 | 0.11 | 14.04 | <=34.77 | Pass |
| | | 25 | 0 | 15.60 | 0.11 | 13.56 | <=34.77 | Pass |
| | | | 13 | 15.64 | 0.11 | 13.60 | <=34.77 | Pass |
| | | | 25 | 15.66 | 0.11 | 13.62 | <=34.77 | Pass |
| | | 50 | 0 | 15.58 | 0.11 | 13.54 | <=34.77 | Pass |
| Note1: ERP=Conducted Power+Antenna Gain-2.15 | | | | | | | | |

# 2. Frequency Stability

## 2.1 B17_5MHz

### 2.1.1 Test Result

| Band: 17 / Bandwidth: 5MHz | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Temp. (°C) | Voltage (VDC) | Freq. Error (Hz) | Freq. vs. Rated (ppm) | | Verdict |
| | | Size | Offset | | | | Result | Limit | |
| QPSK | 706.5 | 25 | 0 | 20 | 3.27 | -4.506 | -0.0064 | -2.5 to 2.5 | Pass |
| | | | | | 3.85 | -5.093 | -0.0072 | -2.5 to 2.5 | Pass |
| | | | | | 4.43 | -4.506 | -0.0064 | -2.5 to 2.5 | Pass |
| | | | | -30 | 3.85 | -3.362 | -0.0048 | -2.5 to 2.5 | Pass |
| | | | | -20 | 3.85 | -3.133 | -0.0044 | -2.5 to 2.5 | Pass |
| | | | | -10 | 3.85 | -2.818 | -0.0040 | -2.5 to 2.5 | Pass |
| | | | | 0 | 3.85 | -2.704 | -0.0038 | -2.5 to 2.5 | Pass |
| | | | | 10 | 3.85 | -11.859 | -0.0168 | -2.5 to 2.5 | Pass |
| | | | | 30 | 3.85 | -12.603 | -0.0178 | -2.5 to 2.5 | Pass |
| | | | | 40 | 3.85 | -9.069 | -0.0128 | -2.5 to 2.5 | Pass |
| | | | | 50 | 3.85 | -7.024 | -0.0099 | -2.5 to 2.5 | Pass |
| | 710 | 25 | 0 | 20 | 3.27 | -1.616 | -0.0023 | -2.5 to 2.5 | Pass |
| | | | | | 3.85 | -8.039 | -0.0113 | -2.5 to 2.5 | Pass |
| | | | | | 4.43 | -6.337 | -0.0089 | -2.5 to 2.5 | Pass |
| | | | | -30 | 3.85 | -3.905 | -0.0055 | -2.5 to 2.5 | Pass |
| | | | | -20 | 3.85 | 5.107 | 0.0072 | -2.5 to 2.5 | Pass |
| | | | | -10 | 3.85 | 6.080 | 0.0086 | -2.5 to 2.5 | Pass |
| | | | | 0 | 3.85 | 4.034 | 0.0057 | -2.5 to 2.5 | Pass |
| | | | | 10 | 3.85 | 2.875 | 0.0040 | -2.5 to 2.5 | Pass |
| | | | | 30 | 3.85 | 1.330 | 0.0019 | -2.5 to 2.5 | Pass |
| | | | | 40 | 3.85 | 0.715 | 0.0010 | -2.5 to 2.5 | Pass |
| | | | | 50 | 3.85 | 0.200 | 0.0003 | -2.5 to 2.5 | Pass |
| | 713.5 | 25 | 0 | 20 | 3.27 | 0.072 | 0.0001 | -2.5 to 2.5 | Pass |
| | | | | | 3.85 | -1.473 | -0.0021 | -2.5 to 2.5 | Pass |
| | | | | | 4.43 | -1.817 | -0.0025 | -2.5 to 2.5 | Pass |
| | | | | -30 | 3.85 | -1.802 | -0.0025 | -2.5 to 2.5 | Pass |
| | | | | -20 | 3.85 | -1.788 | -0.0025 | -2.5 to 2.5 | Pass |
| | | | | -10 | 3.85 | -2.117 | -0.0030 | -2.5 to 2.5 | Pass |
| | | | | 0 | 3.85 | -2.031 | -0.0028 | -2.5 to 2.5 | Pass |
| | | | | 10 | 3.85 | -2.260 | -0.0032 | -2.5 to 2.5 | Pass |
| | | | | 30 | 3.85 | -2.074 | -0.0029 | -2.5 to 2.5 | Pass |
| | | | | 40 | 3.85 | -2.403 | -0.0034 | -2.5 to 2.5 | Pass |
| | | | | 50 | 3.85 | -2.675 | -0.0037 | -2.5 to 2.5 | Pass |
| 16QAM | 706.5 | 25 | 0 | 20 | 3.27 | -4.334 | -0.0061 | -2.5 to 2.5 | Pass |
| | | | | | 3.85 | -0.129 | -0.0002 | -2.5 to 2.5 | Pass |
| | | | | | 4.43 | 4.306 | 0.0061 | -2.5 to 2.5 | Pass |
| | | | | -30 | 3.85 | 12.145 | 0.0172 | -2.5 to 2.5 | Pass |
| | | | | -20 | 3.85 | 10.872 | 0.0154 | -2.5 to 2.5 | Pass |
| | | | | -10 | 3.85 | 9.284 | 0.0131 | -2.5 to 2.5 | Pass |
| | | | | 0 | 3.85 | 7.496 | 0.0106 | -2.5 to 2.5 | Pass |
| | | | | 10 | 3.85 | 6.695 | 0.0095 | -2.5 to 2.5 | Pass |
| | | | | 30 | 3.85 | 5.522 | 0.0078 | -2.5 to 2.5 | Pass |
| | | | | 40 | 3.85 | 4.334 | 0.0061 | -2.5 to 2.5 | Pass |
| | | | | 50 | 3.85 | 3.719 | 0.0053 | -2.5 to 2.5 | Pass |
| | 710 | 25 | 0 | 20 | 3.27 | -0.572 | -0.0008 | -2.5 to 2.5 | Pass |
| | | | | | 3.85 | -0.043 | -0.0001 | -2.5 to 2.5 | Pass |
| | | | | | 4.43 | -0.801 | -0.0011 | -2.5 to 2.5 | Pass |
| | | | | -30 | 3.85 | -1.345 | -0.0019 | -2.5 to 2.5 | Pass |
| | | | | -20 | 3.85 | -2.103 | -0.0030 | -2.5 to 2.5 | Pass |
| | | | | -10 | 3.85 | -2.475 | -0.0035 | -2.5 to 2.5 | Pass |
| | | | | 0 | 3.85 | -1.659 | -0.0023 | -2.5 to 2.5 | Pass |
| | | | | 10 | 3.85 | -2.203 | -0.0031 | -2.5 to 2.5 | Pass |
| | | | | 30 | 3.85 | -2.732 | -0.0038 | -2.5 to 2.5 | Pass |
| | | | | 40 | 3.85 | -3.104 | -0.0044 | -2.5 to 2.5 | Pass |
| | | | | 50 | 3.85 | -3.834 | -0.0054 | -2.5 to 2.5 | Pass |
| | 713.5 | 25 | 0 | 20 | 3.27 | -2.446 | -0.0034 | -2.5 to 2.5 | Pass |
| | | | | | 3.85 | -1.717 | -0.0024 | -2.5 to 2.5 | Pass |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 4.43 | -2.203 | -0.0031 | -2.5 to 2.5 | Pass |
| | | | | -30 | 3.85 | -2.418 | -0.0034 | -2.5 to 2.5 | Pass |
| | | | | -20 | 3.85 | -2.518 | -0.0035 | -2.5 to 2.5 | Pass |
| | | | | -10 | 3.85 | -2.675 | -0.0037 | -2.5 to 2.5 | Pass |
| | | | | 0 | 3.85 | -2.890 | -0.0041 | -2.5 to 2.5 | Pass |
| | | | | 10 | 3.85 | -3.161 | -0.0044 | -2.5 to 2.5 | Pass |
| | | | | 30 | 3.85 | -3.119 | -0.0044 | -2.5 to 2.5 | Pass |
| | | | | 40 | 3.85 | -12.560 | -0.0176 | -2.5 to 2.5 | Pass |
| | | | | 50 | 3.85 | -15.492 | -0.0217 | -2.5 to 2.5 | Pass |

## 2.2 B17_10MHz

### 2.2.1 Test Result

| Band: 17 / Bandwidth: 10MHz | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Temp. (°C) | Voltage (VDC) | Freq. Error (Hz) | Freq. vs. Rated (ppm) | | Verdict |
| | | Size | Offset | | | | Result | Limit | |
| QPSK | 709 | 50 | 0 | 20 | 3.27 | 7.296 | 0.0103 | -2.5 to 2.5 | Pass |
| | | | | | 3.85 | 21.000 | 0.0296 | -2.5 to 2.5 | Pass |
| | | | | | 4.43 | 34.804 | 0.0491 | -2.5 to 2.5 | Pass |
| | | | | -30 | 3.85 | 43.831 | 0.0618 | -2.5 to 2.5 | Pass |
| | | | | -20 | 3.85 | 39.153 | 0.0552 | -2.5 to 2.5 | Pass |
| | | | | -10 | 3.85 | 3.362 | 0.0047 | -2.5 to 2.5 | Pass |
| | | | | 0 | 3.85 | 5.765 | 0.0081 | -2.5 to 2.5 | Pass |
| | | | | 10 | 3.85 | 6.752 | 0.0095 | -2.5 to 2.5 | Pass |
| | | | | 30 | 3.85 | 7.668 | 0.0108 | -2.5 to 2.5 | Pass |
| | | | | 40 | 3.85 | 7.925 | 0.0112 | -2.5 to 2.5 | Pass |
| | | | | 50 | 3.85 | 11.115 | 0.0157 | -2.5 to 2.5 | Pass |
| | 710 | 50 | 0 | 20 | 3.27 | -5.965 | -0.0084 | -2.5 to 2.5 | Pass |
| | | | | | 3.85 | -7.811 | -0.0110 | -2.5 to 2.5 | Pass |
| | | | | | 4.43 | -8.168 | -0.0115 | -2.5 to 2.5 | Pass |
| | | | | -30 | 3.85 | -8.411 | -0.0118 | -2.5 to 2.5 | Pass |
| | | | | -20 | 3.85 | -8.297 | -0.0117 | -2.5 to 2.5 | Pass |
| | | | | -10 | 3.85 | -7.911 | -0.0111 | -2.5 to 2.5 | Pass |
| | | | | 0 | 3.85 | -7.896 | -0.0111 | -2.5 to 2.5 | Pass |
| | | | | 10 | 3.85 | -8.326 | -0.0117 | -2.5 to 2.5 | Pass |
| | | | | 30 | 3.85 | -8.154 | -0.0115 | -2.5 to 2.5 | Pass |
| | | | | 40 | 3.85 | -8.383 | -0.0118 | -2.5 to 2.5 | Pass |
| | | | | 50 | 3.85 | -8.368 | -0.0118 | -2.5 to 2.5 | Pass |
| | 711 | 50 | 0 | 20 | 3.27 | -2.546 | -0.0036 | -2.5 to 2.5 | Pass |
| | | | | | 3.85 | -5.164 | -0.0073 | -2.5 to 2.5 | Pass |
| | | | | | 4.43 | -3.319 | -0.0047 | -2.5 to 2.5 | Pass |
| | | | | -30 | 3.85 | -0.987 | -0.0014 | -2.5 to 2.5 | Pass |
| | | | | -20 | 3.85 | -3.576 | -0.0050 | -2.5 to 2.5 | Pass |
| | | | | -10 | 3.85 | -5.965 | -0.0084 | -2.5 to 2.5 | Pass |
| | | | | 0 | 3.85 | -8.698 | -0.0122 | -2.5 to 2.5 | Pass |
| | | | | 10 | 3.85 | -13.161 | -0.0185 | -2.5 to 2.5 | Pass |
| | | | | 30 | 3.85 | -16.308 | -0.0229 | -2.5 to 2.5 | Pass |
| | | | | 40 | 3.85 | -19.841 | -0.0279 | -2.5 to 2.5 | Pass |
| | | | | 50 | 3.85 | -23.732 | -0.0334 | -2.5 to 2.5 | Pass |
| 16QAM | 709 | 50 | 0 | 20 | 3.27 | 11.759 | 0.0166 | -2.5 to 2.5 | Pass |
| | | | | | 3.85 | 18.797 | 0.0265 | -2.5 to 2.5 | Pass |
| | | | | | 4.43 | 16.322 | 0.0230 | -2.5 to 2.5 | Pass |
| | | | | -30 | 3.85 | 14.191 | 0.0200 | -2.5 to 2.5 | Pass |
| | | | | -20 | 3.85 | 13.247 | 0.0187 | -2.5 to 2.5 | Pass |
| | | | | -10 | 3.85 | 12.603 | 0.0178 | -2.5 to 2.5 | Pass |
| | | | | 0 | 3.85 | 11.830 | 0.0167 | -2.5 to 2.5 | Pass |
| | | | | 10 | 3.85 | 11.473 | 0.0162 | -2.5 to 2.5 | Pass |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 30 | 3.85 | 11.501 | 0.0162 | -2.5 to 2.5 | Pass |
| | | | | 40 | 3.85 | 11.616 | 0.0164 | -2.5 to 2.5 | Pass |
| | | | | 50 | 3.85 | 12.589 | 0.0178 | -2.5 to 2.5 | Pass |
| | 710 | 50 | 0 | 20 | 3.27 | -8.082 | -0.0114 | -2.5 to 2.5 | Pass |
| | | | | | 3.85 | -7.253 | -0.0102 | -2.5 to 2.5 | Pass |
| | | | | | 4.43 | -8.011 | -0.0113 | -2.5 to 2.5 | Pass |
| | | | | -30 | 3.85 | -17.252 | -0.0243 | -2.5 to 2.5 | Pass |
| | | | | -20 | 3.85 | -15.764 | -0.0222 | -2.5 to 2.5 | Pass |
| | | | | -10 | 3.85 | -12.846 | -0.0181 | -2.5 to 2.5 | Pass |
| | | | | 0 | 3.85 | -10.815 | -0.0152 | -2.5 to 2.5 | Pass |
| | | | | 10 | 3.85 | -0.186 | -0.0003 | -2.5 to 2.5 | Pass |
| | | | | 30 | 3.85 | -15.836 | -0.0223 | -2.5 to 2.5 | Pass |
| | | | | 40 | 3.85 | -13.533 | -0.0191 | -2.5 to 2.5 | Pass |
| | | | | 50 | 3.85 | -9.885 | -0.0139 | -2.5 to 2.5 | Pass |
| | 711 | 50 | 0 | 20 | 3.27 | -27.752 | -0.0390 | -2.5 to 2.5 | Pass |
| | | | | | 3.85 | -28.911 | -0.0407 | -2.5 to 2.5 | Pass |
| | | | | | 4.43 | -31.972 | -0.0450 | -2.5 to 2.5 | Pass |
| | | | | -30 | 3.85 | -35.162 | -0.0495 | -2.5 to 2.5 | Pass |
| | | | | -20 | 3.85 | -38.338 | -0.0539 | -2.5 to 2.5 | Pass |
| | | | | -10 | 3.85 | -41.785 | -0.0588 | -2.5 to 2.5 | Pass |
| | | | | 0 | 3.85 | -44.947 | -0.0632 | -2.5 to 2.5 | Pass |
| | | | | 10 | 3.85 | -38.266 | -0.0538 | -2.5 to 2.5 | Pass |
| | | | | 30 | 3.85 | -2.203 | -0.0031 | -2.5 to 2.5 | Pass |
| | | | | 40 | 3.85 | -5.450 | -0.0077 | -2.5 to 2.5 | Pass |
| | | | | 50 | 3.85 | -8.883 | -0.0125 | -2.5 to 2.5 | Pass |

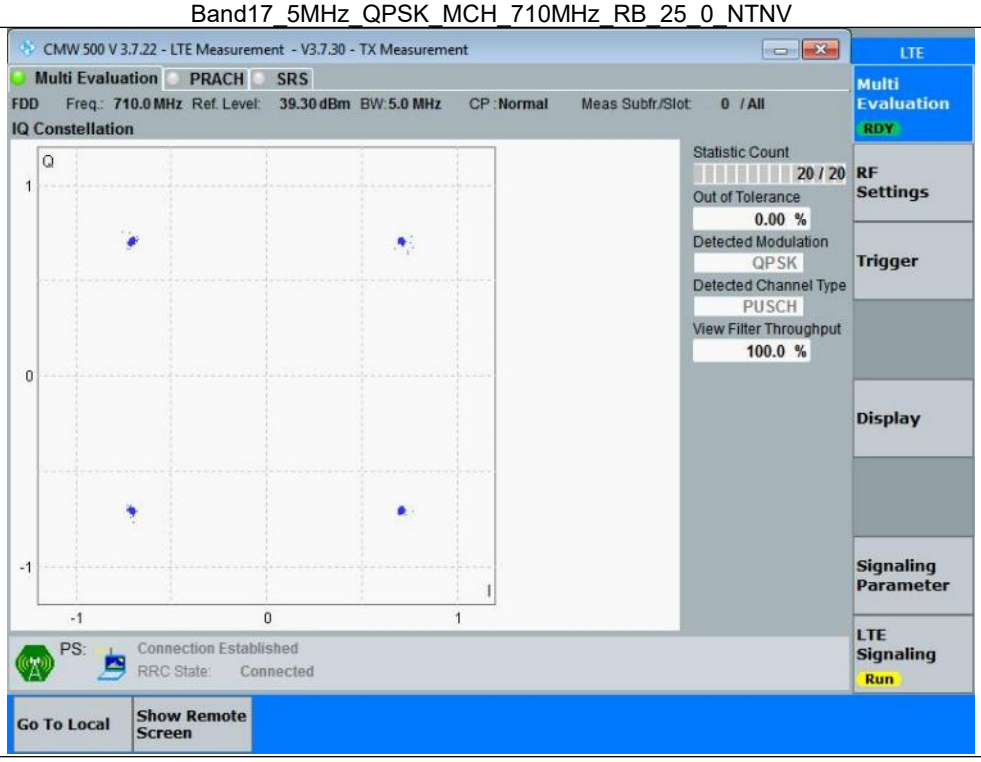
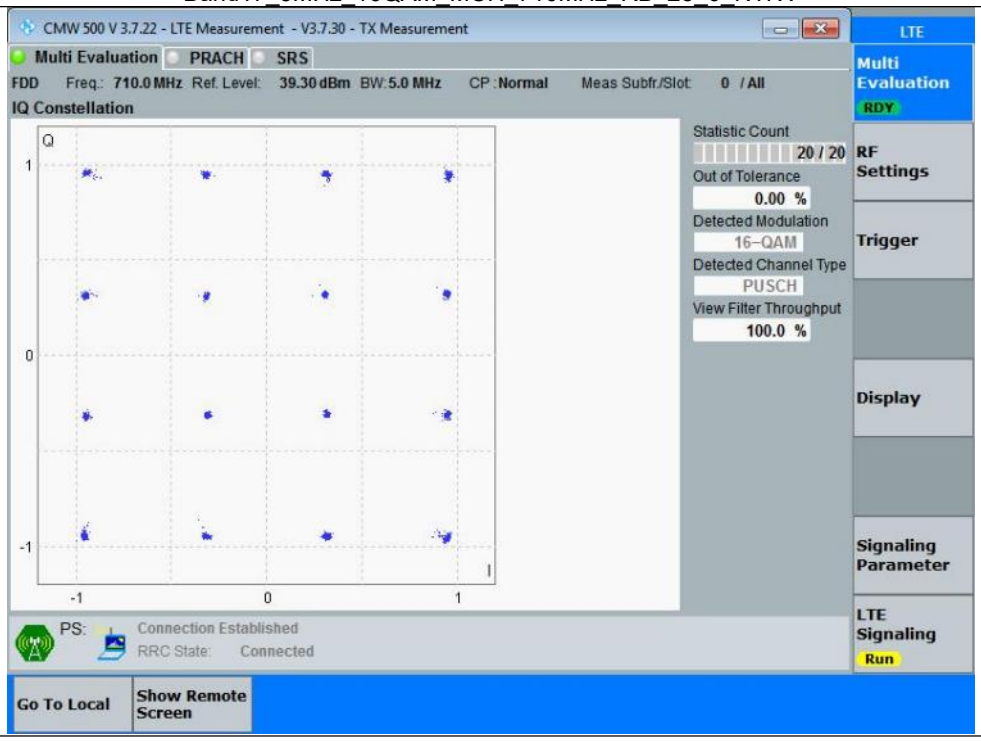
# 3. Modulation Characteristics

## 3.1 B17_5MHz

### 3.1.1 Test Result

| Band: 17 / Bandwidth: 5MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Modulation Characteristics | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 710 | 25 | 0 | Refer To Test Graph | | Pass |
| 16QAM | 710 | 25 | 0 | Refer To Test Graph | | Pass |

### 3.1.2 Test Graph

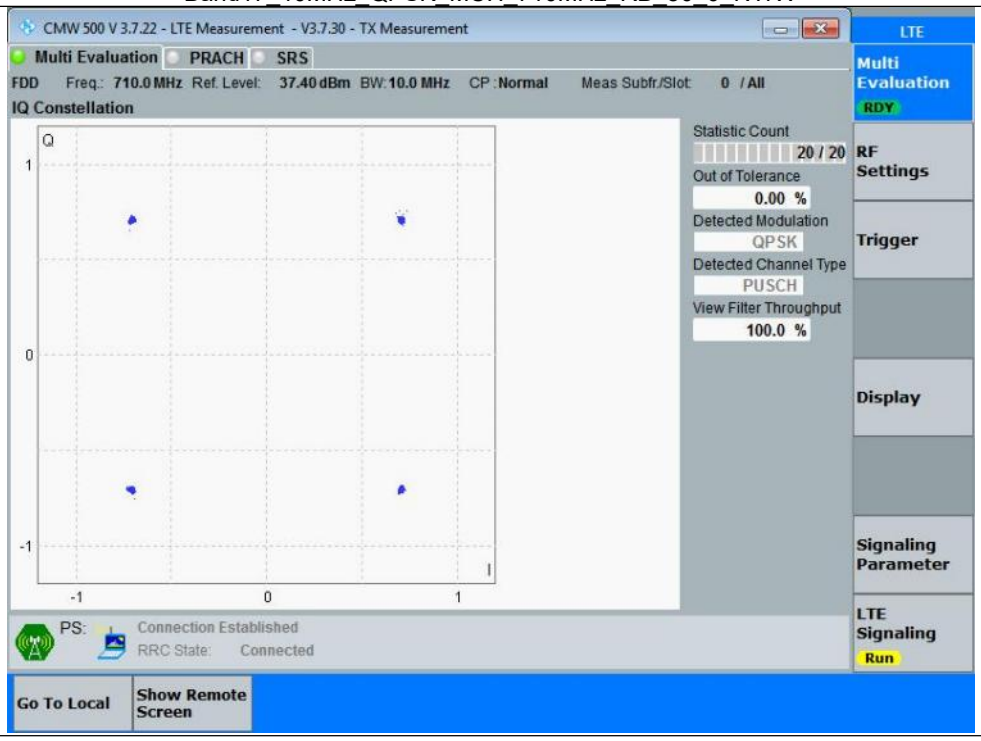
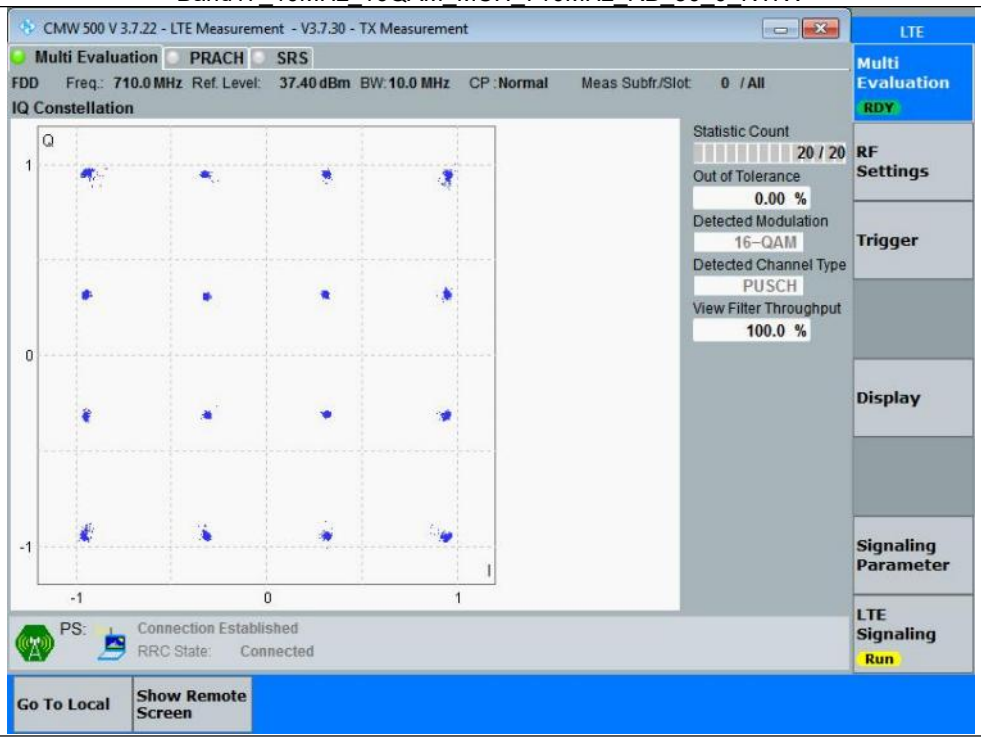
| Band17_5MHz_QPSK_MCH_710MHz_RB_25_0_NTNV |
| --- |
|  |
| Band17_5MHz_16QAM_MCH_710MHz_RB_25_0_NTNV |
|  |

## 3.2 B17_10MHz

### 3.2.1 Test Result

| Band: 17 / Bandwidth: 10MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Modulation Characteristics | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 710 | 50 | 0 | Refer To Test Graph | | Pass |
| 16QAM | 710 | 50 | 0 | Refer To Test Graph | | Pass |

## 3.2.2 Test Graph

| Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV |
| --- |
|  |
| Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV |
|  |

# 4. 99% & 26dB Bandwidth

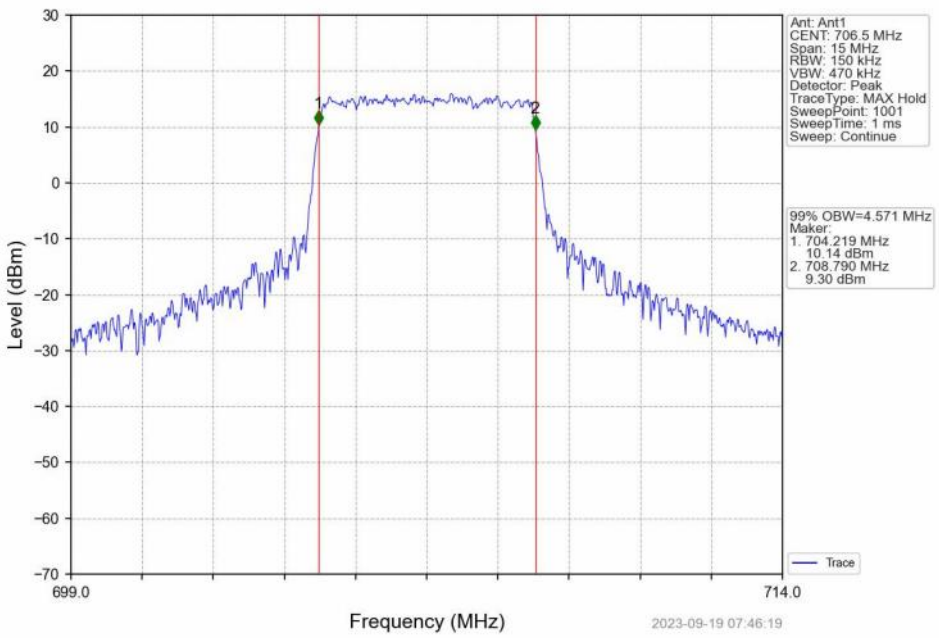
## 4.1 Band17_OBW

### 4.1.1 Test Result

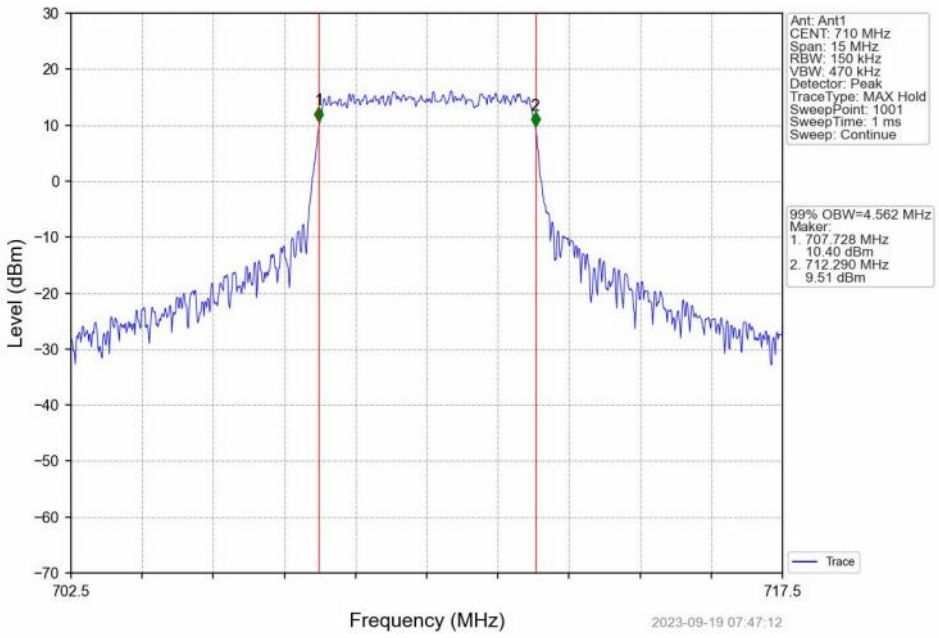
| Band: 17 / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Bandwidth (MHz) | Modulation | Frequency (MHz) | RB Allocation | | 99% Occupied Bandwidth (MHz) | Verdict |
| | | | Size | Offset | Result | |
| 5 | QPSK | 706.5 | 25 | 0 | 4.571 | Pass |
| | | 710 | 25 | 0 | 4.562 | Pass |
| | | 713.5 | 25 | 0 | 4.583 | Pass |
| | 16QAM | 706.5 | 25 | 0 | 4.595 | Pass |
| | | 710 | 25 | 0 | 4.618 | Pass |
| | | 713.5 | 25 | 0 | 4.587 | Pass |
| 10 | QPSK | 709 | 50 | 0 | 9.092 | Pass |
| | | 710 | 50 | 0 | 9.039 | Pass |
| | | 711 | 50 | 0 | 9.044 | Pass |
| | 16QAM | 709 | 50 | 0 | 9.110 | Pass |
| | | 710 | 50 | 0 | 9.060 | Pass |
| | | 711 | 50 | 0 | 9.047 | Pass |

## 4.1.2 Test Graph

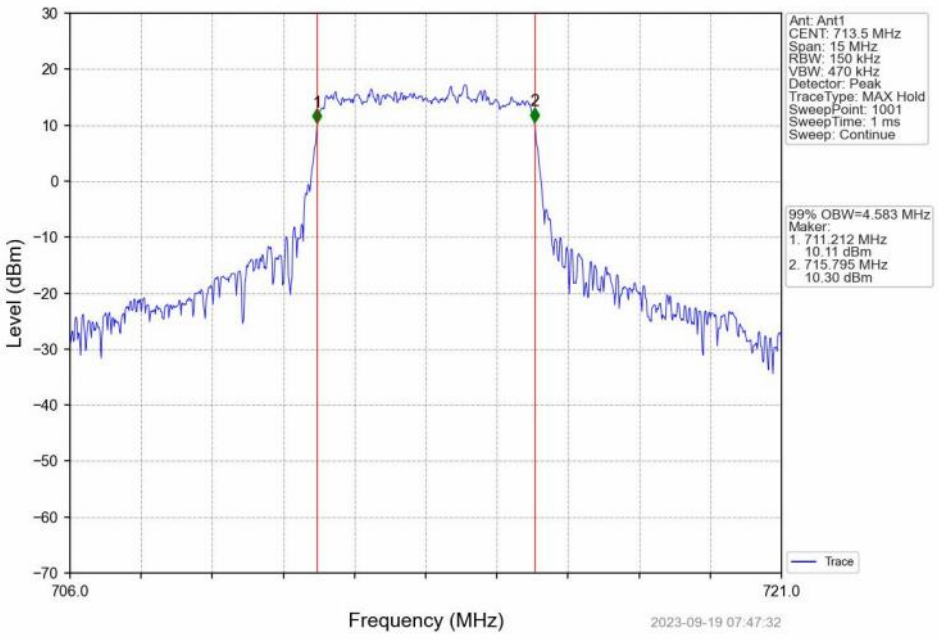
Band17_5MHz_QPSK_LCH_706.5MHz_RB_25_0_NTNV



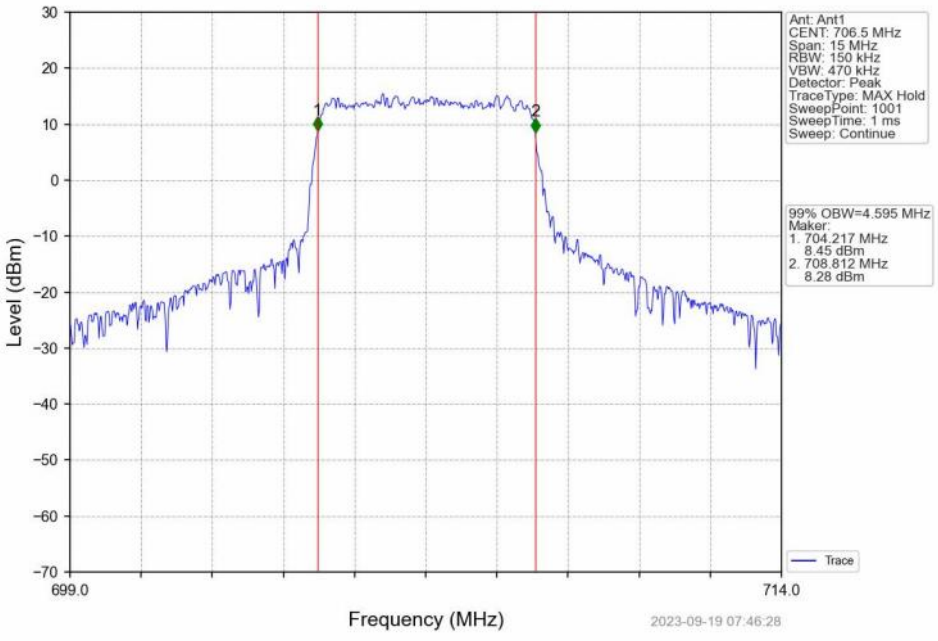

Band17_5MHz_QPSK_MCH_710MHz_RB_25_0_NTNV



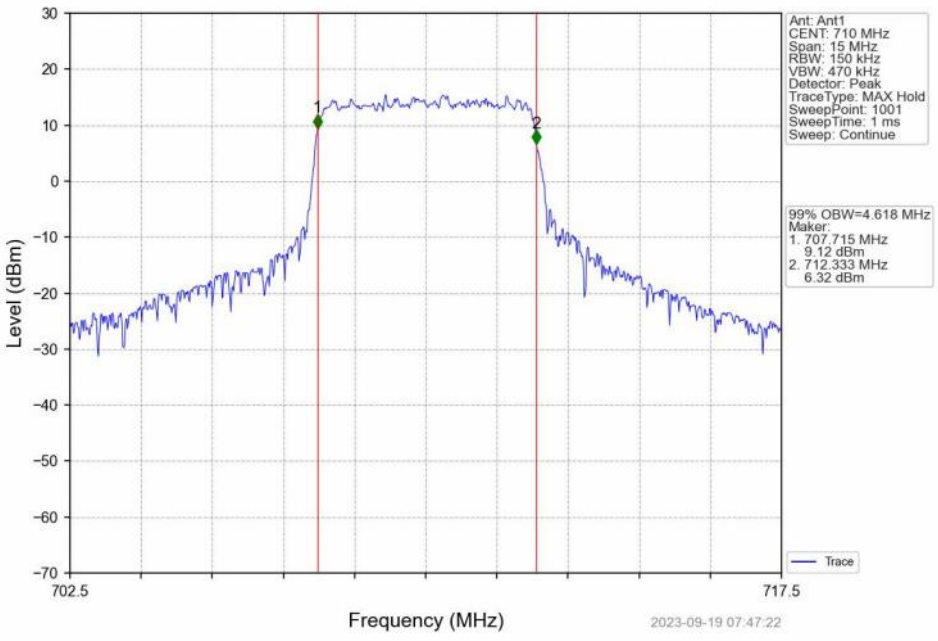
Band17_5MHz_QPSK_HCH_713.5MHz_RB_25_0_NTNV



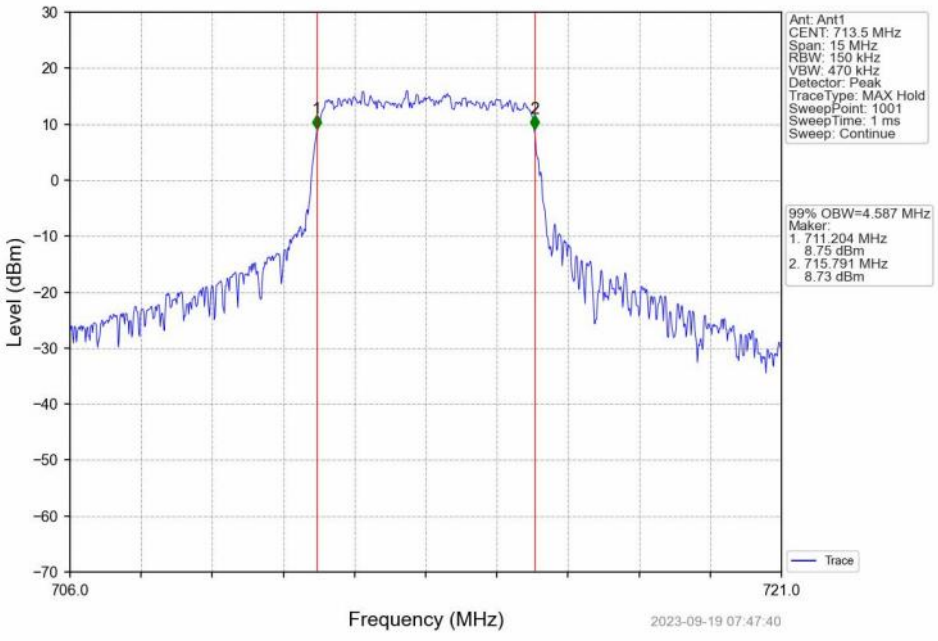

Band17_5MHz_16QAM_LCH_706.5MHz_RB_25_0_NTNV



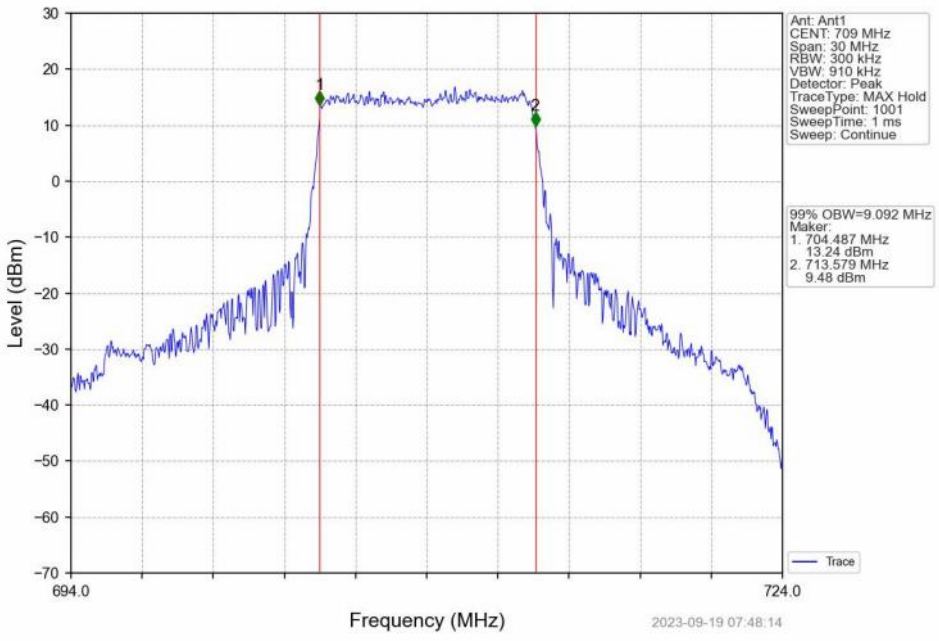
Band17_5MHz_16QAM_MCH_710MHz_RB_25_0_NTNV



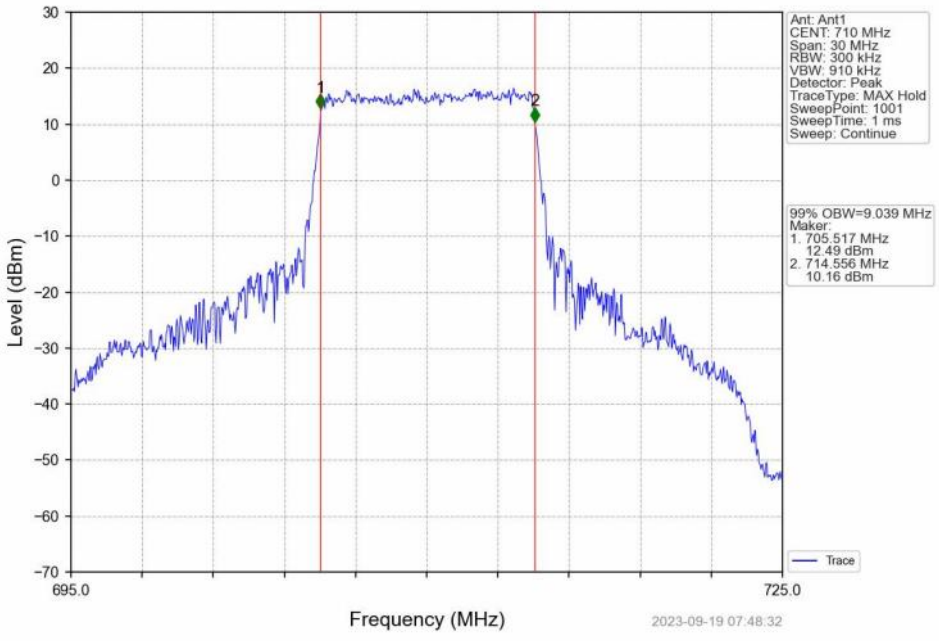

Band17_5MHz_16QAM_HCH_713.5MHz_RB_25_0_NTNV



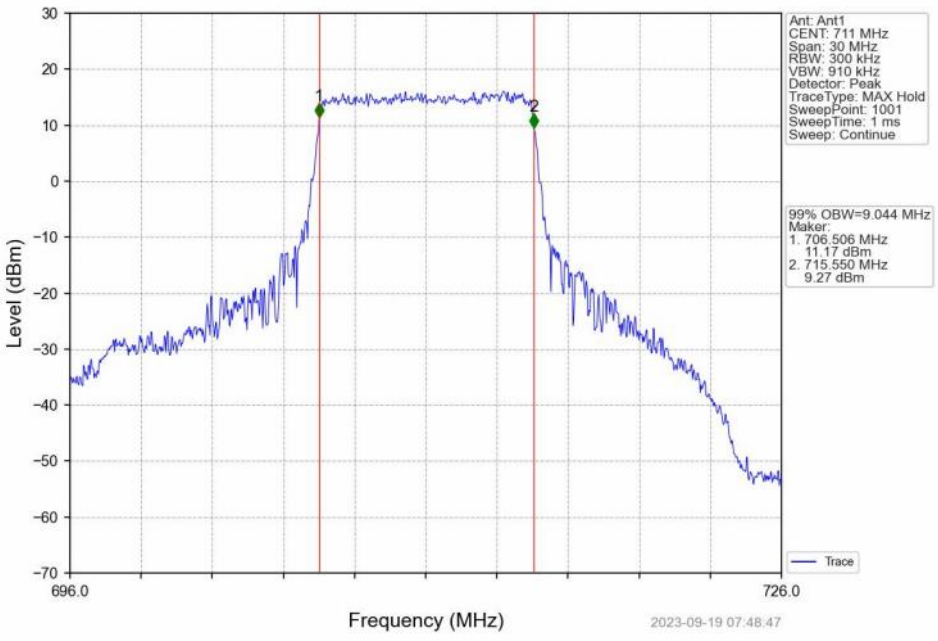
Band17_10MHz_QPSK_LCH_709MHz_RB_50_0_NTNV



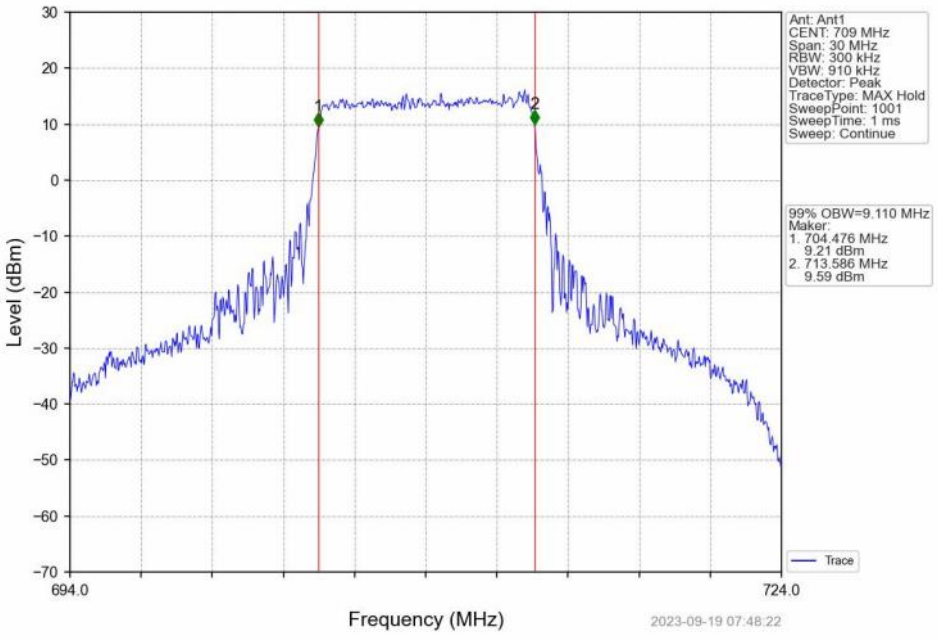

Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV



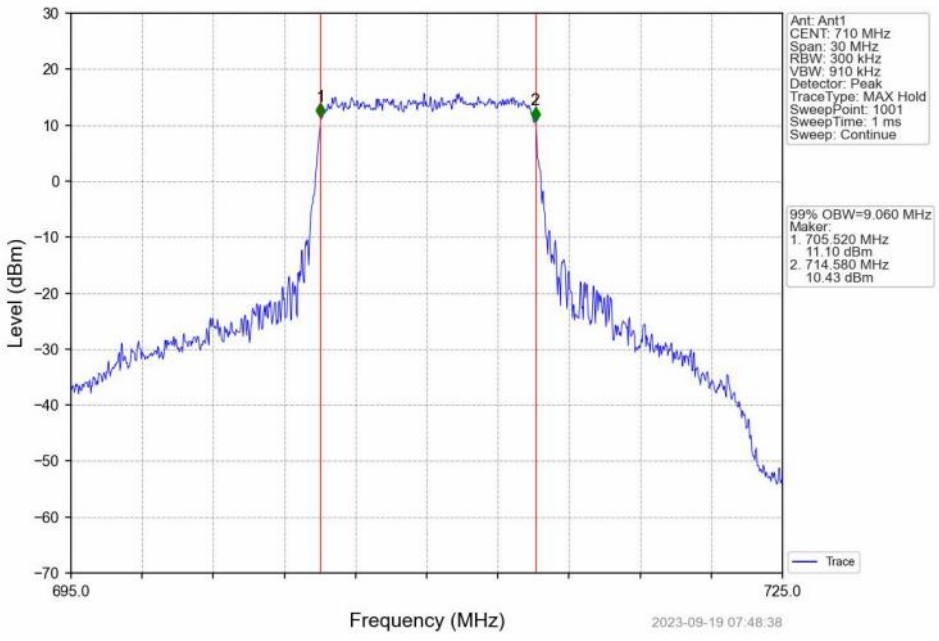
Band17_10MHz_QPSK_HCH_711MHz_RB_50_0_NTNV



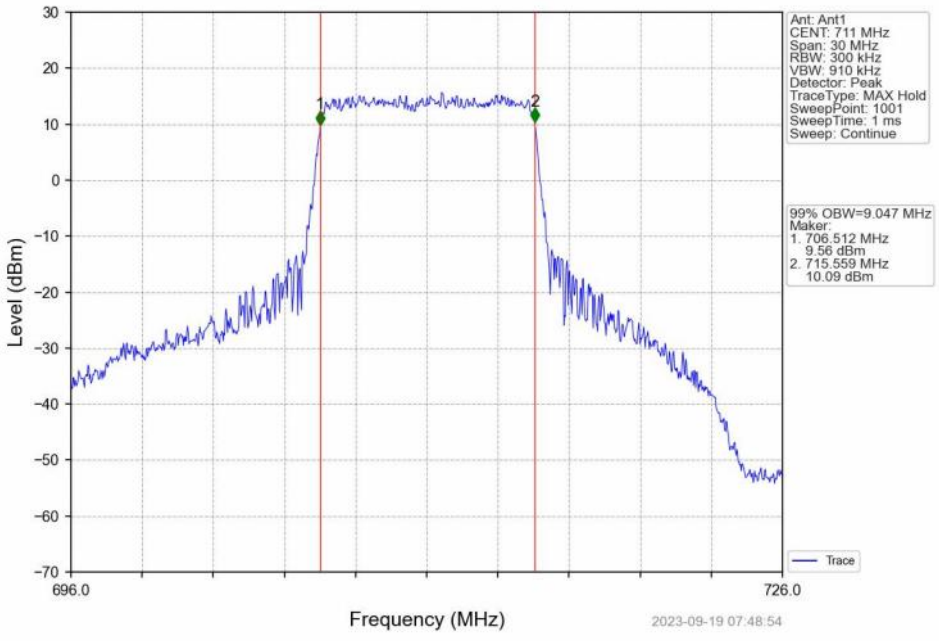

Band17_10MHz_16QAM_LCH_709MHz_RB_50_0_NTNV



Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV




Band17_10MHz_16QAM_HCH_711MHz_RB_50_0_NTNV



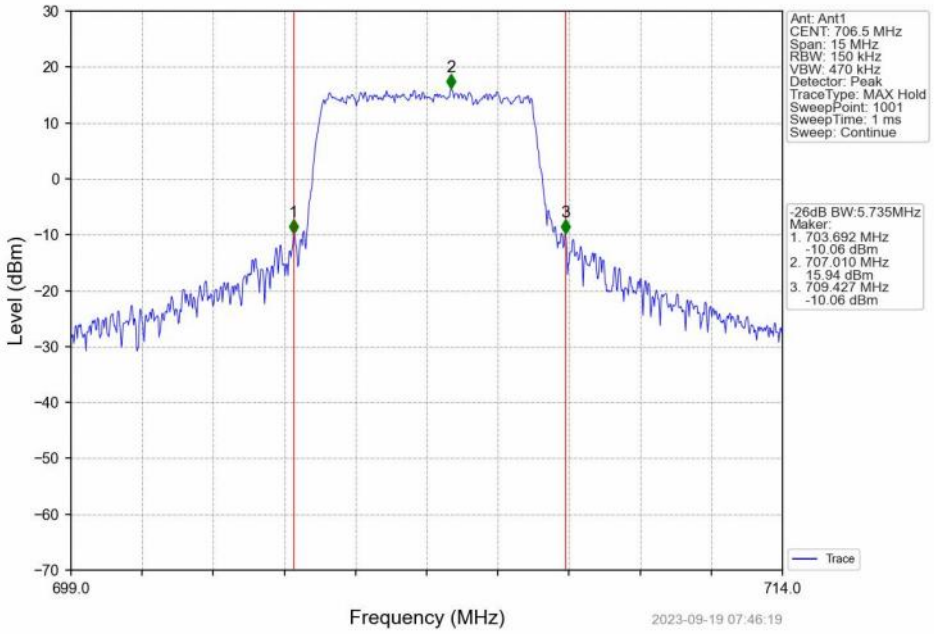
## 4.2 Band17_XDB

### 4.2.1 Test Result

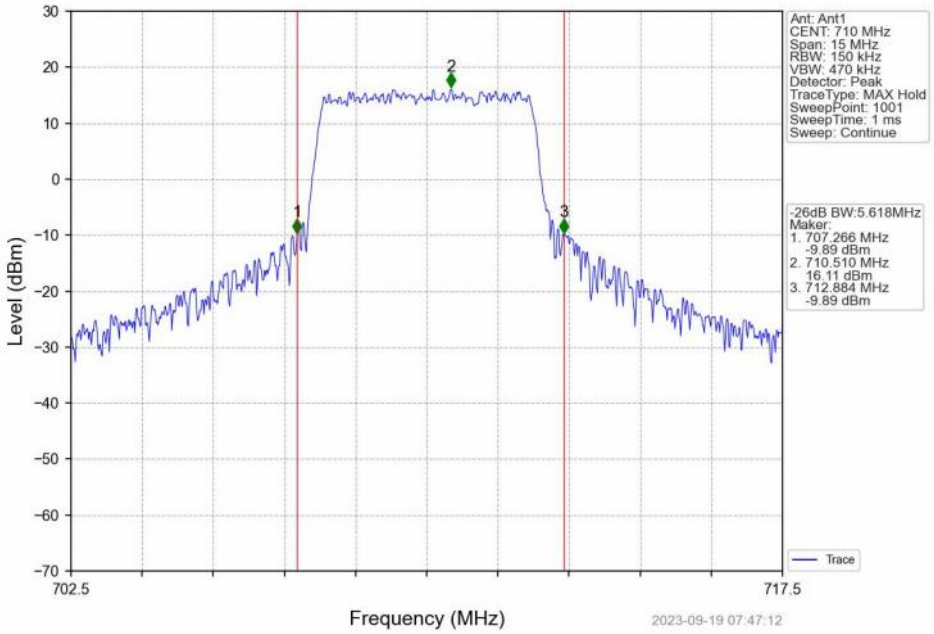
| Band: 17 / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Bandwidth (MHz) | Modulation | Frequency (MHz) | RB Allocation | | 26dB Bandwidth (MHz) | Verdict |
| | | | Size | Offset | Result | |
| 5 | QPSK | 706.5 | 25 | 0 | 5.735 | Pass |
| | | 710 | 25 | 0 | 5.618 | Pass |
| | | 713.5 | 25 | 0 | 5.430 | Pass |
| | 16QAM | 706.5 | 25 | 0 | 5.549 | Pass |
| | | 710 | 25 | 0 | 5.903 | Pass |
| | | 713.5 | 25 | 0 | 5.624 | Pass |
| 10 | QPSK | 709 | 50 | 0 | 10.278 | Pass |
| | | 710 | 50 | 0 | 10.163 | Pass |
| | | 711 | 50 | 0 | 10.441 | Pass |
| | 16QAM | 709 | 50 | 0 | 11.021 | Pass |
| | | 710 | 50 | 0 | 10.144 | Pass |
| | | 711 | 50 | 0 | 10.093 | Pass |

## 4.2.2 Test Graph

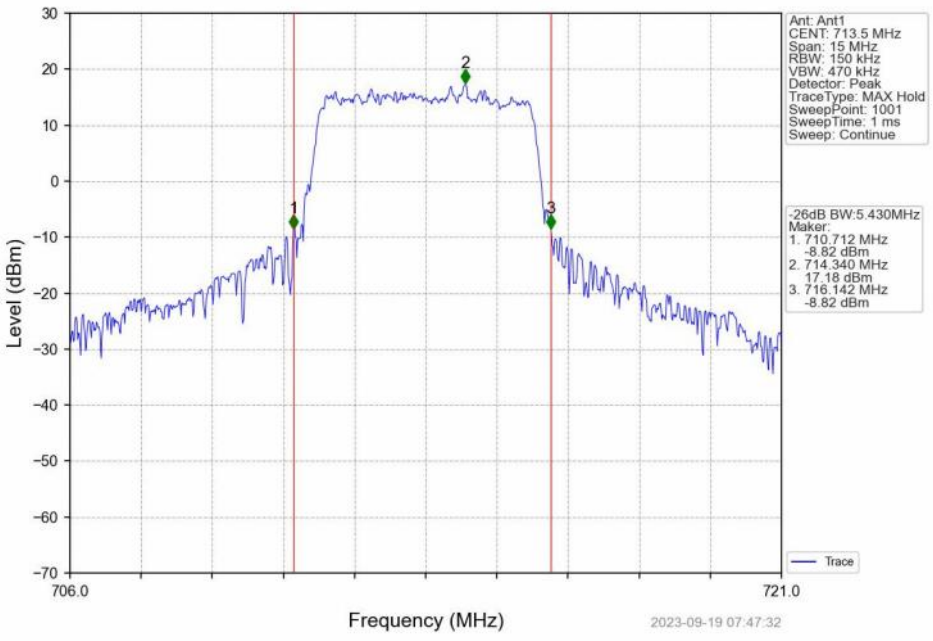
Band17_5MHz_QPSK_LCH_706.5MHz_RB_25_0_NTNV



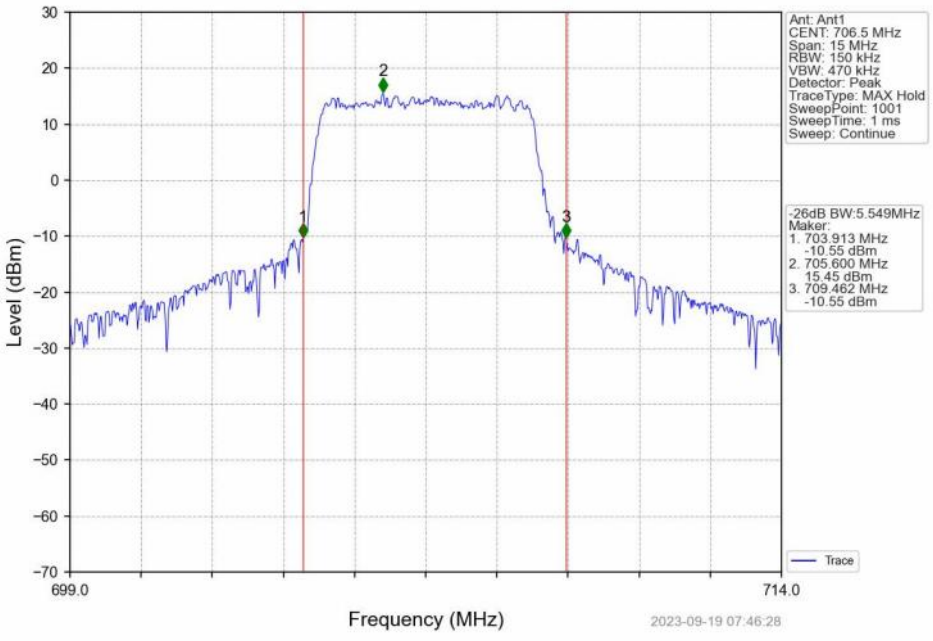

Band17_5MHz_QPSK_MCH_710MHz_RB_25_0_NTNV



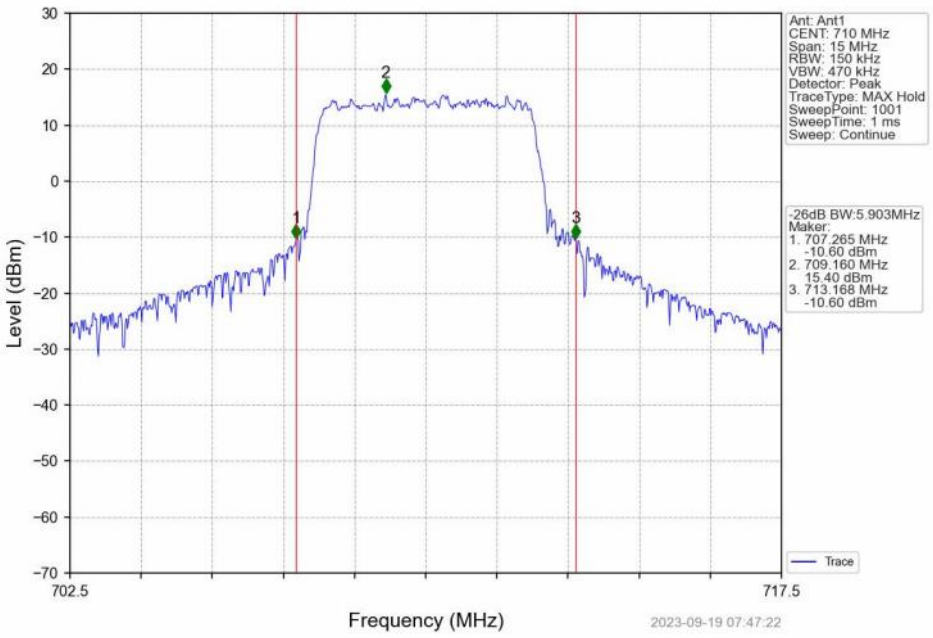
Band17_5MHz_QPSK_HCH_713.5MHz_RB_25_0_NTNV



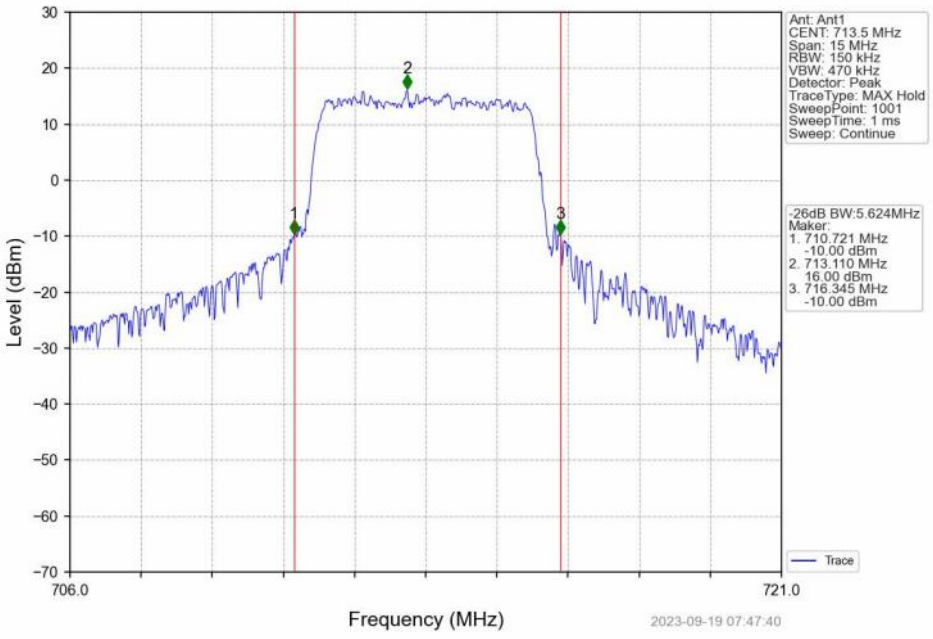

Band17_5MHz_16QAM_LCH_706.5MHz_RB_25_0_NTNV



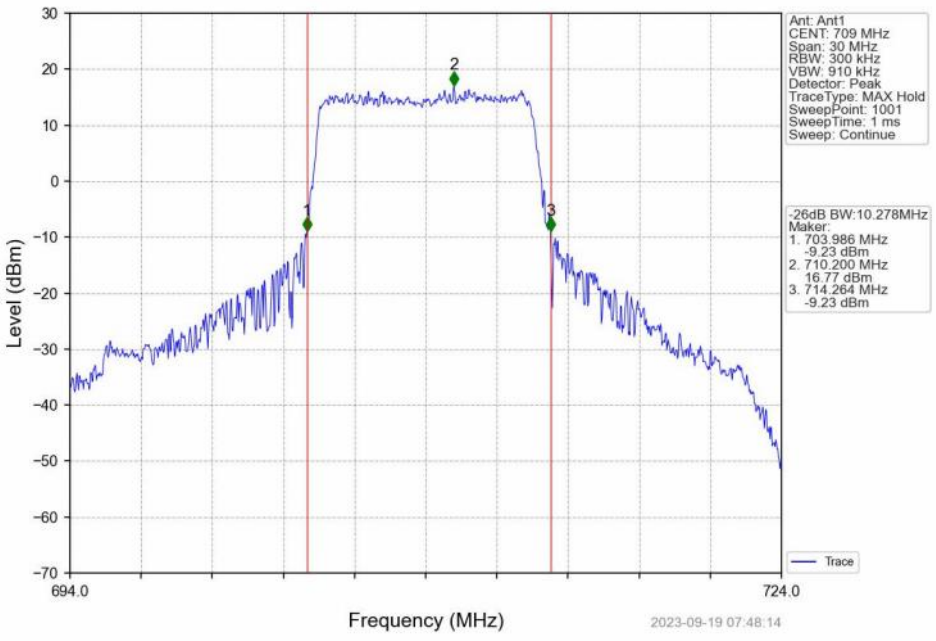
Band17_5MHz_16QAM_MCH_710MHz_RB_25_0_NTNV



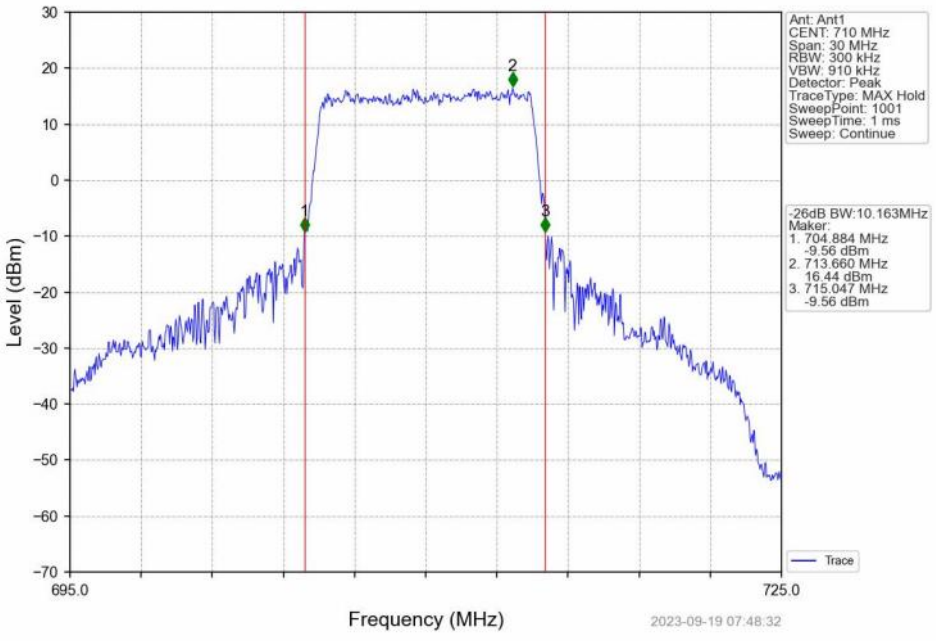

Band17_5MHz_16QAM_HCH_713.5MHz_RB_25_0_NTNV



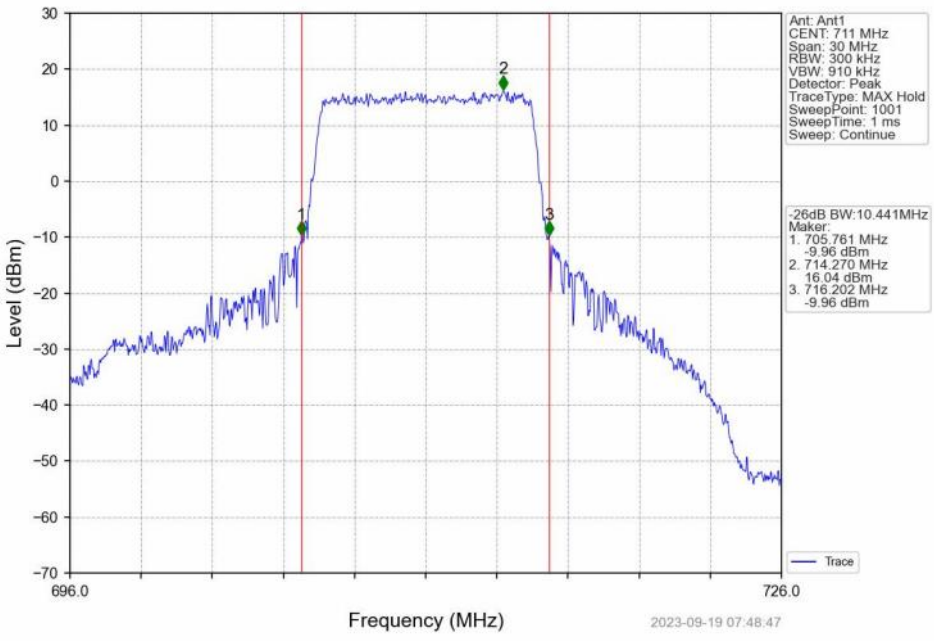
Band17_10MHz_QPSK_LCH_709MHz_RB_50_0_NTNV



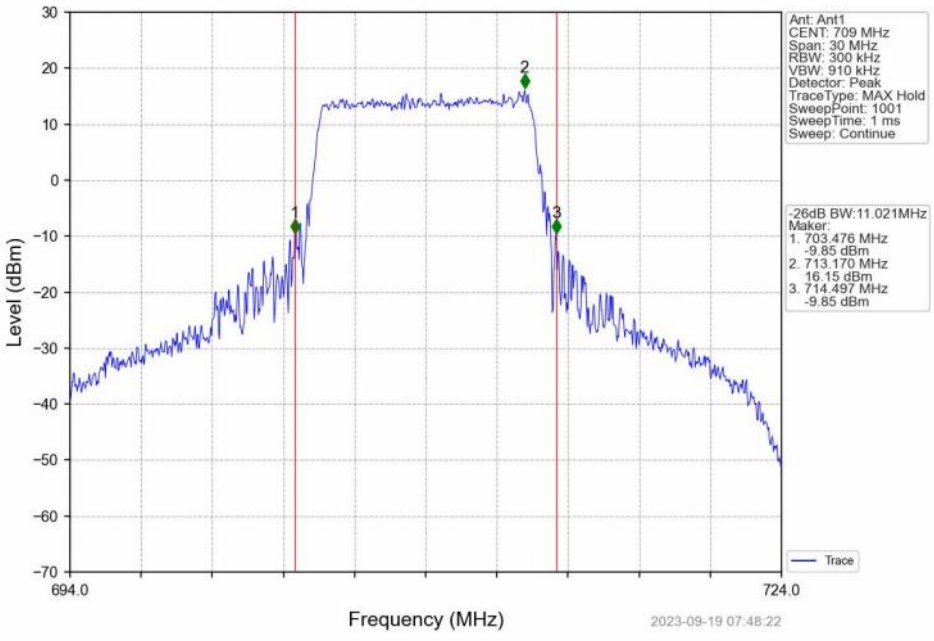

Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV



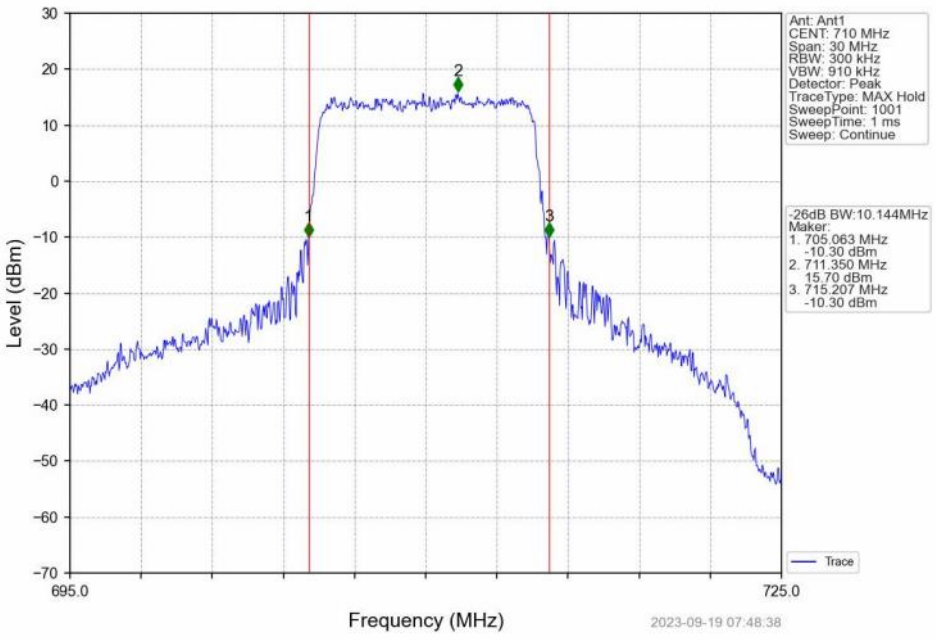
Band17_10MHz_QPSK_HCH_711MHz_RB_50_0_NTNV



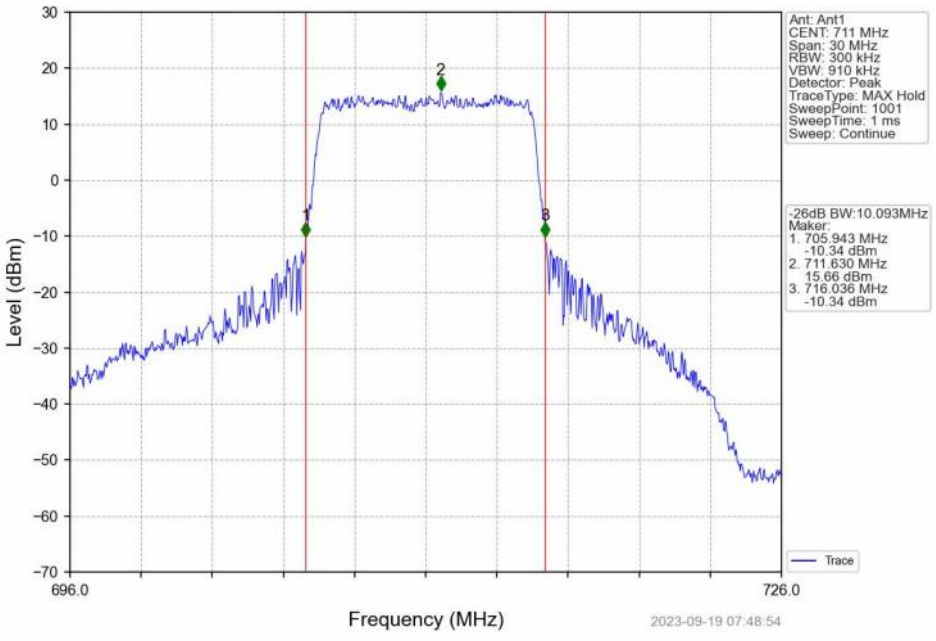

Band17_10MHz_16QAM_LCH_709MHz_RB_50_0_NTNV



Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV




Band17_10MHz_16QAM_HCH_711MHz_RB_50_0_NTNV



# 5. Peak-Average Ratio

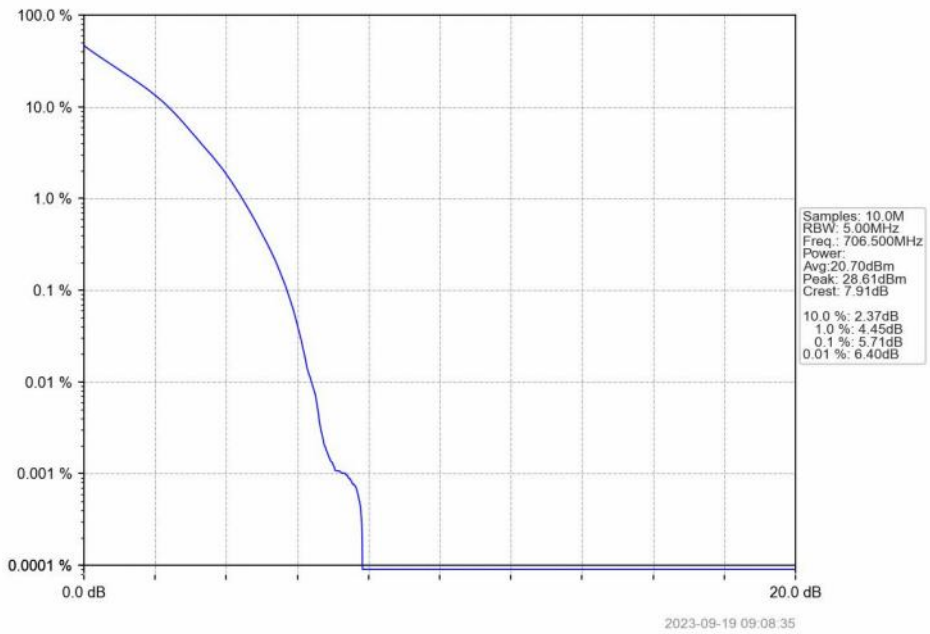
## 5.1 B17_5MHz

### 5.1.1 Test Result

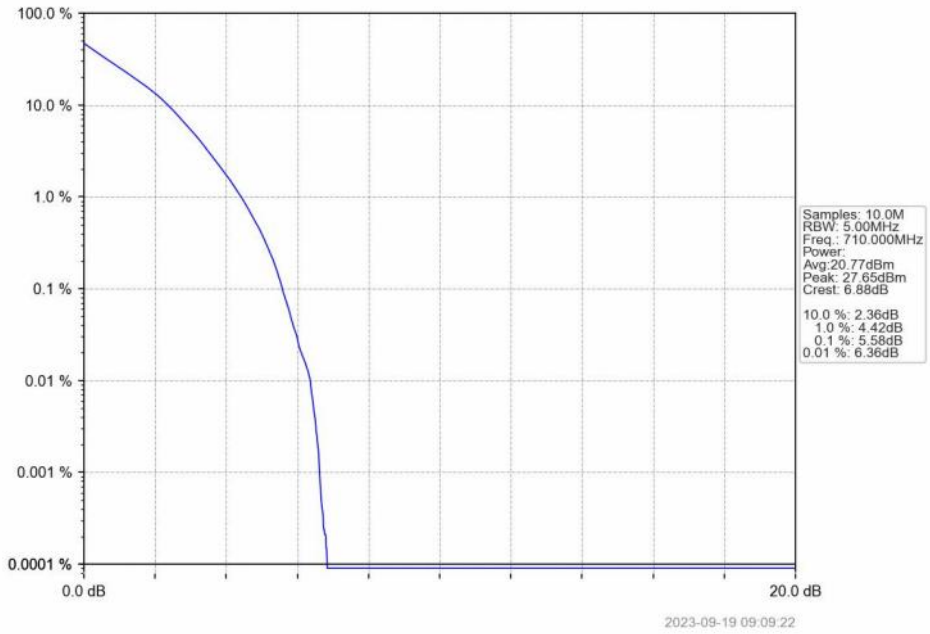
| Band: 17 / Bandwidth: 5MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Peak-Average Ratio (dB) | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 706.5 | 25 | 0 | 5.71 | <=13 | Pass |
| | 710 | 25 | 0 | 5.58 | <=13 | Pass |
| | 713.5 | 25 | 0 | 5.49 | <=13 | Pass |
| 16QAM | 706.5 | 25 | 0 | 6.41 | <=13 | Pass |
| | 710 | 25 | 0 | 6.26 | <=13 | Pass |
| | 713.5 | 25 | 0 | 6.31 | <=13 | Pass |

## 5.1.2 Test Graph

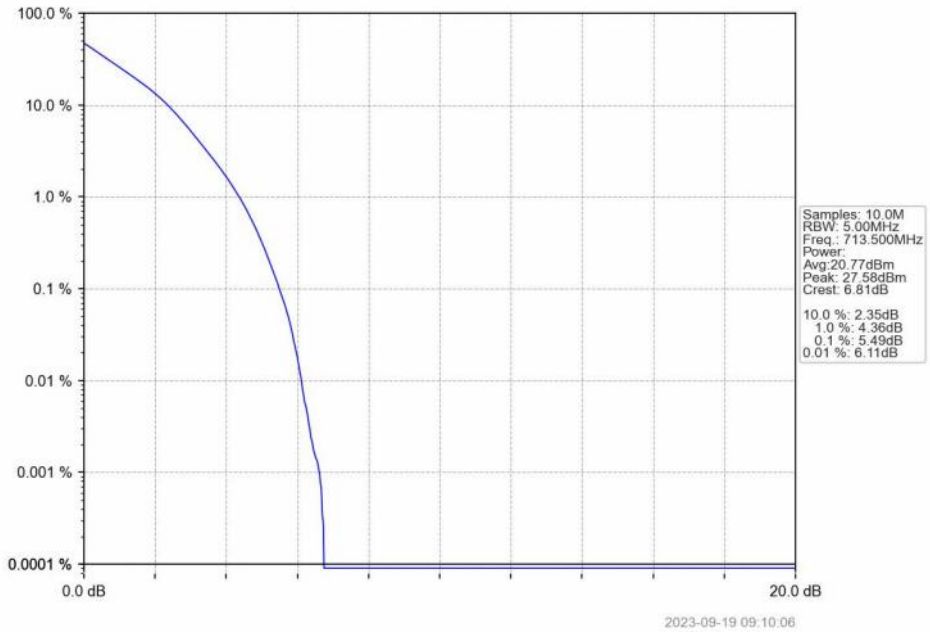
Band17_5MHz_QPSK_LCH_706.5MHz_RB_25_0_NTNV



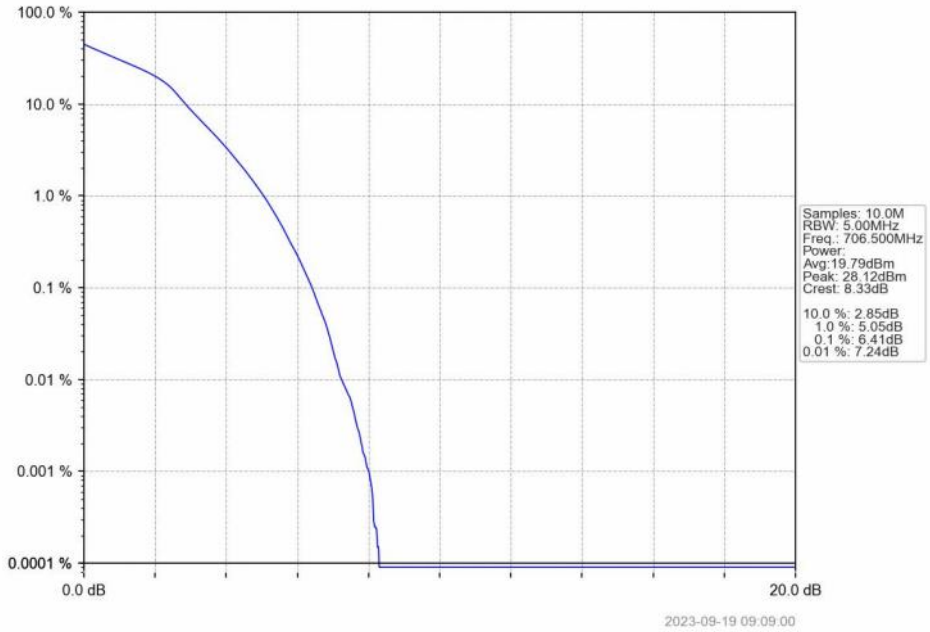

Band17_5MHz_QPSK_MCH_710MHz_RB_25_0_NTNV



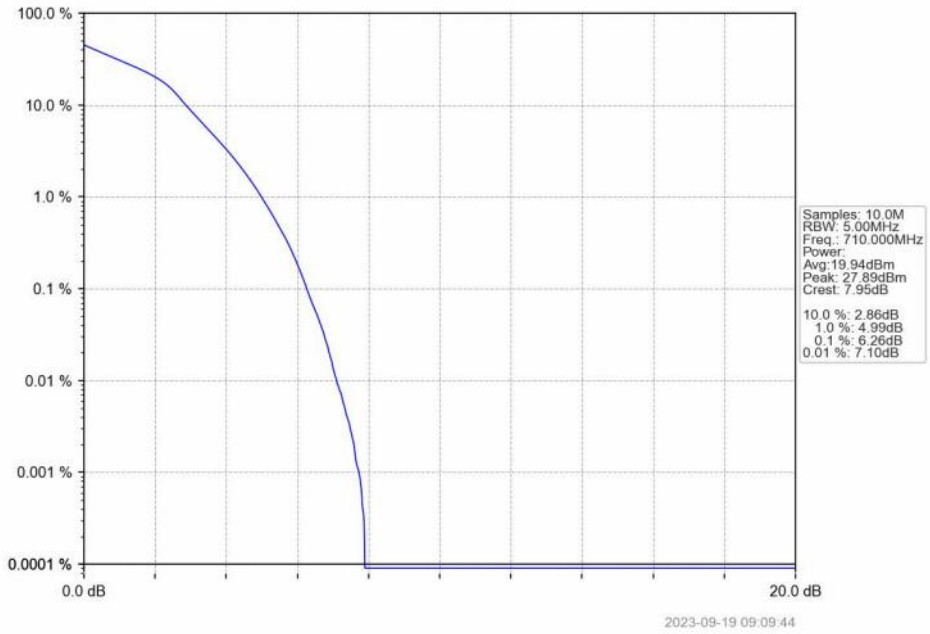
Band17_5MHz_QPSK_HCH_713.5MHz_RB_25_0_NTNV



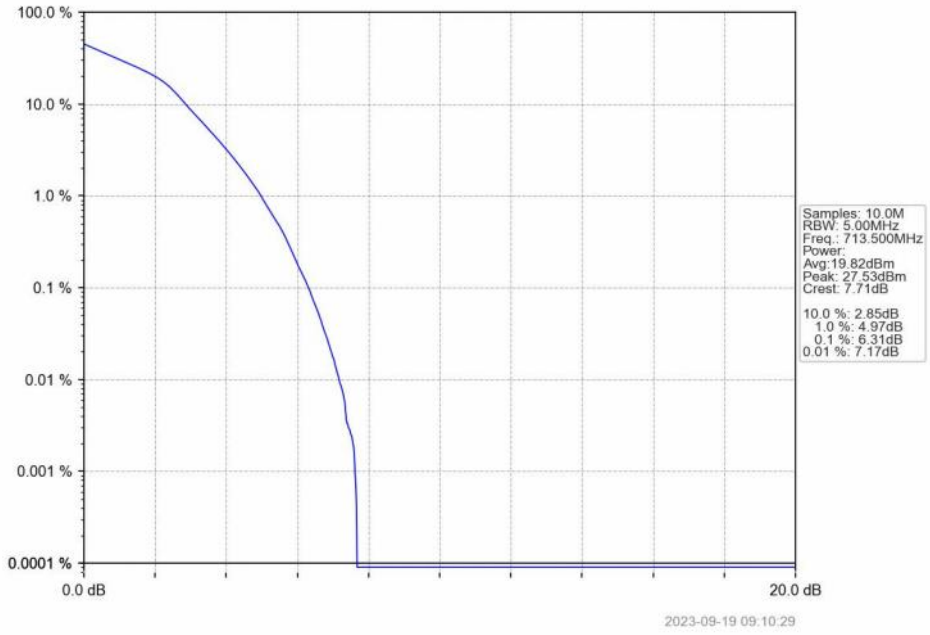

Band17_5MHz_16QAM_LCH_706.5MHz_RB_25_0_NTNV



Band17_5MHz_16QAM_MCH_710MHz_RB_25_0_NTNV




Band17_5MHz_16QAM_HCH_713.5MHz_RB_25_0_NTNV



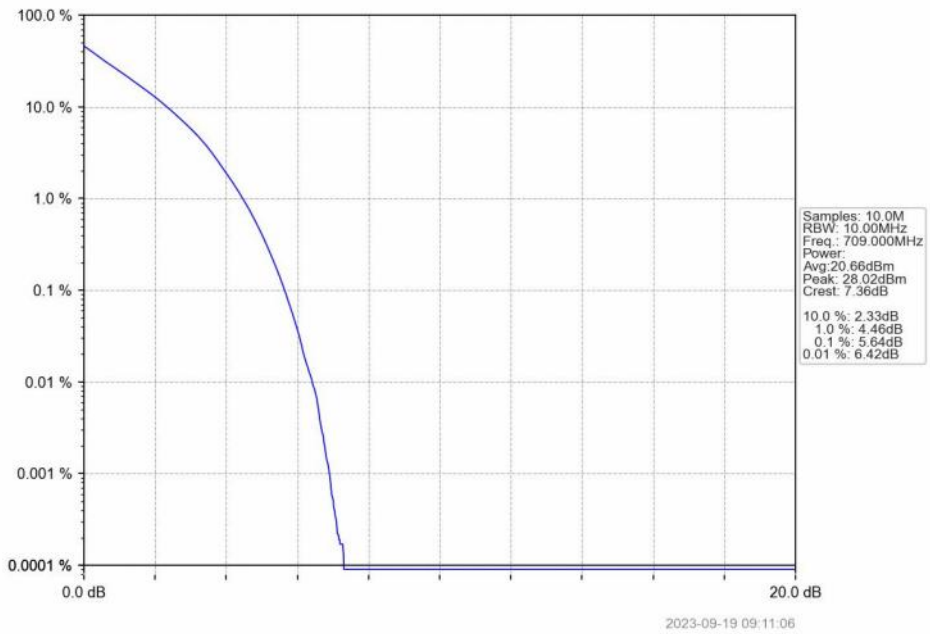
## 5.2 B17_10MHz

### 5.2.1 Test Result

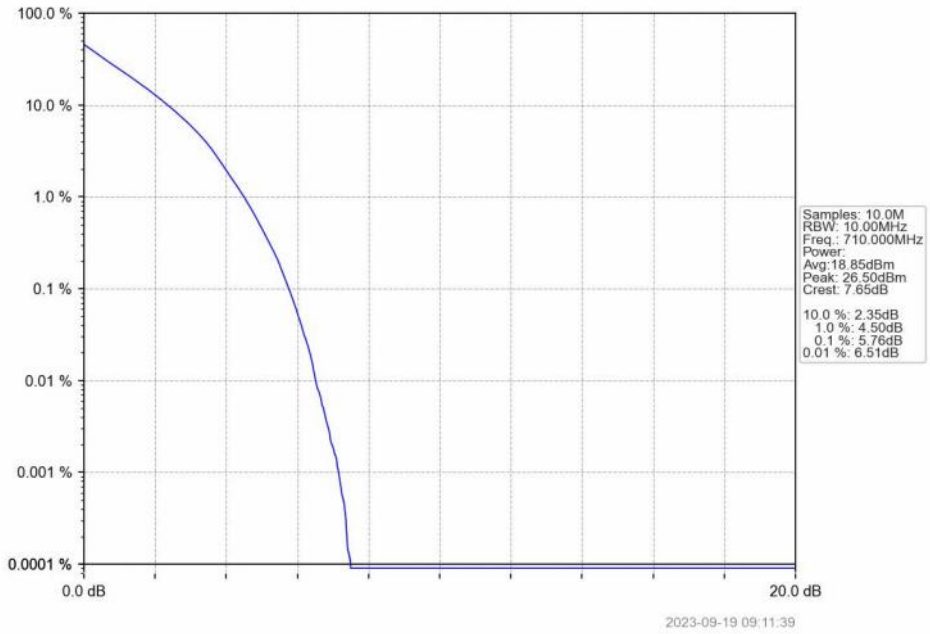
| Band: 17 / Bandwidth: 10MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Peak-Average Ratio (dB) | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 709 | 50 | 0 | 5.64 | <=13 | Pass |
| | 710 | 50 | 0 | 5.76 | <=13 | Pass |
| | 711 | 50 | 0 | 5.75 | <=13 | Pass |
| 16QAM | 709 | 50 | 0 | 7.15 | <=13 | Pass |
| | 710 | 50 | 0 | 6.03 | <=13 | Pass |
| | 711 | 50 | 0 | 5.95 | <=13 | Pass |

## 5.2.2 Test Graph

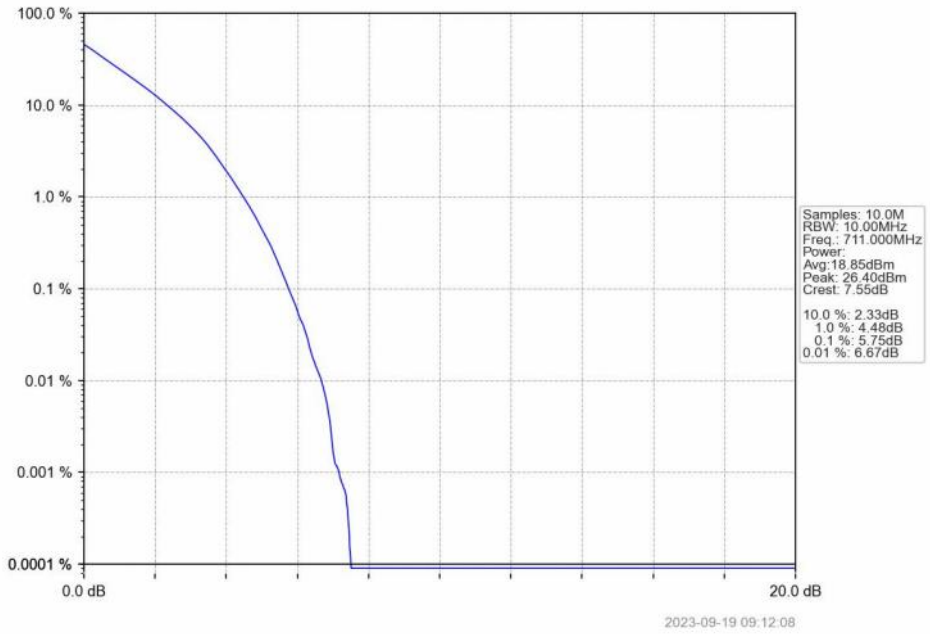
Band17_10MHz_QPSK_LCH_709MHz_RB_50_0_NTNV



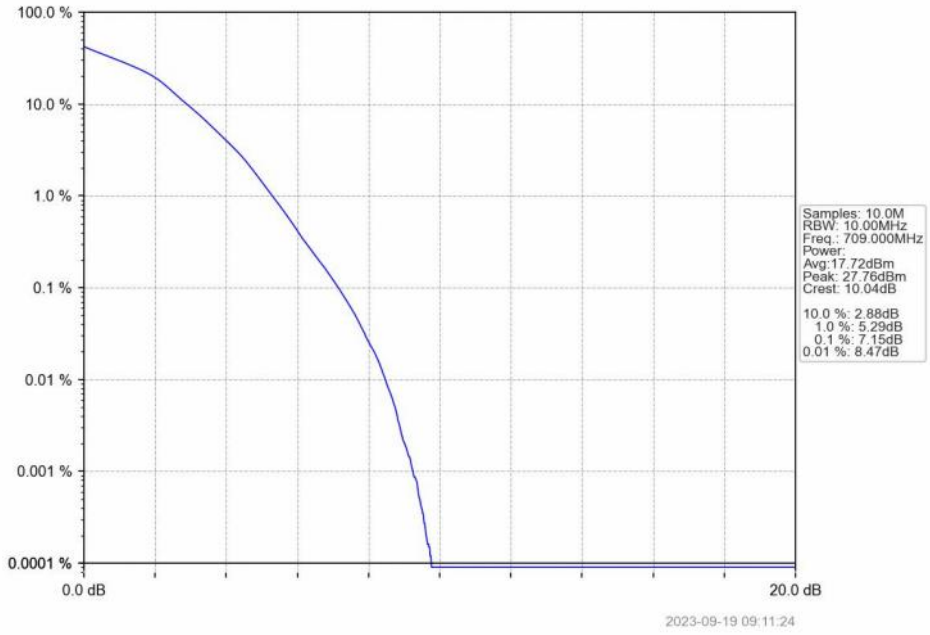

Band17_10MHz_QPSK_MCH_710MHz_RB_50_0_NTNV



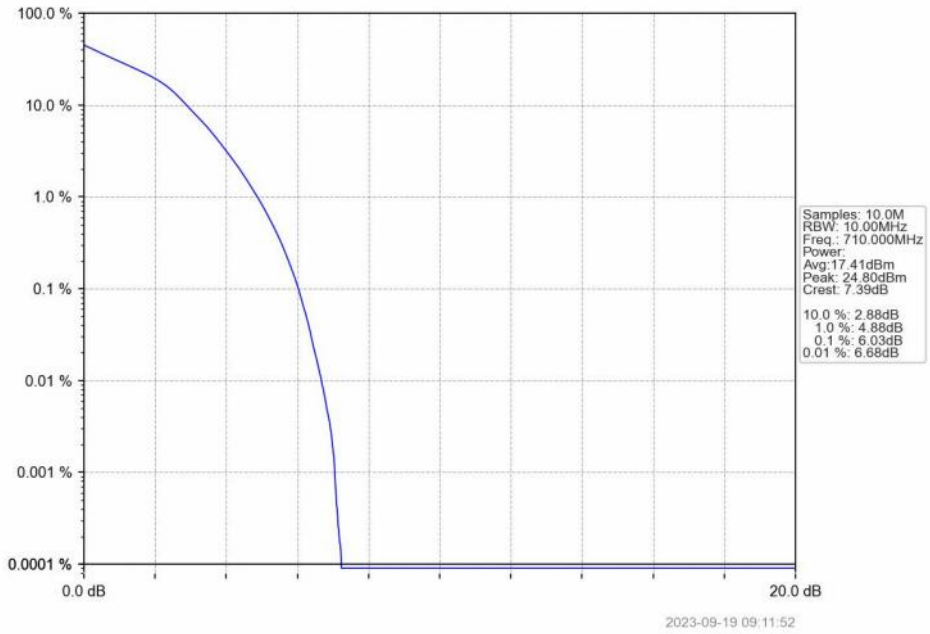
Band17_10MHz_QPSK_HCH_711MHz_RB_50_0_NTNV



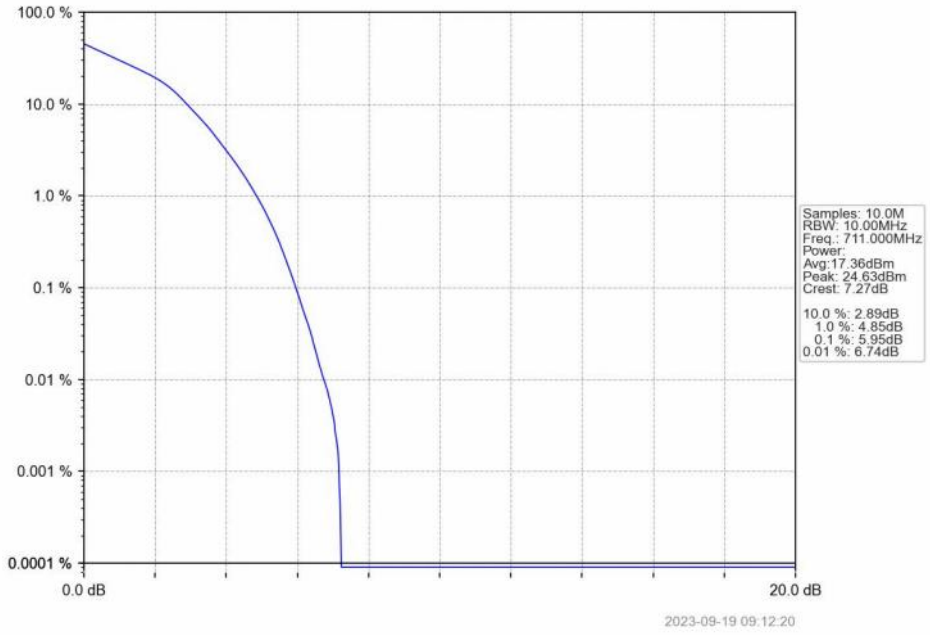

Band17_10MHz_16QAM_LCH_709MHz_RB_50_0_NTNV



Band17_10MHz_16QAM_MCH_710MHz_RB_50_0_NTNV




Band17_10MHz_16QAM_HCH_711MHz_RB_50_0_NTNV



# 6. Spurious Emission

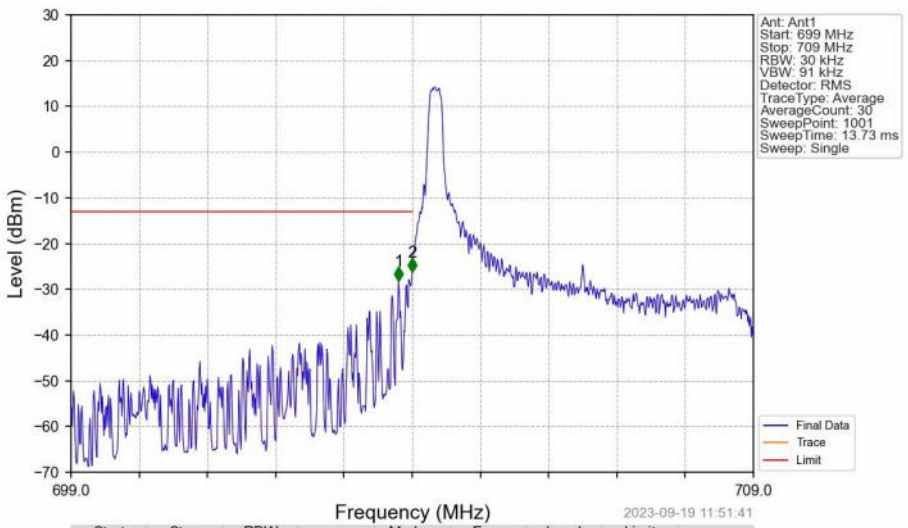
## 6.1 B17_5MHz

### 6.1.1 Test Result

| Band: 17 / Bandwidth: 5MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Spurious Emission | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 706.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 25 | 0 | Refer To Test Graph | | Pass |
| | 710 | 1 | 0 | Refer To Test Graph | | Pass |
| | 713.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 24 | Refer To Test Graph | | Pass |
| | | 25 | 0 | Refer To Test Graph | | Pass |
| 16QAM | 706.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 25 | 0 | Refer To Test Graph | | Pass |
| | 710 | 1 | 0 | Refer To Test Graph | | Pass |
| | 713.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 24 | Refer To Test Graph | | Pass |
| | | 25 | 0 | Refer To Test Graph | | Pass |

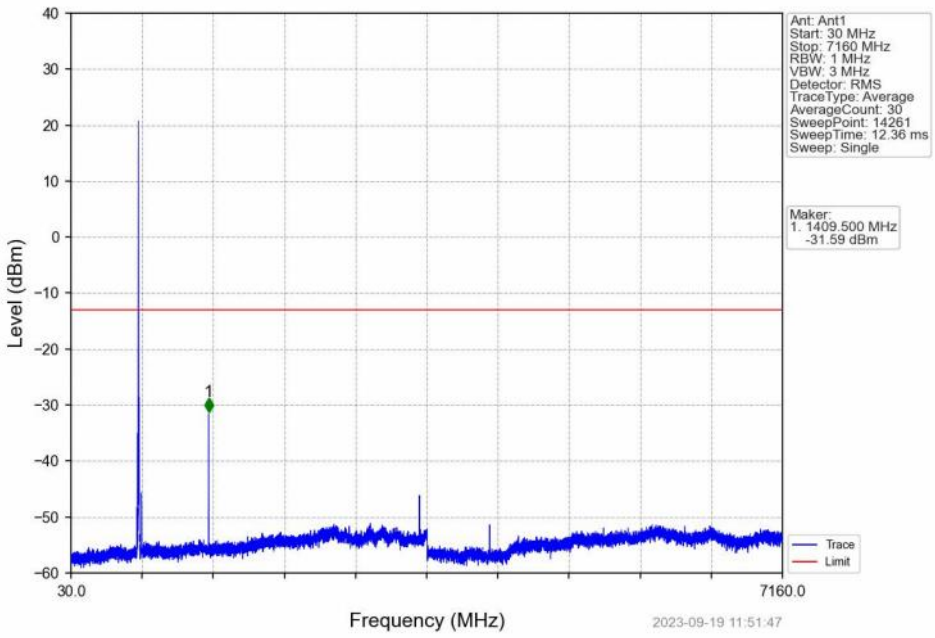
## 6.1.2 Test Graph

Band17_5MHz_QPSK_LCH_706.5MHz_RB_1_0_NTNV

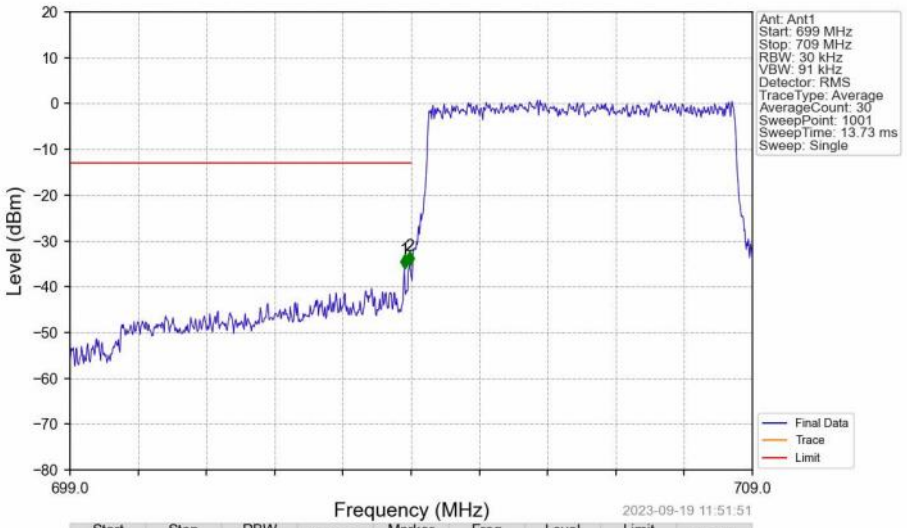



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 699 | 703.9 | 0.1 | / | 1 | 703.800 | -28.19 | -13 | Pass |
| 703.9 | 704 | 0.03 | / | 2 | 704.000 | -26.34 | -13 | Pass |
| 704 | 709 | 0.03 | / | / | / | / | / | / |

Band17_5MHz_QPSK_LCH_706.5MHz_RB_1_0_NTNV

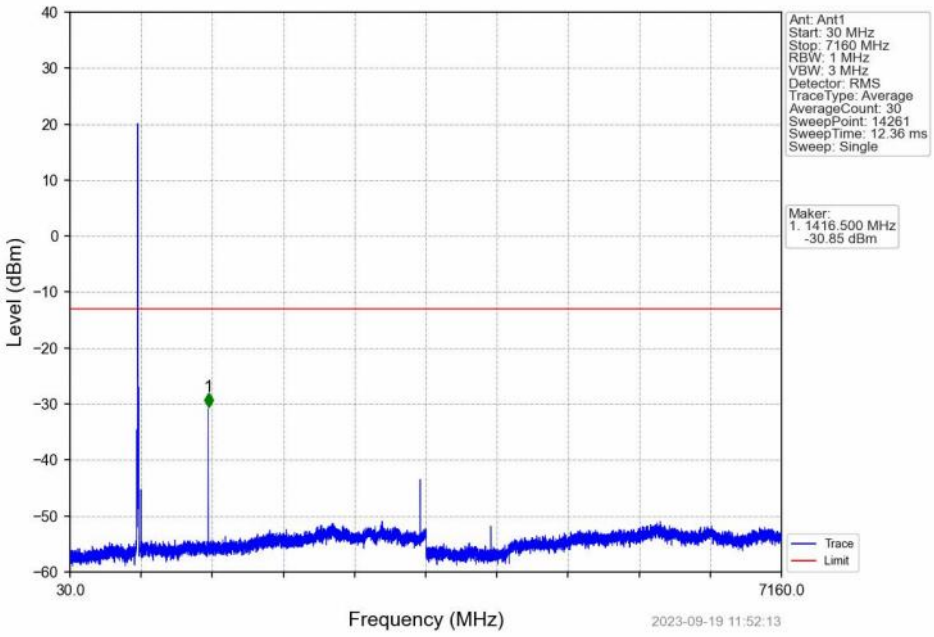


Band17_5MHz_QPSK_LCH_706.5MHz_RB_25_0_NTNV

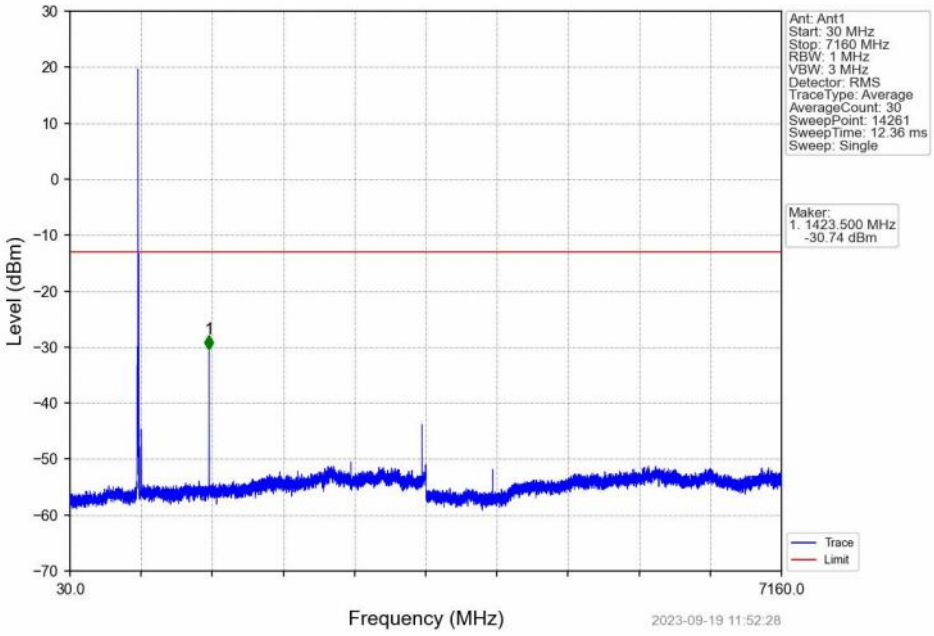



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 699 | 703.9 | 0.1 | / | 1 | 703.900 | -36.09 | -13 | Pass |
| 703.9 | 704 | 0.03 | / | 2 | 703.980 | -35.33 | -13 | Pass |
| 704 | 709 | 0.03 | / | / | / | / | / | / |

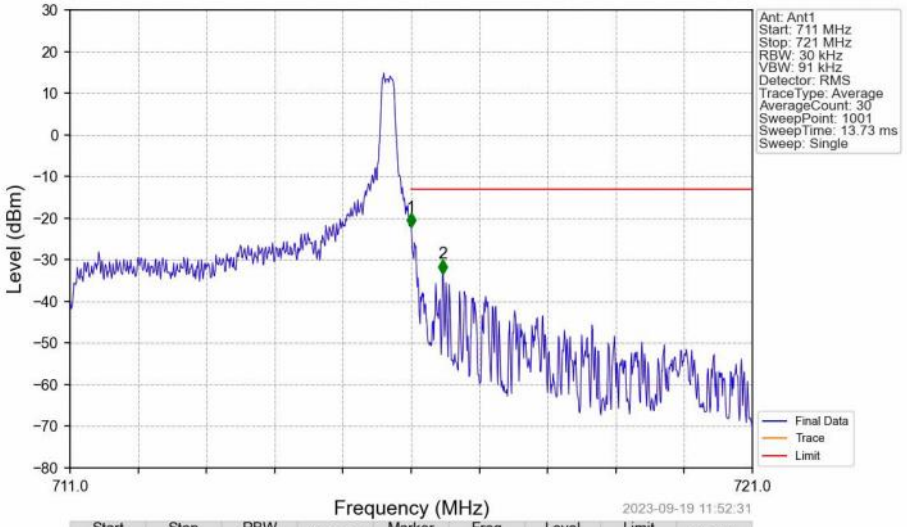
Band17_5MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17_5MHz_QPSK_HCH_713.5MHz_RB_1_0_NTNV

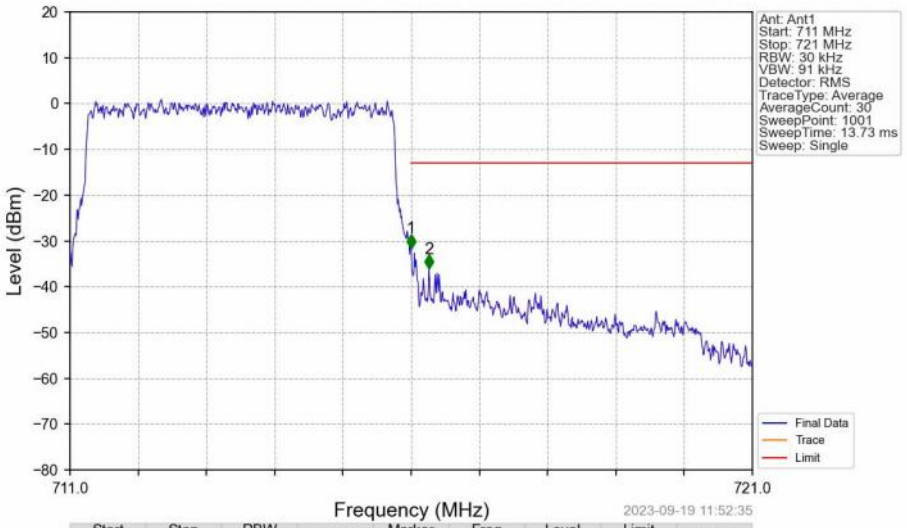



Band17_5MHz_QPSK_HCH_713.5MHz_RB_1_24_NTNV



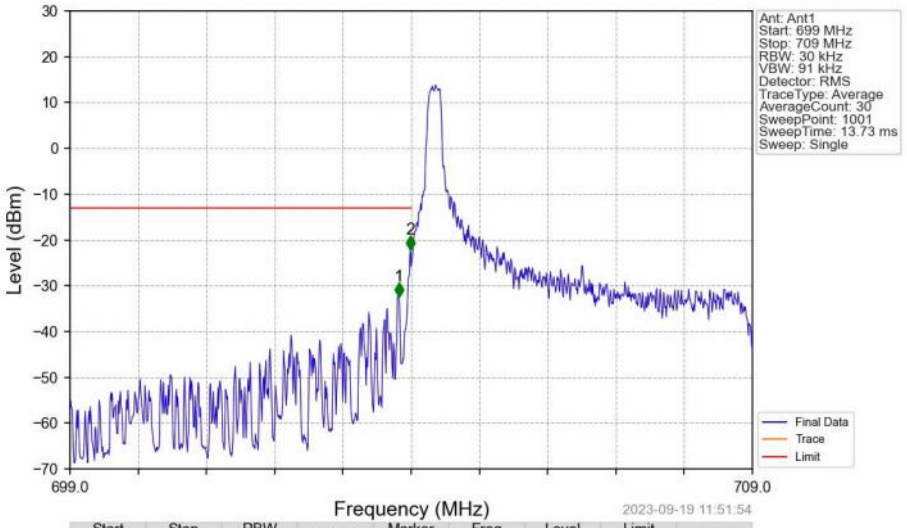

| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 711 | 716 | 0.03 | / | / | / | / | / | / |
| 716 | 716.1 | 0.03 | / | 1 | 716.000 | -22.15 | -13 | Pass |
| 716.1 | 721 | 0.1 | / | 2 | 716.460 | -33.37 | -13 | Pass |

Band17_5MHz_QPSK_HCH_713.5MHz_RB_25_0_NTNV



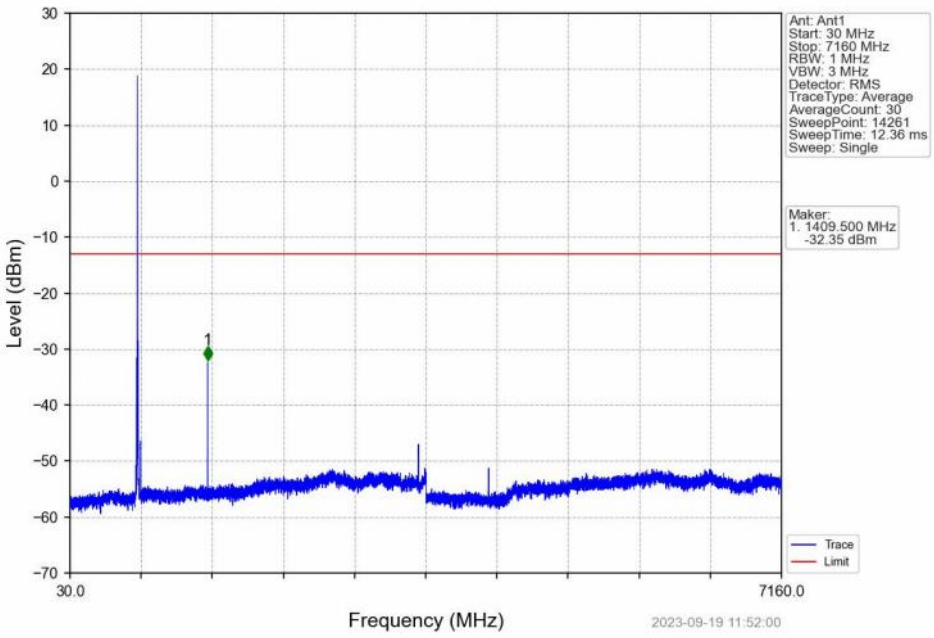

| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 711 | 716 | 0.03 | / | / | / | / | / | / |
| 716 | 716.1 | 0.03 | / | 1 | 716.000 | -31.62 | -13 | Pass |
| 716.1 | 721 | 0.1 | / | 2 | 716.260 | -36.03 | -13 | Pass |

Band17_5MHz_16QAM_LCH_706.5MHz_RB_1_0_NTNV

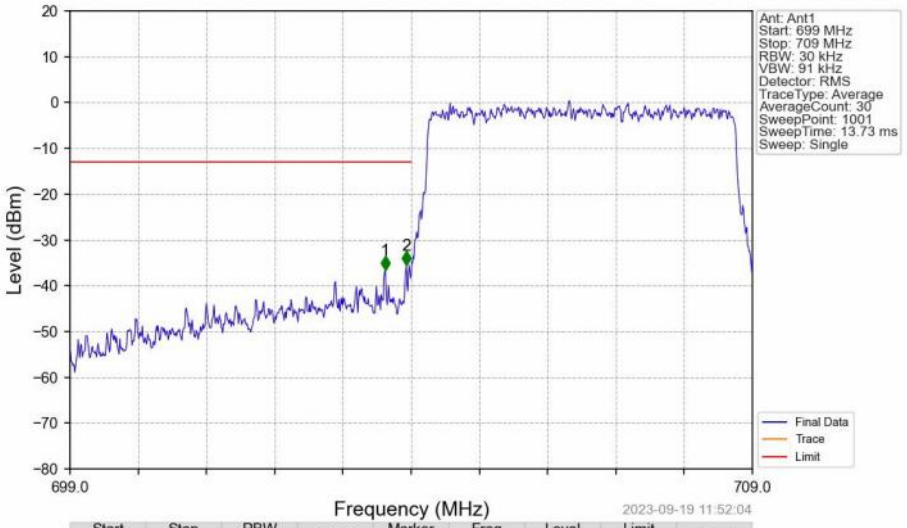



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 699 | 703.9 | 0.1 | / | 1 | 703.820 | -32.34 | -13 | Pass |
| 703.9 | 704 | 0.03 | / | 2 | 703.990 | -22.15 | -13 | Pass |
| 704 | 709 | 0.03 | / | / | / | / | / | / |

Band17_5MHz_16QAM_LCH_706.5MHz_RB_1_0_NTNV

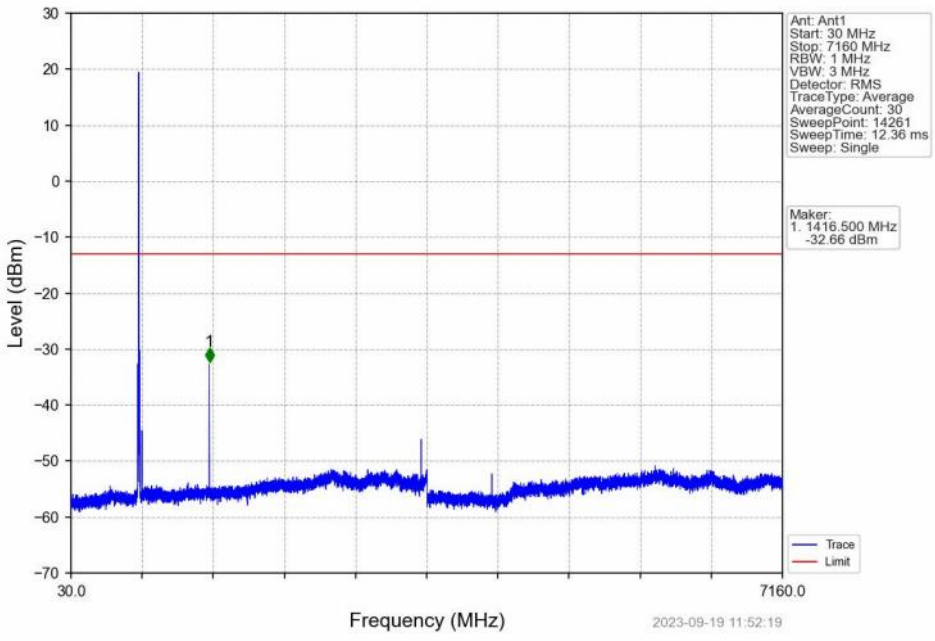



Band17_5MHz_16QAM_LCH_706.5MHz_RB_25_0_NTNV

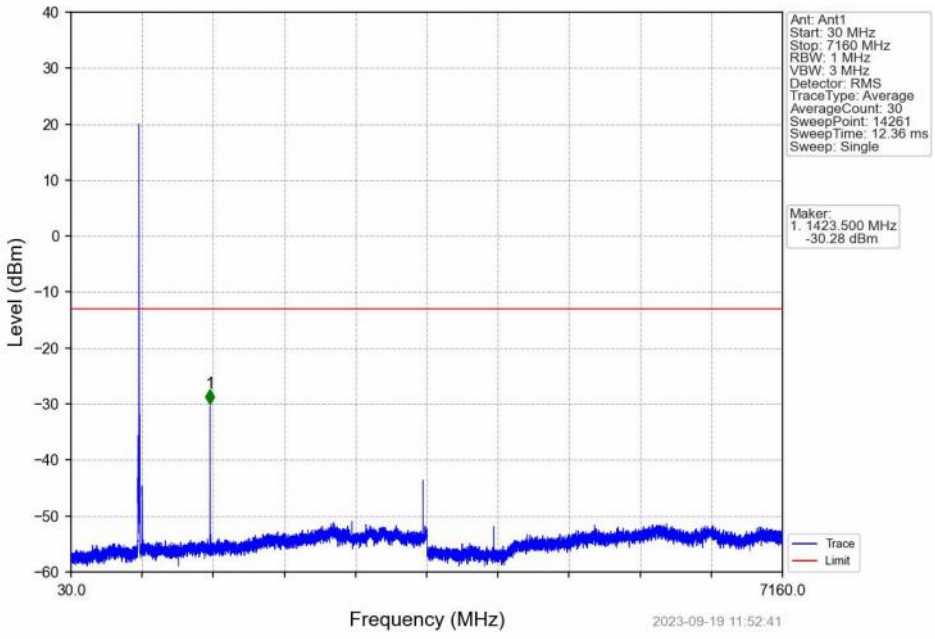



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 699 | 703.9 | 0.1 | / | 1 | 703.620 | -36.62 | -13 | Pass |
| 703.9 | 704 | 0.03 | / | 2 | 703.930 | -35.51 | -13 | Pass |
| 704 | 709 | 0.03 | / | / | / | / | / | / |

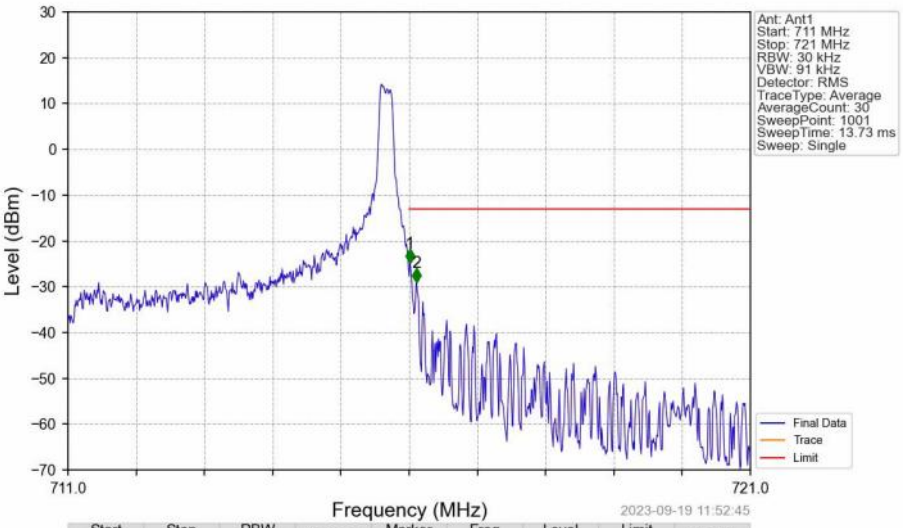
Band17_5MHz_16QAM_MCH_710MHz_RB_1_0_NTNV




Band17_5MHz_16QAM_HCH_713.5MHz_RB_1_0_NTNV

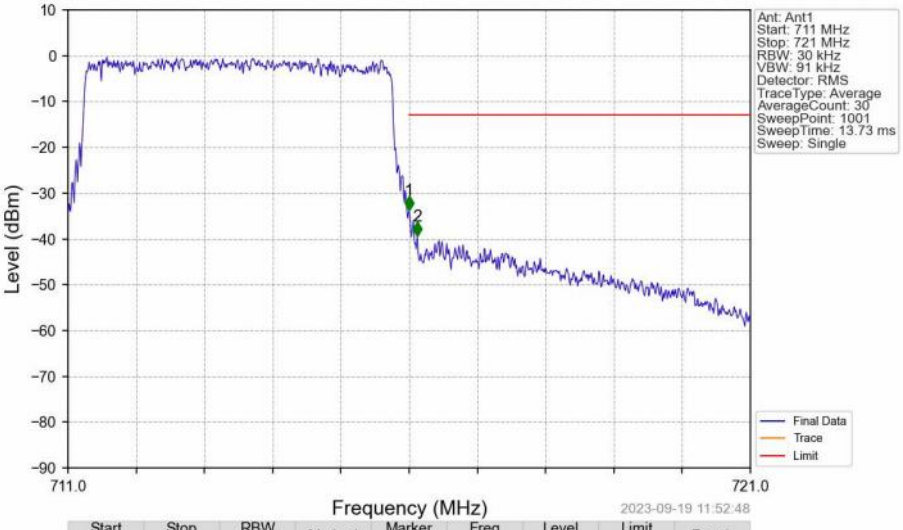


Band17_5MHz_16QAM_HCH_713.5MHz_RB_1_24_NTNV




| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 711 | 716 | 0.03 | / | / | / | / | / | / |
| 716 | 716.1 | 0.03 | / | 1 | 716.010 | -24.90 | -13 | Pass |
| 716.1 | 721 | 0.1 | / | 2 | 716.110 | -29.14 | -13 | Pass |

Band17_5MHz_16QAM_HCH_713.5MHz_RB_25_0_NTNV




| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 711 | 716 | 0.03 | / | / | / | / | / | / |
| 716 | 716.1 | 0.03 | / | 1 | 716.000 | -33.78 | -13 | Pass |
| 716.1 | 721 | 0.1 | / | 2 | 716.120 | -39.37 | -13 | Pass |

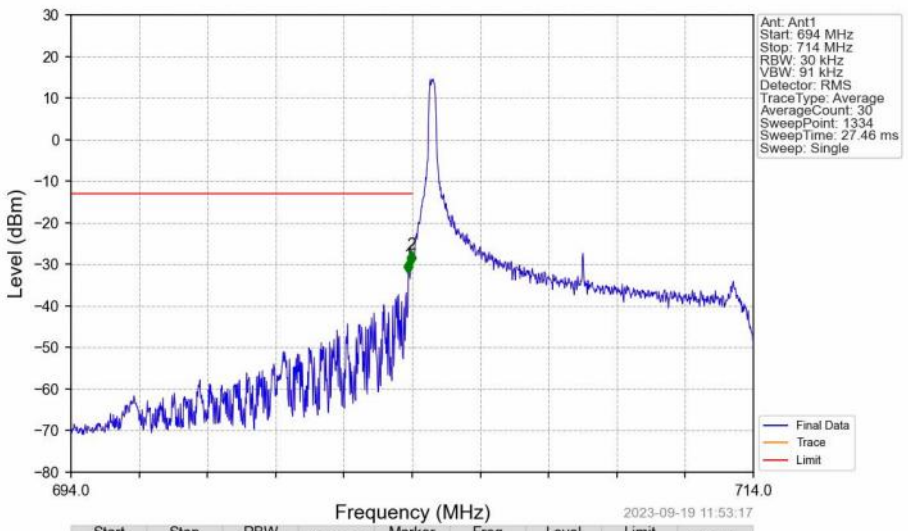
## 6.2 B17_10MHz

### 6.2.1 Test Result

| Band: 17 / Bandwidth: 10MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Spurious Emission | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 709 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 50 | 0 | Refer To Test Graph | | Pass |
| | 710 | 1 | 0 | Refer To Test Graph | | Pass |
| | 711 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 49 | Refer To Test Graph | | Pass |
| | | 50 | 0 | Refer To Test Graph | | Pass |
| 16QAM | 709 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 50 | 0 | Refer To Test Graph | | Pass |
| | 710 | 1 | 0 | Refer To Test Graph | | Pass |
| | 711 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 49 | Refer To Test Graph | | Pass |
| | | 50 | 0 | Refer To Test Graph | | Pass |

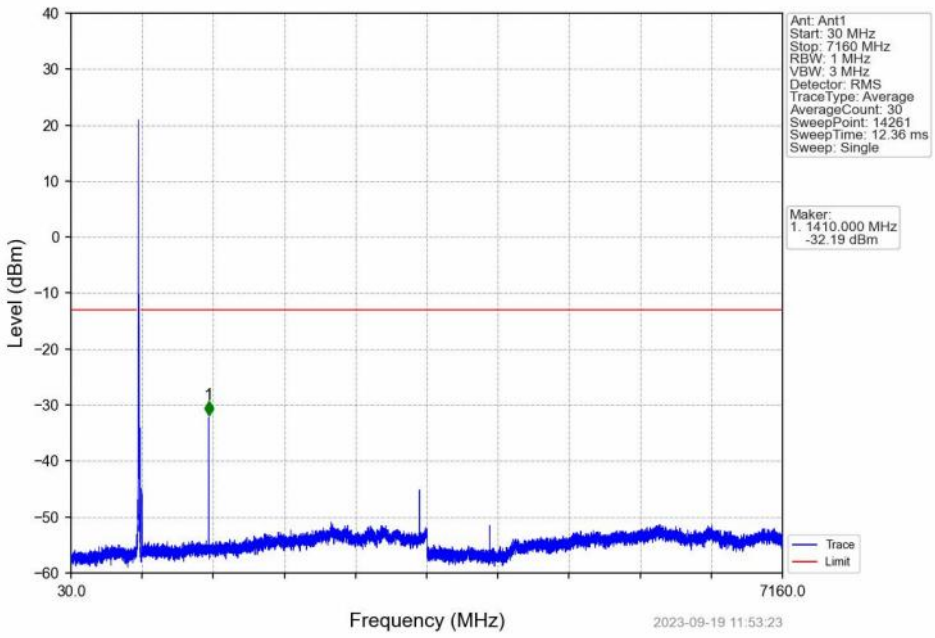
## 6.2.2 Test Graph

Band17_10MHz_QPSK_LCH_709MHz_RB_1_0_NTNV

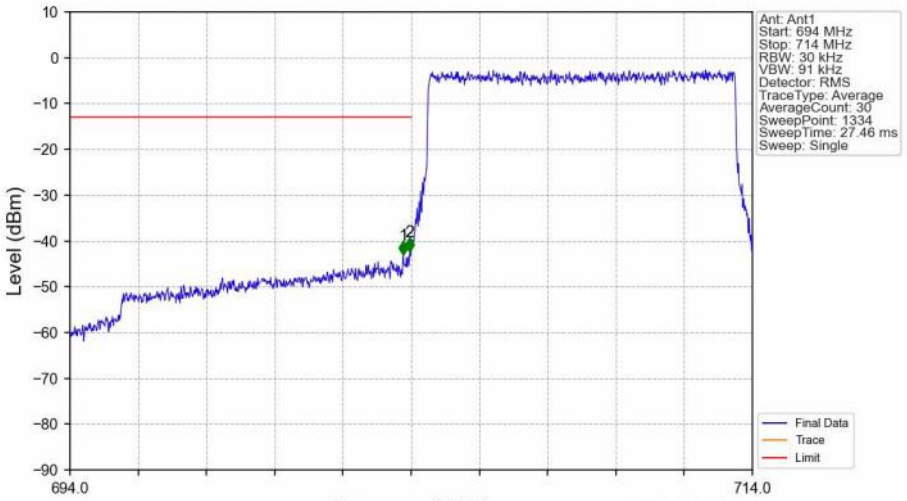



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 694 | 703.9 | 0.1 | / | 1 | 703.887 | -32.35 | -13 | Pass |
| 703.9 | 704 | 0.03 | / | 2 | 703.977 | -30.04 | -13 | Pass |
| 704 | 714 | 0.03 | / | / | / | / | / | / |

Band17_10MHz_QPSK_LCH_709MHz_RB_1_0_NTNV

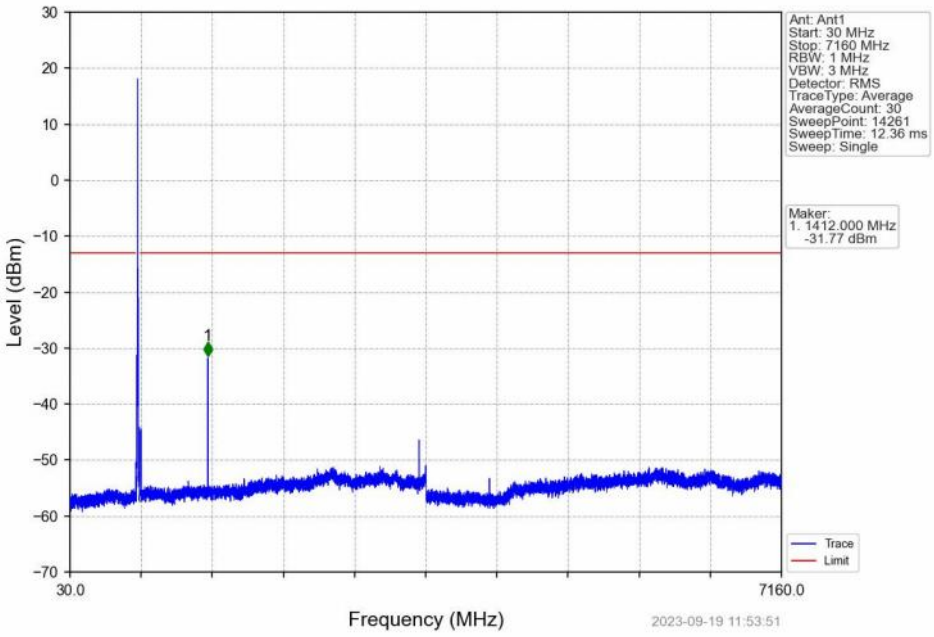


Band17_10MHz_QPSK_LCH_709MHz_RB_50_0_NTNV

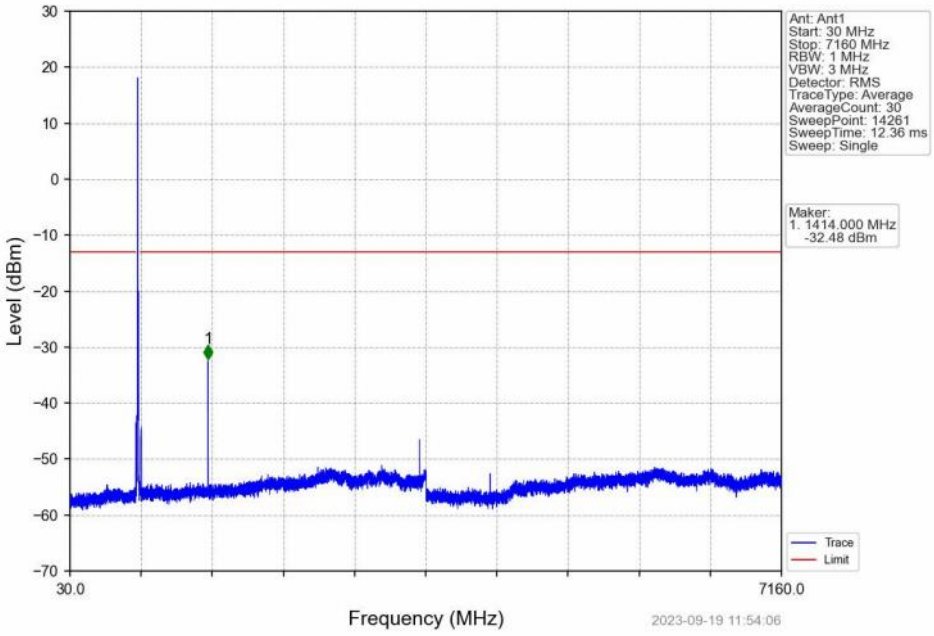



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 694 | 703.9 | 0.1 | / | 1 | 703.767 | -43.09 | -13 | Pass |
| 703.9 | 704 | 0.03 | / | 2 | 703.962 | -42.39 | -13 | Pass |
| 704 | 714 | 0.03 | / | / | / | / | / | / |

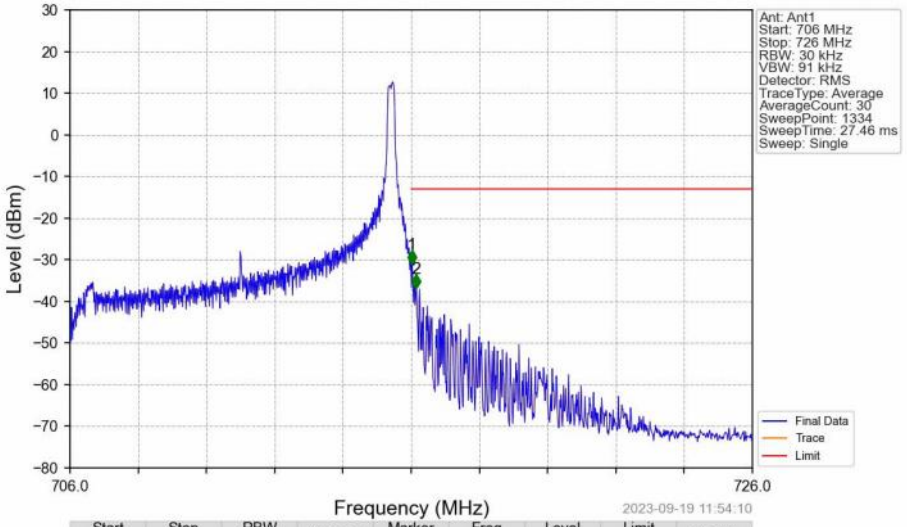
Band17_10MHz_QPSK_MCH_710MHz_RB_1_0_NTNV



Band17_10MHz_QPSK_HCH_711MHz_RB_1_0_NTNV

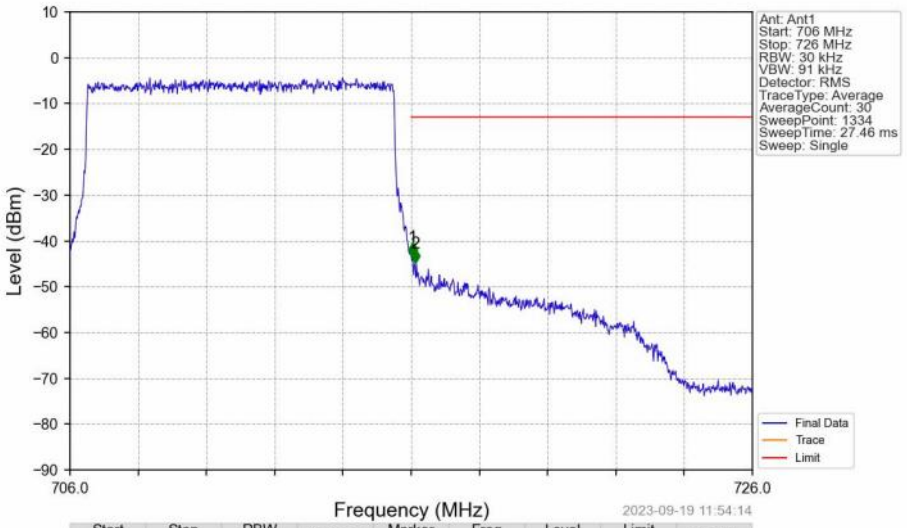



Band17_10MHz_QPSK_HCH_711MHz_RB_1_49_NTNV



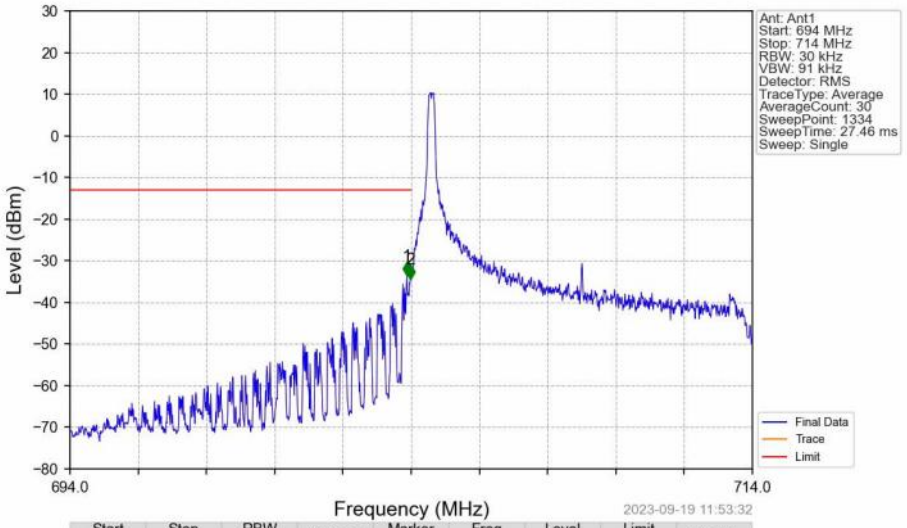

| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 706 | 716 | 0.03 | / | / | / | / | / | / |
| 716 | 716.1 | 0.03 | / | 1 | 716.023 | -31.10 | -13 | Pass |
| 716.1 | 726 | 0.1 | / | 2 | 716.143 | -36.94 | -13 | Pass |

Band17_10MHz_QPSK_HCH_711MHz_RB_50_0_NTNV



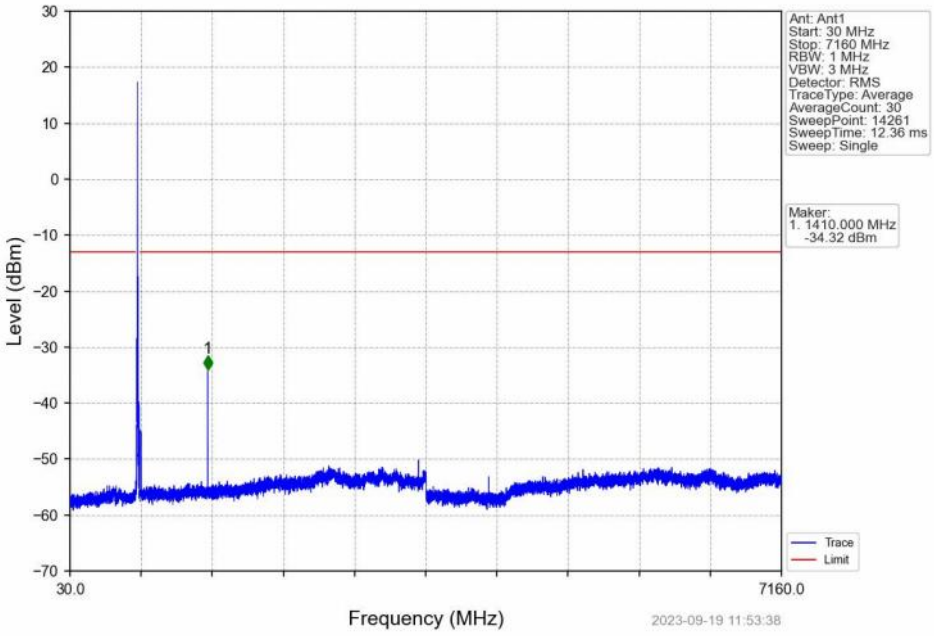

| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 706 | 716 | 0.03 | / | / | / | / | / | / |
| 716 | 716.1 | 0.03 | / | 1 | 716.038 | -43.43 | -13 | Pass |
| 716.1 | 726 | 0.1 | / | 2 | 716.113 | -44.92 | -13 | Pass |

Band17_10MHz_16QAM_LCH_709MHz_RB_1_0_NTNV

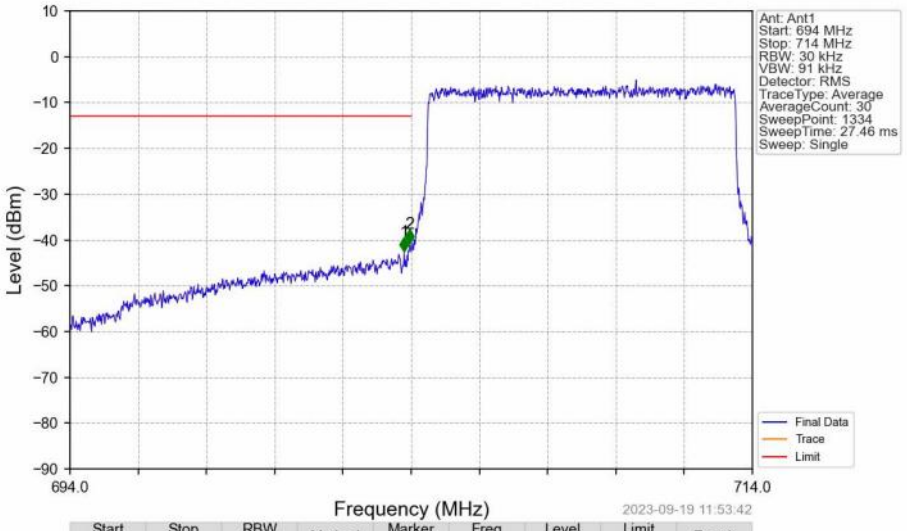



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 694 | 703.9 | 0.1 | / | 1 | 703.872 | -33.71 | -13 | Pass |
| 703.9 | 704 | 0.03 | / | 2 | 703.977 | -34.38 | -13 | Pass |
| 704 | 714 | 0.03 | / | / | / | / | / | / |

Band17_10MHz_16QAM_LCH_709MHz_RB_1_0_NTNV

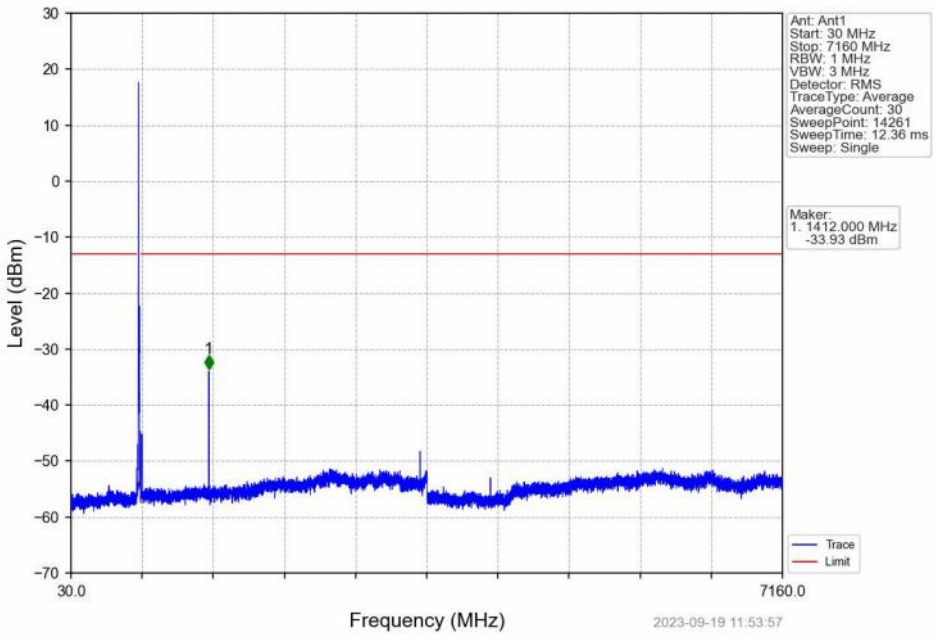



Band17_10MHz_16QAM_LCH_709MHz_RB_50_0_NTNV

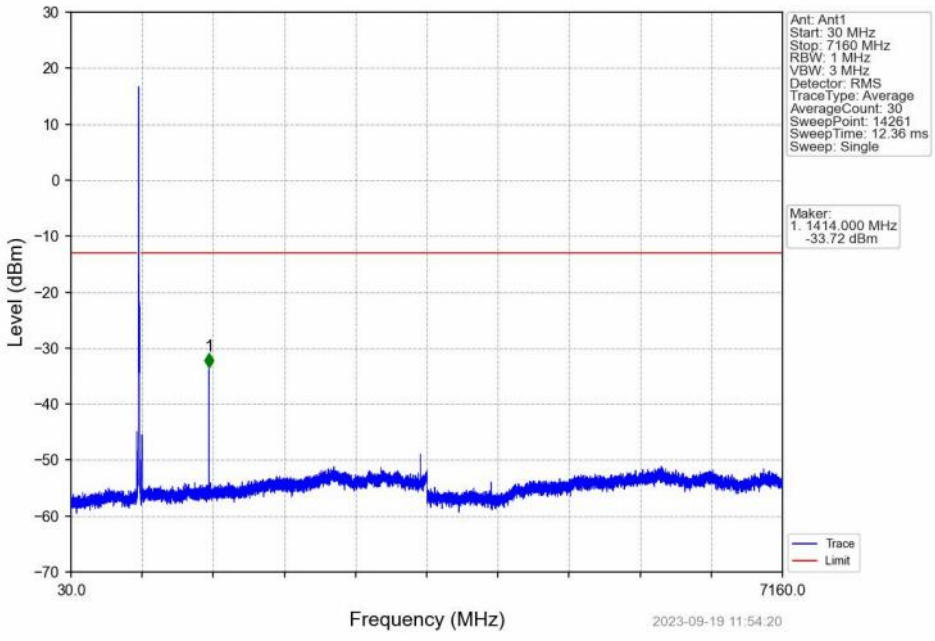



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 694 | 703.9 | 0.1 | / | 1 | 703.797 | -42.62 | -13 | Pass |
| 703.9 | 704 | 0.03 | / | 2 | 703.962 | -40.78 | -13 | Pass |
| 704 | 714 | 0.03 | / | / | / | / | / | / |

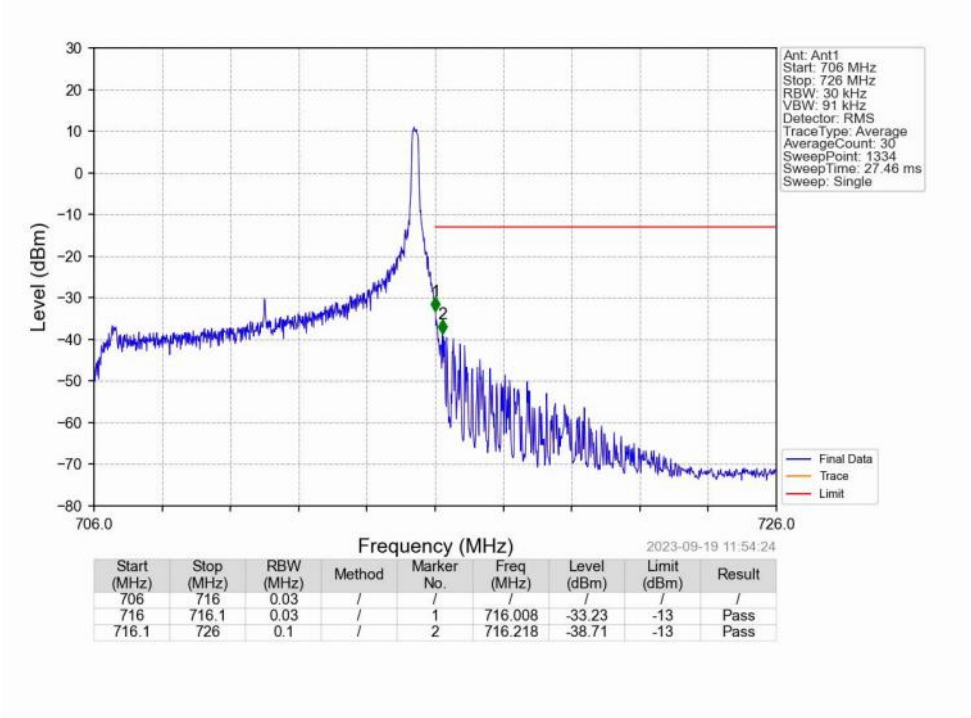
Band17_10MHz_16QAM_MCH_710MHz_RB_1_0_NTNV




Band17_10MHz_16QAM_HCH_711MHz_RB_1_0_NTNV

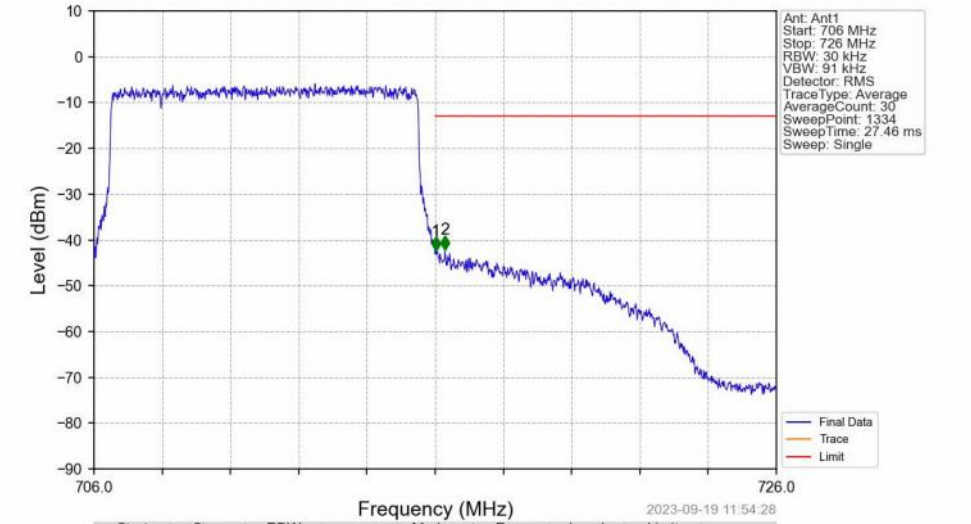


Band17_10MHz_16QAM_HCH_711MHz_RB_1_49_NTNV




| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 706 | 716 | 0.03 | / | / | / | / | / | / |
| 716 | 716.1 | 0.03 | / | 1 | 716.008 | -33.23 | -13 | Pass |
| 716.1 | 726 | 0.1 | / | 2 | 716.218 | -38.71 | -13 | Pass |

Band17_10MHz_16QAM_HCH_711MHz_RB_50_0_NTNV




| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 706 | 716 | 0.03 | / | / | / | / | / | / |
| 716 | 716.1 | 0.03 | / | 1 | 716.023 | -42.40 | -13 | Pass |
| 716.1 | 726 | 0.1 | / | 2 | 716.293 | -42.13 | -13 | Pass |

# 7. Form731

## 7.1 Form731_Power

### 7.1.1 Test Result

| Band | BW | Lower Freq | High Freq | MAX Power (W) | Value | Hz/ppm | Emission Designator | Rule Parts | MAX Power (dBm) |
|---|---|---|---|---|---|---|---|---|---|
| 17 | 5 | 706.5 | 713.5 | 0.1393 | 0.0178 | ppm | 4M58G7D | 27H | 21.44 |
| 17 | 5 | 706.5 | 713.5 | 0.0718 | 0.0217 | ppm | 4M62W7D | 27H | 18.56 |
| 17 | 10 | 709 | 711 | 0.1377 | 0.0618 | ppm | 9M09G7D | 27H | 21.39 |
| 17 | 10 | 709 | 711 | 0.1274 | 0.0632 | ppm | 9M11W7D | 27H | 21.05 |

## 7.2 Form731_ERP

### 7.2.1 Test Result

| Band | BW | Lower Freq | High Freq | MAX Power (W) | Value | Hz/ppm | Emission Designator | Rule Parts | MAX Power (dBm) |
|---|---|---|---|---|---|---|---|---|---|
| 17 | 5 | 706.5 | 713.5 | 0.0871 | 0.0178 | ppm | 4M58G7D | 27H | 19.40 |
| 17 | 5 | 706.5 | 713.5 | 0.0449 | 0.0217 | ppm | 4M62W7D | 27H | 16.52 |
| 17 | 10 | 709 | 711 | 0.0861 | 0.0618 | ppm | 9M09G7D | 27H | 19.35 |
| 17 | 10 | 709 | 711 | 0.0796 | 0.0632 | ppm | 9M11W7D | 27H | 19.01 |