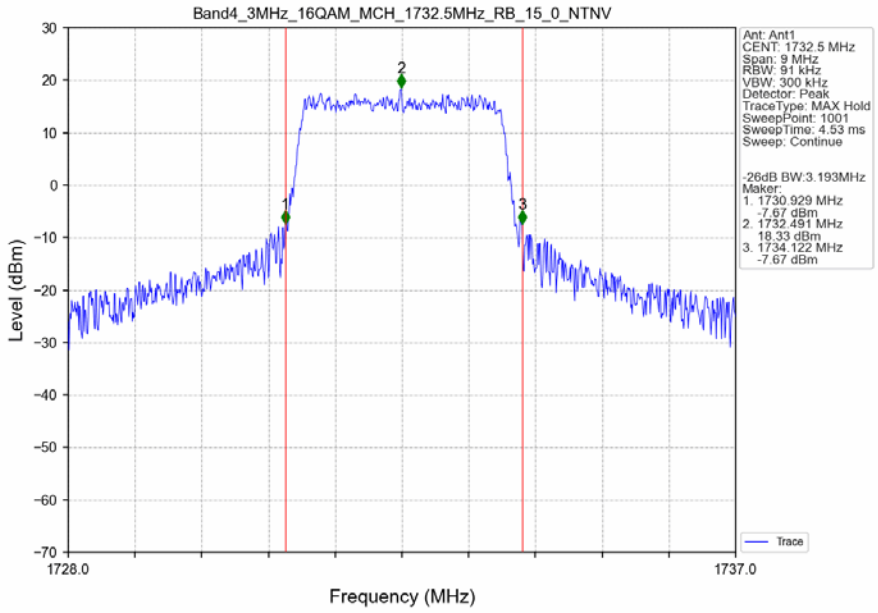
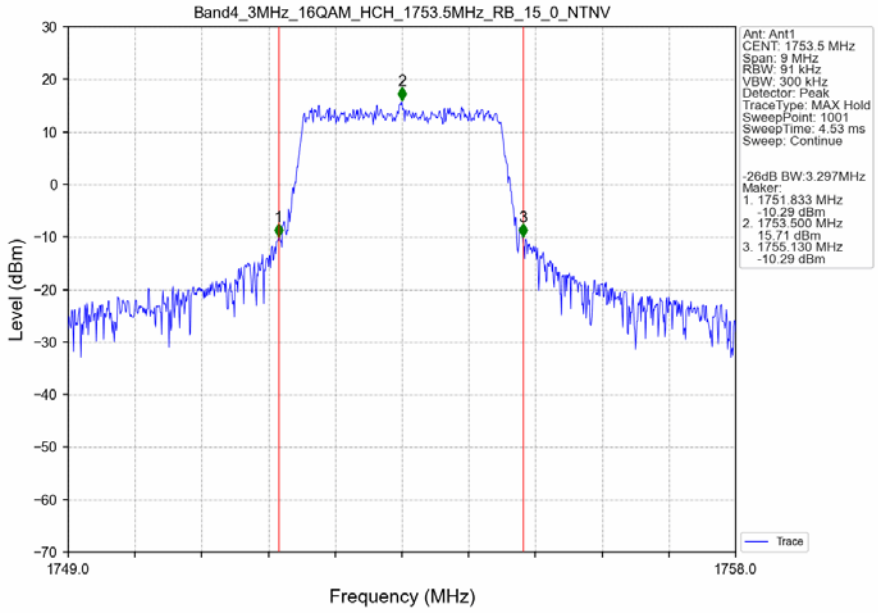
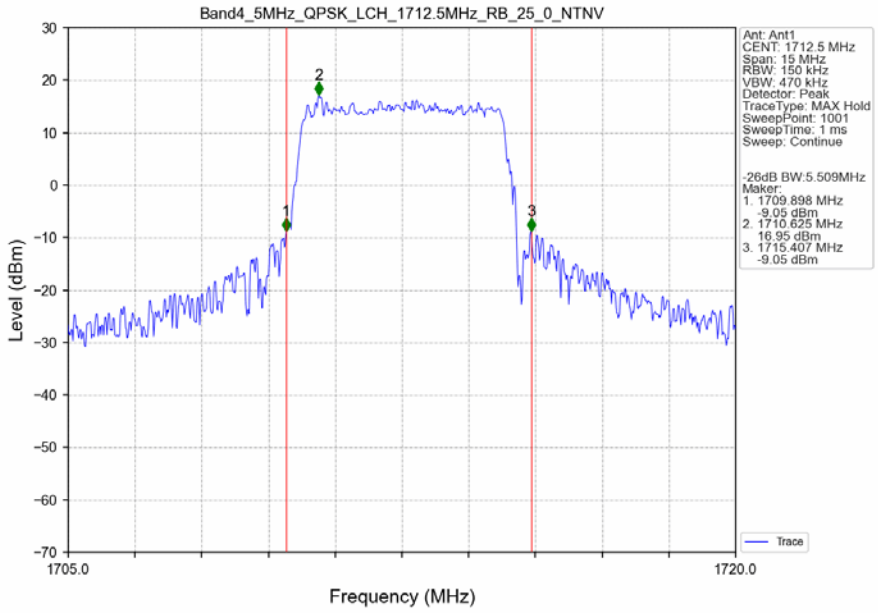
Band4_3MHz_16QAM_MCH_1732.5MHz_RB_15_0_NTNV



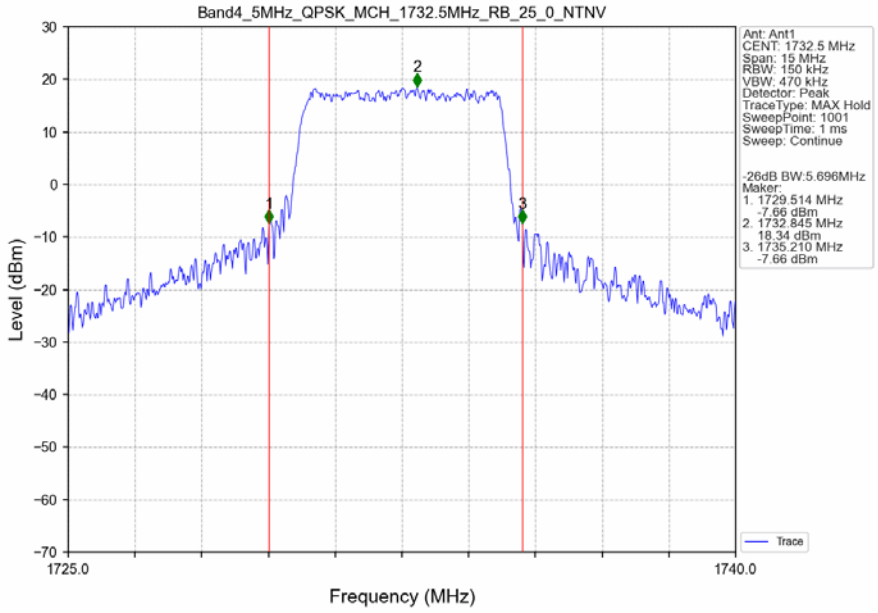

Band4_3MHz_16QAM_HCH_1753.5MHz_RB_15_0_NTNV



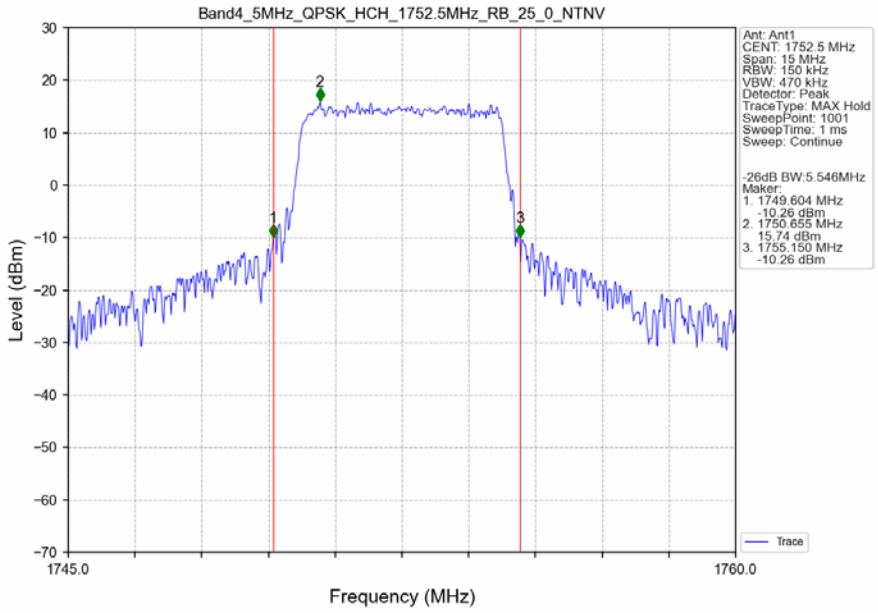
Band4_5MHz_QPSK_LCH_1712.5MHz_RB_25_0_NTNV



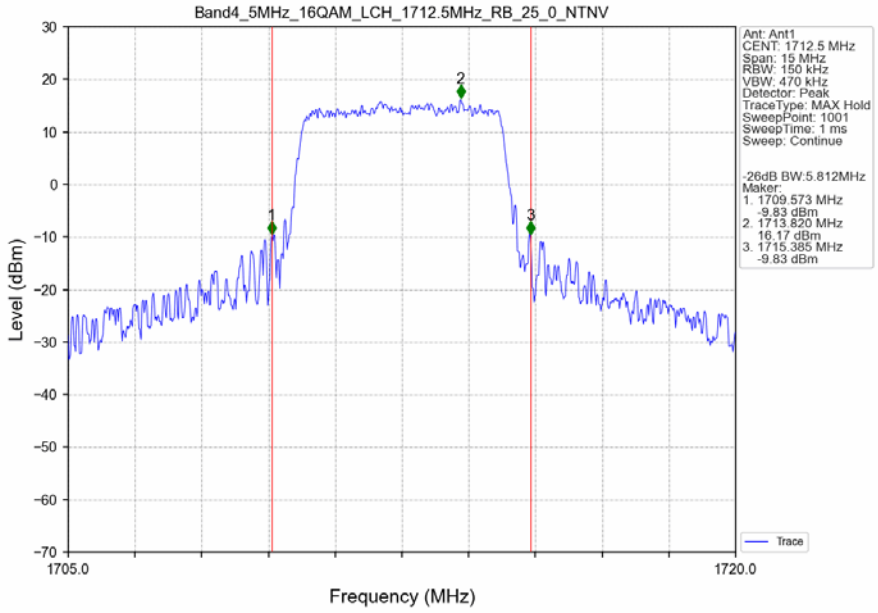

Band4_5MHz_QPSK_MCH_1732.5MHz_RB_25_0_NTNV



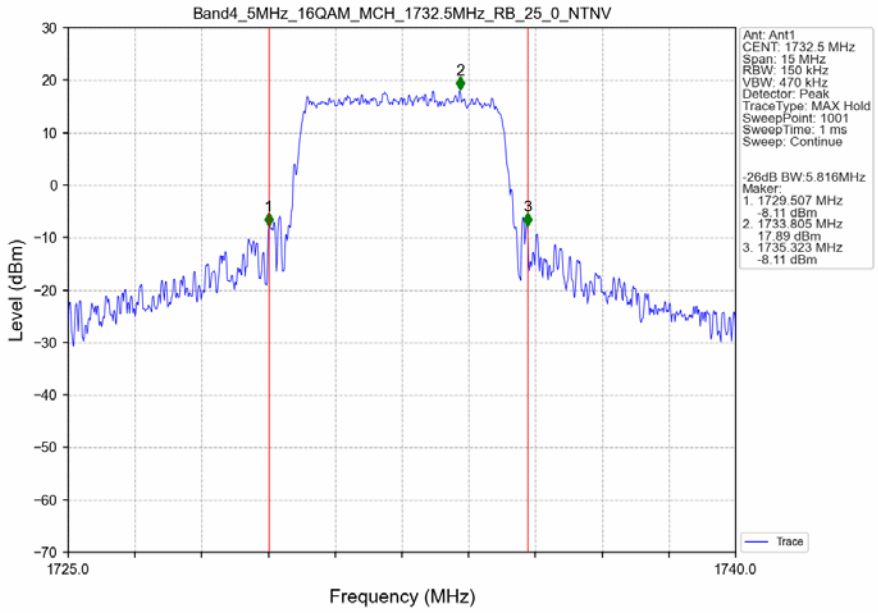
Band4_5MHz_QPSK_HCH_1752.5MHz_RB_25_0_NTNV



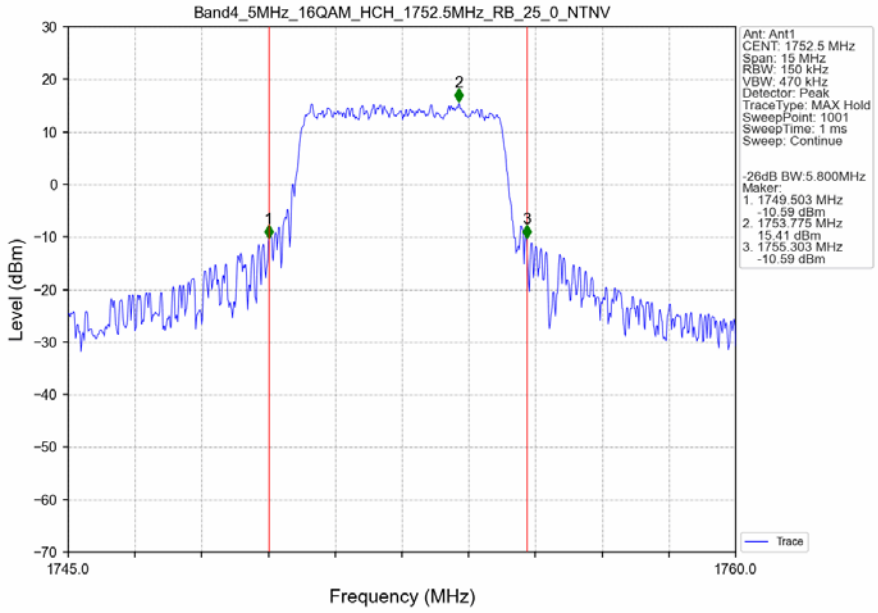

Band4_5MHz_16QAM_LCH_1712.5MHz_RB_25_0_NTNV



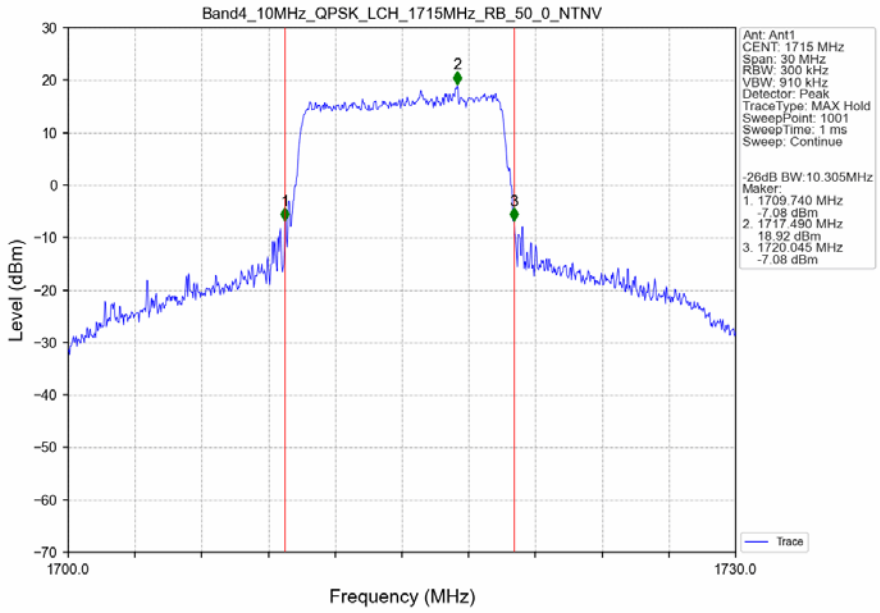
Band4_5MHz_16QAM_MCH_1732.5MHz_RB_25_0_NTNV



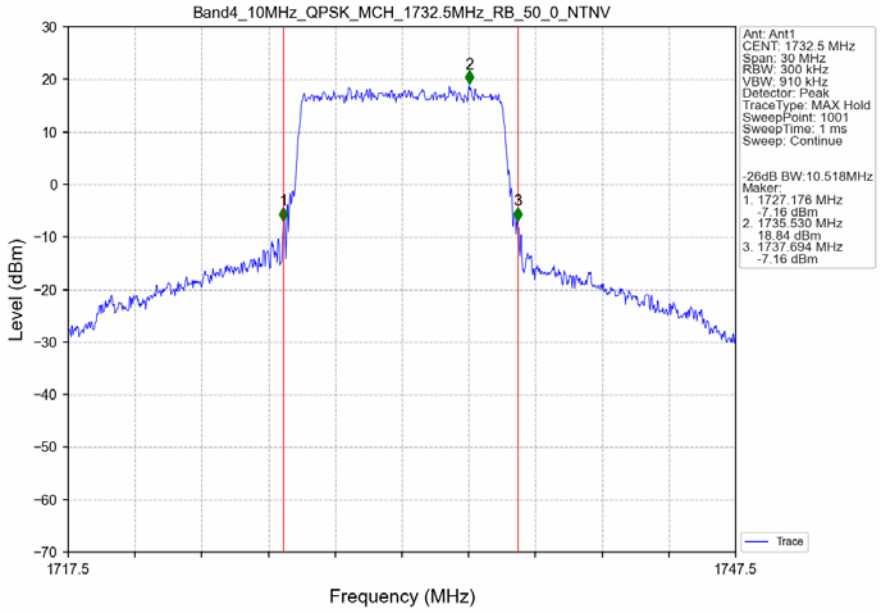

Band4_5MHz_16QAM_HCH_1752.5MHz_RB_25_0_NTNV



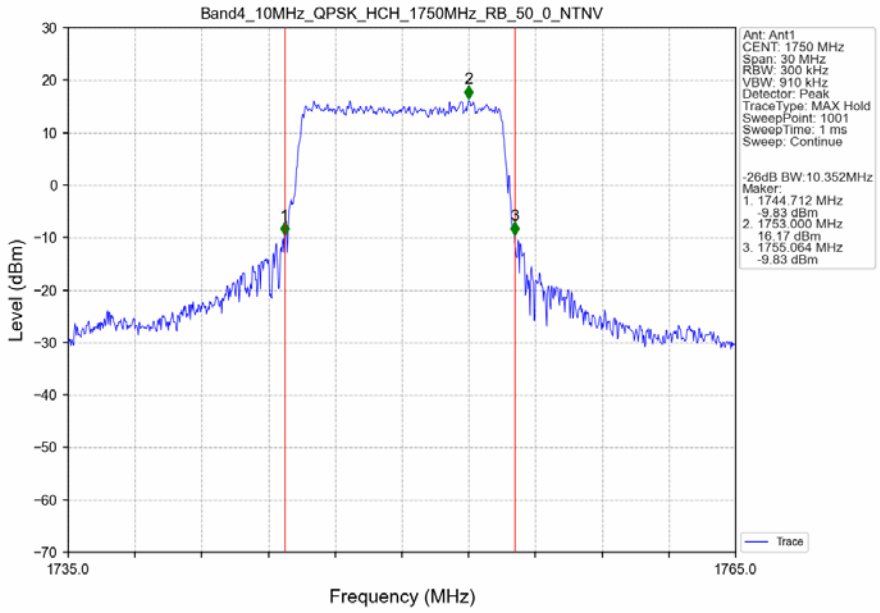
Band4_10MHz_QPSK_LCH_1715MHz_RB_50_0_NTNV



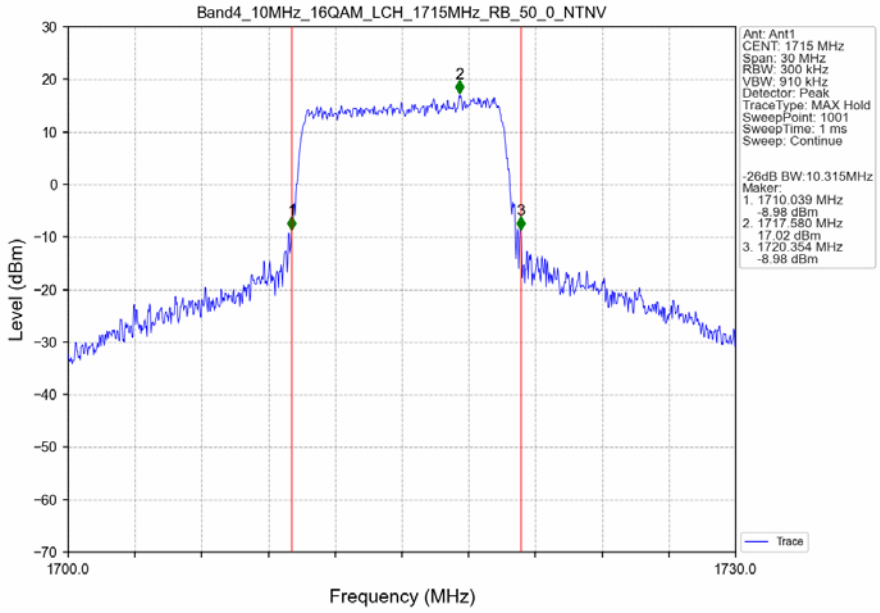

Band4_10MHz_QPSK_MCH_1732.5MHz_RB_50_0_NTNV



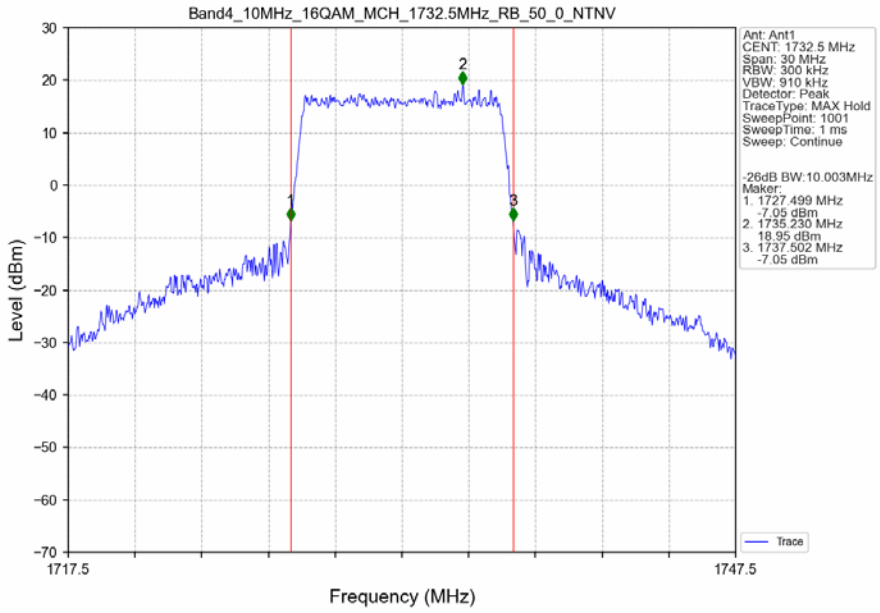
Band4_10MHz_QPSK_HCH_1750MHz_RB_50_0_NTNV



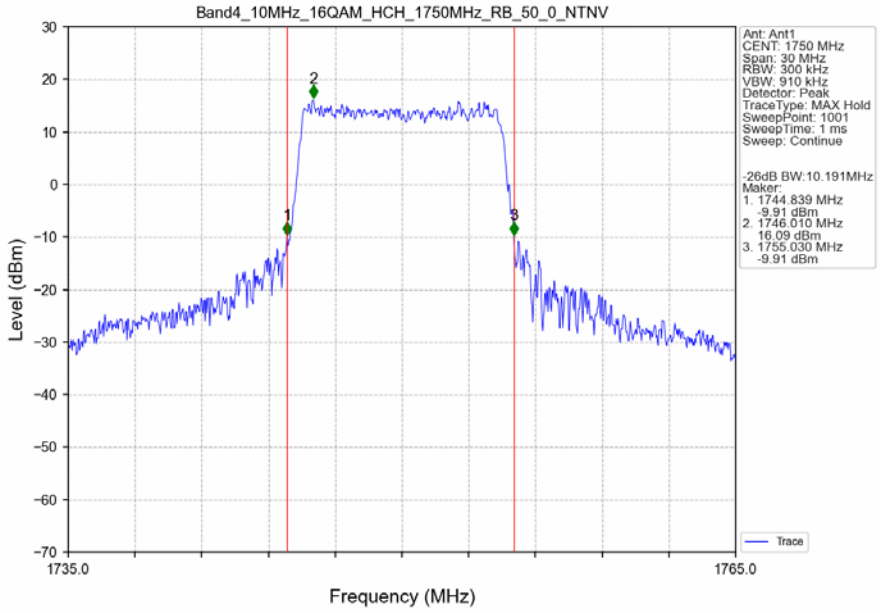

Band4_10MHz_16QAM_LCH_1715MHz_RB_50_0_NTNV



Band4_10MHz_16QAM_MCH_1732.5MHz_RB_50_0_NTNV




Band4_10MHz_16QAM_HCH_1750MHz_RB_50_0_NTNV



| Band4_15MHz_QPSK_LCH_1717.5MHz_RB_75_0_NTNV |
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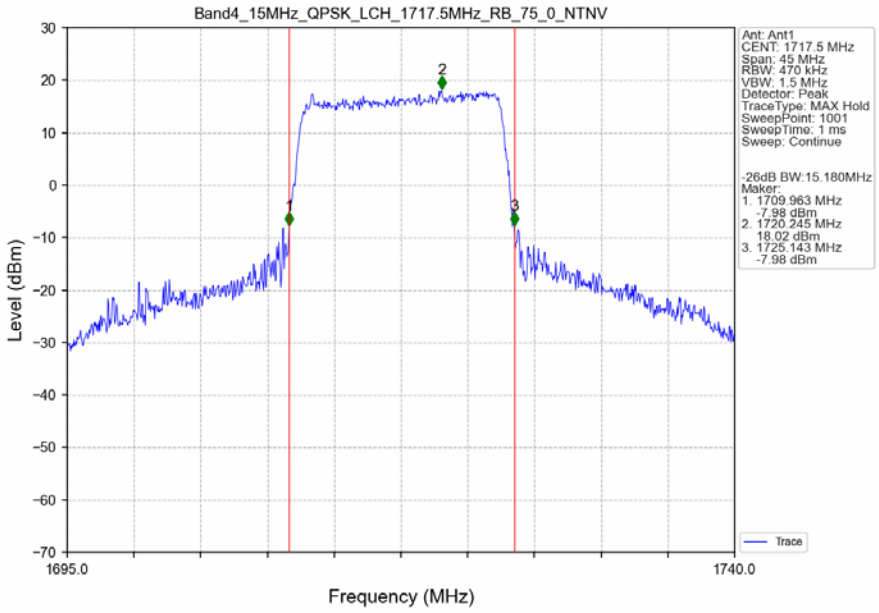
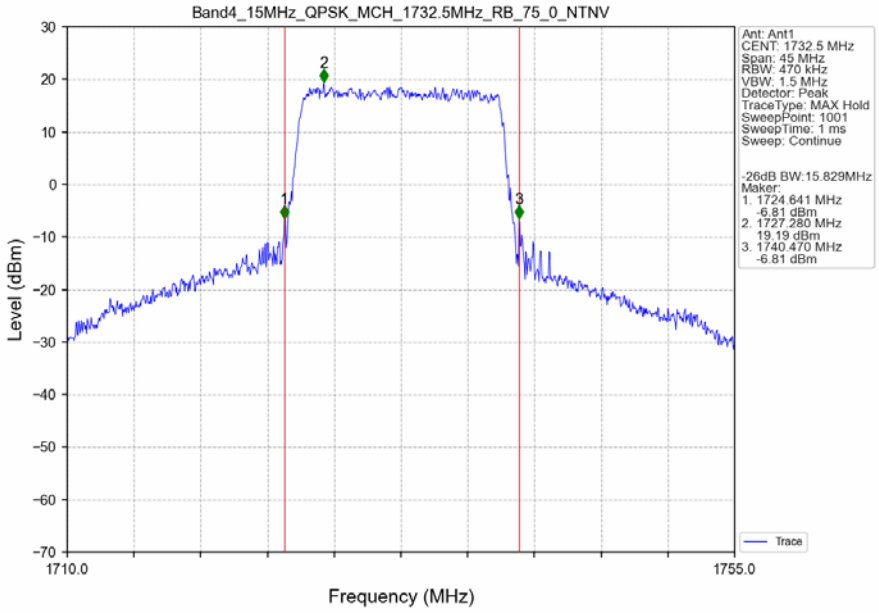
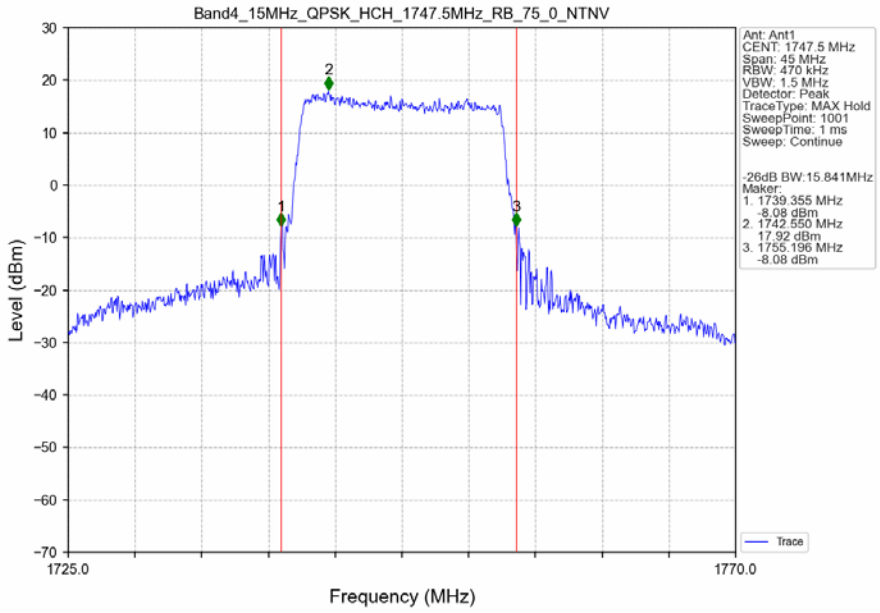
|  |

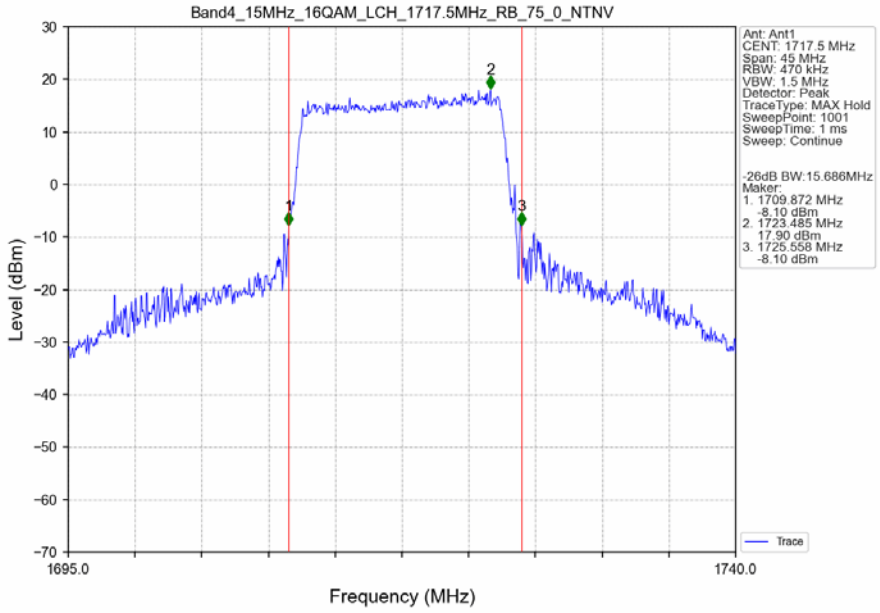


| Band4_15MHz_QPSK_MCH_1732.5MHz_RB_75_0_NTNV |
| --- |
|  |

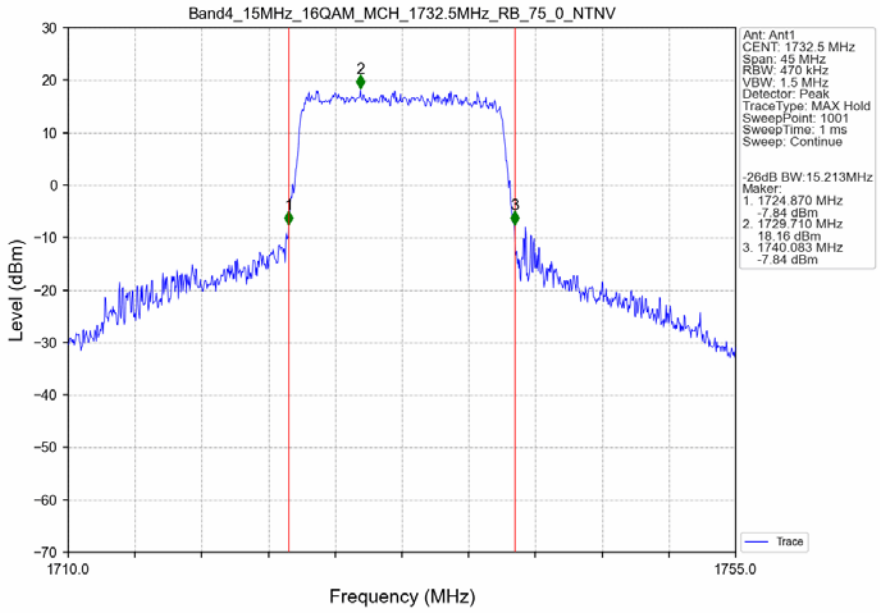
Band4_15MHz_QPSK_HCH_1747.5MHz_RB_75_0_NTNV



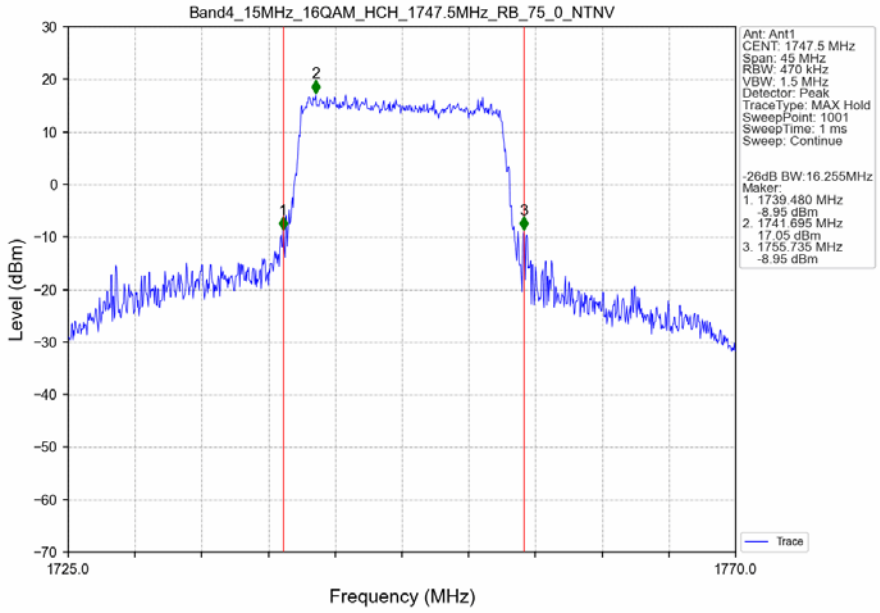

Band4_15MHz_16QAM_LCH_1717.5MHz_RB_75_0_NTNV

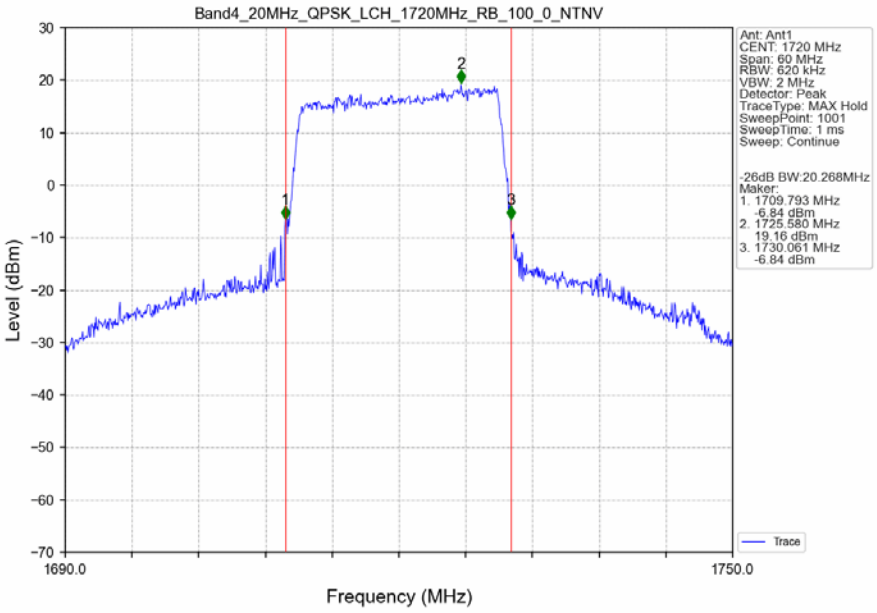
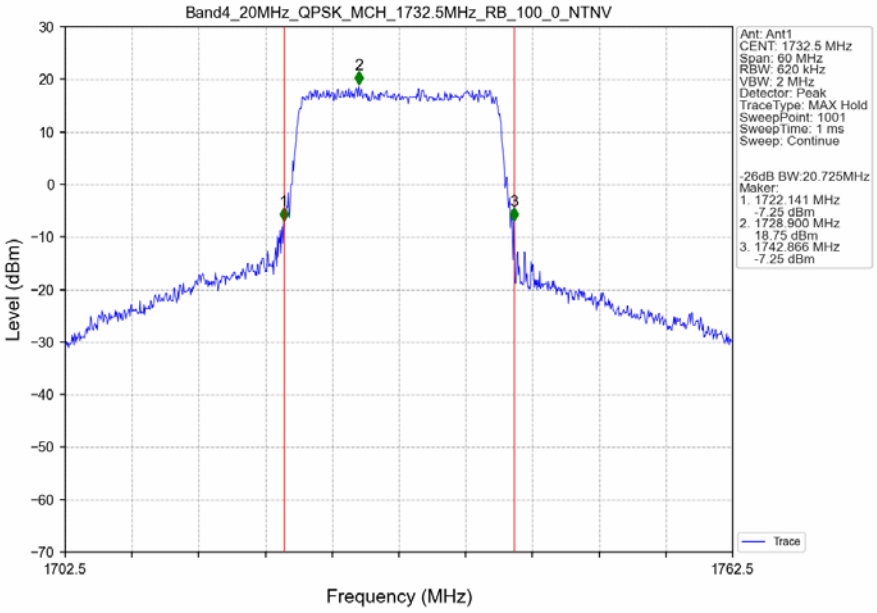


Band4_15MHz_16QAM_MCH_1732.5MHz_RB_75_0_NTNV

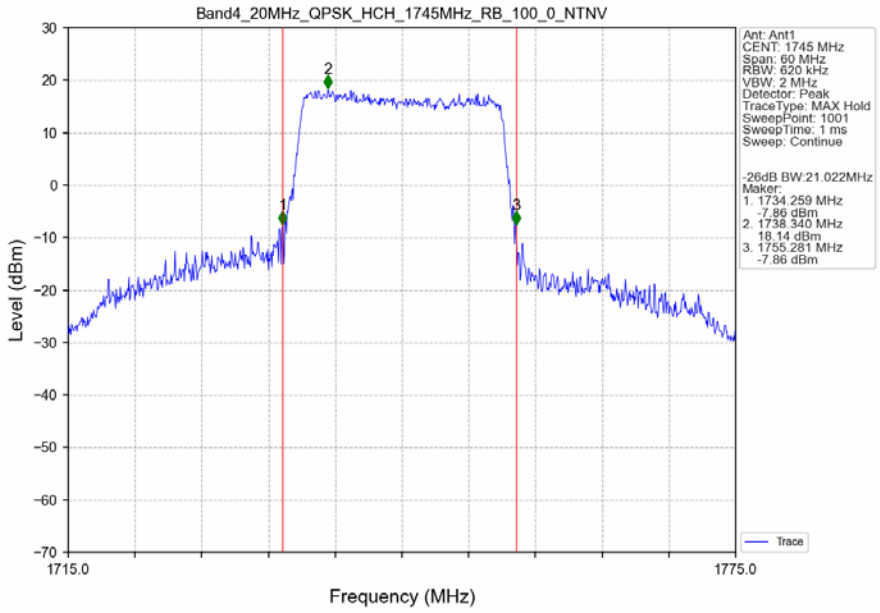



Band4_15MHz_16QAM_HCH_1747.5MHz_RB_75_0_NTNV

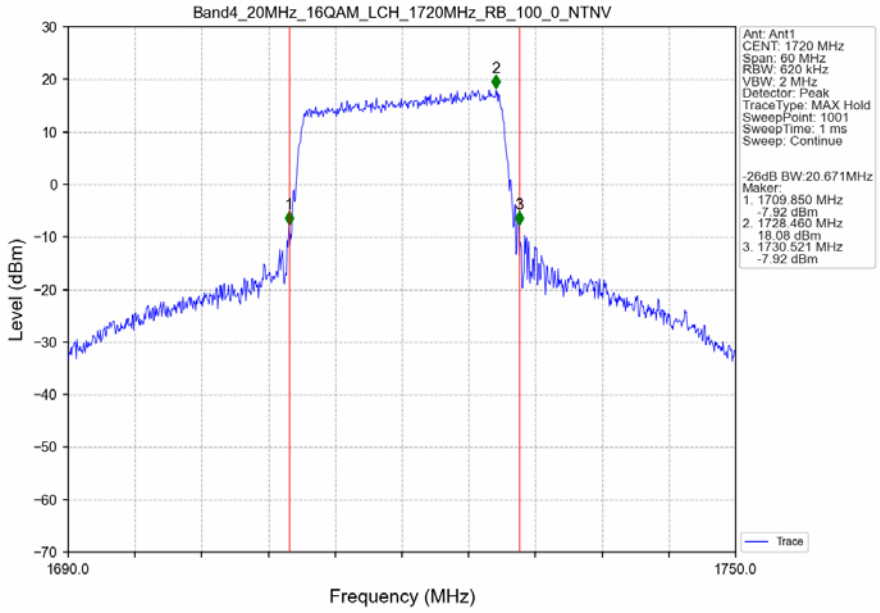


| Band4_20MHz_QPSK_LCH_1720MHz_RB_100_0_NTNV |
| --- |
|  |
| Band4_20MHz_QPSK_MCH_1732.5MHz_RB_100_0_NTNV |
|  |

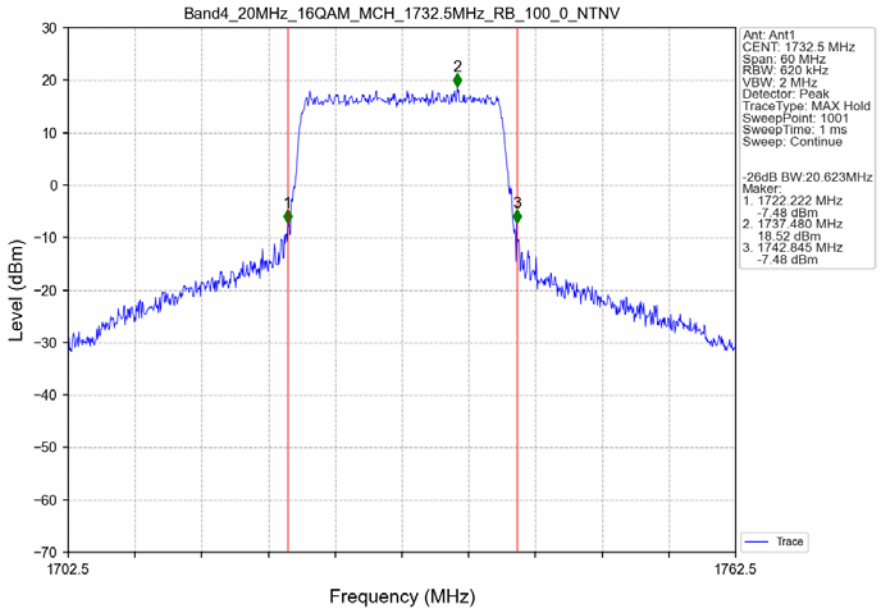
Band4_20MHz_QPSK_HCH_1745MHz_RB_100_0_NTNV



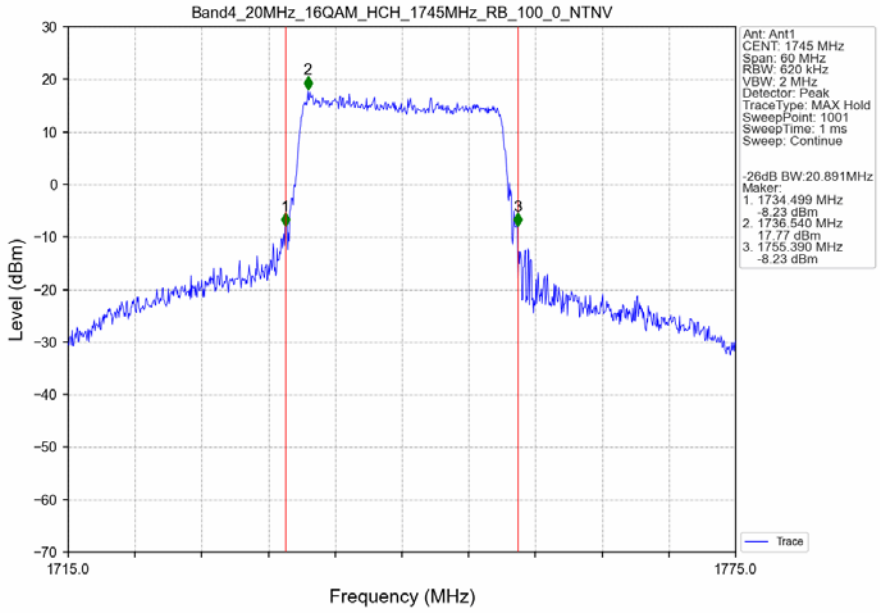

Band4_20MHz_16QAM_LCH_1720MHz_RB_100_0_NTNV



Band4_20MHz_16QAM_MCH_1732.5MHz_RB_100_0_NTNV




Band4_20MHz_16QAM_HCH_1745MHz_RB_100_0_NTNV



# 4. Peak-Average Ratio

## 4.1 Test Result

### 4.1.1 B4_1.4MHz

| Band: 4 / Bandwidth: 1.4MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Peak-Average Ratio (dB) | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 1710.7 | 6 | 0 | 5.27 | <=13 | Pass |
| | 1732.5 | 6 | 0 | 5.00 | <=13 | Pass |
| | 1754.3 | 6 | 0 | 6.31 | <=13 | Pass |
| 16QAM | 1710.7 | 6 | 0 | 6.15 | <=13 | Pass |
| | 1732.5 | 6 | 0 | 5.88 | <=13 | Pass |
| | 1754.3 | 6 | 0 | 6.59 | <=13 | Pass |

### 4.1.2 B4_3MHz

| Band: 4 / Bandwidth: 3MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Peak-Average Ratio (dB) | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 1711.5 | 15 | 0 | 5.26 | <=13 | Pass |
| | 1732.5 | 15 | 0 | 5.08 | <=13 | Pass |
| | 1753.5 | 15 | 0 | 6.10 | <=13 | Pass |
| 16QAM | 1711.5 | 15 | 0 | 6.09 | <=13 | Pass |
| | 1732.5 | 15 | 0 | 5.97 | <=13 | Pass |
| | 1753.5 | 15 | 0 | 6.50 | <=13 | Pass |

### 4.1.3 B4_5MHz

| Band: 4 / Bandwidth: 5MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Peak-Average Ratio (dB) | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 1712.5 | 25 | 0 | 5.27 | <=13 | Pass |
| | 1732.5 | 25 | 0 | 4.84 | <=13 | Pass |
| | 1752.5 | 25 | 0 | 5.71 | <=13 | Pass |
| 16QAM | 1712.5 | 25 | 0 | 6.08 | <=13 | Pass |
| | 1732.5 | 25 | 0 | 5.86 | <=13 | Pass |
| | 1752.5 | 25 | 0 | 6.31 | <=13 | Pass |

### 4.1.4 B4_10MHz

| Band: 4 / Bandwidth: 10MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Peak-Average Ratio (dB) | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 1715 | 50 | 0 | 5.25 | <=13 | Pass |
| | 1732.5 | 50 | 0 | 5.16 | <=13 | Pass |
| | 1750 | 50 | 0 | 5.64 | <=13 | Pass |
| 16QAM | 1715 | 50 | 0 | 5.99 | <=13 | Pass |
| | 1732.5 | 50 | 0 | 5.93 | <=13 | Pass |
| | 1750 | 50 | 0 | 6.36 | <=13 | Pass |

### 4.1.5 B4_15MHz

| Band: 4 / Bandwidth: 15MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Peak-Average Ratio (dB) | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 1717.5 | 75 | 0 | 5.30 | <=13 | Pass |
| | 1732.5 | 75 | 0 | 5.28 | <=13 | Pass |
| | 1747.5 | 75 | 0 | 5.67 | <=13 | Pass |
| 16QAM | 1717.5 | 75 | 0 | 6.07 | <=13 | Pass |
| | 1732.5 | 75 | 0 | 5.98 | <=13 | Pass |
| | 1747.5 | 75 | 0 | 6.21 | <=13 | Pass |

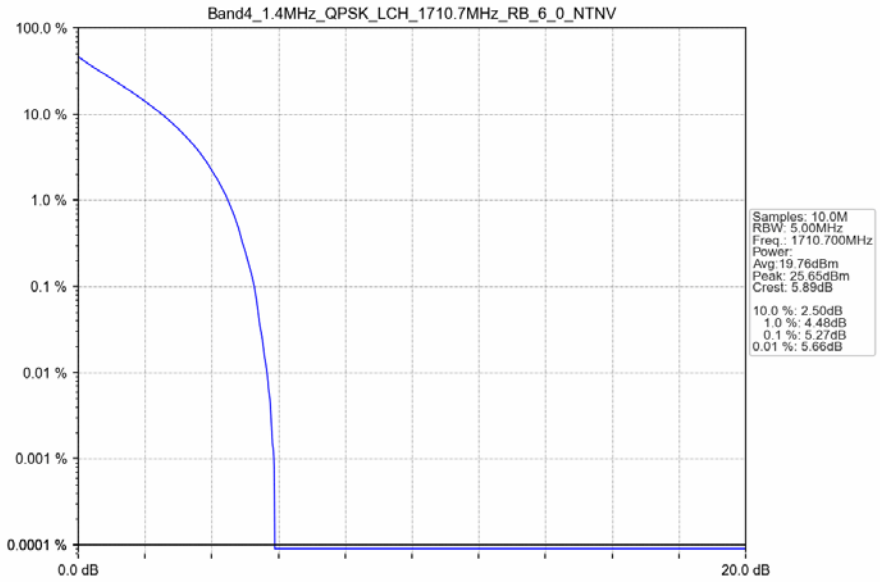
### 4.1.6 B4_20MHz

| Band: 4 / Bandwidth: 20MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Peak-Average Ratio (dB) | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 1720 | 100 | 0 | 5.27 | <=13 | Pass |
| | 1732.5 | 100 | 0 | 5.27 | <=13 | Pass |
| | 1745 | 100 | 0 | 5.50 | <=13 | Pass |
| 16QAM | 1720 | 100 | 0 | 6.11 | <=13 | Pass |
| | 1732.5 | 100 | 0 | 6.03 | <=13 | Pass |
| | 1745 | 100 | 0 | 6.32 | <=13 | Pass |

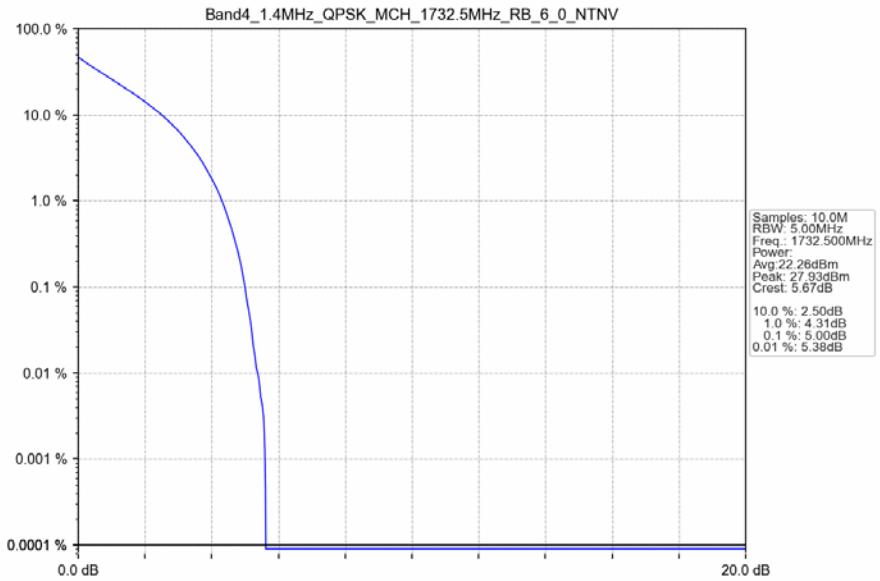
## 4.2 Test Graph

### 4.2.1 B4_1.4MHz

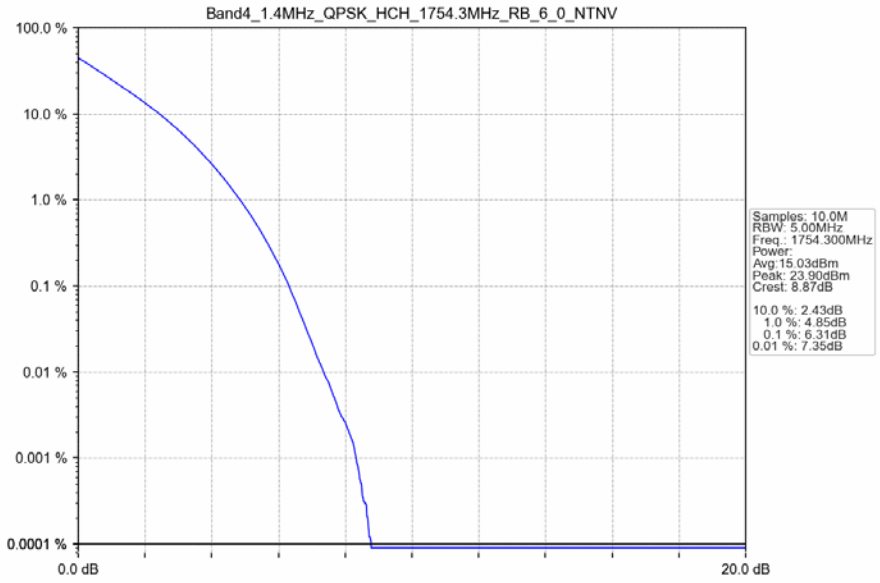
Band4_1.4MHz_QPSK_LCH_1710.7MHz_RB_6_0_NTNV



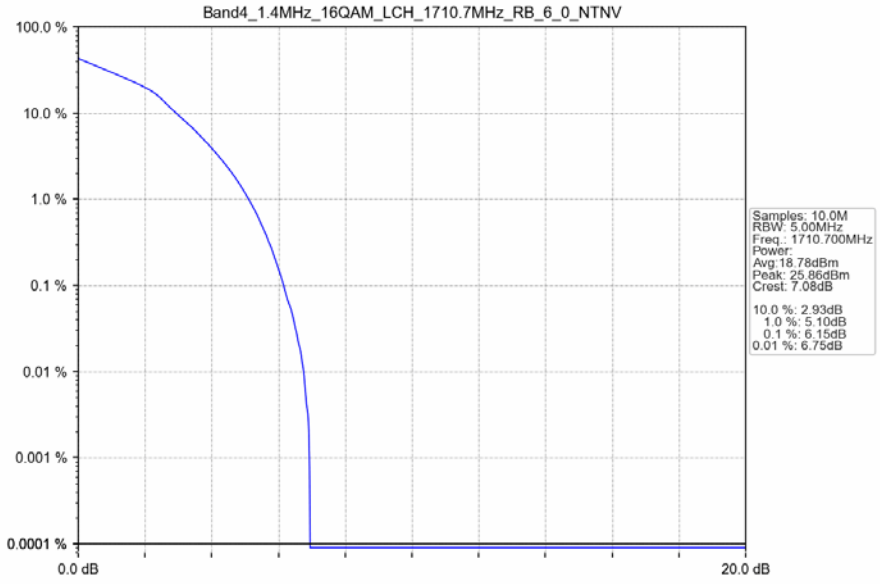

Band4_1.4MHz_QPSK_MCH_1732.5MHz_RB_6_0_NTNV



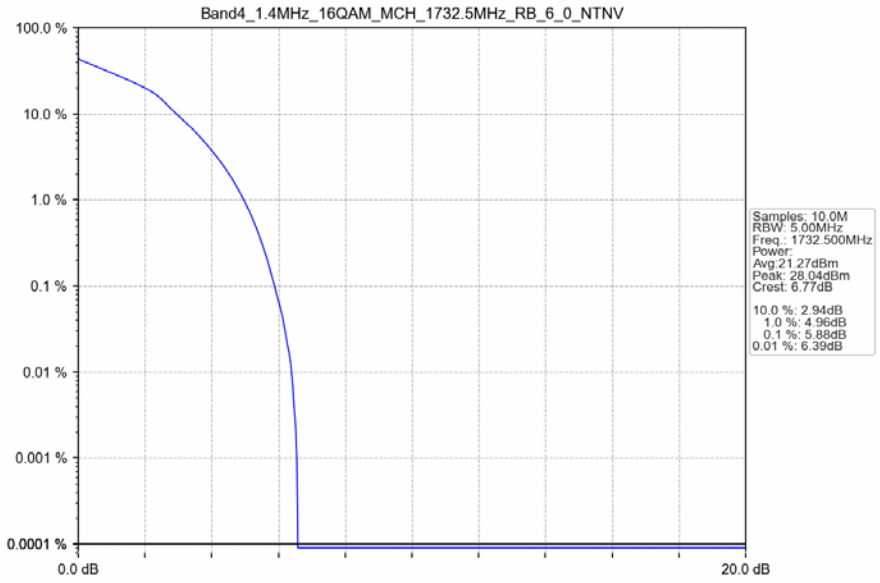
Band4_1.4MHz_QPSK_HCH_1754.3MHz_RB_6_0_NTNV



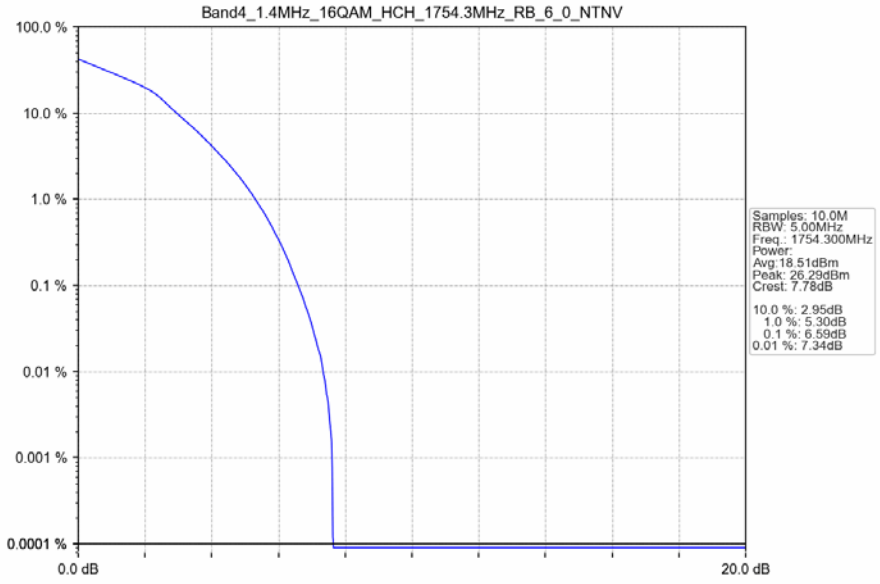

Band4_1.4MHz_16QAM_LCH_1710.7MHz_RB_6_0_NTNV



Band4_1.4MHz_16QAM_MCH_1732.5MHz_RB_6_0_NTNV

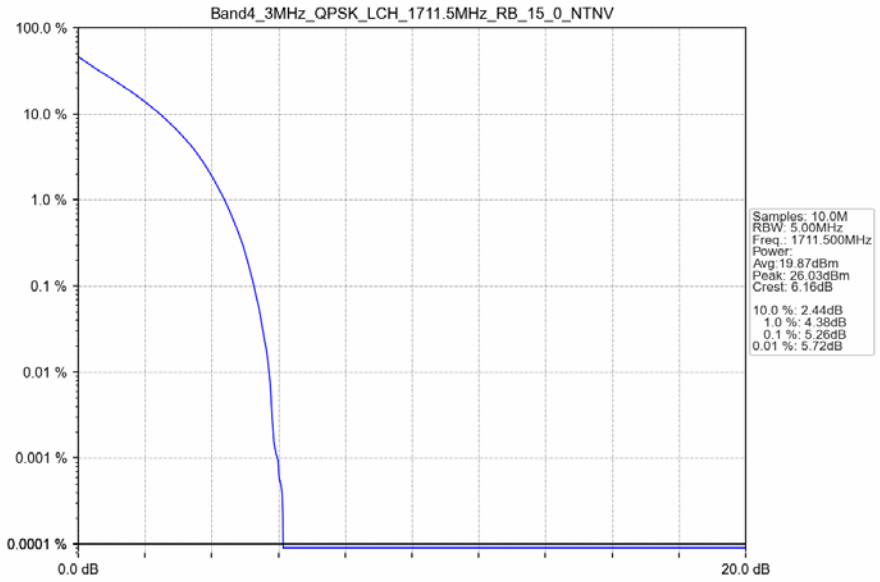



Band4_1.4MHz_16QAM_HCH_1754.3MHz_RB_6_0_NTNV

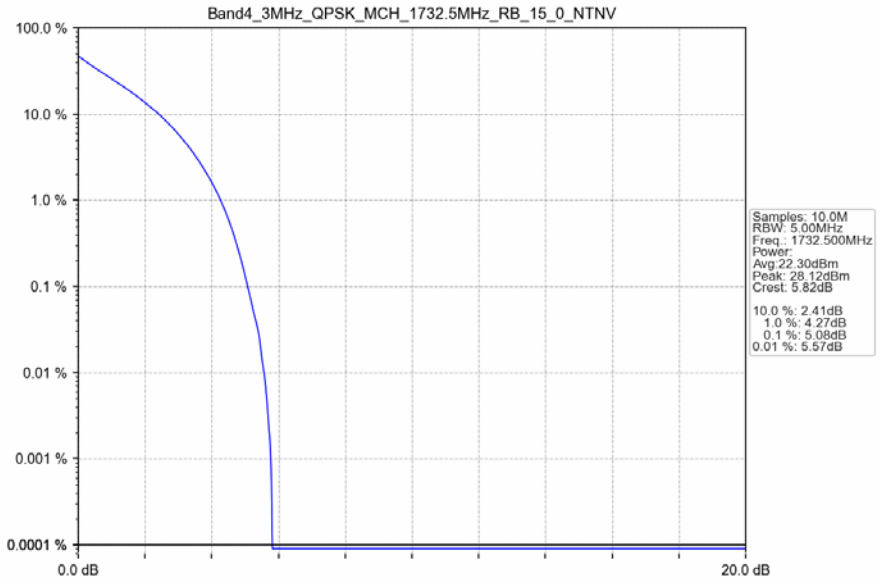


### 4.2.2 B4_3MHz

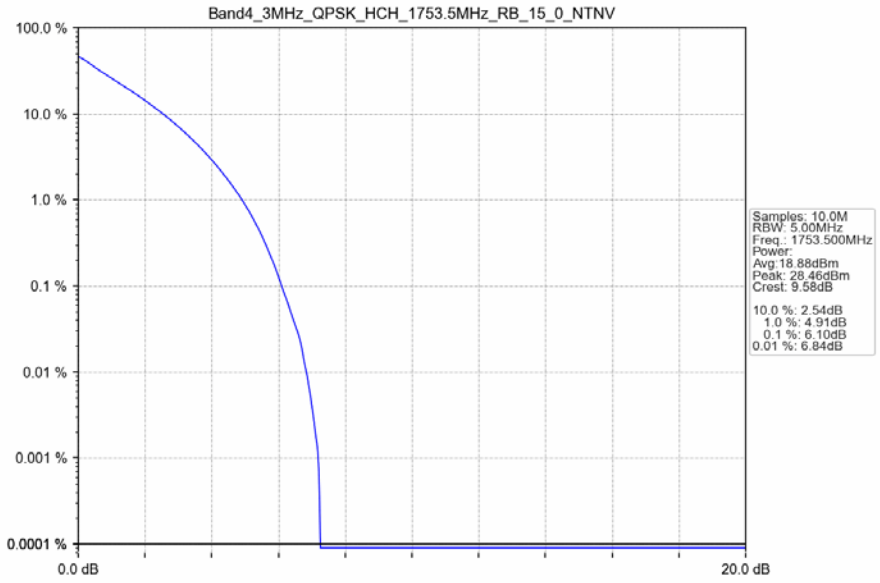
Band4_3MHz_QPSK_LCH_1711.5MHz_RB_15_0_NTNV



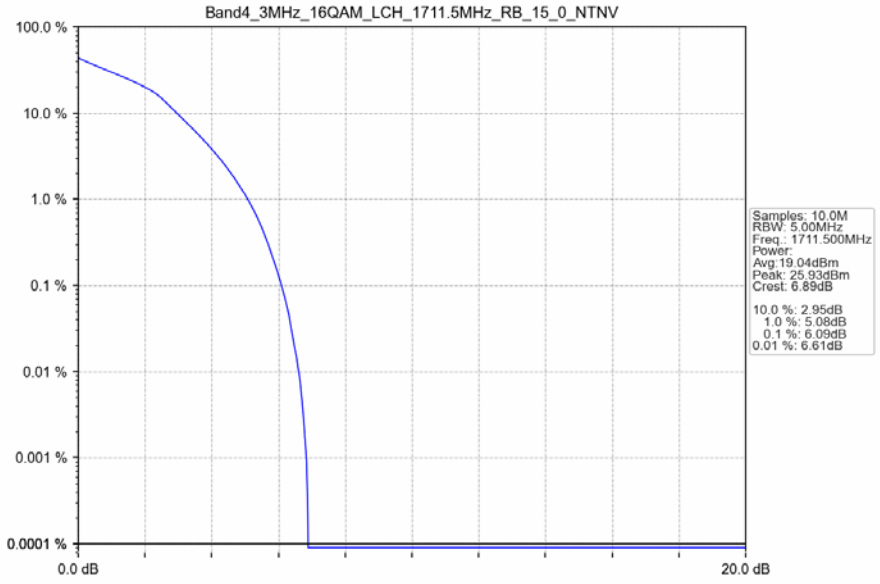

Band4_3MHz_QPSK_MCH_1732.5MHz_RB_15_0_NTNV



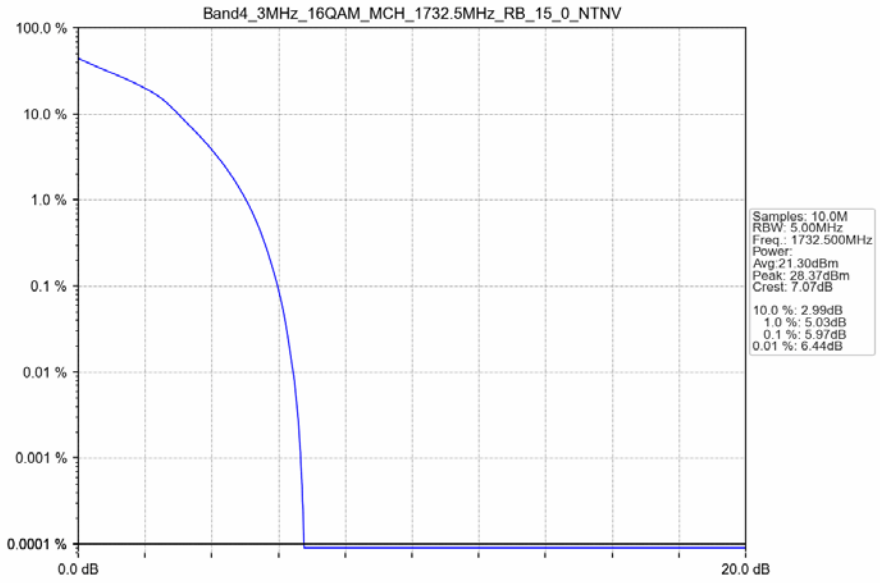
Band4_3MHz_QPSK_HCH_1753.5MHz_RB_15_0_NTNV



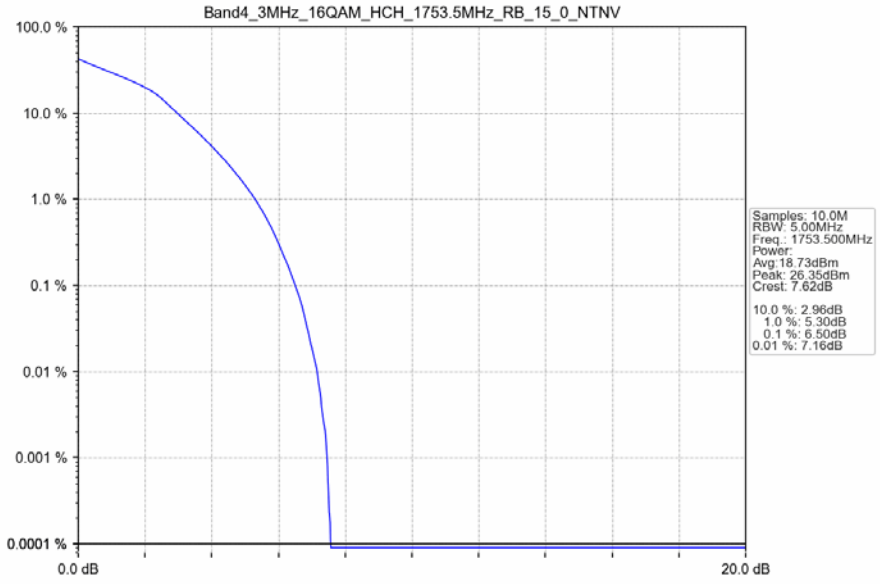

Band4_3MHz_16QAM_LCH_1711.5MHz_RB_15_0_NTNV



Band4_3MHz_16QAM_MCH_1732.5MHz_RB_15_0_NTNV

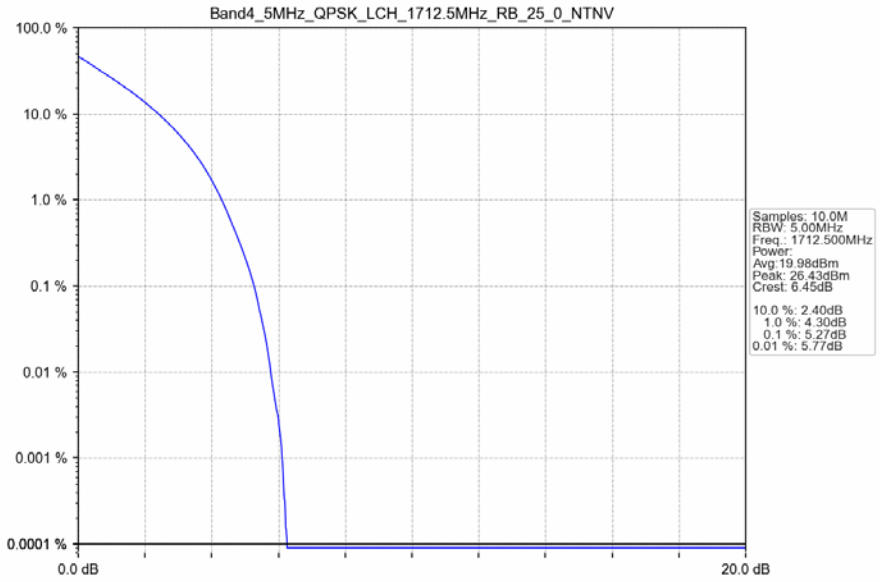



Band4_3MHz_16QAM_HCH_1753.5MHz_RB_15_0_NTNV

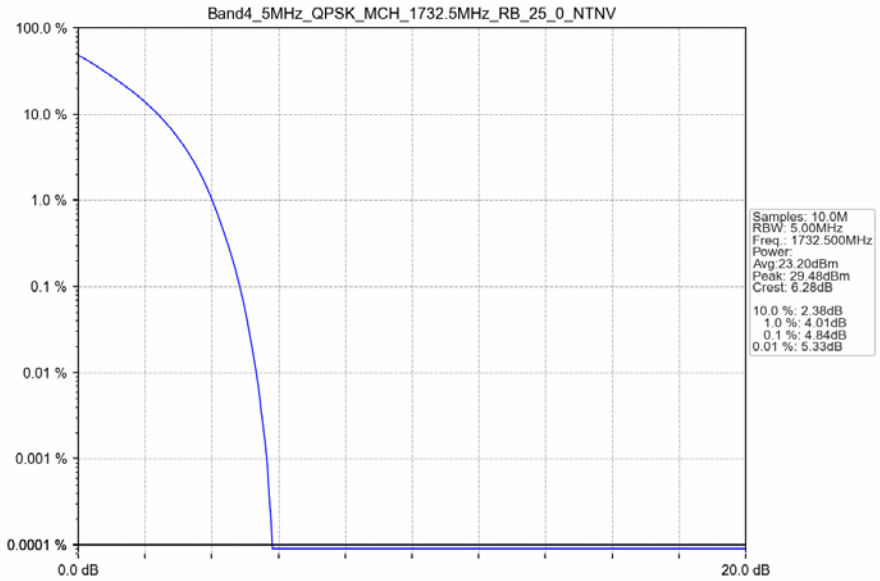


### 4.2.3 B4_5MHz

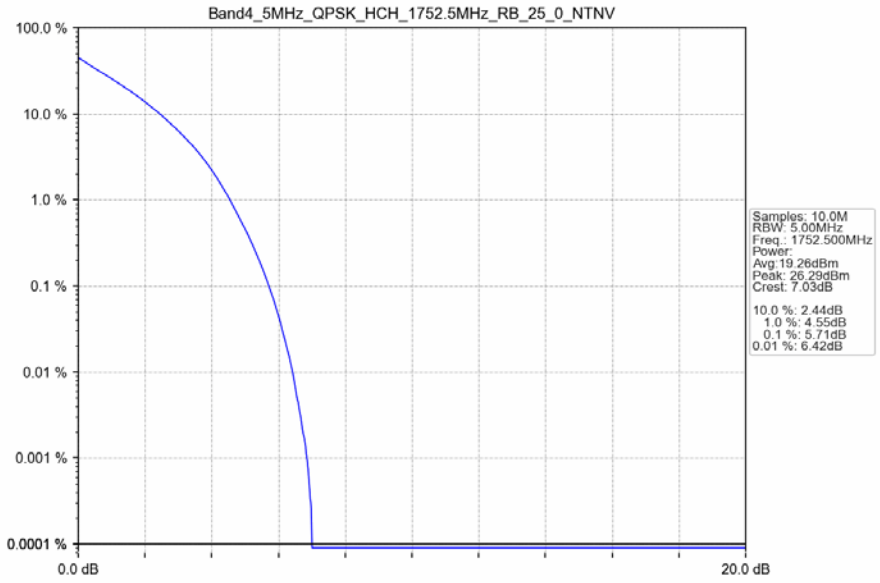
Band4_5MHz_QPSK_LCH_1712.5MHz_RB_25_0_NTNV



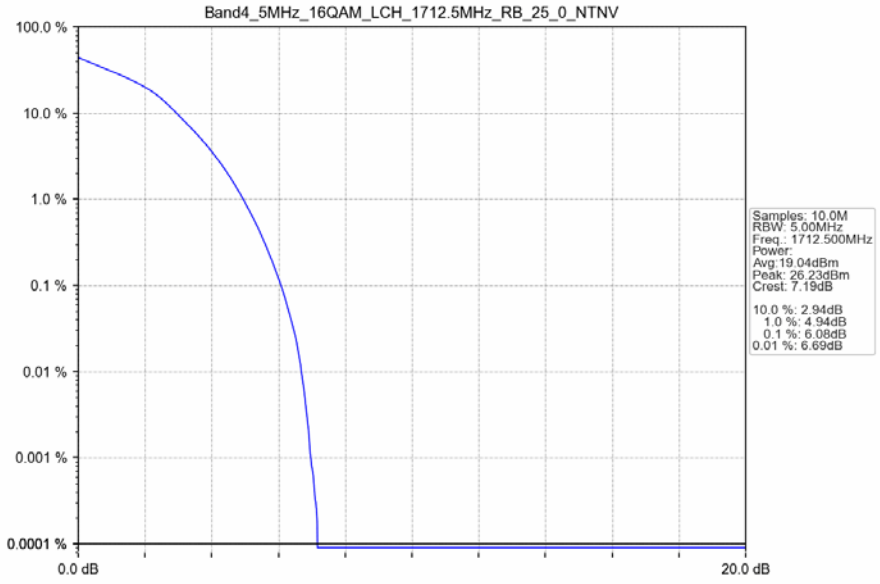

Band4_5MHz_QPSK_MCH_1732.5MHz_RB_25_0_NTNV



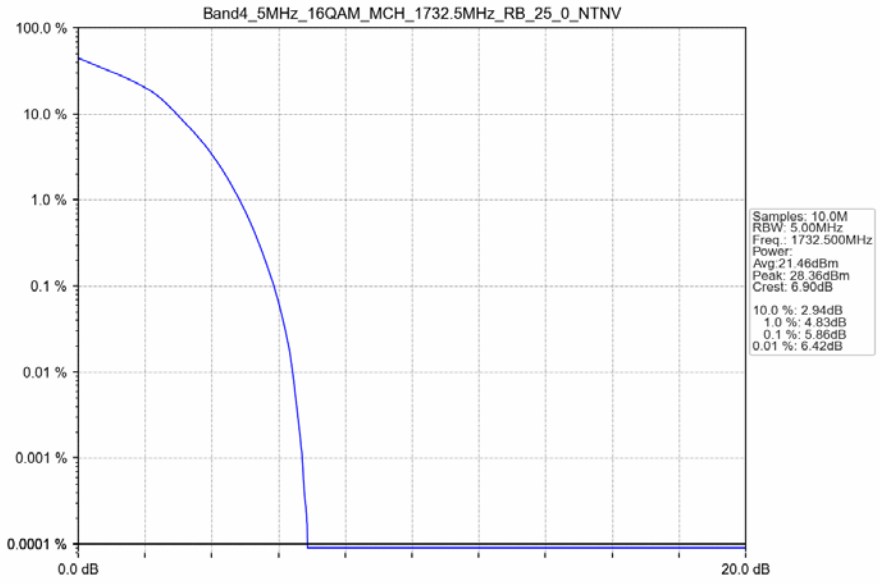
Band4_5MHz_QPSK_HCH_1752.5MHz_RB_25_0_NTNV



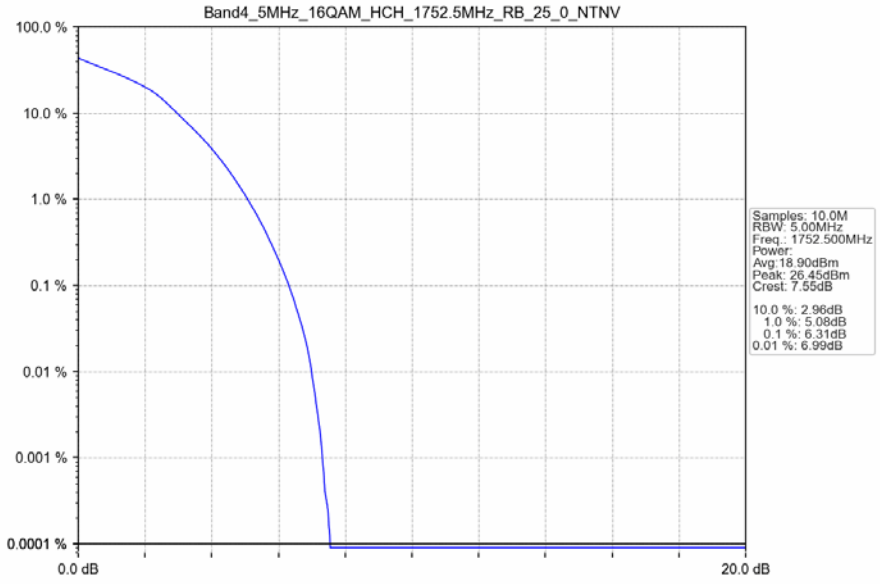

Band4_5MHz_16QAM_LCH_1712.5MHz_RB_25_0_NTNV



Band4_5MHz_16QAM_MCH_1732.5MHz_RB_25_0_NTNV

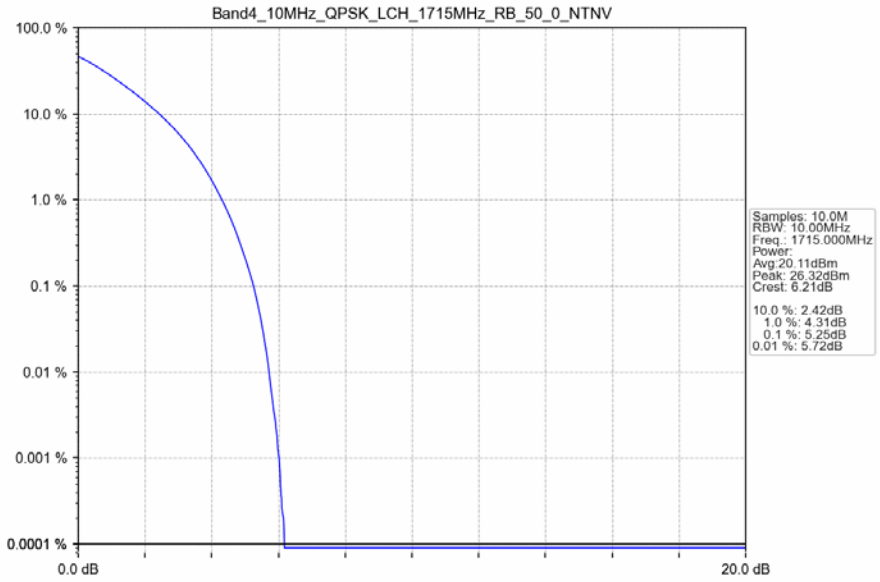



Band4_5MHz_16QAM_HCH_1752.5MHz_RB_25_0_NTNV

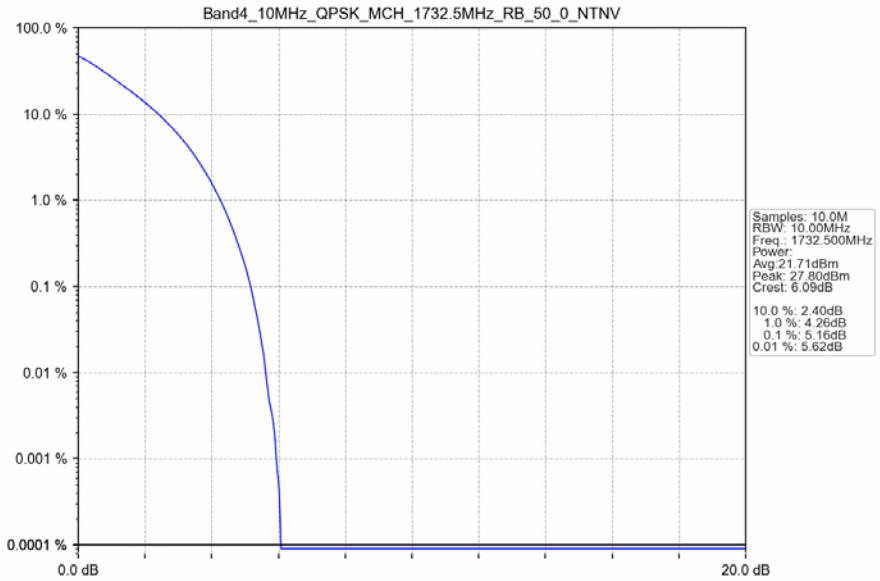


## 4.2.4 B4_10MHz

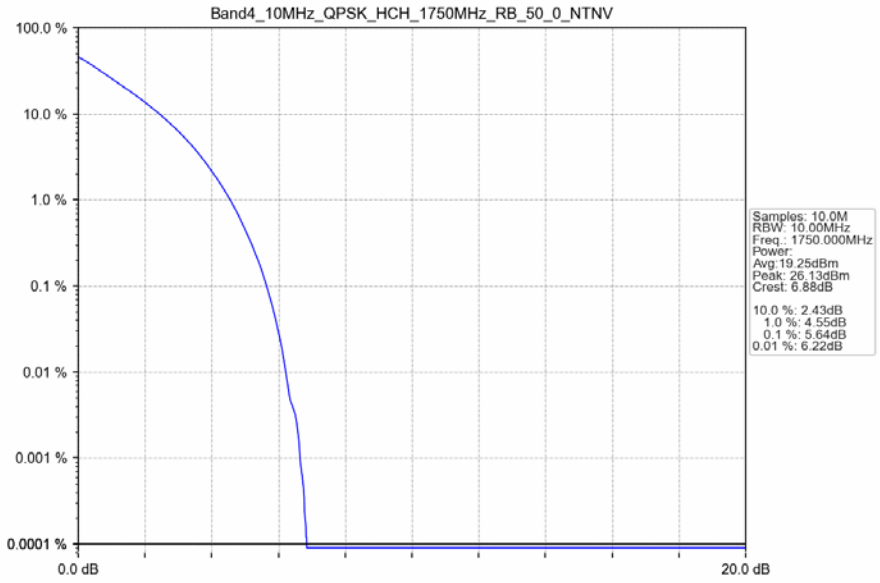
Band4_10MHz_QPSK_LCH_1715MHz_RB_50_0_NTNV



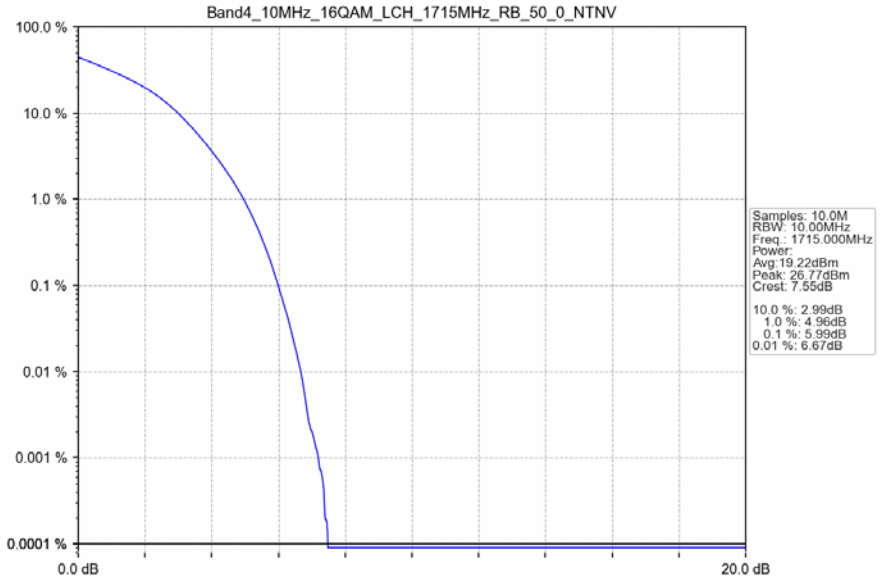

Band4_10MHz_QPSK_MCH_1732.5MHz_RB_50_0_NTNV



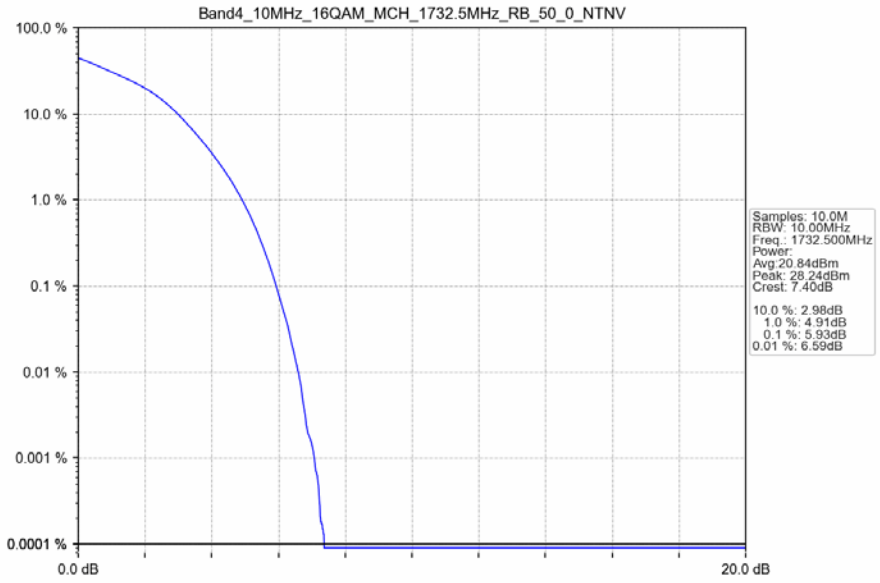
Band4_10MHz_QPSK_HCH_1750MHz_RB_50_0_NTNV



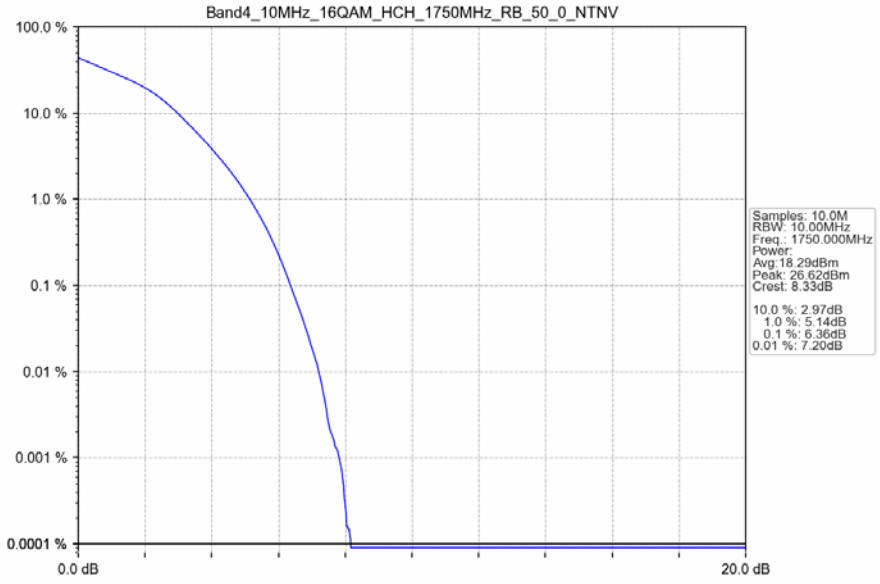

Band4_10MHz_16QAM_LCH_1715MHz_RB_50_0_NTNV



Band4_10MHz_16QAM_MCH_1732.5MHz_RB_50_0_NTNV

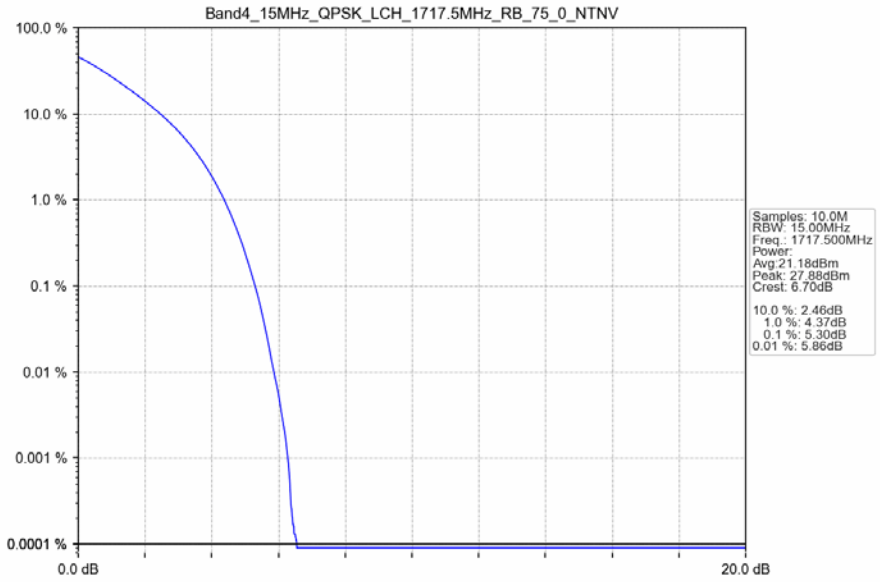



Band4_10MHz_16QAM_HCH_1750MHz_RB_50_0_NTNV

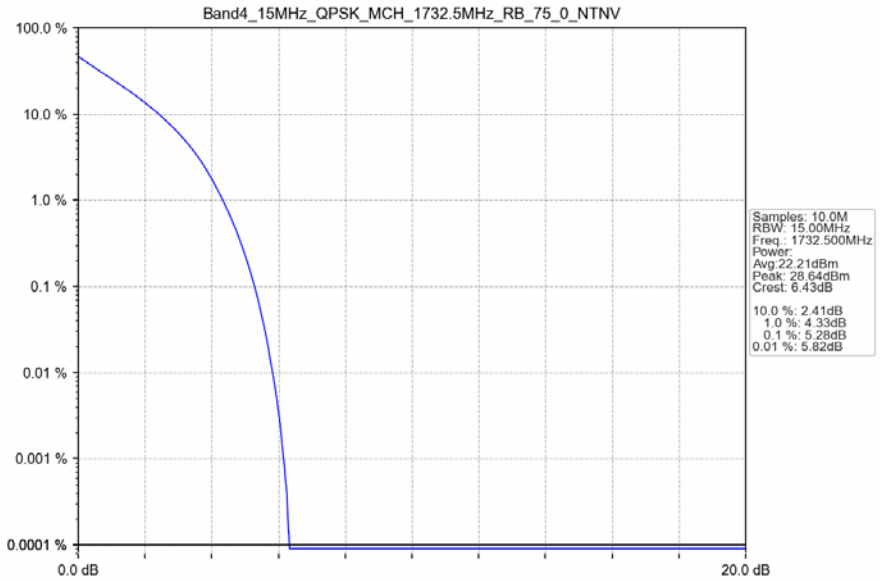


## 4.2.5 B4_15MHz

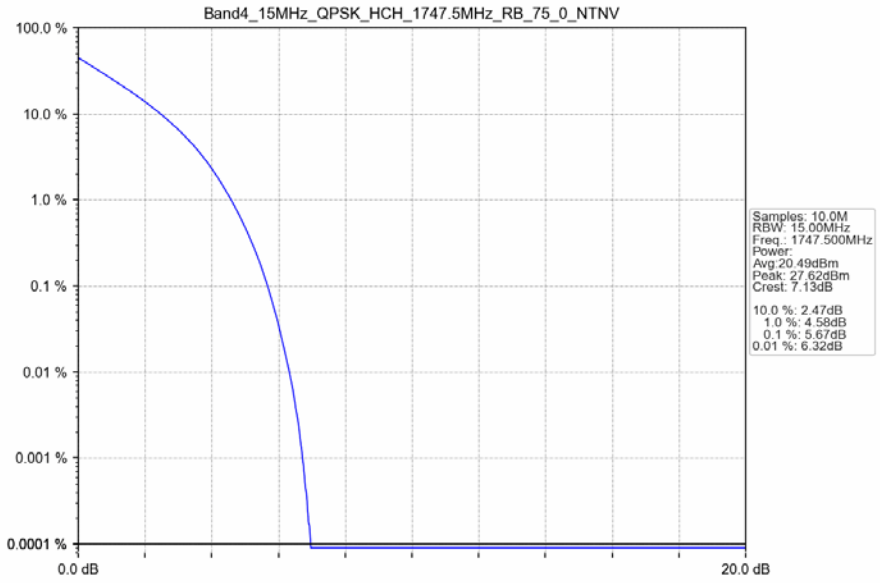
Band4_15MHz_QPSK_LCH_1717.5MHz_RB_75_0_NTNV



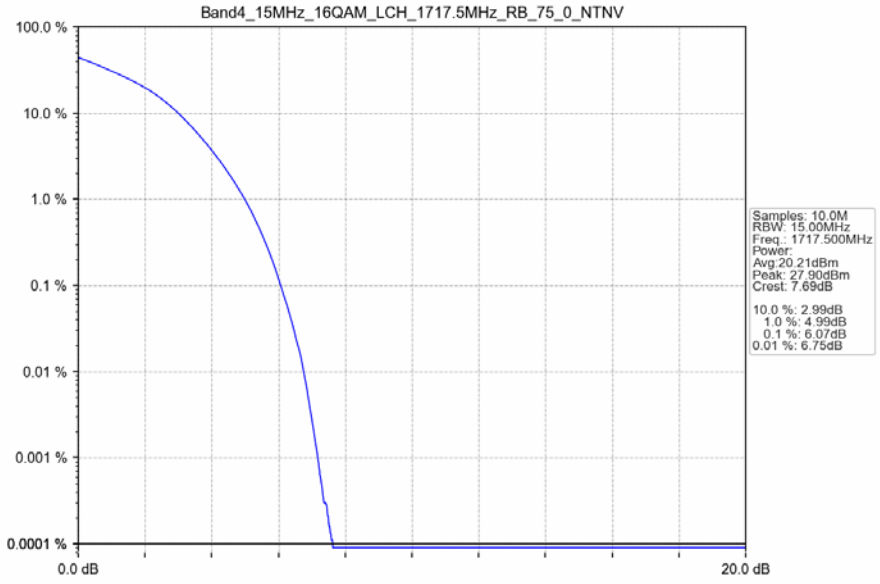

Band4_15MHz_QPSK_MCH_1732.5MHz_RB_75_0_NTNV



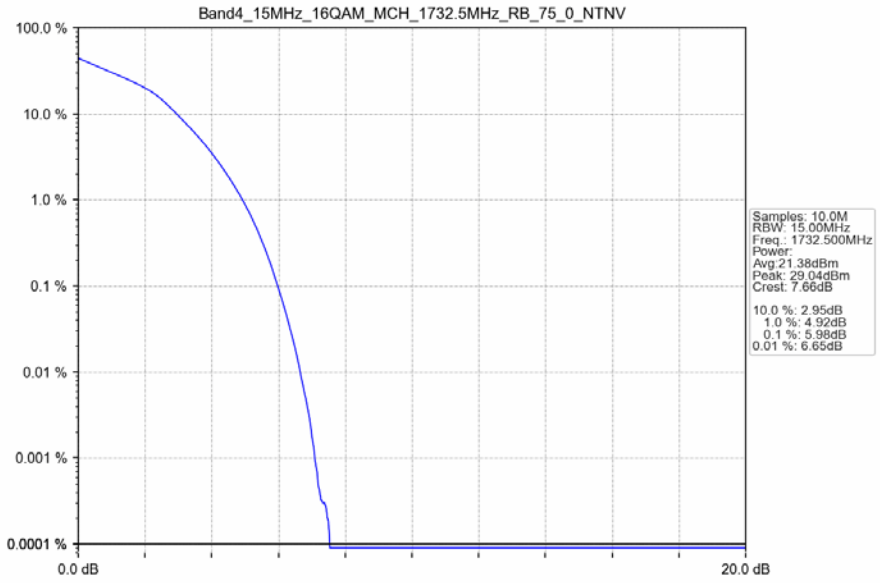
Band4_15MHz_QPSK_HCH_1747.5MHz_RB_75_0_NTNV



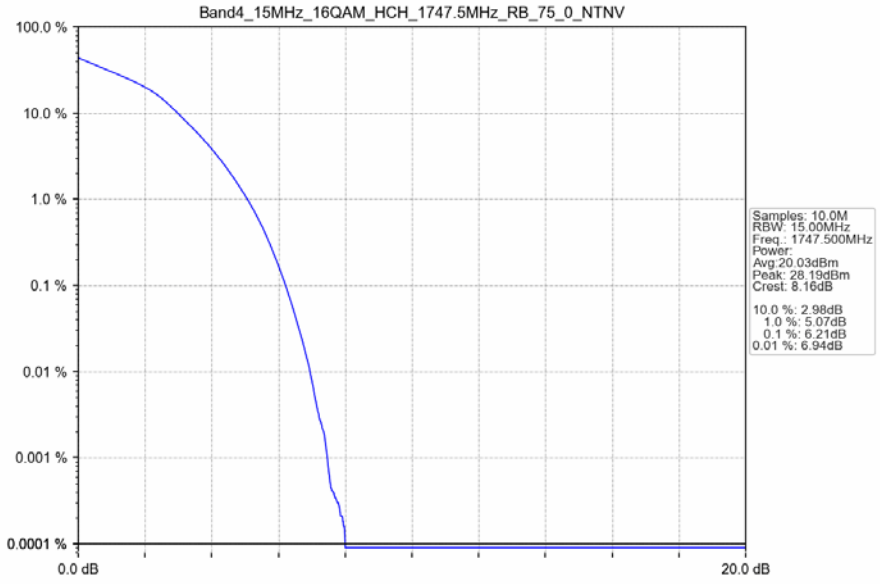

Band4_15MHz_16QAM_LCH_1717.5MHz_RB_75_0_NTNV



Band4_15MHz_16QAM_MCH_1732.5MHz_RB_75_0_NTNV

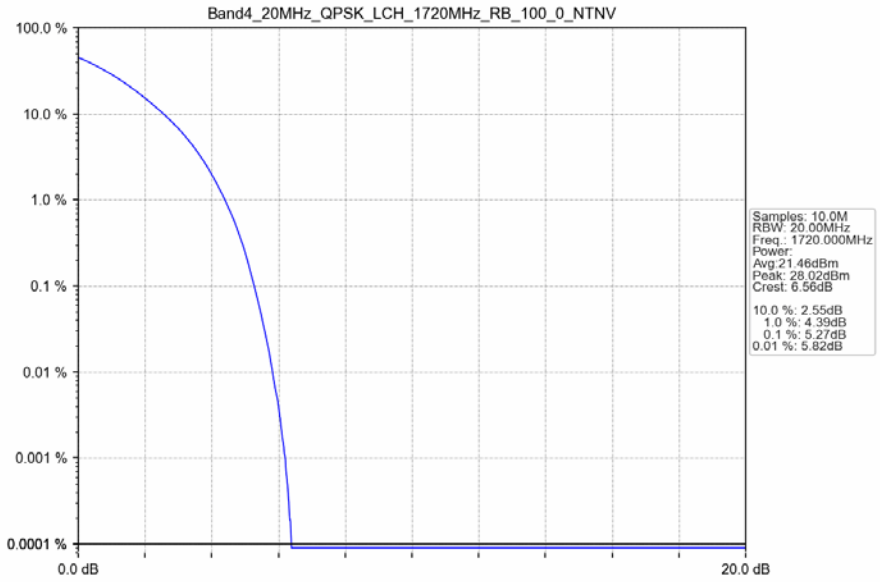



Band4_15MHz_16QAM_HCH_1747.5MHz_RB_75_0_NTNV

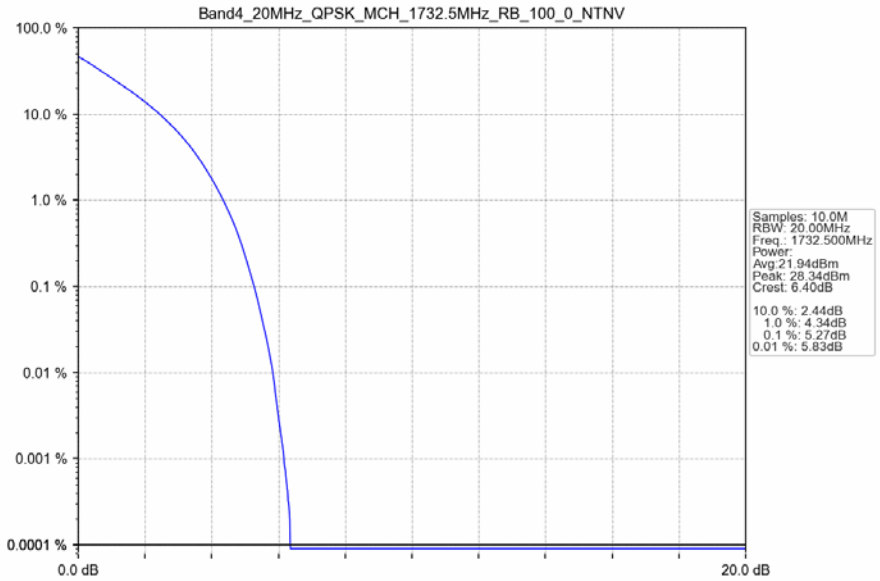


## 4.2.6 B4_20MHz

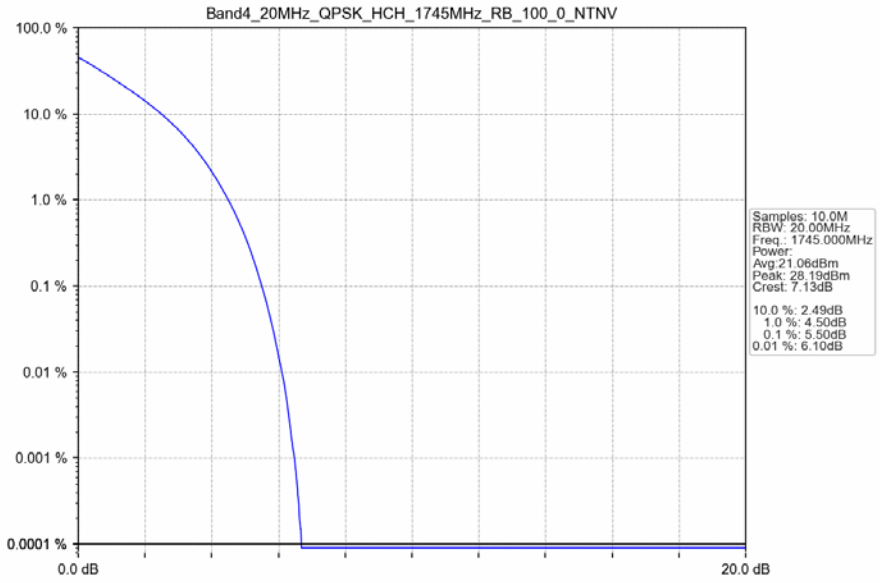
Band4_20MHz_QPSK_LCH_1720MHz_RB_100_0_NTNV



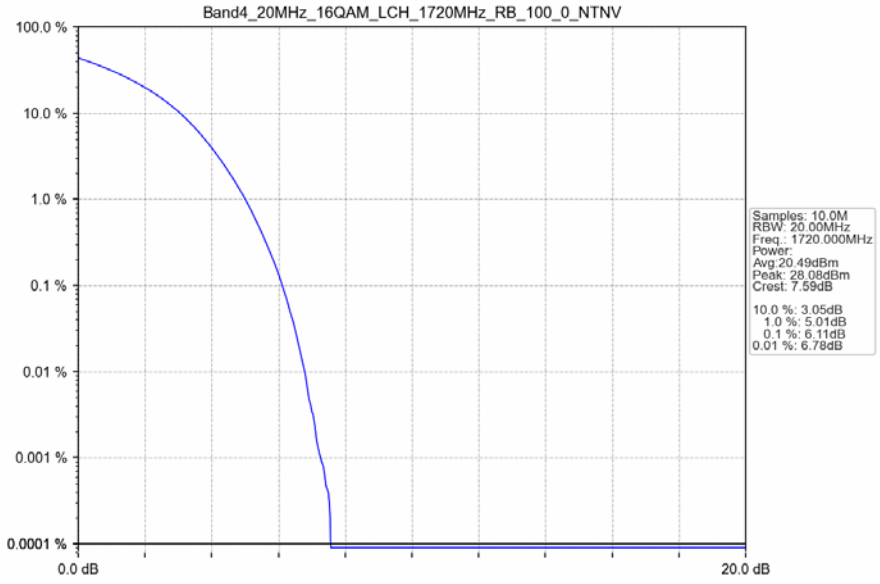

Band4_20MHz_QPSK_MCH_1732.5MHz_RB_100_0_NTNV



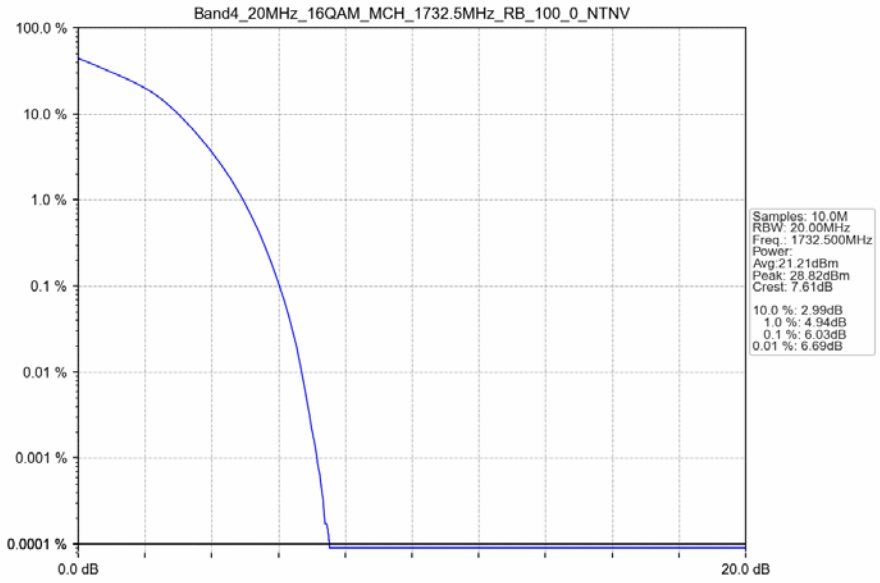
Band4_20MHz_QPSK_HCH_1745MHz_RB_100_0_NTNV



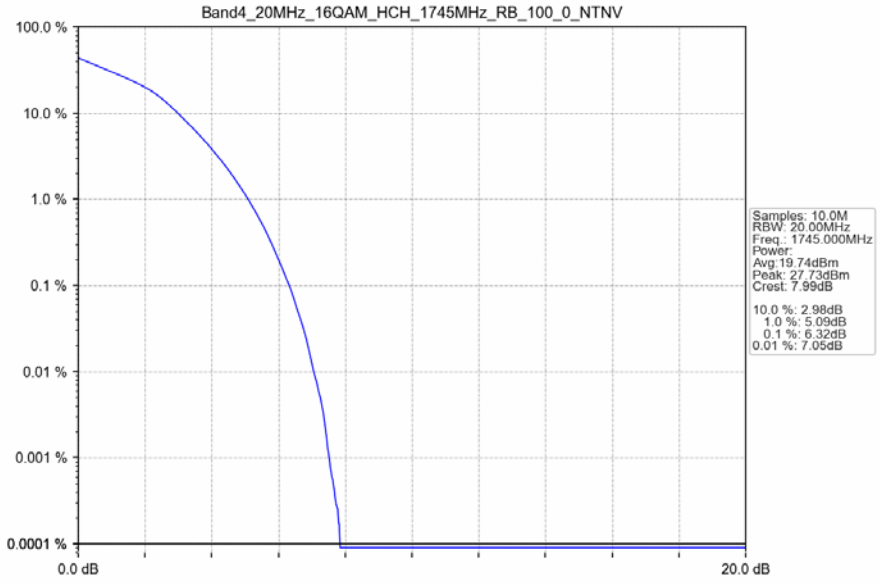

Band4_20MHz_16QAM_LCH_1720MHz_RB_100_0_NTNV



Band4_20MHz_16QAM_MCH_1732.5MHz_RB_100_0_NTNV




Band4_20MHz_16QAM_HCH_1745MHz_RB_100_0_NTNV



# 5. Spurious Emission

## 5.1 Test Result

### 5.1.1 B4_1.4MHz

| Band: 4 / Bandwidth: 1.4MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Spurious Emission | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 1710.7 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 6 | 0 | Refer To Test Graph | | Pass |
| | 1732.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | 1754.3 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 5 | Refer To Test Graph | | Pass |
| | | 6 | 0 | Refer To Test Graph | | Pass |
| 16QAM | 1710.7 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 6 | 0 | Refer To Test Graph | | Pass |
| | 1732.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | 1754.3 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 5 | Refer To Test Graph | | Pass |
| | | 6 | 0 | Refer To Test Graph | | Pass |

### 5.1.2 B4_3MHz

| Band: 4 / Bandwidth: 3MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Spurious Emission | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 1711.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 15 | 0 | Refer To Test Graph | | Pass |
| | 1732.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | 1753.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 14 | Refer To Test Graph | | Pass |
| | | 15 | 0 | Refer To Test Graph | | Pass |
| 16QAM | 1711.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 15 | 0 | Refer To Test Graph | | Pass |
| | 1732.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | 1753.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 14 | Refer To Test Graph | | Pass |
| | | 15 | 0 | Refer To Test Graph | | Pass |

### 5.1.3 B4_5MHz

| Band: 4 / Bandwidth: 5MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Spurious Emission | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 1712.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 25 | 0 | Refer To Test Graph | | Pass |
| | 1732.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | 1752.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 24 | Refer To Test Graph | | Pass |
| | | 25 | 0 | Refer To Test Graph | | Pass |
| 16QAM | 1712.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 25 | 0 | Refer To Test Graph | | Pass |
| | 1732.5 | 1 | 0 | Refer To Test Graph | | Pass |

| | | | | | |
|---|---|---|---|---|---|
| | 1752.5 | 1 | 0 | Refer To Test Graph | Pass |
| | | | 24 | Refer To Test Graph | Pass |
| | | 25 | 0 | Refer To Test Graph | Pass |

### 5.1.4 B4_10MHz

| Band: 4 / Bandwidth: 10MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Spurious Emission | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 1715 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 50 | 0 | Refer To Test Graph | | Pass |
| | 1732.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | 1750 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 49 | Refer To Test Graph | | Pass |
| | | 50 | 0 | Refer To Test Graph | | Pass |
| 16QAM | 1715 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 50 | 0 | Refer To Test Graph | | Pass |
| | 1732.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | 1750 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 49 | Refer To Test Graph | | Pass |
| | | 50 | 0 | Refer To Test Graph | | Pass |

### 5.1.5 B4_15MHz

| Band: 4 / Bandwidth: 15MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Spurious Emission | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 1717.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 75 | 0 | Refer To Test Graph | | Pass |
| | 1732.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | 1747.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 74 | Refer To Test Graph | | Pass |
| | | 75 | 0 | Refer To Test Graph | | Pass |
| 16QAM | 1717.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 75 | 0 | Refer To Test Graph | | Pass |
| | 1732.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | 1747.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 74 | Refer To Test Graph | | Pass |
| | | 75 | 0 | Refer To Test Graph | | Pass |

### 5.1.6 B4_20MHz

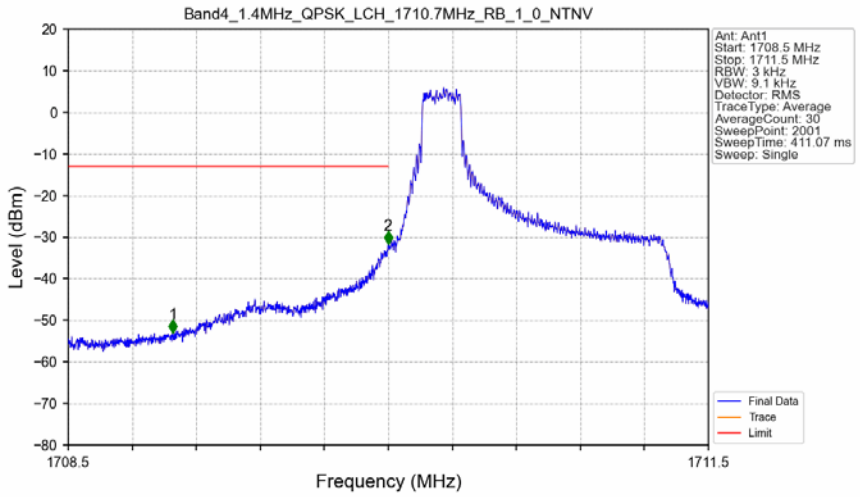
| Band: 4 / Bandwidth: 20MHz / NTNV | | | | | | |
|---|---|---|---|---|---|---|
| Modulation | Frequency (MHz) | RB Allocation | | Spurious Emission | | Verdict |
| | | Size | Offset | Result | Limit | |
| QPSK | 1720 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 100 | 0 | Refer To Test Graph | | Pass |
| | 1732.5 | 1 | 0 | Refer To Test Graph | | Pass |
| | 1745 | 1 | 0 | Refer To Test Graph | | Pass |
| | | | 99 | Refer To Test Graph | | Pass |
| | | 100 | 0 | Refer To Test Graph | | Pass |
| 16QAM | 1720 | 1 | 0 | Refer To Test Graph | | Pass |
| | | 100 | 0 | Refer To Test Graph | | Pass |
| | 1732.5 | 1 | 0 | Refer To Test Graph | | Pass |

| | | | | | |
|---|---|---|---|---|---|
| | 1745 | 1 | 0 | Refer To Test Graph | Pass |
| | | | 99 | Refer To Test Graph | Pass |
| | | 100 | 0 | Refer To Test Graph | Pass |

## 5.2 Test Graph

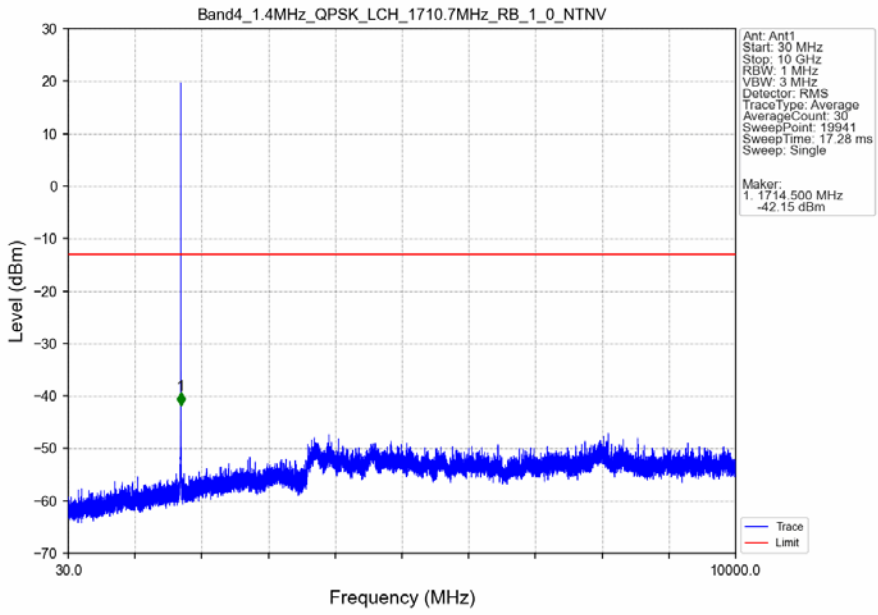
### 5.2.1 B4_1.4MHz

Band4_1.4MHz_QPSK_LCH_1710.7MHz_RB_1_0_NTNV

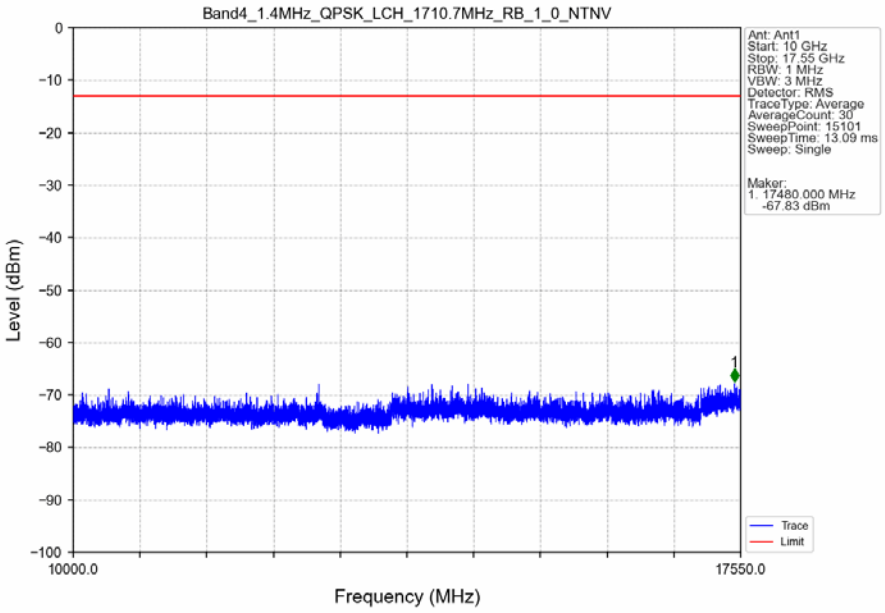



| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 1708.5 | 1709 | 1 | / | 1 | 1708.991 | -52.95 | -13 | Pass |
| 1709 | 1710 | 0.003 | / | 2 | 1709.998 | -31.67 | -13 | Pass |
| 1710 | 1711.5 | 0.003 | / | / | / | / | / | / |

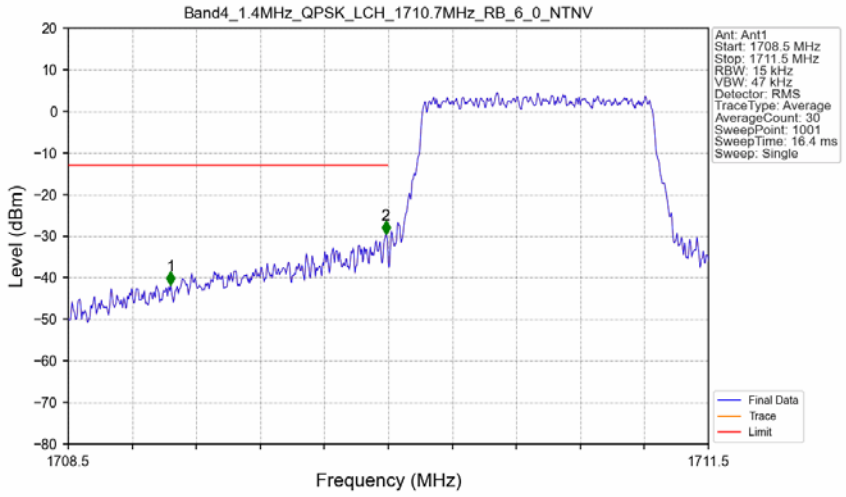
Band4_1.4MHz_QPSK_LCH_1710.7MHz_RB_1_0_NTNV



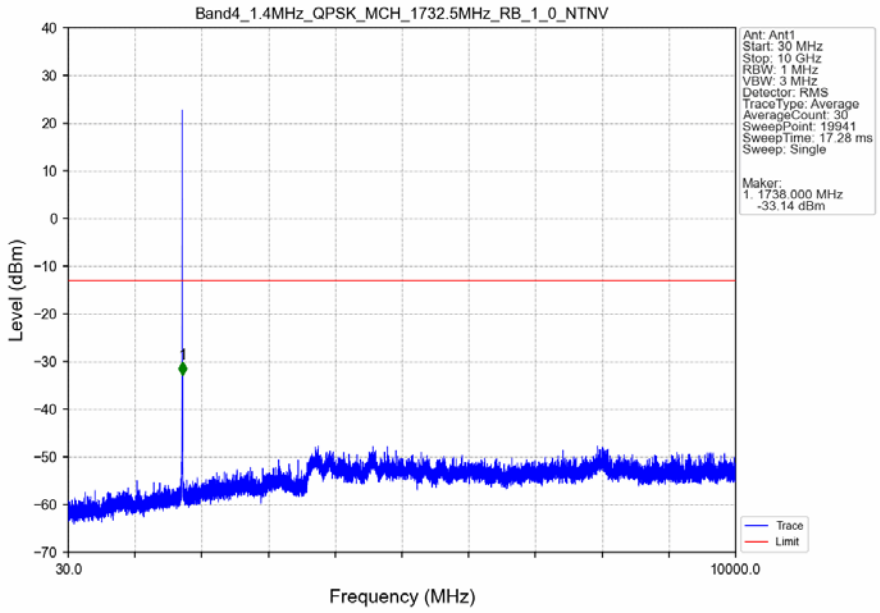
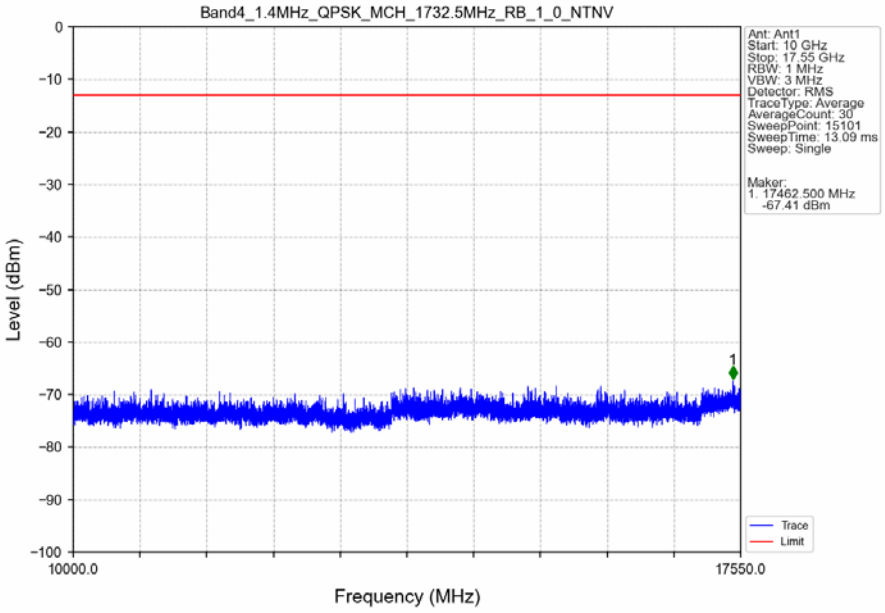
Band4_1.4MHz_QPSK_LCH_1710.7MHz_RB_1_0_NTNV




Band4_1.4MHz_QPSK_LCH_1710.7MHz_RB_6_0_NTNV




| Start (MHz) | Stop (MHz) | RBW (MHz) | Method | Marker No. | Freq (MHz) | Level (dBm) | Limit (dBm) | Result |
|---|---|---|---|---|---|---|---|---|
| 1708.5 | 1709 | 1 | / | 1 | 1708.980 | -41.64 | -13 | Pass |
| 1709 | 1710 | 0.015 | / | 2 | 1709.988 | -29.44 | -13 | Pass |
| 1710 | 1711.5 | 0.015 | / | / | / | / | / | / |

| Band4_1.4MHz_QPSK_MCH_1732.5MHz_RB_1_0_NTNV |
| --- |
|  |
| Band4_1.4MHz_QPSK_MCH_1732.5MHz_RB_1_0_NTNV |
|  |