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# Annex for 5G Wi-Fi Band 3

## Test Report No.: CTL2603313011-WF02

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# 1. Duty Cycle

## 1.1 Test Result

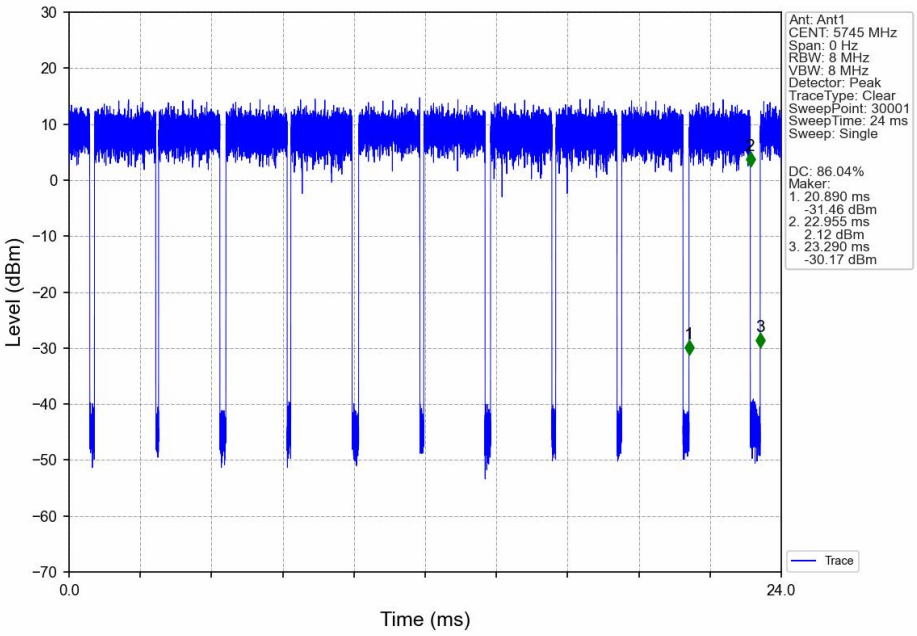
### 1.1.1 Ant1

| Ant1 | | | | | | | |
|---|---|---|---|---|---|---|---|
| Mode | TX Type | Frequency (MHz) | T_on (ms) | Period (ms) | Duty Cycle (%) | Duty Cycle Correction Factor (dB) | Max. DC Variation (%) |
| 802.11a | SISO | 5745 | 2.065 | 2.400 | 86.04 | 0.65 | 9.57 |
| | | 5785 | 2.066 | 2.461 | 83.95 | 0.76 | 10.85 |
| | | 5825 | 2.064 | 2.294 | 89.97 | 0.46 | 5.60 |
| 802.11n (HT20) | SISO | 5745 | 1.920 | 2.291 | 83.81 | 0.77 | 9.77 |
| | | 5785 | 1.922 | 2.408 | 79.82 | 0.98 | 15.09 |
| | | 5825 | 1.920 | 2.151 | 89.26 | 0.49 | 2.73 |
| 802.11n (HT40) | SISO | 5755 | 0.945 | 1.166 | 81.05 | 0.91 | 9.04 |
| | | 5795 | 0.946 | 1.176 | 80.44 | 0.95 | 9.64 |

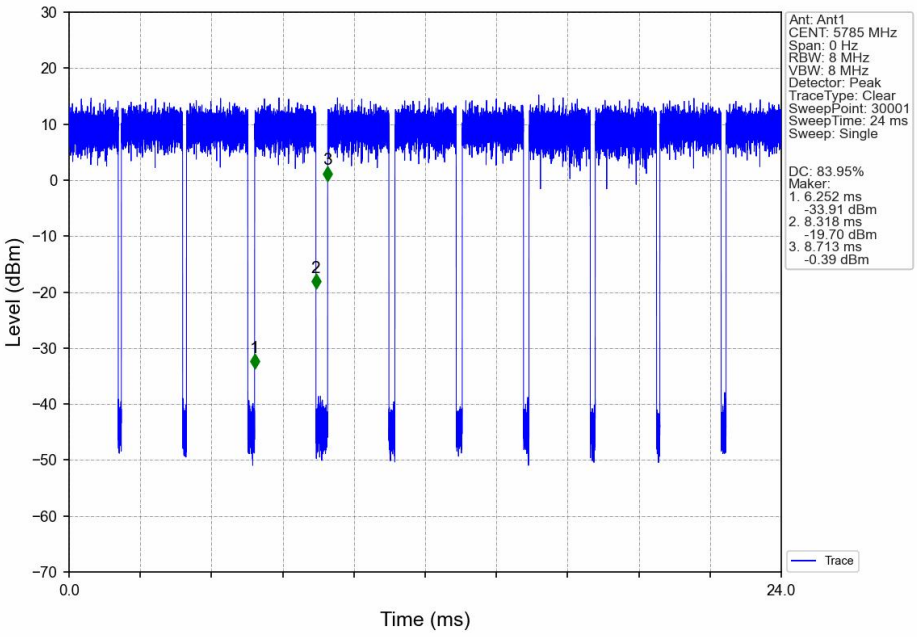
## 1.2 Test Graph

### 1.2.1 Ant1

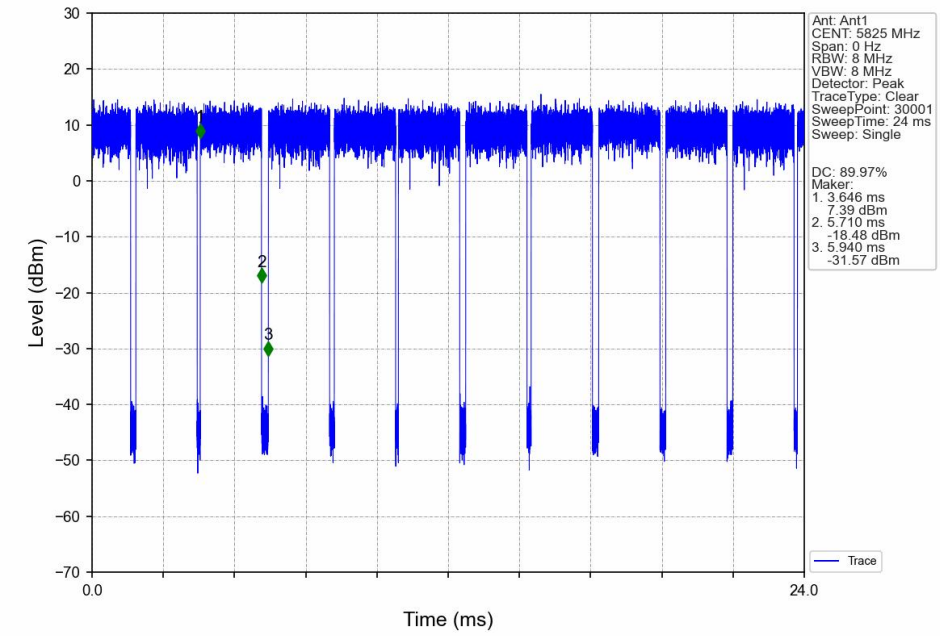
802.11a_LCH_5745MHz_Ant1_NTNV



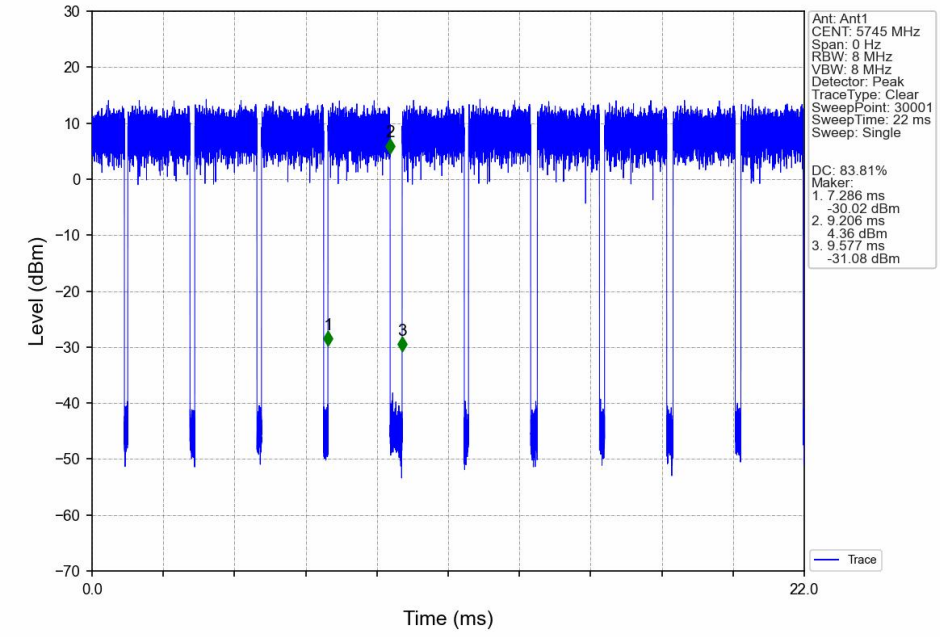

802.11a_MCH_5785MHz_Ant1_NTNV



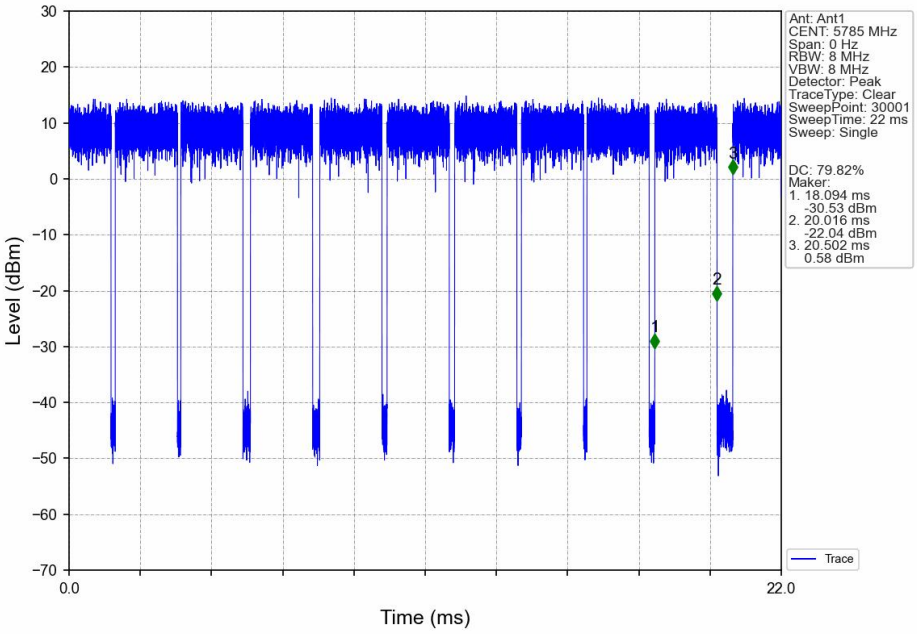
802.11a_HCH_5825MHz_Ant1_NTNV



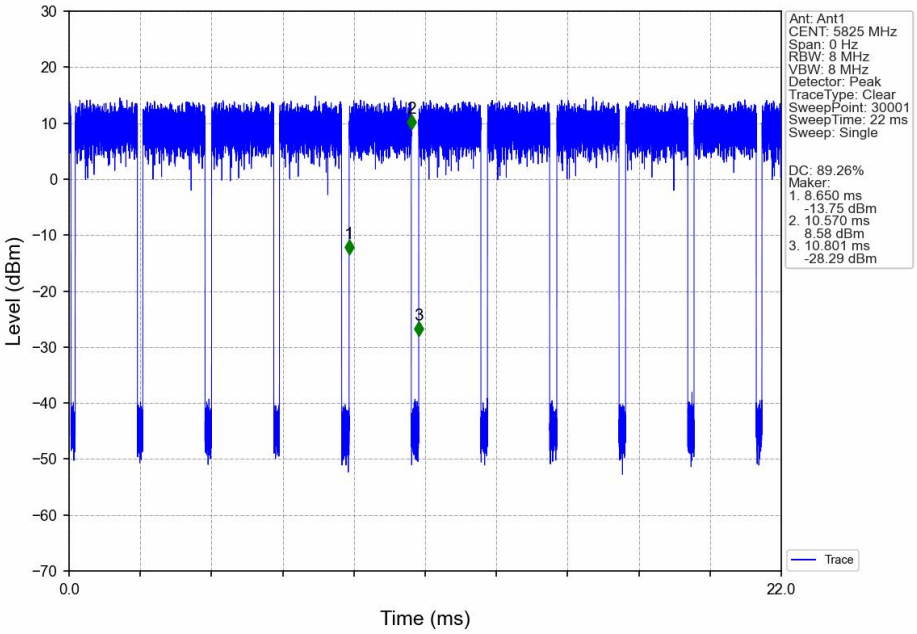

802.11n(HT20)_LCH_5745MHz_Ant1_NTNV



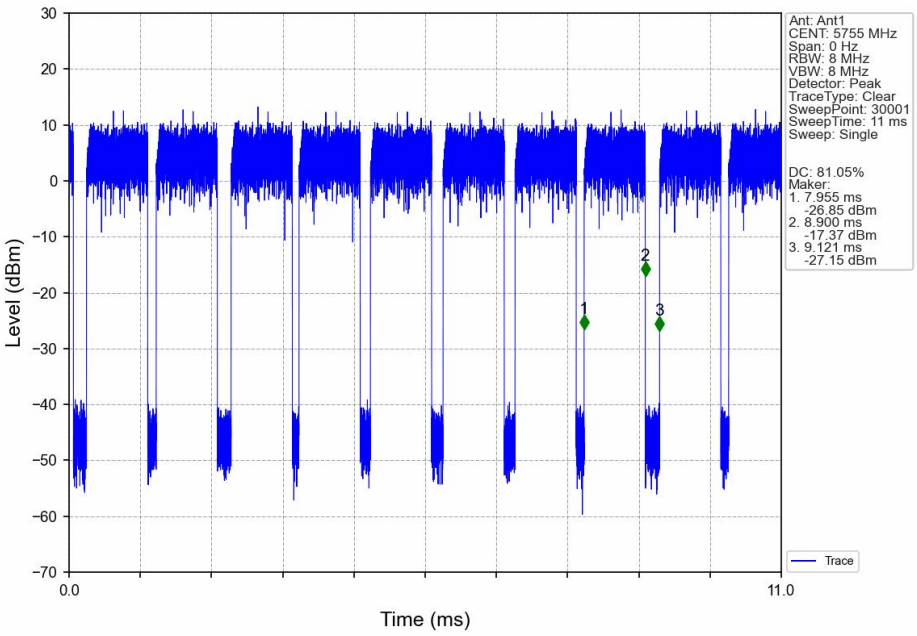
802.11n(HT20)_MCH_5785MHz_Ant1_NTNV



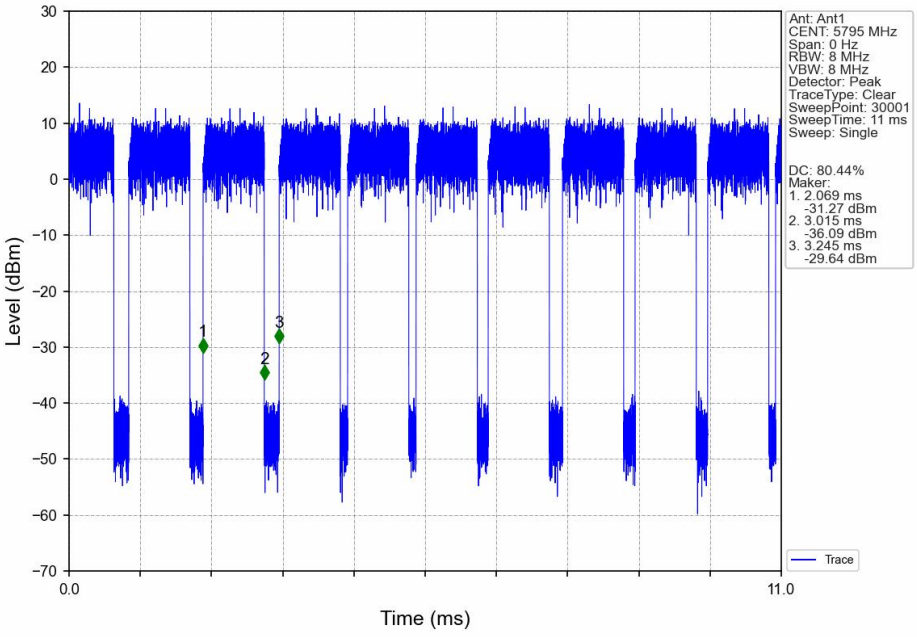

802.11n(HT20)_HCH_5825MHz_Ant1_NTNV



802.11n(HT40)_LCH_5755MHz_Ant1_NTNV




802.11n(HT40)_HCH_5795MHz_Ant1_NTNV



# 2. Bandwidth

## 2.1 Test Result

### 2.1.1 OBW

| Mode | TX Type | Frequency (MHz) | ANT | 99% Occupied Bandwidth (MHz) | | Verdict |
|---|---|---|---|---|---|---|
| | | | | Result | Limit | |
| 802.11a | SISO | 5745 | 1 | 16.367 | / | Pass |
| | | 5785 | 1 | 16.437 | / | Pass |
| | | 5825 | 1 | 16.512 | / | Pass |
| 802.11n (HT20) | SISO | 5745 | 1 | 17.431 | / | Pass |
| | | 5785 | 1 | 17.475 | / | Pass |
| | | 5825 | 1 | 17.617 | / | Pass |
| 802.11n (HT40) | SISO | 5755 | 1 | 35.528 | / | Pass |
| | | 5795 | 1 | 35.685 | / | Pass |

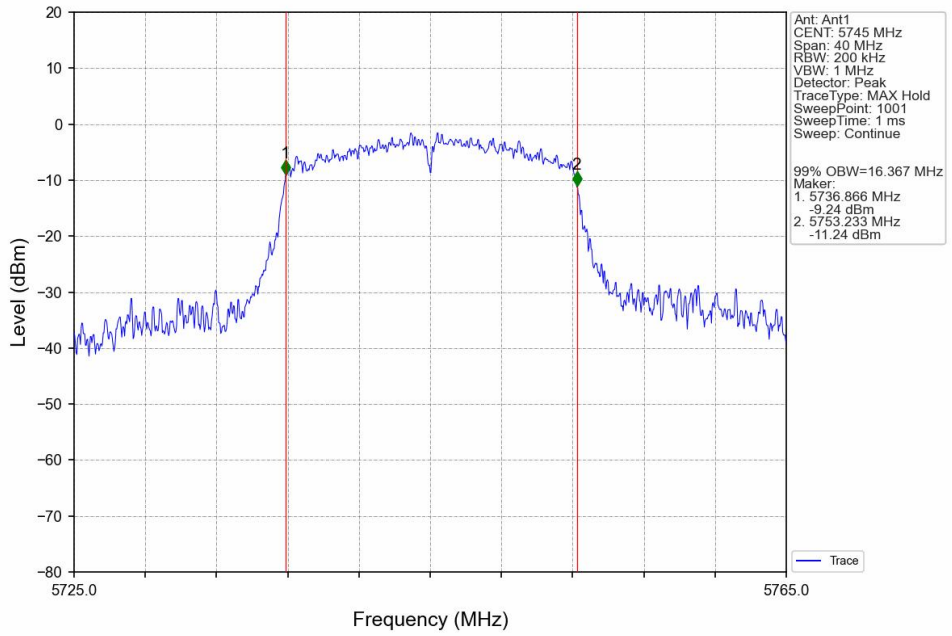
### 2.1.2 6dB BW

| Mode | TX Type | Frequency (MHz) | ANT | 6dB Bandwidth (MHz) | | Verdict |
|---|---|---|---|---|---|---|
| | | | | Result | Limit | |
| 802.11a | SISO | 5745 | 1 | 10.112 | >=0.5 | Pass |
| | | 5785 | 1 | 13.819 | >=0.5 | Pass |
| | | 5825 | 1 | 15.071 | >=0.5 | Pass |
| 802.11n (HT20) | SISO | 5745 | 1 | 15.084 | >=0.5 | Pass |
| | | 5785 | 1 | 15.024 | >=0.5 | Pass |
| | | 5825 | 1 | 12.649 | >=0.5 | Pass |
| 802.11n (HT40) | SISO | 5755 | 1 | 30.022 | >=0.5 | Pass |
| | | 5795 | 1 | 30.082 | >=0.5 | Pass |

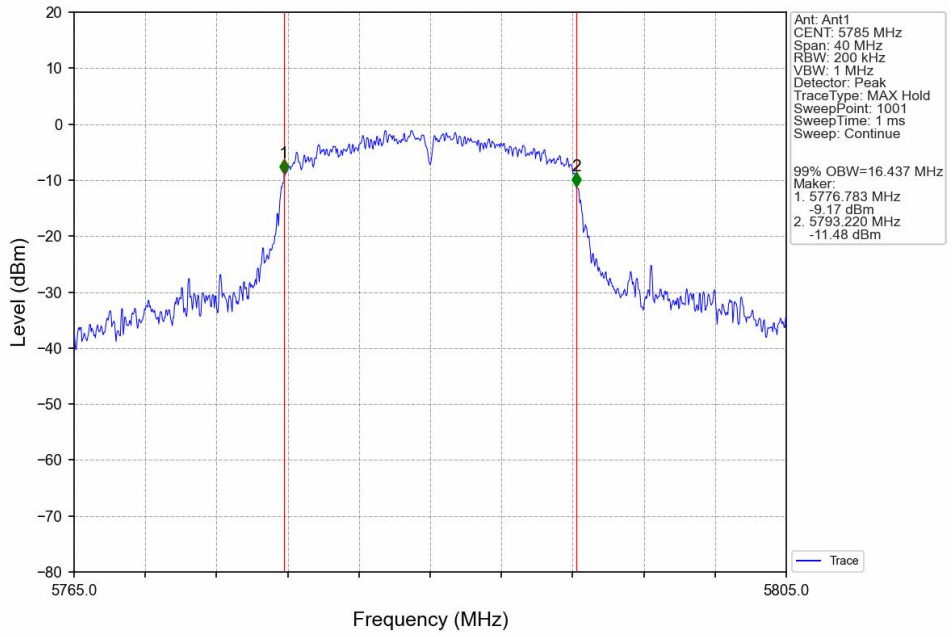
## 2.2 Test Graph

### 2.2.1 OBW

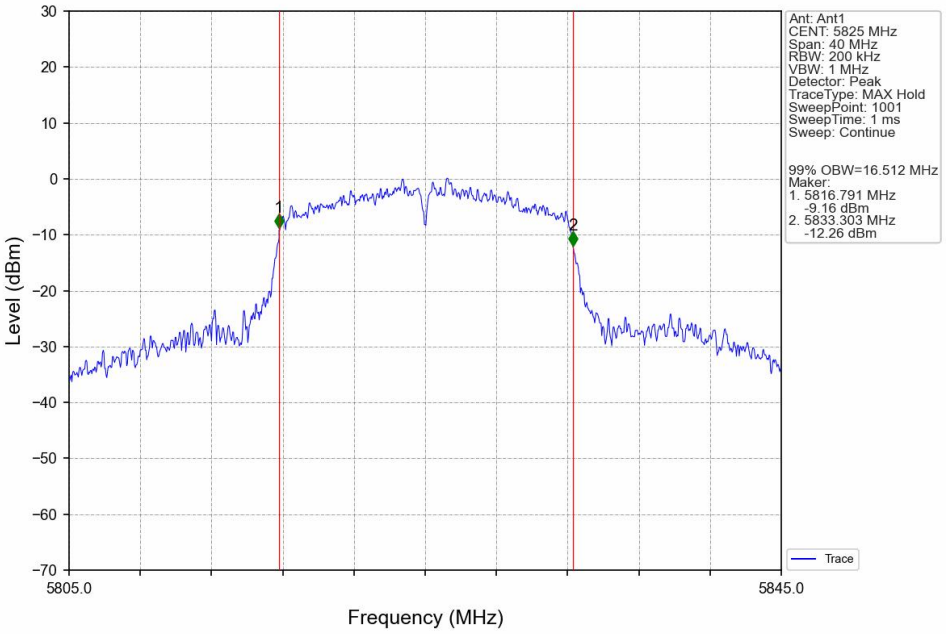
802.11a_LCH_5745MHz_Ant1_NTNV



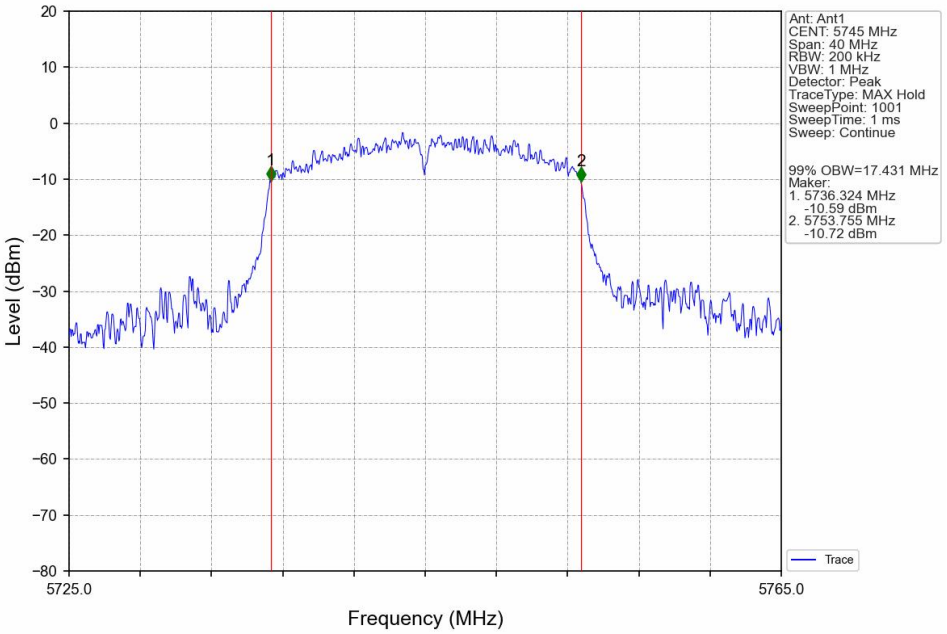

802.11a_MCH_5785MHz_Ant1_NTNV



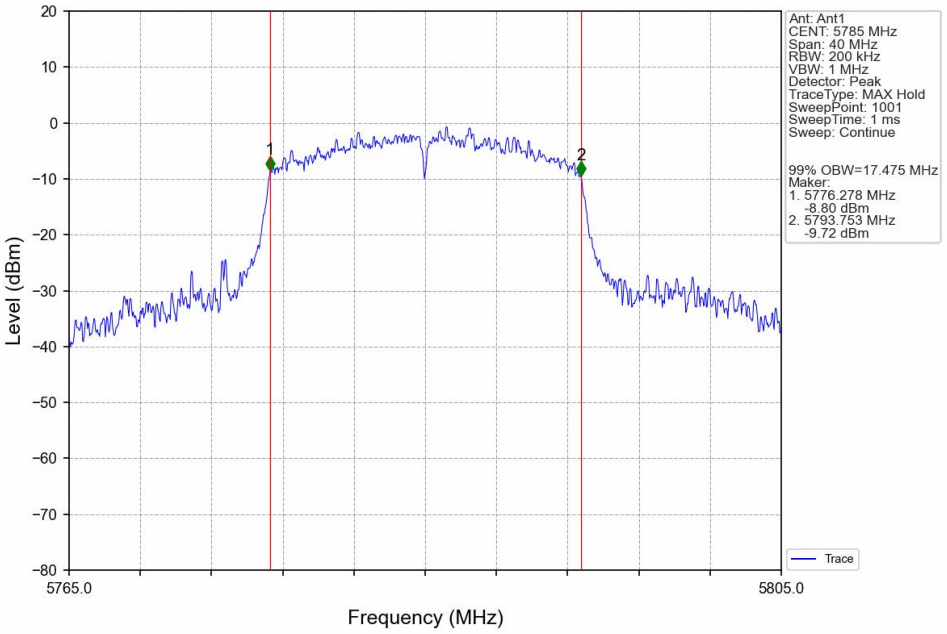
802.11a_HCH_5825MHz_Ant1_NTNV



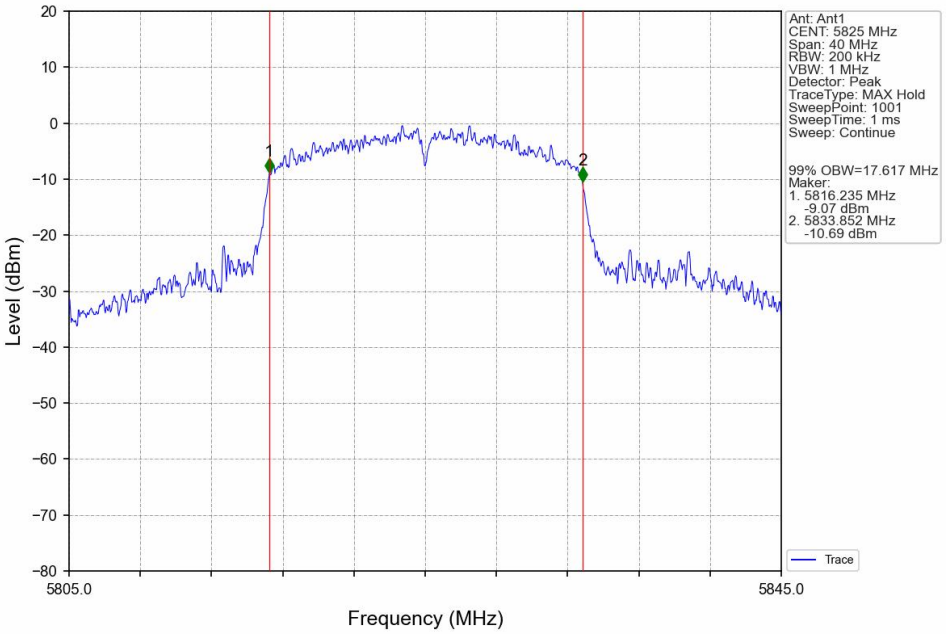

802.11n(HT20)_LCH_5745MHz_Ant1_NTNV



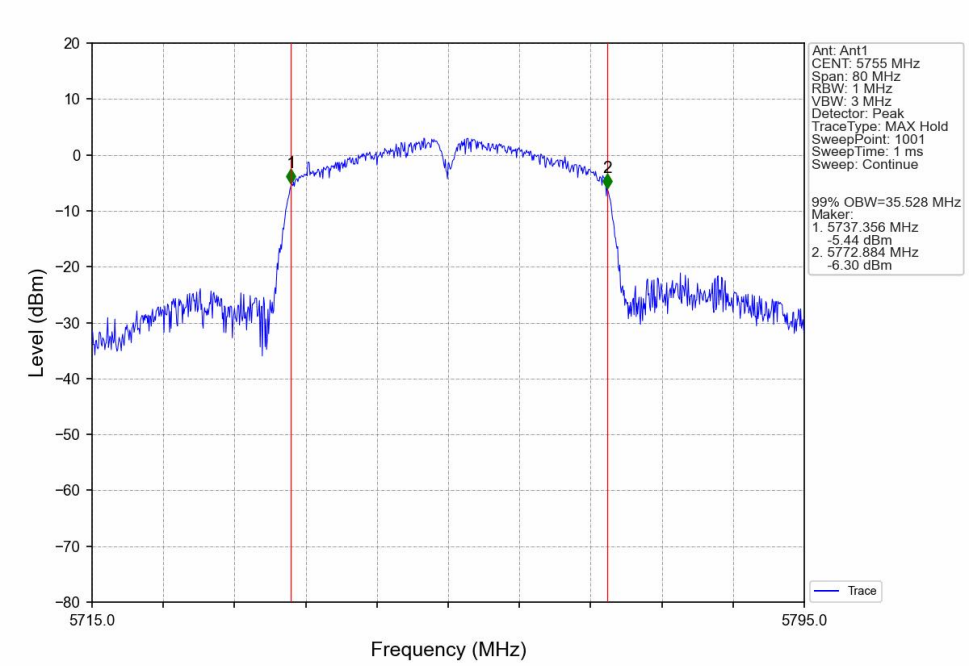
802.11n(HT20)_MCH_5785MHz_Ant1_NTNV



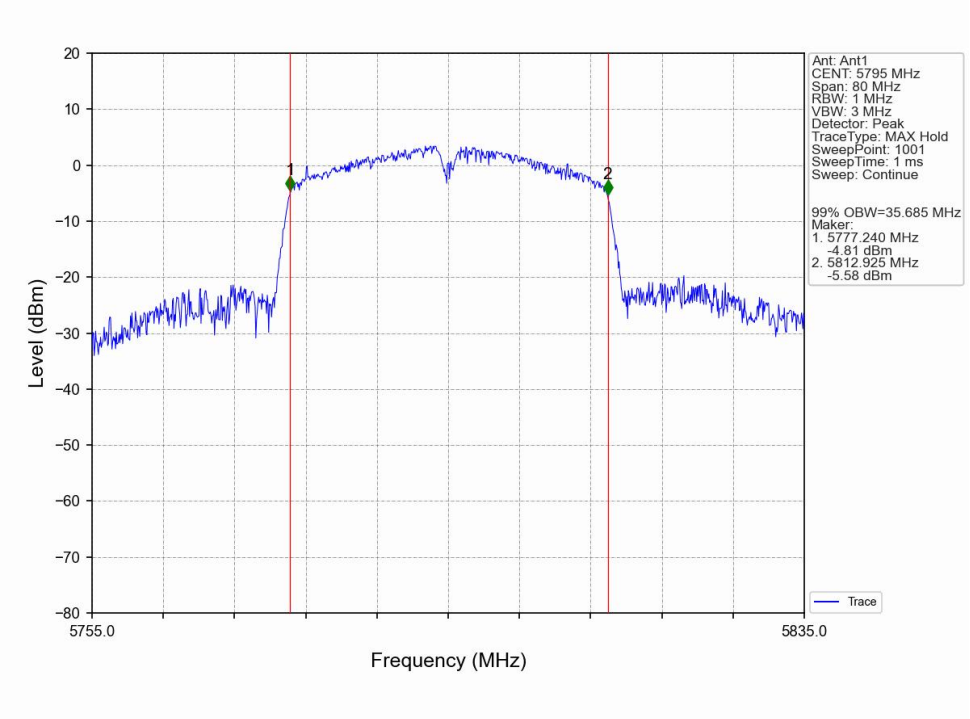

802.11n(HT20)_HCH_5825MHz_Ant1_NTNV



802.11n(HT40)_LCH_5755MHz_Ant1_NTNV

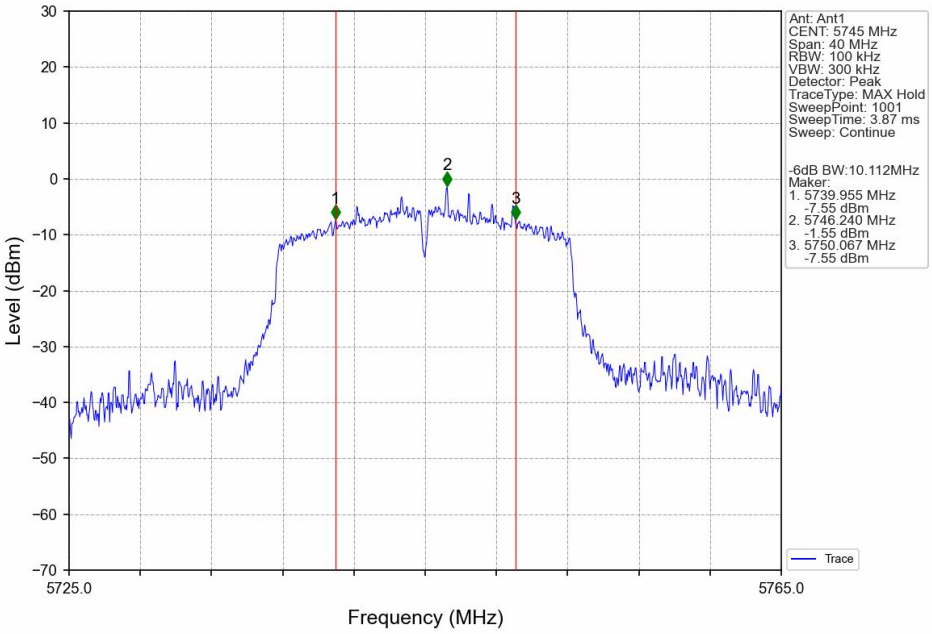



802.11n(HT40)_HCH_5795MHz_Ant1_NTNV

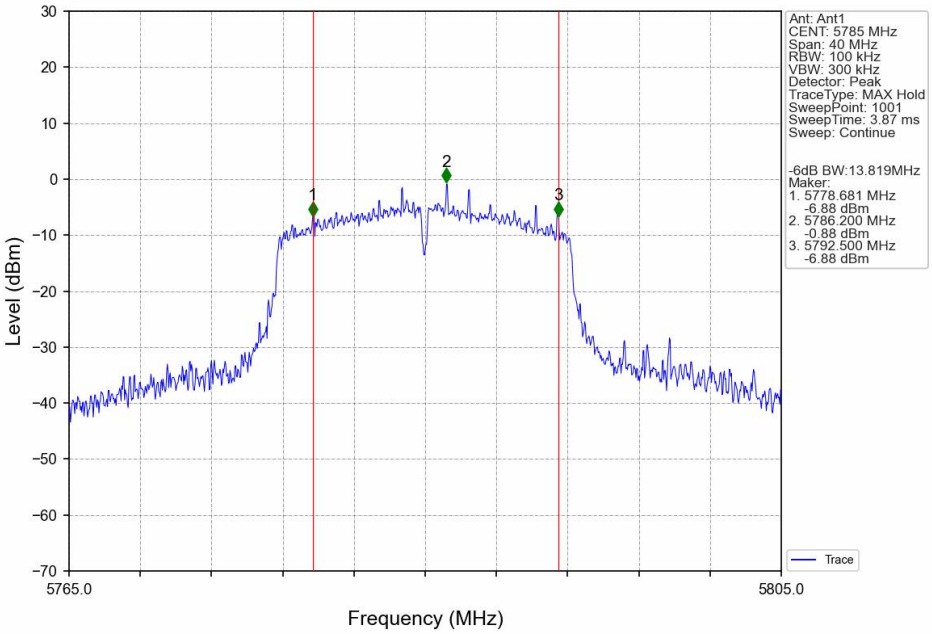


### 2.2.2 6dB BW

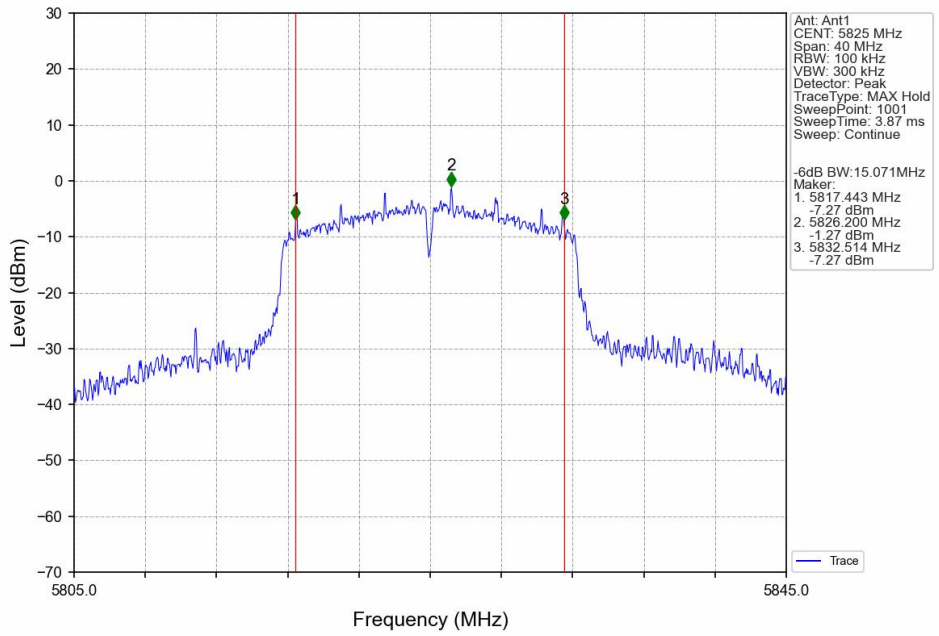
802.11a_LCH_5745MHz_Ant1_NTNV



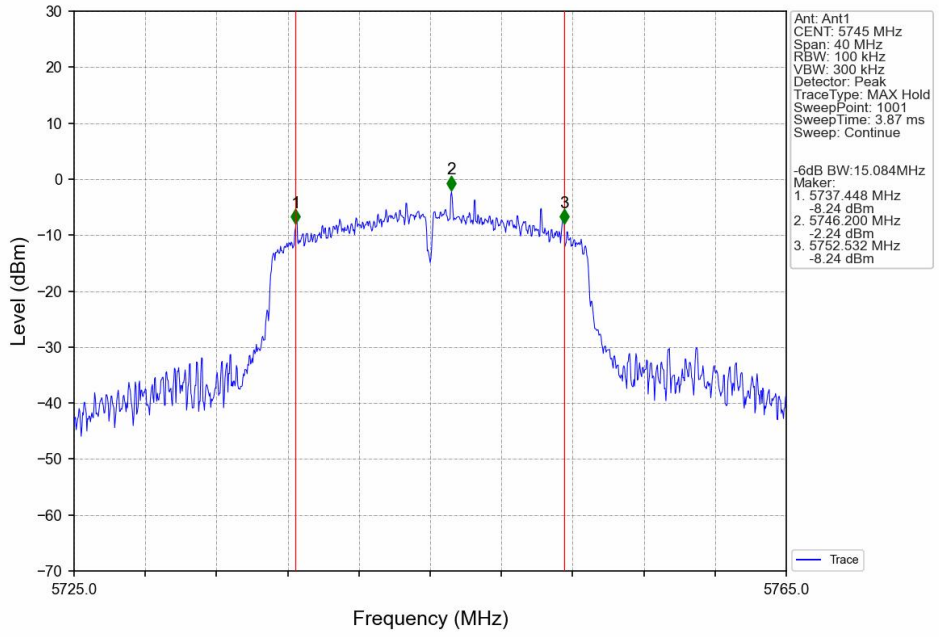

802.11a_MCH_5785MHz_Ant1_NTNV



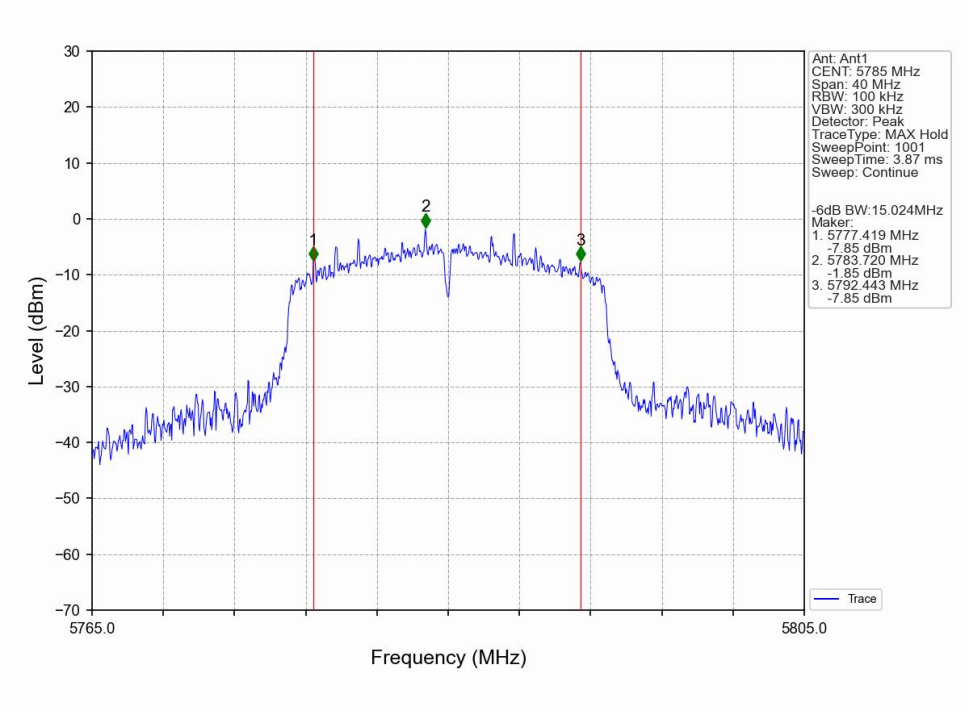
802.11a_HCH_5825MHz_Ant1_NTNV



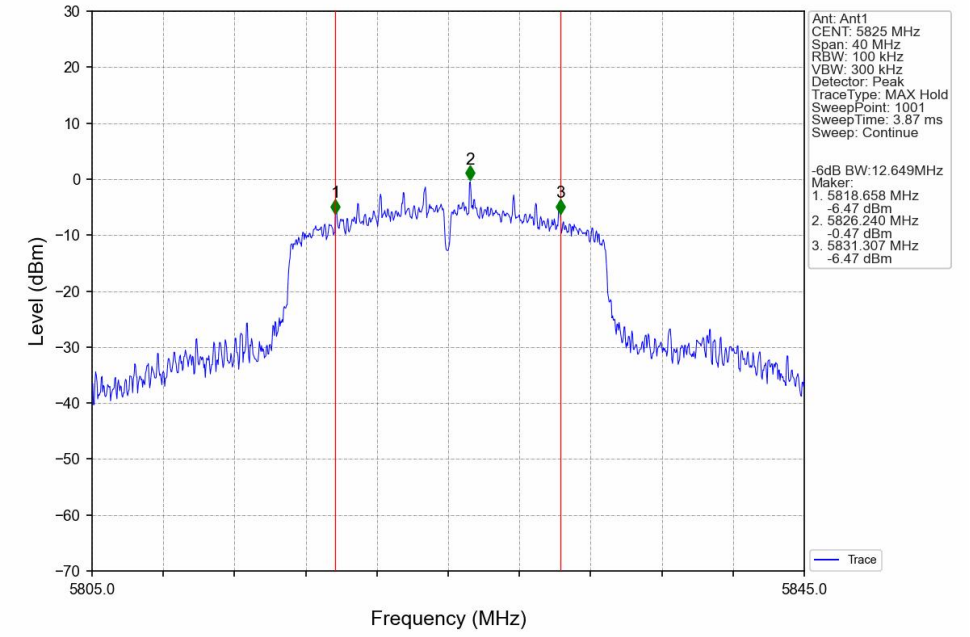

802.11n(HT20)_LCH_5745MHz_Ant1_NTNV



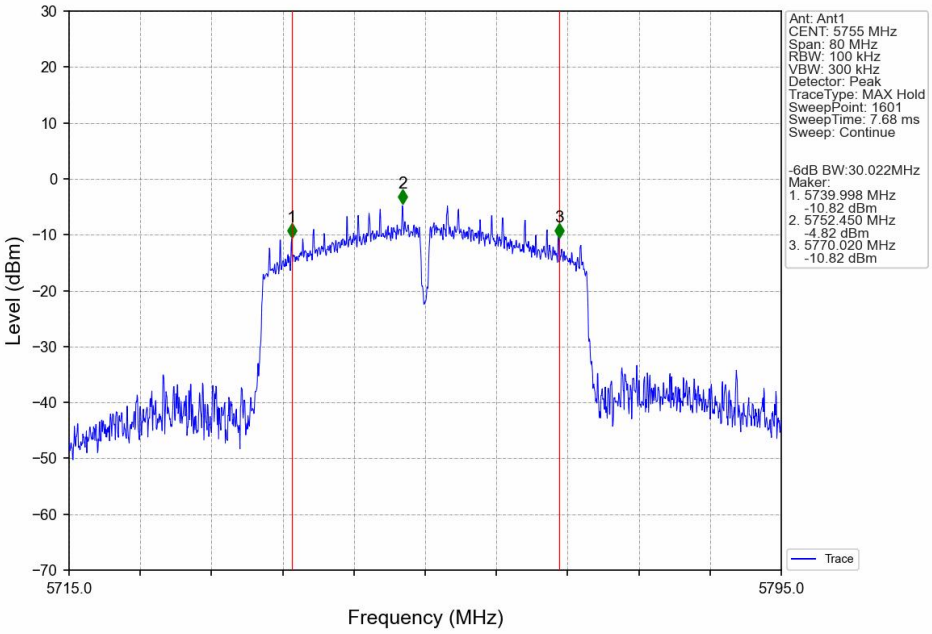
802.11n(HT20)_MCH_5785MHz_Ant1_NTNV



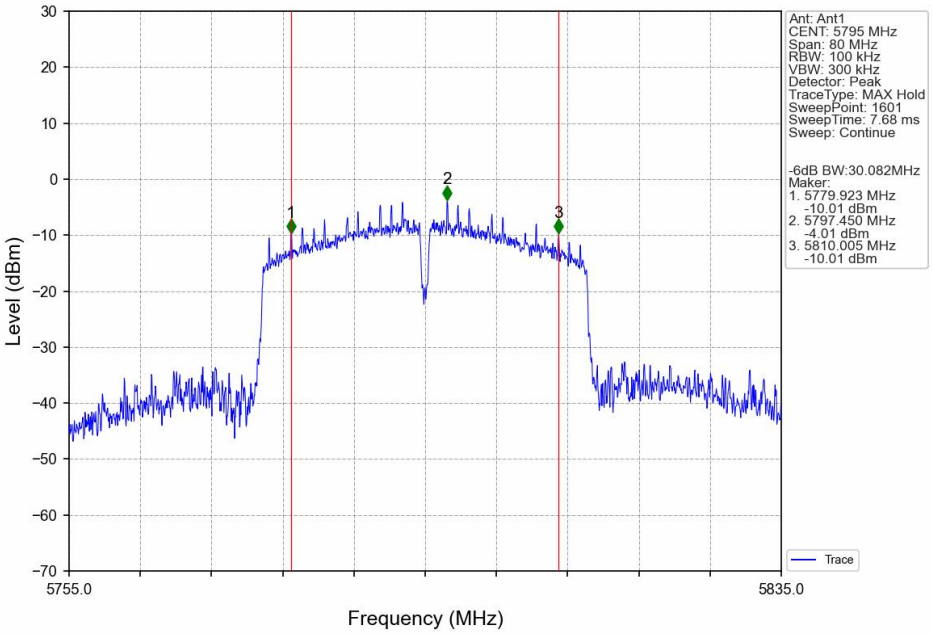

802.11n(HT20)_HCH_5825MHz_Ant1_NTNV



802.11n(HT40)_LCH_5755MHz_Ant1_NTNV




802.11n(HT40)_HCH_5795MHz_Ant1_NTNV



# 3. Maximum Conducted Output Power

## 3.1 Test Result

### 3.1.1 Power

| Mode | TX Type | Frequency (MHz) | Maximum Average Conducted Output Power (dBm) | | | Verdict |
|---|---|---|---|---|---|---|
| | | | Duty Cycle Correction Factor (dB) | ANT1 | Limit | |
| 802.11a | SISO | 5745 | 0.65 | 7.83 | <=30 | Pass |
| | | 5785 | 0.76 | 8.47 | <=30 | Pass |
| | | 5825 | 0.46 | 8.65 | <=30 | Pass |
| 802.11n (HT20) | SISO | 5745 | 0.77 | 7.56 | <=30 | Pass |
| | | 5785 | 0.98 | 8.26 | <=30 | Pass |
| | | 5825 | 0.49 | 8.52 | <=30 | Pass |
| 802.11n (HT40) | SISO | 5755 | 0.91 | 7.65 | <=30 | Pass |
| | | 5795 | 0.95 | 8.29 | <=30 | Pass |
| Note1: Antenna Gain: Ant1: 3.60dBi;<br>Note2: RF Cable loss=0.5dB<br>Note3: The test results include RF Cable loss and DC factor<br>Note4:Maximum Average Conducted Output Power=DCCF+Maker; | | | | | | |

# 4. Maximum Power Spectral Density

## 4.1 Test Result

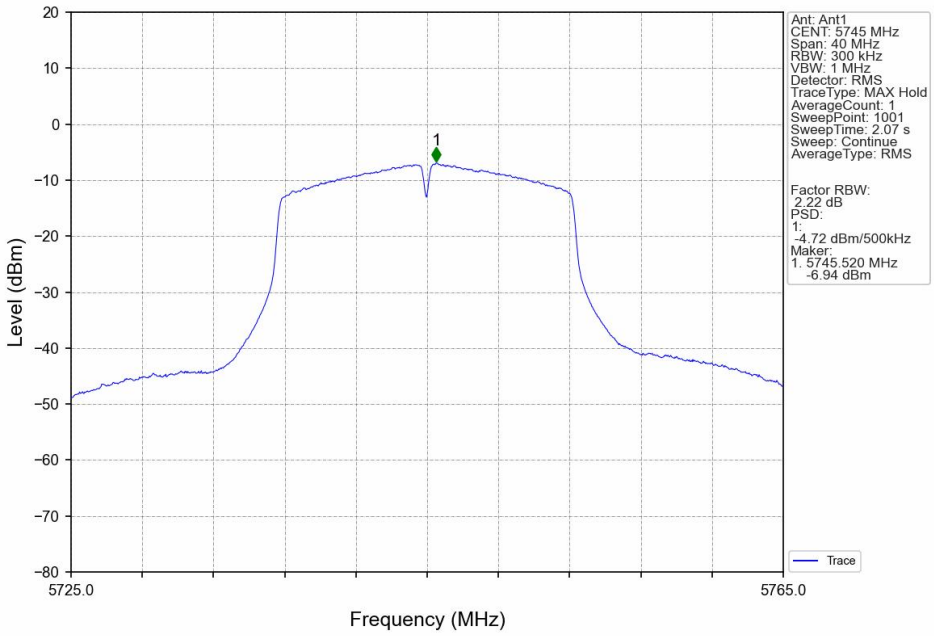
### 4.1.1 PSD-Band3

| Mode | TX Type | Frequency (MHz) | Maximum PSD (dBm/500kHz) | | Verdict |
|---|---|---|---|---|---|
| | | | ANT1 | Limit | |
| 802.11a | SISO | 5745 | -4.72 | <=30 | Pass |
| | | 5785 | -4.06 | <=30 | Pass |
| | | 5825 | -4.00 | <=30 | Pass |
| 802.11n (HT20) | SISO | 5745 | -5.14 | <=30 | Pass |
| | | 5785 | -4.53 | <=30 | Pass |
| | | 5825 | -4.28 | <=30 | Pass |
| 802.11n (HT40) | SISO | 5755 | -7.96 | <=30 | Pass |
| | | 5795 | -7.37 | <=30 | Pass |
| Note1: Antenna Gain: Ant1: 3.60dBi;<br>Note2: RF Cable loss=0.5dB<br>Note3: The test results include RF Cable loss | | | | | |

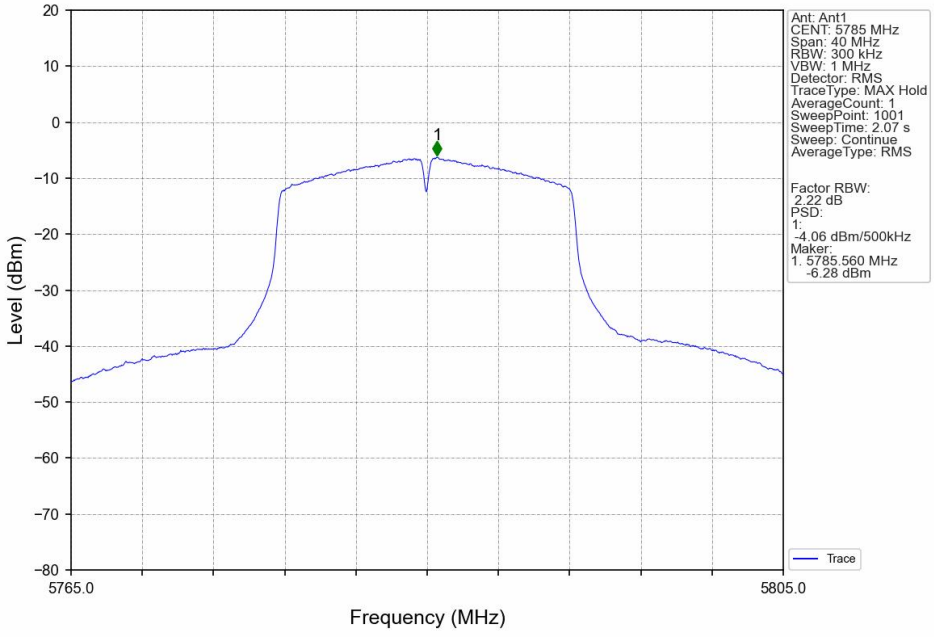
## 4.2 Test Graph

### 4.2.1 PSD-Band3

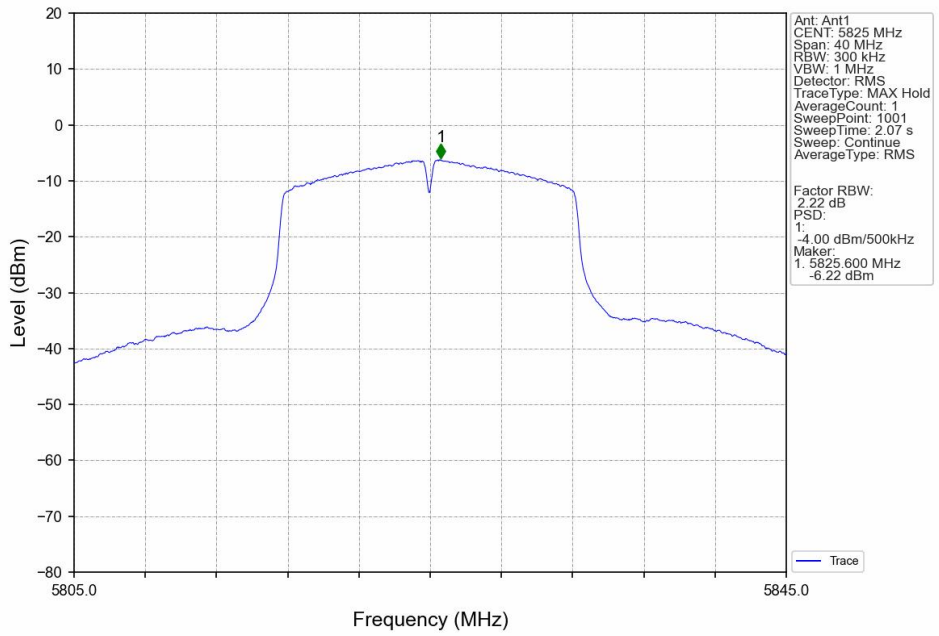
802.11a_LCH_5745MHz_Ant1_NTNV



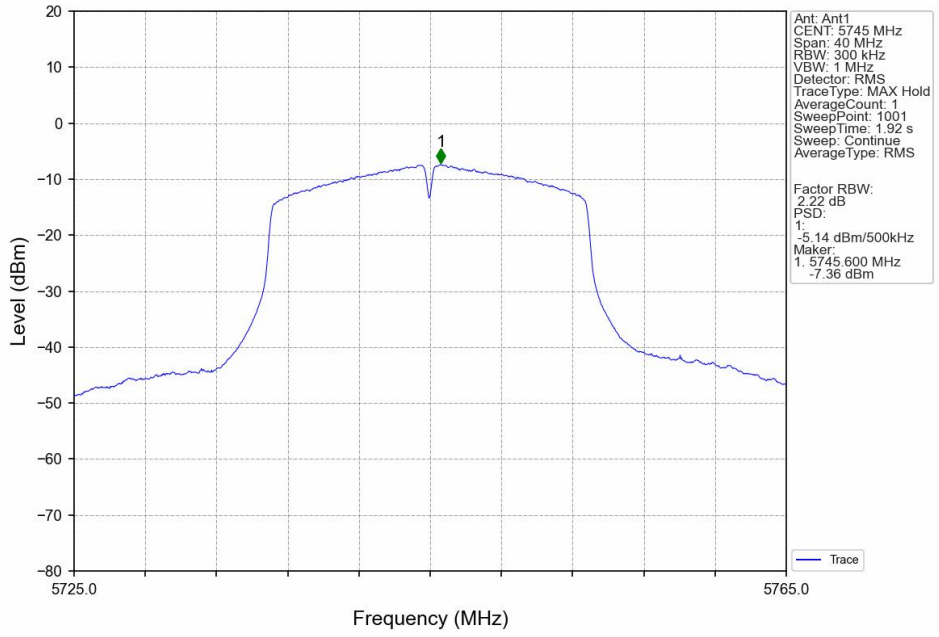

802.11a_MCH_5785MHz_Ant1_NTNV



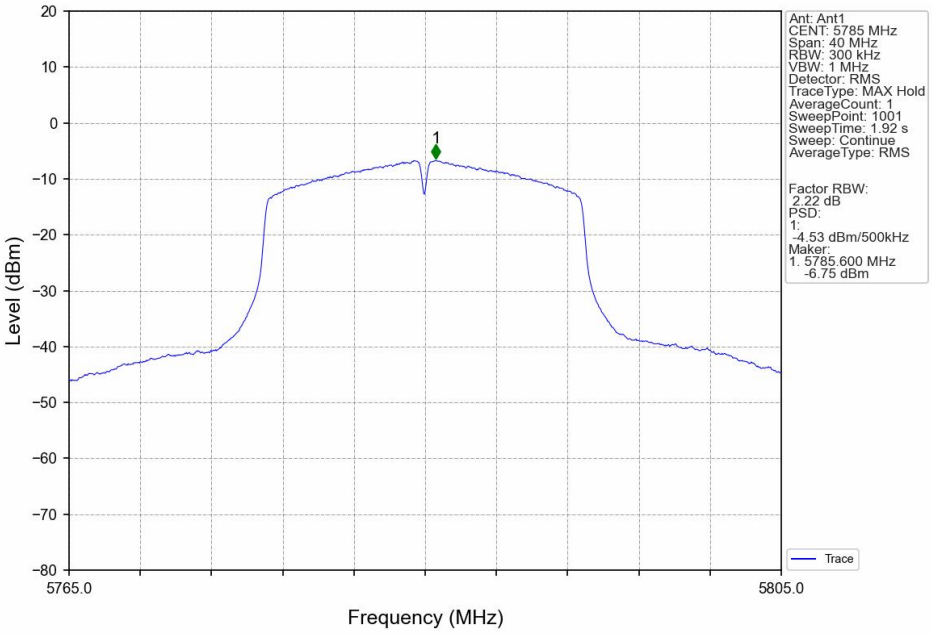
802.11a_HCH_5825MHz_Ant1_NTNV



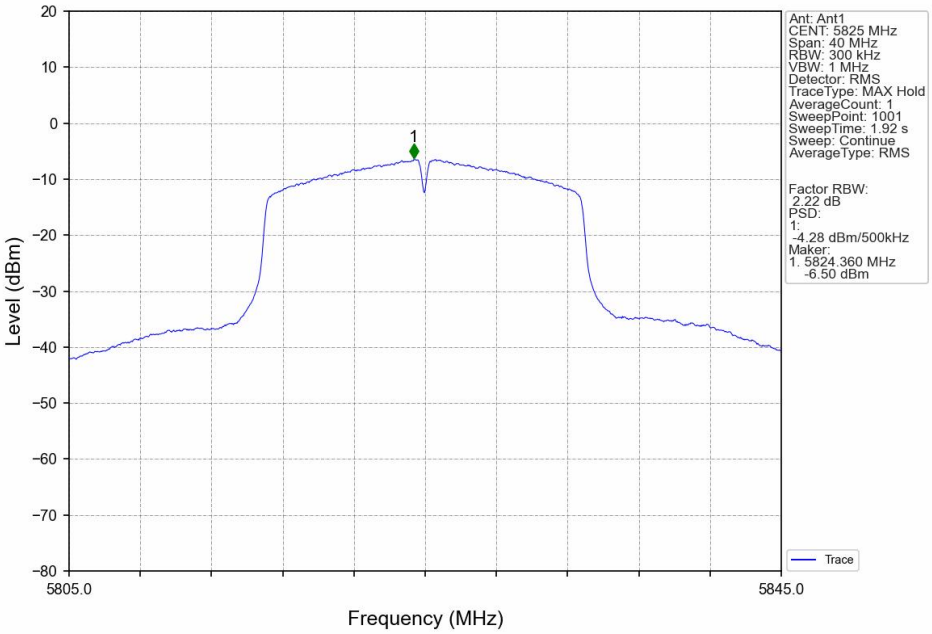

802.11n(HT20)_LCH_5745MHz_Ant1_NTNV



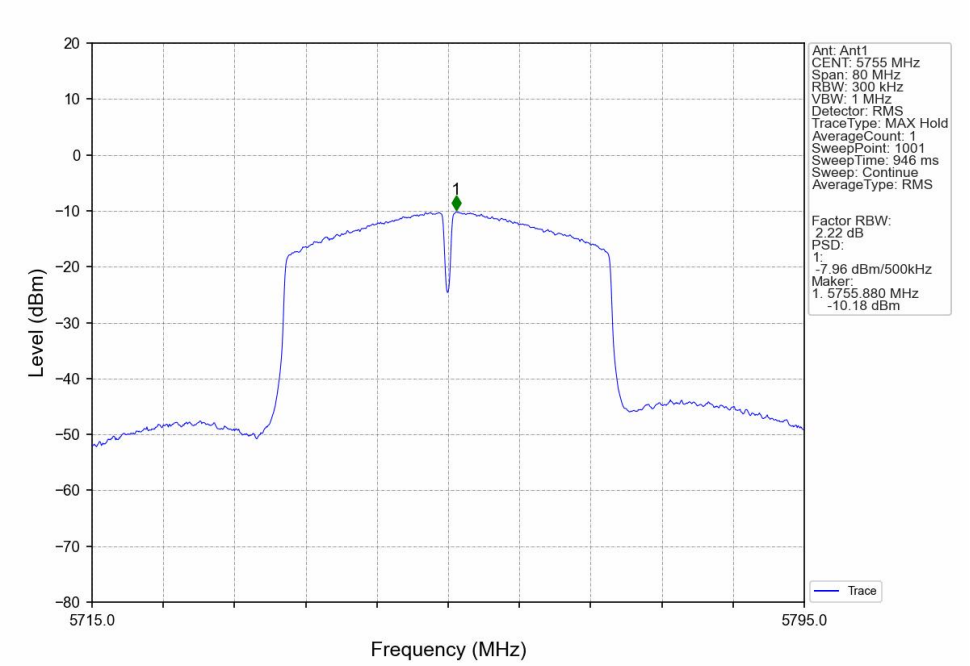
802.11n(HT20)_MCH_5785MHz_Ant1_NTNV



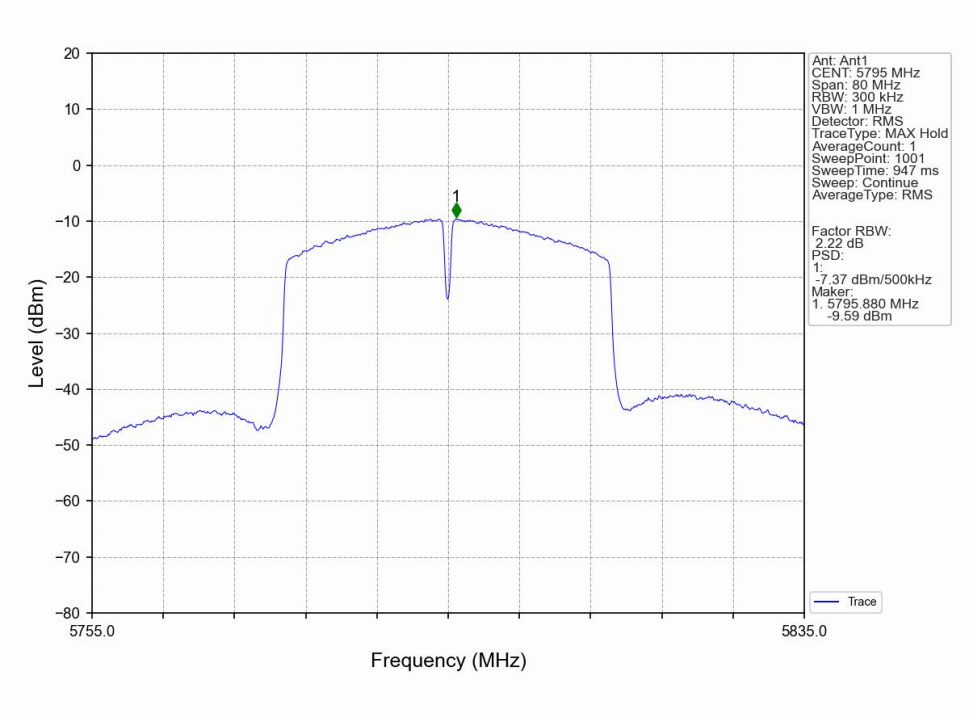

802.11n(HT20)_HCH_5825MHz_Ant1_NTNV



802.11n(HT40)_LCH_5755MHz_Ant1_NTNV




802.11n(HT40)_HCH_5795MHz_Ant1_NTNV



# 5. Frequency Stability

## 5.1 Test Result

### 5.1.1 Ant1

| Ant1 | | | | | | | |
|---|---|---|---|---|---|---|---|
| Mode | TX Type | Frequency (MHz) | Temperature (°C) | Voltage | Measured Frequency (MHz) | Limit (MHz) | Verdict |
| Carrier Wave | SISO | 5745 | 20 | LV | 5744.948 | 5725 to 5850 | Pass |
| | | | | NV | 5744.948 | 5725 to 5850 | Pass |
| | | | | HV | 5744.948 | 5725 to 5850 | Pass |
| | | | -30 | NV | 5744.948 | 5725 to 5850 | Pass |
| | | | -20 | NV | 5744.948 | 5725 to 5850 | Pass |
| | | | -10 | NV | 5744.948 | 5725 to 5850 | Pass |
| | | | 0 | NV | 5744.948 | 5725 to 5850 | Pass |
| | | | 10 | NV | 5744.948 | 5725 to 5850 | Pass |
| | | | 30 | NV | 5744.948 | 5725 to 5850 | Pass |
| | | | 40 | NV | 5744.948 | 5725 to 5850 | Pass |
| | | | 50 | NV | 5744.948 | 5725 to 5850 | Pass |
| | | 5785 | 20 | LV | 5784.947 | 5725 to 5850 | Pass |
| | | | | NV | 5784.947 | 5725 to 5850 | Pass |
| | | | | HV | 5784.947 | 5725 to 5850 | Pass |
| | | | -30 | NV | 5784.947 | 5725 to 5850 | Pass |
| | | | -20 | NV | 5784.947 | 5725 to 5850 | Pass |
| | | | -10 | NV | 5784.947 | 5725 to 5850 | Pass |
| | | | 0 | NV | 5784.947 | 5725 to 5850 | Pass |
| | | | 10 | NV | 5784.947 | 5725 to 5850 | Pass |
| | | | 30 | NV | 5784.947 | 5725 to 5850 | Pass |
| | | | 40 | NV | 5784.947 | 5725 to 5850 | Pass |
| | | | 50 | NV | 5784.947 | 5725 to 5850 | Pass |
| | | 5825 | 20 | LV | 5824.946 | 5725 to 5850 | Pass |
| | | | | NV | 5824.946 | 5725 to 5850 | Pass |
| | | | | HV | 5824.946 | 5725 to 5850 | Pass |
| | | | -30 | NV | 5824.946 | 5725 to 5850 | Pass |
| | | | -20 | NV | 5824.946 | 5725 to 5850 | Pass |
| | | | -10 | NV | 5824.946 | 5725 to 5850 | Pass |
| | | | 0 | NV | 5824.946 | 5725 to 5850 | Pass |
| | | | 10 | NV | 5824.946 | 5725 to 5850 | Pass |
| | | | 30 | NV | 5824.946 | 5725 to 5850 | Pass |
| | | | 40 | NV | 5824.946 | 5725 to 5850 | Pass |
| | | | 50 | NV | 5824.946 | 5725 to 5850 | Pass |
| | | 5755 | 20 | LV | 5754.947 | 5725 to 5850 | Pass |
| | | | | NV | 5754.947 | 5725 to 5850 | Pass |
| | | | | HV | 5754.947 | 5725 to 5850 | Pass |
| | | | -30 | NV | 5754.947 | 5725 to 5850 | Pass |
| | | | -20 | NV | 5754.947 | 5725 to 5850 | Pass |
| | | | -10 | NV | 5754.947 | 5725 to 5850 | Pass |
| | | | 0 | NV | 5754.947 | 5725 to 5850 | Pass |
| | | | 10 | NV | 5754.947 | 5725 to 5850 | Pass |
| | | | 30 | NV | 5754.947 | 5725 to 5850 | Pass |
| | | | 40 | NV | 5754.947 | 5725 to 5850 | Pass |
| | | | 50 | NV | 5754.947 | 5725 to 5850 | Pass |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 5795 | 20 | LV | 5794.946 | 5725 to 5850 | Pass |
| | | | | NV | 5794.946 | 5725 to 5850 | Pass |
| | | | | HV | 5794.946 | 5725 to 5850 | Pass |
| | | | -30 | NV | 5794.946 | 5725 to 5850 | Pass |
| | | | -20 | NV | 5794.946 | 5725 to 5850 | Pass |
| | | | -10 | NV | 5794.946 | 5725 to 5850 | Pass |
| | | | 0 | NV | 5794.946 | 5725 to 5850 | Pass |
| | | | 10 | NV | 5794.946 | 5725 to 5850 | Pass |
| | | | 30 | NV | 5794.946 | 5725 to 5850 | Pass |
| | | | 40 | NV | 5794.946 | 5725 to 5850 | Pass |
| | | | 50 | NV | 5794.946 | 5725 to 5850 | Pass |