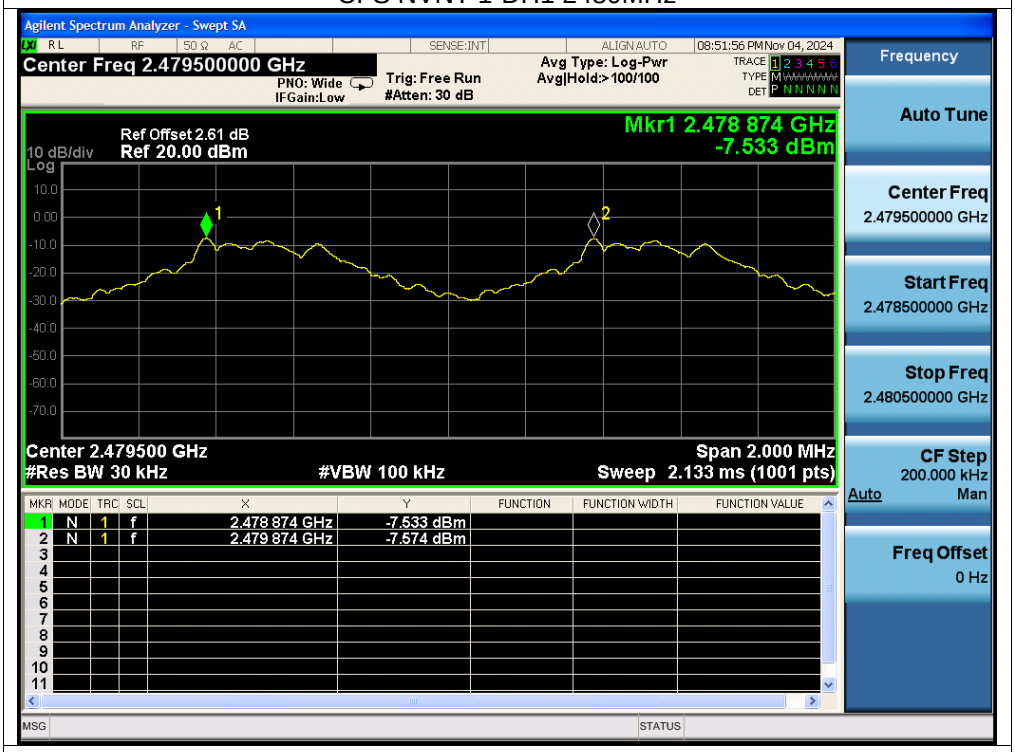
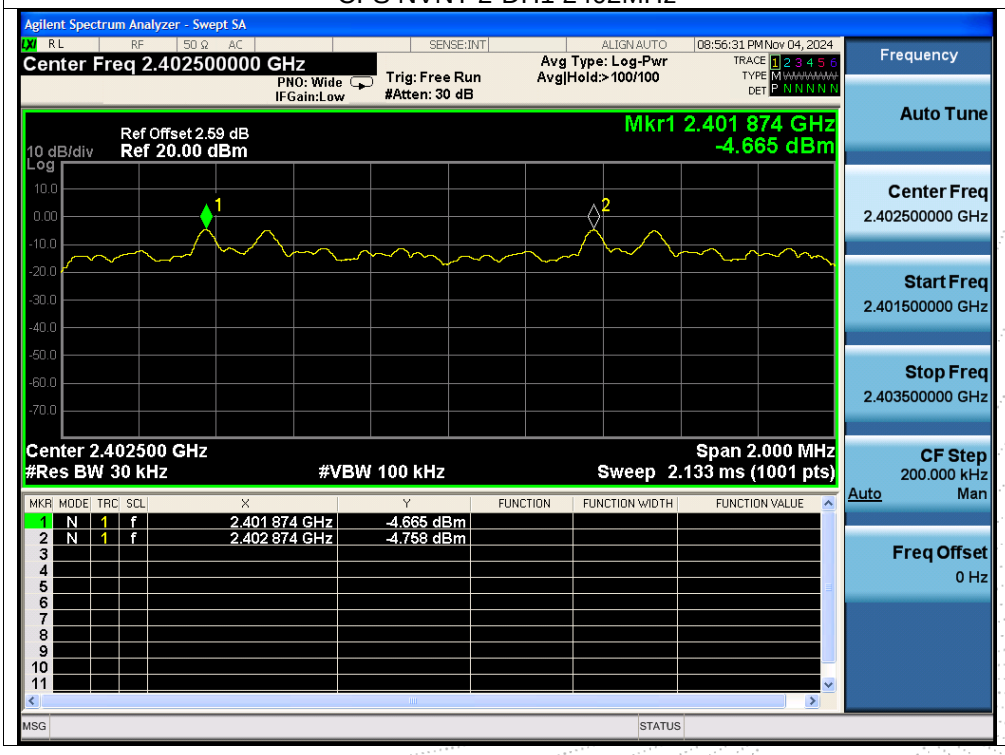
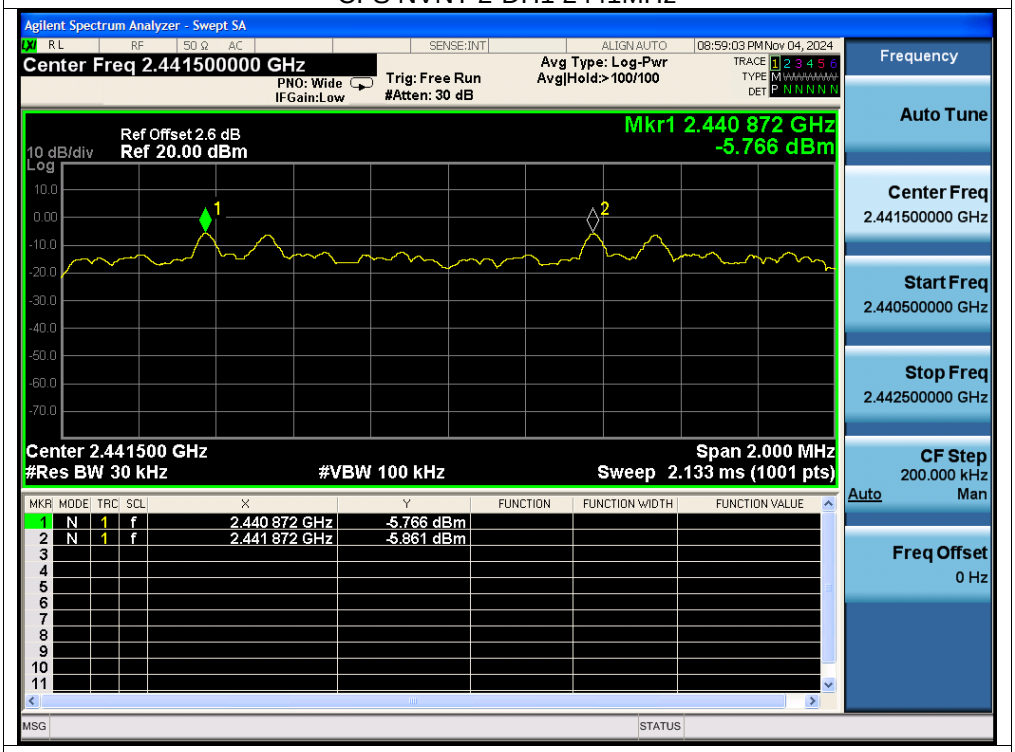
CFS NVNT 1-DH1 2480MHz



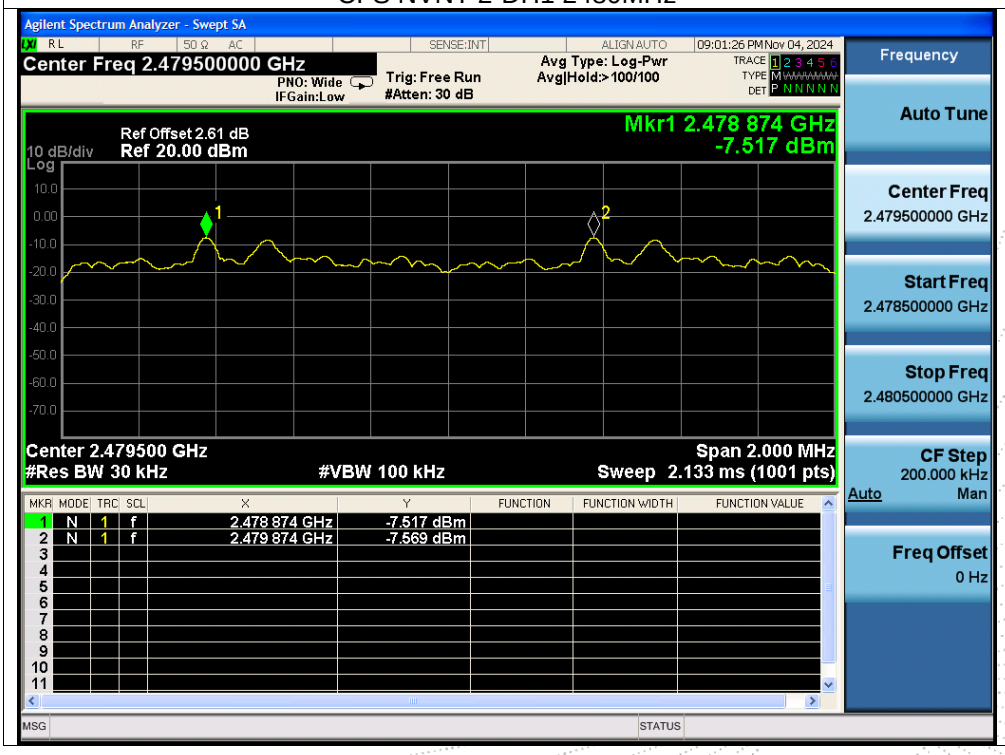

CFS NVNT 2-DH1 2402MHz



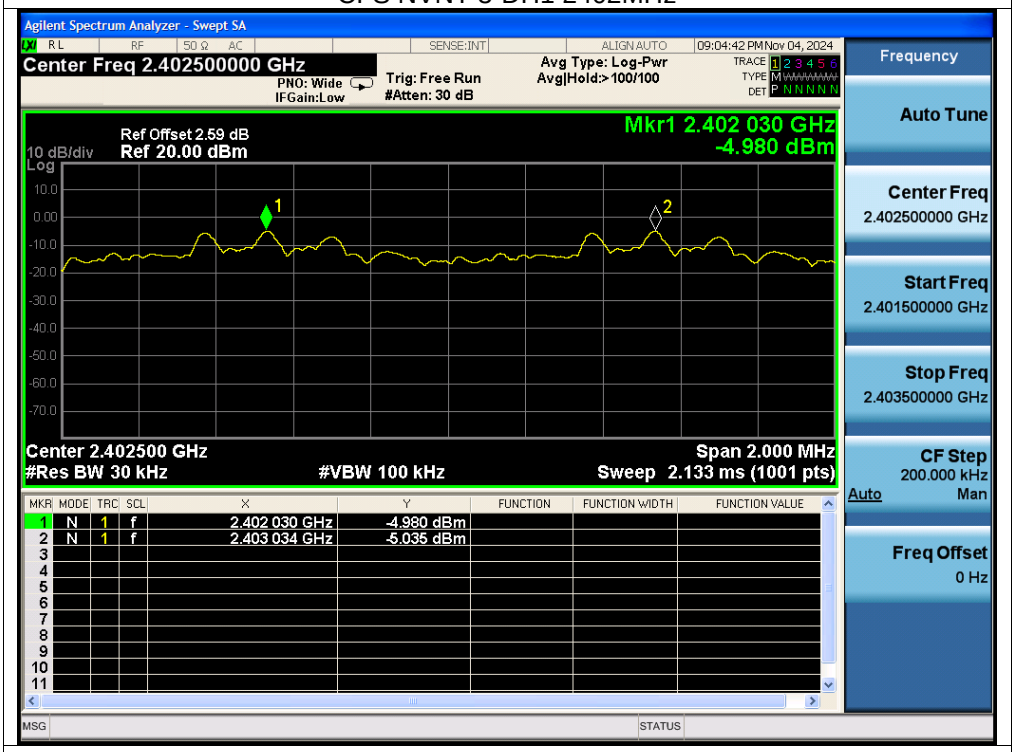
CFS NVNT 2-DH1 2441MHz



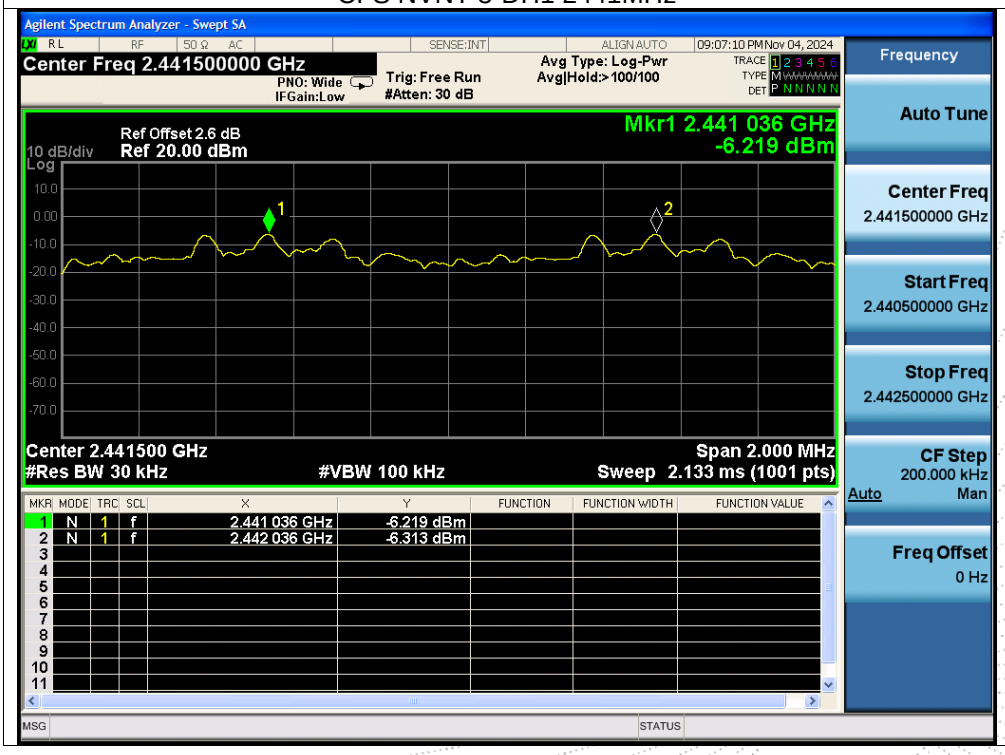

CFS NVNT 2-DH1 2480MHz



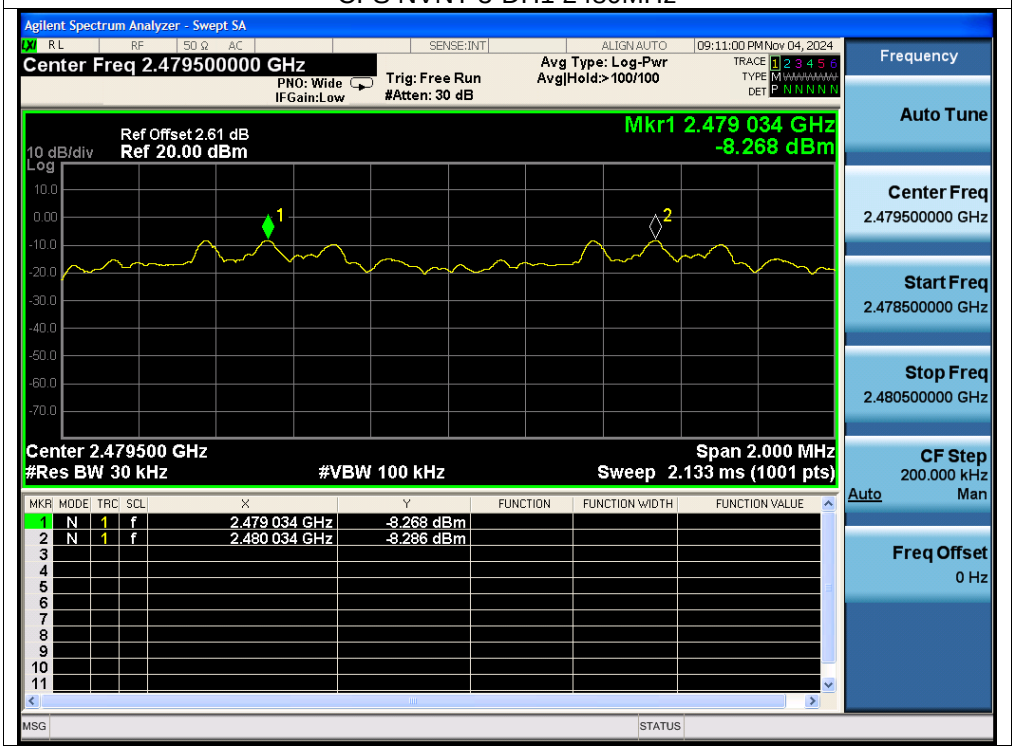
CFS NVNT 3-DH1 2402MHz




CFS NVNT 3-DH1 2441MHz

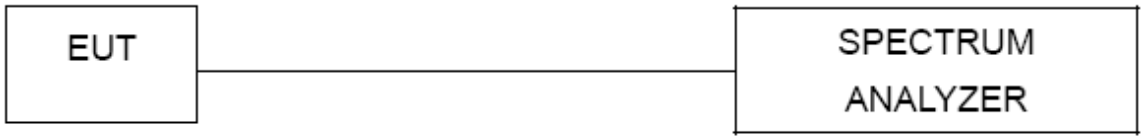


CFS NVNT 3-DH1 2480MHz



# 13. Number Of Hopping Frequency

## 13.1 Block Diagram Of Test Setup




## 13.2 Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

## 13.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW = 100kHz. VBW = 300kHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.
3. Allow the trace to stabilize. It may prove necessary to break the span up to sections. in order to clearly show all of the hopping frequencies. The limit is specified in one of the subparagraphs of this Section.
4. Set the spectrum analyzer: Start Frequency = 2.4GHz, Stop Frequency = 2.4835GHz. Sweep=auto;

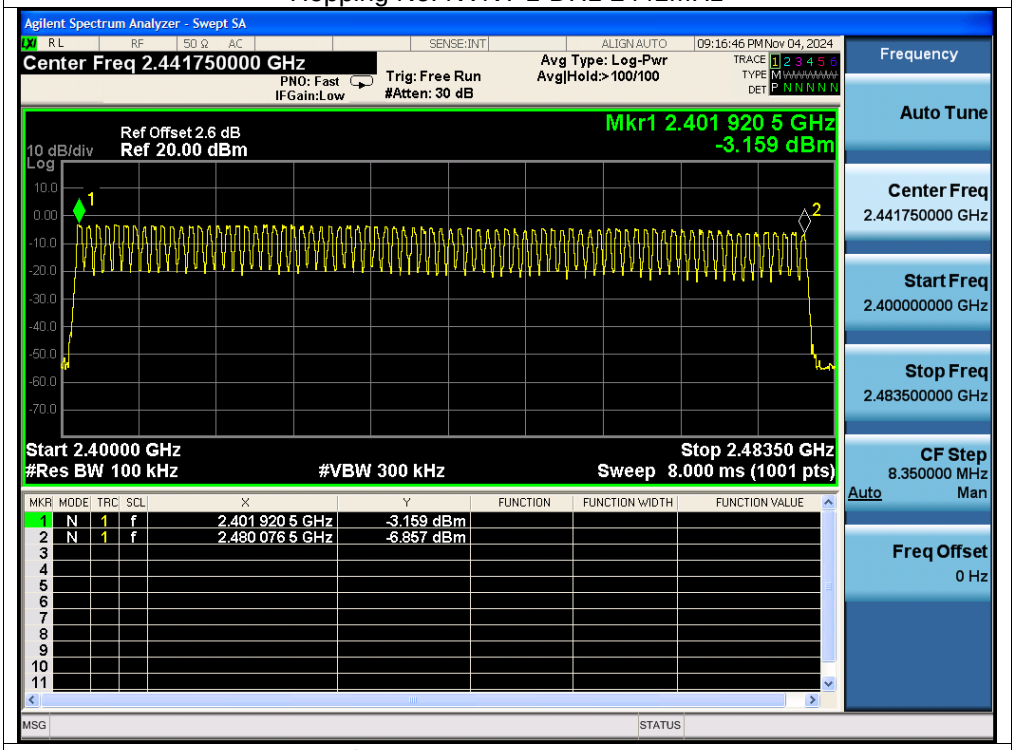
## 13.4 Test Result

| | | | |
|---|---|---|---|
| Temperature: | 26℃ | Relative Humidity: | 54% |
| Test Voltage: | DC 3.8V | Remark: | N/A |

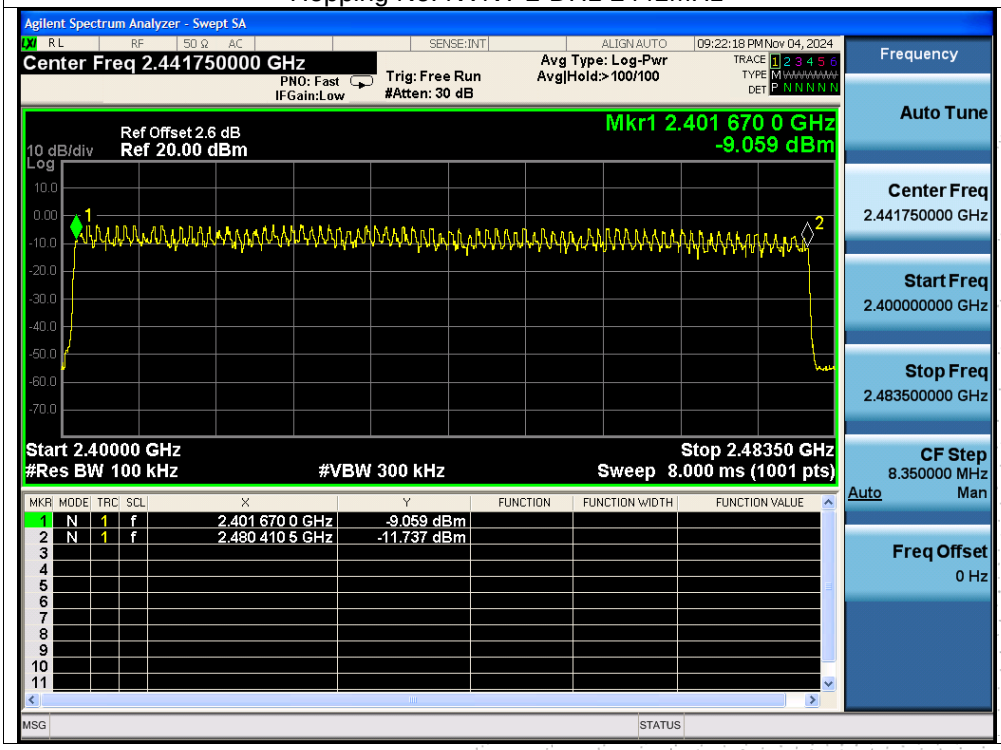
| Condition | Mode | Hopping Number | Limit | Verdict |
|---|---|---|---|---|
| NVNT | 1-DH1 | 79 | 15 | Pass |
| NVNT | 2-DH1 | 79 | 15 | Pass |
| NVNT | 3-DH1 | 79 | 15 | Pass |

Test Graphs

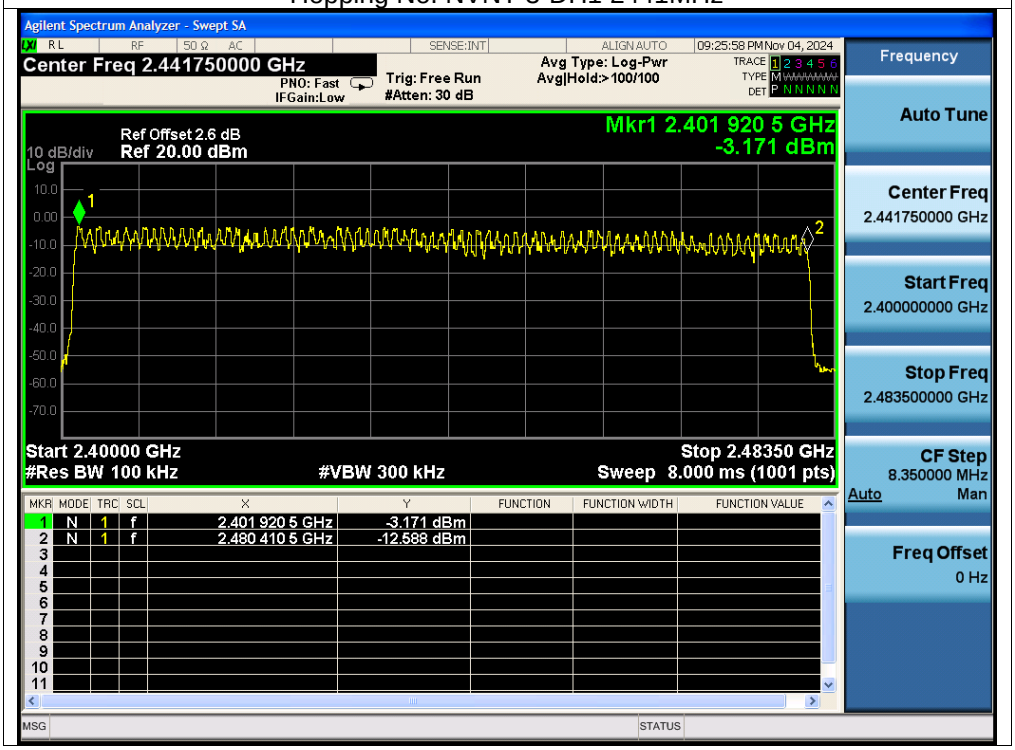
Hopping No. NVNT 1-DH1 2441MHz




Hopping No. NVNT 2-DH1 2441MHz

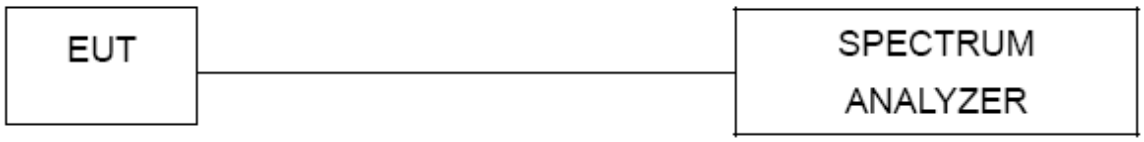


Hopping No. NVNT 3-DH1 2441MHz



# 14. Dwell Time

## 14.1 Block Diagram Of Test Setup




## 14.2 Limit

Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

## 14.3 Test procedure

1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set spectrum analyzer span = 0. Centred on a hopping channel;
3. Set RBW = 1MHz and VBW = 3MHz.Sweep = as necessary to capture the entire dwell time per hopping channel. Set the EUT for DH5, DH3 and DH1 packet transmitting.
4. Use the marker-delta function to determine the dwell time. If this value varies with different modes of operation (e.g.. data rate. modulation format. etc.). repeat this test for each variation. The limit is specified in one of the subparagraphs of this Section. Submit this plot(s).

## 14.4 Test Result

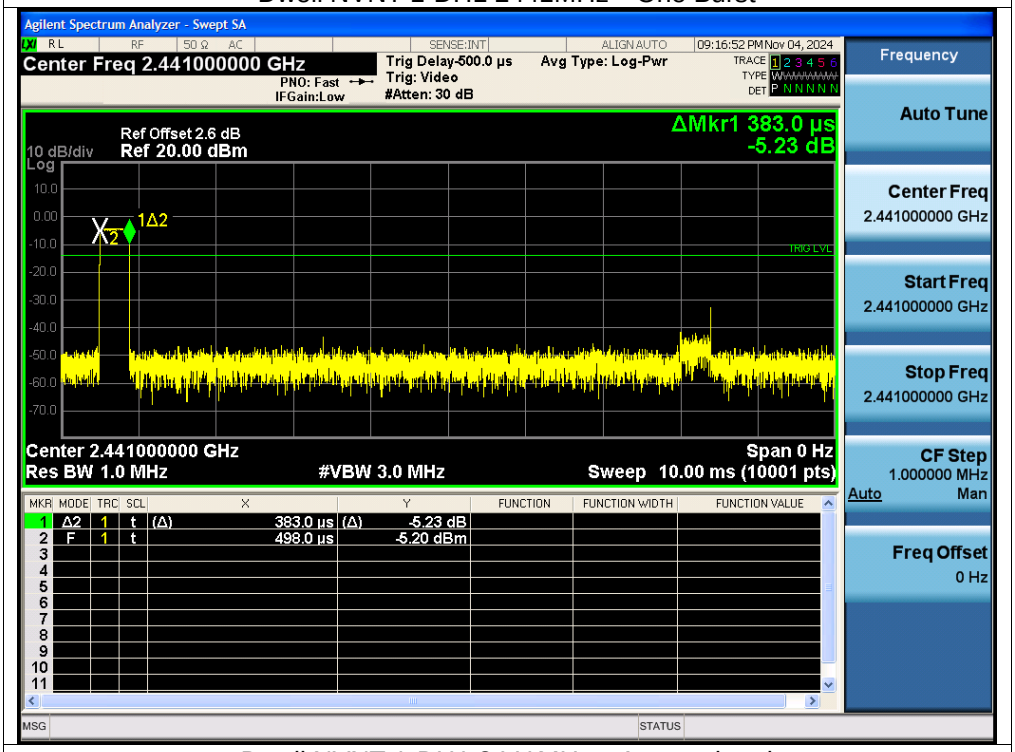
| | | | |
|---|---|---|---|
| Temperature: | 26℃ | Relative Humidity: | 54% |
| Test Voltage: | DC 3.8V | Remark: | N/A |

| Condition | Mode | Frequency (MHz) | Pulse Time (ms) | Total Dwell Time (ms) | Burst Count | Period Time (ms) | Limit (ms) | Verdict |
|---|---|---|---|---|---|---|---|---|
| NVNT | 1-DH1 | 2441 | 0.383 | 122.177 | 319 | 31600 | 400 | Pass |
| NVNT | 1-DH3 | 2441 | 1.639 | 242.572 | 148 | 31600 | 400 | Pass |
| NVNT | 1-DH5 | 2441 | 2.886 | 311.688 | 108 | 31600 | 400 | Pass |
| NVNT | 2-DH1 | 2441 | 0.392 | 123.088 | 314 | 31600 | 400 | Pass |
| NVNT | 2-DH3 | 2441 | 1.644 | 272.904 | 166 | 31600 | 400 | Pass |
| NVNT | 2-DH5 | 2441 | 2.891 | 332.465 | 115 | 31600 | 400 | Pass |
| NVNT | 3-DH1 | 2441 | 0.392 | 125.048 | 319 | 31600 | 400 | Pass |
| NVNT | 3-DH3 | 2441 | 1.643 | 246.45 | 150 | 31600 | 400 | Pass |
| NVNT | 3-DH5 | 2441 | 2.893 | 350.053 | 121 | 31600 | 400 | Pass |

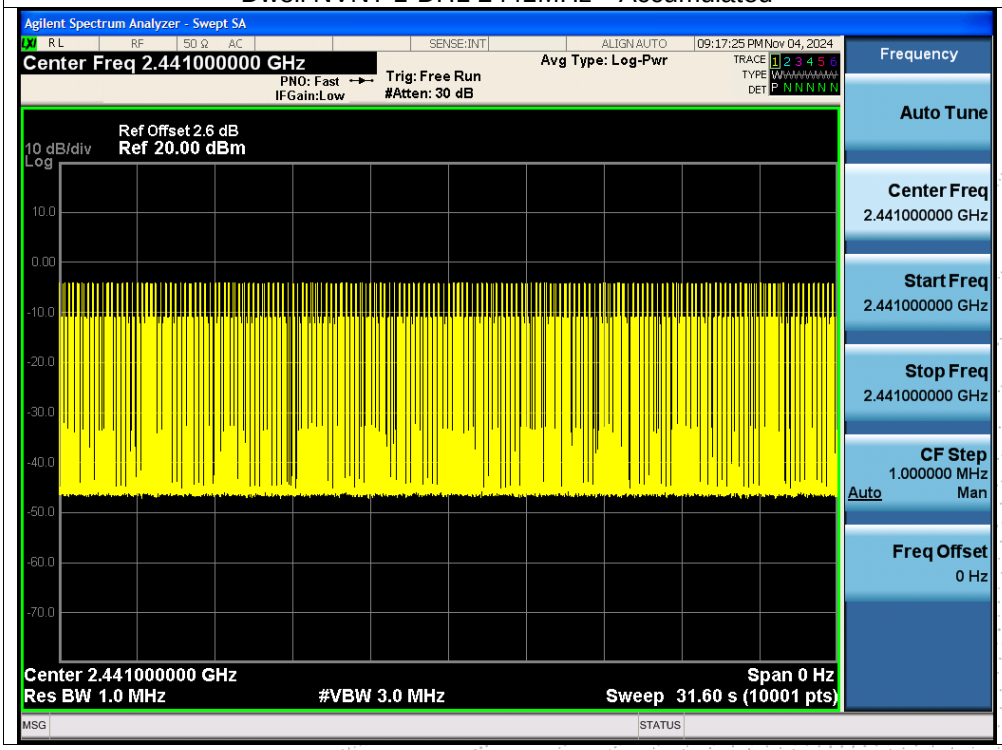
Note: Total Dwell Time (ms) = Pulse Time (ms)*Burst Count

Test Graphs

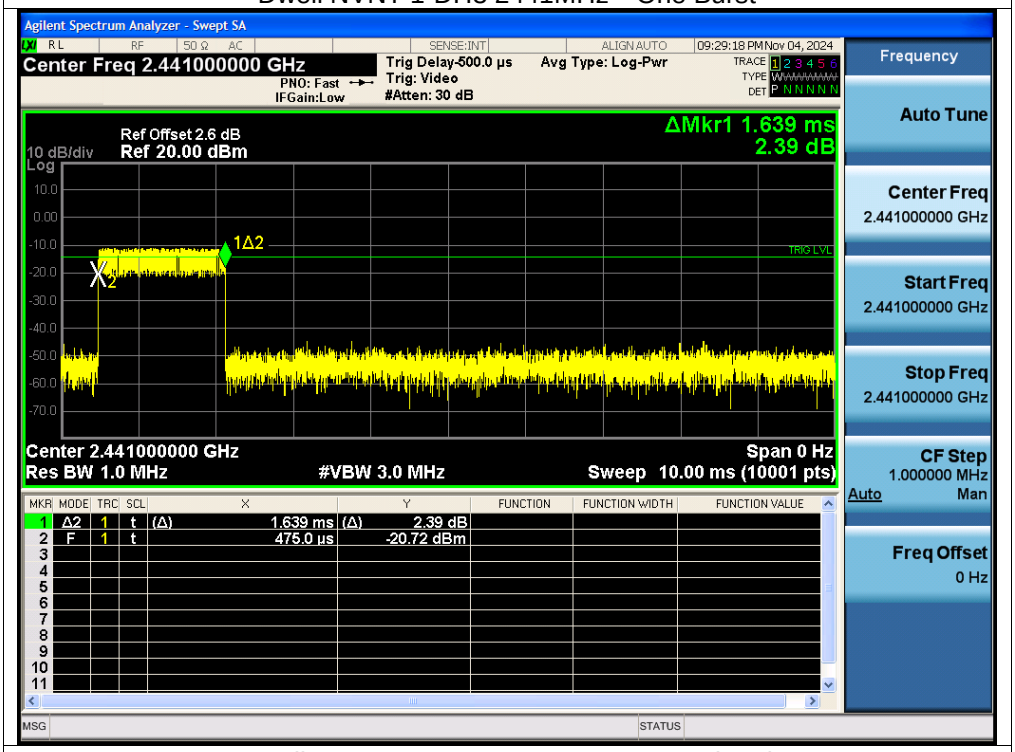
Dwell NVNT 1-DH1 2441MHz One Burst



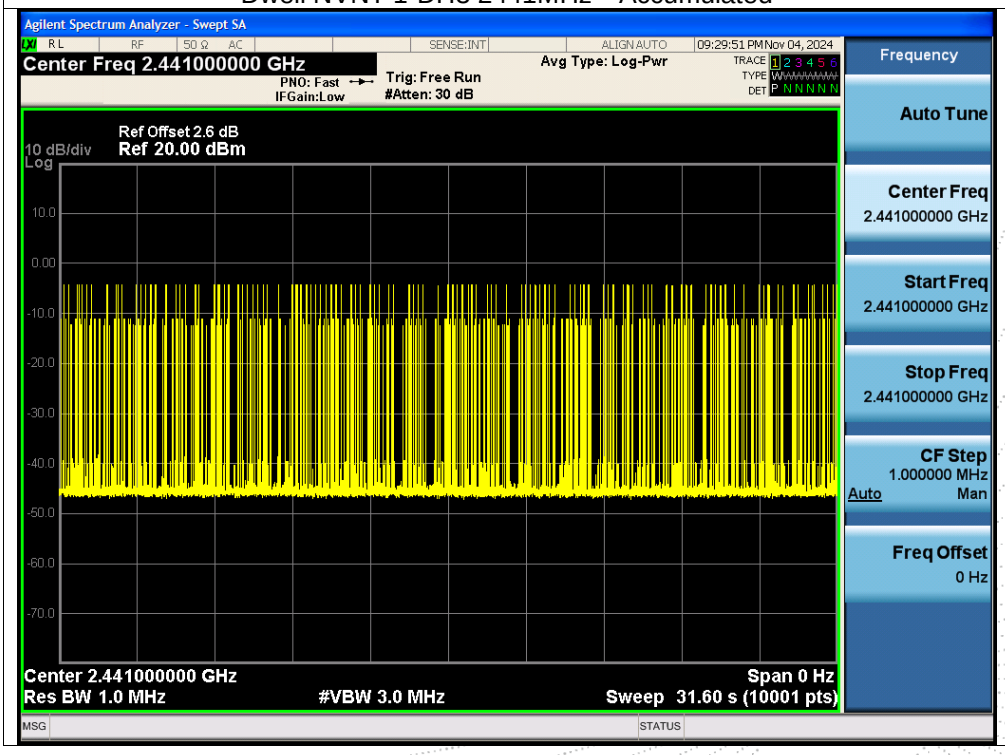

Dwell NVNT 1-DH1 2441MHz Accumulated



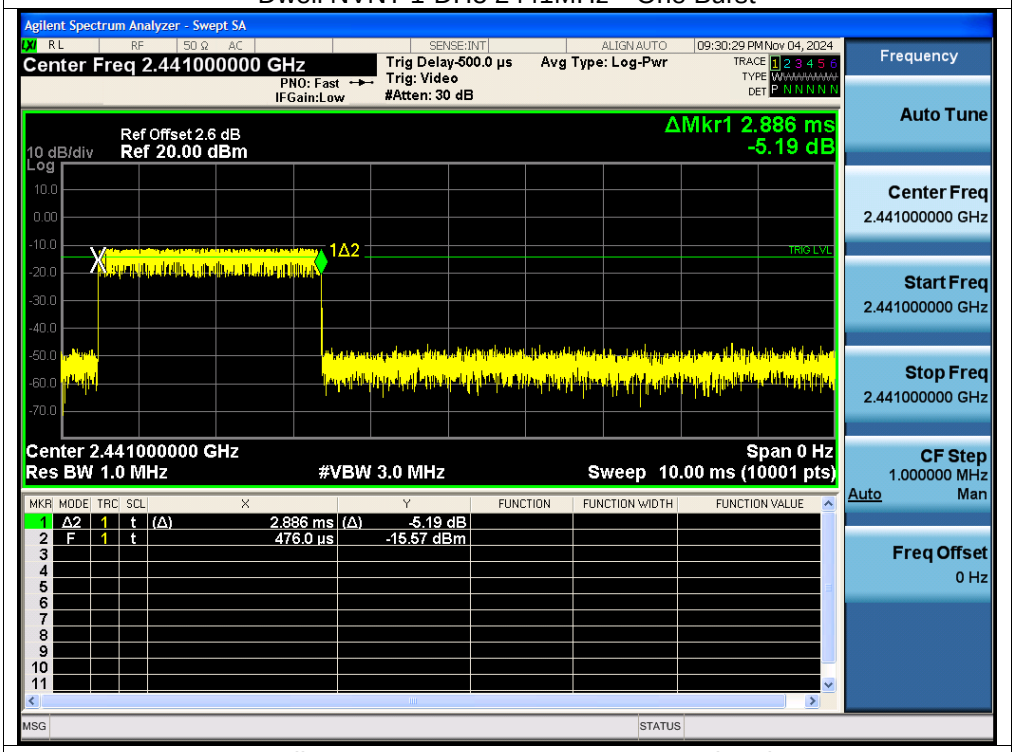
Dwell NVNT 1-DH3 2441MHz One Burst



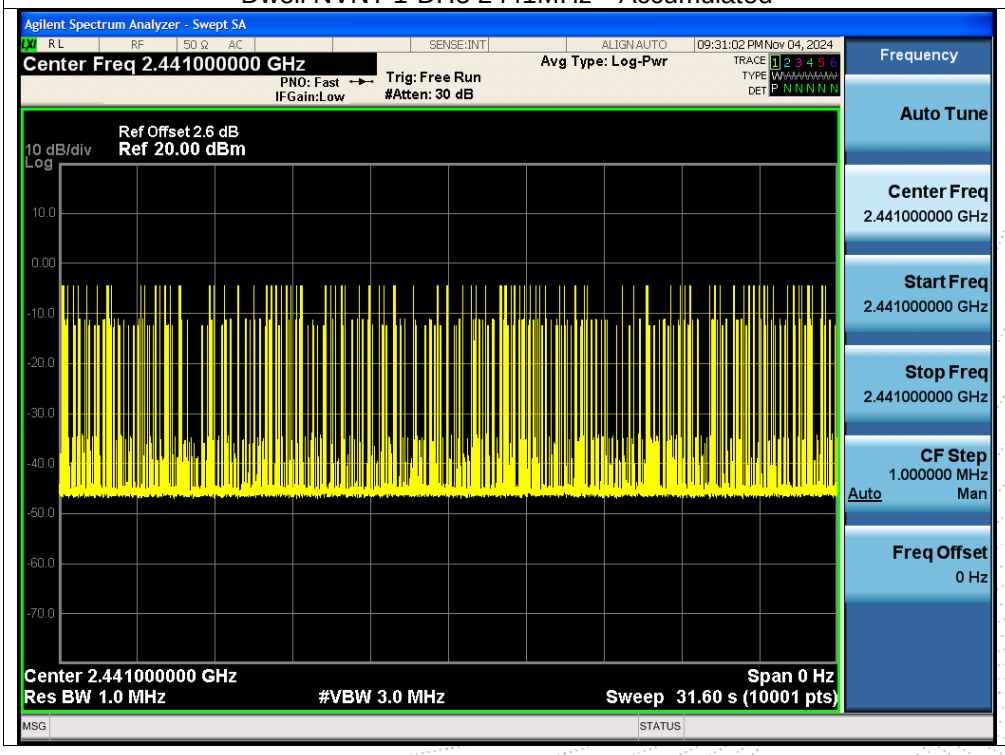

Dwell NVNT 1-DH3 2441MHz Accumulated



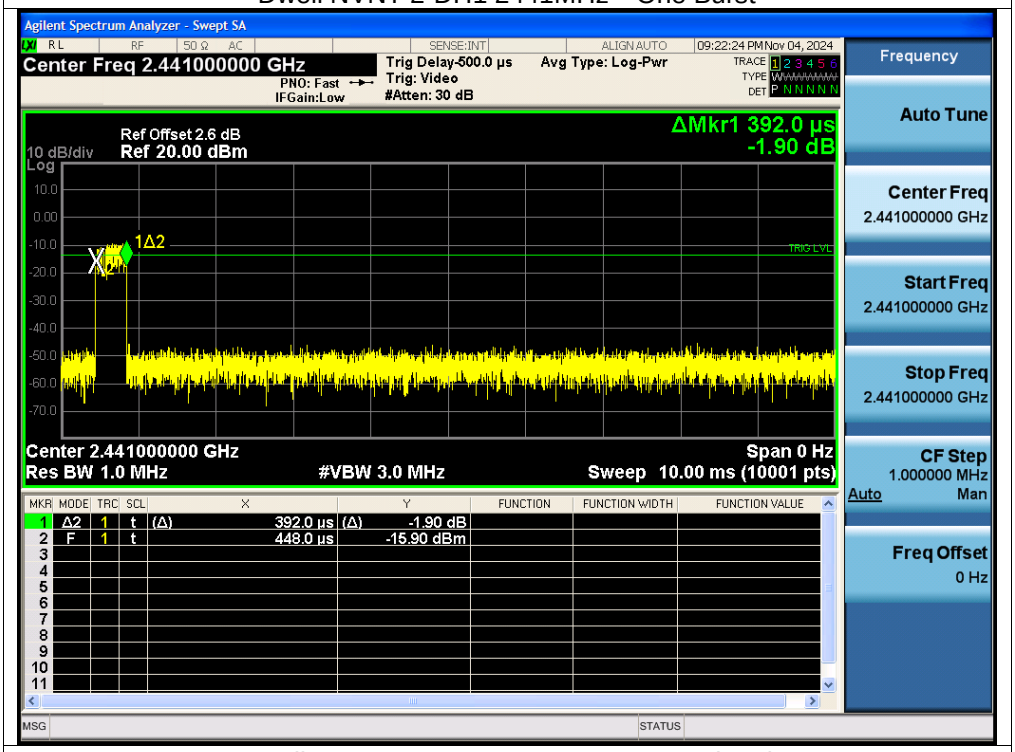
Dwell NVNT 1-DH5 2441MHz One Burst



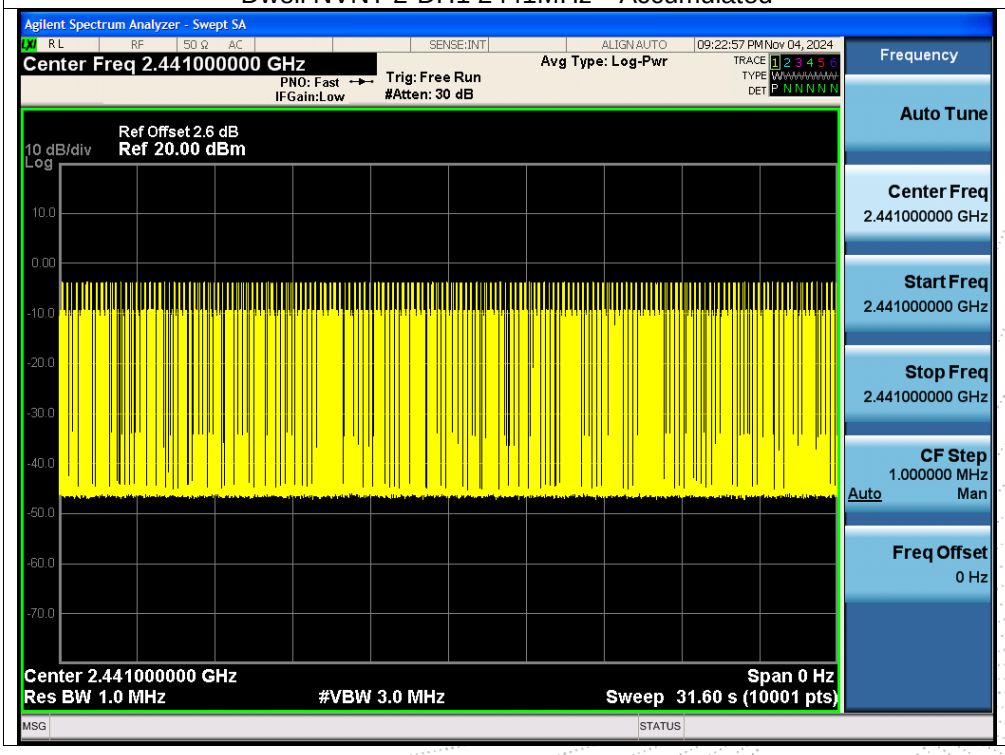

Dwell NVNT 1-DH5 2441MHz Accumulated



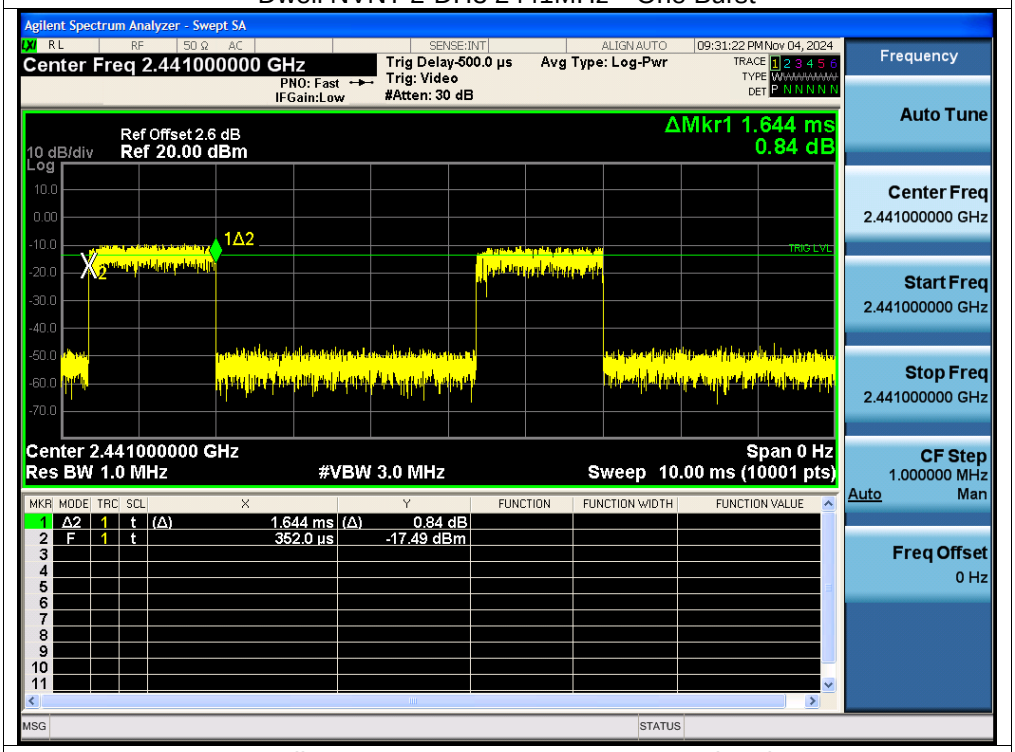
Dwell NVNT 2-DH1 2441MHz One Burst



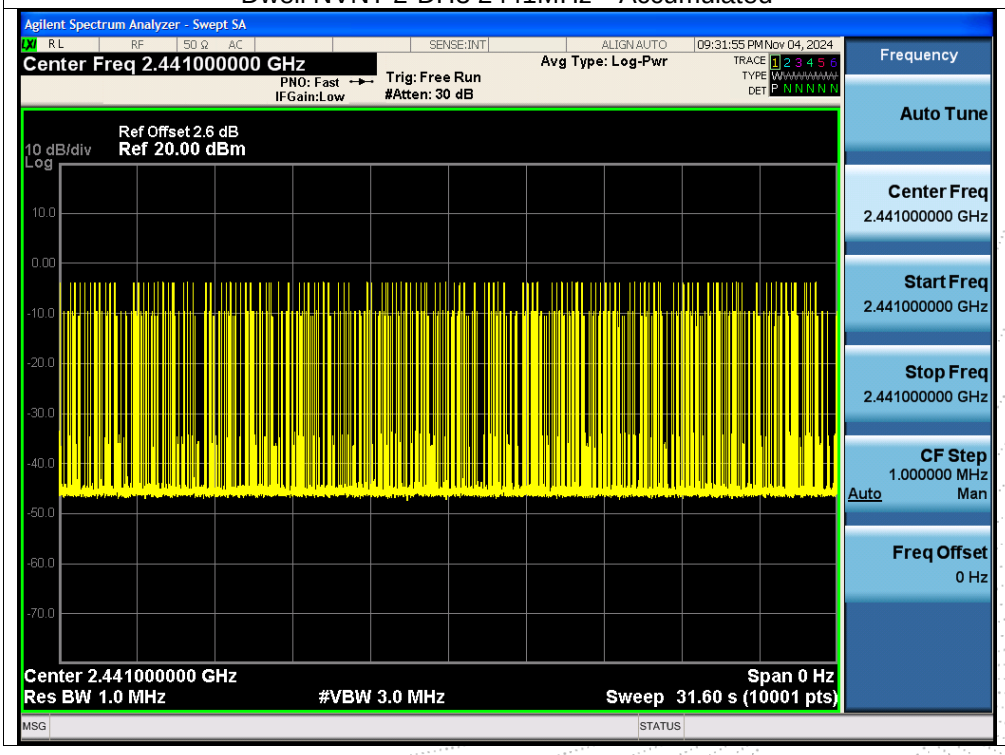

Dwell NVNT 2-DH1 2441MHz Accumulated



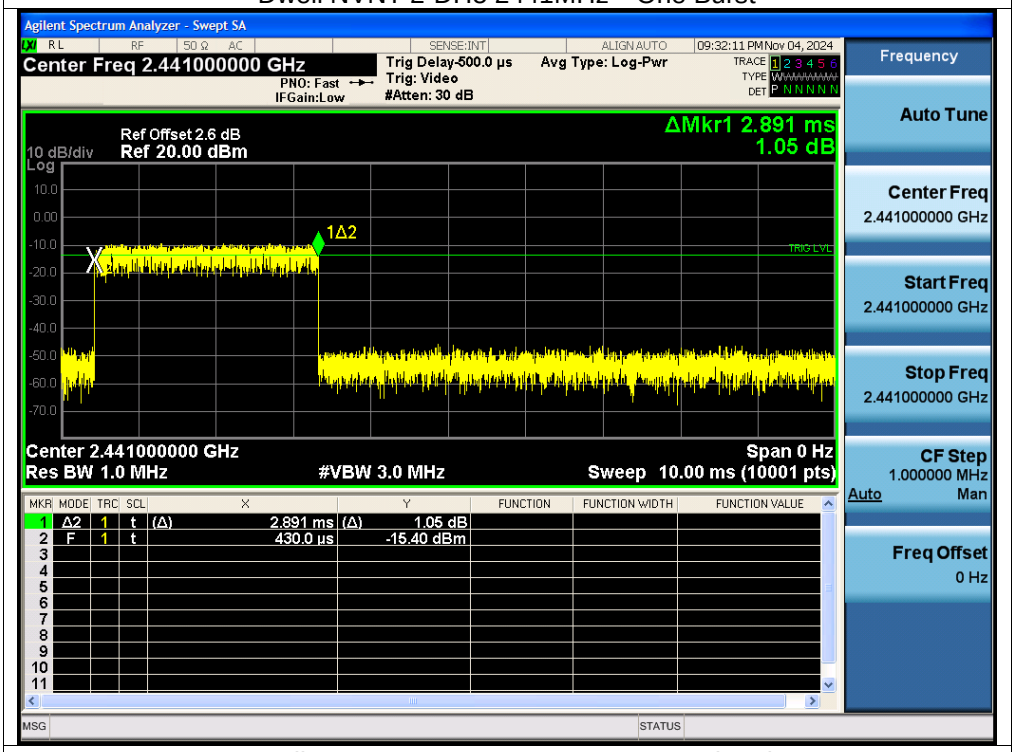
Dwell NVNT 2-DH3 2441MHz One Burst



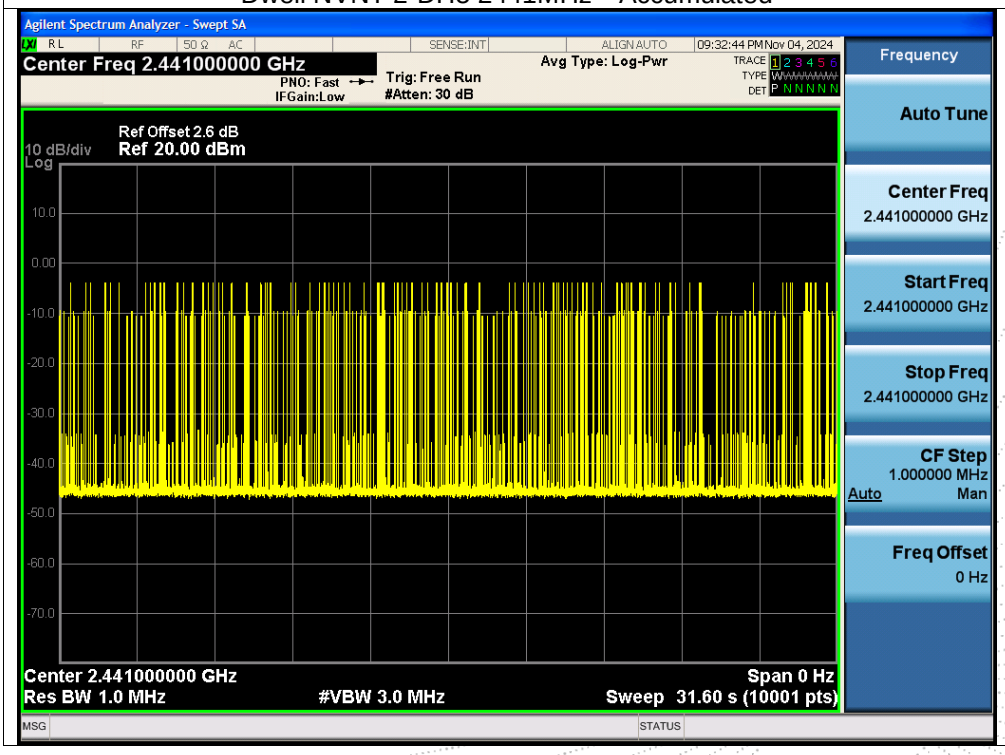

Dwell NVNT 2-DH3 2441MHz Accumulated



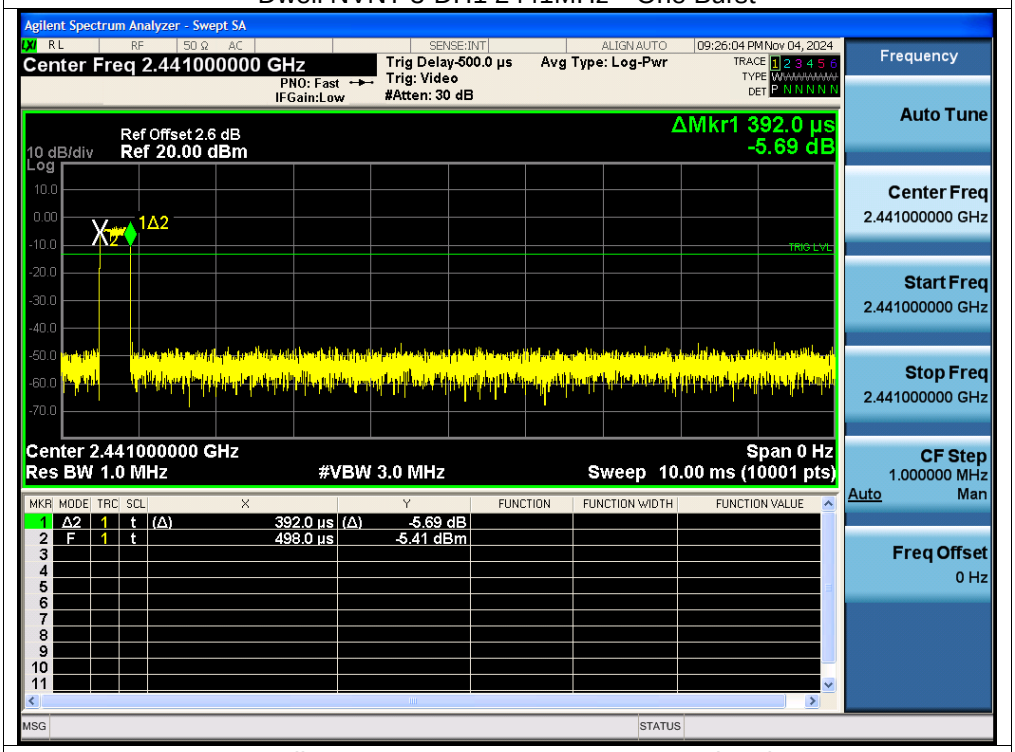
Dwell NVNT 2-DH5 2441MHz One Burst



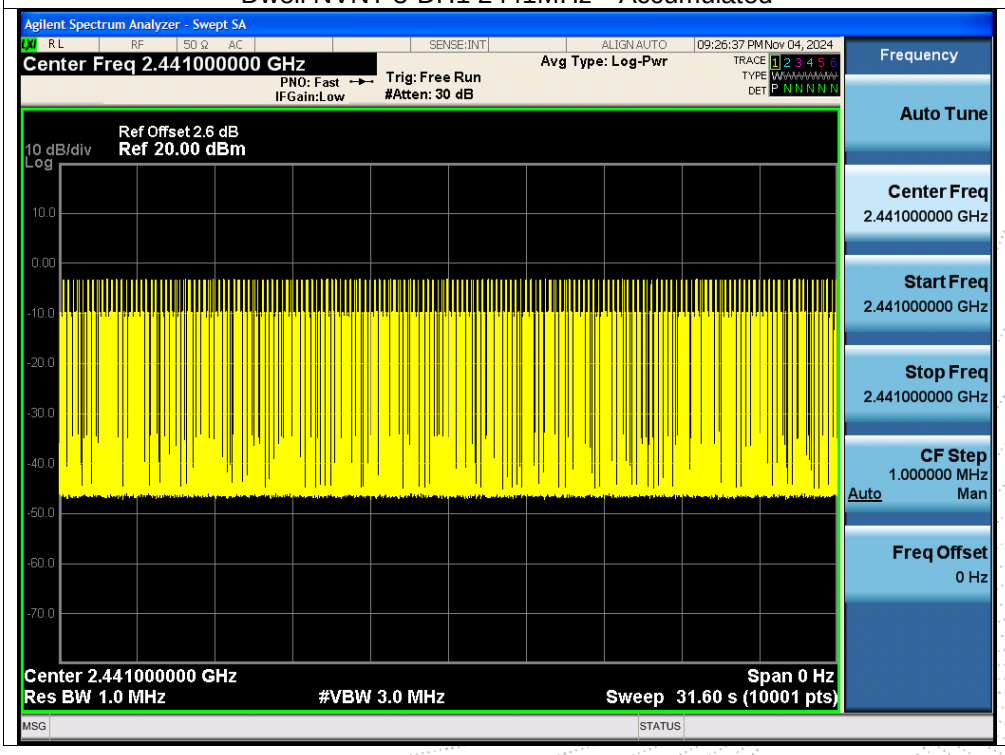

Dwell NVNT 2-DH5 2441MHz Accumulated



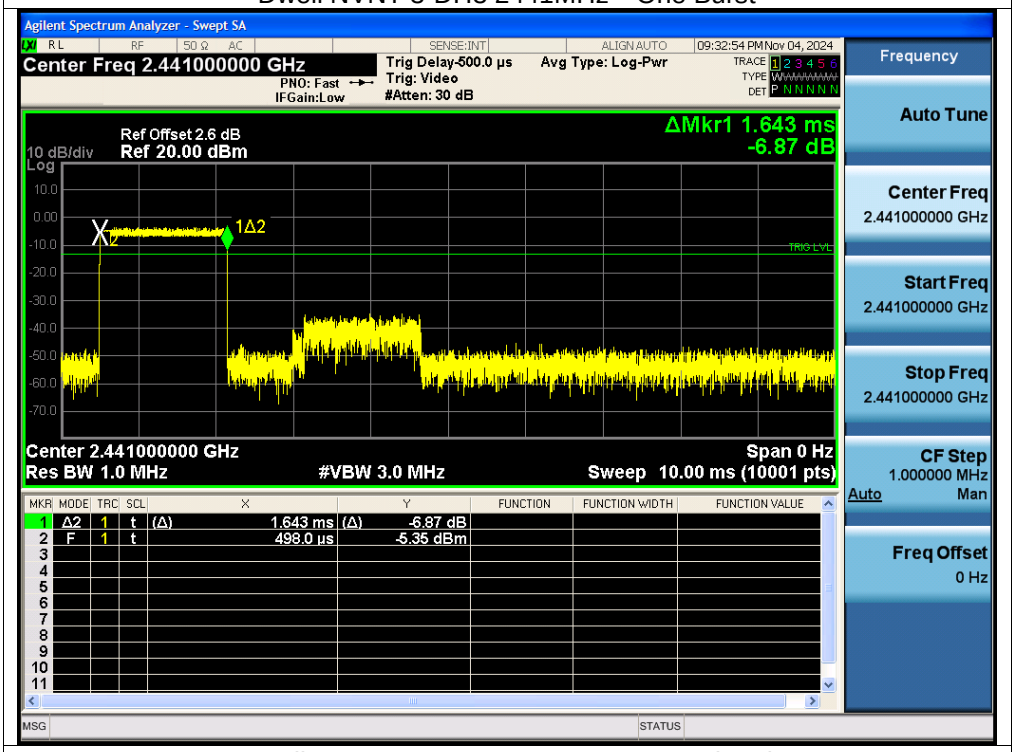
Dwell NVNT 3-DH1 2441MHz One Burst



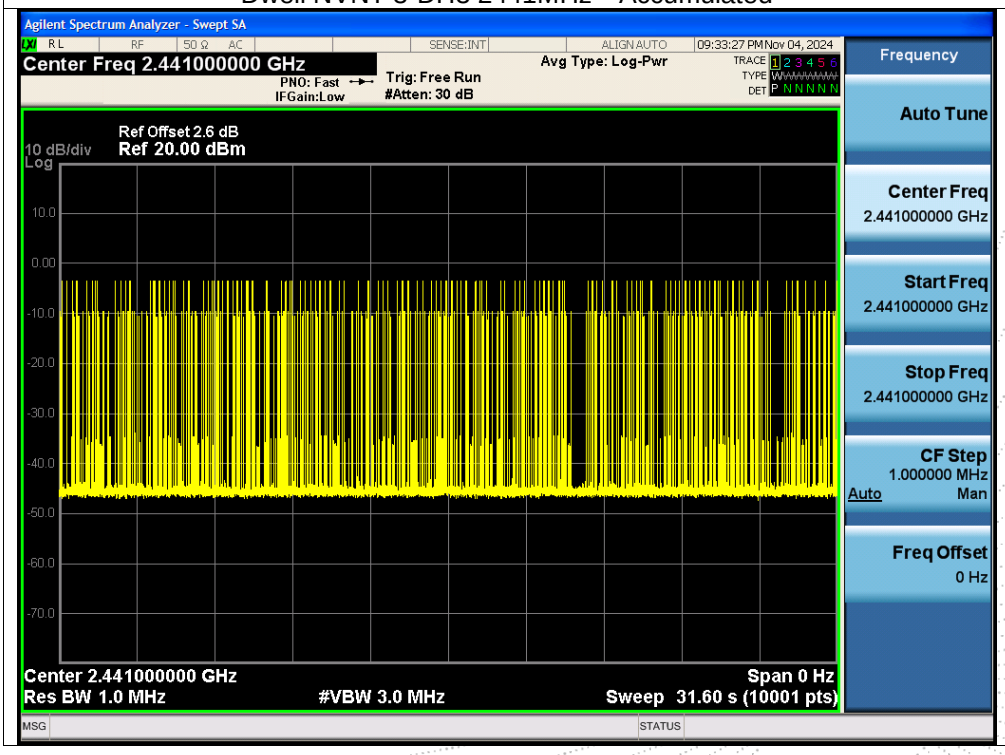

Dwell NVNT 3-DH1 2441MHz Accumulated



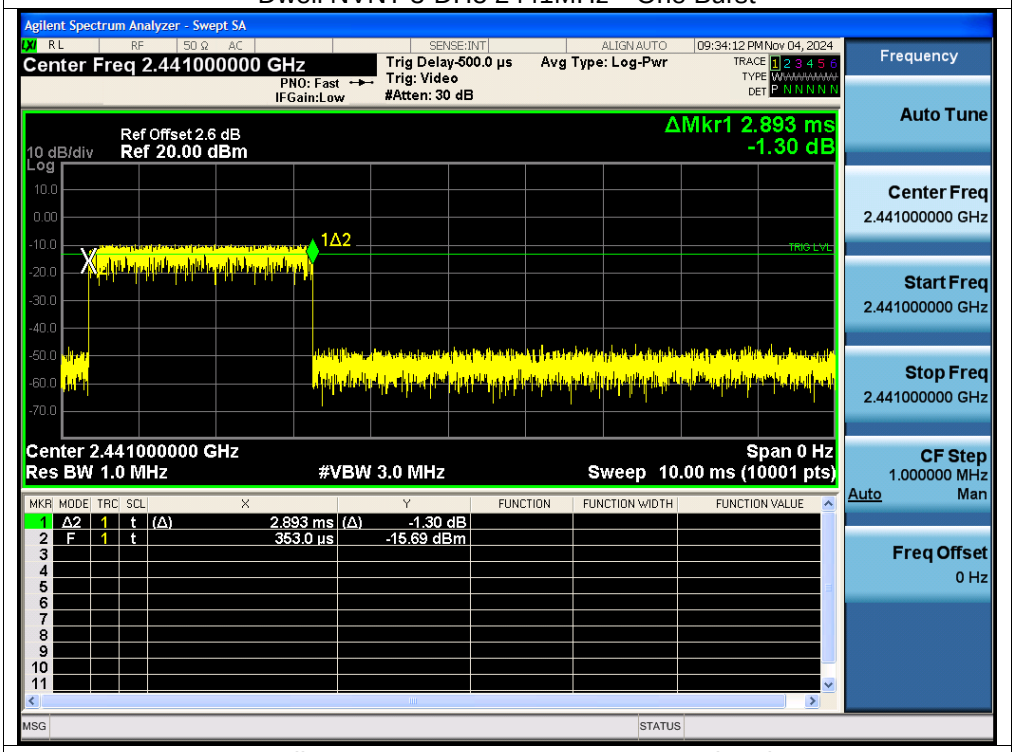
Dwell NVNT 3-DH3 2441MHz One Burst



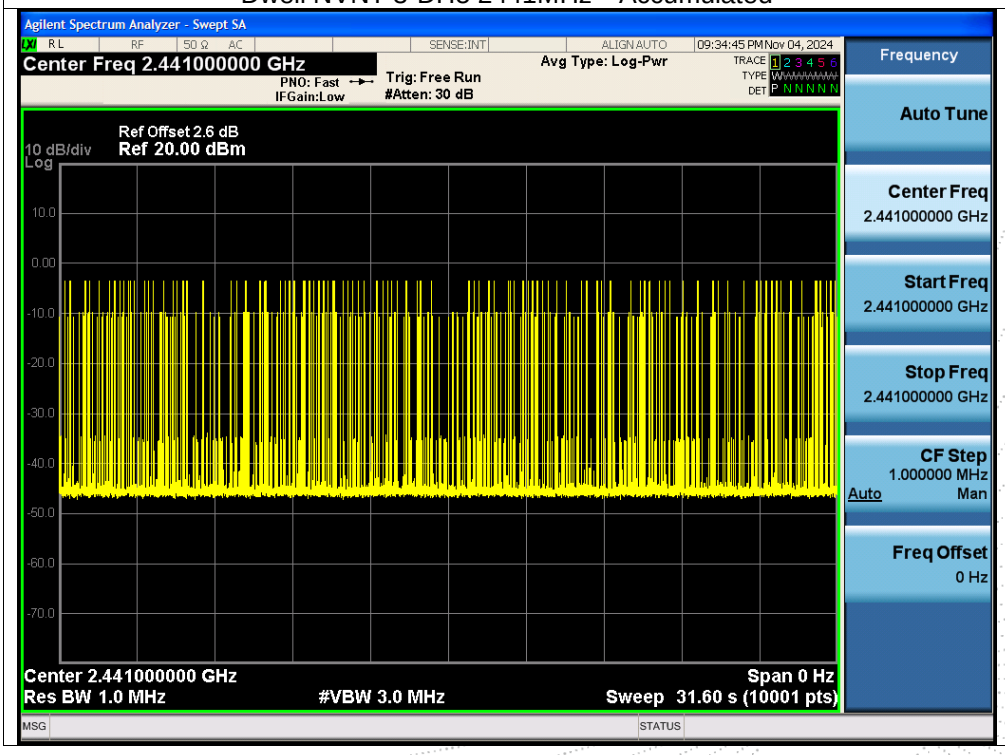

Dwell NVNT 3-DH3 2441MHz Accumulated



Dwell NVNT 3-DH5 2441MHz One Burst




Dwell NVNT 3-DH5 2441MHz Accumulated



# 15. Antenna Requirement

## 15.1 Limit

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

## 15.2 Test Result

The EUT antenna is FPC antenna, fulfill the requirement of this section.

## 16. EUT Photographs

**EUT Photo 1**

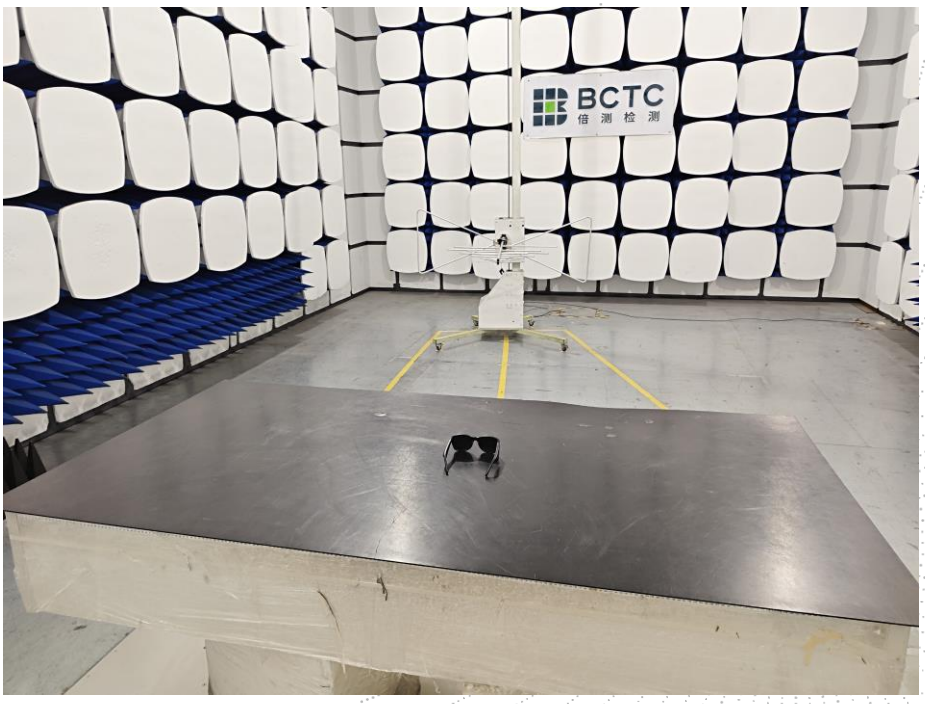
**EUT Photo 2**

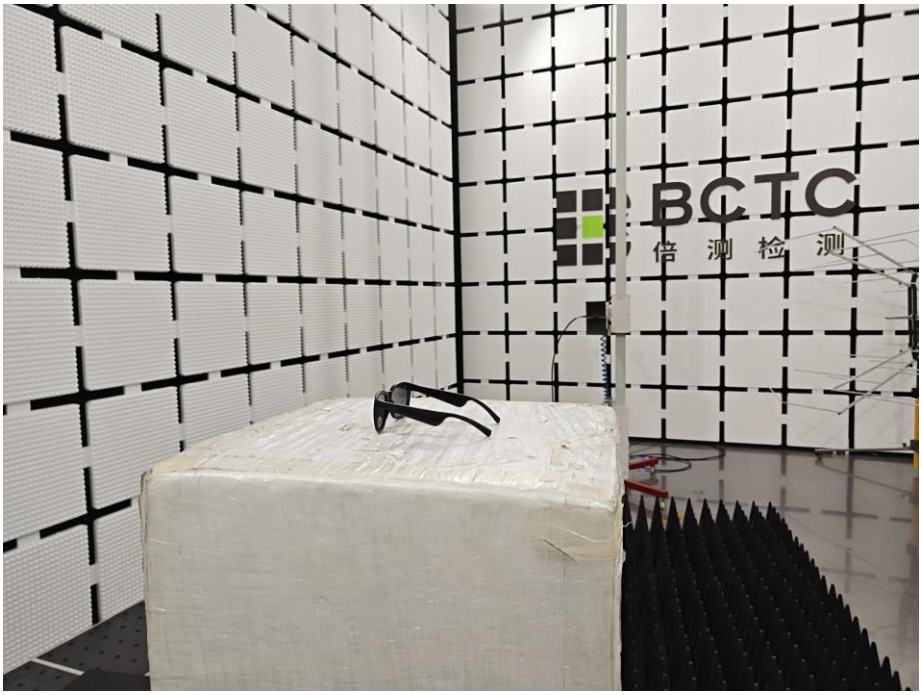
NOTE: Appendix-Photographs Of EUT Constructional Details.

## 17. EUT Test Setup Photographs

**Conducted Emissions Photo**

**Radiated Measurement Photos**

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# STATEMENT

1. The equipment lists are traceable to the national reference standards.

2. The test report can not be partially copied unless prior written approval is issued from our lab.

3. The test report is invalid without the "special seal for inspection and testing".

4. The test report is invalid without the signature of the approver.

5. The test process and test result is only related to the Unit Under Test.

6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.

7. The quality system of our laboratory is in accordance with ISO/IEC17025.

8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:
1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

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P.C.: 518103

FAX: 0755-33229357

Website: http://www.chnbctc.com

Consultation E-mail: bctc@bctc-lab.com.cn

Complaint/Advice E-mail: advice@bctc-lab.com.cn

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