

### 13. Number Of Hopping Frequency

#### 13.1 Block Diagram Of Test Setup



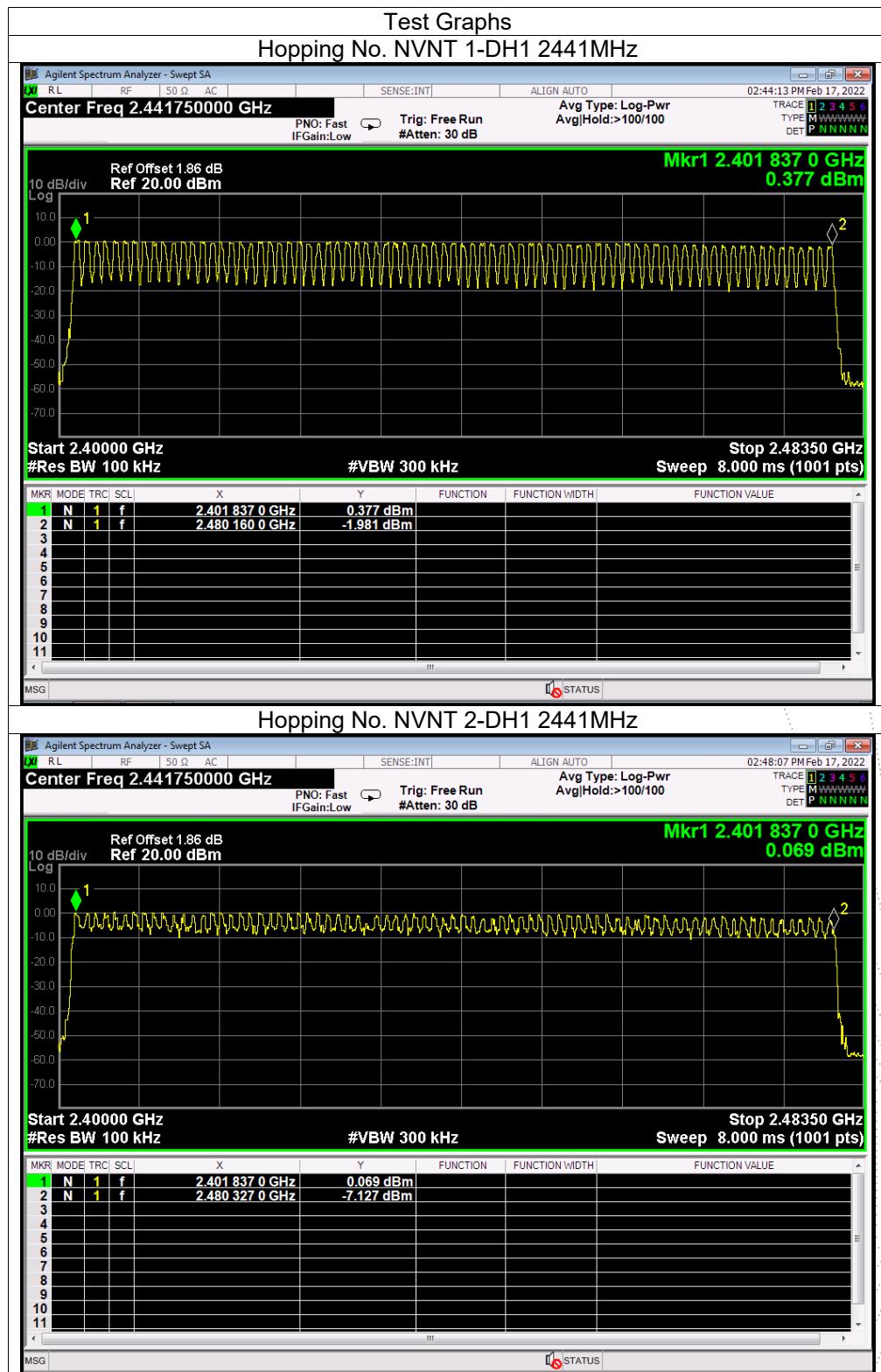
#### 13.2 Limit

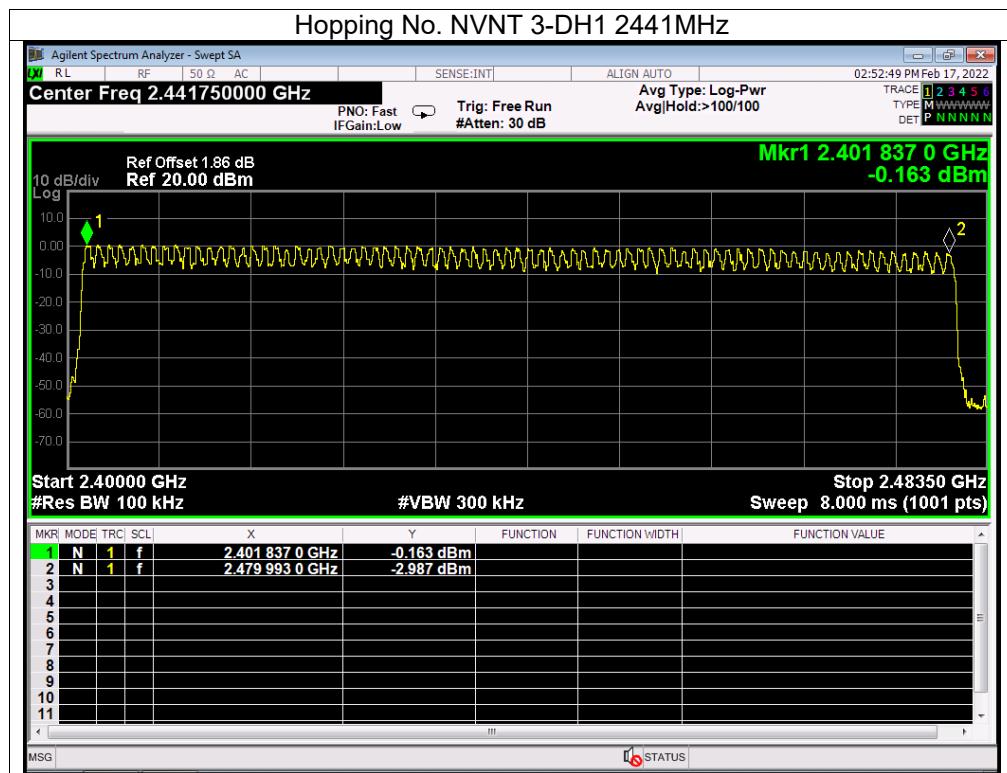
Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

#### 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





## 14. Dwell Time

### 14.1 Block Diagram Of Test Setup



### 14.2 Limit

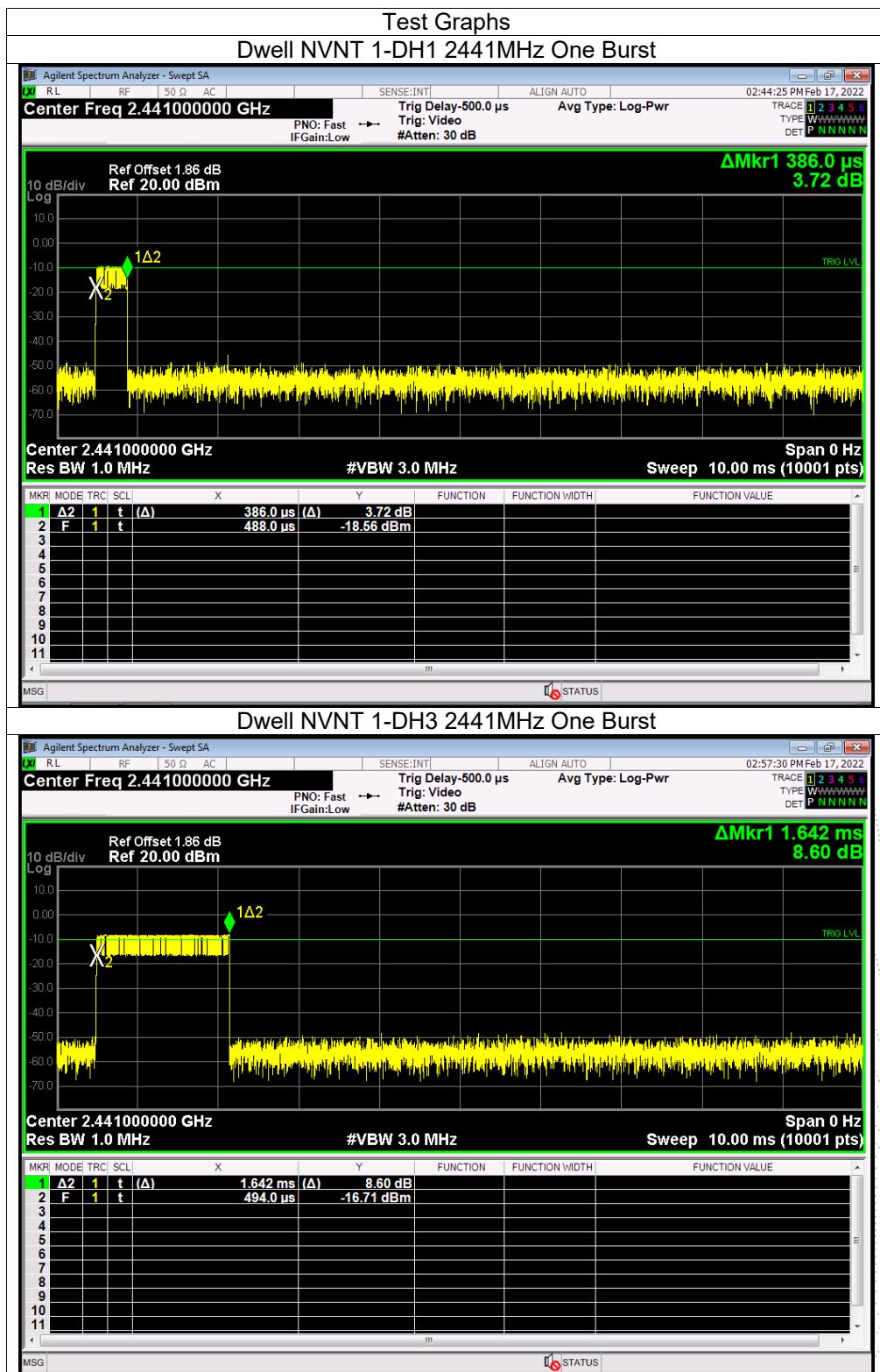
Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress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

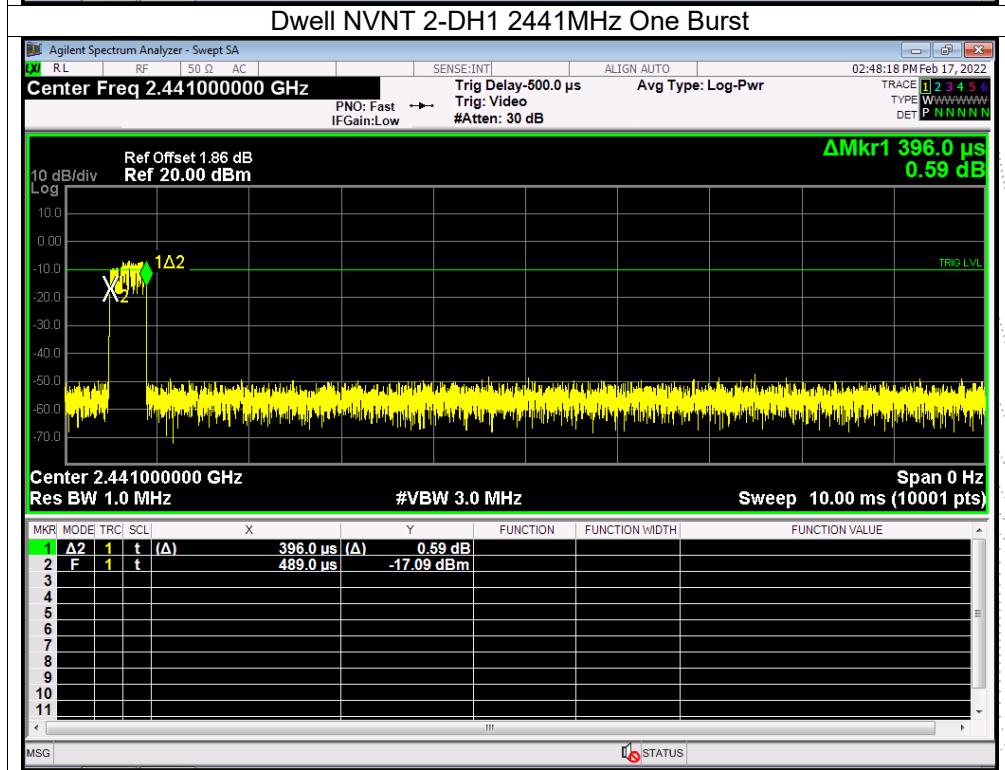
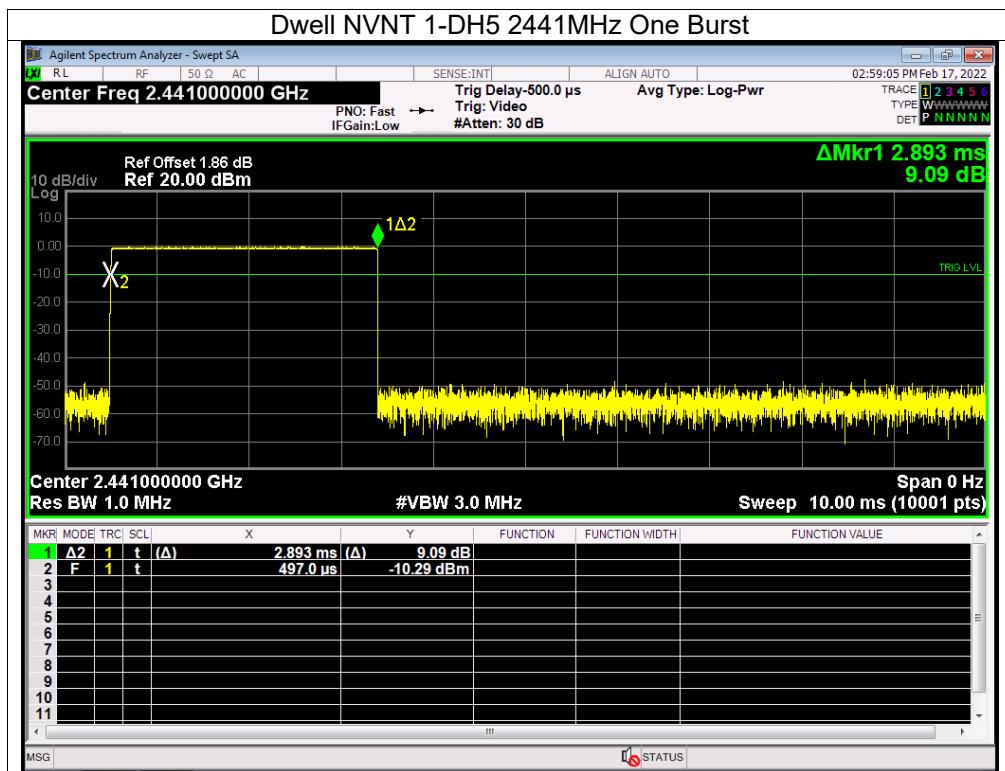
### 14.3 Test Procedure

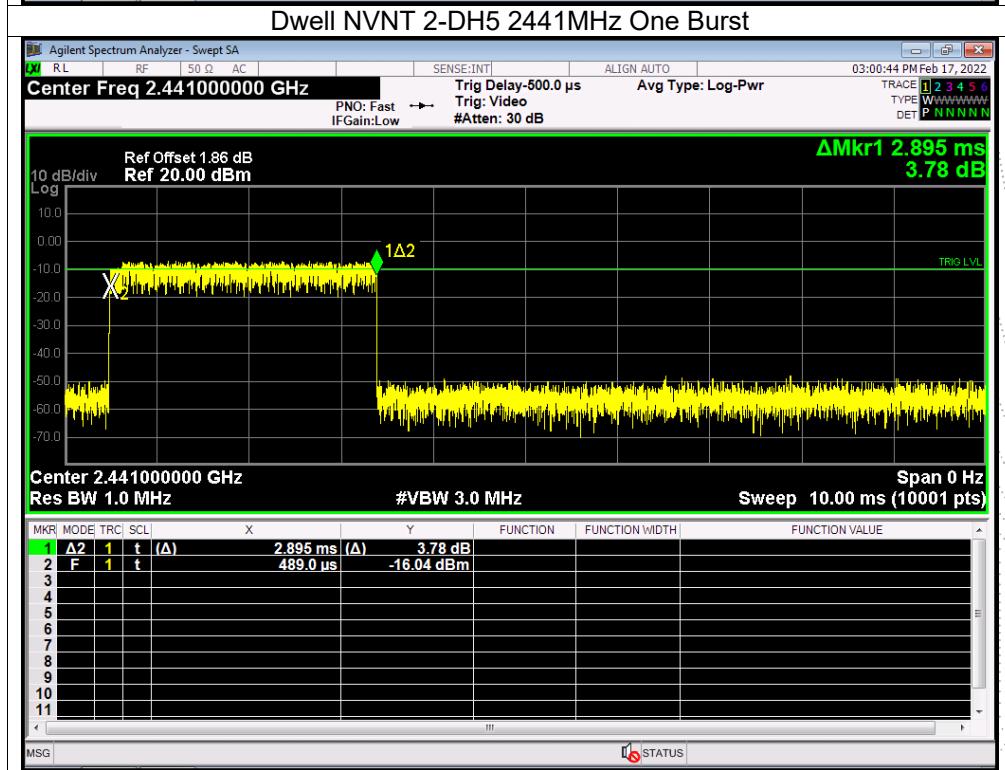
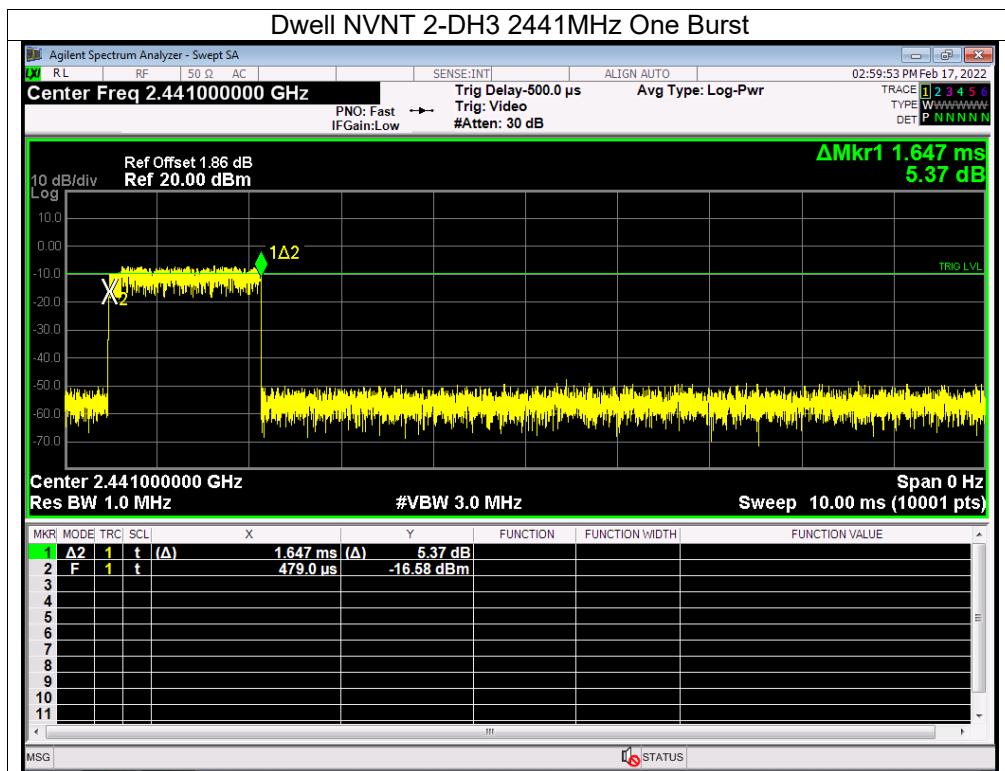
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set spectrum analyzer span = 0. Centred on a hopping channel;
3. Set RBW = 1MHz and VBW = 3MHz. Sweep = as necessary to capture the entire dwell time per hopping channel. Set the EUT for DH5, 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).

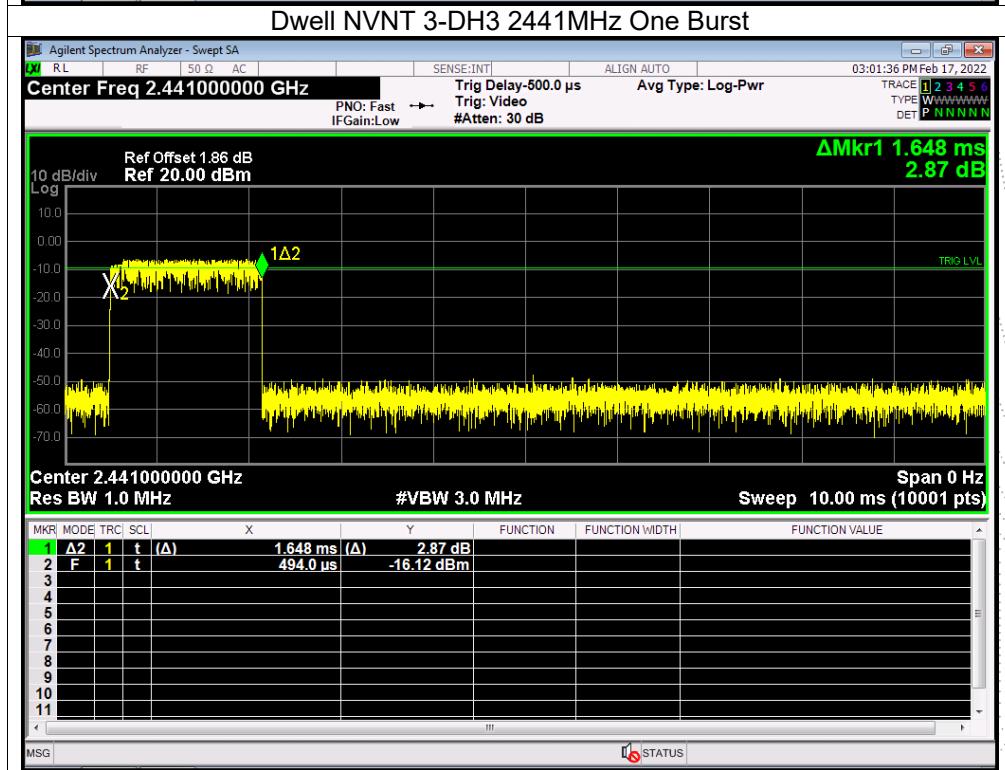
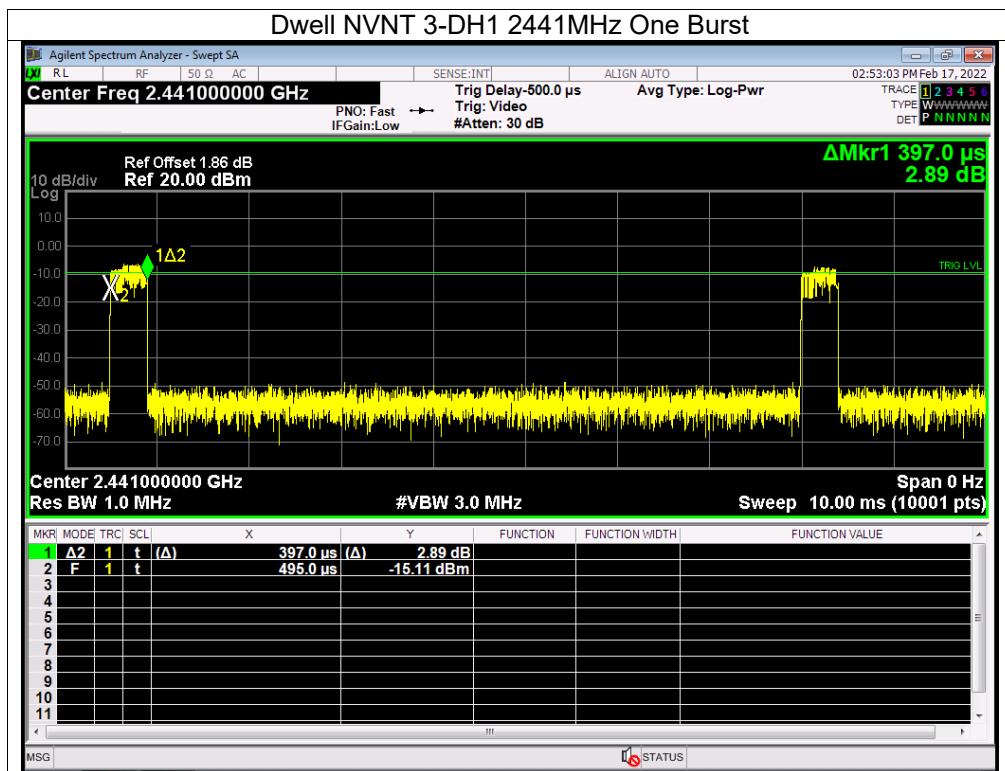
#### 14.4 Test Result

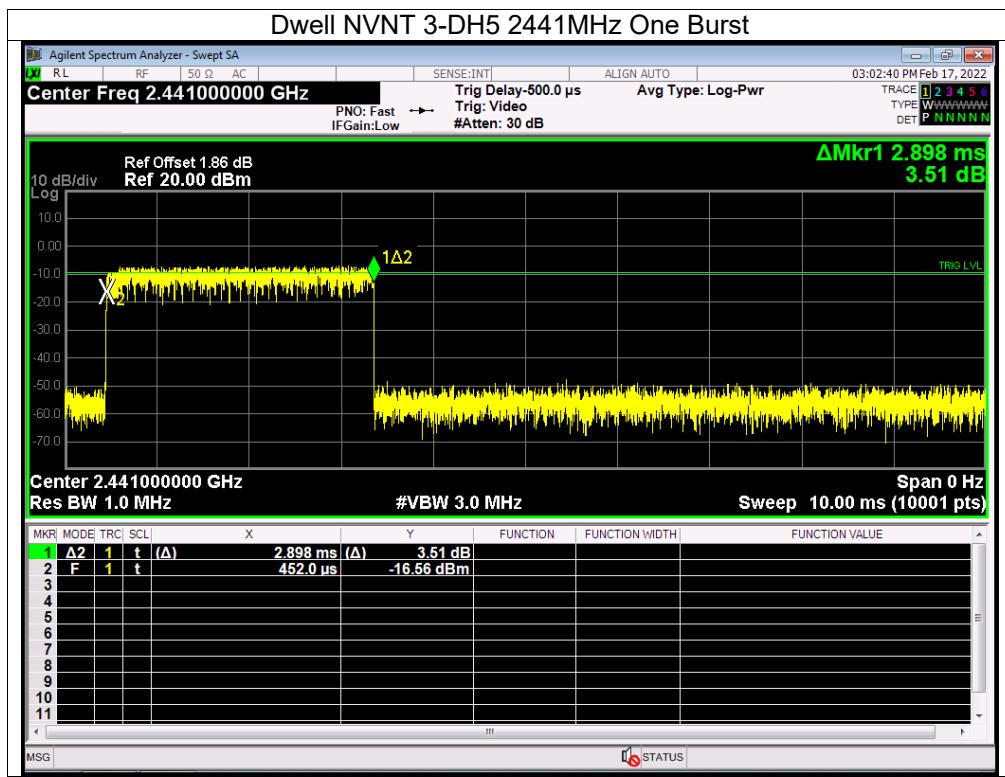
Modulation	Channel Data	Packet	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
GFSK	Middle	DH1	0.386	121.204	314	31600	400	Pass
		DH3	1.642	284.066	173	31600	400	Pass
		DH5	2.893	286.407	99	31600	400	Pass
$\pi/4$ DQPSK	Middle	2DH1	0.396	125.532	317	31600	400	Pass
		2DH3	1.647	284.931	173	31600	400	Pass
		2DH5	2.895	303.975	105	31600	400	Pass
8DPSK	Middle	3DH1	0.397	124.658	314	31600	400	Pass
		3DH3	1.648	237.312	144	31600	400	Pass
		3DH5	2.898	307.188	106	31600	400	Pass











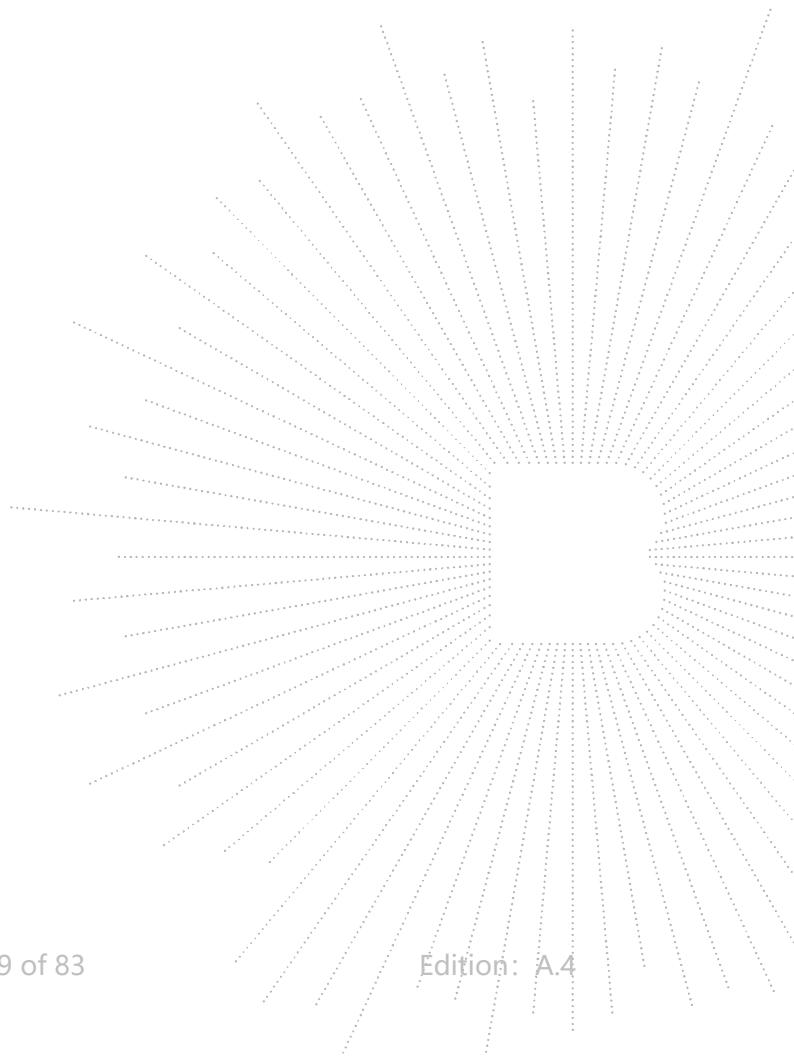
## 15. Antenna Requirement

### 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 PCB antenna, fulfill the requirement of this section.



## 16. EUT Photographs

**EUT Photo 1**



**EUT Photo 2**

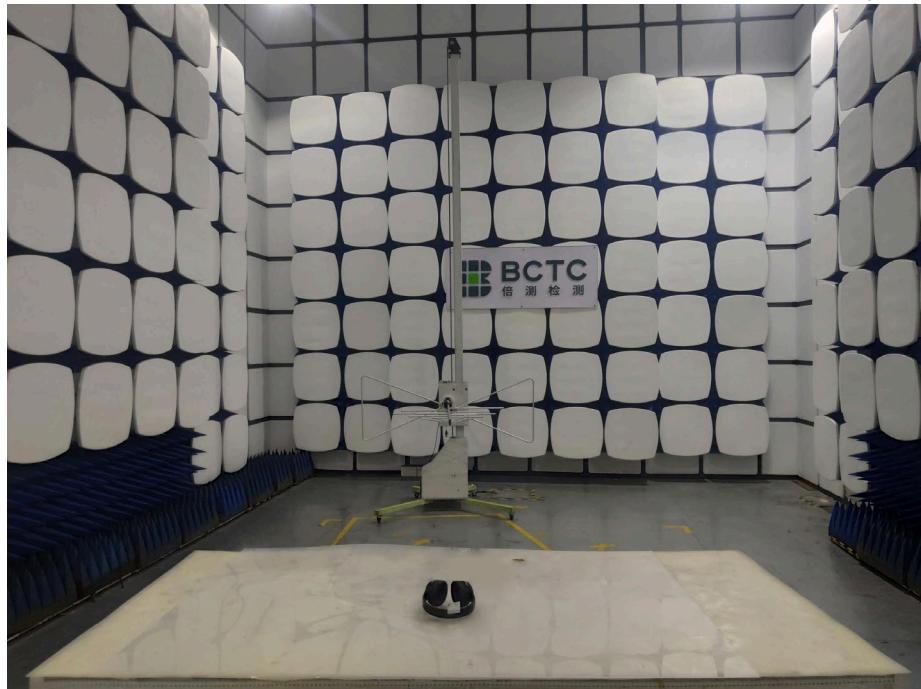


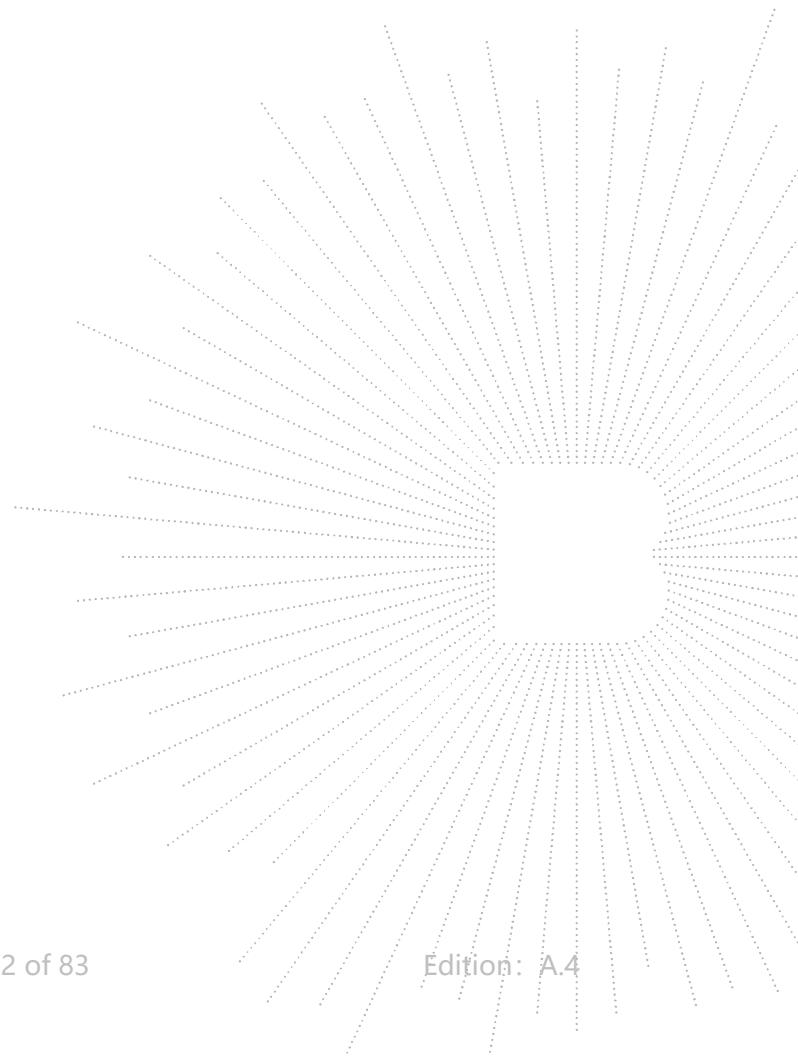
## 17. EUT Test Setup Photographs

### Conducted Measurement Photos



### Radiated Measurement Photos





## 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 stamp of laboratory.
- 4.The test report is invalid without signature of person(s) testing and authorizing.
- 5.The test process and test result is only related to the Unit Under Test.
- 6.The quality system of our laboratory is in accordance with ISO/IEC17025.
- 7.If there is any objection to report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

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