

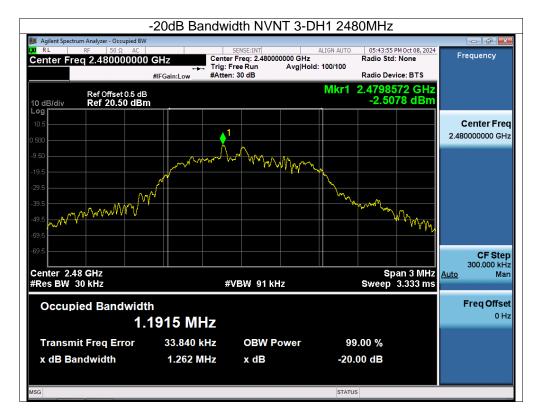
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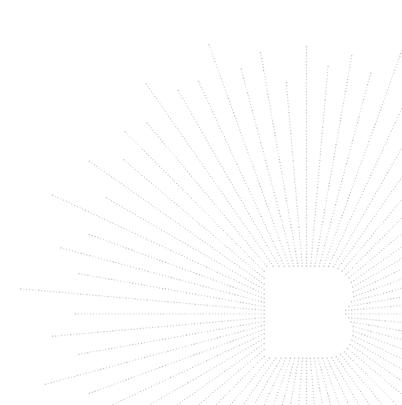




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11. Maximum Peak Output Power

11.1 Block Diagram Of Test Setup

EUT	SPECTRUM
	ANALYZER

11.2 Limit

FCC Part15 (15.247) , Subpart C								
Section	Test Item	Test Item Limit Frequency Range (MHz) Result						
15.247(b)(1)	Peak Output Power	0.125 watt or 21dBm	2400-2483.5	PASS				

11.3 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 = 2MHz. VBW = 6MHz. Sweep = auto; Detector Function = Peak.
- 3. Keep the EUT in transmitting at lowest, medium and highest channel individually. Record the max value.

11.4 Test Result

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH1	2402	0.96	21	Pass
NVNT	1-DH1	2441	0.55	21	Pass
NVNT	1-DH1	2480	-0.43	21	Pass
NVNT	2-DH1	2402	1.78	21	Pass
NVNT	2-DH1	2441	1.34	21	Pass
NVNT	2-DH1	2480	0.37	21	Pass
NVNT	3-DH1	2402	2.3	21	Pass
NVNT	3-DH1	2441	1.88	21	Pass
NVNT	3-DH1	2480	0.87	21	Pass

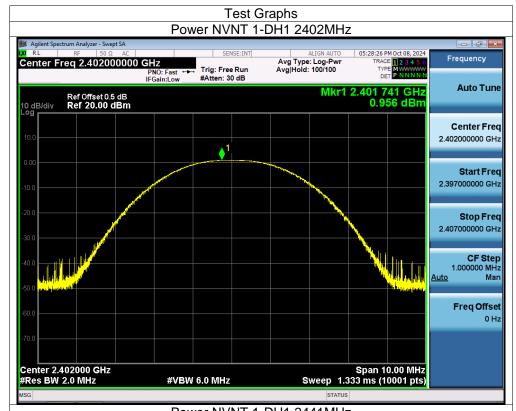
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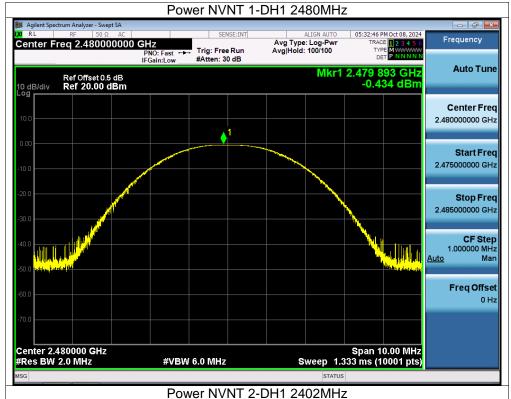


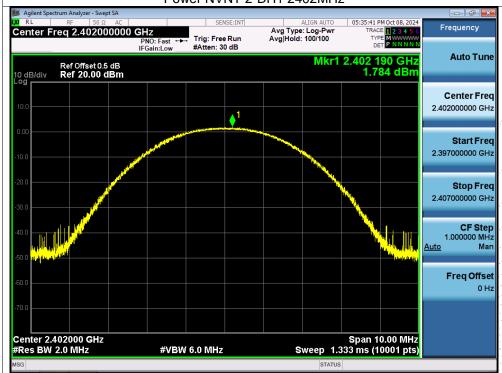


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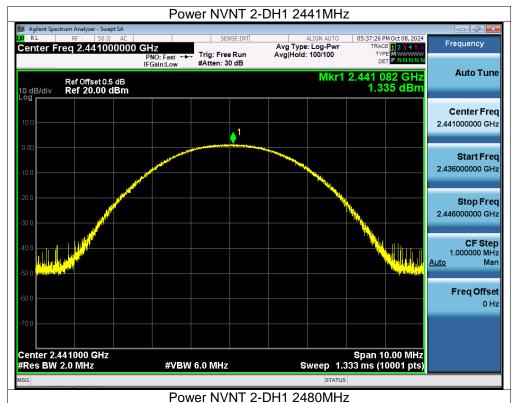


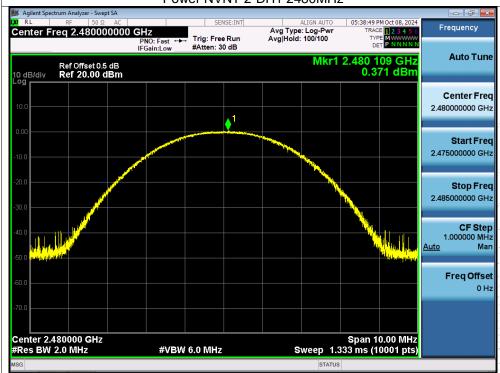




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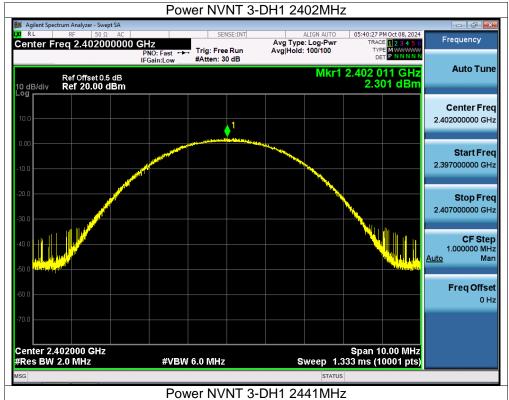


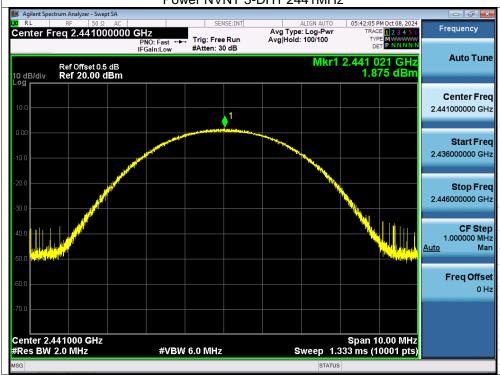




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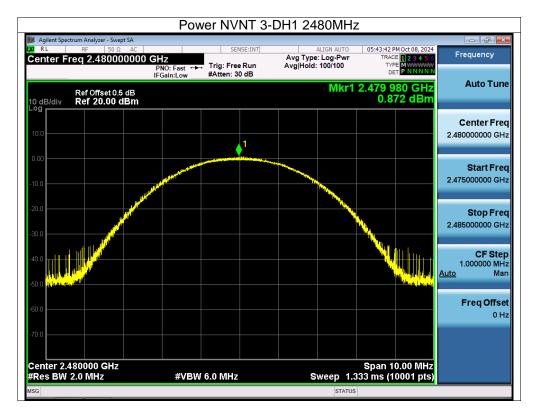


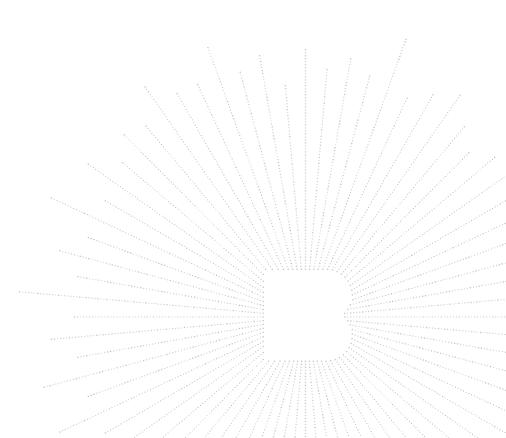




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12. Hopping Channel Separation

12.1 Block Diagram Of Test Setup

EUT	SPECTRUM
	ANALYZER

12.2 Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 0.125W.

12.3 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 = 30kHz. VBW = 100kHz, Span = 2.0MHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.
- 3. Allow the trace to stabilize. Use the marker-delta function to determine the separation between the peaks of the adjacent channels. The limit is specified in one of the subparagraphs of this Section Submit this plot.

12.4 Test Result

Condition	Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH1	2401.86	2402.864	1.004	0.681	Pass
NVNT	1-DH1	2440.862	2441.862	1	0.689	Pass
NVNT	1-DH1	2478.862	2479.862	1	0.683	Pass
NVNT	2-DH1	2401.86	2402.86	1	0.857	Pass
NVNT	2-DH1	2440.862	2441.86	0.998	0.851	Pass
NVNT	2-DH1	2478.862	2479.862	1	0.853	Pass
NVNT	3-DH1	2401.858	2402.858	1	0.835	Pass
NVNT	3-DH1	2440.86	2441.86	1	0.829	Pass
NVNT	3-DH1	2478.86	2479.862	1.002	0.841	Pass

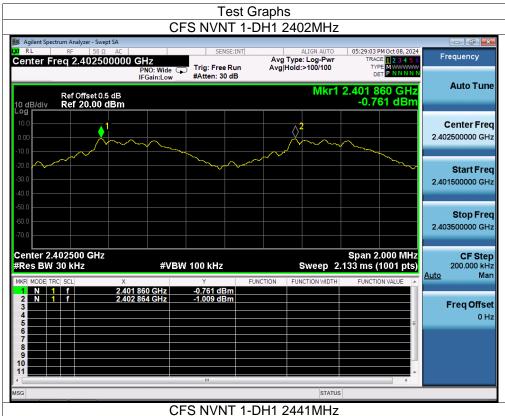
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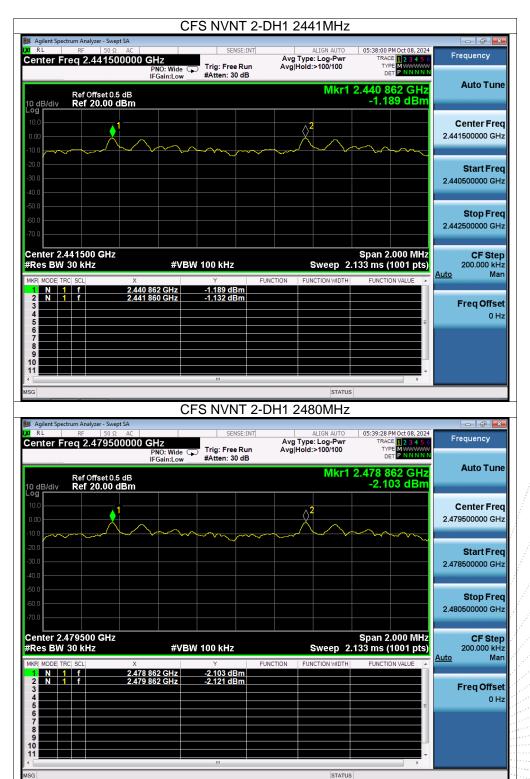




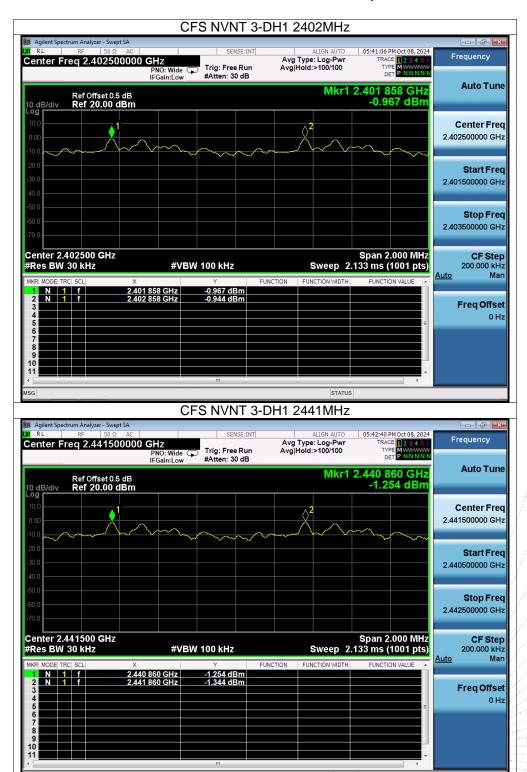


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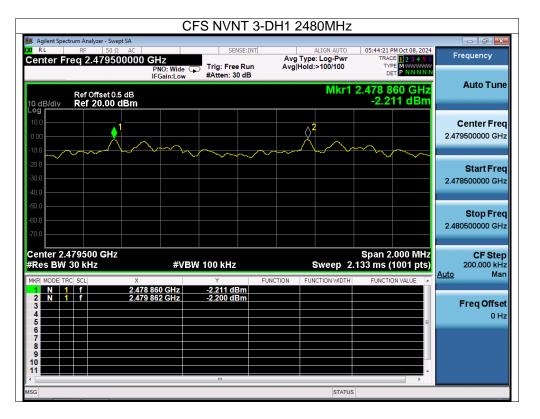


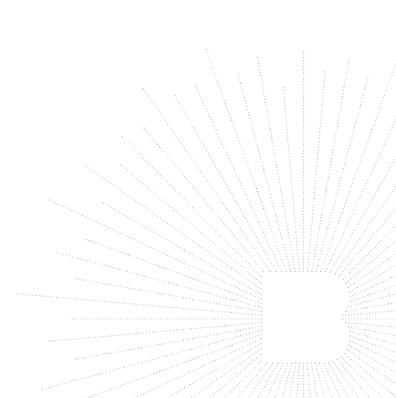




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13. Number Of Hopping Frequency

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

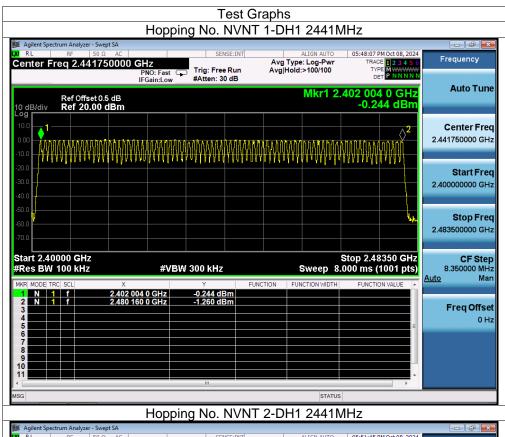
- 1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
- 2. Set the spectrum analyzer: RBW = 100kHz. VBW = 300kHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.
- 3. Allow the trace to stabilize. It may prove necessary to break the span 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;

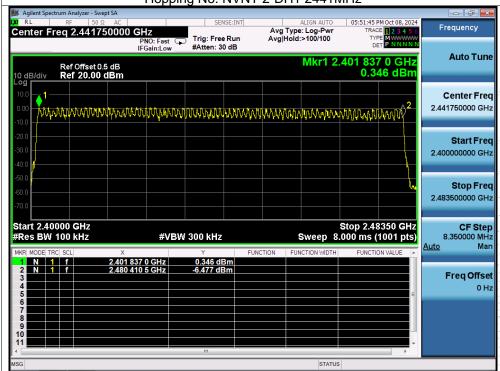
13.4 Test Result

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

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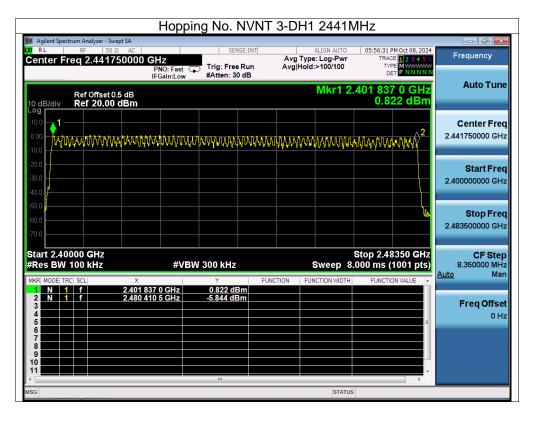




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14. Dwell Time

14.1 Block Diagram Of Test Setup

EUT	SPECTRUM
	ANALYZER

14.2 Limit

≤0.4 Second

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).

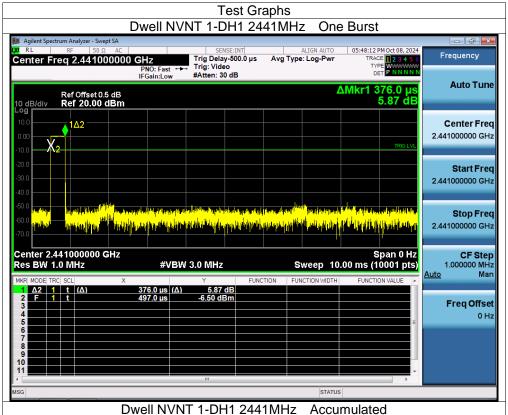
14.4 Test Result

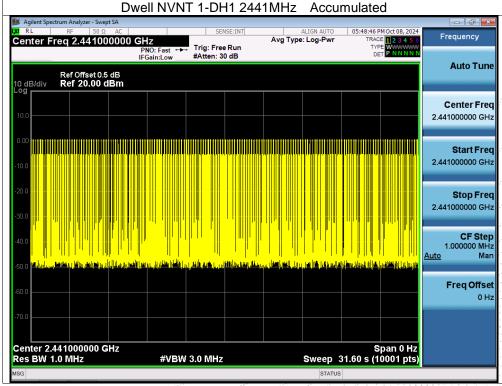
Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	0.376	119.192	317	31600	400	Pass
NVNT	1-DH3	2441	1.632	270.912	166	31600	400	Pass
NVNT	1-DH5	2441	2.88	331.2	115	31600	400	Pass
NVNT	2-DH1	2441	0.386	123.134	319	31600	400	Pass
NVNT	2-DH3	2441	1.638	253.89	155	31600	400	Pass
NVNT	2-DH5	2441	2.886	323.232	112	31600	400	Pass
NVNT	3-DH1	2441	0.387	121.518	314	31600	400	Pass
NVNT	3-DH3	2441	1.637	252.098	154	31600	400	Pass
NVNT	3-DH5	2441	2.887	337.779	117	31600	400	Pass

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

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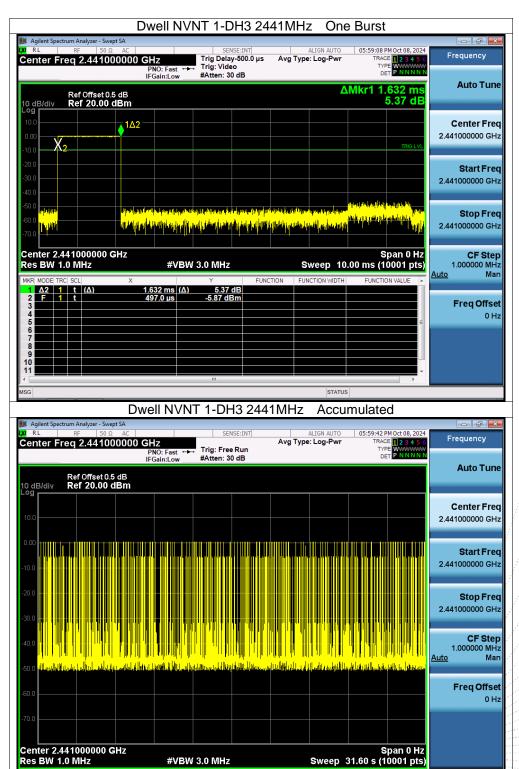






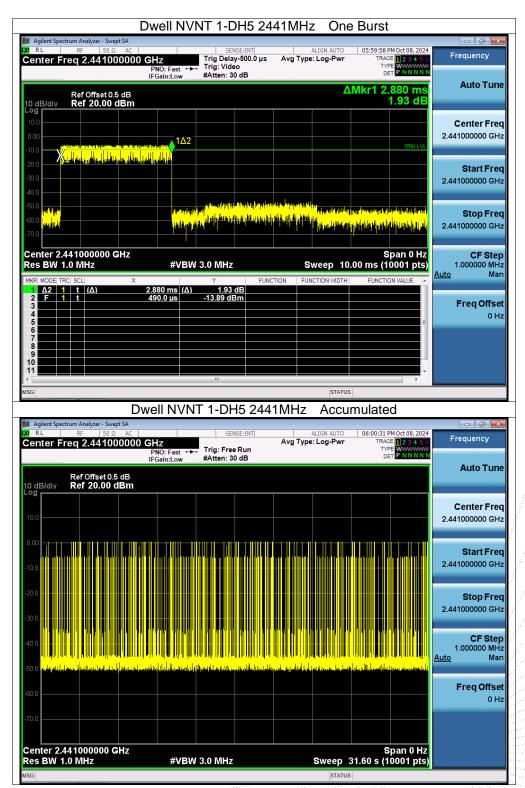
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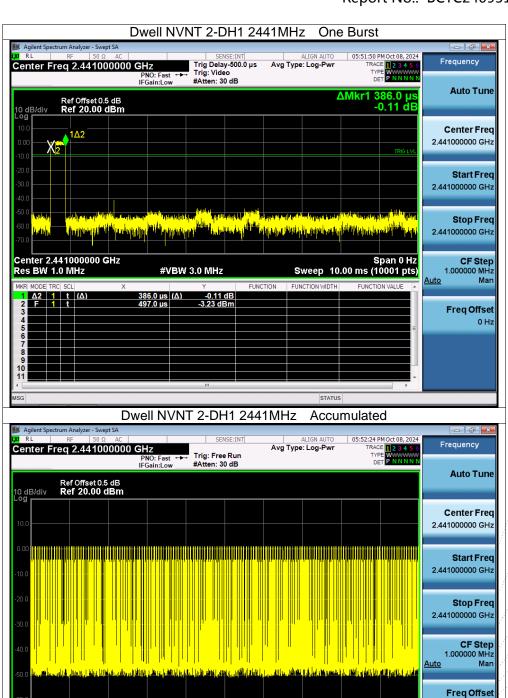
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Center 2.441000000 GHz Res BW 1.0 MHz Report No.: BCTC2409515318-1E

0 Hz

Span 0 Hz Sweep 31.60 s (10001 pts)



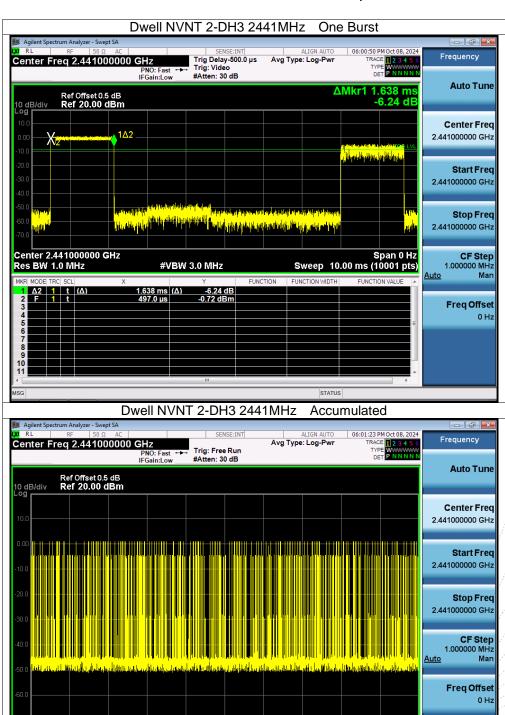
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#VBW 3.0 MHz





Center 2.441000000 GHz Res BW 1.0 MHz Report No.: BCTC2409515318-1E



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#VBW 3.0 MHz

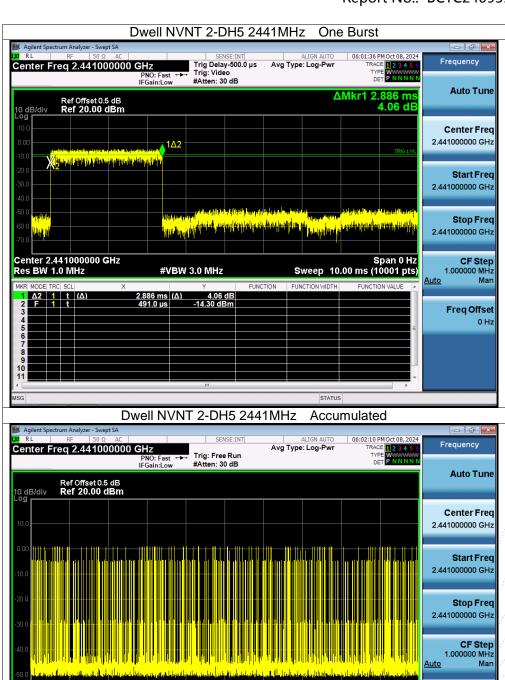
Span 0 Hz Sweep 31.60 s (10001 pts)



Center 2.441000000 GHz Res BW 1.0 MHz Report No.: BCTC2409515318-1E

Freq Offset 0 Hz

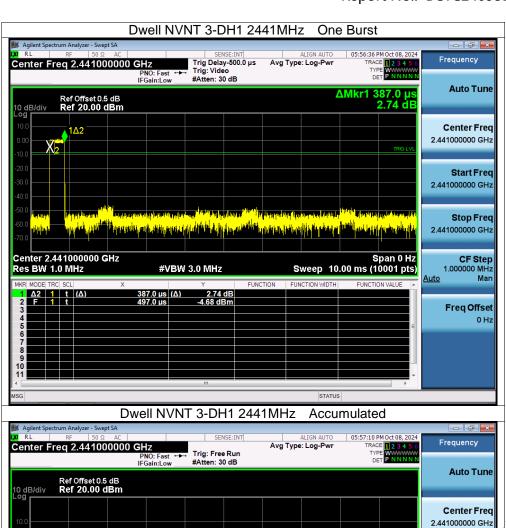
Span 0 Hz Sweep 31.60 s (10001 pts)

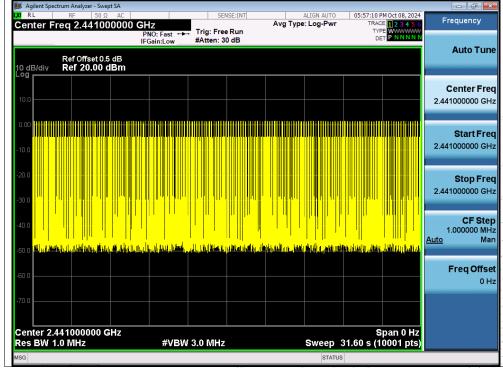


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#VBW 3.0 MHz

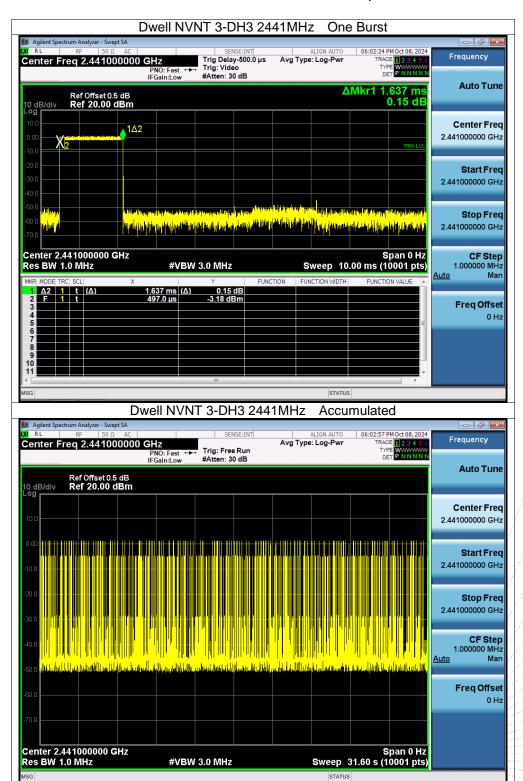






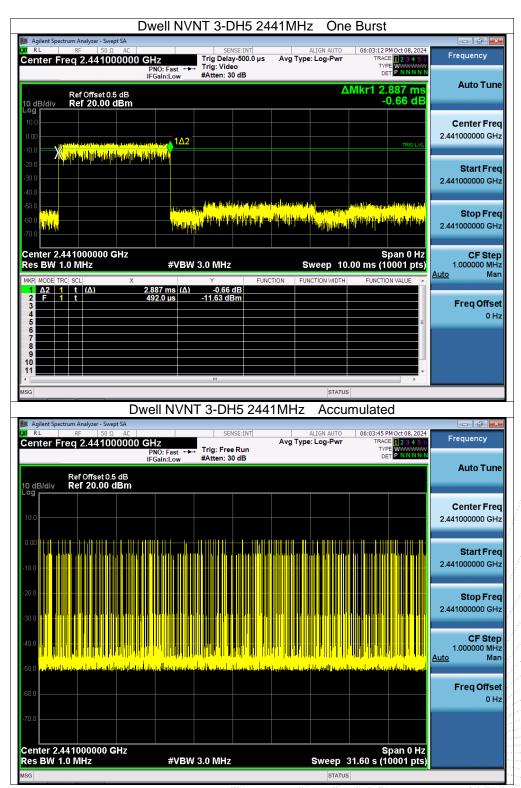
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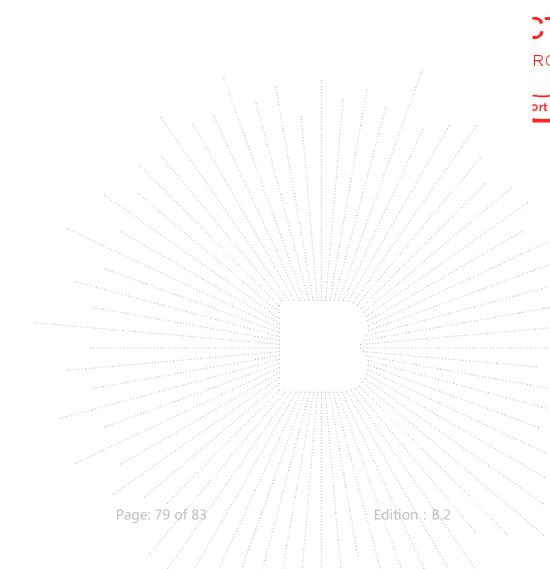
15. Antenna Requirement

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 Chip antenna, fulfill the requirement of this section.



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16. EUT Photographs

EUT Photo



NOTE: Appendix-Photographs Of EUT Constructional Details.

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17. EUT Test Setup Photographs

Conducted Measurement Photo



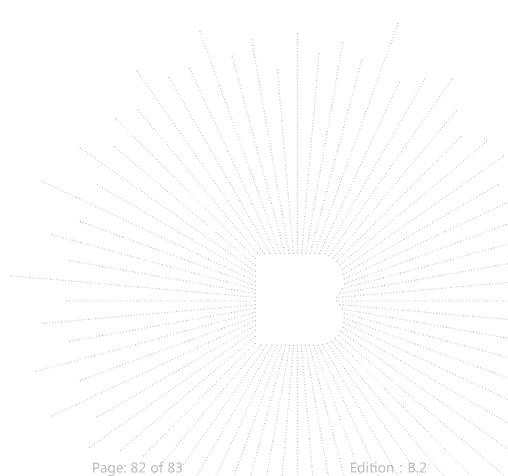
Radiated Measurement Photos



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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:

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

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