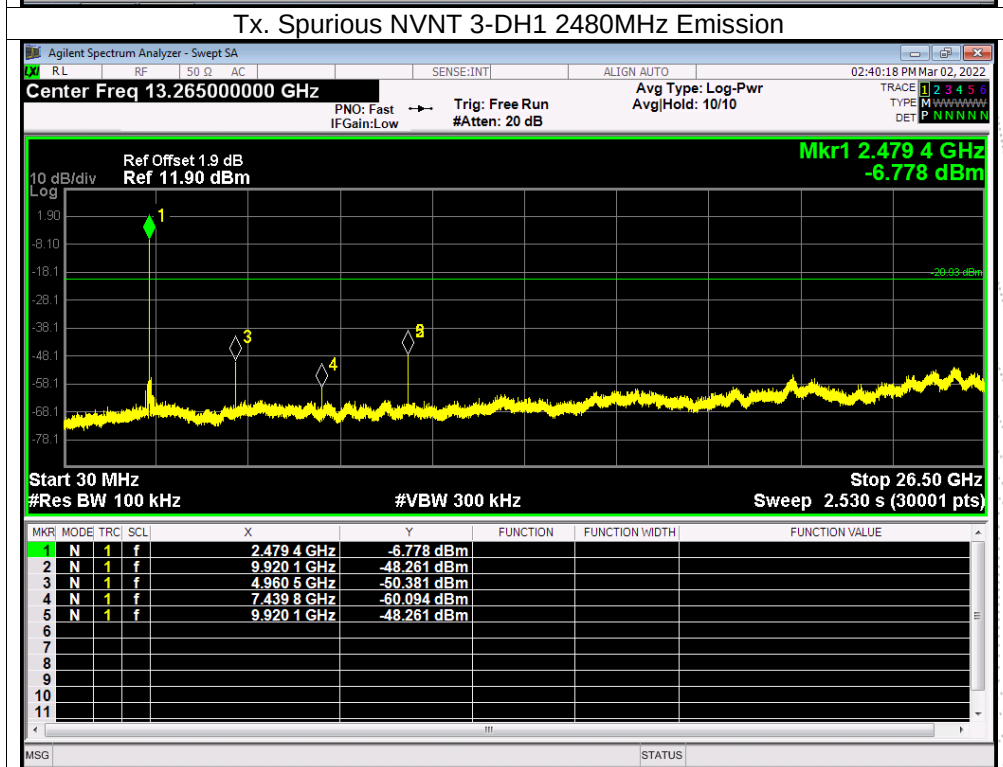
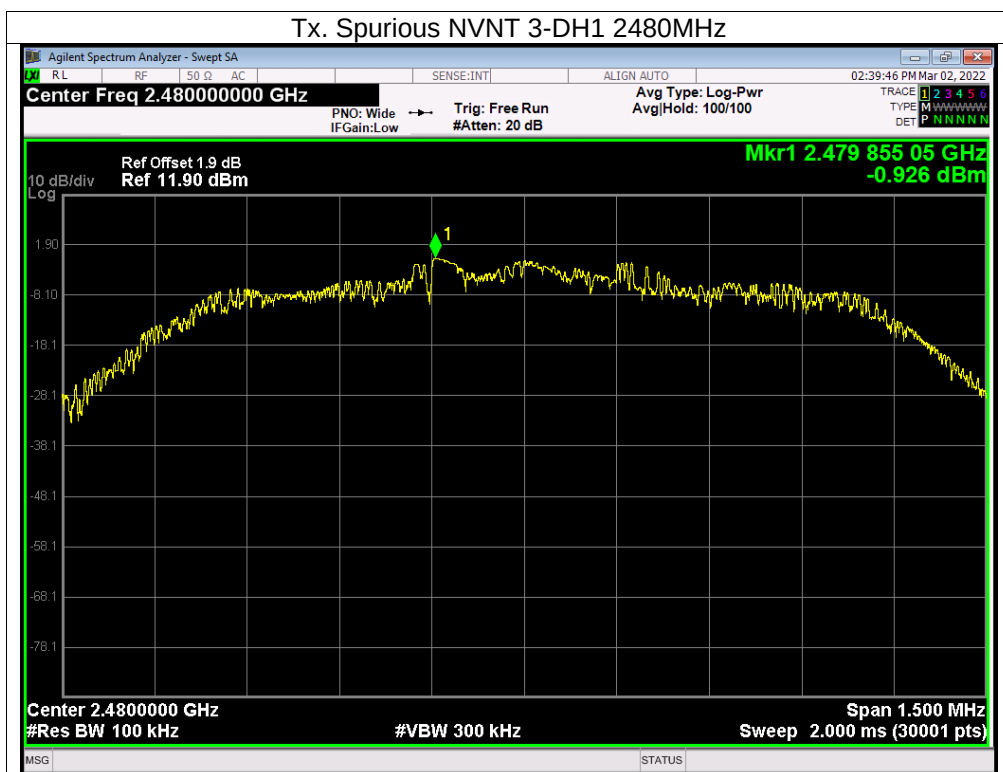
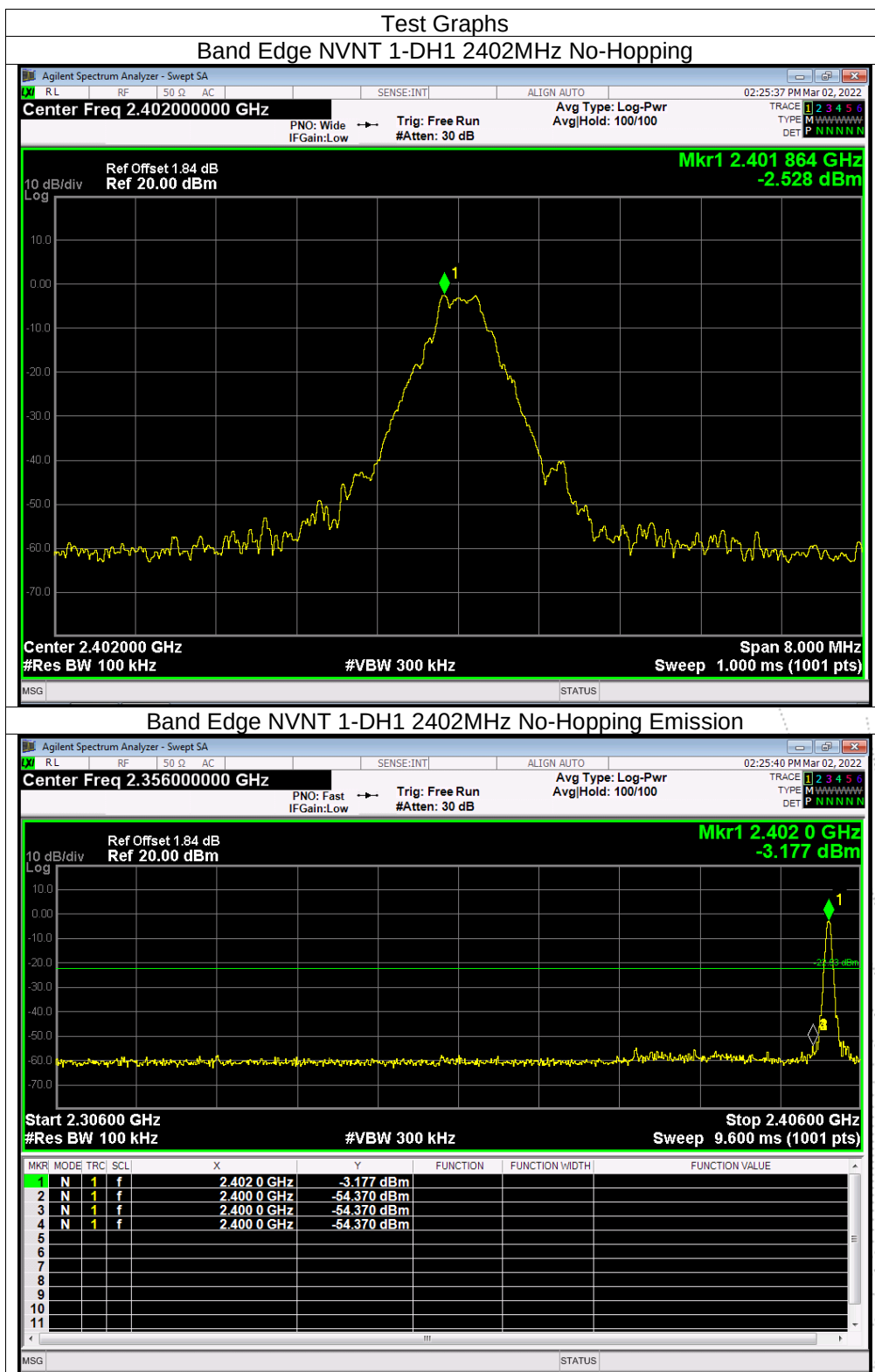
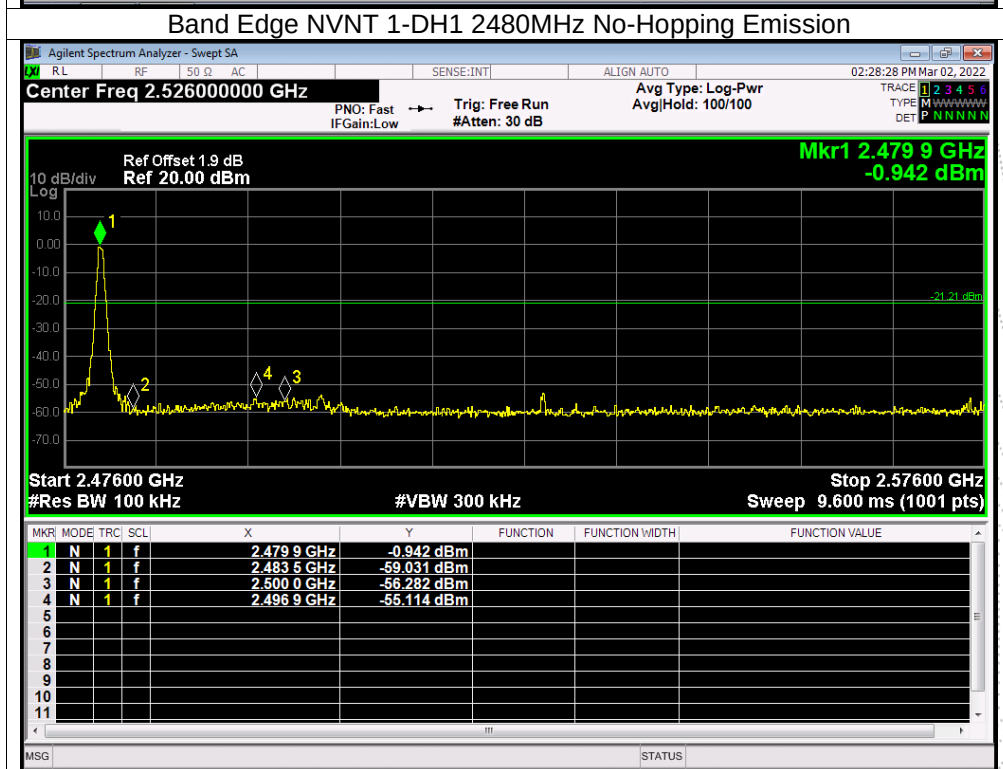
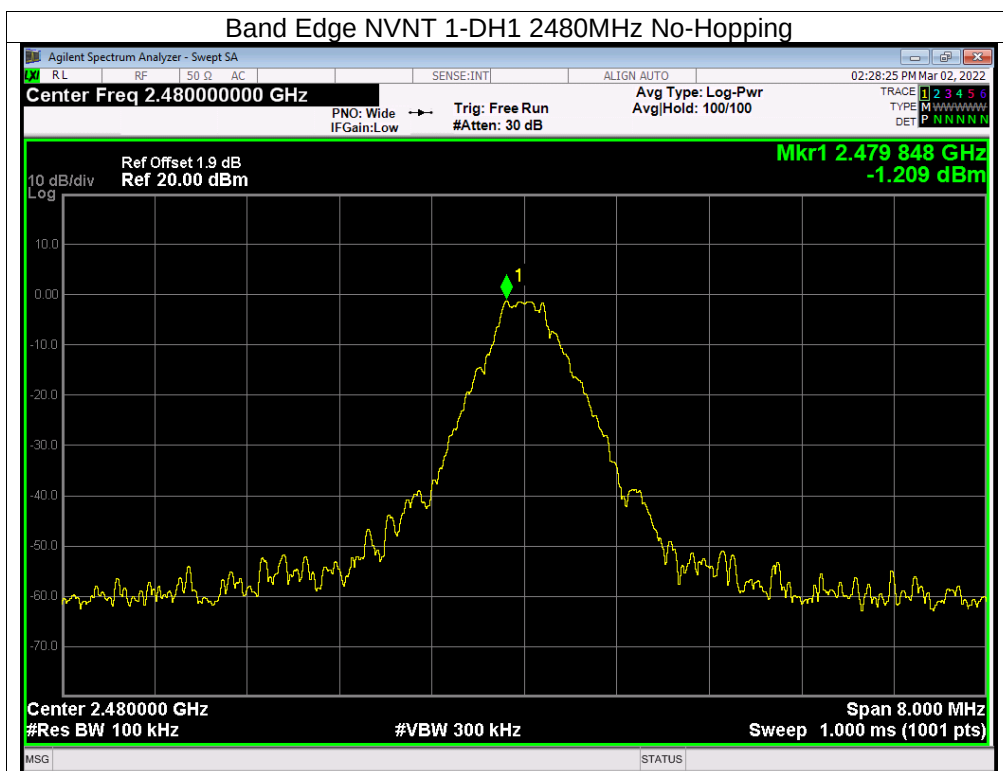
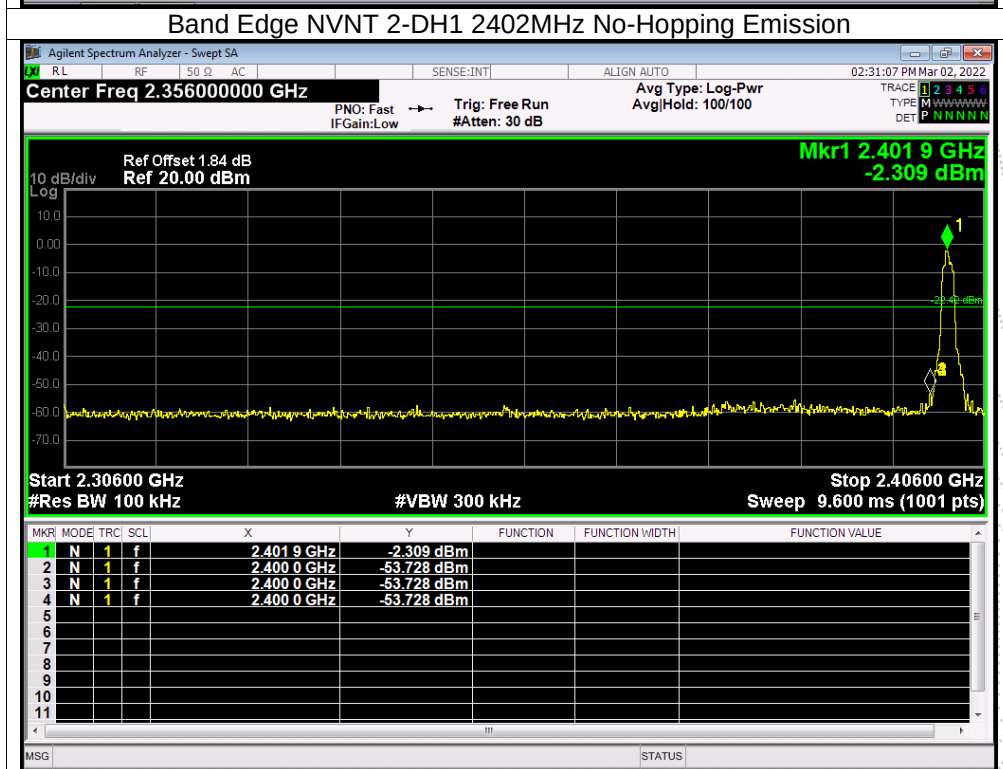
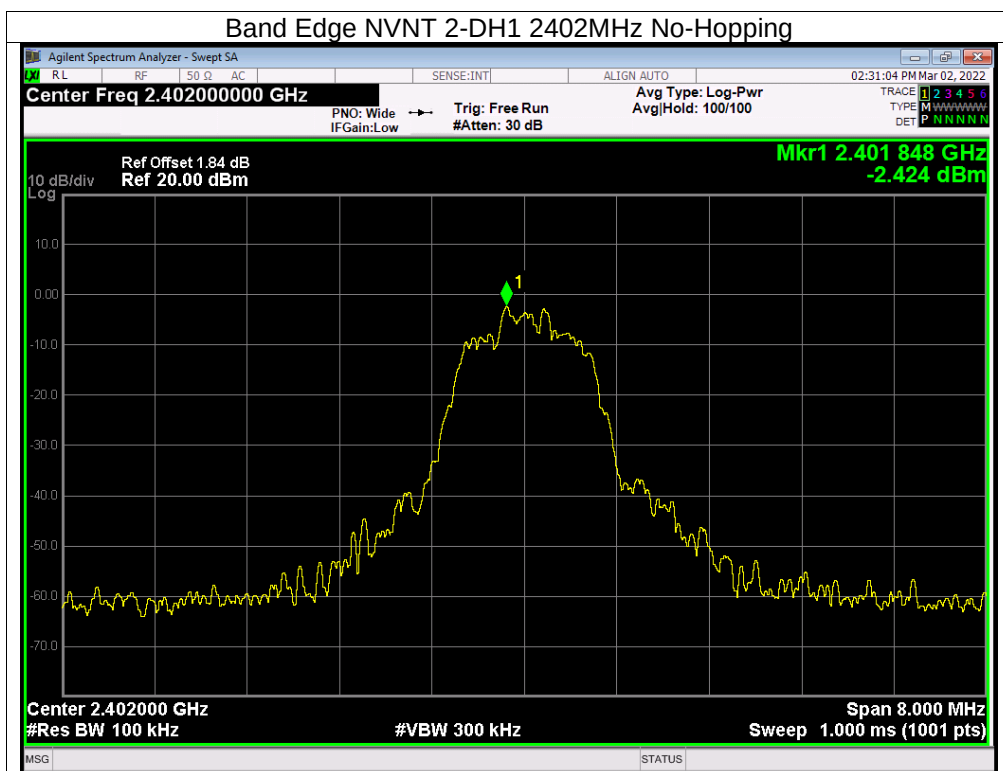


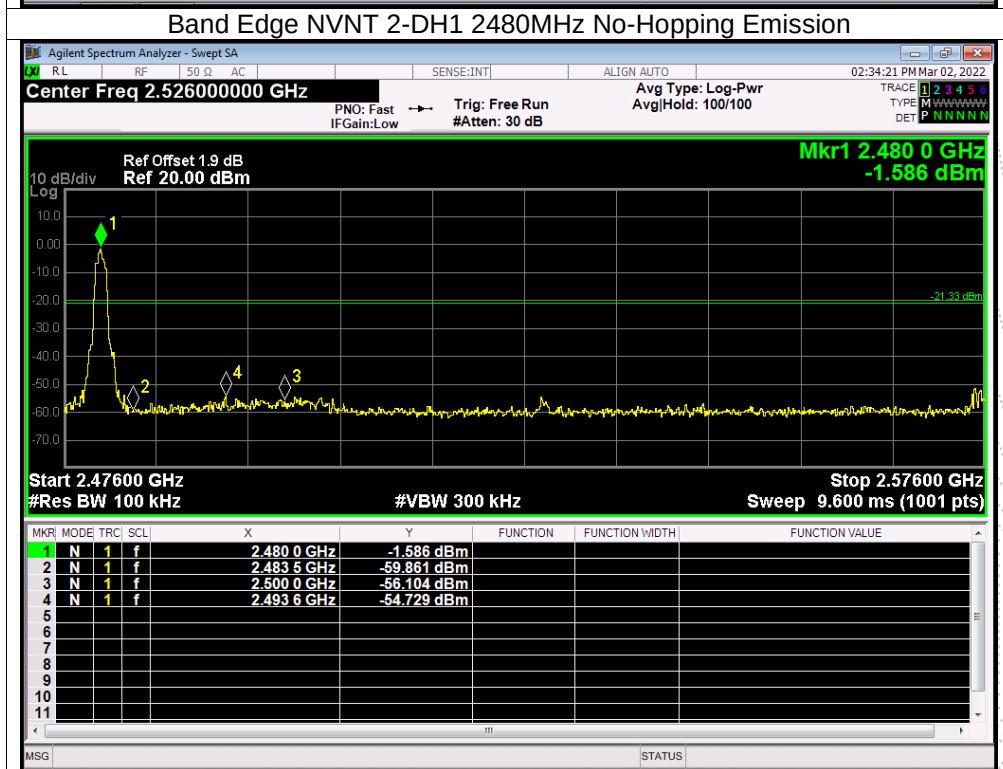
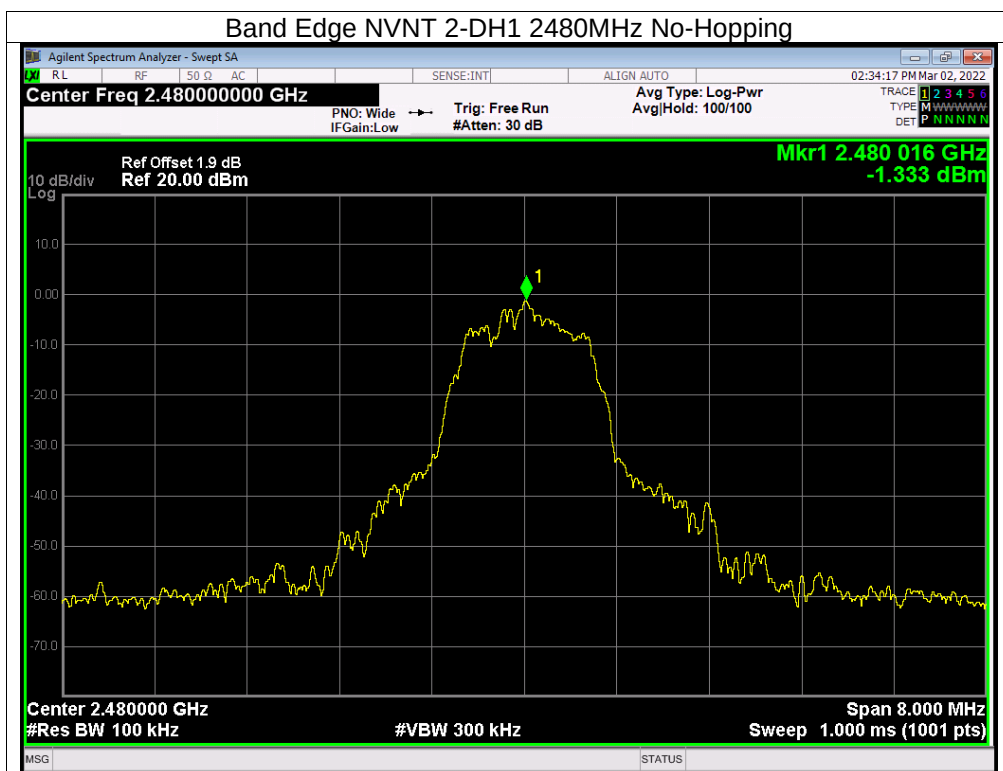


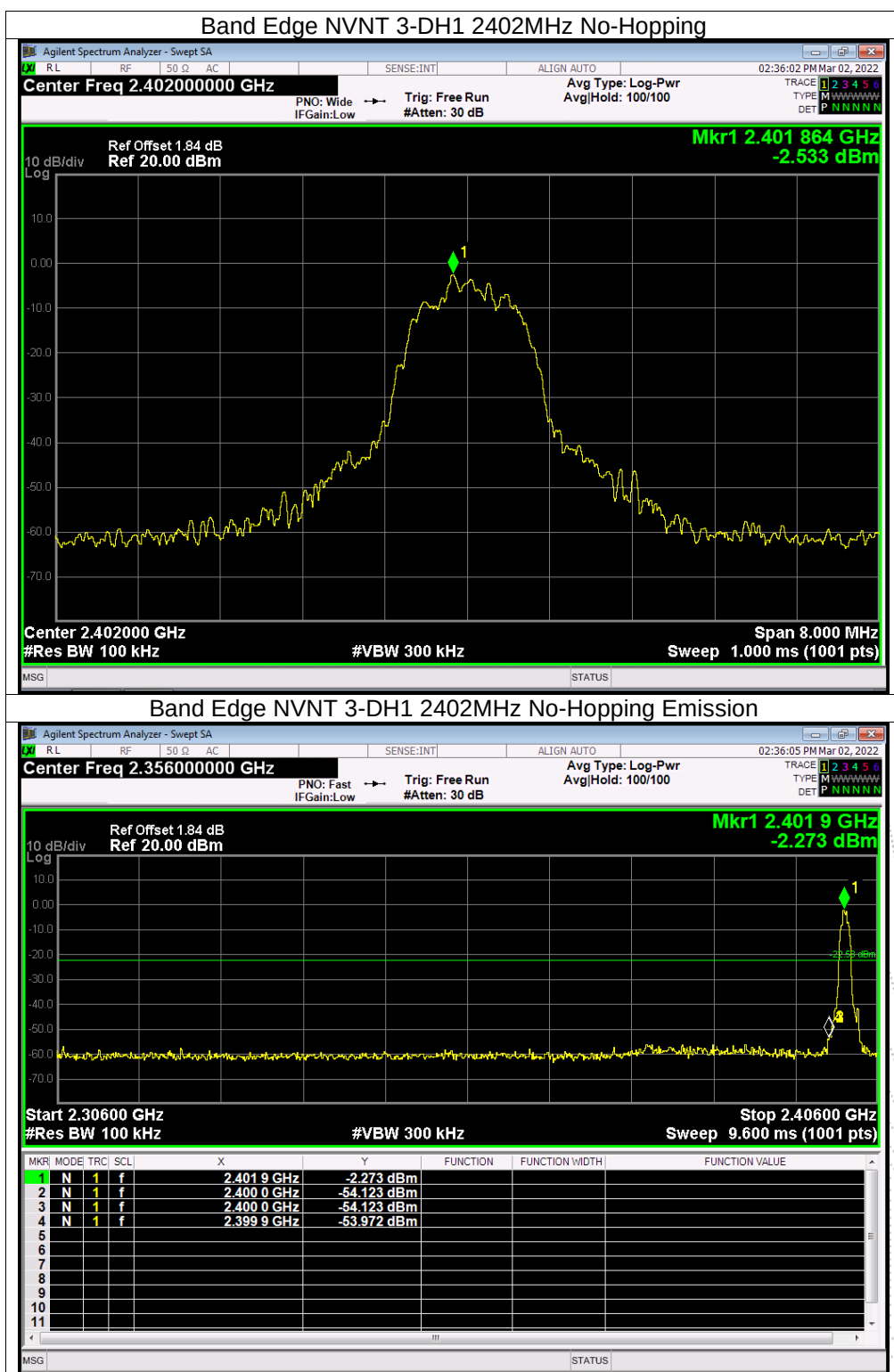
Band Edge

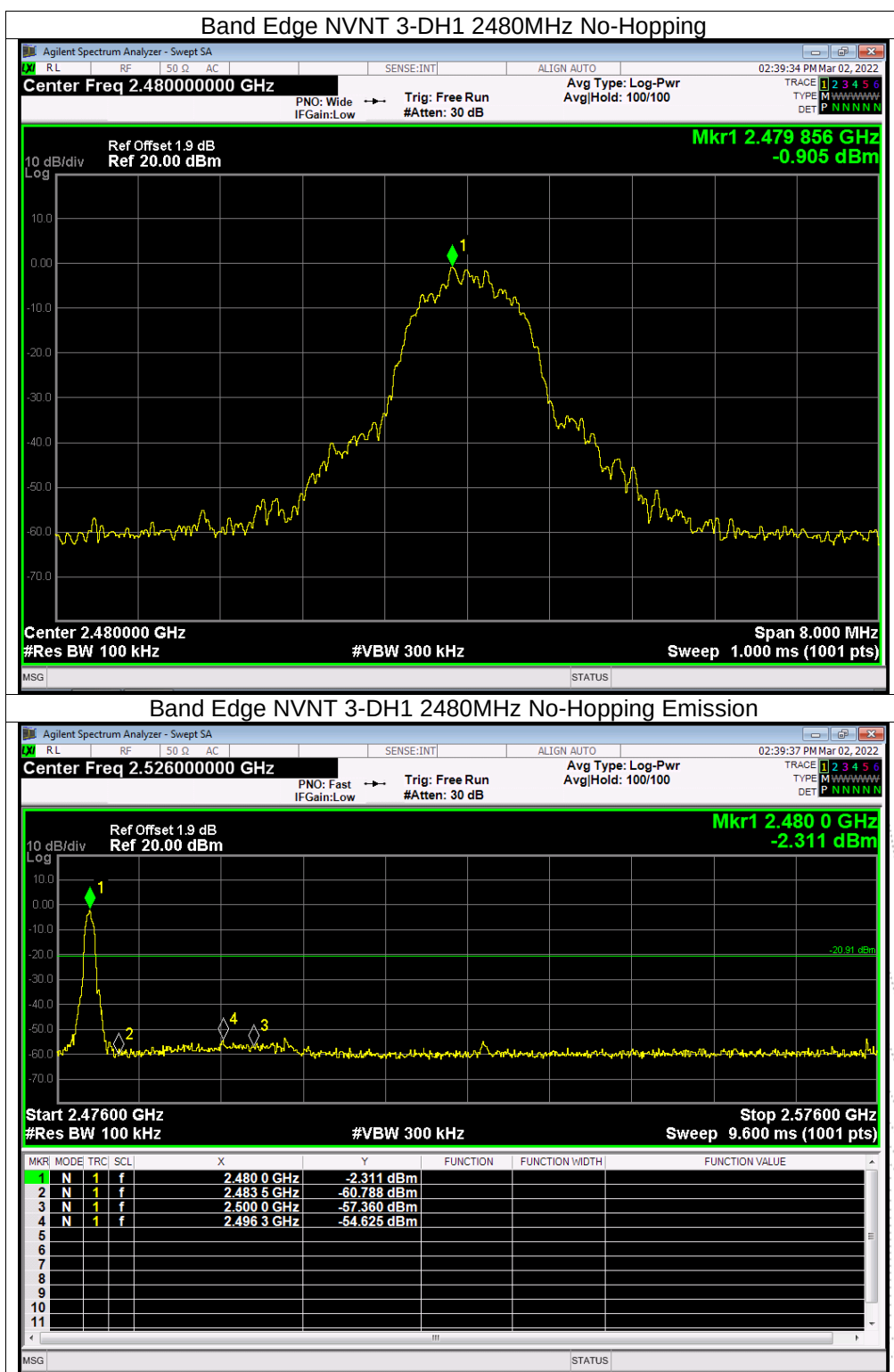








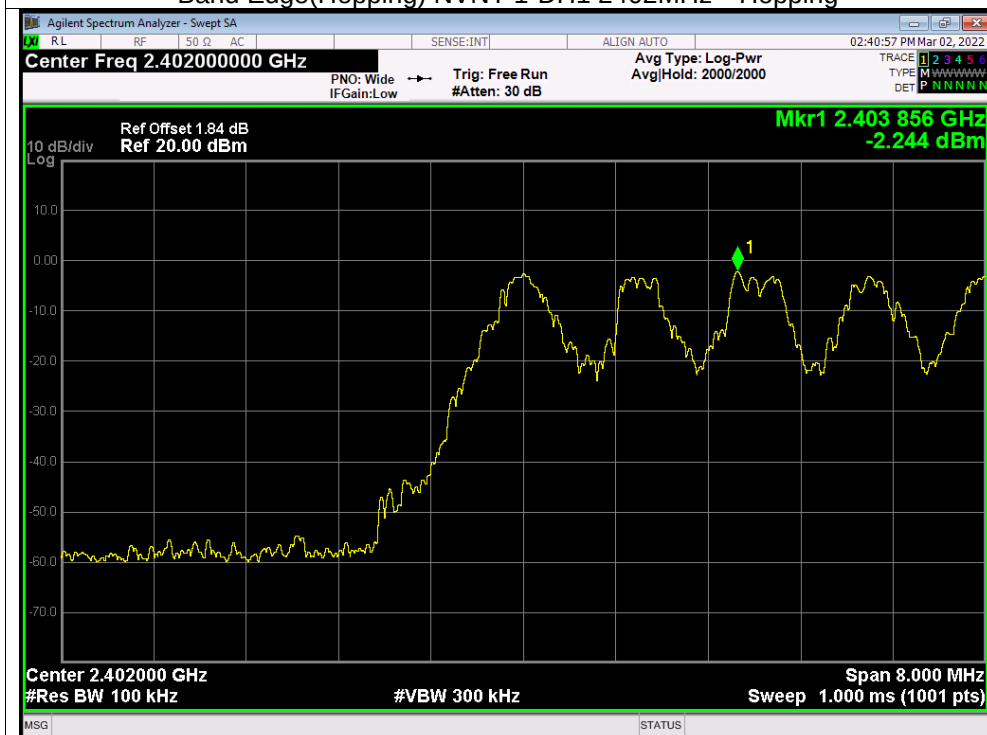




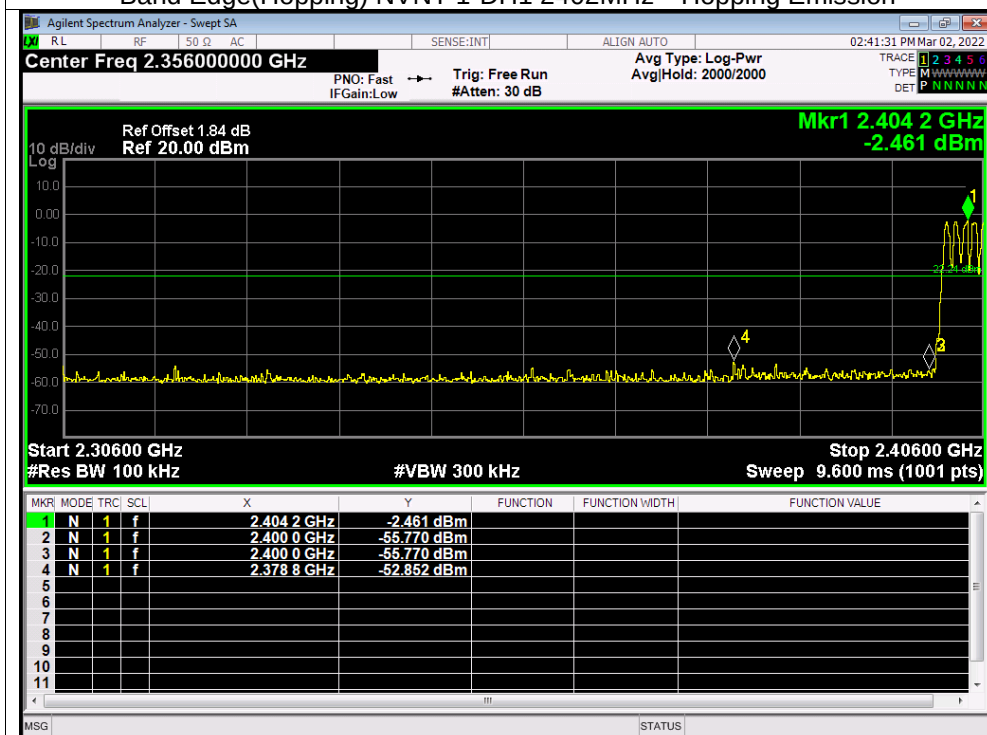
Band Edge(Hopping)

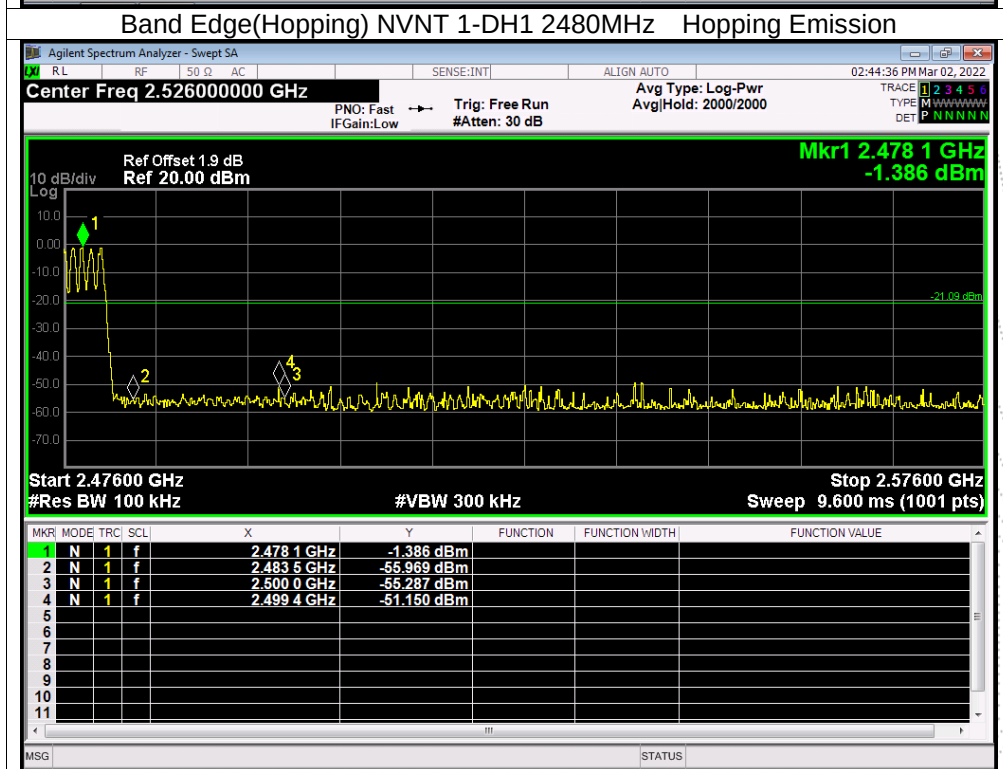
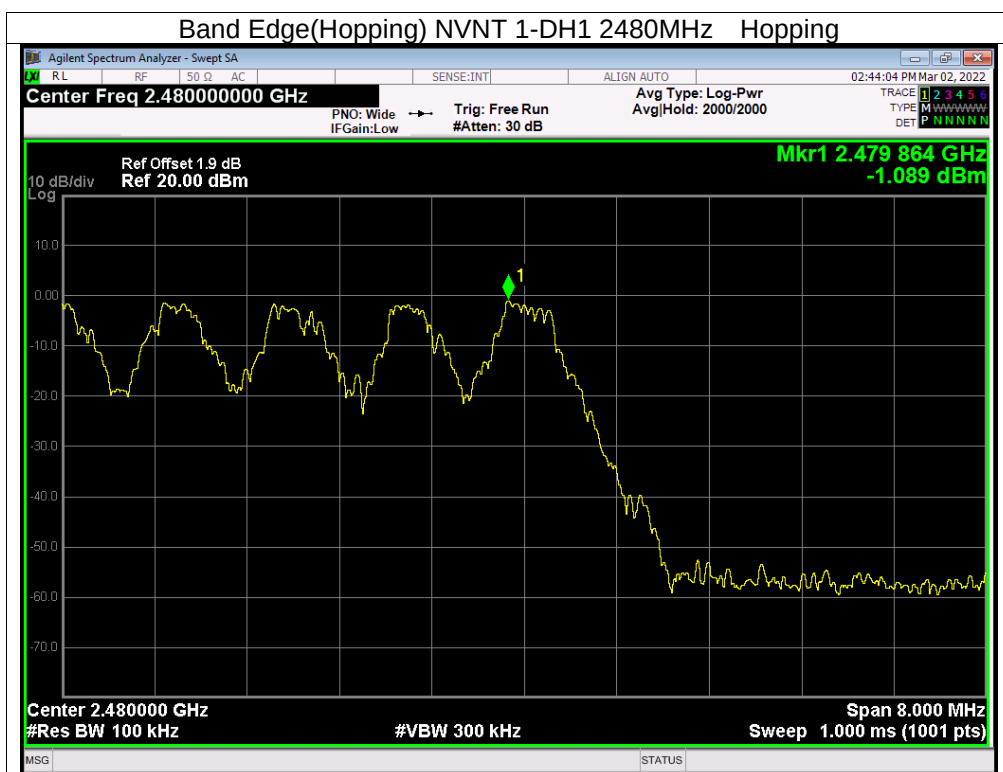
Test Graphs

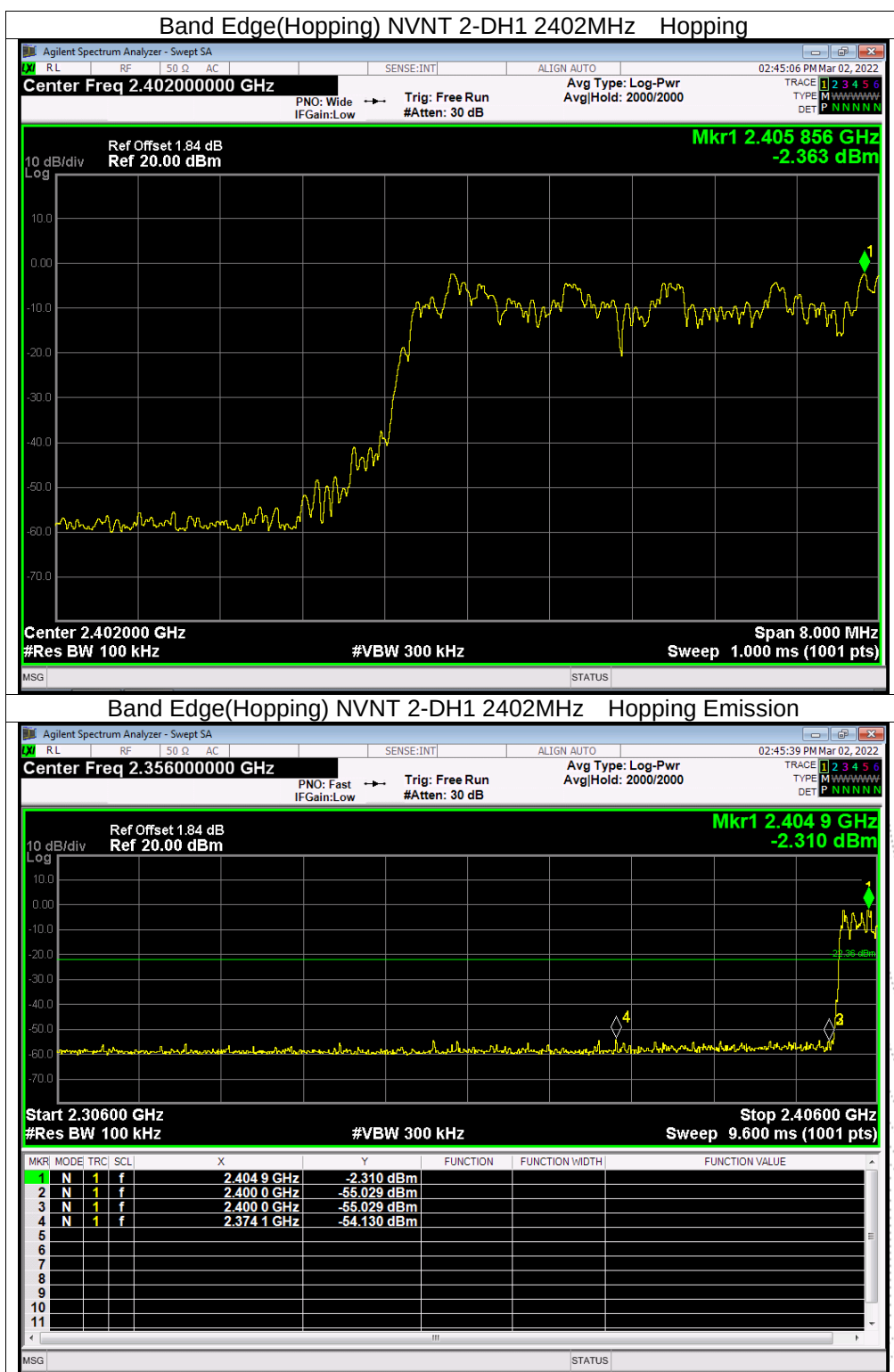
Band Edge(Hopping) NVNT 1-DH1 2402MHz Hopping

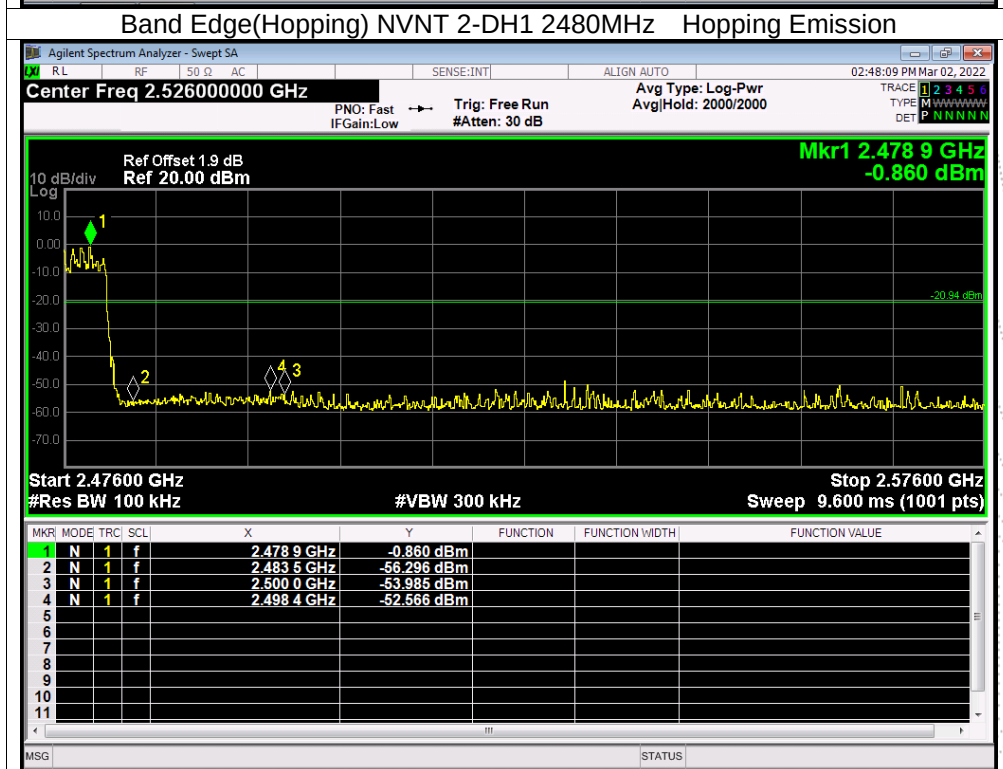
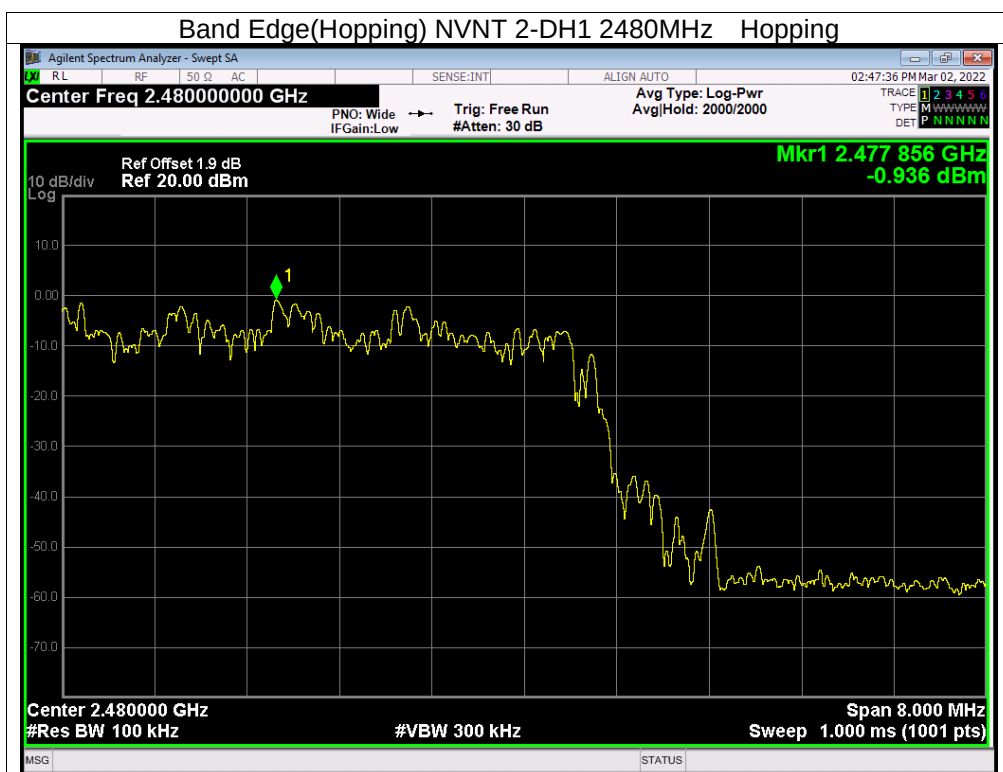


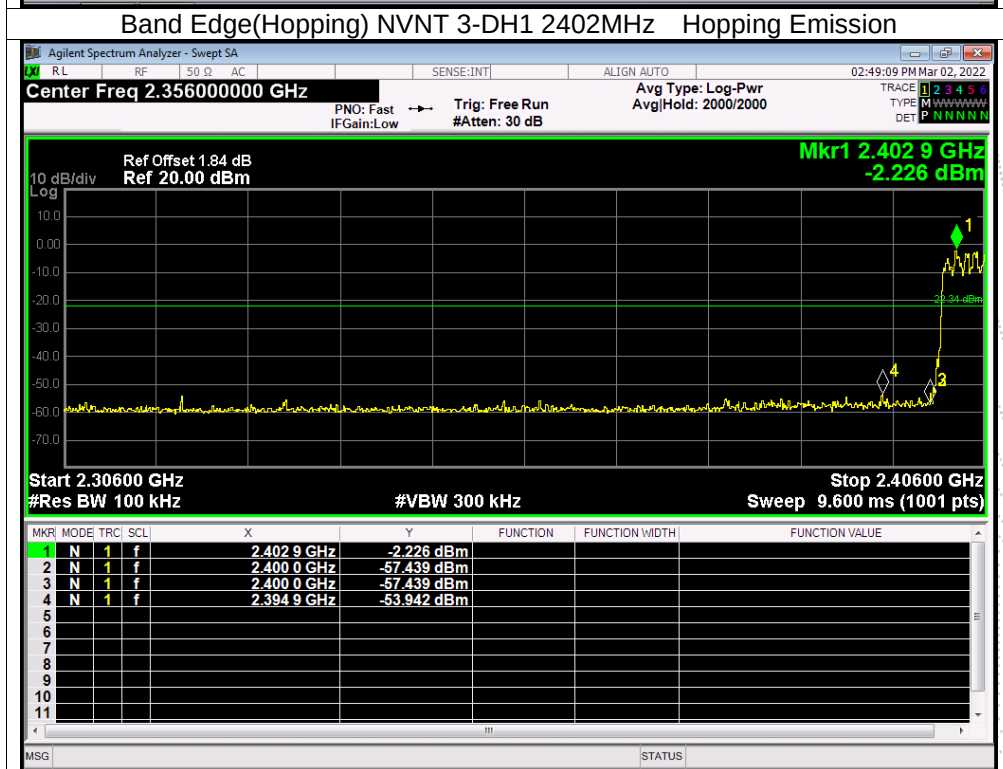
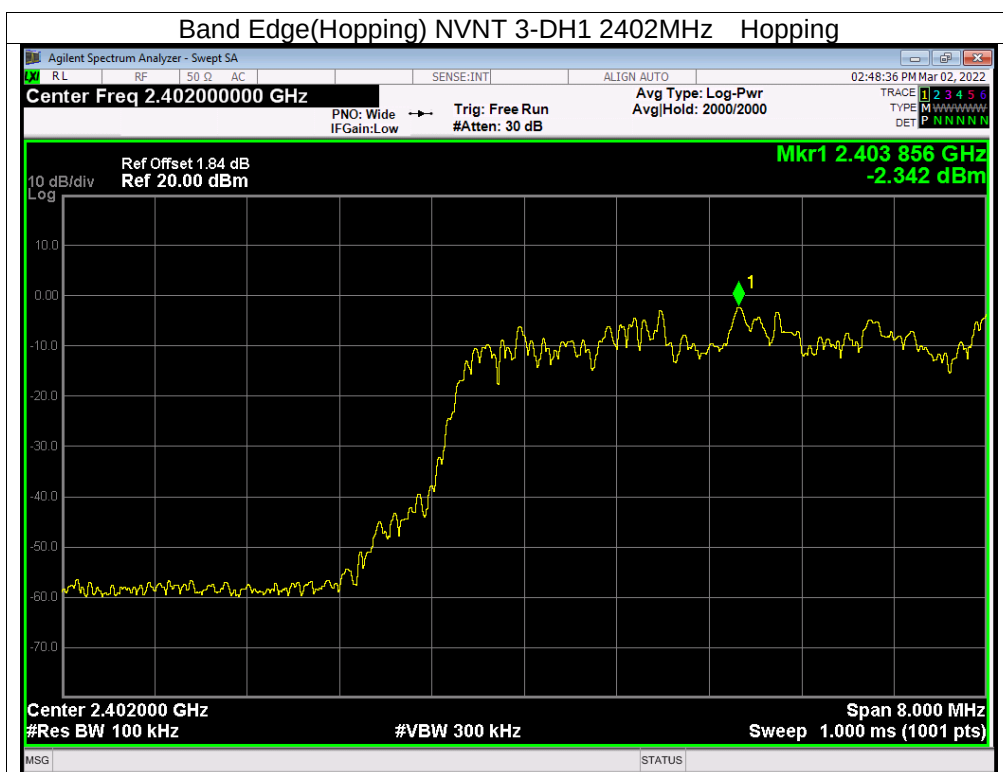
Band Edge(Hopping) NVNT 1-DH1 2402MHz Hopping Emission

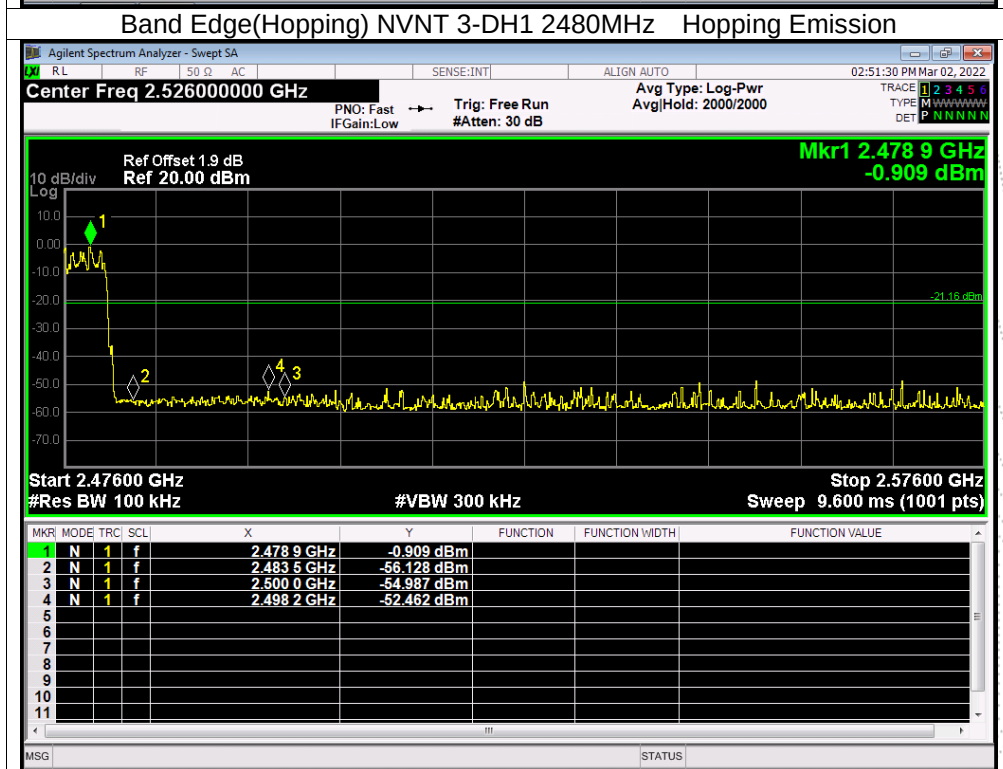
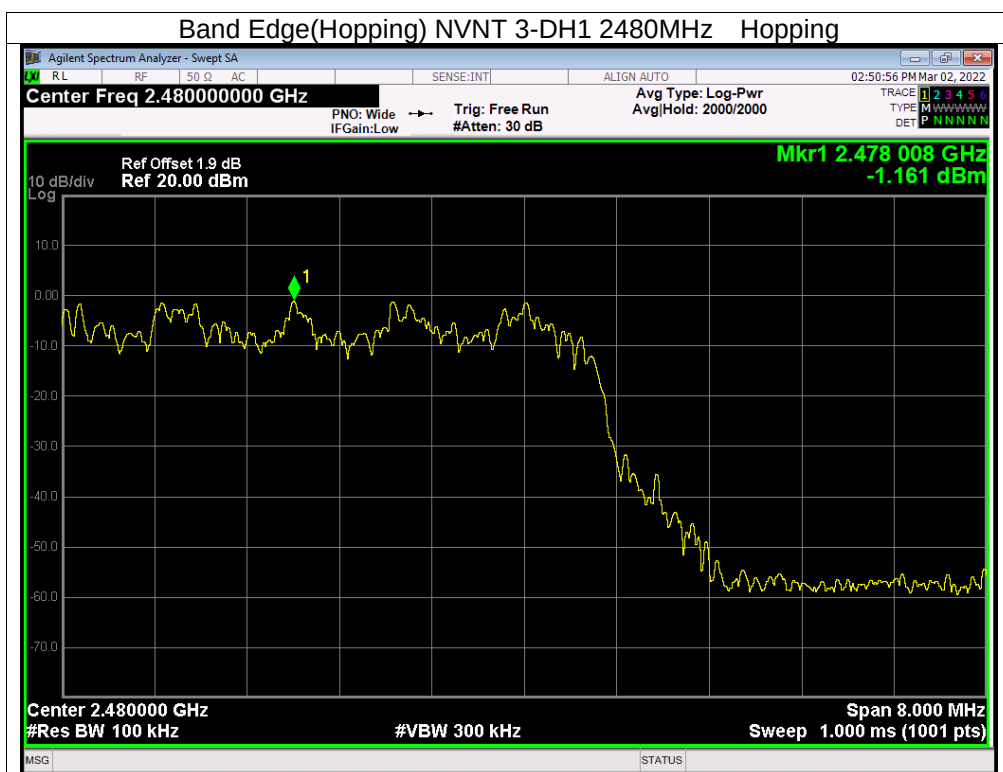












10. 20 DB Bandwidth

10.1 Block Diagram Of Test Setup



10.2 Limit

N/A

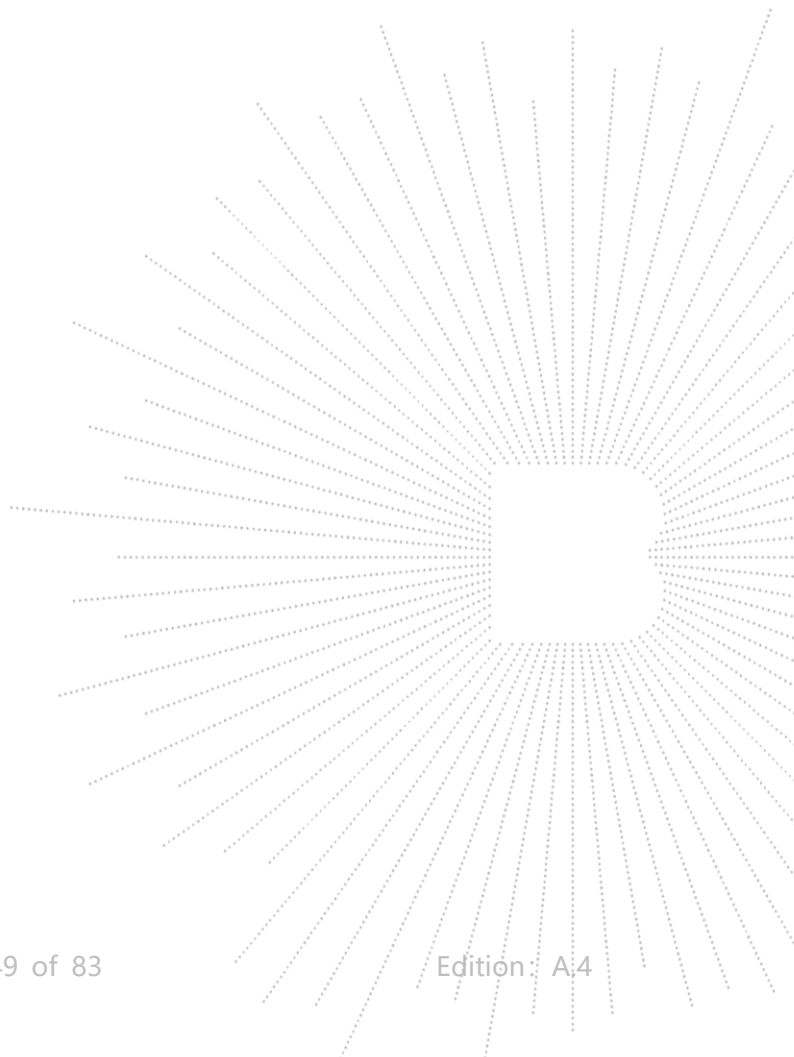
10.3 Test Procedure

1. Set RBW = 30kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission. .

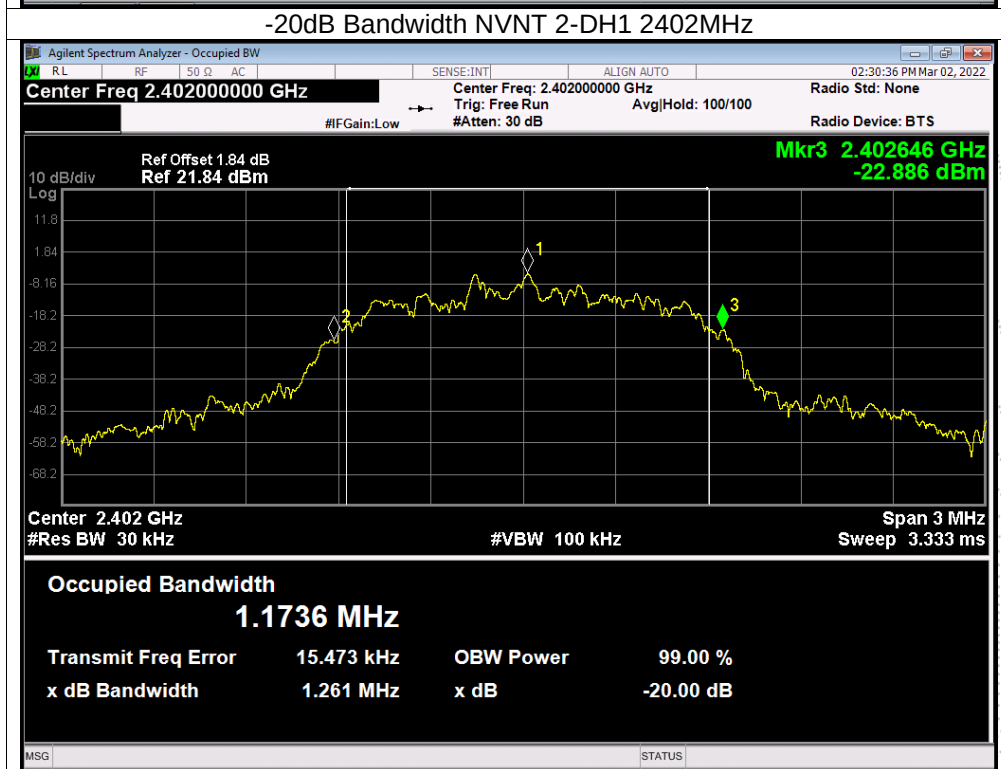
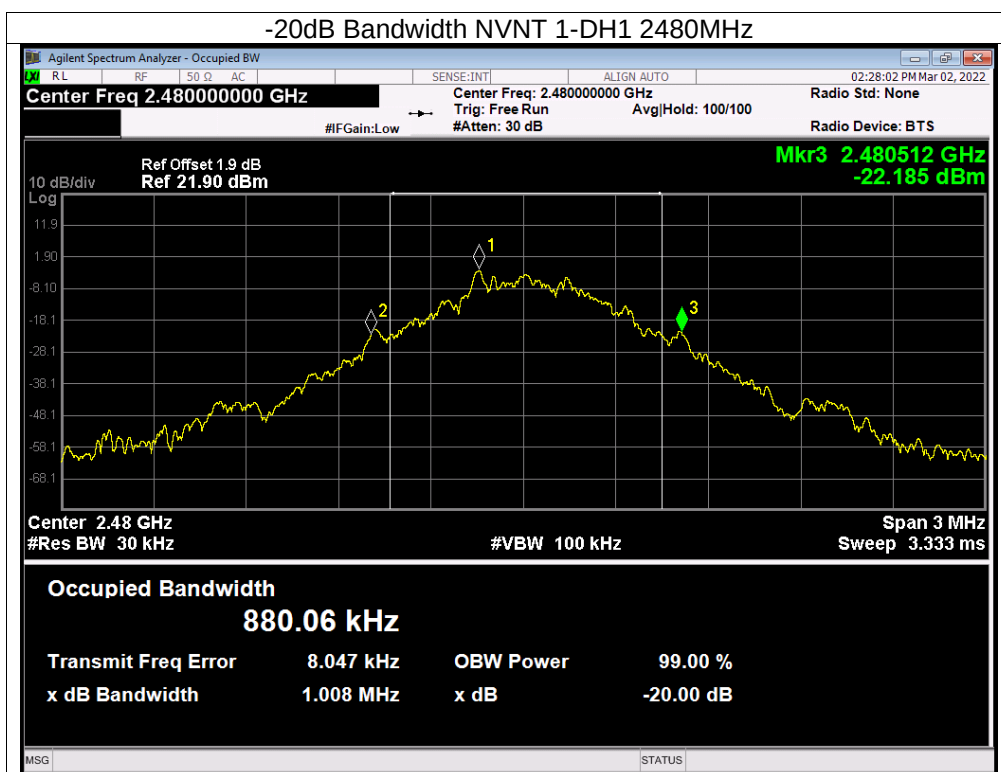
10.4 Test Result

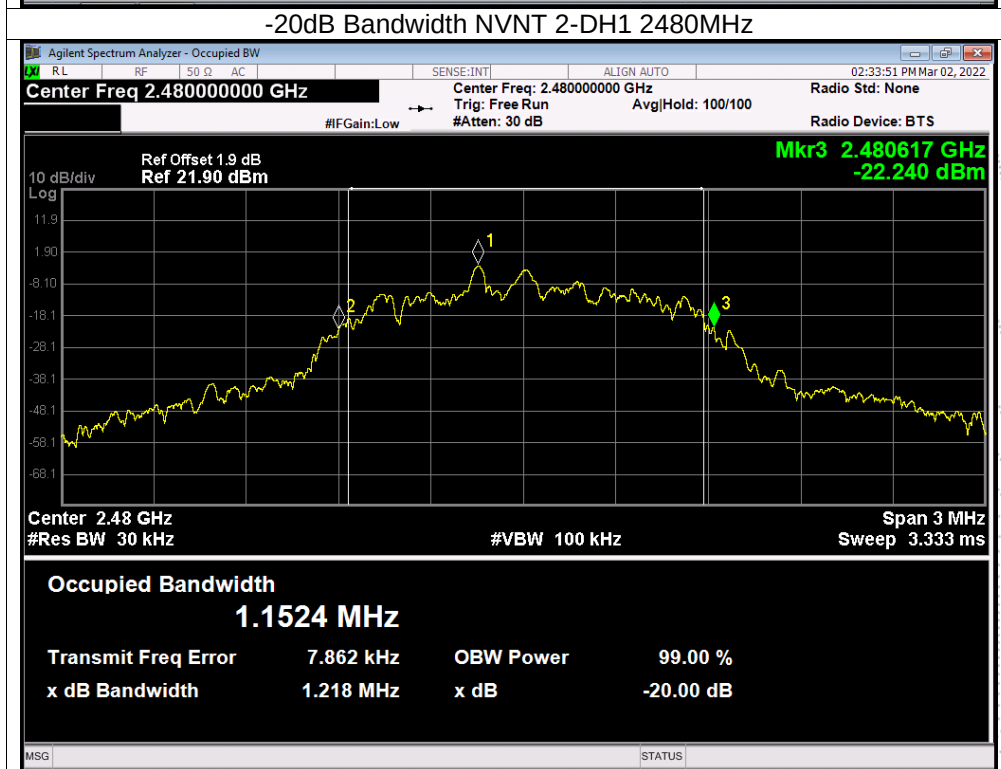
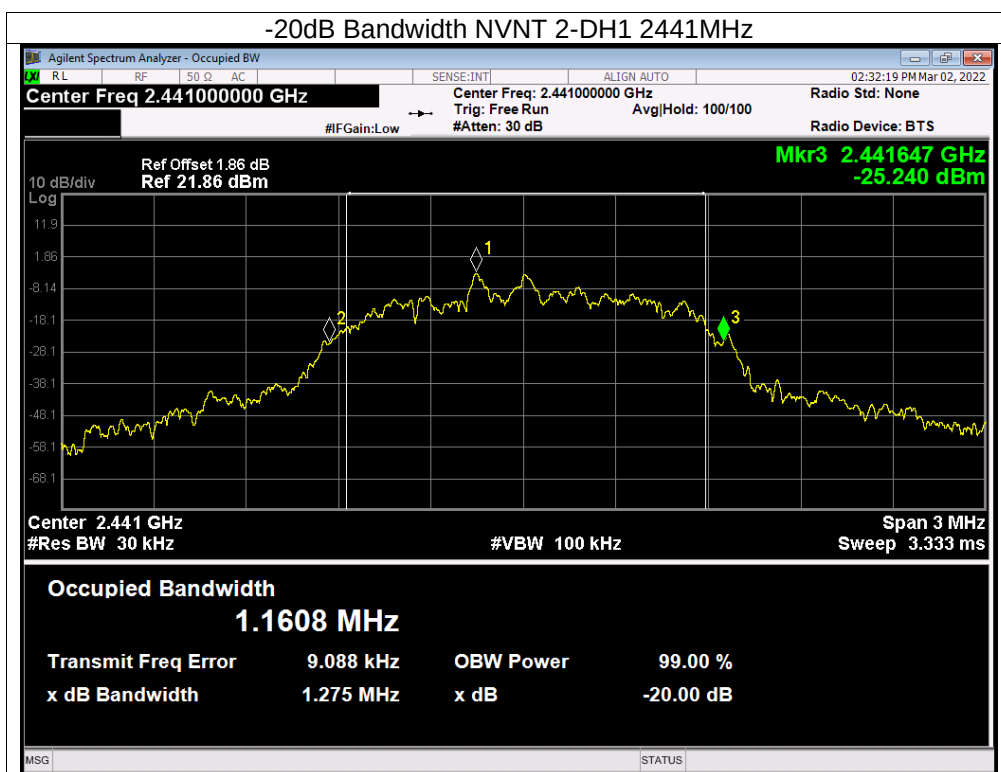
Temperature :	26℃	Relative Humidity :	54%
Test Voltage :	DC 3.7V	Remark	N/A

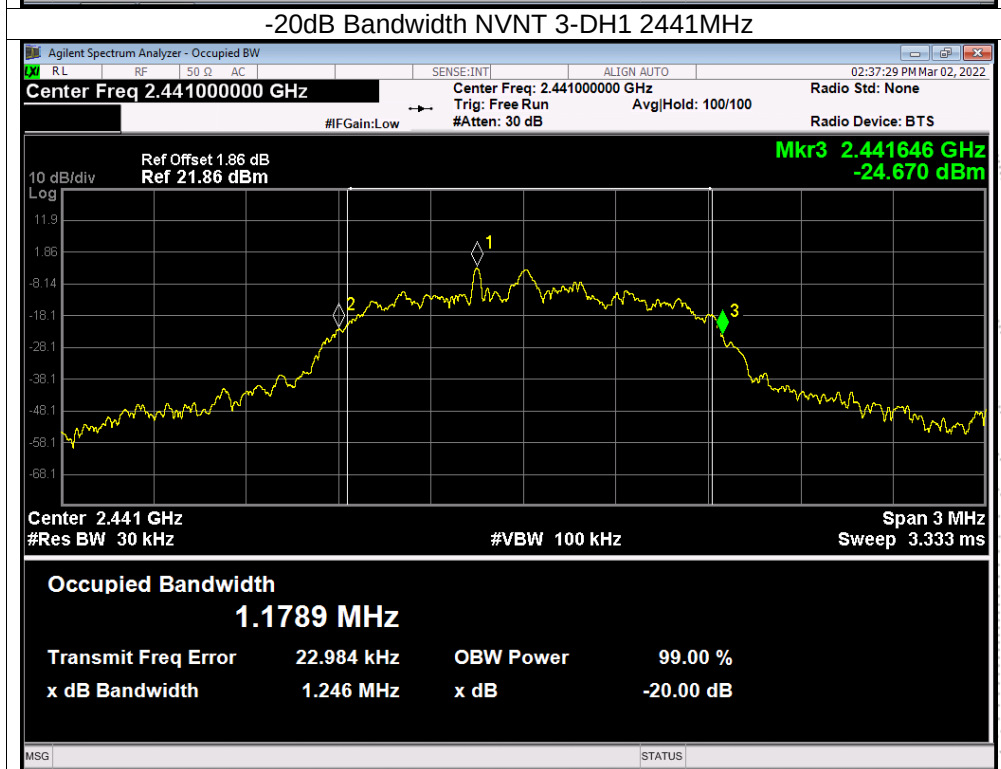
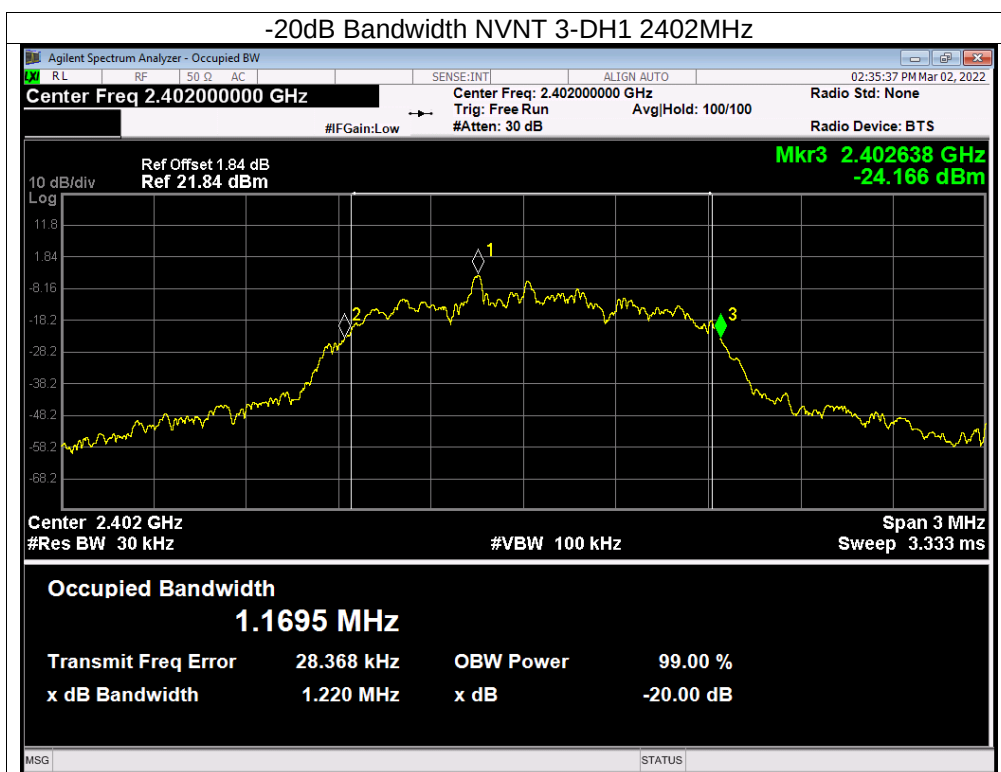
Modulation	Test Channel	Bandwidth(MHz)
GFSK	Low	0.979
GFSK	Middle	0.931
GFSK	High	1.008
$\pi/4$ DQPSK	Low	1.261
$\pi/4$ DQPSK	Middle	1.275
$\pi/4$ DQPSK	High	1.218
8DPSK	Low	1.22
8DPSK	Middle	1.246
8DPSK	High	1.263

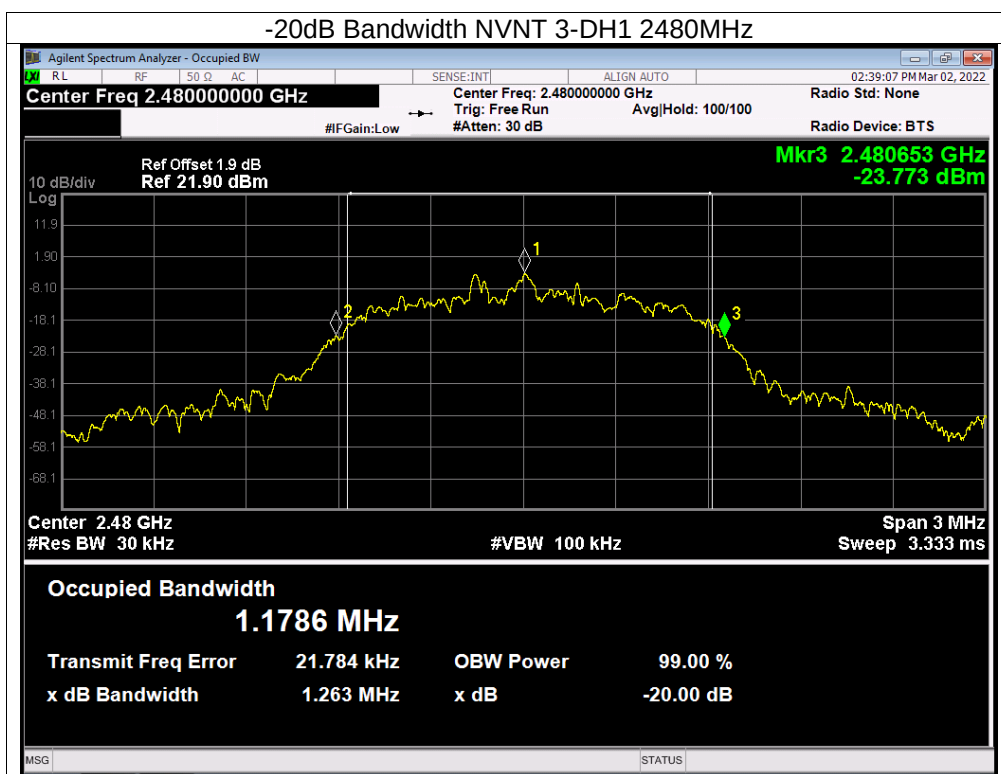












11. Maximum Peak Output Power

11.1 Block Diagram Of Test Setup



11.2 Limit

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

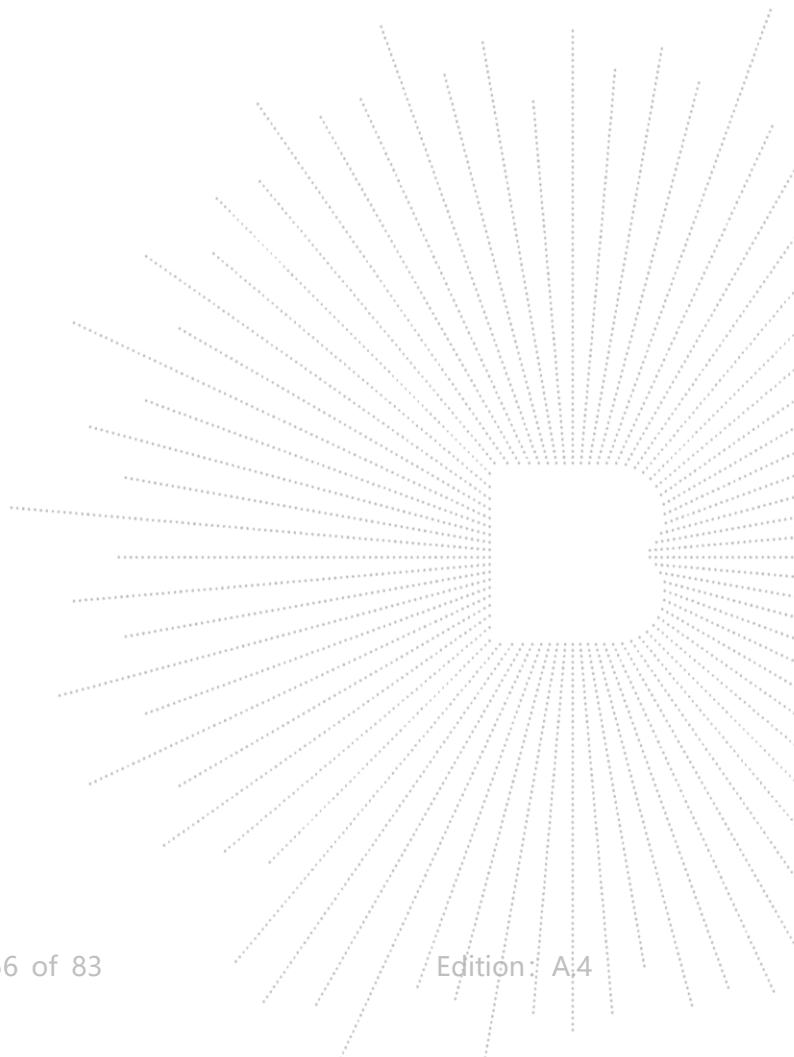
11.3 Test Procedure

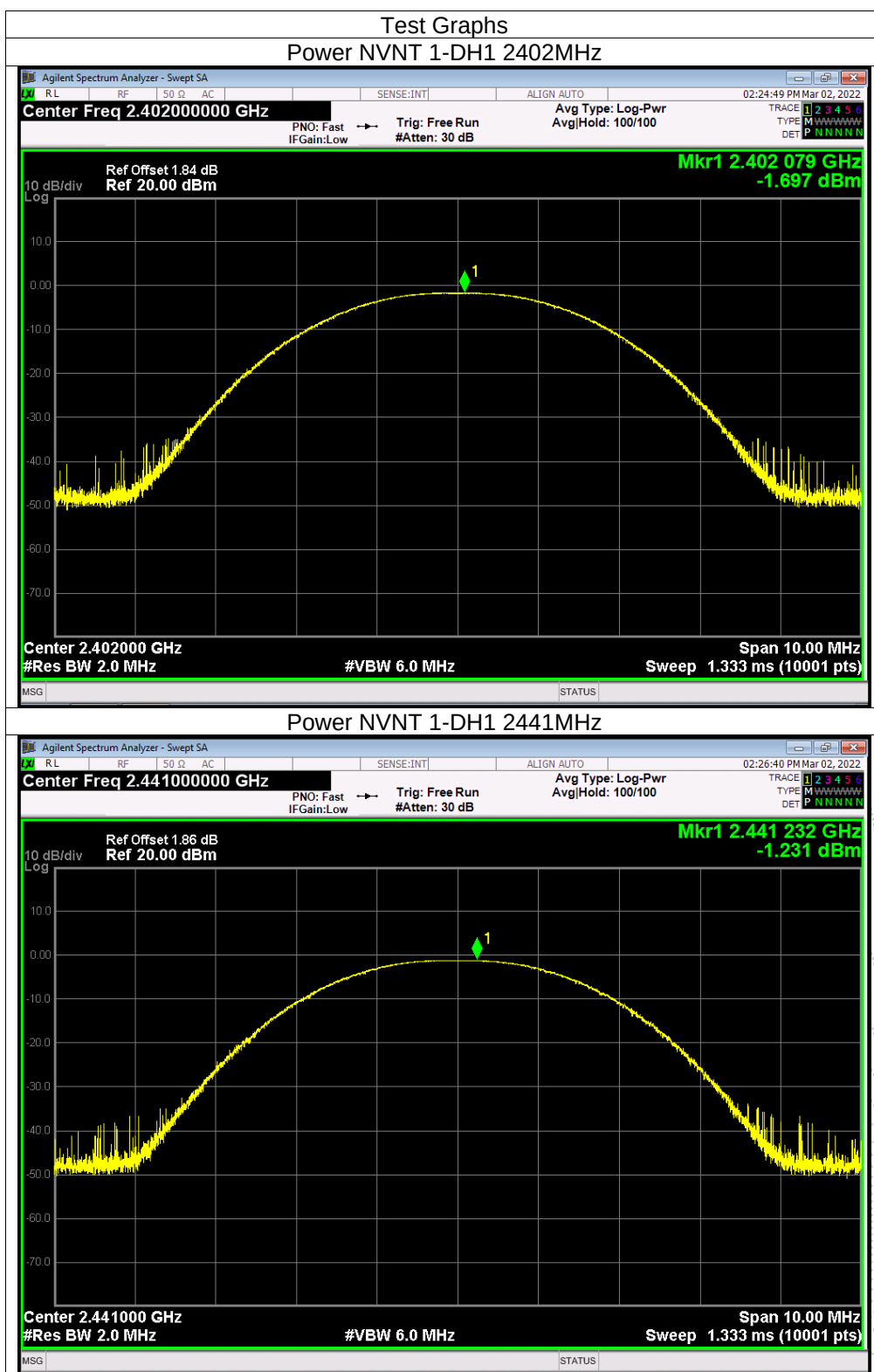
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW = 3MHz. VBW = 3MHz. Sweep = auto; Detector Function = Peak.
3. Keep the EUT in transmitting at lowest, medium and highest channel individually. Record the max value.

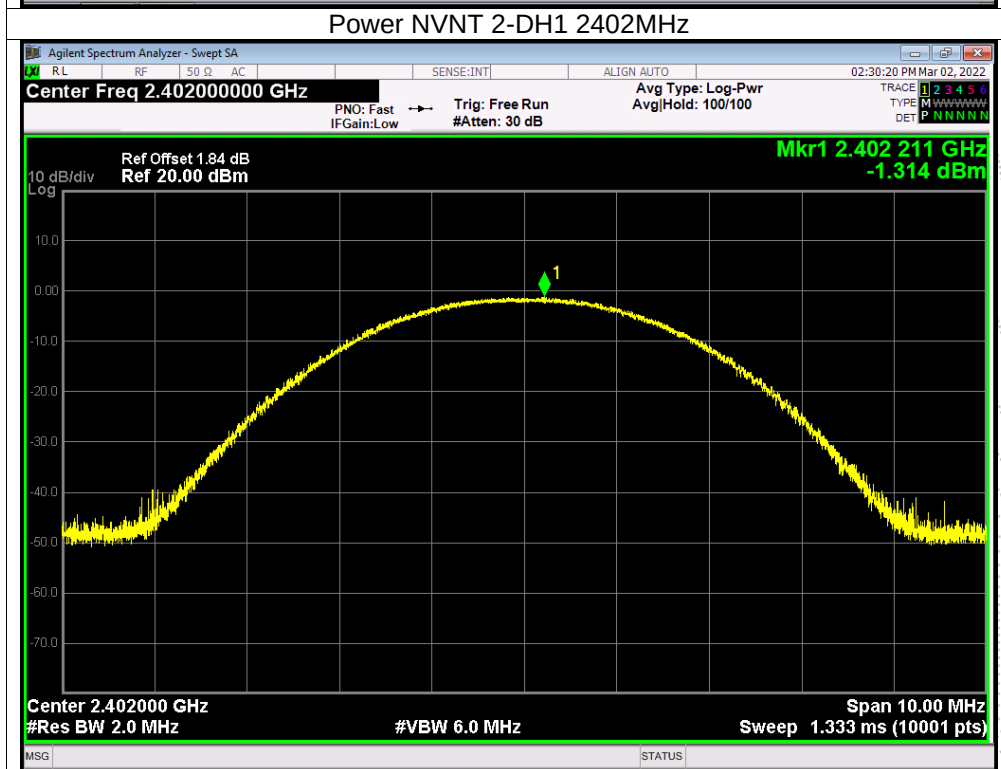
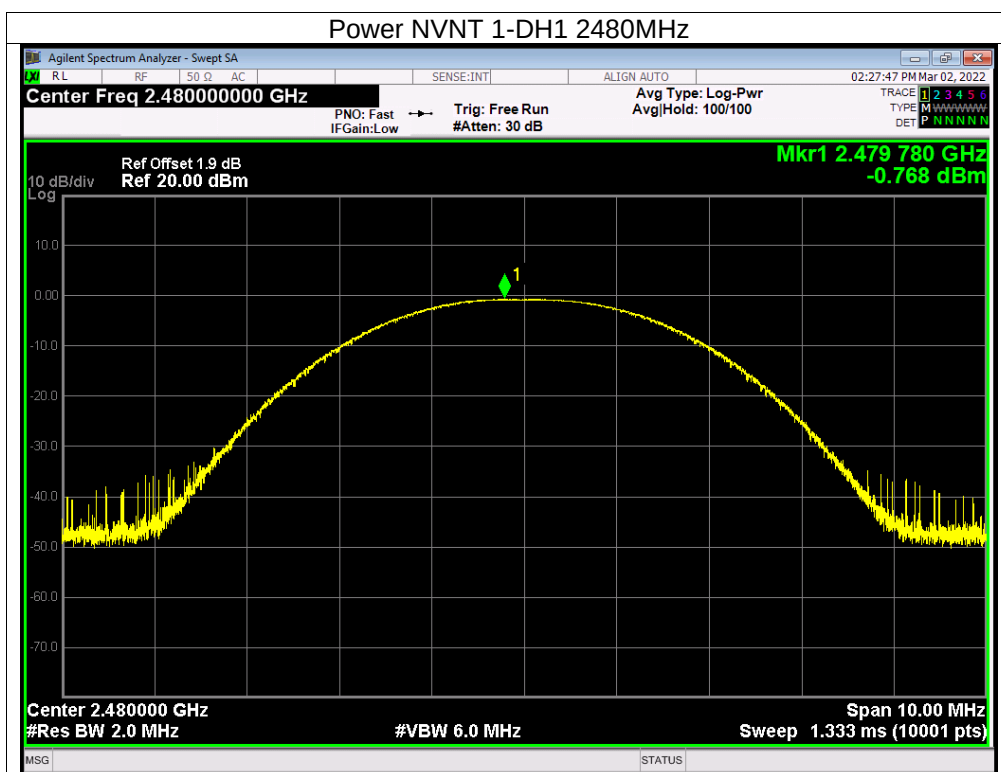
11.4 Test Result

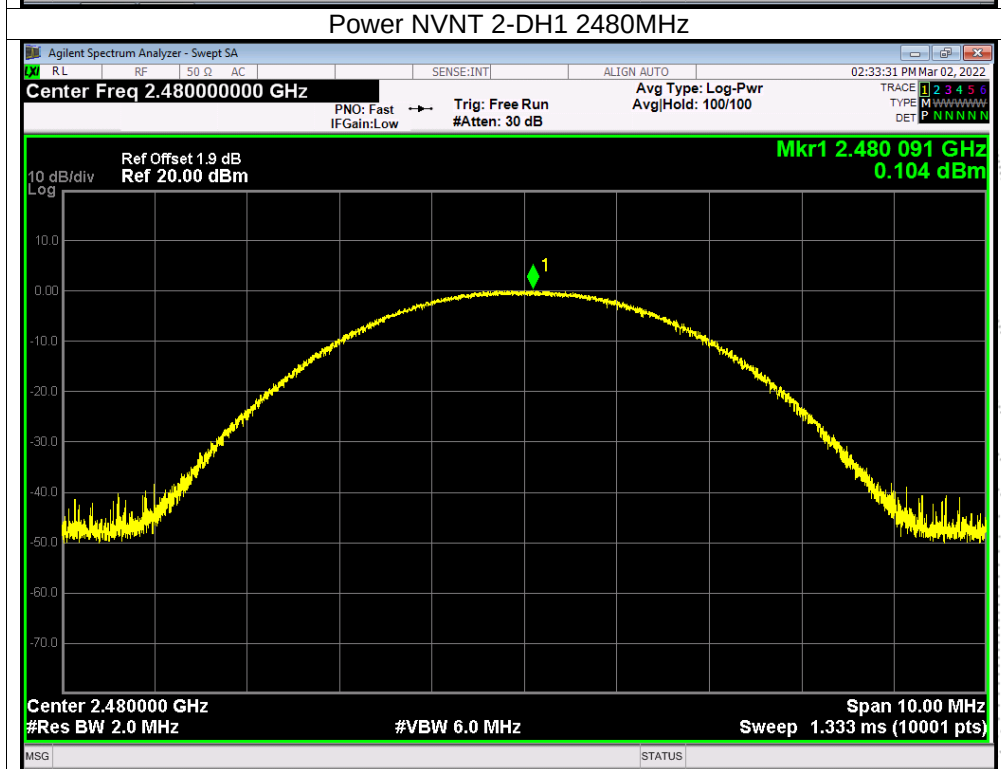
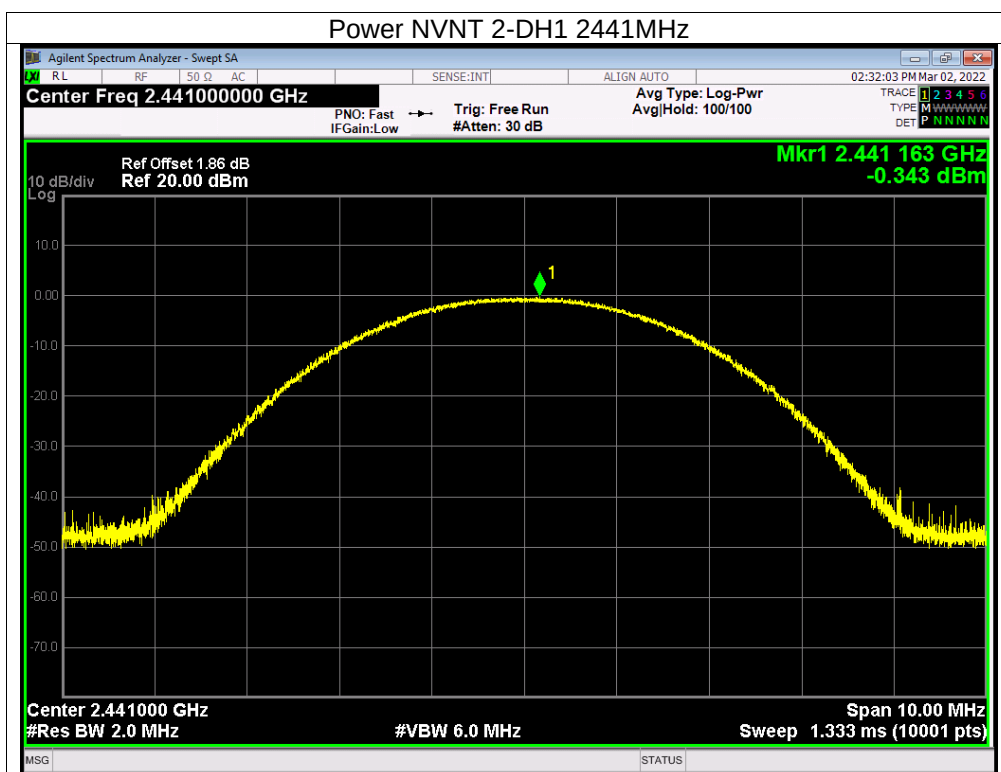
Temperature :	26°C	Relative Humidity :	54%
Test Voltage :	DC 3.7V	Remark:	N/A

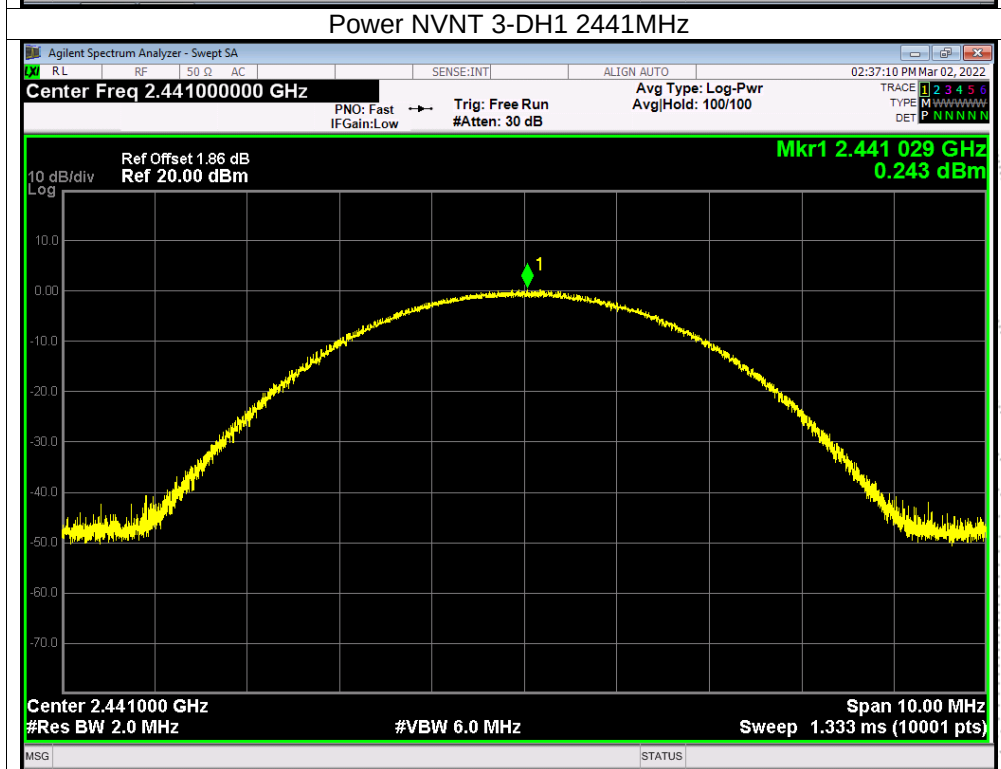
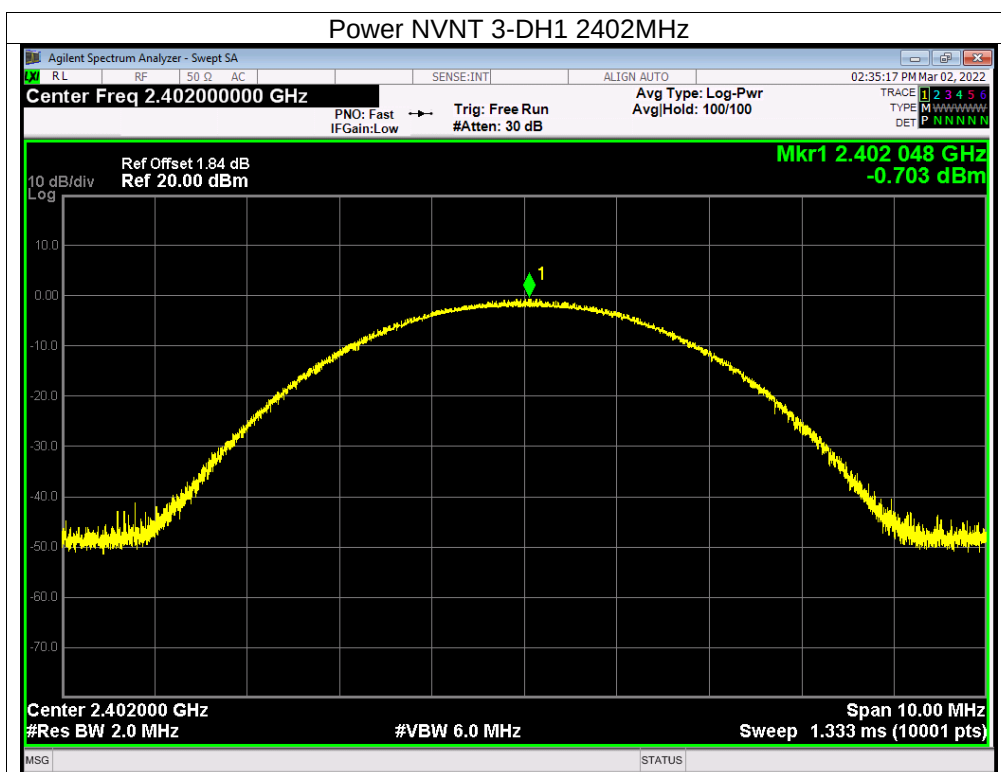
Modulation	Test Channel	Output Power (dBm)	Limit (dBm)
GFSK	Low	-1.7	21
GFSK	Middle	-1.23	21
GFSK	High	-0.77	21
$\pi/4$ DQPSK	Low	-1.31	21
$\pi/4$ DQPSK	Middle	-0.34	21
$\pi/4$ DQPSK	High	0.1	21
8DPSK	Low	-0.7	21
8DPSK	Middle	0.24	21
8DPSK	High	0.67	21

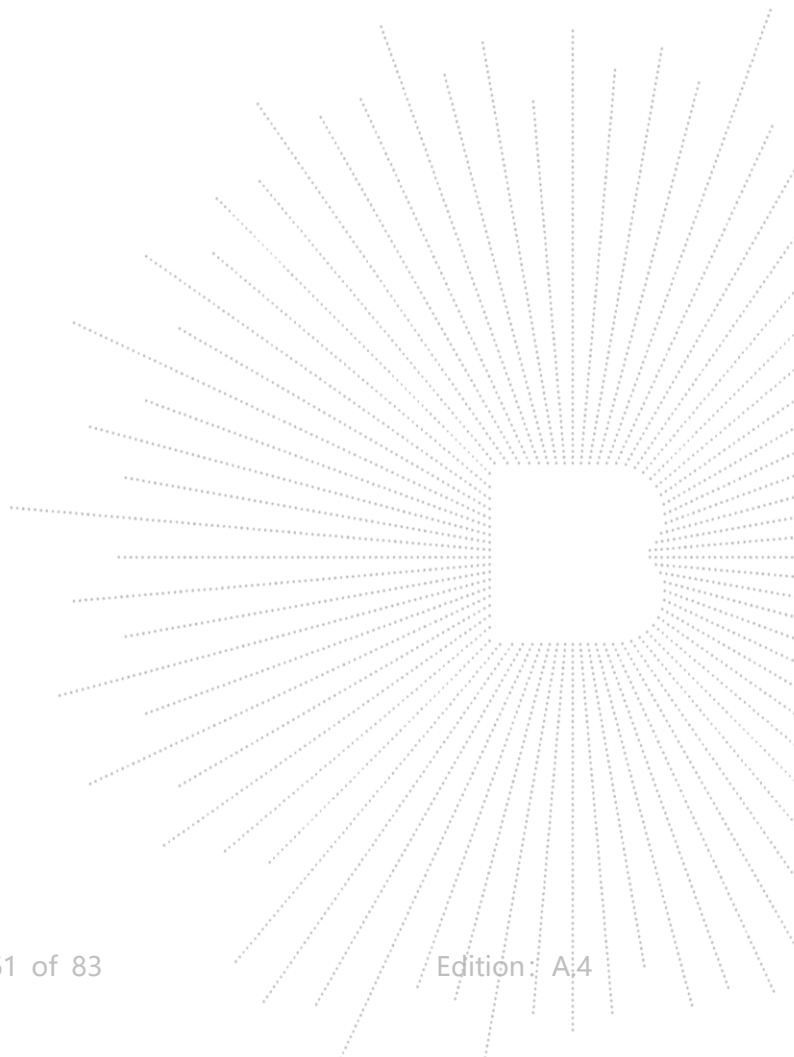
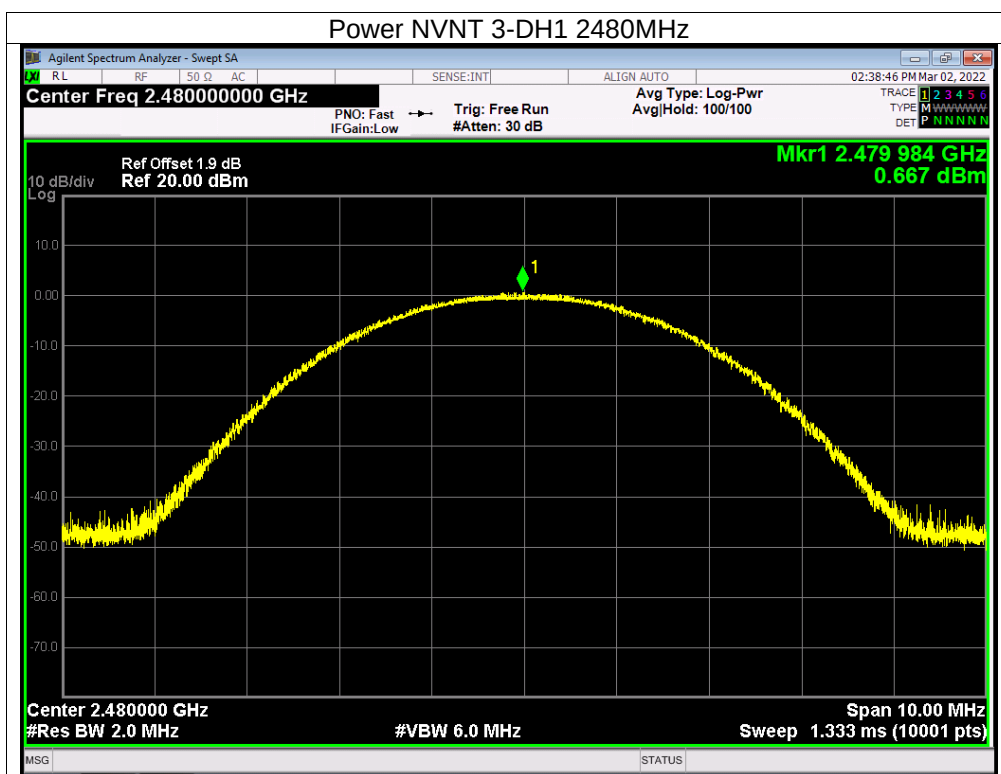












12. Hopping Channel Separation

12.1 Block Diagram Of Test Setup



12.2 Limit

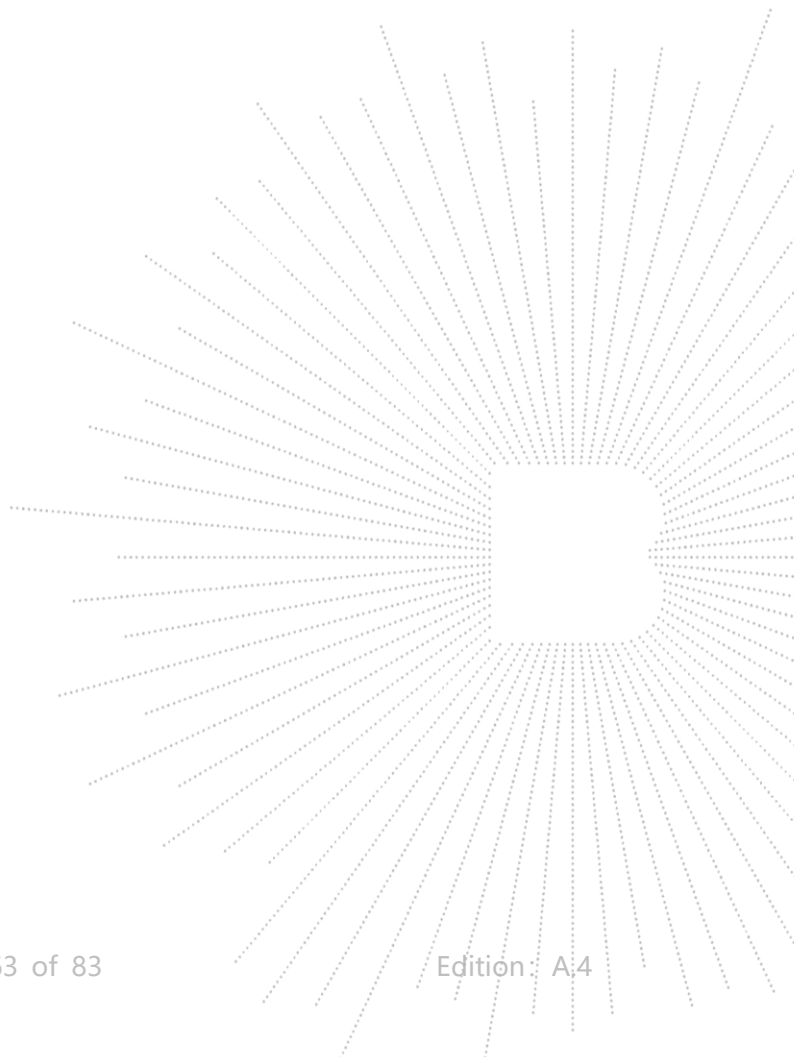
Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that 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.

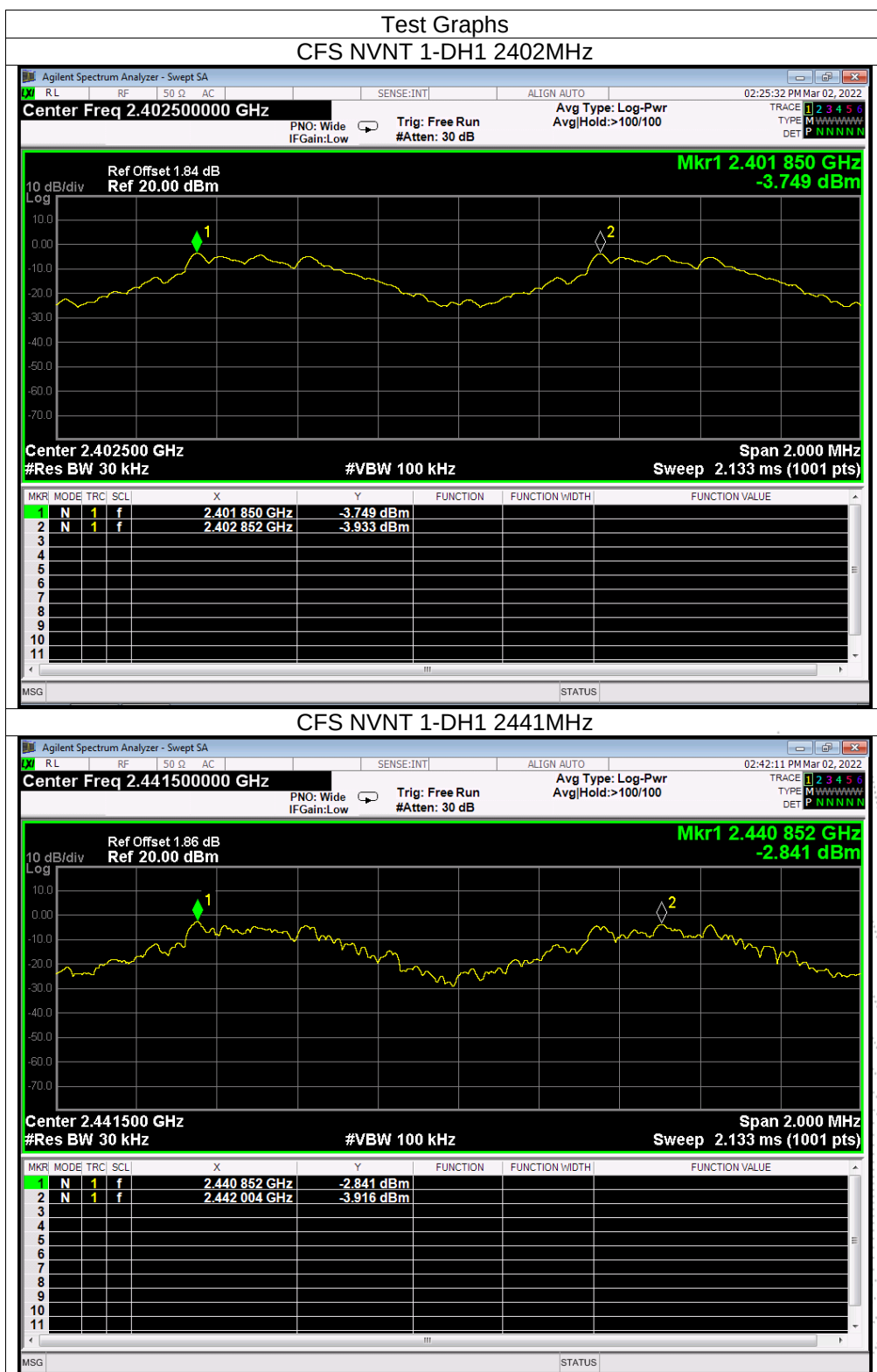
12.3 Test Procedure

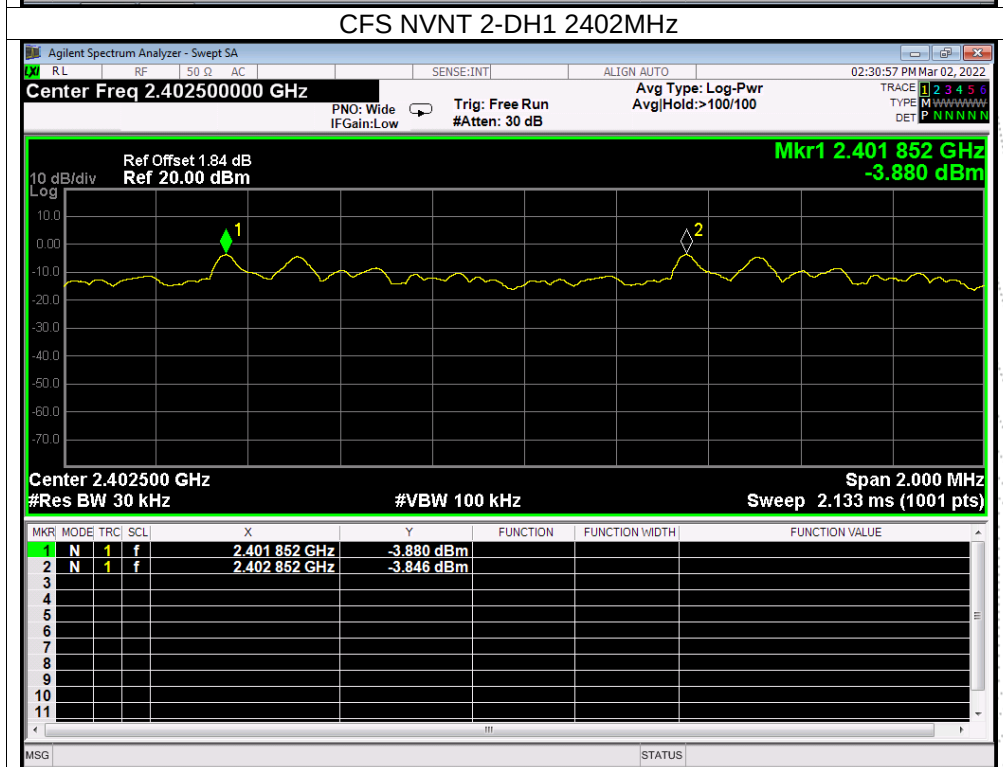
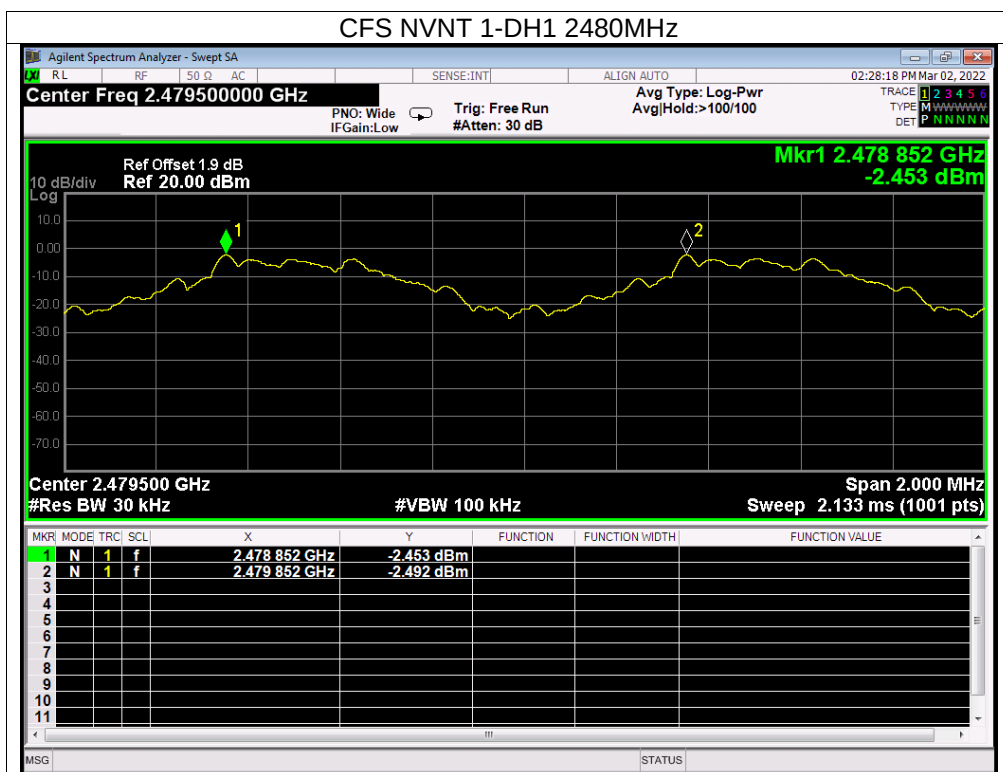
1. Remove the antenna from the EUT and then connect a low RF cable from the antenna port to the spectrum.
2. Set the spectrum analyzer: RBW = 30kHz. VBW = 100kHz , Span = 2.0MHz. Sweep = auto; Detector Function = Peak. Trace = Max hold.
3. Allow the trace to stabilize. Use the marker-delta function to 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.

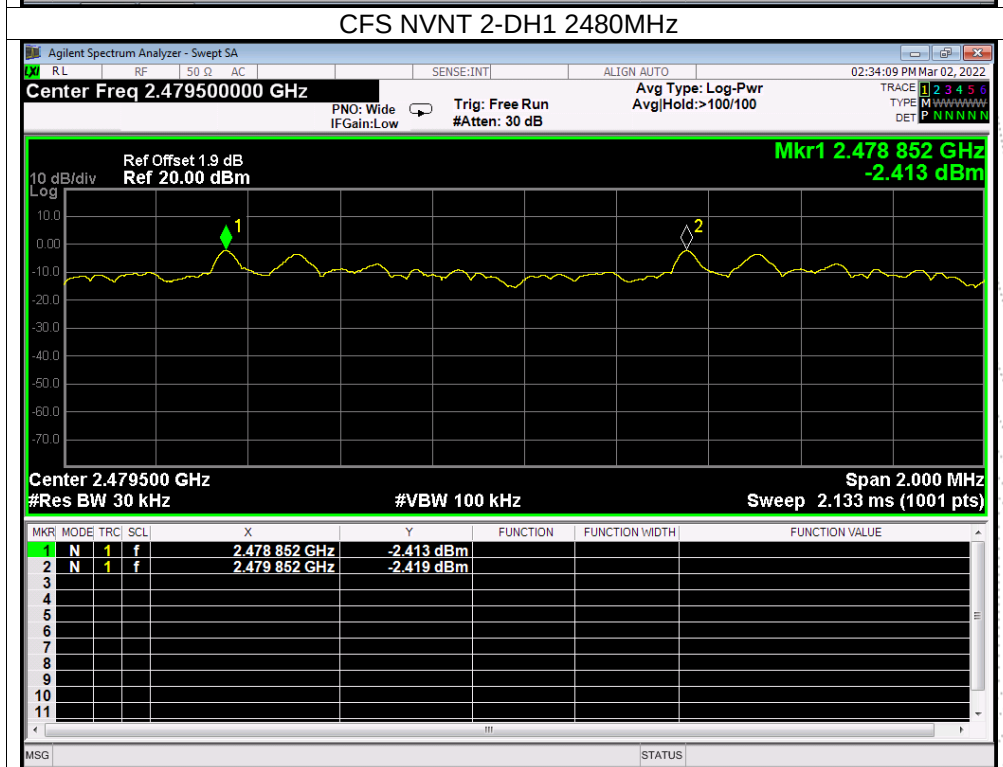
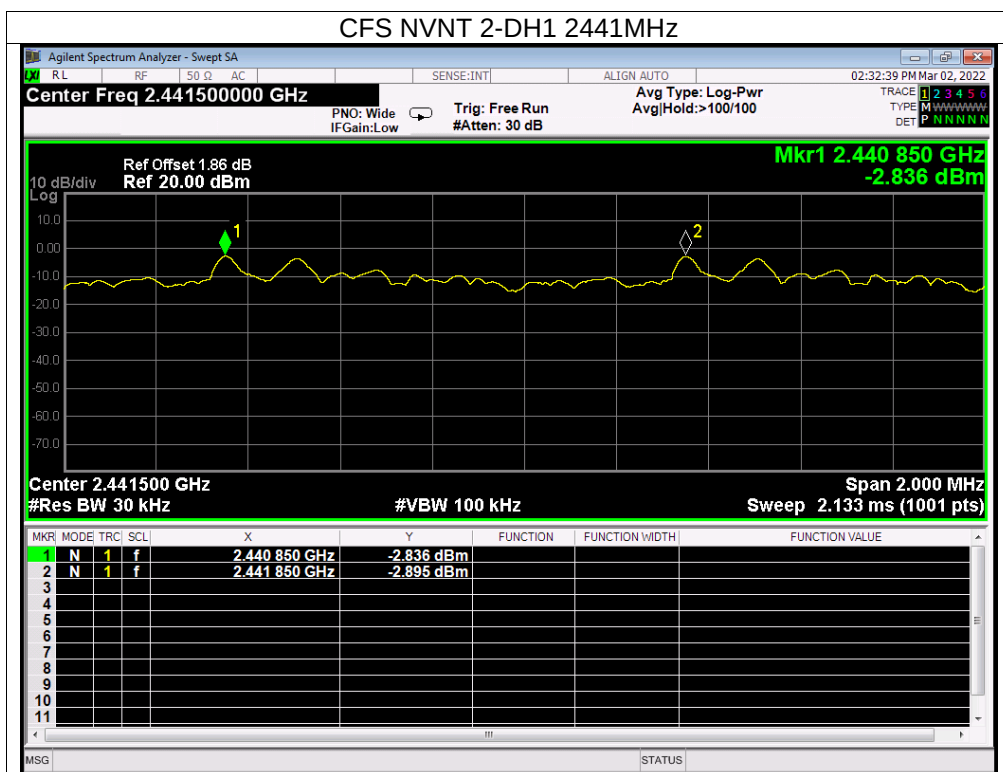
12.4 Test Result

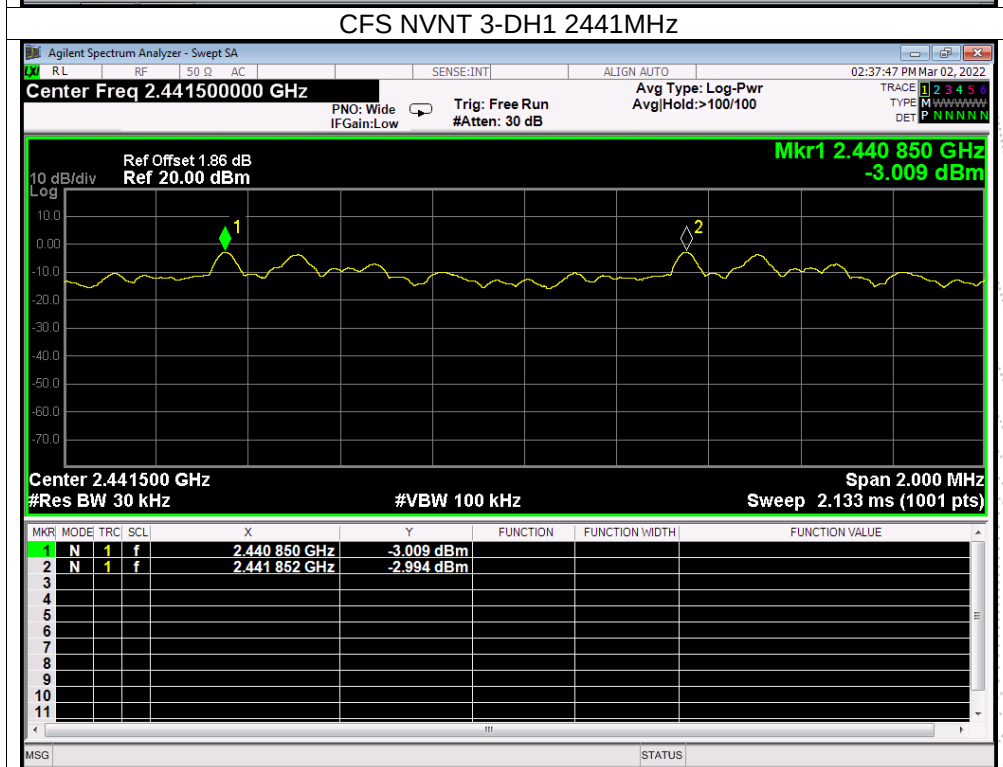
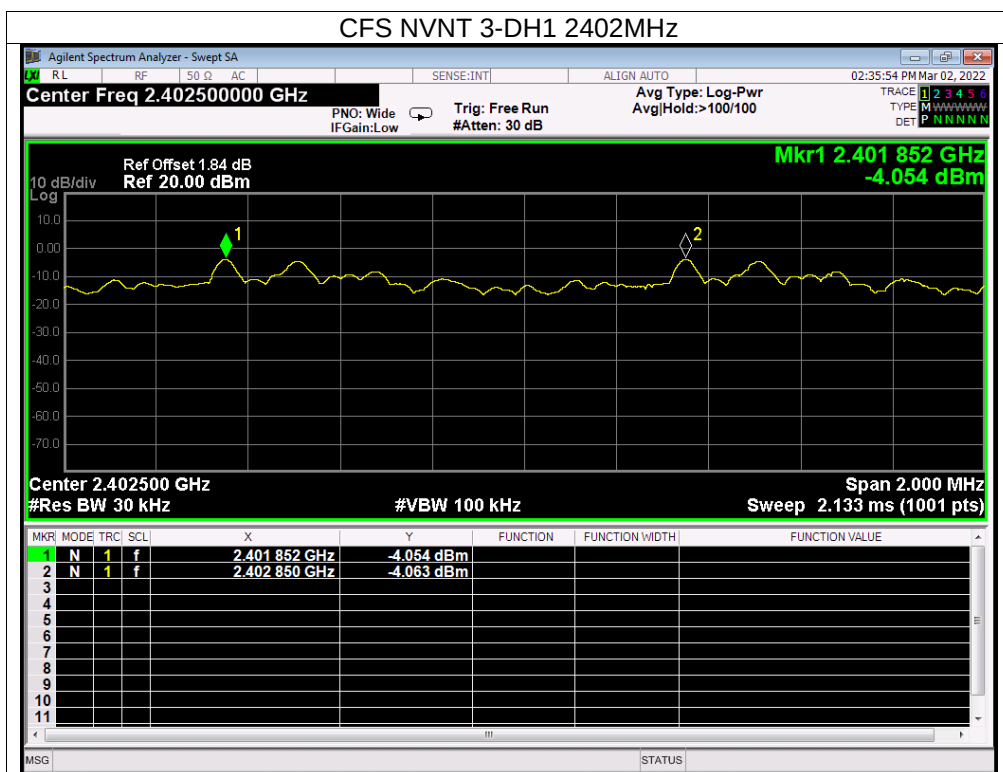
Modulation	Test Channel	Separation (MHz)	Limit(MHz)	Result
GFSK	Low	1.002	0.653	PASS
GFSK	Middle	1.152	0.621	PASS
GFSK	High	1	0.672	PASS
$\pi/4$ DQPSK	Low	1	0.841	PASS
$\pi/4$ DQPSK	Middle	1	0.850	PASS
$\pi/4$ DQPSK	High	1	0.812	PASS
8DPSK	Low	0.998	0.813	PASS
8DPSK	Middle	1.002	0.831	PASS
8DPSK	High	1	0.842	PASS

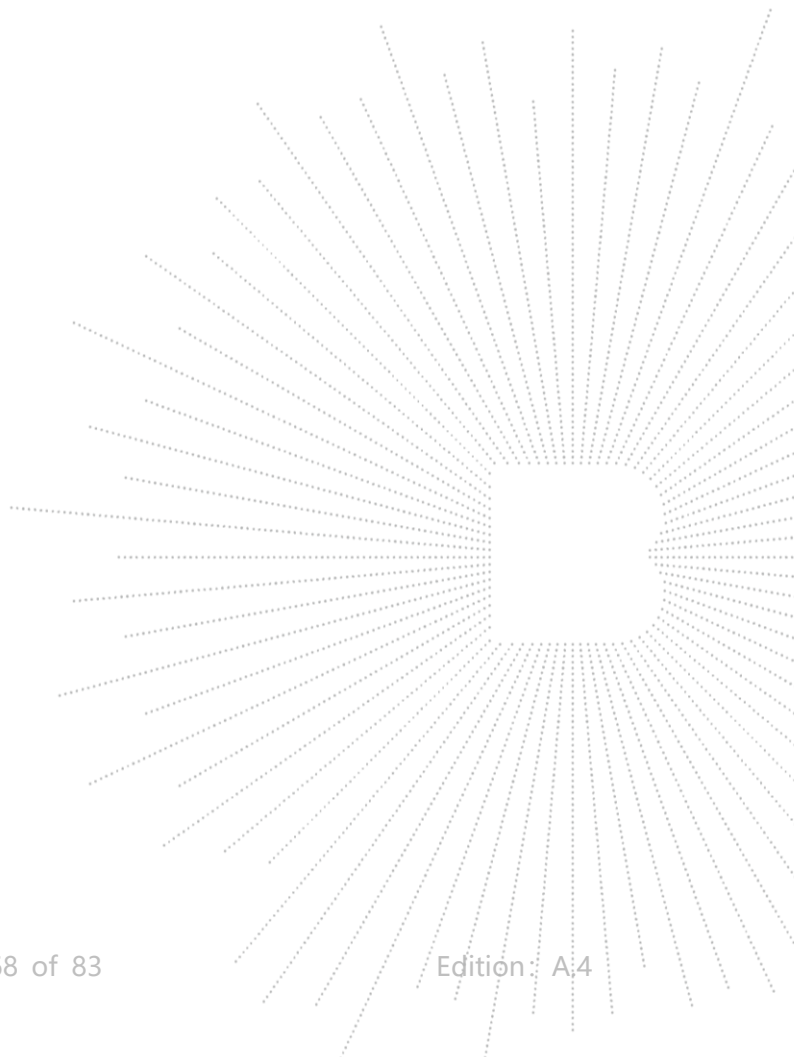
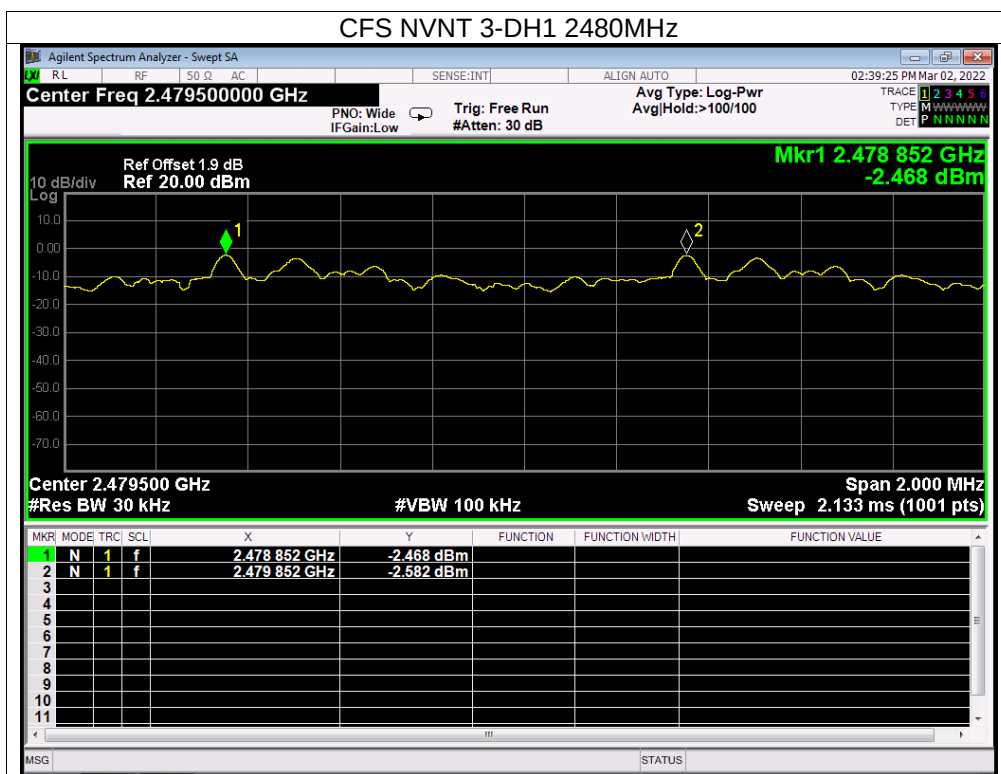












13. Number Of Hopping Frequency

13.1 Block Diagram Of Test Setup



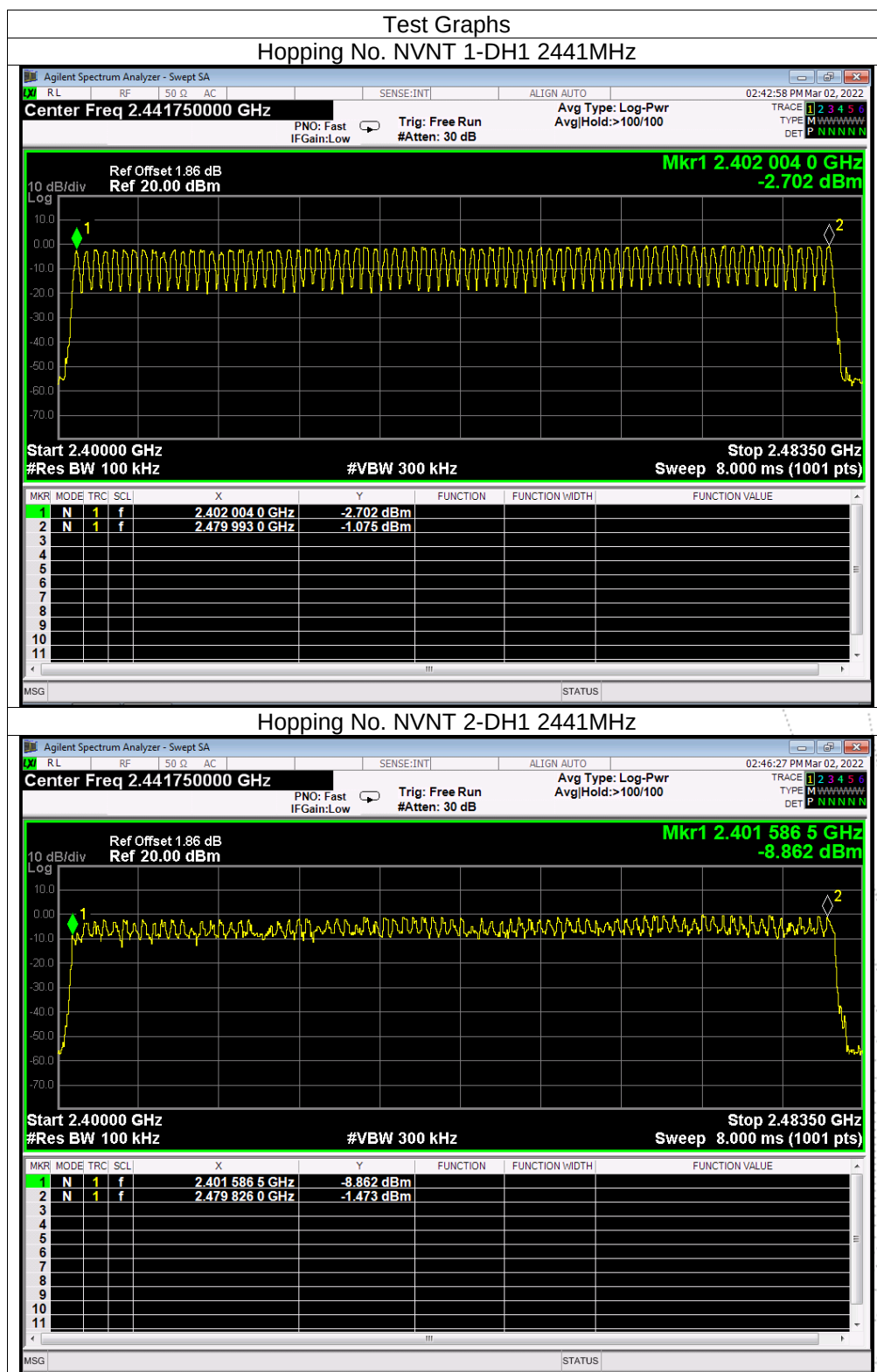
13.2 Limit

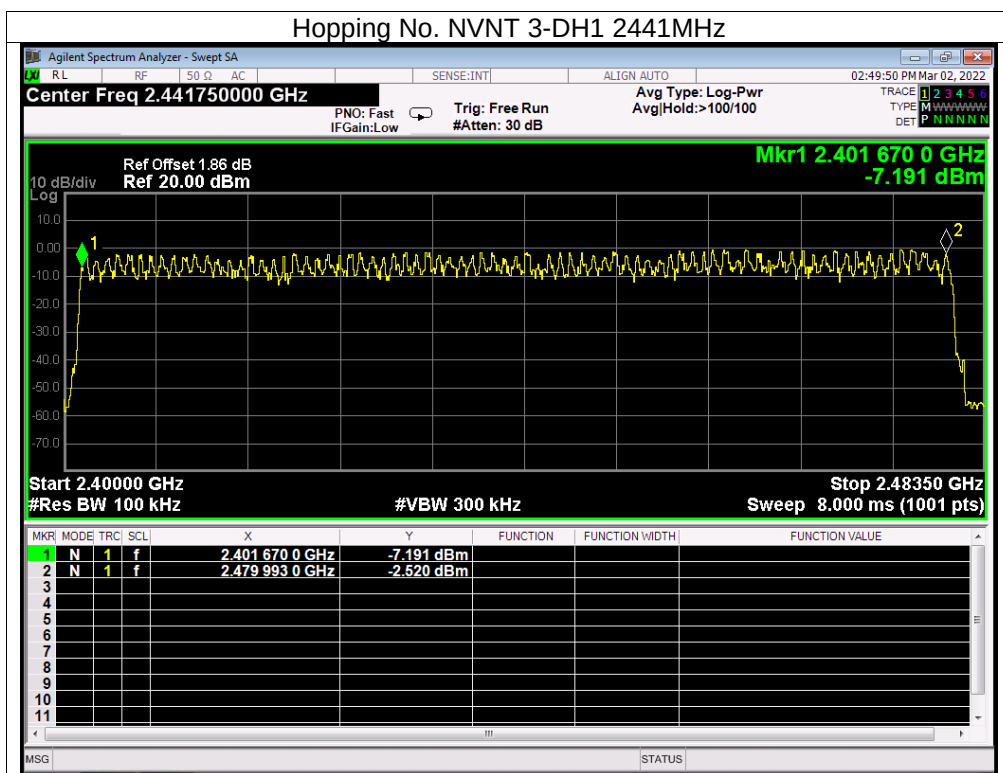
Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels.

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

Condition	Mode	Frequency (MHz)	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH1	2441	0.375	118.875	317	31600	400	Pass
NVNT	1-DH3	2441	1.631	247.912	152	31600	400	Pass
NVNT	1-DH5	2441	2.879	293.658	102	31600	400	Pass
NVNT	2-DH1	2441	0.386	121.976	316	31600	400	Pass
NVNT	2-DH3	2441	1.63	262.43	161	31600	400	Pass
NVNT	2-DH5	2441	2.879	310.932	108	31600	400	Pass
NVNT	3-DH1	2441	0.385	121.66	316	31600	400	Pass
NVNT	3-DH3	2441	1.637	248.824	152	31600	400	Pass
NVNT	3-DH5	2441	2.886	337.662	117	31600	400	Pass

