





Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Bluetooth speakerphone device

Test Model: AIRHUG 18

Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	 Joker Hu
Supervised by:	 Li huan





A.1 -20dB Bandwidth

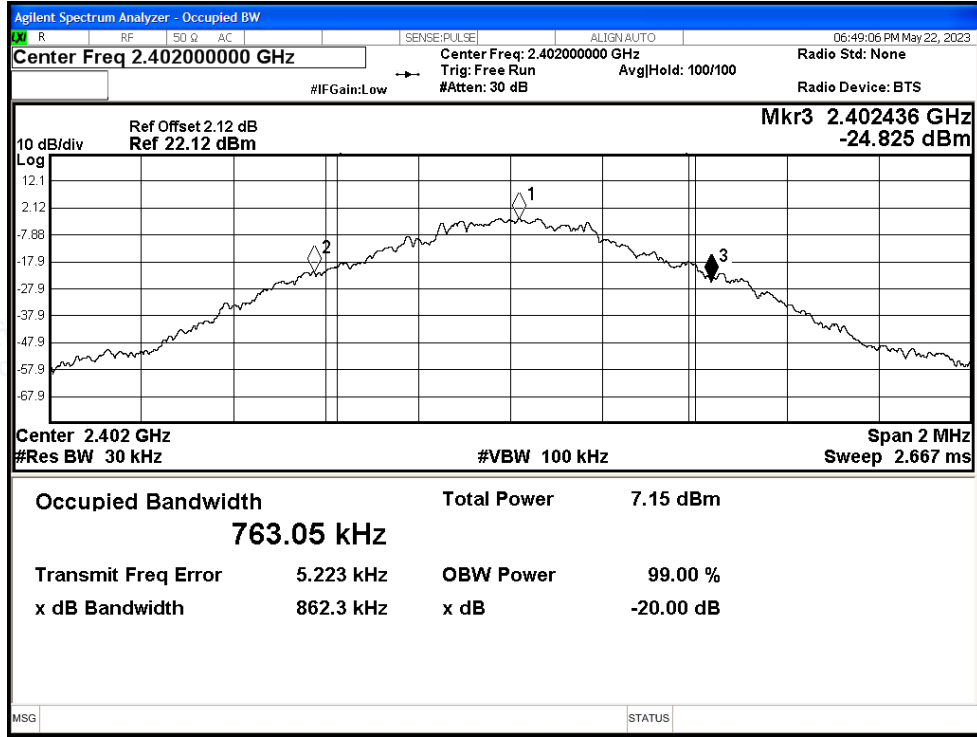
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.862	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.858	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.926	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.277	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.283	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.287	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.266	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.275	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.291	N/A	Pass



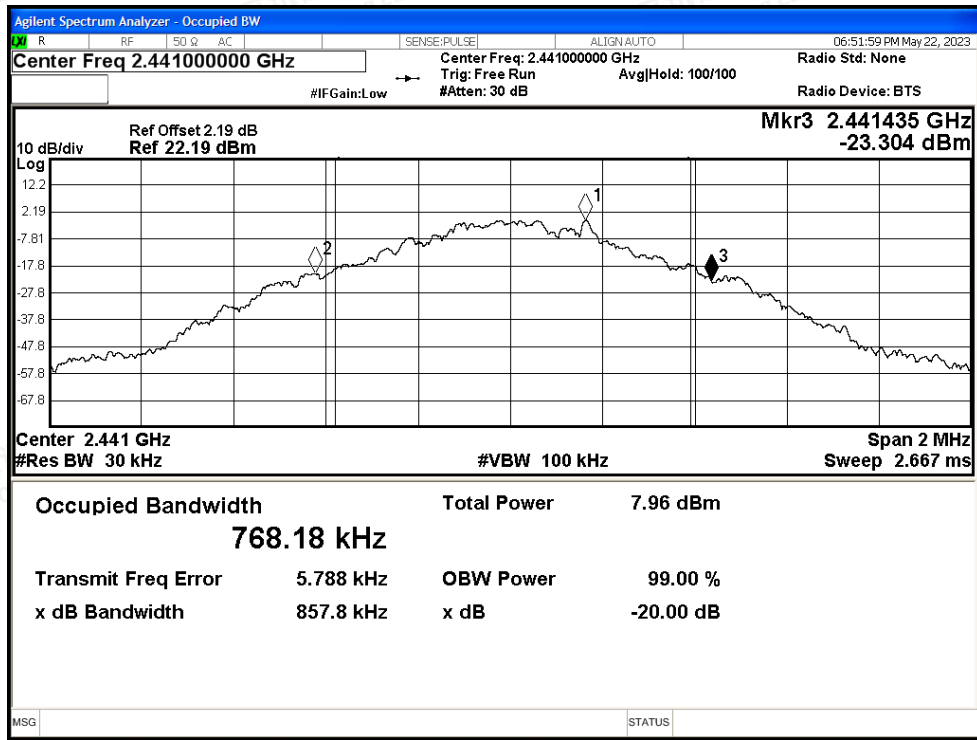


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

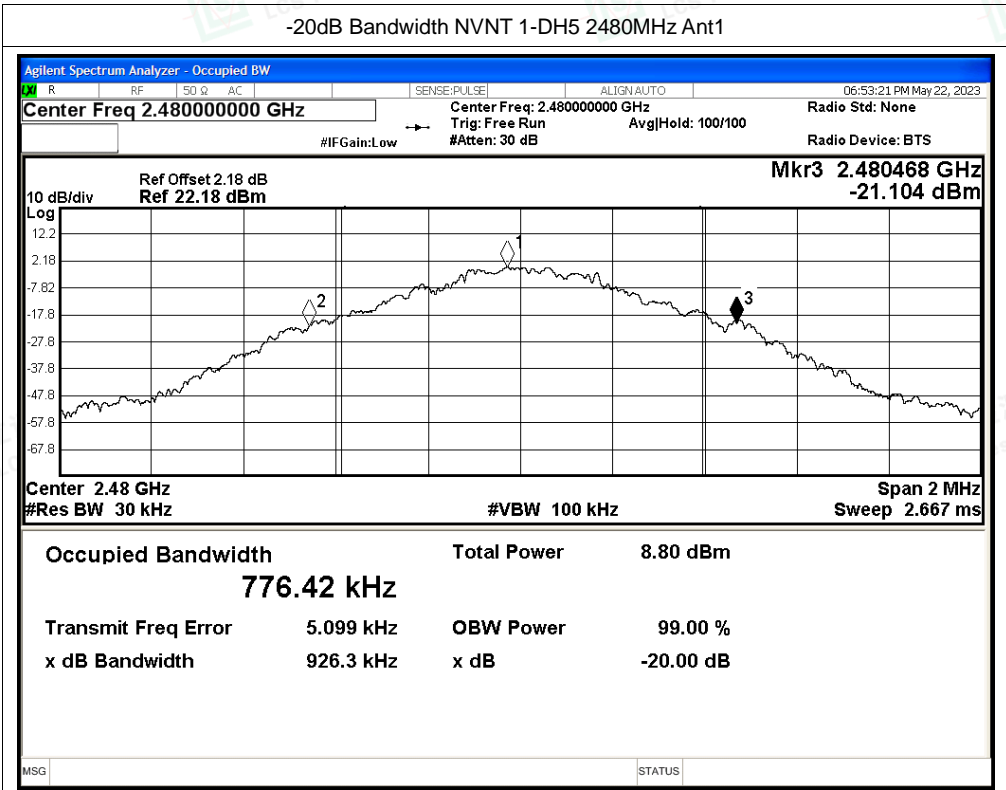


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

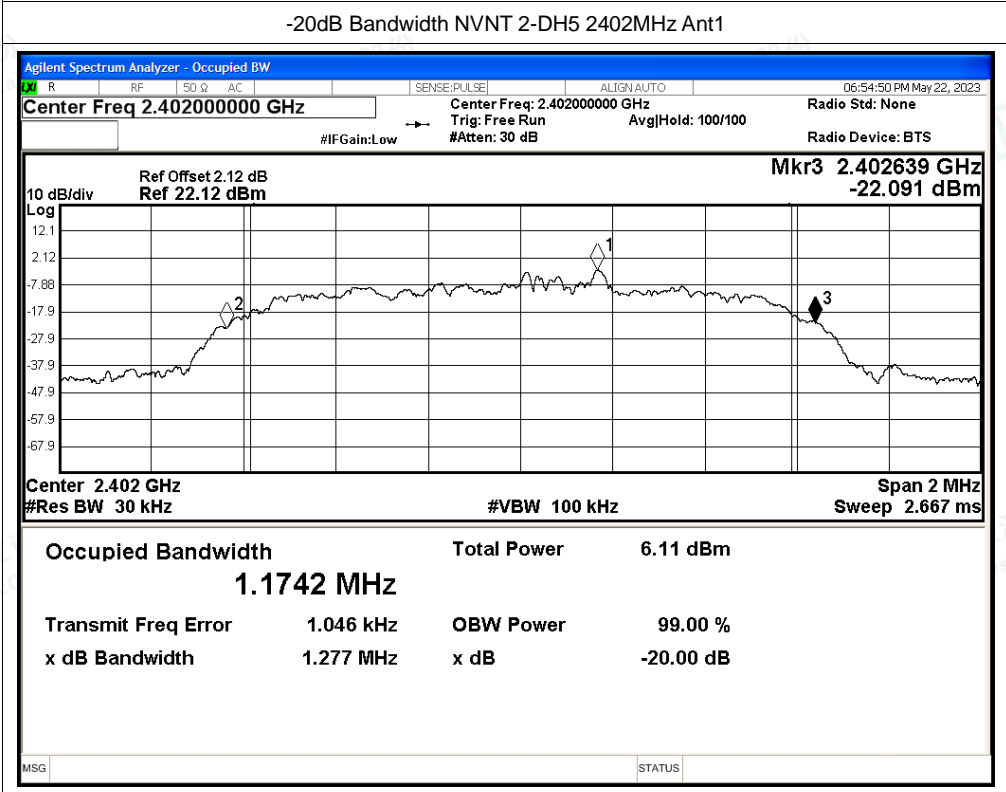




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

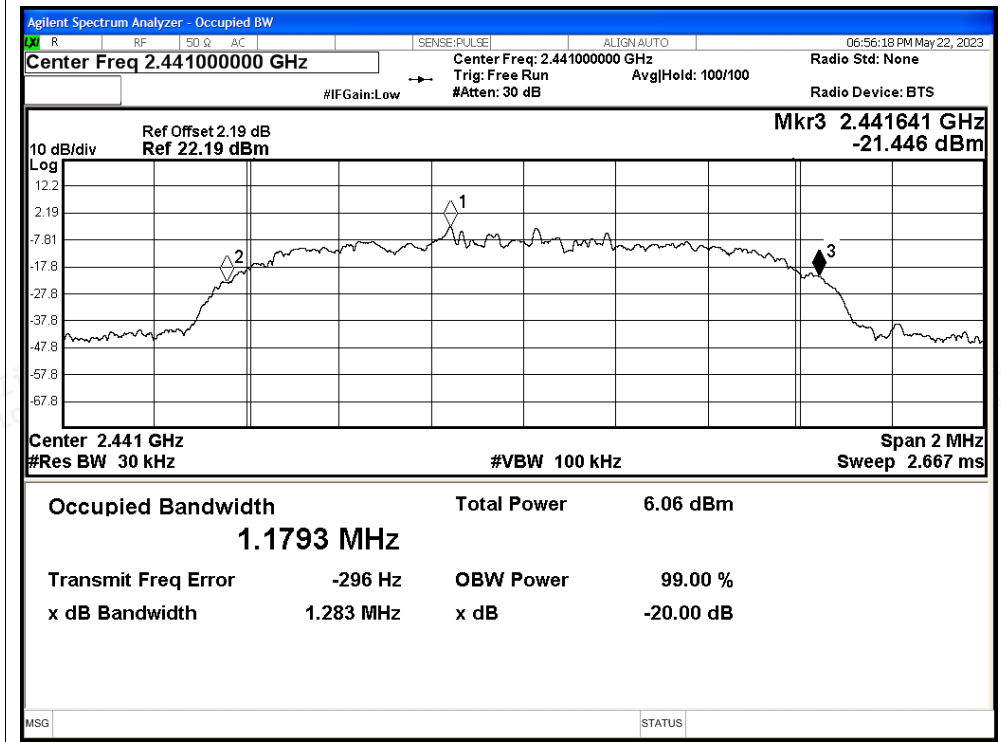


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

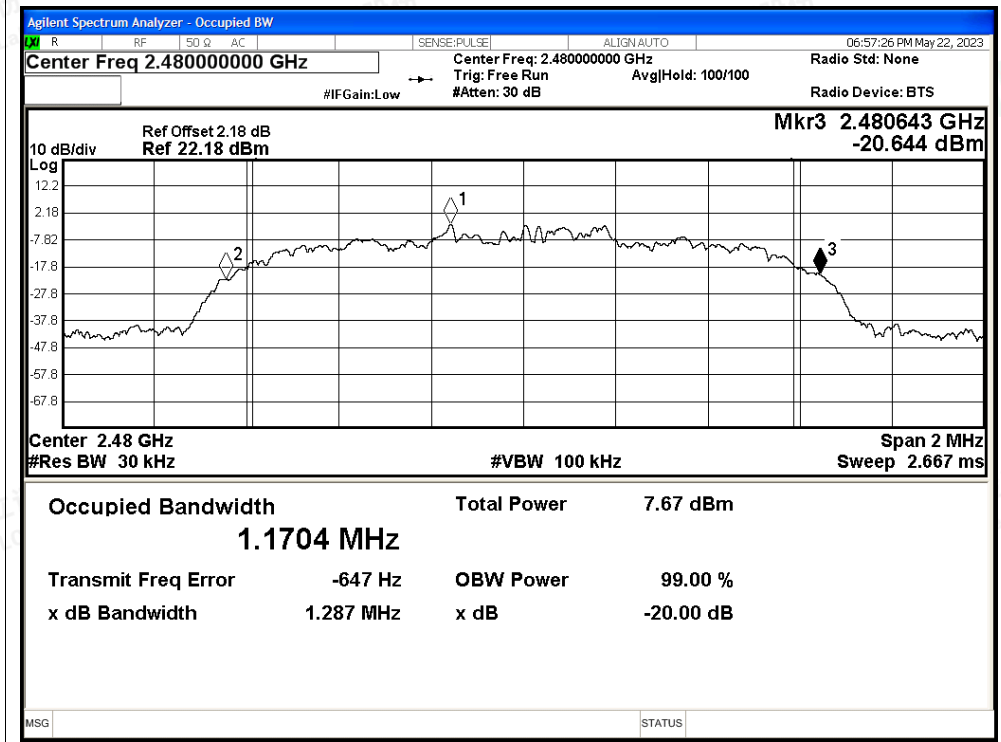




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

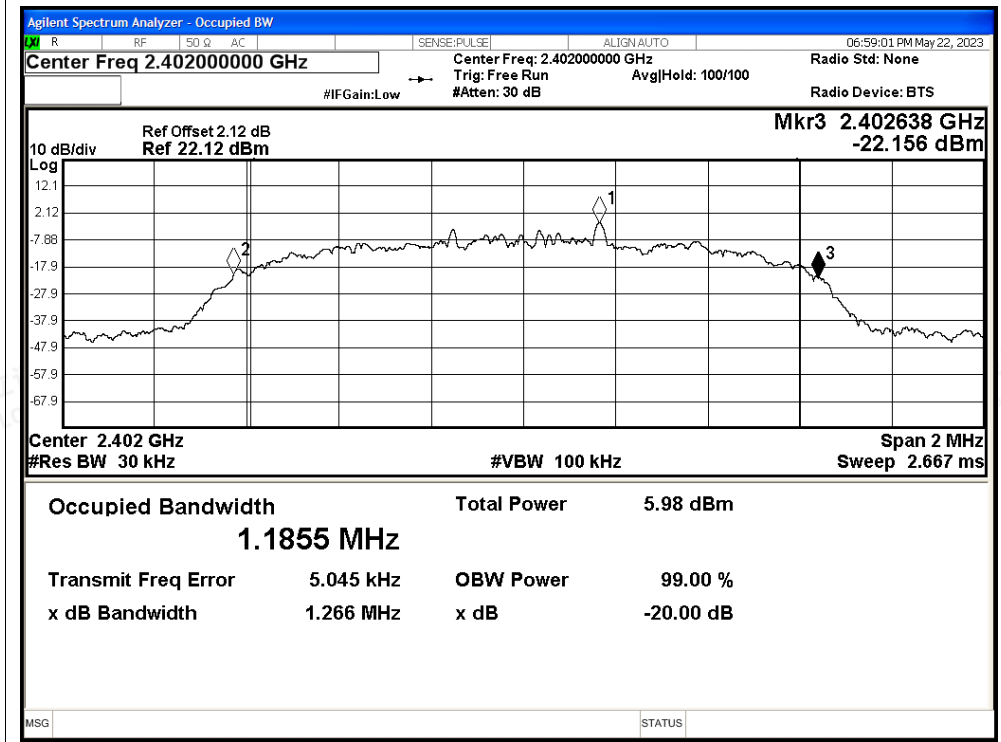


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

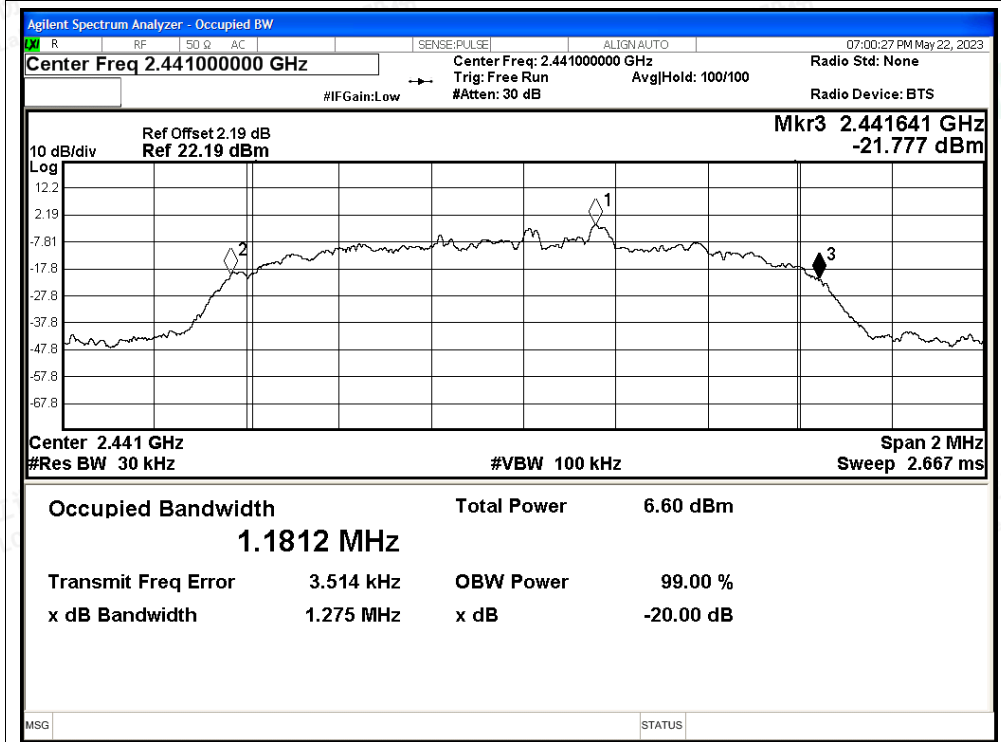




-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1

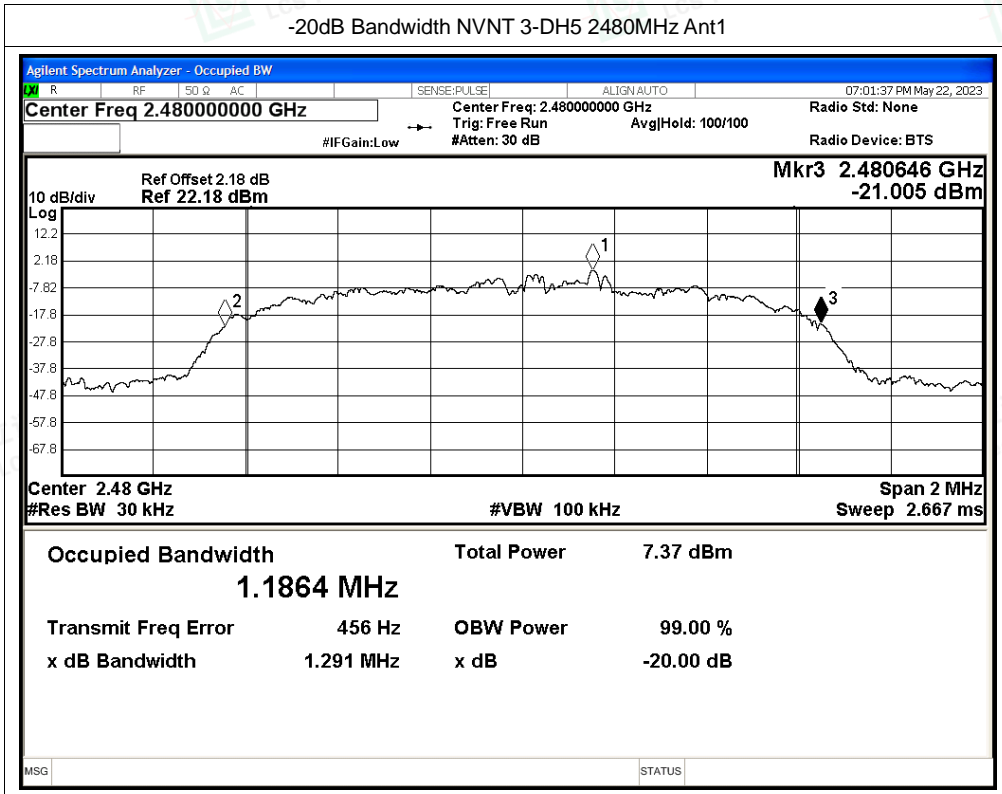


-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1





A.2 Maximum Conducted Output Power

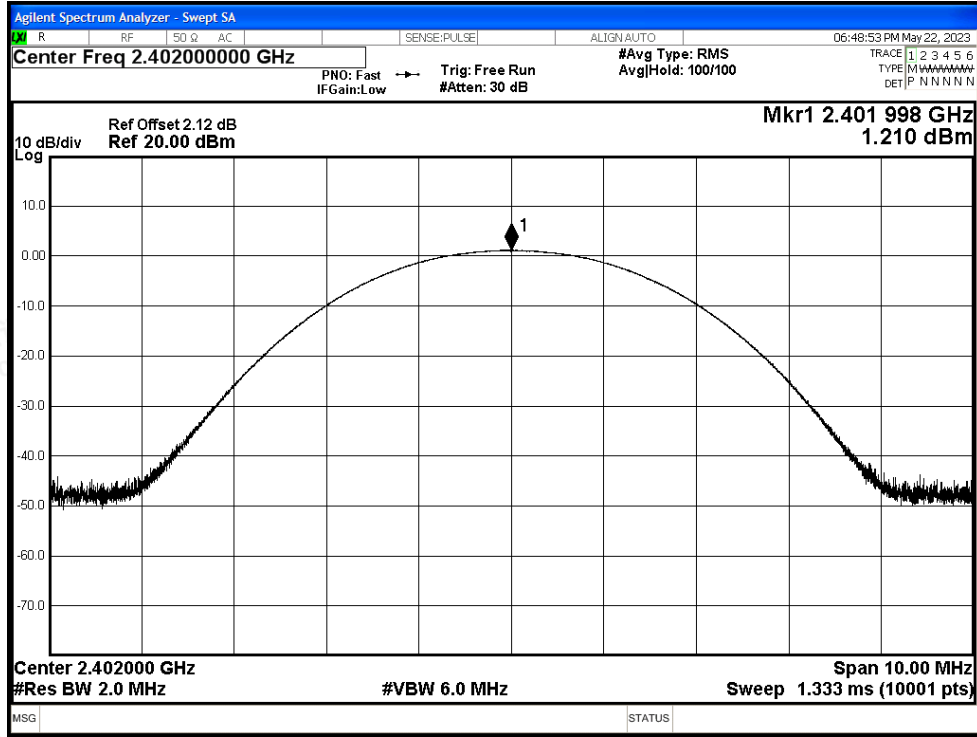
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	1.21	21	Pass
NVNT	1-DH5	2441	Ant1	2.1	21	Pass
NVNT	1-DH5	2480	Ant1	3.01	21	Pass
NVNT	2-DH5	2402	Ant1	1.23	21	Pass
NVNT	2-DH5	2441	Ant1	1.69	21	Pass
NVNT	2-DH5	2480	Ant1	2.68	21	Pass
NVNT	3-DH5	2402	Ant1	1.23	21	Pass
NVNT	3-DH5	2441	Ant1	1.65	21	Pass
NVNT	3-DH5	2480	Ant1	2.59	21	Pass



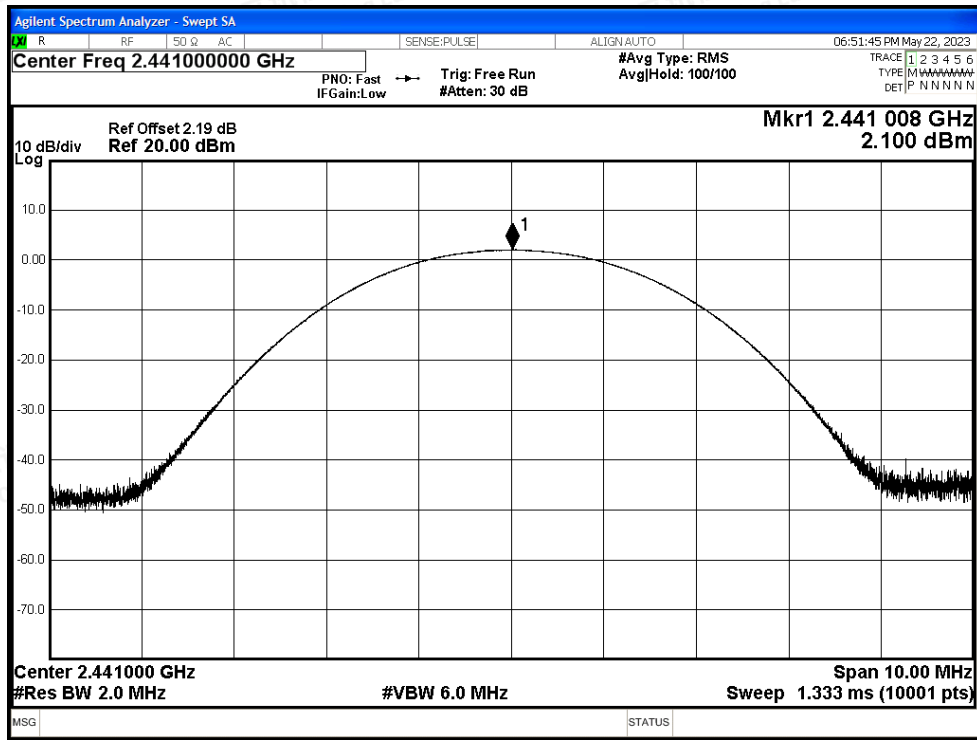


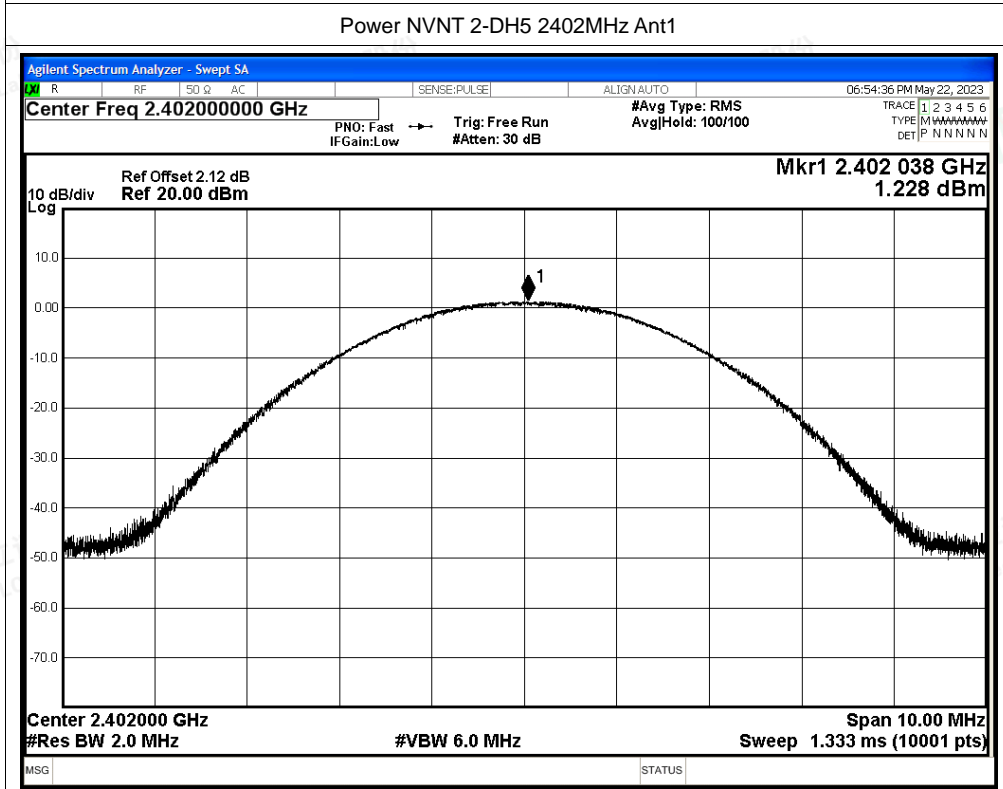
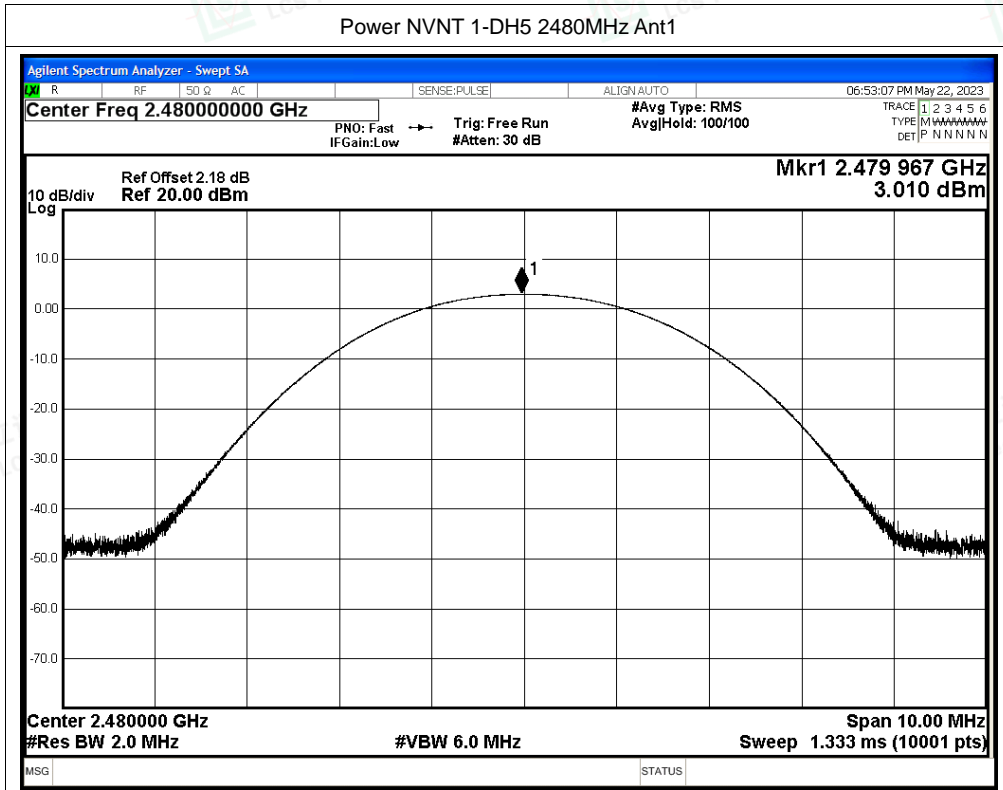
Test Graphs

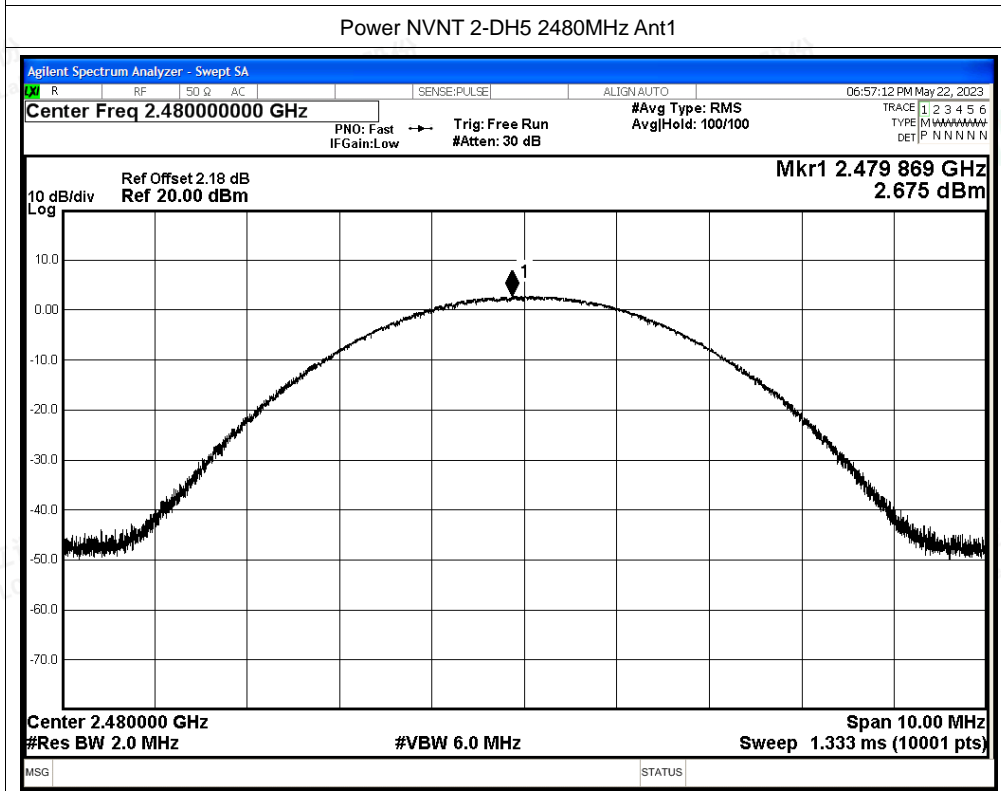
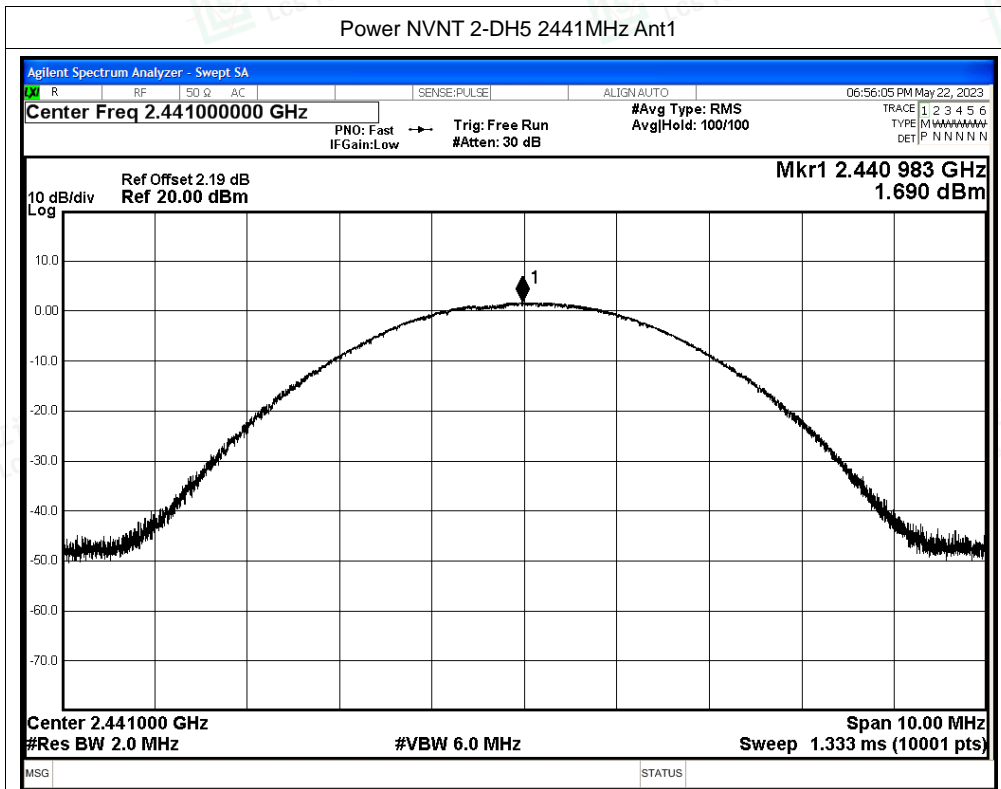
Power NVNT 1-DH5 2402MHz Ant1

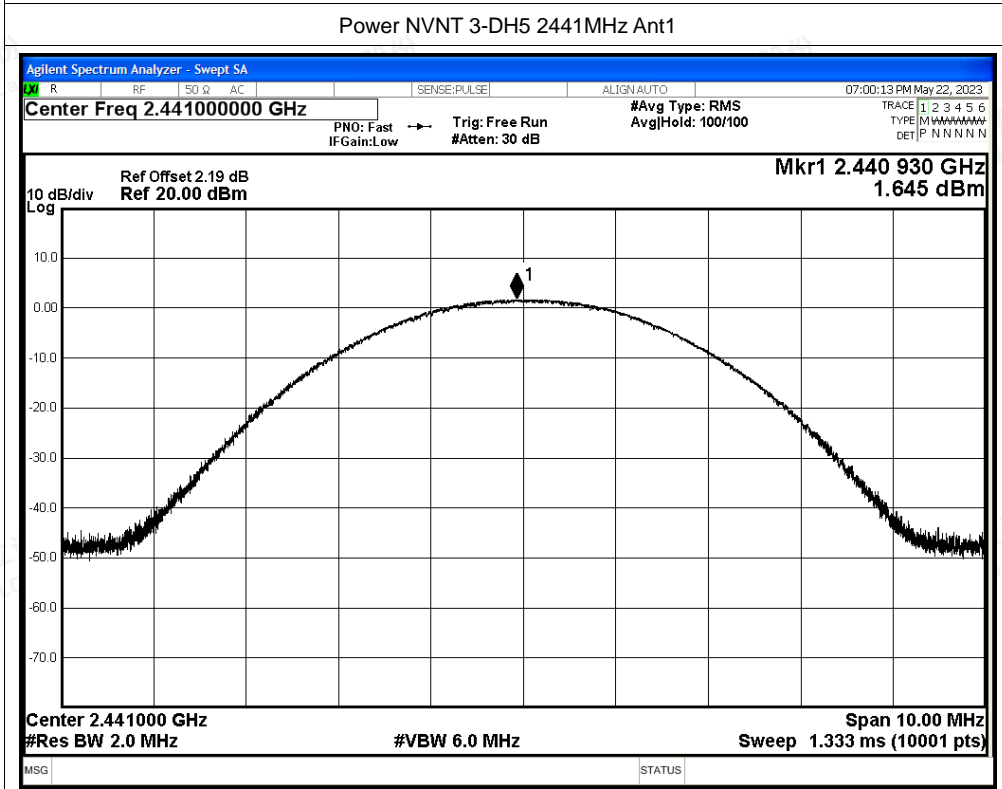
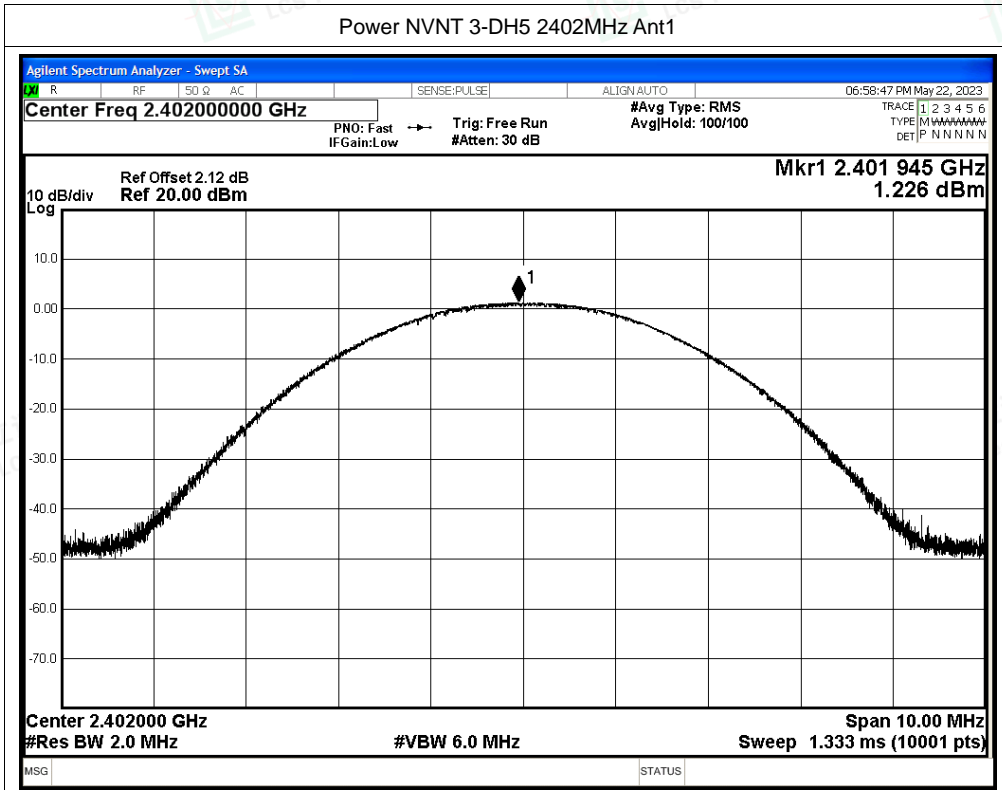


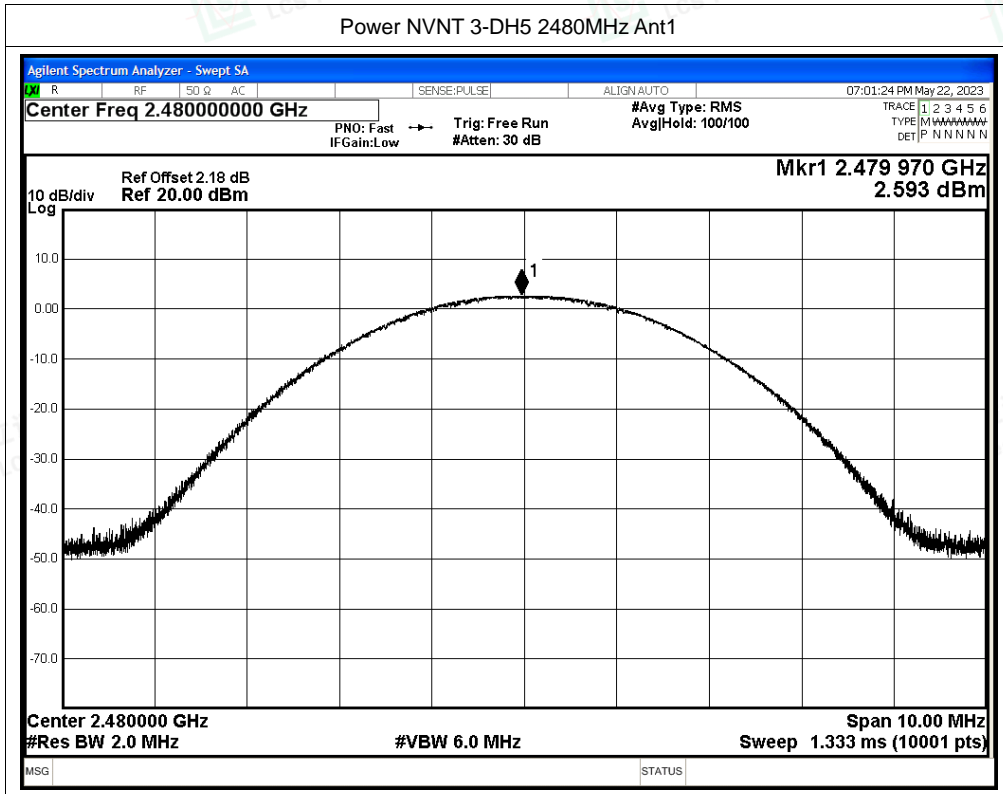
Power NVNT 1-DH5 2441MHz Ant1













A.3 Carrier Frequencies Separation

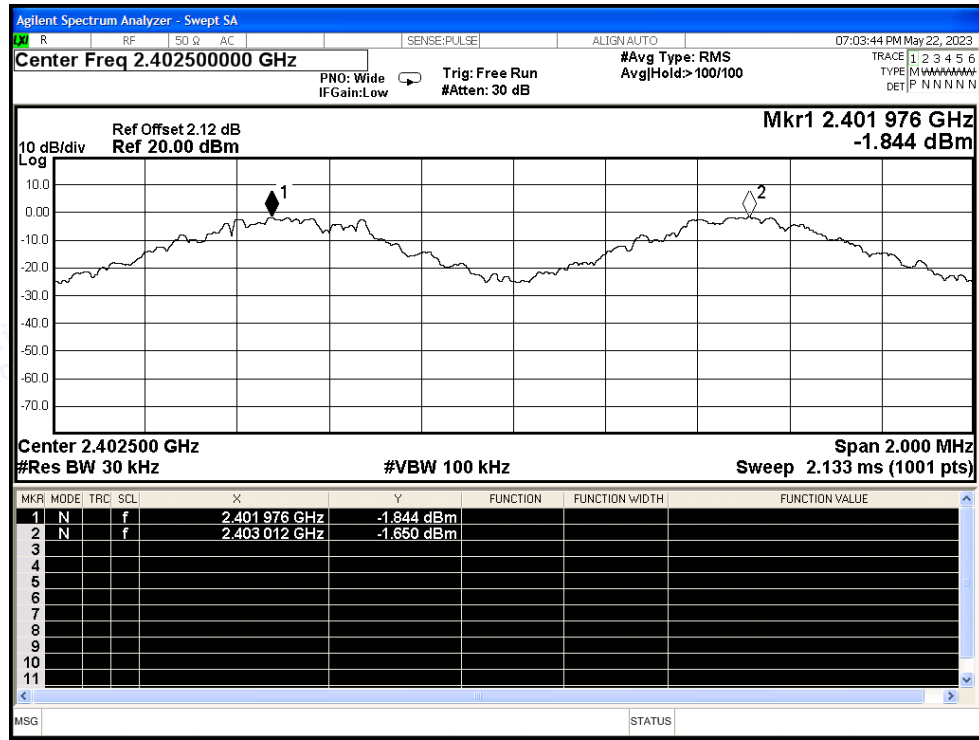
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.976	2403.012	1.036	0.617	Pass
NVNT	2-DH5	Ant1	2401.858	2403.168	1.31	0.858	Pass
NVNT	3-DH5	Ant1	2402.176	2403.02	0.844	0.861	Pass



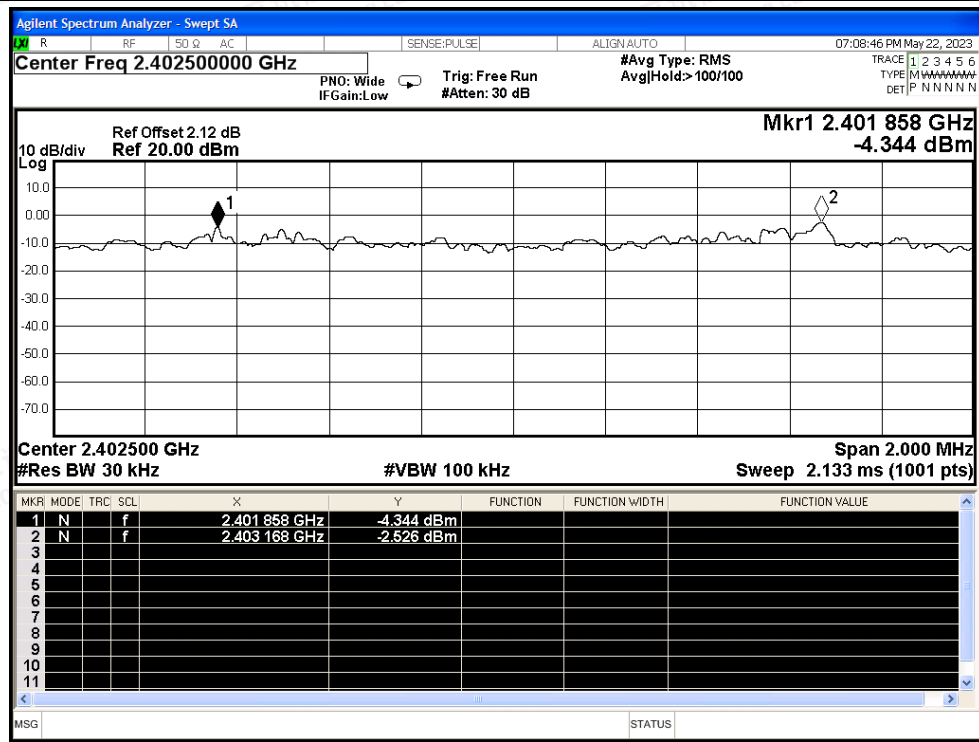


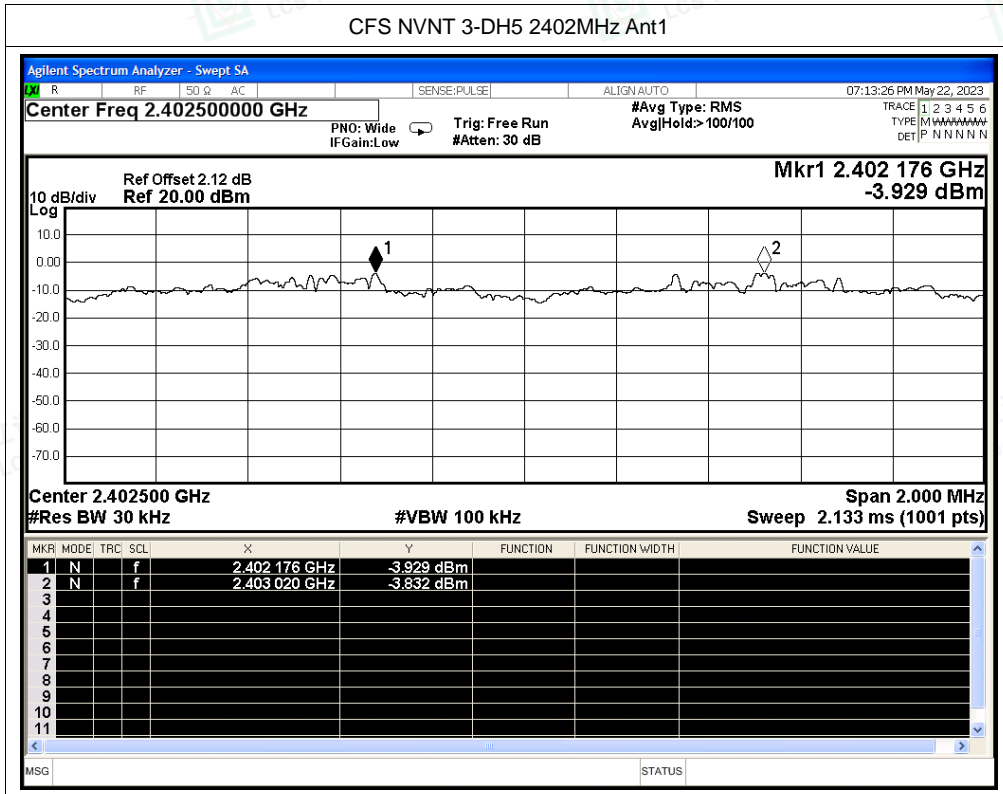
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1







A.4 Dwell Time

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.882	302.61	105	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.885	294.27	102	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.887	294.474	102	31600	400	Pass



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

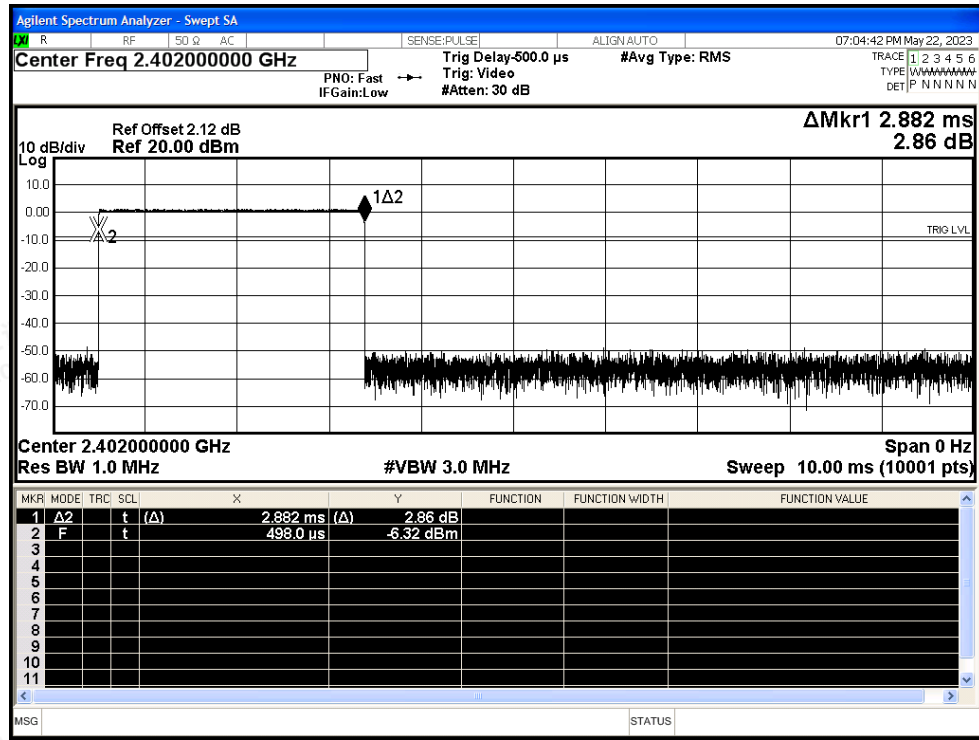
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

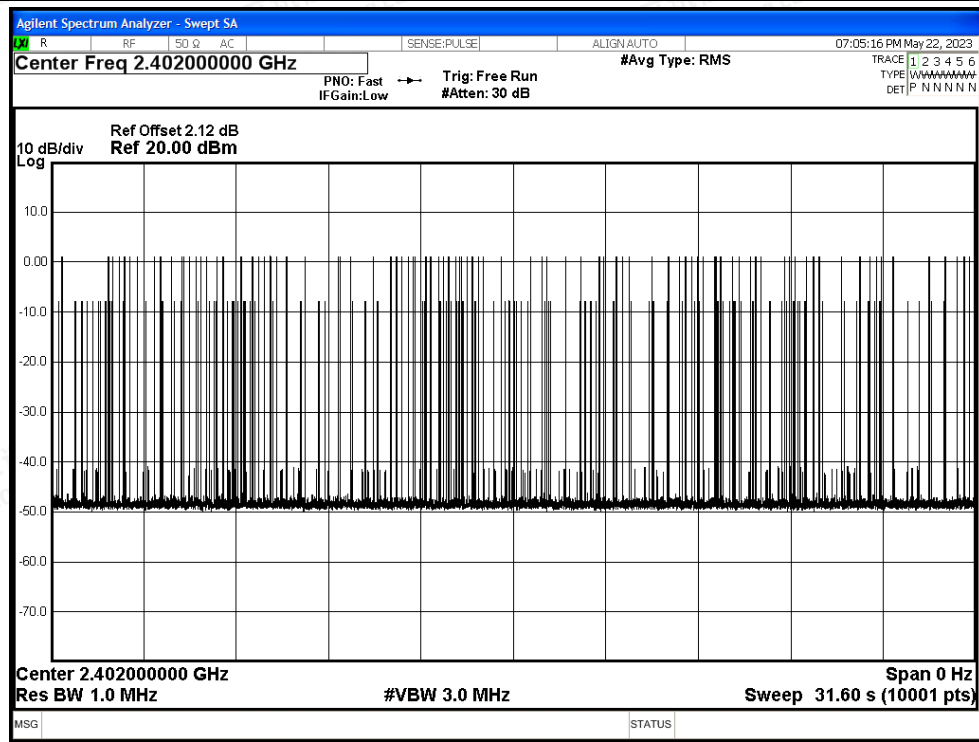


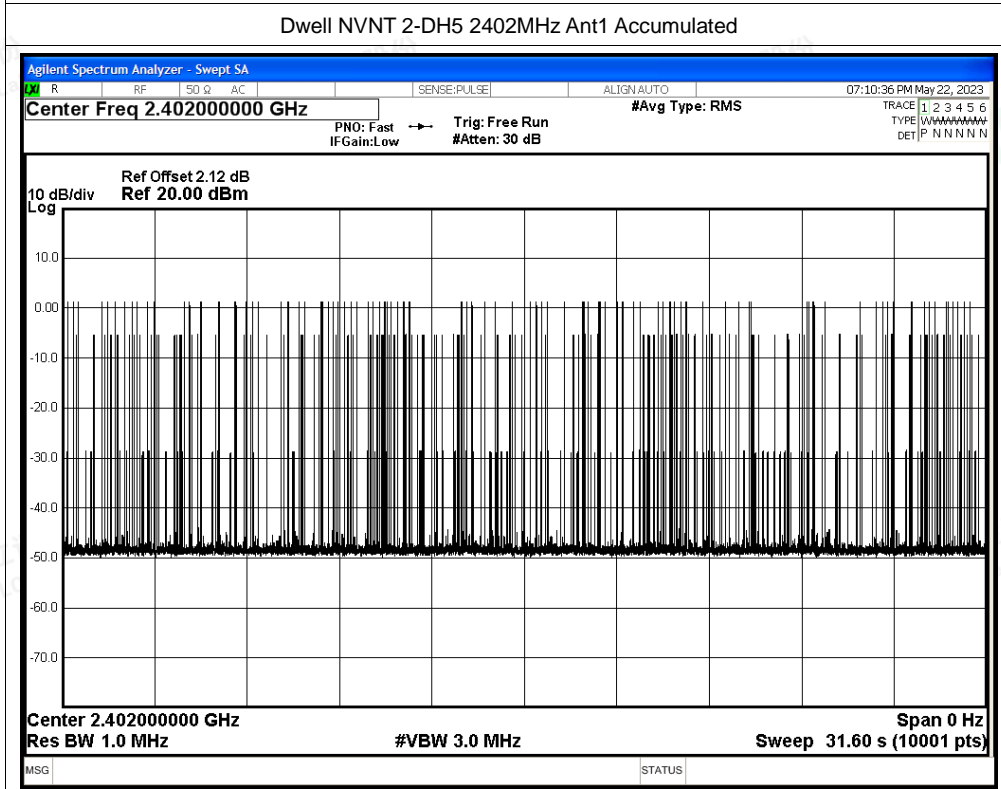
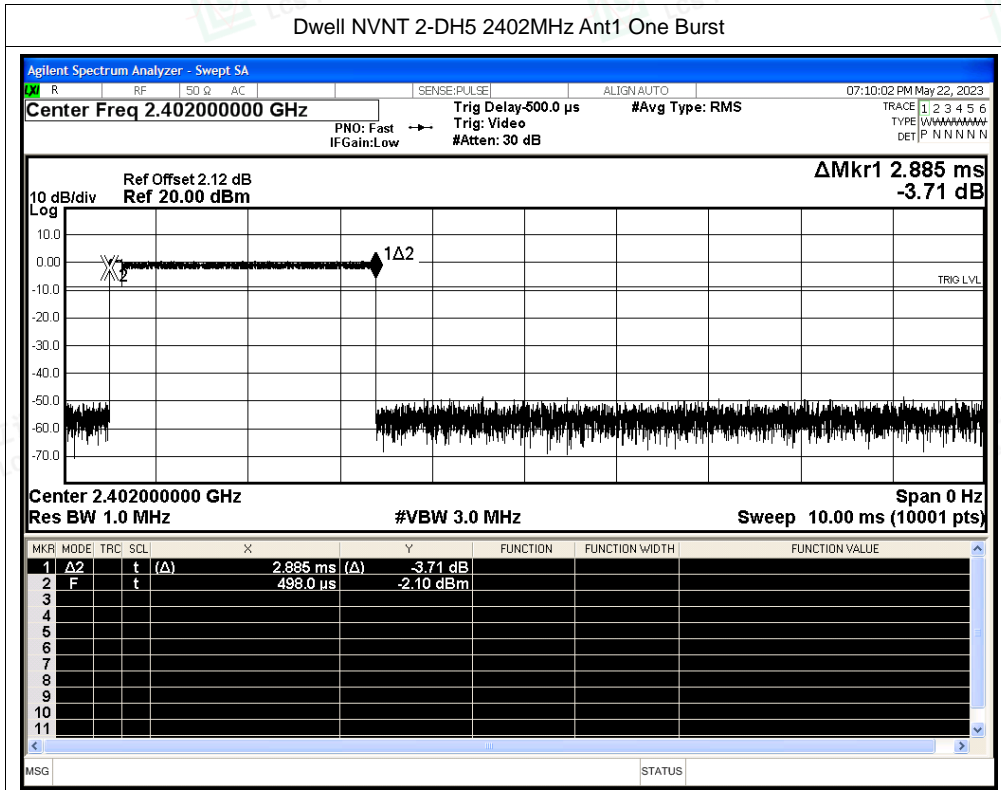
Test Graphs

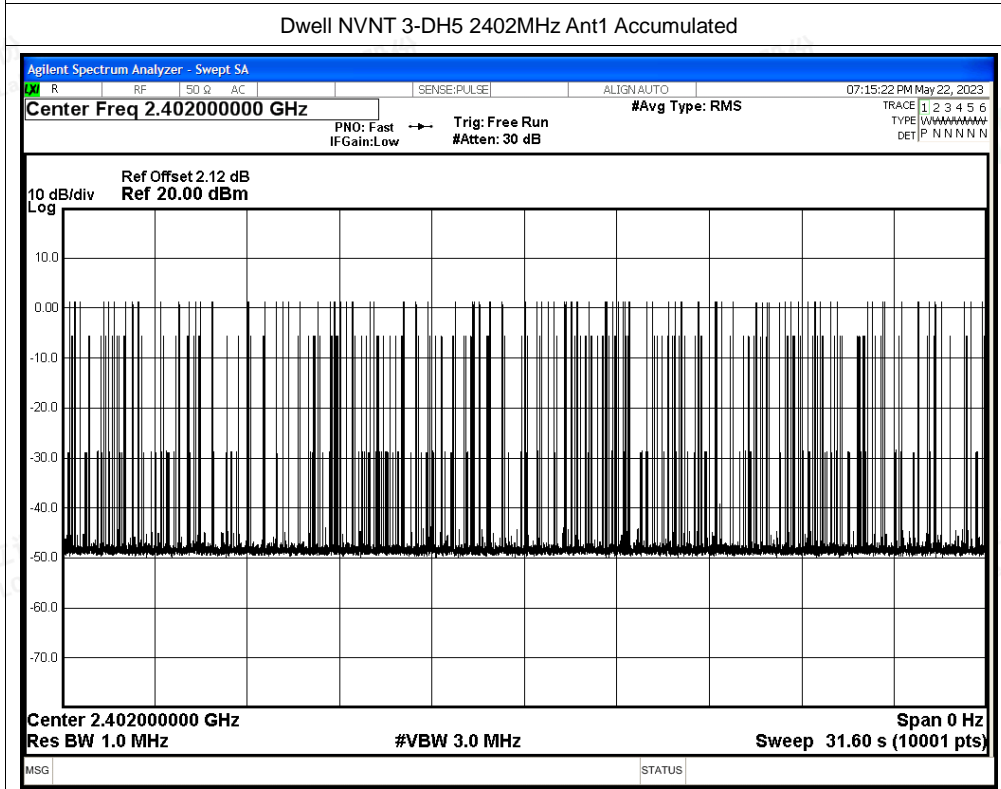
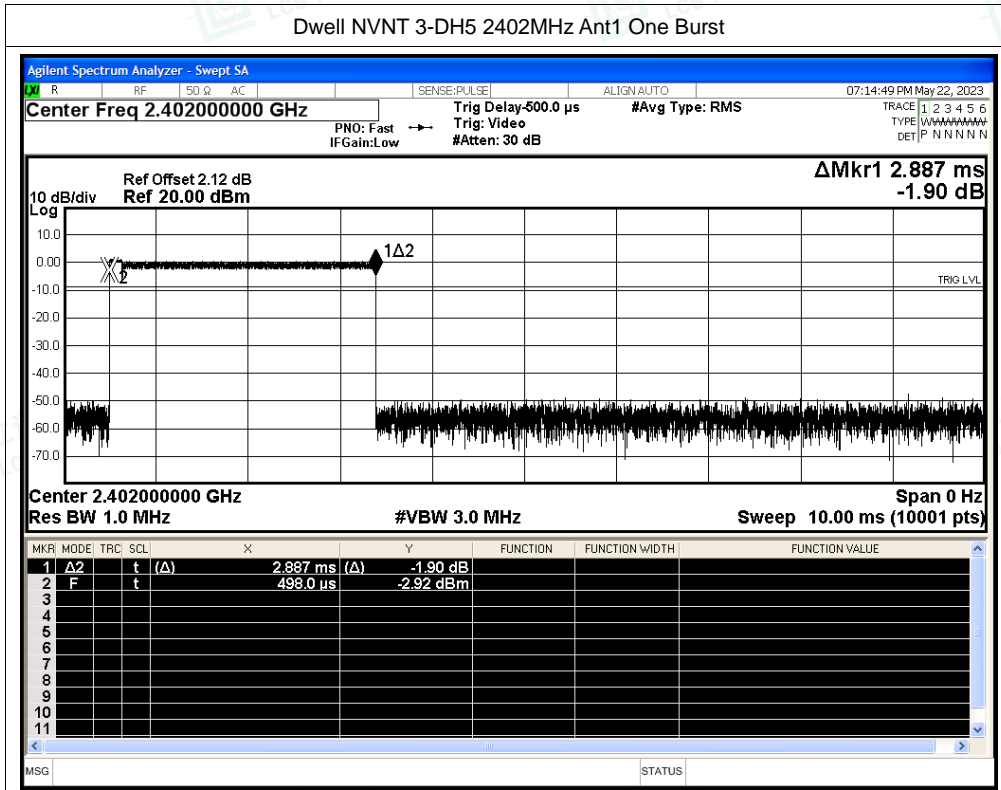
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated









A.5 Number of Hopping Channel

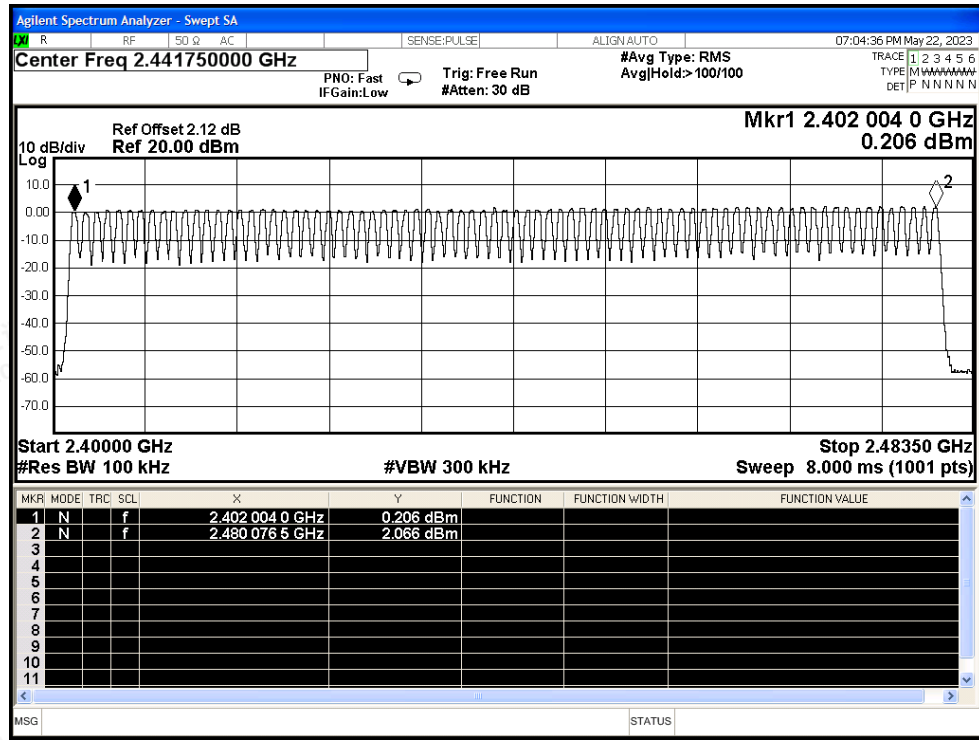
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



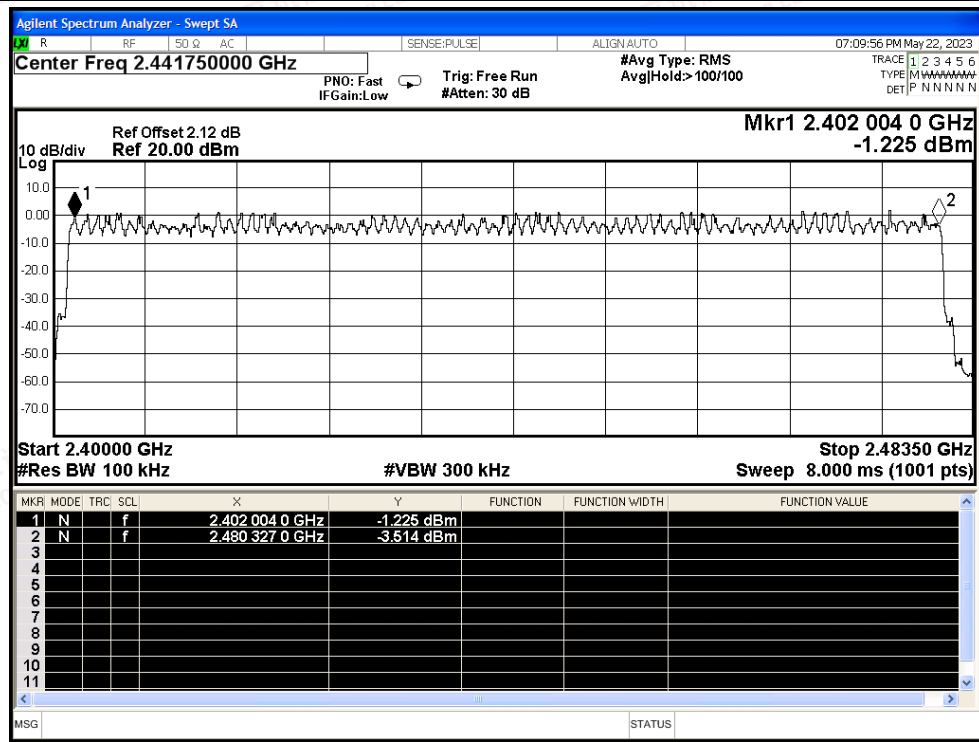


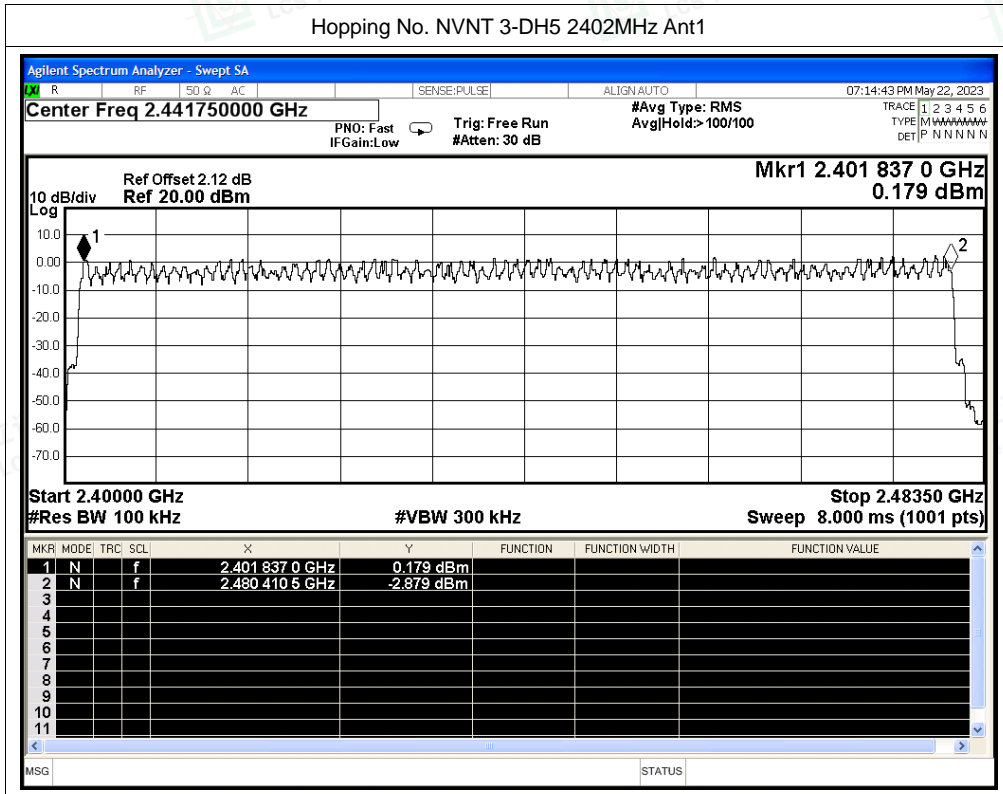
Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1







A.6 Band Edge

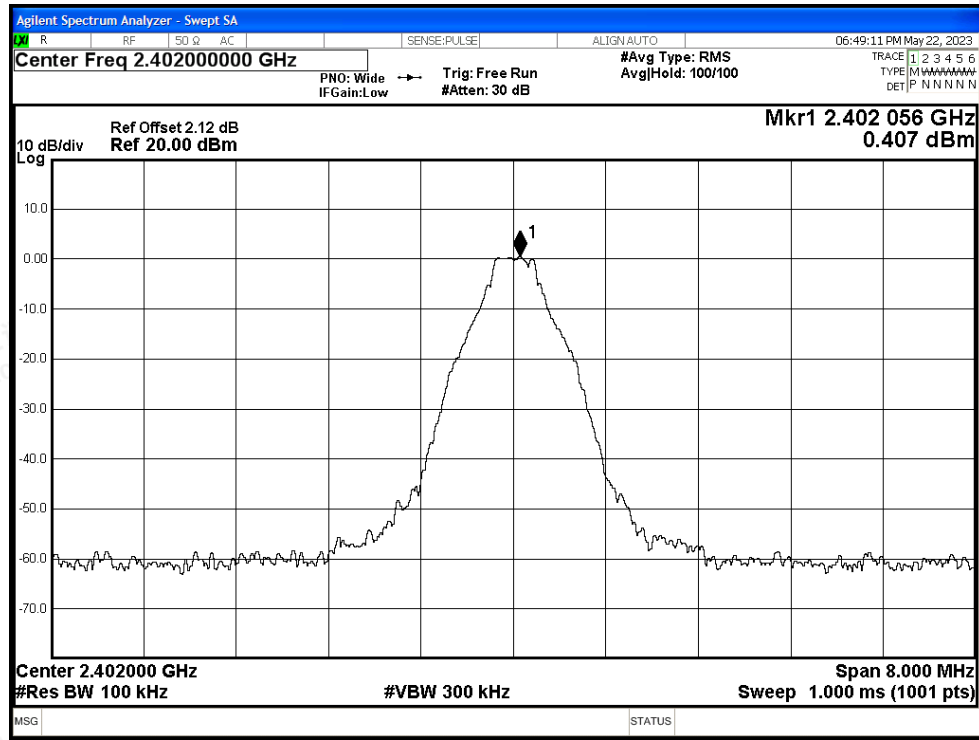
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-57.51	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-59.26	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-53.36	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-56.84	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-51.41	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-56.3	-20	Pass



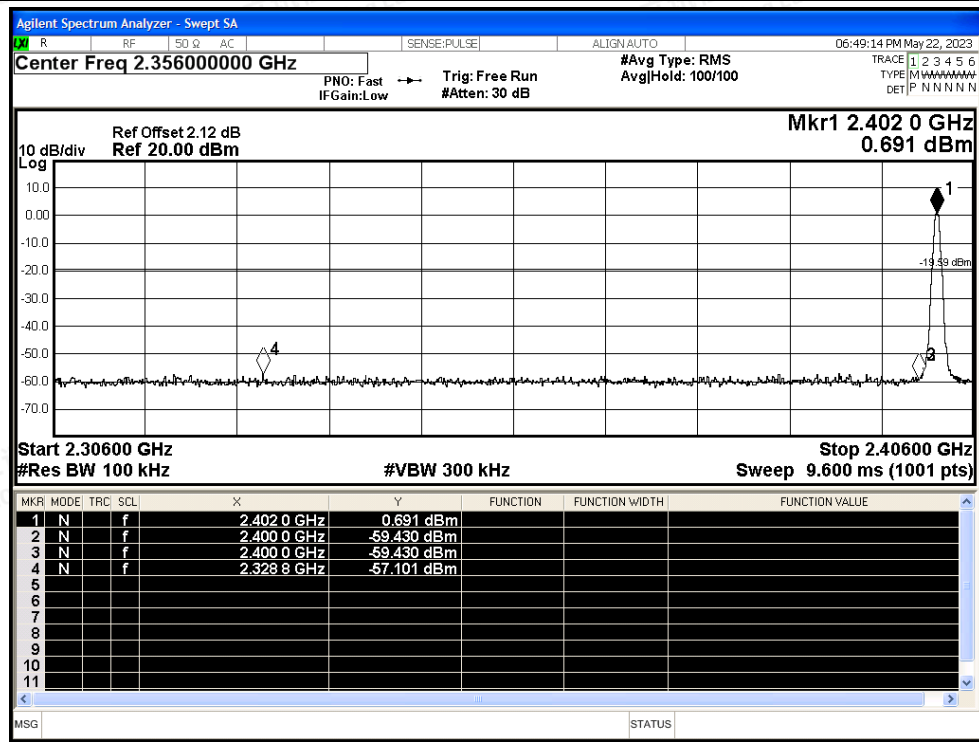


Test Graphs

Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref

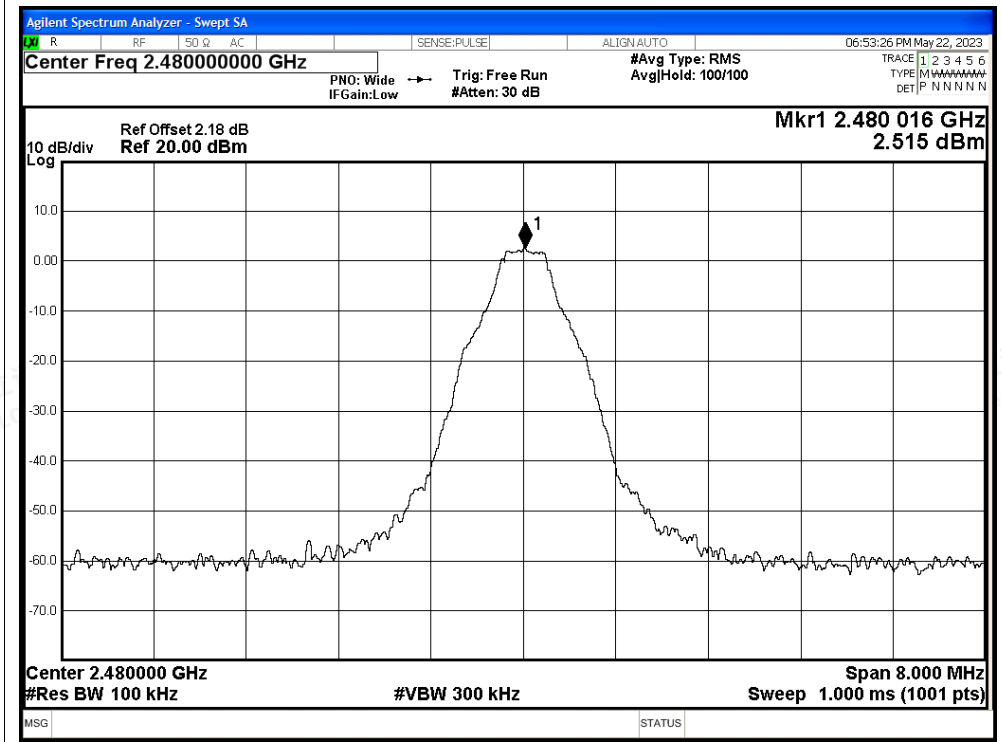


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

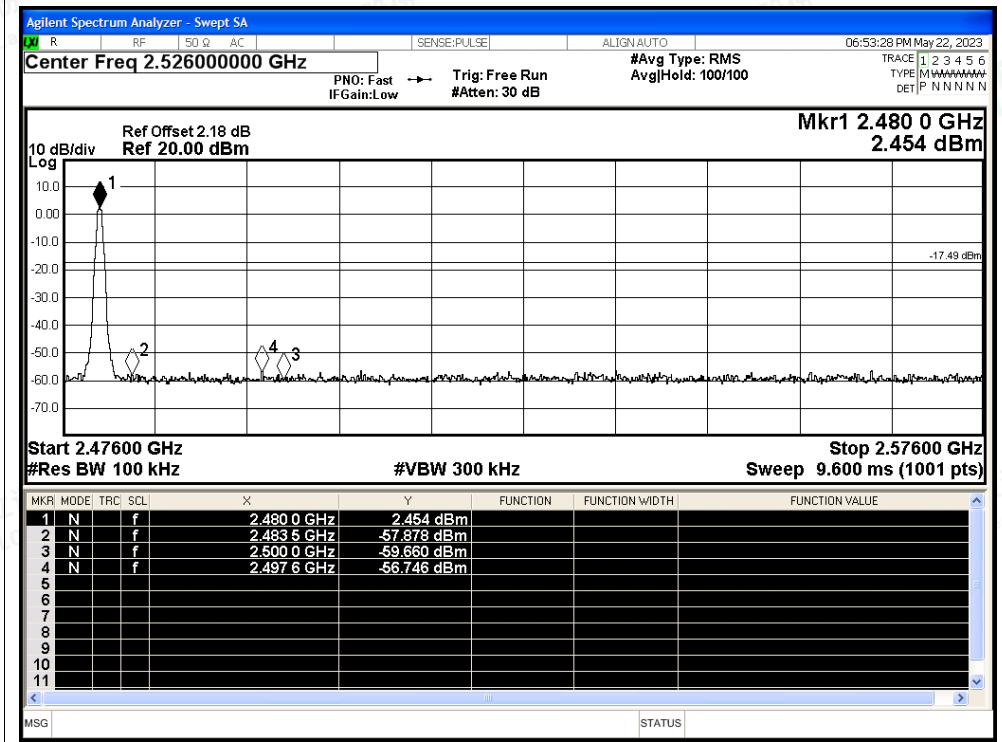




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

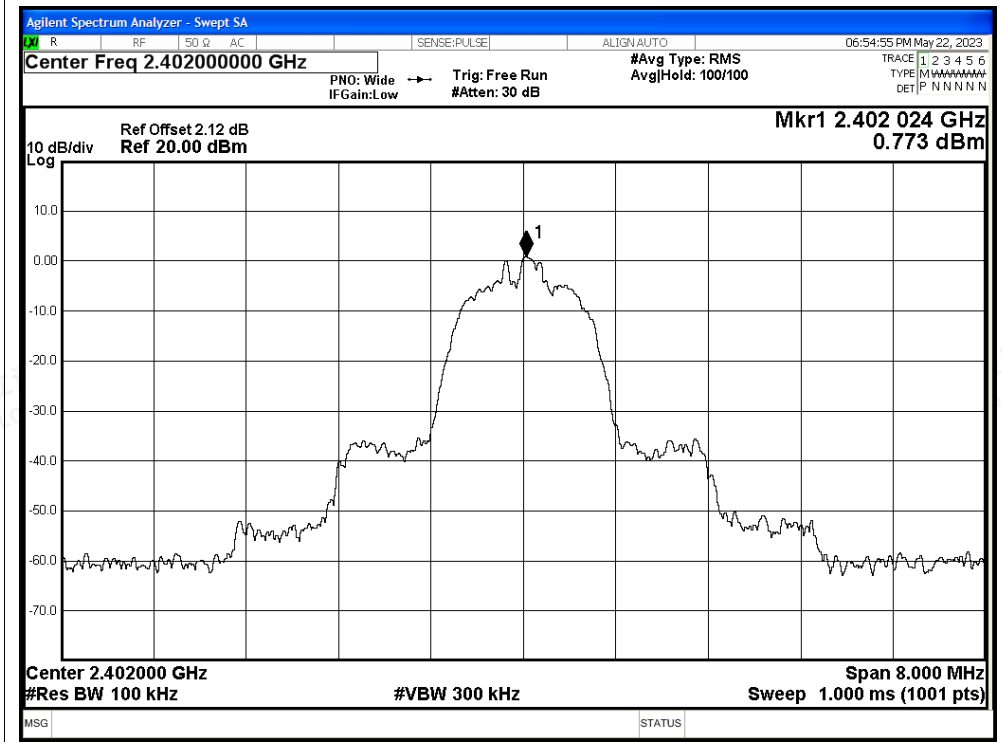


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

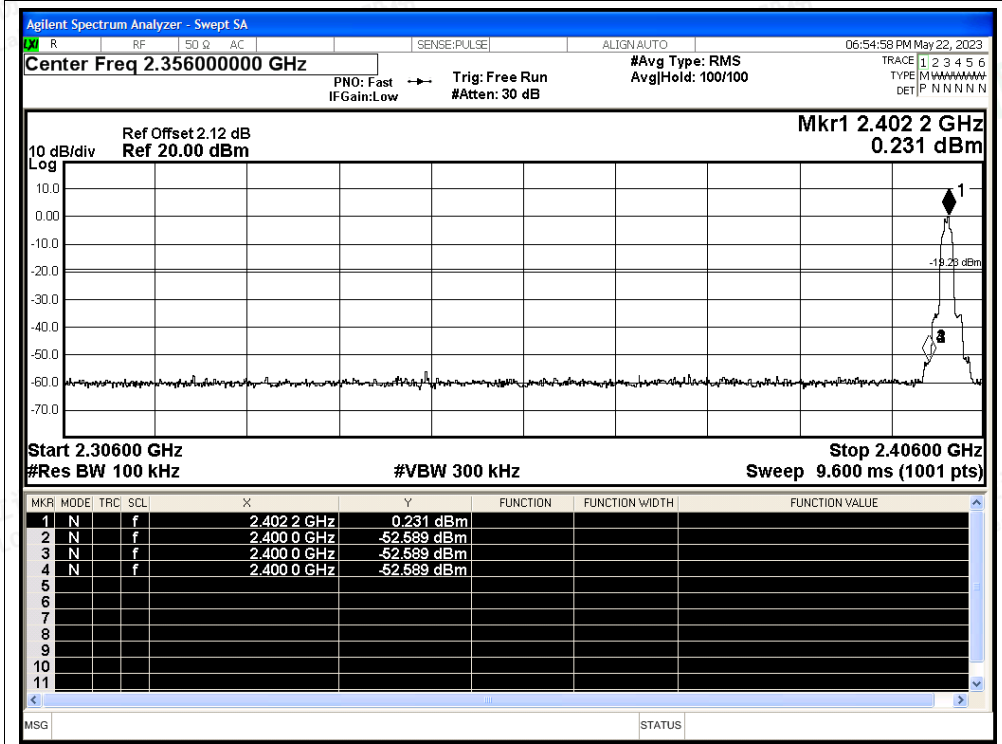




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

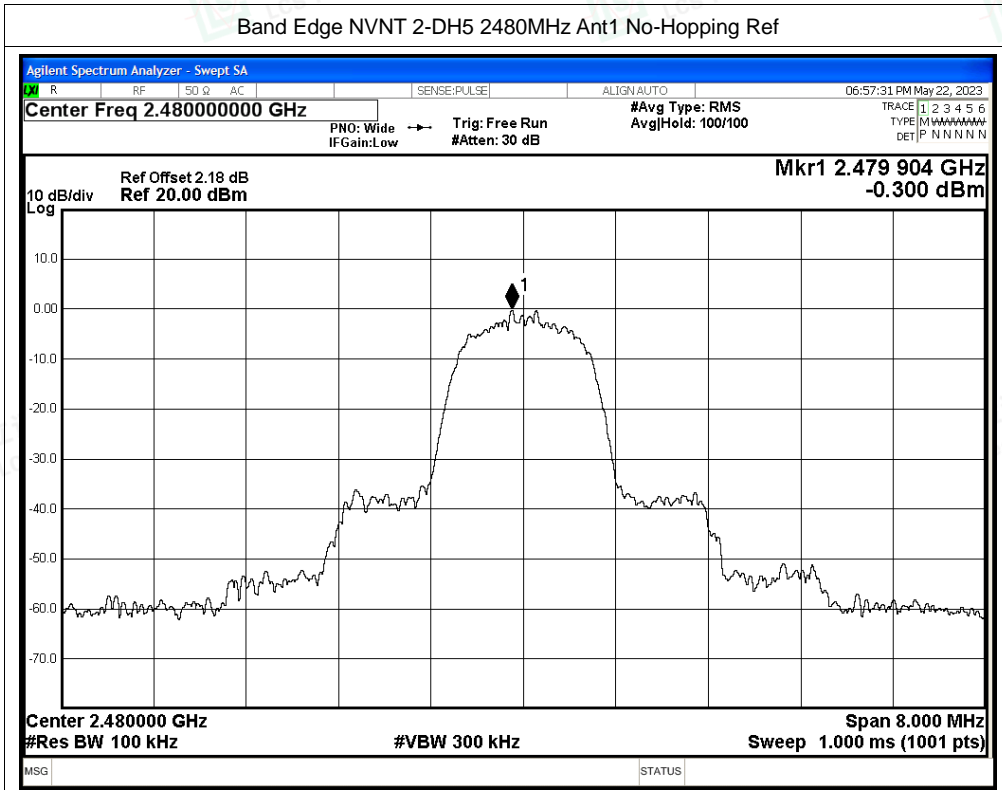


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

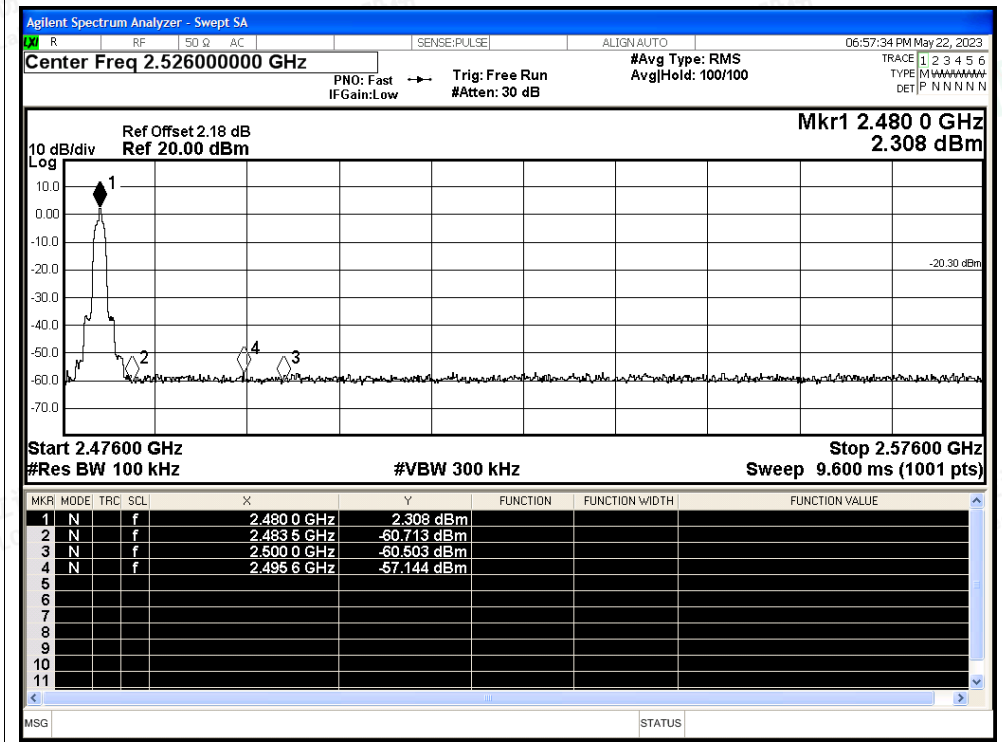




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

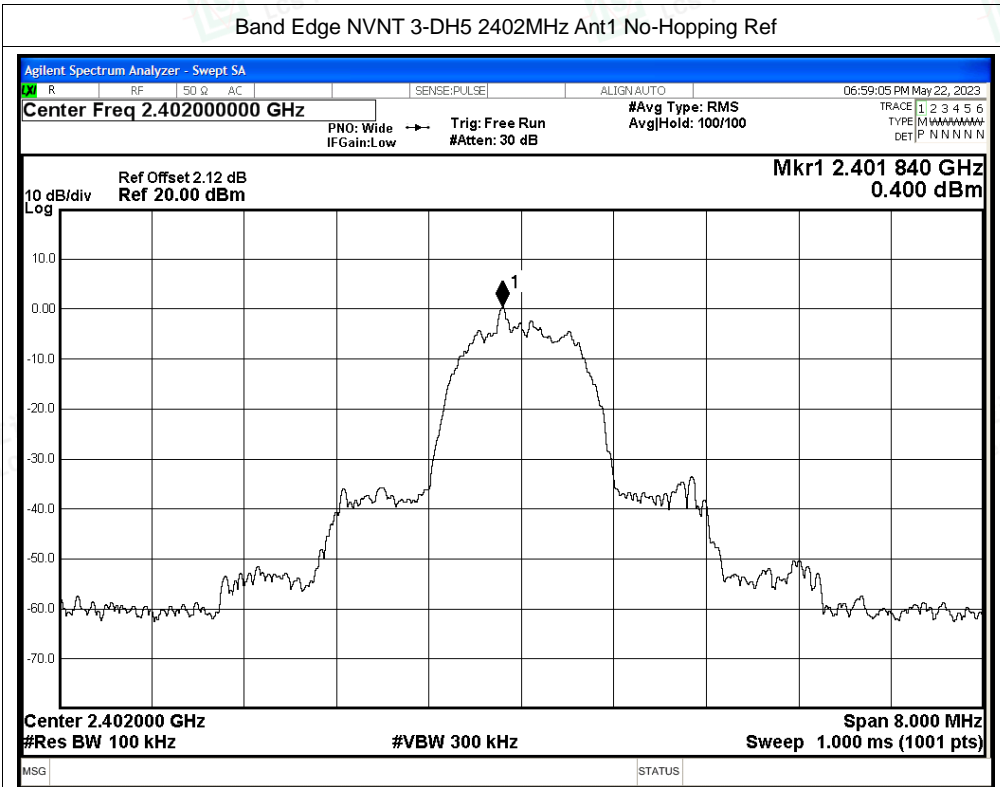


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

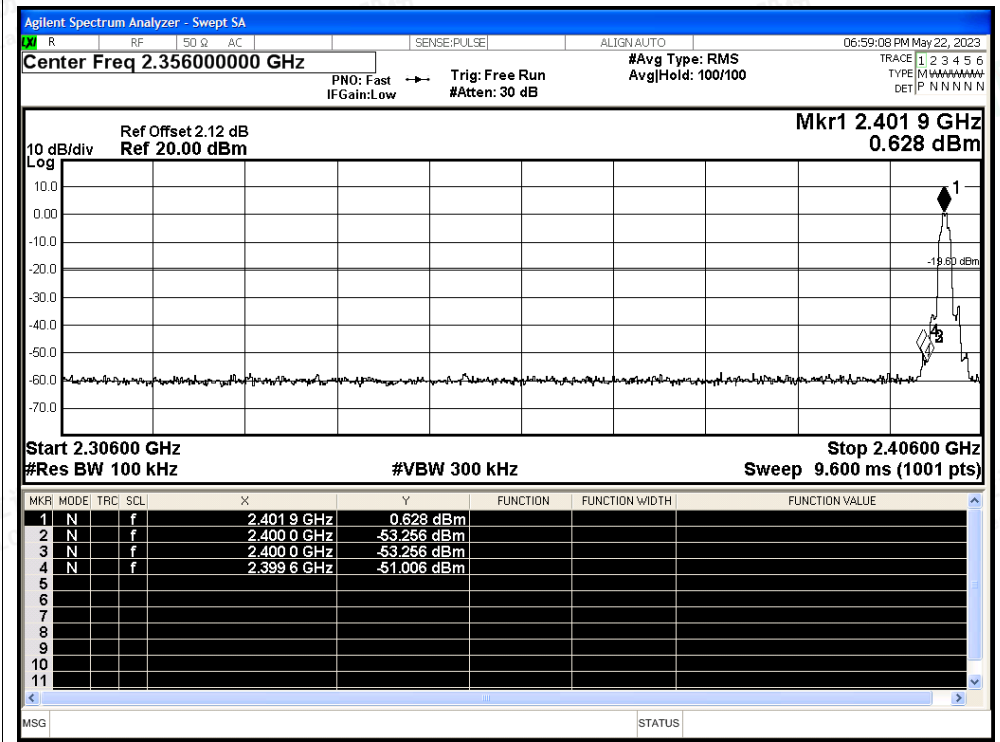




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

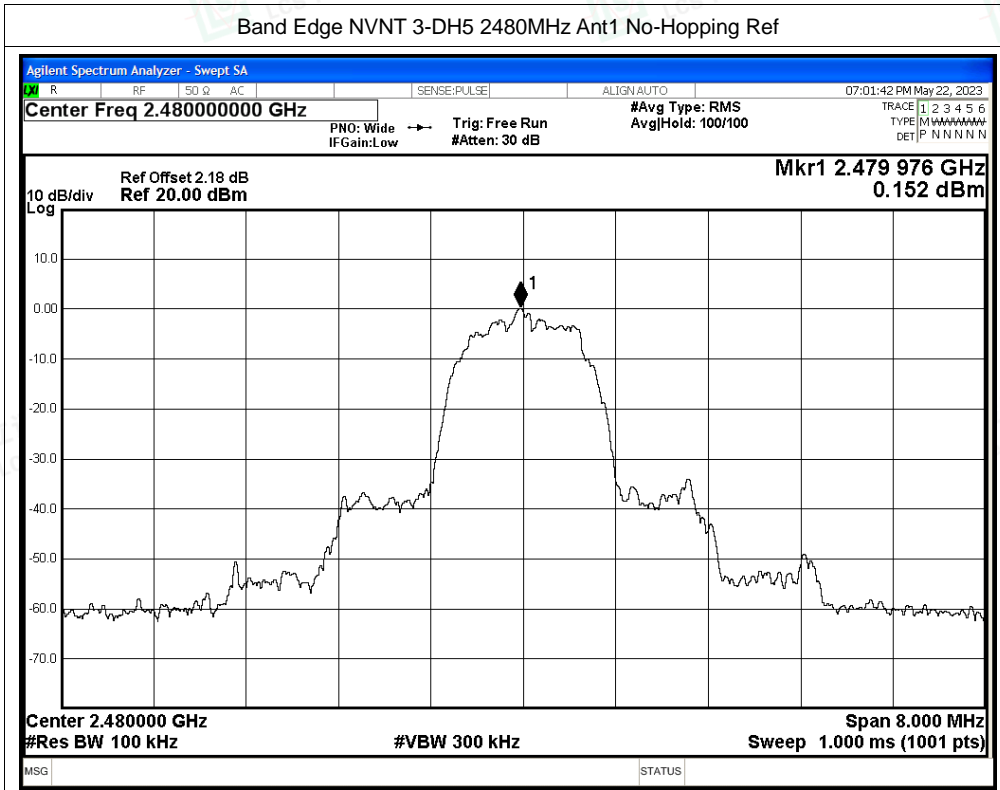


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

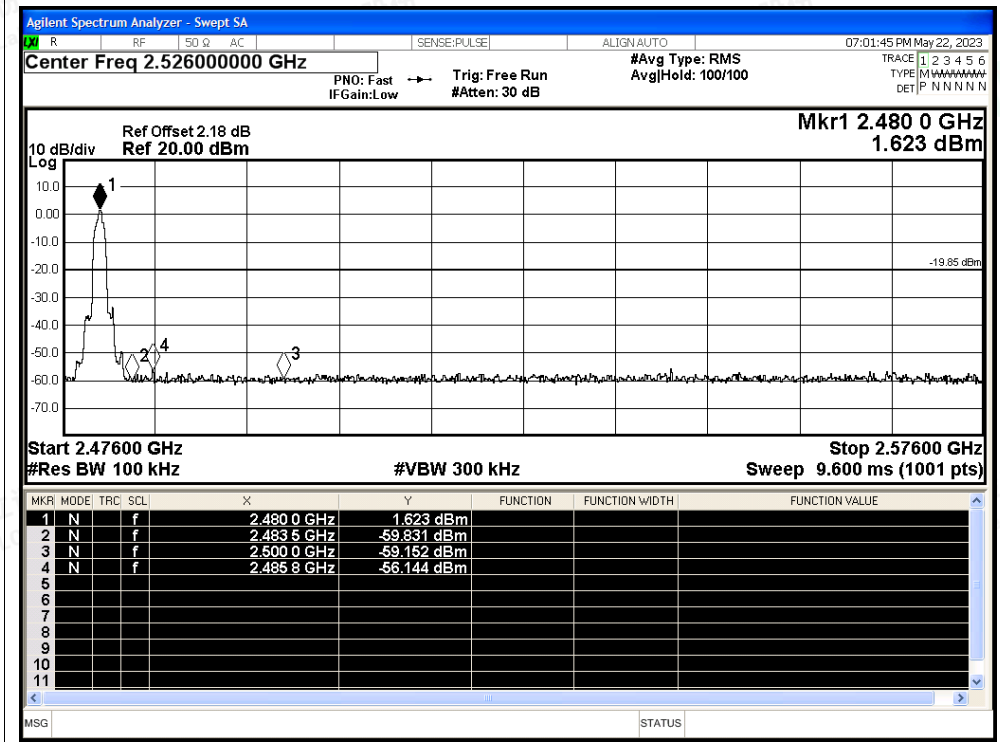




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Emission





(Hopping)

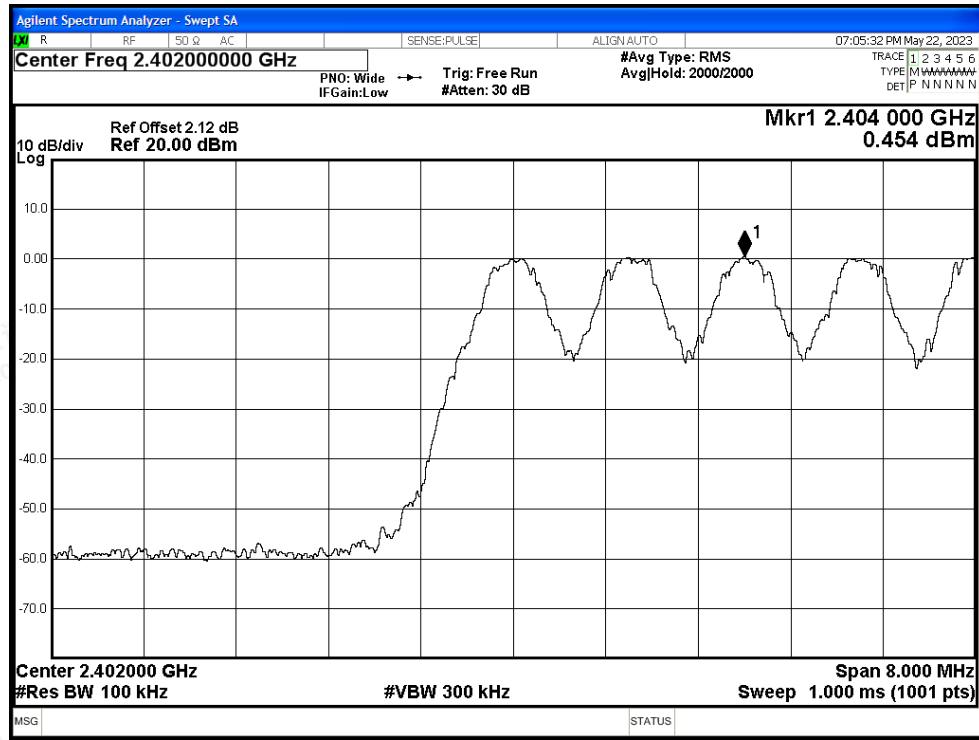
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-56.67	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-58.33	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-55.96	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-56.3	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-57.15	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-55.74	-20	Pass



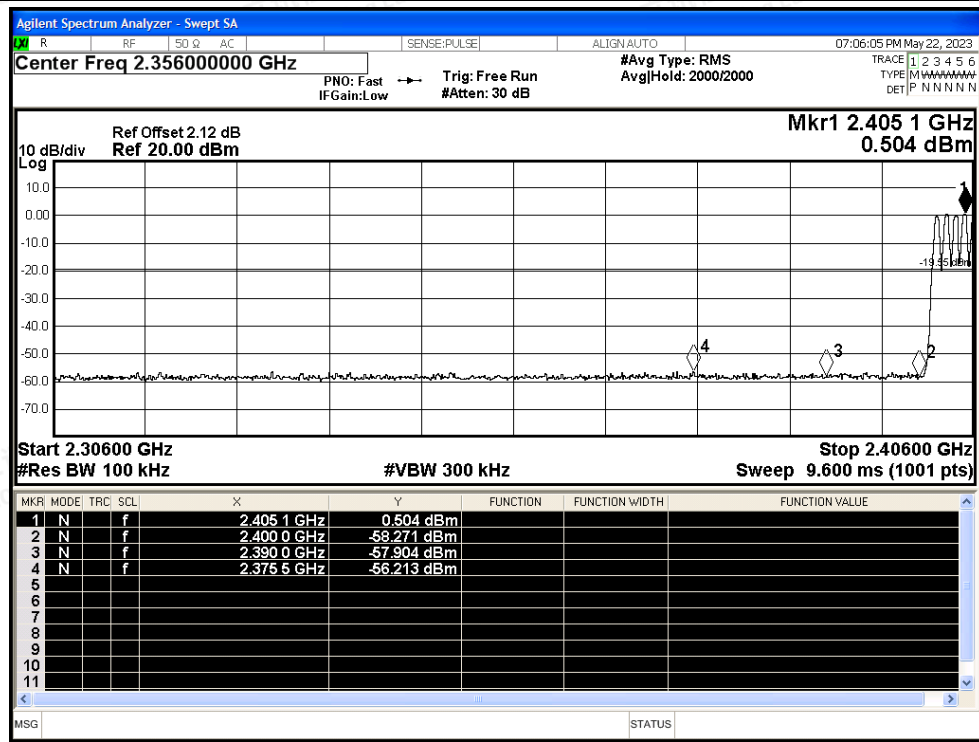


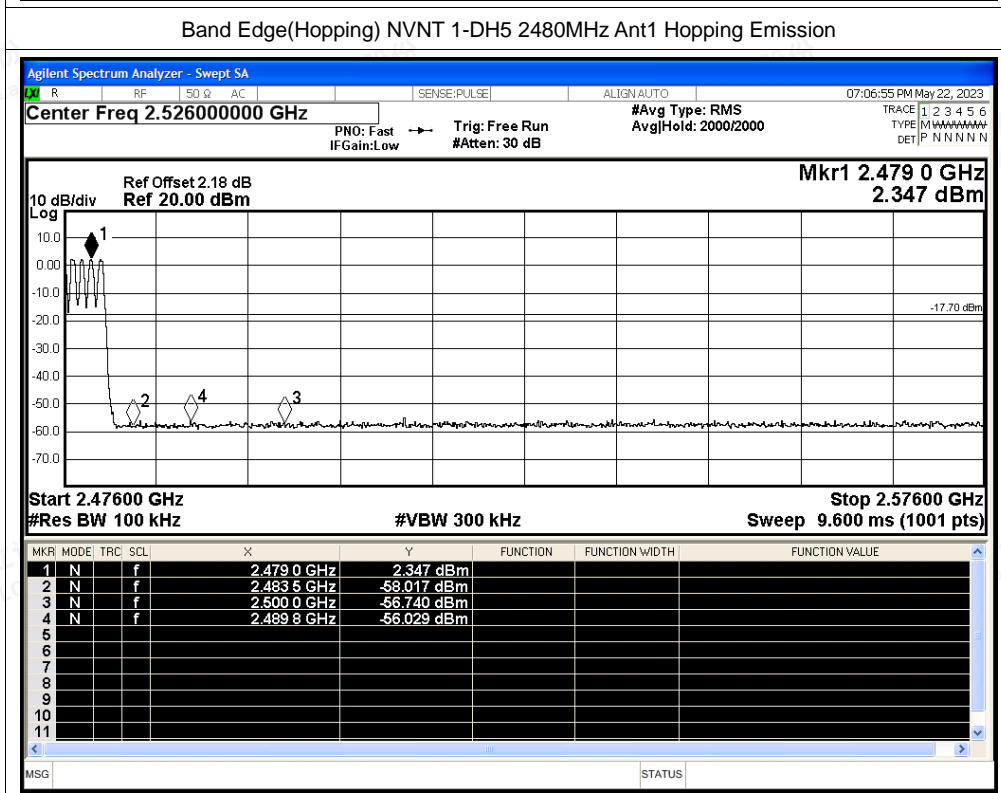
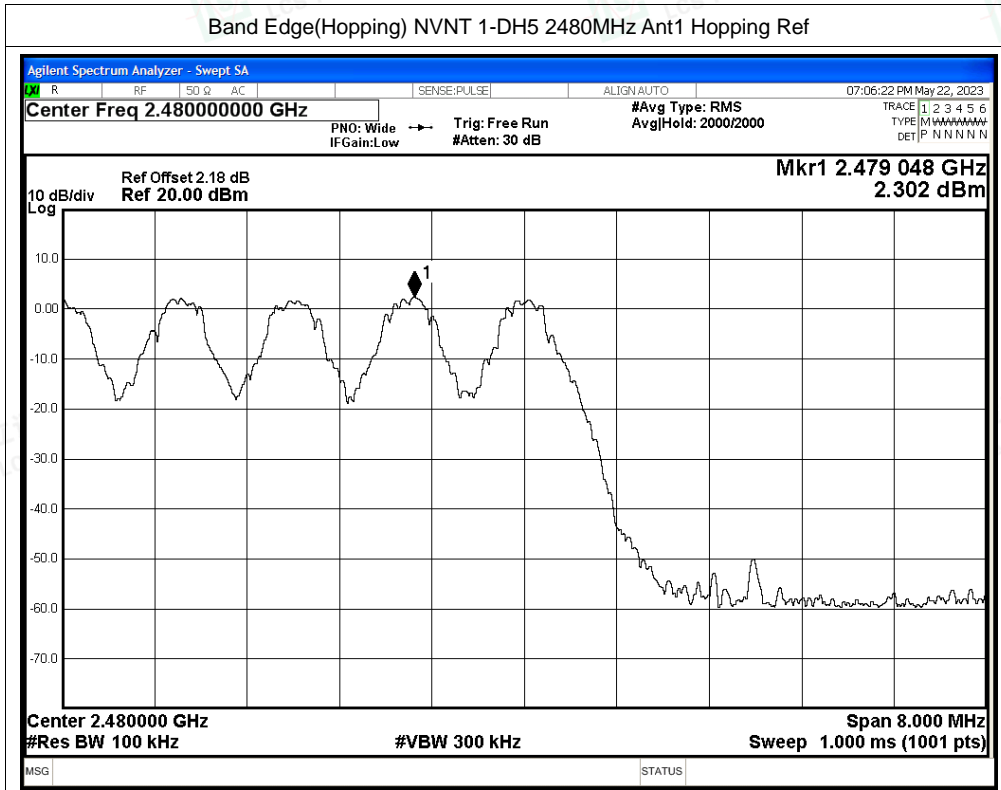
Test Graphs

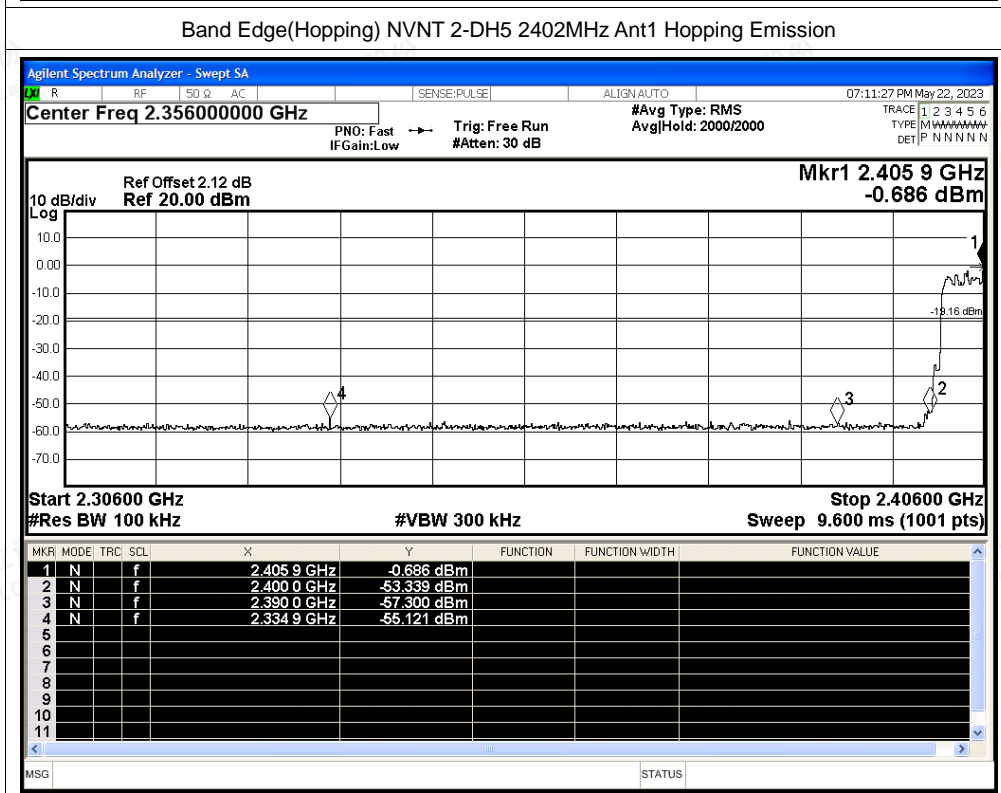
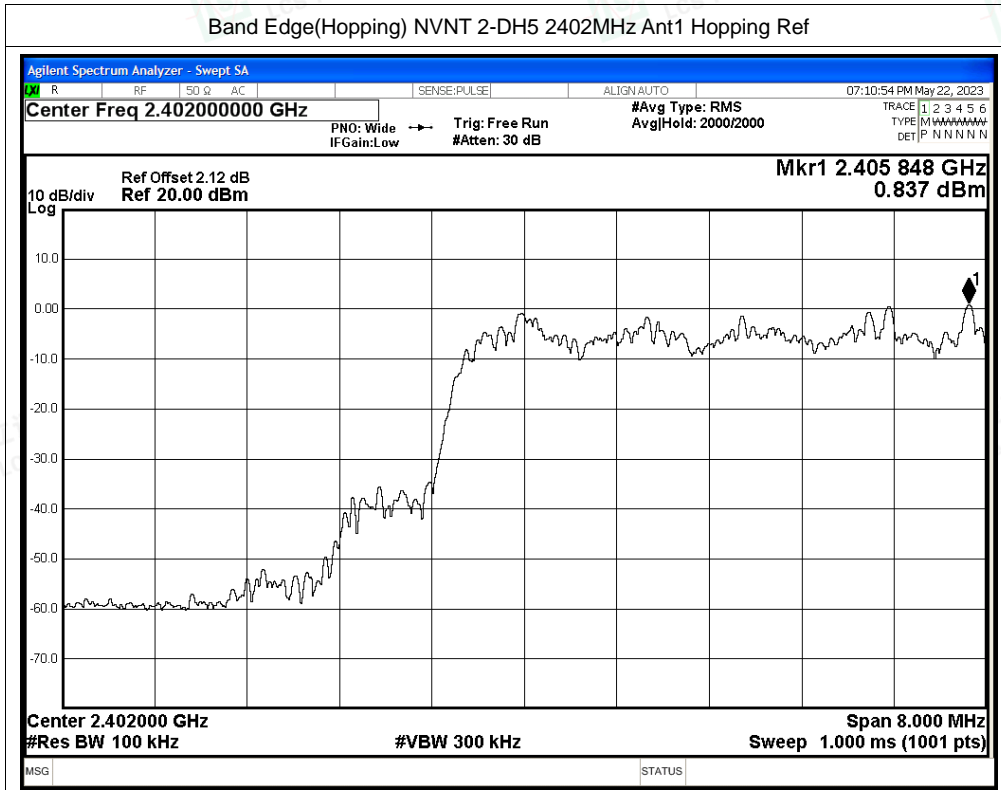
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

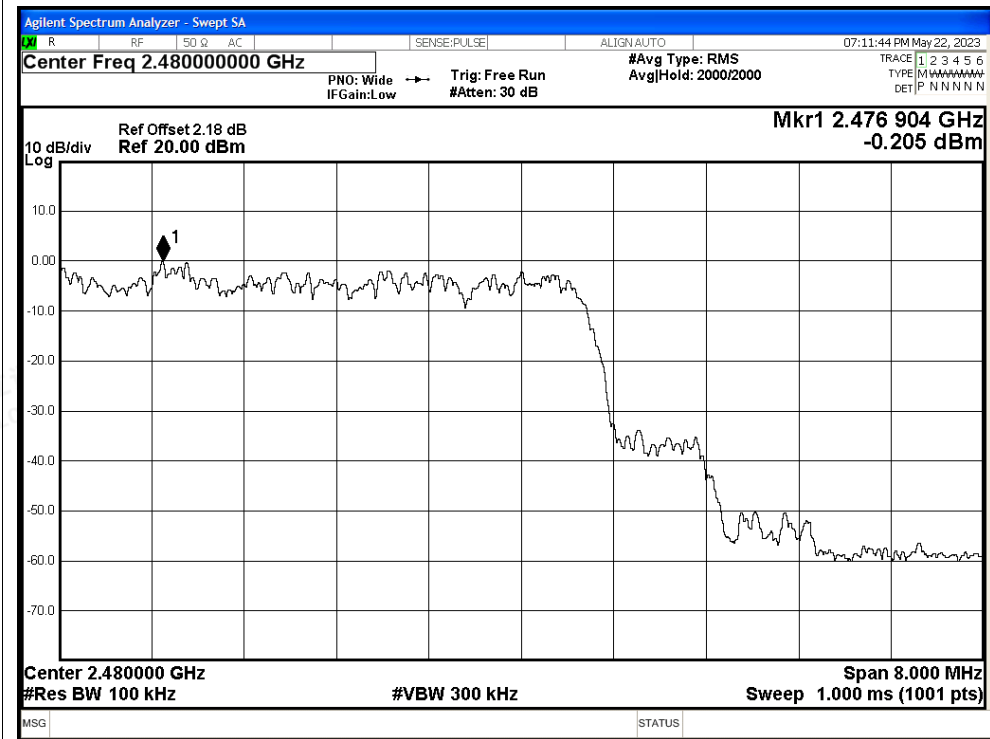




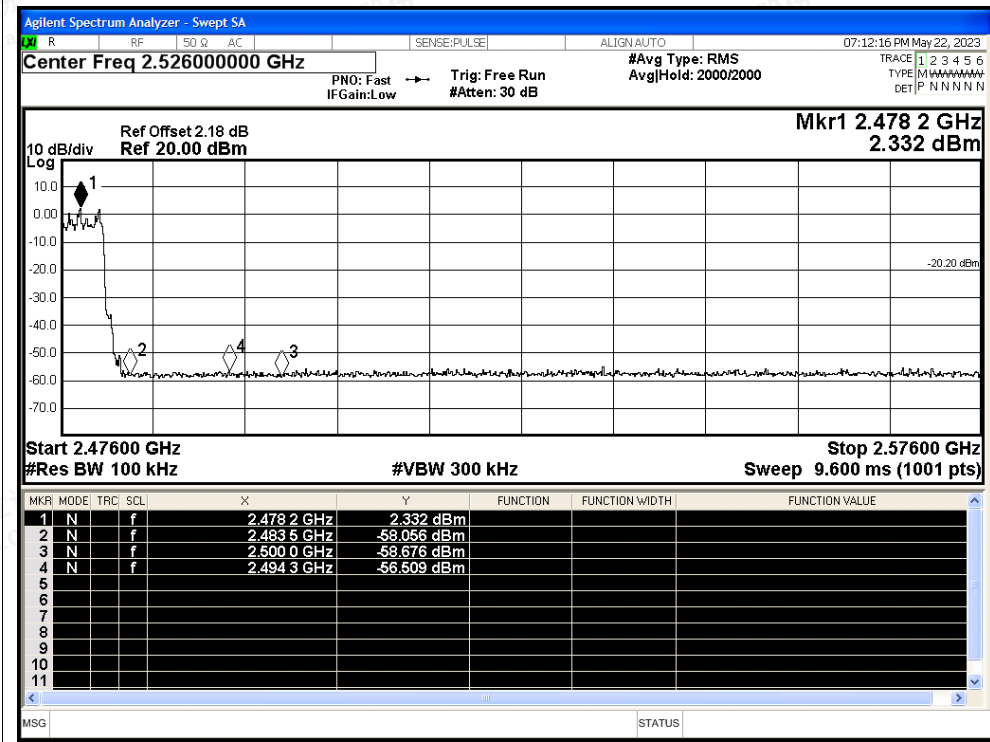


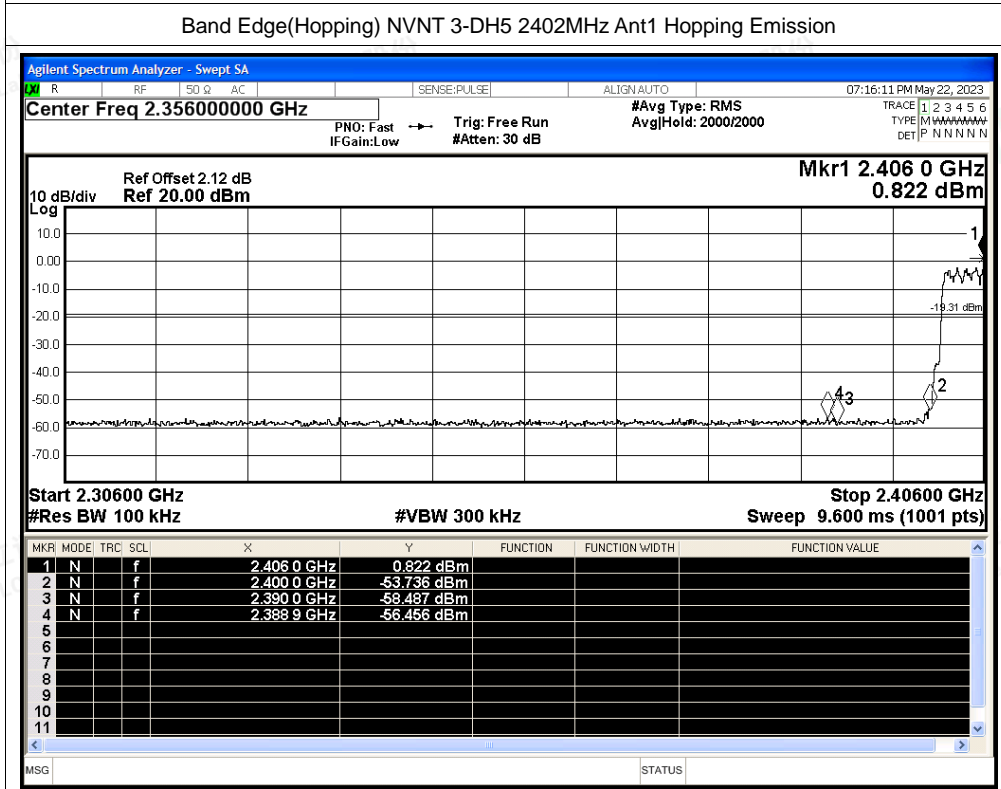
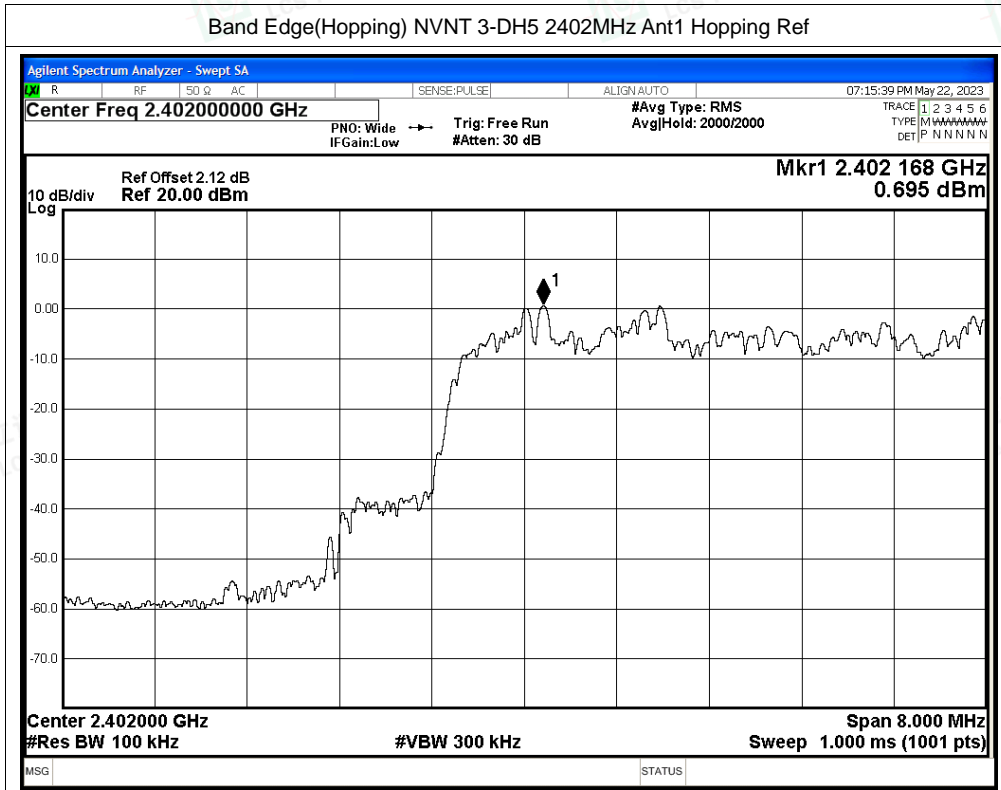


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



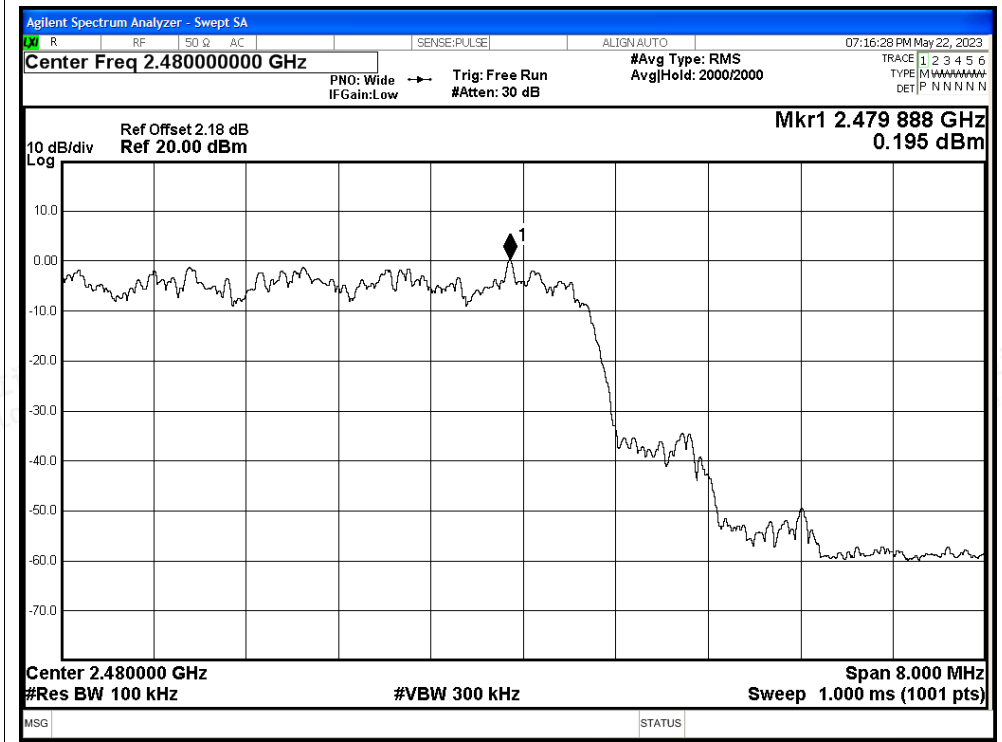
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



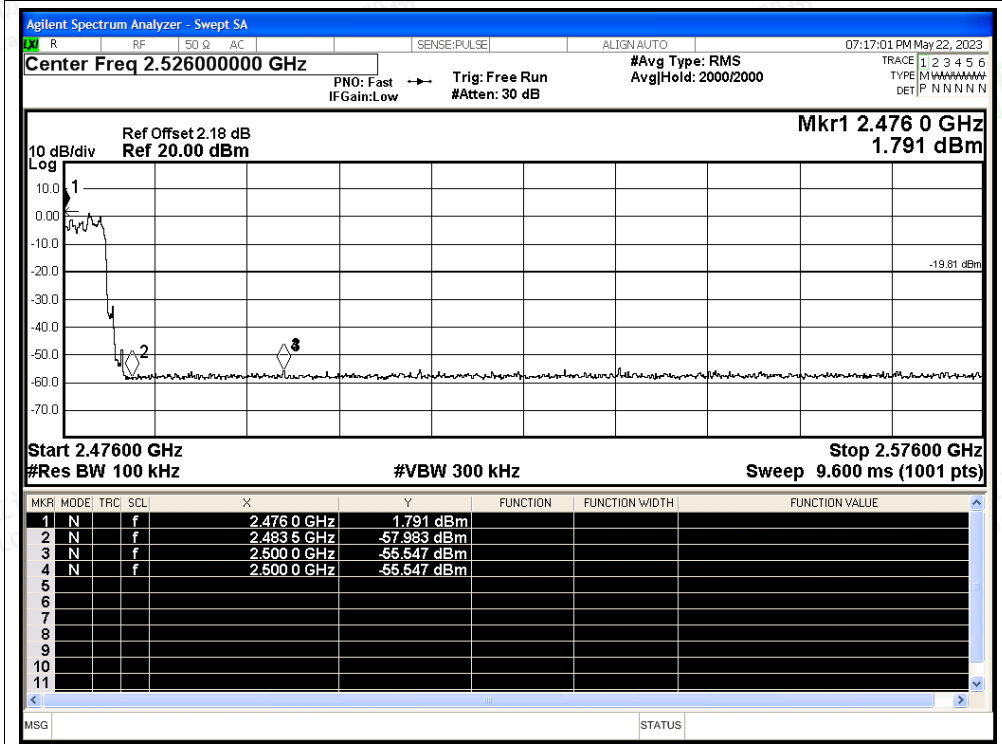




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Emission





A.7 Conducted RF Spurious Emission

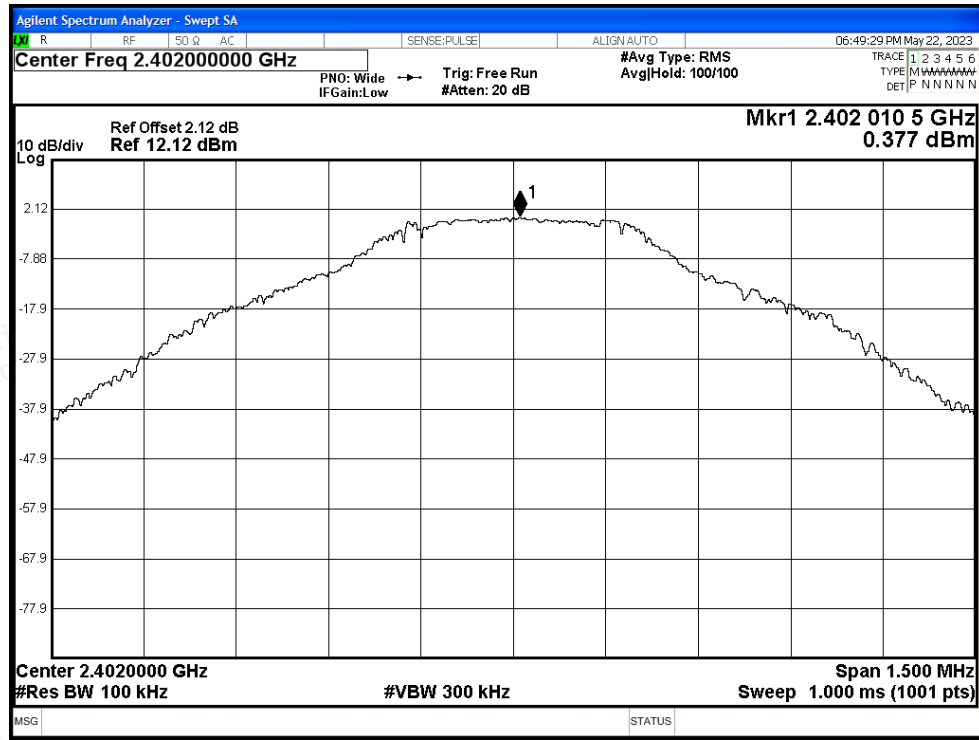
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-56.19	-20	Pass
NVNT	1-DH5	2441	Ant1	-56.07	-20	Pass
NVNT	1-DH5	2480	Ant1	-58.32	-20	Pass
NVNT	2-DH5	2402	Ant1	-55.36	-20	Pass
NVNT	2-DH5	2441	Ant1	-56.72	-20	Pass
NVNT	2-DH5	2480	Ant1	-57.16	-20	Pass
NVNT	3-DH5	2402	Ant1	-56.2	-20	Pass
NVNT	3-DH5	2441	Ant1	-57.06	-20	Pass
NVNT	3-DH5	2480	Ant1	-56.28	-20	Pass



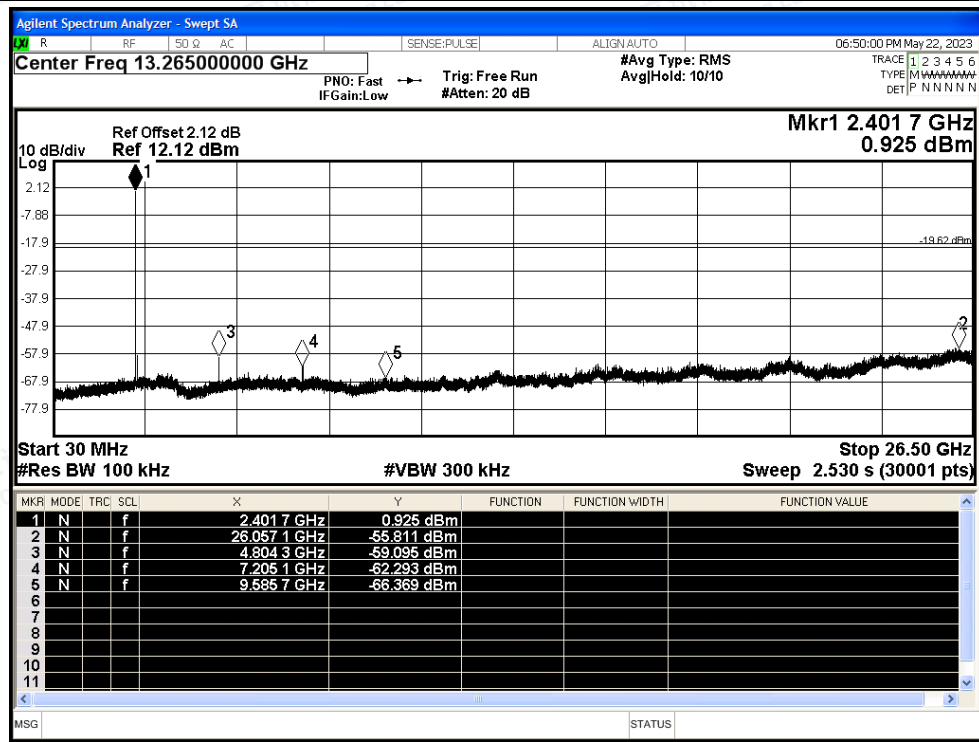


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

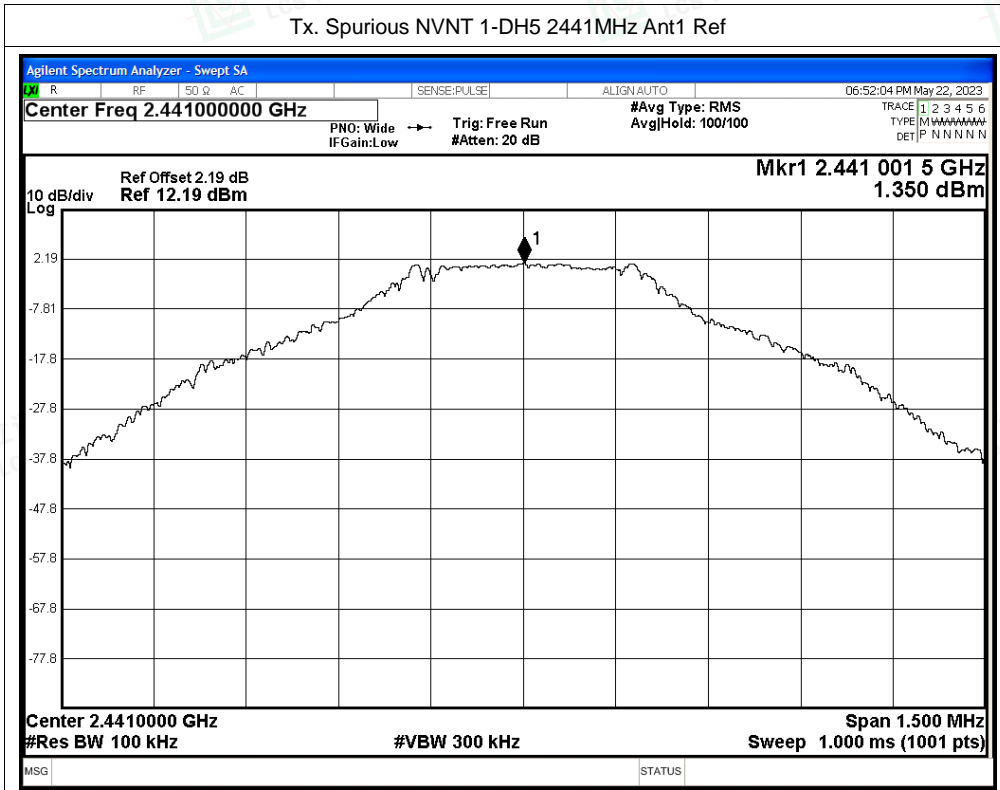


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

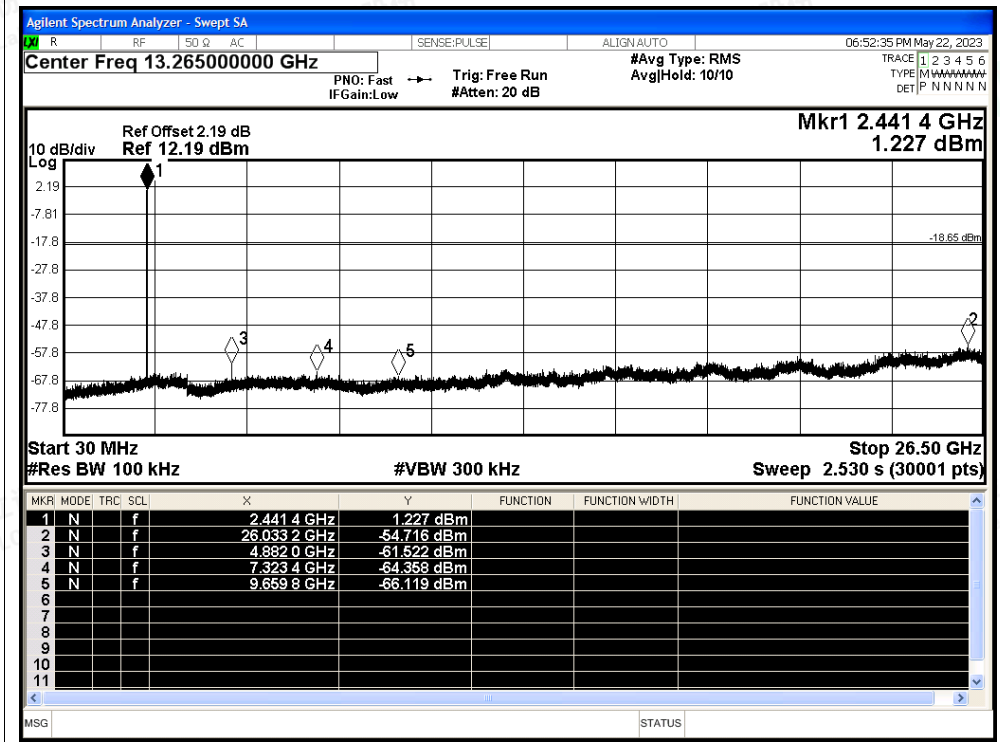




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

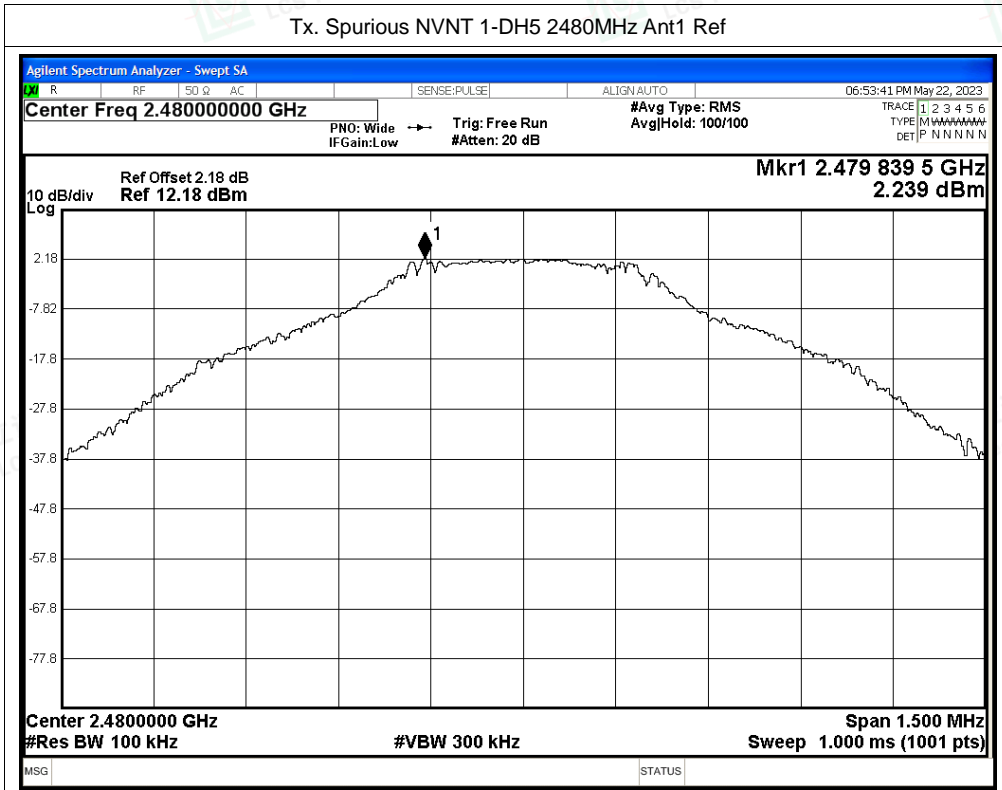


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

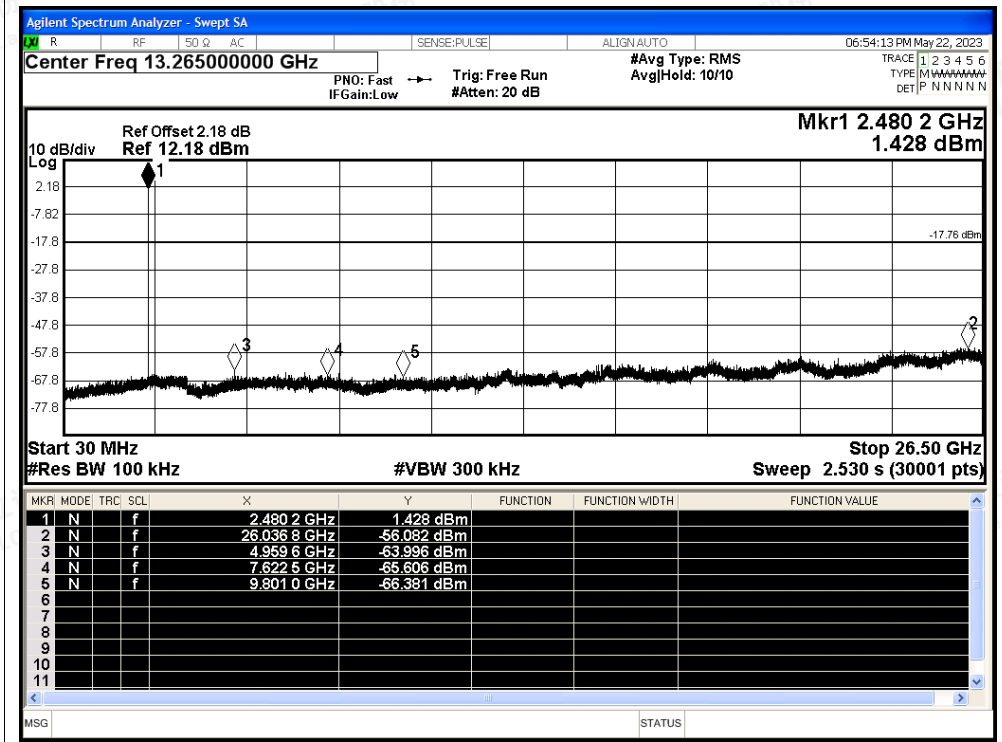




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



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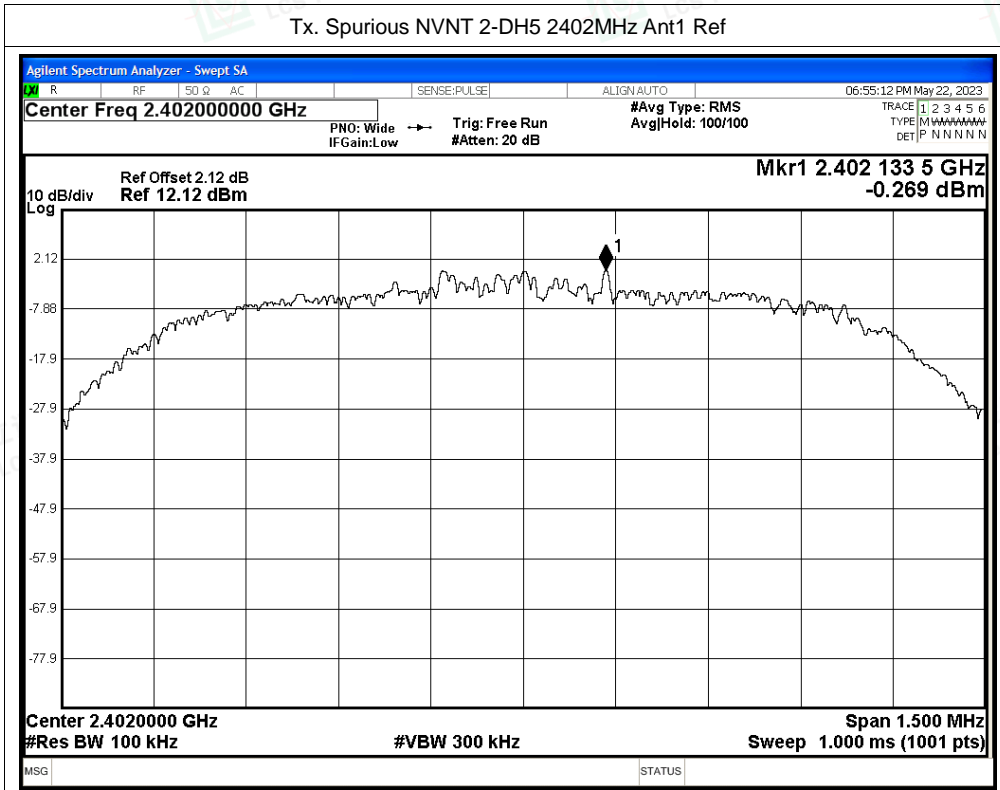
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

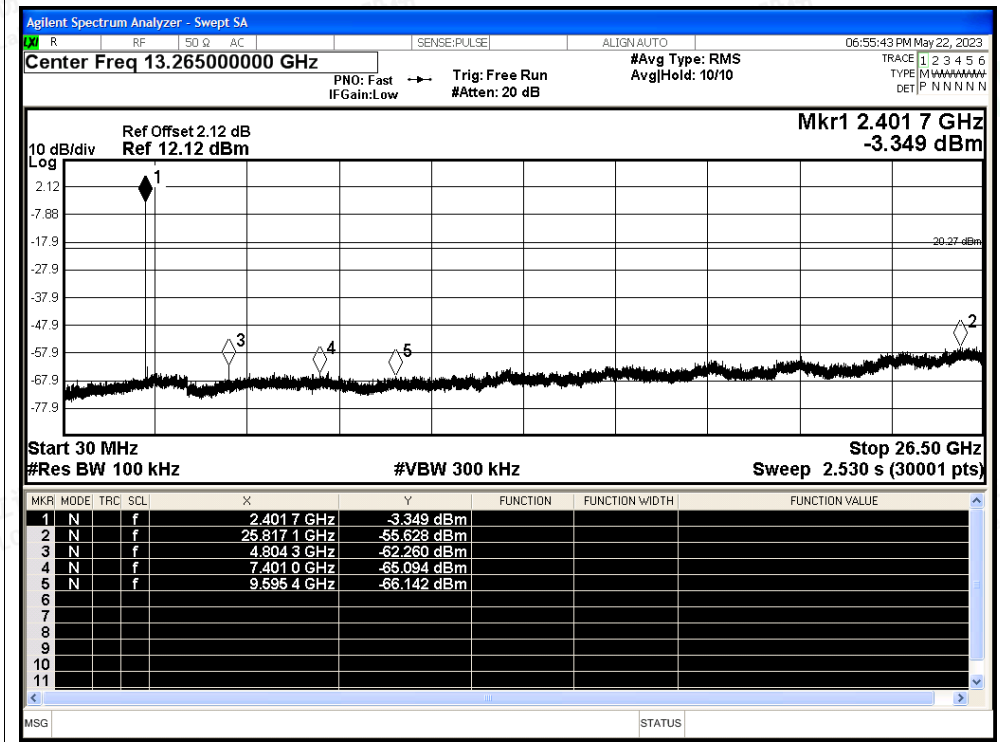
Scan code to check authenticity



Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

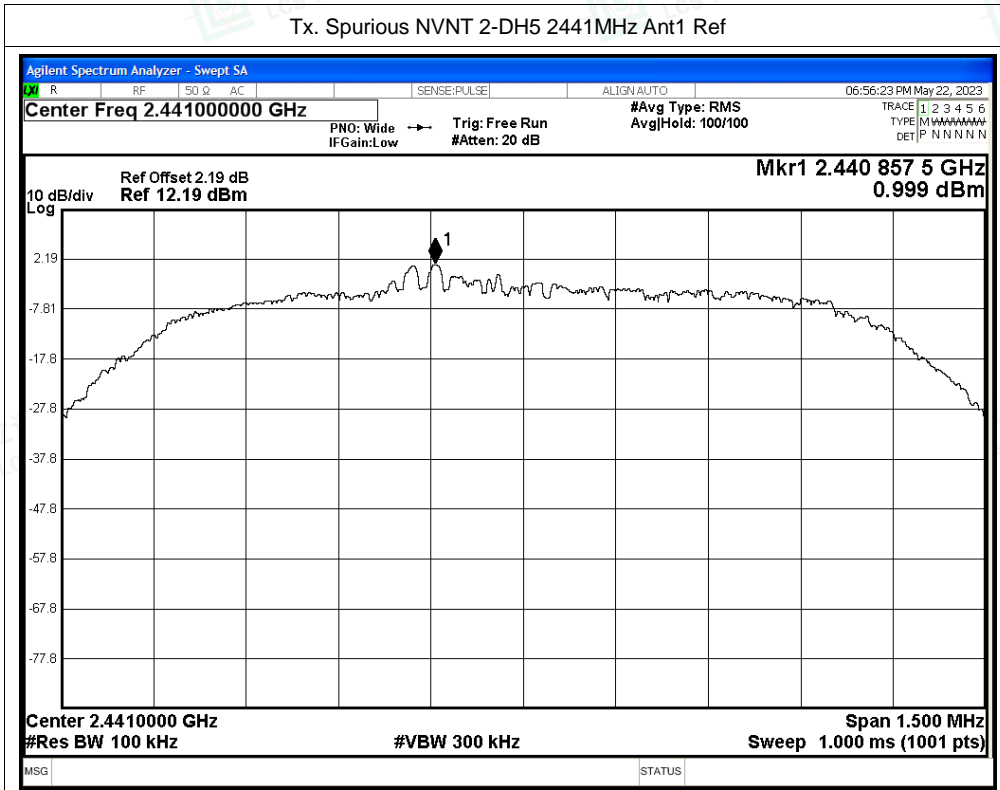


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

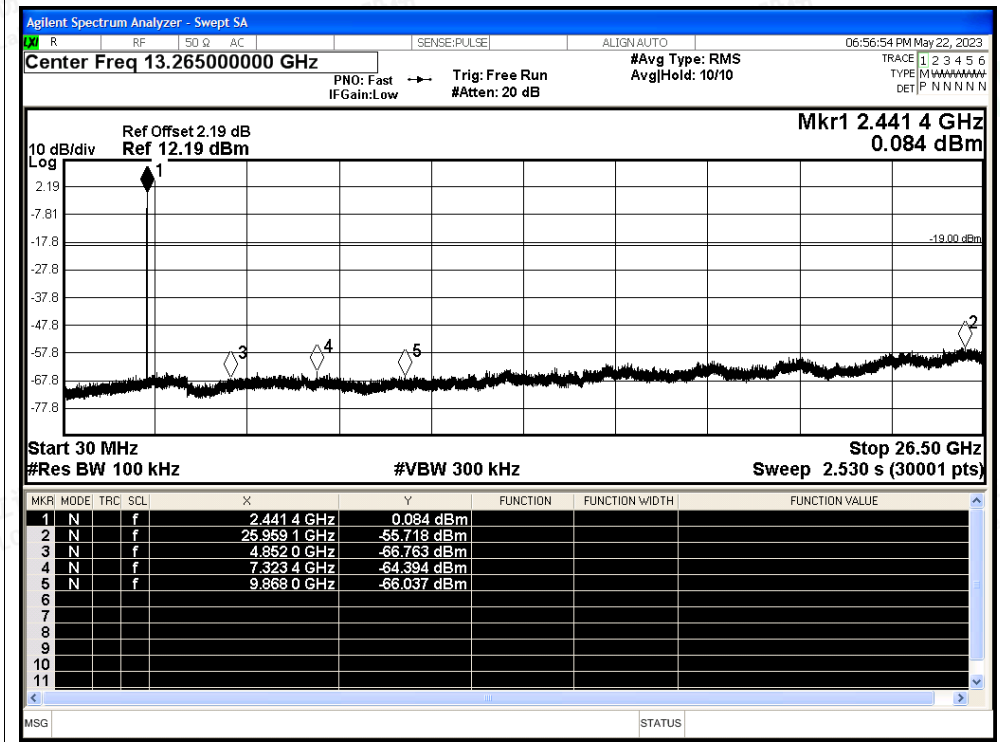




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

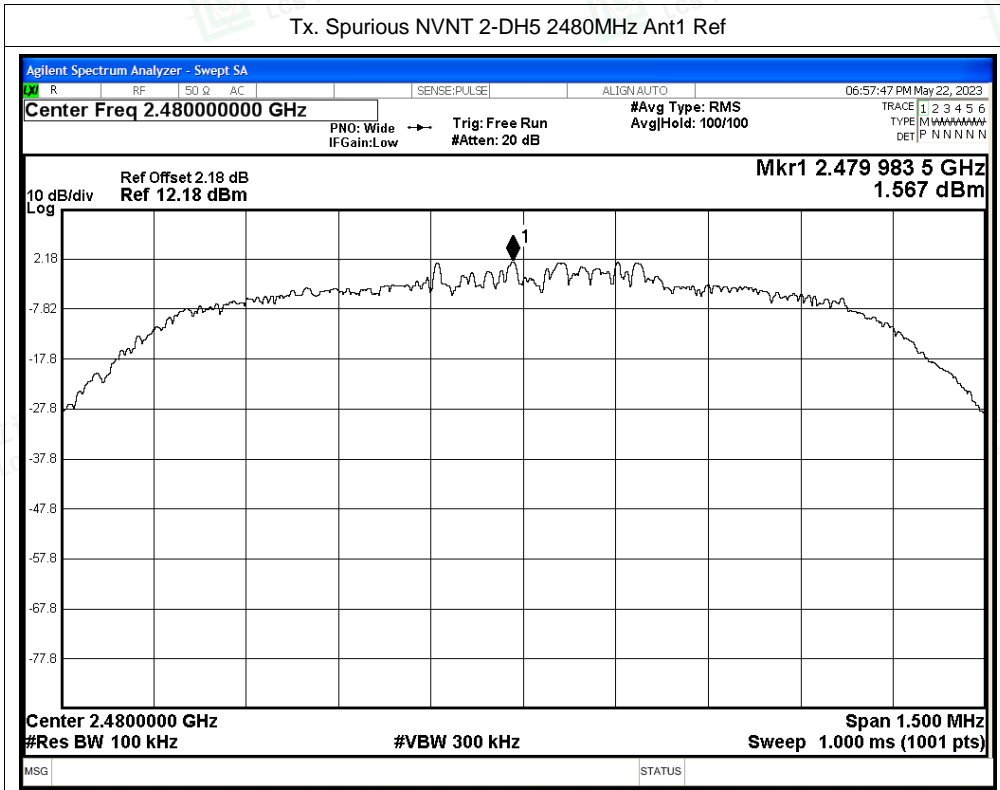


Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

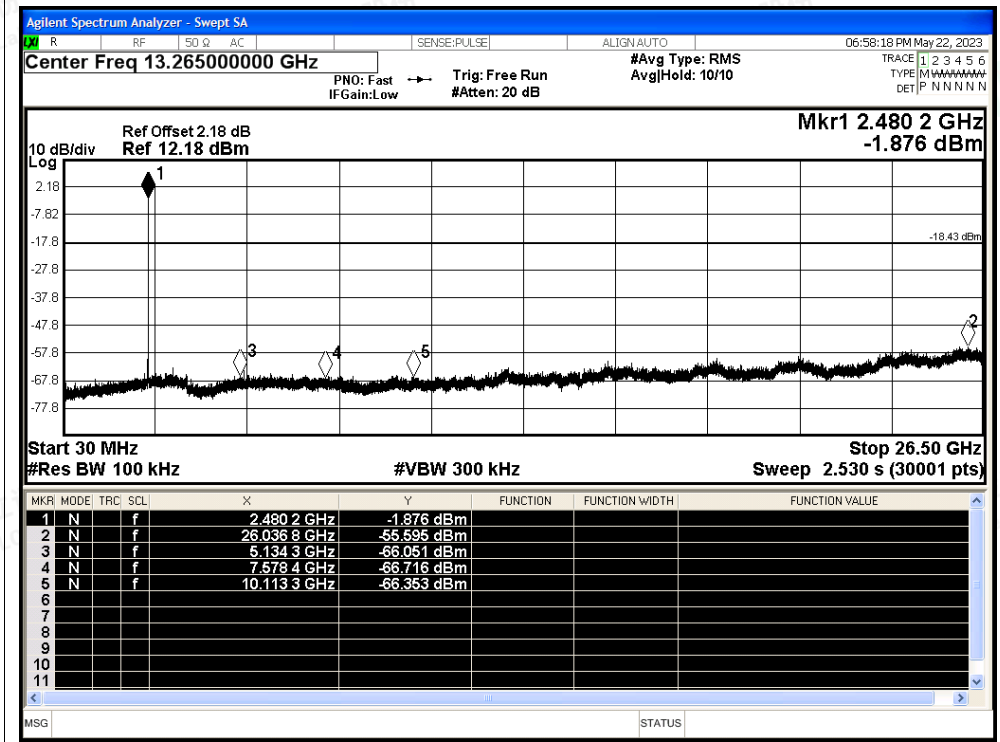




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref

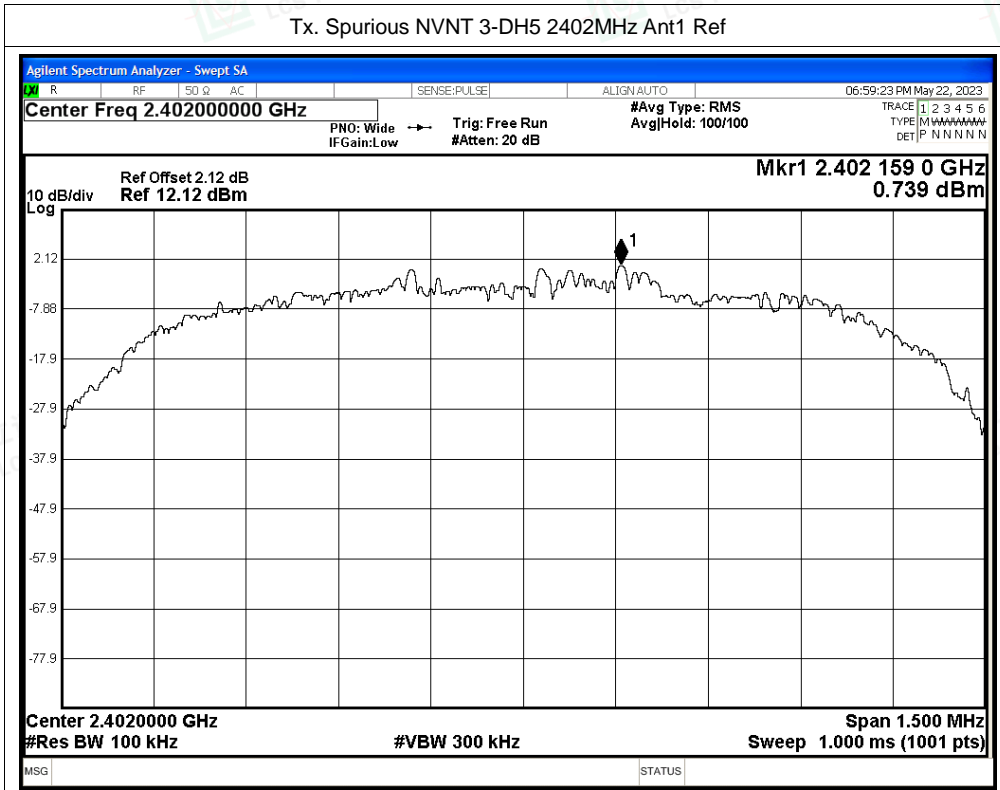


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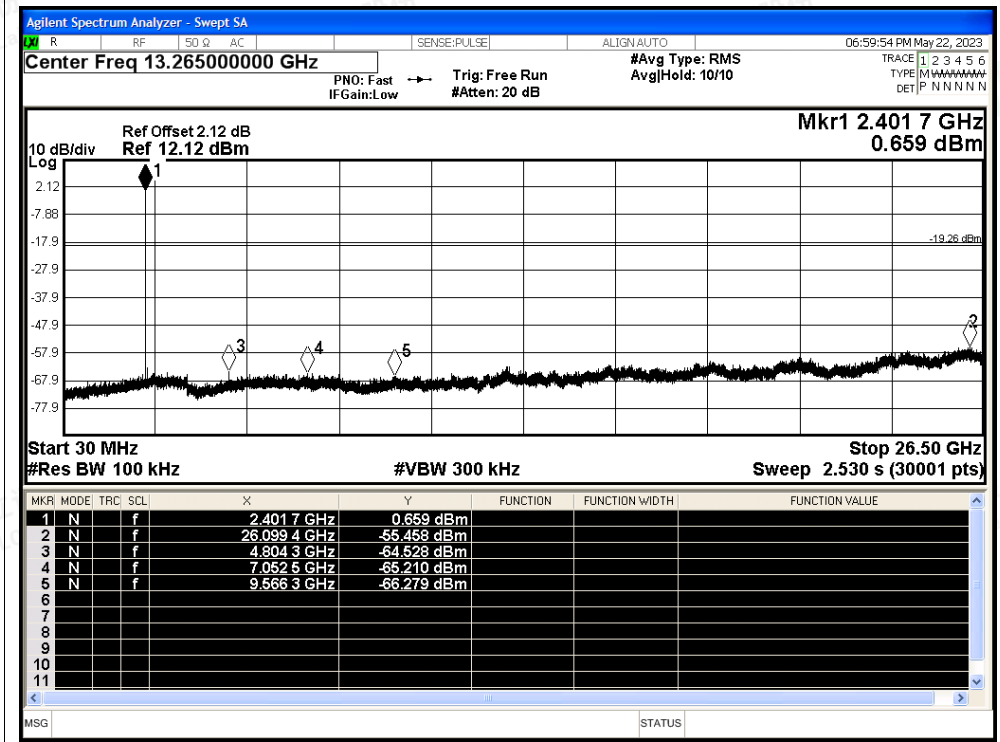




Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



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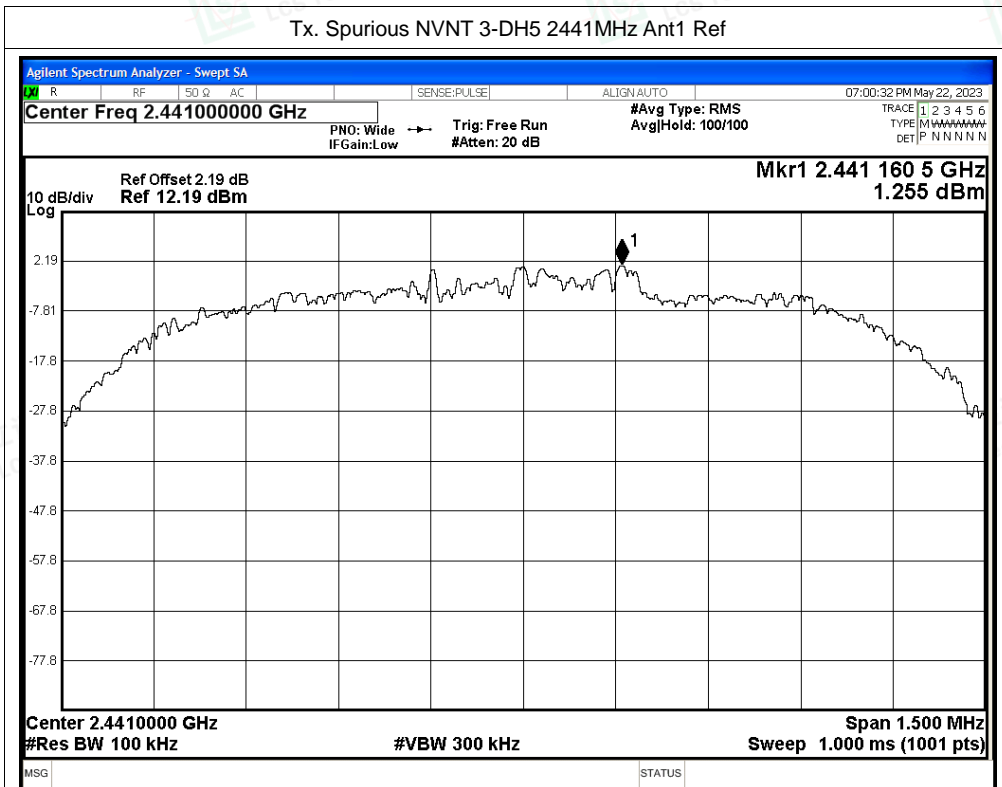
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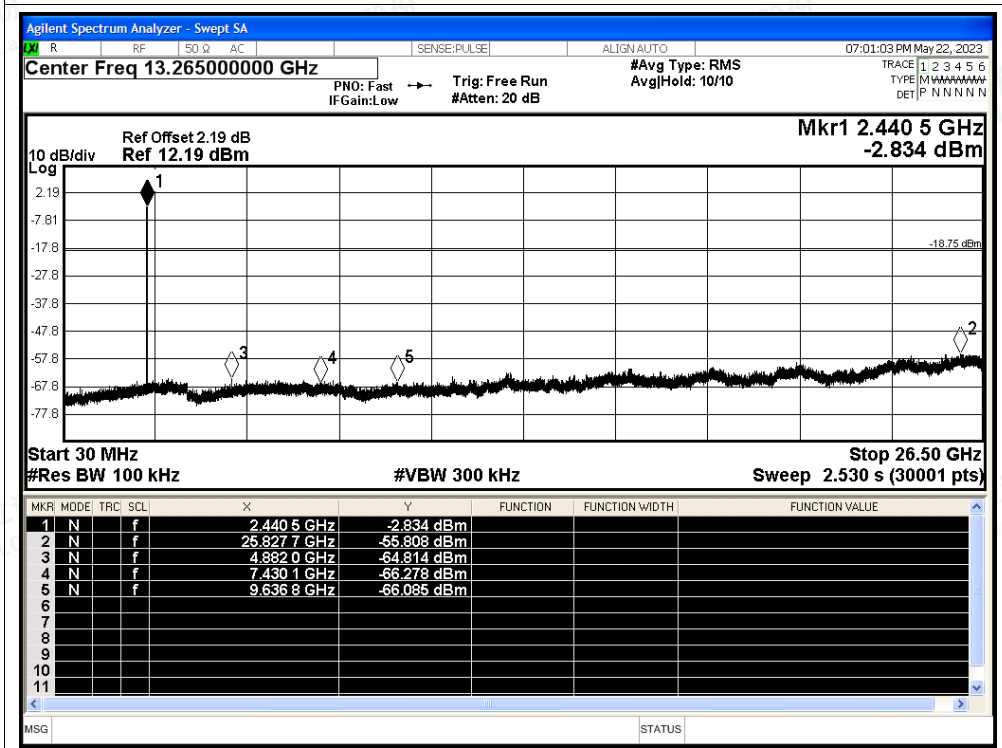
Scan code to check authenticity



Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

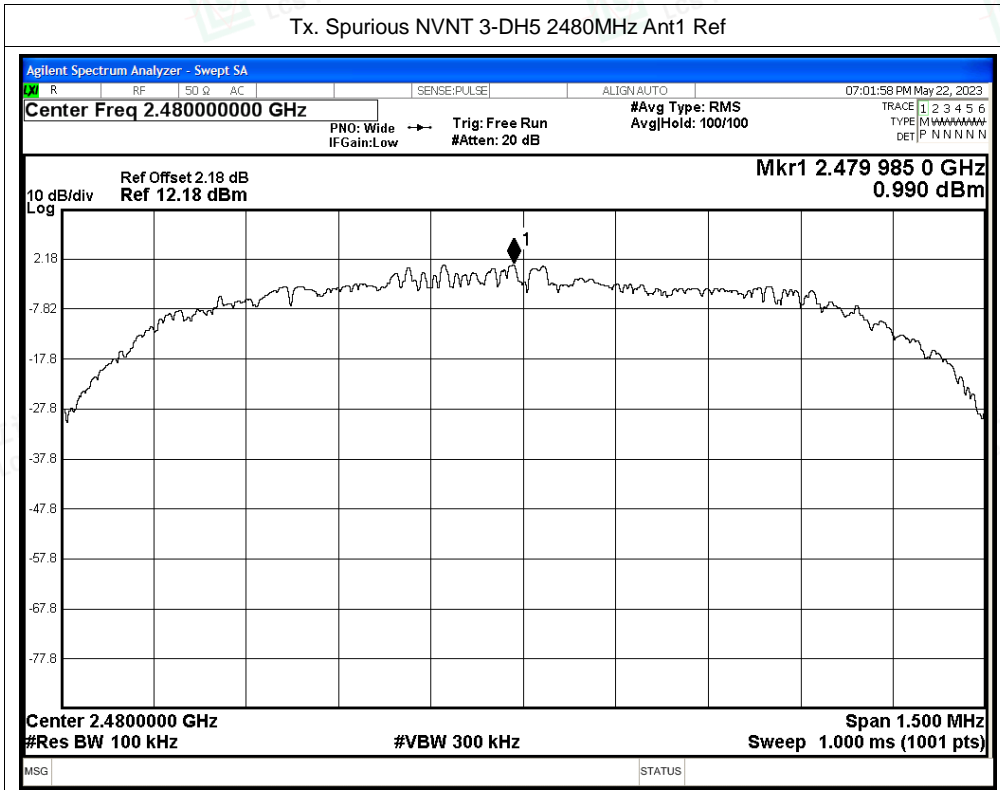


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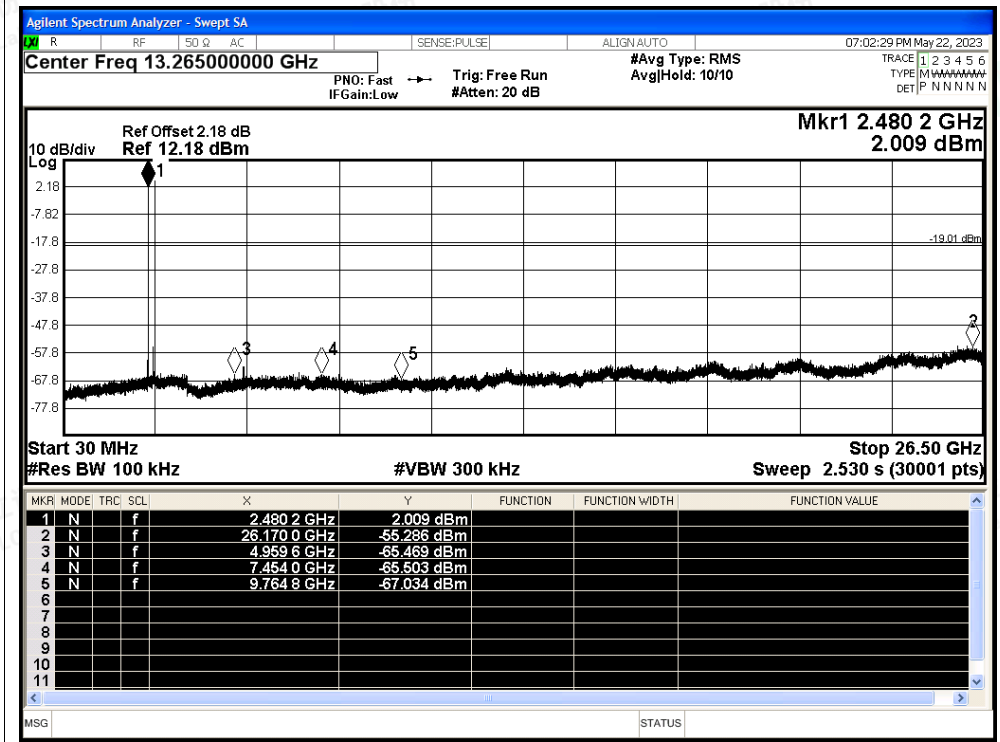




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.8 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.67	2.61	47.20	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-57.92	2.61	39.95	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2354.064	-47.68	2.61	50.19	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2387.856	-57.42	2.61	40.45	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-49.62	2.61	48.25	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-57.65	2.61	40.22	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.41	2.61	48.46	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-54.81	2.61	43.06	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2495.608	-46.8	2.61	51.07	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-54.81	2.61	43.06	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-48.97	2.61	48.90	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.29	2.61	40.58	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-51.24	2.61	46.63	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.08	2.61	39.79	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2351.568	-47.67	2.61	50.20	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2382.48	-57.46	2.61	40.41	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.28	2.61	47.59	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-57.73	2.61	40.14	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-50.57	2.61	47.30	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-54.29	2.61	43.58	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2491.84	-46.49	2.61	51.38	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-54.29	2.61	43.58	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.87	2.61	48.00	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.33	2.61	40.54	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.42	2.61	47.45	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.04	2.61	39.83	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2358.288	-47.33	2.61	50.54	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2389.296	-57.51	2.61	40.36	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.45	2.61	47.42	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-57.59	2.61	40.28	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-50.13	2.61	47.74	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-54.37	2.61	43.50	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2493.784	-46.97	2.61	50.90	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-54.37	2.61	43.50	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-51.26	2.61	46.61	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-57.19	2.61	40.68	Average	54	Pass



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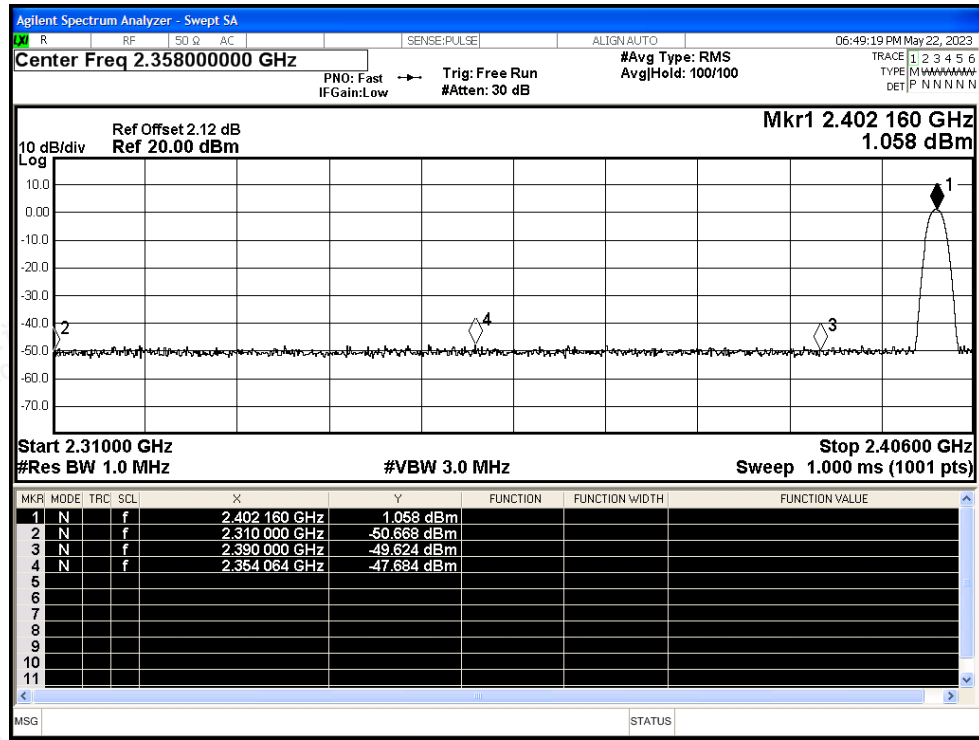
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Scan code to check authenticity

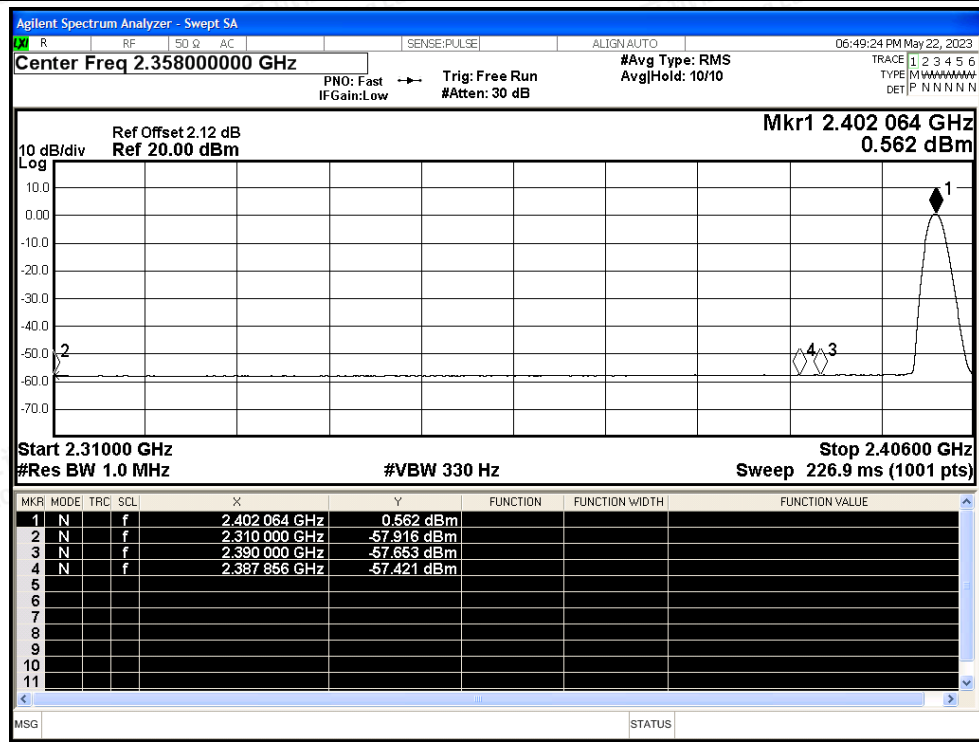


Test Graphs

Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak

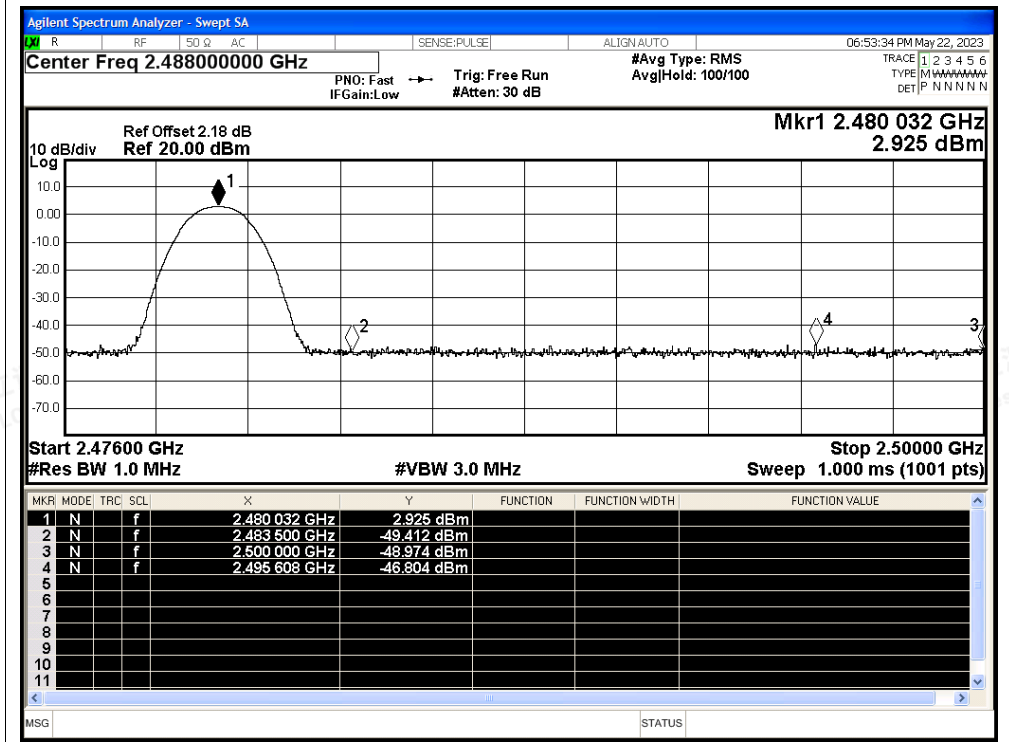


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

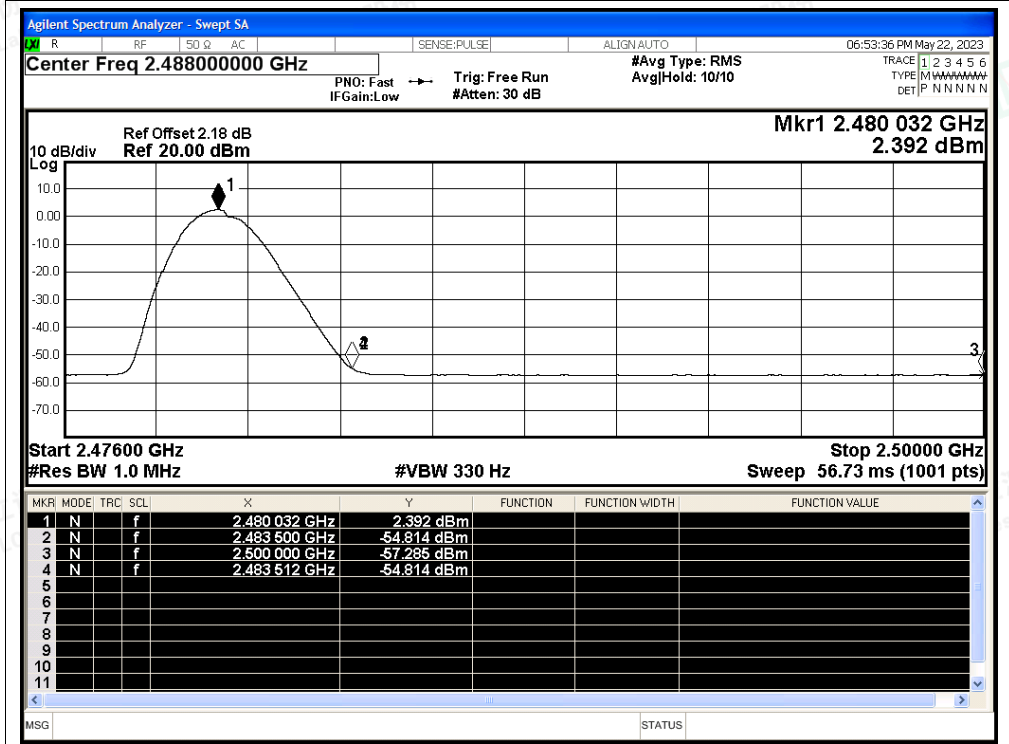




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

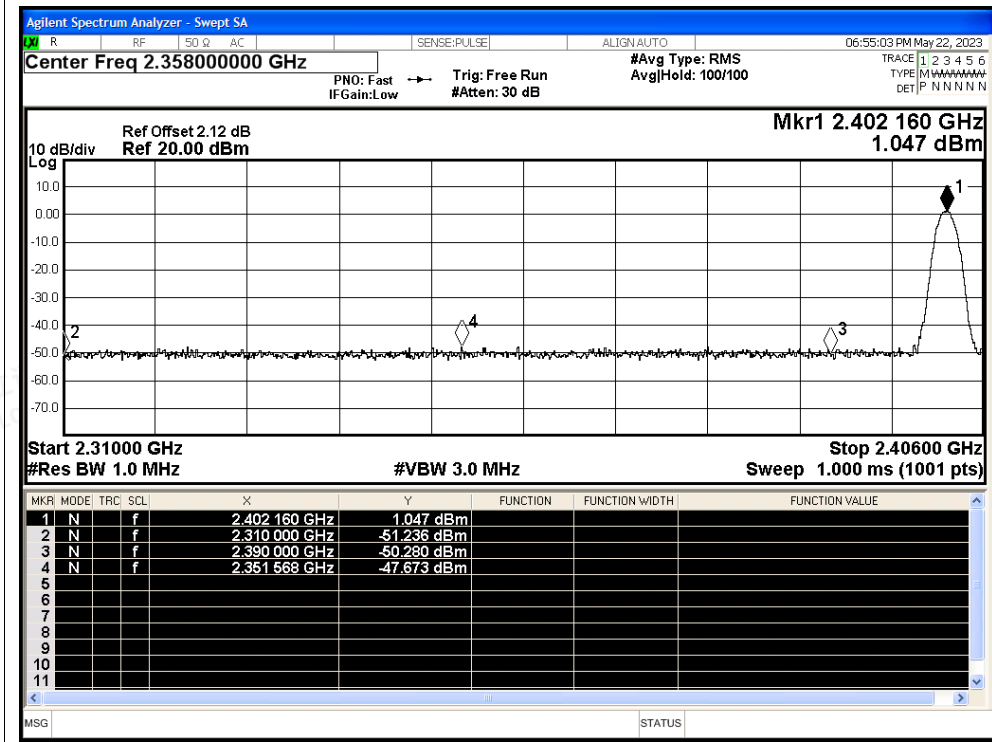


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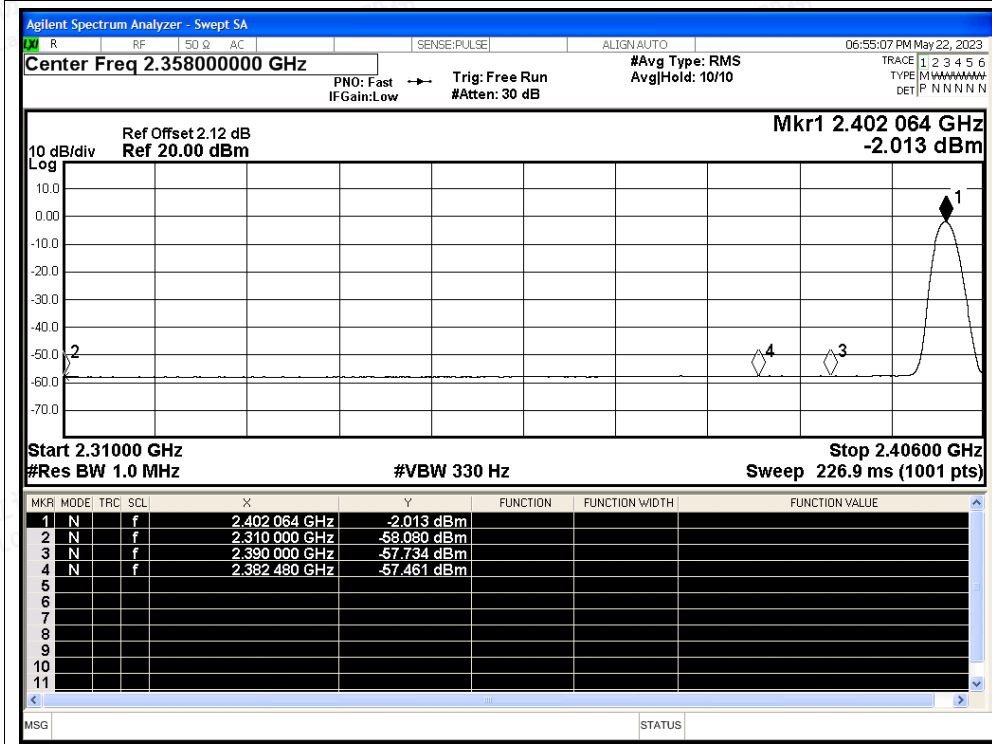




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

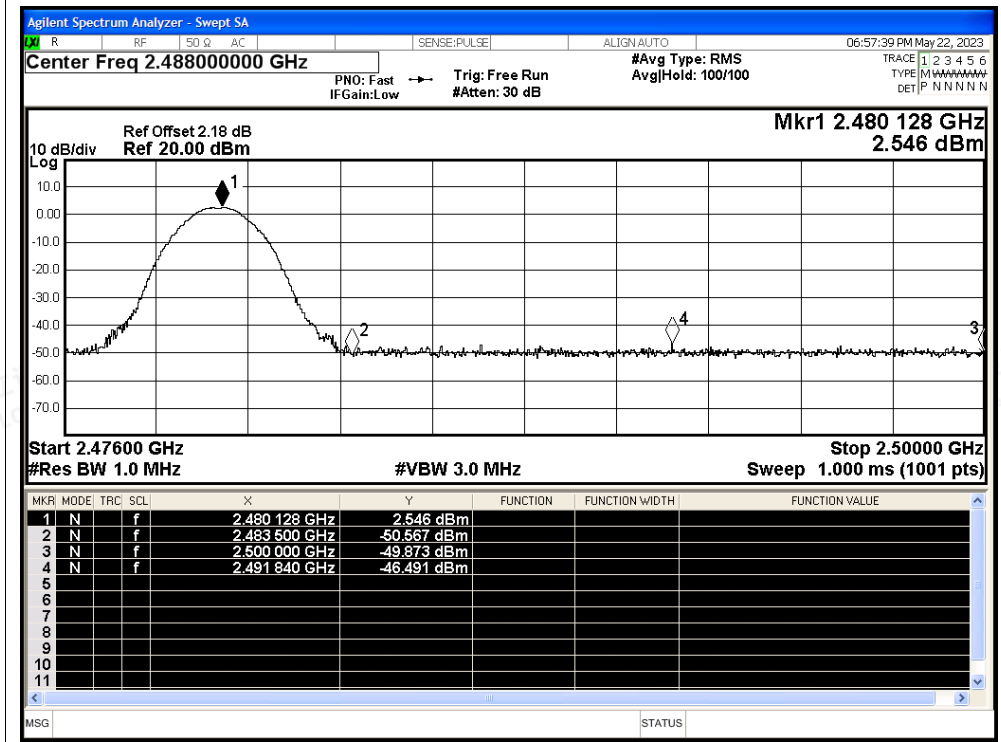


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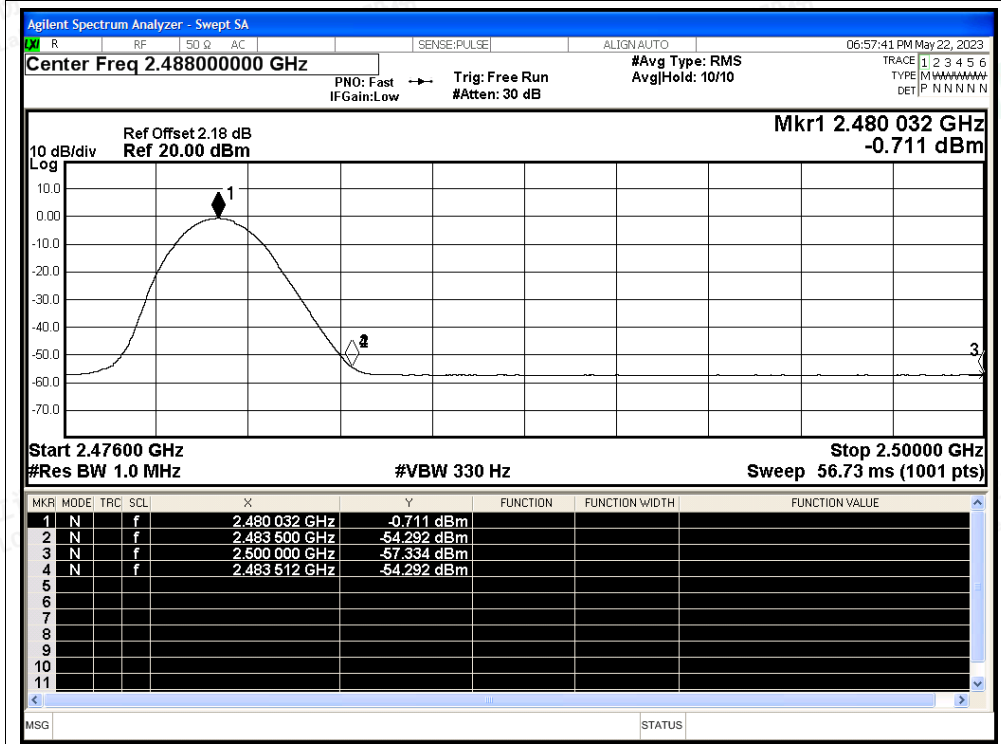




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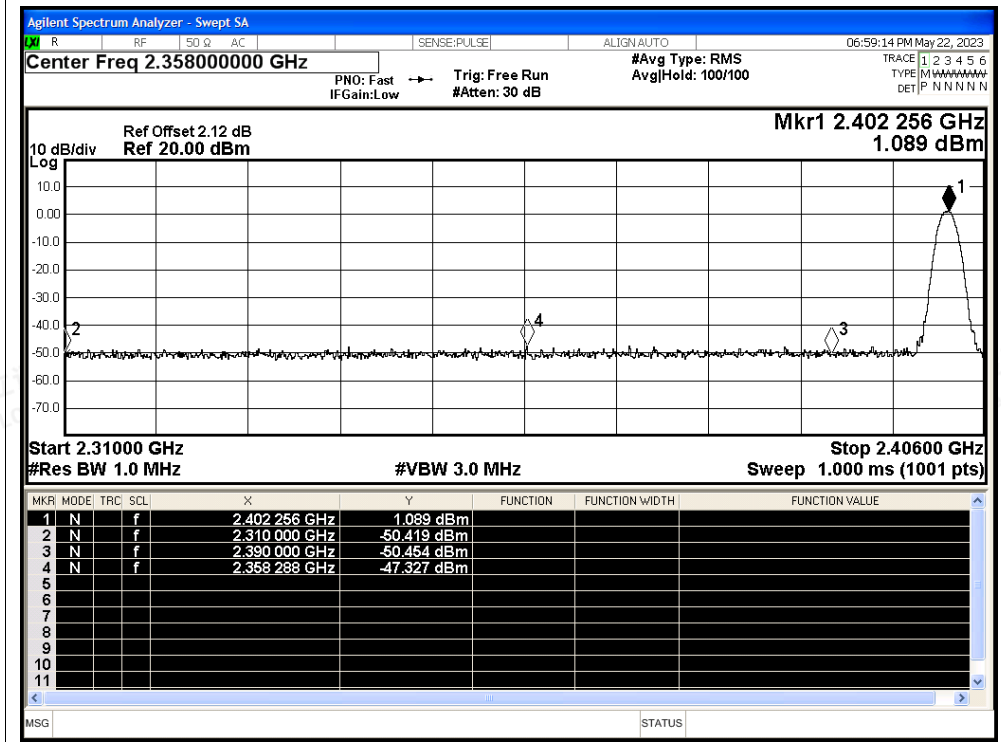


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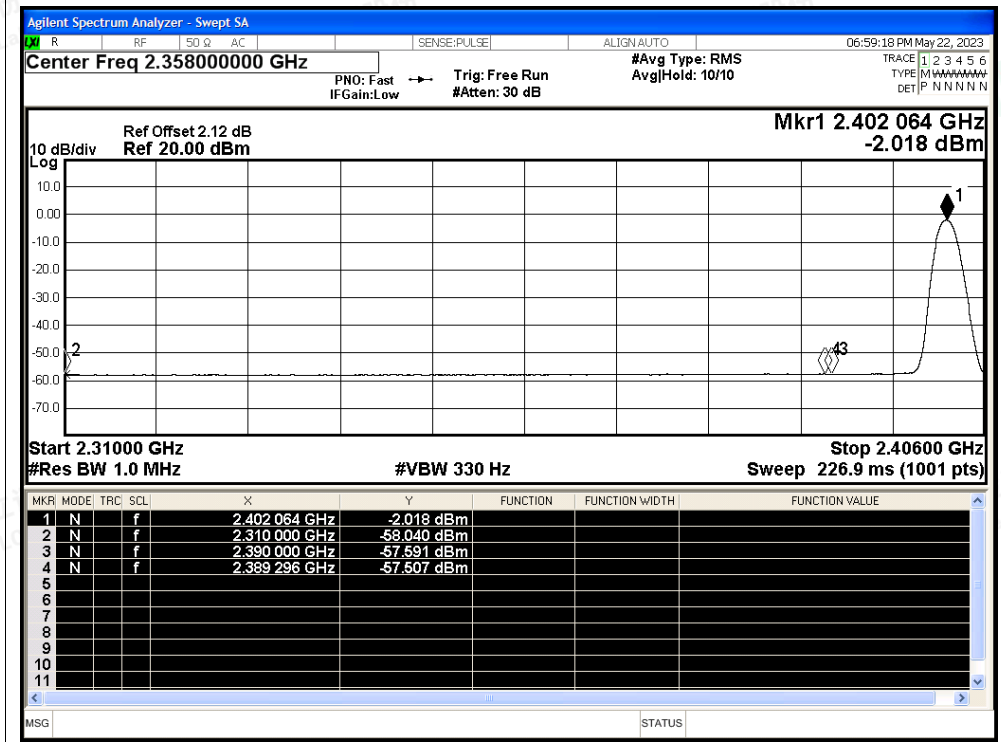




Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak

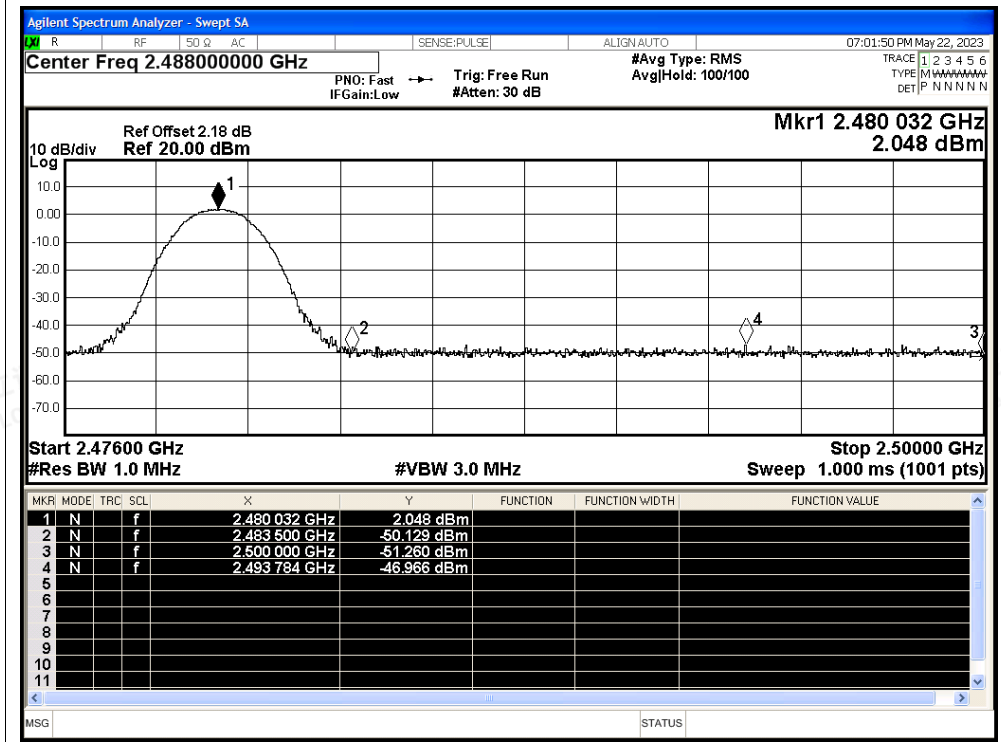


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Average

