



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: TWS Bluetooth Headset

Test Model: Immortal 121

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Ling Zhu





A.1 -20dB Bandwidth

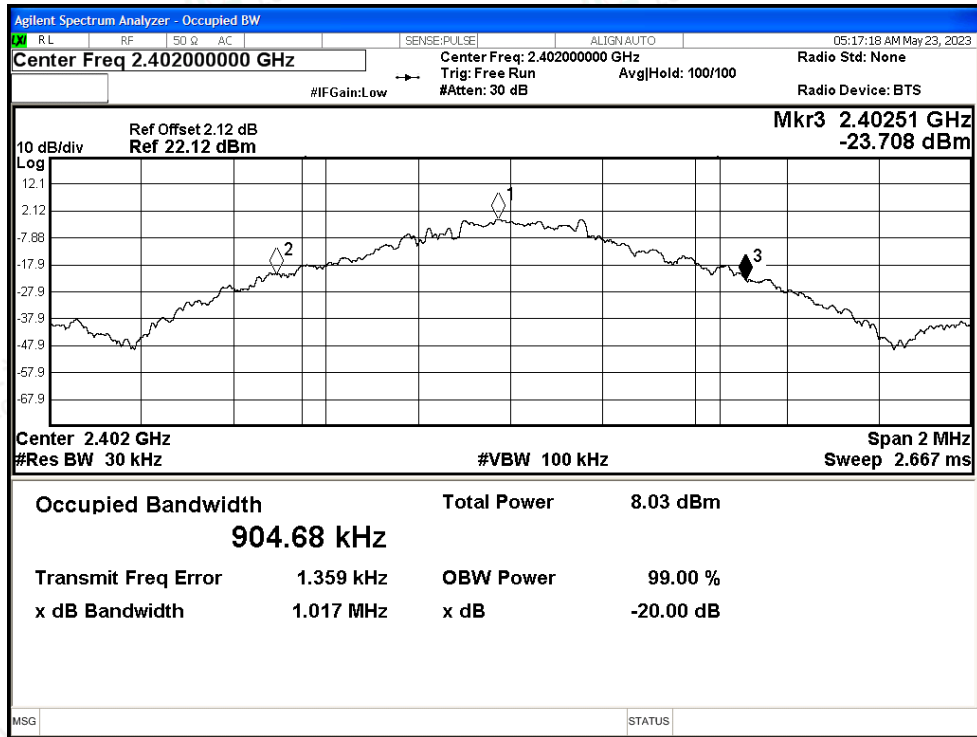
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	1.017	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.035	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.018	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.294	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.317	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.323	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.3	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.308	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.307	N/A	Pass



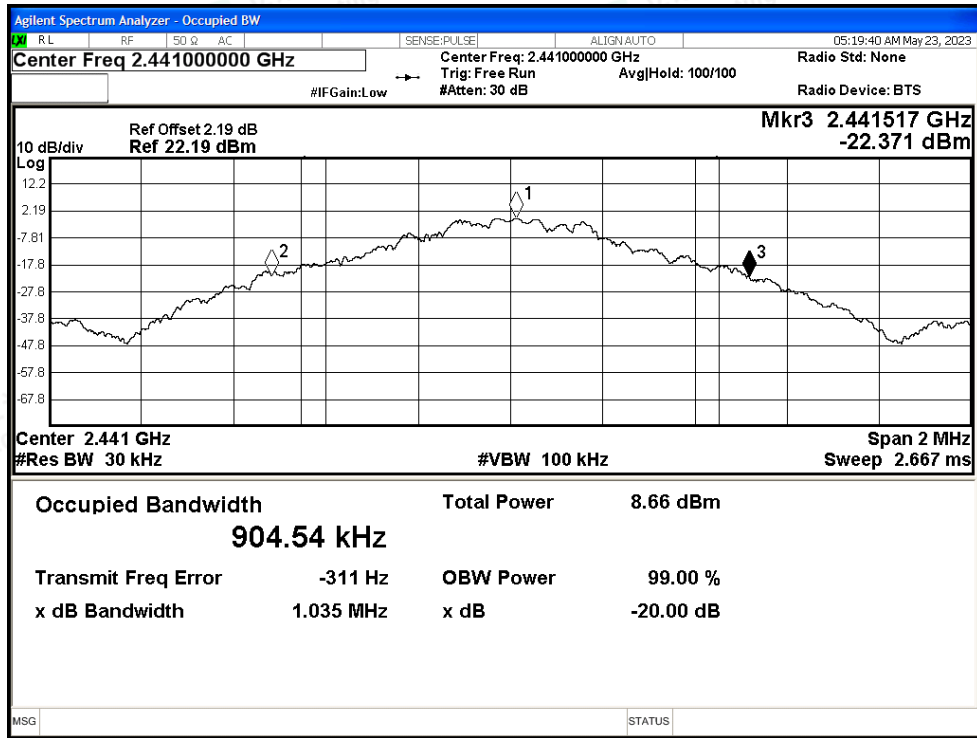


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

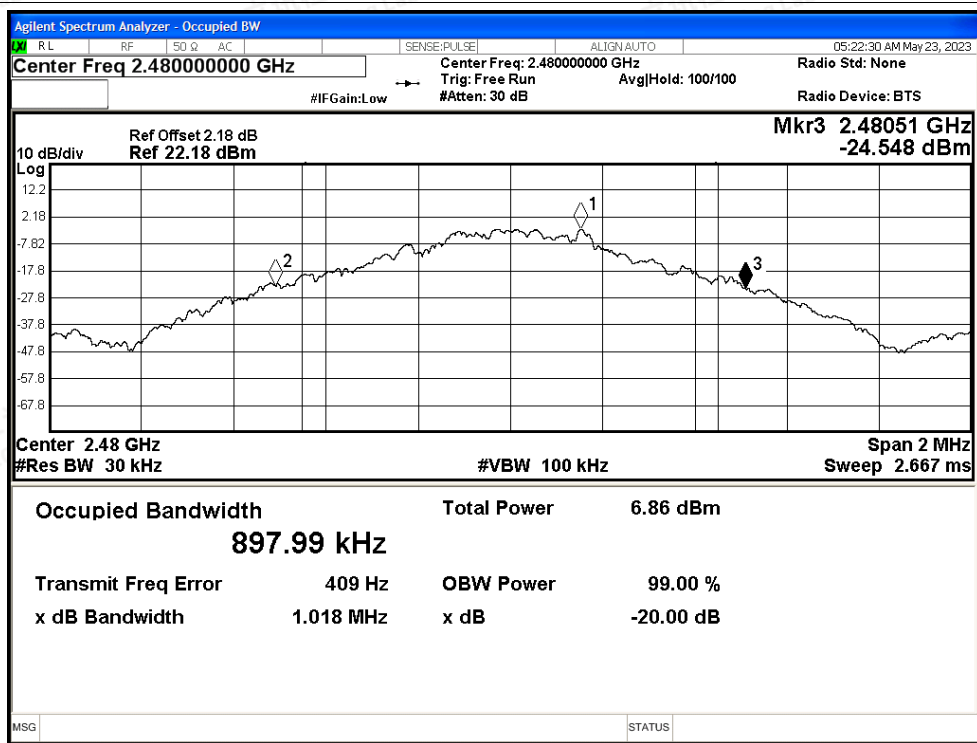


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

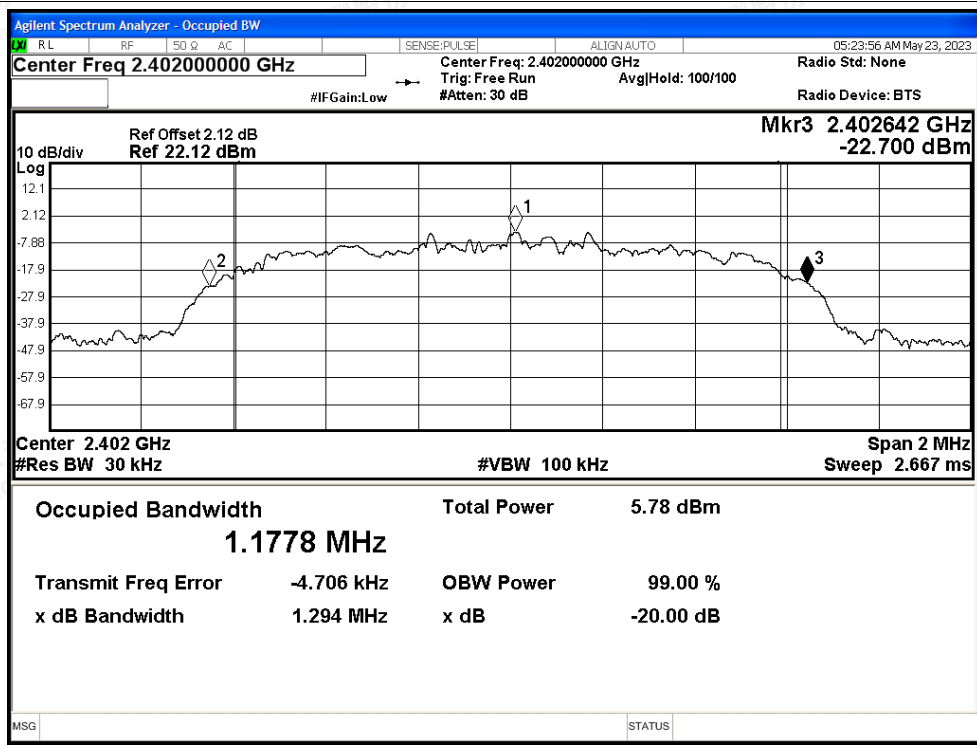




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

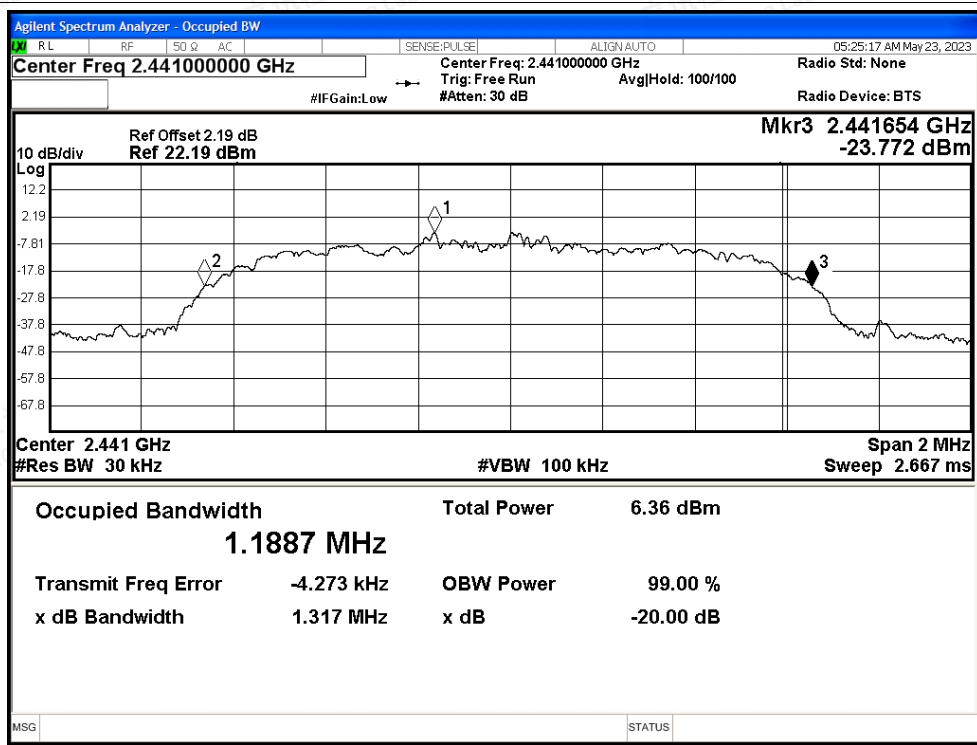


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

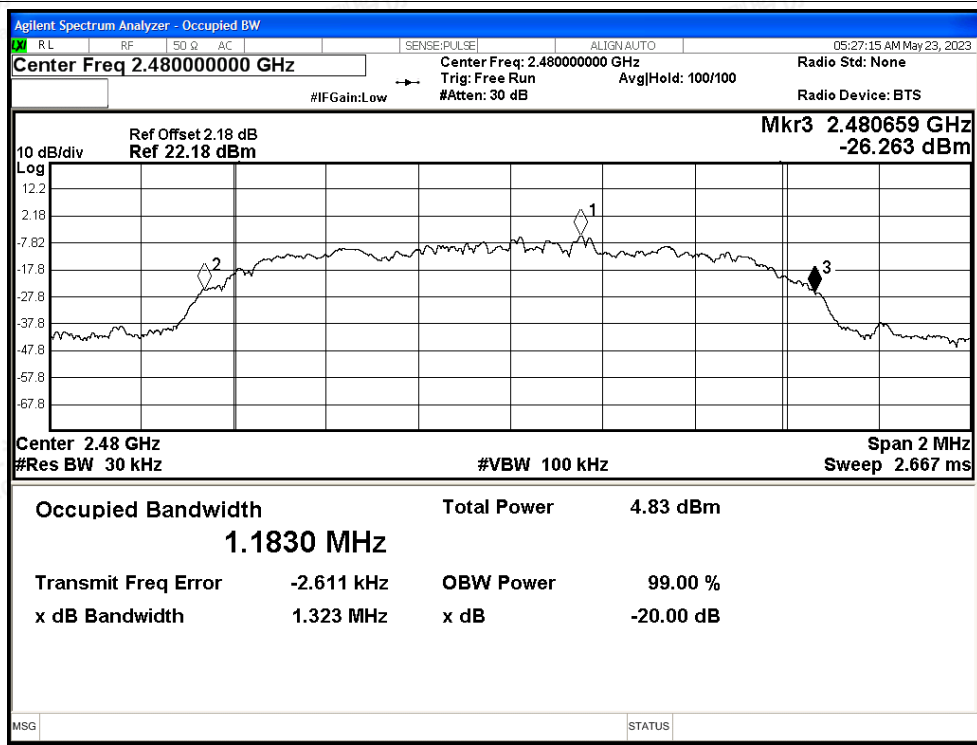




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

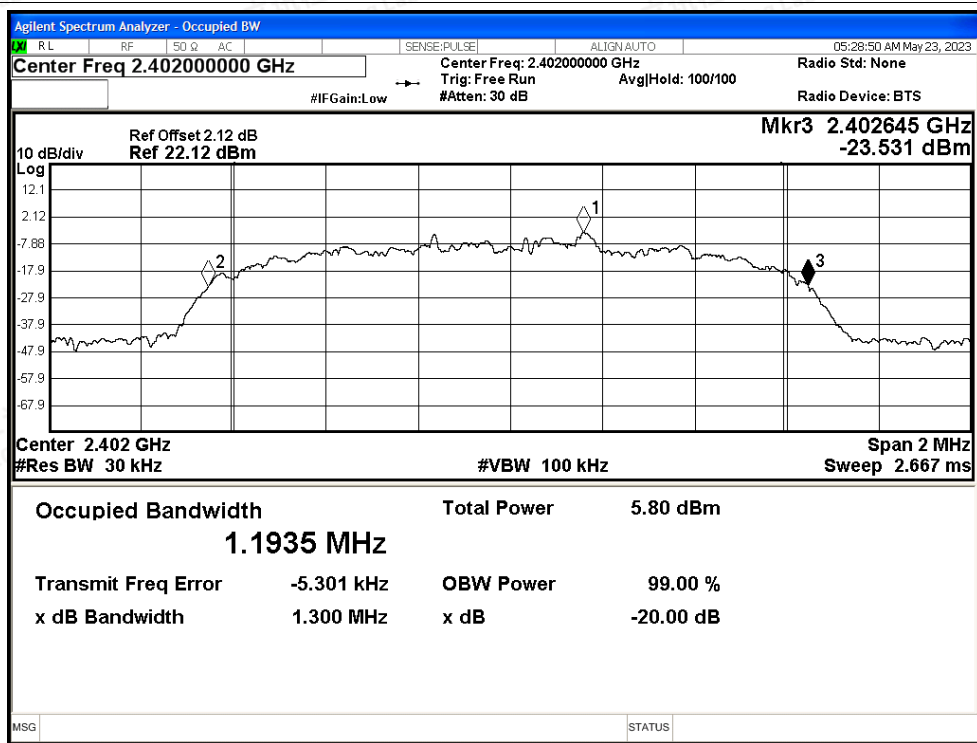


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

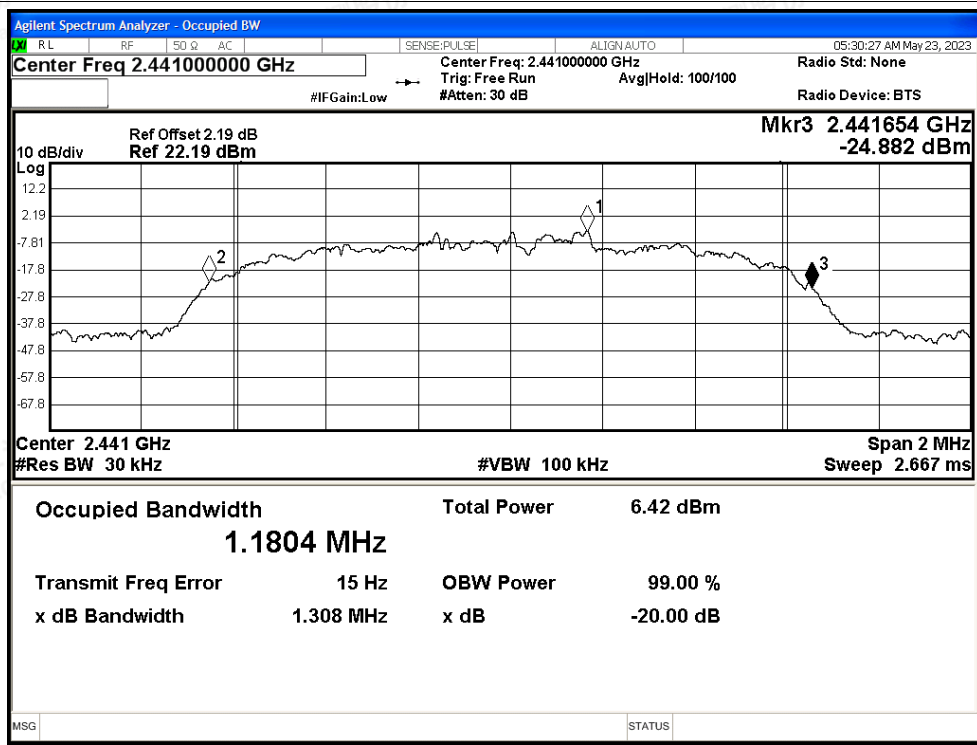




-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1

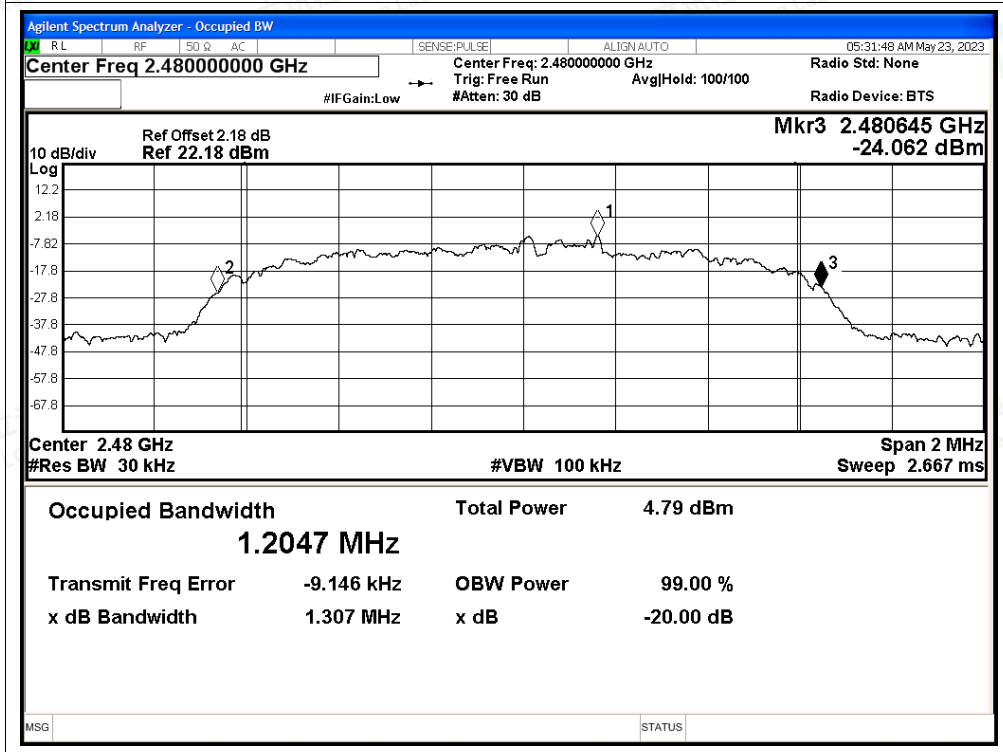


-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1





A.2 Maximum Conducted Output Power

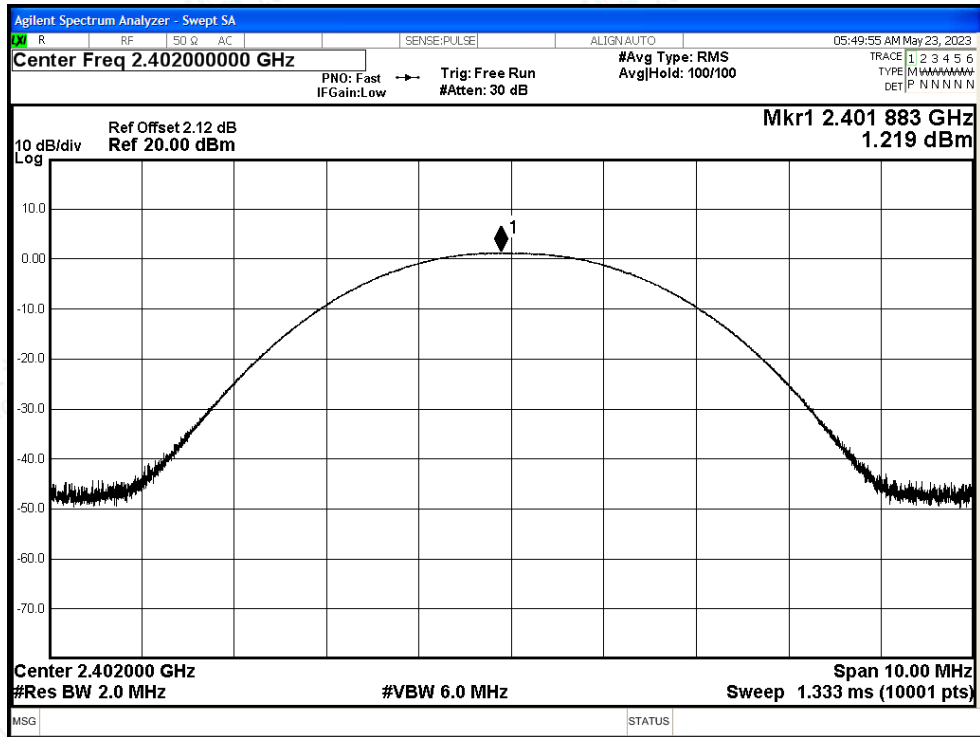
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	1.22	21	Pass
NVNT	1-DH5	2441	Ant1	0.14	21	Pass
NVNT	1-DH5	2480	Ant1	0.43	21	Pass
NVNT	2-DH5	2402	Ant1	-0.99	21	Pass
NVNT	2-DH5	2441	Ant1	-0.51	21	Pass
NVNT	2-DH5	2480	Ant1	-0.24	21	Pass
NVNT	3-DH5	2402	Ant1	-0.89	21	Pass
NVNT	3-DH5	2441	Ant1	-0.39	21	Pass
NVNT	3-DH5	2480	Ant1	-0.19	21	Pass



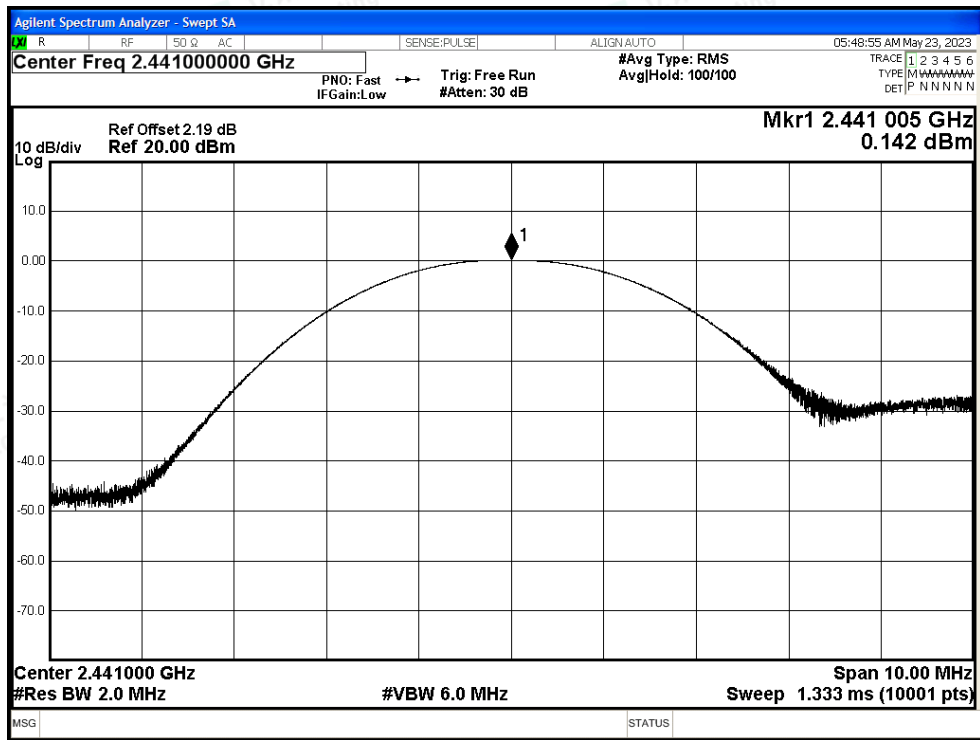


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

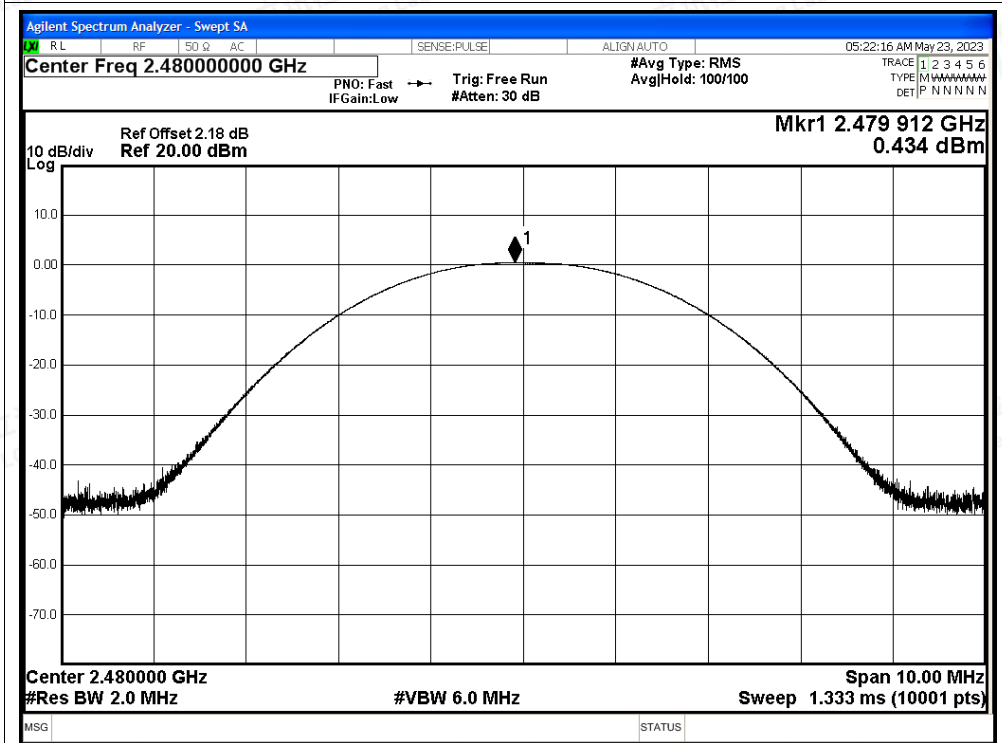


Power NVNT 1-DH5 2441MHz Ant1

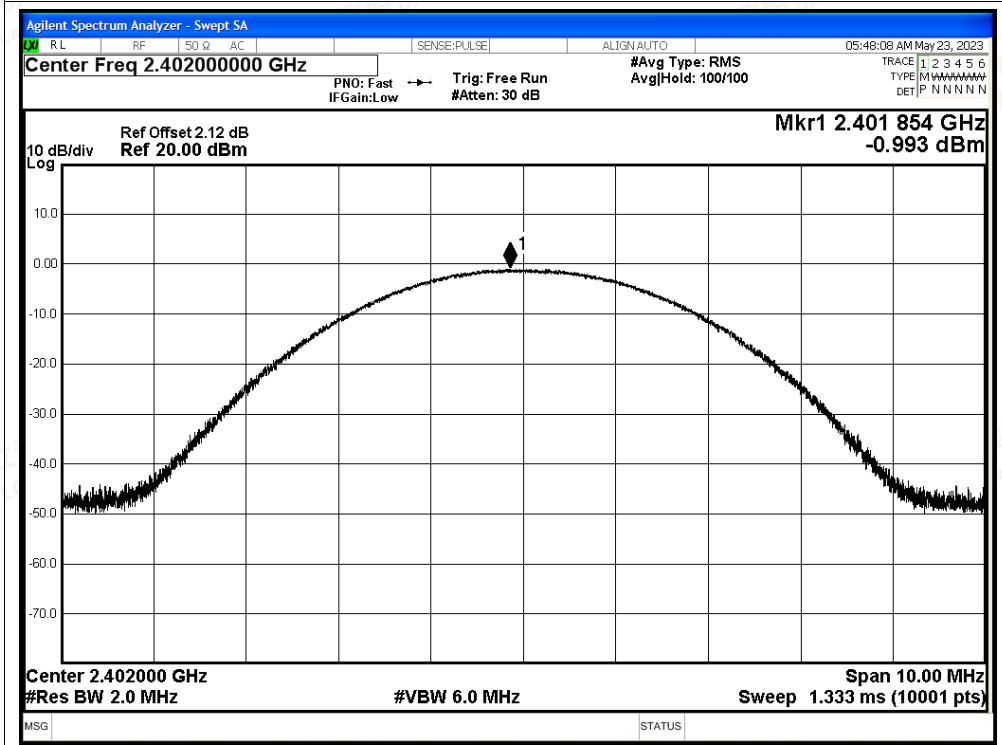




Power NVNT 1-DH5 2480MHz Ant1

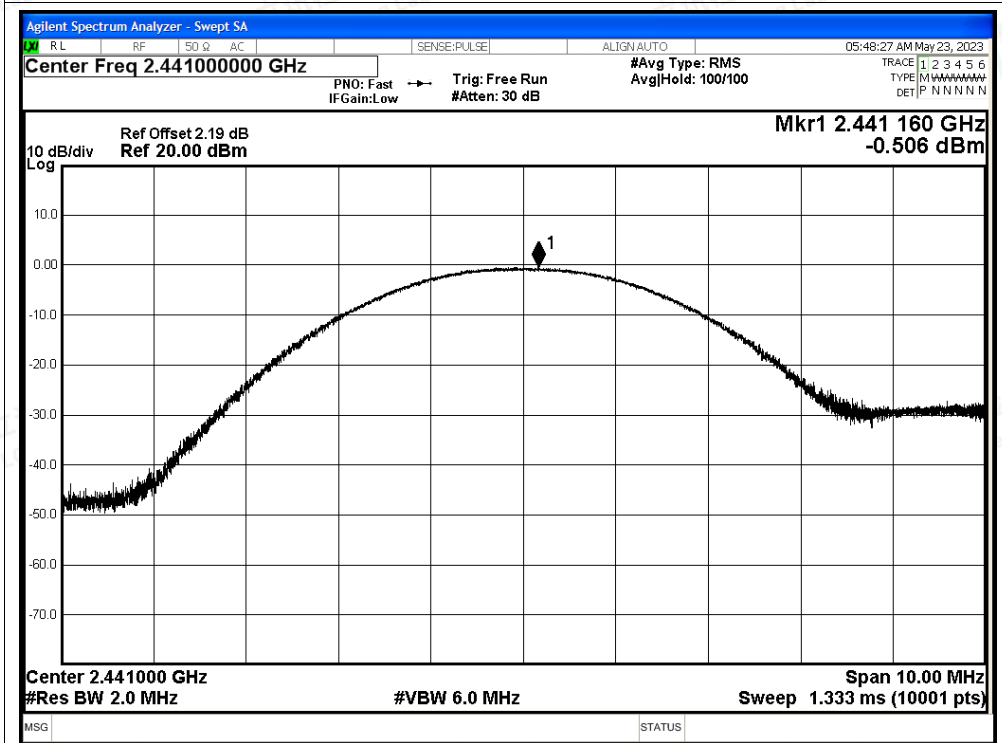


Power NVNT 2-DH5 2402MHz Ant1

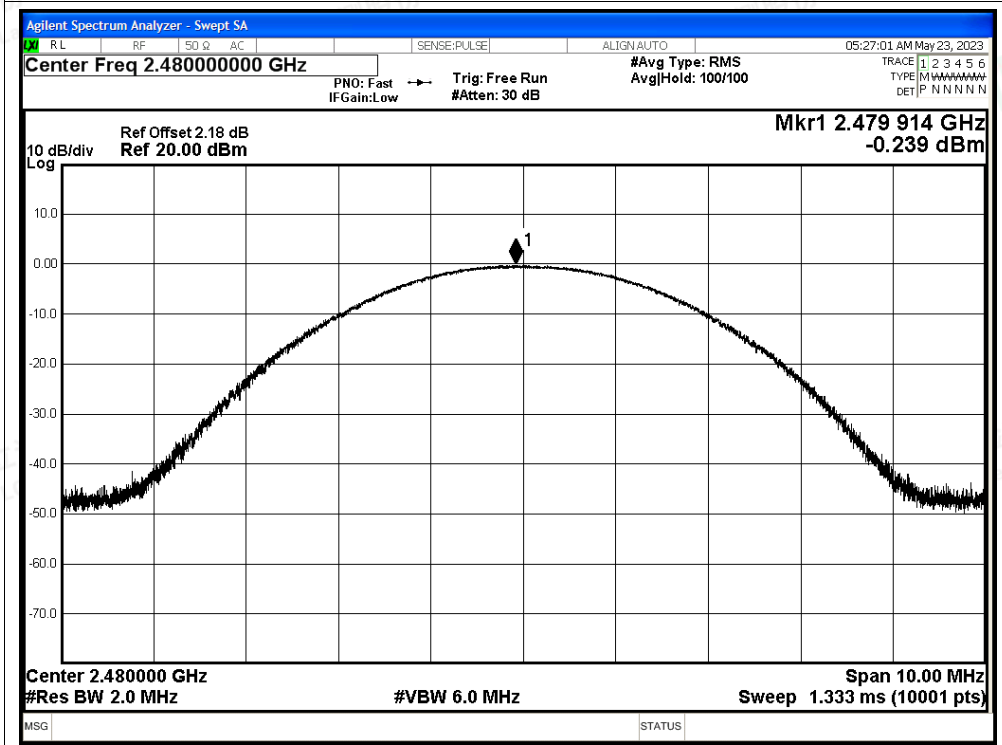




Power NVNT 2-DH5 2441MHz Ant1

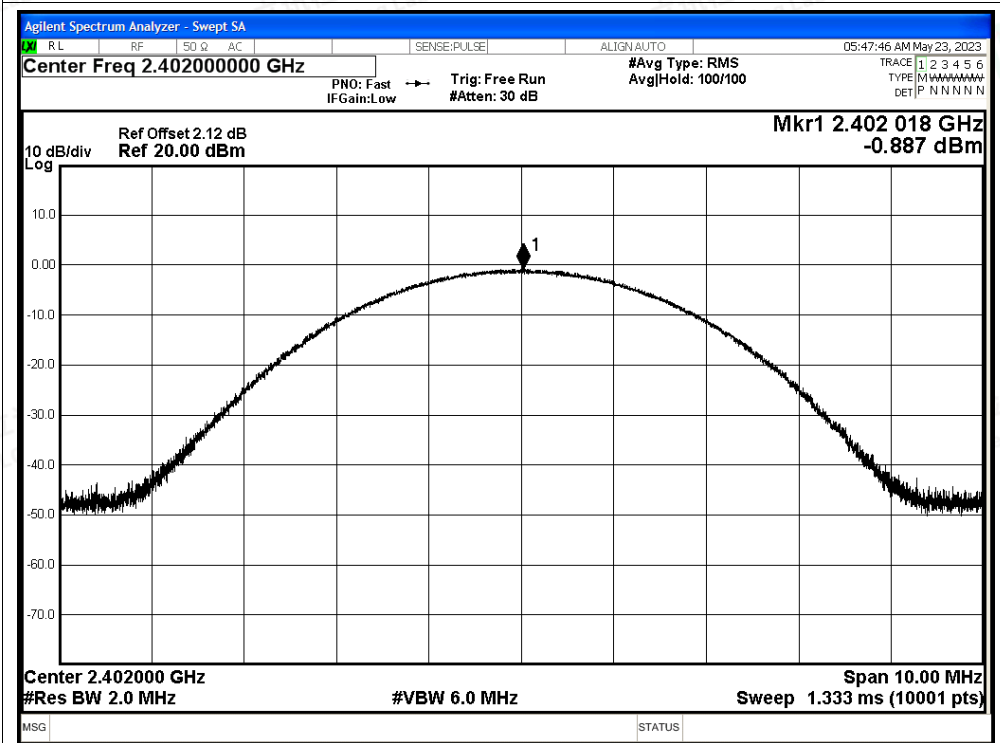


Power NVNT 2-DH5 2480MHz Ant1

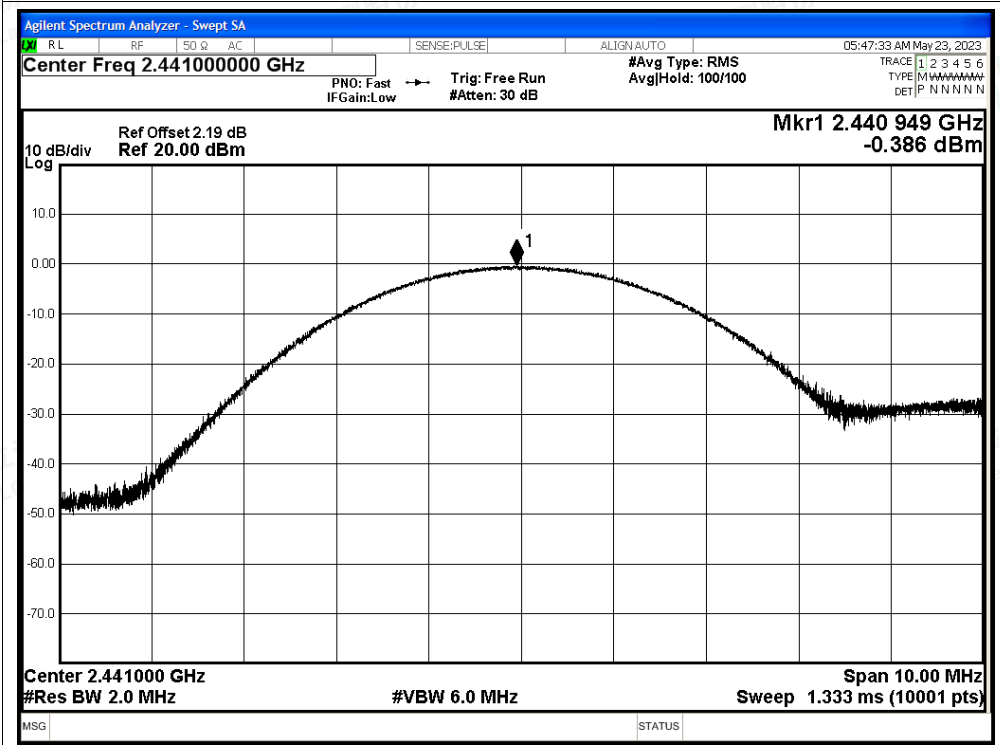


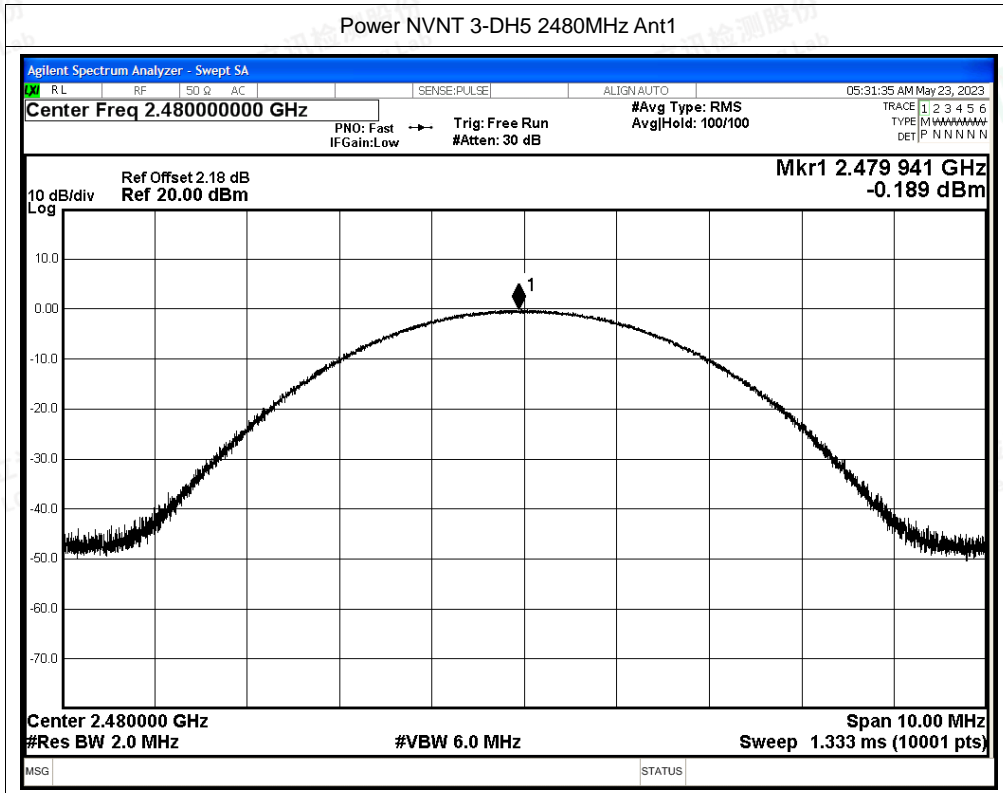


Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1







A.3 Carrier Frequencies Separation

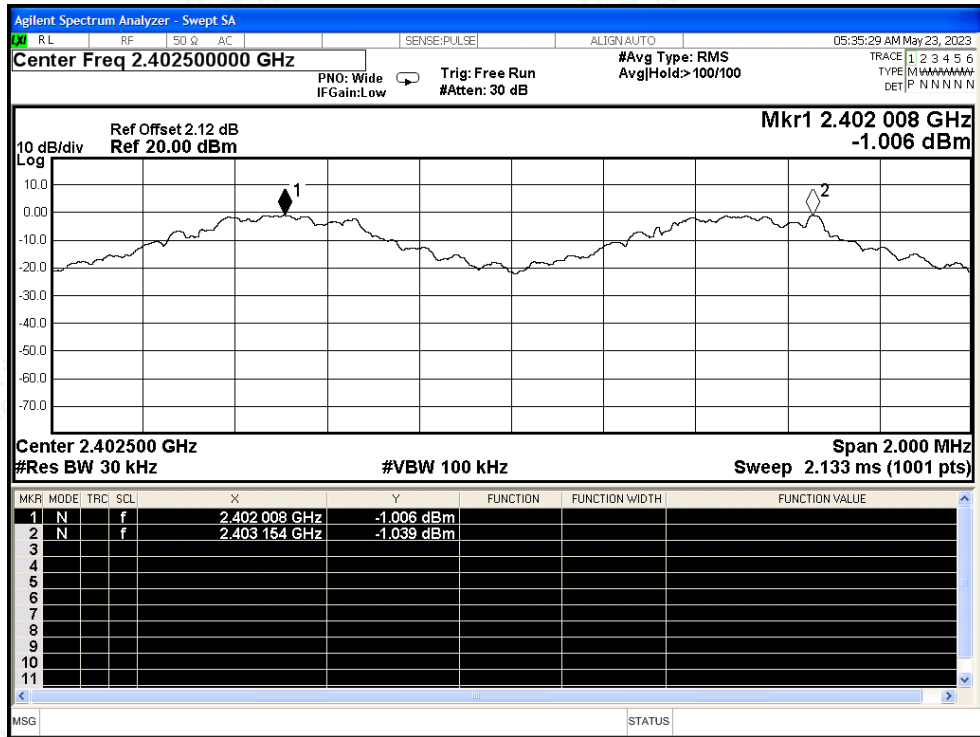
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.008	2403.154	1.146	0.690	Pass
NVNT	2-DH5	Ant1	2401.824	2402.898	1.074	0.882	Pass
NVNT	3-DH5	Ant1	2402	2403.08	1.08	0.872	Pass



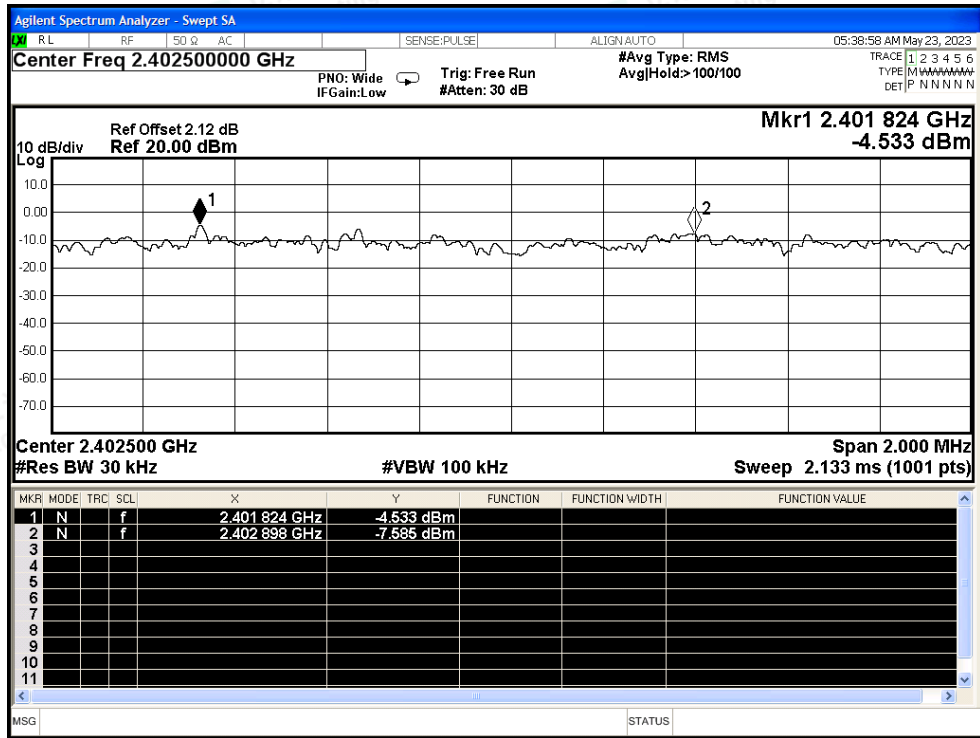


Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1

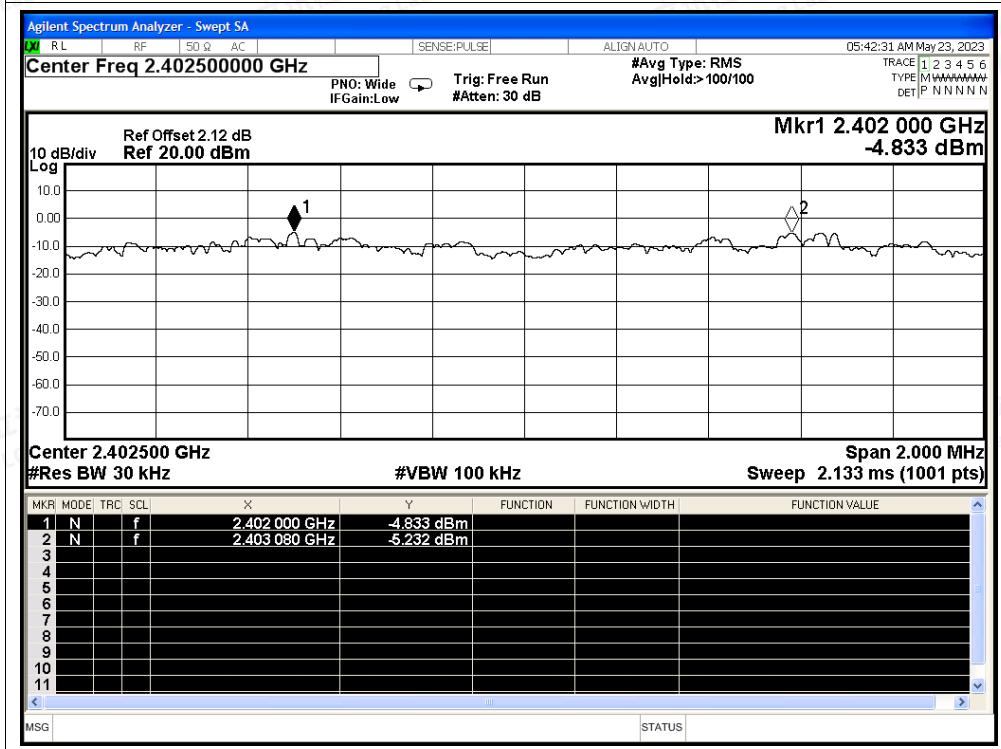


CFS NVNT 2-DH5 2402MHz Ant1





CFS NVNT 3-DH5 2402MHz Ant1





A.4 Dwell Time

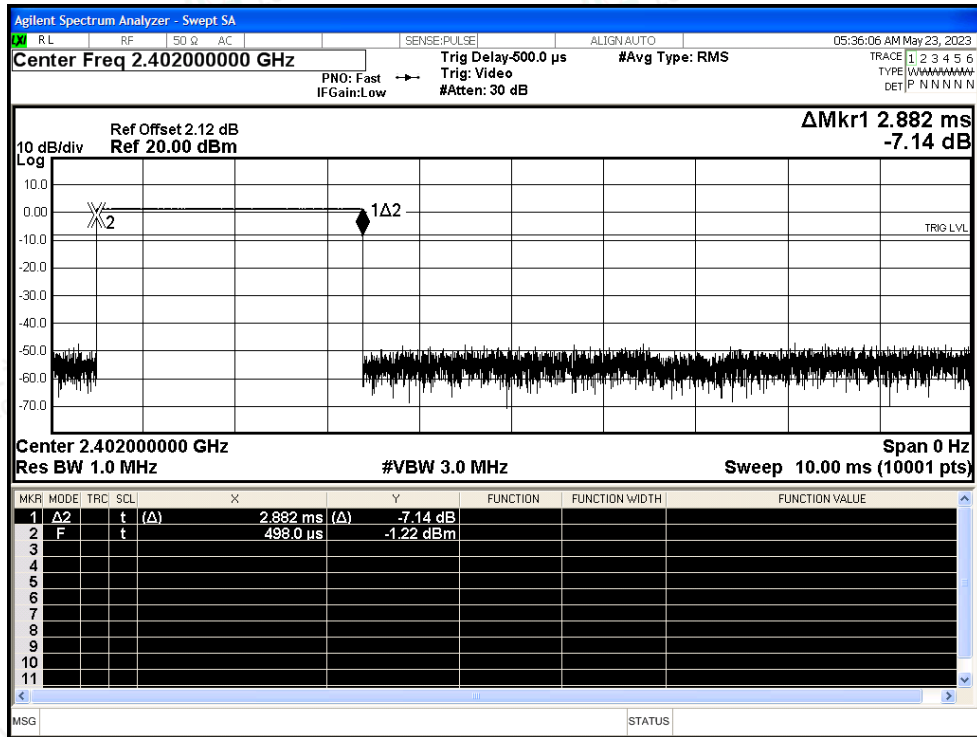
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.882	291.082	101	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.881	316.91	110	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.887	271.378	94	31600	400	Pass



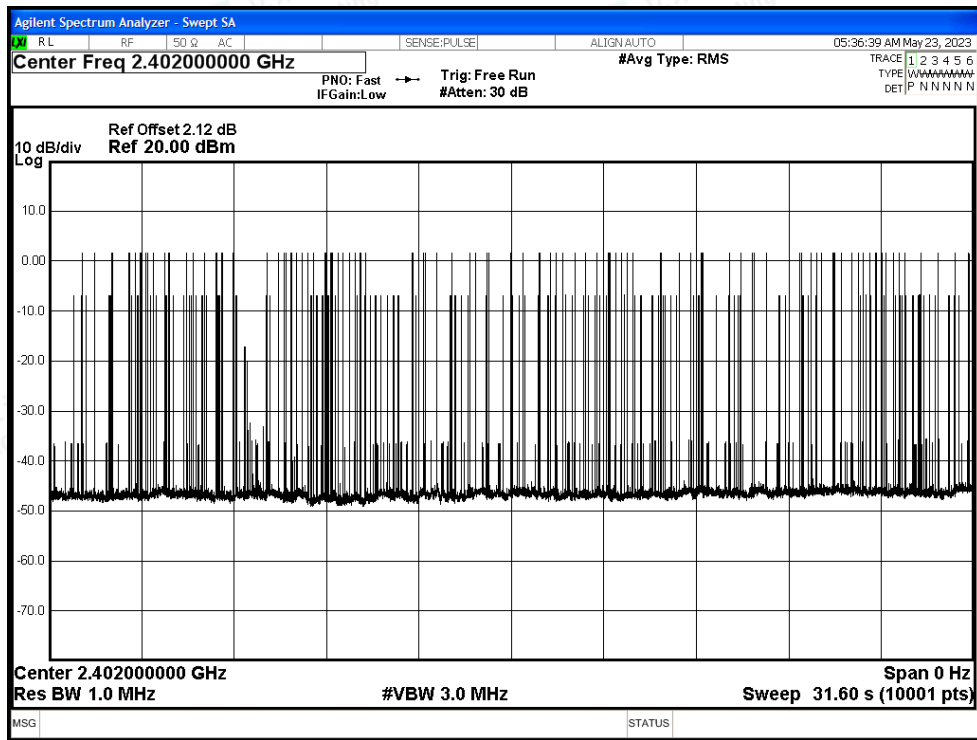


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

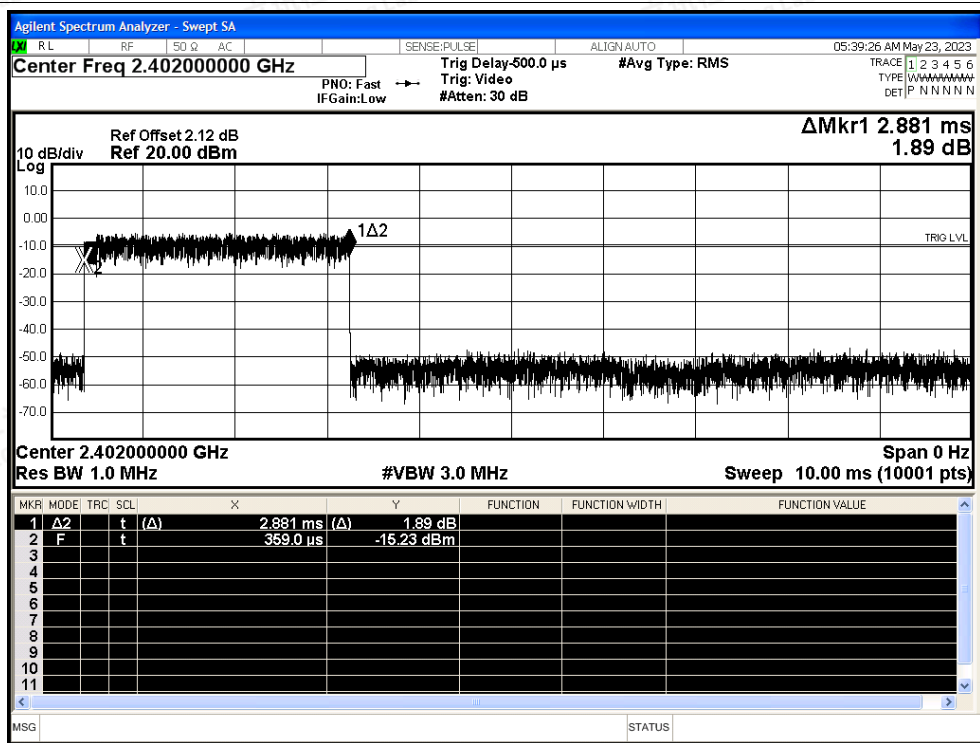


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

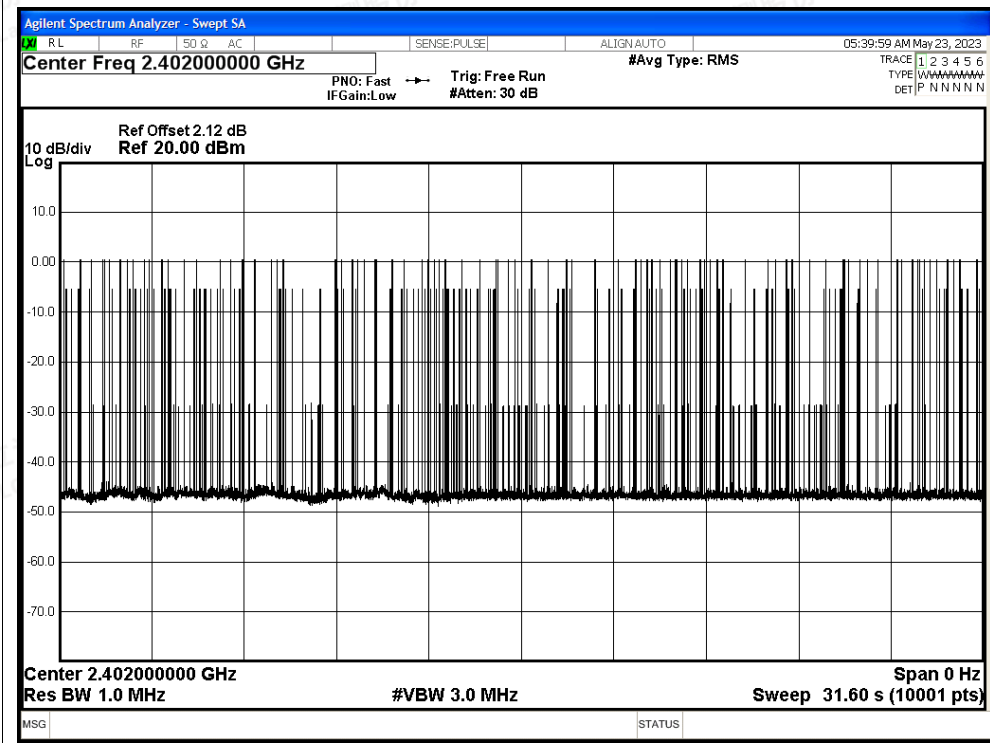




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst

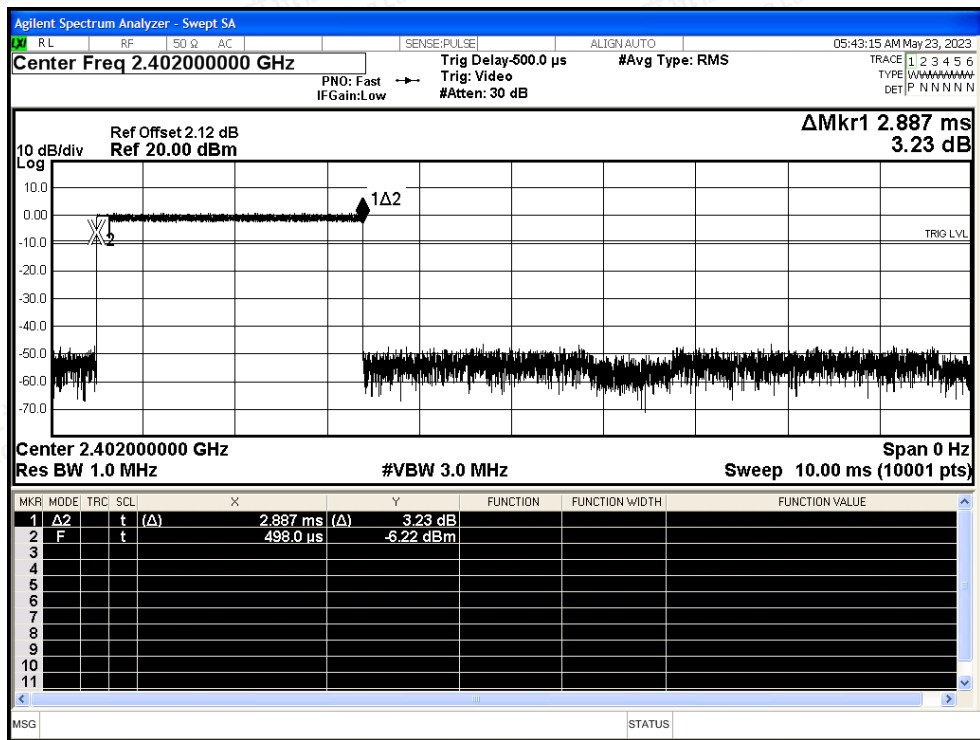


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

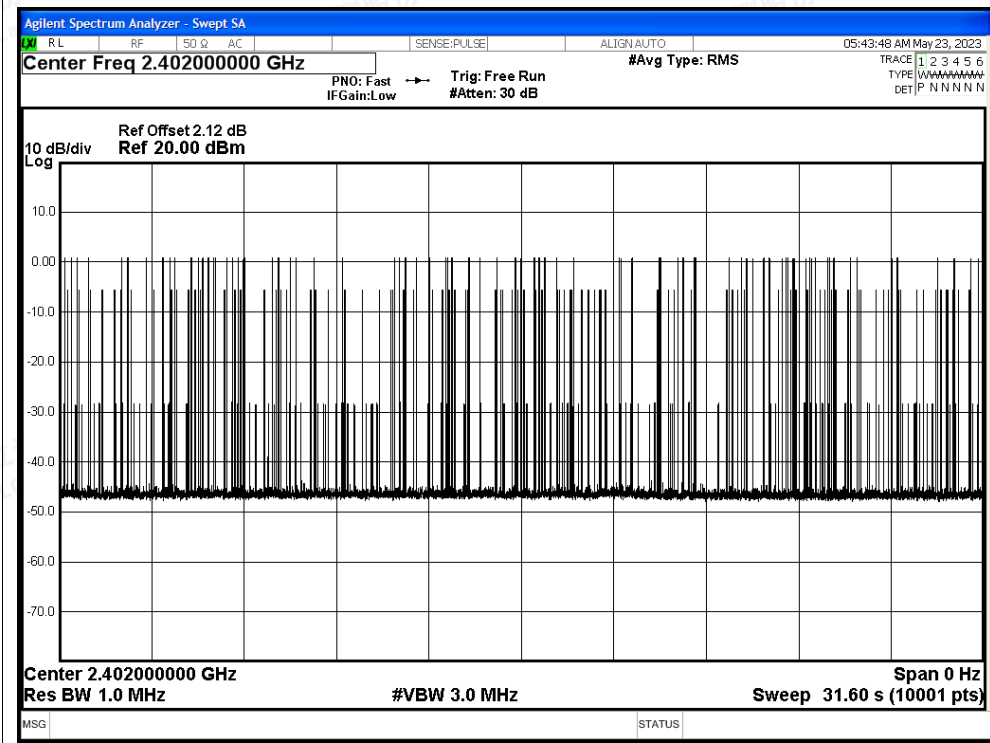




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated





A.5 Number of Hopping Channel

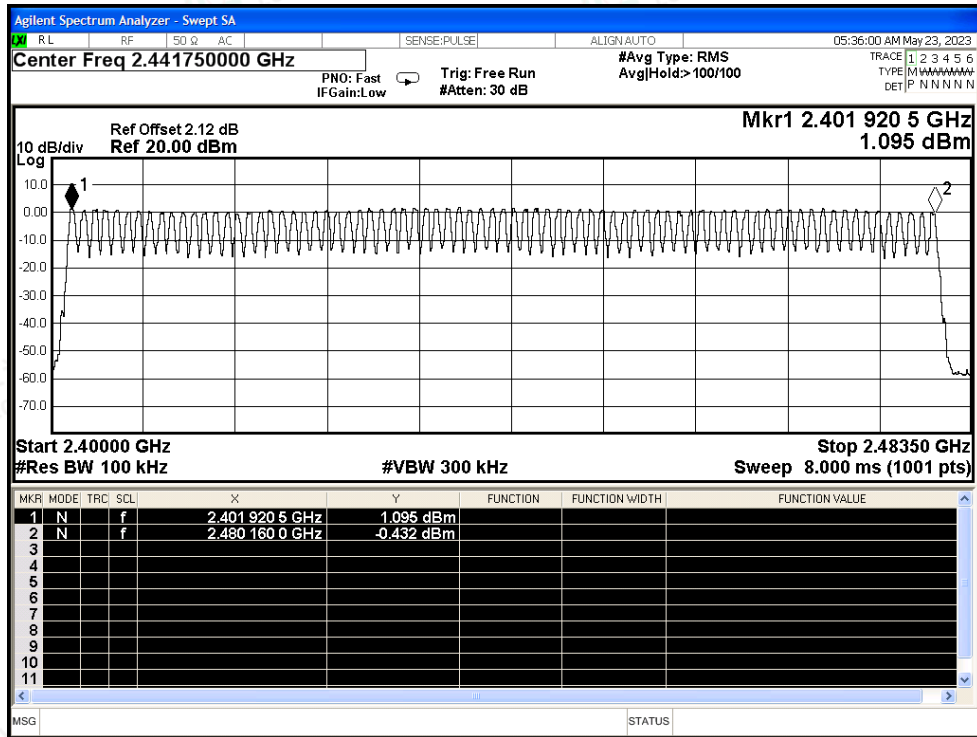
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



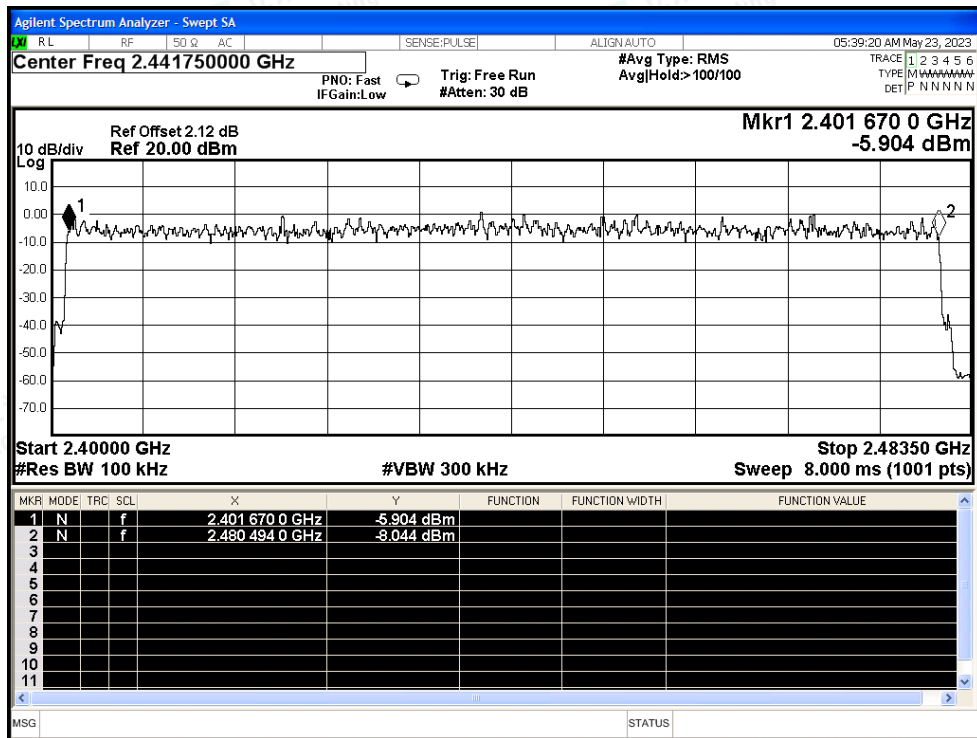


Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1

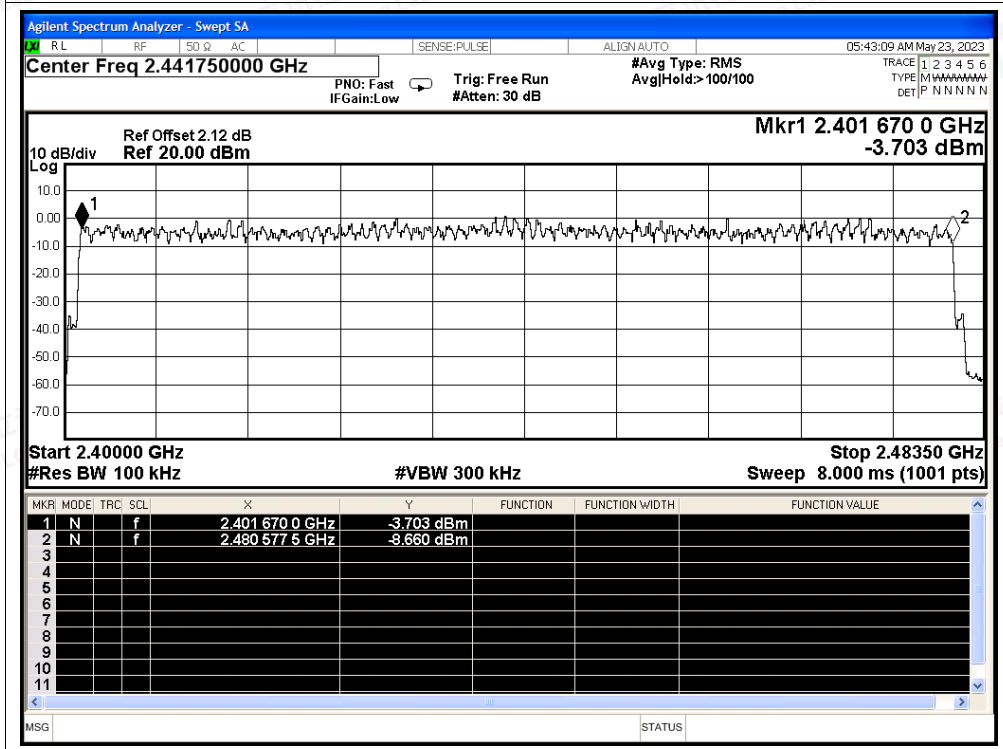


Hopping No. NVNT 2-DH5 2402MHz Ant1





Hopping No. NVNT 3-DH5 2402MHz Ant1





A.6 Band Edge

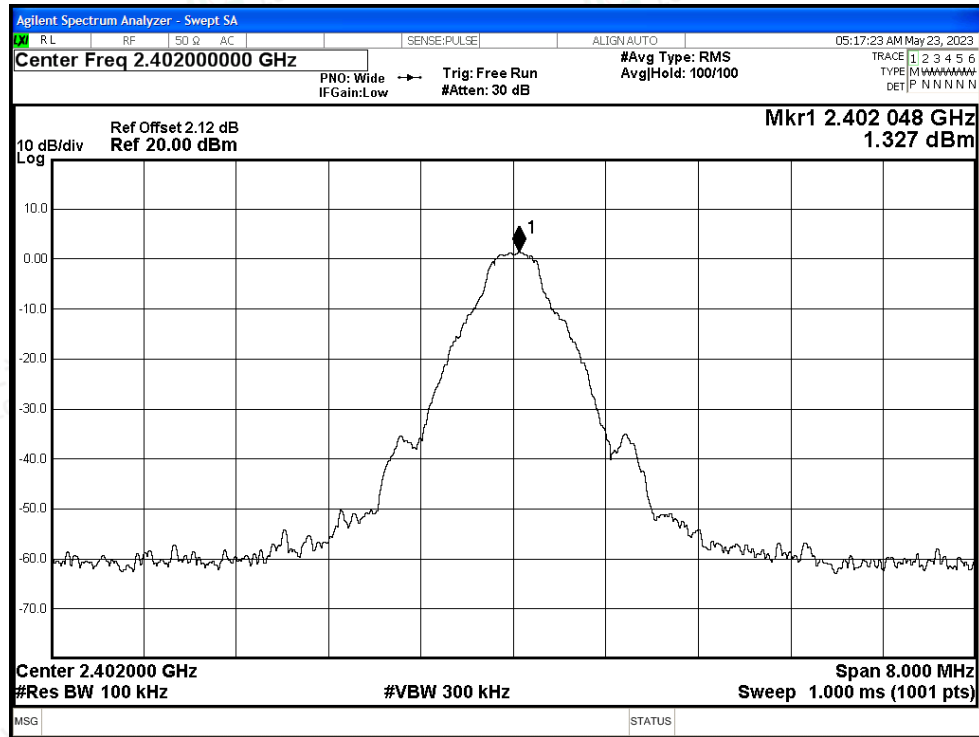
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-57.28	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-56.49	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-52.95	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-52.88	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-55.41	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-54.97	-20	Pass



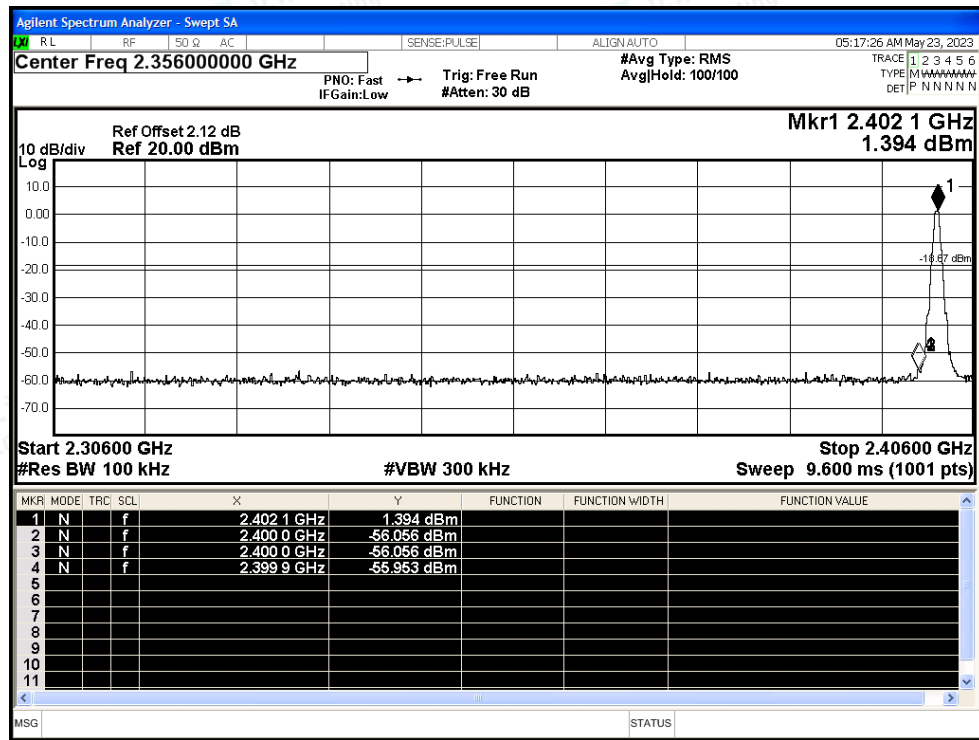


Test Graphs

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

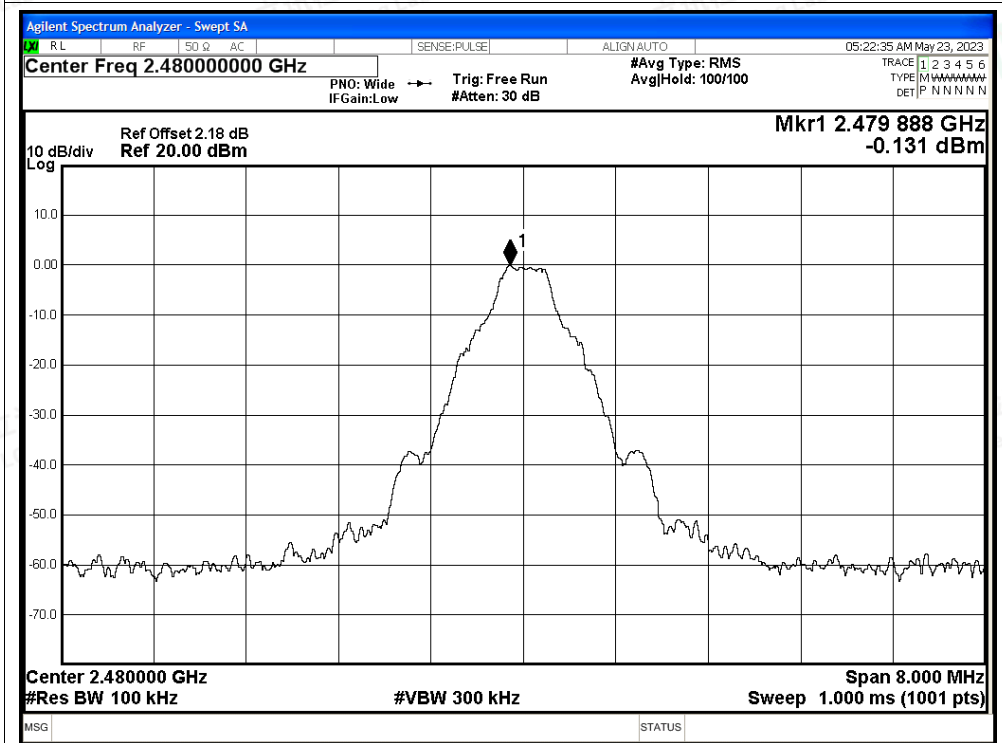


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

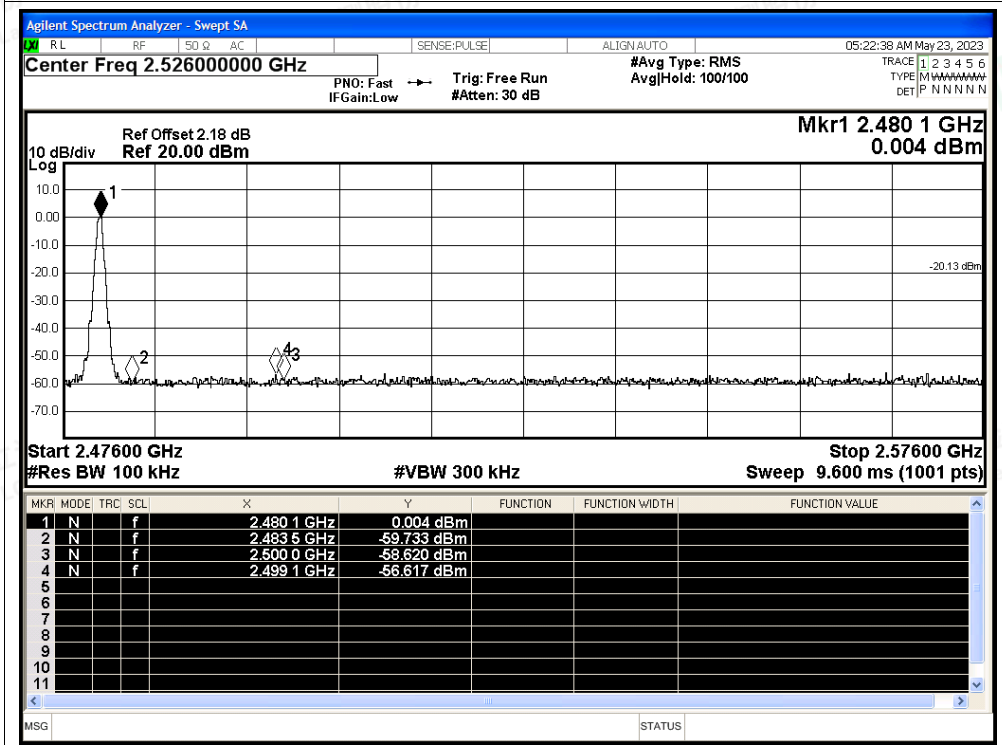




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

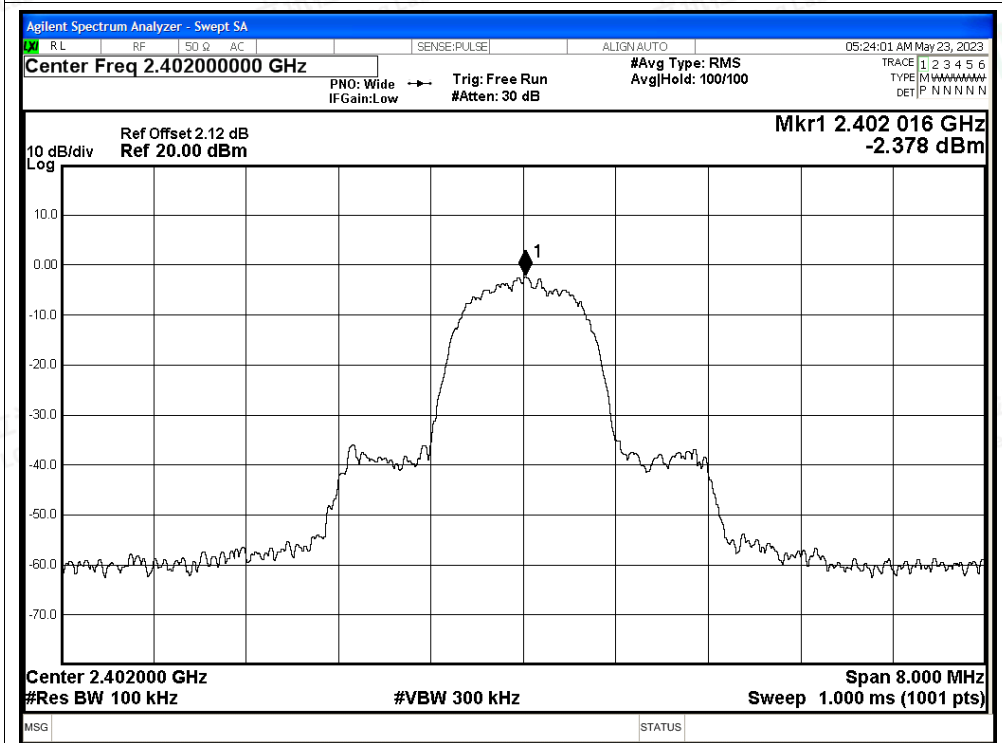


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

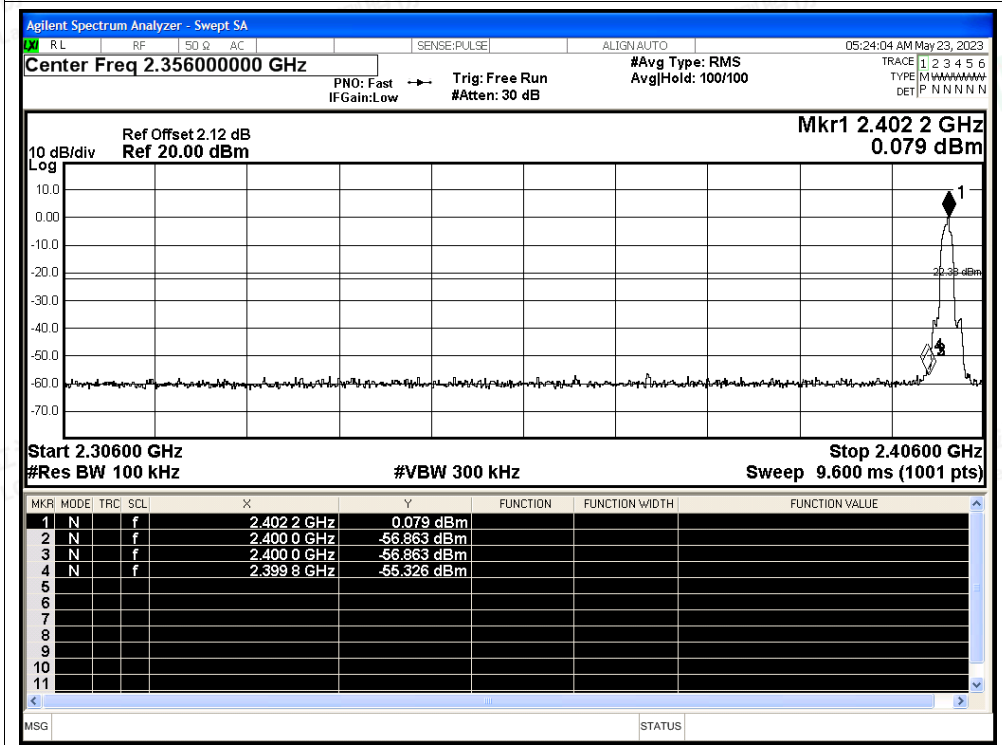




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

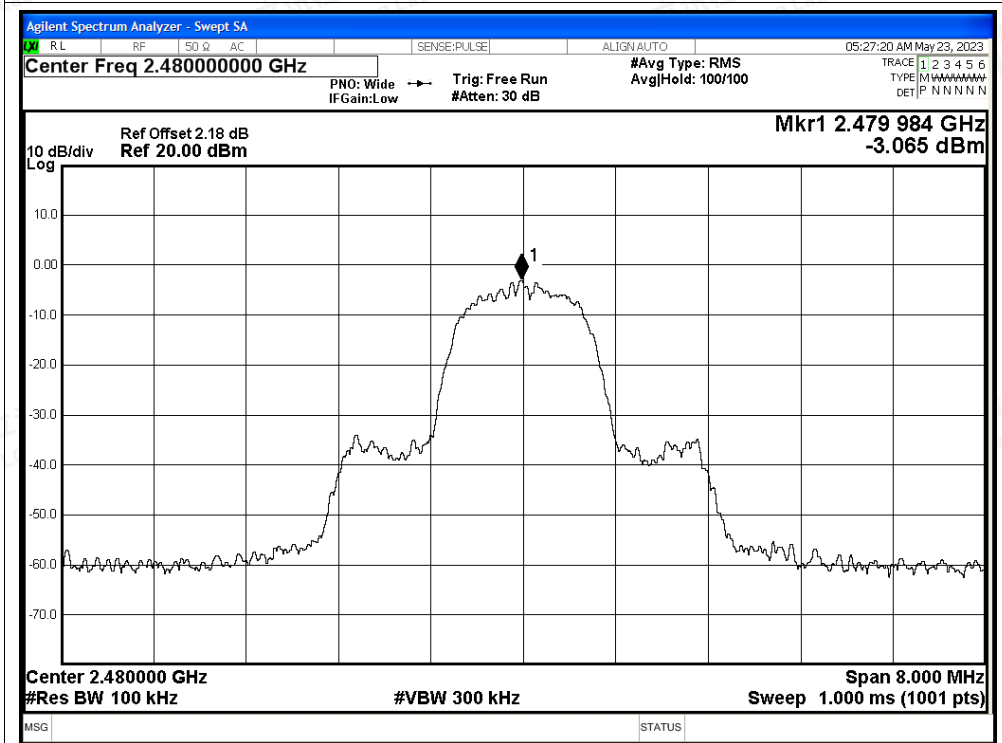


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

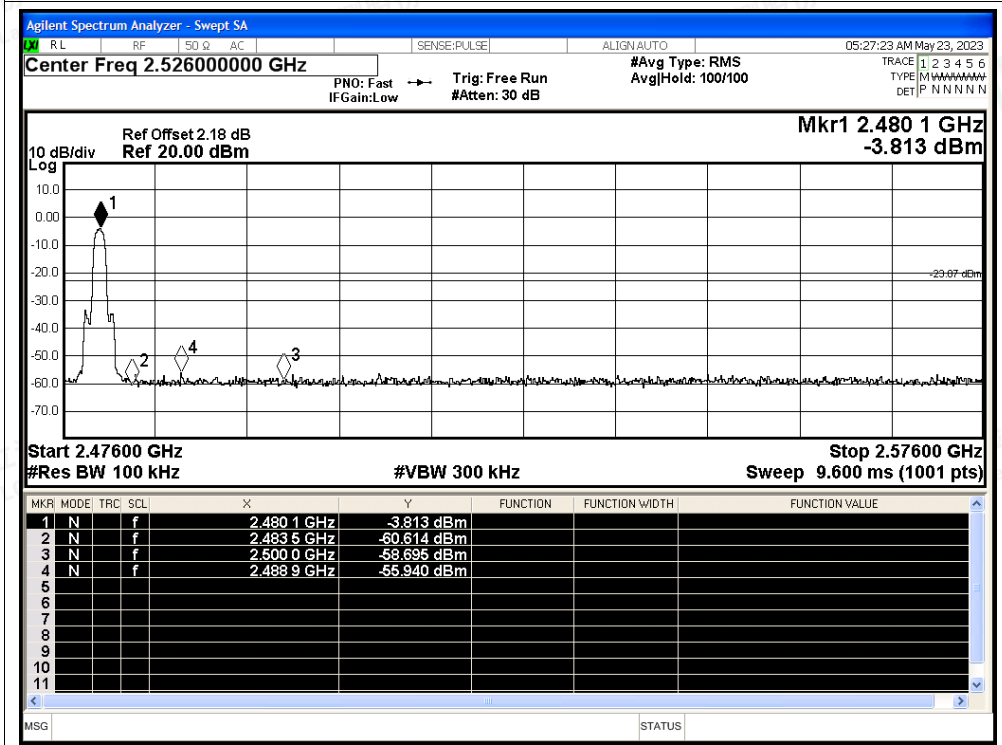




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

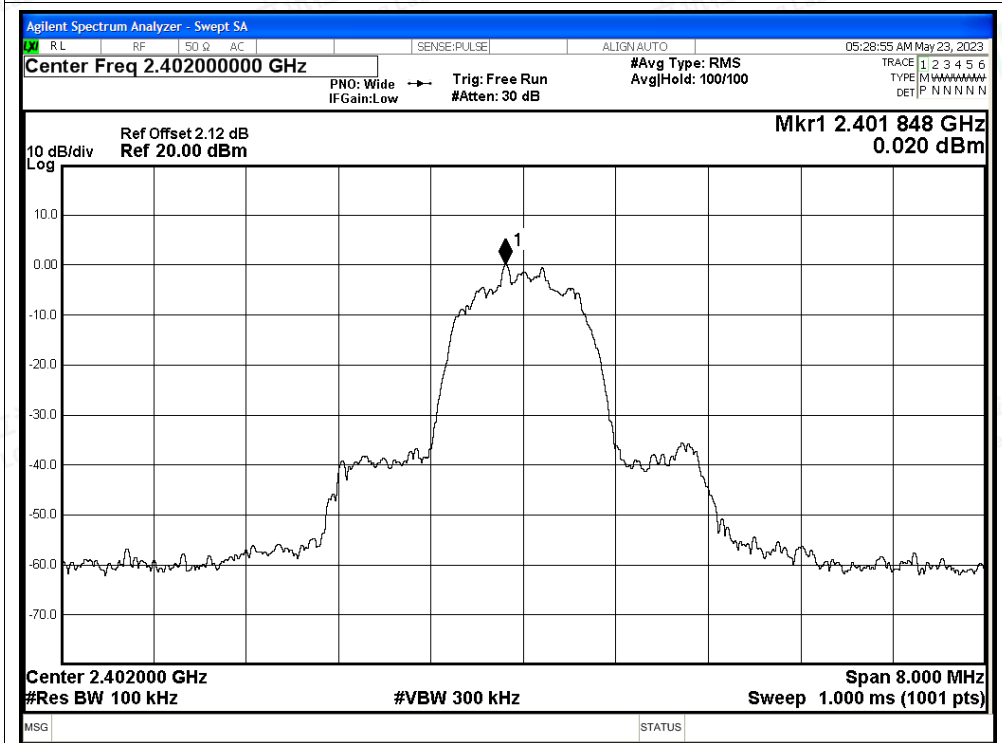


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

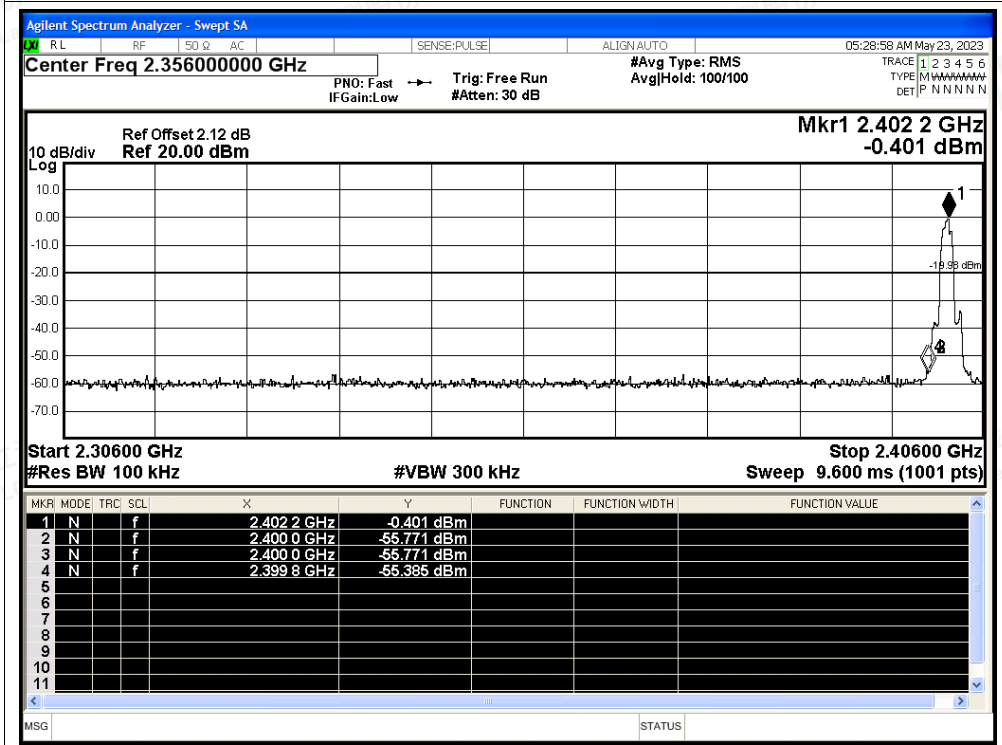




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

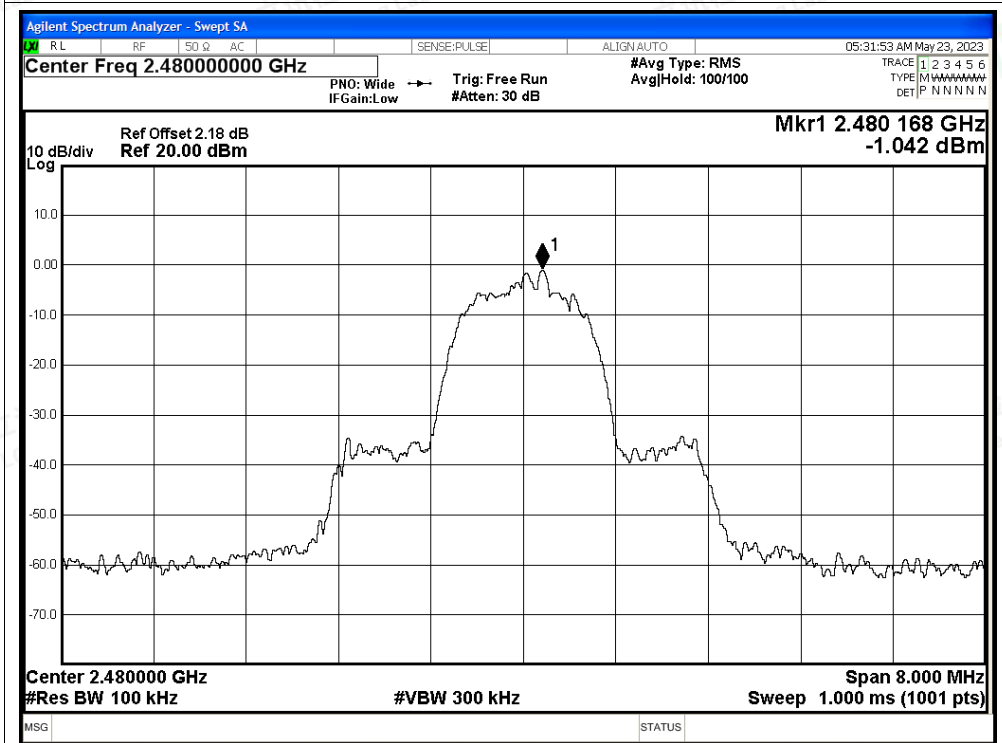


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

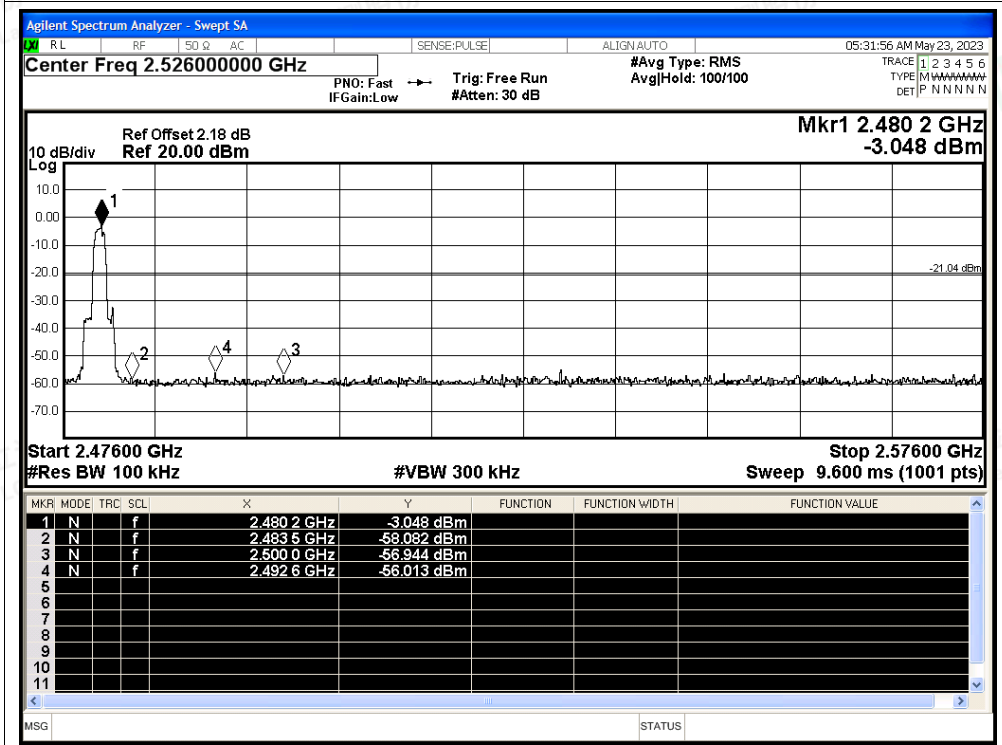




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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





(Hopping)

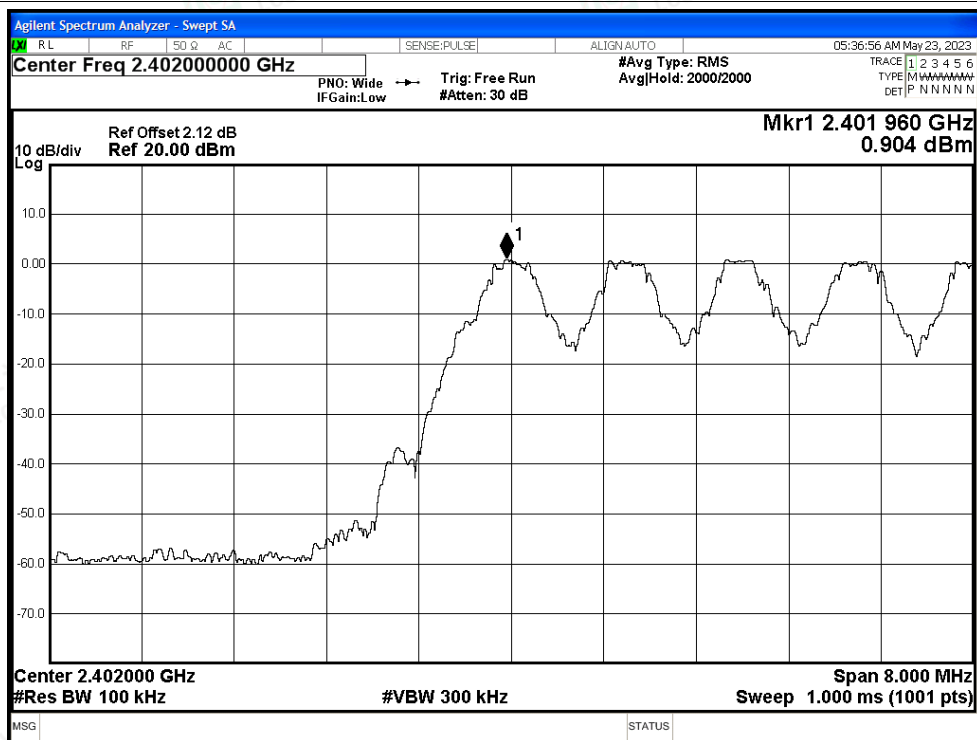
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-56.84	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-56.03	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-56.31	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-54.62	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-55.04	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-56.32	-20	Pass



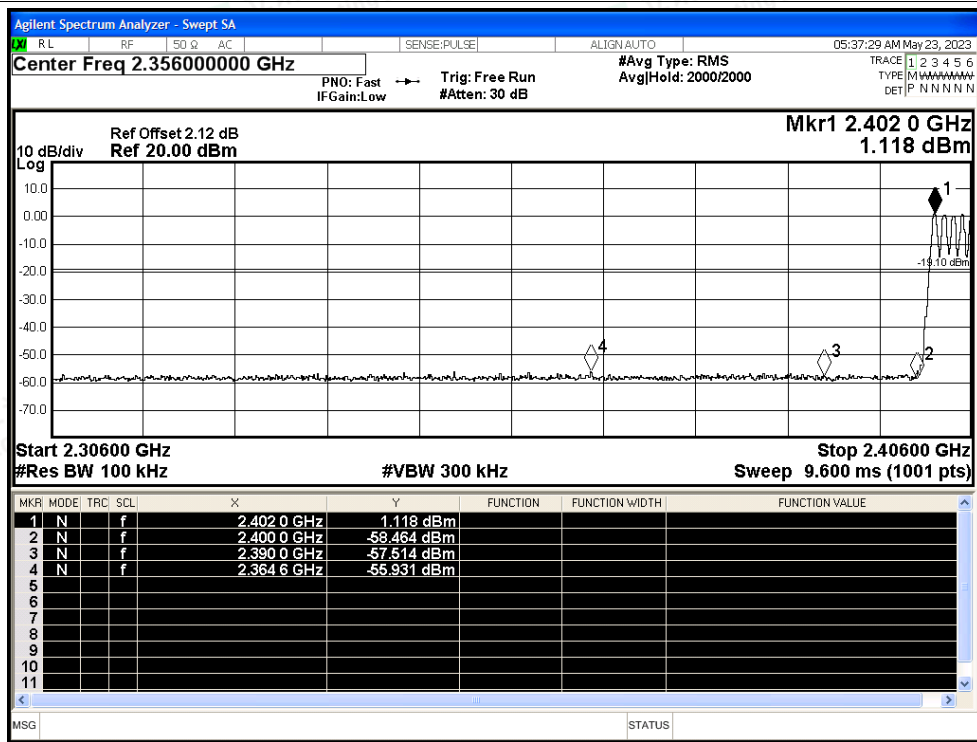


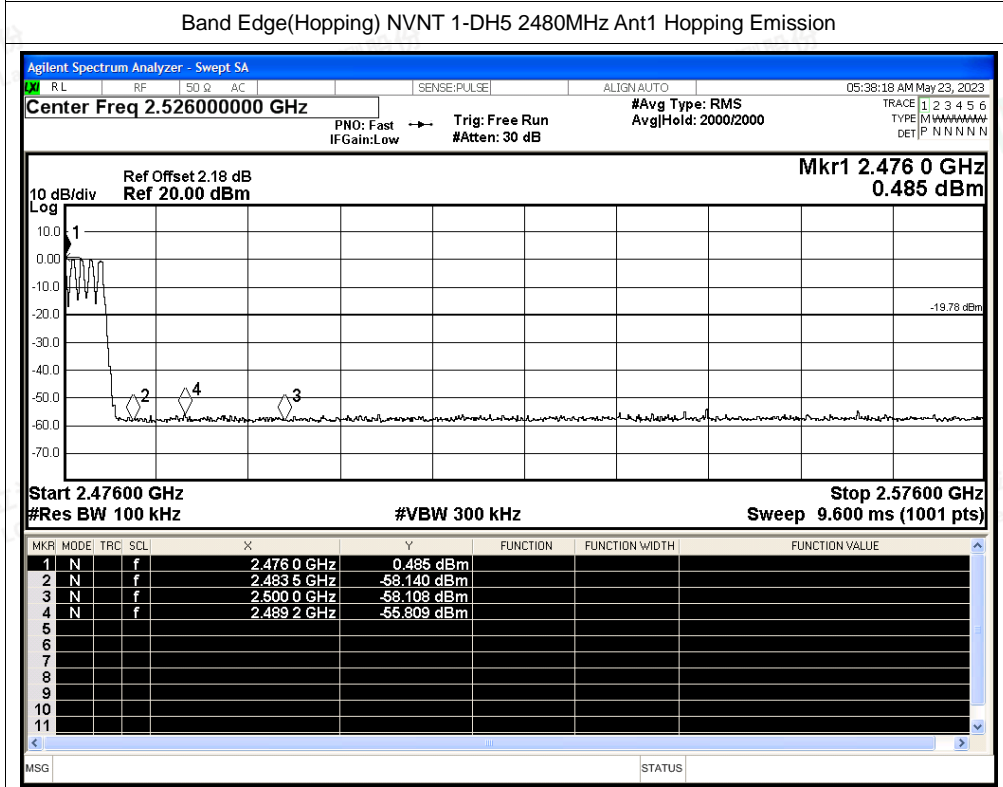
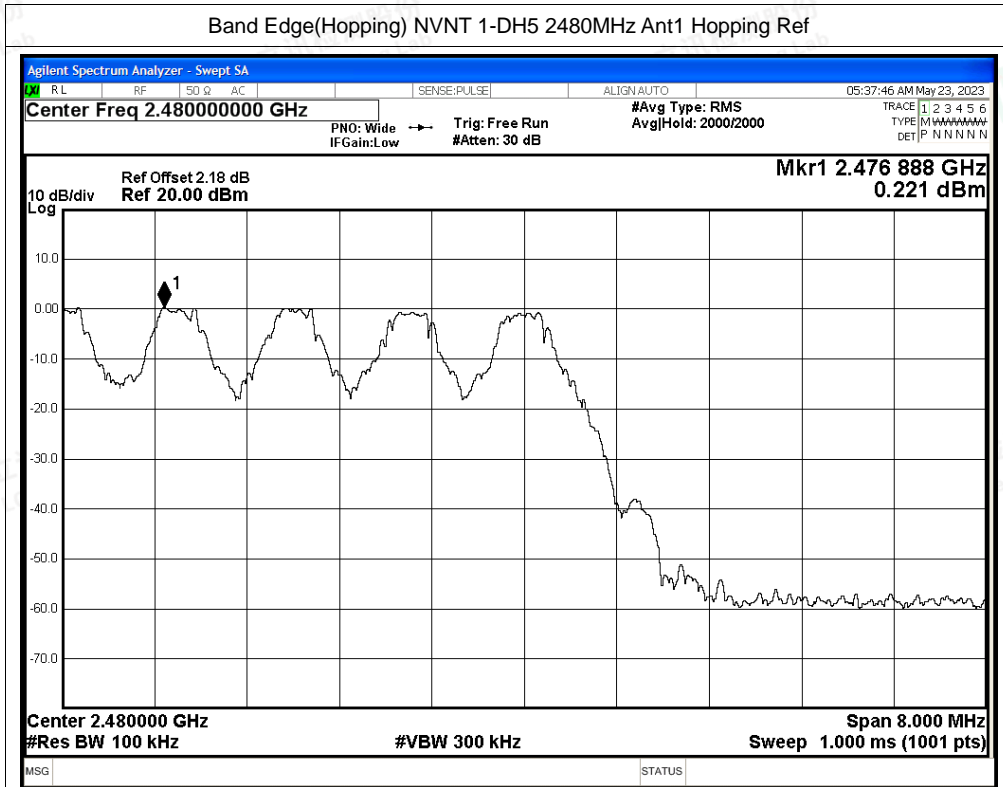
Test Graphs

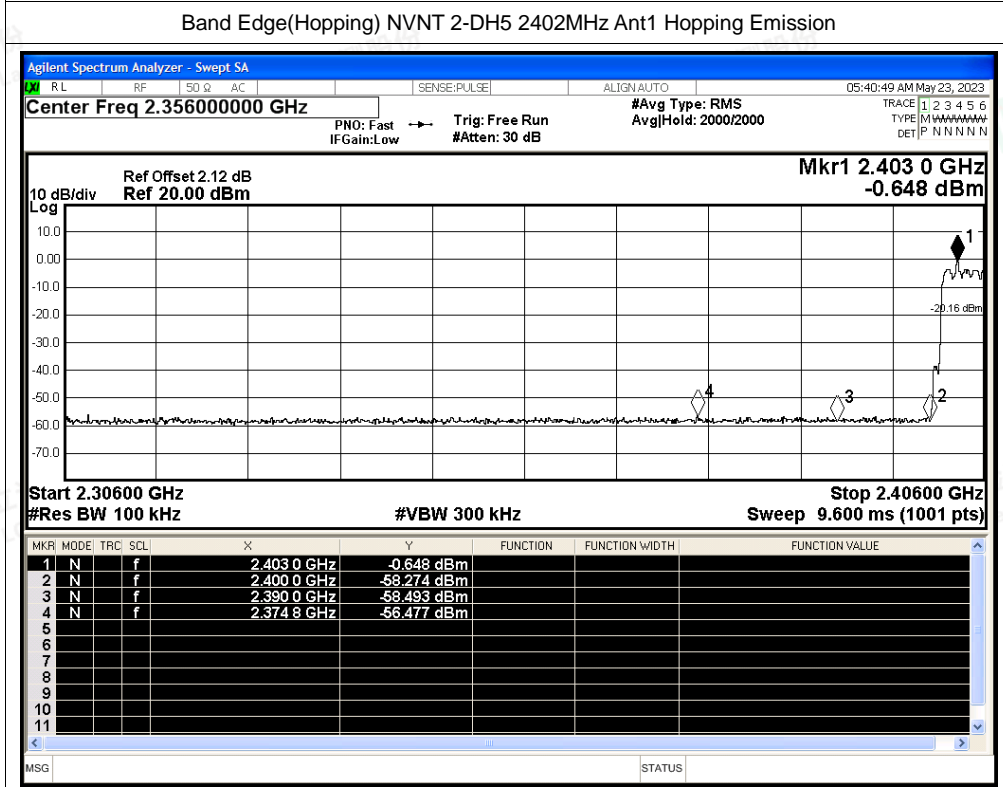
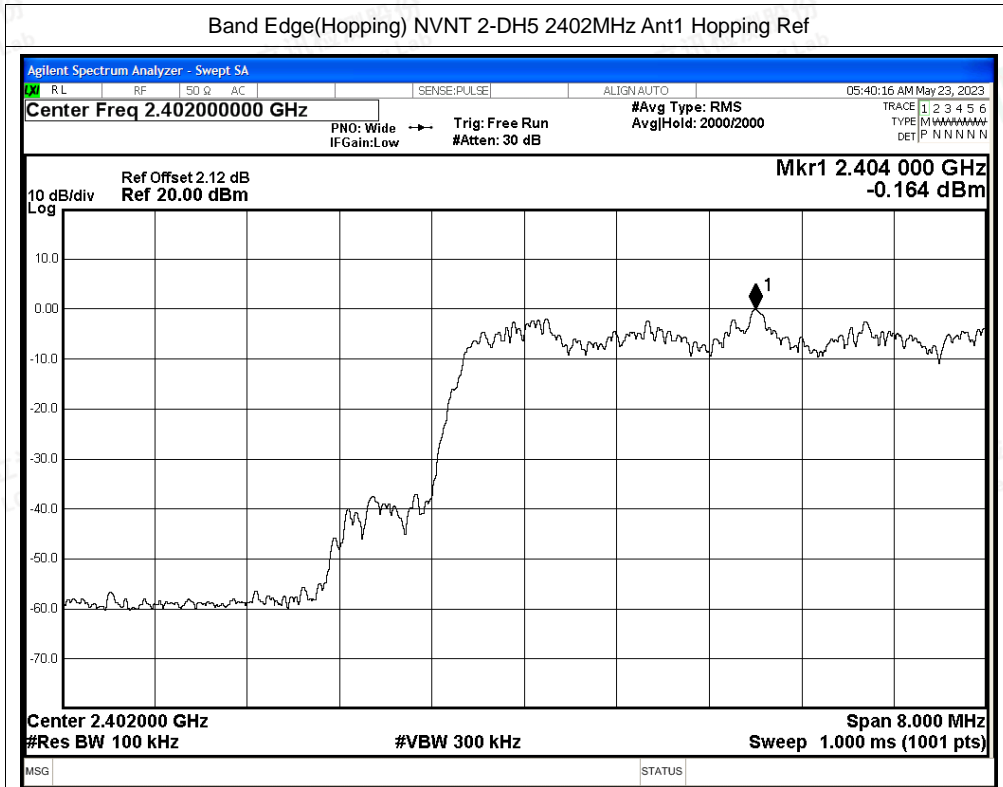
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

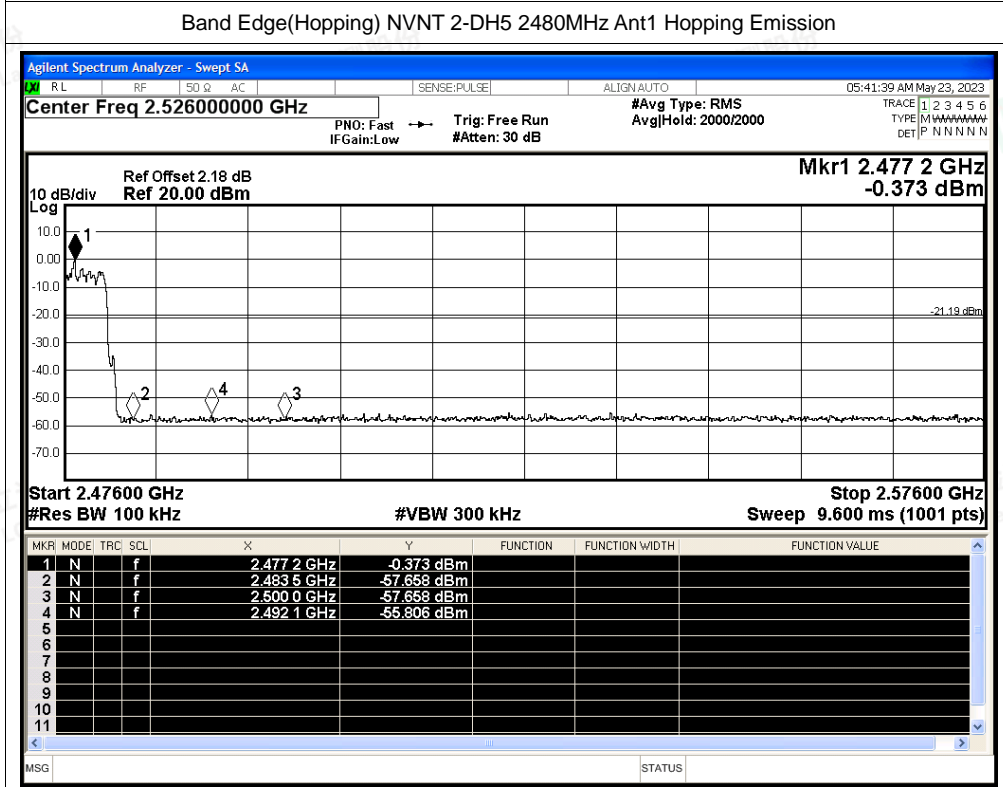
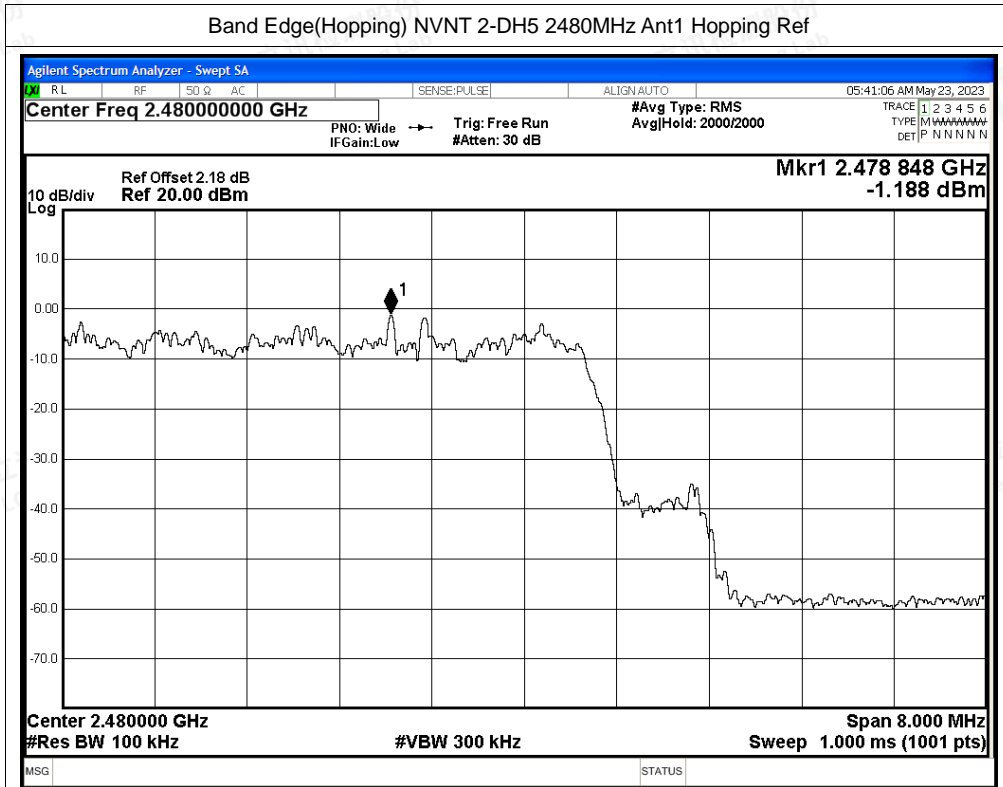


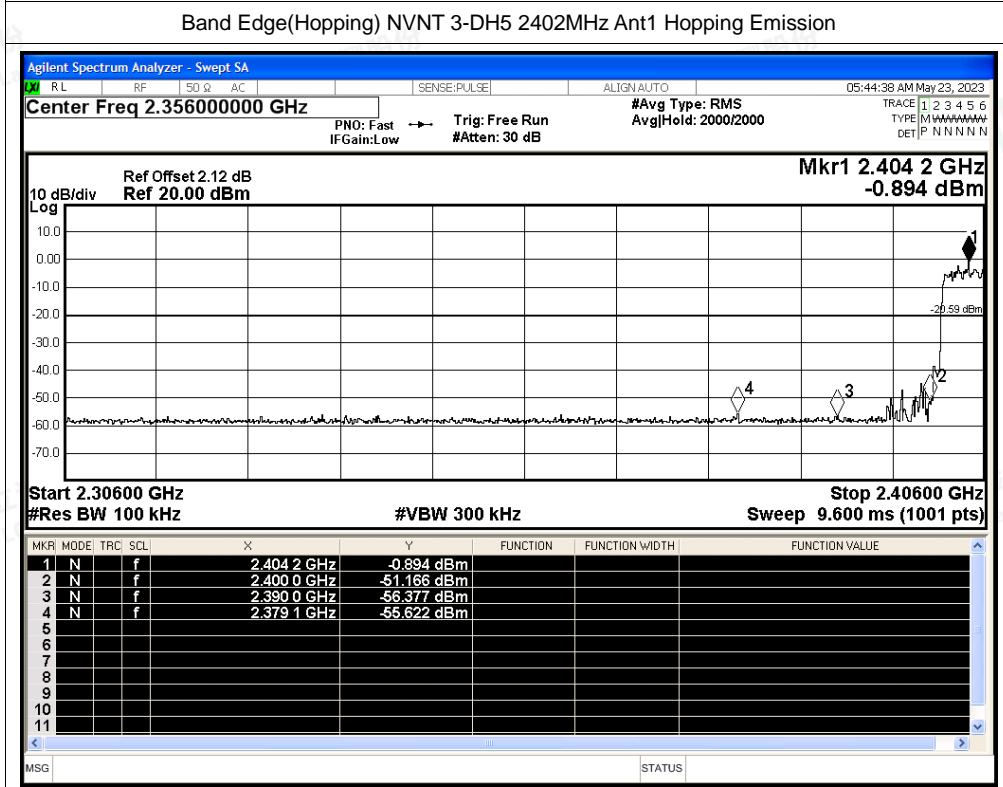
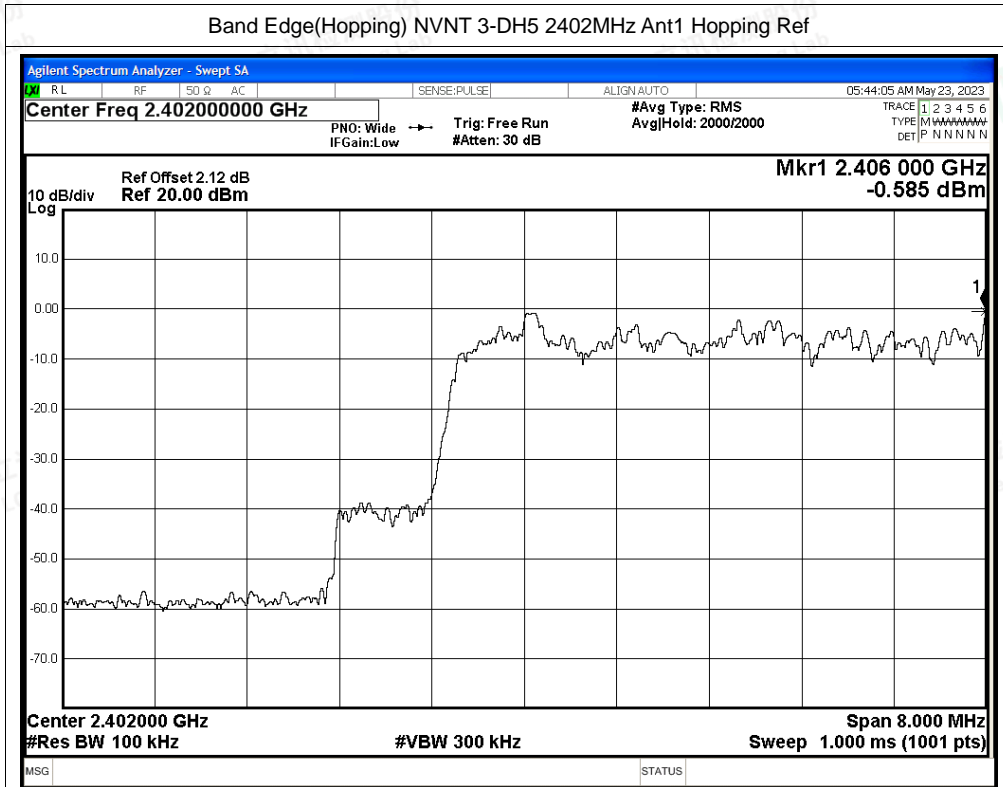
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

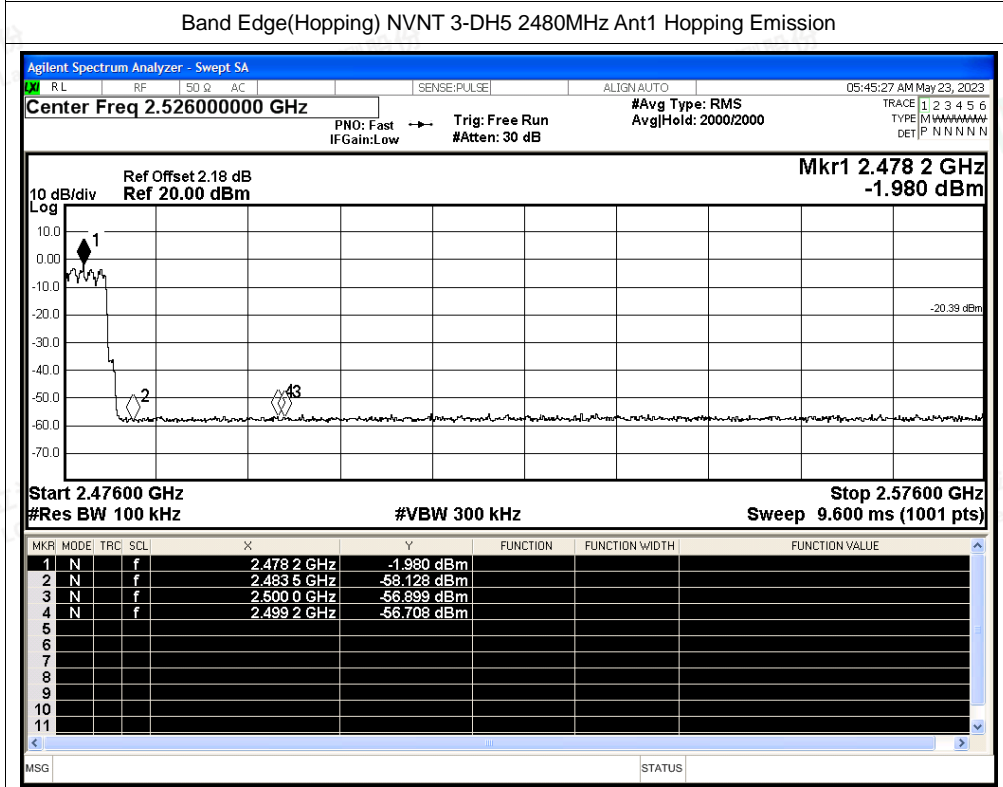
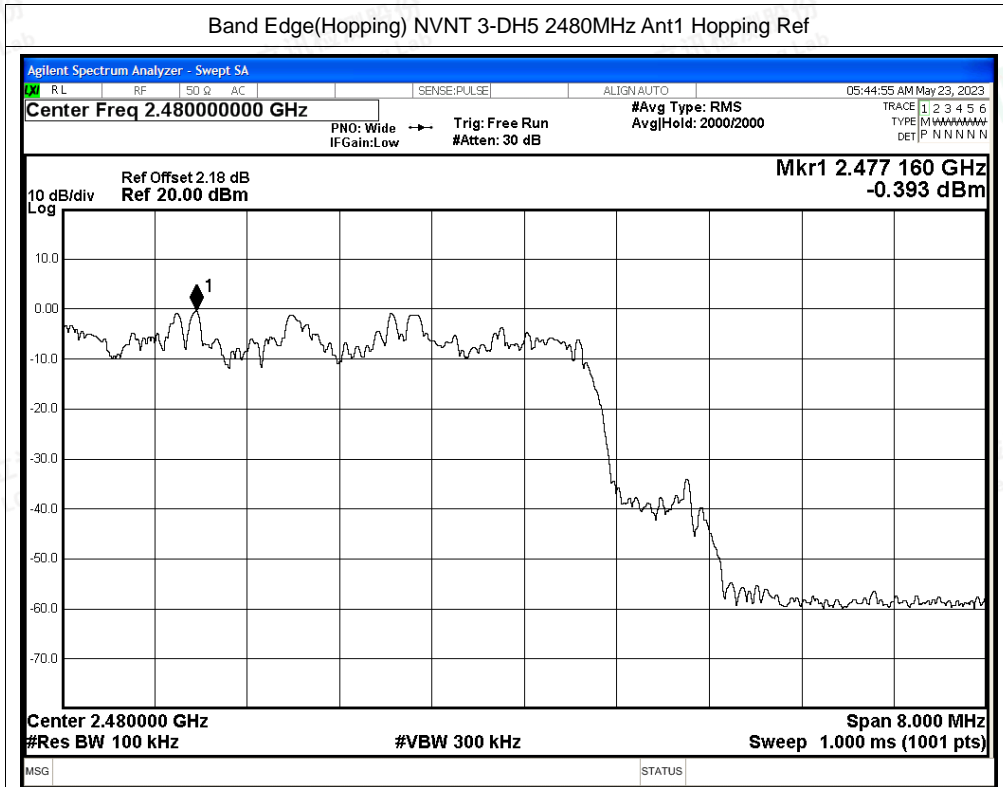














A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-51.72	-20	Pass
NVNT	1-DH5	2441	Ant1	-50.16	-20	Pass
NVNT	1-DH5	2480	Ant1	-55.44	-20	Pass
NVNT	2-DH5	2402	Ant1	-48.83	-20	Pass
NVNT	2-DH5	2441	Ant1	-55.22	-20	Pass
NVNT	2-DH5	2480	Ant1	-50.48	-20	Pass
NVNT	3-DH5	2402	Ant1	-45.16	-20	Pass
NVNT	3-DH5	2441	Ant1	-55.59	-20	Pass
NVNT	3-DH5	2480	Ant1	-46.3	-20	Pass

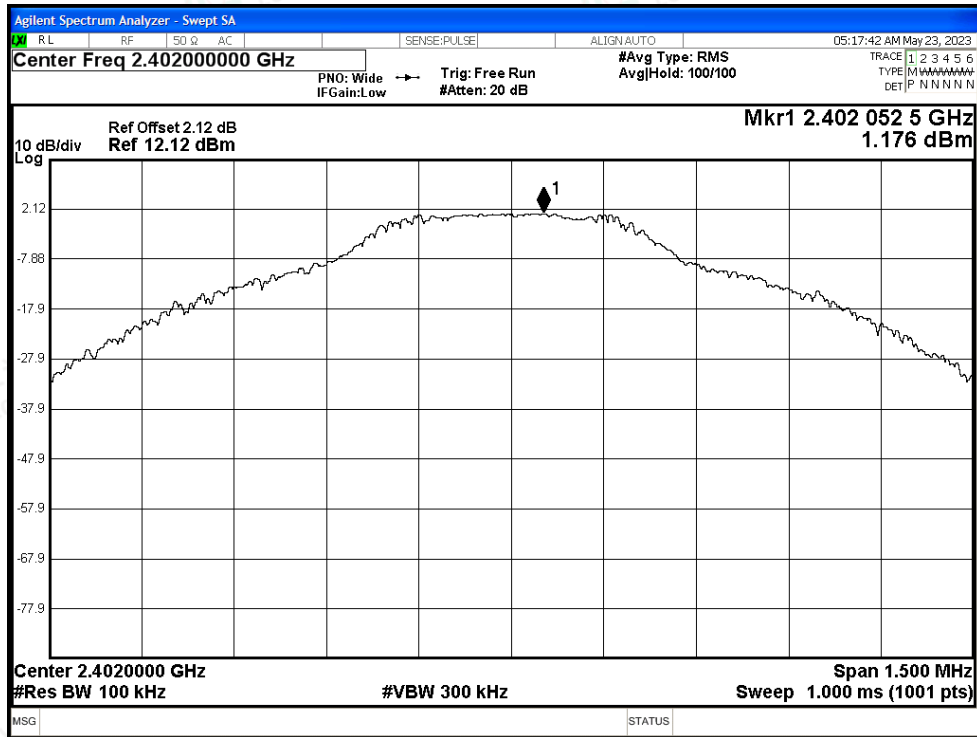


Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity

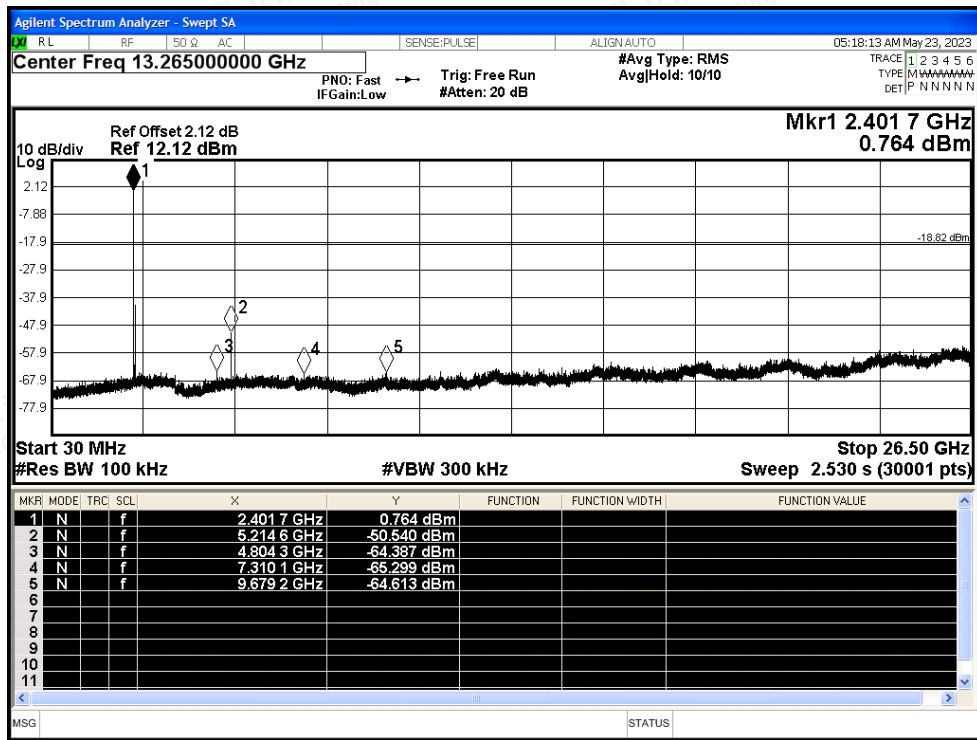


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

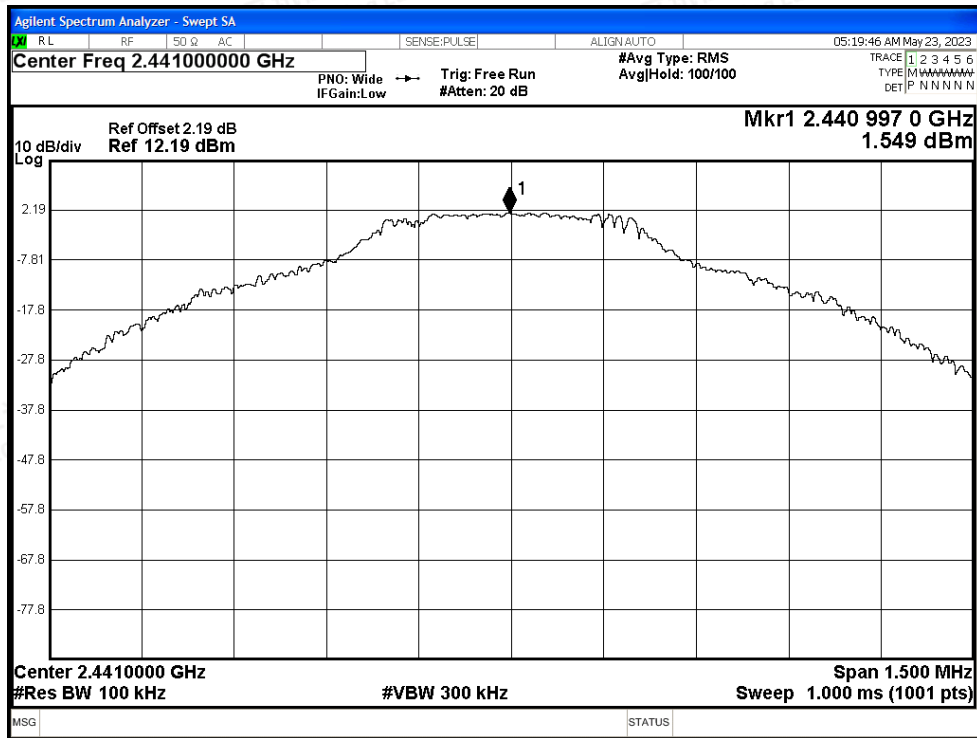


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

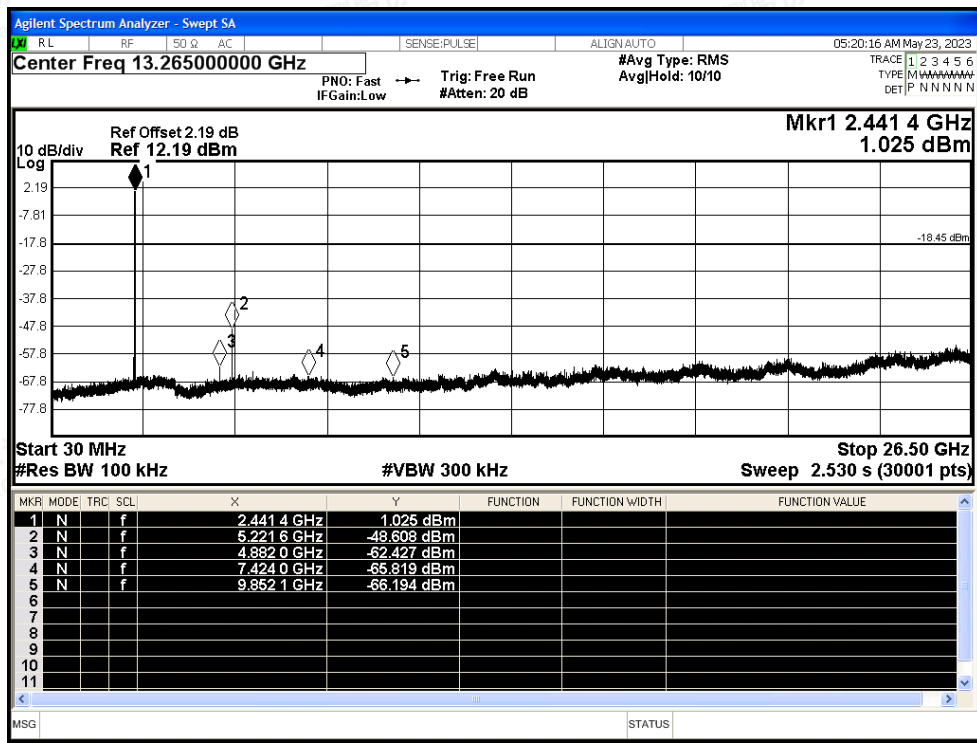




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

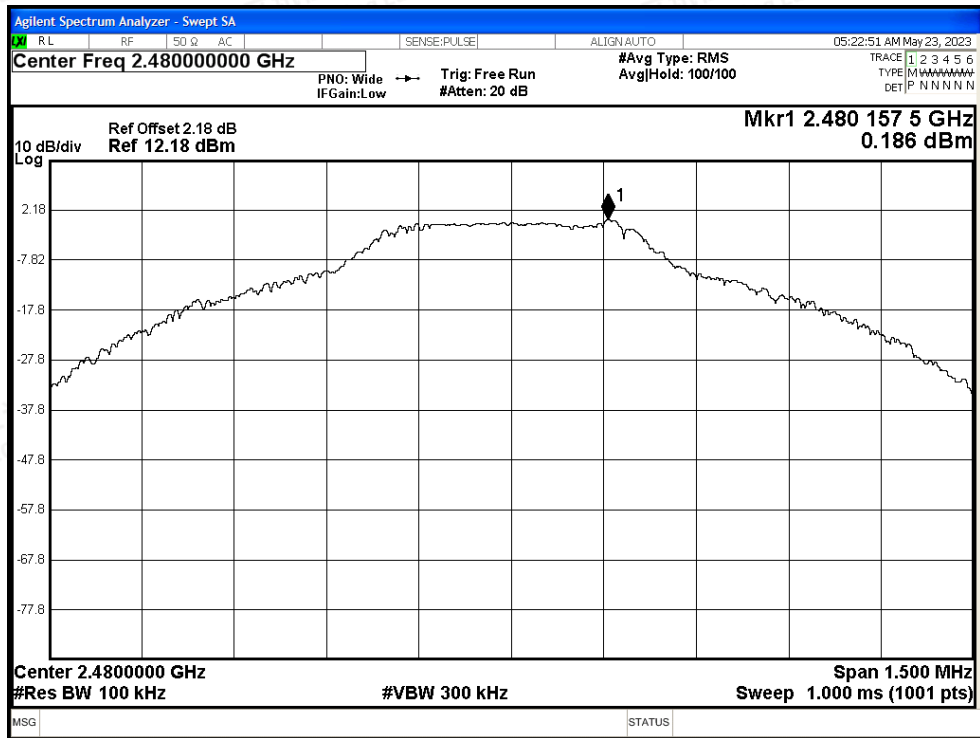


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

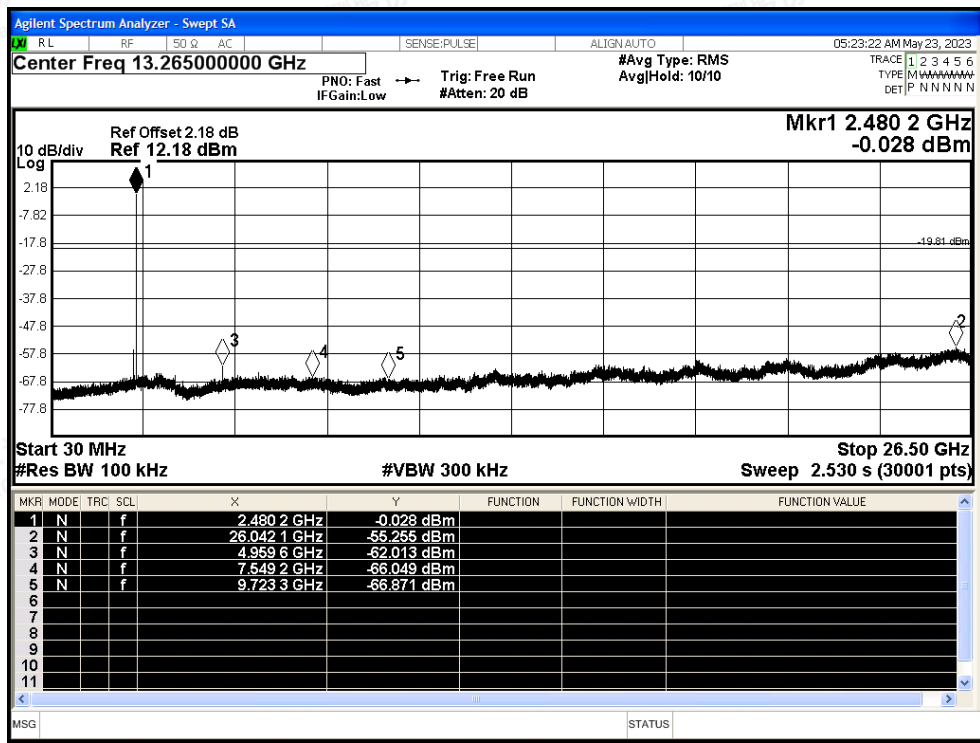




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

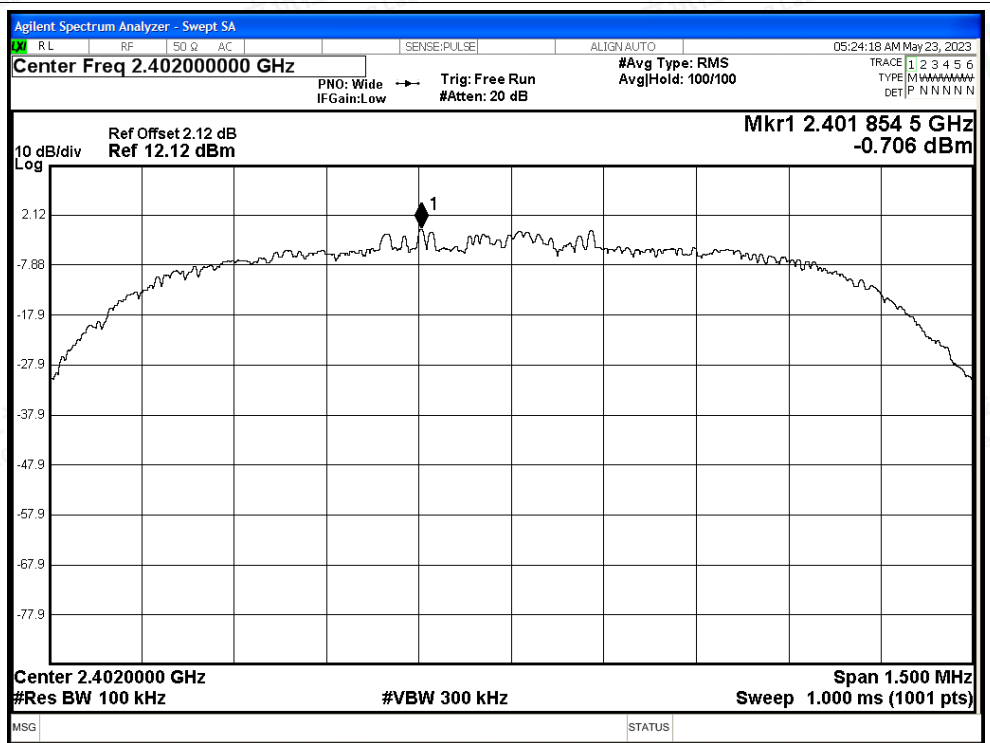


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

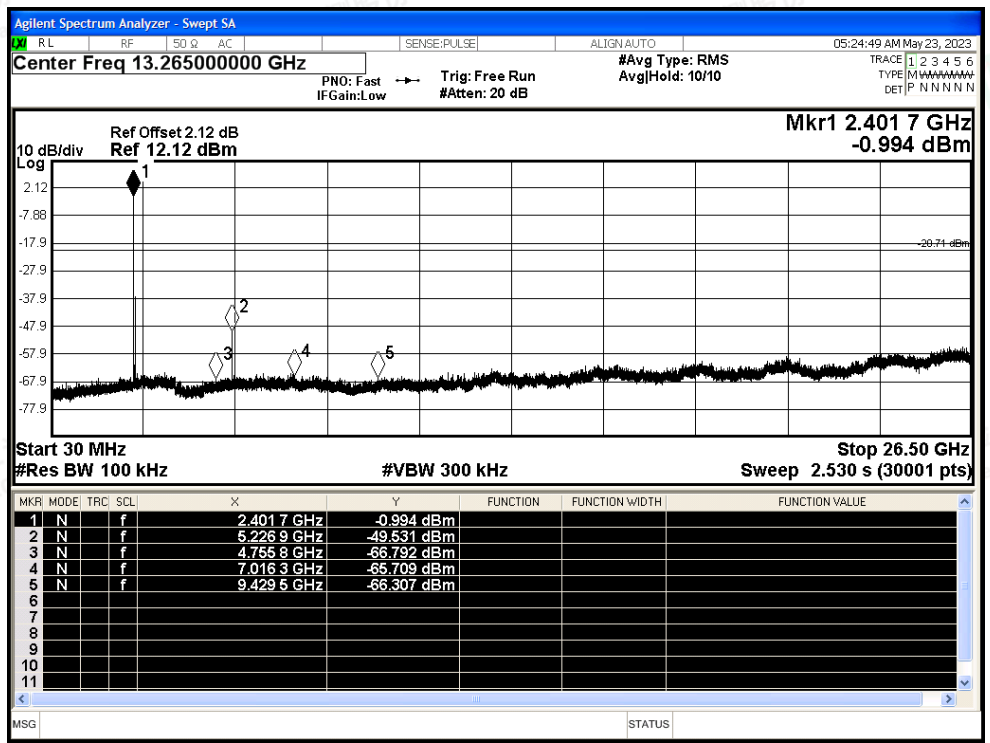




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

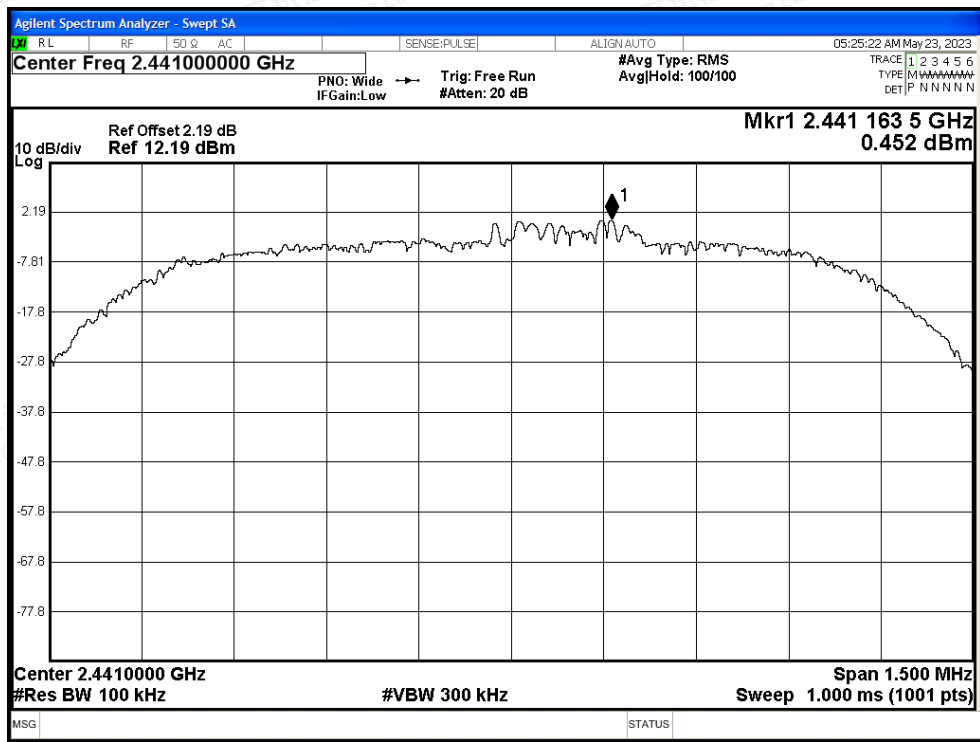


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

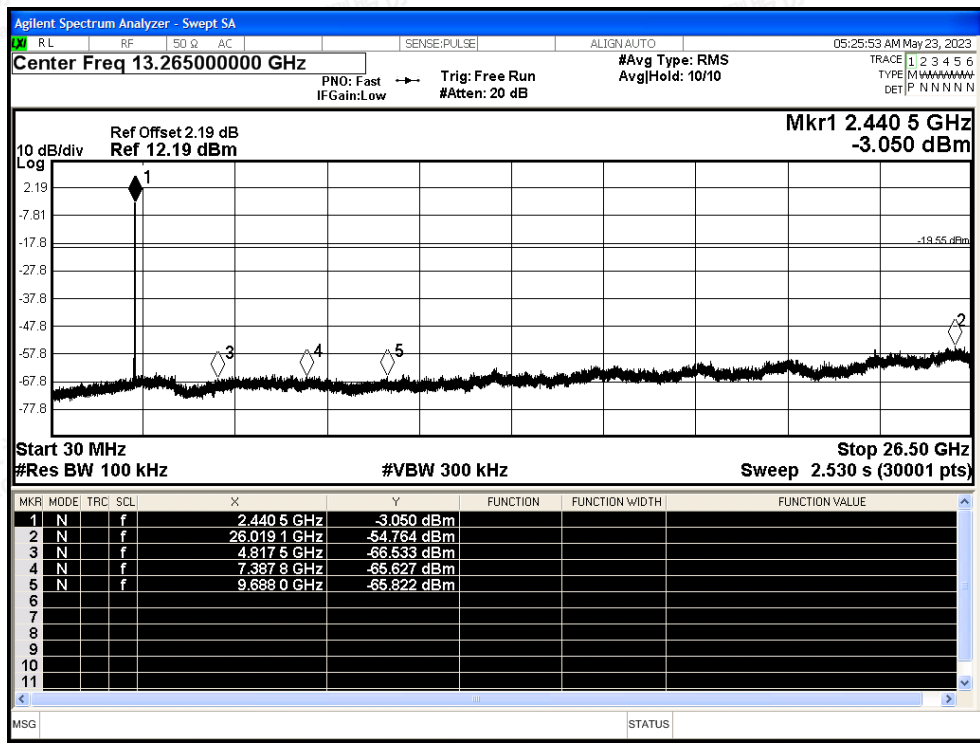




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

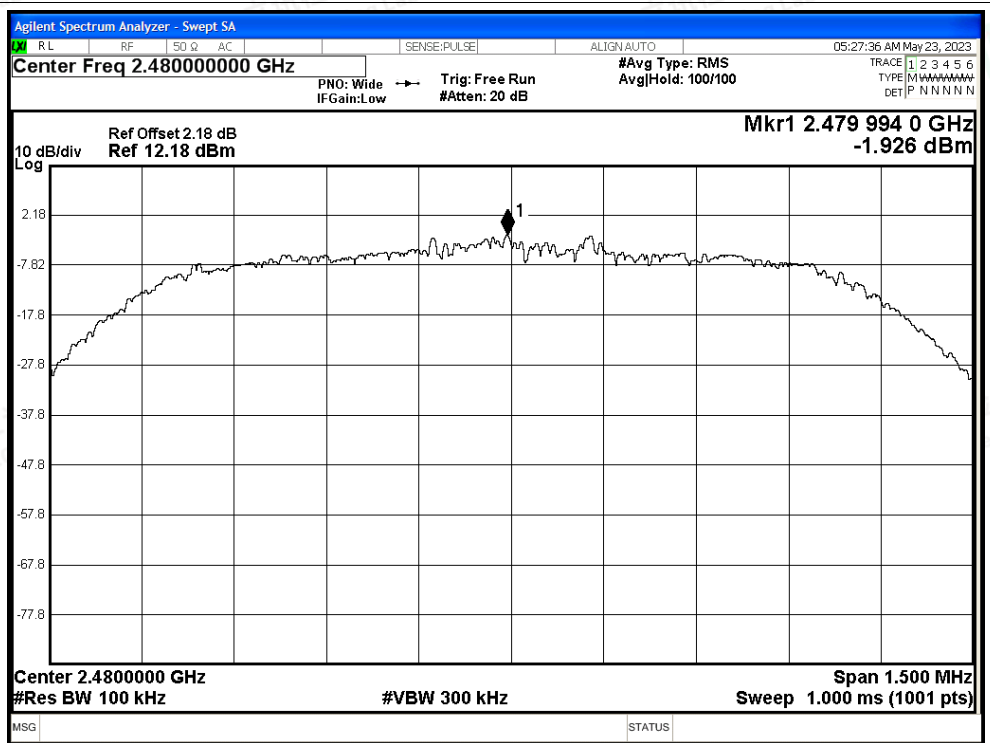


Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

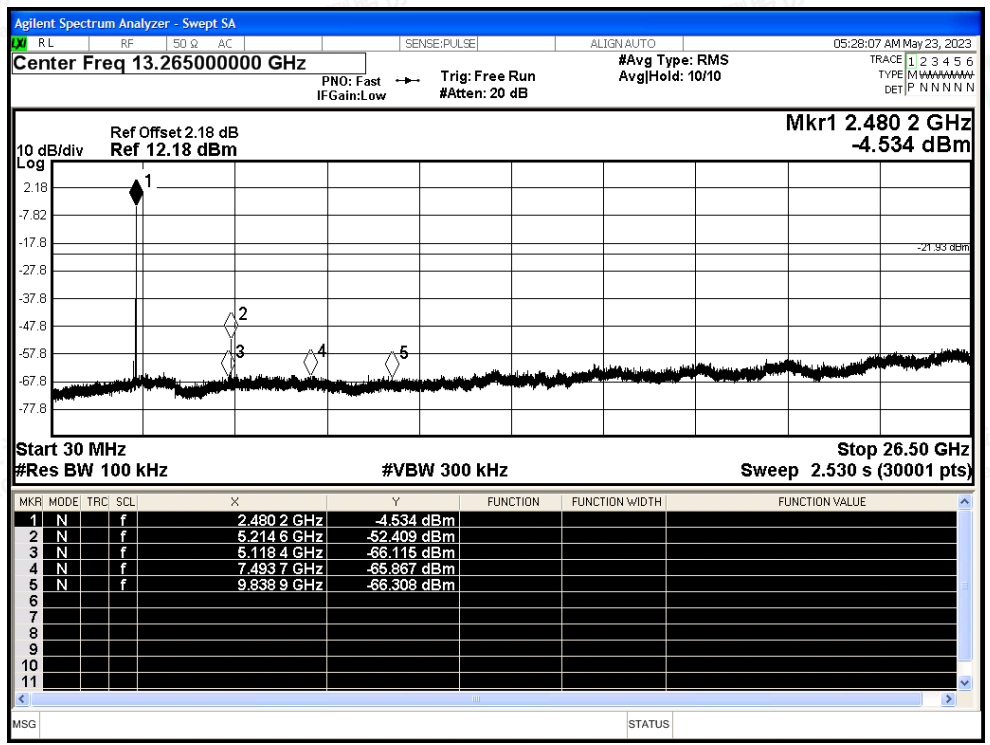




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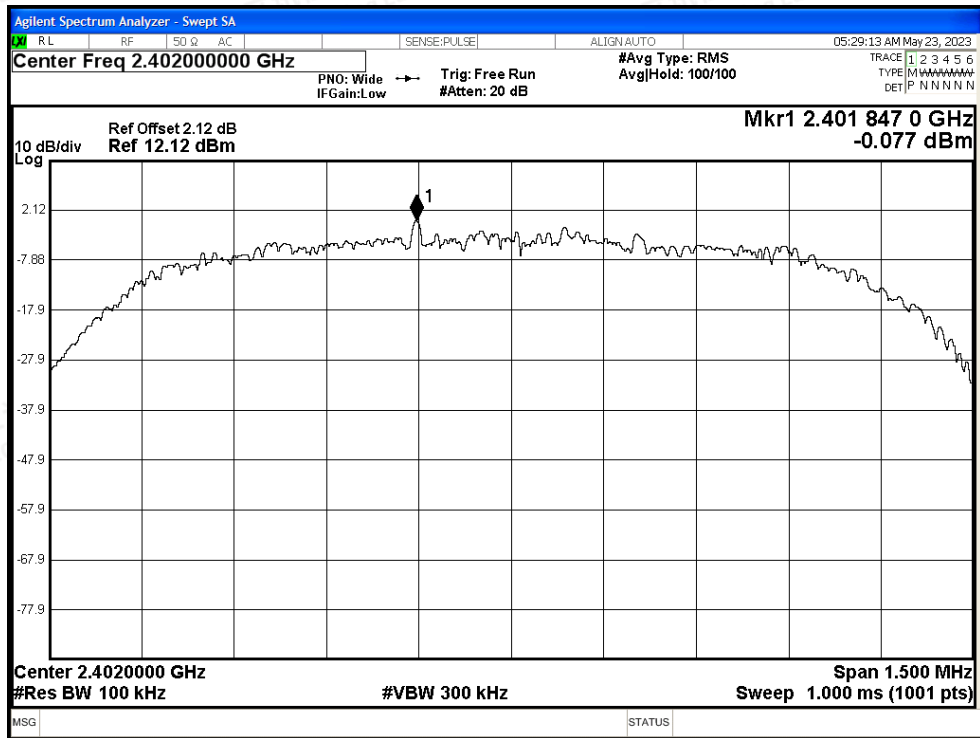


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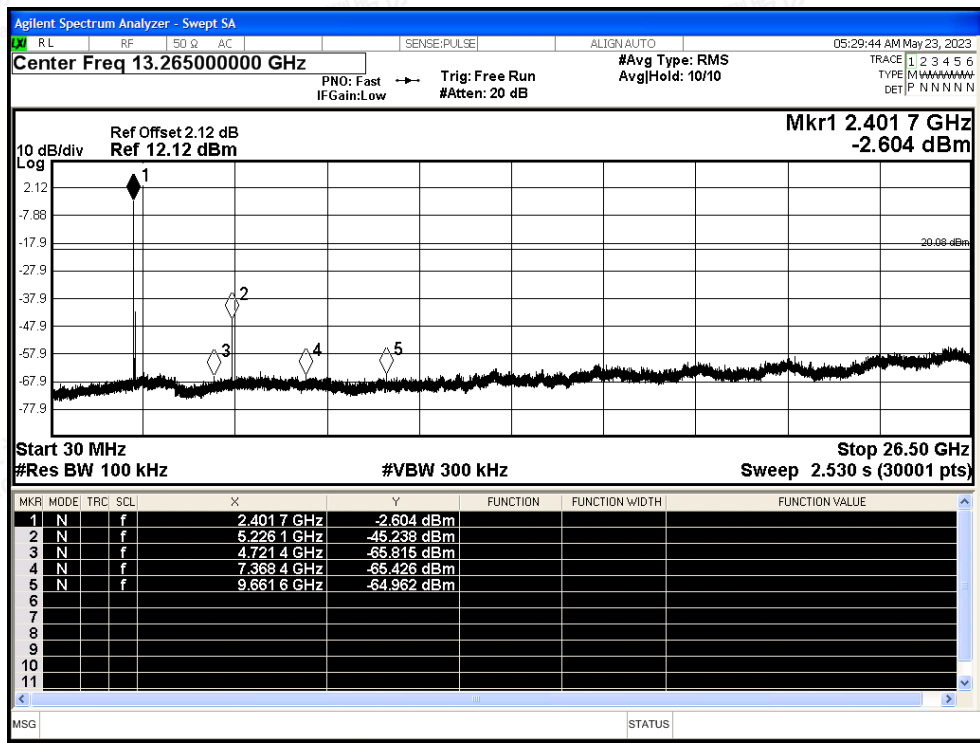




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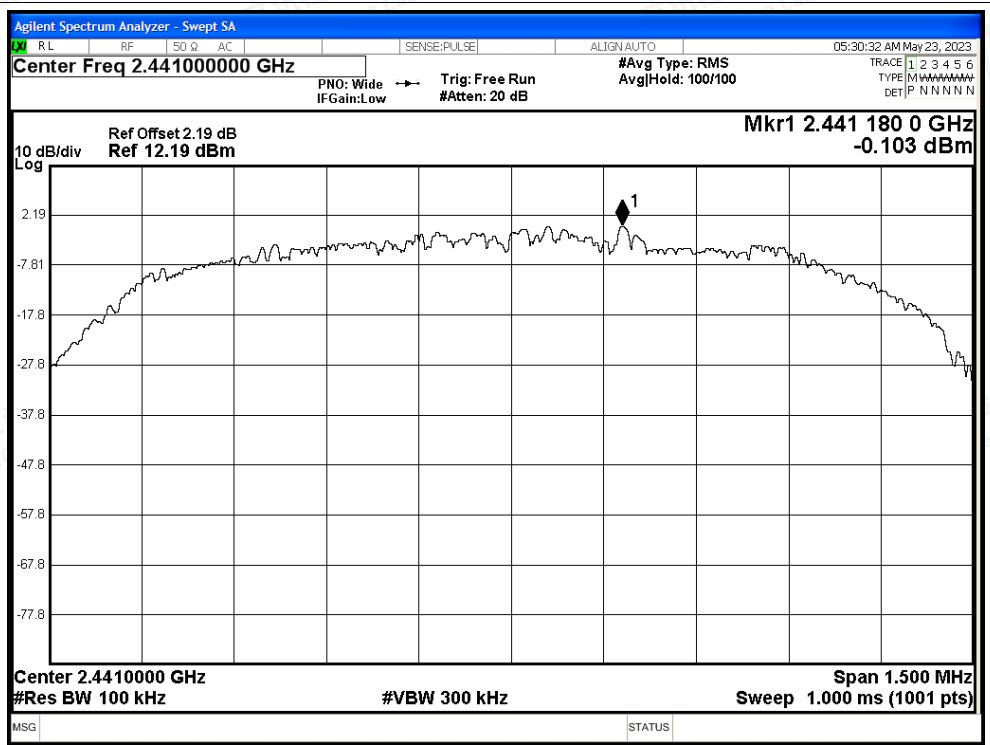


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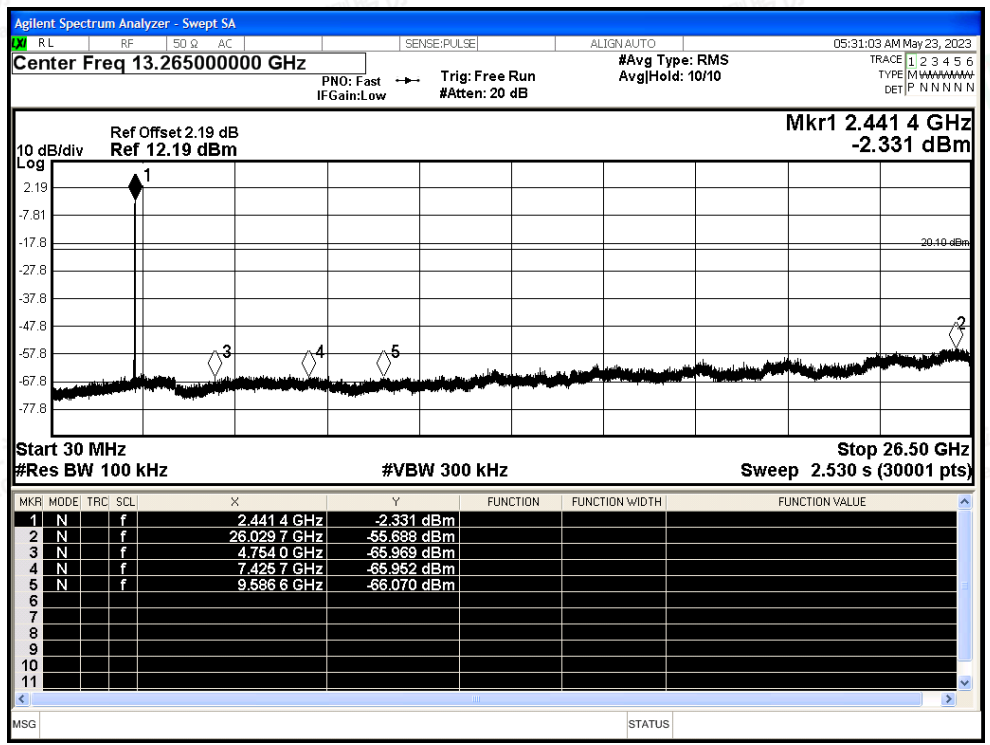




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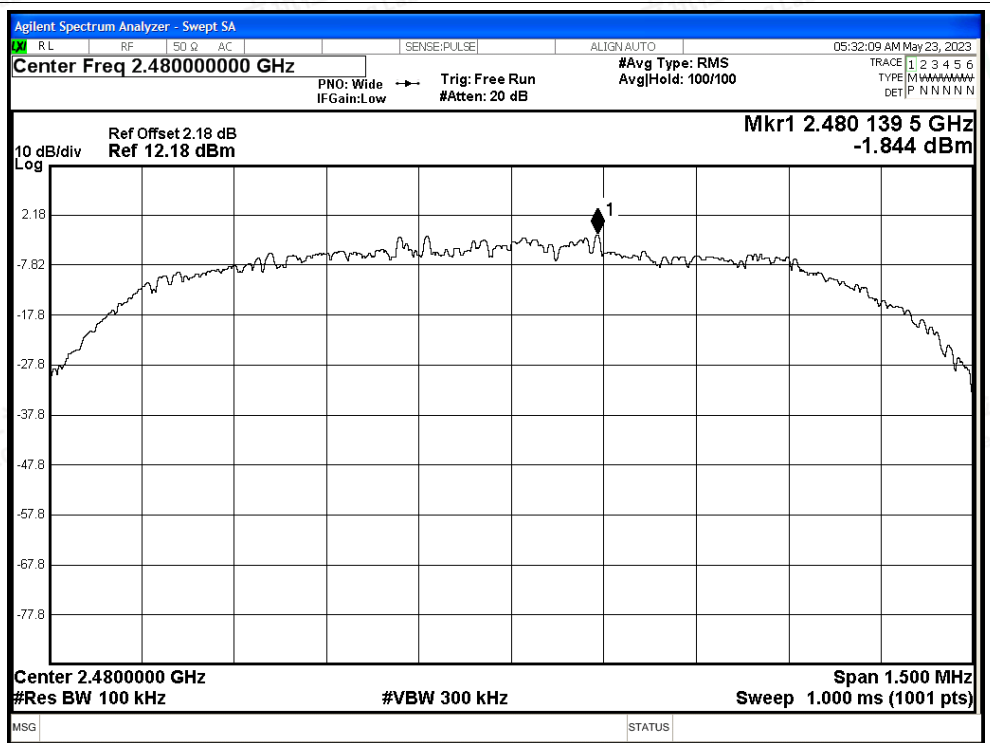


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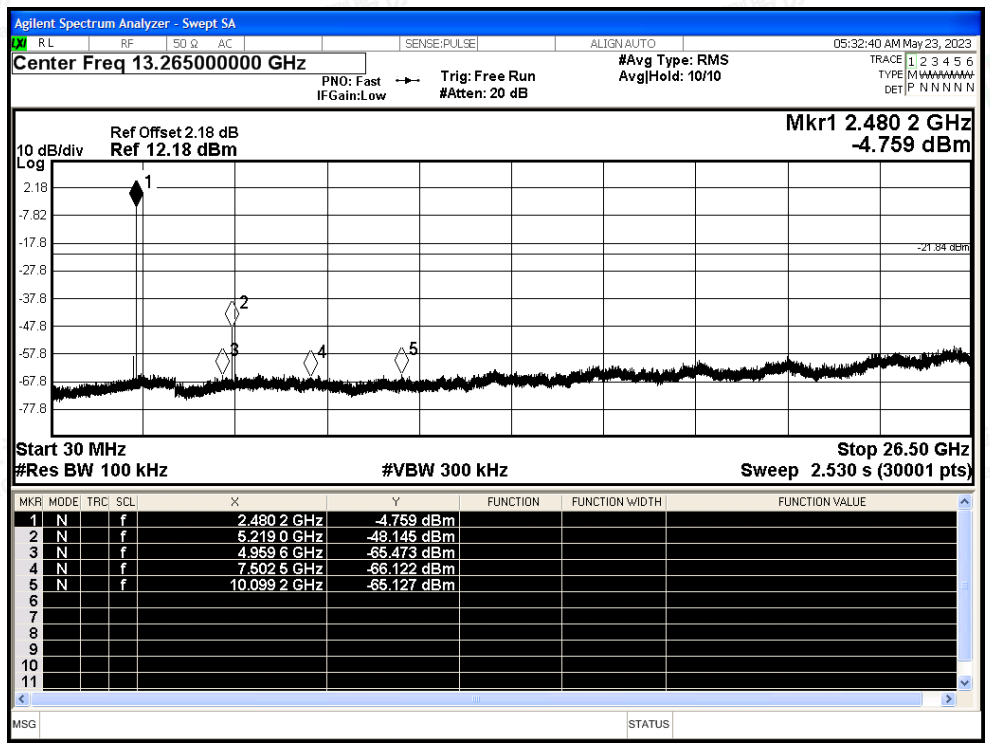




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.8 Restrict Band

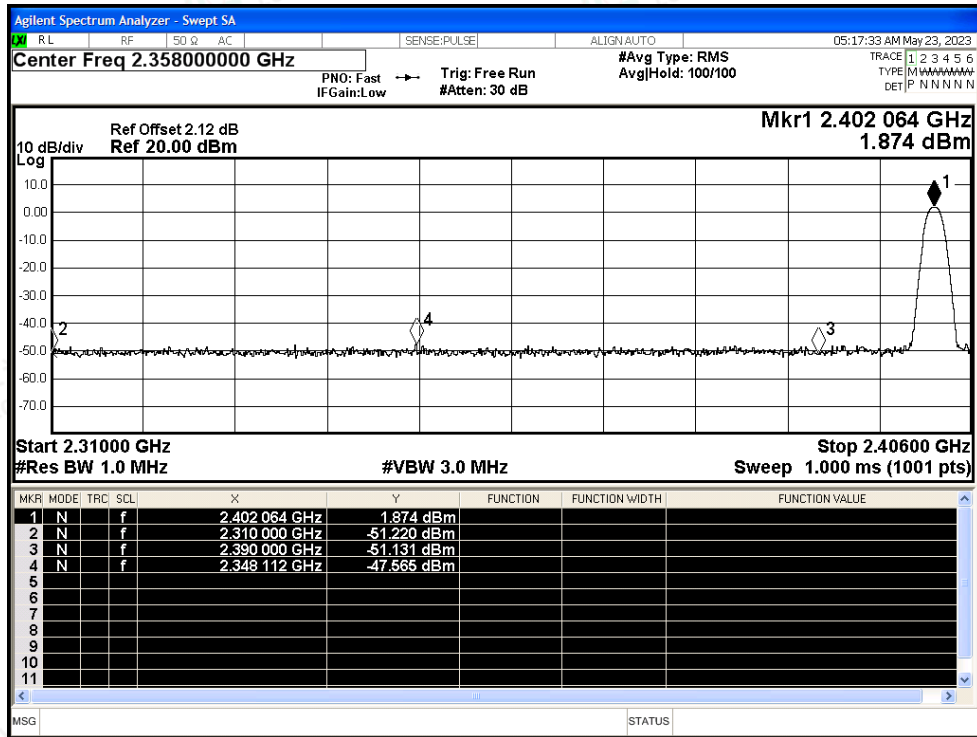
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-51.22	2	46.04	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-57.94	2	39.32	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2348.112	-47.57	2	49.69	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2388.528	-57.25	2	40.01	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-51.13	2	46.13	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-57.63	2	39.63	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.02	2	48.24	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-55.62	2	41.64	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2489.824	-46.48	2	50.78	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-55.62	2	41.64	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.68	2	47.58	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.25	2	40.01	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.58	2	46.68	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-57.92	2	39.34	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2374.128	-47.2	2	50.06	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2389.2	-57.43	2	39.83	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.88	2	46.38	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-57.49	2	39.77	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-48.91	2	48.35	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-55.38	2	41.88	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2496.76	-46.92	2	50.34	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-55.38	2	41.88	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-48.51	2	48.75	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.36	2	39.9	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.76	2	46.5	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-57.88	2	39.38	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2382.576	-47.82	2	49.44	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2388.624	-57.44	2	39.82	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-49.55	2	47.71	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-57.57	2	39.69	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-49.84	2	47.42	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-55.38	2	41.88	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2496.28	-46.86	2	50.4	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-55.38	2	41.88	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.57	2	46.69	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-57.35	2	39.91	Average	54	Pass



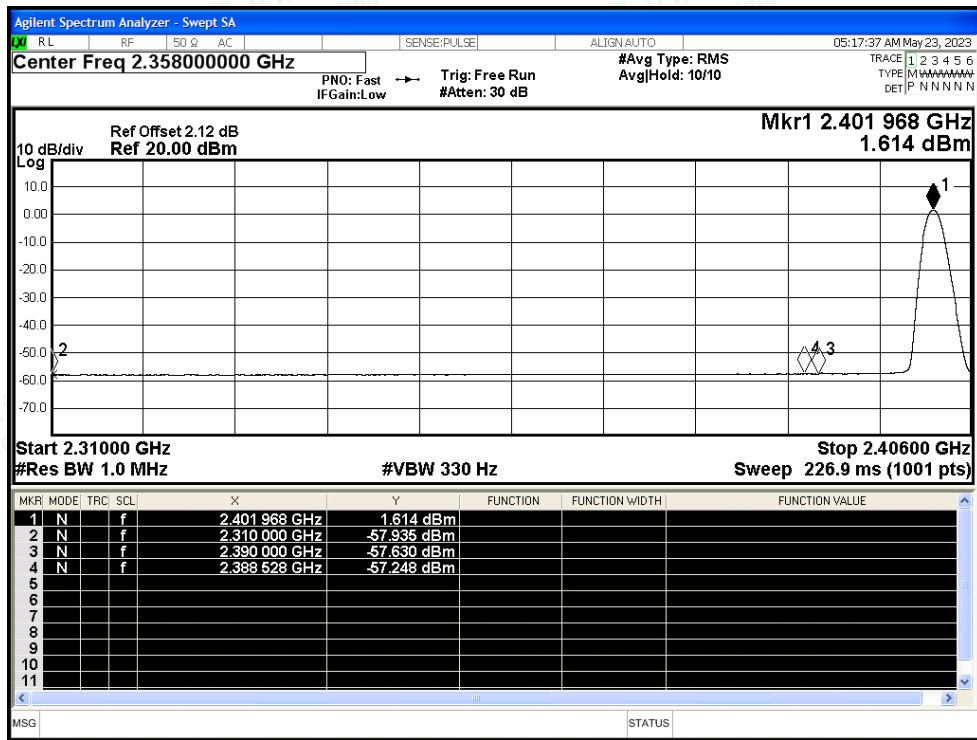


Test Graphs

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

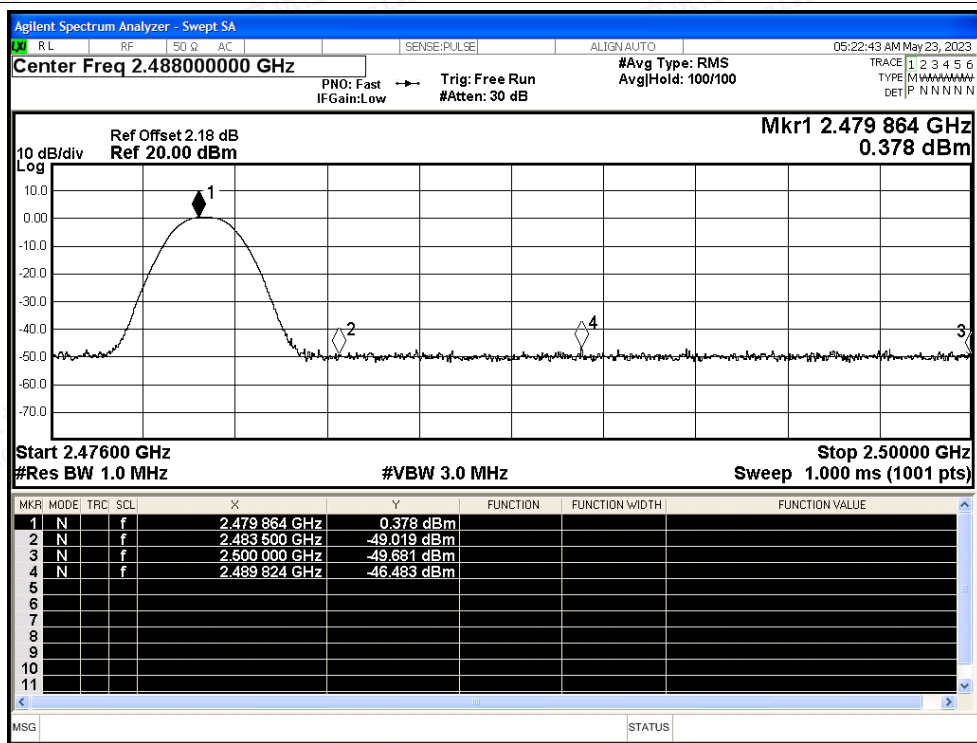


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

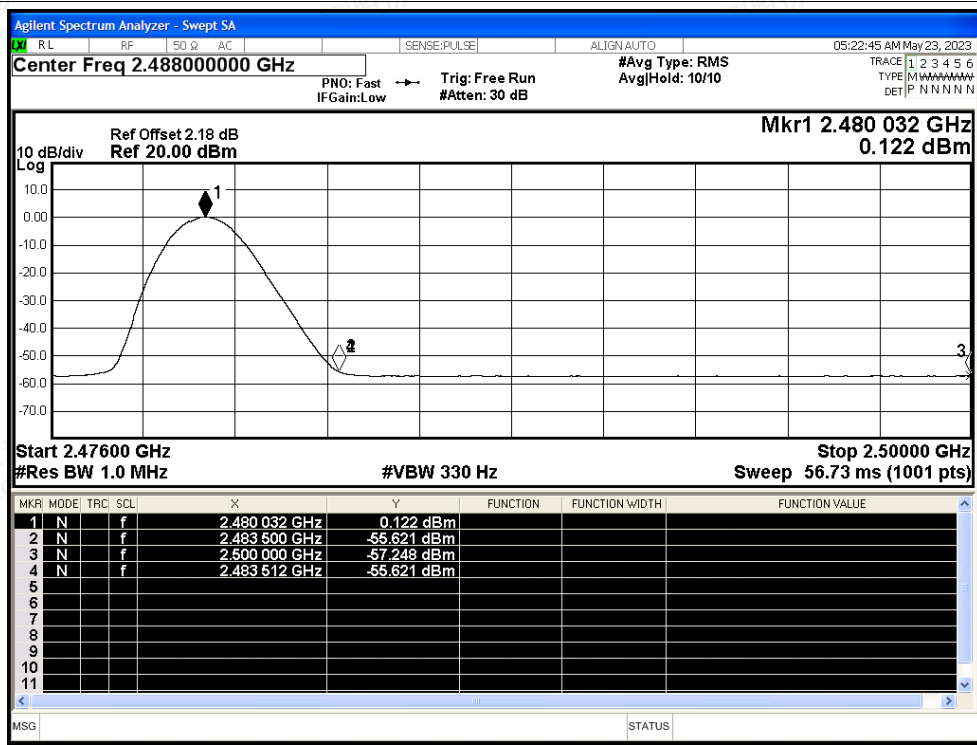




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

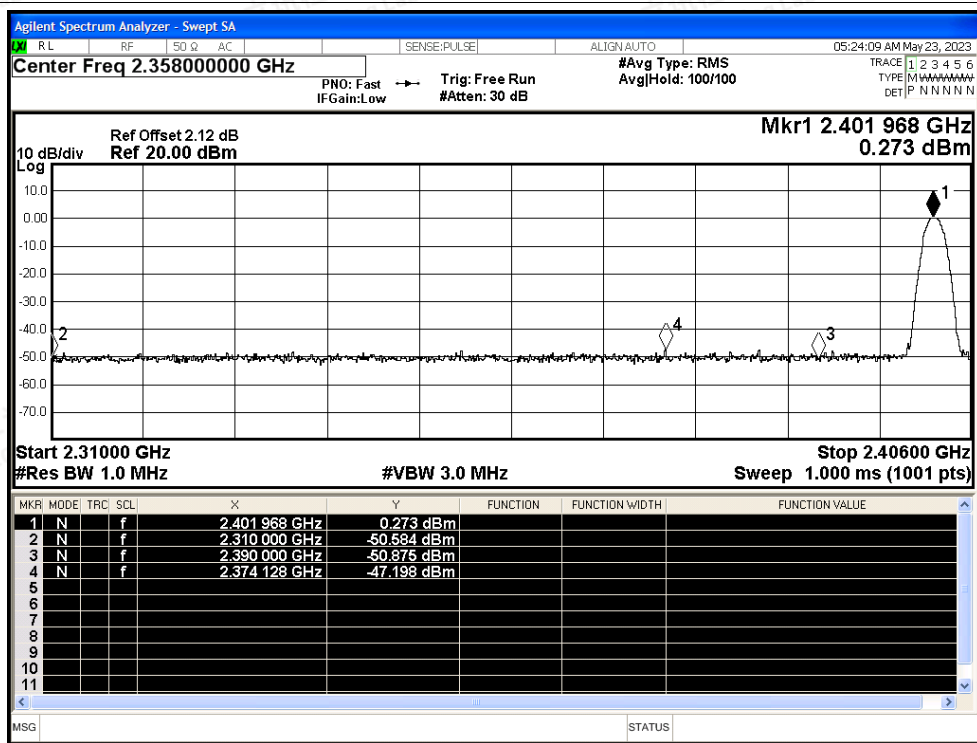


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

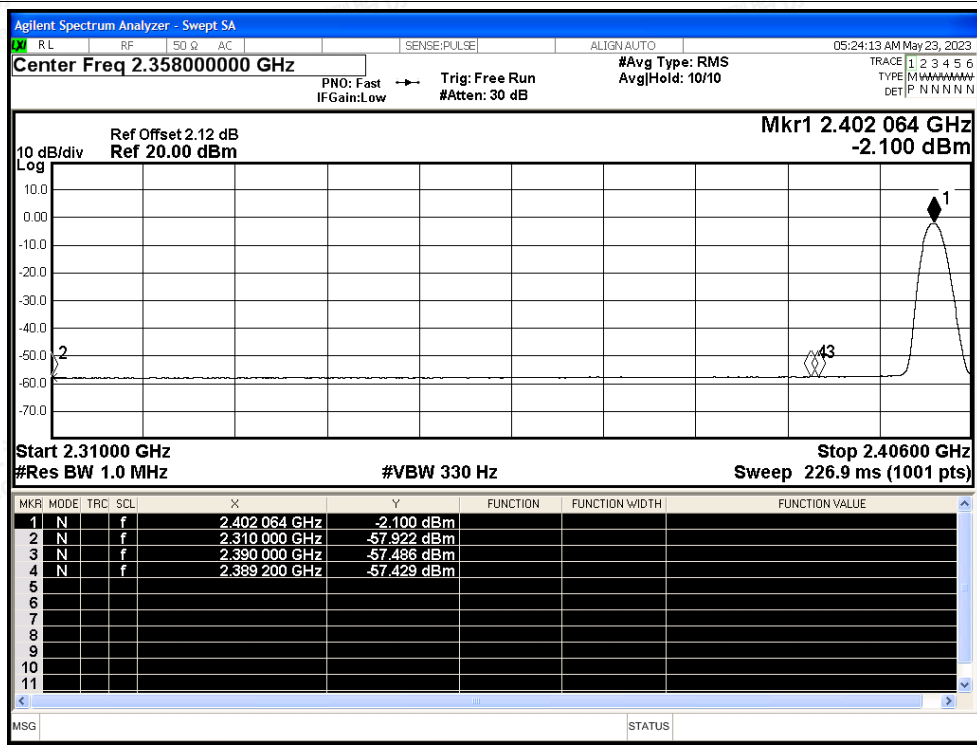




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

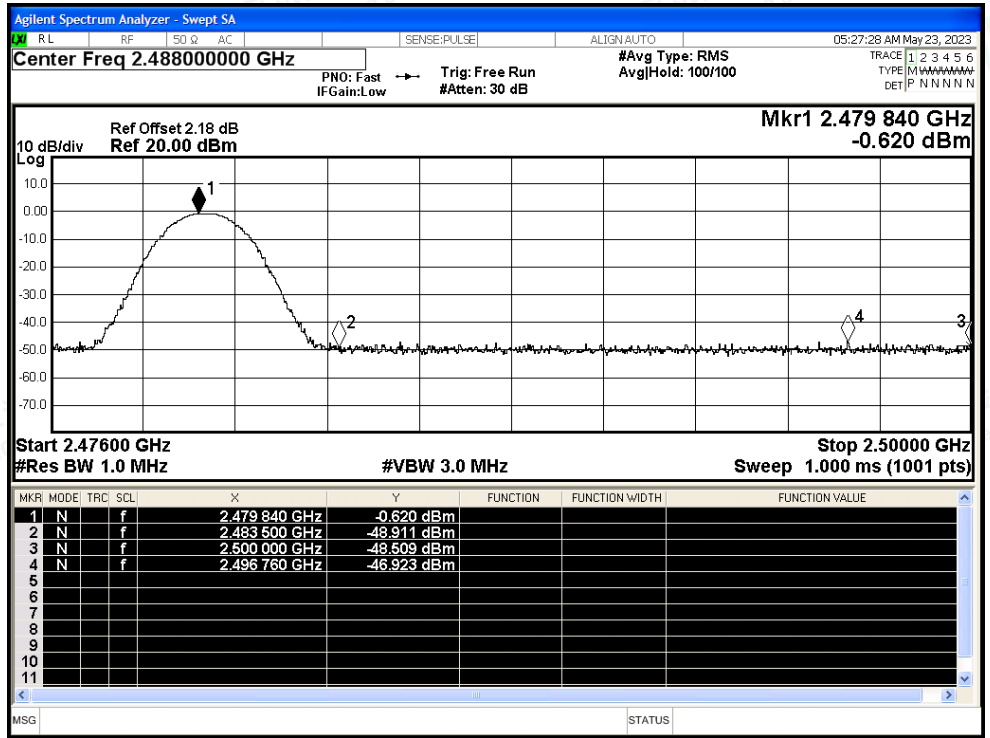


Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average

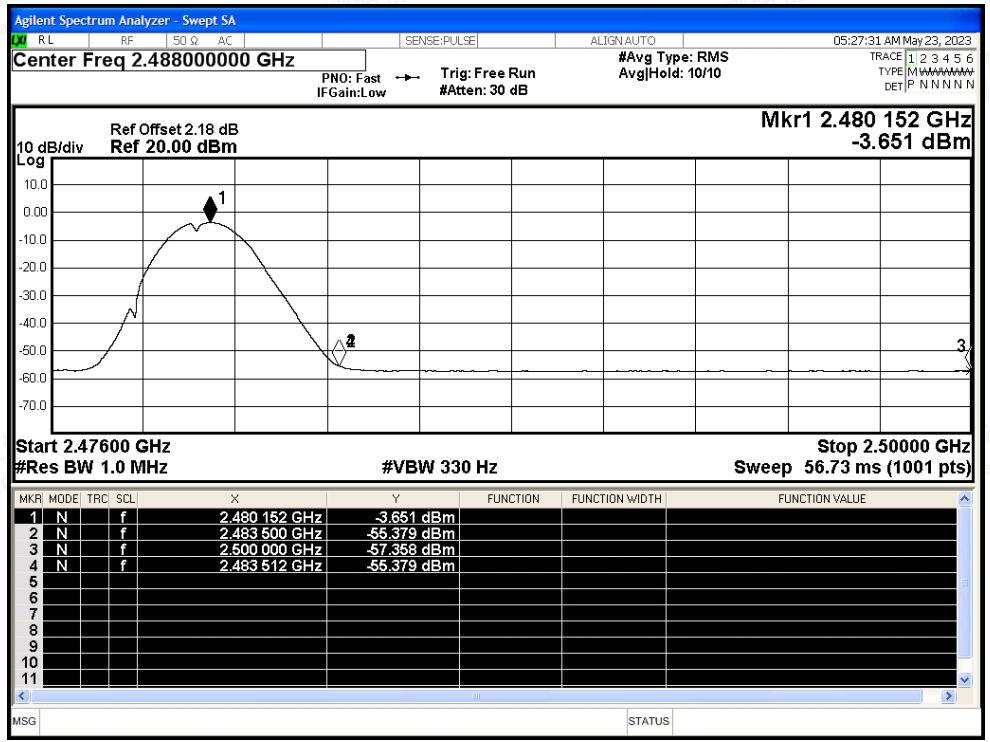




Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak

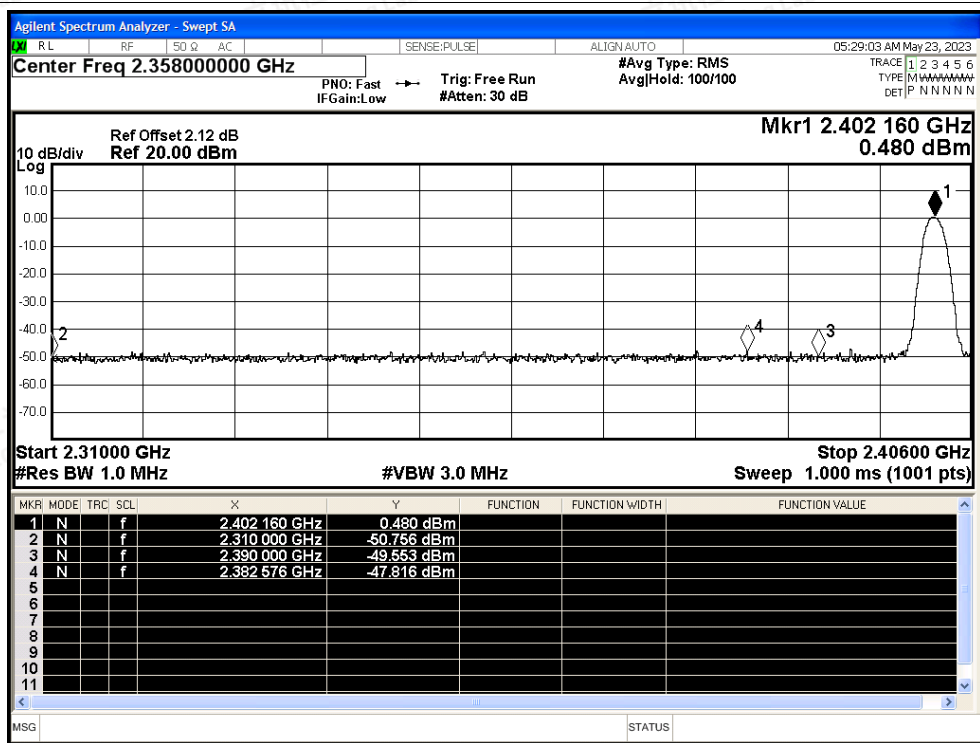


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average

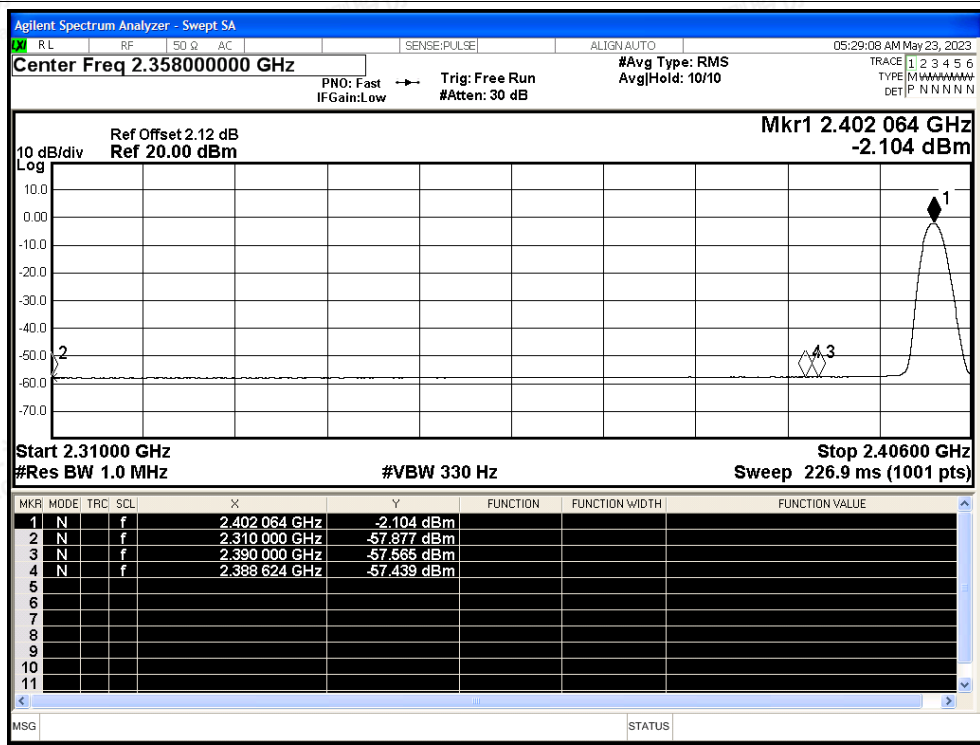




Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak

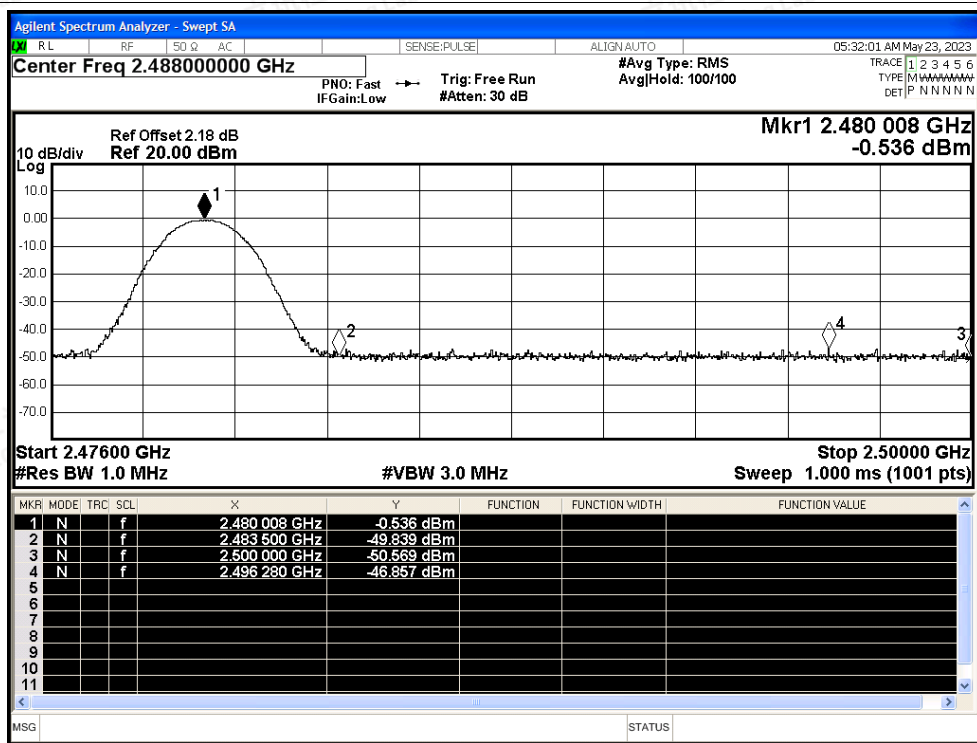


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





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



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

