



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: RETRO BLUETOOTH SPEAKER and Dual Alarm Clock functionality

Test Model: MCR41818

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jack Cheng
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	0.969	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.026	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.018	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.279	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.311	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.284	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.281	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.263	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.299	N/A	Pass



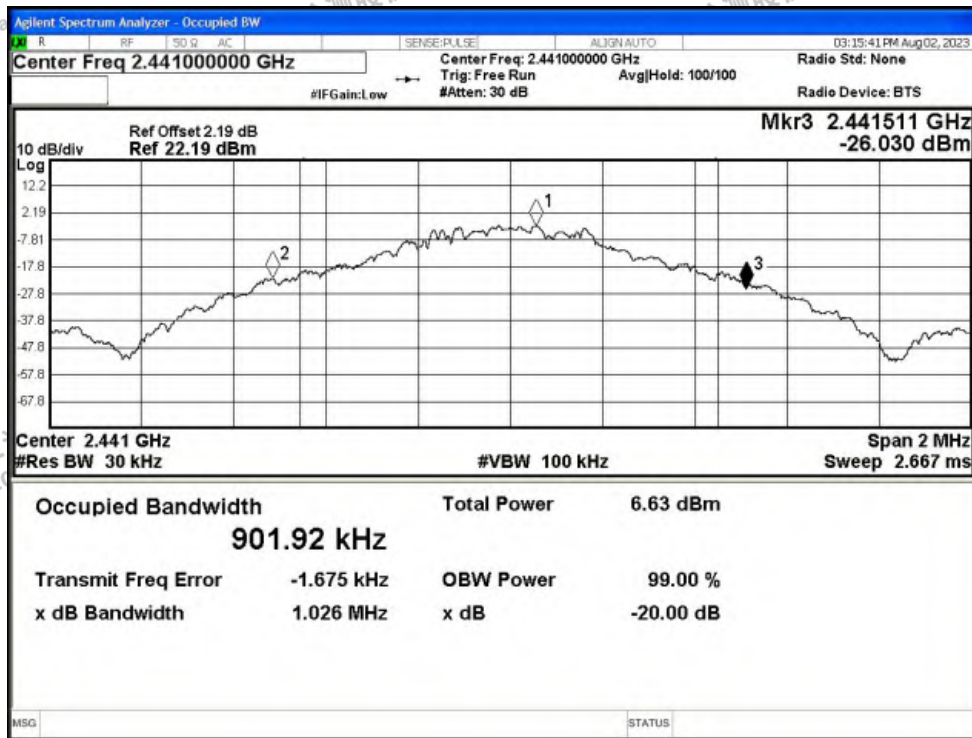


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

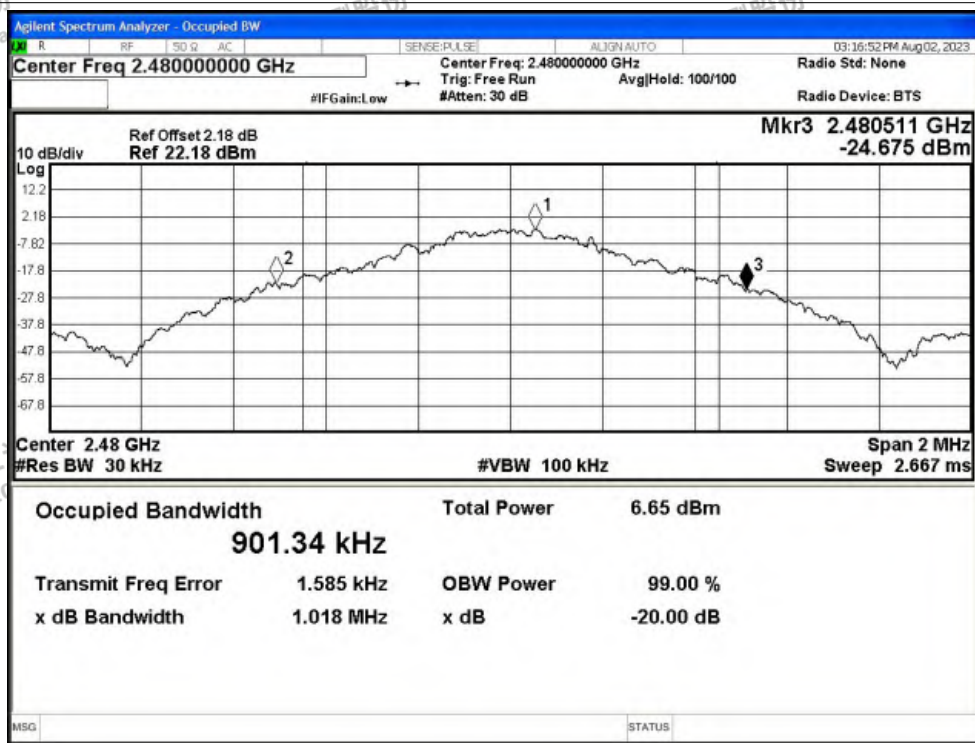


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

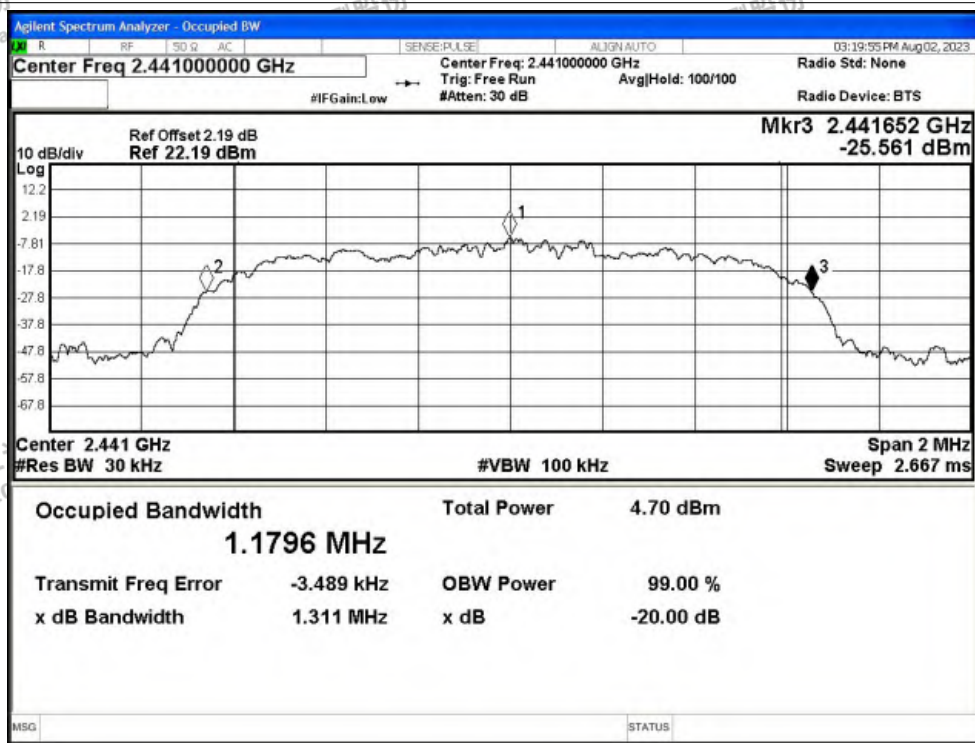


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

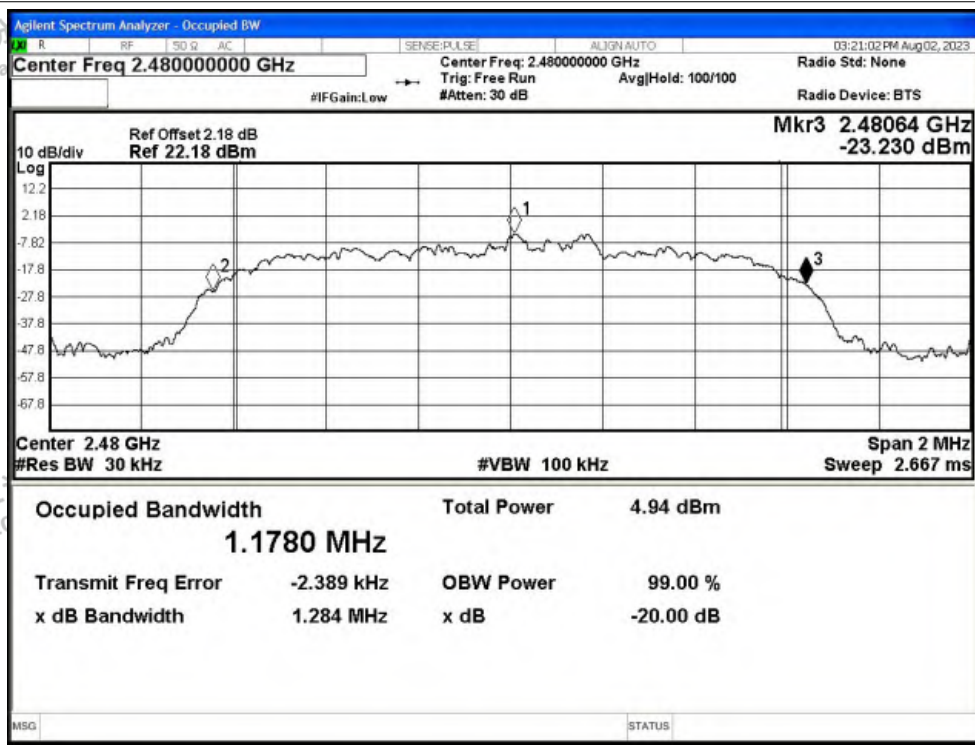




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

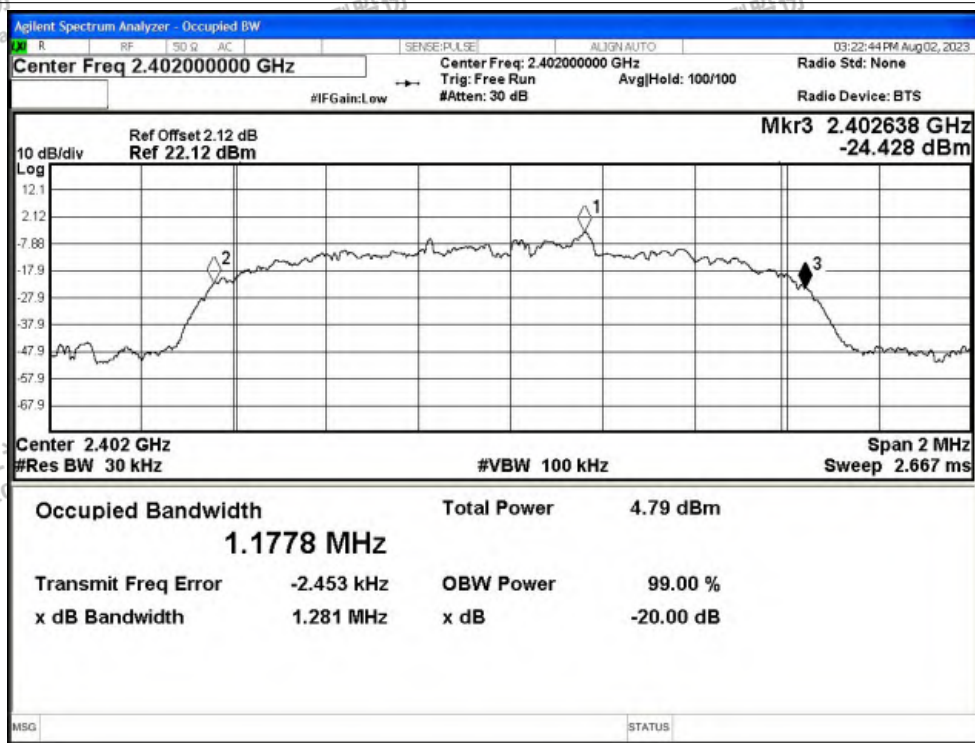


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1





-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1

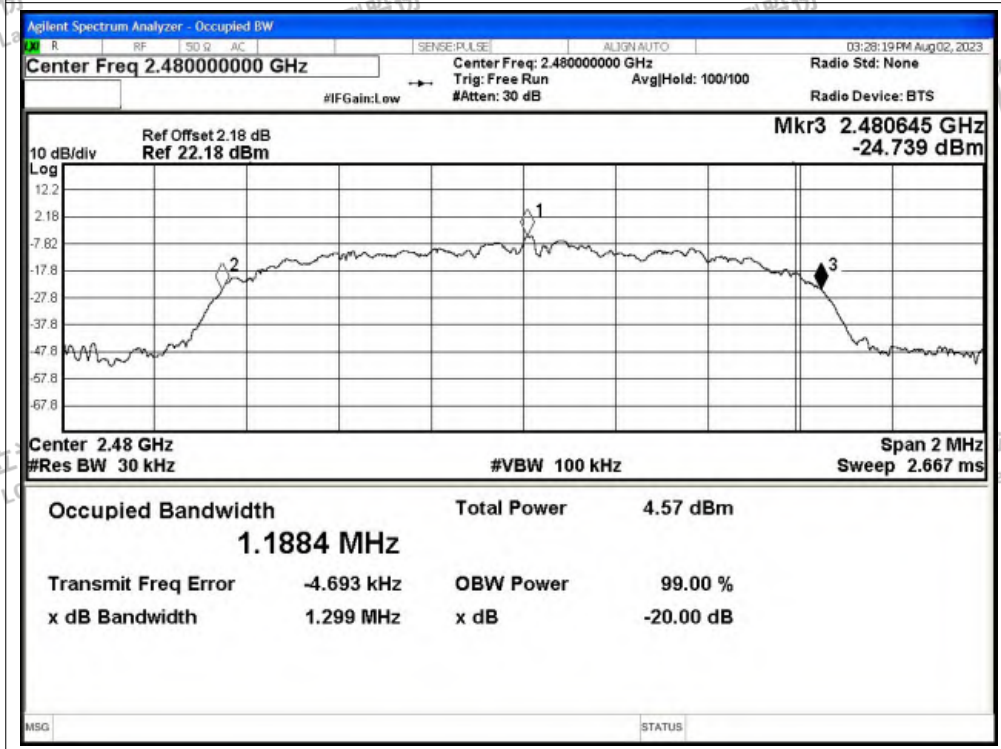


-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1





A.2 Maximum Conducted Output Power

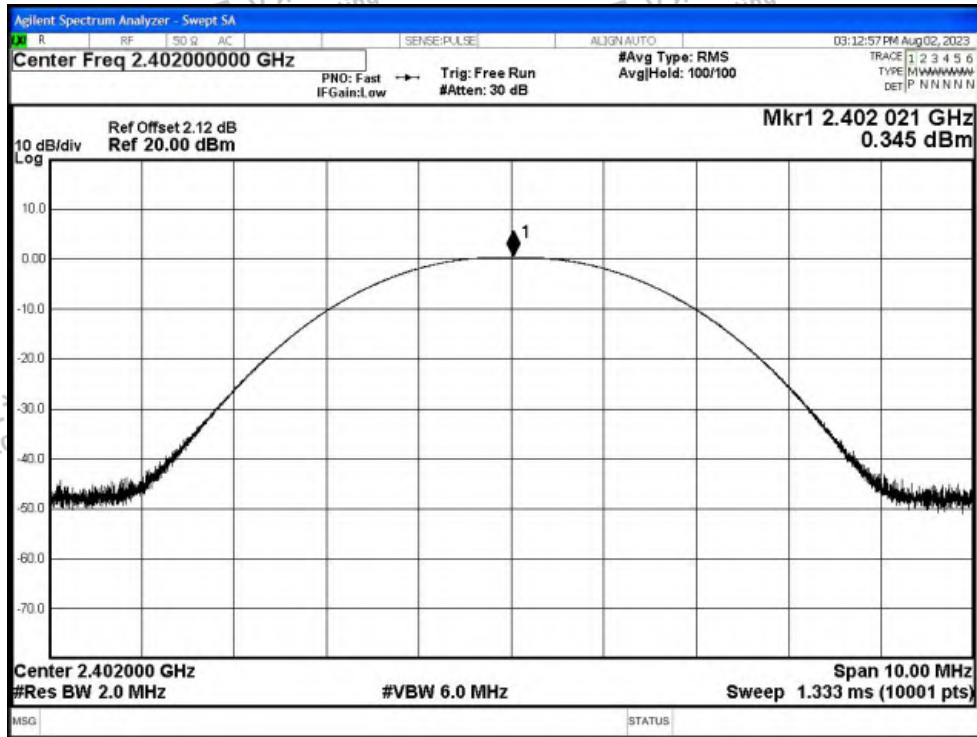
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	0.35	21	Pass
NVNT	1-DH5	2441	Ant1	0.46	21	Pass
NVNT	1-DH5	2480	Ant1	0.52	21	Pass
NVNT	2-DH5	2402	Ant1	-0.06	21	Pass
NVNT	2-DH5	2441	Ant1	0.21	21	Pass
NVNT	2-DH5	2480	Ant1	0.27	21	Pass
NVNT	3-DH5	2402	Ant1	0.06	21	Pass
NVNT	3-DH5	2441	Ant1	0.3	21	Pass
NVNT	3-DH5	2480	Ant1	0.35	21	Pass



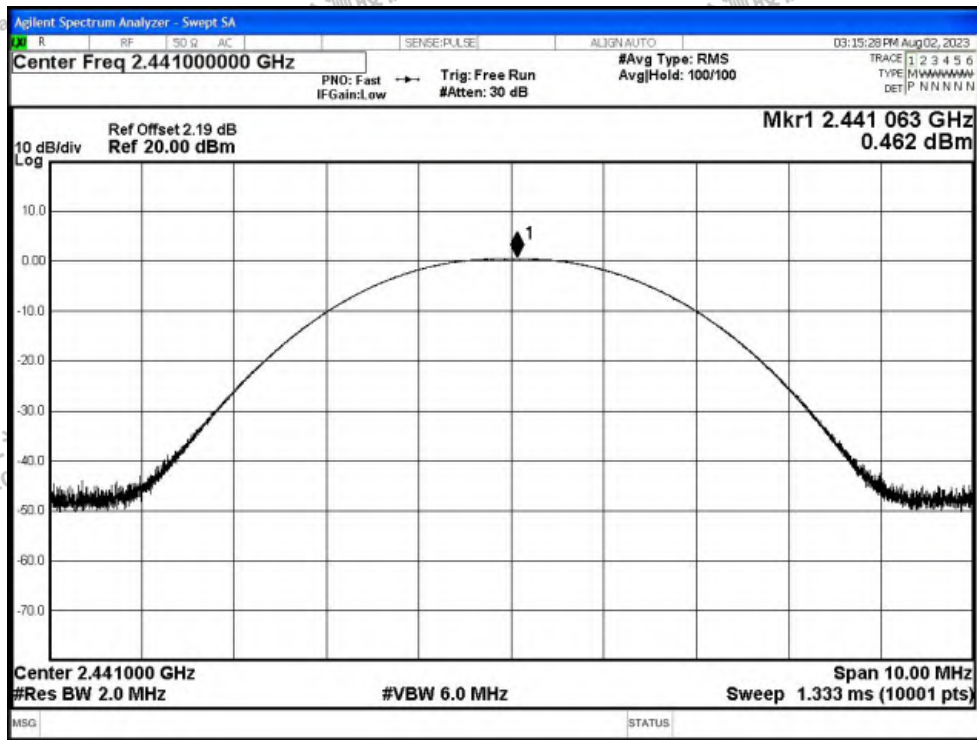


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

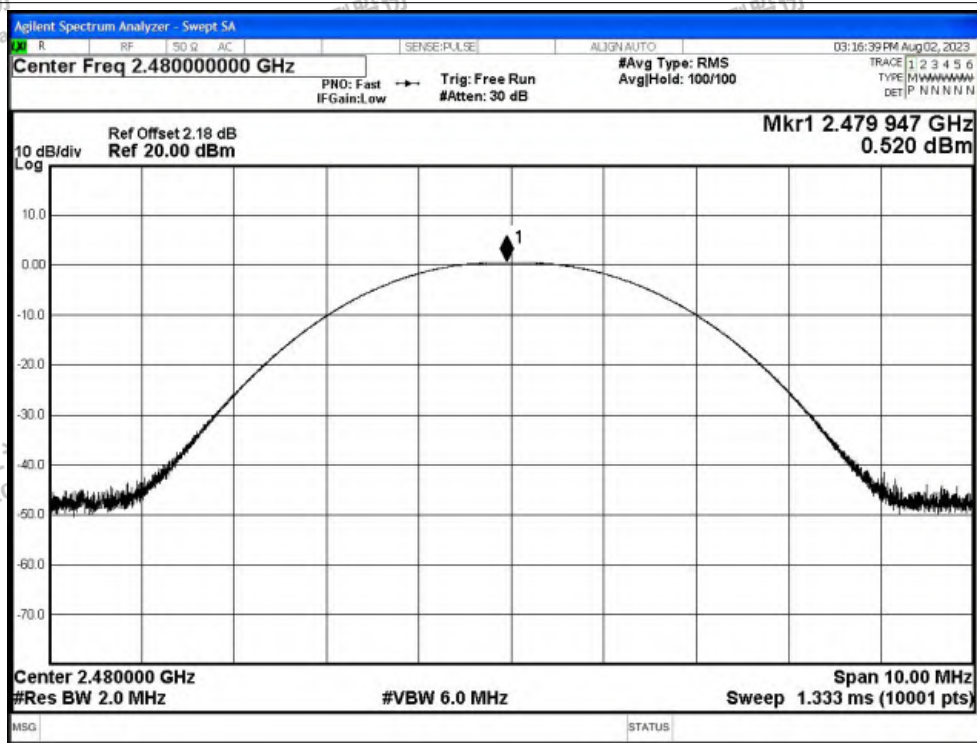


Power NVNT 1-DH5 2441MHz Ant1

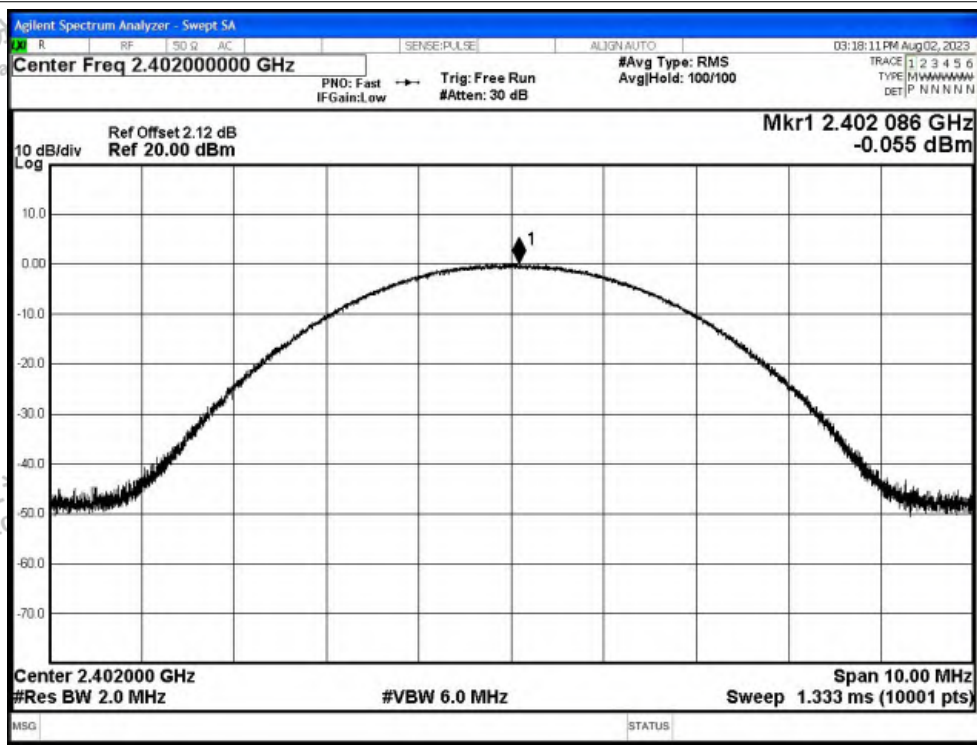




Power NVNT 1-DH5 2480MHz Ant1

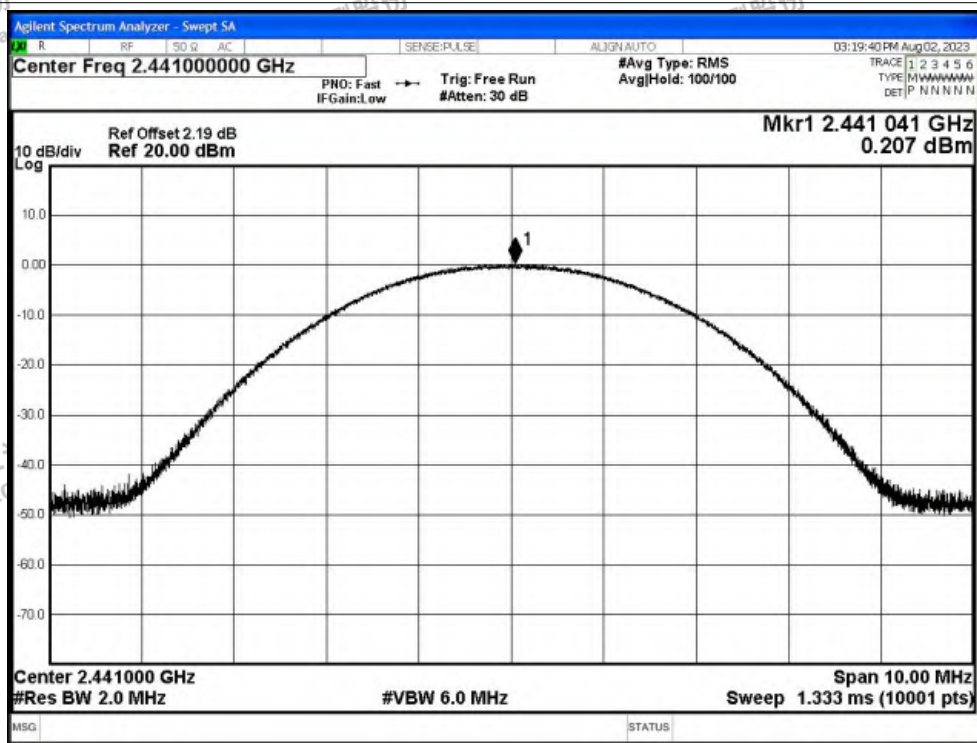


Power NVNT 2-DH5 2402MHz Ant1

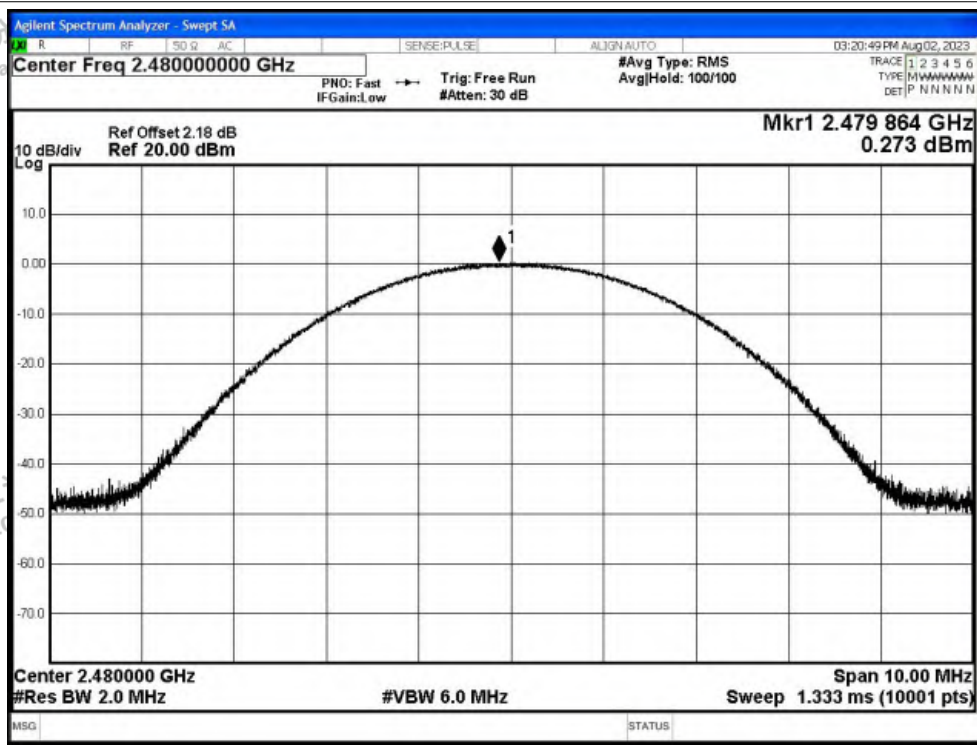




Power NVNT 2-DH5 2441MHz Ant1

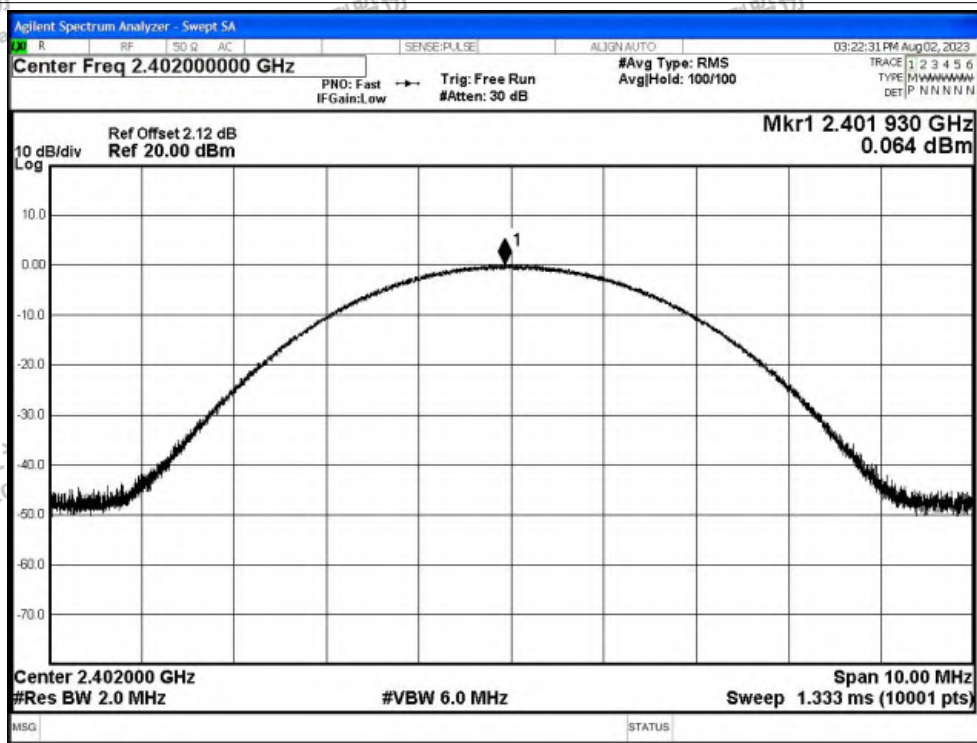


Power NVNT 2-DH5 2480MHz Ant1

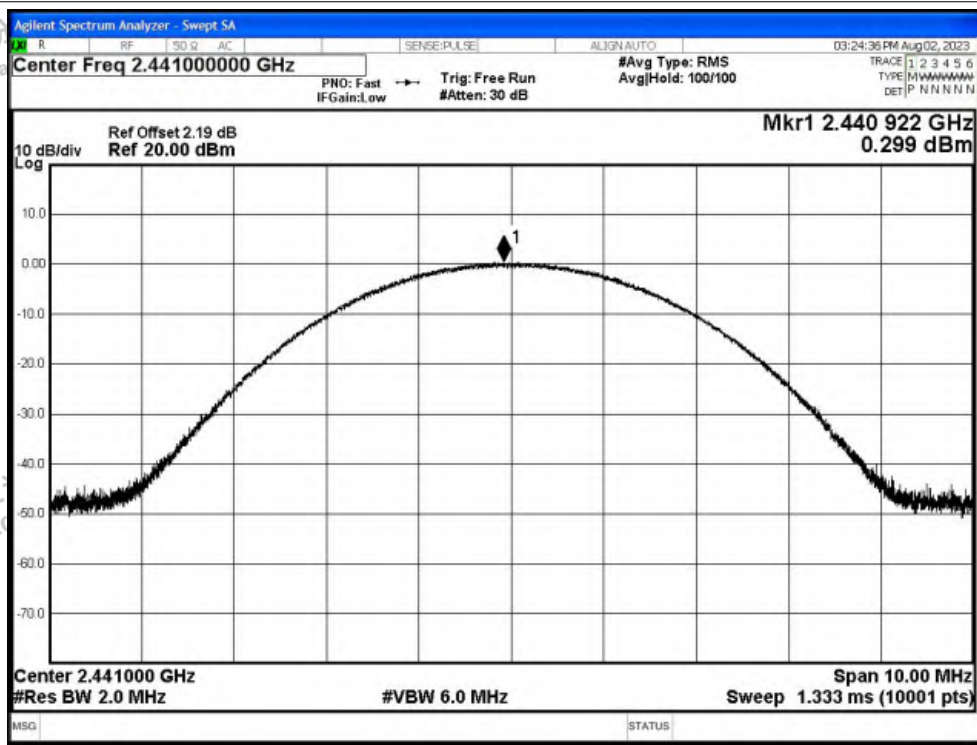




Power NVNT 3-DH5 2402MHz Ant1

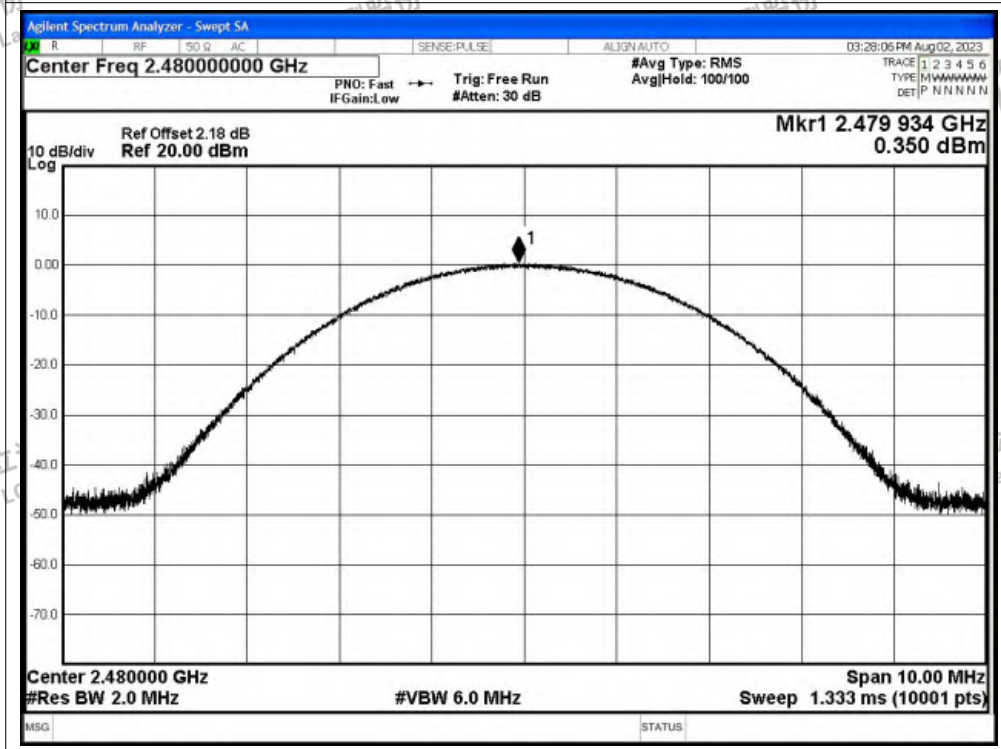


Power NVNT 3-DH5 2441MHz Ant1





Power NVNT 3-DH5 2480MHz Ant1





A.3 Carrier Frequencies Separation

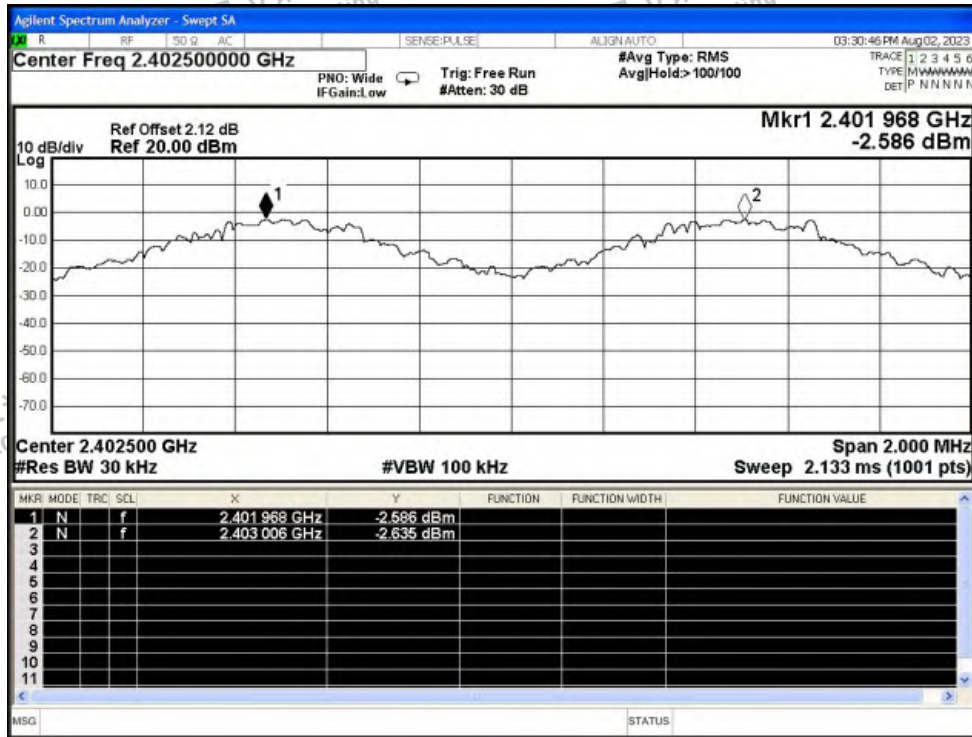
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.968	2403.006	1.038	0.684	Pass
NVNT	2-DH5	Ant1	2401.838	2403.064	1.226	0.874	Pass
NVNT	3-DH5	Ant1	2401.828	2403.16	1.332	0.866	Pass



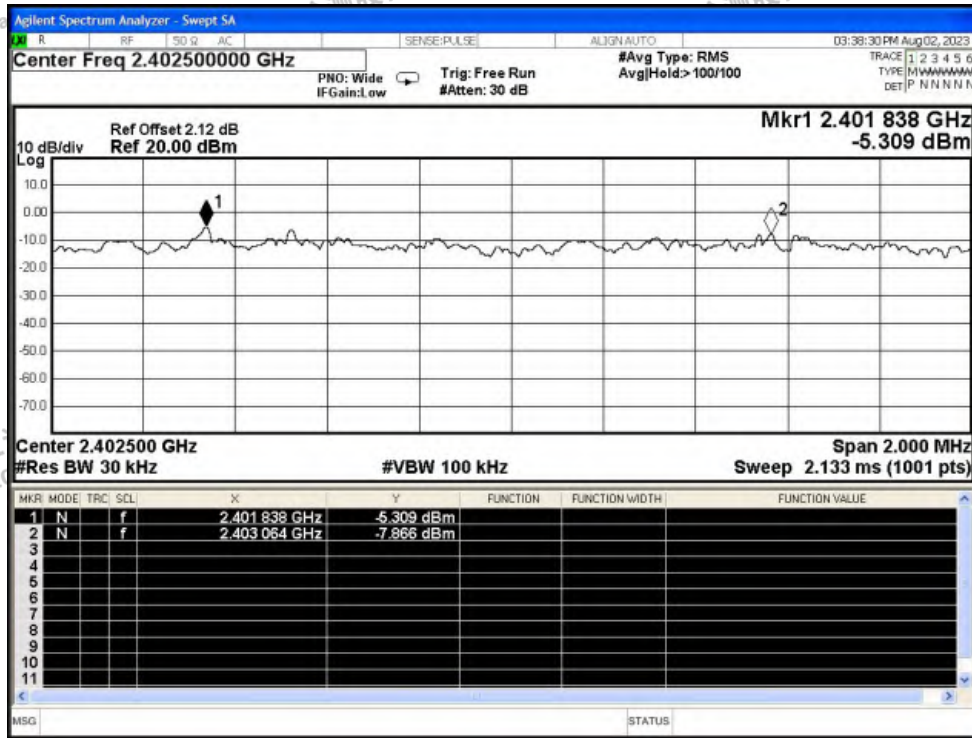


Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1

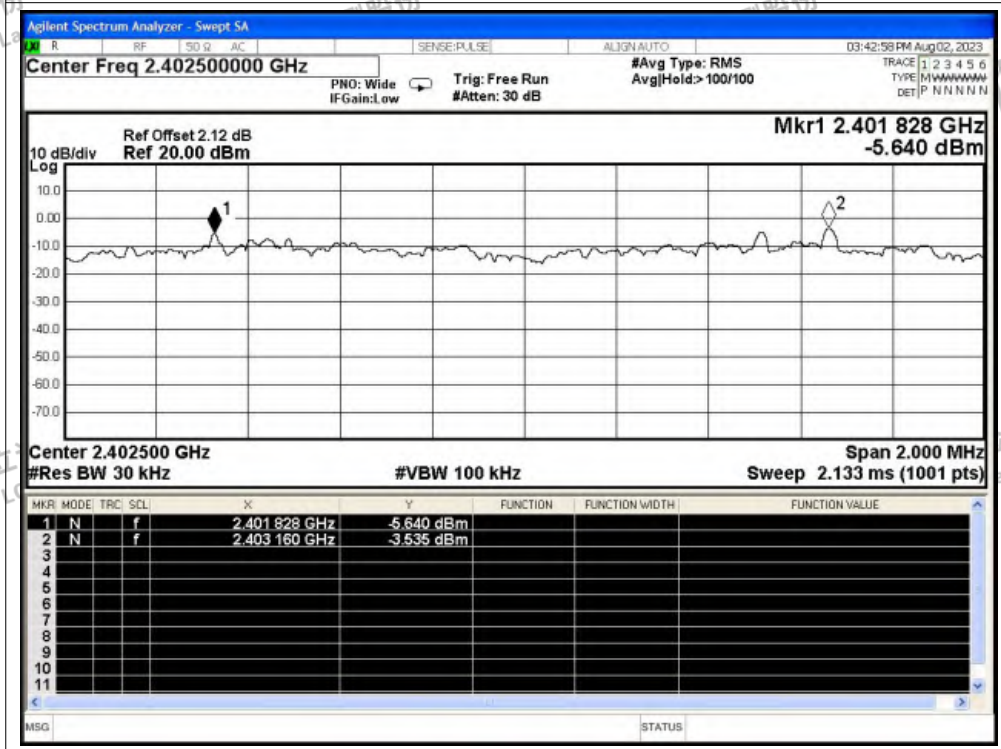


CFS NVNT 2-DH5 2402MHz Ant1





CFS NVNT 3-DH5 2402MHz Ant1





A.4 Dwell Time

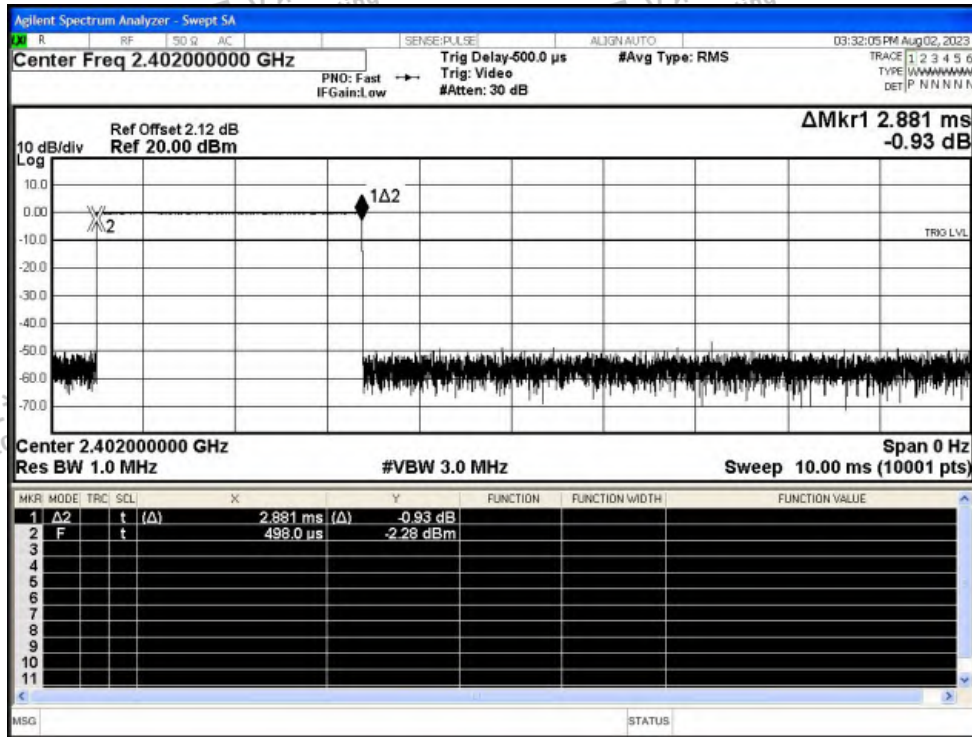
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.881	302.505	105	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.88	293.76	102	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.887	297.361	103	31600	400	Pass



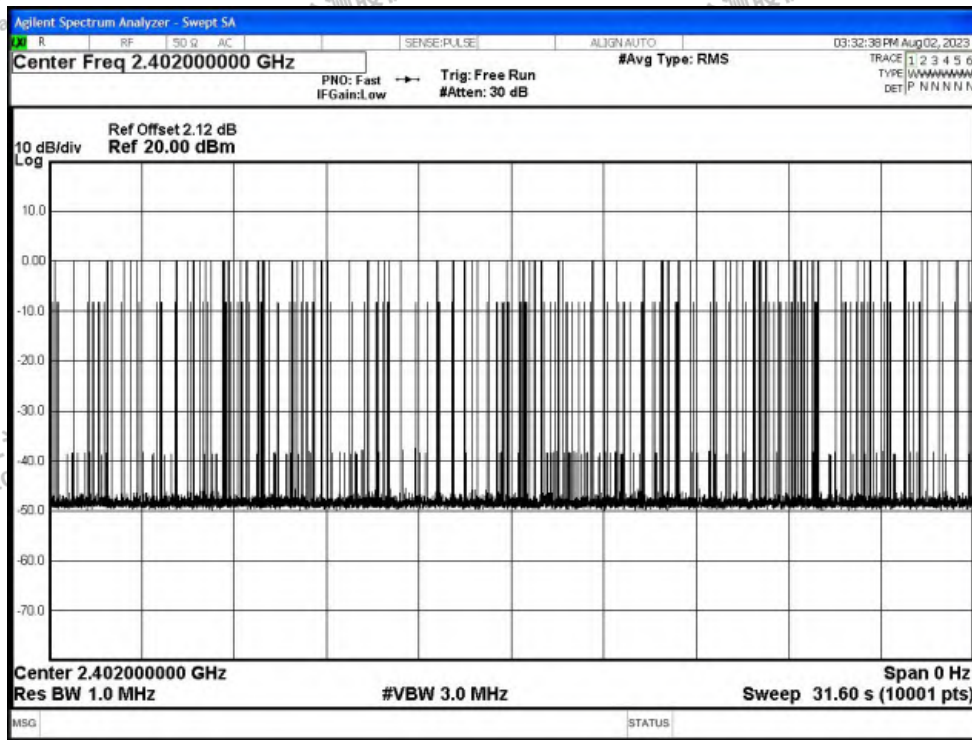


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

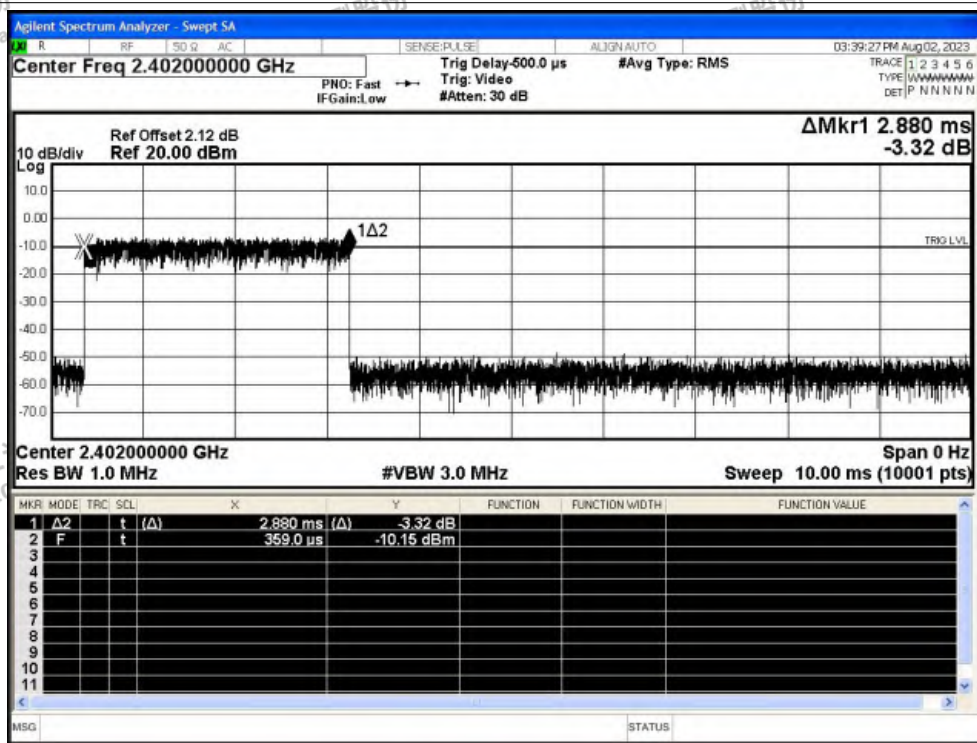


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

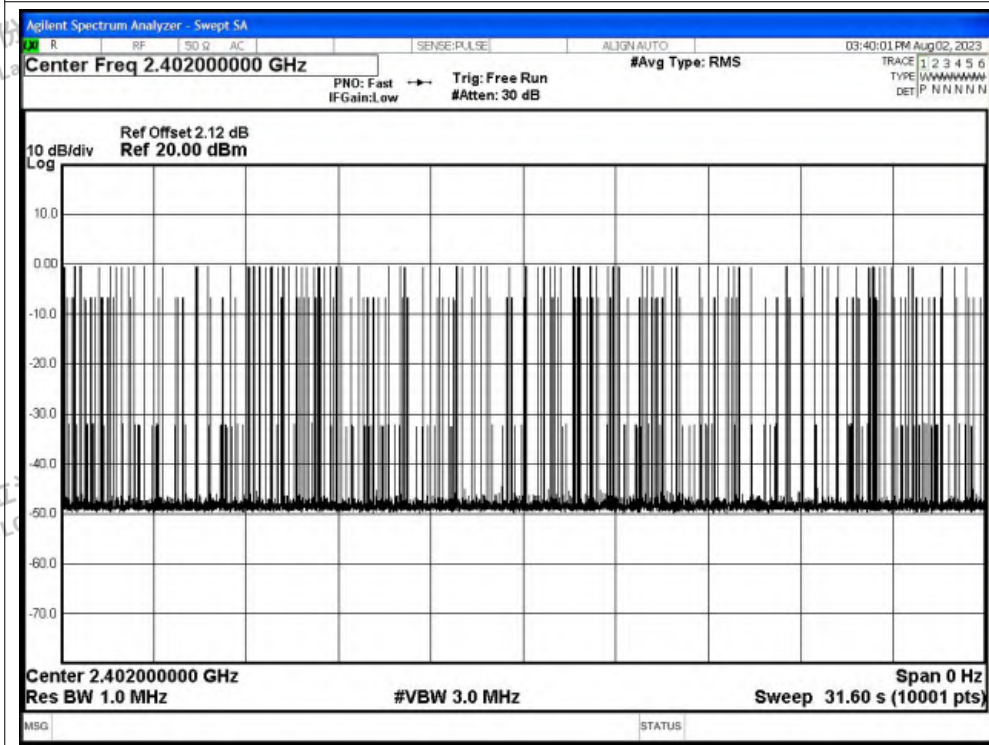




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst

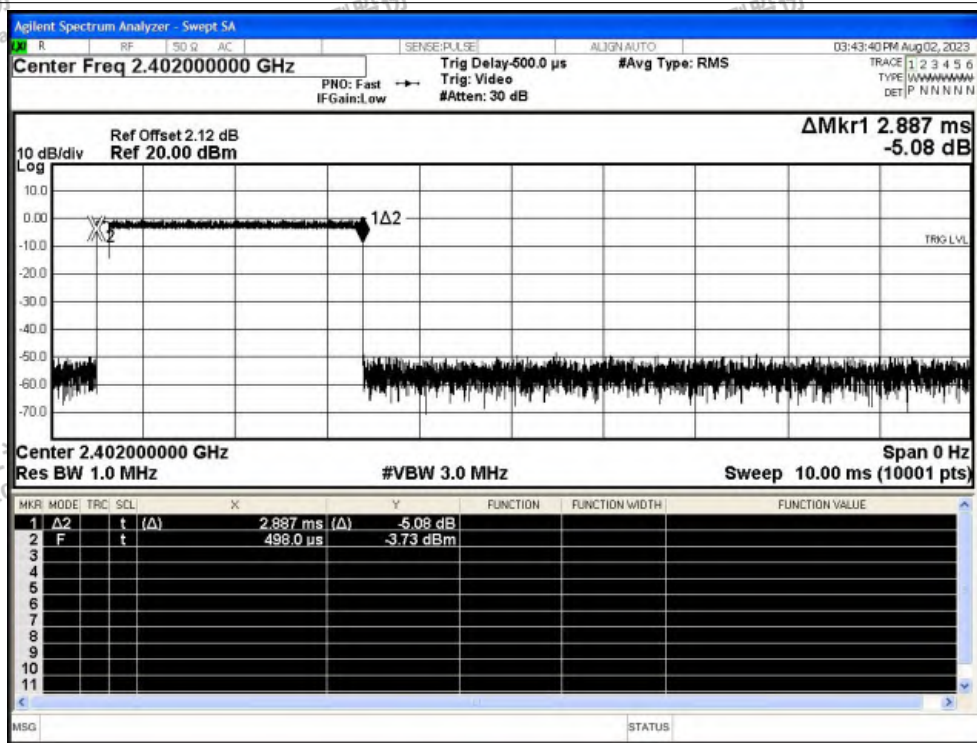


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

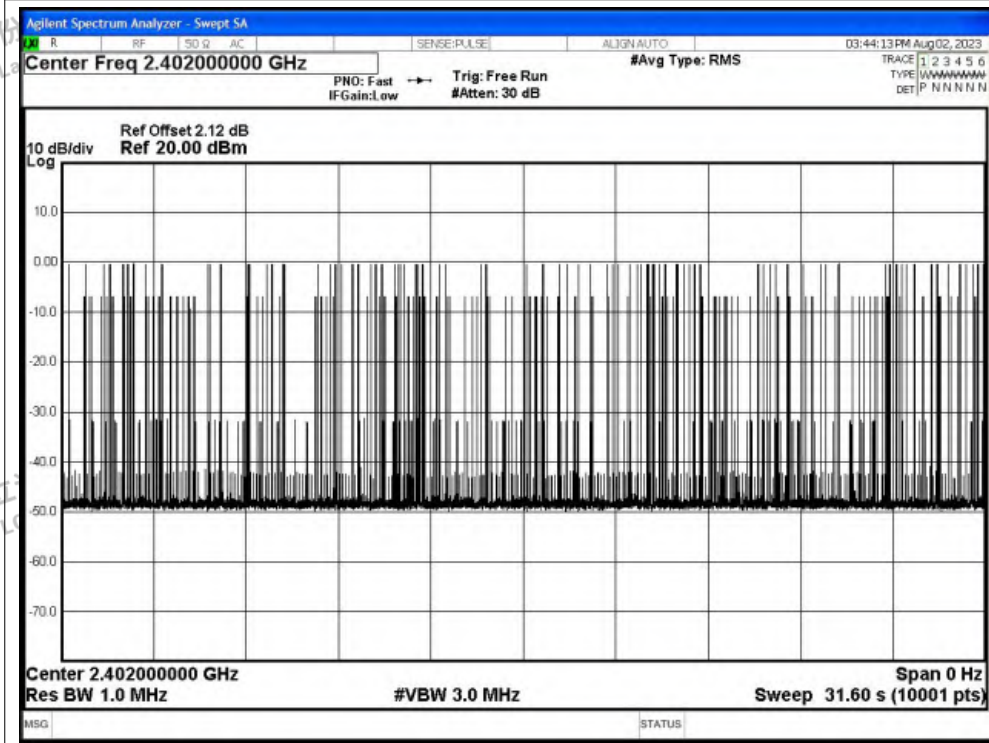




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated





A.5 Number of Hopping Channel

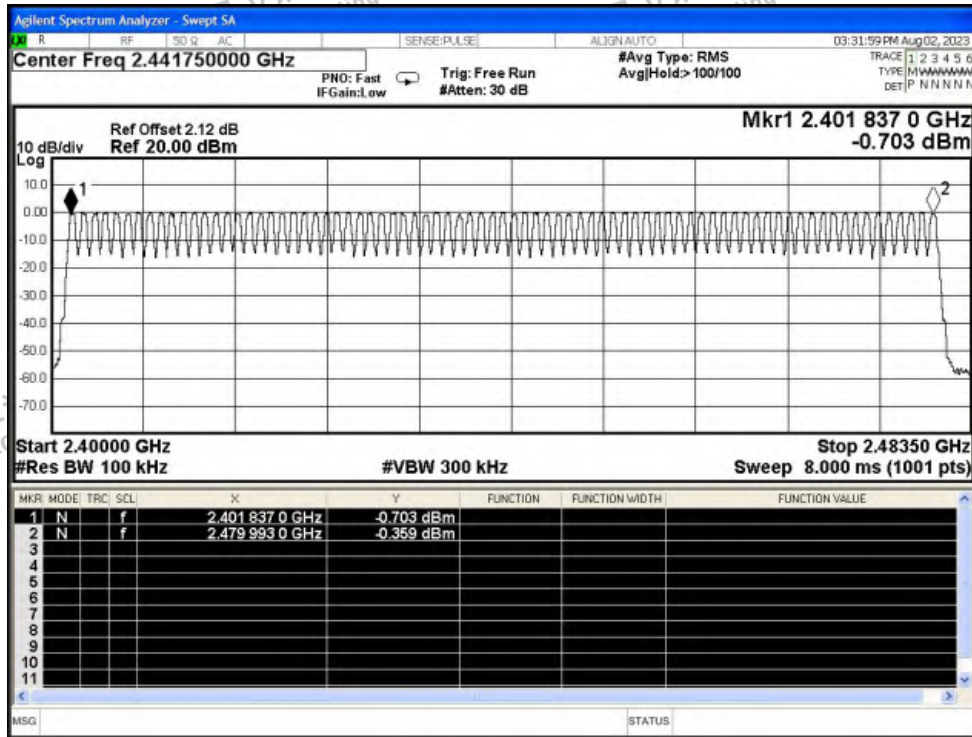
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



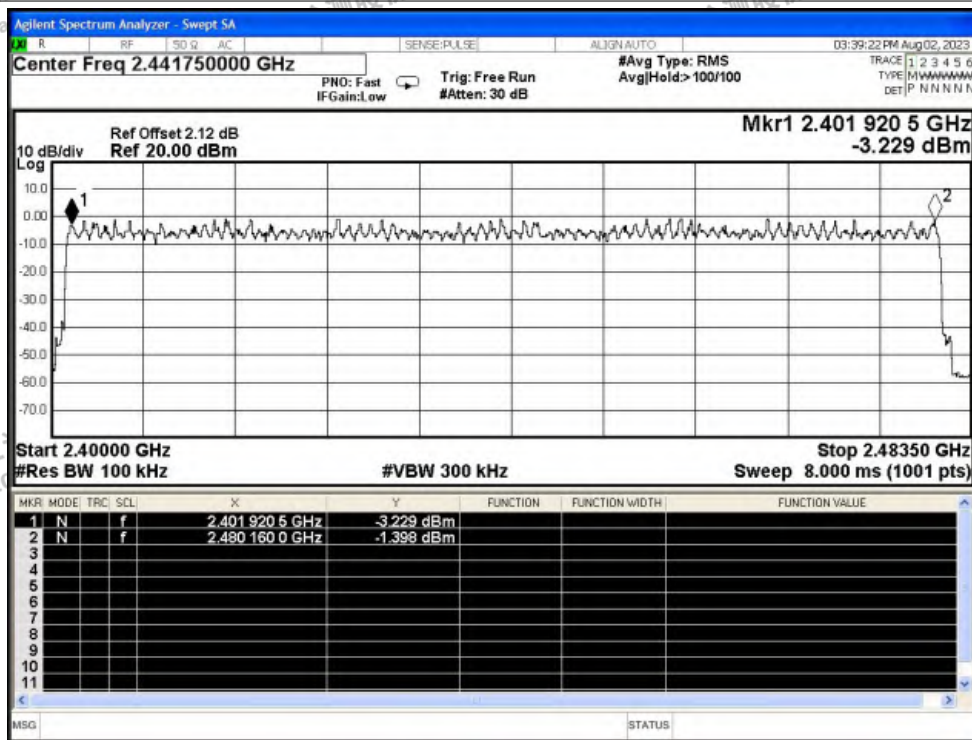


Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1

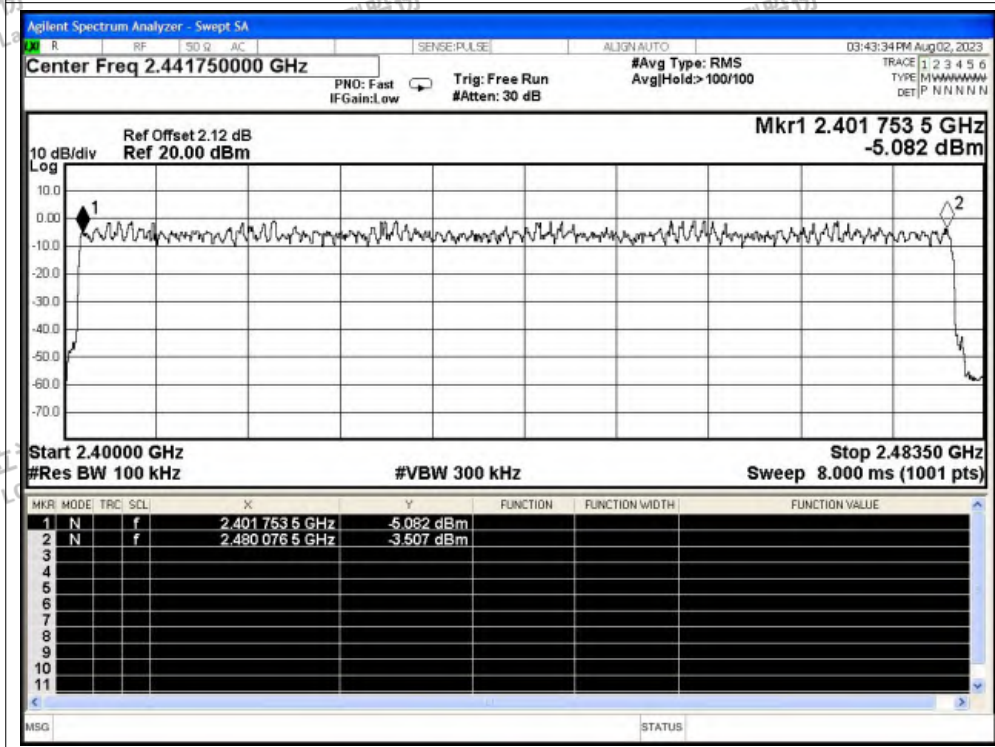


Hopping No. NVNT 2-DH5 2402MHz Ant1





Hopping No. NVNT 3-DH5 2402MHz Ant1





A.6 Band Edge

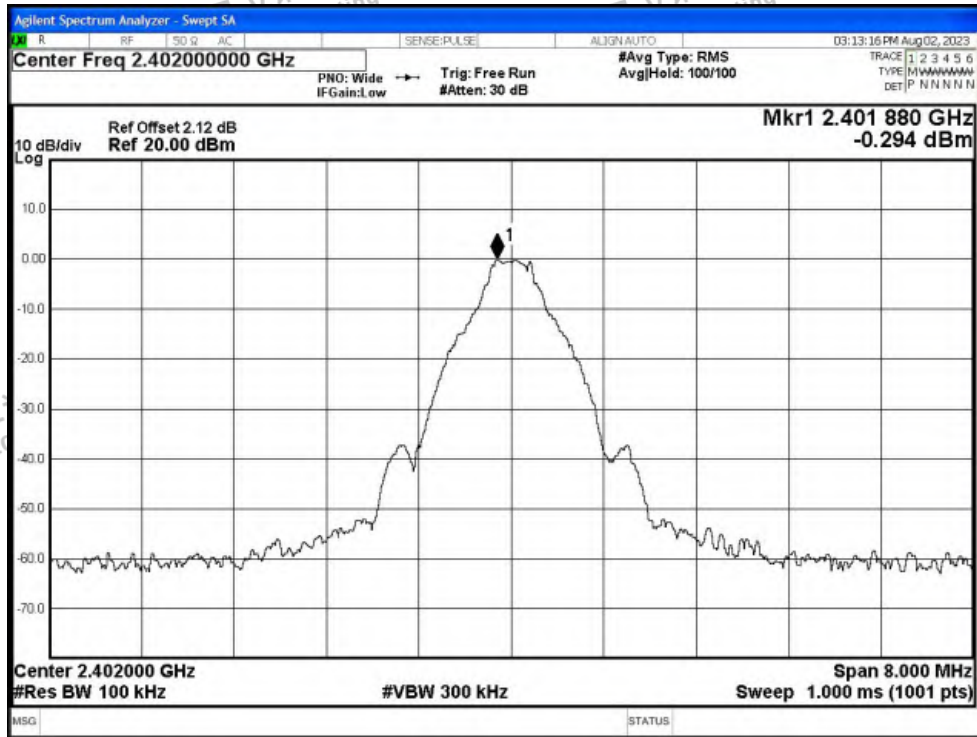
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-56.95	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-56.38	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-53.15	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-56.49	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-55.93	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-55.7	-20	Pass



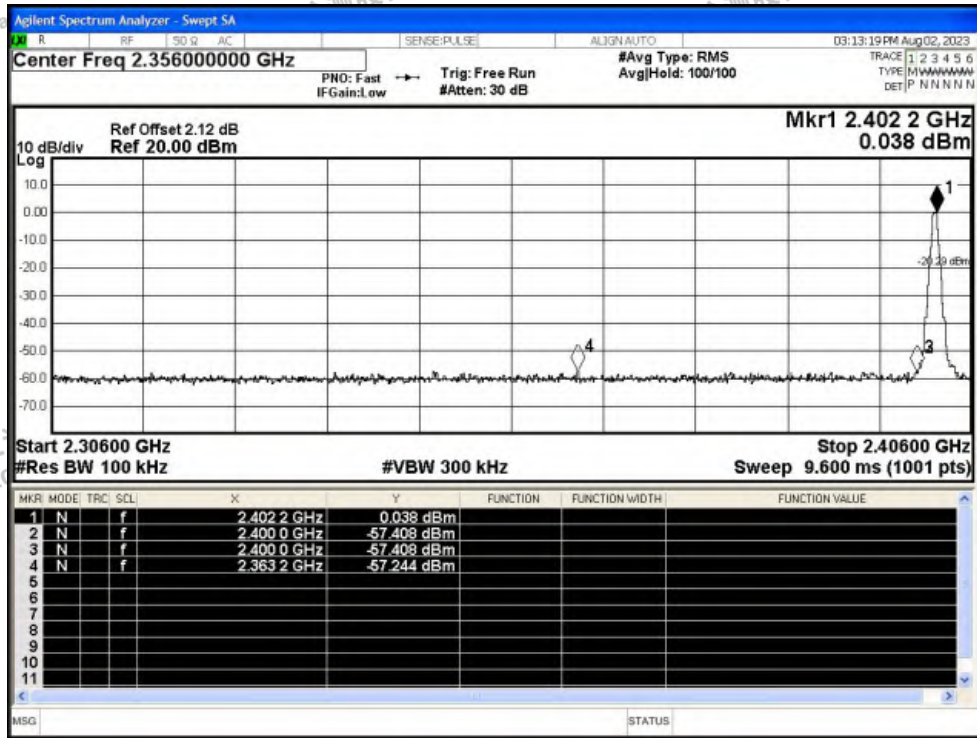


Test Graphs

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

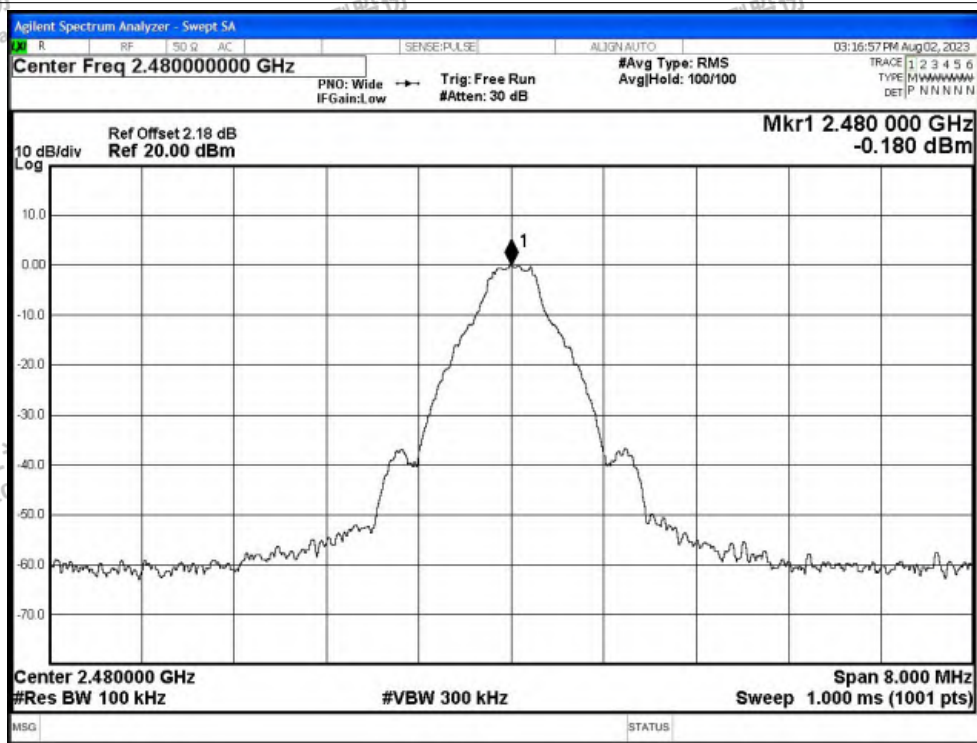


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

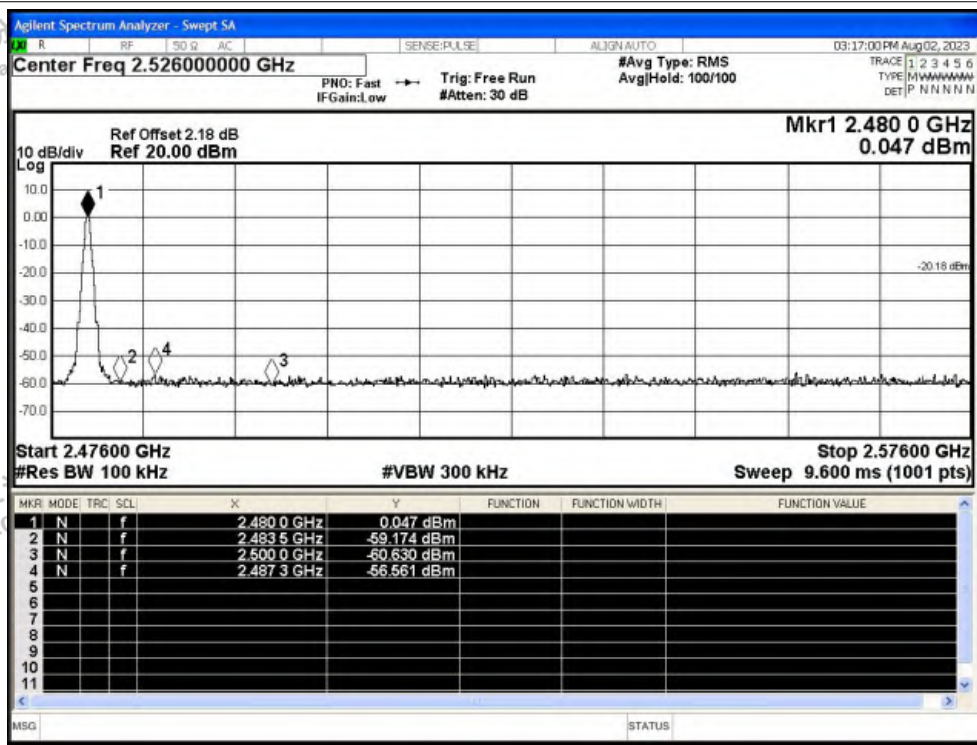




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

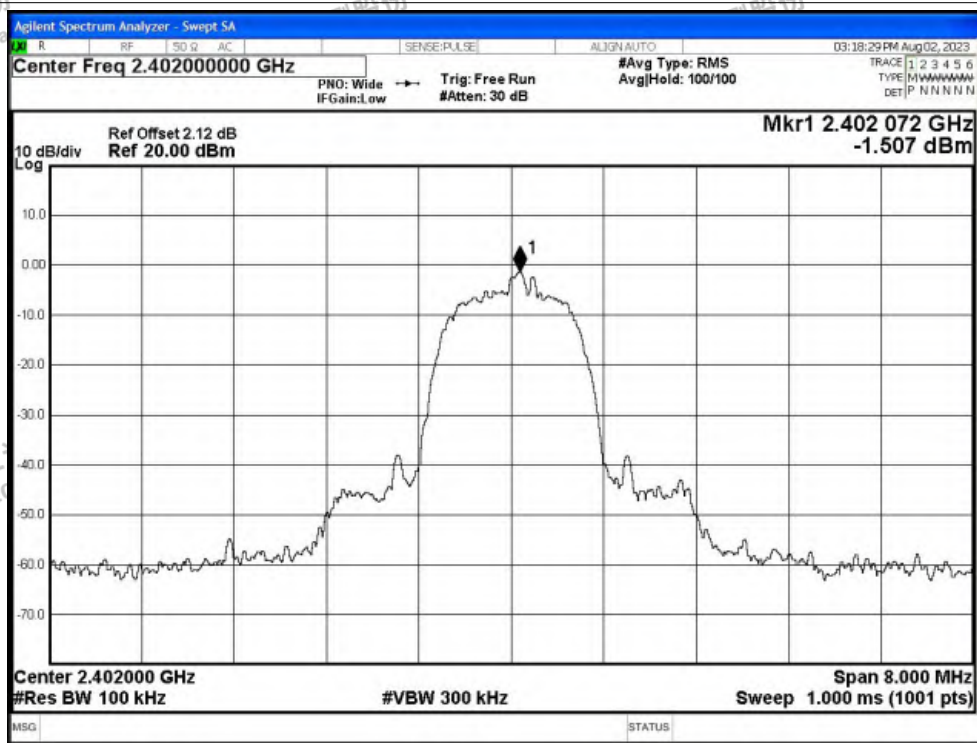


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

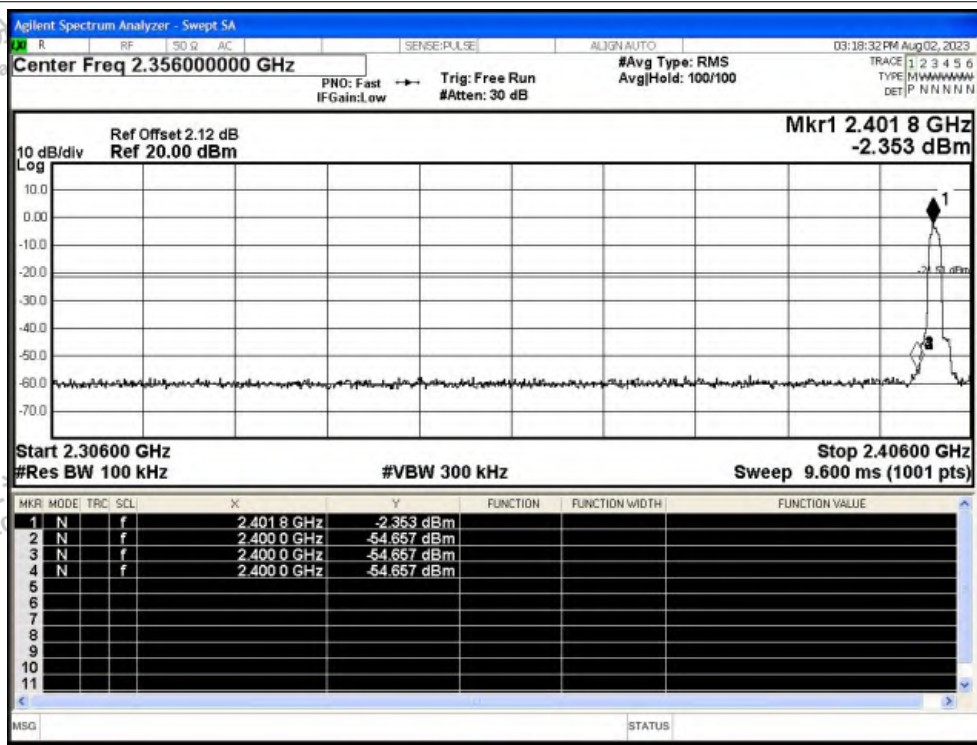




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

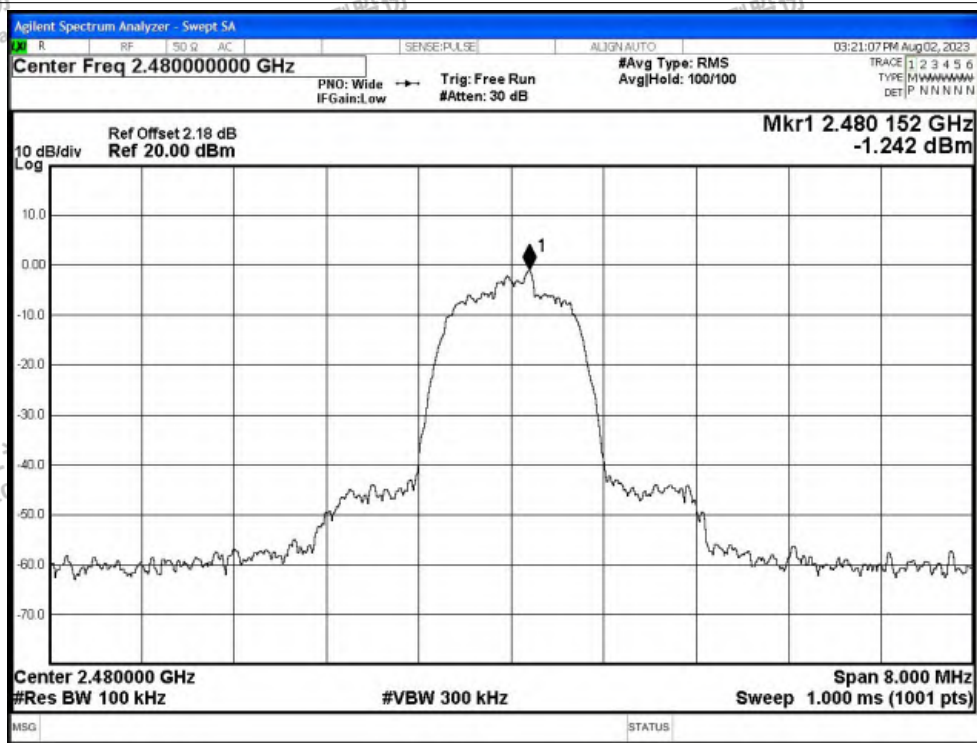


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

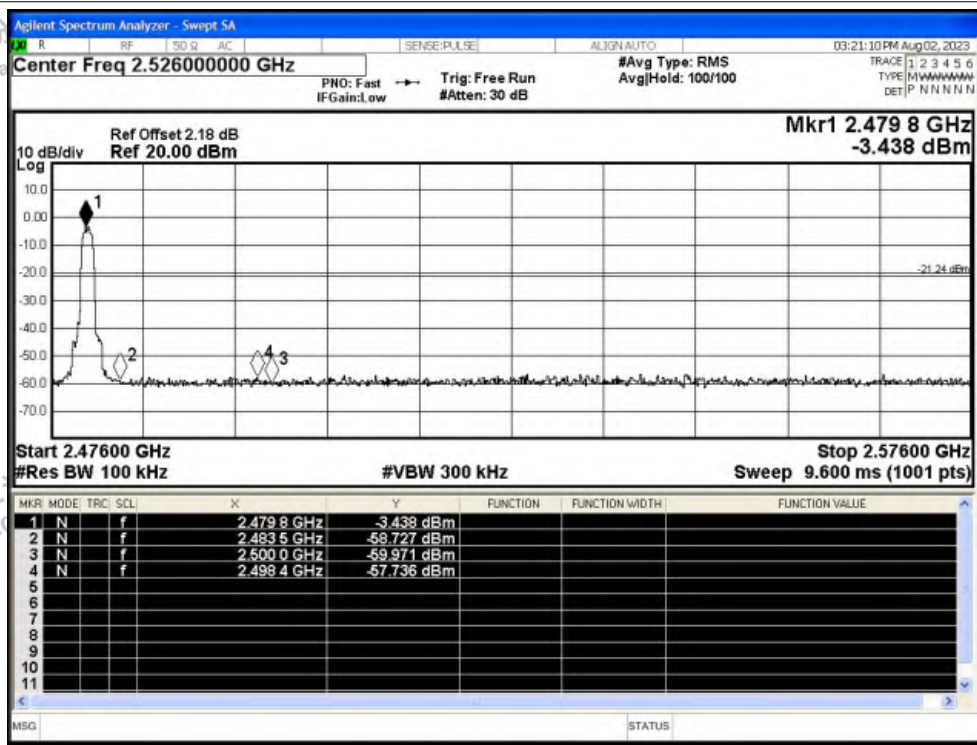




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

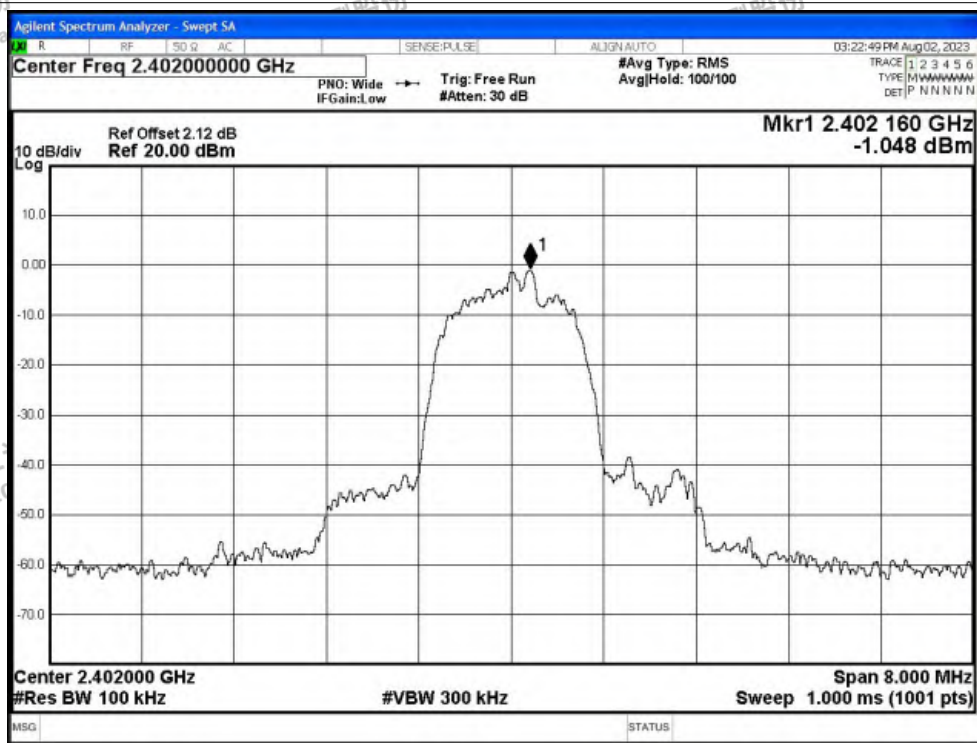


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

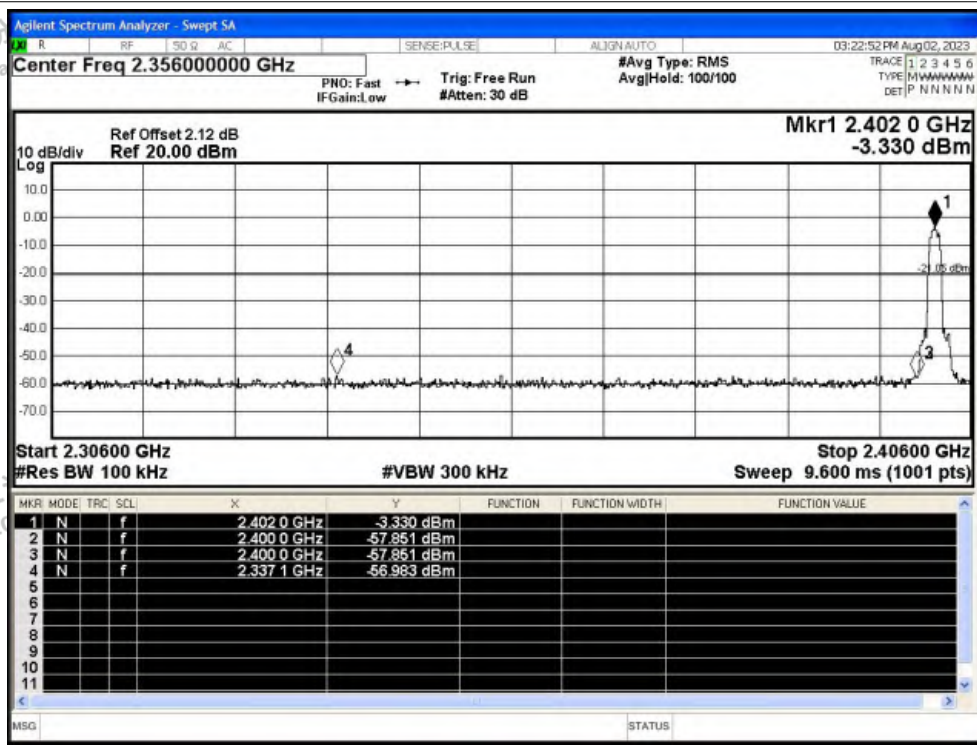




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

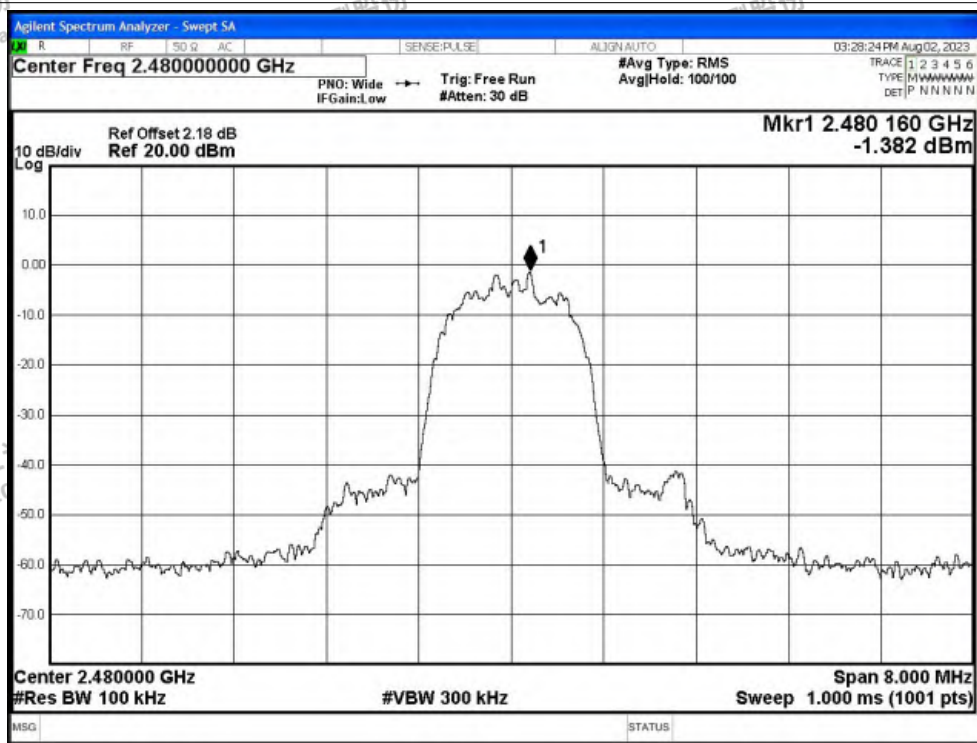


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

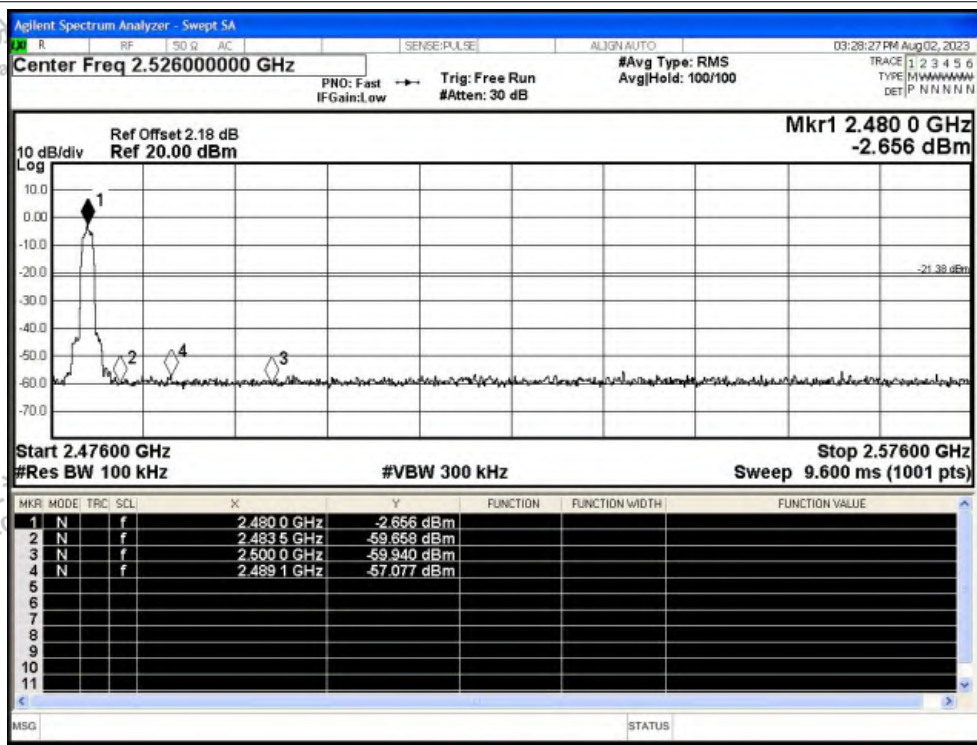




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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





(Hopping)

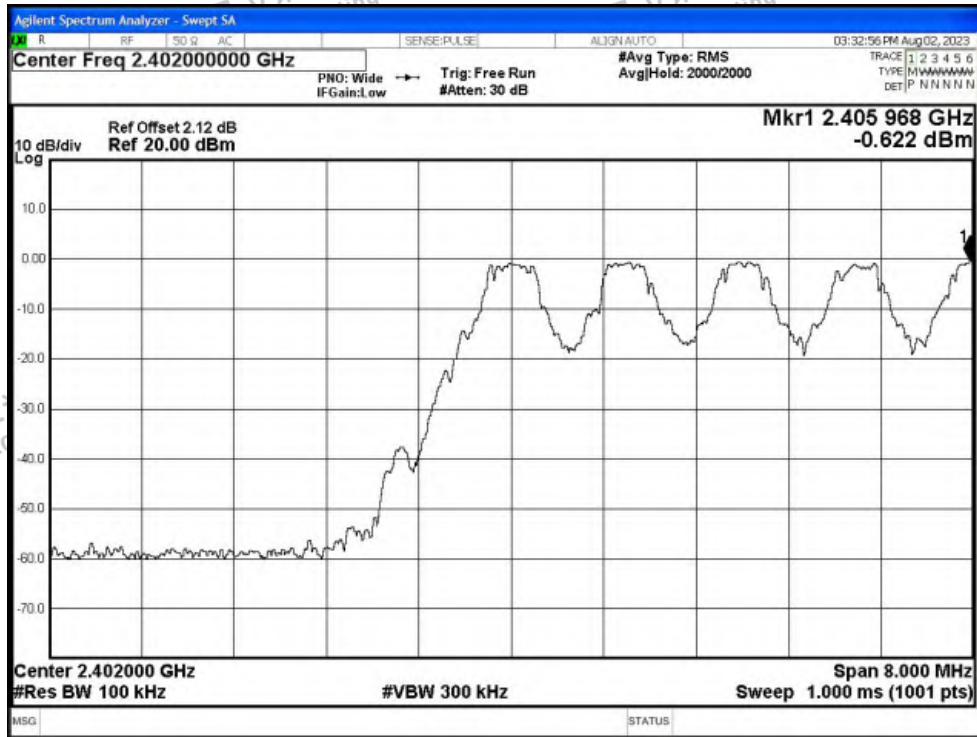
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-55.21	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-56.3	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-54.78	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-53.42	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-54.07	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-52.9	-20	Pass



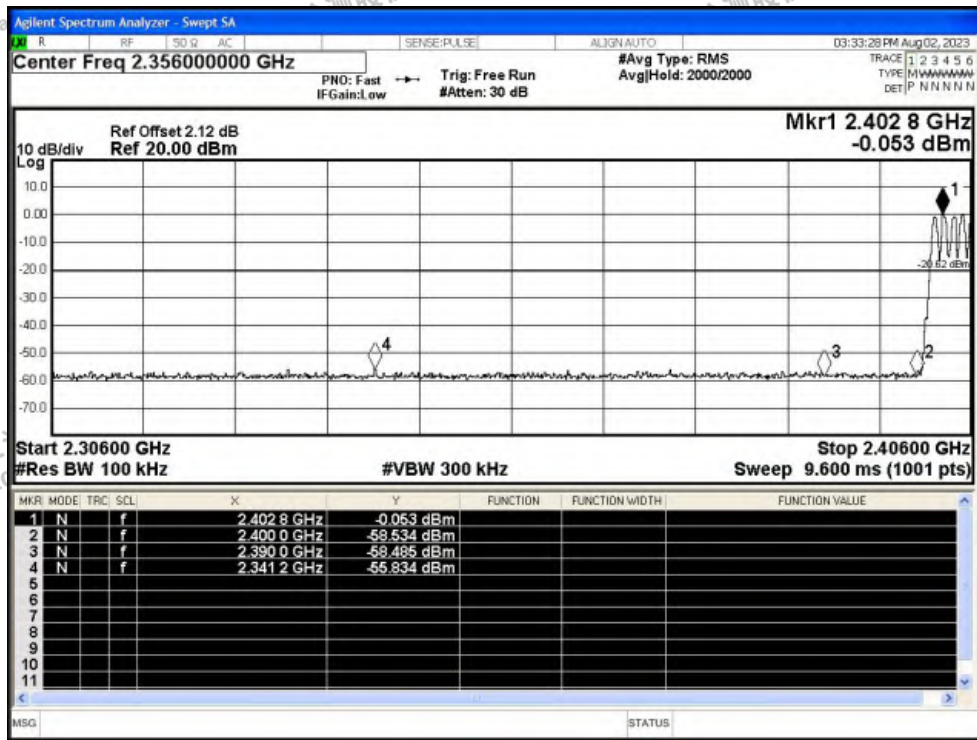


Test Graphs

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

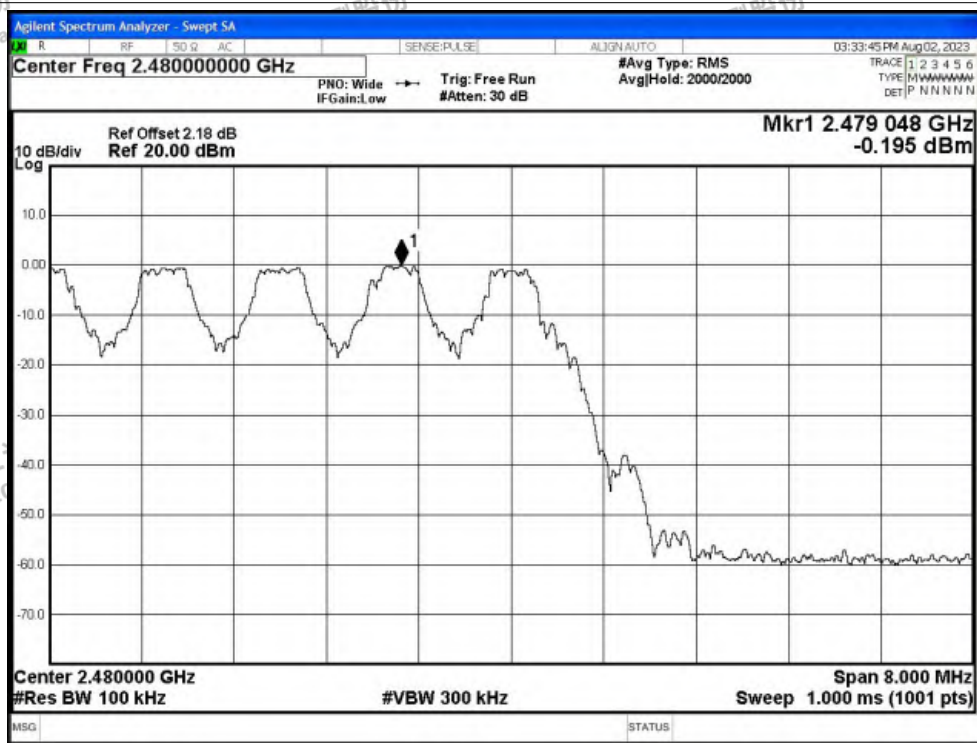


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

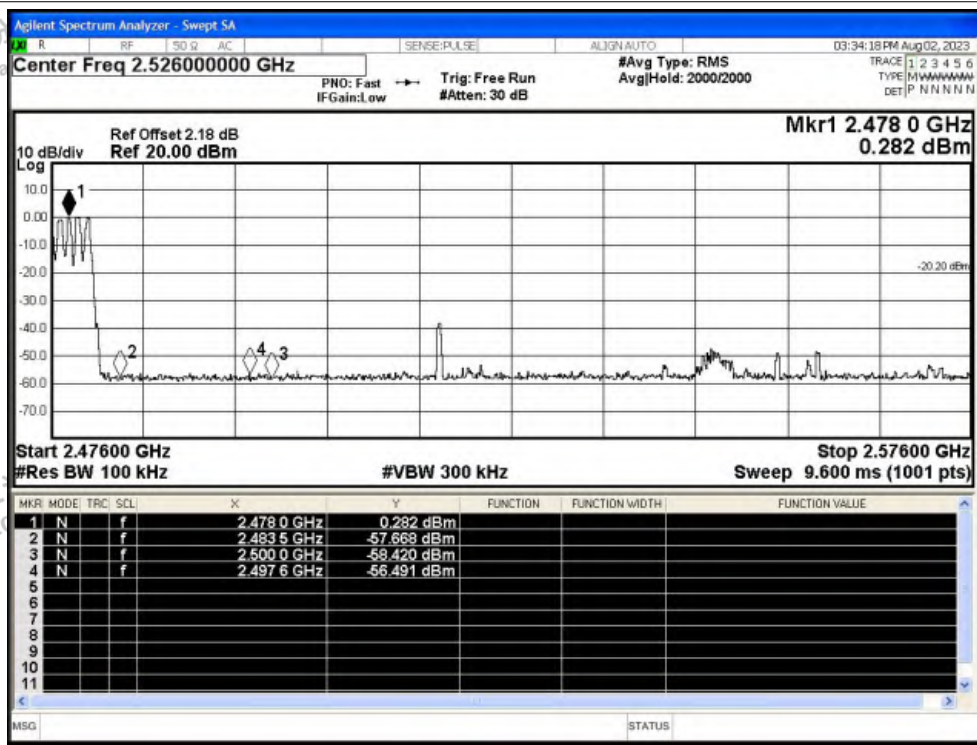




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission

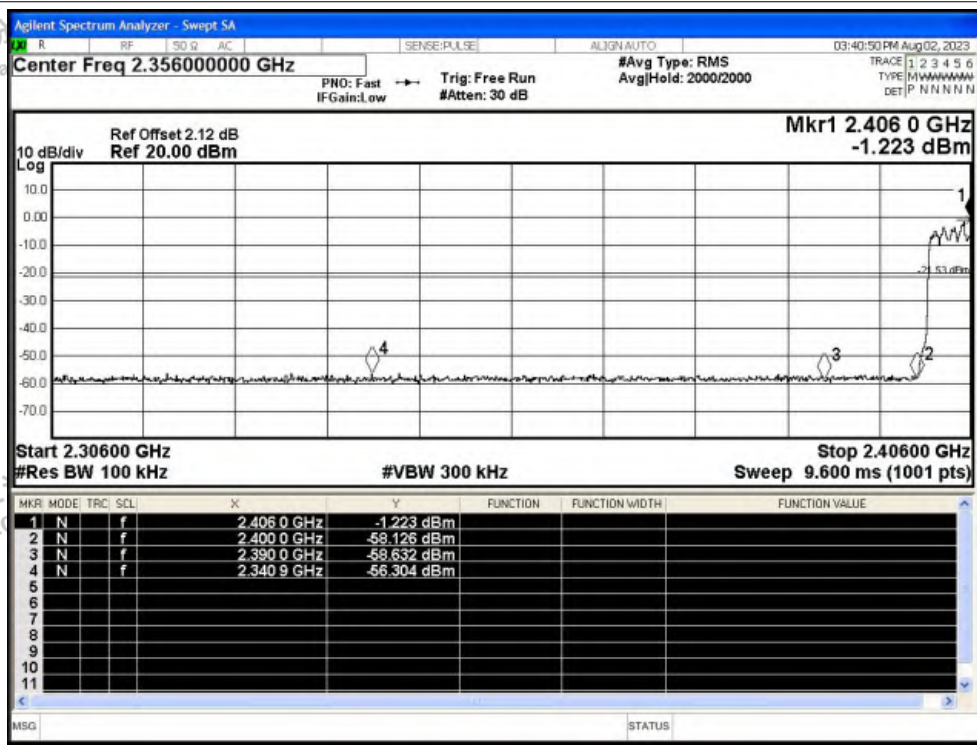




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

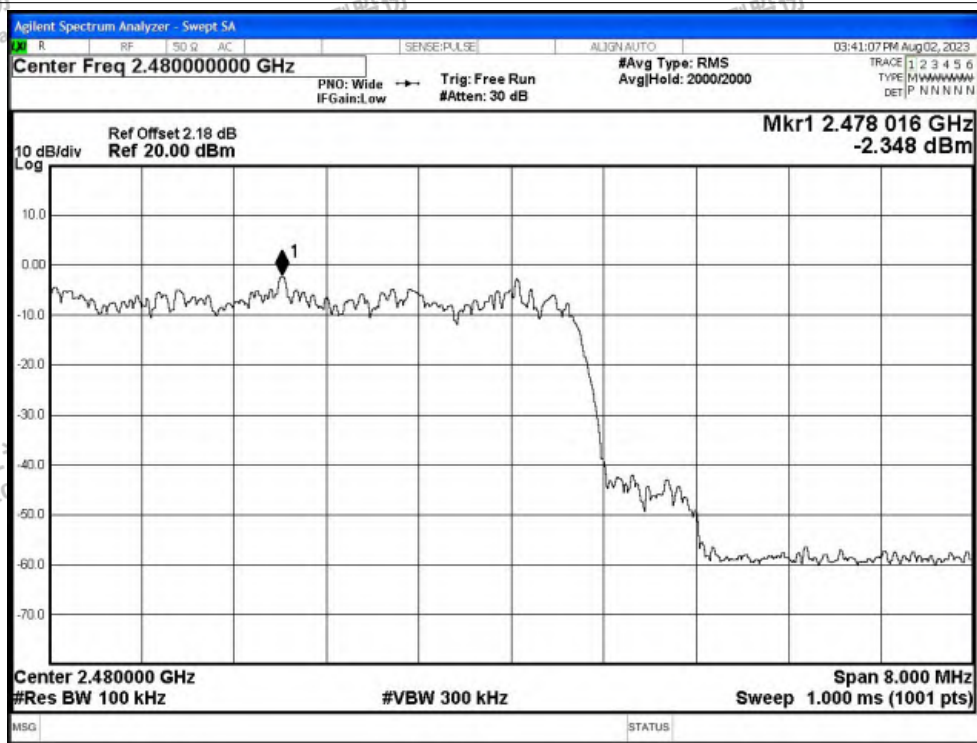


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

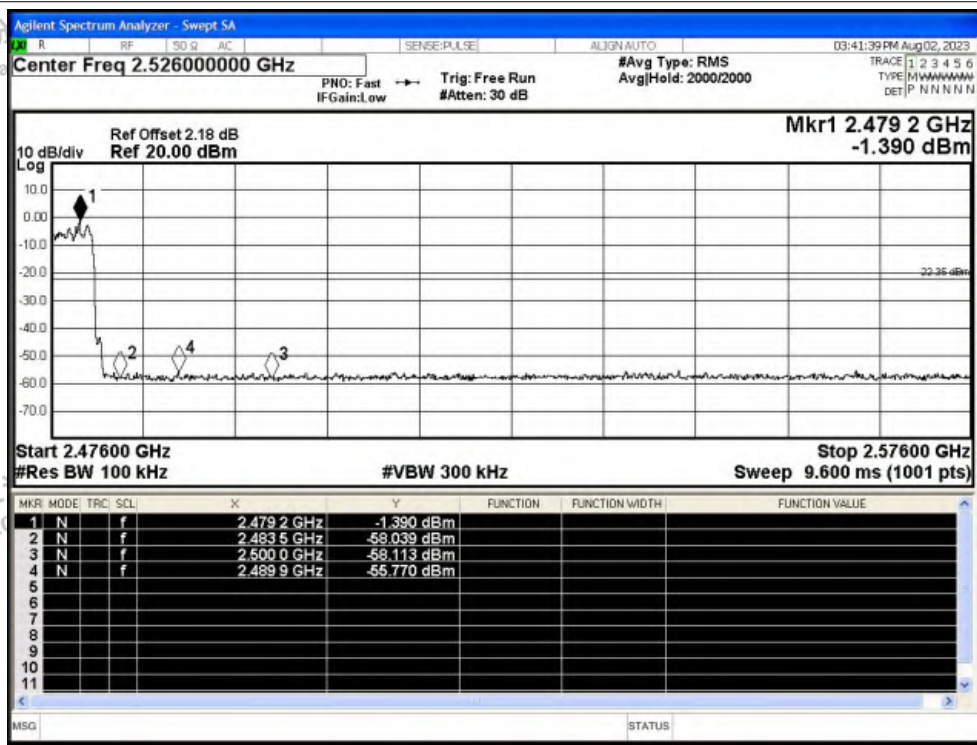




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



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

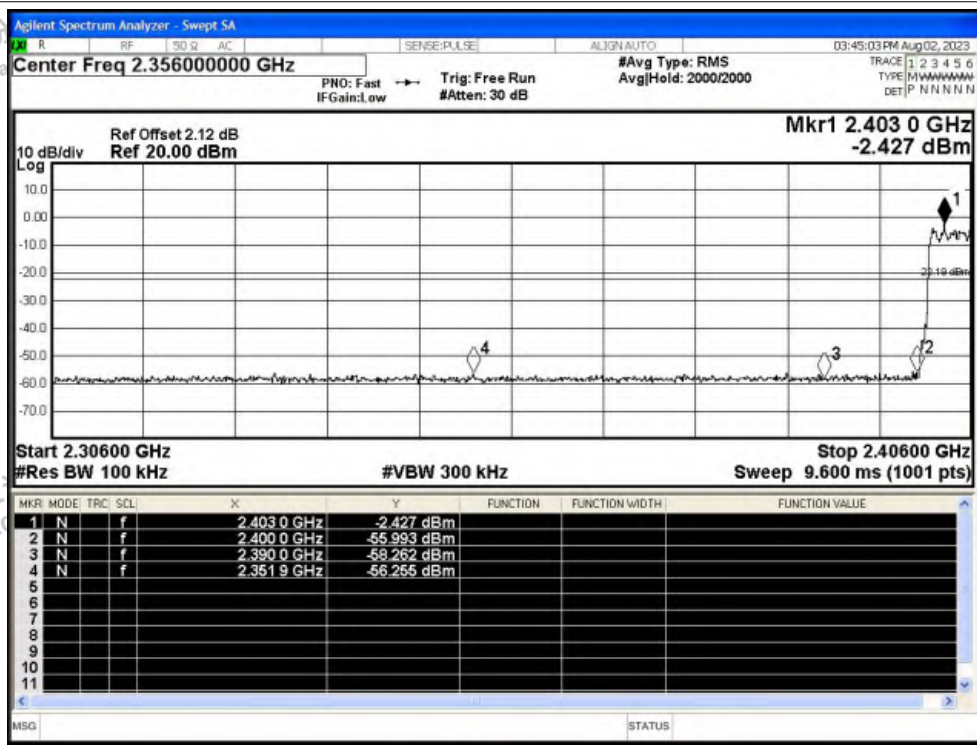




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

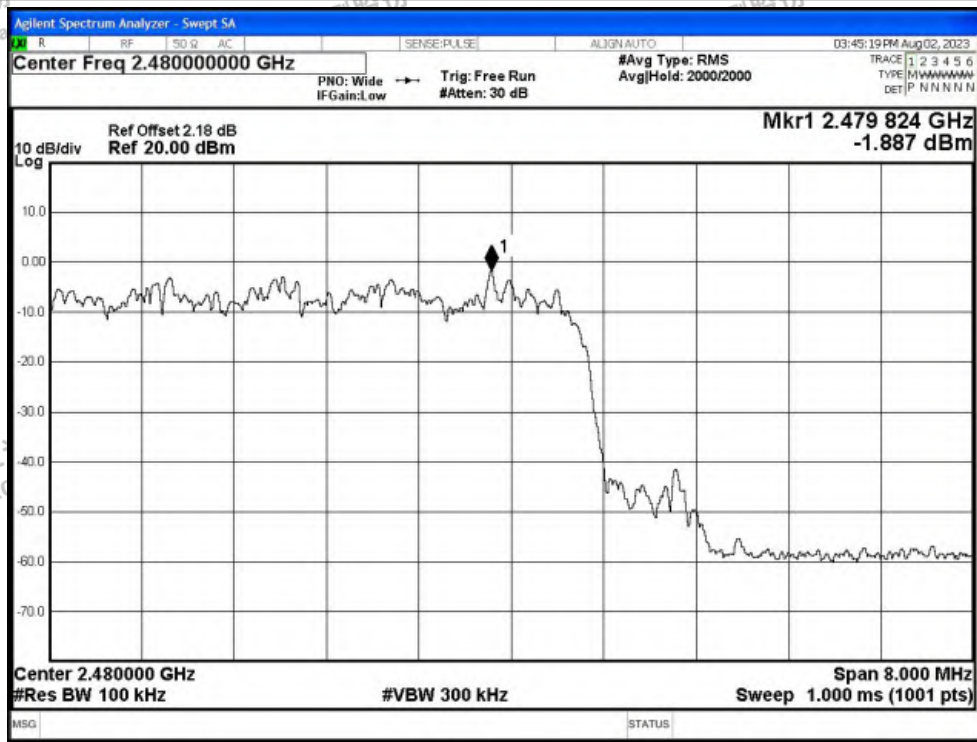


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission

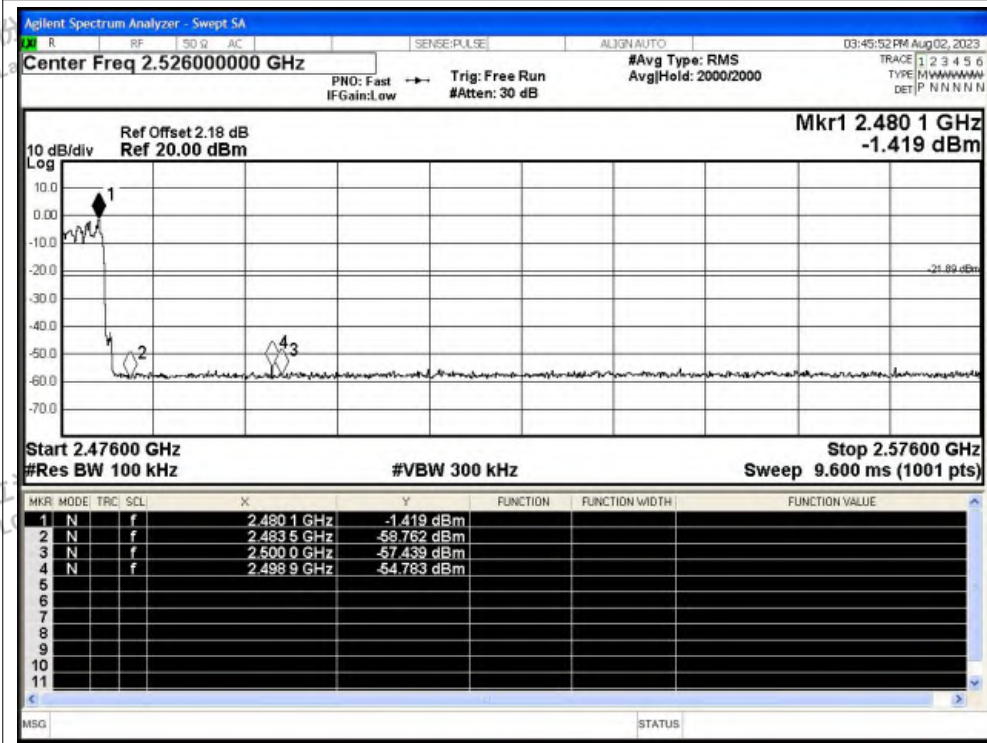




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



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





A.7 Conducted RF Spurious Emission

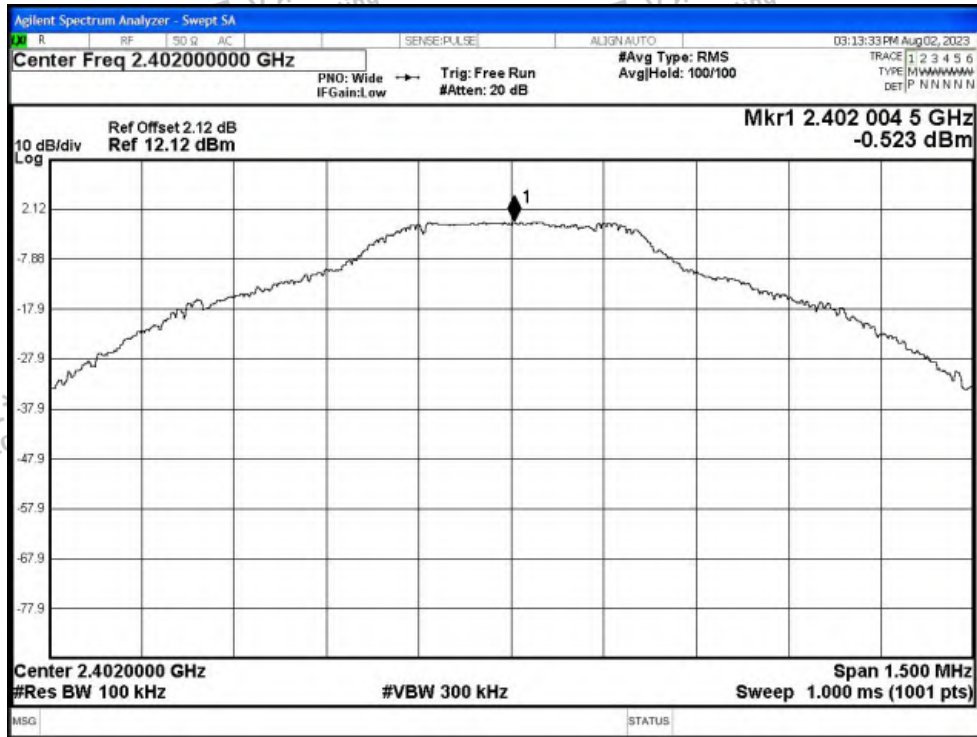
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-47.46	-20	Pass
NVNT	1-DH5	2441	Ant1	-54.57	-20	Pass
NVNT	1-DH5	2480	Ant1	-53.32	-20	Pass
NVNT	2-DH5	2402	Ant1	-53.95	-20	Pass
NVNT	2-DH5	2441	Ant1	-51.81	-20	Pass
NVNT	2-DH5	2480	Ant1	-51.79	-20	Pass
NVNT	3-DH5	2402	Ant1	-54.07	-20	Pass
NVNT	3-DH5	2441	Ant1	-54.78	-20	Pass
NVNT	3-DH5	2480	Ant1	-53.8	-20	Pass



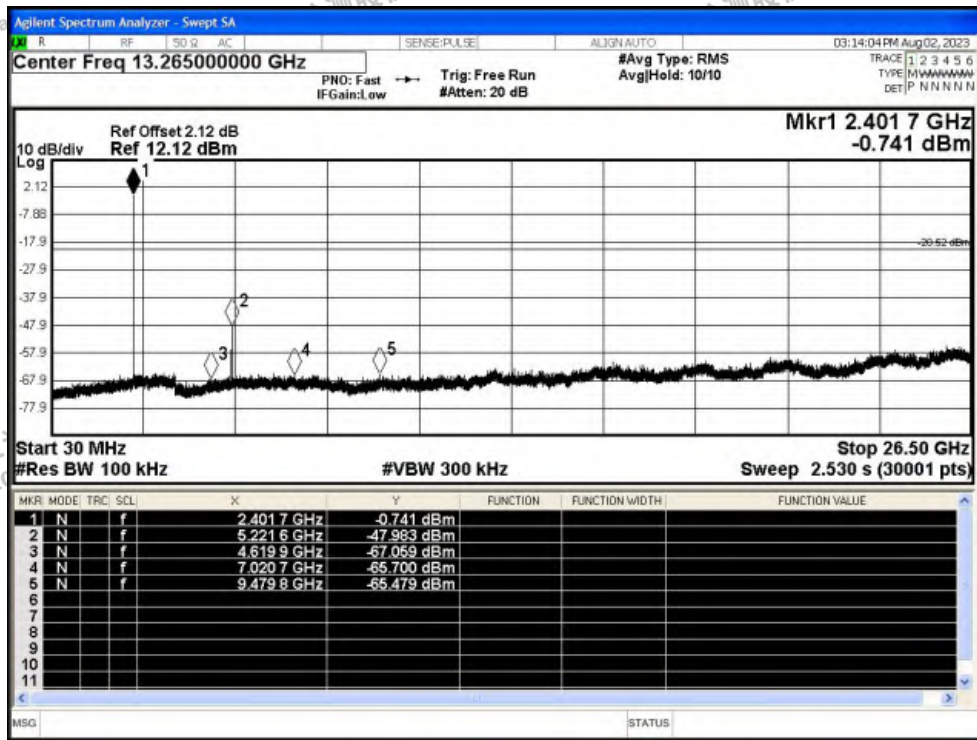


Test Graphs

Tx, Spurious NVNT 1-DH5 2402MHz Ant1 Ref



Tx, Spurious NVNT 1-DH5 2402MHz Ant1 Emission

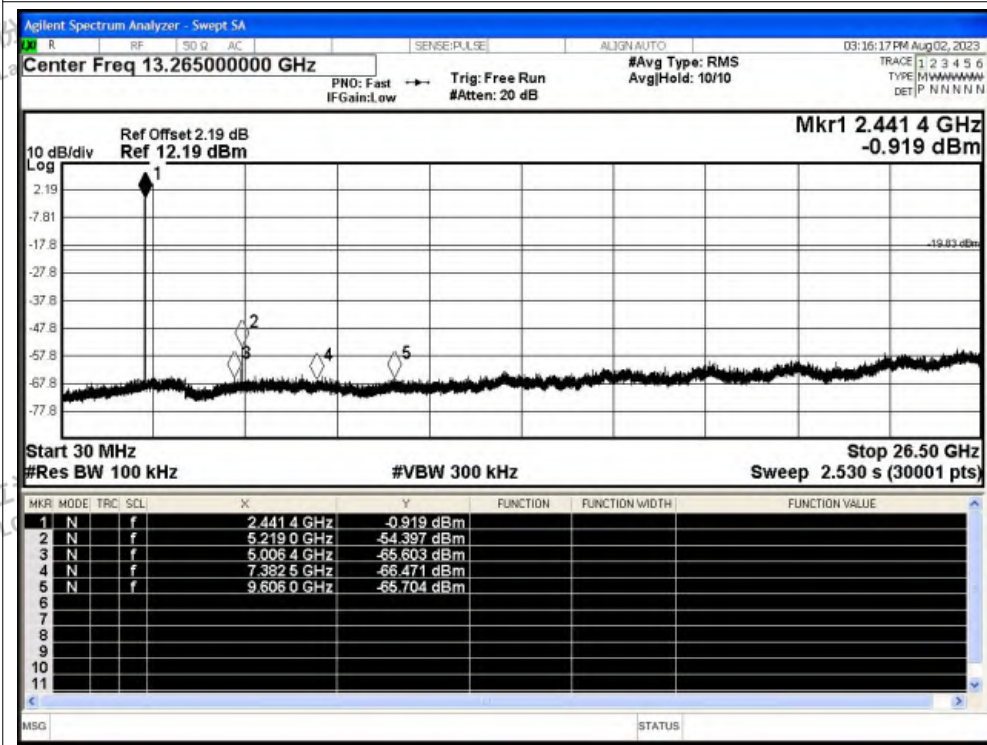




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

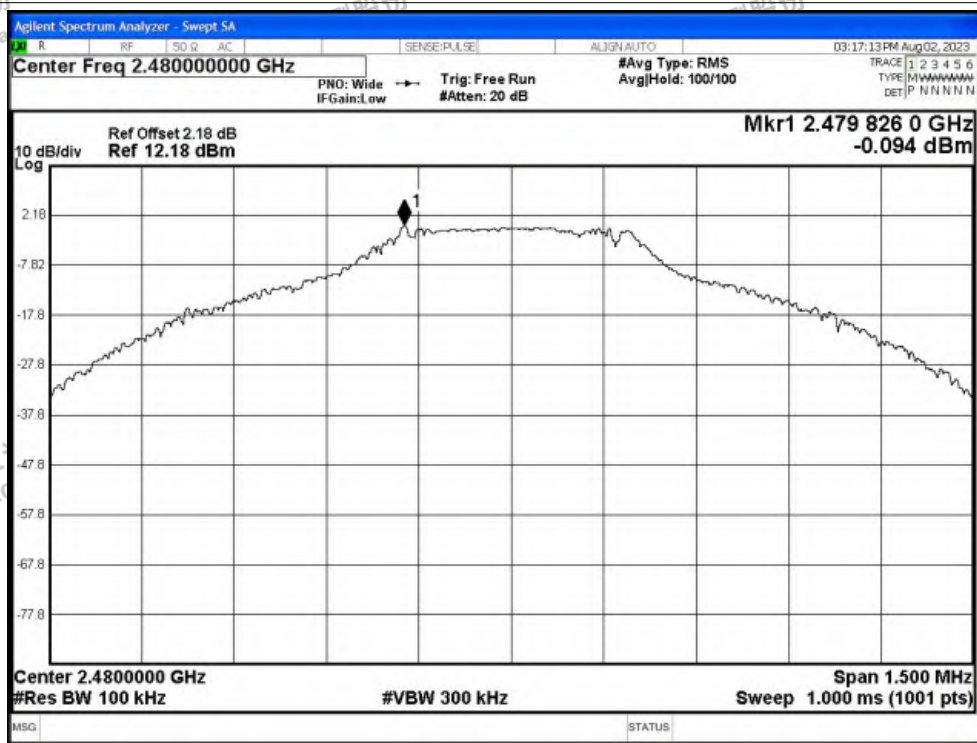


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

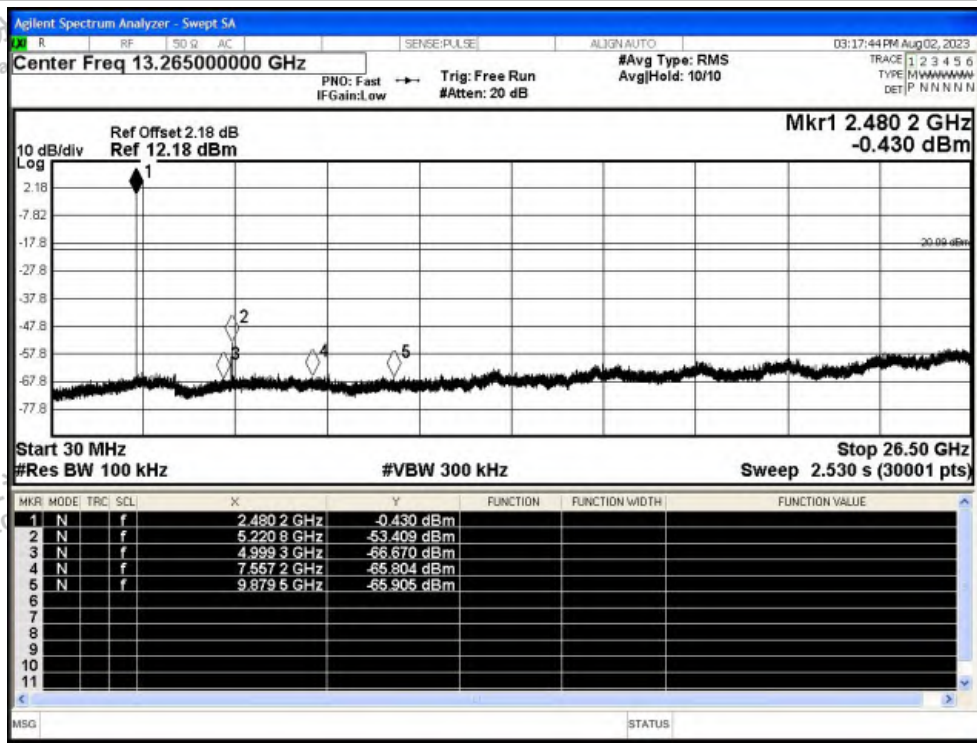




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

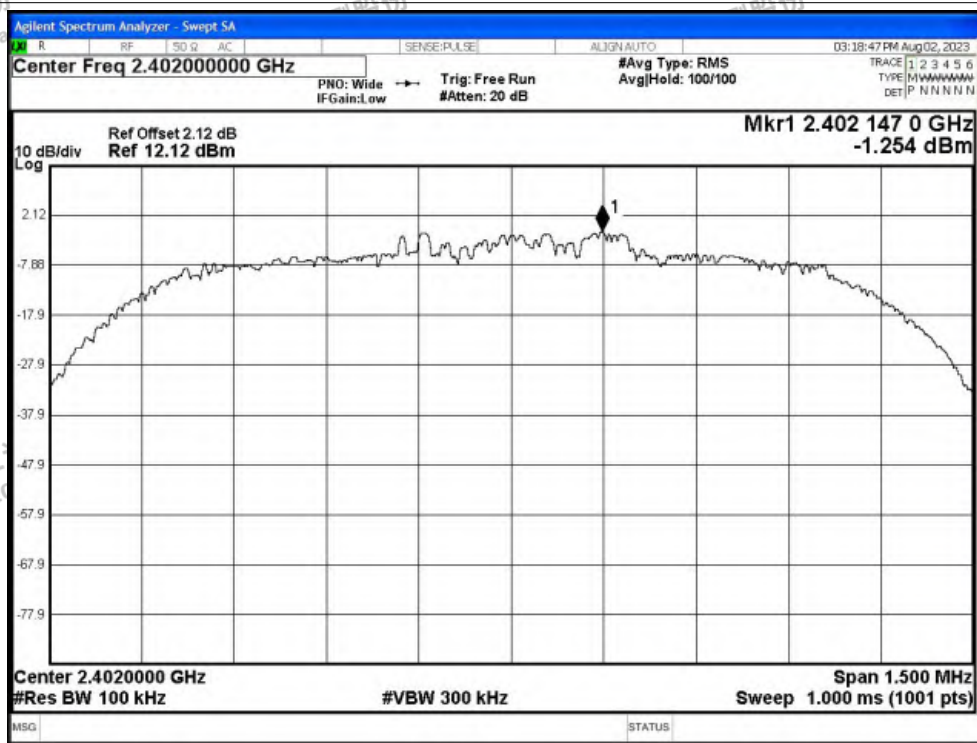


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

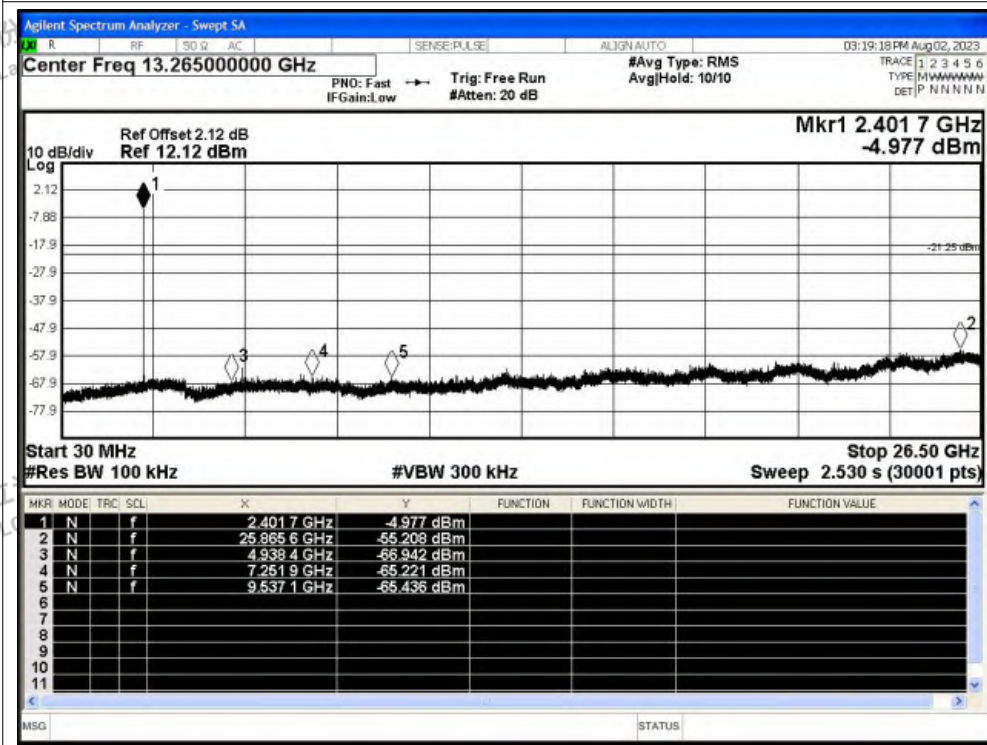




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

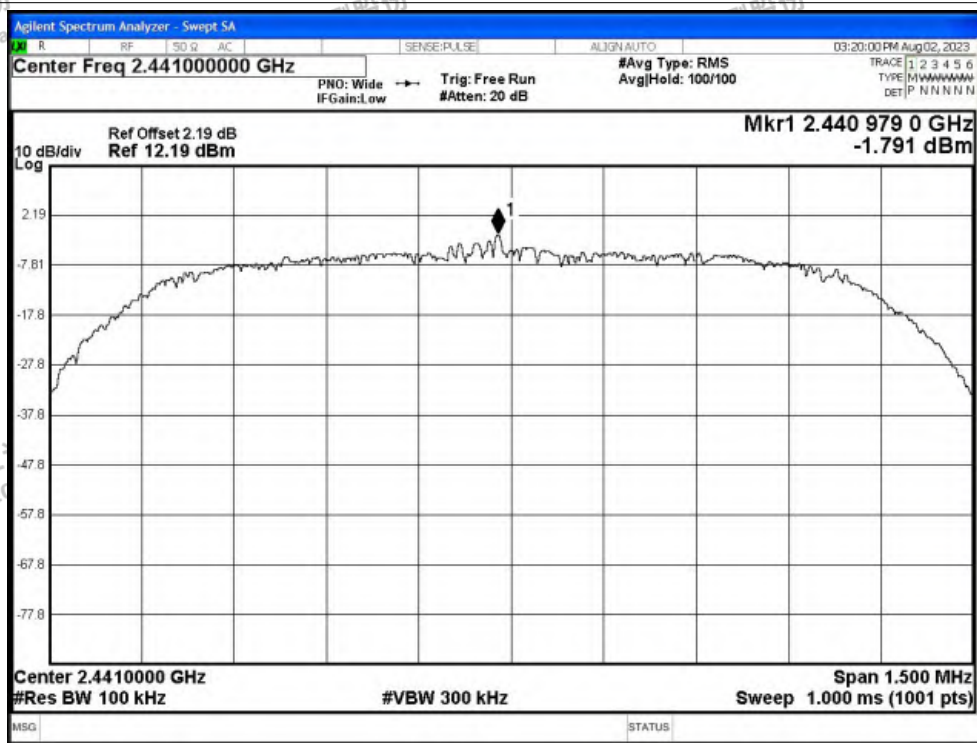


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

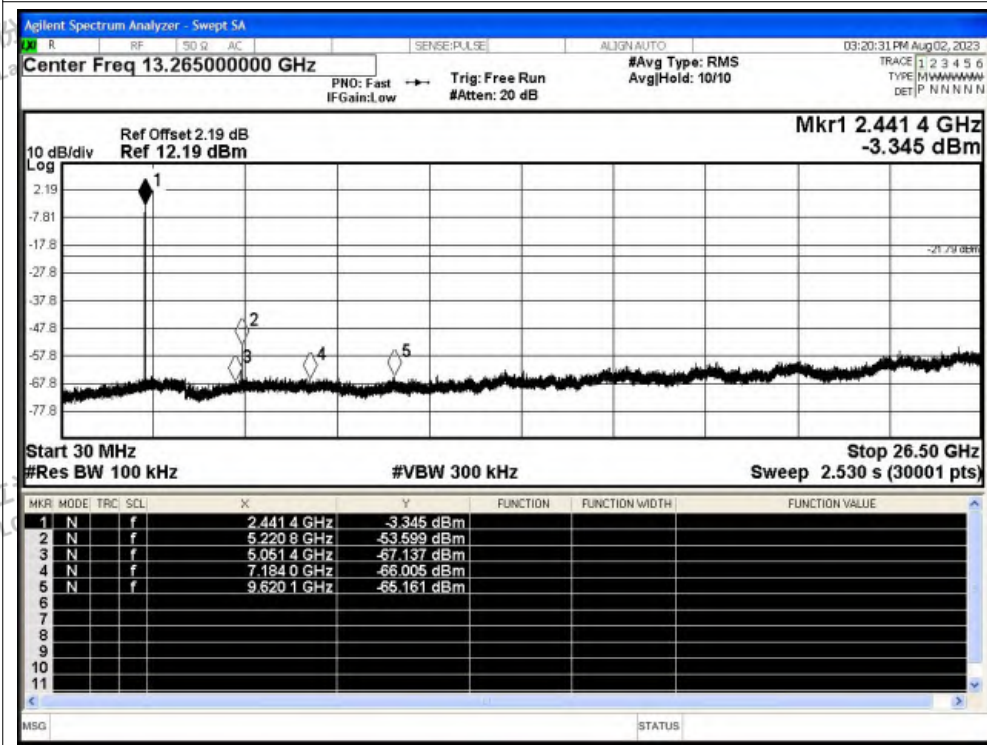




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

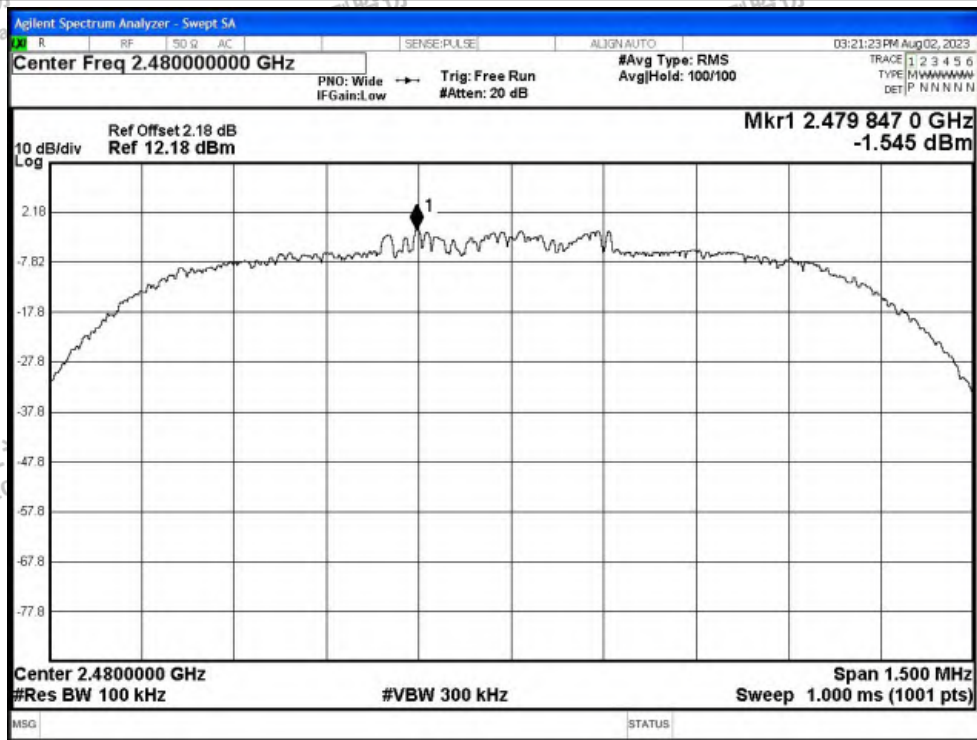


Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

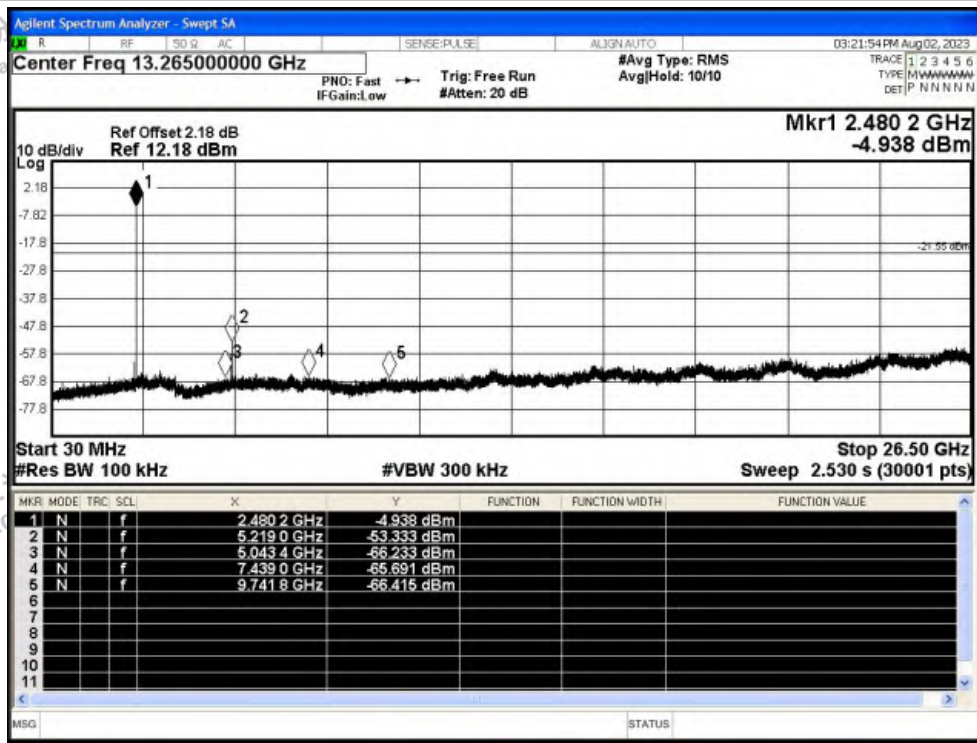




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref

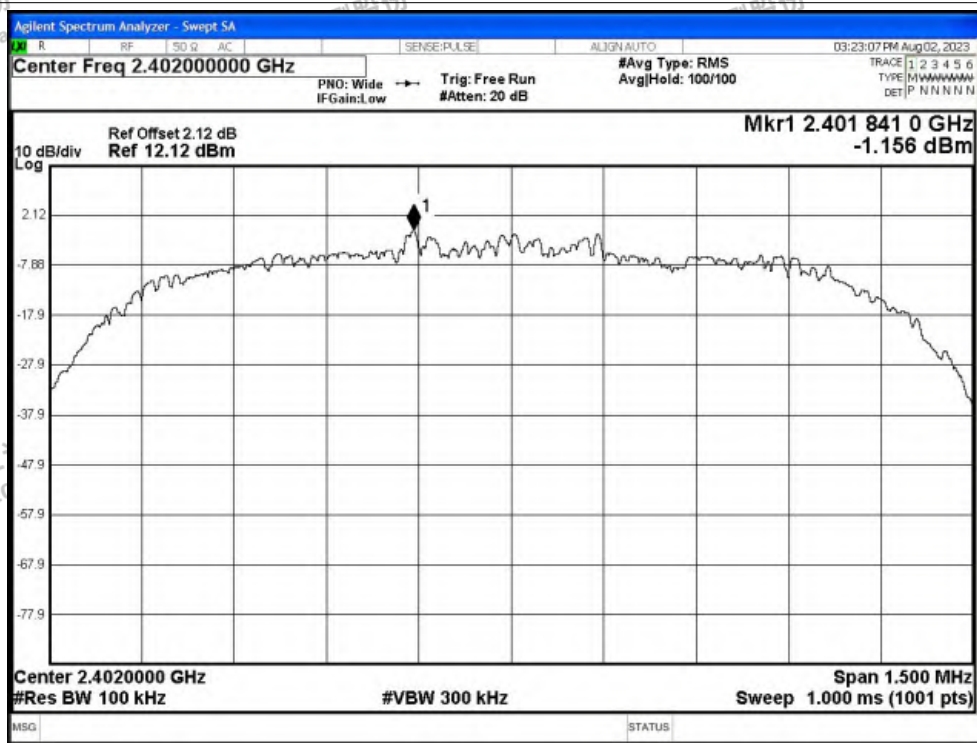


Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

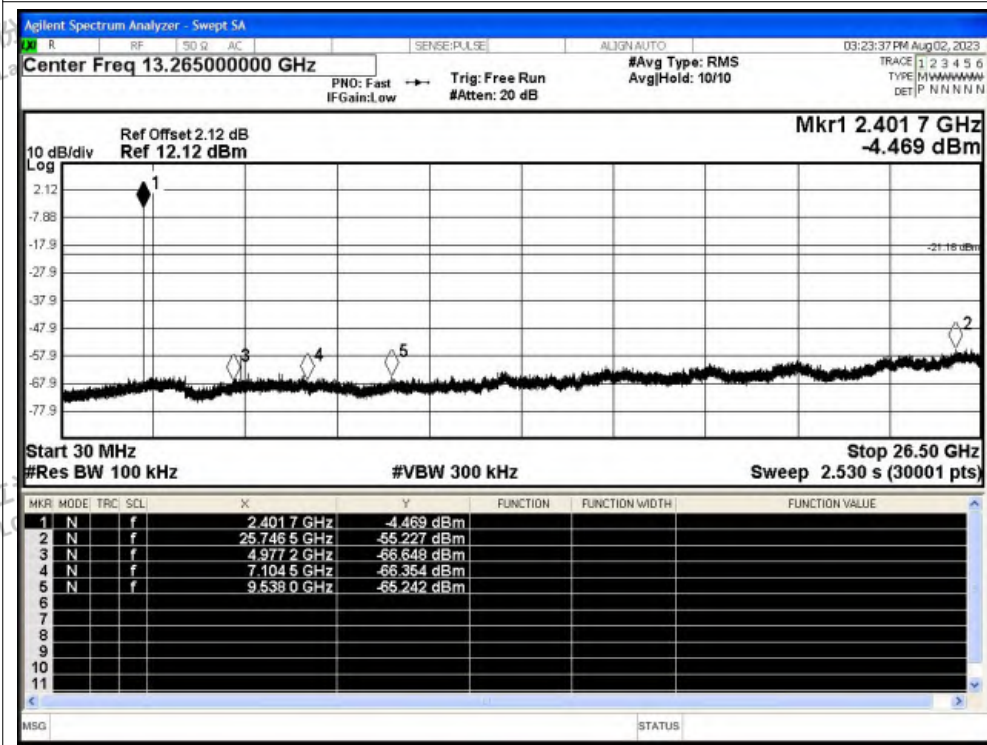




Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission

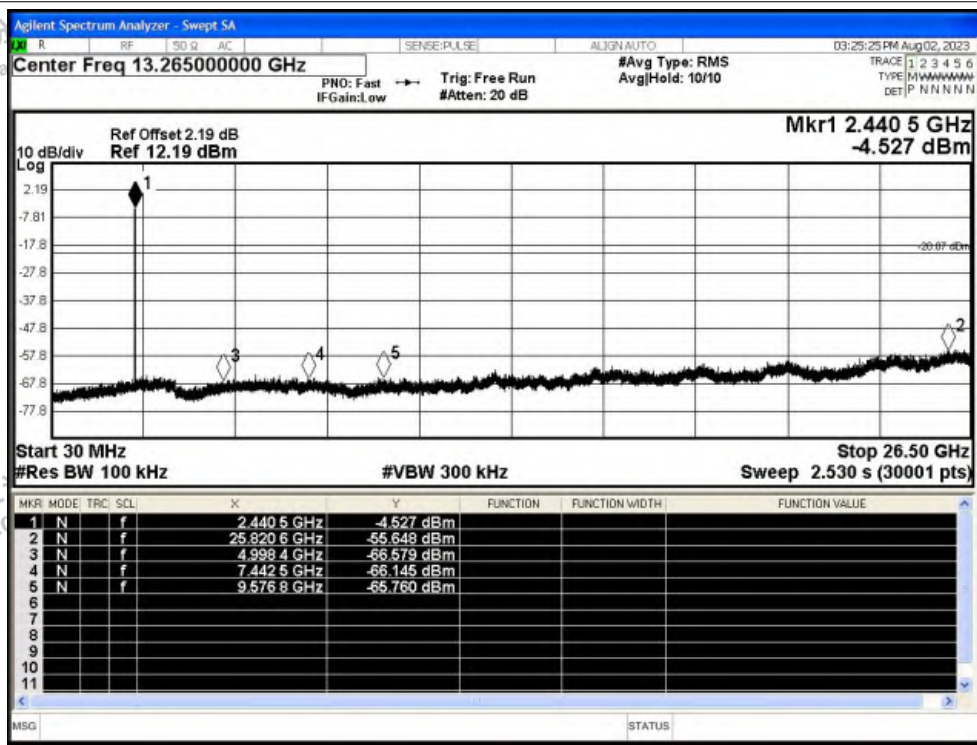




Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

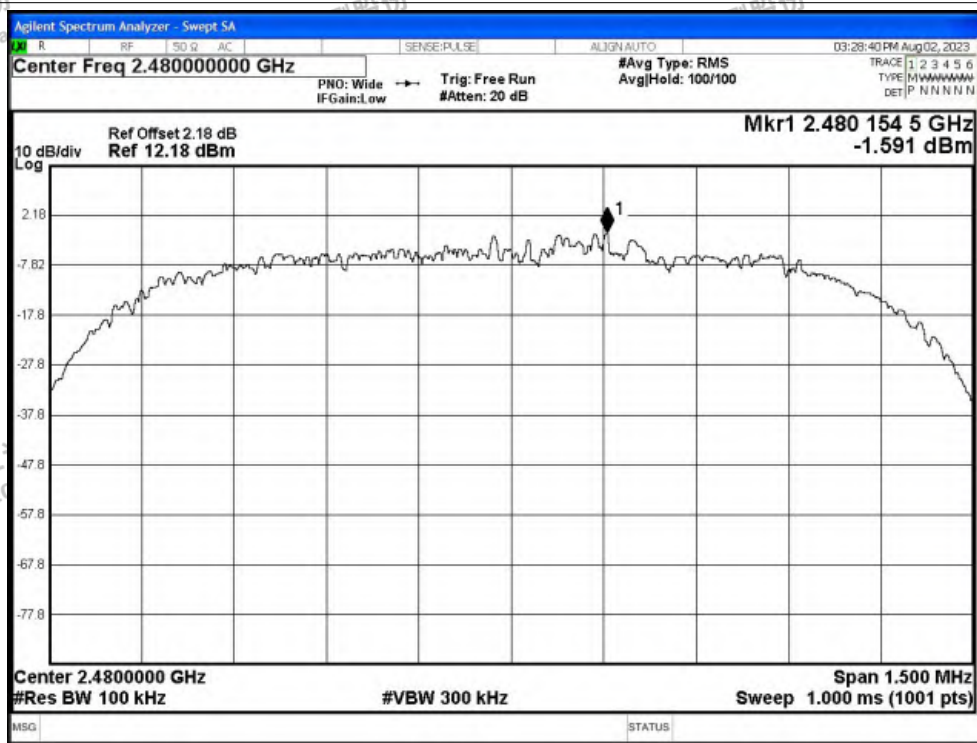


Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission

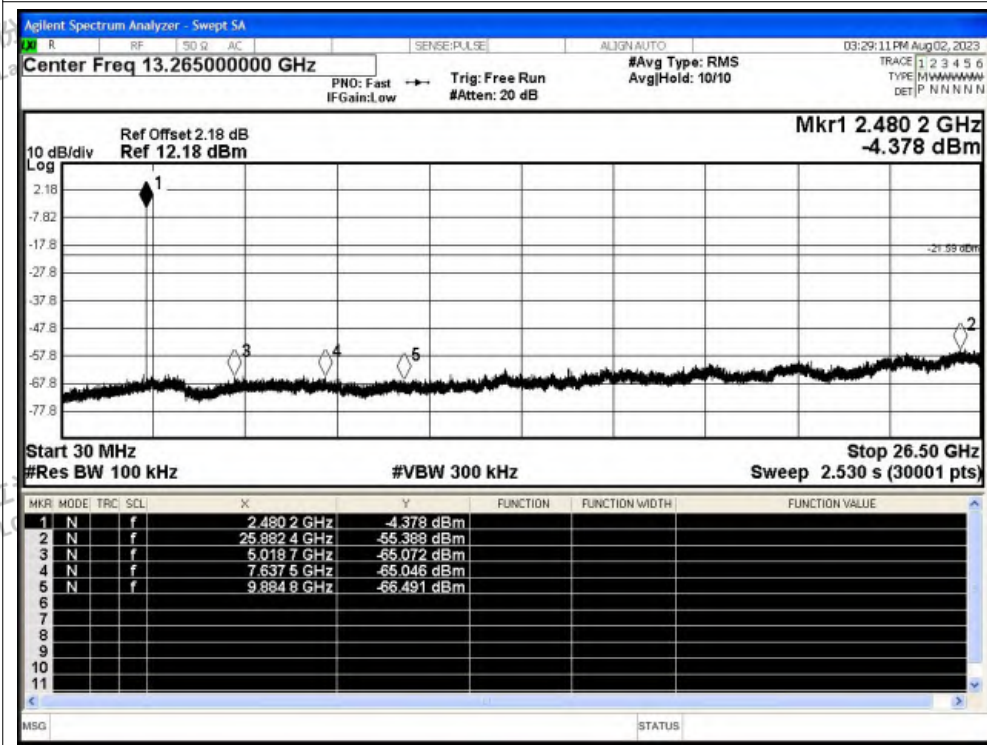




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.8 Restrict Band

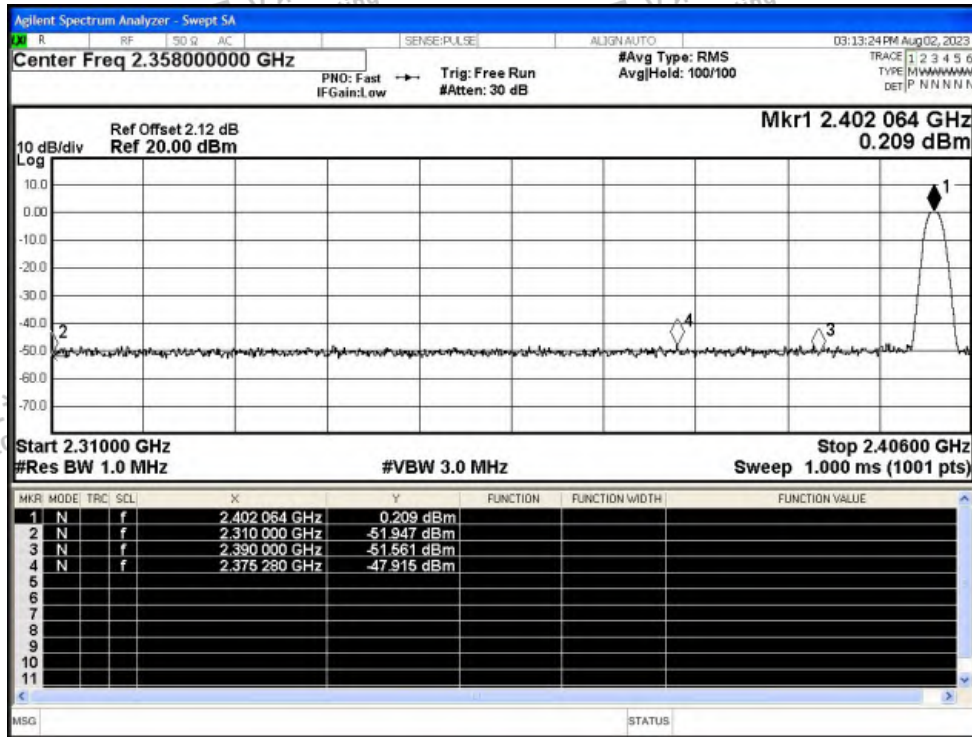
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-51.95	2	45.31	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.06	2	39.2	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2375.28	-47.92	2	49.34	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2384.112	-57.48	2	39.78	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-51.56	2	45.7	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-57.53	2	39.73	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.19	2	48.07	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-55.8	2	41.46	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.632	-46.26	2	51	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-55.8	2	41.46	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.92	2	47.34	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.31	2	39.95	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-51.37	2	45.89	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.08	2	39.18	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2373.84	-47.38	2	49.88	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2387.568	-57.49	2	39.77	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-49.9	2	47.36	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-57.65	2	39.61	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-48.54	2	48.72	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-55.55	2	41.71	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2493.568	-46.64	2	50.62	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-55.55	2	41.71	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.38	2	46.88	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	-51.87	2	45.39	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.08	2	39.18	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2361.552	-47.43	2	49.83	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2385.936	-57.5	2	39.76	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.26	2	47	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-57.68	2	39.58	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-50.61	2	46.65	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-55.59	2	41.67	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2497.912	-46.93	2	50.33	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-55.59	2	41.67	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-49.33	2	47.93	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-57.35	2	39.91	Average	54	Pass



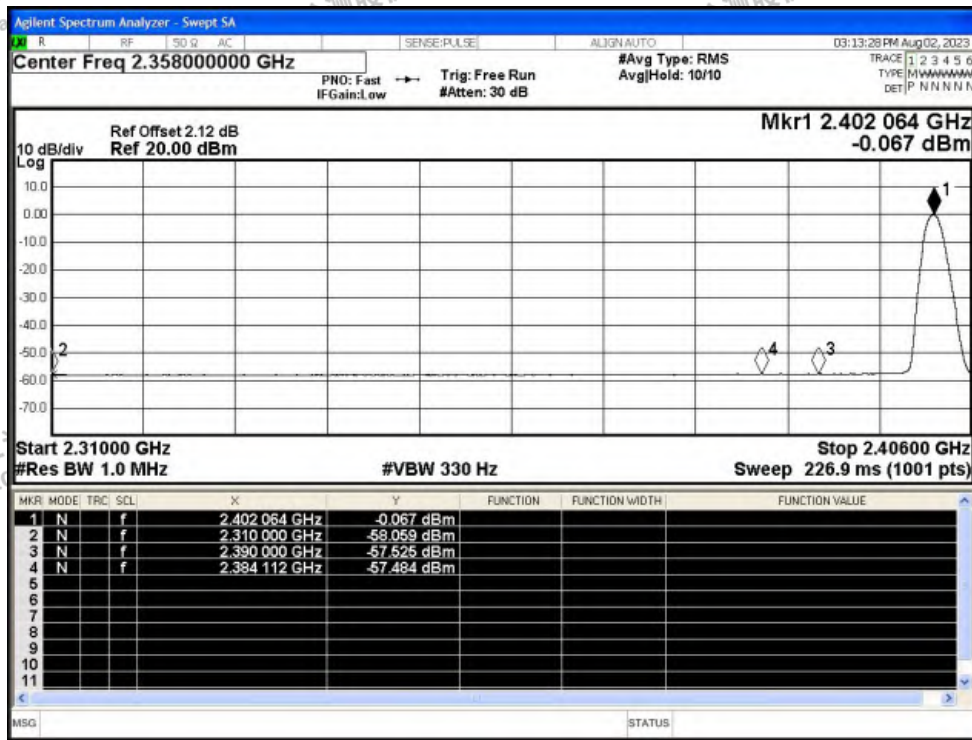


Test Graphs

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



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



Shenzhen LCS Compliance Testing Laboratory Ltd.

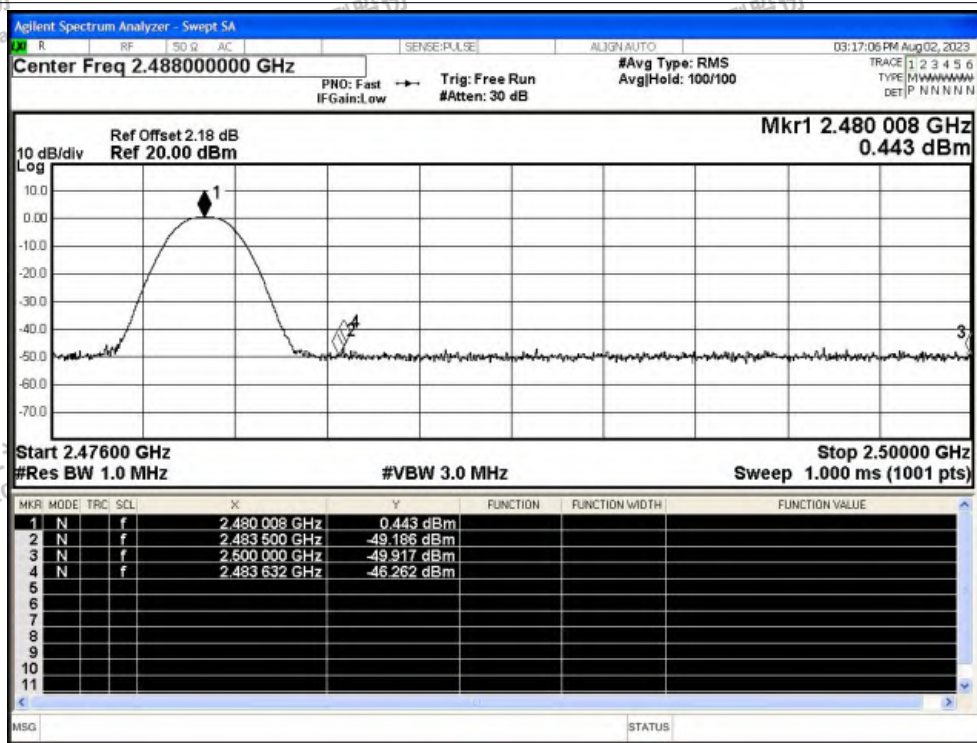
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

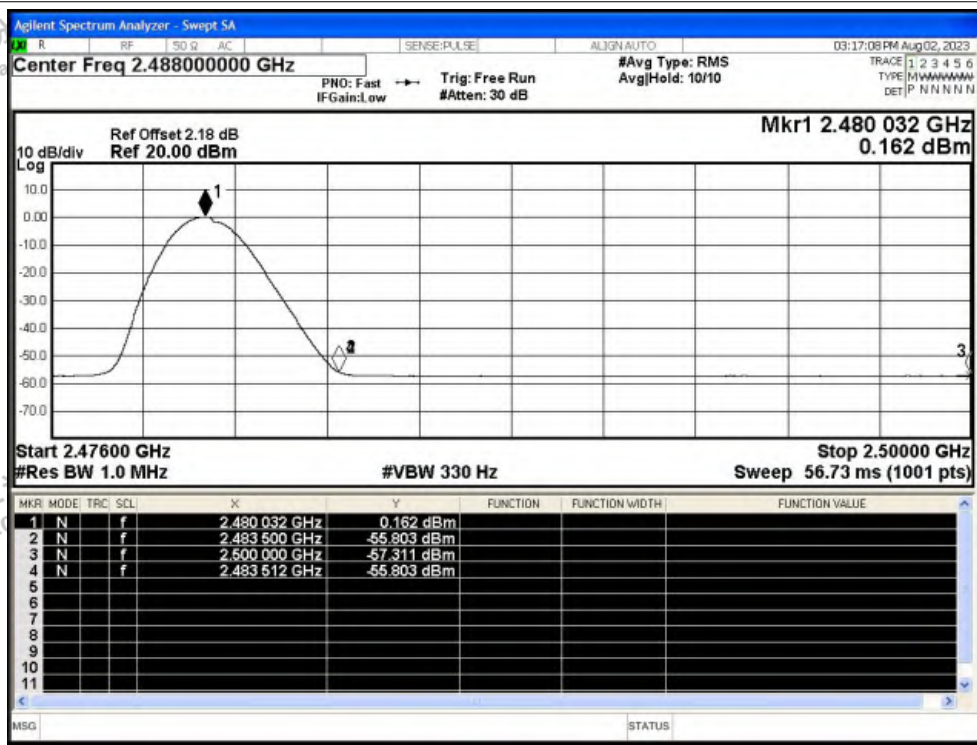
Scan code to check authenticity



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

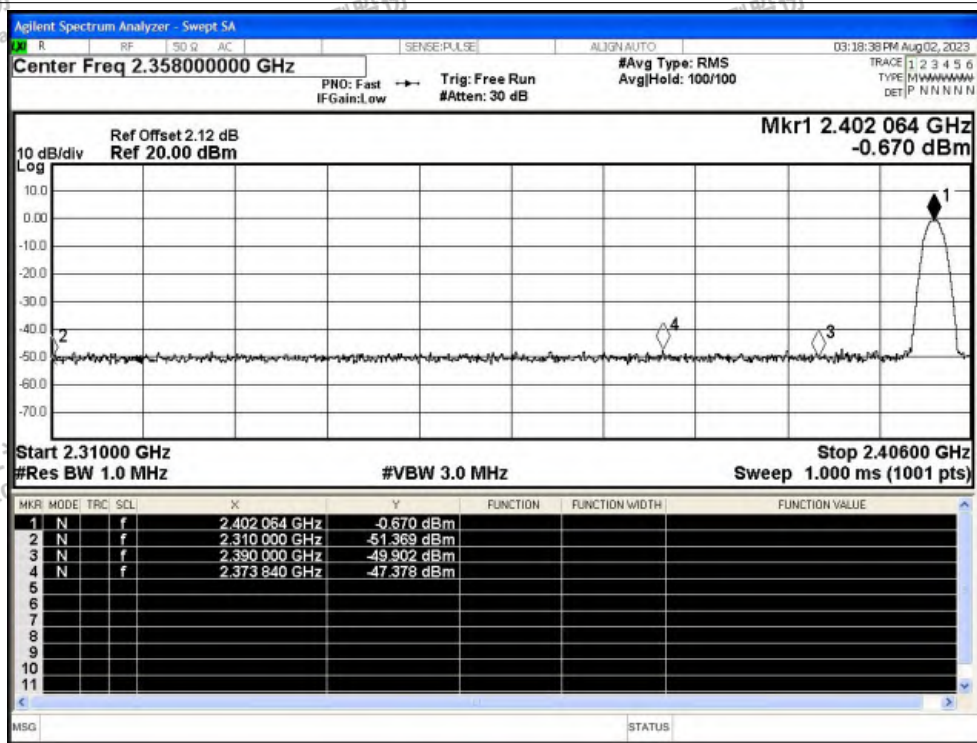


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

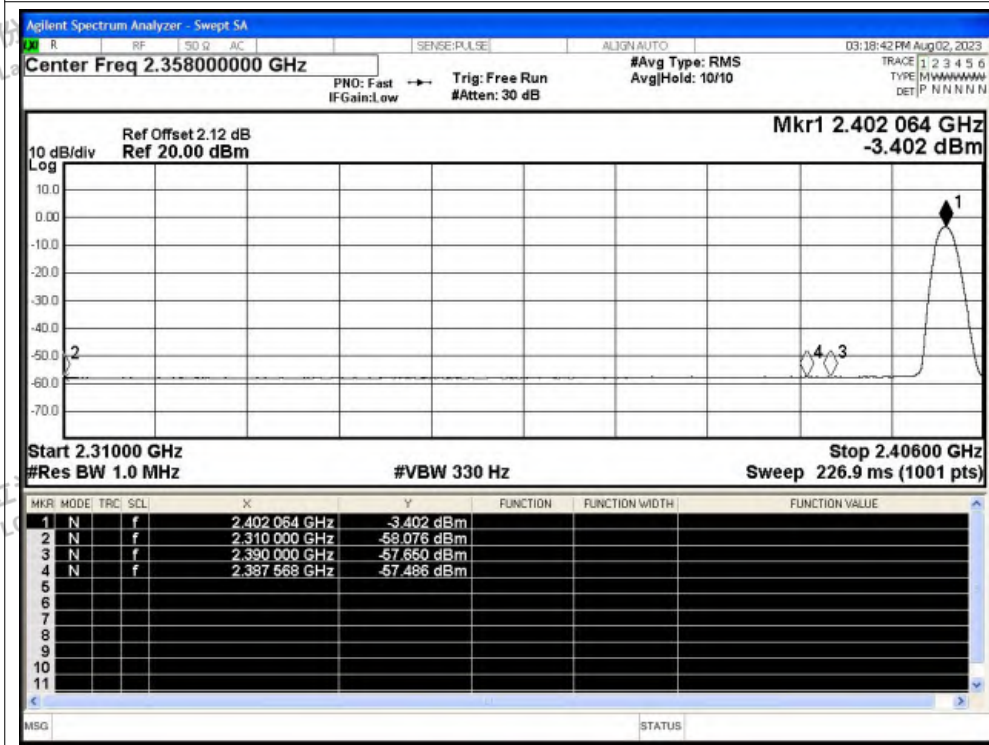




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

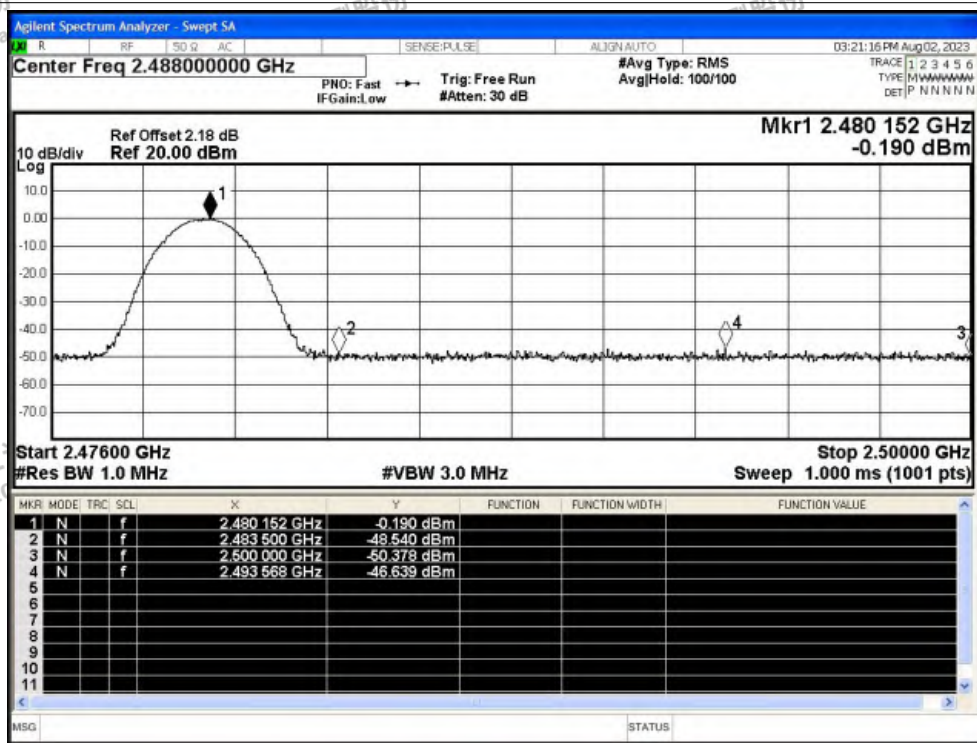


Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average

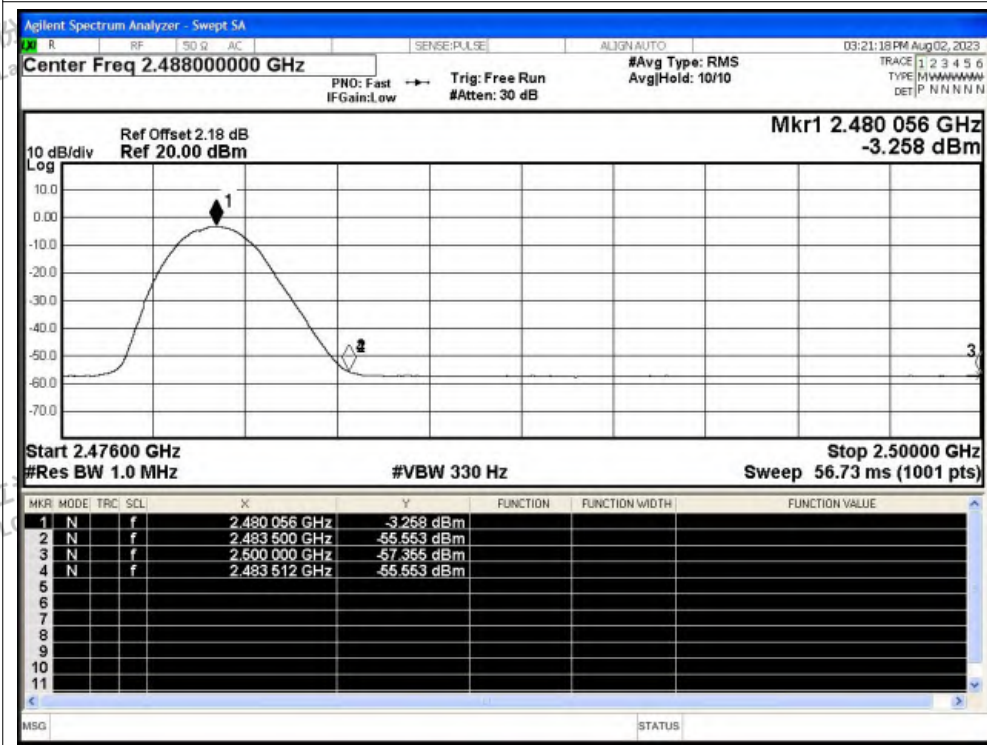




Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak

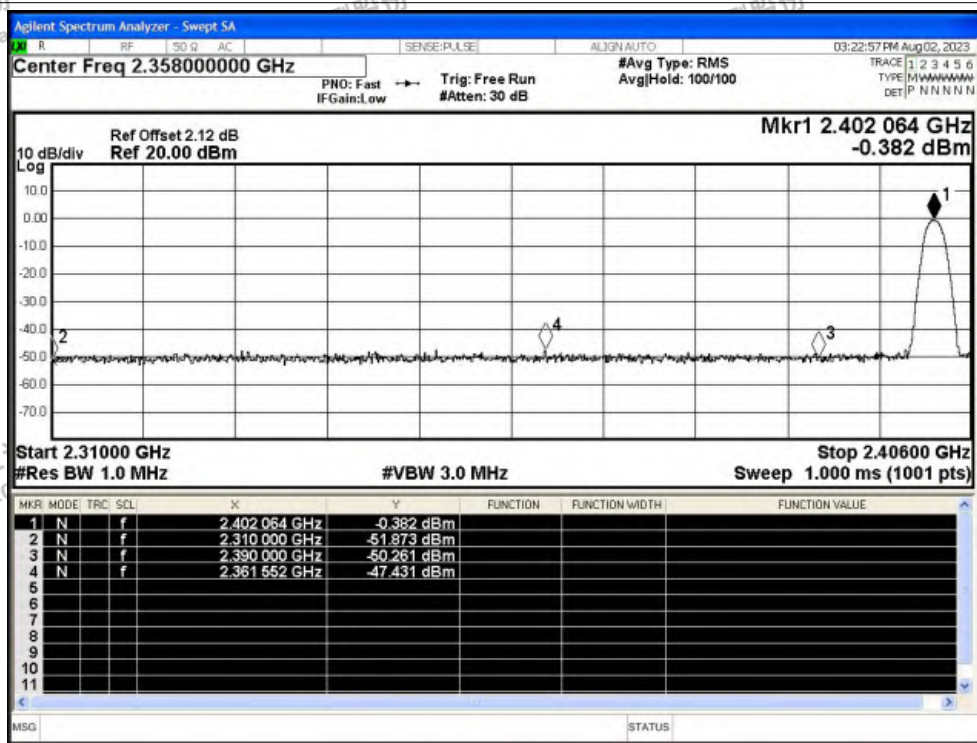


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average

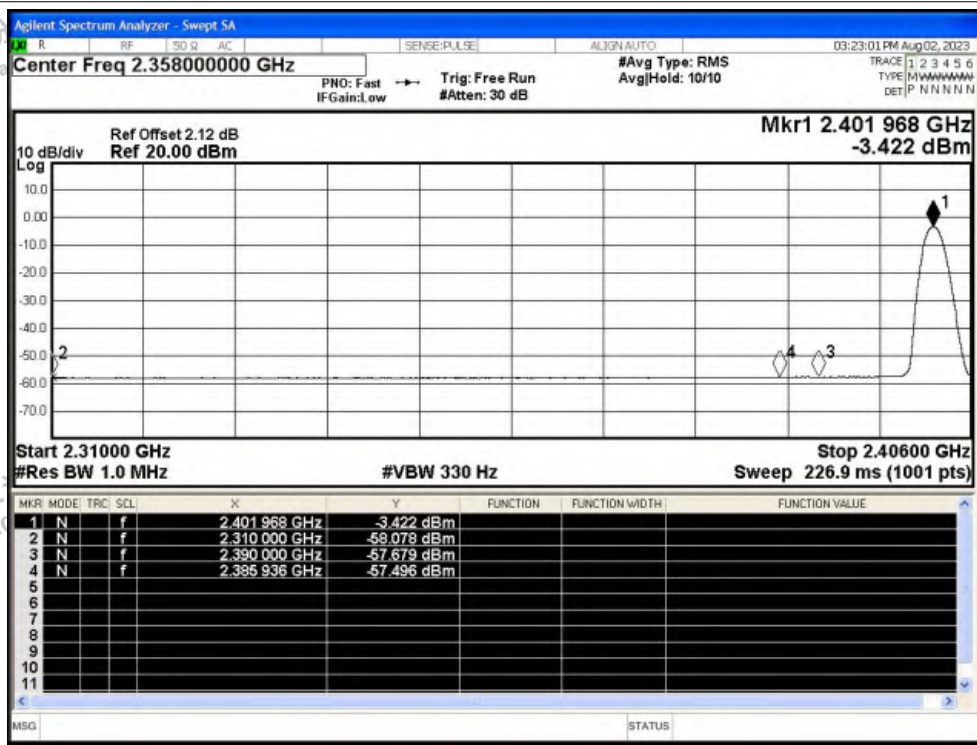




Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak

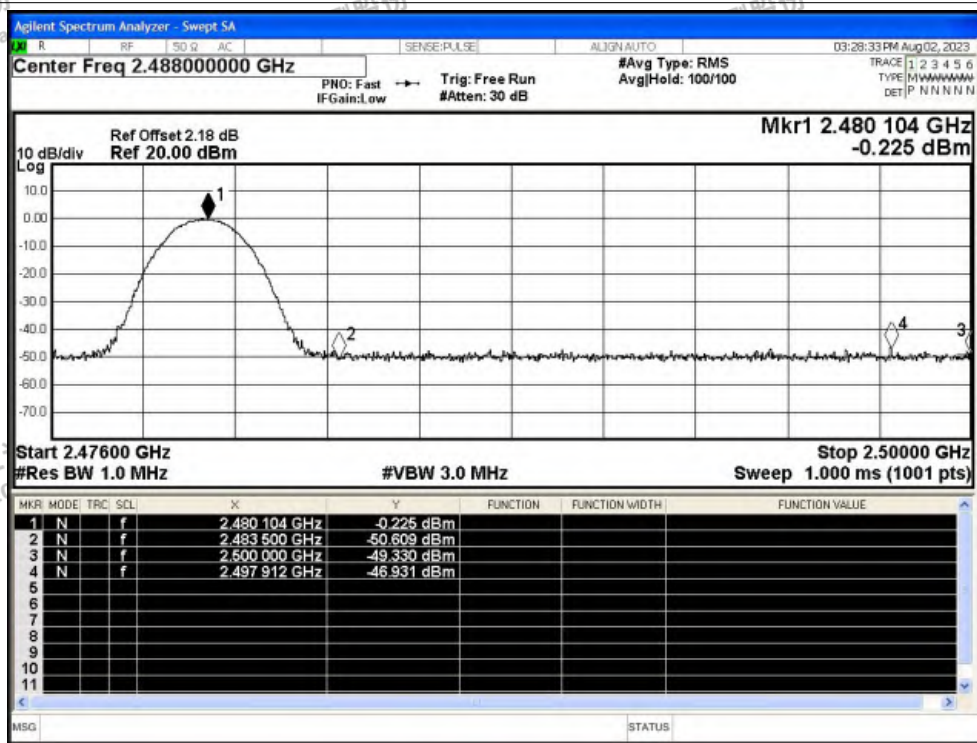


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





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



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

