



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: SPEAKER

Test Model: RA 0210

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Joker Hu
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	0.954	0	Pass
NVNT	1-DH5	2441	Ant1	0.952	0	Pass
NVNT	1-DH5	2480	Ant1	0.93	0	Pass
NVNT	2-DH5	2402	Ant1	1.272	0	Pass
NVNT	2-DH5	2441	Ant1	1.281	0	Pass
NVNT	2-DH5	2480	Ant1	1.283	0	Pass
NVNT	3-DH5	2402	Ant1	1.296	0	Pass
NVNT	3-DH5	2441	Ant1	1.297	0	Pass
NVNT	3-DH5	2480	Ant1	1.293	0	Pass





Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

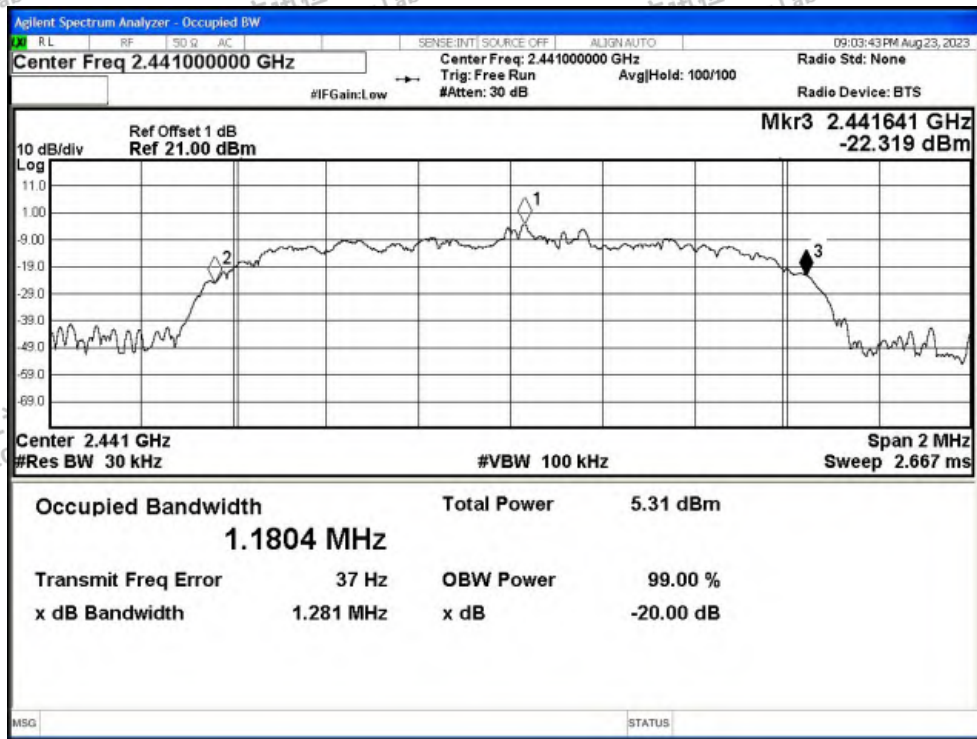


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

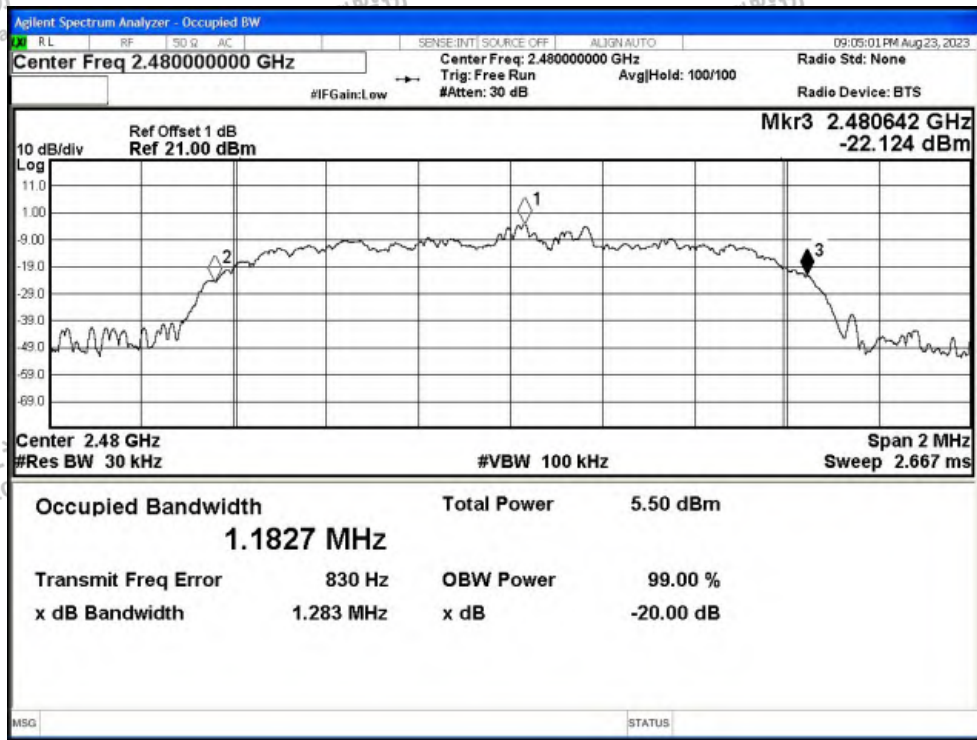




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

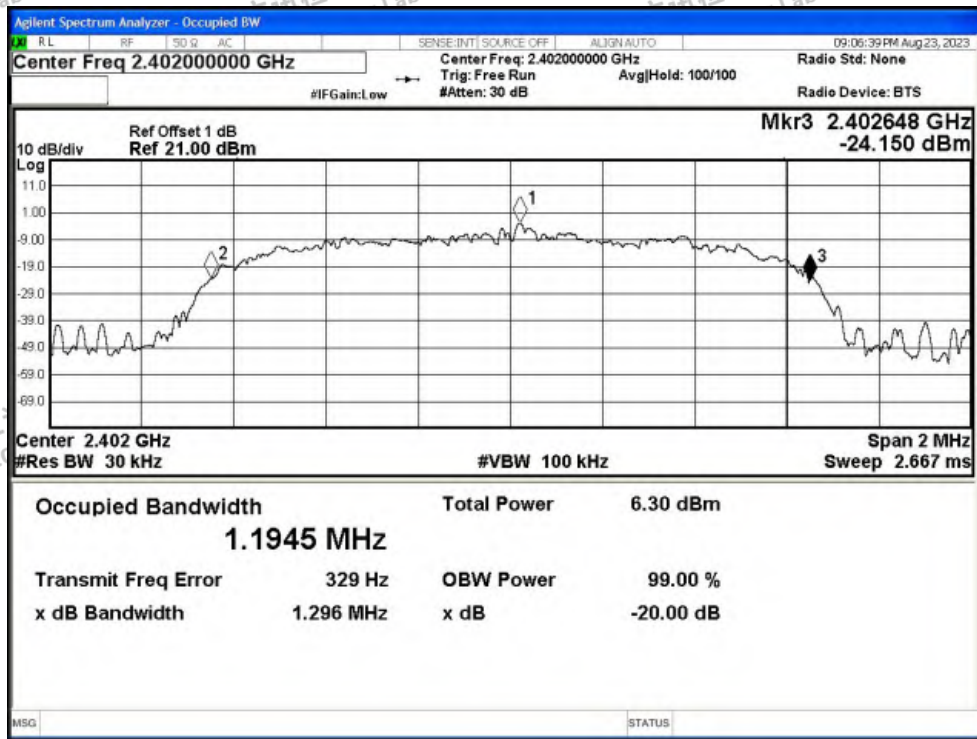


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

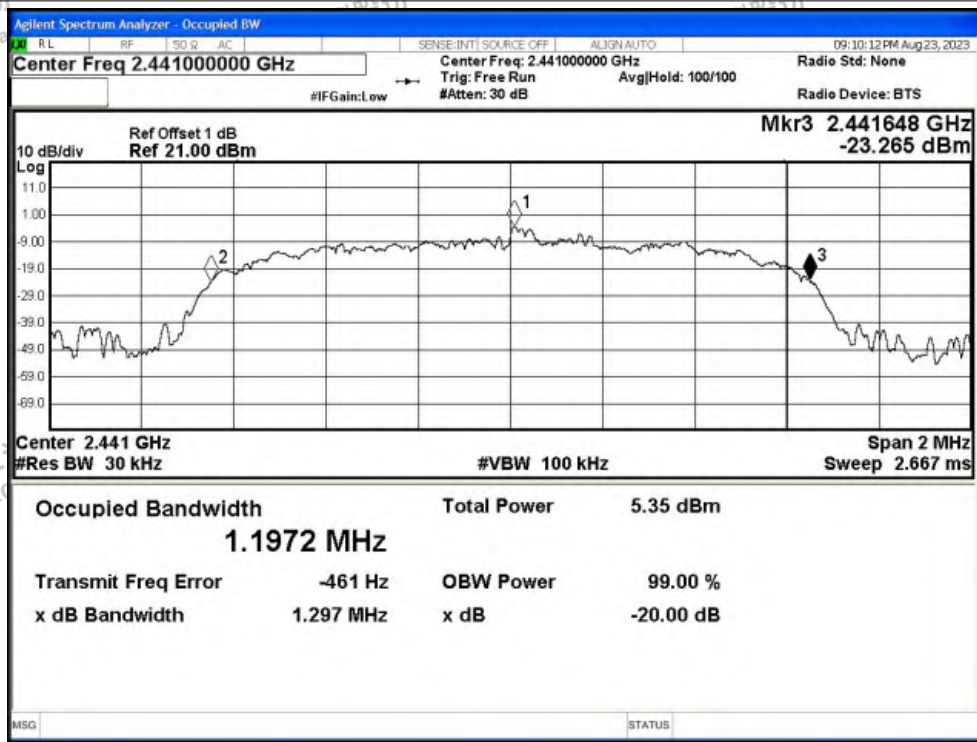




-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1

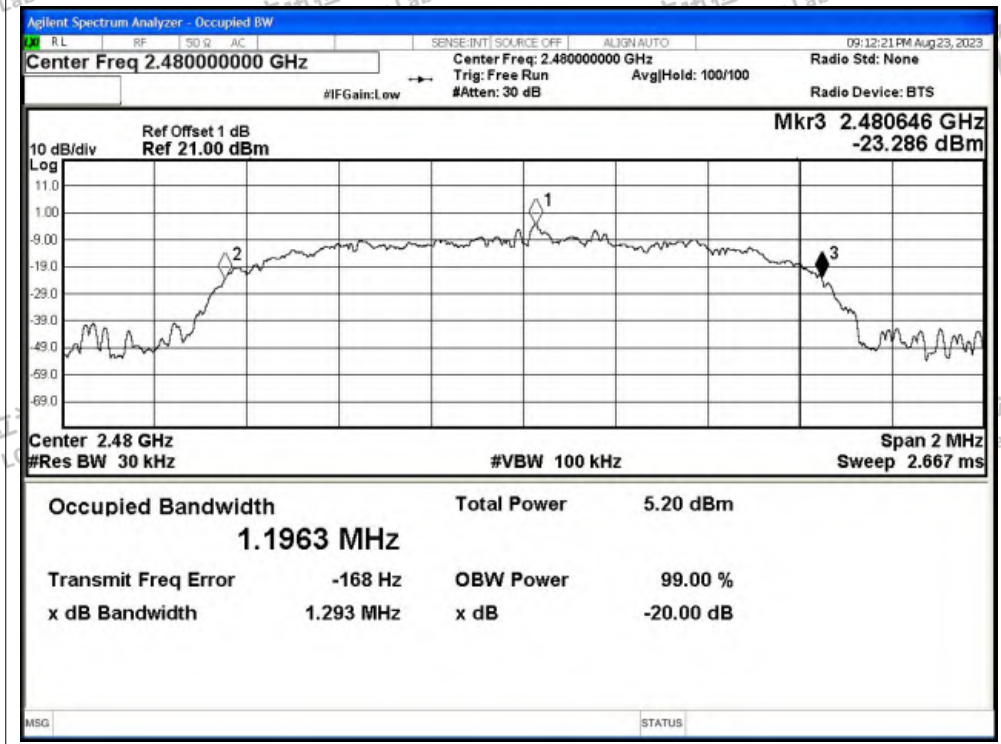


-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1





A.2 Maximum Conducted Output Power

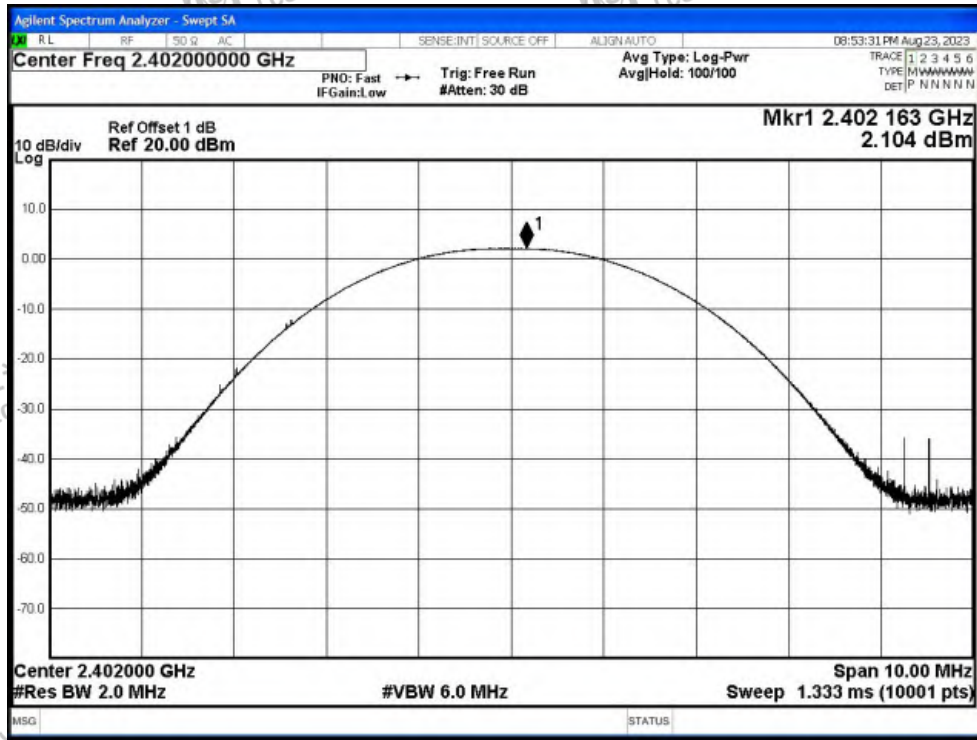
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	2.1	21	Pass
NVNT	1-DH5	2441	Ant1	0.7	21	Pass
NVNT	1-DH5	2480	Ant1	0.27	21	Pass
NVNT	2-DH5	2402	Ant1	2.17	21	Pass
NVNT	2-DH5	2441	Ant1	0.79	21	Pass
NVNT	2-DH5	2480	Ant1	0.89	21	Pass
NVNT	3-DH5	2402	Ant1	2.32	21	Pass
NVNT	3-DH5	2441	Ant1	1.05	21	Pass
NVNT	3-DH5	2480	Ant1	1.06	21	Pass



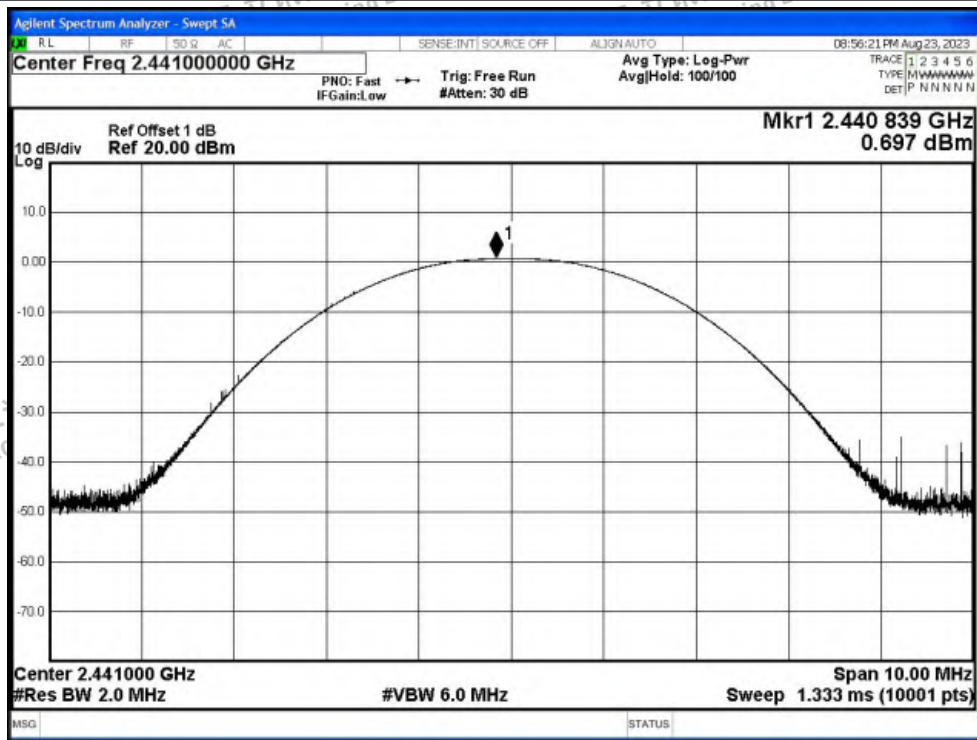


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

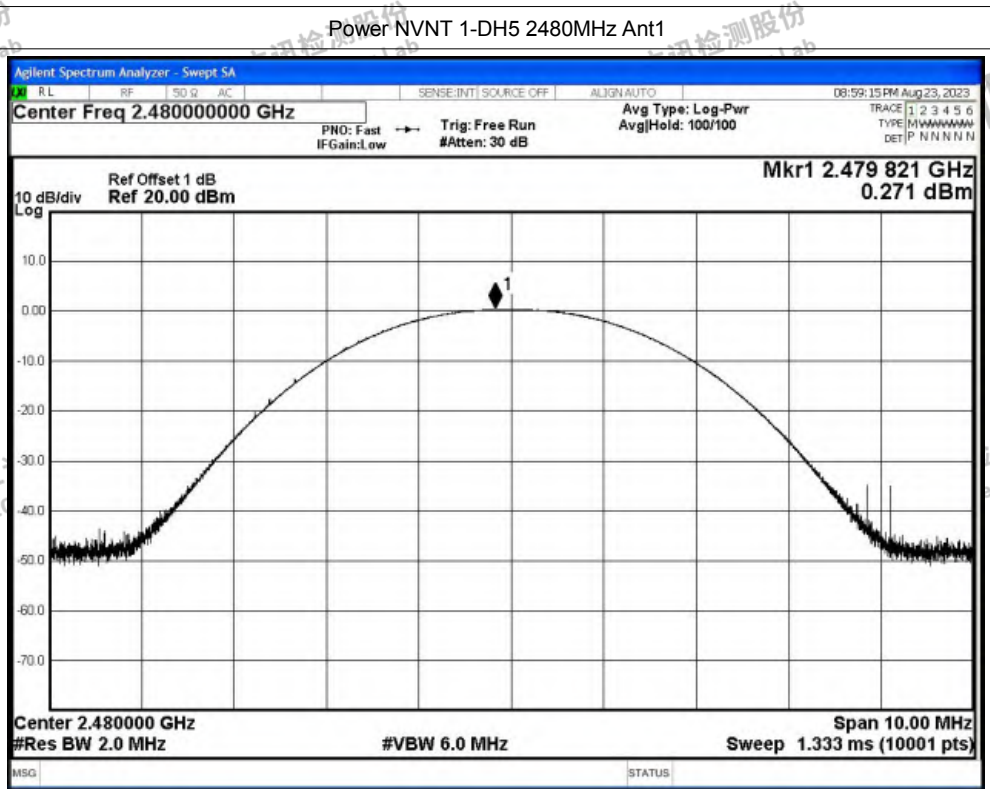


Power NVNT 1-DH5 2441MHz Ant1

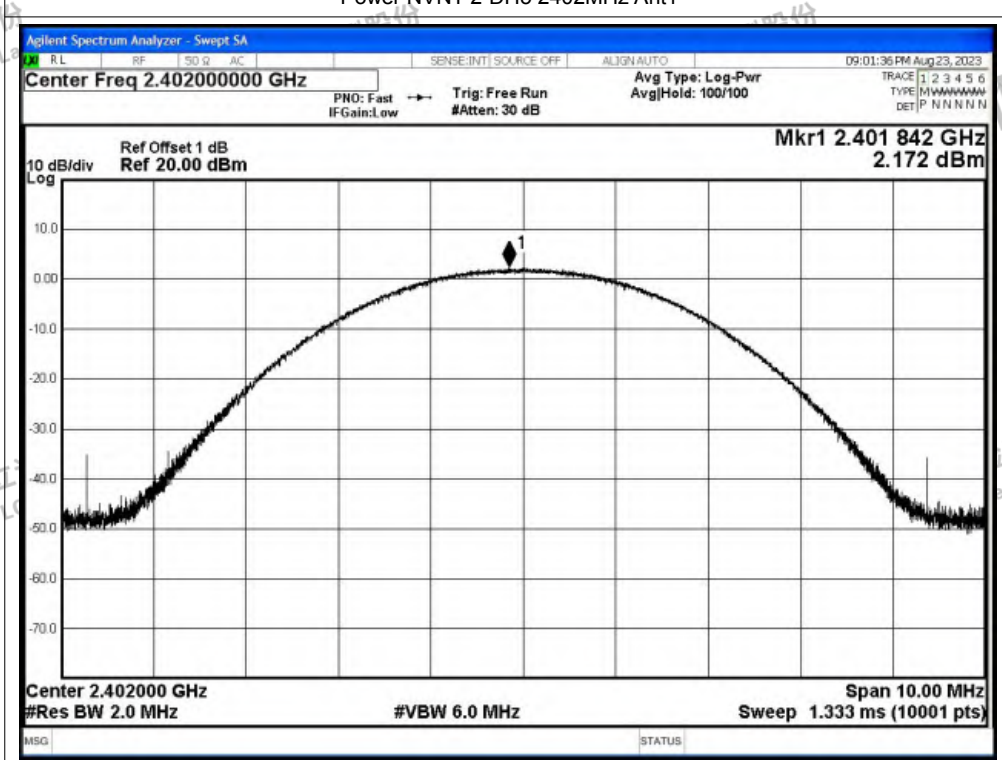




Power NVNT 1-DH5 2480MHz Ant1

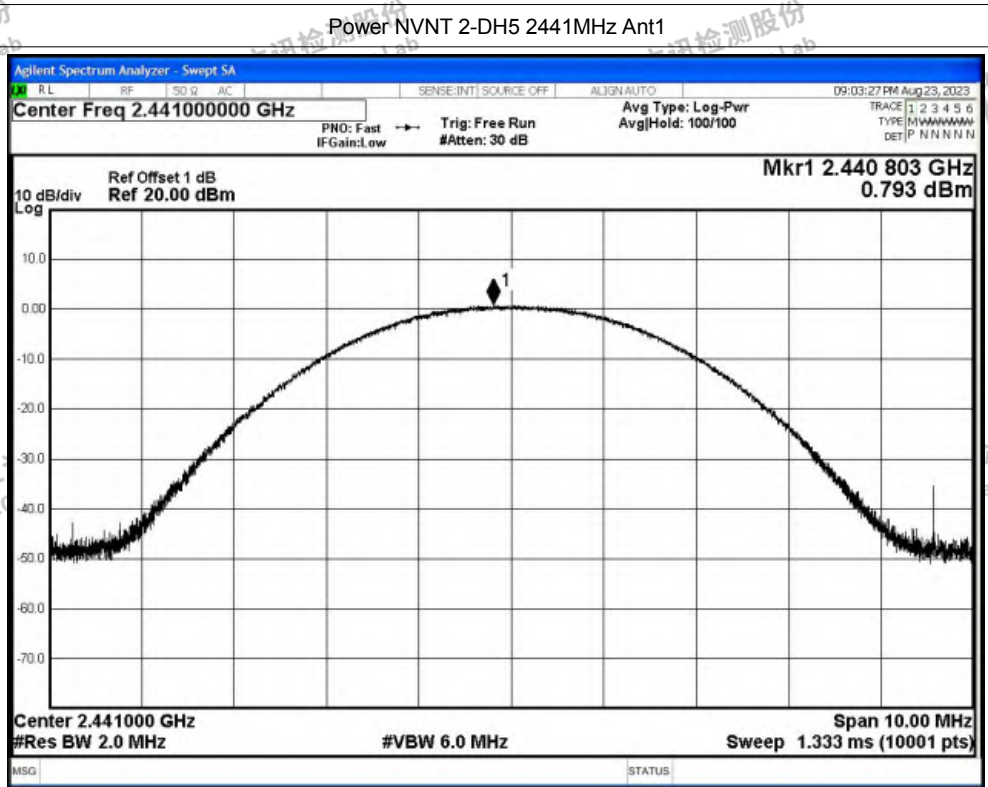


Power NVNT 2-DH5 2402MHz Ant1

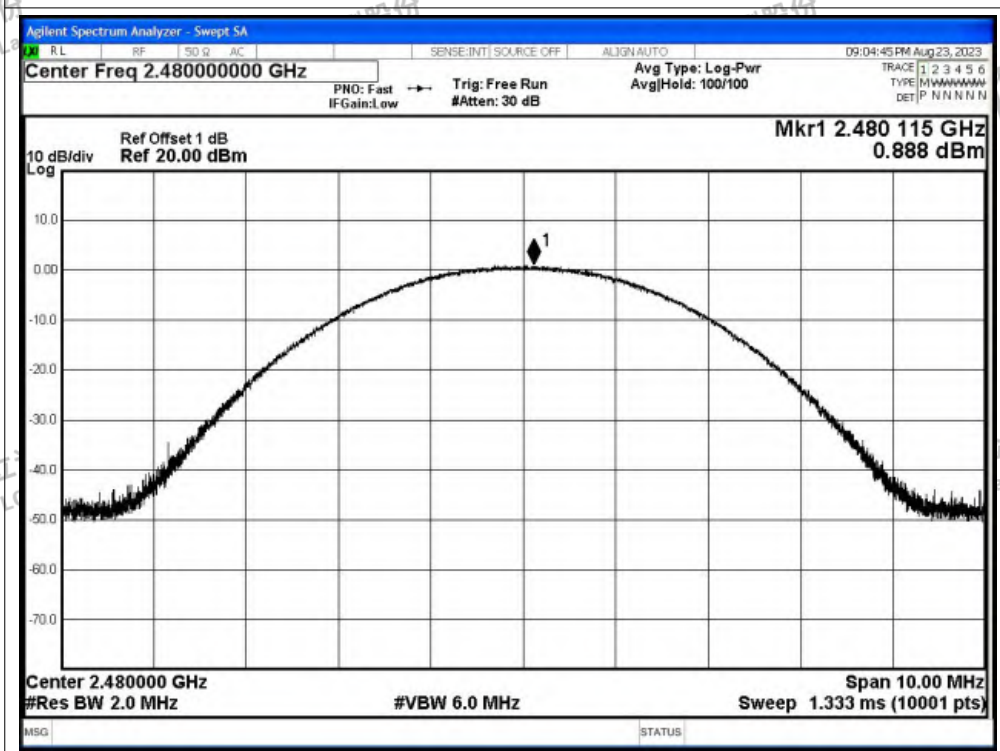




Power NVNT 2-DH5 2441MHz Ant1

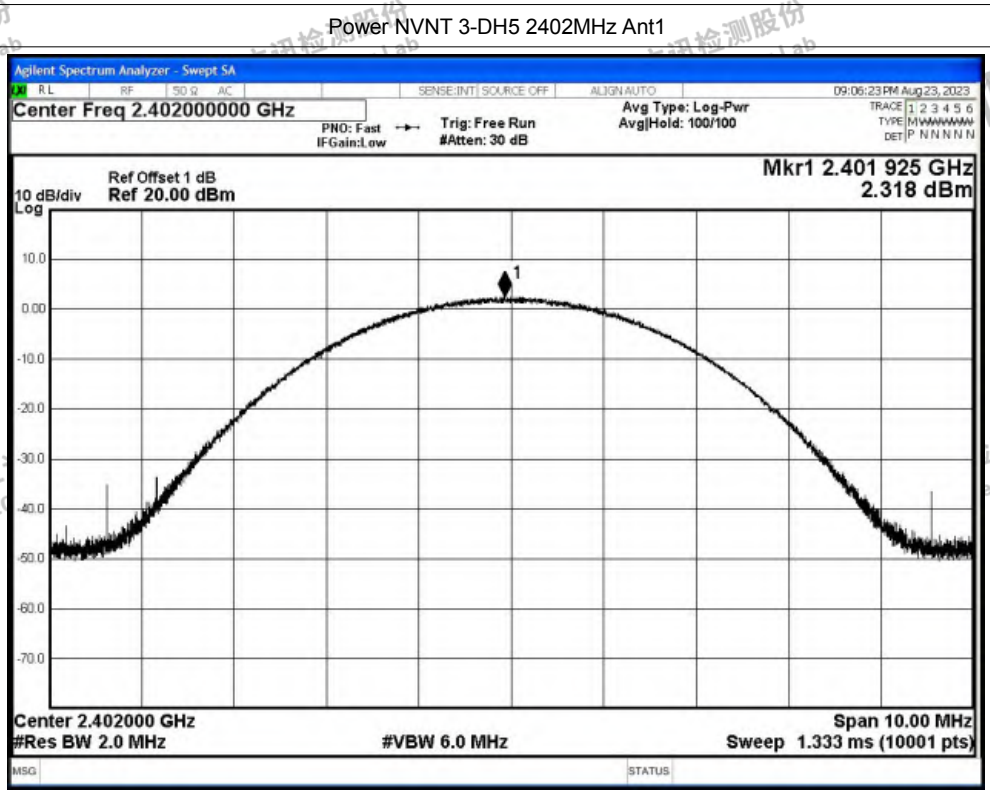


Power NVNT 2-DH5 2480MHz Ant1

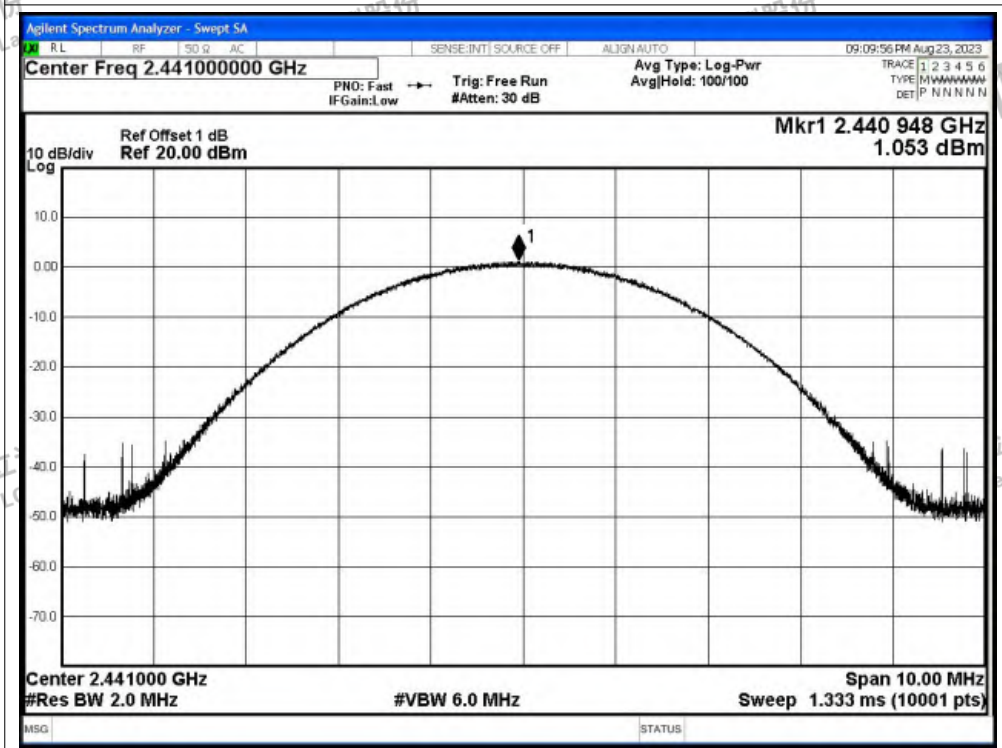




Power NVNT 3-DH5 2402MHz Ant1

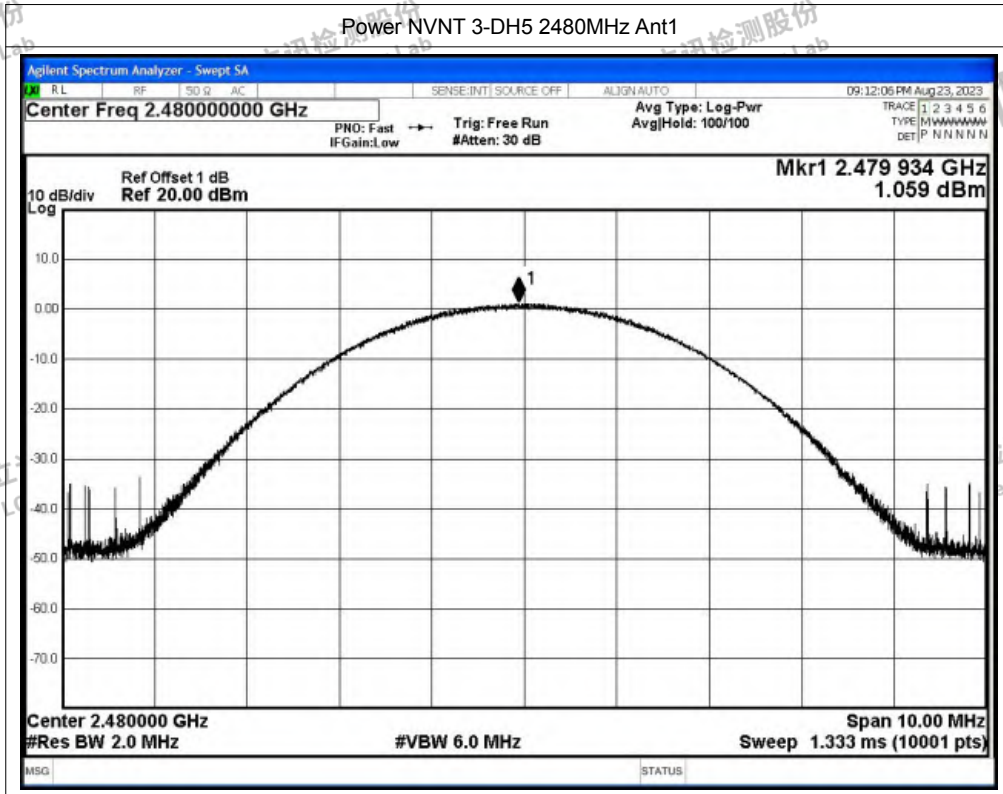


Power NVNT 3-DH5 2441MHz Ant1





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	2401.824	2403.062	1.238	0.636	Pass
NVNT	2-DH5	Ant1	2402.064	2403.178	1.114	0.855	Pass
NVNT	3-DH5	Ant1	2402.176	2403.064	0.888	0.865	Pass



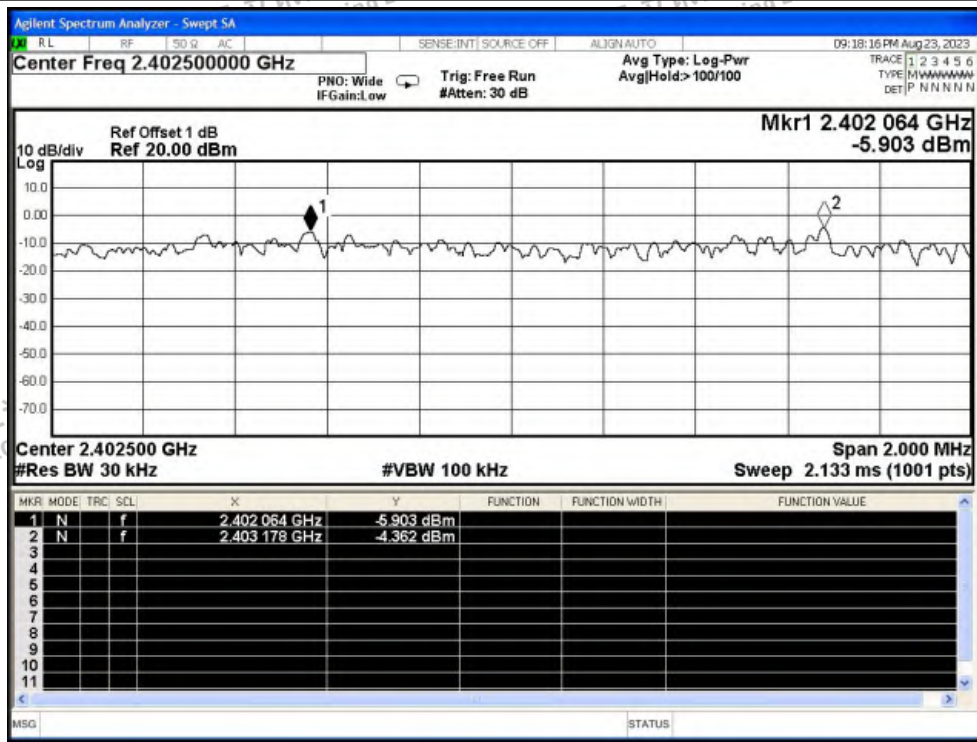


Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1

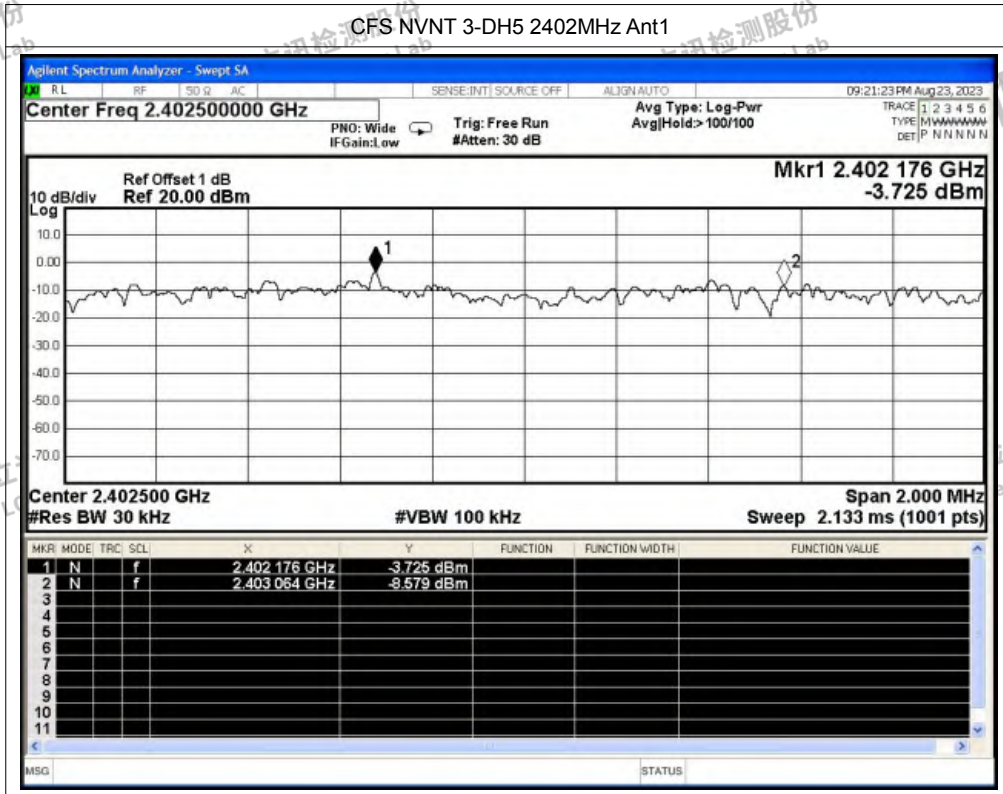


CFS NVNT 2-DH5 2402MHz Ant1





CFS NVNT 3-DH5 2402MHz Ant1





A.4 Dwell Time

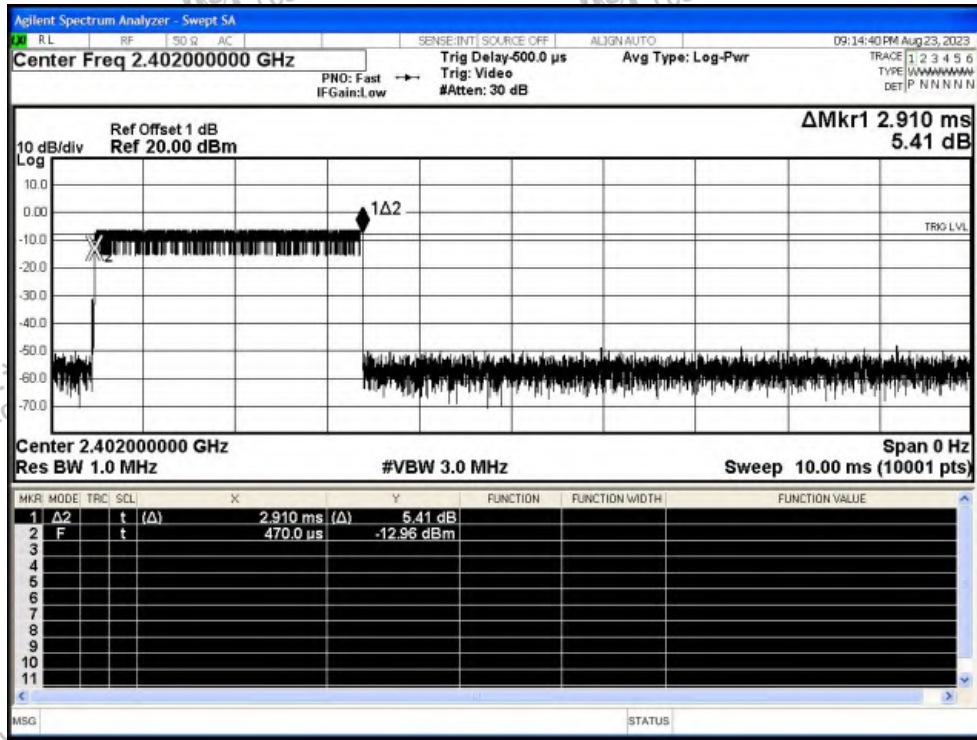
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.91	308.46	106	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	312.984	108	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	283.906	98	31600	400	Pass



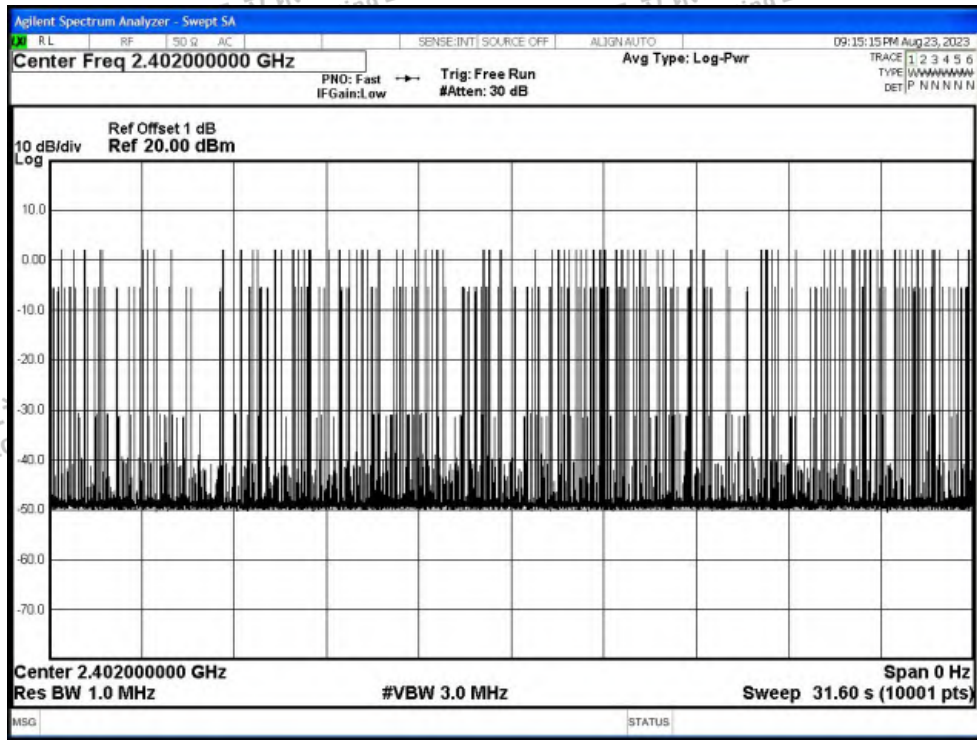


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

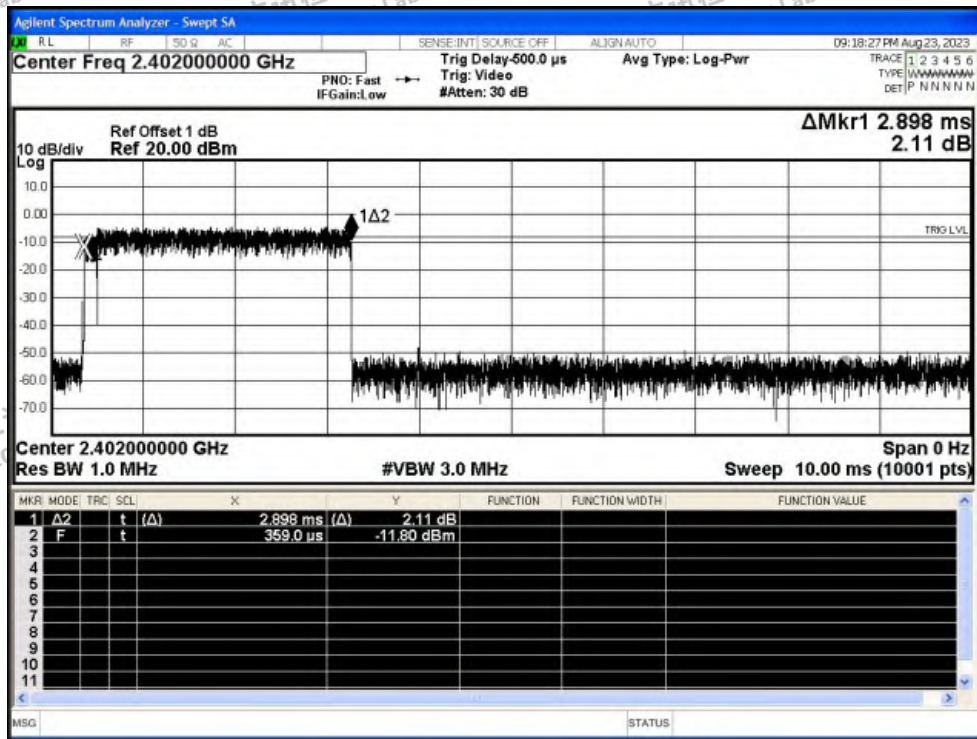


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

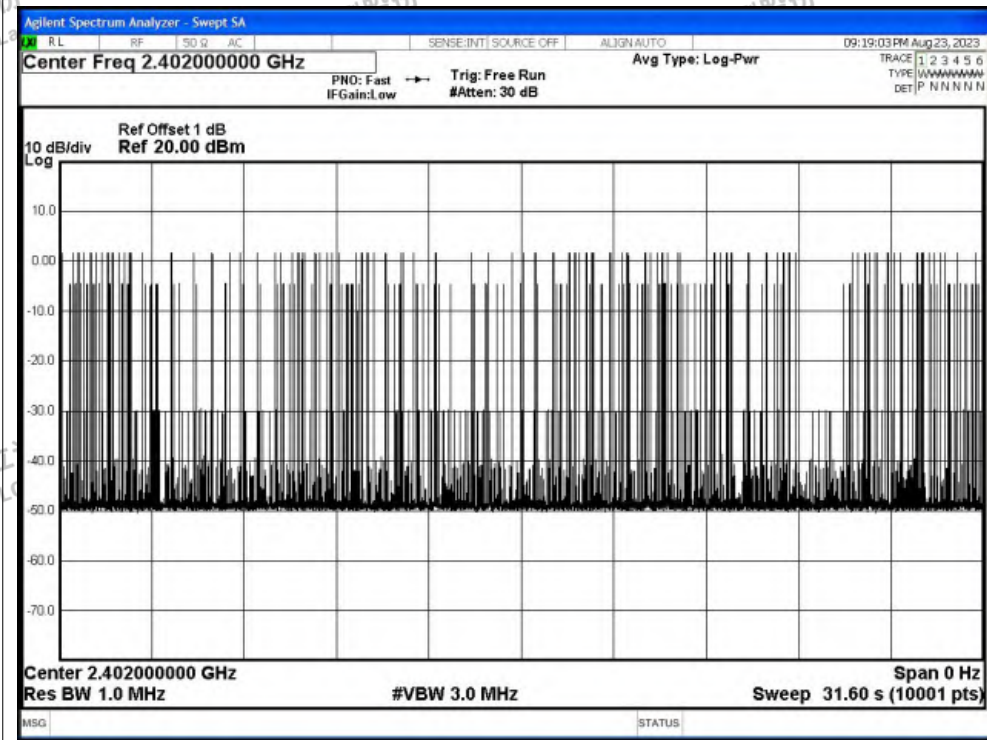




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst

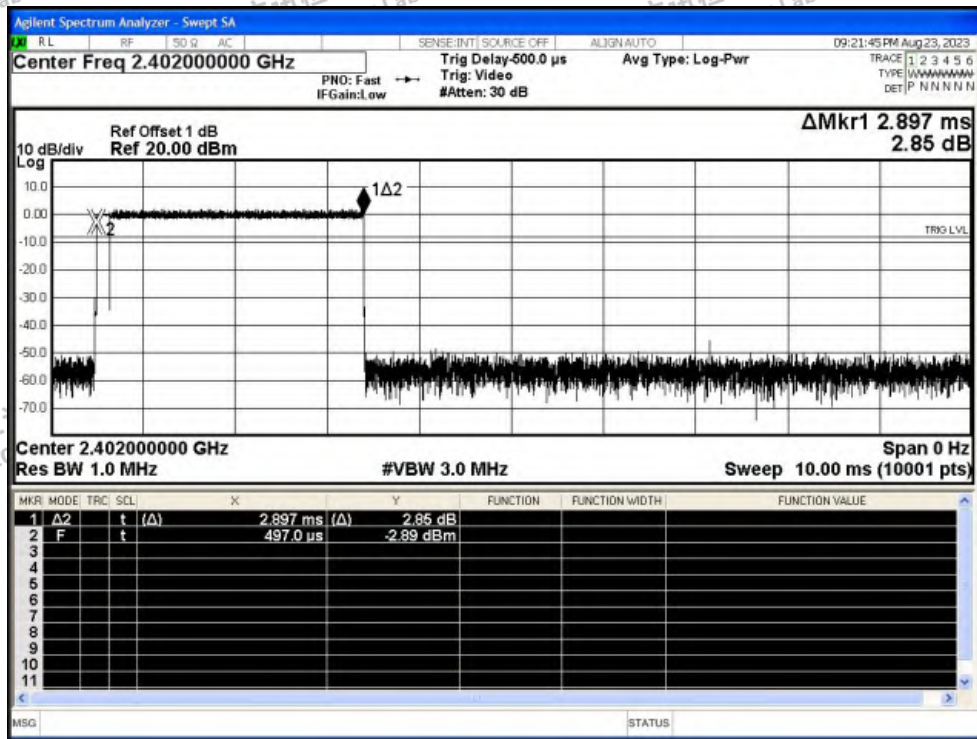


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

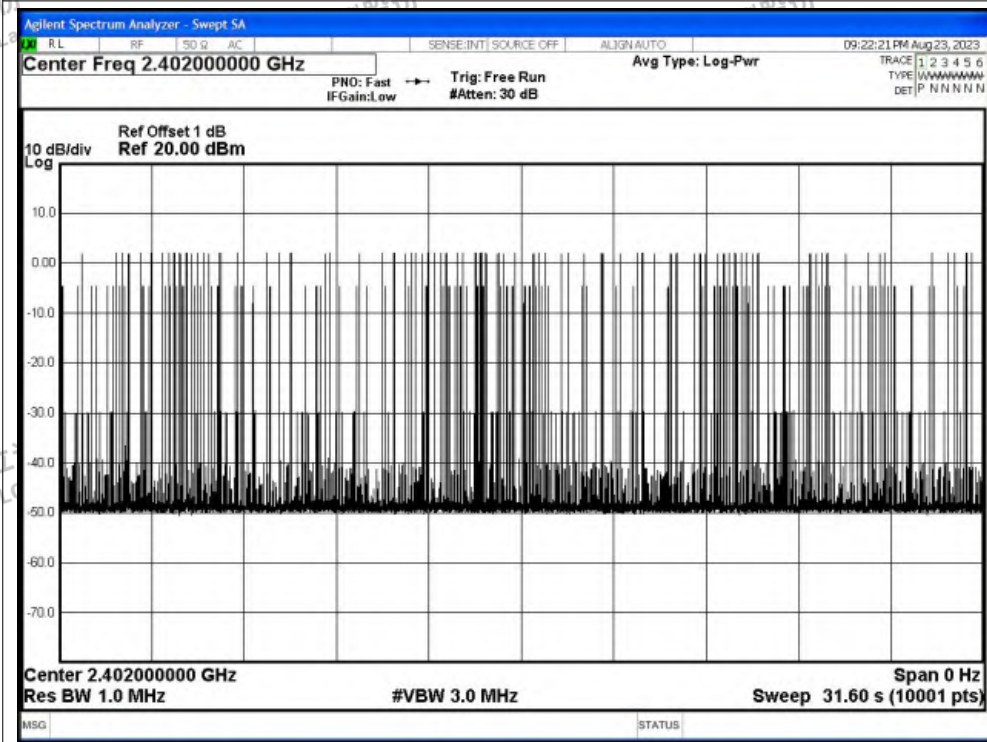




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated





A.5 Number of Hopping Channel

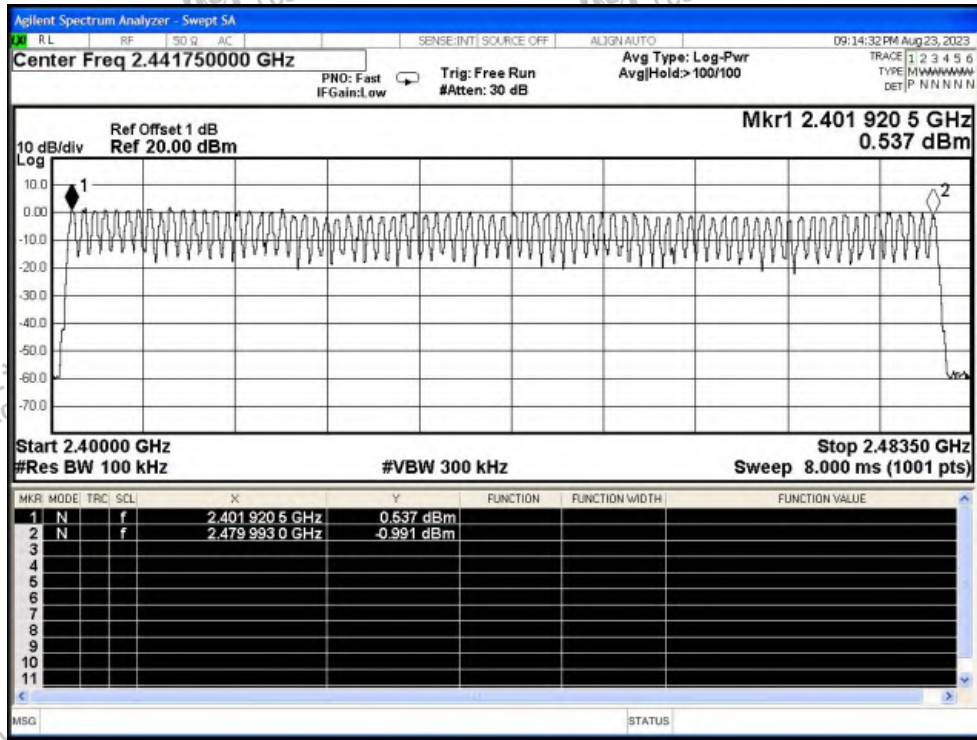
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass



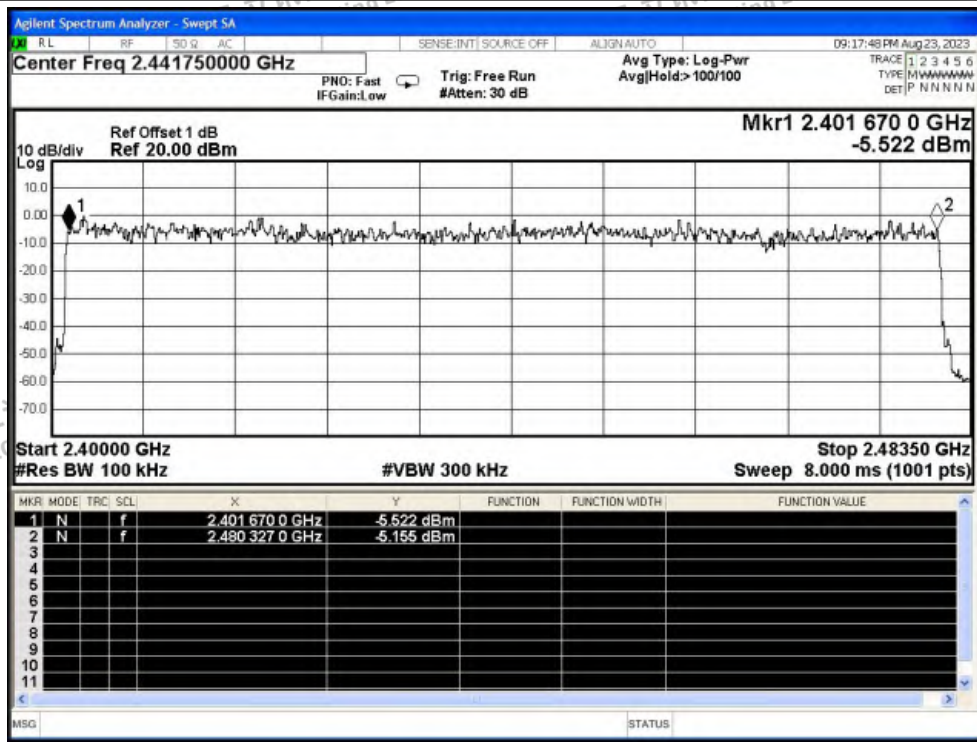


Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1

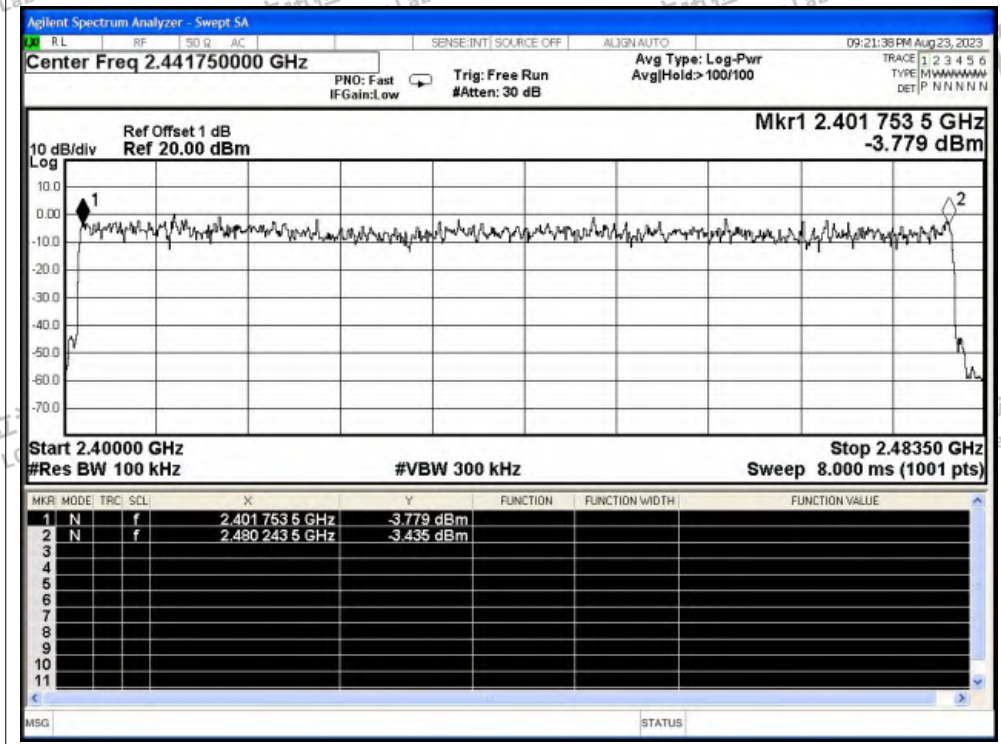


Hopping No. NVNT 2-DH5 2402MHz Ant1





Hopping No. NVNT 3-DH5 2402MHz Ant1





A.6 Band Edge

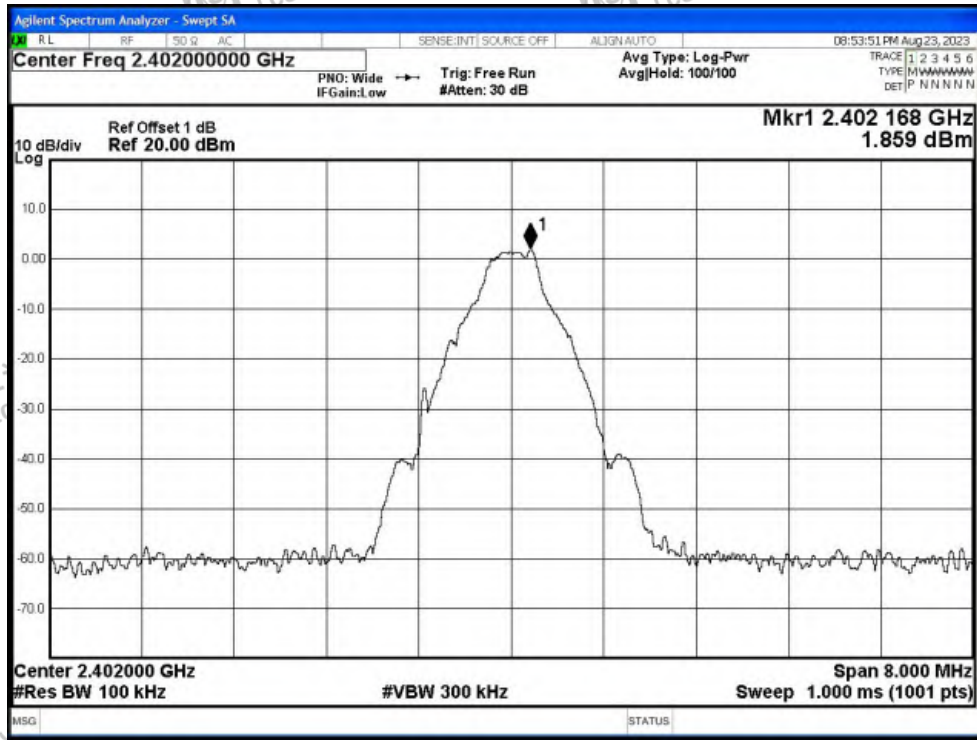
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-56.79	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-56.9	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-54.79	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-56.08	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-54.63	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-56.84	-20	Pass



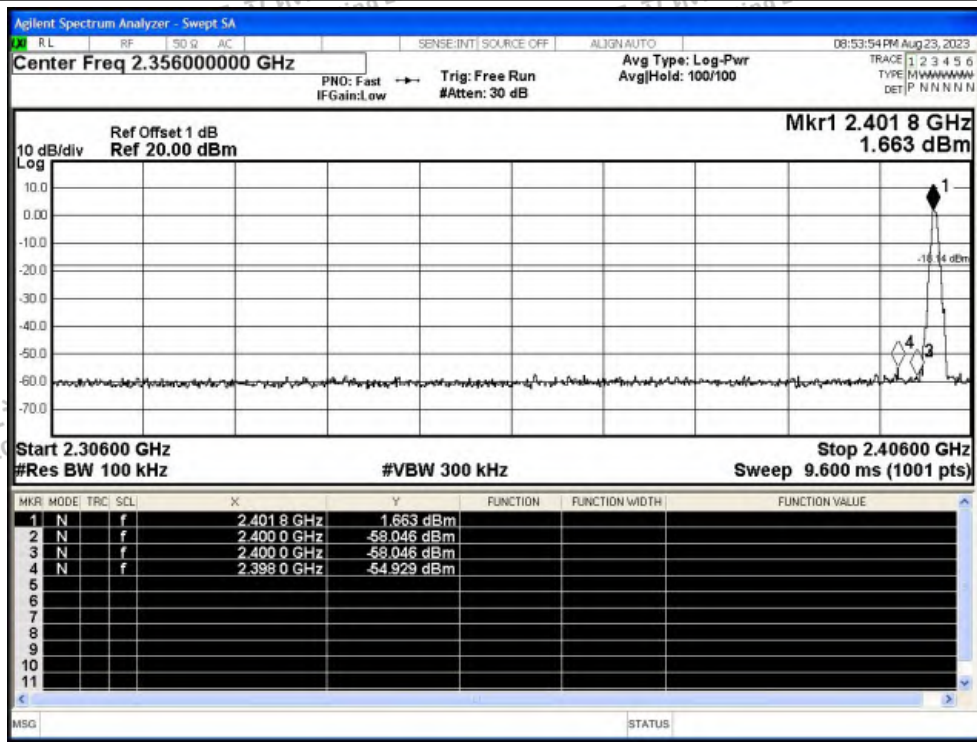


Test Graphs

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

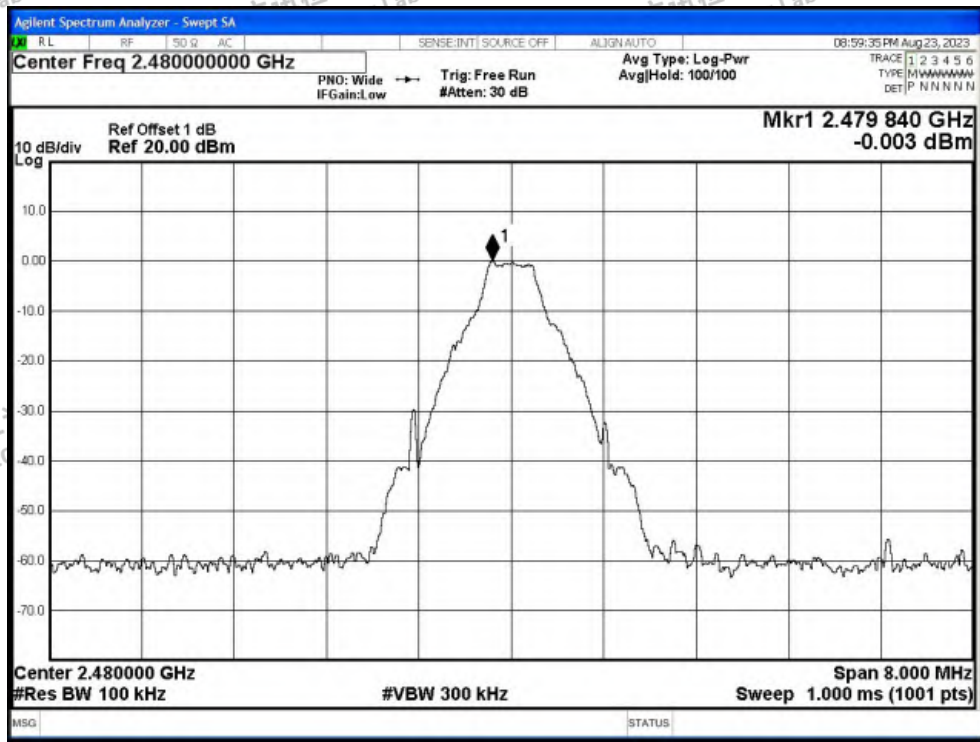


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

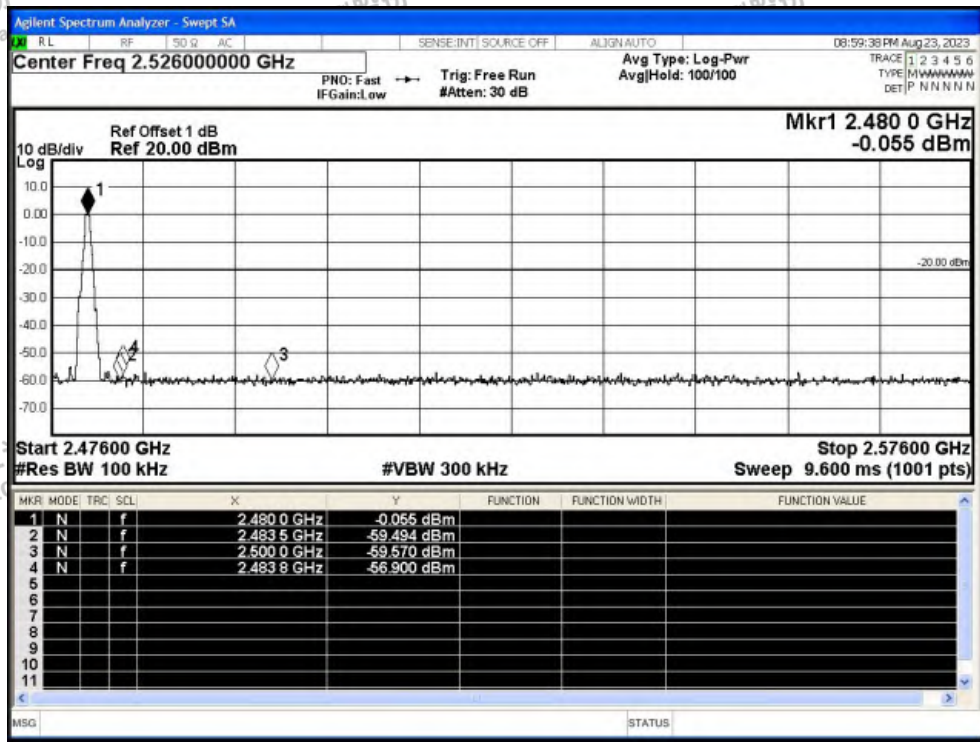




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

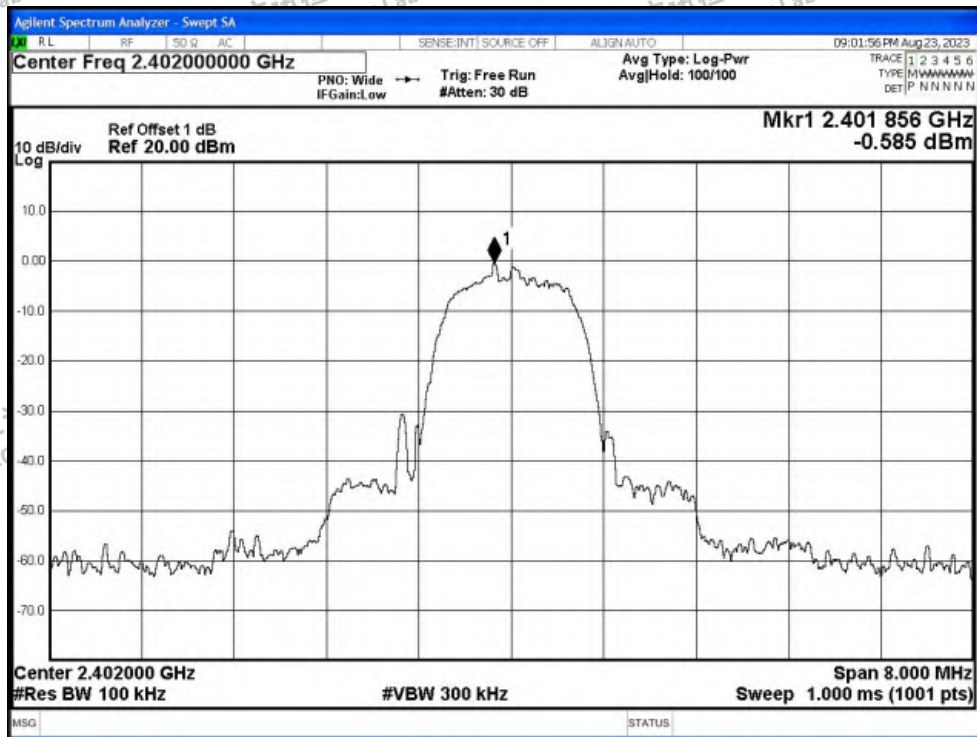


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

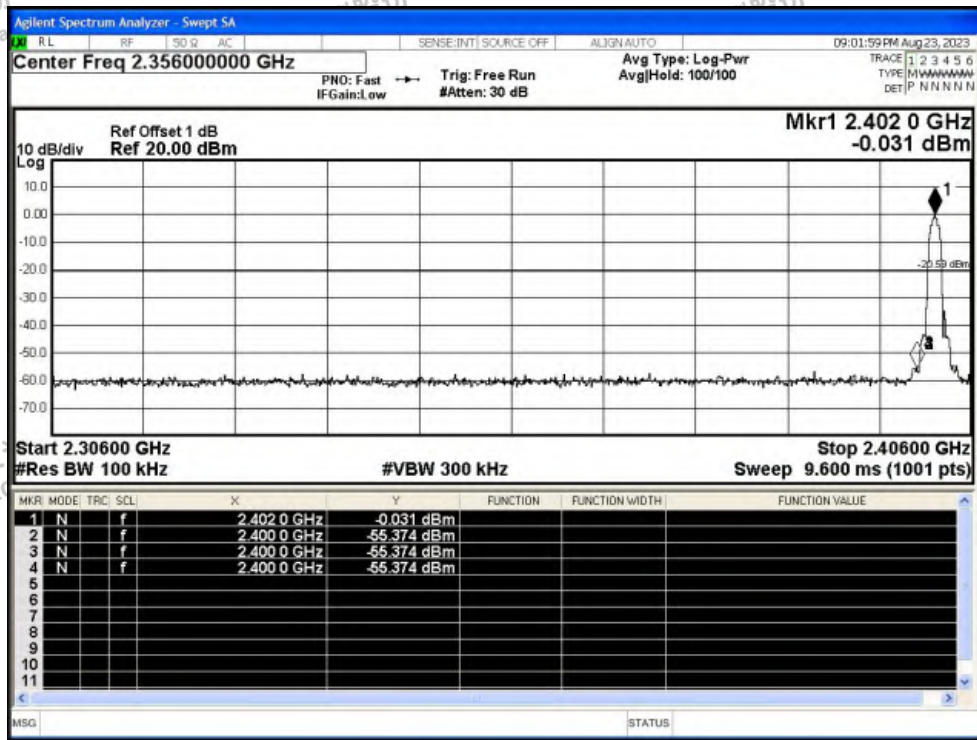




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

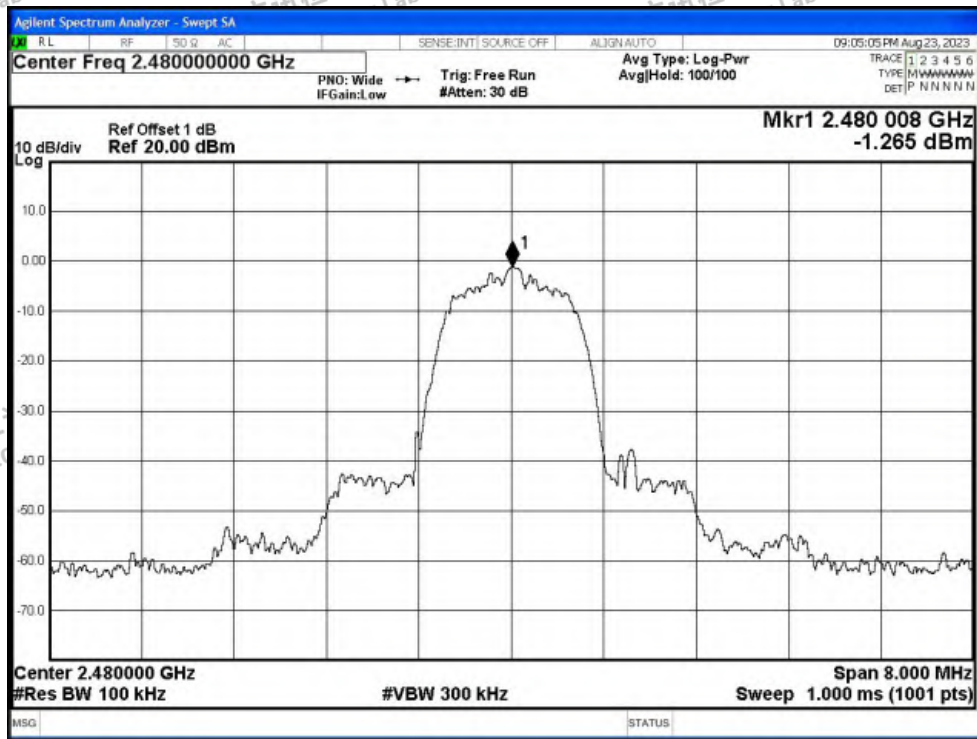


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

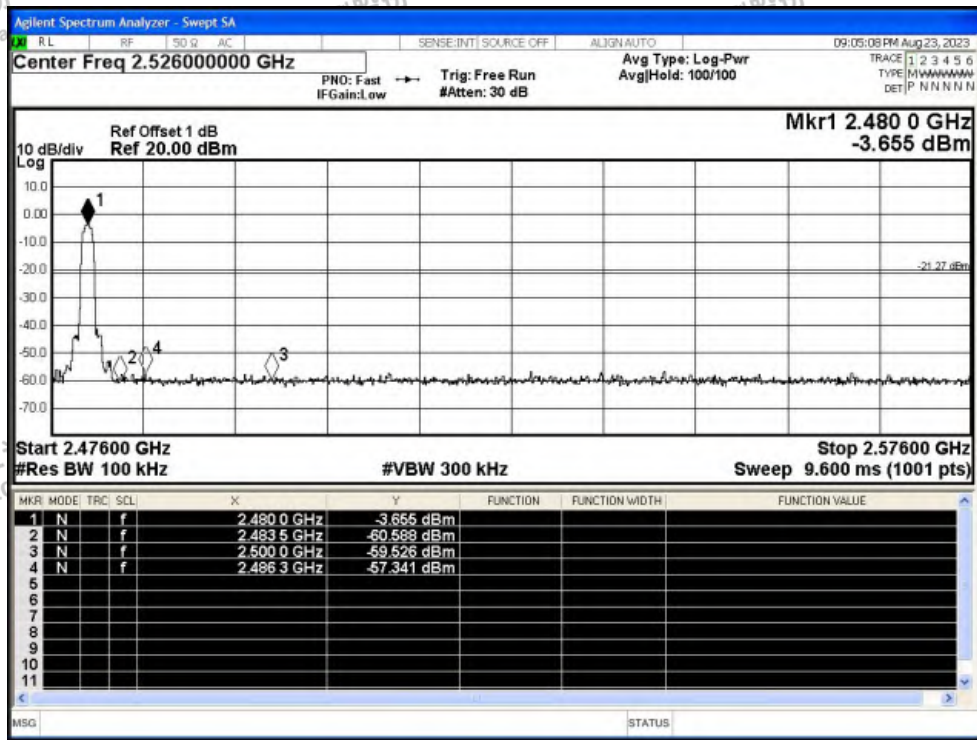




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

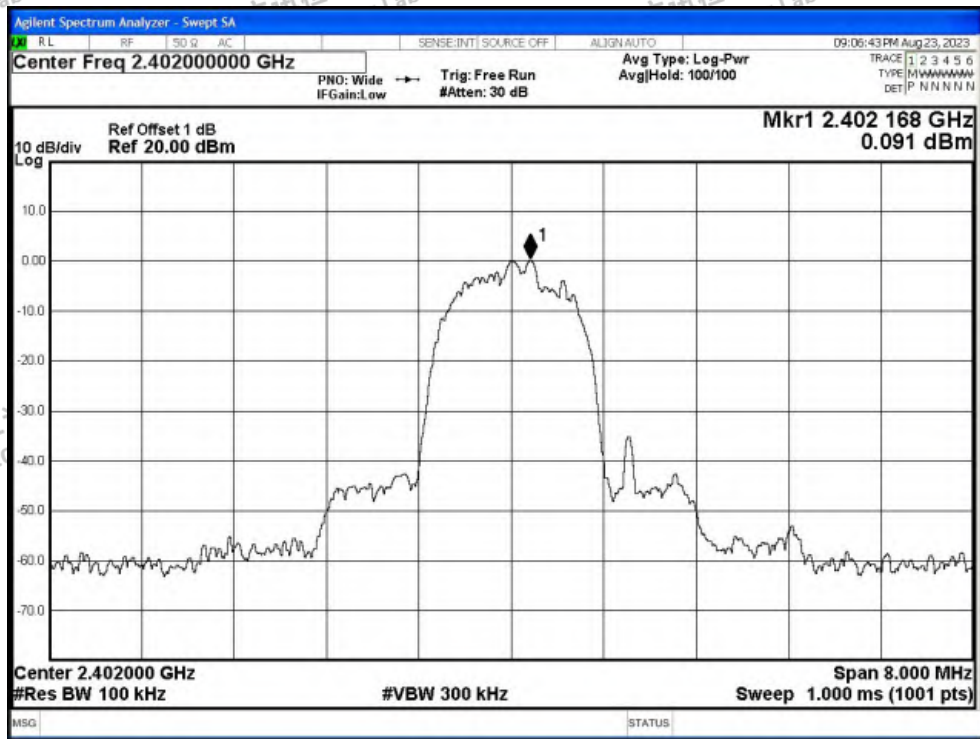


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

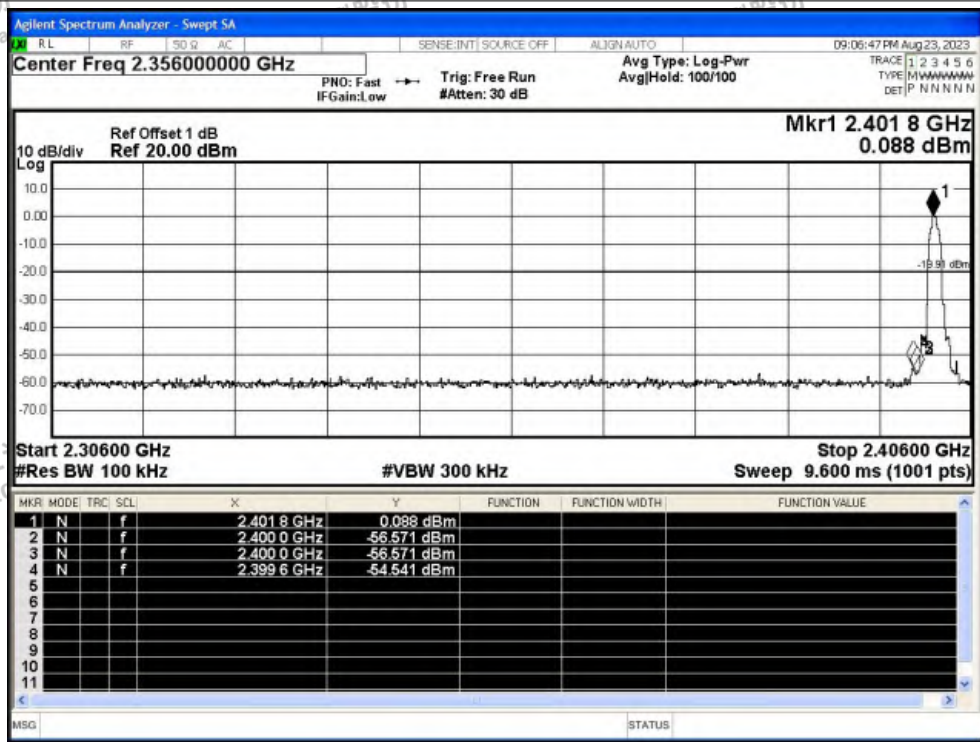




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

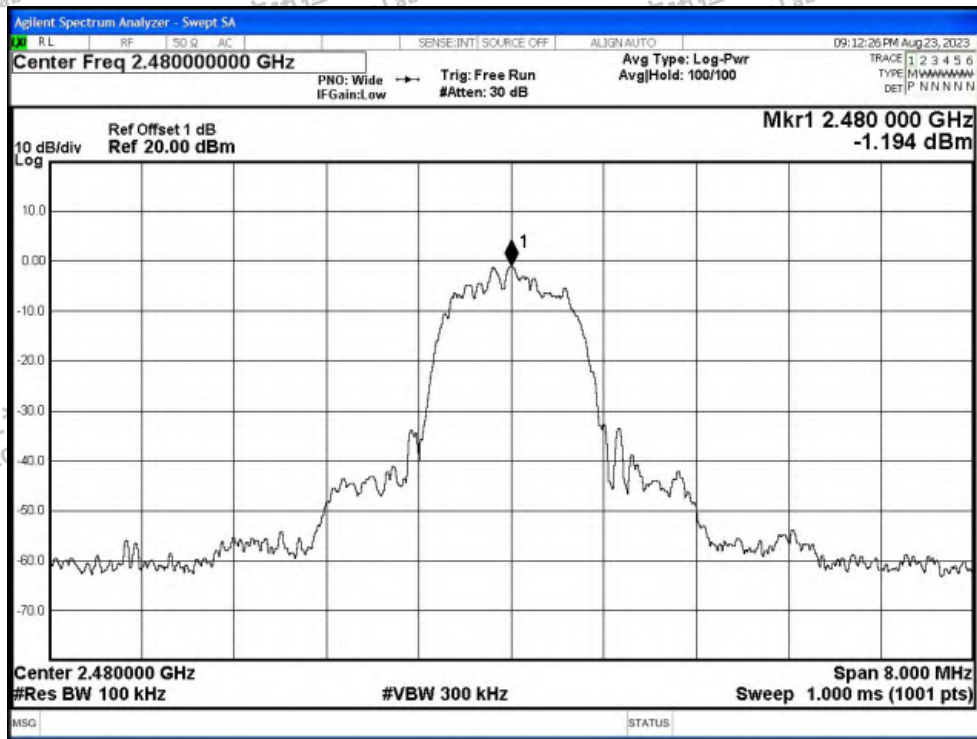


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

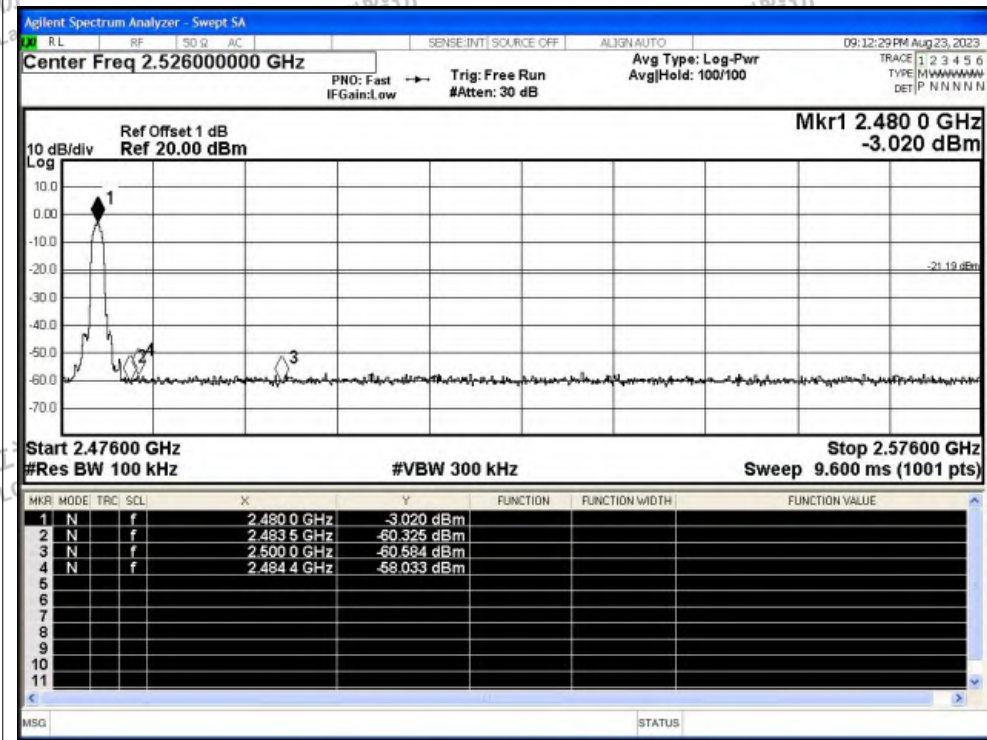




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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





(Hopping)

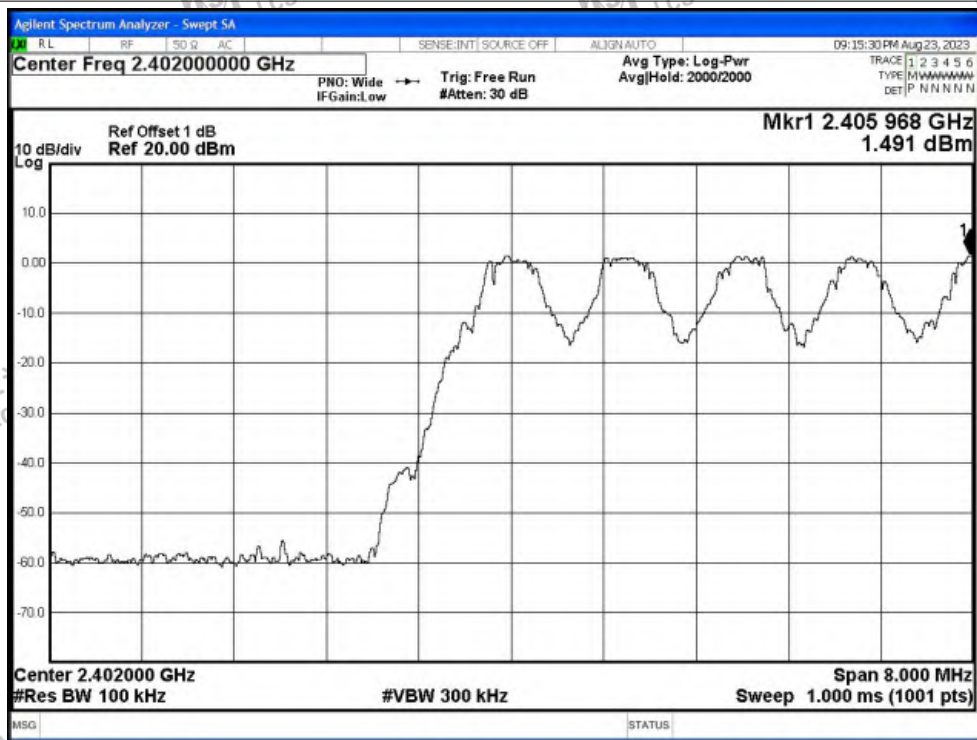
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-56.67	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-55.75	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-56.33	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-53.64	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-56.09	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-55.07	-20	Pass



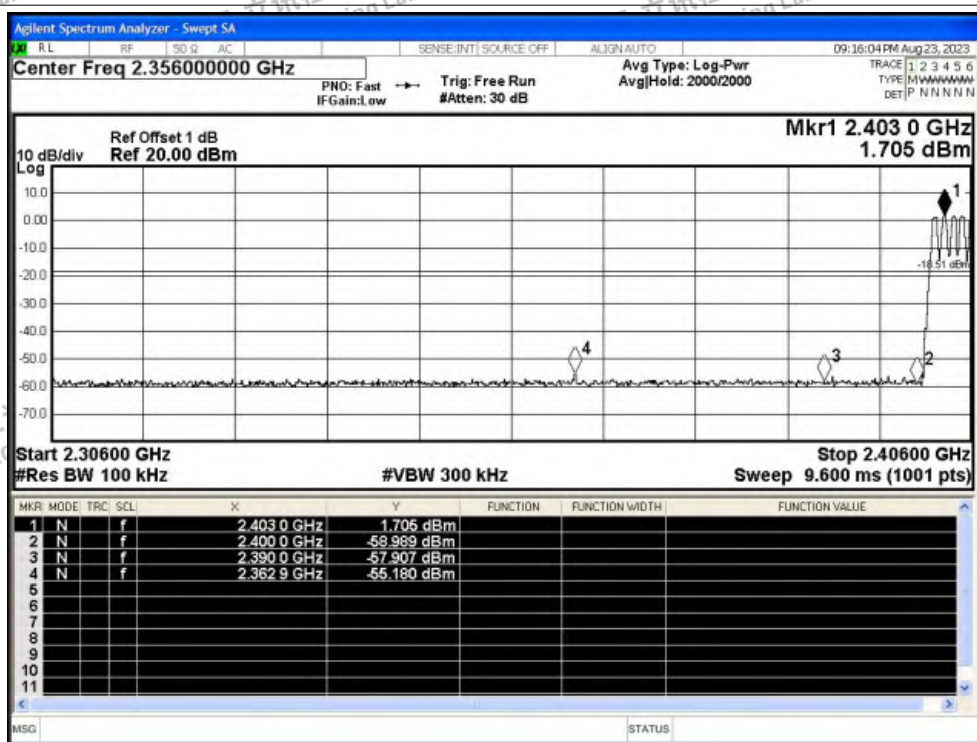


Test Graphs

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

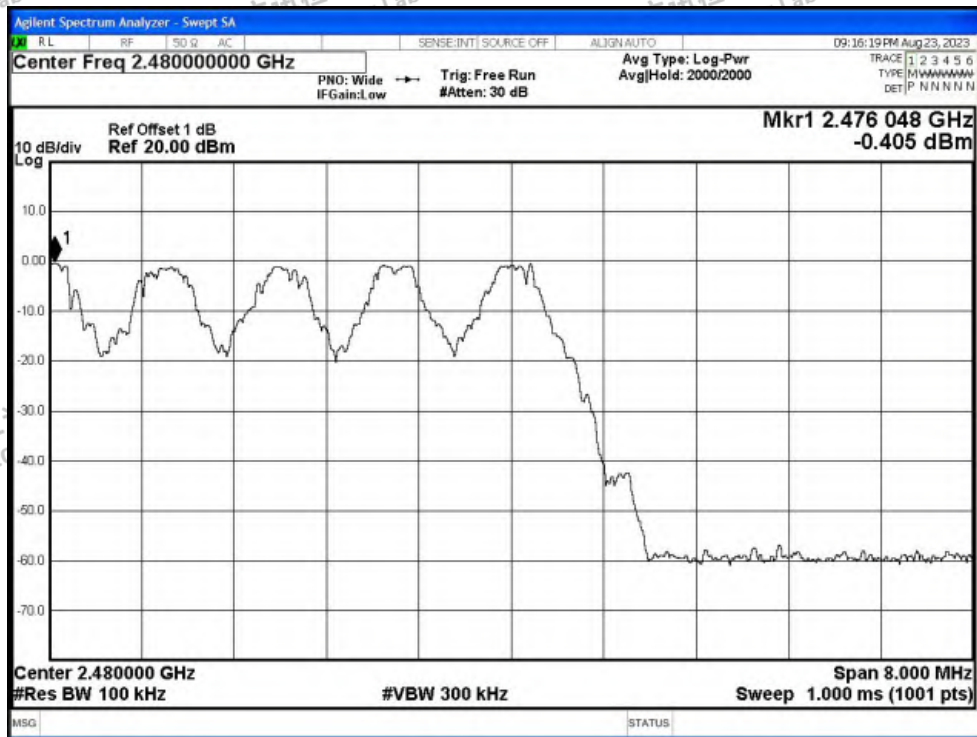


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

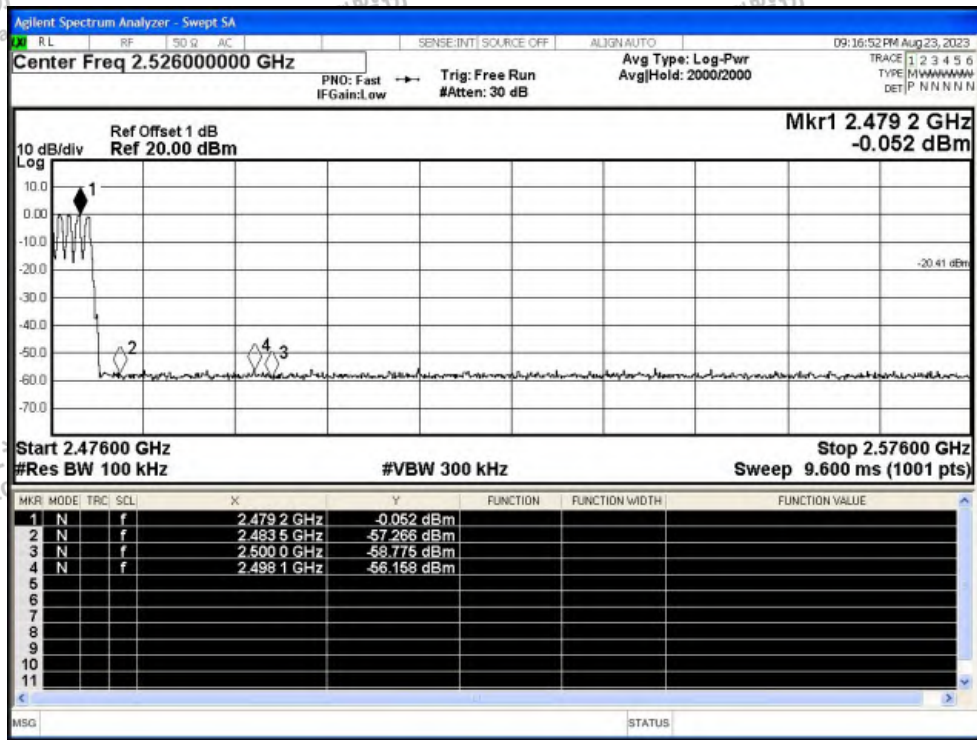




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



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

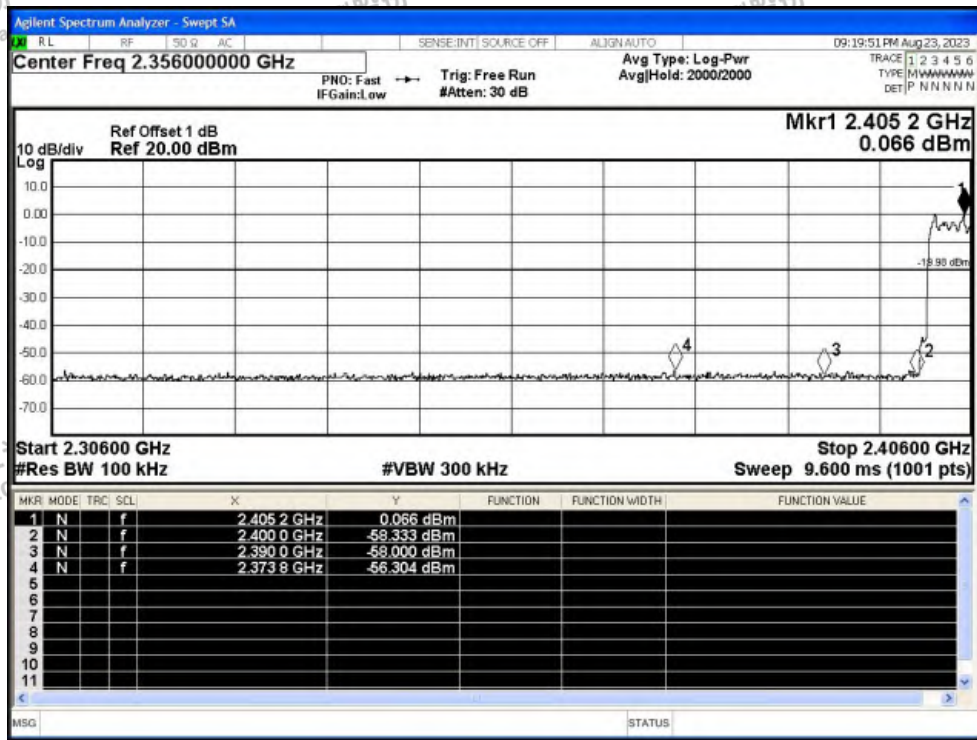




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

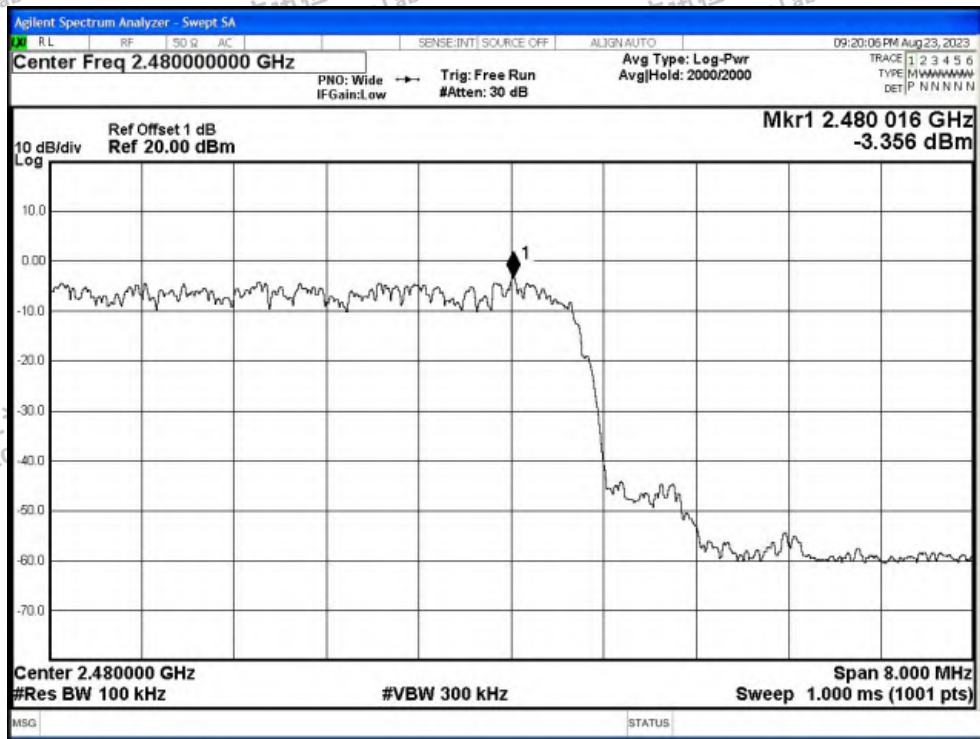


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

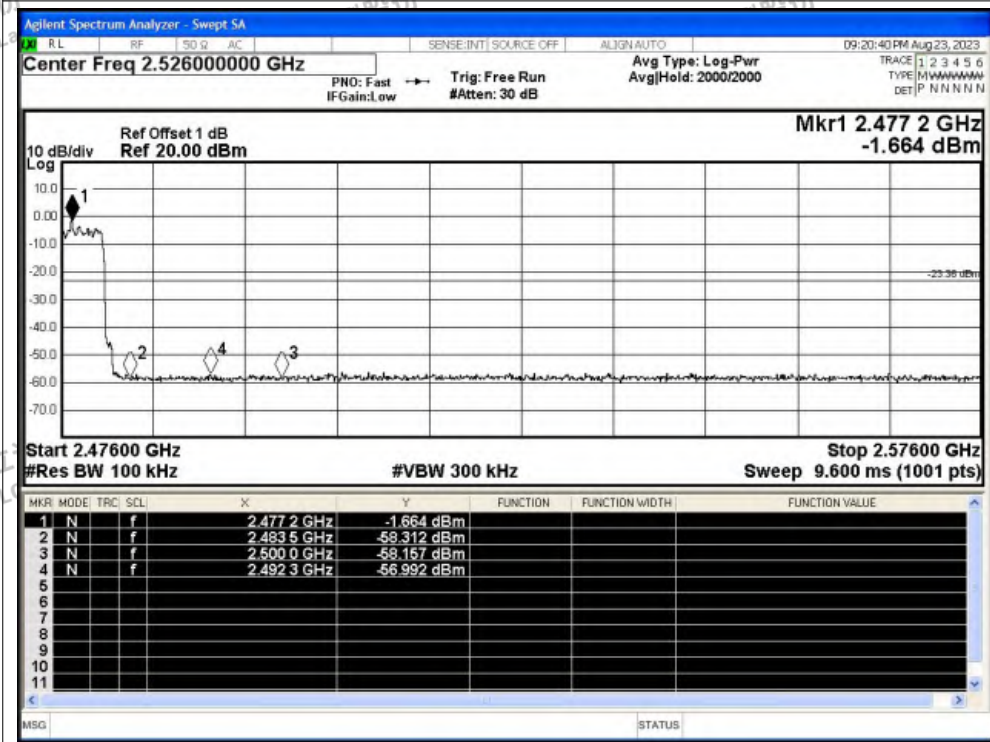




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



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

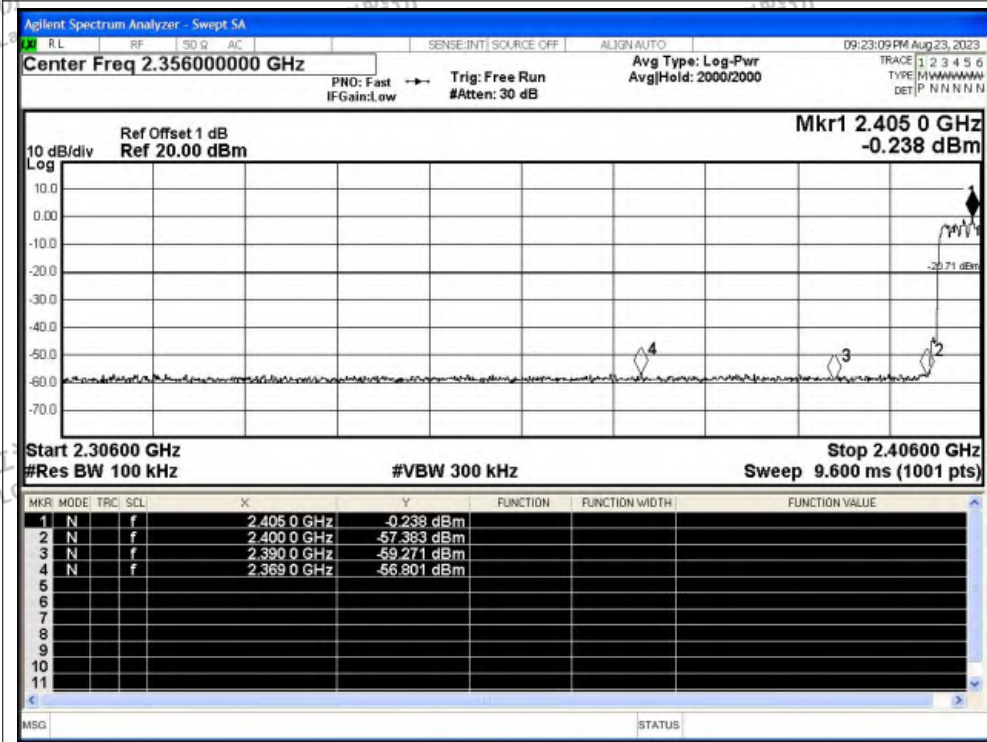




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



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

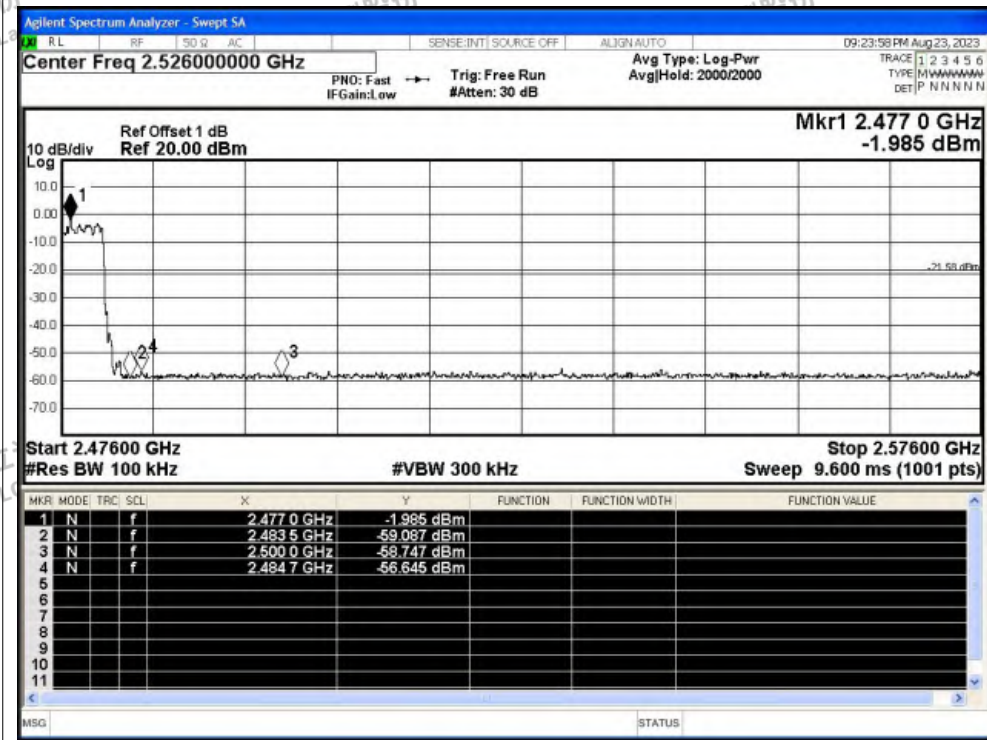




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



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





A.7 Conducted RF Spurious Emission

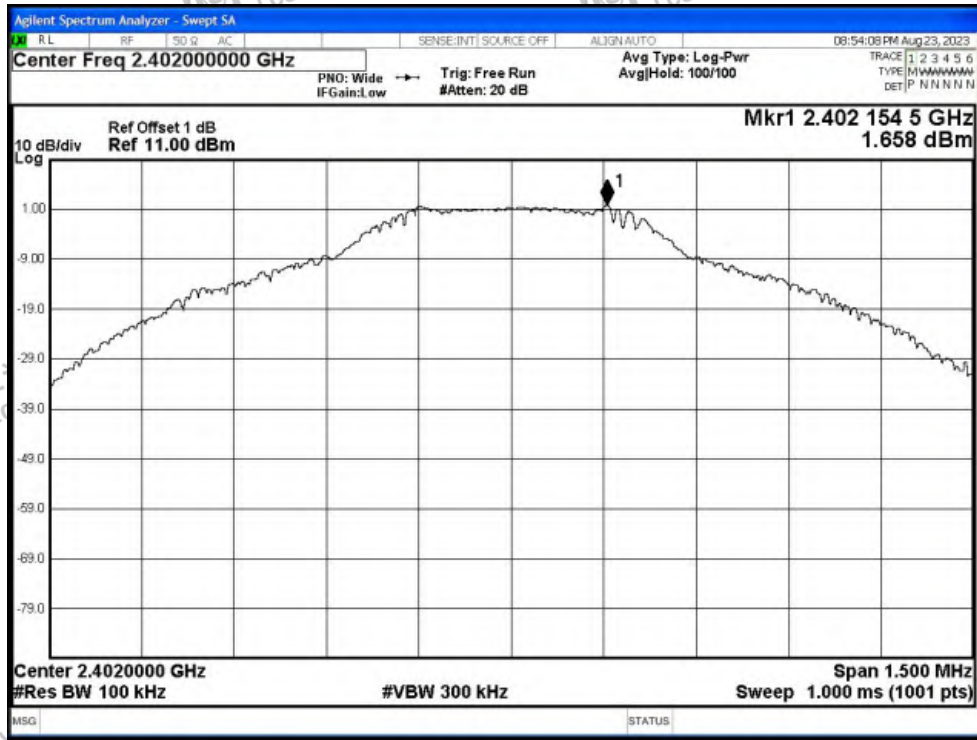
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-57.11	-20	Pass
NVNT	1-DH5	2441	Ant1	-56.78	-20	Pass
NVNT	1-DH5	2480	Ant1	-39.35	-20	Pass
NVNT	2-DH5	2402	Ant1	-56.36	-20	Pass
NVNT	2-DH5	2441	Ant1	-42.51	-20	Pass
NVNT	2-DH5	2480	Ant1	-54.23	-20	Pass
NVNT	3-DH5	2402	Ant1	-56.16	-20	Pass
NVNT	3-DH5	2441	Ant1	-54.88	-20	Pass
NVNT	3-DH5	2480	Ant1	-45.7	-20	Pass



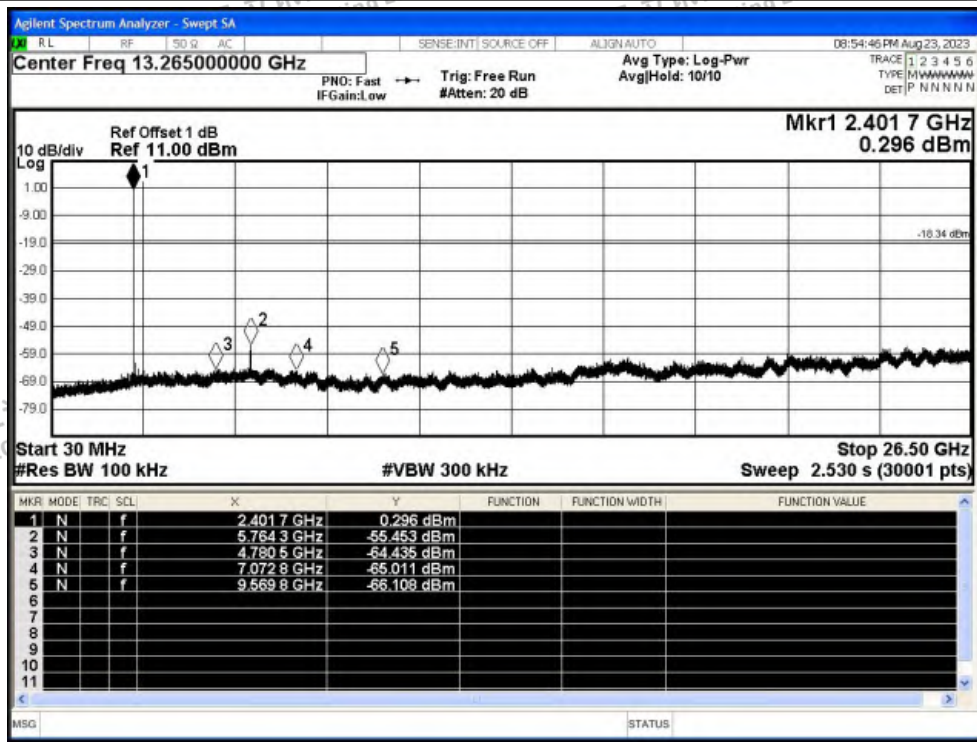


Test Graphs

Tx, Spurious NVNT 1-DH5 2402MHz Ant1 Ref

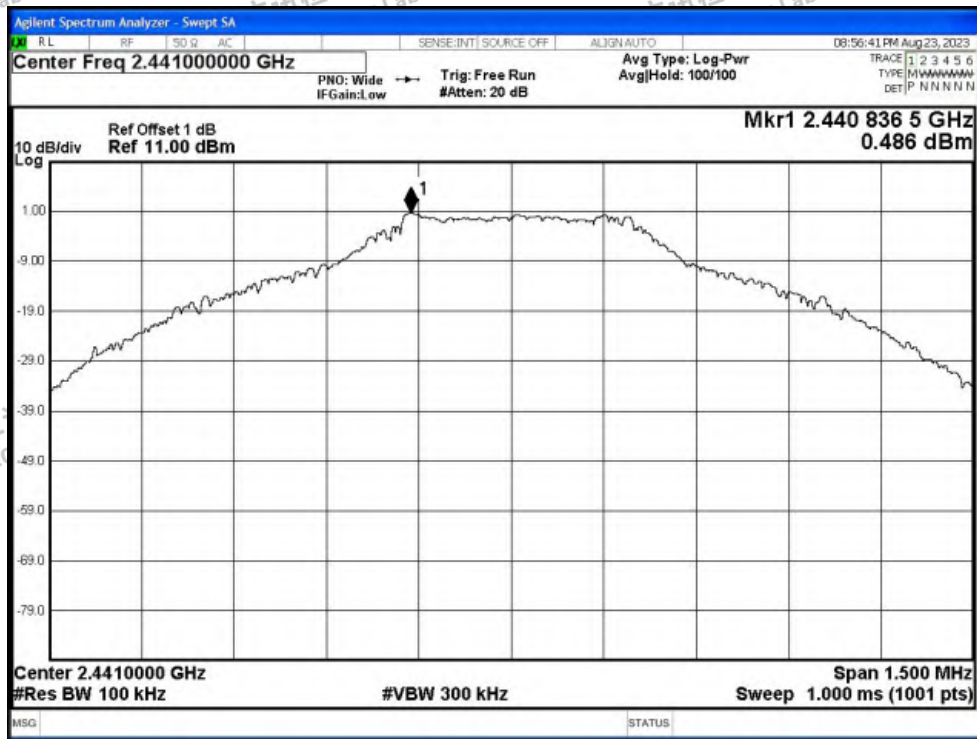


Tx, Spurious NVNT 1-DH5 2402MHz Ant1 Emission

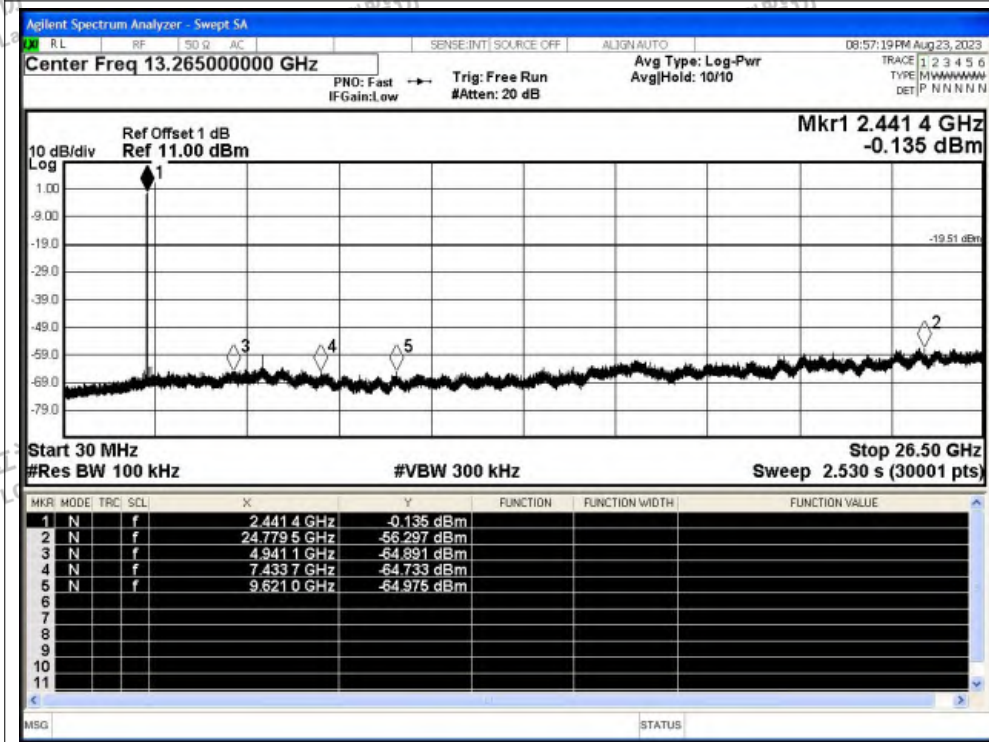




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

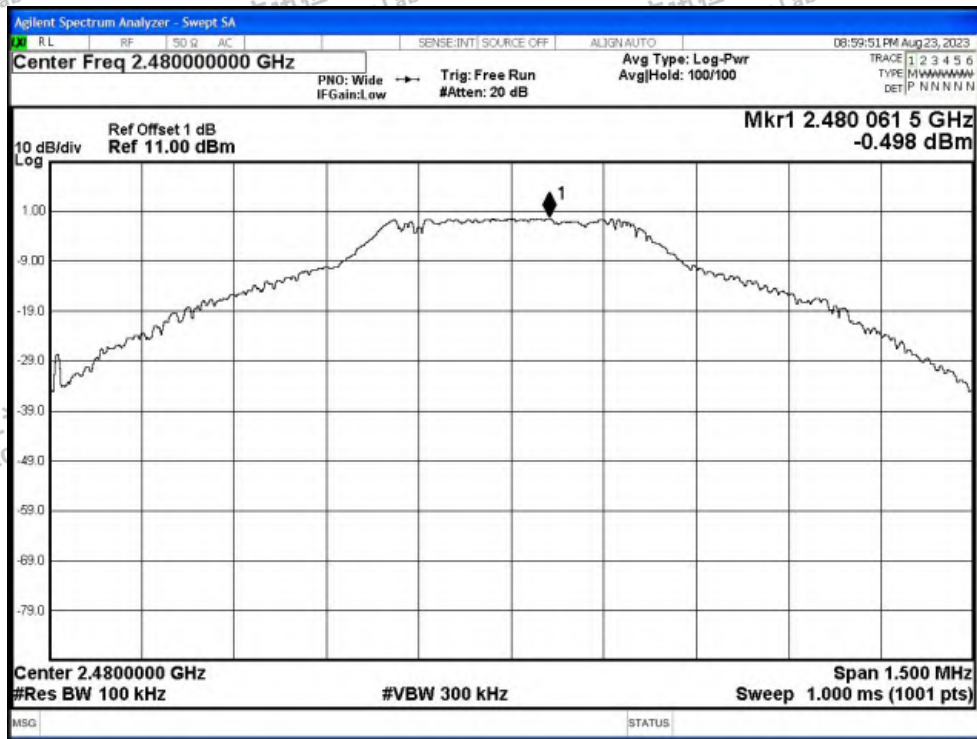


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

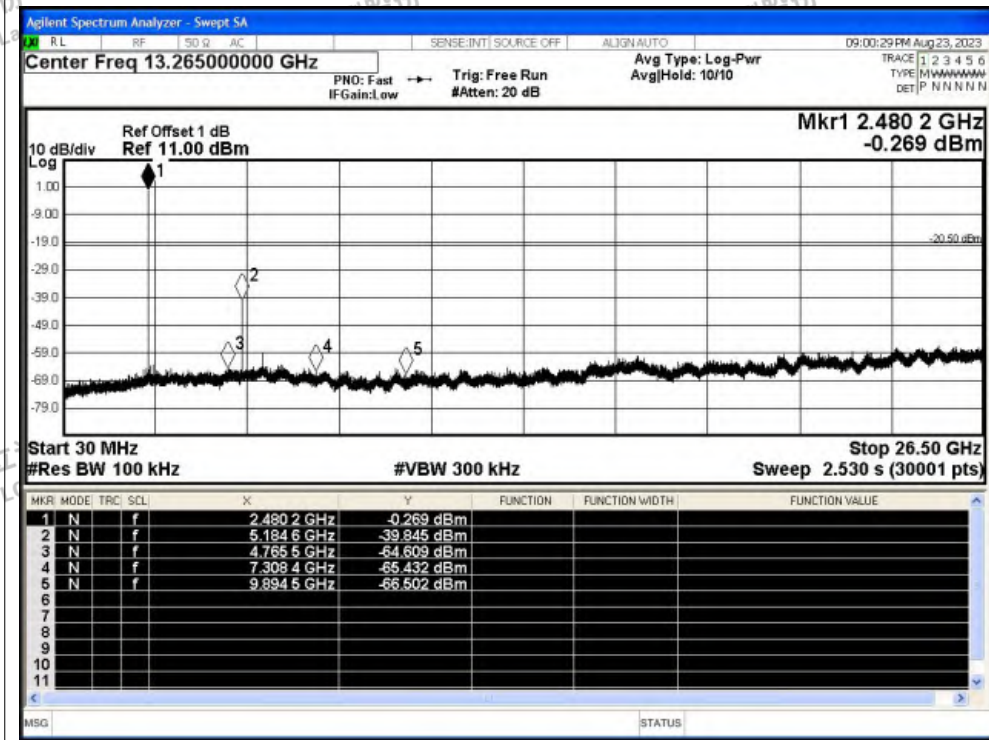




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

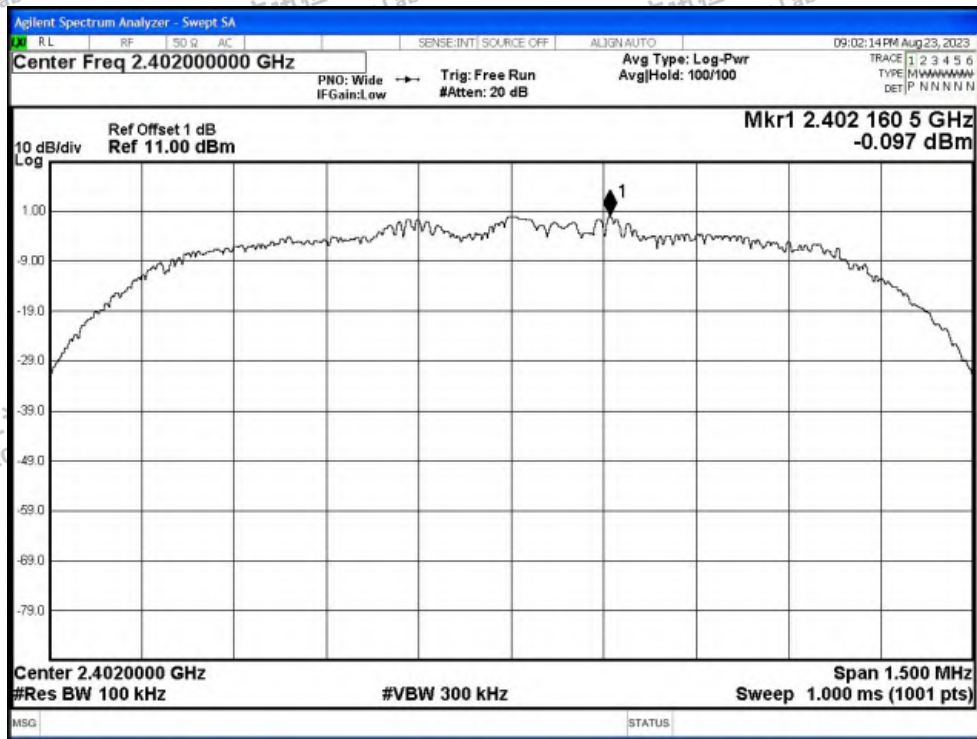


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

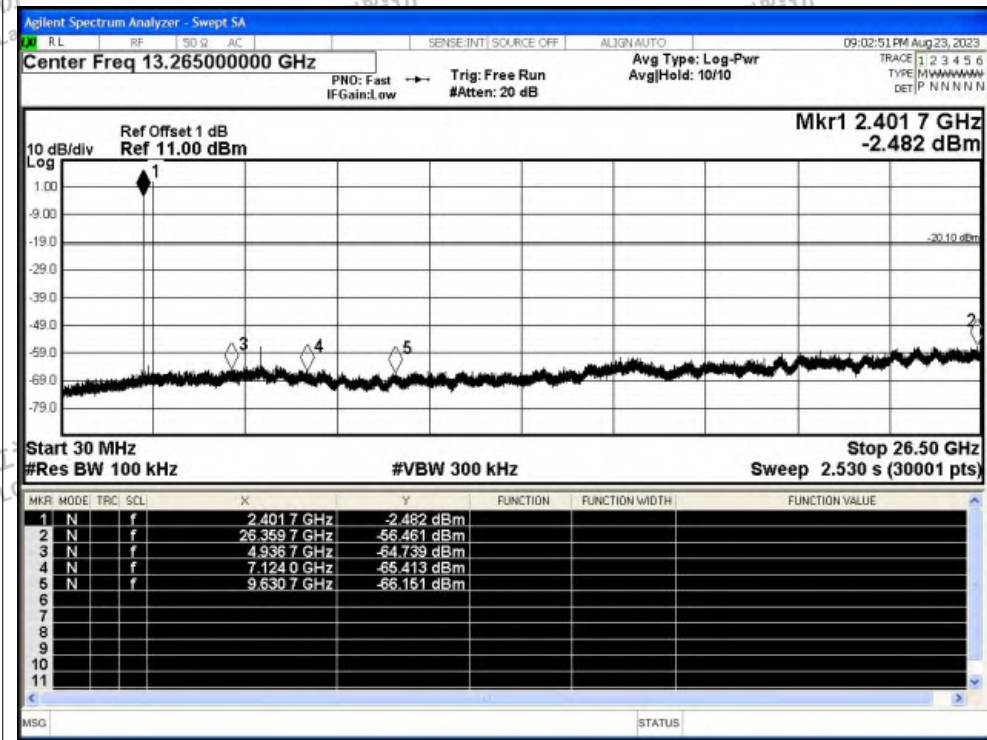




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

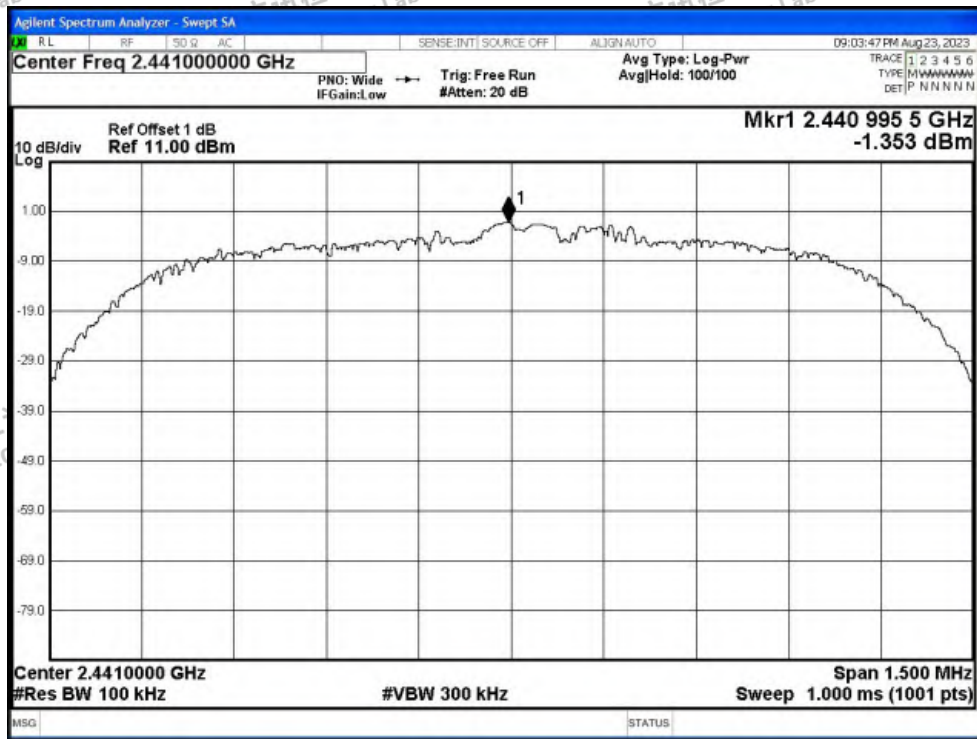


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

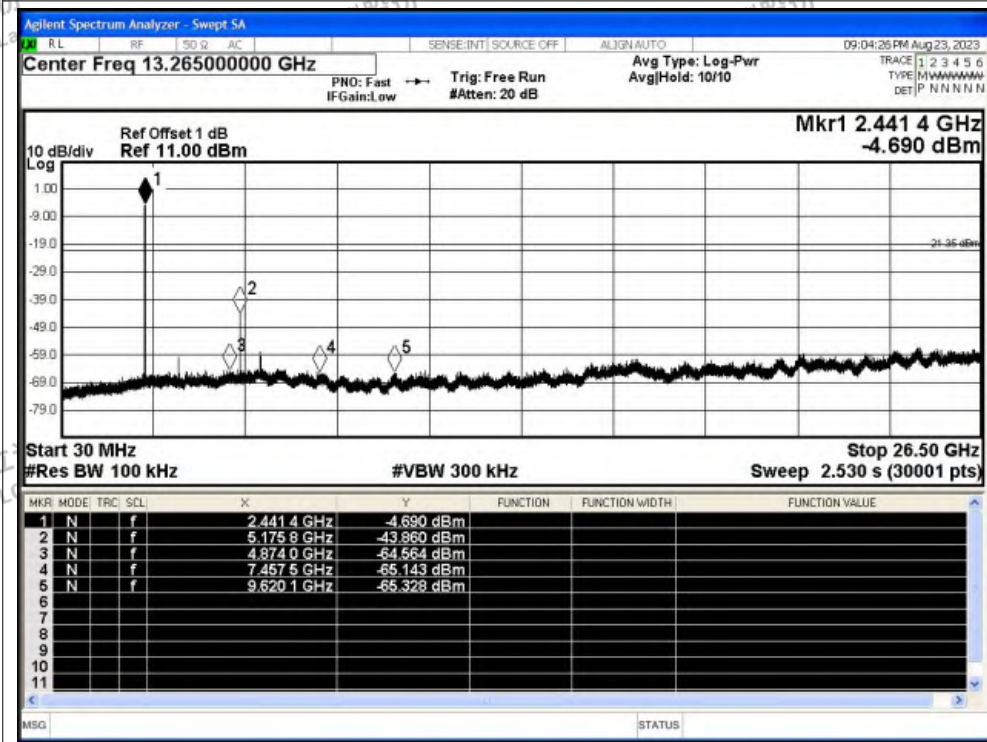




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

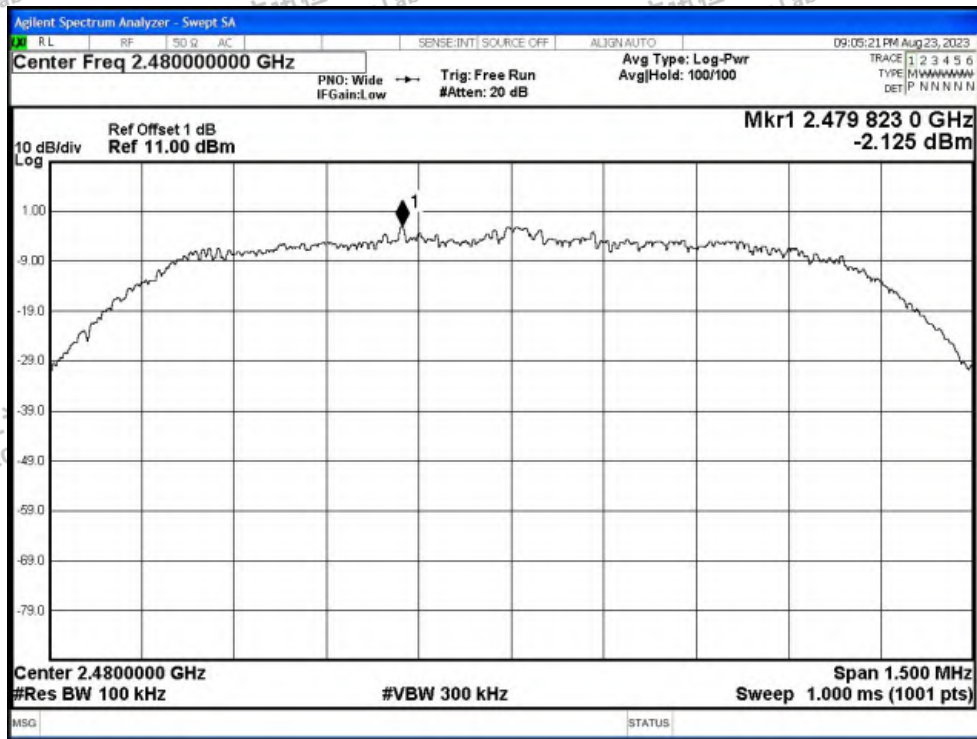


Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

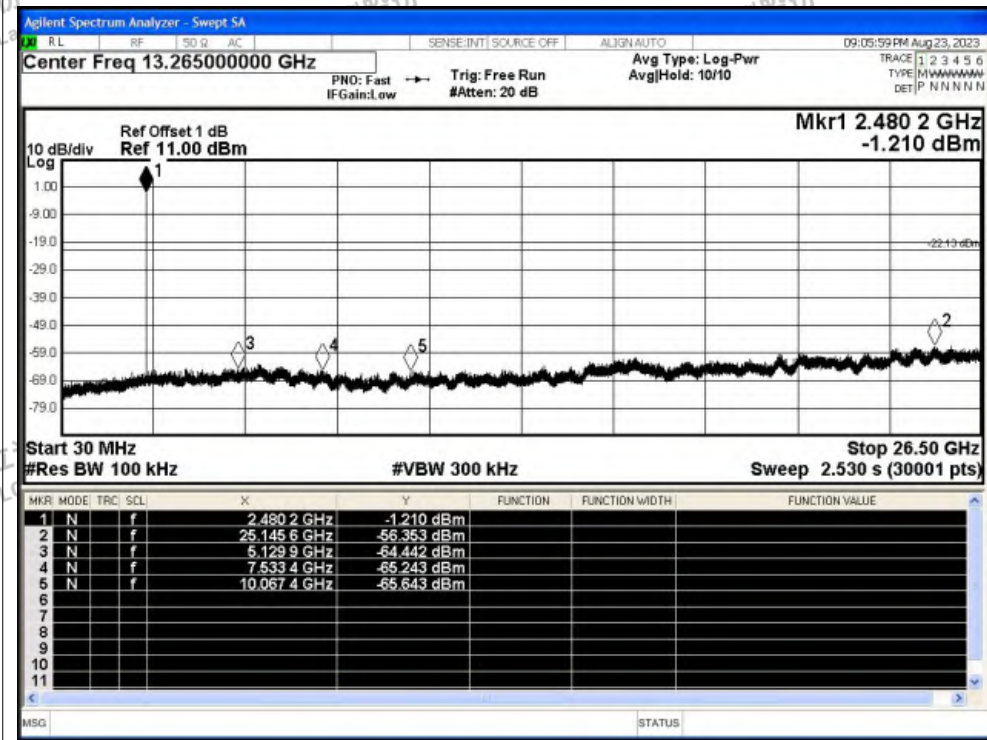




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref

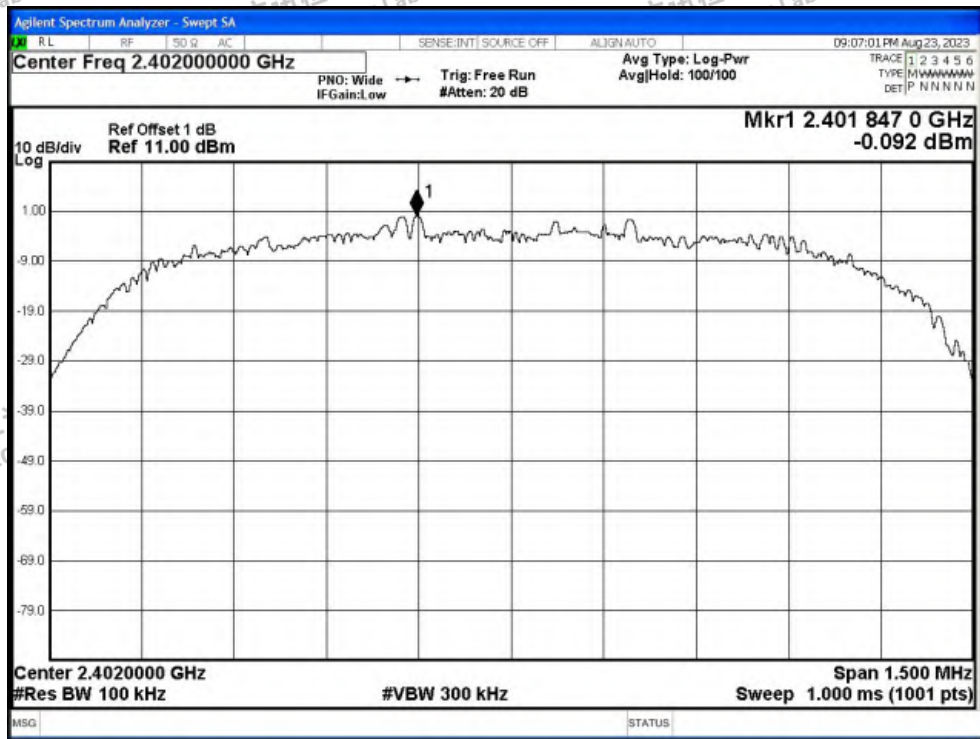


Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

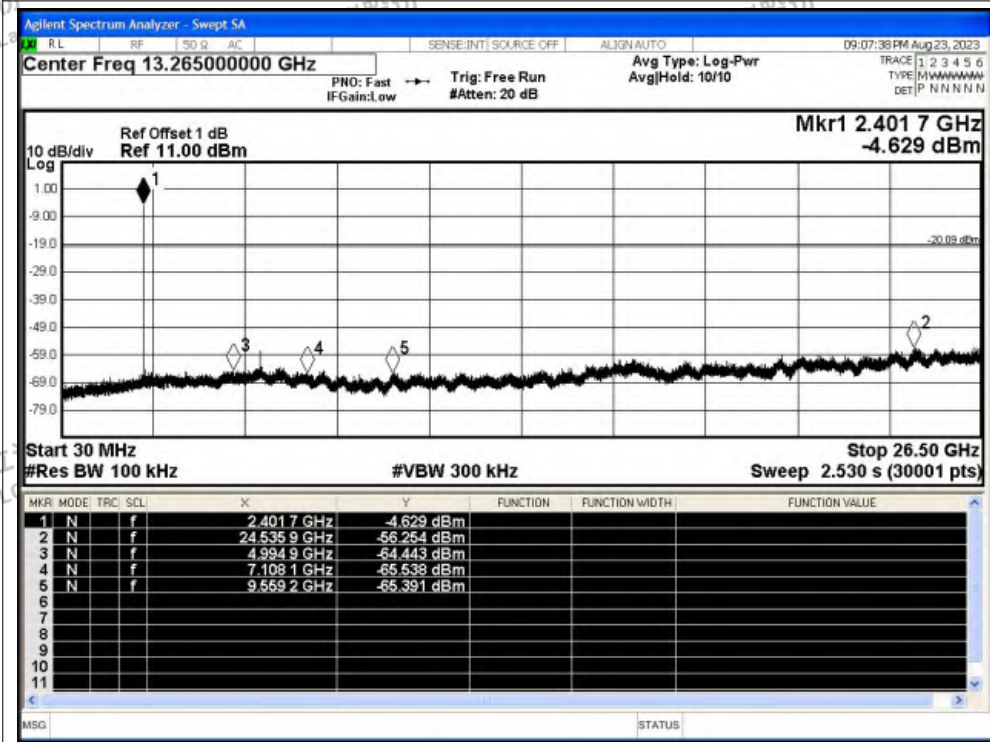




Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission

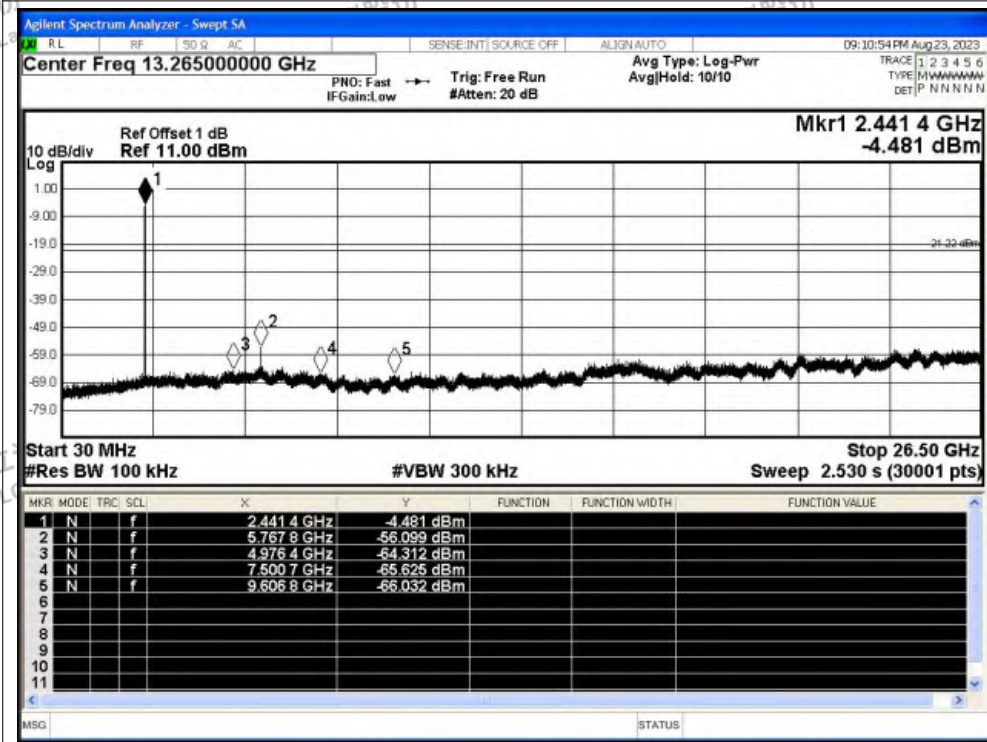




Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

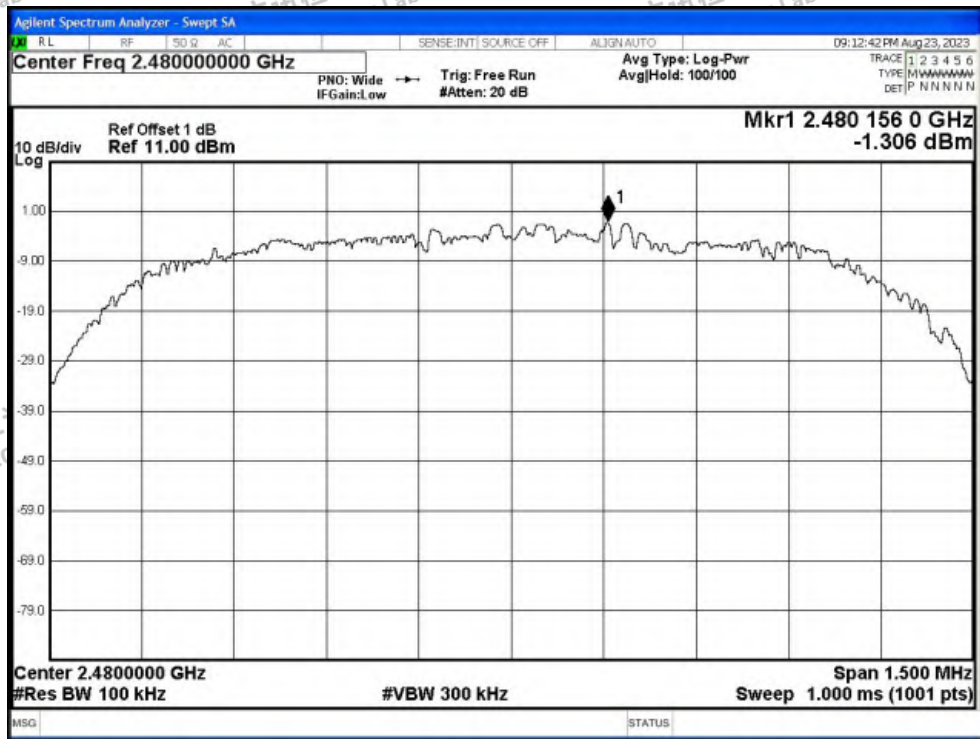


Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission

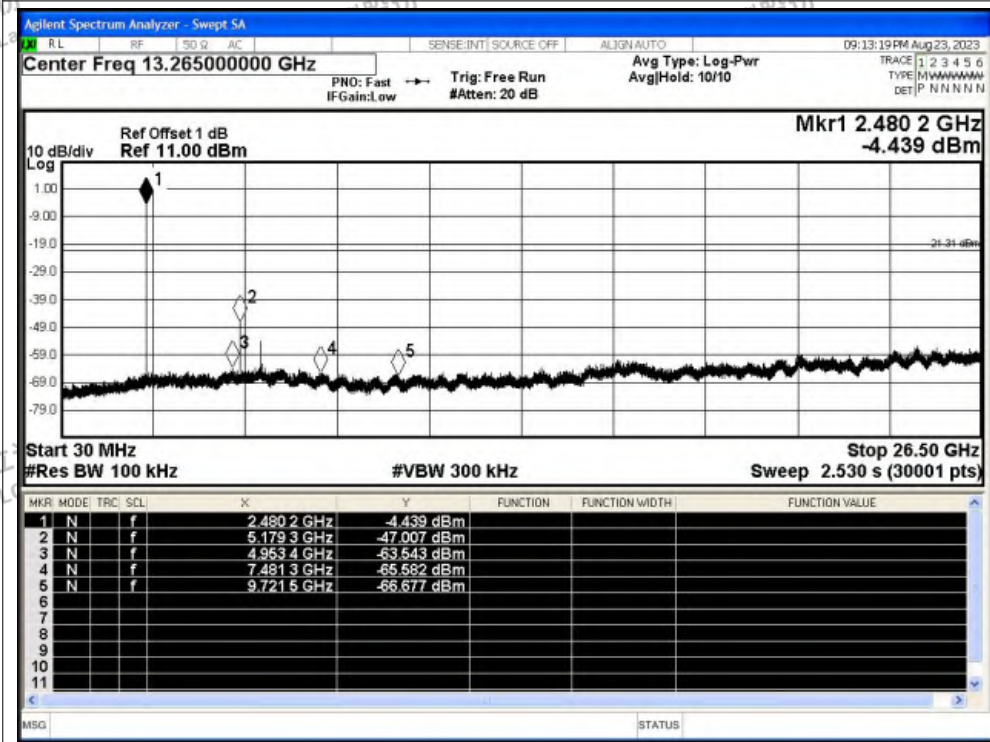




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.8 Restrict Band

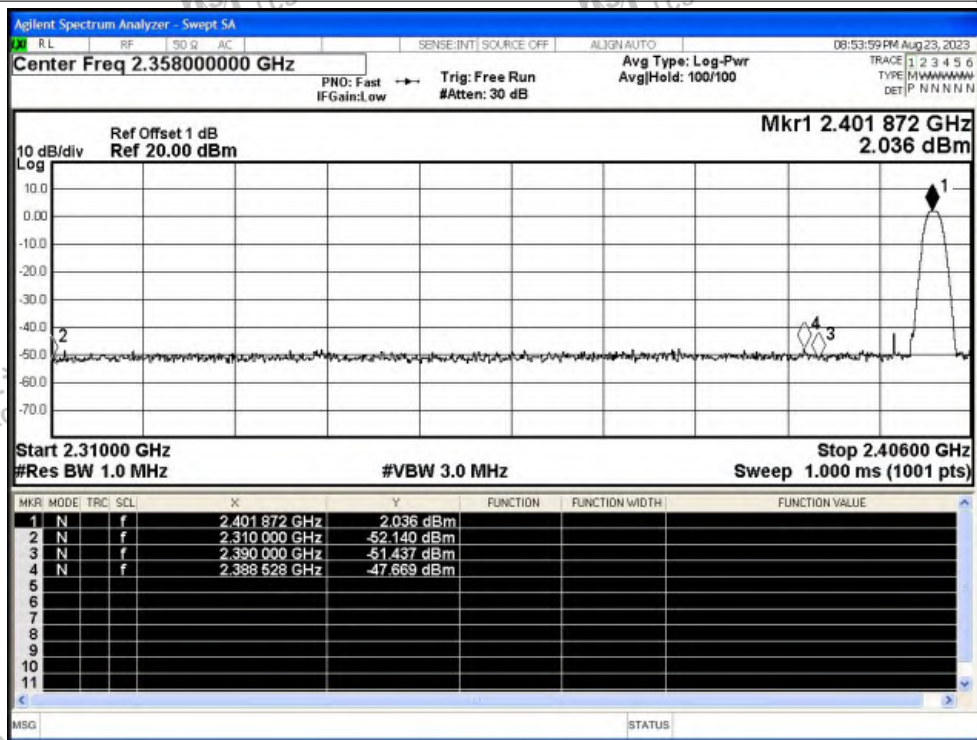
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBUV/m)	Detector	Limit (dBUV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-52.14	2	45.12	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-60.82	2	36.44	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2388.528	-47.67	2	49.59	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2338.032	-59.91	2	37.35	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-51.44	2	45.82	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-60.53	2	36.73	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.25	2	47.01	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-60.06	2	37.2	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.496	-41.22	2	56.04	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.632	-59.97	2	37.29	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-51.01	2	46.25	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-60.34	2	36.92	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-51.21	2	46.05	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-60.85	2	36.41	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2325.744	-47.28	2	49.98	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2384.4	-60.32	2	36.94	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-51.02	2	46.24	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-60.46	2	36.8	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.11	2	48.15	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-60.09	2	37.17	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2491.504	-47.56	2	49.7	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.872	-60.08	2	37.18	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.46	2	46.8	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-60.52	2	36.74	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-52.03	2	45.23	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-60.91	2	36.35	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2344.08	-47.77	2	49.49	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2376.528	-60.3	2	36.96	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.11	2	47.15	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-60.54	2	36.72	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-39.65	2	57.61	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-60.06	2	37.2	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.608	-39.51	2	57.75	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.848	-60.05	2	37.21	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.23	2	47.03	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-60.4	2	36.86	Average	54	Pass



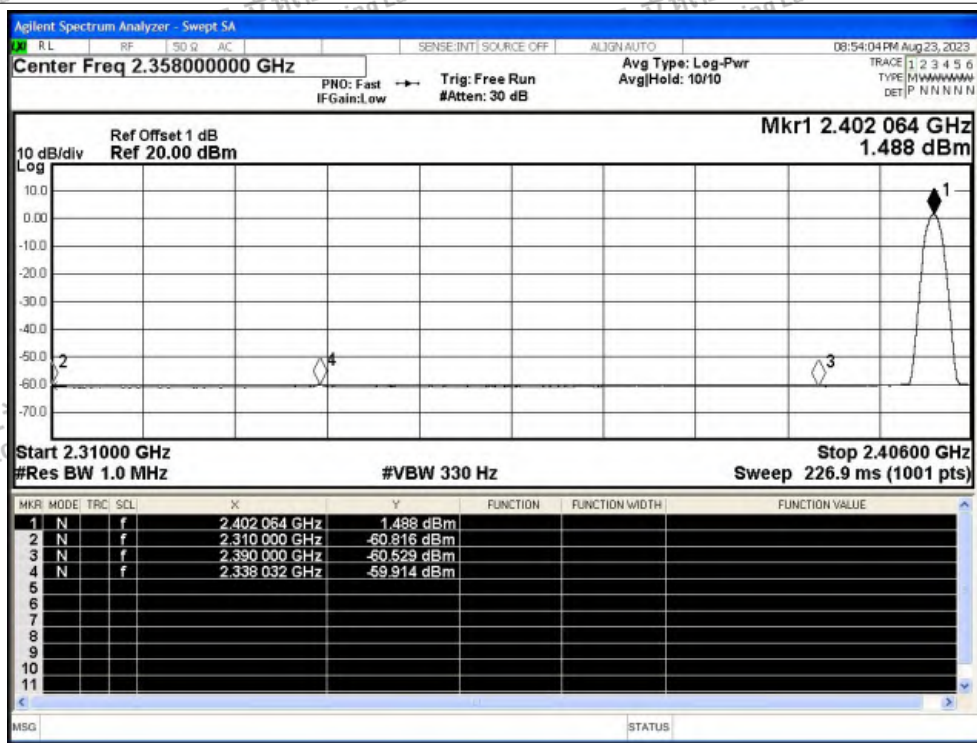


Test Graphs

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

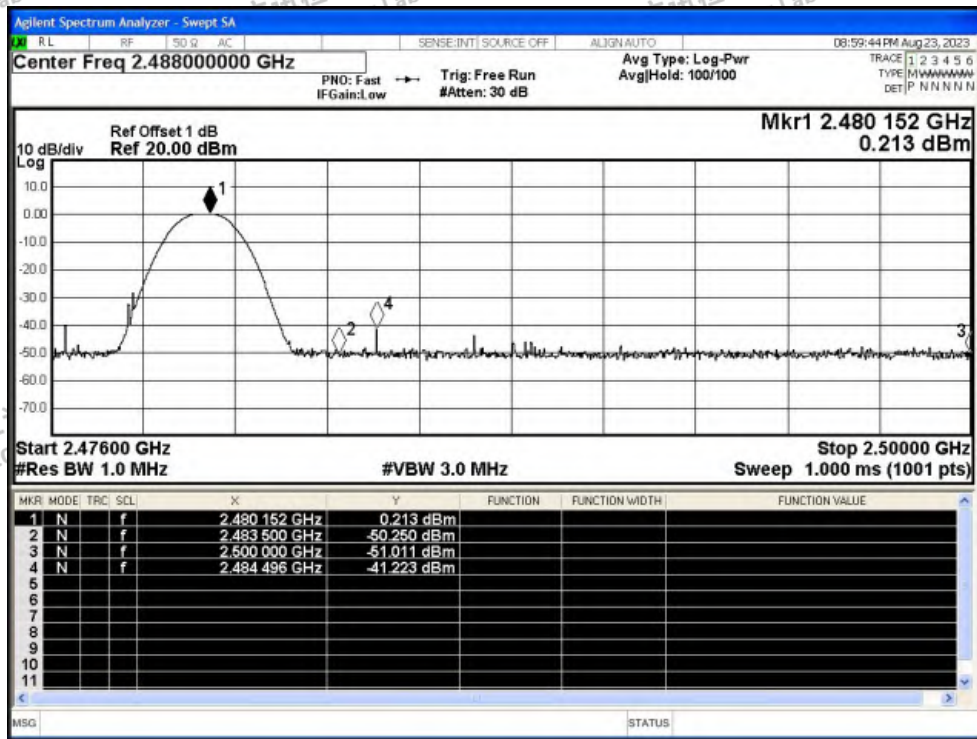


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

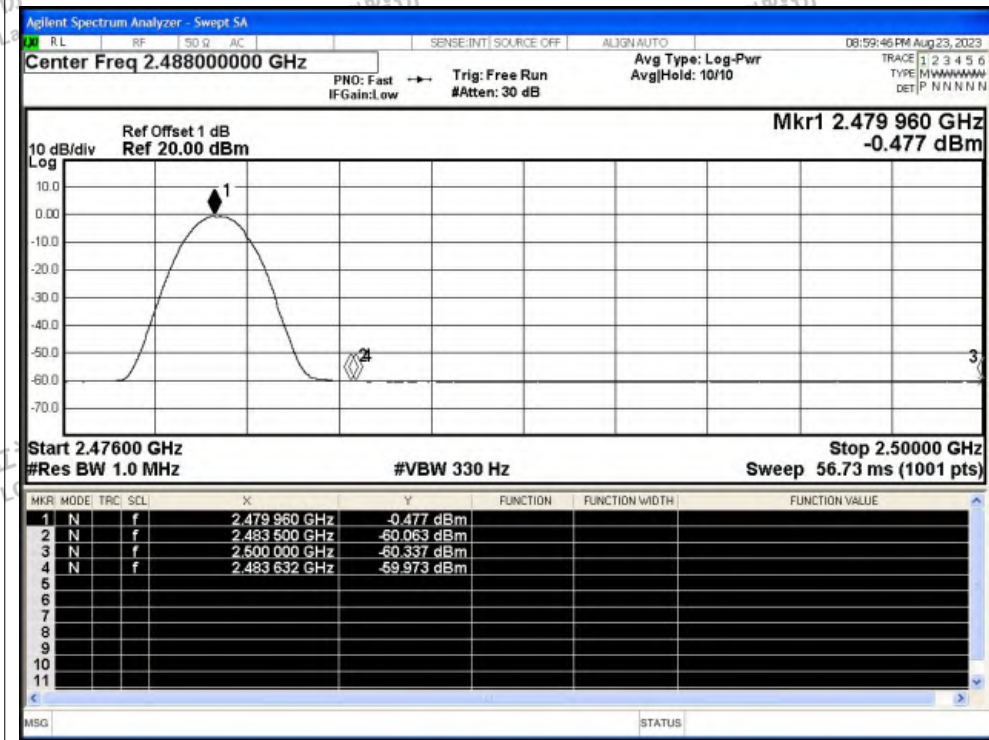




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

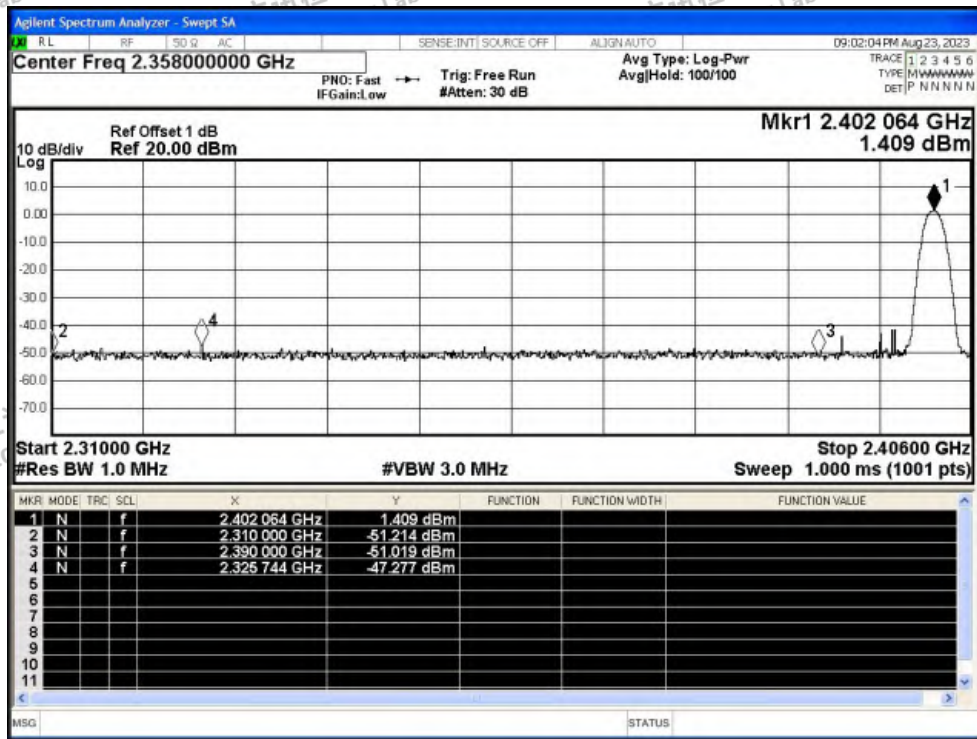


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

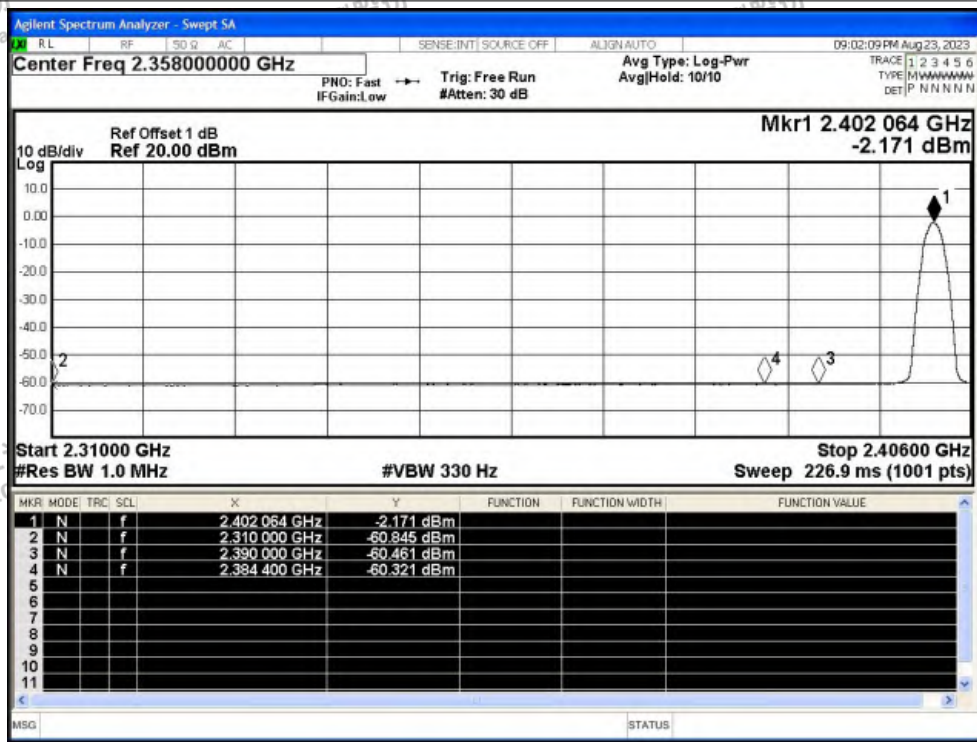




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

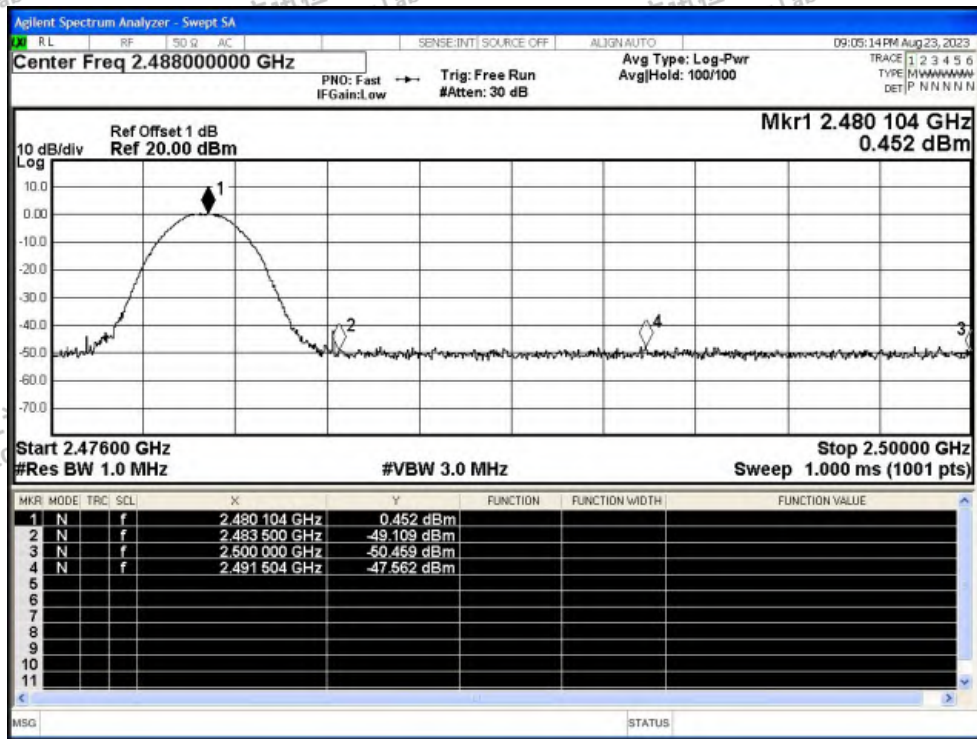


Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average

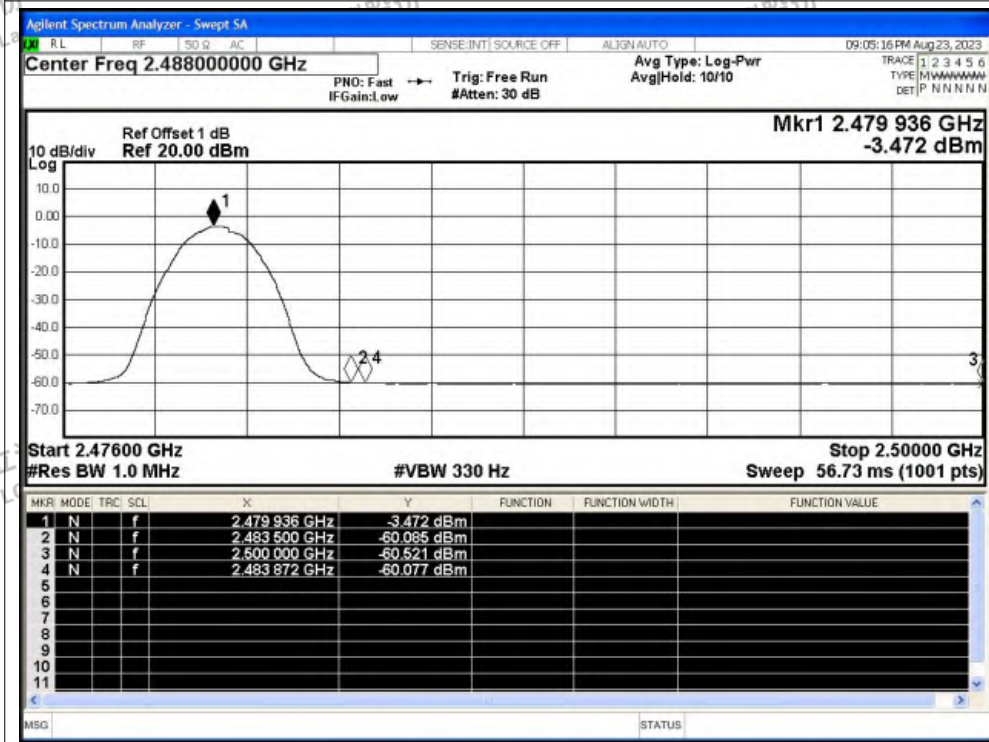




Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak

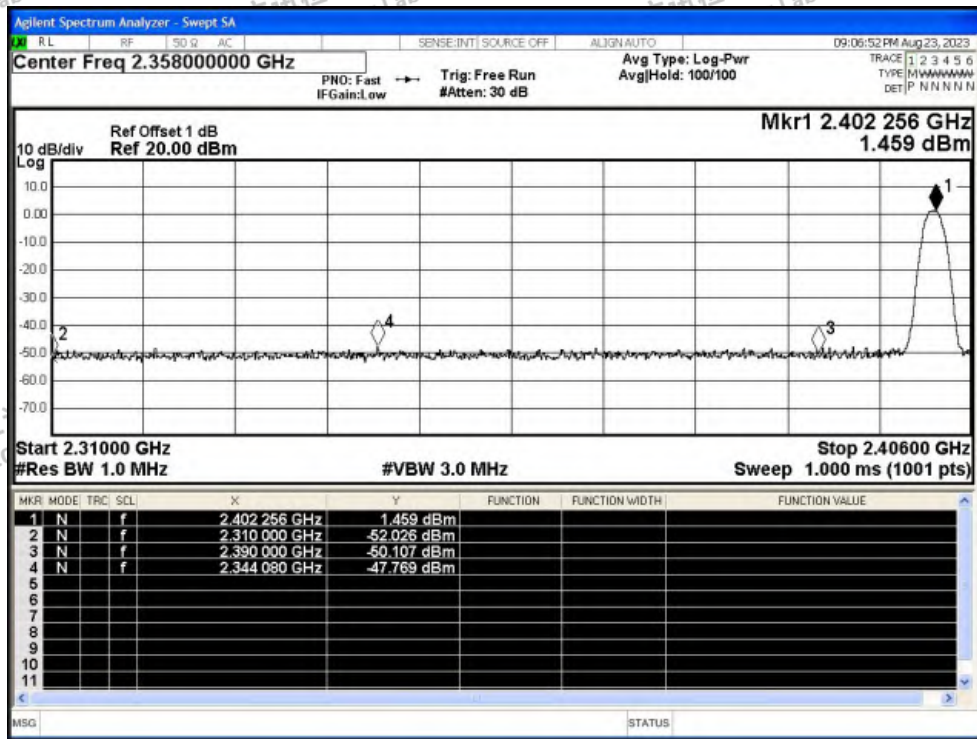


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average

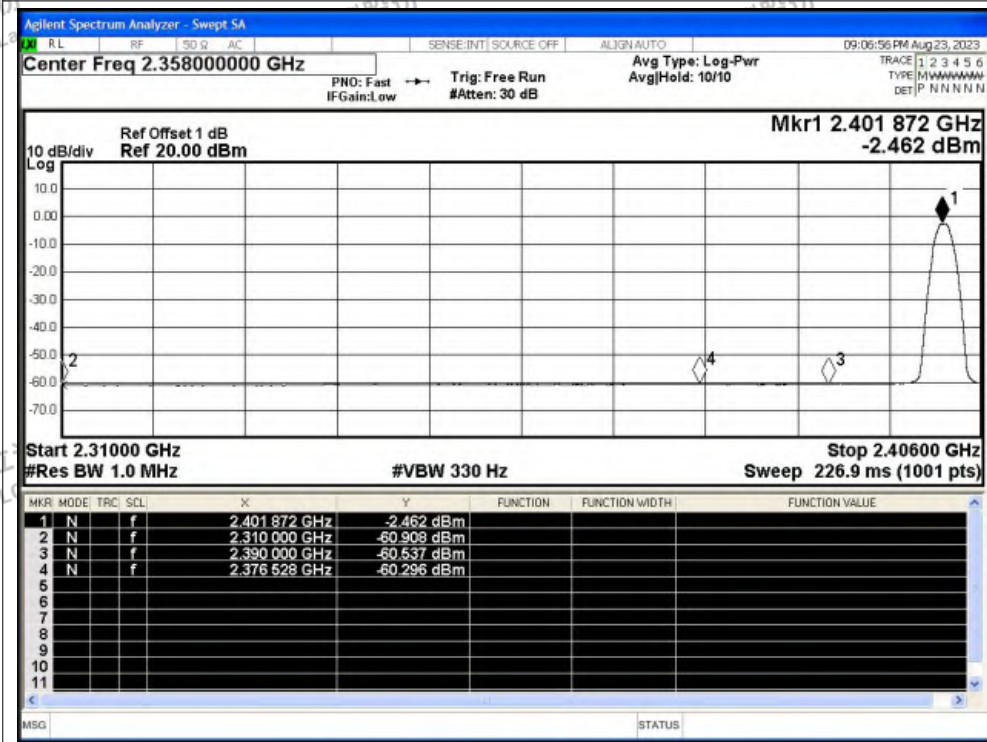




Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak

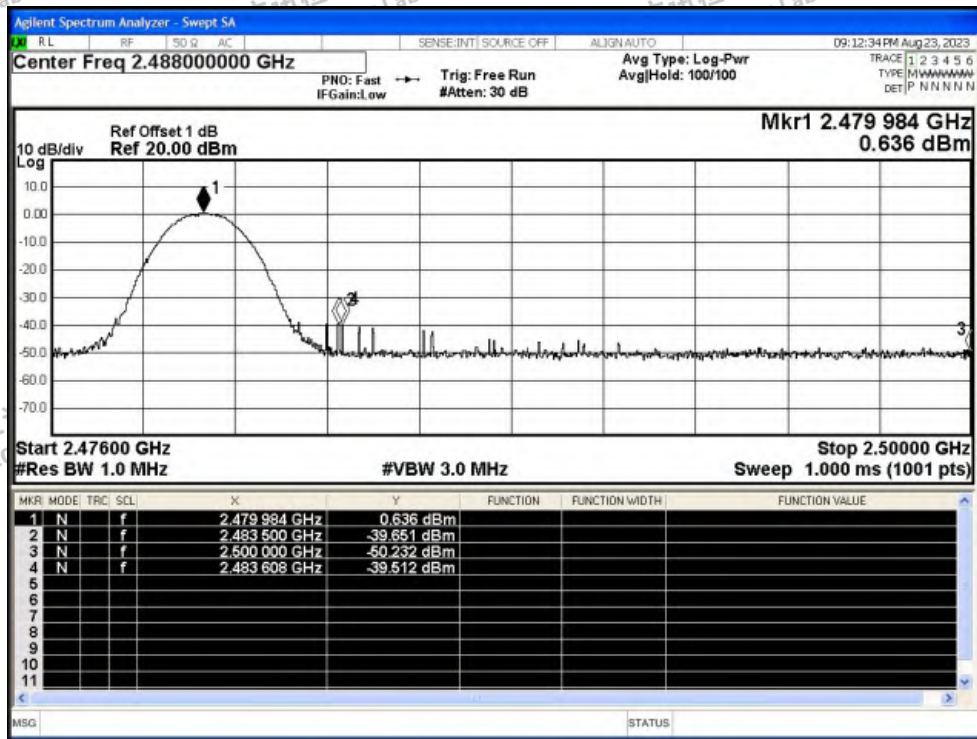


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





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



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

