Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: smart watch

Test Model: V17

Environmental Conditions

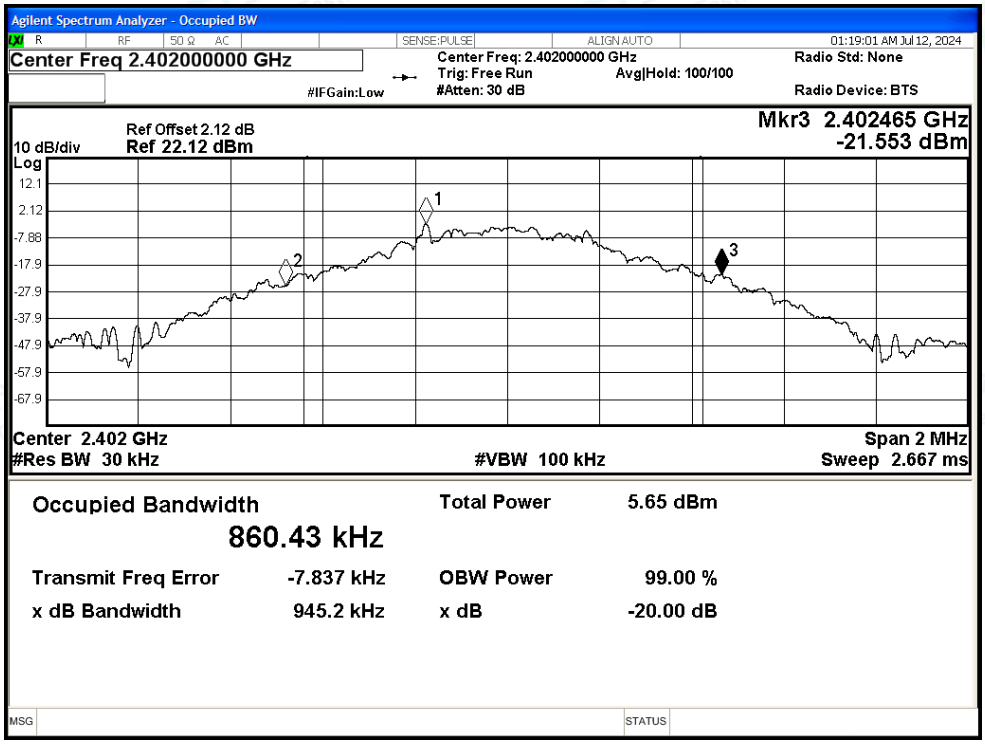
Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jerry Chu
Supervised by:	Nick Peng

A.1 -20dB Bandwidth

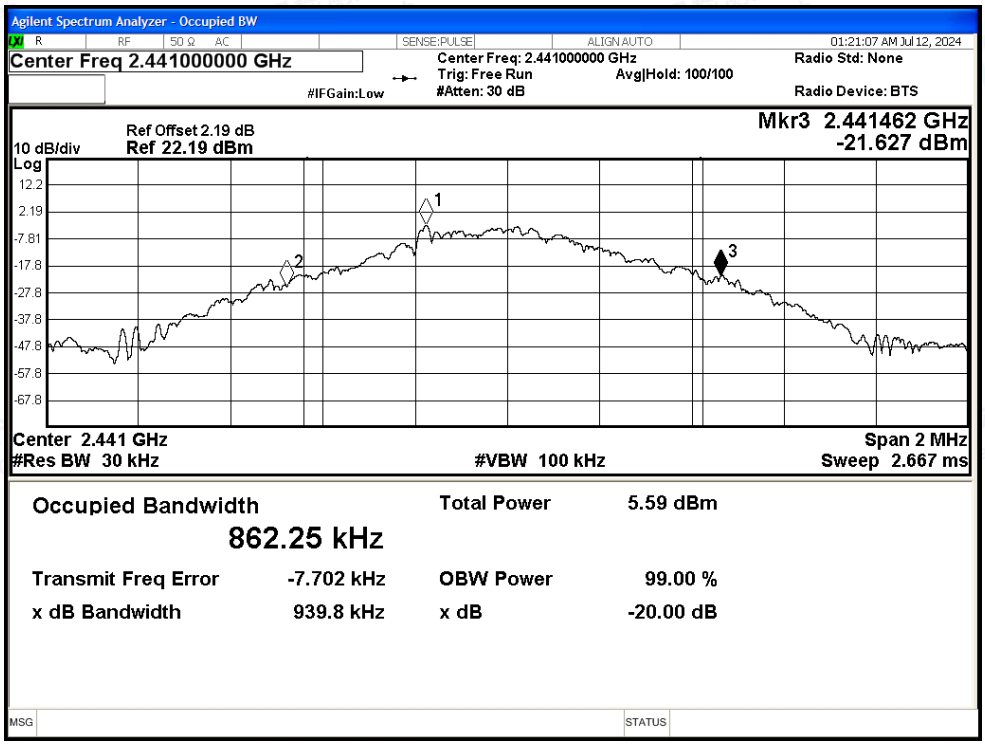
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.945	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.94	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.944	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.325	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.287	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.287	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.296	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.297	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.285	N/A	Pass

Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

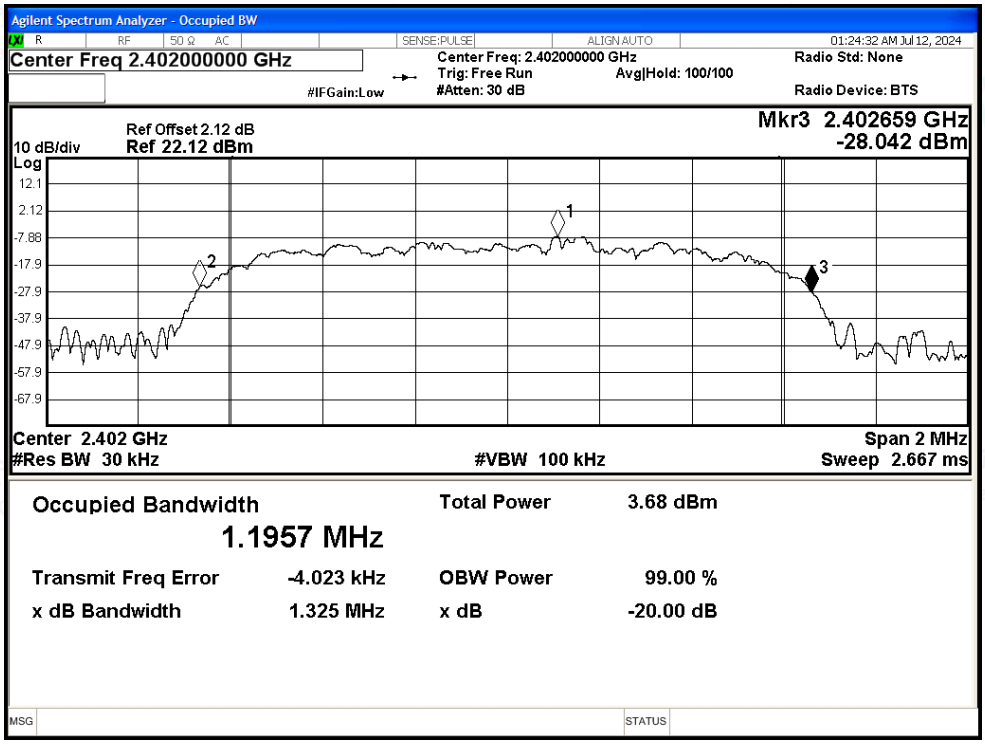


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

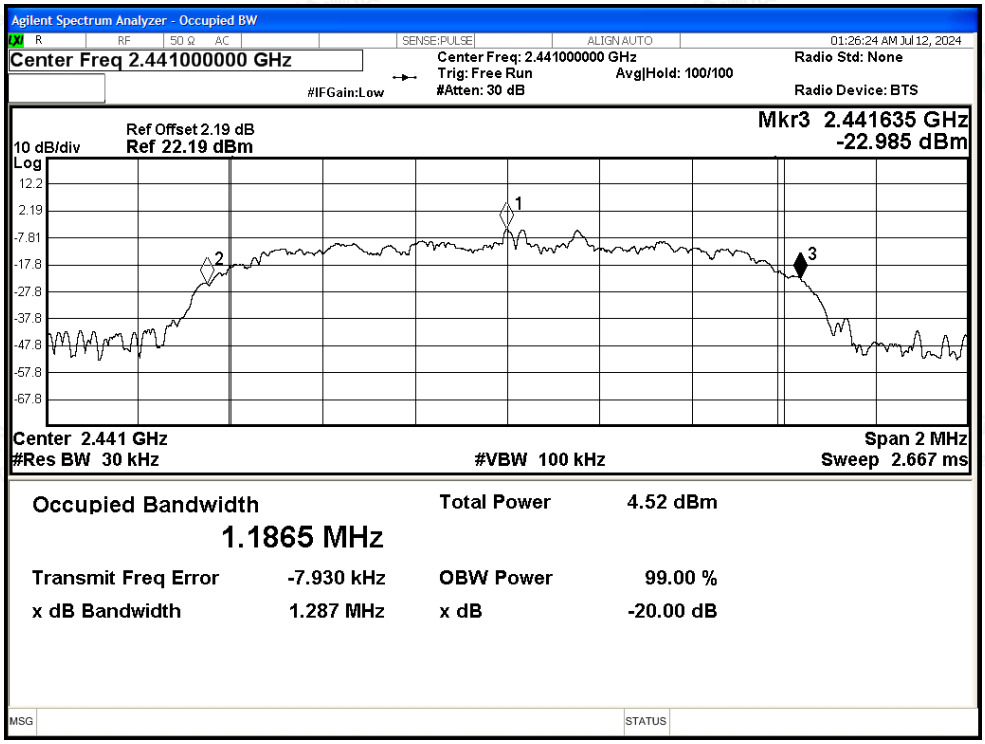


-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

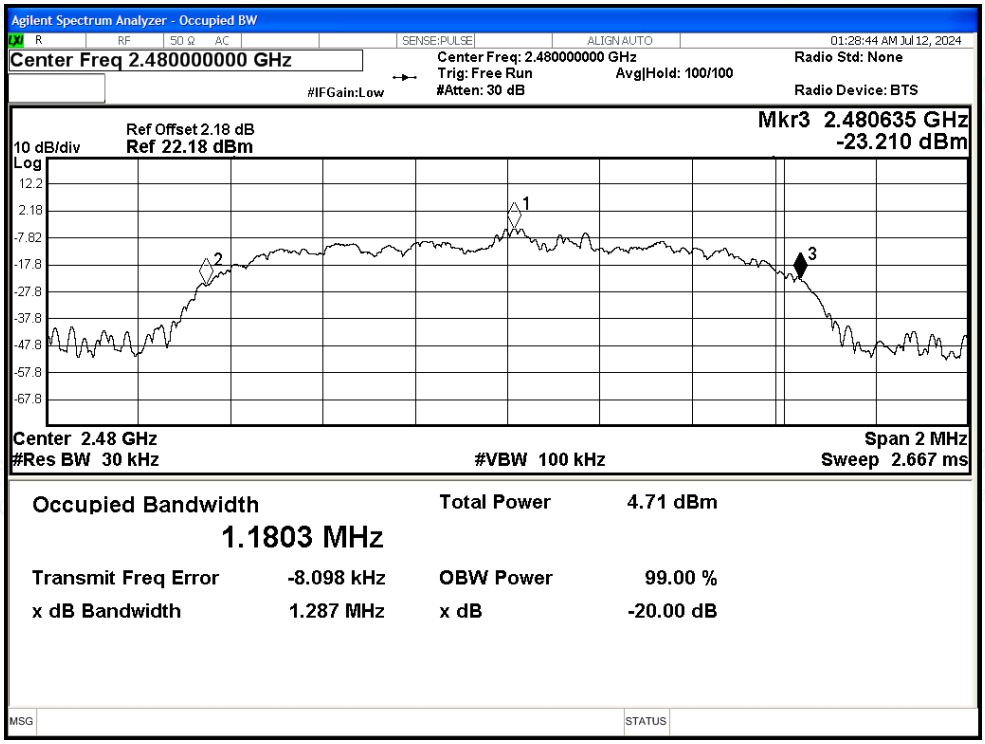
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



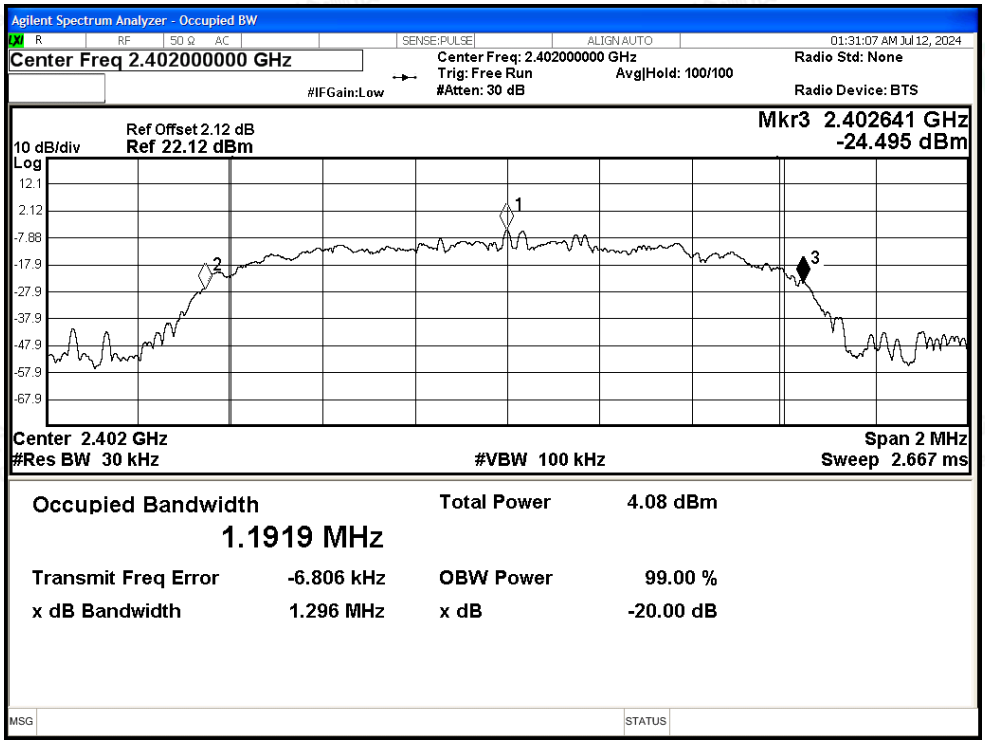
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



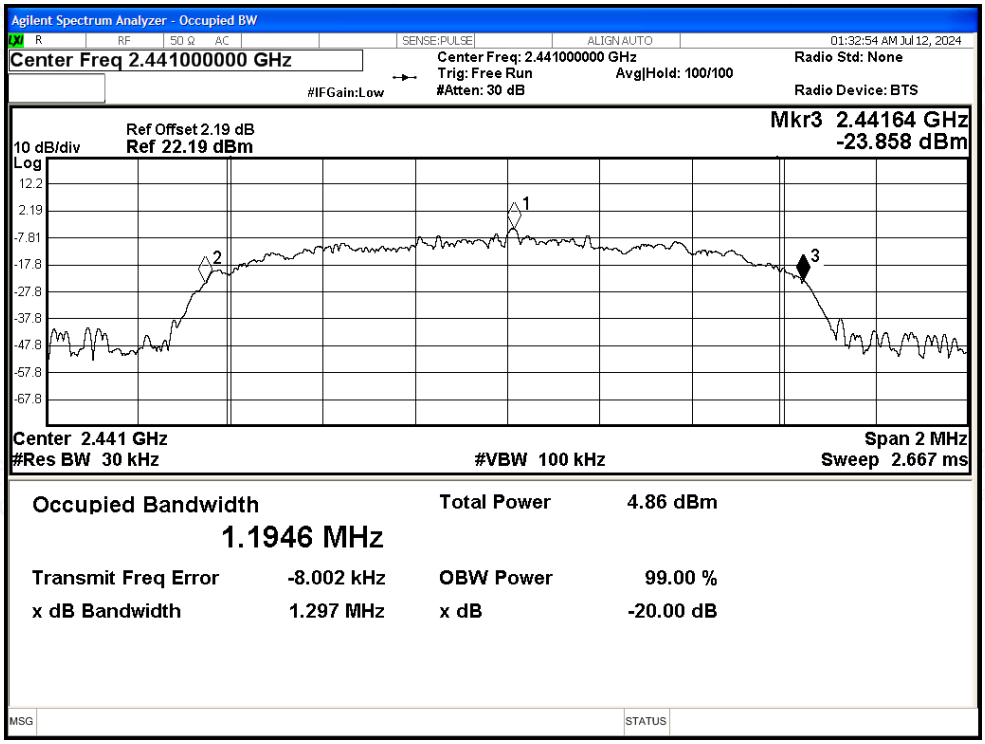
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



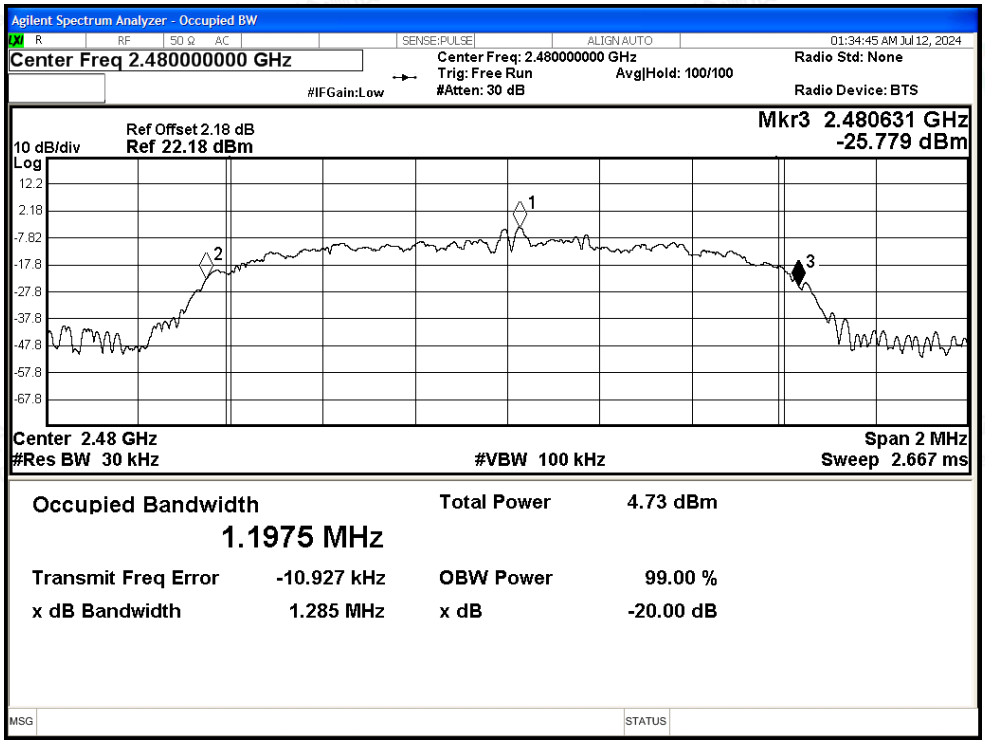
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

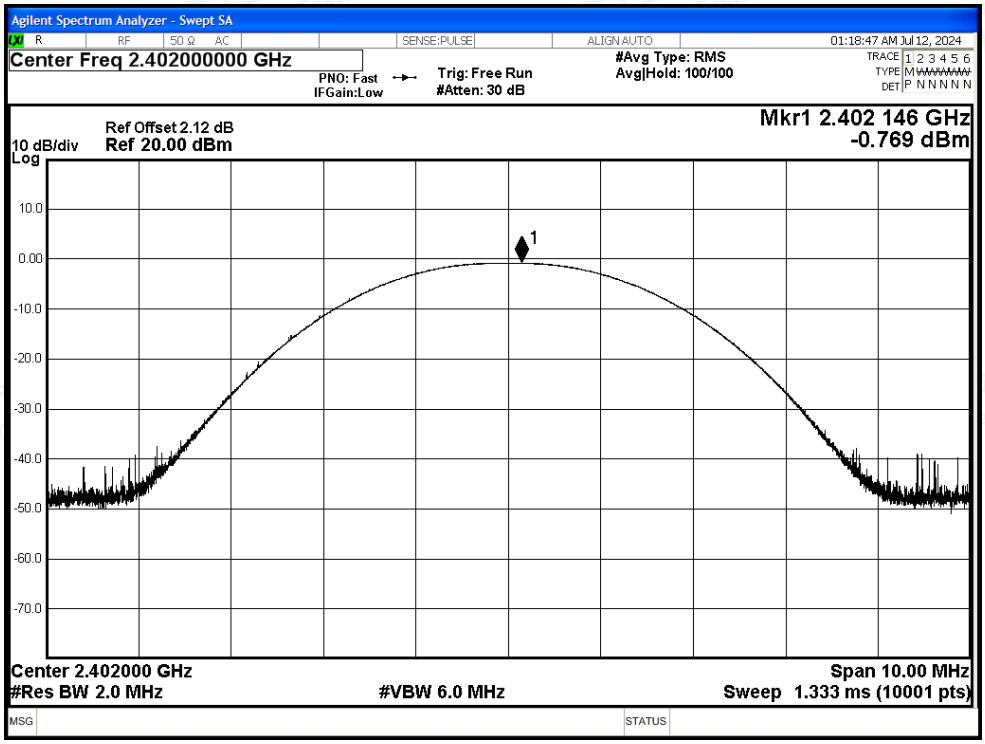


A.2 Maximum Conducted Output Power

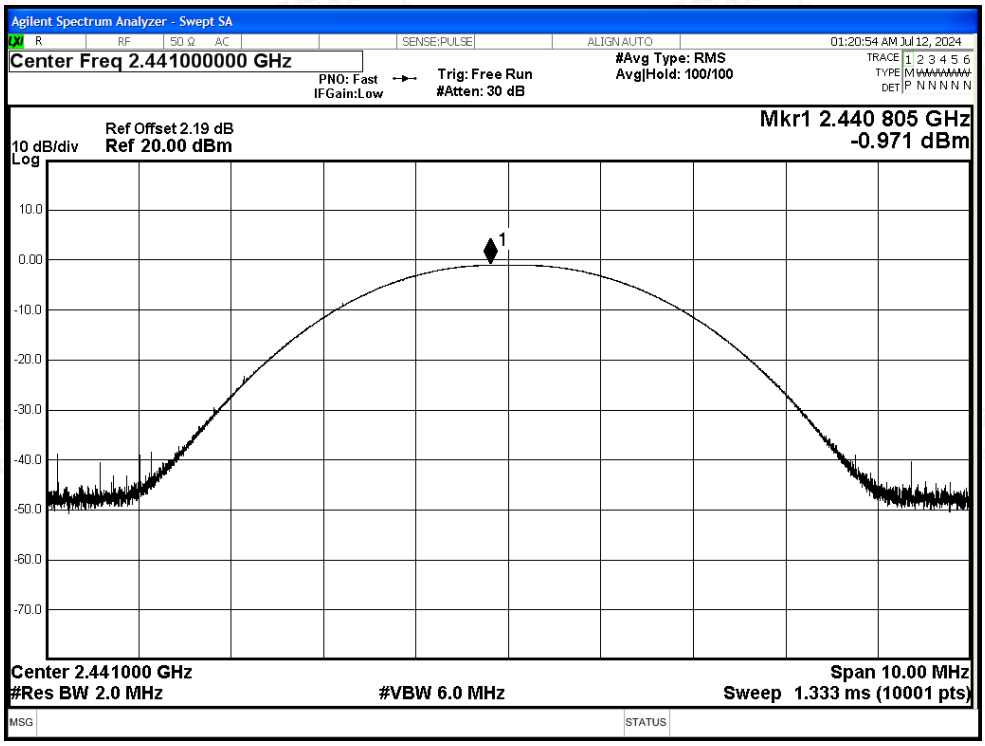
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.77	0	-0.77	21	Pass
NVNT	1-DH5	2441	Ant1	-0.97	0	-0.97	21	Pass
NVNT	1-DH5	2480	Ant1	-0.35	0	-0.35	21	Pass
NVNT	2-DH5	2402	Ant1	-0.27	0	-0.27	21	Pass
NVNT	2-DH5	2441	Ant1	0.14	0	0.14	21	Pass
NVNT	2-DH5	2480	Ant1	0.15	0	0.15	21	Pass
NVNT	3-DH5	2402	Ant1	-0.15	0	-0.15	21	Pass
NVNT	3-DH5	2441	Ant1	0.61	0	0.61	21	Pass
NVNT	3-DH5	2480	Ant1	0.6	0	0.6	21	Pass

Test Graphs

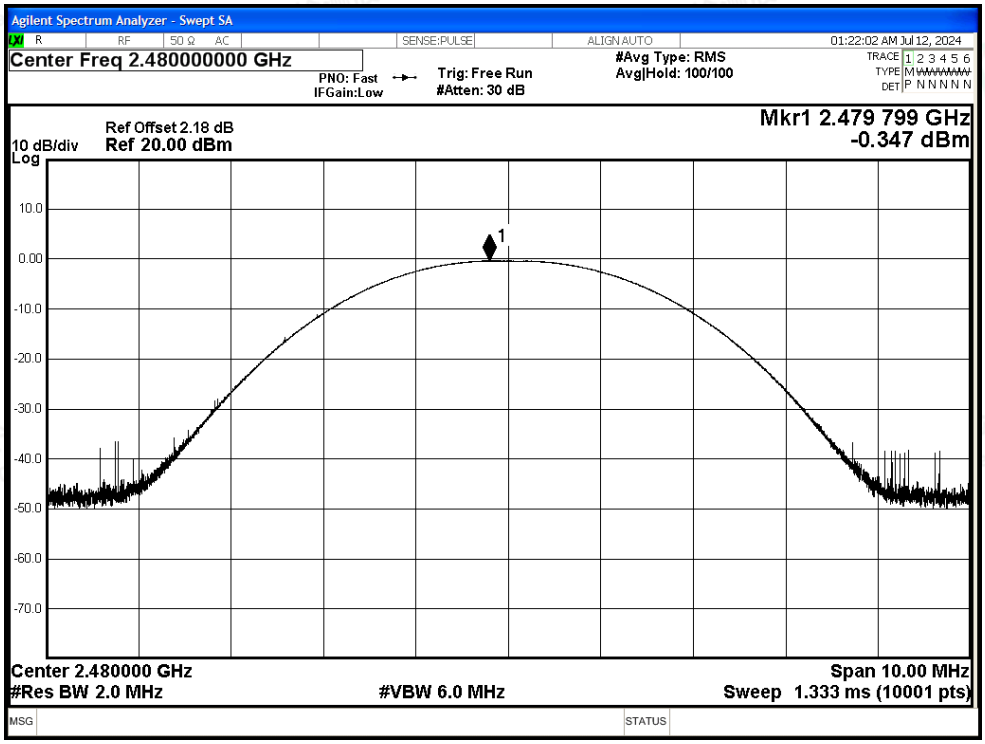
Power NVNT 1-DH5 2402MHz Ant1



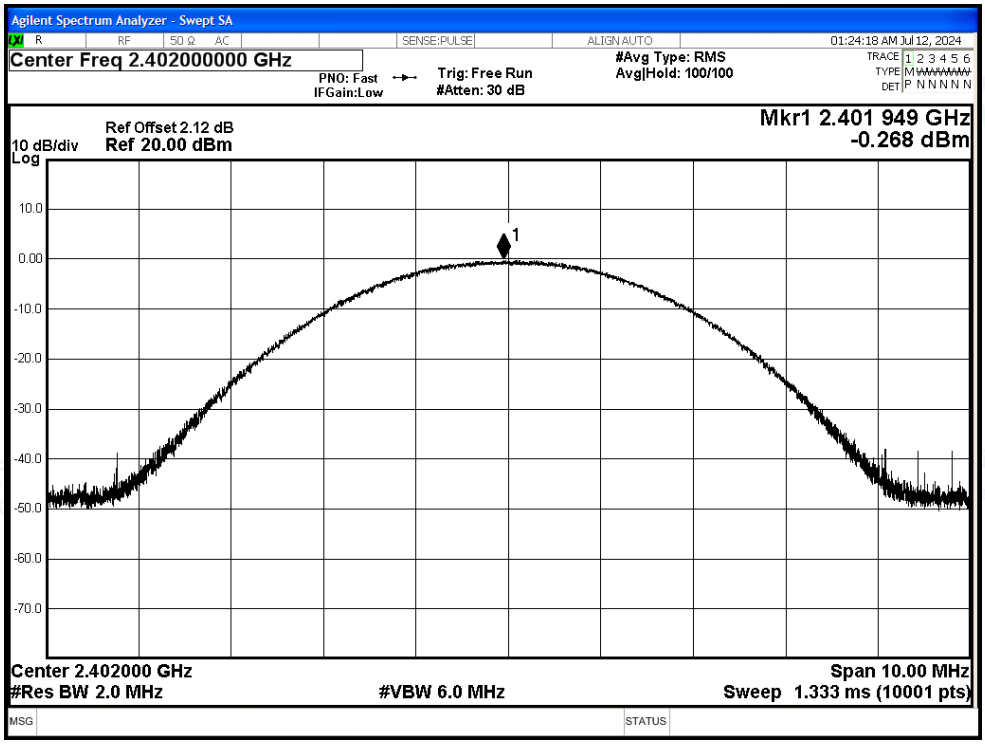
Power NVNT 1-DH5 2441MHz Ant1



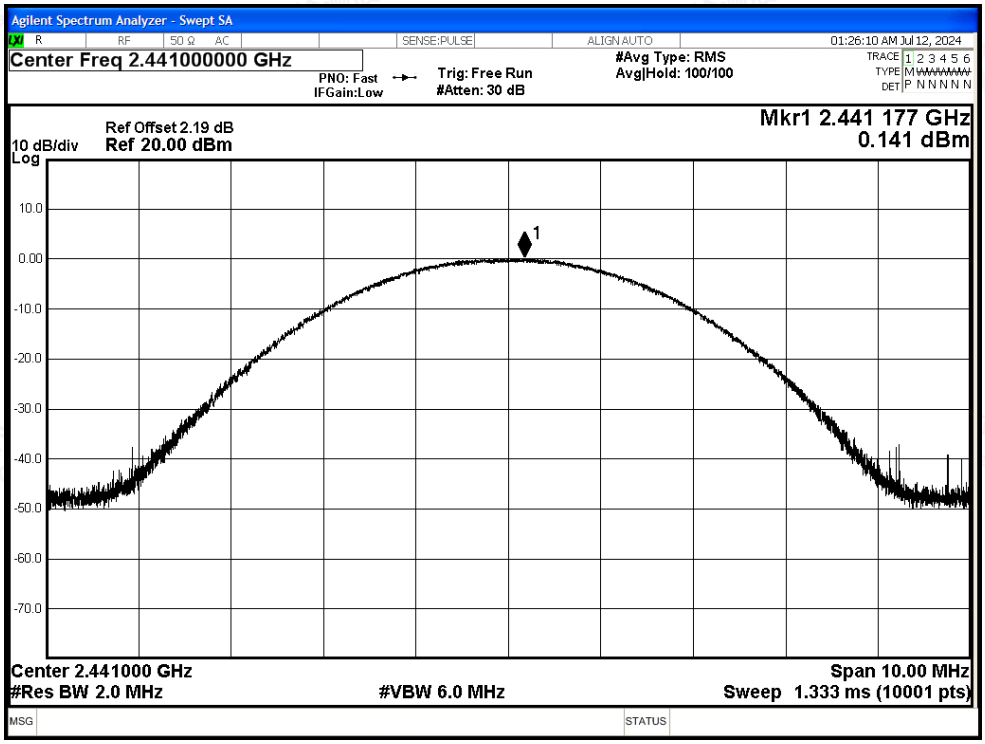
Power NVNT 1-DH5 2480MHz Ant1



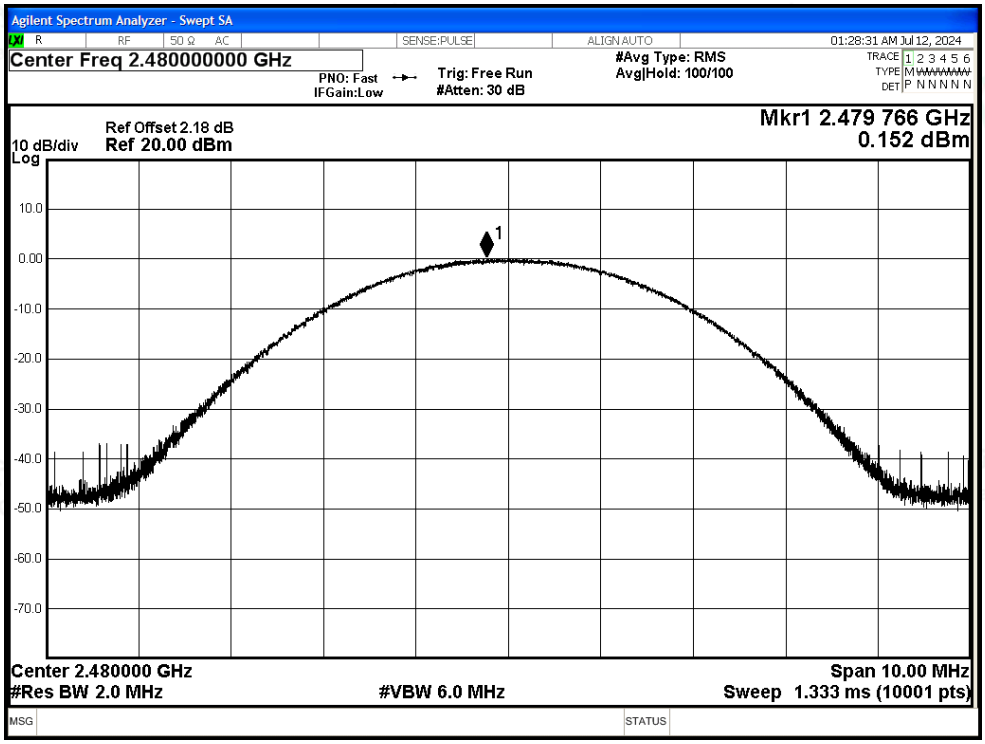
Power NVNT 2-DH5 2402MHz Ant1



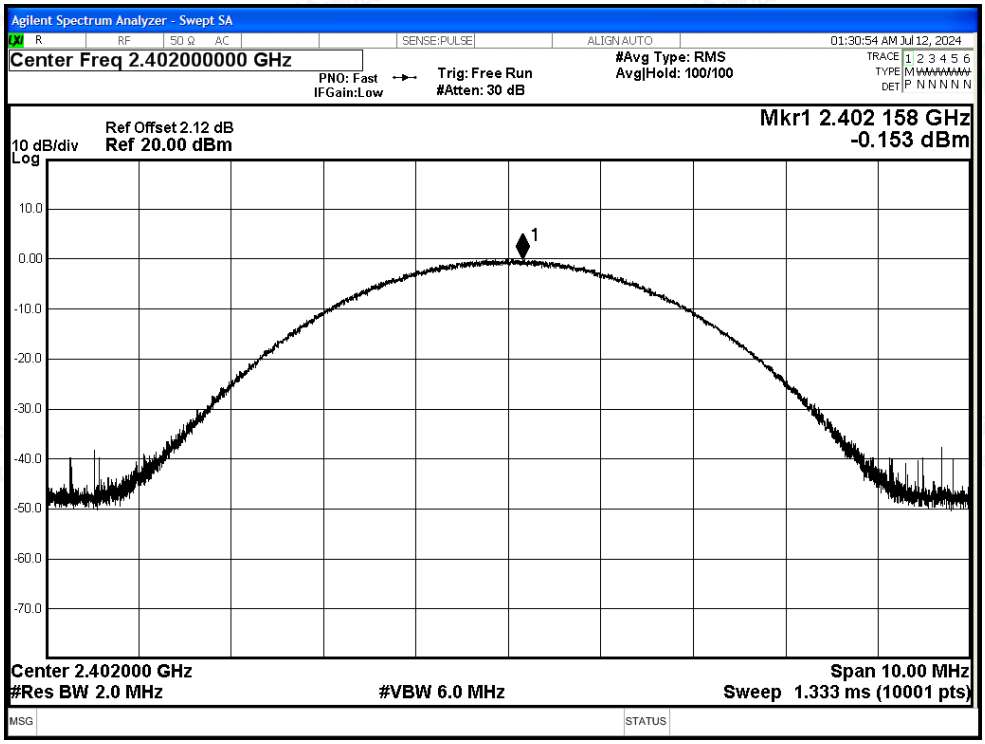
Power NVNT 2-DH5 2441MHz Ant1



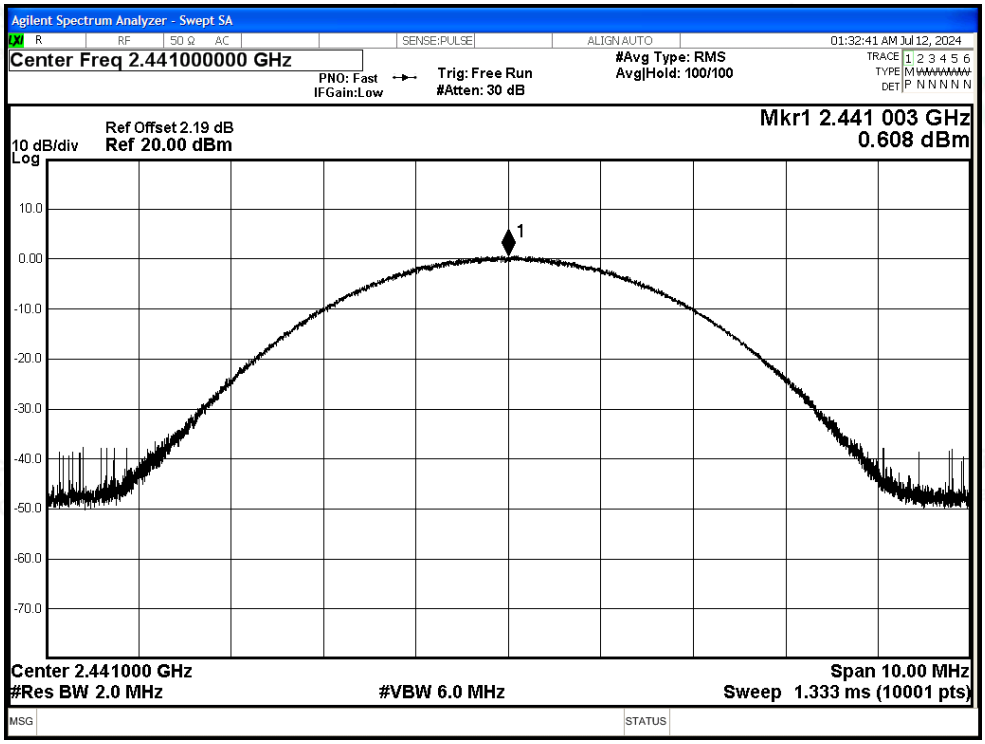
Power NVNT 2-DH5 2480MHz Ant1



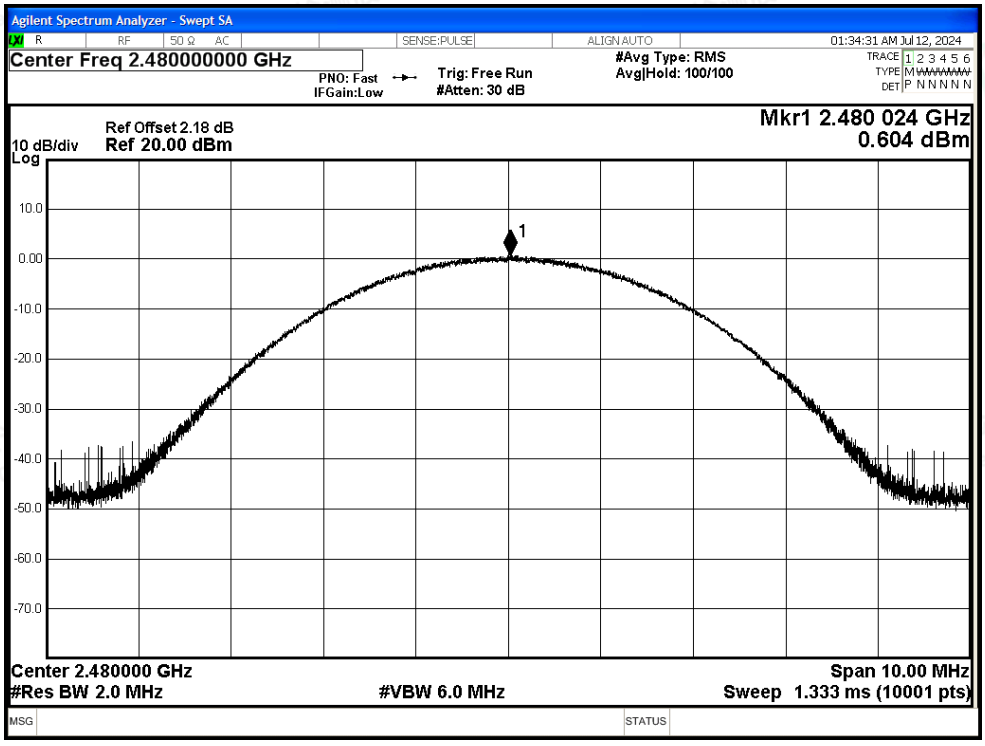
Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



Power NVNT 3-DH5 2480MHz Ant1

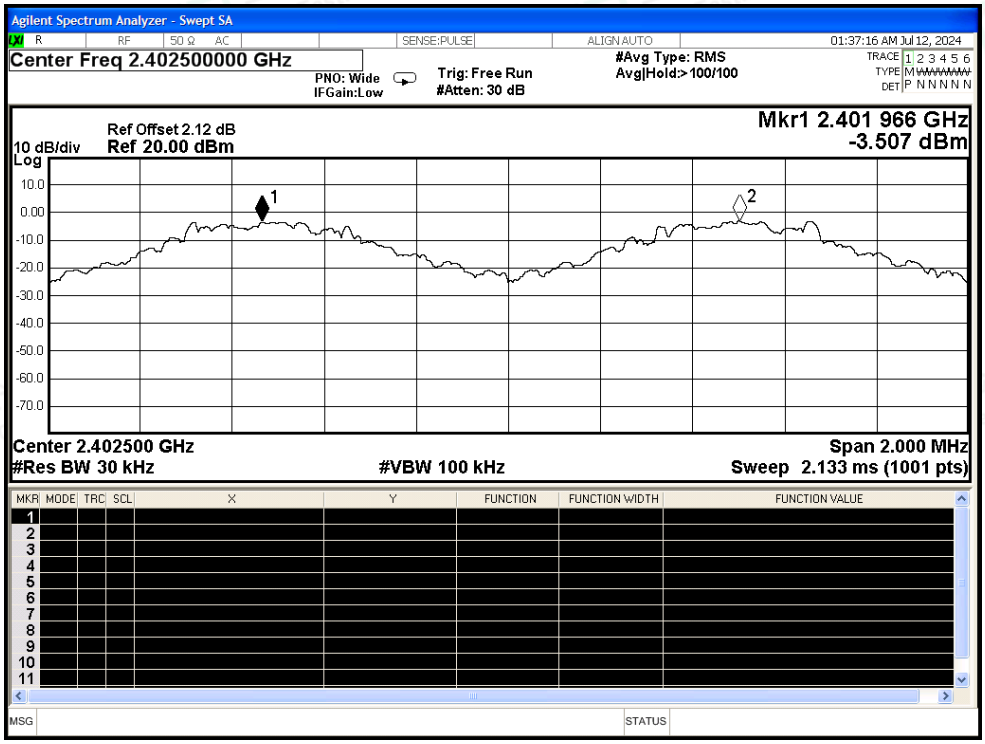


A.3 Carrier Frequencies Separation

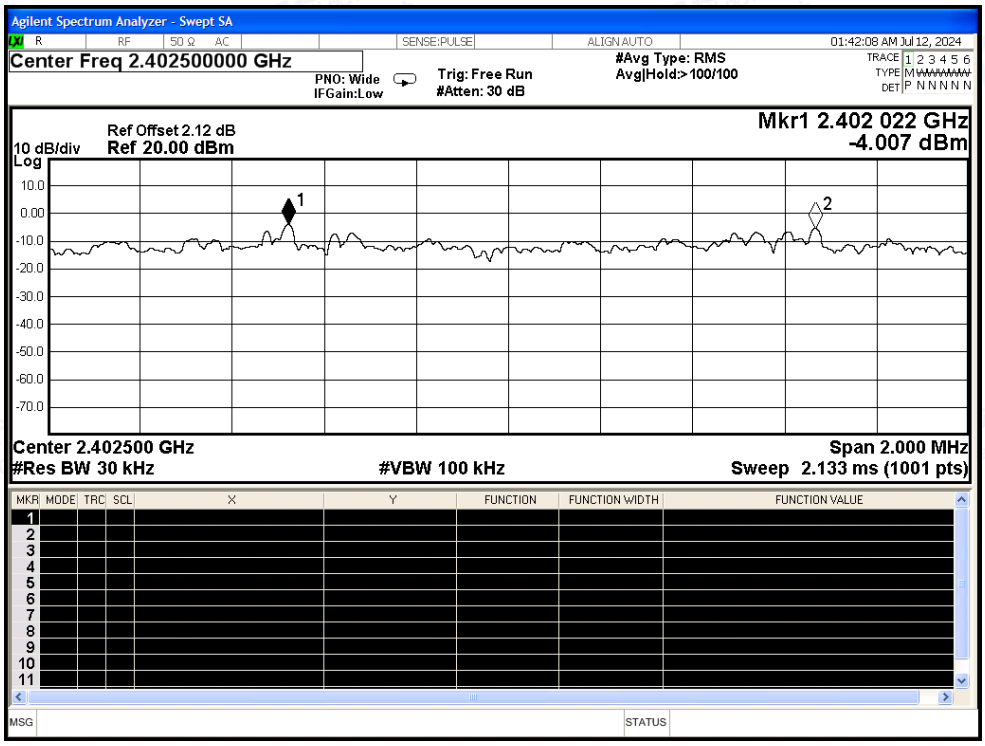
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.966	2403.002	1.036	0.63	Pass
NVNT	2-DH5	Ant1	2402.022	2403.166	1.144	0.883	Pass
NVNT	3-DH5	Ant1	2402	2403.002	1.002	0.864	Pass

Test Graphs

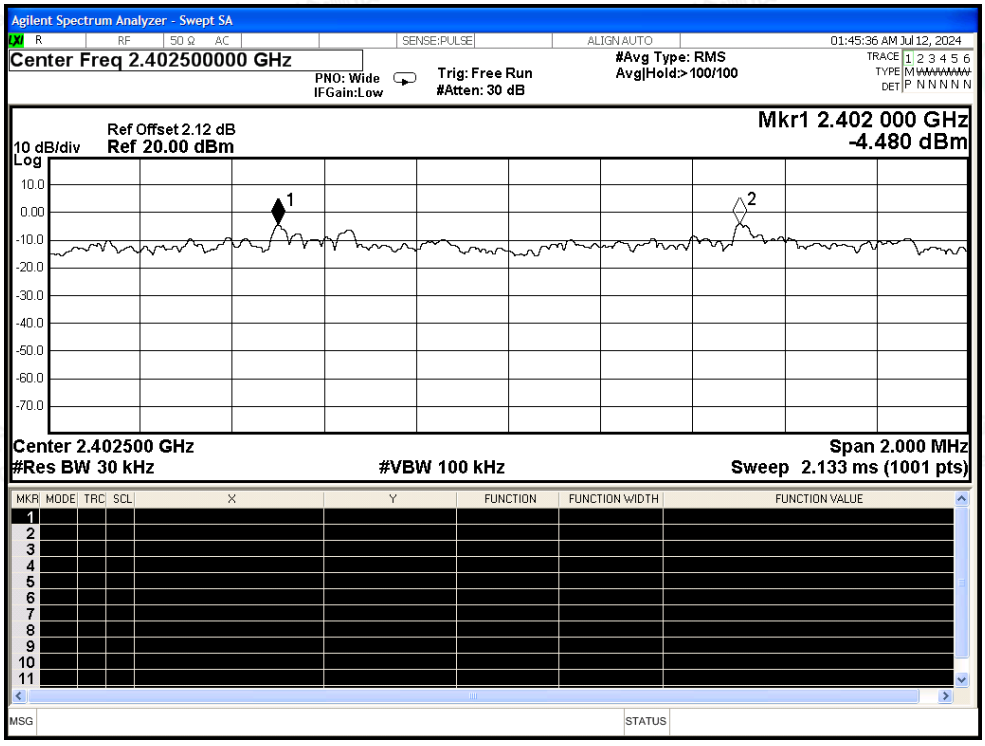
CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2402MHz Ant1

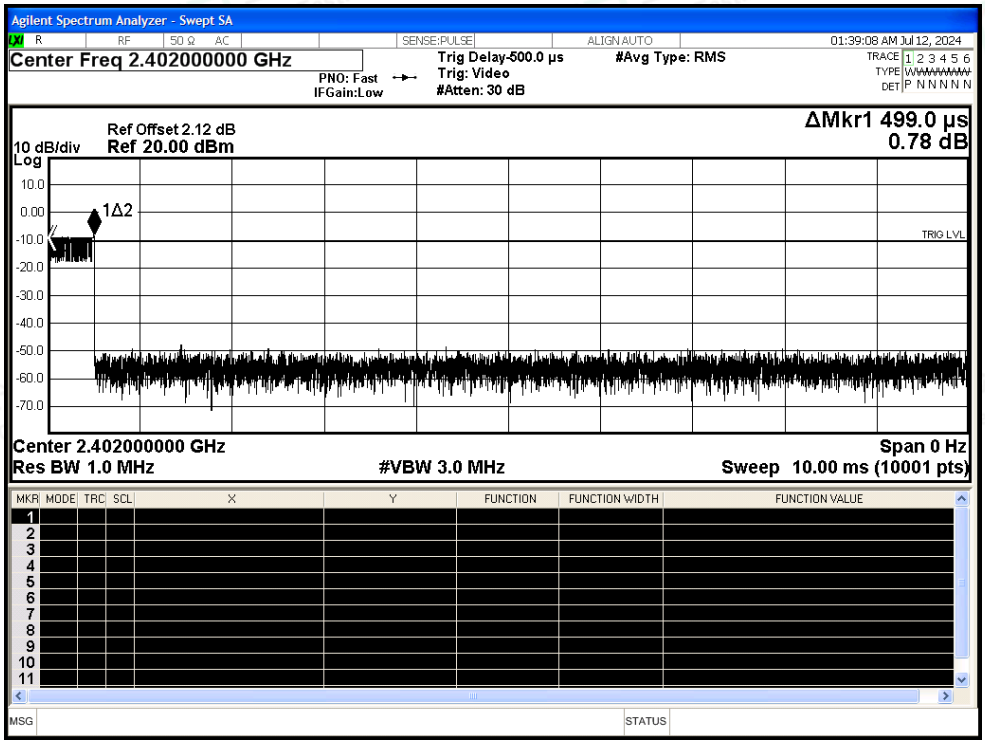


A.4 Dwell Time

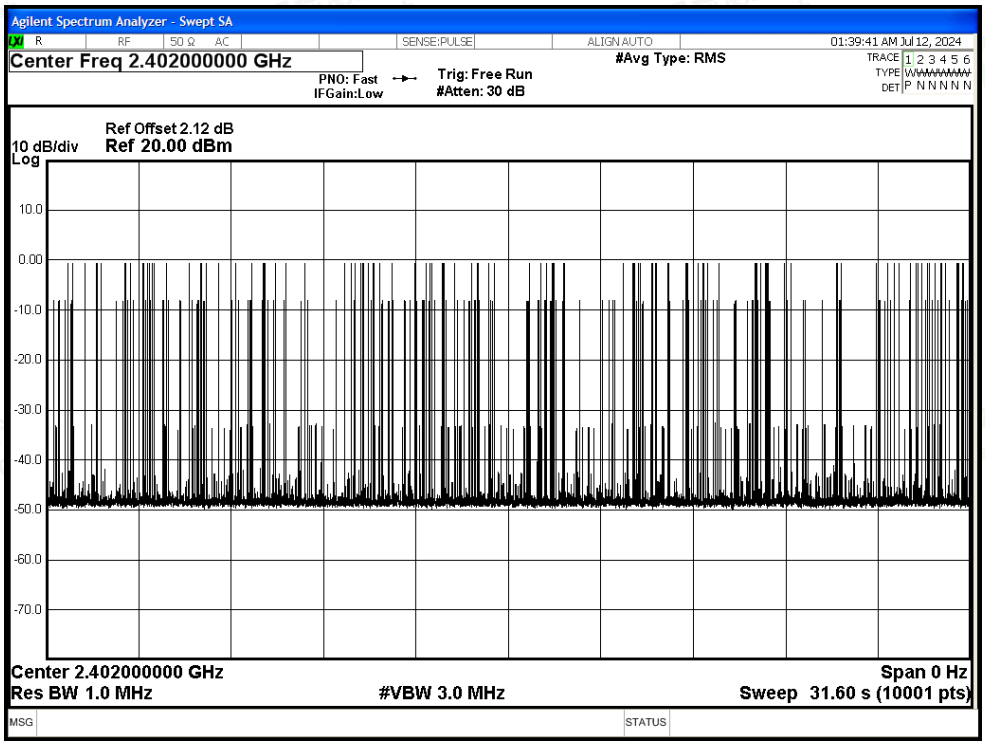
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	0.499	49.401	99	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	318.78	110	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.897	309.979	107	31600	400	Pass

Test Graphs

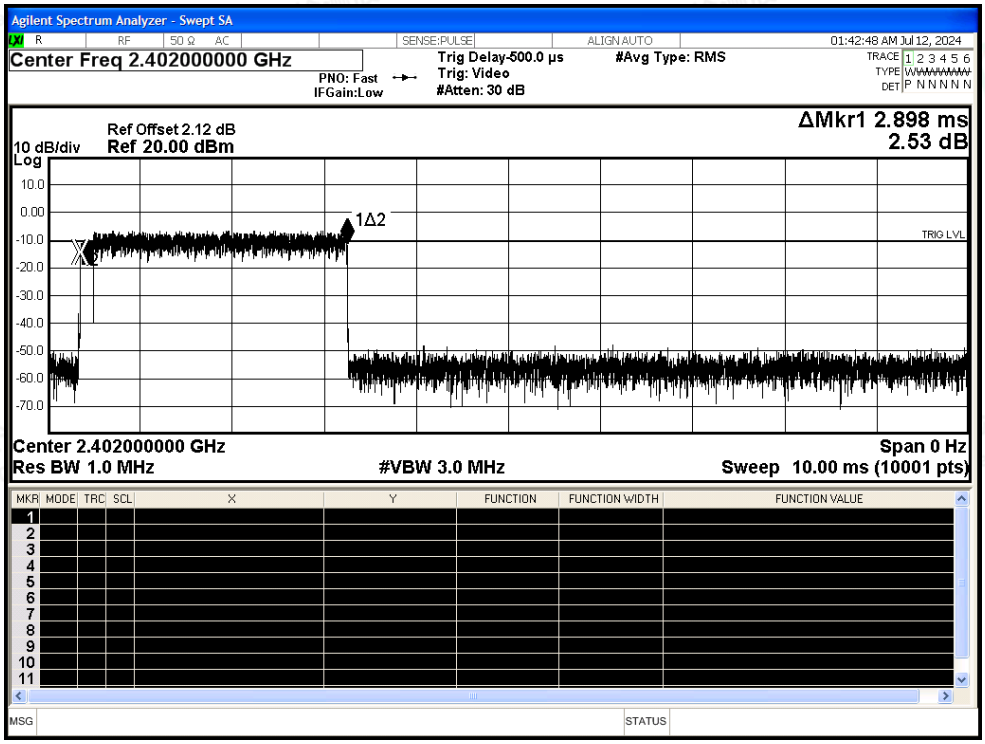
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



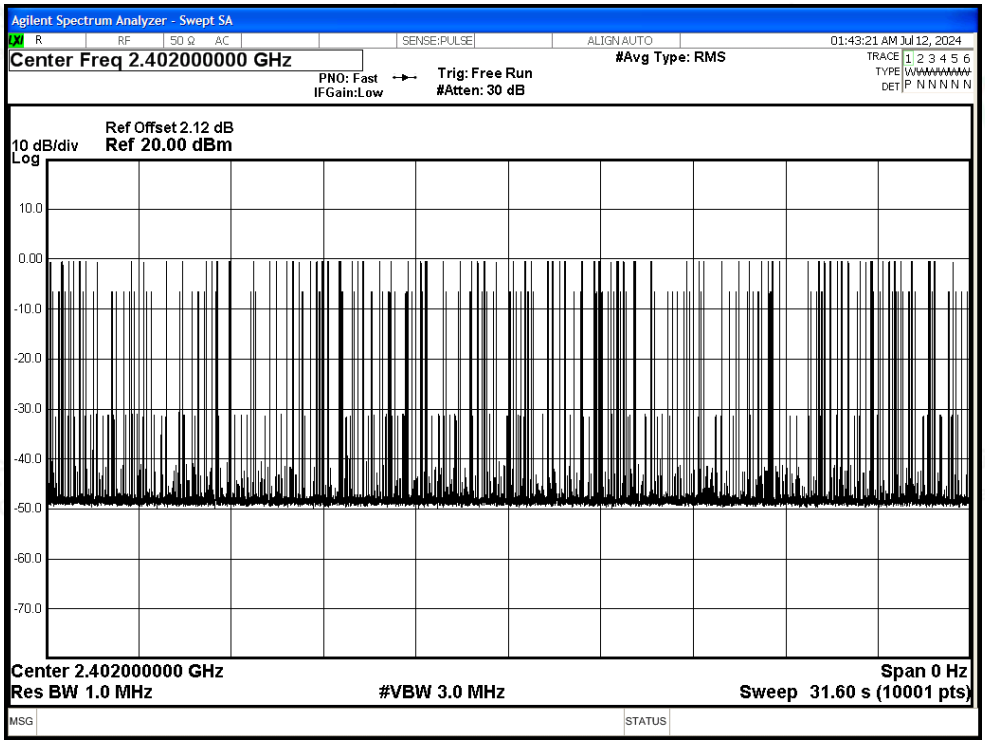
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



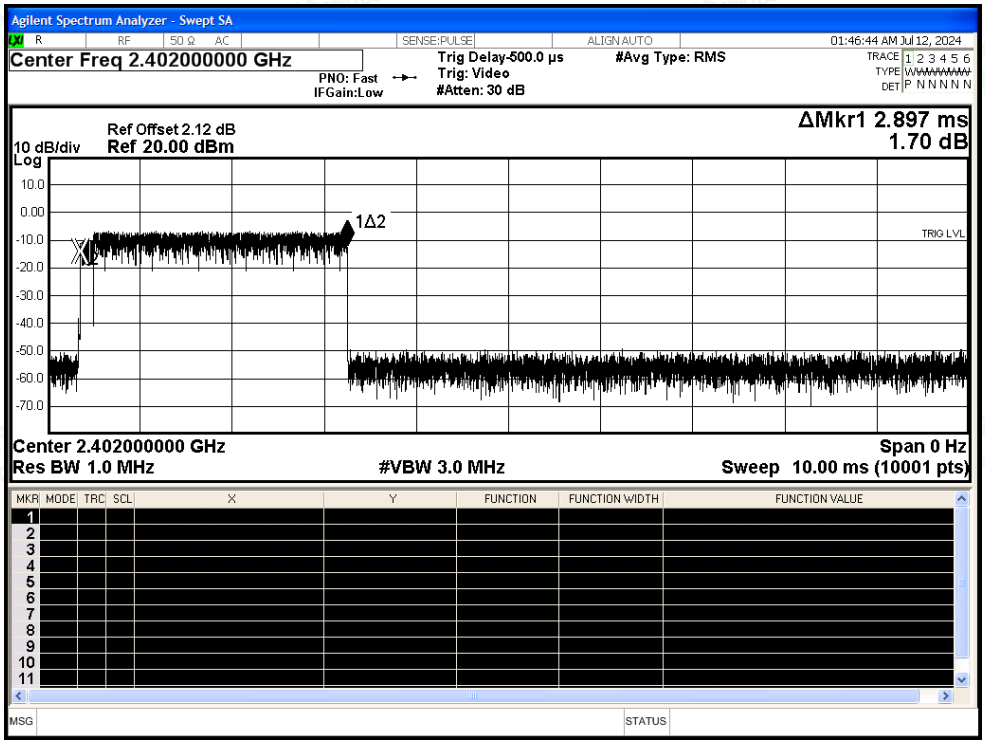
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



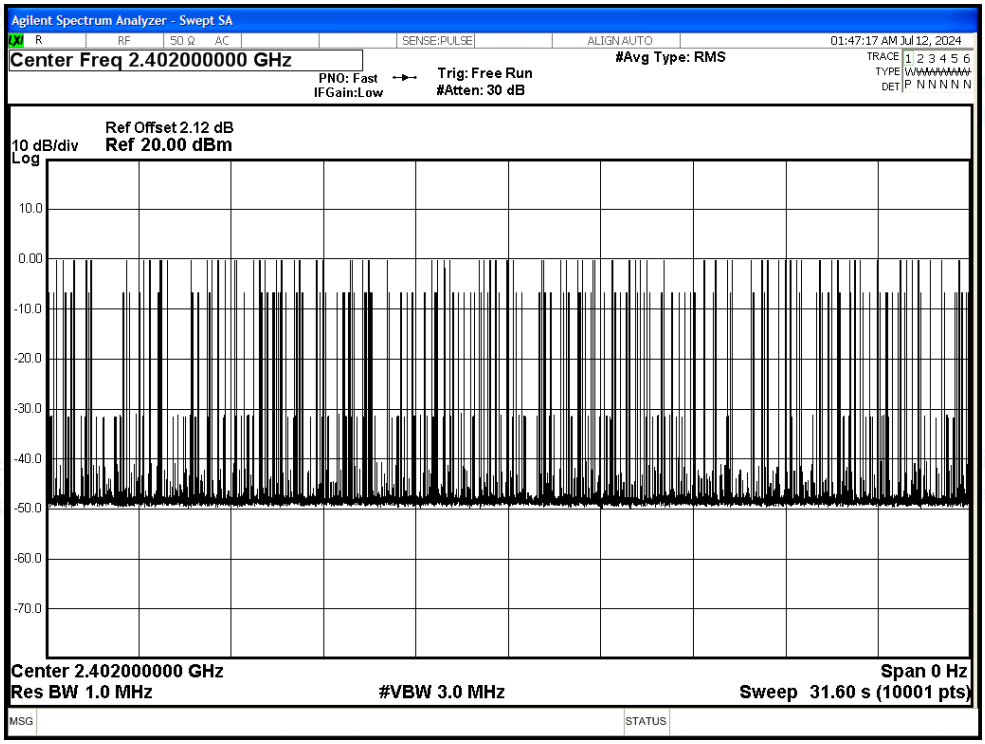
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

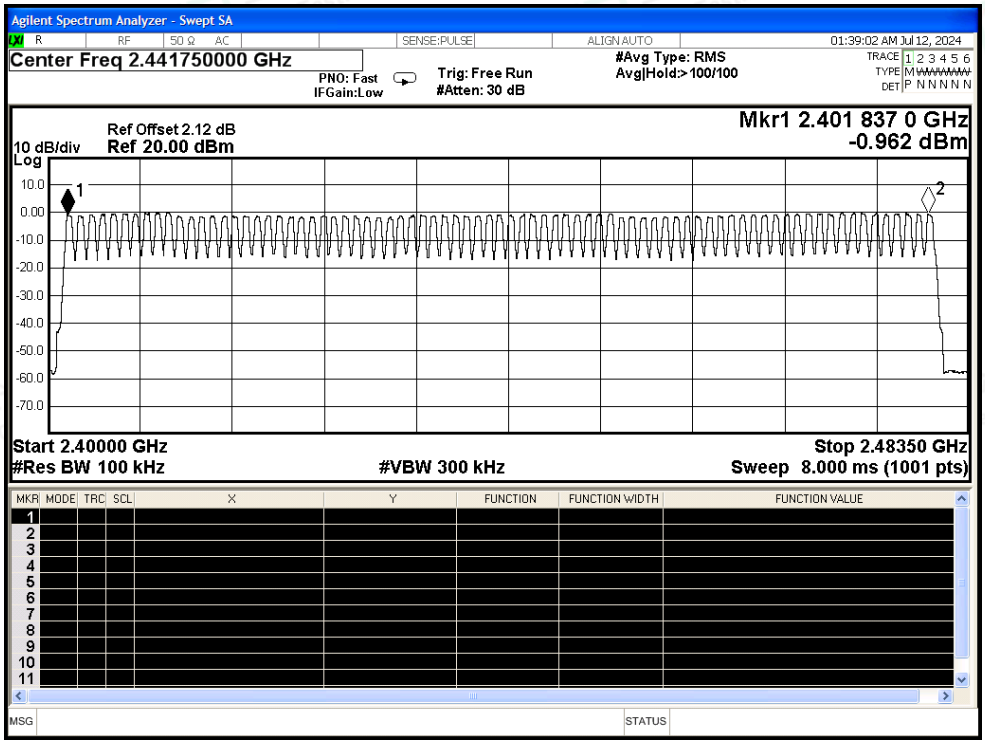


A.5 Number of Hopping Channel

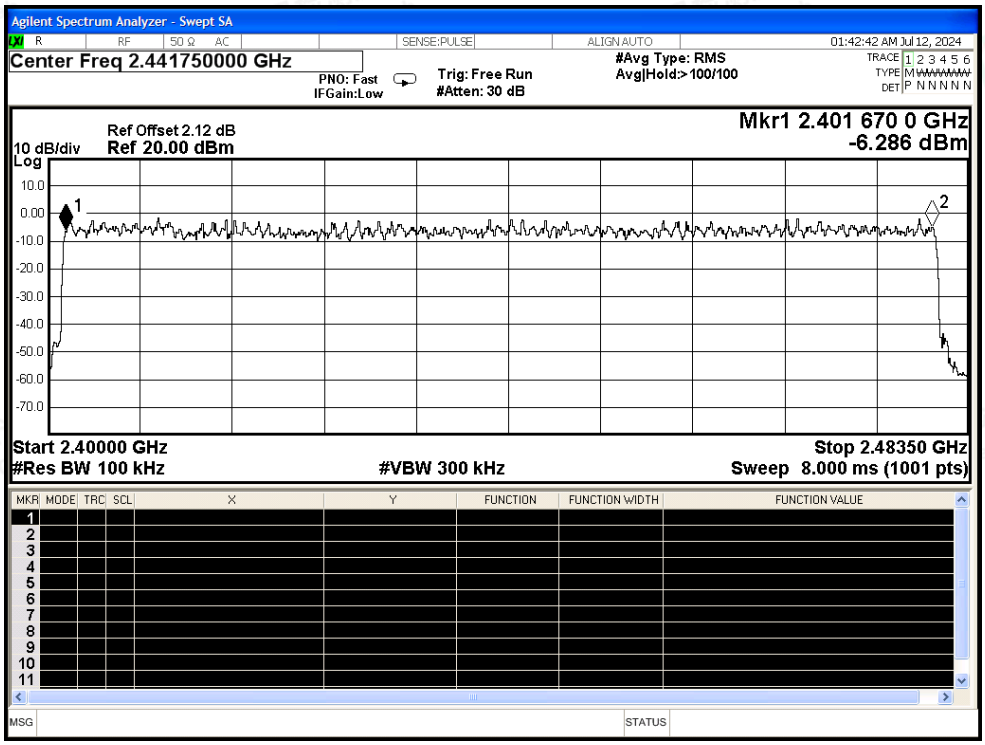
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

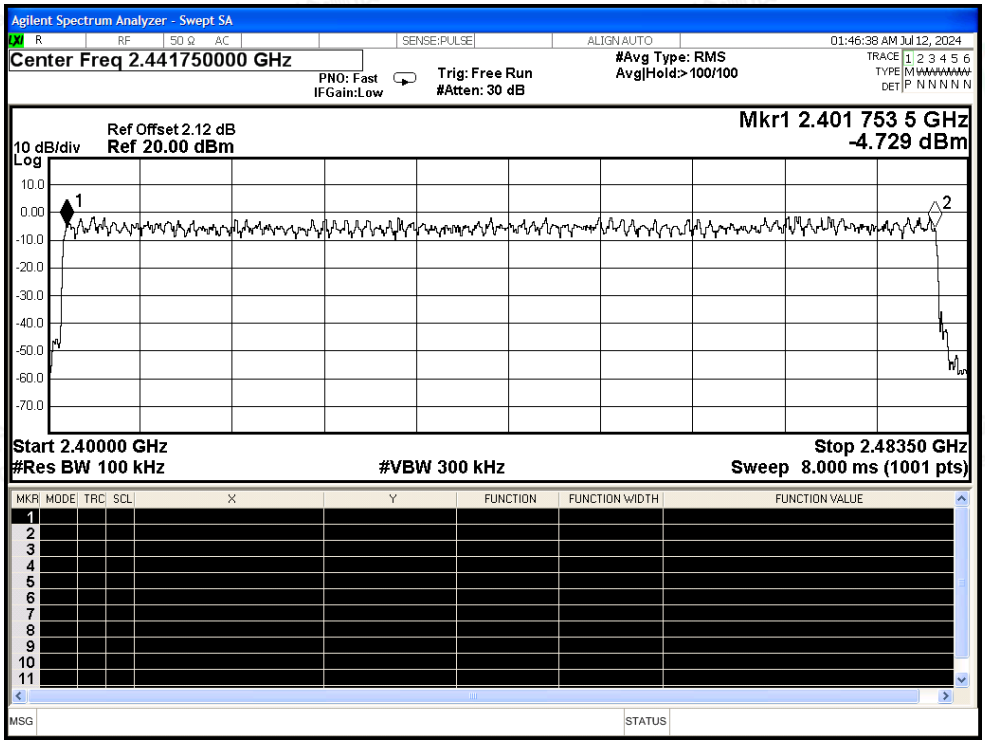
Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



Hopping No. NVNT 3-DH5 2402MHz Ant1

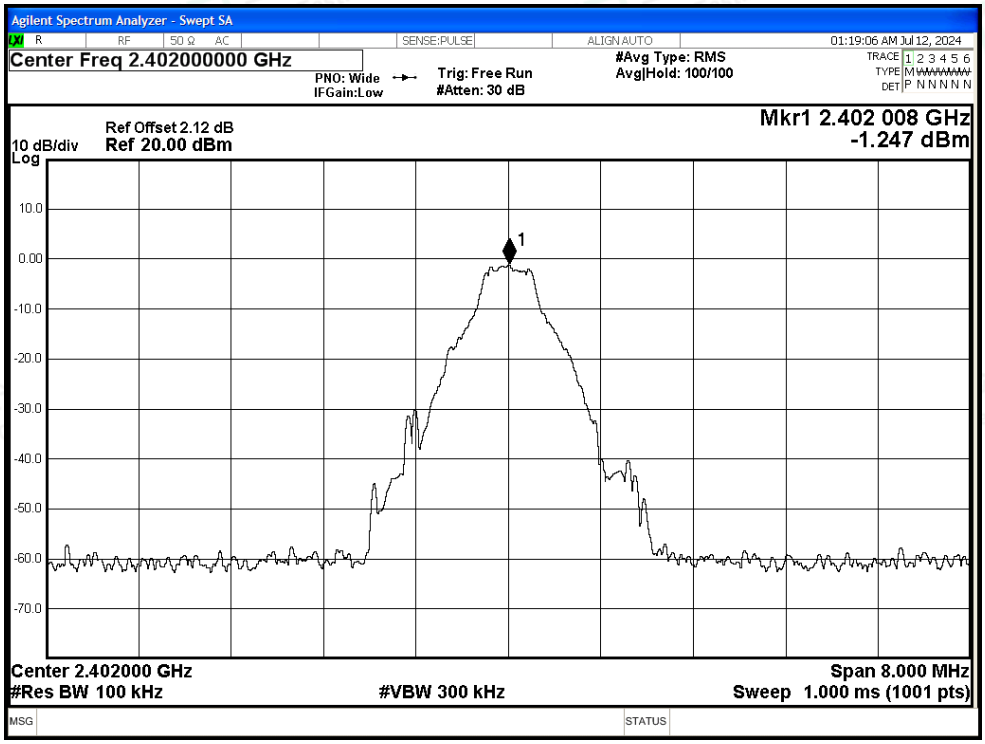


A.6 Band Edge

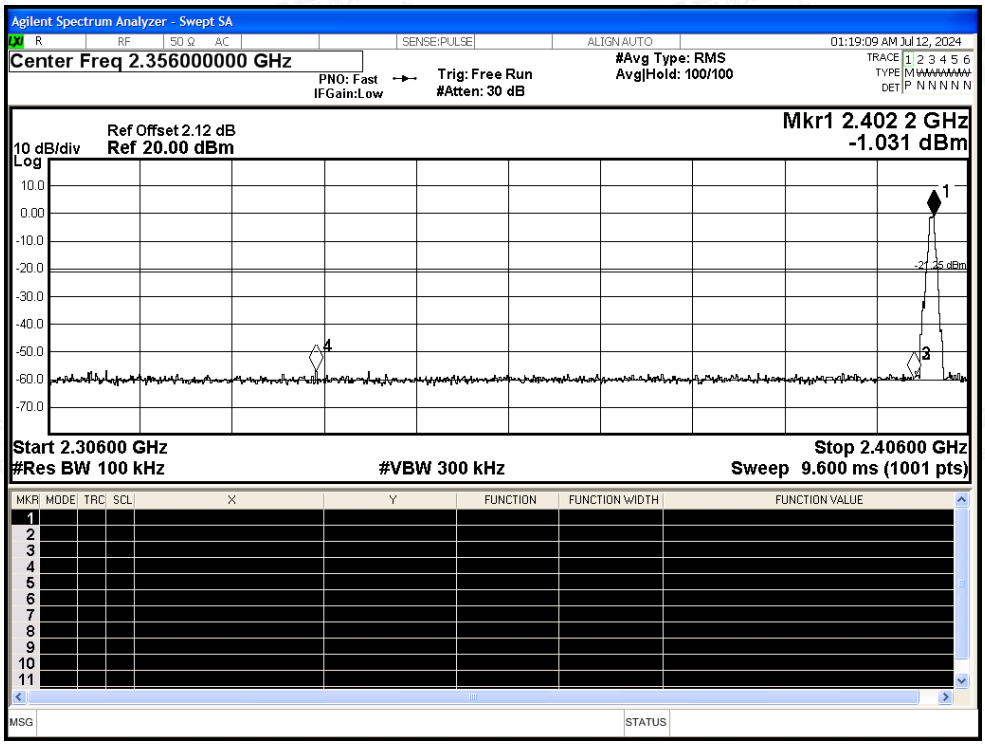
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-55.53	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.68	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-51.49	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-52.4	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-49.95	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-55.1	-20	Pass

Test Graphs

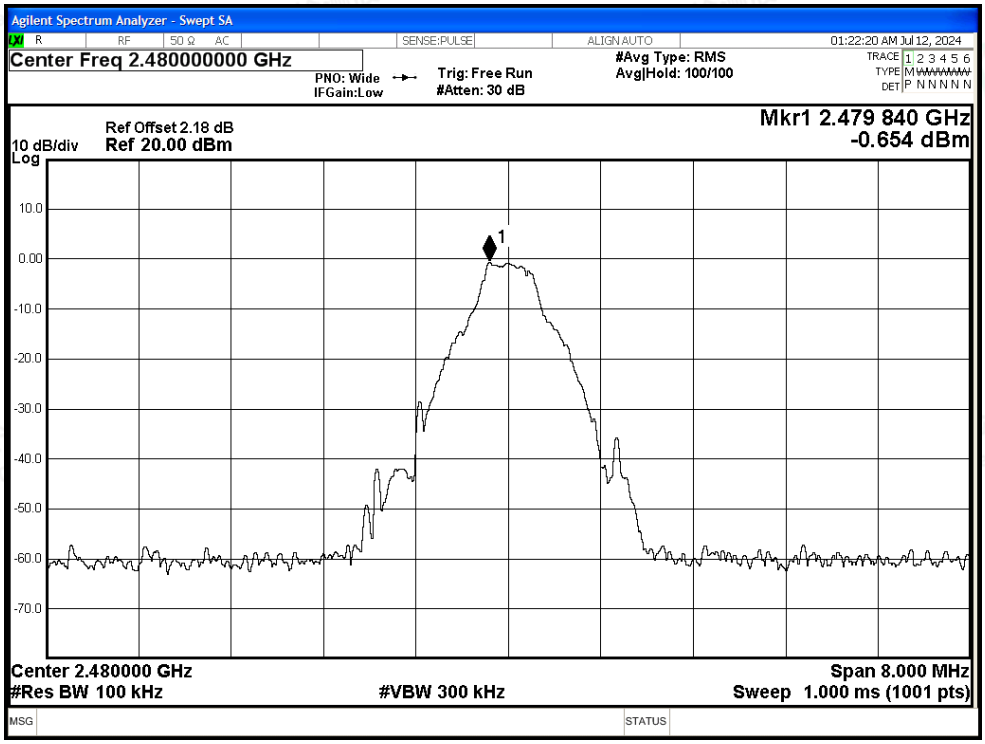
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



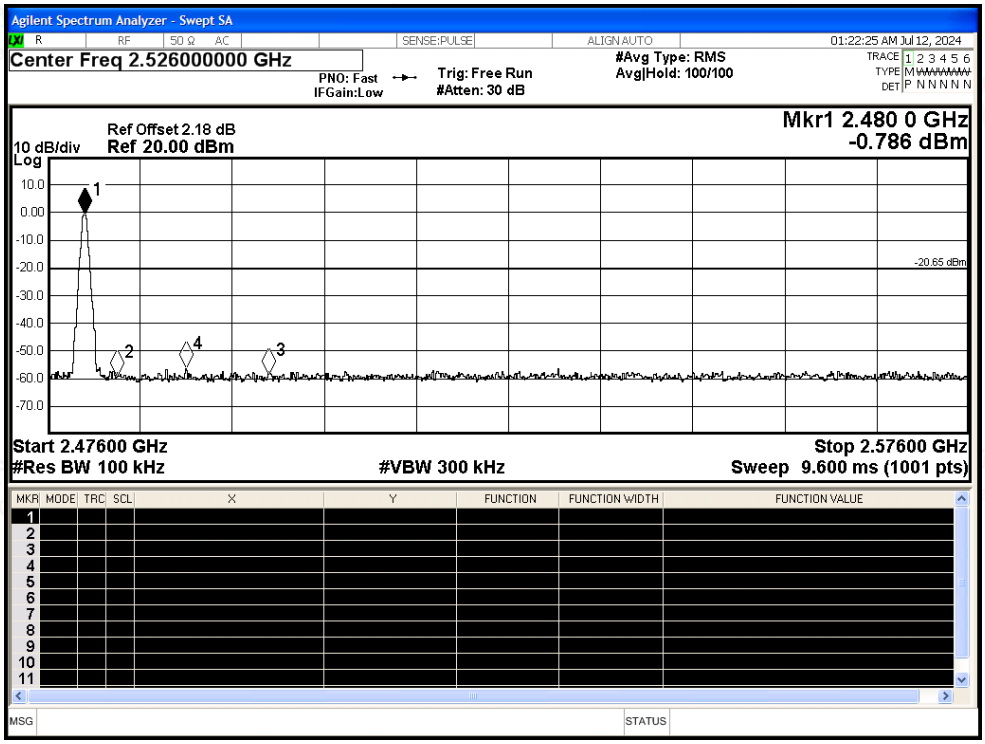
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



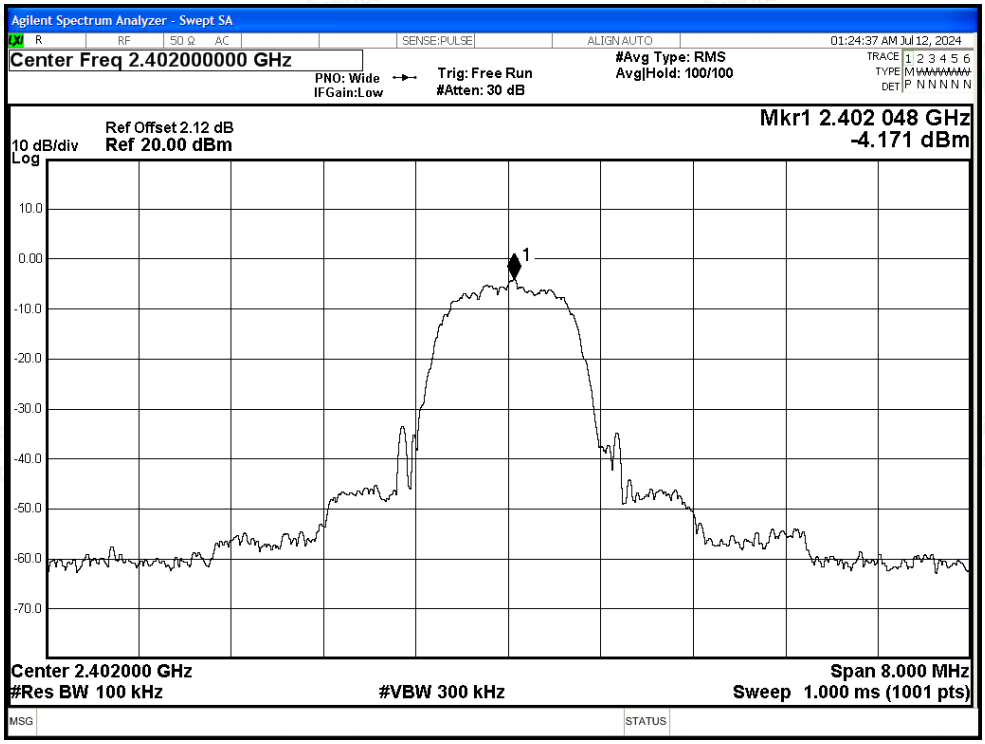
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



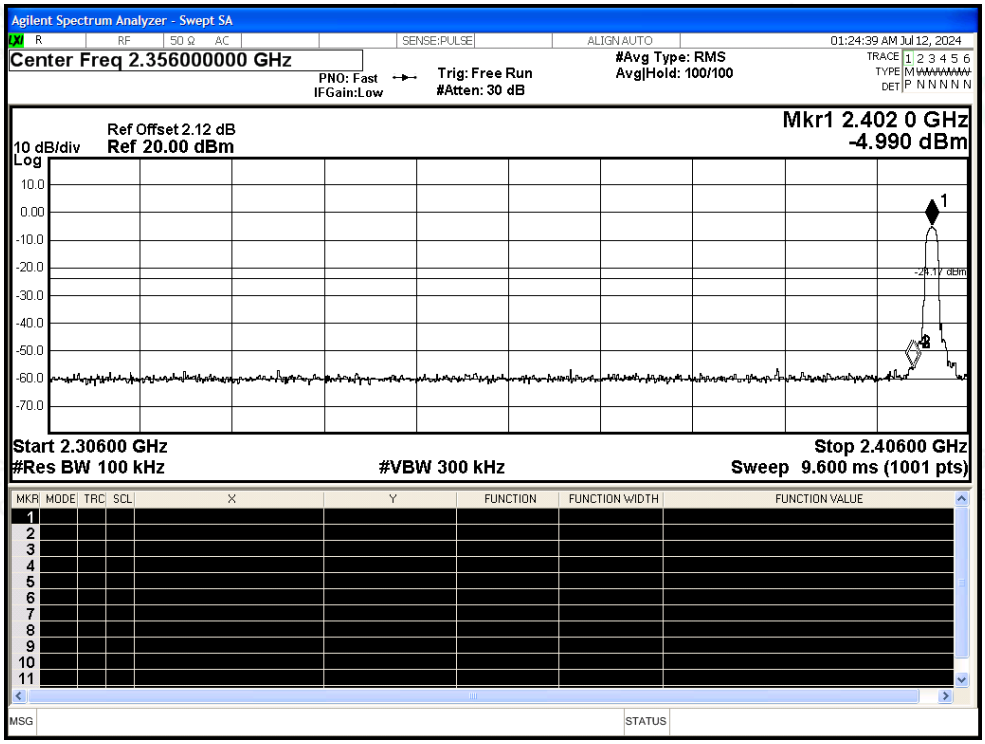
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



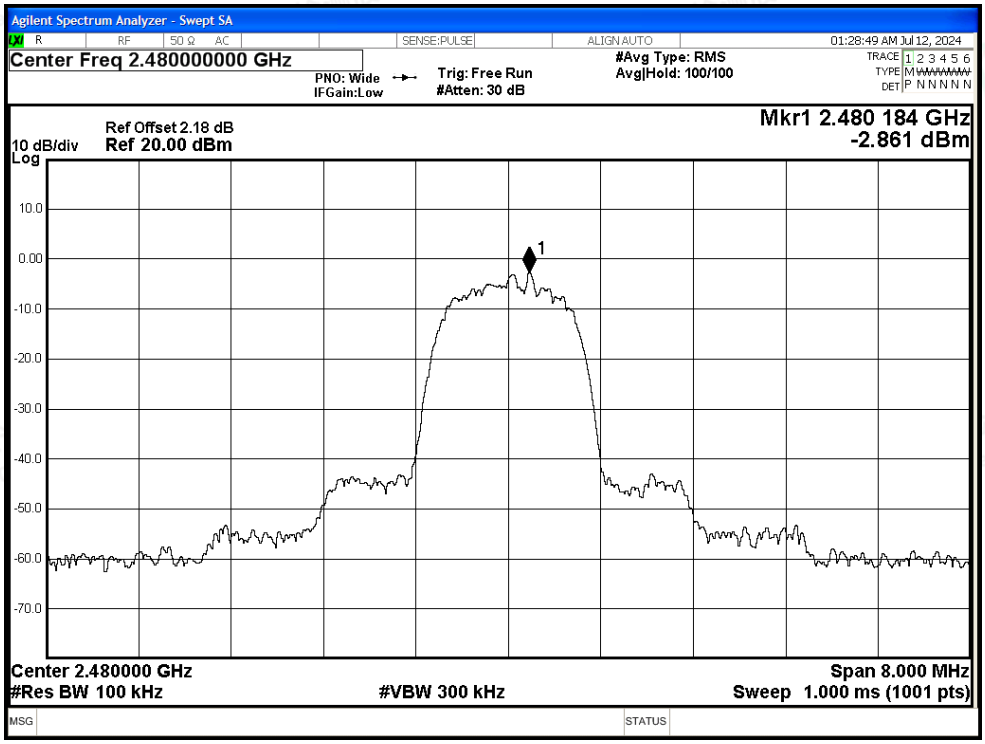
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



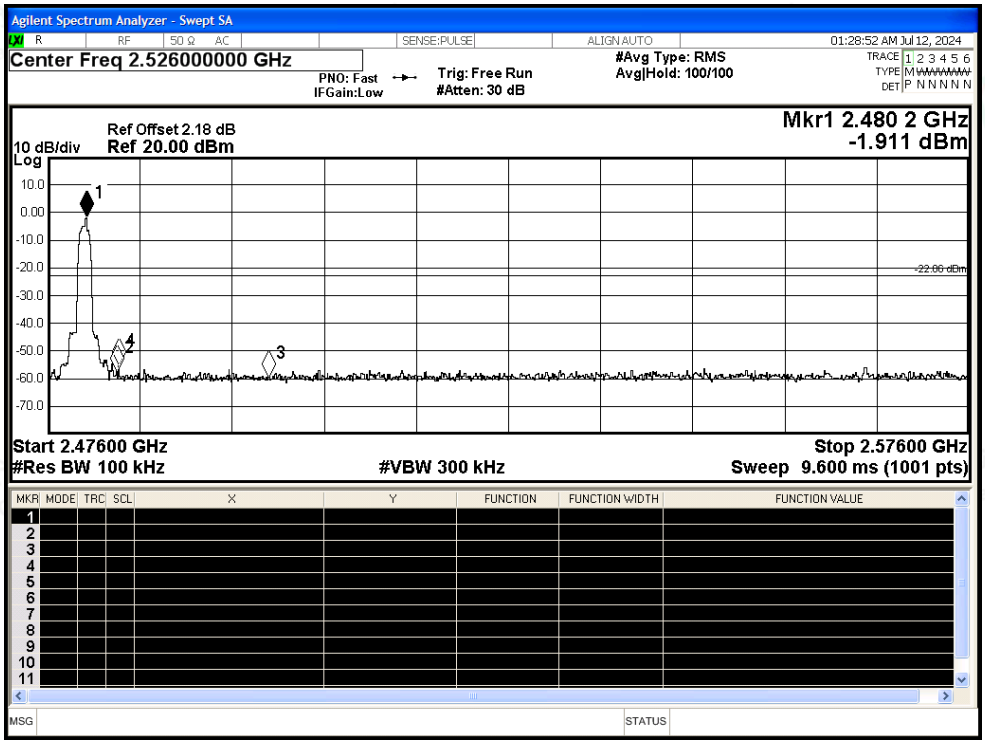
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



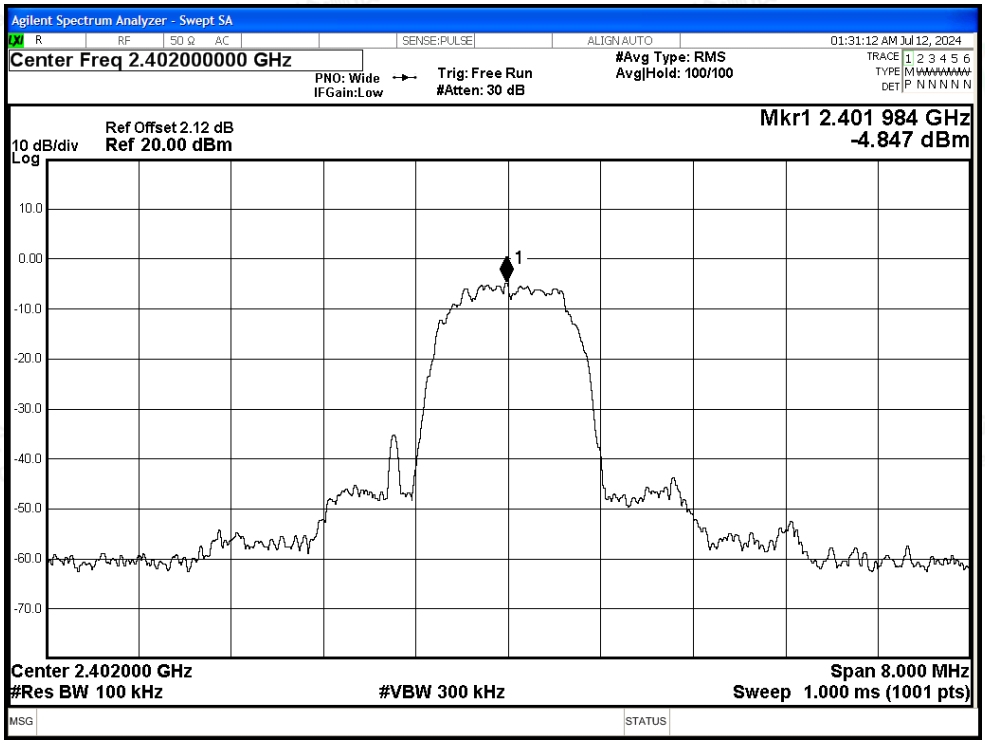
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



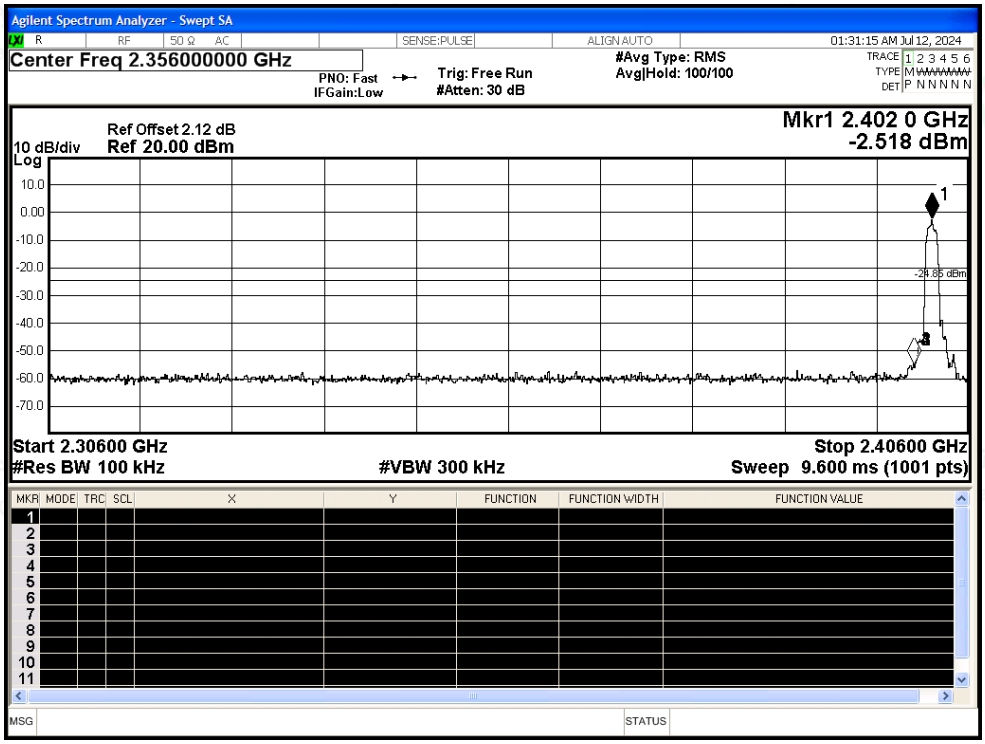
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



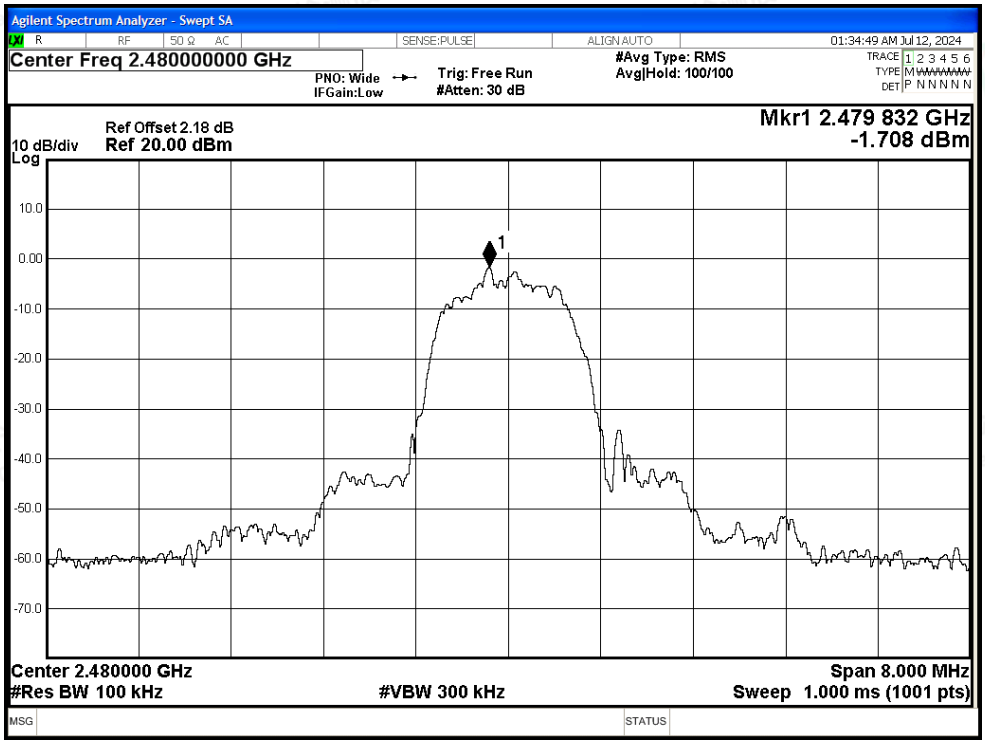
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



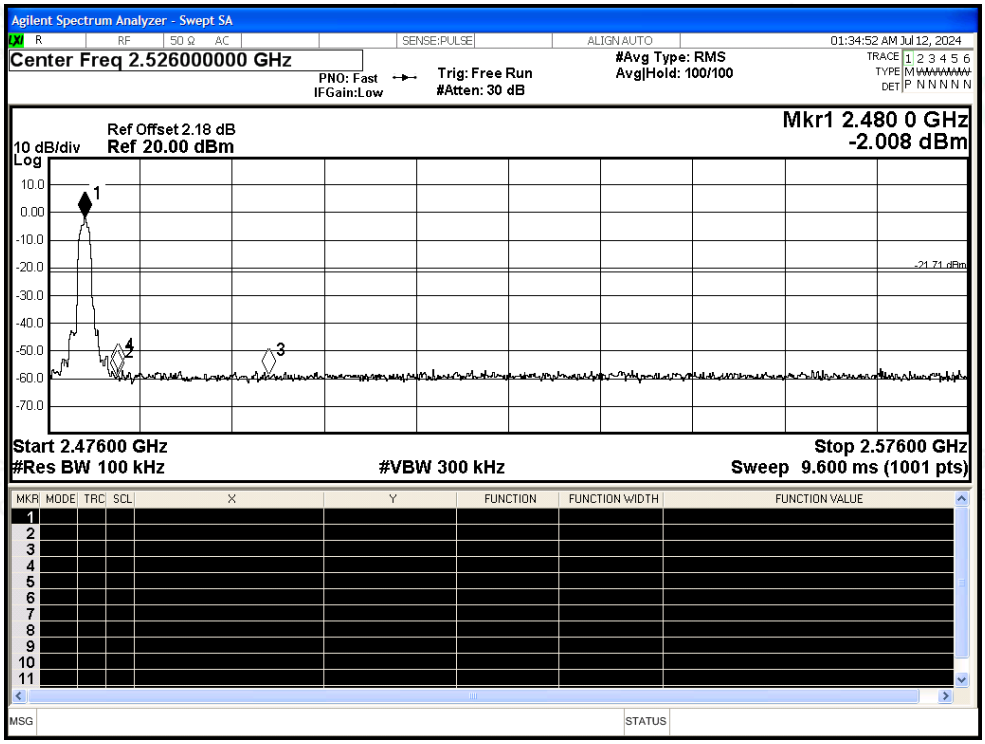
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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



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

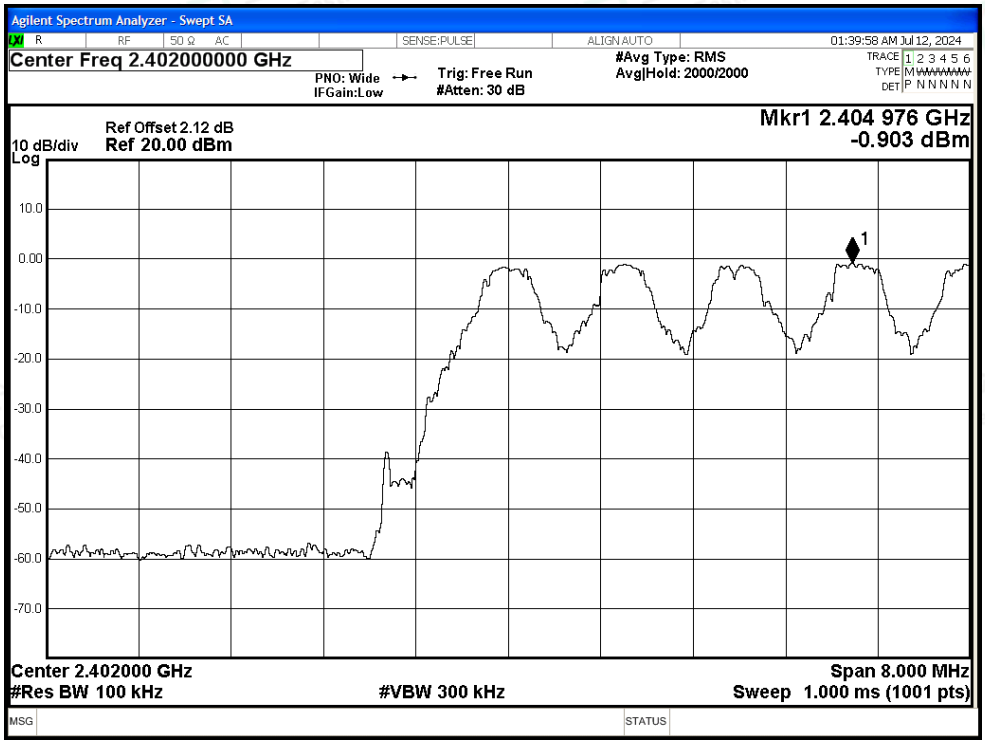


(Hopping)

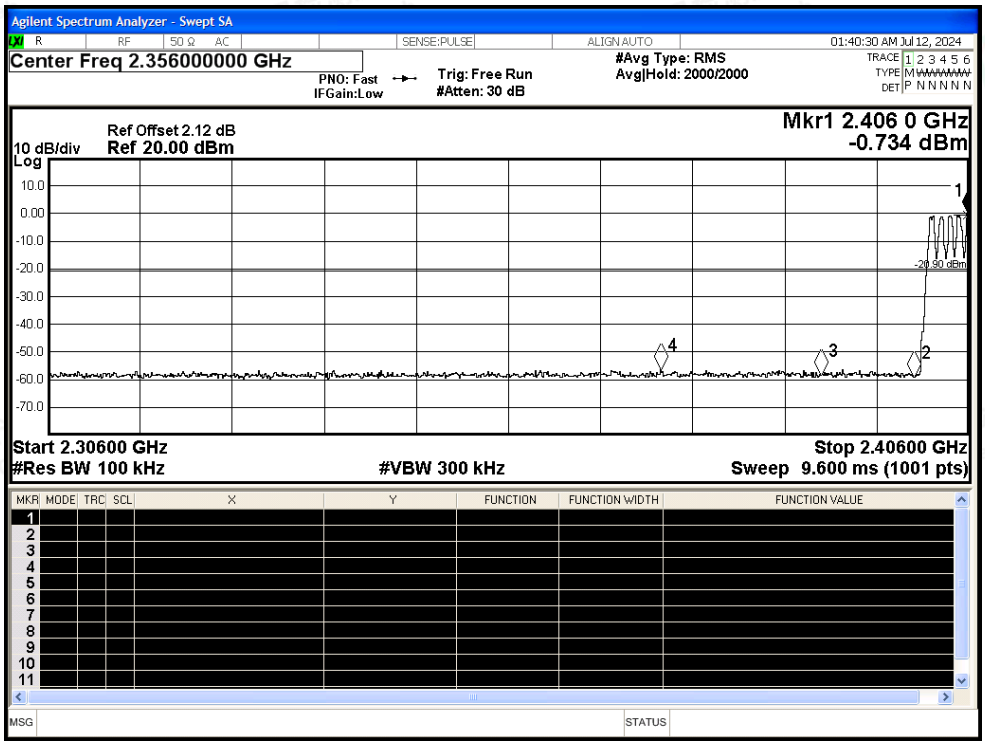
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-55.56	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-55.38	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-53.81	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-53.6	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-54.04	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-52.53	-20	Pass

Test Graphs

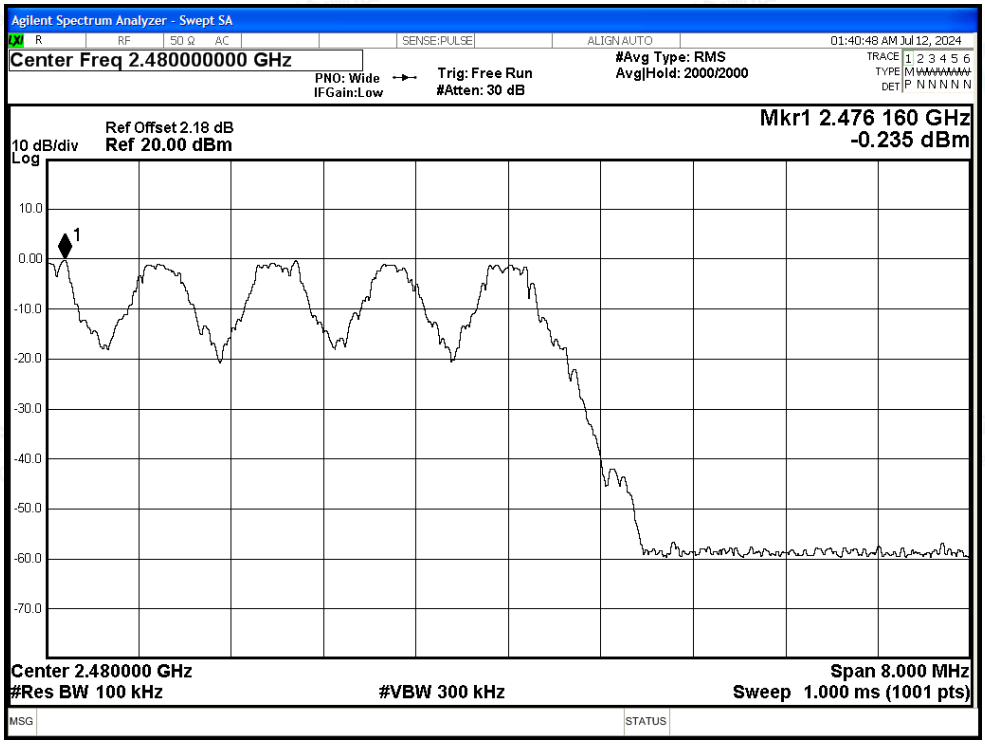
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



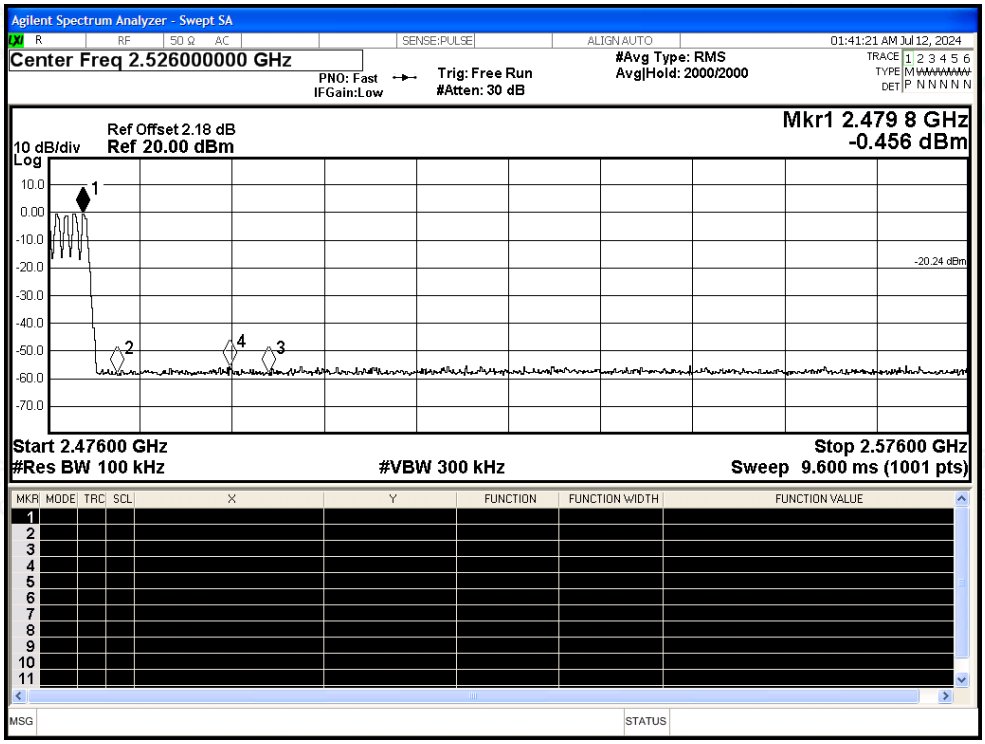
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



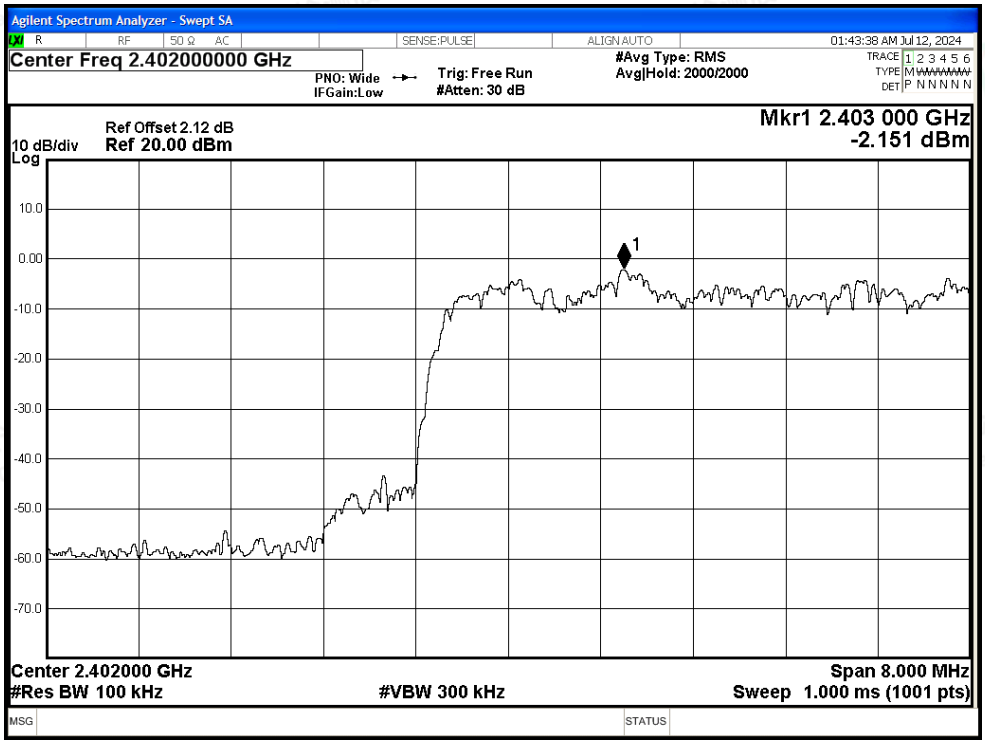
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



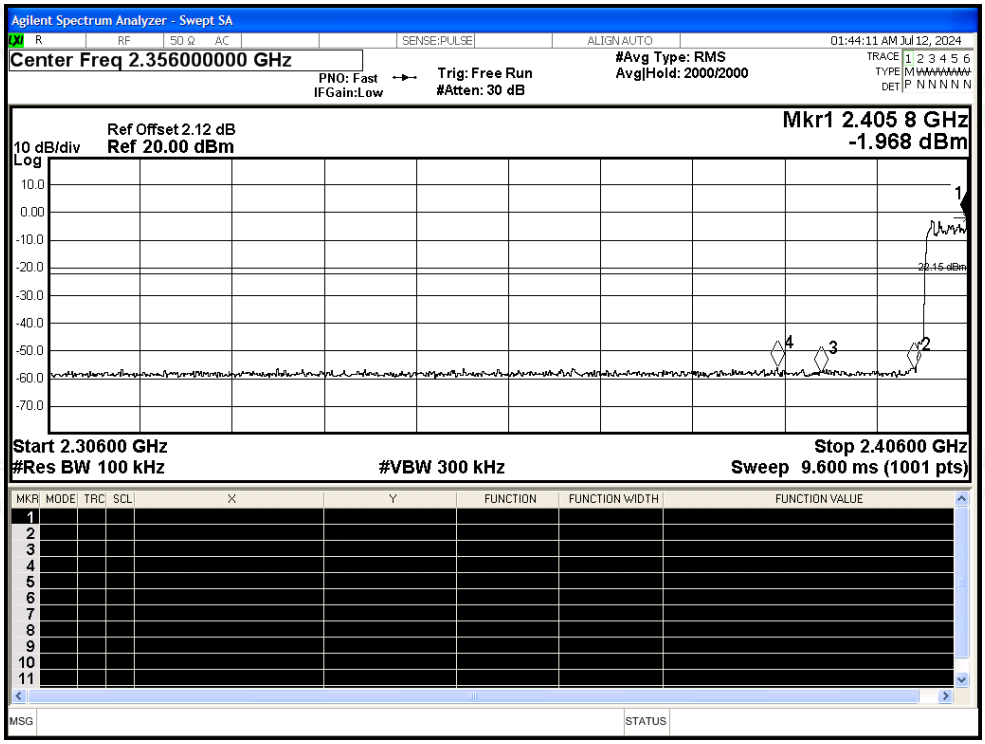
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



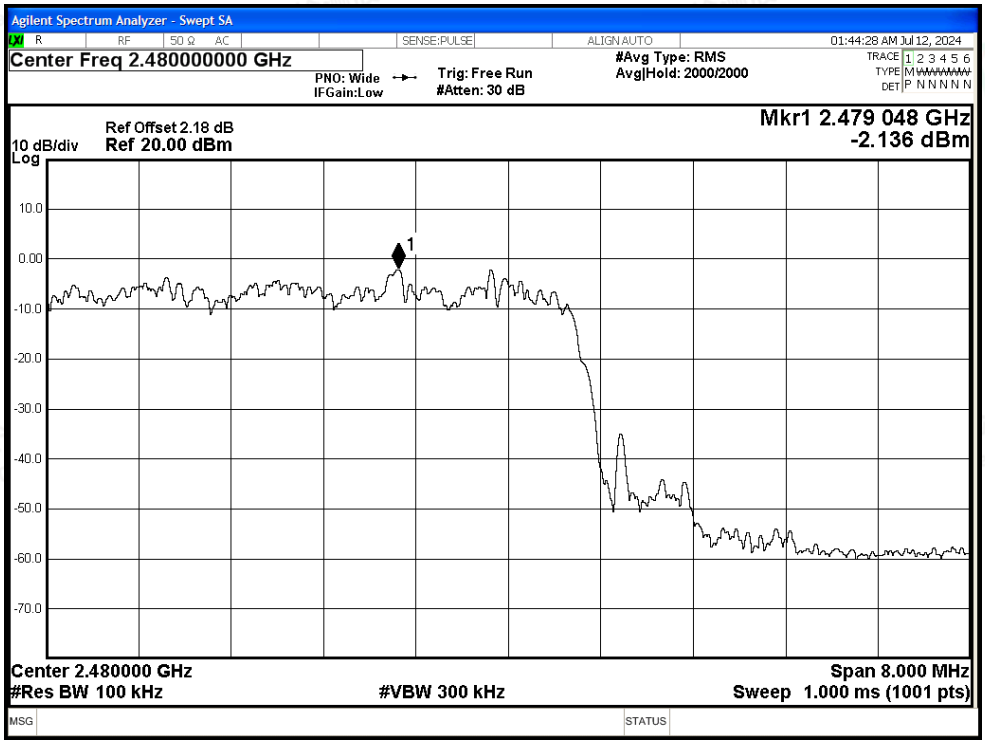
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



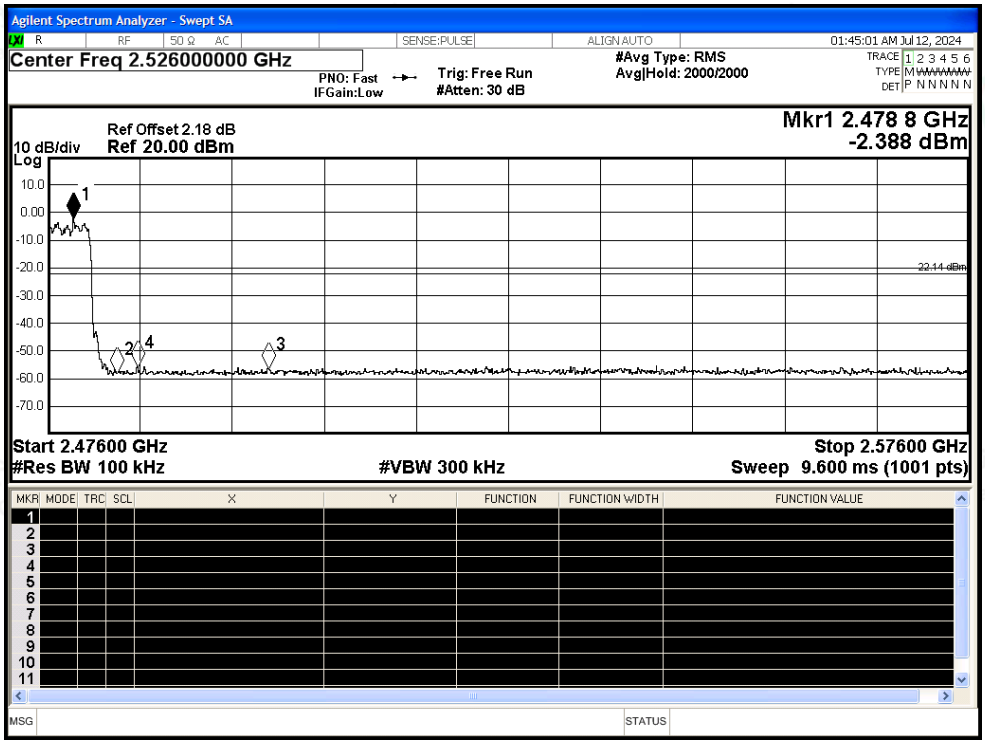
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



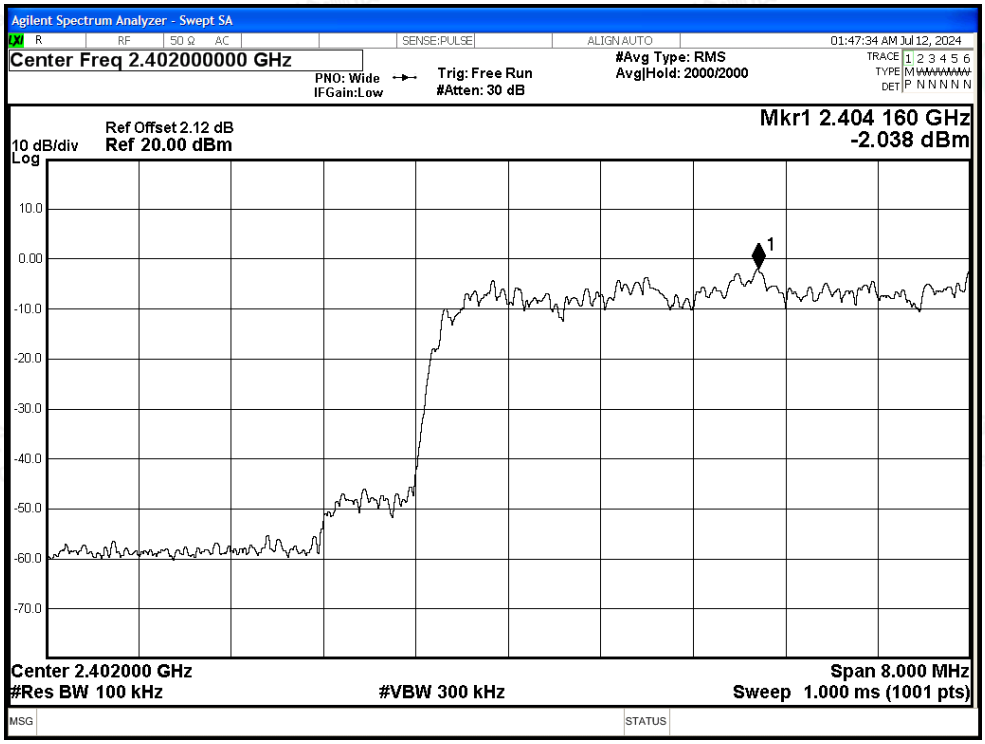
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



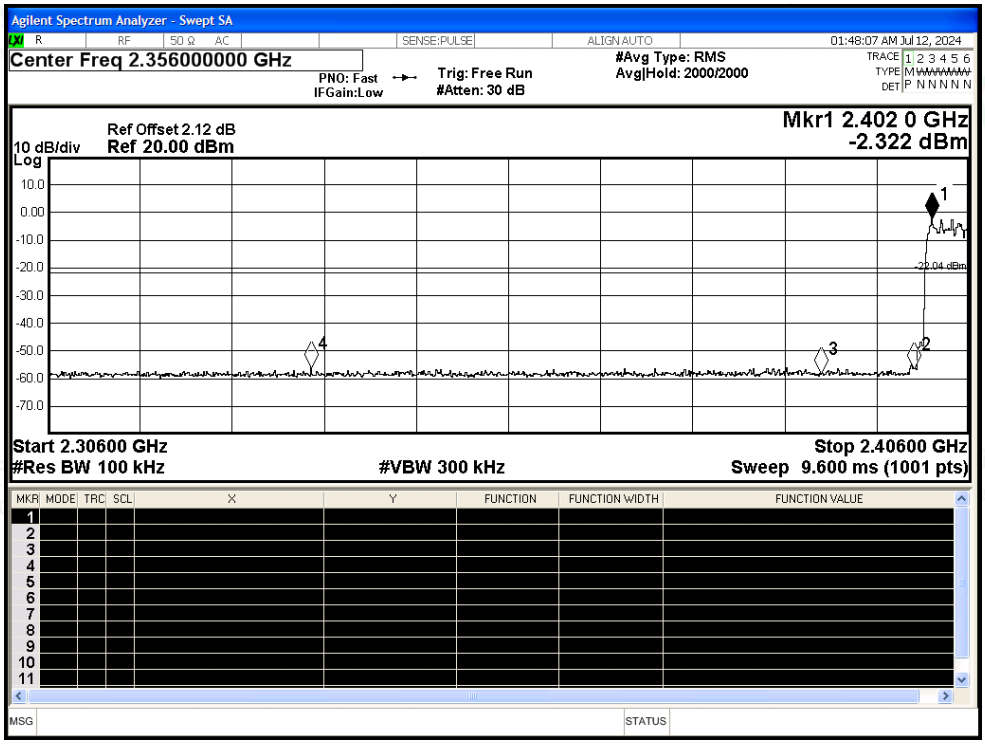
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



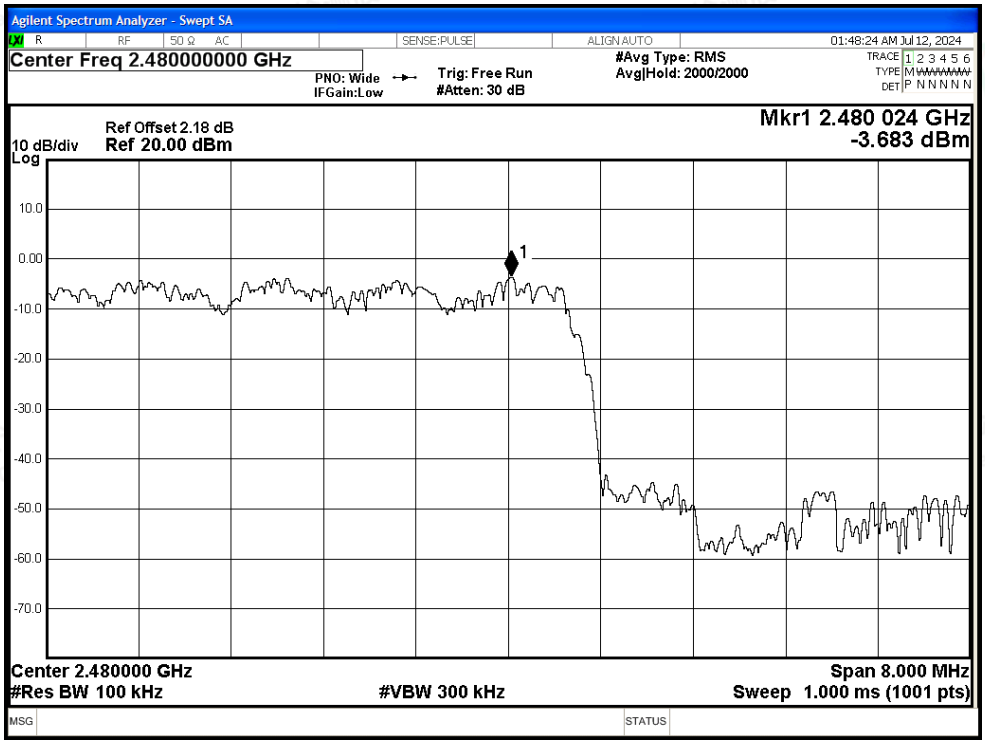
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



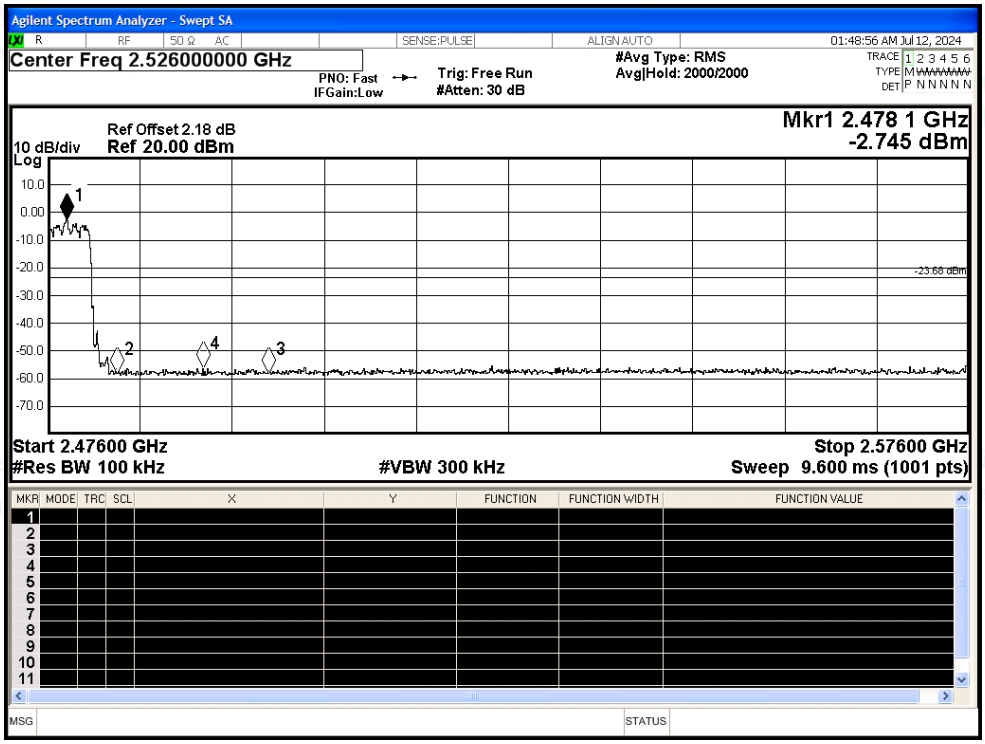
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



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



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

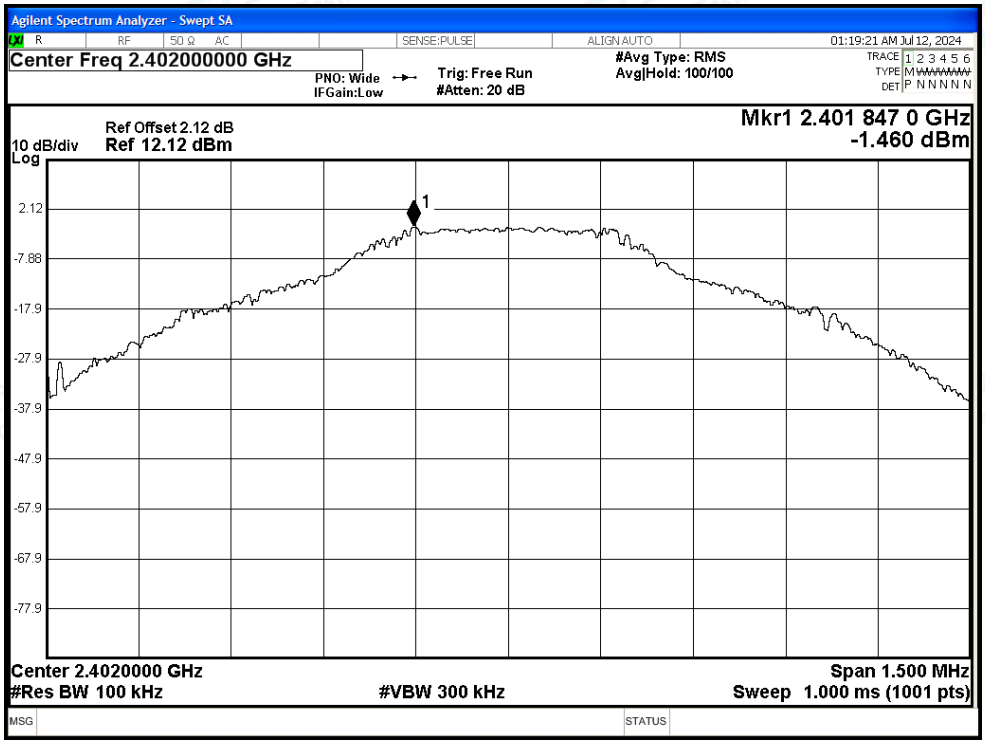


A.7 Conducted RF Spurious Emission

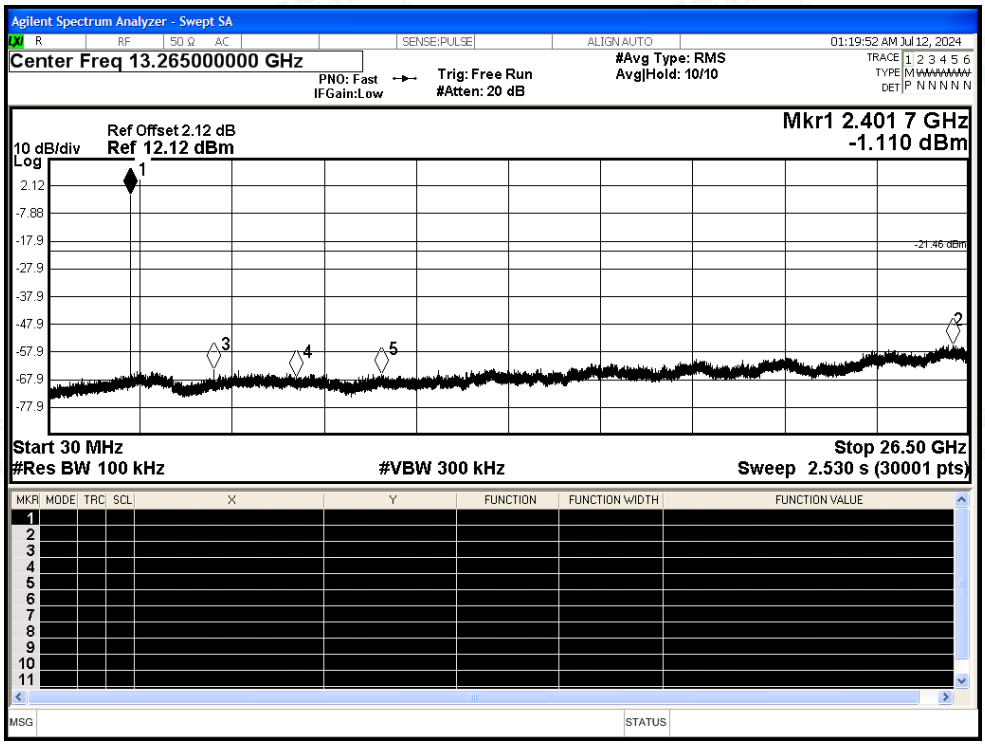
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-53.75	-20	Pass
NVNT	1-DH5	2441	Ant1	-54.08	-20	Pass
NVNT	1-DH5	2480	Ant1	-54.83	-20	Pass
NVNT	2-DH5	2402	Ant1	-52.78	-20	Pass
NVNT	2-DH5	2441	Ant1	-52.23	-20	Pass
NVNT	2-DH5	2480	Ant1	-52.88	-20	Pass
NVNT	3-DH5	2402	Ant1	-53.11	-20	Pass
NVNT	3-DH5	2441	Ant1	-53.57	-20	Pass
NVNT	3-DH5	2480	Ant1	-52.92	-20	Pass

Test Graphs

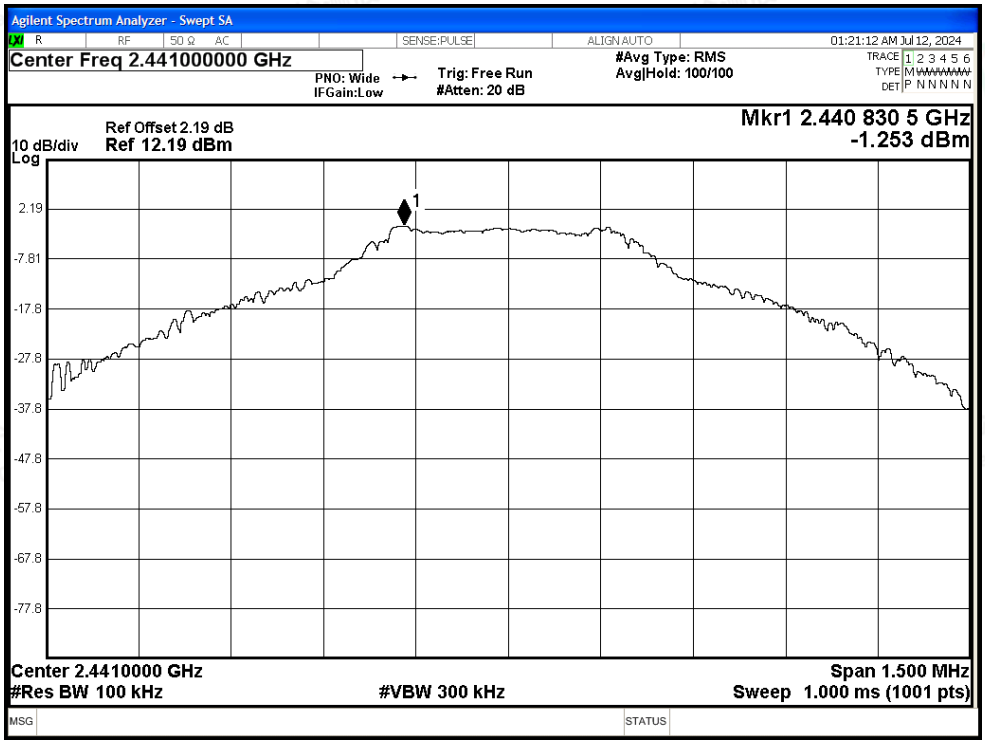
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



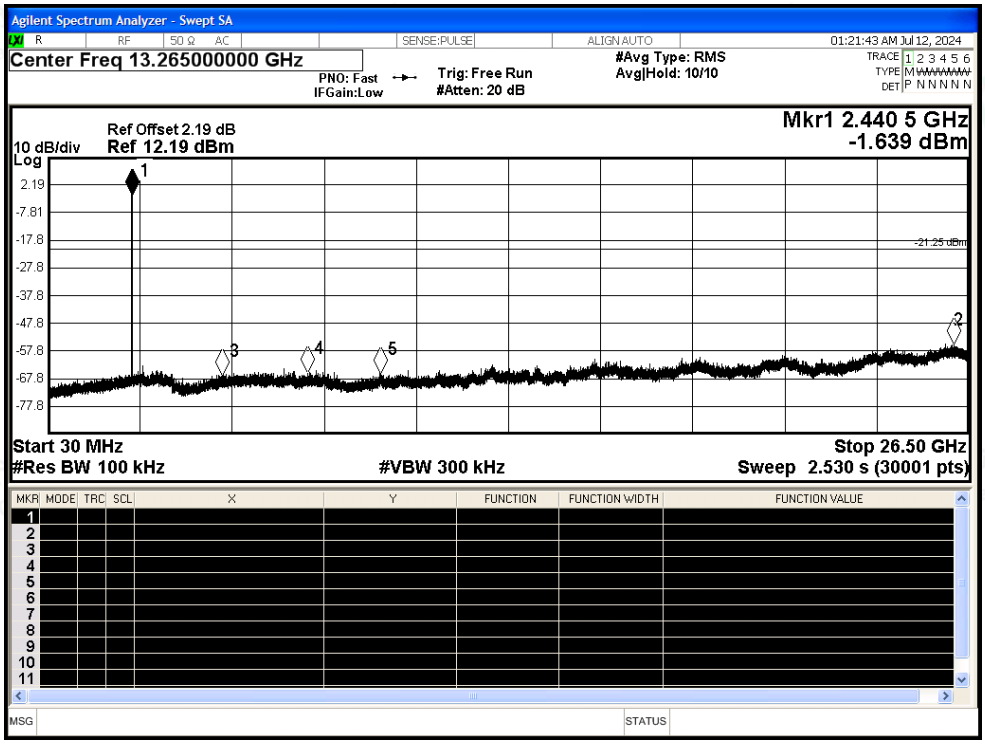
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



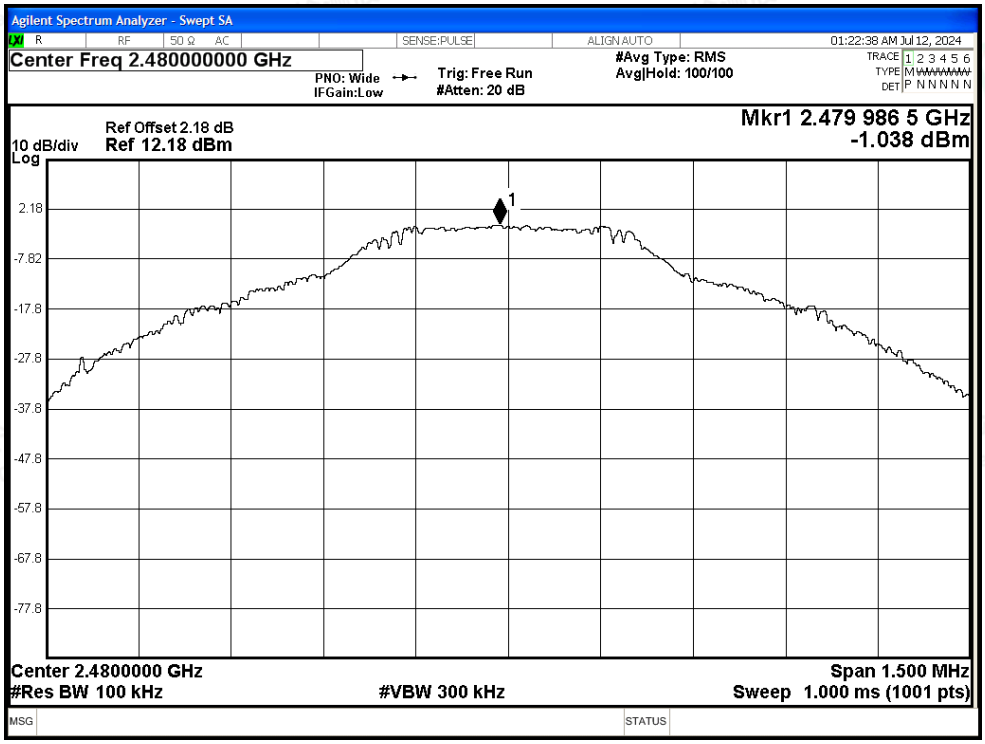
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



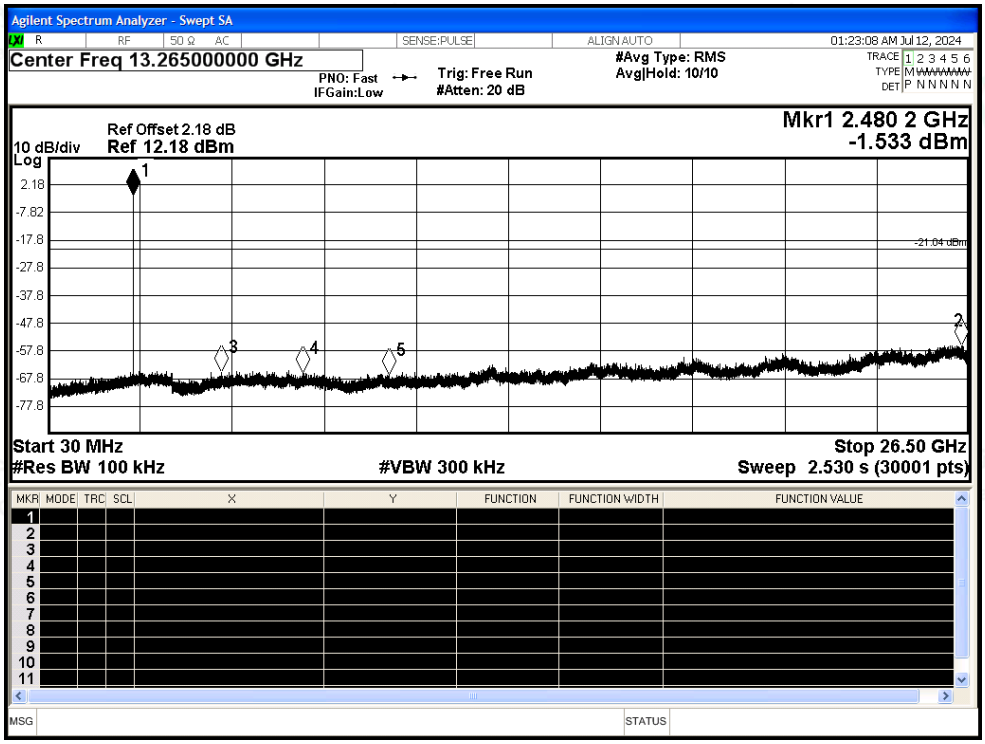
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



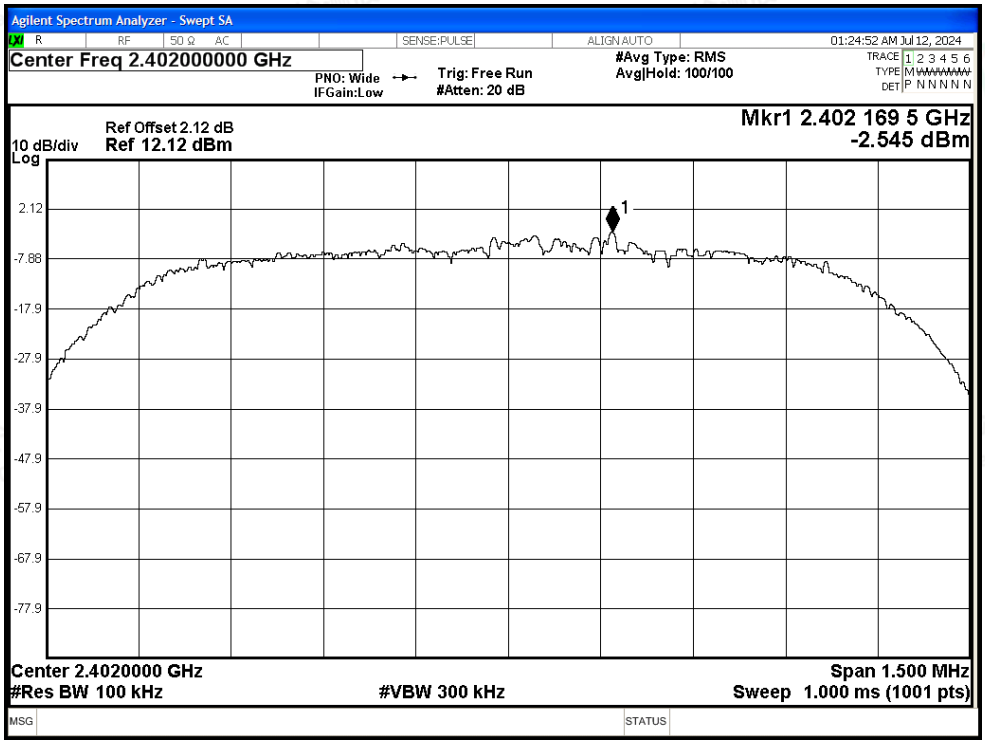
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



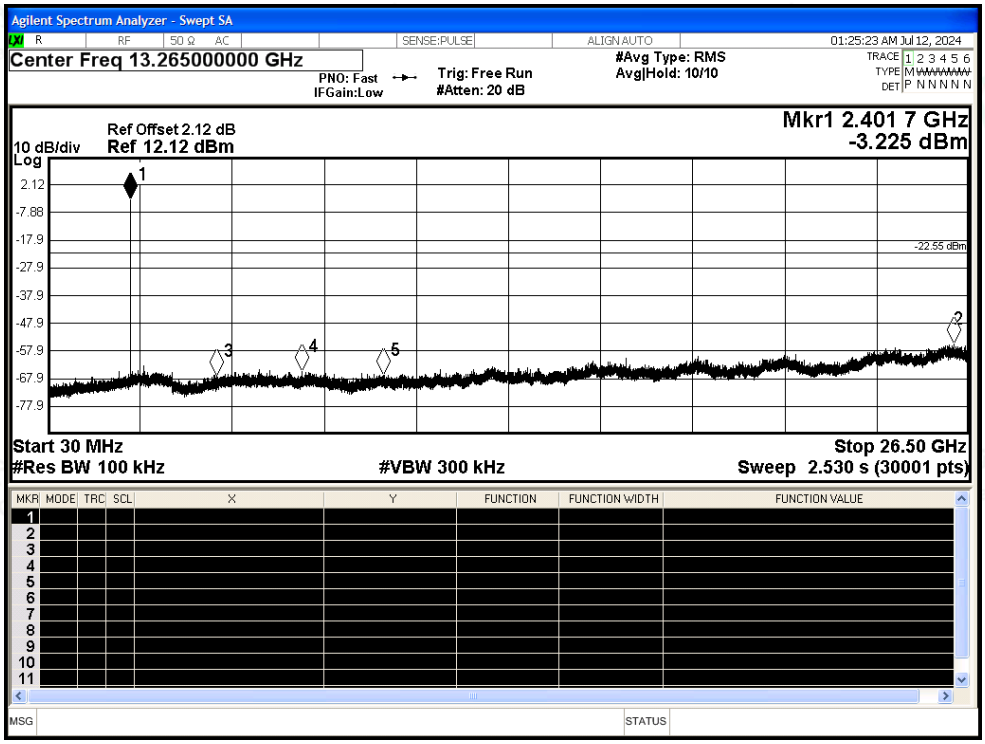
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



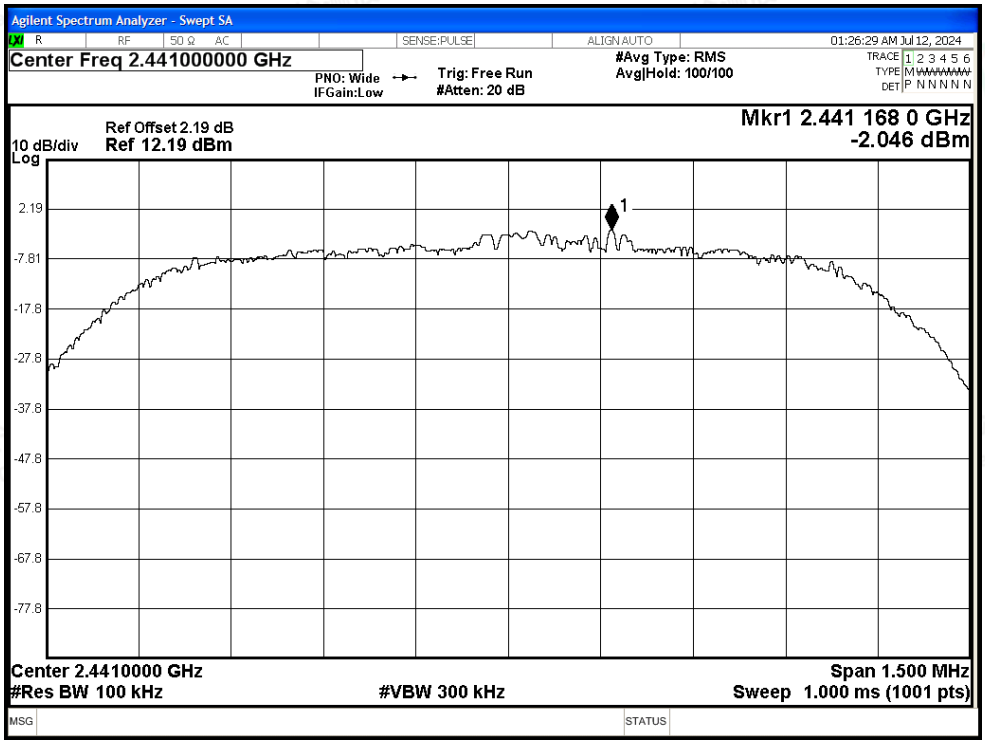
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



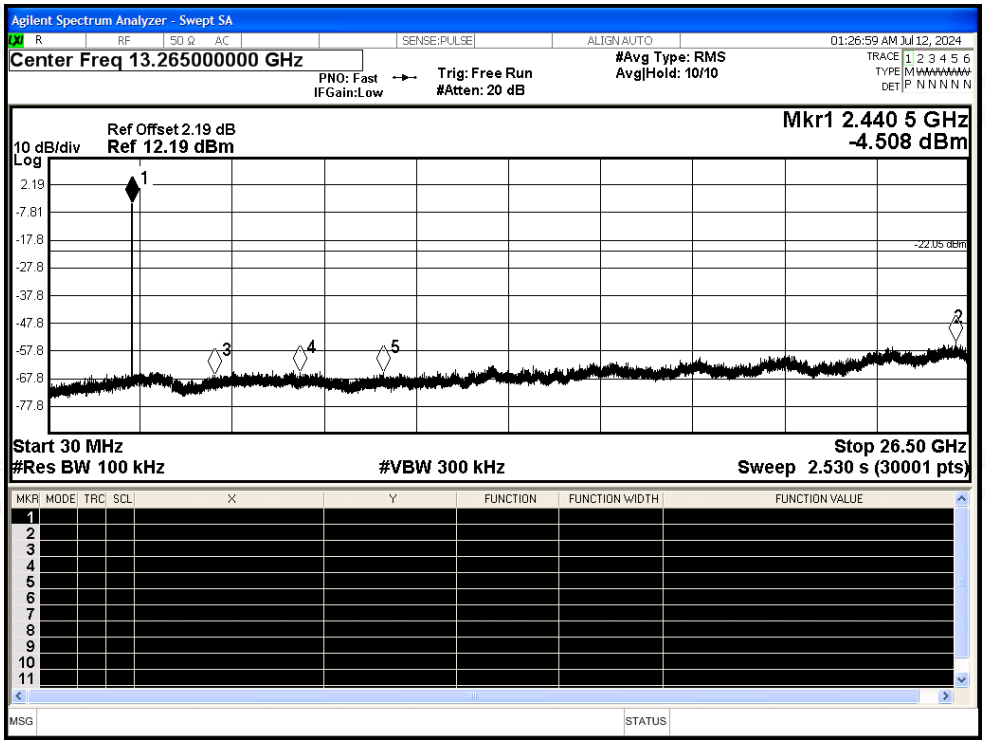
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



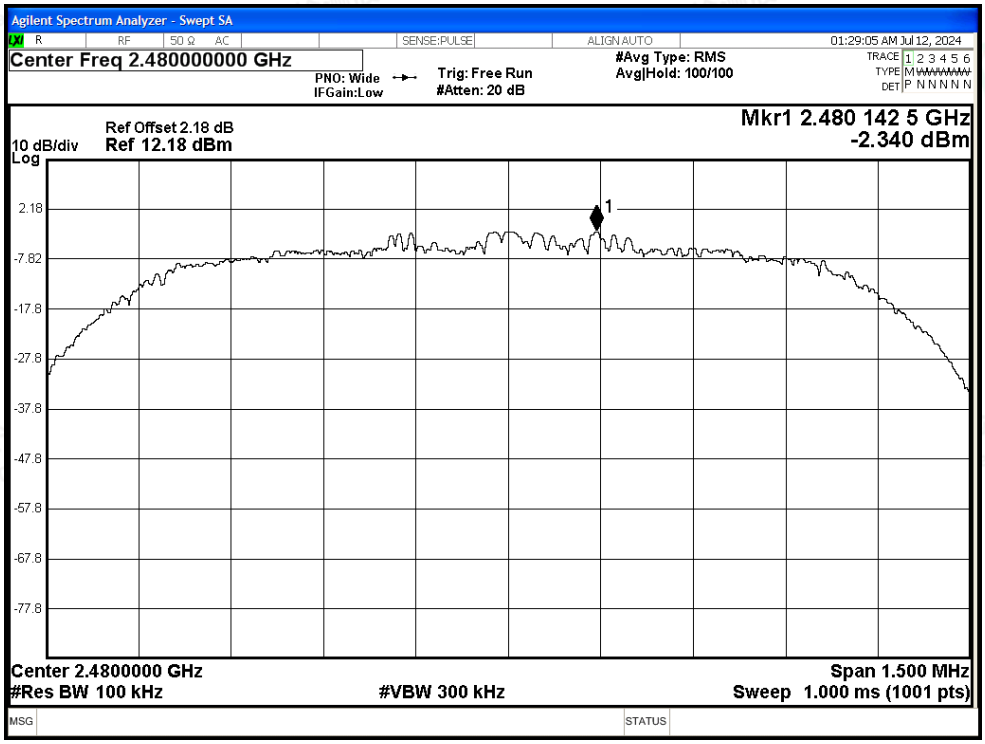
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



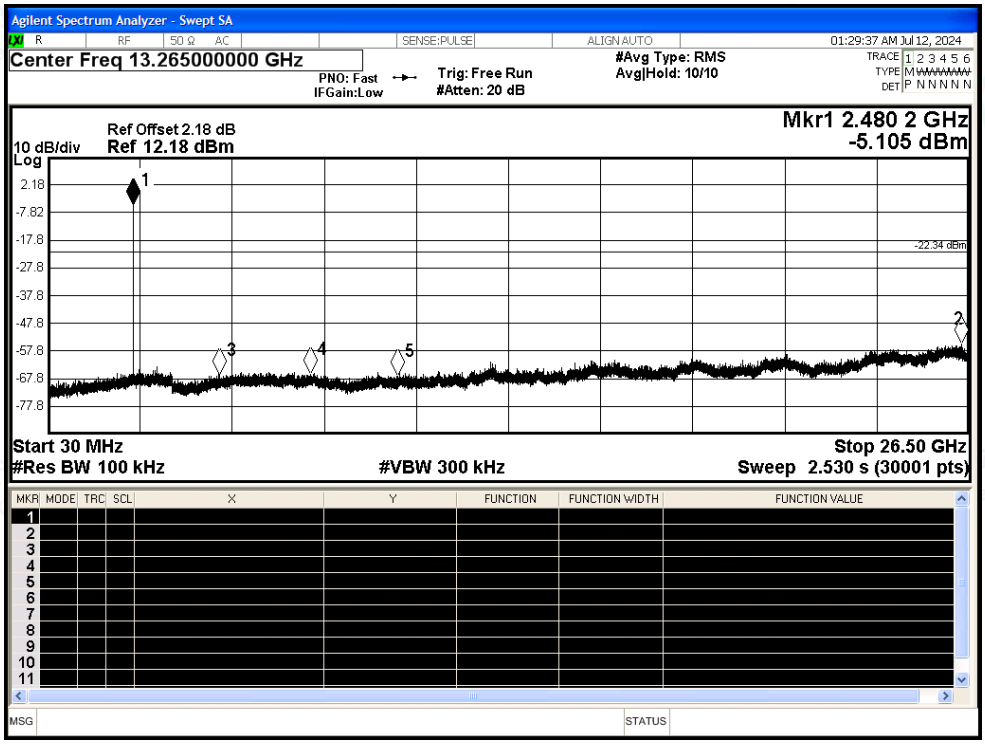
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



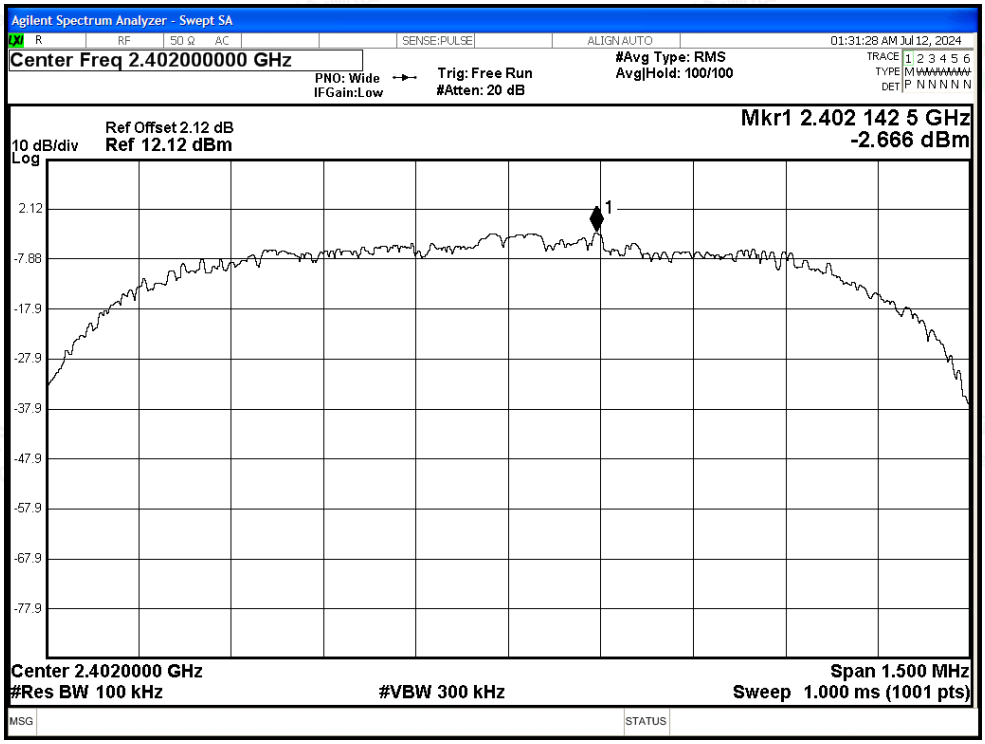
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



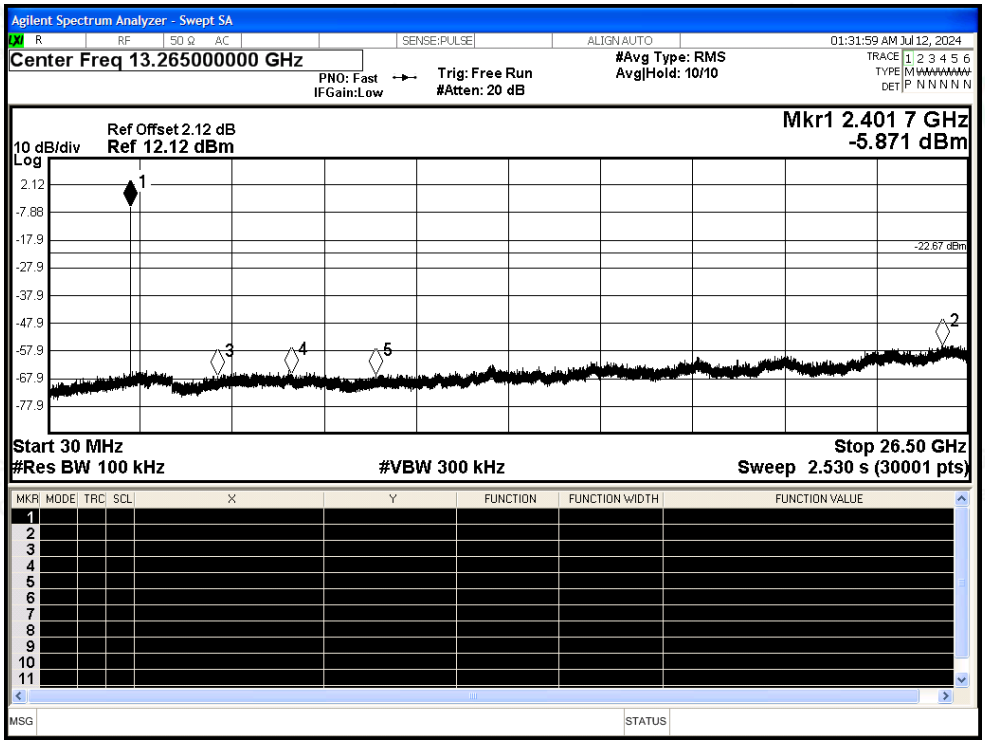
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



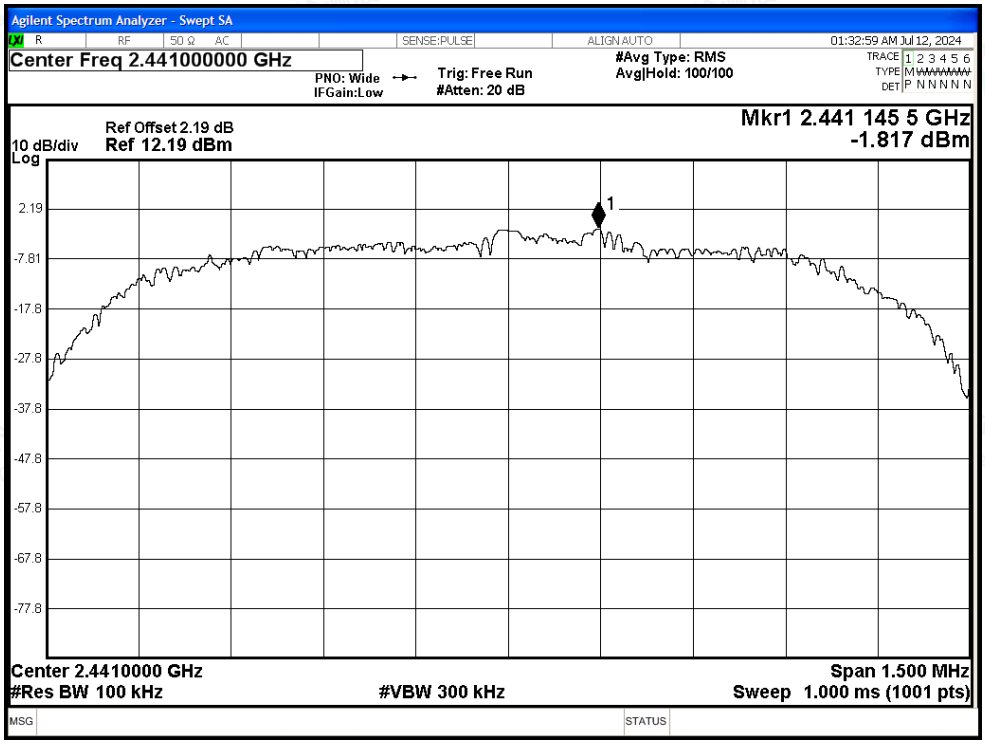
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



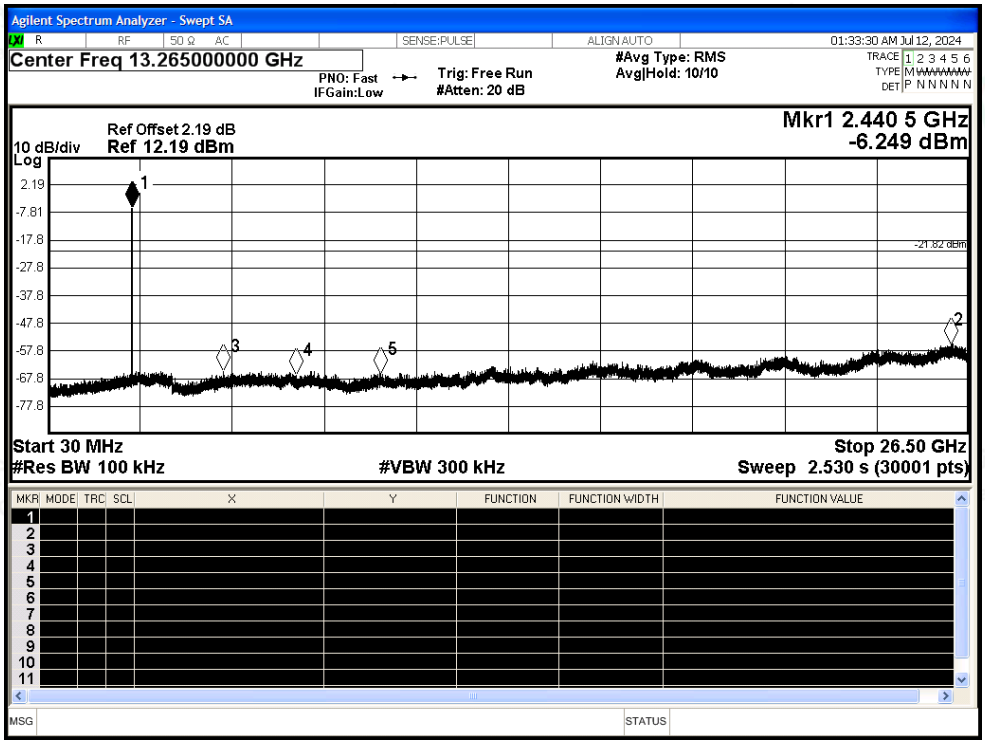
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



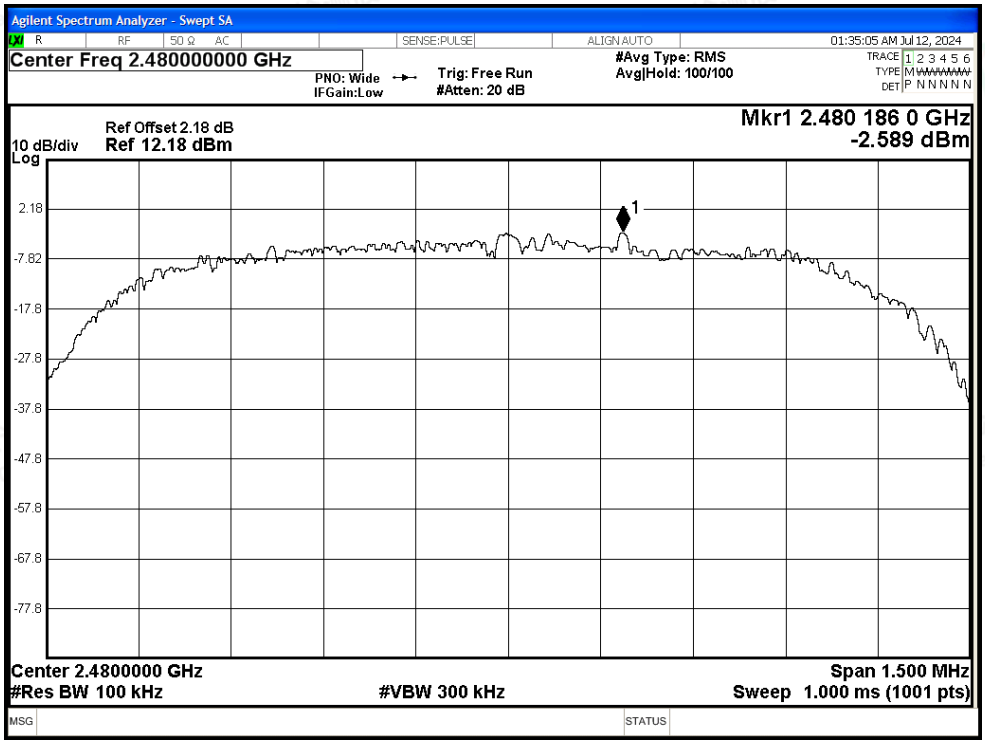
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



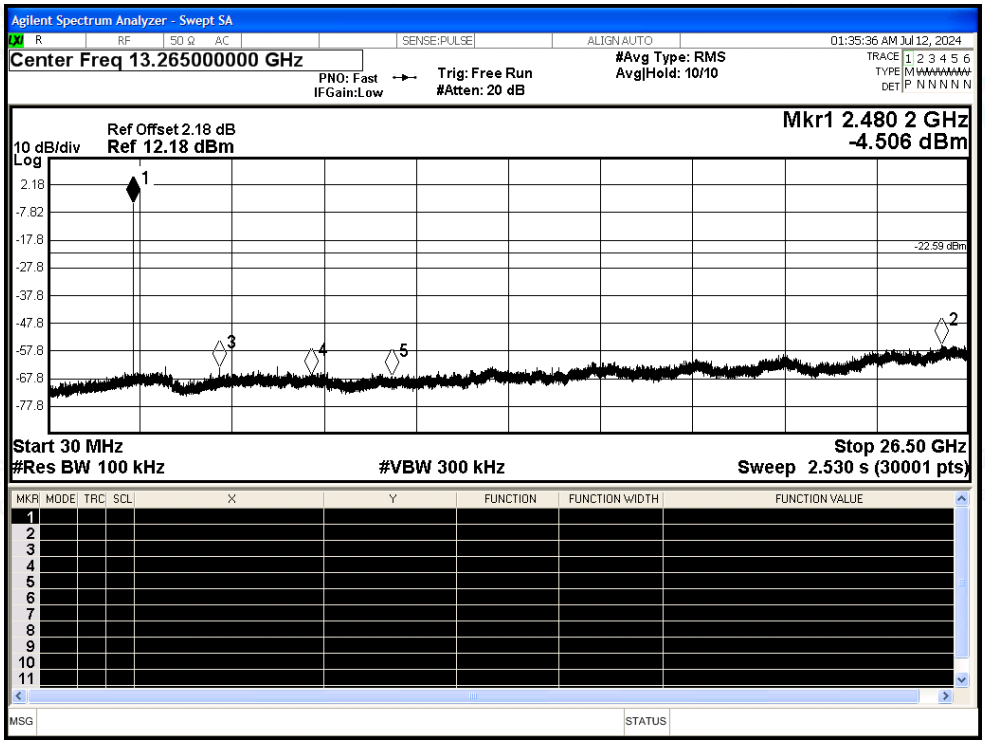
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

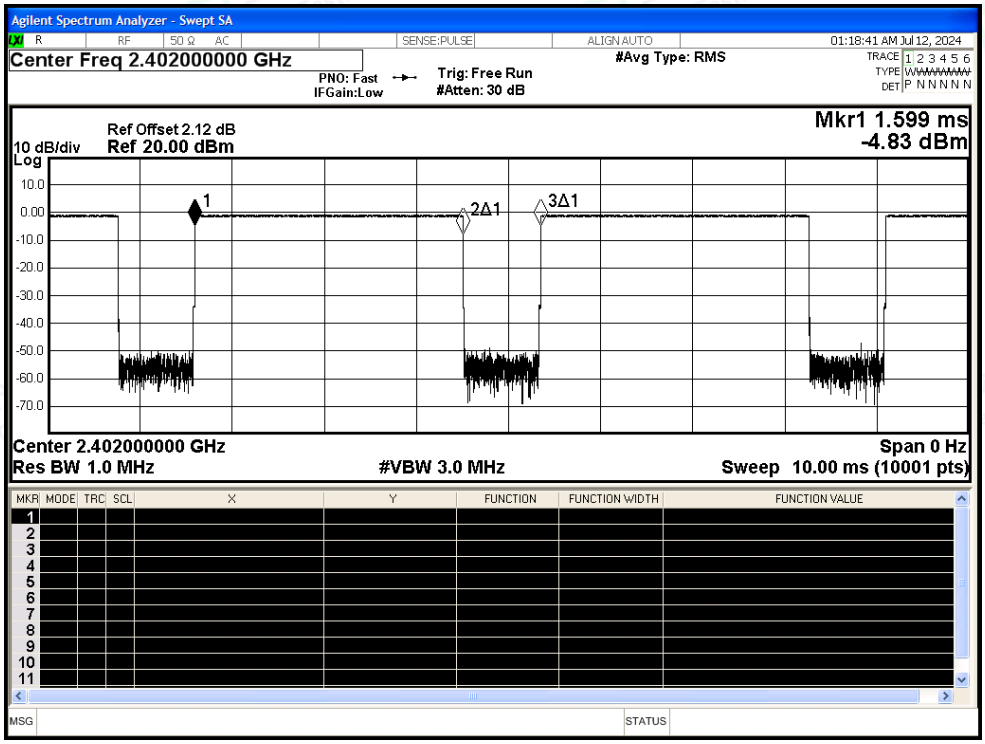


A.8 Duty Cycle

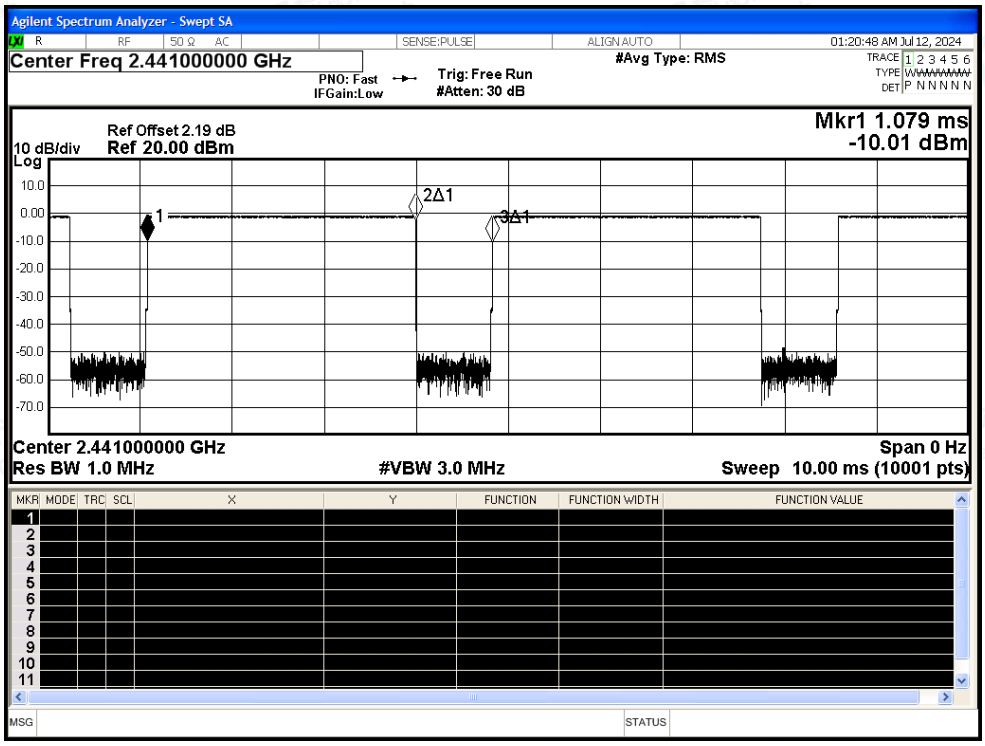
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	76.41	1.17	0.36
NVNT	2-DH5	2441	Ant1	76.43	1.17	0.36
NVNT	2-DH5	2480	Ant1	76.41	1.17	0.36
NVNT	3-DH5	2402	Ant1	76.38	1.17	0.36
NVNT	3-DH5	2441	Ant1	76.38	1.17	0.36
NVNT	3-DH5	2480	Ant1	76.38	1.17	0.36

Test Graphs

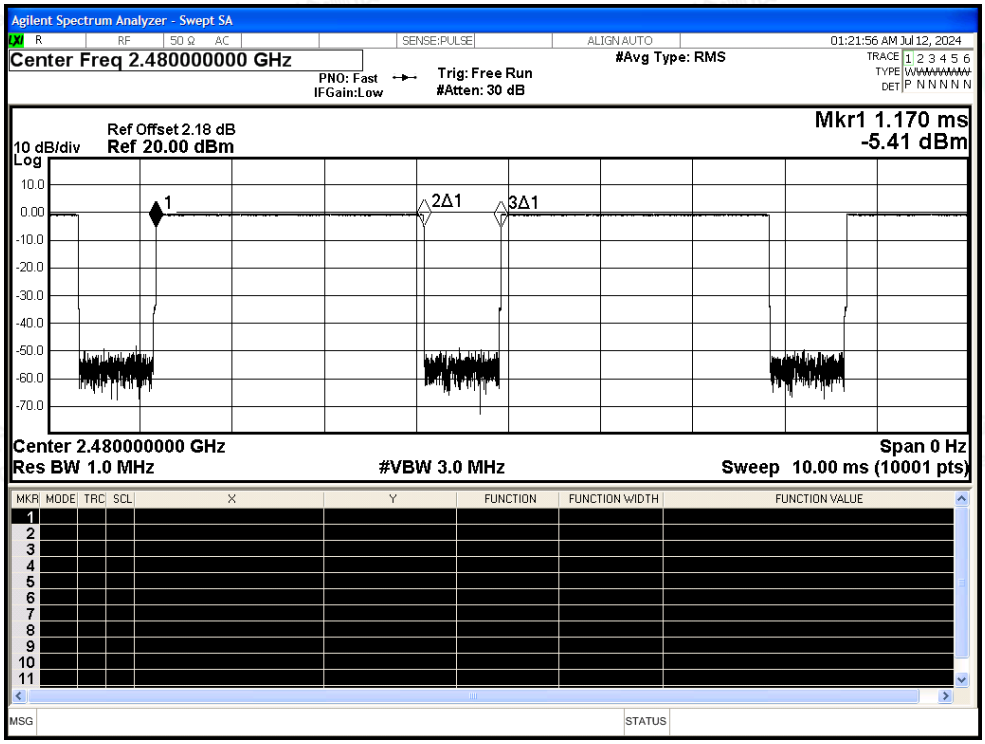
Duty Cycle NVNT 1-DH5 2402MHz Ant1



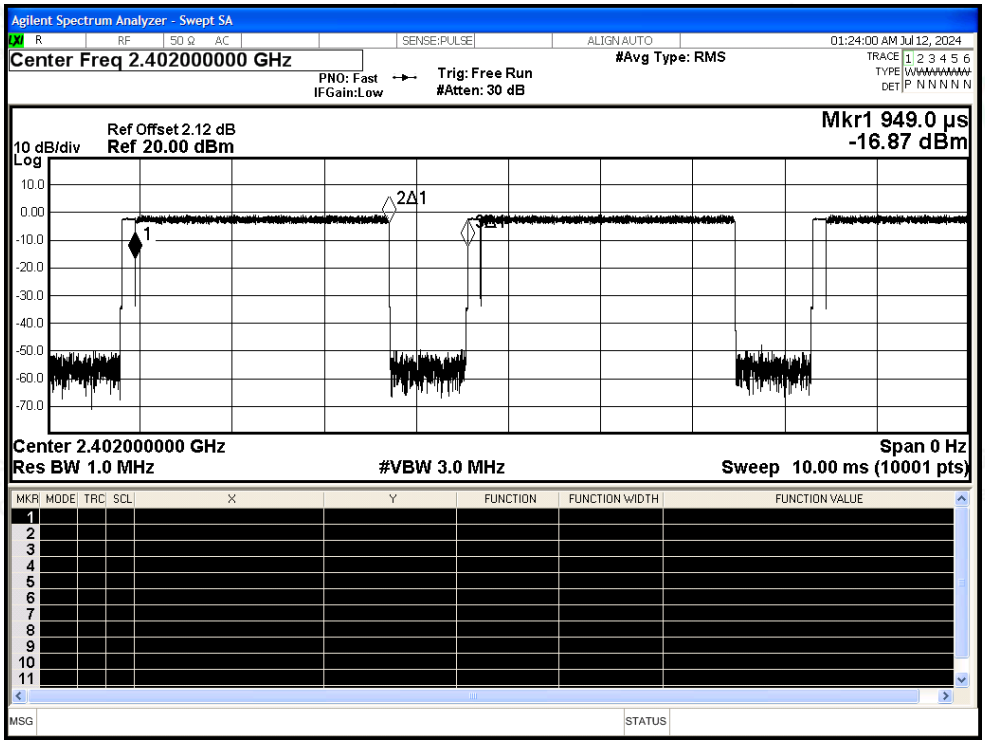
Duty Cycle NVNT 1-DH5 2441MHz Ant1



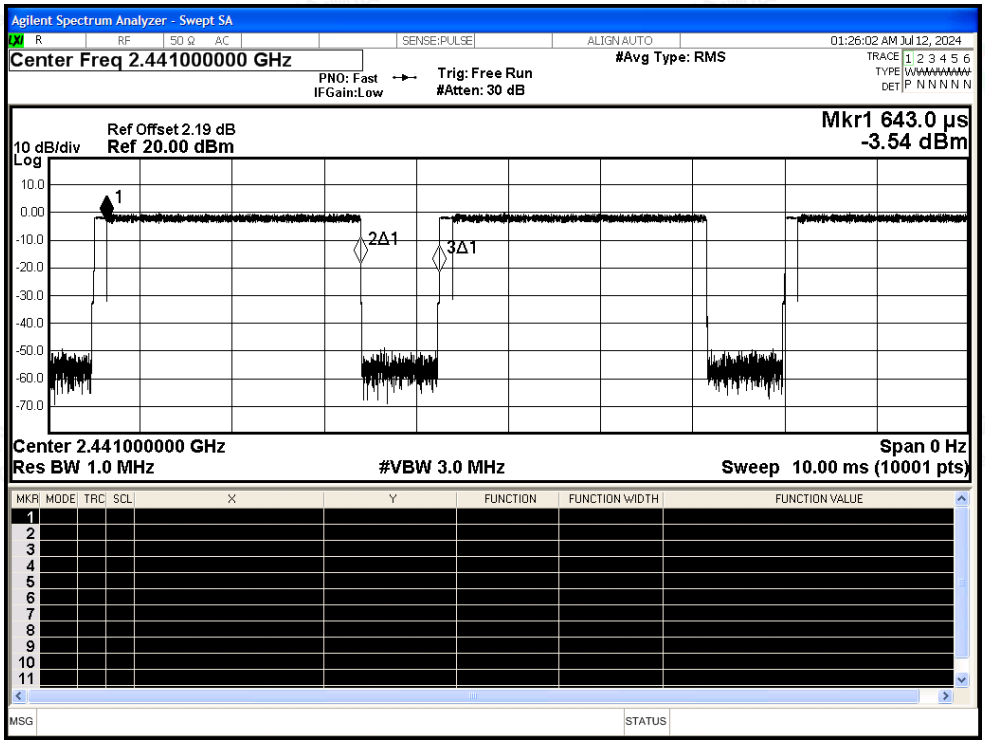
Duty Cycle NVNT 1-DH5 2480MHz Ant1



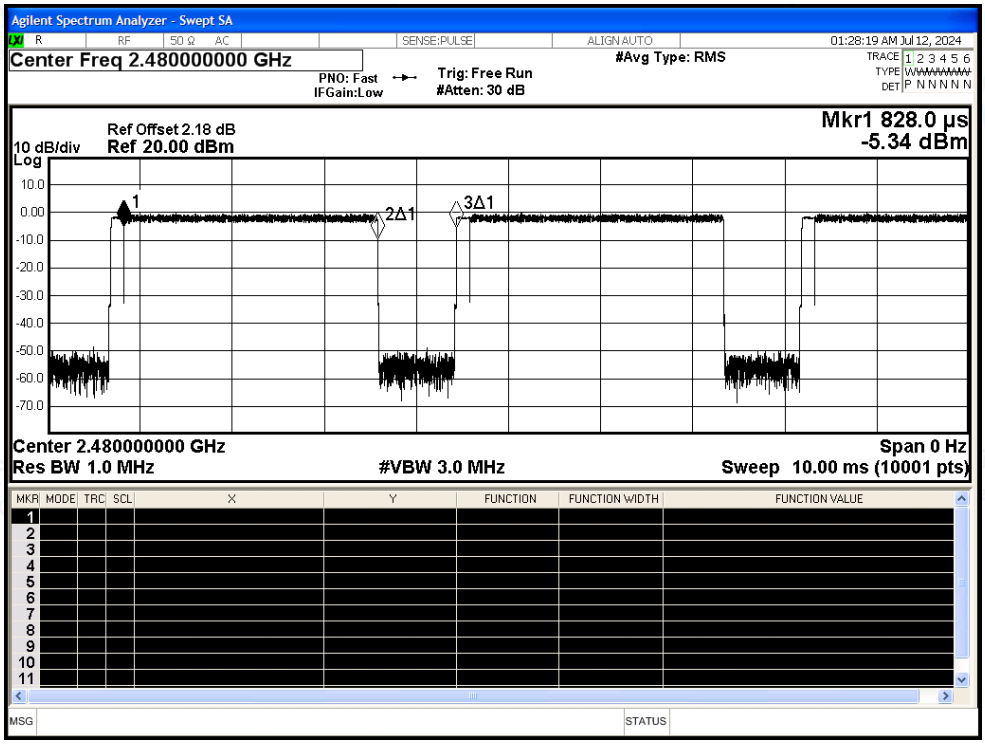
Duty Cycle NVNT 2-DH5 2402MHz Ant1



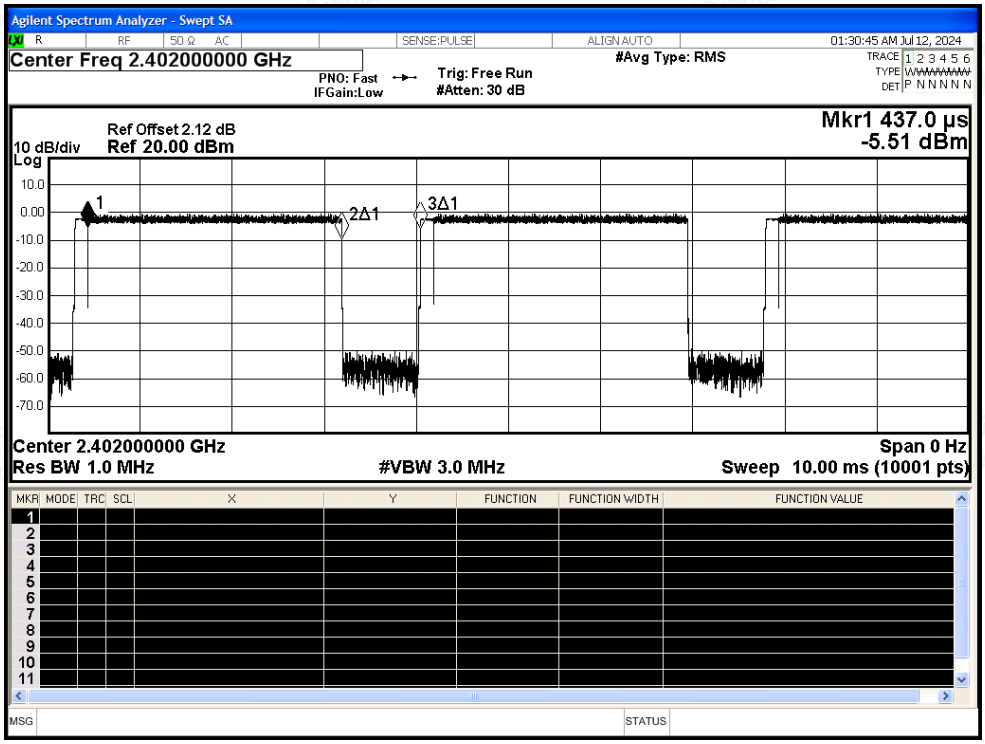
Duty Cycle NVNT 2-DH5 2441MHz Ant1



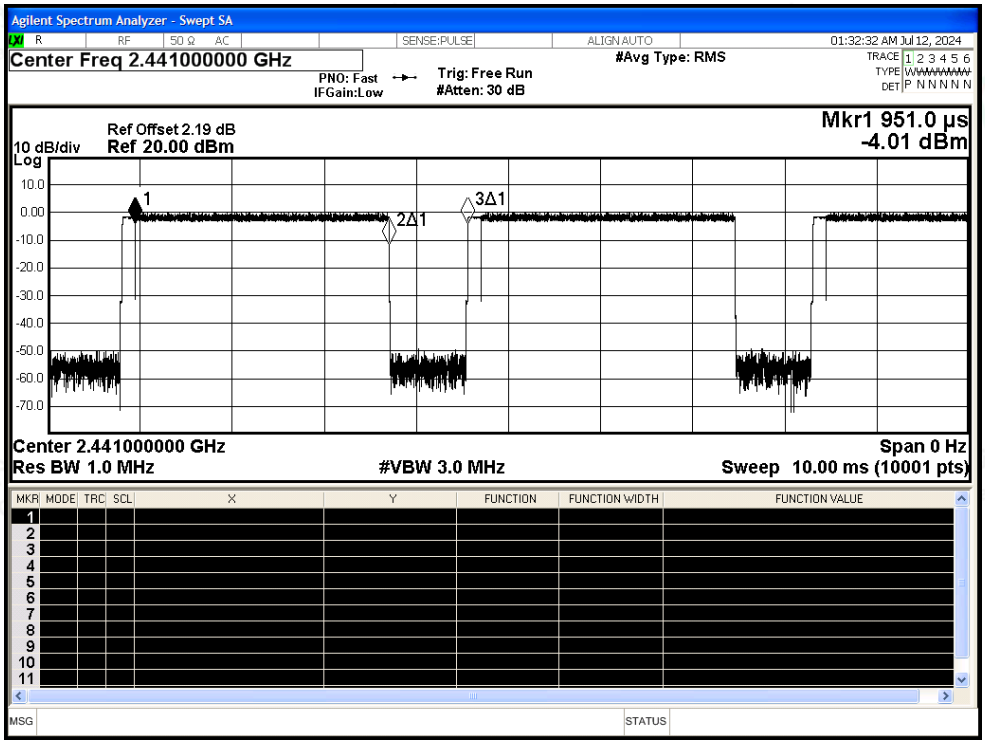
Duty Cycle NVNT 2-DH5 2480MHz Ant1



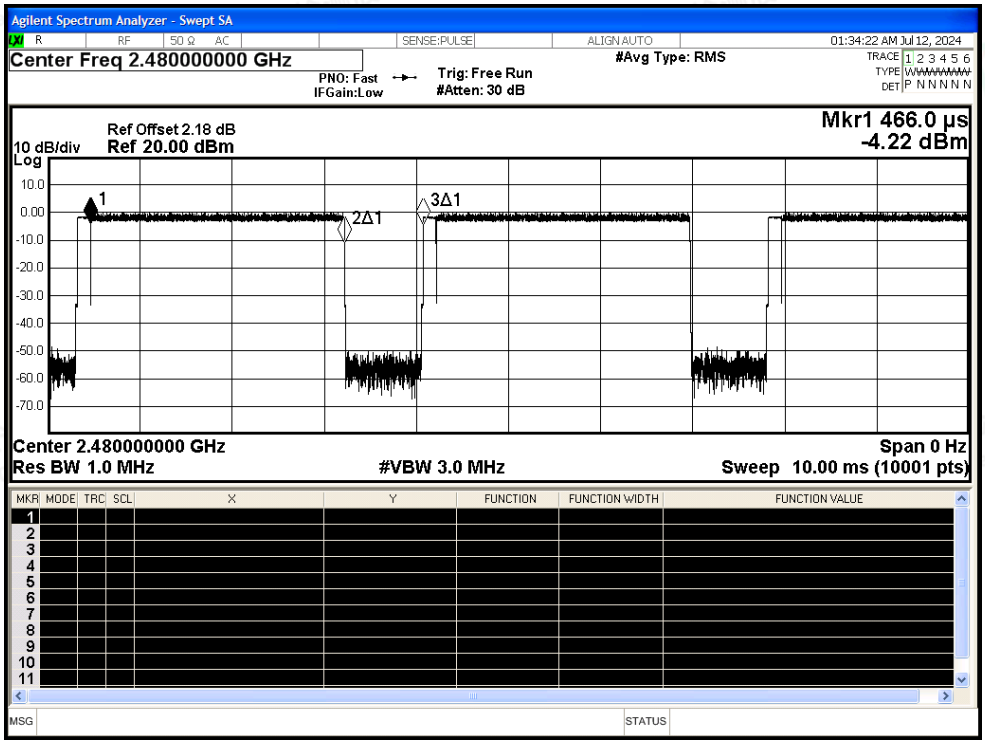
Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



Duty Cycle NVNT 3-DH5 2480MHz Ant1

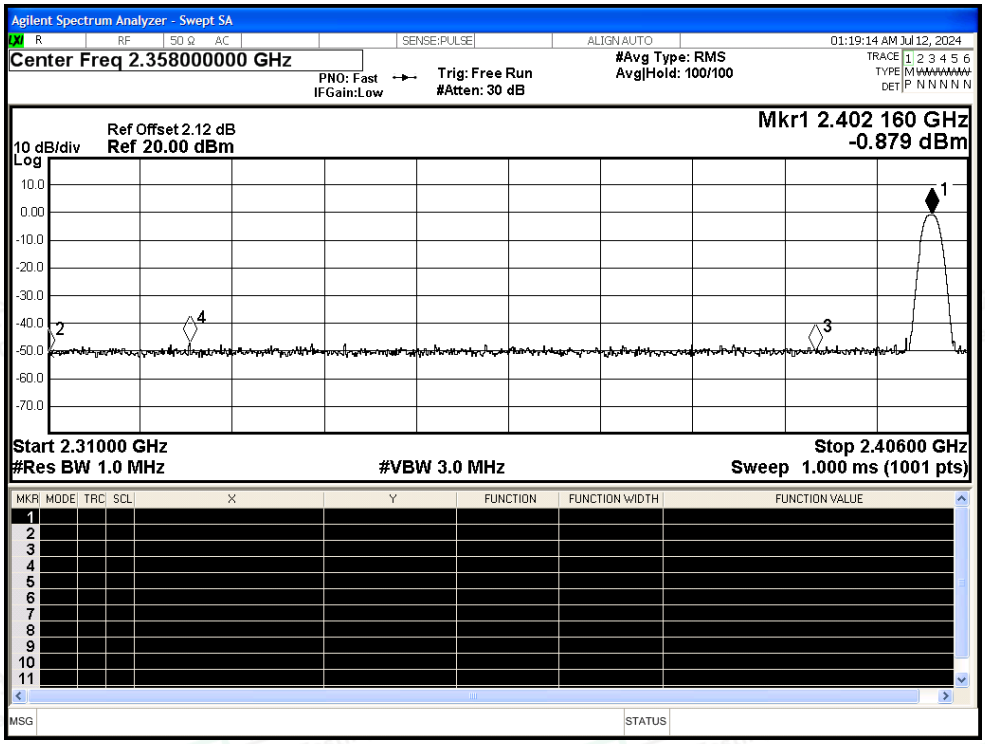


A.9 Restrict Band

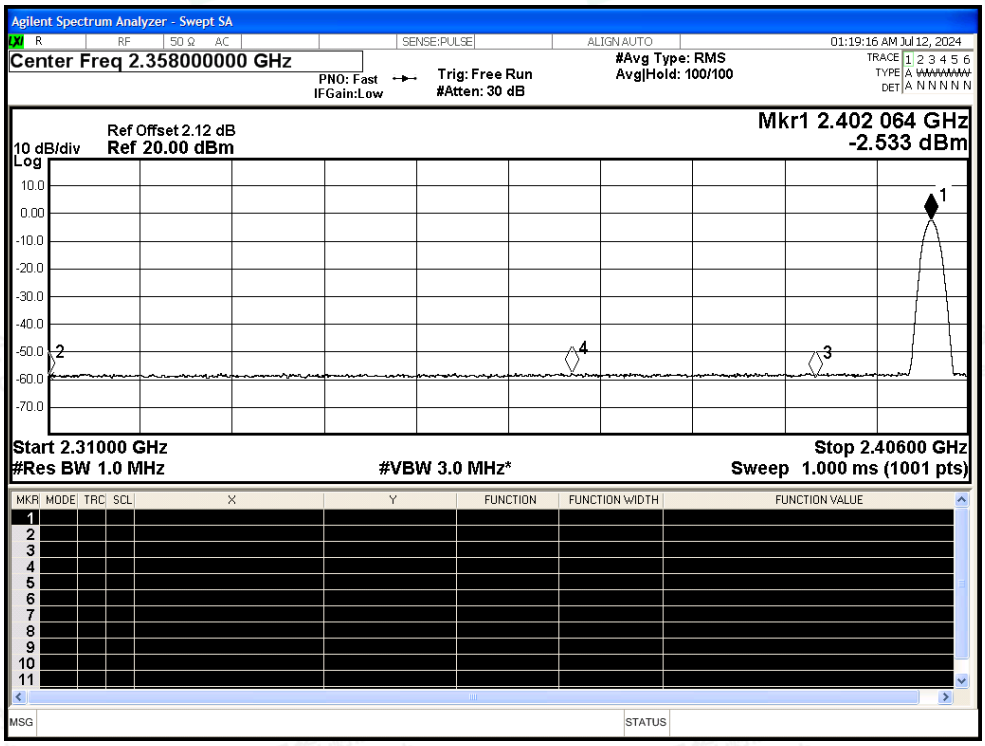
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-51.12	2.00	-	46.14	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.91	2.00	1.1	39.45	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2324.784	-46.98	2.00	-	50.28	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2364.624	-57.71	2.00	1.1	40.65	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-49.92	2.00	-	47.34	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-59.2	2.00	1.1	39.16	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-48.97	2.00	-	48.29	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-56.84	2.00	1.1	41.52	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.992	-43.75	2.00	-	53.51	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-56.84	2.00	1.1	41.52	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.16	2.00	-	47.1	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.78	2.00	1.1	40.58	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.93	2.00	-	47.33	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.03	2.00	1.17	39.4	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2359.152	-47.37	2.00	-	49.89	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2387.088	-57.57	2.00	1.17	40.86	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-49.96	2.00	-	47.3	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.5	2.00	1.17	39.93	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-47.95	2.00	-	49.31	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-58.26	2.00	1.17	40.17	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.536	-43.7	2.00	-	53.56	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.536	-57.15	2.00	1.17	41.28	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.21	2.00	-	48.05	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.95	2.00	1.17	40.48	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.35	2.00	-	46.91	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.39	2.00	1.17	40.04	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2366.352	-47.24	2.00	-	50.02	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2376.048	-57.7	2.00	1.17	40.73	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-49.59	2.00	-	47.67	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.47	2.00	1.17	39.96	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-49.69	2.00	-	47.57	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.6	2.00	1.17	40.83	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.848	-41.77	2.00	-	55.49	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2495.992	-57.2	2.00	1.17	41.23	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-49.63	2.00	-	47.63	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-57.74	2.00	1.17	40.69	Average	54	Pass

Test Graphs

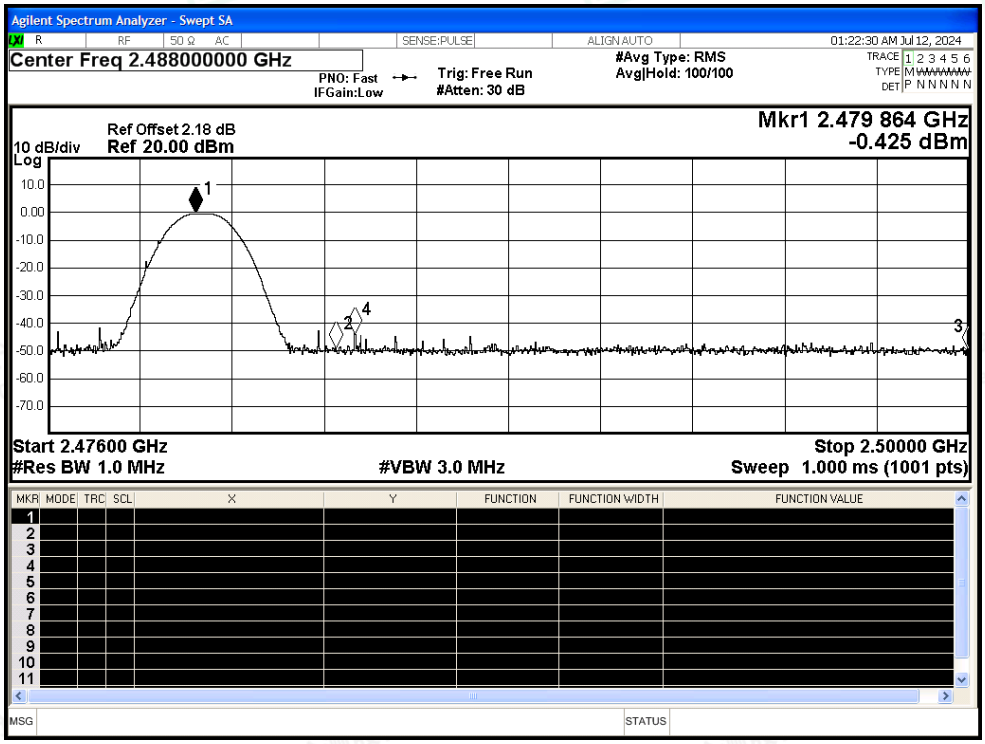
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



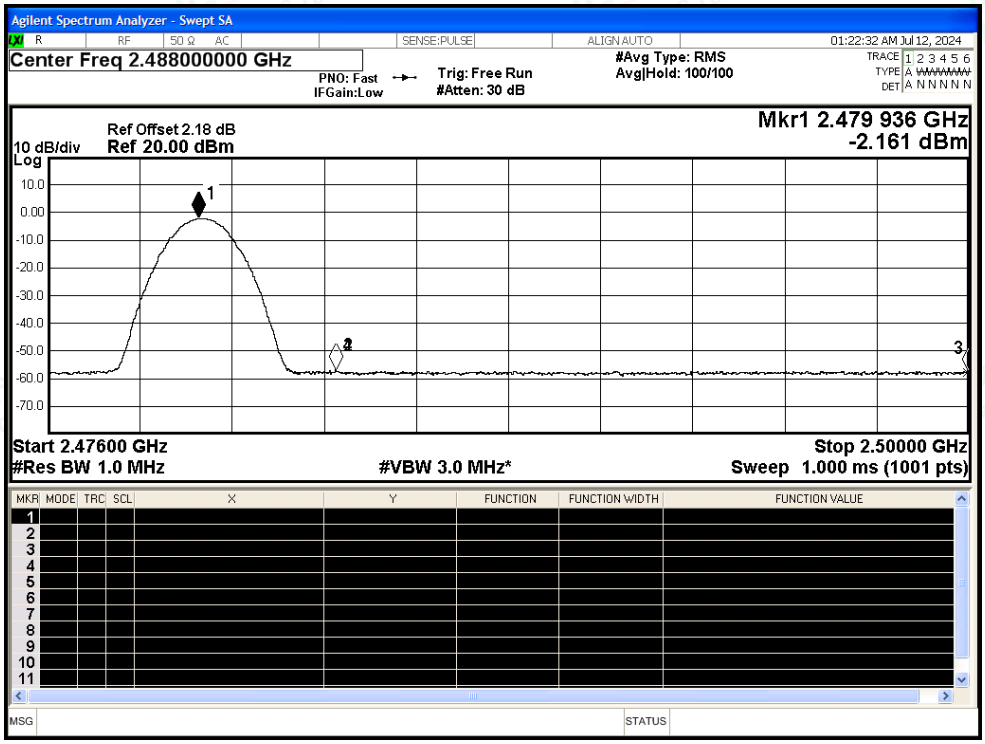
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



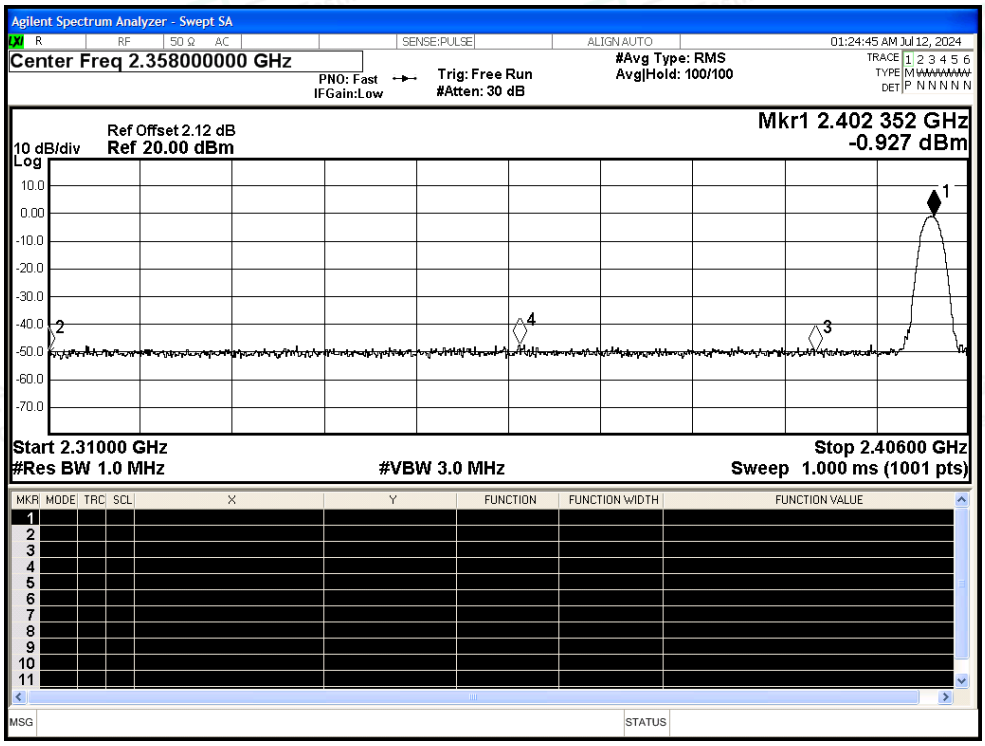
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



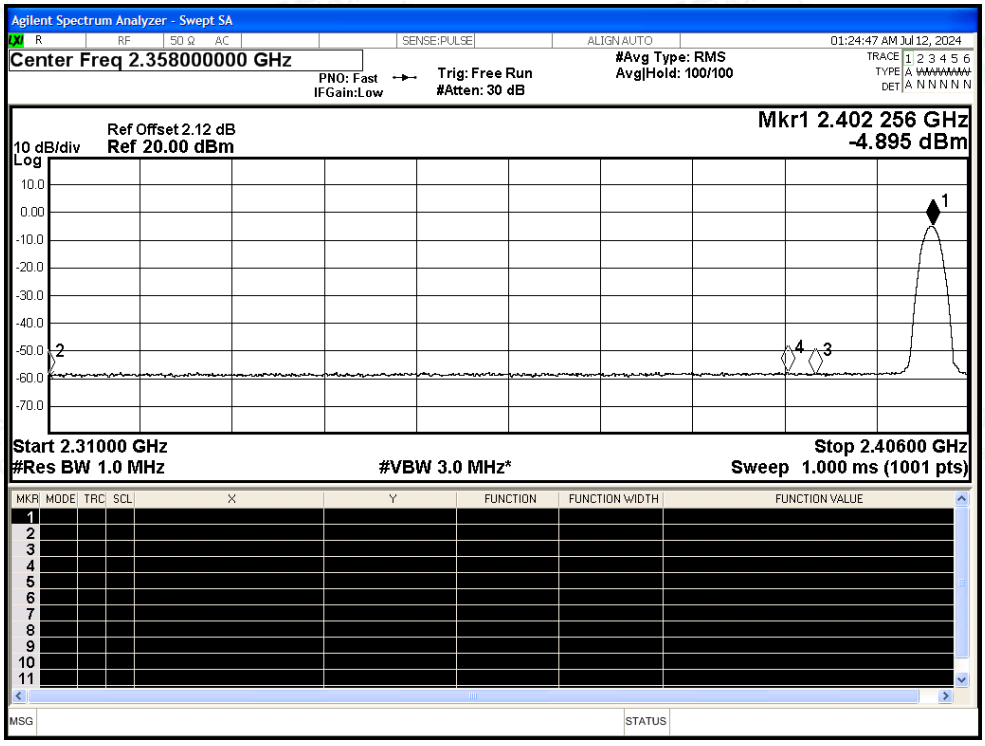
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



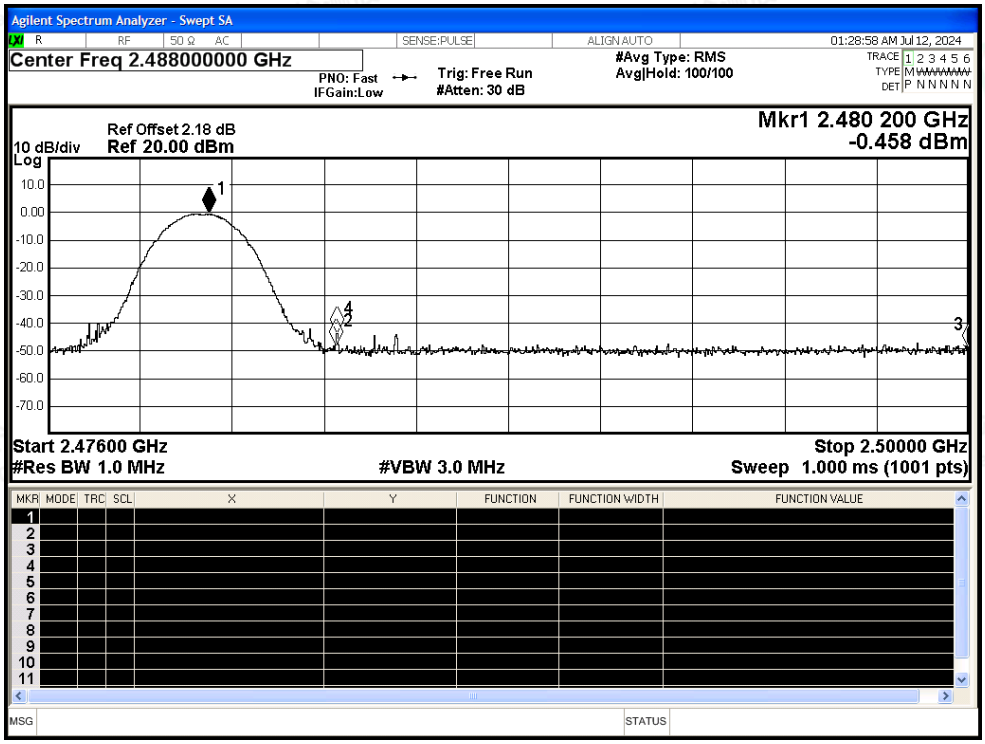
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



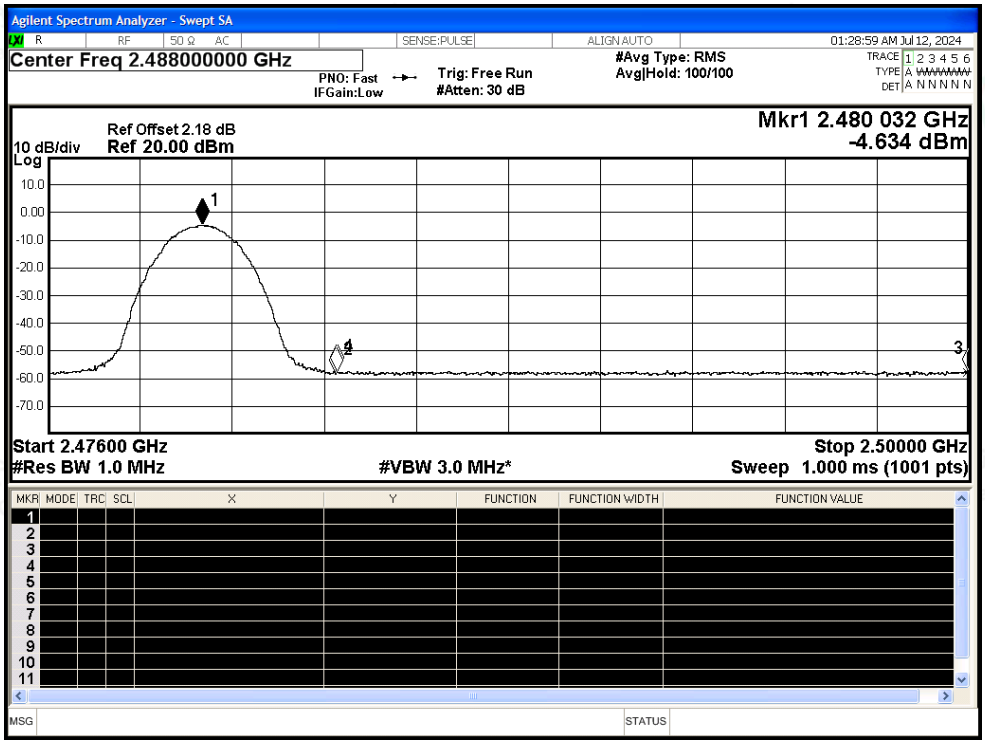
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



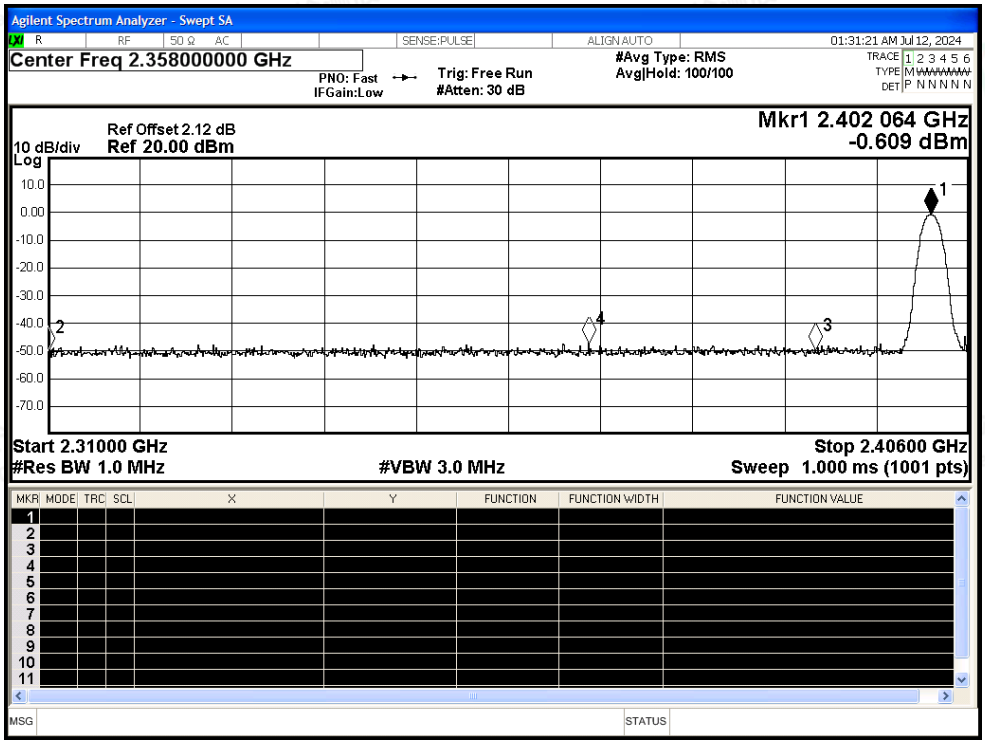
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



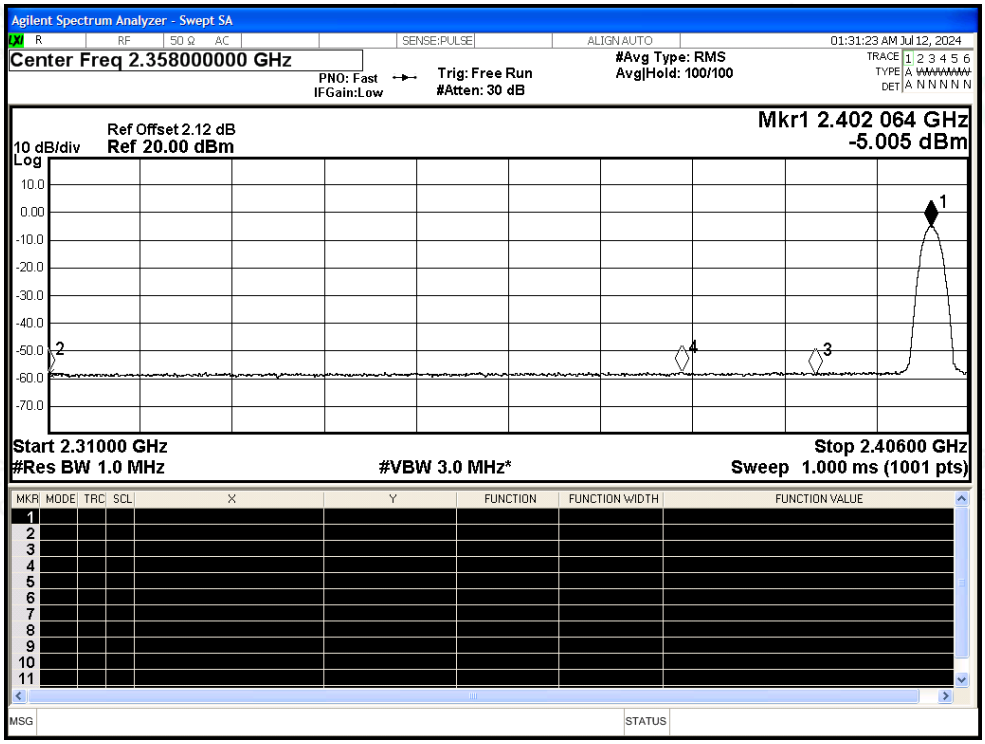
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



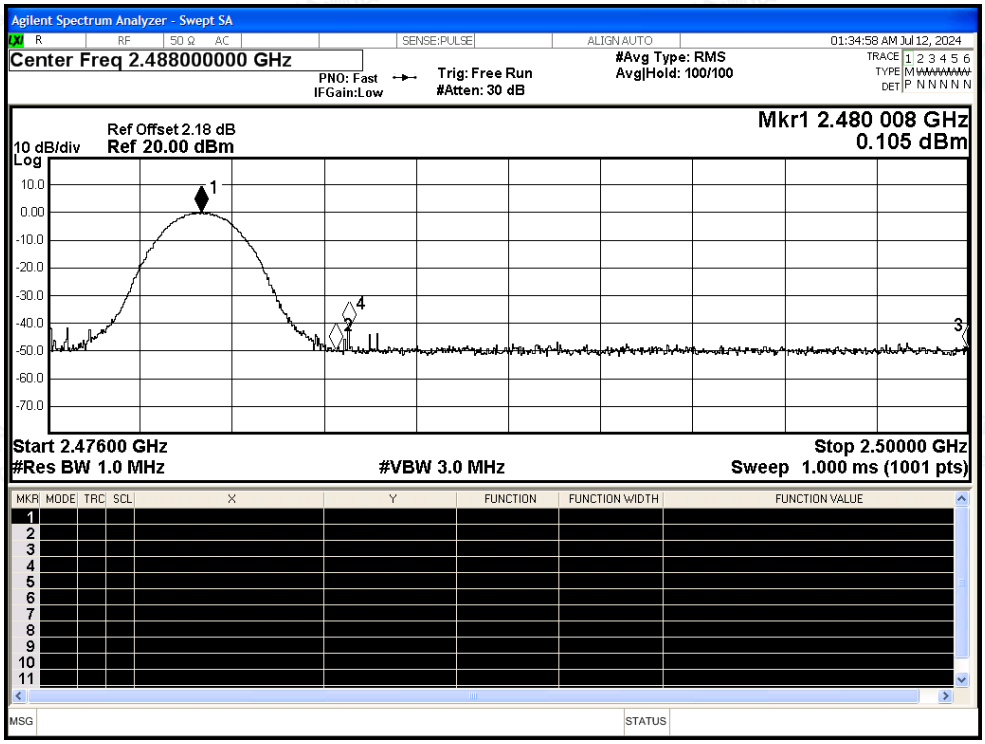
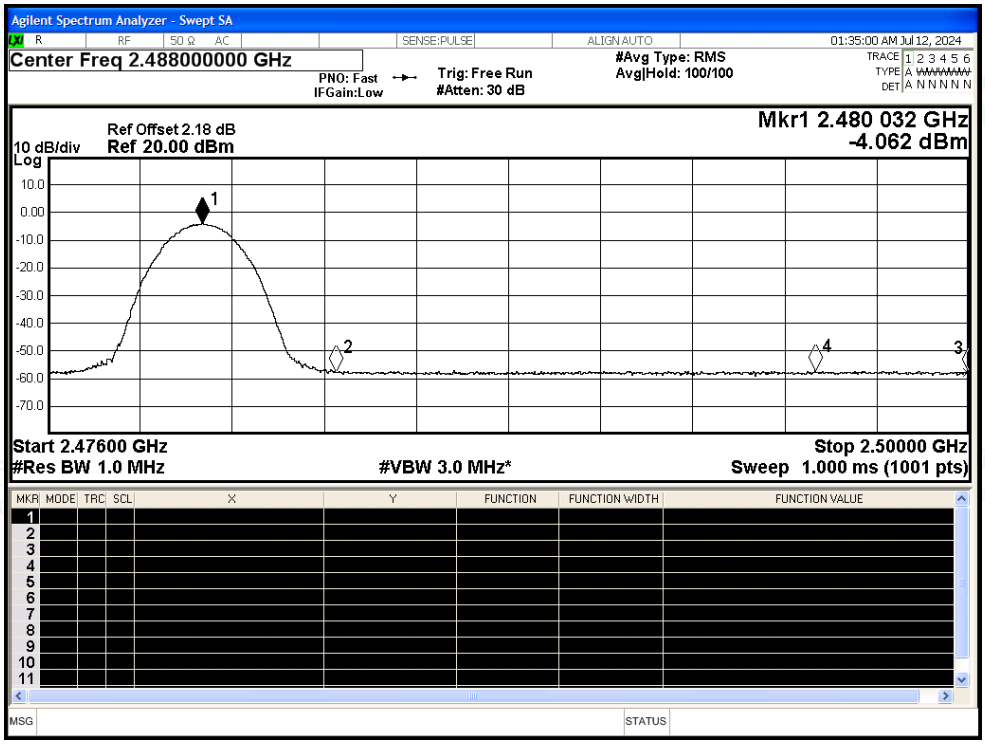
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



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