Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: GEEKSHARE Wireless Controller

Test Model: GC1201

Environmental Conditions

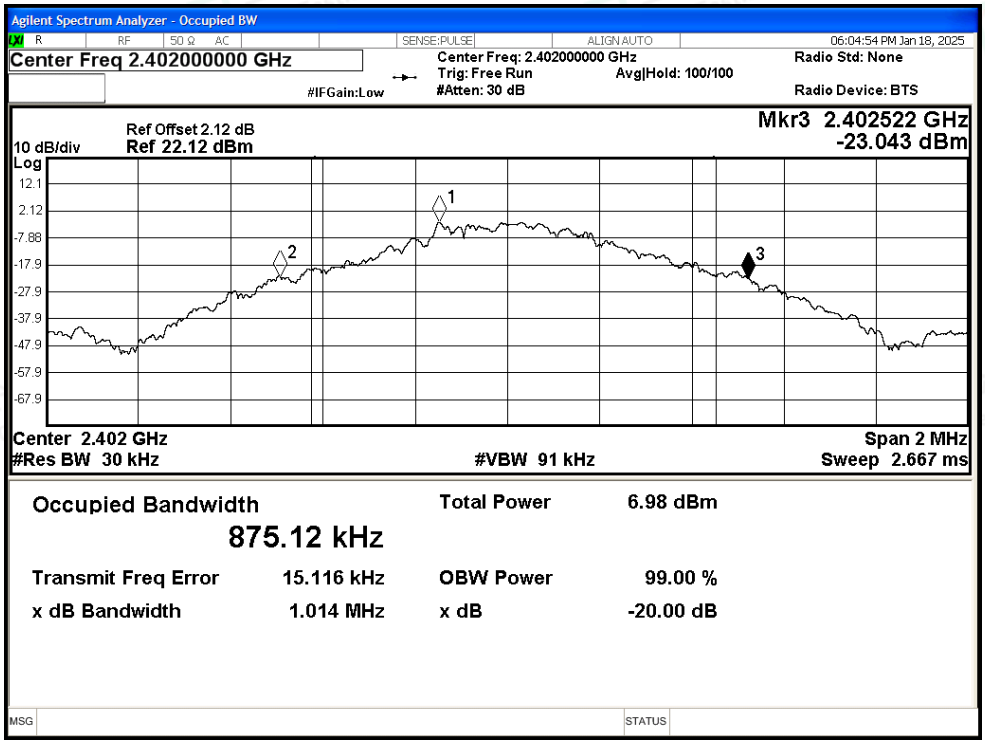
Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Luo
Supervised by:	Nick Peng

A.1 -20dB Bandwidth

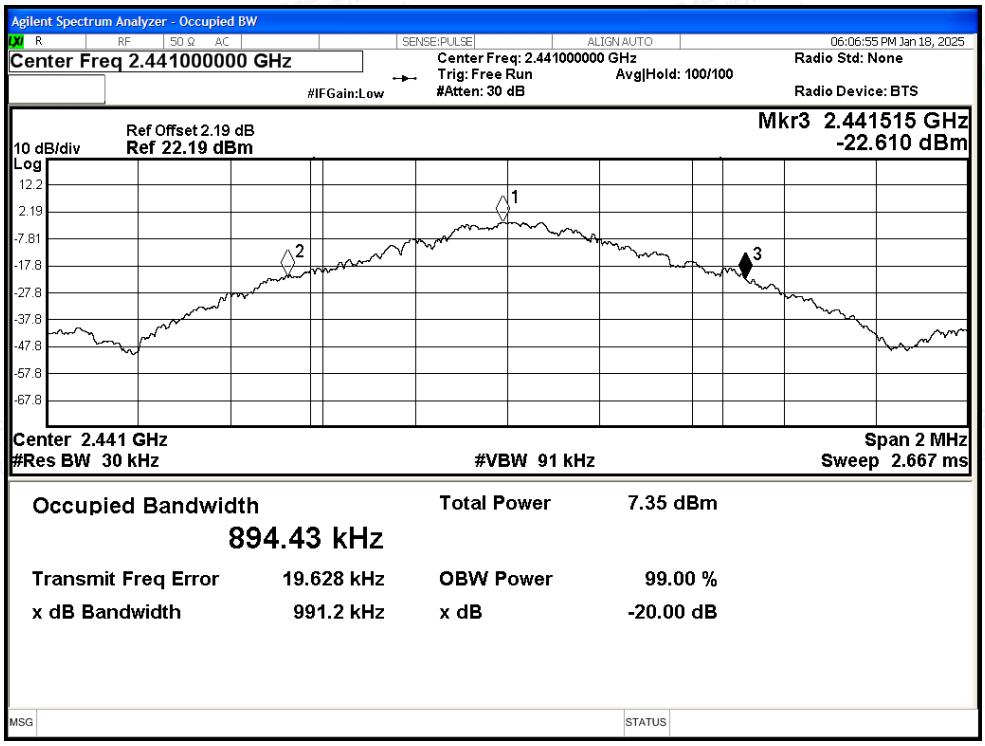
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	1.014	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.991	N/A	Pass
NVNT	1-DH5	2480	Ant1	1.012	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.311	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.317	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.336	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.336	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.309	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.303	N/A	Pass

Test Graphs

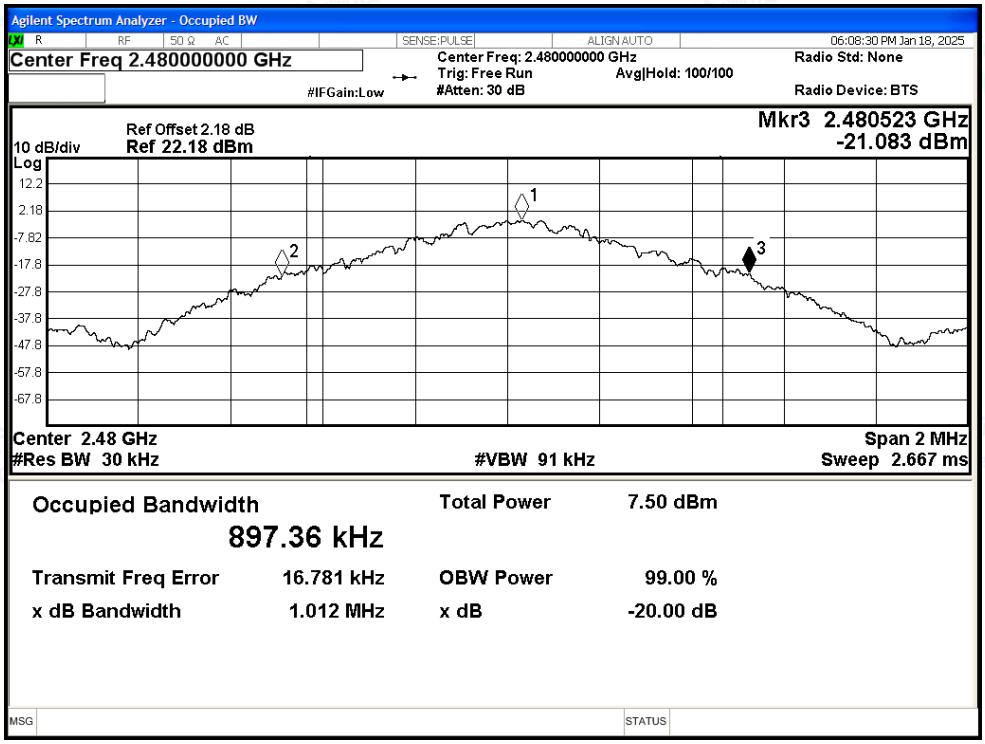
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



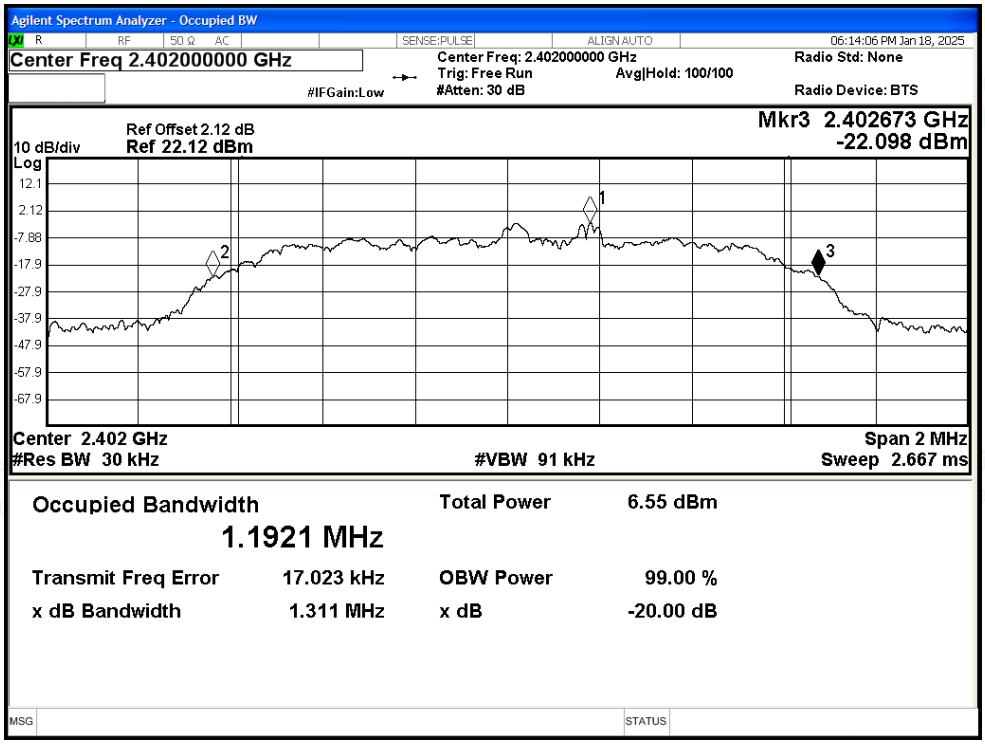
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



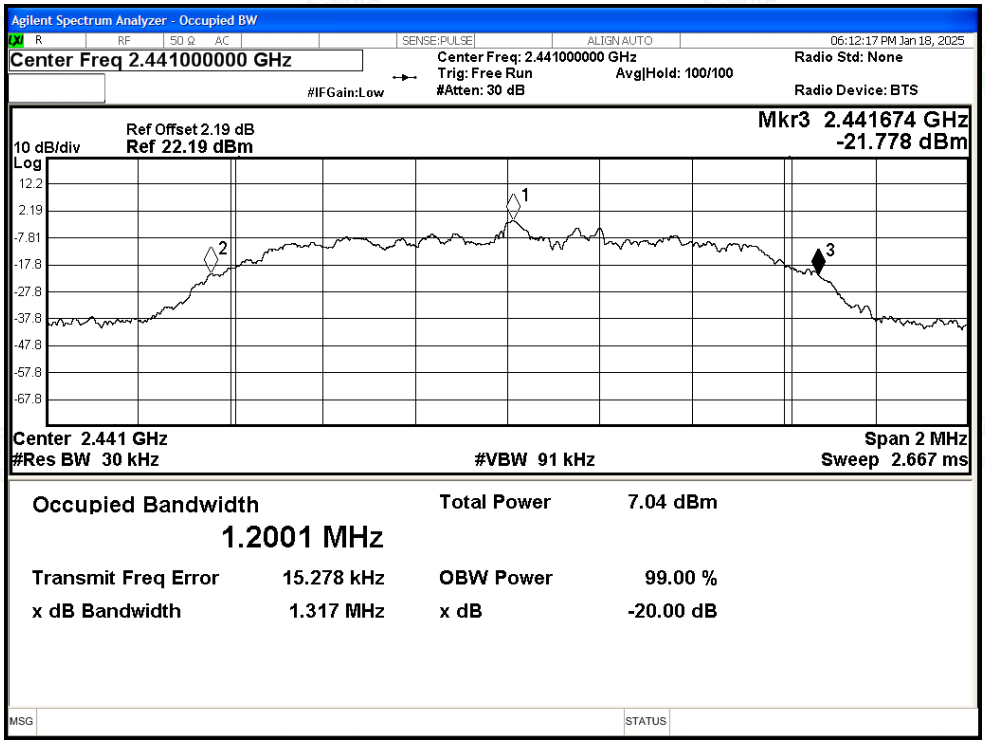
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



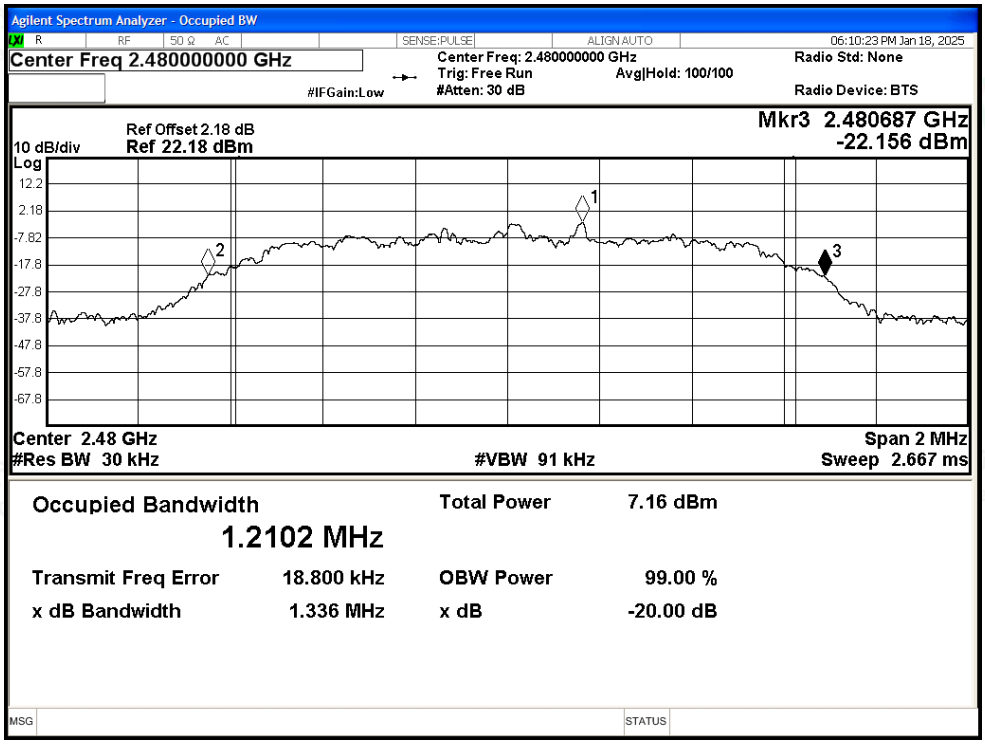
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



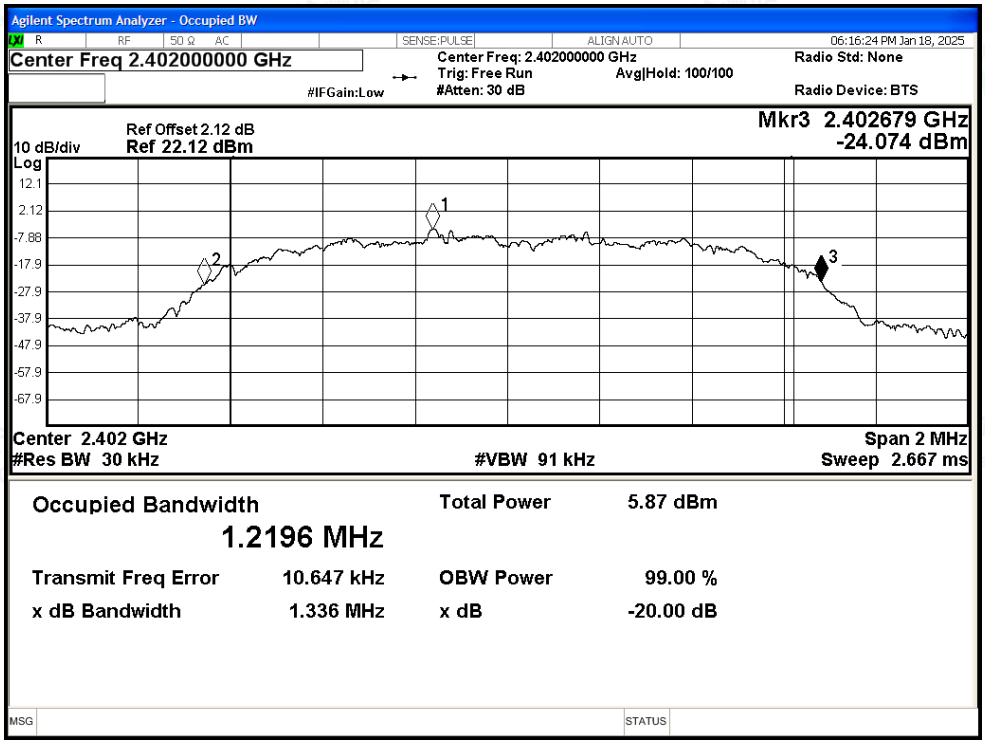
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



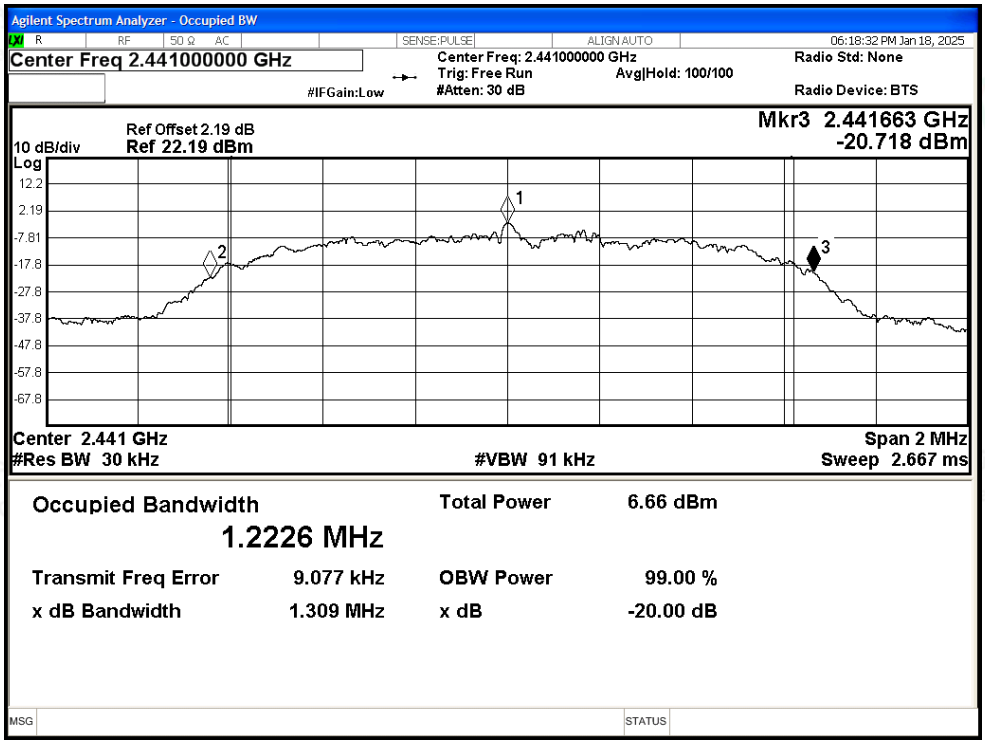
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



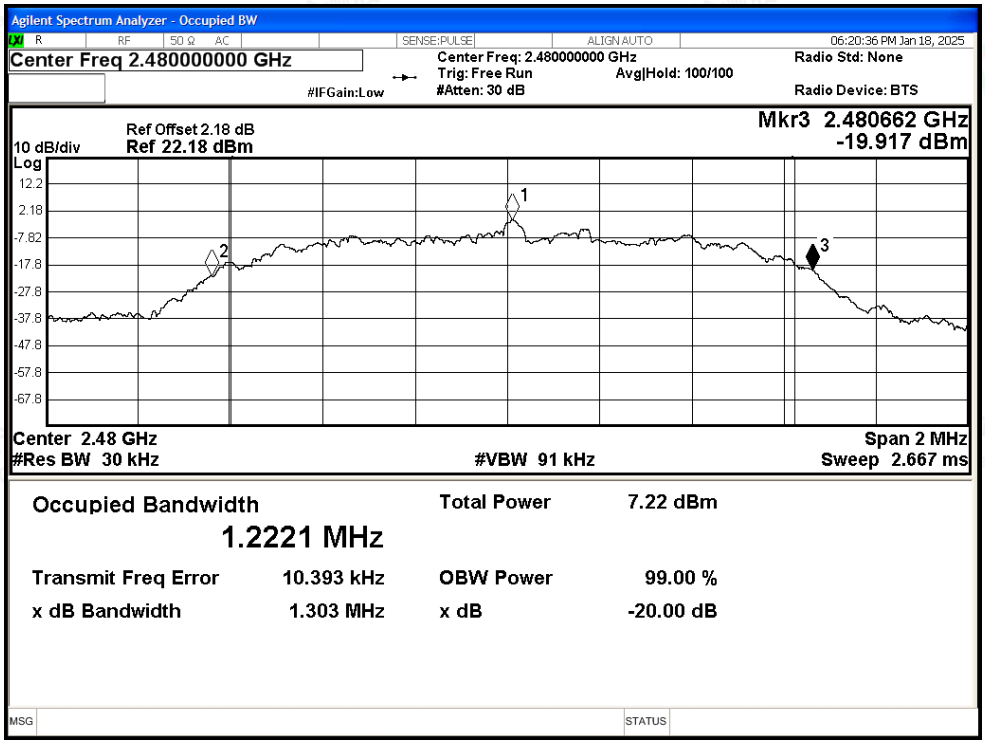
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

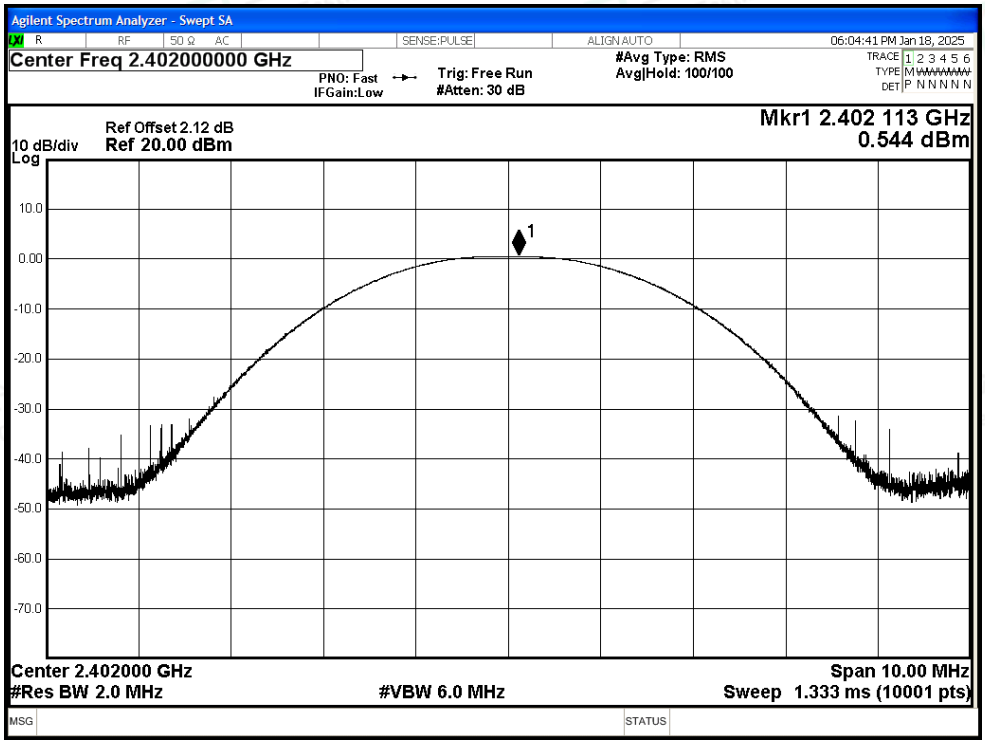


A.2 Maximum Peak Conducted Output Power

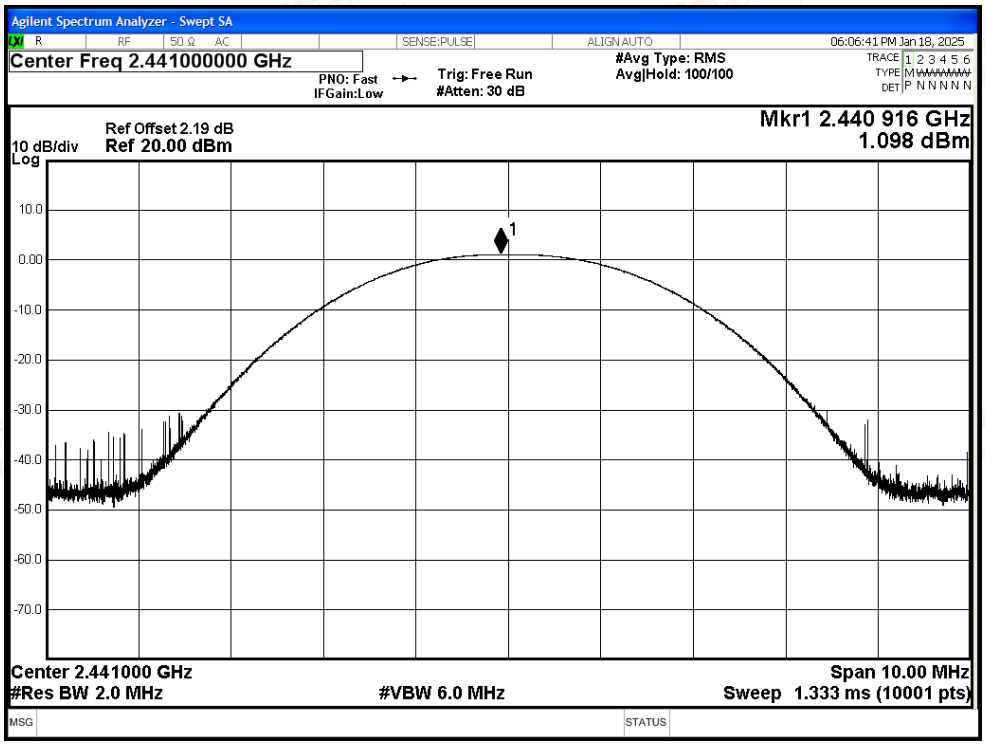
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	0.54	21	Pass
NVNT	1-DH5	2441	Ant1	1.1	21	Pass
NVNT	1-DH5	2480	Ant1	1.45	21	Pass
NVNT	2-DH5	2402	Ant1	1.22	21	Pass
NVNT	2-DH5	2441	Ant1	1.57	21	Pass
NVNT	2-DH5	2480	Ant1	1.89	21	Pass
NVNT	3-DH5	2402	Ant1	1.49	21	Pass
NVNT	3-DH5	2441	Ant1	1.83	21	Pass
NVNT	3-DH5	2480	Ant1	2.11	21	Pass

Test Graphs

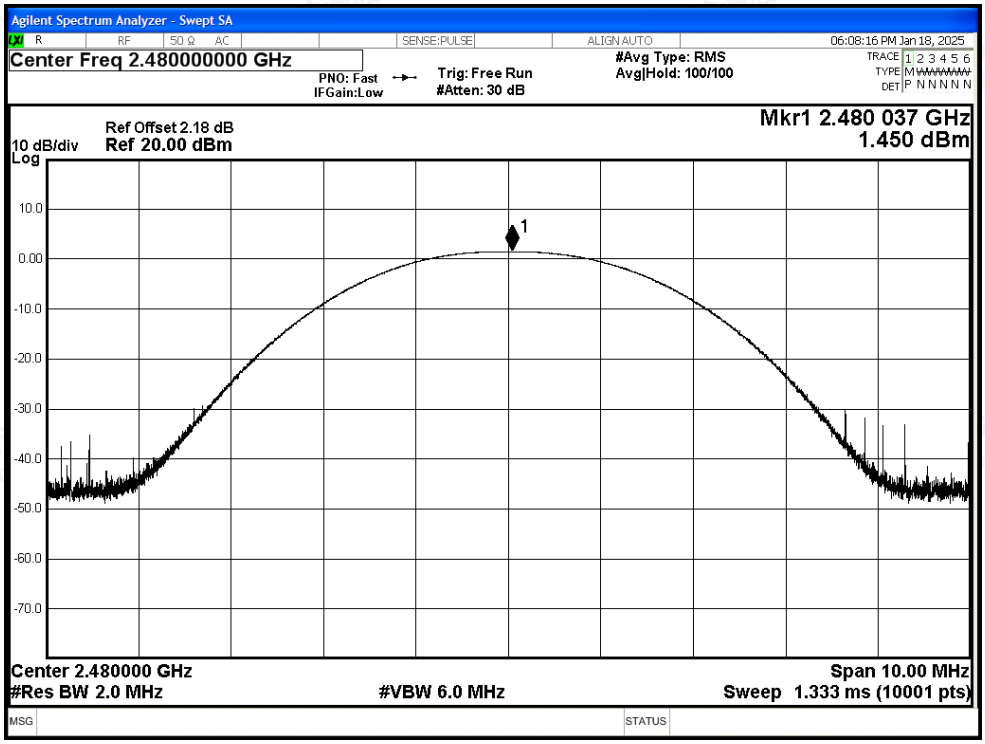
Power NVNT 1-DH5 2402MHz Ant1



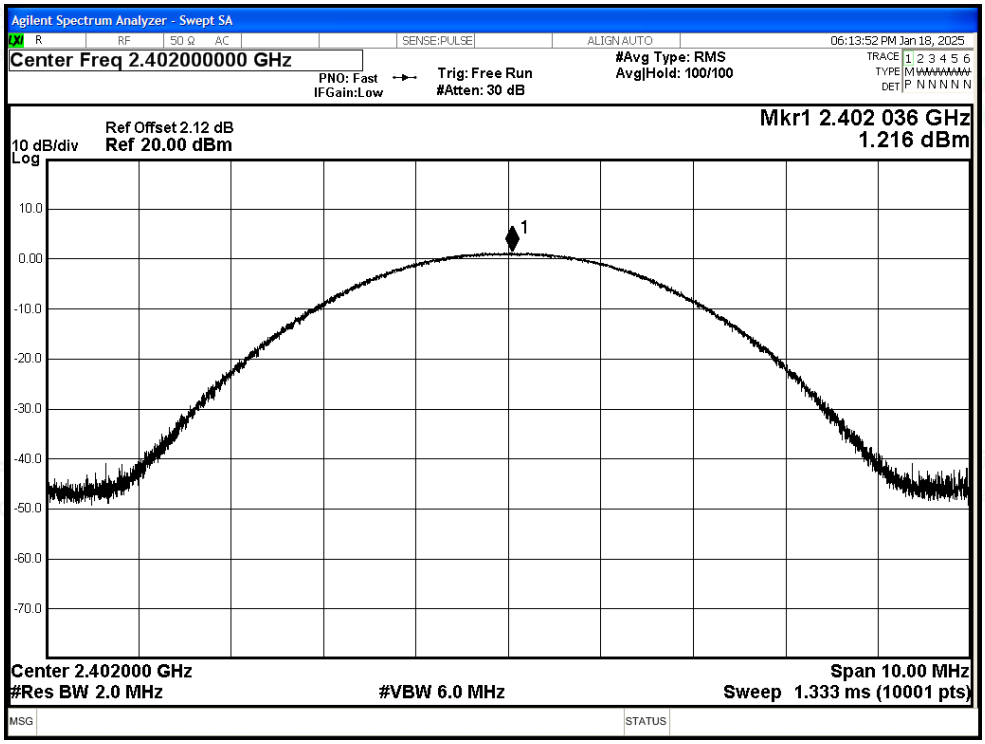
Power NVNT 1-DH5 2441MHz Ant1



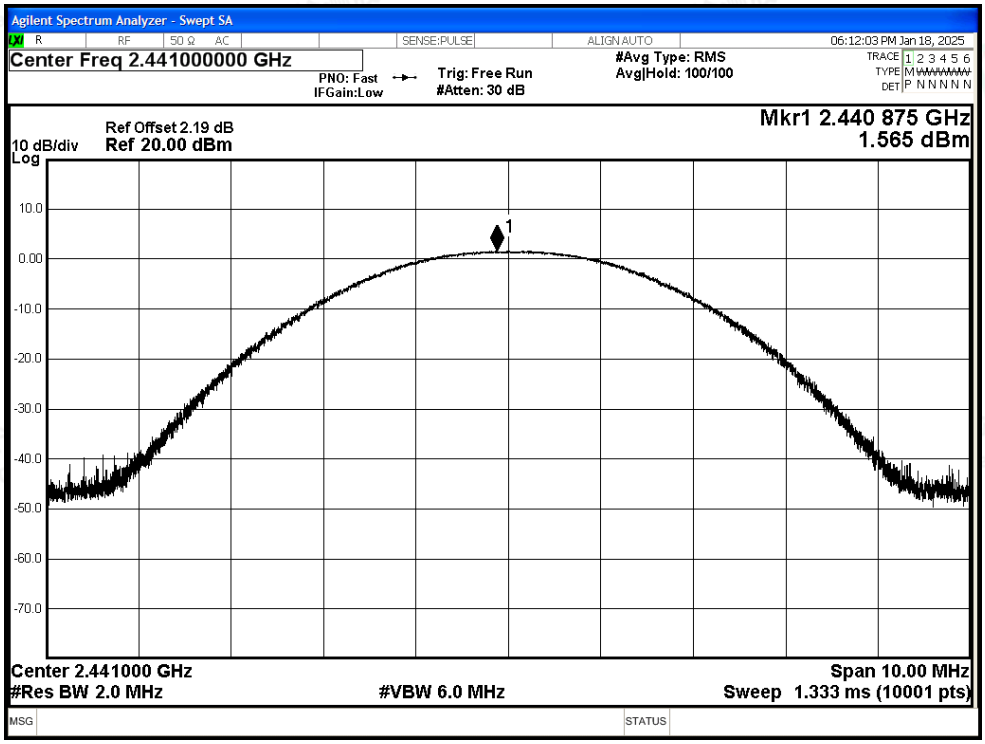
Power NVNT 1-DH5 2480MHz Ant1



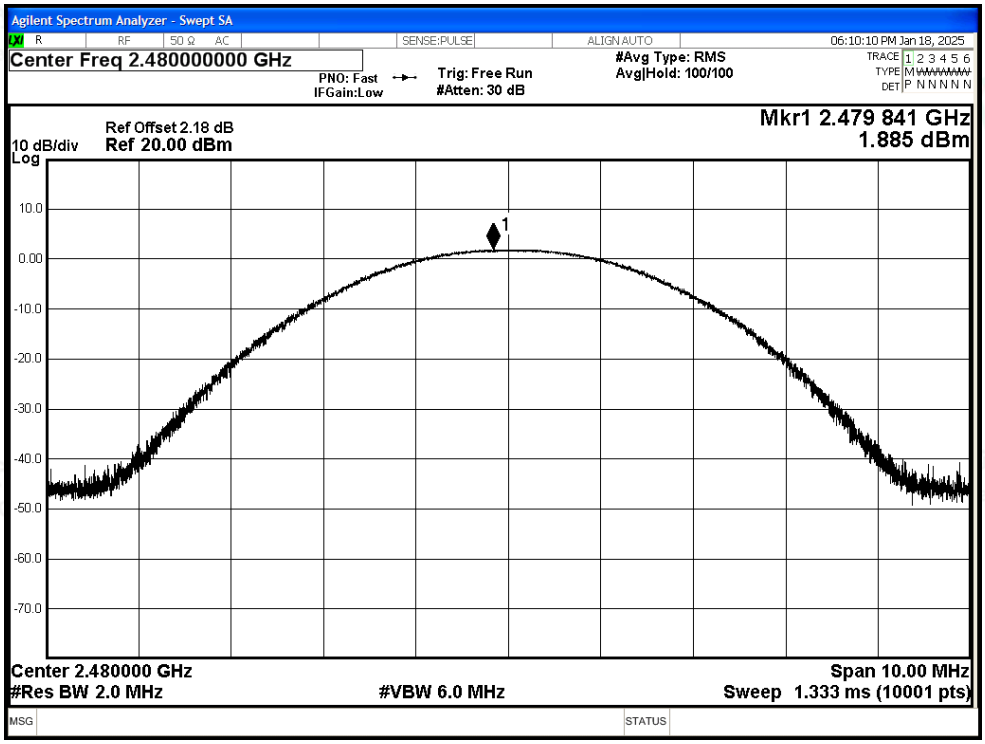
Power NVNT 2-DH5 2402MHz Ant1



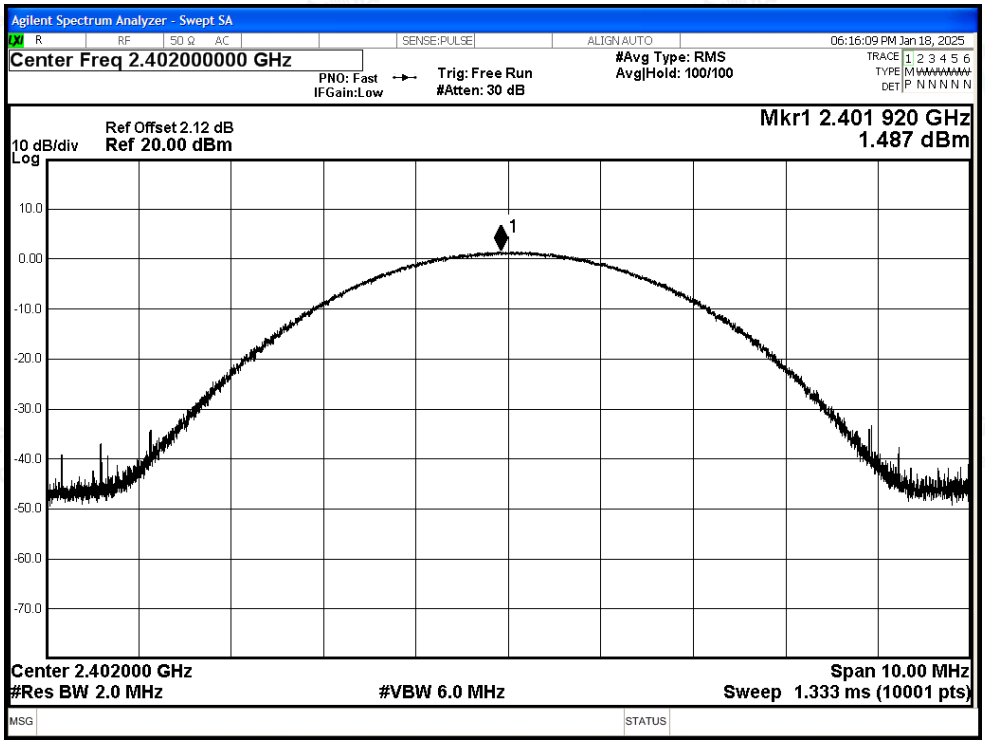
Power NVNT 2-DH5 2441MHz Ant1



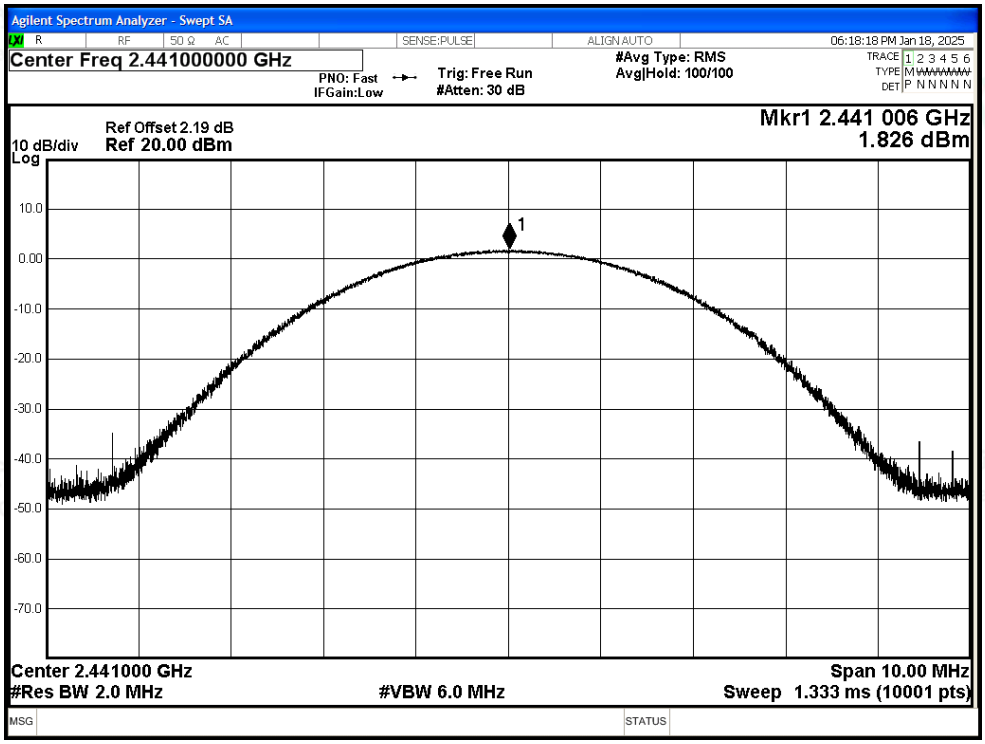
Power NVNT 2-DH5 2480MHz Ant1



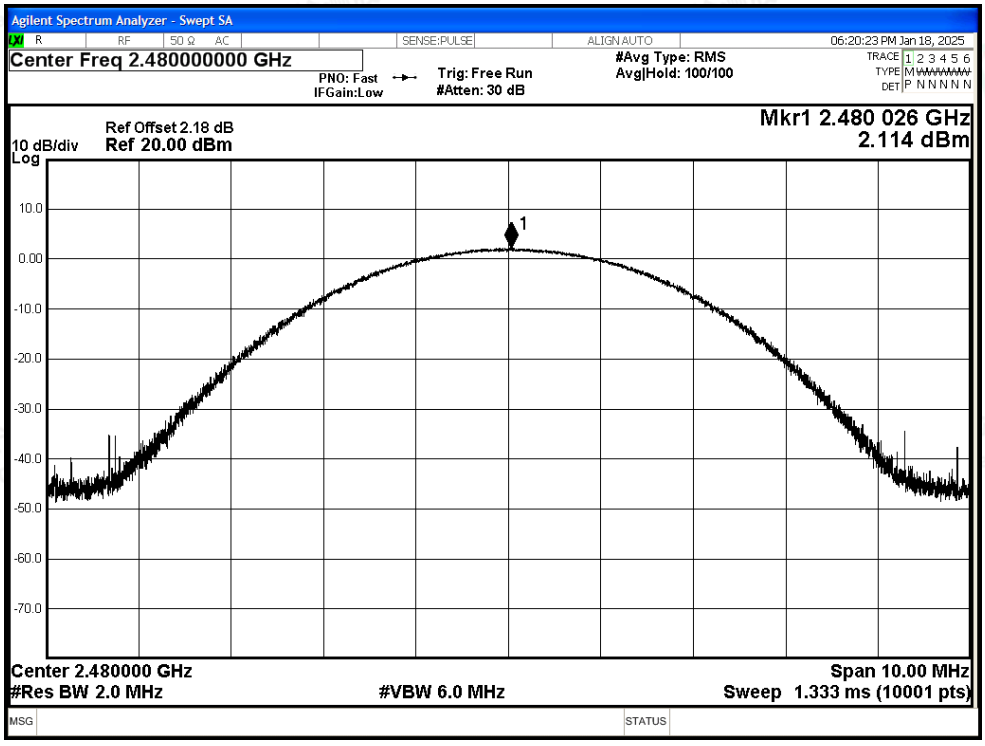
Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



Power NVNT 3-DH5 2480MHz Ant1

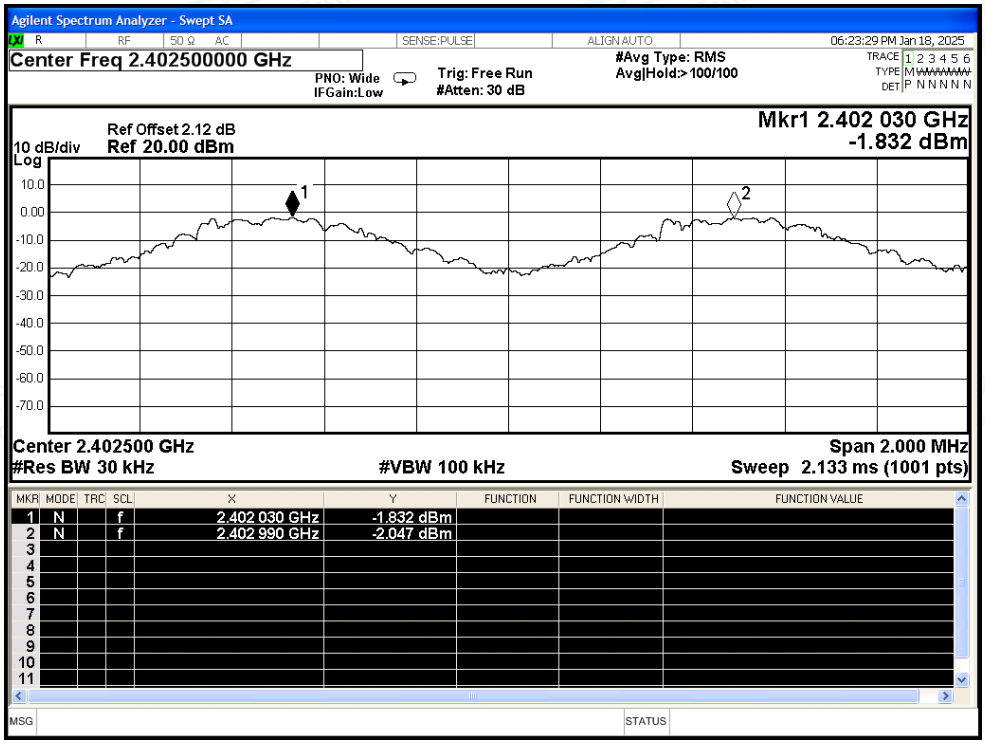


A.3 Carrier Frequencies Separation

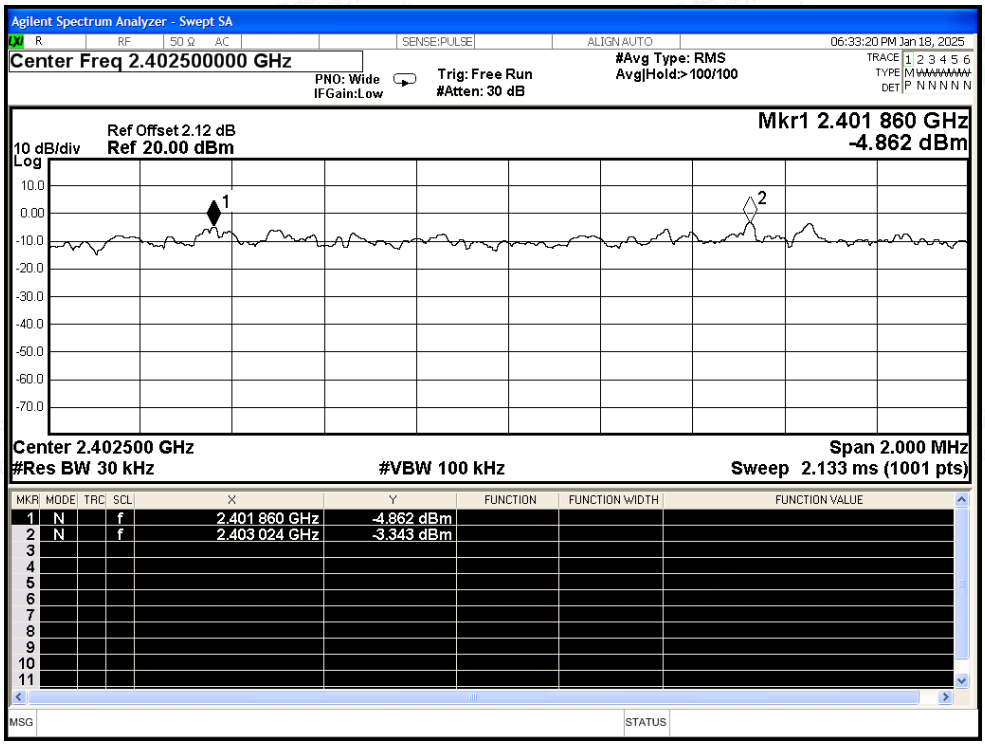
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.03	2402.99	0.96	0.676	Pass
NVNT	2-DH5	Ant1	2401.86	2403.024	1.164	0.891	Pass
NVNT	3-DH5	Ant1	2401.862	2402.99	1.128	0.891	Pass

Test Graphs

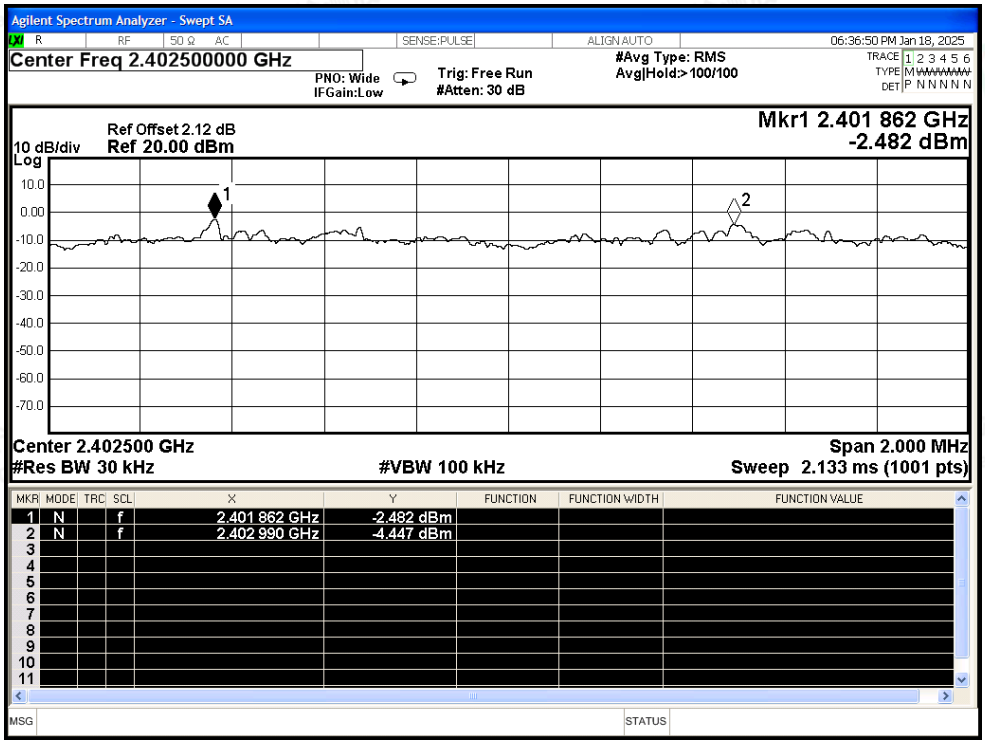
CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2402MHz Ant1

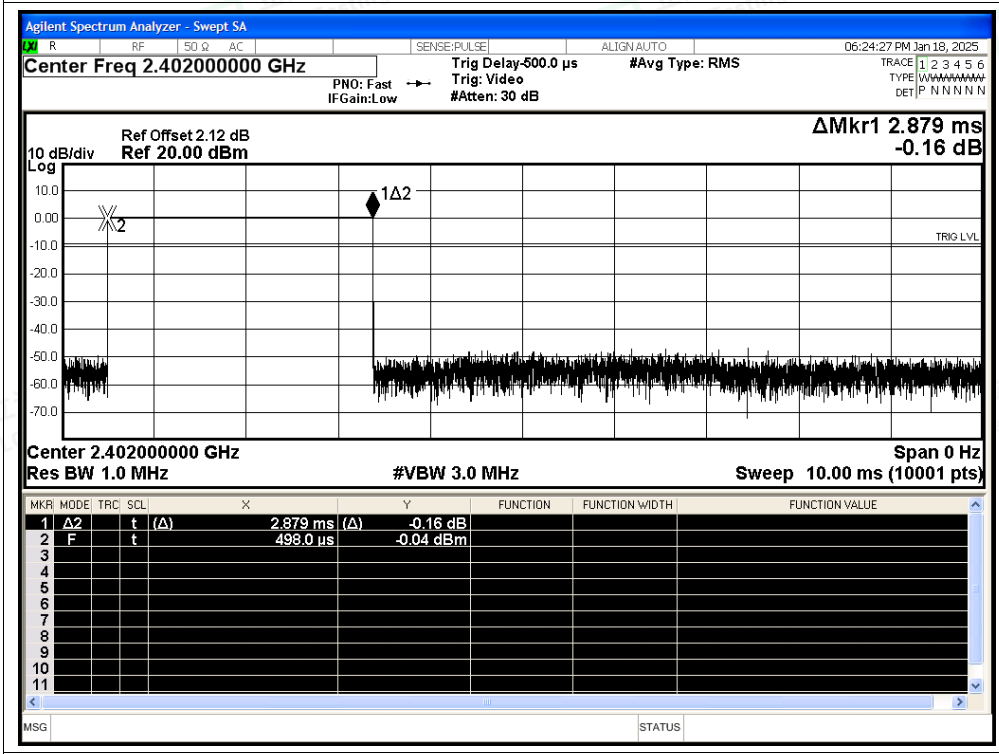


A.4 Dwell Time

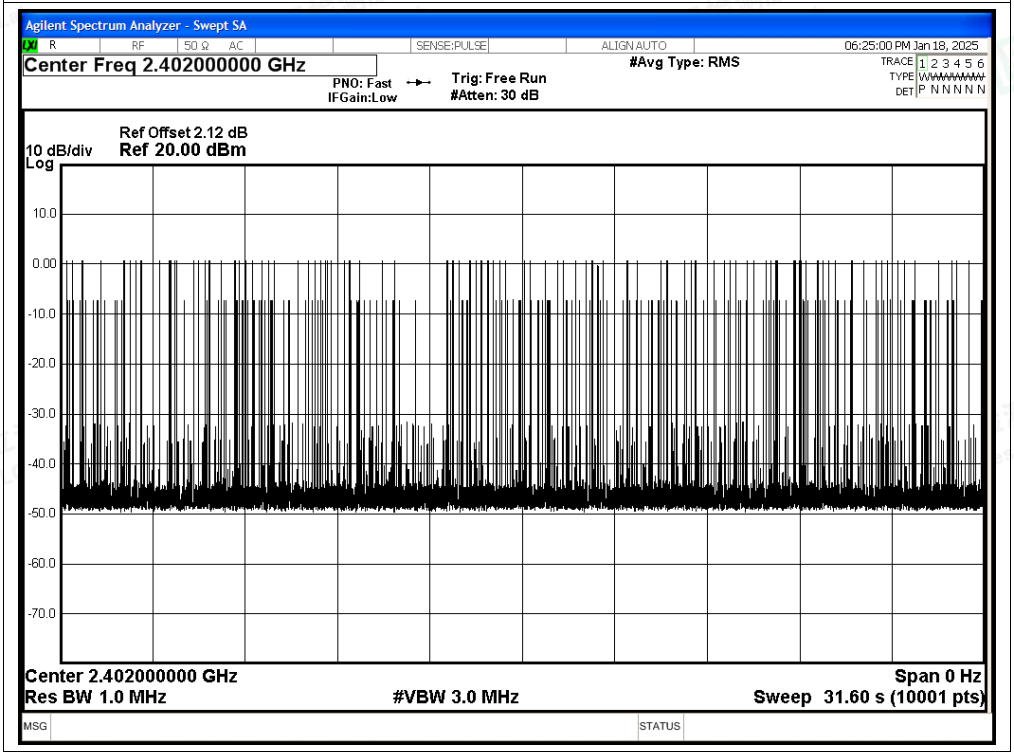
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.879	313.811	109	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.886	340.548	118	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.887	320.457	111	31600	400	Pass

Test Graphs

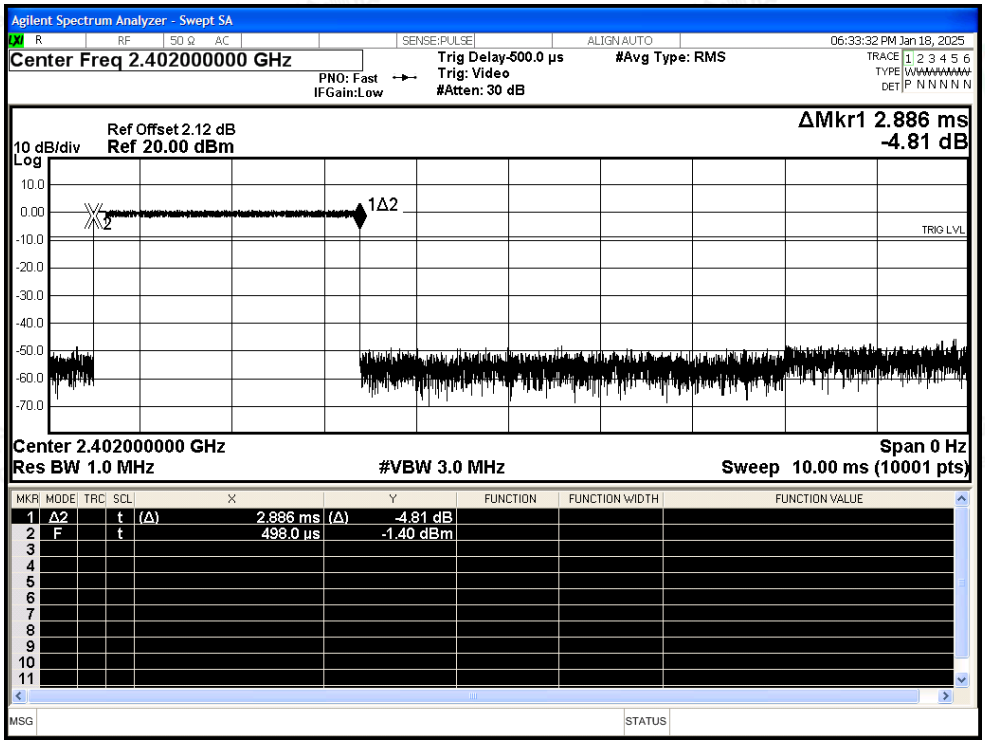
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



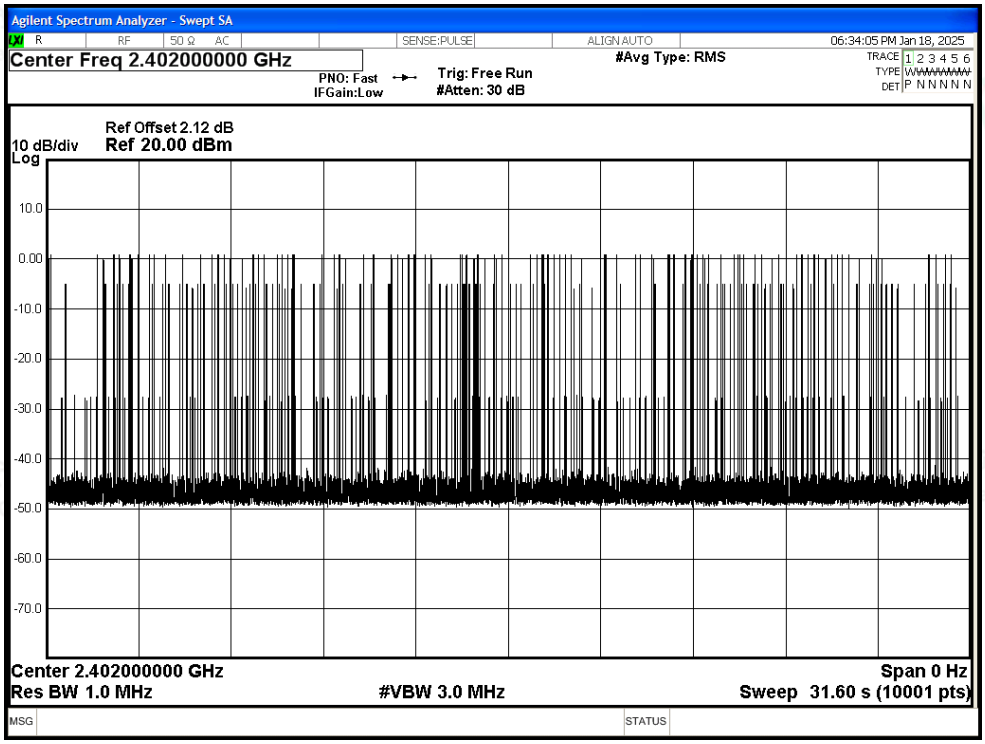
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



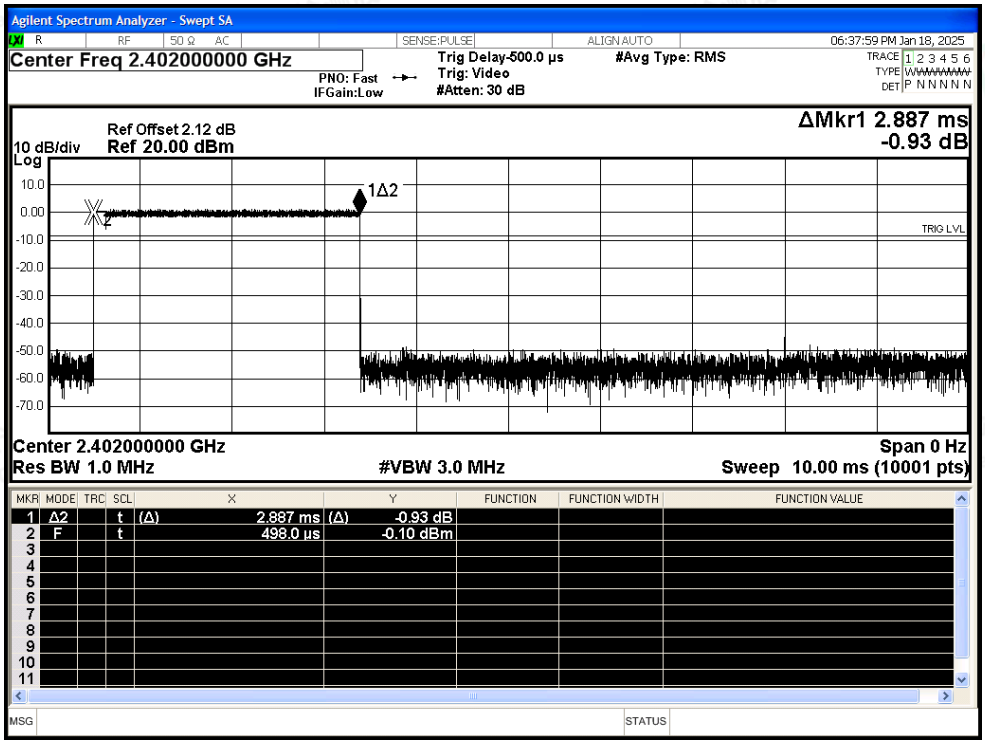
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



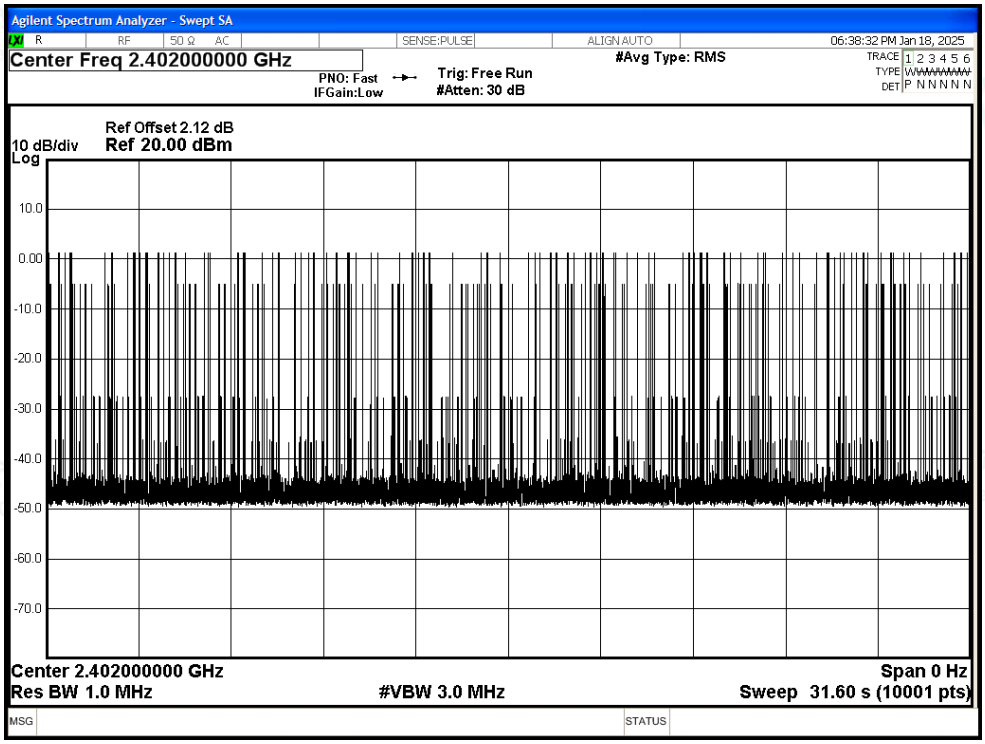
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

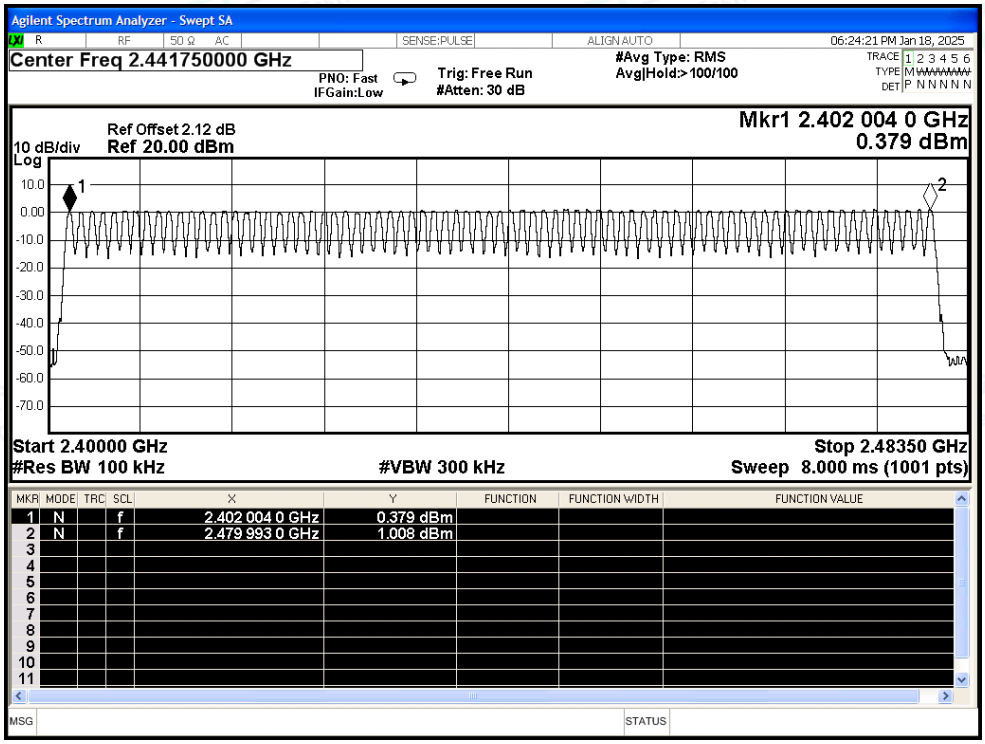


A.5 Number of Hopping Channel

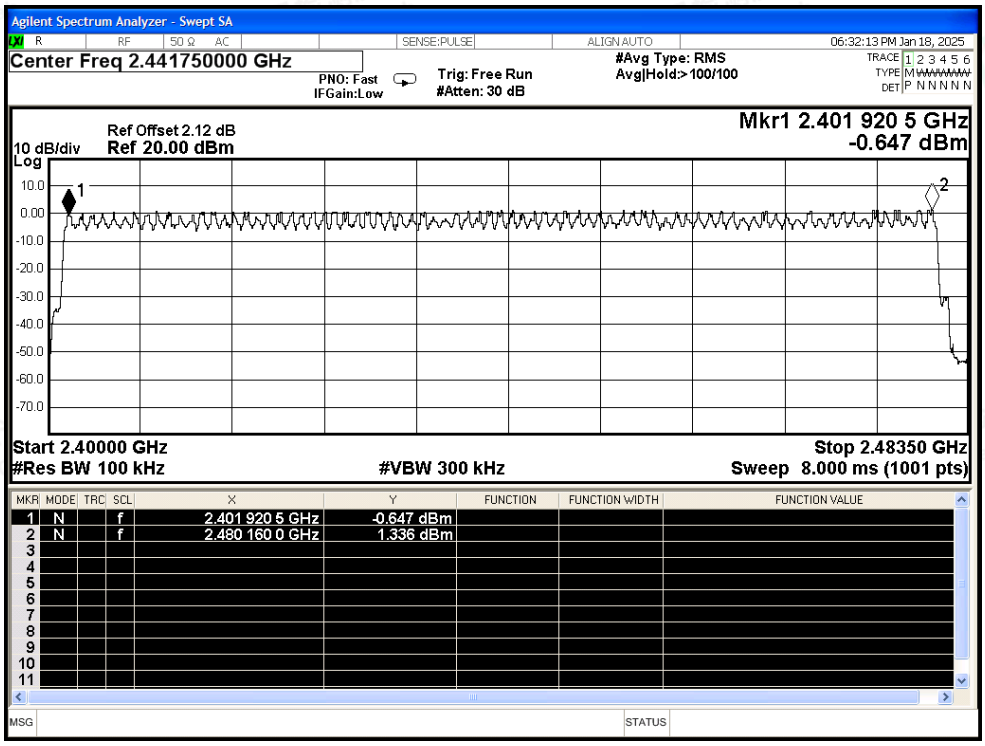
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

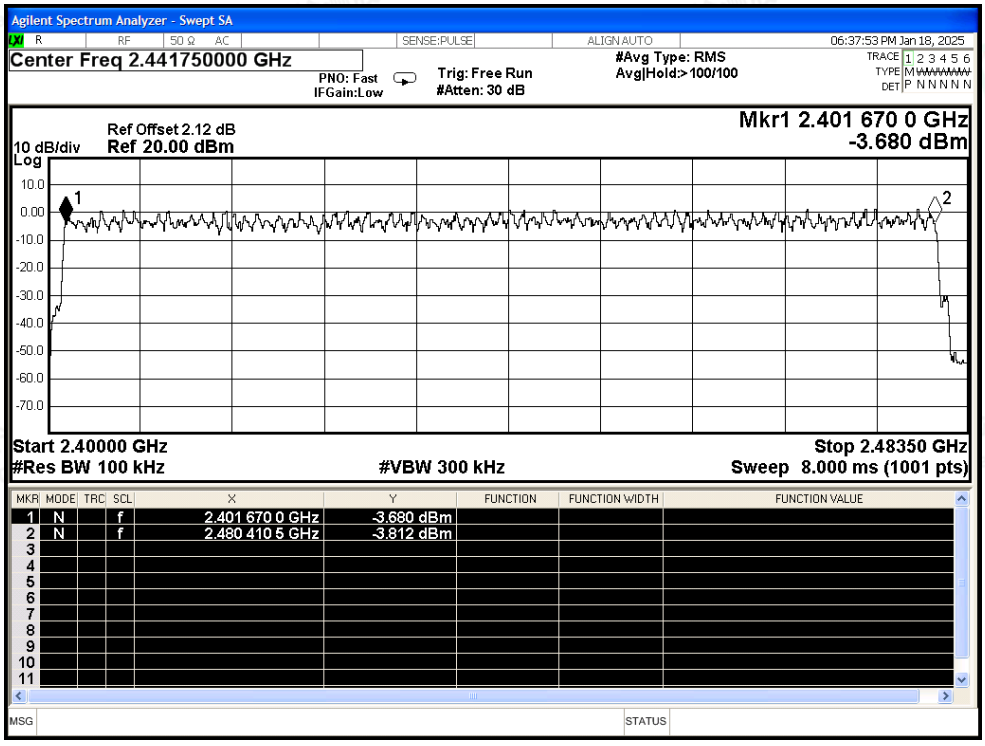
Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



Hopping No. NVNT 3-DH5 2402MHz Ant1

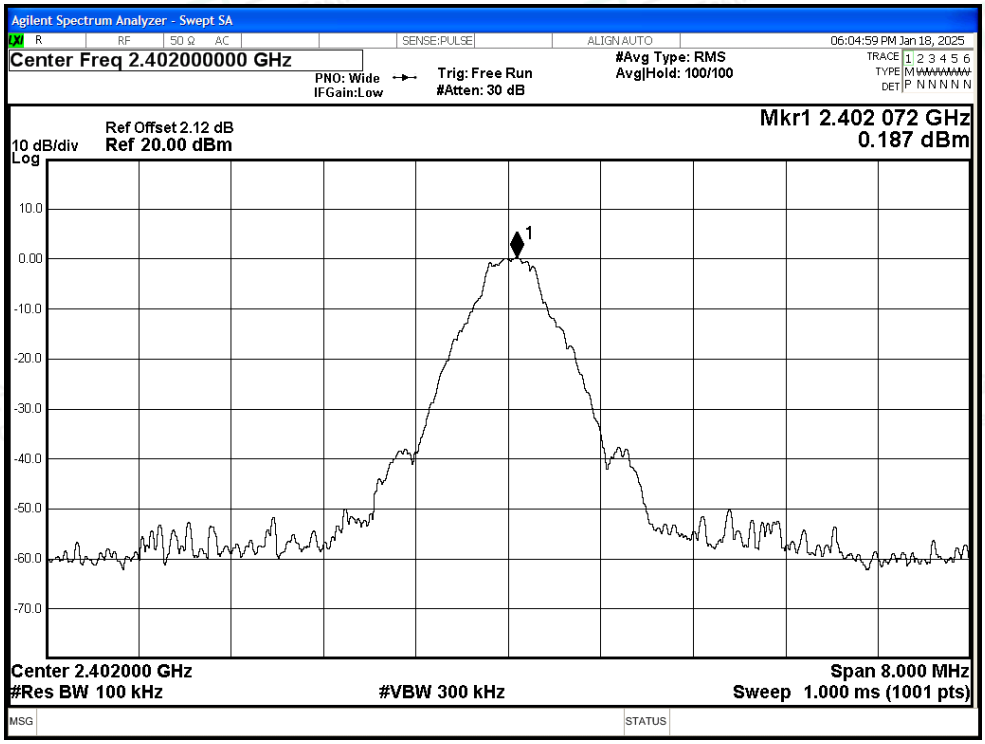


A.6 Band Edge

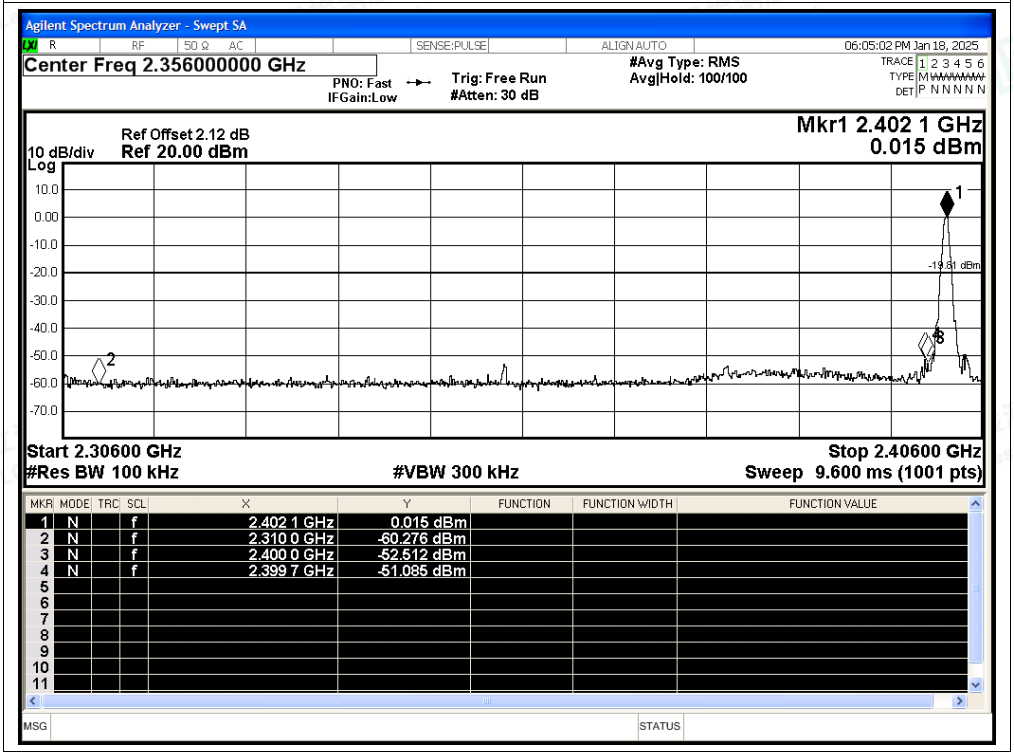
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-51.27	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-53.96	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-52.15	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-52.51	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-52.15	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-53.5	-20	Pass

Test Graphs

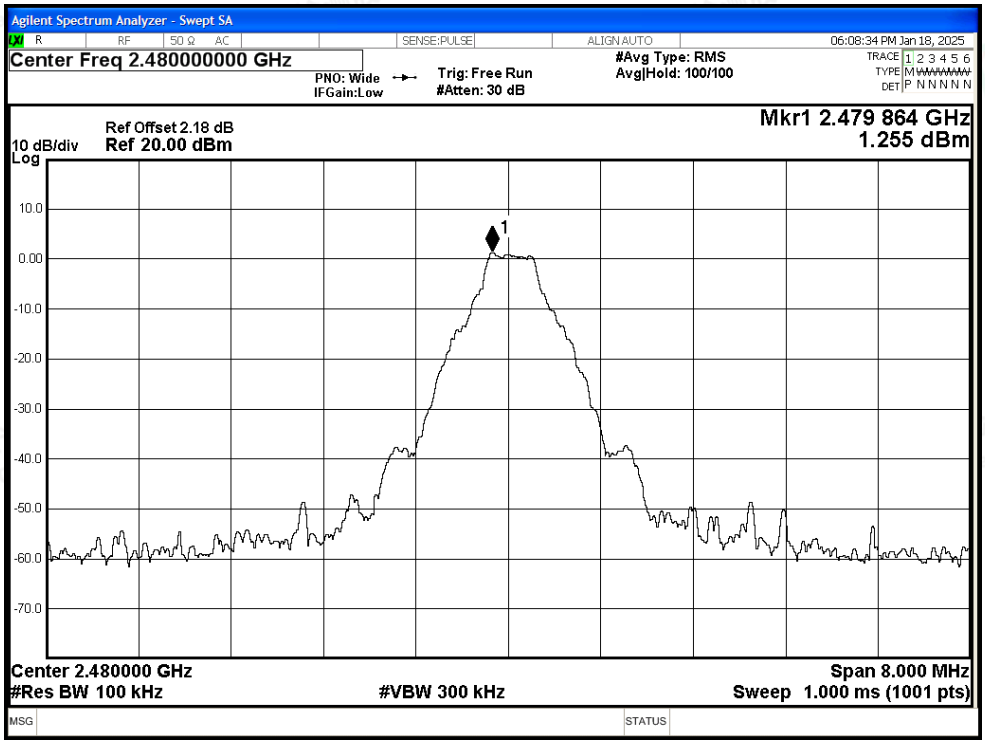
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



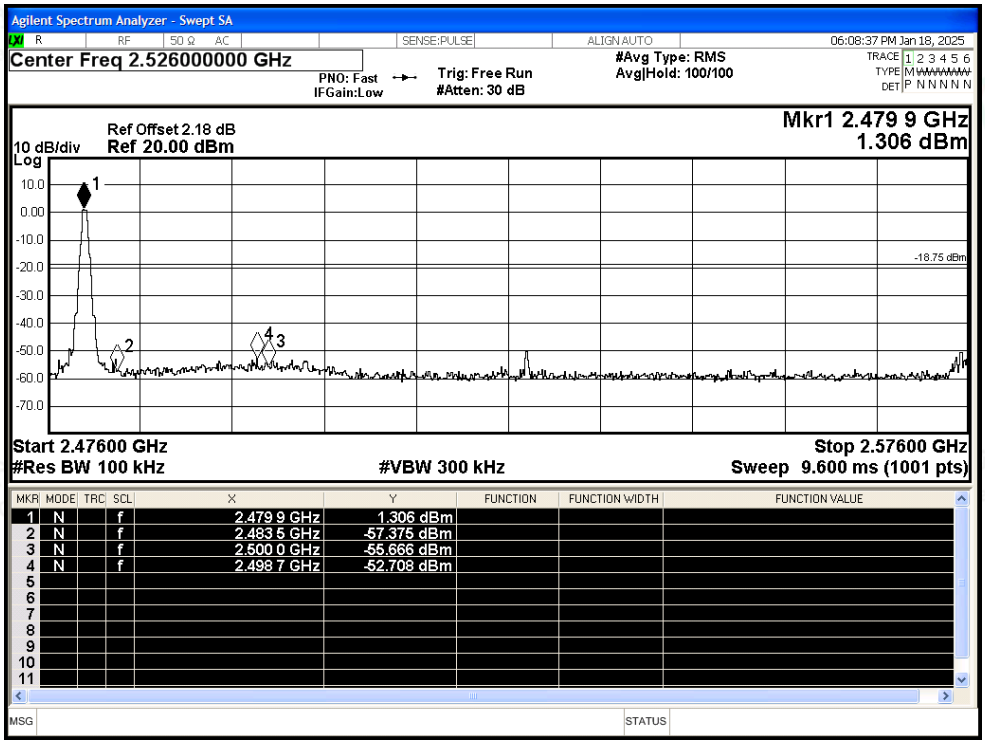
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



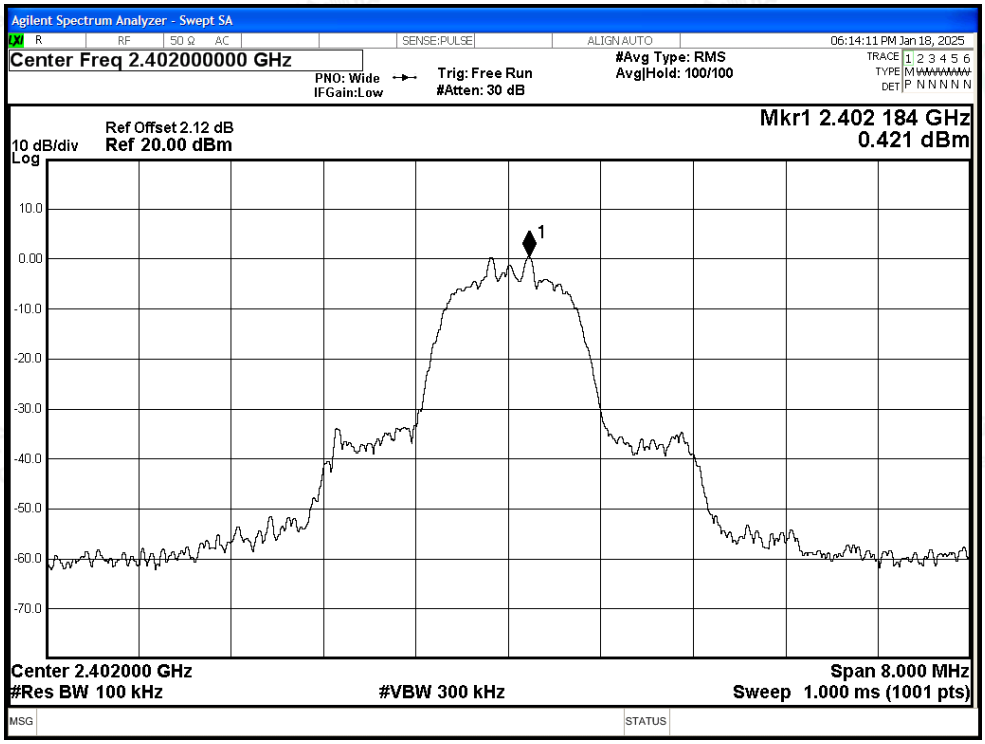
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



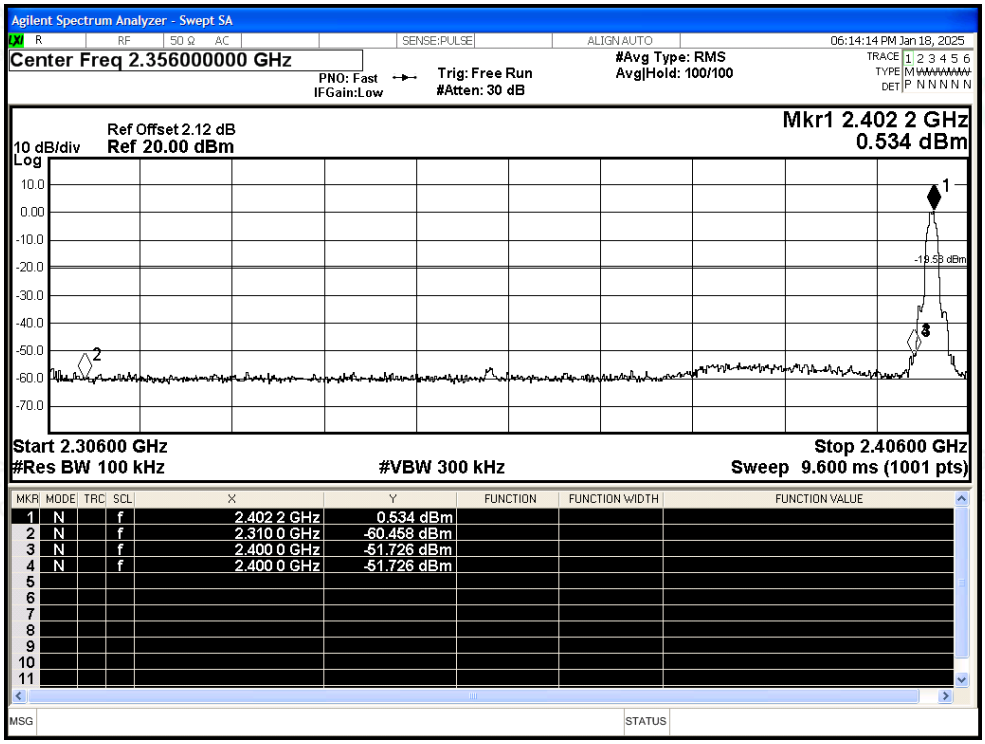
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



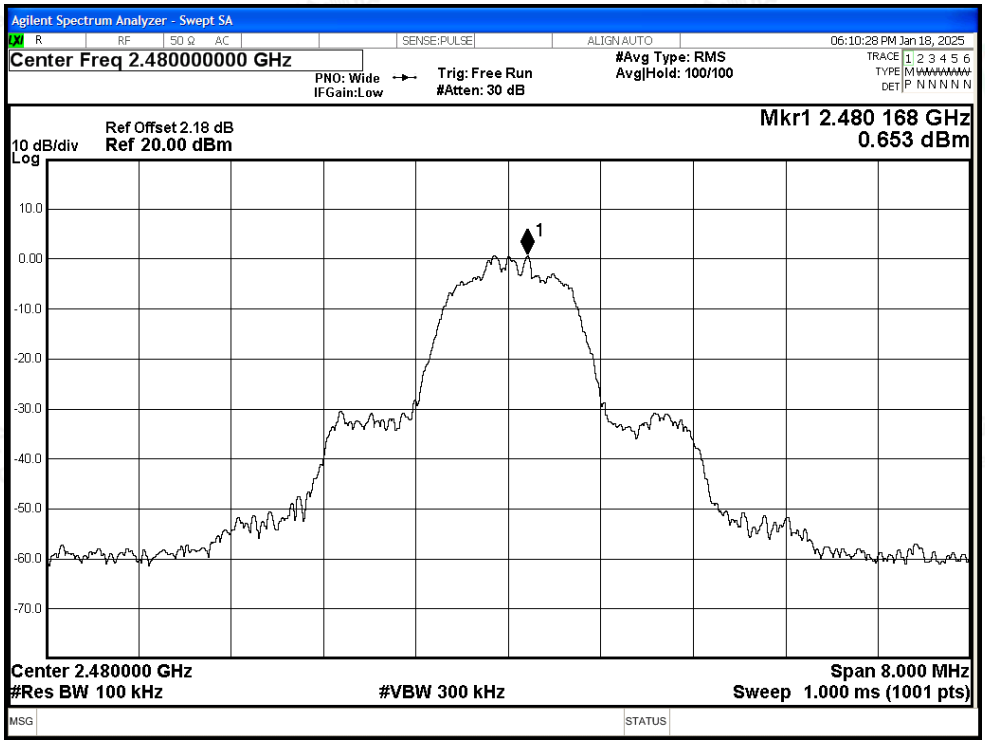
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



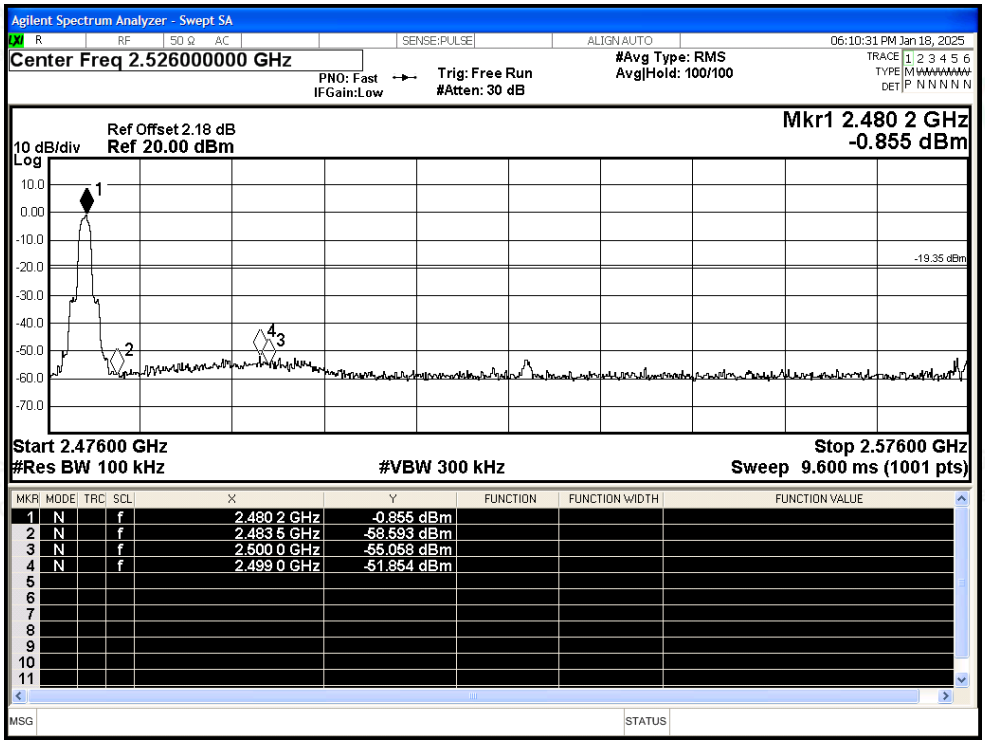
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



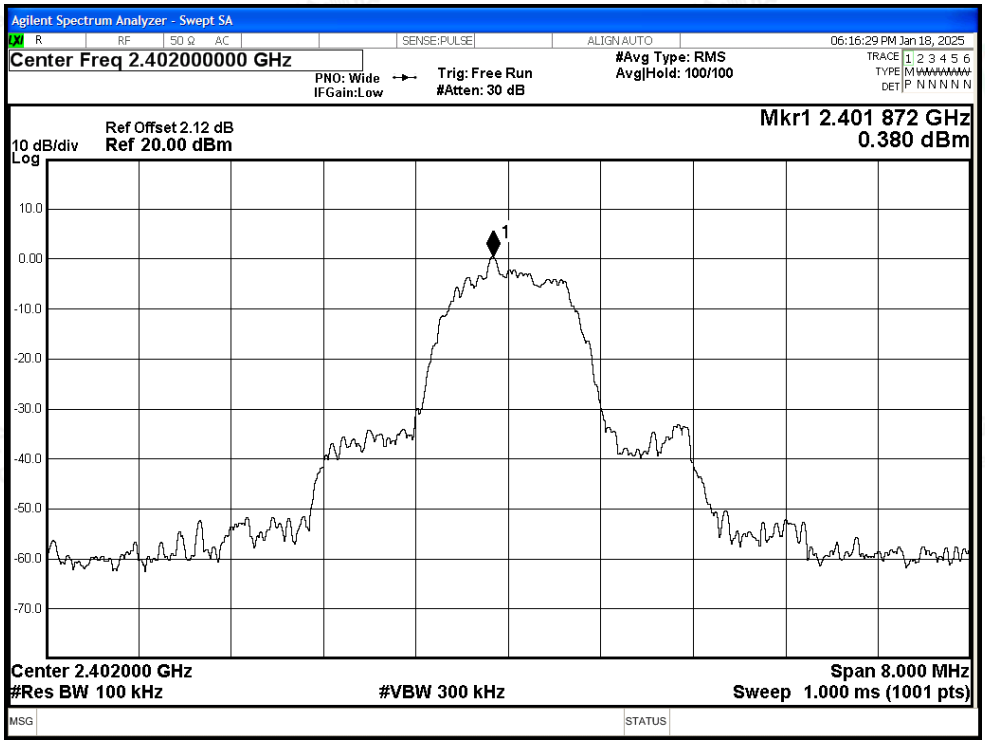
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



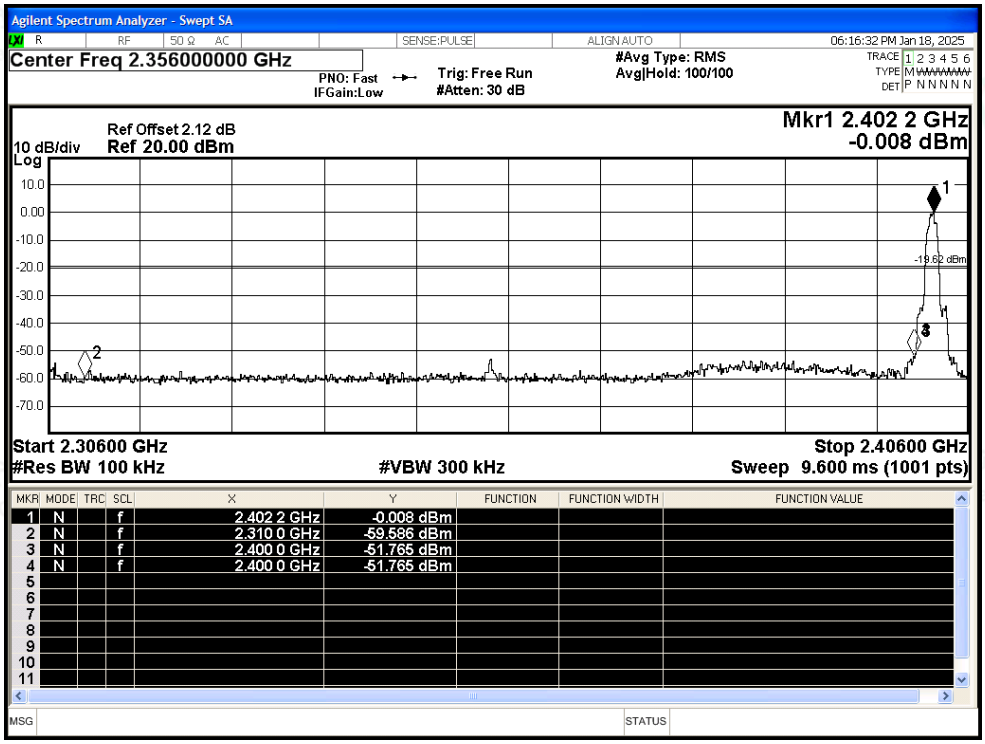
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



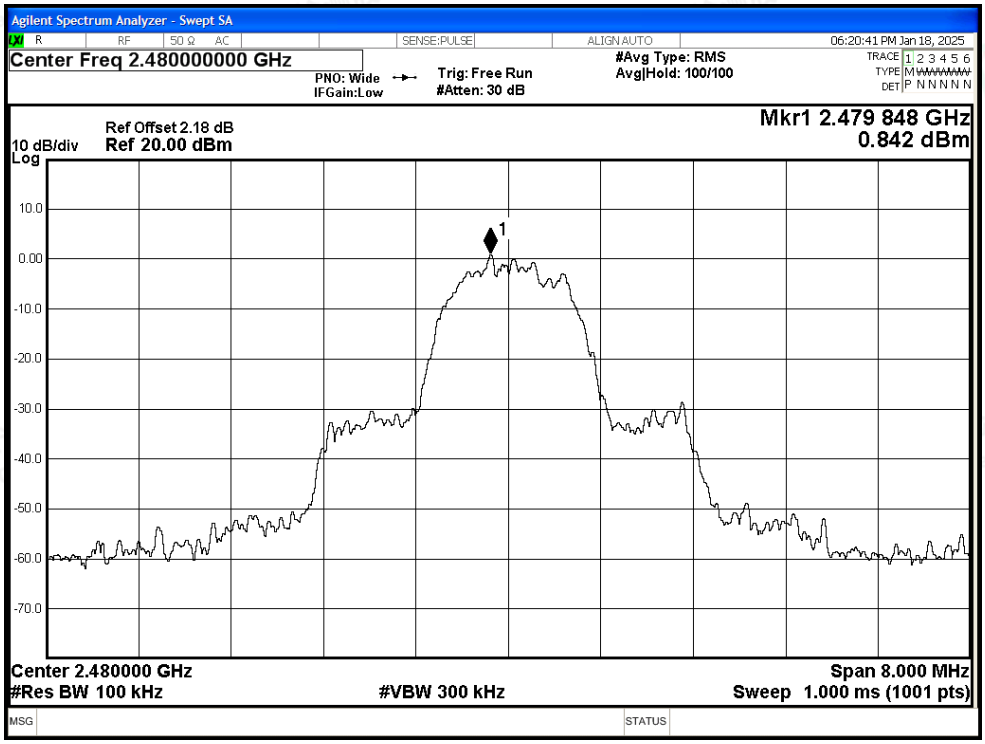
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



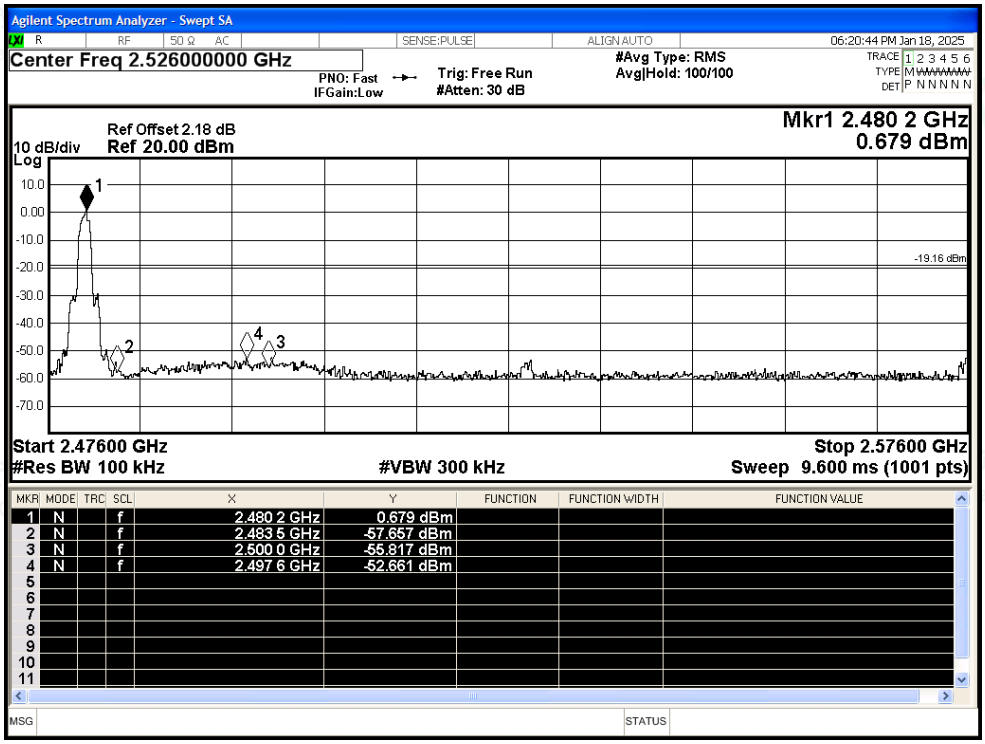
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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



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

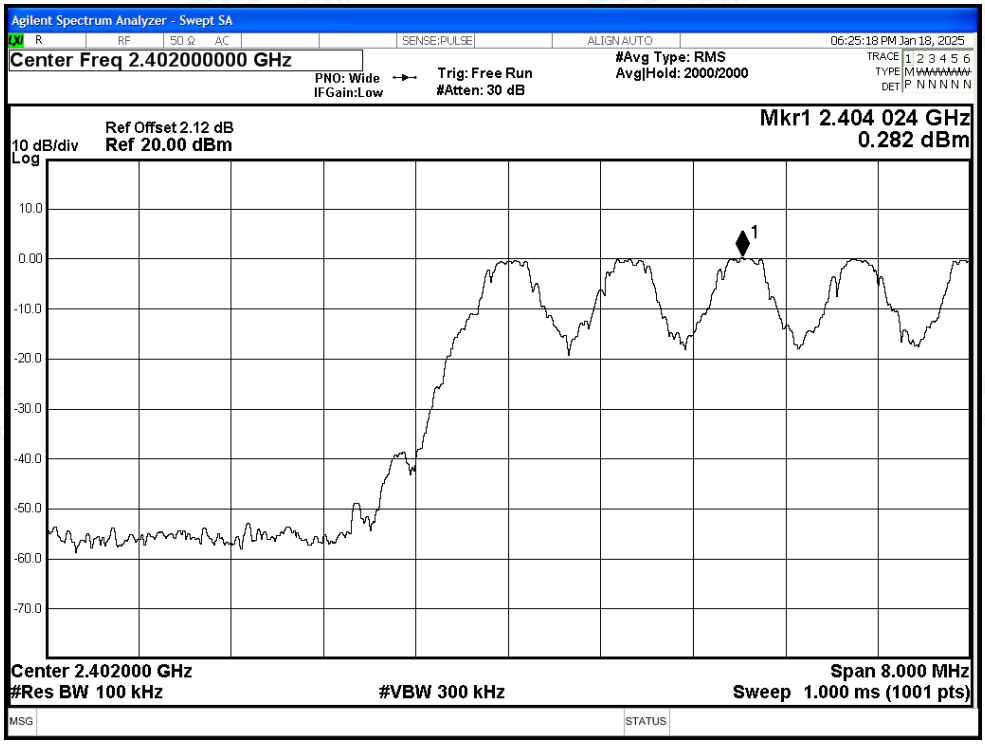


(Hopping)

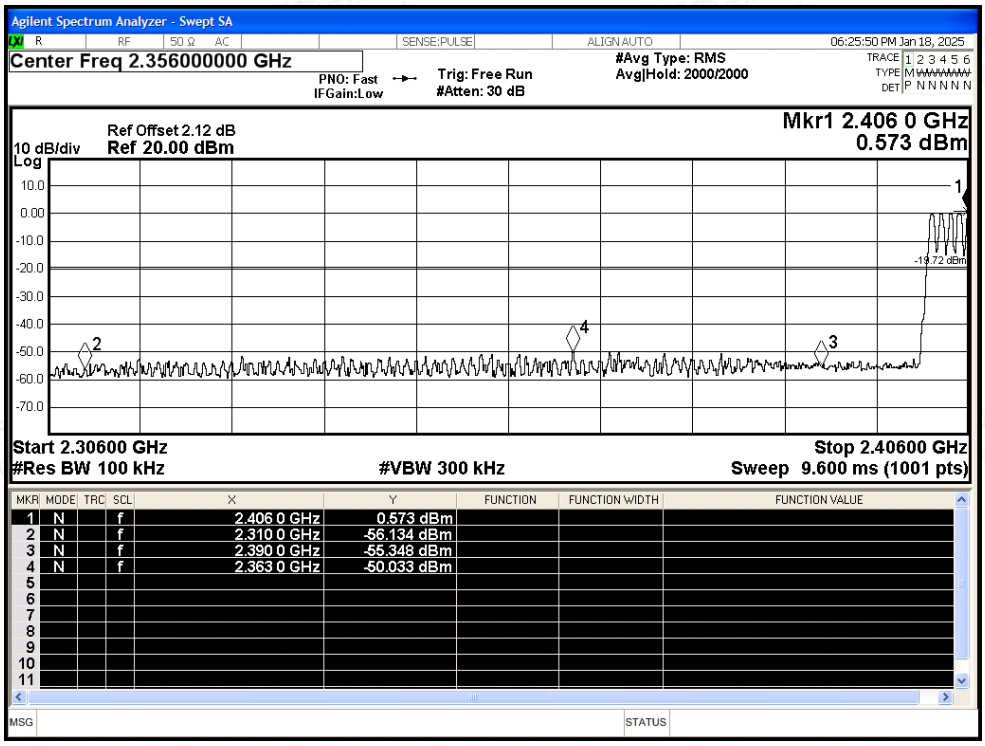
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-50.32	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-47.47	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-49.68	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-46.13	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-48.89	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-51.72	-20	Pass

Test Graphs

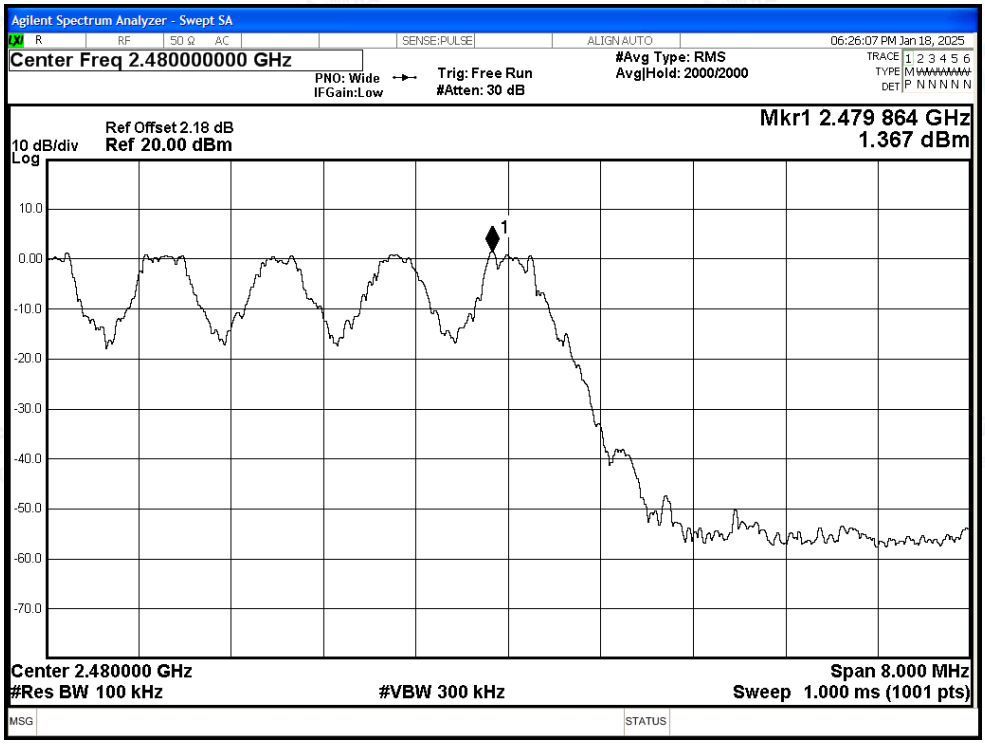
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



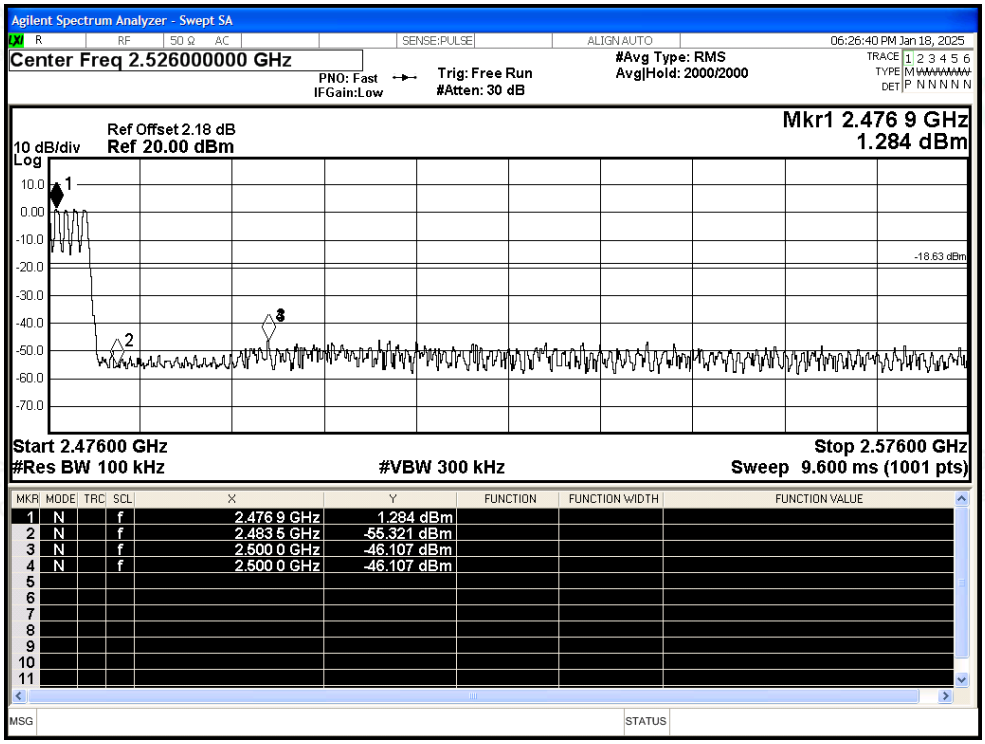
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



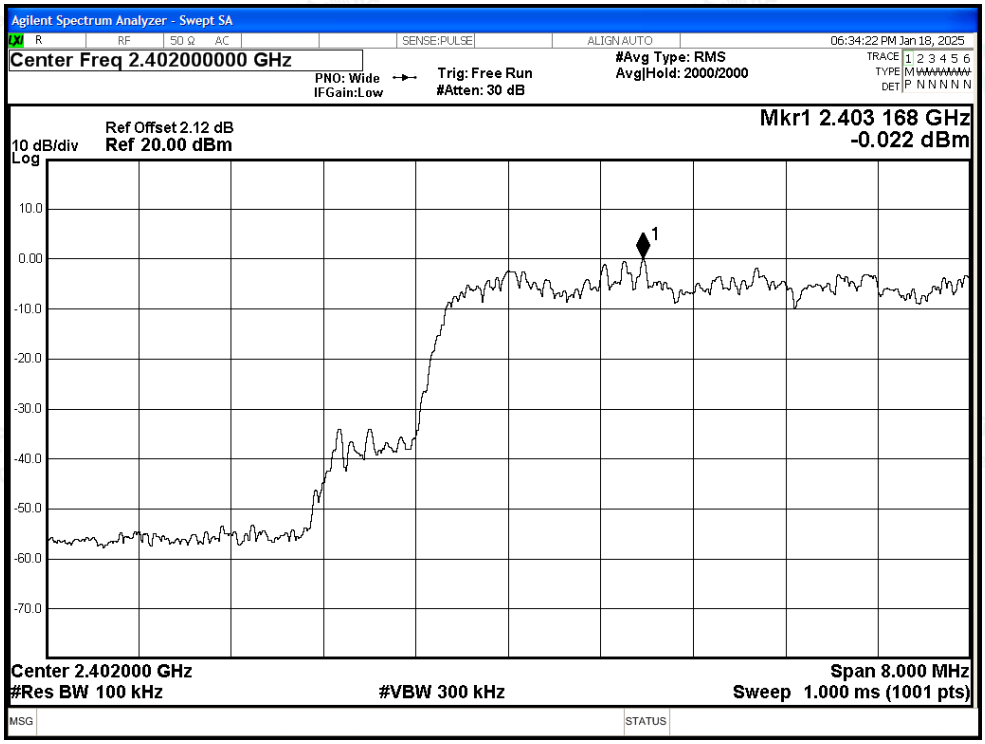
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



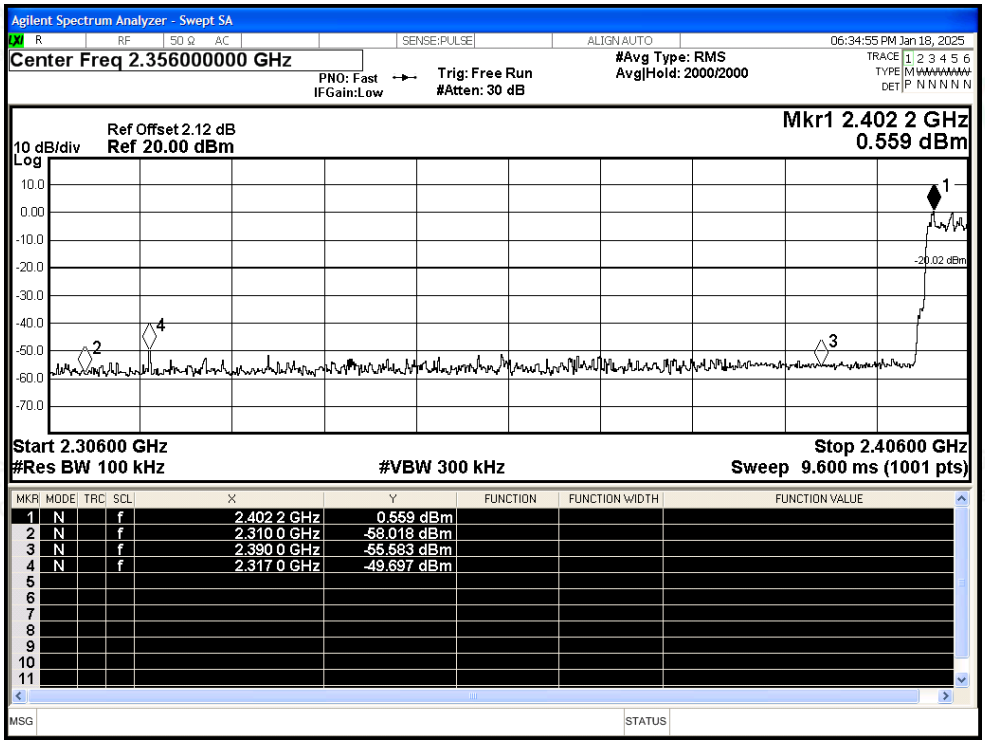
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



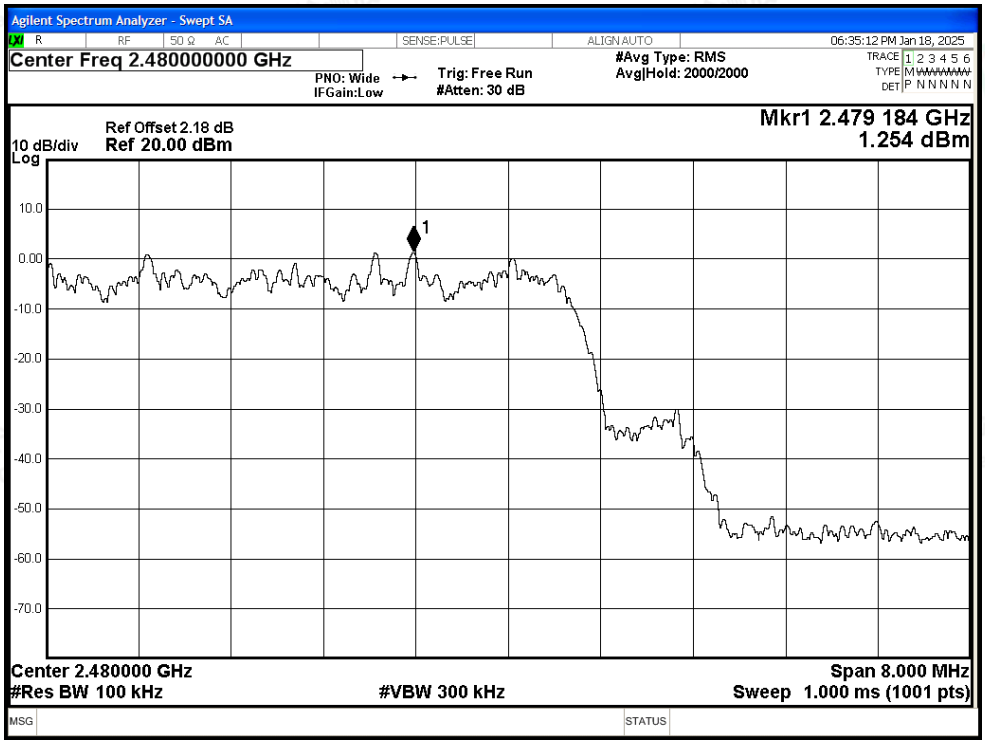
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



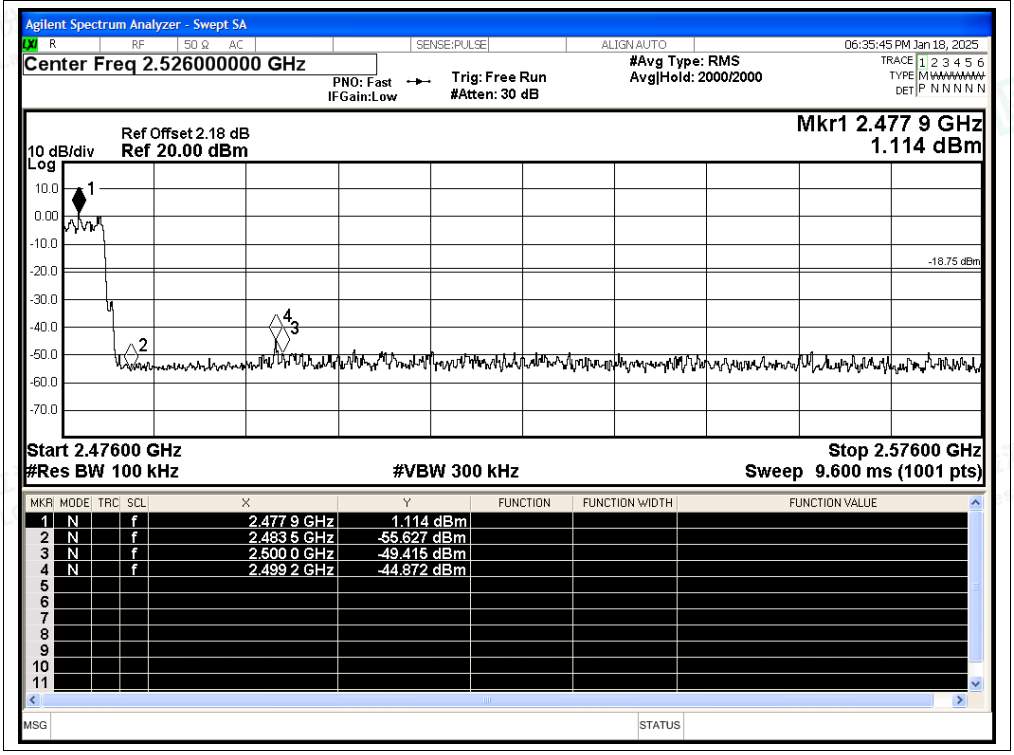
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



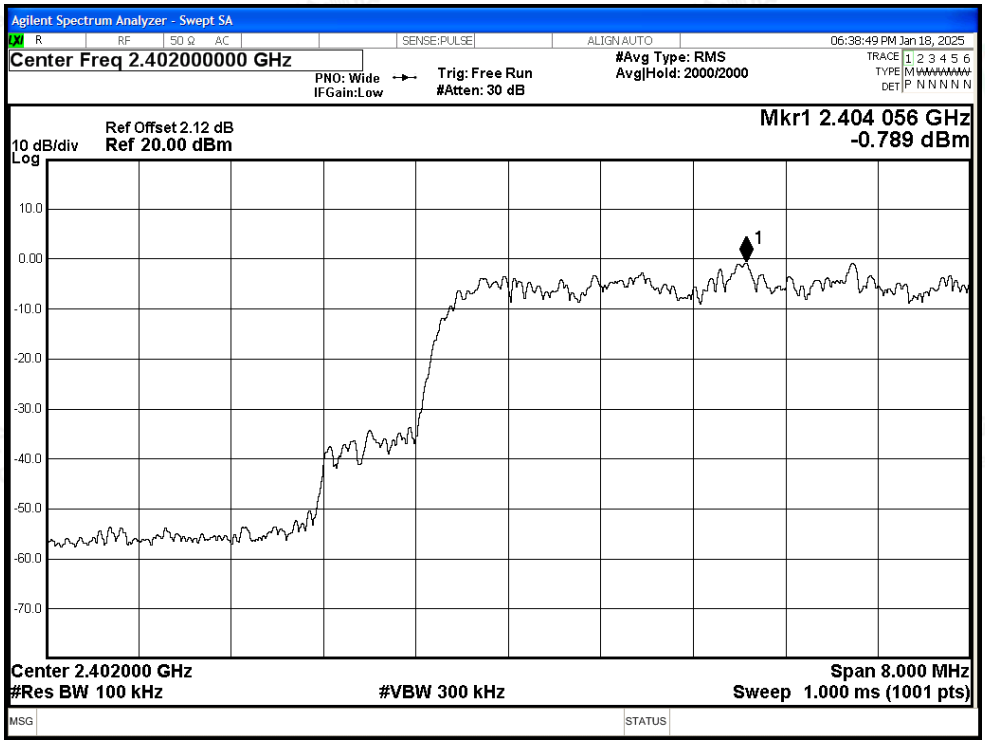
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



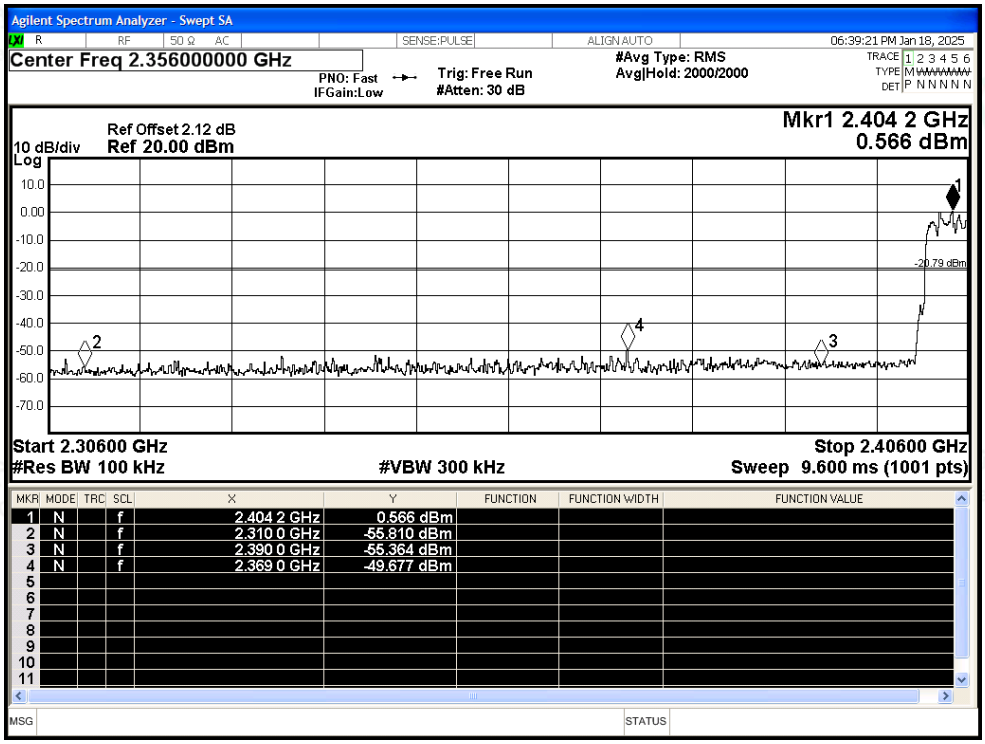
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



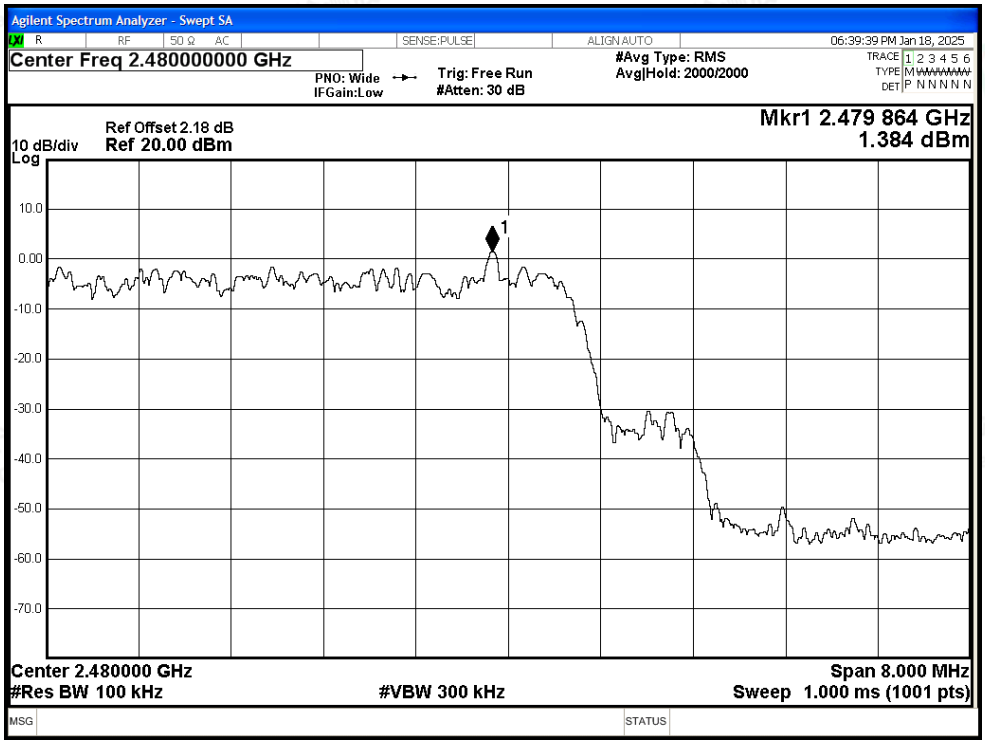
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



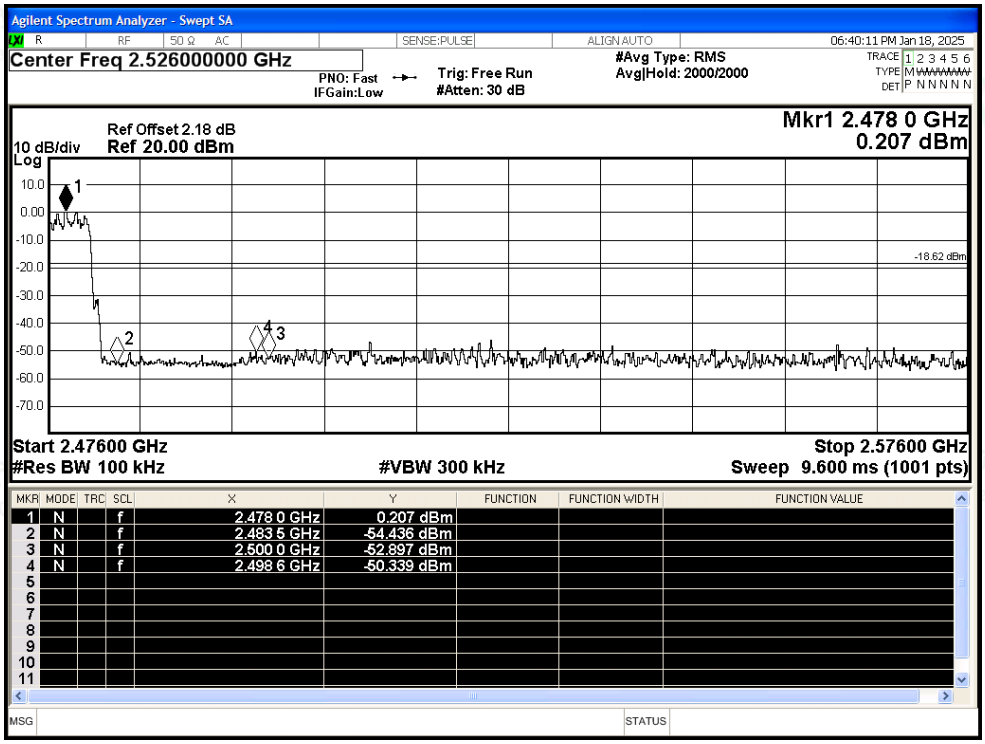
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



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



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

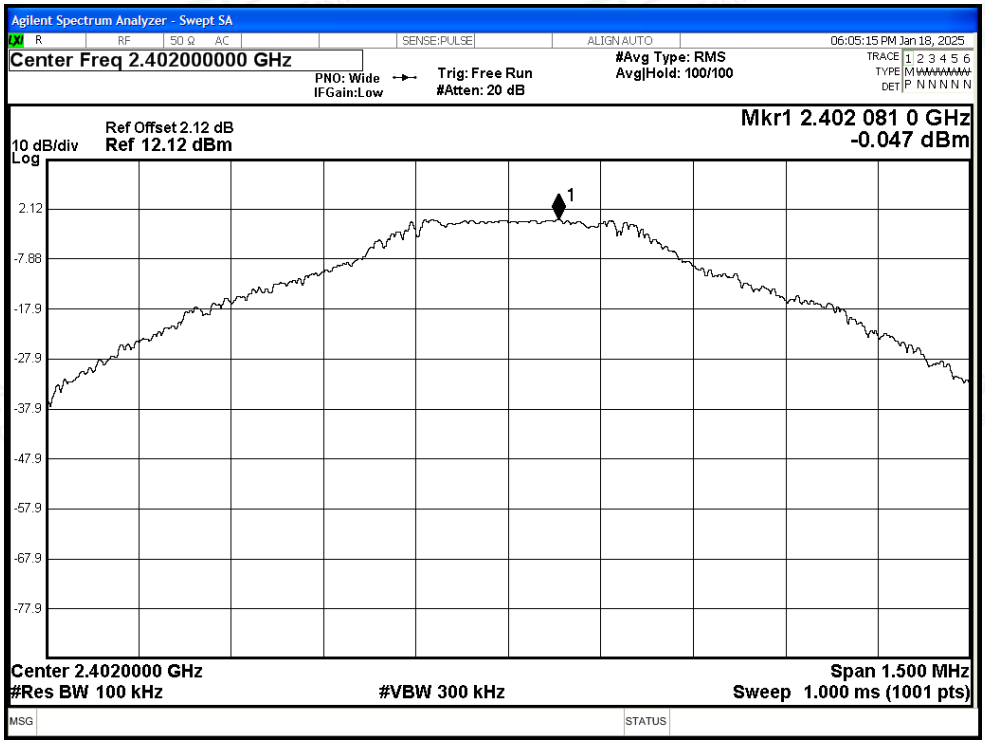


A.7 Conducted RF Spurious Emission

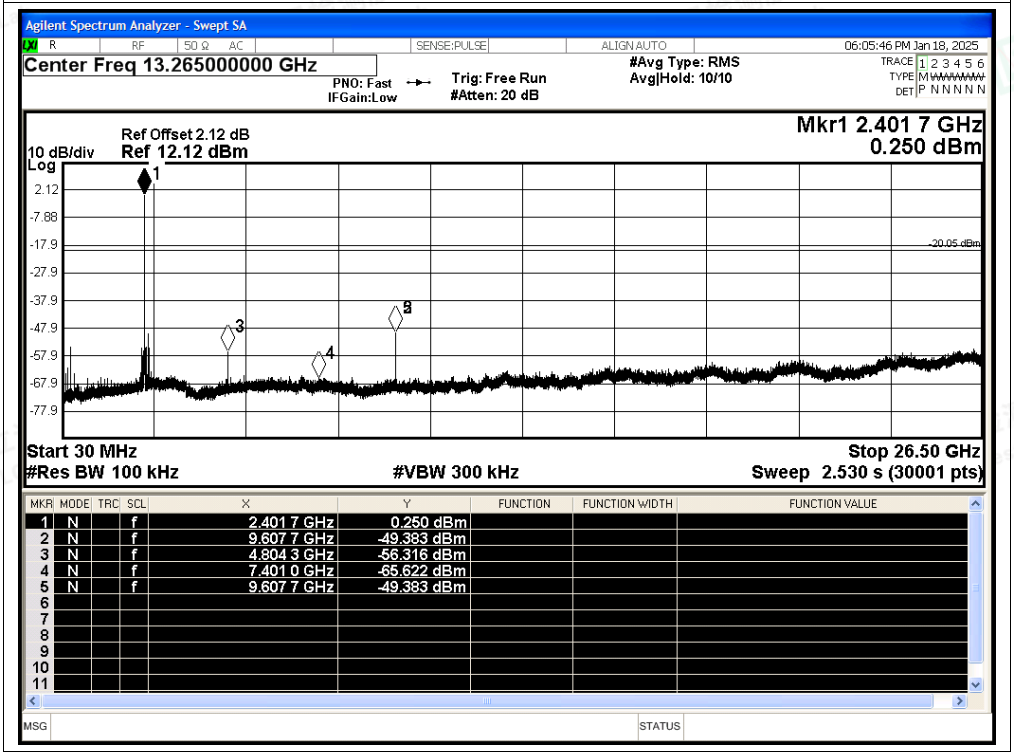
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-49.34	-20	Pass
NVNT	1-DH5	2441	Ant1	-45.65	-20	Pass
NVNT	1-DH5	2480	Ant1	-47.42	-20	Pass
NVNT	2-DH5	2402	Ant1	-49.97	-20	Pass
NVNT	2-DH5	2441	Ant1	-48.65	-20	Pass
NVNT	2-DH5	2480	Ant1	-48.22	-20	Pass
NVNT	3-DH5	2402	Ant1	-49.49	-20	Pass
NVNT	3-DH5	2441	Ant1	-47.6	-20	Pass
NVNT	3-DH5	2480	Ant1	-46.66	-20	Pass

Test Graphs

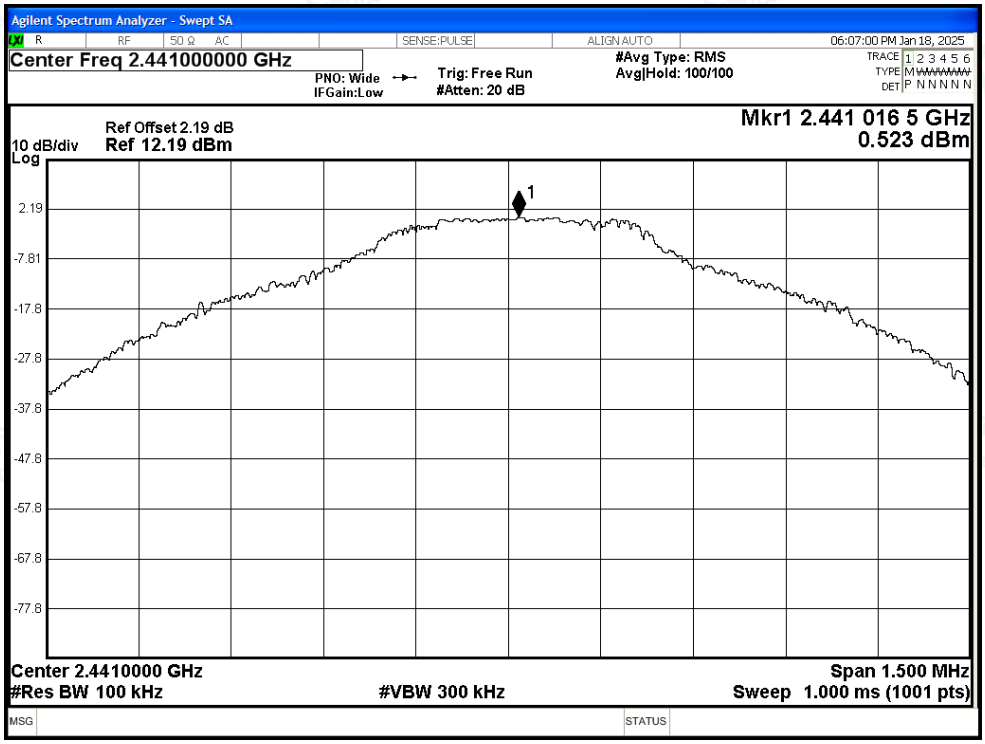
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



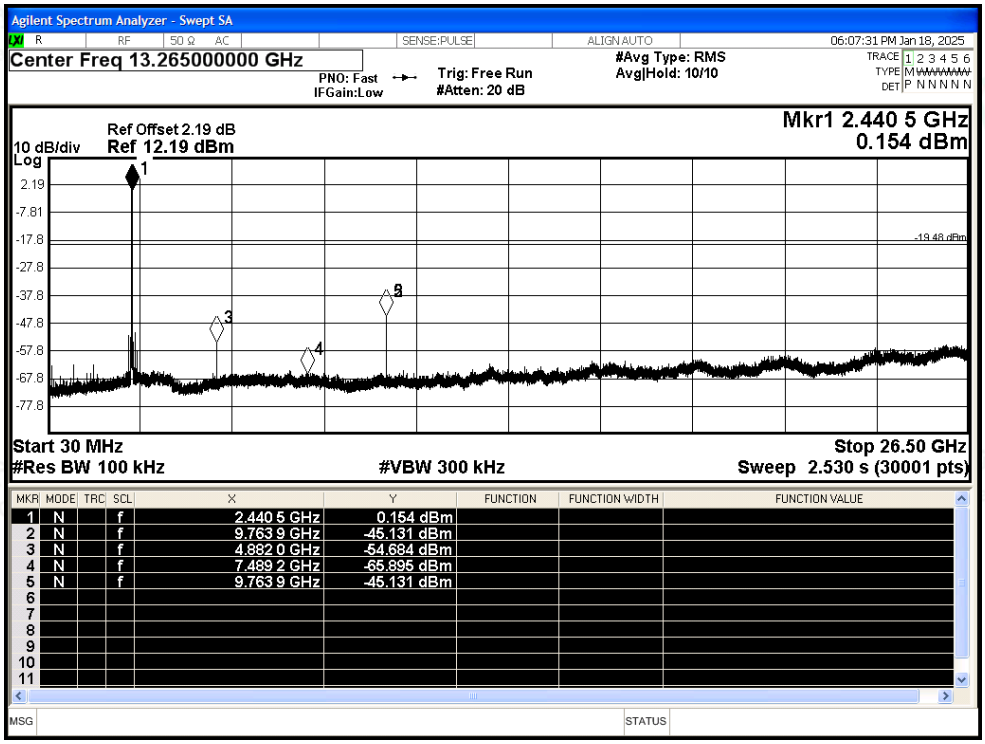
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



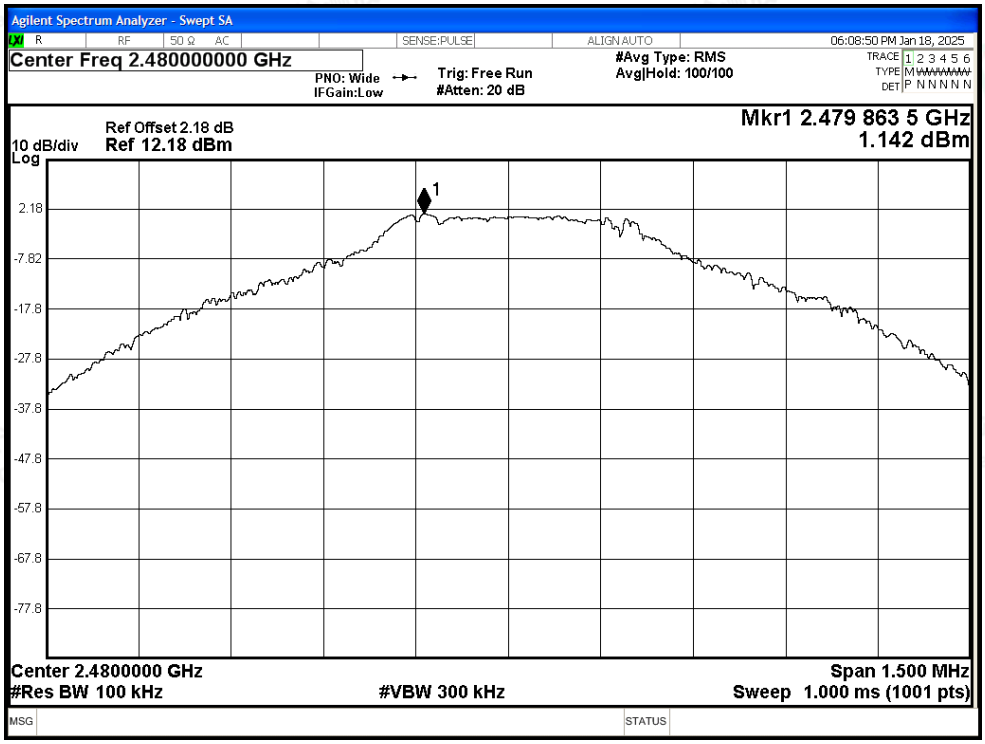
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



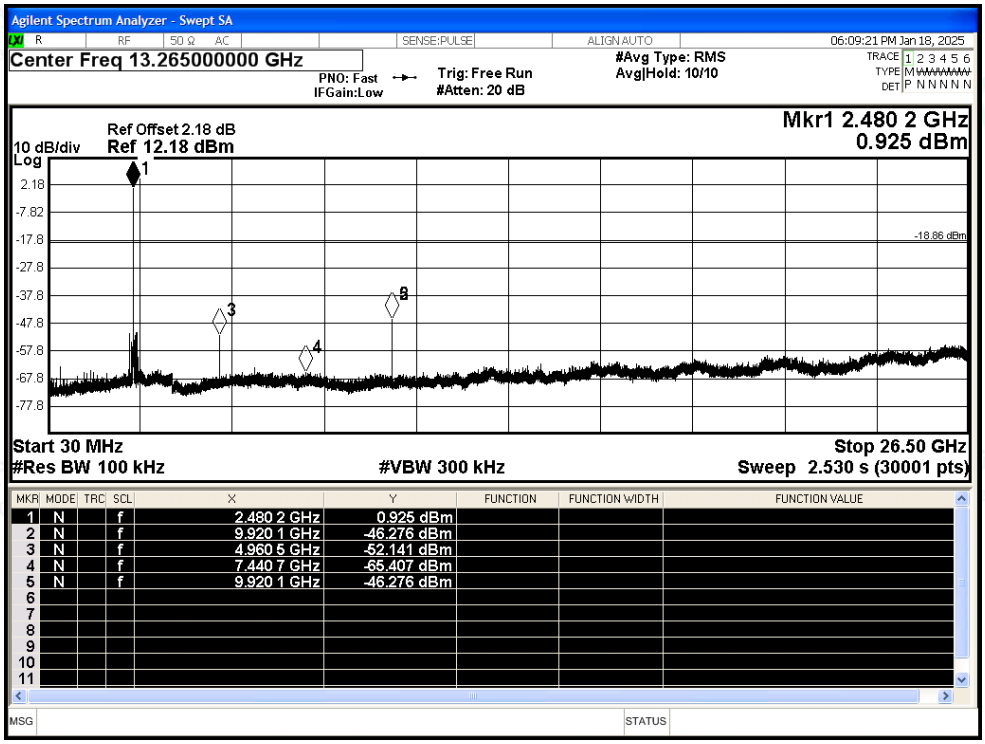
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



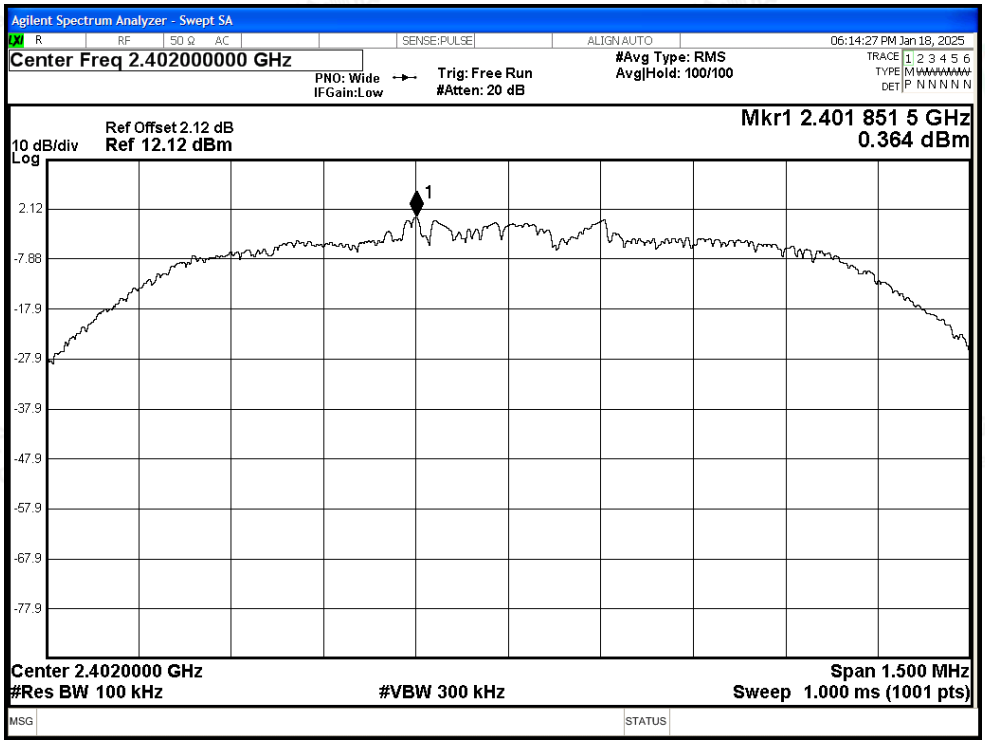
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



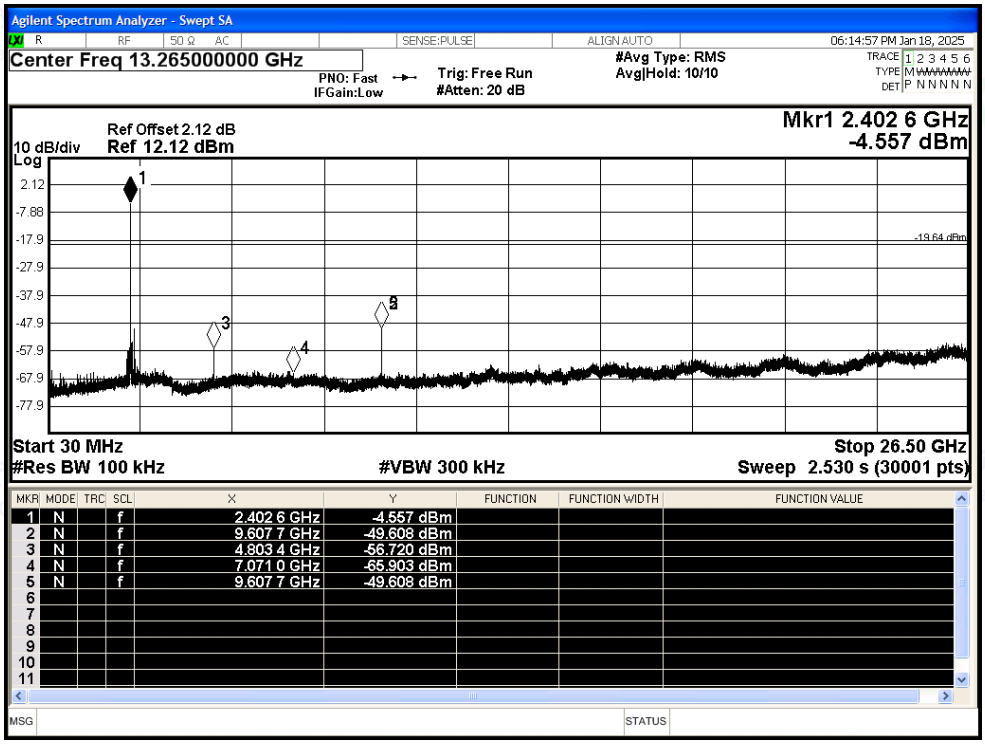
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



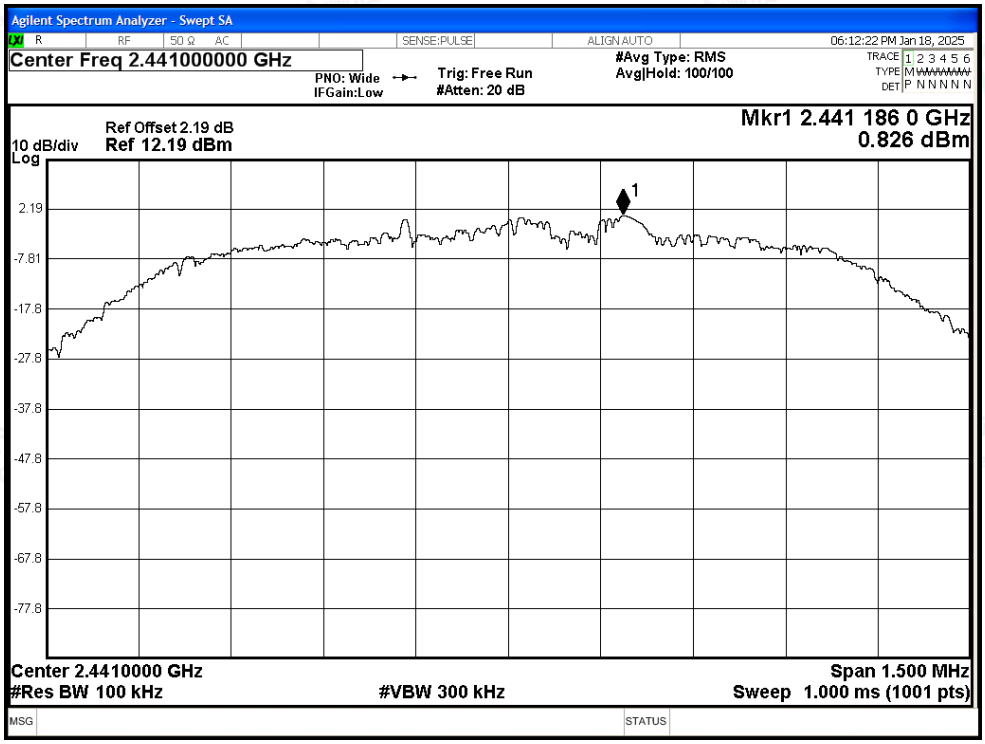
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



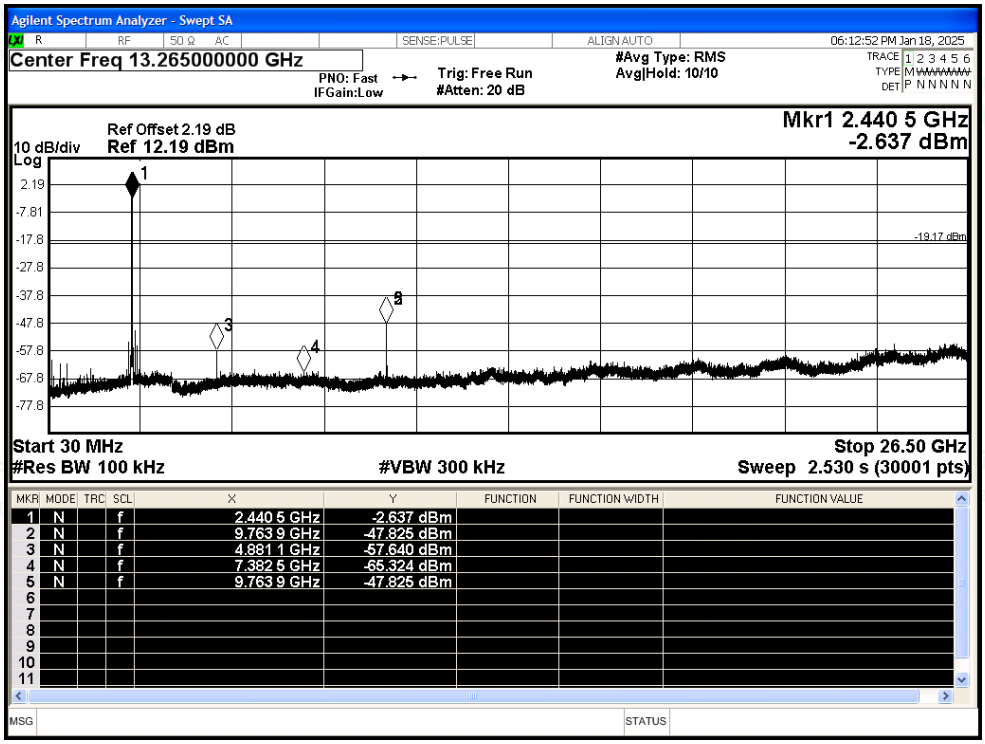
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



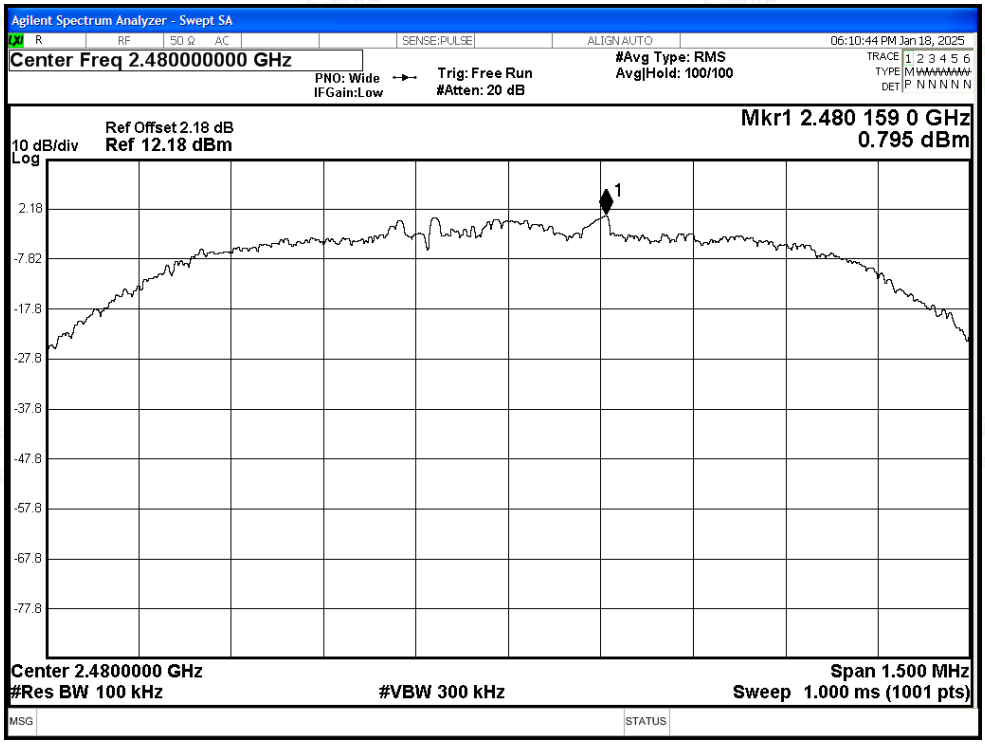
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



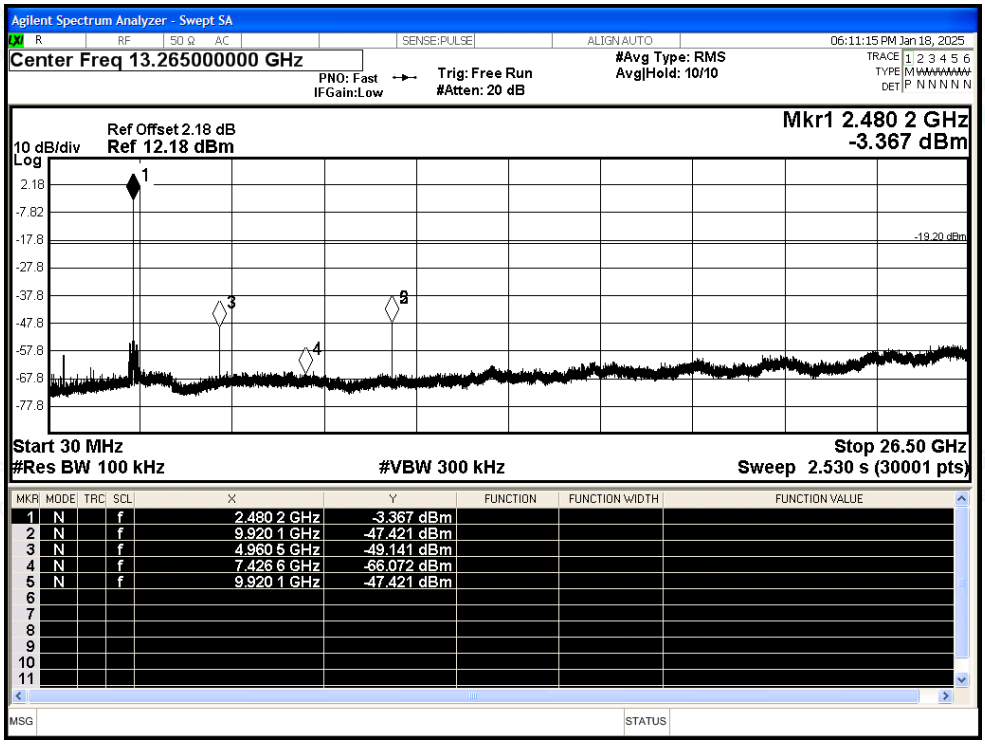
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



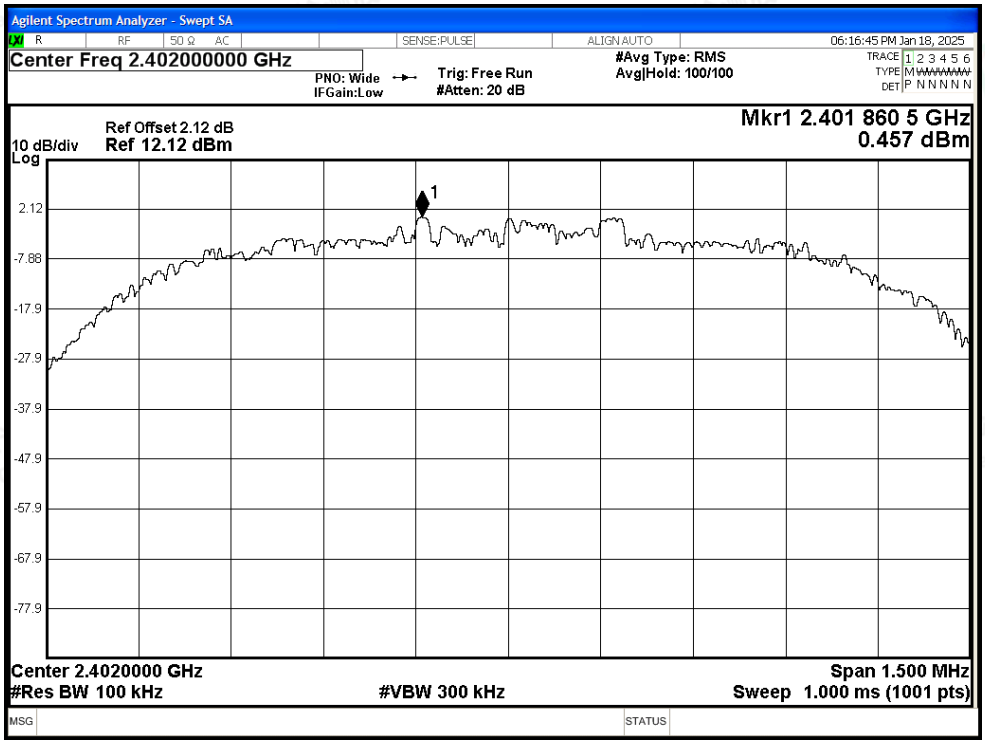
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



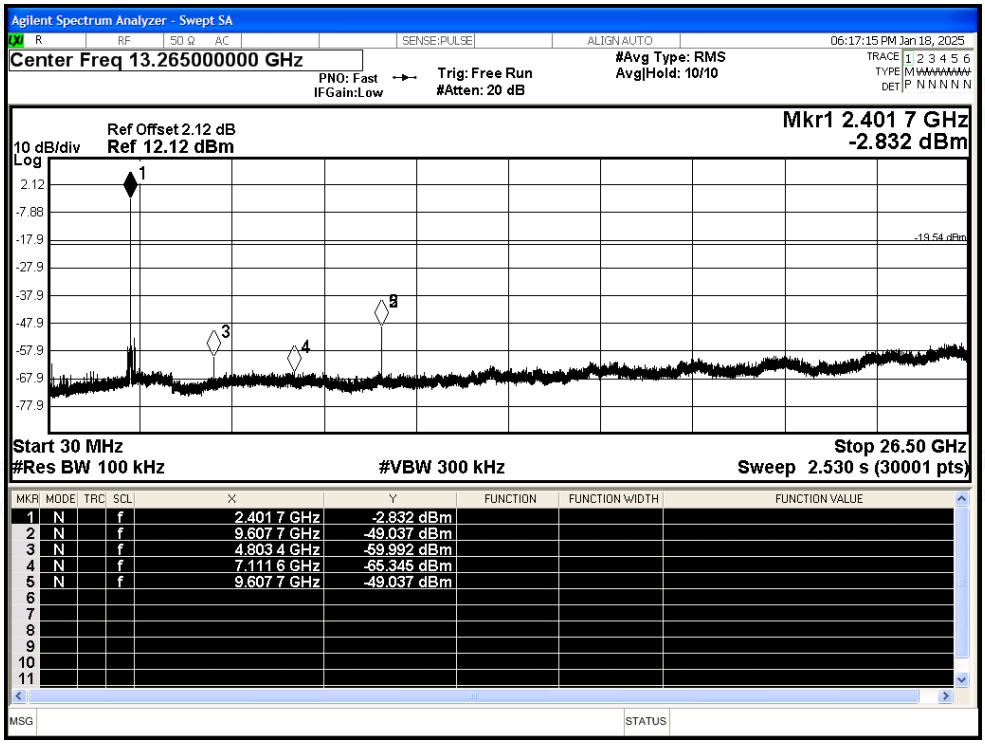
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



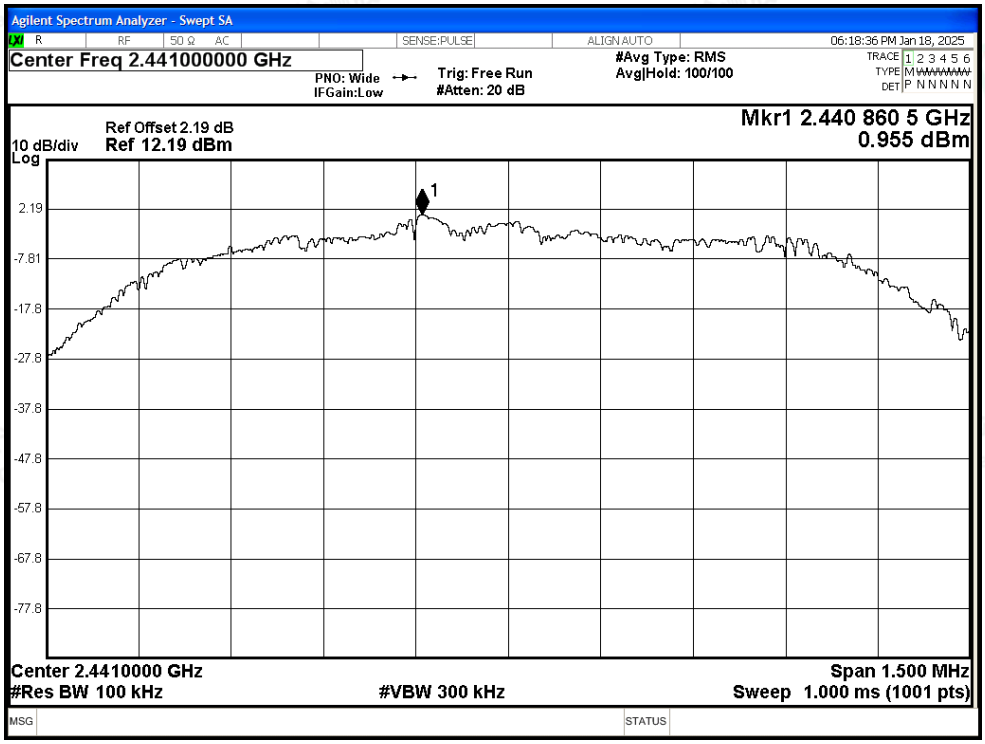
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



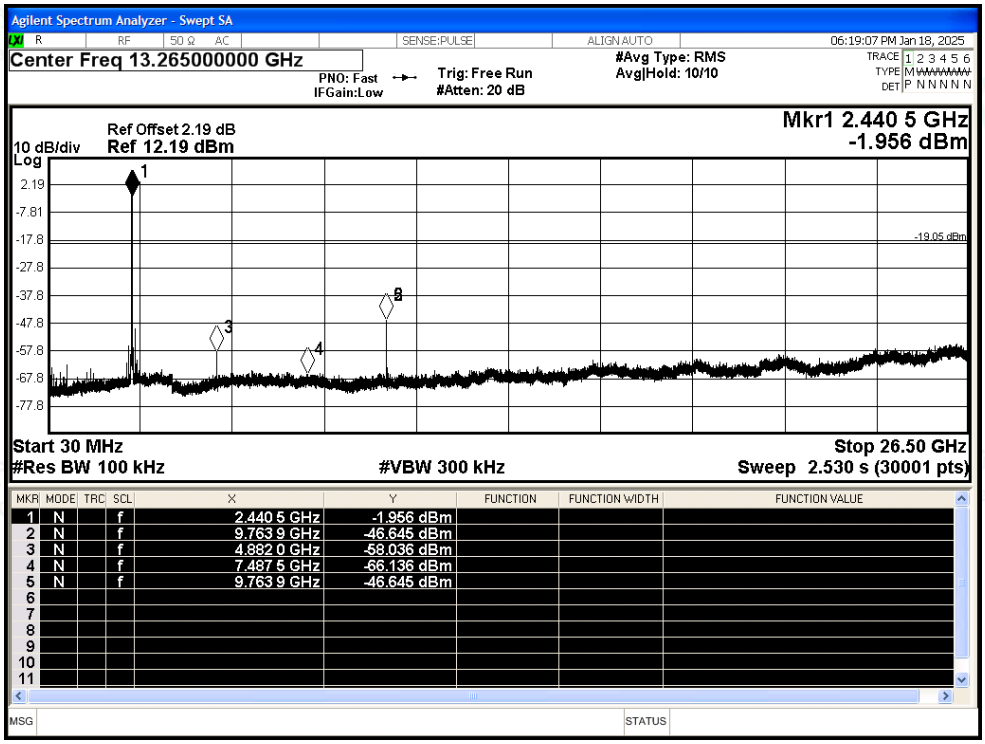
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



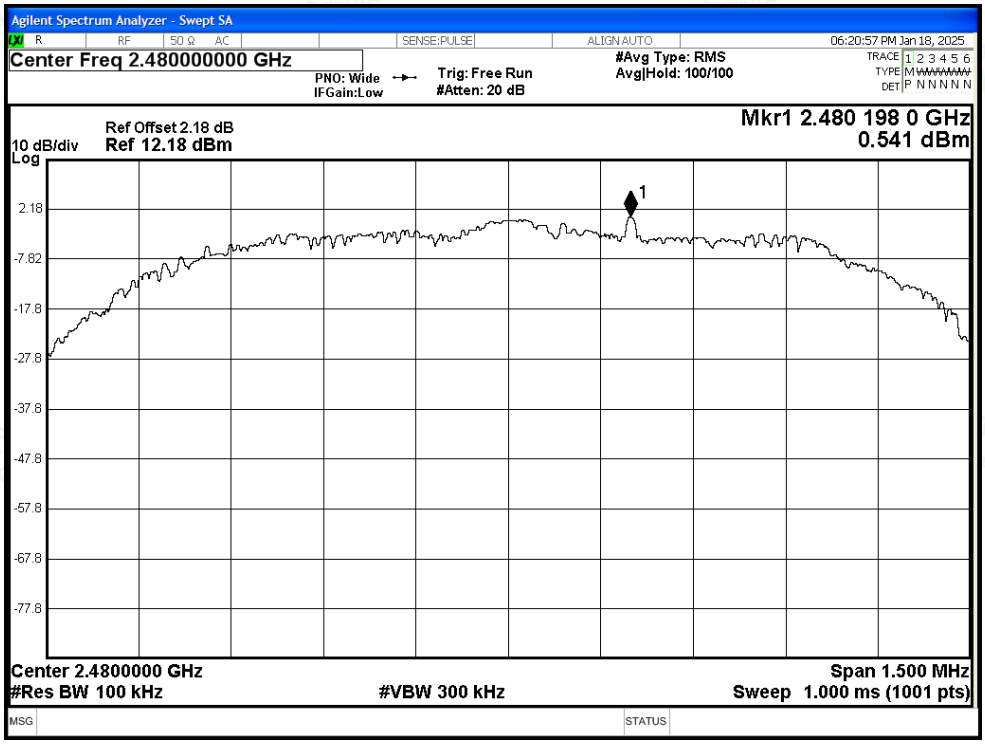
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



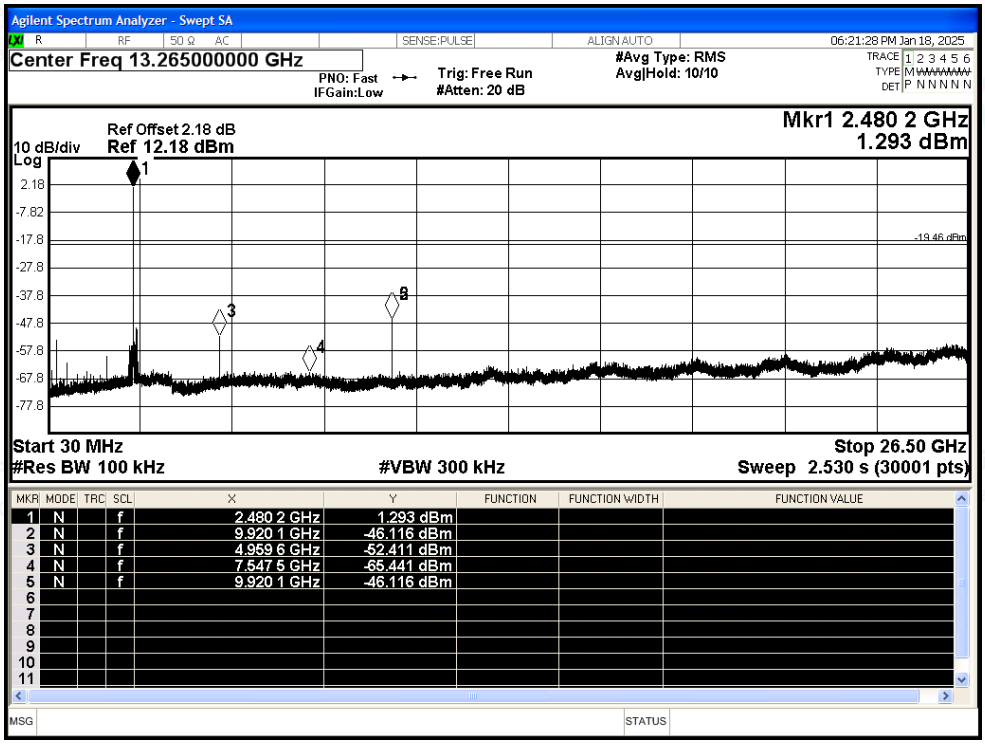
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

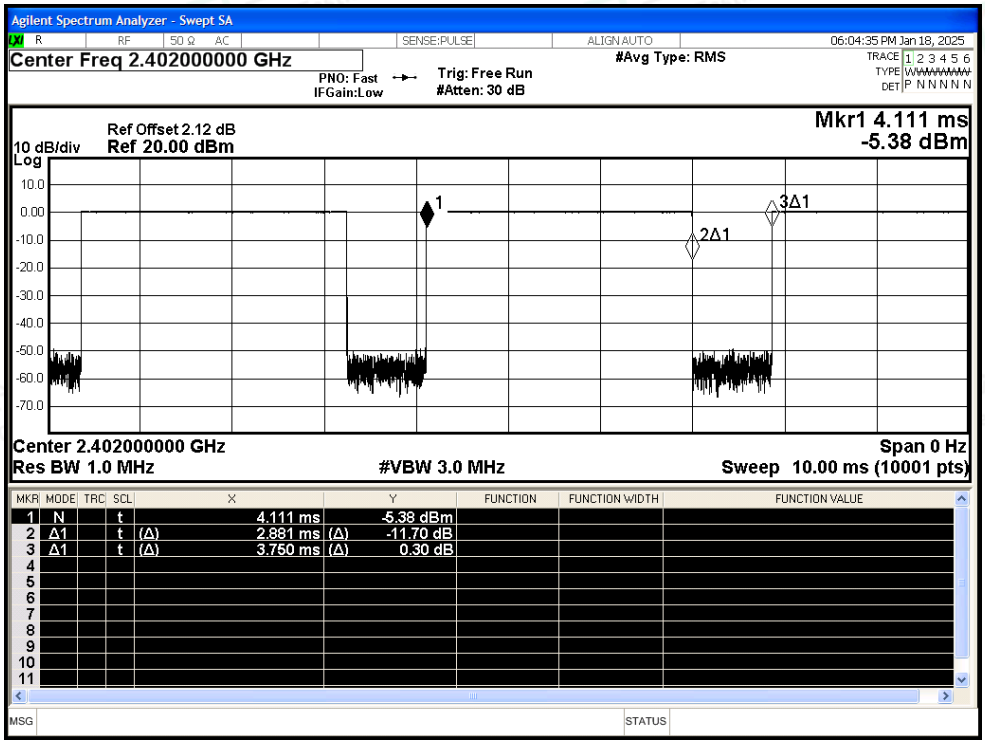


A.8 Duty Cycle

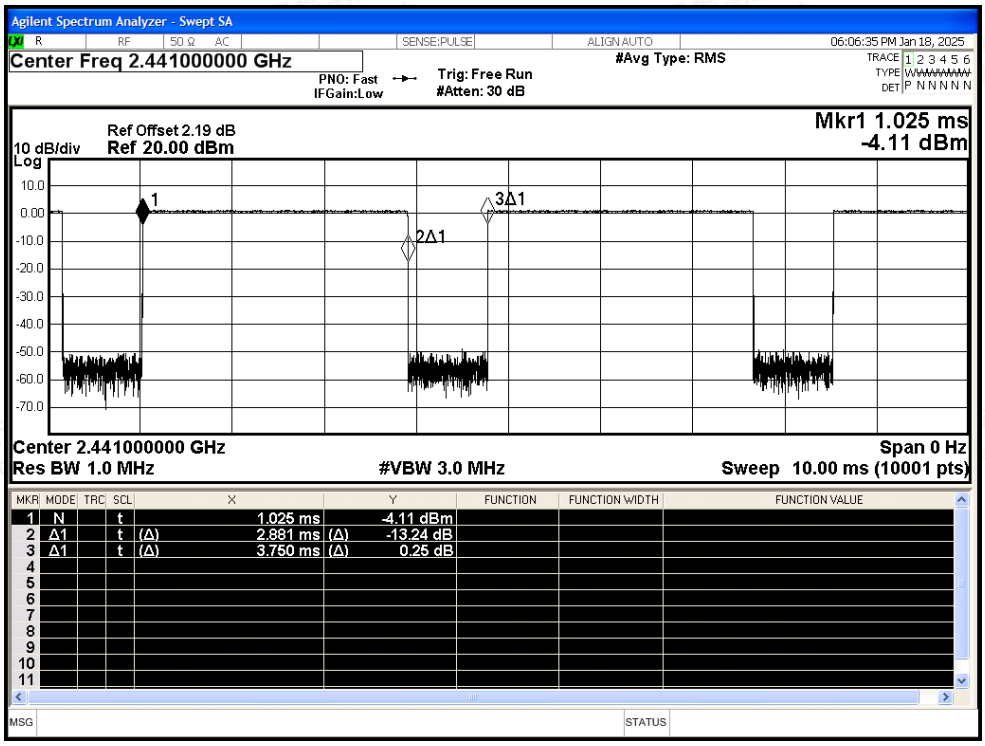
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	76.83	1.14	0.35
NVNT	1-DH5	2441	Ant1	76.83	1.14	0.35
NVNT	1-DH5	2480	Ant1	76.83	1.14	0.35
NVNT	2-DH5	2402	Ant1	76.96	1.14	0.35
NVNT	2-DH5	2441	Ant1	76.96	1.14	0.35
NVNT	2-DH5	2480	Ant1	77.01	1.13	0.35
NVNT	3-DH5	2402	Ant1	77.01	1.13	0.35
NVNT	3-DH5	2441	Ant1	77.07	1.13	0.35
NVNT	3-DH5	2480	Ant1	77.01	1.13	0.35

Test Graphs

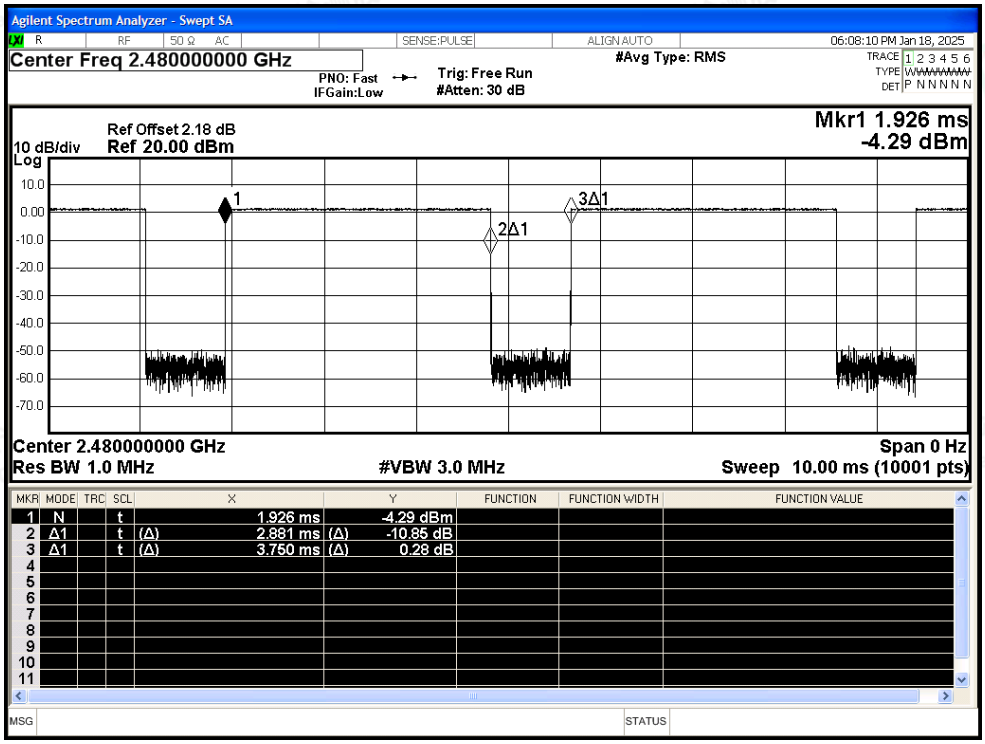
Duty Cycle NVNT 1-DH5 2402MHz Ant1



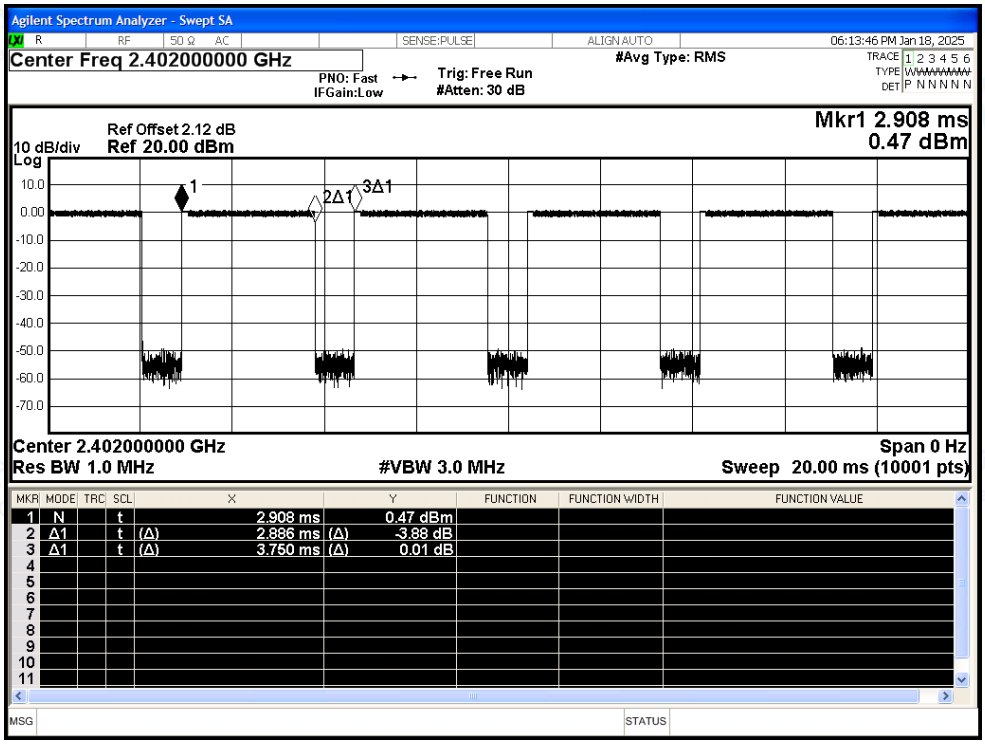
Duty Cycle NVNT 1-DH5 2441MHz Ant1



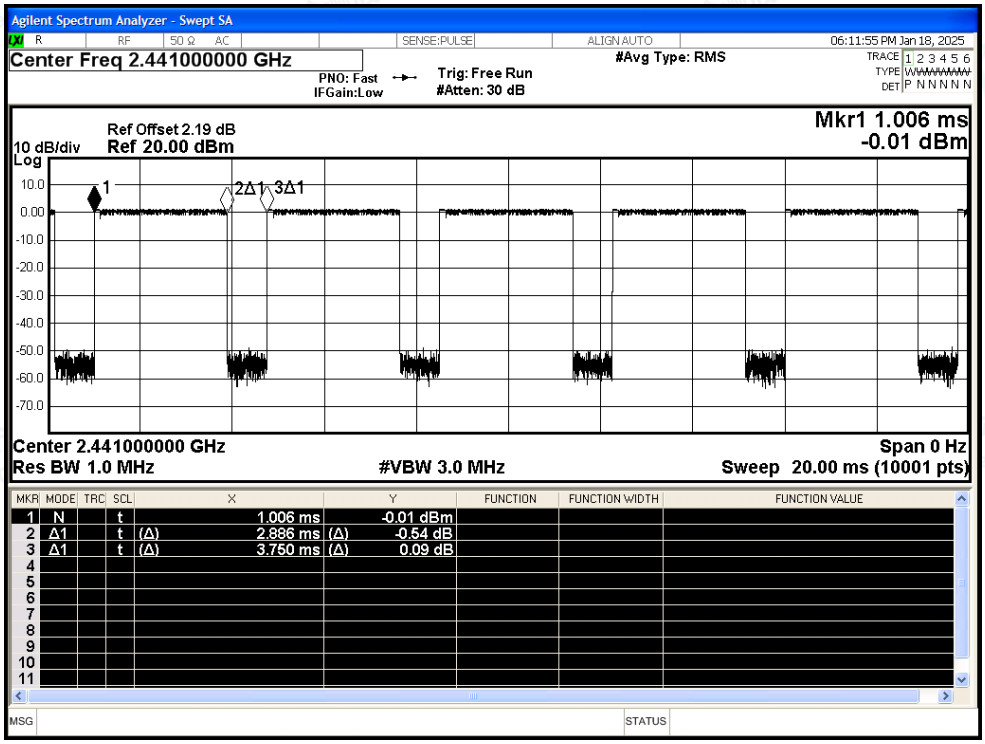
Duty Cycle NVNT 1-DH5 2480MHz Ant1



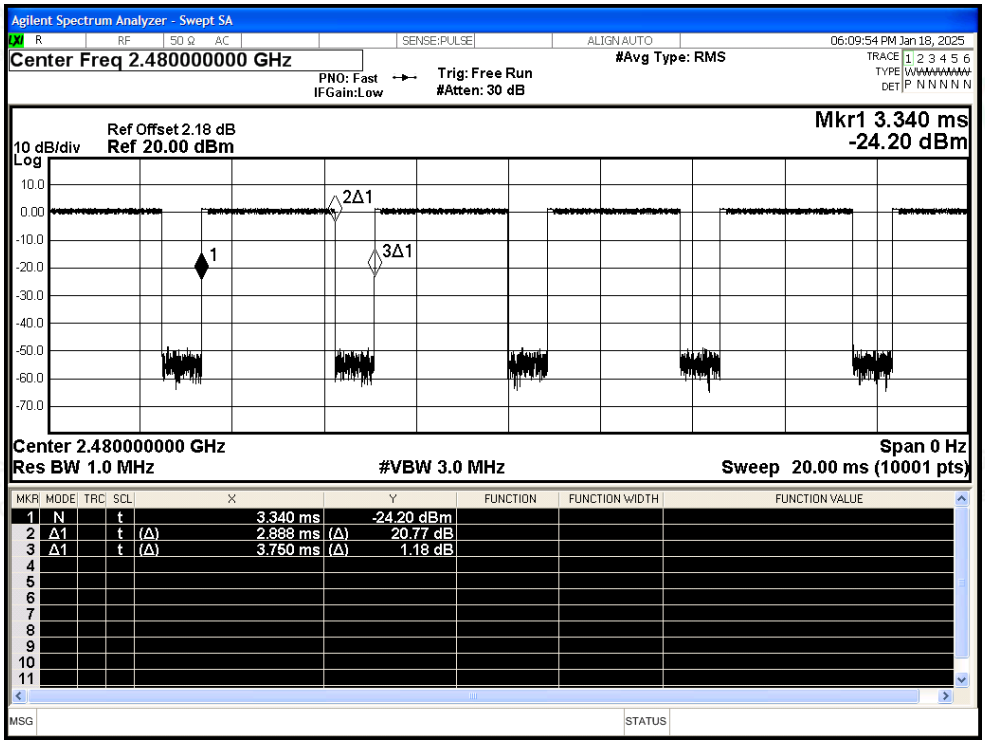
Duty Cycle NVNT 2-DH5 2402MHz Ant1



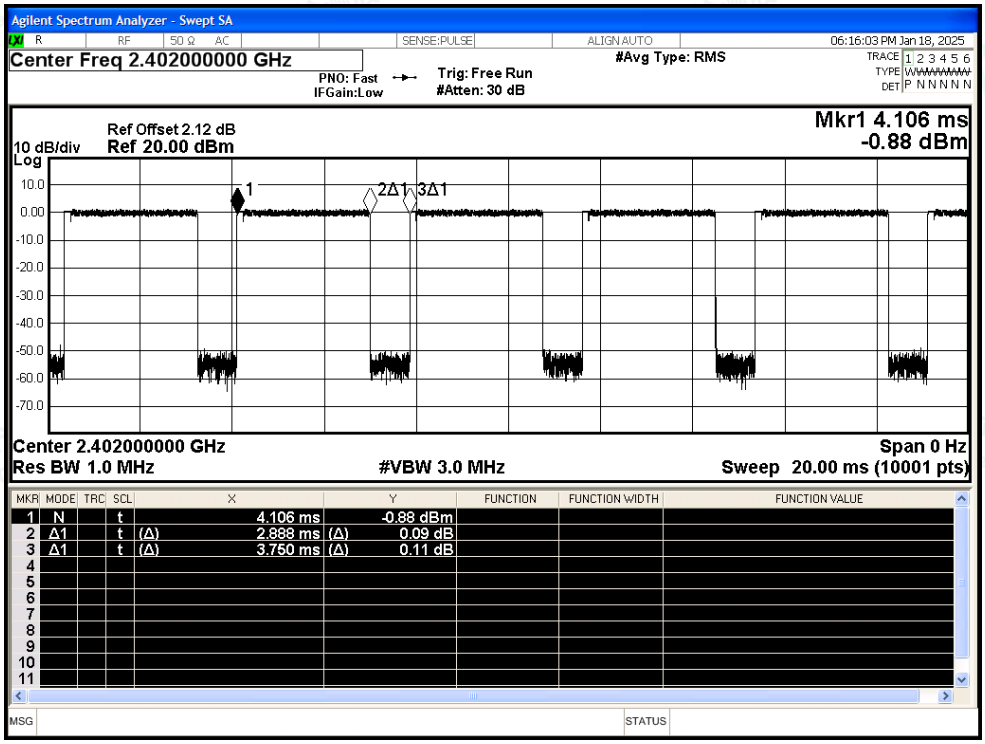
Duty Cycle NVNT 2-DH5 2441MHz Ant1



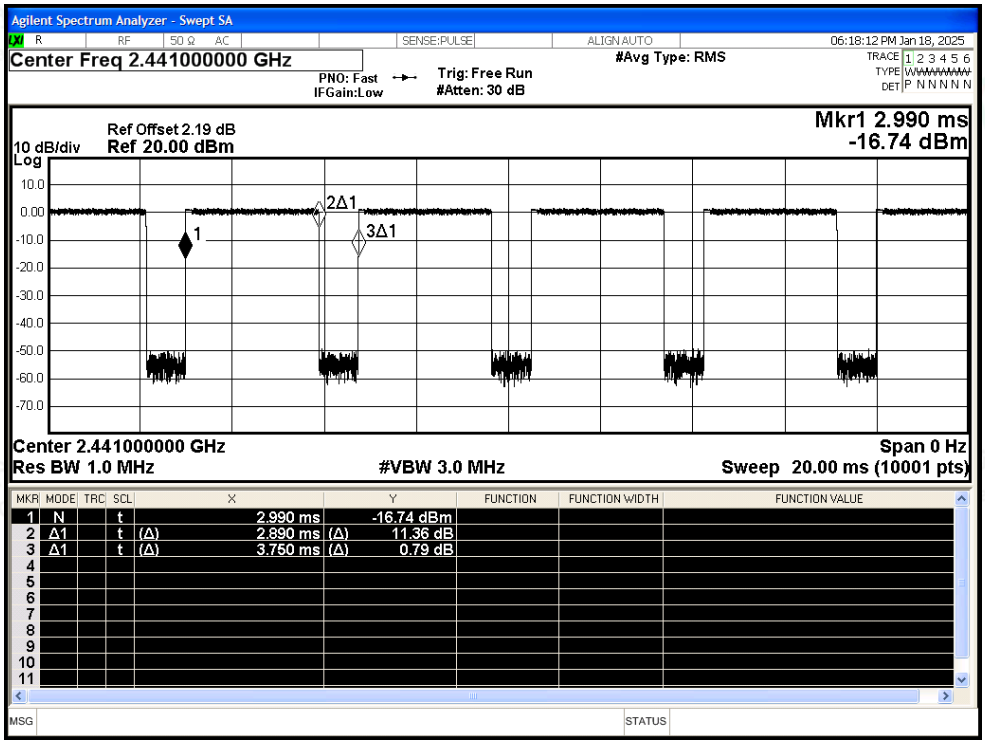
Duty Cycle NVNT 2-DH5 2480MHz Ant1



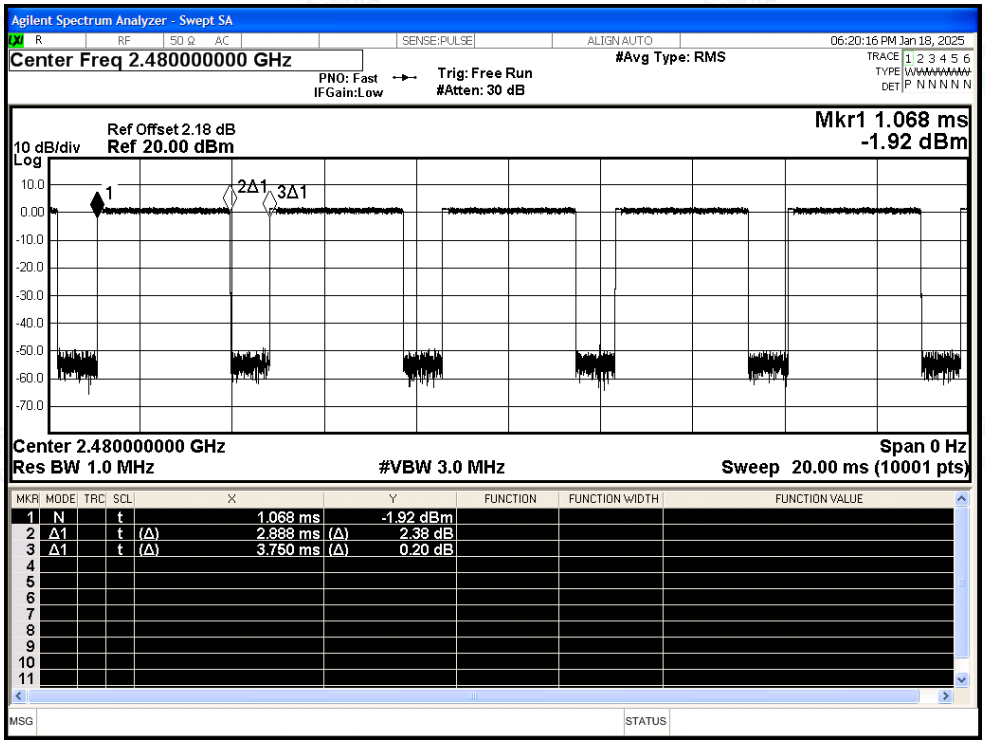
Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



Duty Cycle NVNT 3-DH5 2480MHz Ant1

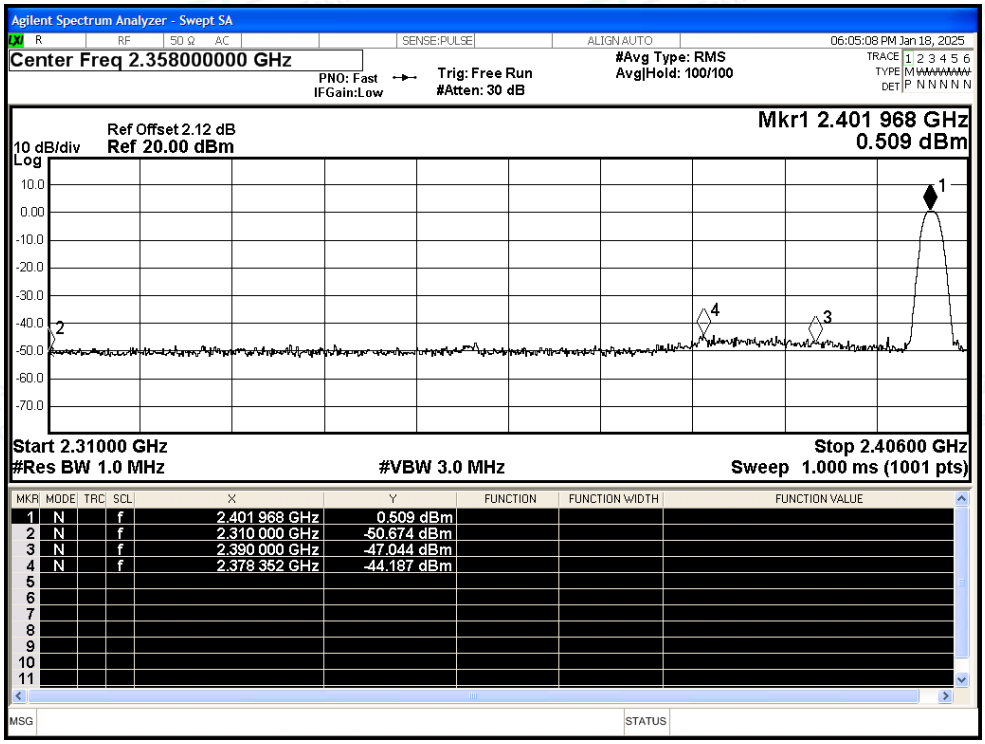


A.9 Restrict Band

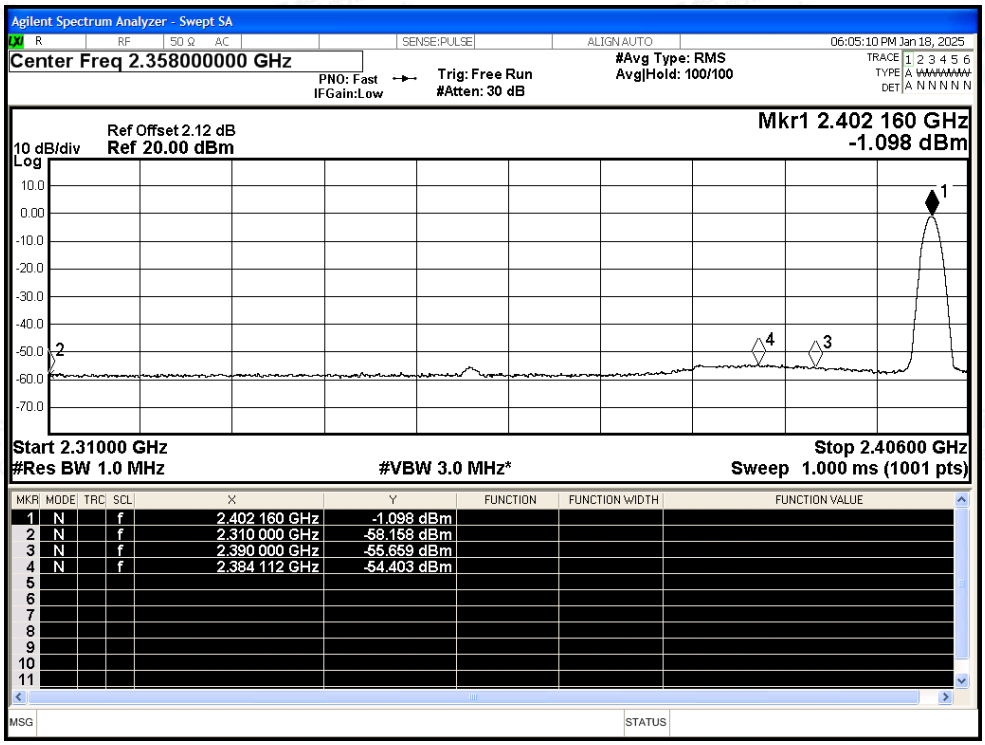
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.67	2.64	-	47.23	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.16	2.64	1.14	40.88	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2378.352	-44.19	2.64	-	53.71	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2384.112	-54.4	2.64	1.14	44.64	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-47.04	2.64	-	50.86	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-55.66	2.64	1.14	43.38	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-48.85	2.64	-	49.05	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-56.38	2.64	1.14	42.66	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2495.2	-43.76	2.64	-	54.14	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2496.328	-53.99	2.64	1.14	45.05	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-46.26	2.64	-	51.64	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-54.68	2.64	1.14	44.36	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.4	2.64	-	47.50	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.34	2.64	1.14	40.70	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2381.808	-43.1	2.64	-	54.80	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2385.84	-54.08	2.64	1.14	44.96	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-46.34	2.64	-	51.56	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-55.35	2.64	1.14	43.69	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.65	2.64	-	48.25	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-56.62	2.64	1.13	42.41	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2497.528	-42.34	2.64	-	55.56	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2495.488	-53.08	2.64	1.13	45.95	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-46.23	2.64	-	51.67	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-54.01	2.64	1.13	45.02	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-49.99	2.64	-	47.91	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.58	2.64	1.13	40.45	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2387.376	-43.99	2.64	-	53.91	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2381.328	-54.27	2.64	1.13	44.76	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-46.59	2.64	-	51.31	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-55.26	2.64	1.13	43.77	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-48.69	2.64	-	49.21	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-56.59	2.64	1.13	42.44	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2497.816	-41.82	2.64	-	56.08	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2498.896	-53.02	2.64	1.13	46.01	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-46.01	2.64	-	51.89	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-53.89	2.64	1.13	45.14	Average	54	Pass

Test Graphs

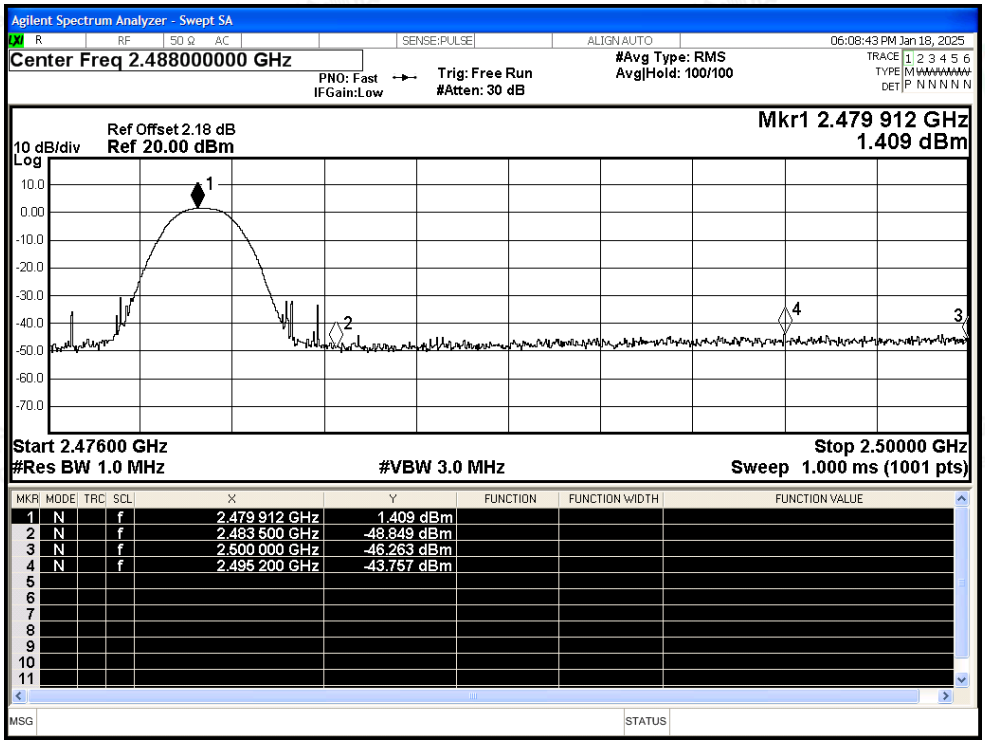
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



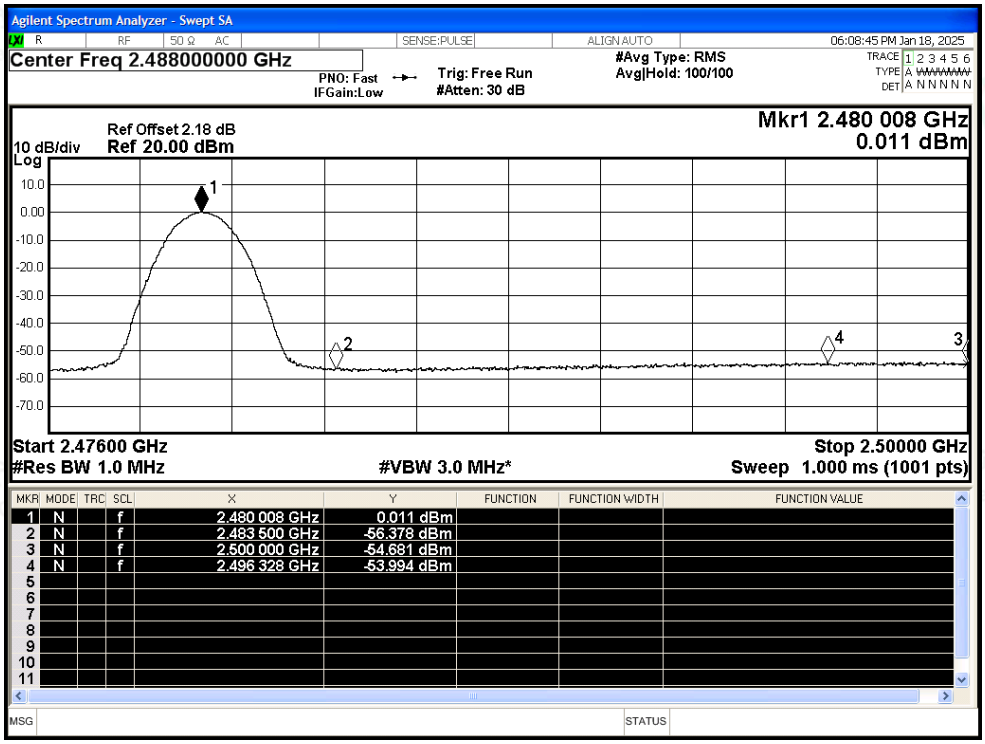
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



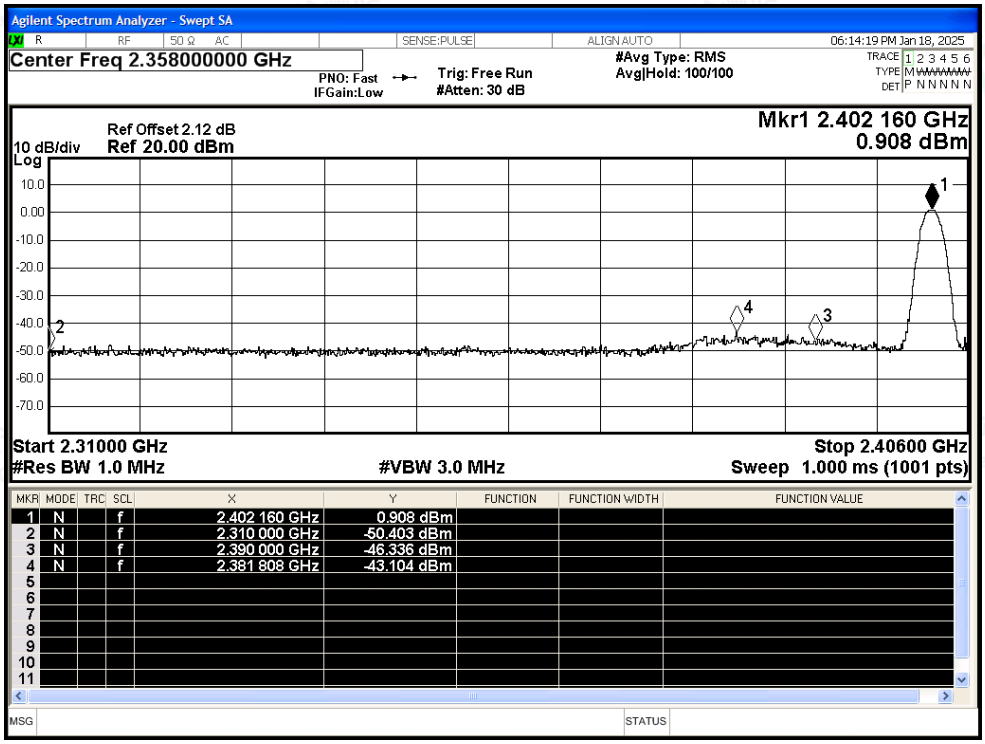
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



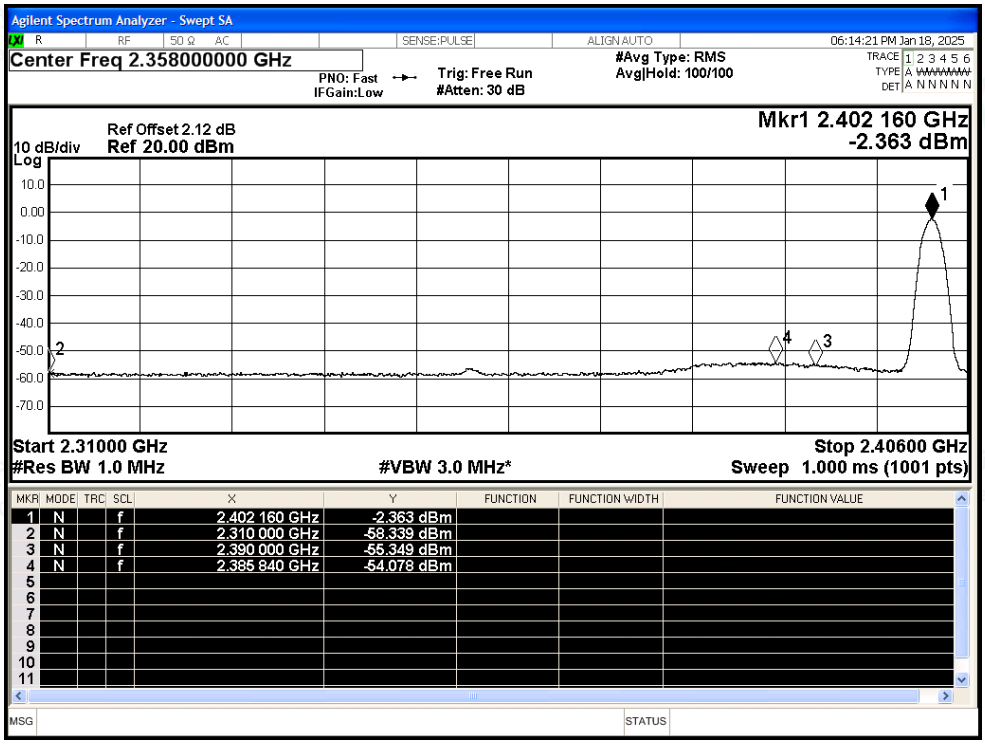
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



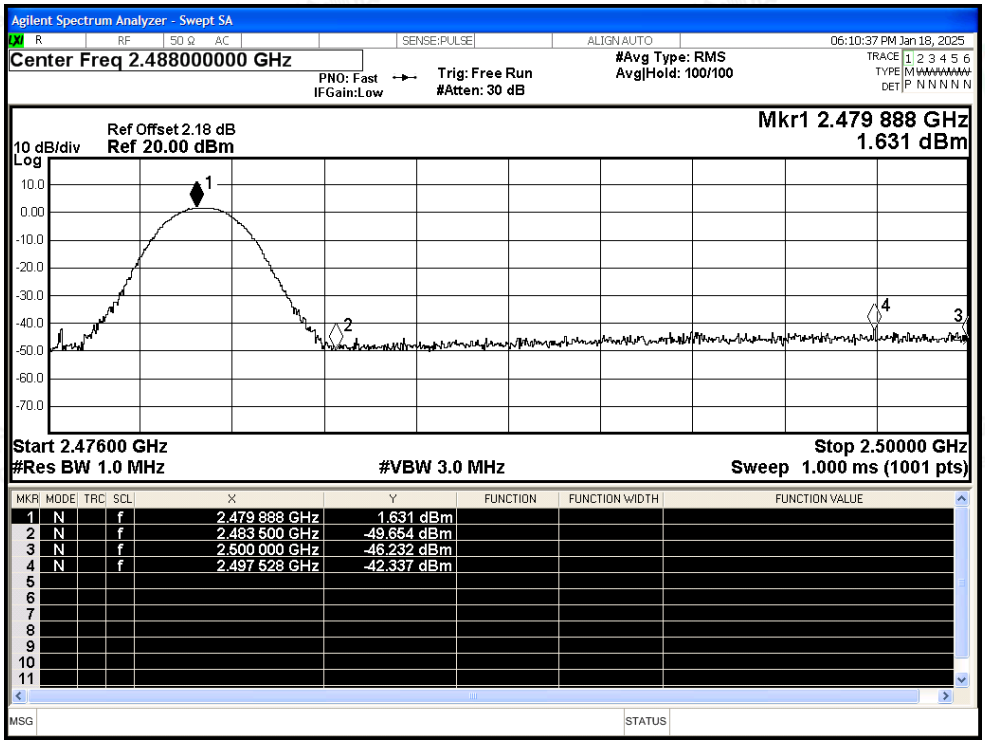
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



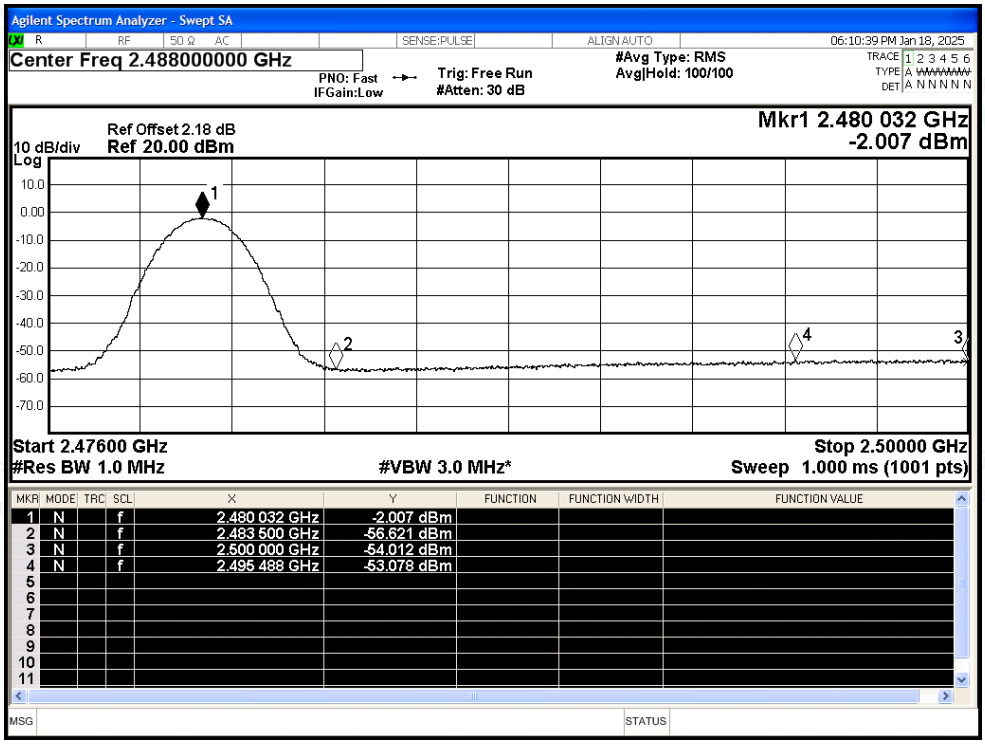
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



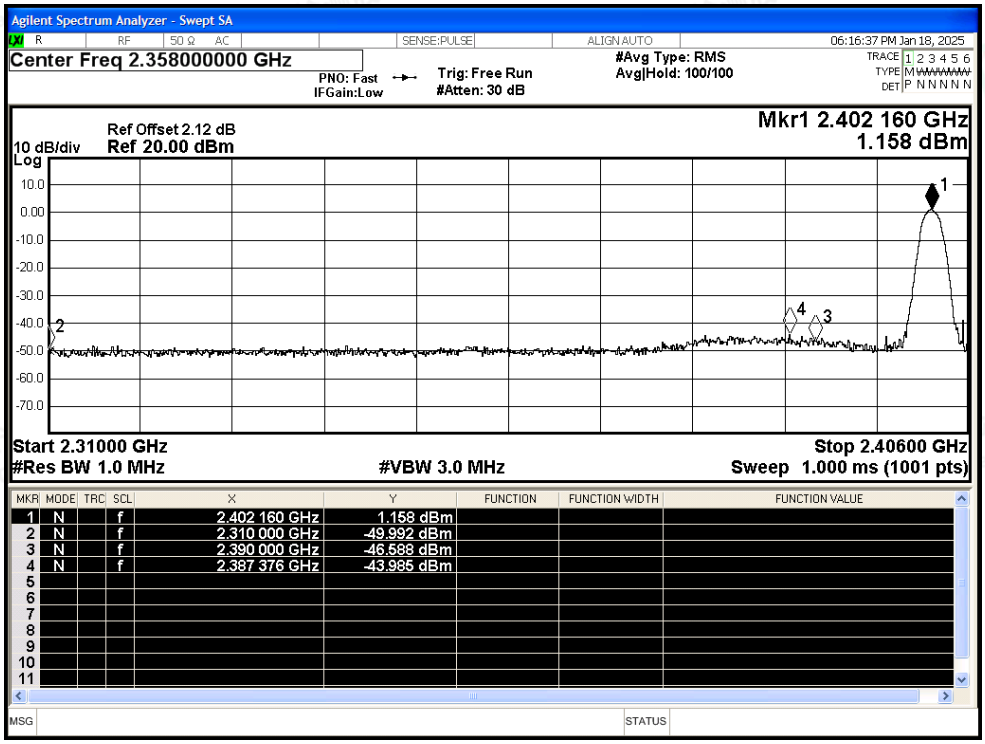
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



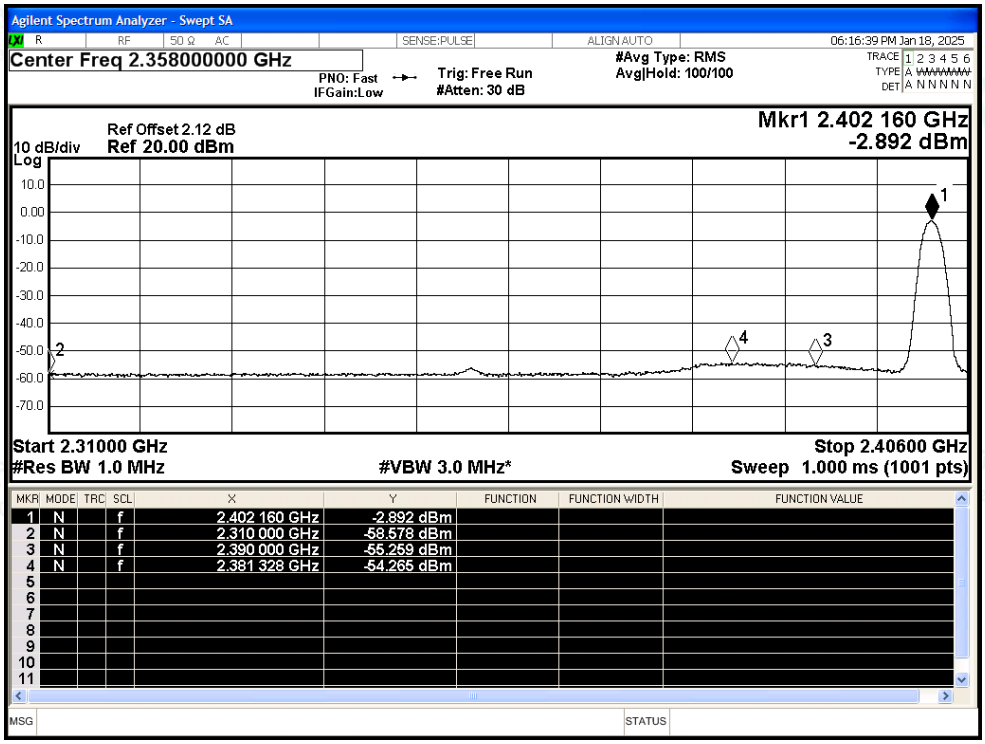
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



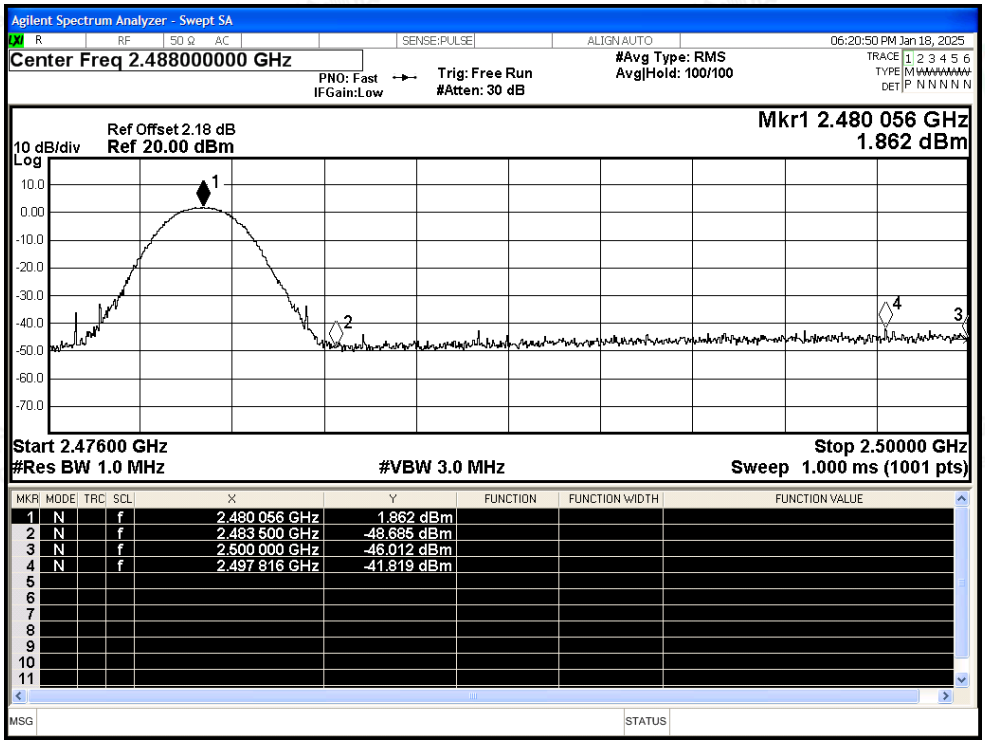
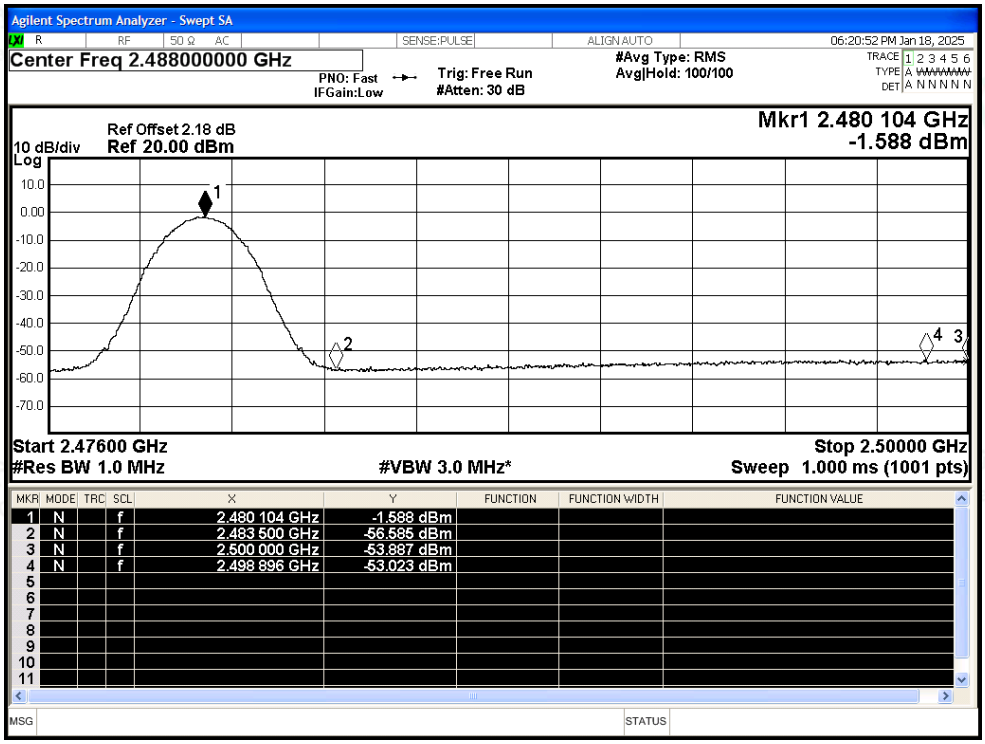
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



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