Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Karaoke Home Theater System

Test Model: RM-K222

Environmental Conditions

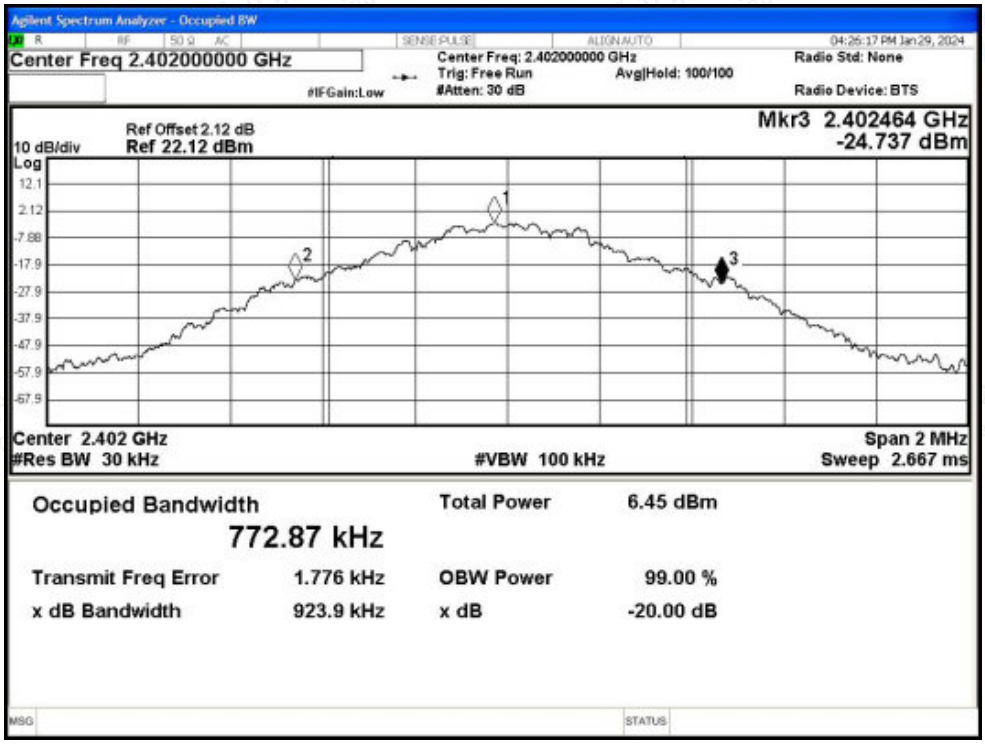
Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng Nick Peng
Supervised by:	Eason Zhou Eason Zhou

A.1 -20dB Bandwidth

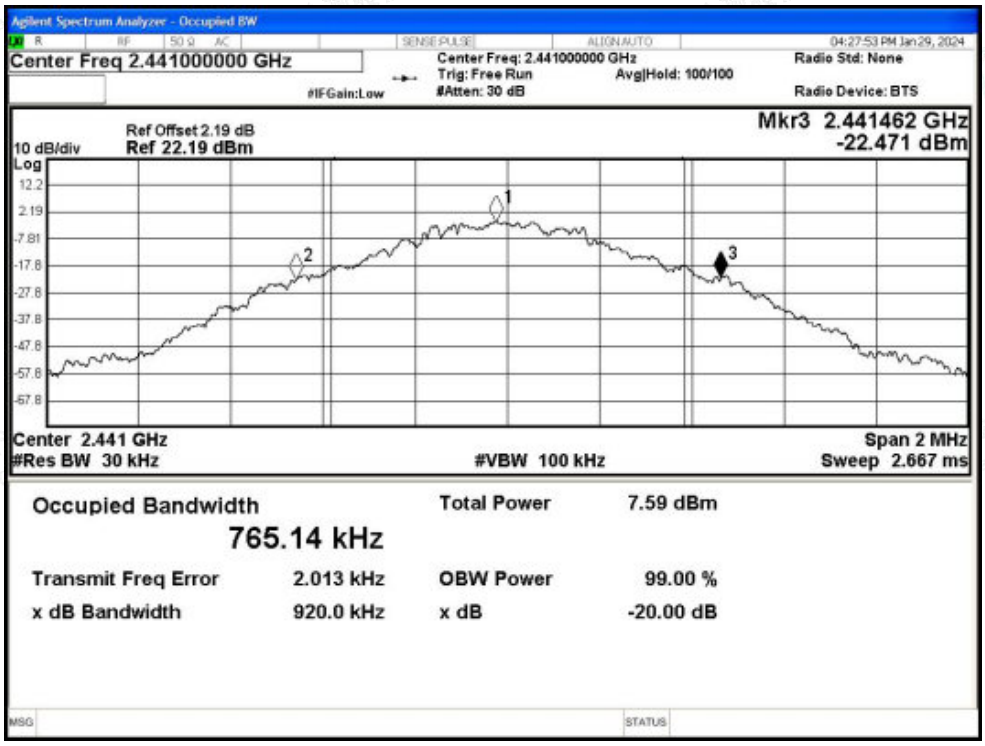
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.924	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.92	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.854	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.278	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.283	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.274	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.301	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.312	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.28	N/A	Pass

Test Graphs

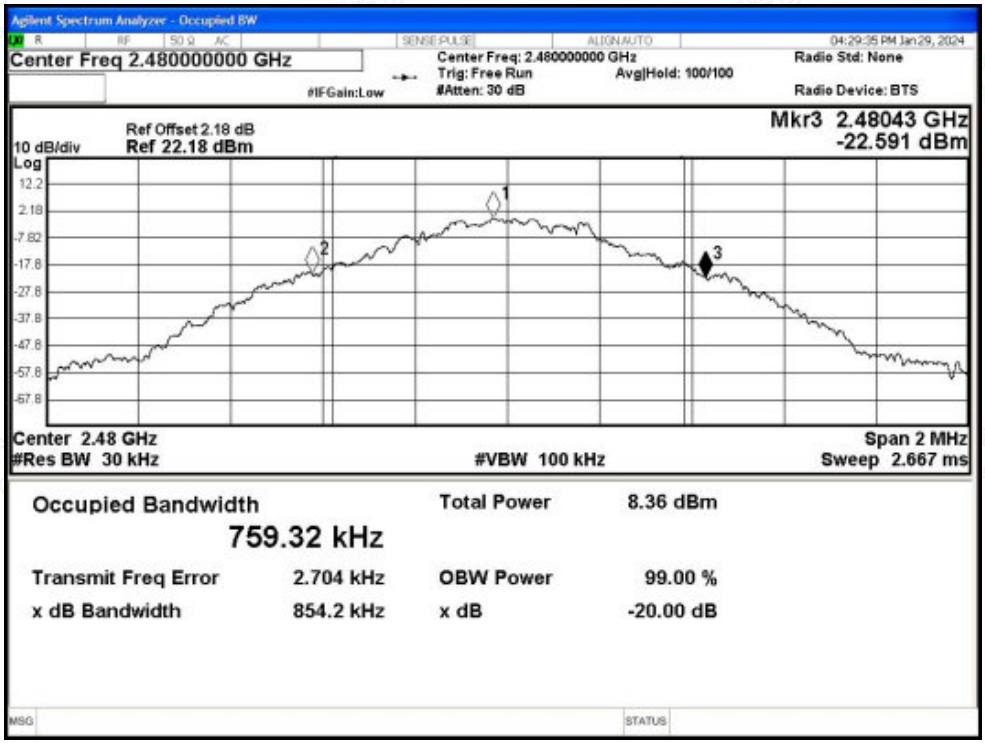
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



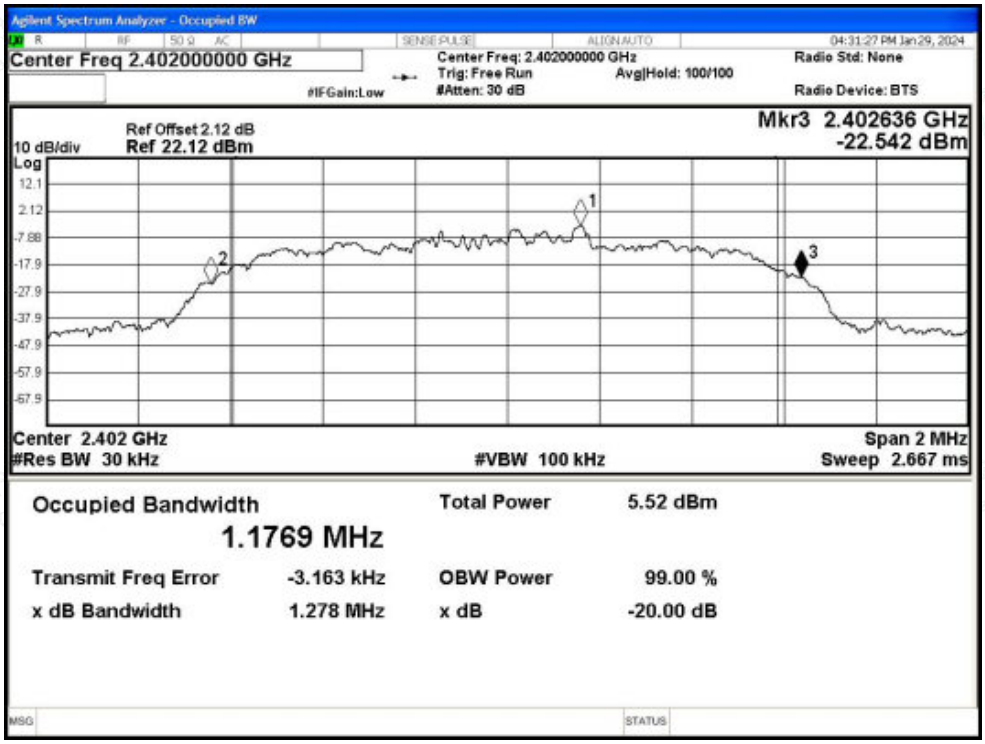
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



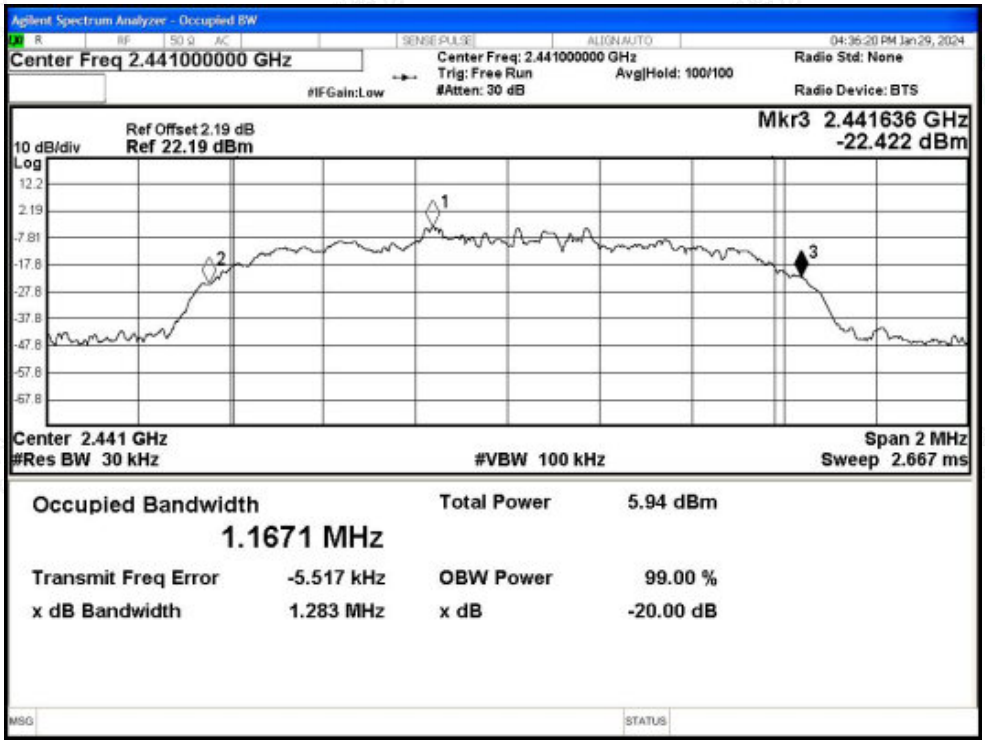
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



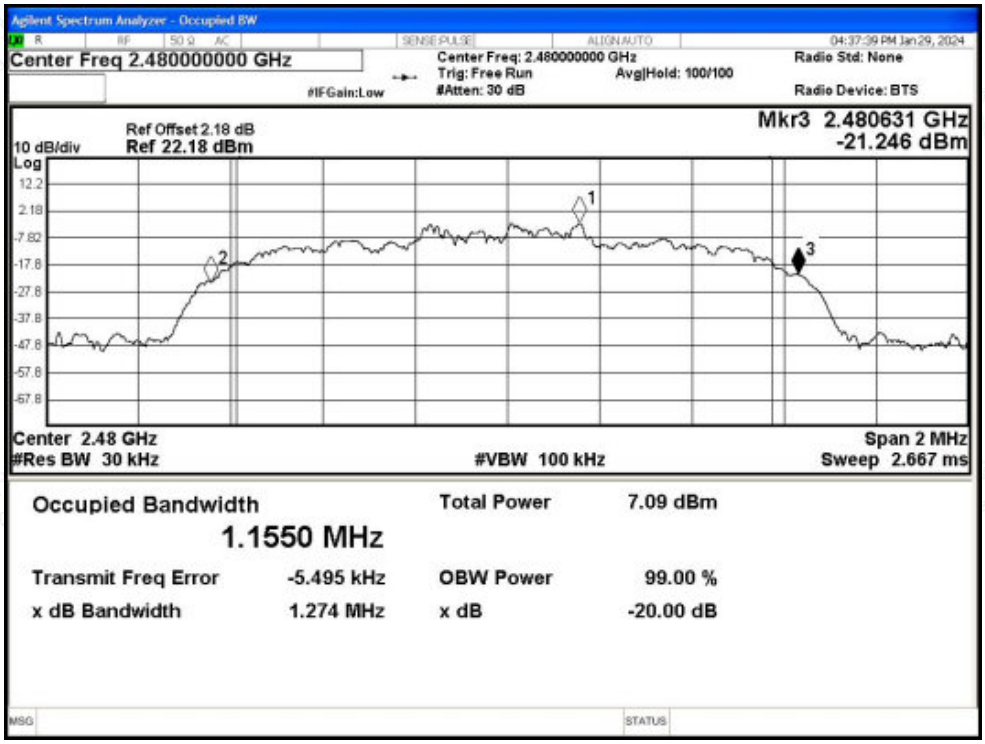
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



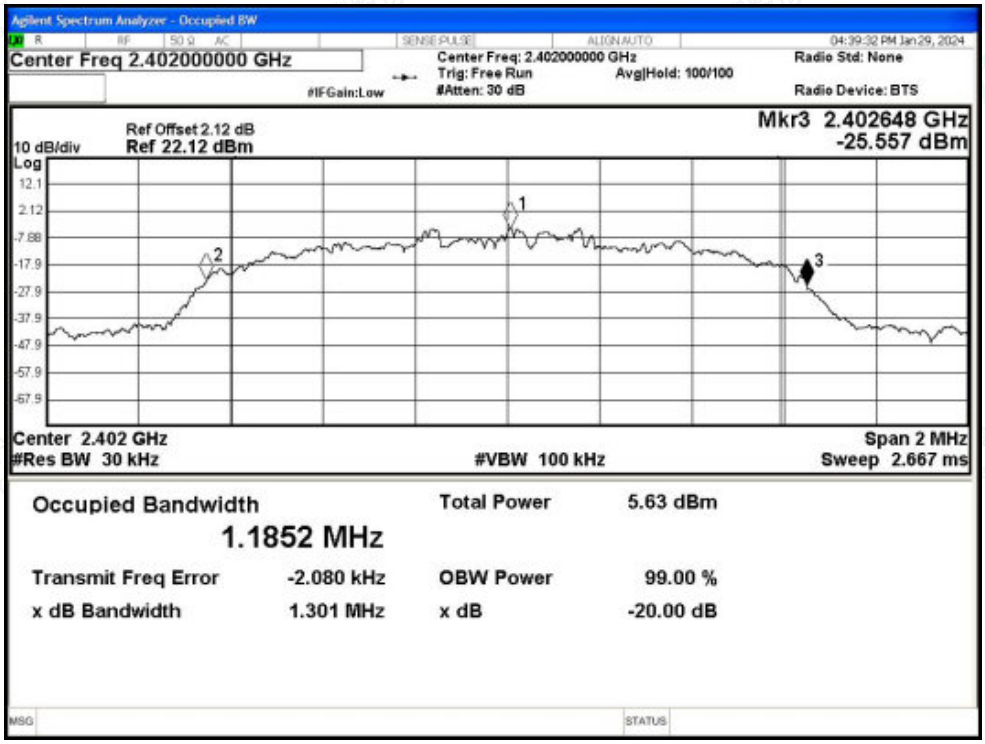
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



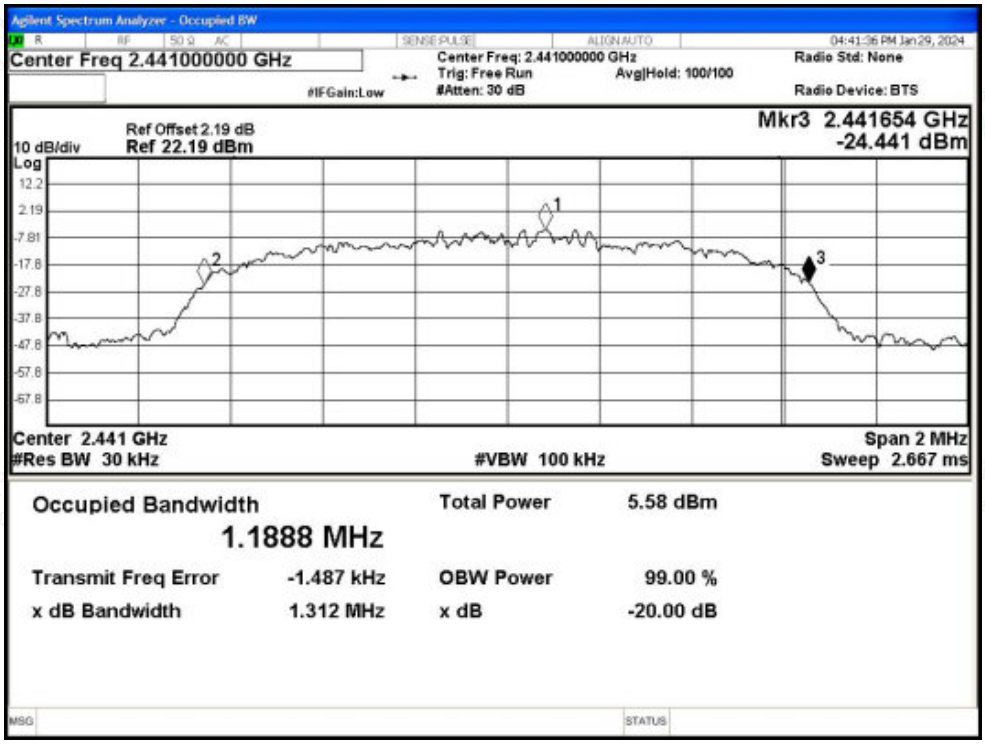
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



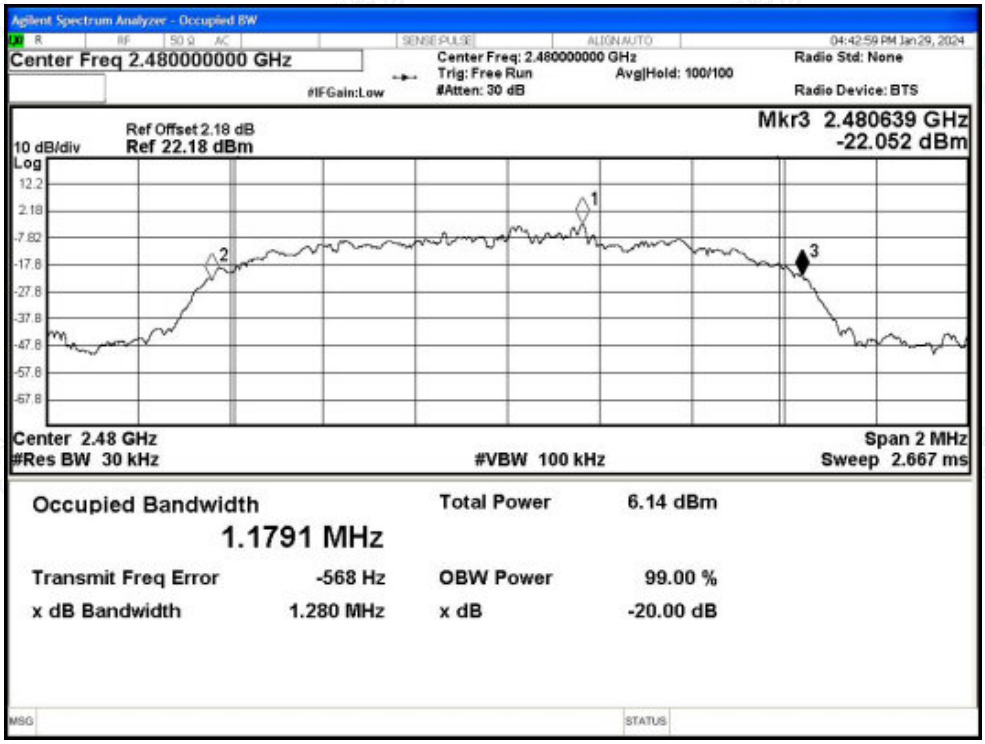
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

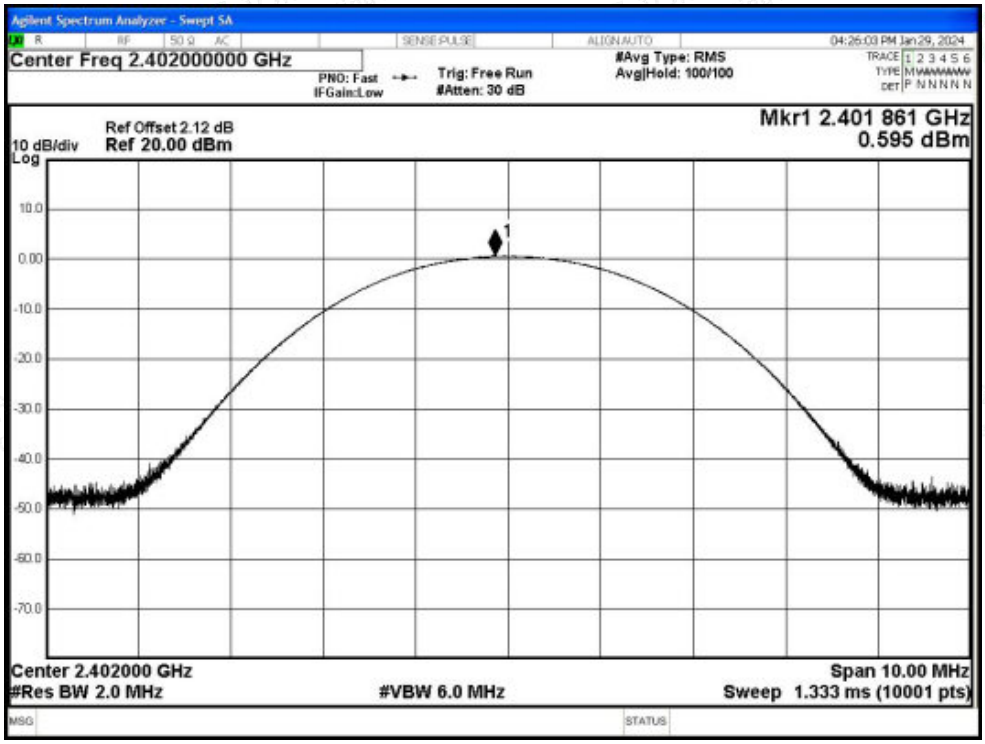


A.2 Maximum Conducted Output Power

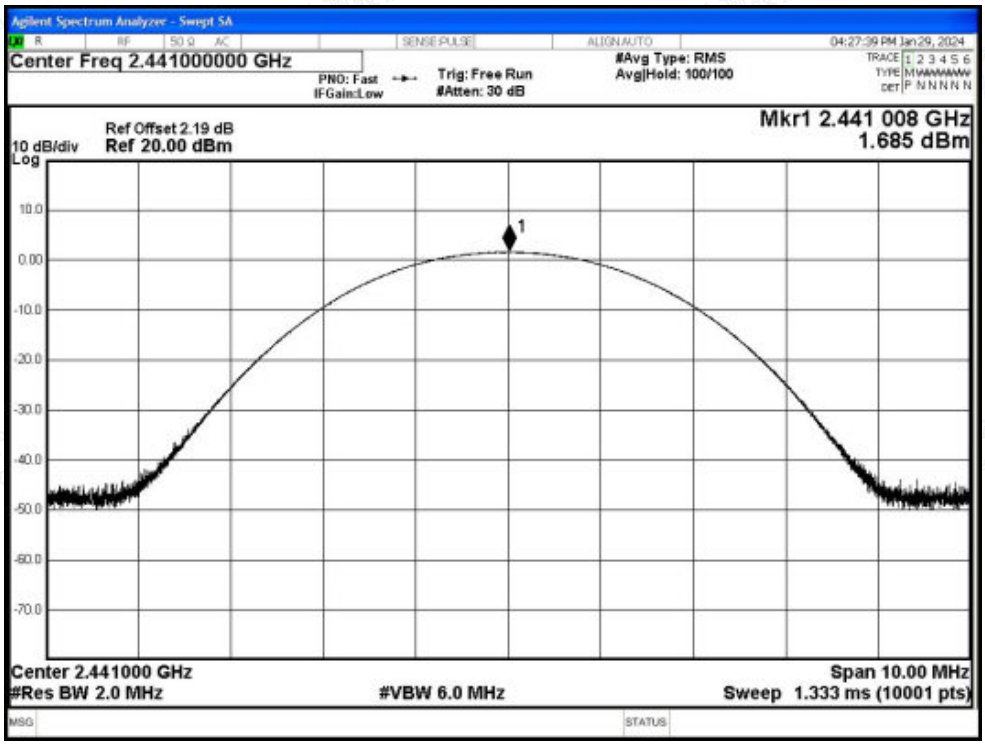
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	0.6	21	Pass
NVNT	1-DH5	2441	Ant1	1.69	21	Pass
NVNT	1-DH5	2480	Ant1	2.3	21	Pass
NVNT	2-DH5	2402	Ant1	0.62	21	Pass
NVNT	2-DH5	2441	Ant1	1.04	21	Pass
NVNT	2-DH5	2480	Ant1	1.41	21	Pass
NVNT	3-DH5	2402	Ant1	0.64	21	Pass
NVNT	3-DH5	2441	Ant1	1.1	21	Pass
NVNT	3-DH5	2480	Ant1	1.56	21	Pass

Test Graphs

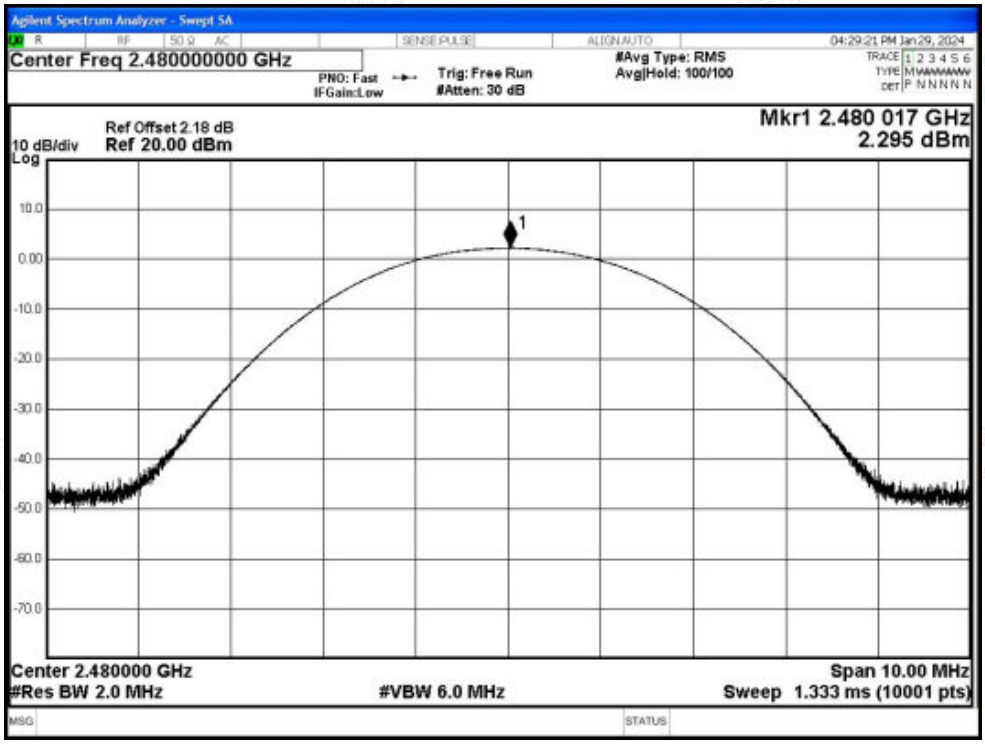
Power NVNT 1-DH5 2402MHz Ant1



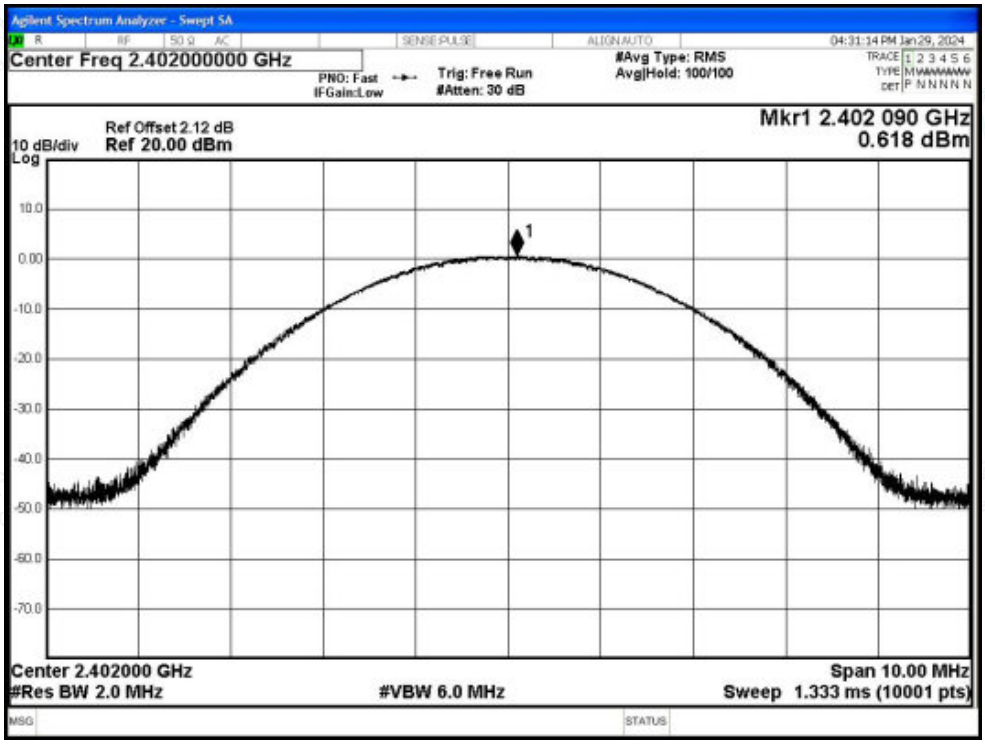
Power NVNT 1-DH5 2441MHz Ant1



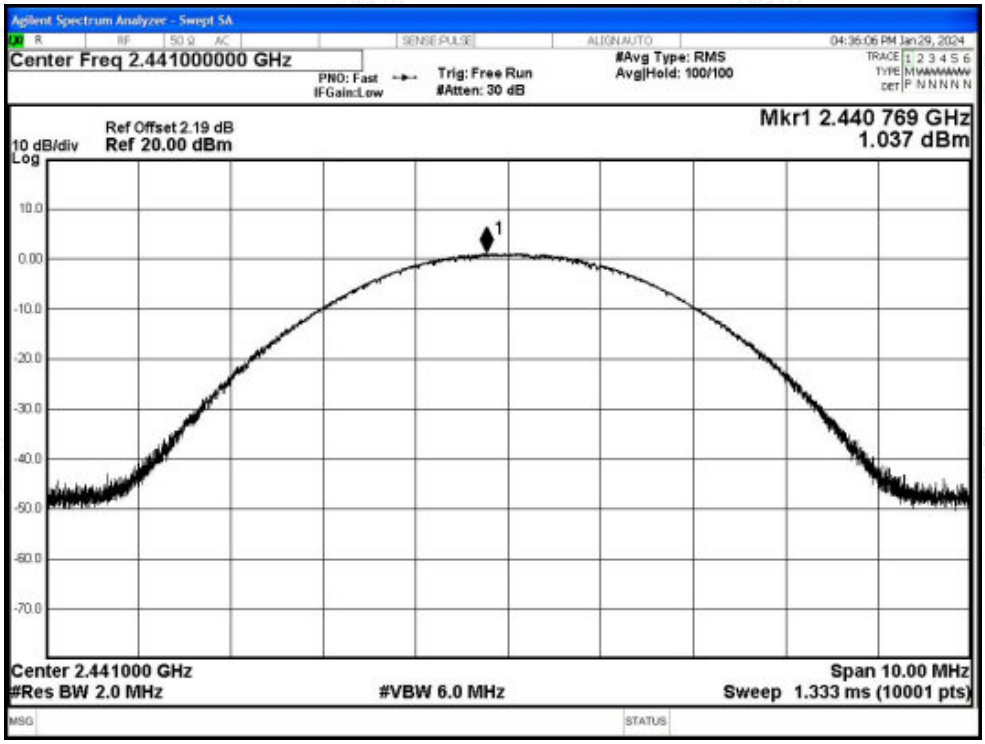
Power NVNT 1-DH5 2480MHz Ant1



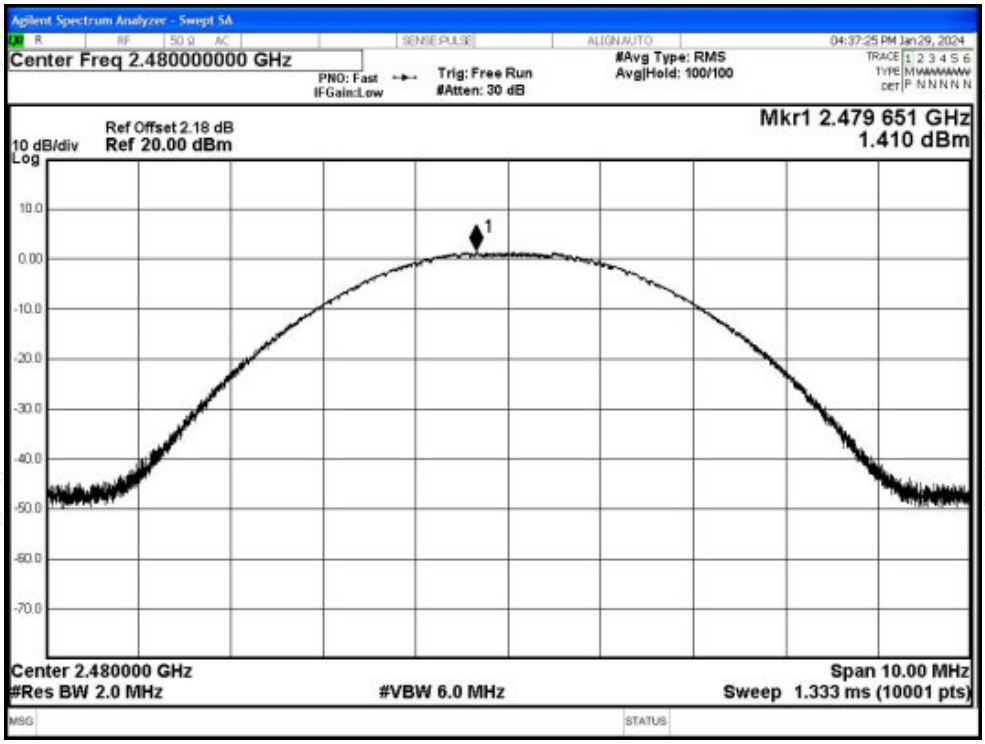
Power NVNT 2-DH5 2402MHz Ant1



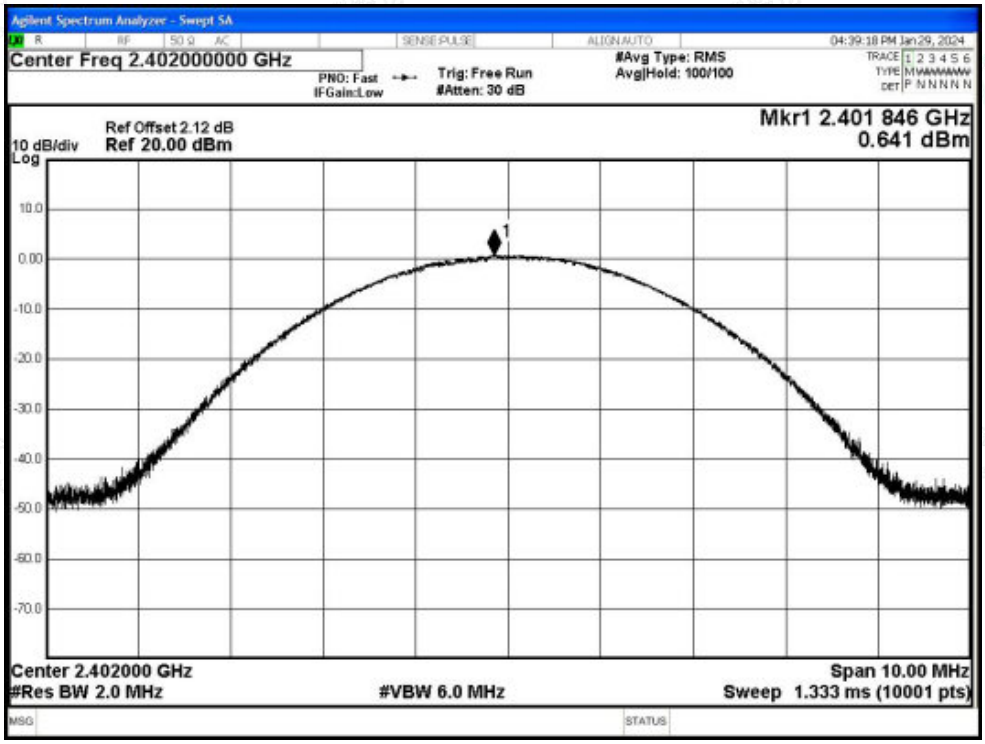
Power NVNT 2-DH5 2441MHz Ant1



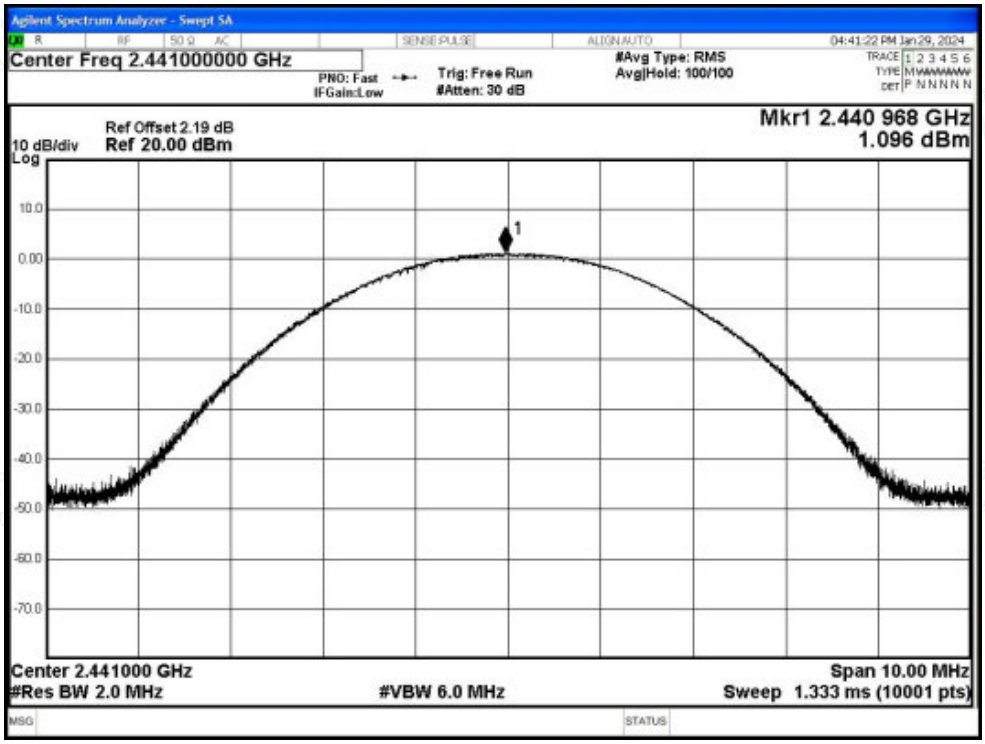
Power NVNT 2-DH5 2480MHz Ant1



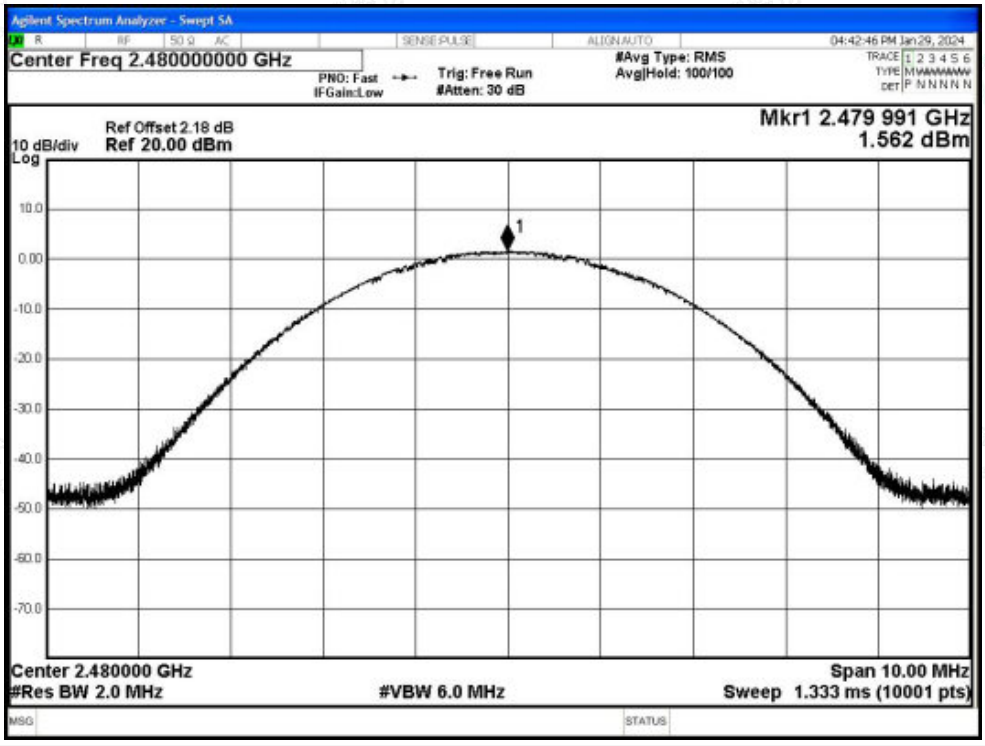
Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



Power NVNT 3-DH5 2480MHz Ant1

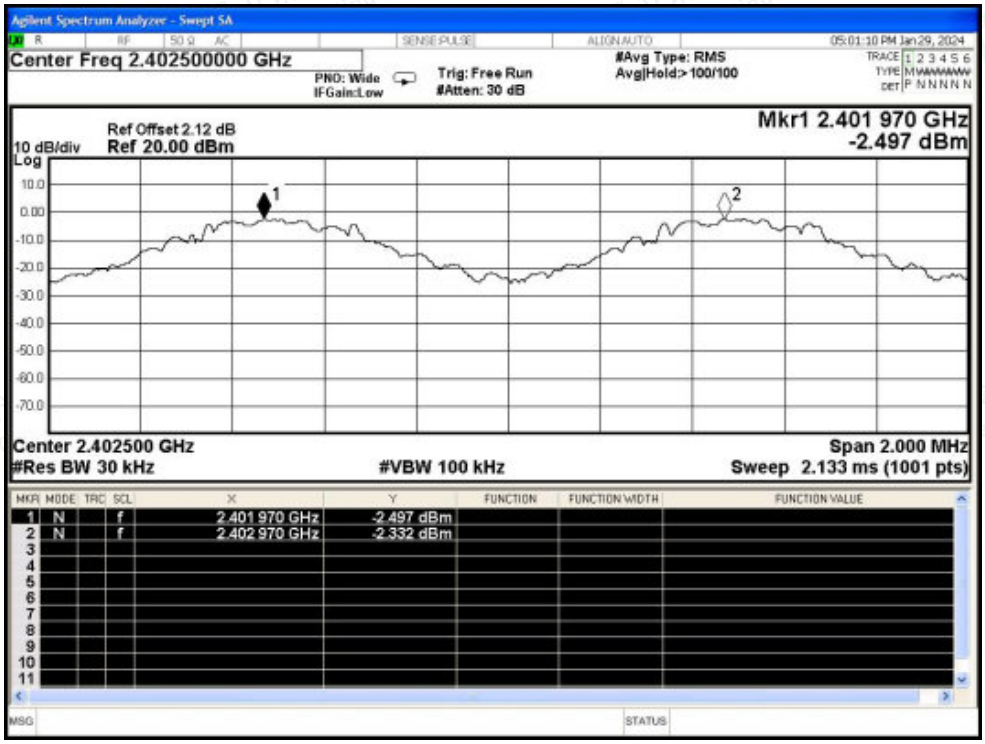


A.3 Carrier Frequencies Separation

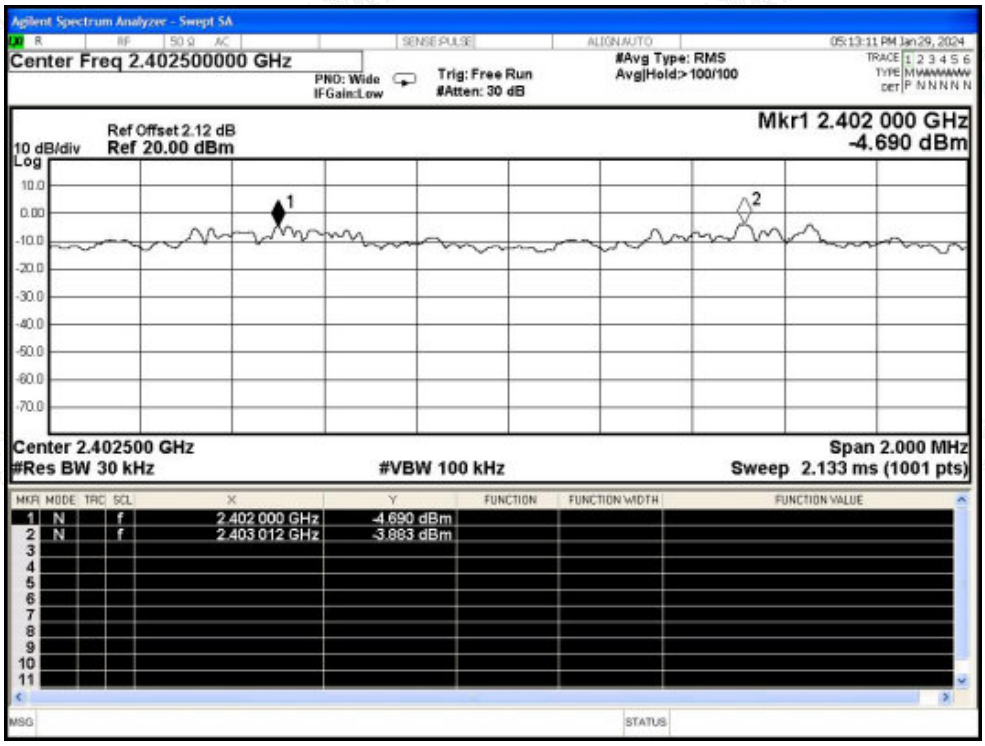
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.97	2402.97	1	0.616	Pass
NVNT	2-DH5	Ant1	2402	2403.012	1.012	0.855	Pass
NVNT	3-DH5	Ant1	2402.02	2402.9	0.88	0.875	Pass

Test Graphs

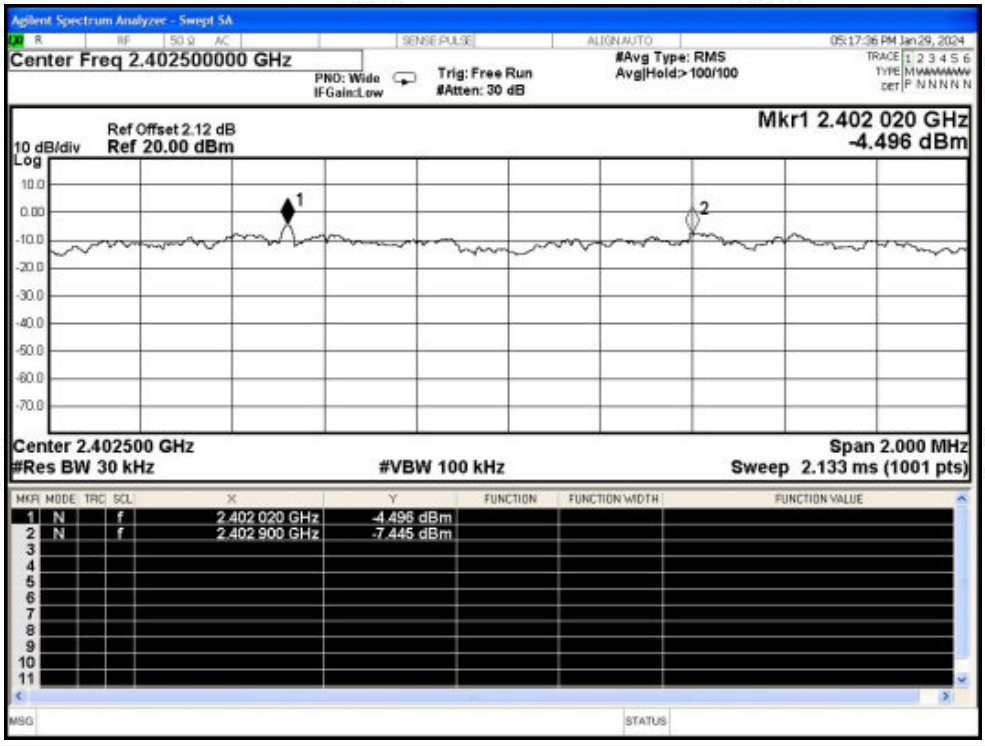
CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2402MHz Ant1

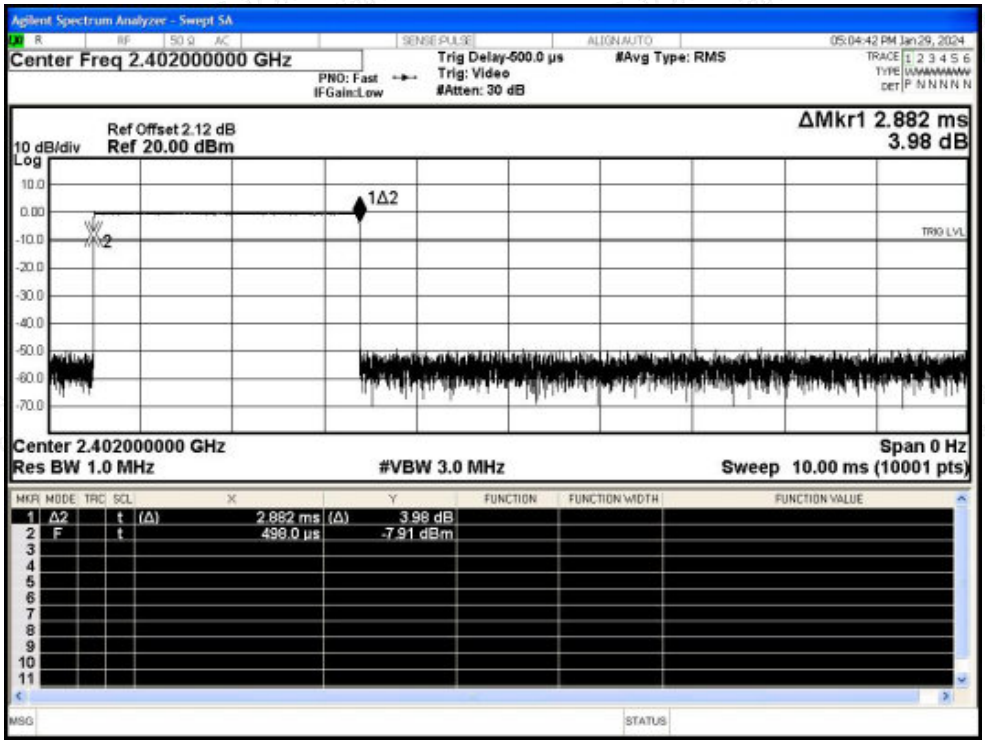


A.4 Dwell Time

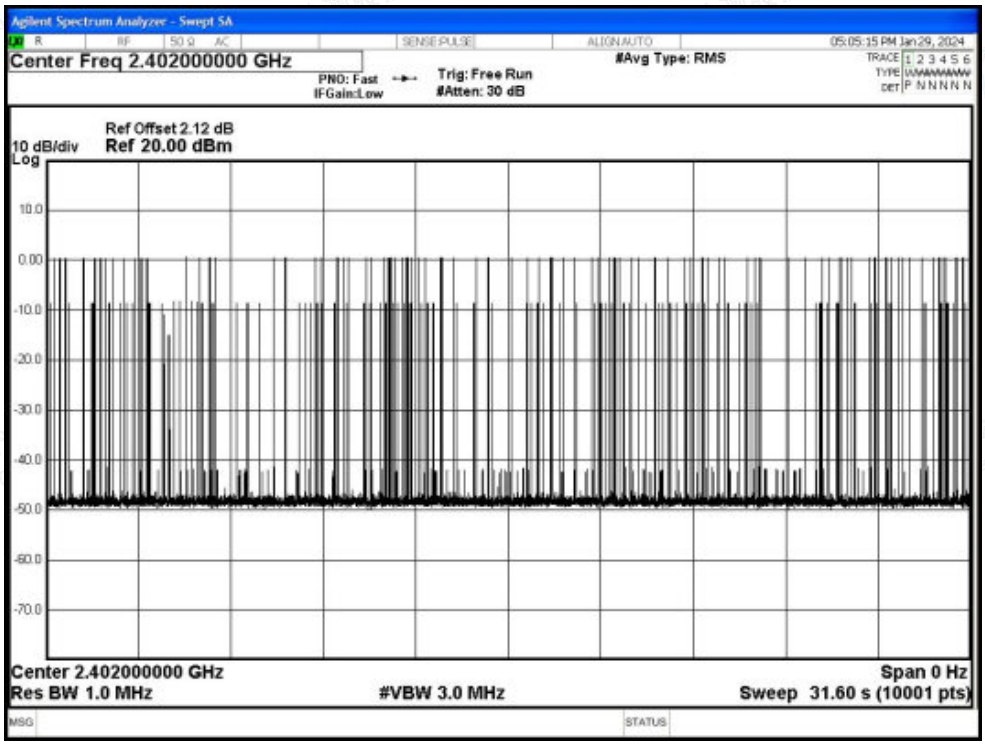
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.882	291.082	101	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.882	319.902	111	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.887	314.683	109	31600	400	Pass

Test Graphs

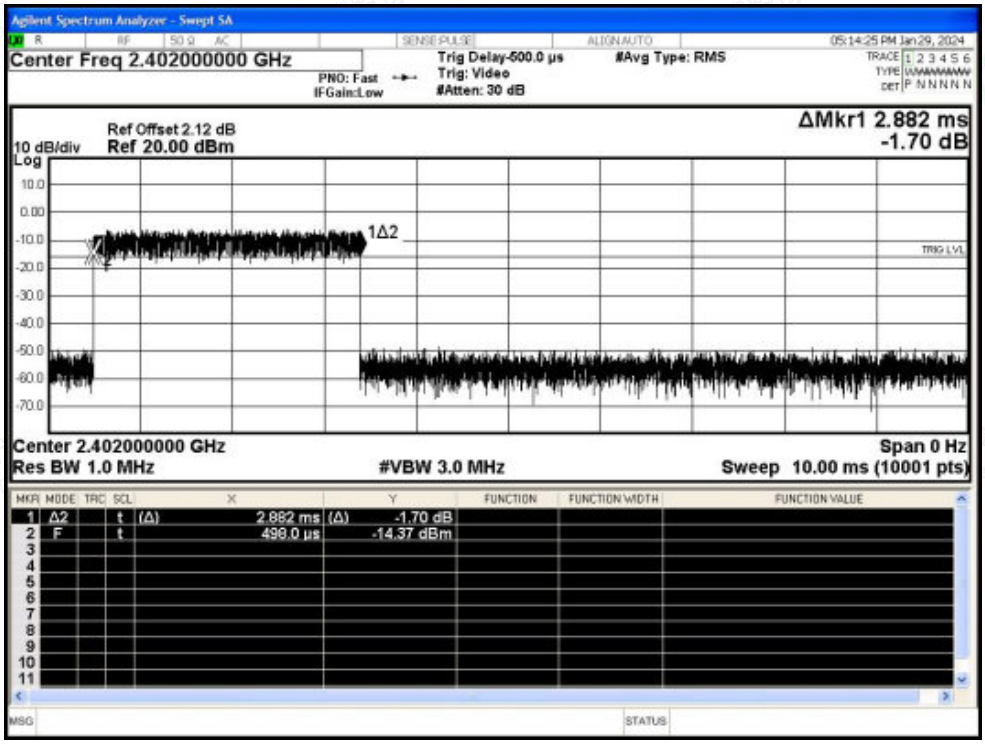
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



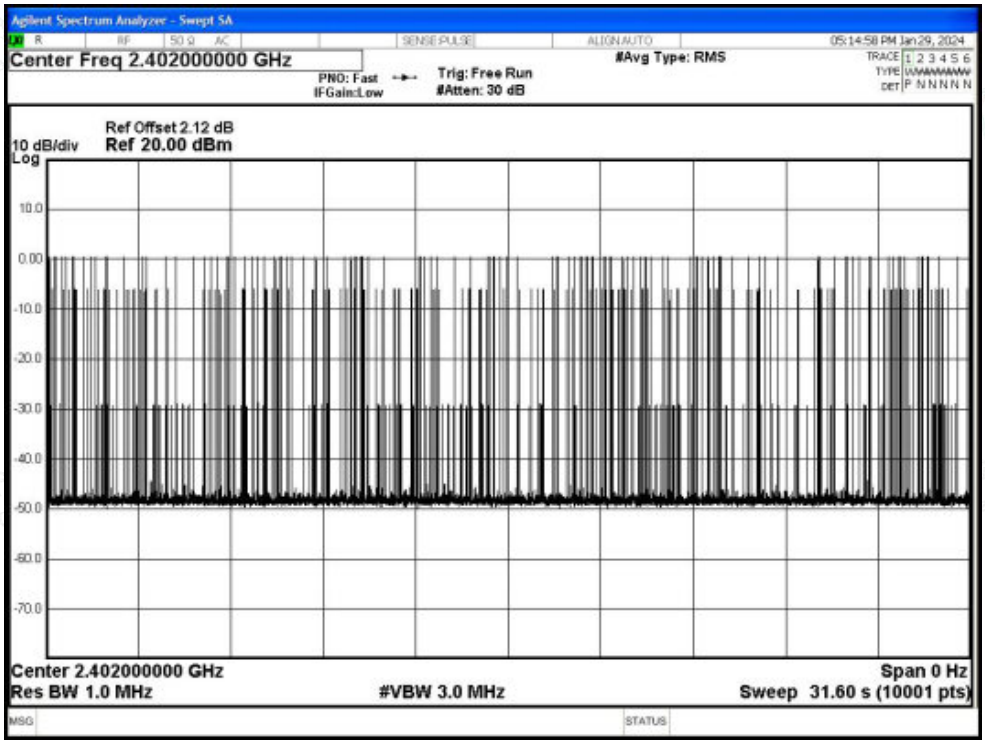
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



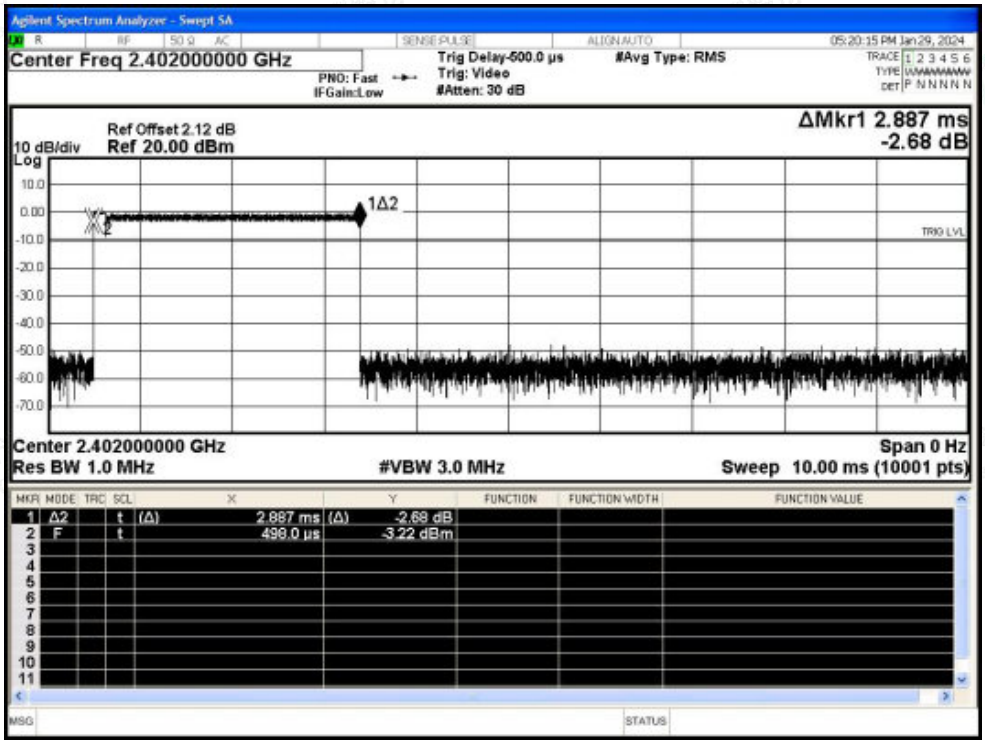
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



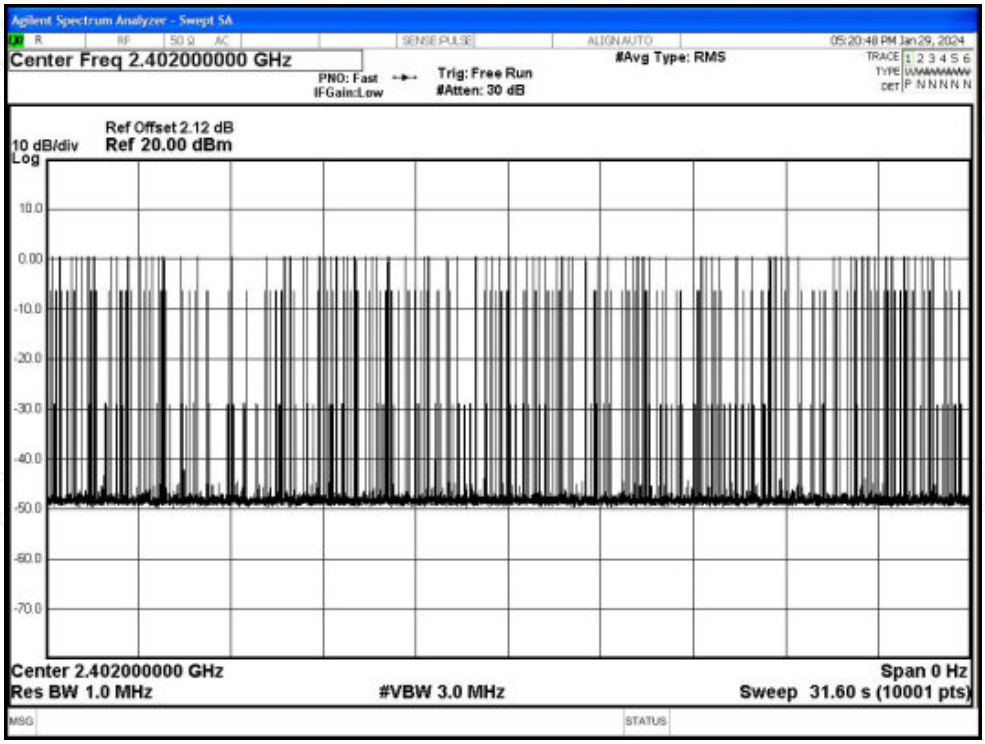
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

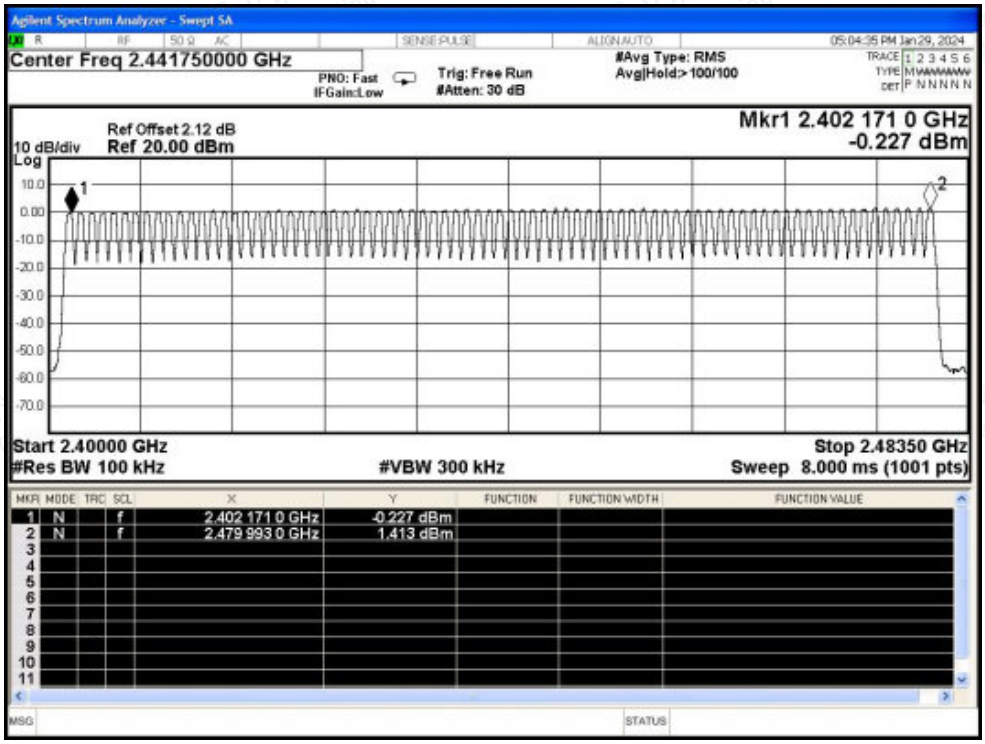


A.5 Number of Hopping Channel

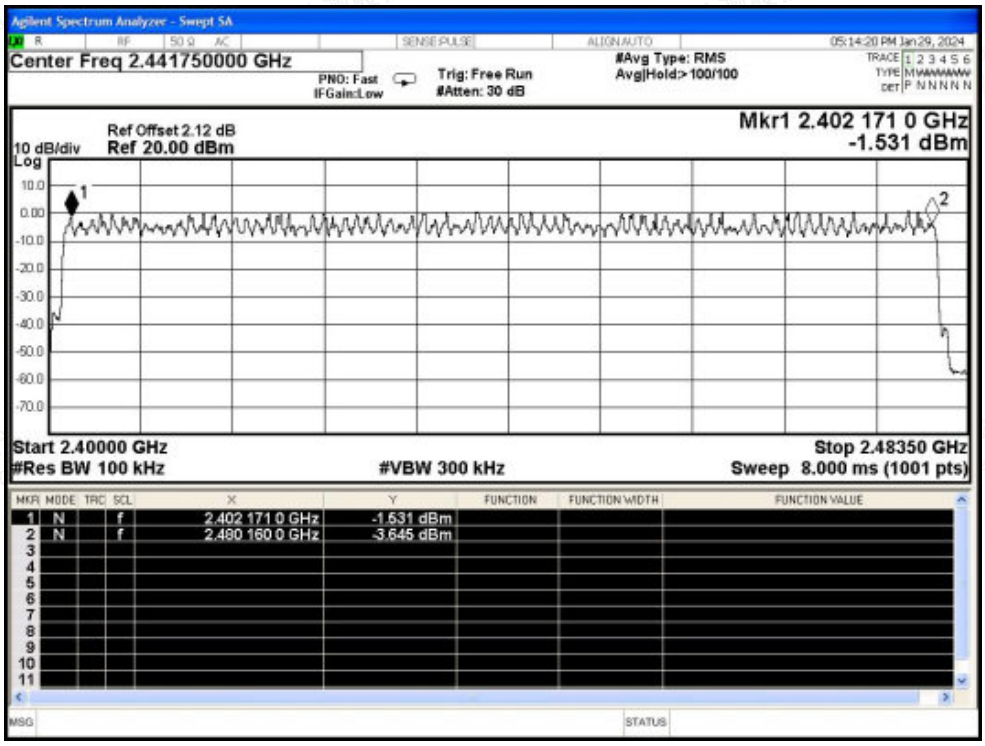
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

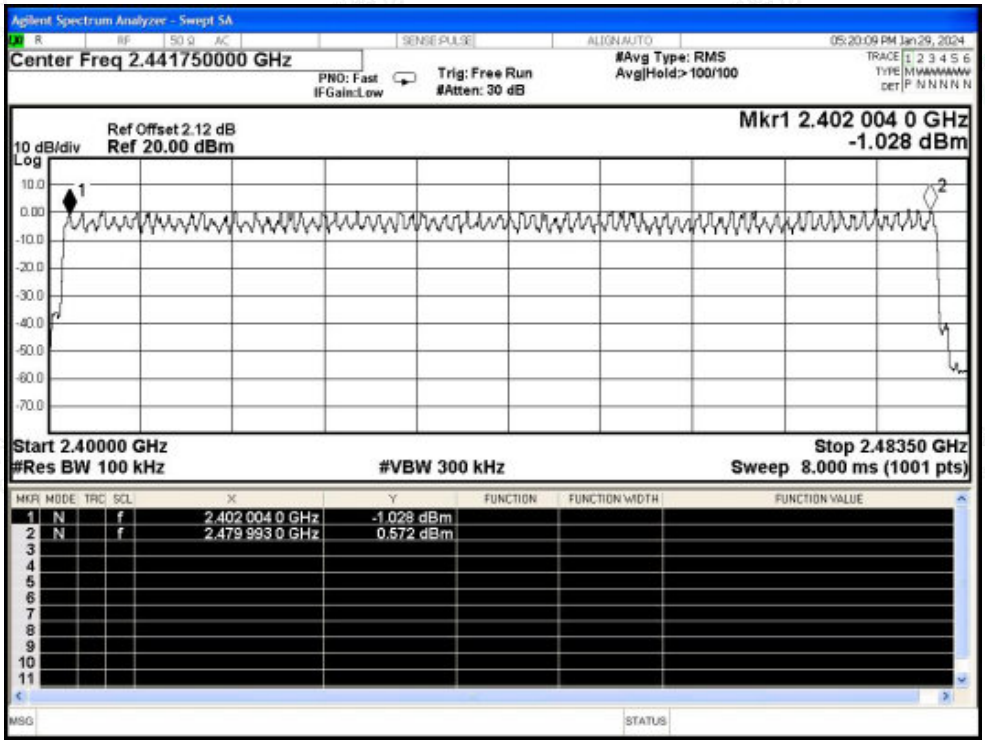
Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



Hopping No. NVNT 3-DH5 2402MHz Ant1

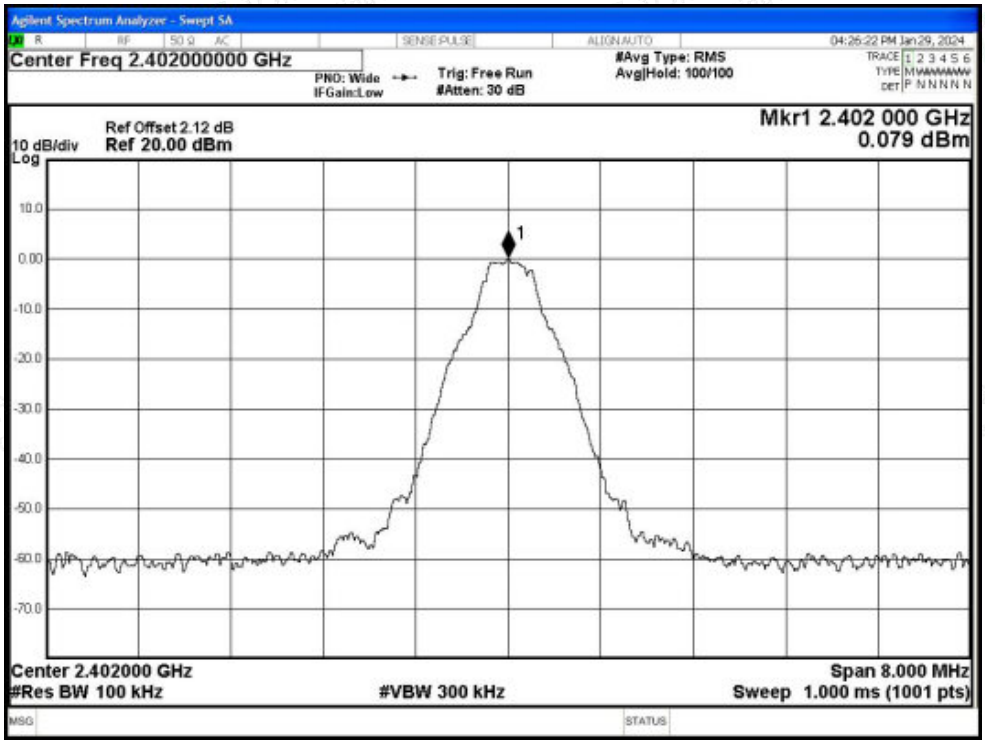


A.6 Band Edge

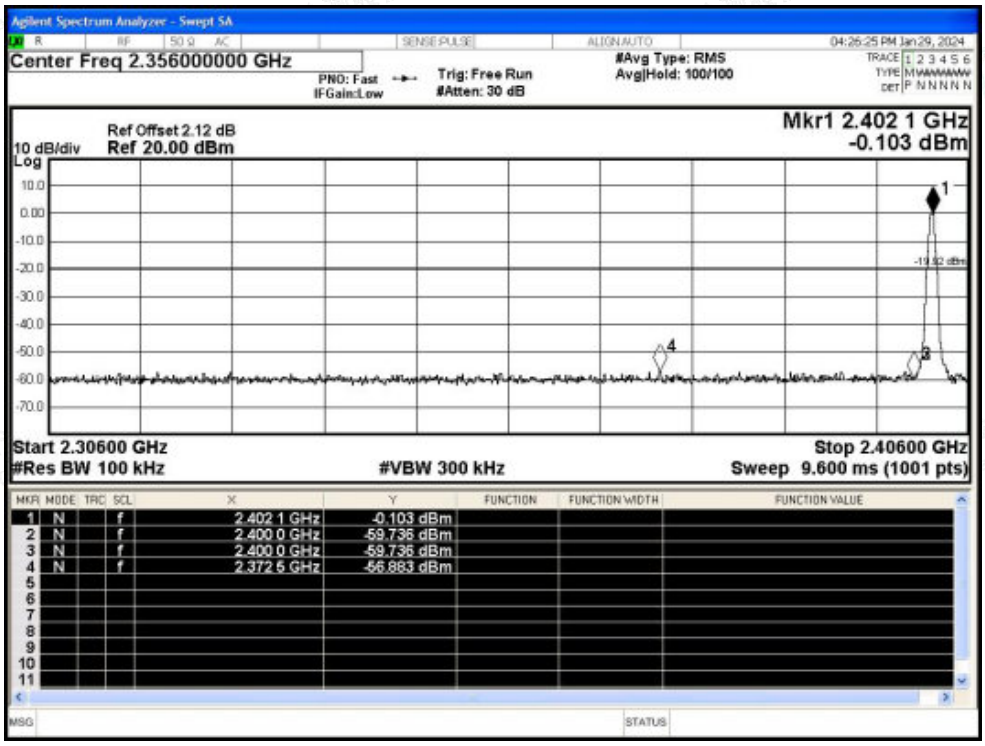
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-56.96	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-59.16	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-52.95	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-57.5	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-50.54	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-57.71	-20	Pass

Test Graphs

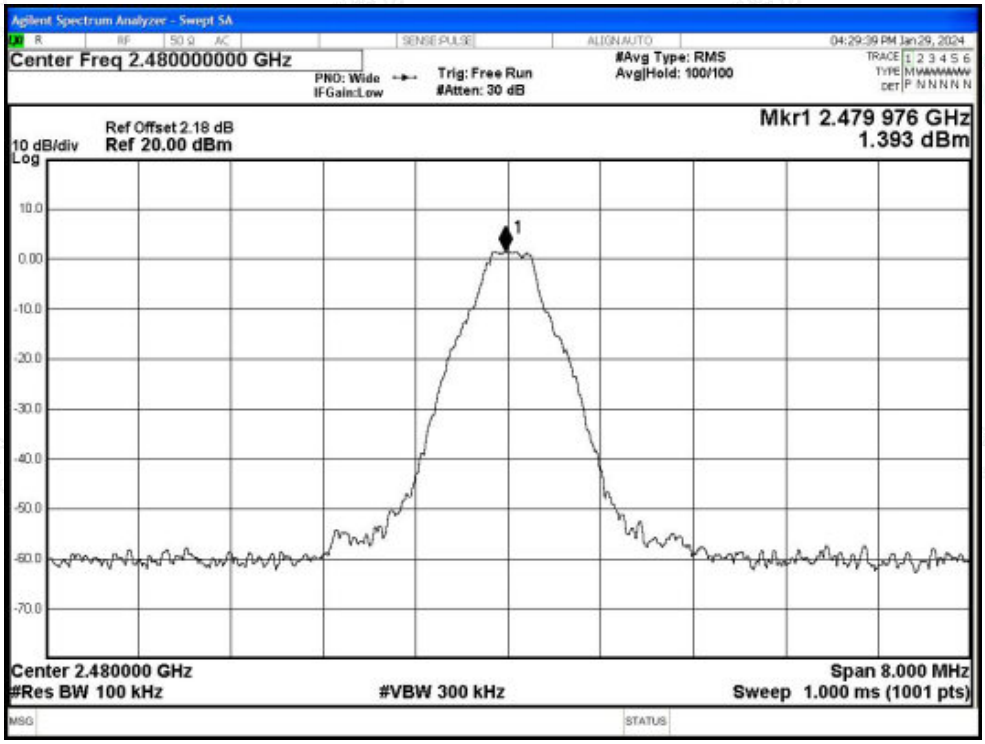
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



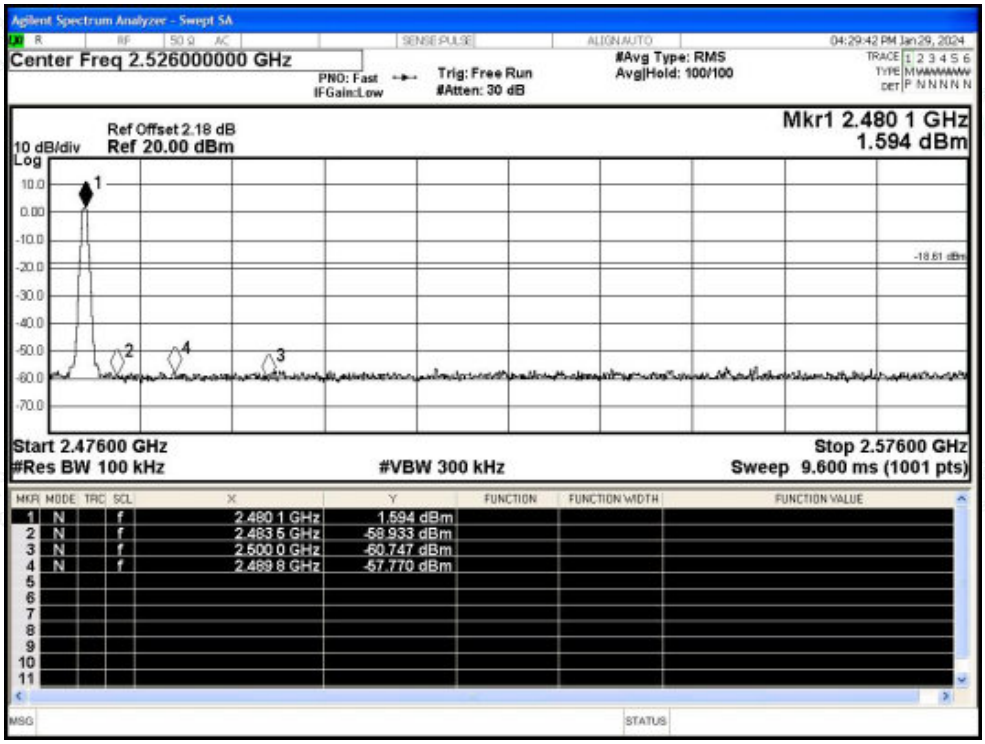
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



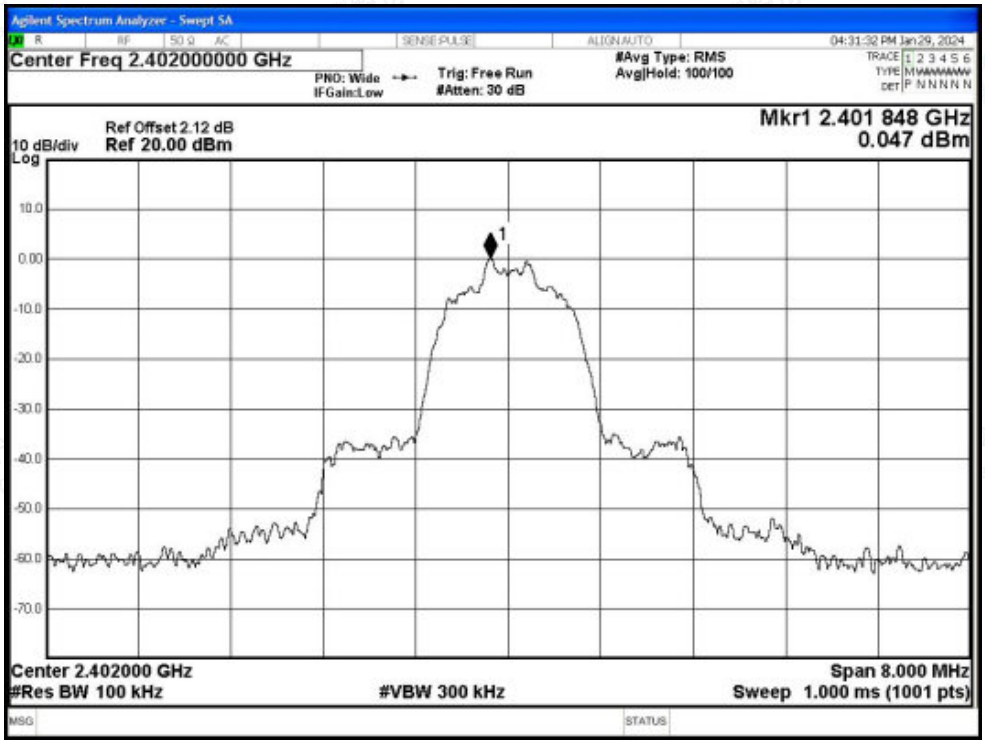
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



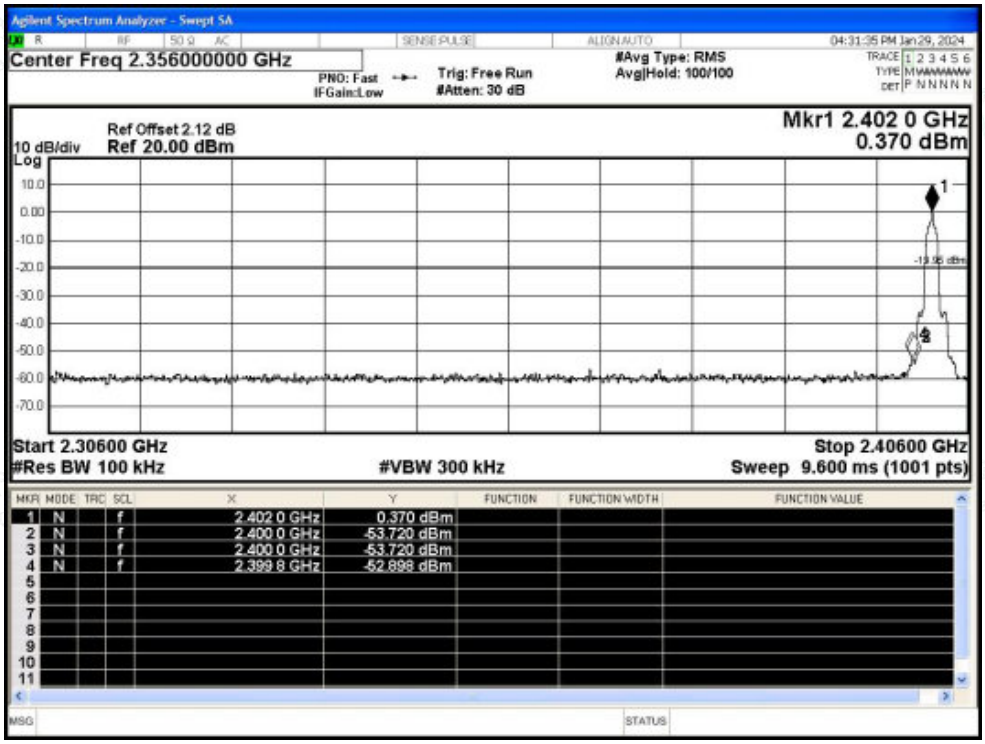
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



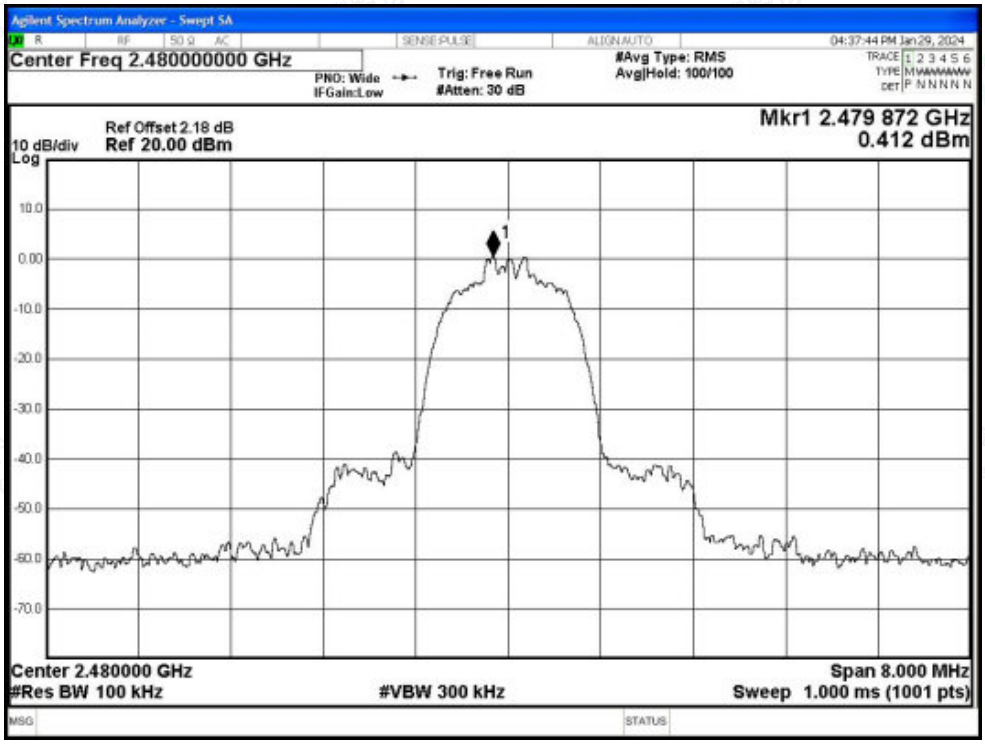
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



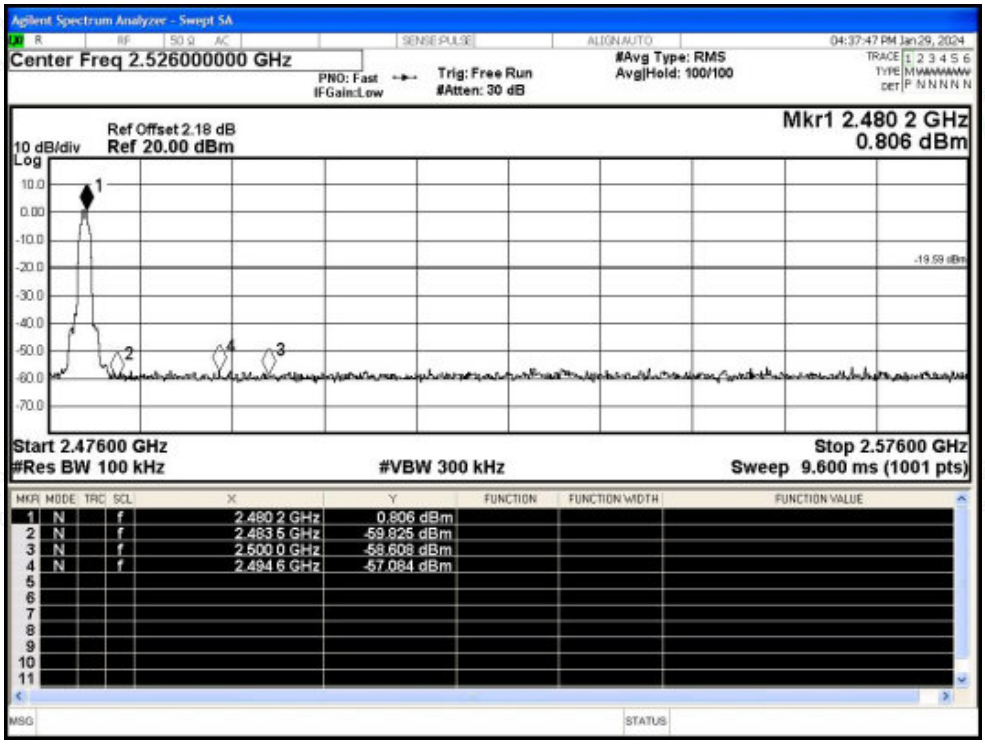
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



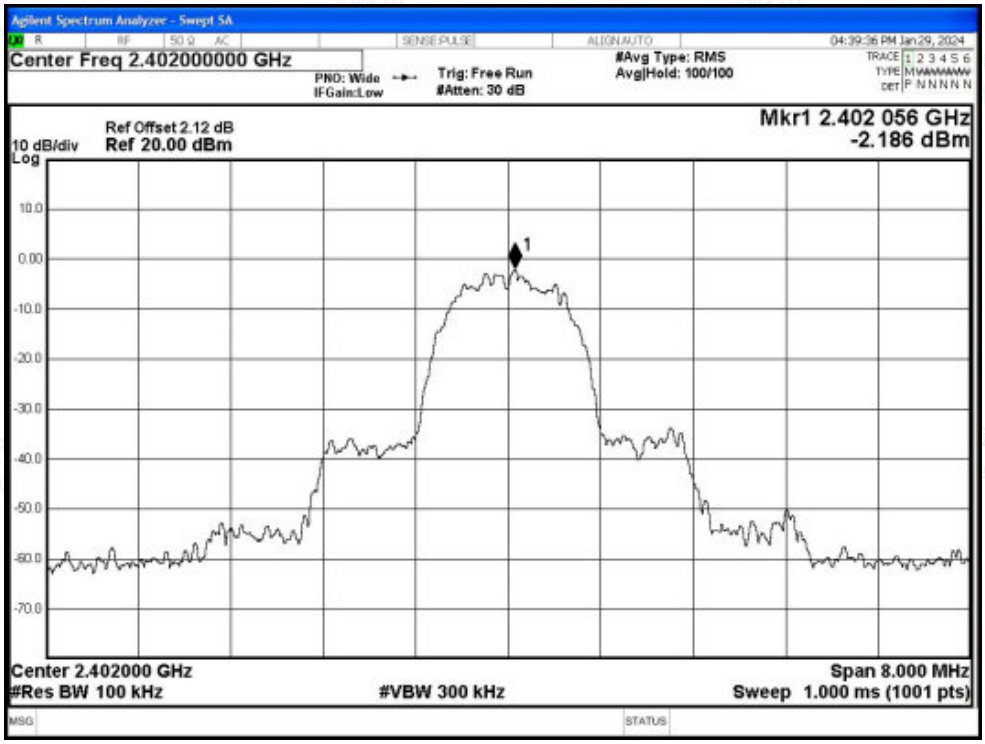
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



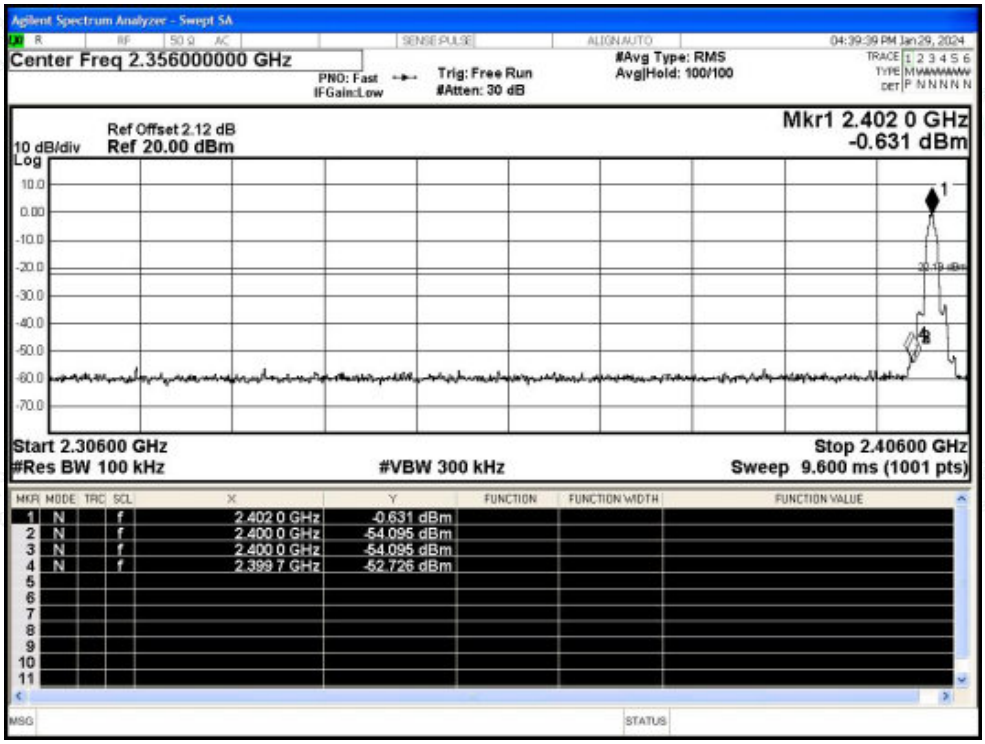
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



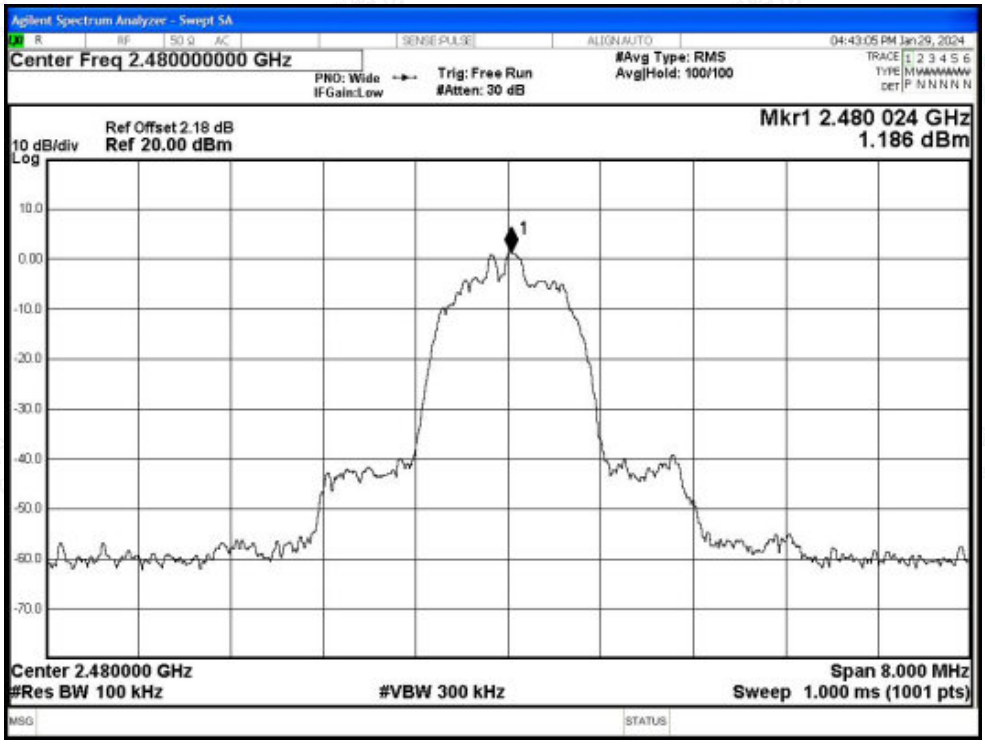
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



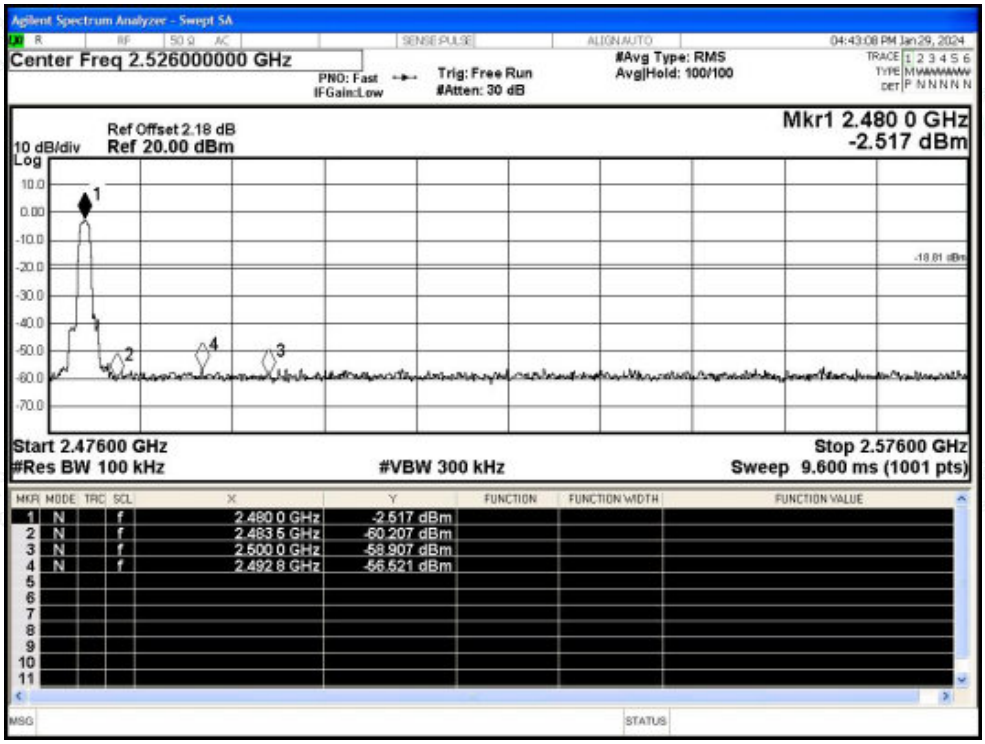
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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



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

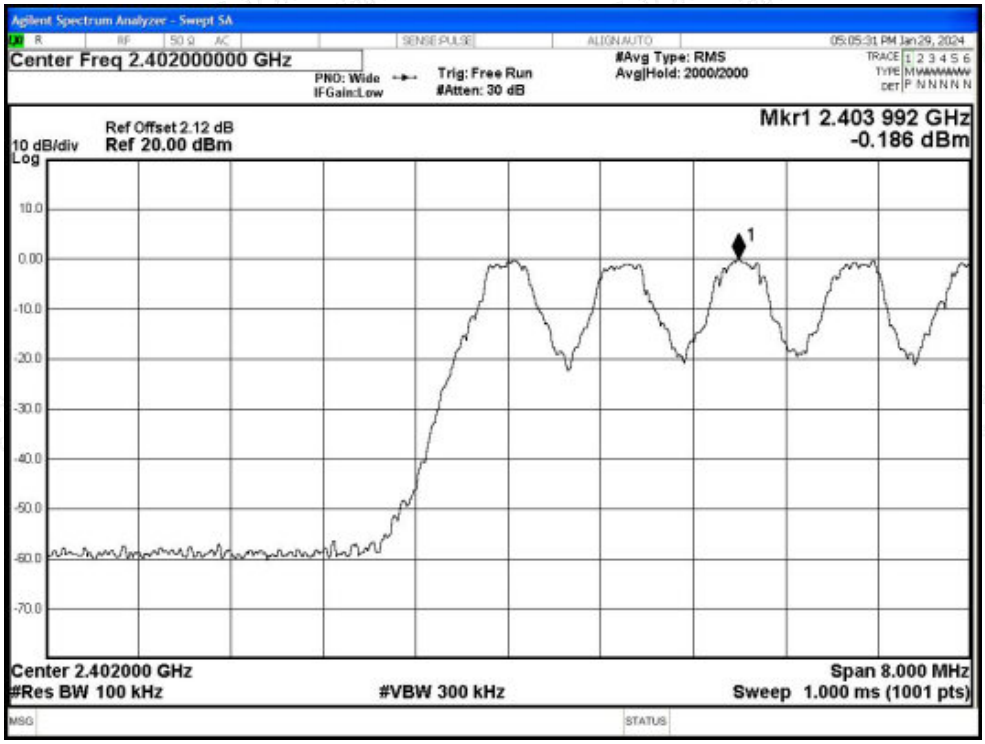


(Hopping)

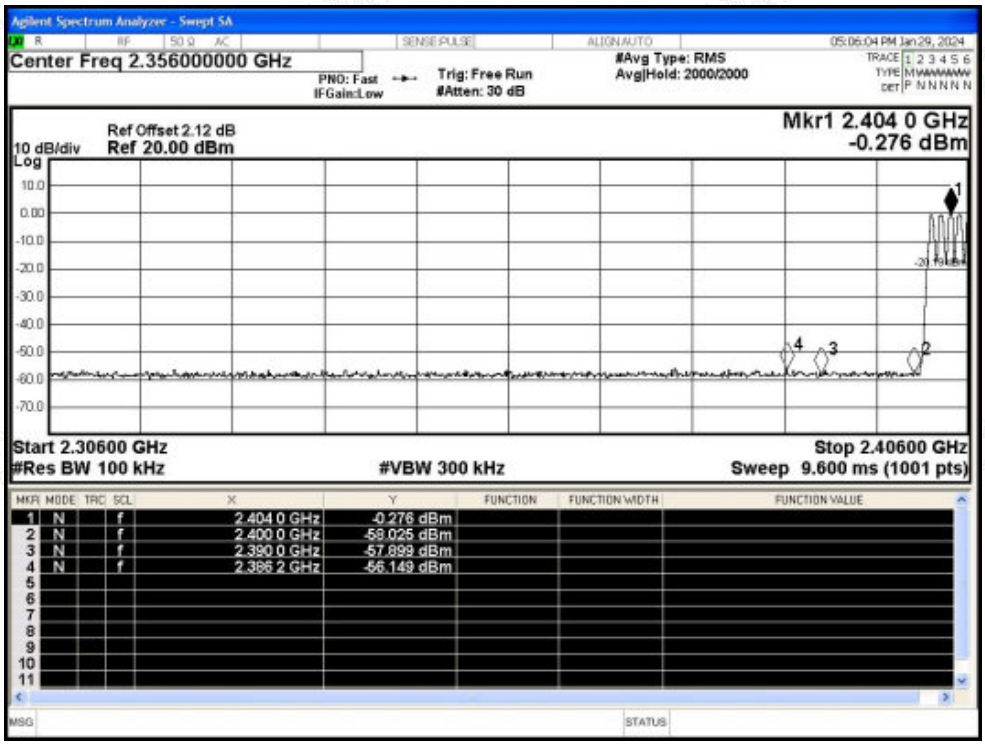
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-55.96	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-56.97	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-56.02	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-57.06	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-55.04	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-56.8	-20	Pass

Test Graphs

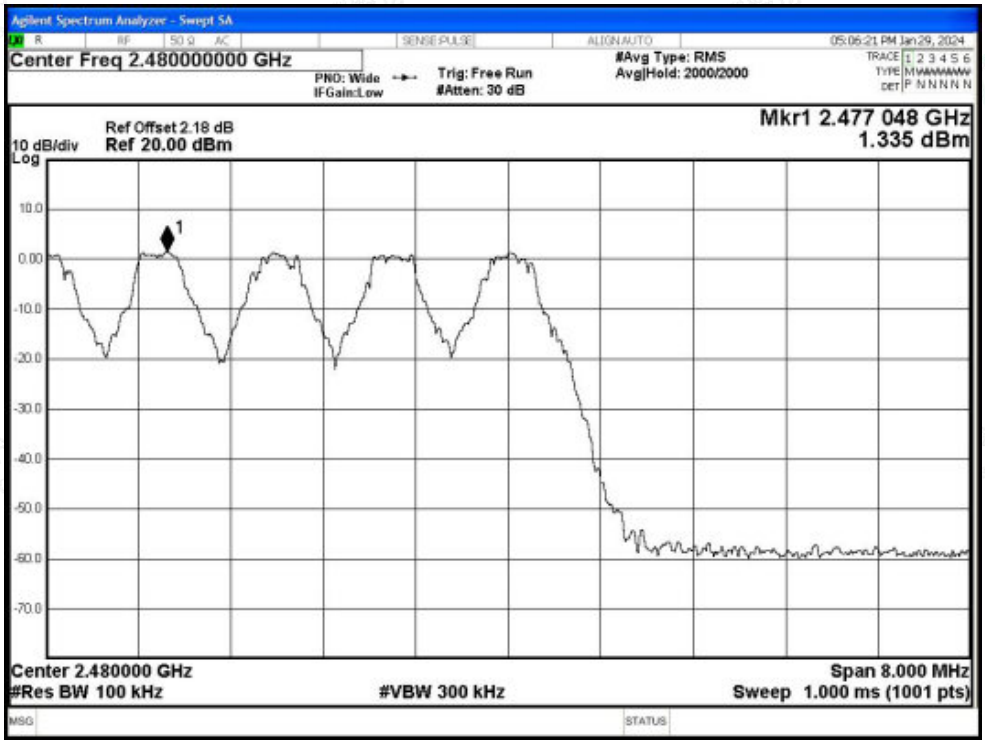
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



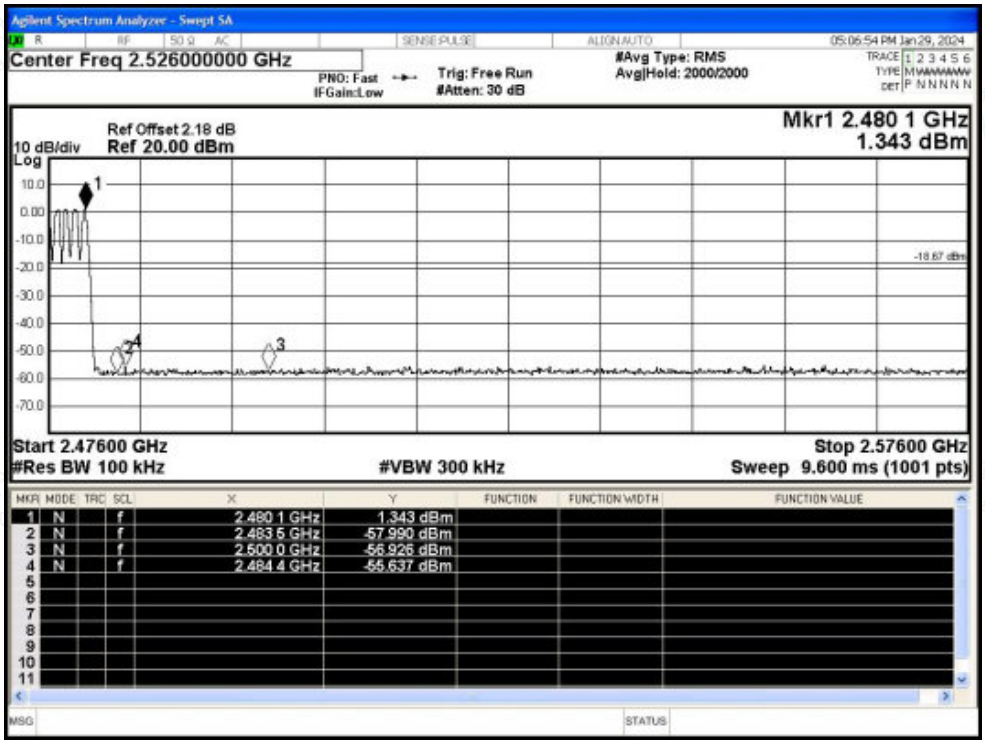
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



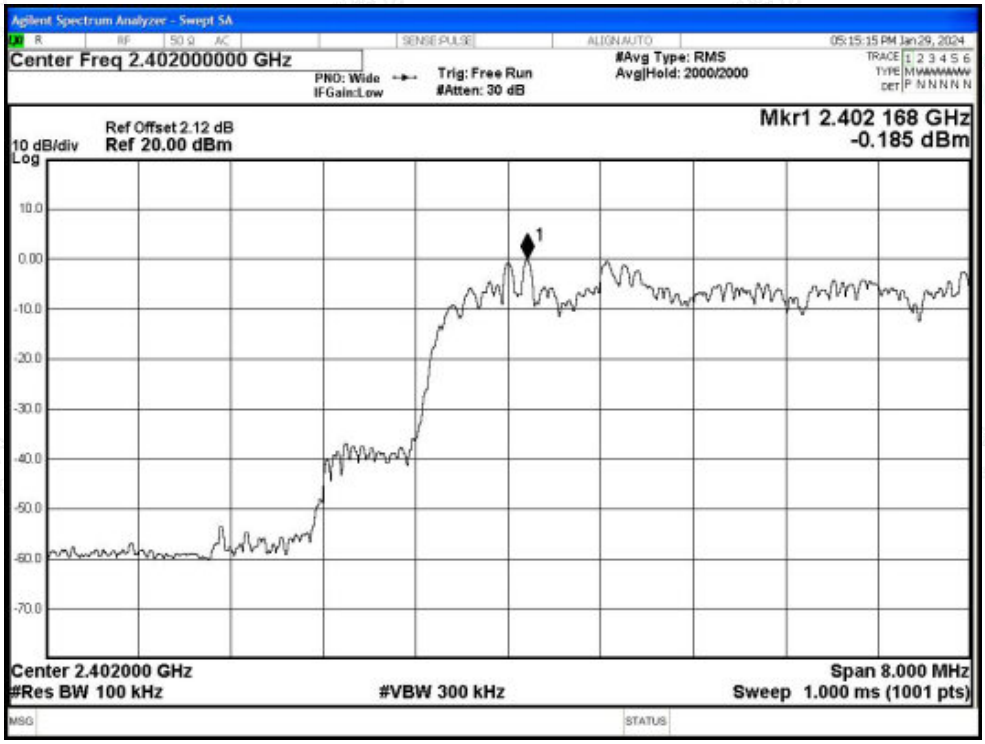
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



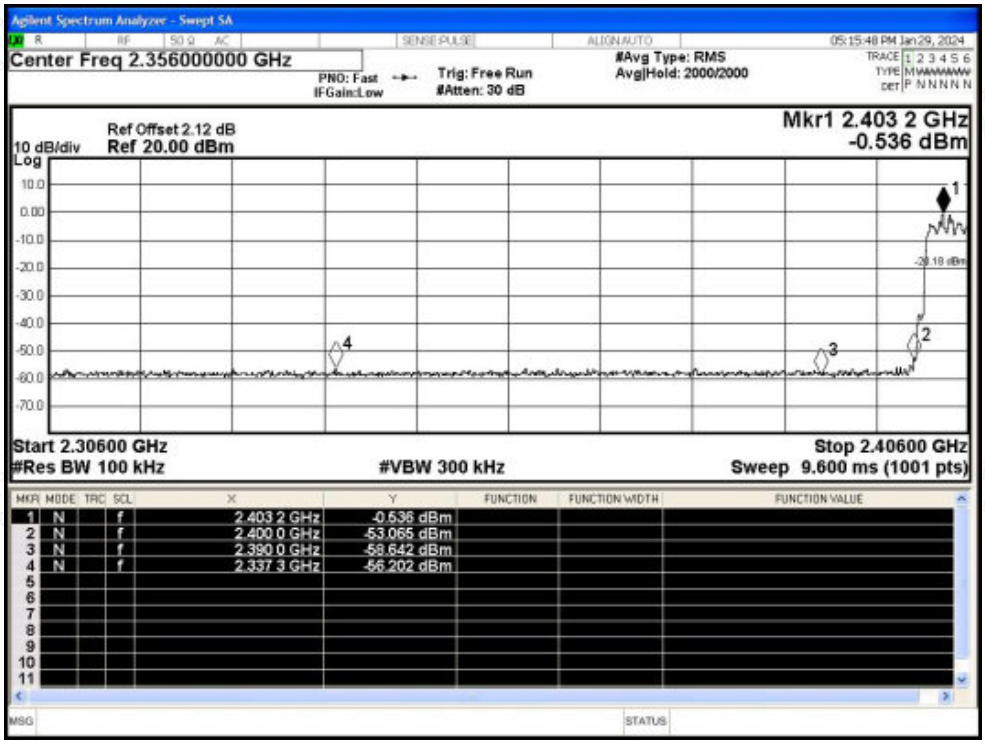
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



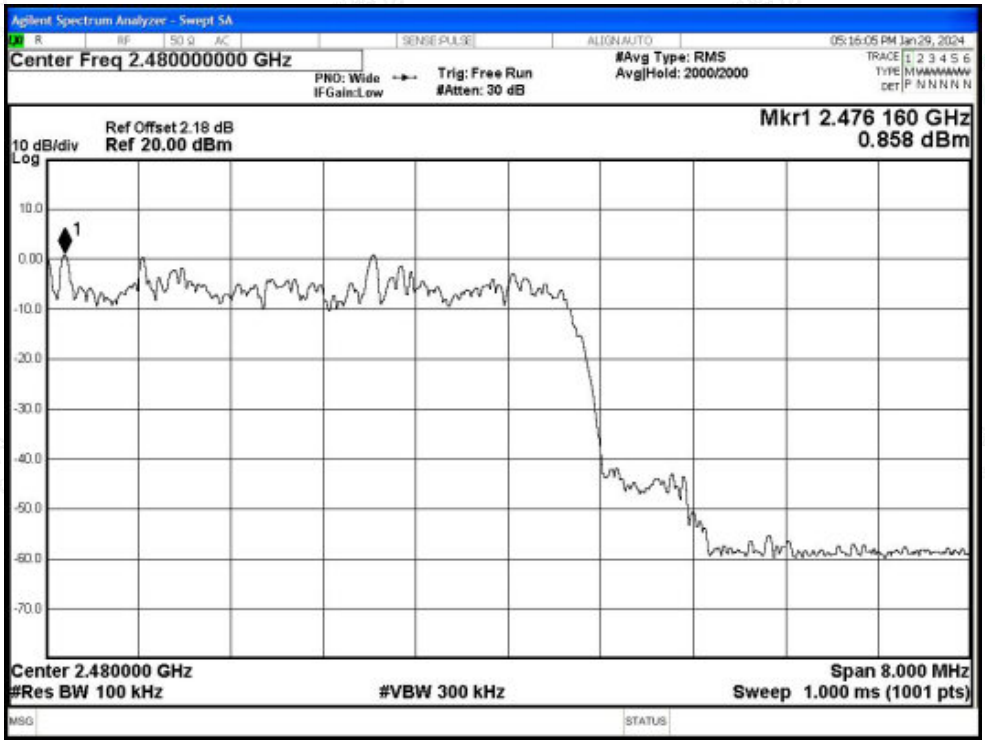
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



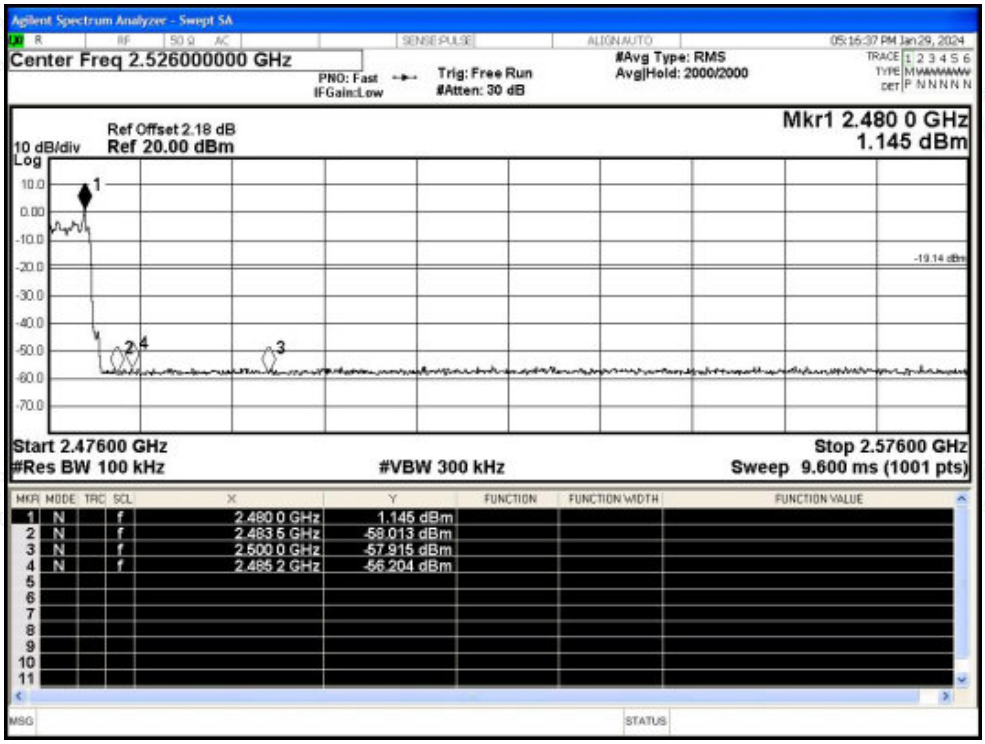
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



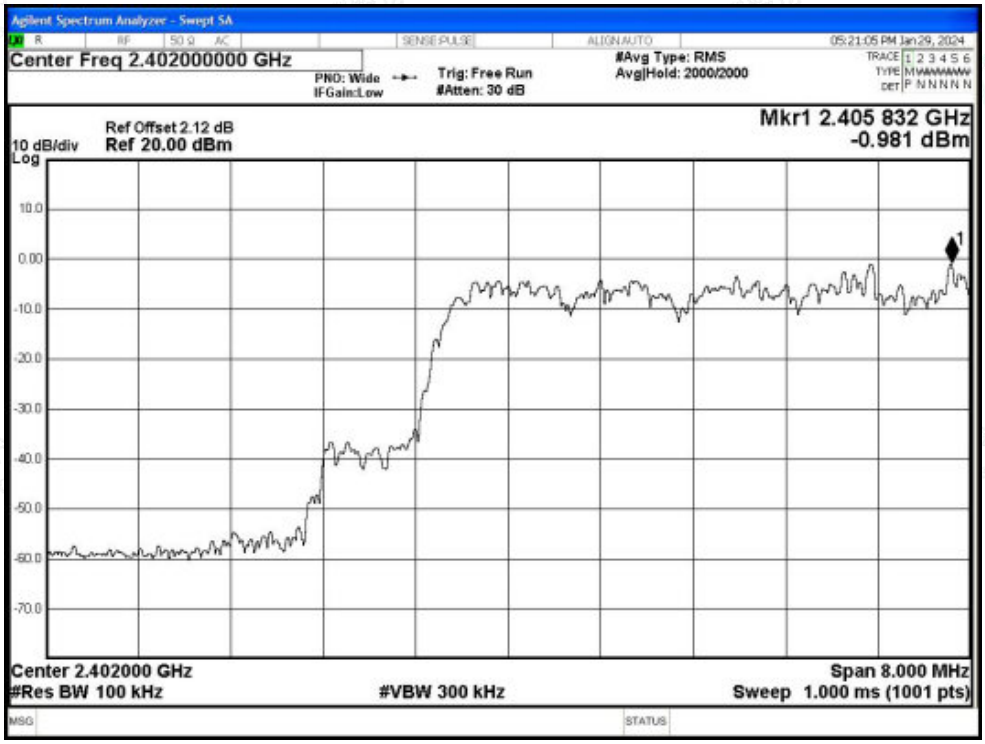
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



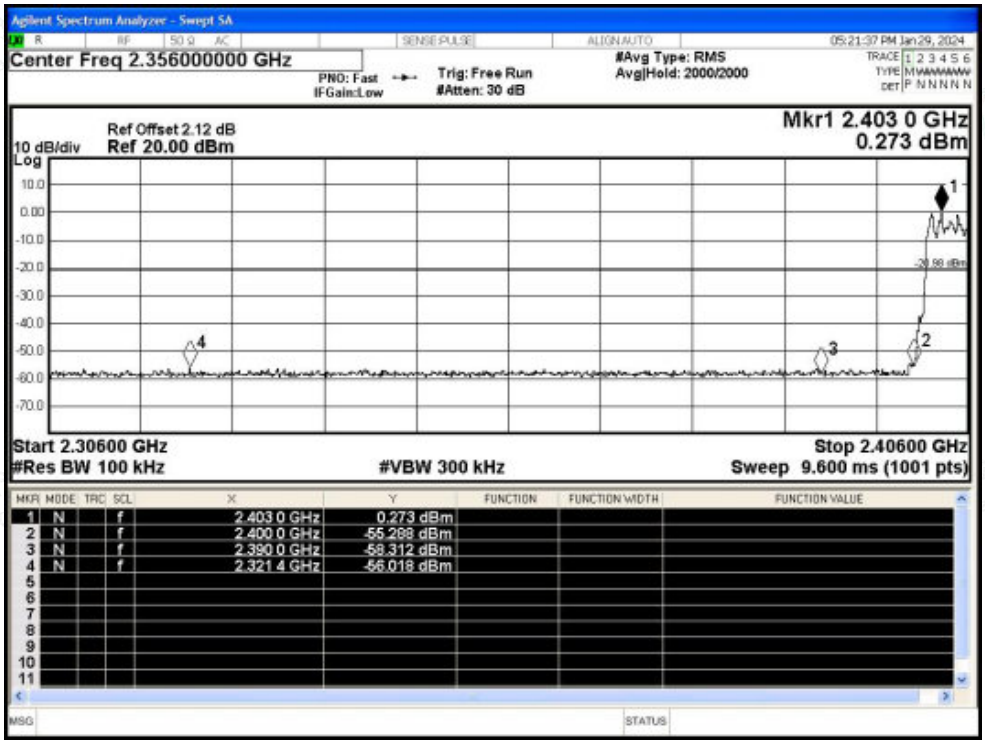
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



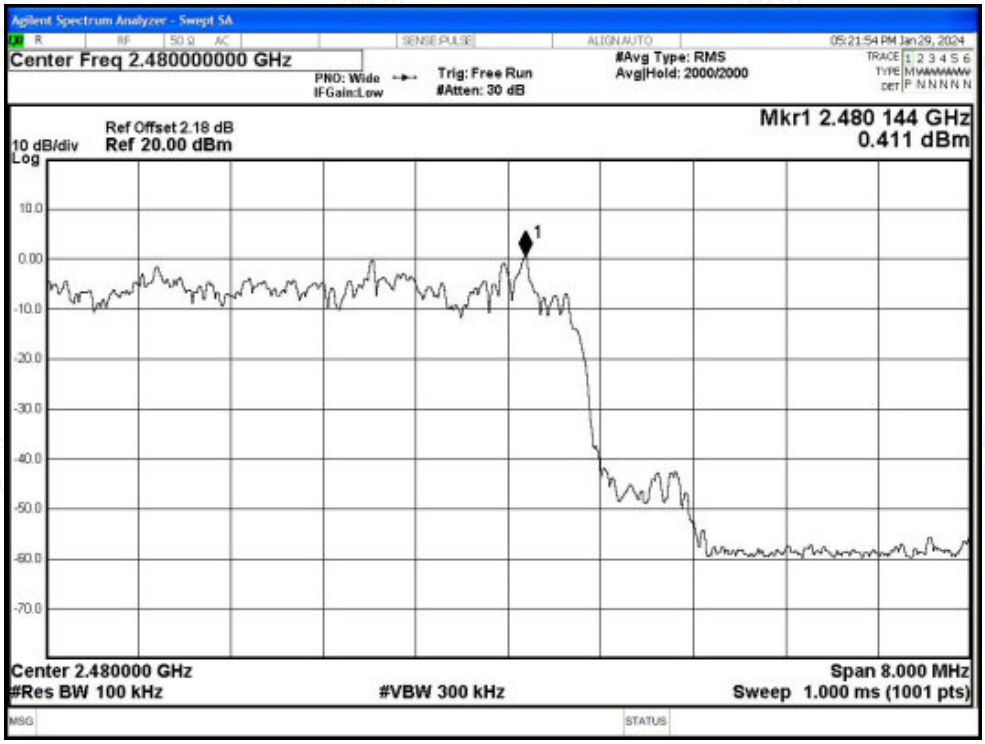
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



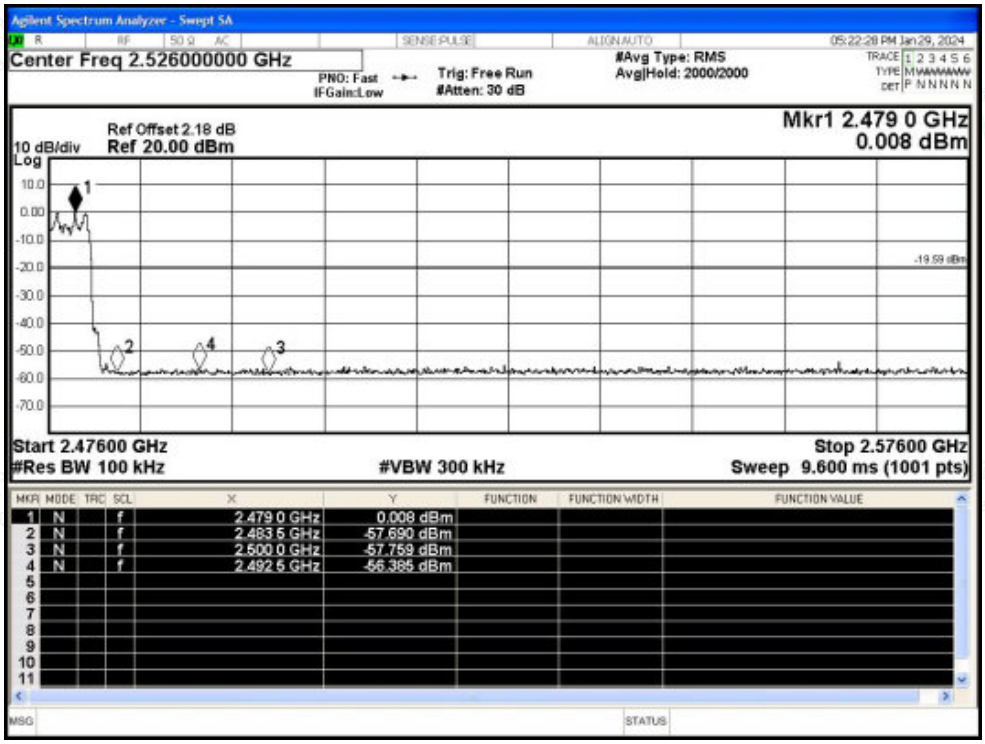
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



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



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

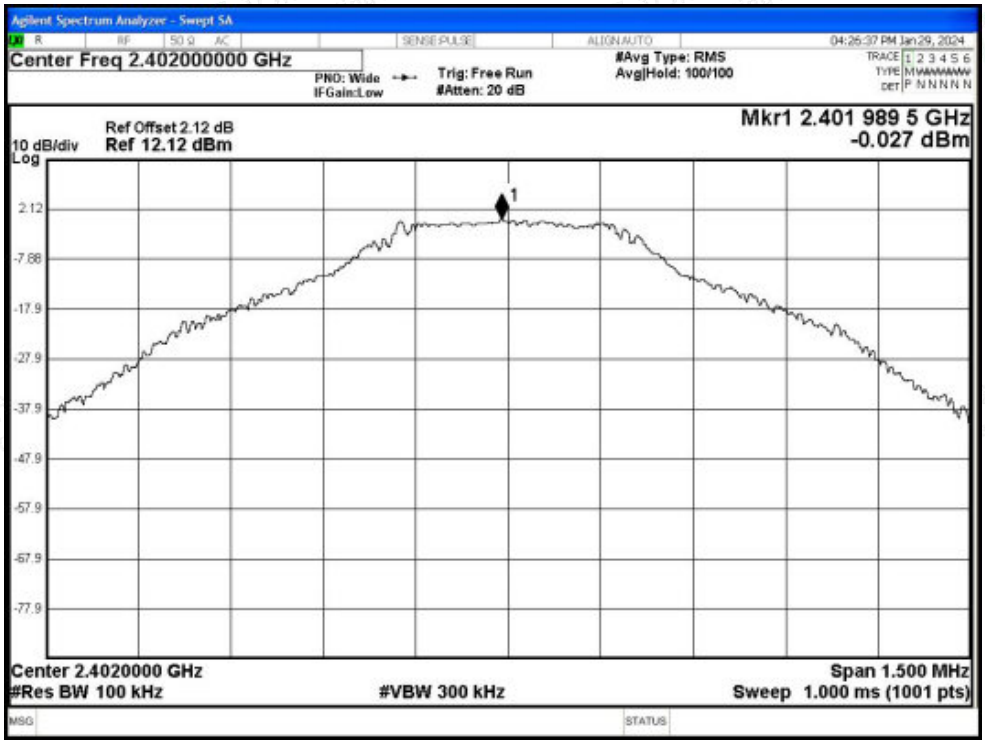


A.7 Conducted RF Spurious Emission

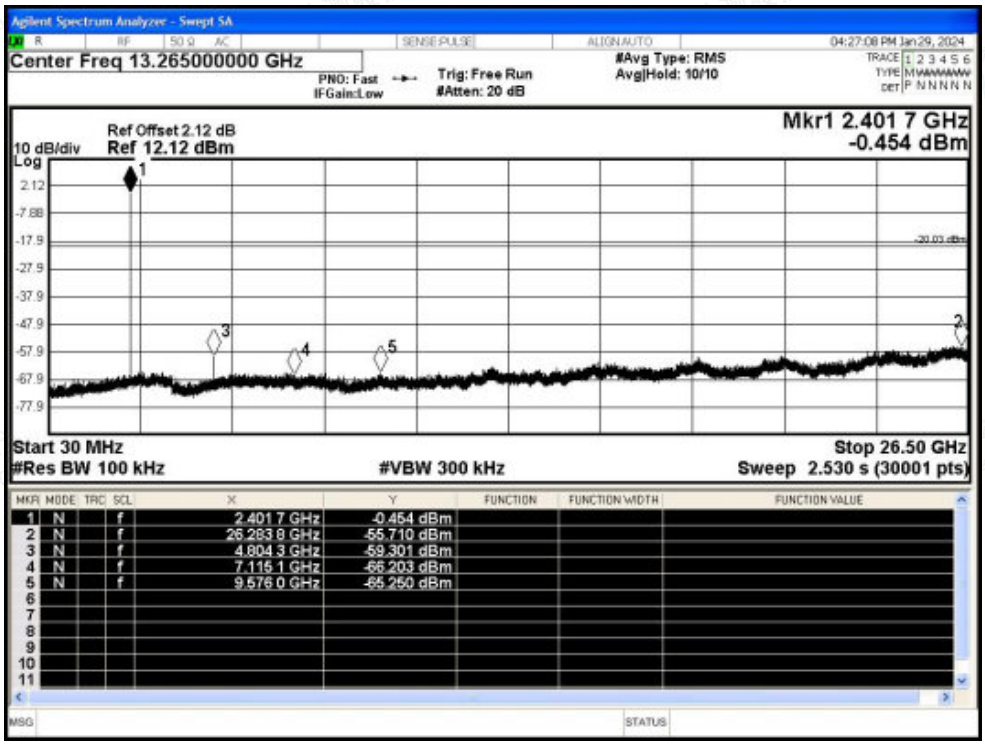
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-55.68	-20	Pass
NVNT	1-DH5	2441	Ant1	-56.57	-20	Pass
NVNT	1-DH5	2480	Ant1	-56.42	-20	Pass
NVNT	2-DH5	2402	Ant1	-55.34	-20	Pass
NVNT	2-DH5	2441	Ant1	-56	-20	Pass
NVNT	2-DH5	2480	Ant1	-56.26	-20	Pass
NVNT	3-DH5	2402	Ant1	-55.12	-20	Pass
NVNT	3-DH5	2441	Ant1	-55.39	-20	Pass
NVNT	3-DH5	2480	Ant1	-55.91	-20	Pass

Test Graphs

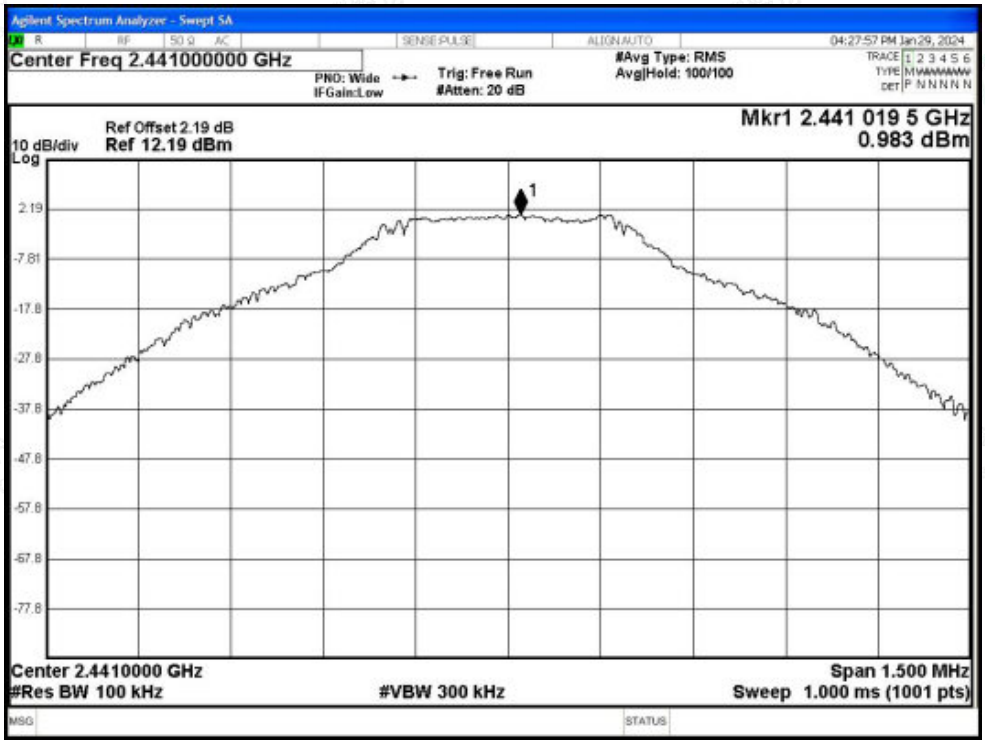
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



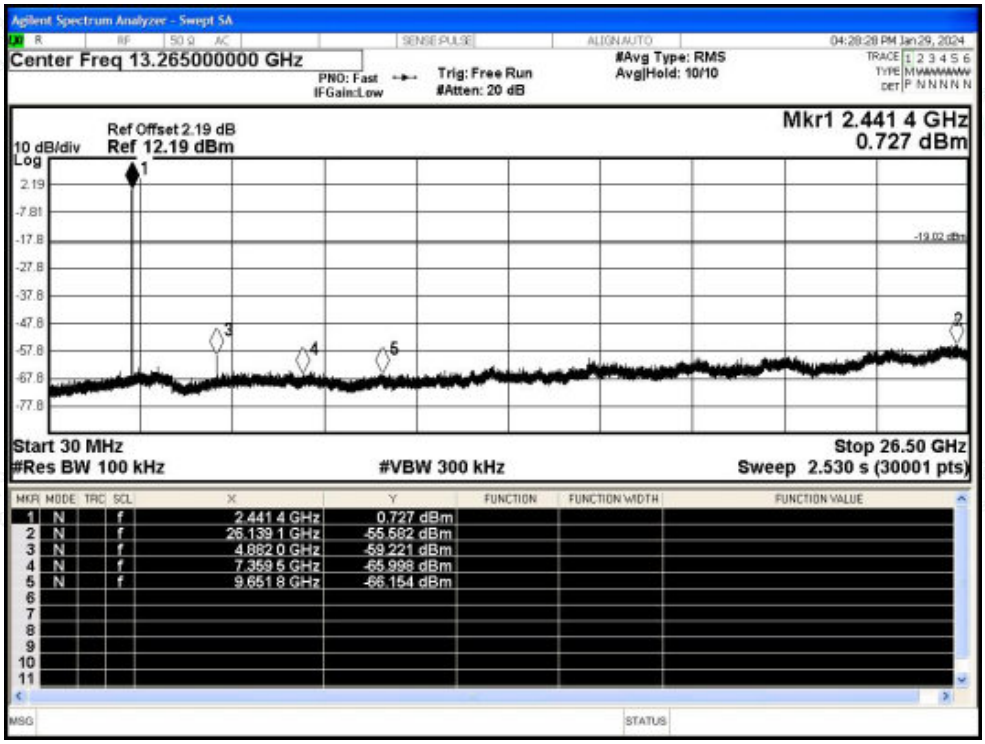
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



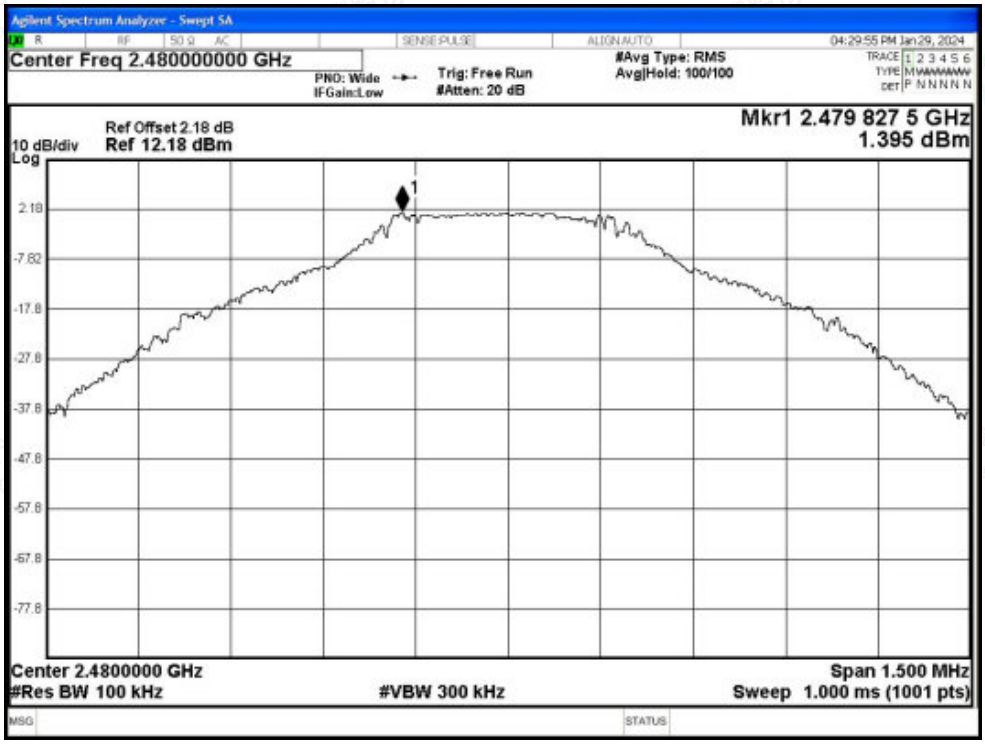
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



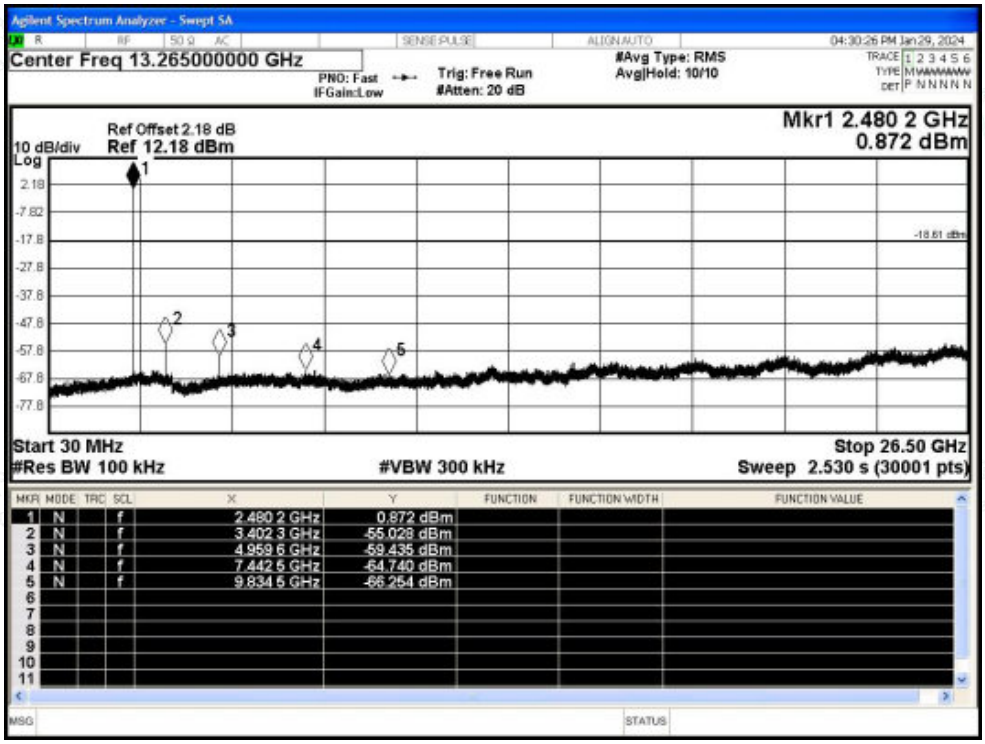
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



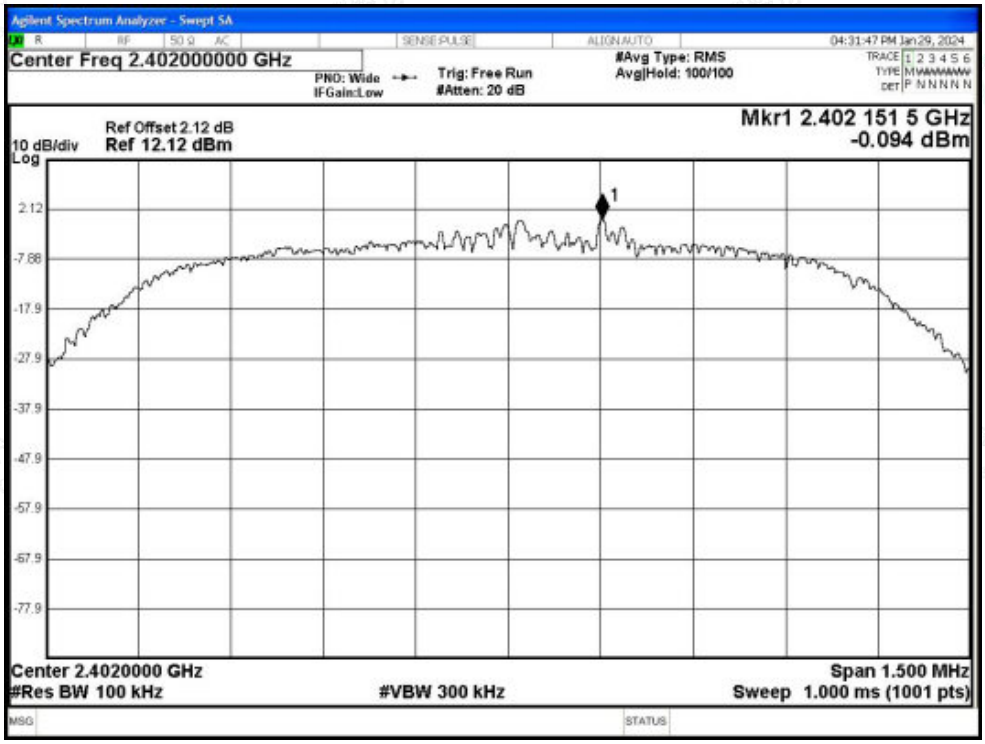
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



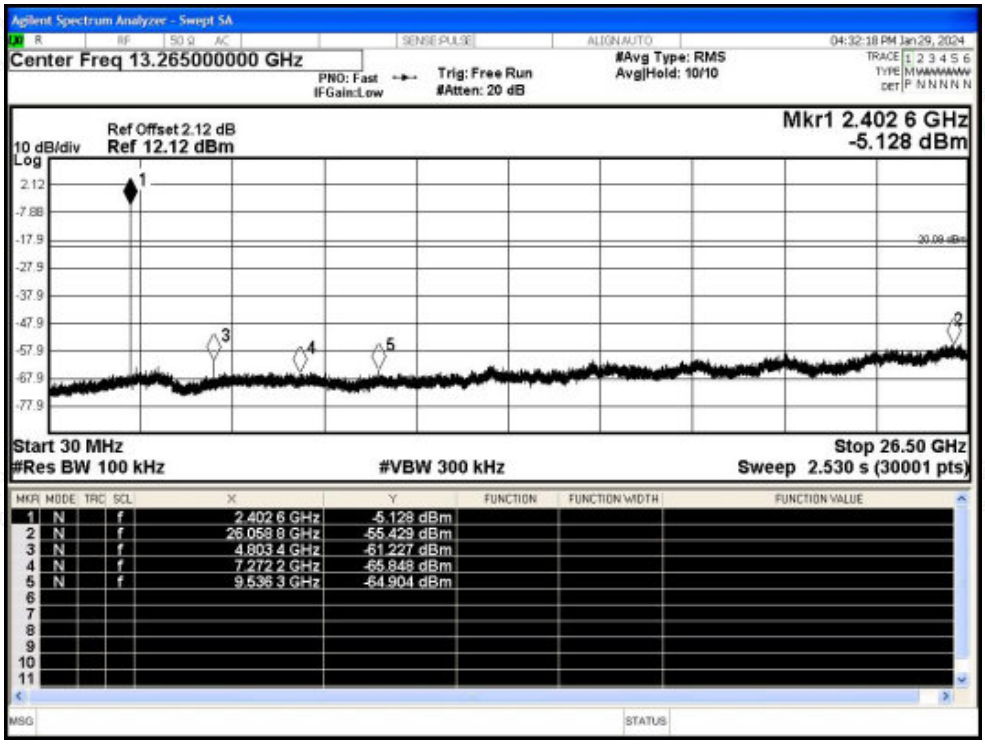
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



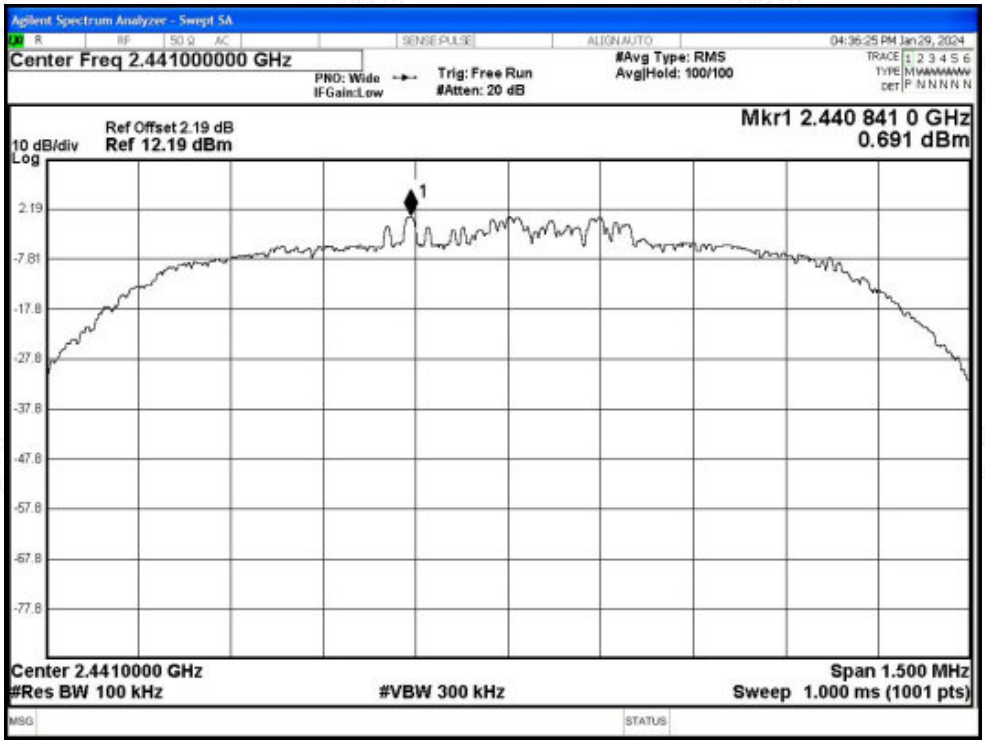
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



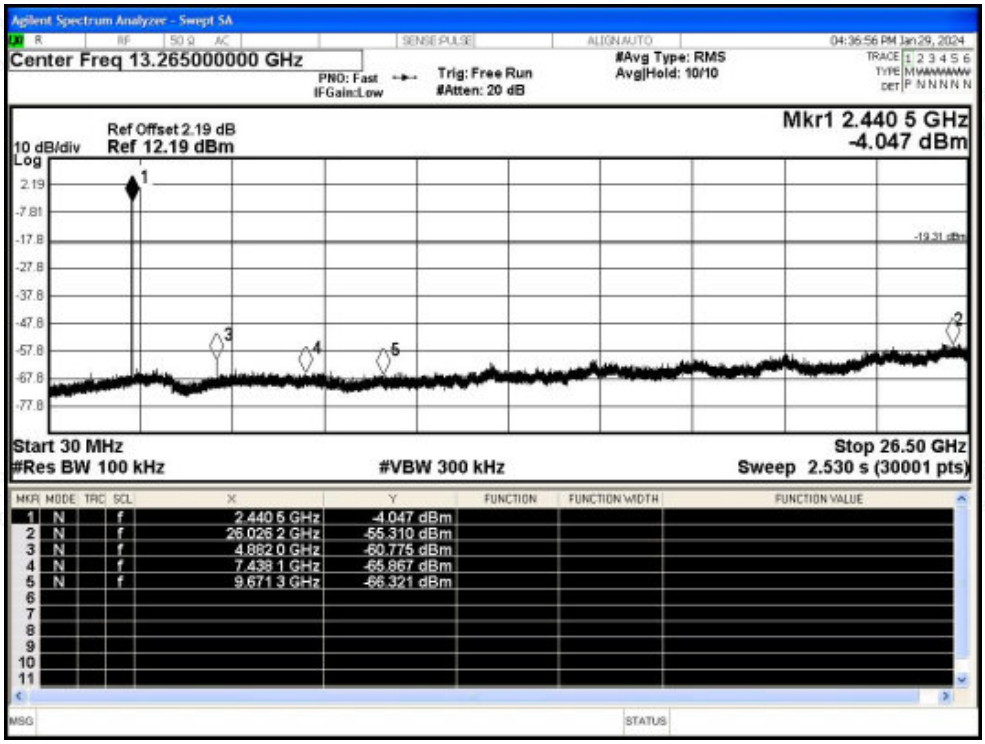
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



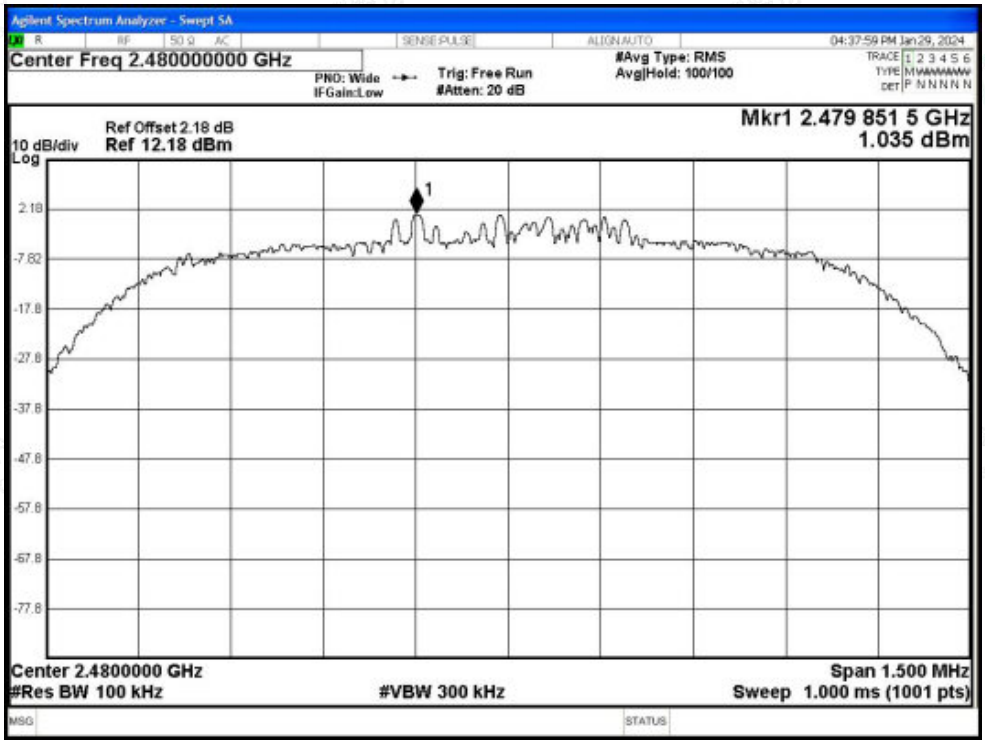
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



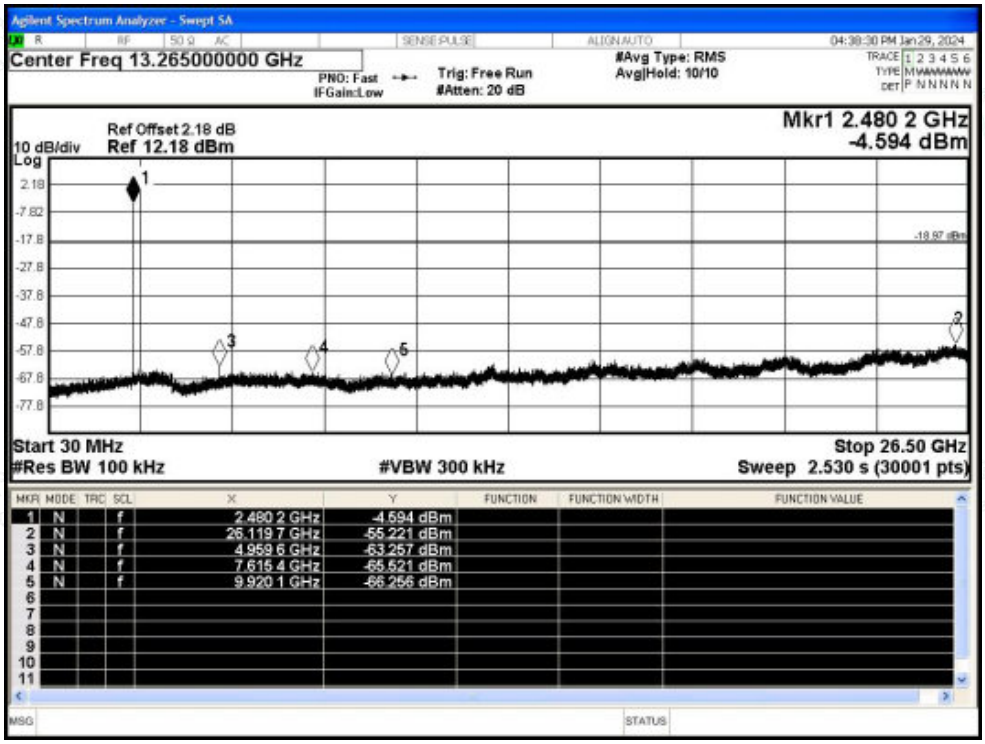
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



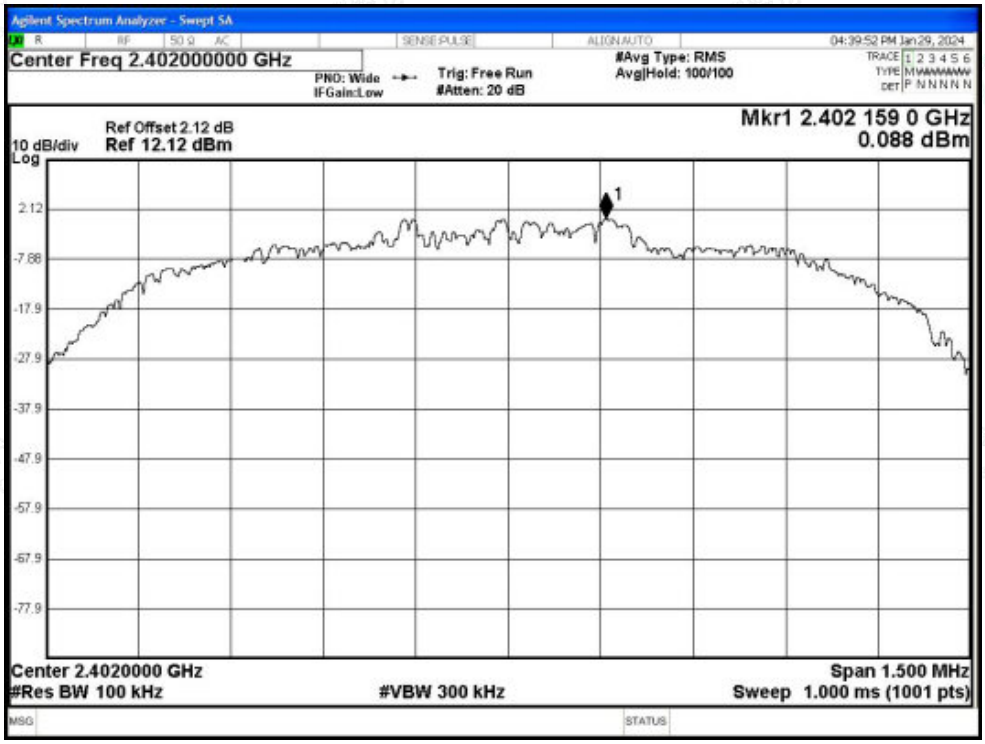
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



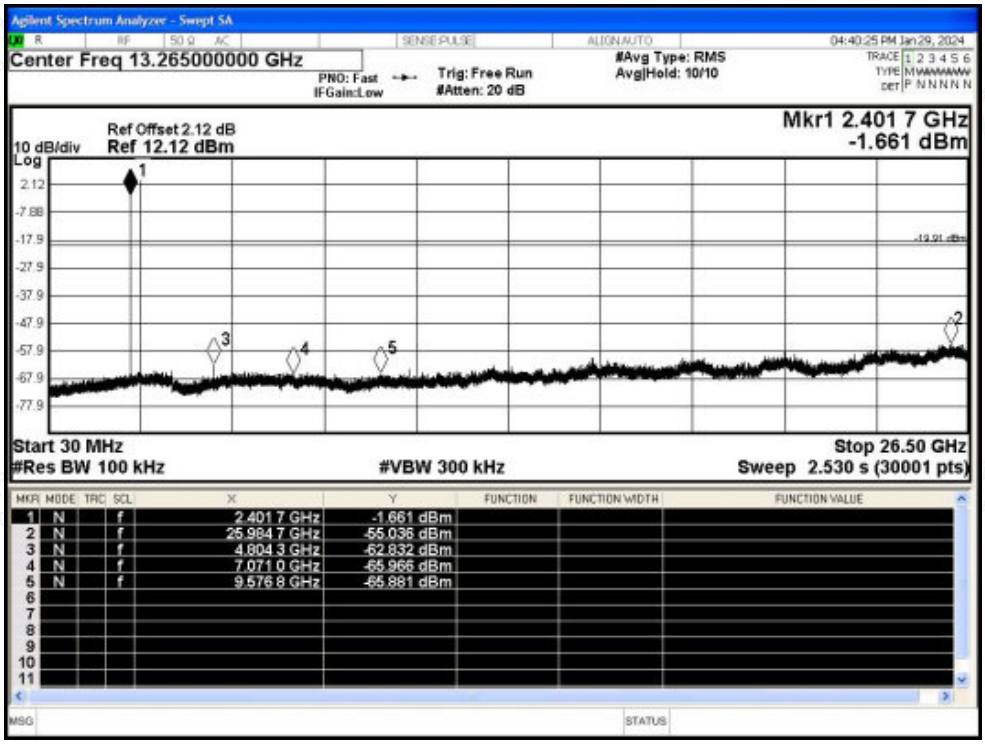
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



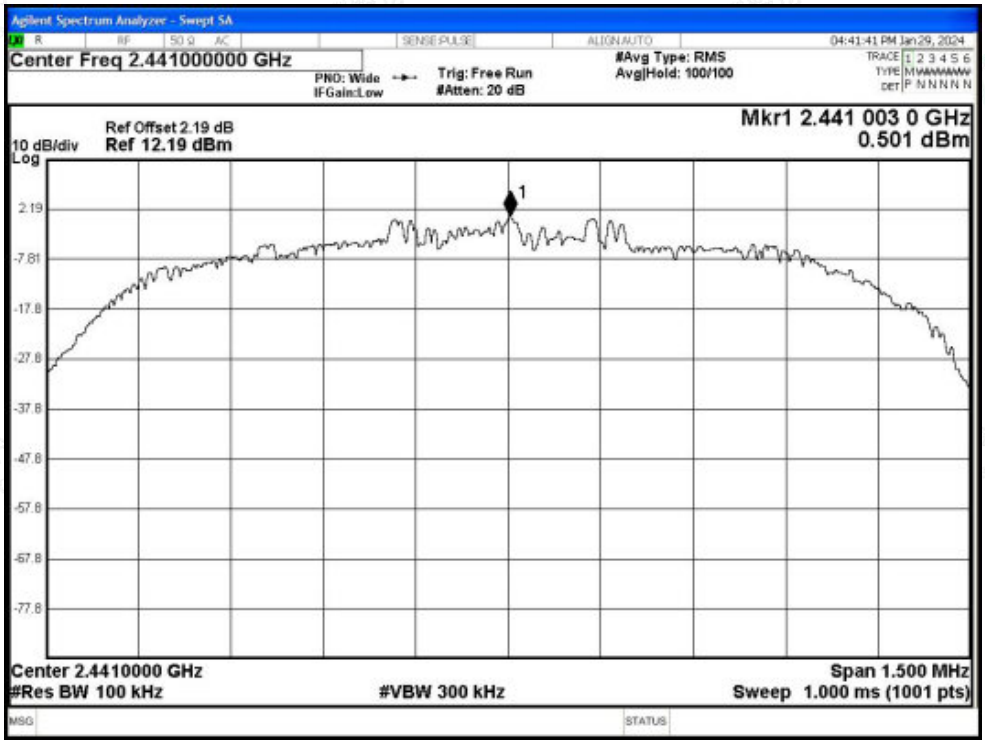
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



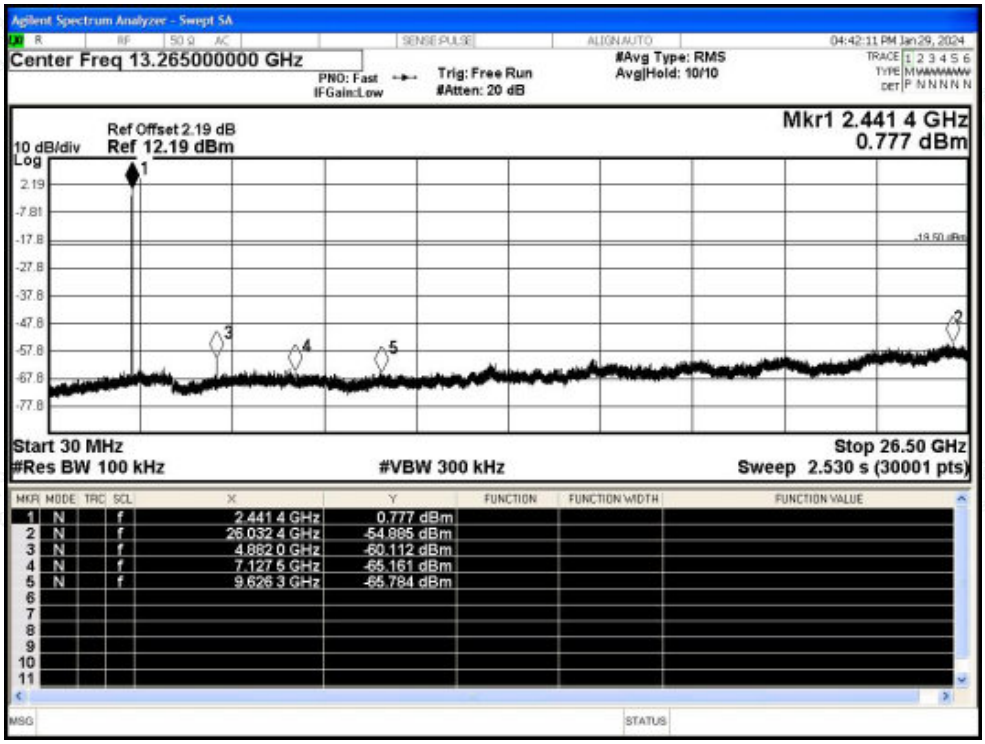
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



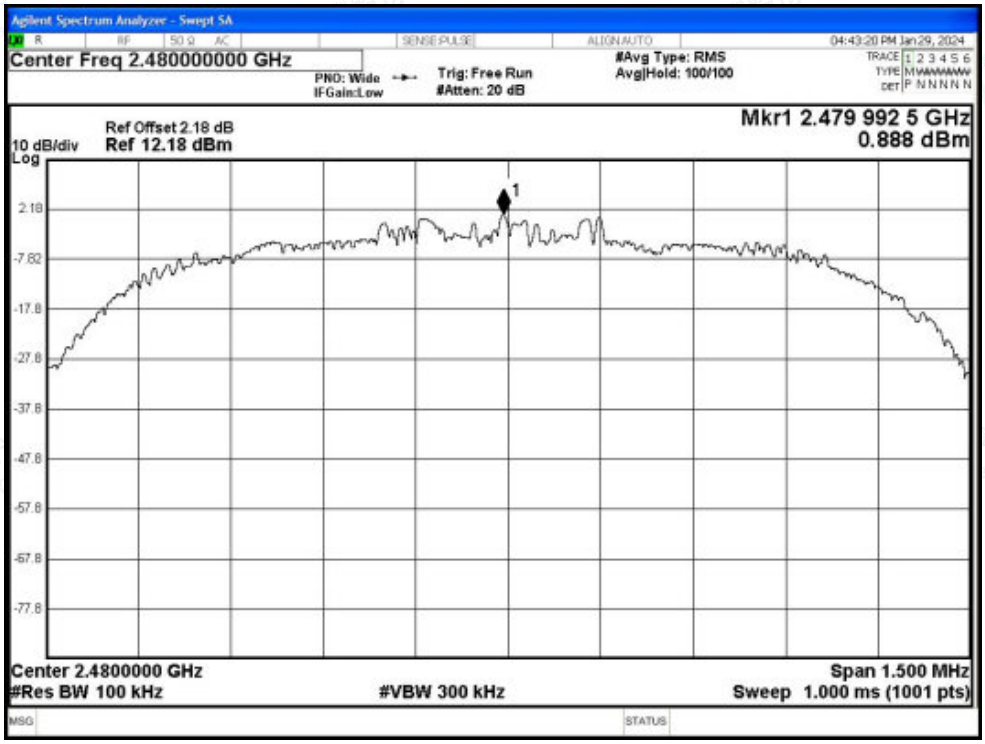
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



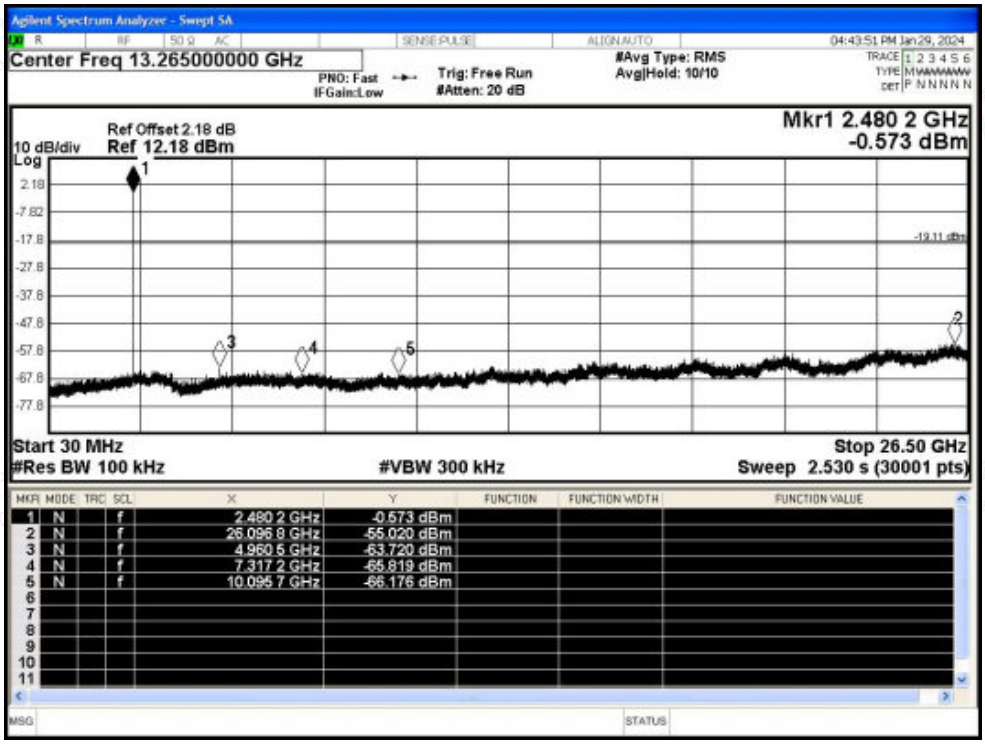
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

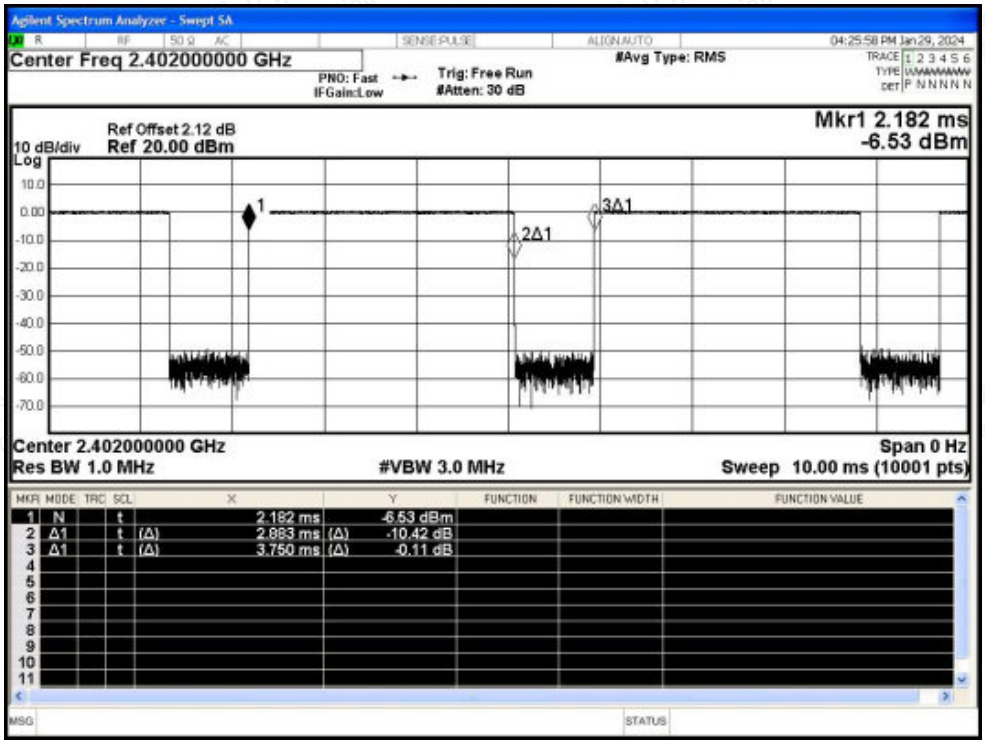


A.8 Duty Cycle

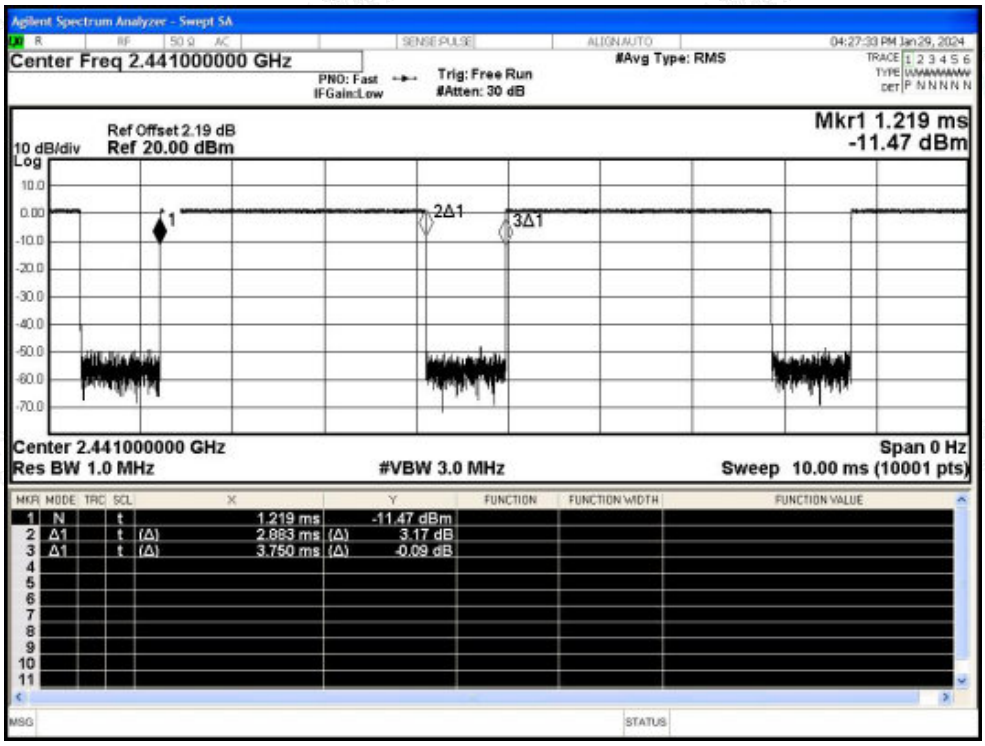
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	76.88	1.14	0.35
NVNT	1-DH5	2441	Ant1	76.88	1.14	0.35
NVNT	1-DH5	2480	Ant1	76.88	1.14	0.35
NVNT	2-DH5	2402	Ant1	76.85	1.14	0.35
NVNT	2-DH5	2441	Ant1	76.88	1.14	0.35
NVNT	2-DH5	2480	Ant1	76.88	1.14	0.35
NVNT	3-DH5	2402	Ant1	77.01	1.13	0.35
NVNT	3-DH5	2441	Ant1	77.01	1.13	0.35
NVNT	3-DH5	2480	Ant1	77.01	1.13	0.35

Test Graphs

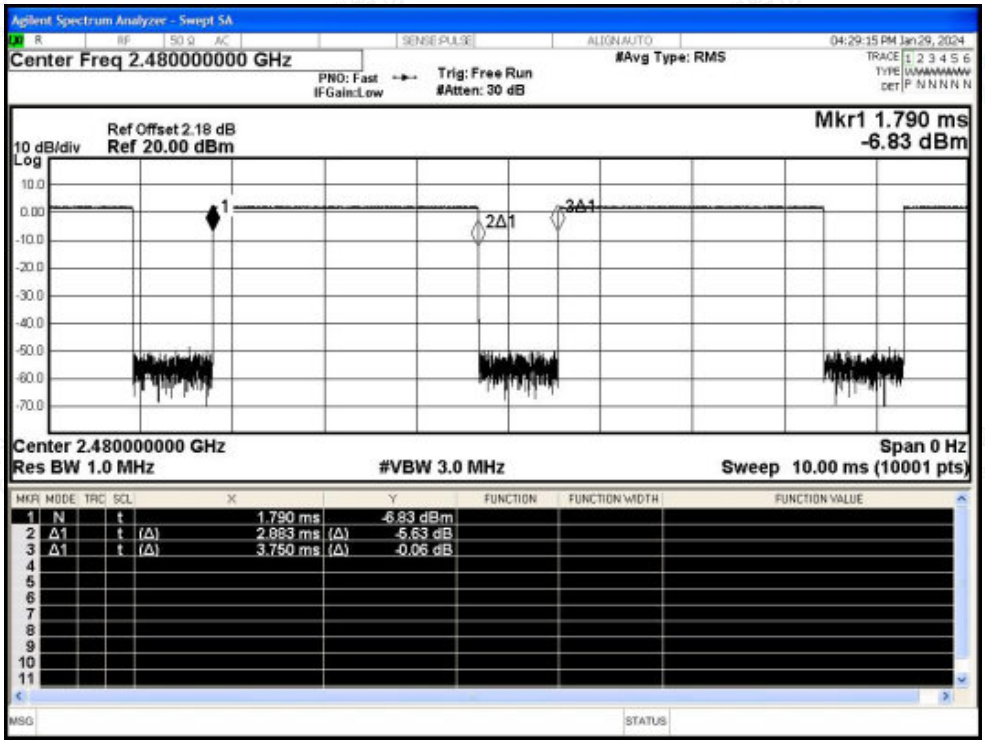
Duty Cycle NVNT 1-DH5 2402MHz Ant1



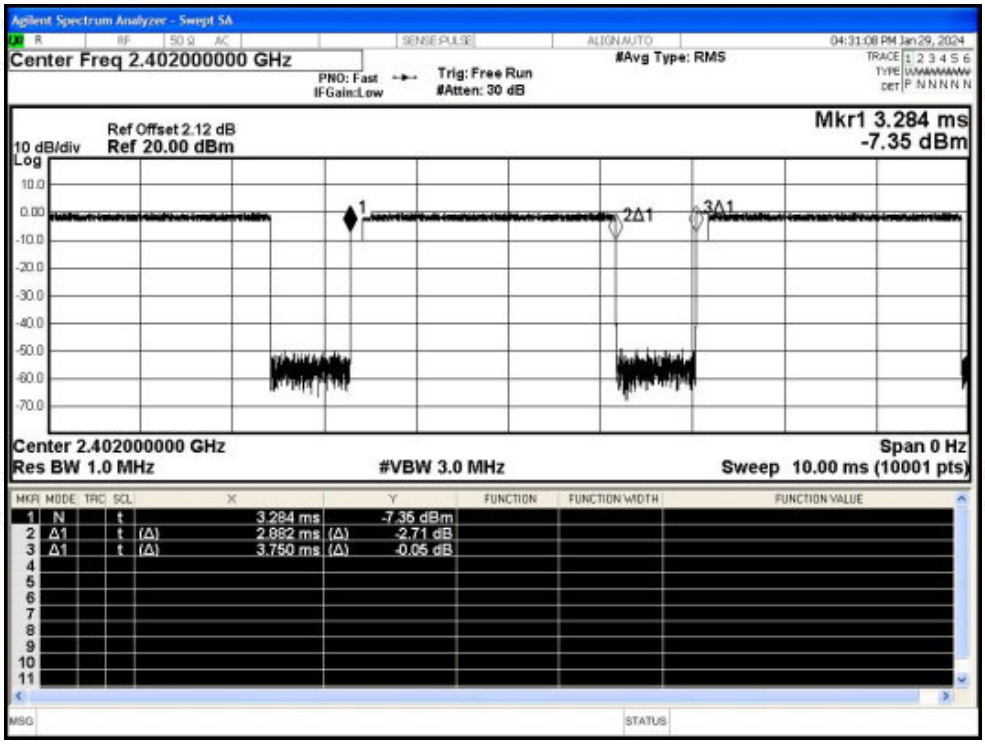
Duty Cycle NVNT 1-DH5 2441MHz Ant1



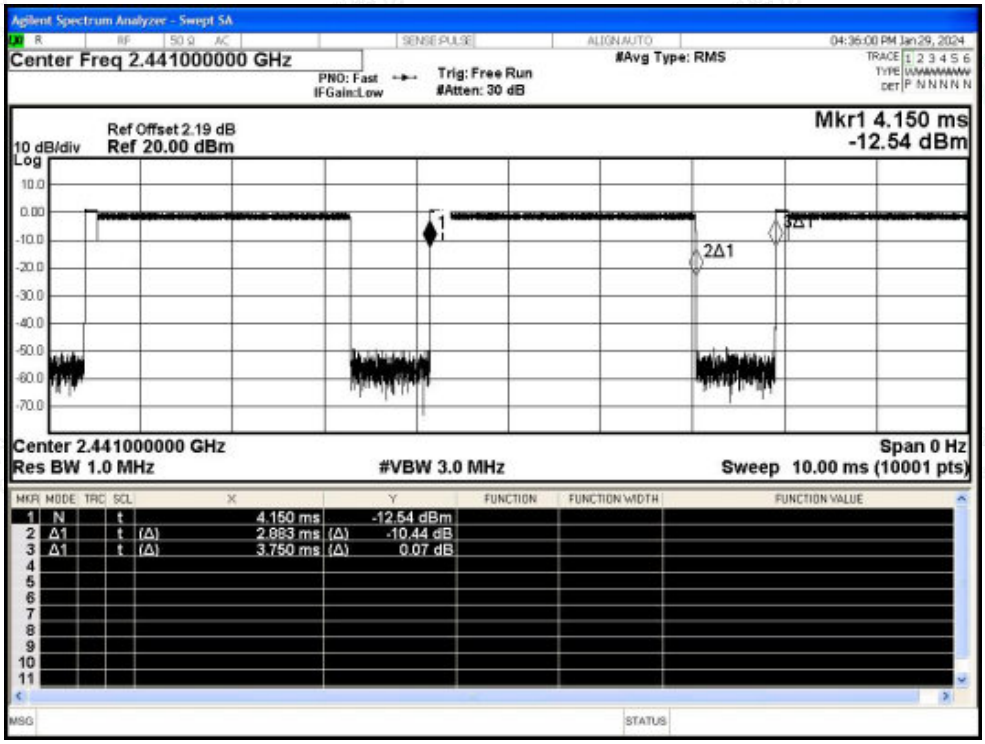
Duty Cycle NVNT 1-DH5 2480MHz Ant1



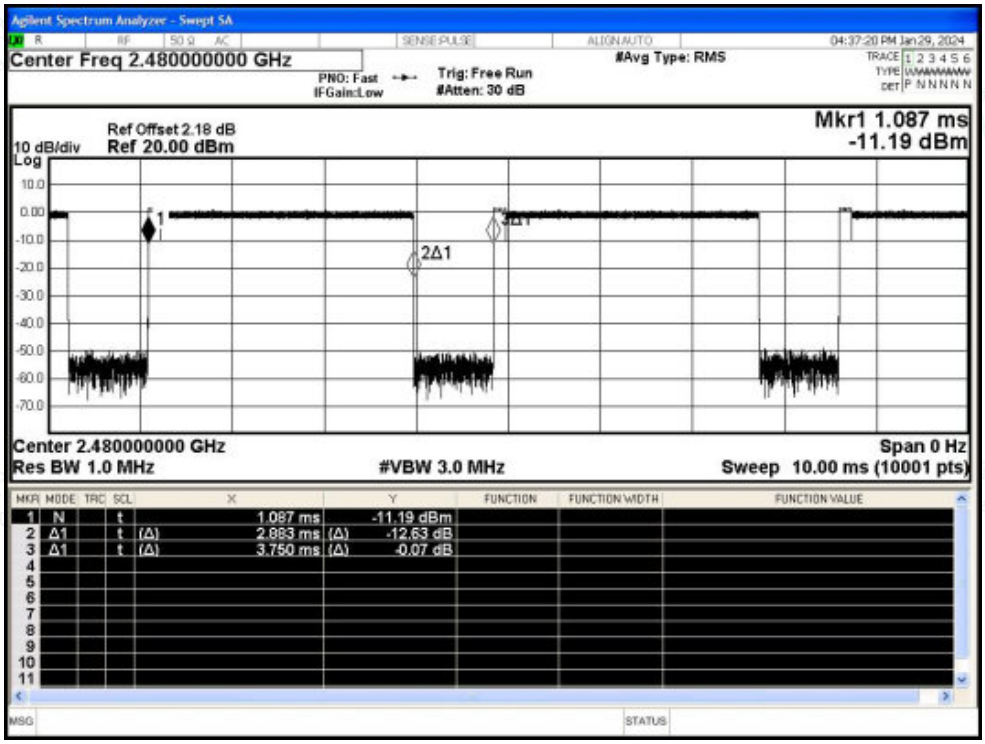
Duty Cycle NVNT 2-DH5 2402MHz Ant1



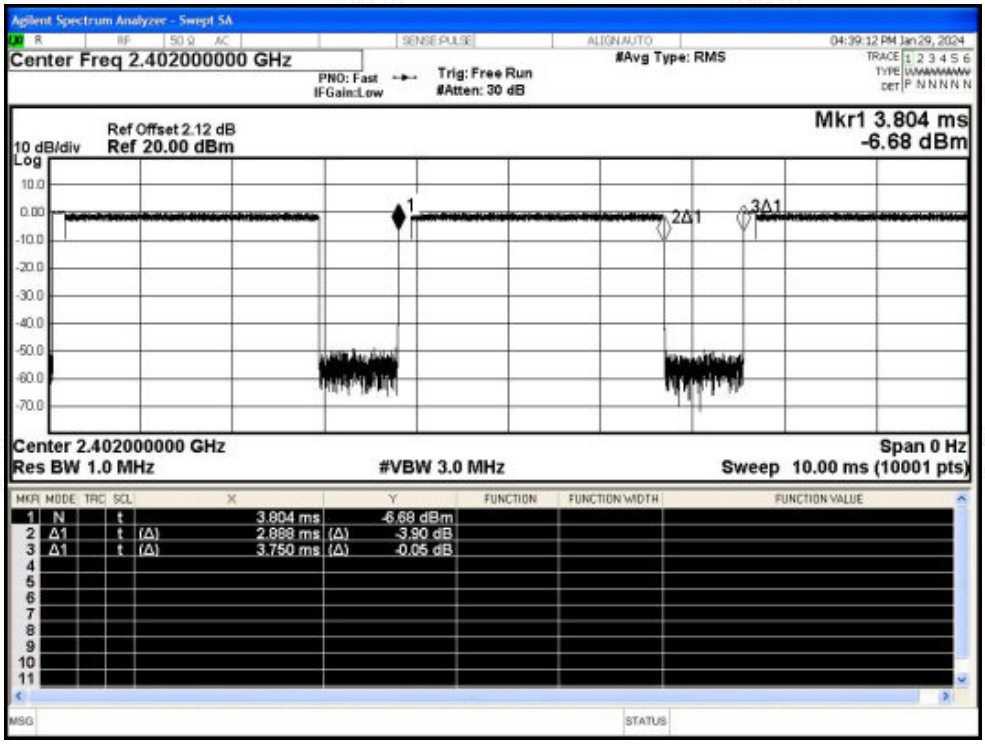
Duty Cycle NVNT 2-DH5 2441MHz Ant1



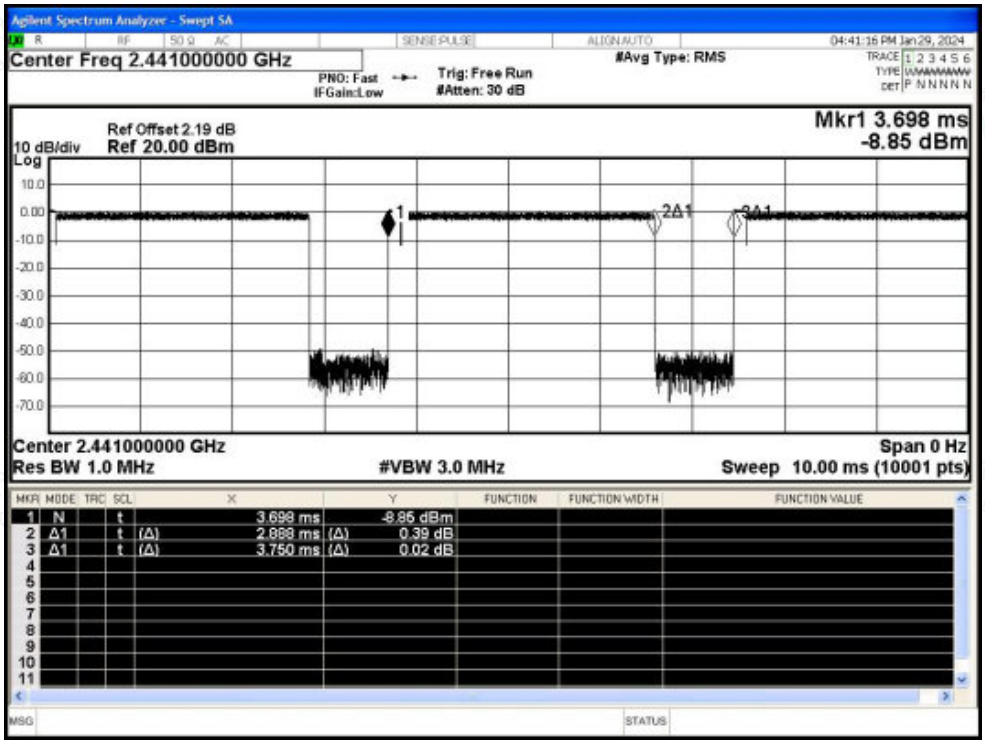
Duty Cycle NVNT 2-DH5 2480MHz Ant1



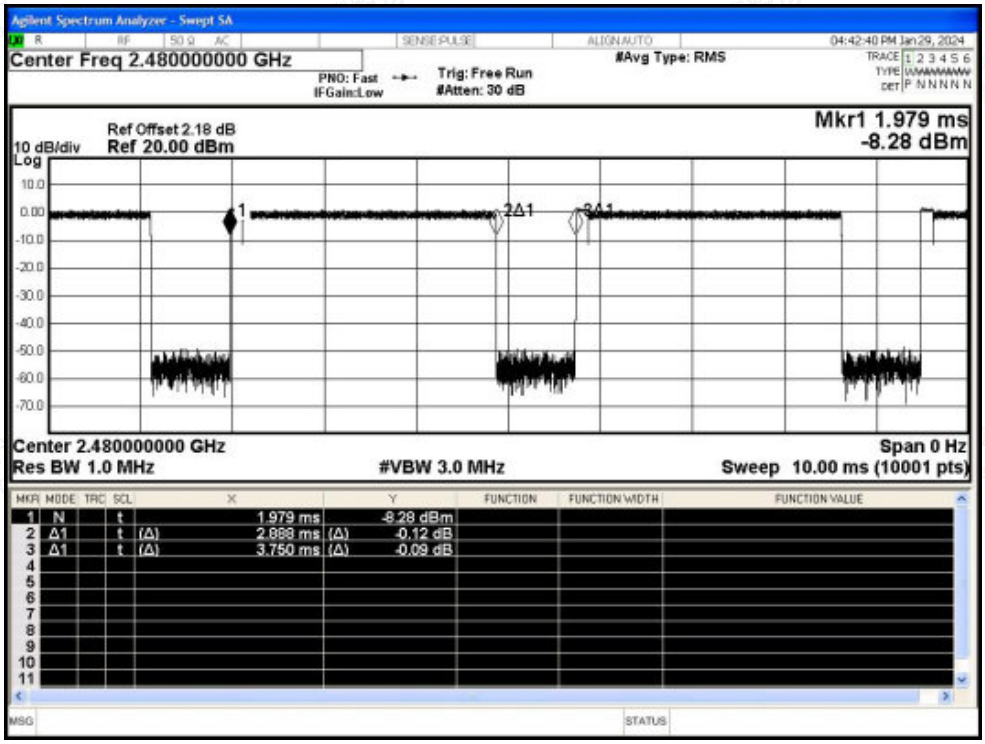
Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



Duty Cycle NVNT 3-DH5 2480MHz Ant1

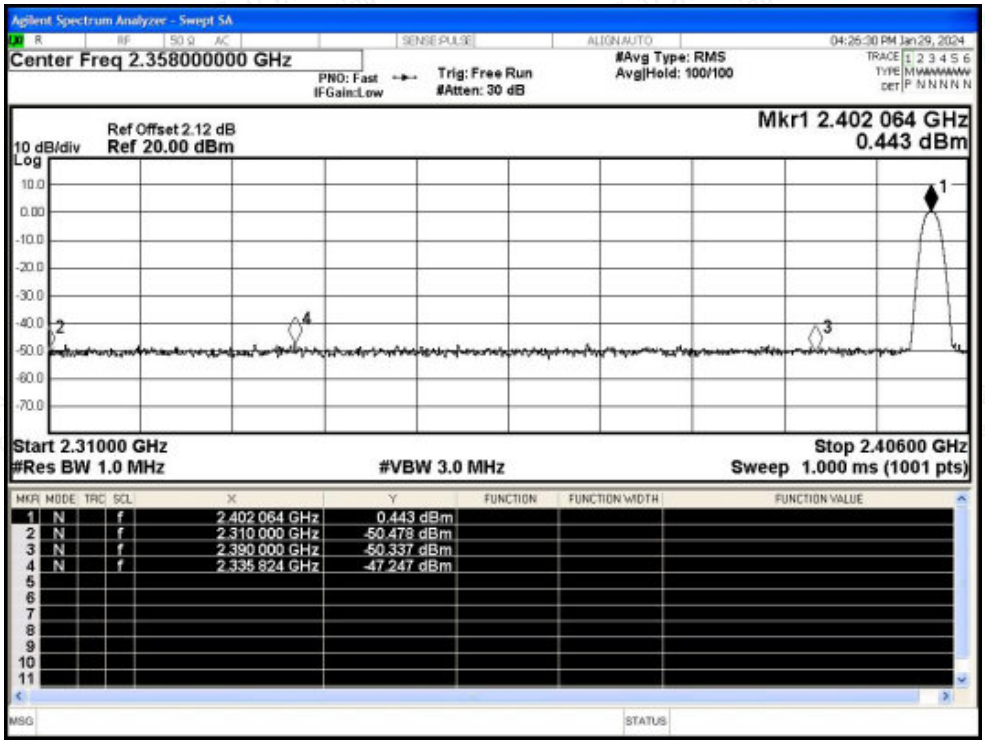


A.9 Restrict Band

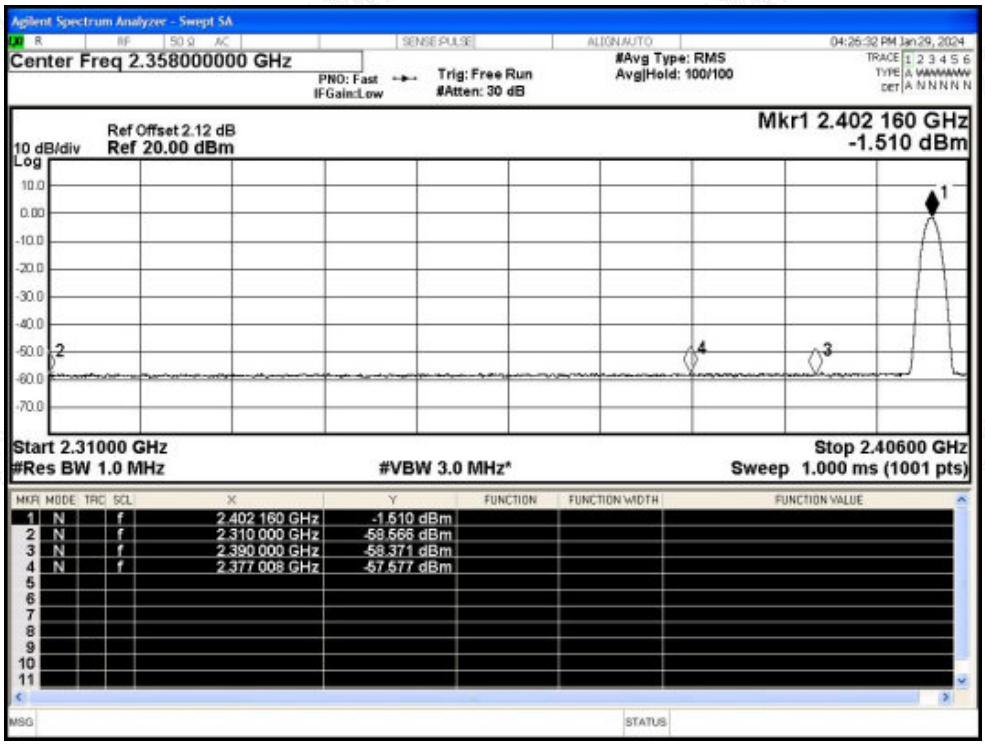
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.48	2	-	46.78	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.57	2	1.14	39.83	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2335.824	-47.25	2	-	50.01	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2377.008	-57.58	2	1.14	40.82	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.34	2	-	46.92	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.37	2	1.14	40.03	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.16	2	-	47.1	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.93	2	1.14	40.47	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2493.592	-46.07	2	-	51.19	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2485.6	-56.87	2	1.14	41.53	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.36	2	-	46.9	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.23	2	1.14	41.17	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.54	2	-	47.72	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-57.99	2	1.14	40.41	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2335.344	-47.53	2	-	49.73	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2377.008	-57.57	2	1.14	40.83	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-49.11	2	-	48.15	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-57.72	2	1.14	40.68	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.73	2	-	47.53	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.76	2	1.14	40.64	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2485.096	-46.76	2	-	50.5	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.776	-56.96	2	1.14	41.44	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.93	2	-	47.33	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.95	2	1.14	40.45	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.04	2	-	47.22	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.82	2	1.13	39.57	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2315.952	-47.39	2	-	49.87	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2353.488	-57.41	2	1.13	40.98	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-49.93	2	-	47.33	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.46	2	1.13	39.93	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-50.03	2	-	47.23	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.38	2	1.13	41.01	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2486.608	-46.7	2	-	50.56	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2485.432	-56.9	2	1.13	41.49	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.25	2	-	47.01	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-57.63	2	1.13	40.76	Average	54	Pass

Test Graphs

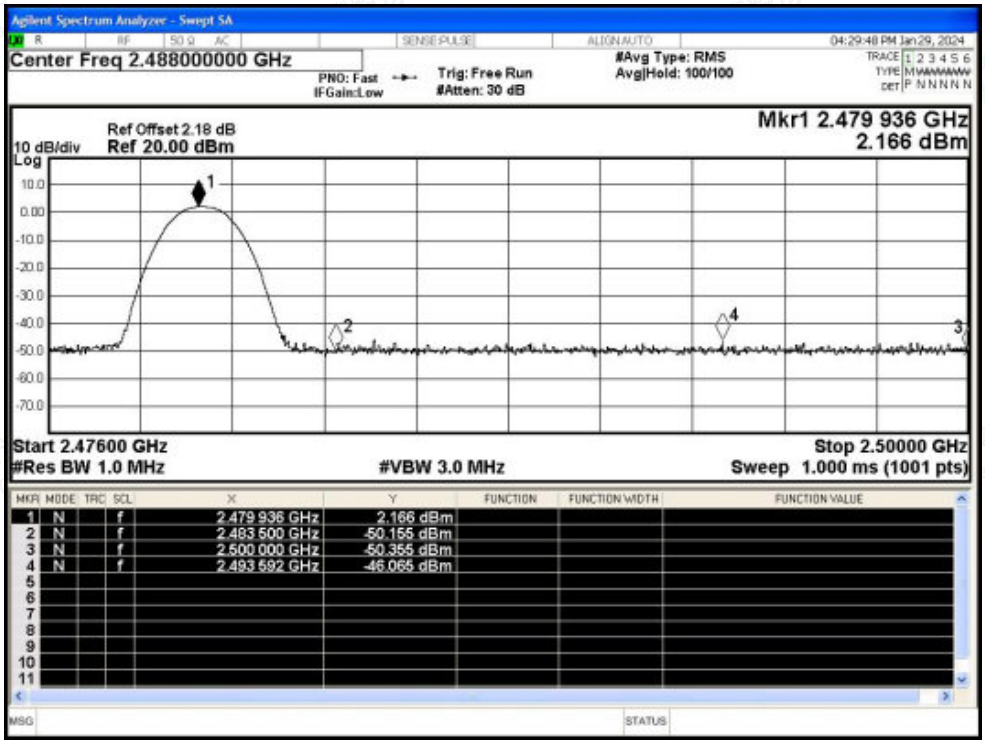
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



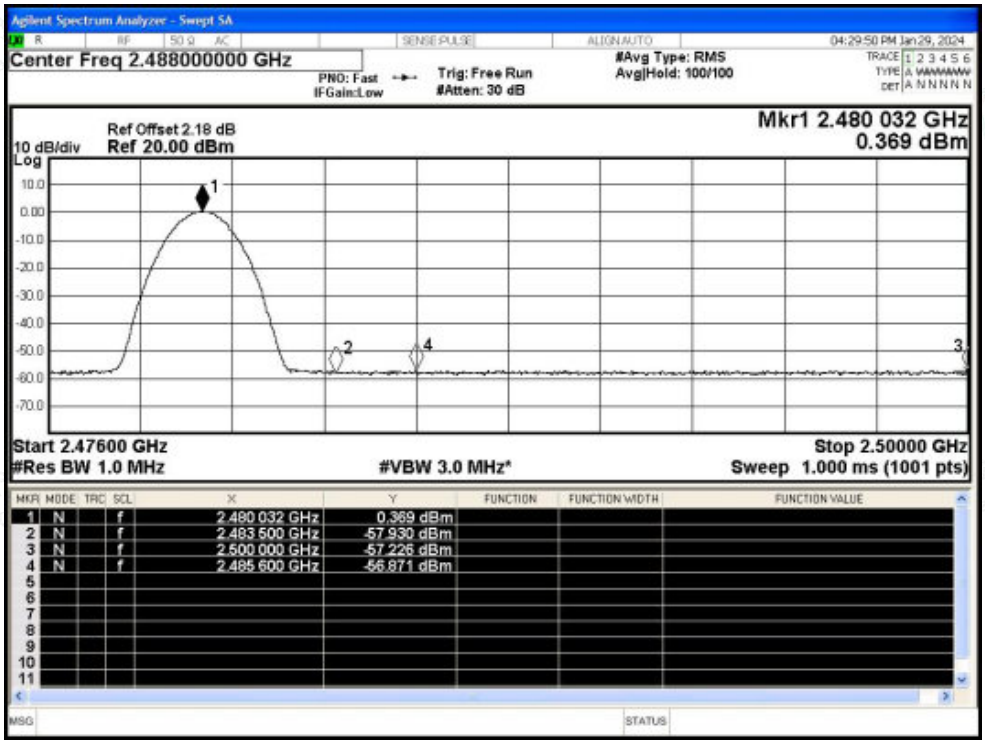
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



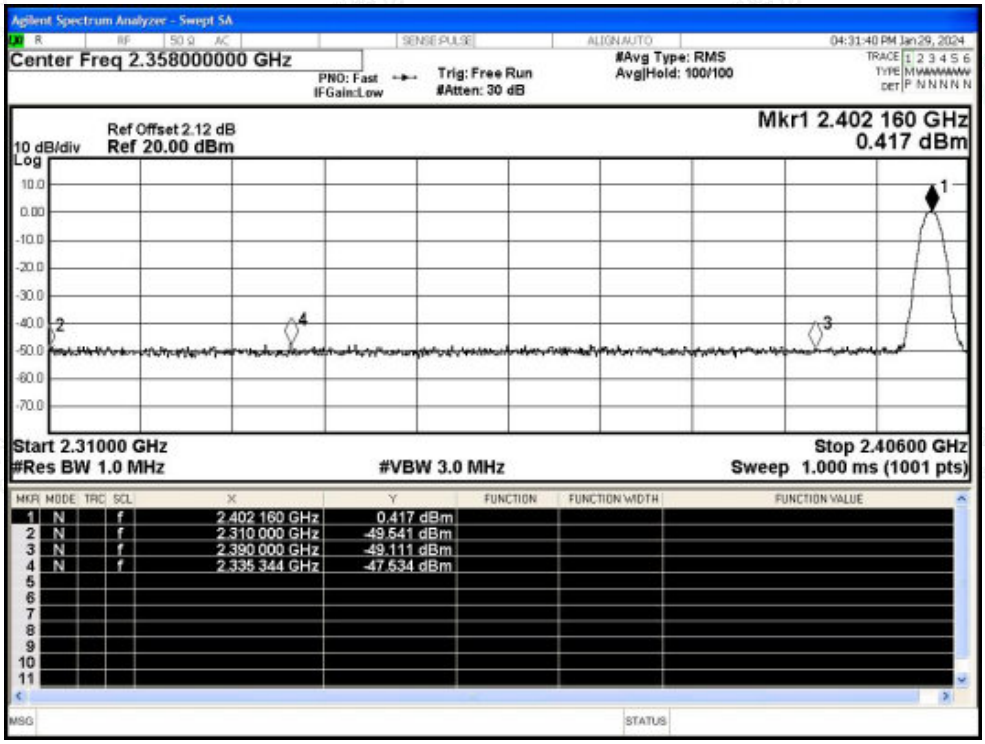
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



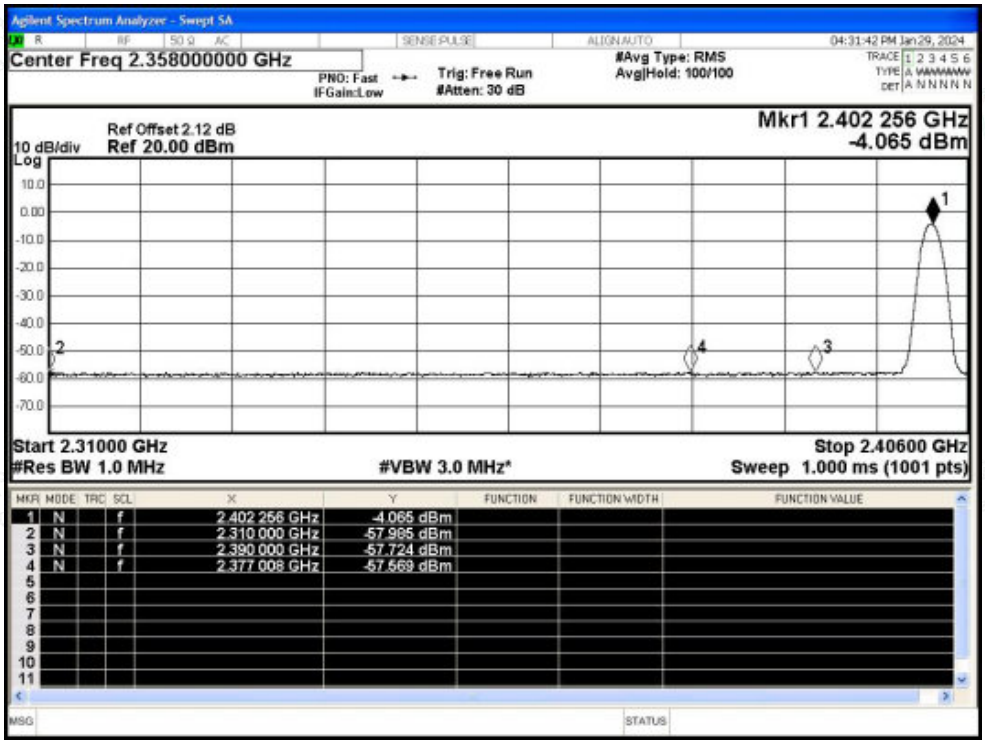
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



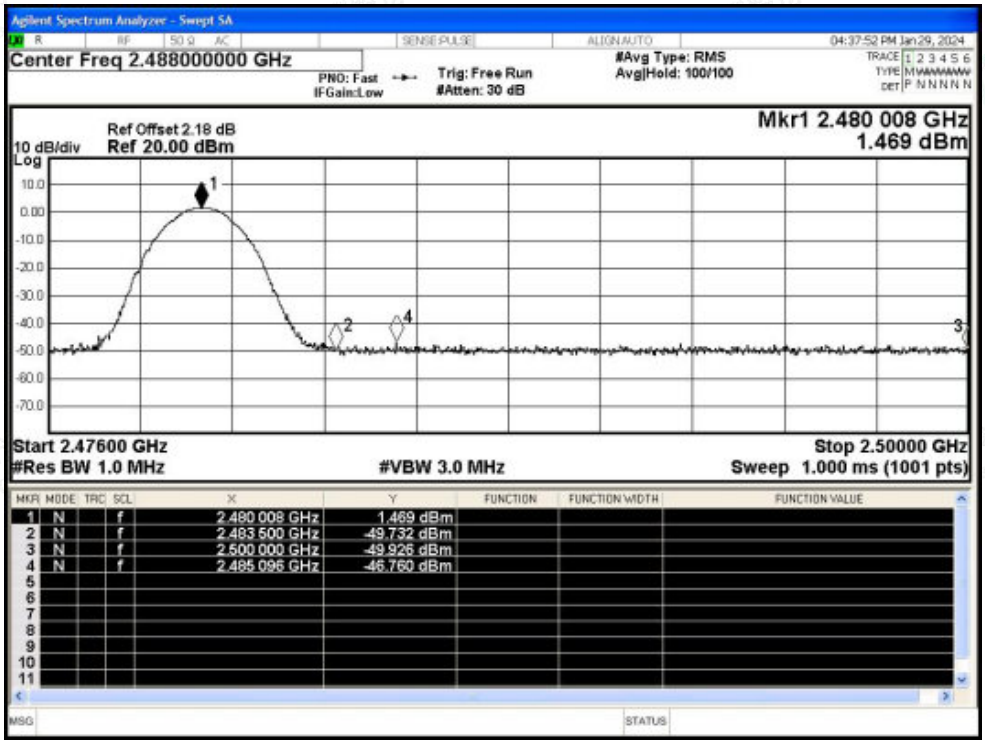
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



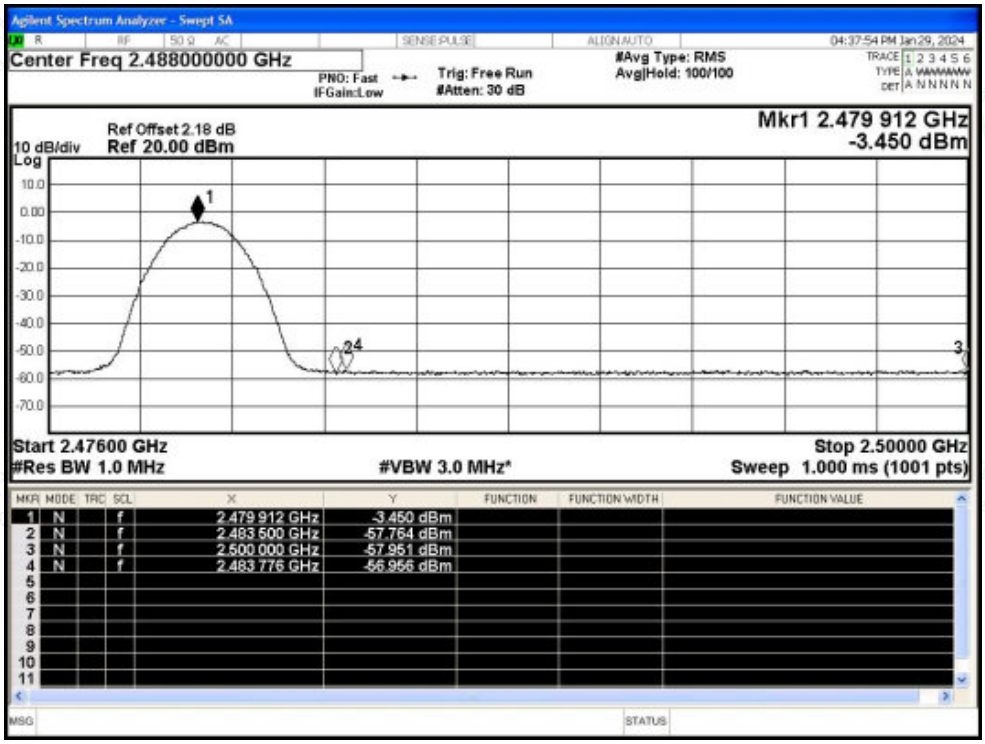
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



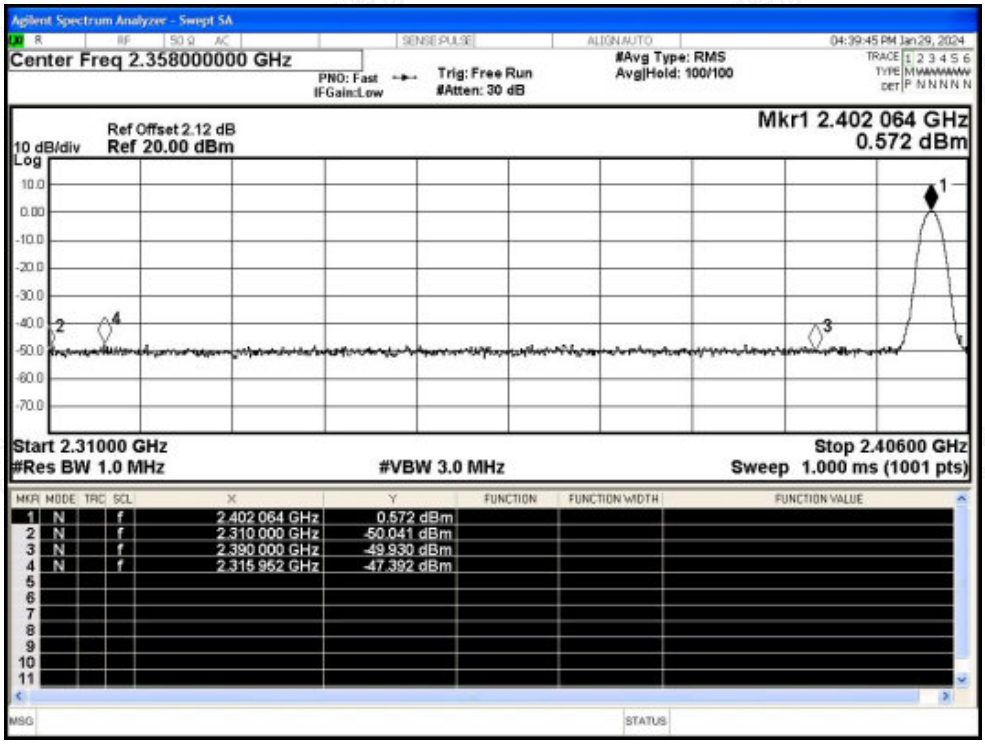
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



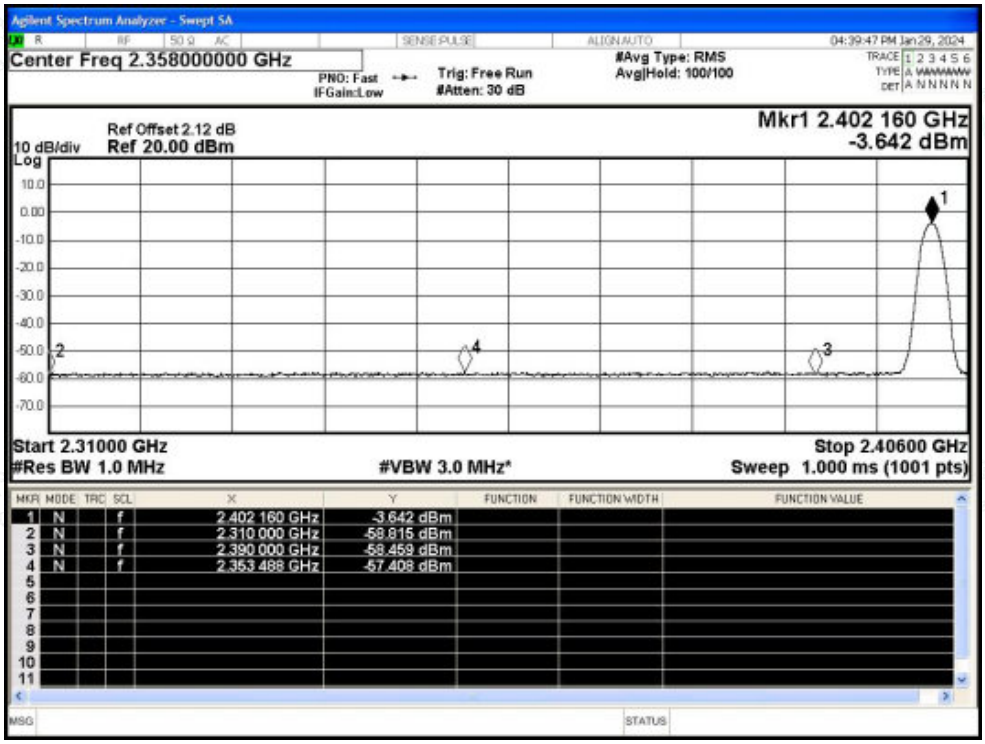
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



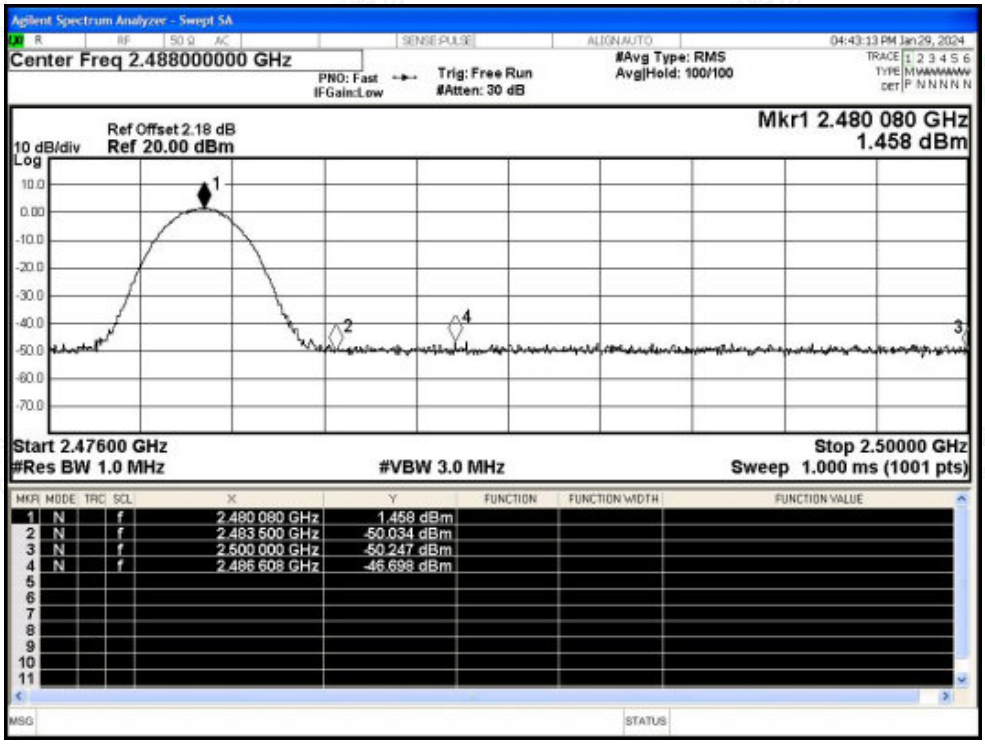
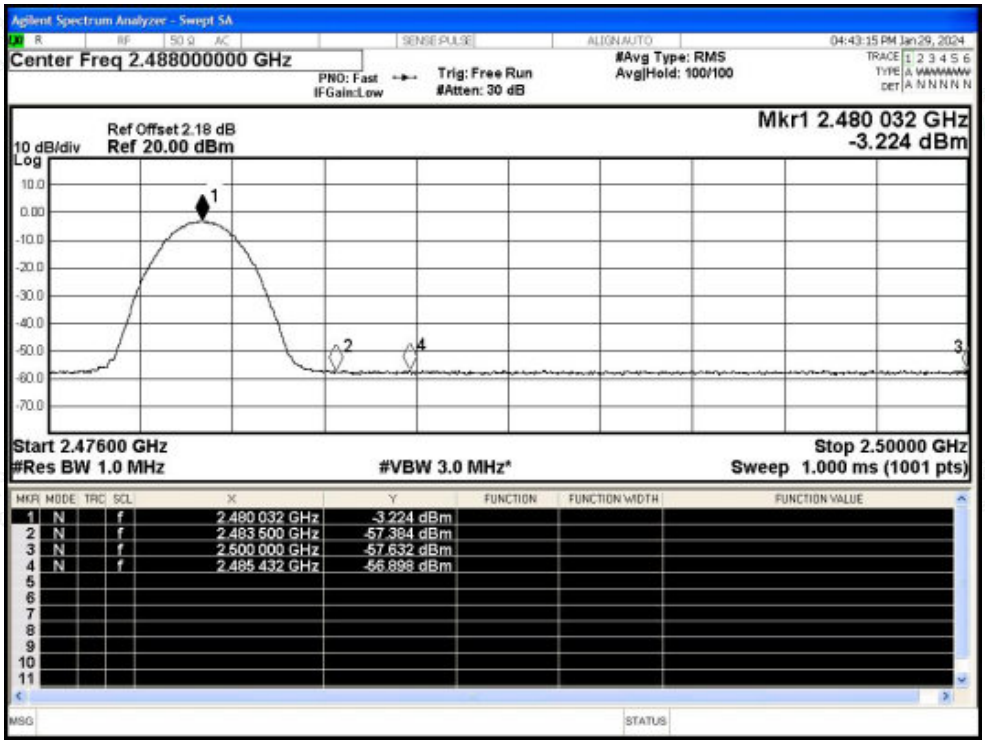
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



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