Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Smart Watch

Test Model: River-01

Environmental Conditions

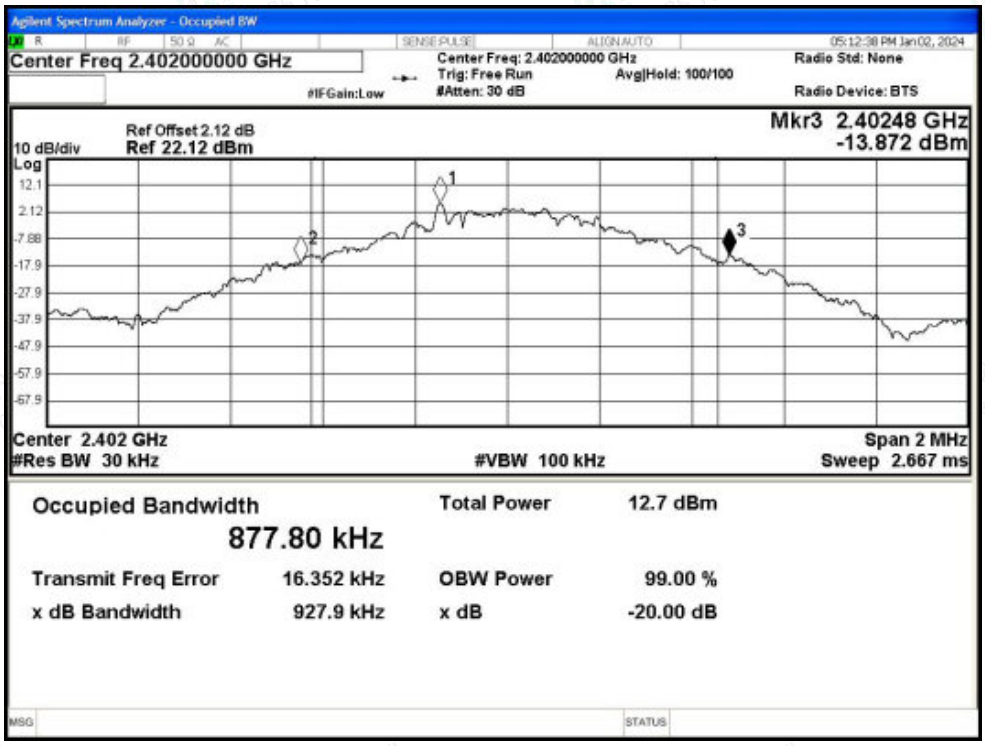
Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
Supervised by:	Joker Hu

A.1 -20dB Bandwidth

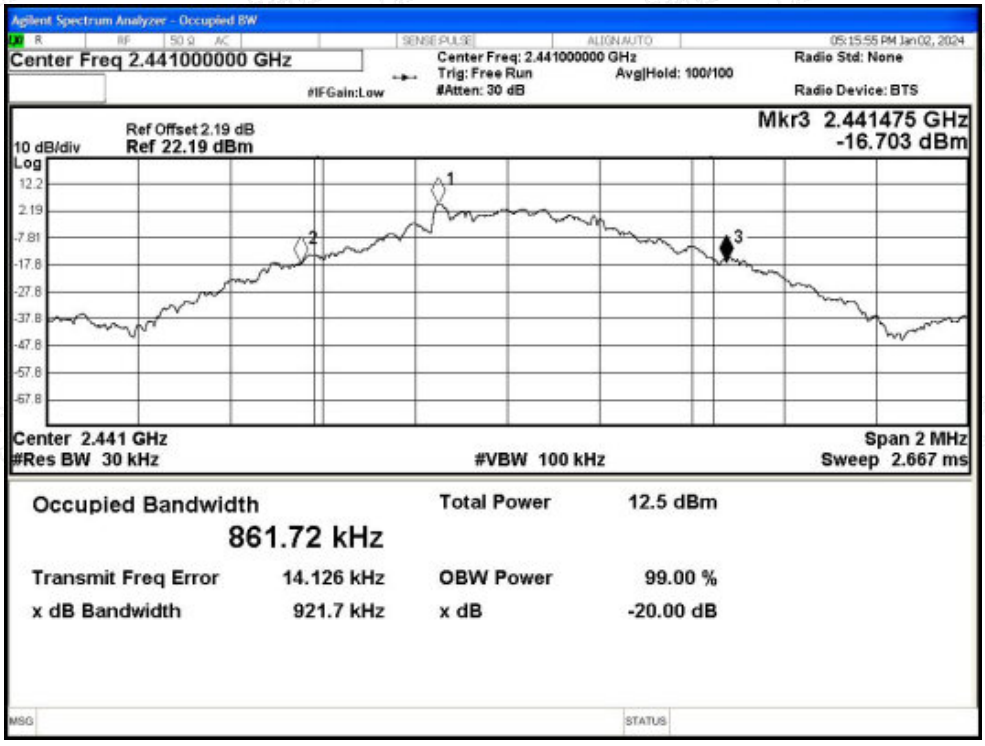
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.928	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.922	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.947	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.269	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.287	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.272	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.204	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.198	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.23	N/A	Pass

Test Graphs

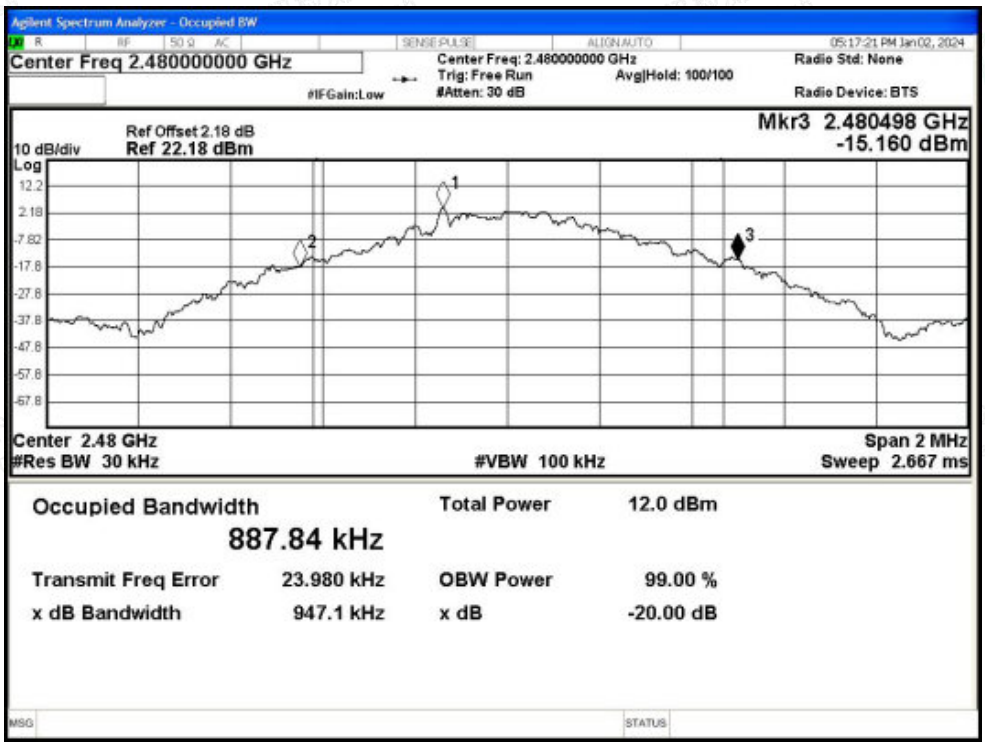
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



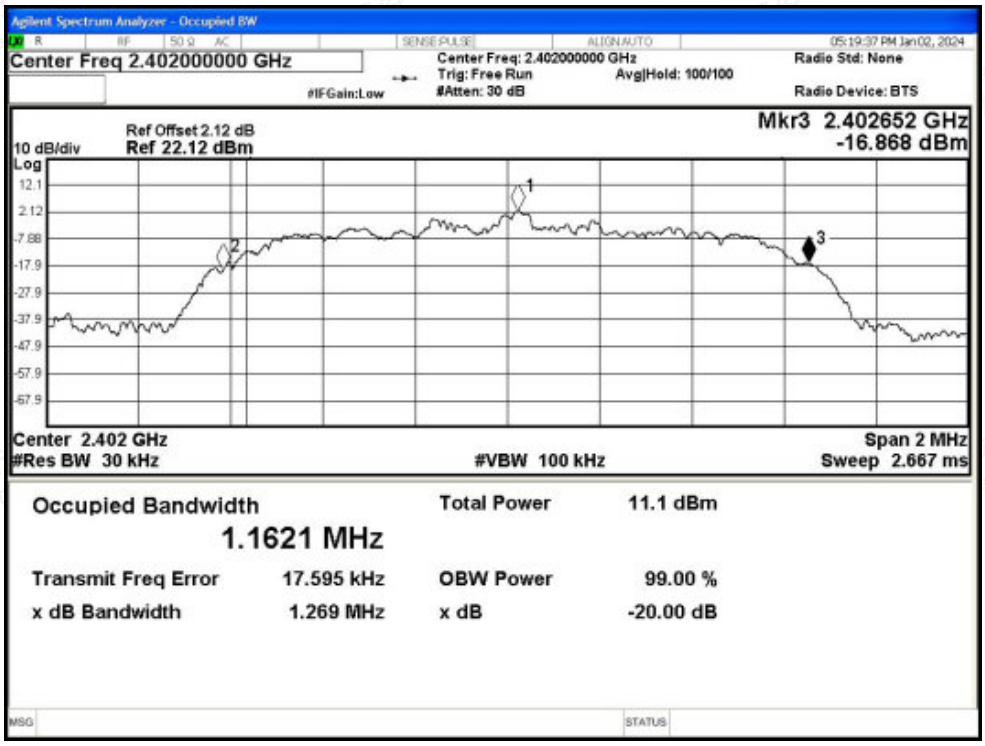
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



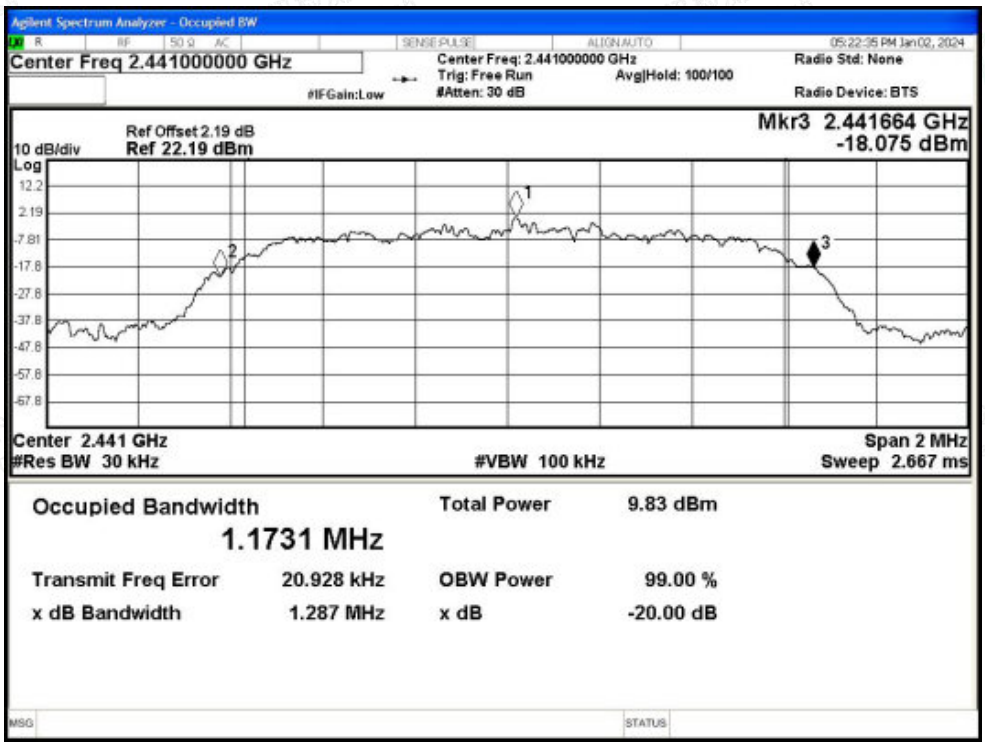
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



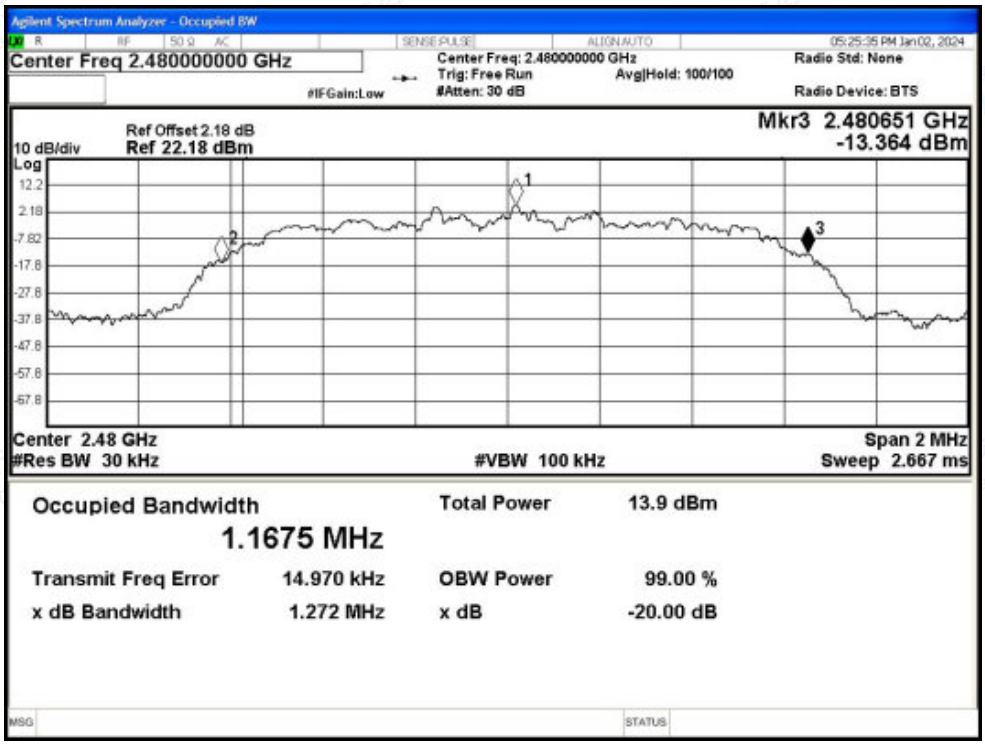
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



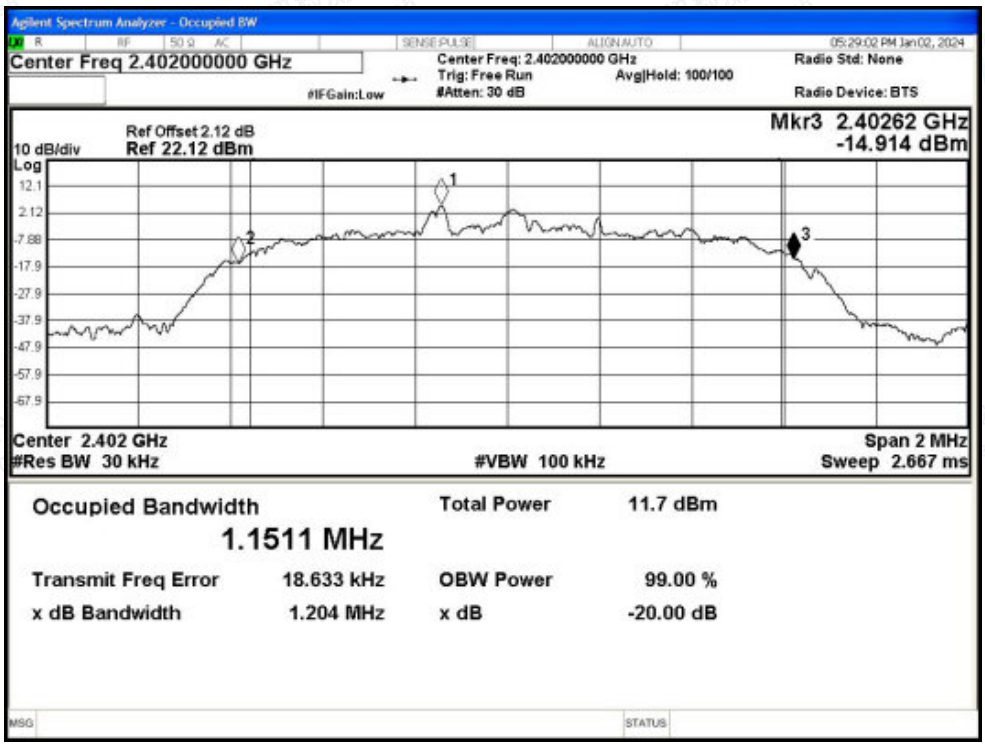
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



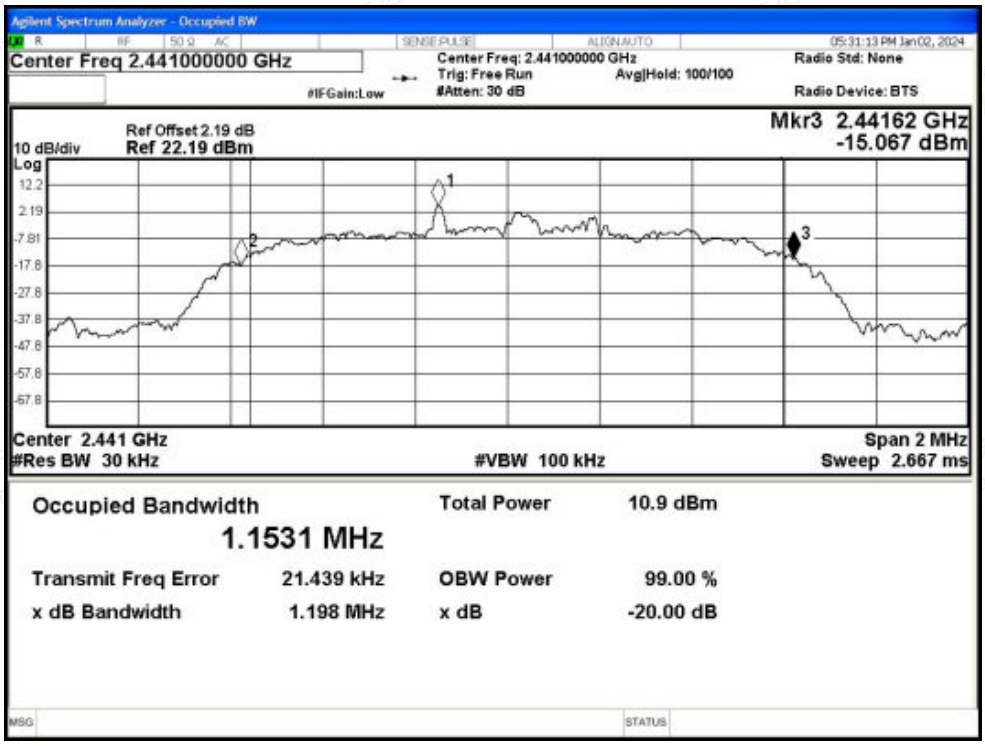
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



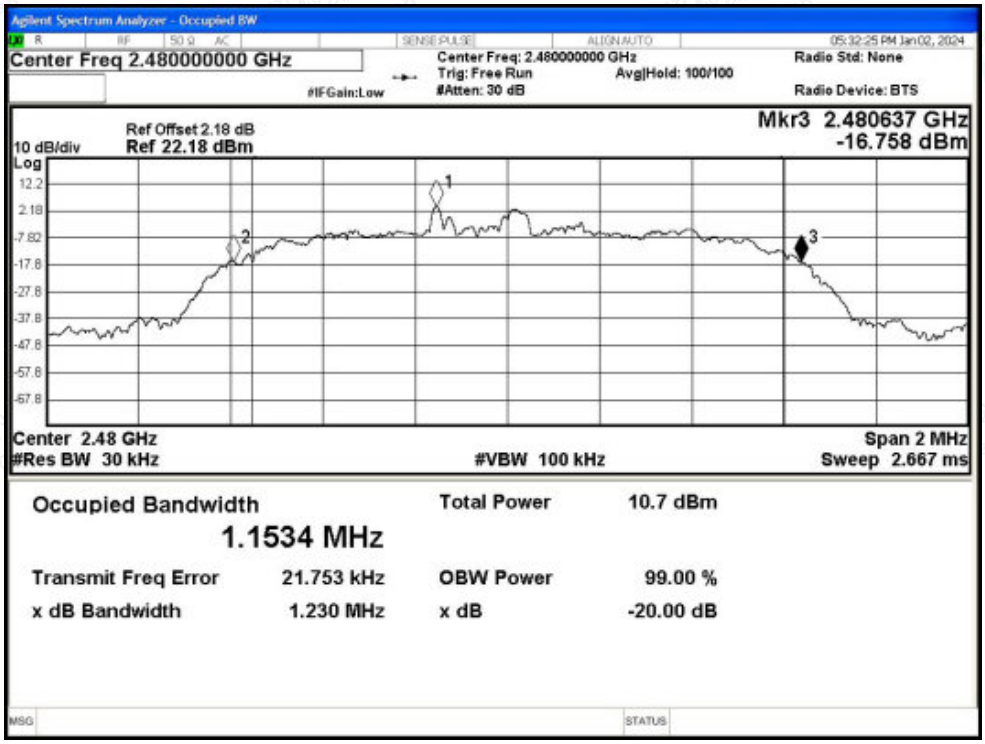
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

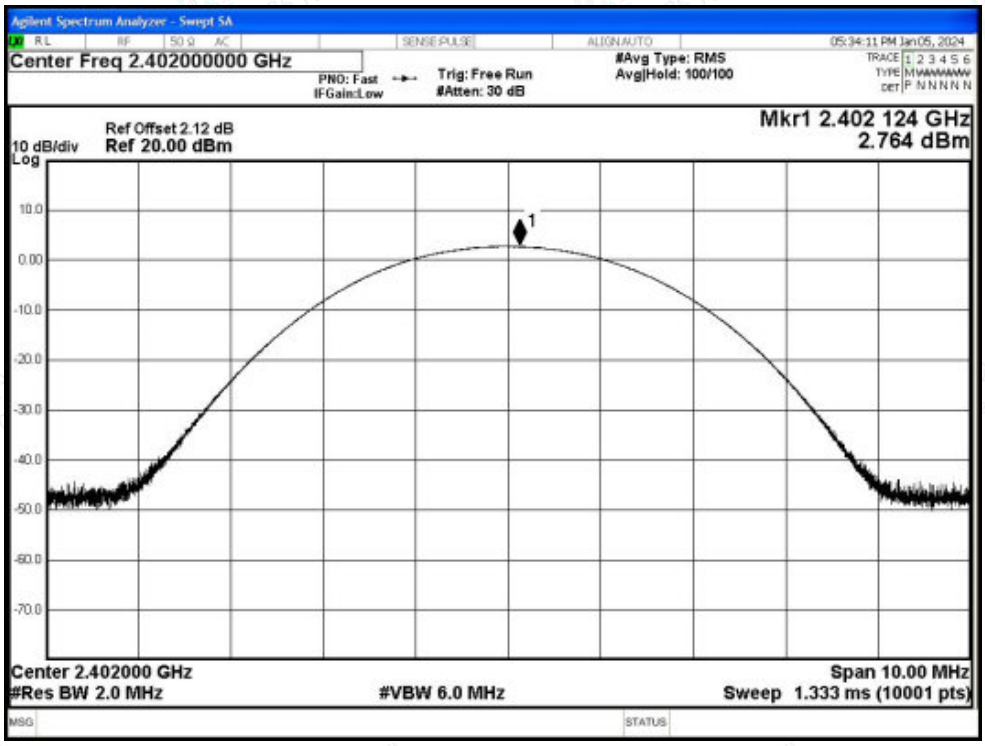


A.2 Maximum Conducted Output Power

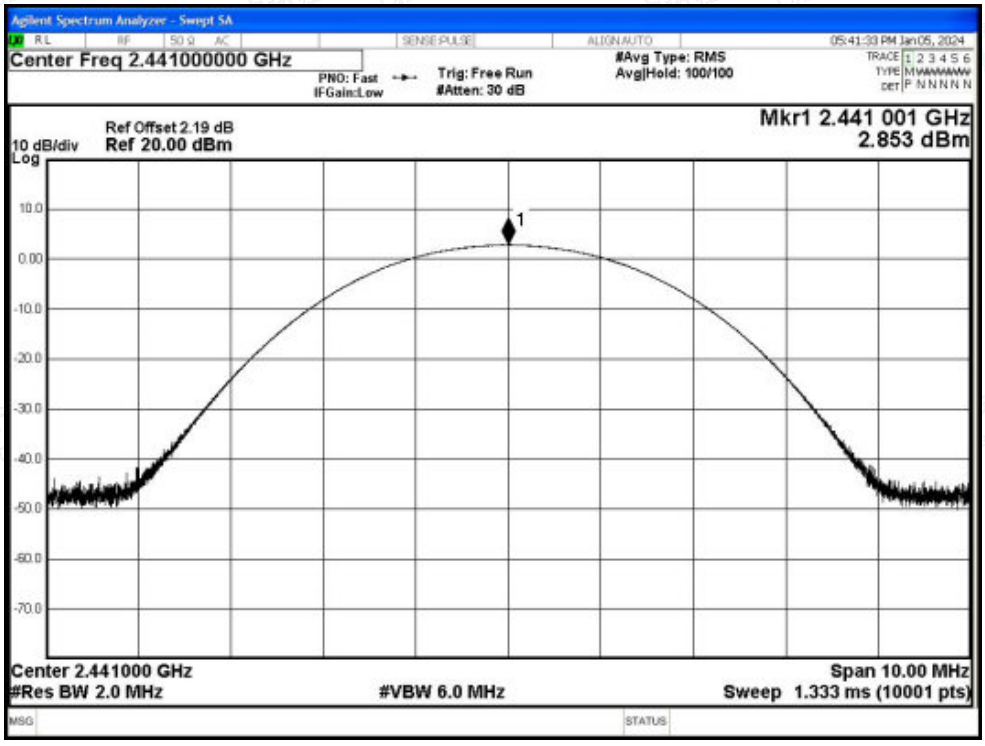
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	2.76	21	Pass
NVNT	1-DH5	2441	Ant1	2.85	21	Pass
NVNT	1-DH5	2480	Ant1	1.91	21	Pass
NVNT	2-DH5	2402	Ant1	2.7	21	Pass
NVNT	2-DH5	2441	Ant1	1.96	21	Pass
NVNT	2-DH5	2480	Ant1	2.49	21	Pass
NVNT	3-DH5	2402	Ant1	1.82	21	Pass
NVNT	3-DH5	2441	Ant1	1.82	21	Pass
NVNT	3-DH5	2480	Ant1	2.55	21	Pass

Test Graphs

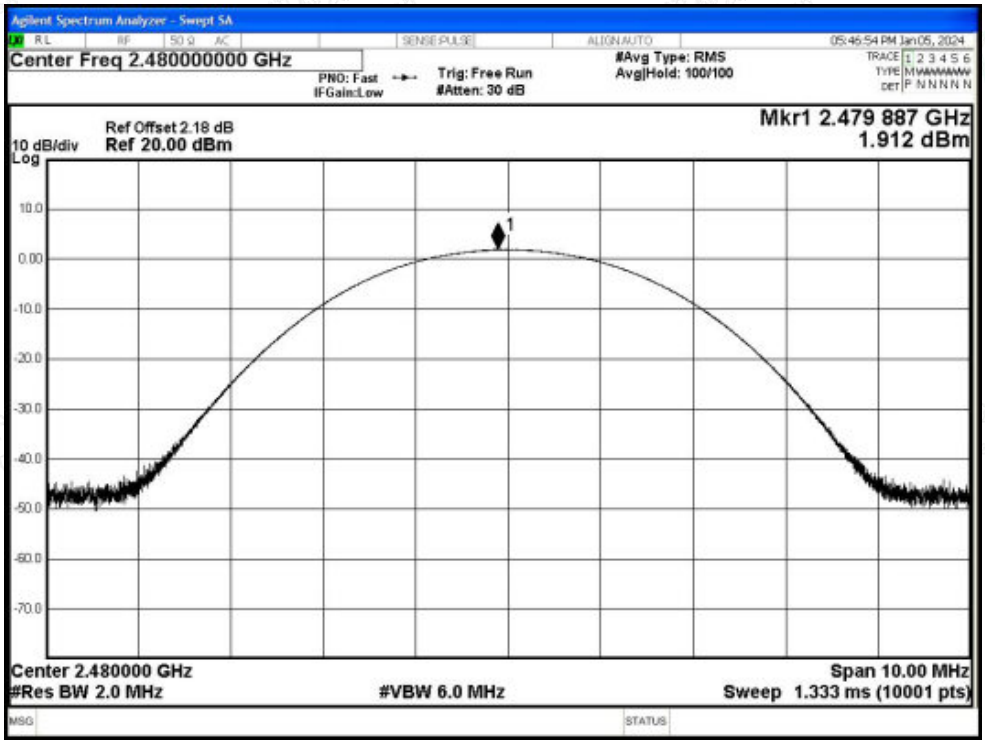
Power NVNT 1-DH5 2402MHz Ant1



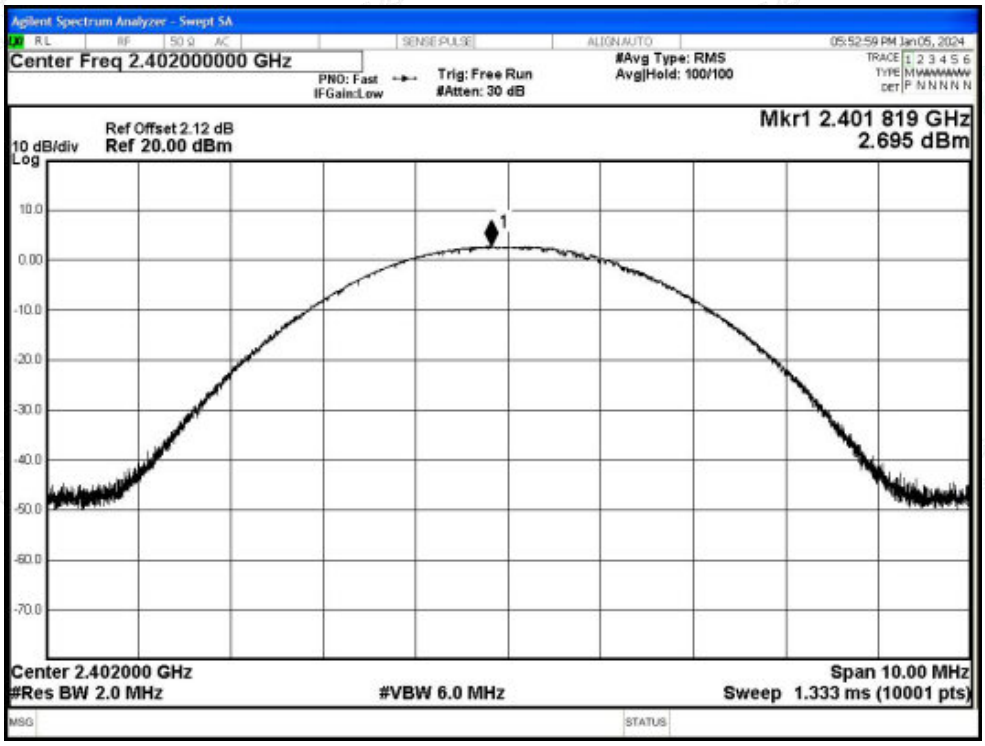
Power NVNT 1-DH5 2441MHz Ant1



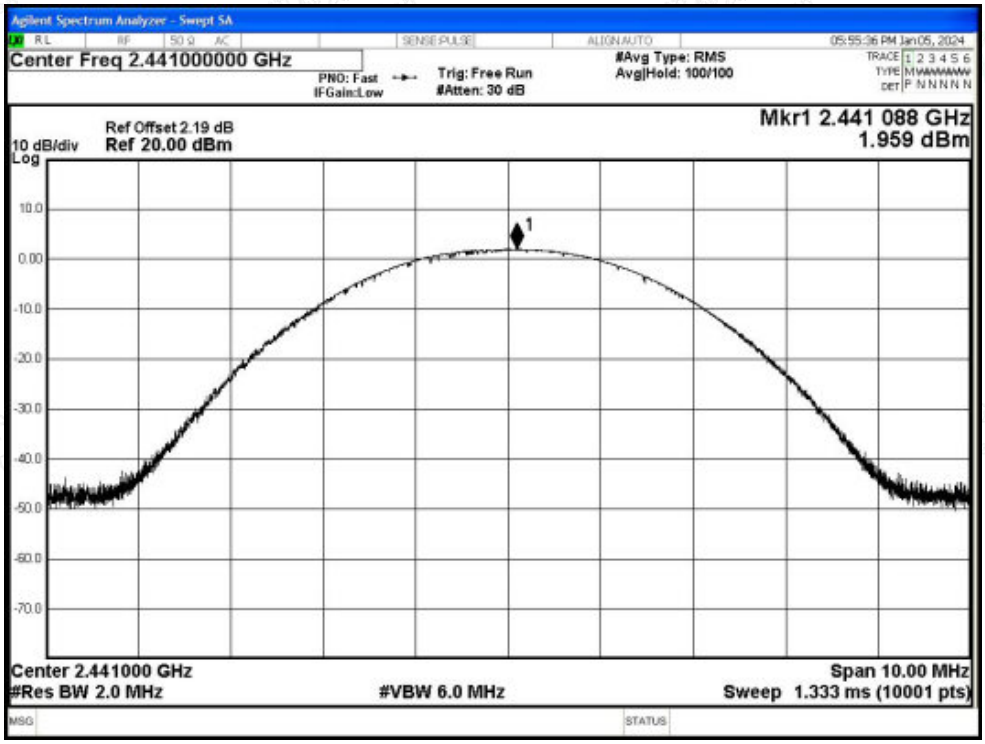
Power NVNT 1-DH5 2480MHz Ant1



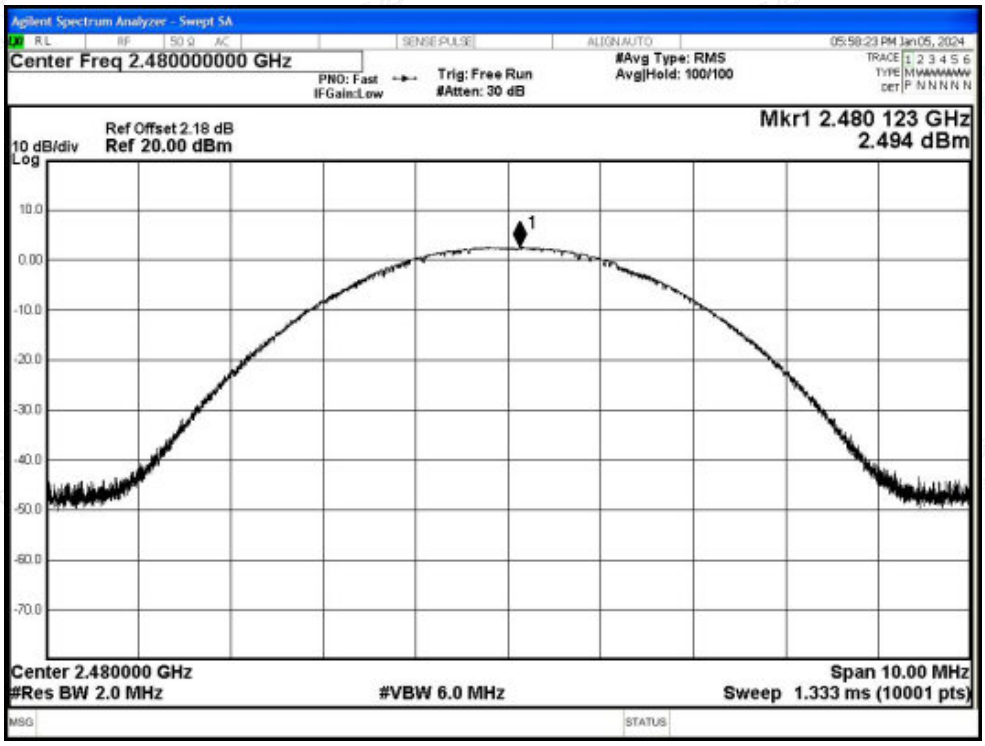
Power NVNT 2-DH5 2402MHz Ant1



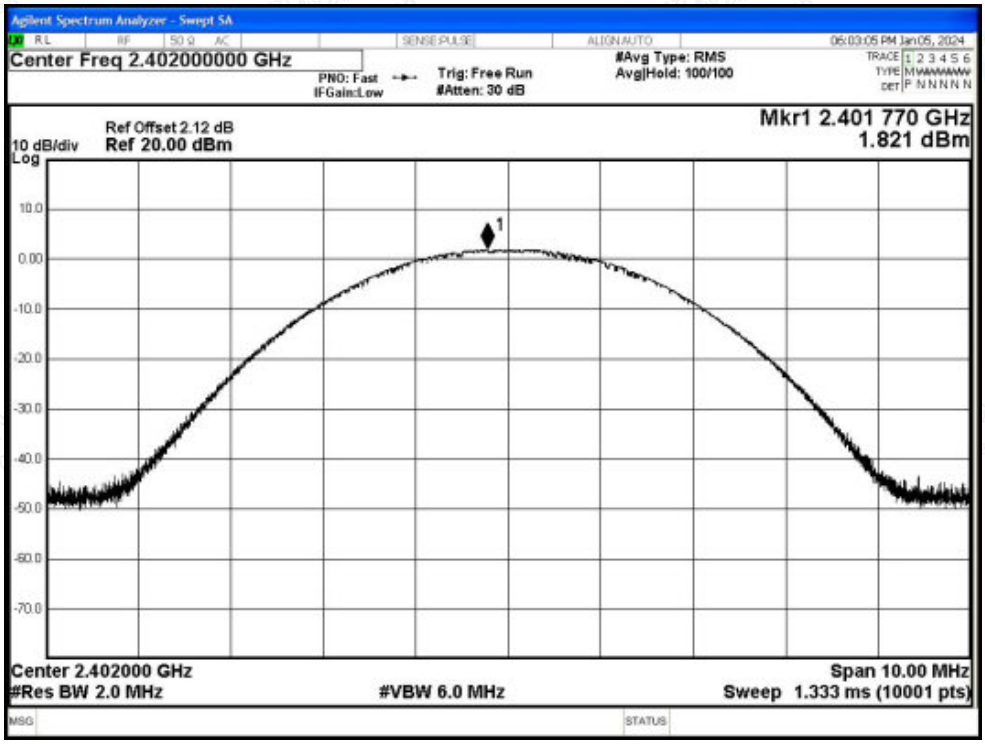
Power NVNT 2-DH5 2441MHz Ant1



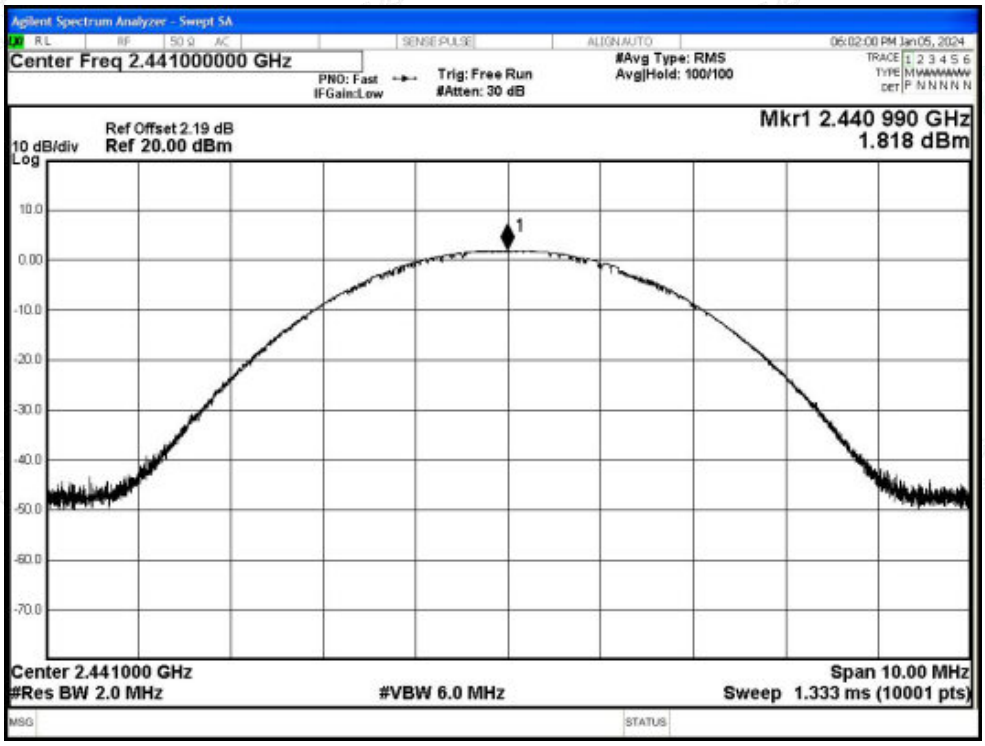
Power NVNT 2-DH5 2480MHz Ant1



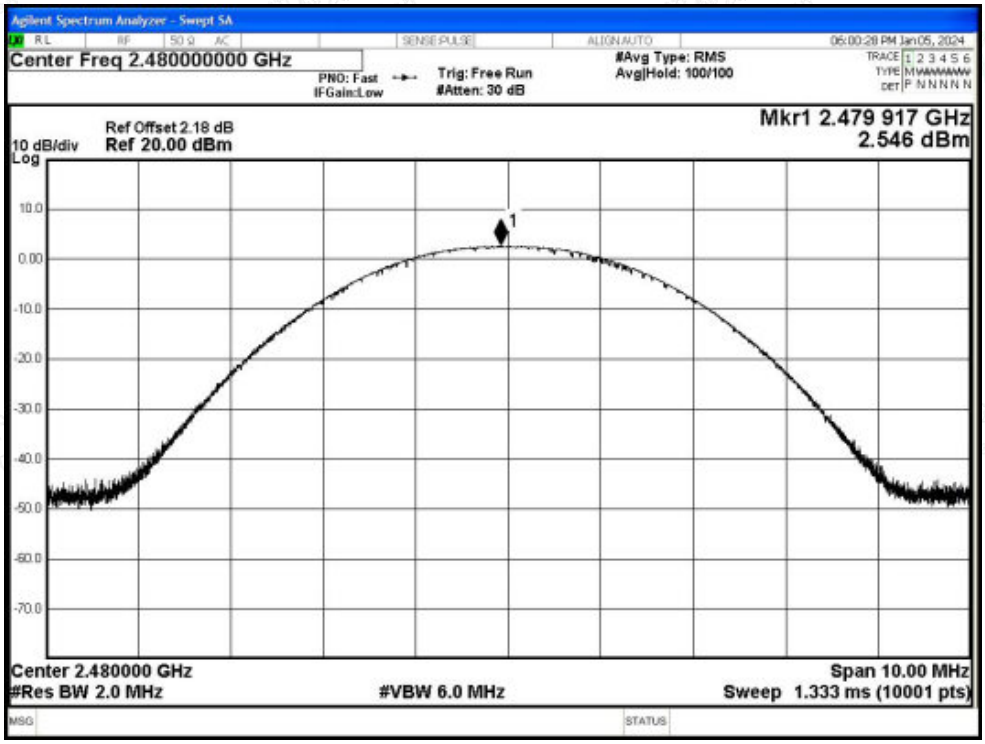
Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



Power NVNT 3-DH5 2480MHz Ant1

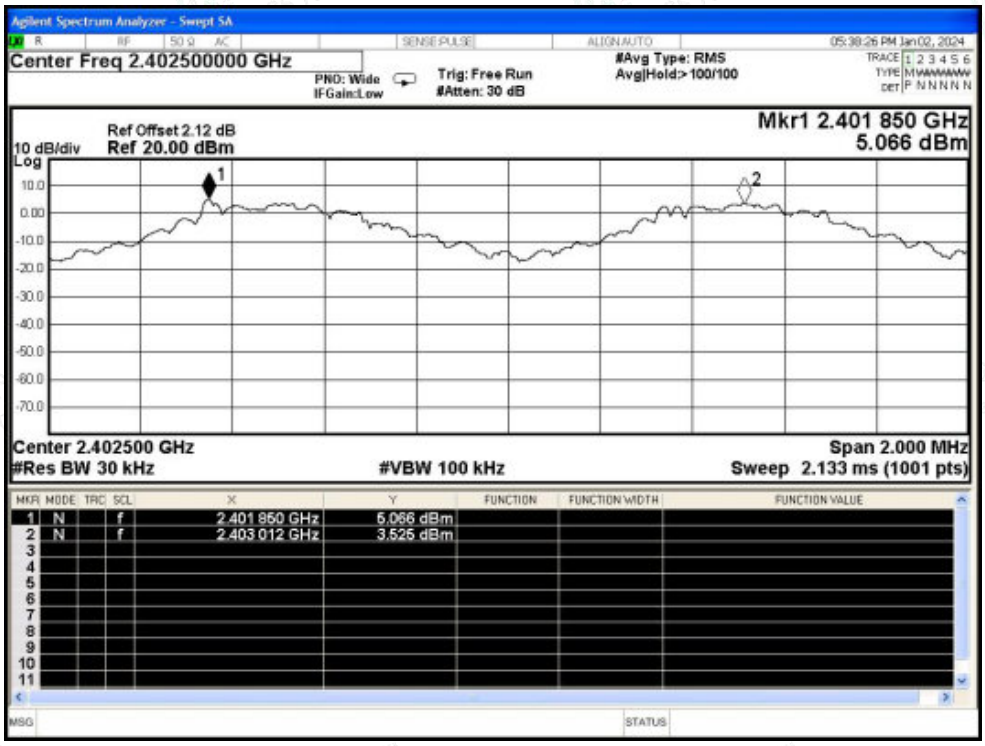


A.3 Carrier Frequencies Separation

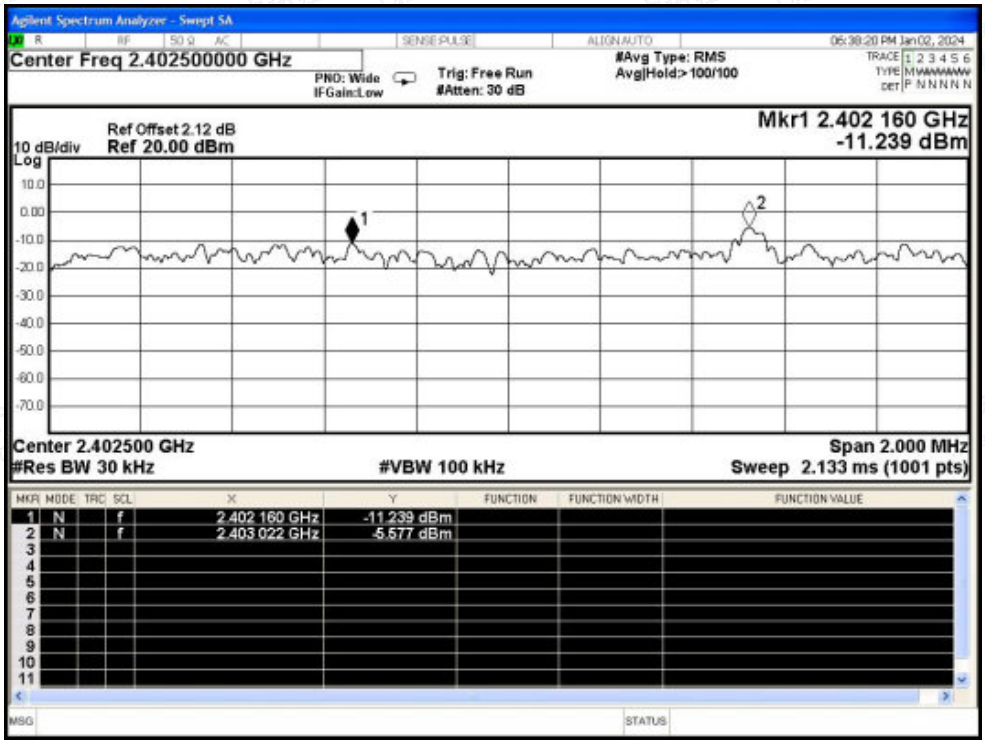
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.85	2403.012	1.162	0.631	Pass
NVNT	2-DH5	Ant1	2402.16	2403.022	0.862	0.858	Pass
NVNT	3-DH5	Ant1	2402.178	2403.128	0.95	0.820	Pass

Test Graphs

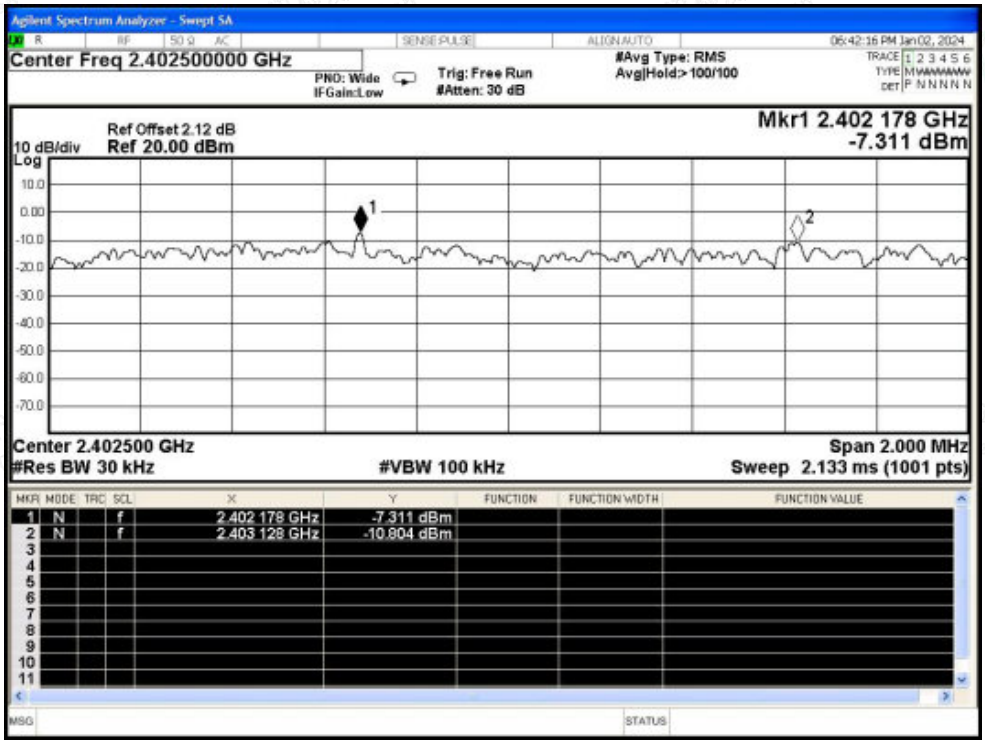
CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2402MHz Ant1

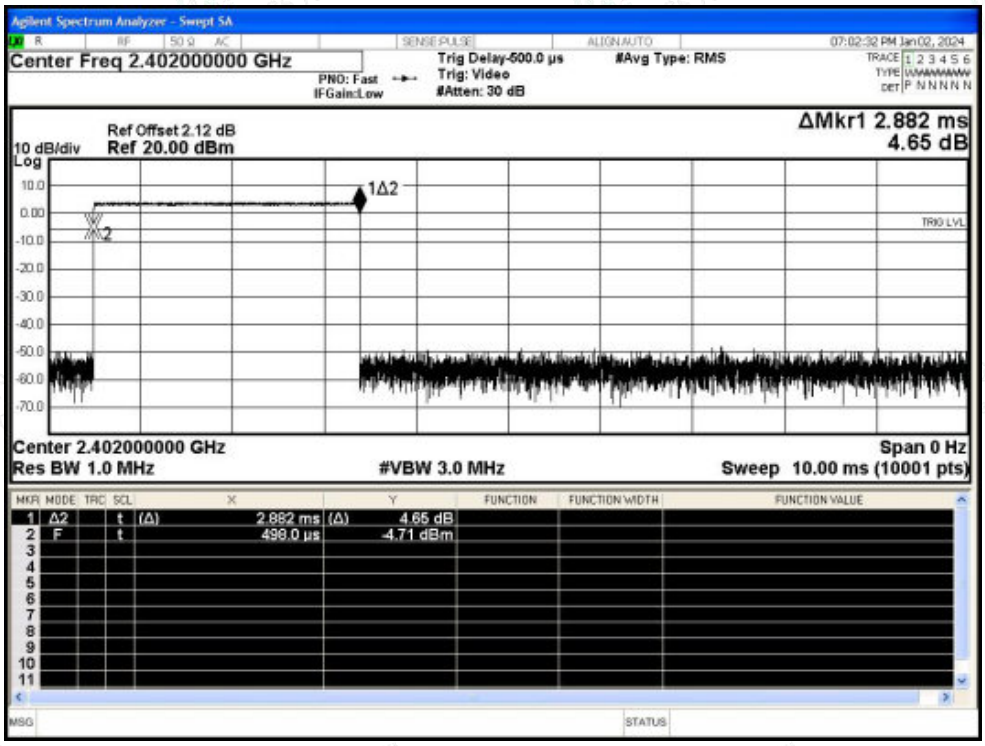


A.4 Dwell Time

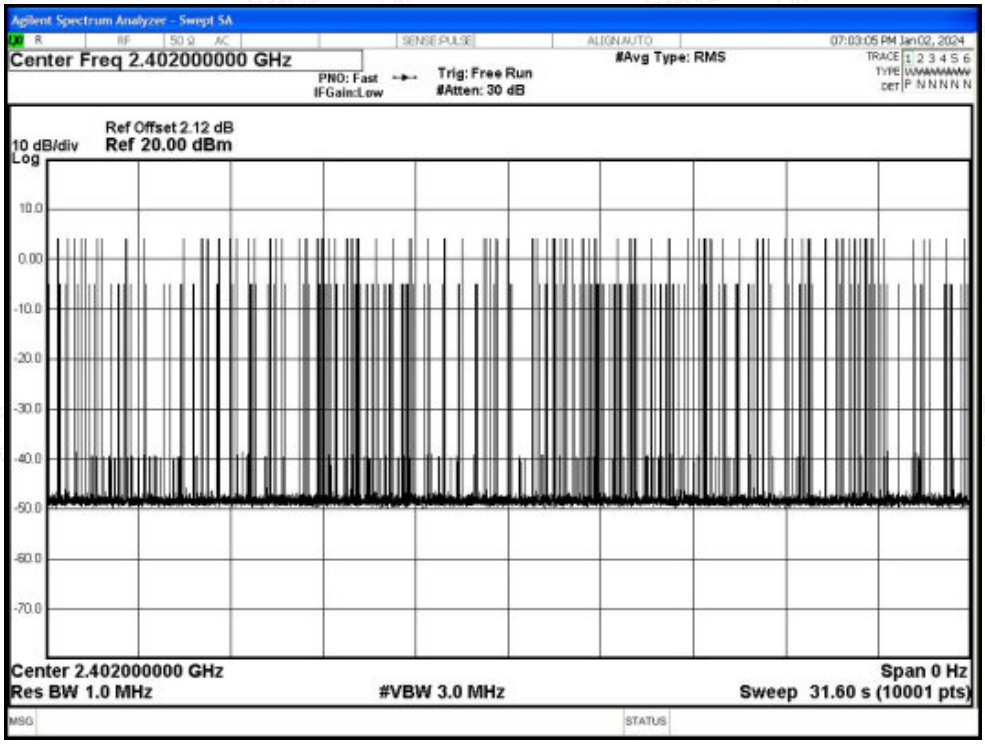
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.882	299.728	104	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.885	274.075	95	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.887	320.457	111	31600	400	Pass

Test Graphs

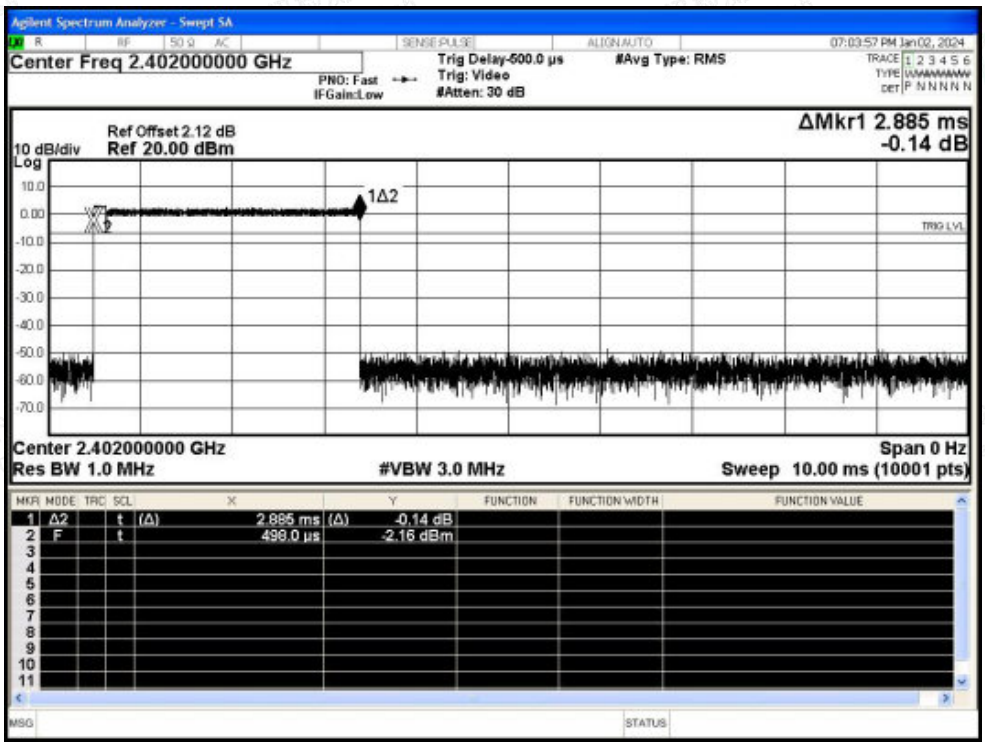
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



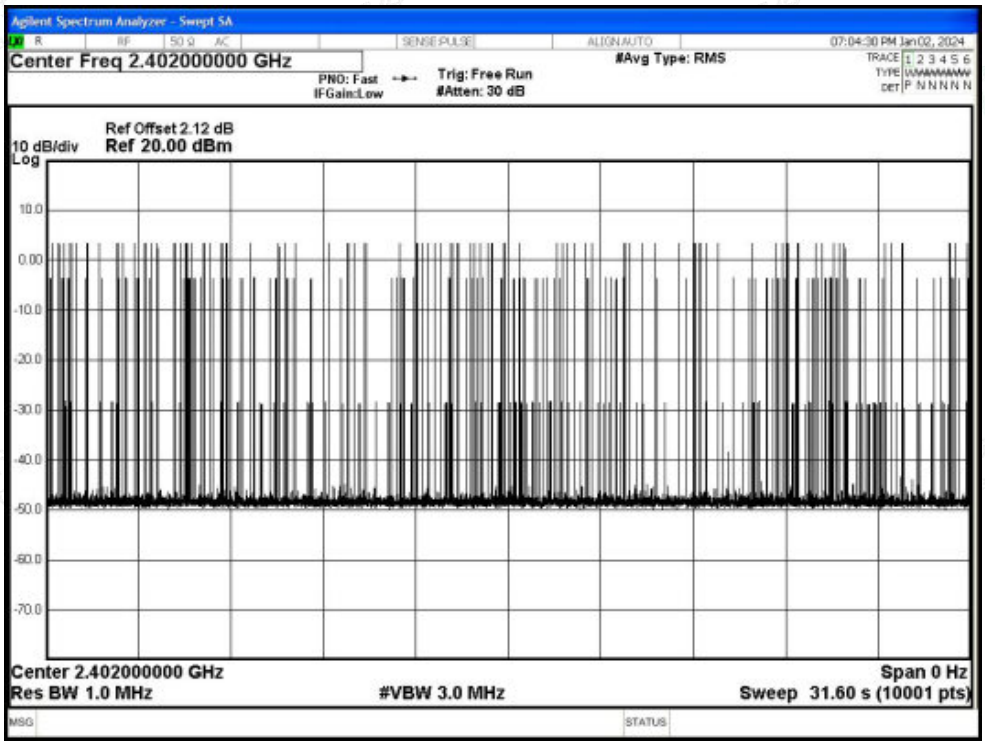
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



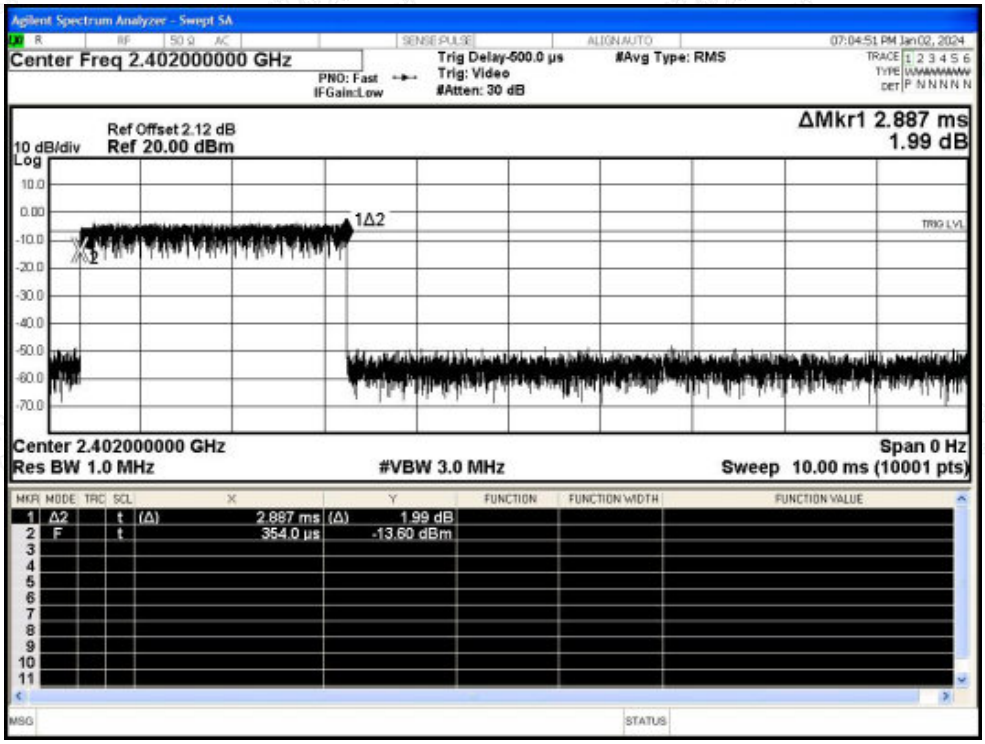
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



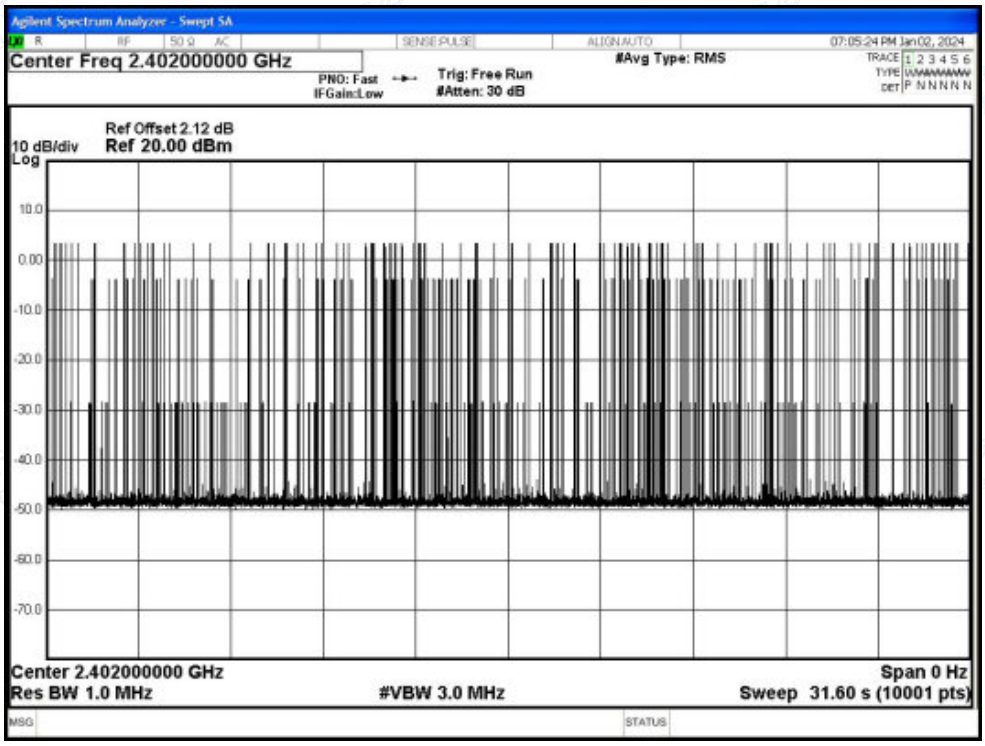
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

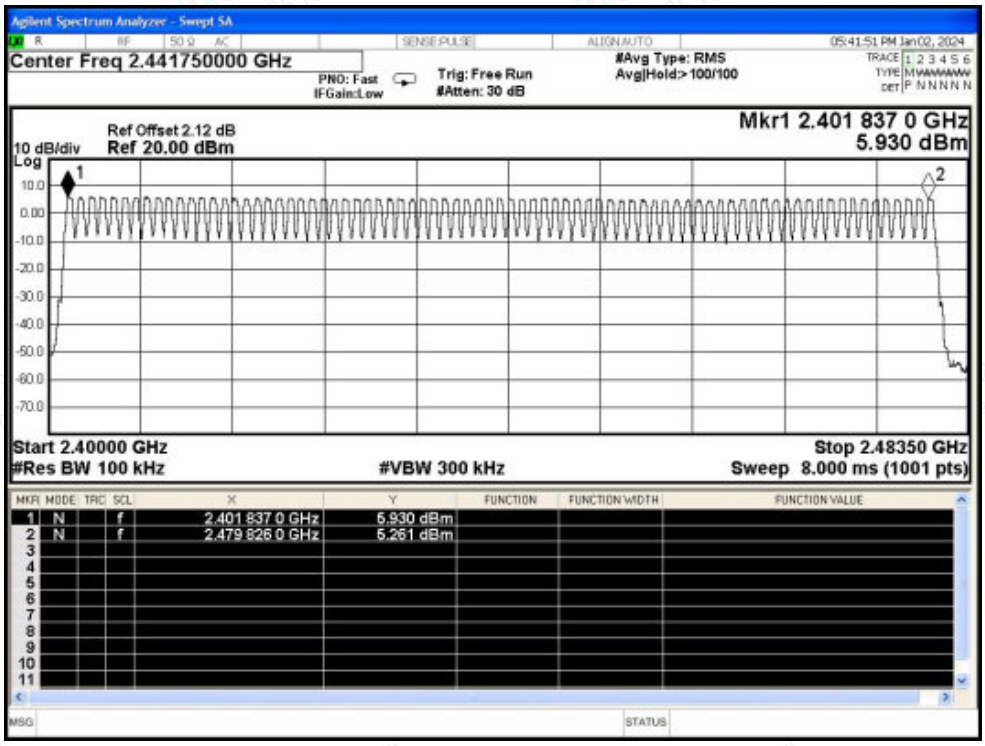


A.5 Number of Hopping Channel

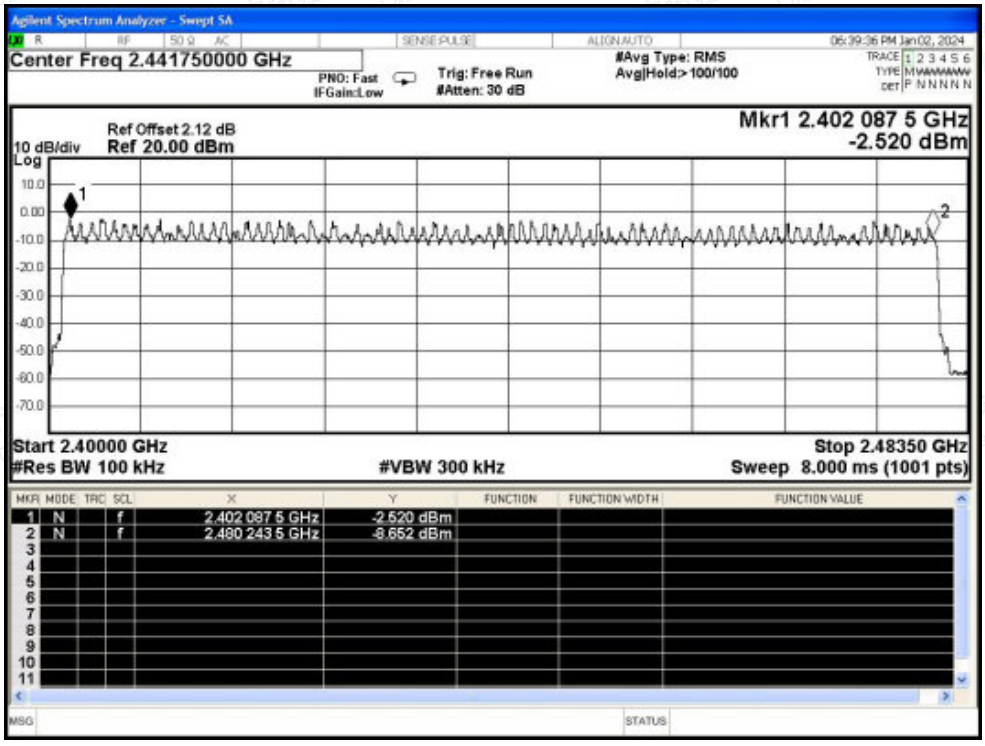
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

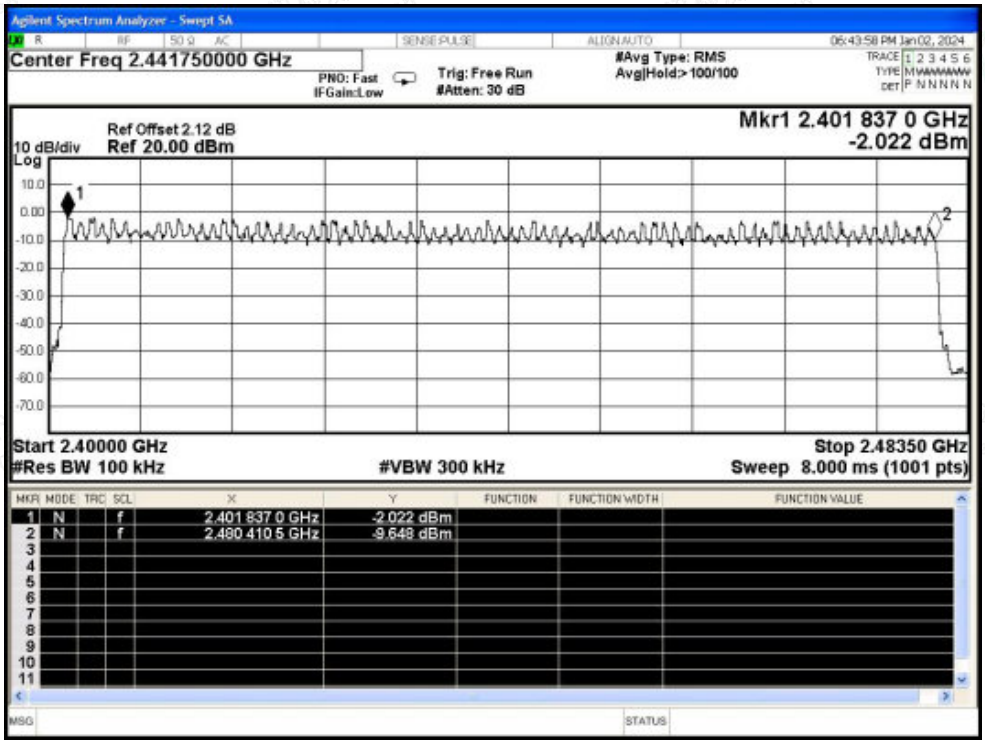
Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



Hopping No. NVNT 3-DH5 2402MHz Ant1

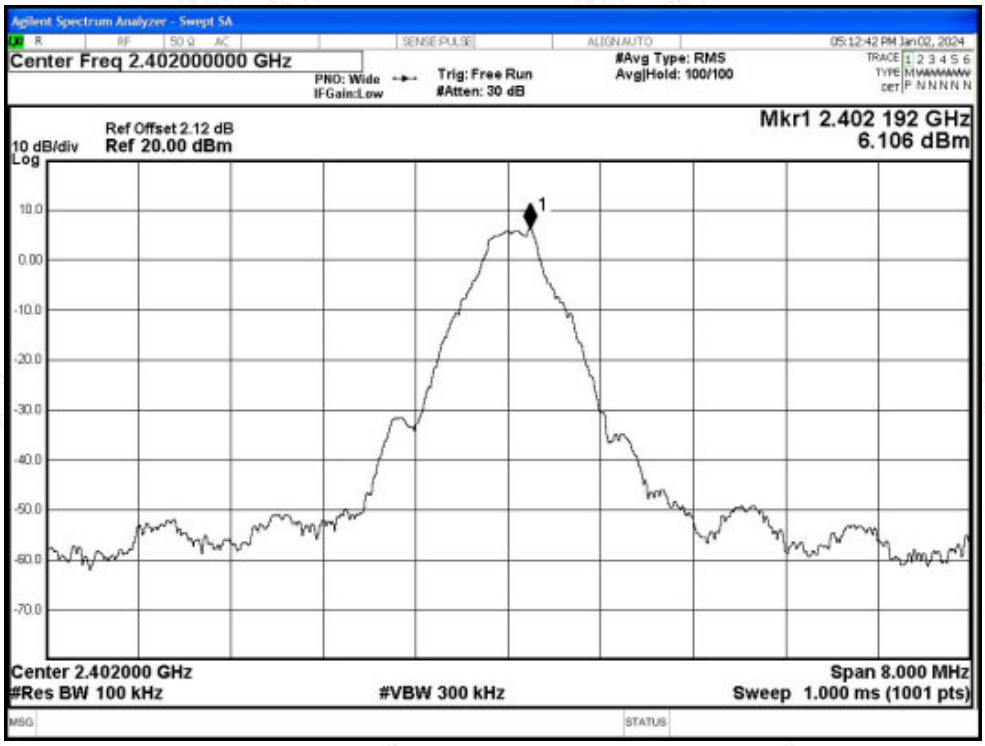


A.6 Band Edge

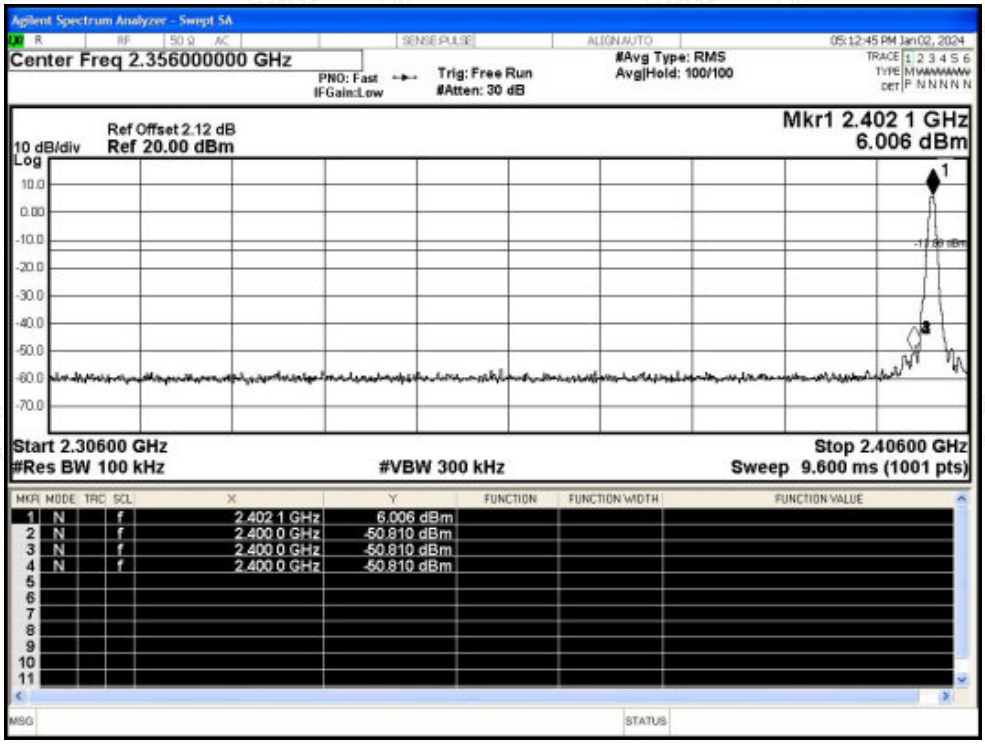
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-56.92	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-59.27	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-50.55	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-62.42	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-48.18	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-61.59	-20	Pass

Test Graphs

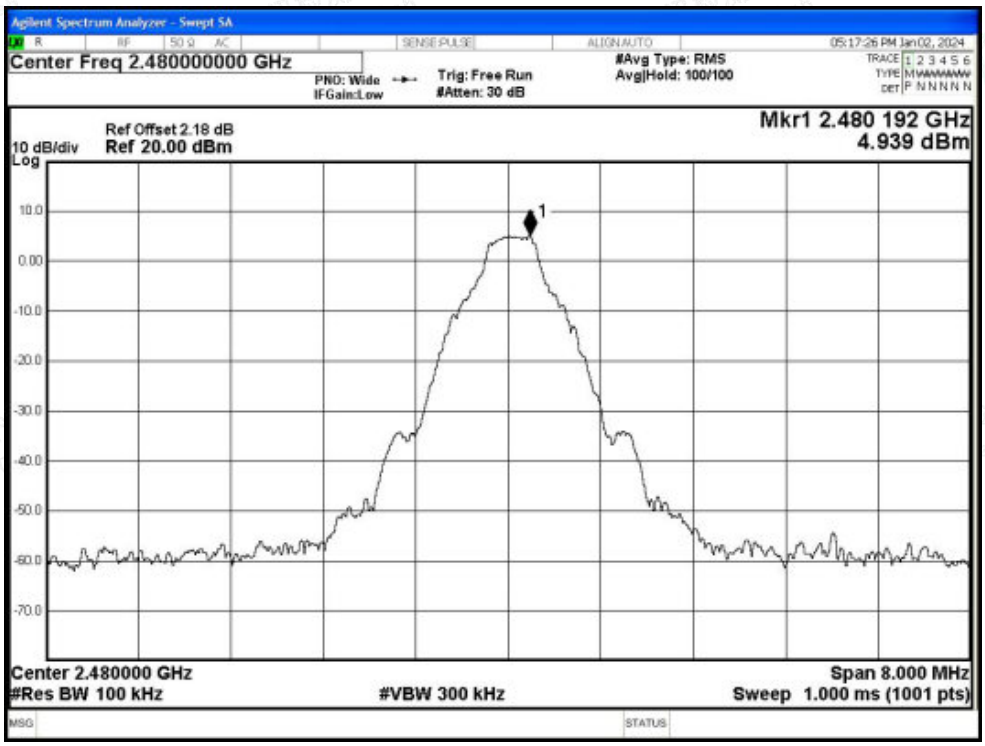
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



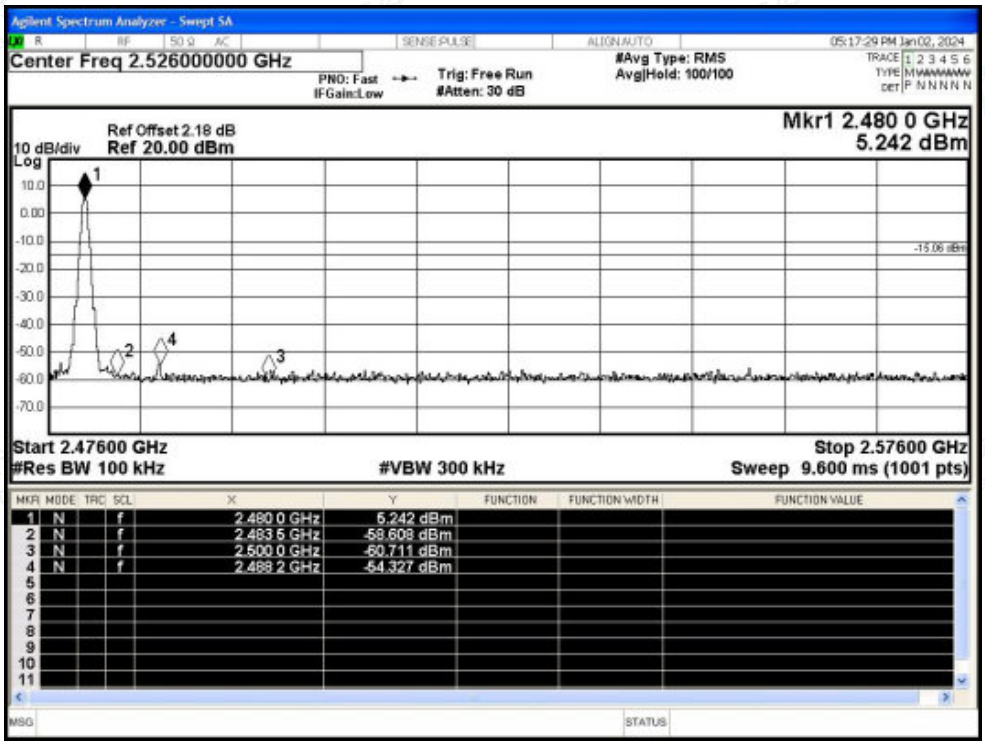
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



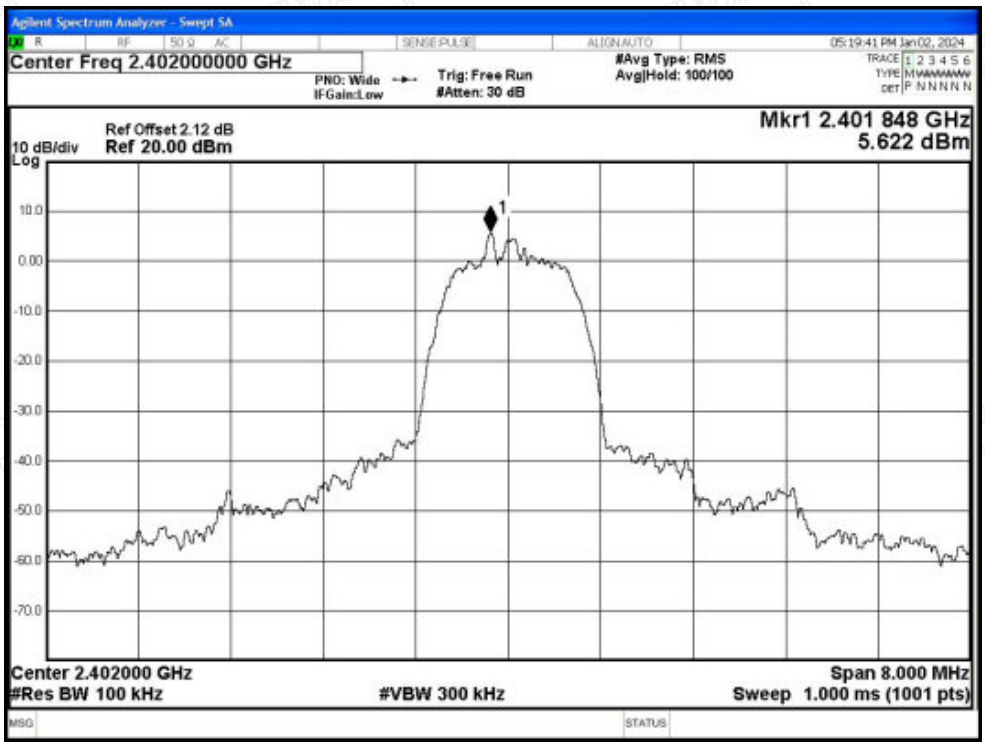
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



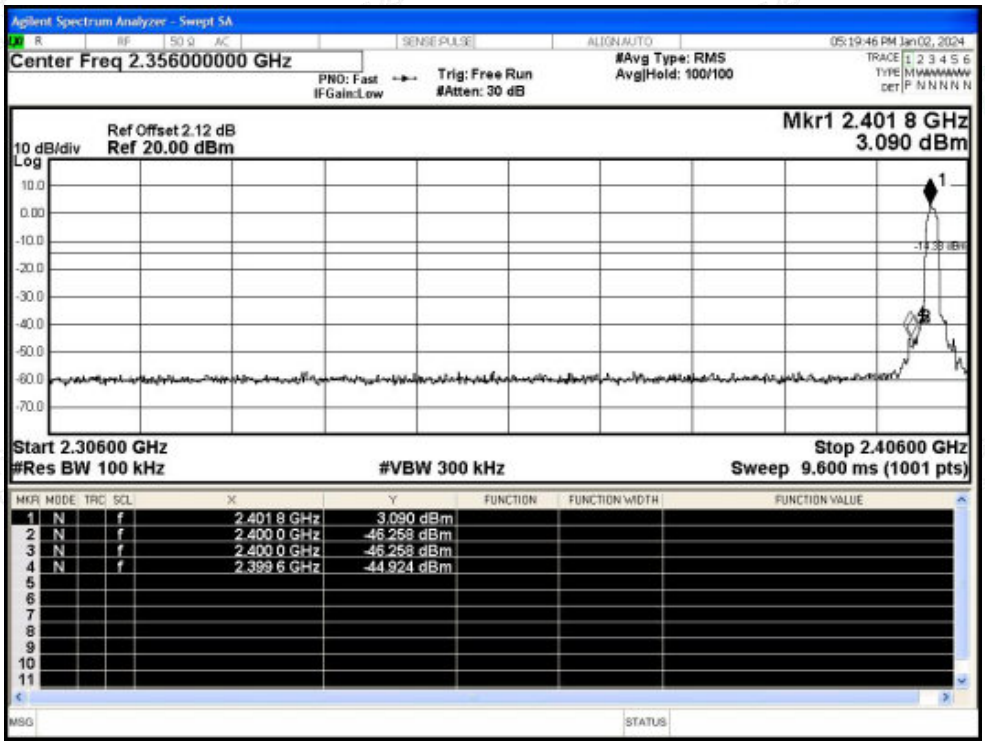
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



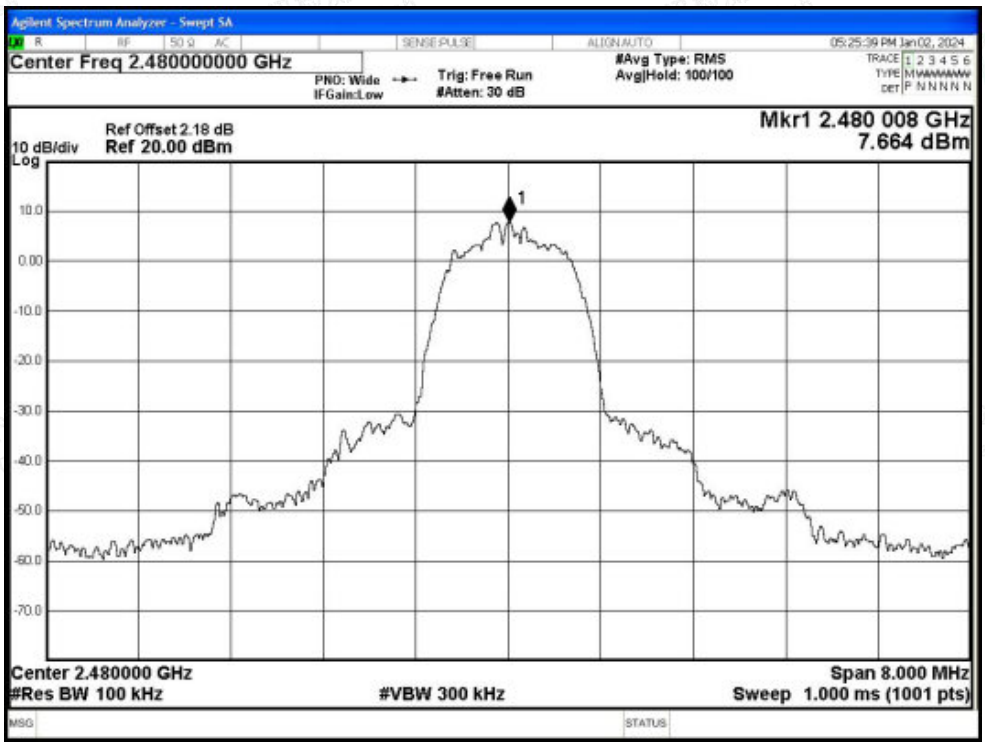
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



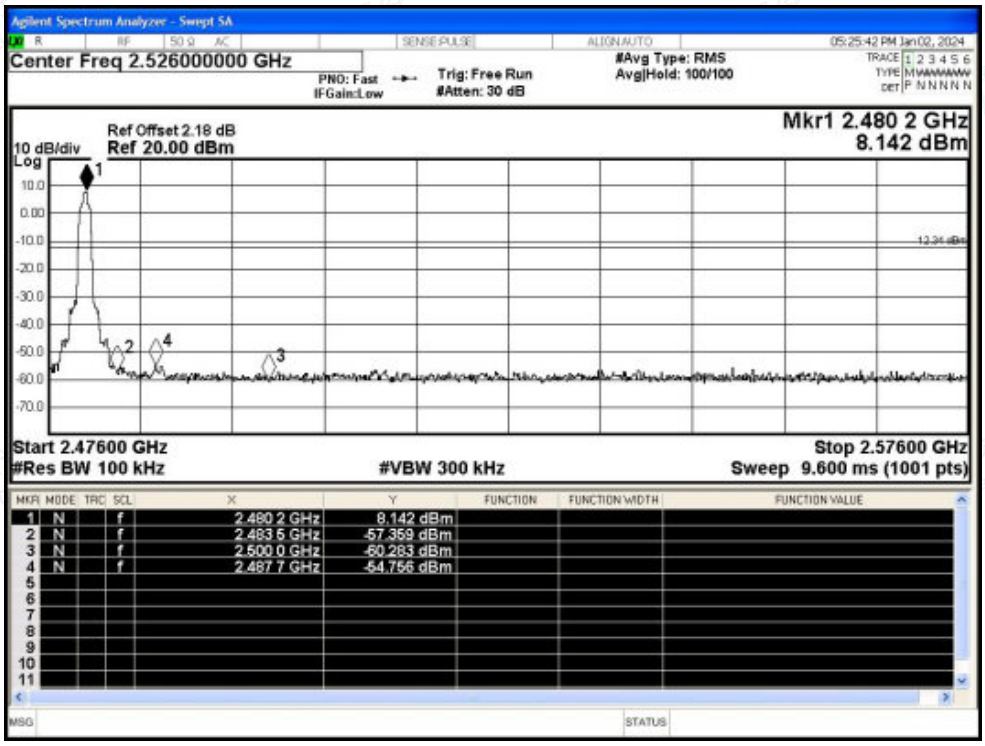
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



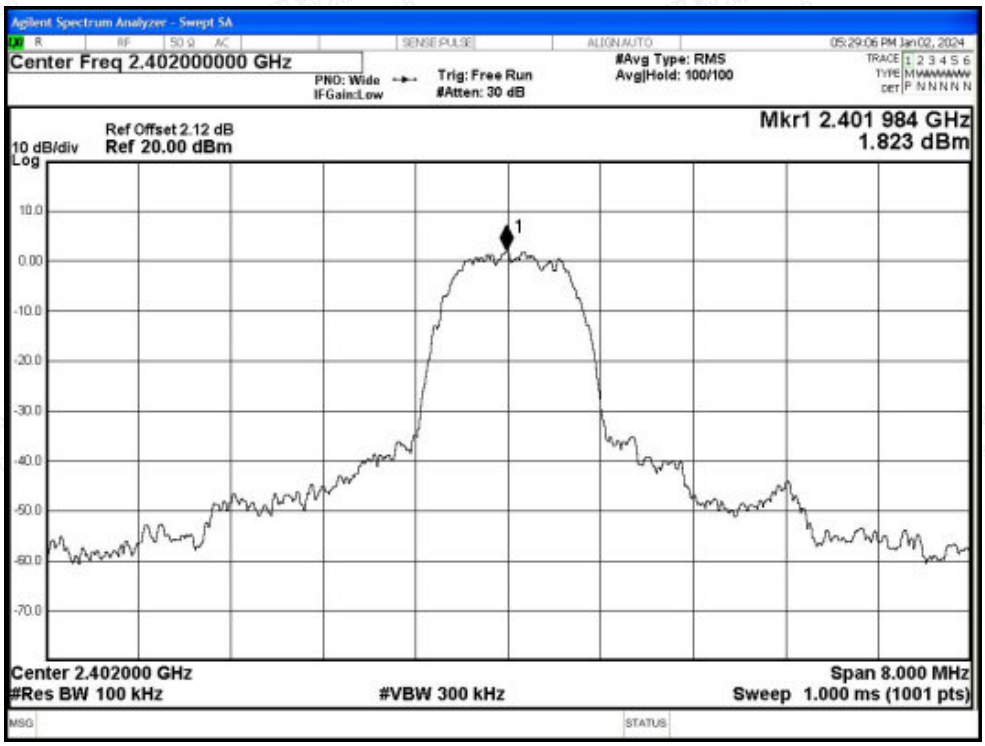
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



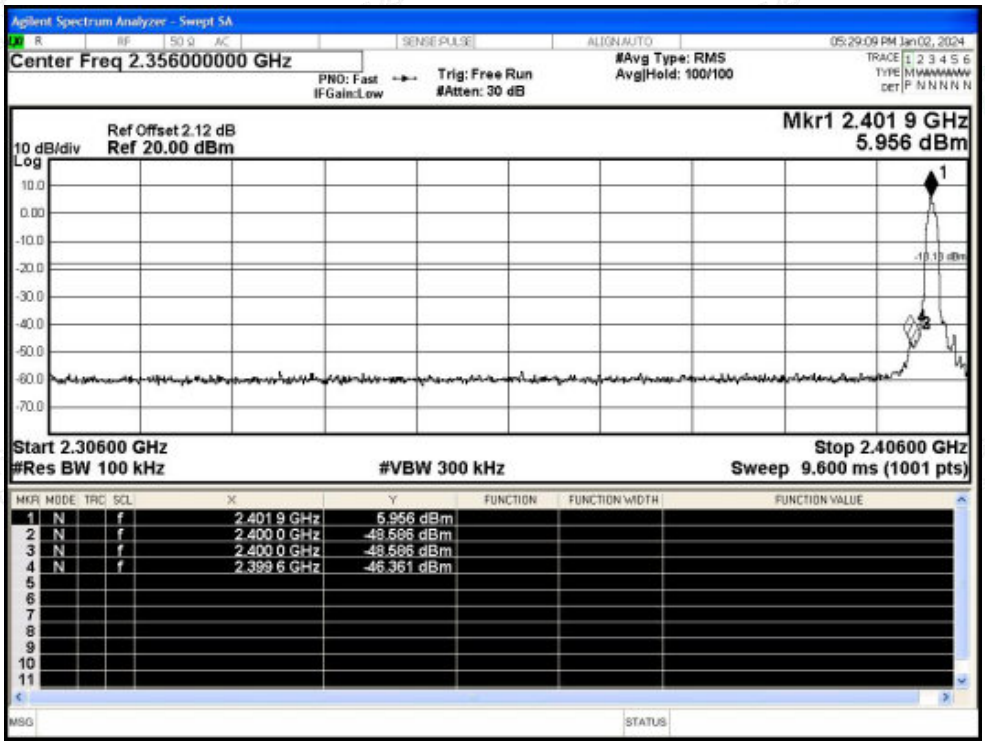
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



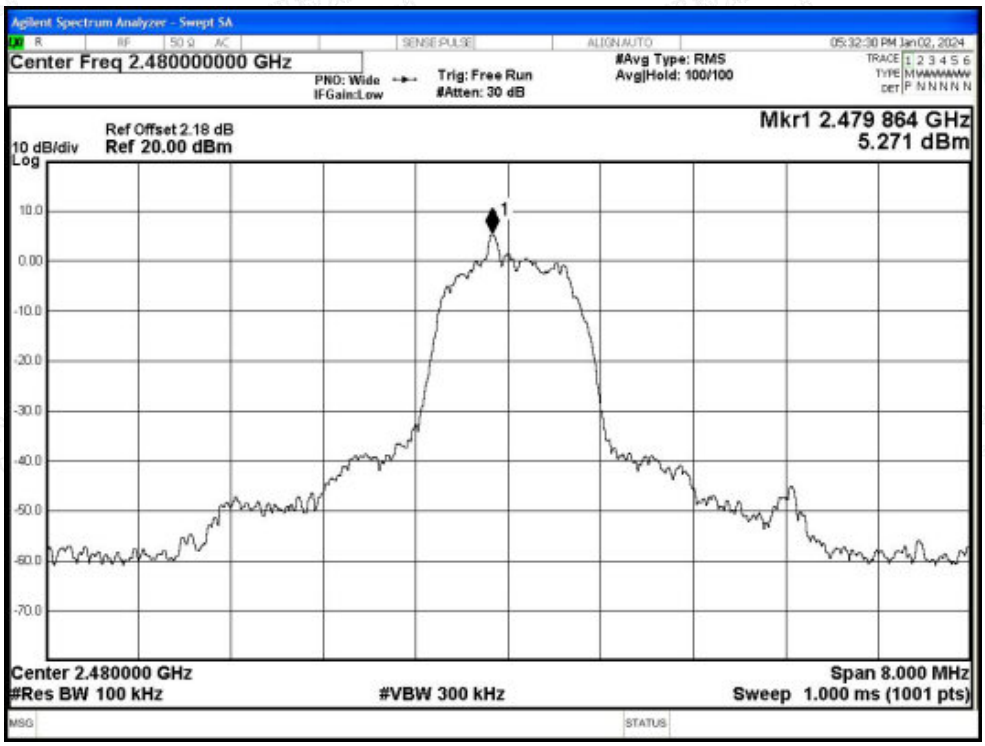
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



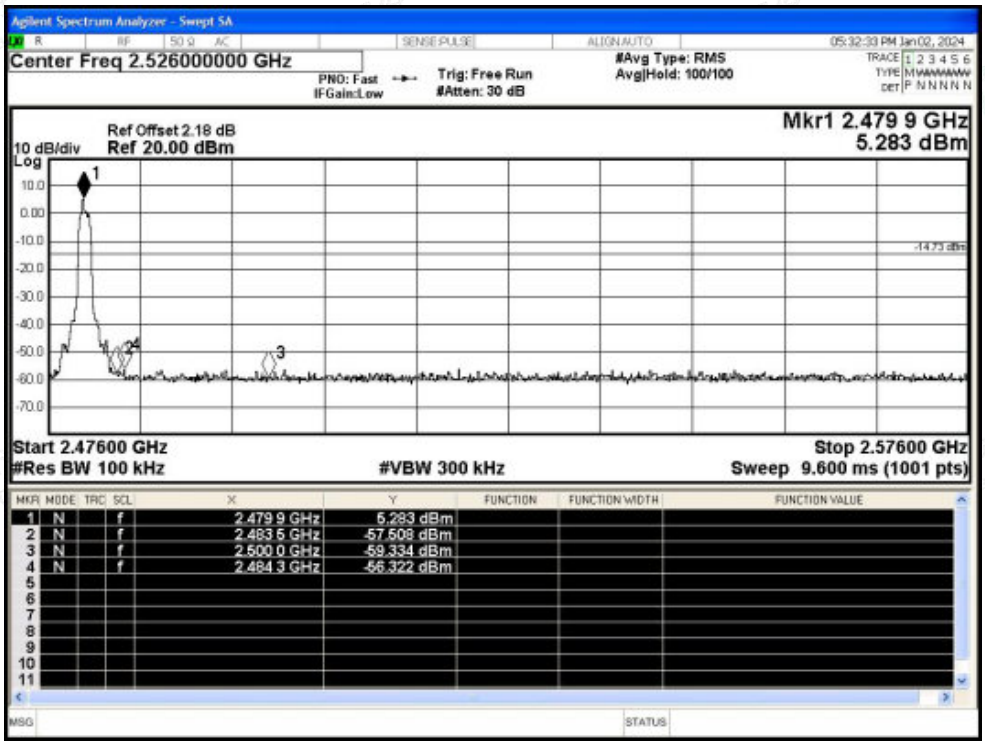
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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



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

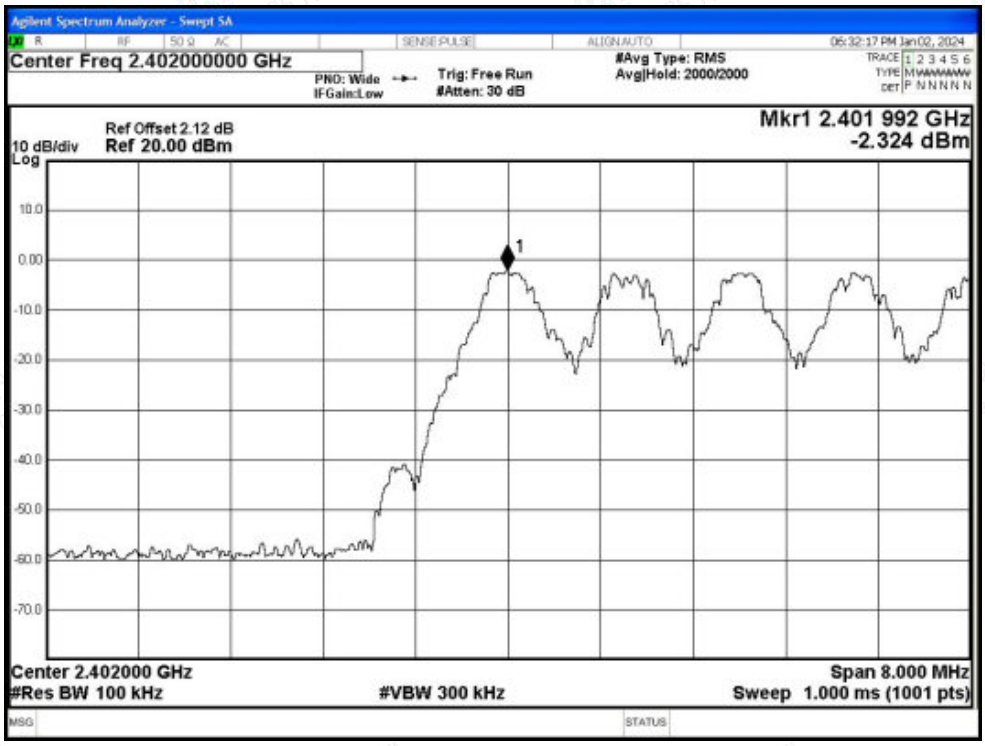


(Hopping)

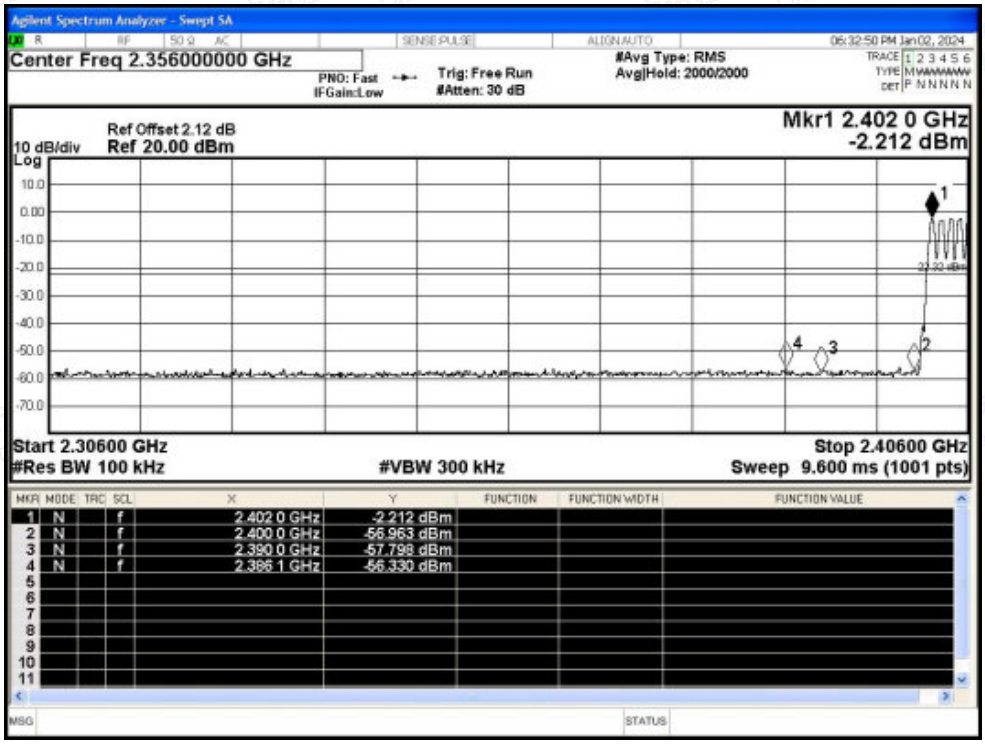
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-54.01	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-51.98	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-53.86	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-49.81	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-54	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-52.24	-20	Pass

Test Graphs

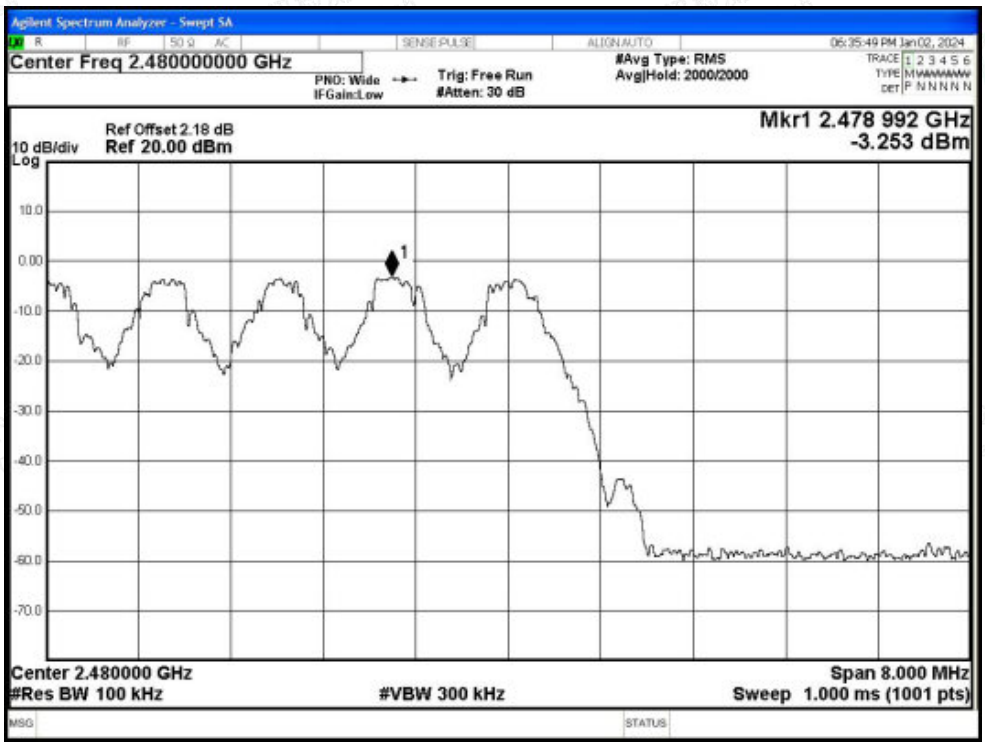
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



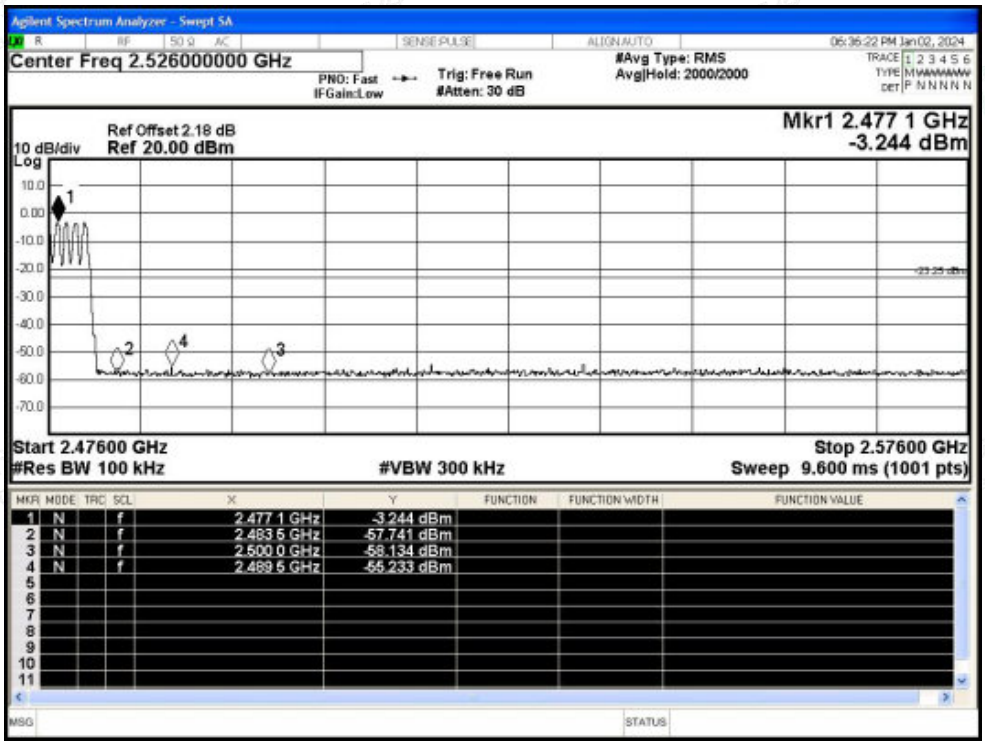
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



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

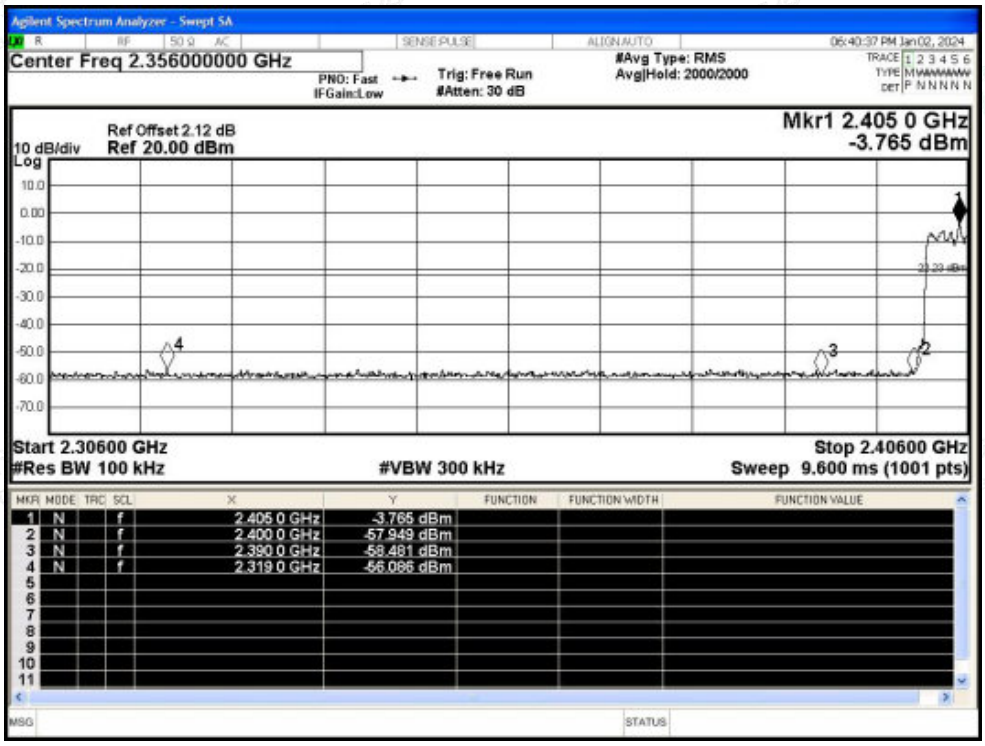


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



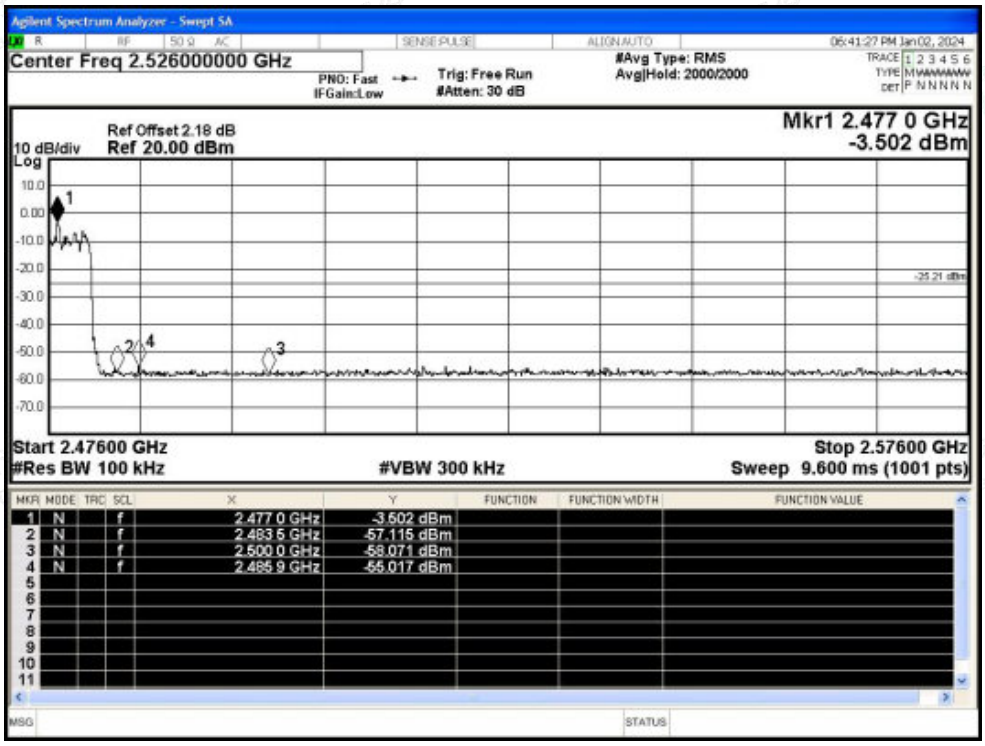
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

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



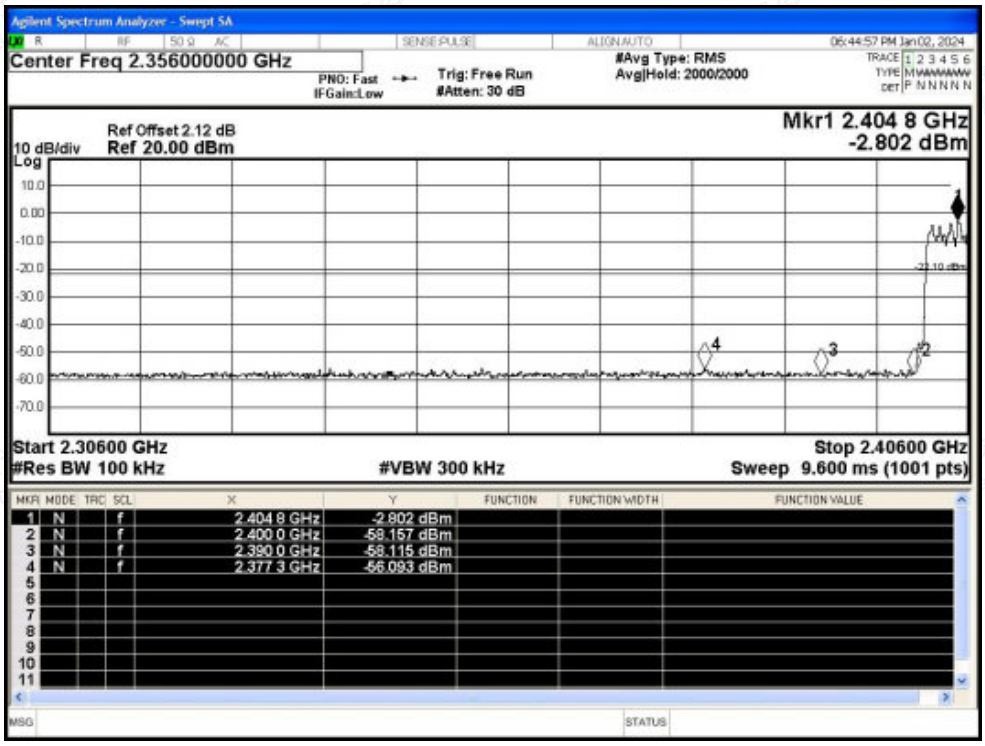
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

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



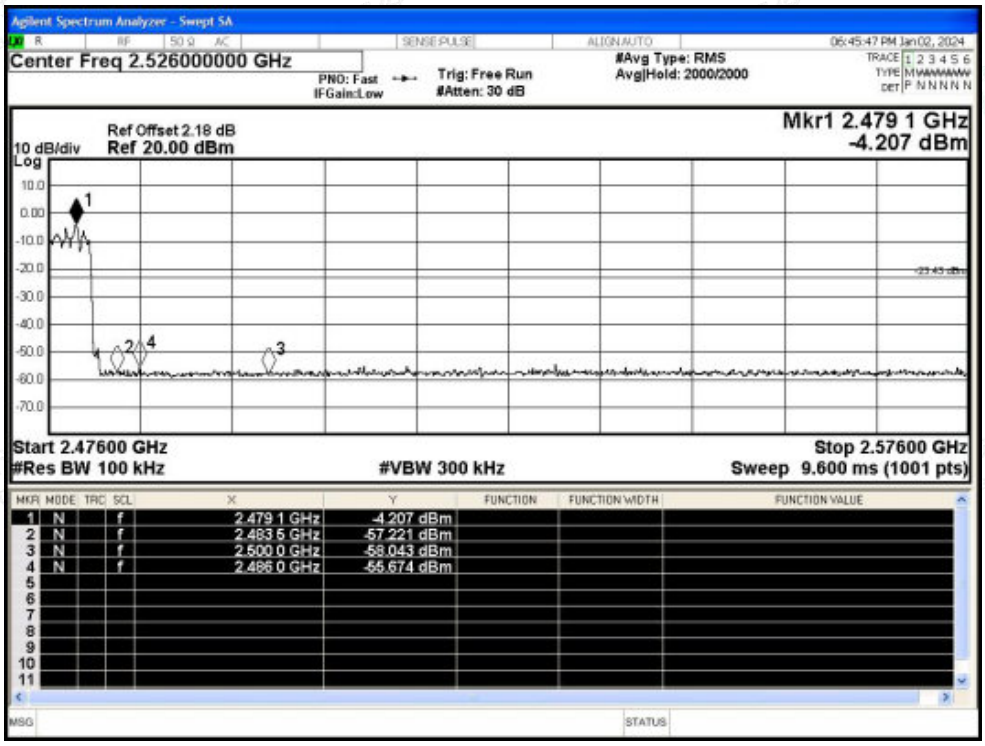
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

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

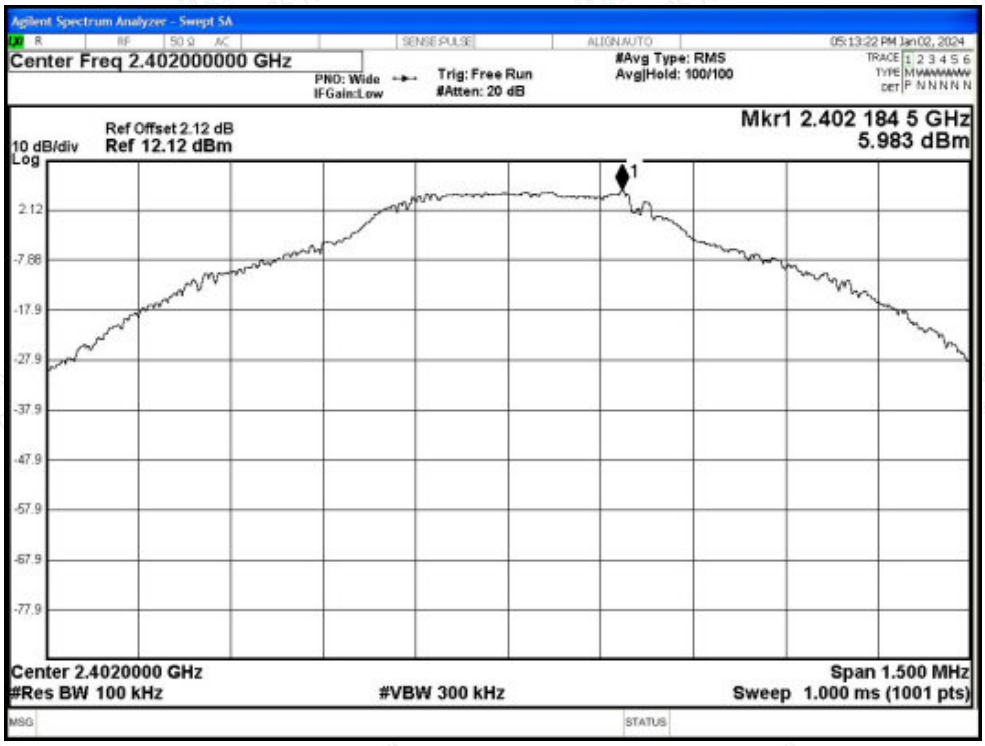


A.7 Conducted RF Spurious Emission

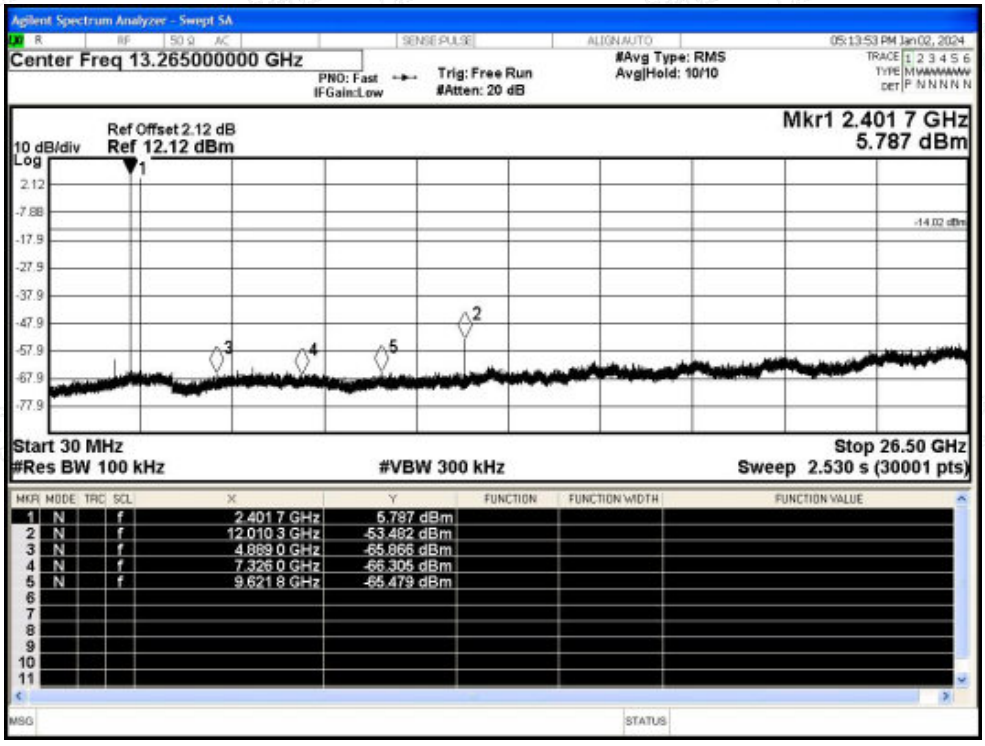
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-59.47	-20	Pass
NVNT	1-DH5	2441	Ant1	-57.77	-20	Pass
NVNT	1-DH5	2480	Ant1	-60.58	-20	Pass
NVNT	2-DH5	2402	Ant1	-53.79	-20	Pass
NVNT	2-DH5	2441	Ant1	-59.53	-20	Pass
NVNT	2-DH5	2480	Ant1	-63.39	-20	Pass
NVNT	3-DH5	2402	Ant1	-60.05	-20	Pass
NVNT	3-DH5	2441	Ant1	-60.13	-20	Pass
NVNT	3-DH5	2480	Ant1	-60.52	-20	Pass

Test Graphs

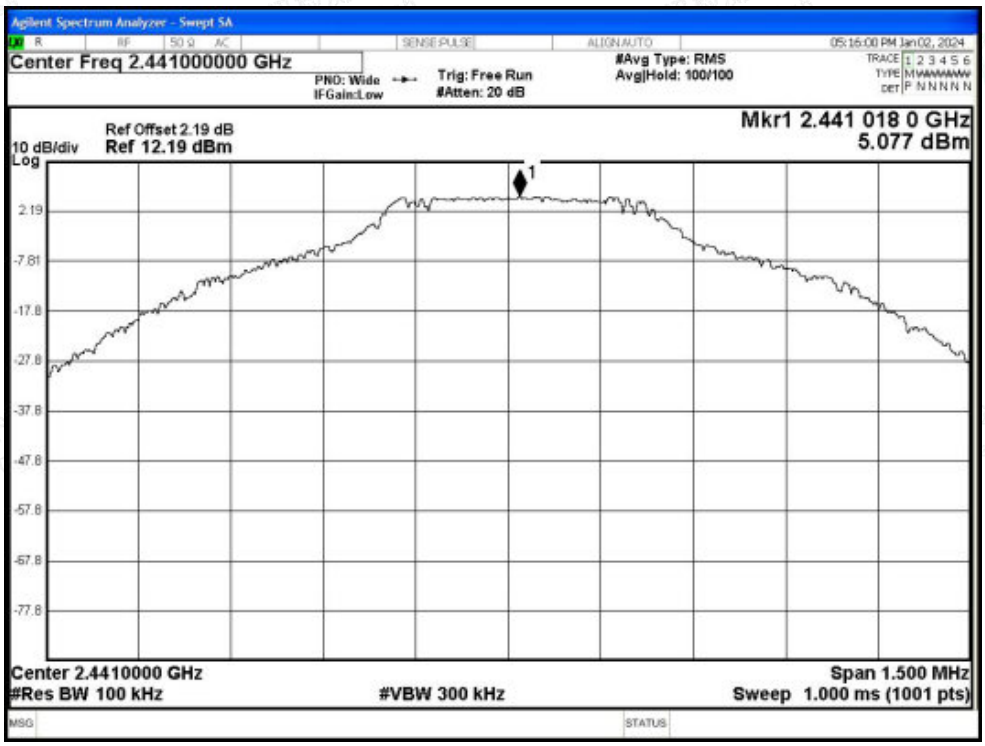
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



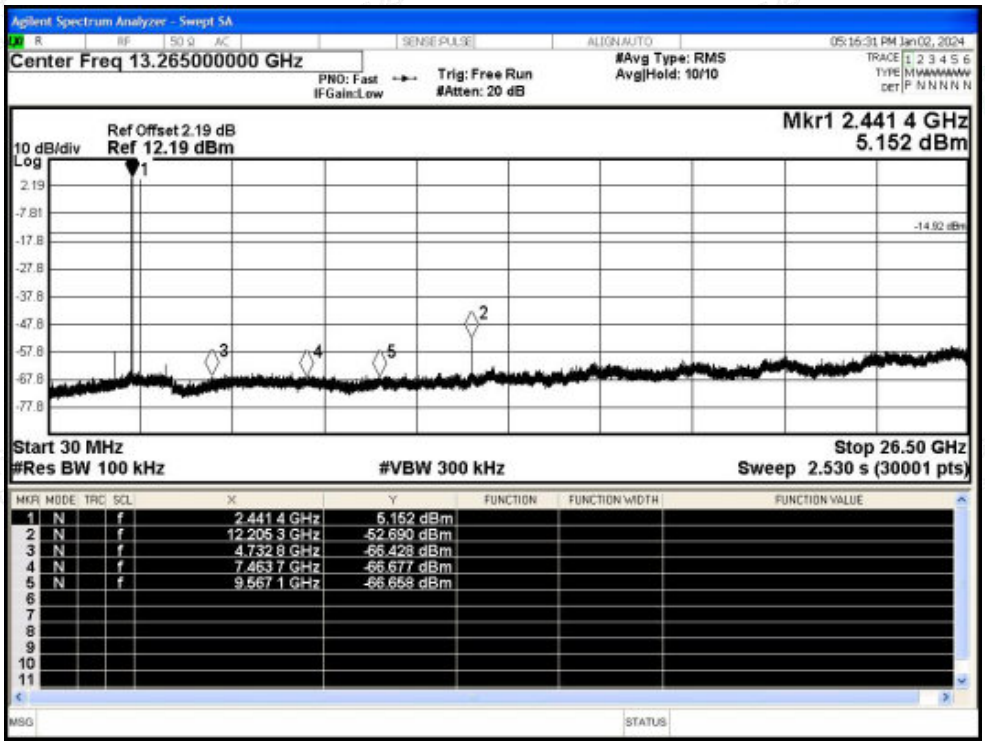
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



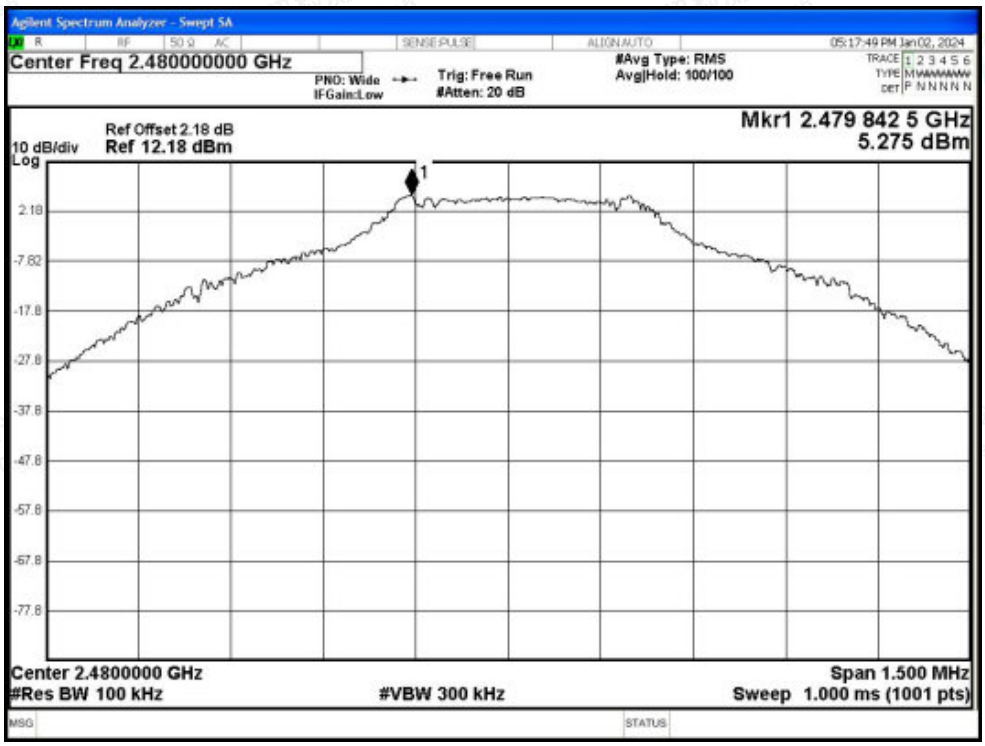
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



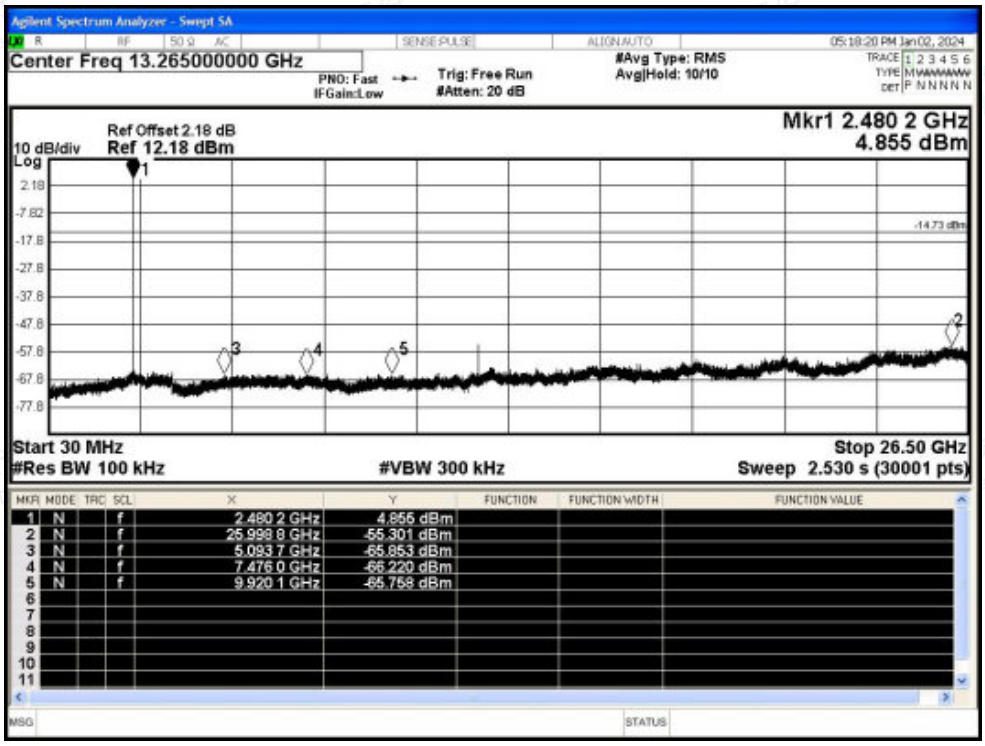
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



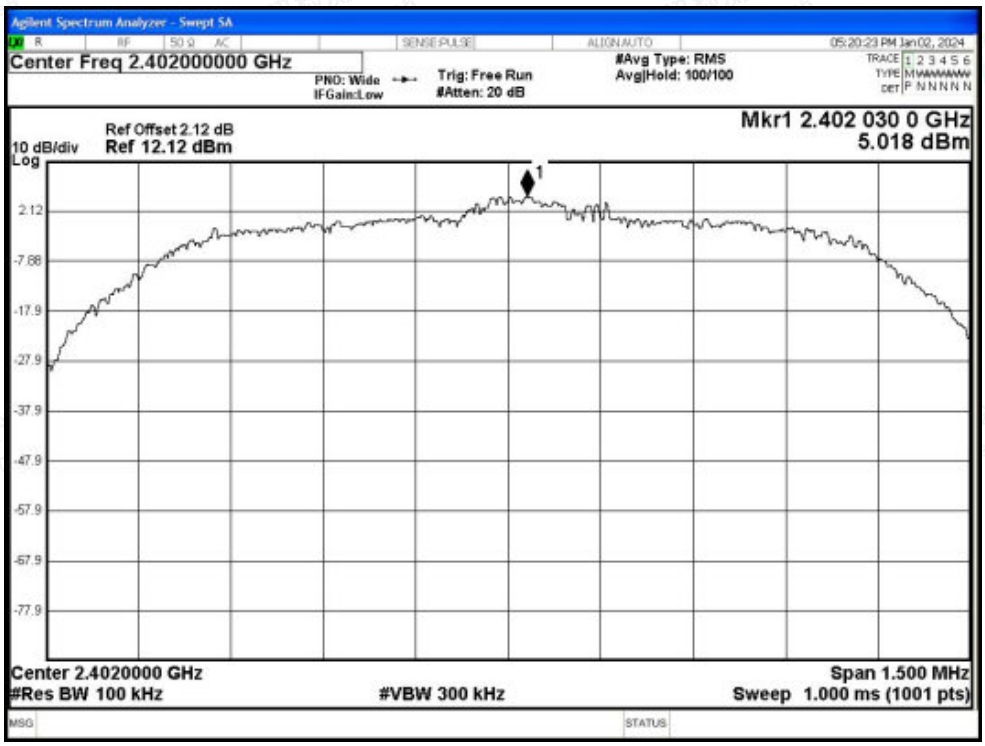
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



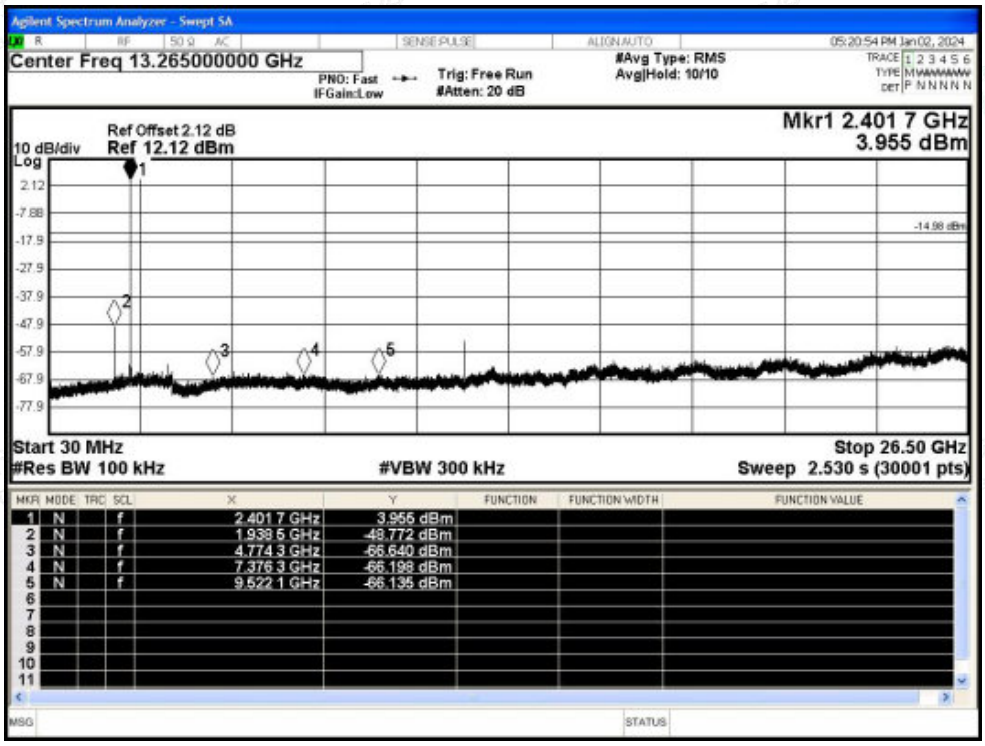
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



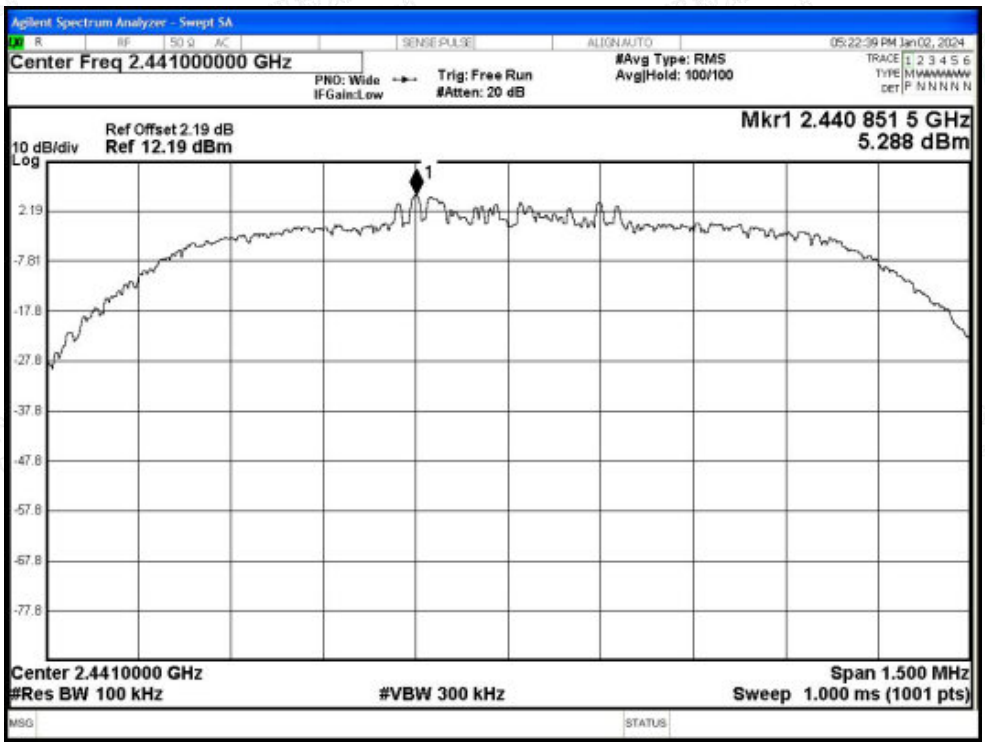
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



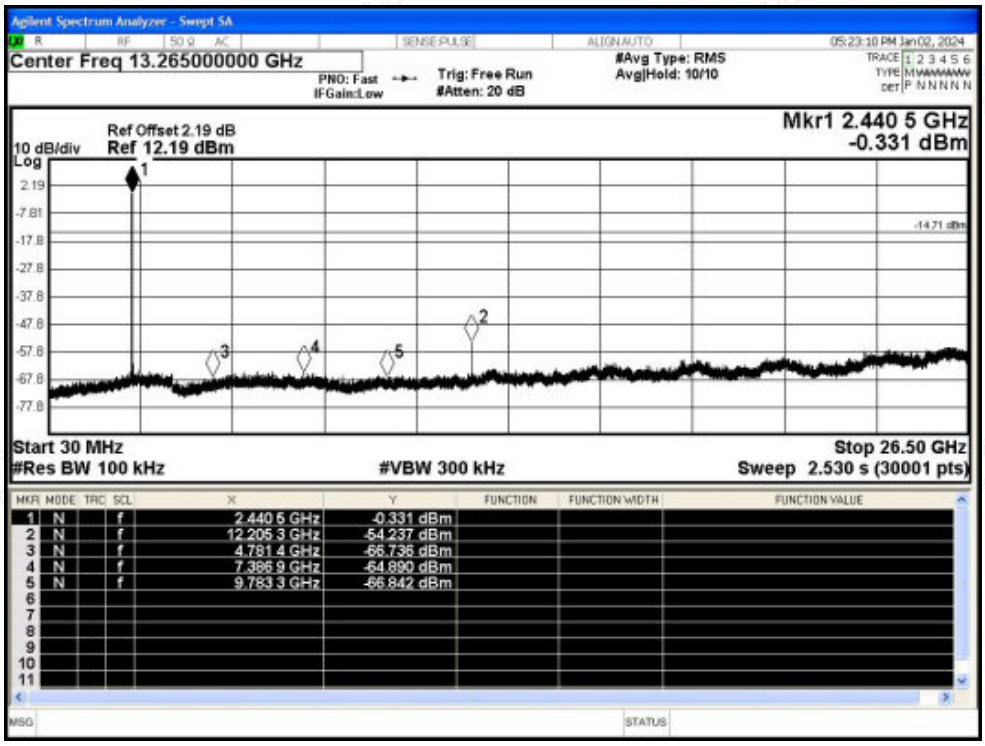
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



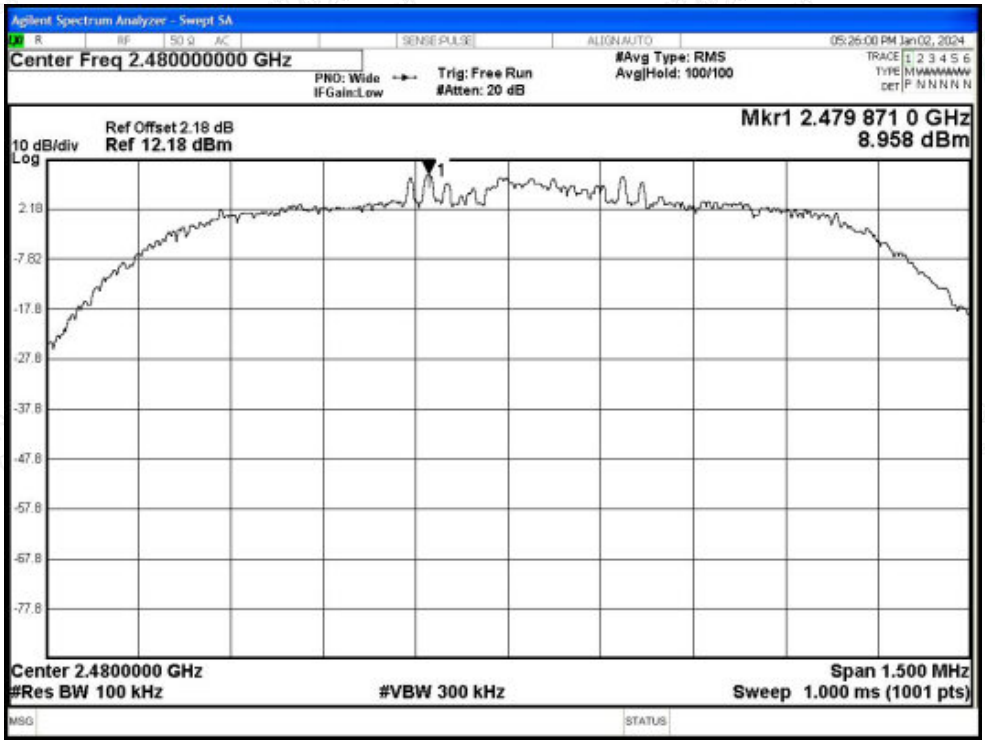
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



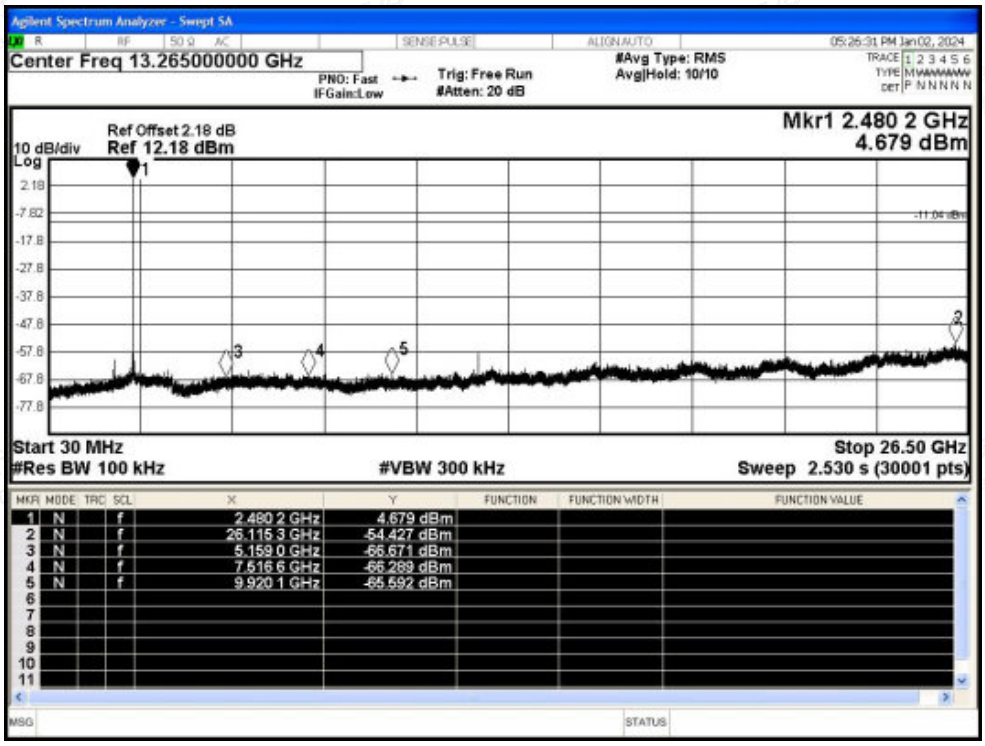
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



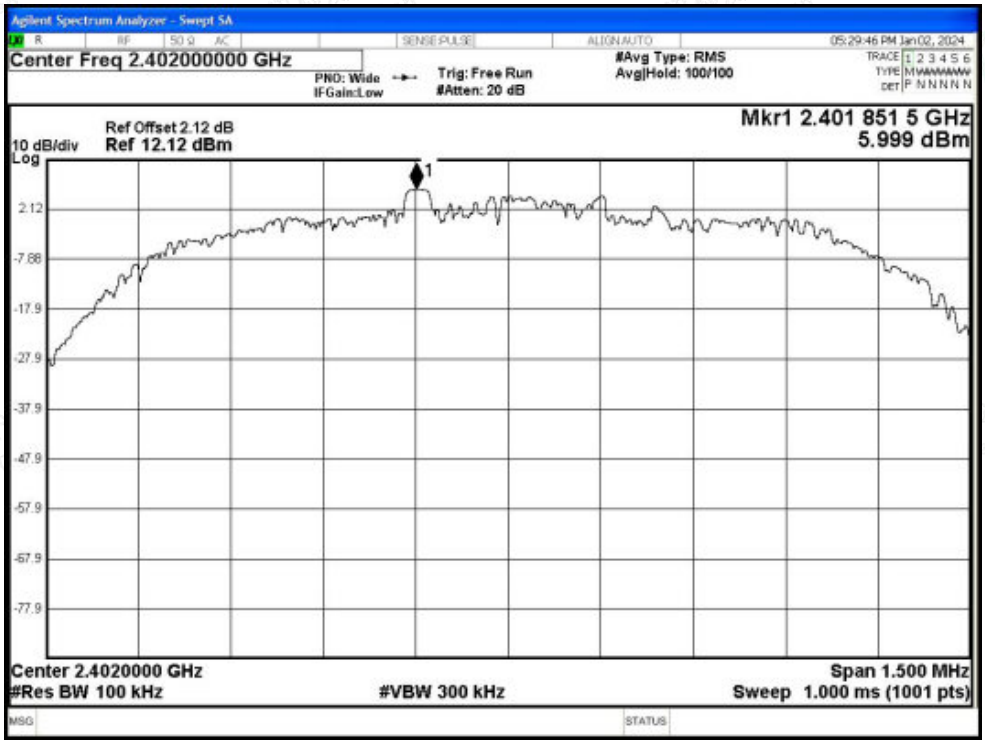
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



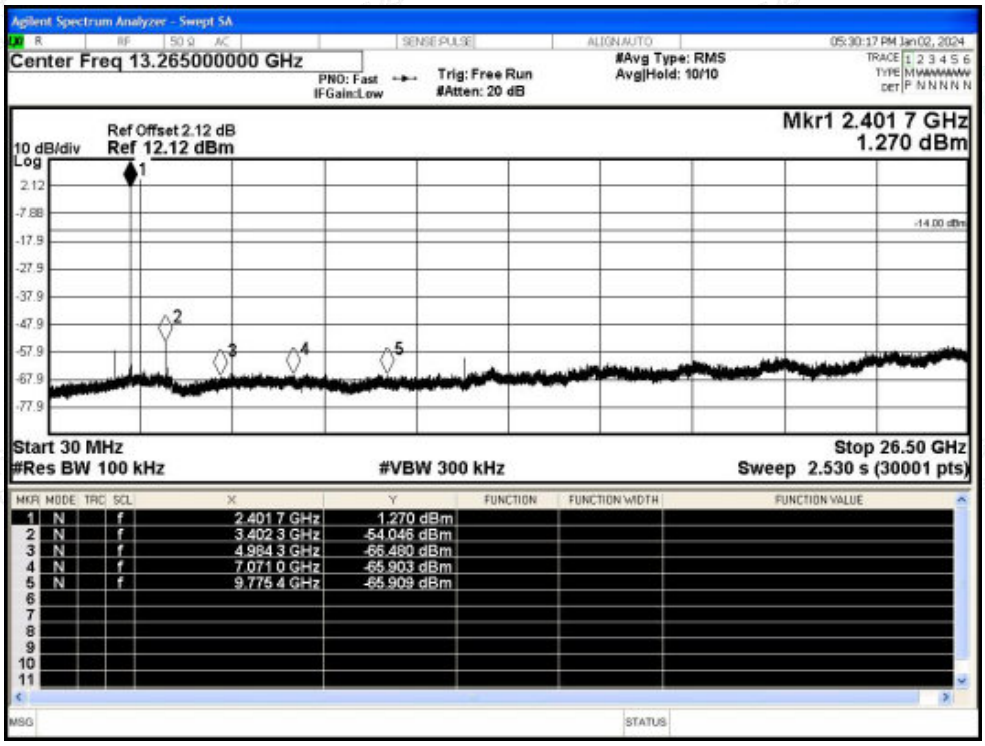
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



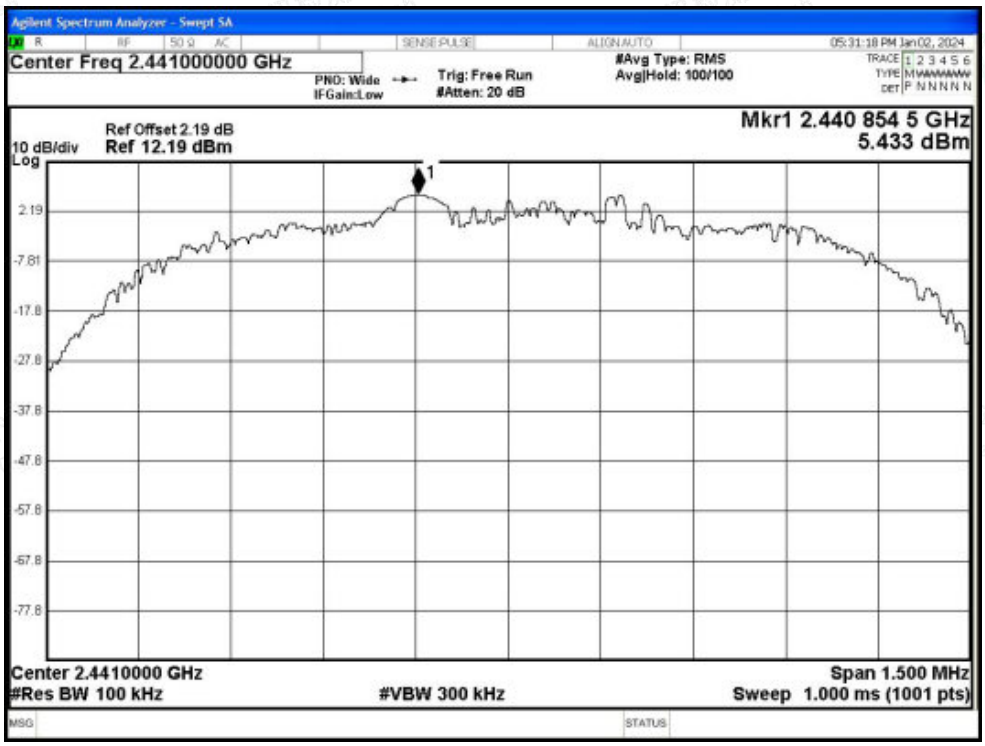
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



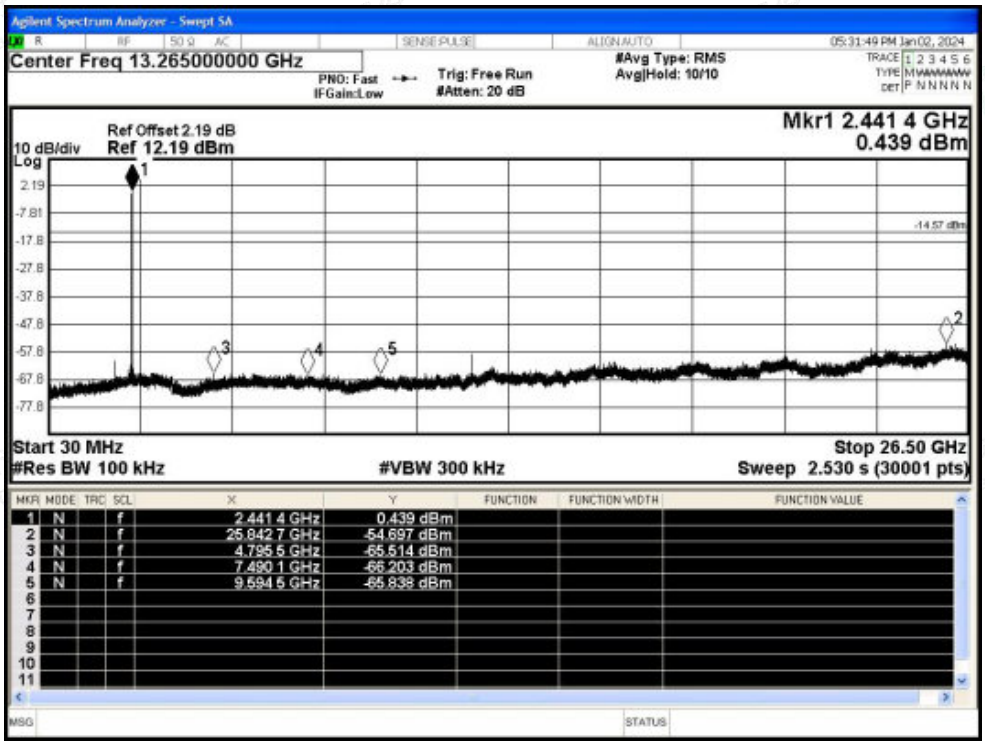
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



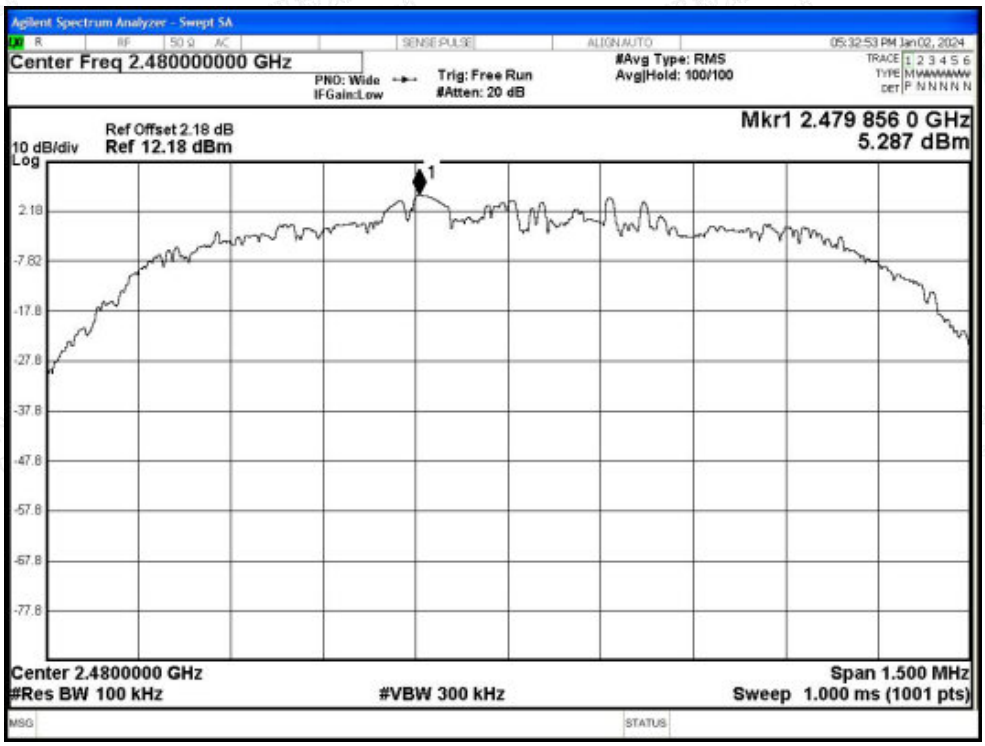
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



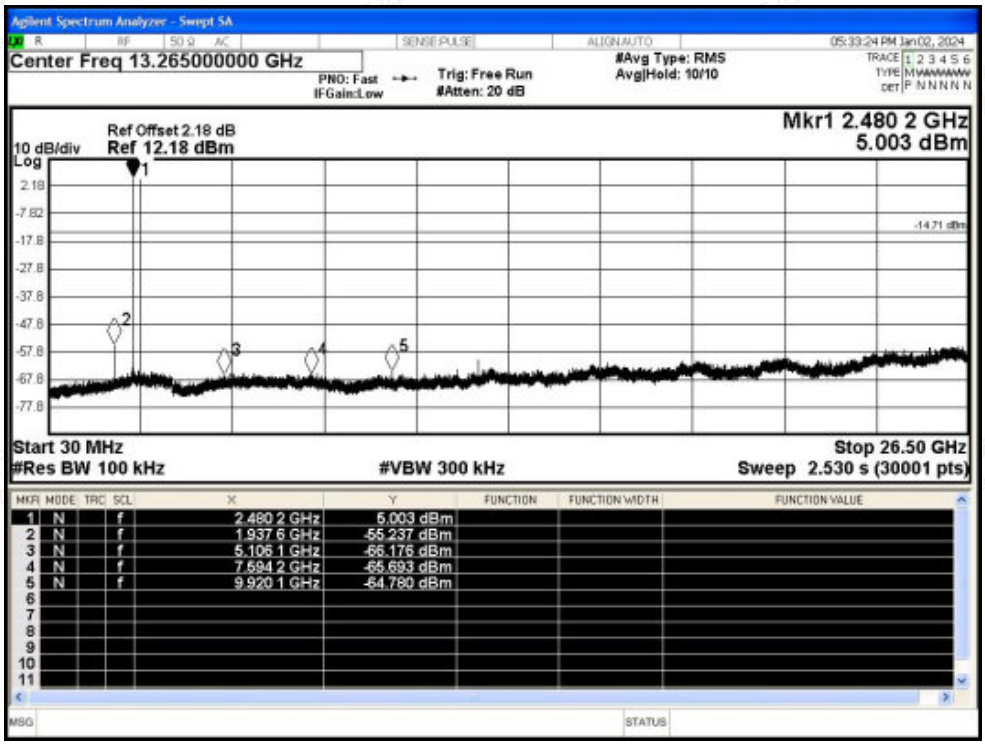
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

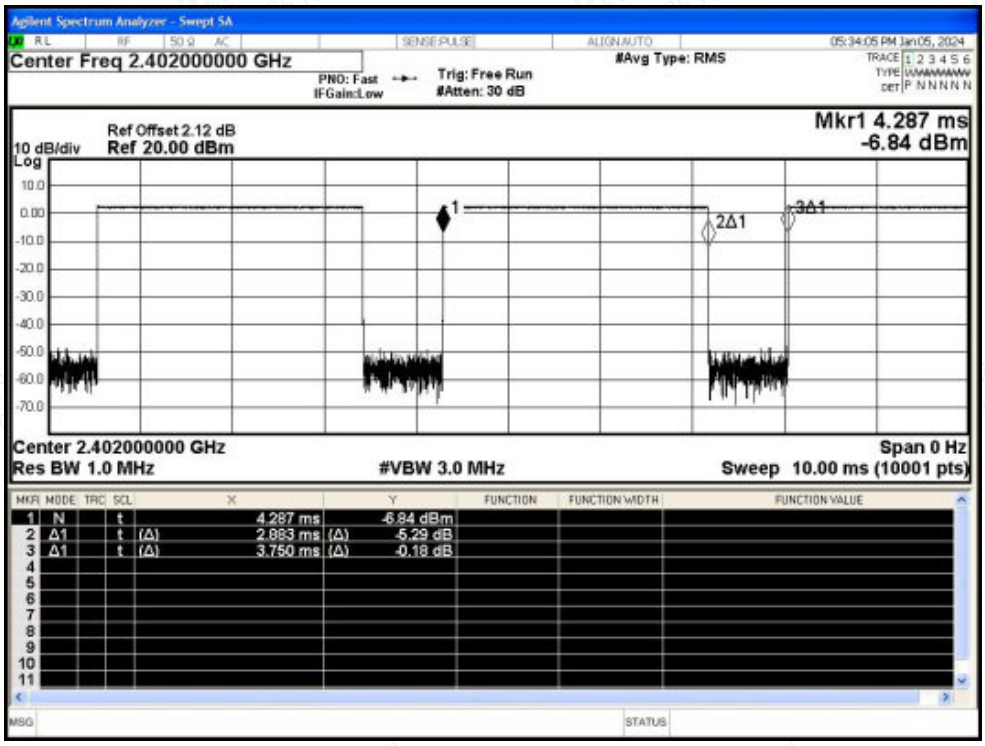


A.8 Duty Cycle

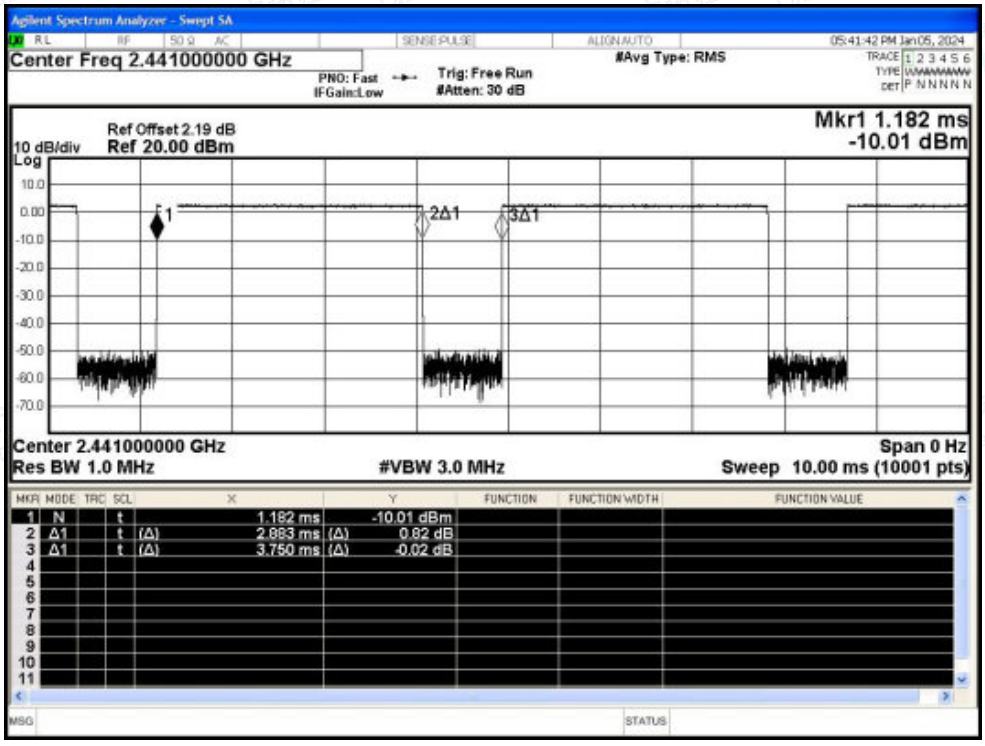
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	76.88	1.14	0.35
NVNT	1-DH5	2441	Ant1	76.88	1.14	0.35
NVNT	1-DH5	2480	Ant1	76.88	1.14	0.35
NVNT	2-DH5	2402	Ant1	76.96	1.14	0.35
NVNT	2-DH5	2441	Ant1	76.99	1.14	0.35
NVNT	2-DH5	2480	Ant1	76.99	1.14	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

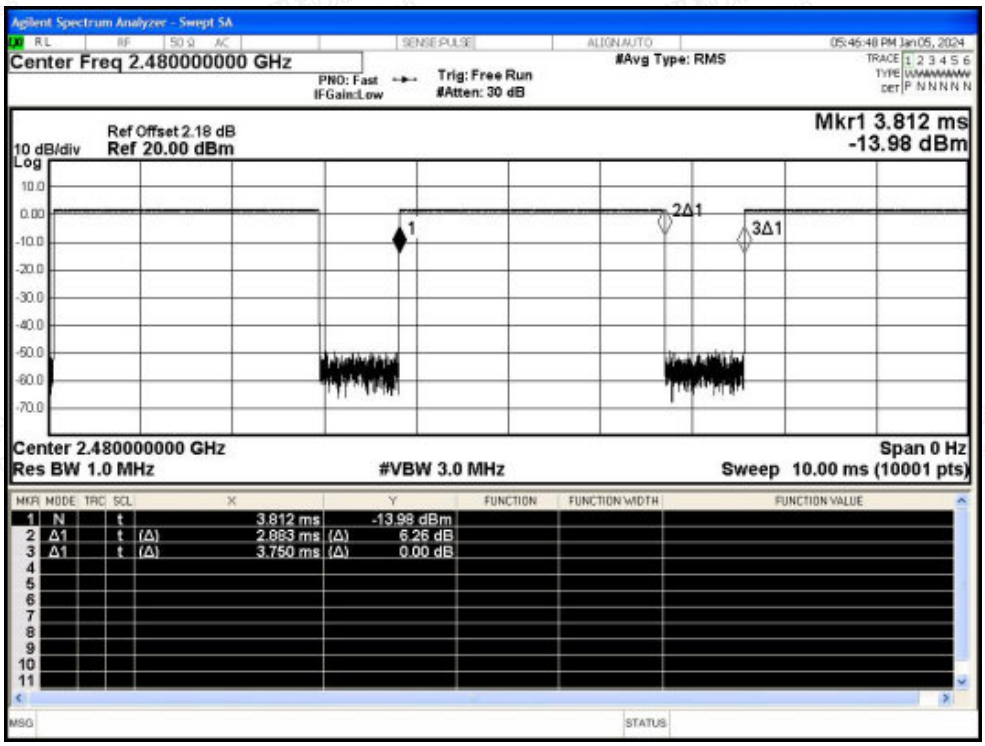
Duty Cycle NVNT 1-DH5 2402MHz Ant1



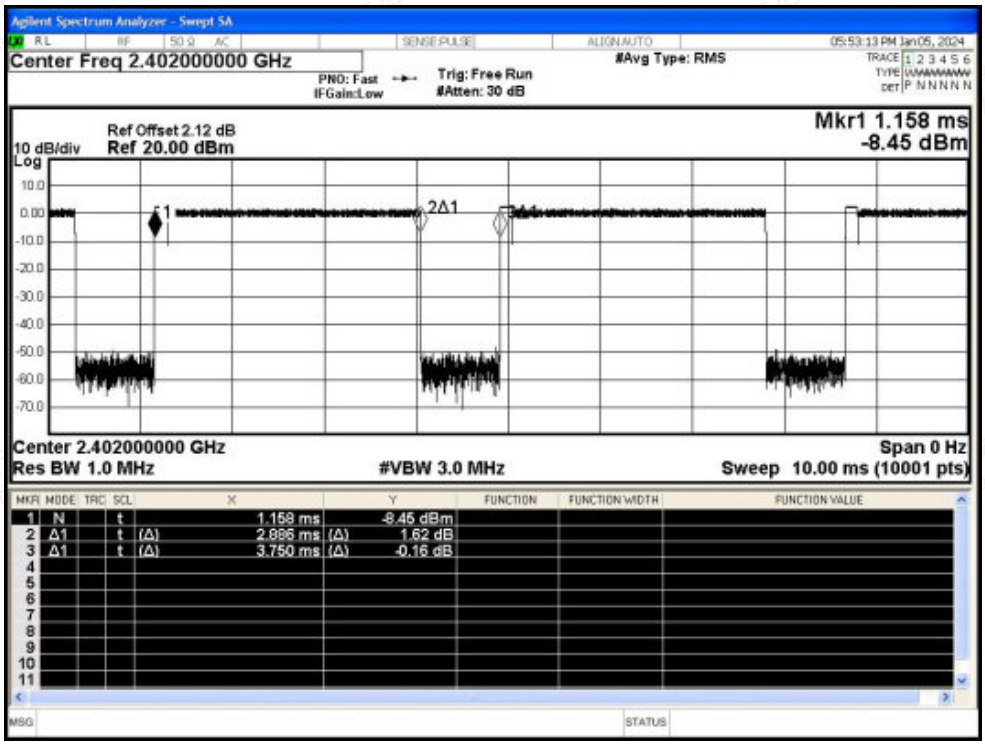
Duty Cycle NVNT 1-DH5 2441MHz Ant1



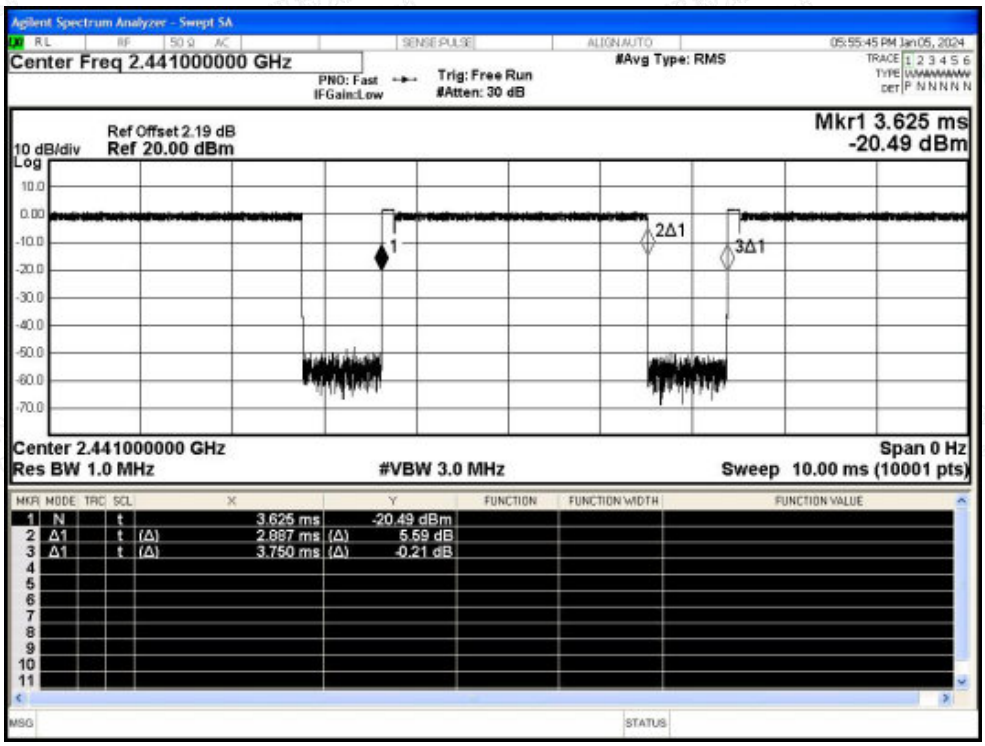
Duty Cycle NVNT 1-DH5 2480MHz Ant1



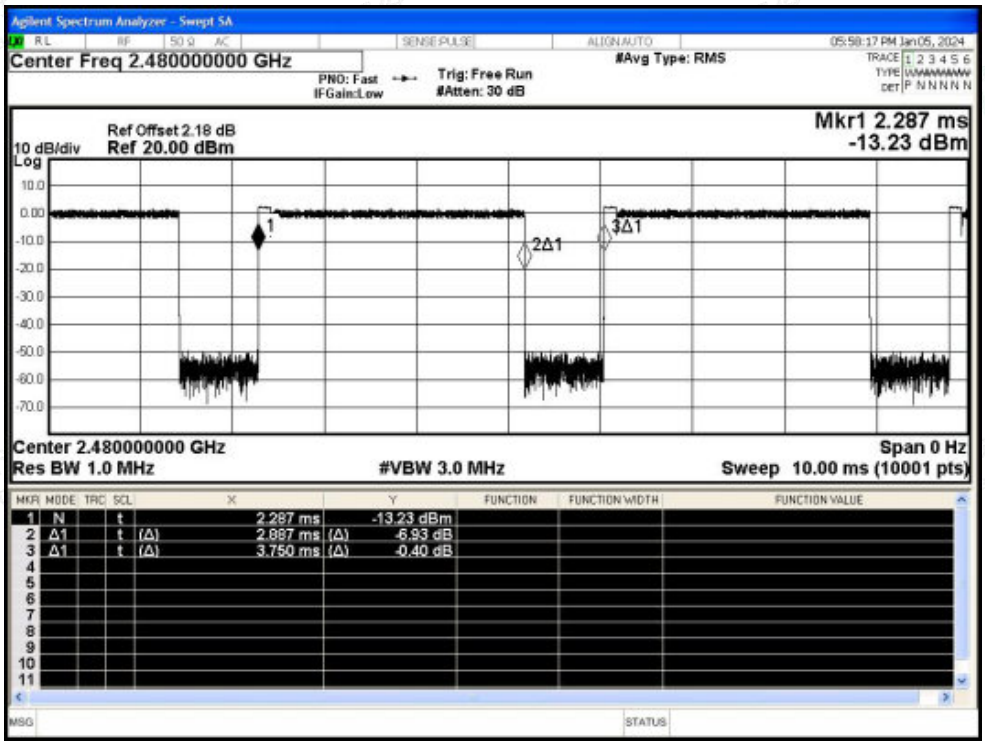
Duty Cycle NVNT 2-DH5 2402MHz Ant1



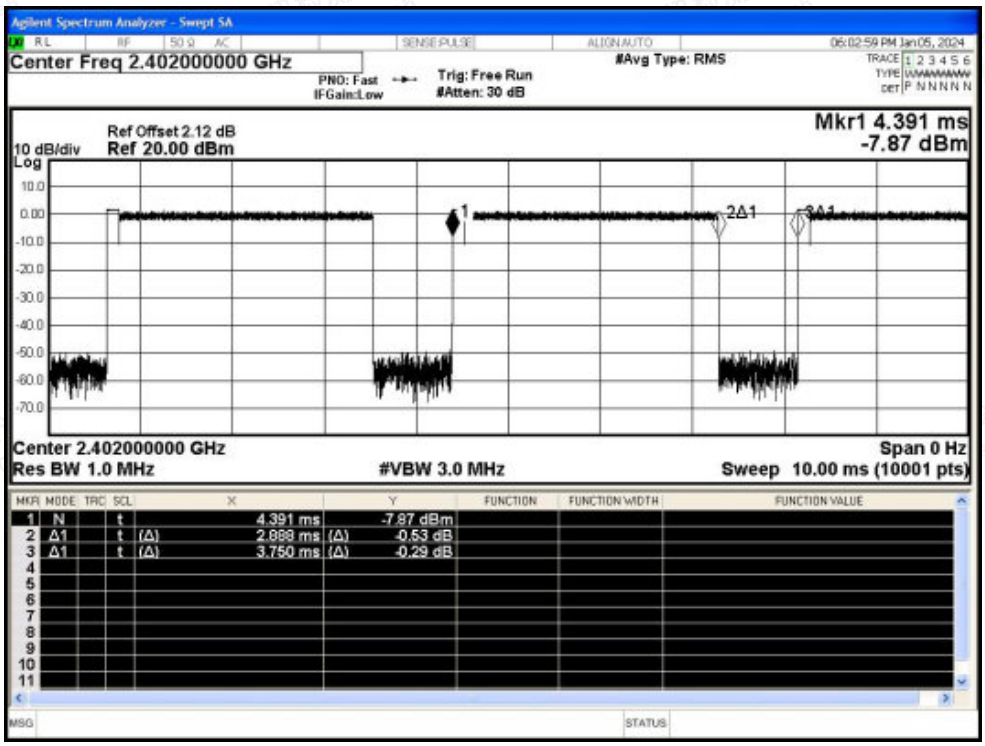
Duty Cycle NVNT 2-DH5 2441MHz Ant1



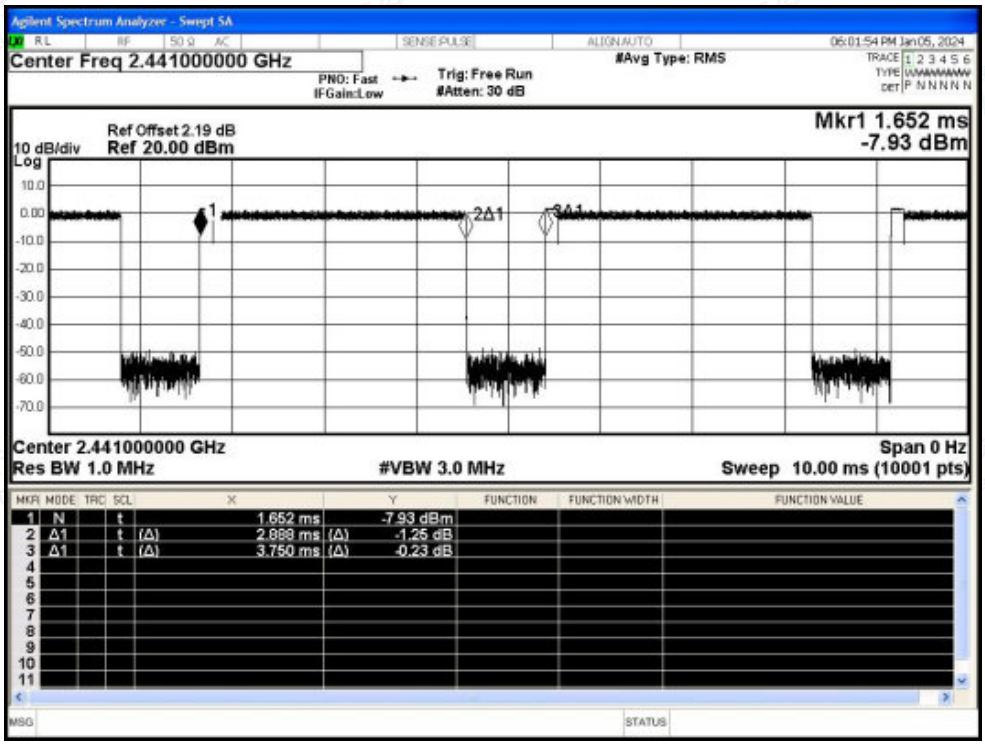
Duty Cycle NVNT 2-DH5 2480MHz Ant1



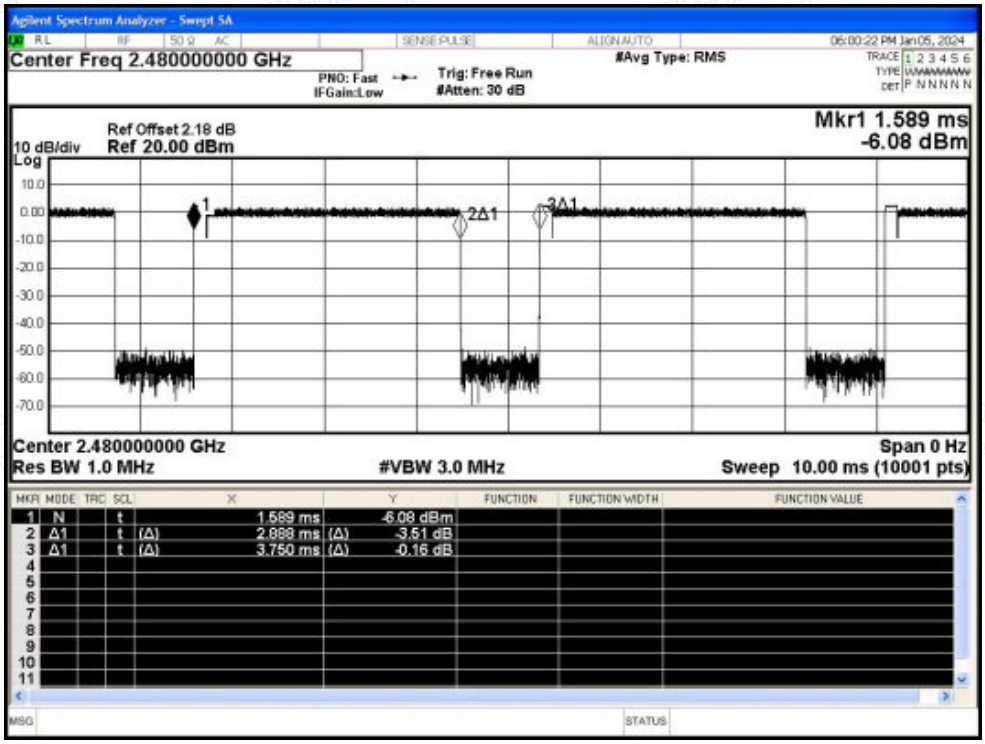
Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



Duty Cycle NVNT 3-DH5 2480MHz Ant1

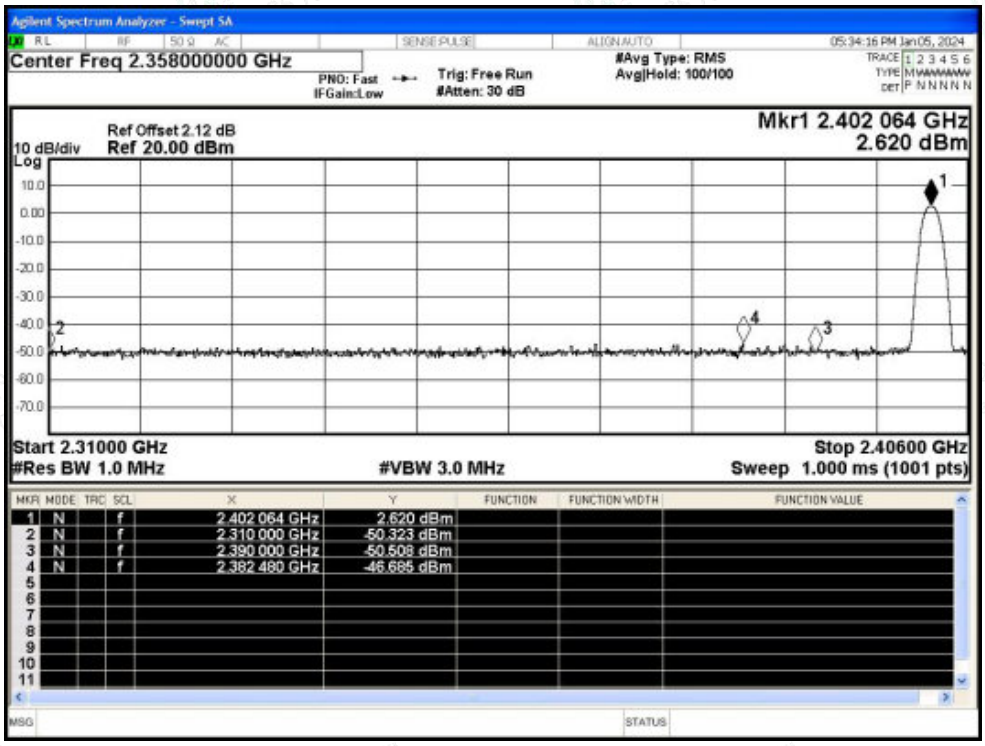


A.9 Restrict Band

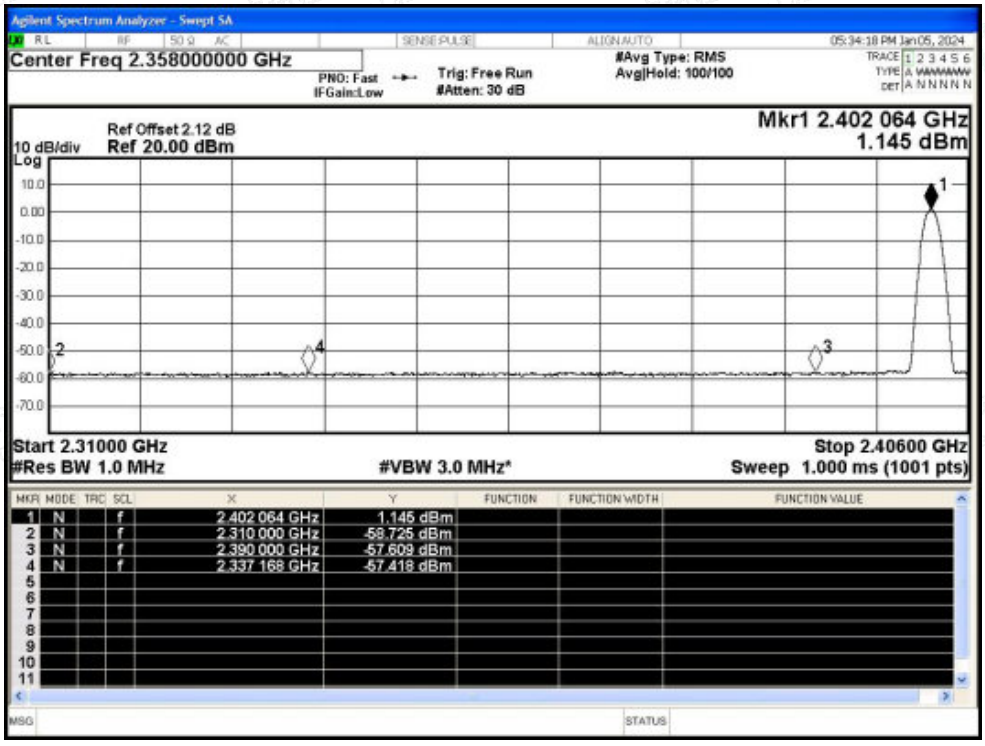
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.32	2	-	46.94	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.73	2	1.14	39.67	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2382.48	-46.69	2	-	50.57	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2337.168	-57.42	2	1.14	40.98	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.51	2	-	46.75	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-57.61	2	1.14	40.79	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.55	2	-	47.71	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.41	2	1.14	40.99	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2490.424	-46.03	2	-	51.23	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2489.32	-57.03	2	1.14	41.37	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.31	2	-	47.95	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.96	2	1.14	40.44	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-51.17	2	-	46.09	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.74	2	1.14	39.66	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2385.168	-47.08	2	-	50.18	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2336.88	-57.62	2	1.14	40.78	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.87	2	-	46.39	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-57.81	2	1.14	40.59	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-48.72	2	-	48.54	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-58	2	1.14	40.4	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.824	-46.79	2	-	50.47	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2491.552	-56.78	2	1.14	41.62	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.61	2	-	47.65	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.58	2	1.14	40.82	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-50.1	2	-	47.16	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.28	2	1.13	40.11	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2371.056	-47.53	2	-	49.73	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2387.184	-57.62	2	1.13	40.77	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-49.23	2	-	48.03	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58	2	1.13	40.39	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-49.92	2	-	47.34	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.58	2	1.13	40.81	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2485.072	-46.61	2	-	50.65	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2485.936	-56.97	2	1.13	41.42	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-47.59	2	-	49.67	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.15	2	1.13	40.24	Average	54	Pass

Test Graphs

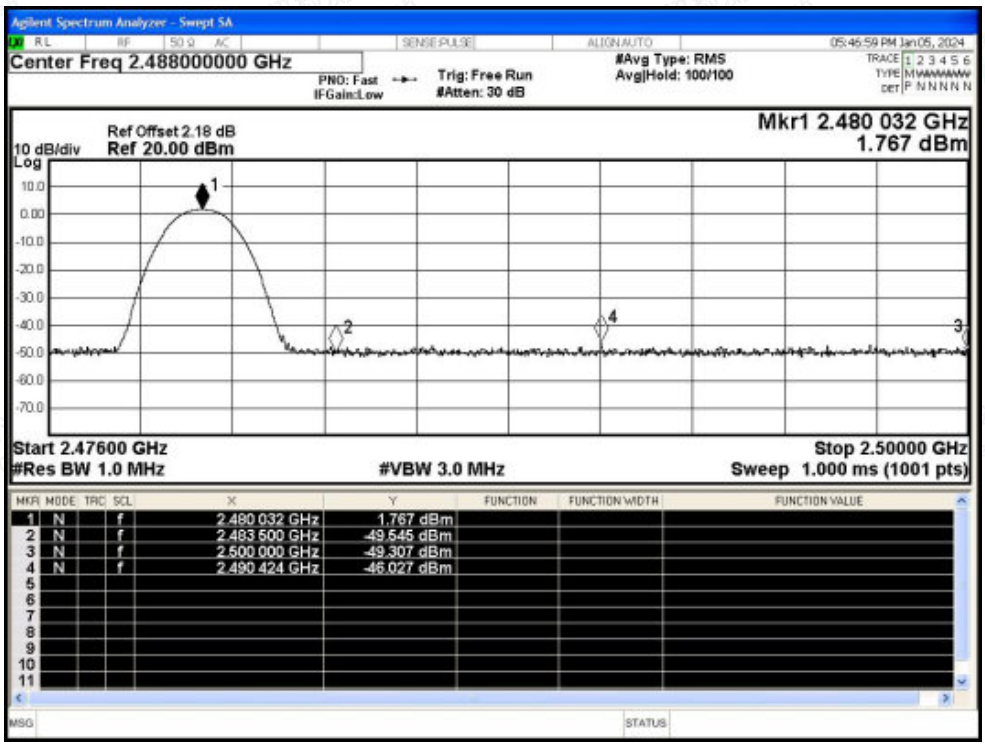
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



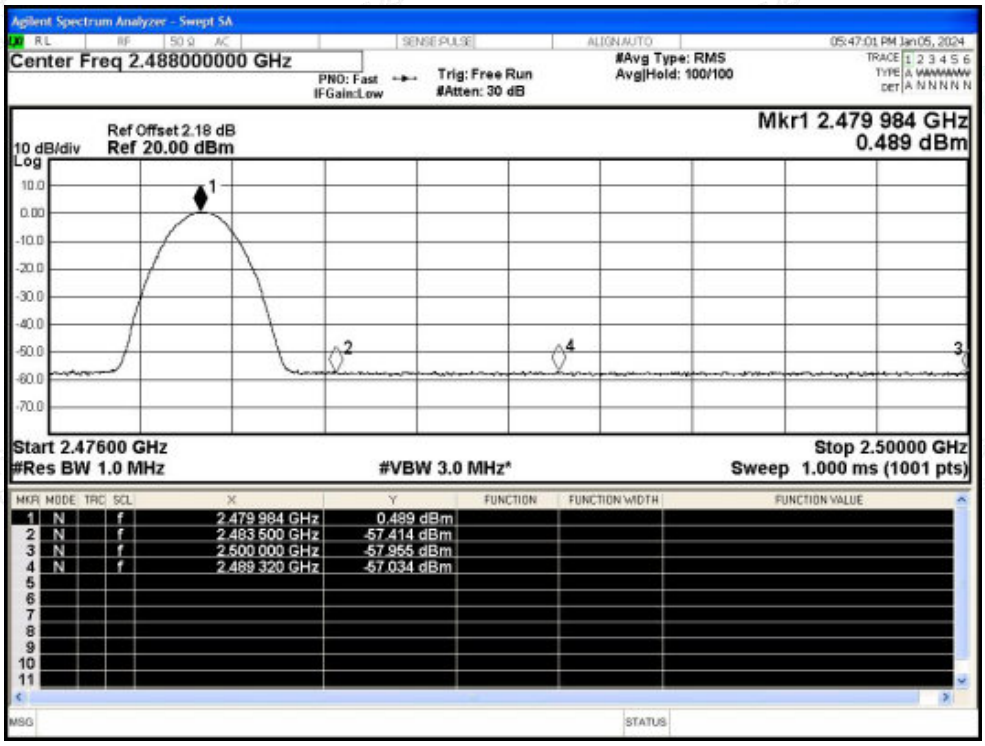
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



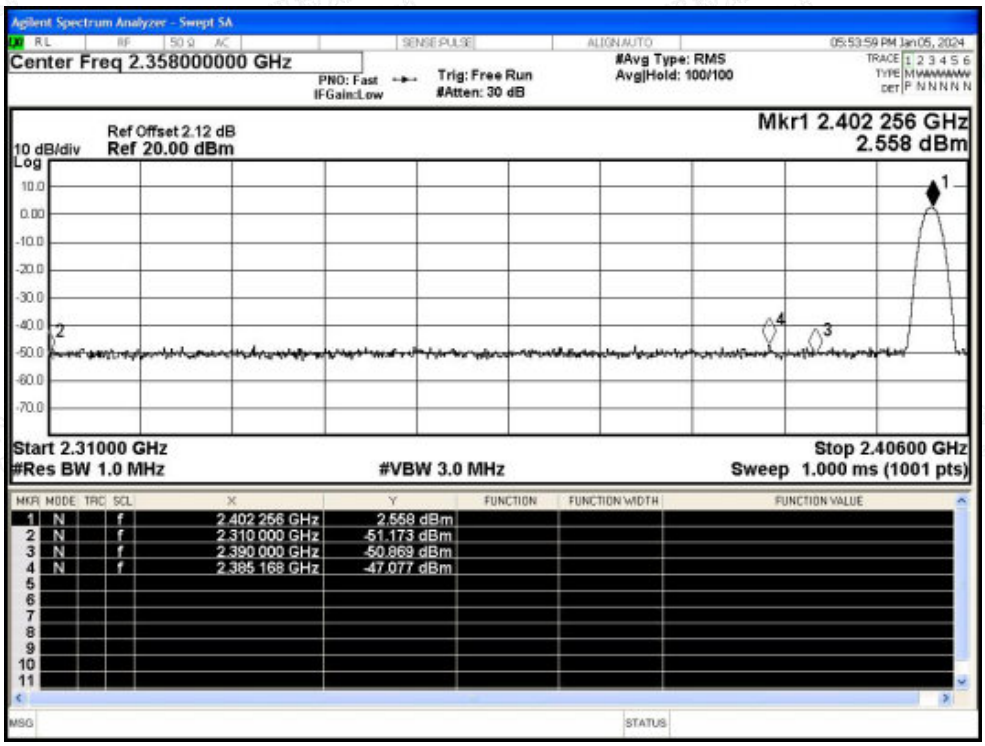
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



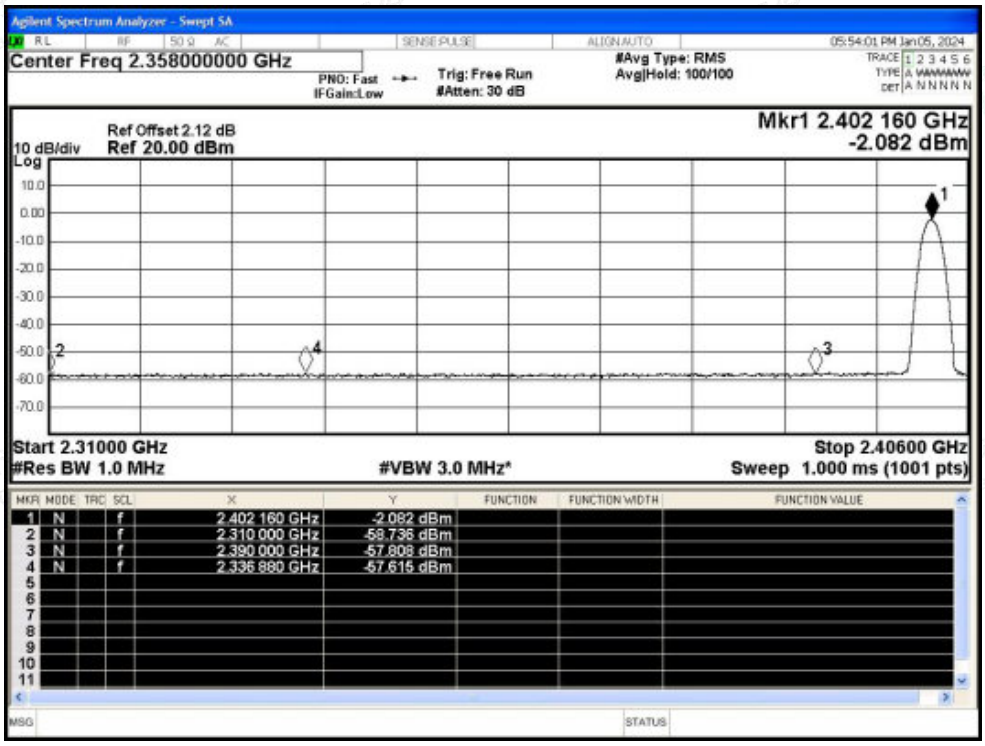
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



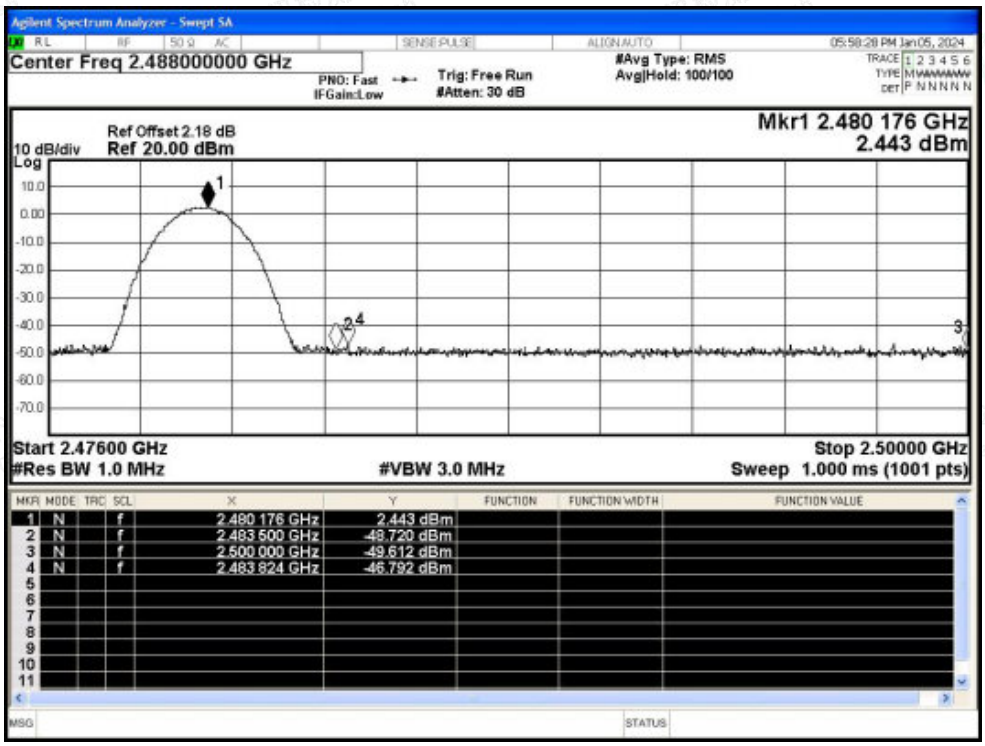
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



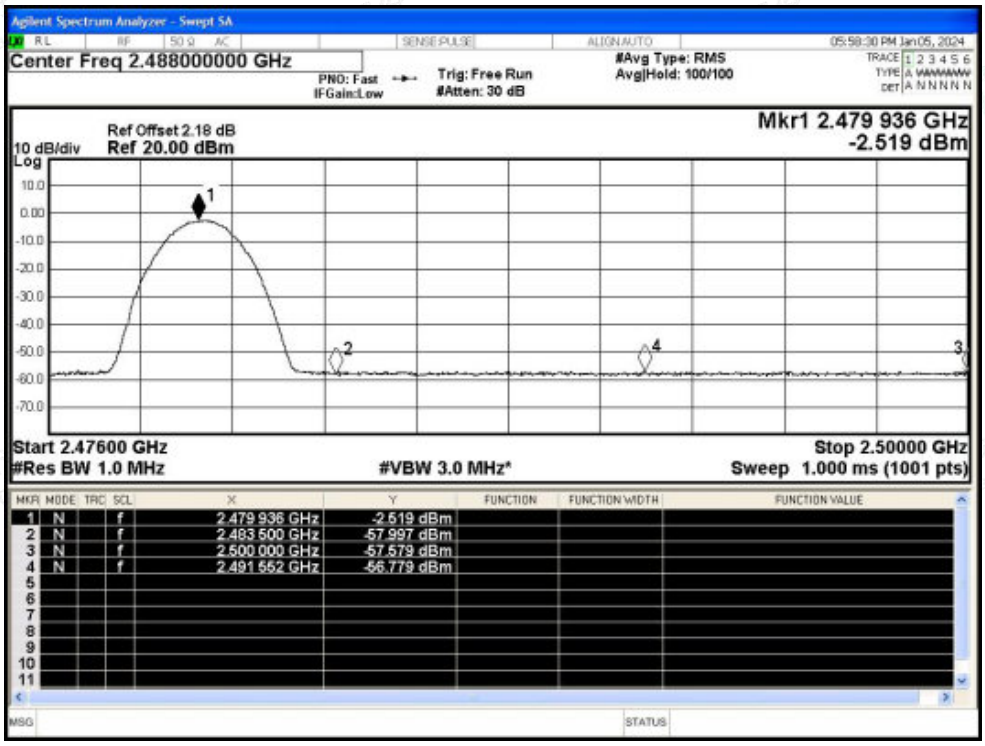
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



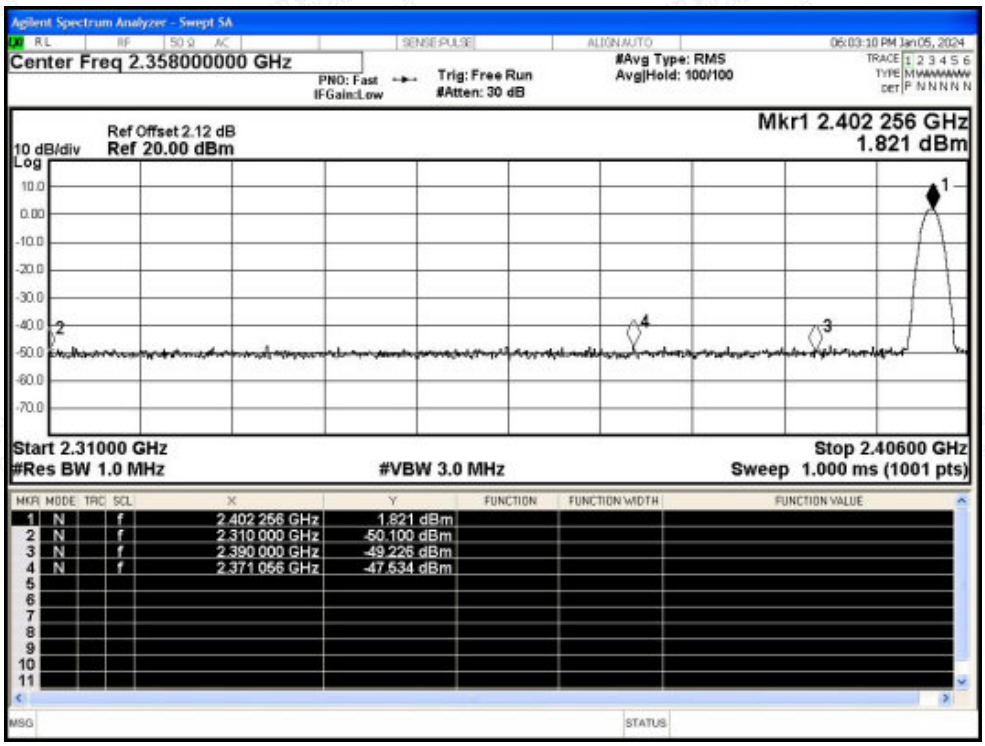
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



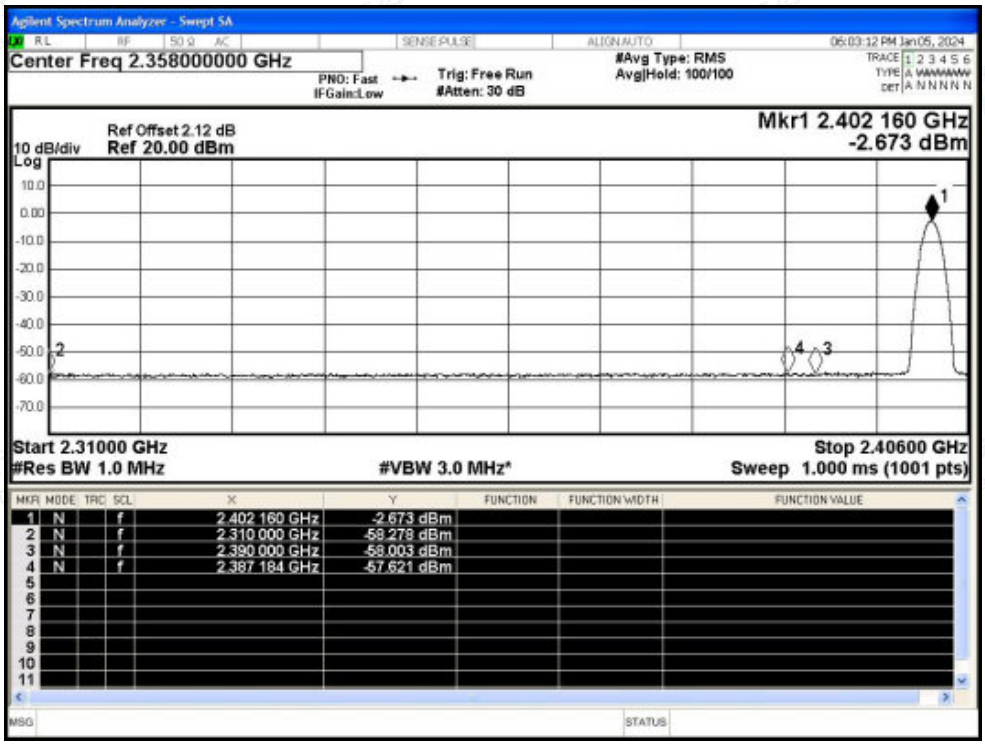
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



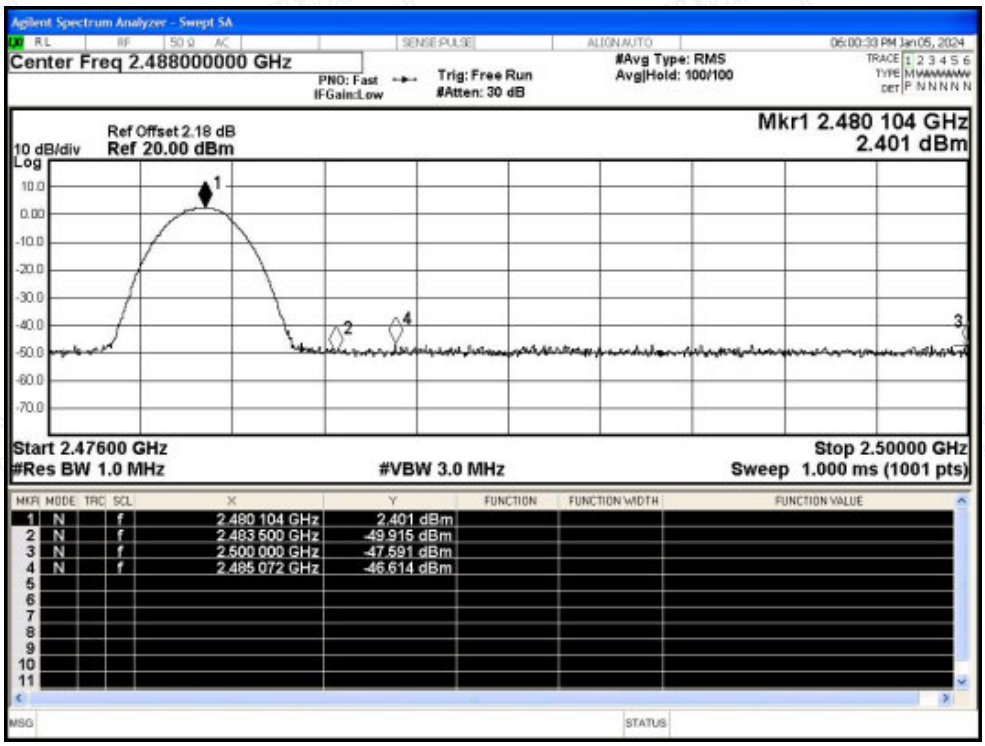
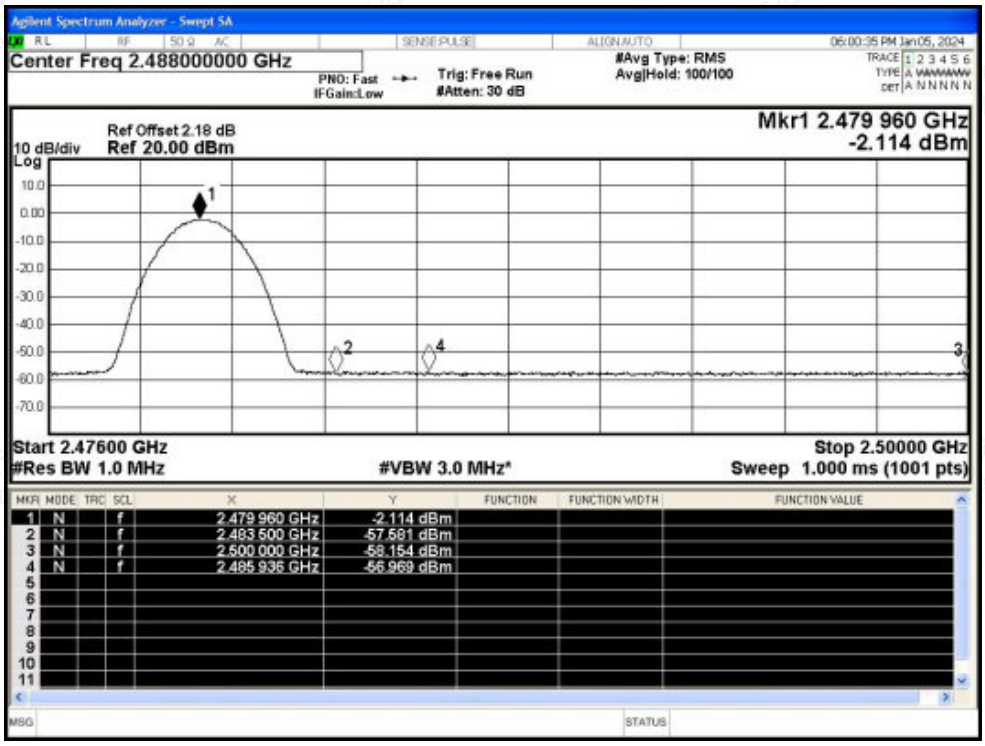
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



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