Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Smart ARM PC BOX

Test Model: APC390K

Environmental Conditions

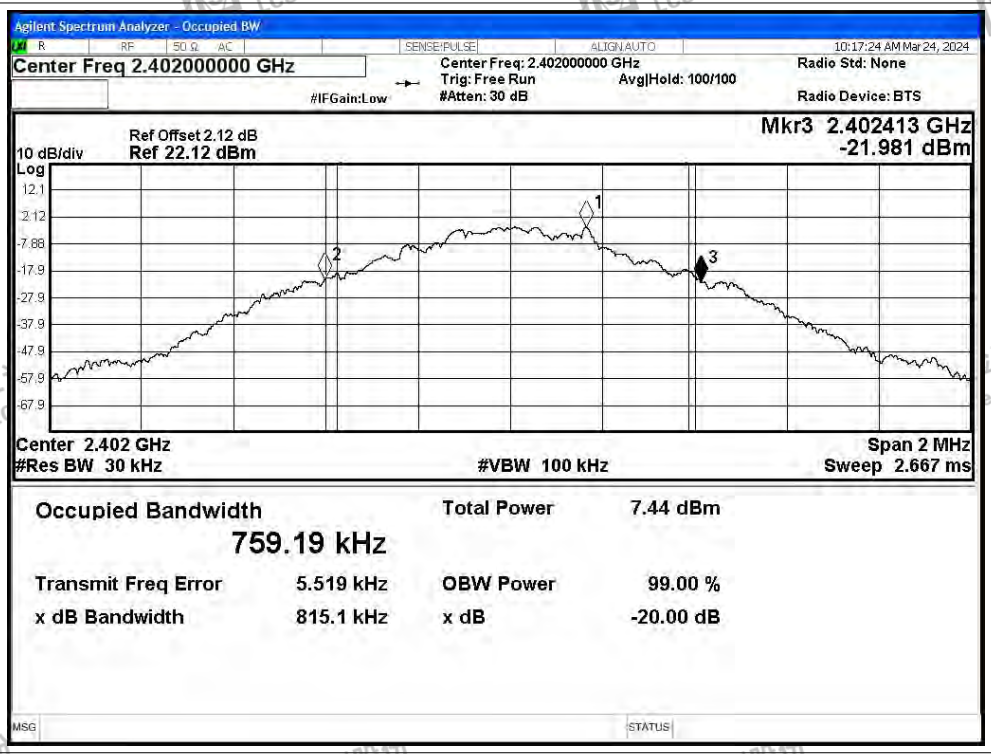
Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng

A.1 -20dB Bandwidth

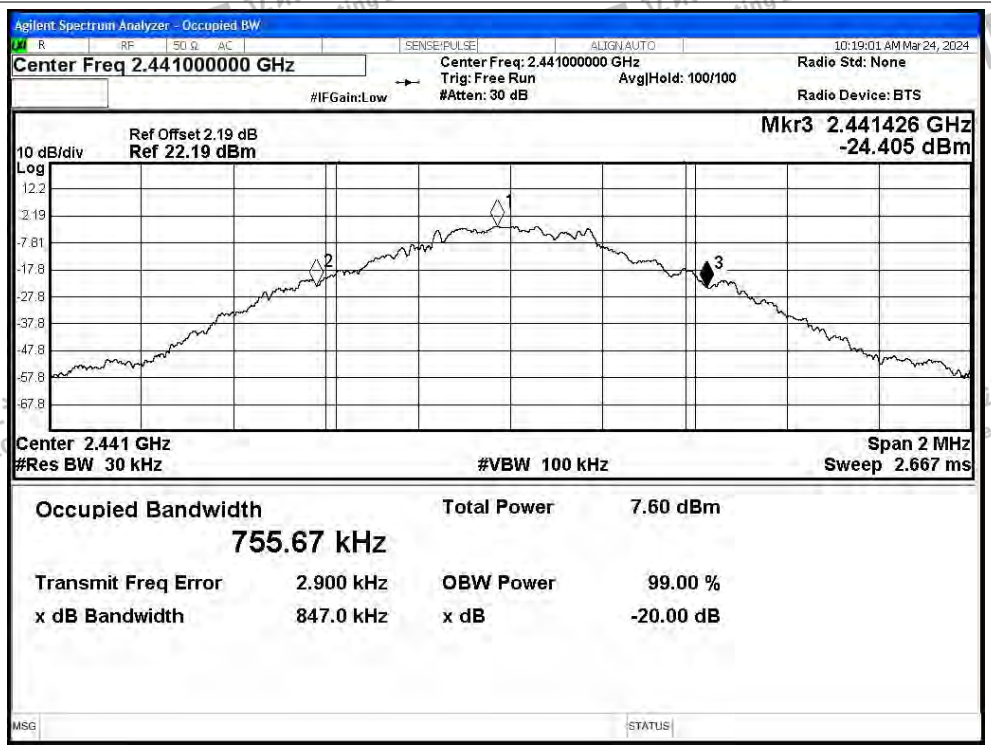
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.815	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.847	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.907	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.281	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.283	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.282	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.296	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.303	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.297	N/A	Pass

Test Graphs

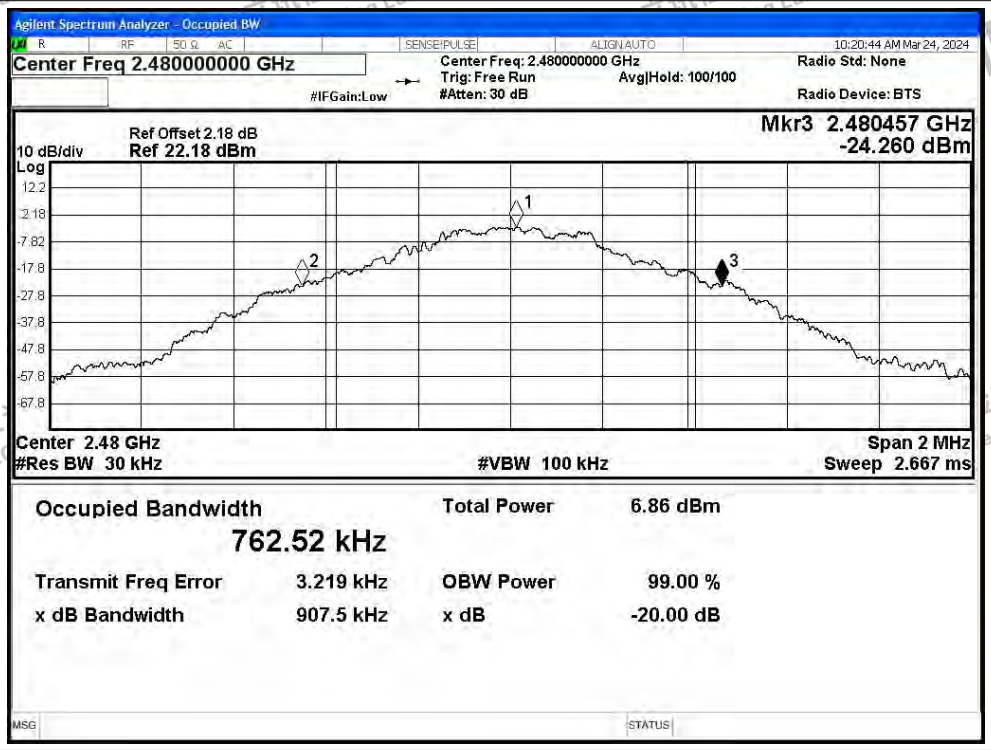
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



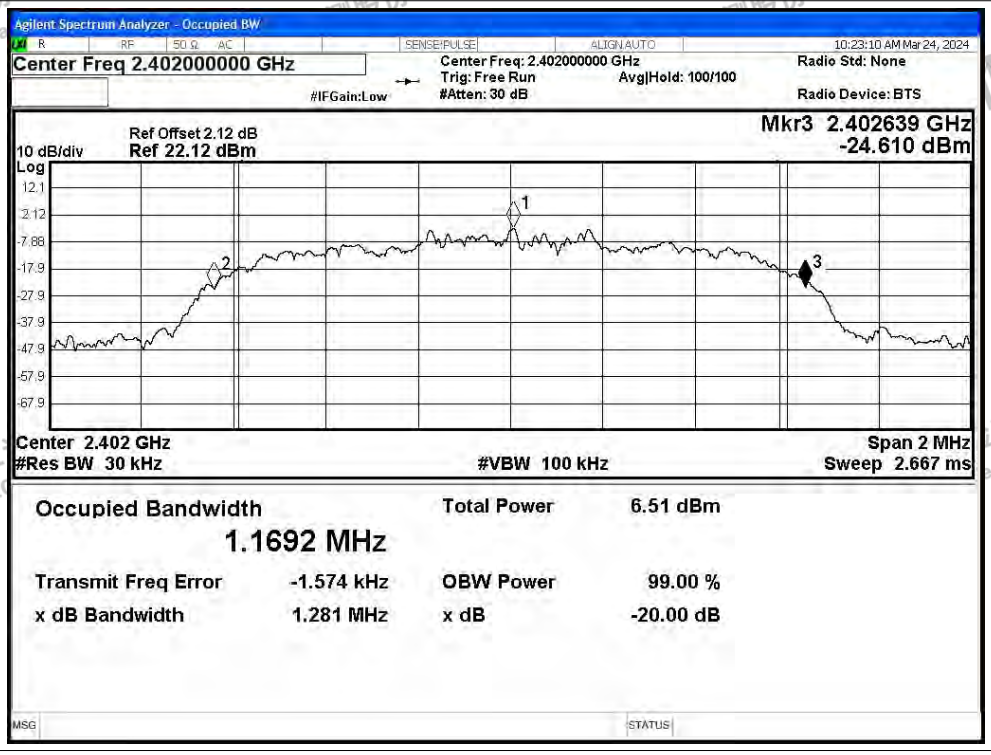
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



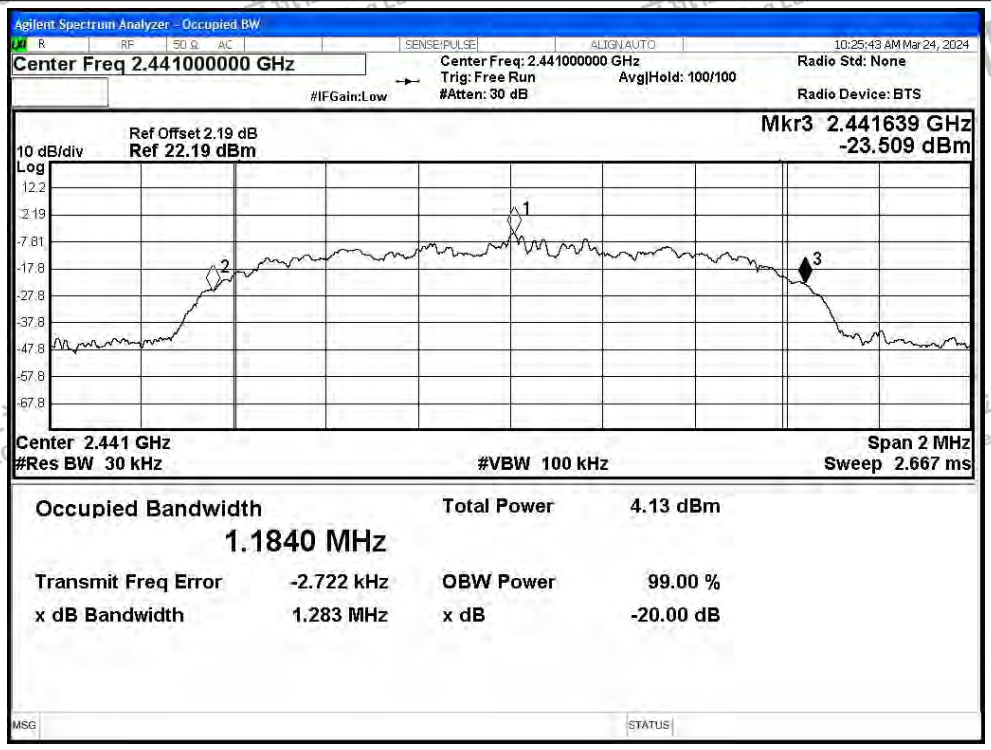
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



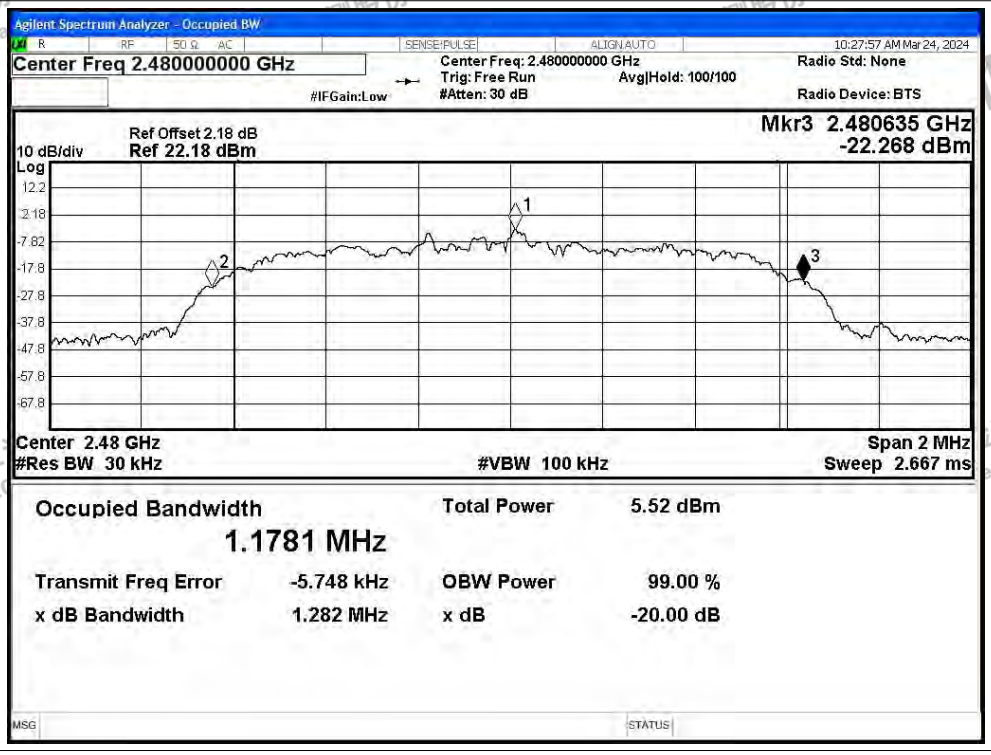
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



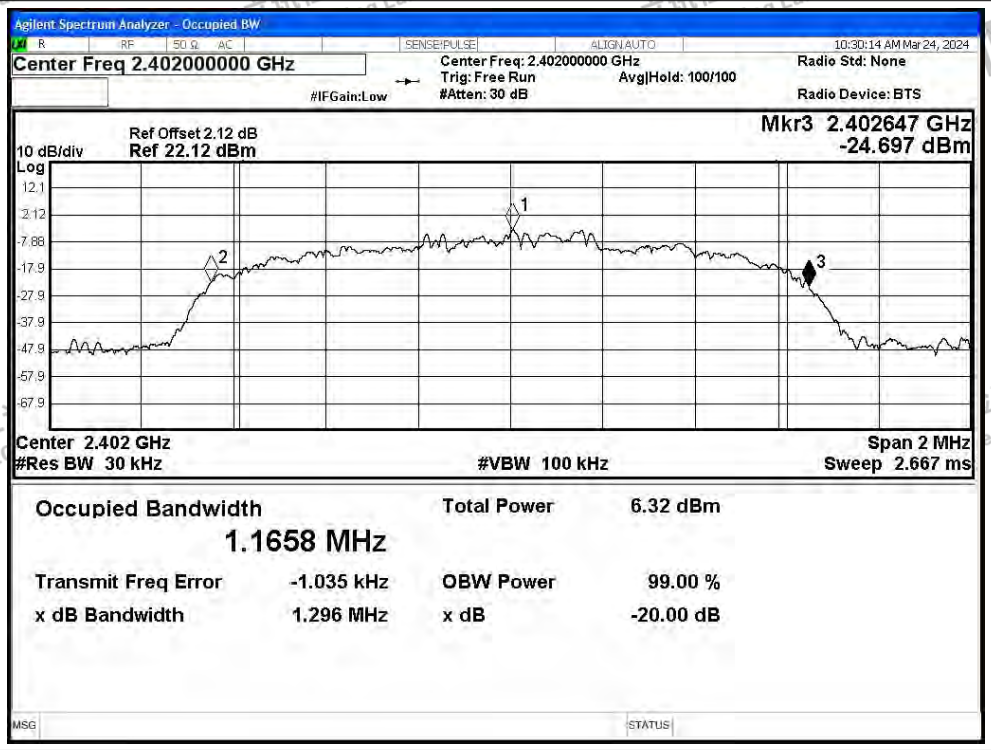
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



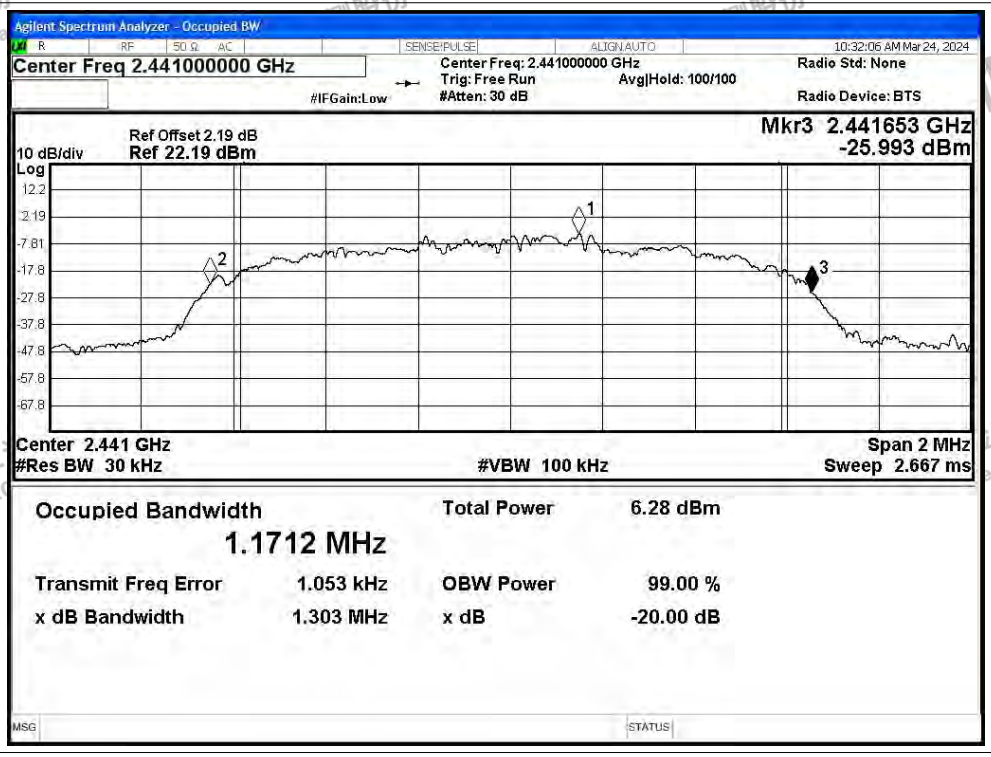
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



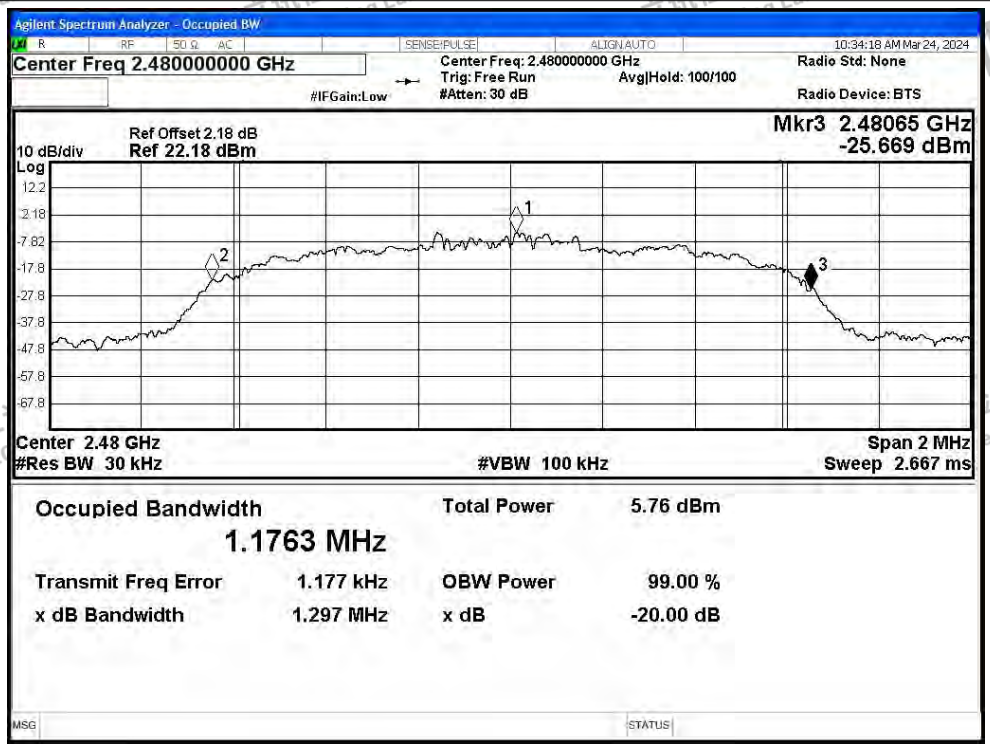
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

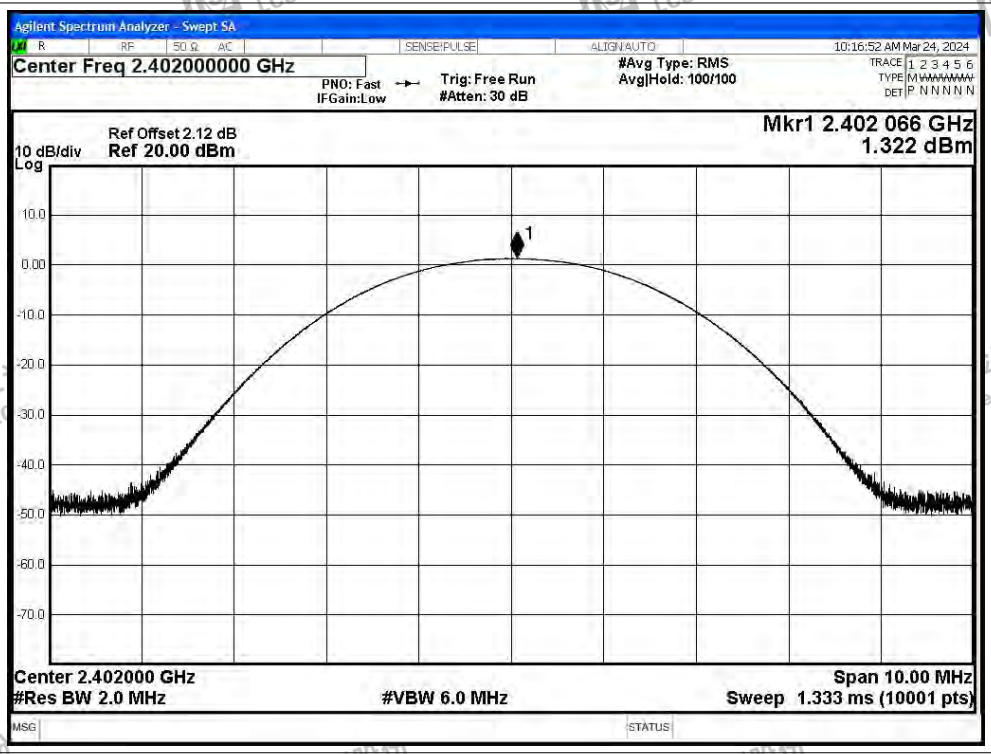


A.2 Maximum Conducted Output Power

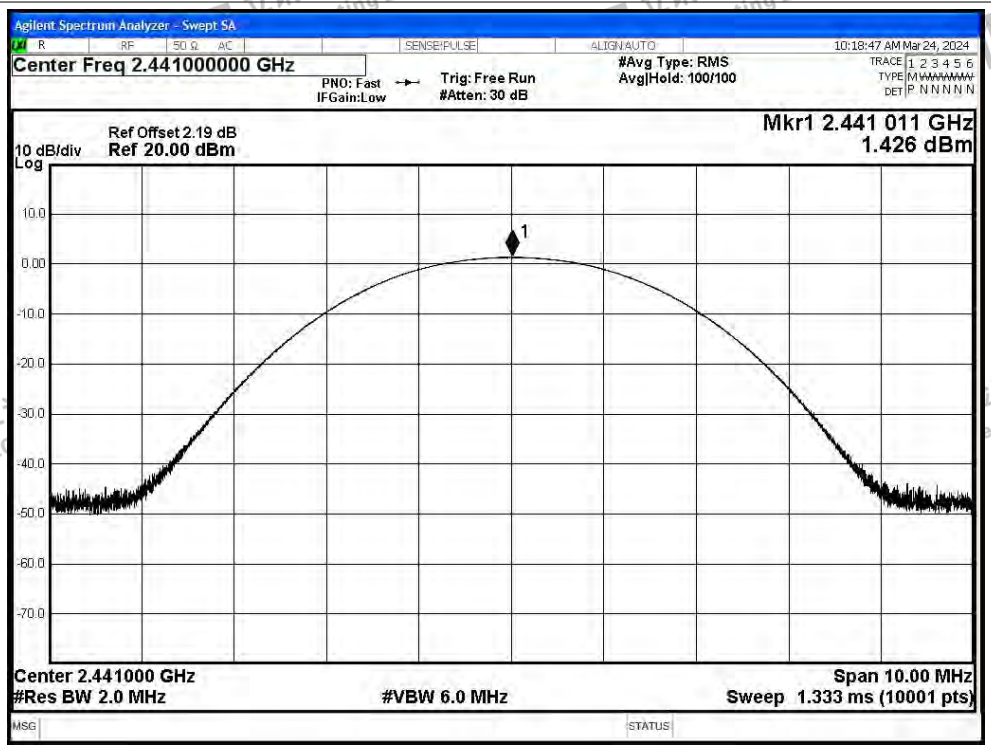
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	1.32	21	Pass
NVNT	1-DH5	2441	Ant1	1.43	21	Pass
NVNT	1-DH5	2480	Ant1	0.8	21	Pass
NVNT	2-DH5	2402	Ant1	1.15	21	Pass
NVNT	2-DH5	2441	Ant1	-0.4	21	Pass
NVNT	2-DH5	2480	Ant1	0.9	21	Pass
NVNT	3-DH5	2402	Ant1	1.16	21	Pass
NVNT	3-DH5	2441	Ant1	1.37	21	Pass
NVNT	3-DH5	2480	Ant1	0.84	21	Pass

Test Graphs

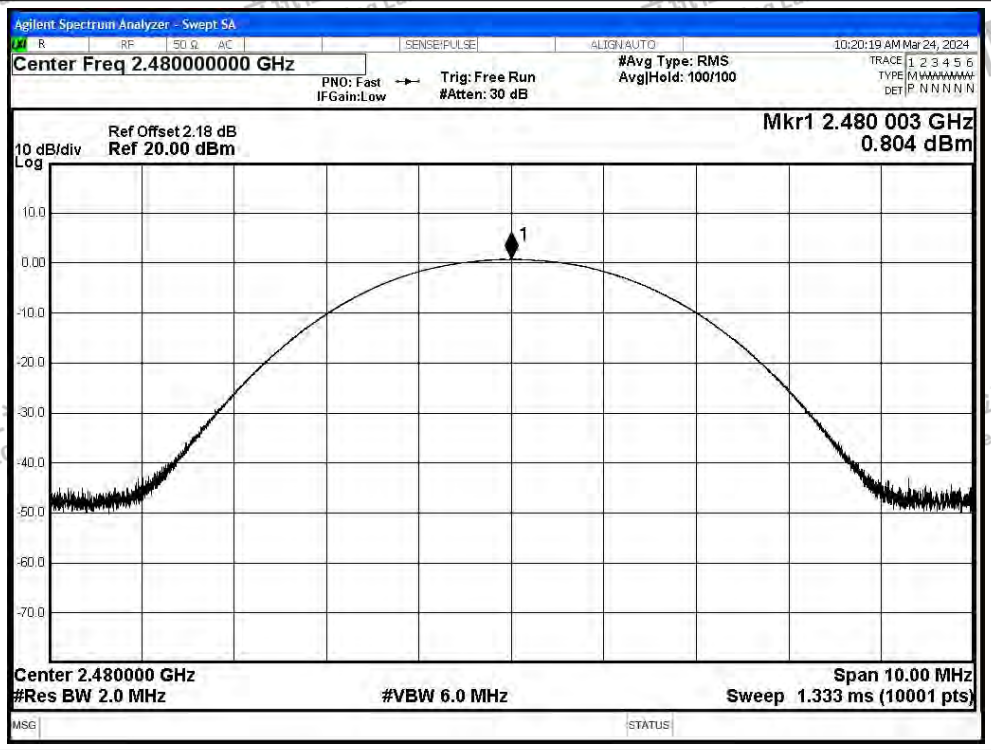
Power NVNT 1-DH5 2402MHz Ant1



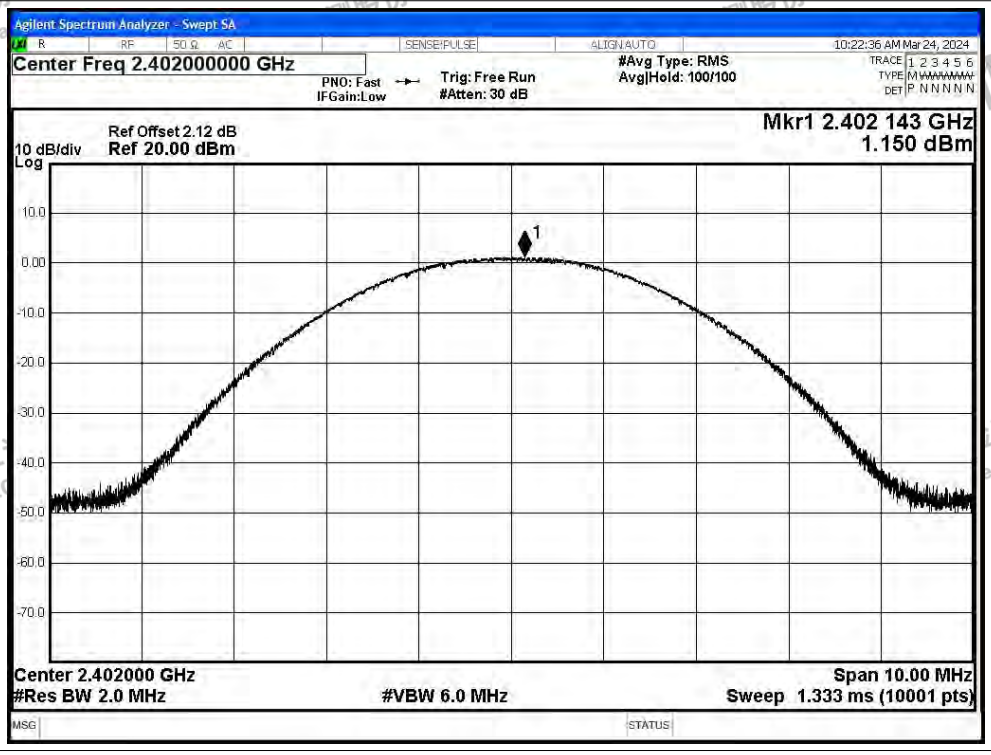
Power NVNT 1-DH5 2441MHz Ant1



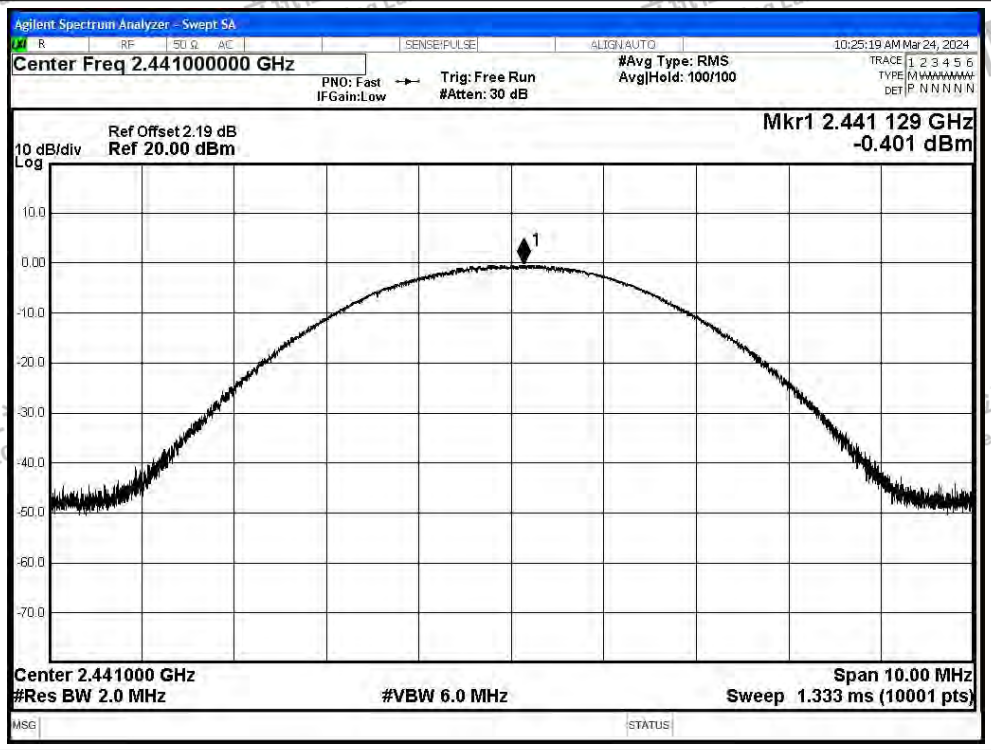
Power NVNT 1-DH5 2480MHz Ant1



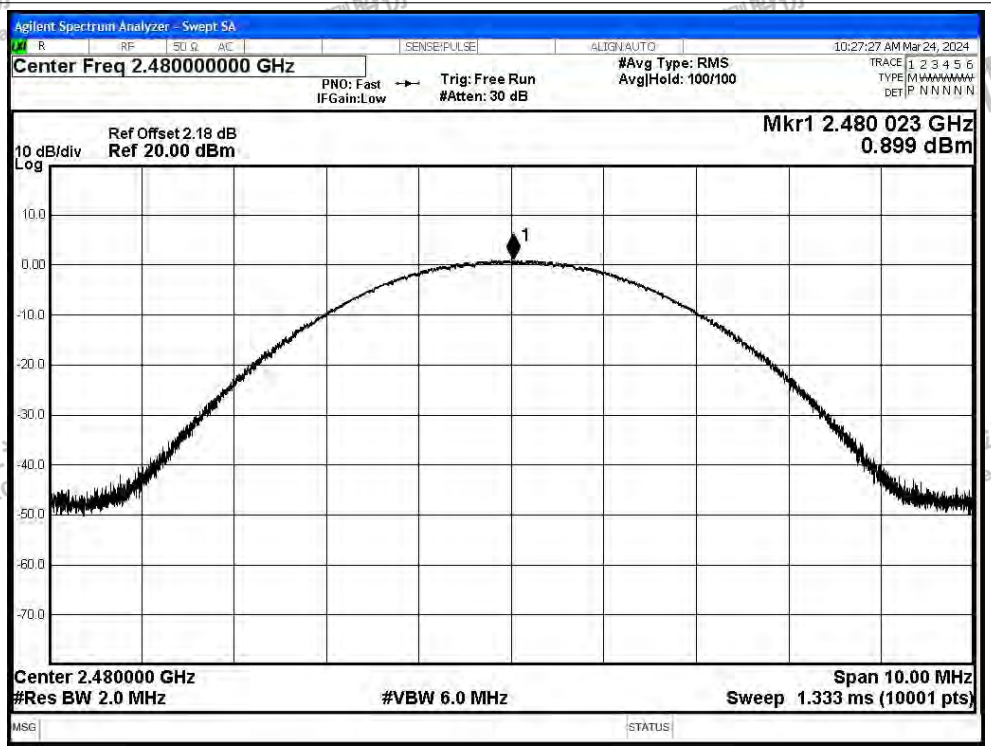
Power NVNT 2-DH5 2402MHz Ant1



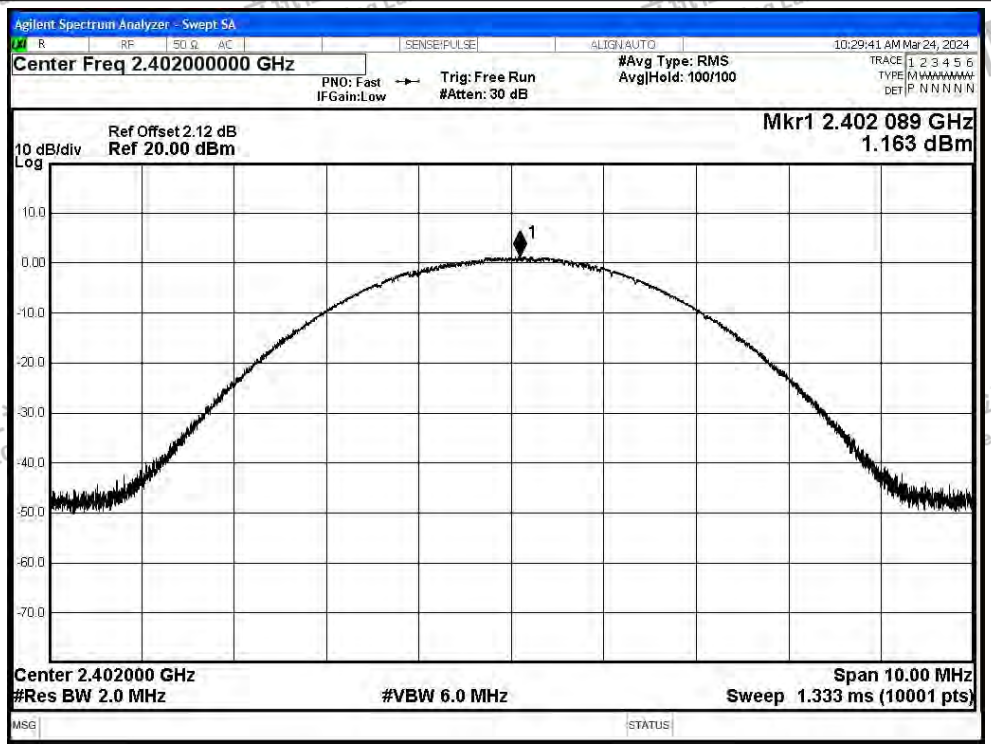
Power NVNT 2-DH5 2441MHz Ant1



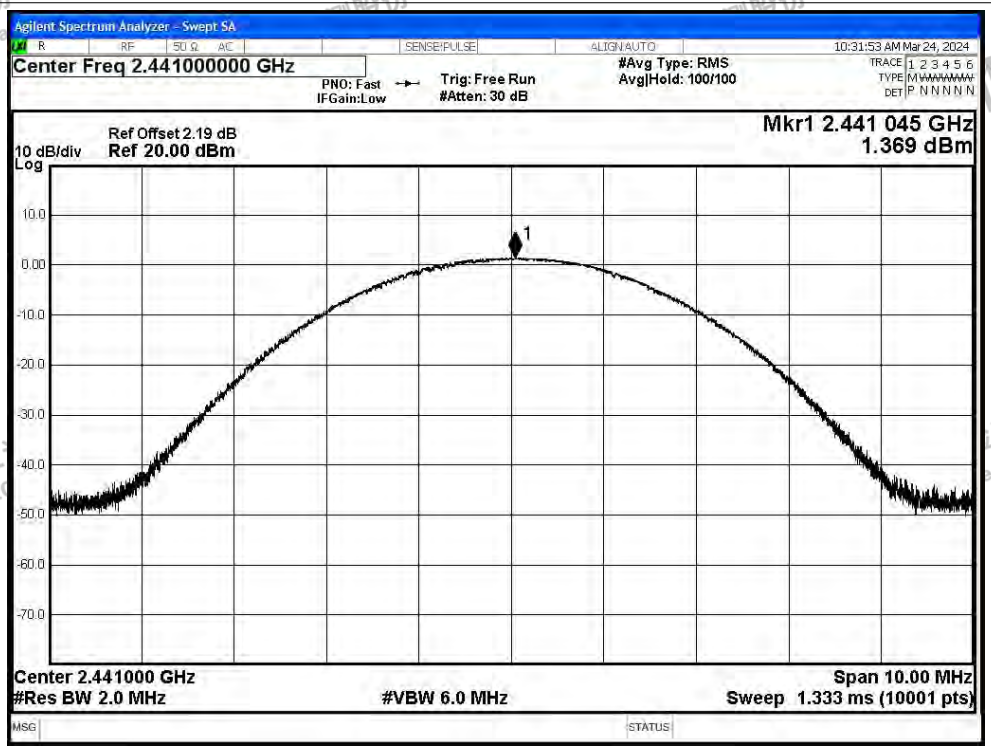
Power NVNT 2-DH5 2480MHz Ant1



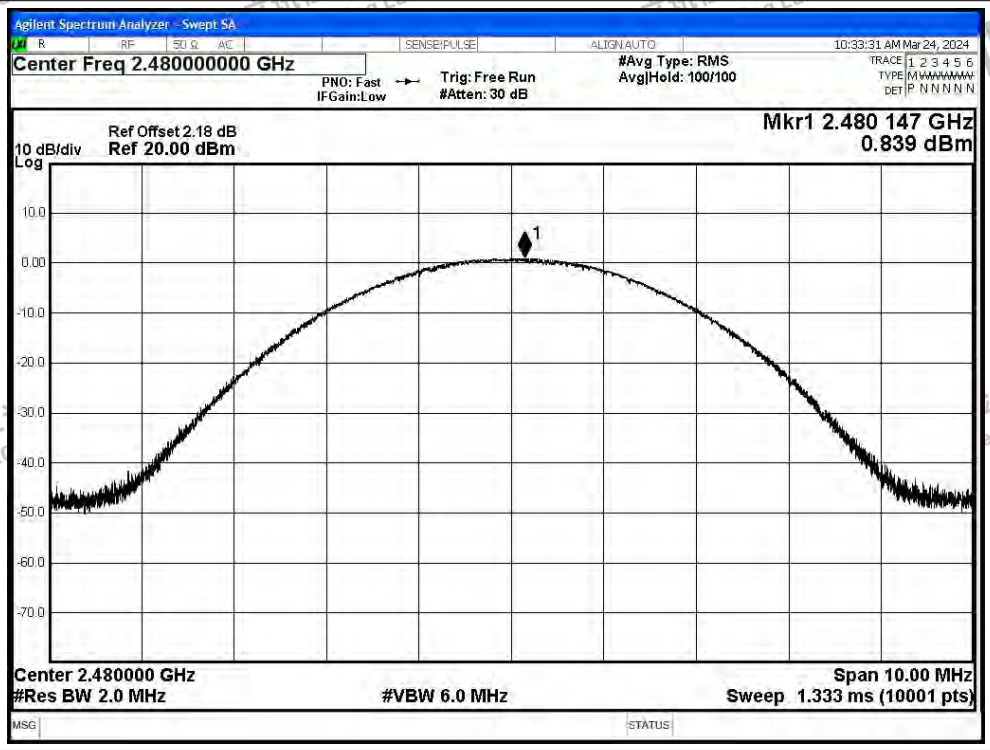
Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



Power NVNT 3-DH5 2480MHz Ant1



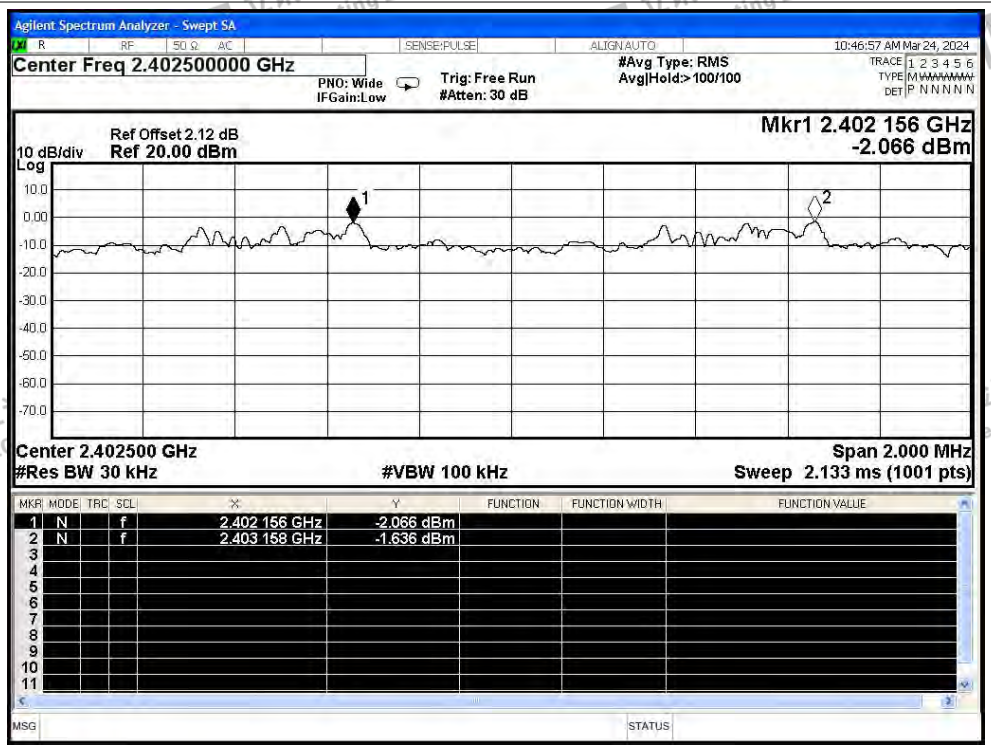
A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.962	2403.014	1.052	0.605	Pass
NVNT	2-DH5	Ant1	2402.156	2403.158	1.002	0.855	Pass
NVNT	3-DH5	Ant1	2402.018	2403.026	1.008	0.869	Pass

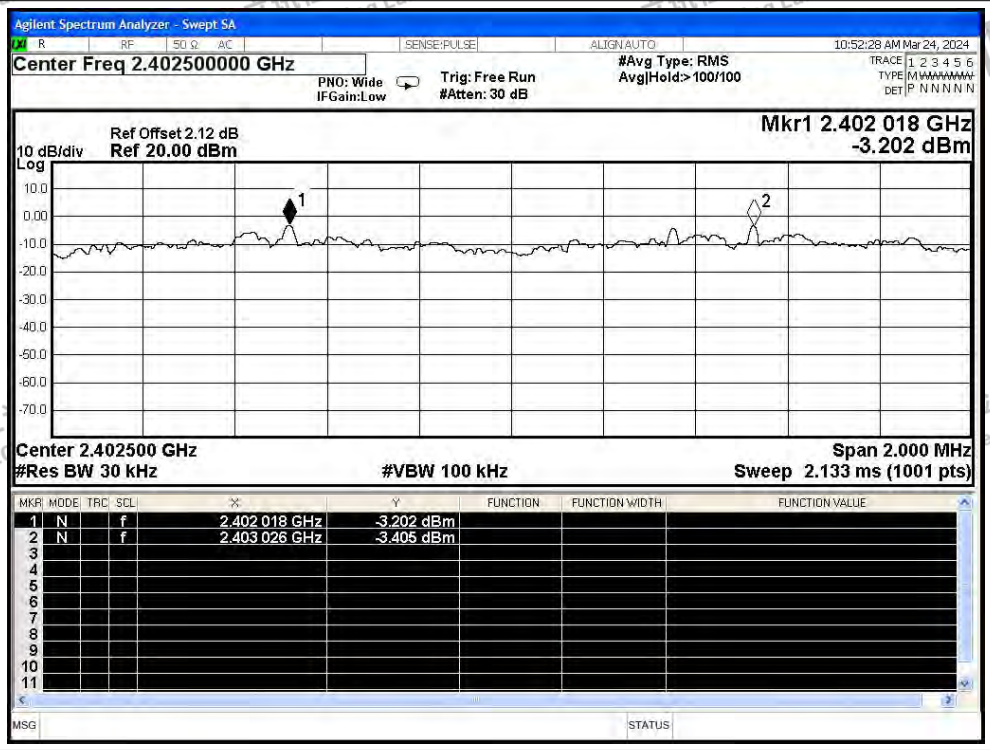
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1

CFS NVNT 2-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2402MHz Ant1

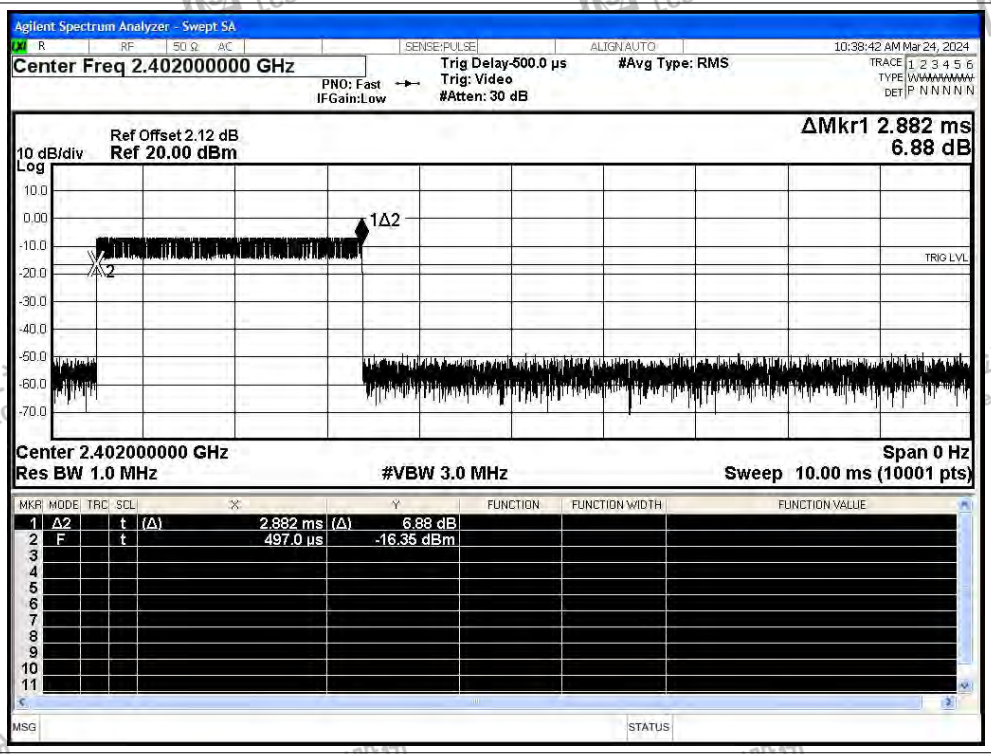


A.4 Dwell Time

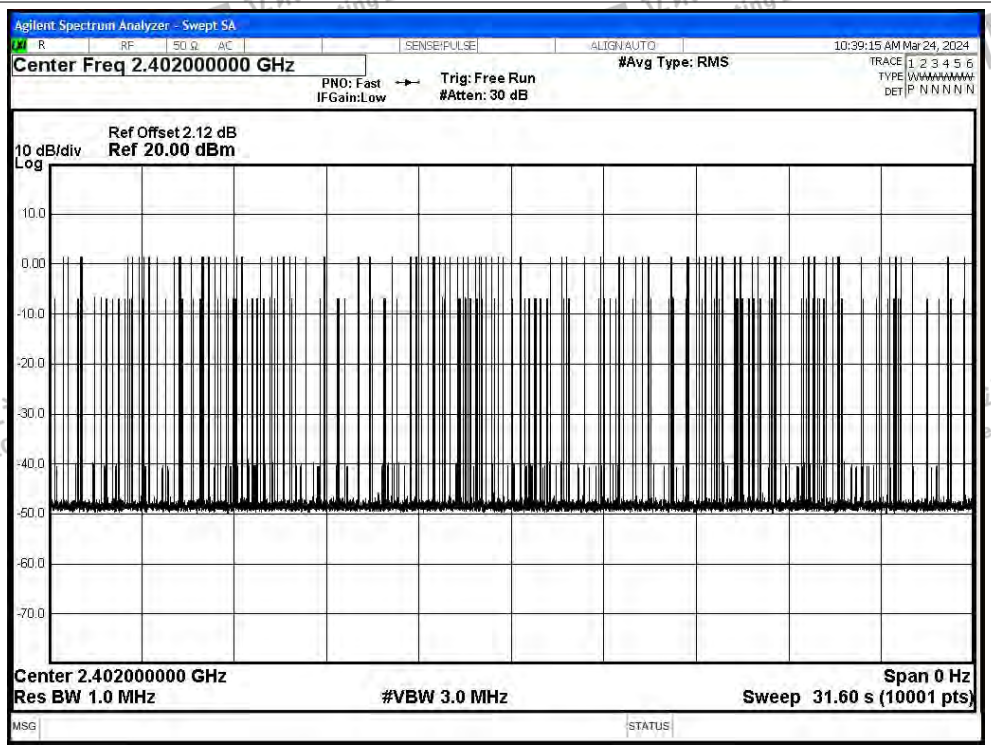
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.882	299.728	104	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.882	305.492	106	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.887	291.587	101	31600	400	Pass

Test Graphs

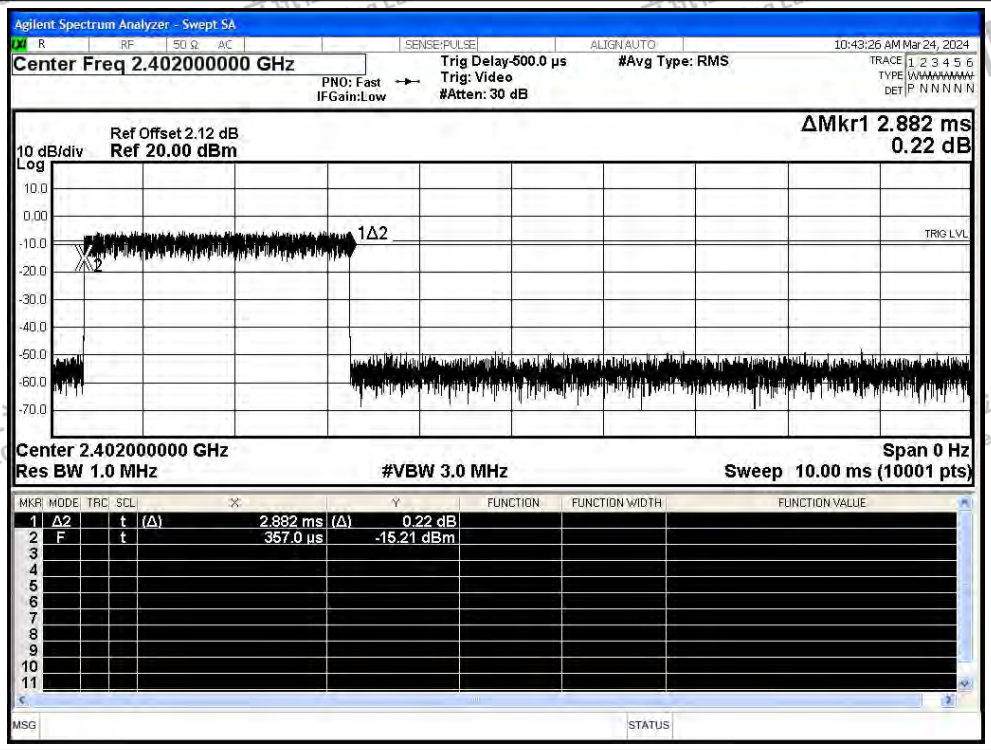
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



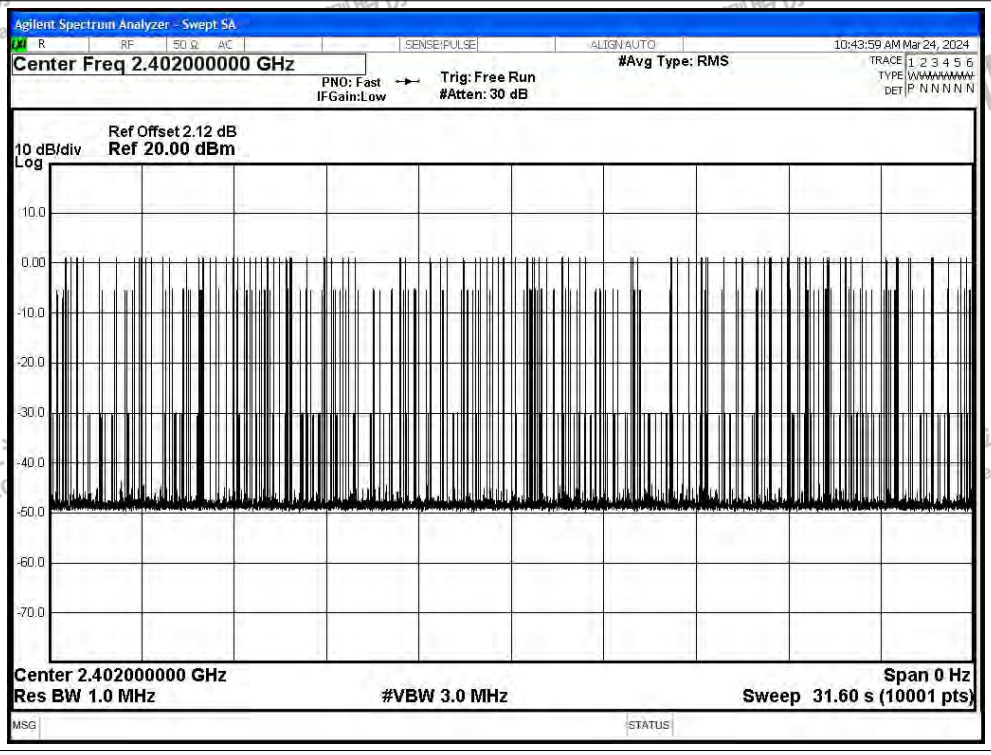
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



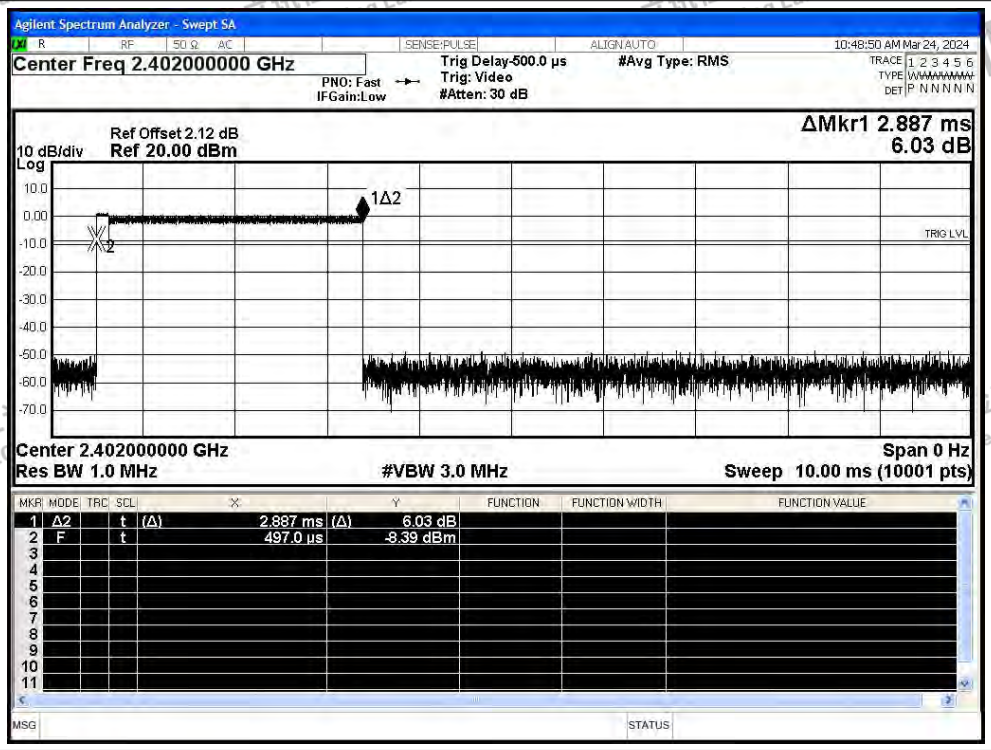
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



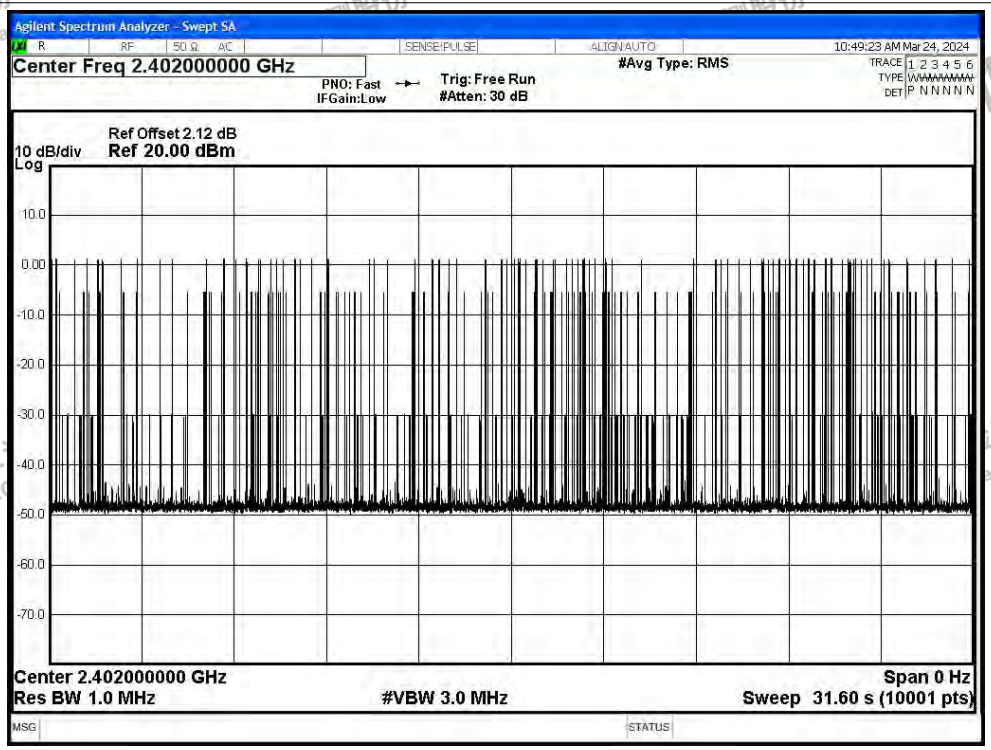
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

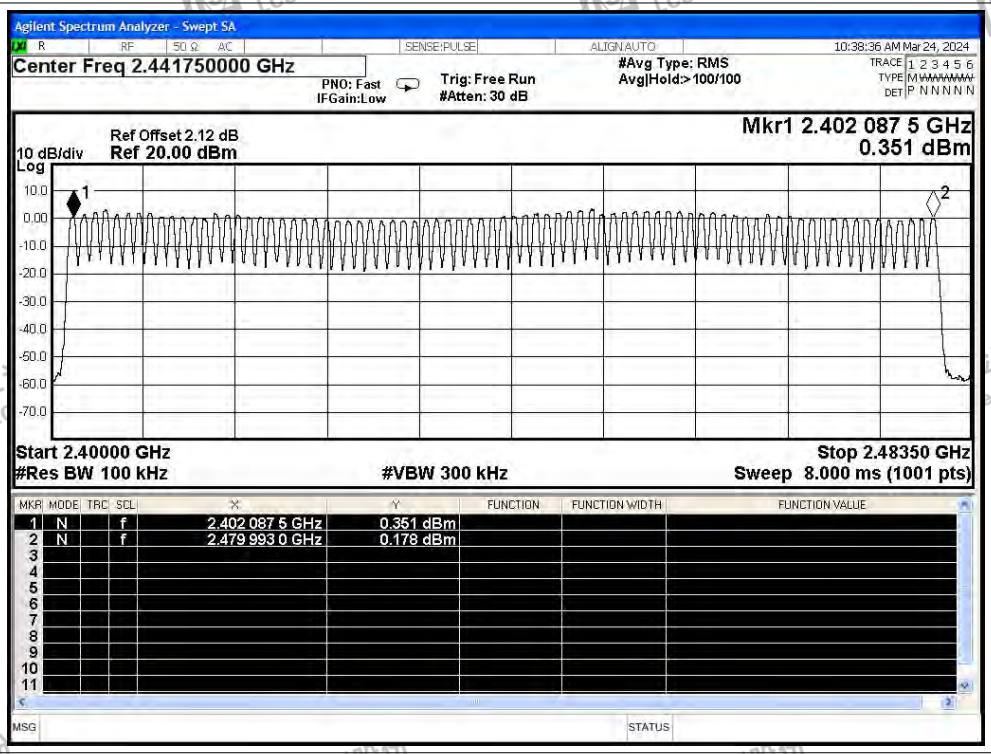


A.5 Number of Hopping Channel

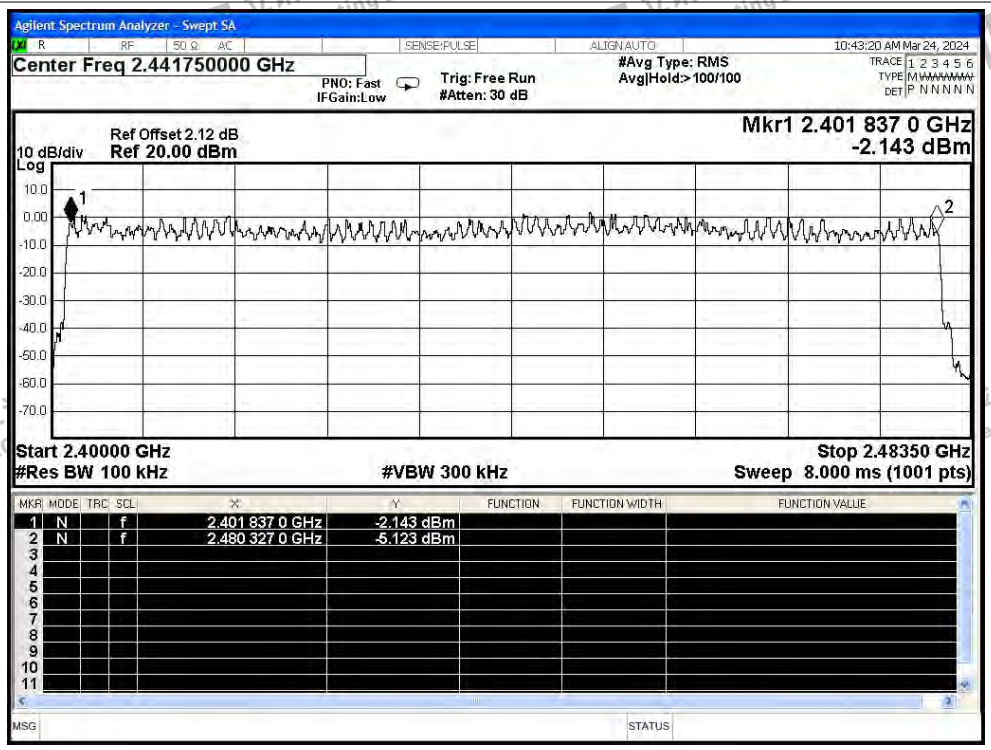
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

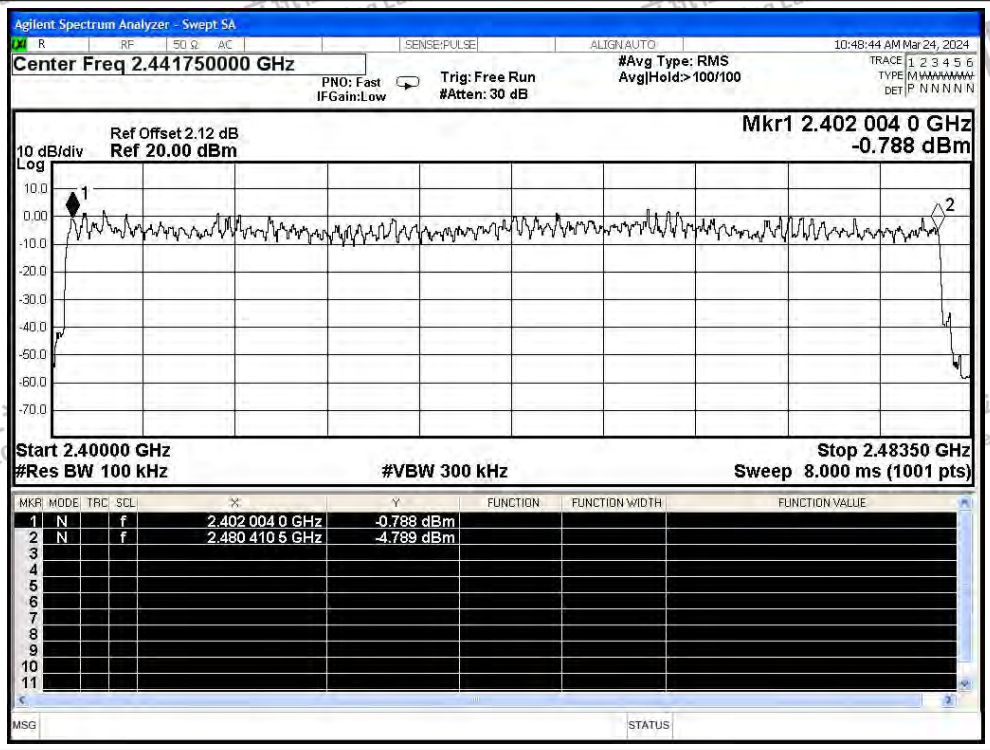
Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



Hopping No. NVNT 3-DH5 2402MHz Ant1

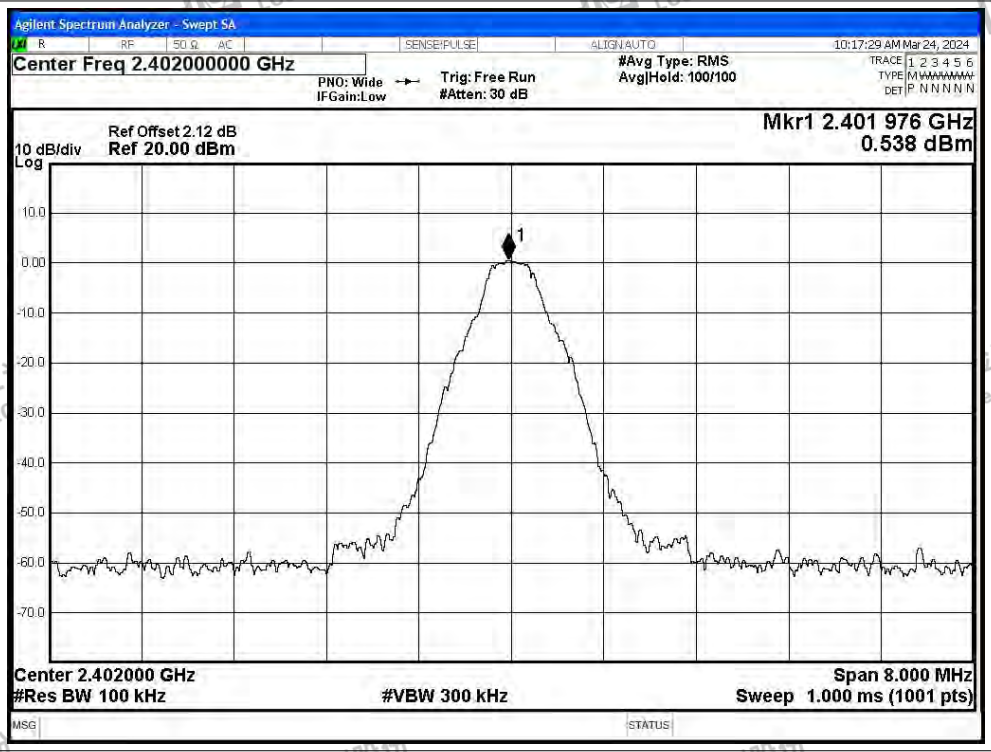


A.6 Band Edge

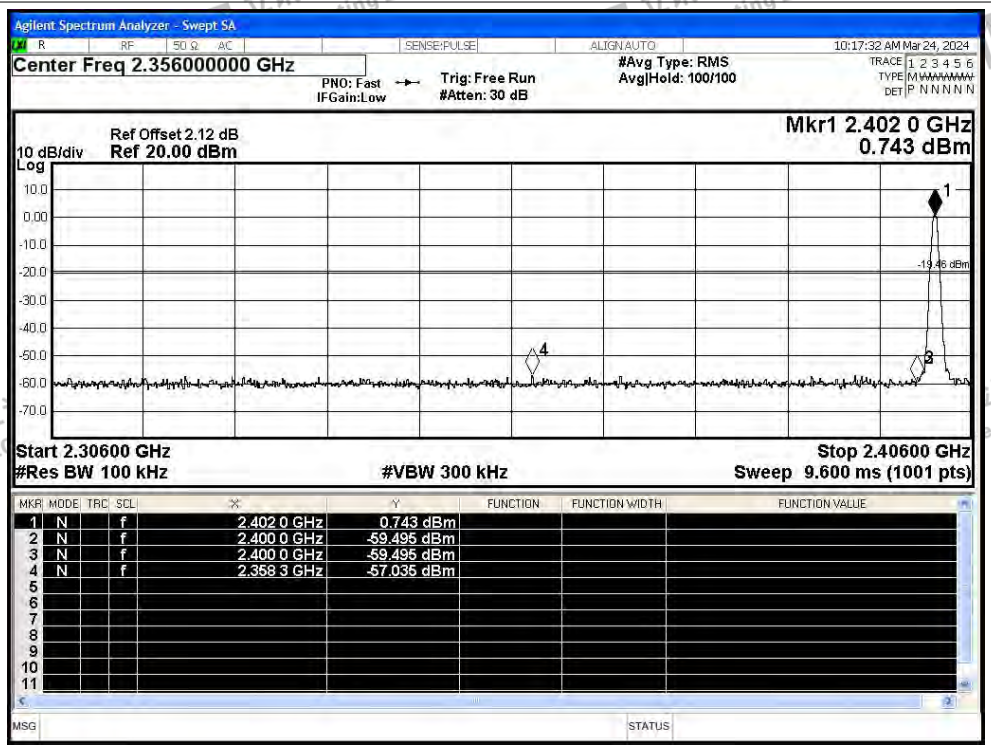
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-57.57	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-57.69	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-53.43	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-56.98	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-51.26	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-57.41	-20	Pass

Test Graphs

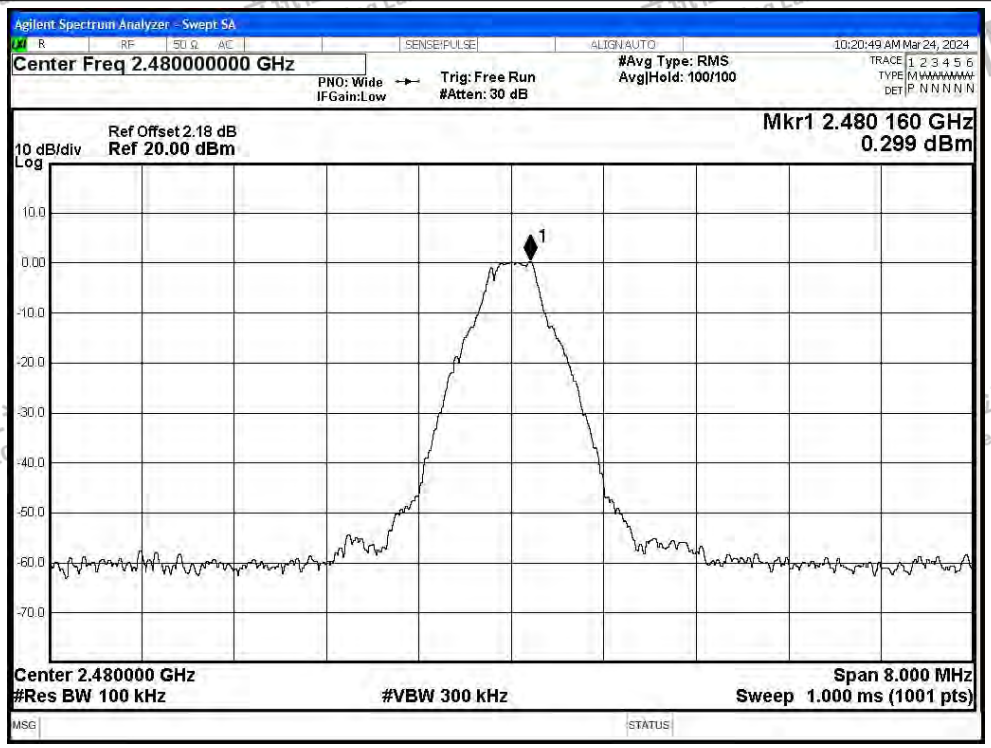
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



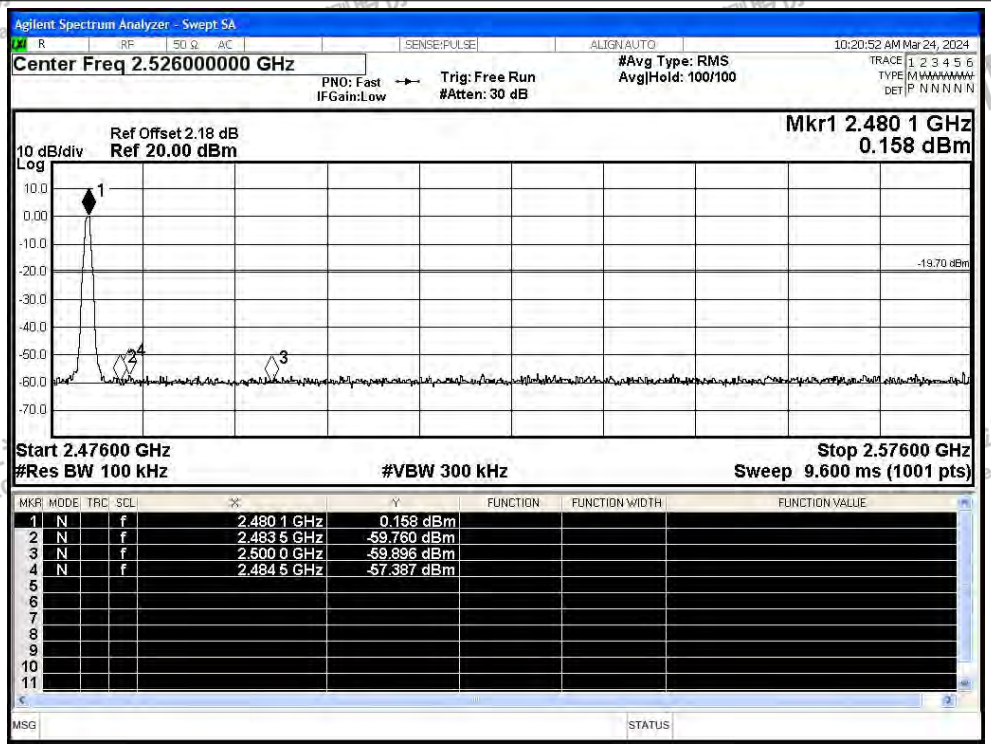
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



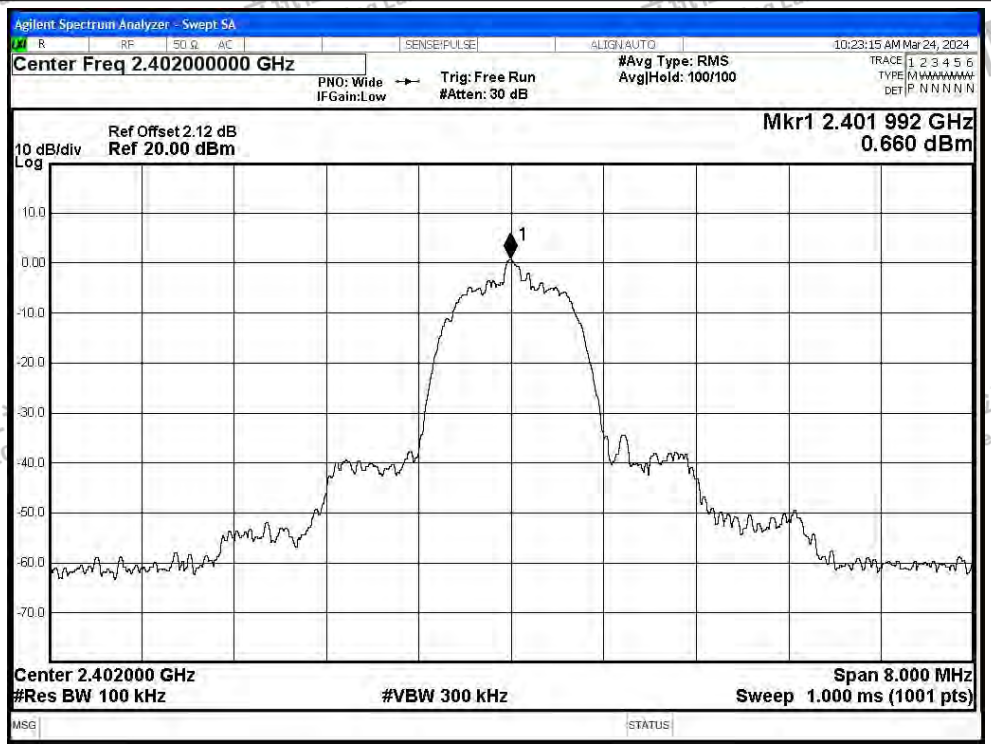
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



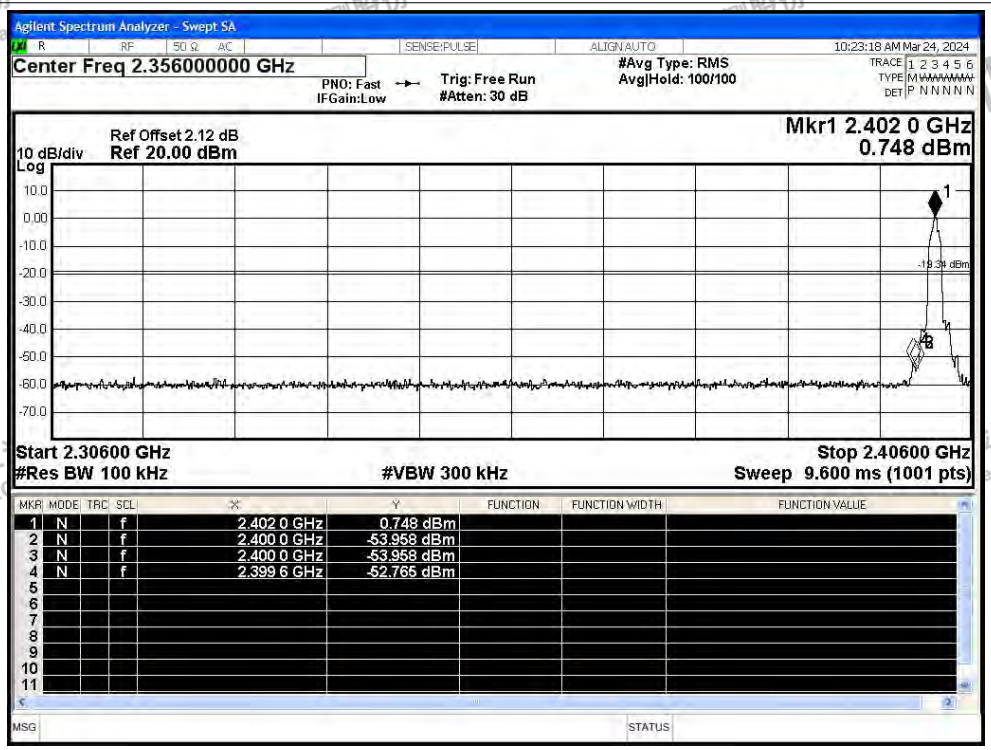
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



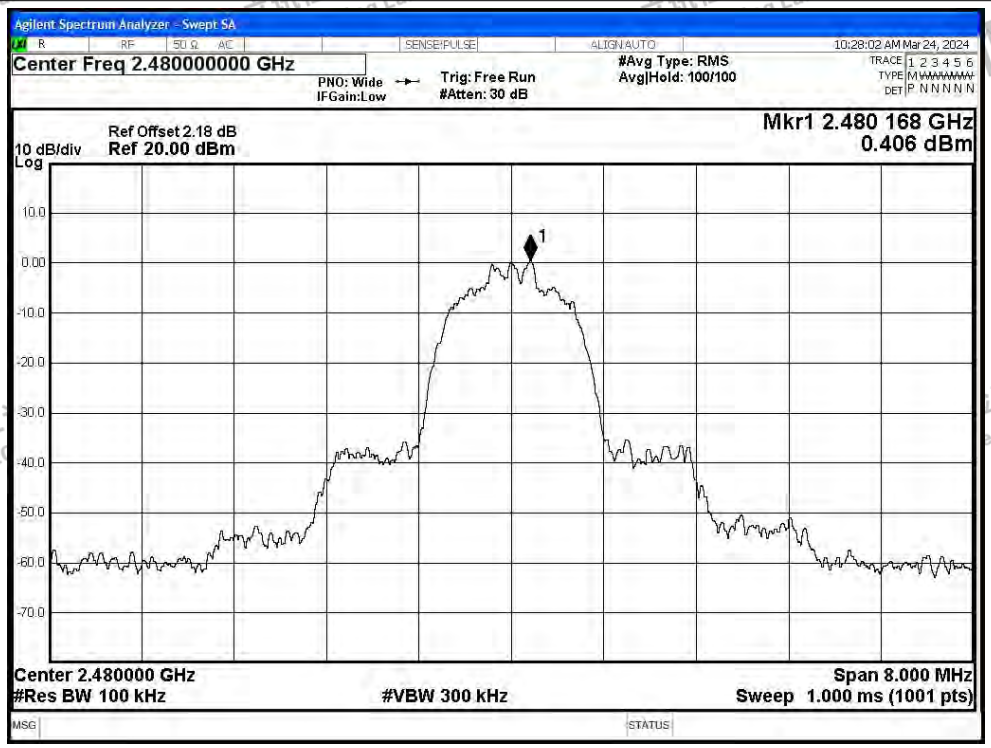
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



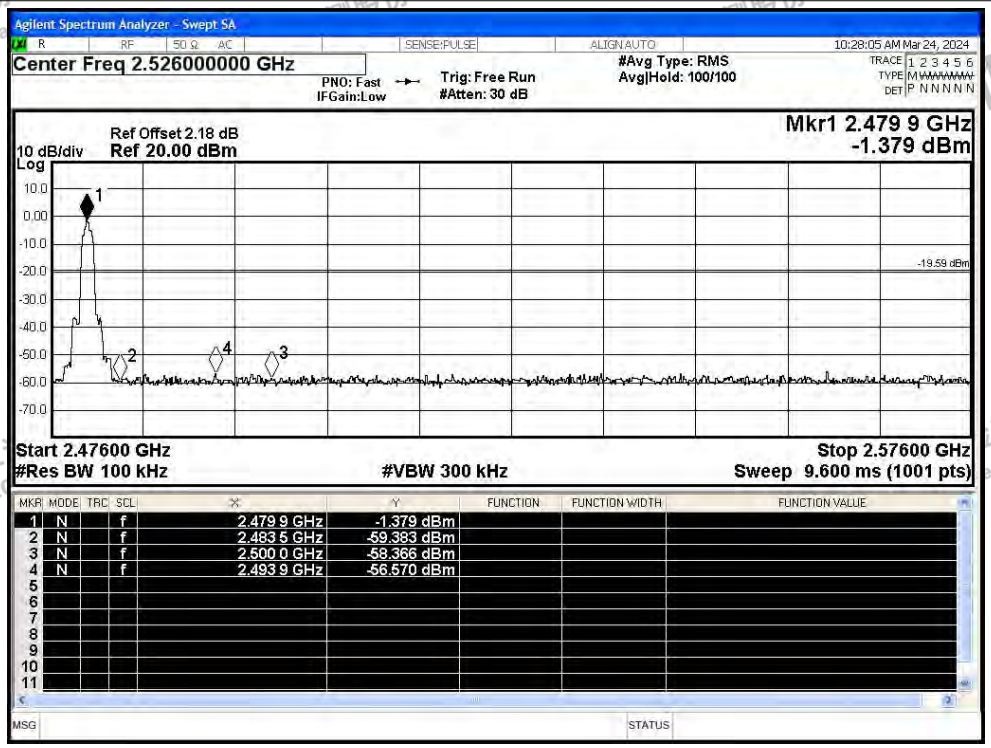
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



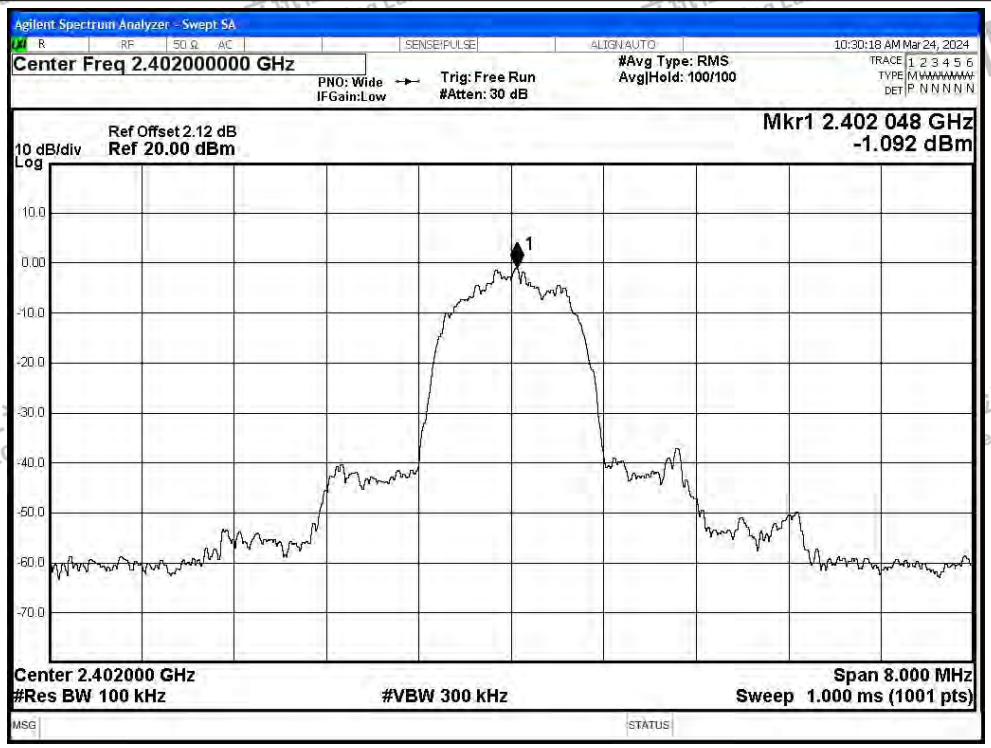
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



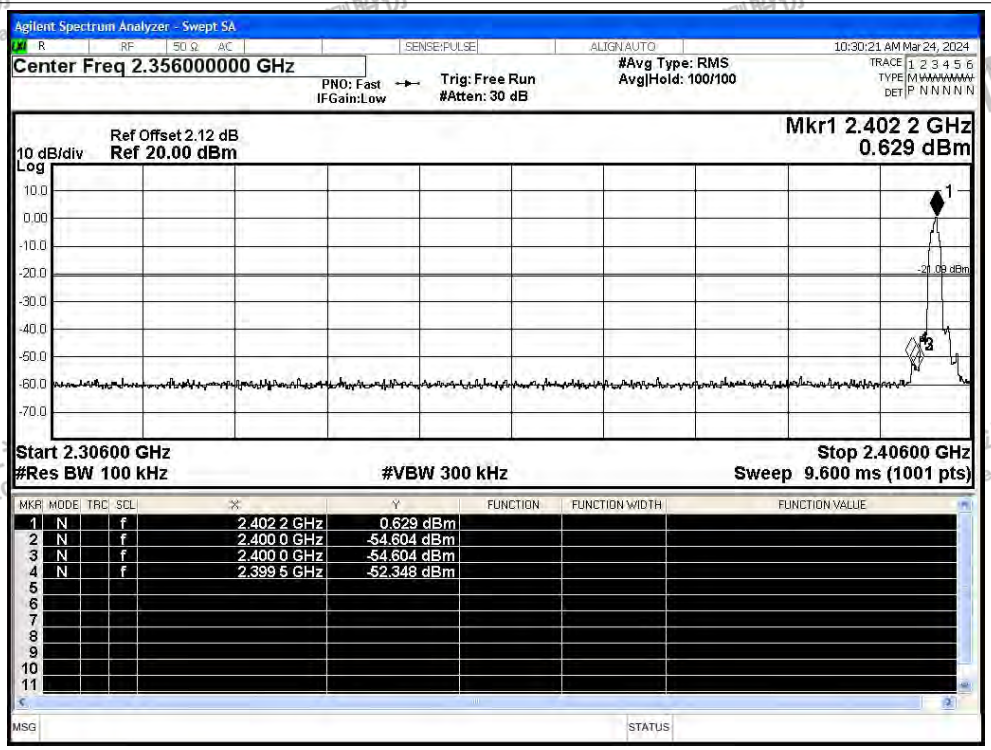
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



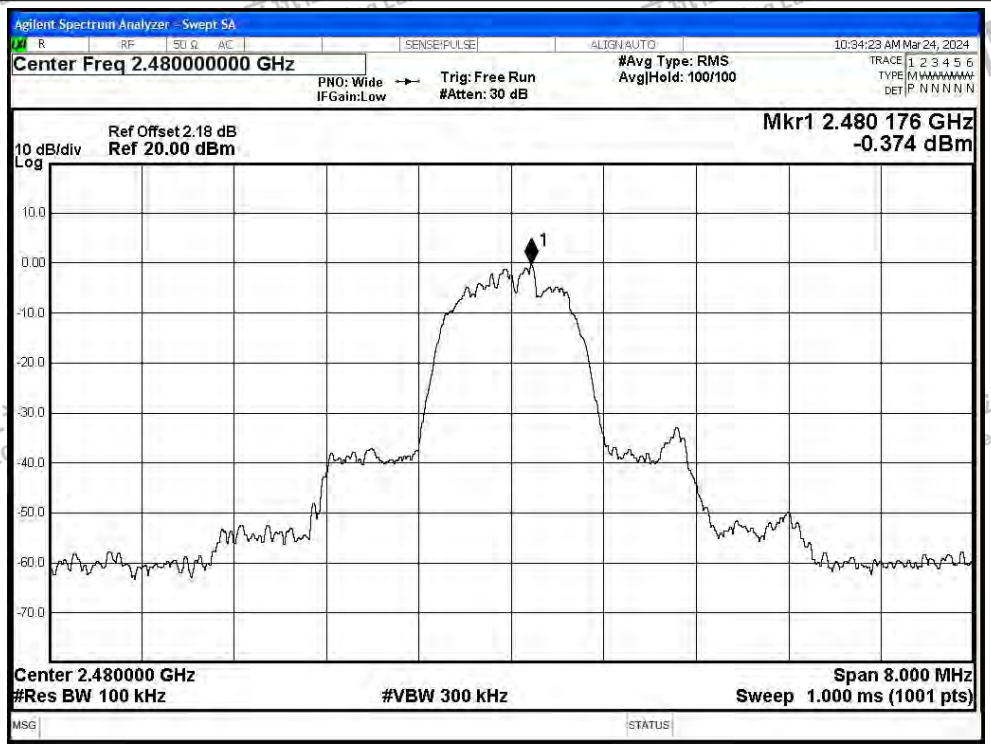
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



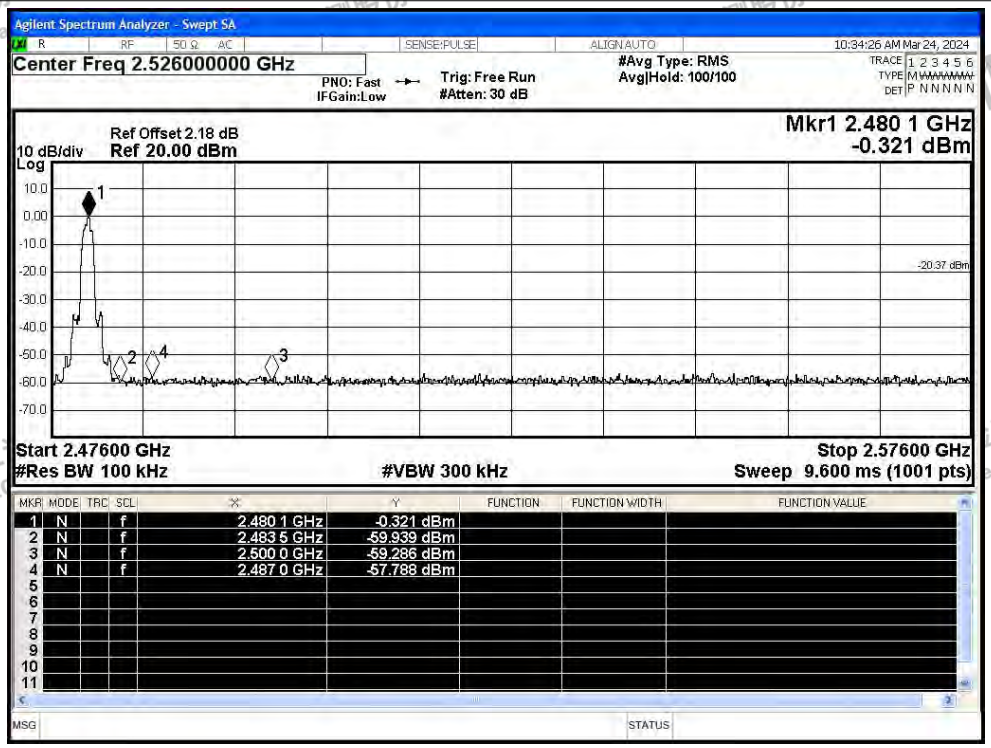
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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



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

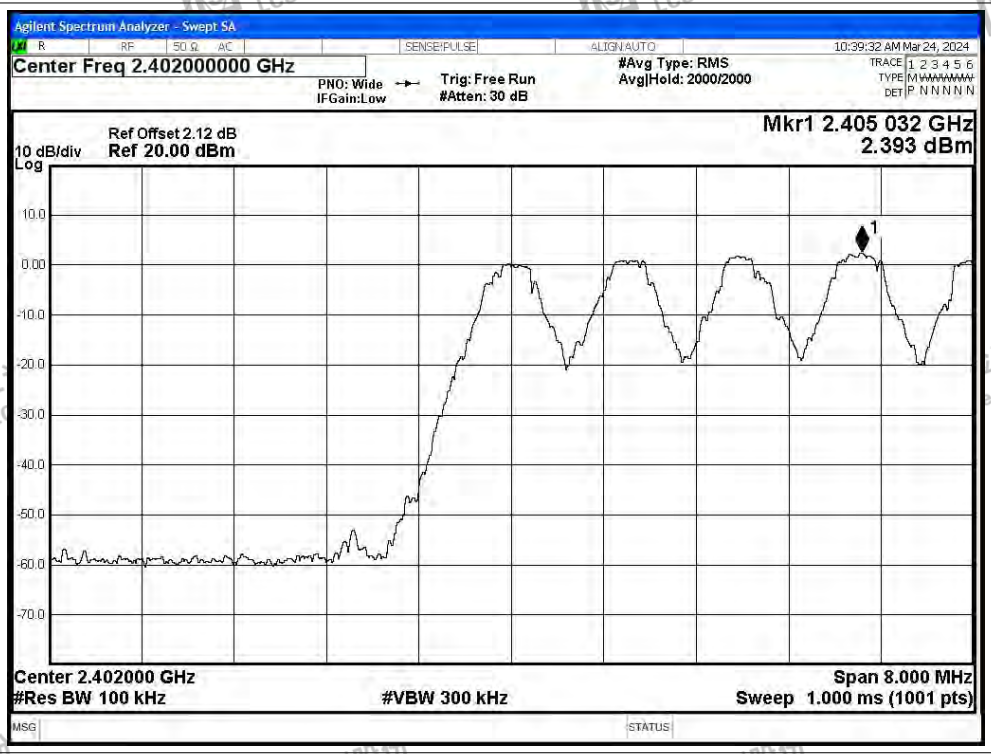


(Hopping)

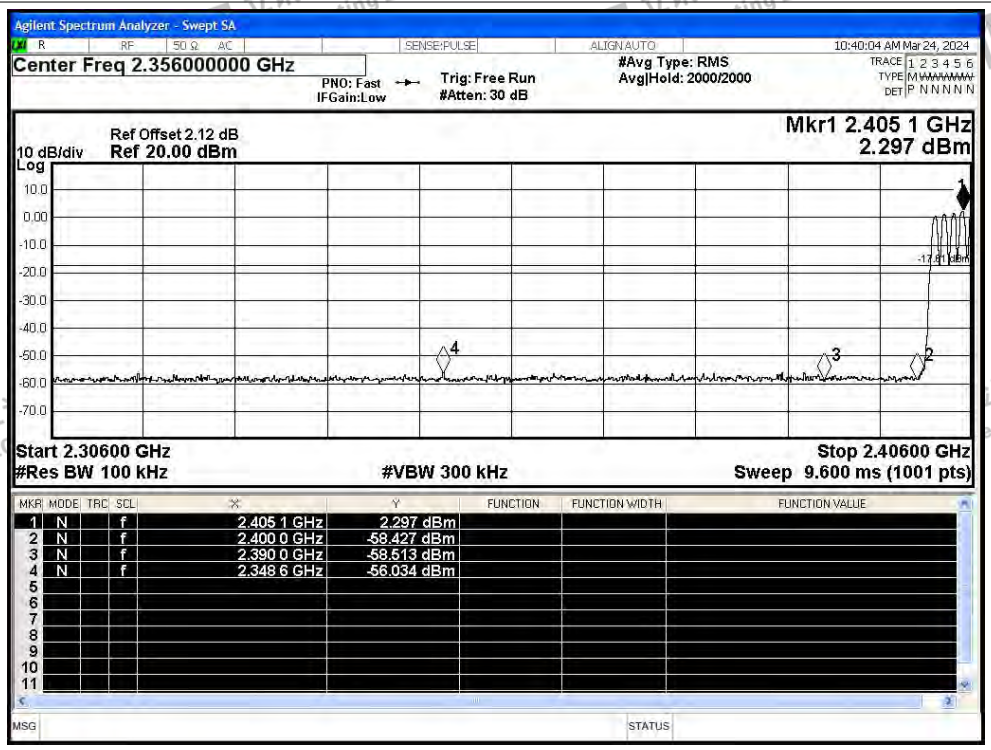
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-58.43	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-55.8	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-57.41	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-55.79	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-58.16	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-52.38	-20	Pass

Test Graphs

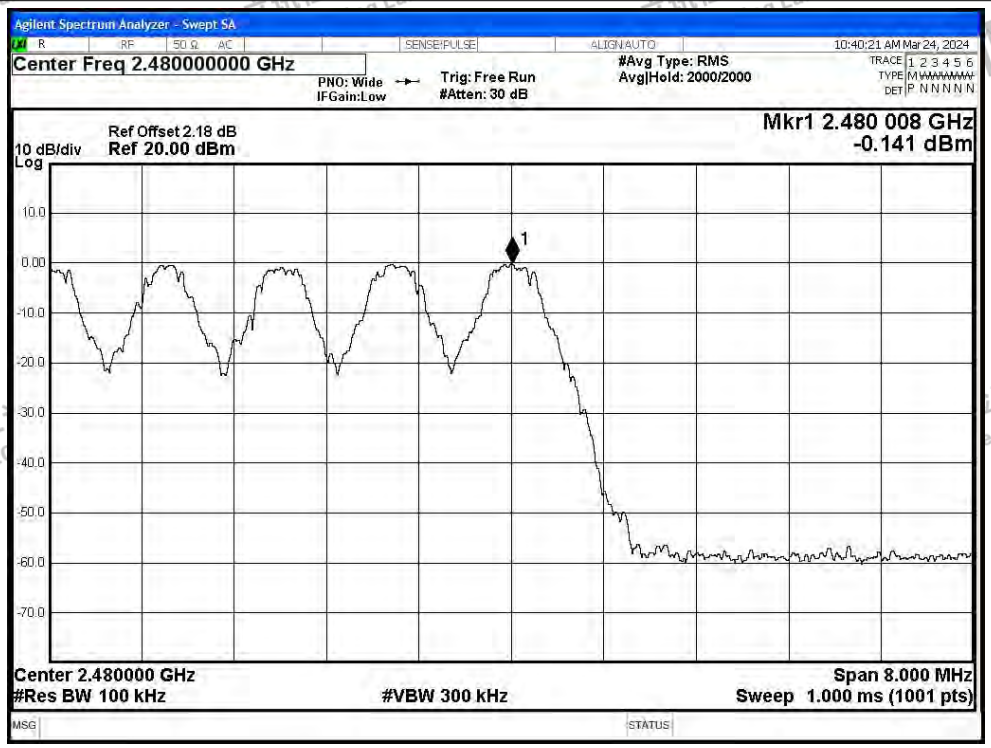
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



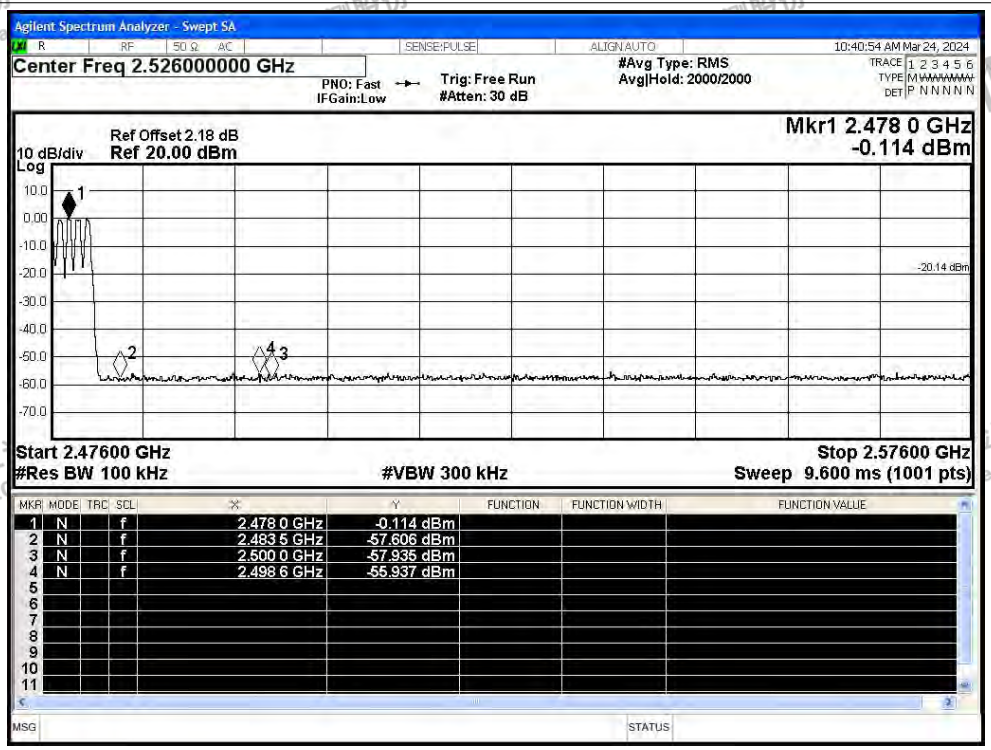
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



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

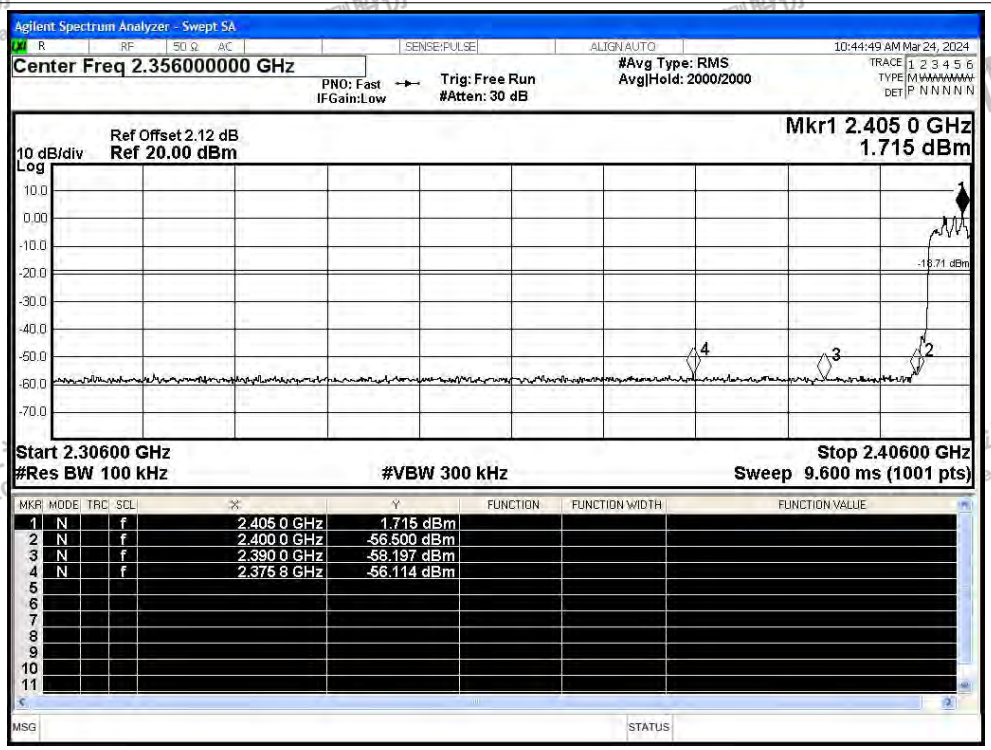


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



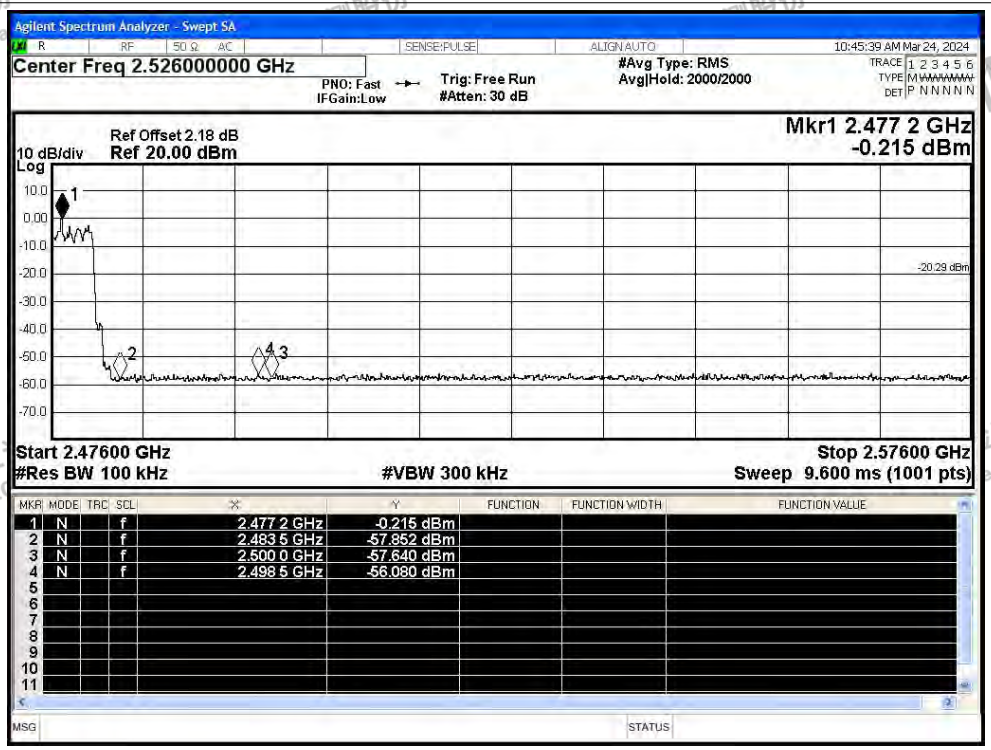
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

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

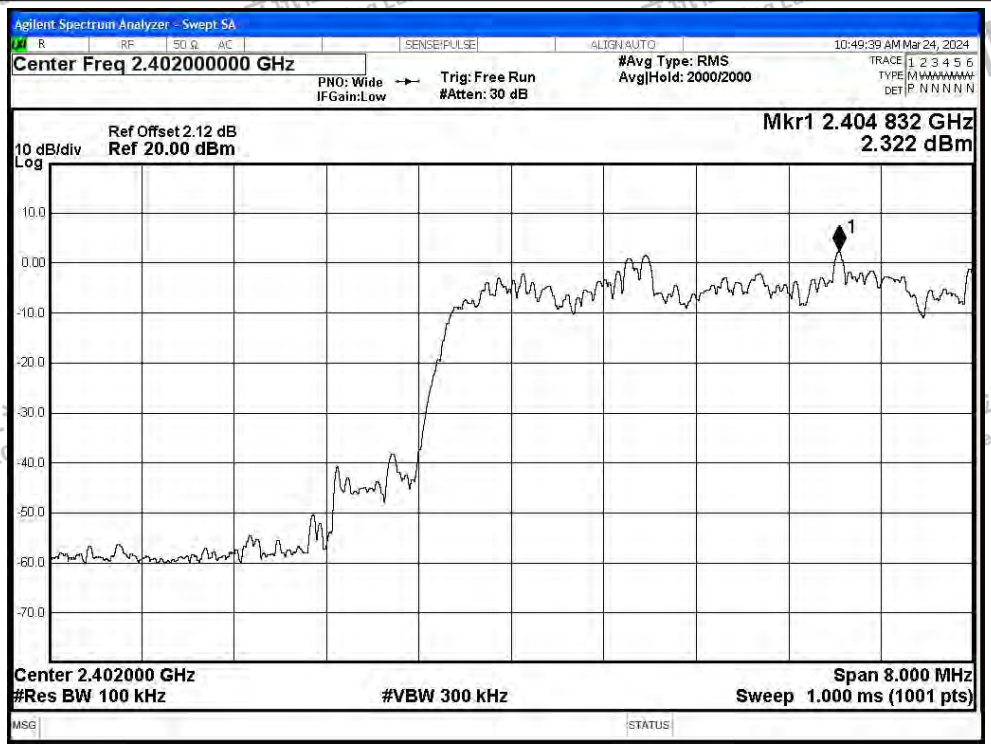


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

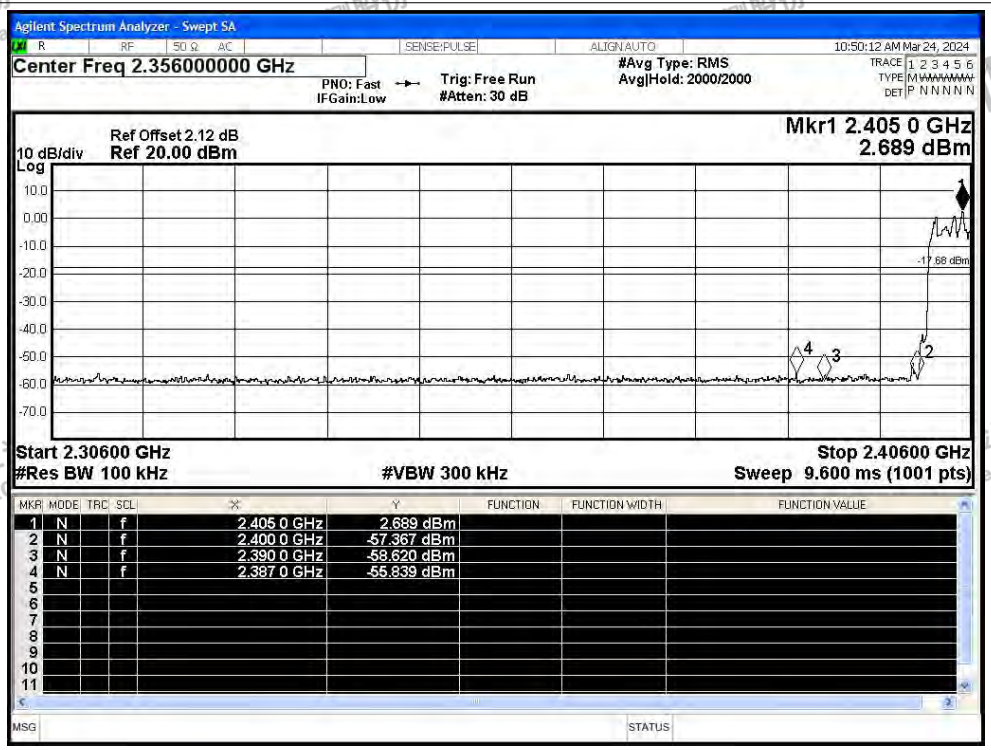
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



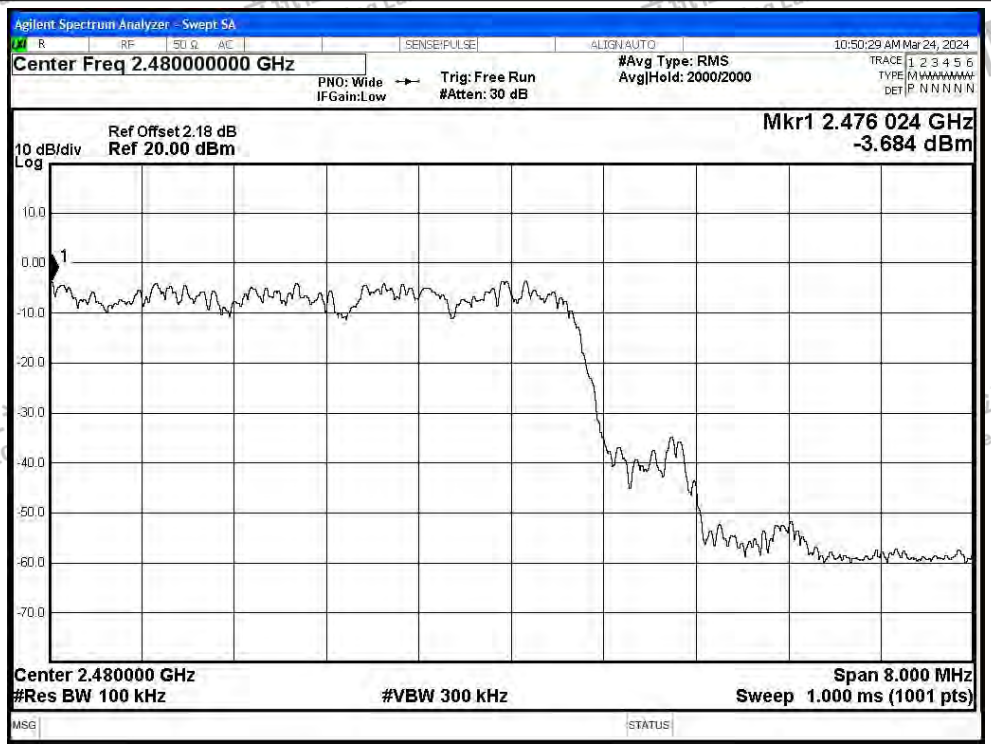
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



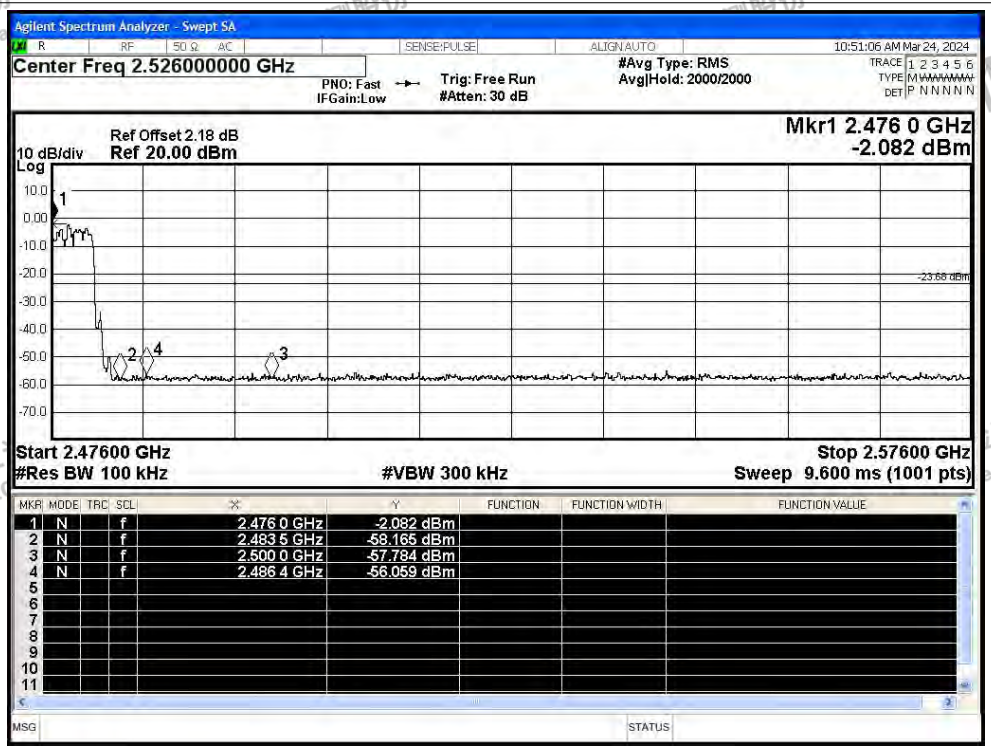
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



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



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

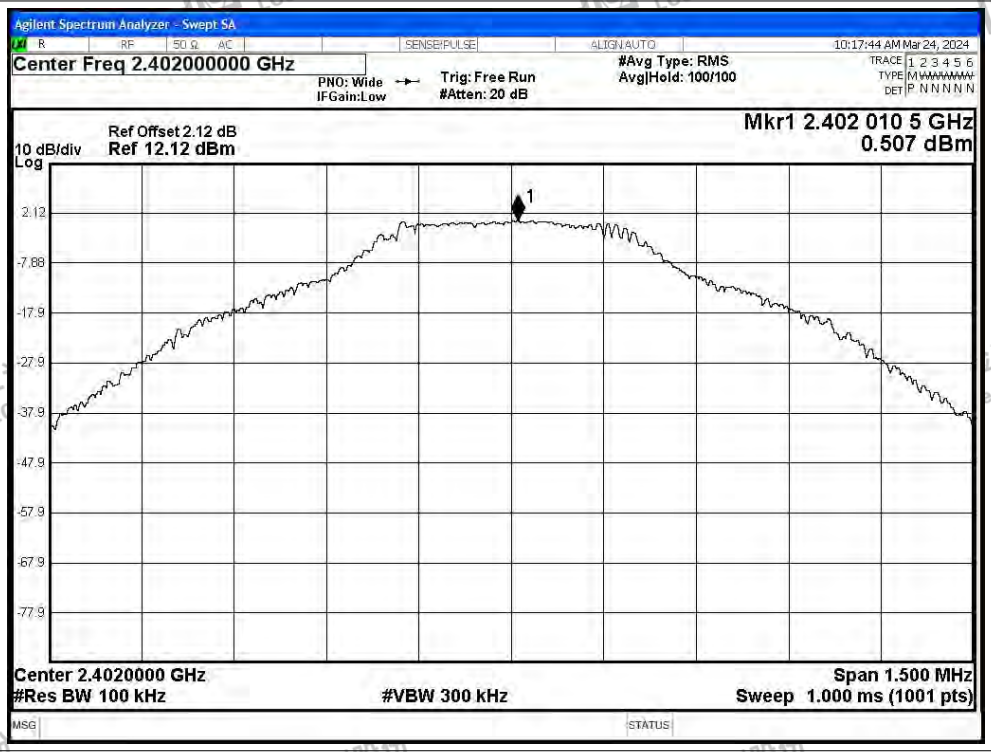


A.7 Conducted RF Spurious Emission

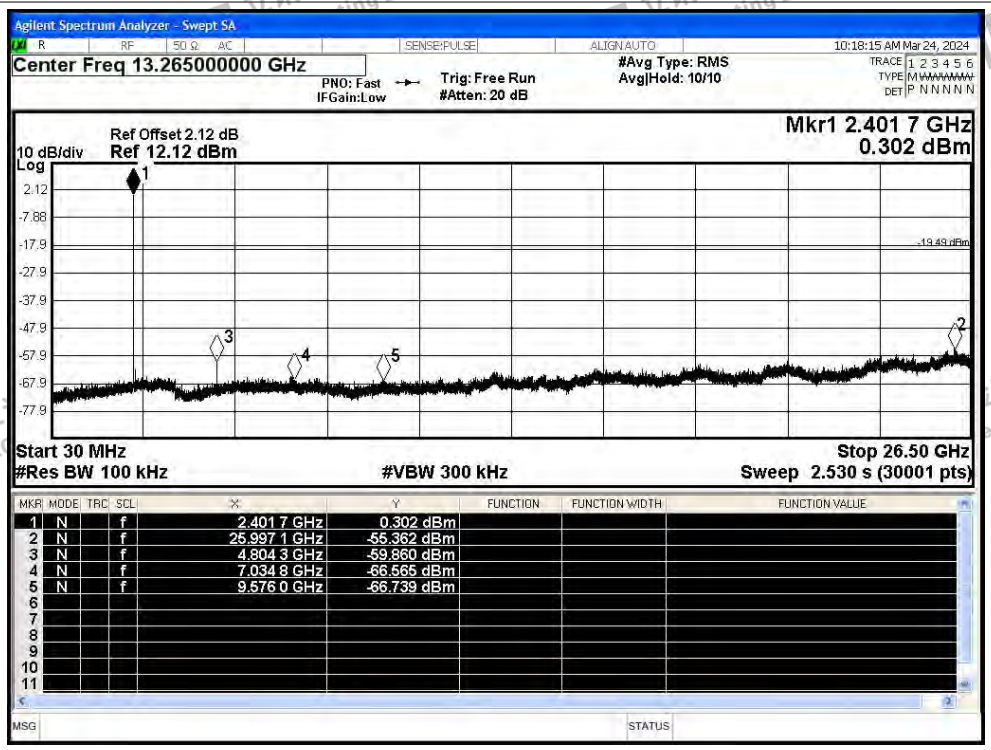
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-55.87	-20	Pass
NVNT	1-DH5	2441	Ant1	-56.57	-20	Pass
NVNT	1-DH5	2480	Ant1	-55.16	-20	Pass
NVNT	2-DH5	2402	Ant1	-56.83	-20	Pass
NVNT	2-DH5	2441	Ant1	-55.02	-20	Pass
NVNT	2-DH5	2480	Ant1	-55.69	-20	Pass
NVNT	3-DH5	2402	Ant1	-54.82	-20	Pass
NVNT	3-DH5	2441	Ant1	-56.31	-20	Pass
NVNT	3-DH5	2480	Ant1	-55.93	-20	Pass

Test Graphs

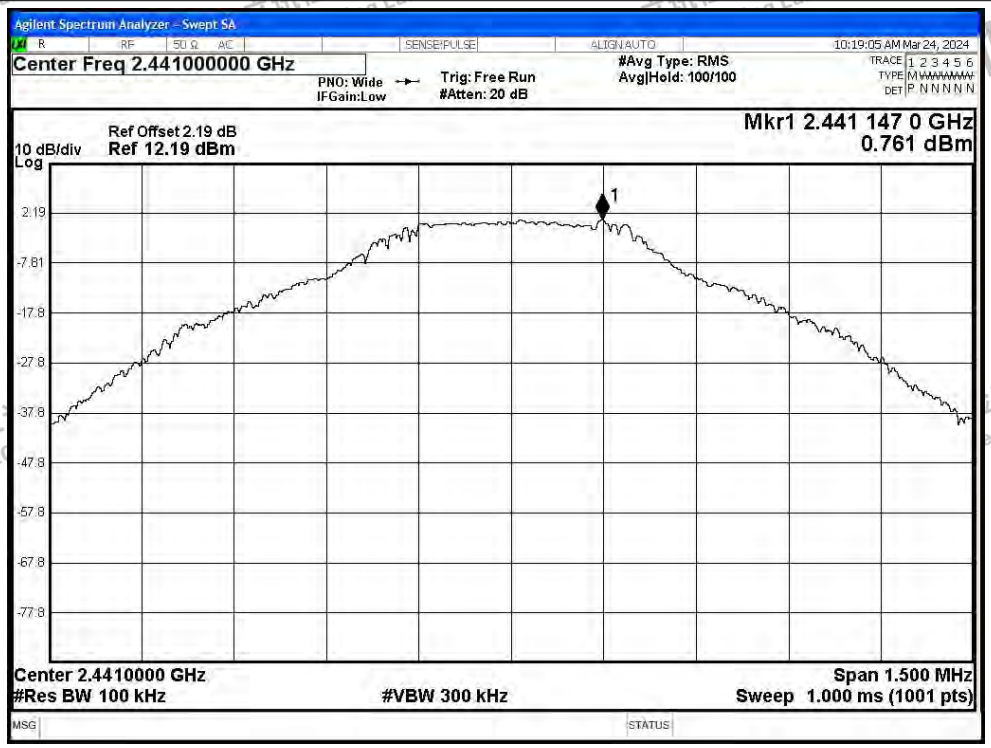
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



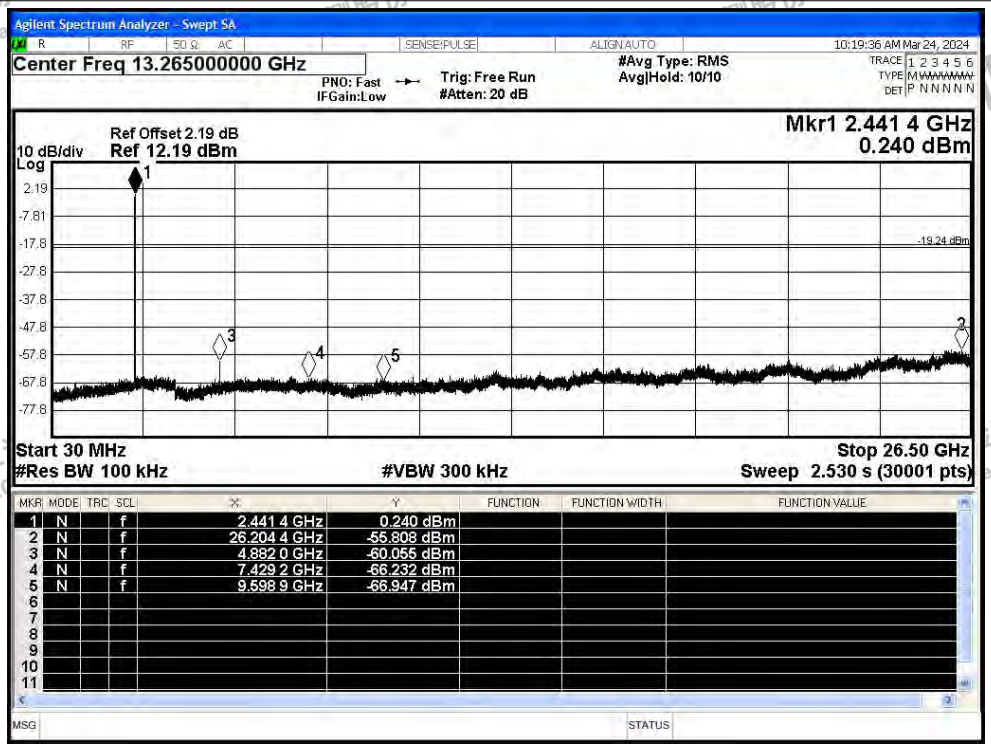
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



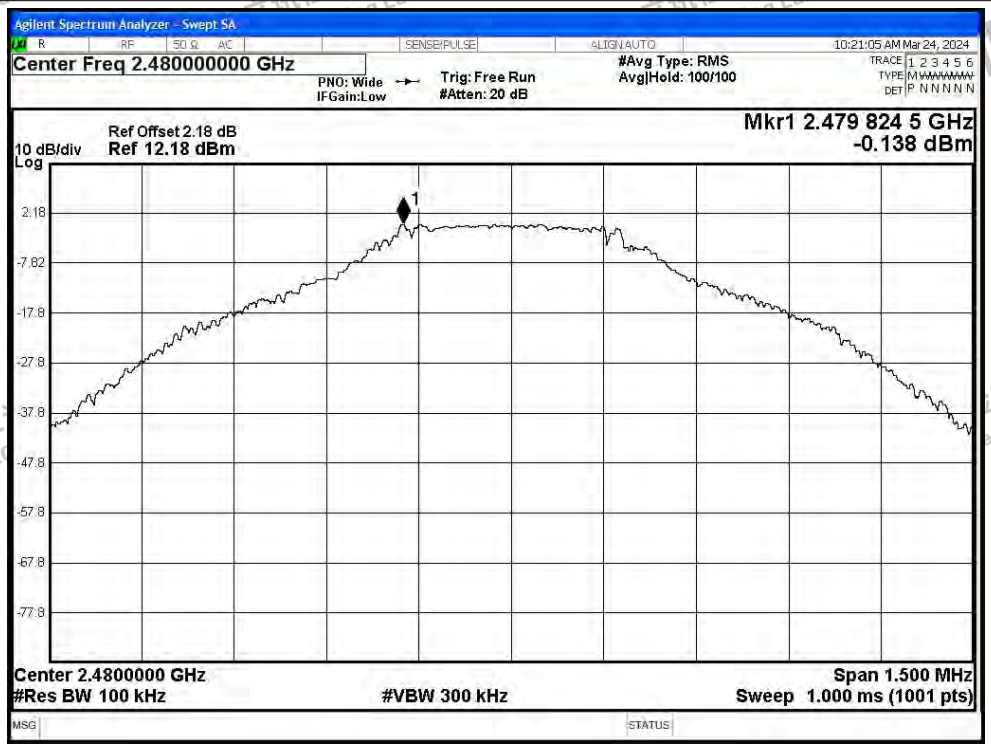
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



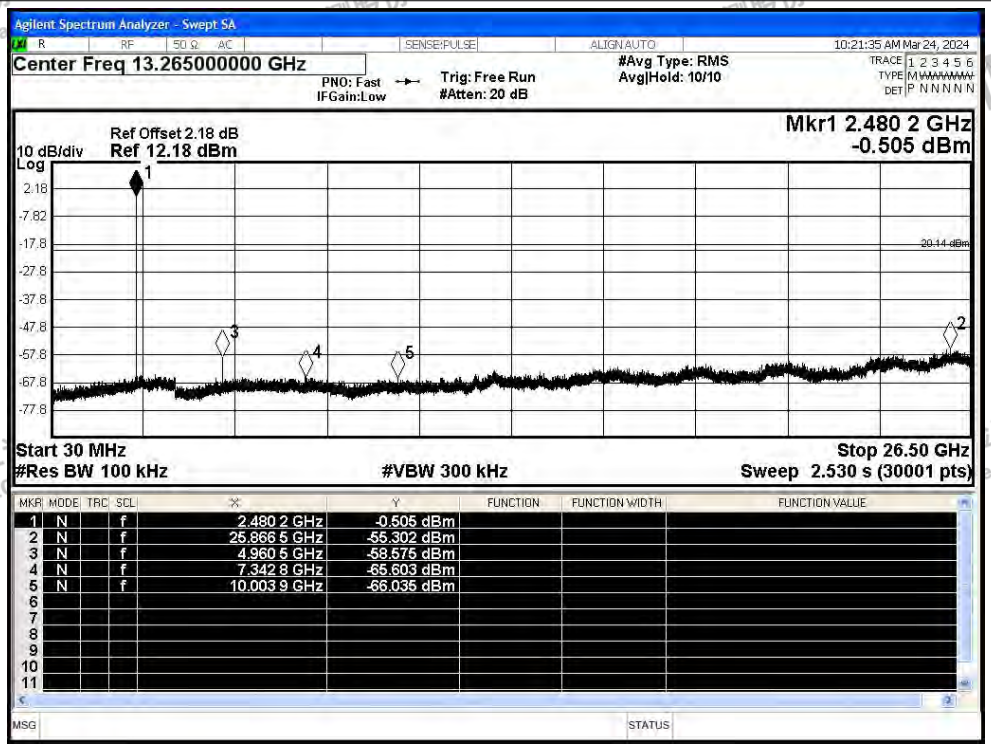
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



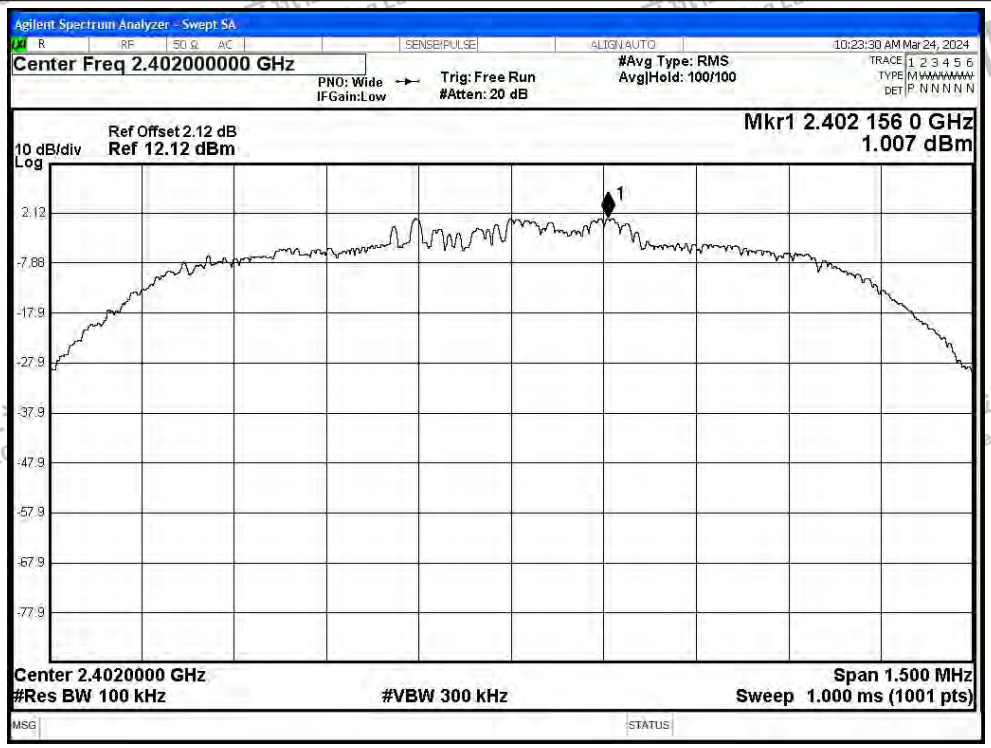
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



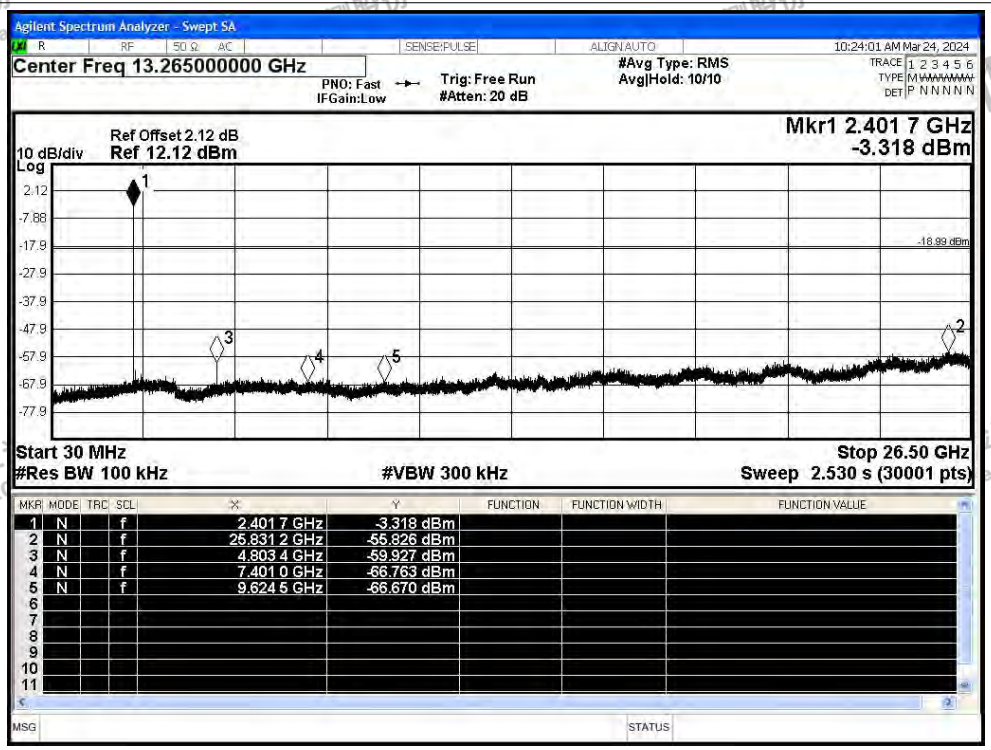
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



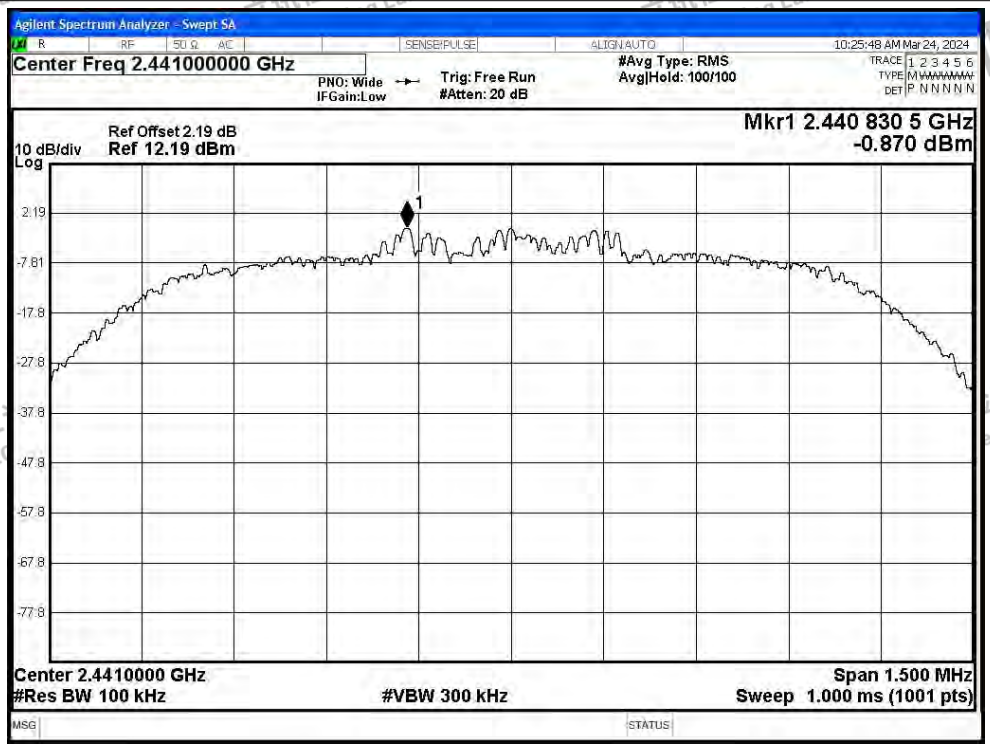
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



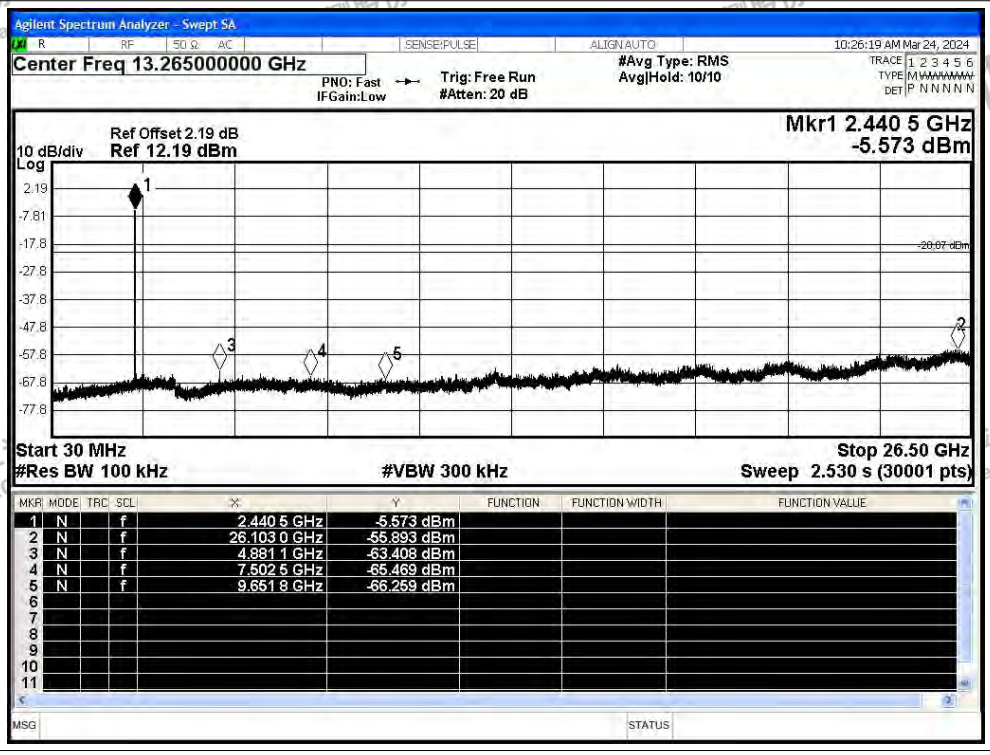
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



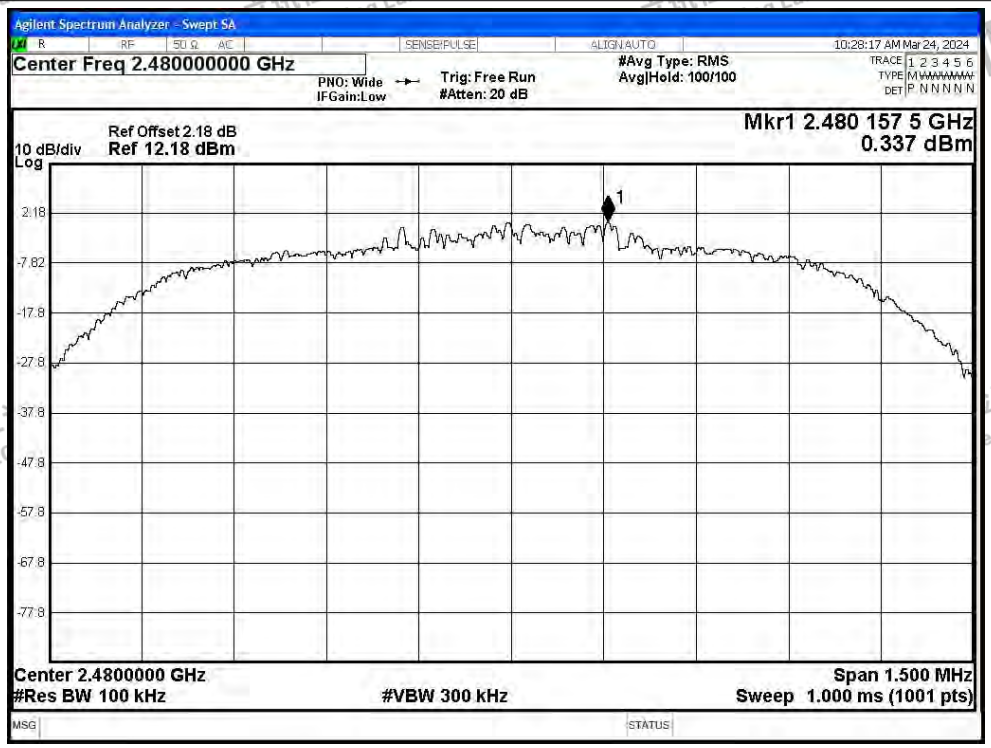
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



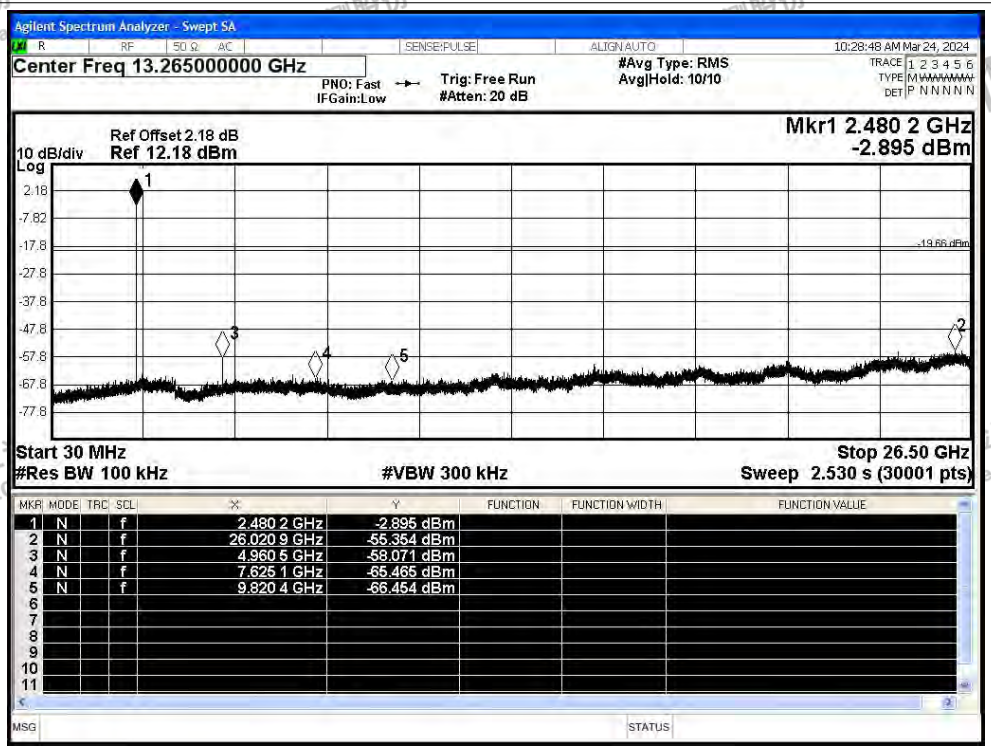
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



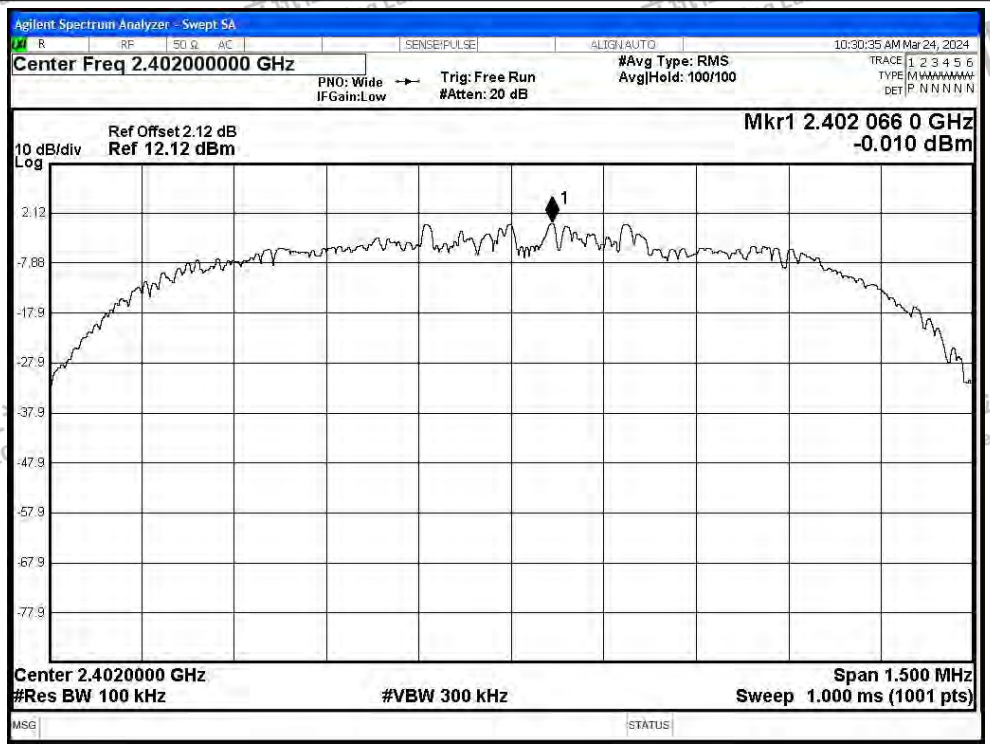
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



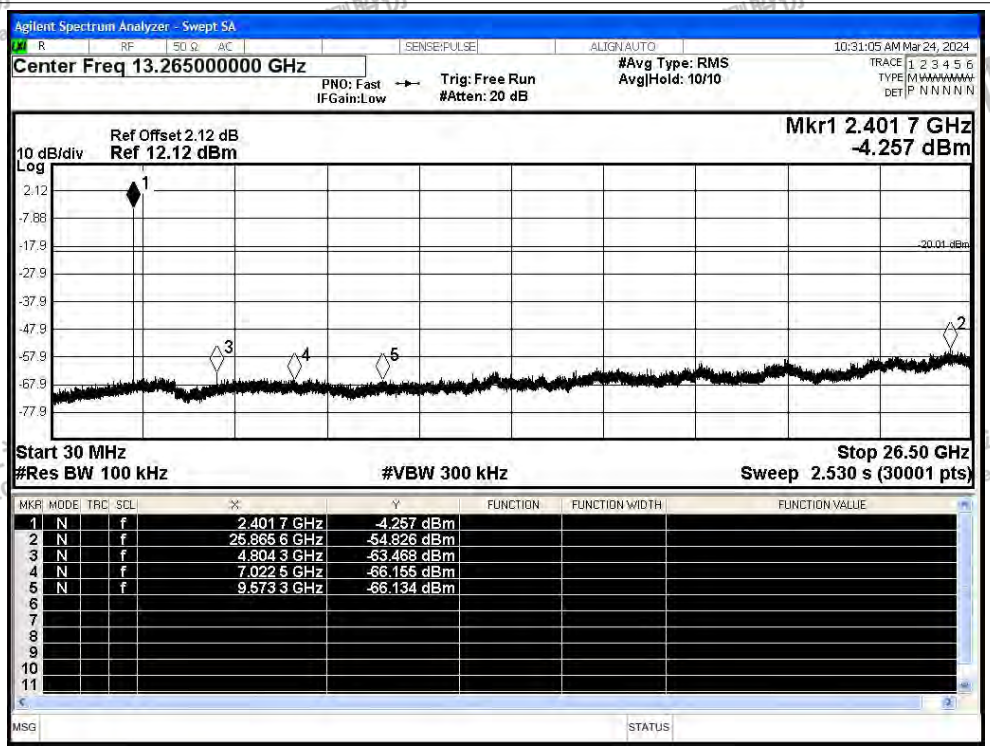
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref

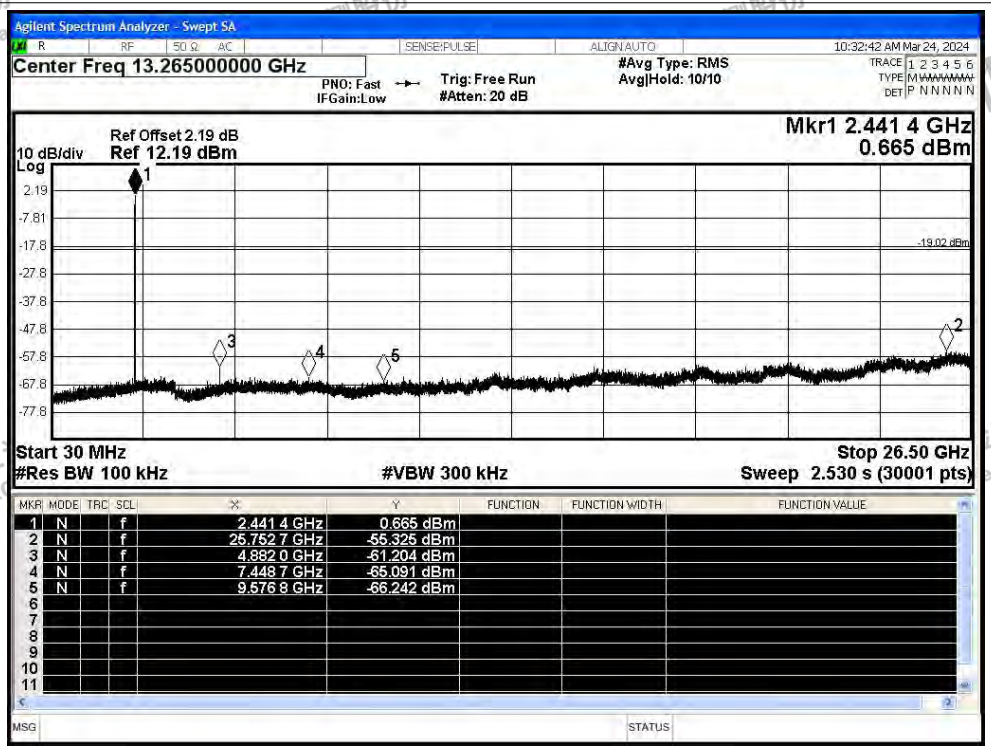


Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission

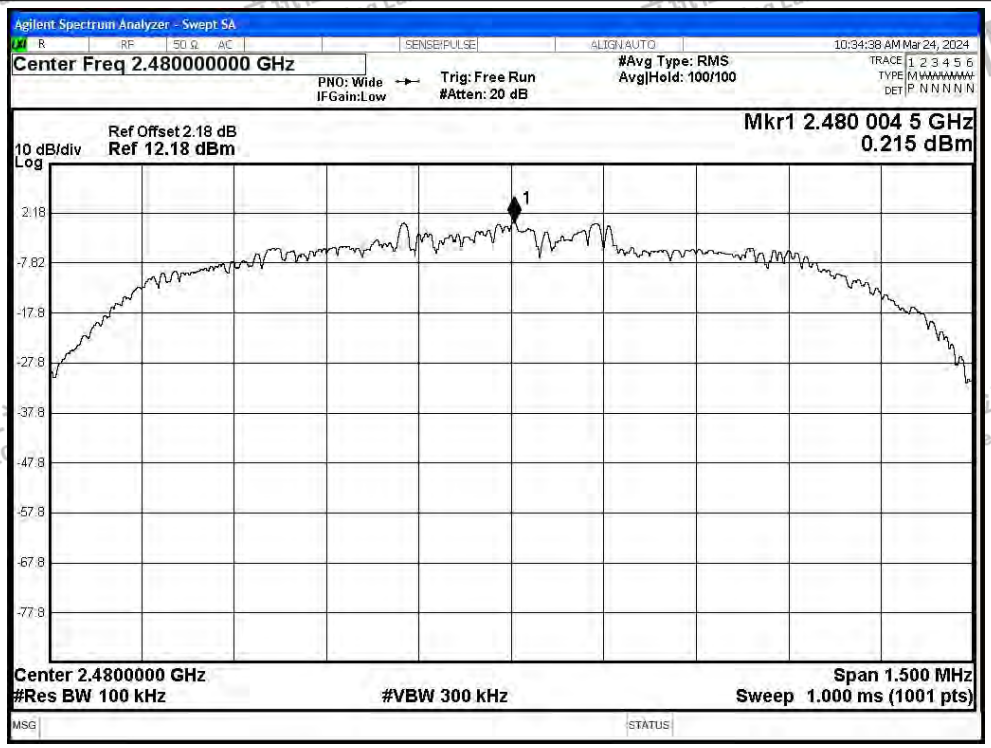


Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

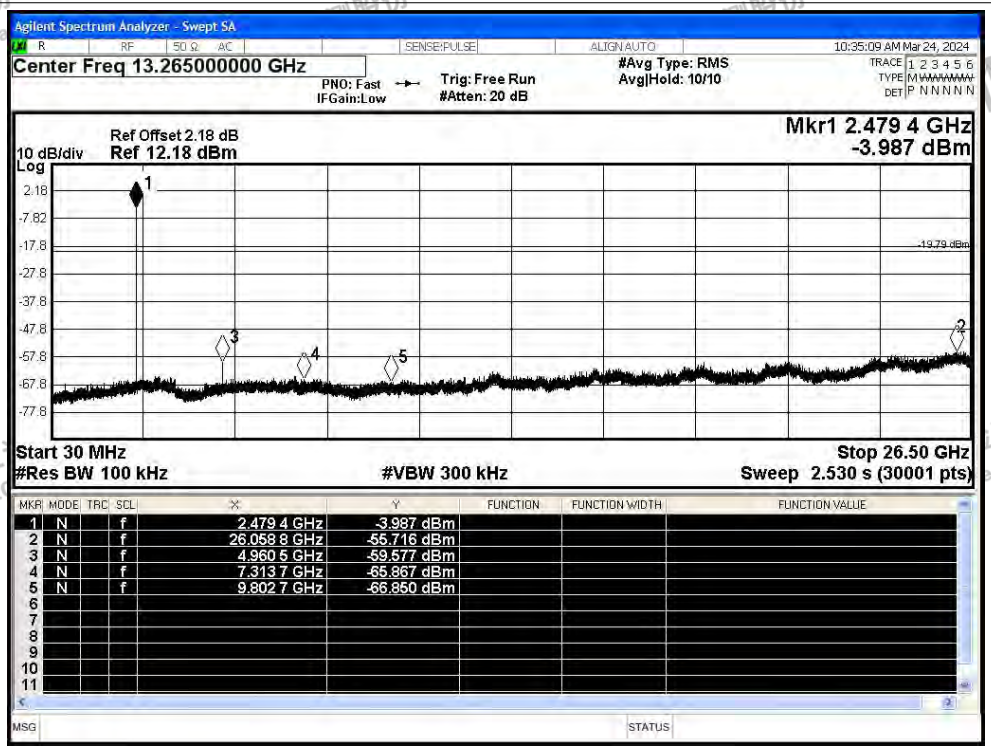
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

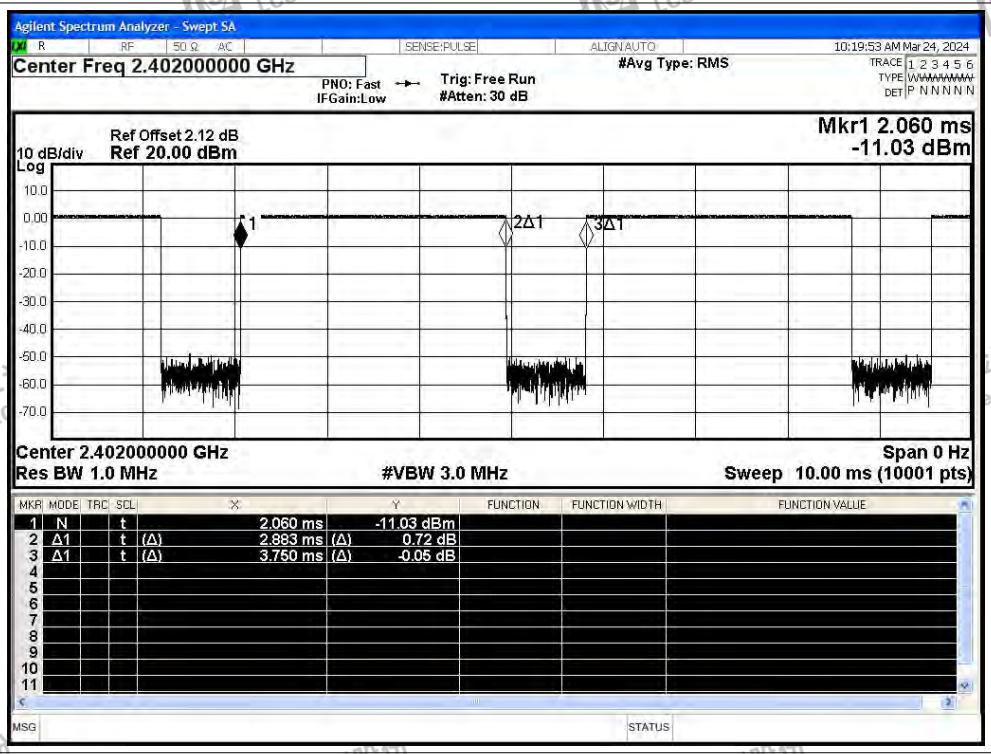


A.8 Duty Cycle

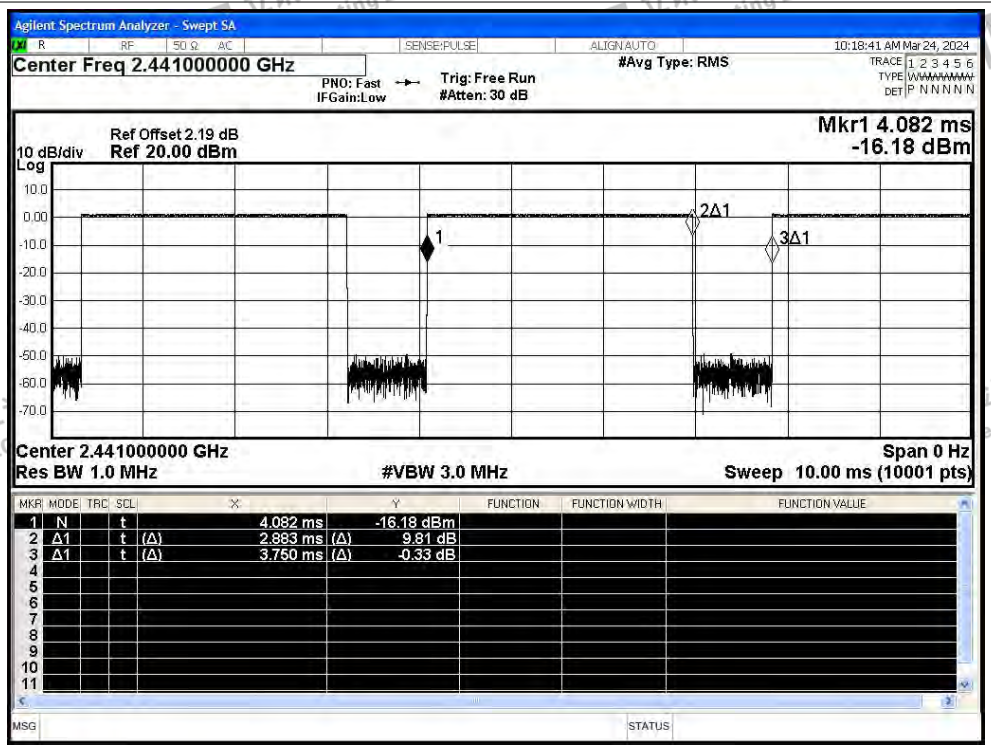
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	76.88	1.14	0.35
NVNT	1-DH5	2441	Ant1	76.88	1.14	0.35
NVNT	1-DH5	2480	Ant1	76.88	1.14	0.35
NVNT	2-DH5	2402	Ant1	76.99	1.14	0.35
NVNT	2-DH5	2441	Ant1	76.96	1.14	0.35
NVNT	2-DH5	2480	Ant1	76.99	1.14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

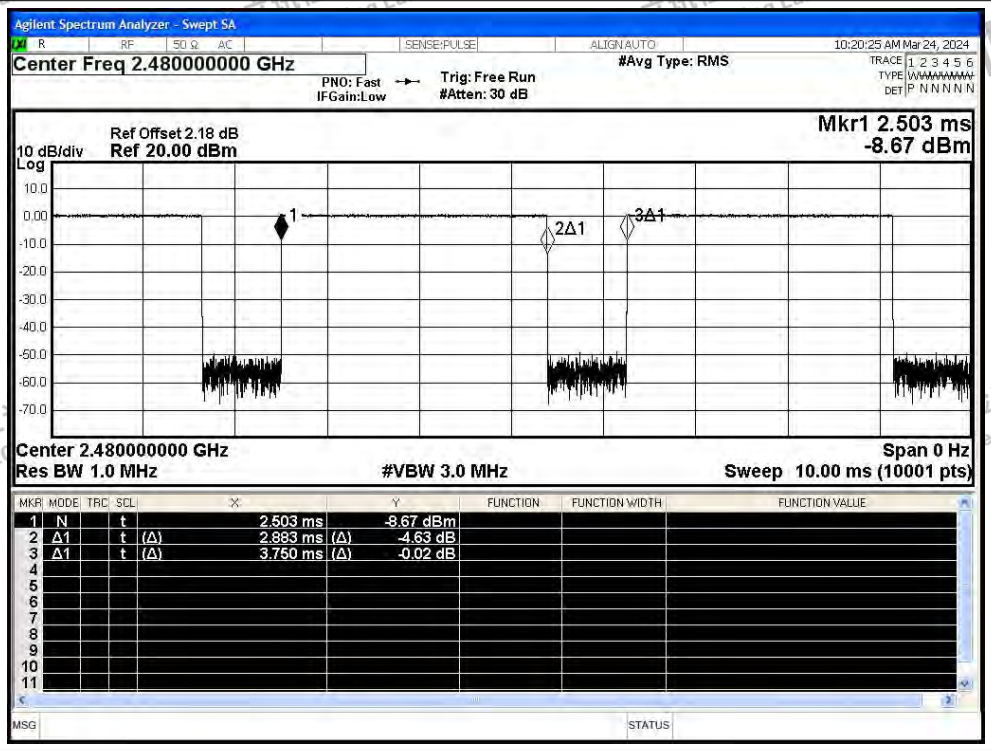
Duty Cycle NVNT 1-DH5 2402MHz Ant1



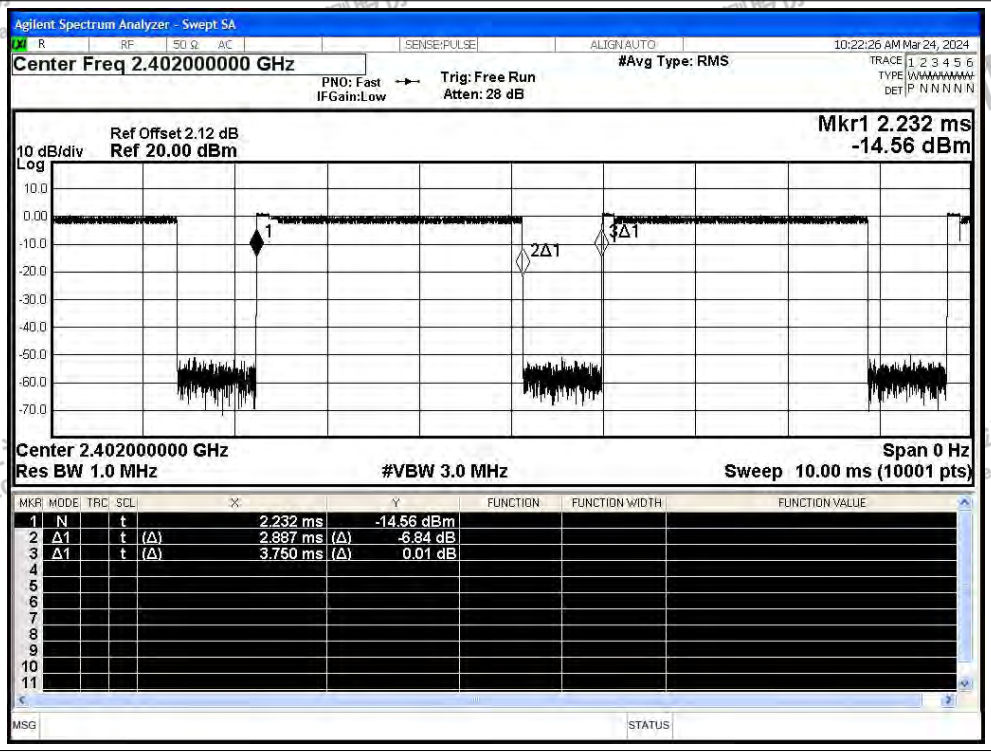
Duty Cycle NVNT 1-DH5 2441MHz Ant1



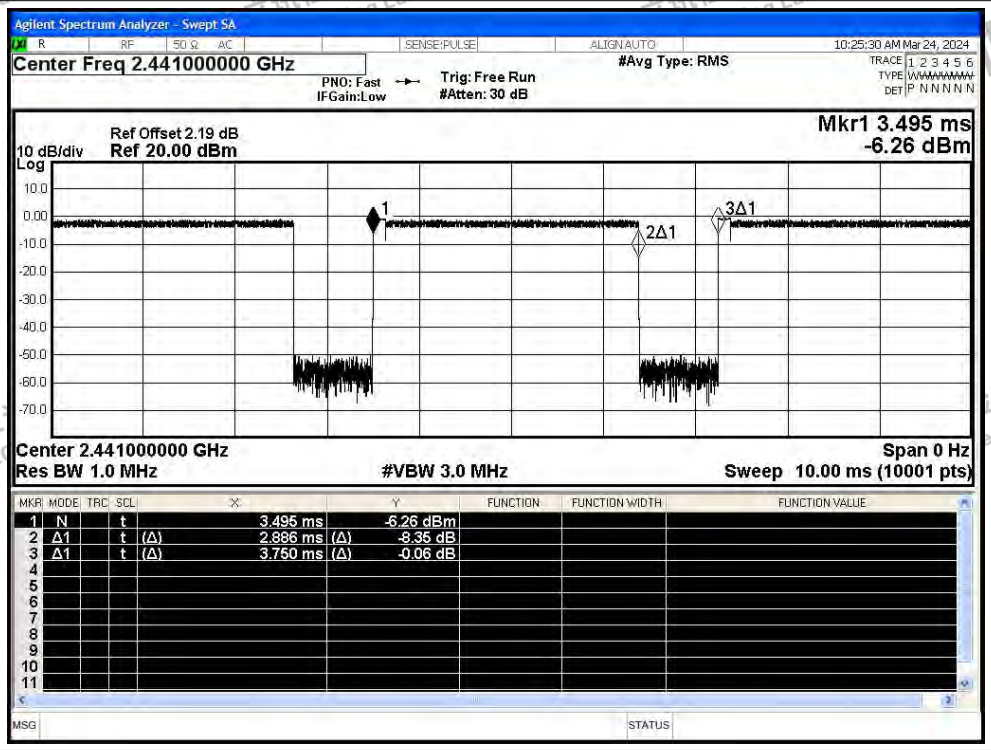
Duty Cycle NVNT 1-DH5 2480MHz Ant1



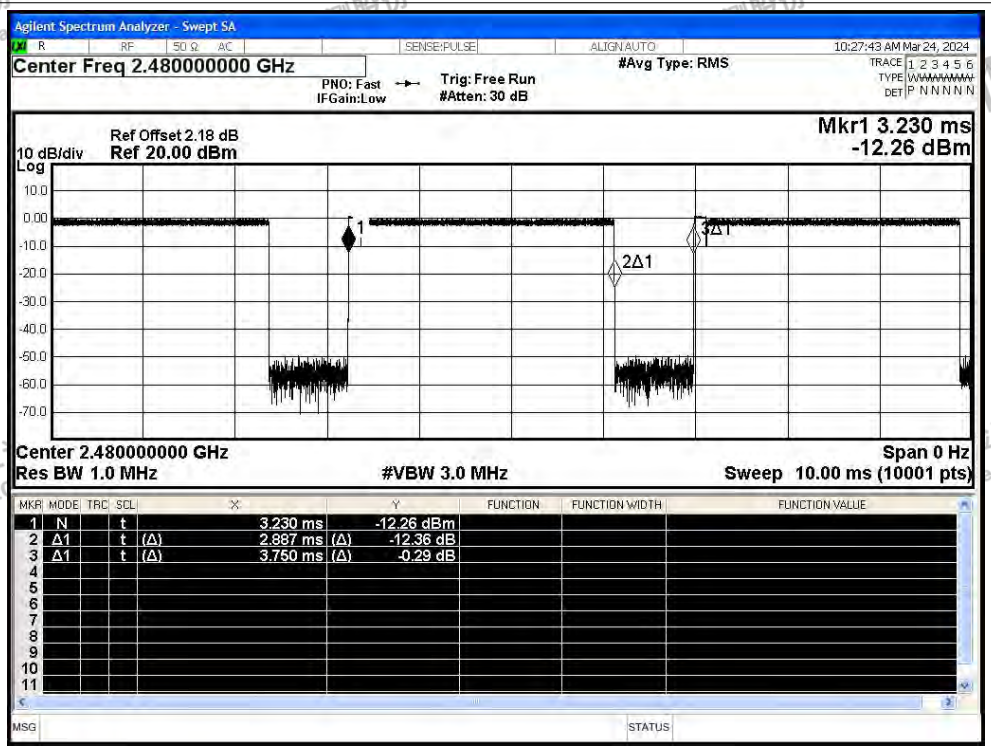
Duty Cycle NVNT 2-DH5 2402MHz Ant1



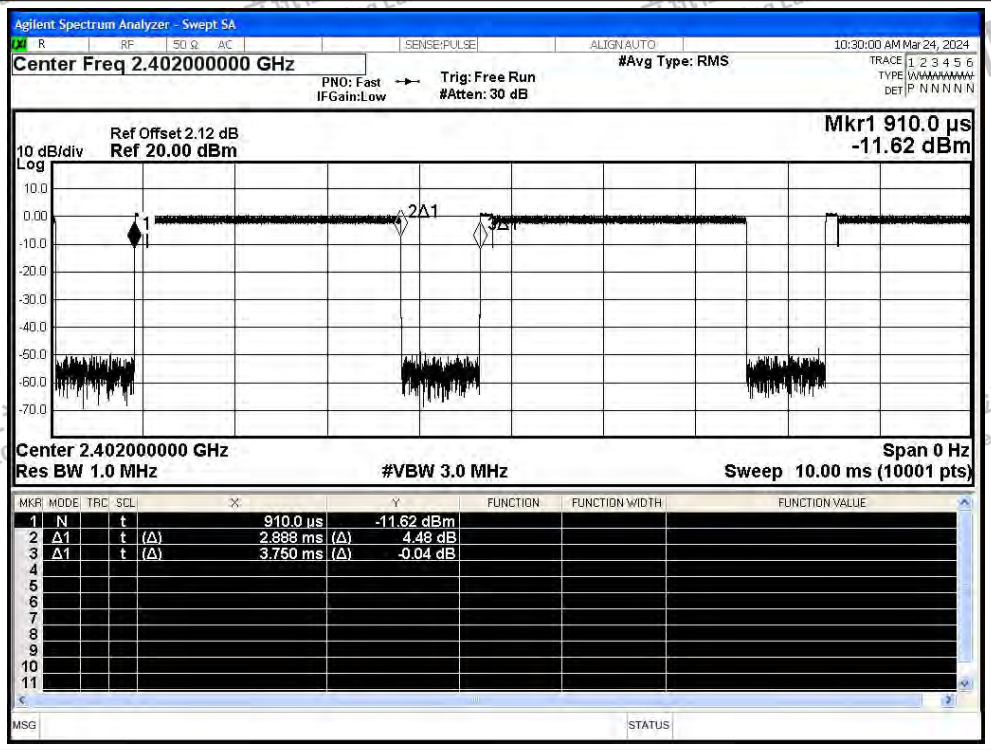
Duty Cycle NVNT 2-DH5 2441MHz Ant1



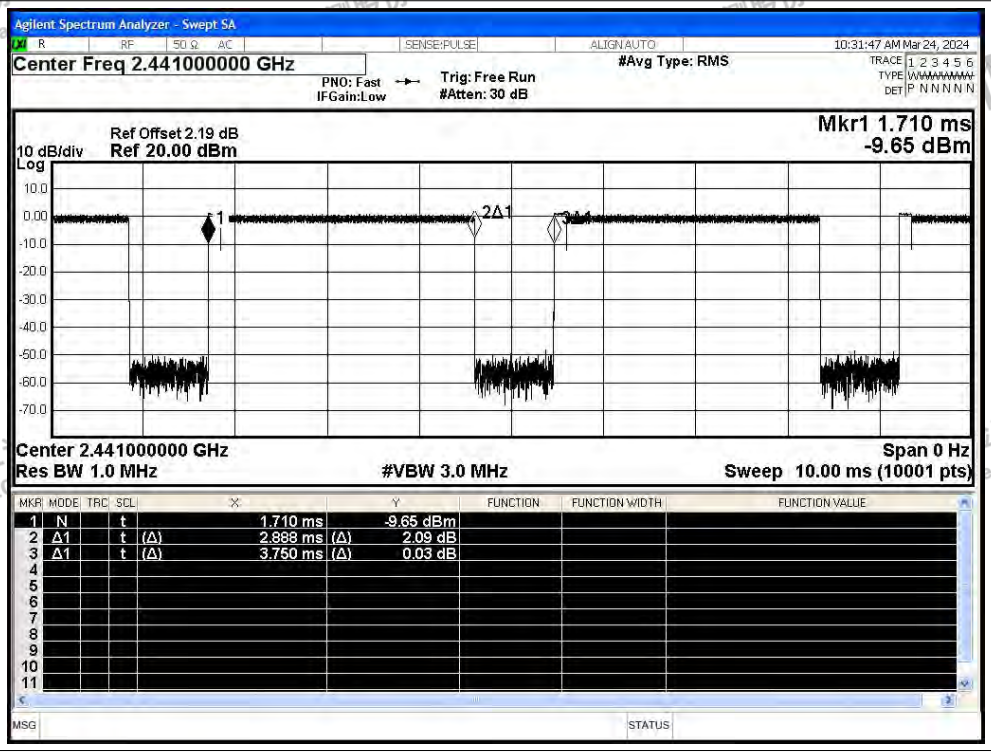
Duty Cycle NVNT 2-DH5 2480MHz Ant1



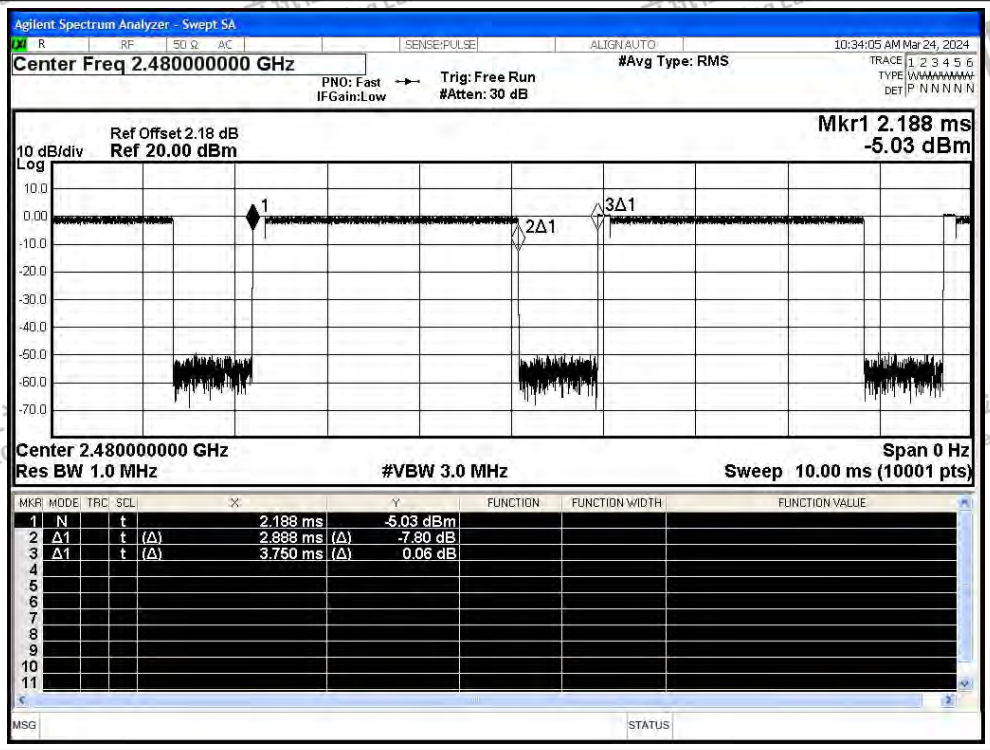
Duty Cycle NVNT 3-DH5 2402MHz Ant1



Duty Cycle NVNT 3-DH5 2441MHz Ant1



Duty Cycle NVNT 3-DH5 2480MHz Ant1

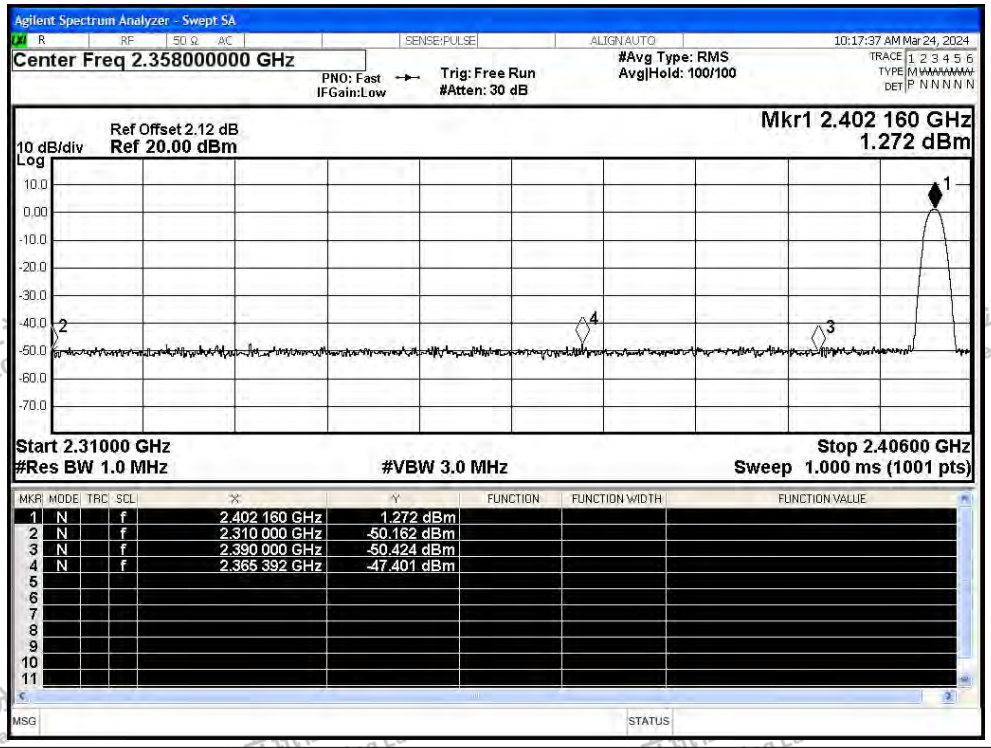


A.9 Restrict Band

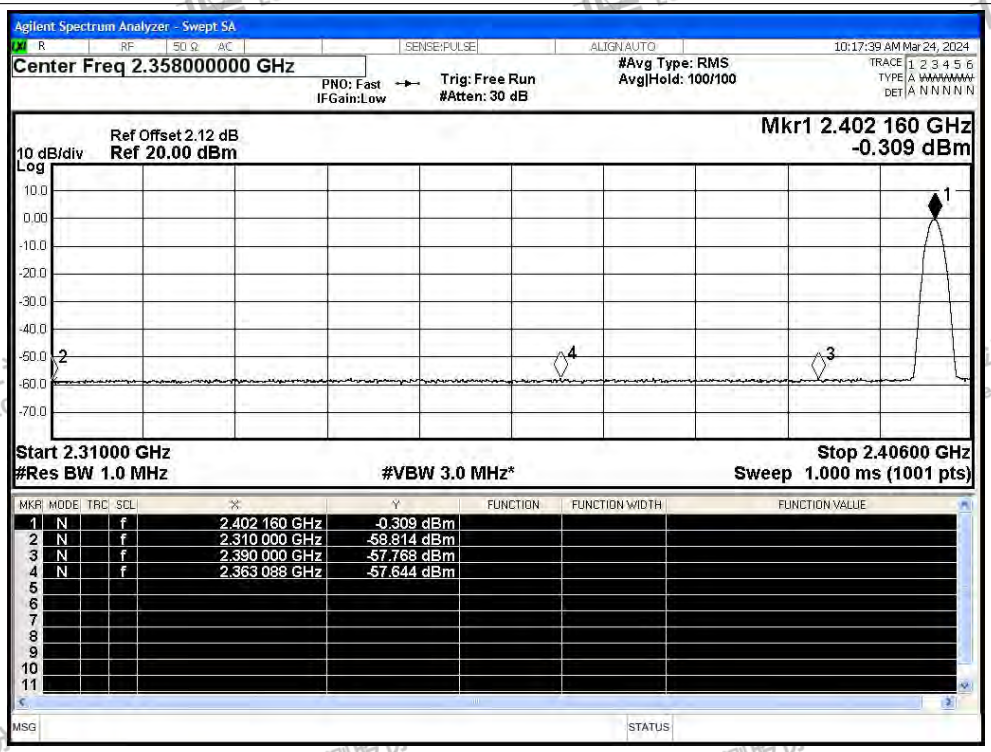
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-50.16	2.87	-	47.97	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.81	2.87	2.39	39.32	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2365.392	-47.4	2.87	-	50.73	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2363.088	-57.64	2.87	2.39	40.49	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.42	2.87	-	47.71	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-57.77	2.87	2.39	40.36	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.74	2.87	-	47.39	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-58.26	2.87	1.14	39.87	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2486.752	-47.21	2.87	-	50.92	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.328	-57.22	2.87	1.14	40.91	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.44	2.87	-	47.69	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.72	2.87	1.14	40.41	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-52.02	2.87	-	46.11	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.17	2.87	1.14	38.96	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2382	-47.25	2.87	-	50.88	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2330.256	-57.72	2.87	1.14	40.41	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.41	2.87	-	47.72	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.53	2.87	1.14	39.60	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.26	2.87	-	48.87	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.54	2.87	1.14	40.59	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2499.4	-46.49	2.87	-	51.64	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.56	-56.58	2.87	1.14	41.55	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.71	2.87	-	47.42	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.01	2.87	1.14	40.12	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-49.06	2.87	-	49.07	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-58.26	2.87	1.13	39.87	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2389.2	-47.05	2.87	-	51.08	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2380.08	-57.66	2.87	1.13	40.47	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.1	2.87	-	48.03	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-58.16	2.87	1.13	39.97	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-48.36	2.87	-	49.77	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-57.46	2.87	1.13	40.67	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2485.456	-47.22	2.87	-	50.91	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.848	-57.19	2.87	1.13	40.94	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.48	2.87	-	47.65	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-58.26	2.87	1.13	39.87	Average	54	Pass

Test Graphs

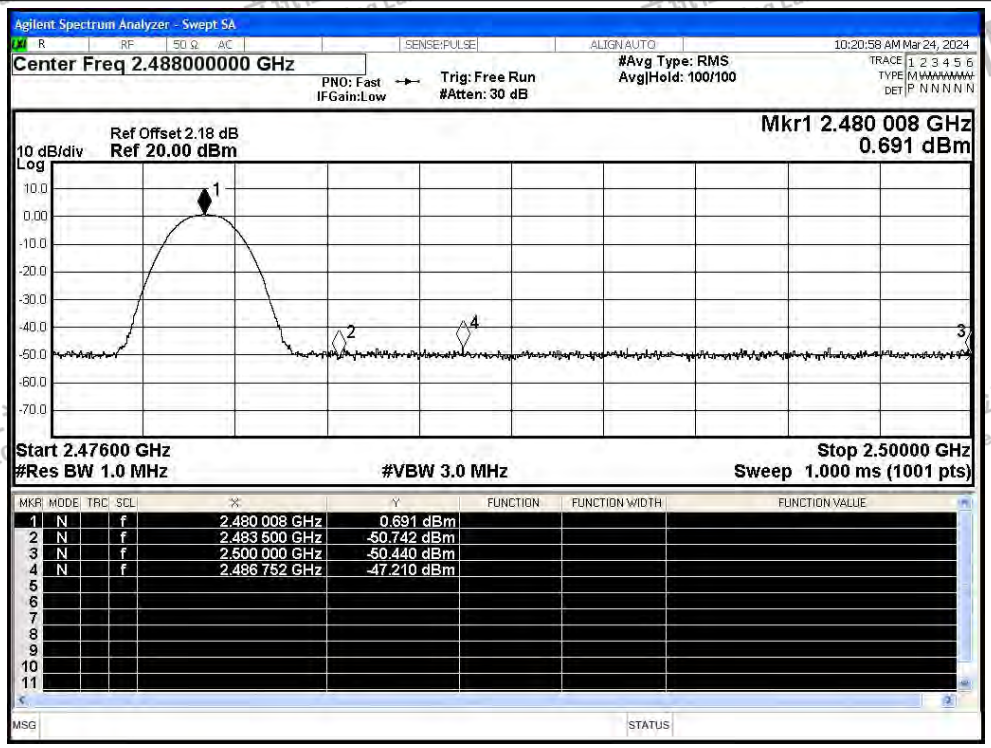
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



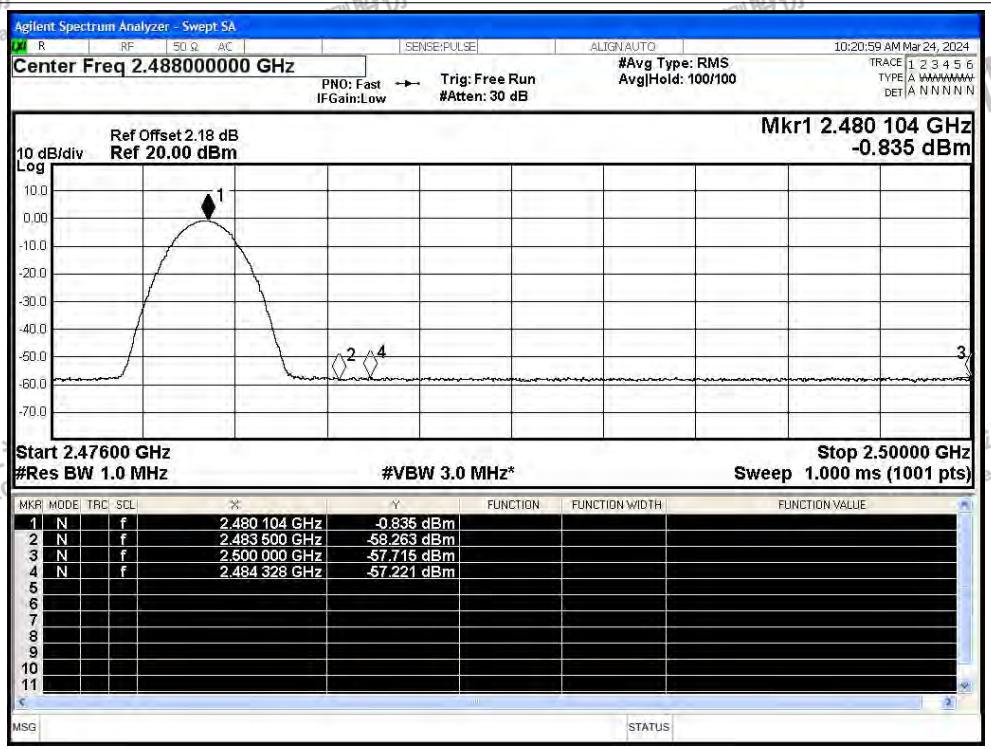
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



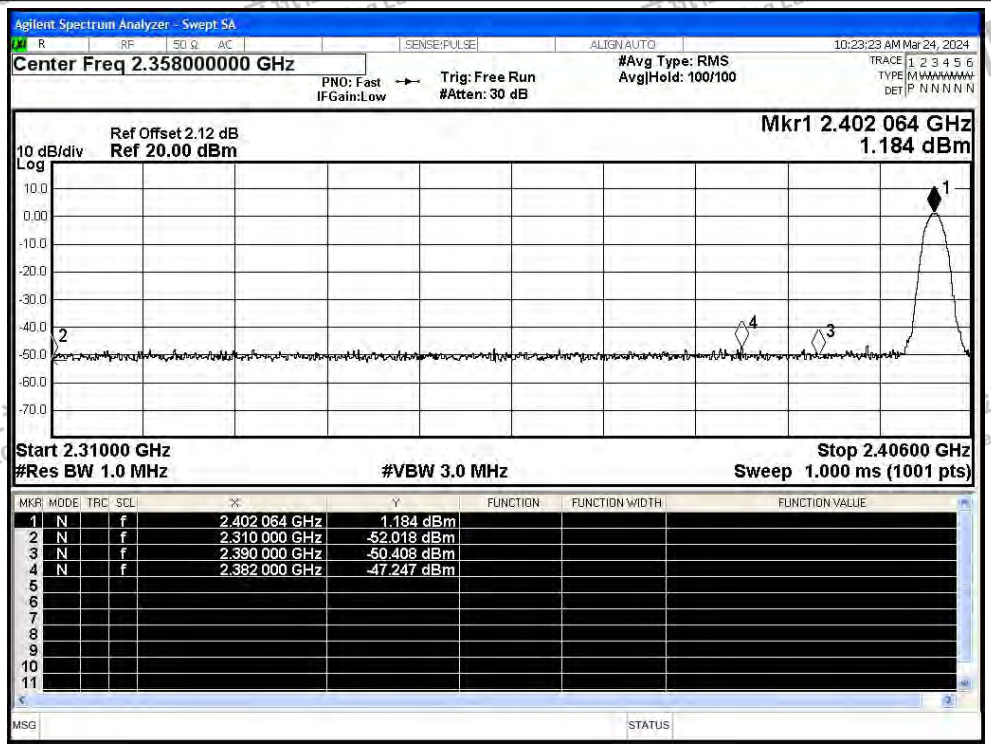
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



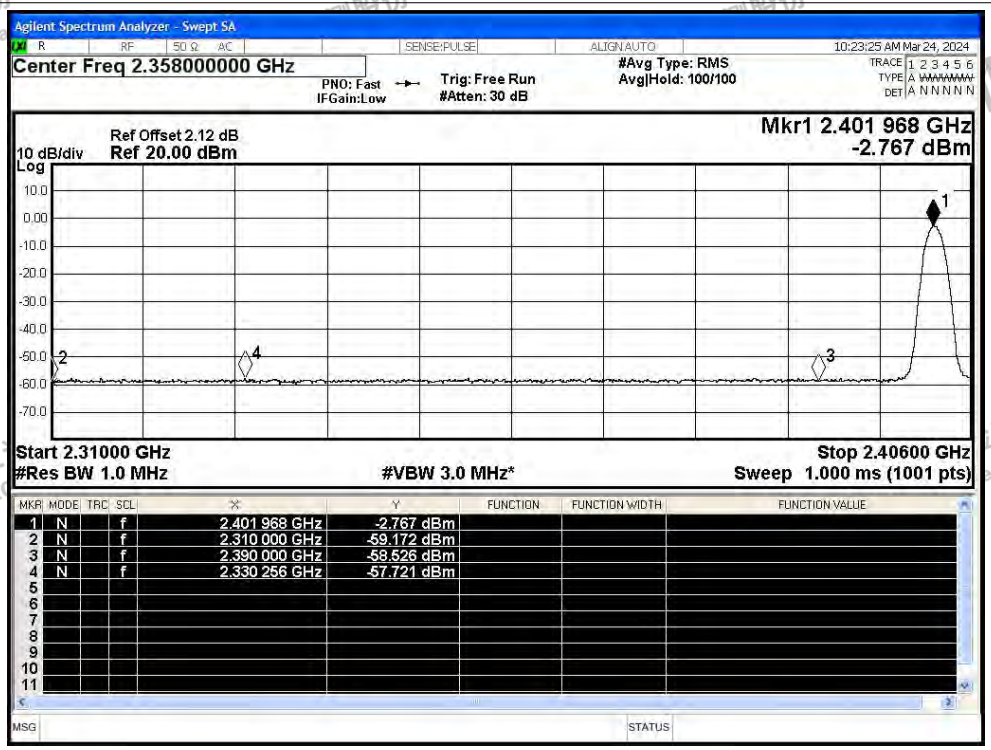
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



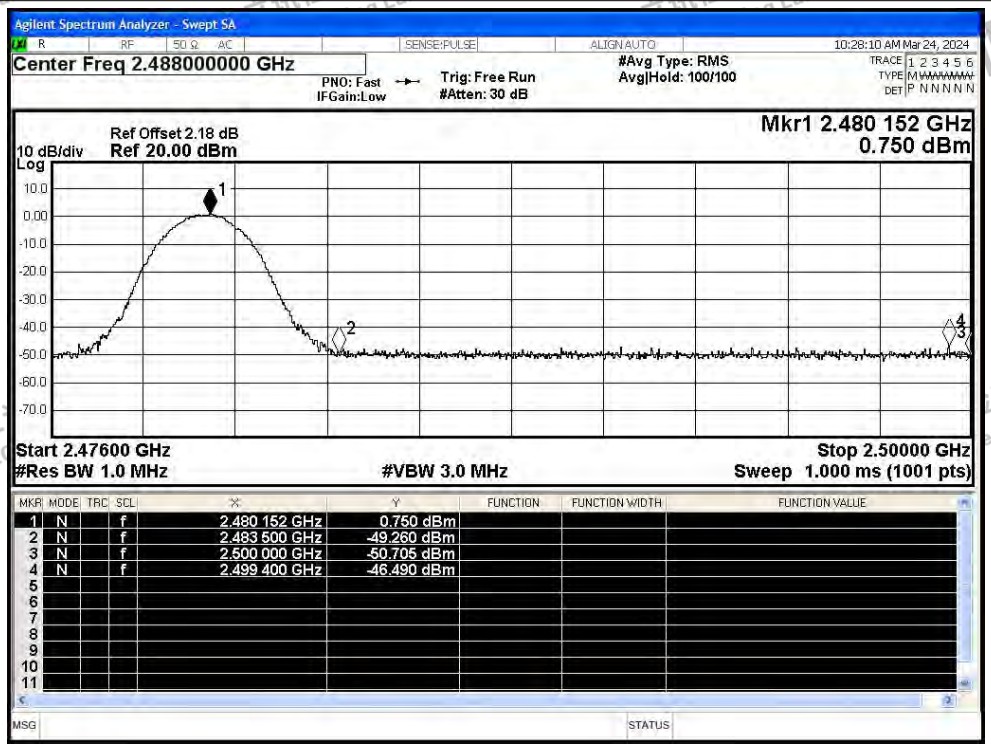
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



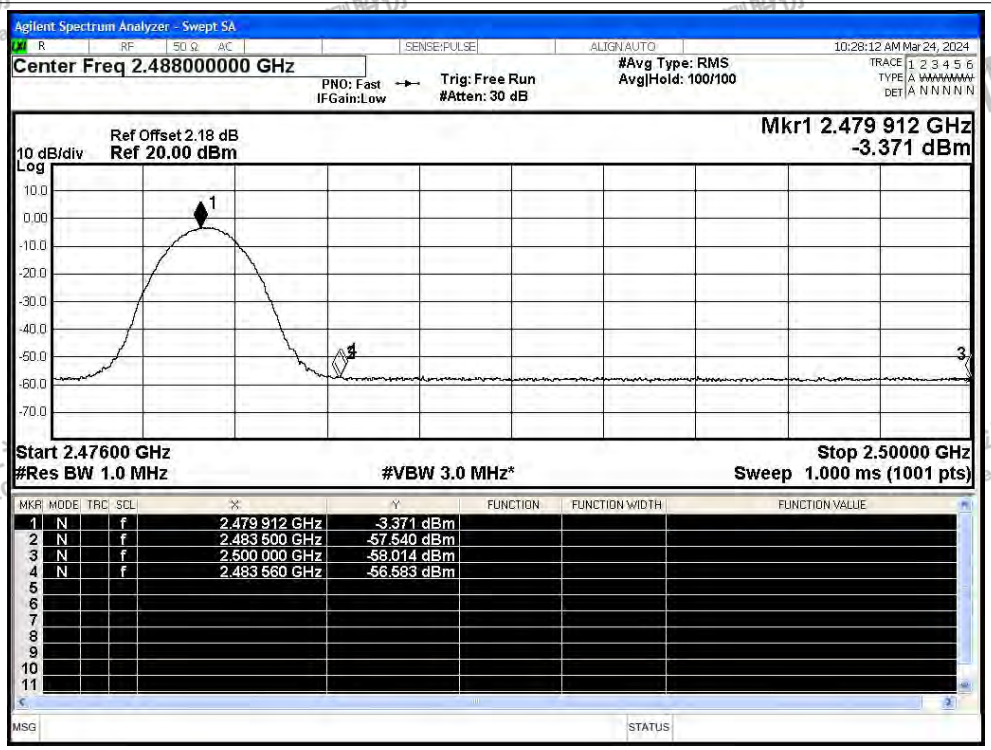
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



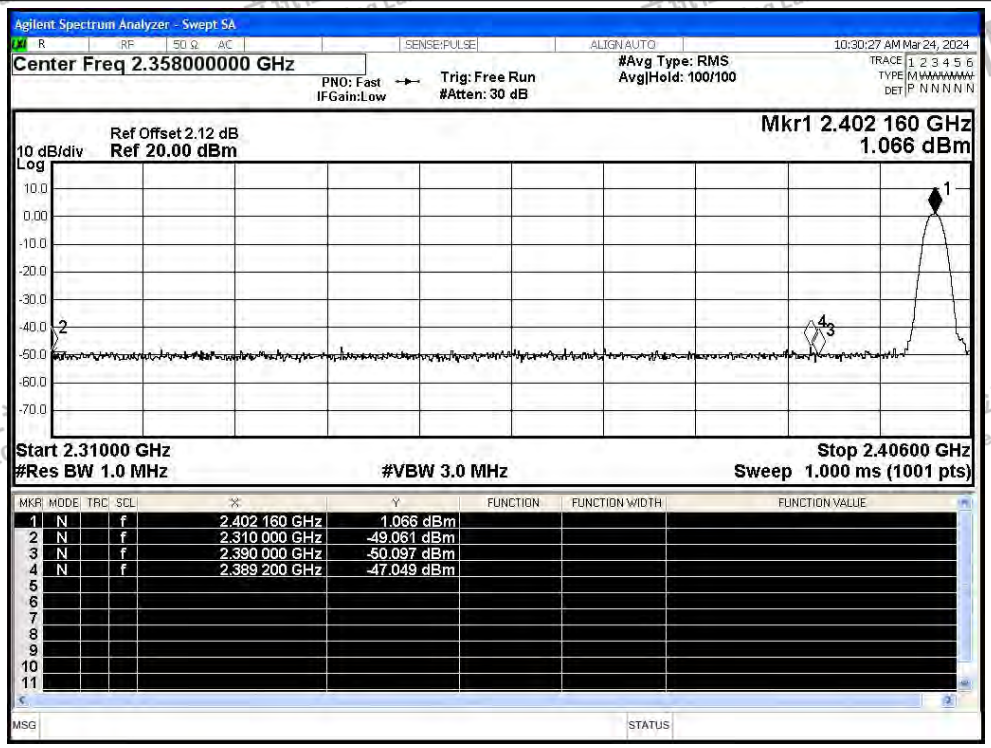
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



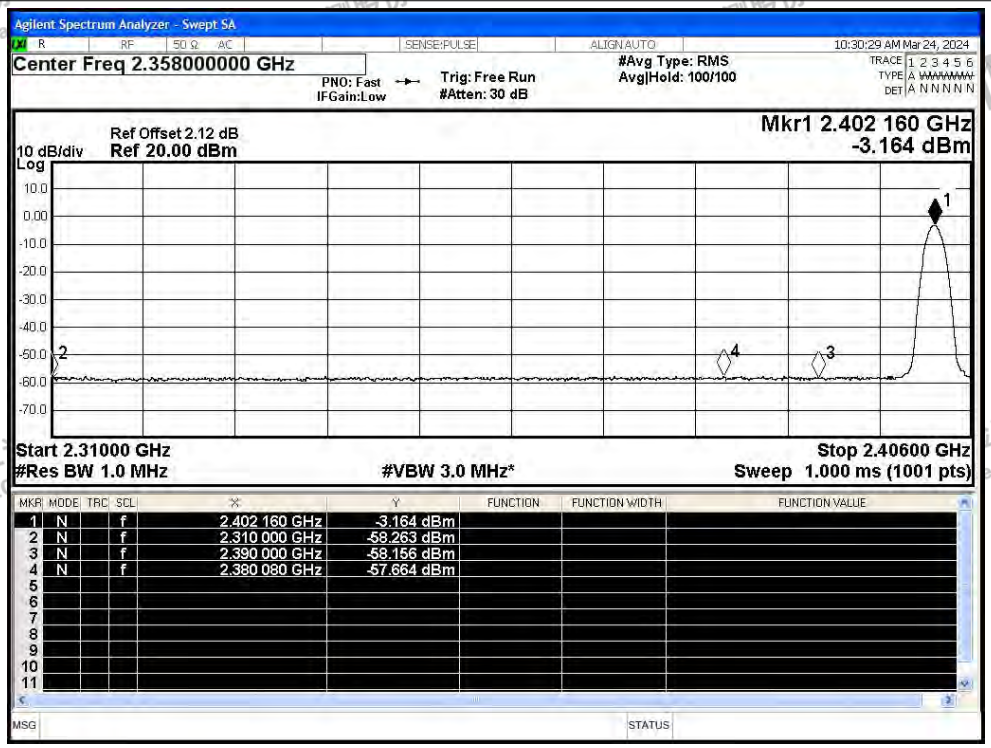
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



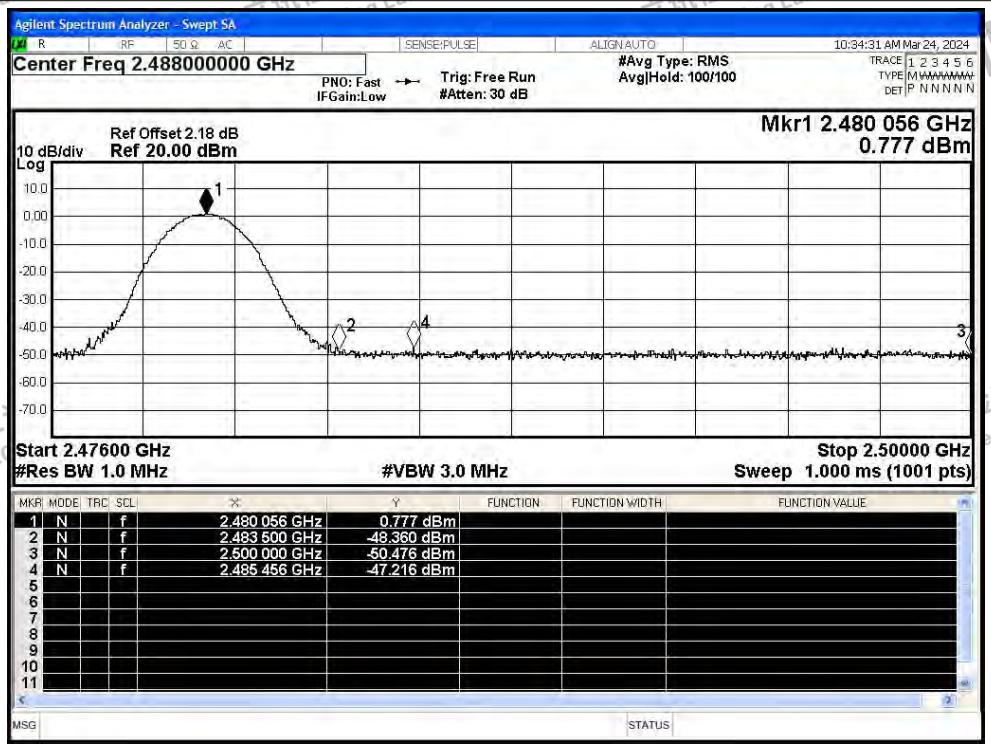
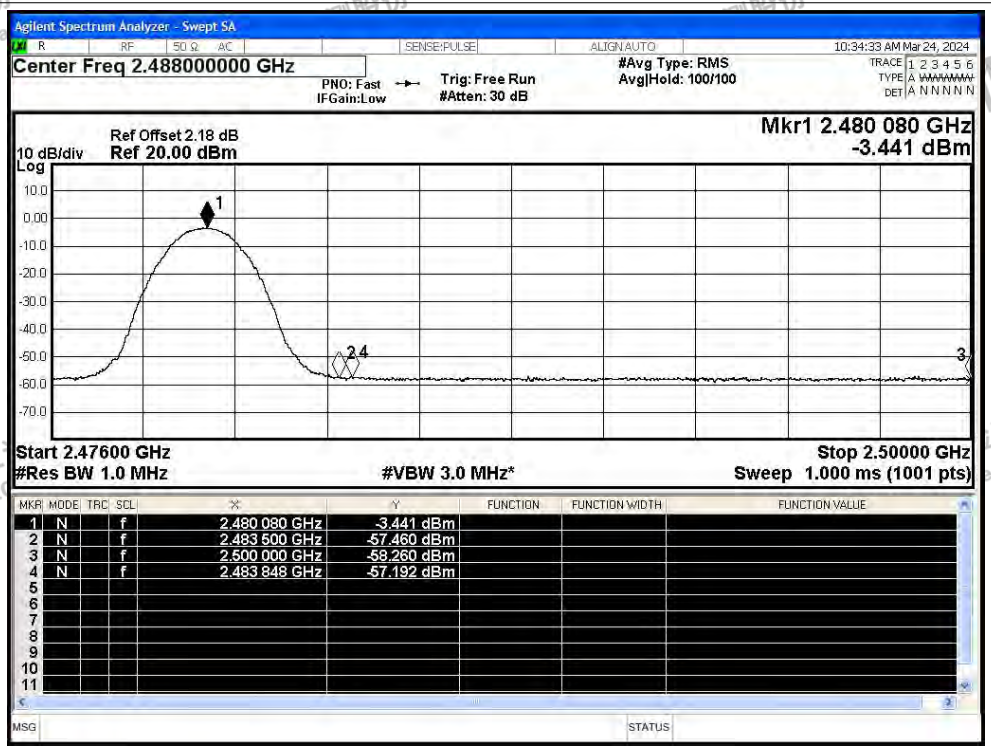
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



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