Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Smart Gym

Test Model: MA001

Environmental Conditions

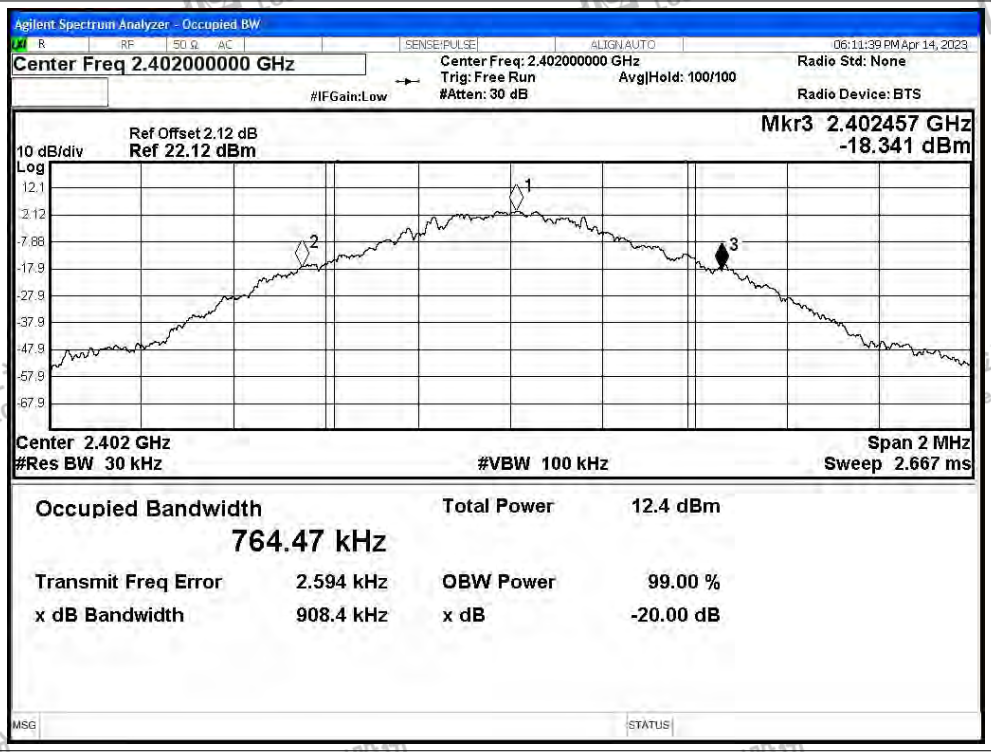
Temperature:	23.8° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Joker Hu
Supervised by:	Ling Zhu

A.1 -20dB Bandwidth

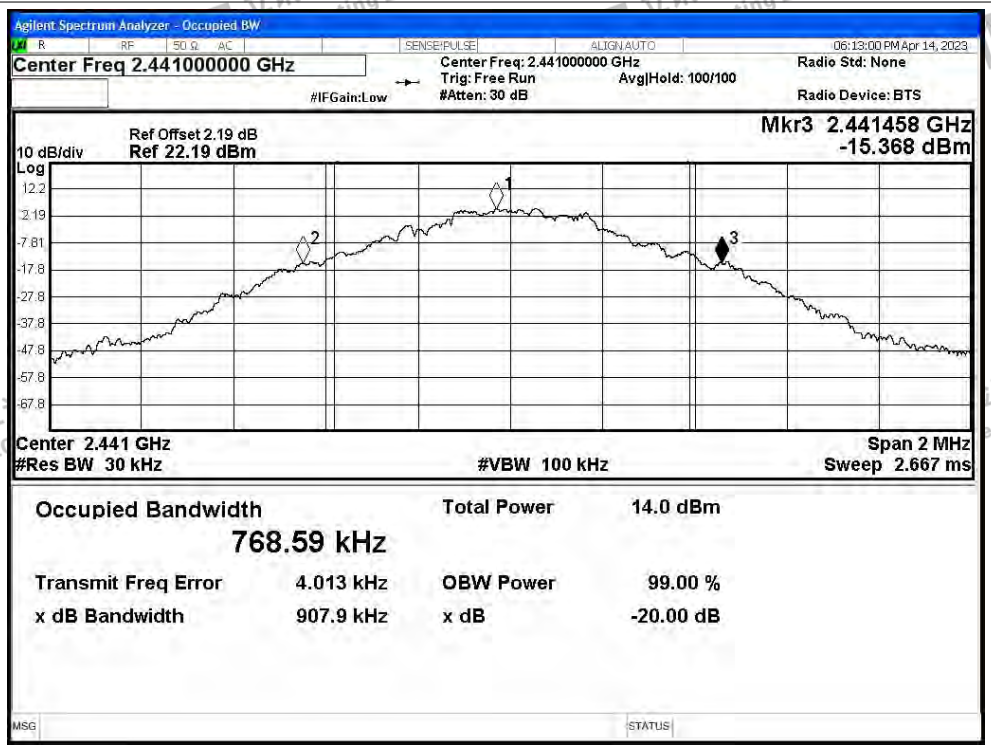
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.908	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.908	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.866	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.266	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.284	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.273	N/A	Pass
NVNT	3-DH5	2402	Ant1	1.257	N/A	Pass
NVNT	3-DH5	2441	Ant1	1.302	N/A	Pass
NVNT	3-DH5	2480	Ant1	1.296	N/A	Pass

Test Graphs

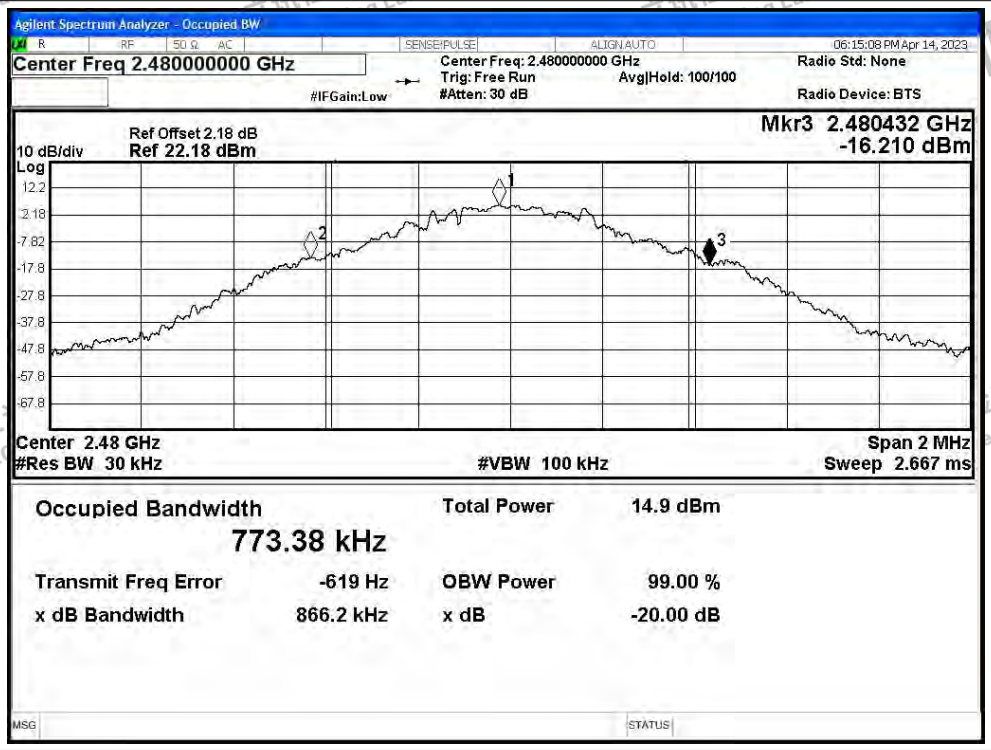
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



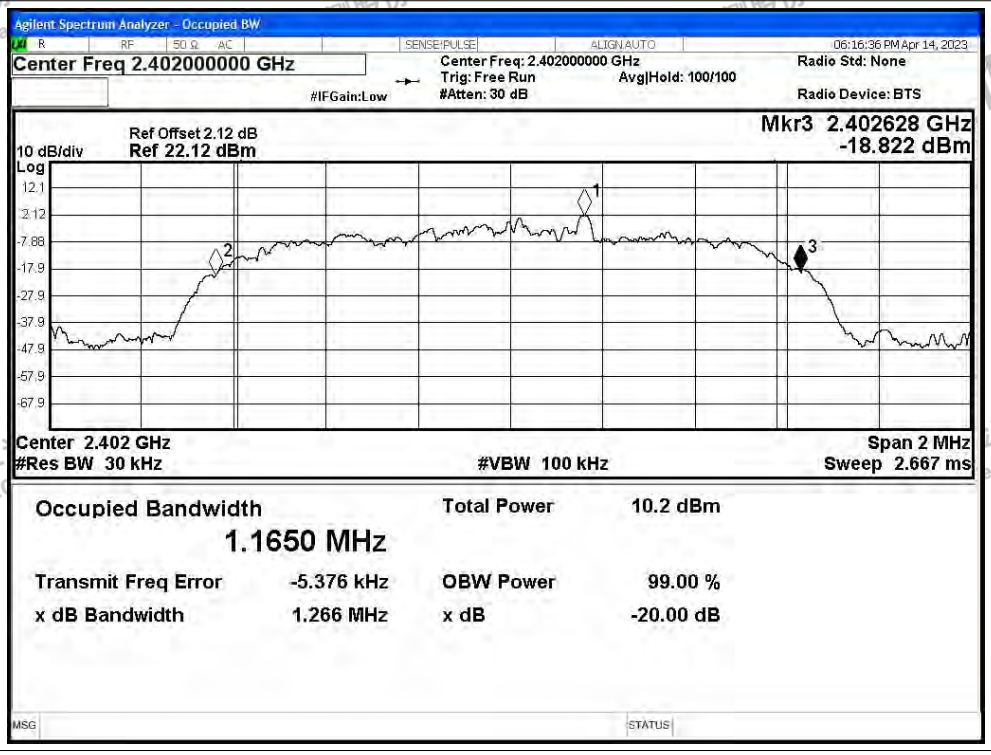
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



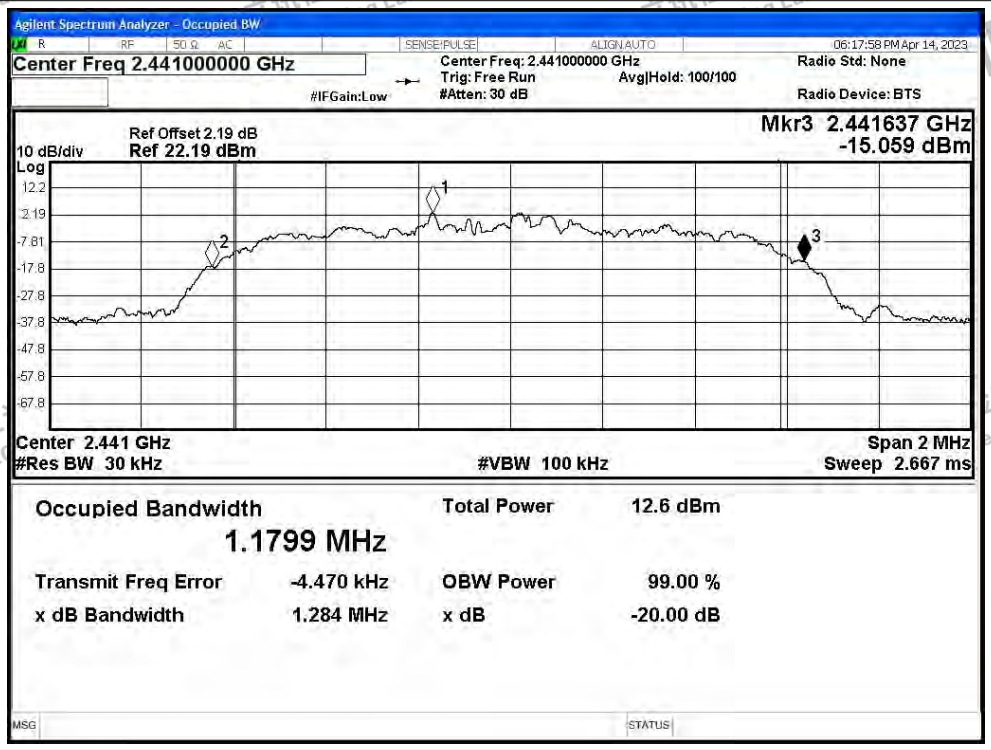
-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



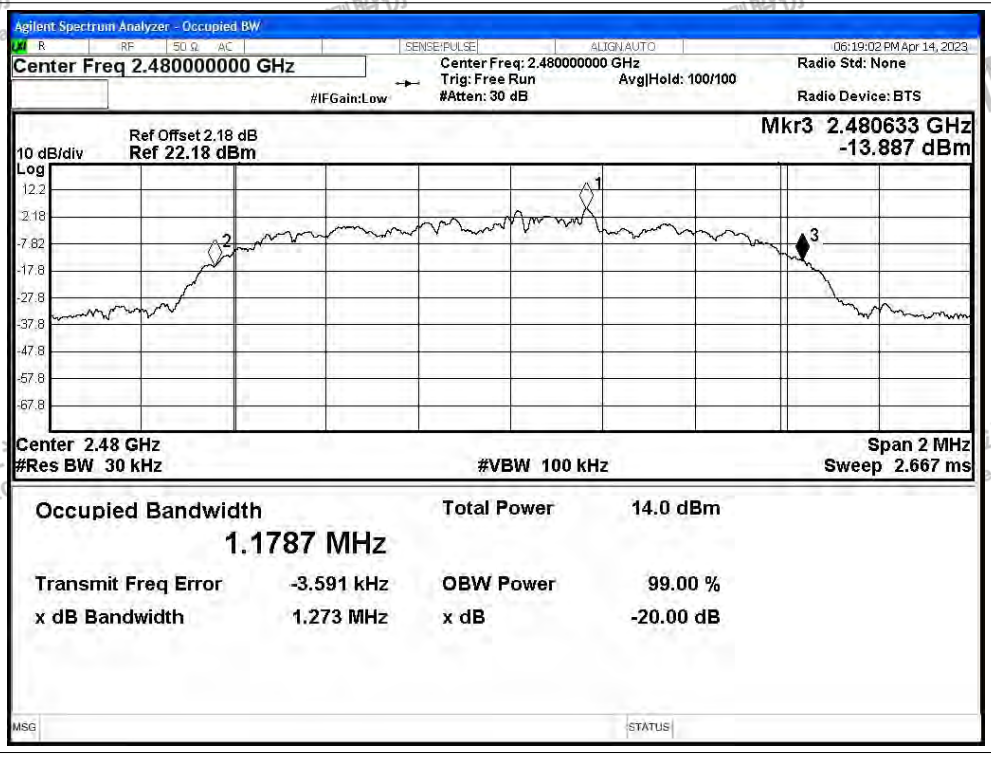
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



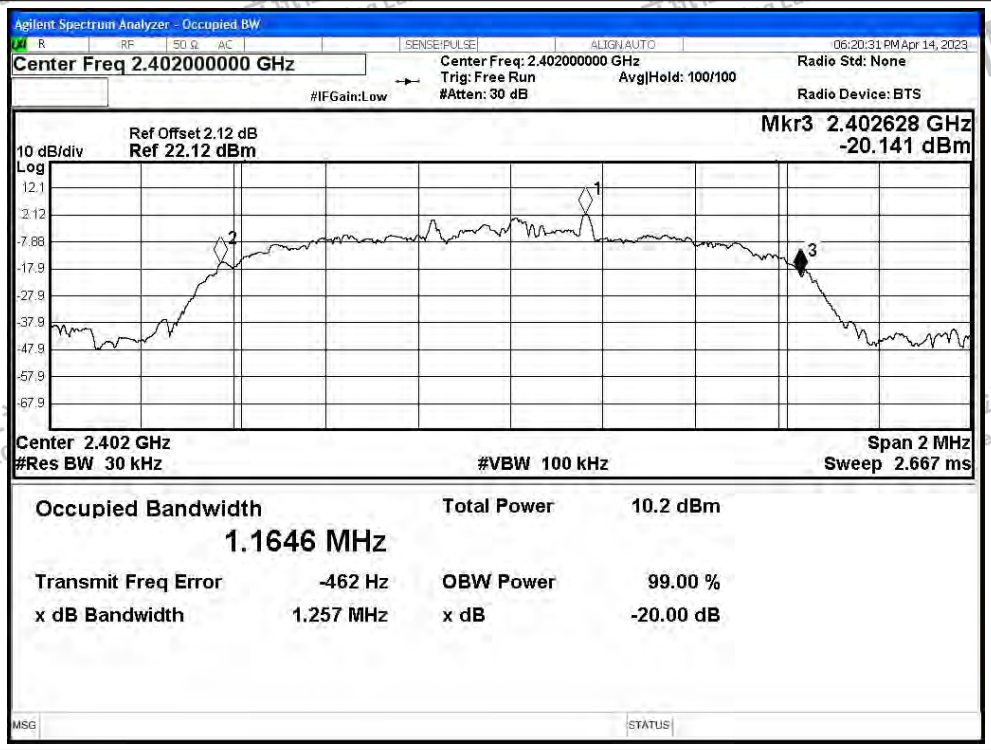
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



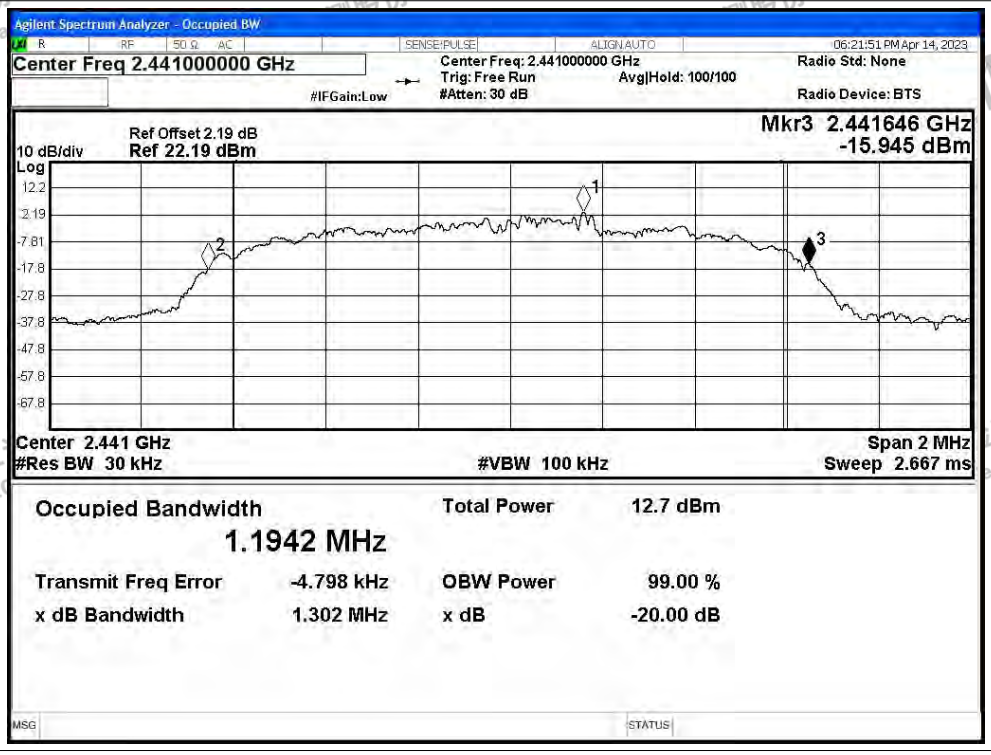
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



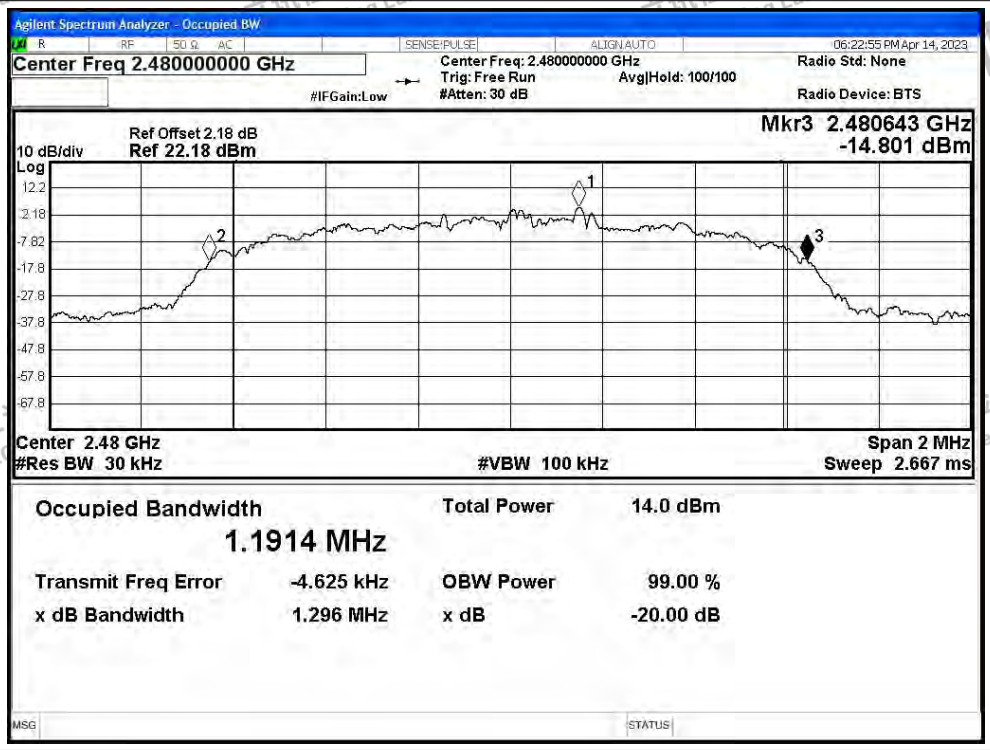
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

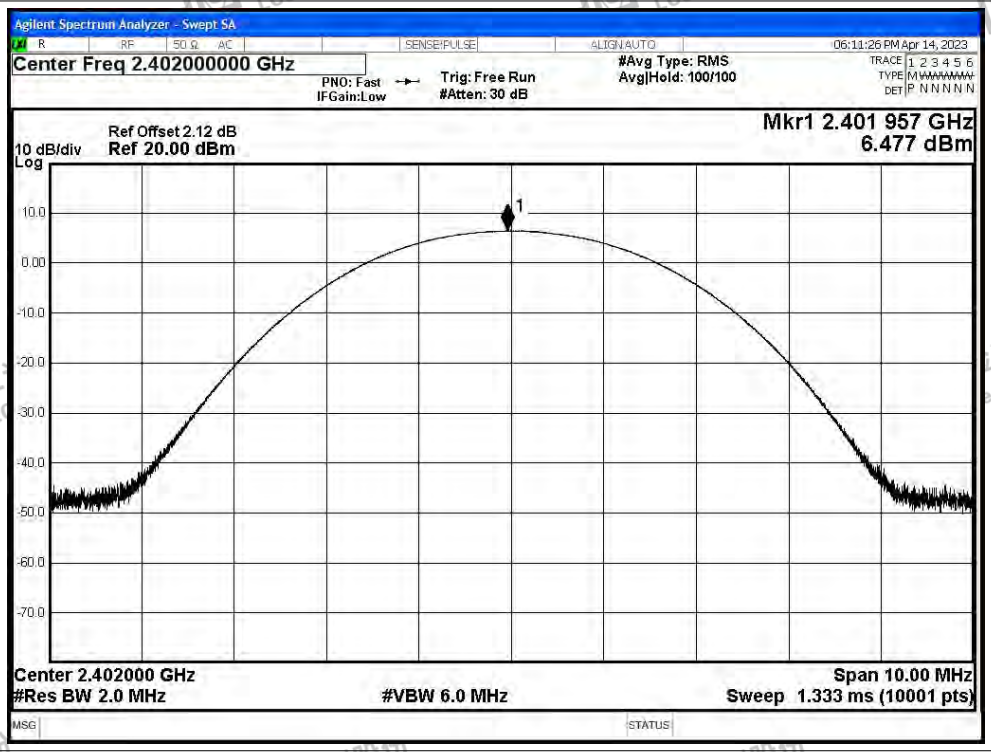


A.2 Maximum Conducted Output Power

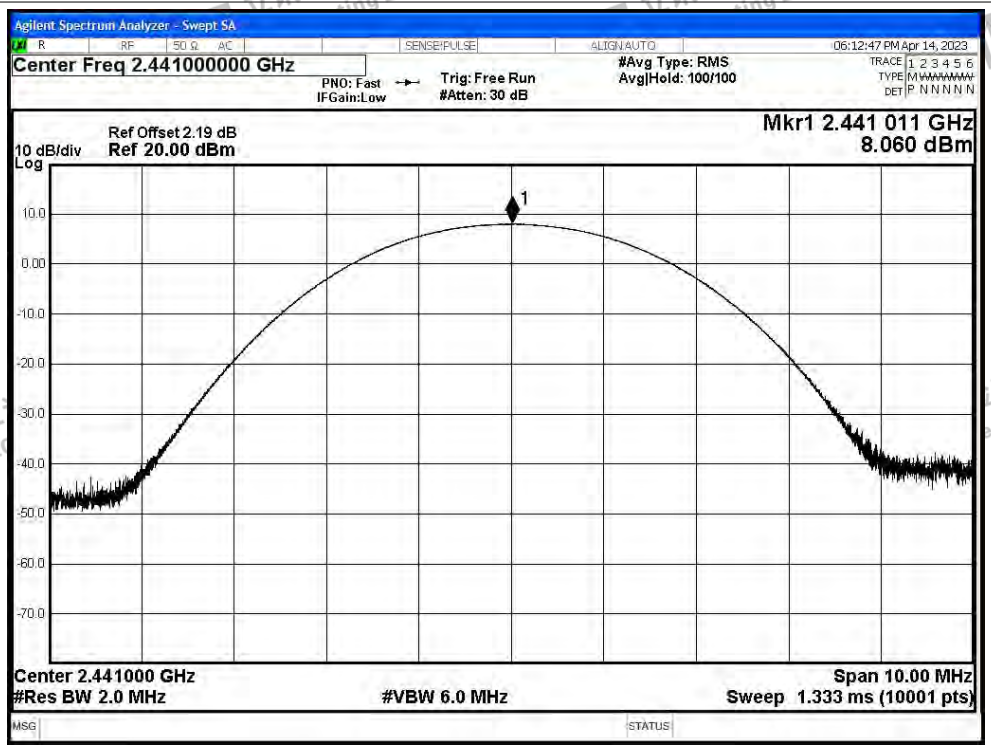
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	6.48	21	Pass
NVNT	1-DH5	2441	Ant1	8.06	21	Pass
NVNT	1-DH5	2480	Ant1	8.97	21	Pass
NVNT	2-DH5	2402	Ant1	5.22	21	Pass
NVNT	2-DH5	2441	Ant1	7.92	21	Pass
NVNT	2-DH5	2480	Ant1	9.05	21	Pass
NVNT	3-DH5	2402	Ant1	5.18	21	Pass
NVNT	3-DH5	2441	Ant1	7.89	21	Pass
NVNT	3-DH5	2480	Ant1	8.97	21	Pass

Test Graphs

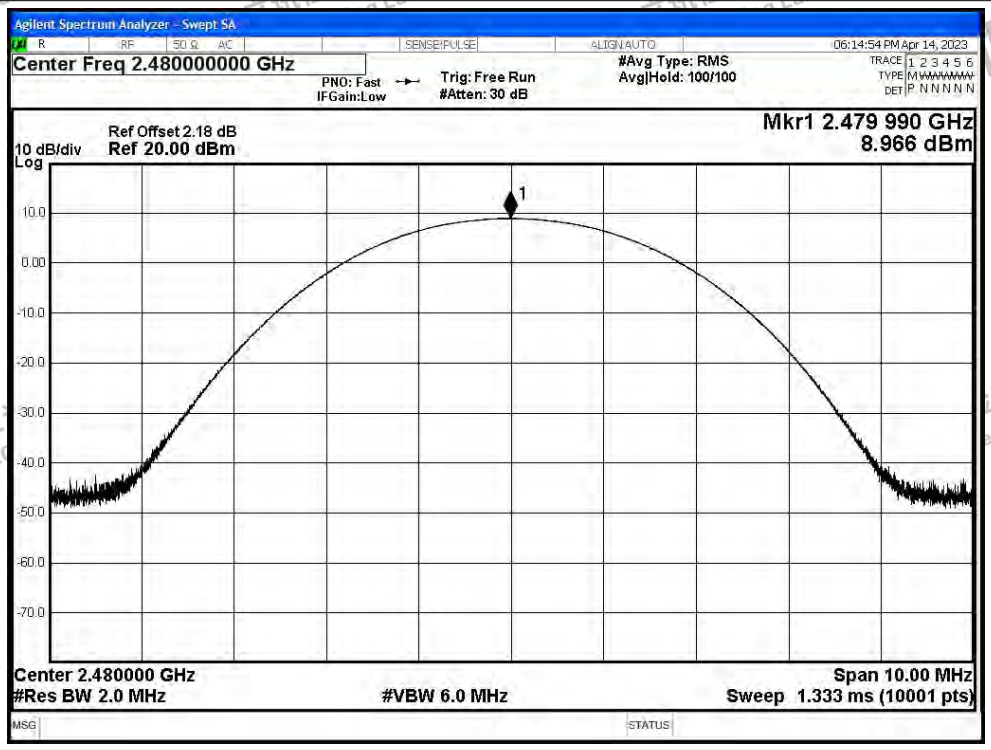
Power NVNT 1-DH5 2402MHz Ant1



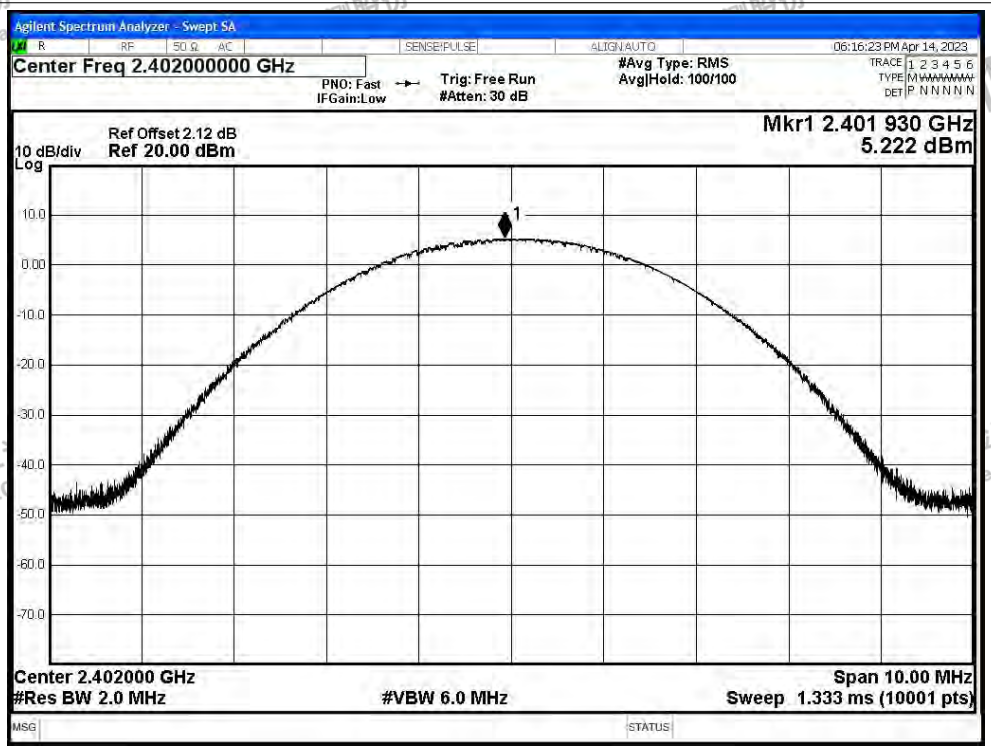
Power NVNT 1-DH5 2441MHz Ant1



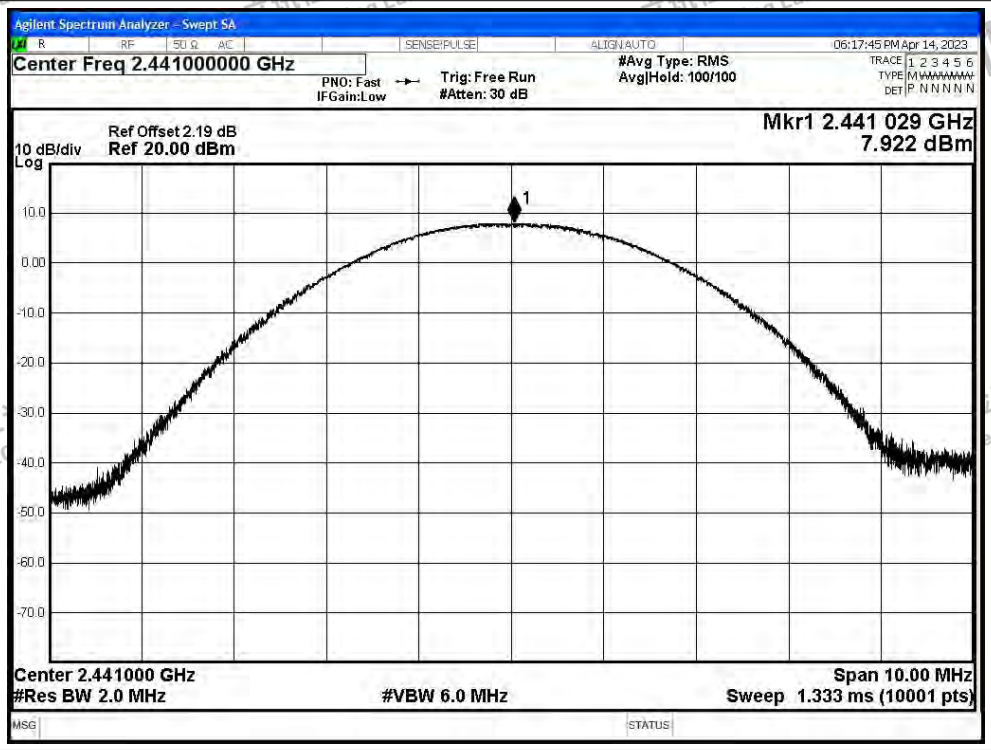
Power NVNT 1-DH5 2480MHz Ant1



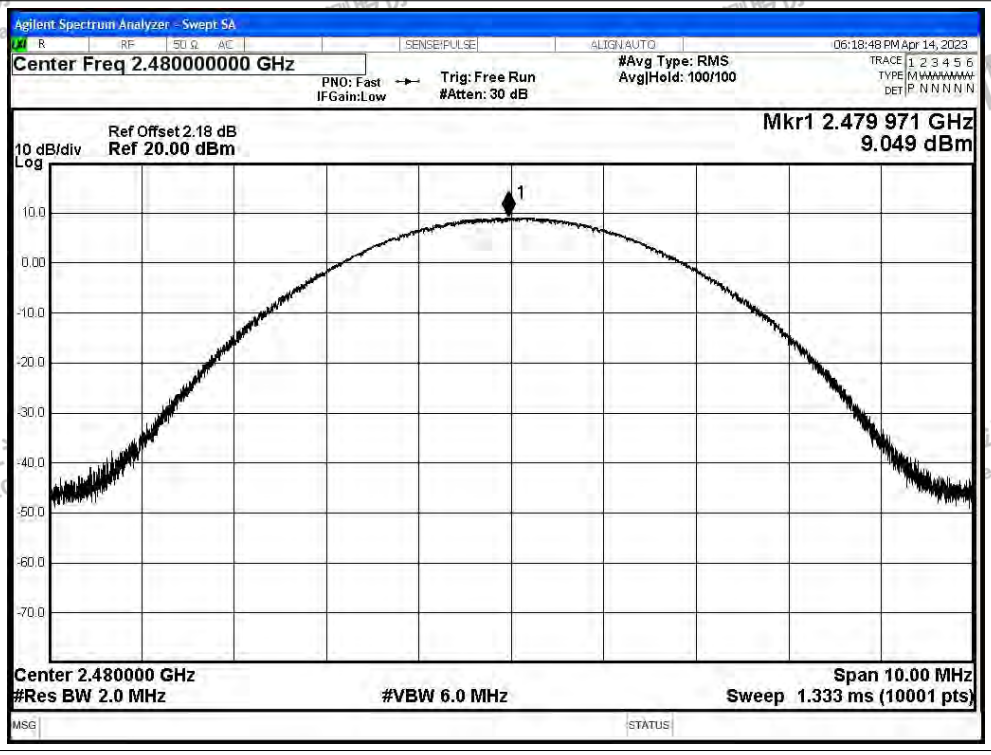
Power NVNT 2-DH5 2402MHz Ant1



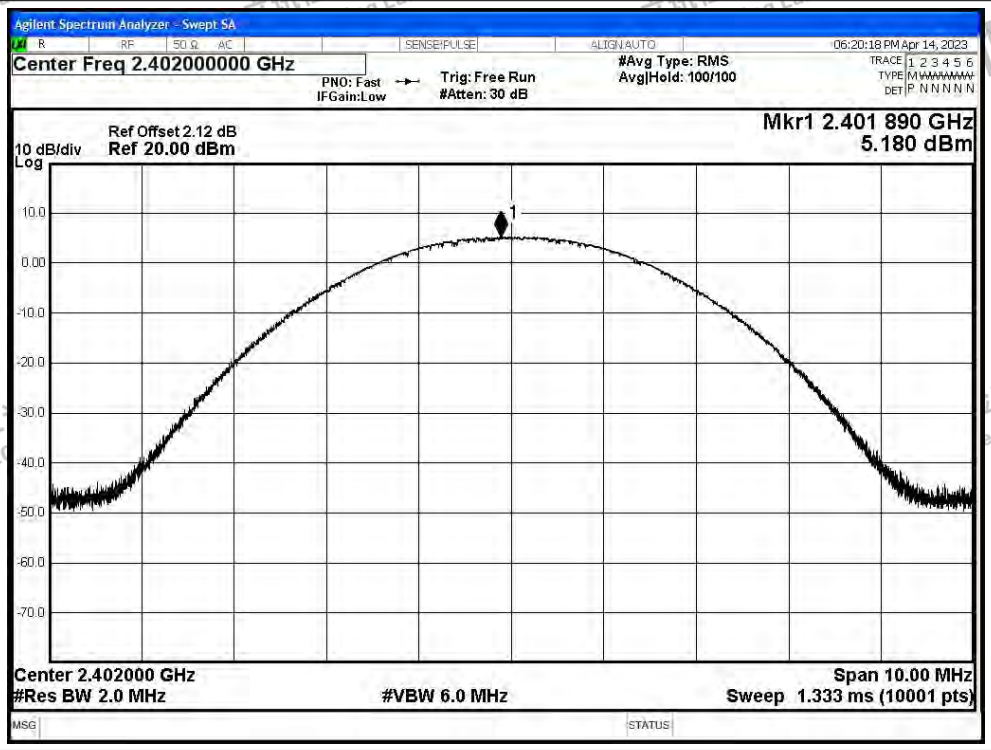
Power NVNT 2-DH5 2441MHz Ant1



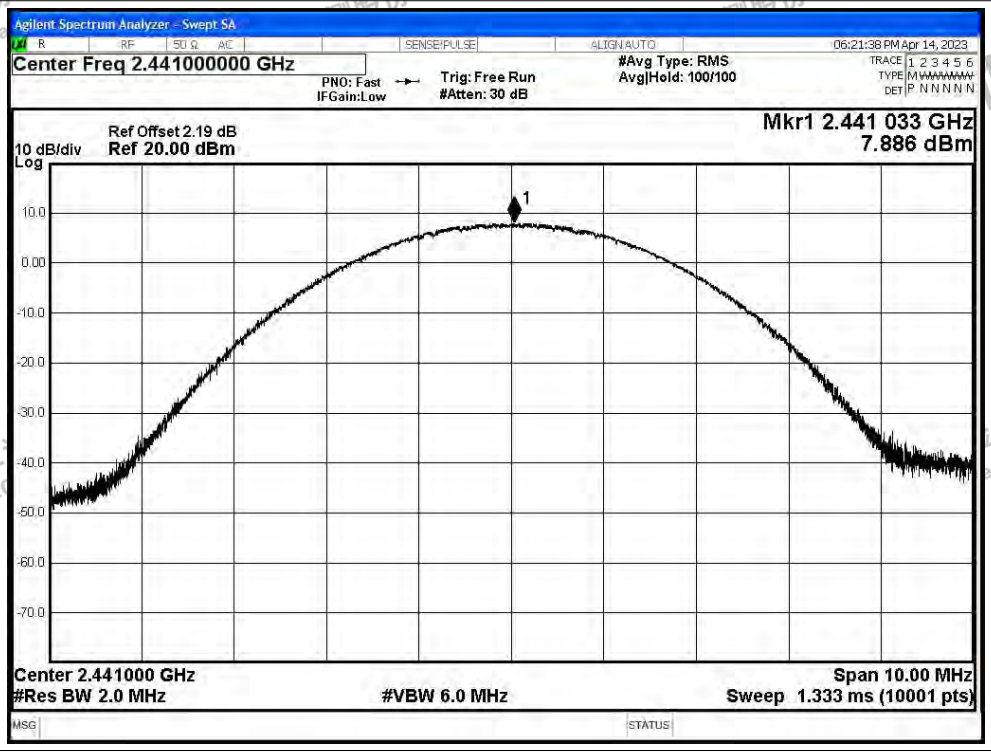
Power NVNT 2-DH5 2480MHz Ant1



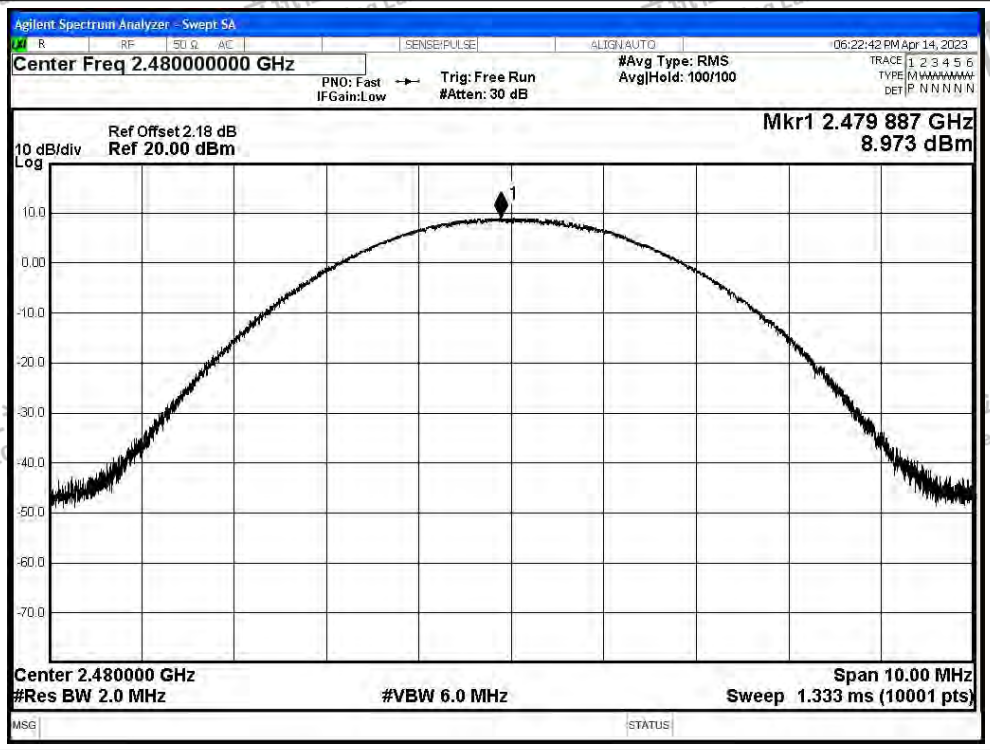
Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



Power NVNT 3-DH5 2480MHz Ant1

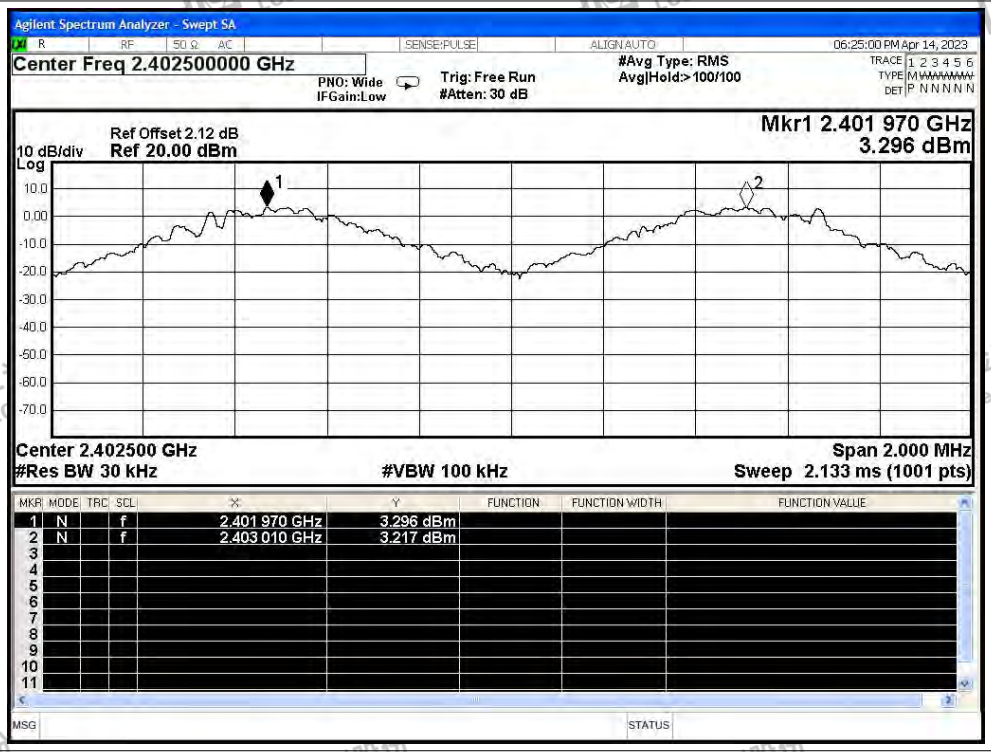


A.3 Carrier Frequencies Separation

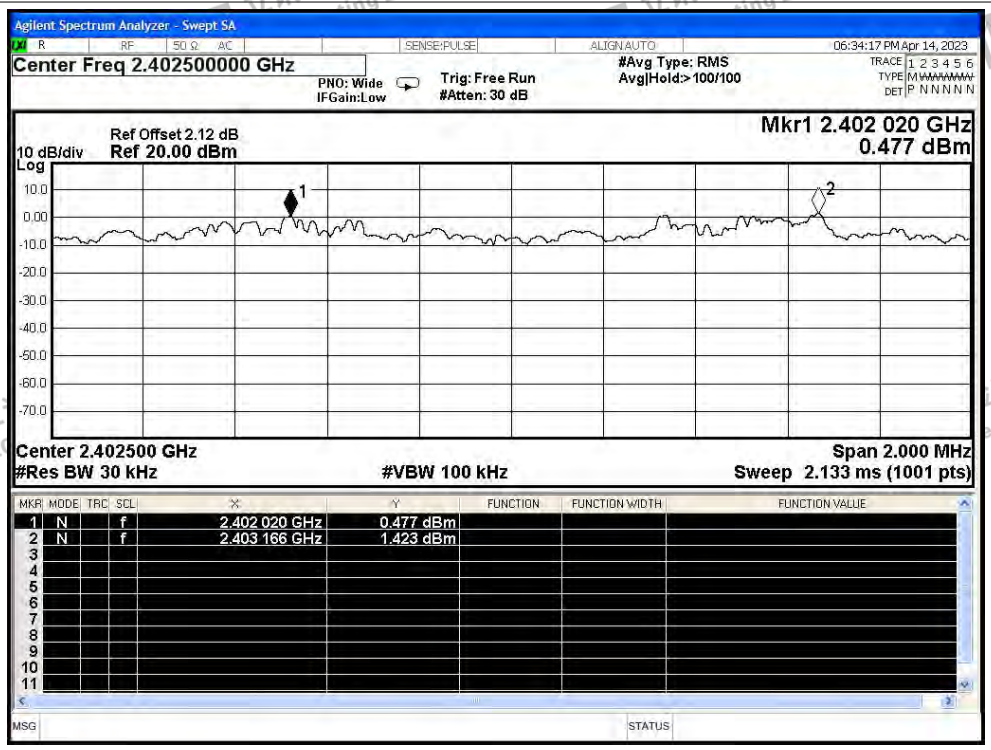
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.97	2403.01	1.04	0.605	Pass
NVNT	2-DH5	Ant1	2402.02	2403.166	1.146	0.856	Pass
NVNT	3-DH5	Ant1	2402.148	2403.164	1.016	0.868	Pass

Test Graphs

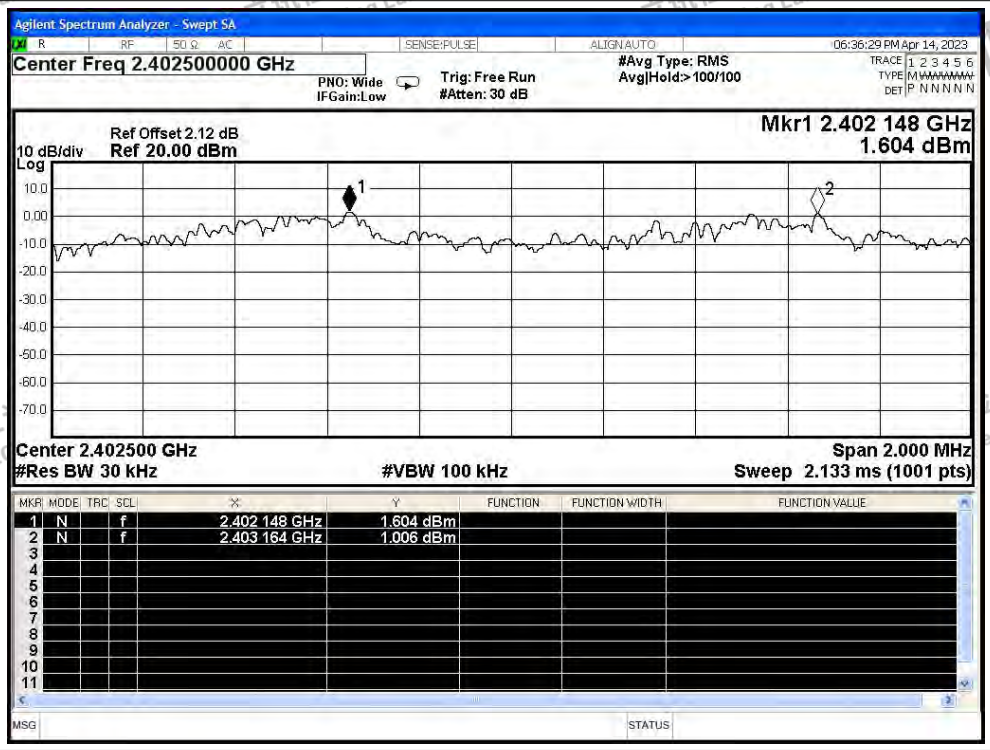
CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2402MHz Ant1

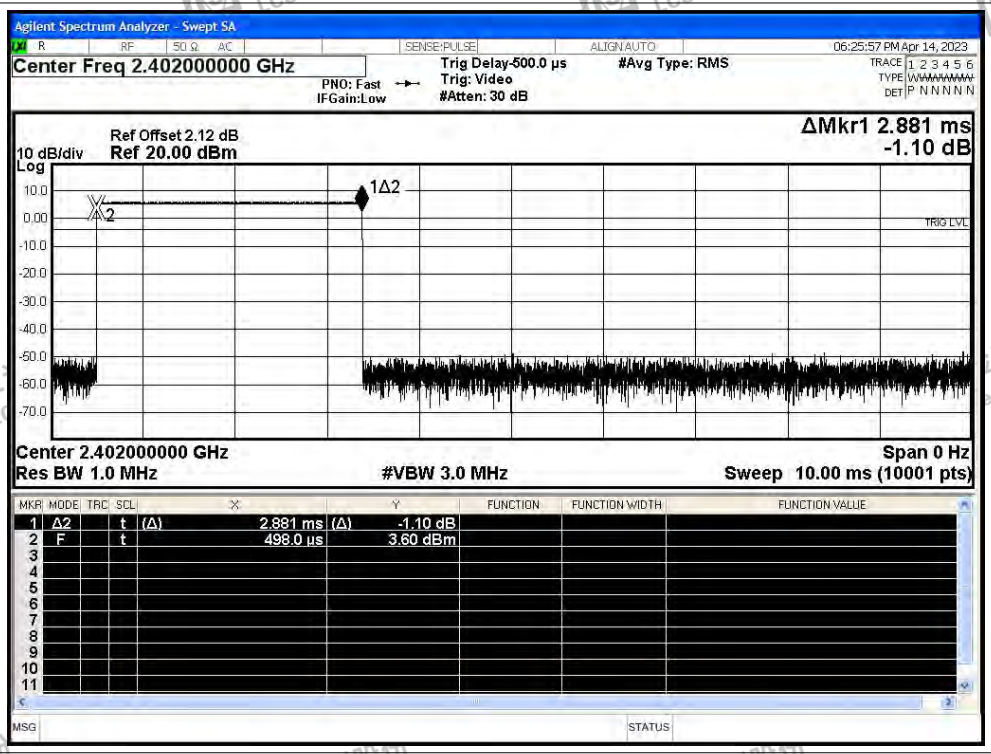


A.4 Dwell Time

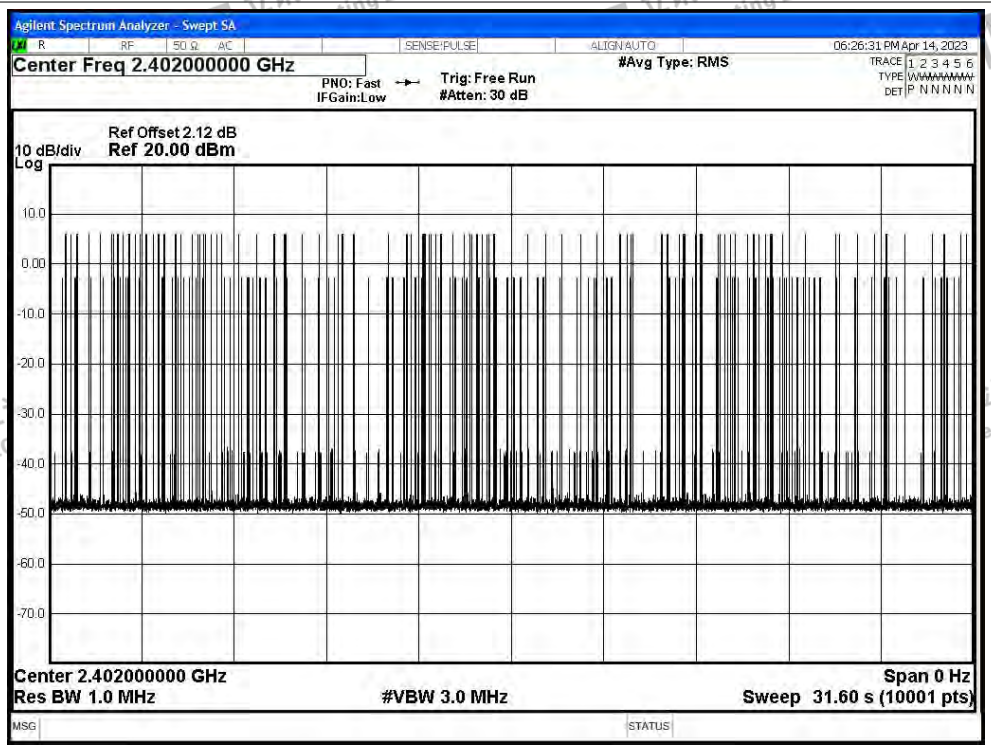
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.881	322.672	112	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.885	294.27	102	31600	400	Pass
NVNT	3-DH5	2402	Ant1	0.436	47.088	108	31600	400	Pass

Test Graphs

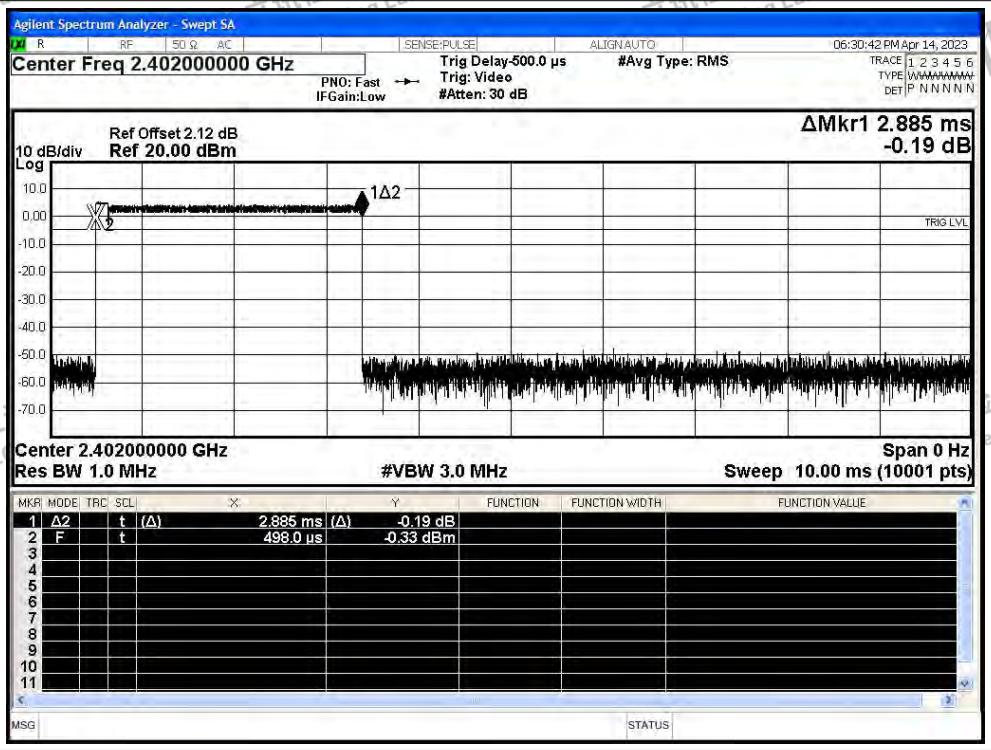
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



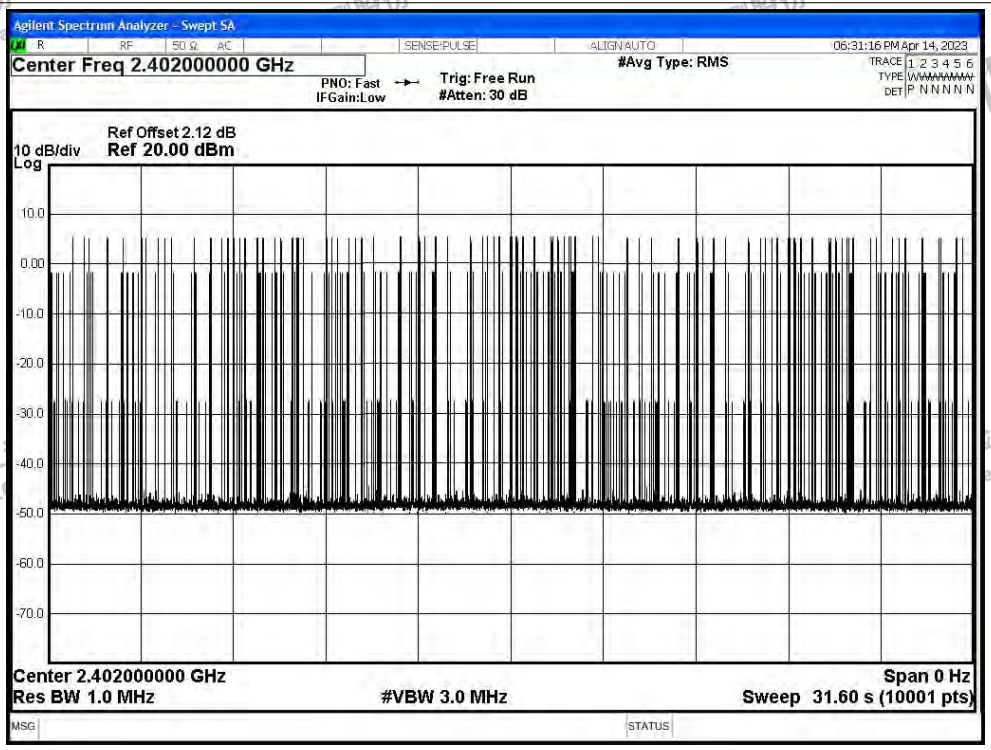
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



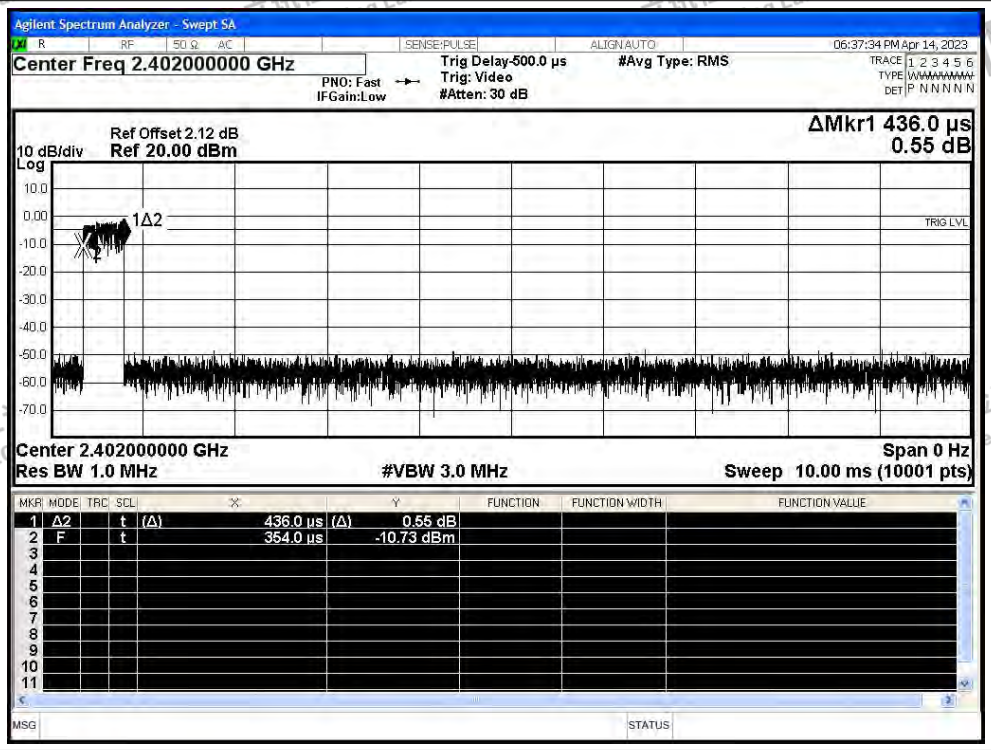
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



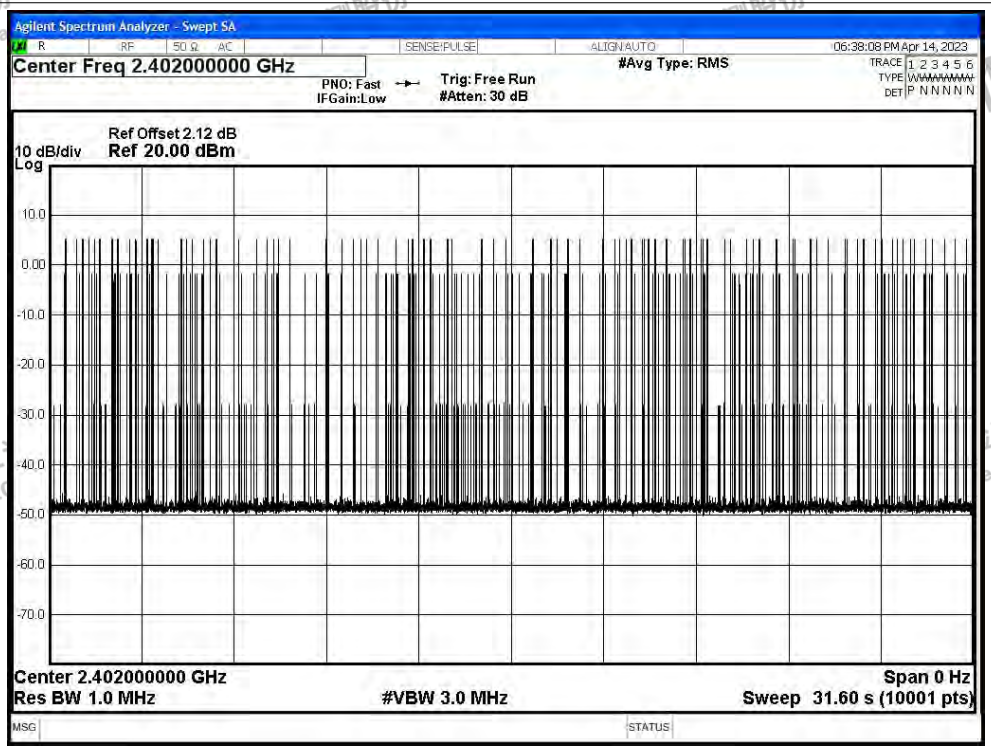
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

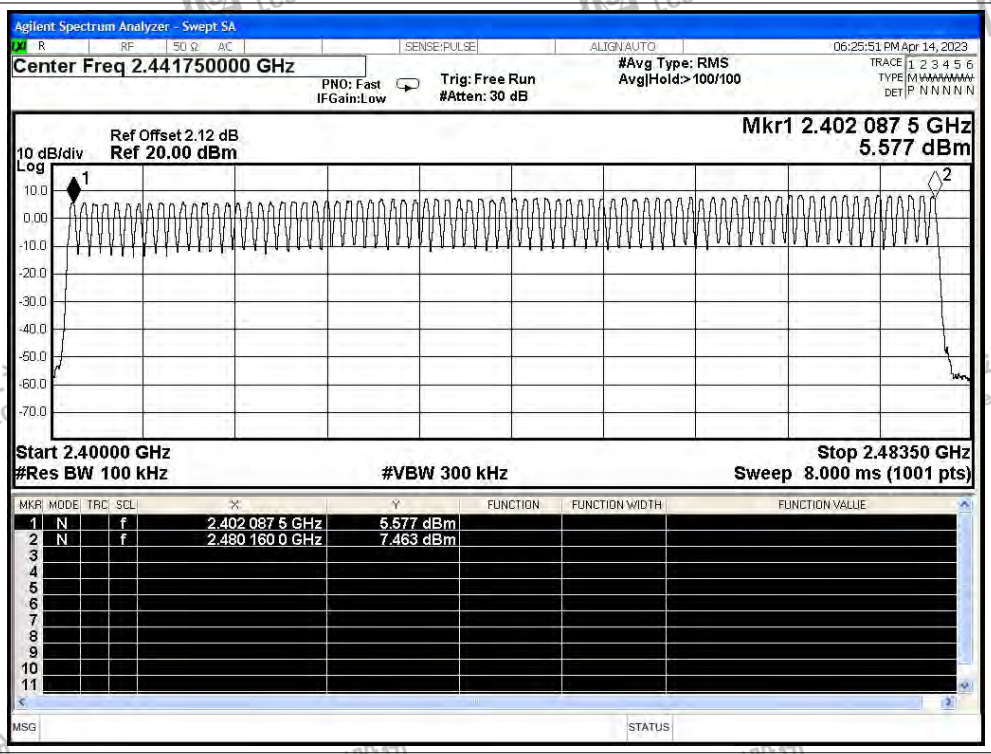


A.5 Number of Hopping Channel

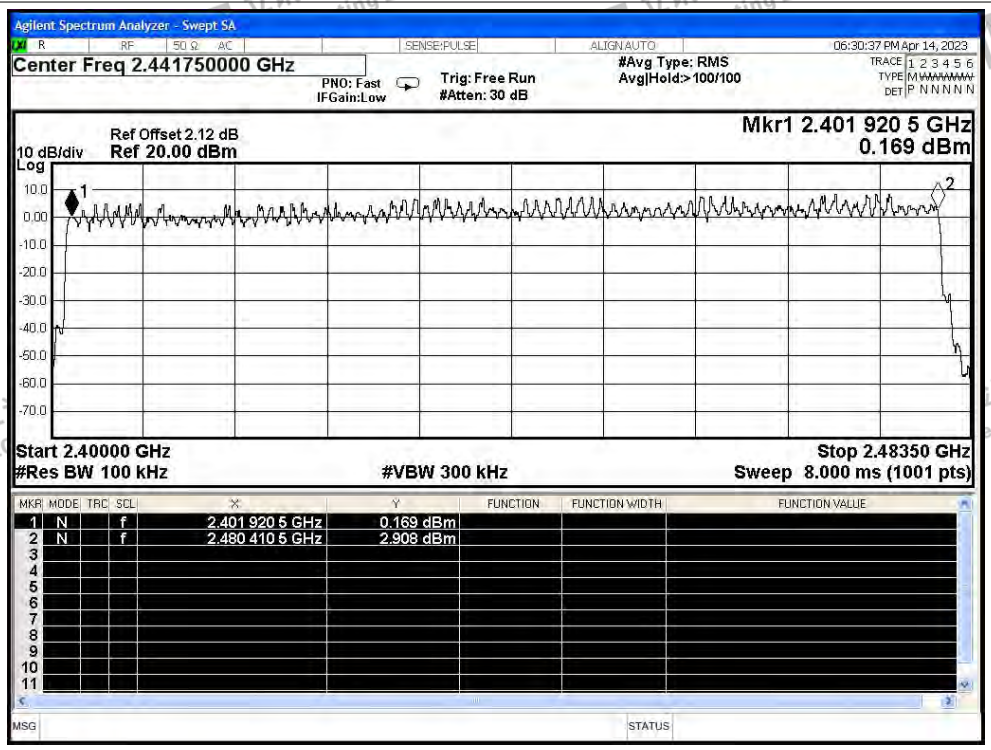
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

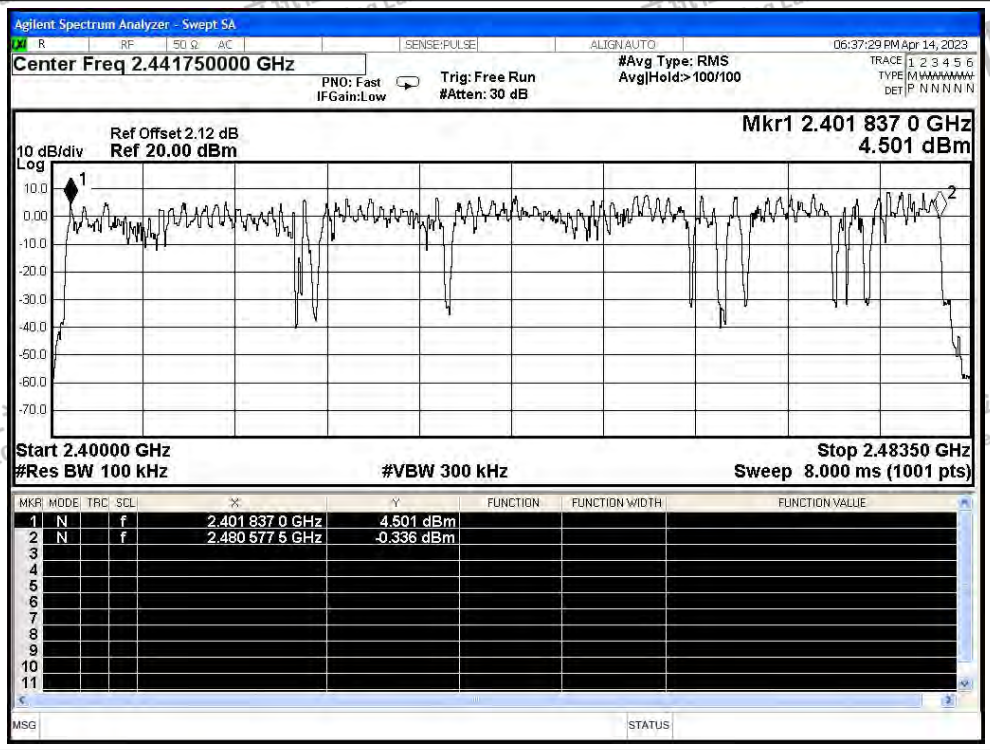
Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



Hopping No. NVNT 3-DH5 2402MHz Ant1

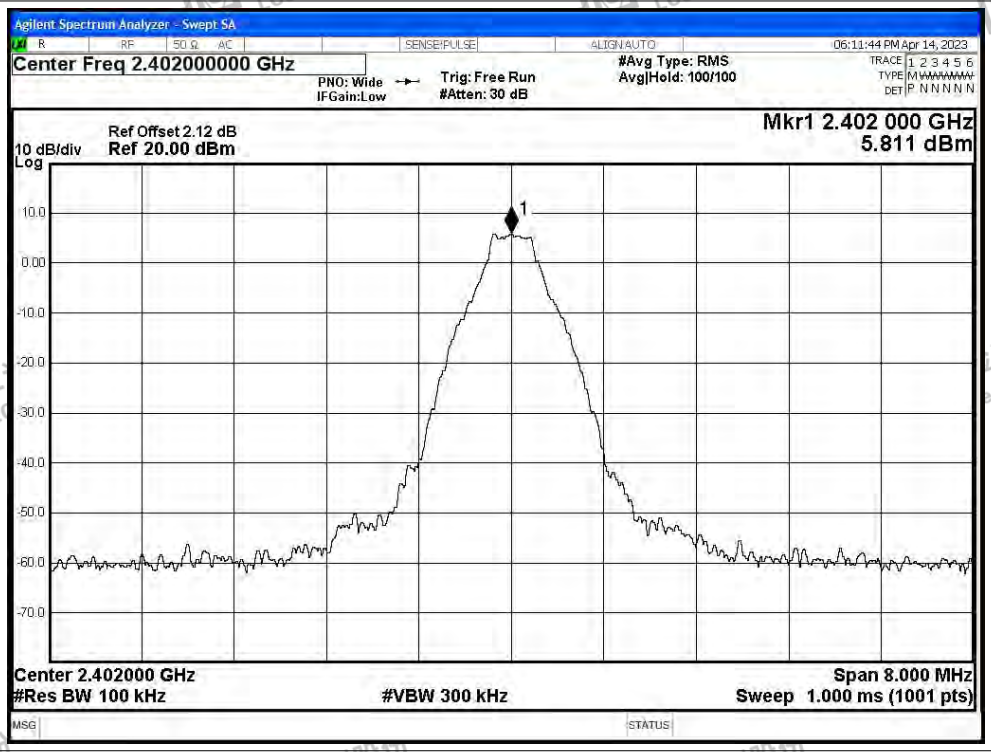


A.6 Band Edge

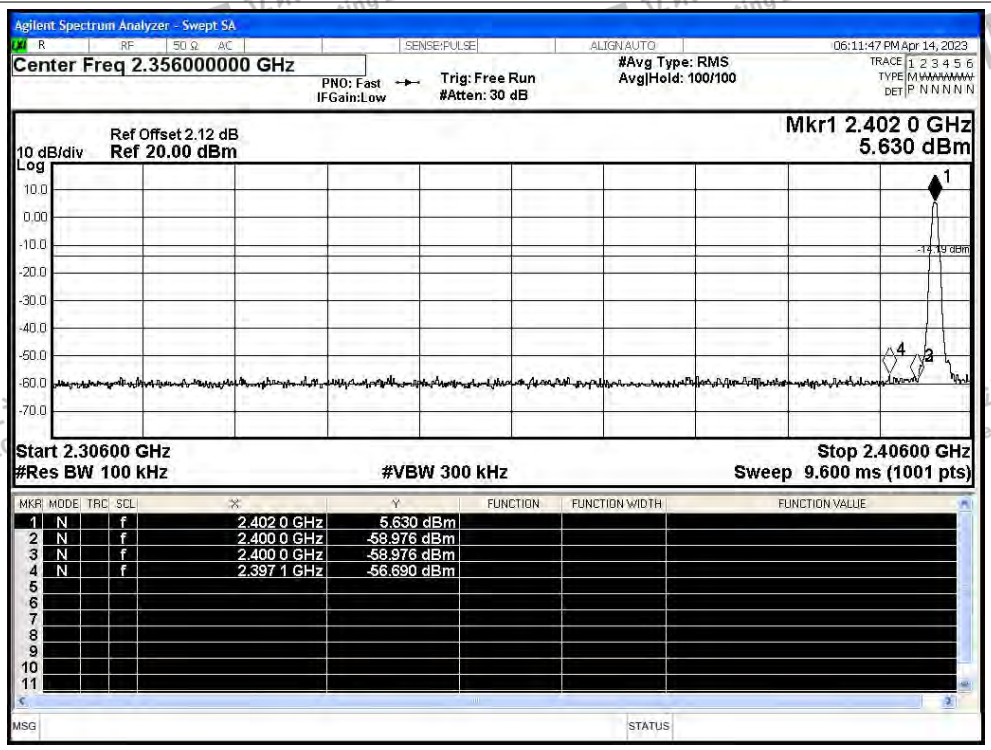
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-62.5	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-64.87	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-57.87	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-63.27	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-57.63	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-63.47	-20	Pass

Test Graphs

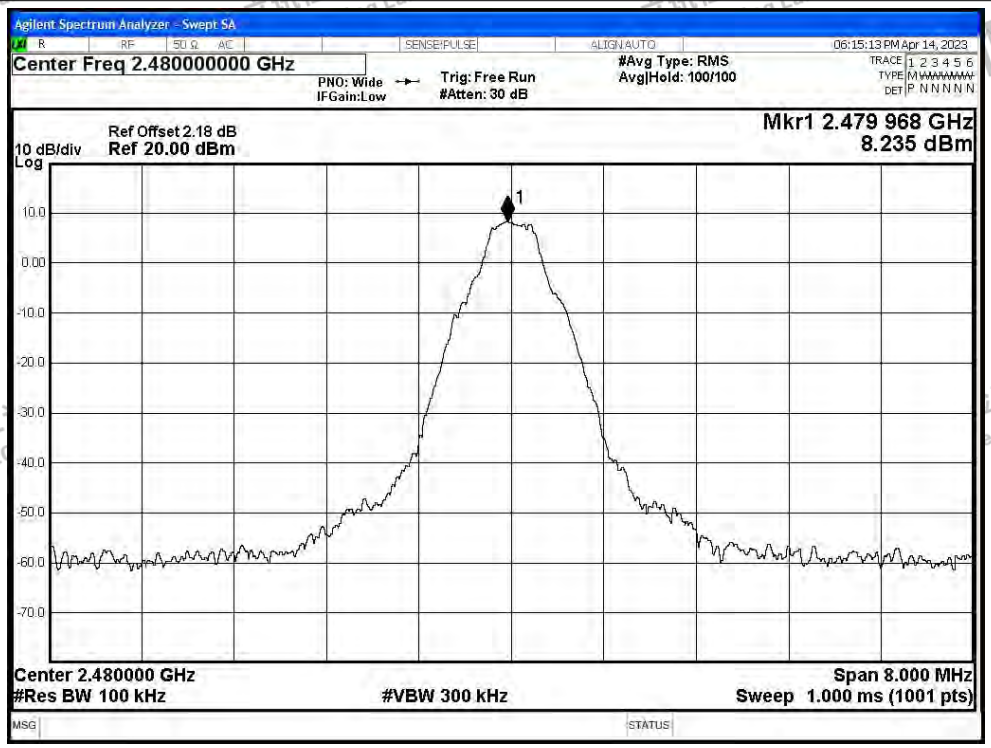
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



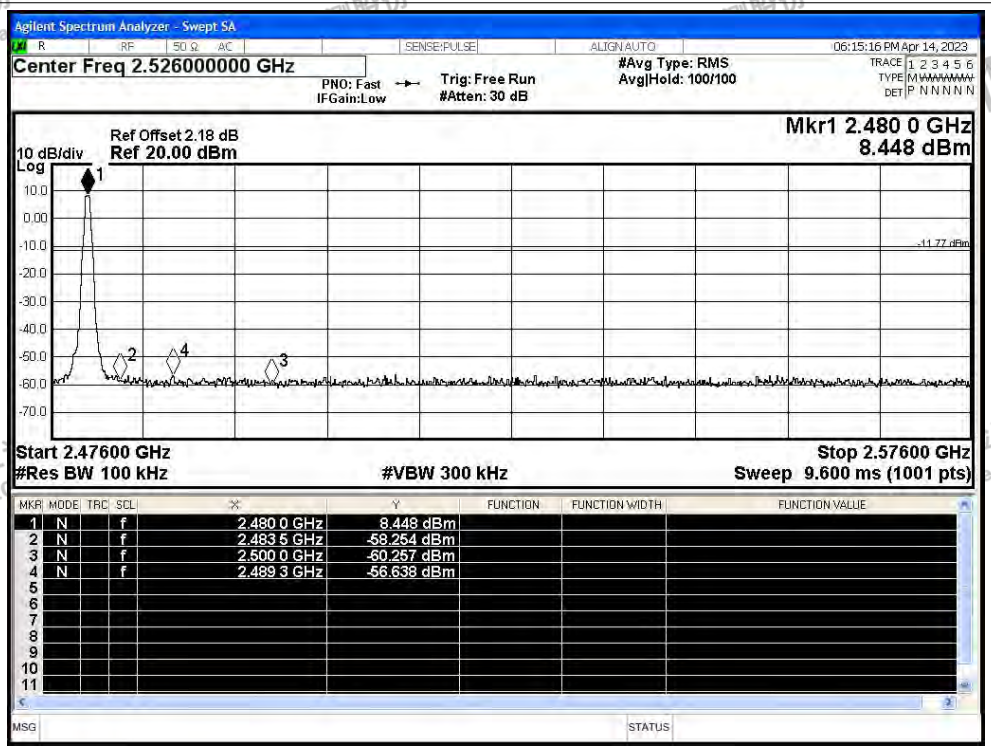
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



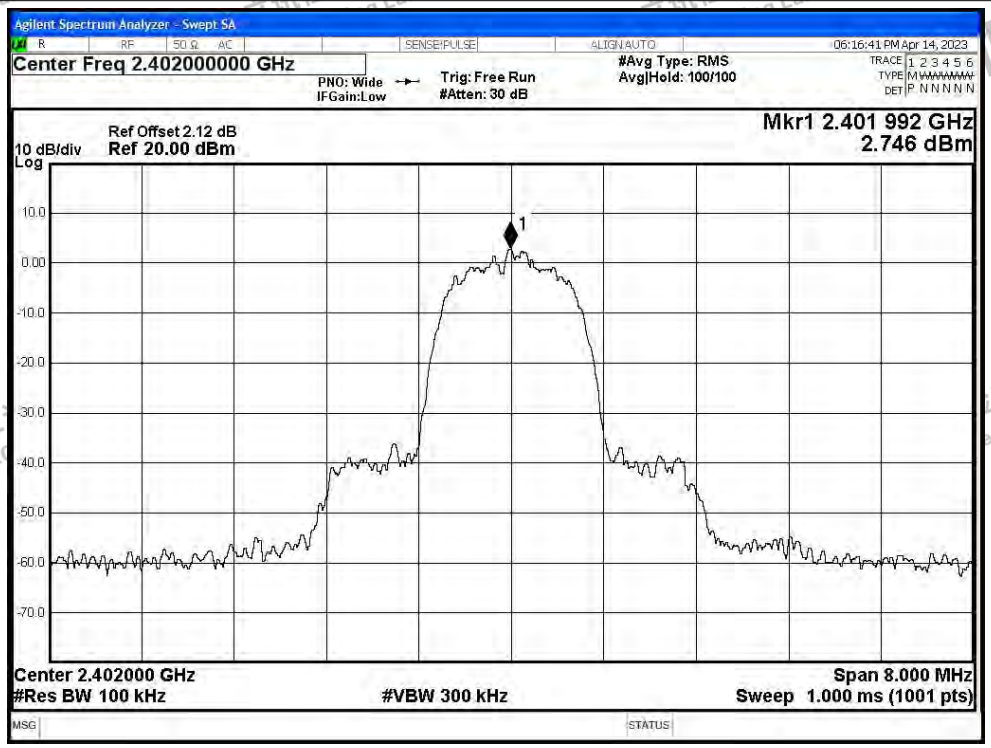
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



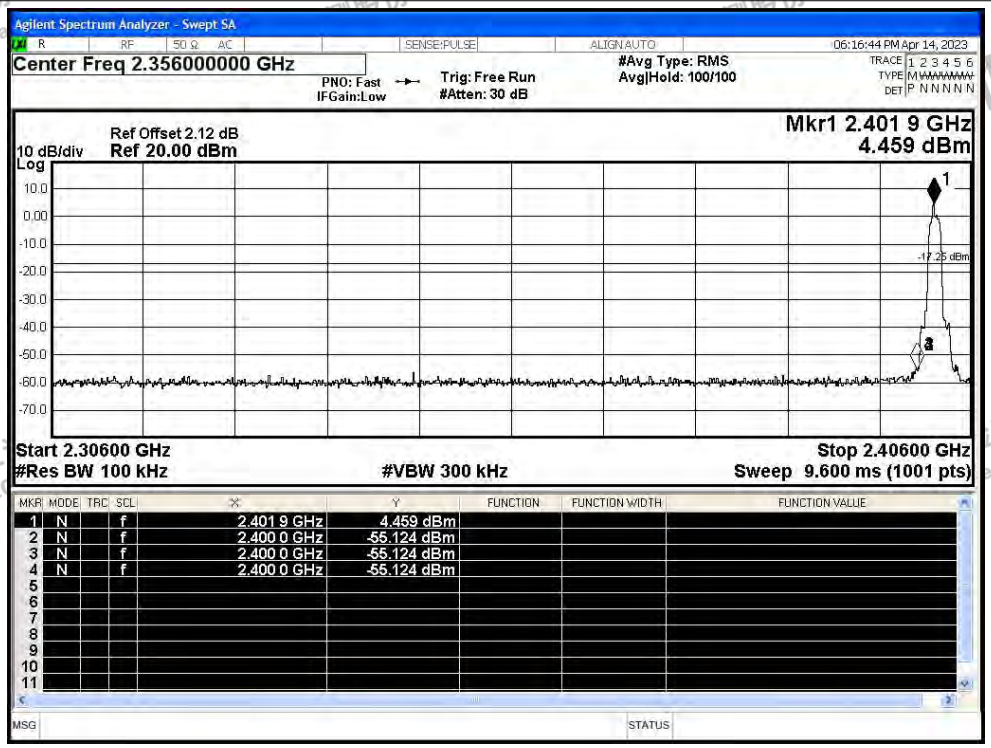
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



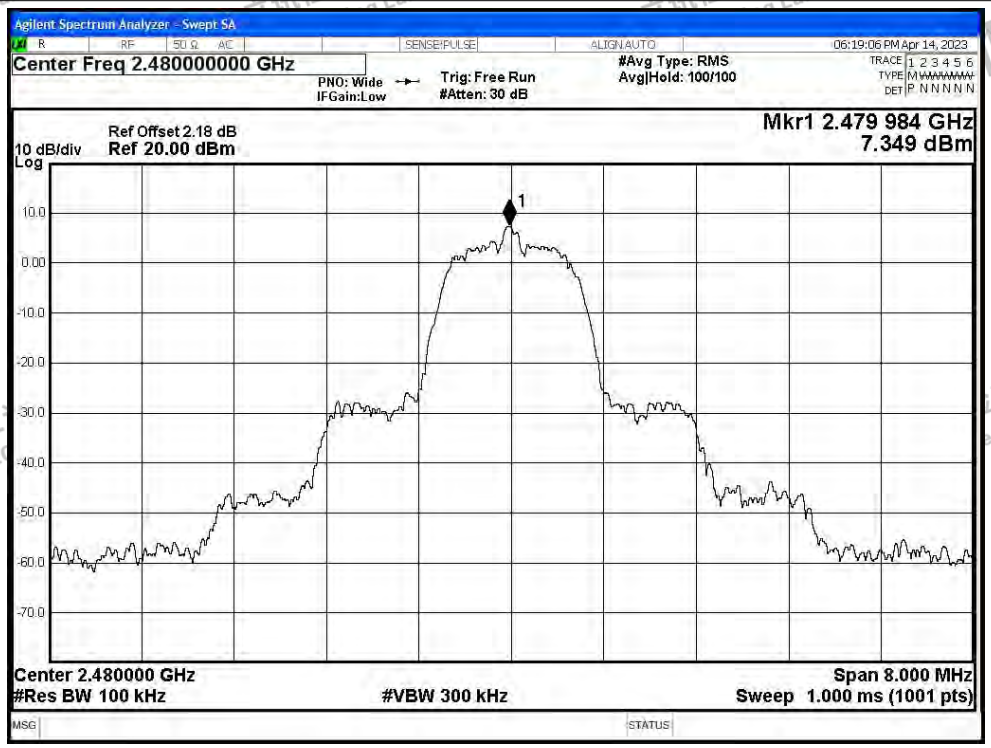
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



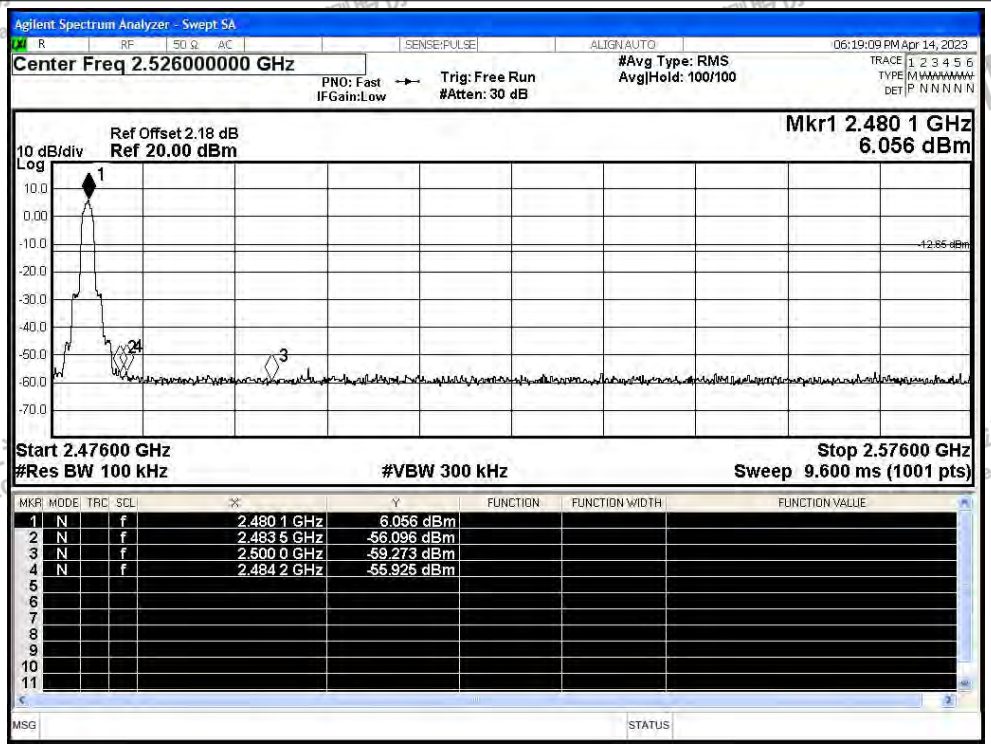
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



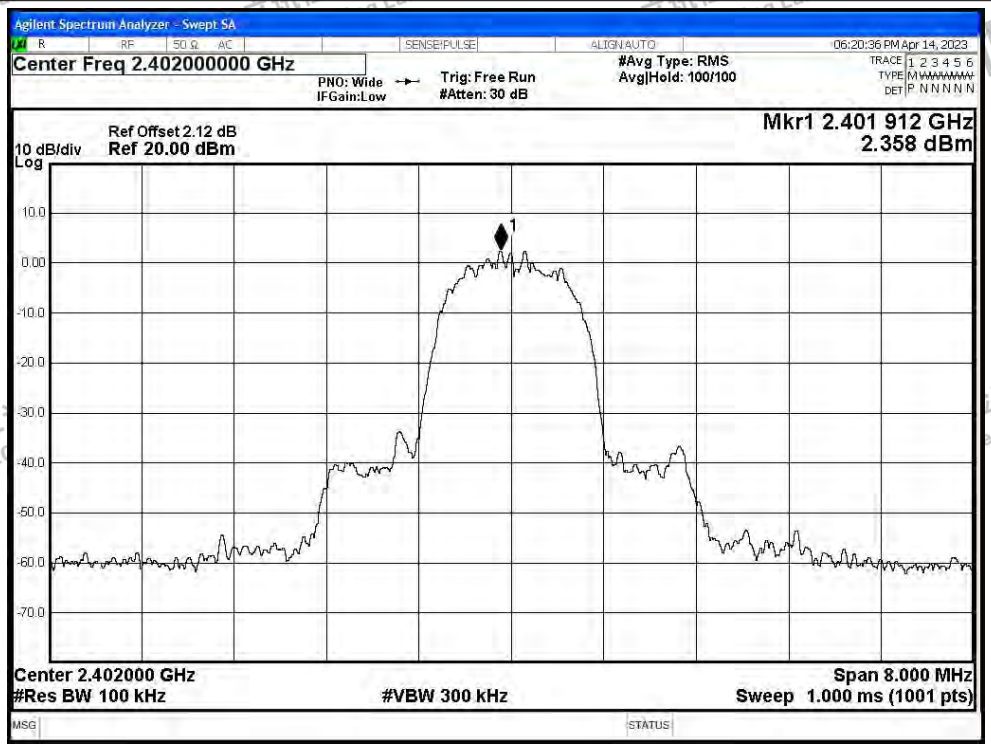
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



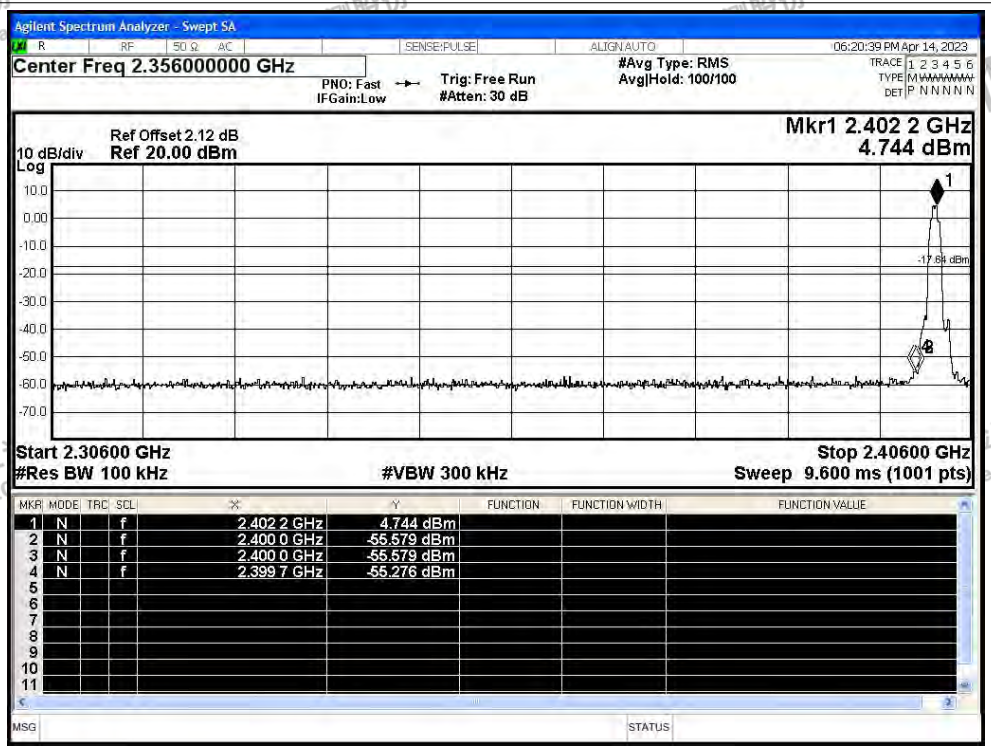
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



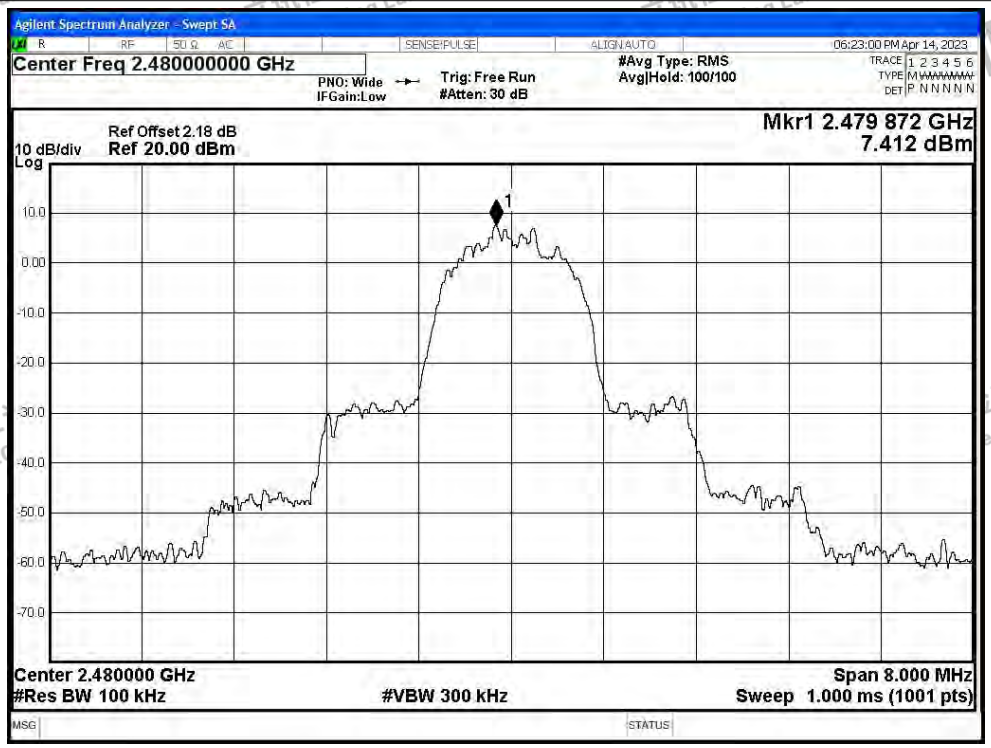
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



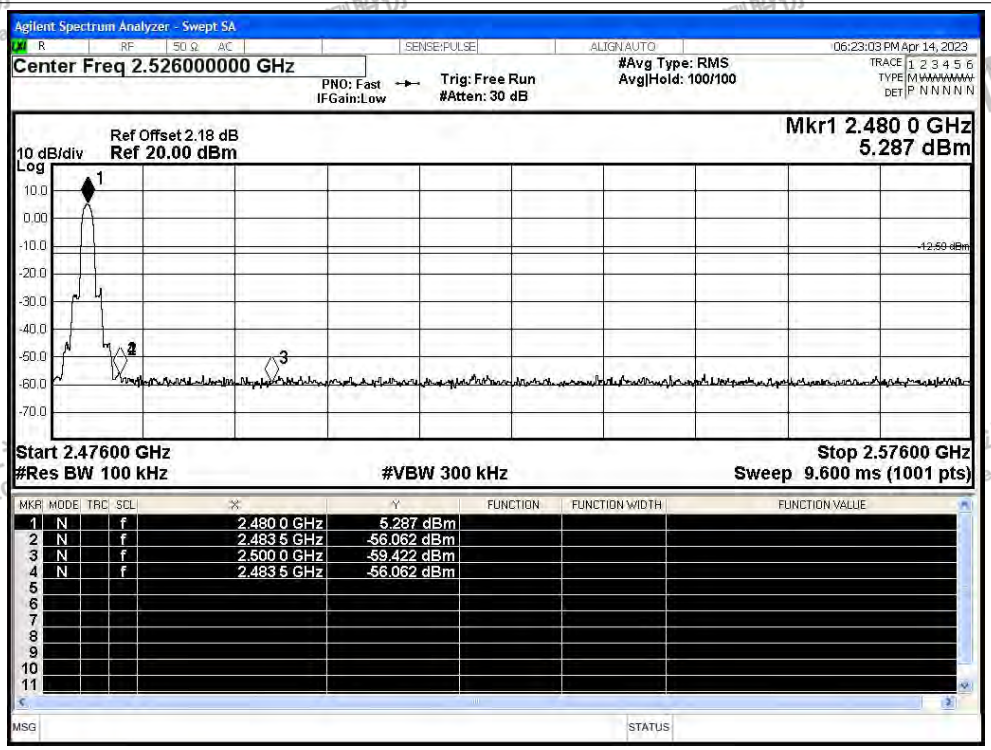
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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



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

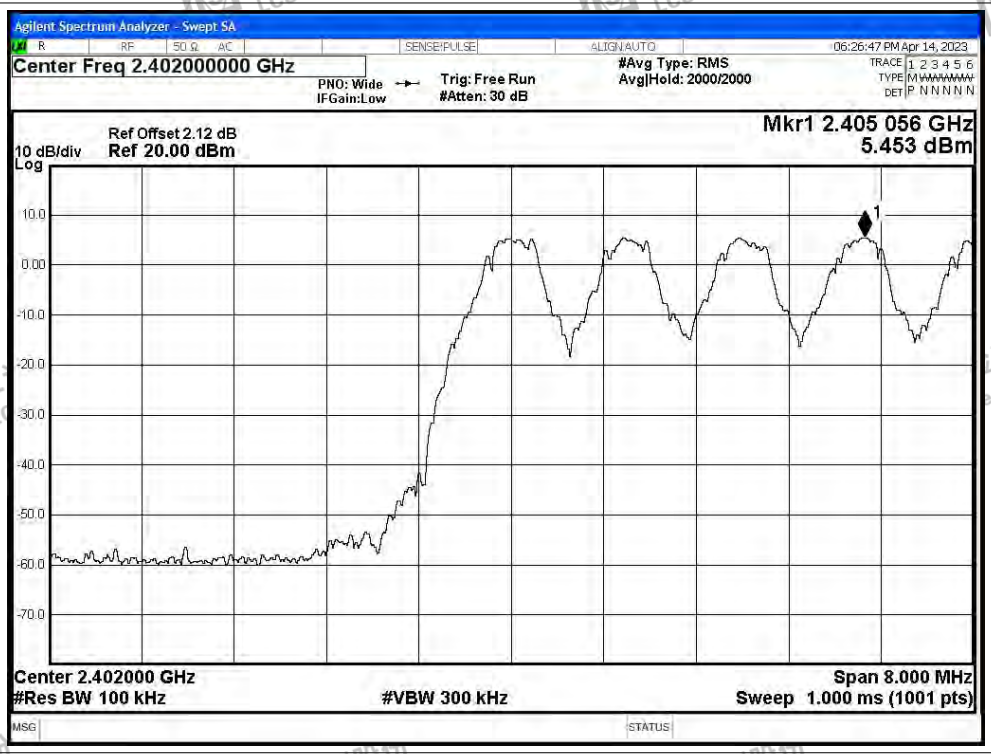


(Hopping)

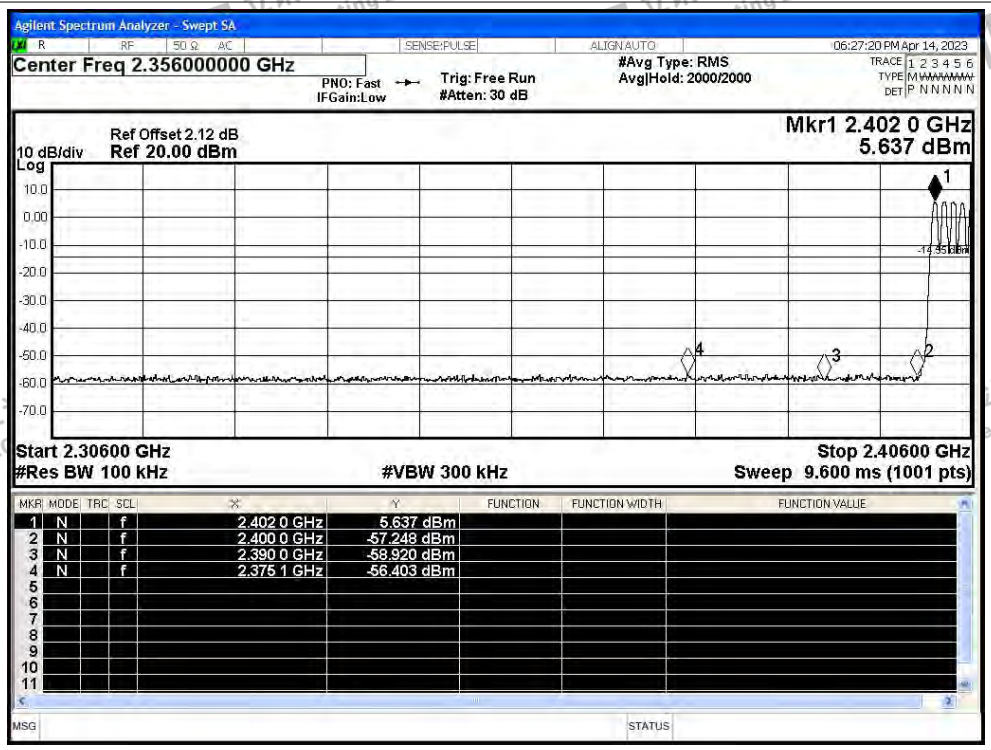
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-61.86	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-64.22	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-60.03	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-64.05	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-60.66	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-63.71	-20	Pass

Test Graphs

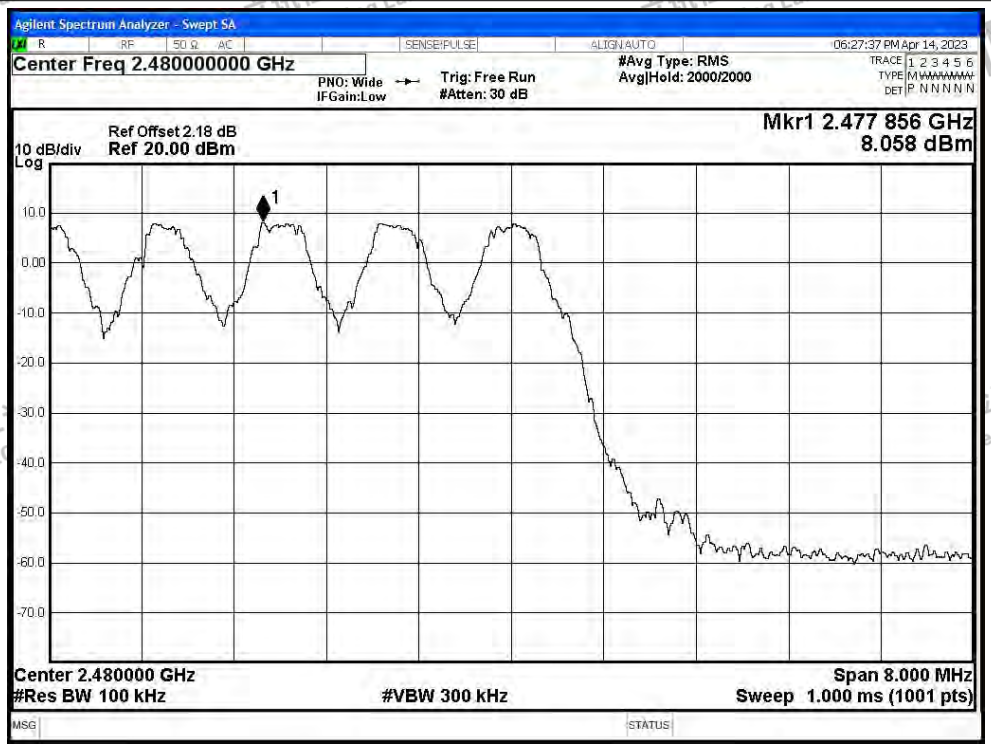
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



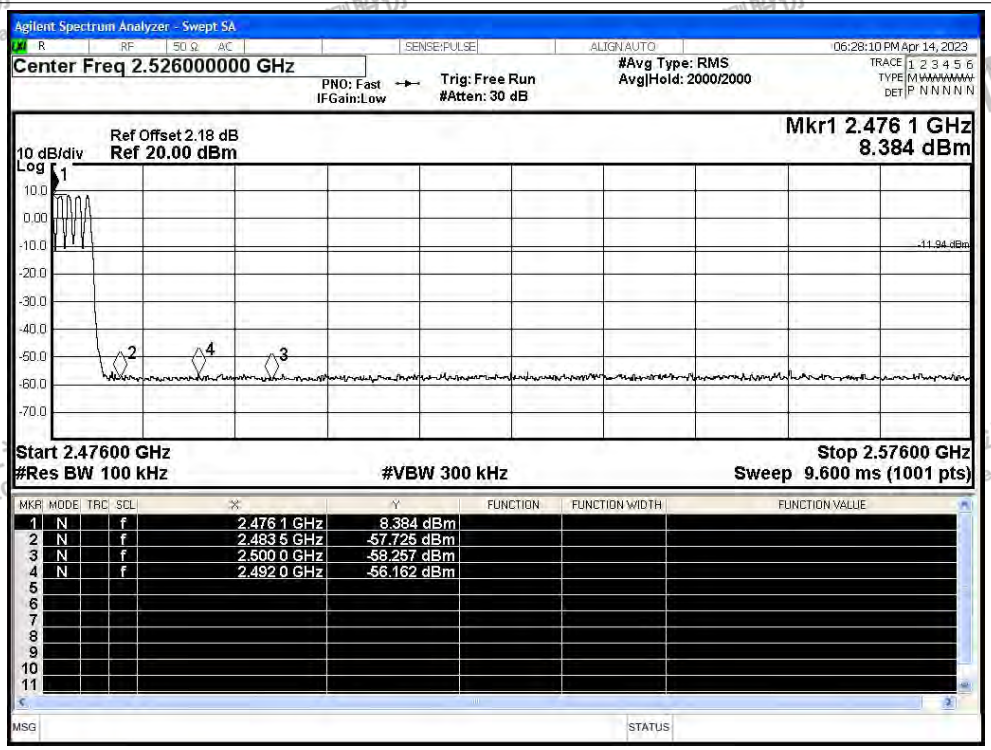
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



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

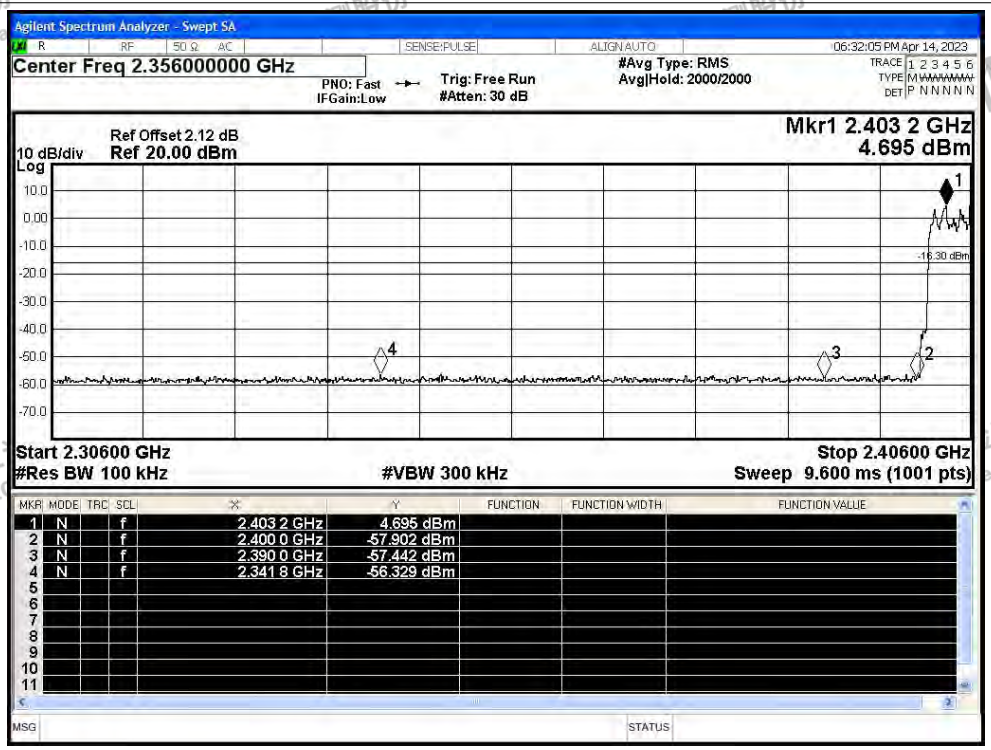


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission

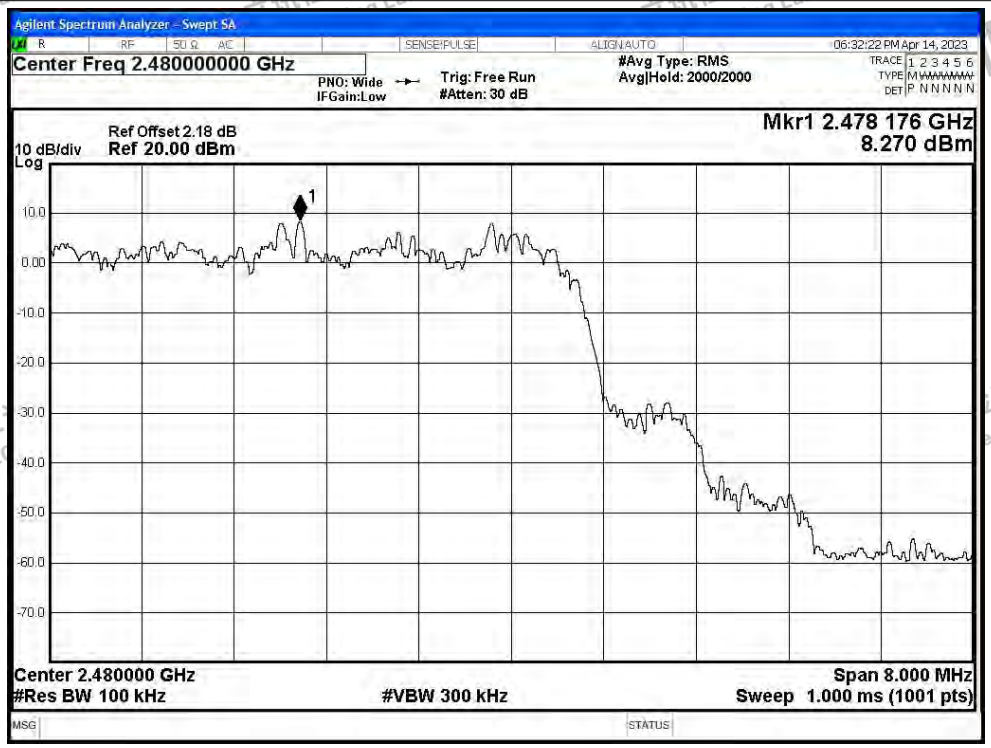


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

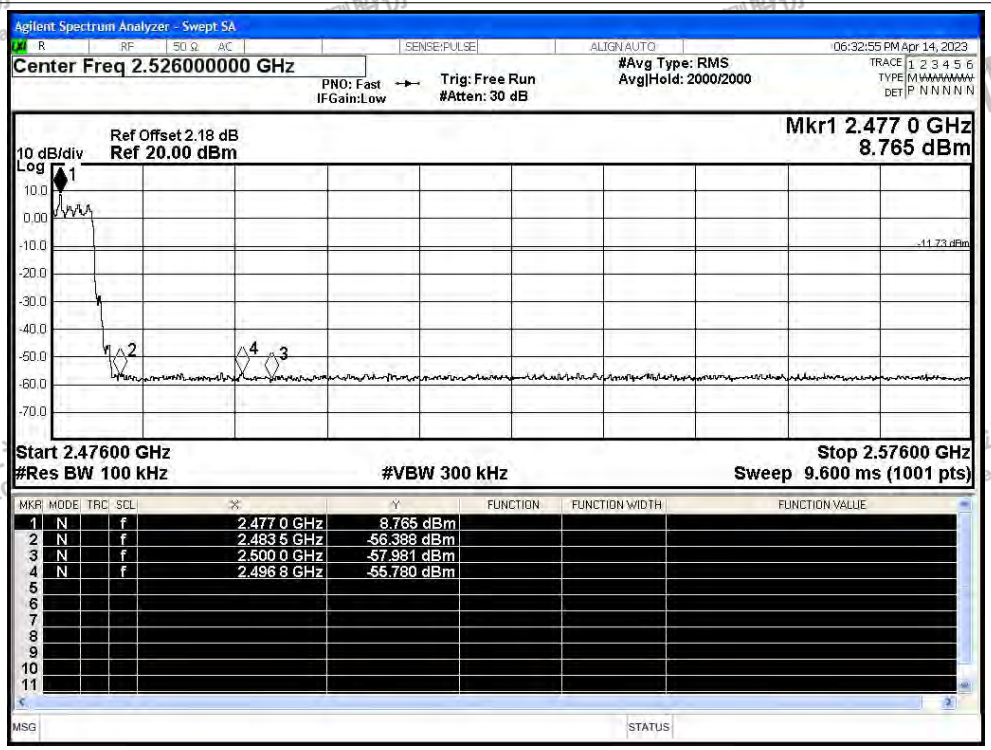
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



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

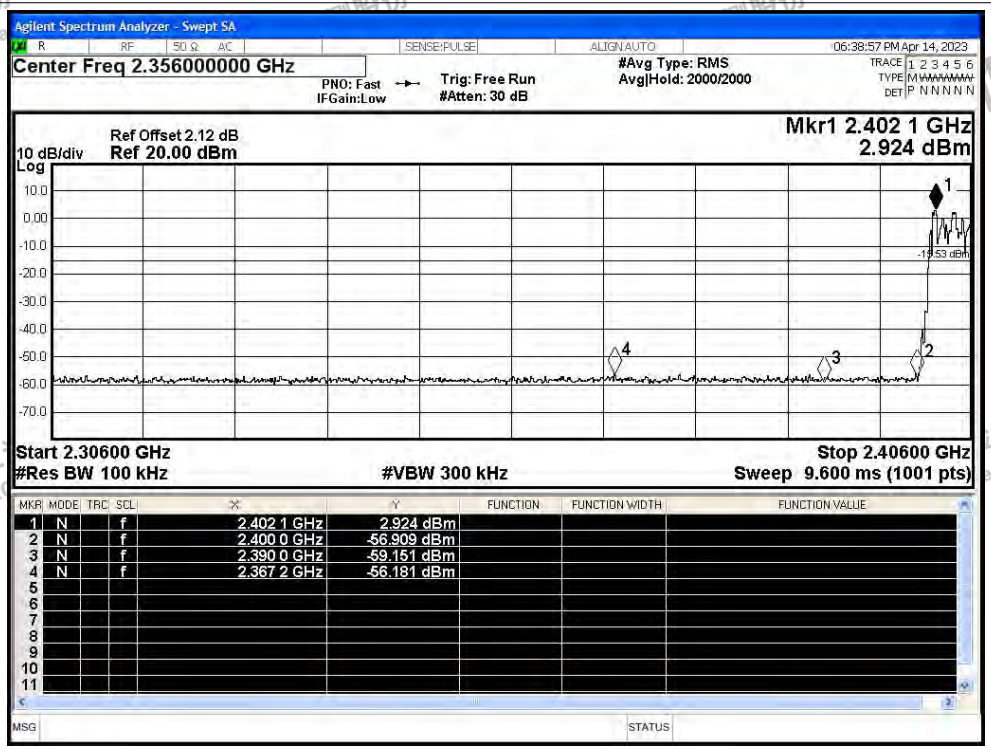


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission

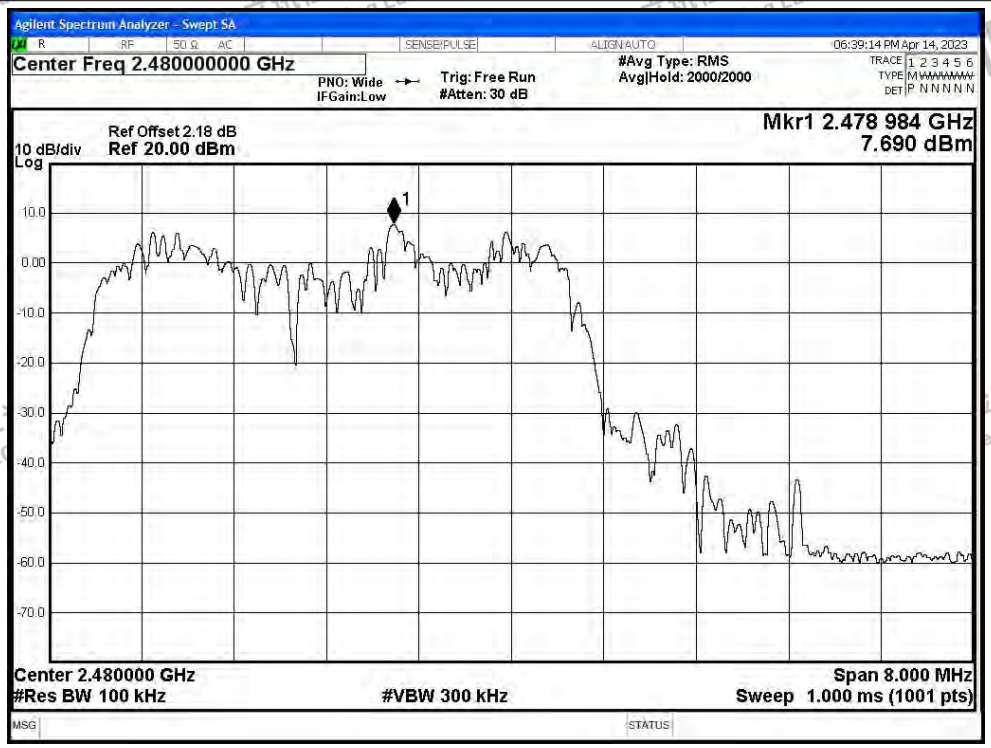


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

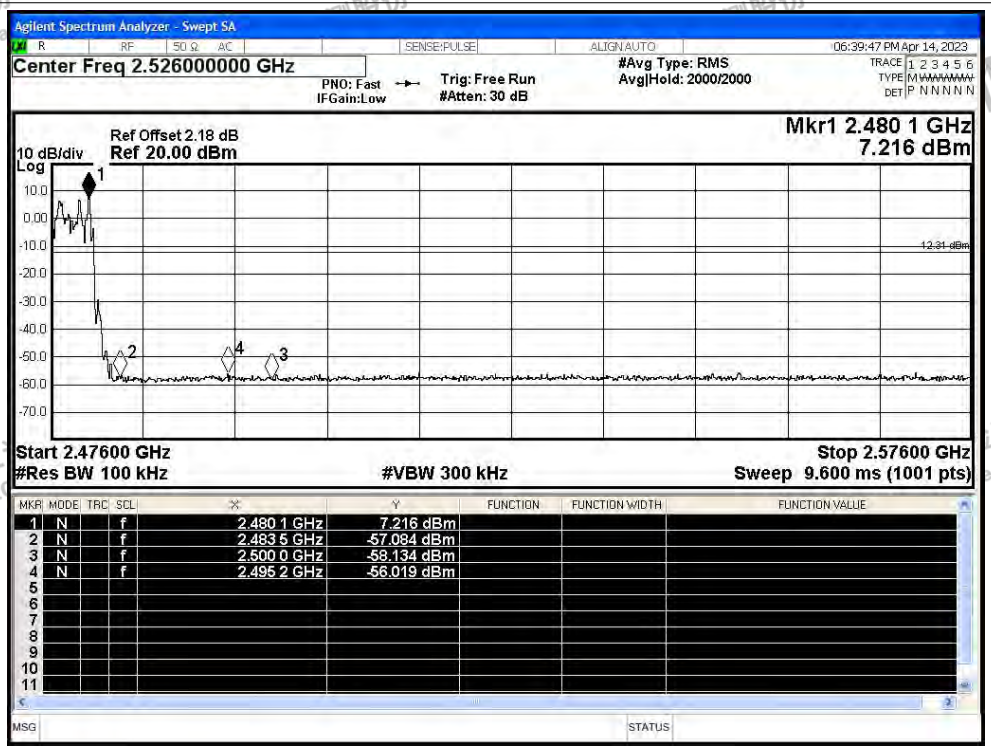
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



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



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

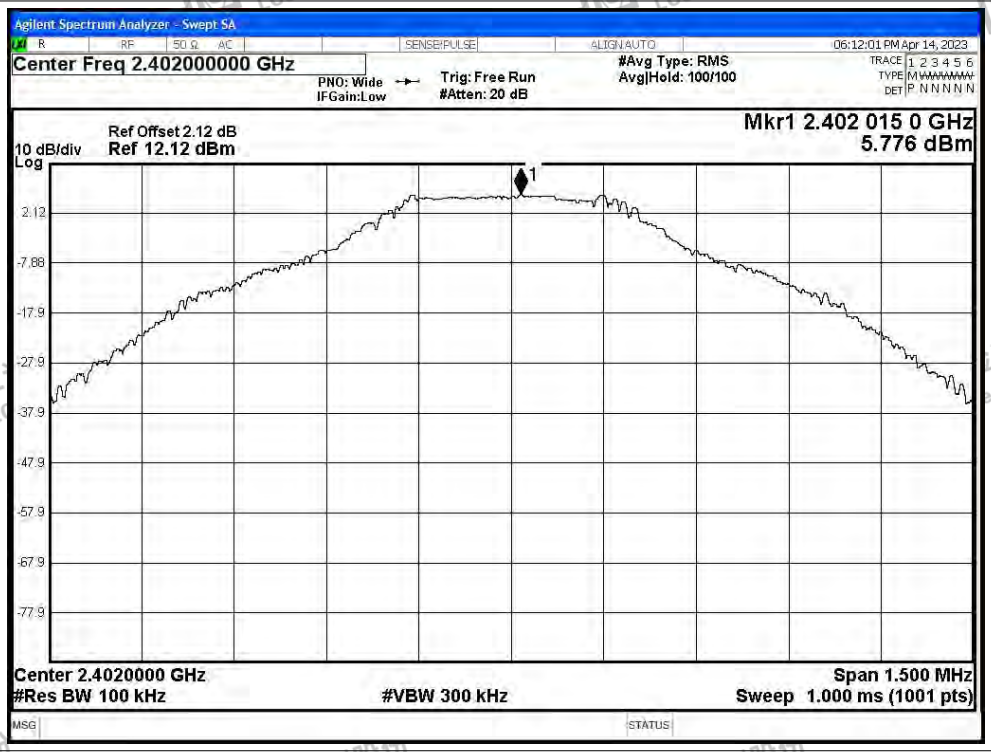


A.7 Conducted RF Spurious Emission

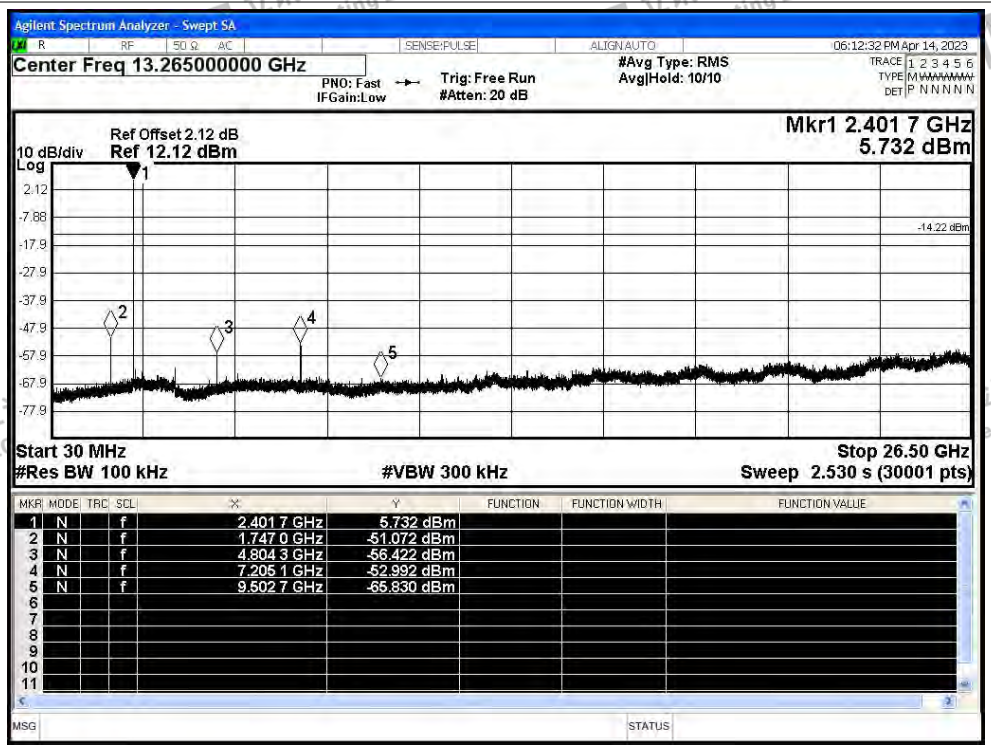
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-56.85	-20	Pass
NVNT	1-DH5	2441	Ant1	-62.59	-20	Pass
NVNT	1-DH5	2480	Ant1	-63.74	-20	Pass
NVNT	2-DH5	2402	Ant1	-59.96	-20	Pass
NVNT	2-DH5	2441	Ant1	-60.75	-20	Pass
NVNT	2-DH5	2480	Ant1	-64.16	-20	Pass
NVNT	3-DH5	2402	Ant1	-60.19	-20	Pass
NVNT	3-DH5	2441	Ant1	-61.63	-20	Pass
NVNT	3-DH5	2480	Ant1	-63.9	-20	Pass

Test Graphs

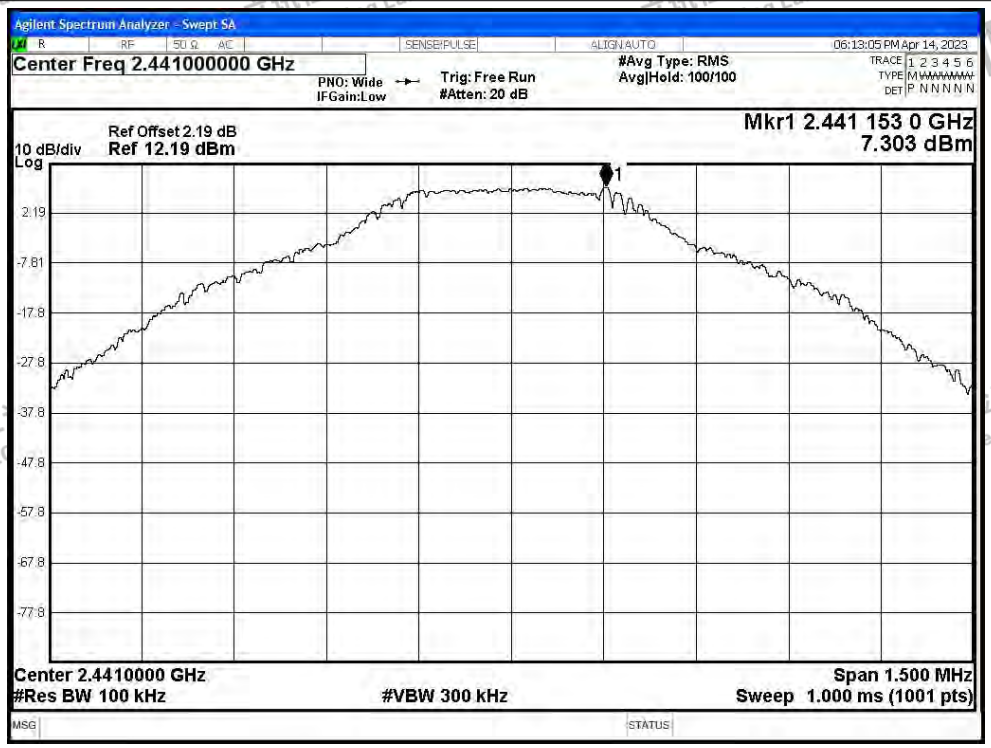
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



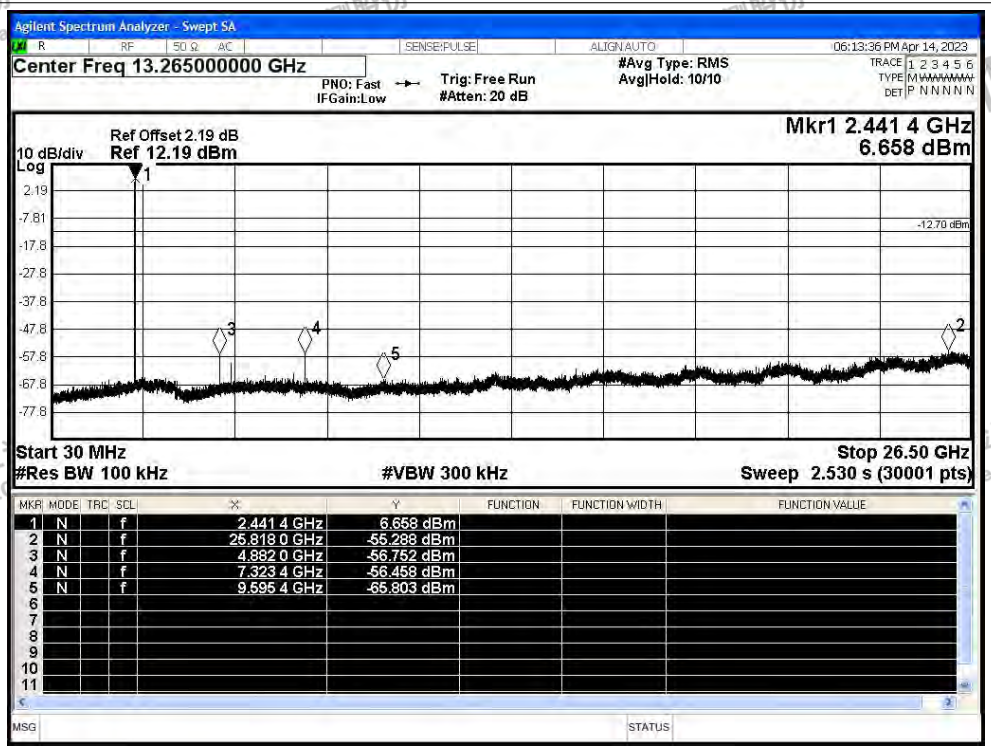
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



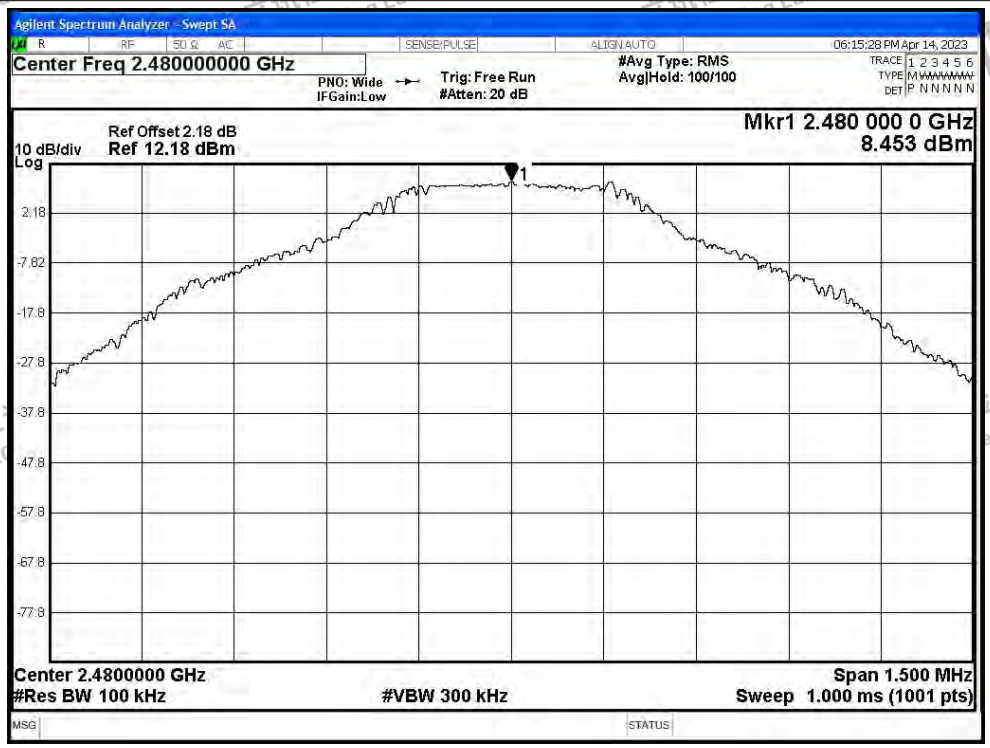
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



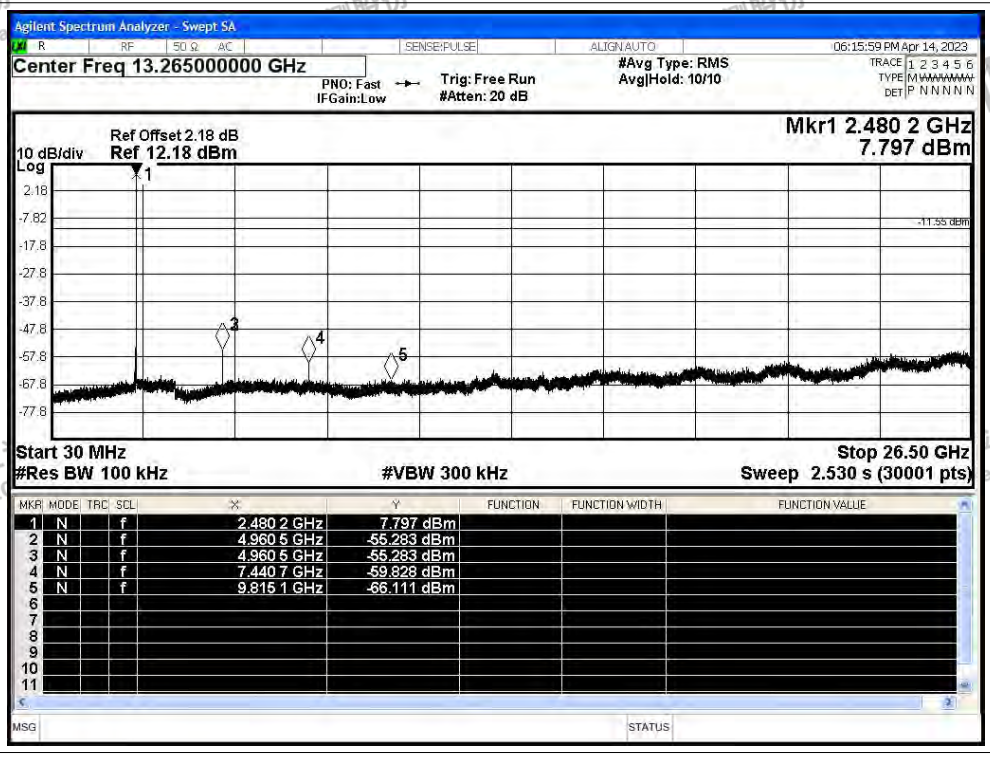
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



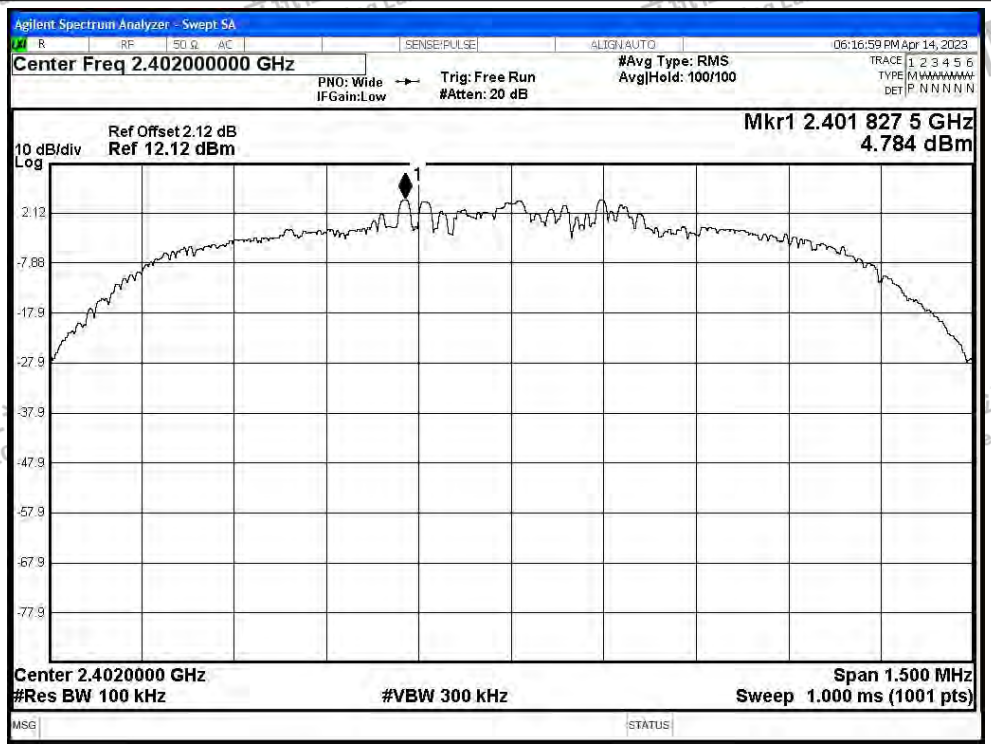
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



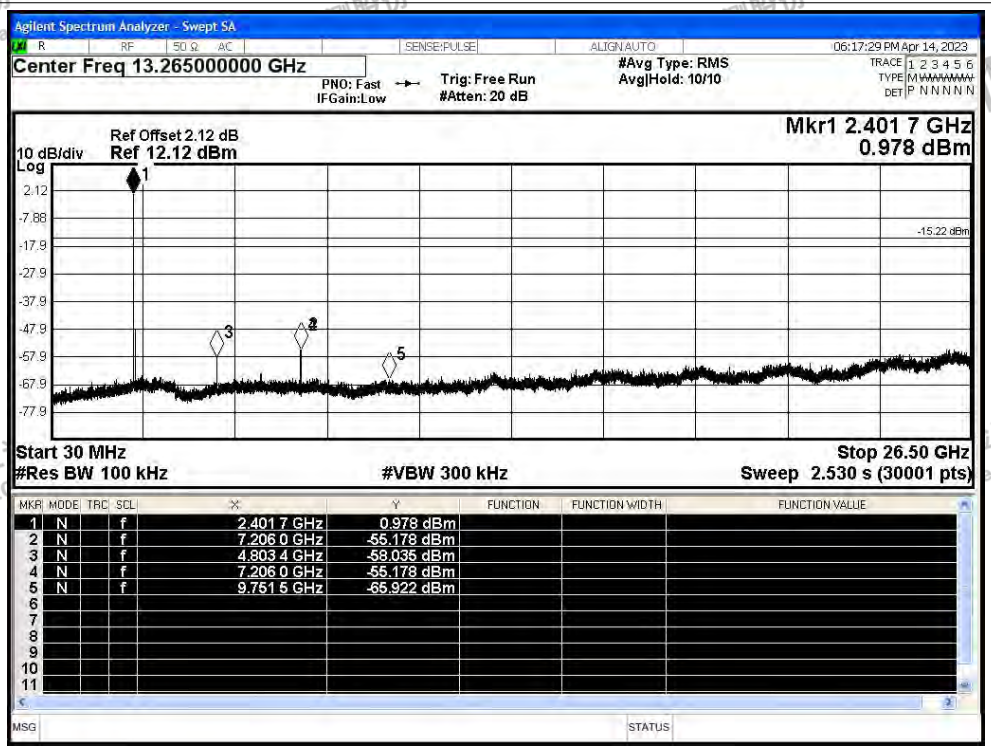
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



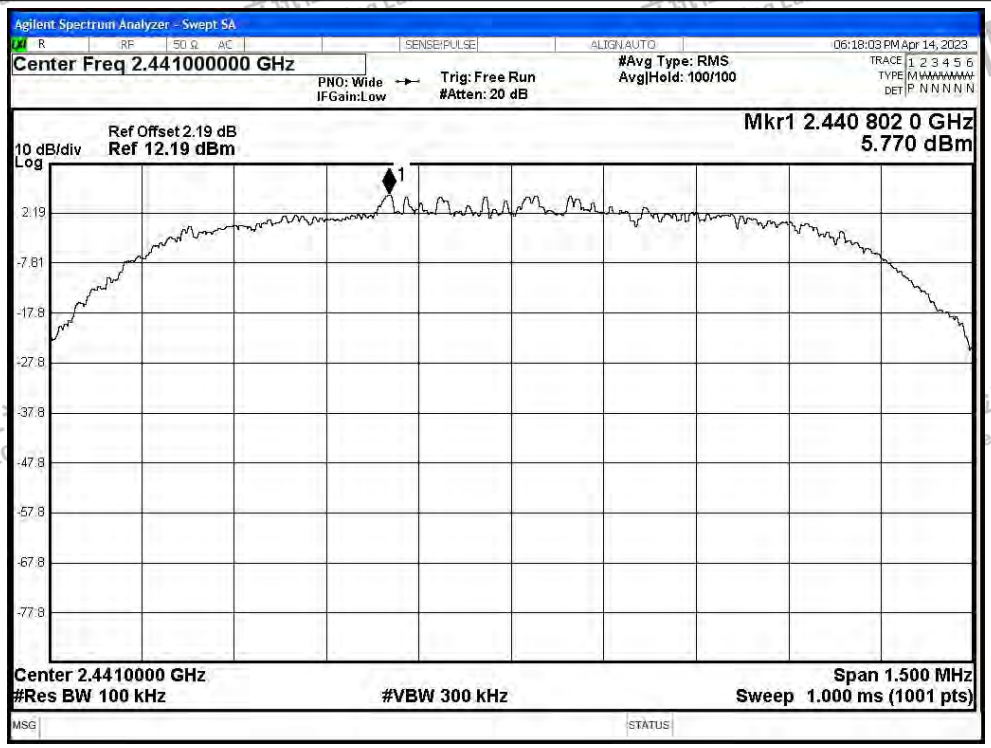
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



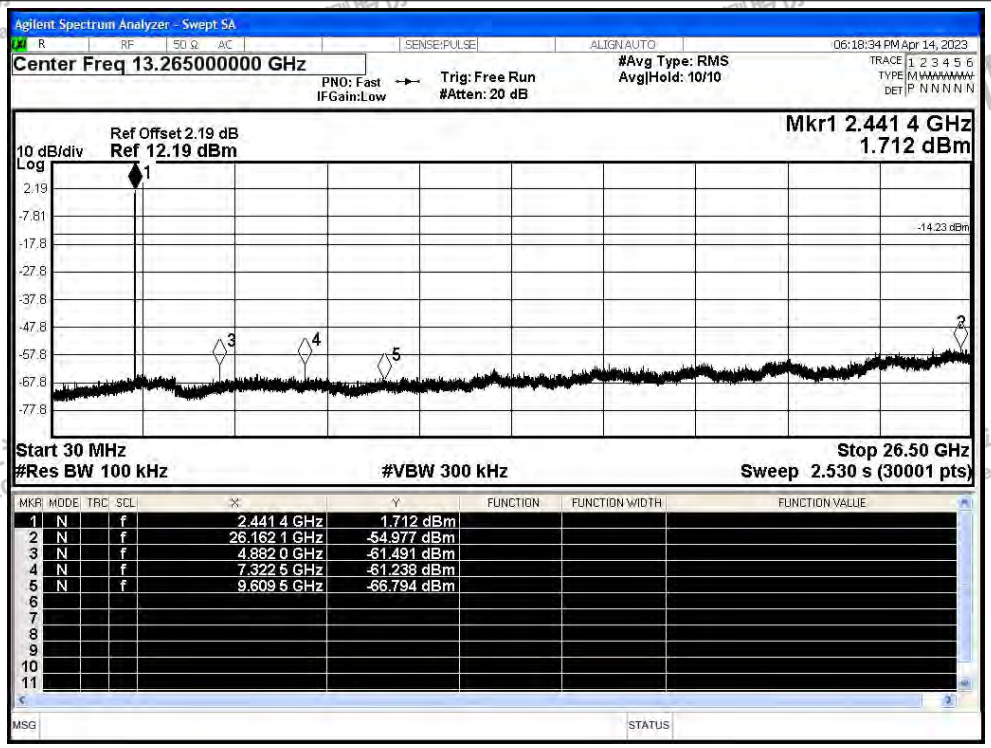
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



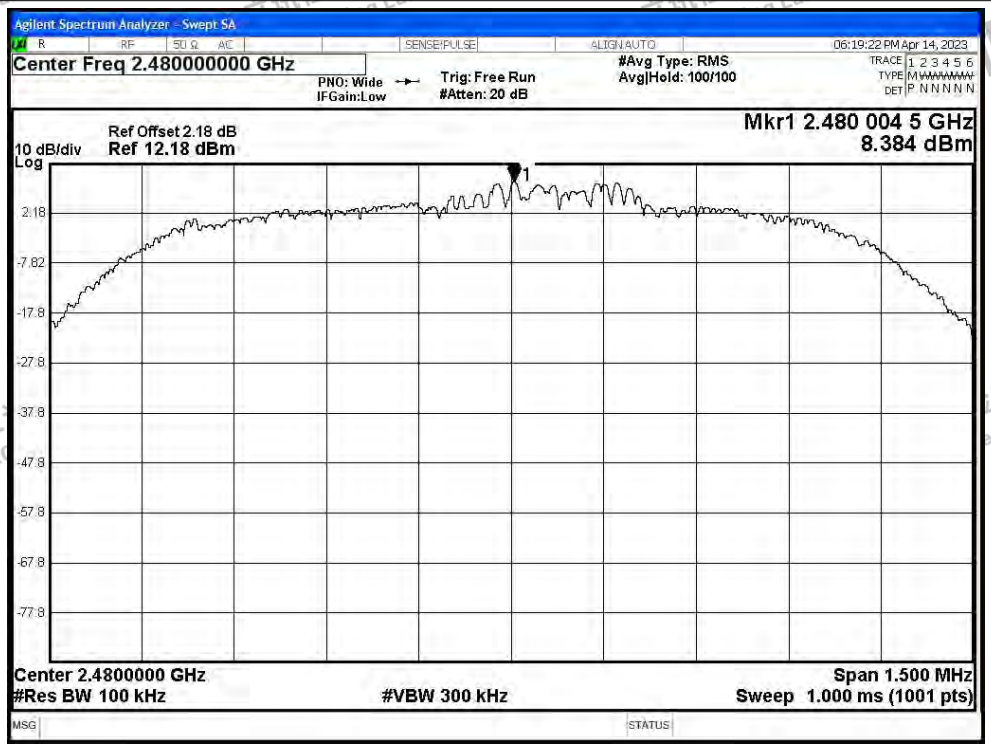
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



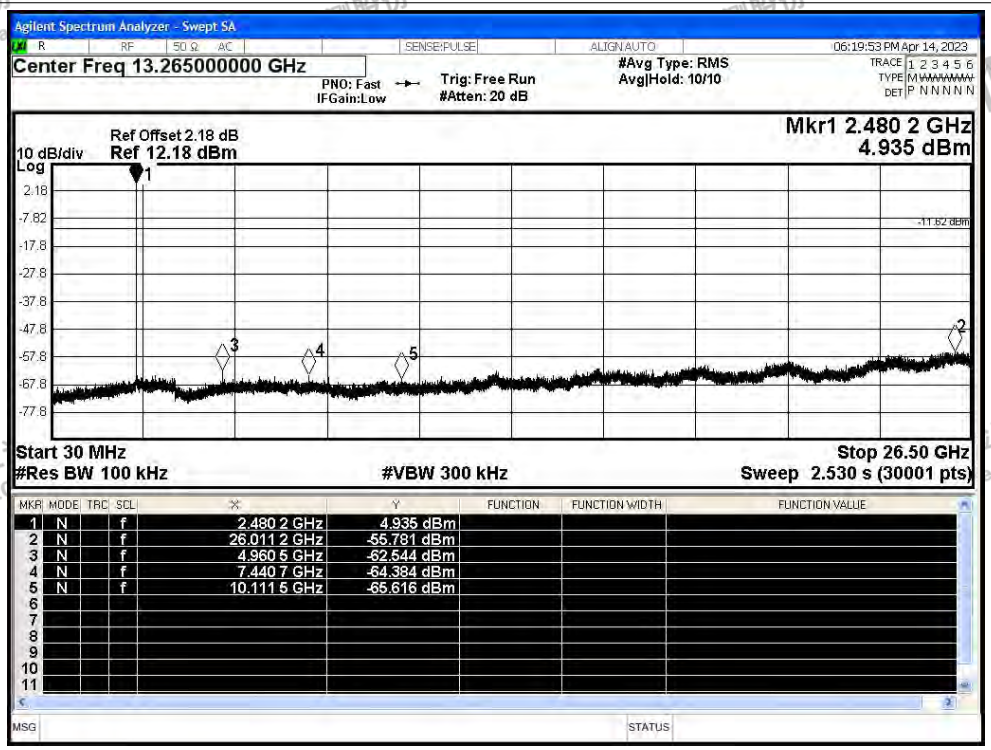
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



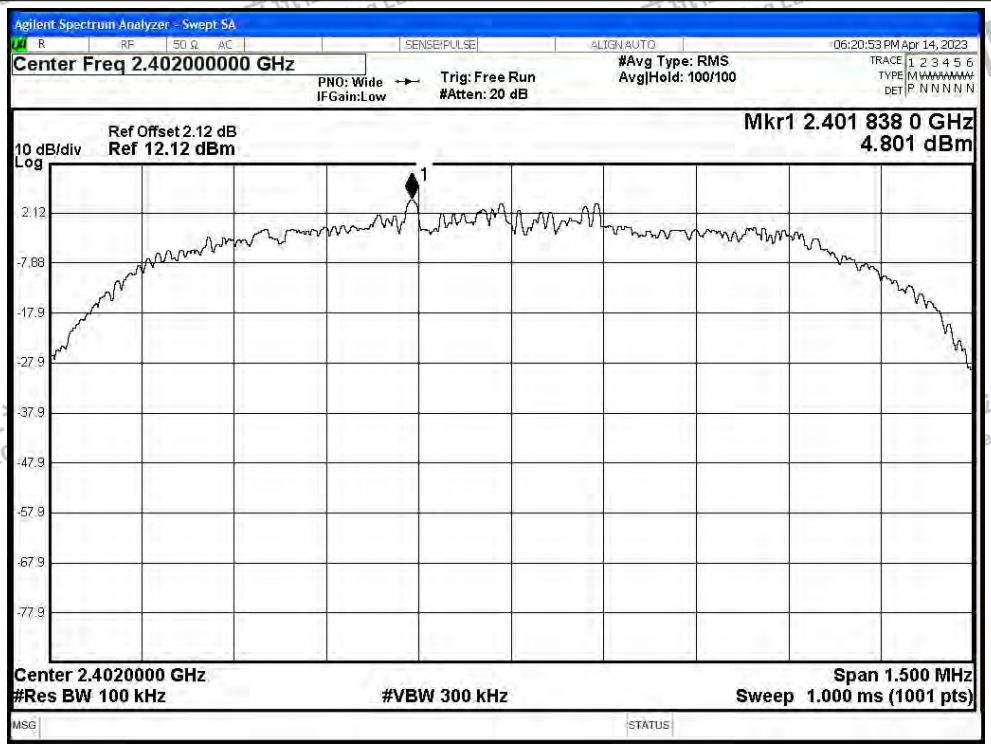
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



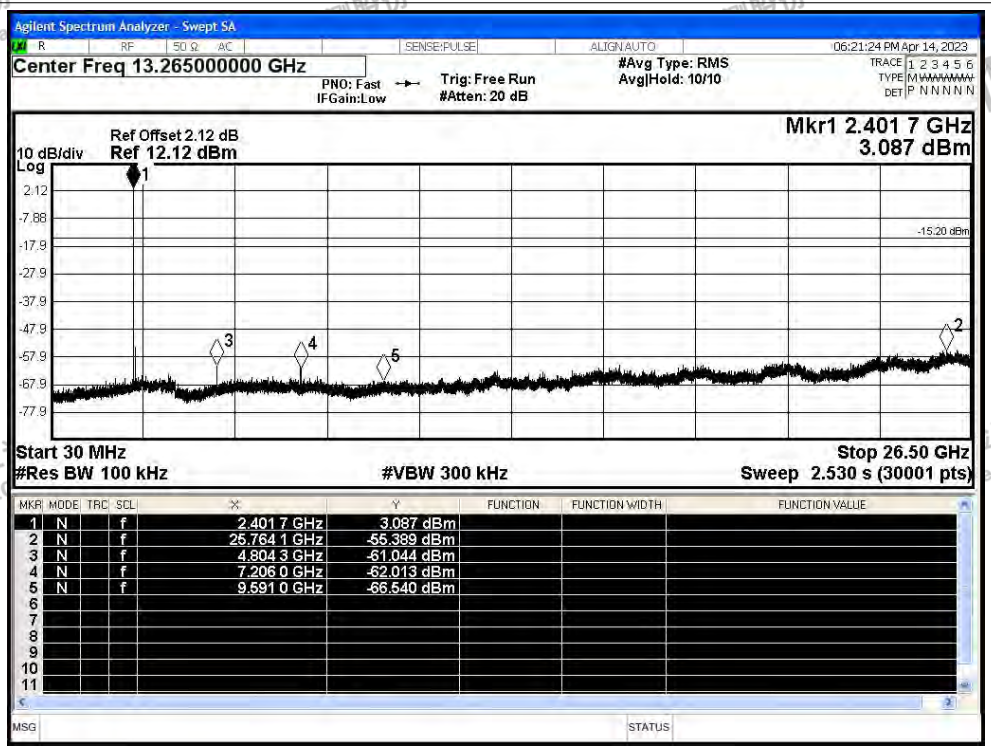
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref

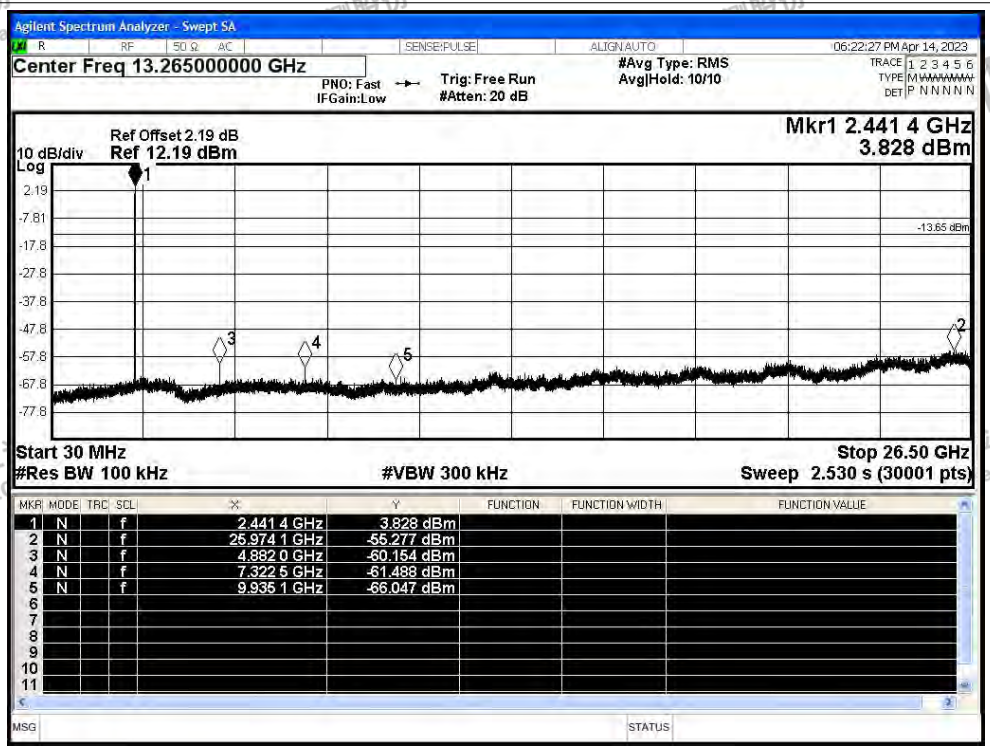


Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission

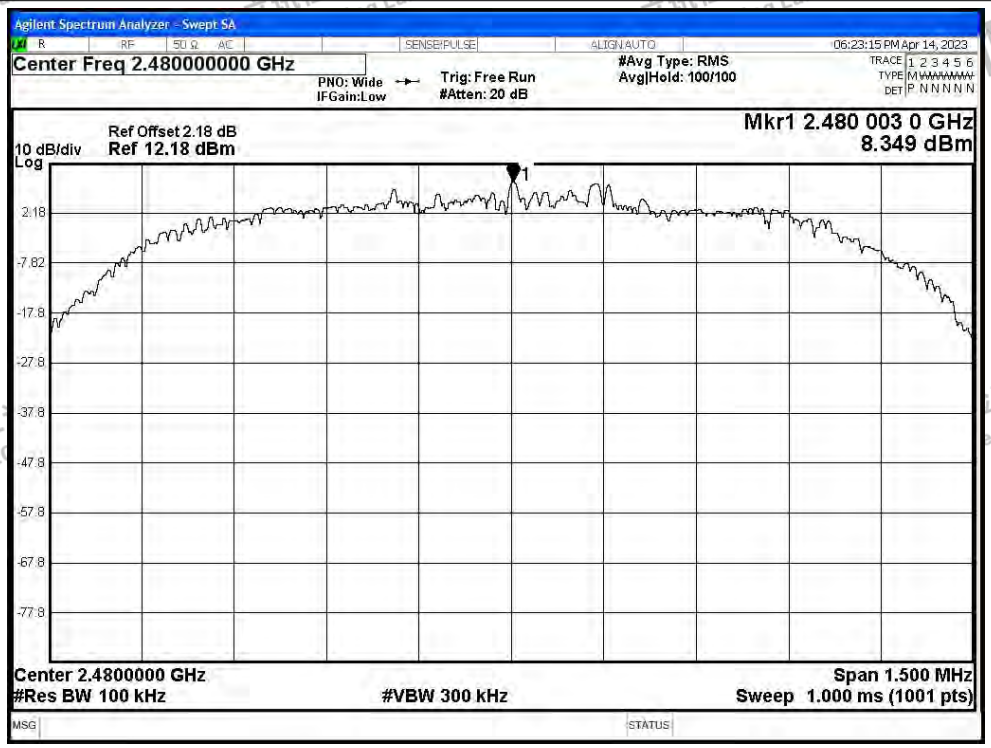


Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

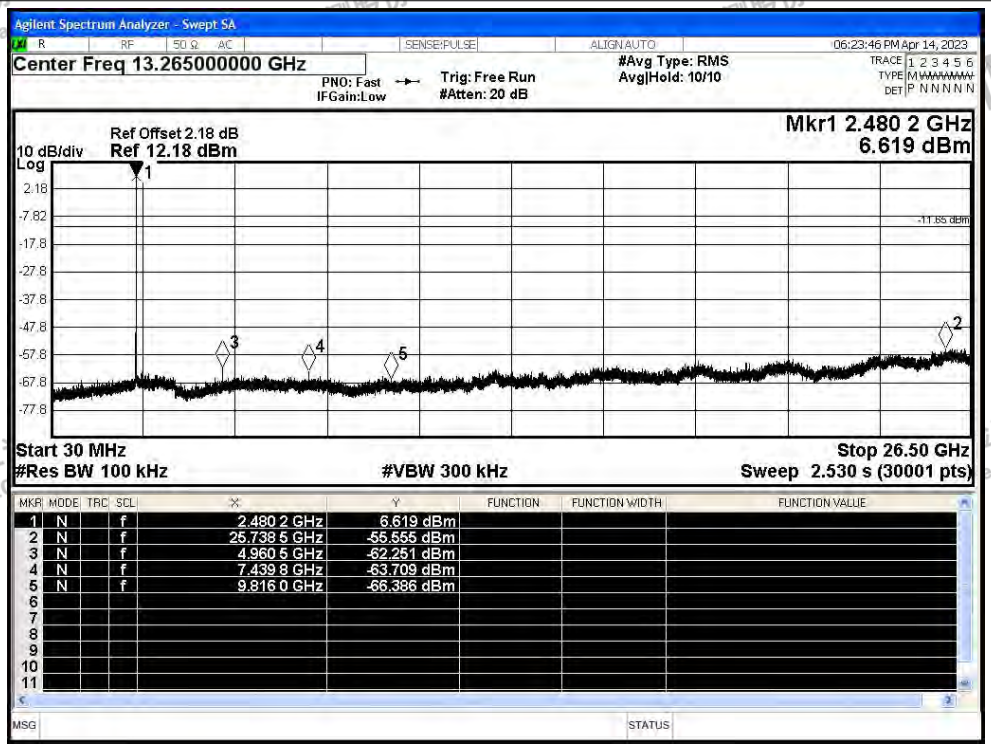
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

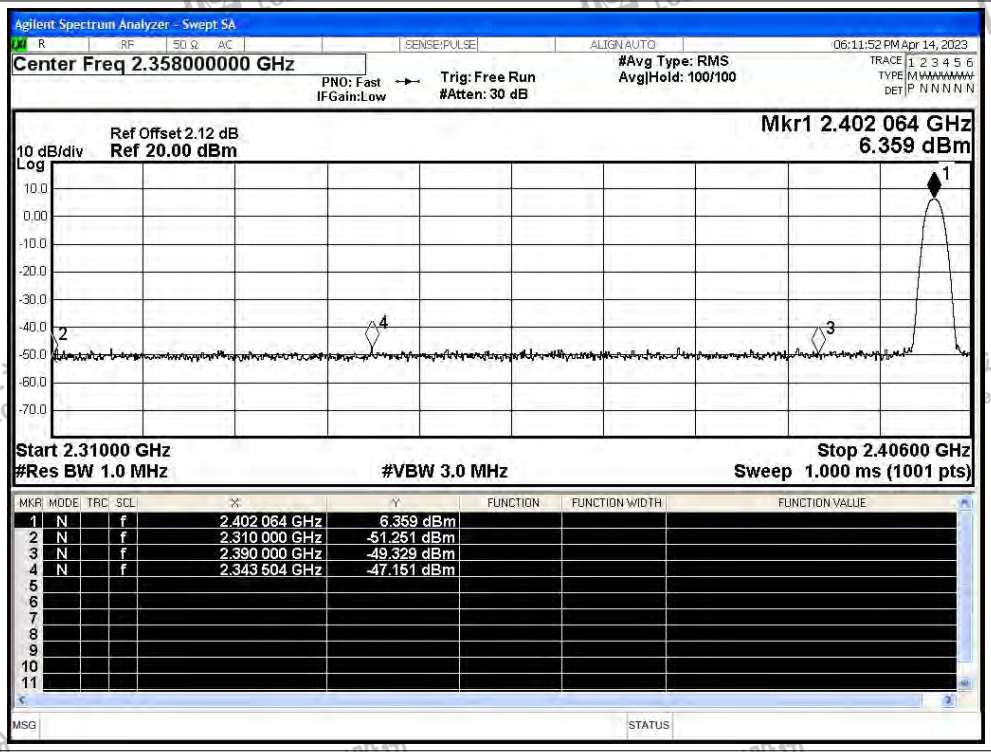


A.8 Restrict Band

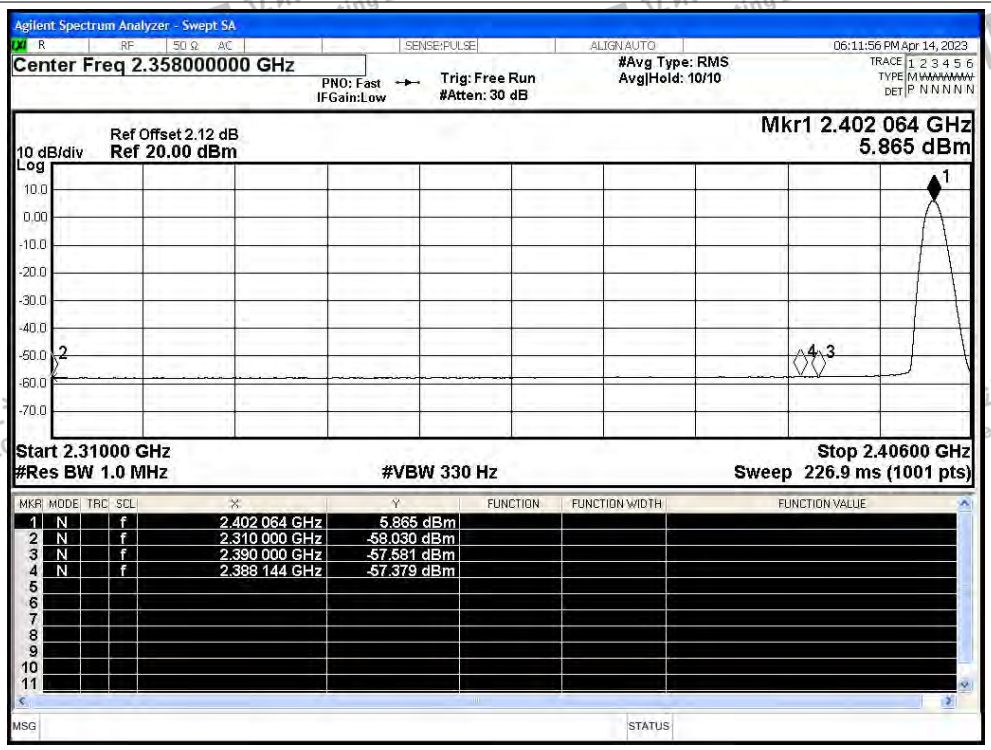
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-51.25	2	46.01	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.03	2	39.23	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2343.504	-47.15	2	50.11	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2388.144	-57.38	2	39.88	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-49.33	2	47.93	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-57.58	2	39.68	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-48.32	2	48.94	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-51.03	2	46.23	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.824	-46.04	2	51.22	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-51.03	2	46.23	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-48.04	2	49.22	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.09	2	40.17	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.4	2	46.86	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.04	2	39.22	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2385.744	-47.74	2	49.52	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2385.072	-57.4	2	39.86	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-49.13	2	48.13	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-57.46	2	39.8	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-45.83	2	51.43	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-49.82	2	47.44	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.824	-45.23	2	52.03	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-49.82	2	47.44	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.42	2	47.84	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.11	2	40.15	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-51.96	2	45.3	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-57.83	2	39.43	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2351.568	-47.07	2	50.19	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2389.2	-57.39	2	39.87	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-50.3	2	46.96	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-57.52	2	39.74	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-46.78	2	50.48	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-49.75	2	47.51	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.584	-45.2	2	52.06	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-49.75	2	47.51	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-51.42	2	45.84	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-57.12	2	40.14	Average	54	Pass

Test Graphs

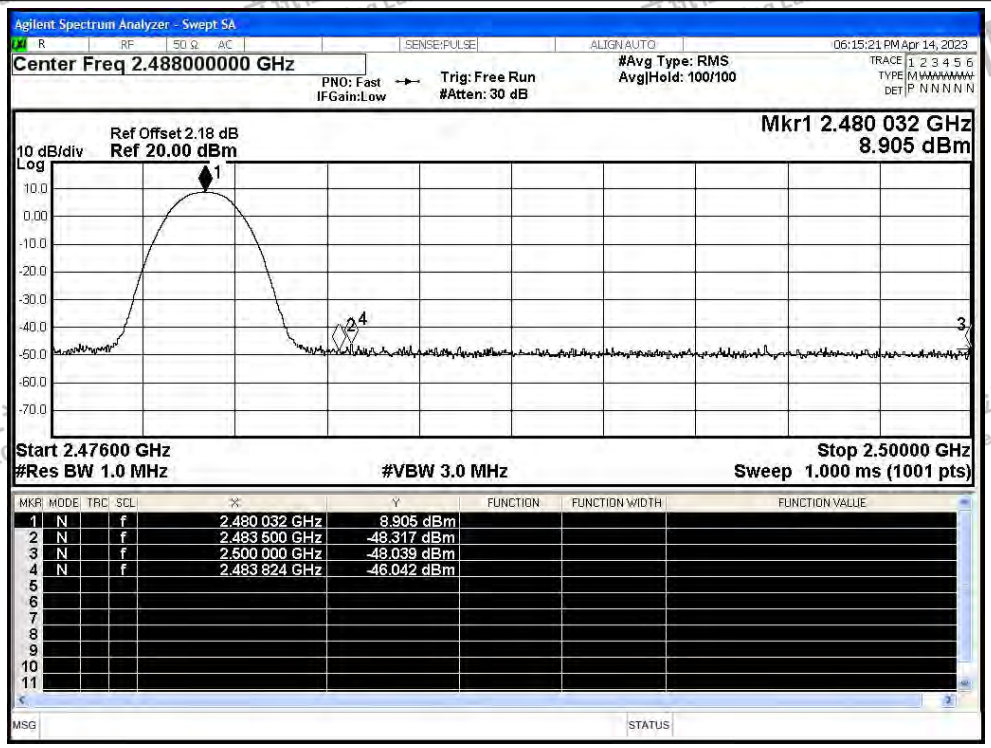
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



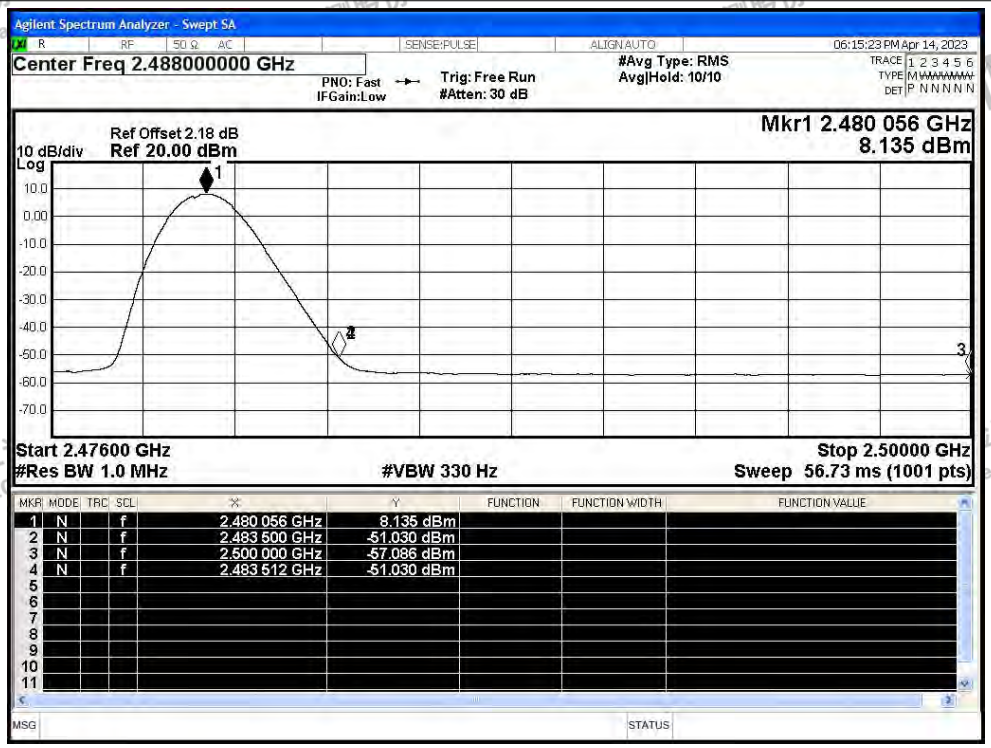
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



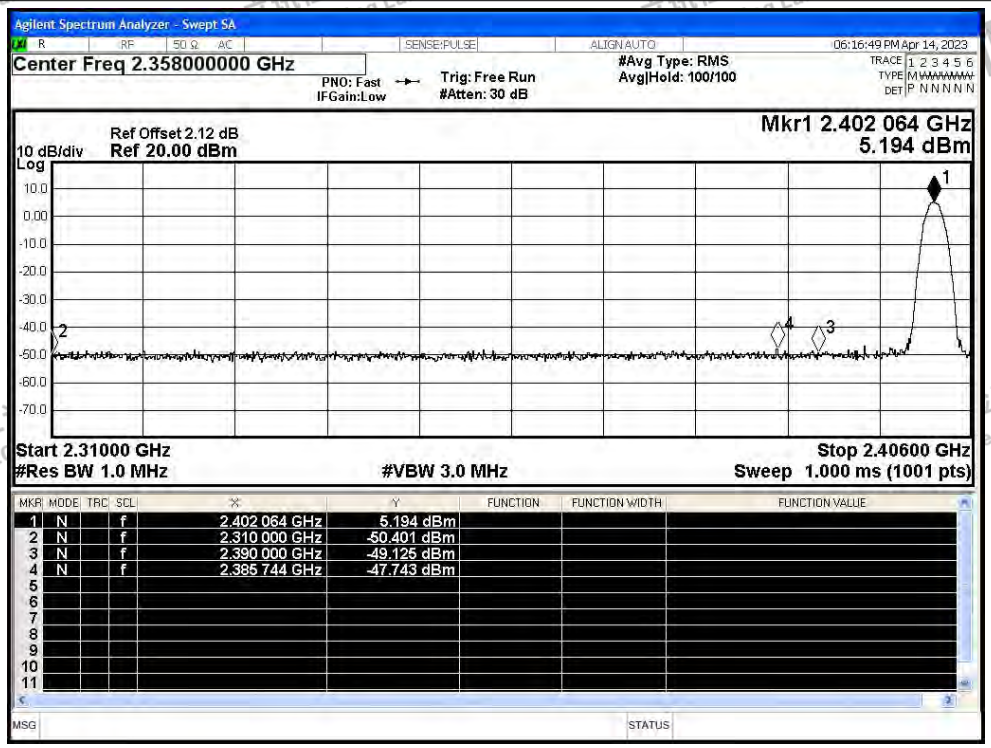
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



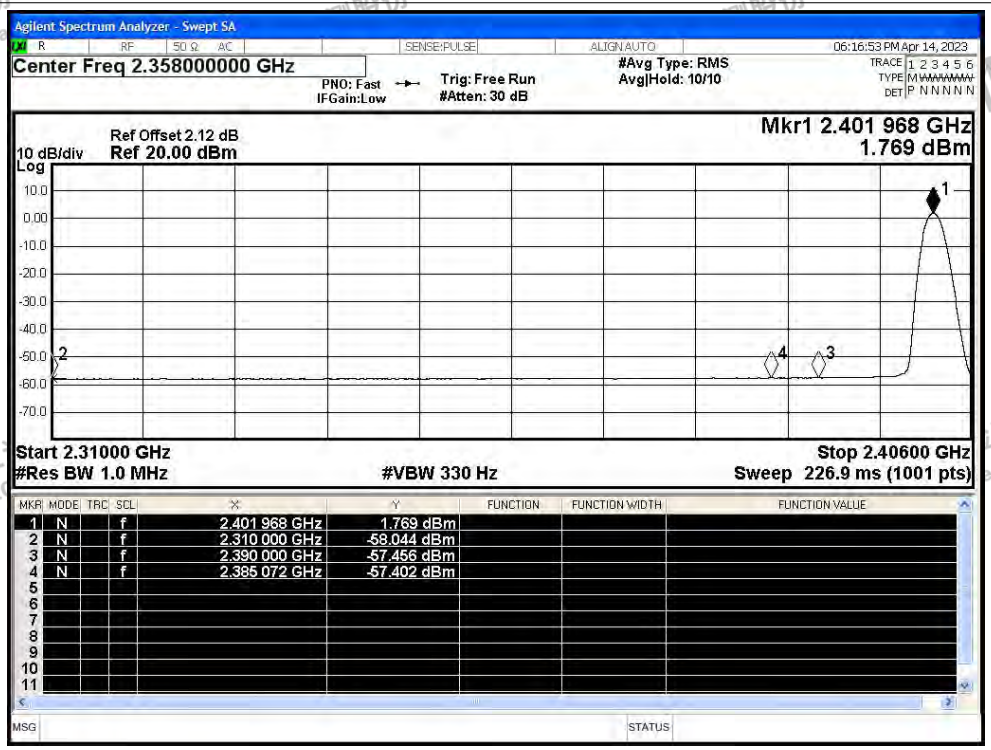
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



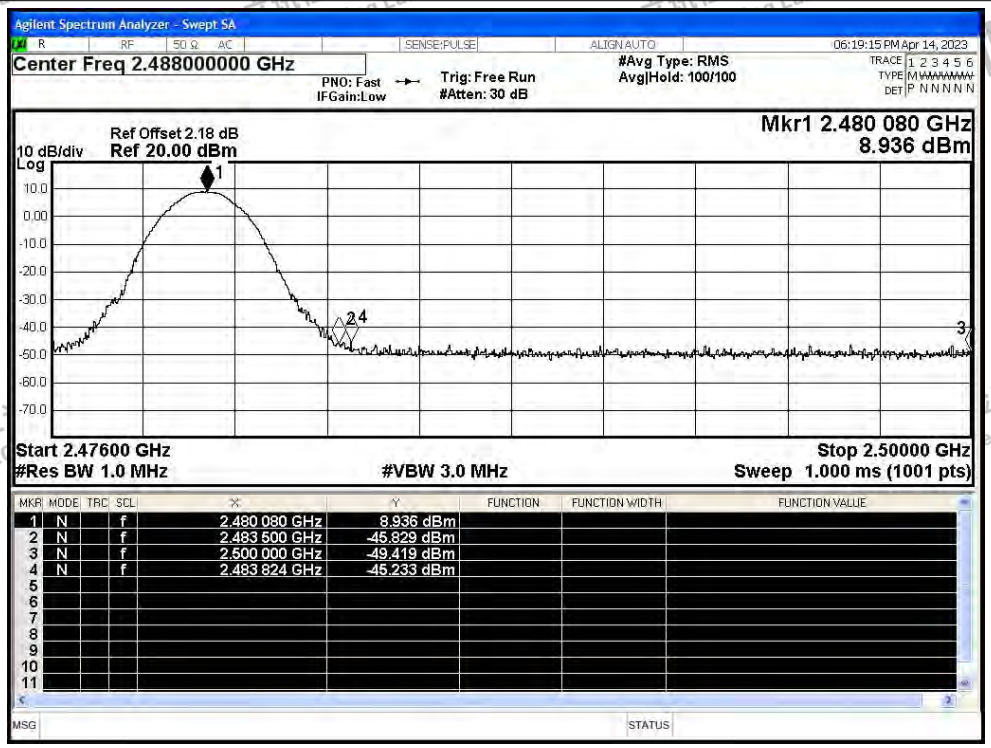
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



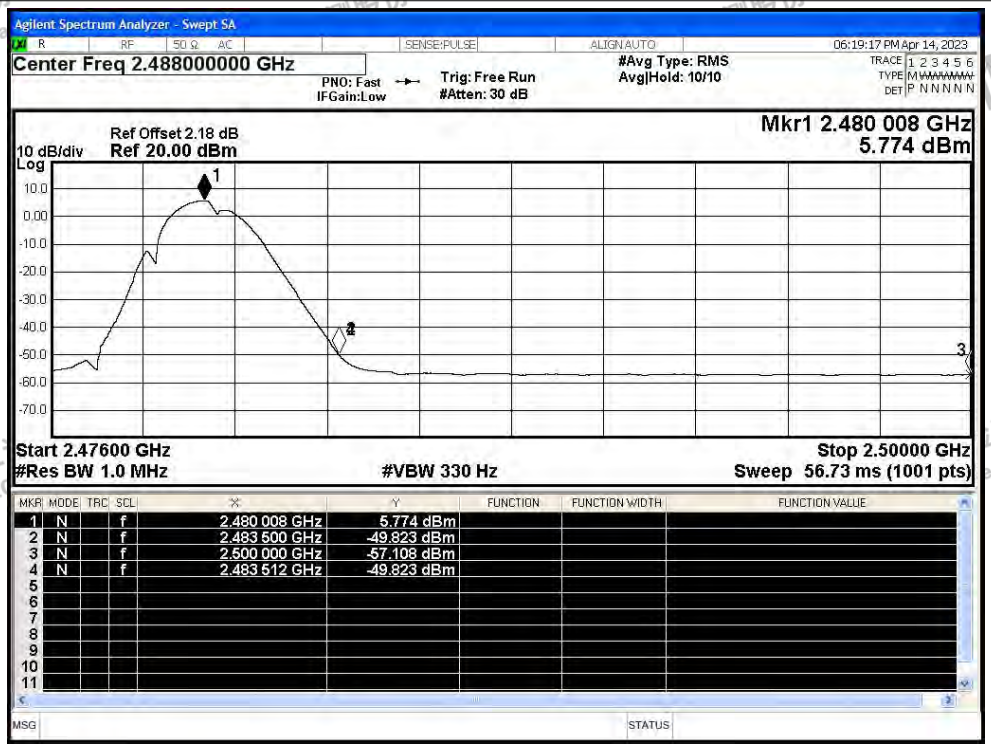
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



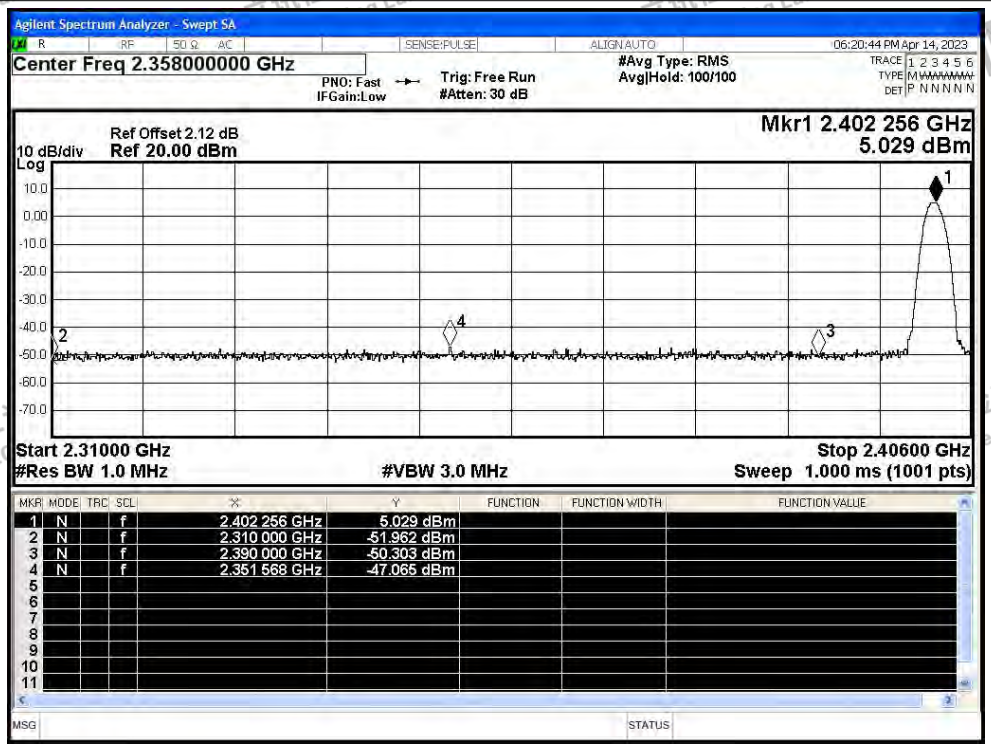
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



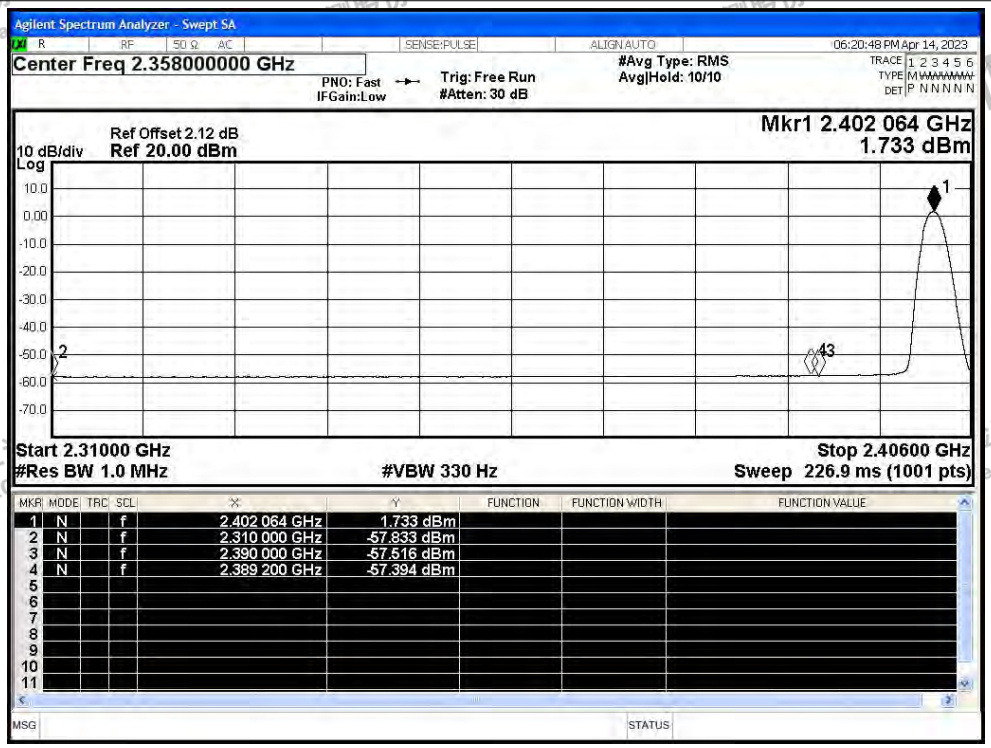
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



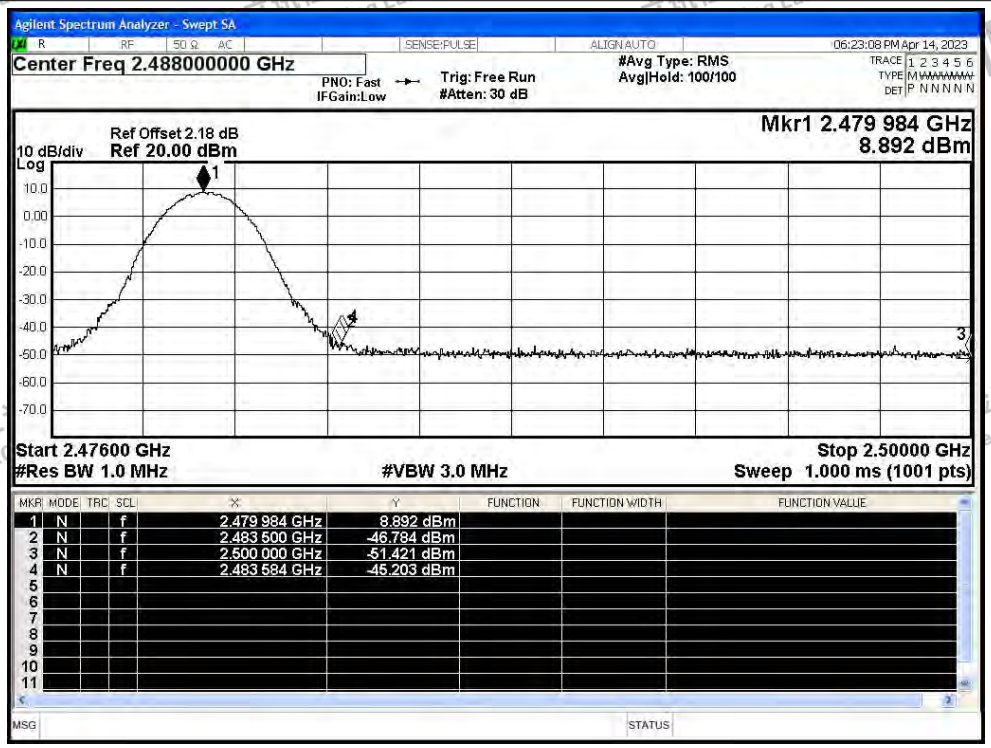
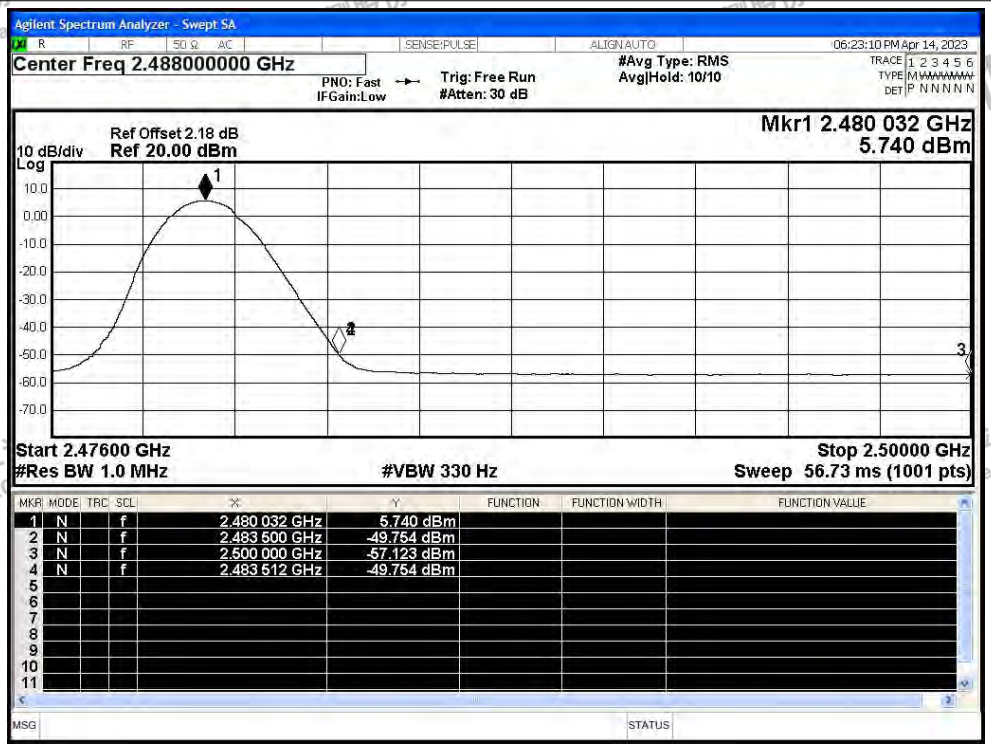
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



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



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Average