Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Smart TV Box

Test Model: T9W

Environmental Conditions

Temperature:	23.1° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Joker Hu
Supervised by:	Jack Cheng

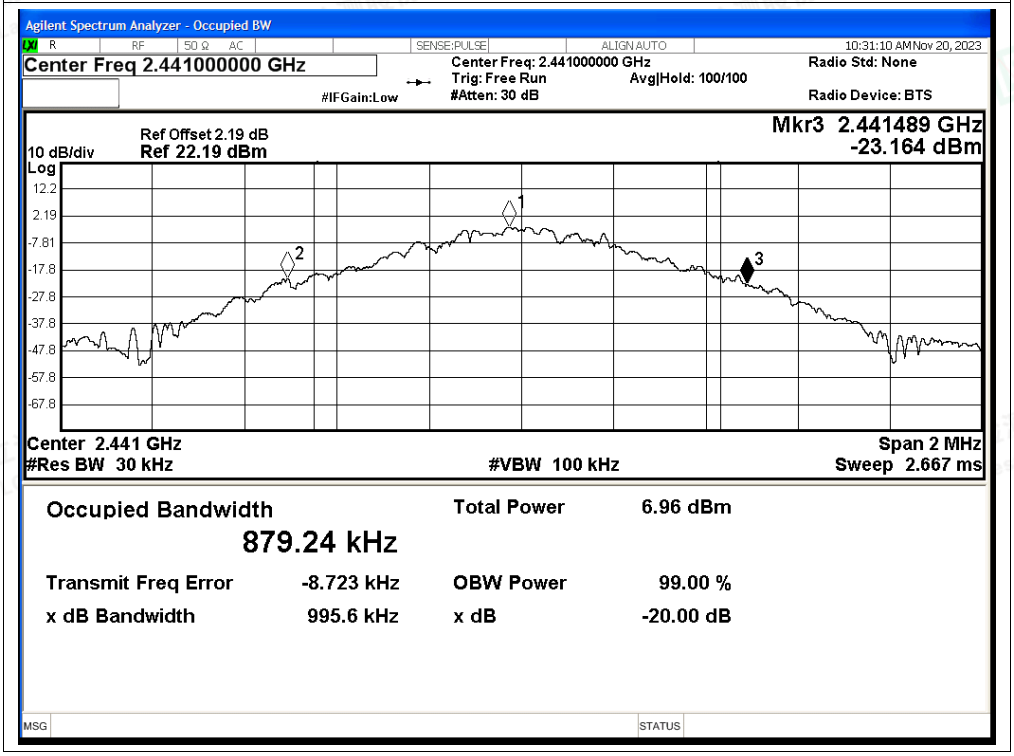
A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant0	0.973	N/A	Pass
NVNT	1-DH5	2441	Ant0	0.996	N/A	Pass
NVNT	1-DH5	2480	Ant0	0.942	N/A	Pass
NVNT	2-DH5	2402	Ant0	1.283	N/A	Pass
NVNT	2-DH5	2441	Ant0	1.317	N/A	Pass
NVNT	2-DH5	2480	Ant0	1.284	N/A	Pass
NVNT	3-DH5	2402	Ant0	1.297	N/A	Pass
NVNT	3-DH5	2441	Ant0	1.291	N/A	Pass
NVNT	3-DH5	2480	Ant0	1.287	N/A	Pass

Test Graphs

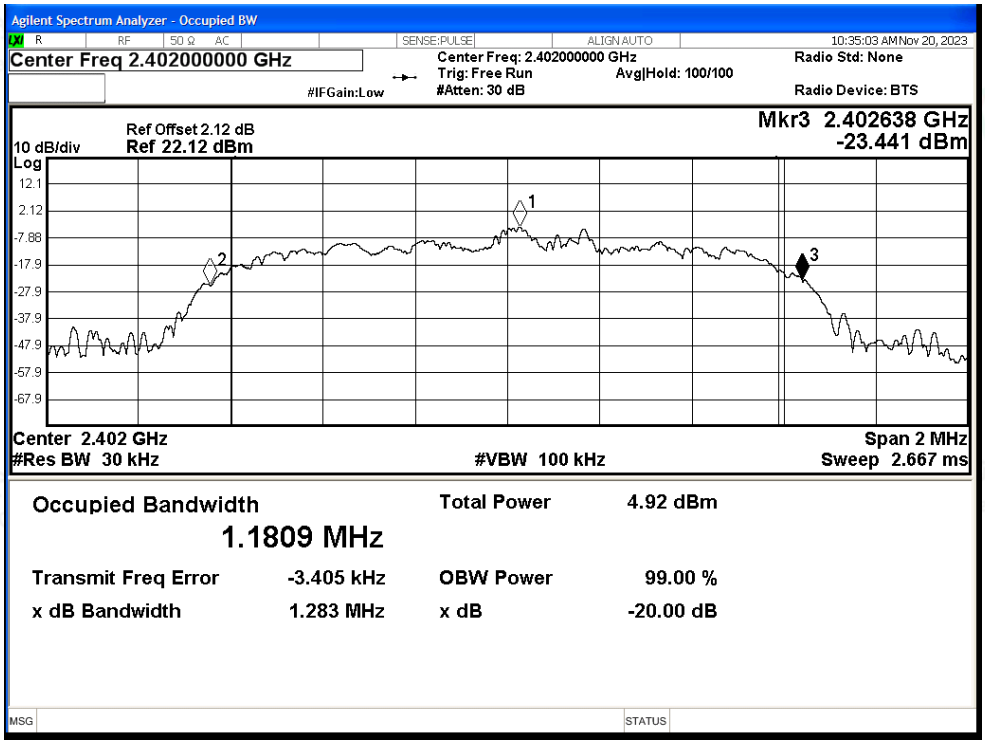
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant0

-20dB Bandwidth NVNT 1-DH5 2441MHz Ant0

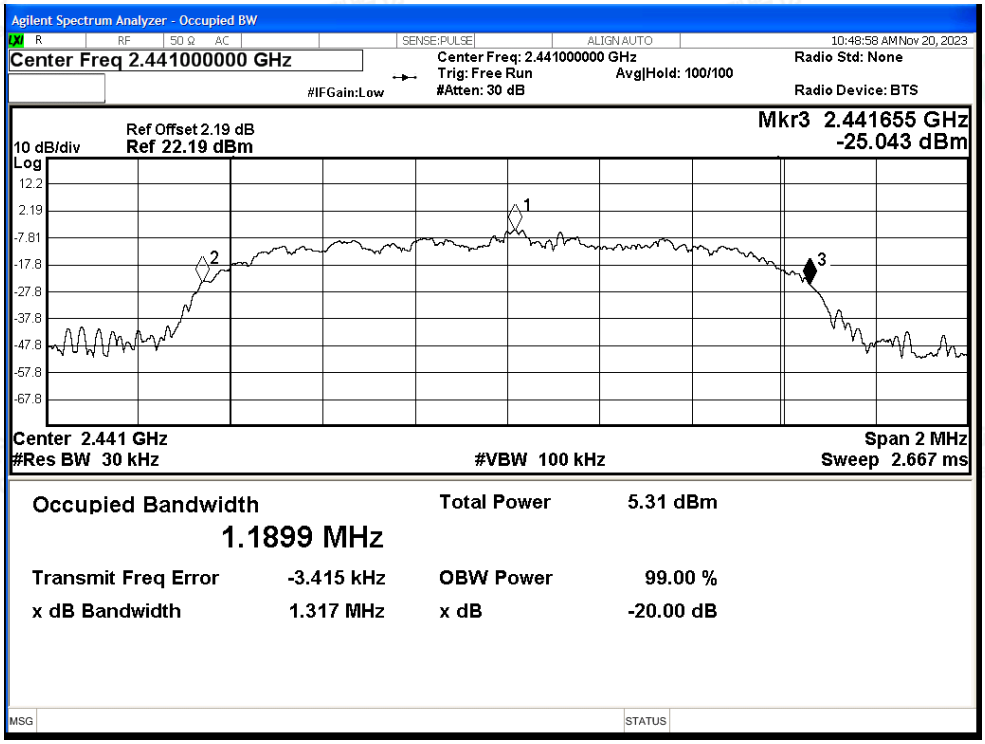


-20dB Bandwidth NVNT 1-DH5 2480MHz Ant0

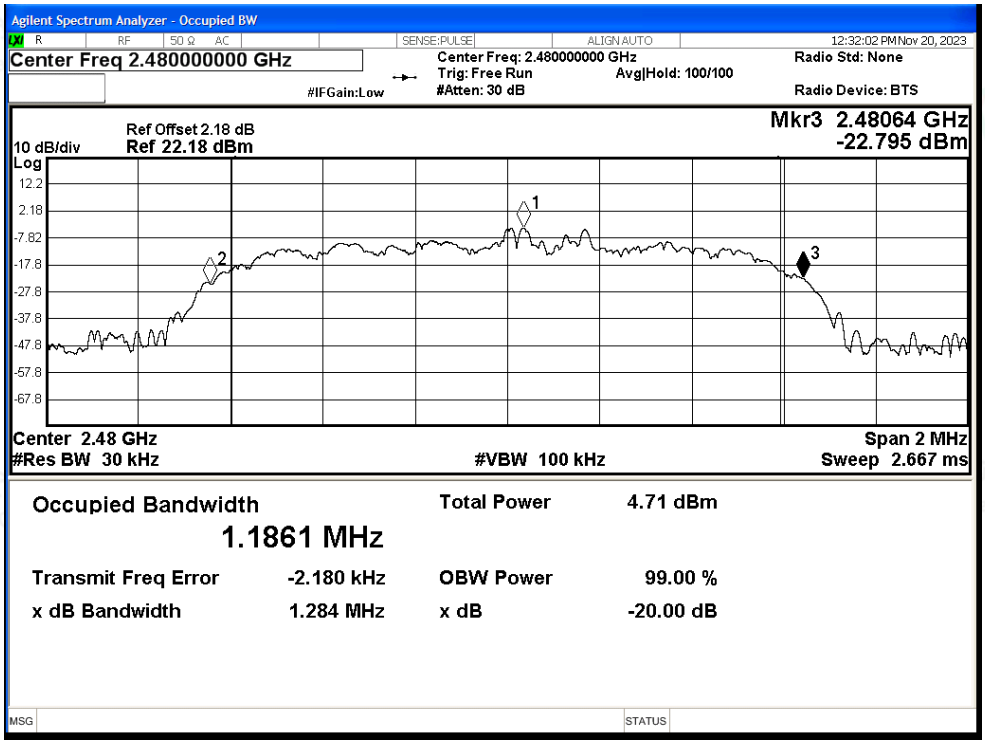
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant0



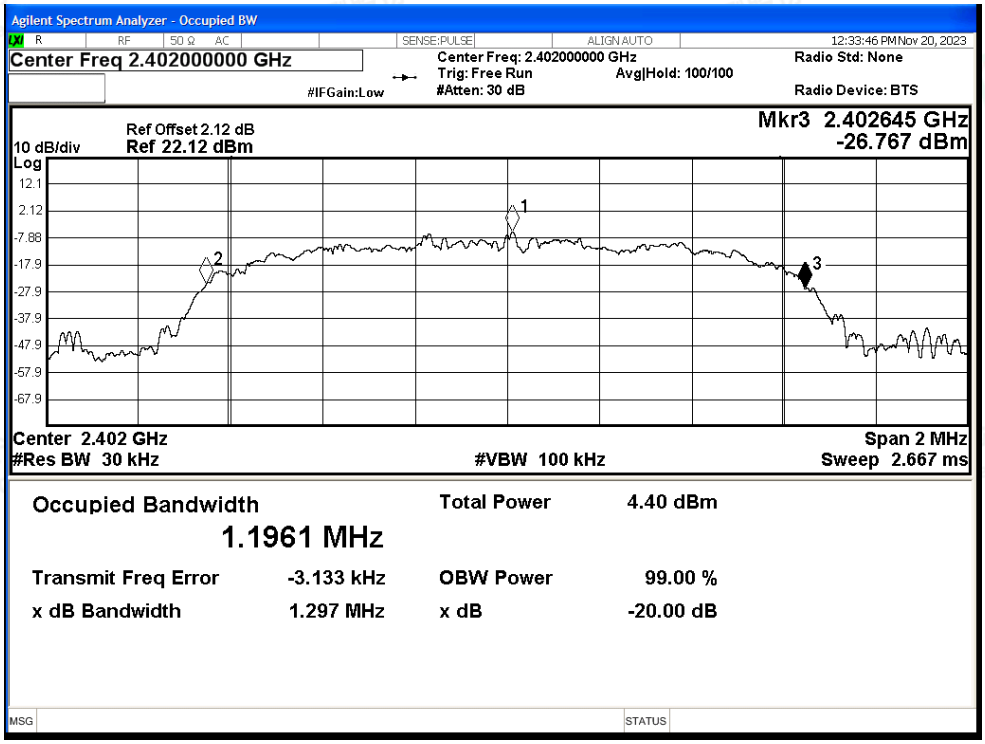
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant0



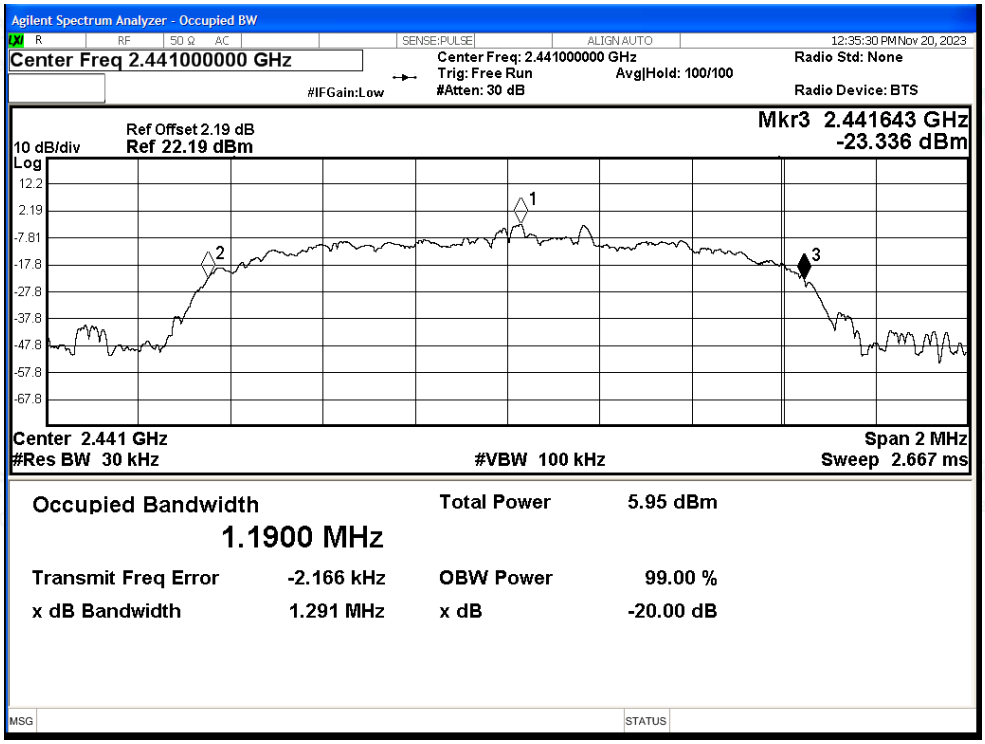
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant0



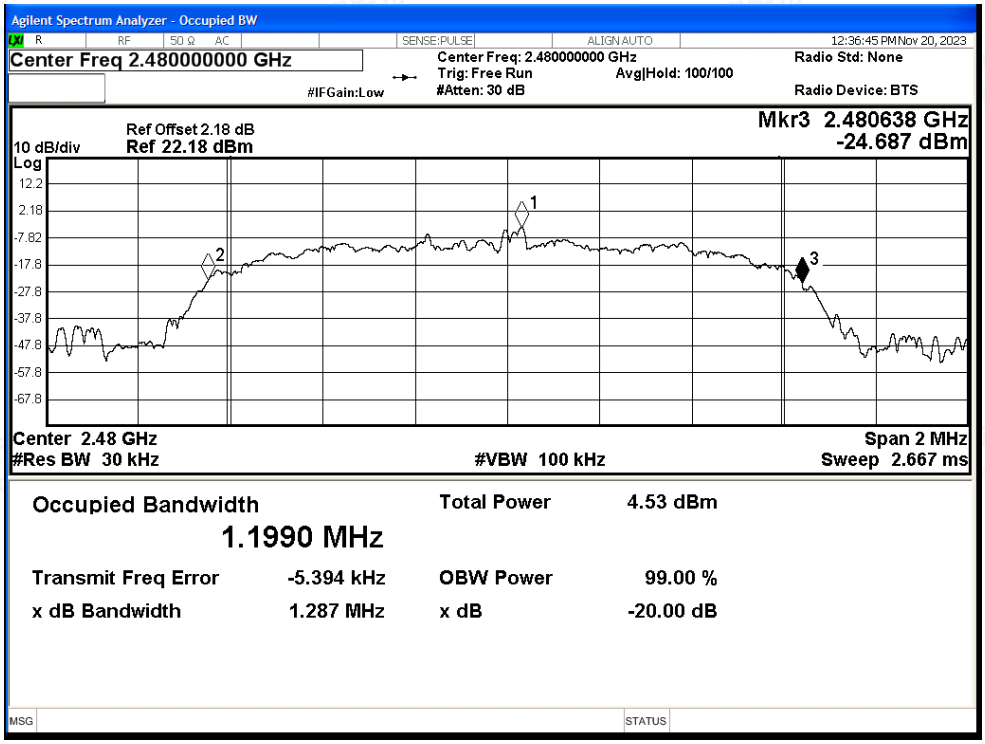
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant0



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant0



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant0

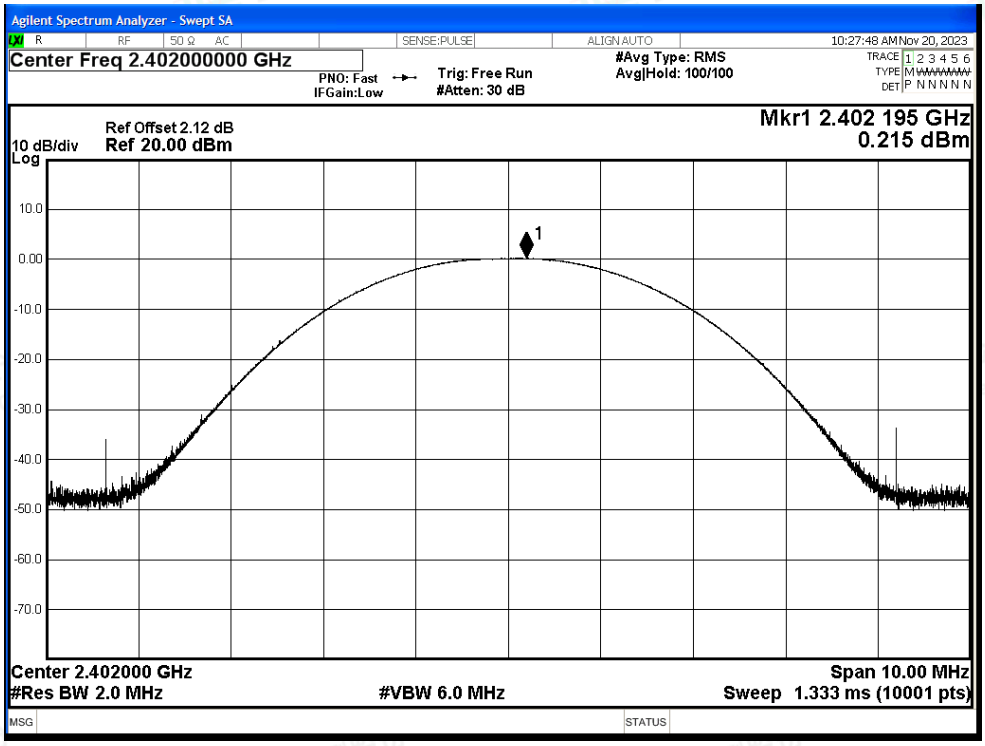


A.2 Maximum Peak Conducted Output Power

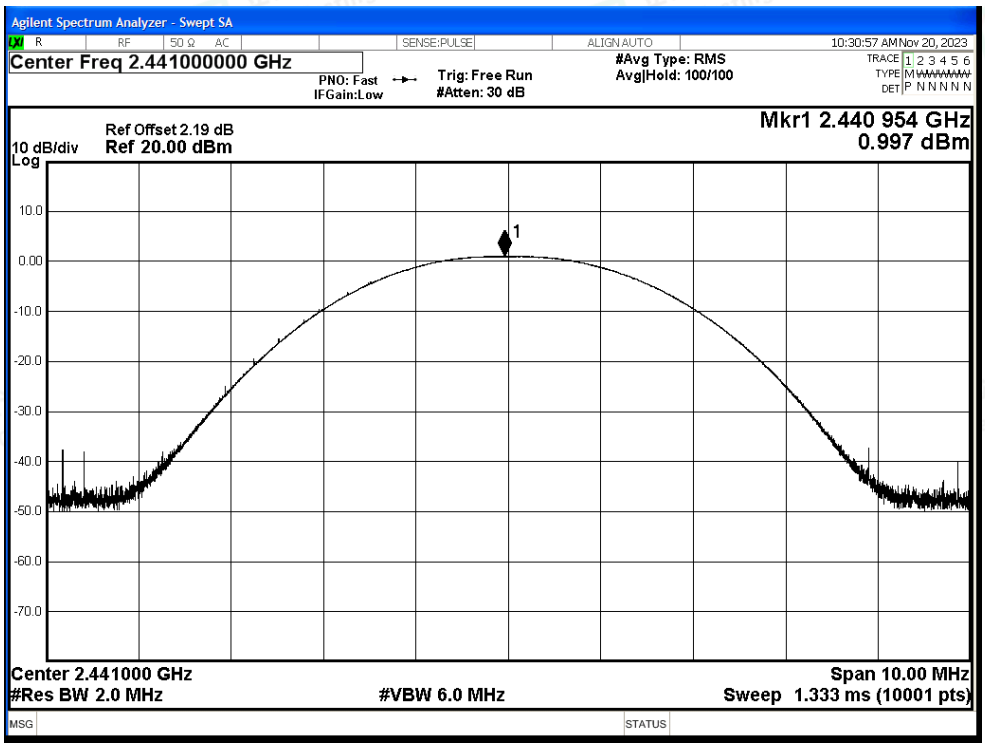
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant0	0.22	21	Pass
NVNT	1-DH5	2441	Ant0	1	21	Pass
NVNT	1-DH5	2480	Ant0	-0.54	21	Pass
NVNT	2-DH5	2402	Ant0	0.21	21	Pass
NVNT	2-DH5	2441	Ant0	1.17	21	Pass
NVNT	2-DH5	2480	Ant0	0.27	21	Pass
NVNT	3-DH5	2402	Ant0	0.38	21	Pass
NVNT	3-DH5	2441	Ant0	1.35	21	Pass
NVNT	3-DH5	2480	Ant0	0.4	21	Pass

Test Graphs

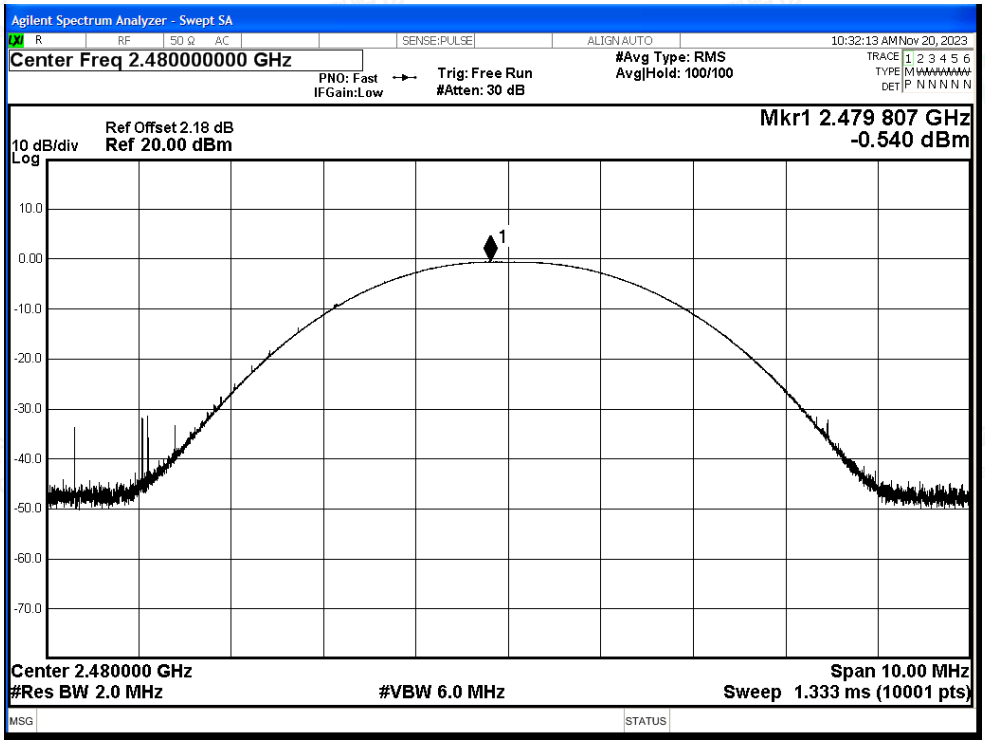
Power NVNT 1-DH5 2402MHz Ant0



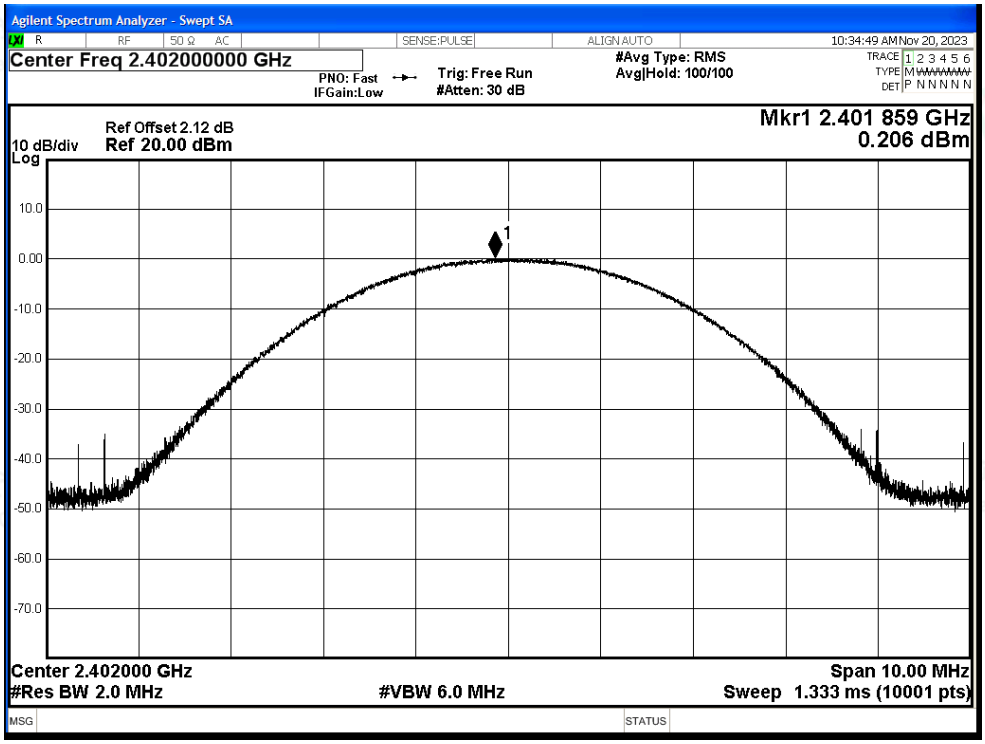
Power NVNT 1-DH5 2441MHz Ant0



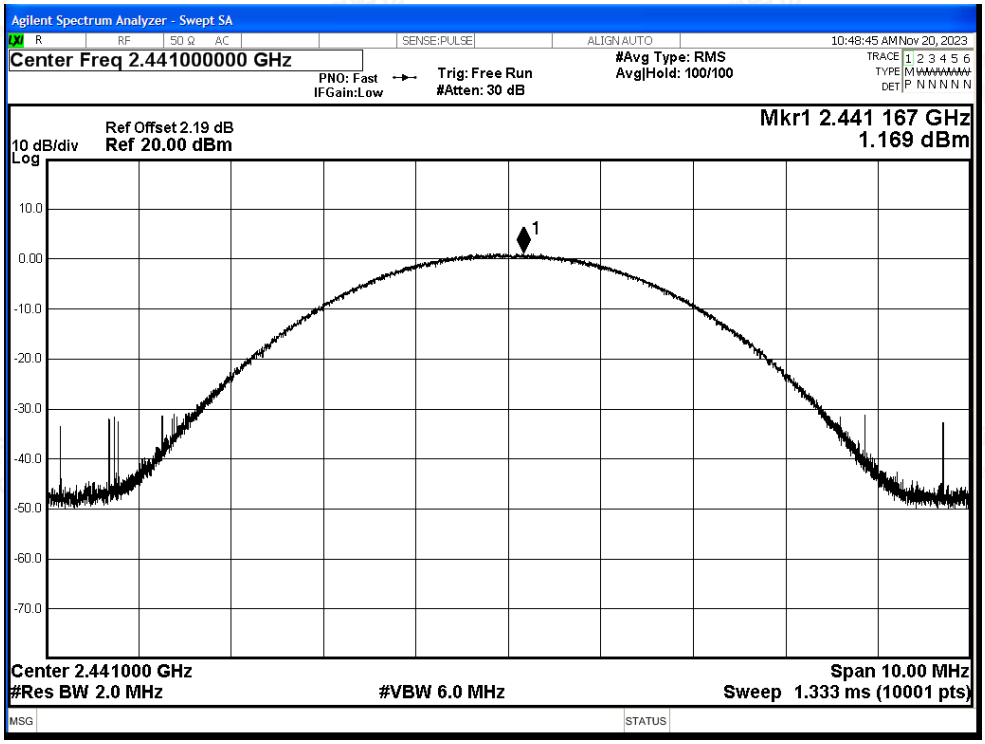
Power NVNT 1-DH5 2480MHz Ant0



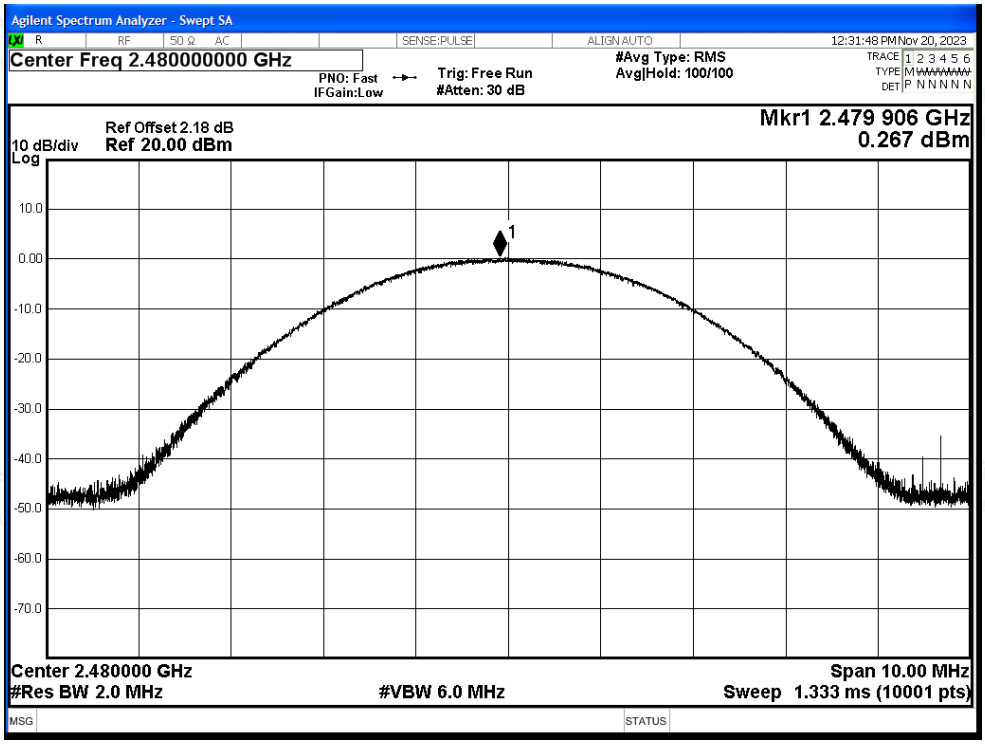
Power NVNT 2-DH5 2402MHz Ant0



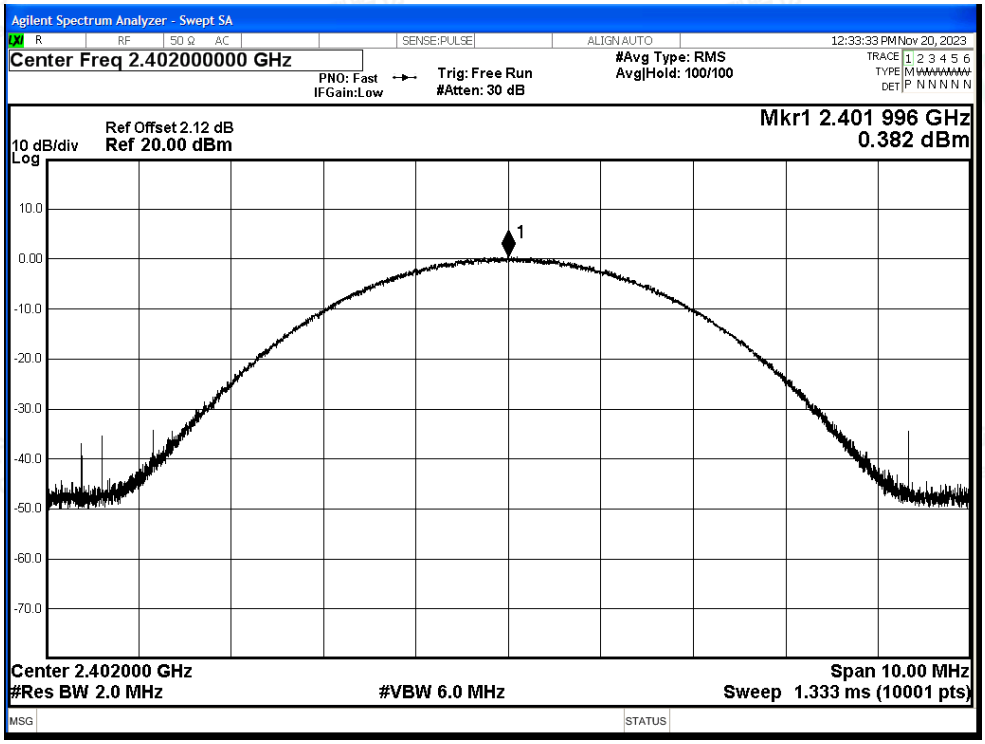
Power NVNT 2-DH5 2441MHz Ant0



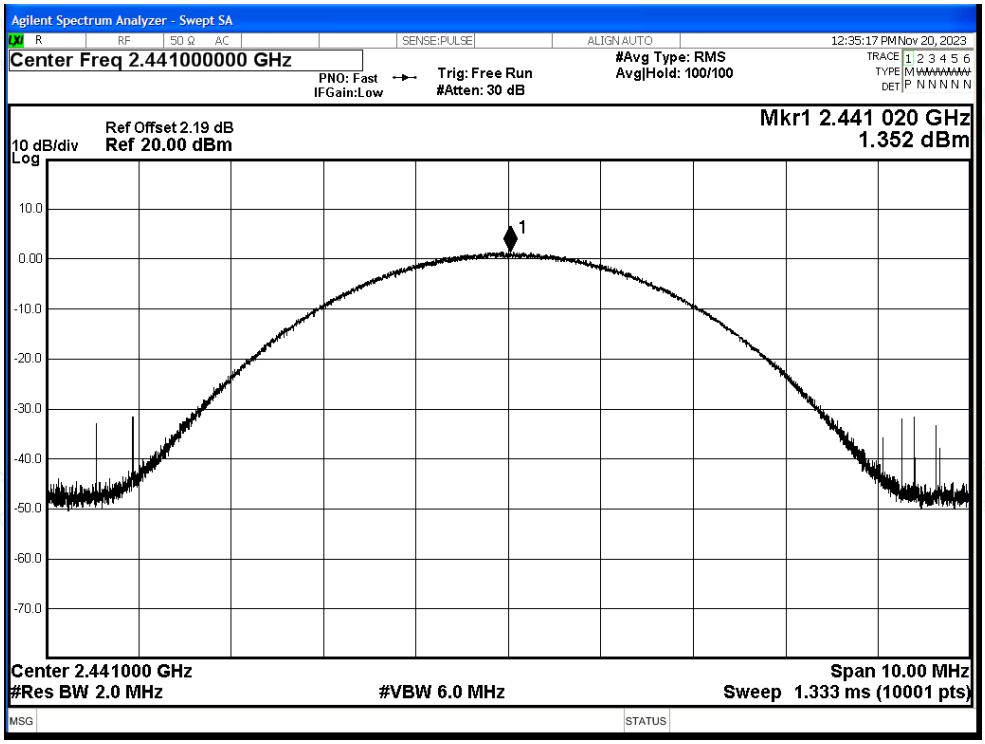
Power NVNT 2-DH5 2480MHz Ant0



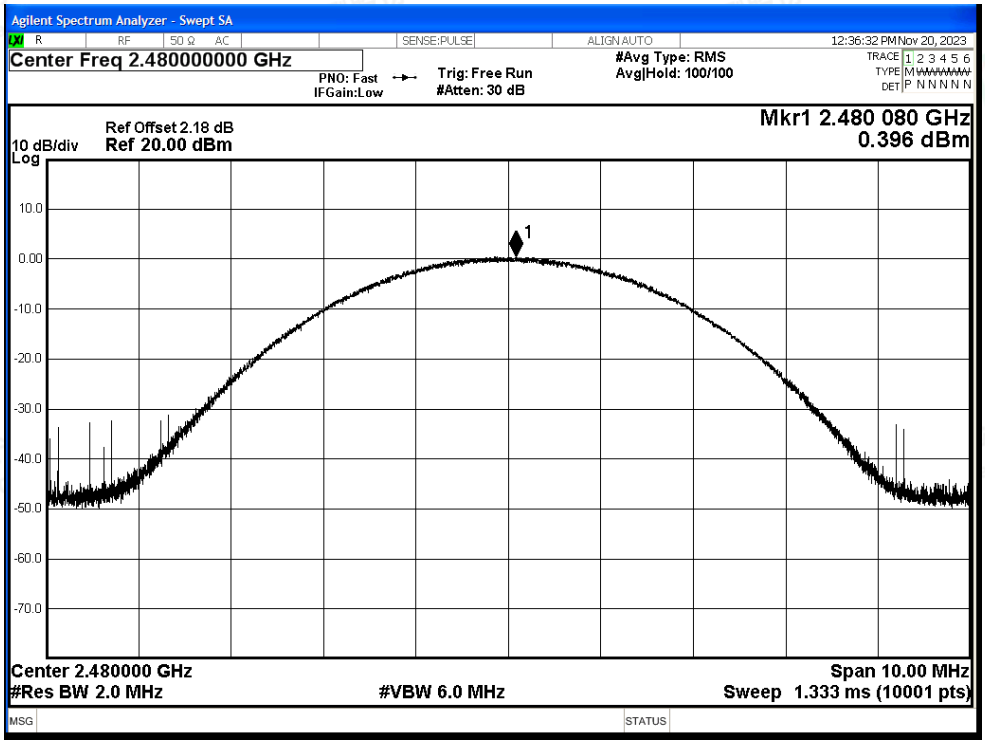
Power NVNT 3-DH5 2402MHz Ant0



Power NVNT 3-DH5 2441MHz Ant0



Power NVNT 3-DH5 2480MHz Ant0

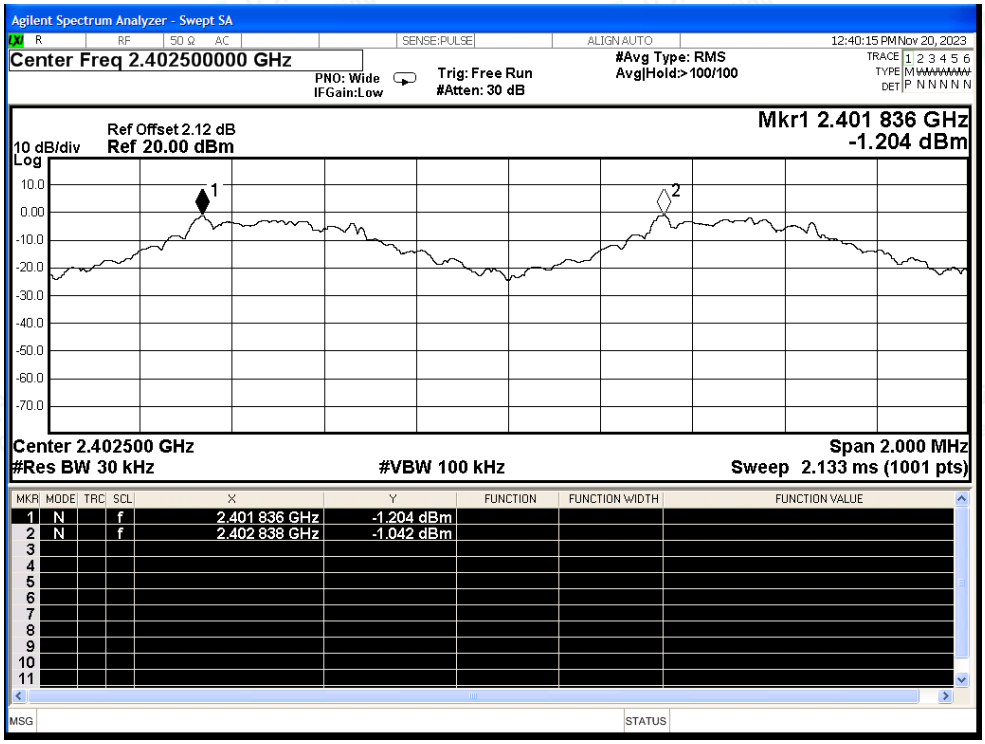


A.3 Carrier Frequencies Separation

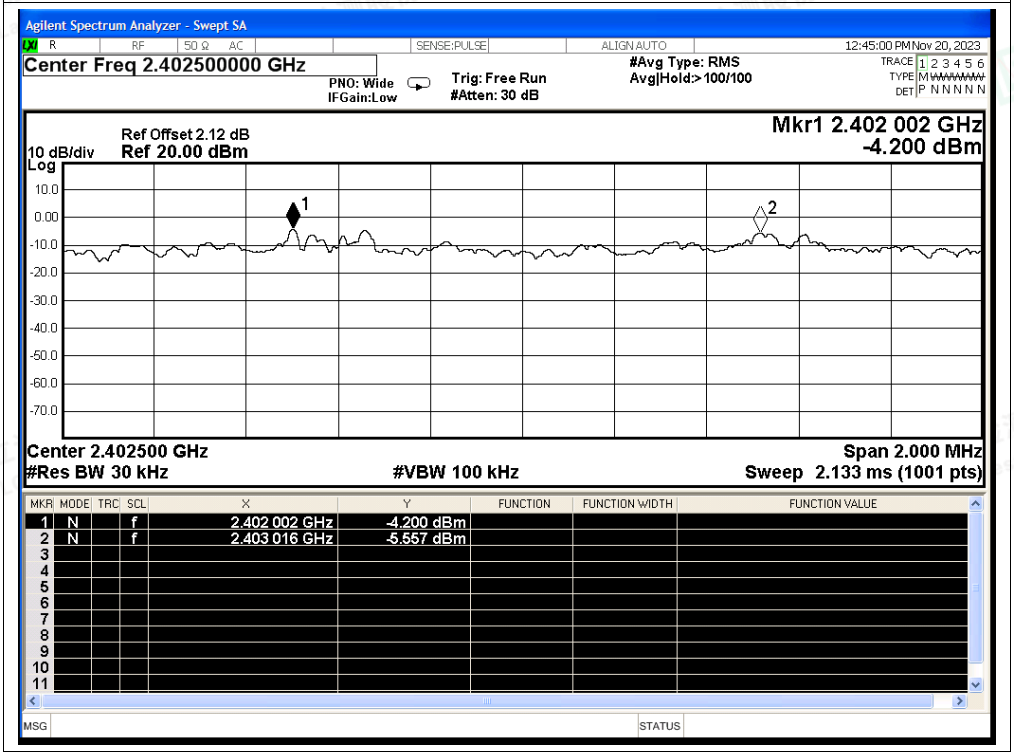
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant0	2401.836	2402.838	1.002	0.664	Pass
NVNT	2-DH5	Ant0	2402.002	2403.016	1.014	0.878	Pass
NVNT	3-DH5	Ant0	2402.022	2403.03	1.008	0.865	Pass

Test Graphs

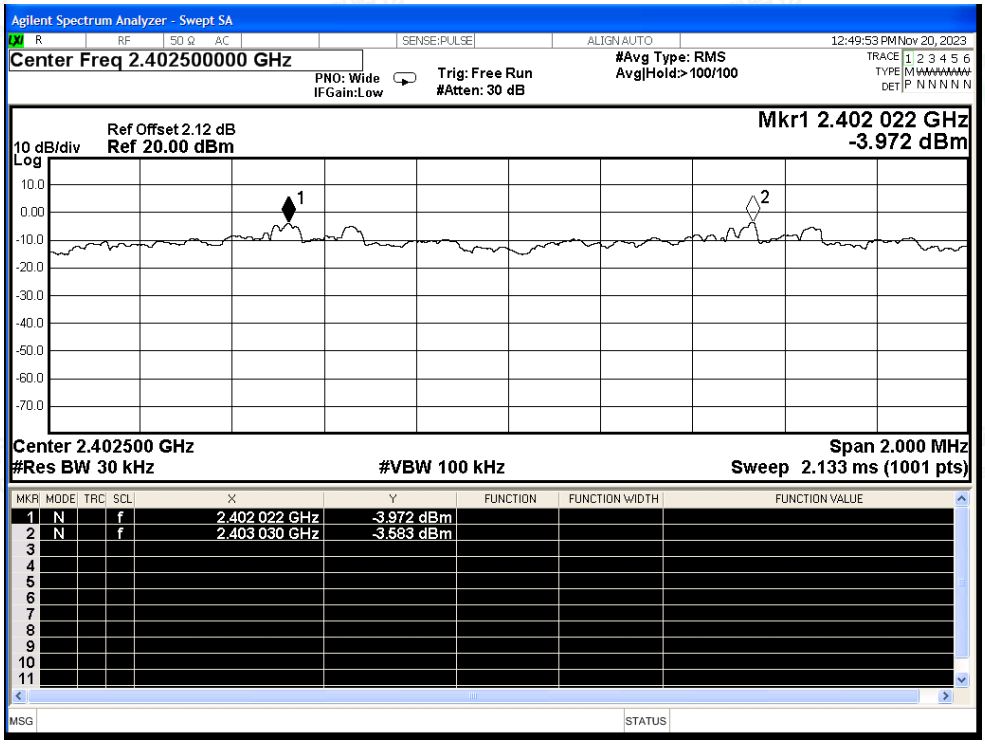
CFS NVNT 1-DH5 2402MHz Ant0



CFS NVNT 2-DH5 2402MHz Ant0



CFS NVNT 3-DH5 2402MHz Ant0

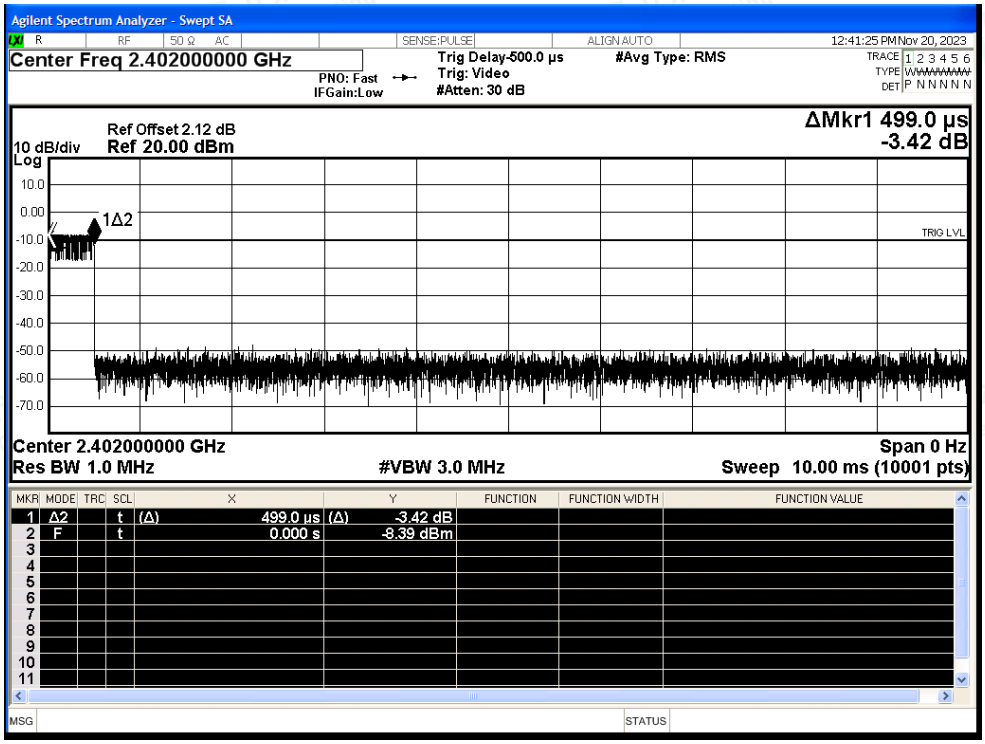


A.4 Dwell Time

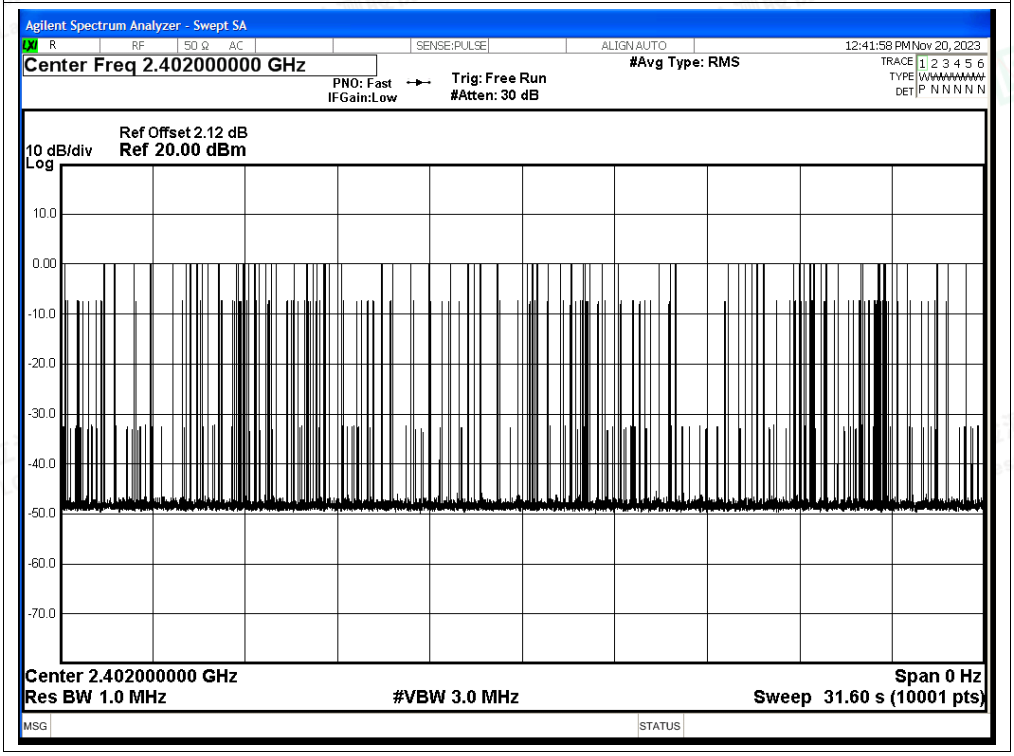
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant0	0.499	45.409	91	31600	400	Pass
NVNT	2-DH5	2402	Ant0	2.898	310.086	107	31600	400	Pass
NVNT	3-DH5	2402	Ant0	2.897	301.288	104	31600	400	Pass

Test Graphs

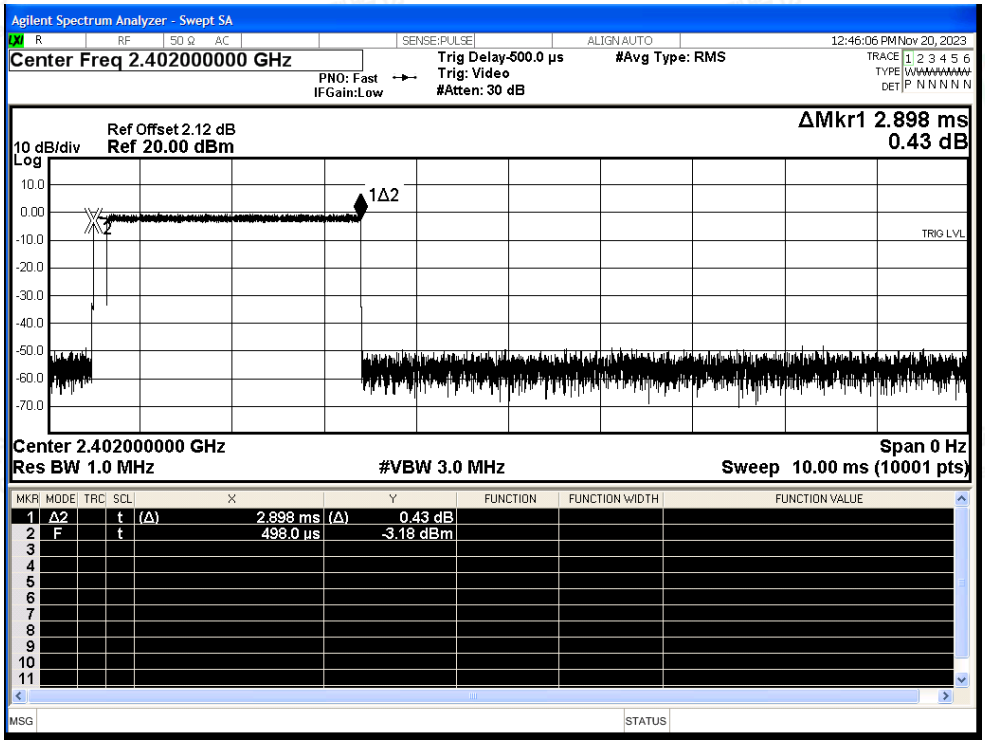
Dwell NVNT 1-DH5 2402MHz Ant0 One Burst



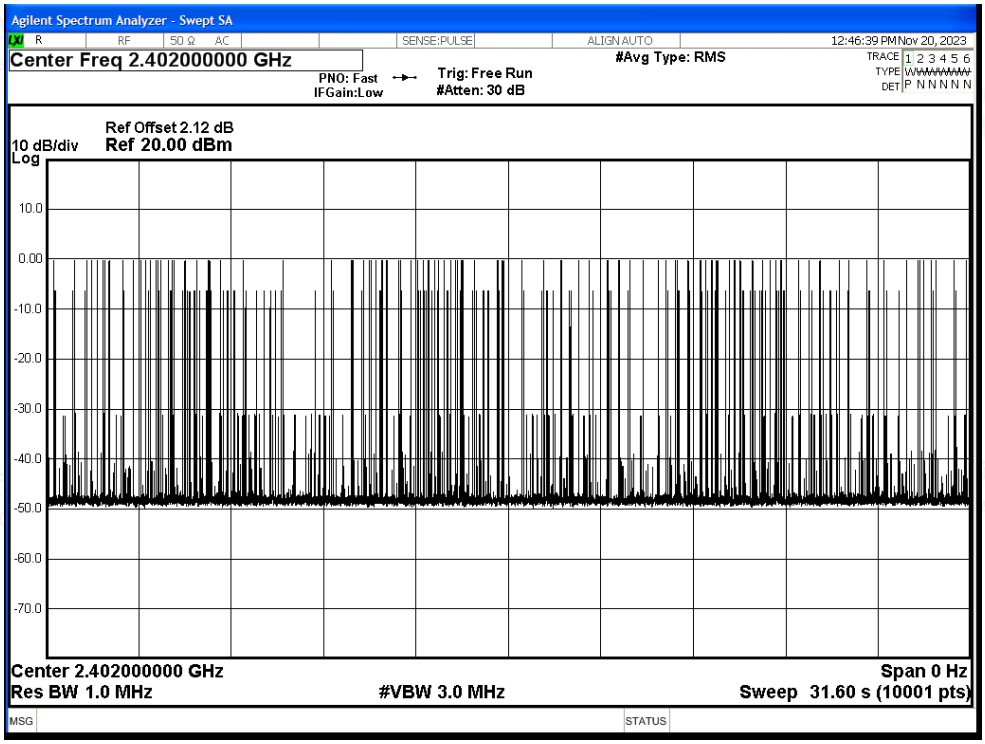
Dwell NVNT 1-DH5 2402MHz Ant0 Accumulated



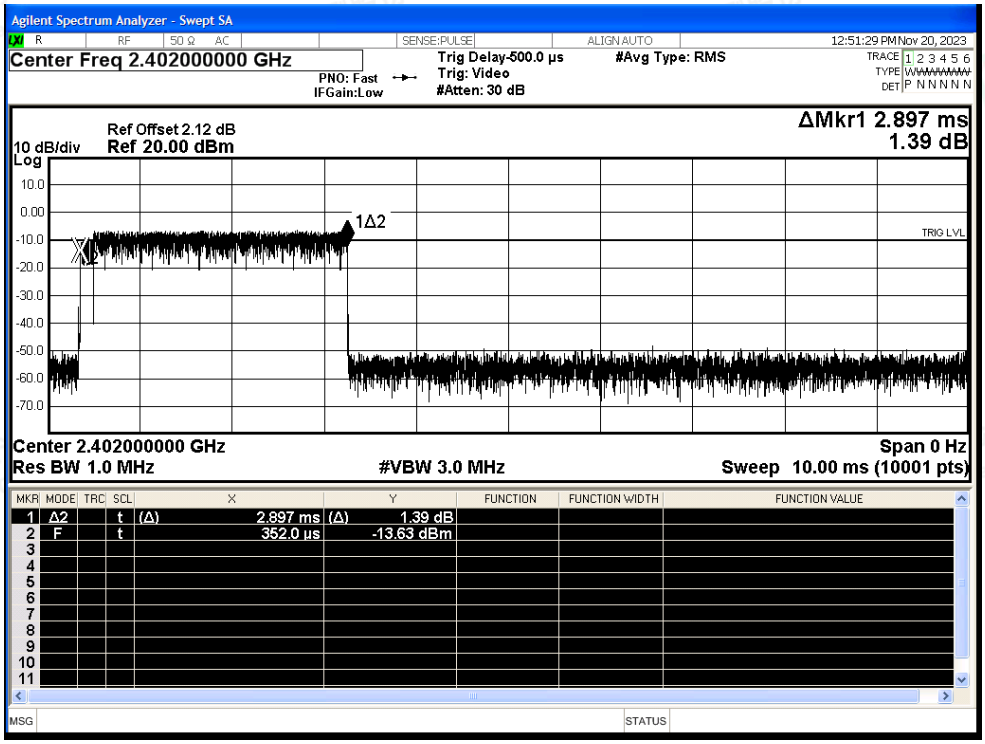
Dwell NVNT 2-DH5 2402MHz Ant0 One Burst



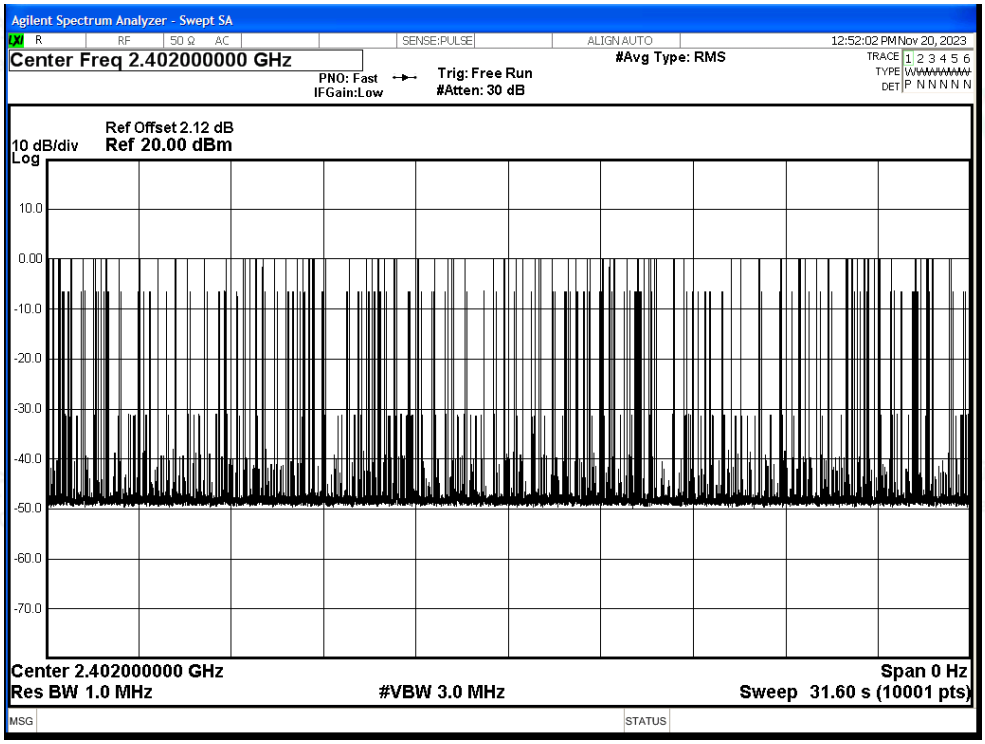
Dwell NVNT 2-DH5 2402MHz Ant0 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant0 One Burst



Dwell NVNT 3-DH5 2402MHz Ant0 Accumulated

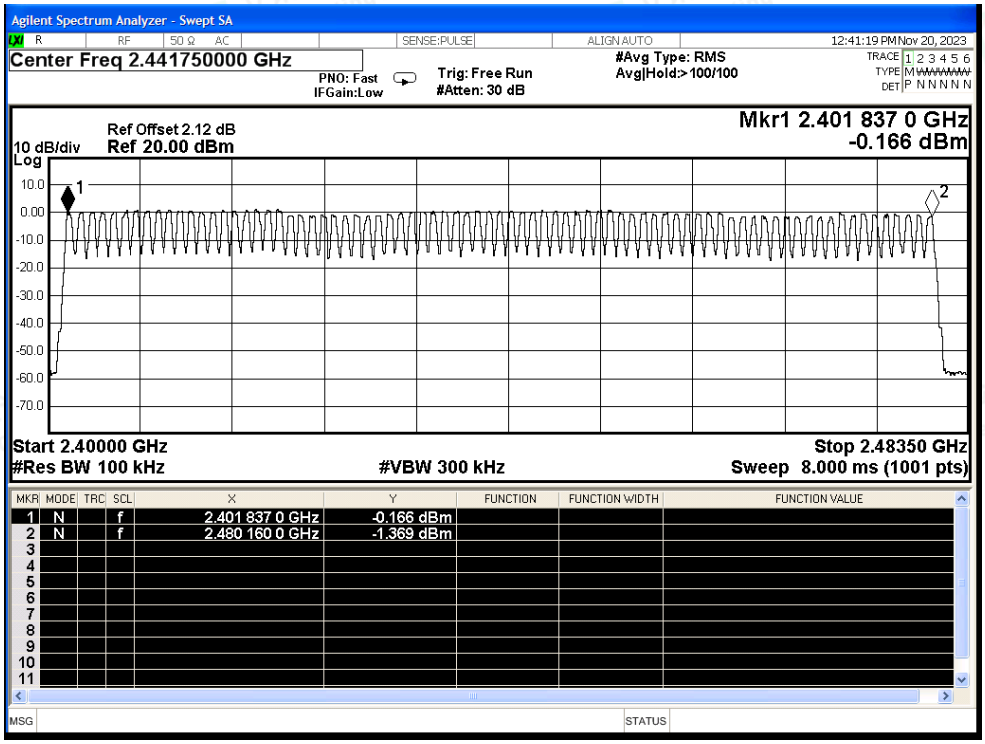


A.5 Number of Hopping Channel

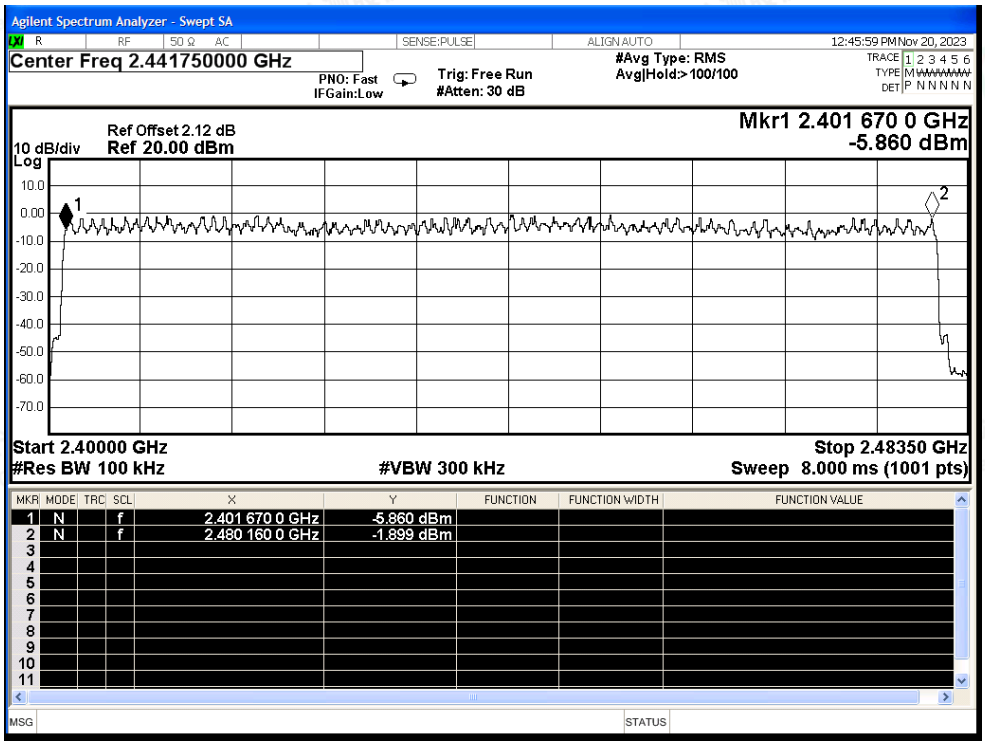
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant0	79	15	Pass
NVNT	2-DH5	Ant0	79	15	Pass
NVNT	3-DH5	Ant0	79	15	Pass

Test Graphs

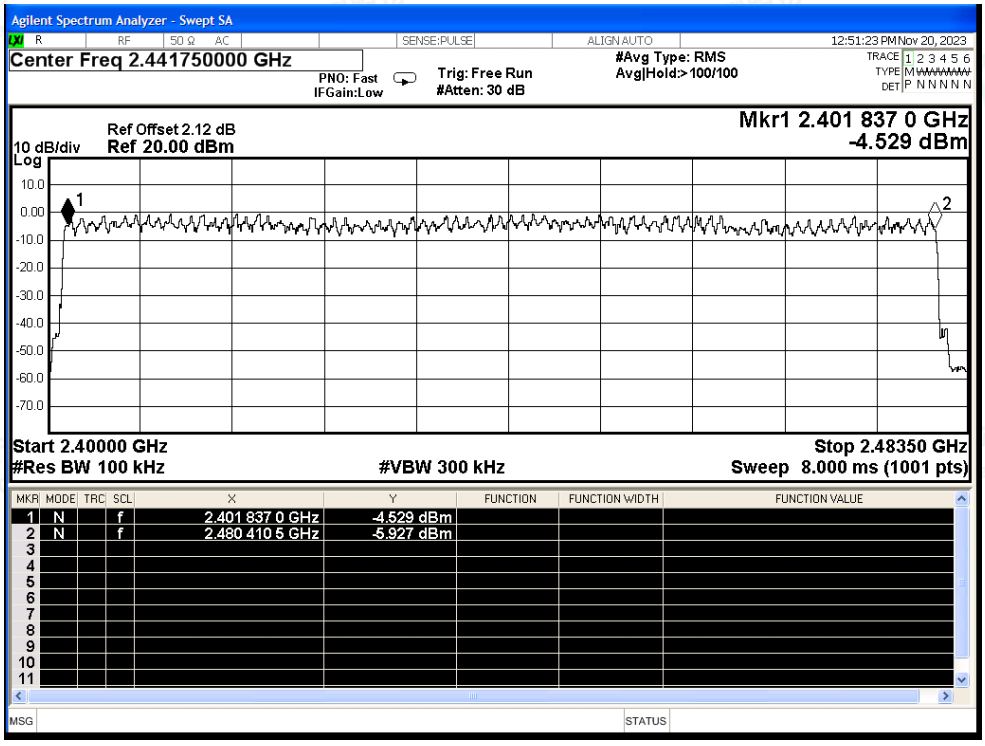
Hopping No. NVNT 1-DH5 2402MHz Ant0



Hopping No. NVNT 2-DH5 2402MHz Ant0



Hopping No. NVNT 3-DH5 2402MHz Ant0

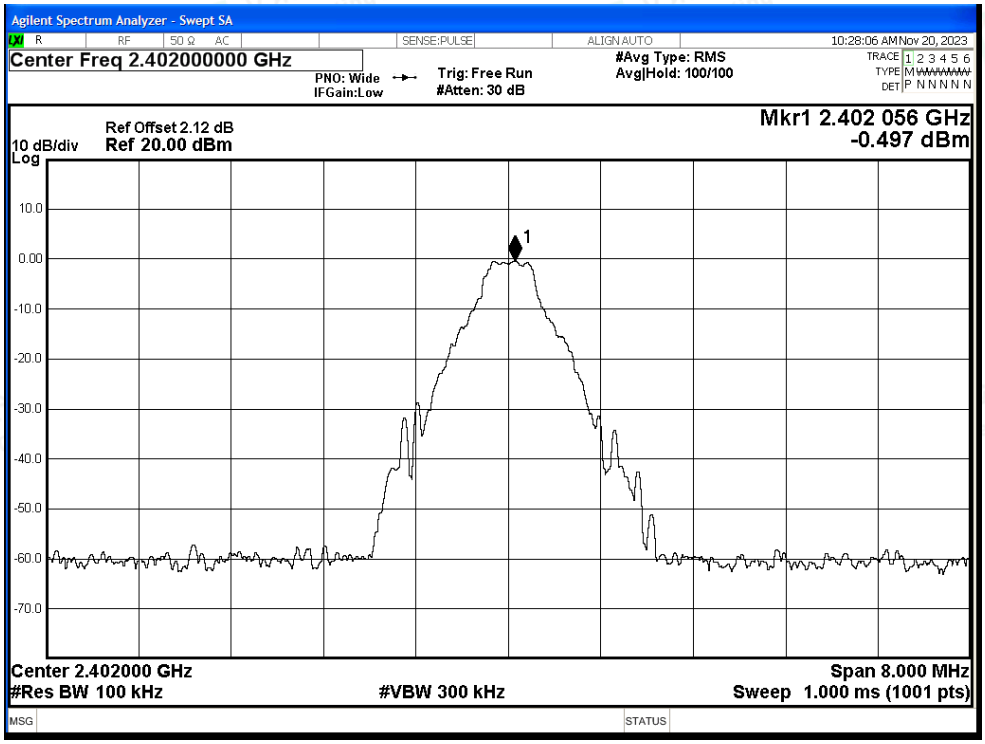


A.6 Band Edge

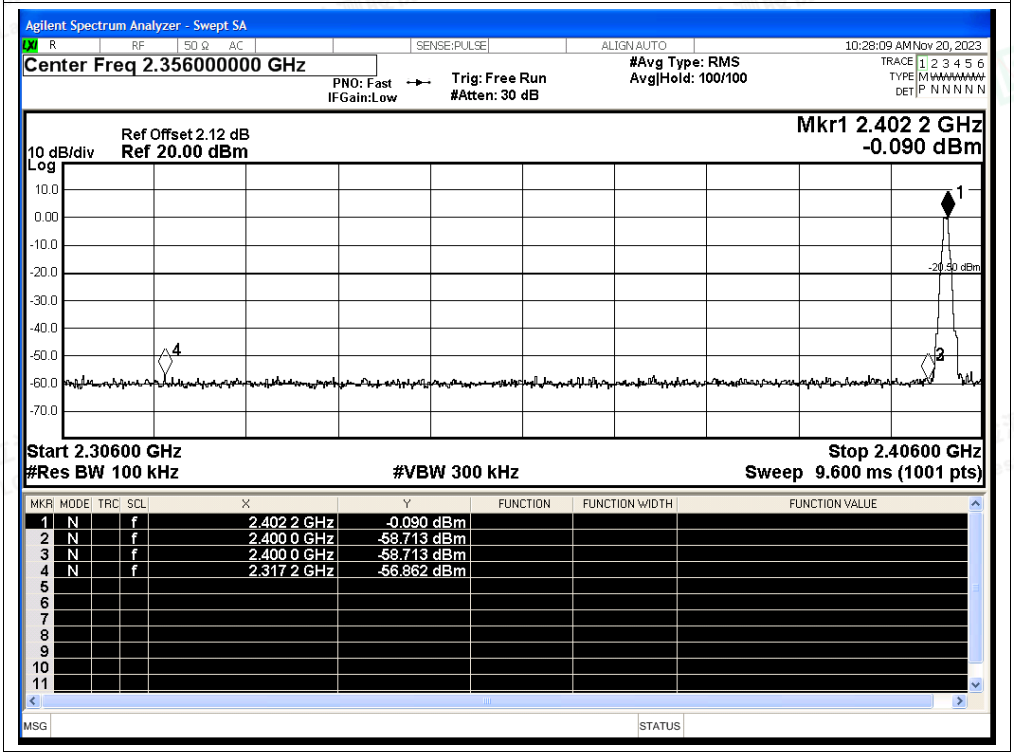
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant0	No-Hopping	-56.37	-20	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	-56.43	-20	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	-55.22	-20	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	-54.11	-20	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	-54.38	-20	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	-54.26	-20	Pass

Test Graphs

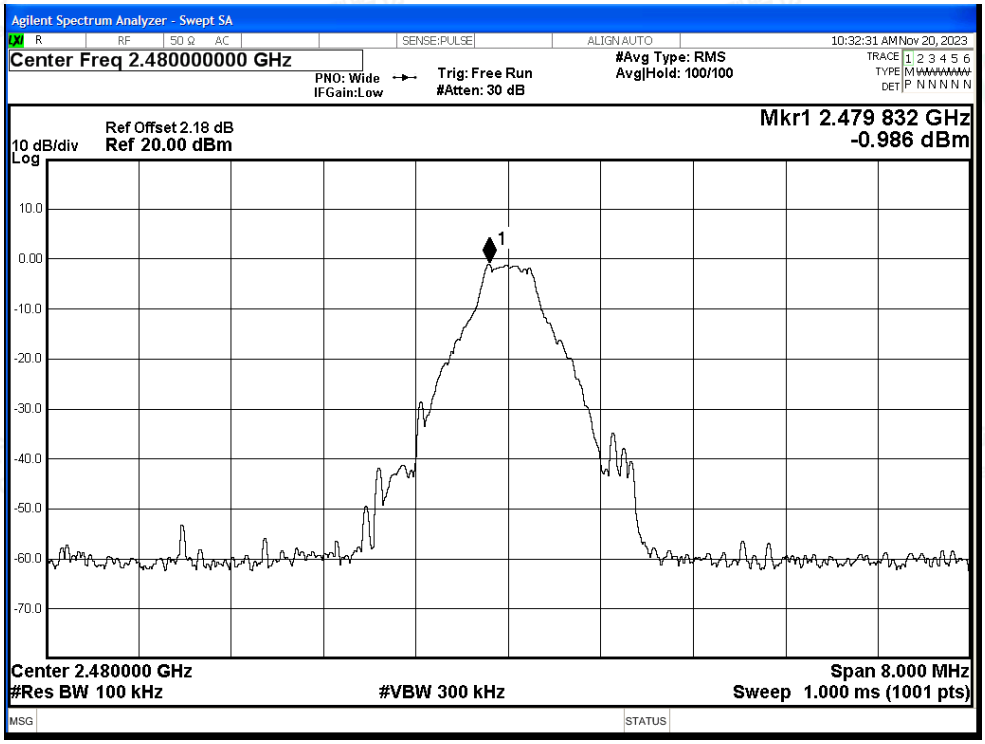
Band Edge NVNT 1-DH5 2402MHz Ant0 No-Hopping Ref



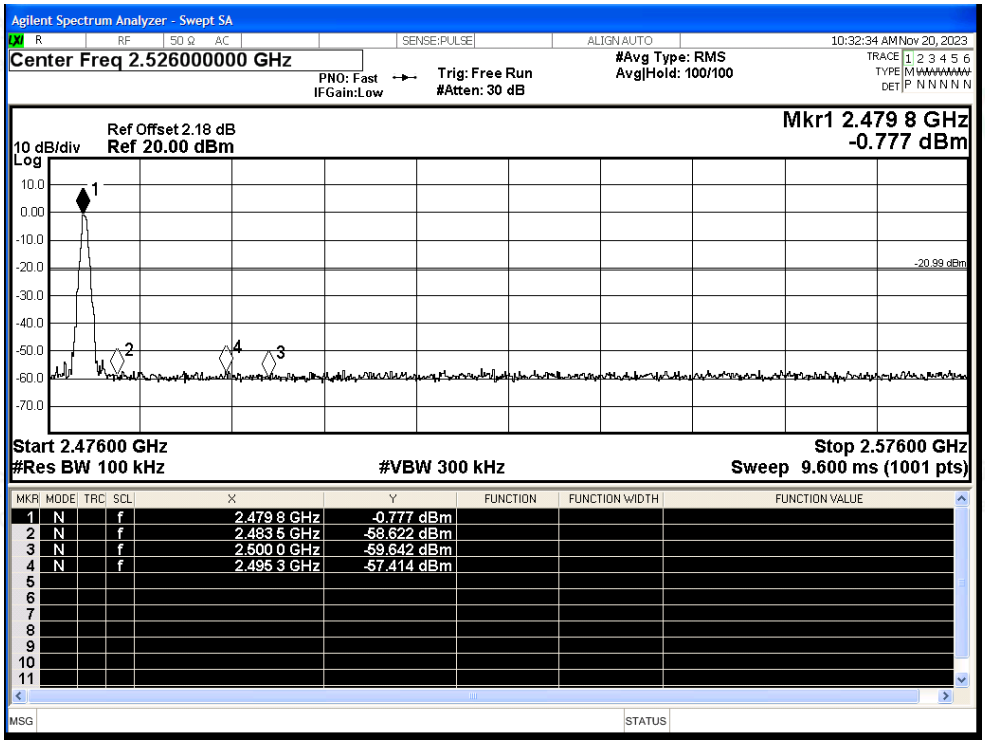
Band Edge NVNT 1-DH5 2402MHz Ant0 No-Hopping Emission



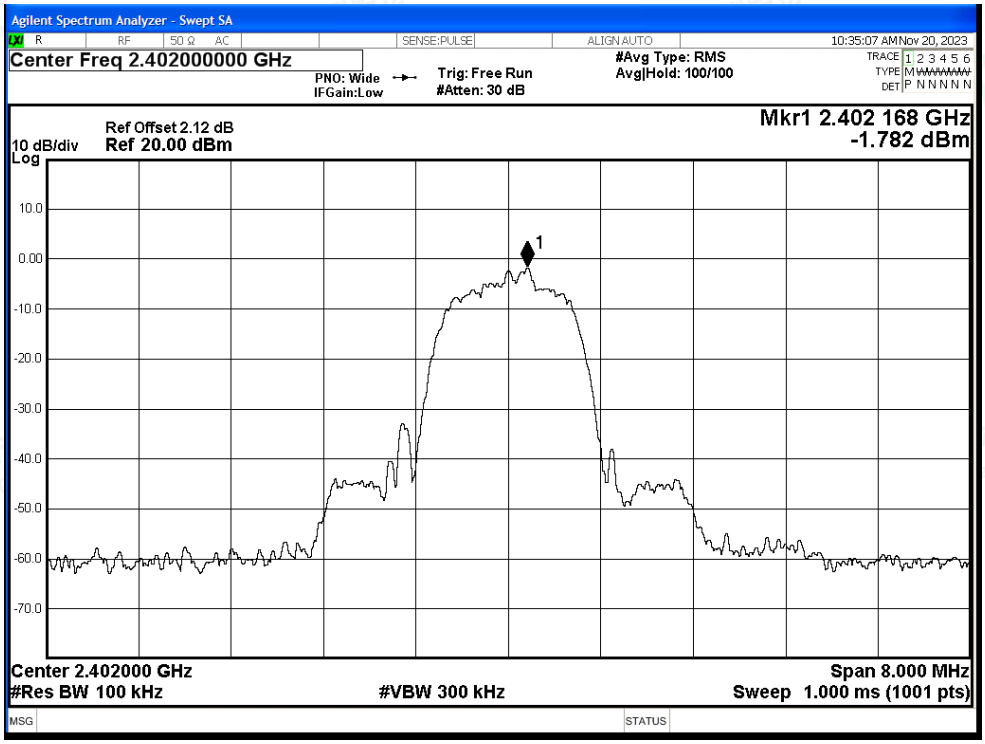
Band Edge NVNT 1-DH5 2480MHz Ant0 No-Hopping Ref



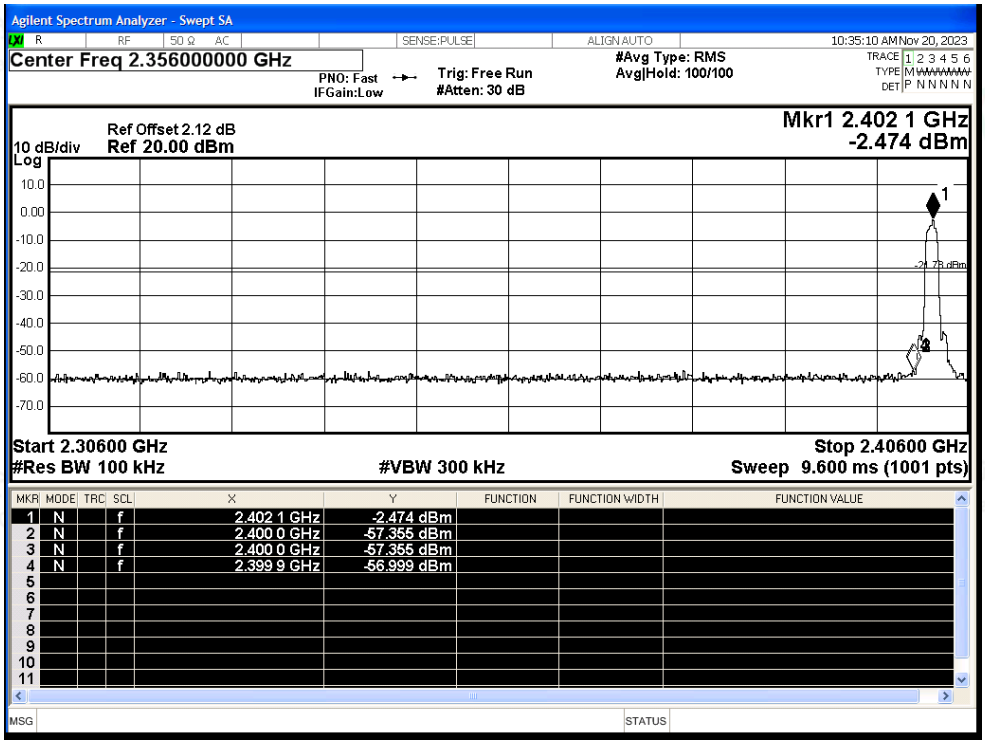
Band Edge NVNT 1-DH5 2480MHz Ant0 No-Hopping Emission



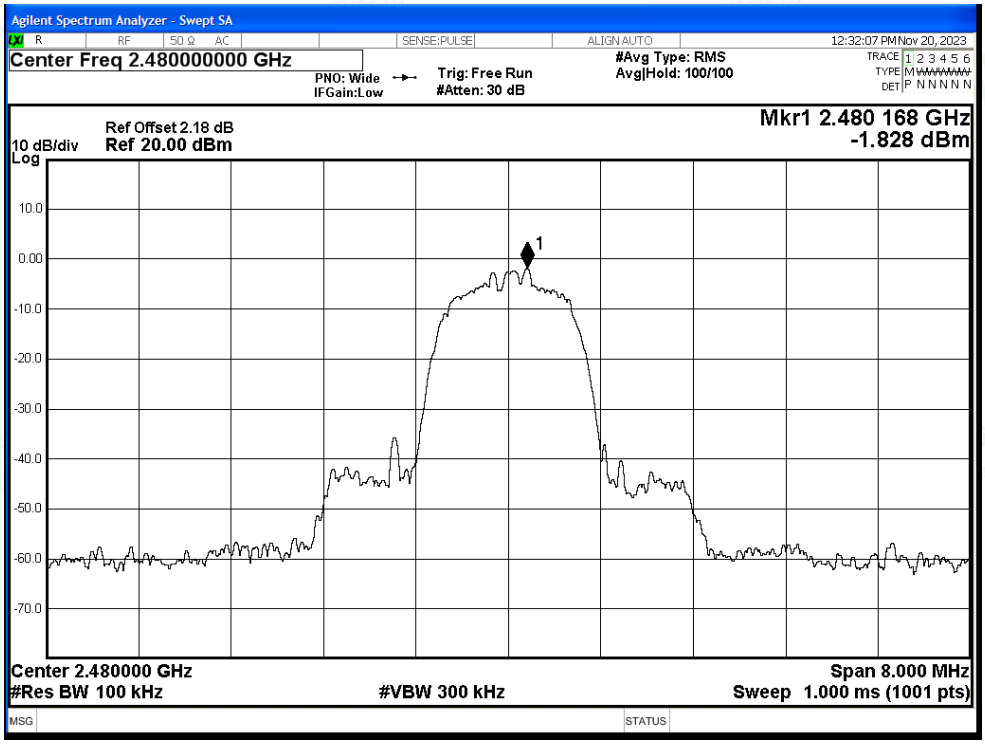
Band Edge NVNT 2-DH5 2402MHz Ant0 No-Hopping Ref



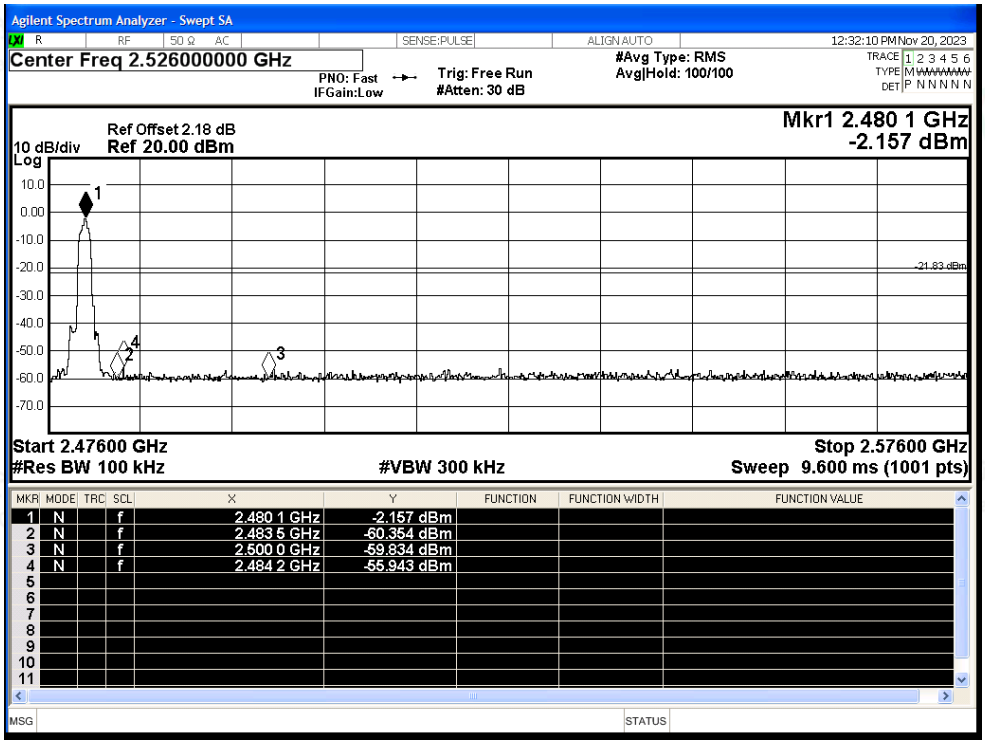
Band Edge NVNT 2-DH5 2402MHz Ant0 No-Hopping Emission



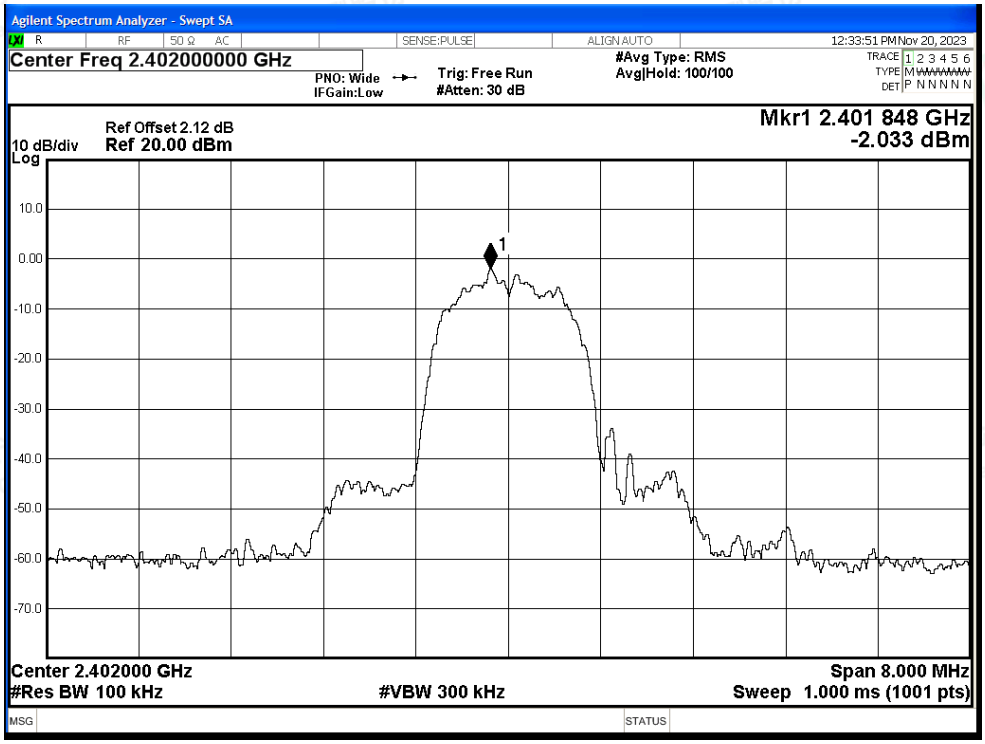
Band Edge NVNT 2-DH5 2480MHz Ant0 No-Hopping Ref



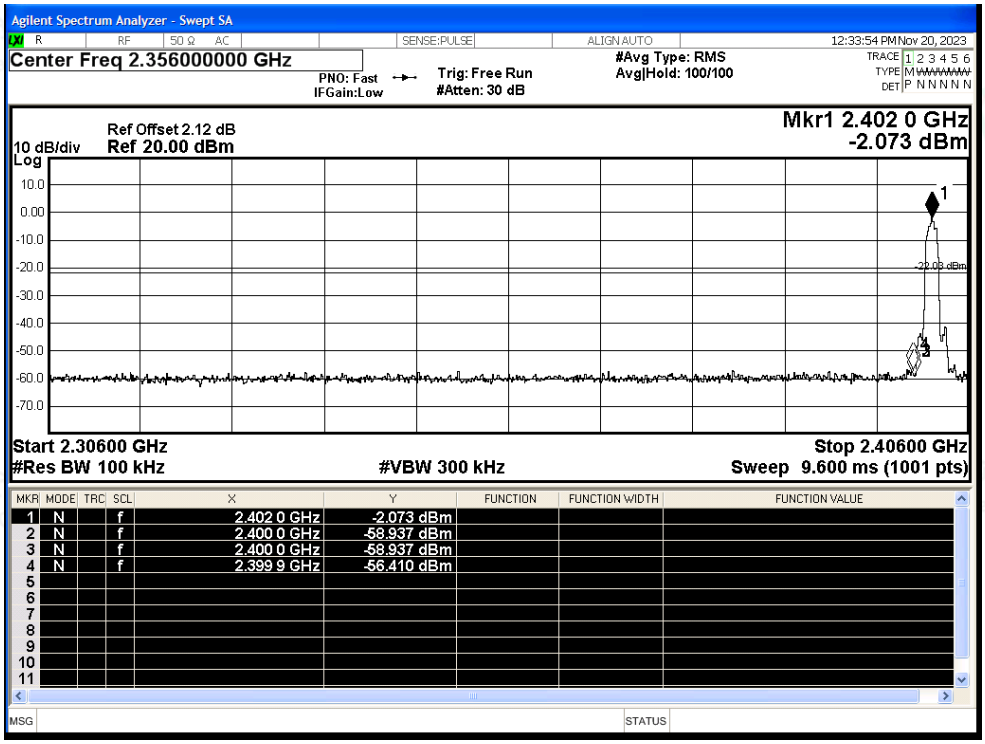
Band Edge NVNT 2-DH5 2480MHz Ant0 No-Hopping Emission



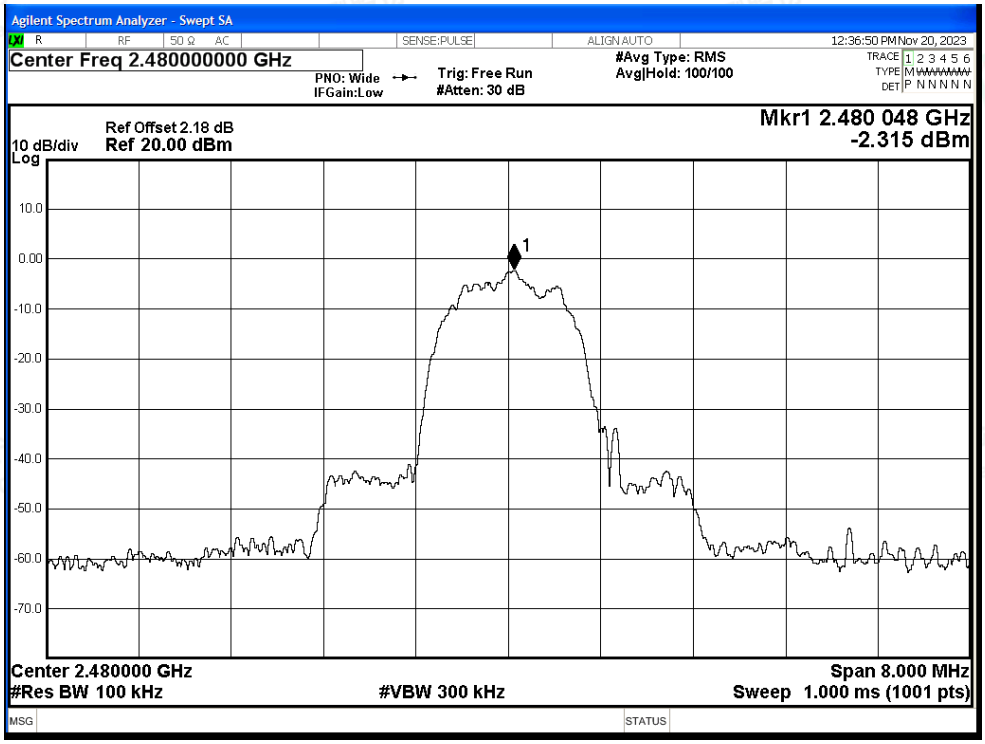
Band Edge NVNT 3-DH5 2402MHz Ant0 No-Hopping Ref



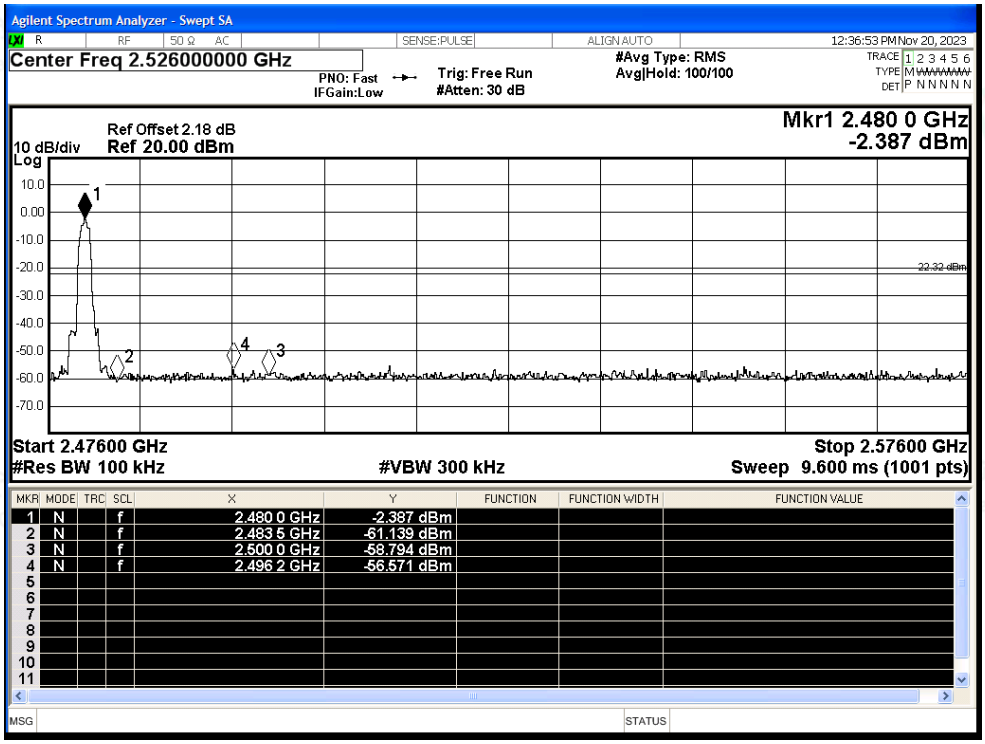
Band Edge NVNT 3-DH5 2402MHz Ant0 No-Hopping Emission



Band Edge NVNT 3-DH5 2480MHz Ant0 No-Hopping Ref



Band Edge NVNT 3-DH5 2480MHz Ant0 No-Hopping Emission

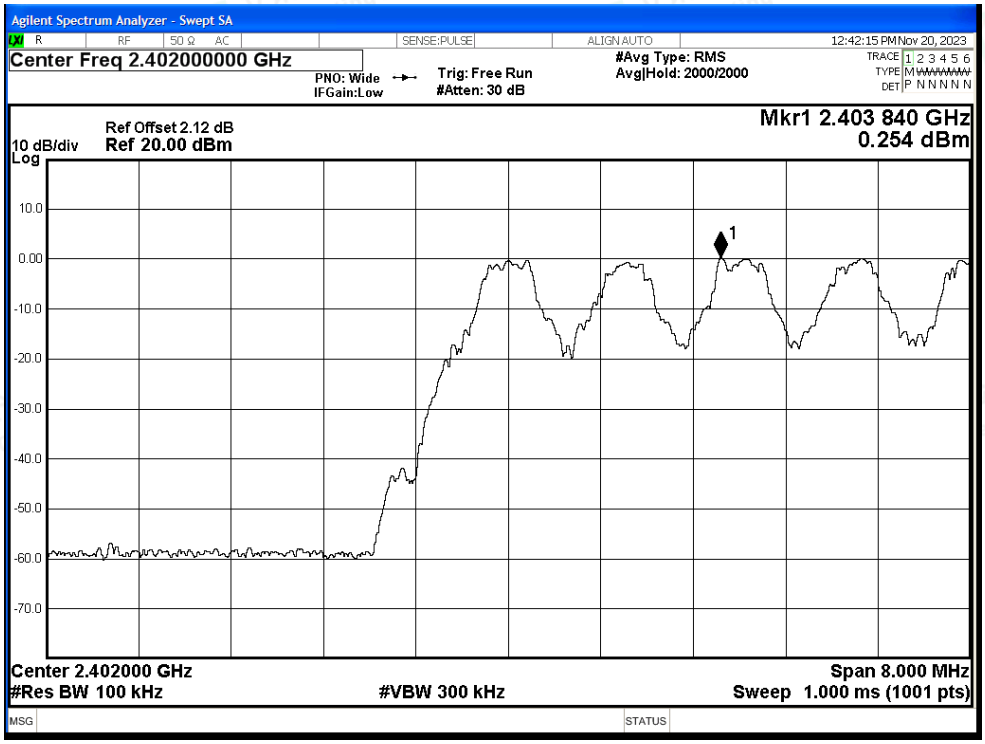


(Hopping)

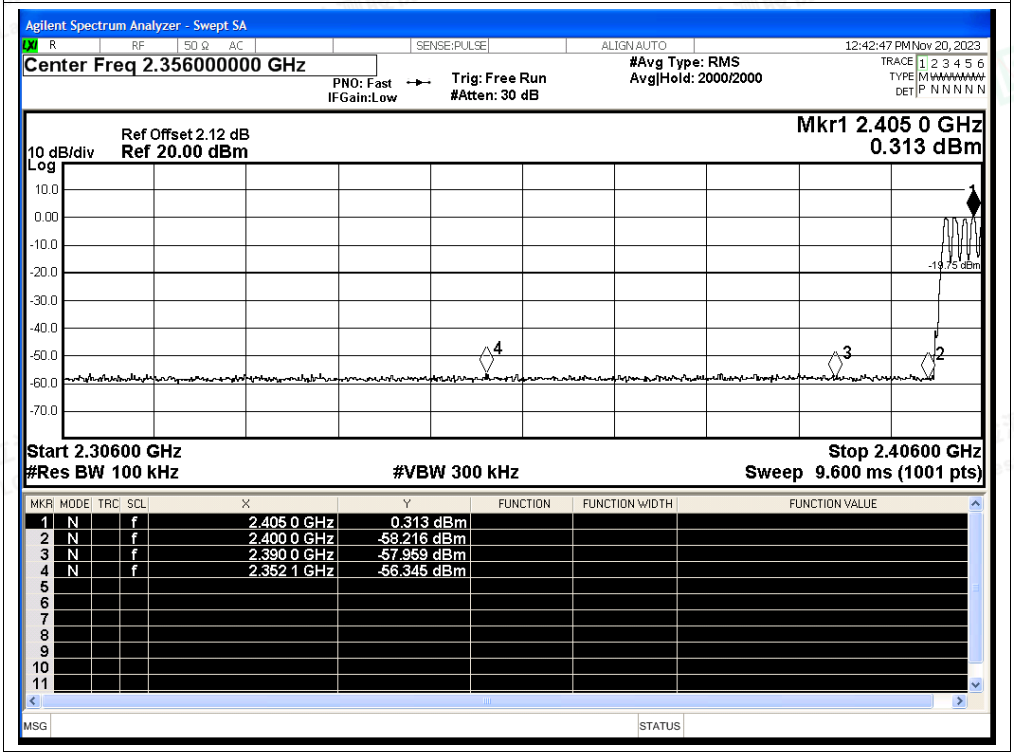
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant0	Hopping	-56.6	-20	Pass
NVNT	1-DH5	2480	Ant0	Hopping	-54.61	-20	Pass
NVNT	2-DH5	2402	Ant0	Hopping	-54.65	-20	Pass
NVNT	2-DH5	2480	Ant0	Hopping	-53.82	-20	Pass
NVNT	3-DH5	2402	Ant0	Hopping	-53.88	-20	Pass
NVNT	3-DH5	2480	Ant0	Hopping	-54.13	-20	Pass

Test Graphs

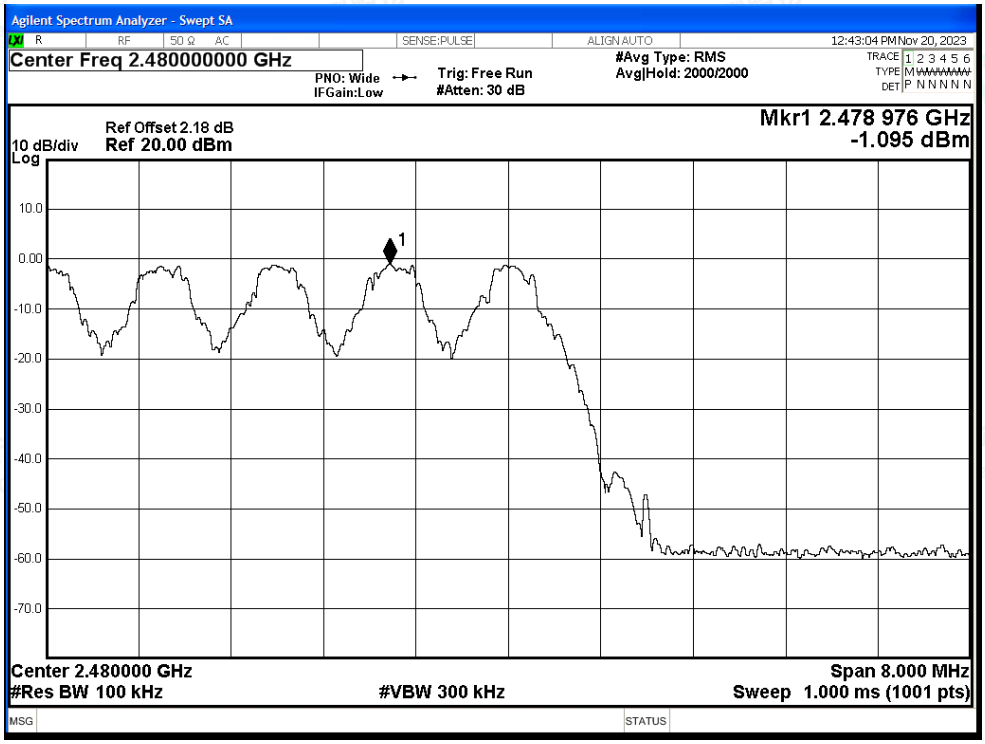
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant0 Hopping Ref



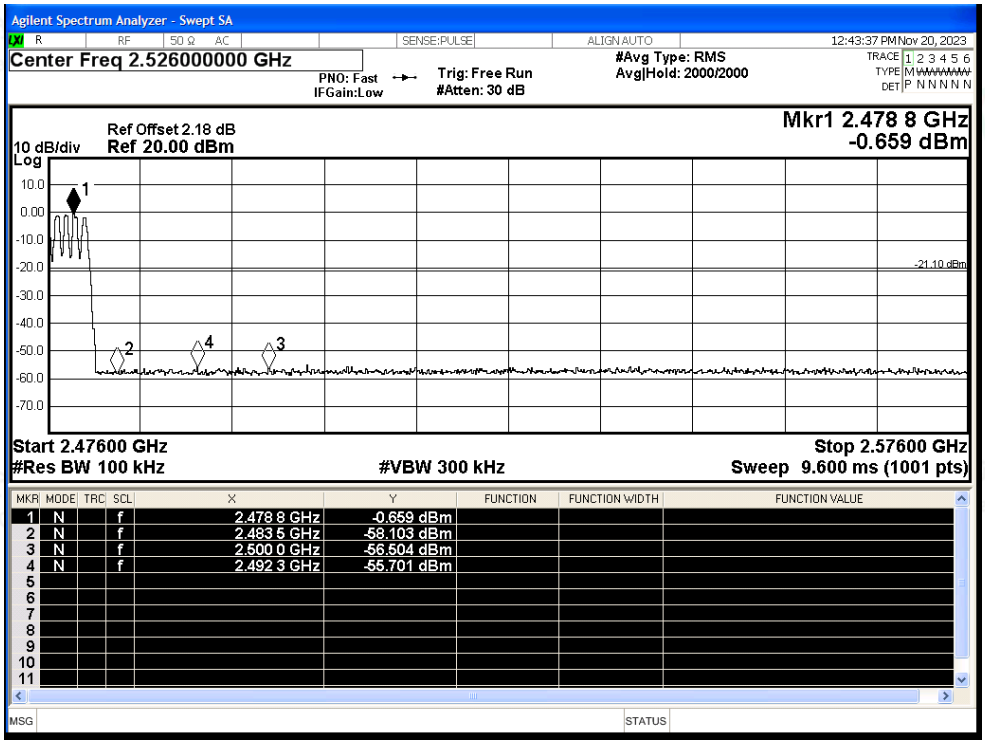
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant0 Hopping Emission



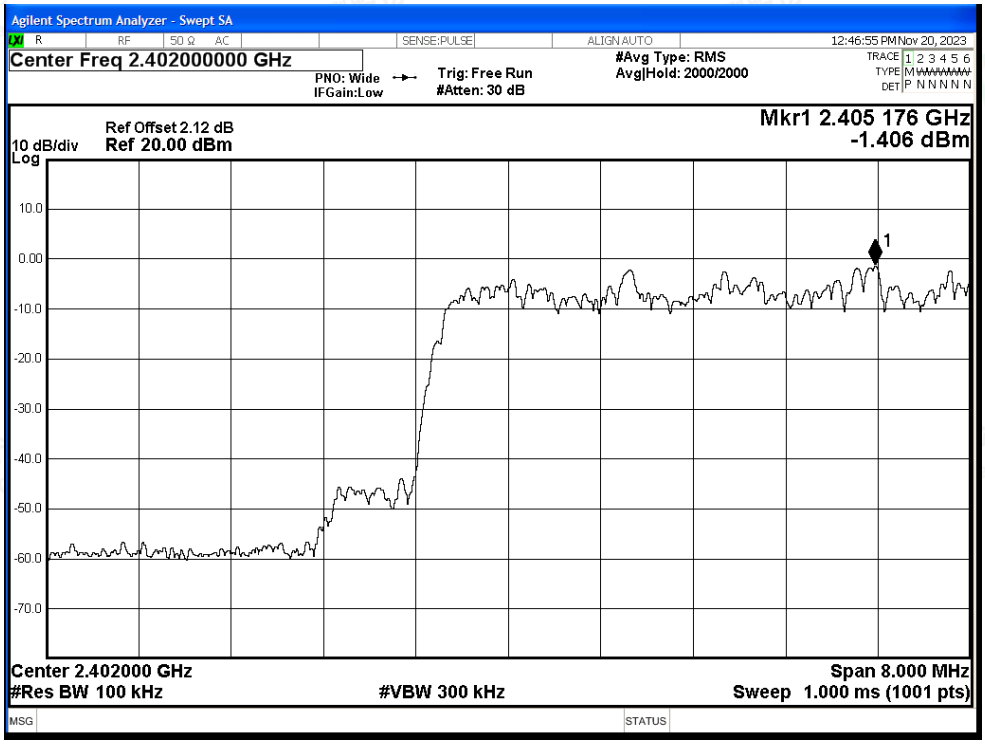
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant0 Hopping Ref



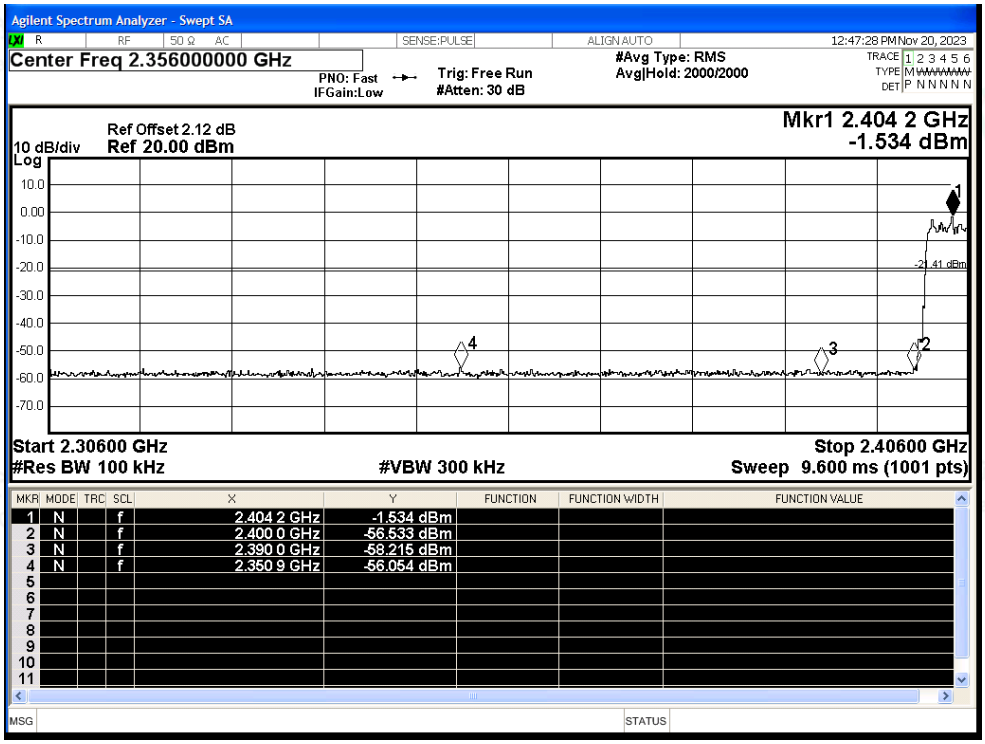
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant0 Hopping Emission



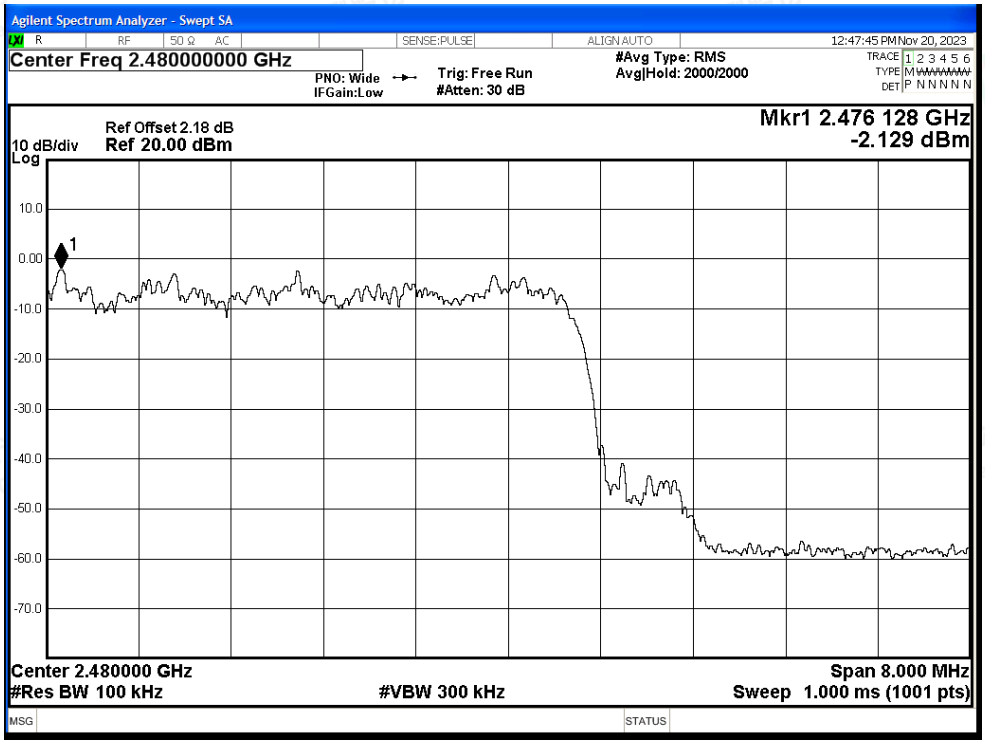
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant0 Hopping Ref



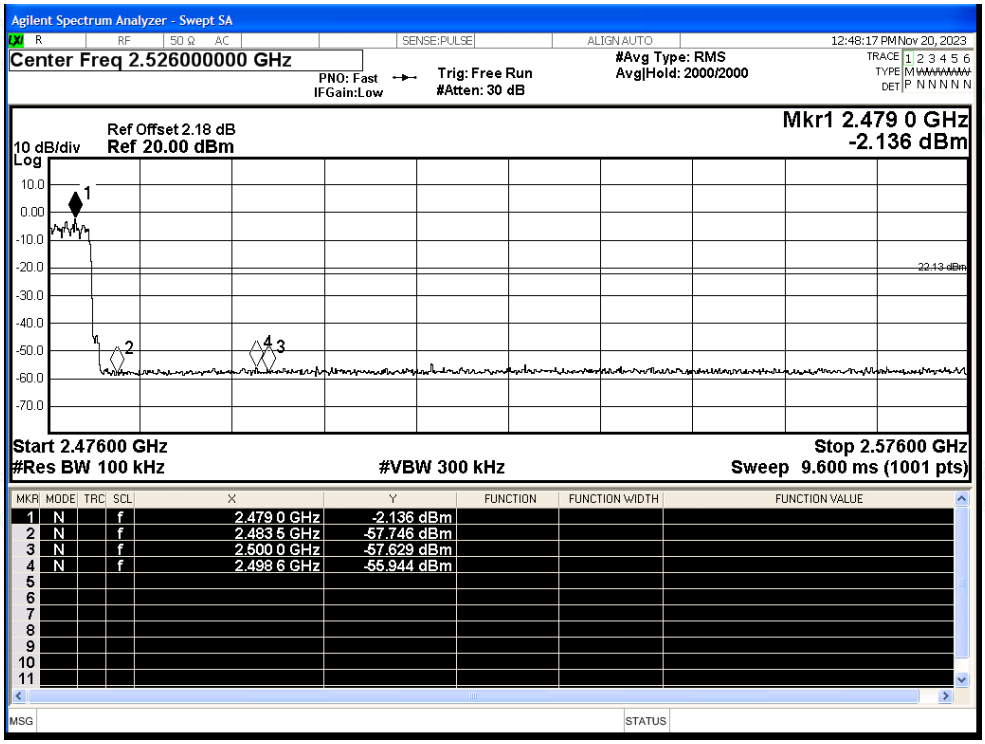
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant0 Hopping Emission



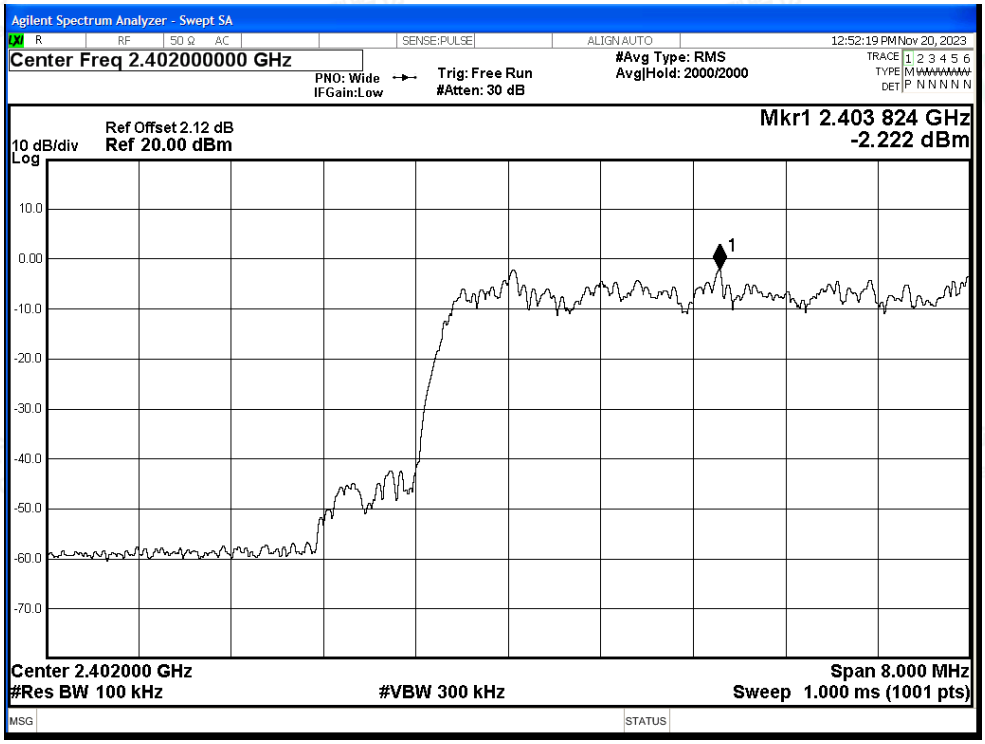
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant0 Hopping Ref



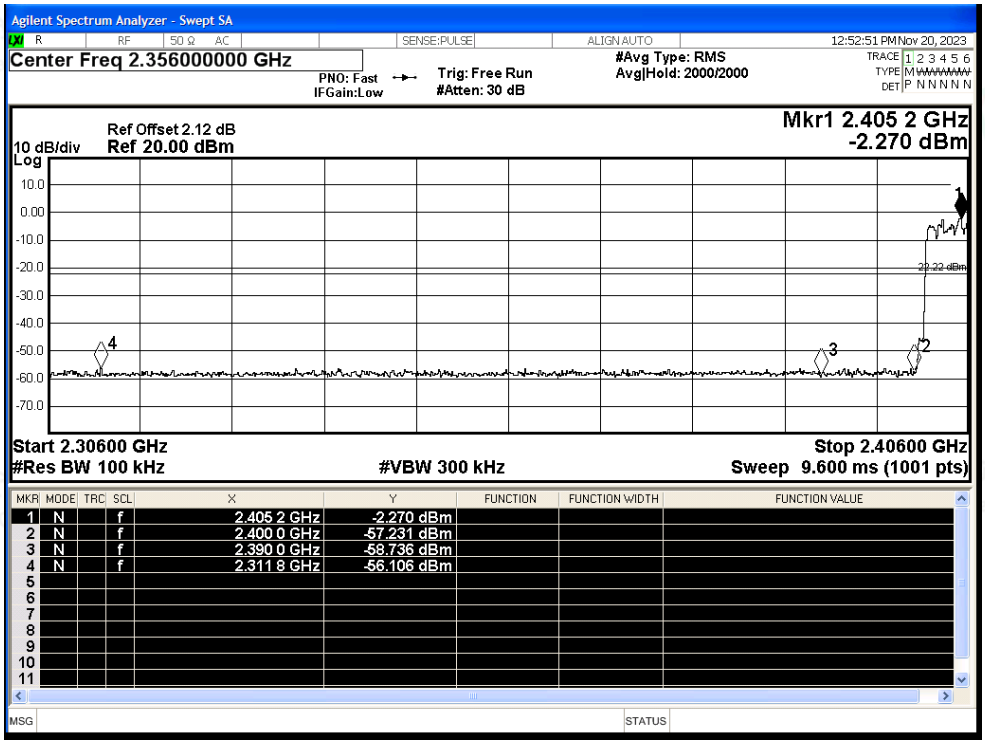
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant0 Hopping Emission



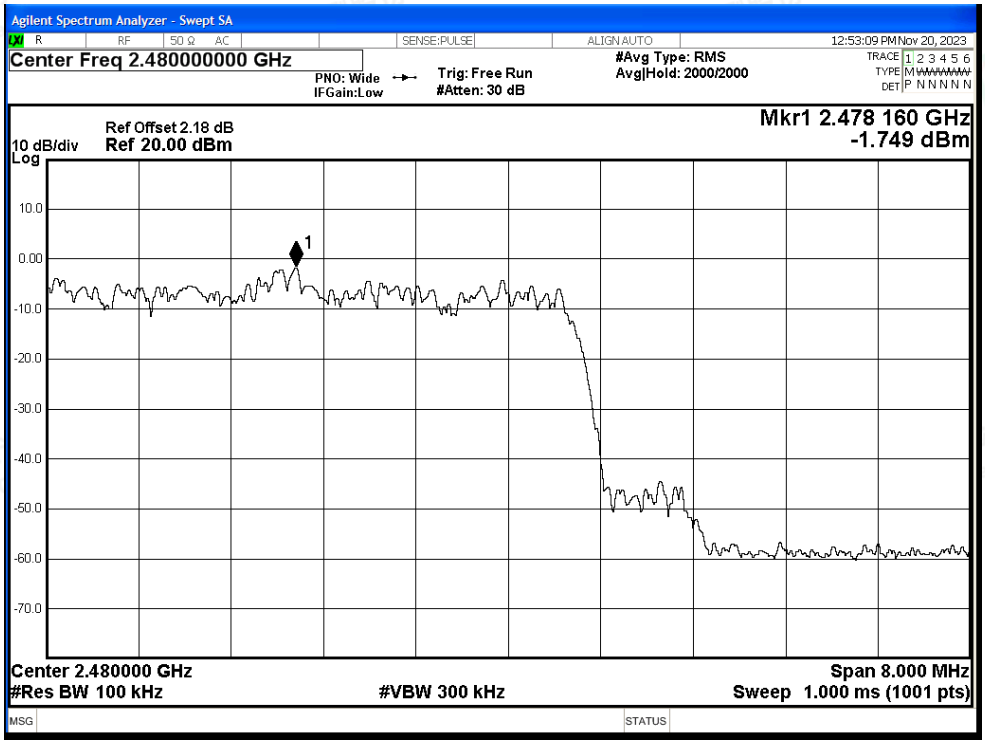
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant0 Hopping Ref



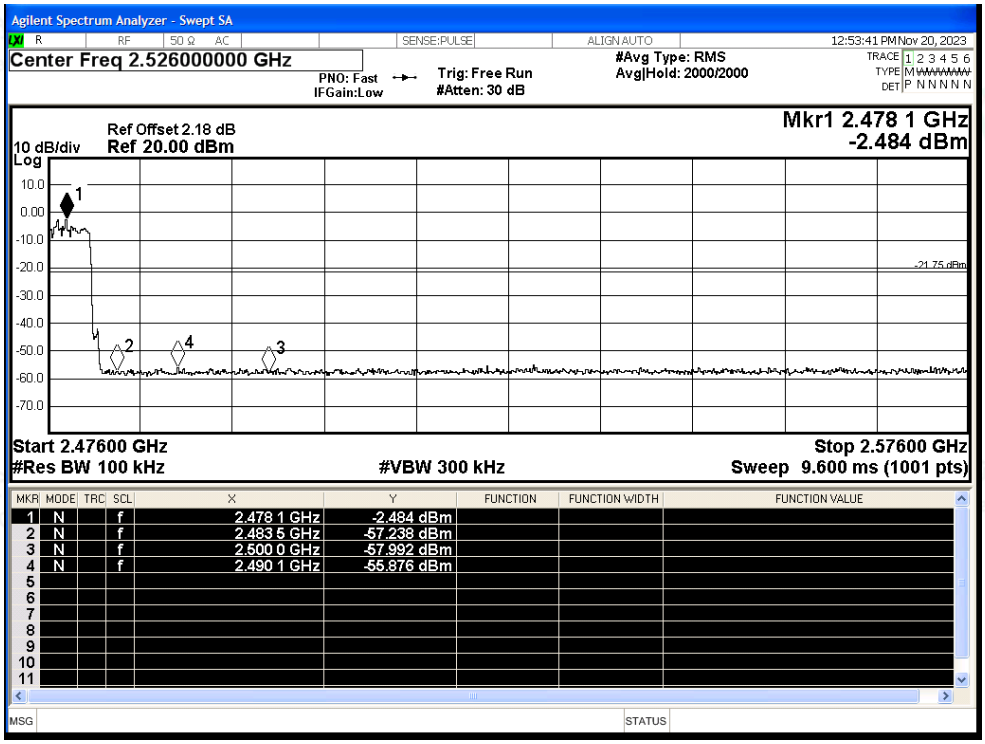
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant0 Hopping Emission



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant0 Hopping Ref



Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant0 Hopping Emission

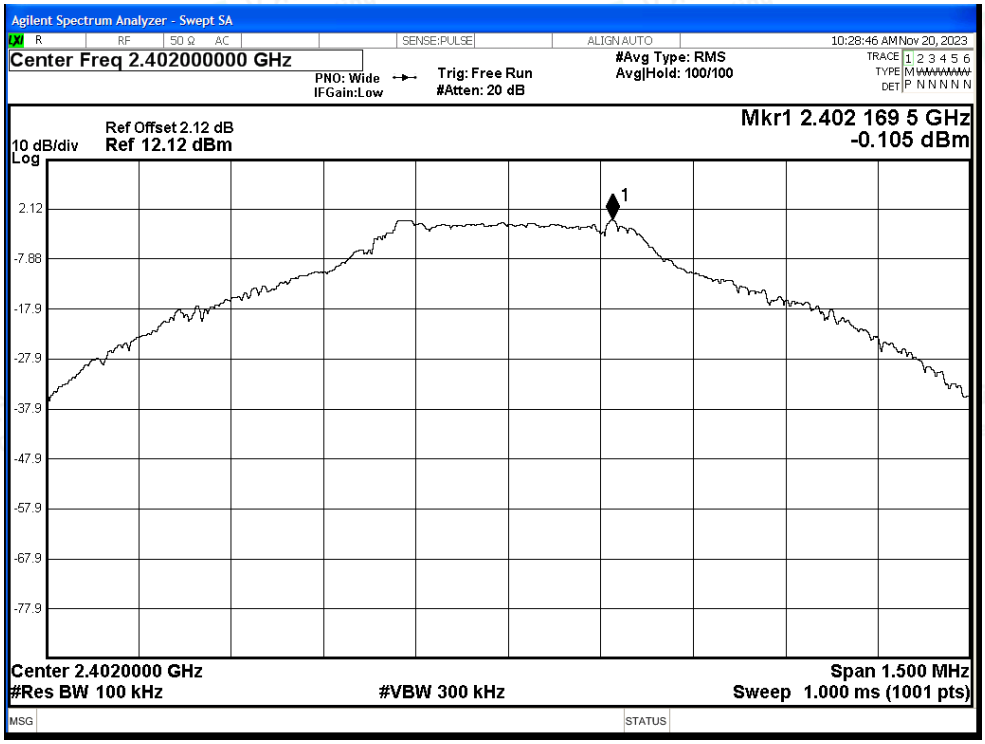


A.7 Conducted RF Spurious Emission

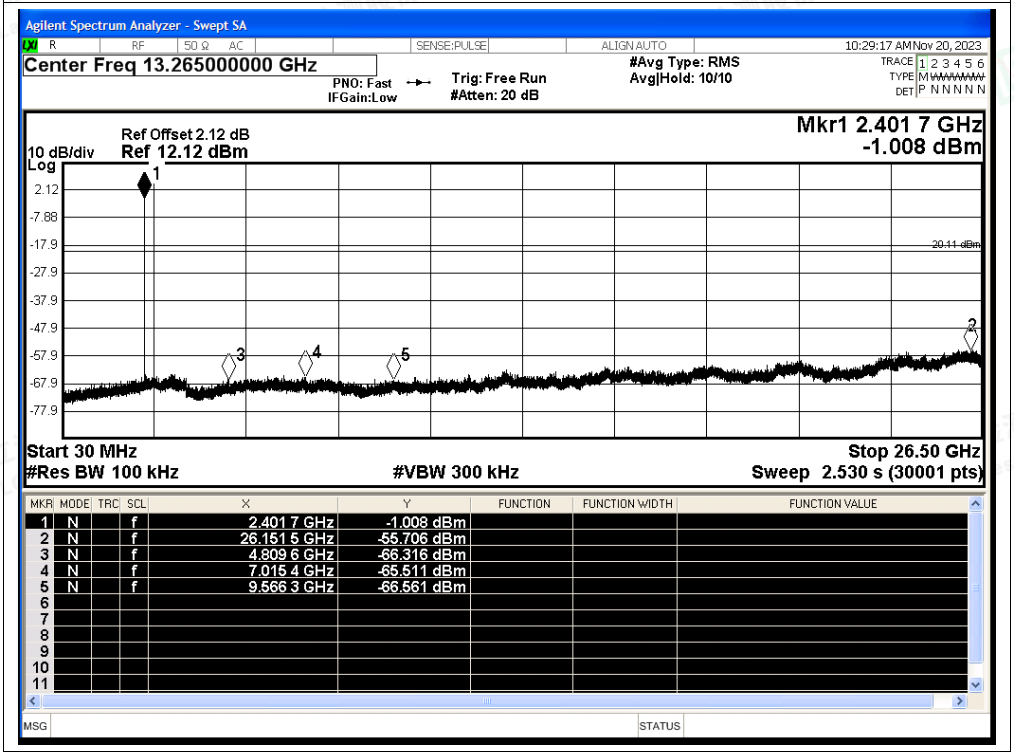
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant0	-55.6	-20	Pass
NVNT	1-DH5	2441	Ant0	-55.96	-20	Pass
NVNT	1-DH5	2480	Ant0	-47.43	-20	Pass
NVNT	2-DH5	2402	Ant0	-53.08	-20	Pass
NVNT	2-DH5	2441	Ant0	-54.63	-20	Pass
NVNT	2-DH5	2480	Ant0	-53.4	-20	Pass
NVNT	3-DH5	2402	Ant0	-42.1	-20	Pass
NVNT	3-DH5	2441	Ant0	-54.2	-20	Pass
NVNT	3-DH5	2480	Ant0	-49.53	-20	Pass

Test Graphs

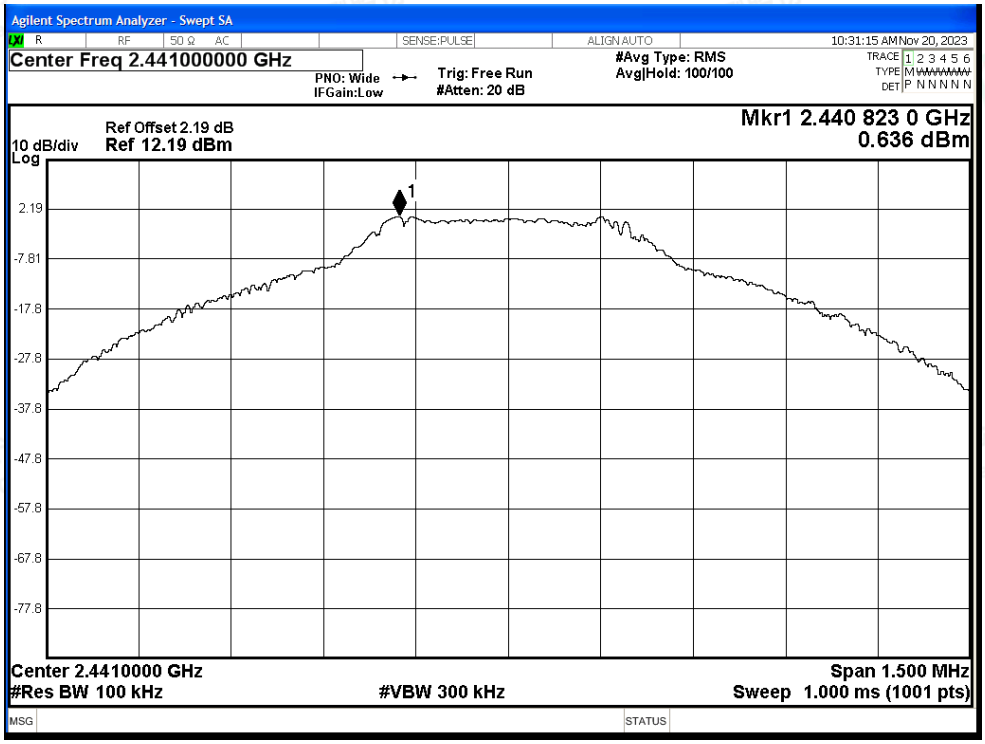
Tx. Spurious NVNT 1-DH5 2402MHz Ant0 Ref



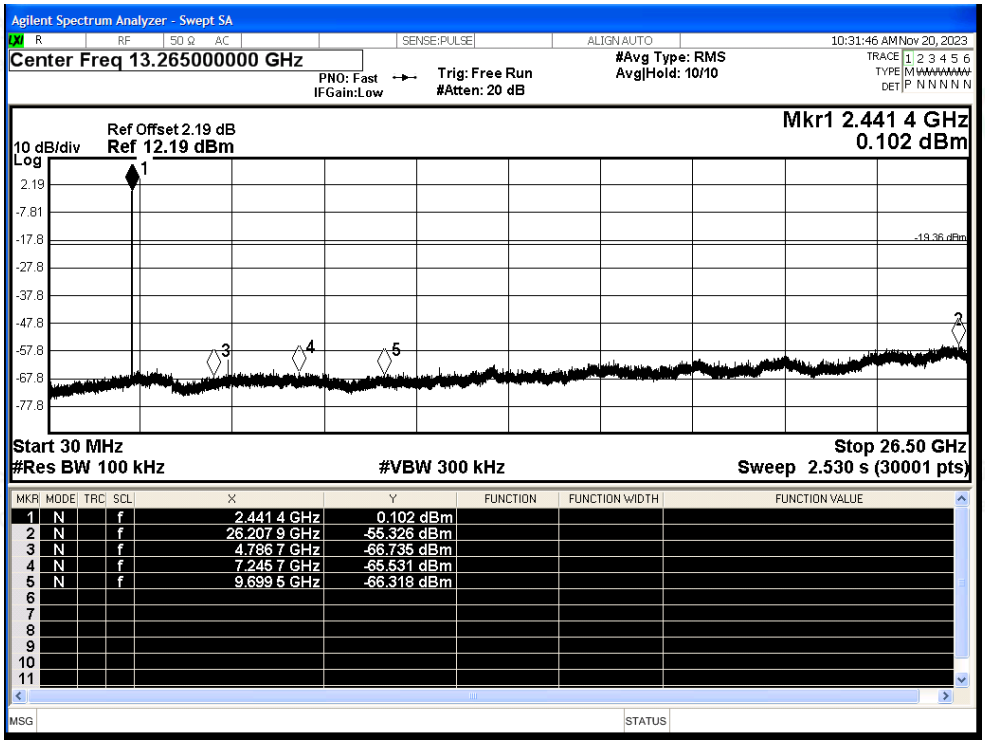
Tx. Spurious NVNT 1-DH5 2402MHz Ant0 Emission



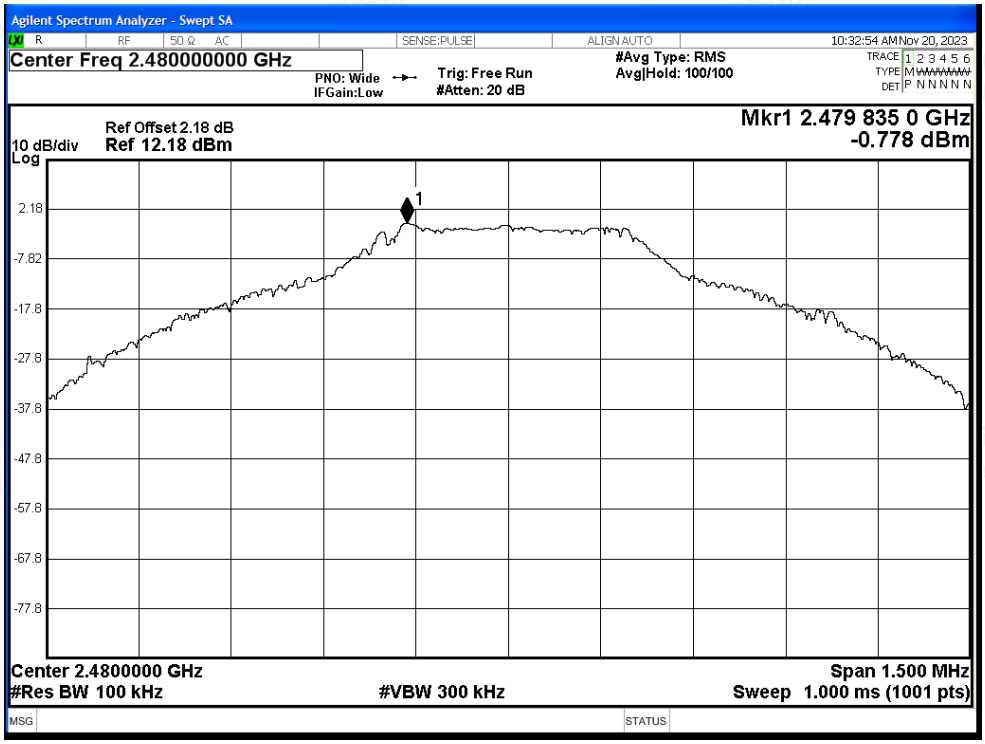
Tx. Spurious NVNT 1-DH5 2441MHz Ant0 Ref



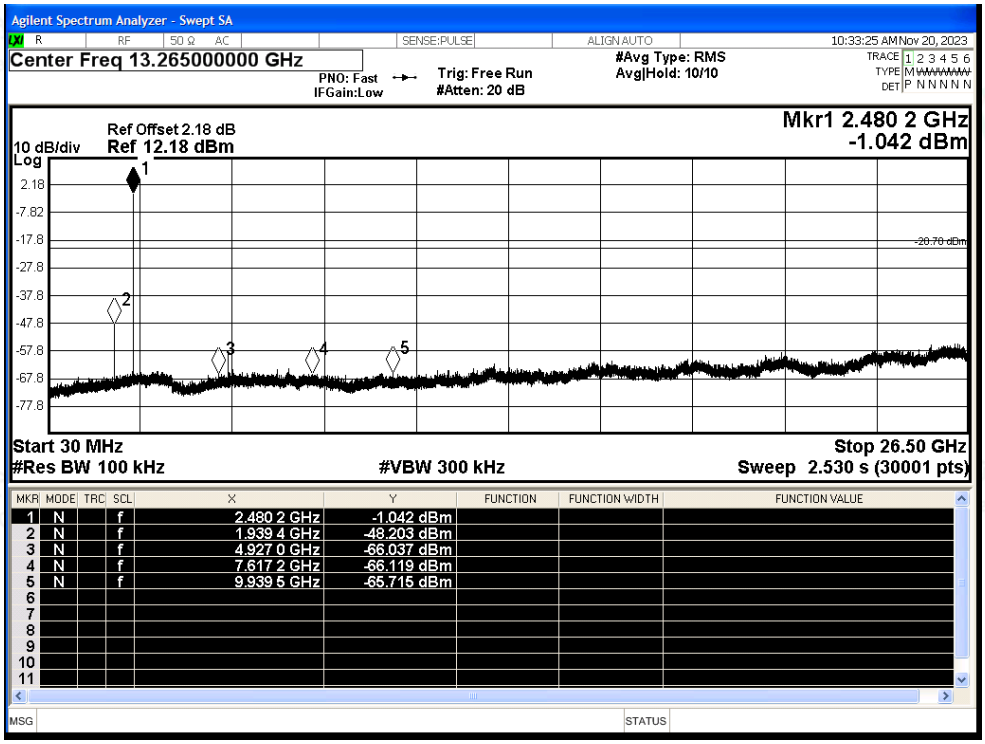
Tx. Spurious NVNT 1-DH5 2441MHz Ant0 Emission



Tx. Spurious NVNT 1-DH5 2480MHz Ant0 Ref

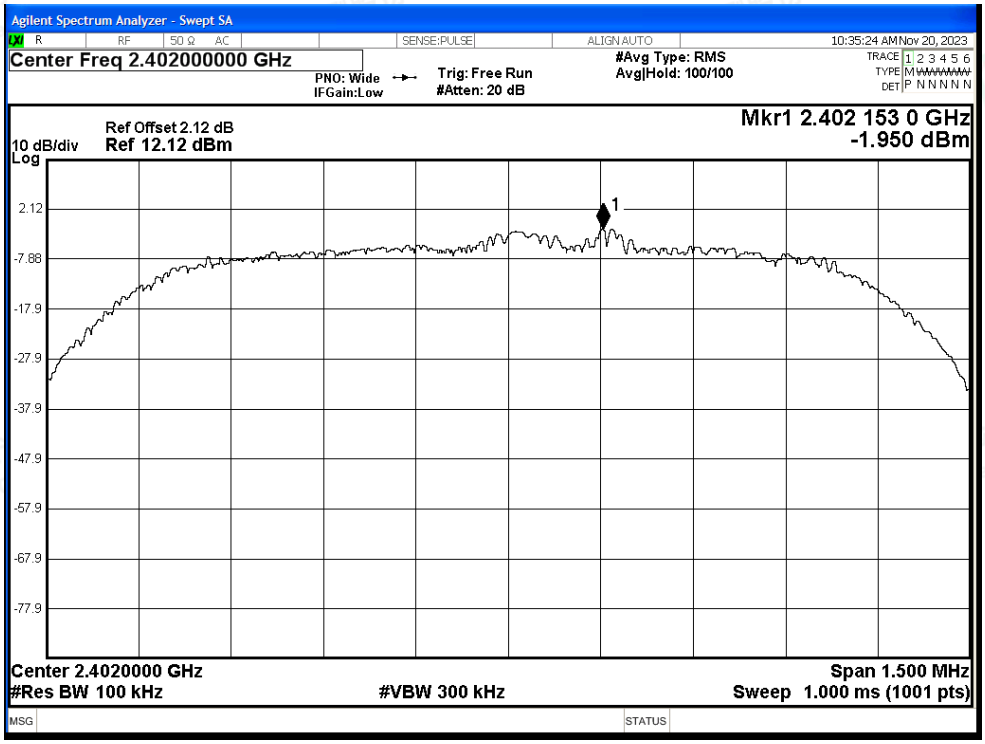


Tx. Spurious NVNT 1-DH5 2480MHz Ant0 Emission

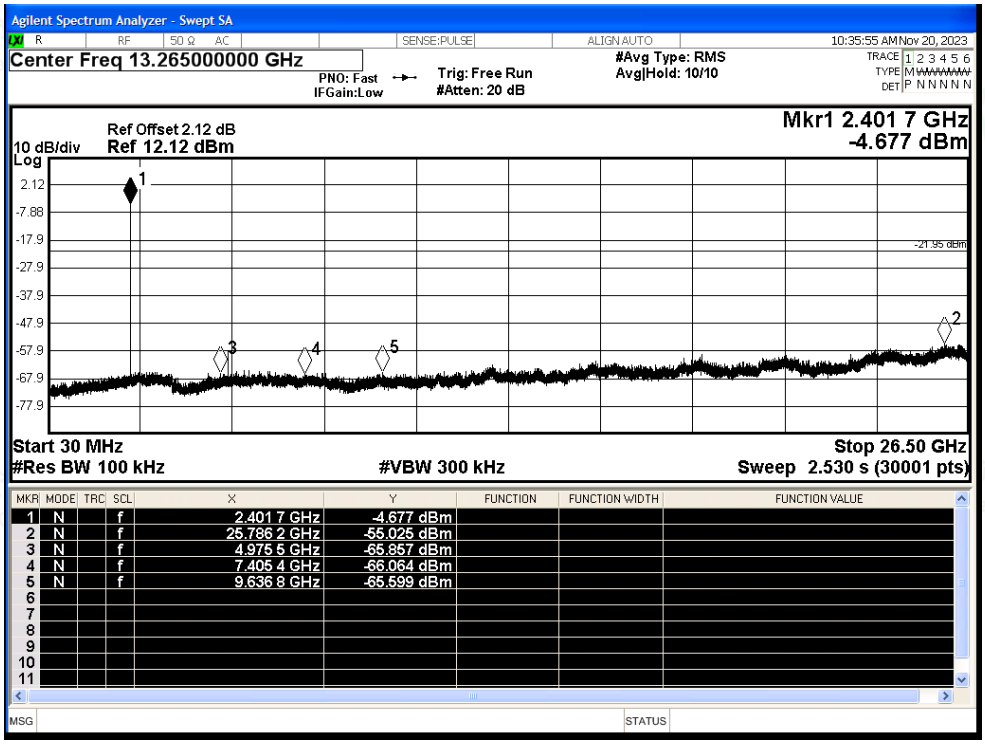


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.480 2 GHz	-1.042 dBm			
2	N		f	1.939 4 GHz	-48.203 dBm			
3	N		f	4.927 0 GHz	-66.037 dBm			
4	N		f	7.617 2 GHz	-66.119 dBm			
5	N		f	9.939 5 GHz	-65.715 dBm			
6								
7								
8								
9								
10								
11								

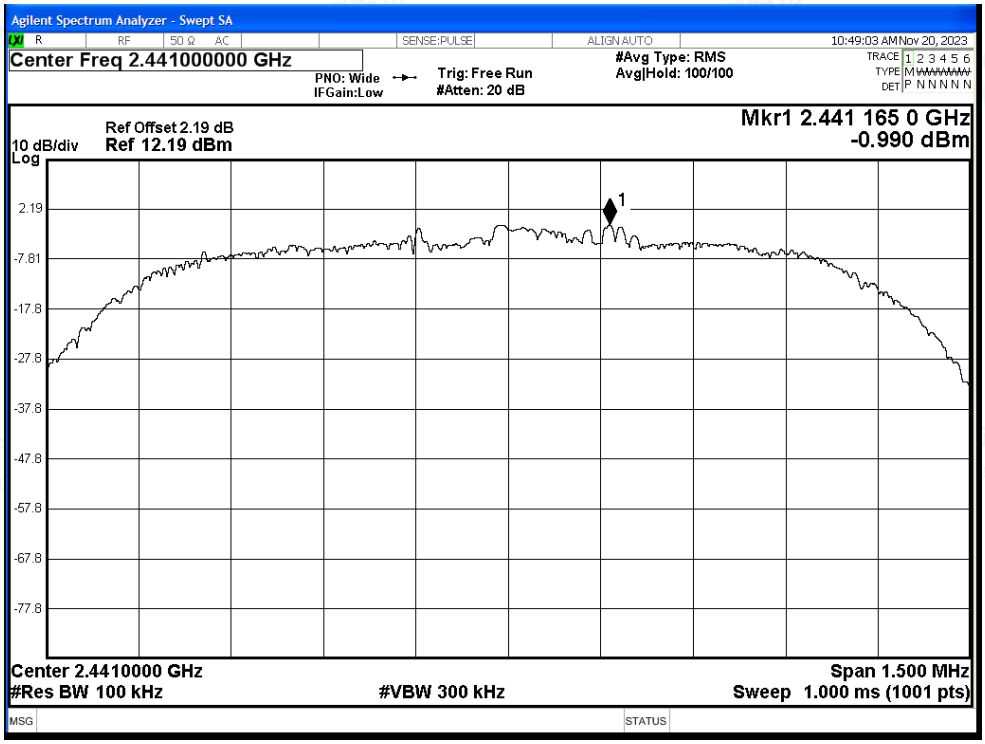
Tx. Spurious NVNT 2-DH5 2402MHz Ant0 Ref



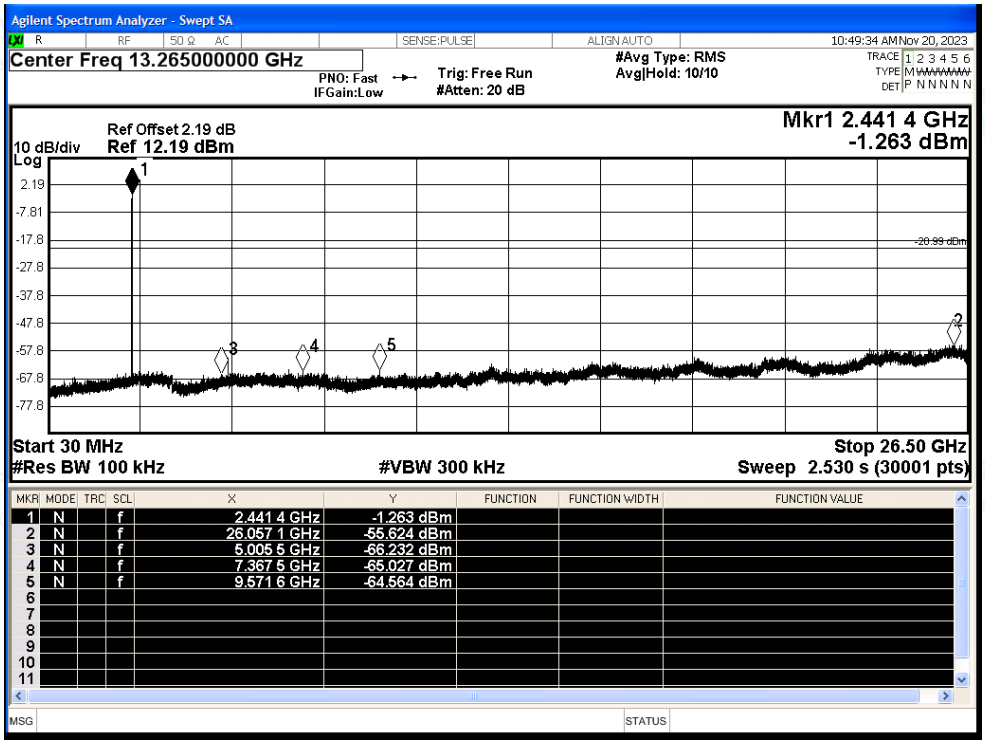
Tx. Spurious NVNT 2-DH5 2402MHz Ant0 Emission



Tx. Spurious NVNT 2-DH5 2441MHz Ant0 Ref

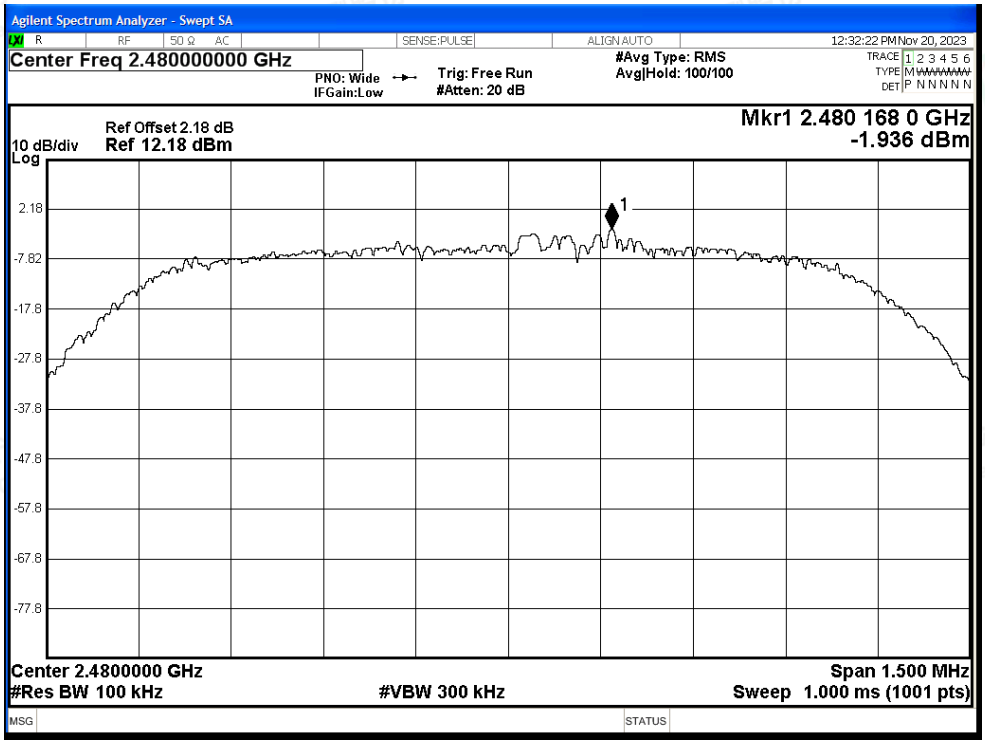


Tx. Spurious NVNT 2-DH5 2441MHz Ant0 Emission

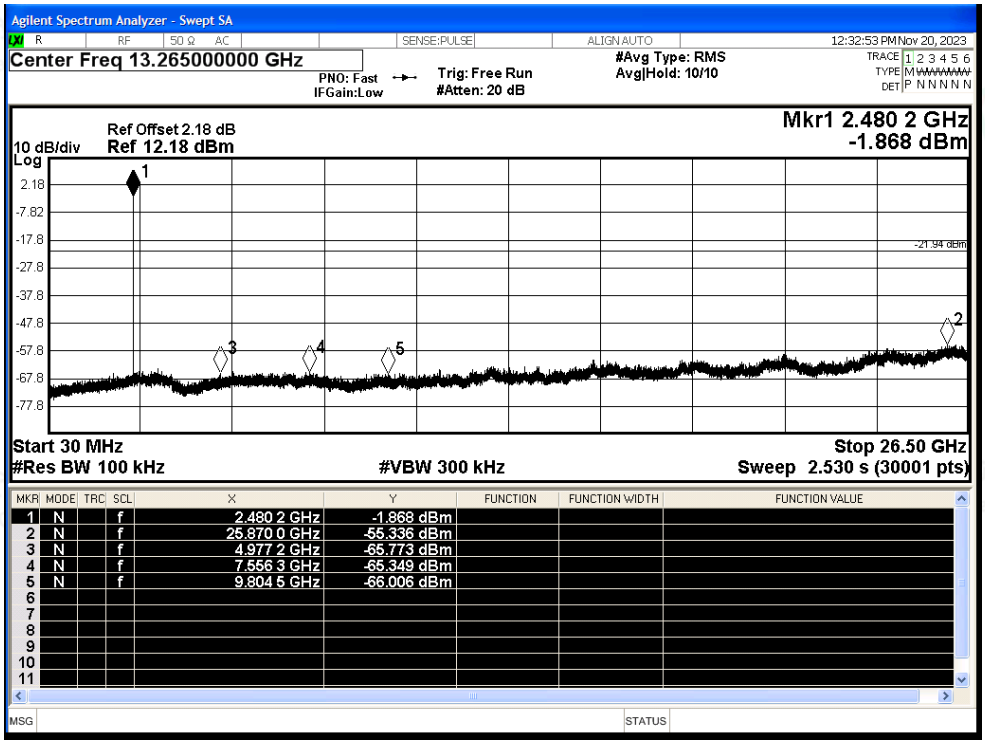


MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.441 4 GHz	-1.263 dBm			
2	N		f	26.057 1 GHz	-55.624 dBm			
3	N		f	5.005 5 GHz	-66.232 dBm			
4	N		f	7.367 5 GHz	-65.027 dBm			
5	N		f	9.571 6 GHz	-64.564 dBm			
6								
7								
8								
9								
10								
11								

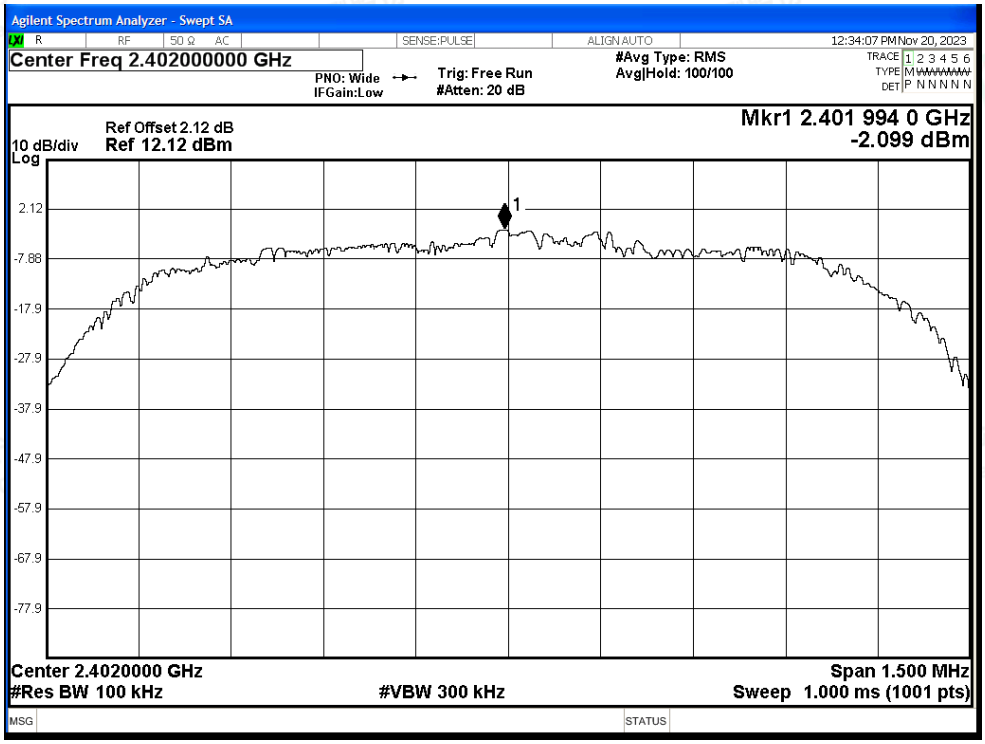
Tx. Spurious NVNT 2-DH5 2480MHz Ant0 Ref



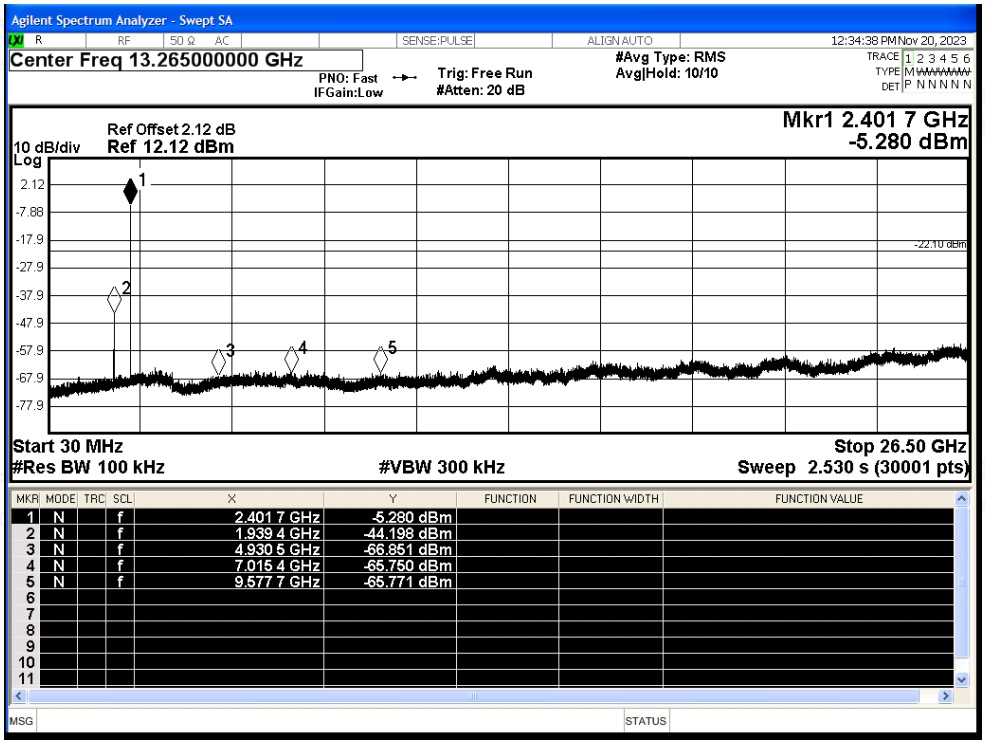
Tx. Spurious NVNT 2-DH5 2480MHz Ant0 Emission



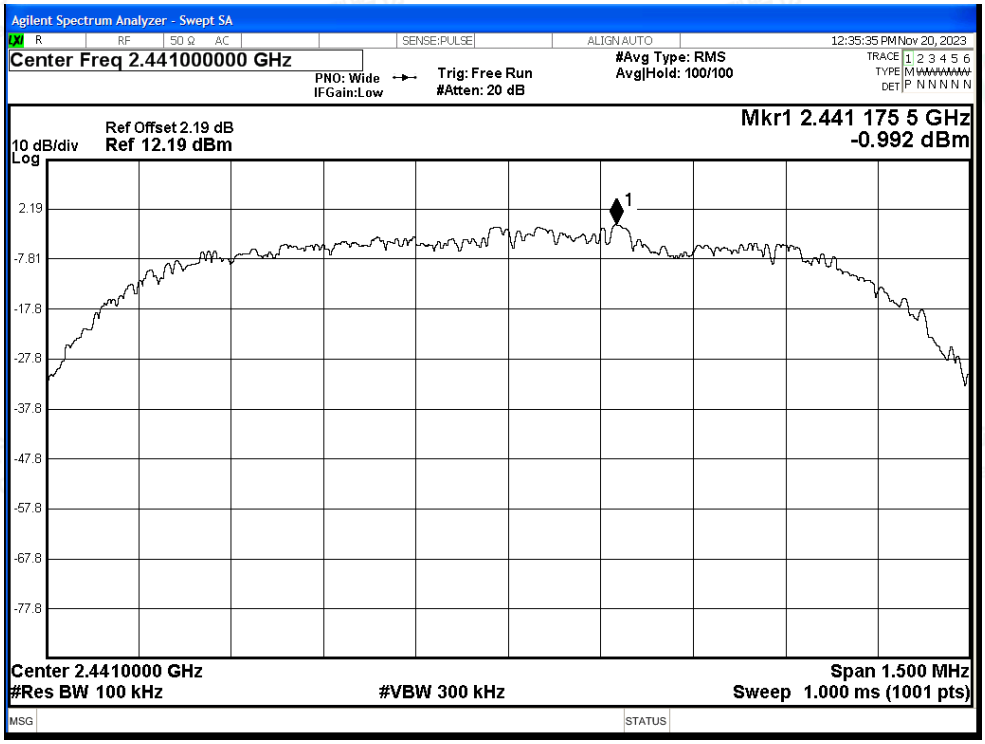
Tx. Spurious NVNT 3-DH5 2402MHz Ant0 Ref



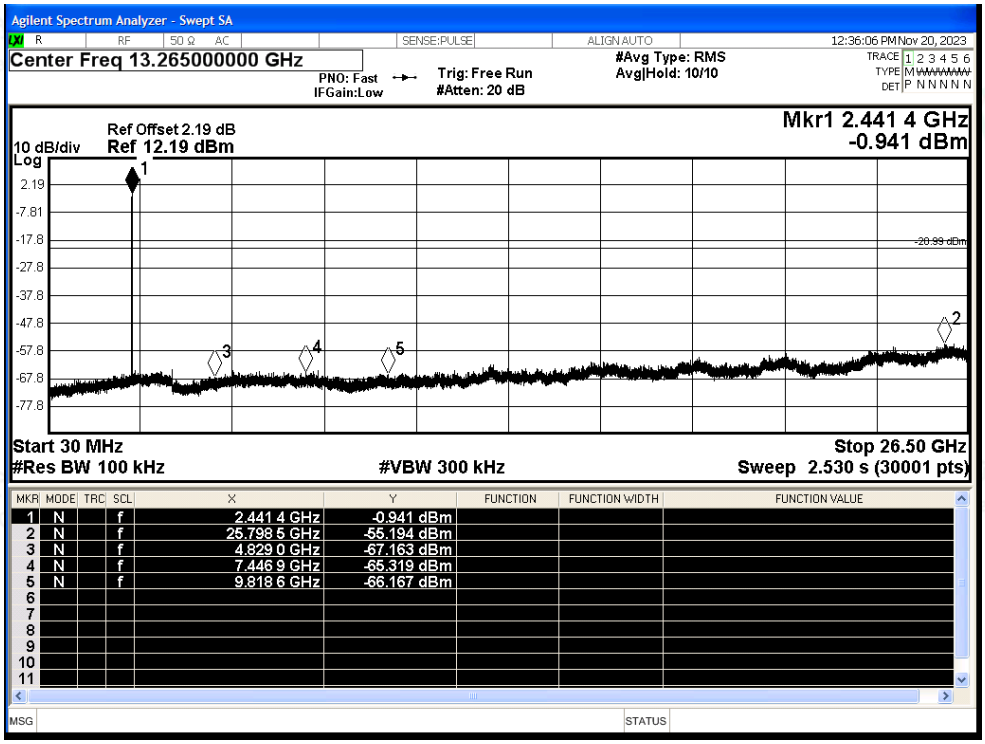
Tx. Spurious NVNT 3-DH5 2402MHz Ant0 Emission



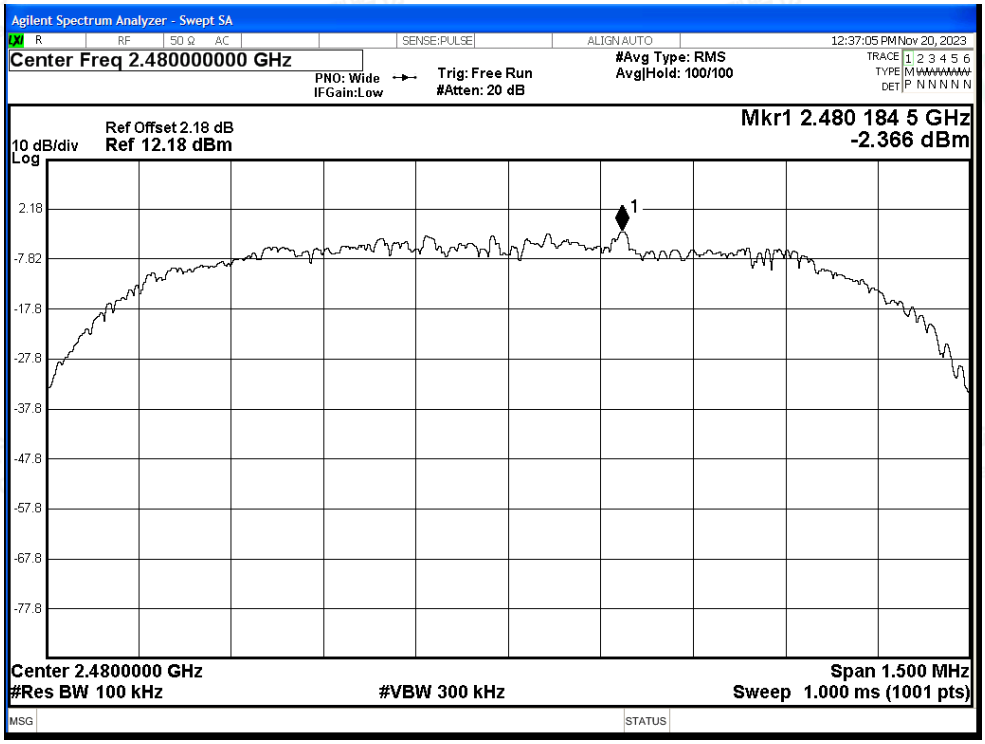
Tx. Spurious NVNT 3-DH5 2441MHz Ant0 Ref



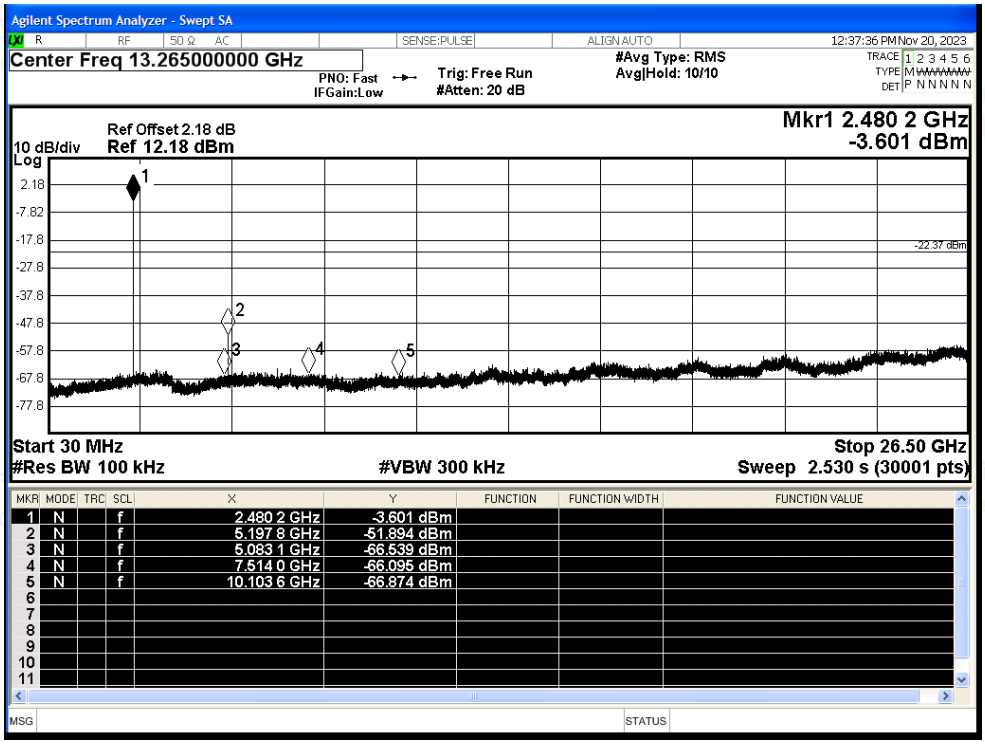
Tx. Spurious NVNT 3-DH5 2441MHz Ant0 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant0 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant0 Emission

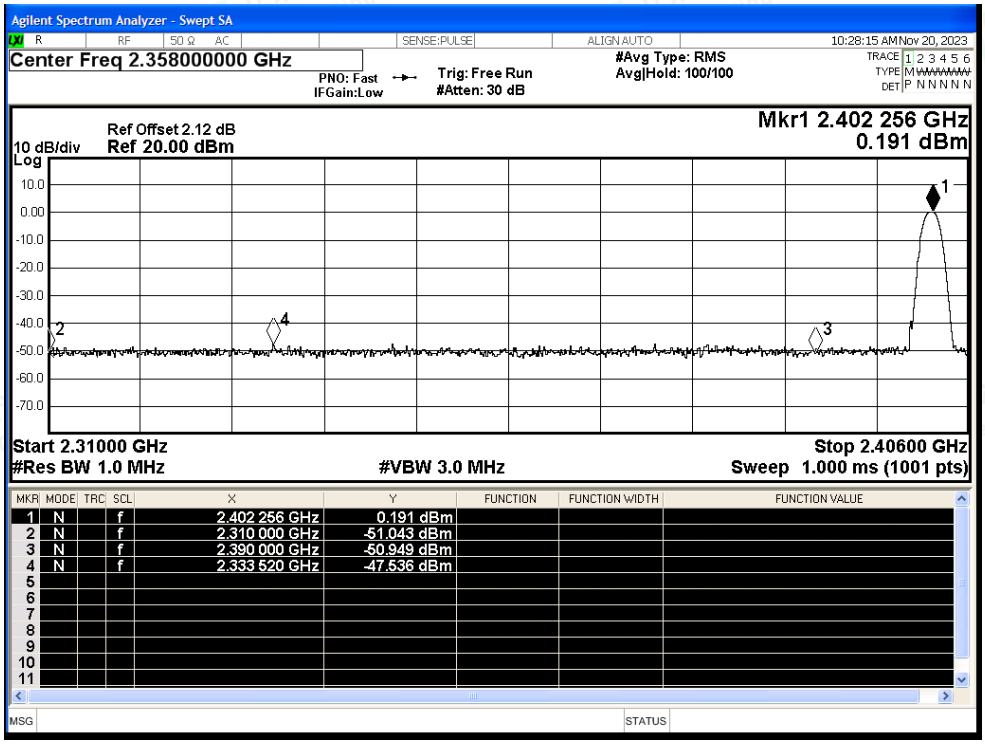


A.8 Restrict Band

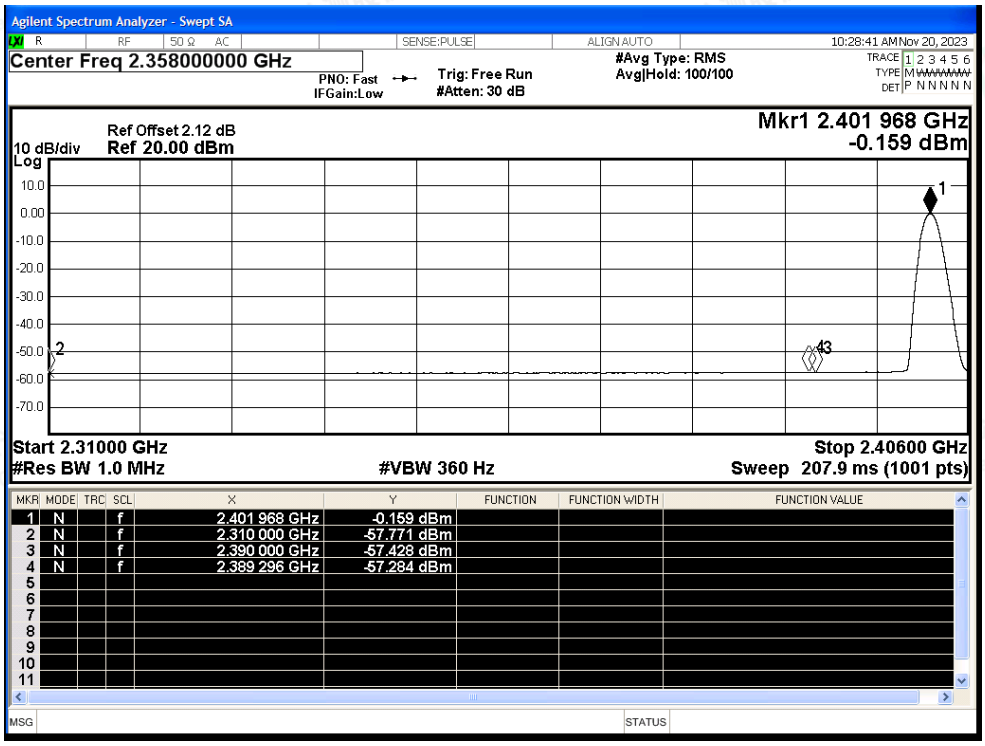
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant0	No-Hopping	2310	-51.04	2	46.22	Peak	74	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2310	-57.77	2	39.49	Average	54	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2333.52	-47.54	2	49.72	Peak	74	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2389.296	-57.28	2	39.98	Average	54	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2390	-50.95	2	46.31	Peak	74	Pass
NVNT	1-DH5	2402	Ant0	No-Hopping	2390	-57.43	2	39.83	Average	54	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2483.5	-49.83	2	47.43	Peak	74	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2483.5	-55.98	2	41.28	Average	54	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2486.536	-43.54	2	53.72	Peak	74	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2483.512	-55.98	2	41.28	Average	54	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2500	-49.64	2	47.62	Peak	74	Pass
NVNT	1-DH5	2480	Ant0	No-Hopping	2500	-57.16	2	40.1	Average	54	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2310	-50.38	2	46.88	Peak	74	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2310	-56.7	2	40.56	Average	54	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2365.584	-47.56	2	49.7	Peak	74	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2337.936	-55.22	2	42.04	Average	54	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2390	-51.56	2	45.7	Peak	74	Pass
NVNT	2-DH5	2402	Ant0	No-Hopping	2390	-56.18	2	41.08	Average	54	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2483.5	-50.3	2	46.96	Peak	74	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2483.5	-54.65	2	42.61	Average	54	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2488.768	-46.73	2	50.53	Peak	74	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2483.512	-54.65	2	42.61	Average	54	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2500	-50.64	2	46.62	Peak	74	Pass
NVNT	2-DH5	2480	Ant0	No-Hopping	2500	-56.17	2	41.09	Average	54	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2310	-50.73	2	46.53	Peak	74	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2310	-56.75	2	40.51	Average	54	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2389.008	-47.19	2	50.07	Peak	74	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2357.904	-55.53	2	41.73	Average	54	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2390	-51.51	2	45.75	Peak	74	Pass
NVNT	3-DH5	2402	Ant0	No-Hopping	2390	-55.94	2	41.32	Average	54	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2483.5	-50.46	2	46.8	Peak	74	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2483.5	-54.45	2	42.81	Average	54	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2484.76	-40.01	2	57.25	Peak	74	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2483.512	-54.45	2	42.81	Average	54	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2500	-49.61	2	47.65	Peak	74	Pass
NVNT	3-DH5	2480	Ant0	No-Hopping	2500	-55.94	2	41.32	Average	54	Pass

Test Graphs

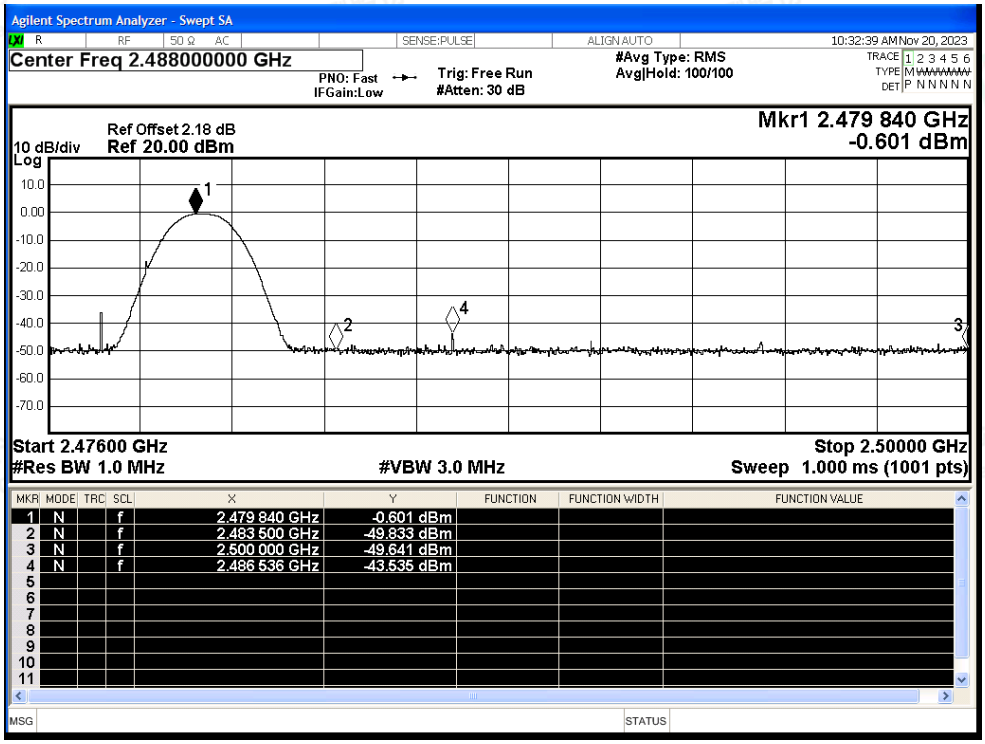
Restrict Band NVNT 1-DH5 2402MHz Ant0 No-Hopping Peak



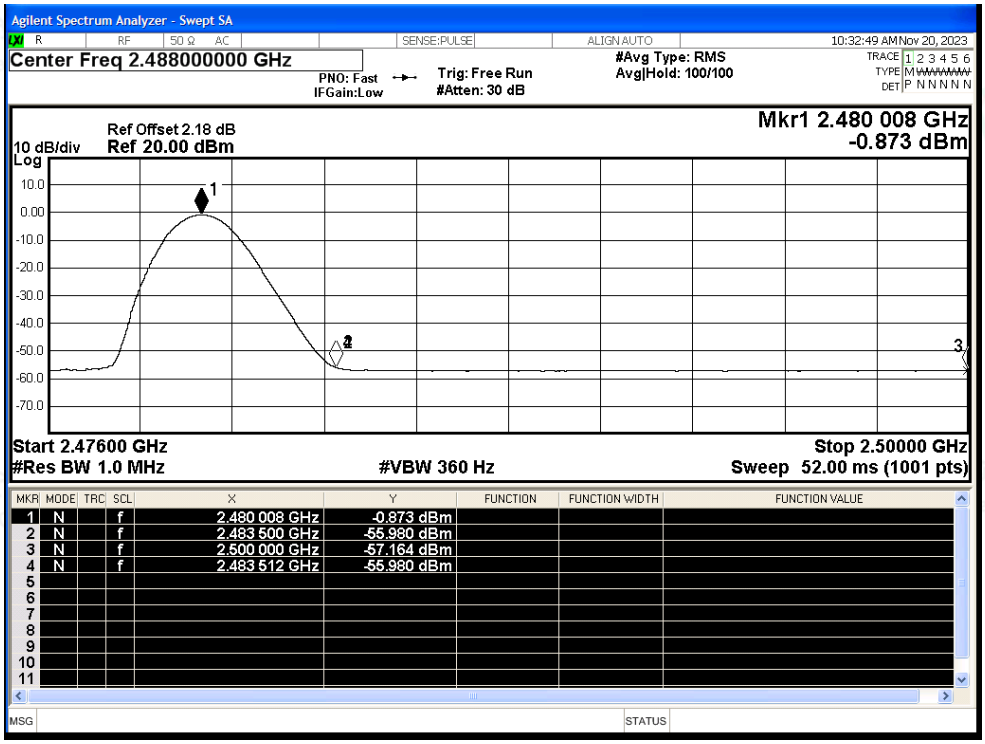
Restrict Band NVNT 1-DH5 2402MHz Ant0 No-Hopping Average



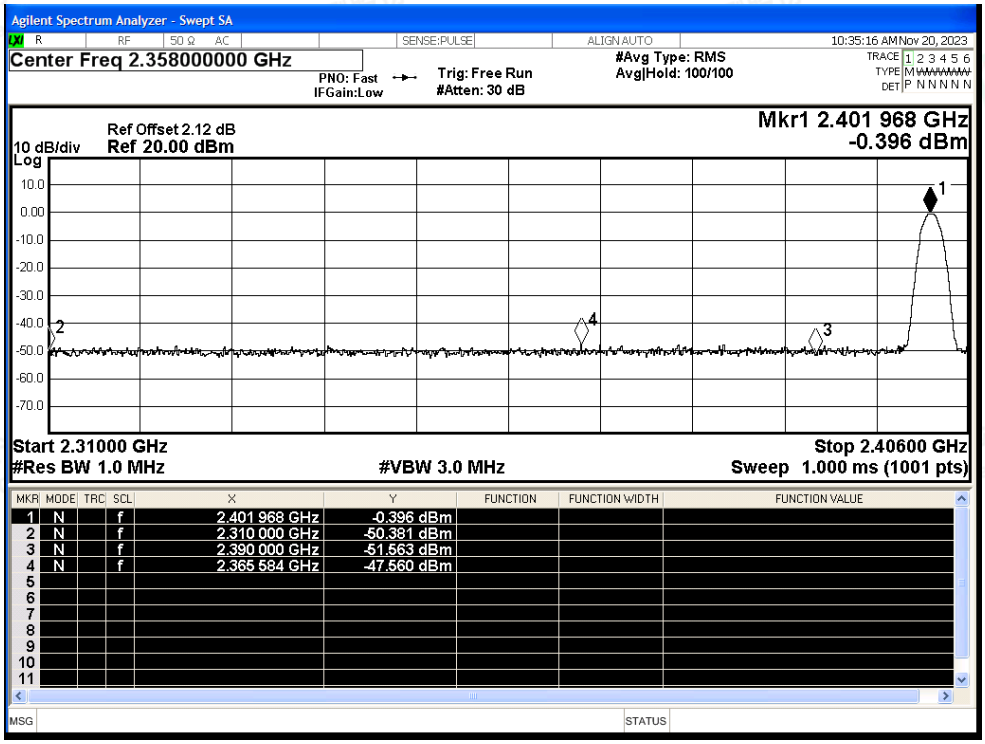
Restrict Band NVNT 1-DH5 2480MHz Ant0 No-Hopping Peak



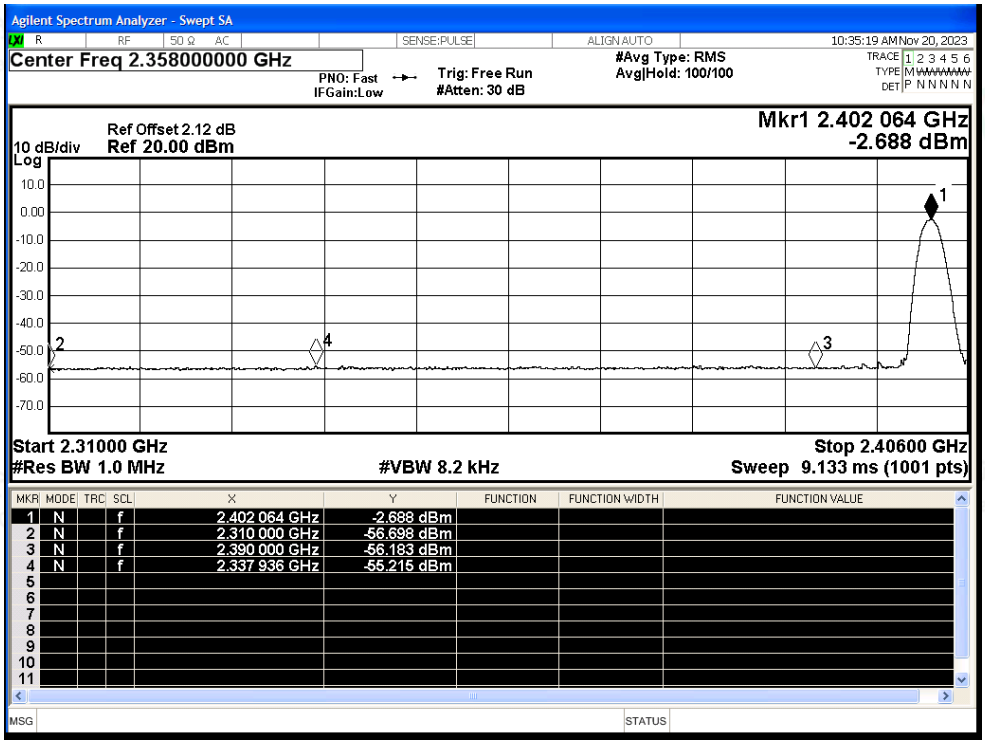
Restrict Band NVNT 1-DH5 2480MHz Ant0 No-Hopping Average



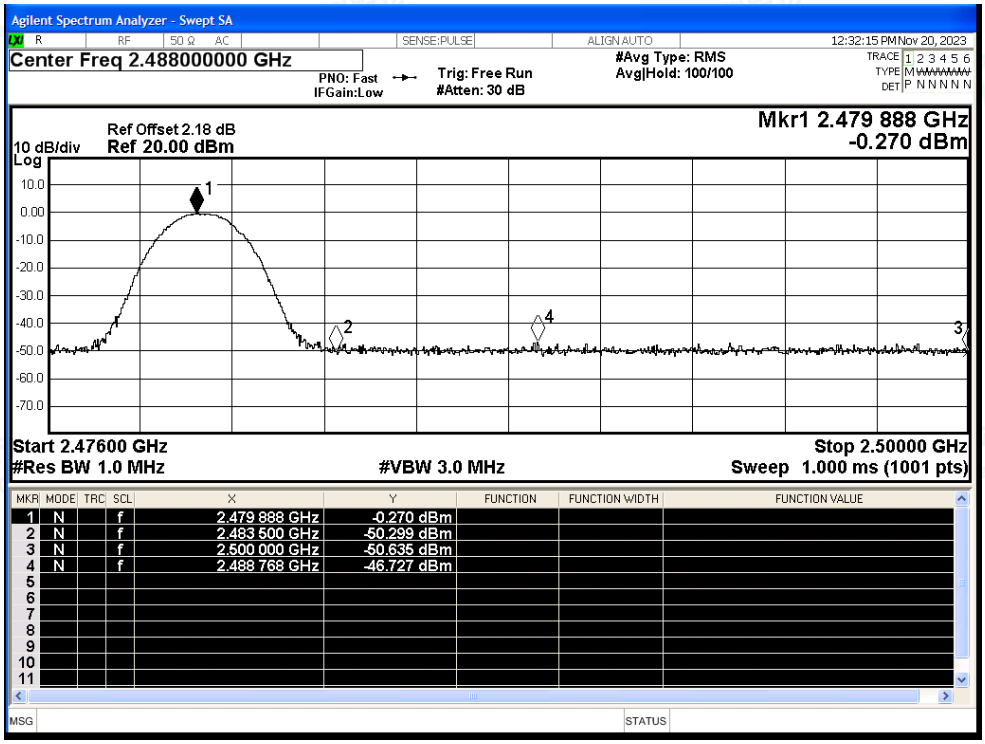
Restrict Band NVNT 2-DH5 2402MHz Ant0 No-Hopping Peak



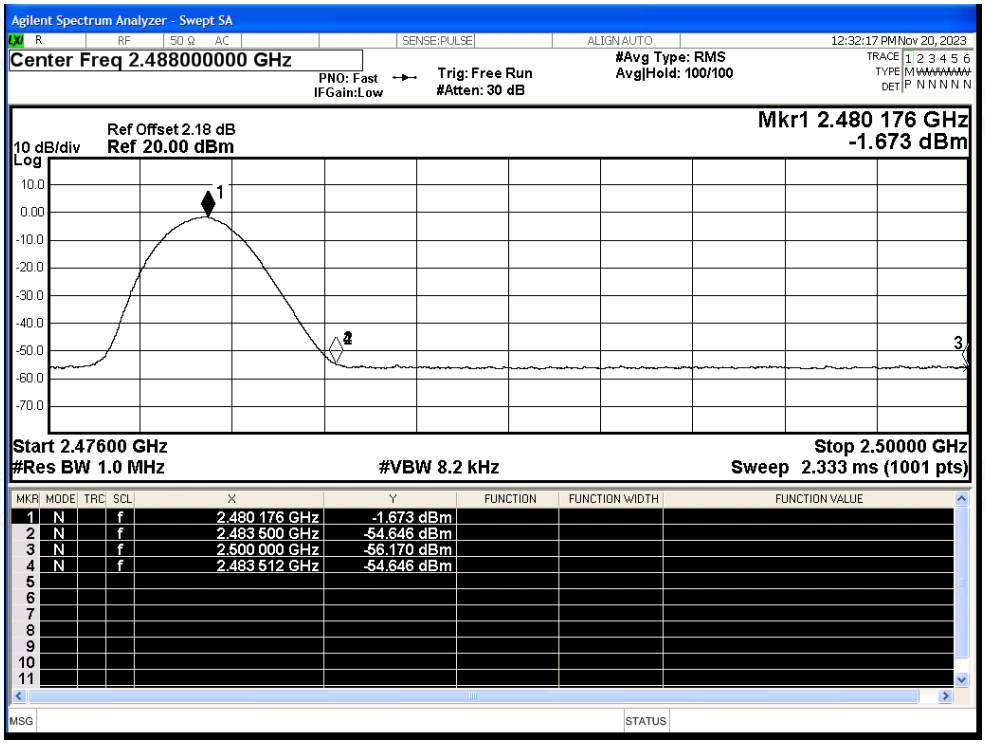
Restrict Band NVNT 2-DH5 2402MHz Ant0 No-Hopping Average



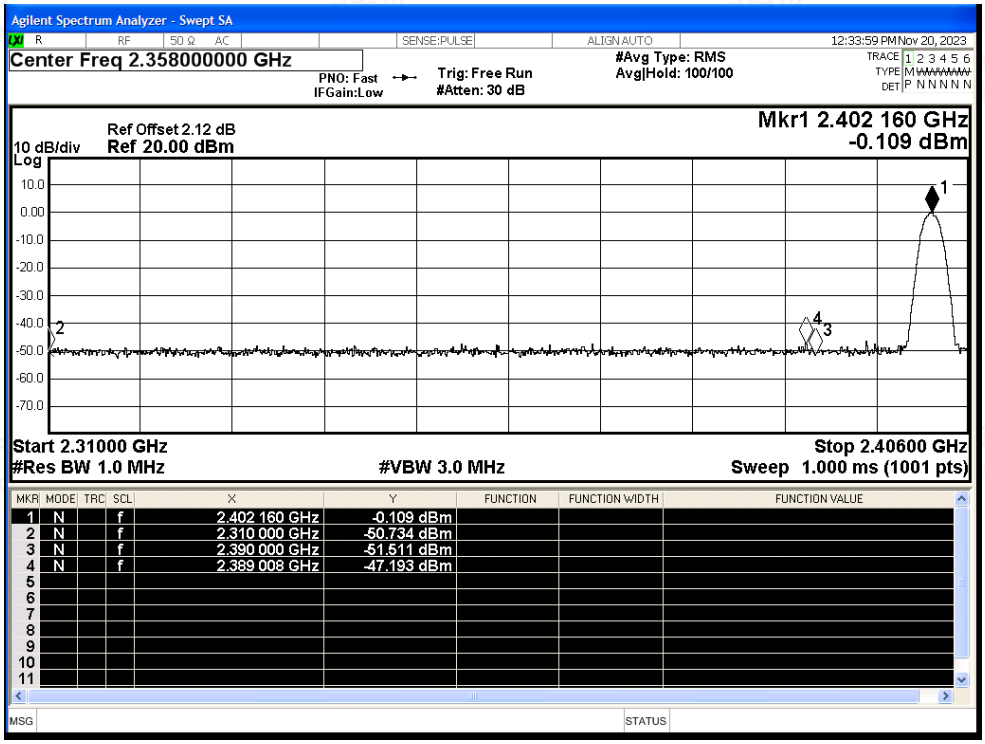
Restrict Band NVNT 2-DH5 2480MHz Ant0 No-Hopping Peak



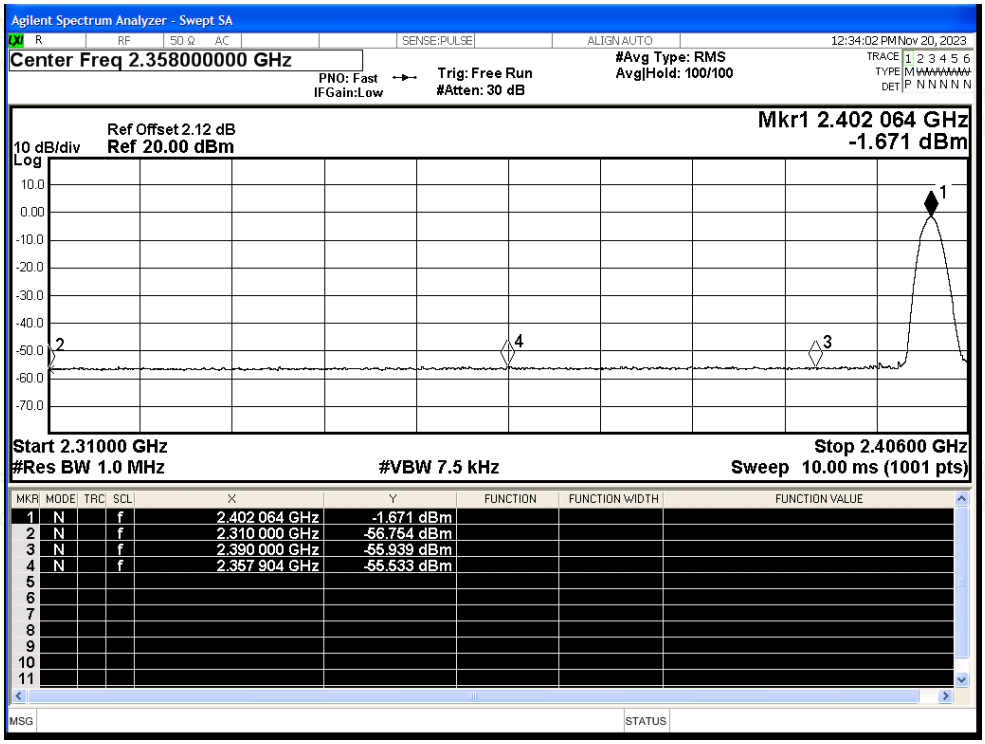
Restrict Band NVNT 2-DH5 2480MHz Ant0 No-Hopping Average



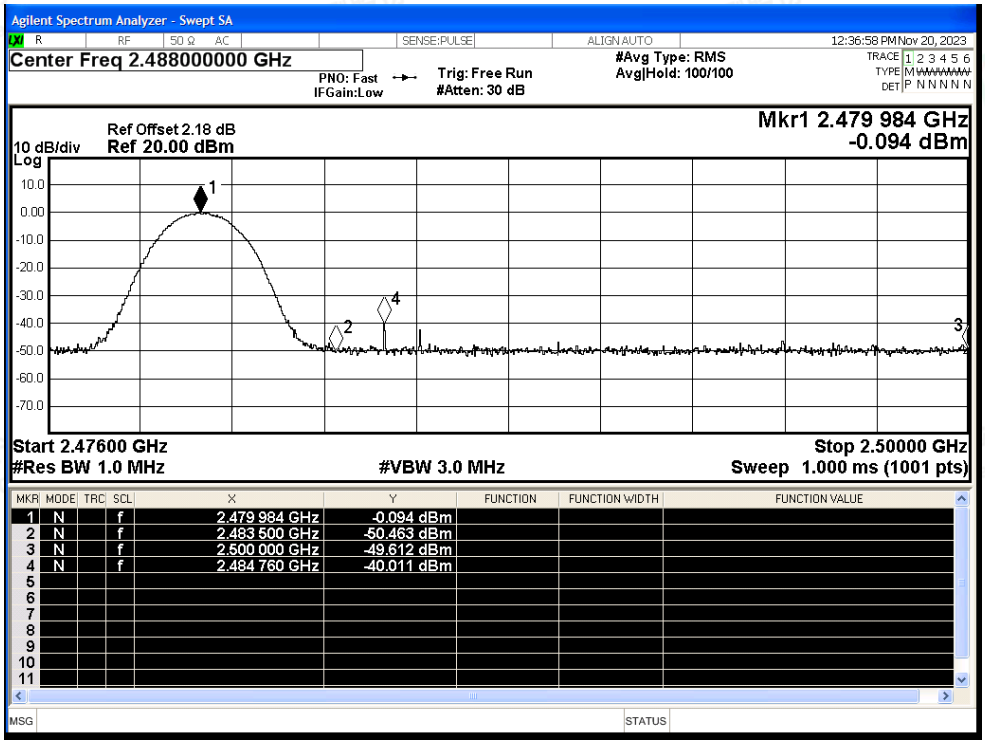
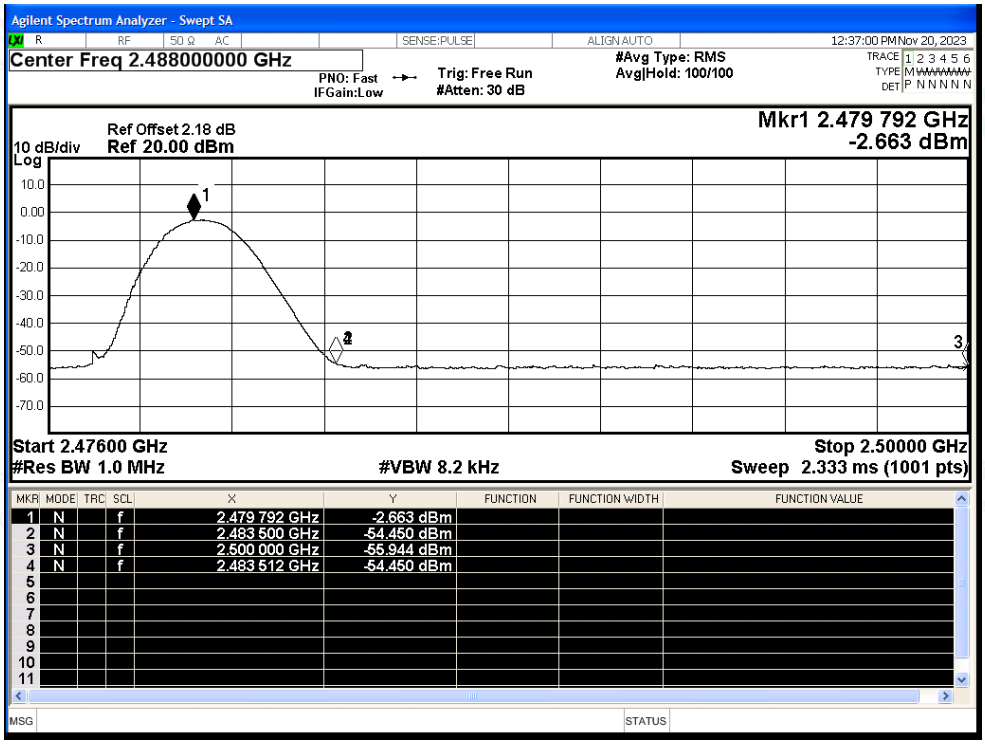
Restrict Band NVNT 3-DH5 2402MHz Ant0 No-Hopping Peak



Restrict Band NVNT 3-DH5 2402MHz Ant0 No-Hopping Average



Restrict Band NVNT 3-DH5 2480MHz Ant0 No-Hopping Peak



Restrict Band NVNT 3-DH5 2480MHz Ant0 No-Hopping Average