Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: IPTV Set-Top Box

Test Model: SML-5045W6

Environmental Conditions

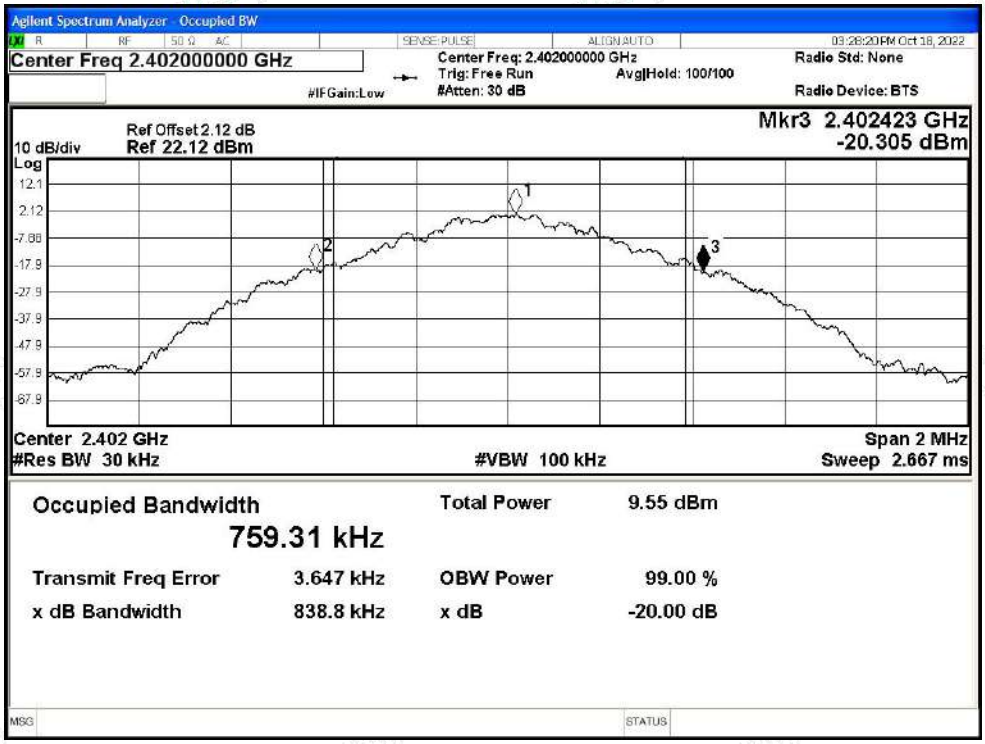
Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Ling Zhu
Supervised by:	Li Huan

A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.839	---	Pass
NVNT	1-DH5	2441	Ant1	0.842	---	Pass
NVNT	1-DH5	2480	Ant1	0.842	---	Pass
NVNT	2-DH5	2402	Ant1	1.273	---	Pass
NVNT	2-DH5	2441	Ant1	1.278	---	Pass
NVNT	2-DH5	2480	Ant1	1.282	---	Pass
NVNT	3-DH5	2402	Ant1	1.286	---	Pass
NVNT	3-DH5	2441	Ant1	1.284	---	Pass
NVNT	3-DH5	2480	Ant1	1.279	---	Pass

Test Graphs

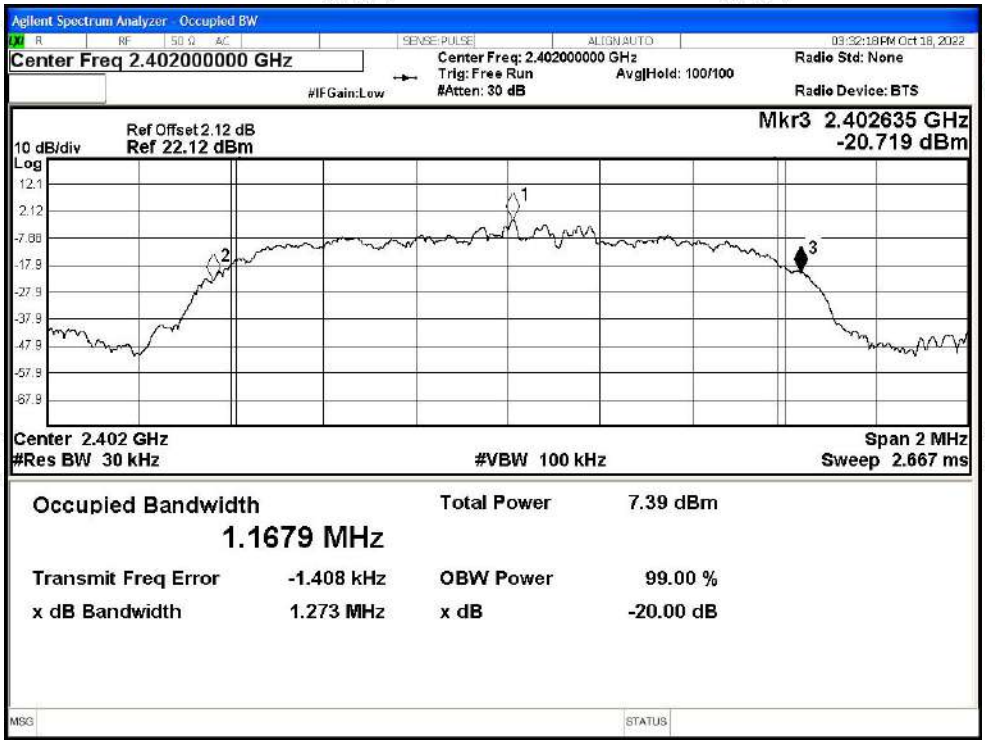
-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



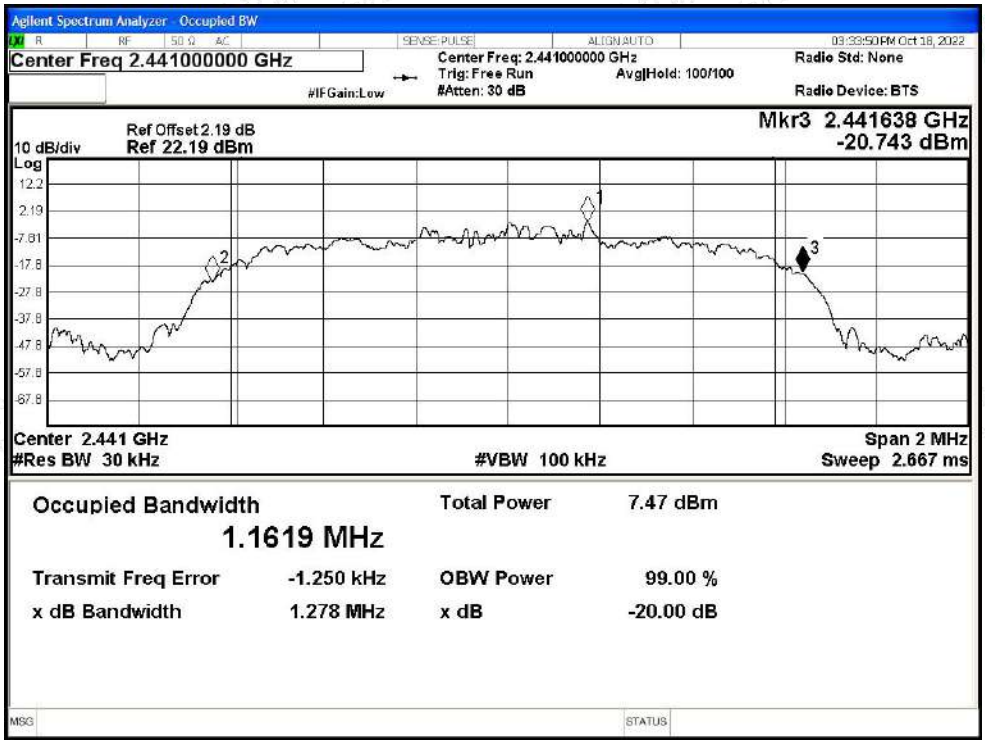
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

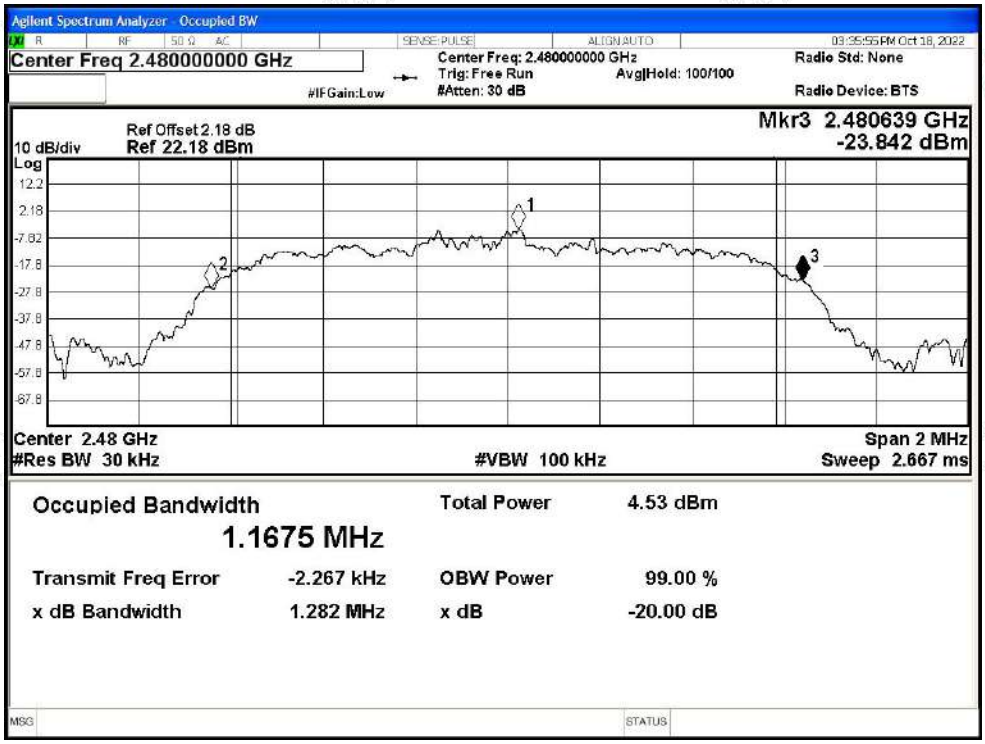
-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1



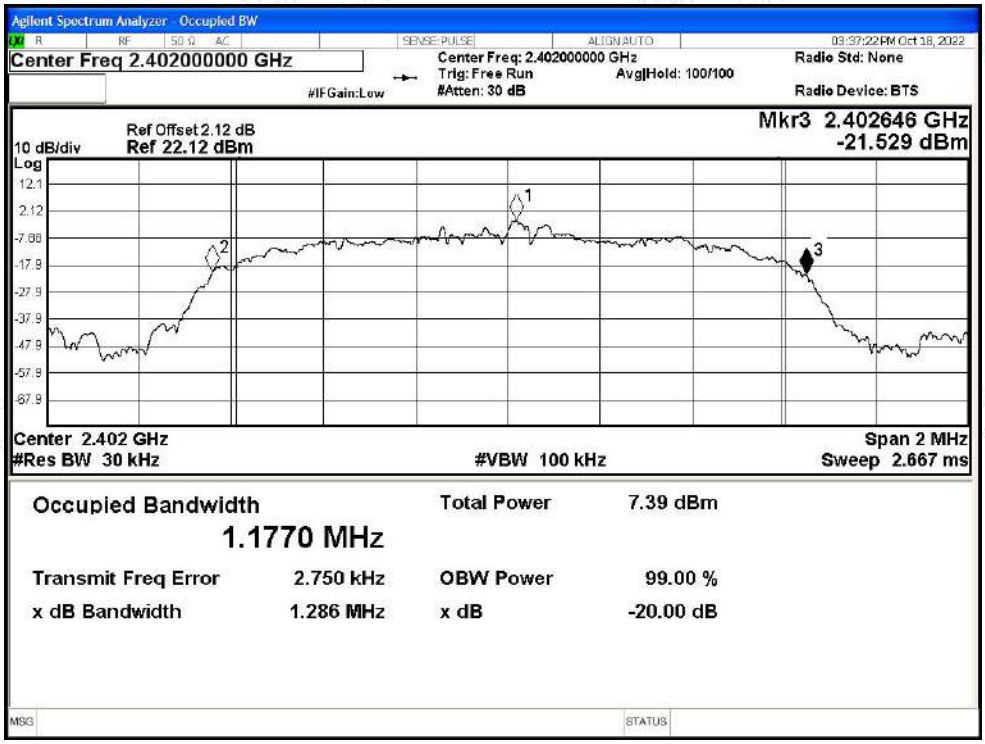
-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



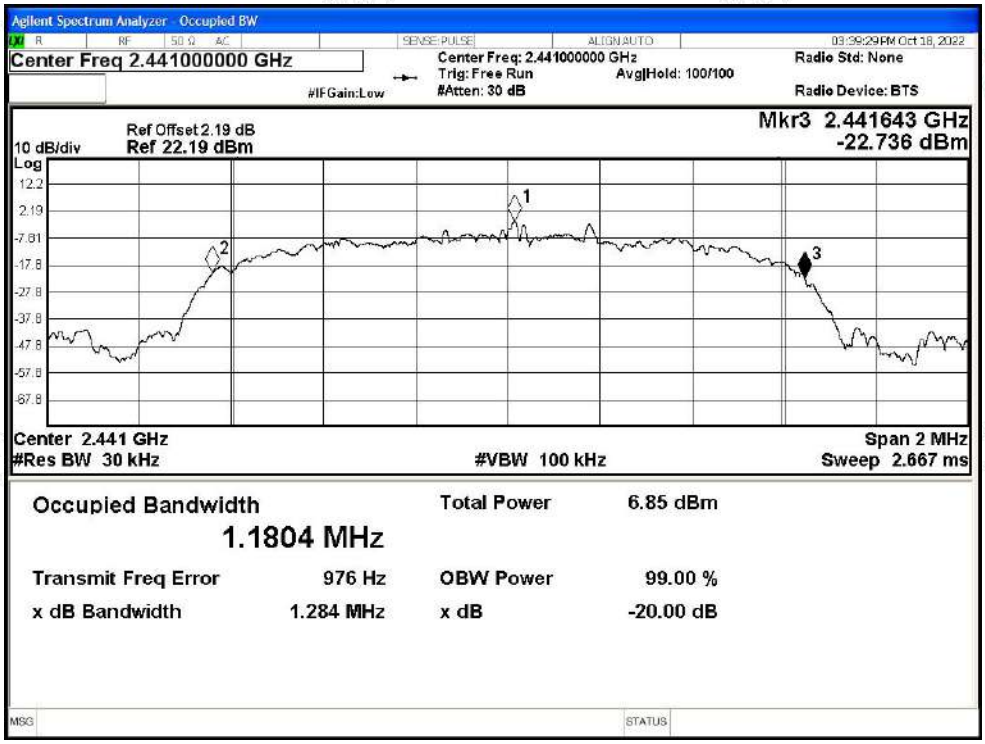
-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



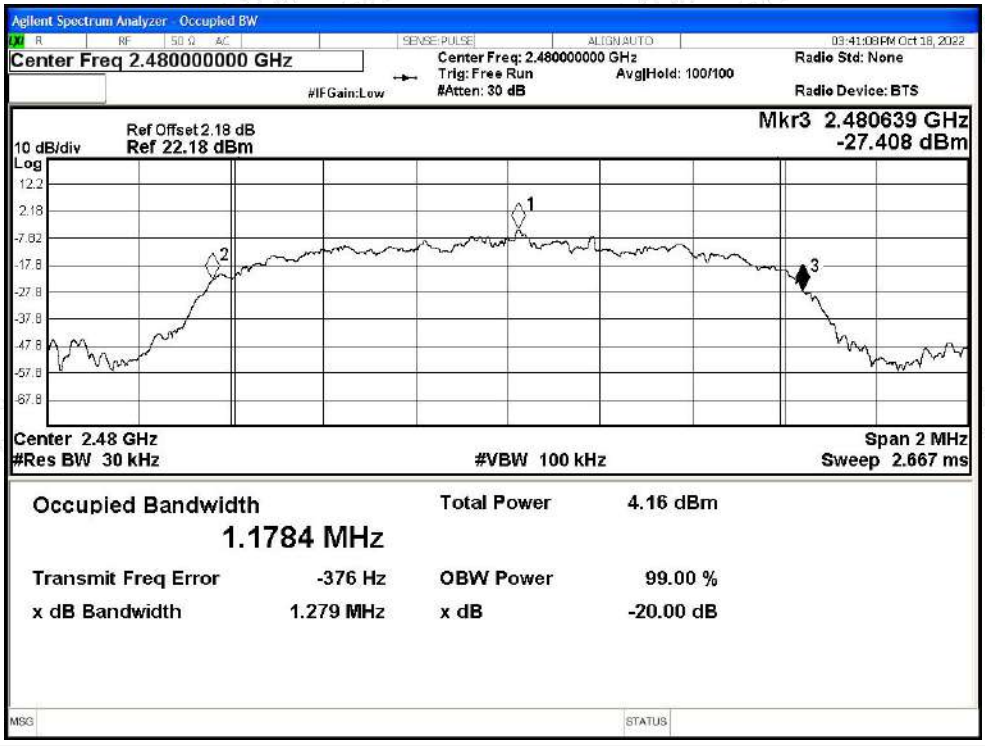
-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1

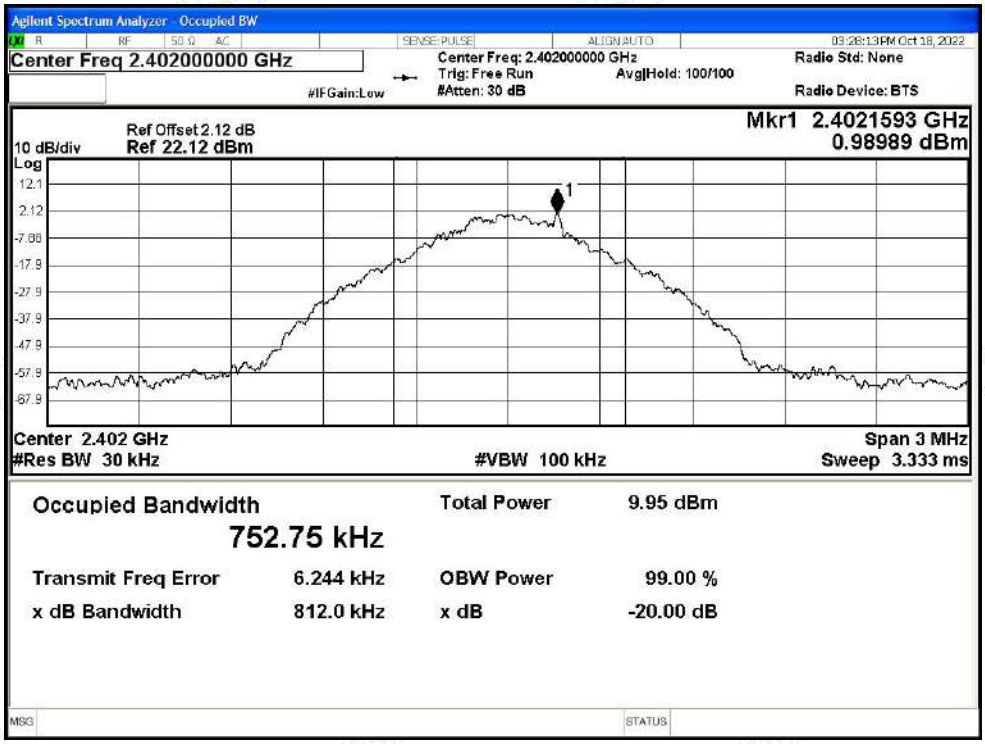


A.2 Occupied Channel Bandwidth

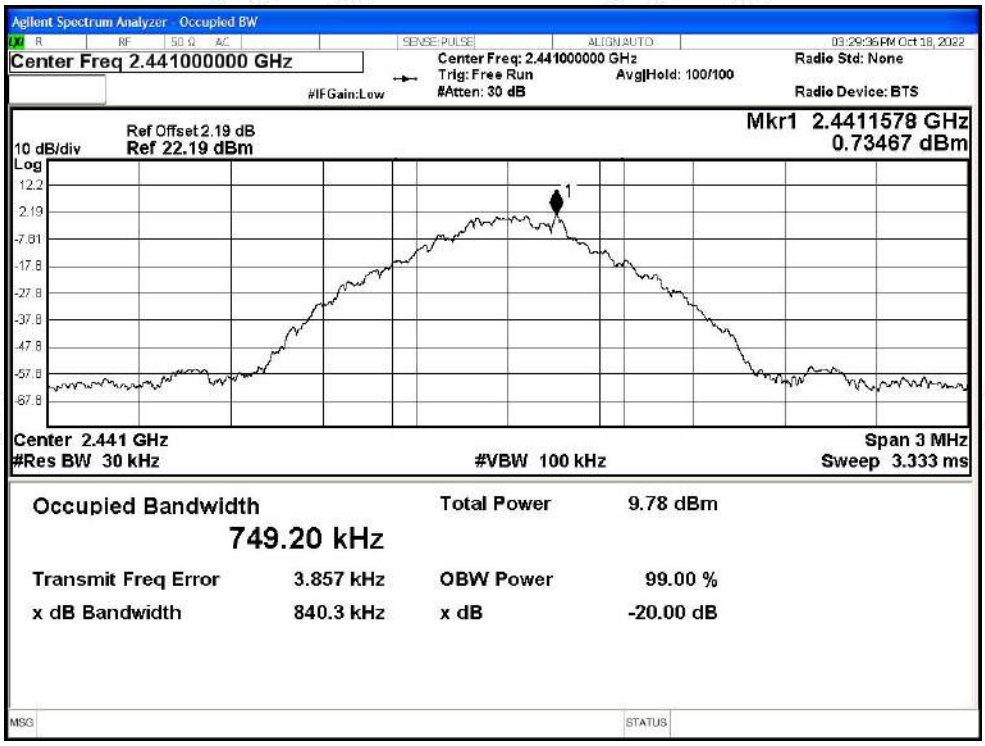
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	1-DH5	2402	Ant1	0.753
NVNT	1-DH5	2441	Ant1	0.749
NVNT	1-DH5	2480	Ant1	0.755
NVNT	2-DH5	2402	Ant1	1.175
NVNT	2-DH5	2441	Ant1	1.155
NVNT	2-DH5	2480	Ant1	1.15
NVNT	3-DH5	2402	Ant1	1.162
NVNT	3-DH5	2441	Ant1	1.167
NVNT	3-DH5	2480	Ant1	1.169

Test Graphs

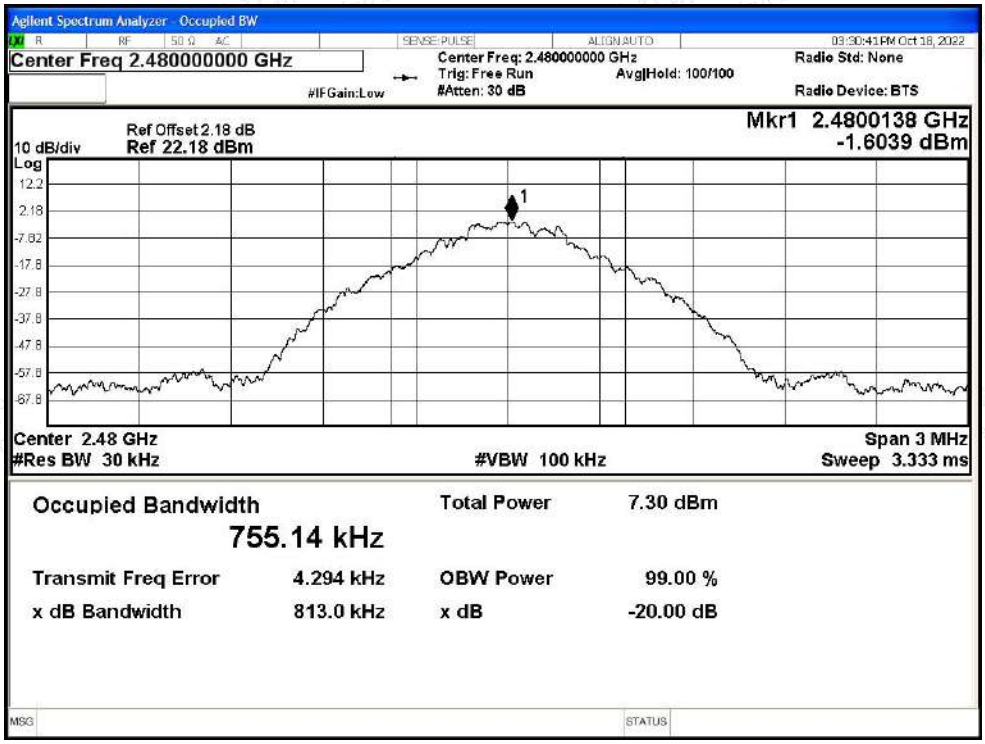
OBW NVNT 1-DH5 2402MHz Ant1



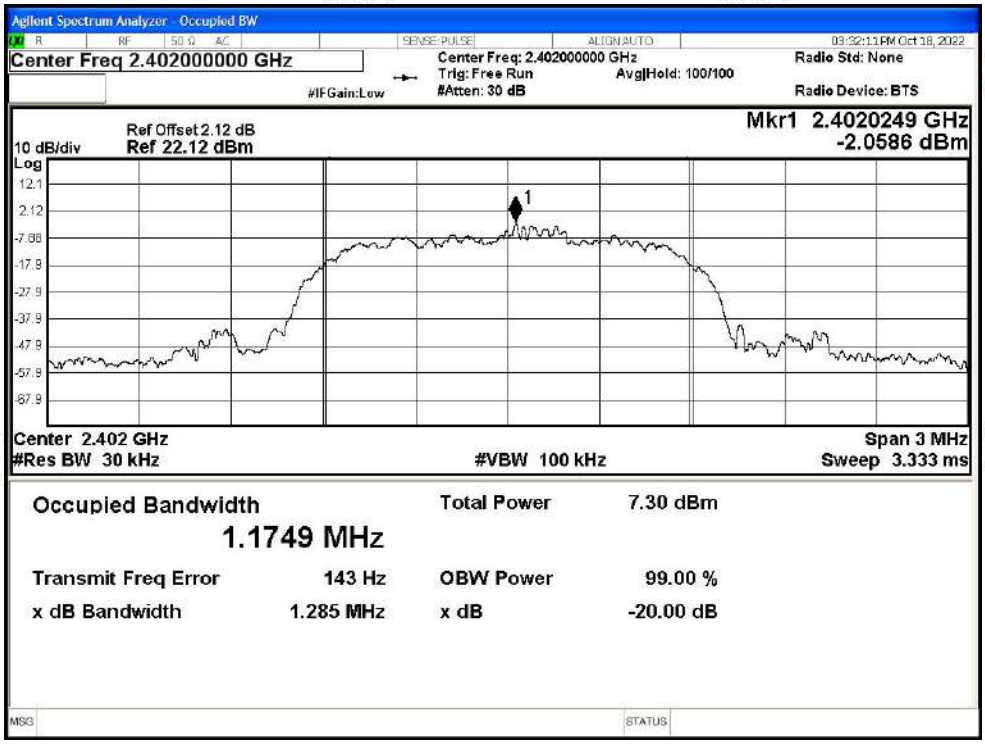
OBW NVNT 1-DH5 2441MHz Ant1



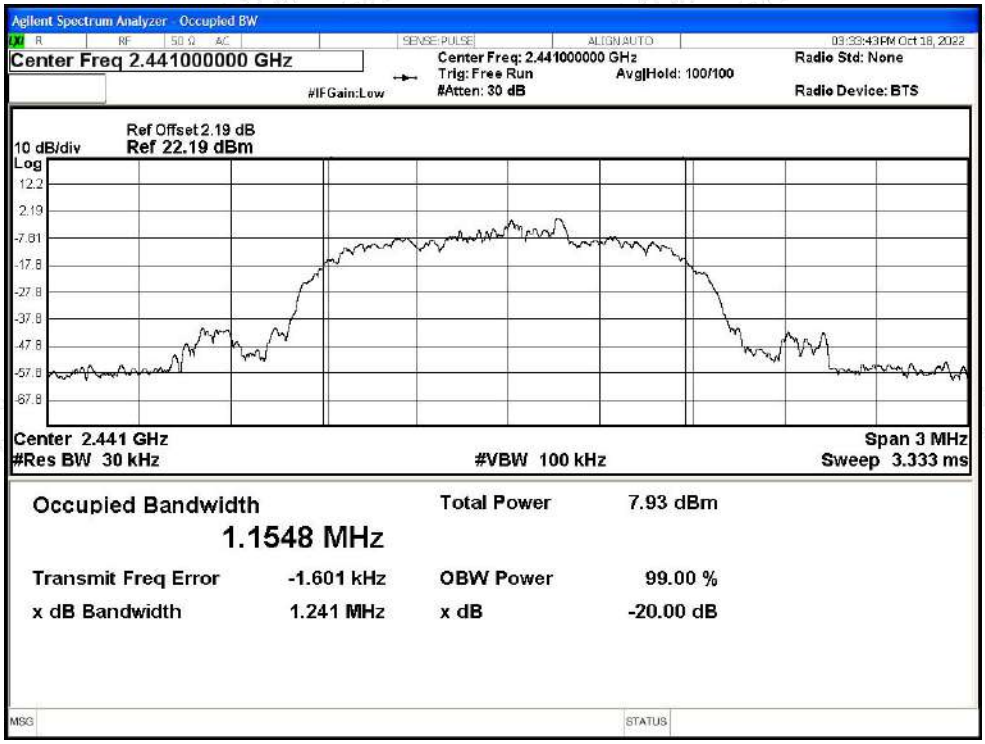
OBW NVNT 1-DH5 2480MHz Ant1



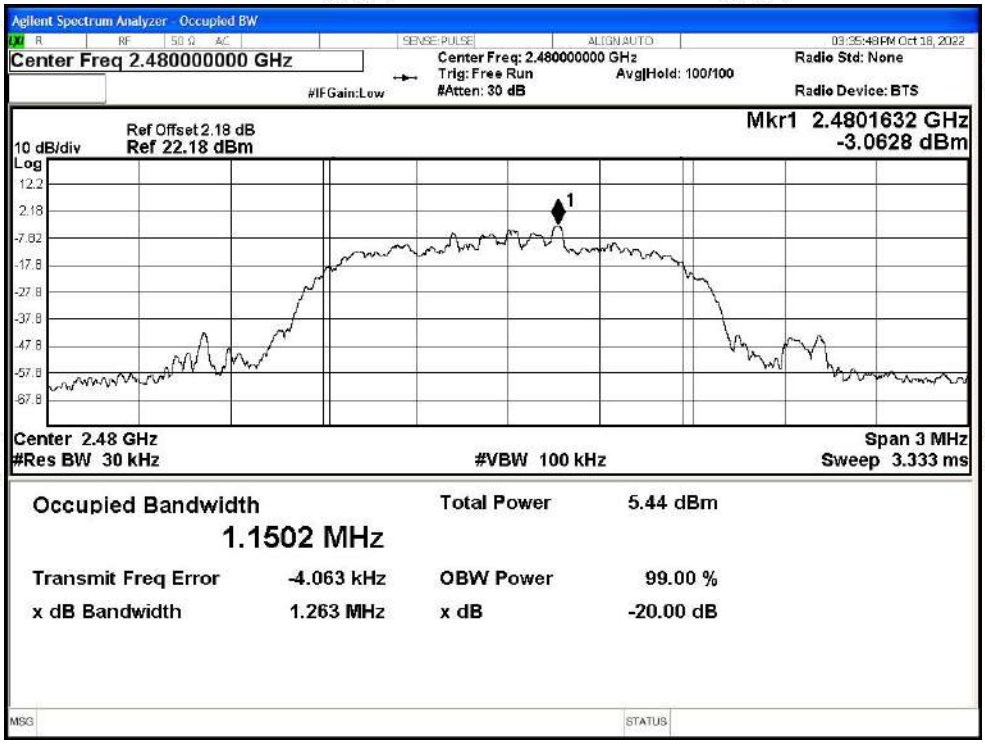
OBW NVNT 2-DH5 2402MHz Ant1



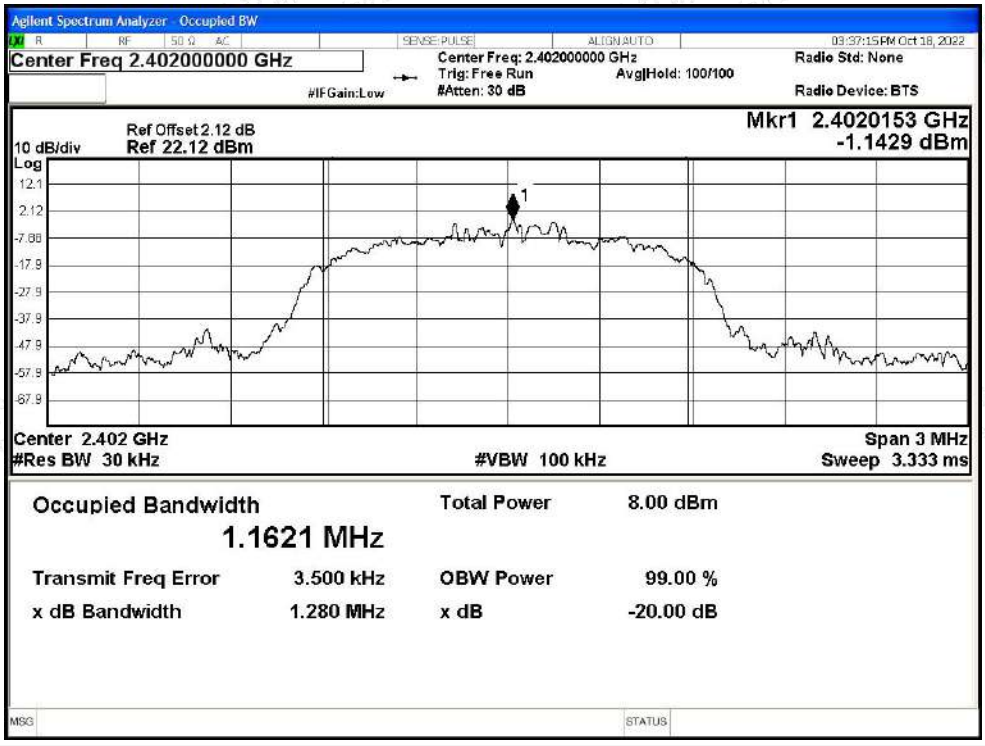
OBW NVNT 2-DH5 2441MHz Ant1



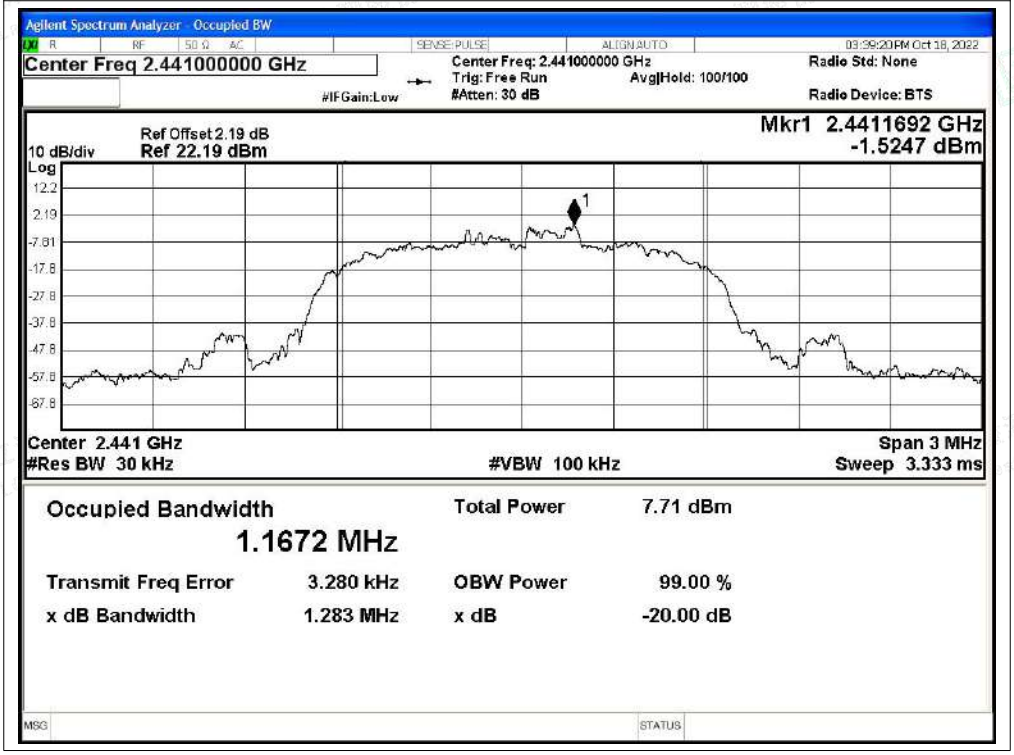
OBW NVNT 2-DH5 2480MHz Ant1



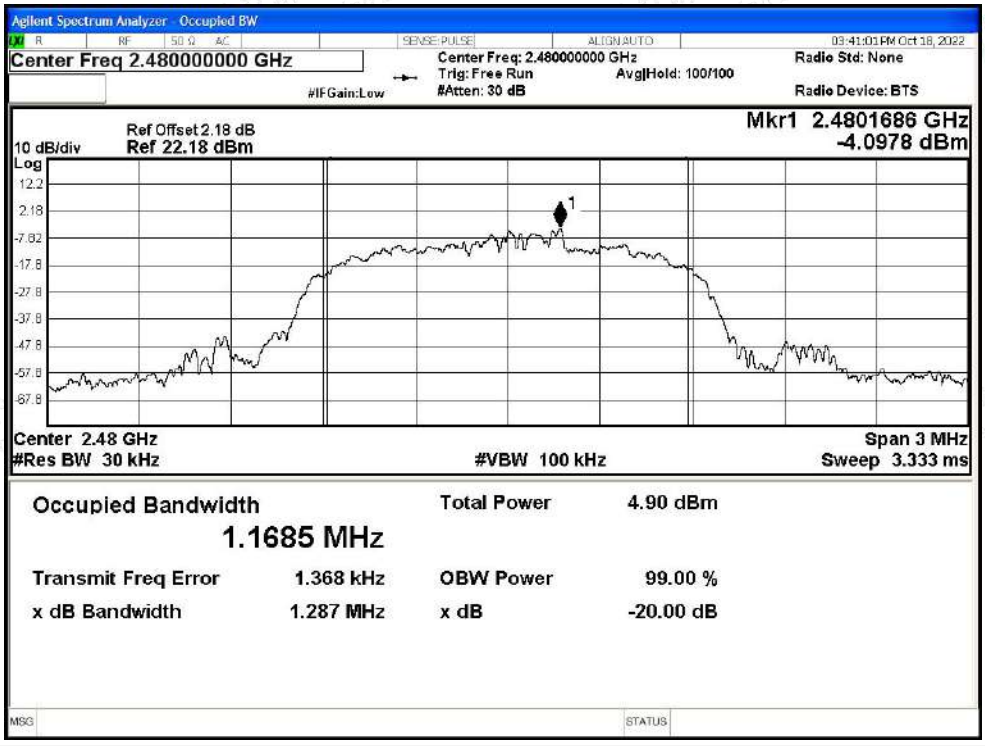
OBW NVNT 3-DH5 2402MHz Ant1



OBW NVNT 3-DH5 2441MHz Ant1



OBW NVNT 3-DH5 2480MHz Ant1



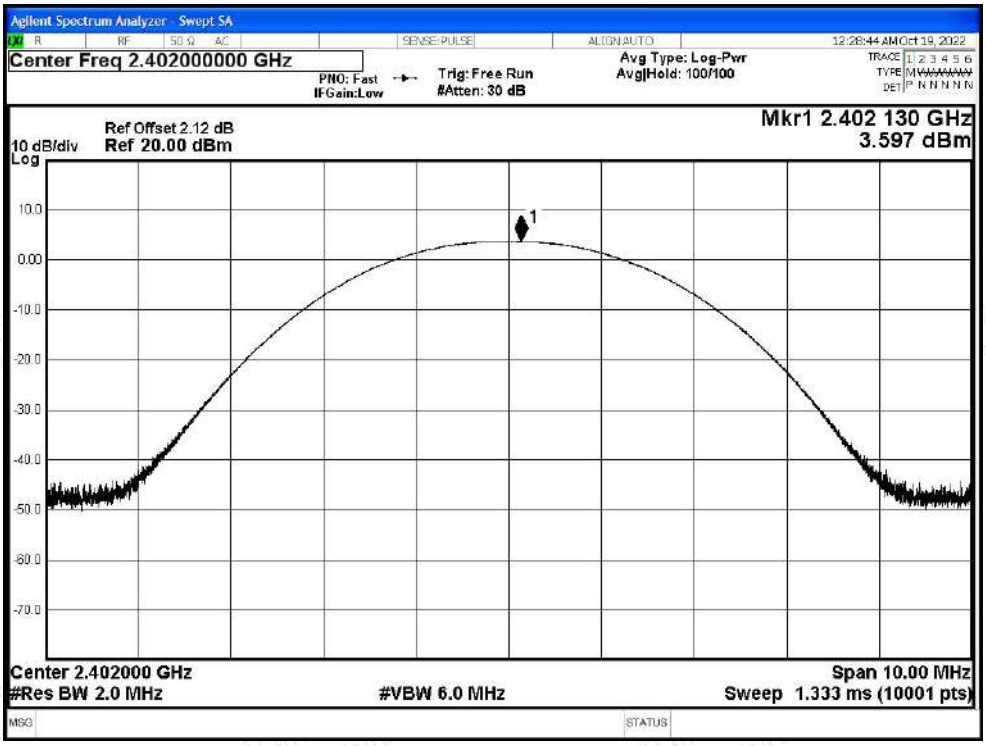
A.3 Maximum Peak Conducted Output Power and e.i.r.p.

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	3.6	≤21	Pass
NVNT	1-DH5	2441	Ant1	3.74	≤21	Pass
NVNT	1-DH5	2480	Ant1	3.95	≤21	Pass
NVNT	2-DH5	2402	Ant1	3.3	≤21	Pass
NVNT	2-DH5	2441	Ant1	3.55	≤21	Pass
NVNT	2-DH5	2480	Ant1	3.73	≤21	Pass
NVNT	3-DH5	2402	Ant1	3.42	≤21	Pass
NVNT	3-DH5	2441	Ant1	3.63	≤21	Pass
NVNT	3-DH5	2480	Ant1	3.84	≤21	Pass

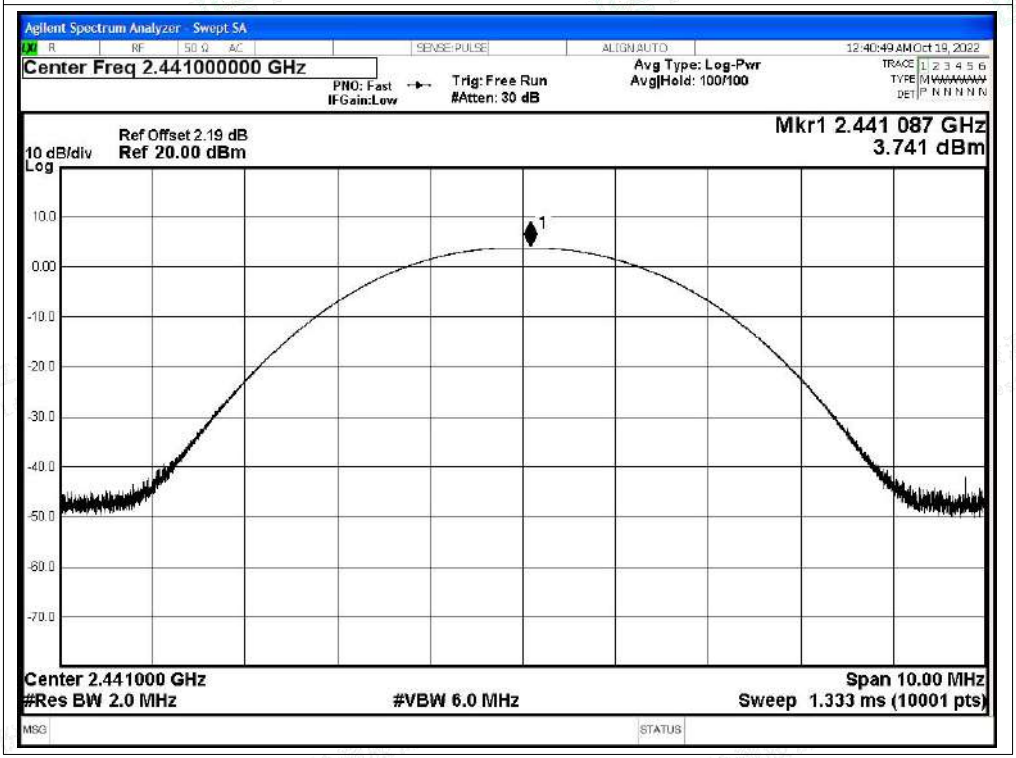
Mode	Channel.	Conducted Power [dBm]	Antenna Gain [dBi]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
GFSK	LCH	3.6	1.4	5	≤36	PASS
	MCH	3.74	1.4	5.14	≤36	PASS
	HCH	3.95	1.4	5.35	≤36	PASS
π/4DQPSK	LCH	3.3	1.4	4.7	≤36	PASS
	MCH	3.55	1.4	4.95	≤36	PASS
	HCH	3.73	1.4	5.13	≤36	PASS
8DPSK	LCH	3.42	1.4	4.82	≤36	PASS
	MCH	3.63	1.4	5.03	≤36	PASS
	HCH	3.84	1.4	5.24	≤36	PASS

Test Graphs

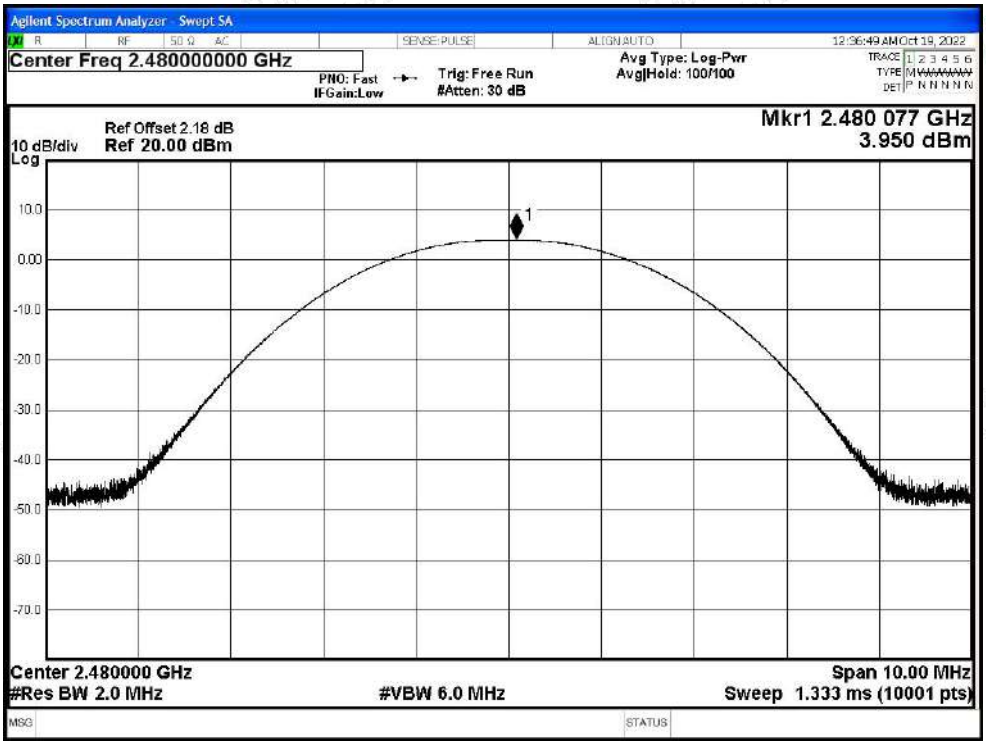
Power NVNT 1-DH5 2402MHz Ant1



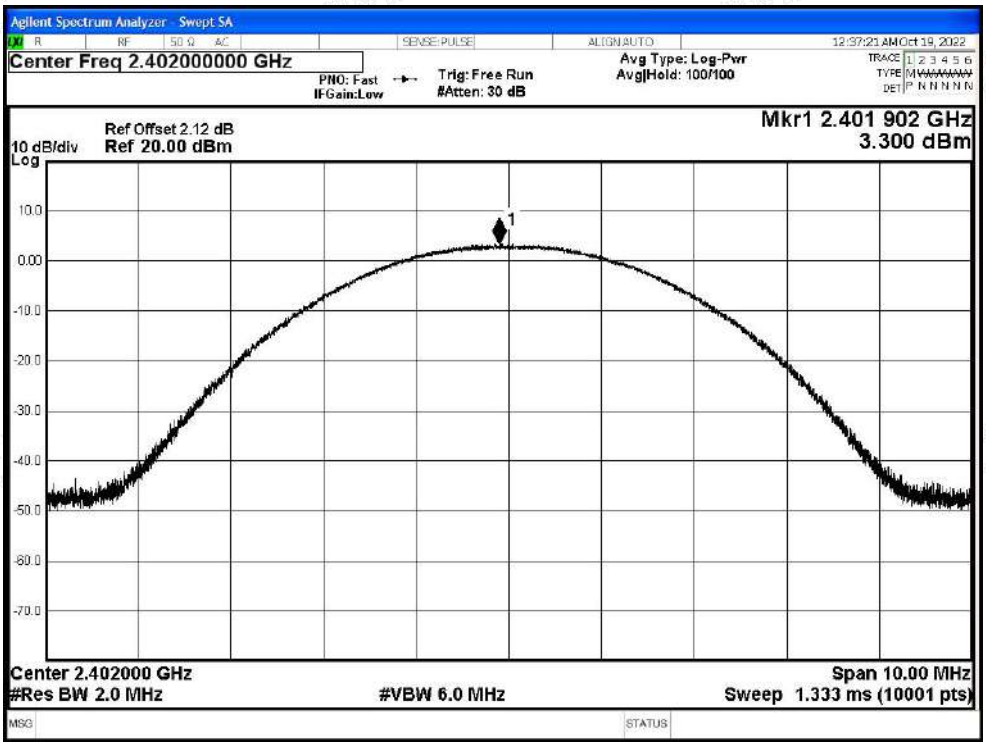
Power NVNT 1-DH5 2441MHz Ant1



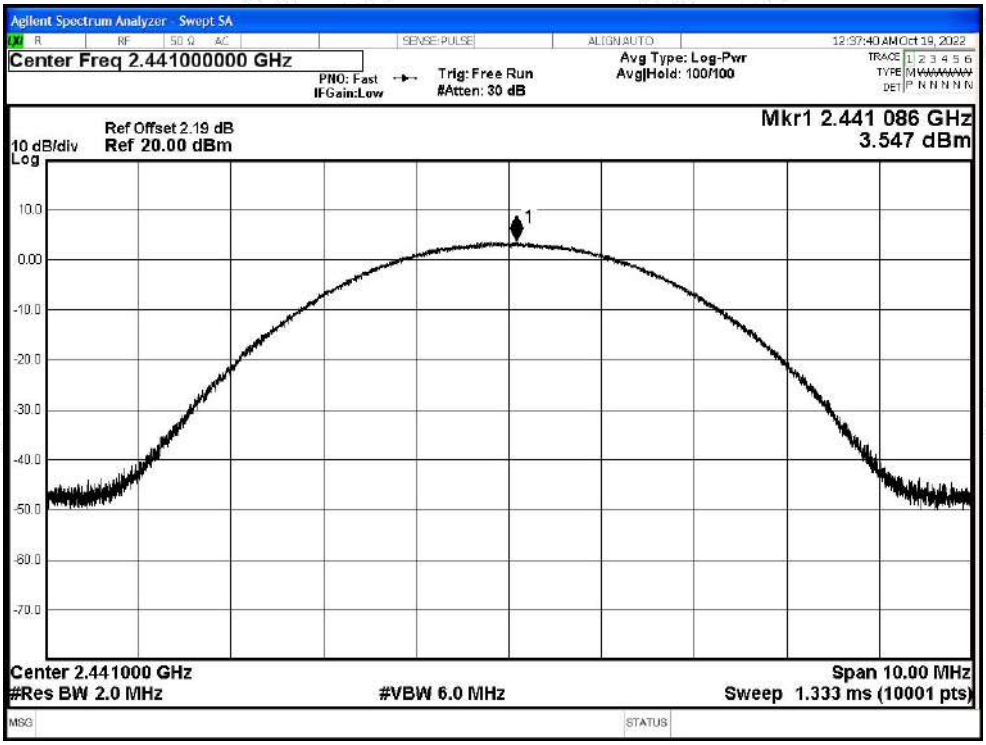
Power NVNT 1-DH5 2480MHz Ant1



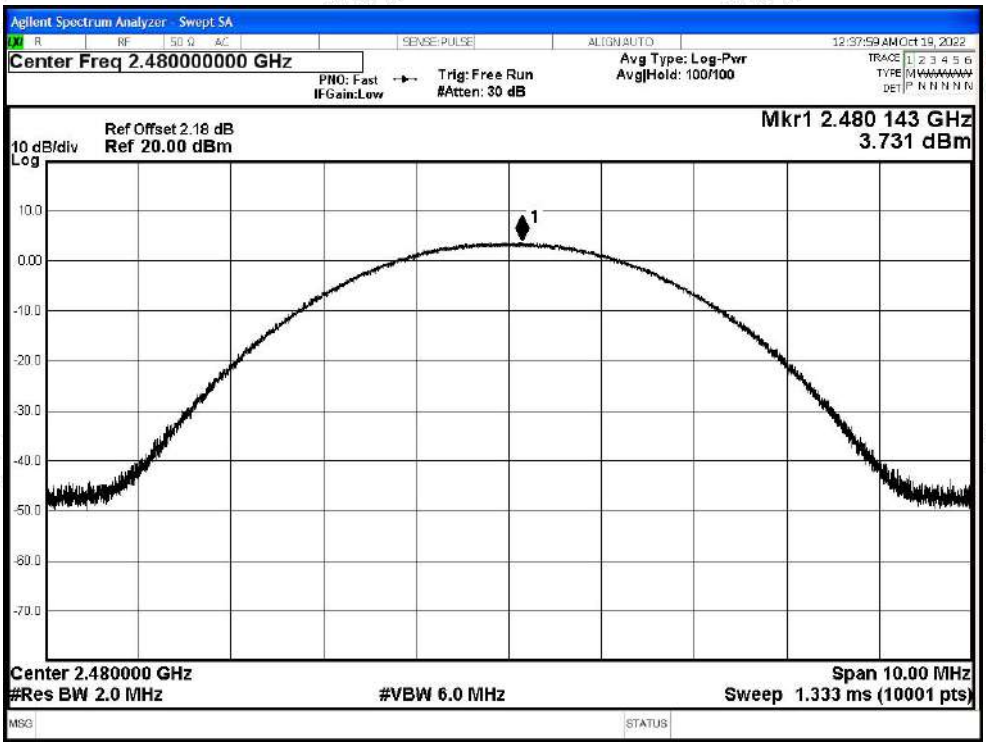
Power NVNT 2-DH5 2402MHz Ant1



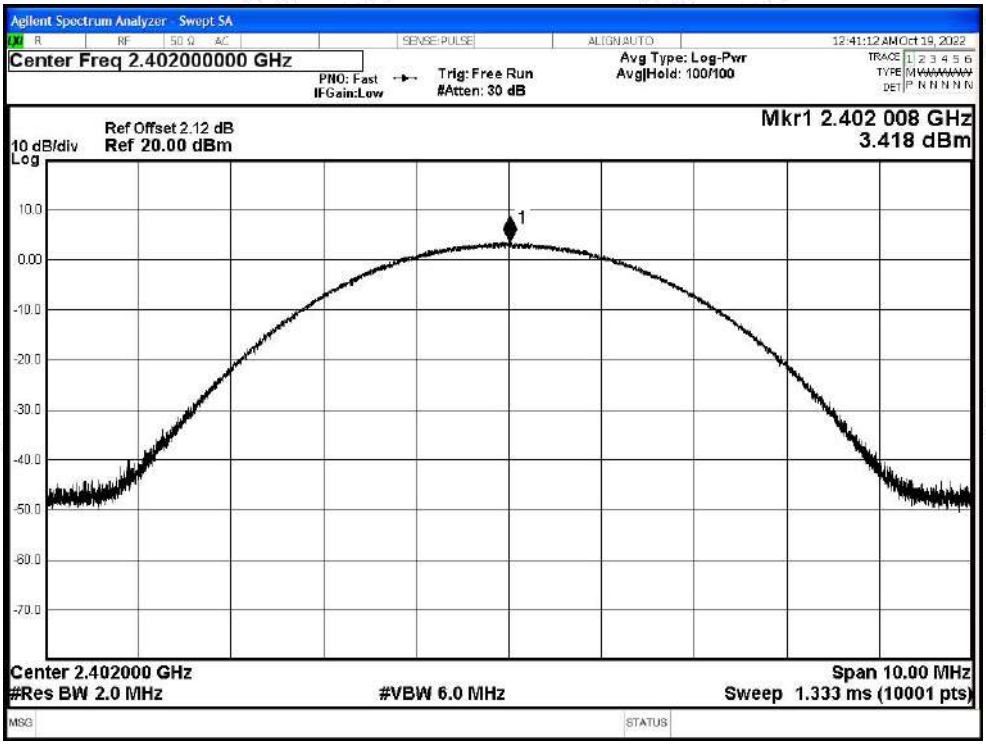
Power NVNT 2-DH5 2441MHz Ant1



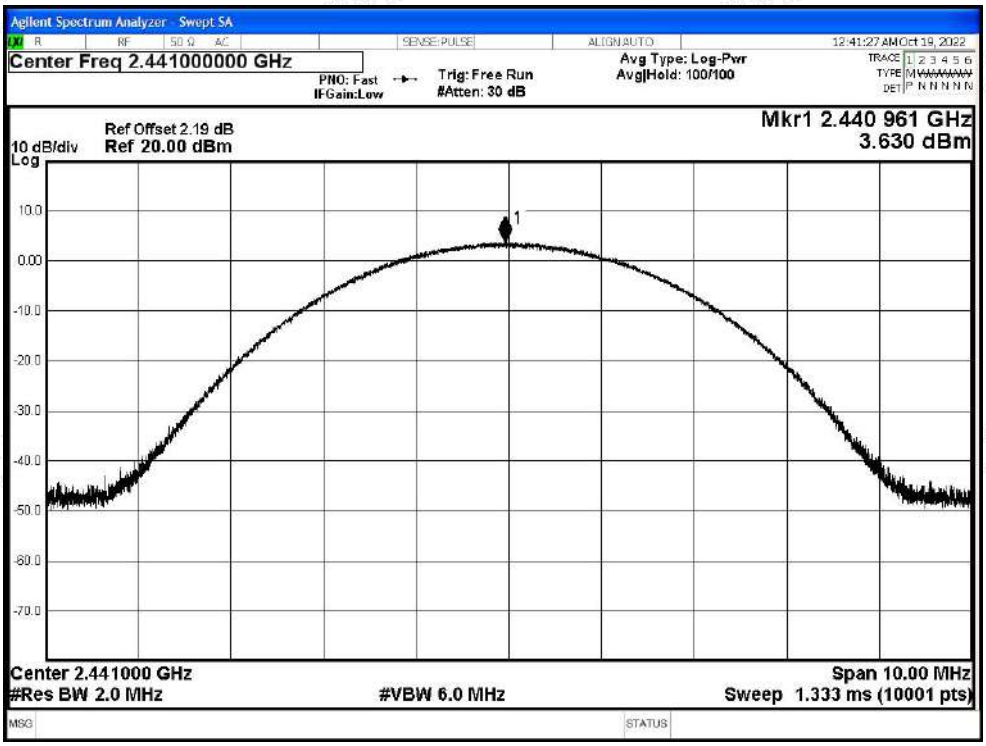
Power NVNT 2-DH5 2480MHz Ant1



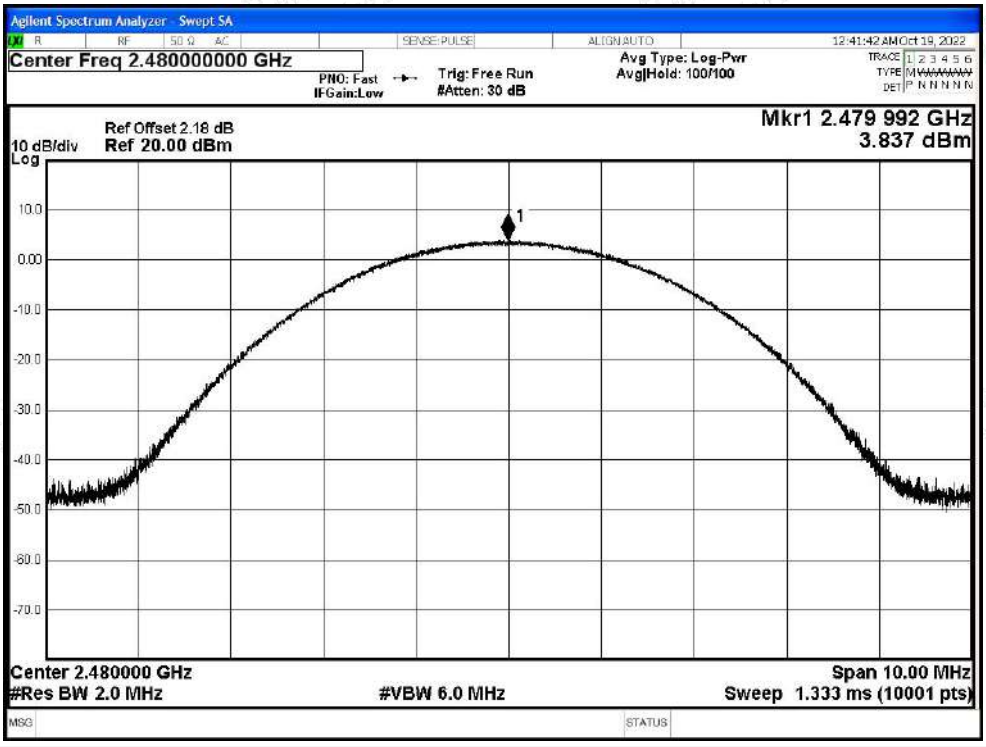
Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1



Power NVNT 3-DH5 2480MHz Ant1

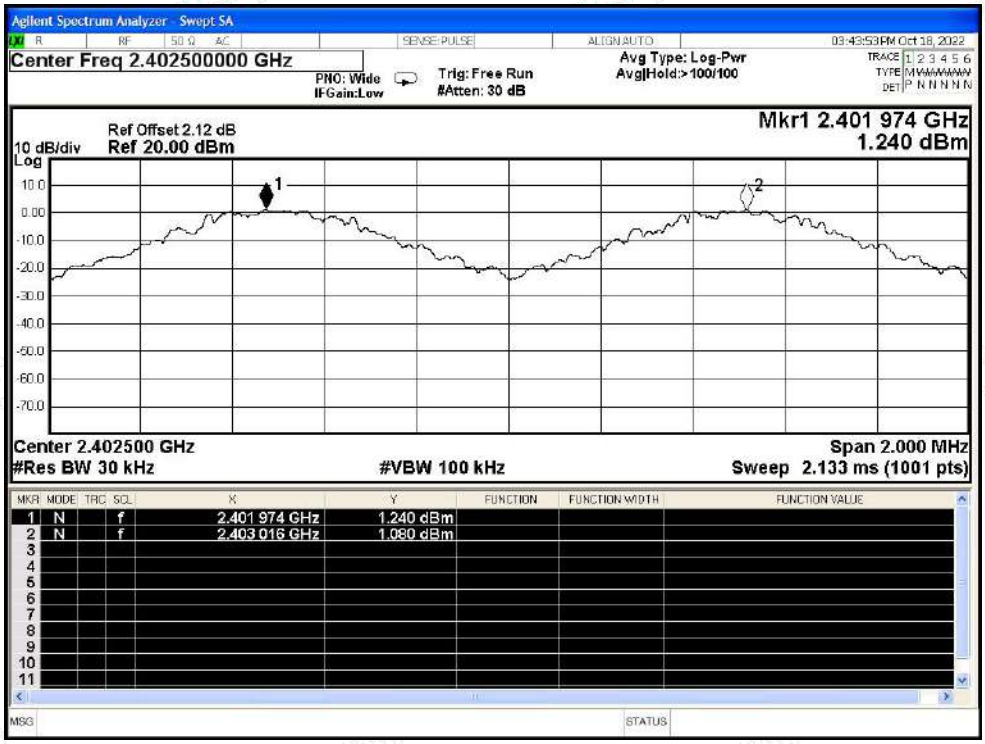


A.4 Carrier Frequencies Separation

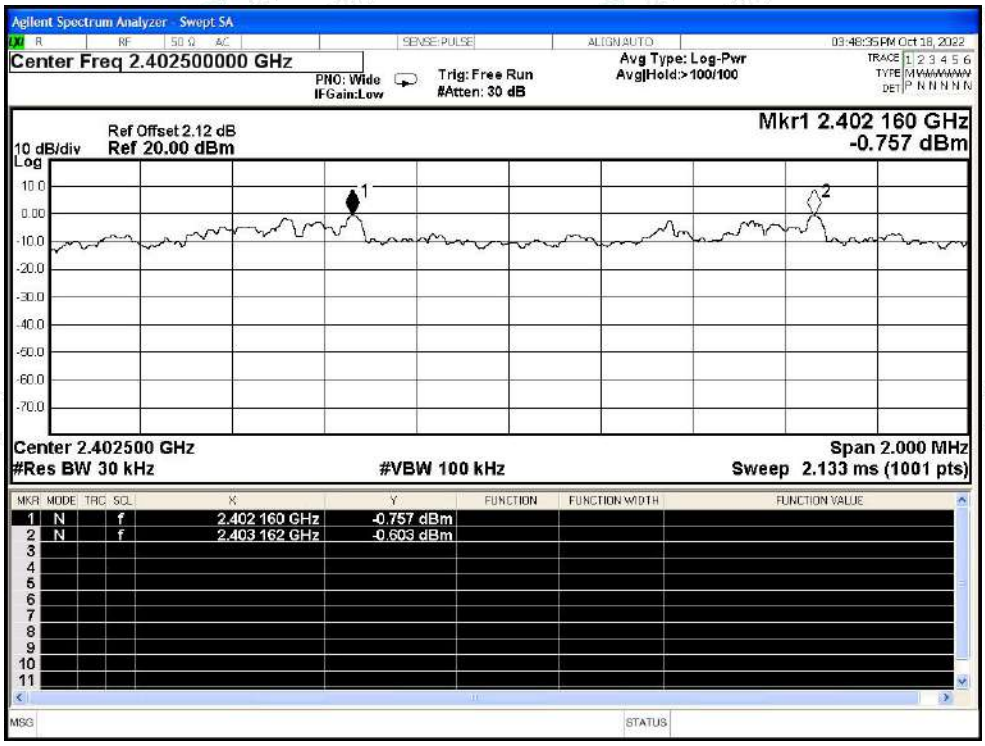
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.974	2403.016	1.042	0.559	Pass
NVNT	2-DH5	Ant1	2402.16	2403.162	1.002	0.849	Pass
NVNT	3-DH5	Ant1	2402.006	2403.16	1.154	0.857	Pass

Test Graphs

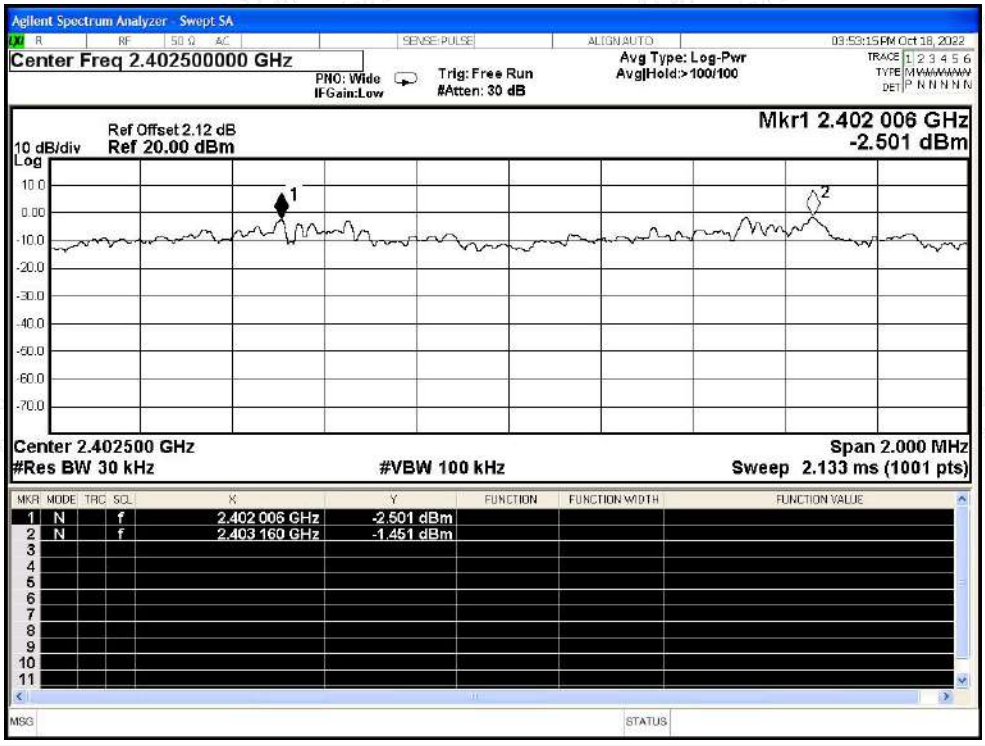
CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2402MHz Ant1

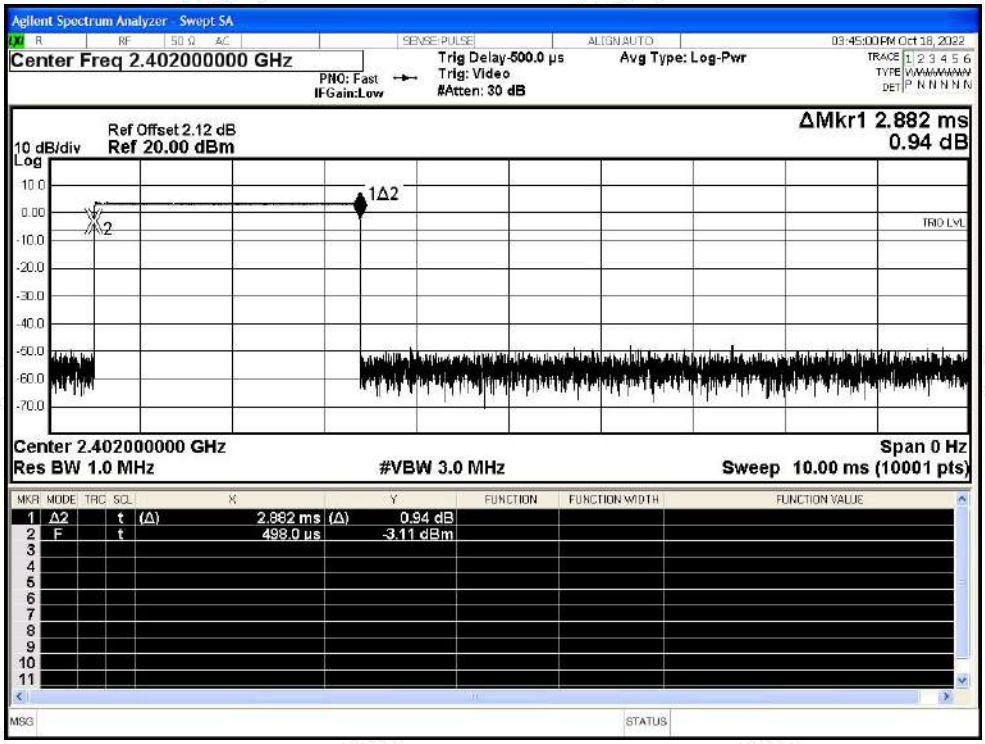


A.5 Dwell Time

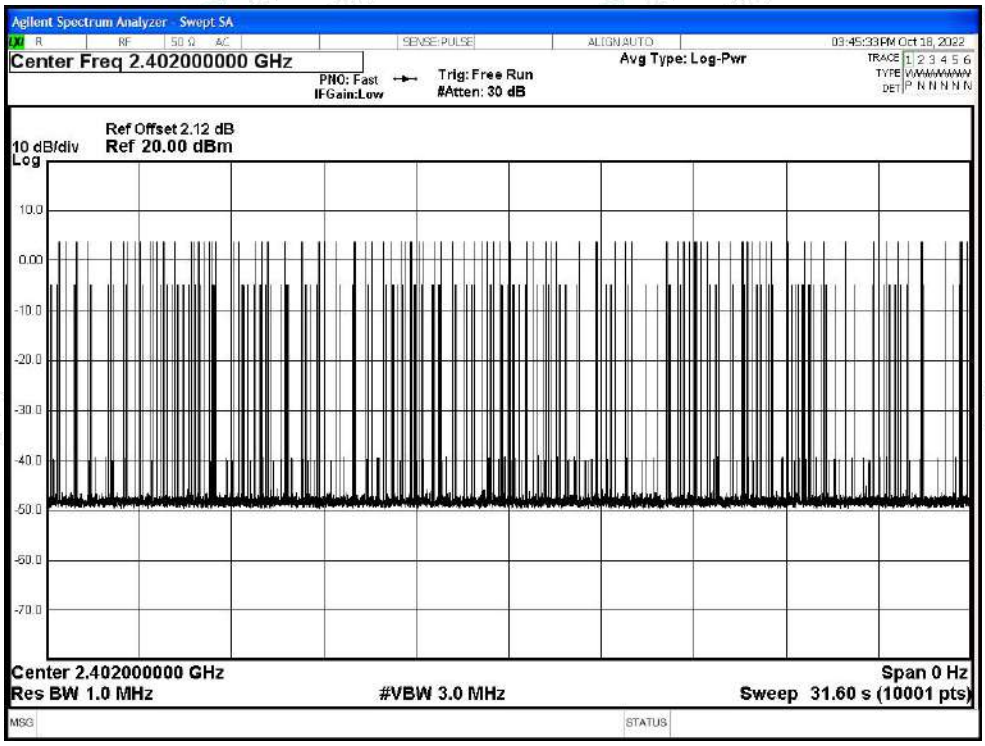
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.882	308.374	107	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.881	308.267	107	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.886	323.232	112	31600	400	Pass

Test Graphs

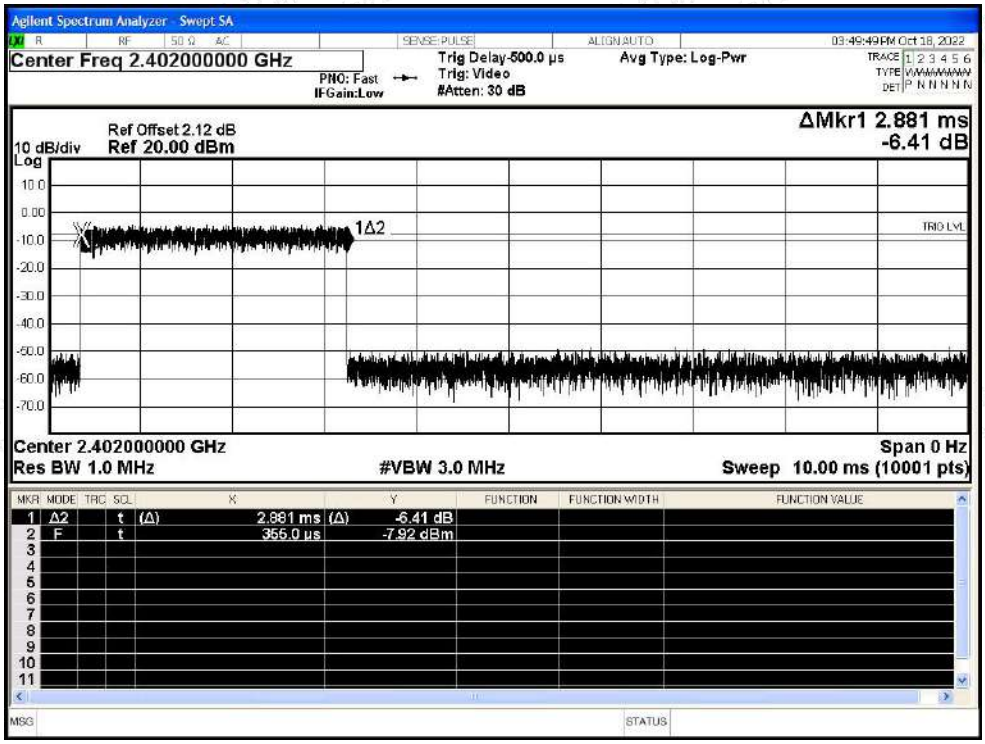
Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



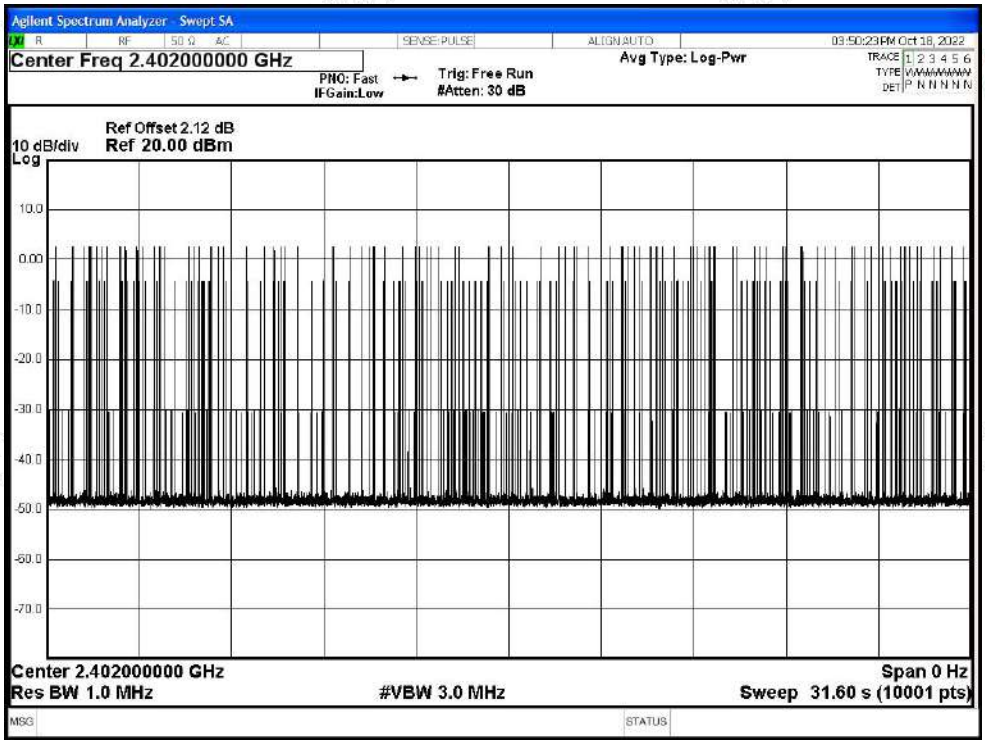
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



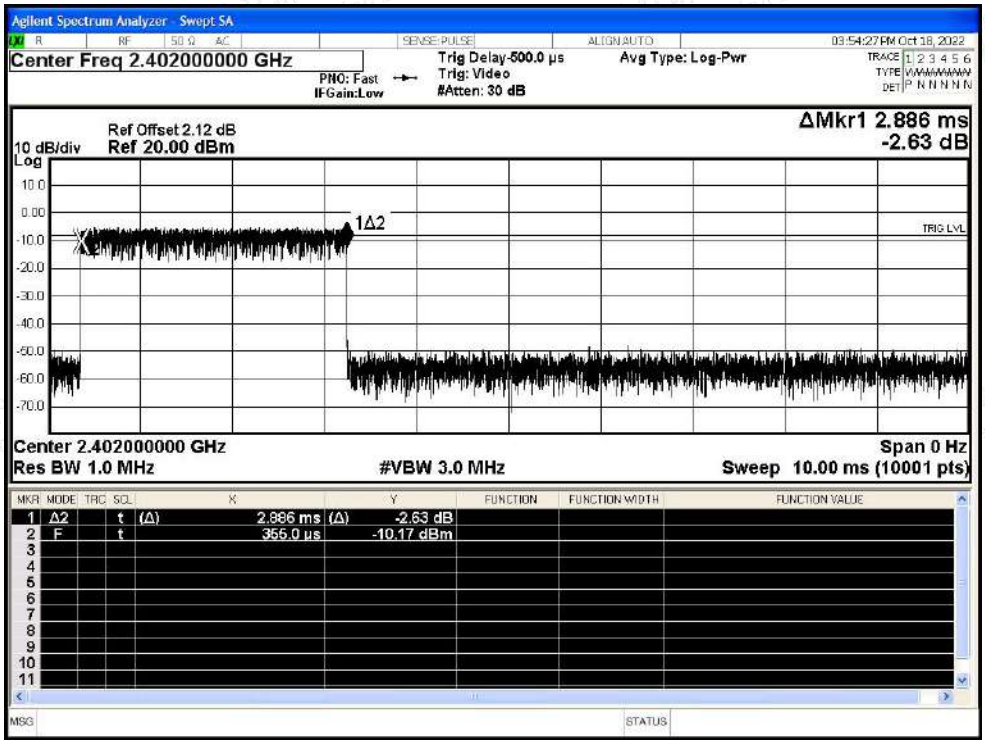
Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



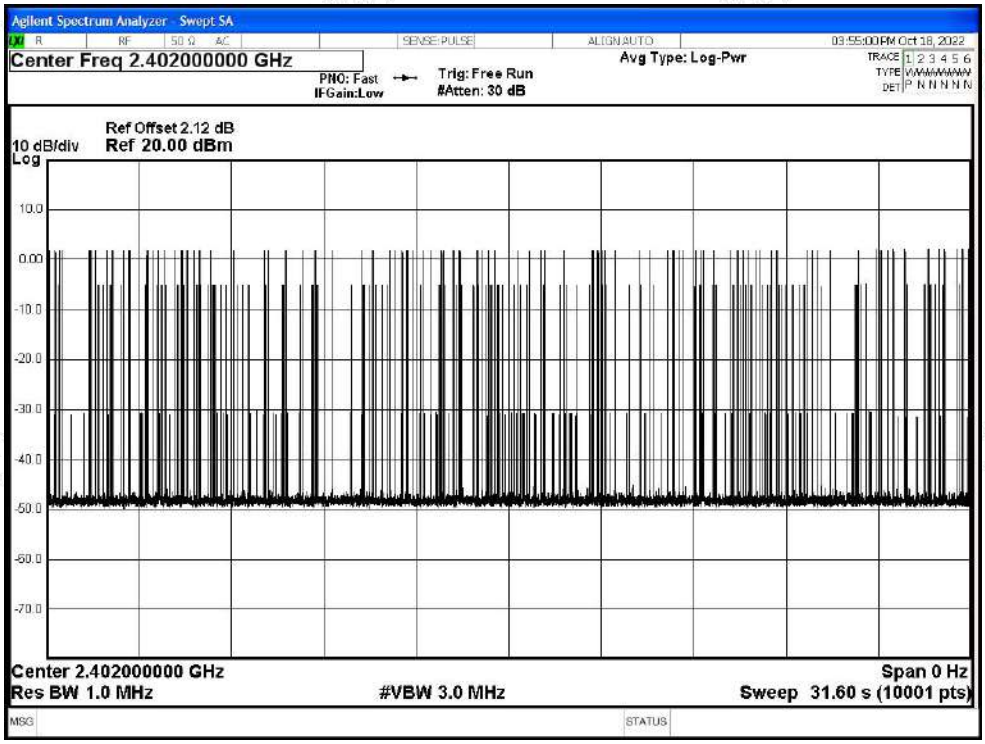
Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz Ant1 Accumulated

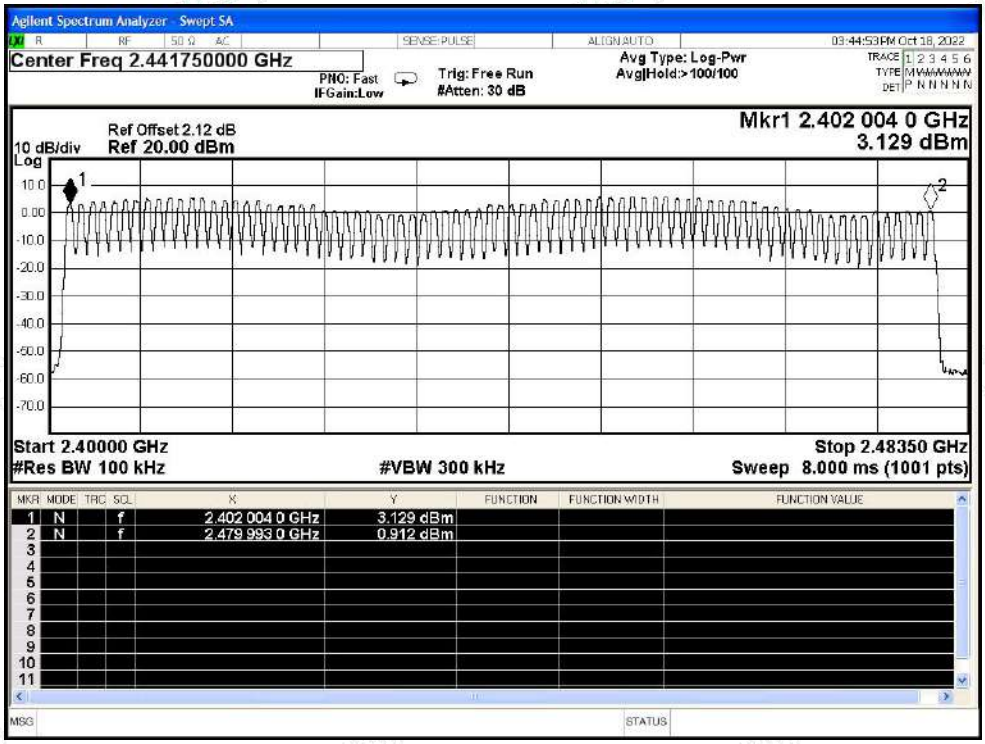


A.6 Number of Hopping Channel

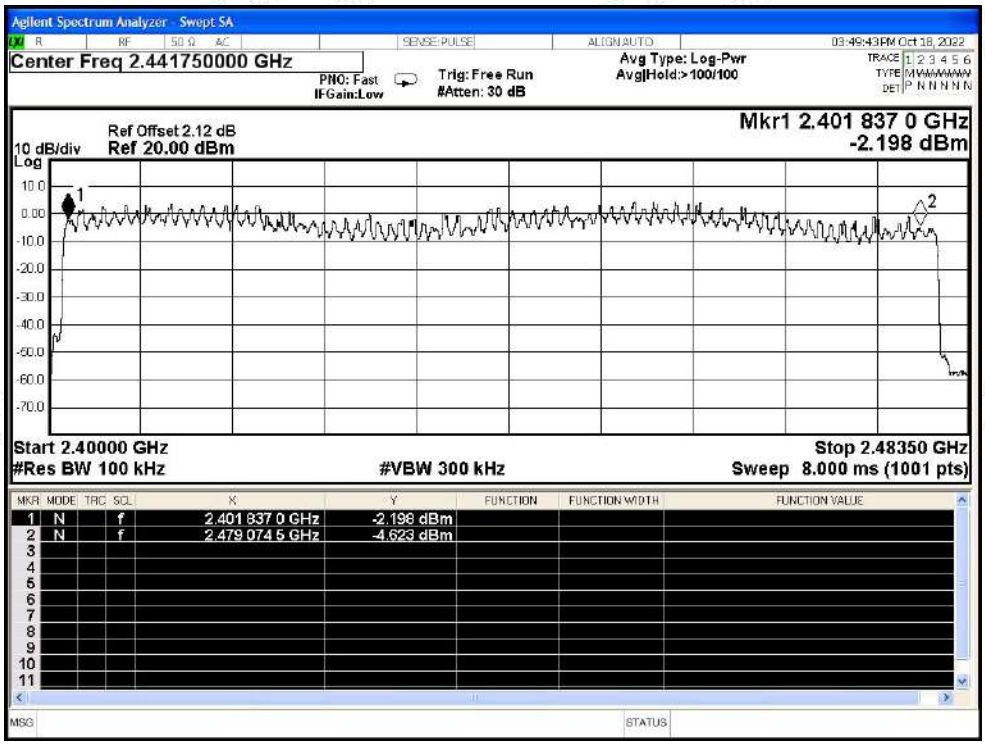
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass
NVNT	2-DH5	Ant1	79	15	Pass
NVNT	3-DH5	Ant1	79	15	Pass

Test Graphs

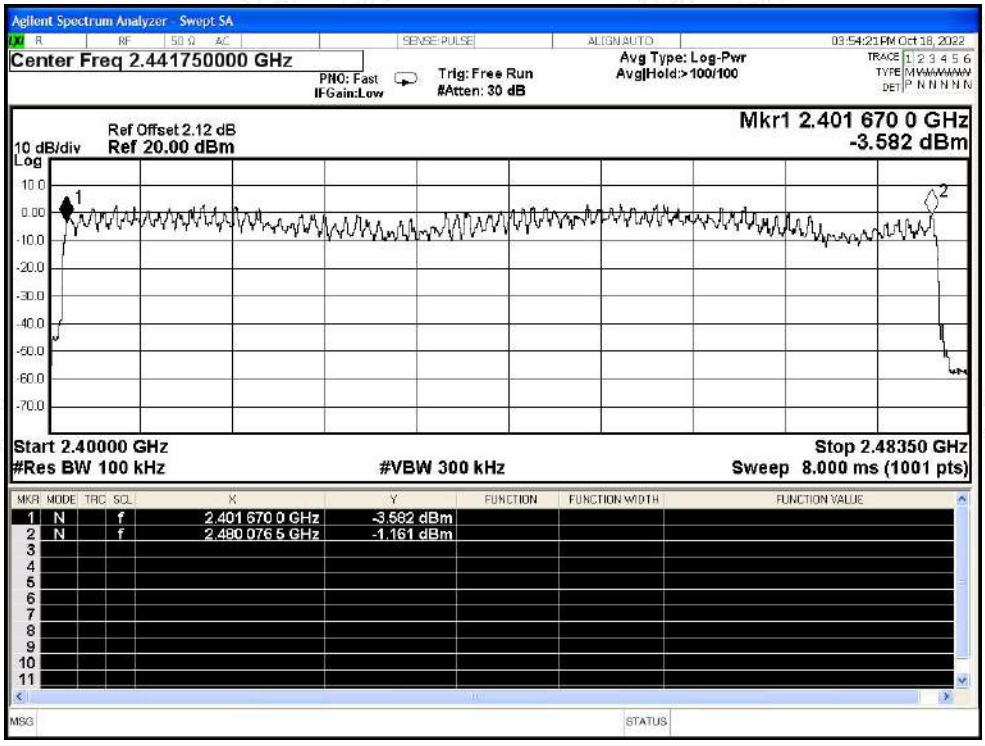
Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



Hopping No. NVNT 3-DH5 2402MHz Ant1

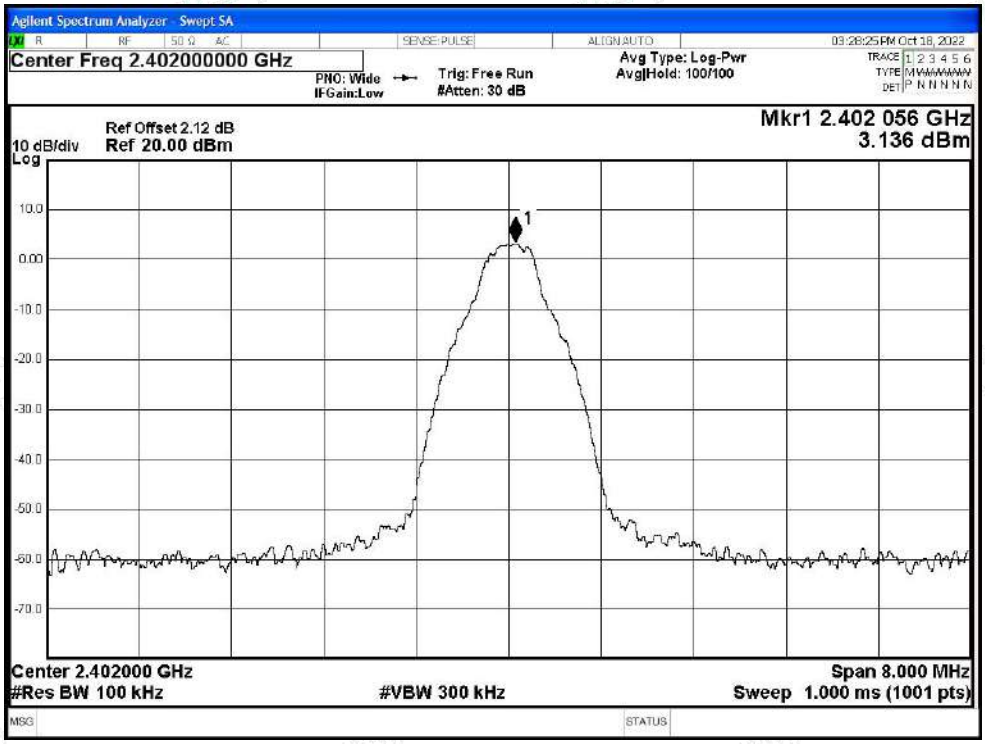


A.7 Band Edge

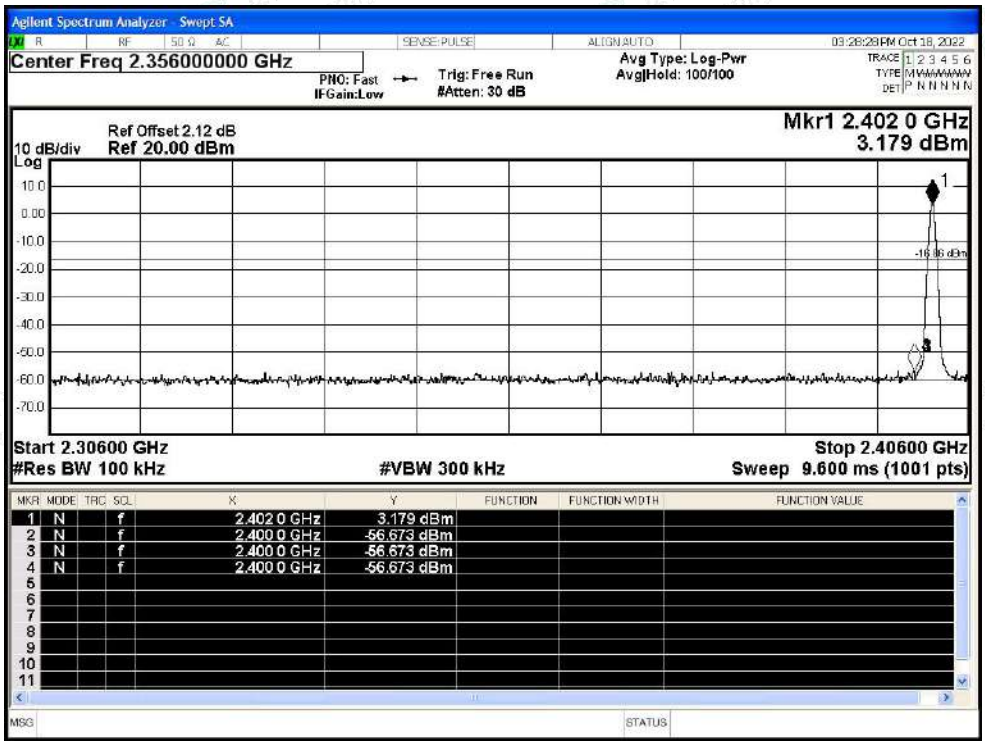
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-59.81	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-57.5	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-59.18	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-57.13	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-58.18	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-55.72	-20	Pass

Test Graphs

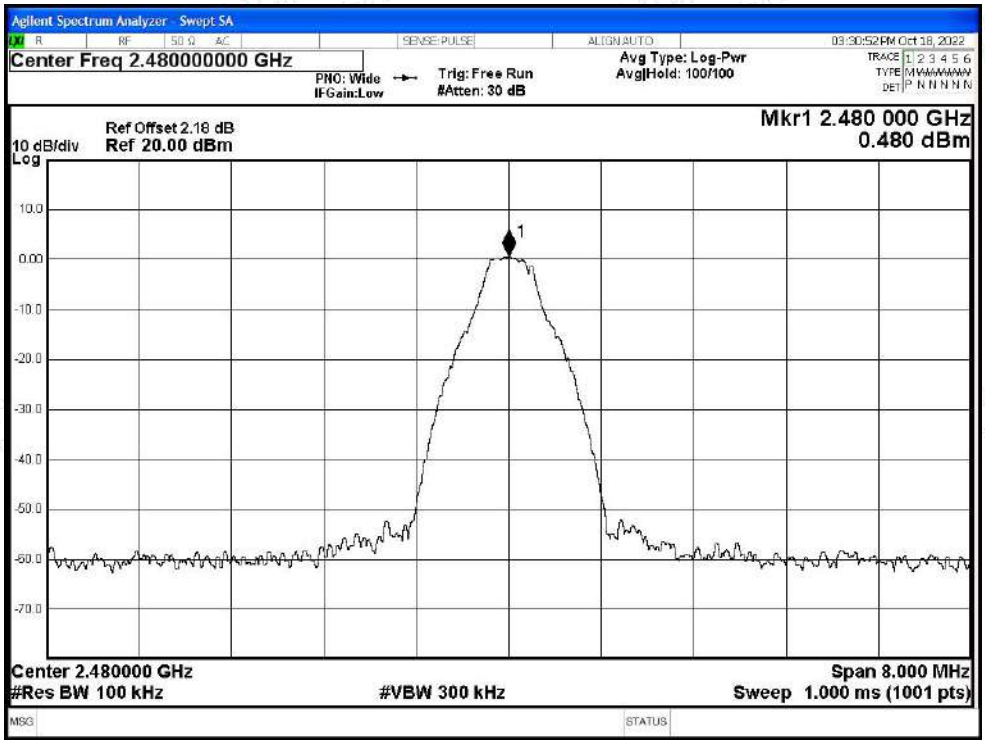
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref



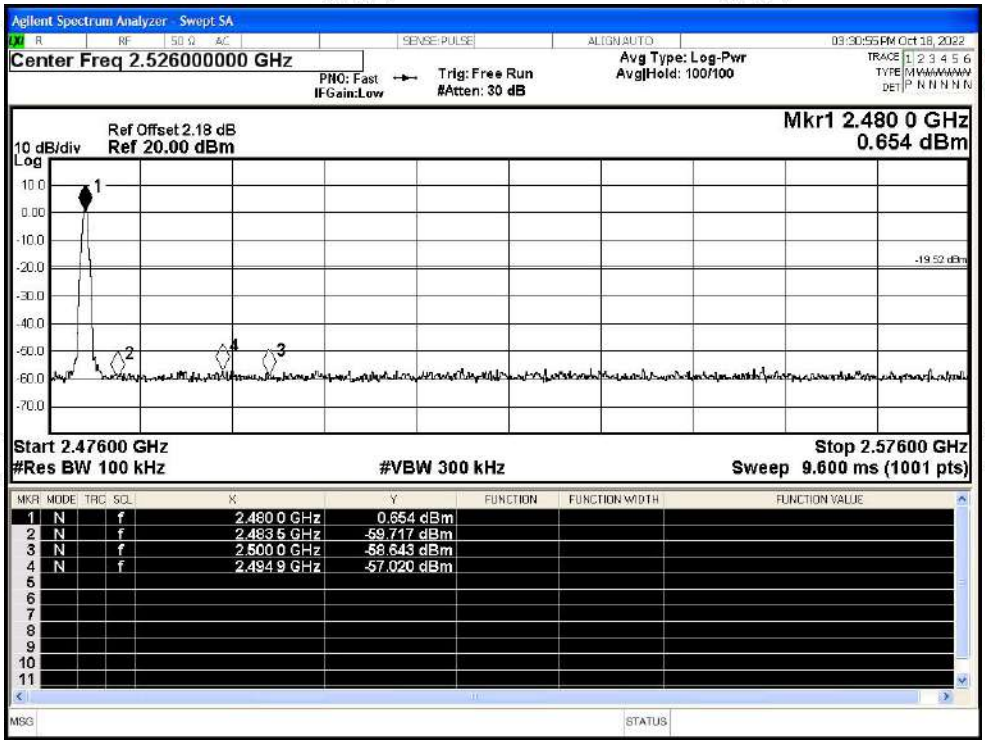
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



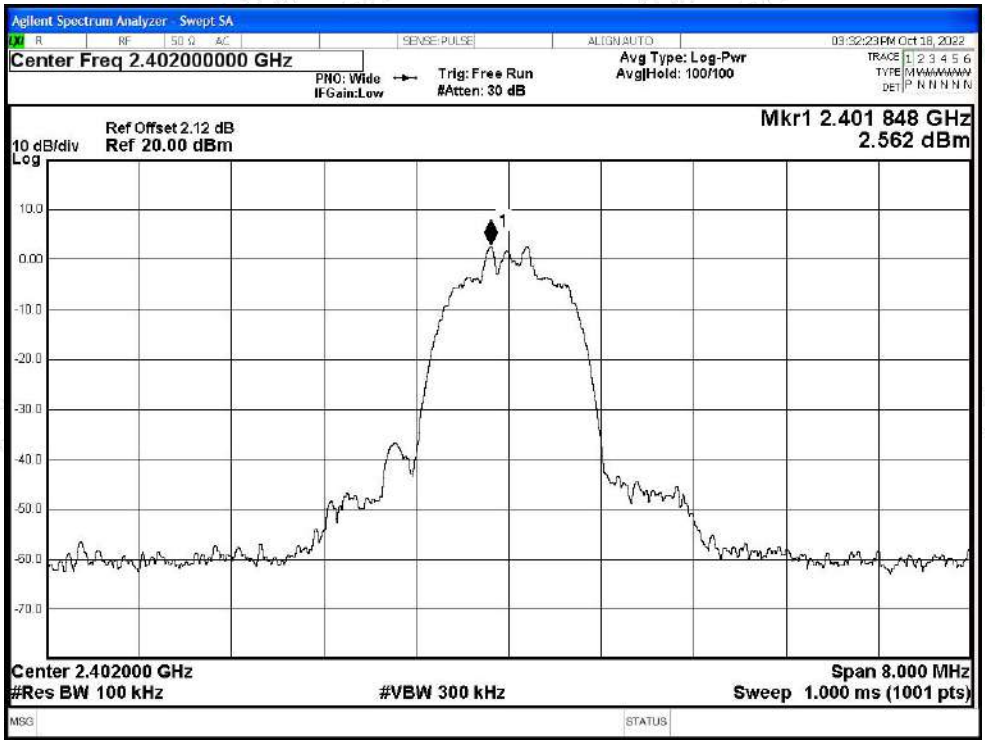
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



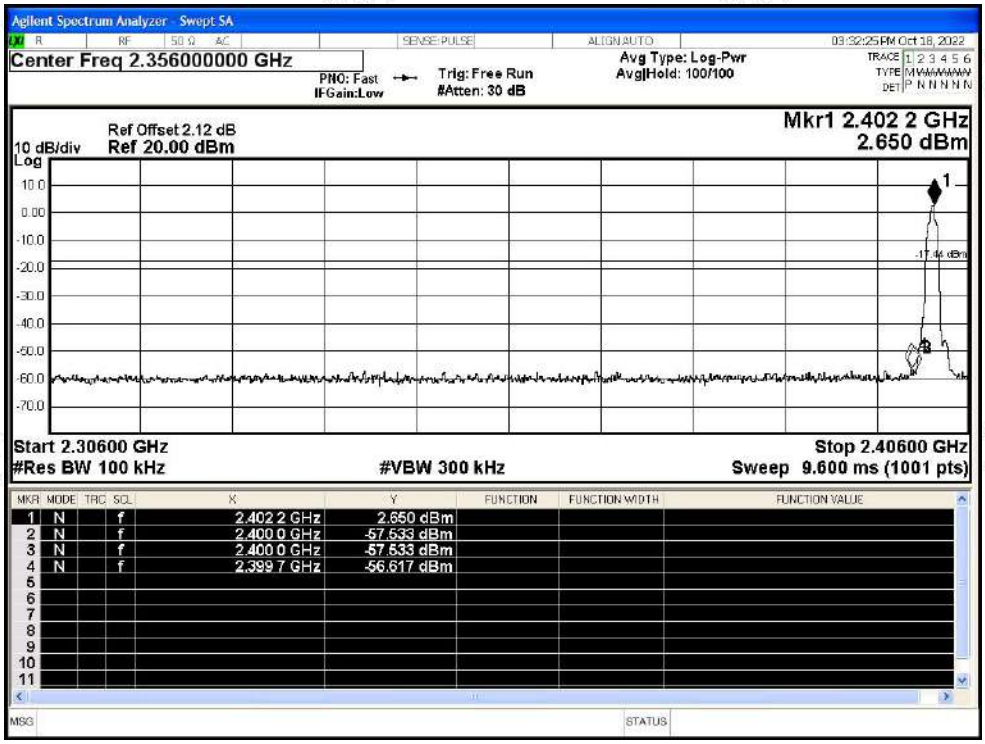
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



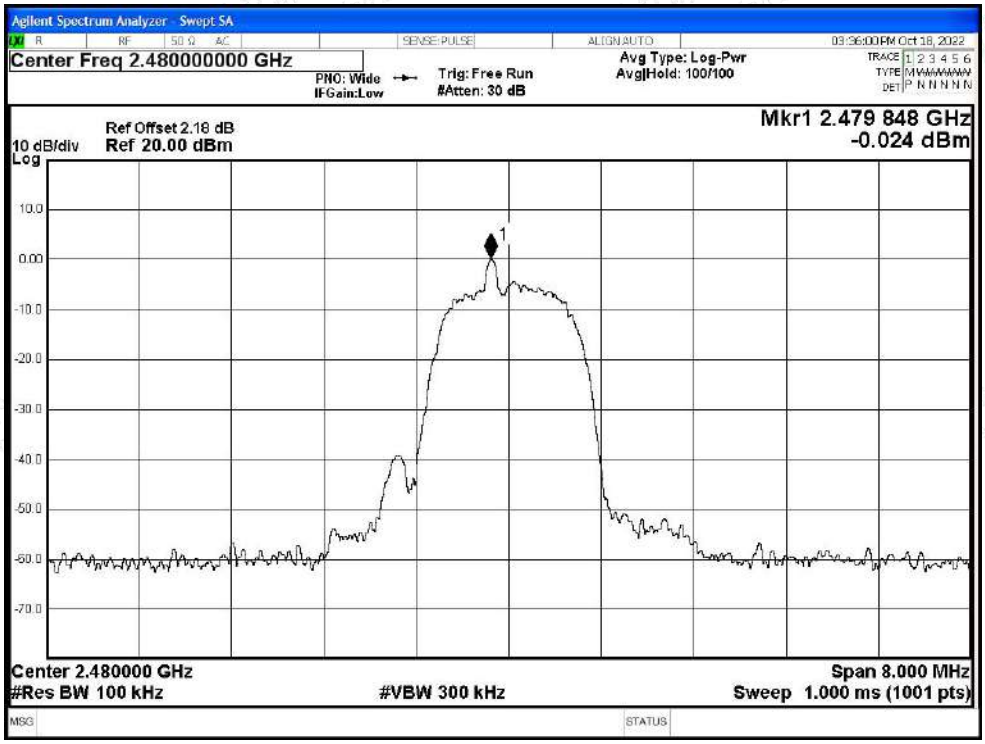
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



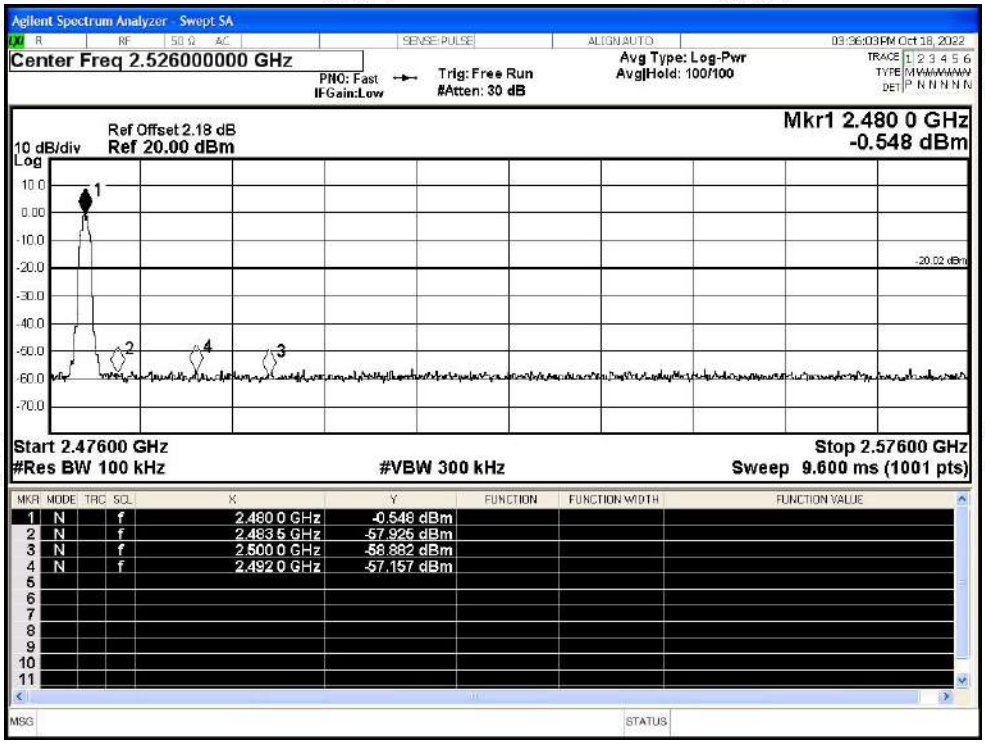
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



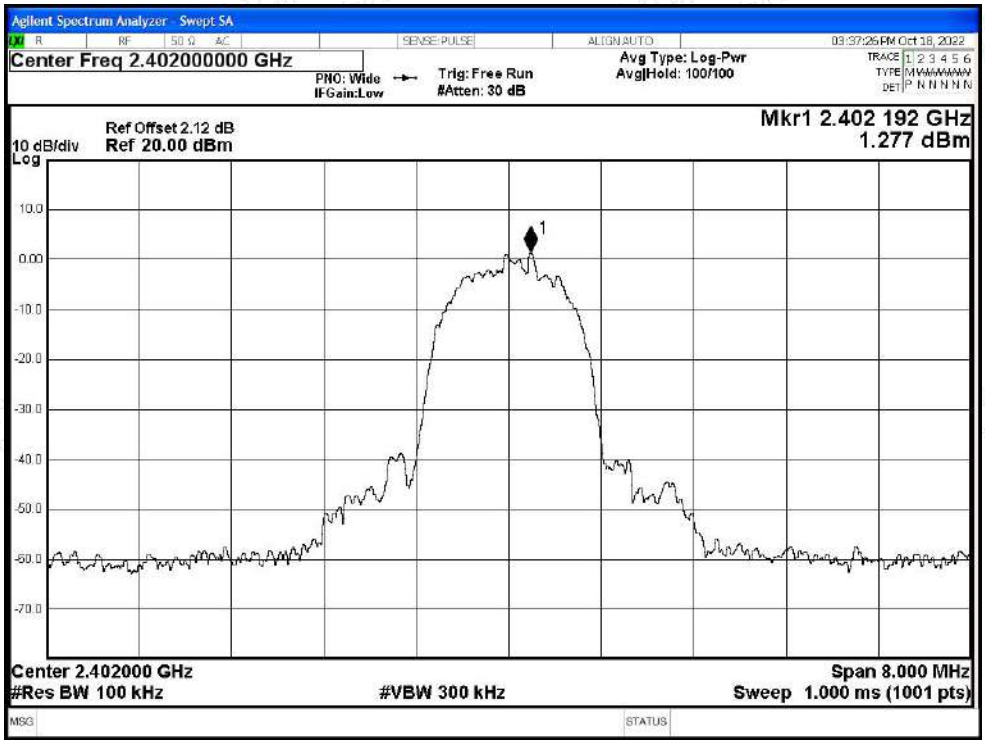
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



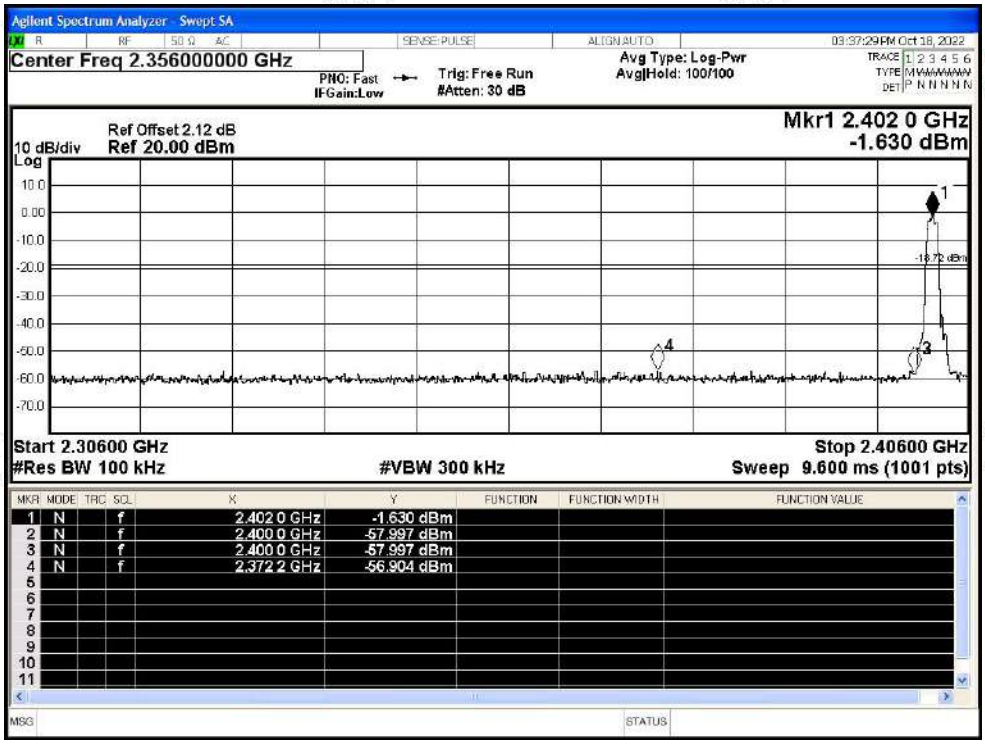
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



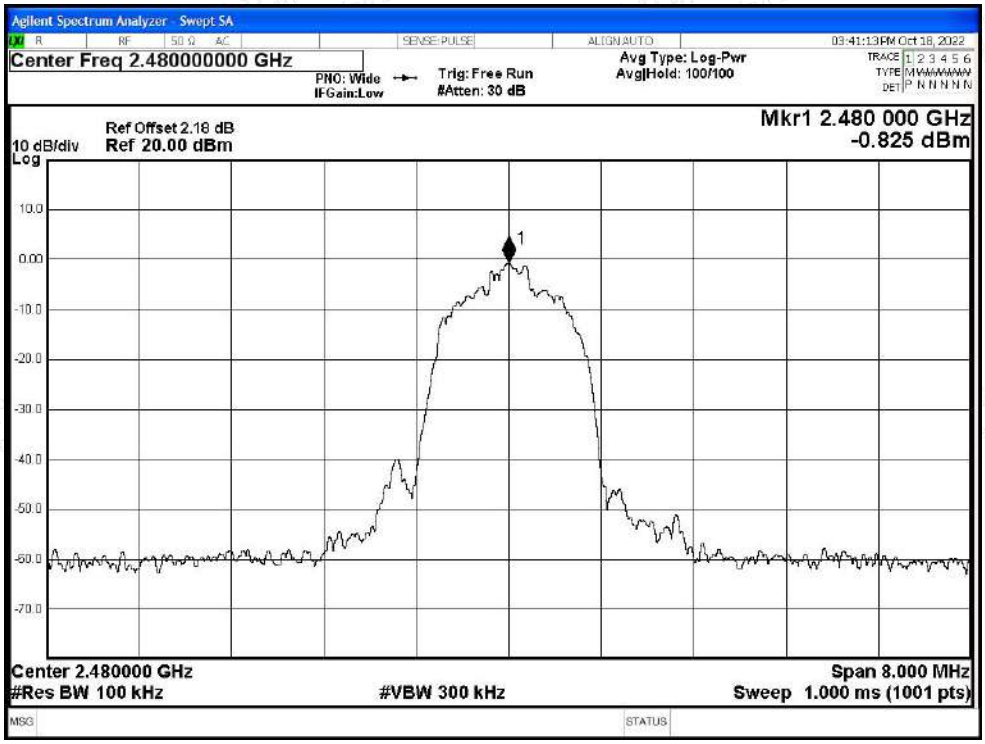
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref



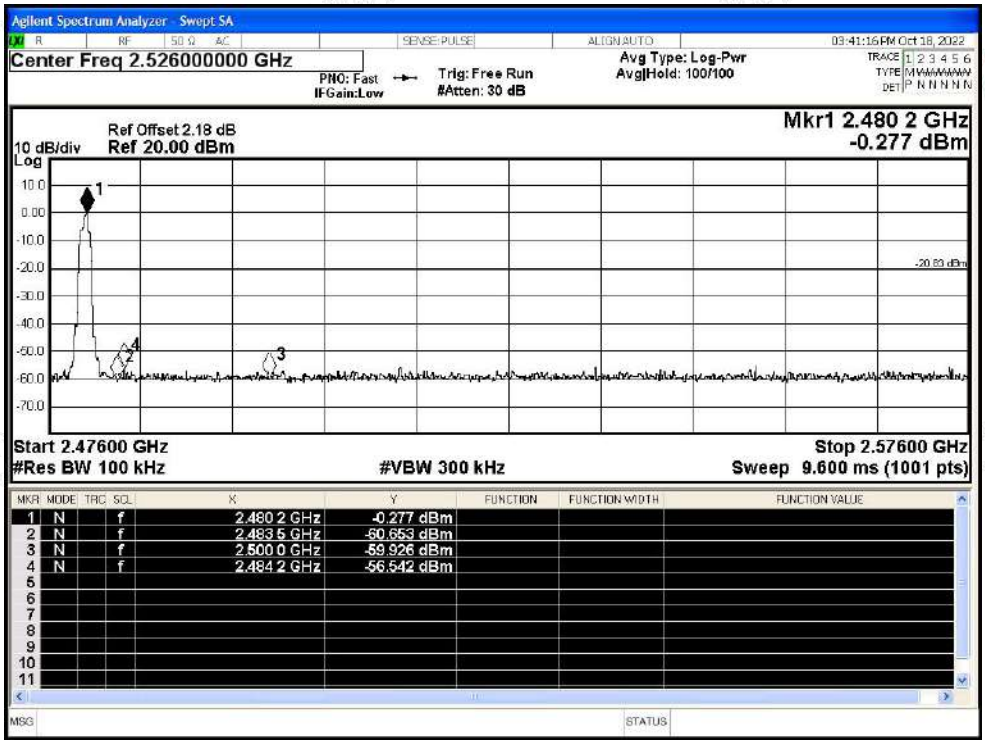
Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission



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



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

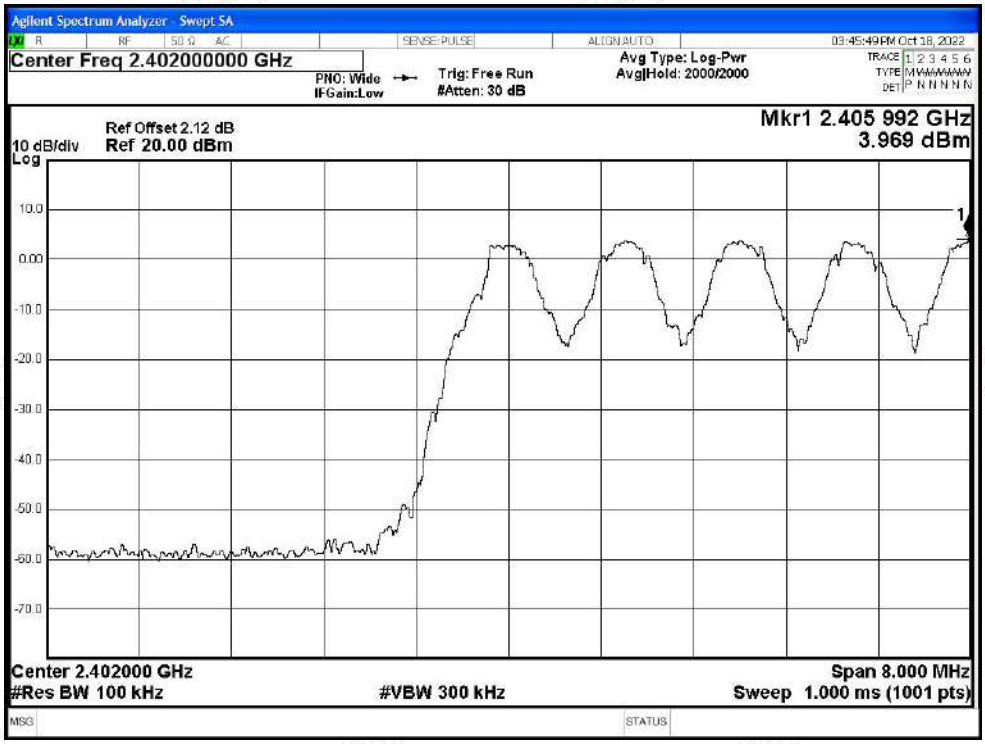


(Hopping)

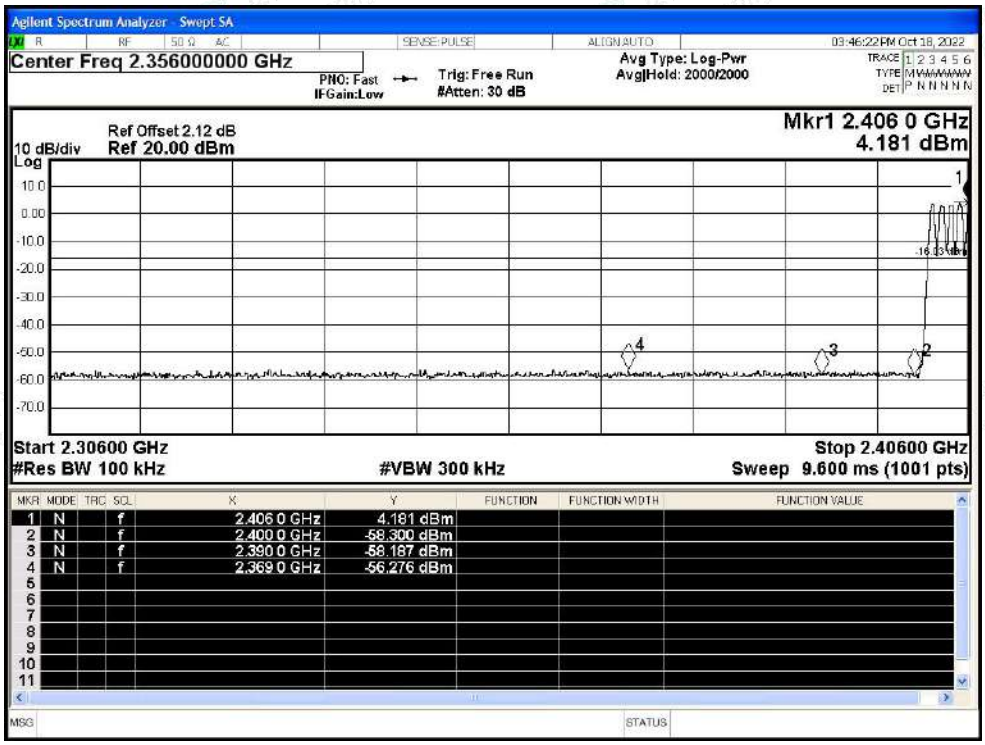
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-60.25	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-56.9	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-58.07	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-53.49	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-57.94	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-56.13	-20	Pass

Test Graphs

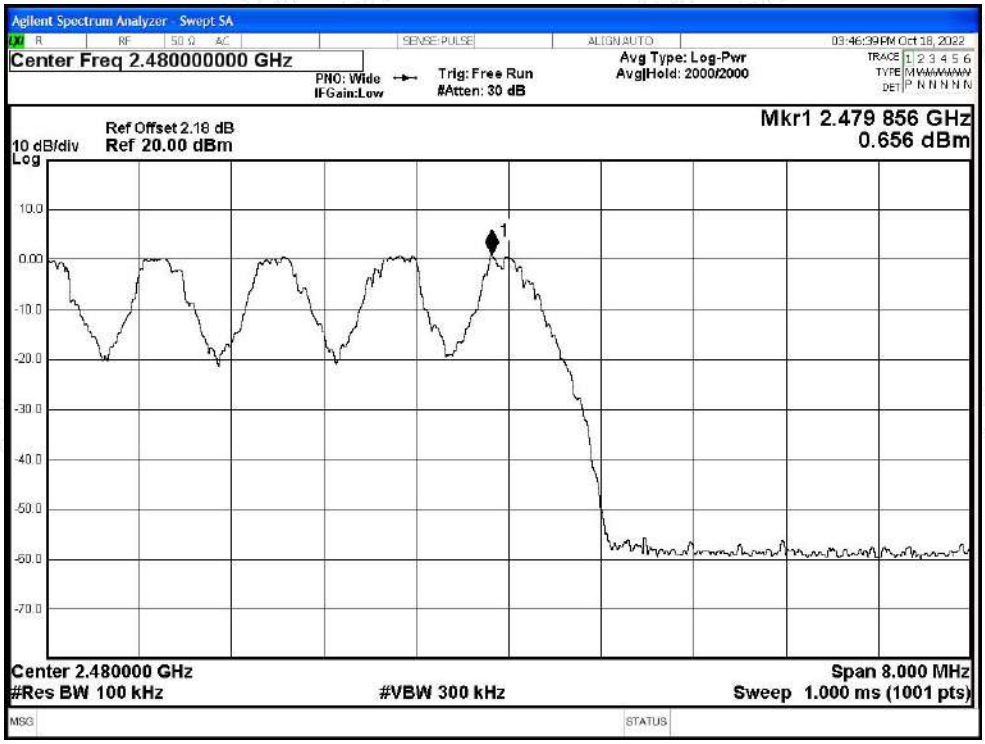
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref



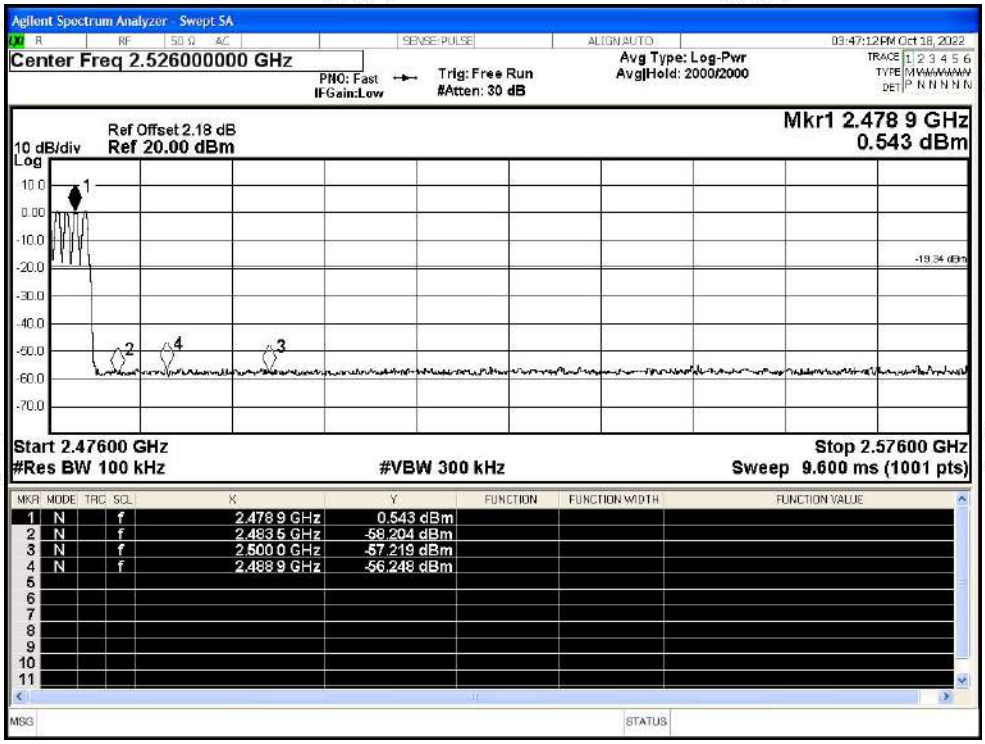
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission



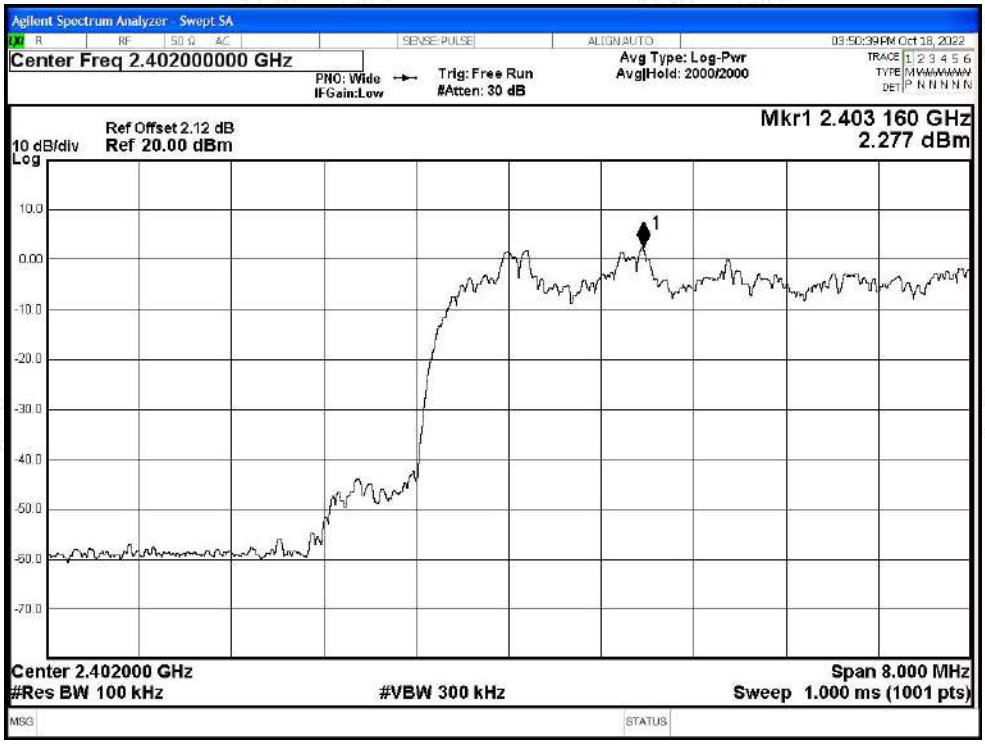
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



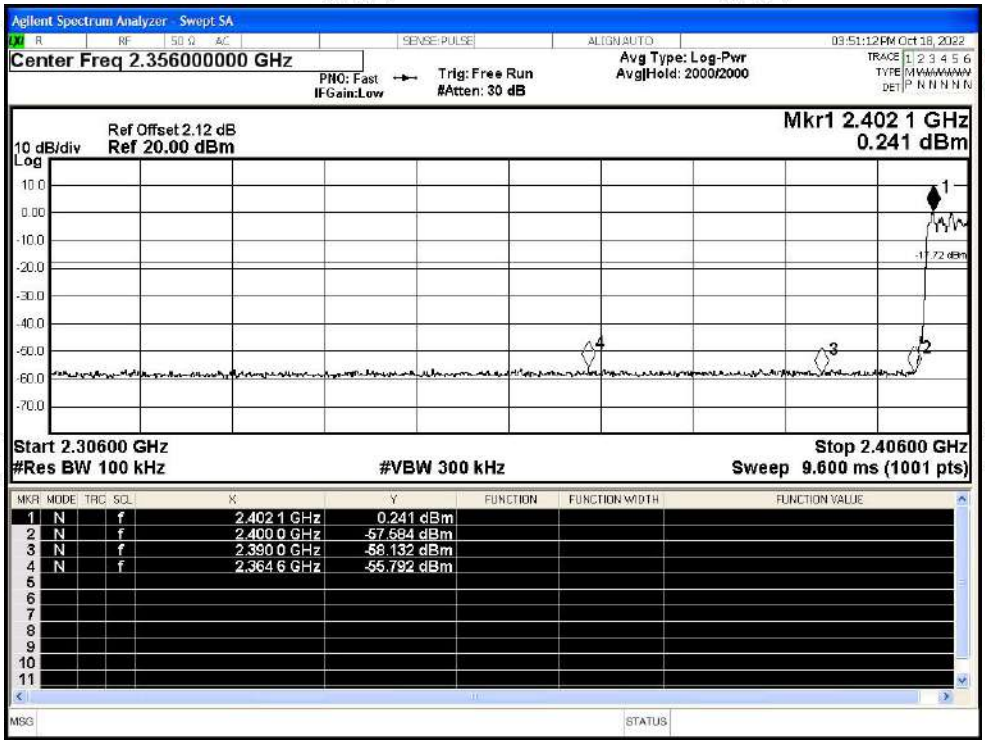
Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission



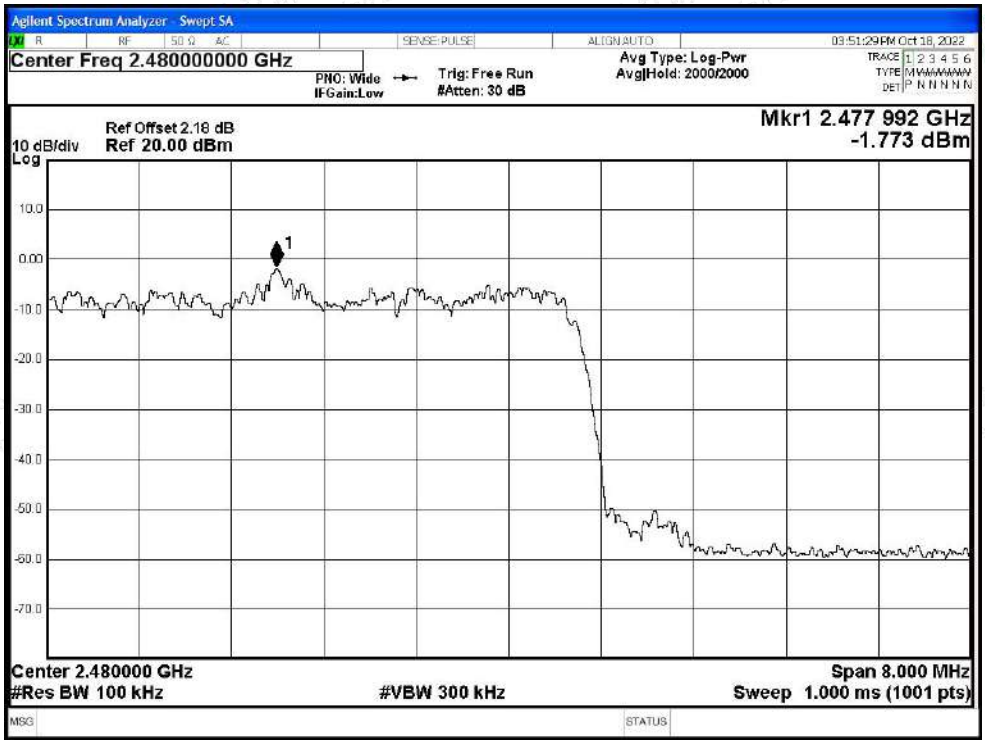
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



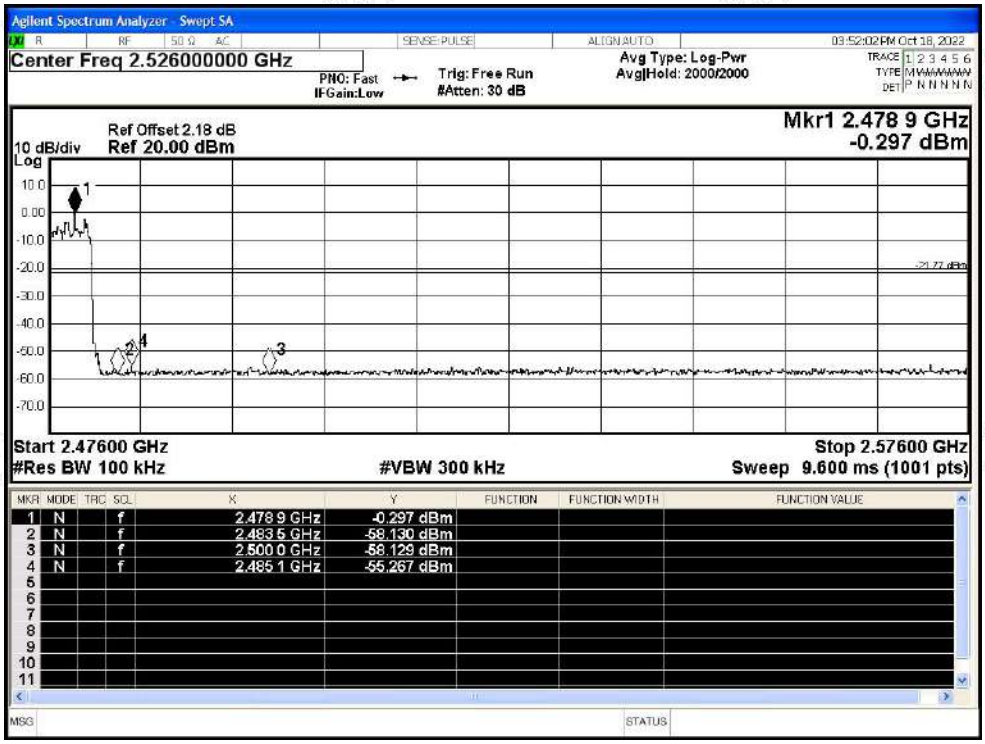
Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission



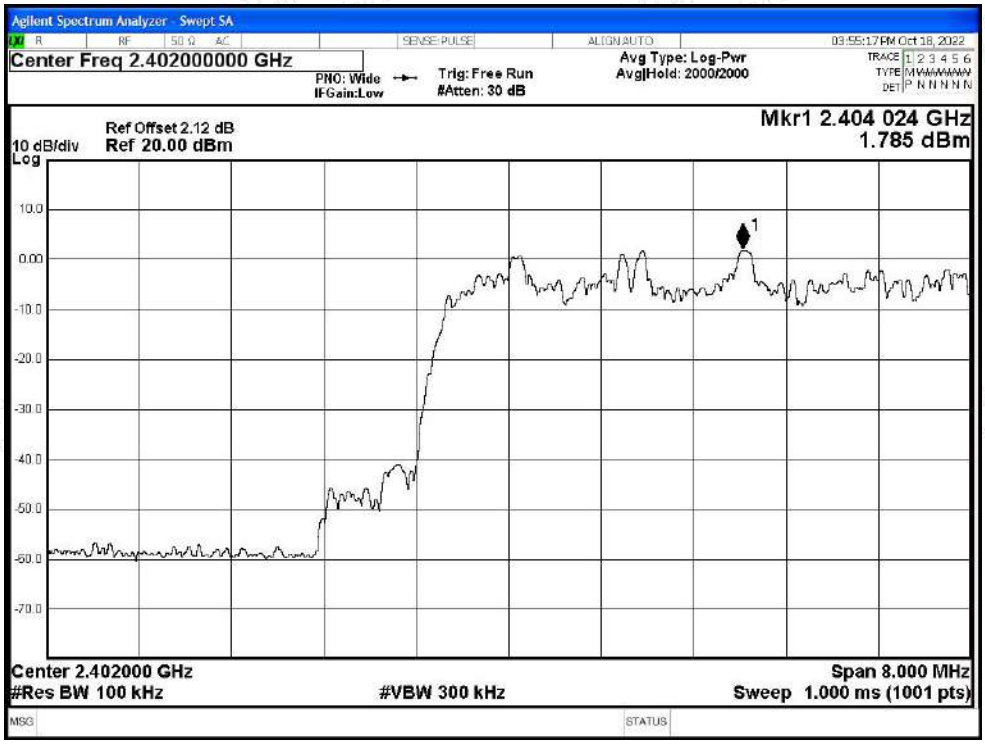
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



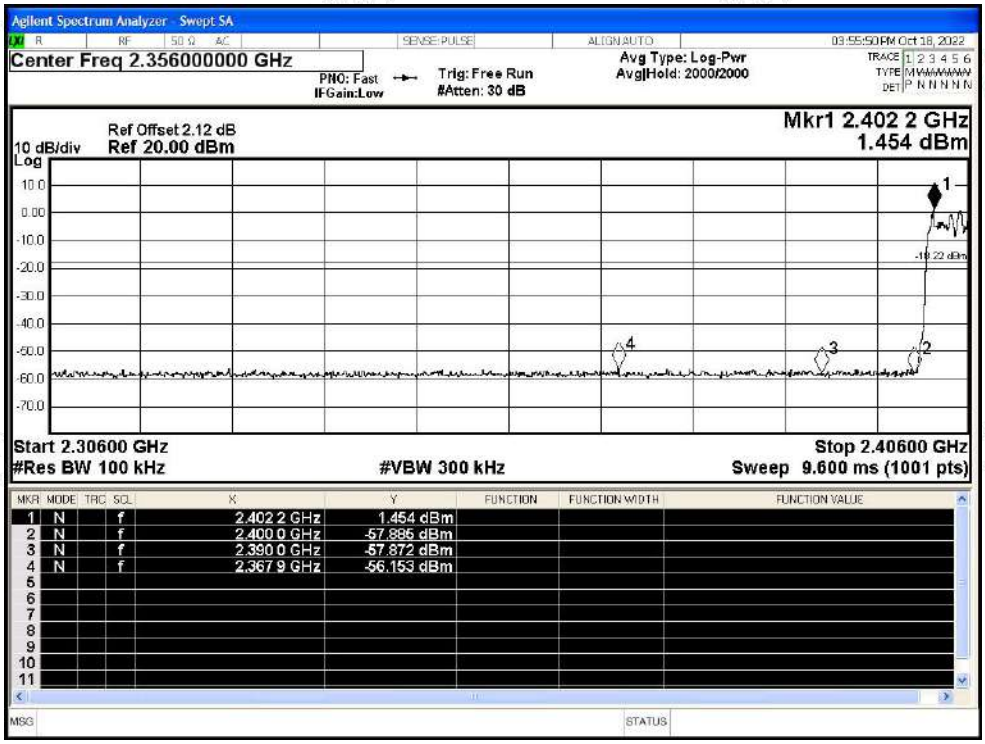
Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission



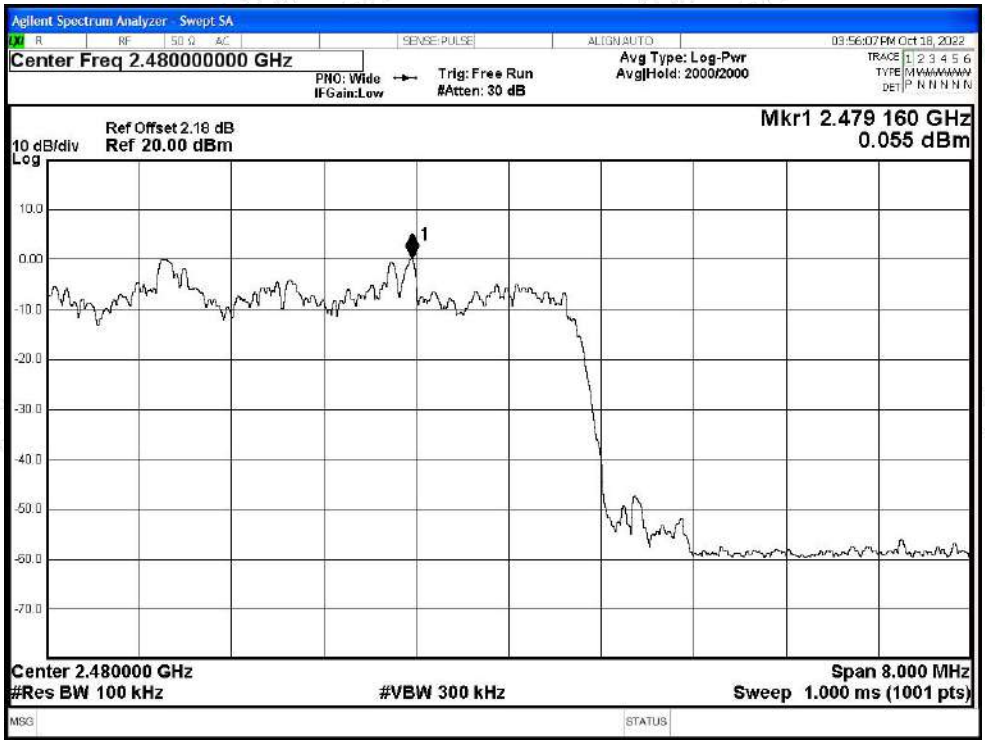
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



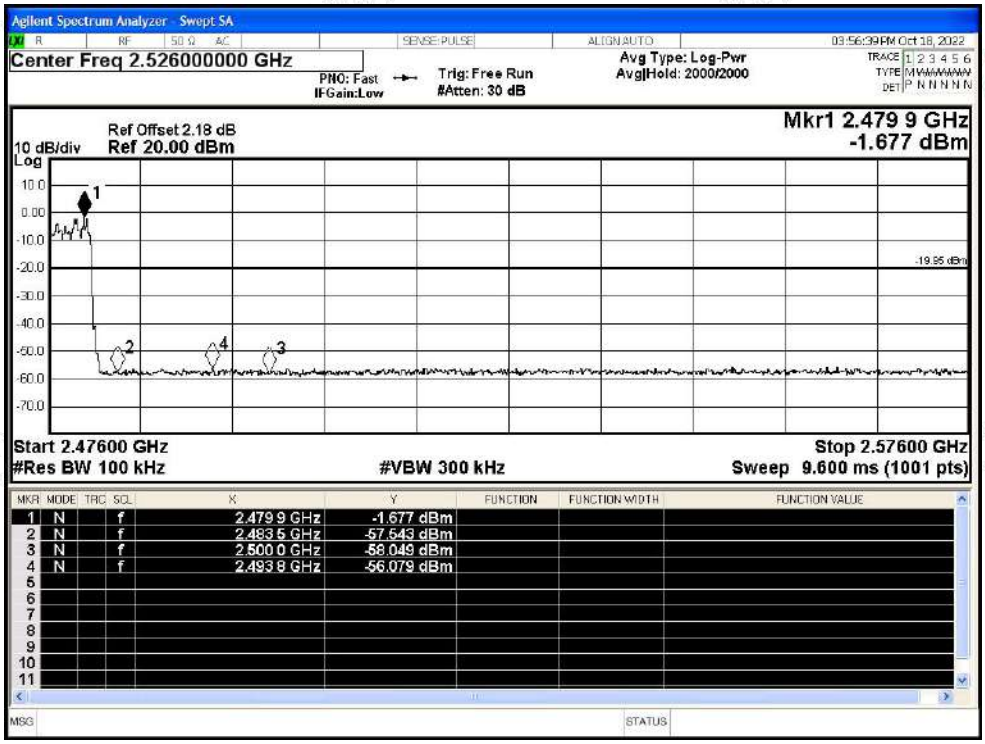
Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission



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



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

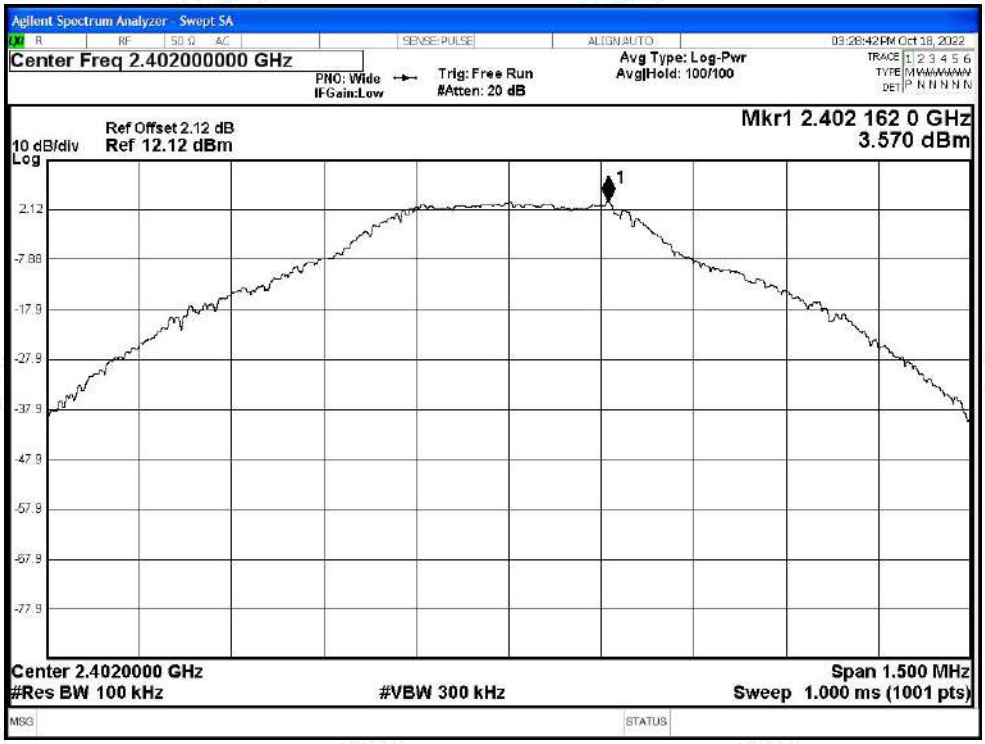


A.8 Conducted RF Spurious Emission

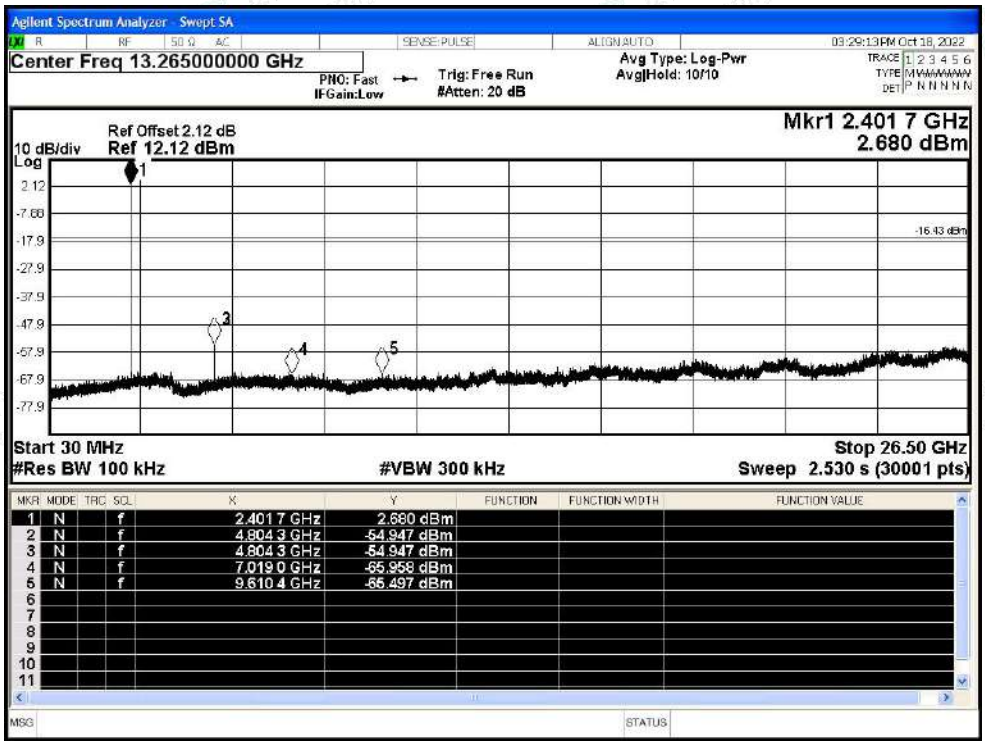
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-58.52	-20	Pass
NVNT	1-DH5	2441	Ant1	-58.21	-20	Pass
NVNT	1-DH5	2480	Ant1	-56.28	-20	Pass
NVNT	2-DH5	2402	Ant1	-57.76	-20	Pass
NVNT	2-DH5	2441	Ant1	-57.06	-20	Pass
NVNT	2-DH5	2480	Ant1	-55.2	-20	Pass
NVNT	3-DH5	2402	Ant1	-58.23	-20	Pass
NVNT	3-DH5	2441	Ant1	-57.85	-20	Pass
NVNT	3-DH5	2480	Ant1	-55.12	-20	Pass

Test Graphs

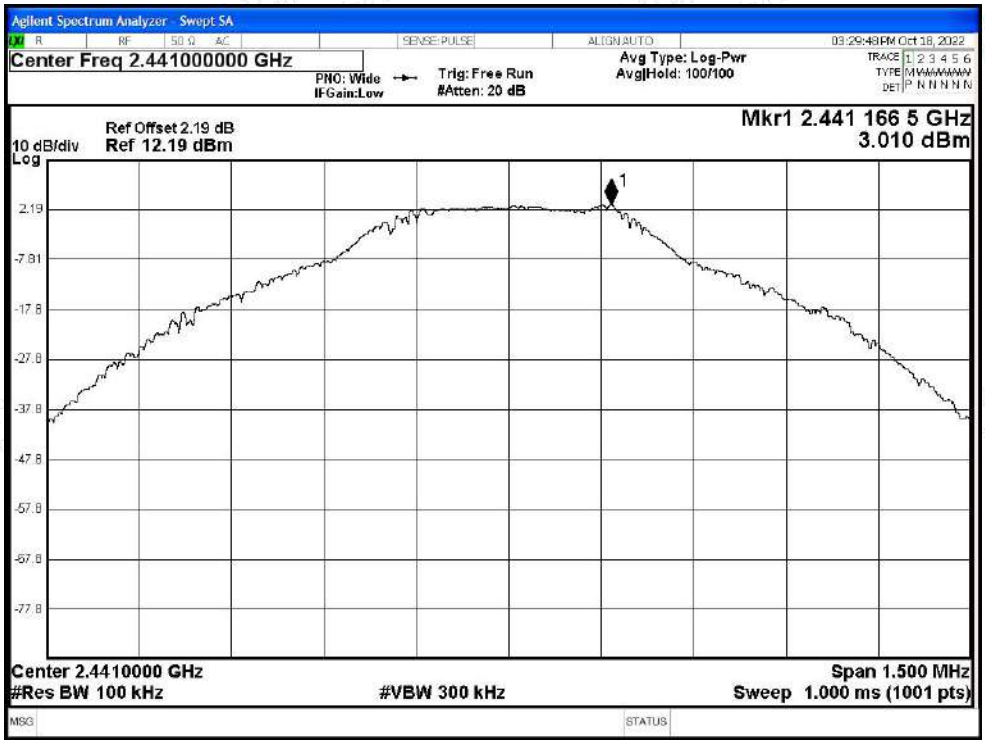
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



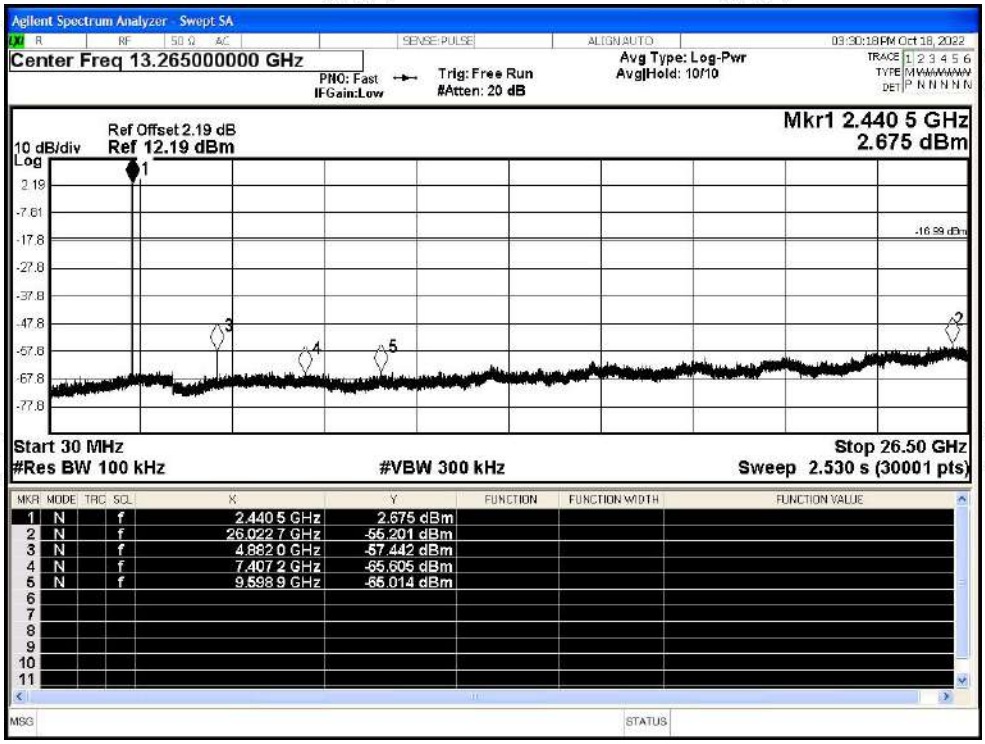
Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



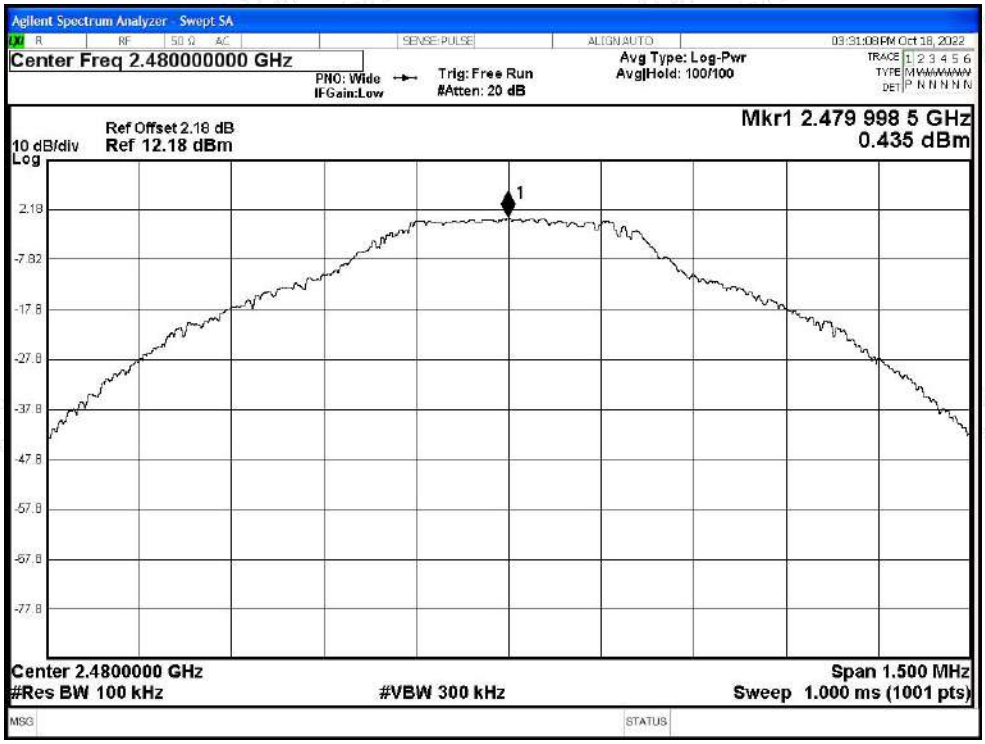
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



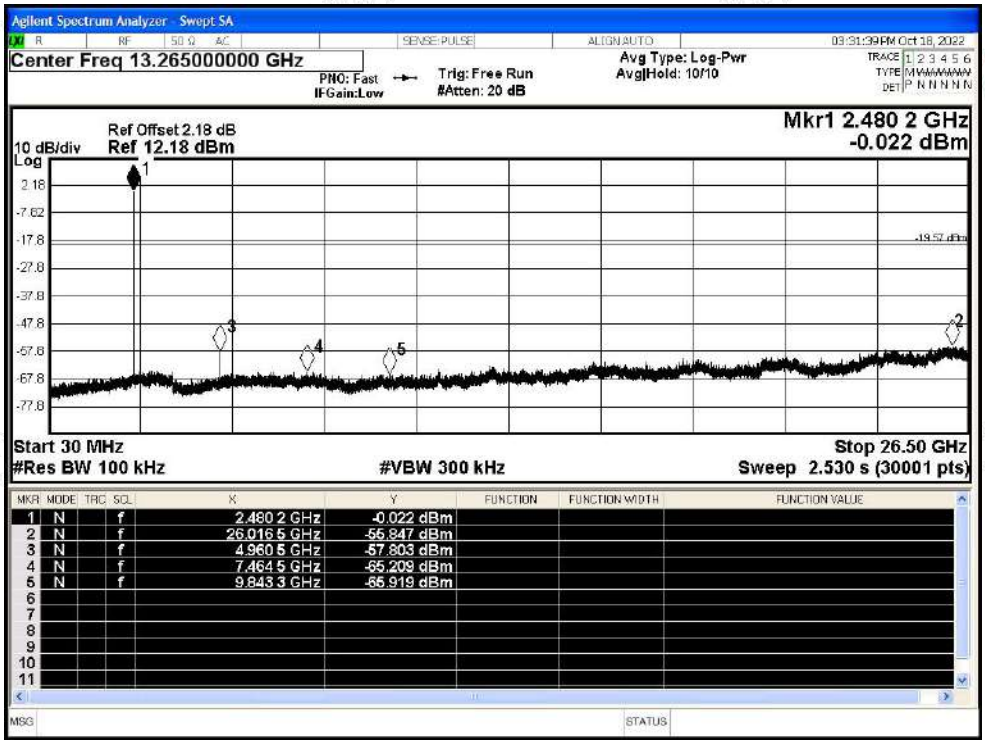
Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



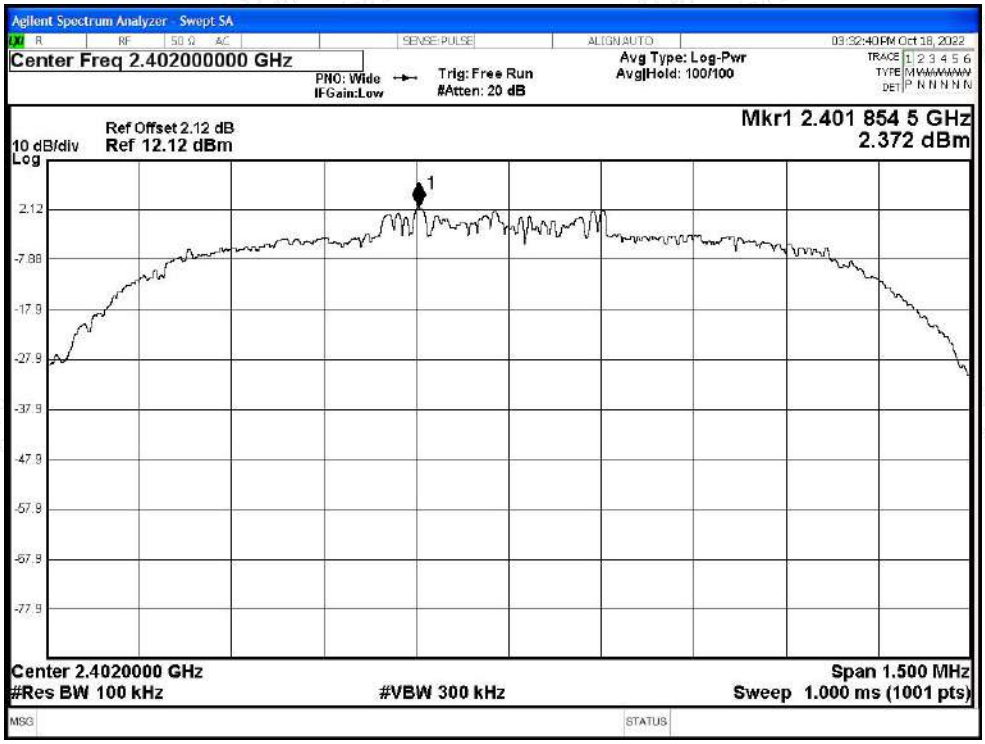
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



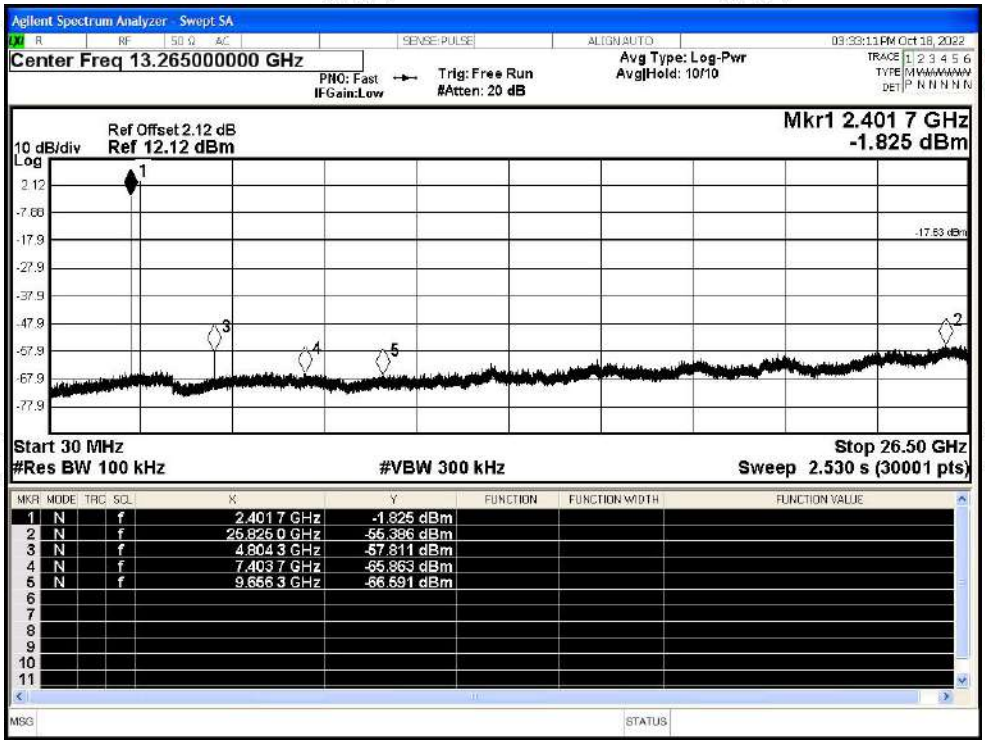
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



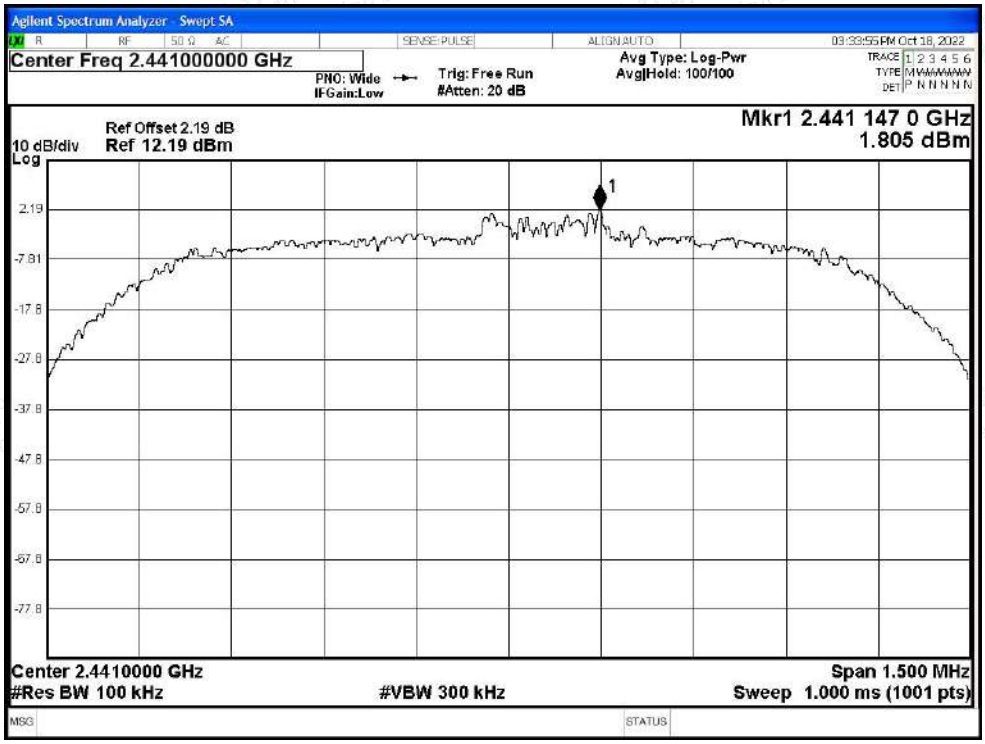
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



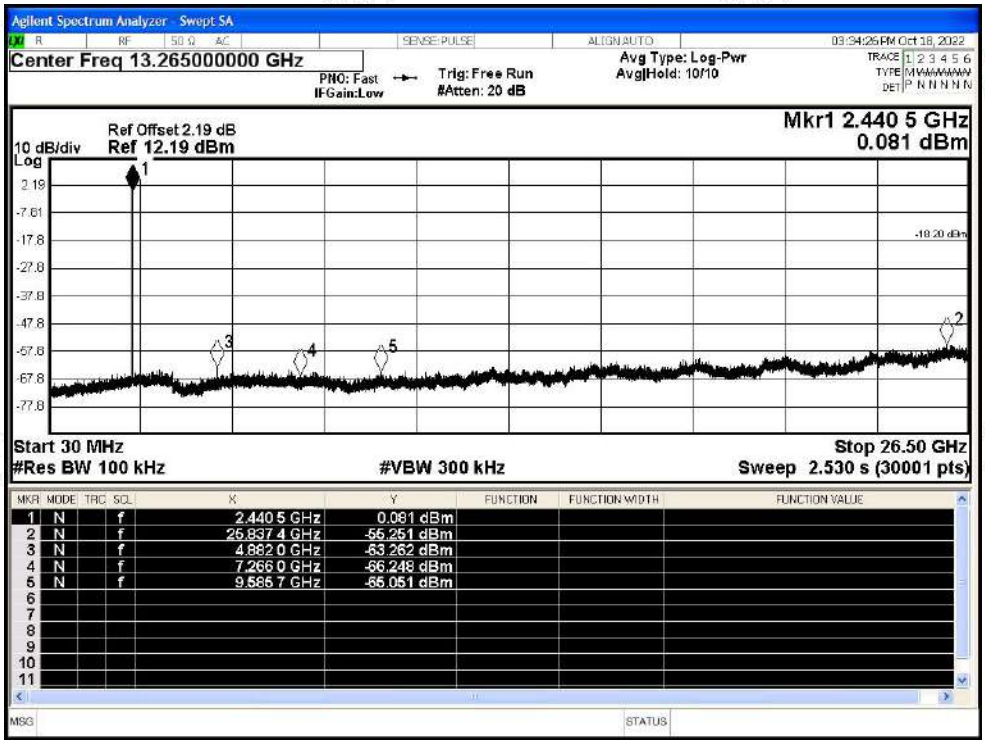
Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



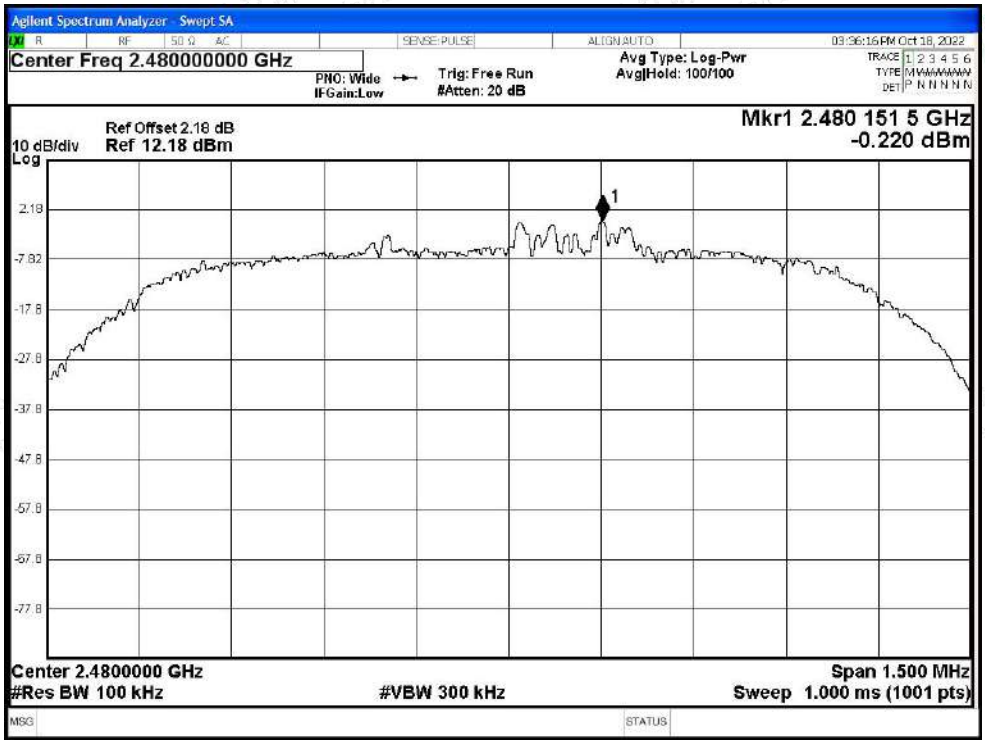
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



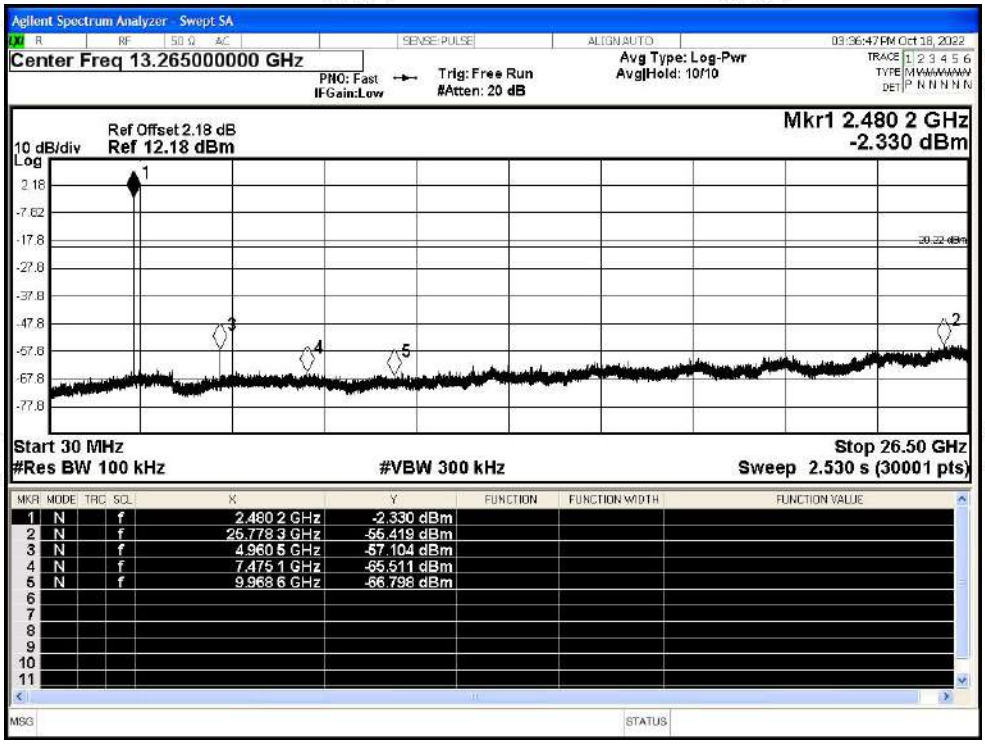
Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



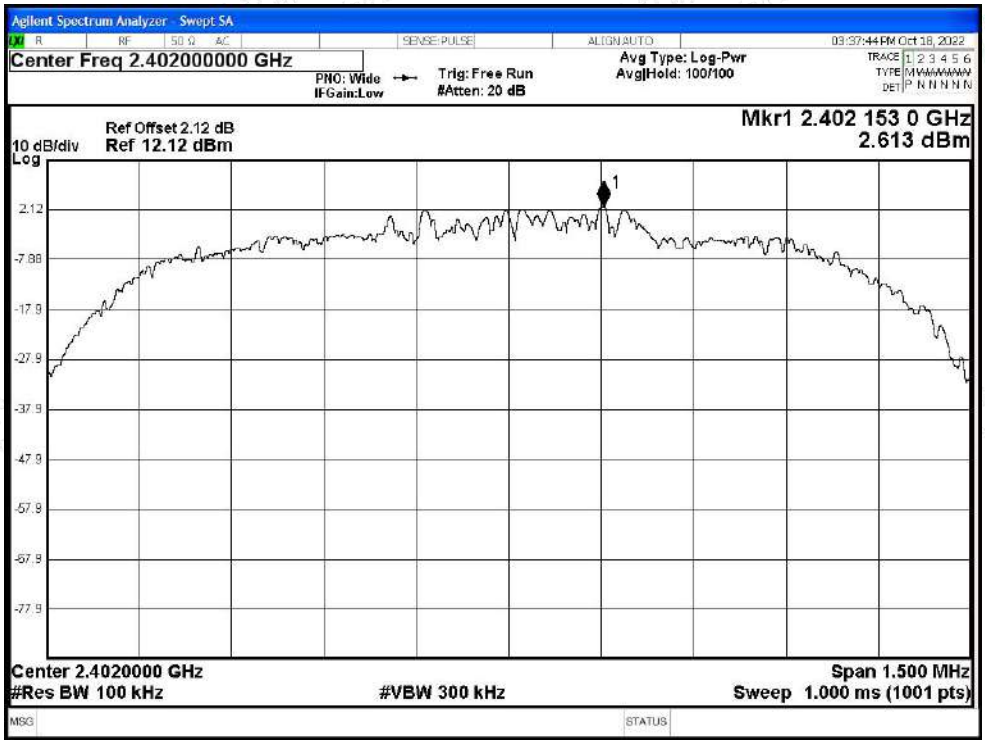
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



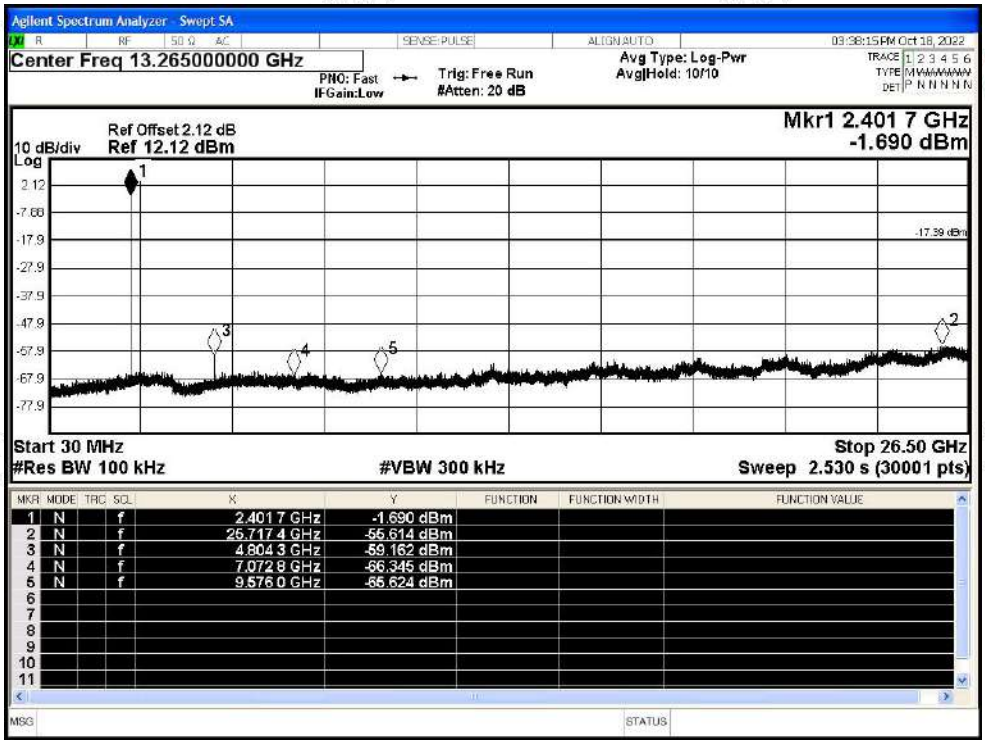
Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



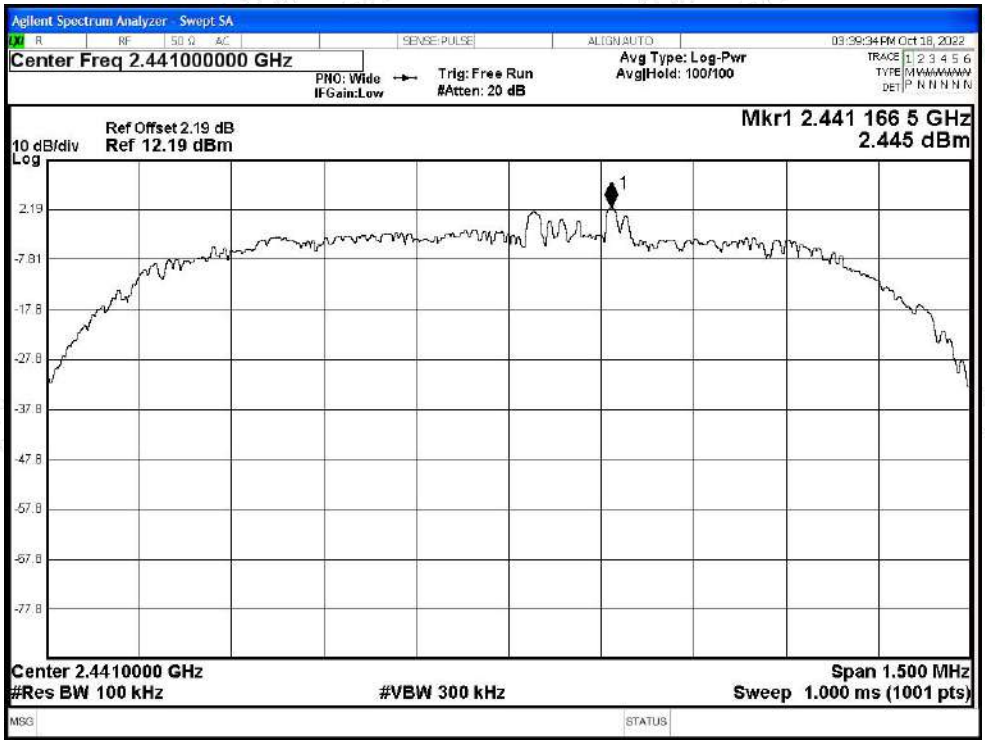
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref



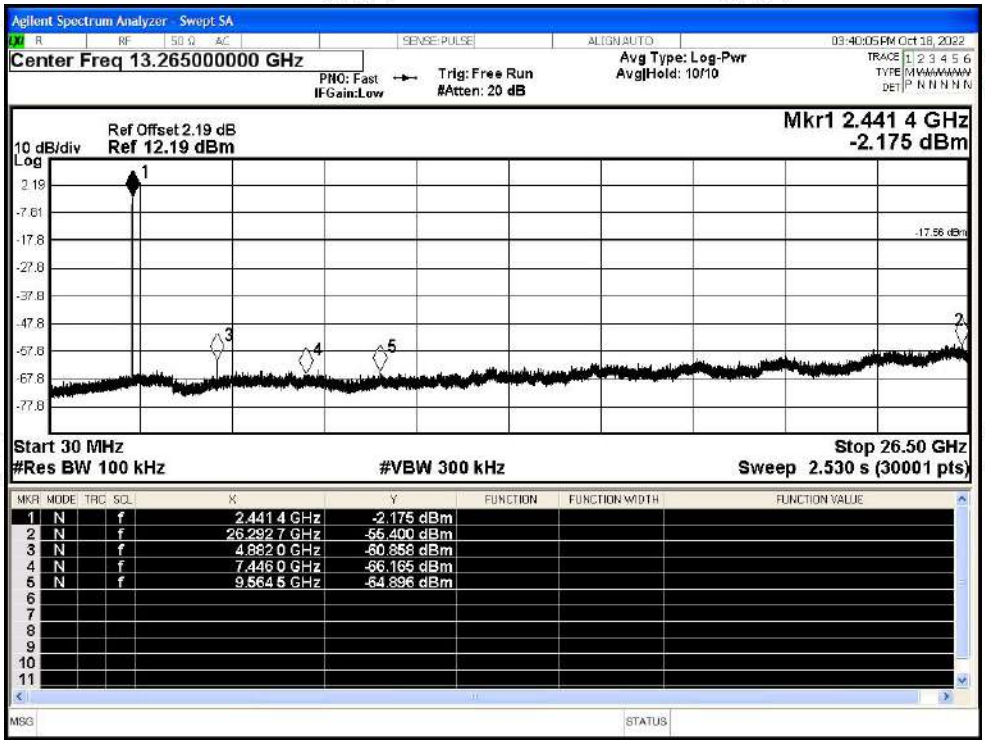
Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission



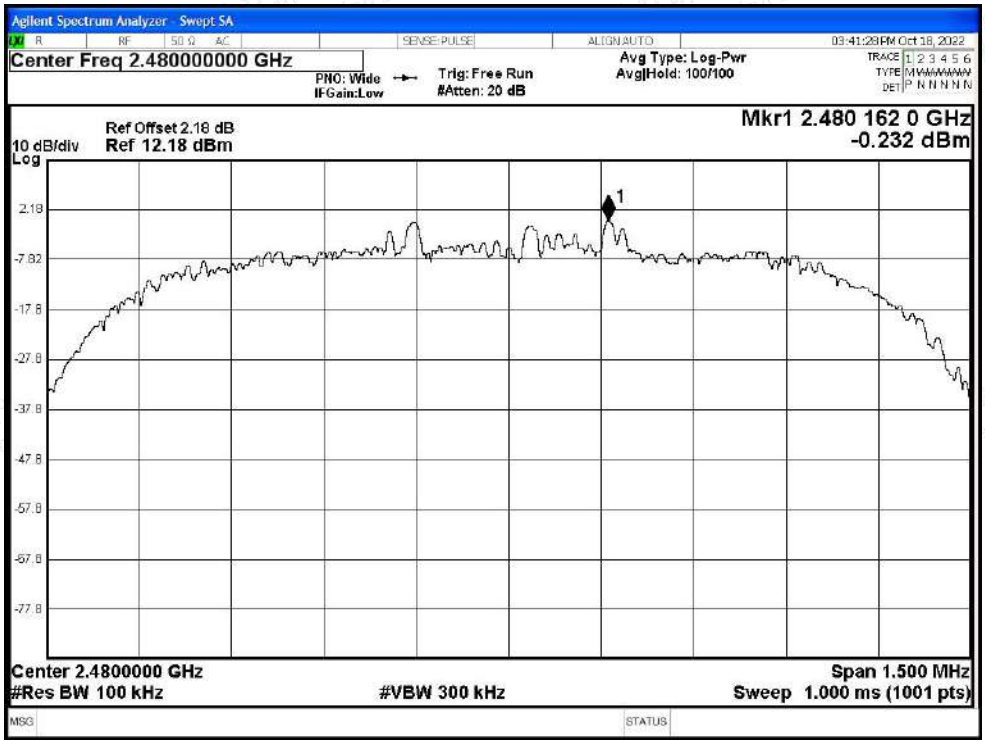
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref



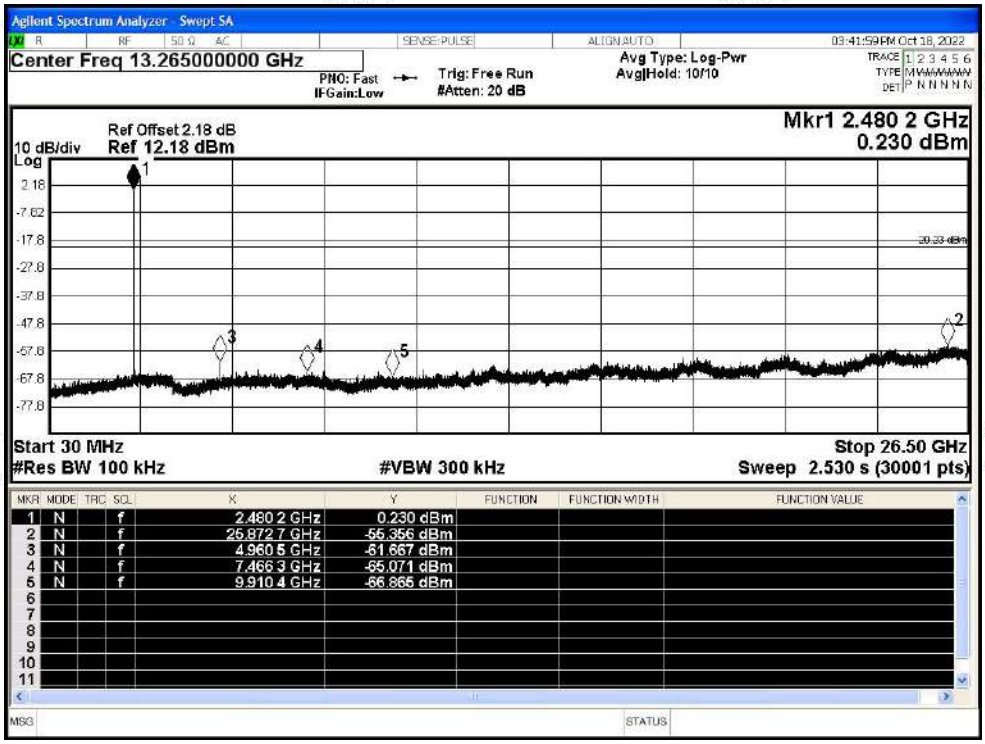
Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission

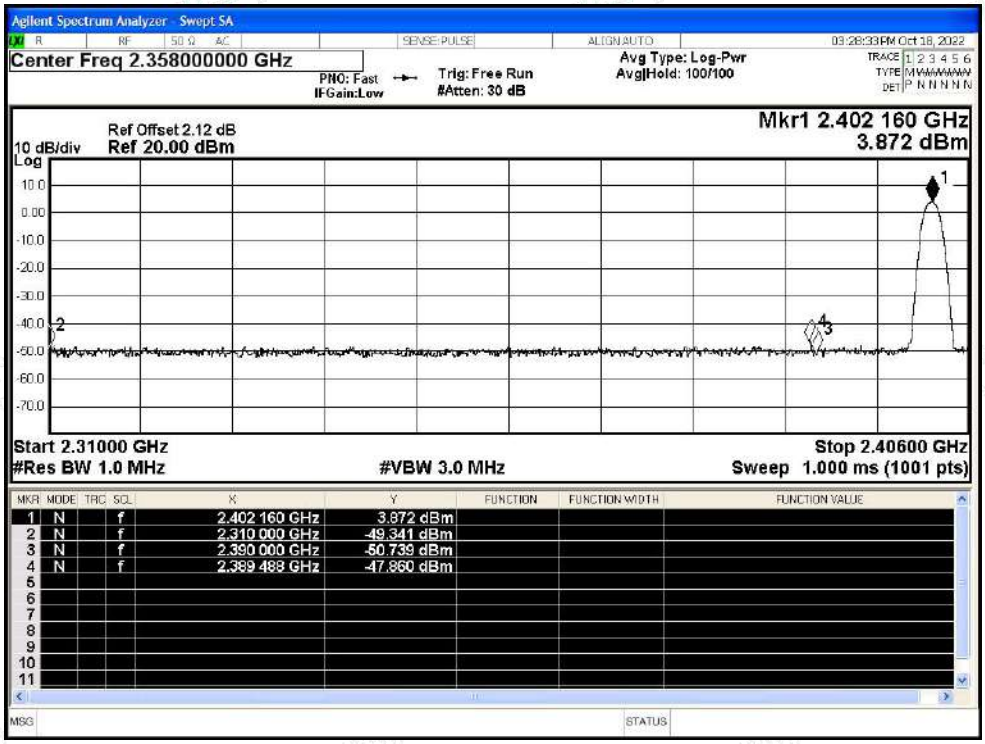


A.9 Restrict Band

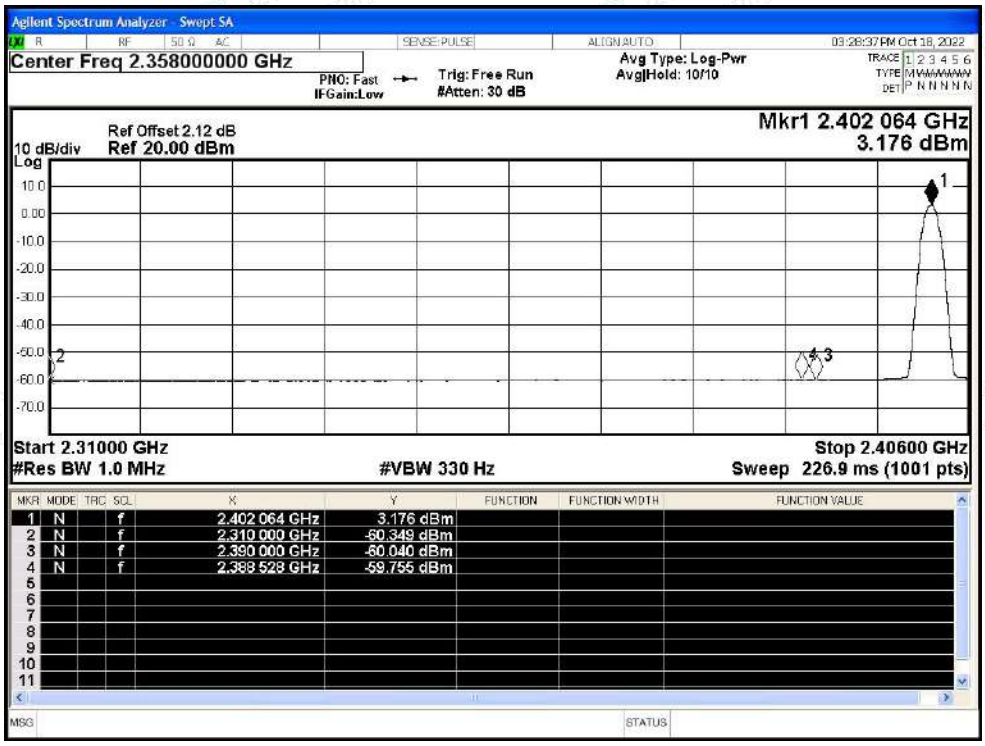
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	2310	-49.34	2	47.92	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	2310	-60.35	2	36.91	Average	54	Pass
NVNT	1-DH5	2402	Ant1	2389.488	-47.86	2	49.4	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	2388.528	-59.76	2	37.5	Average	54	Pass
NVNT	1-DH5	2402	Ant1	2390	-50.74	2	46.52	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	2390	-60.04	2	37.22	Average	54	Pass
NVNT	1-DH5	2480	Ant1	2483.5	-51.06	2	46.2	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	2483.5	-59.36	2	37.9	Average	54	Pass
NVNT	1-DH5	2480	Ant1	2493.448	-46.57	2	50.69	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	2485.096	-59.29	2	37.97	Average	54	Pass
NVNT	1-DH5	2480	Ant1	2500	-49.16	2	48.1	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	2500	-59.75	2	37.51	Average	54	Pass
NVNT	2-DH5	2402	Ant1	2310	-50.64	2	46.62	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	2310	-60.43	2	36.83	Average	54	Pass
NVNT	2-DH5	2402	Ant1	2384.016	-47.53	2	49.73	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	2385.36	-59.88	2	37.38	Average	54	Pass
NVNT	2-DH5	2402	Ant1	2390	-50.45	2	46.81	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	2390	-59.94	2	37.32	Average	54	Pass
NVNT	2-DH5	2480	Ant1	2483.5	-48.73	2	48.53	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	2483.5	-59.3	2	37.96	Average	54	Pass
NVNT	2-DH5	2480	Ant1	2487.184	-46.4	2	50.86	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	2483.512	-59.3	2	37.96	Average	54	Pass
NVNT	2-DH5	2480	Ant1	2500	-49.97	2	47.29	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	2500	-59.66	2	37.6	Average	54	Pass
NVNT	3-DH5	2402	Ant1	2310	-51.9	2	45.36	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	2310	-60.47	2	36.79	Average	54	Pass
NVNT	3-DH5	2402	Ant1	2377.584	-46.82	2	50.44	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	2381.52	-59.84	2	37.42	Average	54	Pass
NVNT	3-DH5	2402	Ant1	2390	-49.77	2	47.49	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	2390	-59.92	2	37.34	Average	54	Pass
NVNT	3-DH5	2480	Ant1	2483.5	-50.73	2	46.53	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	2483.5	-59.45	2	37.81	Average	54	Pass
NVNT	3-DH5	2480	Ant1	2495.704	-46.47	2	50.79	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	2484.112	-59.34	2	37.92	Average	54	Pass
NVNT	3-DH5	2480	Ant1	2500	-50.25	2	47.01	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	2500	-59.74	2	37.52	Average	54	Pass

Test Graphs

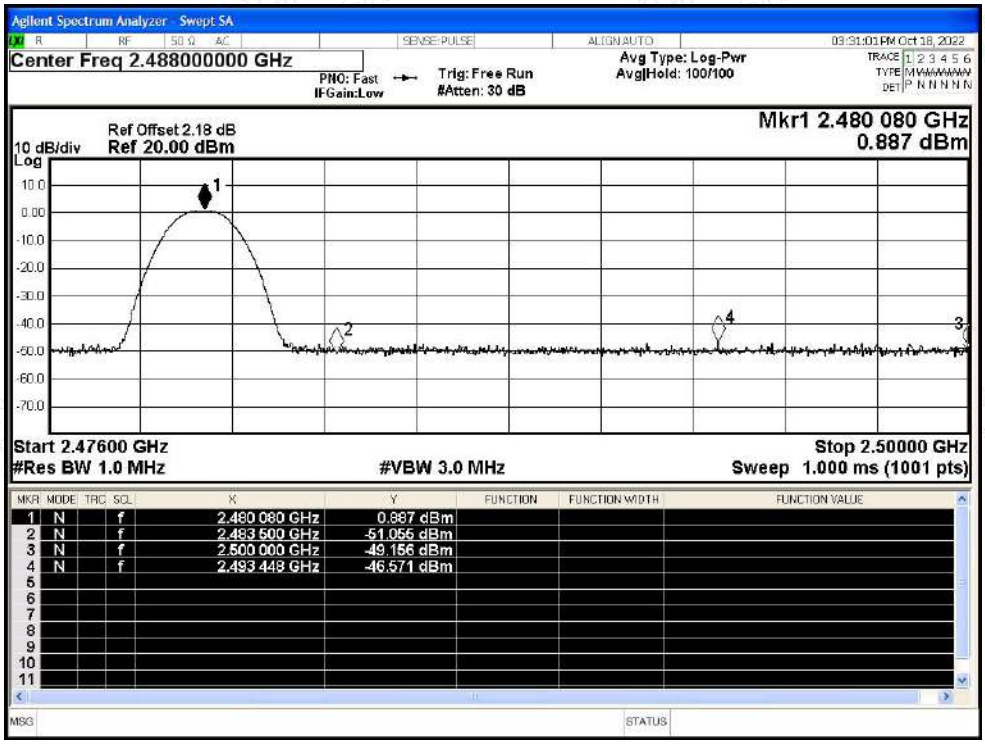
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Peak



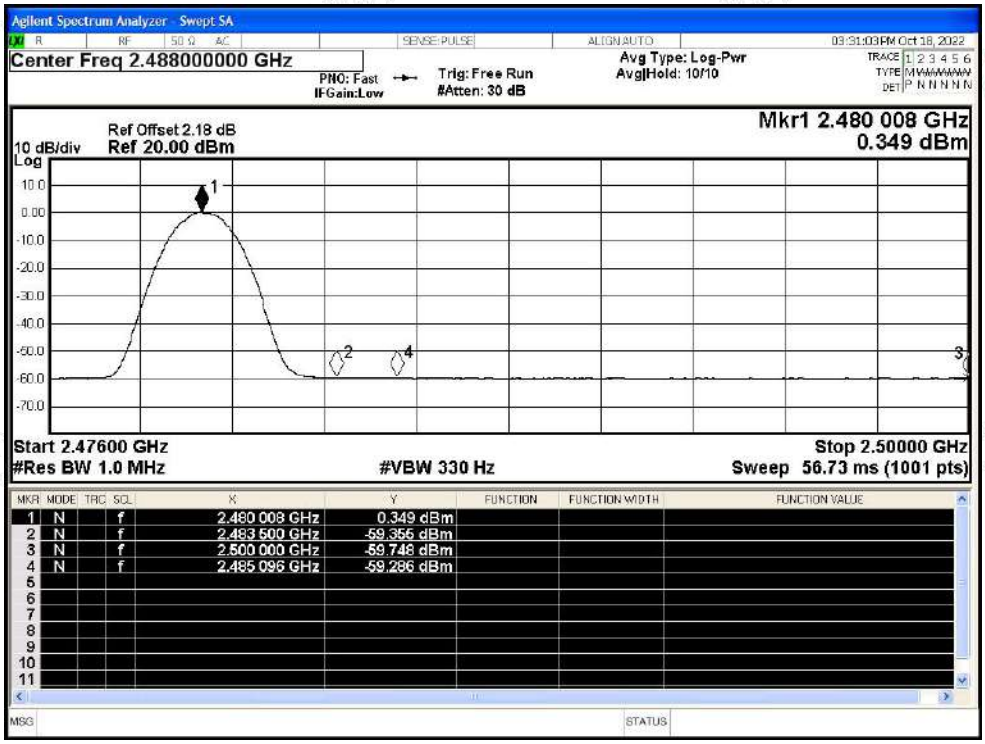
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



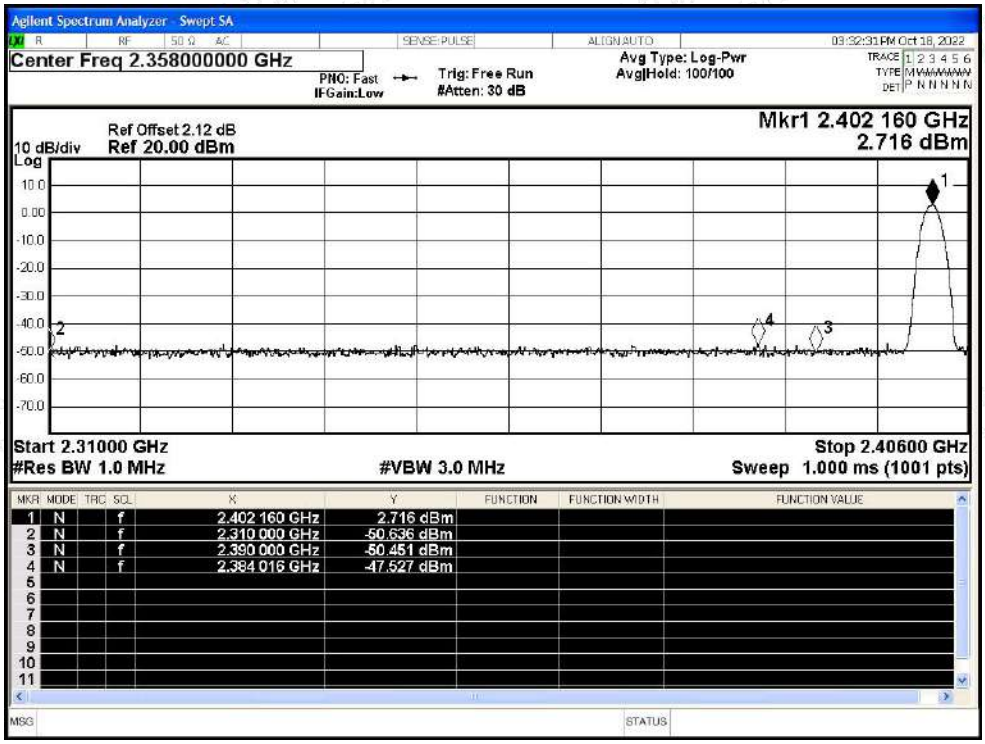
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



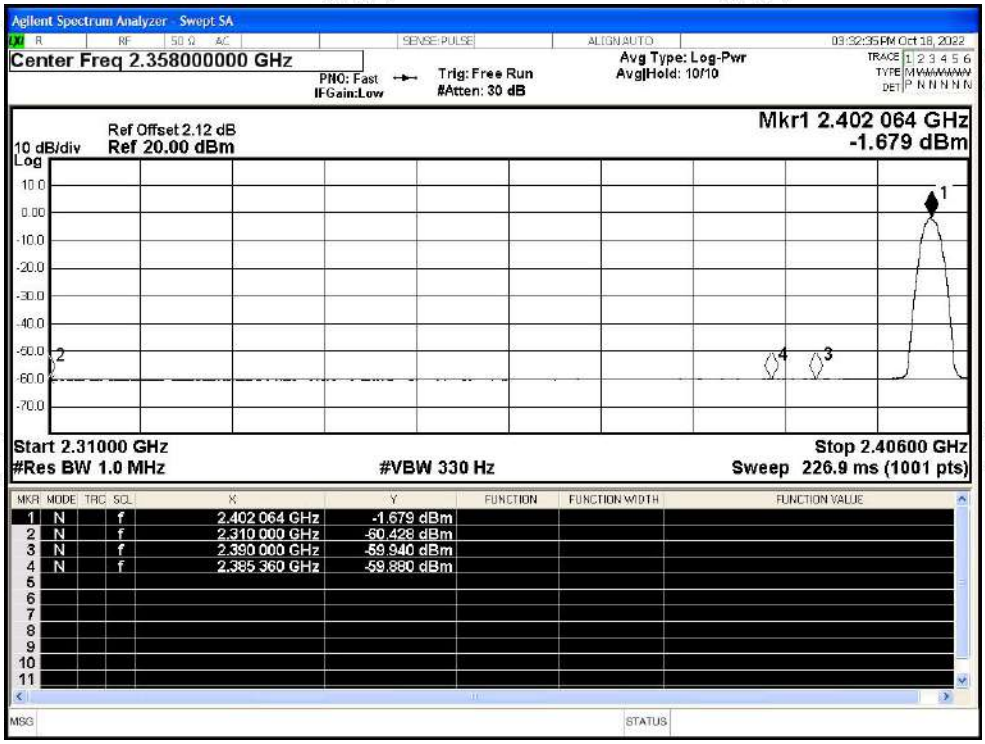
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



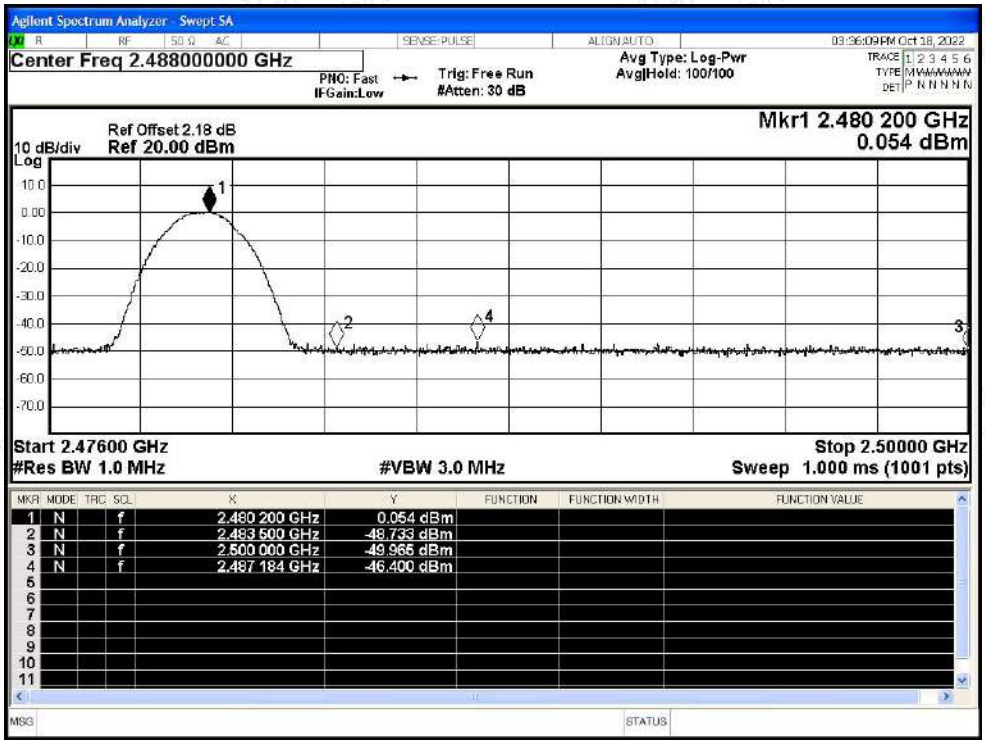
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak



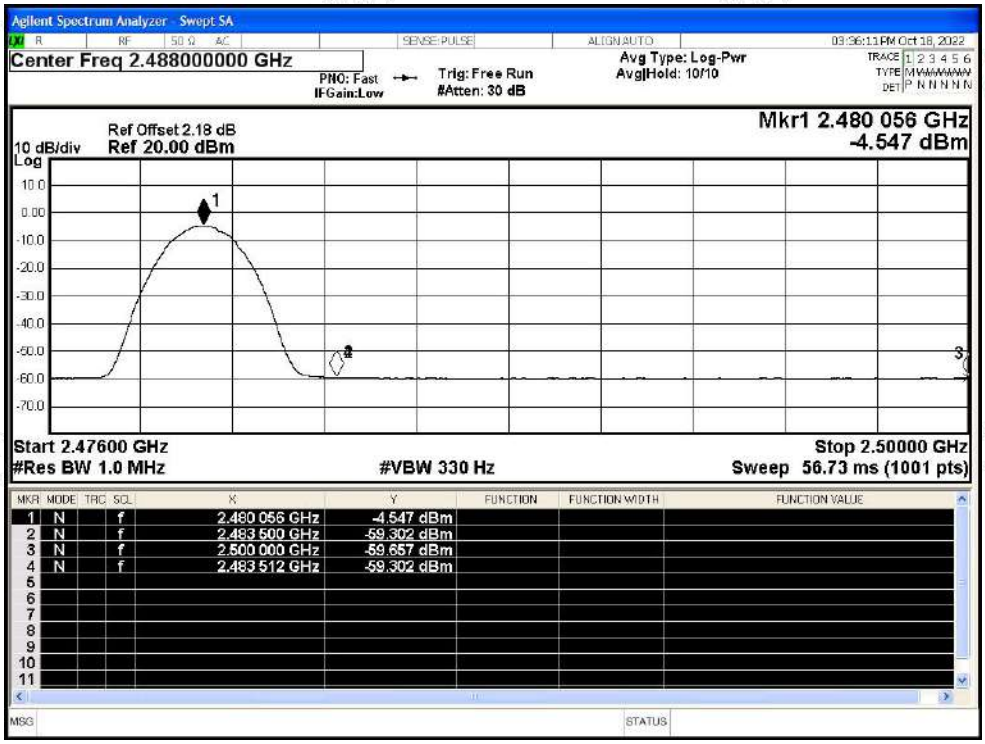
Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average



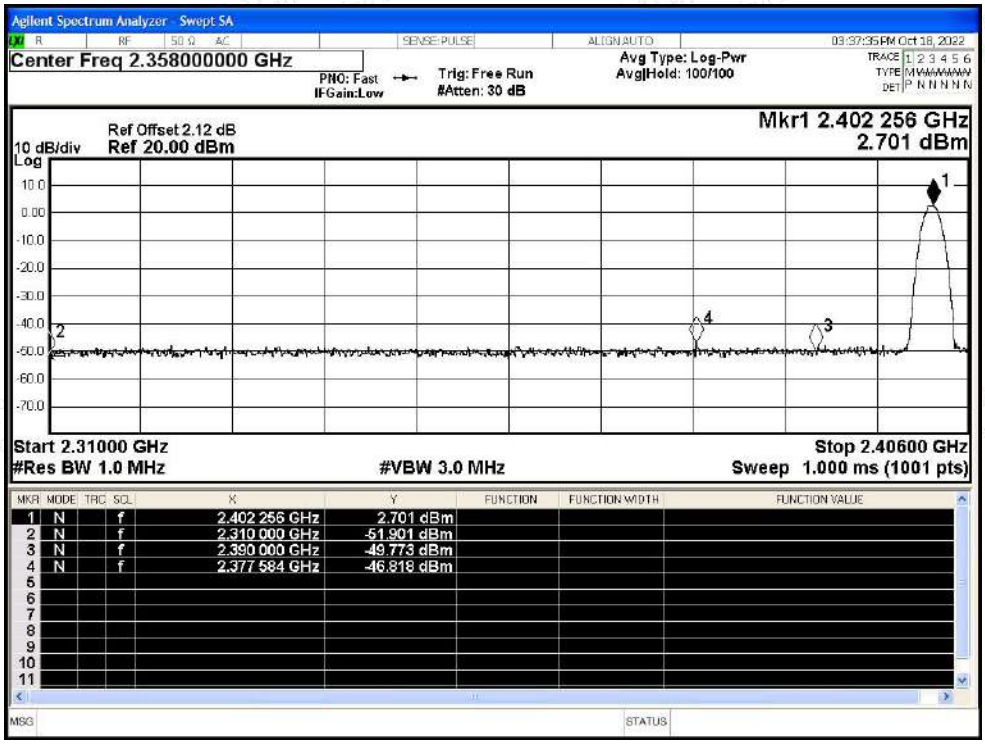
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak



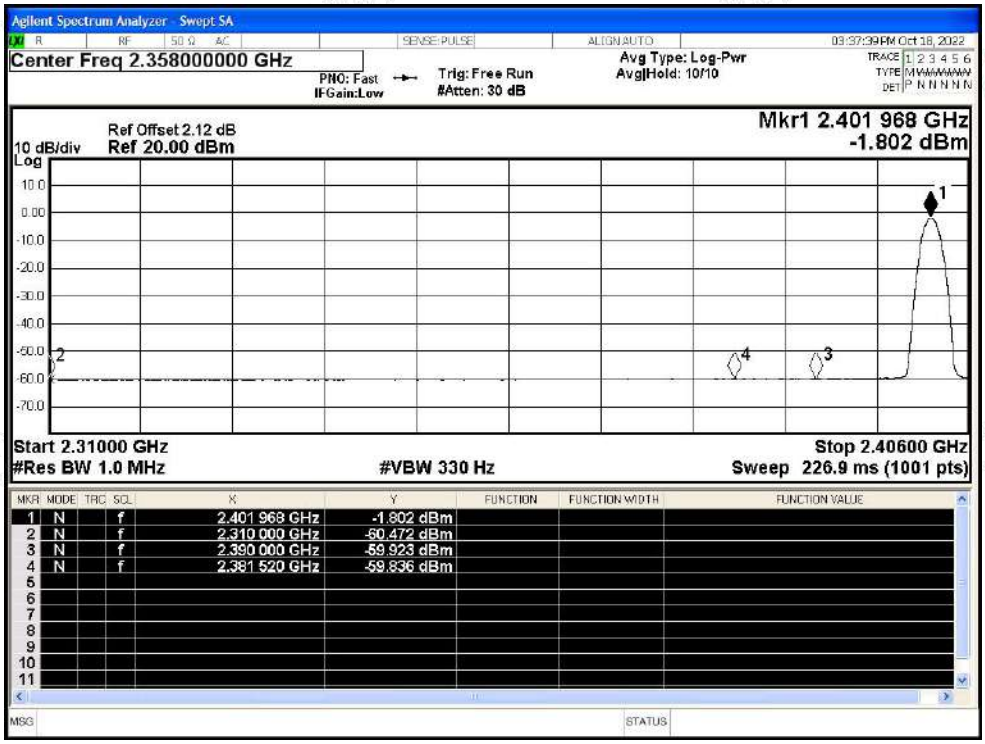
Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average



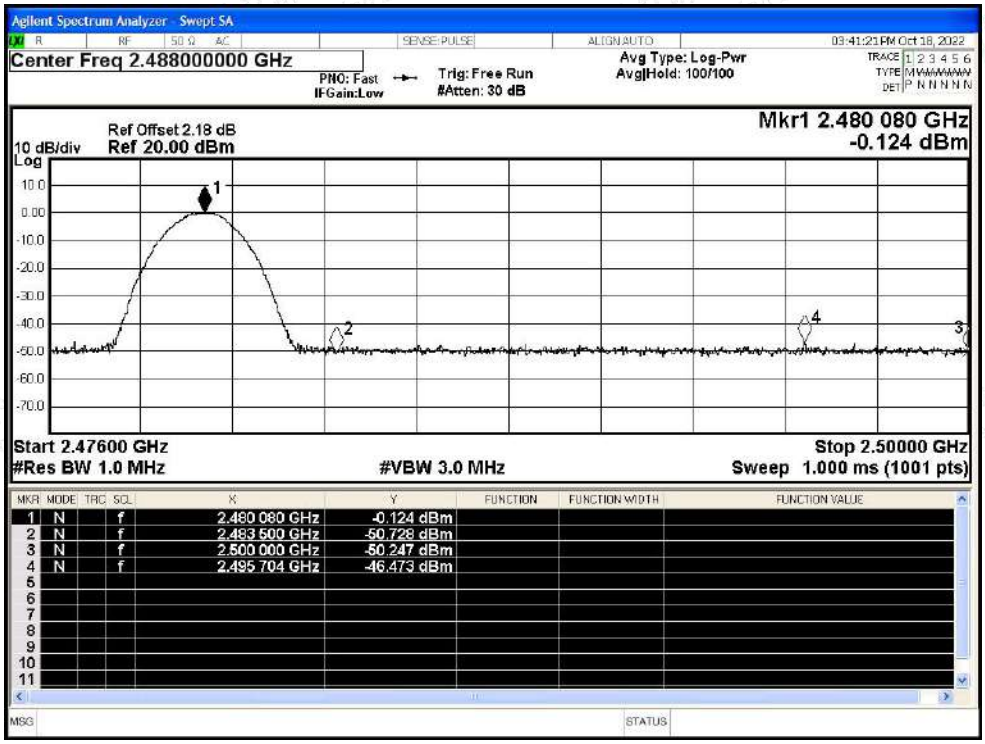
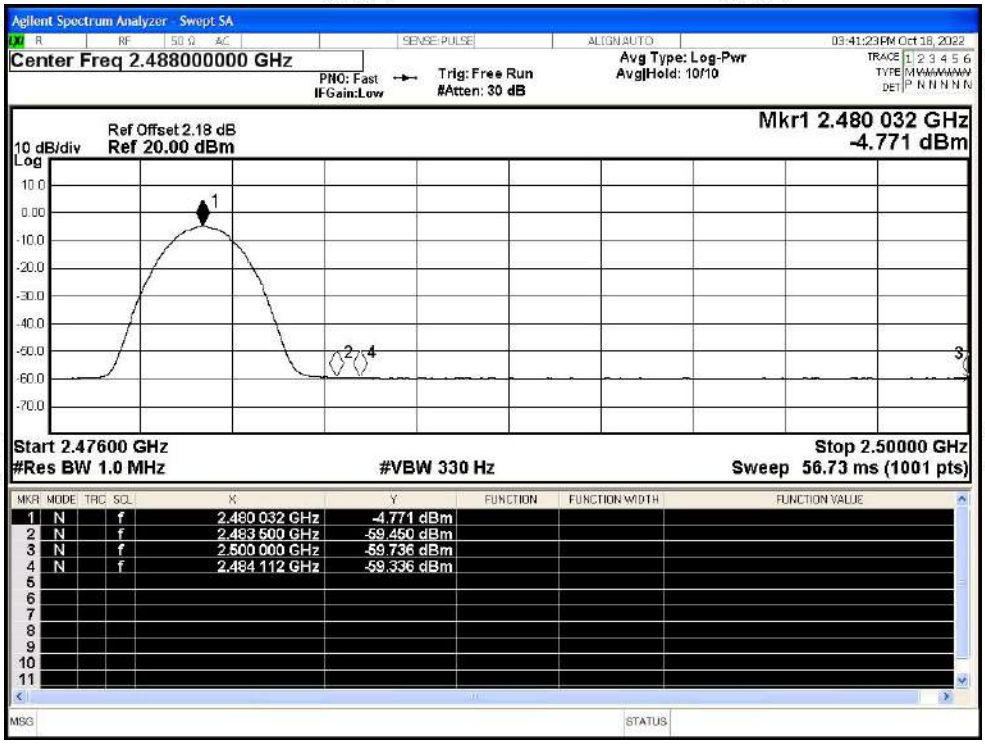
Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak



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