



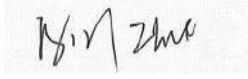
Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: AMPLIFIER

Test Model: P3301BAT

Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	 Bill 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	0.966	---	Pass
NVNT	1-DH5	2441	Ant1	1.035	---	Pass
NVNT	1-DH5	2480	Ant1	0.967	---	Pass
NVNT	2-DH5	2402	Ant1	1.285	---	Pass
NVNT	2-DH5	2441	Ant1	1.303	---	Pass
NVNT	2-DH5	2480	Ant1	1.324	---	Pass
NVNT	3-DH5	2402	Ant1	1.282	---	Pass
NVNT	3-DH5	2441	Ant1	1.296	---	Pass
NVNT	3-DH5	2480	Ant1	1.279	---	Pass

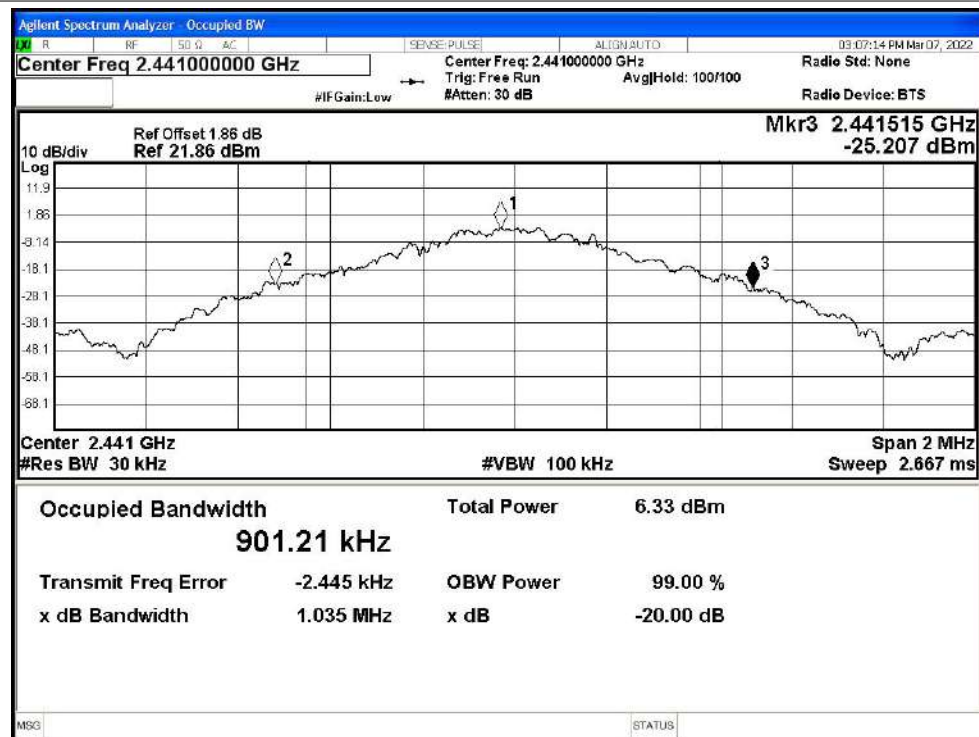


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

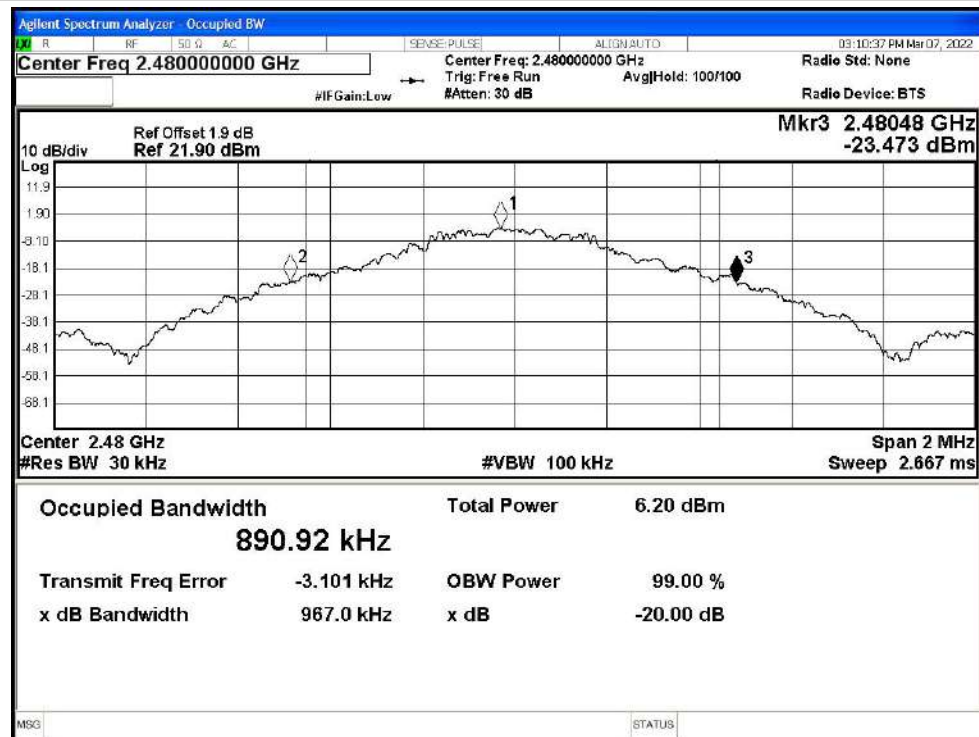


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

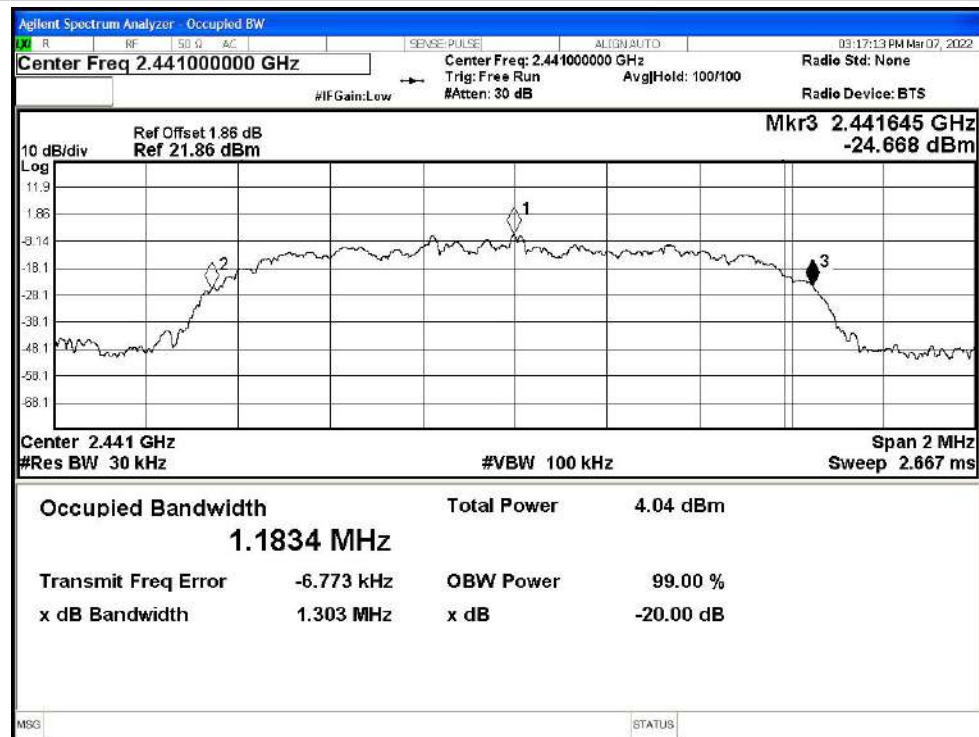


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

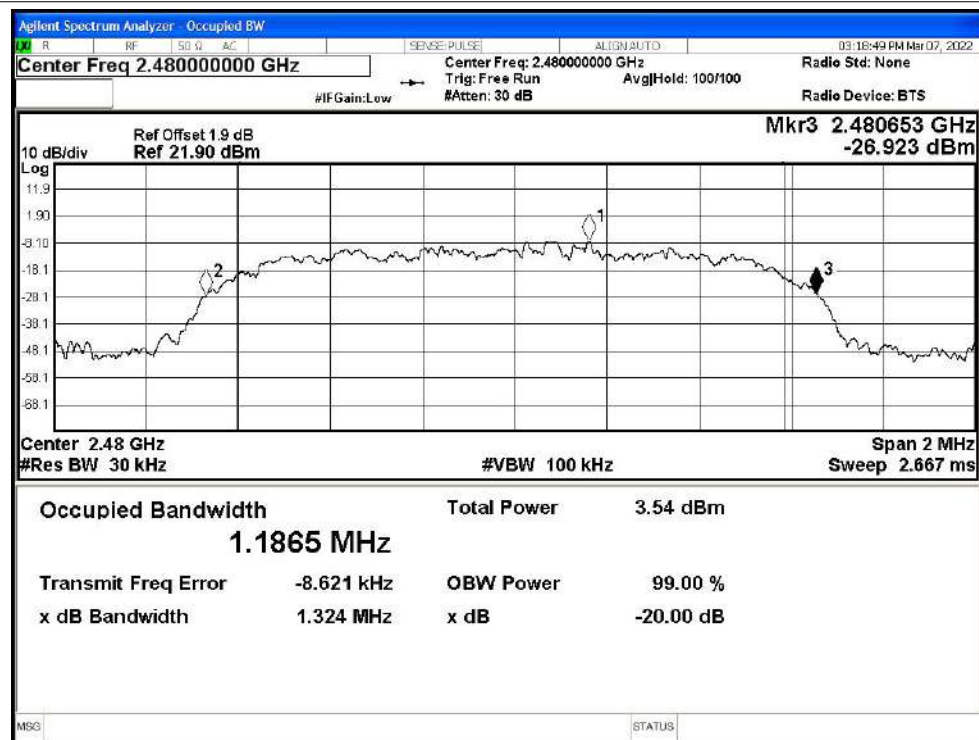




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

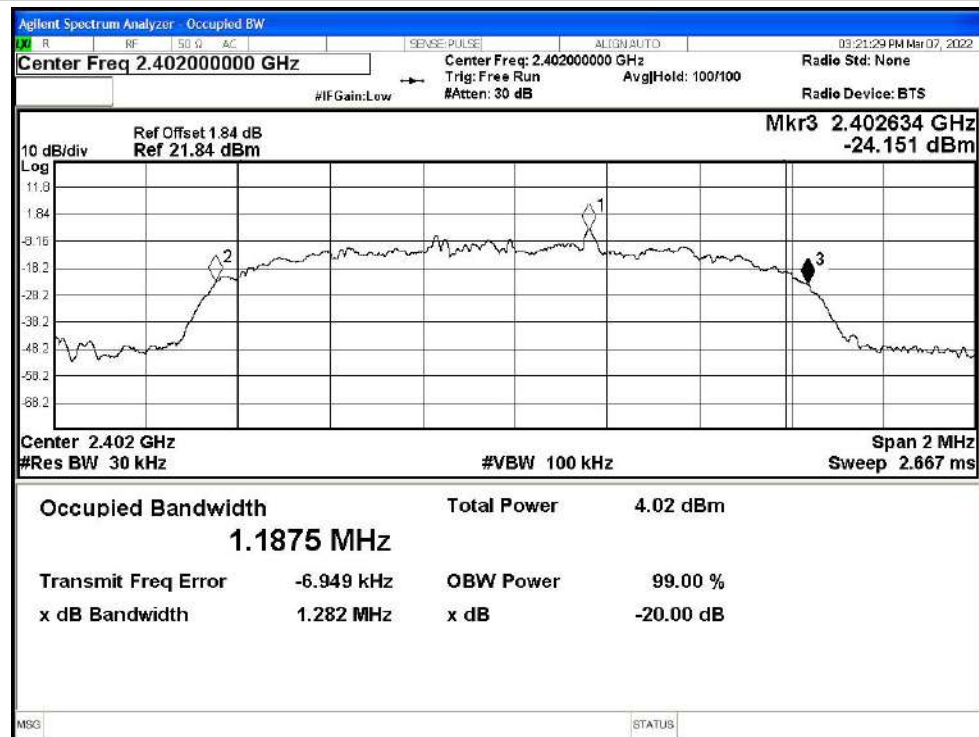


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

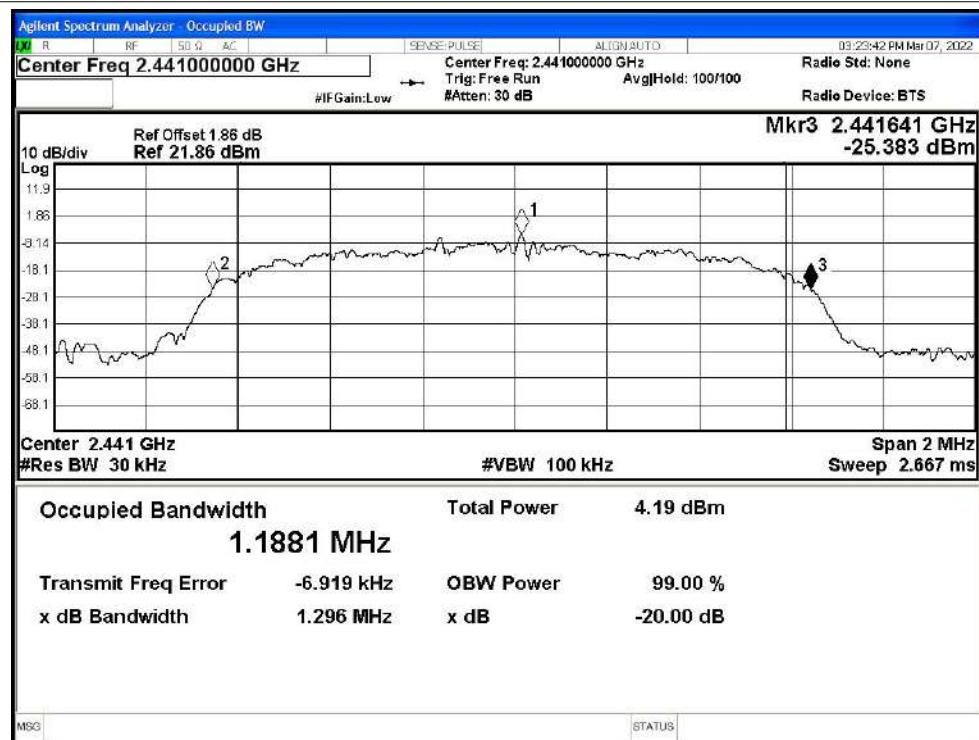




-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1

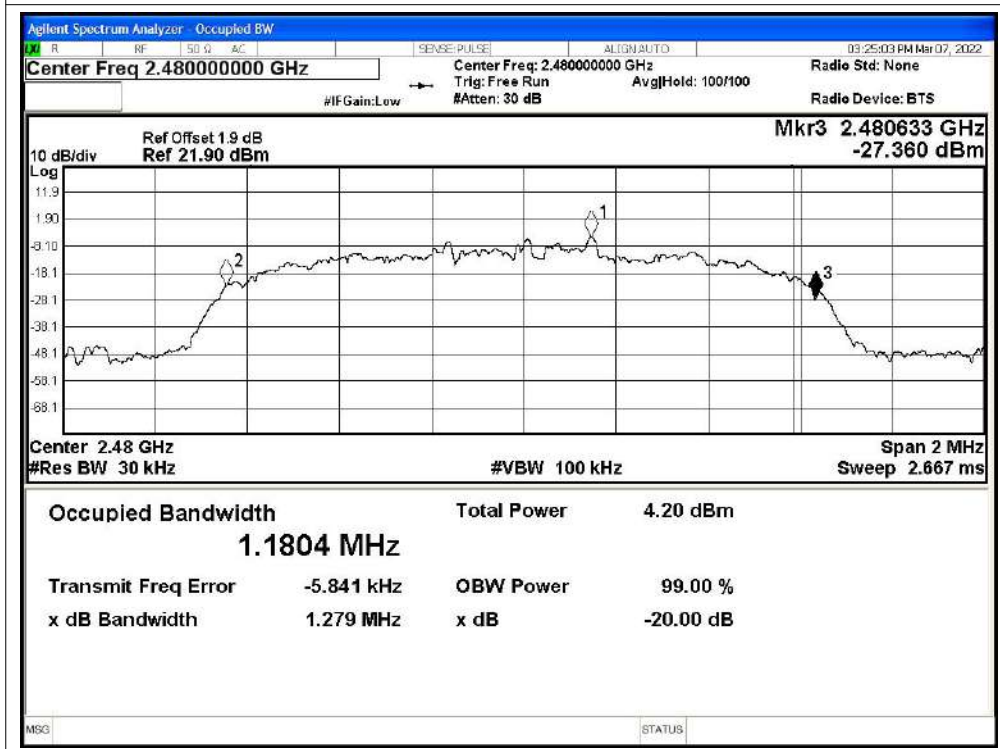


-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1





-20dB Bandwidth NVNT 3-DH5 2480MHz Ant1





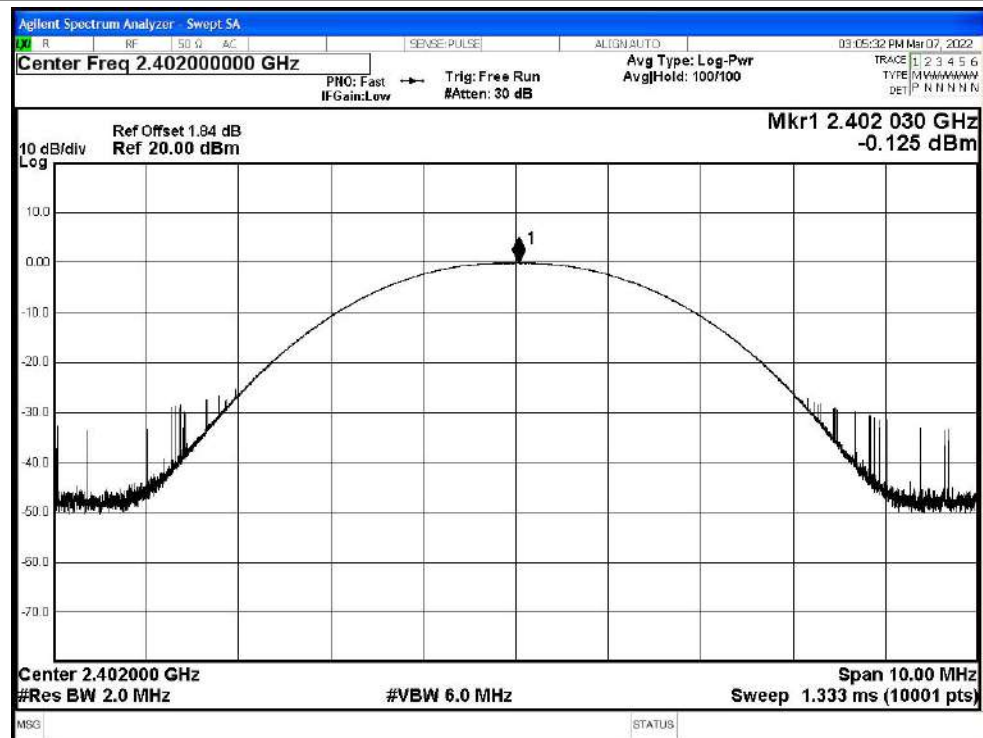
A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.13	≤20.97	Pass
NVNT	1-DH5	2441	Ant1	0.17	≤20.97	Pass
NVNT	1-DH5	2480	Ant1	-0.16	≤20.97	Pass
NVNT	2-DH5	2402	Ant1	-0.41	≤20.97	Pass
NVNT	2-DH5	2441	Ant1	-0.1	≤20.97	Pass
NVNT	2-DH5	2480	Ant1	-0.46	≤20.97	Pass
NVNT	3-DH5	2402	Ant1	-0.29	≤20.97	Pass
NVNT	3-DH5	2441	Ant1	0.04	≤20.97	Pass
NVNT	3-DH5	2480	Ant1	-0.32	≤20.97	Pass

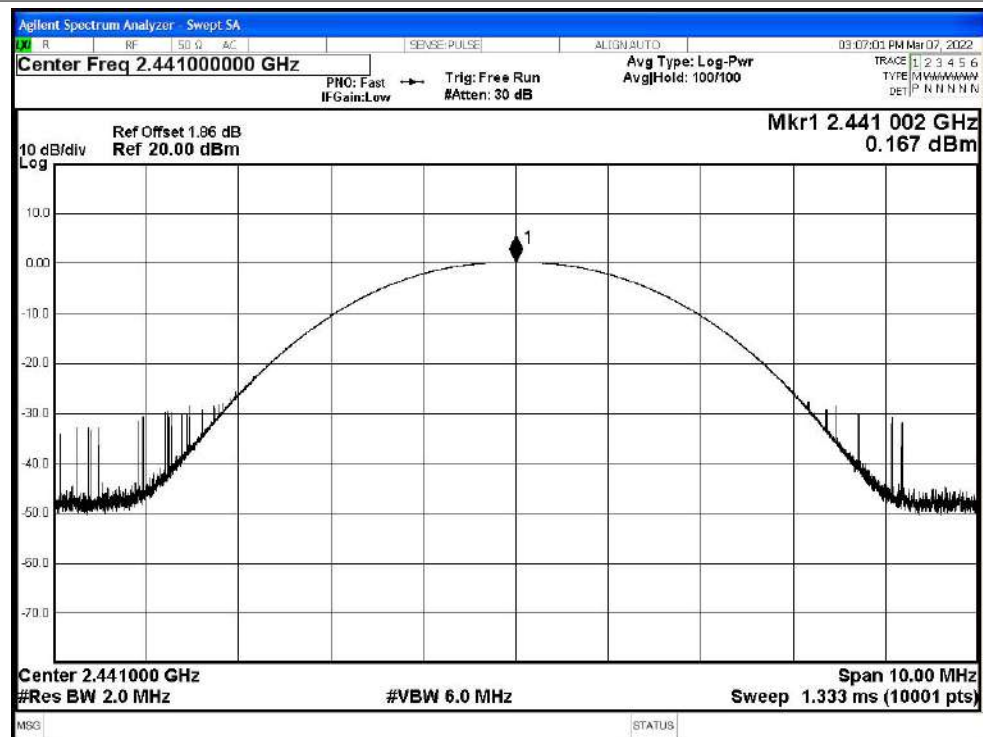


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

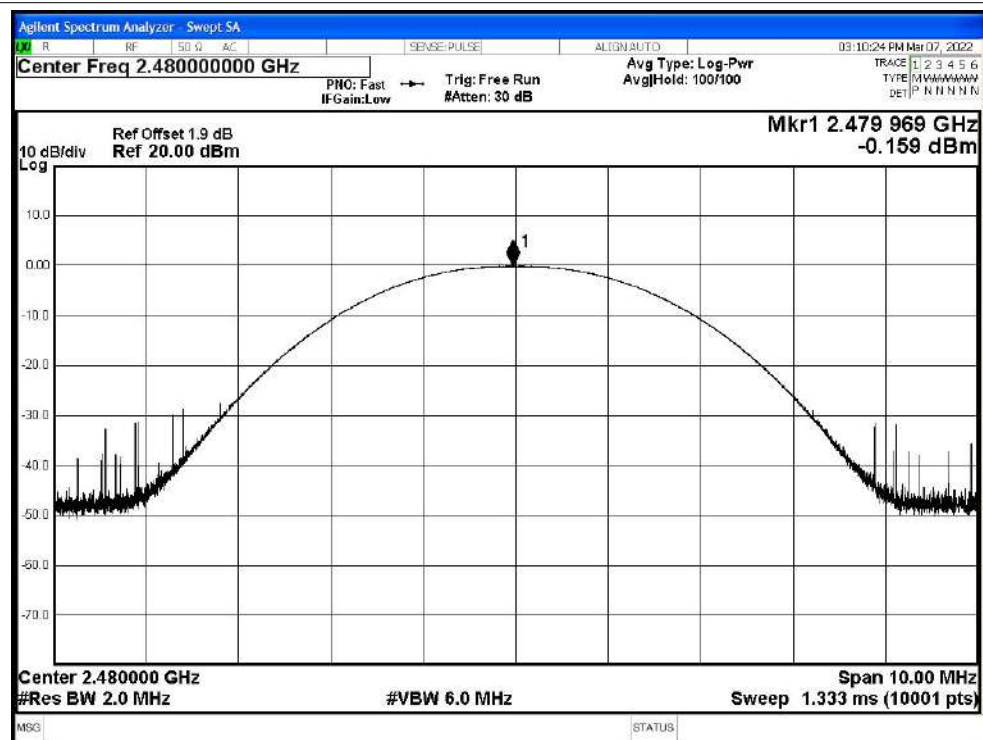


Power NVNT 1-DH5 2441MHz Ant1

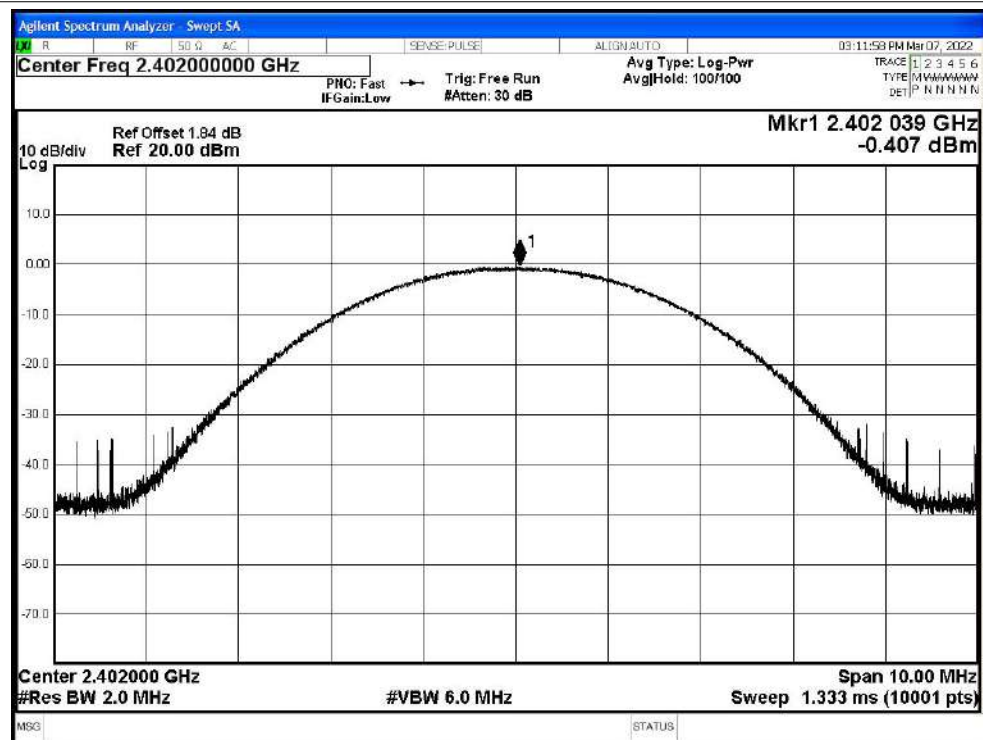




Power NVNT 1-DH5 2480MHz Ant1

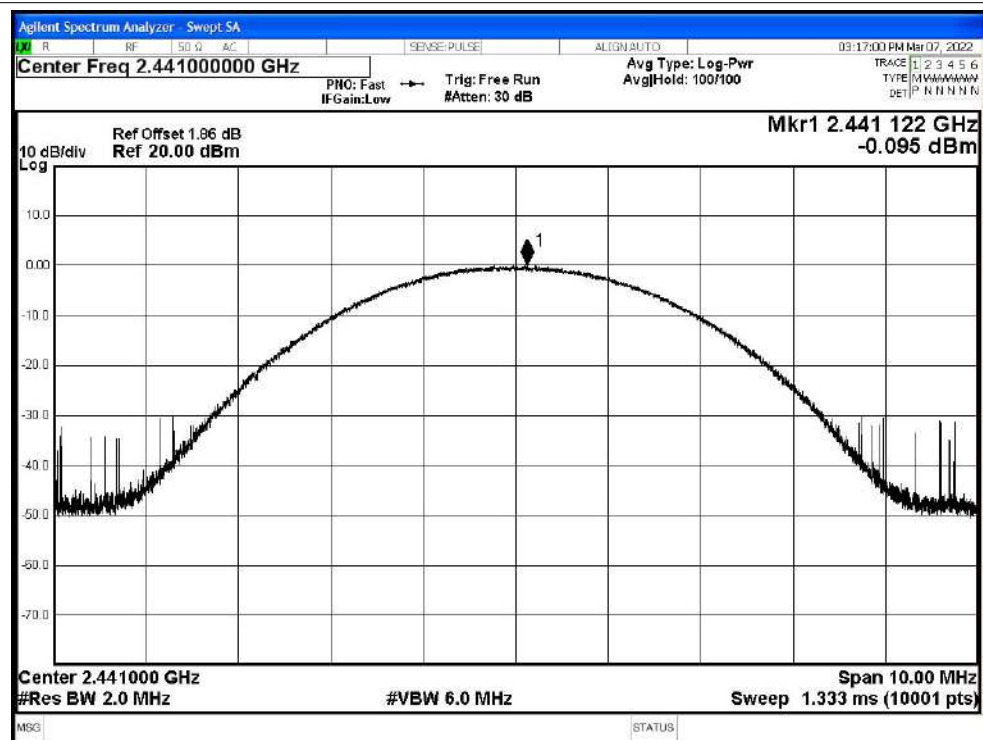


Power NVNT 2-DH5 2402MHz Ant1

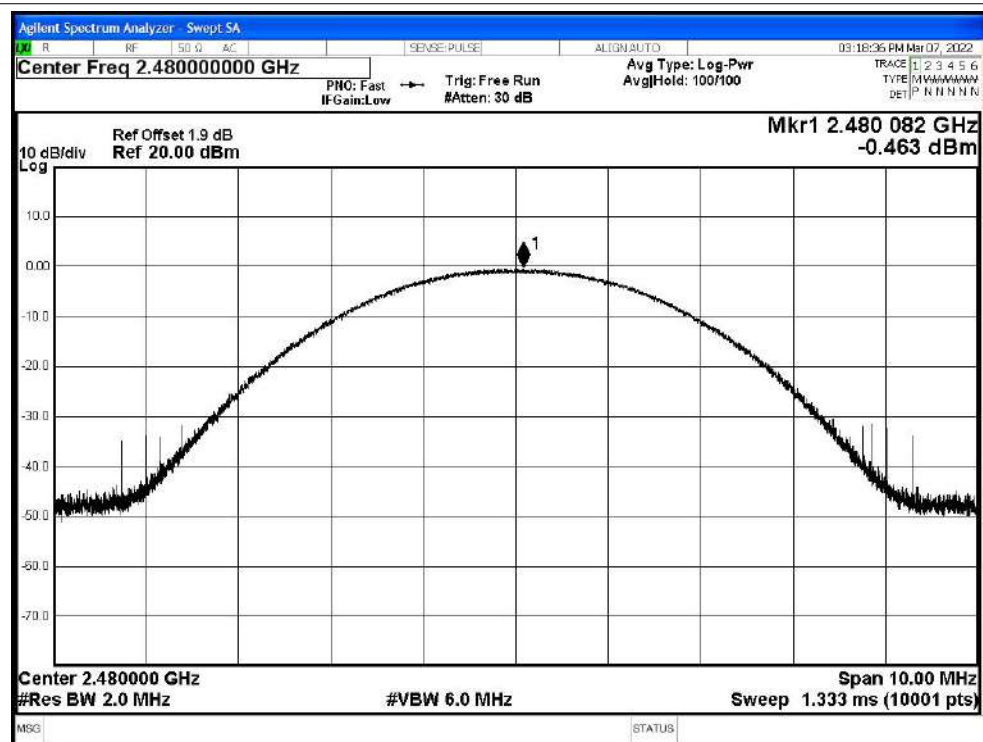




Power NVNT 2-DH5 2441MHz Ant1

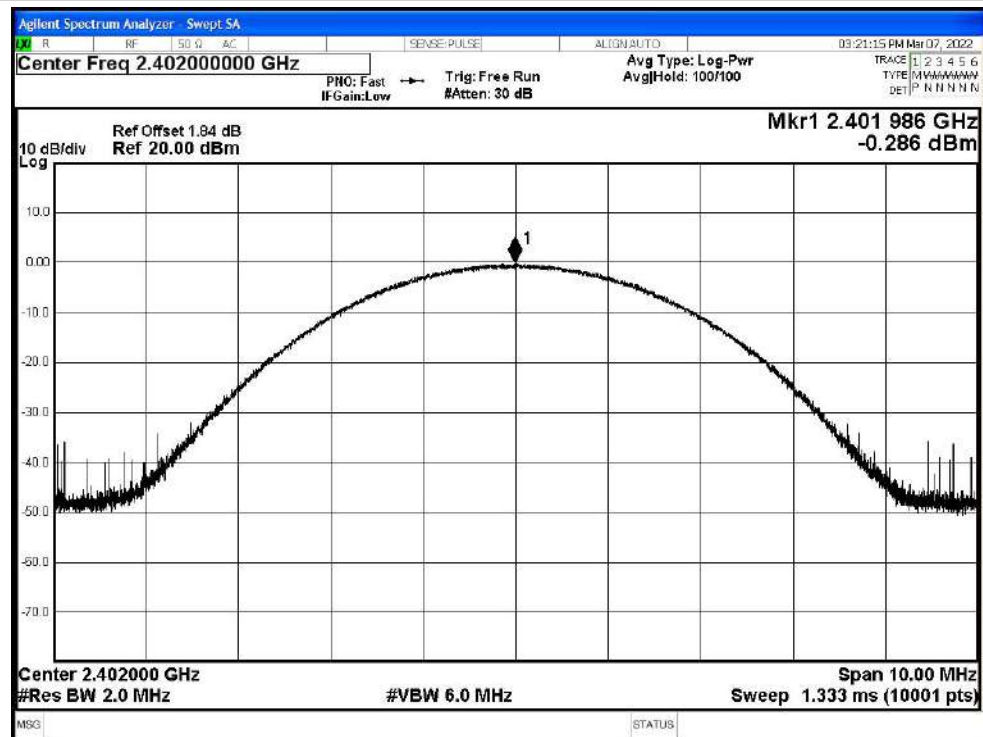


Power NVNT 2-DH5 2480MHz Ant1

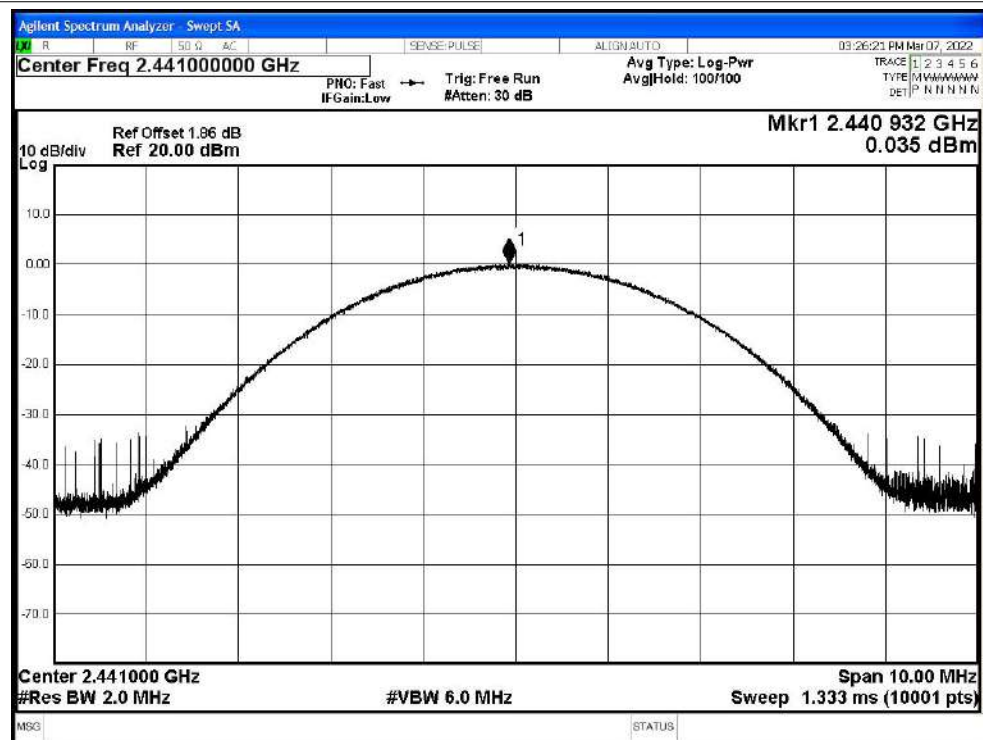


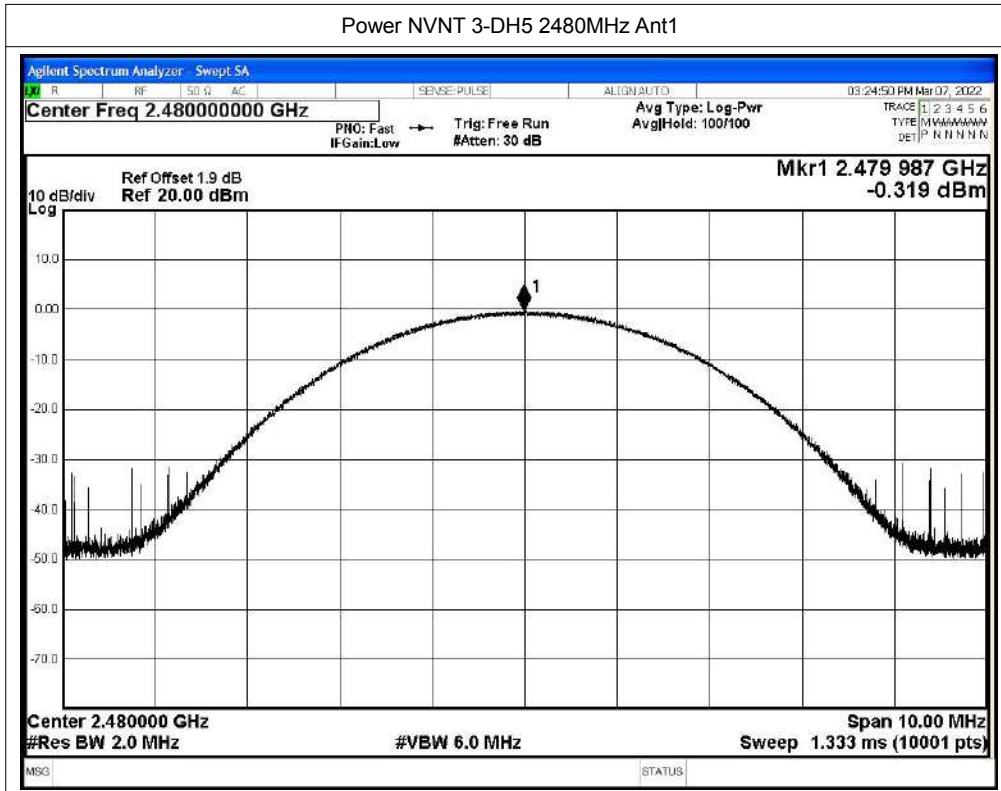


Power NVNT 3-DH5 2402MHz Ant1



Power NVNT 3-DH5 2441MHz Ant1







A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.964	2402.896	0.932	≥ 0.644	Pass
NVNT	1-DH5	Ant1	2441.01	2441.992	0.982	≥ 0.69	Pass
NVNT	1-DH5	Ant1	2478.982	2479.968	0.986	≥ 0.645	Pass
NVNT	2-DH5	Ant1	2402.014	2403.008	0.994	≥ 0.857	Pass
NVNT	2-DH5	Ant1	2440.996	2442.156	1.16	≥ 0.869	Pass
NVNT	2-DH5	Ant1	2479.026	2480.132	1.106	≥ 0.883	Pass
NVNT	3-DH5	Ant1	2402.142	2403.01	0.868	≥ 0.855	Pass
NVNT	3-DH5	Ant1	2440.986	2442.158	1.172	≥ 0.864	Pass
NVNT	3-DH5	Ant1	2479.15	2480.15	1	≥ 0.853	Pass



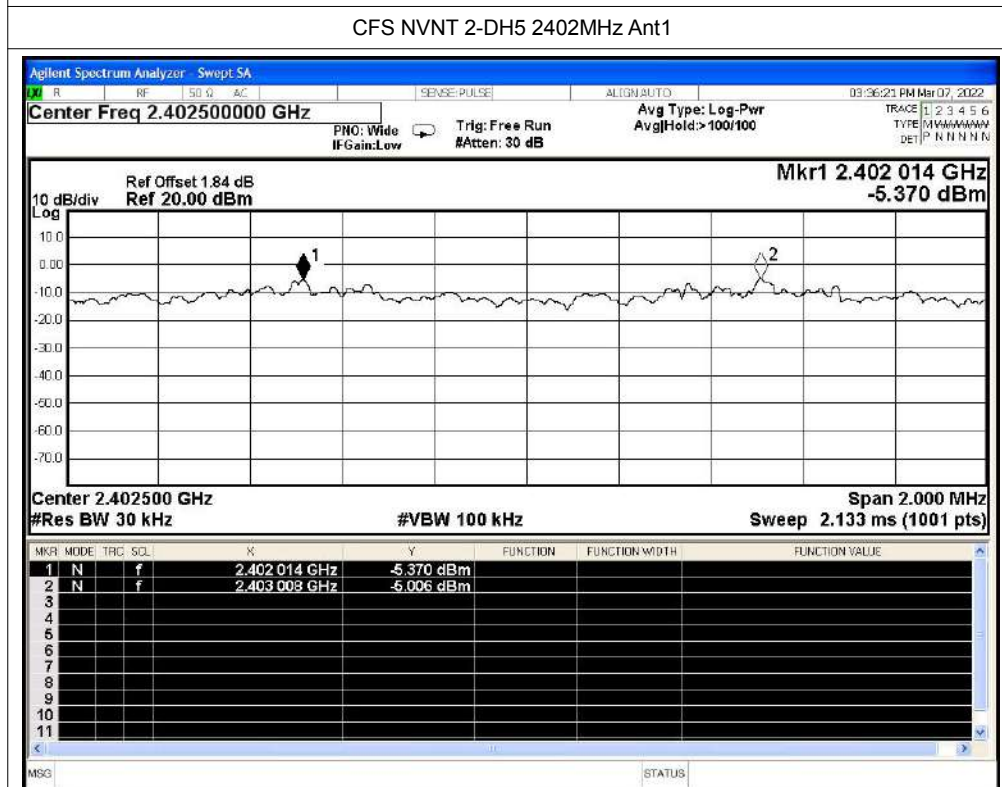
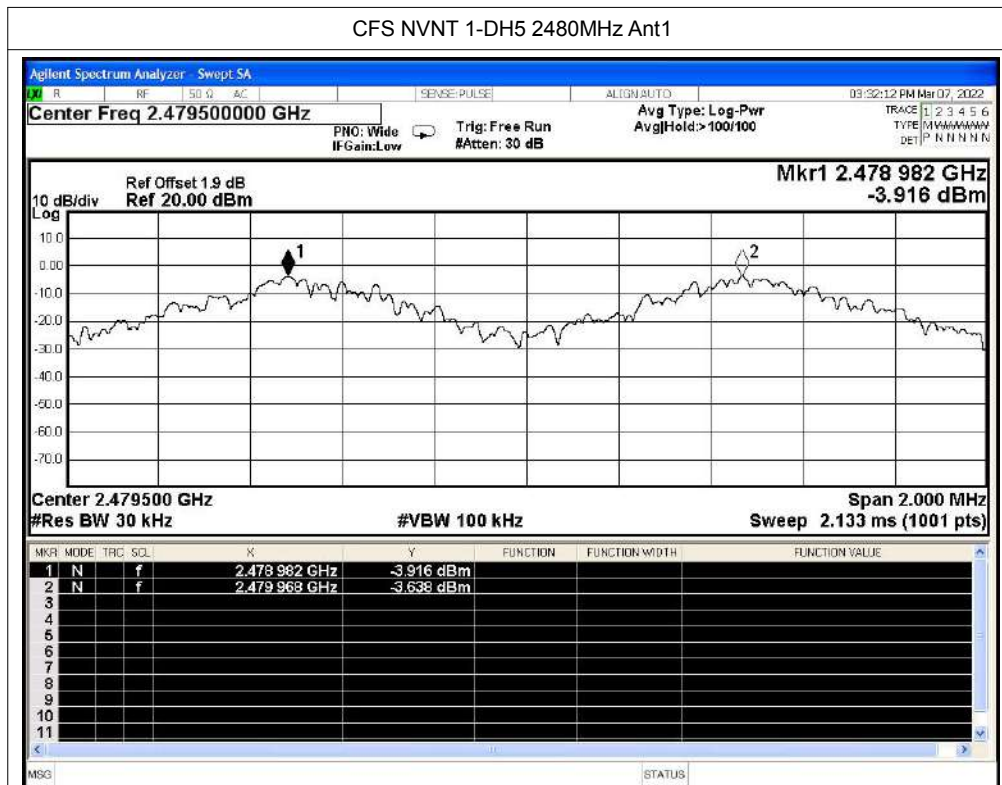
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



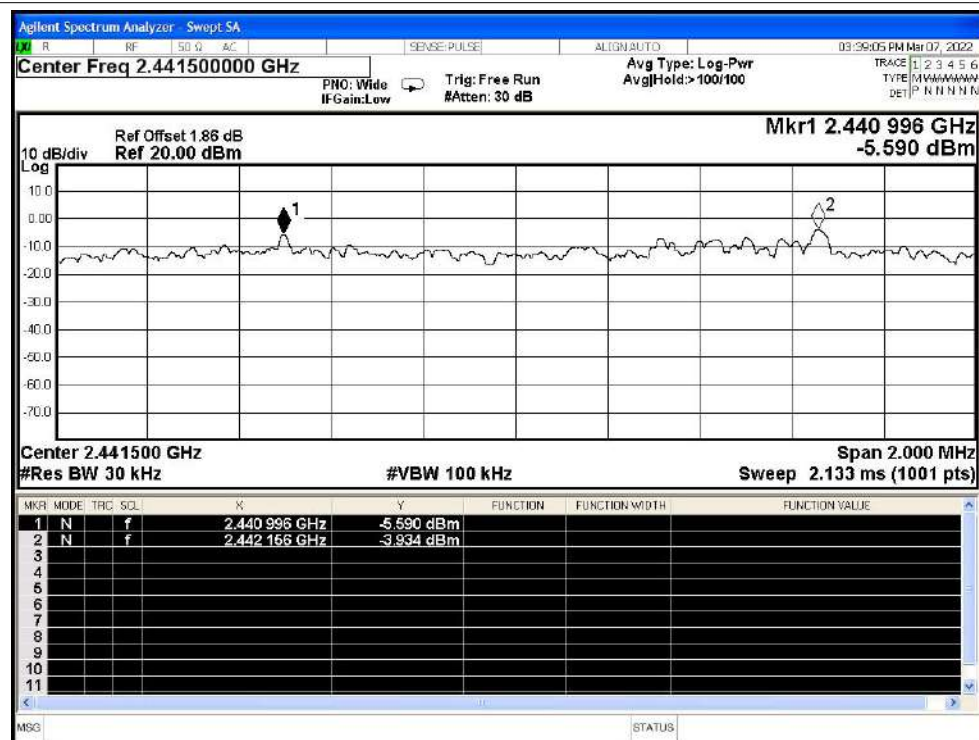
CFS NVNT 1-DH5 2441MHz Ant1



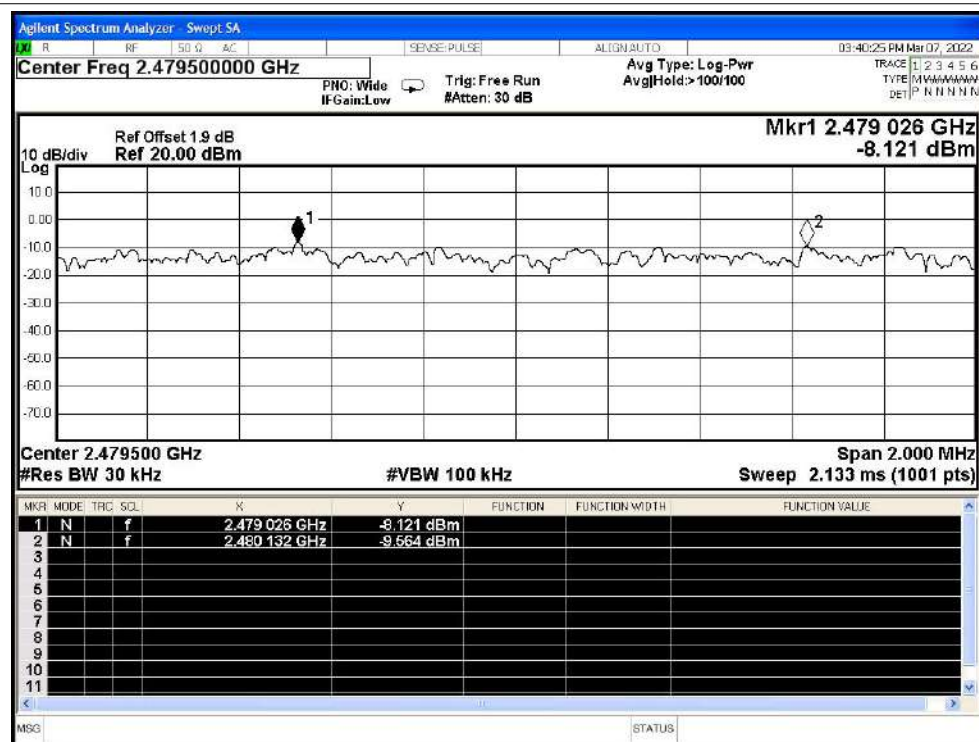




CFS NVNT 2-DH5 2441MHz Ant1

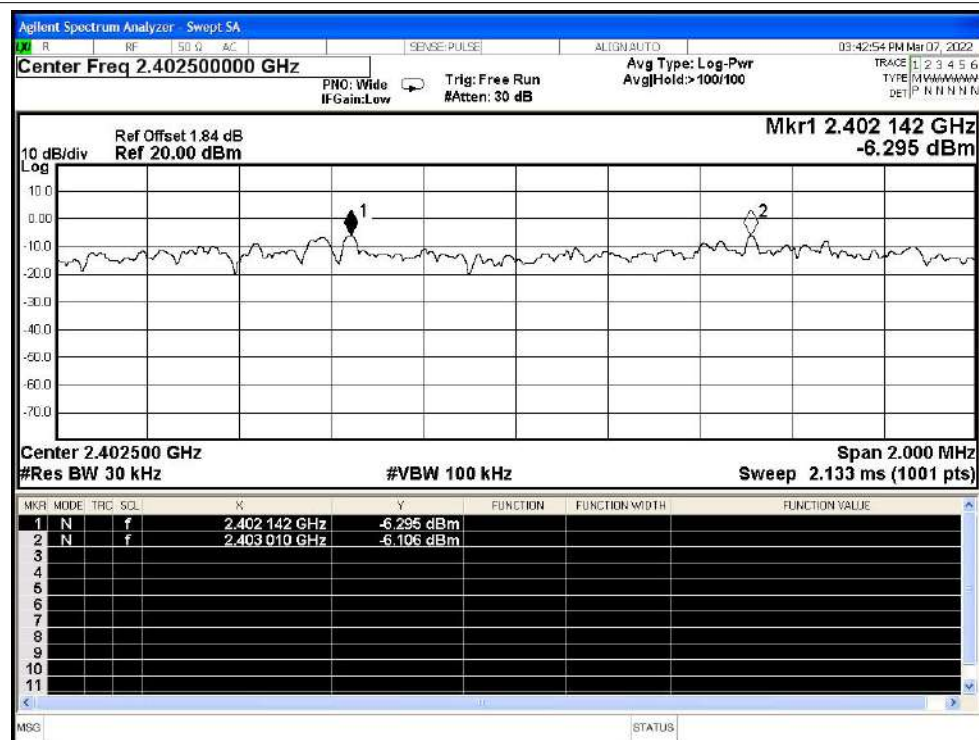


CFS NVNT 2-DH5 2480MHz Ant1

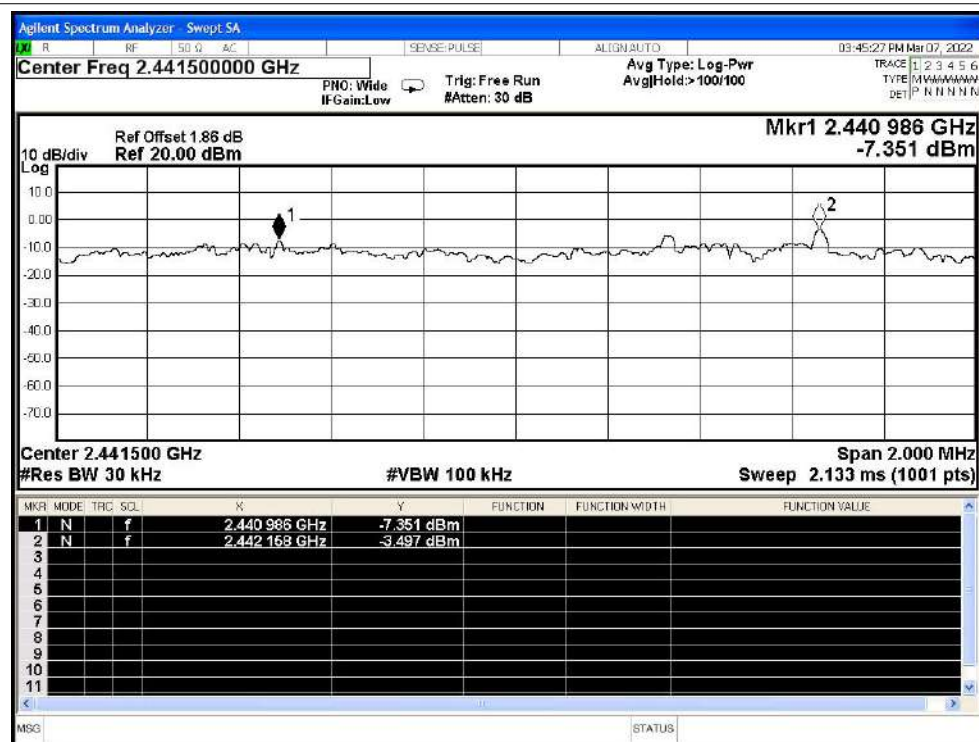


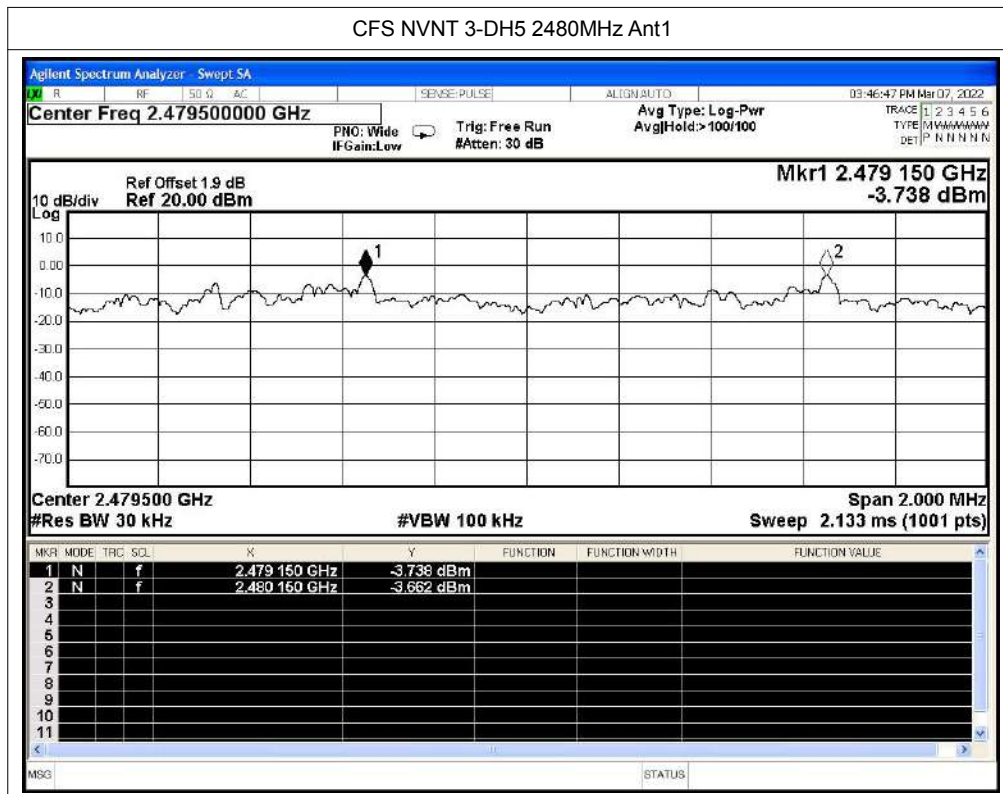


CFS NVNT 3-DH5 2402MHz Ant1



CFS NVNT 3-DH5 2441MHz Ant1







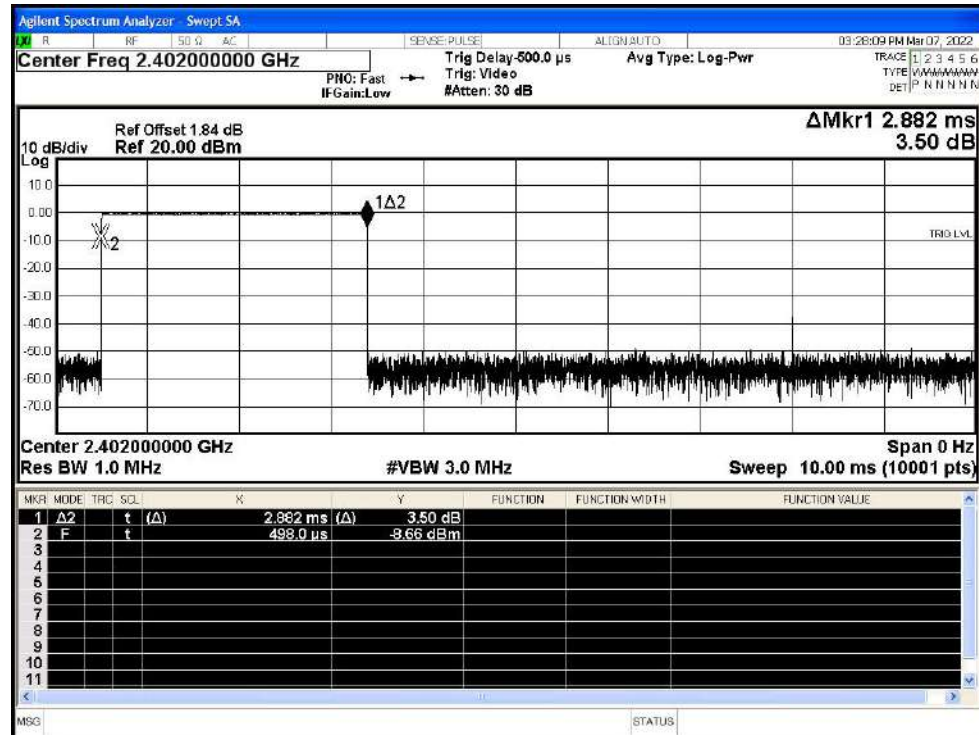
A.4 Dwell Time

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.882	325.666	113	31600	≤400	Pass
NVNT	1-DH5	2441	Ant1	2.881	311.148	108	31600	≤400	Pass
NVNT	1-DH5	2480	Ant1	2.881	262.171	91	31600	≤400	Pass
NVNT	2-DH5	2402	Ant1	2.88	273.6	95	31600	≤400	Pass
NVNT	2-DH5	2441	Ant1	2.884	282.632	98	31600	≤400	Pass
NVNT	2-DH5	2480	Ant1	2.882	296.846	103	31600	≤400	Pass
NVNT	3-DH5	2402	Ant1	2.887	277.152	96	31600	≤400	Pass
NVNT	3-DH5	2441	Ant1	2.884	8.652	3	31600	≤400	Pass
NVNT	3-DH5	2480	Ant1	2.887	280.039	97	31600	≤400	Pass

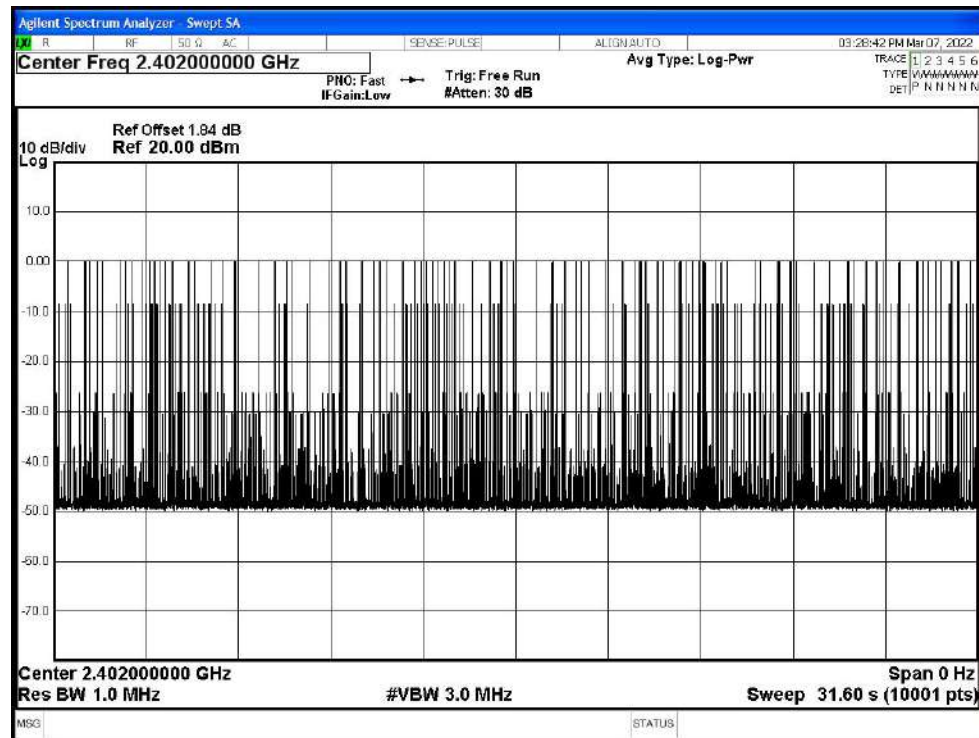


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

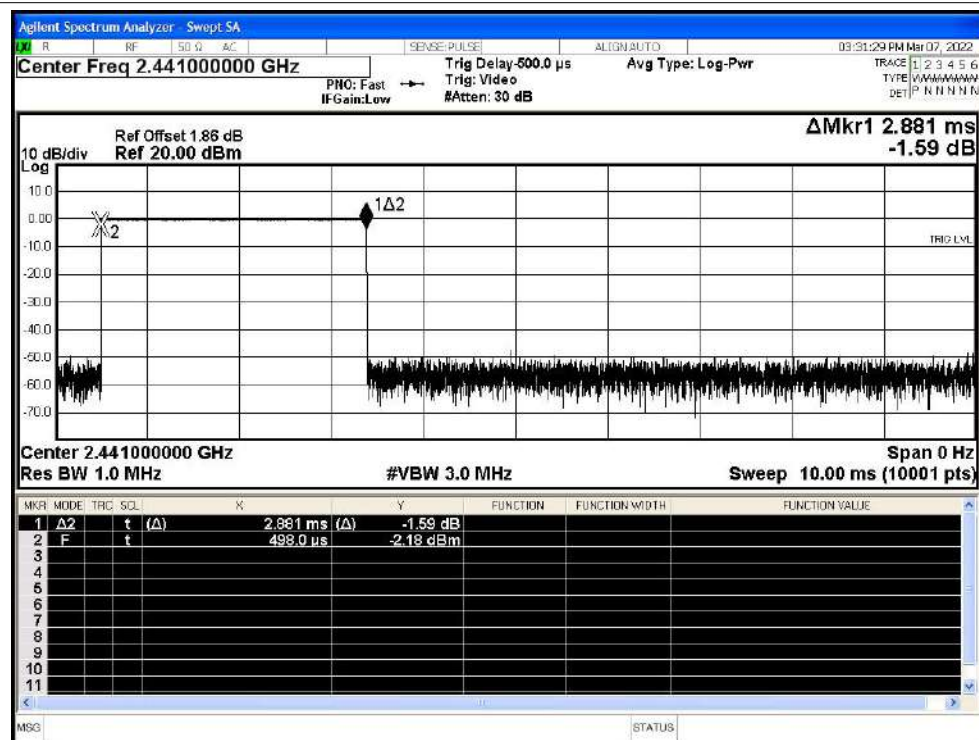


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

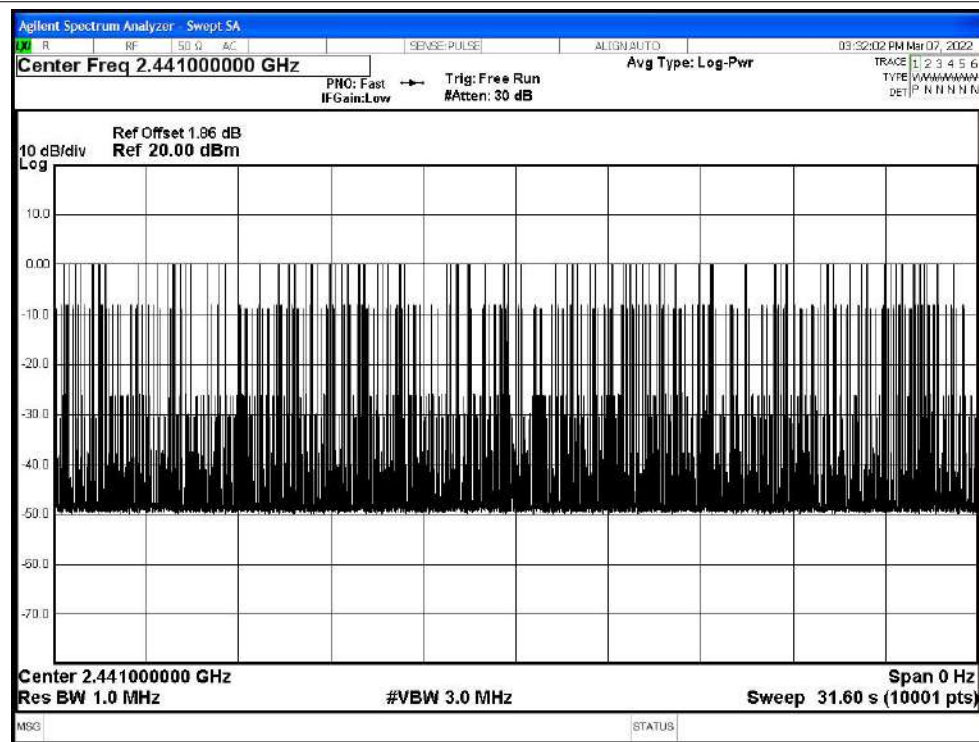




Dwell NVNT 1-DH5 2441MHz Ant1 One Burst

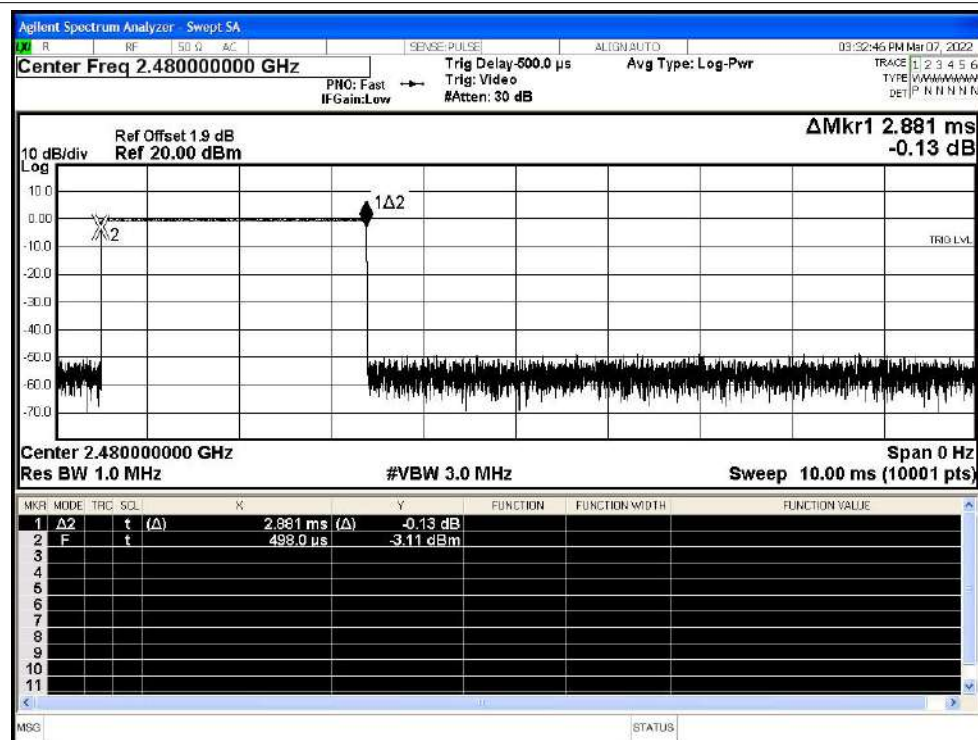


Dwell NVNT 1-DH5 2441MHz Ant1 Accumulated

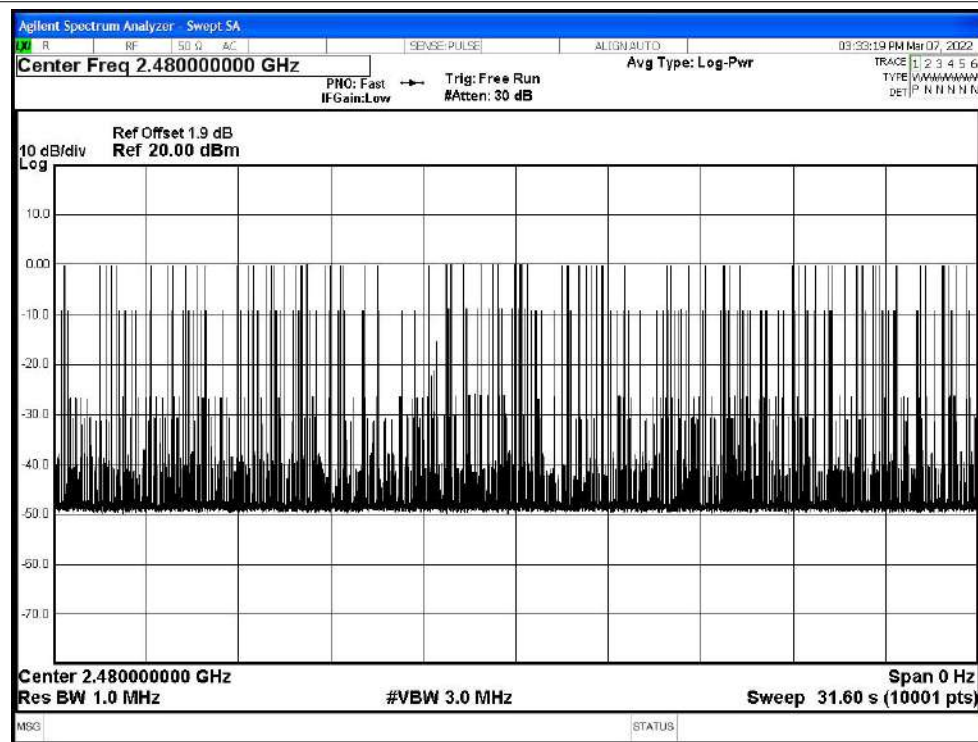




Dwell NVNT 1-DH5 2480MHz Ant1 One Burst

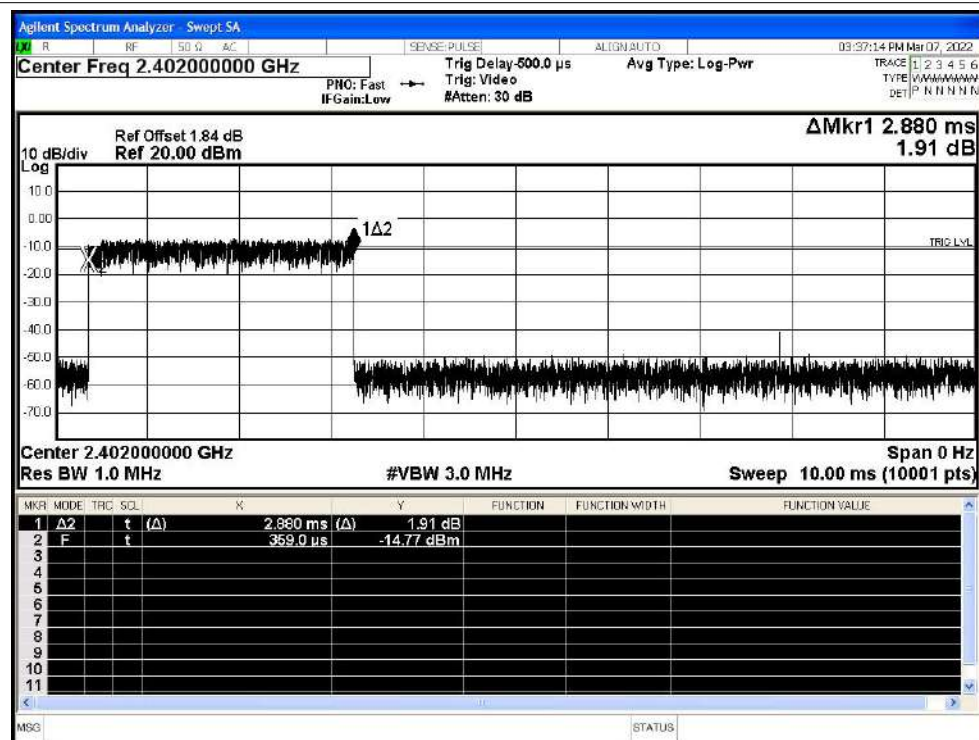


Dwell NVNT 1-DH5 2480MHz Ant1 Accumulated

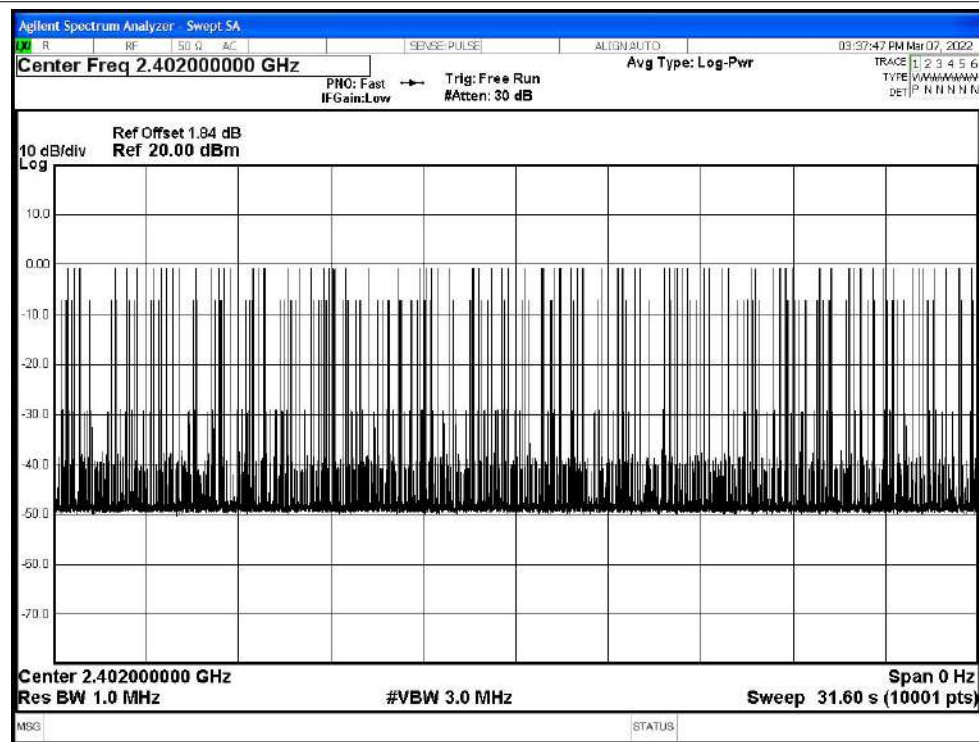




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst

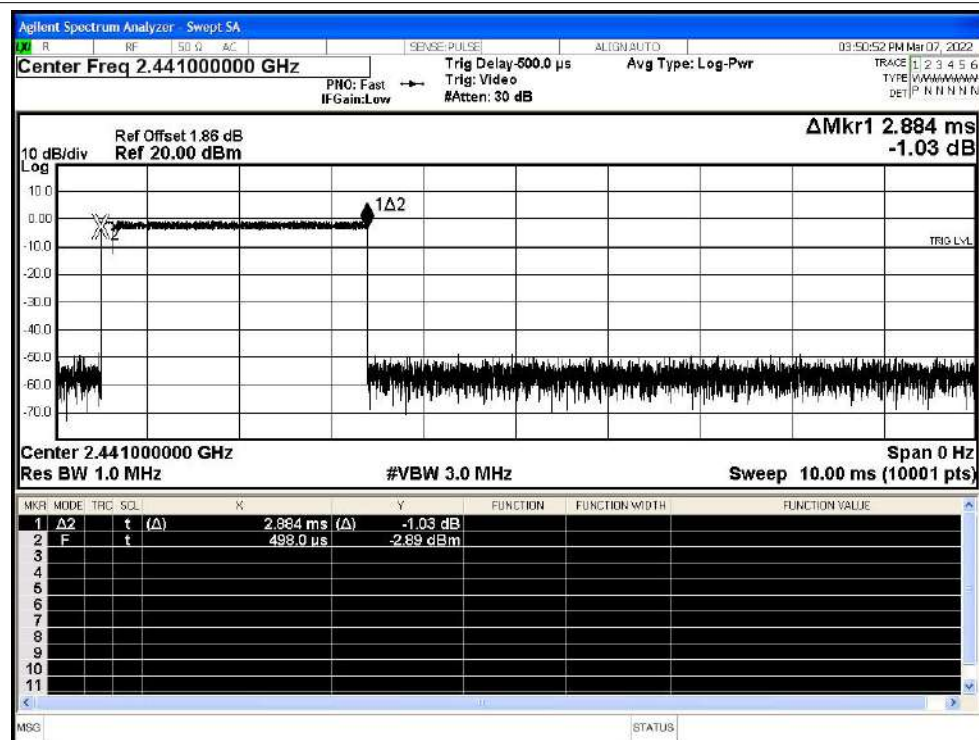


Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated

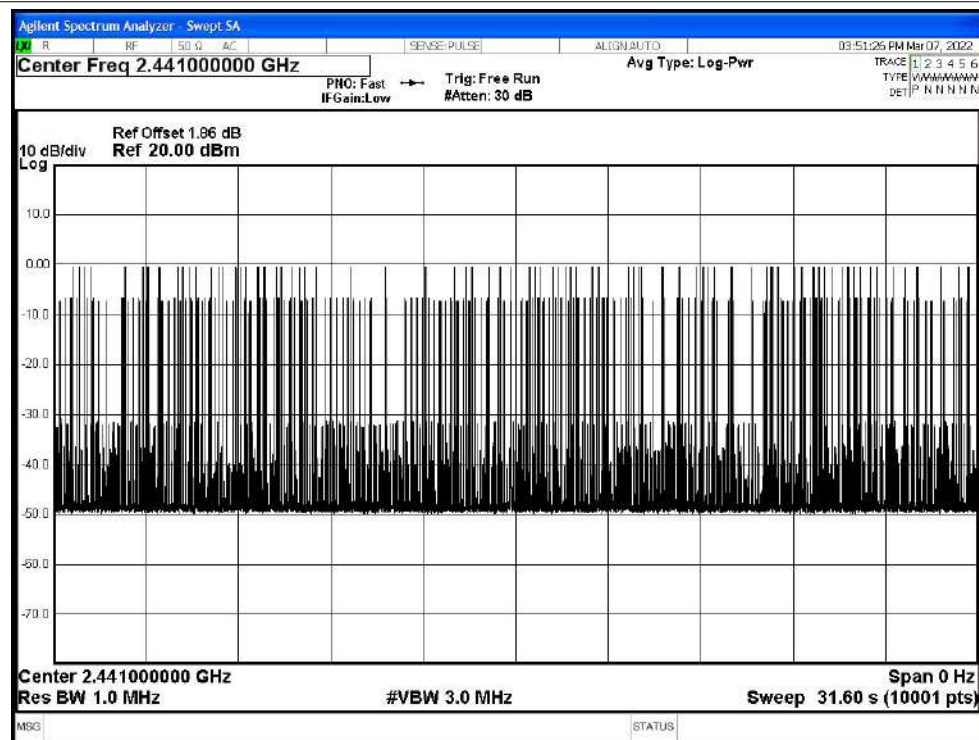




Dwell NVNT 2-DH5 2441MHz Ant1 One Burst

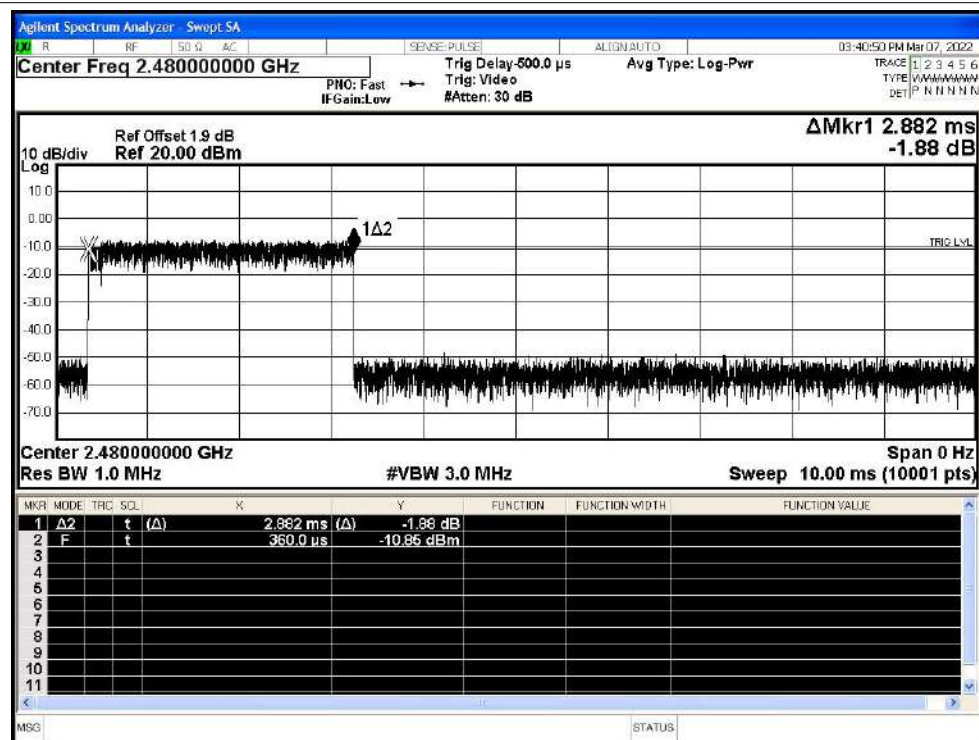


Dwell NVNT 2-DH5 2441MHz Ant1 Accumulated

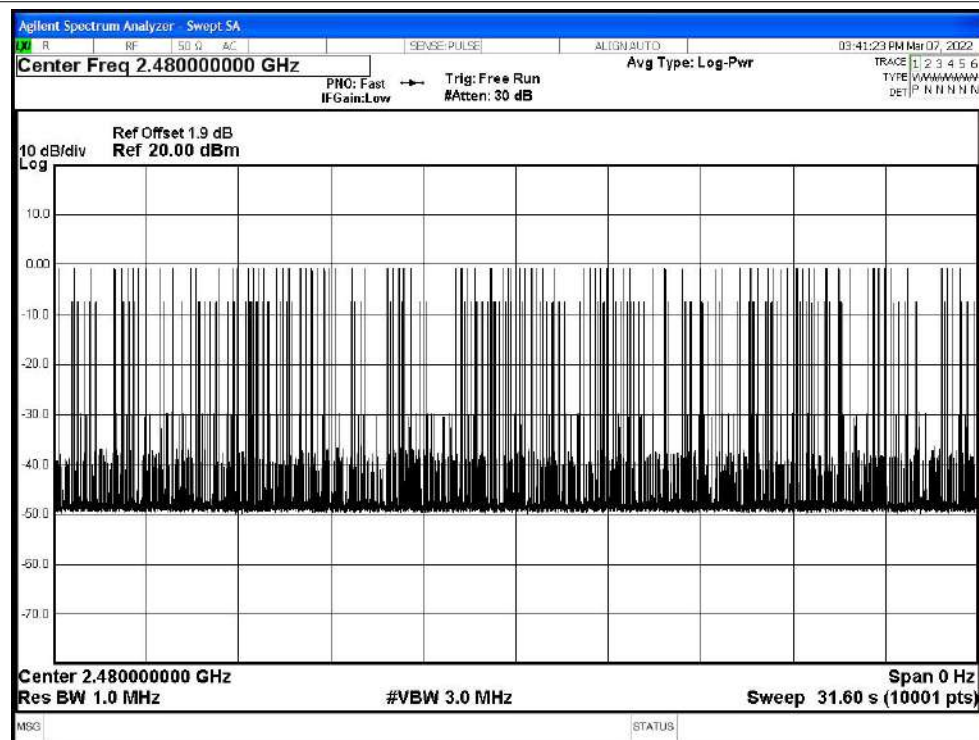




Dwell NVNT 2-DH5 2480MHz Ant1 One Burst

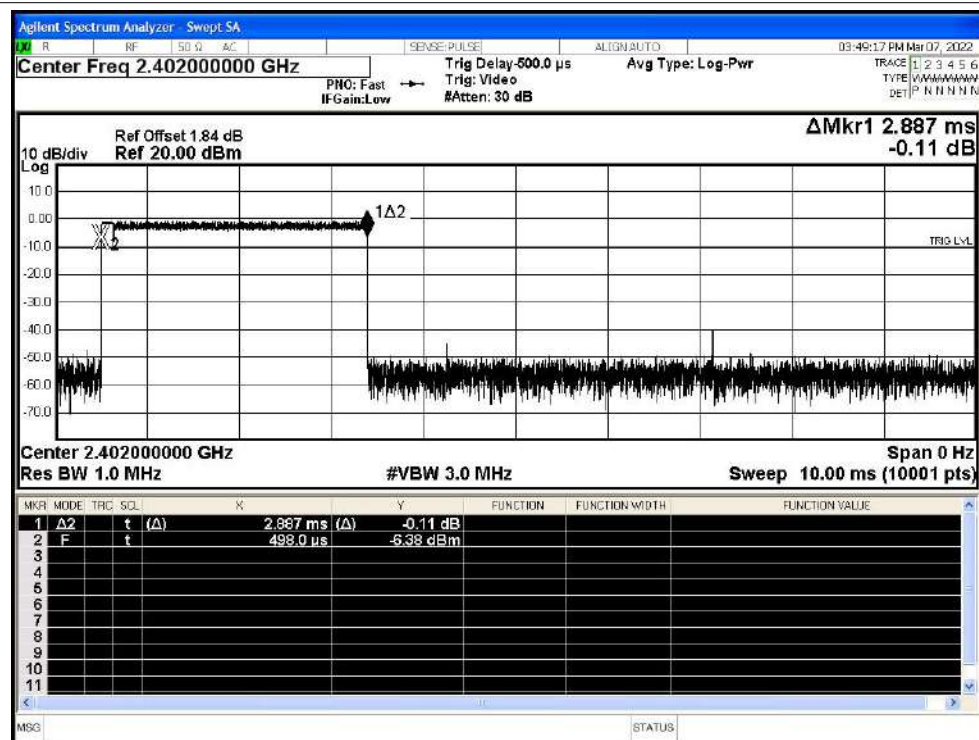


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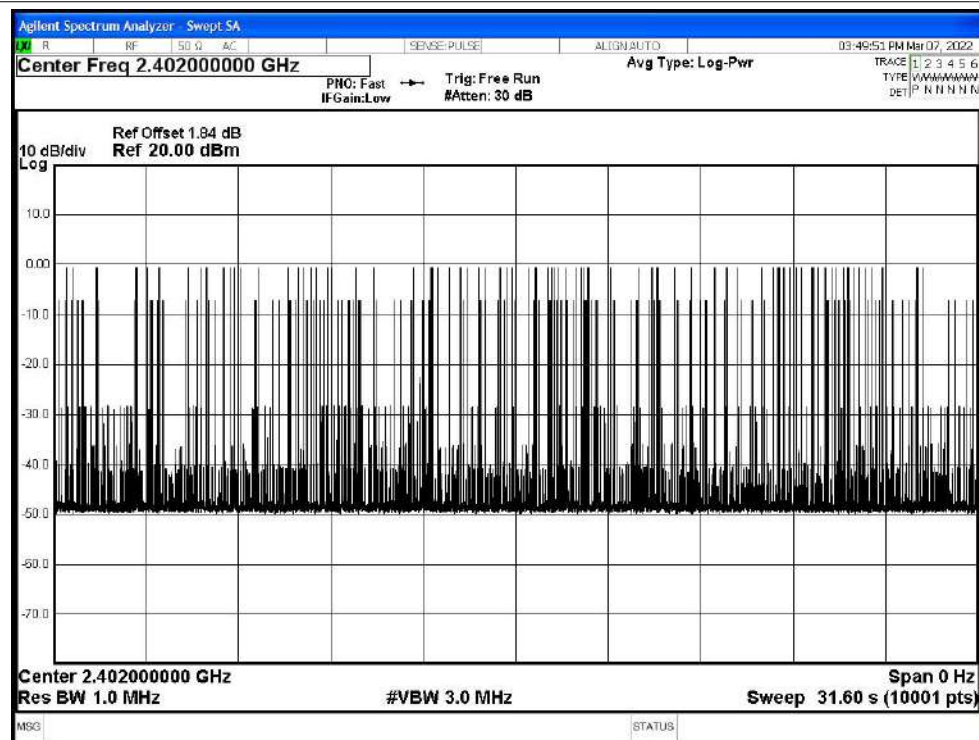




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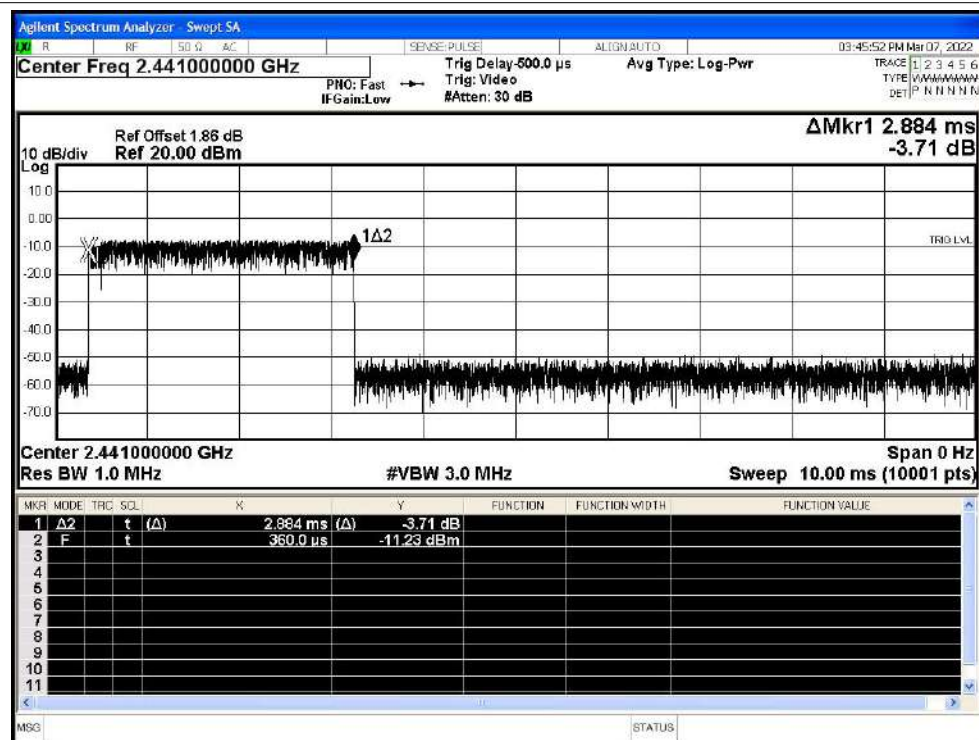


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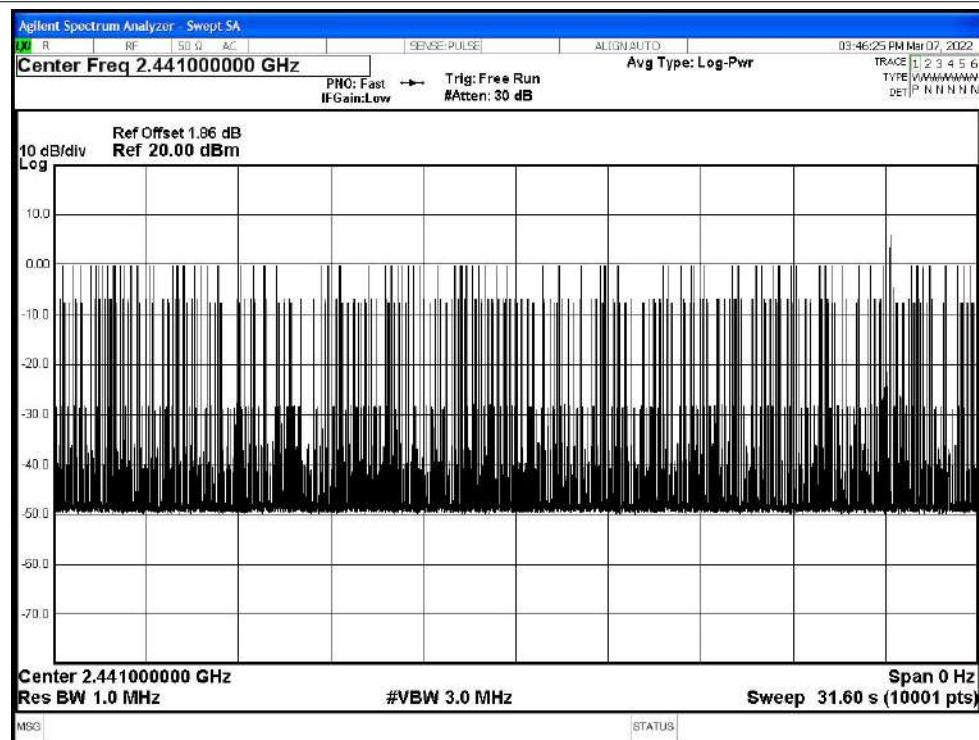




Dwell NVNT 3-DH5 2441MHz Ant1 One Burst

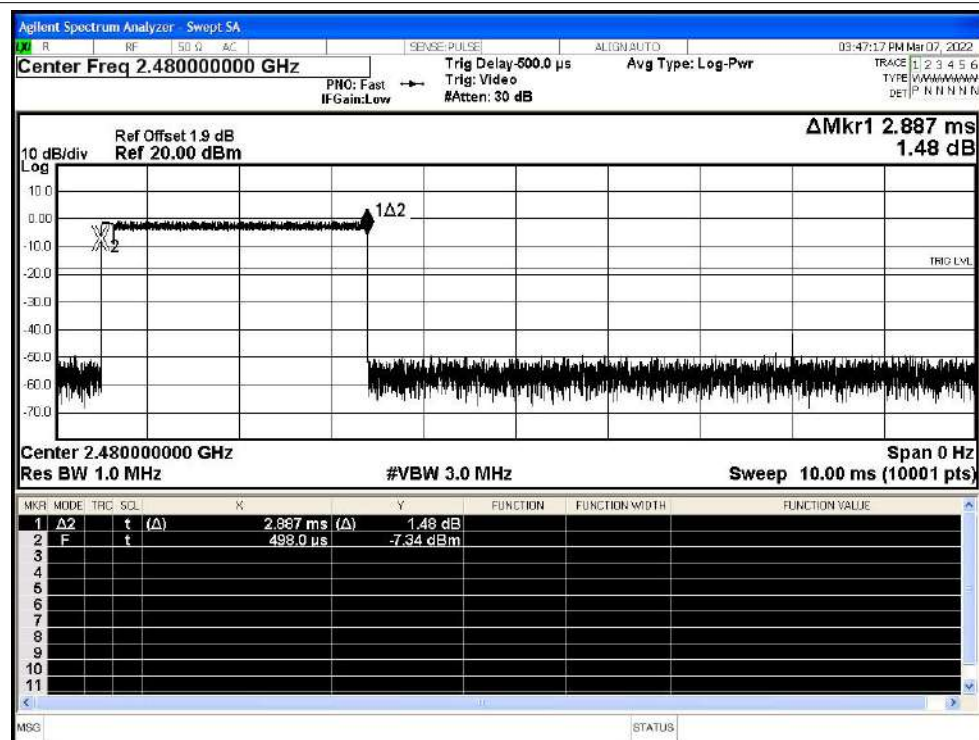


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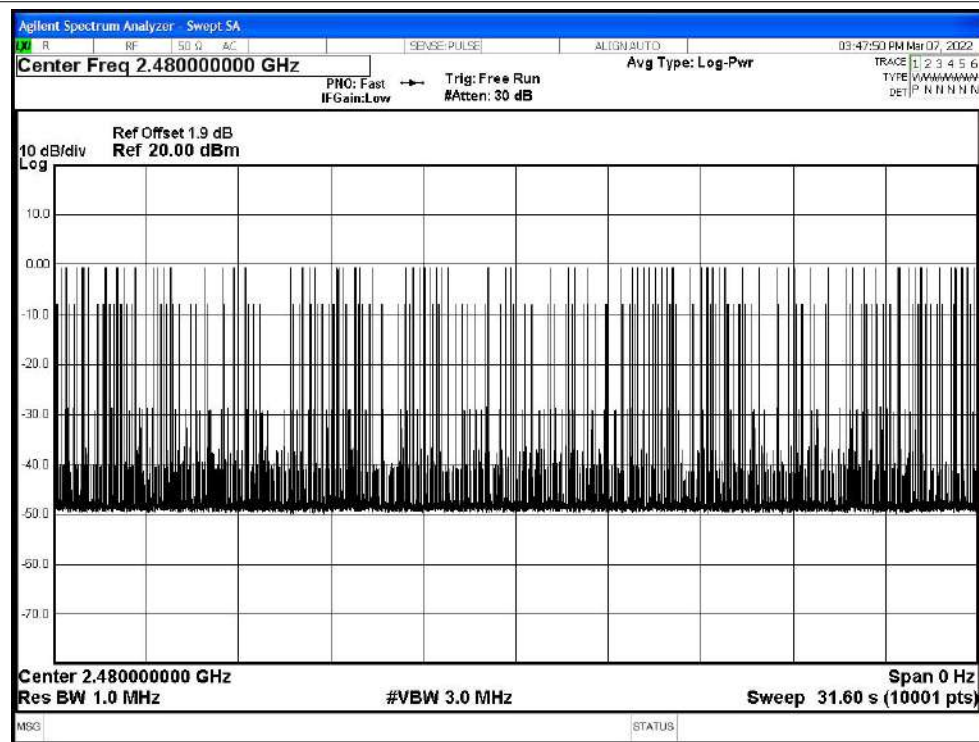




Dwell NVNT 3-DH5 2480MHz Ant1 One Burst



Dwell NVNT 3-DH5 2480MHz Ant1 Accumulated





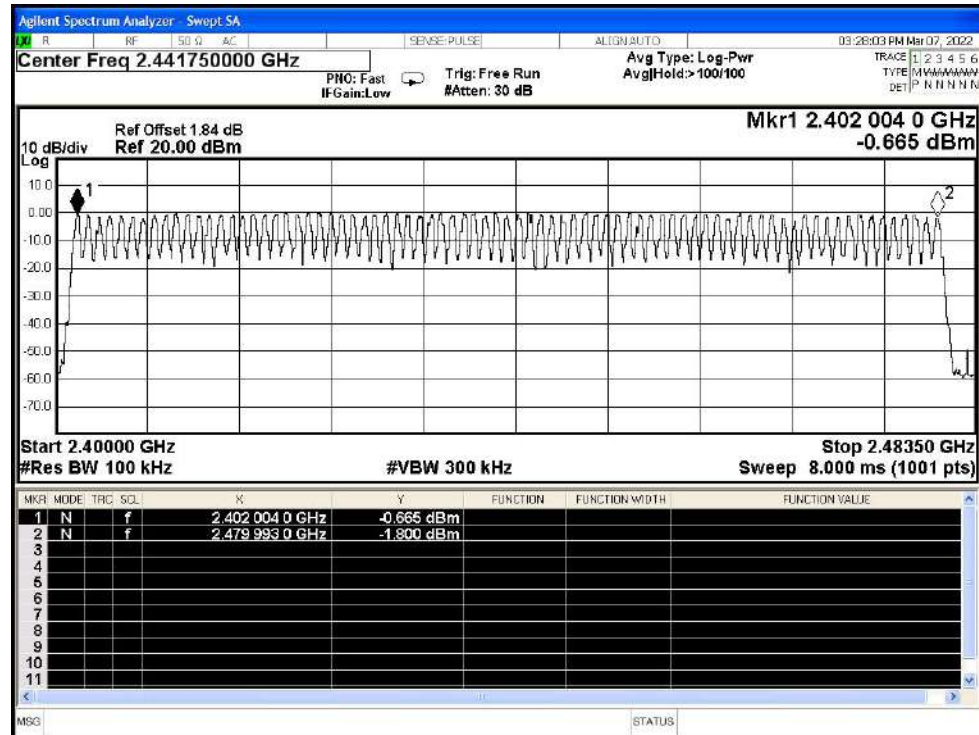
A.5 Number of Hopping Channel

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

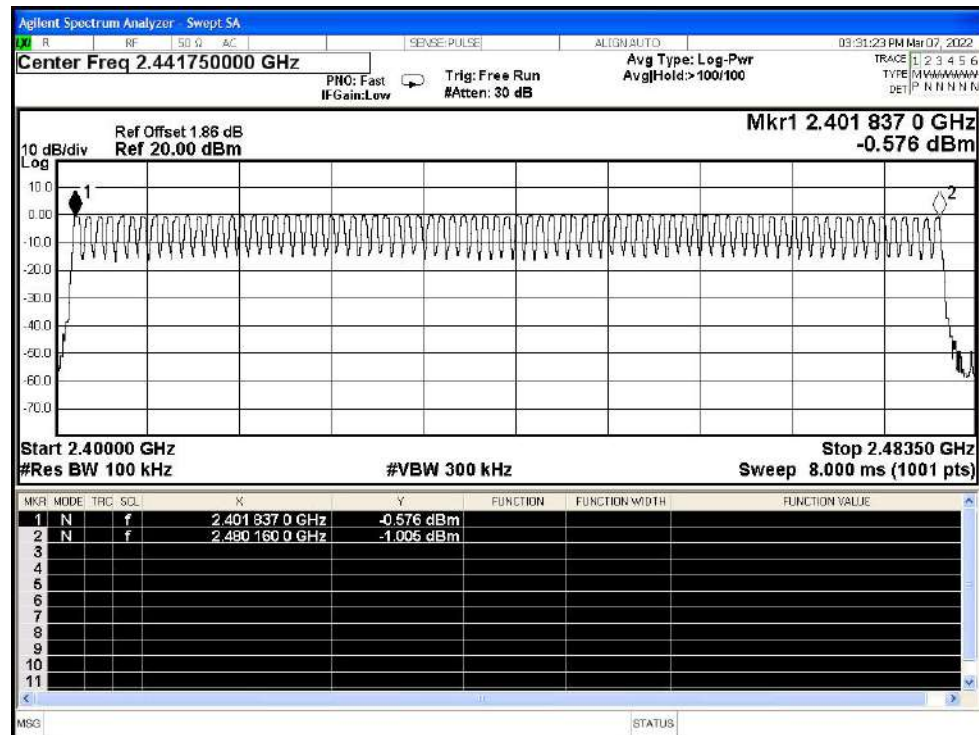


Test Graphs

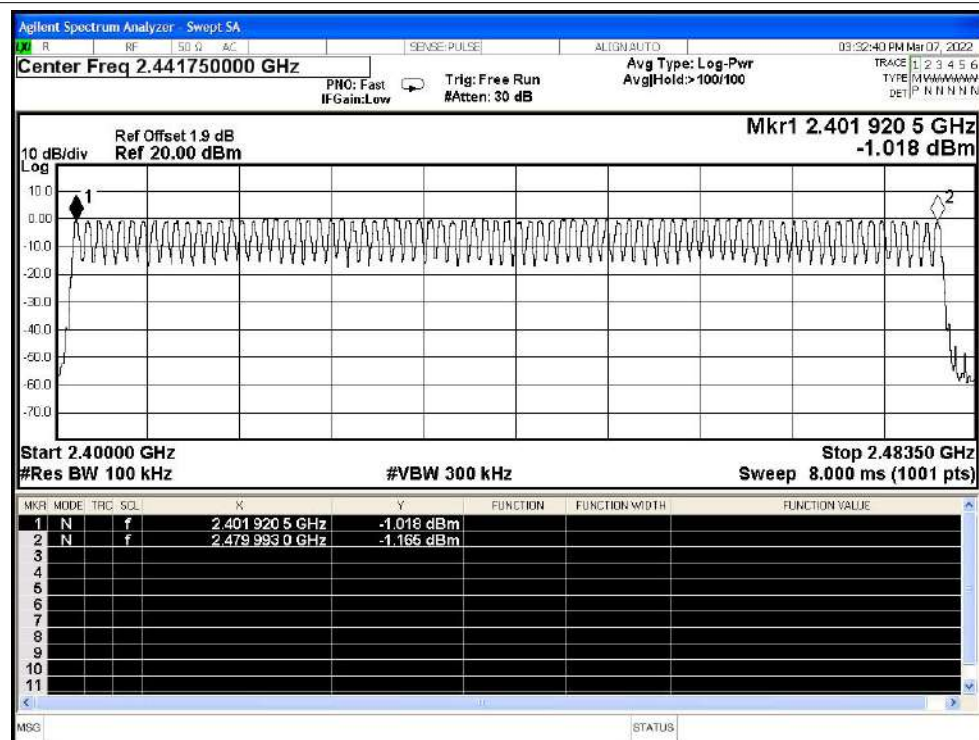
Hopping No. NVNT 1-DH5 2402MHz Ant1



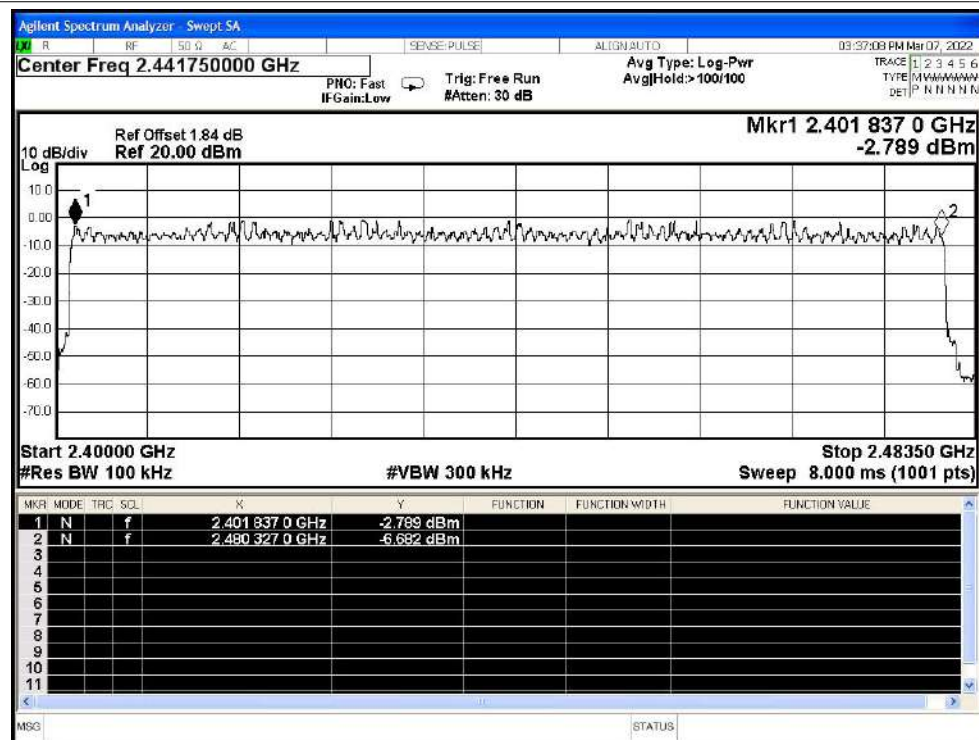
Hopping No. NVNT 1-DH5 2441MHz Ant1



Hopping No. NVNT 1-DH5 2480MHz Ant1

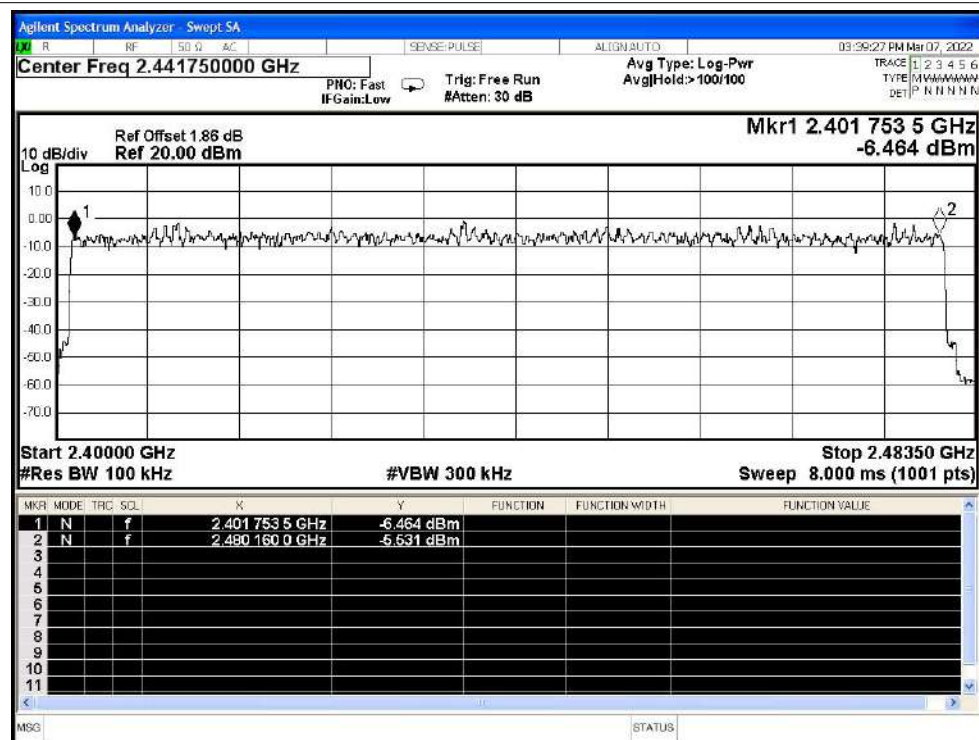


Hopping No. NVNT 2-DH5 2402MHz Ant1

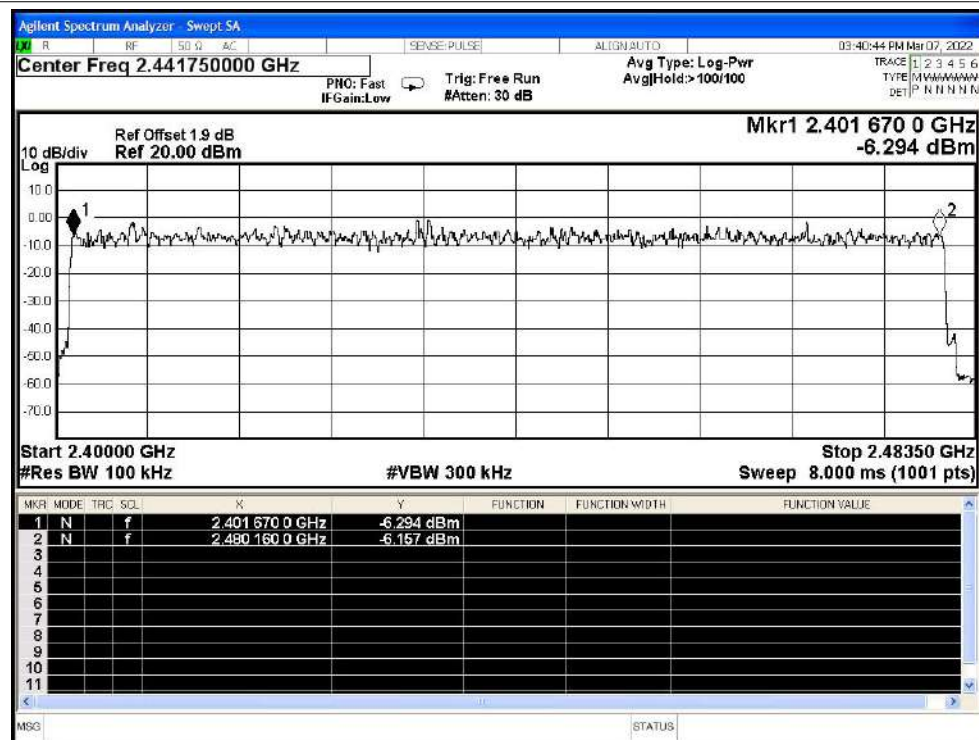




Hopping No. NVNT 2-DH5 2441MHz Ant1

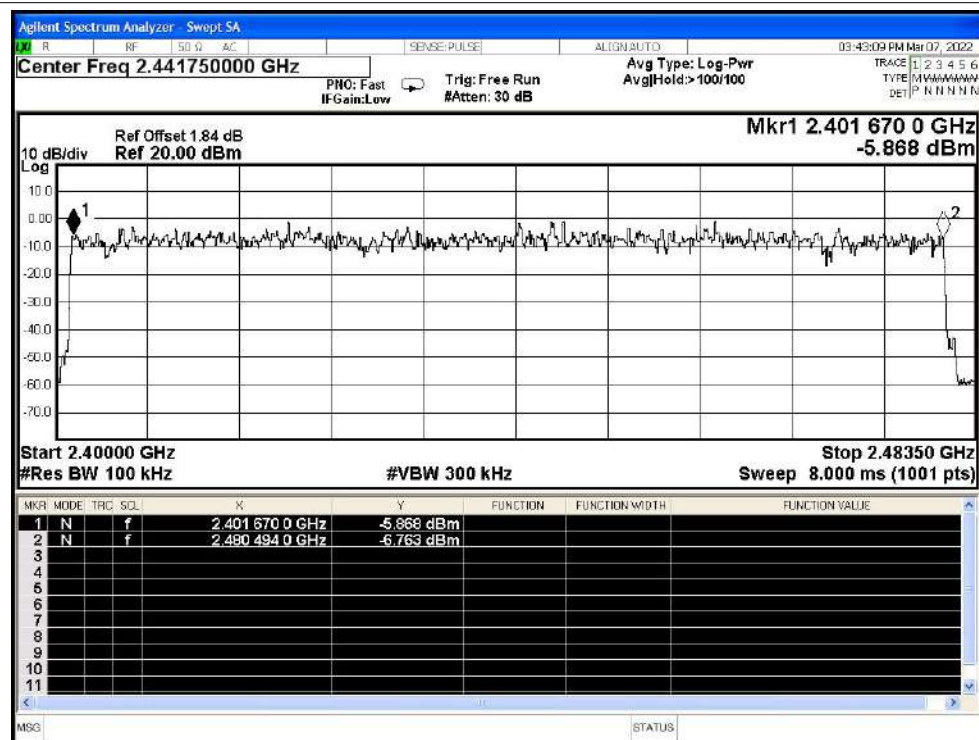


Hopping No. NVNT 2-DH5 2480MHz Ant1

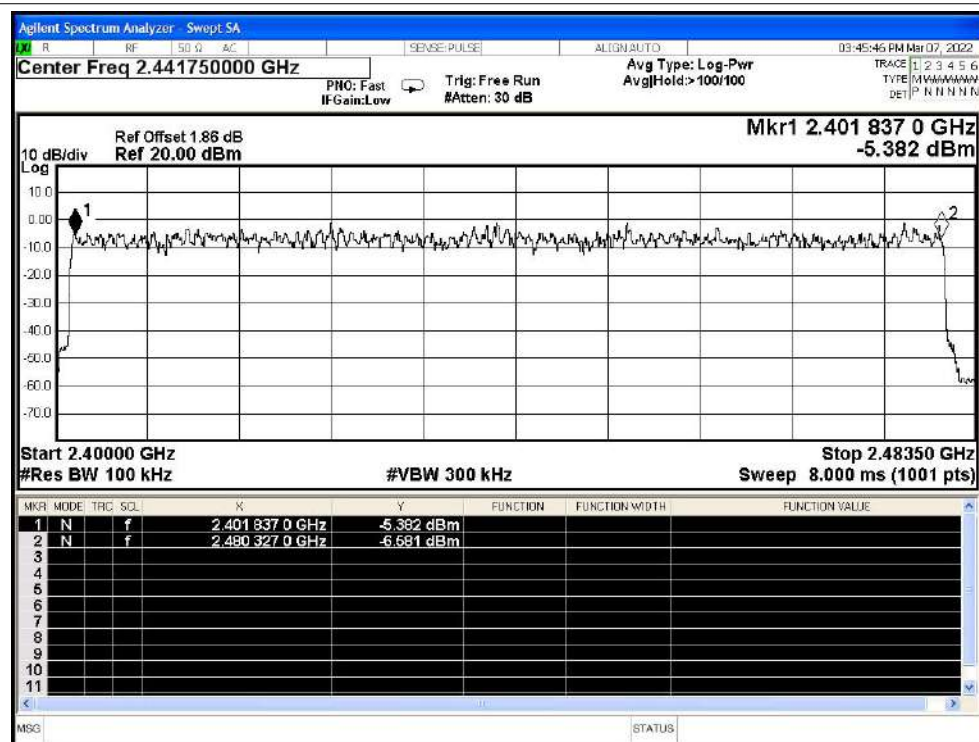




Hopping No. NVNT 3-DH5 2402MHz Ant1

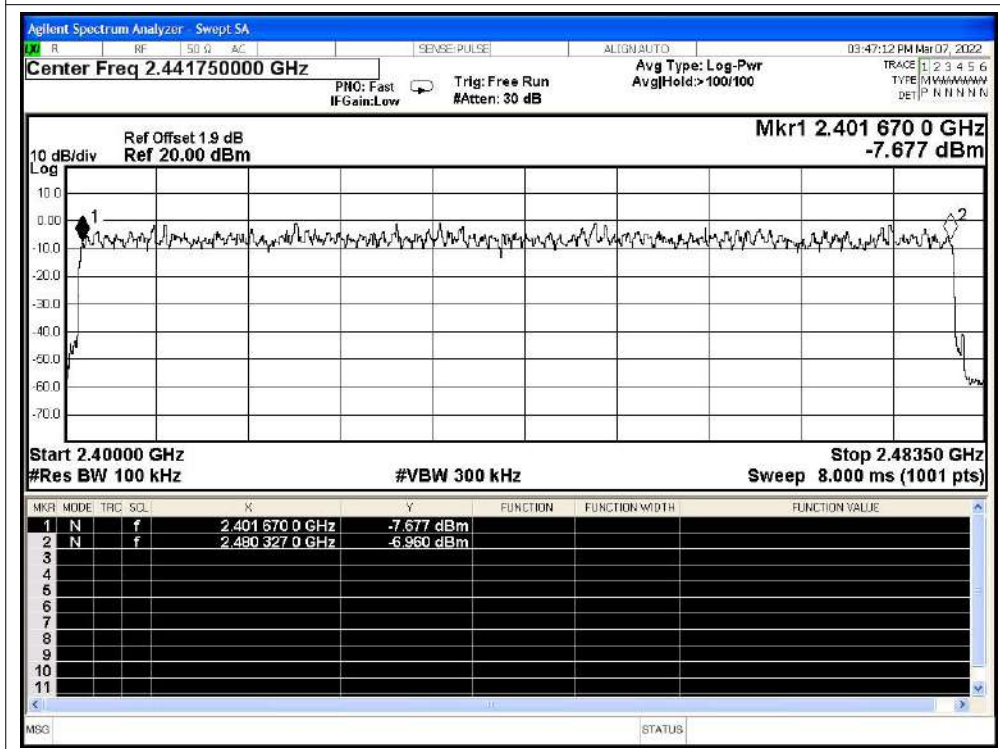


Hopping No. NVNT 3-DH5 2441MHz Ant1





Hopping No. NVNT 3-DH5 2480MHz Ant1





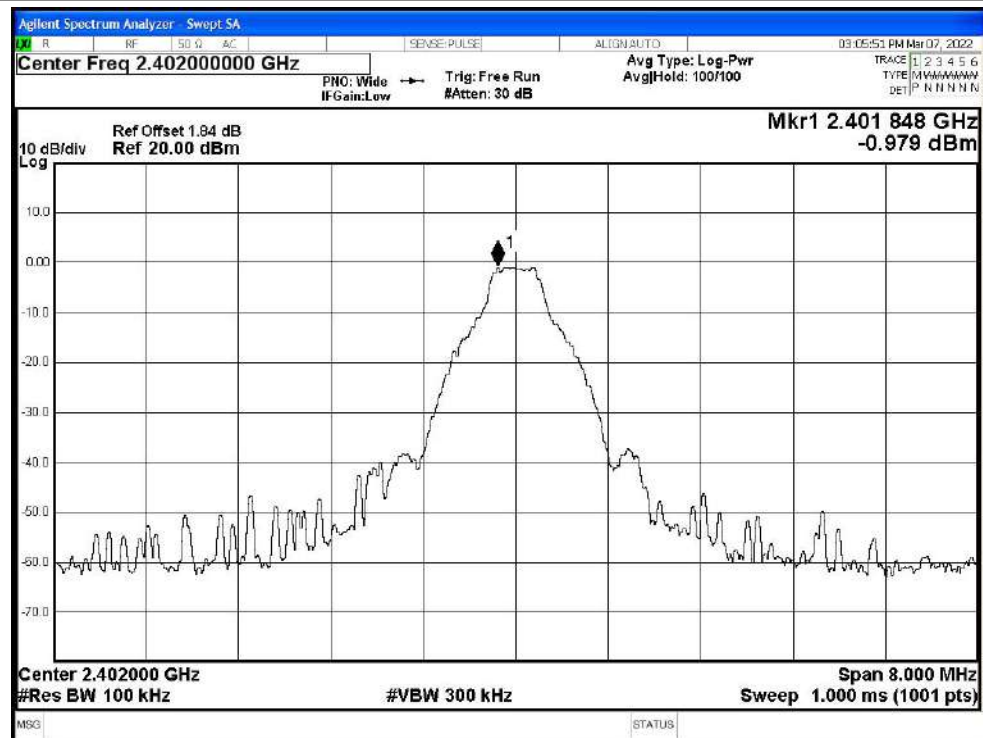
A.6 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-44.19	≤ -20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.14	≤ -20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-50.46	≤ -20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-54.07	≤ -20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-50.84	≤ -20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-52.63	≤ -20	Pass

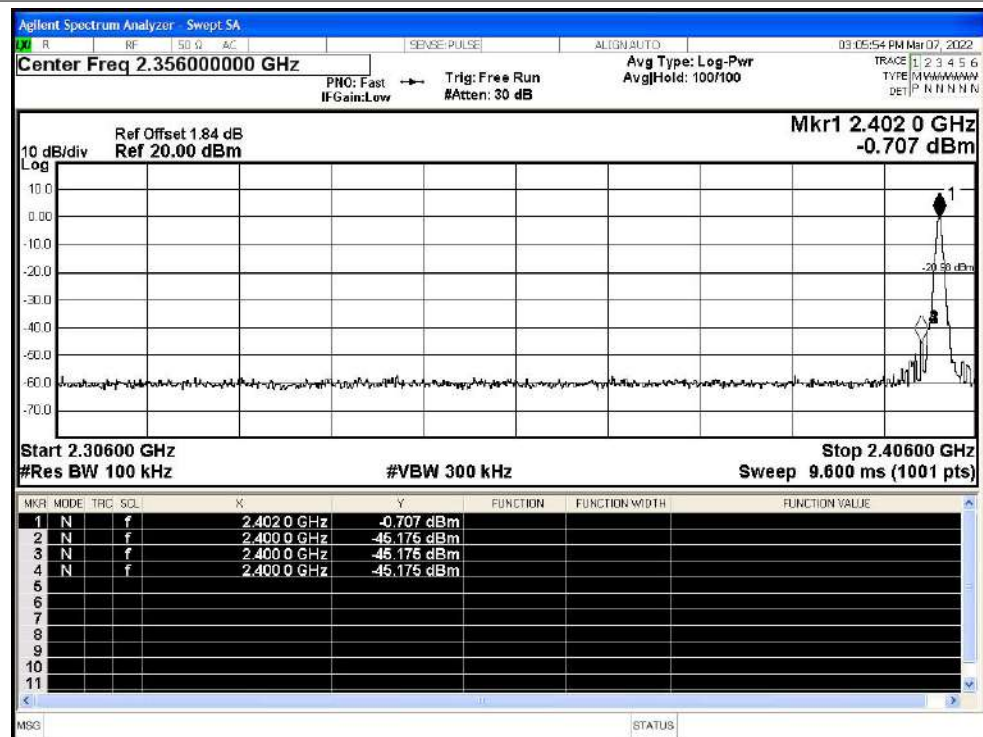


Test Graphs

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

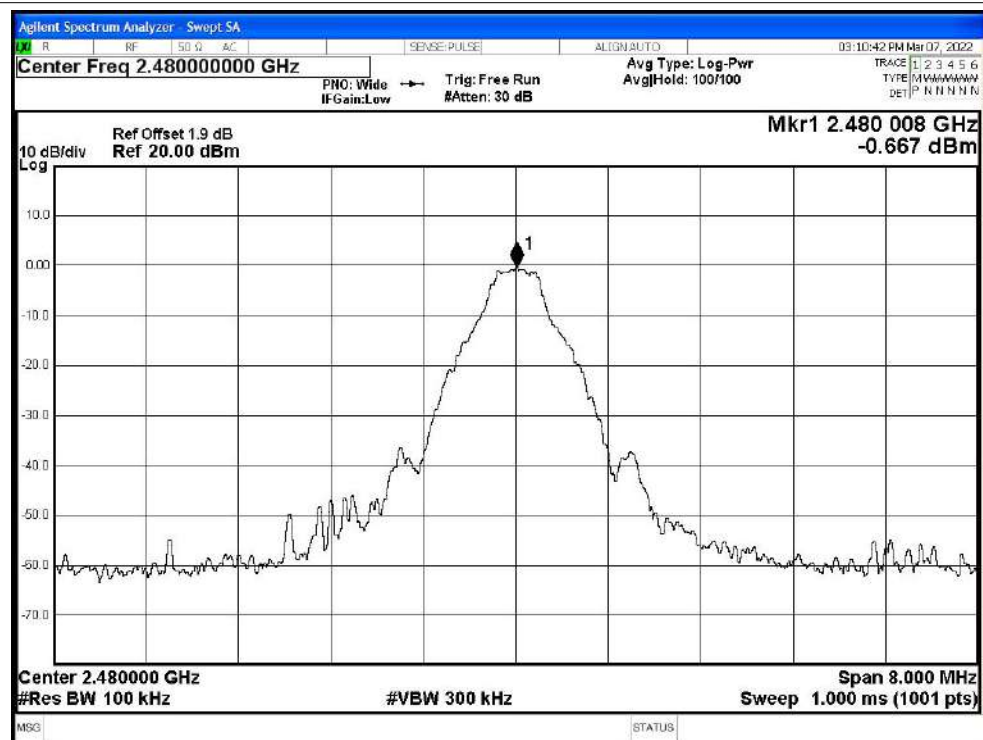


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

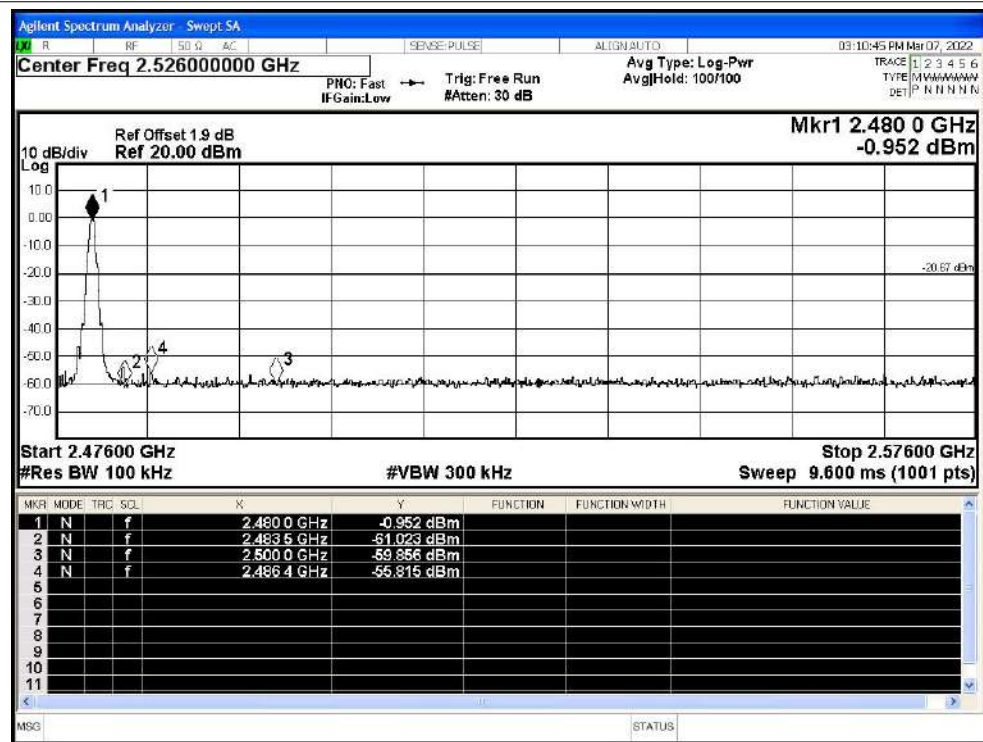




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

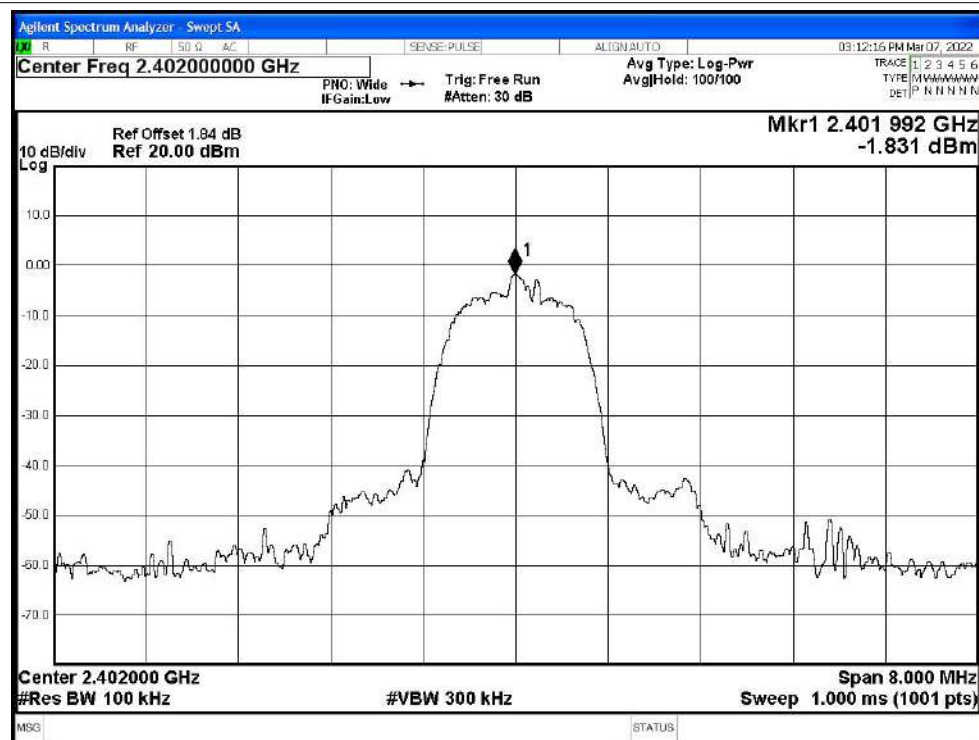


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

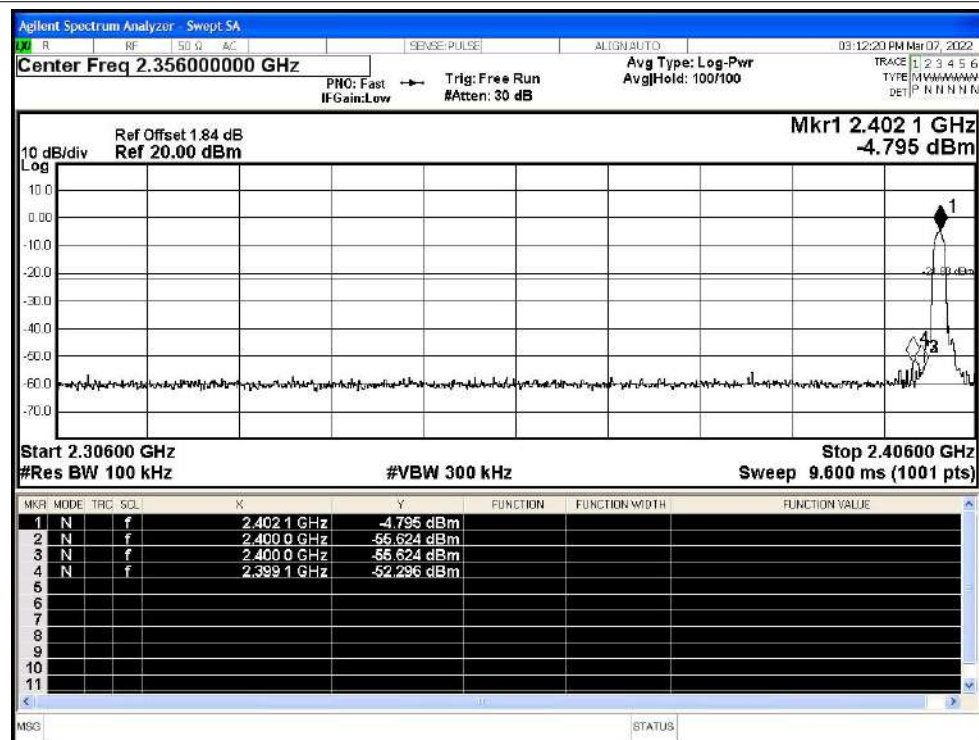




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

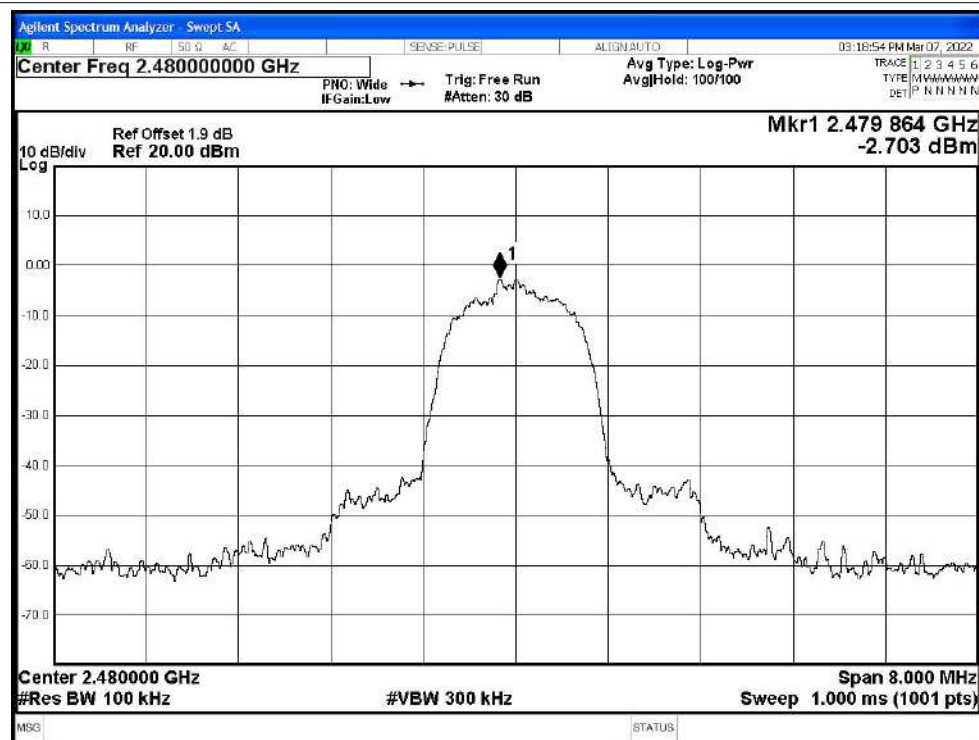


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

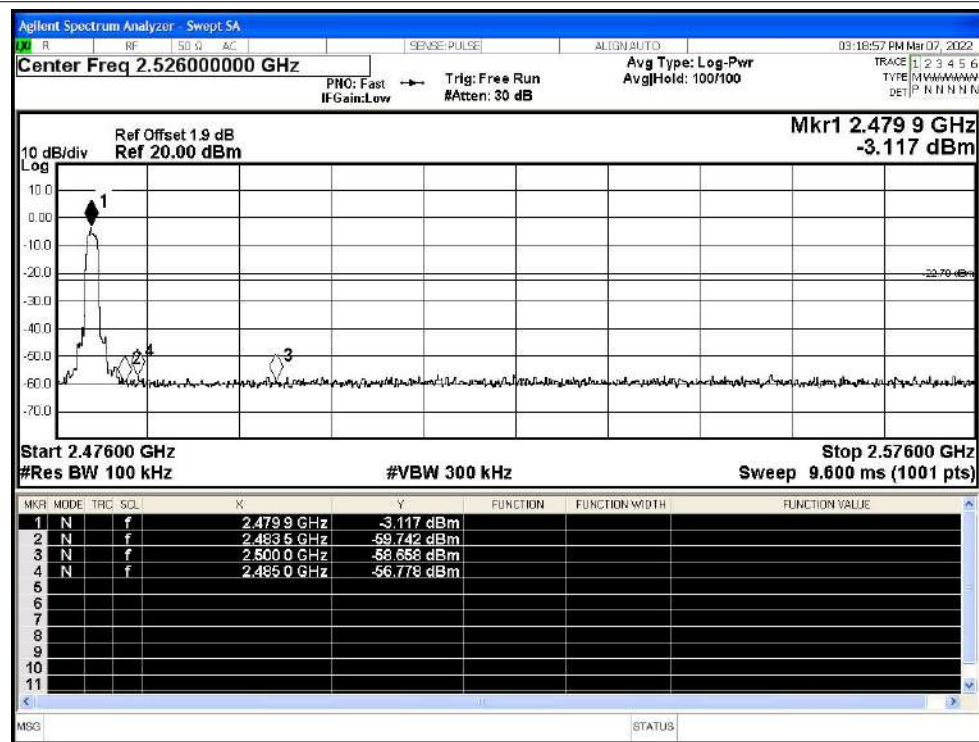




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref

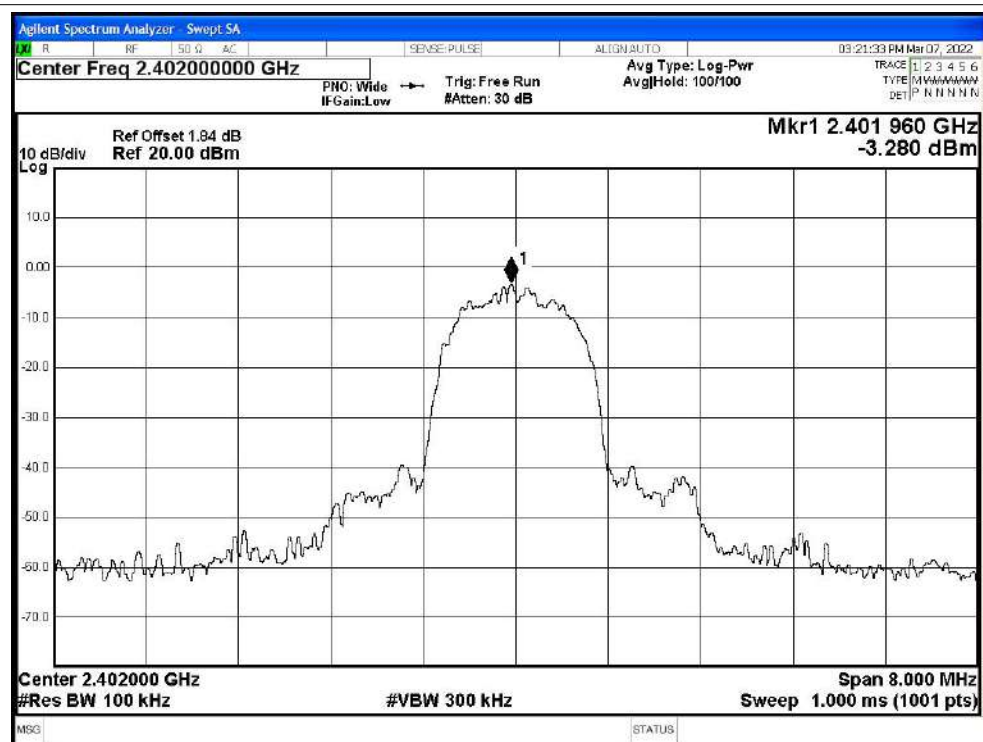


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

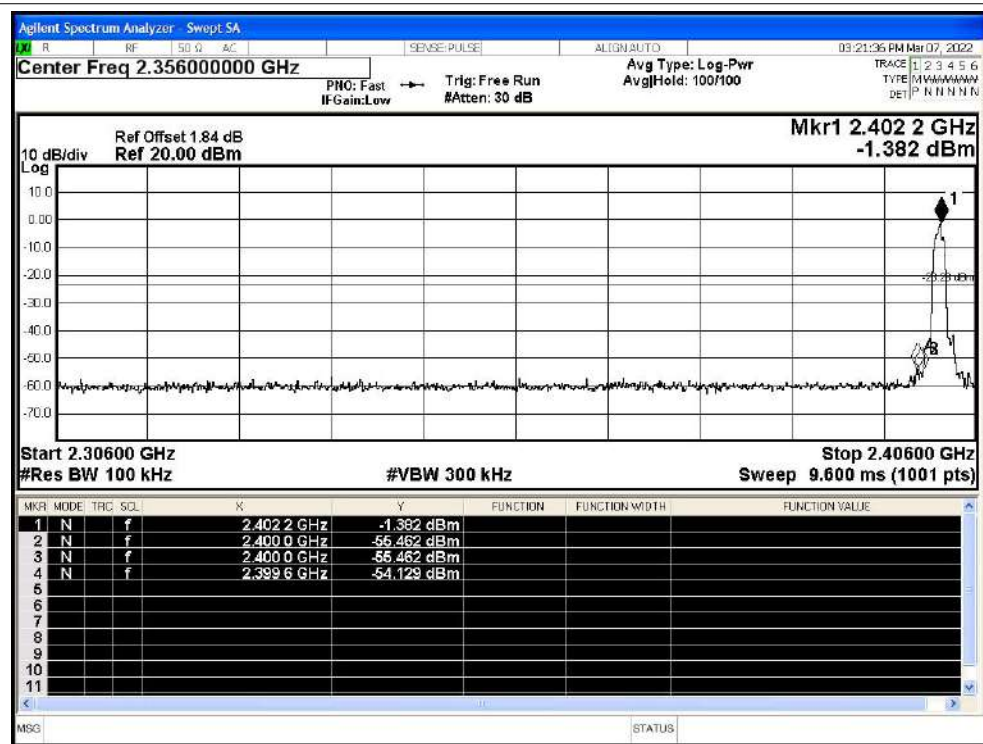




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

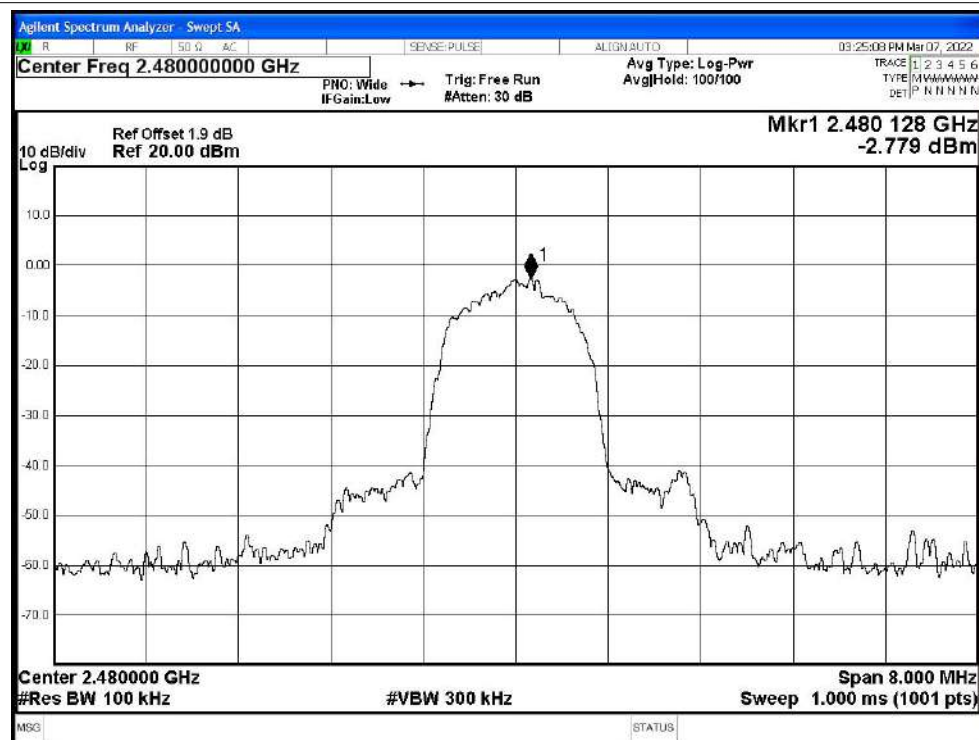


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

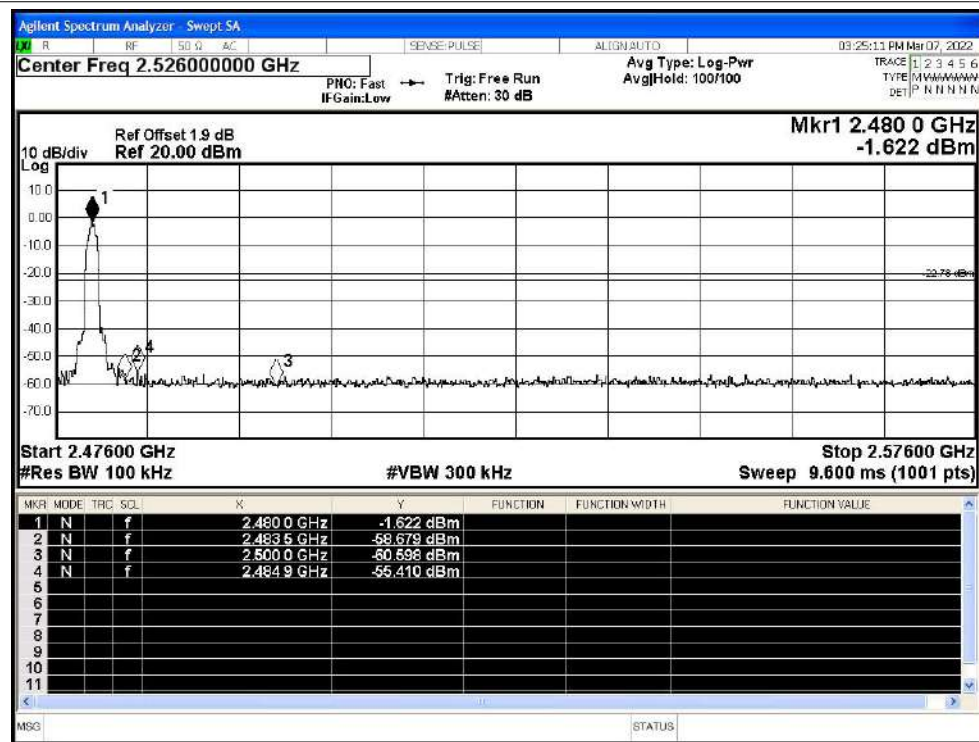




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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





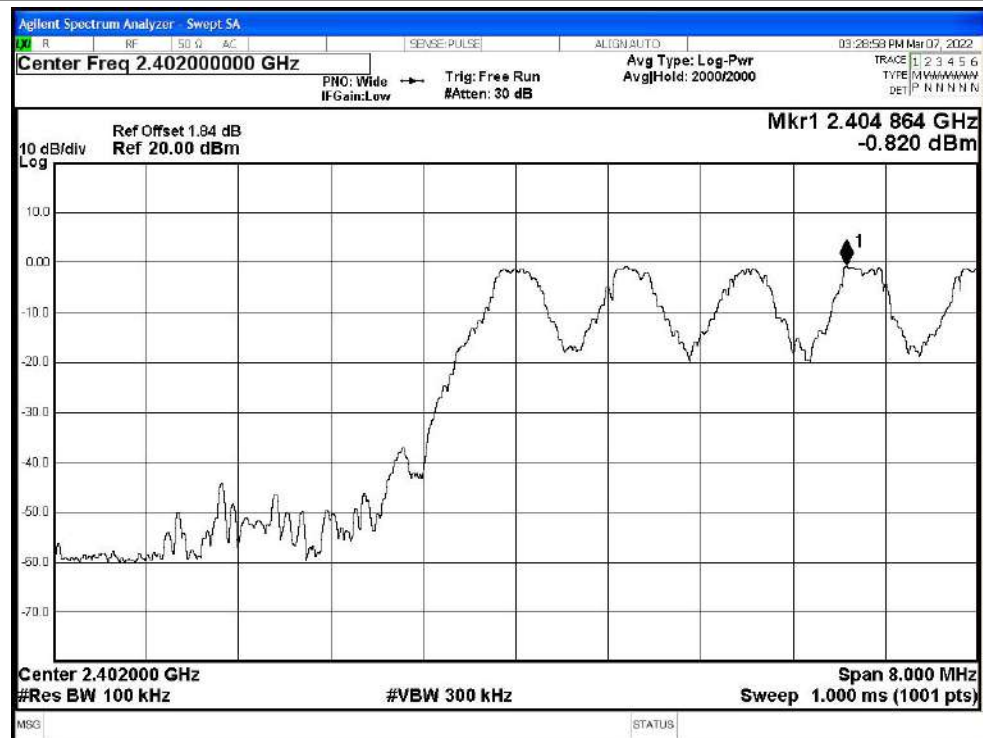
(Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-54.84	≤ -20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-55.89	≤ -20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-52.09	≤ -20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-47.85	≤ -20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-53.18	≤ -20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-52.72	≤ -20	Pass

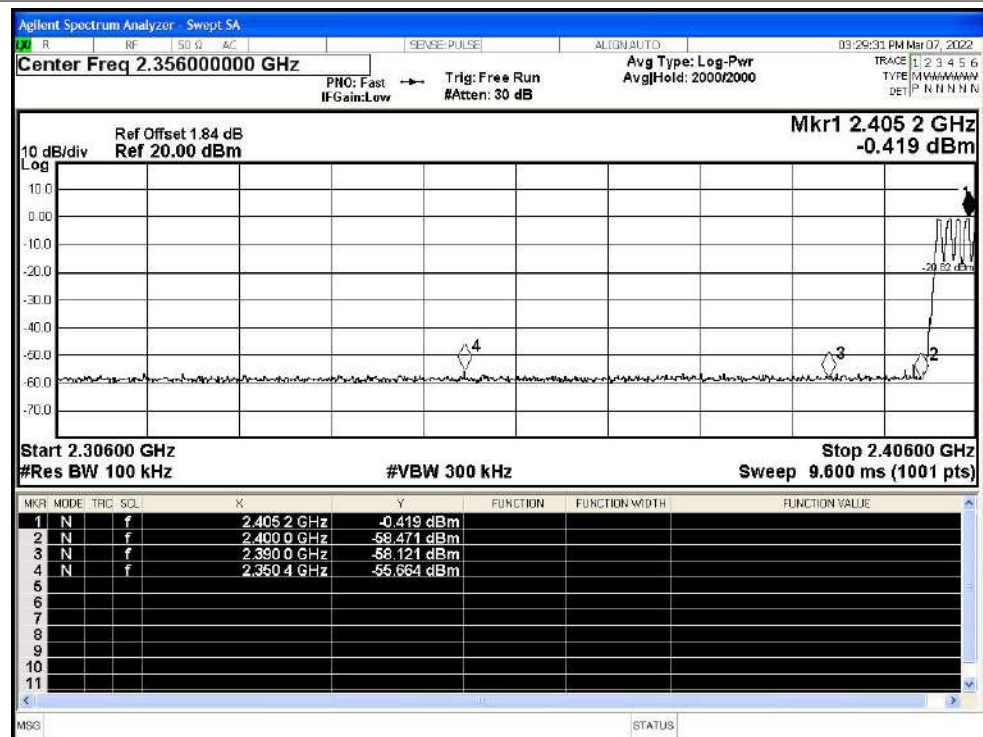


Test Graphs

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

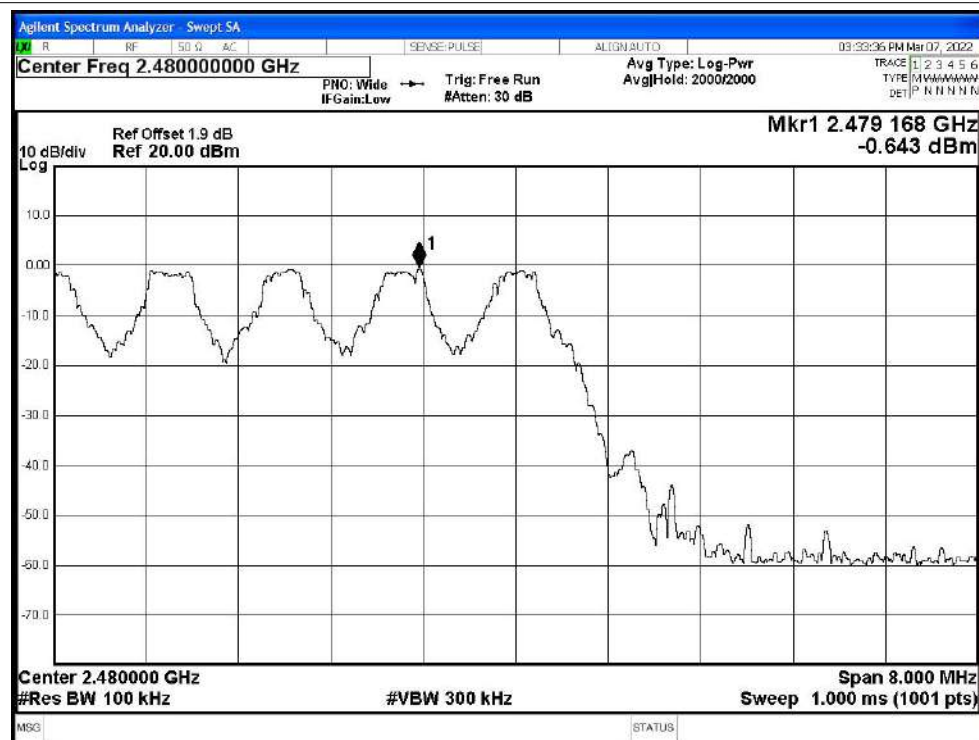


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

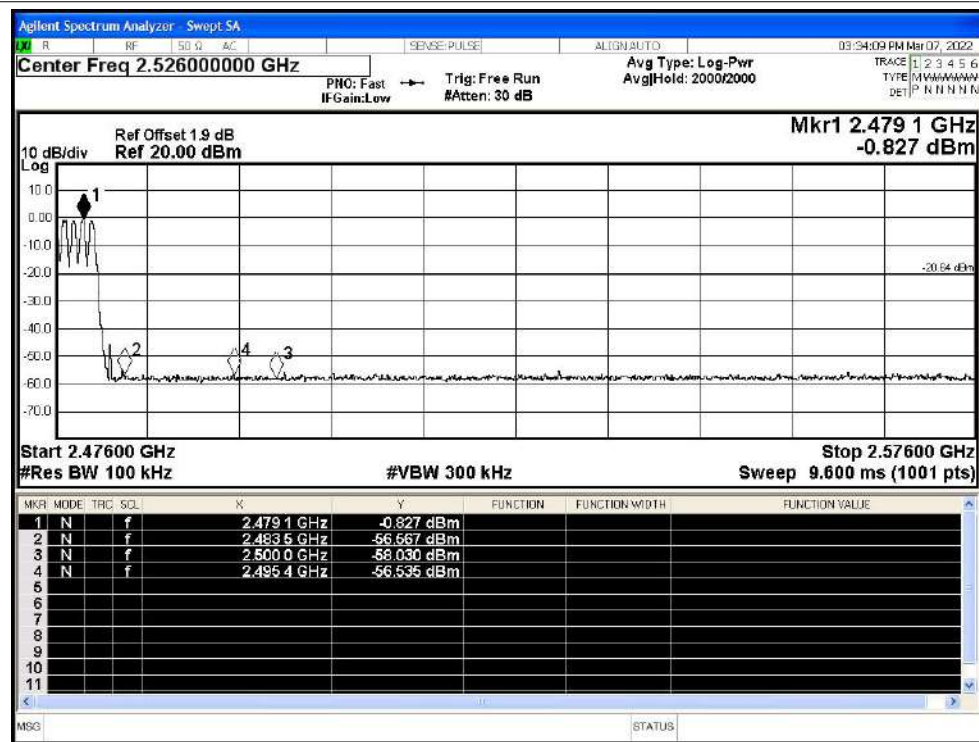




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref

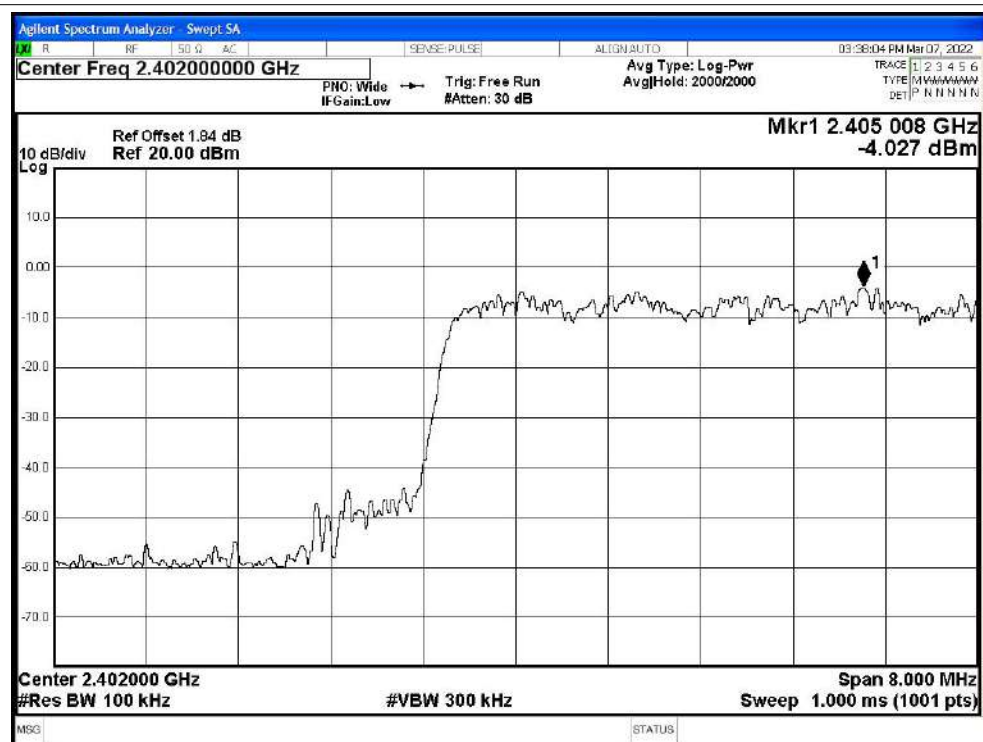


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission

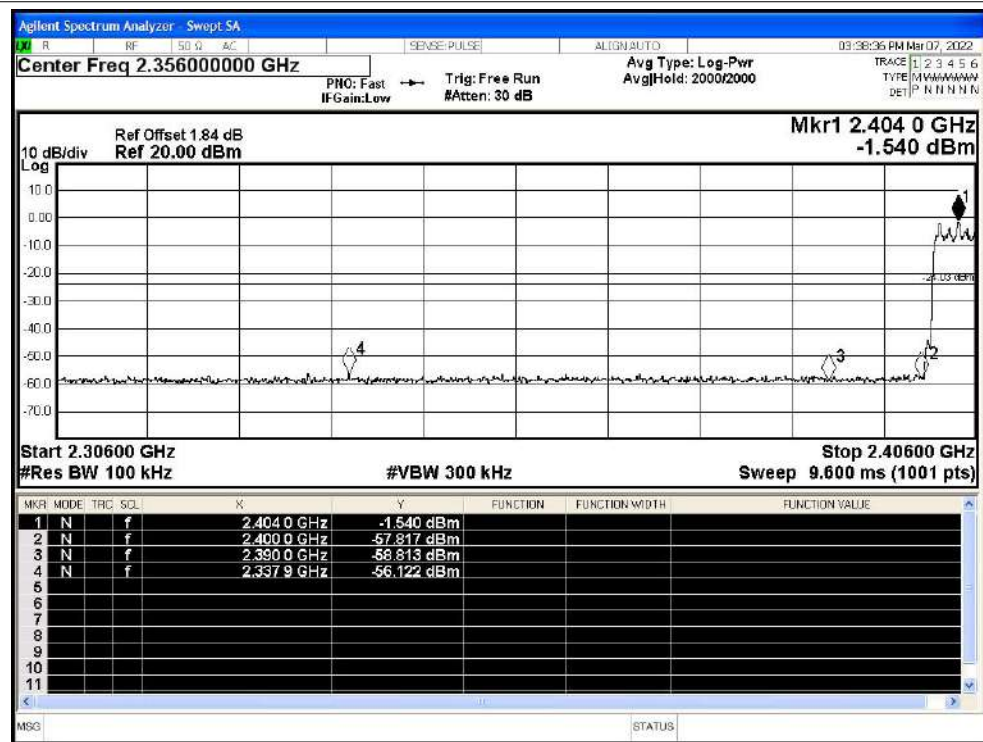




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

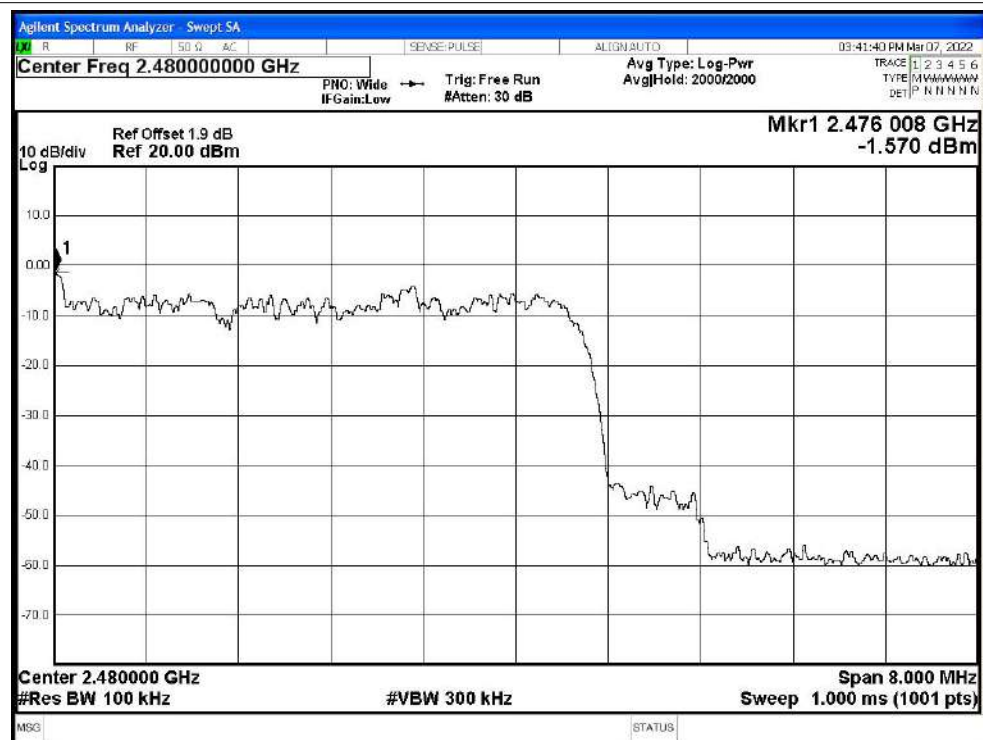


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

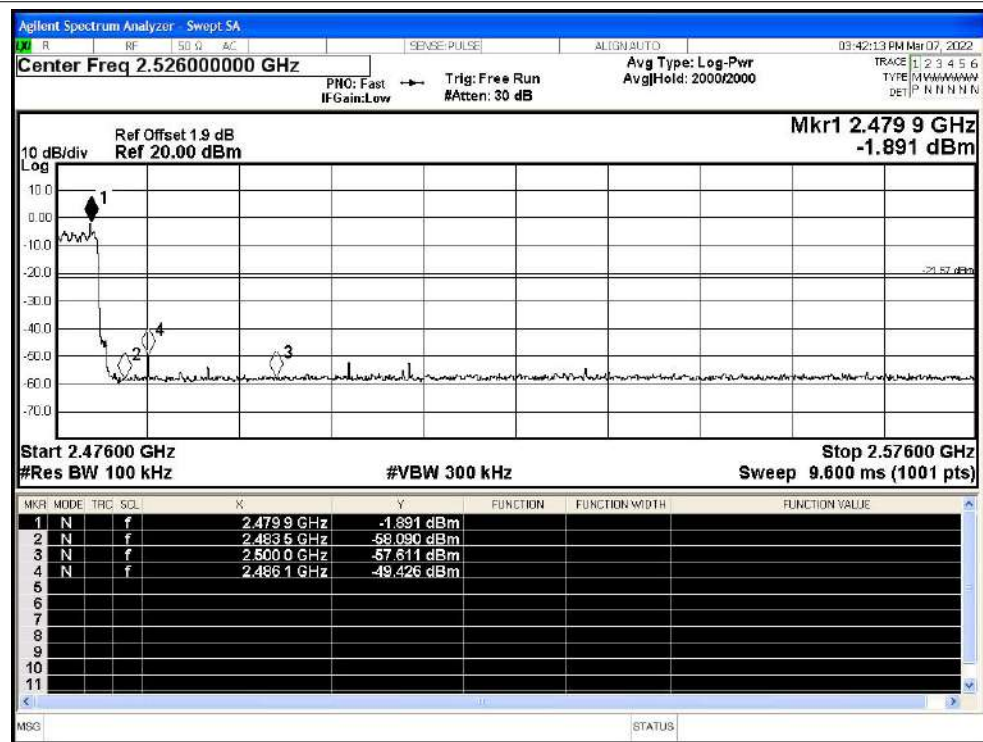




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



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

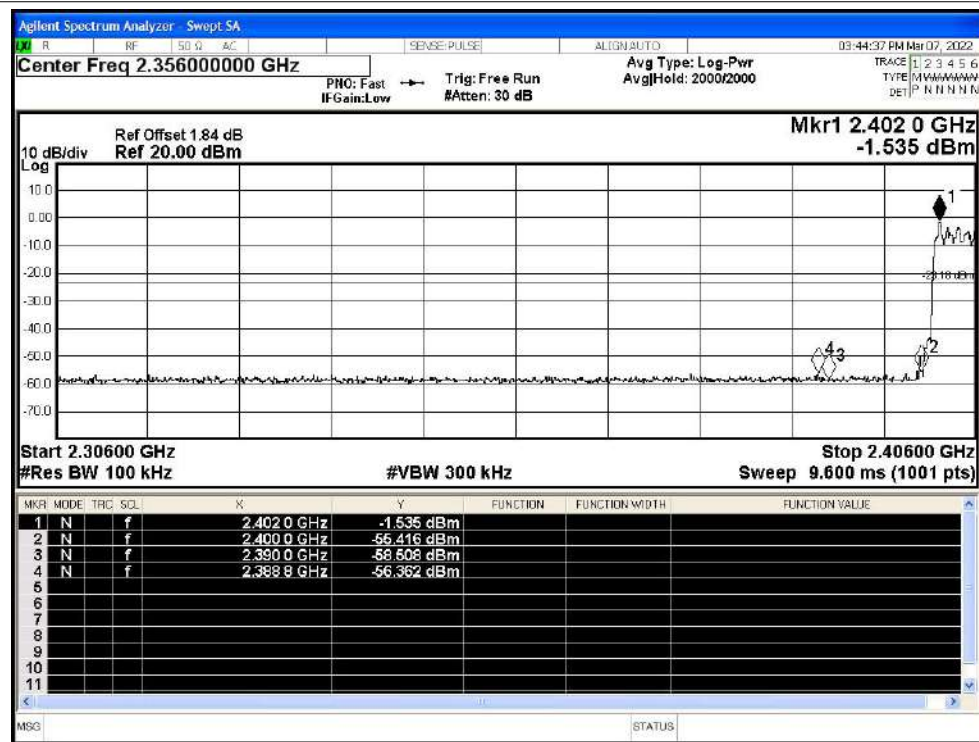




Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref

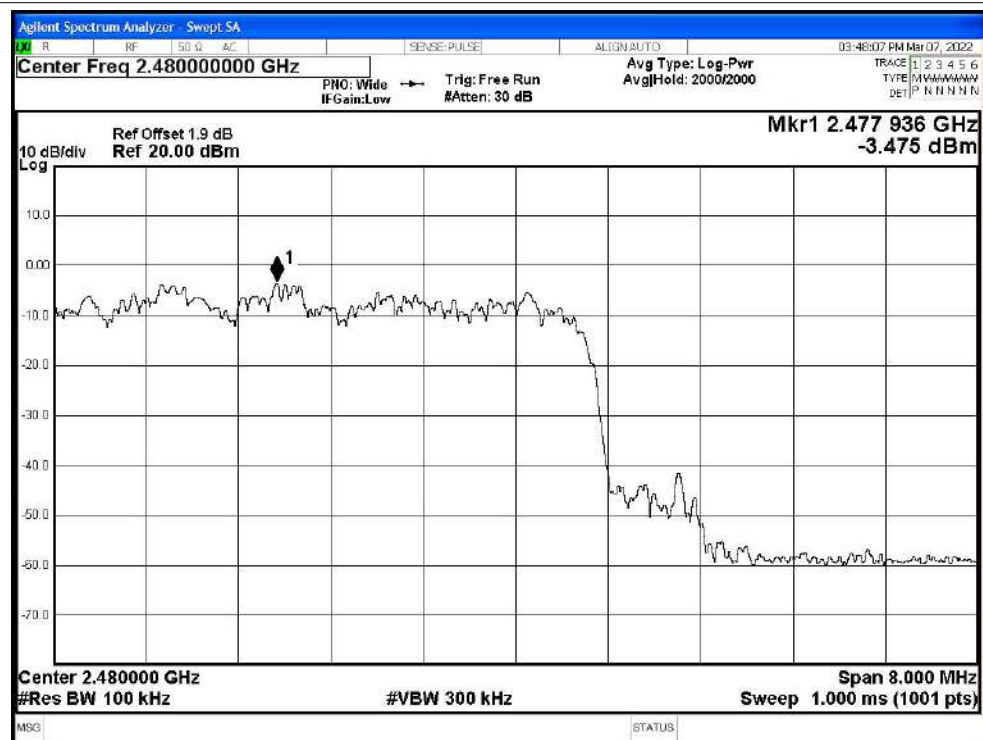


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Emission

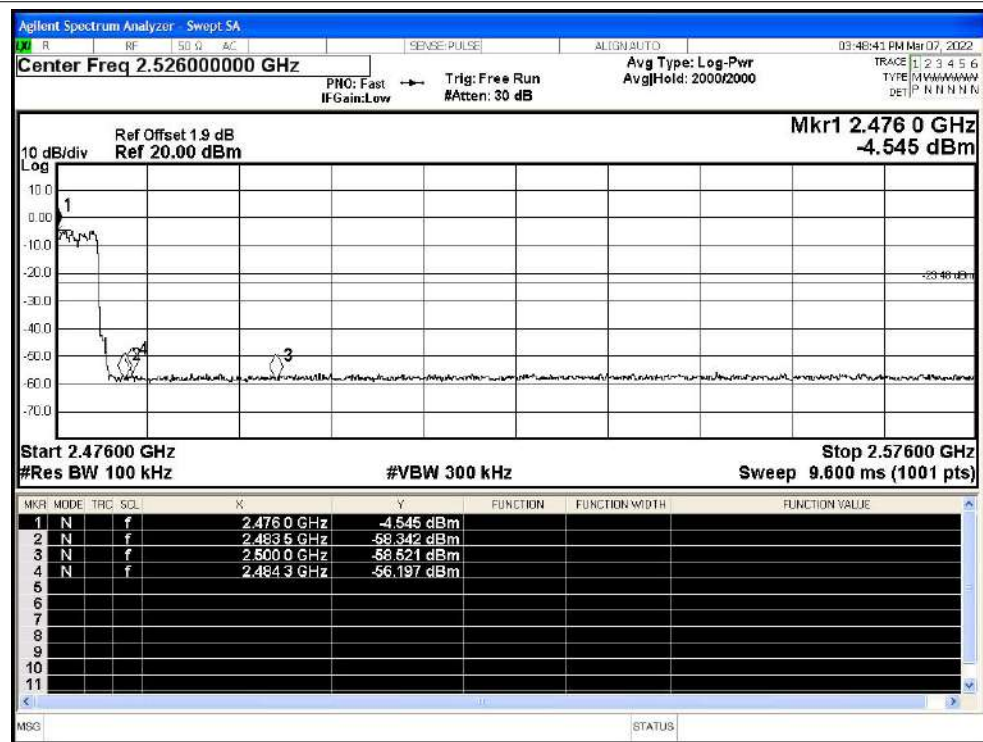




Band Edge(Hopping) NVNT 3-DH5 2480MHz Ant1 Hopping Ref



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





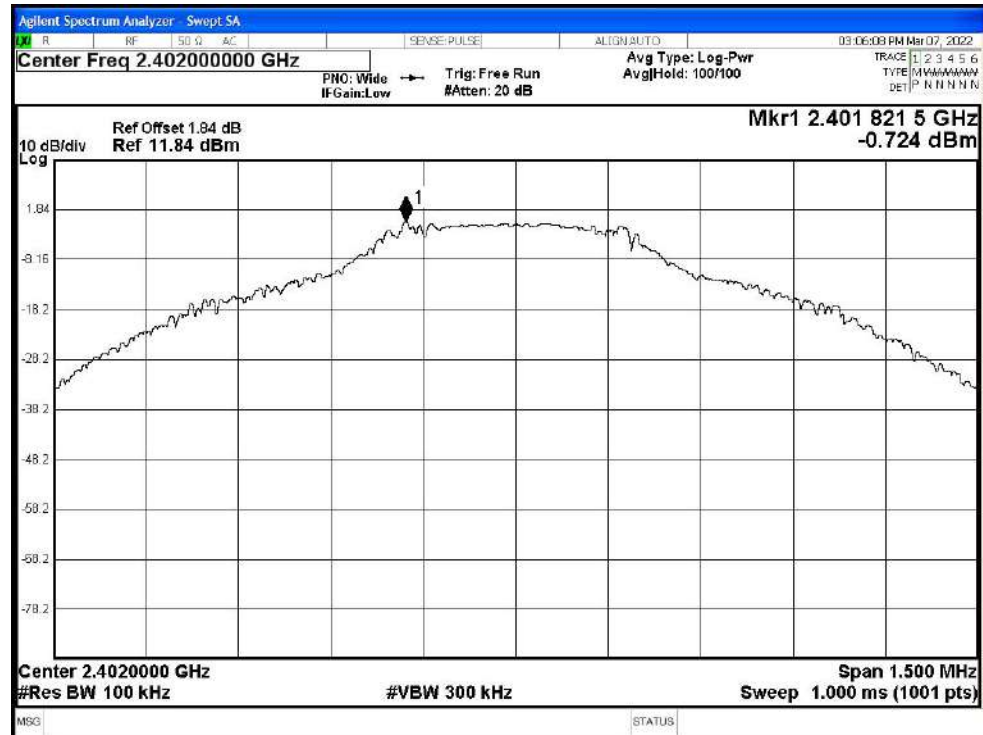
A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-55.41	≤ -20	Pass
NVNT	1-DH5	2441	Ant1	-44.54	≤ -20	Pass
NVNT	1-DH5	2480	Ant1	-49.59	≤ -20	Pass
NVNT	2-DH5	2402	Ant1	-40.42	≤ -20	Pass
NVNT	2-DH5	2441	Ant1	-44.47	≤ -20	Pass
NVNT	2-DH5	2480	Ant1	-48.43	≤ -20	Pass
NVNT	3-DH5	2402	Ant1	-46.73	≤ -20	Pass
NVNT	3-DH5	2441	Ant1	-49.56	≤ -20	Pass
NVNT	3-DH5	2480	Ant1	-50.65	≤ -20	Pass

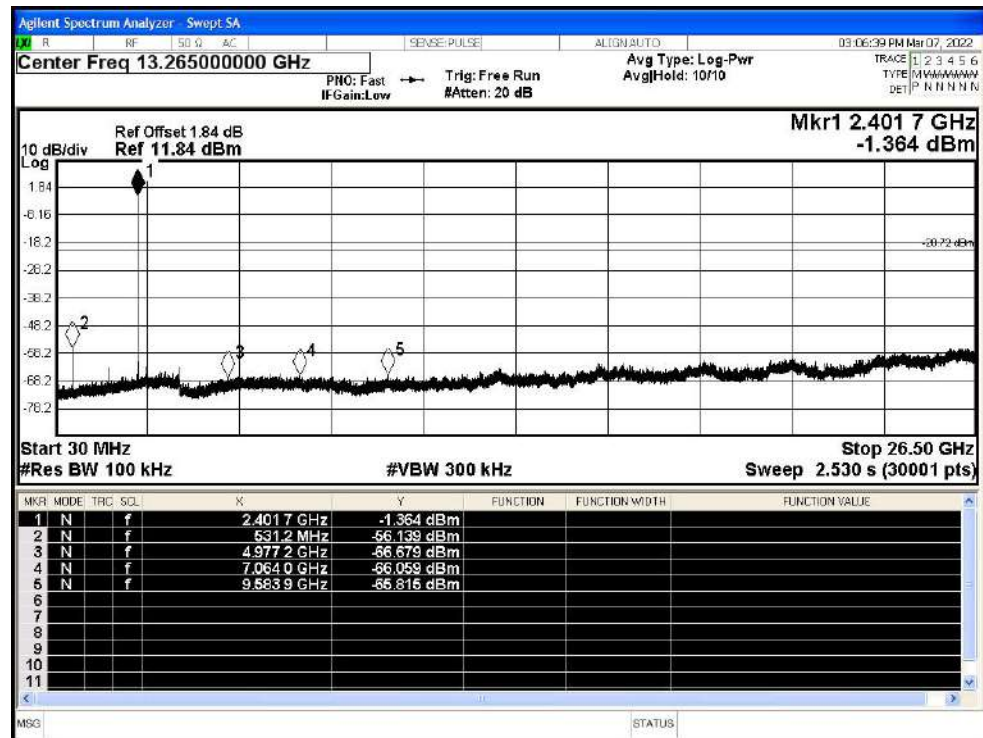


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

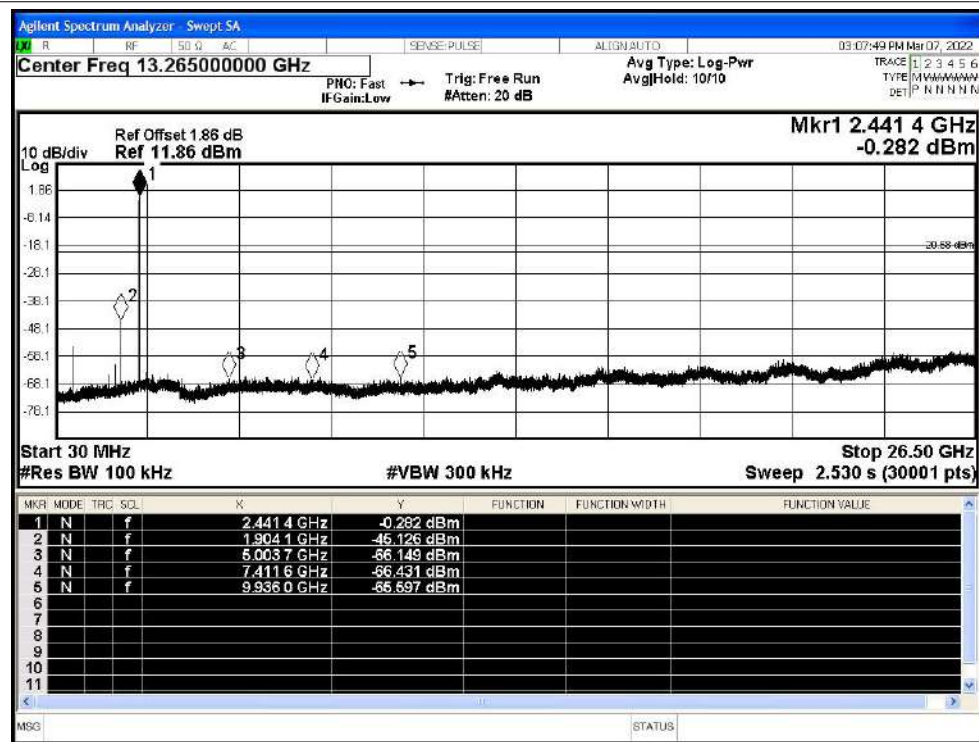




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

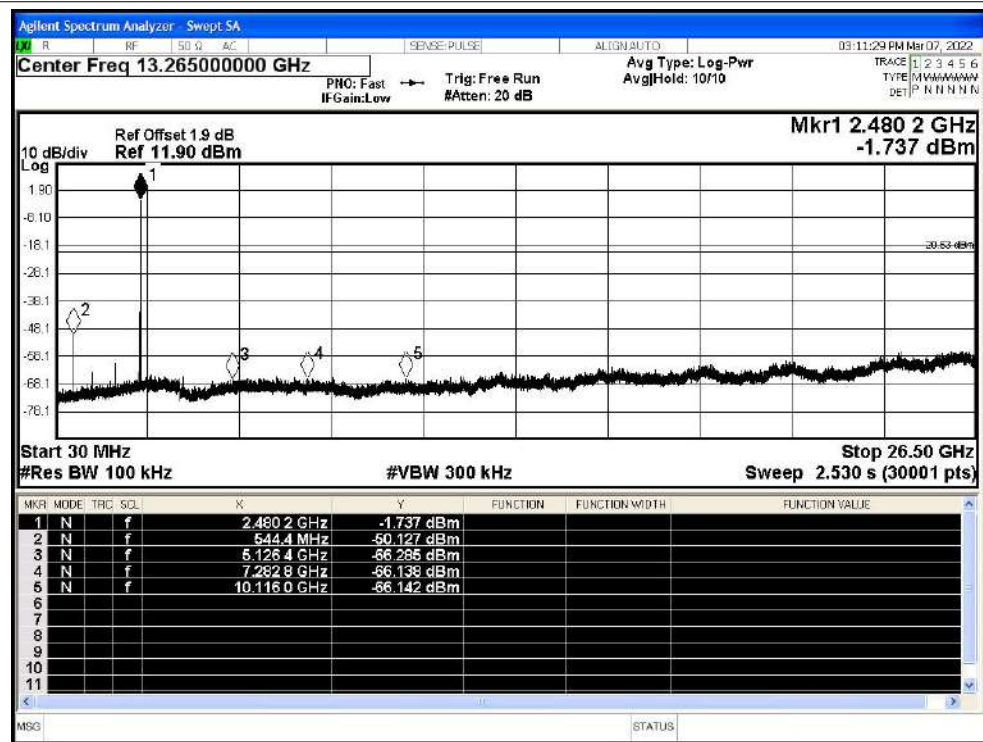




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

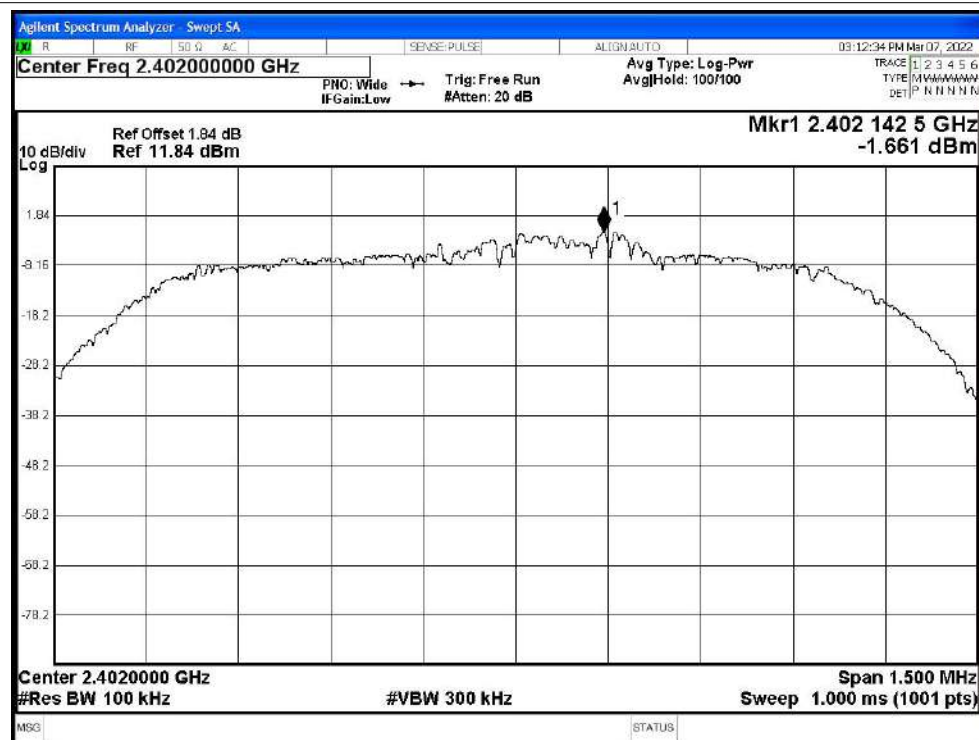


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

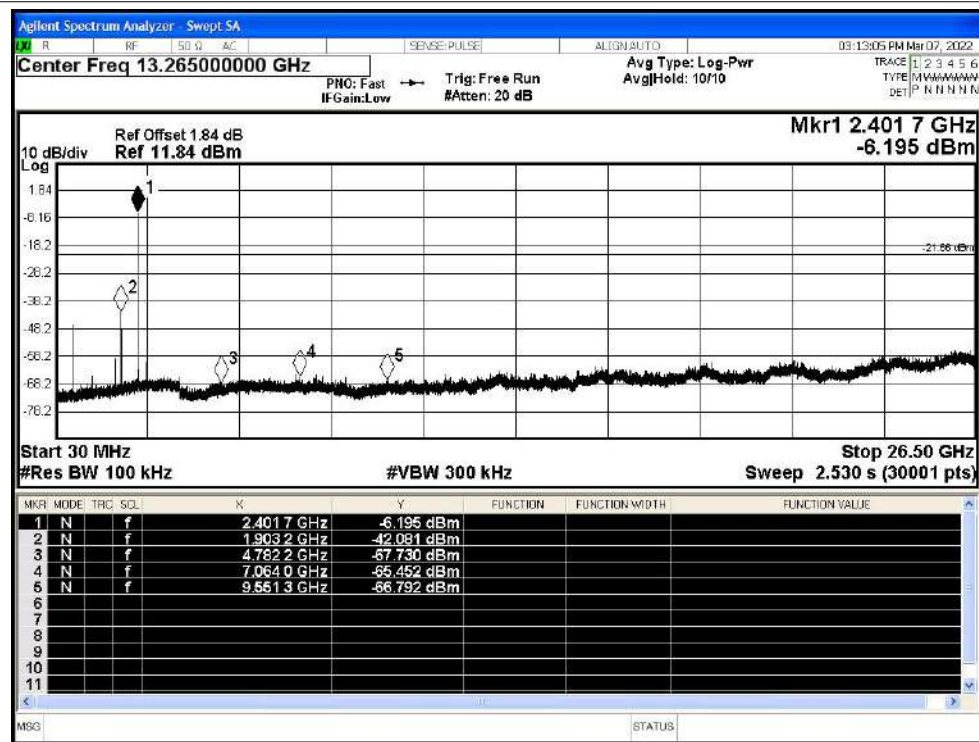




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

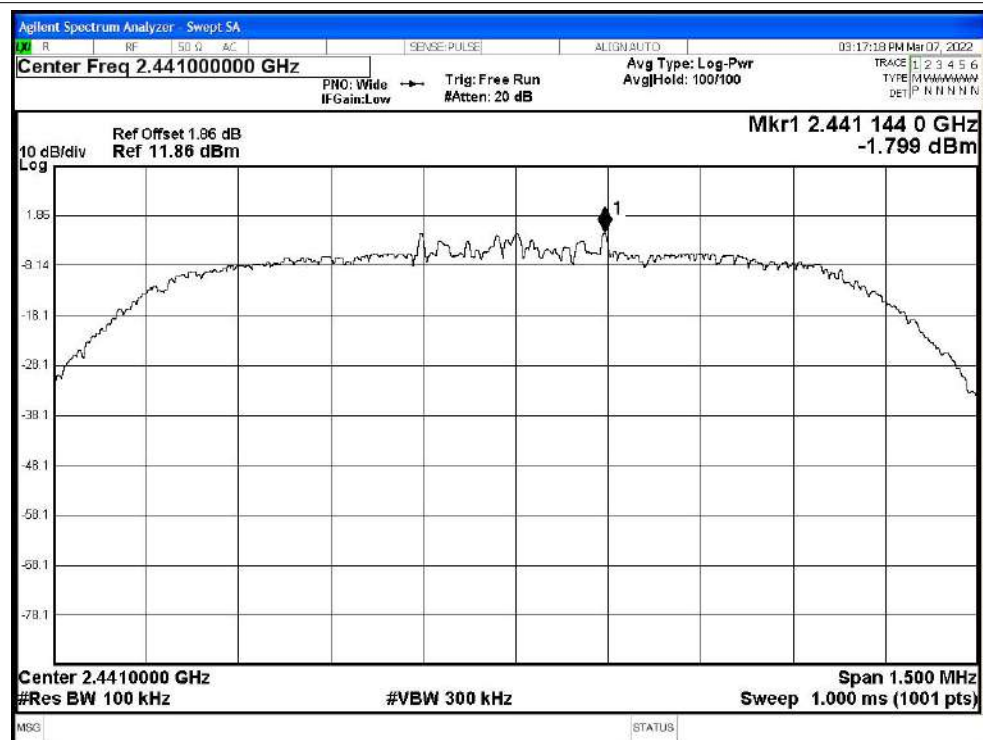


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

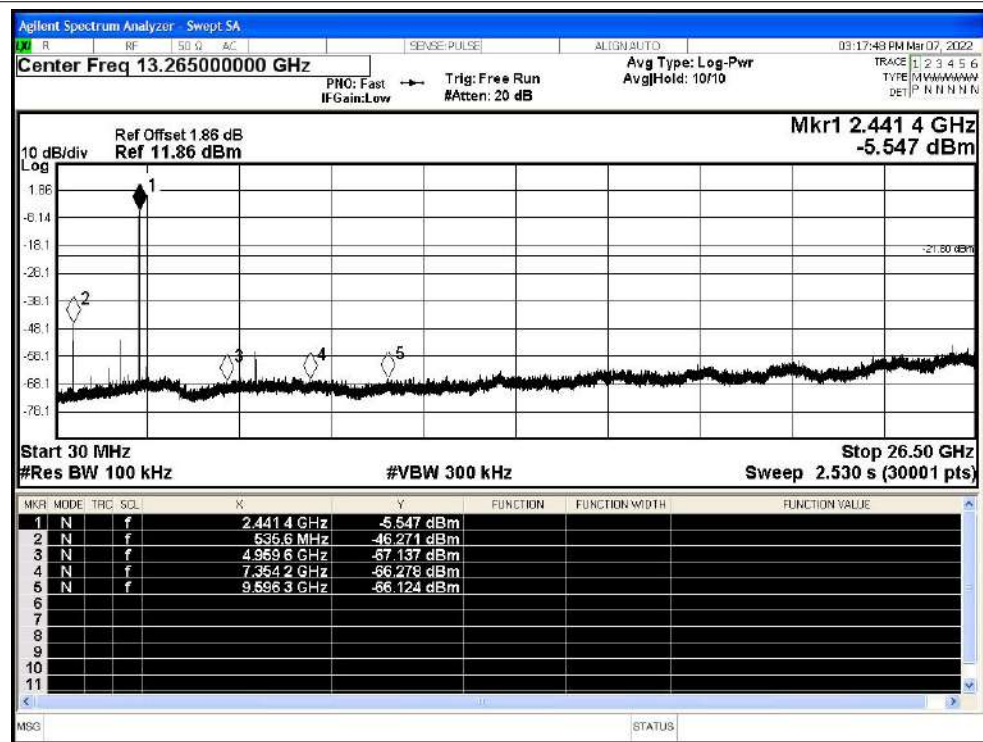




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

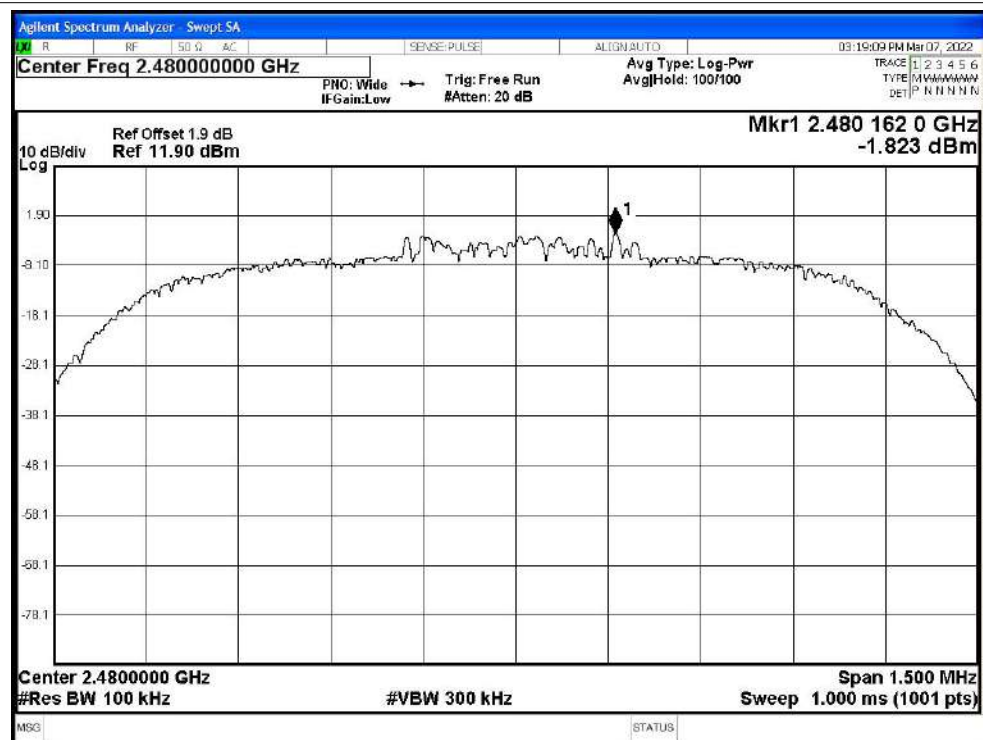


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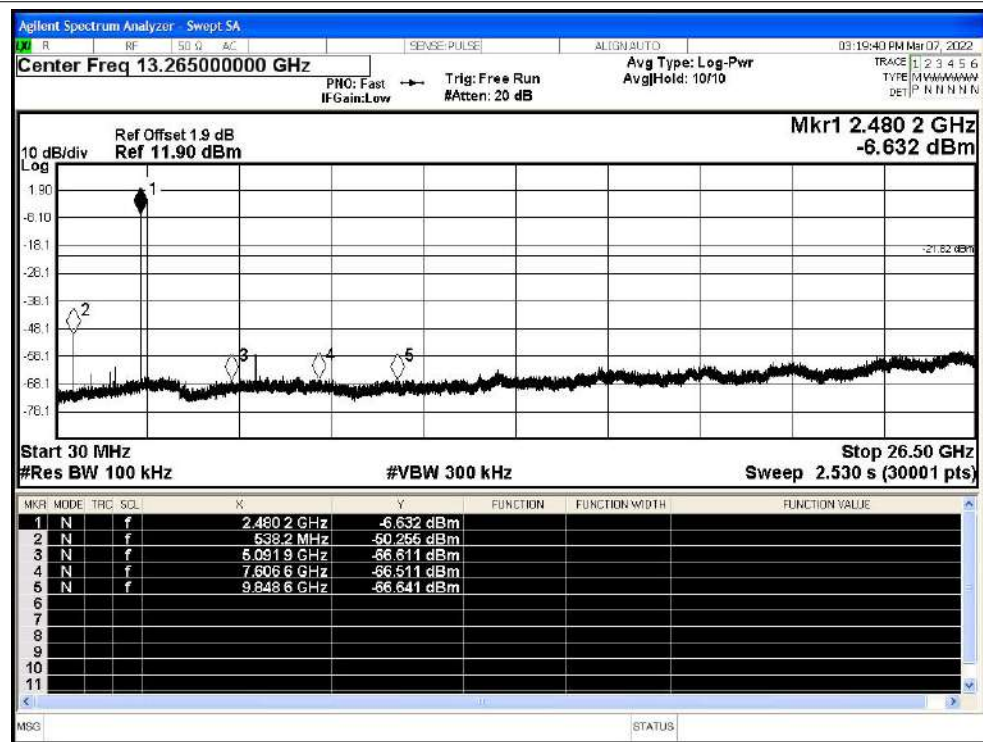




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref

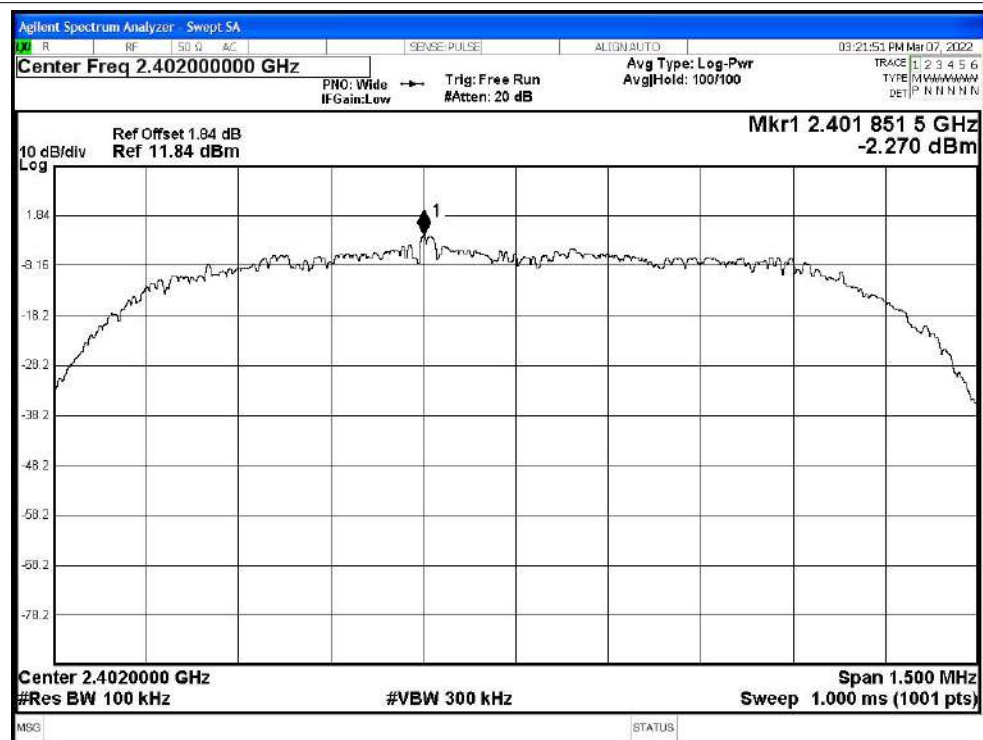


Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

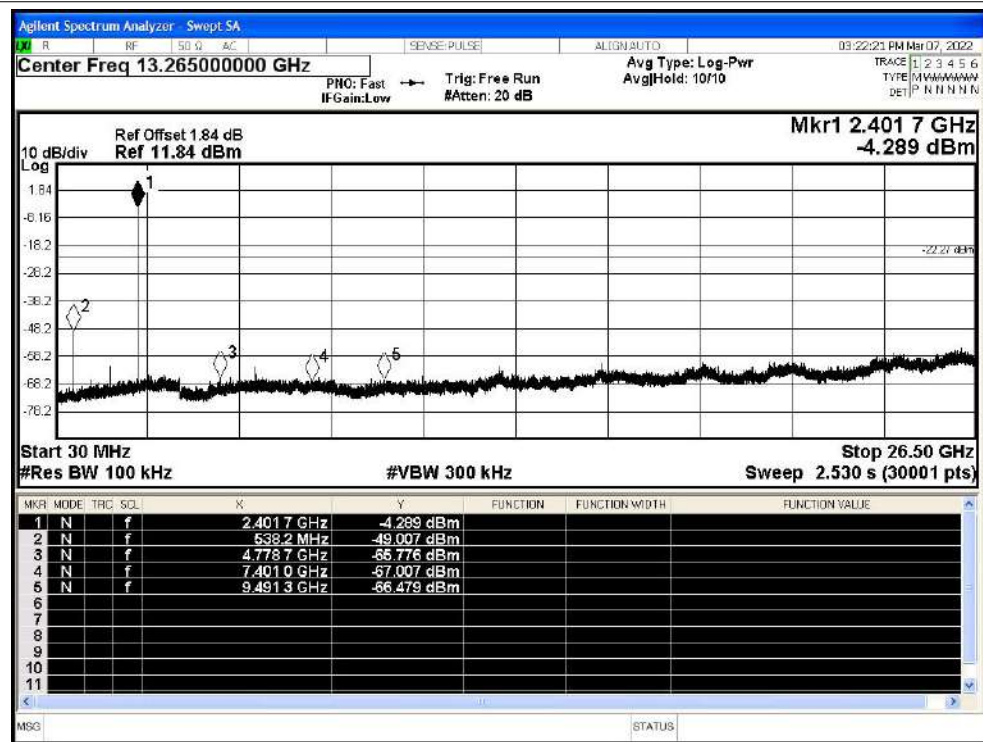




Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref

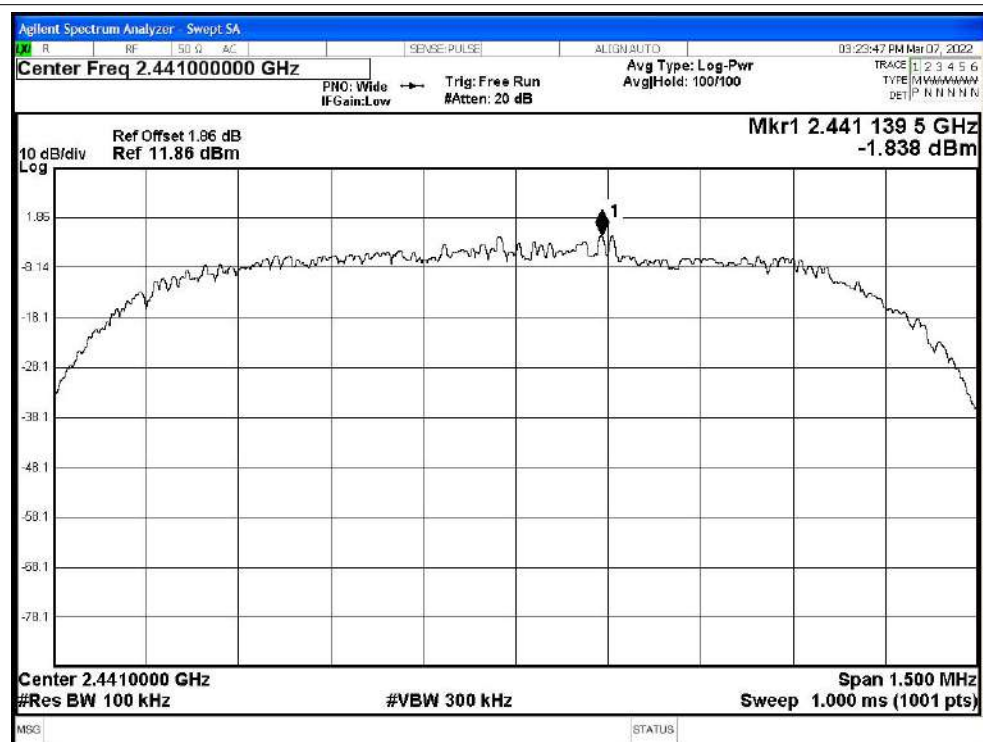


Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission

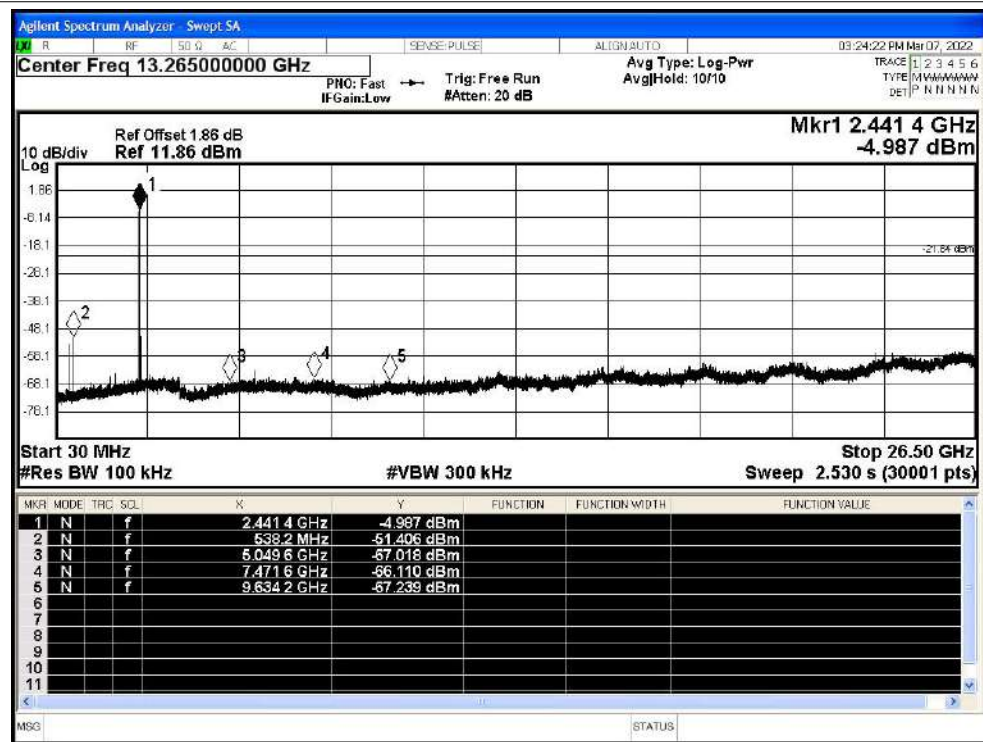




Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

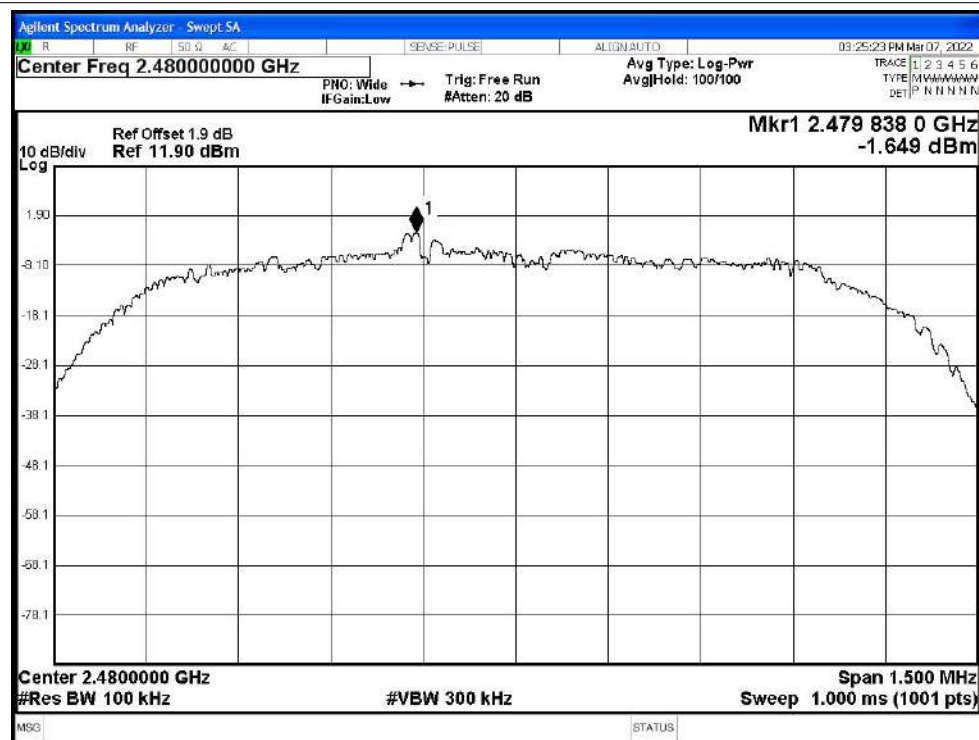


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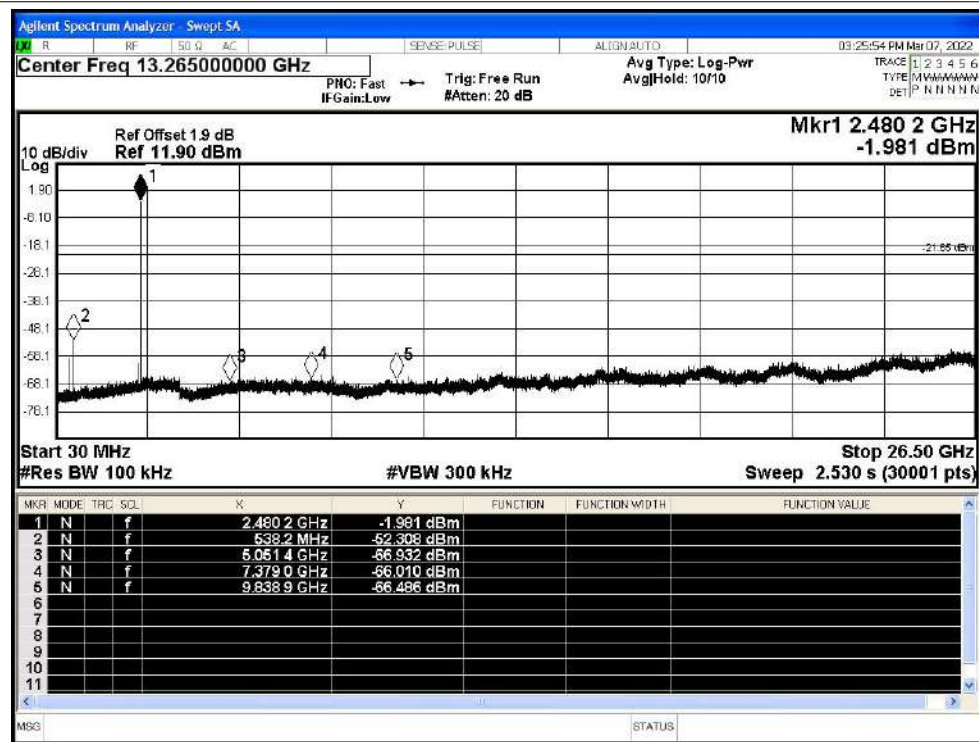




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





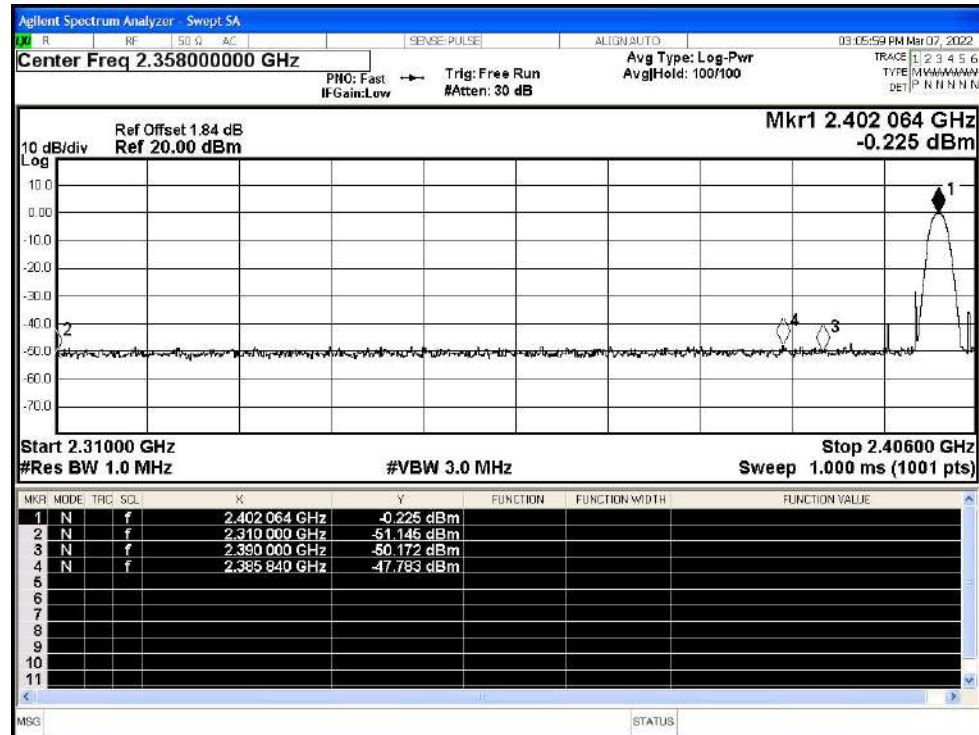
A.8 Restrict Band

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	-51.14	2	46.12	Peak	≤74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-60.5	2	36.76	Average	≤54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2385.84	-47.78	2	49.48	Peak	≤74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2384.112	-60.05	2	37.21	Average	≤54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.34	2	46.92	Peak	≤74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-60.36	2	36.9	Average	≤54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.46	2	47.8	Peak	≤74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-59.78	2	37.48	Average	≤54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.536	-37.69	2	59.57	Peak	≤74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.584	-59.55	2	37.71	Average	≤54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.49	2	46.77	Peak	≤74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-59.92	2	37.34	Average	≤54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.18	2	47.08	Peak	≤74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-60.65	2	36.61	Average	≤54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2367.216	-47.71	2	49.55	Peak	≤74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2387.664	-60.16	2	37.1	Average	≤54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-51.43	2	45.83	Peak	≤74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-60.33	2	36.93	Average	≤54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-51.66	2	45.6	Peak	≤74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-59.73	2	37.53	Average	≤54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.536	-38.25	2	59.01	Peak	≤74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.536	-59.68	2	37.58	Average	≤54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.62	2	46.64	Peak	≤74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-60	2	37.26	Average	≤54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-49.85	2	47.41	Peak	≤74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-60.61	2	36.65	Average	≤54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2336.112	-47.83	2	49.43	Peak	≤74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2382.288	-60.12	2	37.14	Average	≤54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-48.98	2	48.28	Peak	≤74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-60.35	2	36.91	Average	≤54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-50.6	2	46.66	Peak	≤74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-59.42	2	37.84	Average	≤54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2484.304	-38.02	2	59.24	Peak	≤74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-59.42	2	37.84	Average	≤54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-48.68	2	48.58	Peak	≤74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-60	2	37.26	Average	≤54	Pass

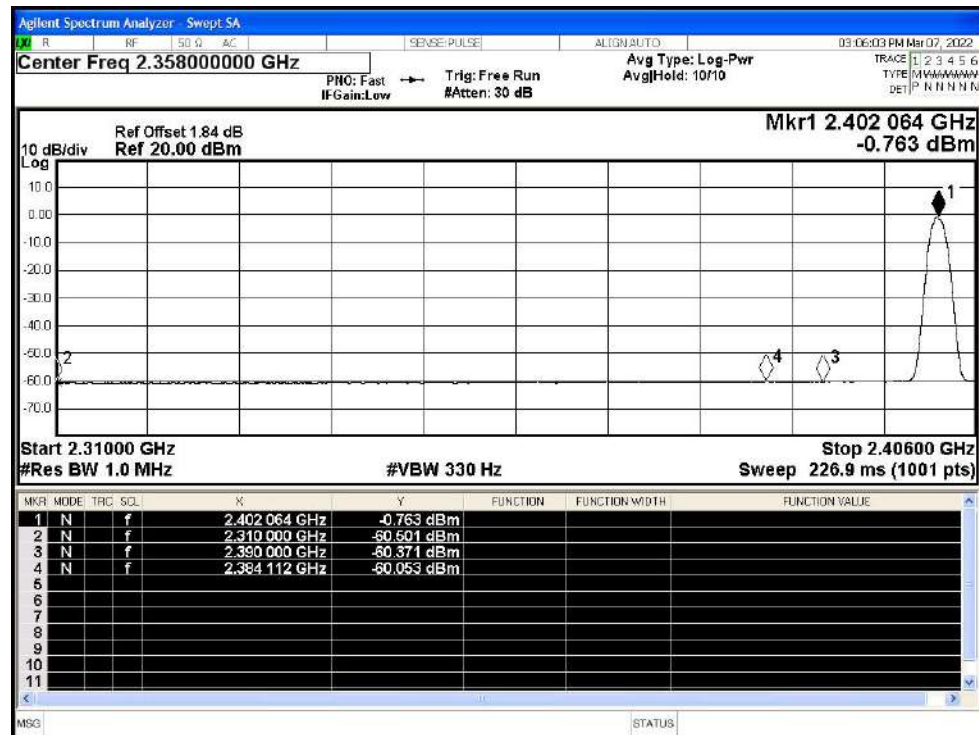


Test Graphs

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

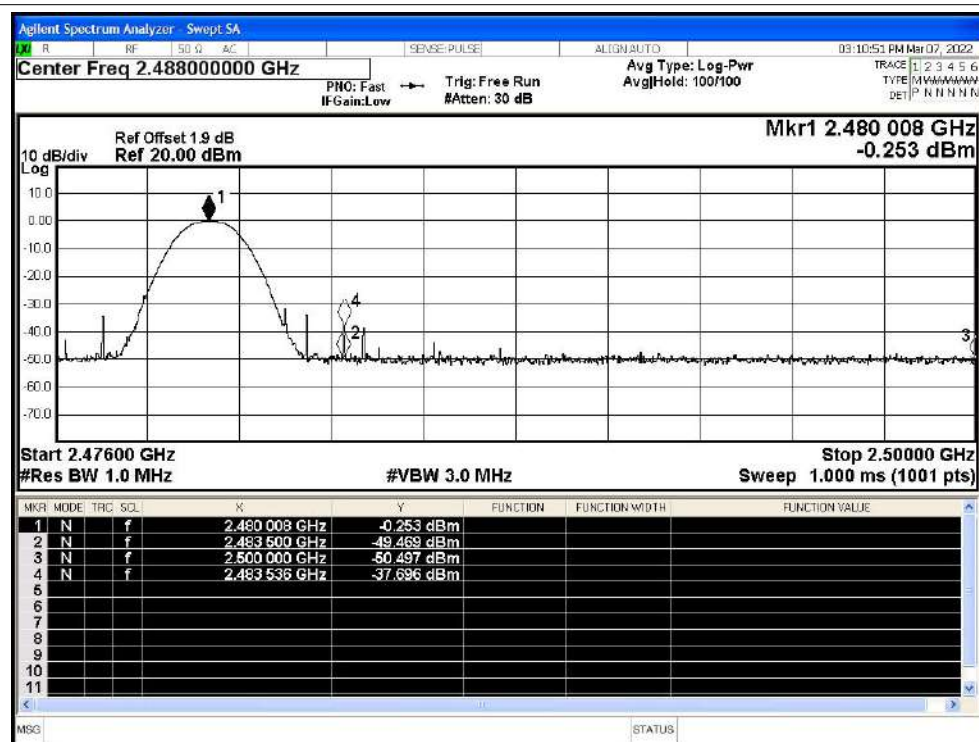


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

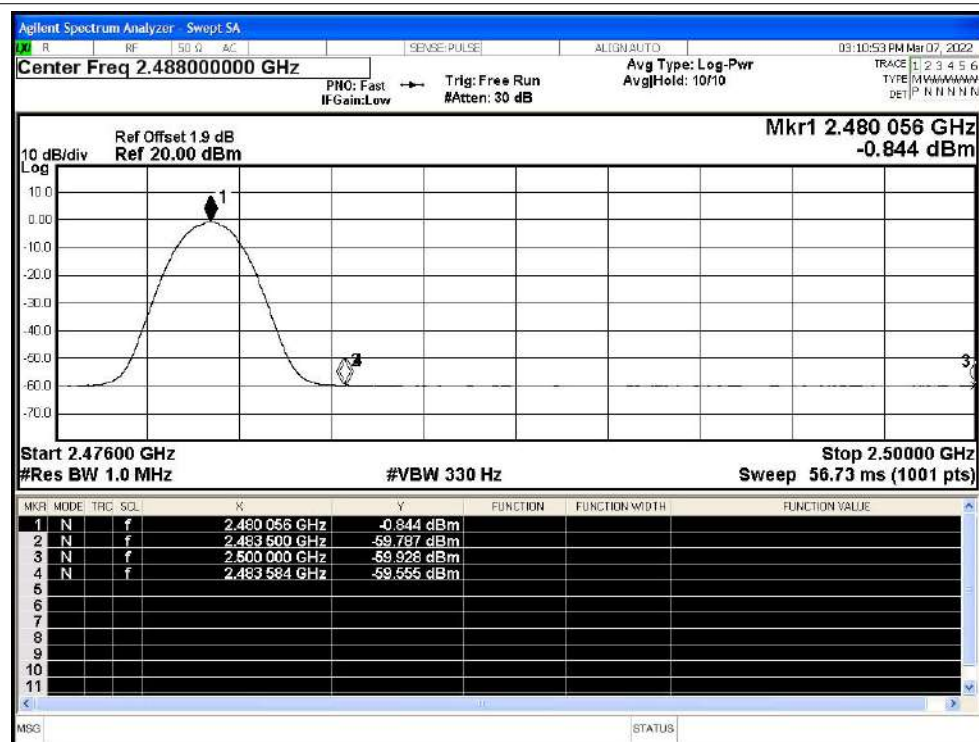




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

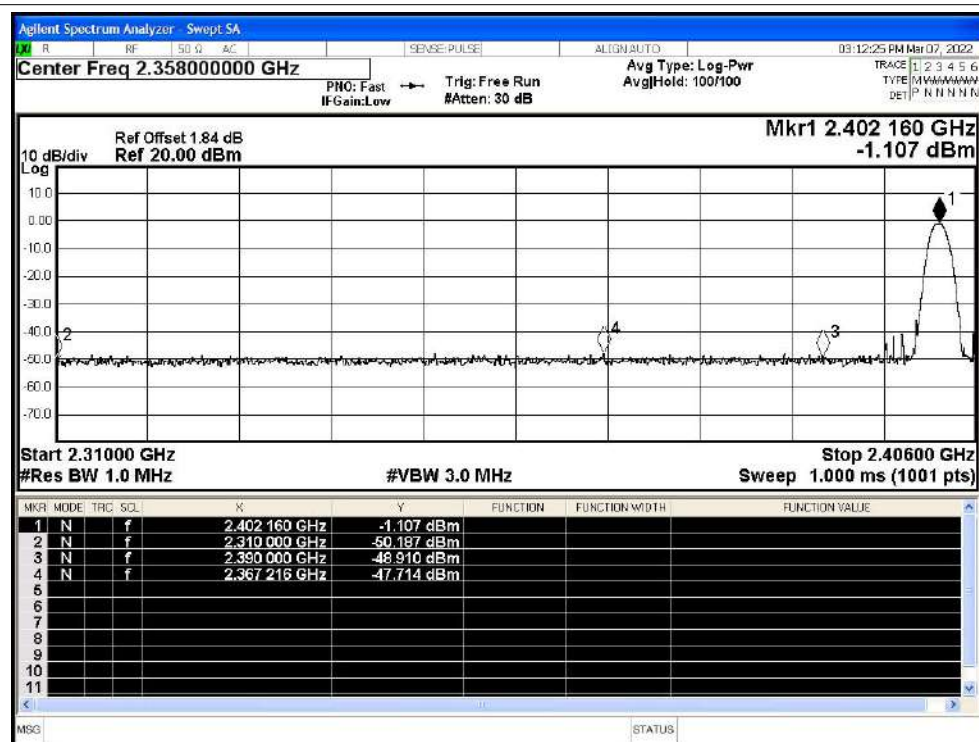


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

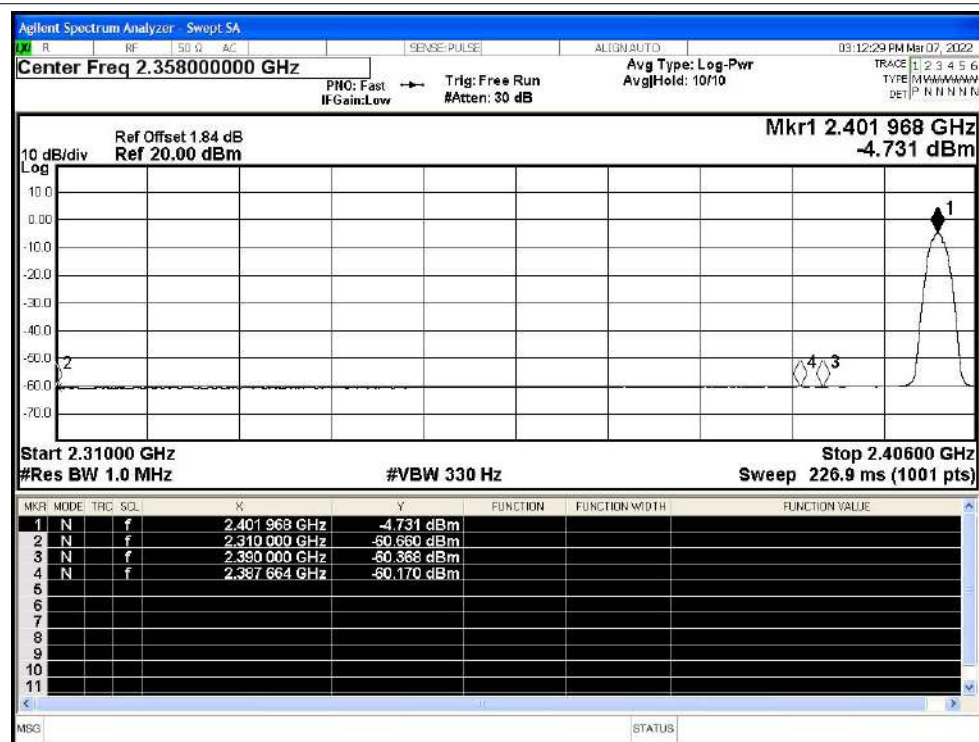




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

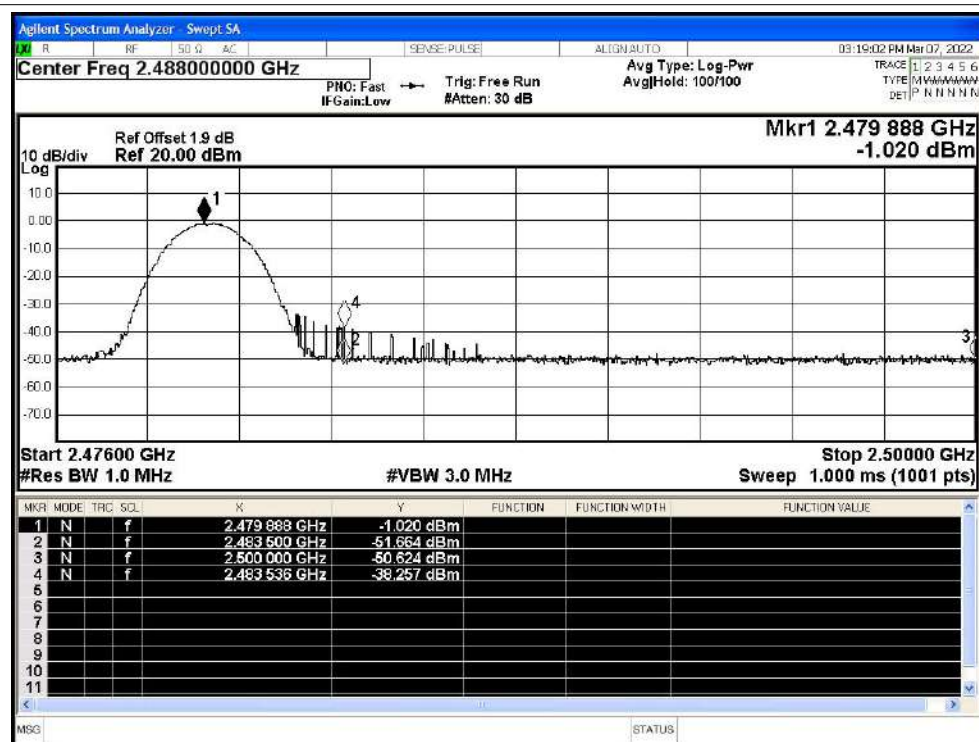


Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average

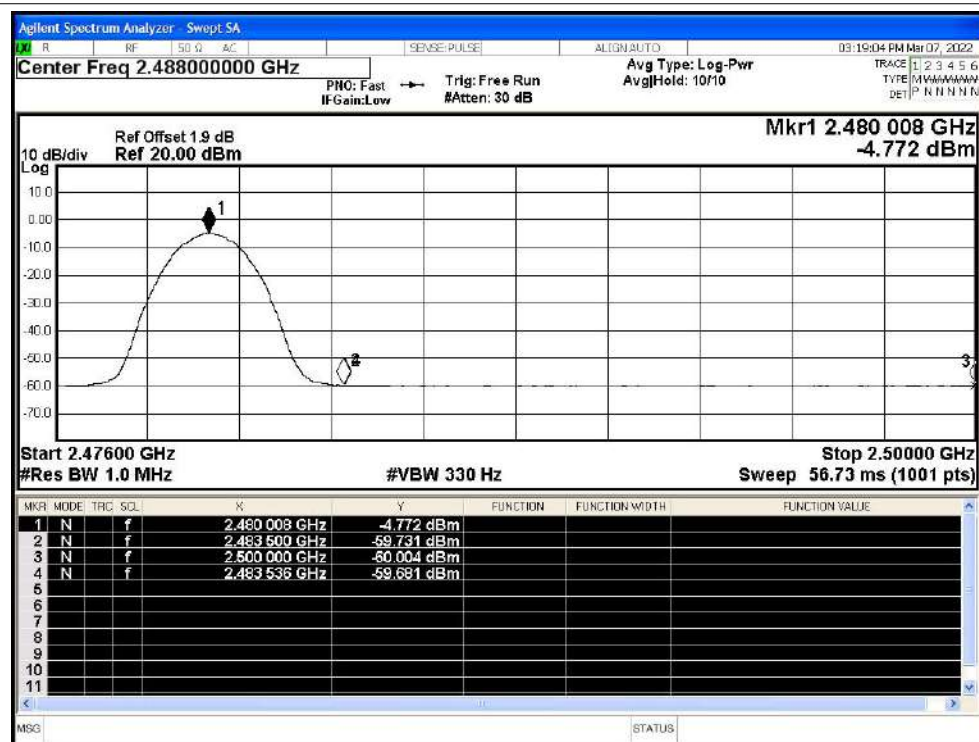




Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Peak

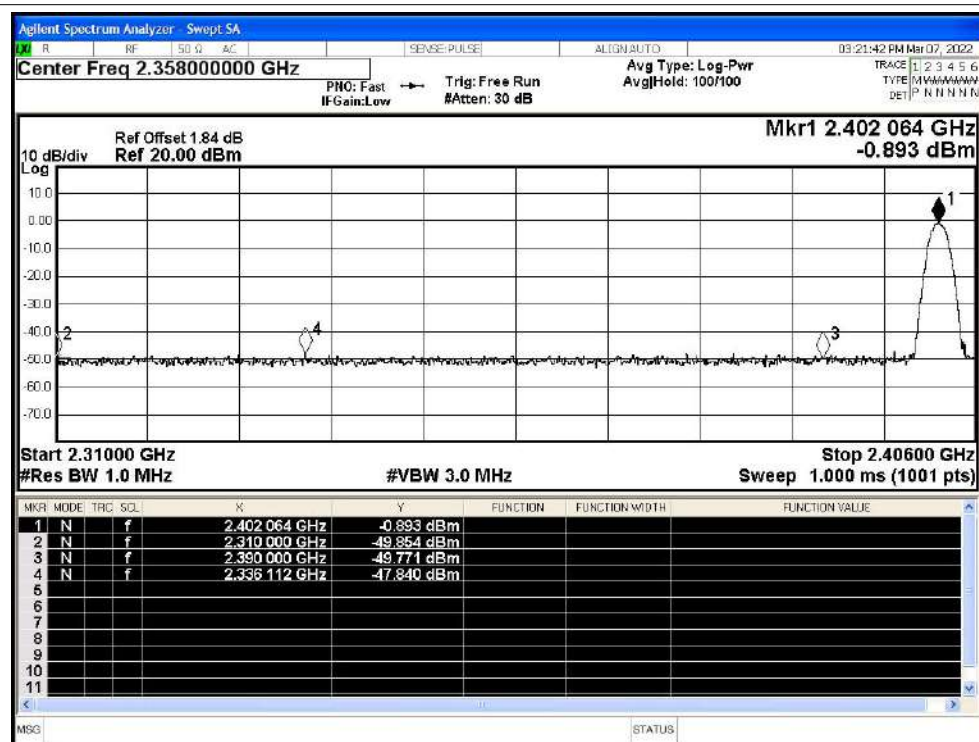


Restrict Band NVNT 2-DH5 2480MHz Ant1 No-Hopping Average

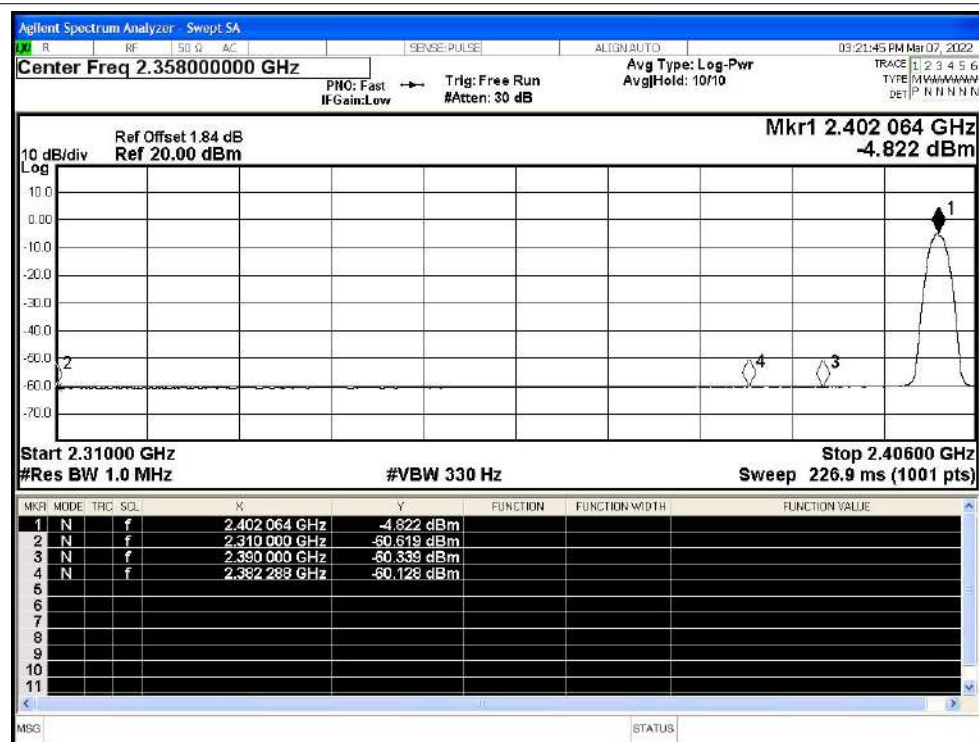




Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Peak

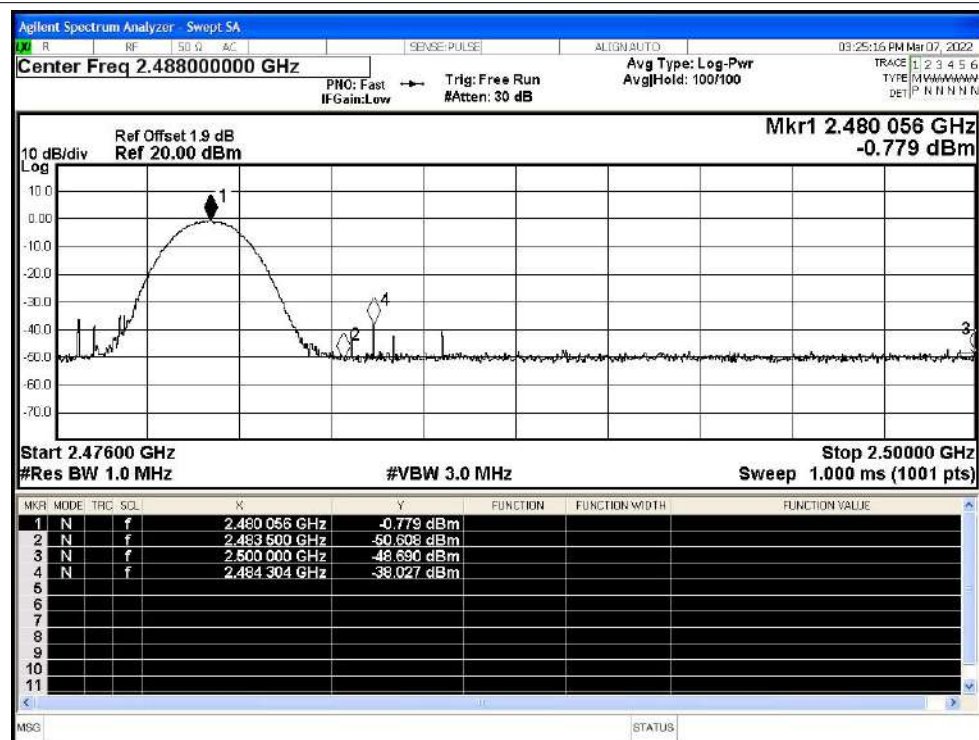


Restrict Band NVNT 3-DH5 2402MHz Ant1 No-Hopping Average





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



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

