



## Appendix A

### RF Test Data for BT (Conducted Measurement)

Product Name: Power amplifier

Test Model: SFB240

#### Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	<i>Yin Zhu</i>
Supervised by:	<i>Libu</i>



## A.1 20dB Emission Bandwidth

Mode	Frequency (MHz)	Antenna	20 dB Bandwidth (MHz)	Limit 20 dB Bandwidth (MHz)	Verdict
1-DH5	2402	Ant1	0.961	0	Pass
1-DH5	2441	Ant1	1.027	0	Pass
1-DH5	2480	Ant1	1.033	0	Pass
2-DH5	2402	Ant1	1.289	0	Pass
2-DH5	2441	Ant1	1.282	0	Pass
2-DH5	2480	Ant1	1.321	0	Pass
3-DH5	2402	Ant1	1.306	0	Pass
3-DH5	2441	Ant1	1.308	0	Pass
3-DH5	2480	Ant1	1.301	0	Pass

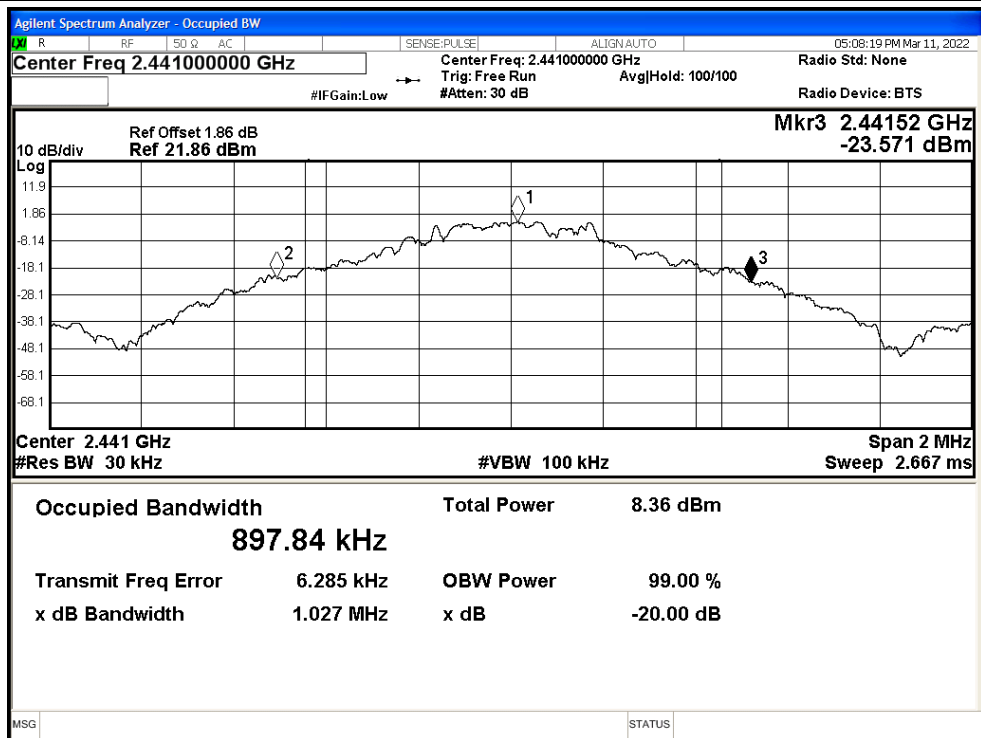


Test Graphs

20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

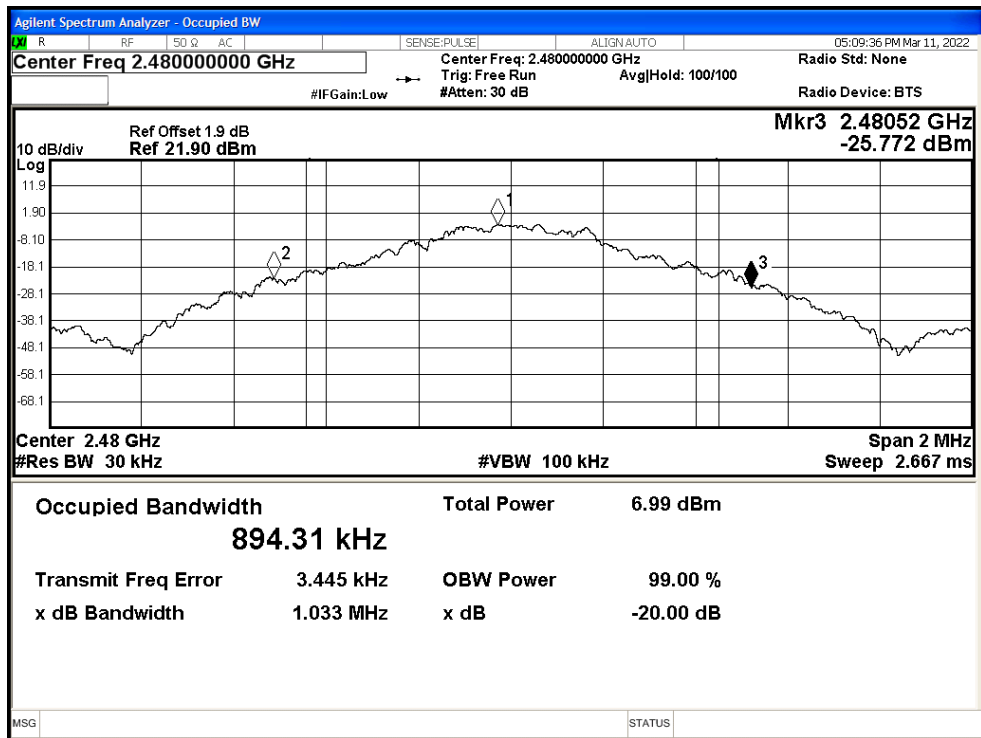


20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

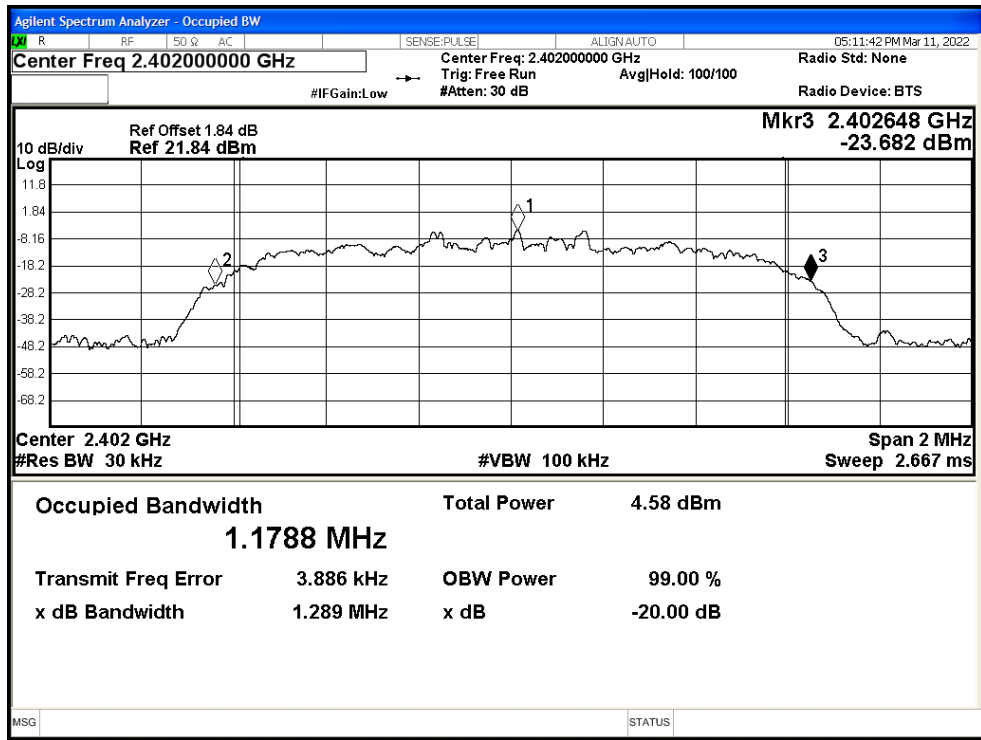




20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

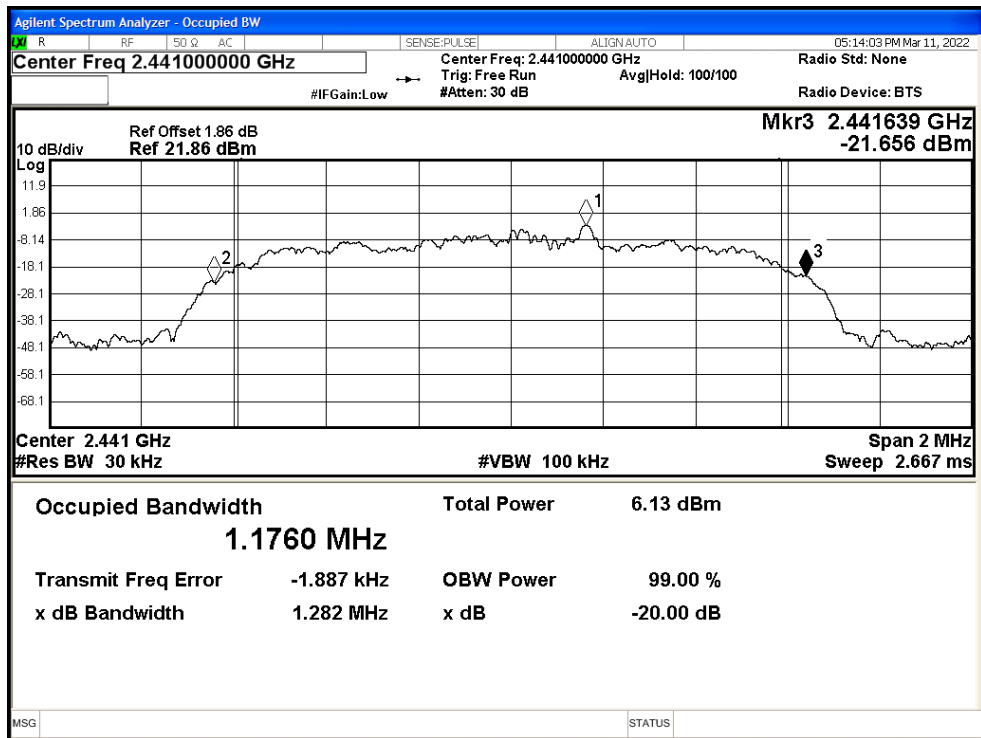


20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

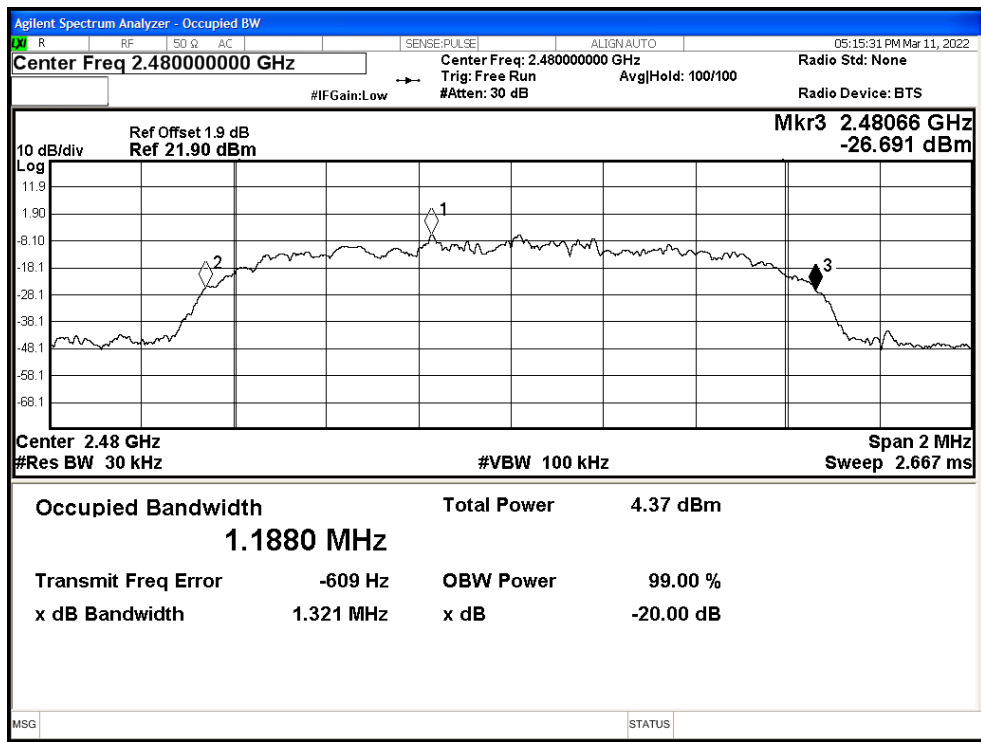




20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

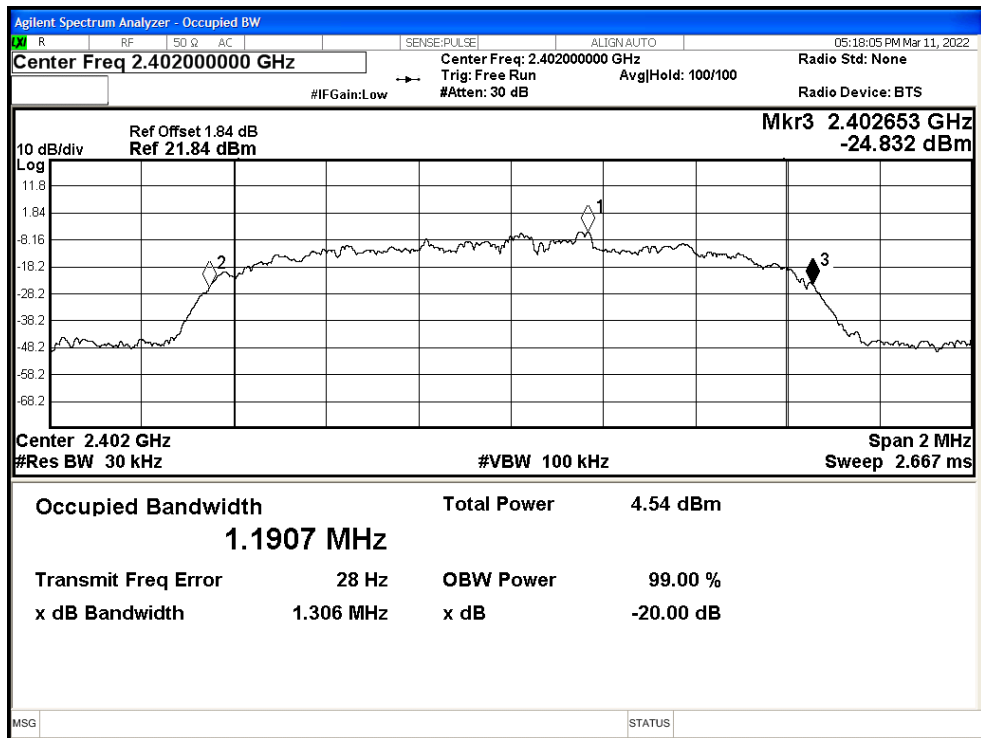


20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

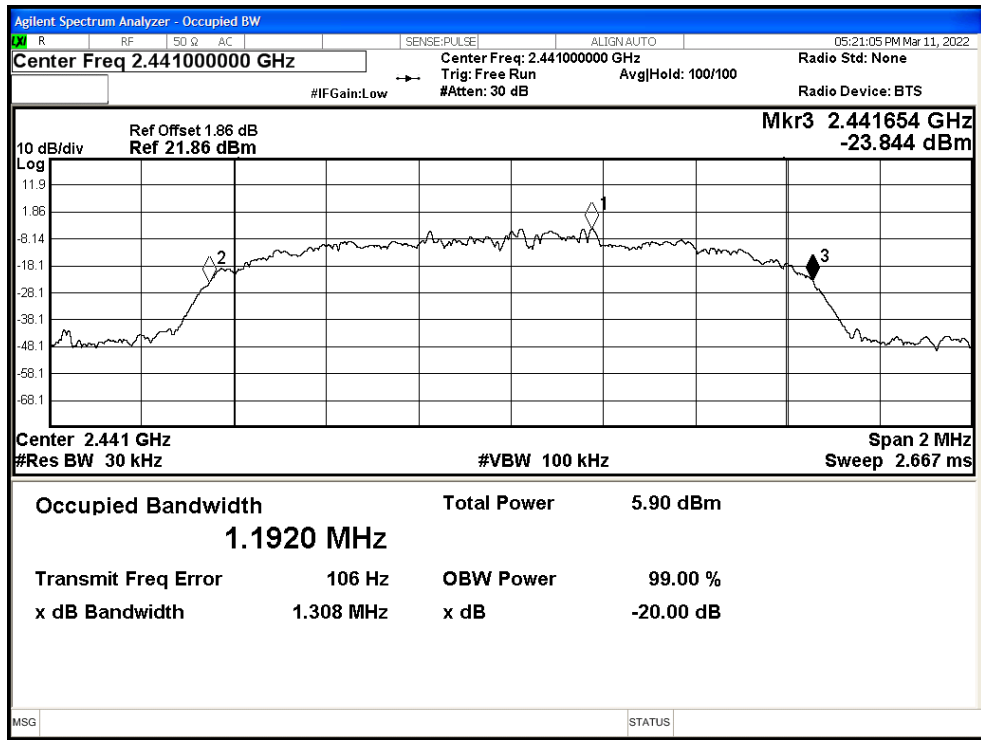


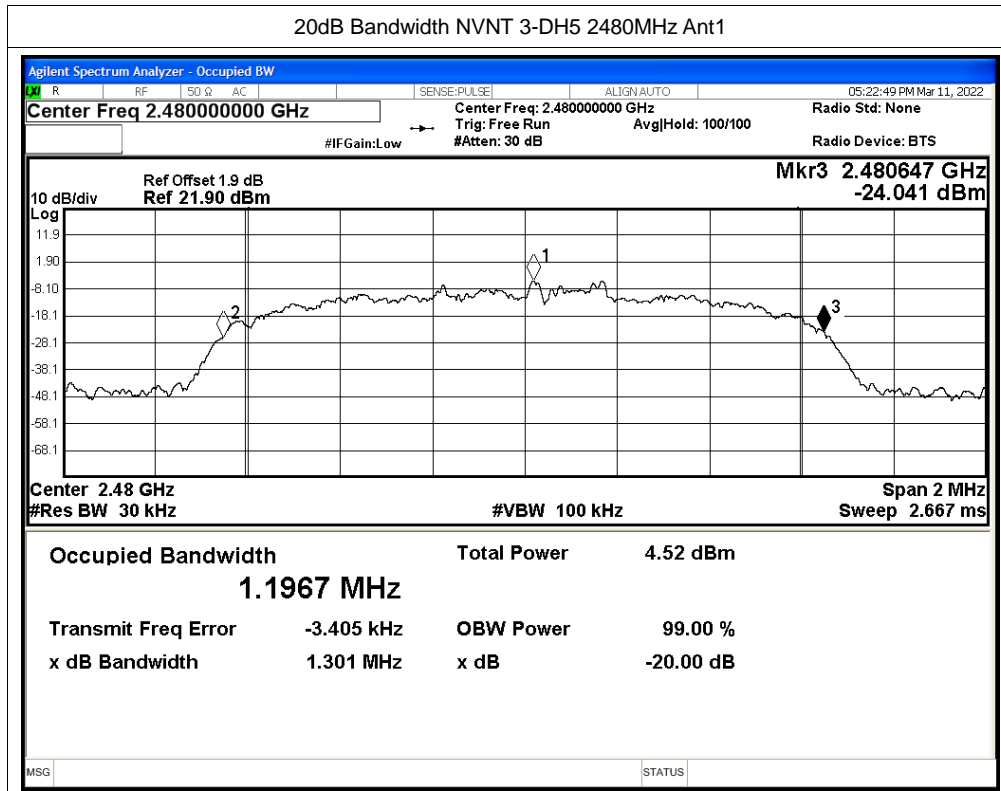


20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



20dB Bandwidth NVNT 3-DH5 2441MHz Ant1







## A.2 Maximum Conducted Output Power

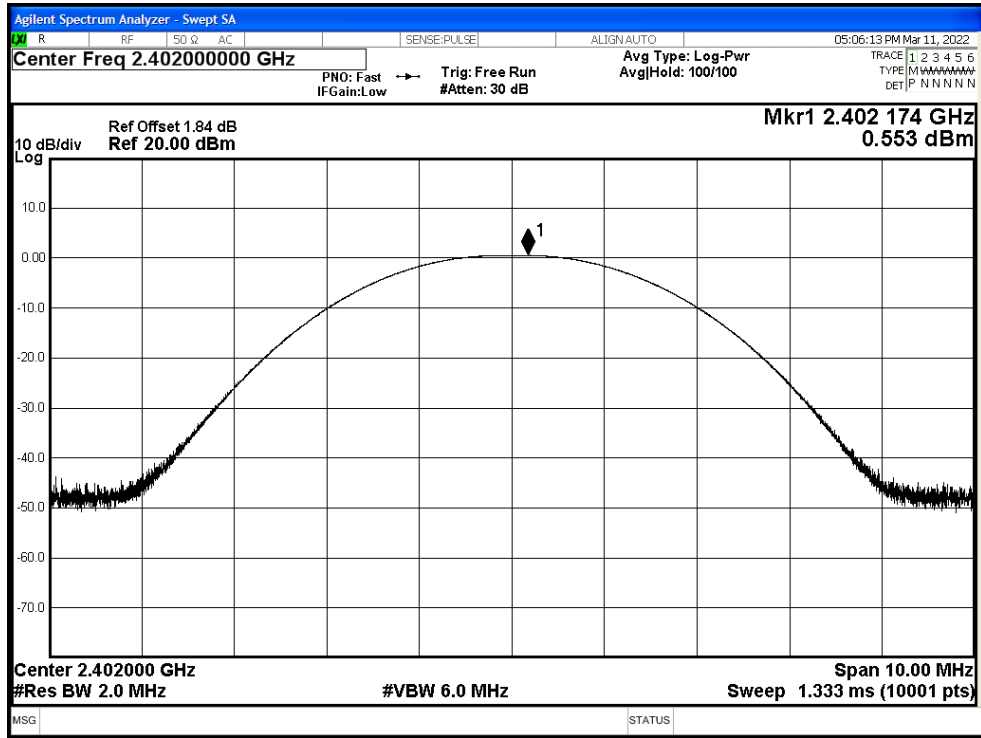
Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
1-DH5	2402	Ant1	0.55	21	Pass
1-DH5	2441	Ant1	1.88	21	Pass
1-DH5	2480	Ant1	0.46	21	Pass
2-DH5	2402	Ant1	-0.25	21	Pass
2-DH5	2441	Ant1	1.03	21	Pass
2-DH5	2480	Ant1	-0.34	21	Pass
3-DH5	2402	Ant1	-0.15	21	Pass
3-DH5	2441	Ant1	1.18	21	Pass
3-DH5	2480	Ant1	-0.21	21	Pass



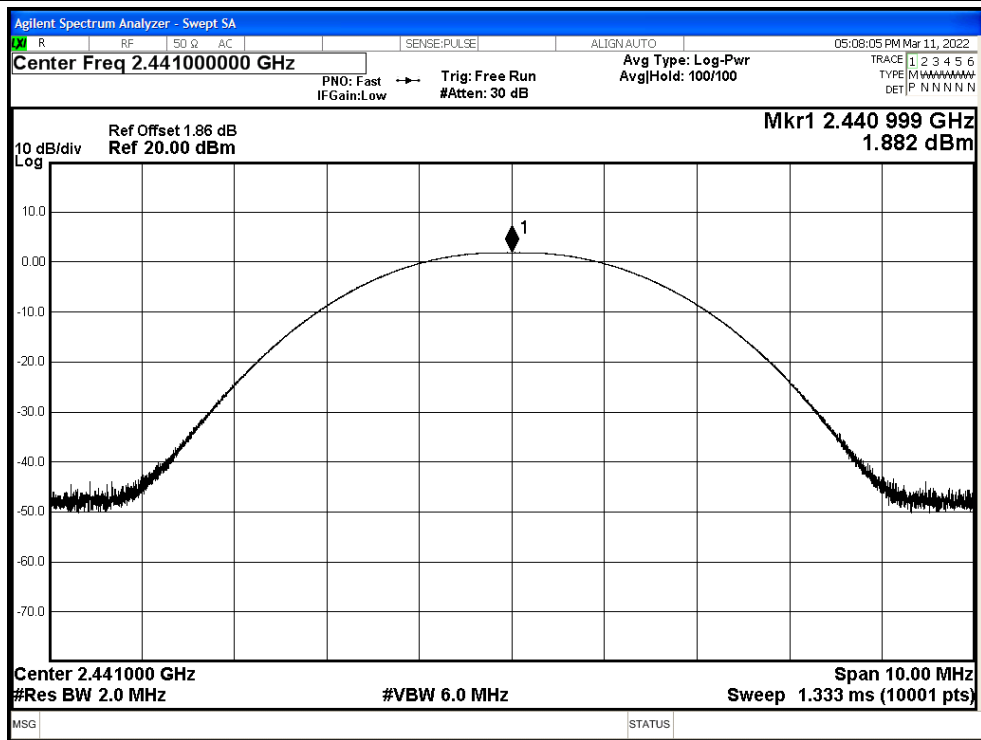


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

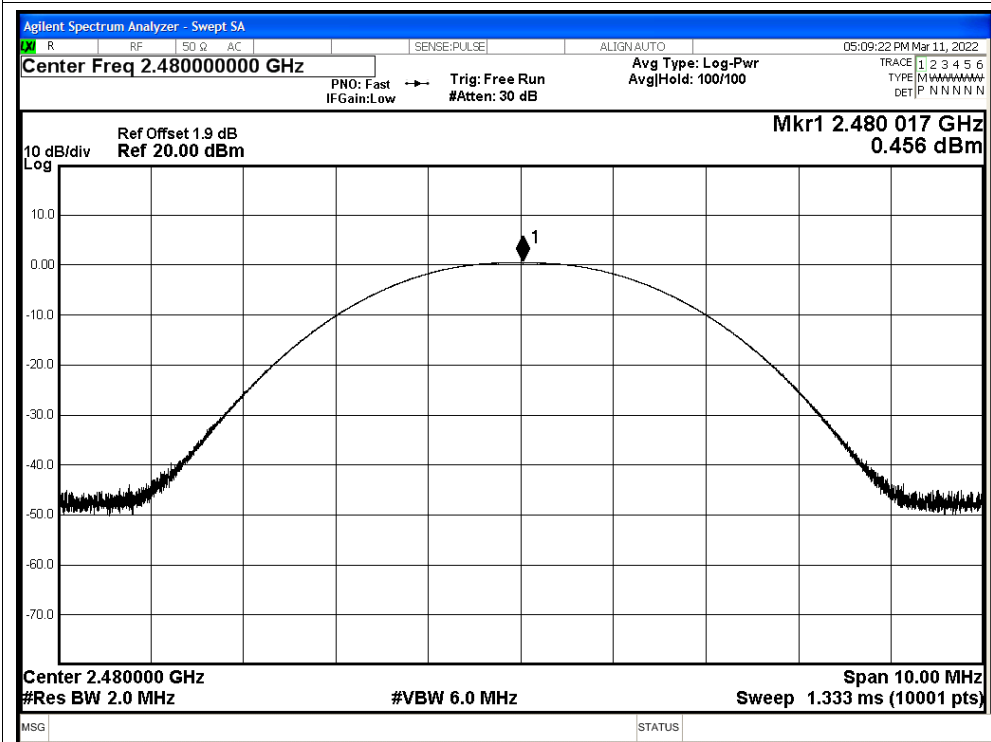


Power NVNT 1-DH5 2441MHz Ant1

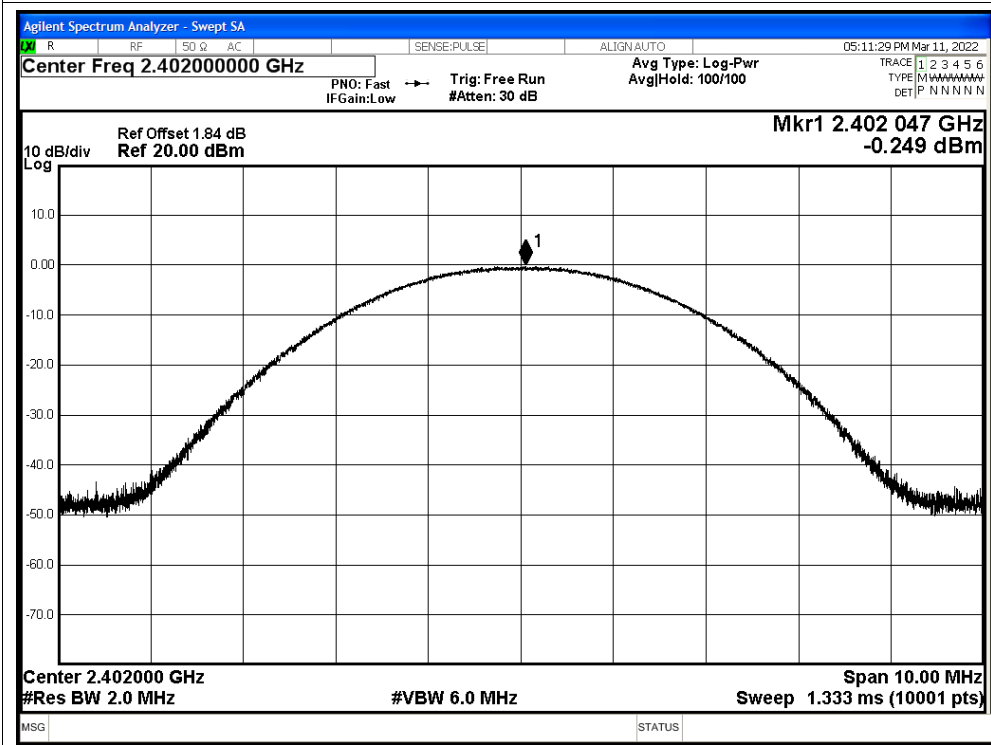




Power NVNT 1-DH5 2480MHz Ant1

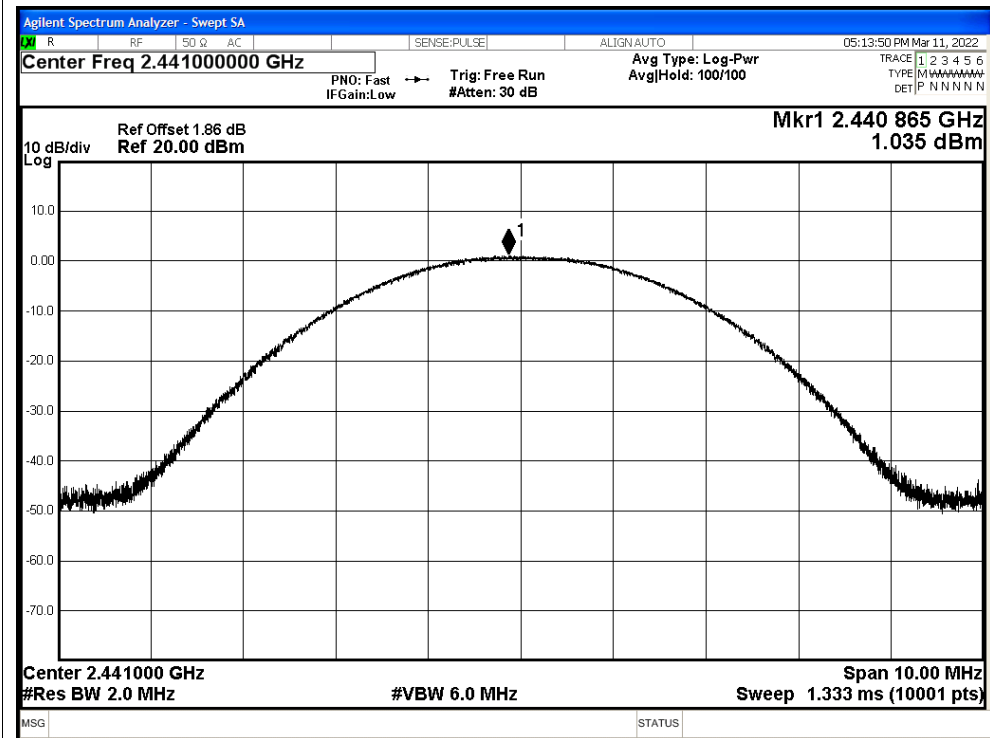


Power NVNT 2-DH5 2402MHz Ant1

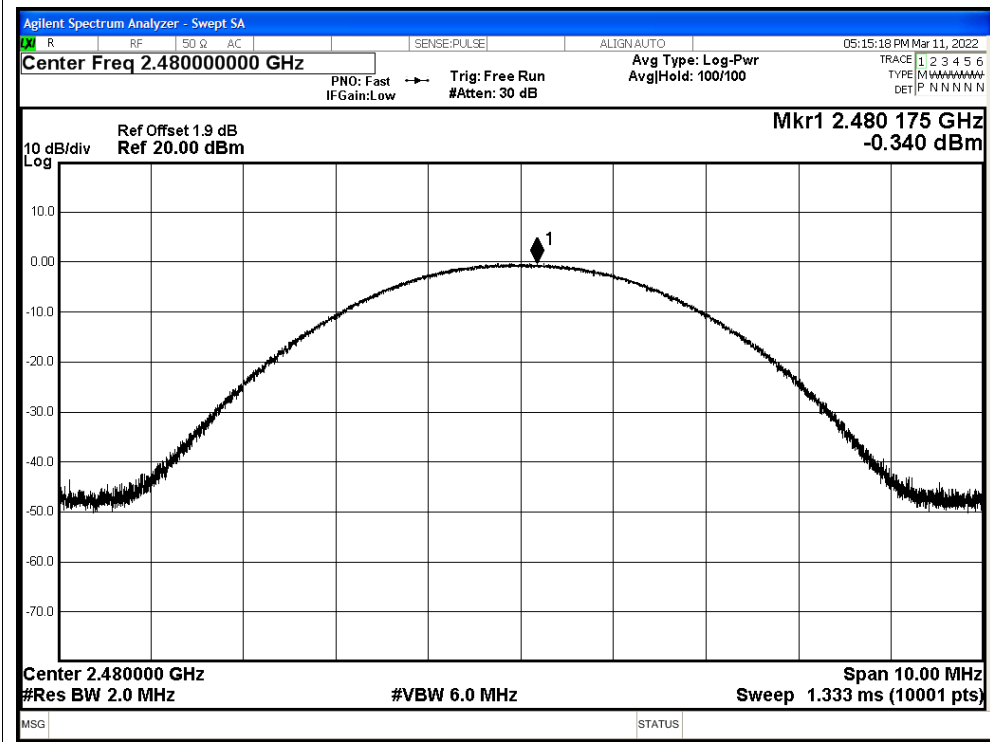




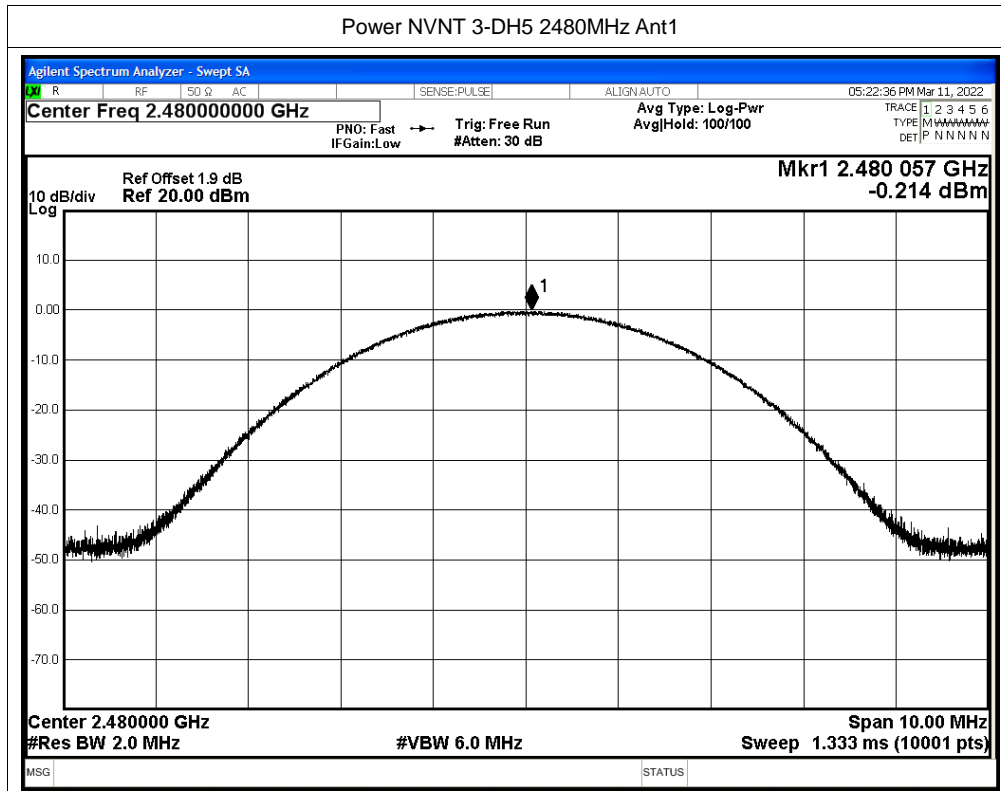
Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 2-DH5 2480MHz Ant1









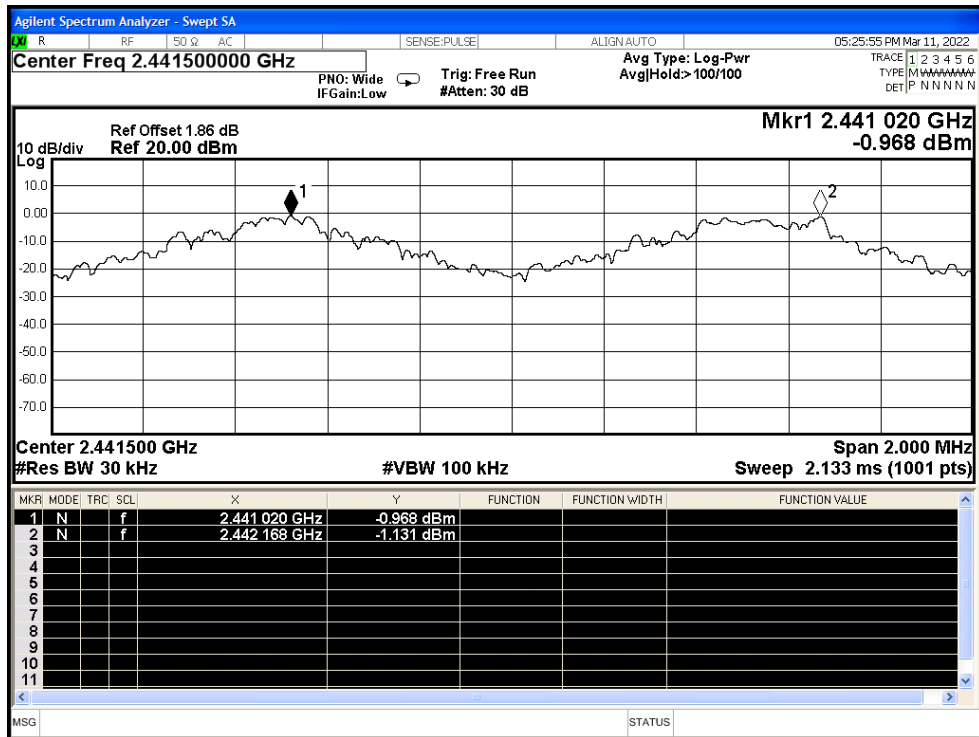
### A.3 Carrier Frequencies Separation

Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
1-DH5	Ant1	2441.02	2442.168	1.148	0.685	Pass
2-DH5	Ant1	2441.162	2442.162	1	0.855	Pass
3-DH5	Ant1	2441.026	2442.02	0.994	0.872	Pass

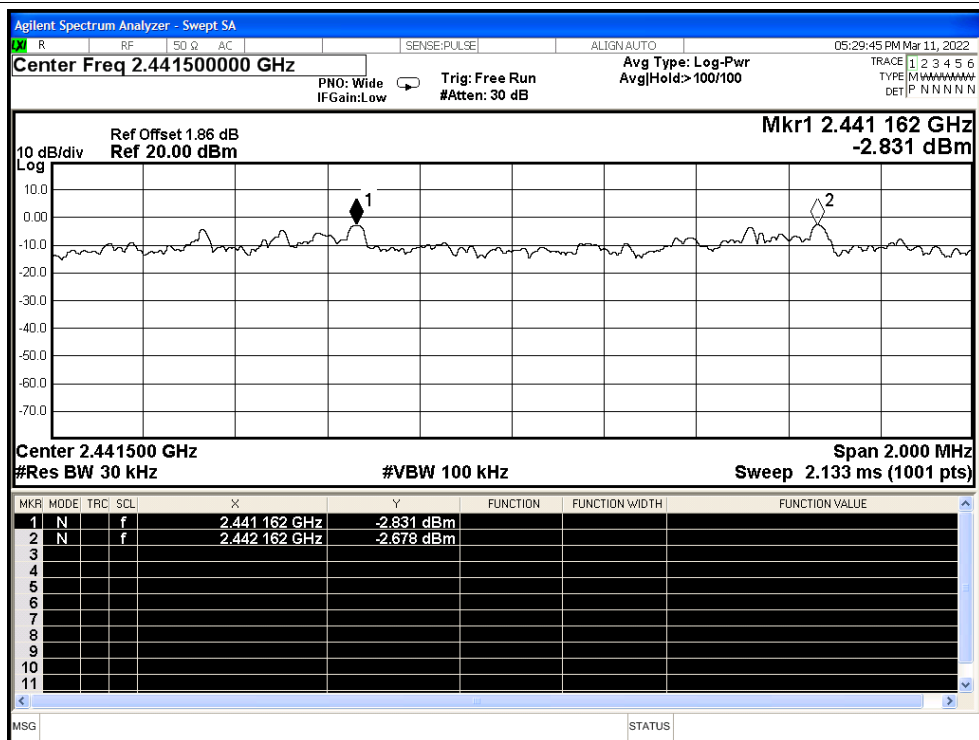


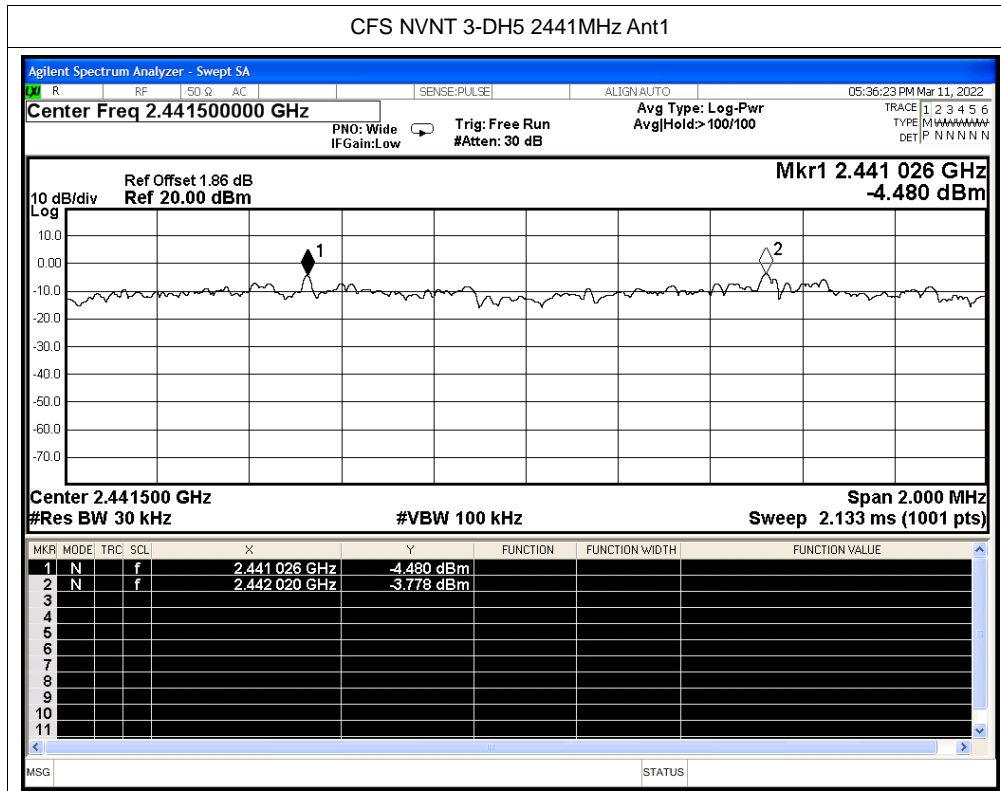
Test Graphs

CFS NVNT 1-DH5 2441MHz Ant1



CFS NVNT 2-DH5 2441MHz Ant1









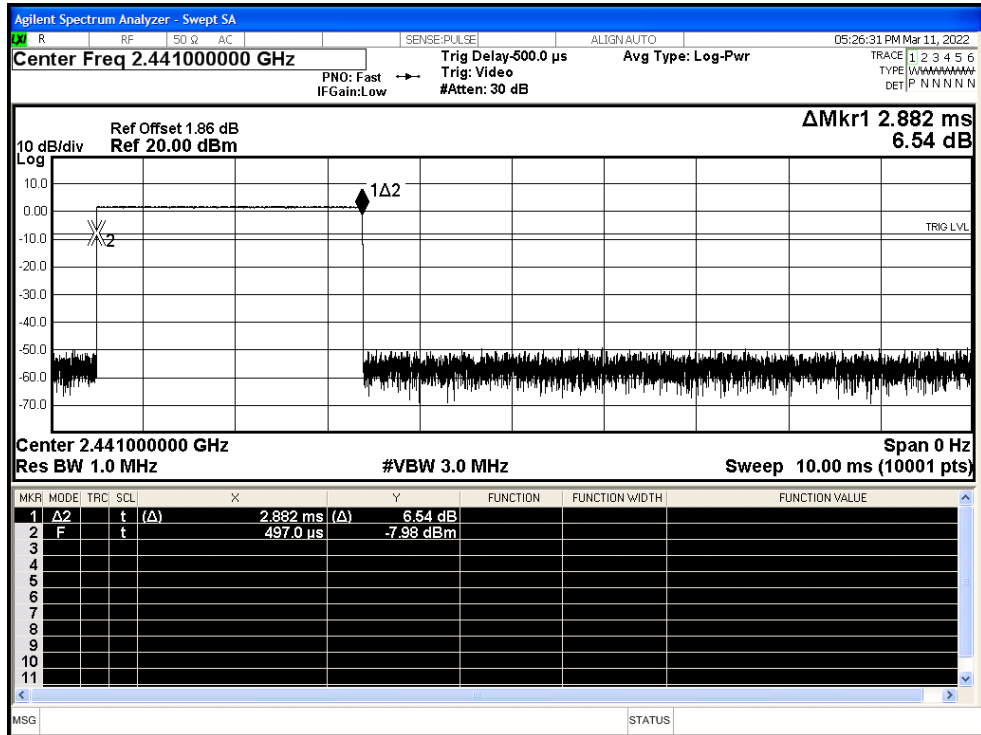
## A.4 Time of occupancy

Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
1-DH5	2441	Ant1	2.882	328.548	114	31600	400	Pass
2-DH5	2441	Ant1	2.885	294.27	102	31600	400	Pass
3-DH5	2441	Ant1	2.885	314.465	109	31600	400	Pass

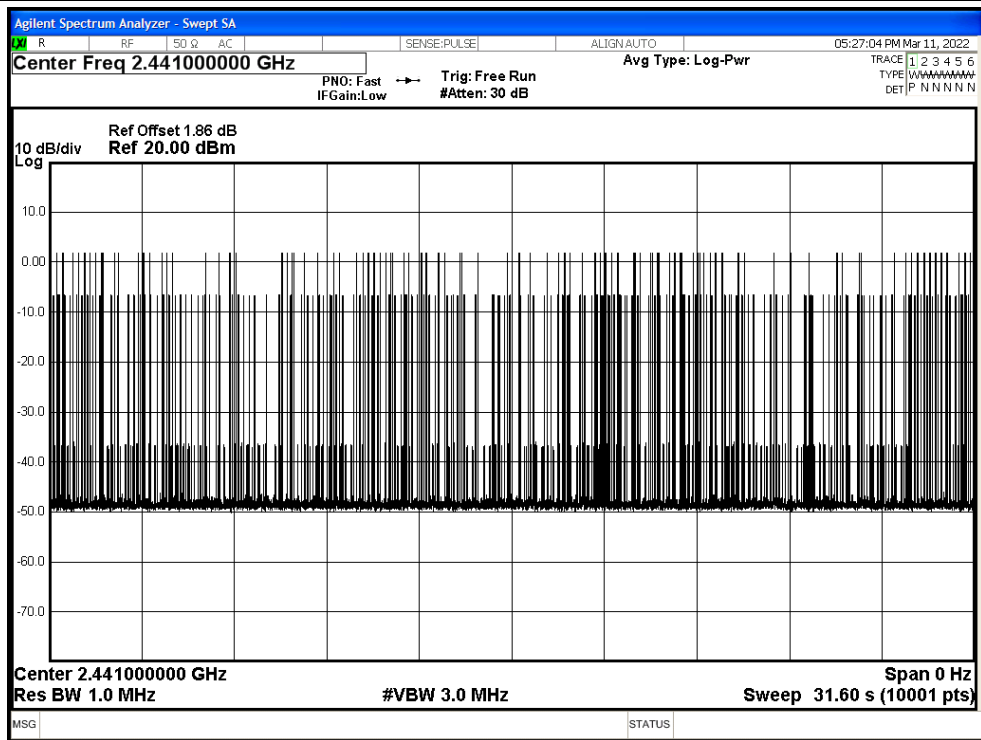


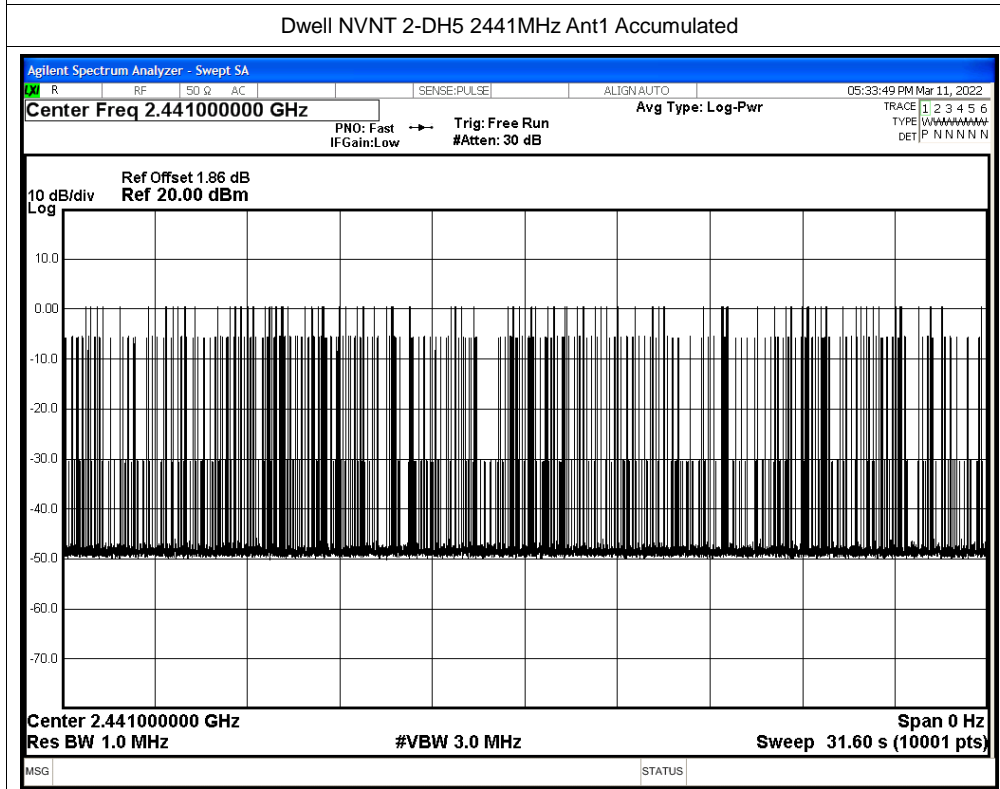
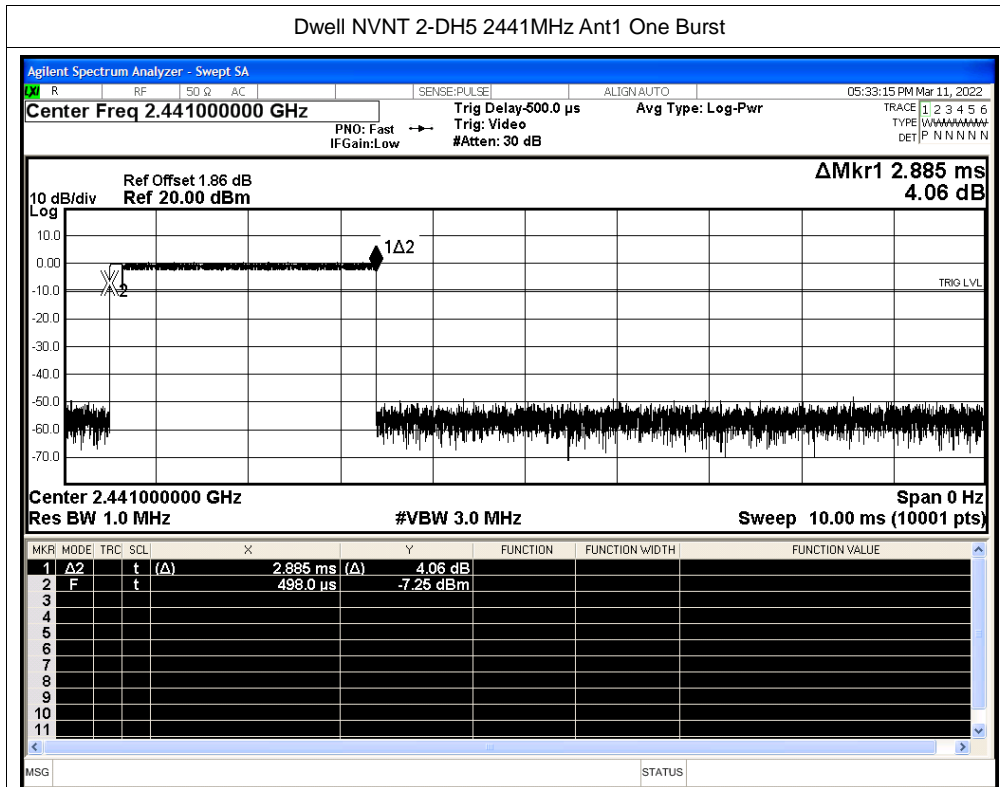
Test Graphs

Dwell NVNT 1-DH5 2441MHz Ant1 One Burst



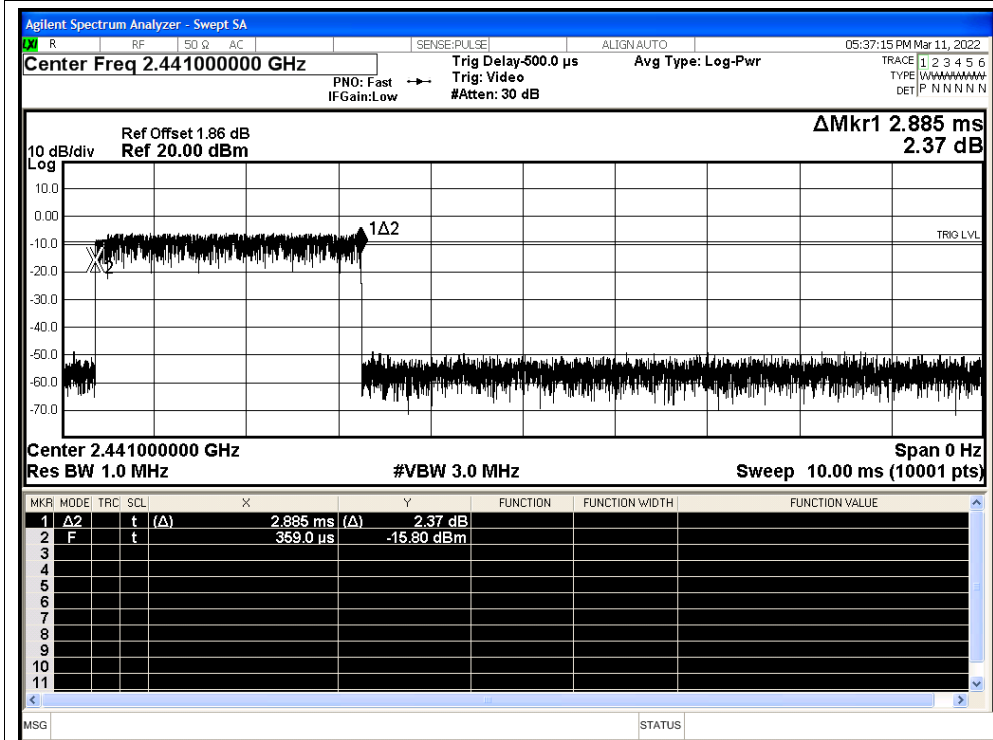
Dwell NVNT 1-DH5 2441MHz Ant1 Accumulated



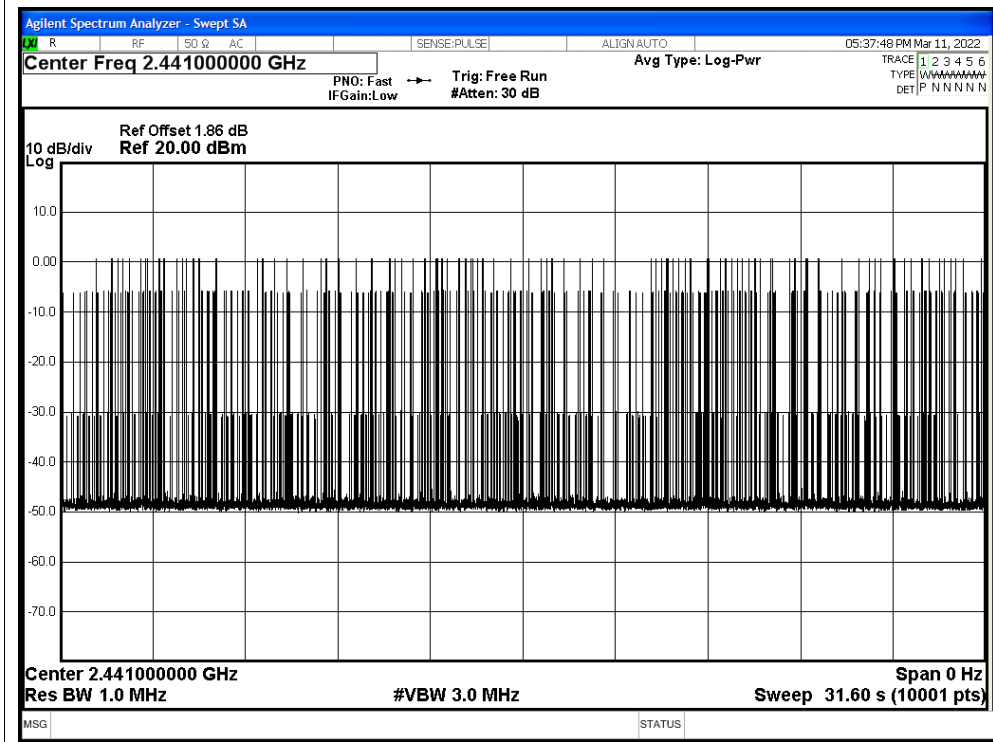




Dwell NVNT 3-DH5 2441MHz Ant1 One Burst



Dwell NVNT 3-DH5 2441MHz Ant1 Accumulated





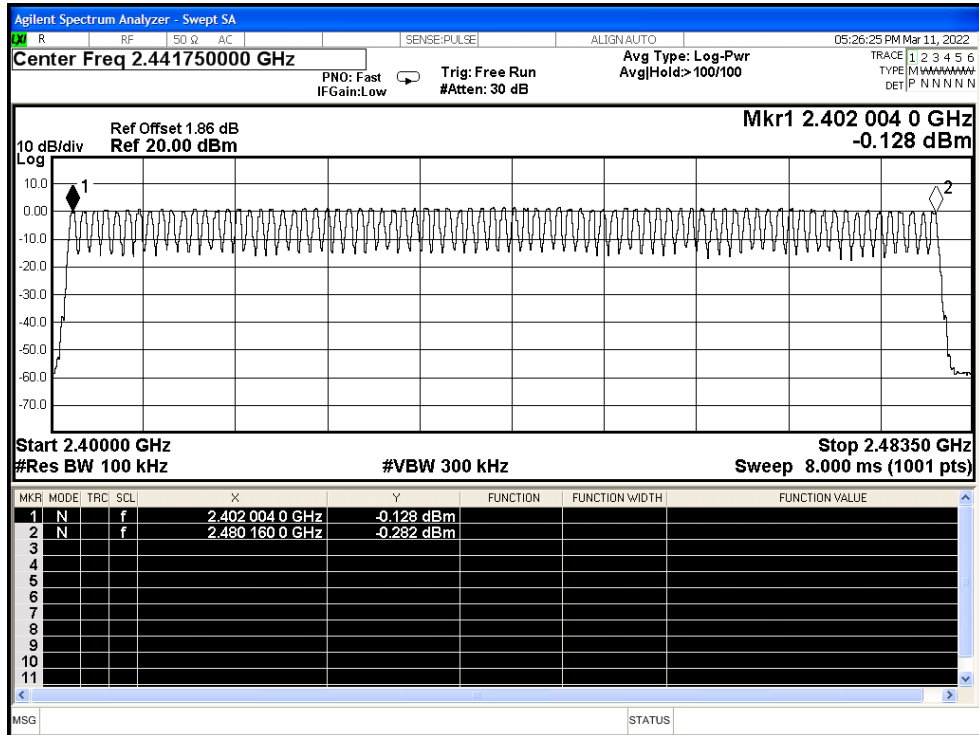
## A.5 Number of Hopping Channel

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

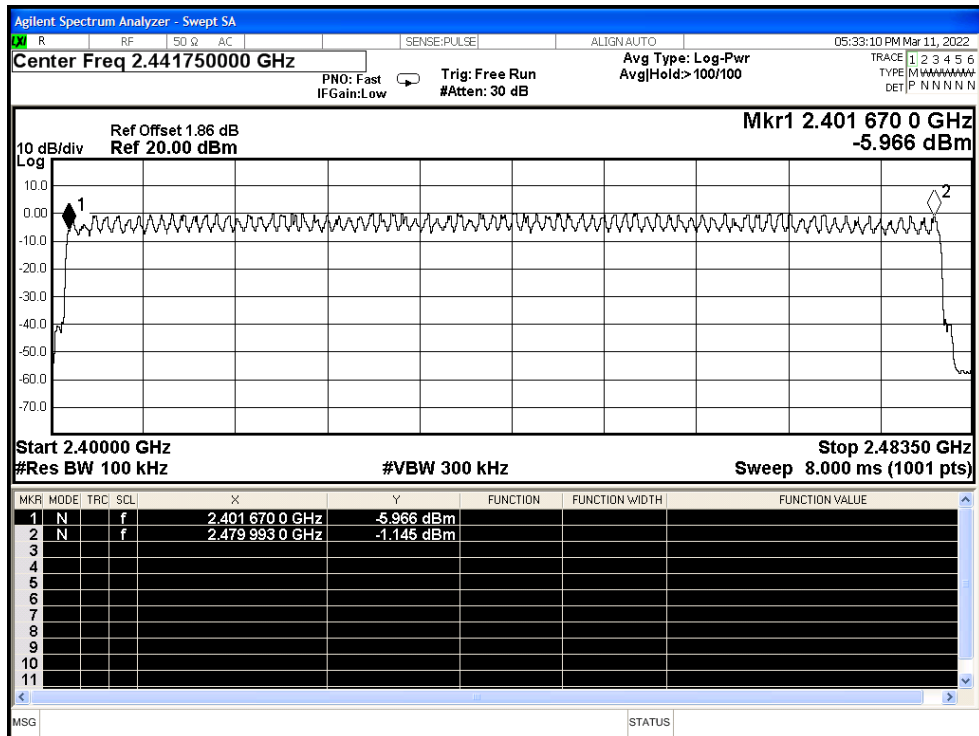


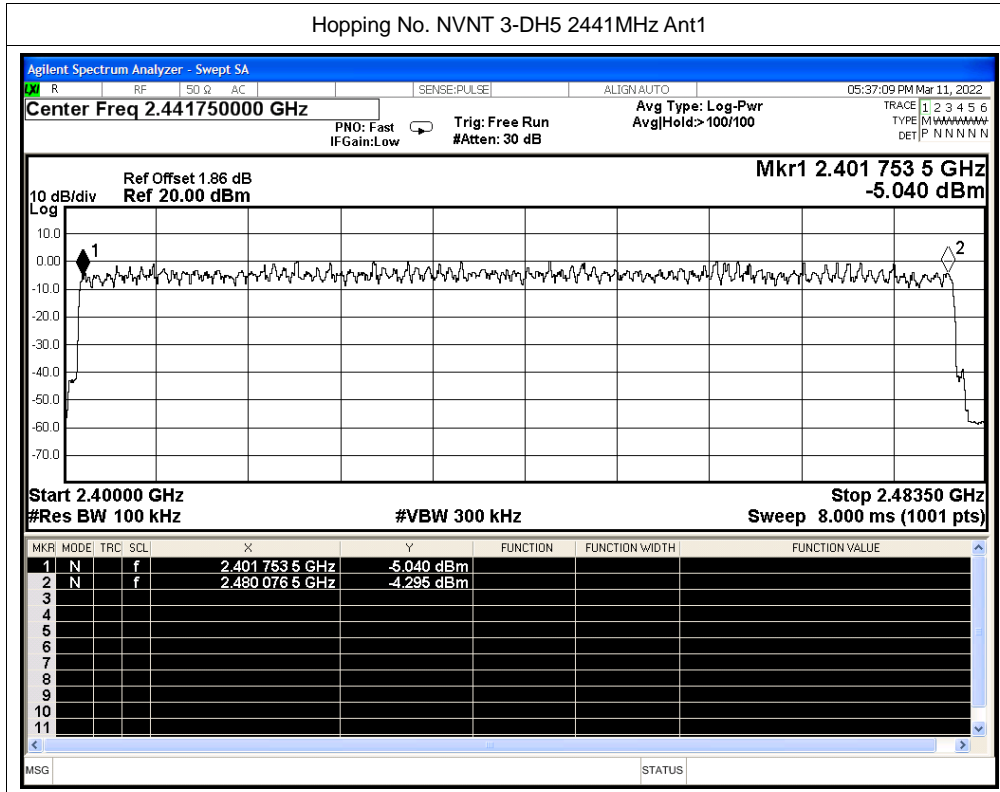
Test Graphs

Hopping No. NVNT 1-DH5 2441MHz Ant1



Hopping No. NVNT 2-DH5 2441MHz Ant1





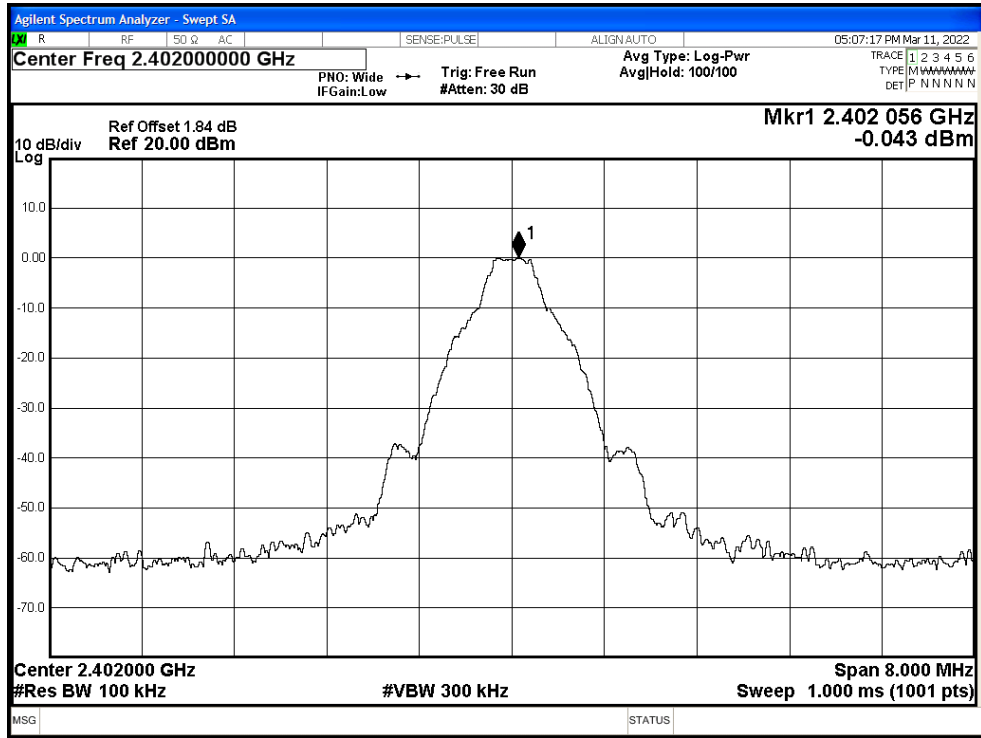
## A.6 Band edge measurements

Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
1-DH5	2402	Ant1	No-Hopping	-56.87	-20	Pass
1-DH5	2480	Ant1	No-Hopping	-57.38	-20	Pass
2-DH5	2402	Ant1	No-Hopping	-53.38	-20	Pass
2-DH5	2480	Ant1	No-Hopping	-54.54	-20	Pass
3-DH5	2402	Ant1	No-Hopping	-54.47	-20	Pass
3-DH5	2480	Ant1	No-Hopping	-53.62	-20	Pass

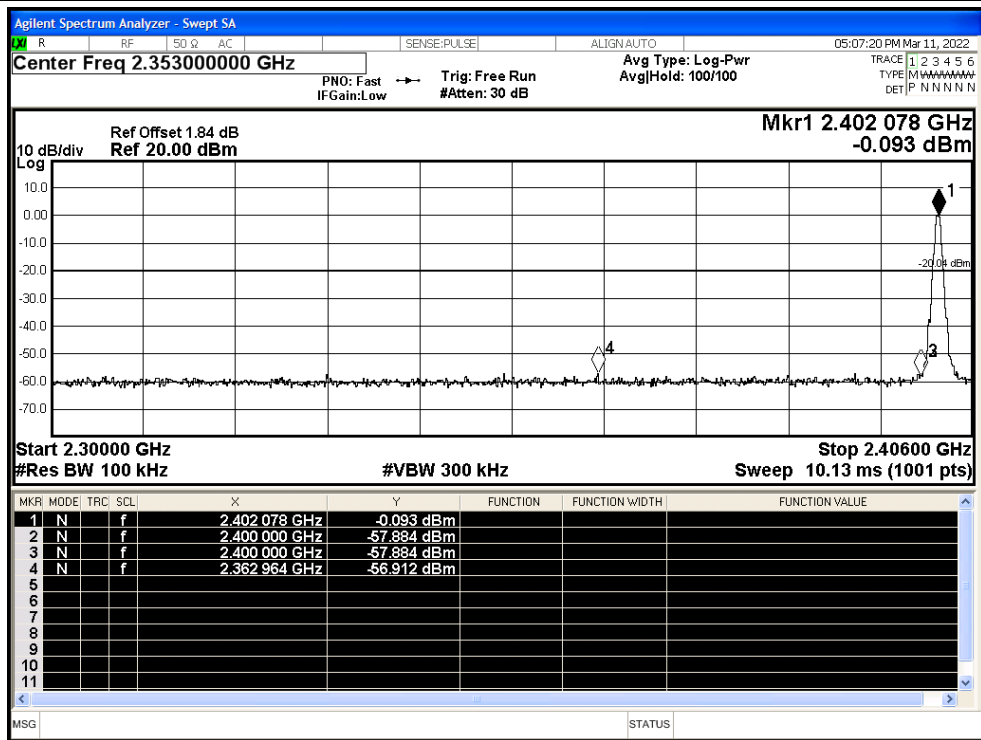


Test Graphs

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



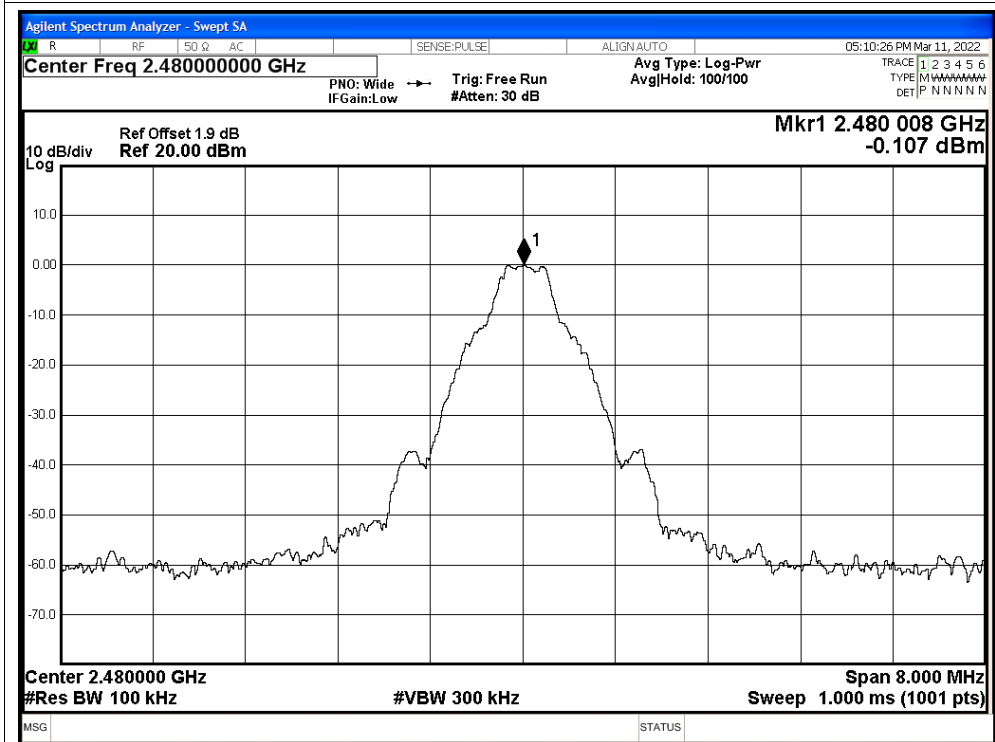
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



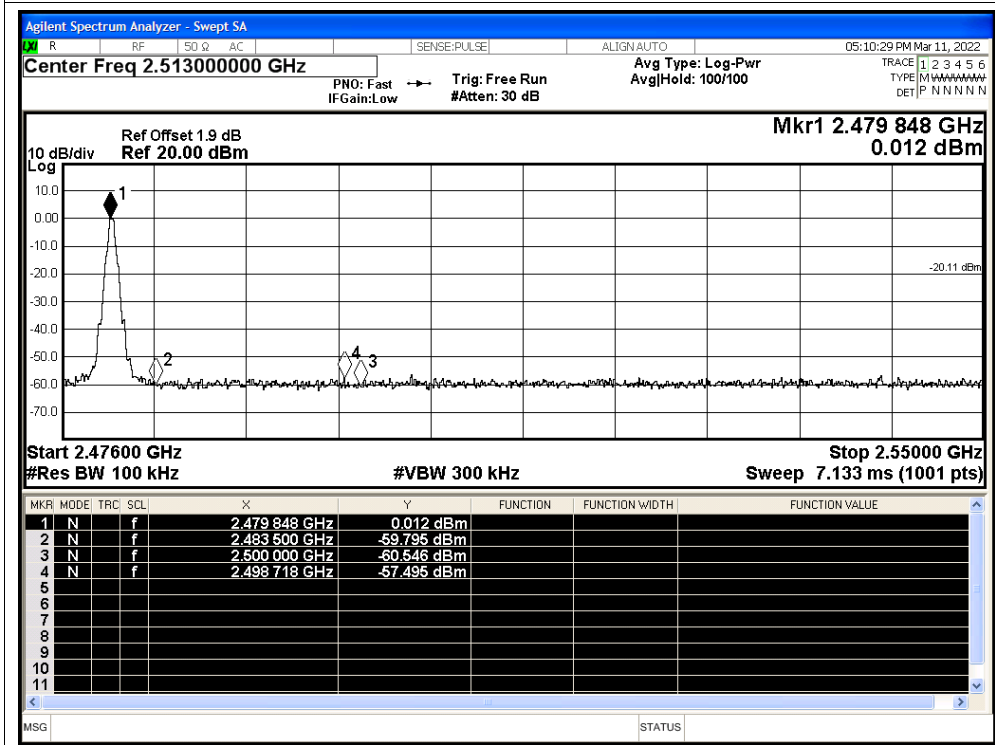


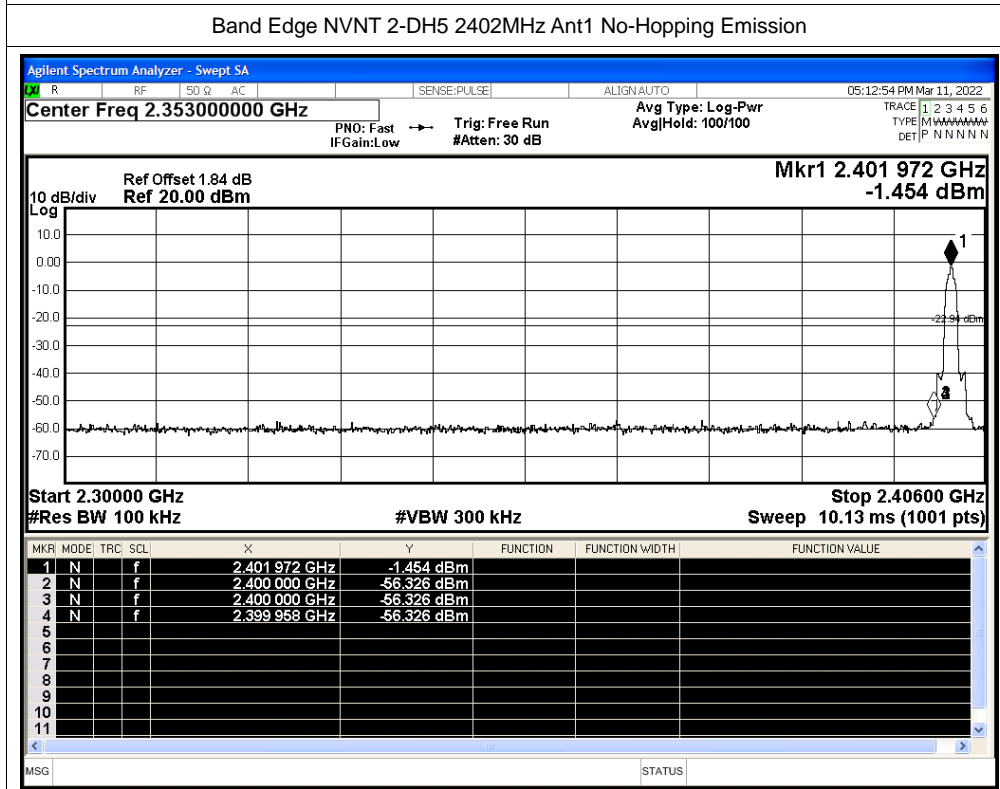
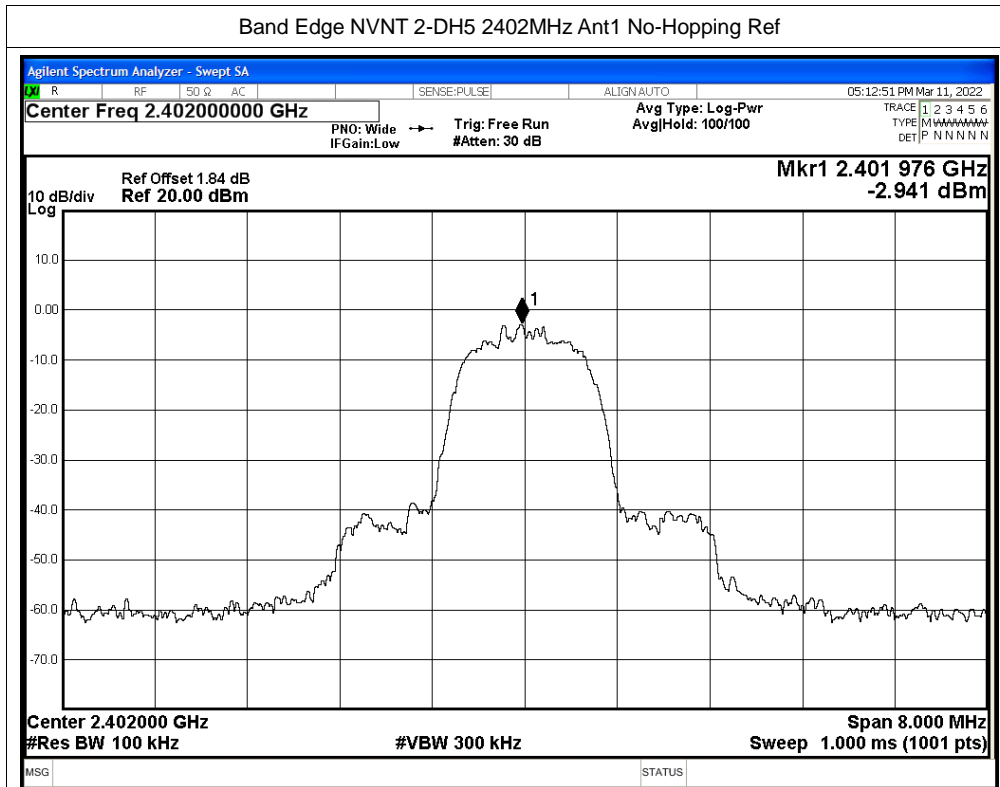


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



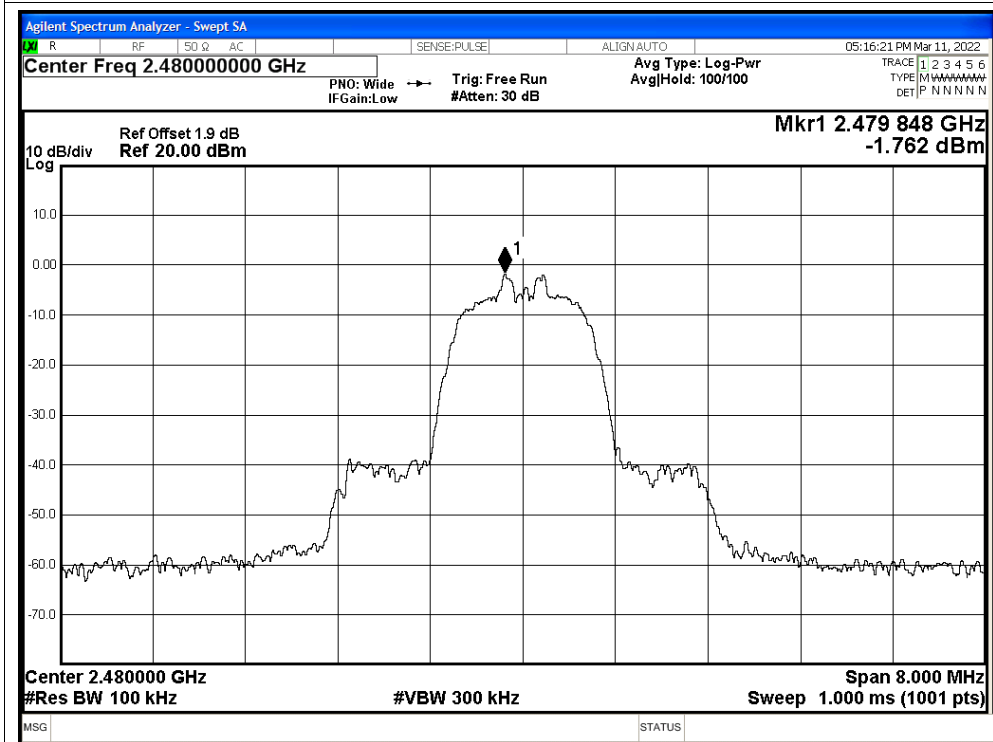
Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission



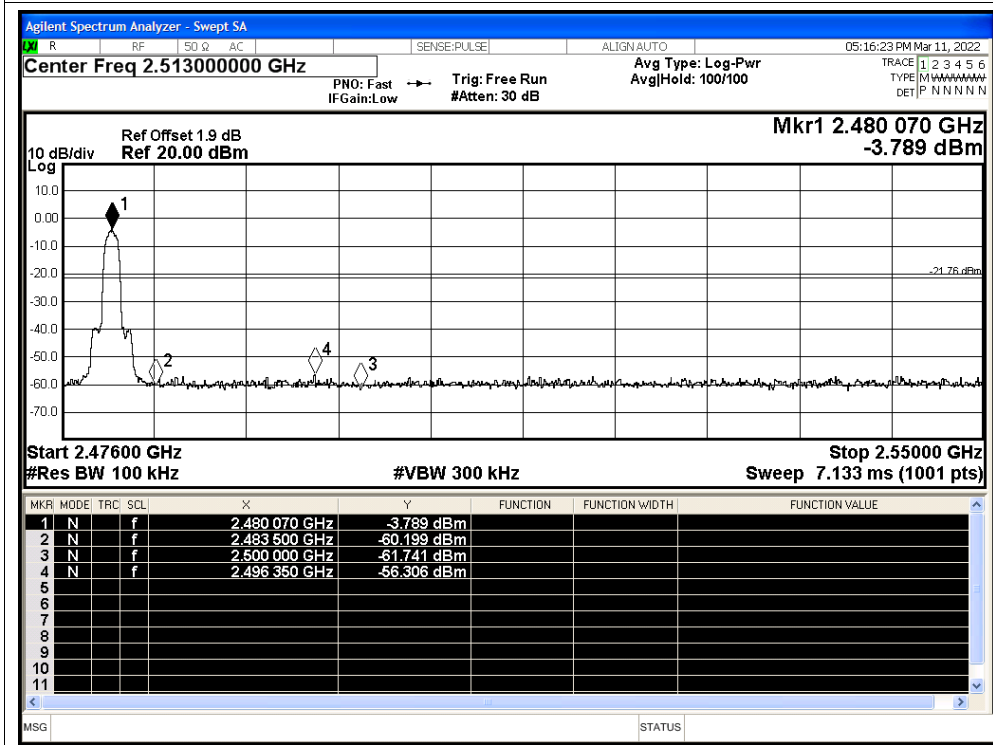


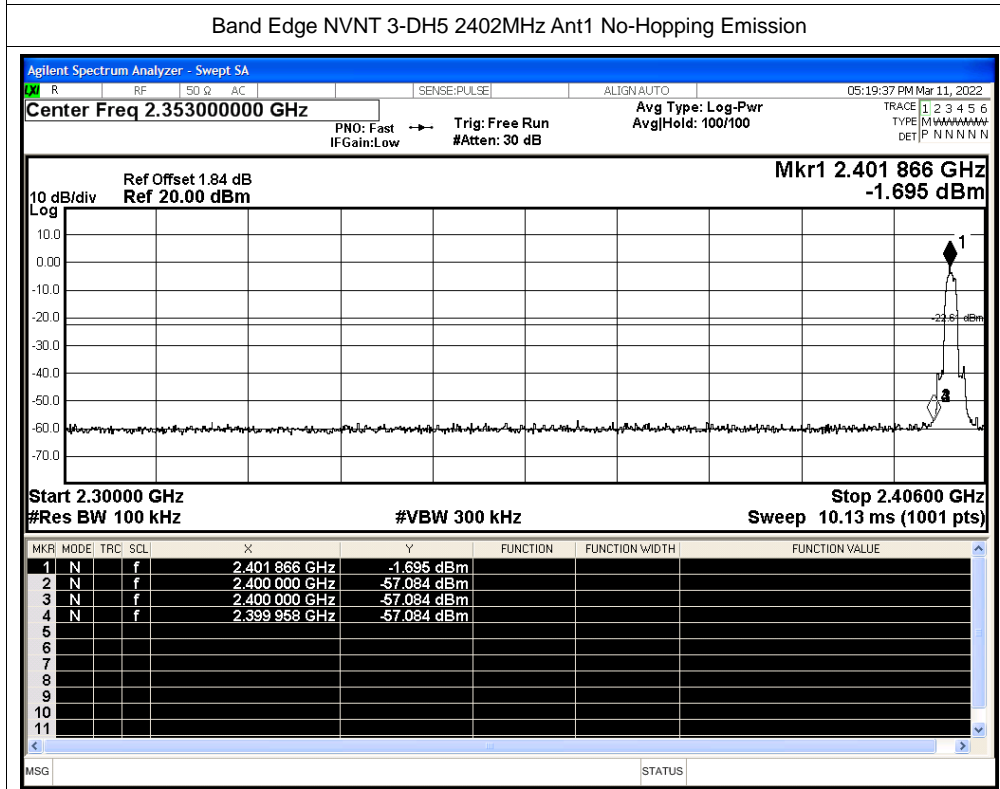
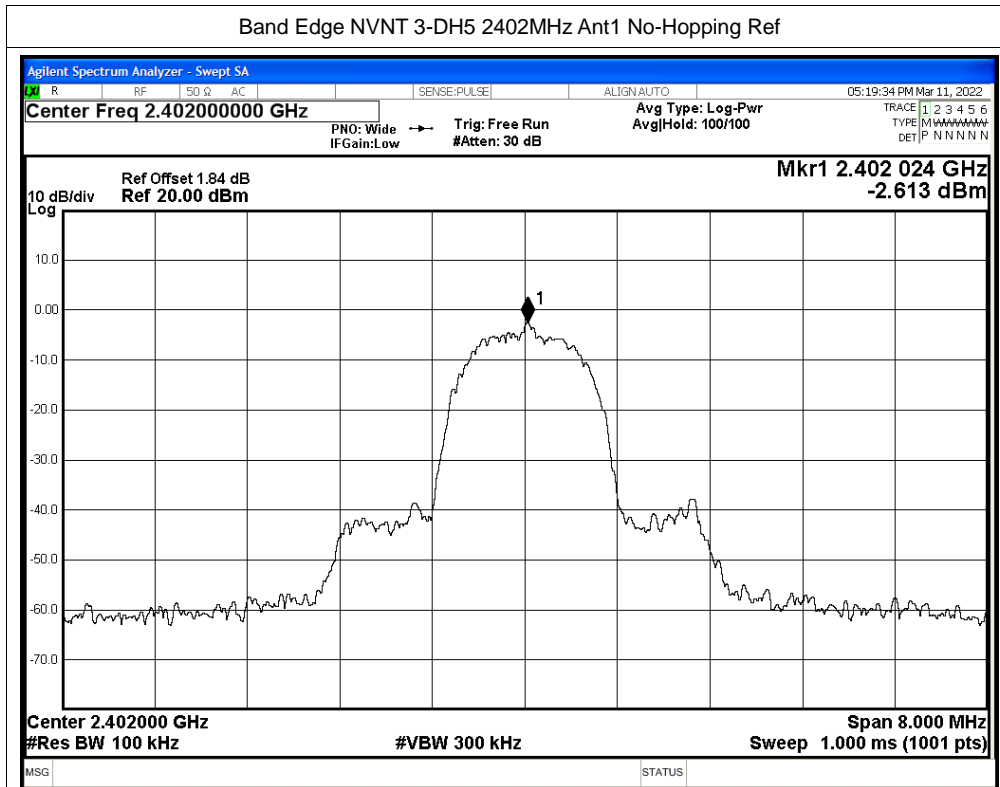


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



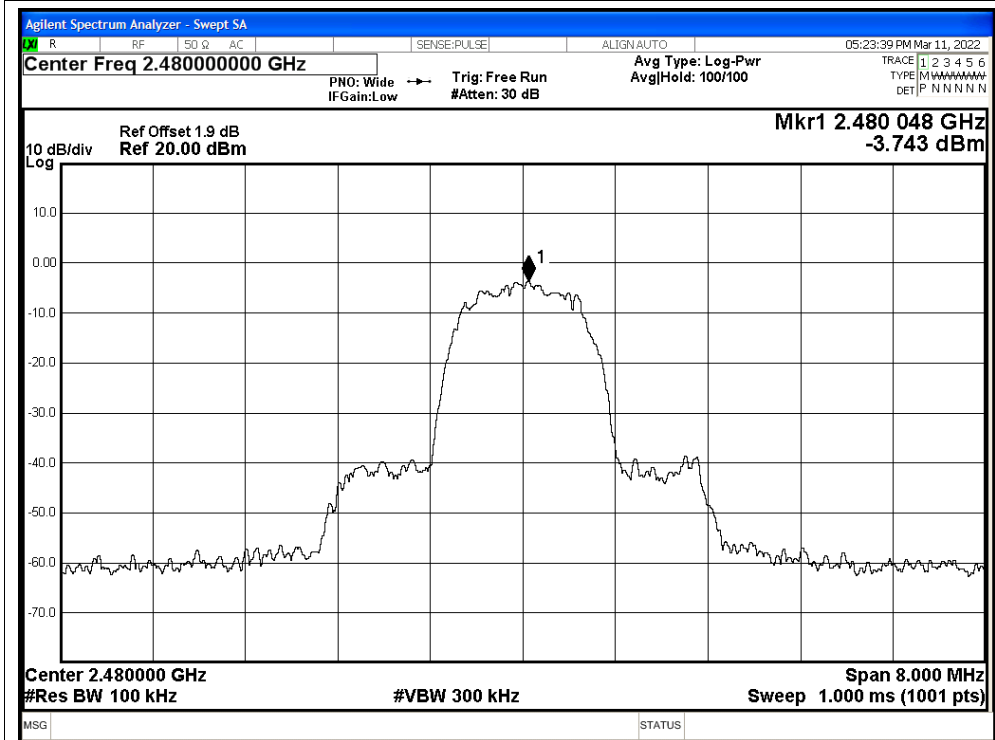
Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission



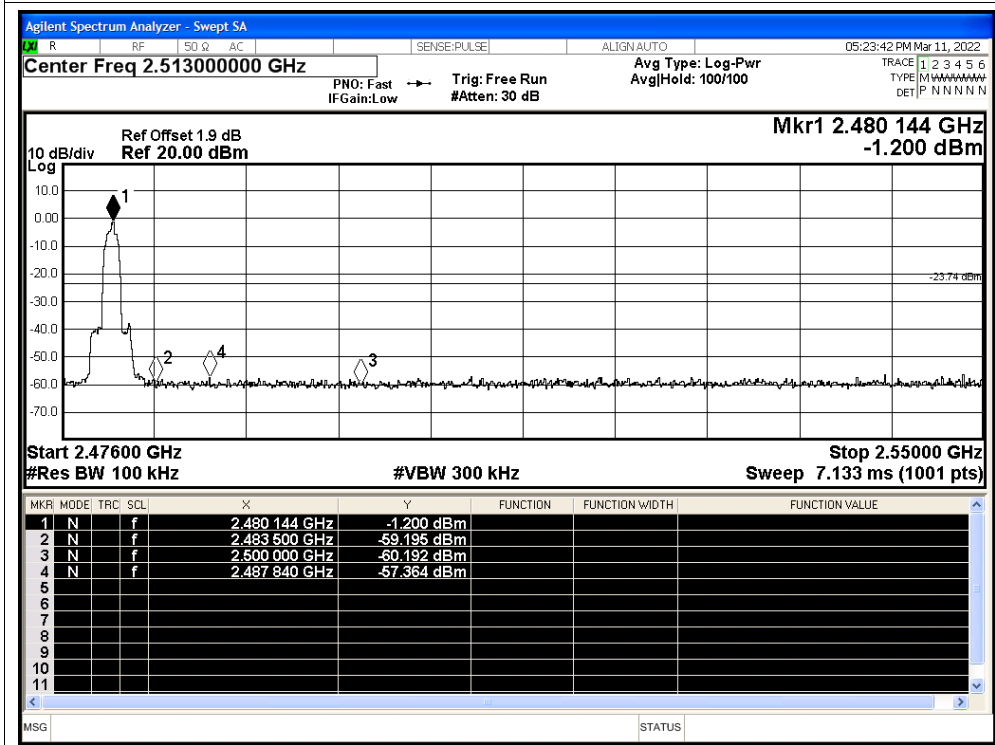




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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





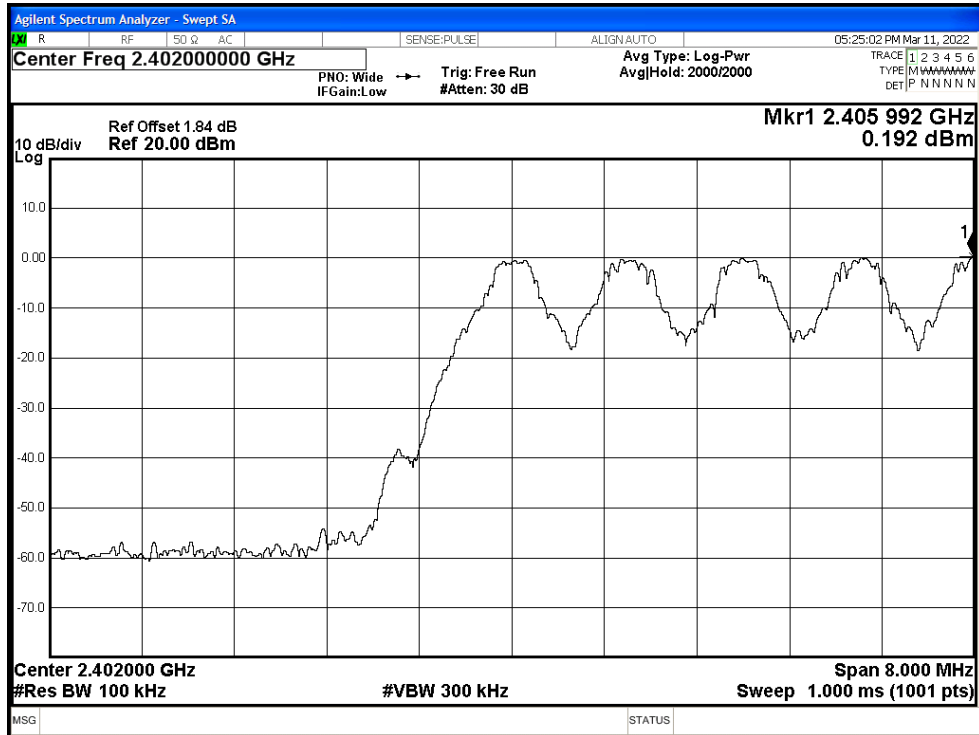
## Hopping

Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
1-DH5	2402	Ant1	Hopping	-56.55	-20	Pass
1-DH5	2480	Ant1	Hopping	-55.6	-20	Pass
2-DH5	2402	Ant1	Hopping	-53.5	-20	Pass
2-DH5	2480	Ant1	Hopping	-54.43	-20	Pass
3-DH5	2402	Ant1	Hopping	-55.77	-20	Pass
3-DH5	2480	Ant1	Hopping	-54.46	-20	Pass

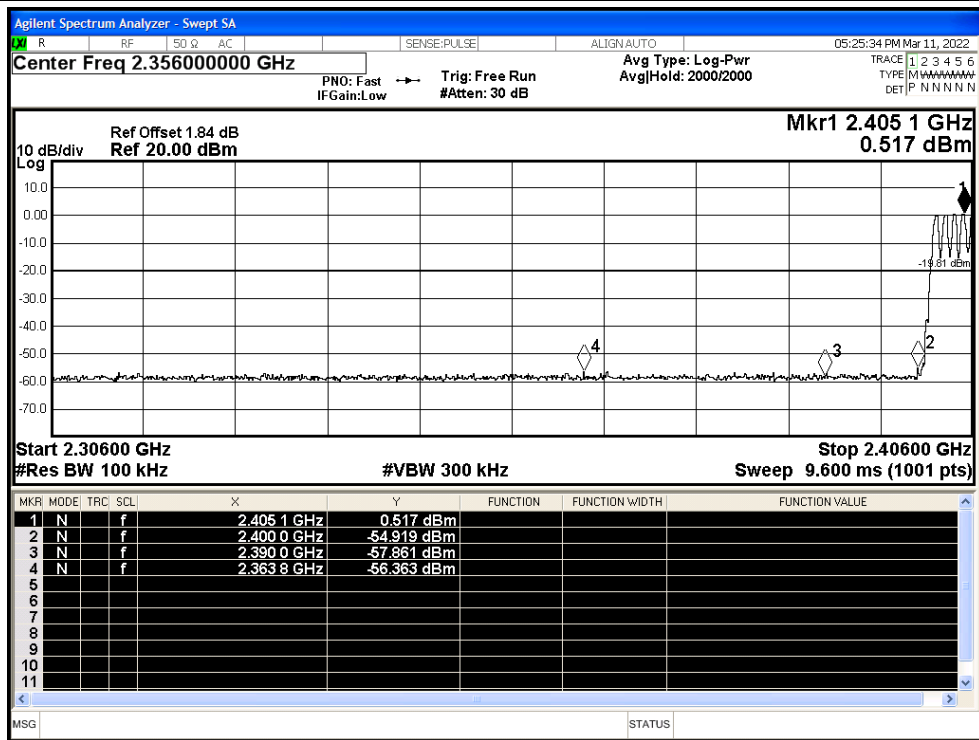


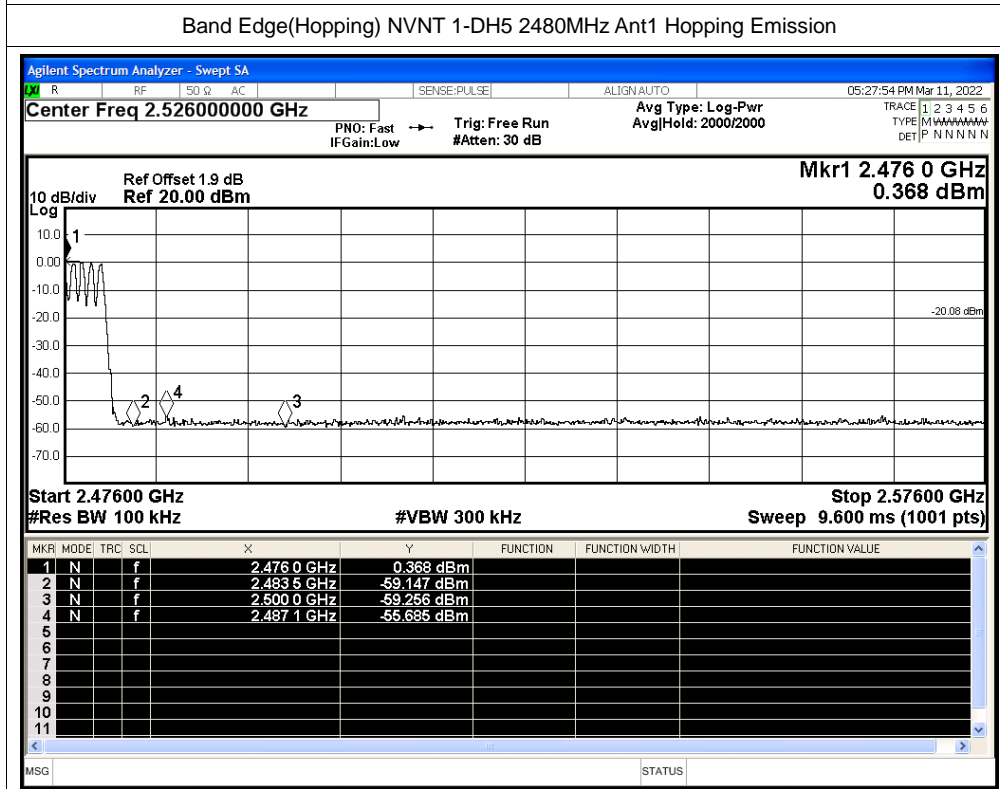
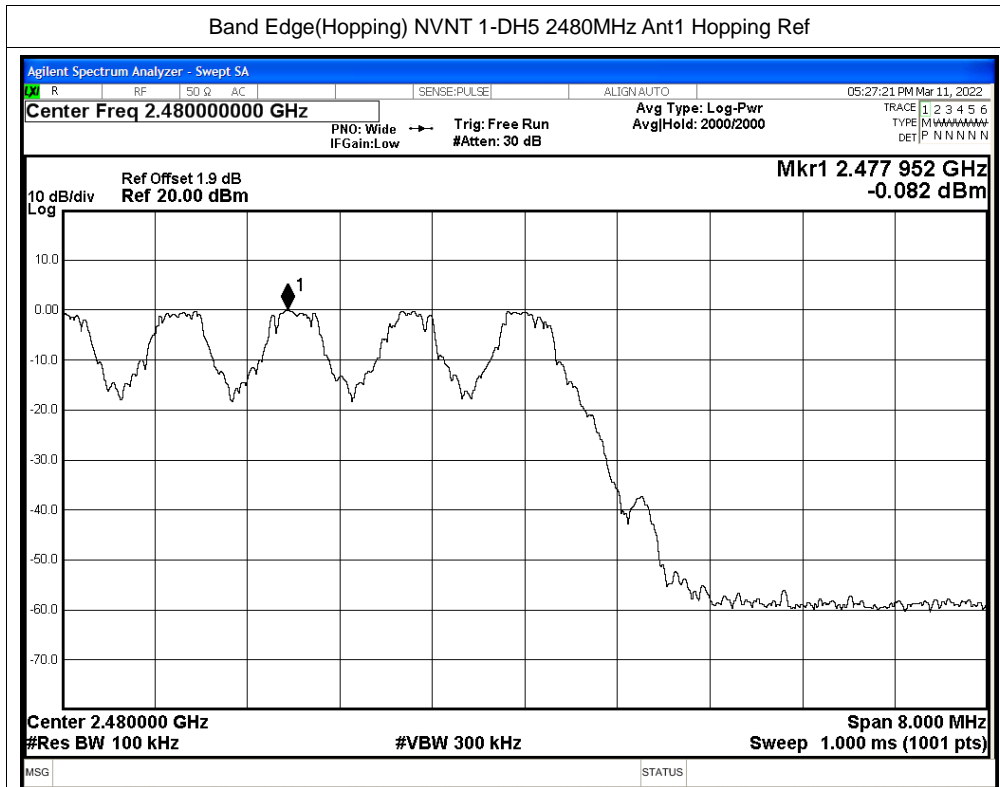
Test Graphs

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

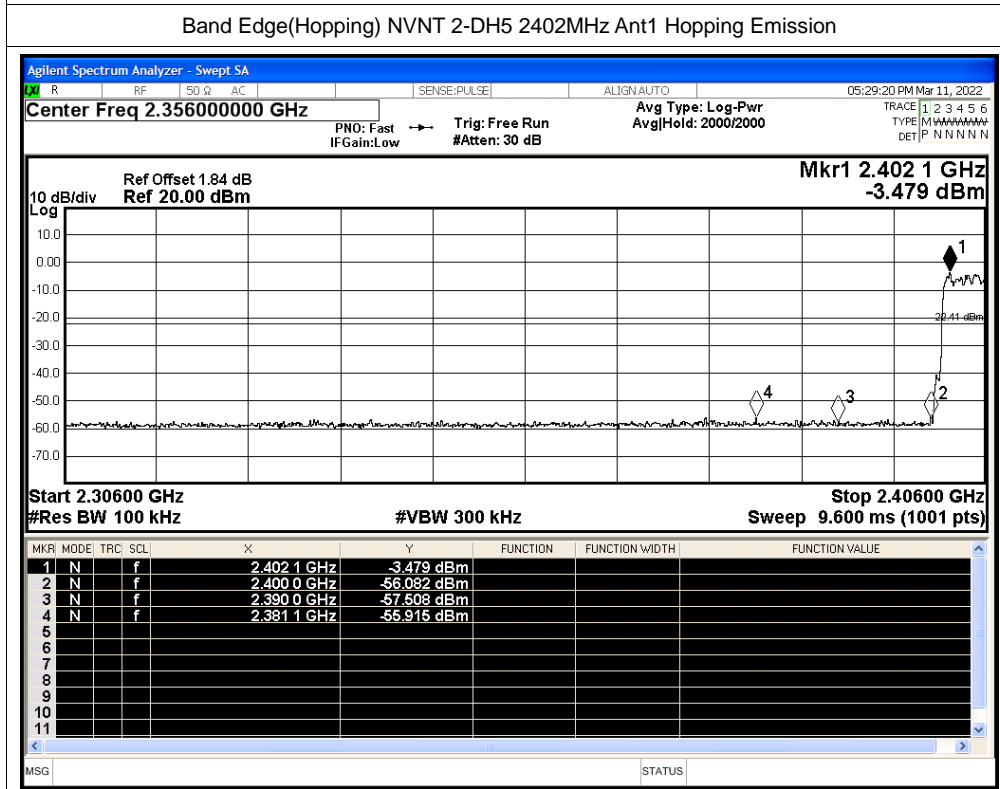
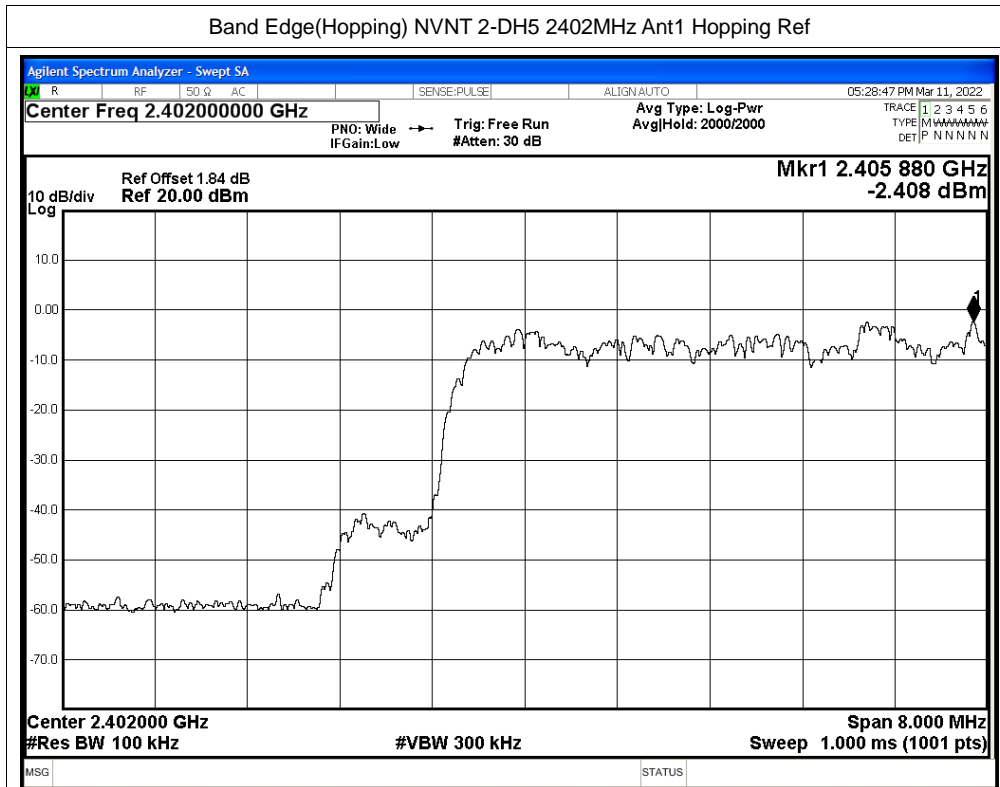


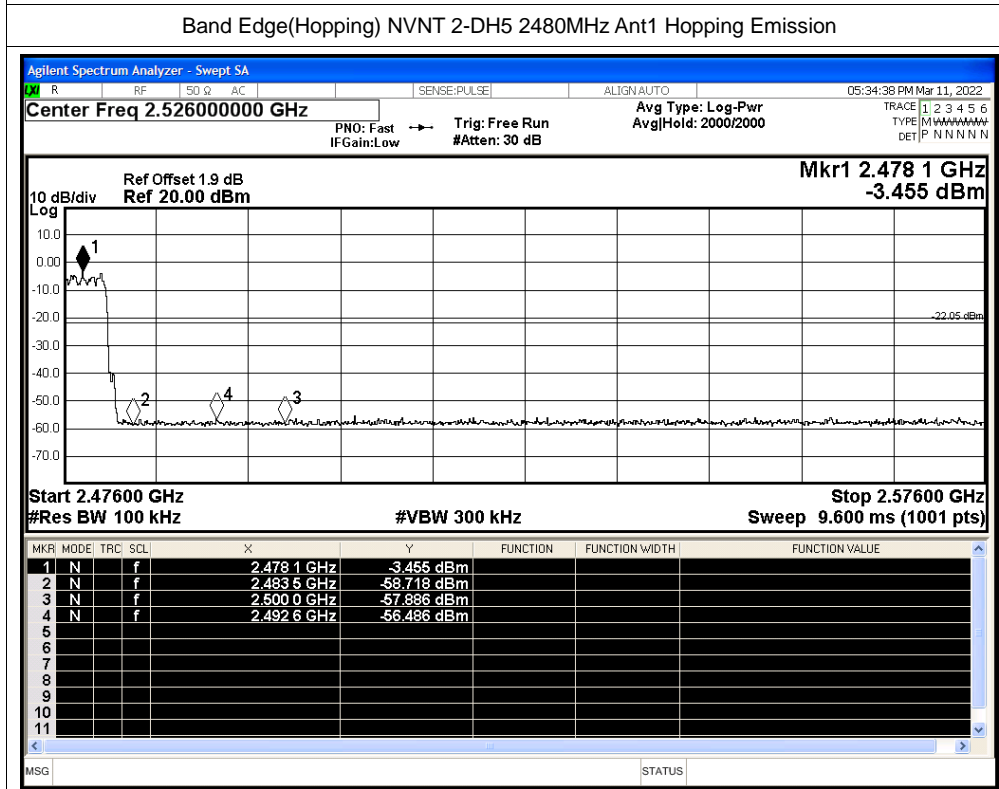
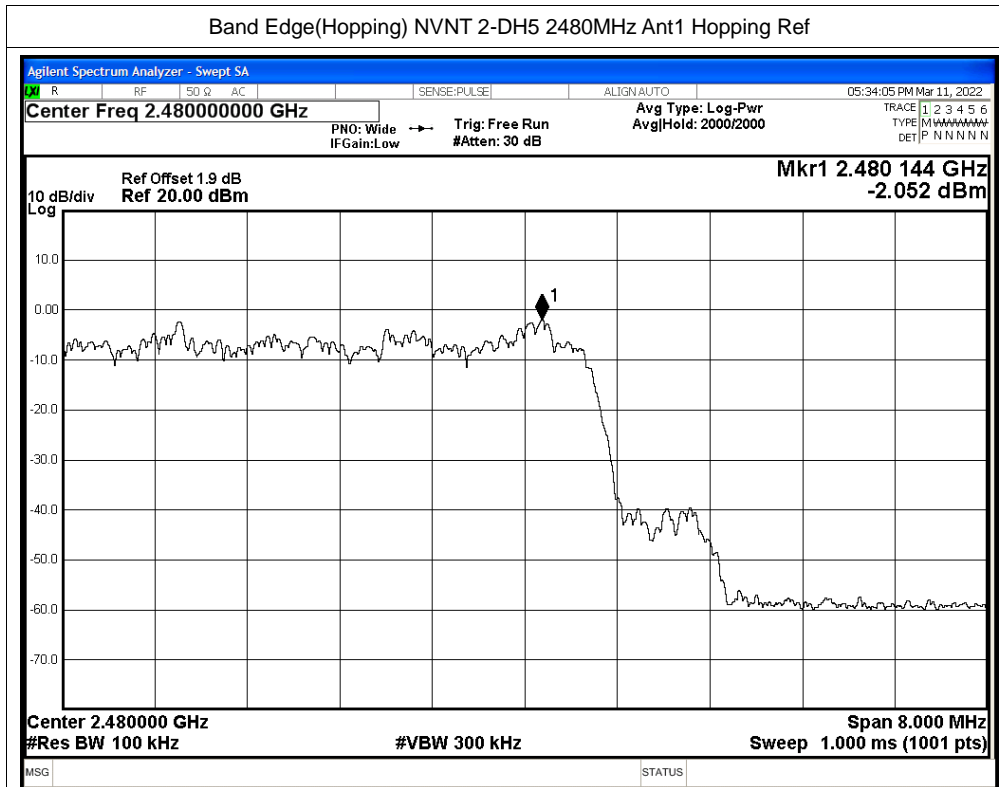
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

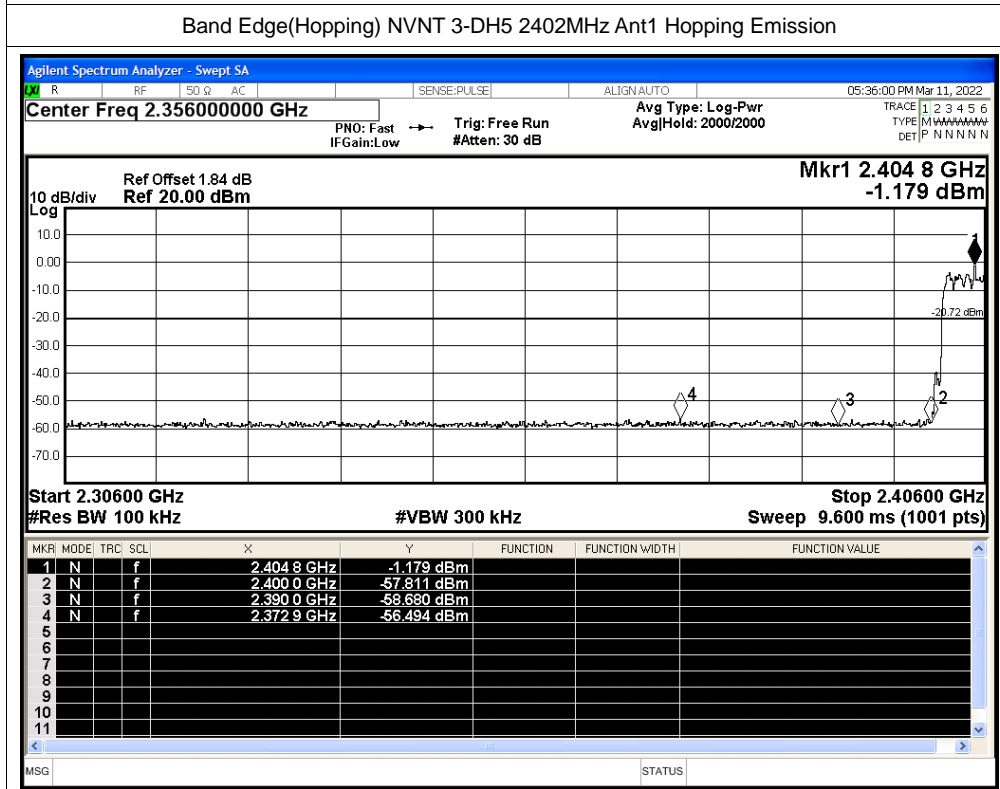
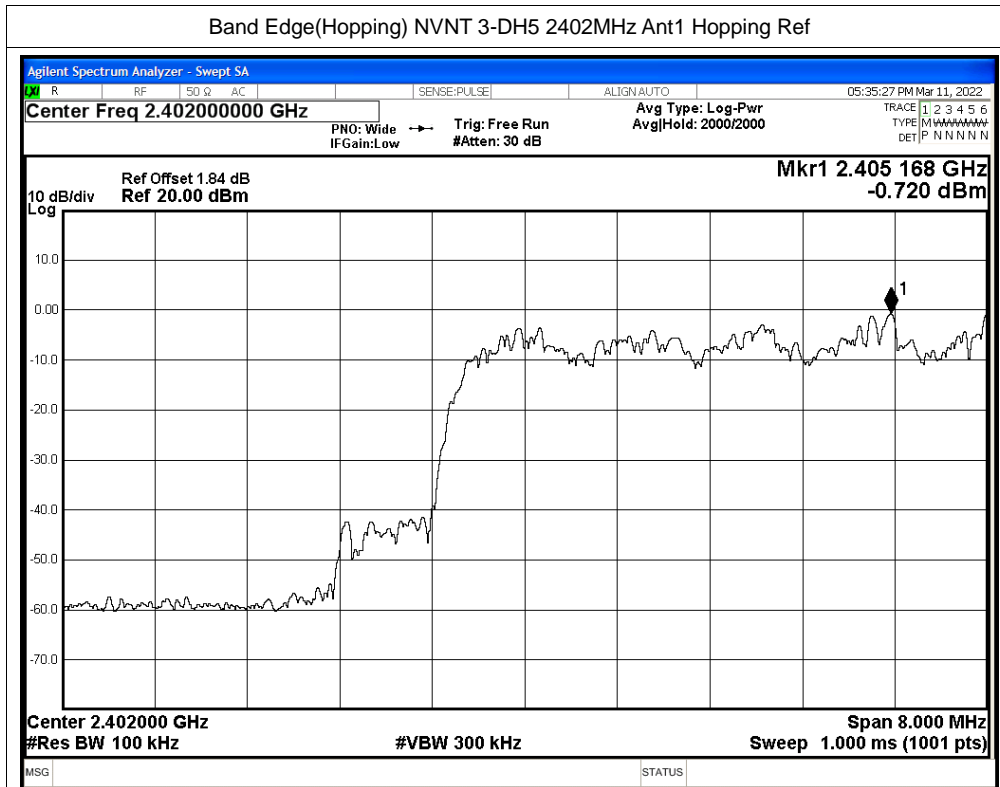


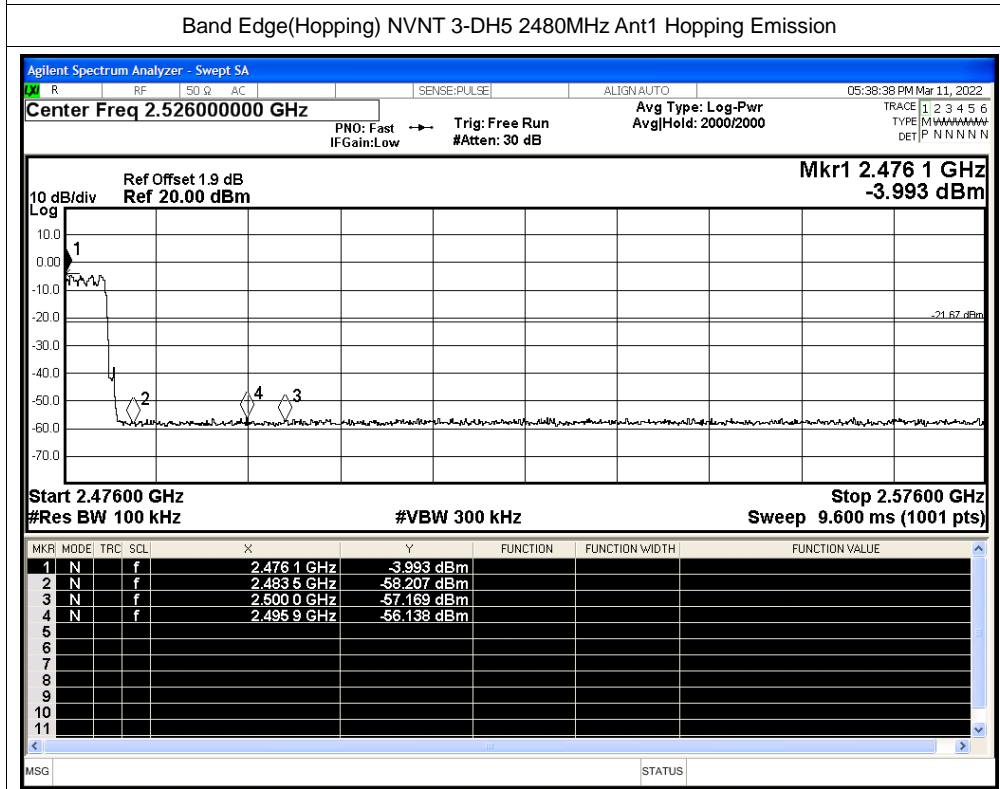
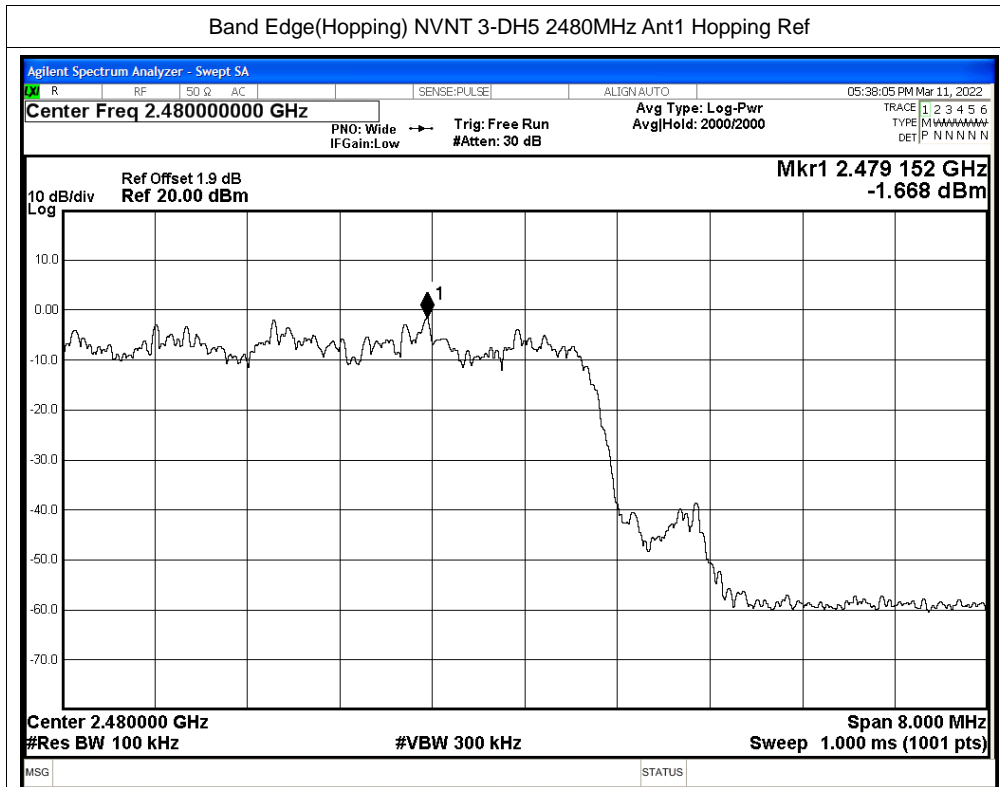














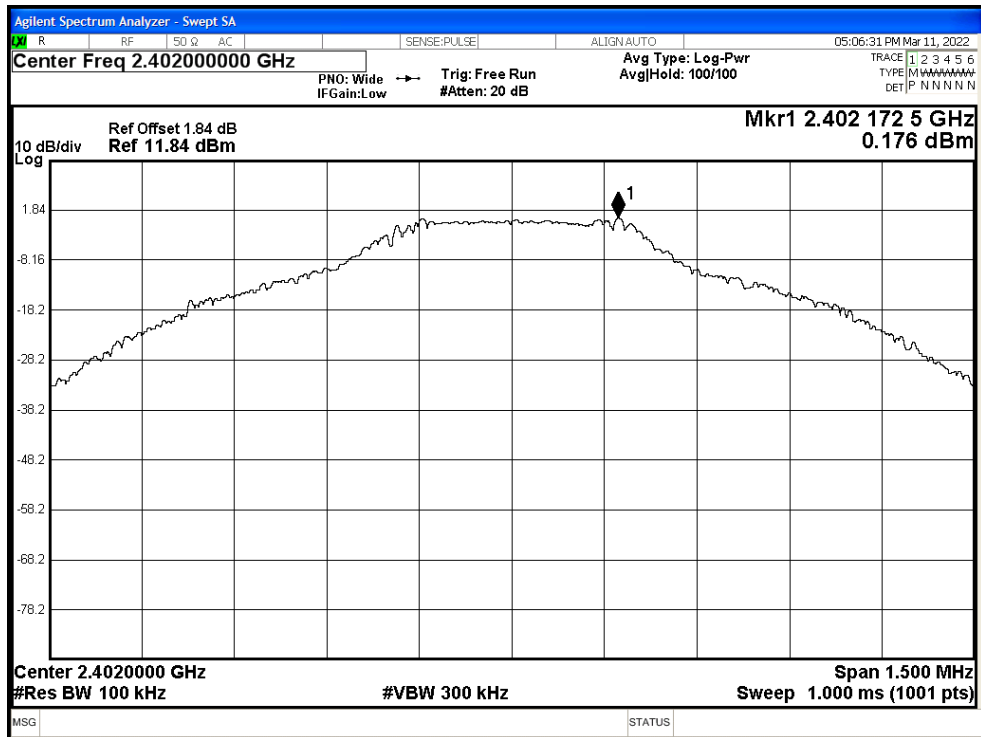
## A.7 Conducted Spurious Emission

Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
1-DH5	2402	Ant1	-55.99	-20	Pass
1-DH5	2441	Ant1	-56.7	-20	Pass
1-DH5	2480	Ant1	-55.59	-20	Pass
2-DH5	2402	Ant1	-53.62	-20	Pass
2-DH5	2441	Ant1	-55.27	-20	Pass
2-DH5	2480	Ant1	-54.12	-20	Pass
3-DH5	2402	Ant1	-54.87	-20	Pass
3-DH5	2441	Ant1	-54.97	-20	Pass
3-DH5	2480	Ant1	-54.25	-20	Pass

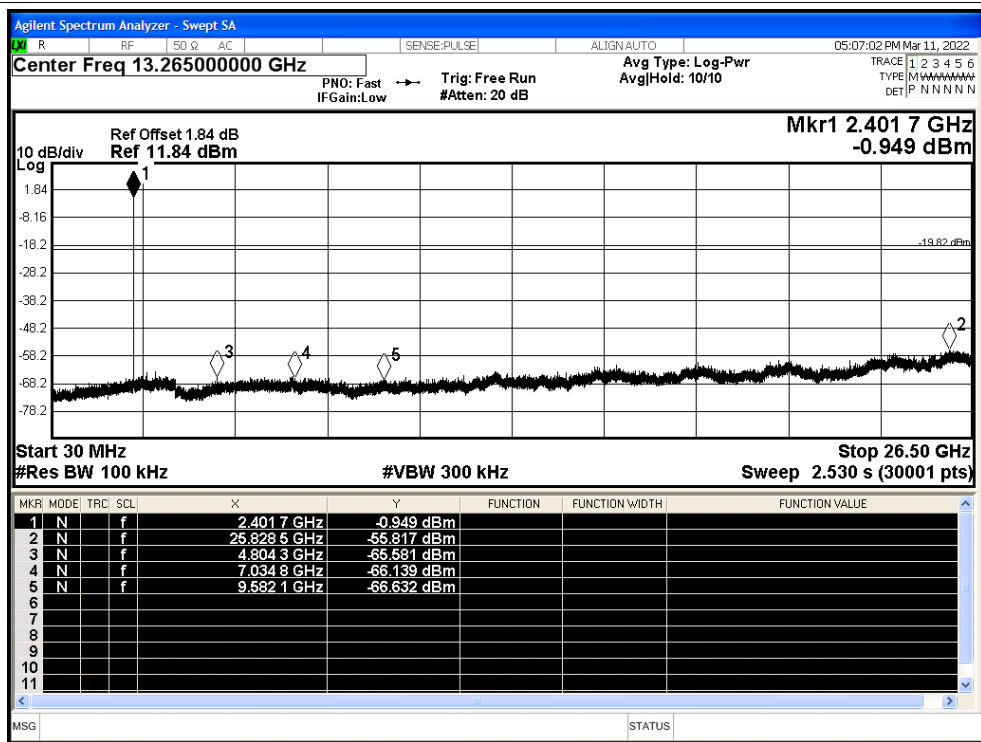


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

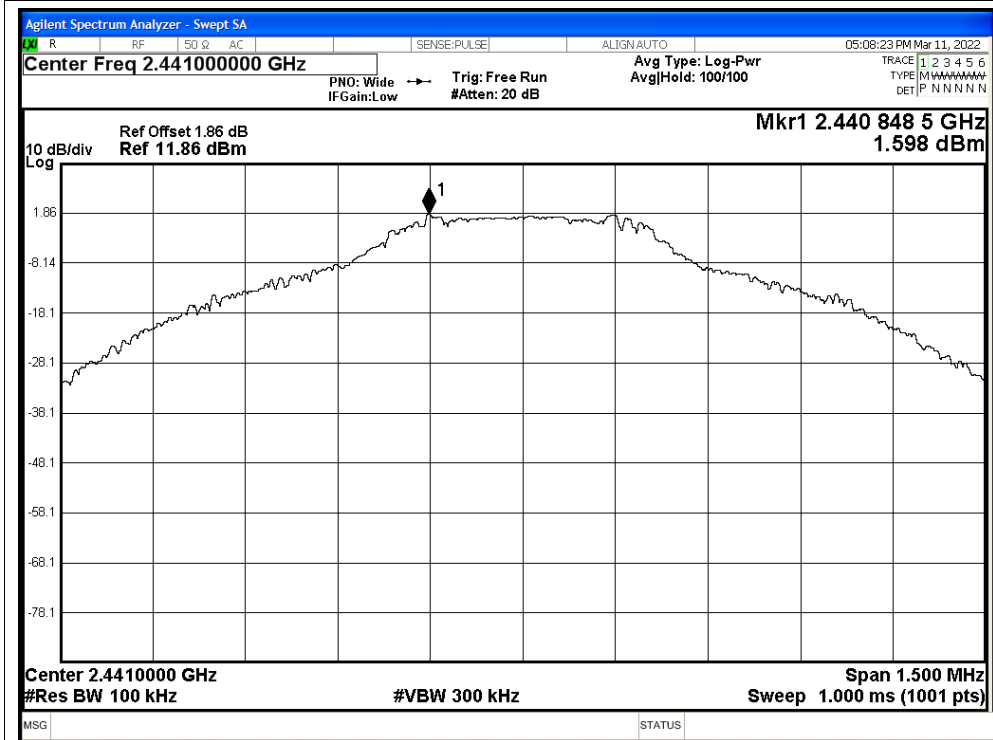


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

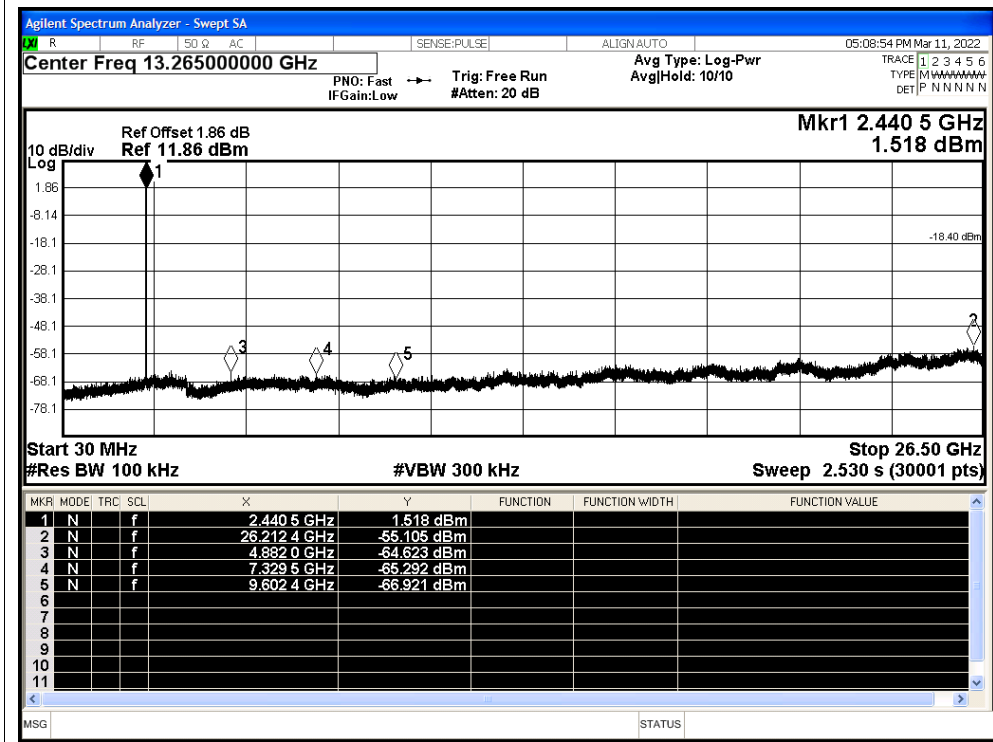




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

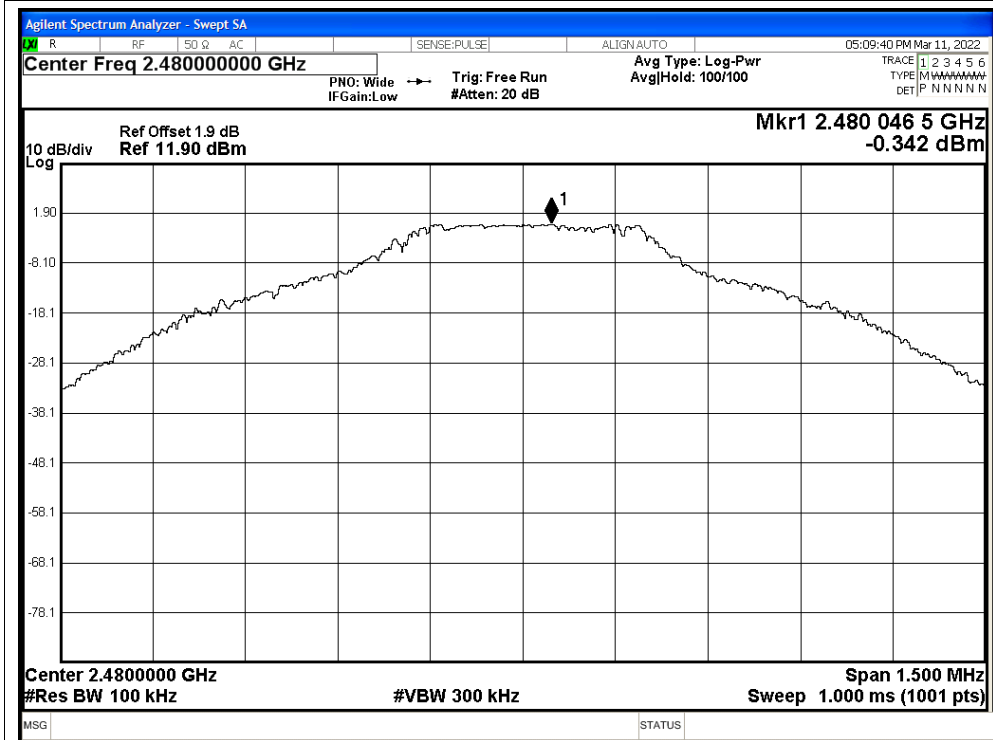


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

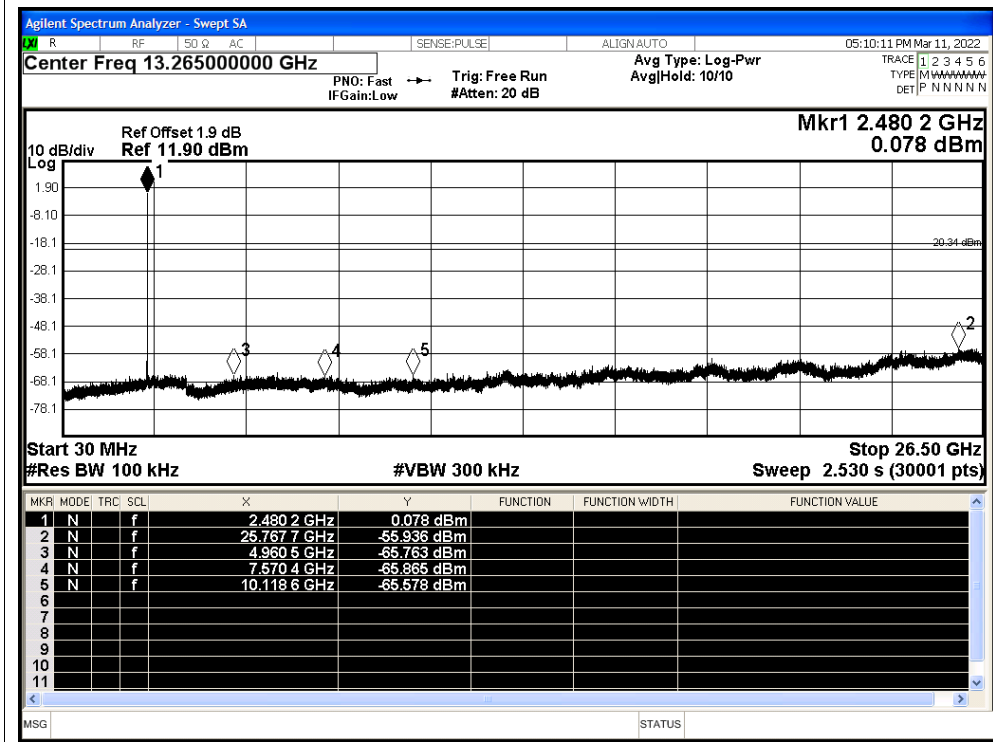




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



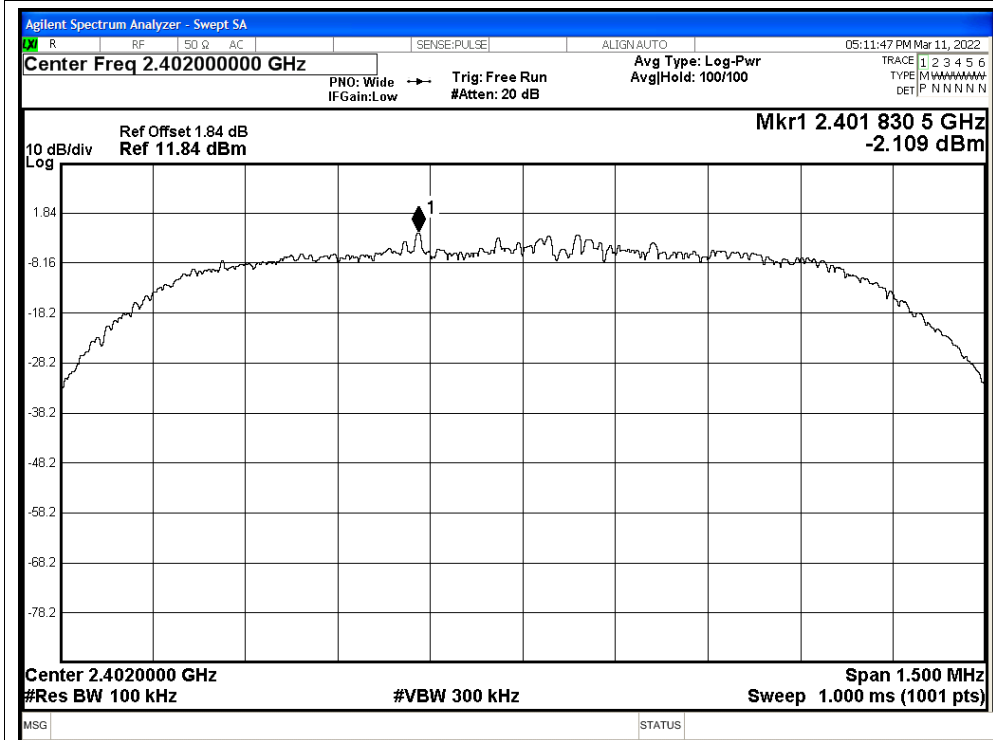
Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



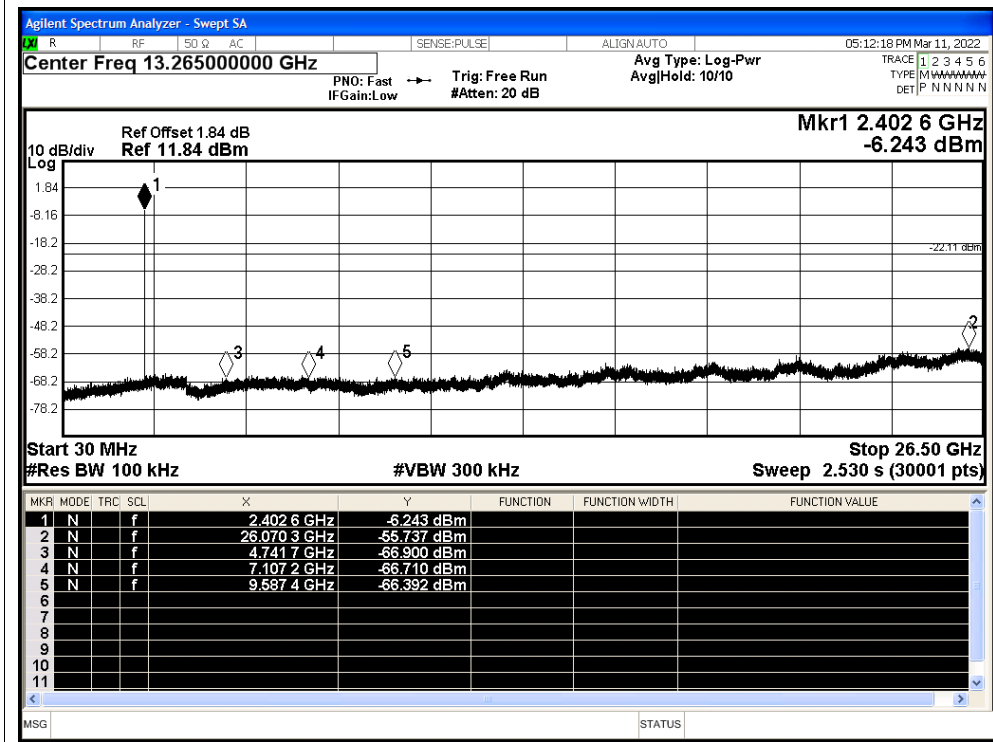




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

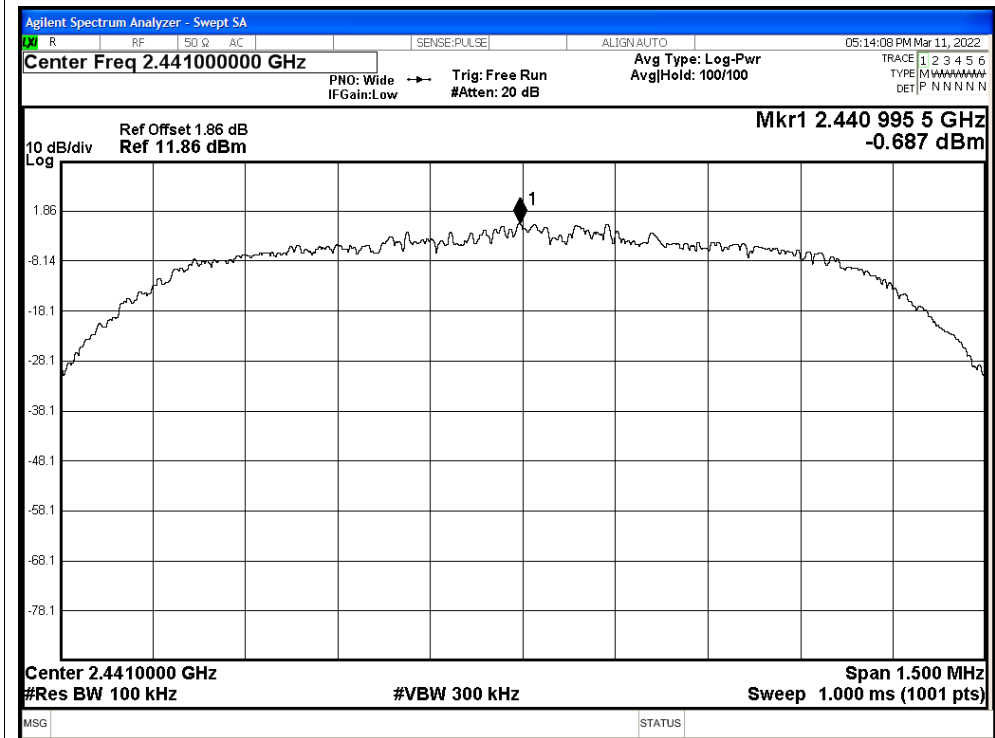


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

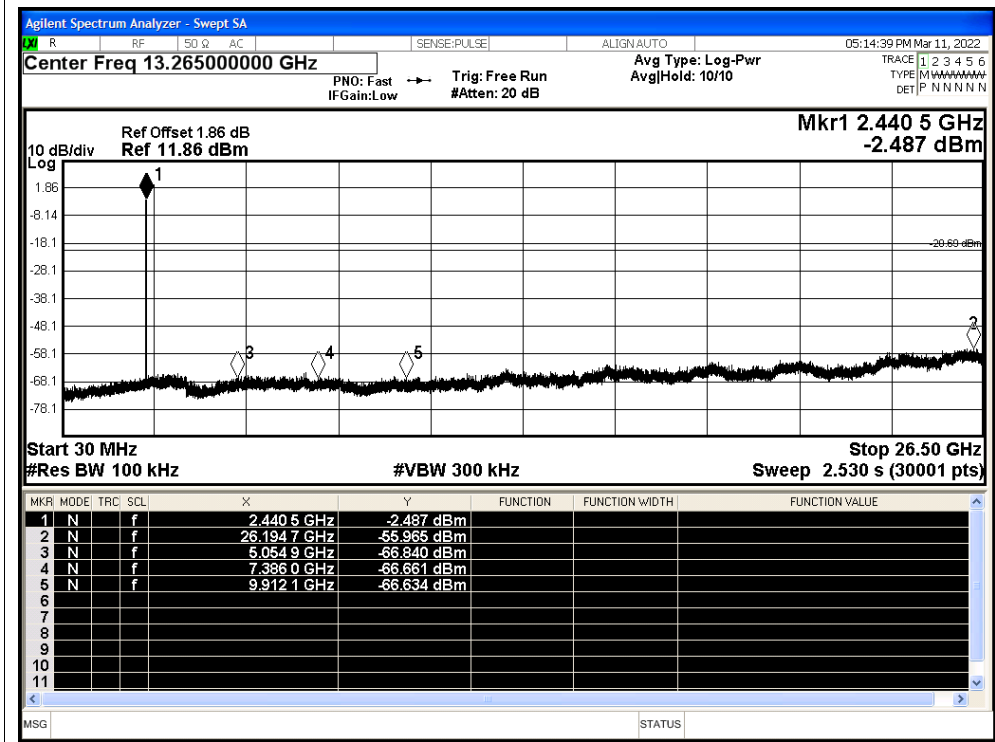




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

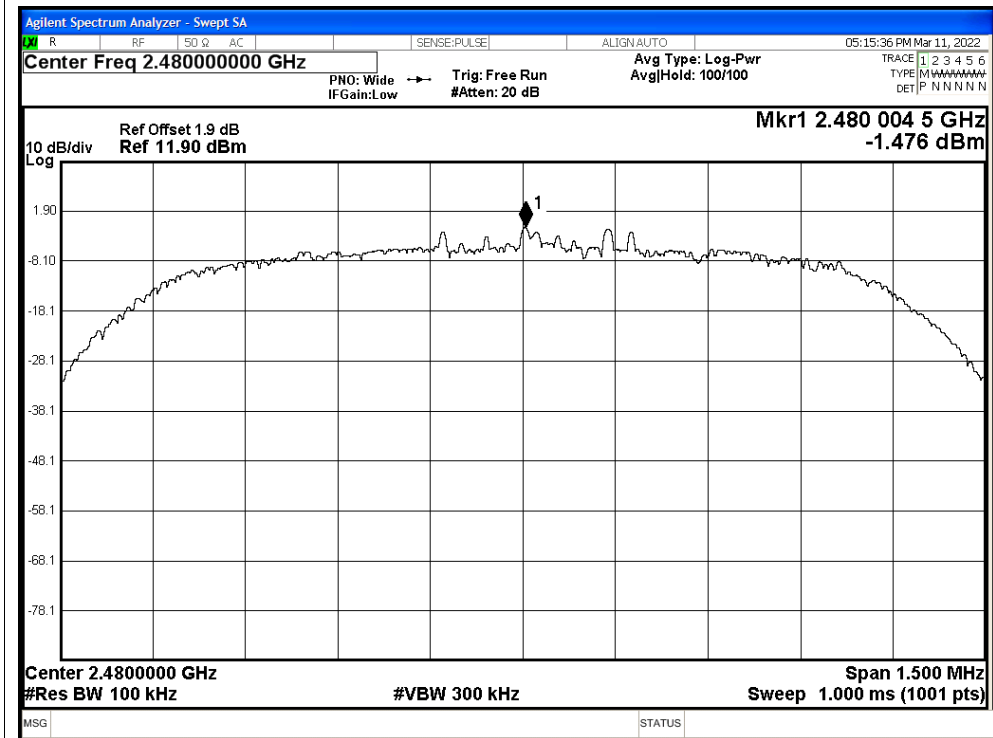


Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

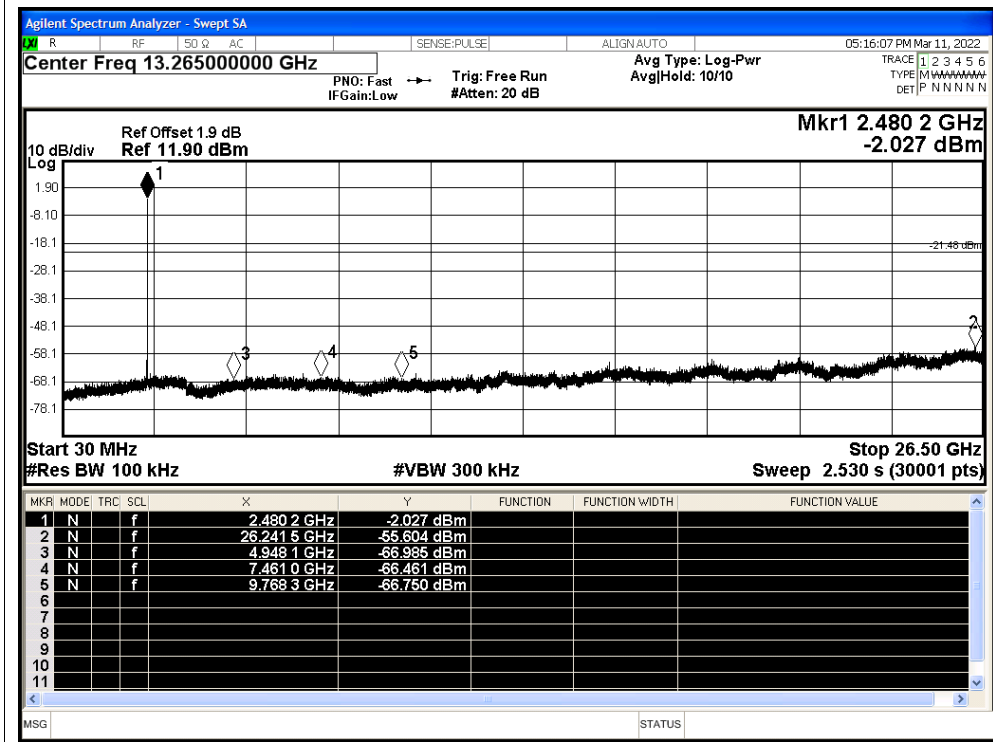




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref

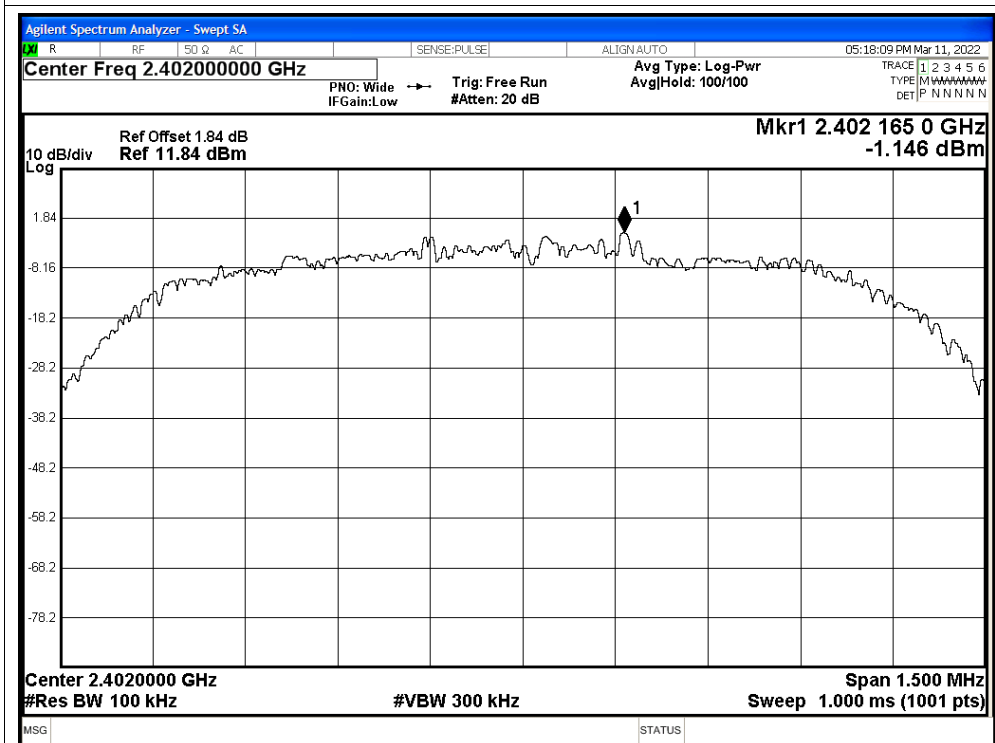


Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission

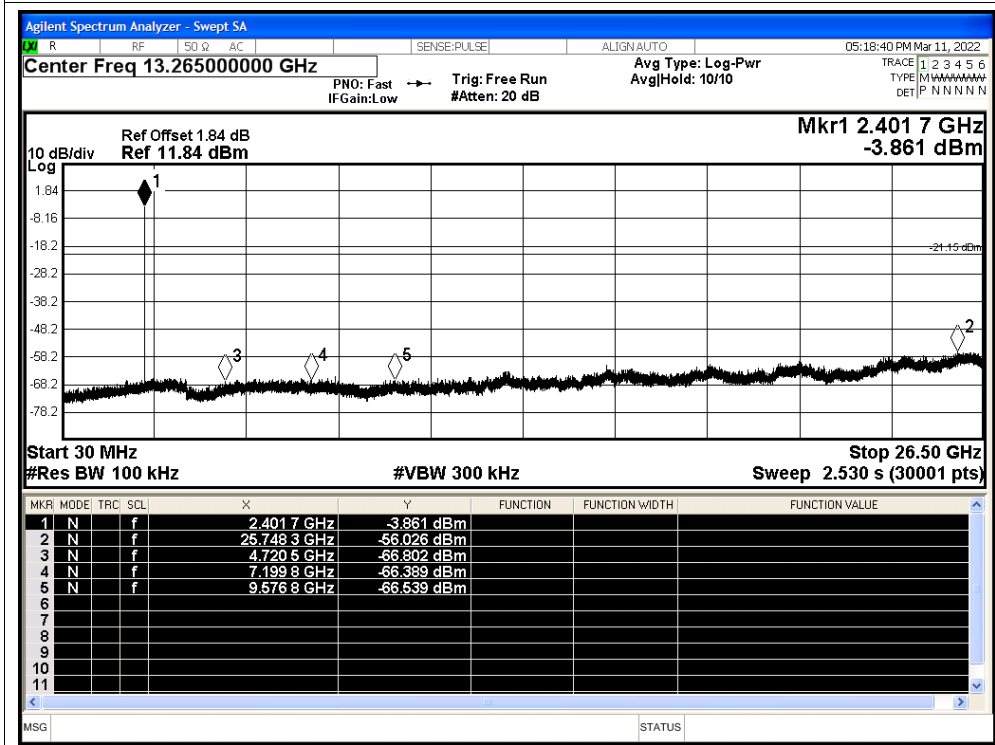




Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Ref

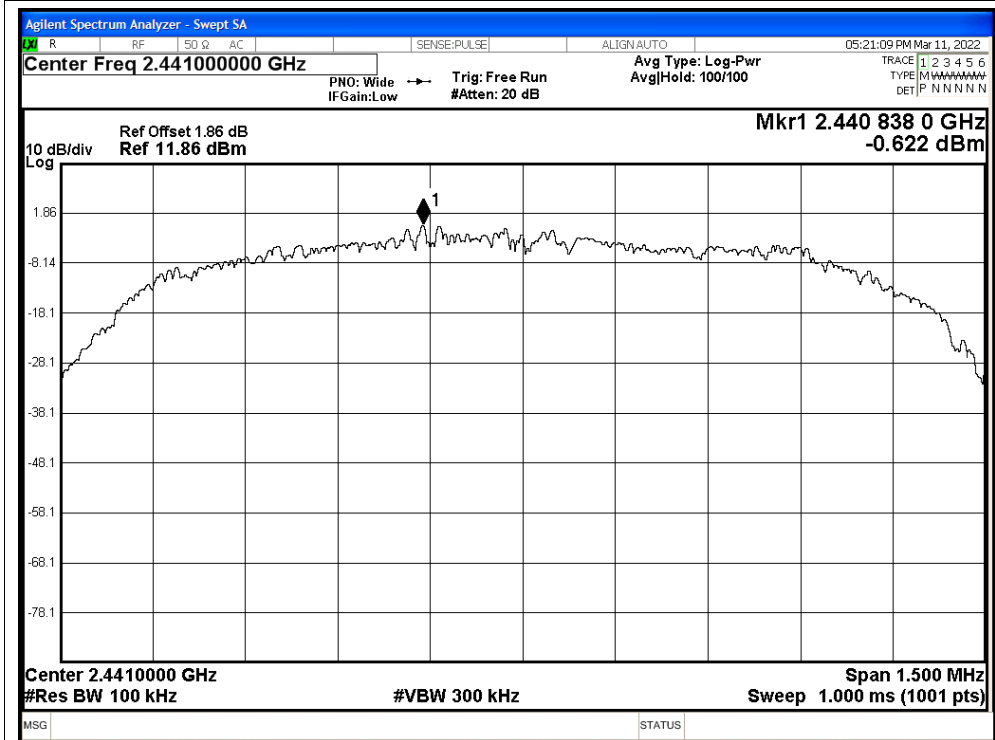


Tx. Spurious NVNT 3-DH5 2402MHz Ant1 Emission

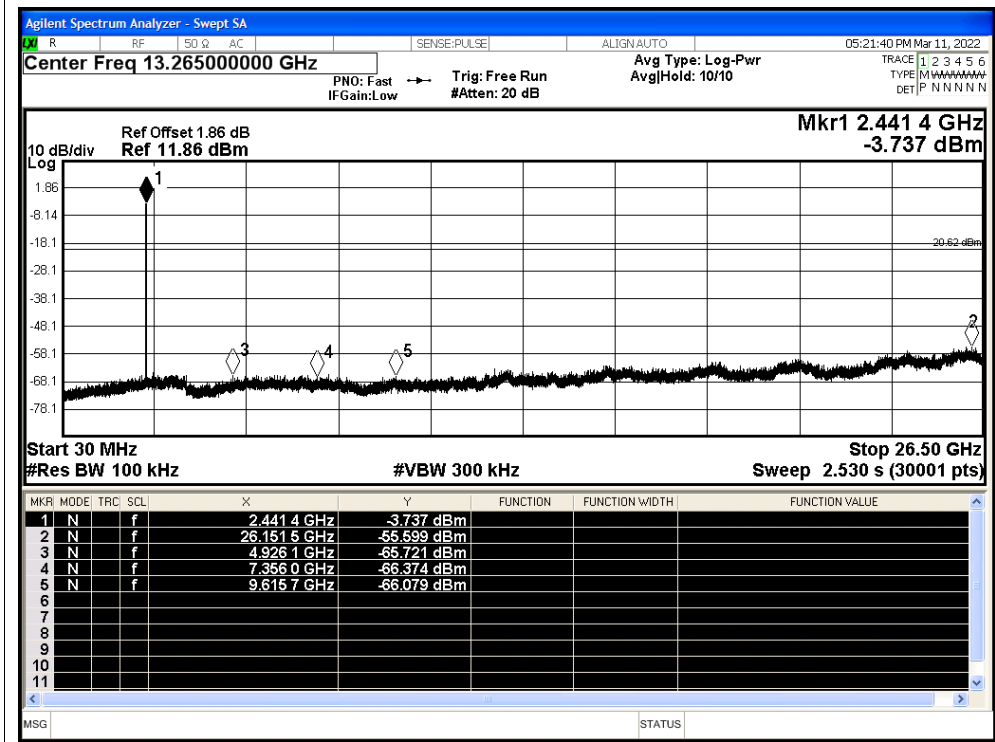




Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

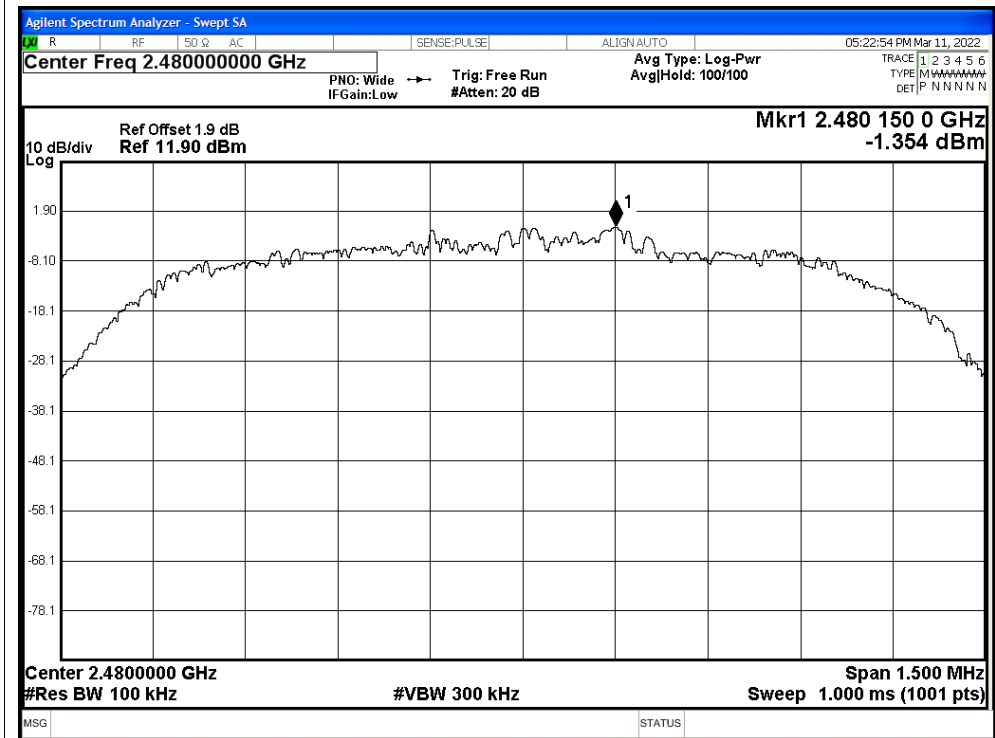


Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission

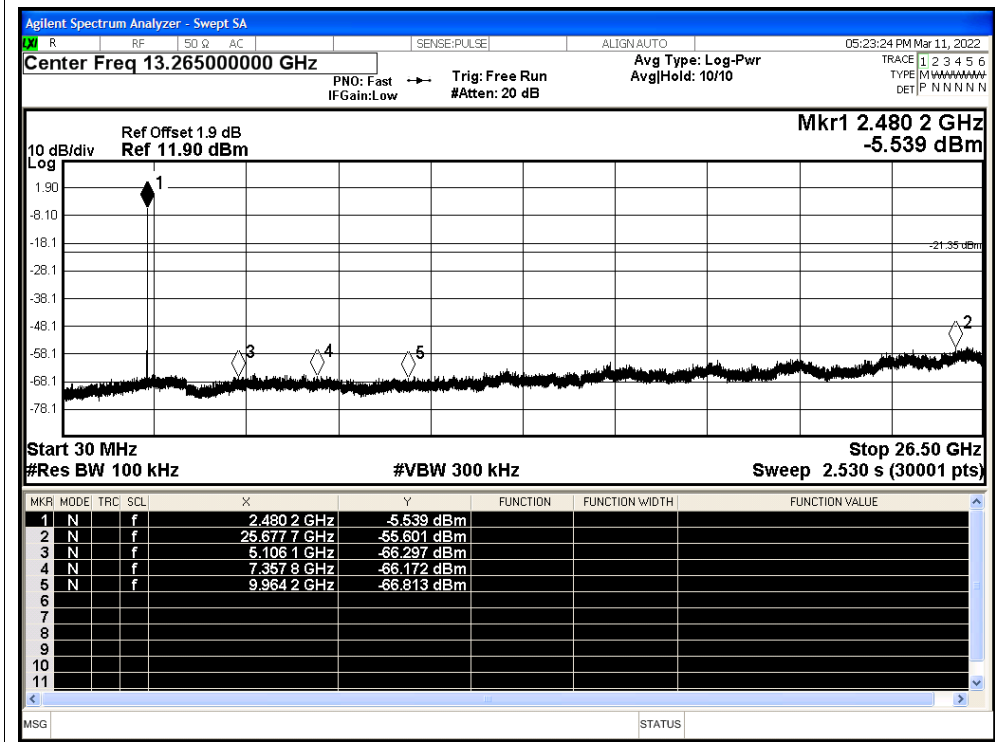




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





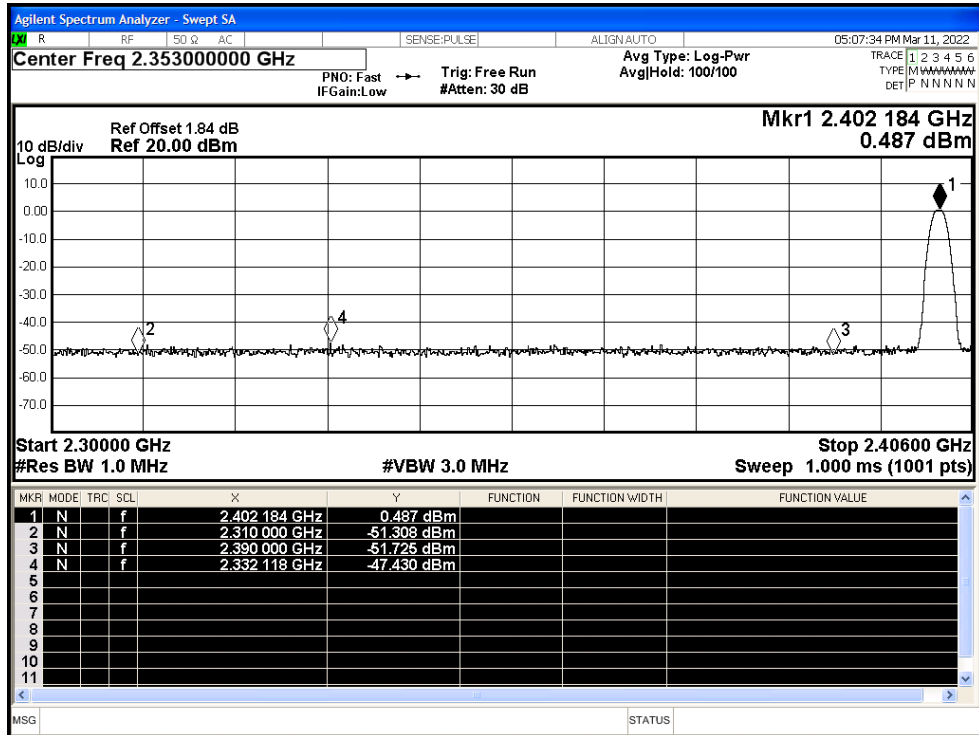
## A.8 Emissions in Restricted Bands

Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
1-DH5	2402	Ant1	No-Hopping	2310	-51.88	2	45.38	Peak	74	Pass
1-DH5	2402	Ant1	No-Hopping	2310	-60.71	2	36.55	Average	54	Pass
1-DH5	2402	Ant1	No-Hopping	2332.118	-47.42	2	49.84	Peak	74	Pass
1-DH5	2402	Ant1	No-Hopping	2389.888	-60.11	2	37.15	Average	54	Pass
1-DH5	2402	Ant1	No-Hopping	2390	-50.63	2	46.63	Peak	74	Pass
1-DH5	2402	Ant1	No-Hopping	2390	-60.25	2	37.01	Average	54	Pass
1-DH5	2480	Ant1	No-Hopping	2483.5	-50.9	2	46.36	Peak	74	Pass
1-DH5	2480	Ant1	No-Hopping	2483.5	-59.55	2	37.71	Average	54	Pass
1-DH5	2480	Ant1	No-Hopping	2498.57	-47.4	2	49.86	Peak	74	Pass
1-DH5	2480	Ant1	No-Hopping	2483.548	-59.55	2	37.71	Average	54	Pass
1-DH5	2480	Ant1	No-Hopping	2500	-50.96	2	46.3	Peak	74	Pass
1-DH5	2480	Ant1	No-Hopping	2500	-59.96	2	37.3	Average	54	Pass
2-DH5	2402	Ant1	No-Hopping	2310	-51.63	2	45.63	Peak	74	Pass
2-DH5	2402	Ant1	No-Hopping	2310	-60.63	2	36.63	Average	54	Pass
2-DH5	2402	Ant1	No-Hopping	2338.796	-46.39	2	50.87	Peak	74	Pass
2-DH5	2402	Ant1	No-Hopping	2385.86	-60.15	2	37.11	Average	54	Pass
2-DH5	2402	Ant1	No-Hopping	2390	-50.58	2	46.68	Peak	74	Pass
2-DH5	2402	Ant1	No-Hopping	2390	-60.35	2	36.91	Average	54	Pass
2-DH5	2480	Ant1	No-Hopping	2483.5	-50.08	2	47.18	Peak	74	Pass
2-DH5	2480	Ant1	No-Hopping	2483.5	-59.59	2	37.67	Average	54	Pass
2-DH5	2480	Ant1	No-Hopping	2484.658	-47.52	2	49.74	Peak	74	Pass
2-DH5	2480	Ant1	No-Hopping	2483.844	-59.57	2	37.69	Average	54	Pass
2-DH5	2480	Ant1	No-Hopping	2500	-50.19	2	47.07	Peak	74	Pass
2-DH5	2480	Ant1	No-Hopping	2500	-59.75	2	37.51	Average	54	Pass
3-DH5	2402	Ant1	No-Hopping	2310	-49.96	2	47.3	Peak	74	Pass
3-DH5	2402	Ant1	No-Hopping	2310	-60.62	2	36.64	Average	54	Pass
3-DH5	2402	Ant1	No-Hopping	2389.994	-47.1	2	50.16	Peak	74	Pass
3-DH5	2402	Ant1	No-Hopping	2389.782	-60.09	2	37.17	Average	54	Pass
3-DH5	2402	Ant1	No-Hopping	2390	-47.22	2	50.04	Peak	74	Pass
3-DH5	2402	Ant1	No-Hopping	2390	-60.18	2	37.08	Average	54	Pass
3-DH5	2480	Ant1	No-Hopping	2483.5	-49.09	2	48.17	Peak	74	Pass
3-DH5	2480	Ant1	No-Hopping	2483.5	-59.63	2	37.63	Average	54	Pass
3-DH5	2480	Ant1	No-Hopping	2486.434	-46.68	2	50.58	Peak	74	Pass
3-DH5	2480	Ant1	No-Hopping	2483.696	-59.58	2	37.68	Average	54	Pass
3-DH5	2480	Ant1	No-Hopping	2500	-49.27	2	47.99	Peak	74	Pass
3-DH5	2480	Ant1	No-Hopping	2500	-59.9	2	37.36	Average	54	Pass

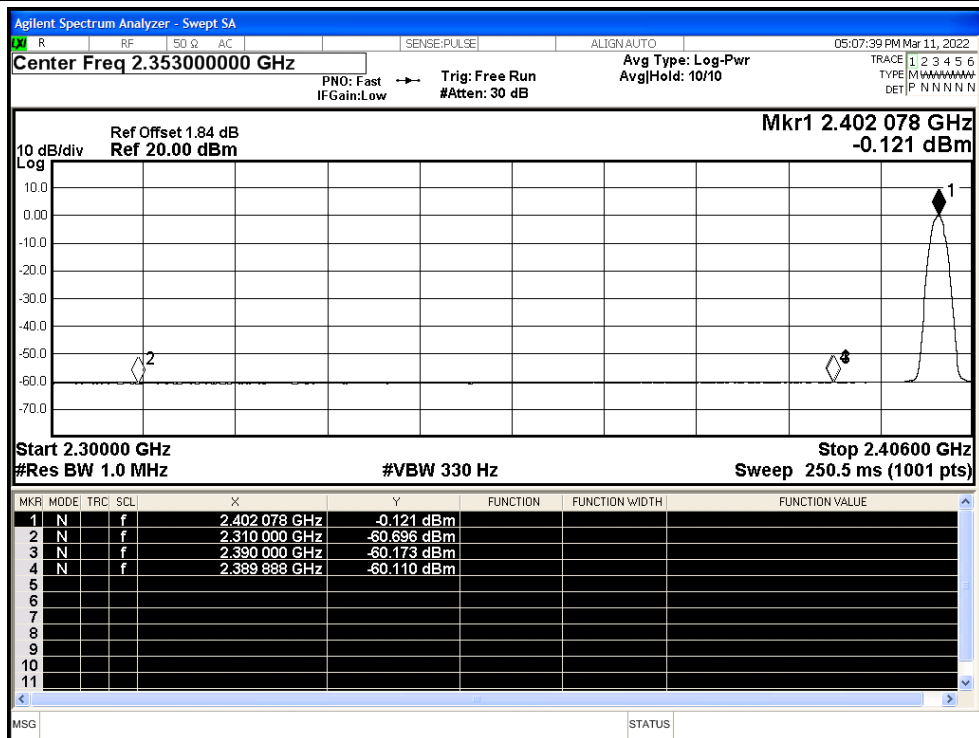


Test Graphs

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



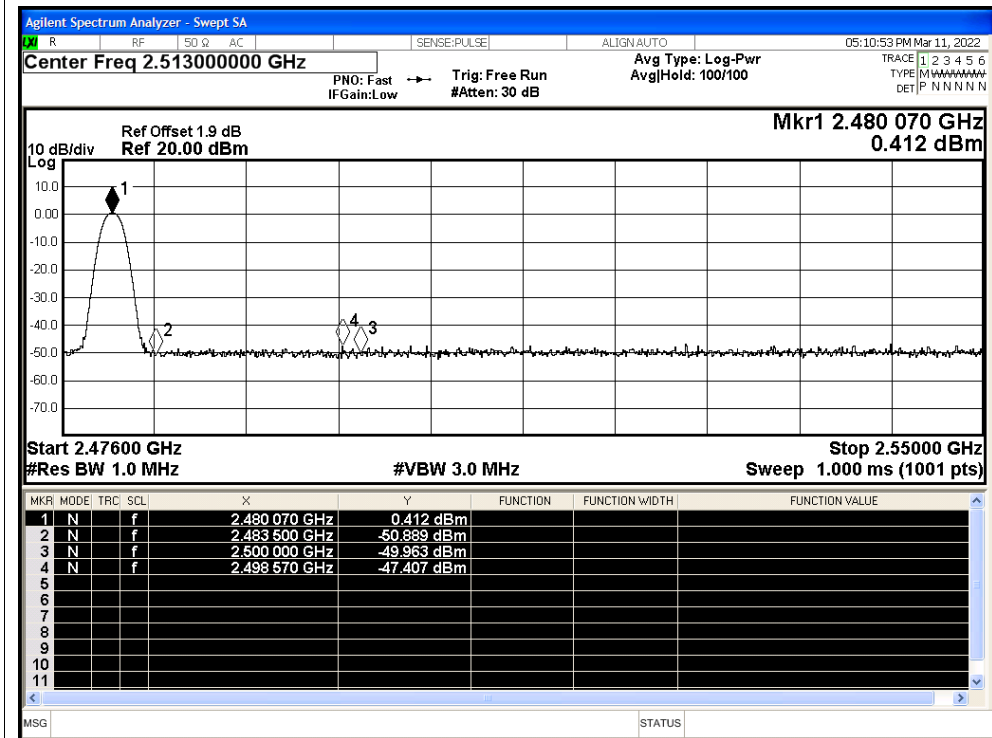
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



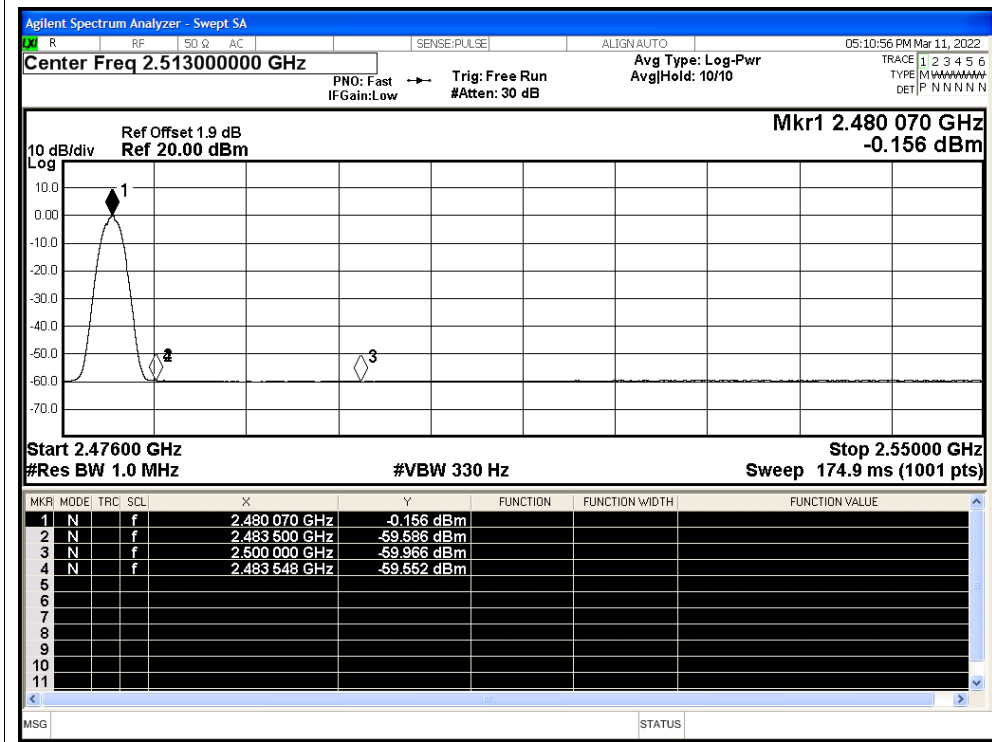


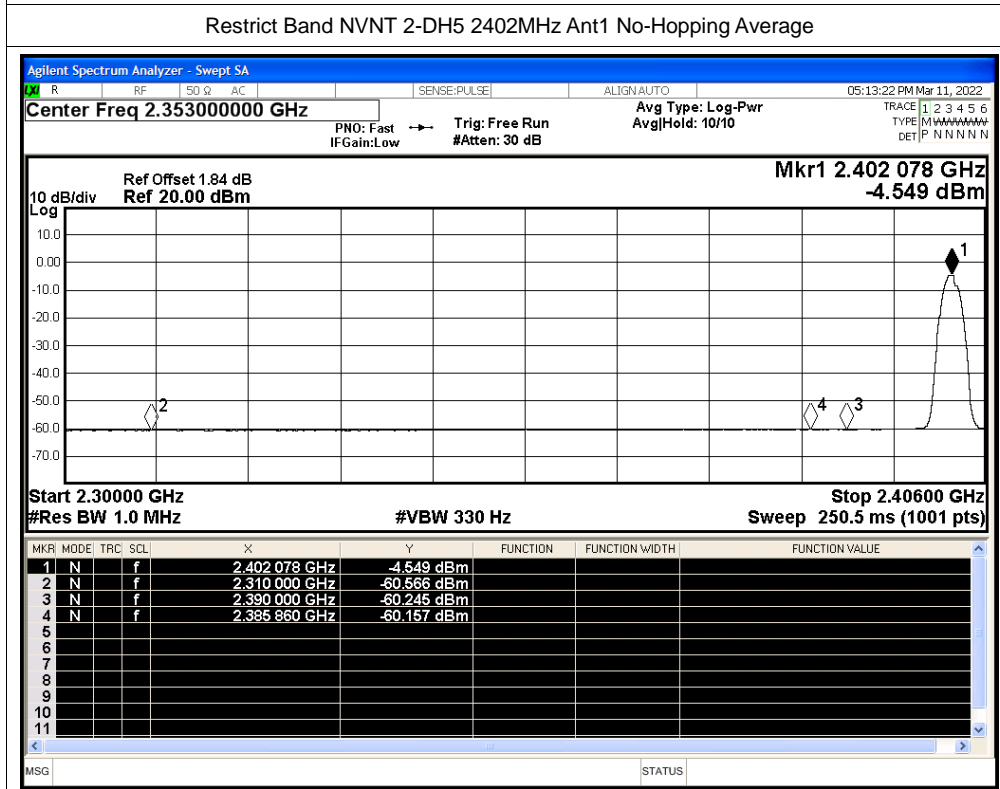
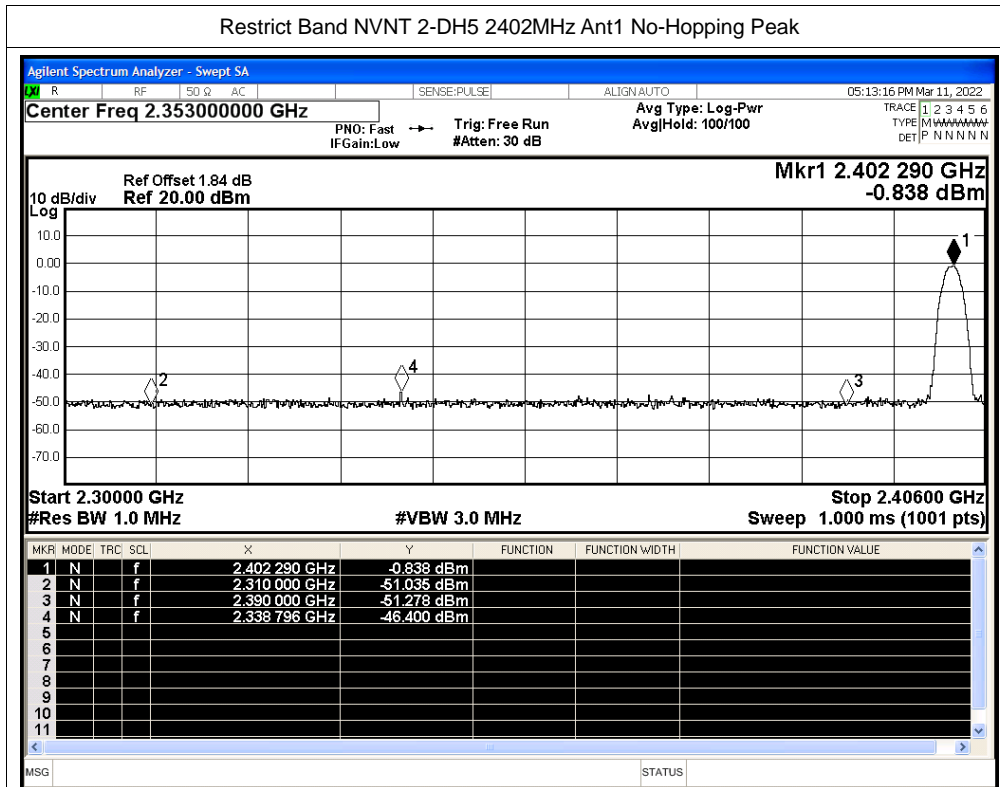


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



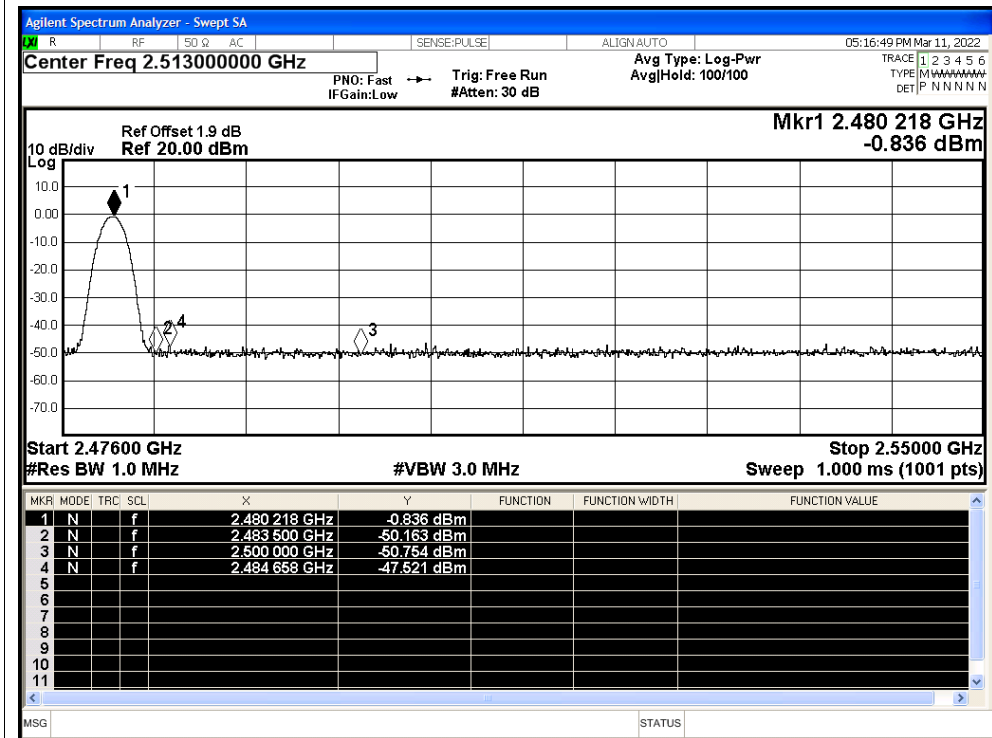
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average







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



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

