



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: PureBoom Rugged Mini Speaker

Test Model: 10655PG

Environmental Conditions

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





A.1 -20dB Bandwidth

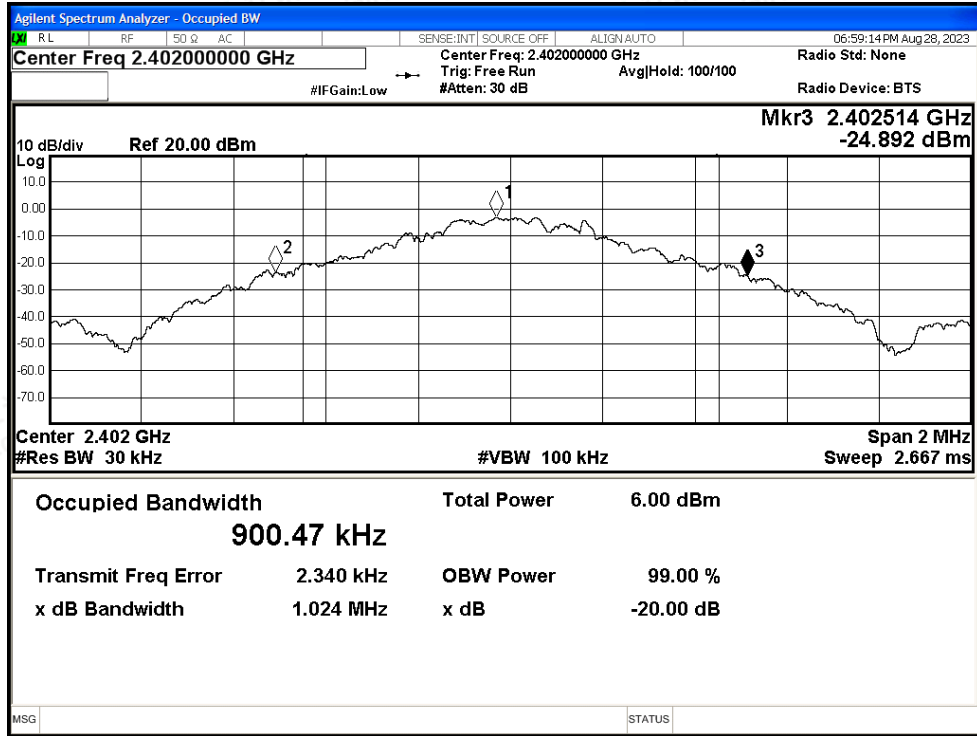
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant	1.024	0	Pass
NVNT	1-DH5	2441	Ant	1.01	0	Pass
NVNT	1-DH5	2480	Ant	0.959	0	Pass
NVNT	2-DH5	2402	Ant	1.277	0	Pass
NVNT	2-DH5	2441	Ant	1.286	0	Pass
NVNT	2-DH5	2480	Ant	1.281	0	Pass
NVNT	3-DH5	2402	Ant	1.281	0	Pass
NVNT	3-DH5	2441	Ant	1.285	0	Pass
NVNT	3-DH5	2480	Ant	1.274	0	Pass



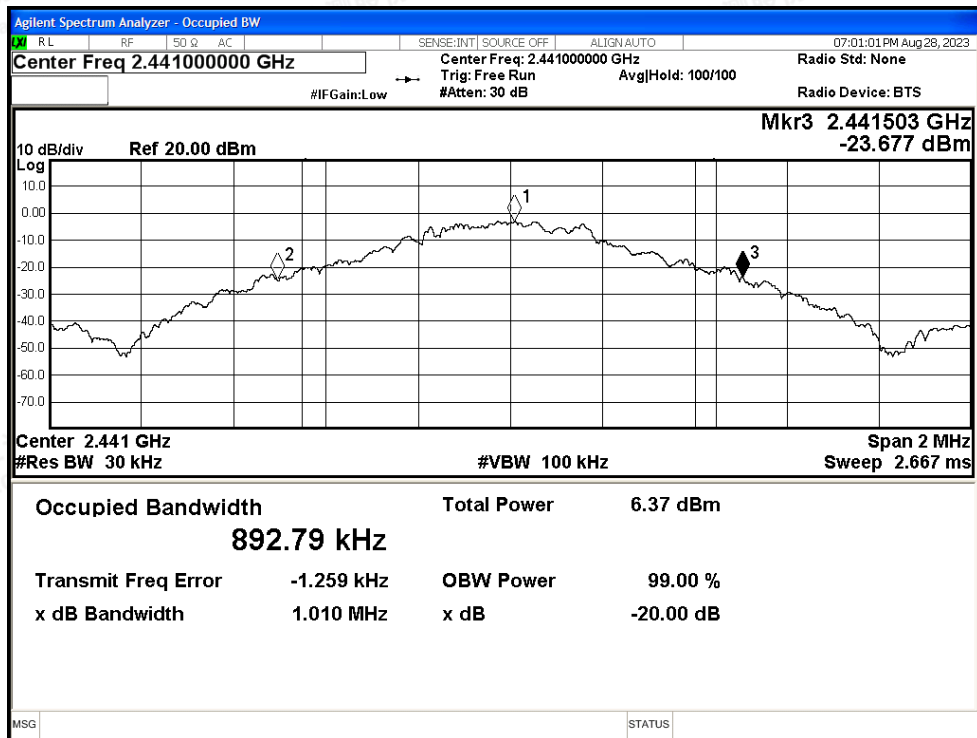


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant

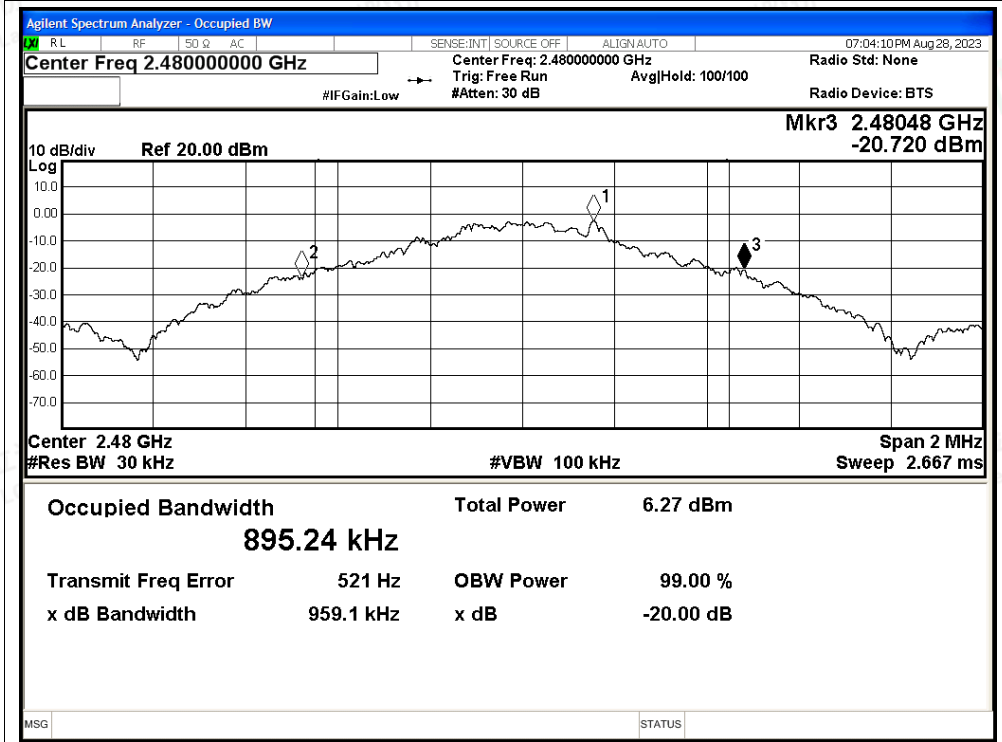


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant

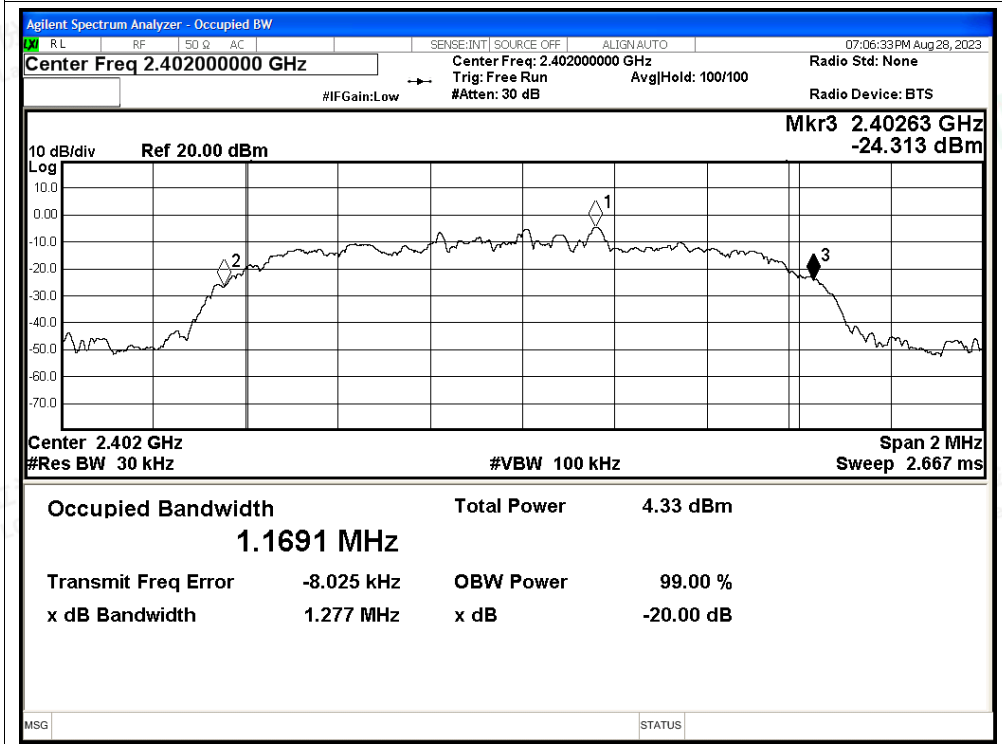




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant

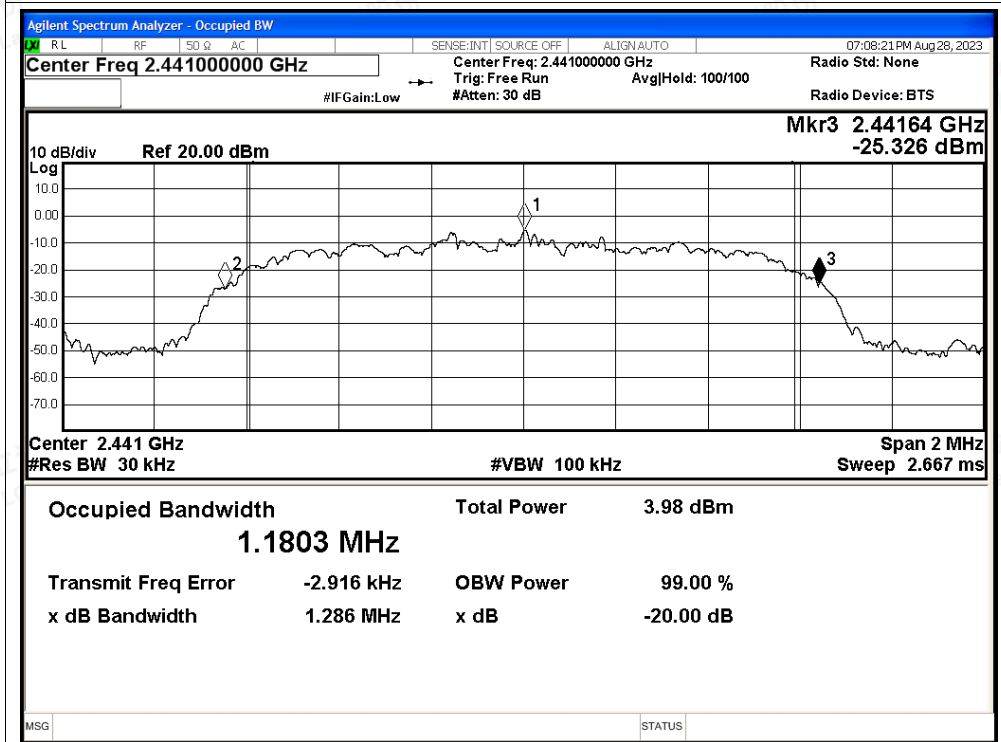


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant

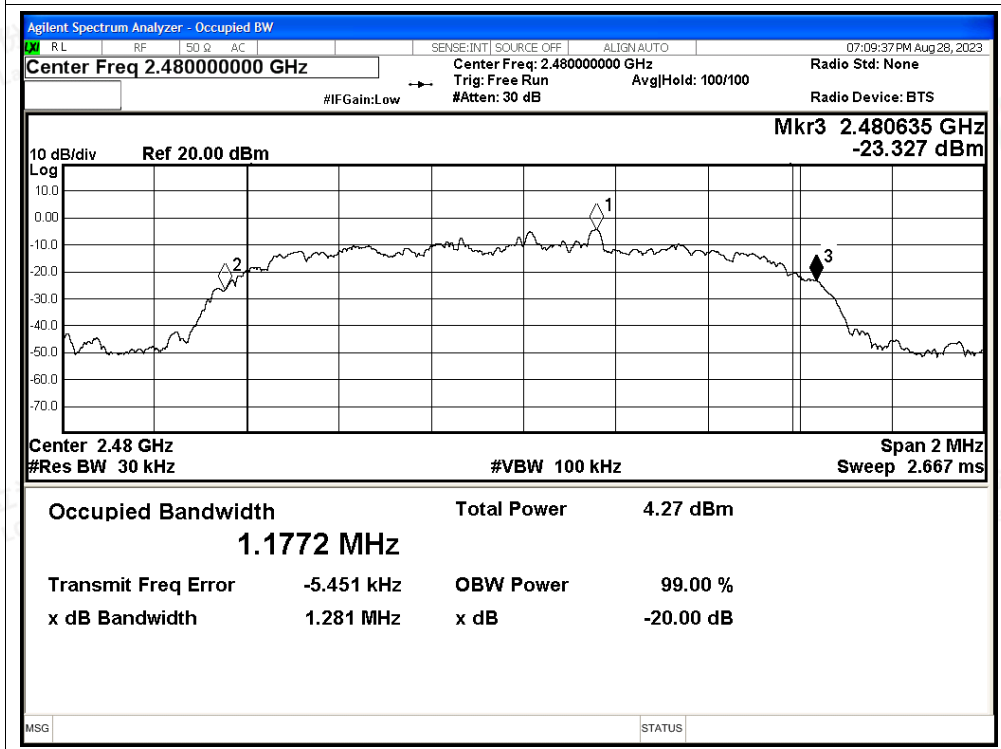




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant

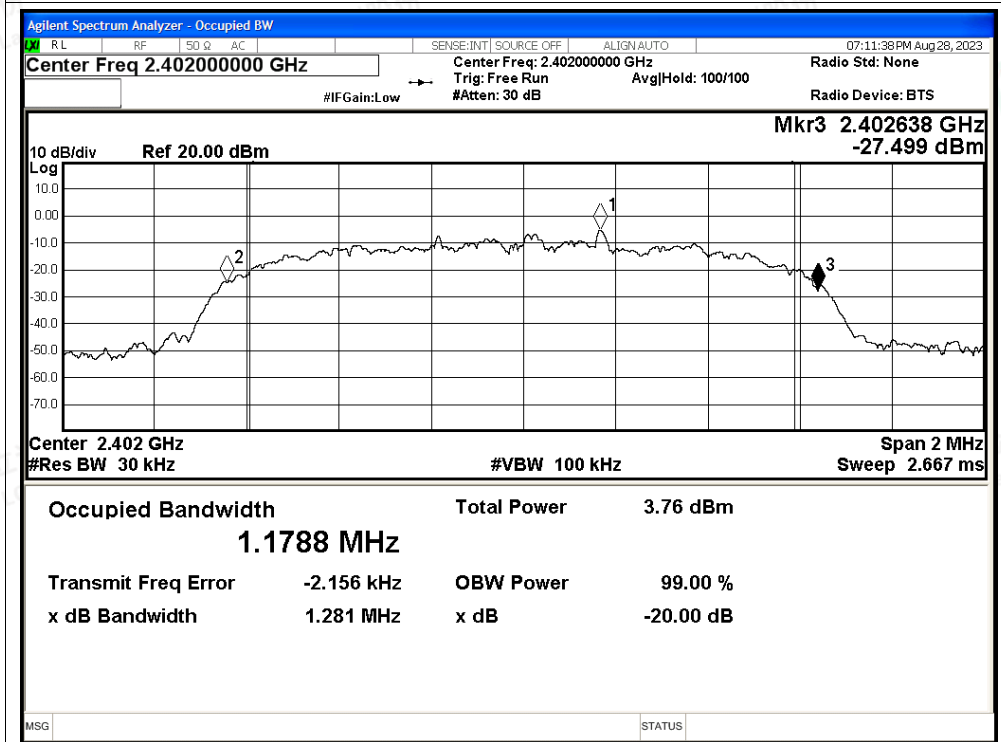


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant

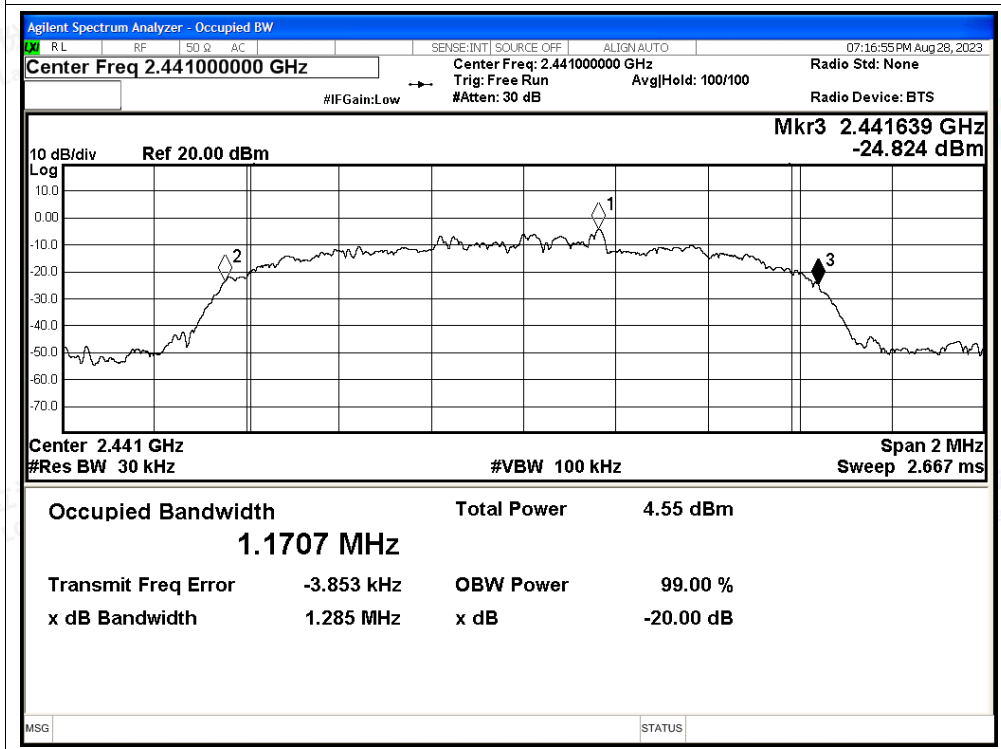


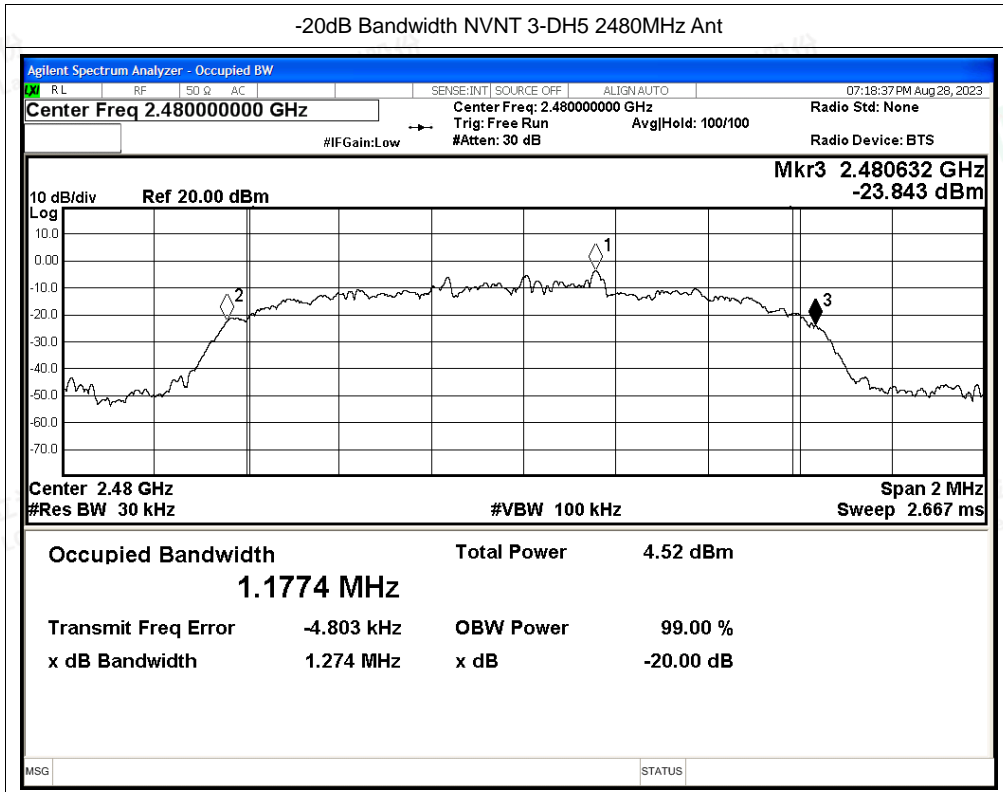


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant







A.2 Maximum Conducted Output Power

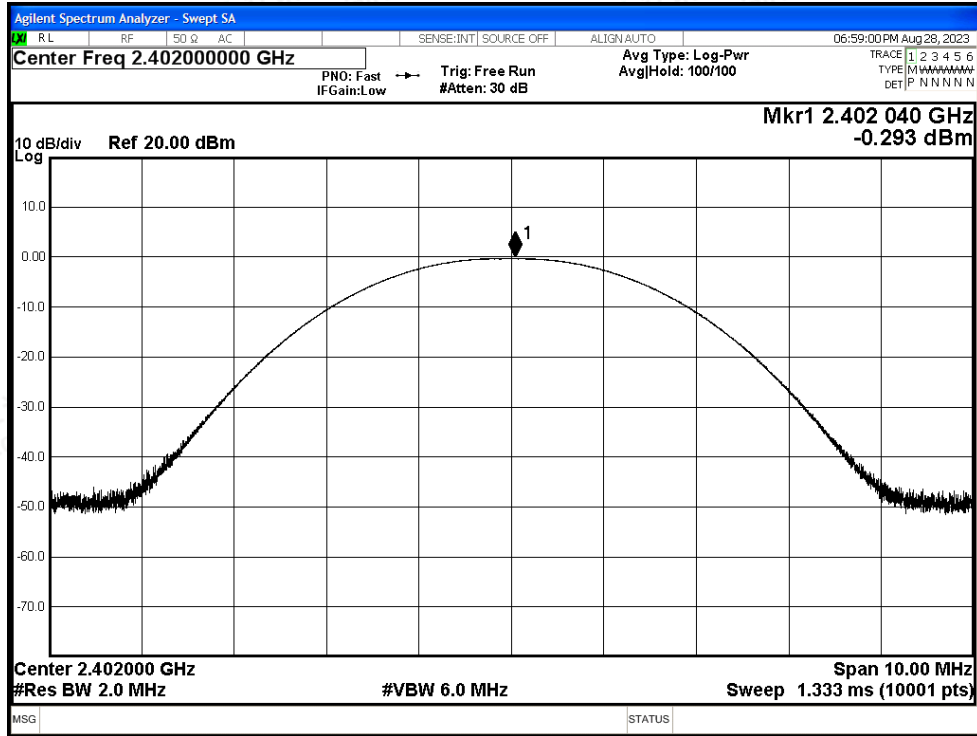
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant	-0.29	21	Pass
NVNT	1-DH5	2441	Ant	-0.01	21	Pass
NVNT	1-DH5	2480	Ant	-0.02	21	Pass
NVNT	2-DH5	2402	Ant	-0.59	21	Pass
NVNT	2-DH5	2441	Ant	-0.24	21	Pass
NVNT	2-DH5	2480	Ant	-0.26	21	Pass
NVNT	3-DH5	2402	Ant	-0.49	21	Pass
NVNT	3-DH5	2441	Ant	-0.18	21	Pass
NVNT	3-DH5	2480	Ant	-0.22	21	Pass



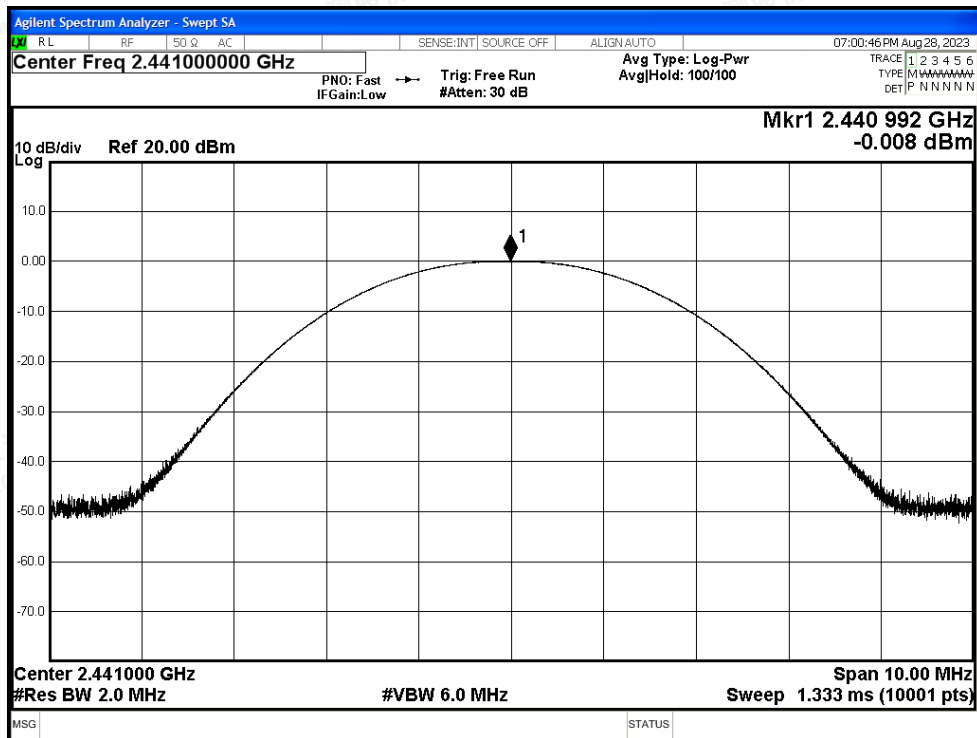


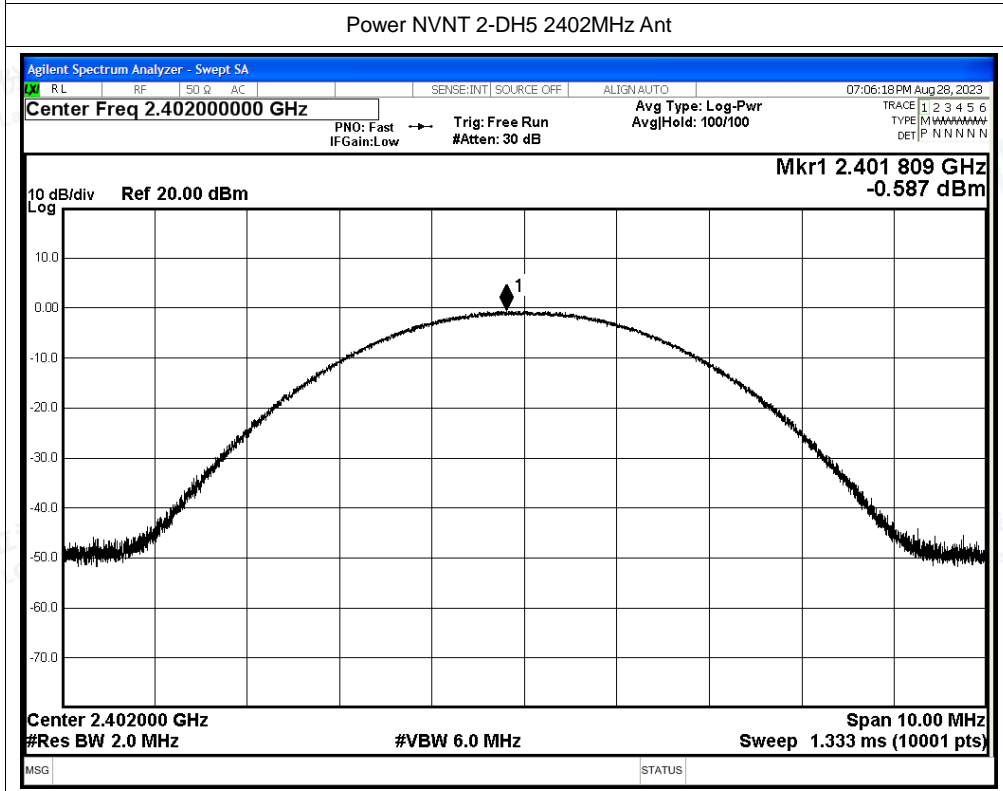
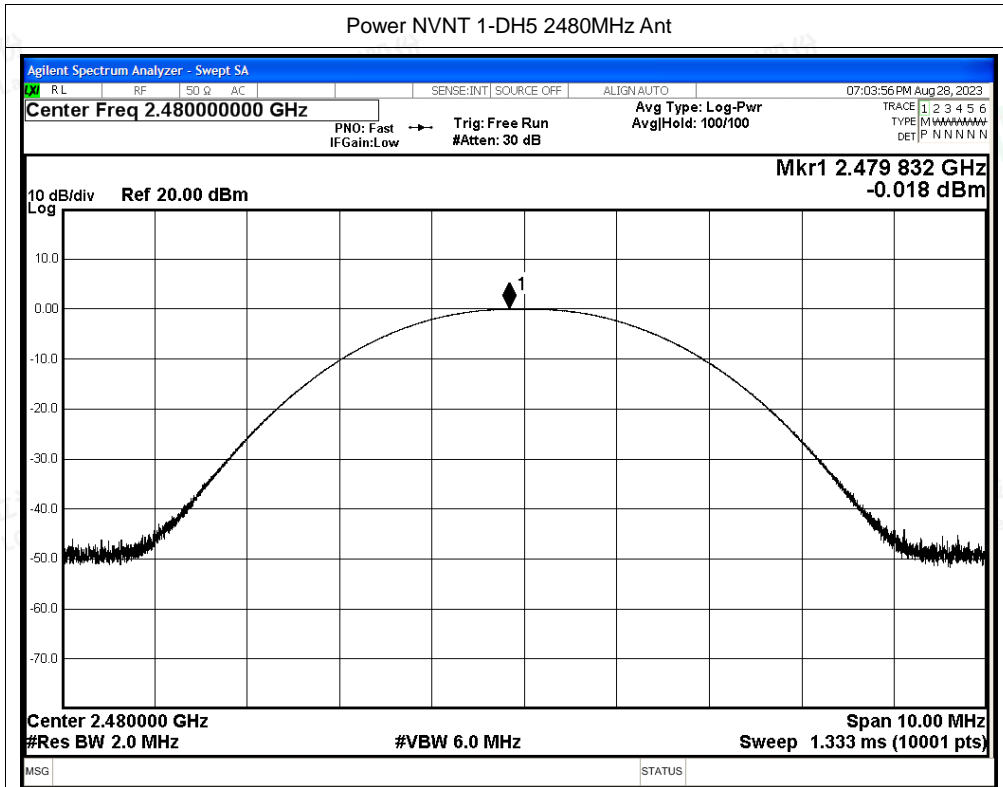
Test Graphs

Power NVNT 1-DH5 2402MHz Ant



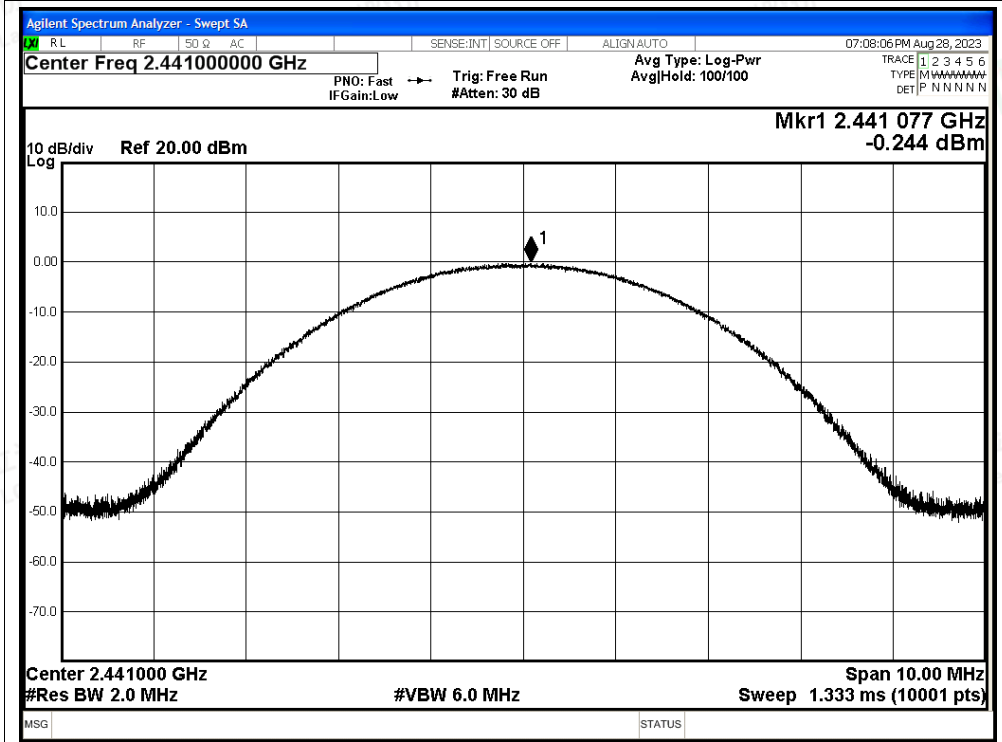
Power NVNT 1-DH5 2441MHz Ant



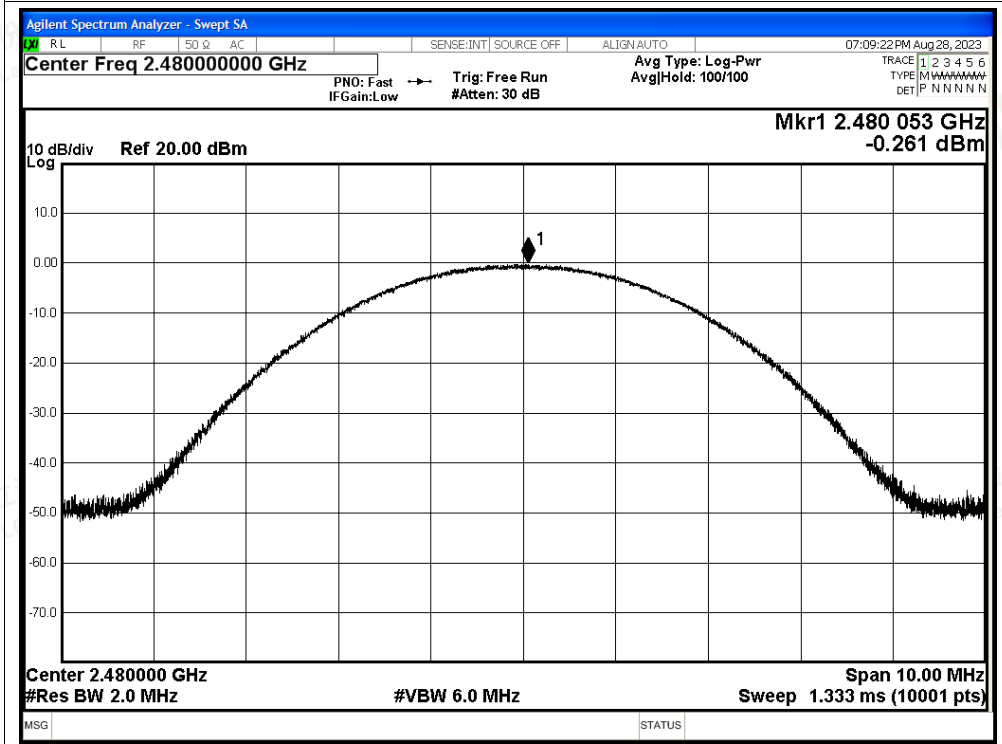




Power NVNT 2-DH5 2441MHz Ant

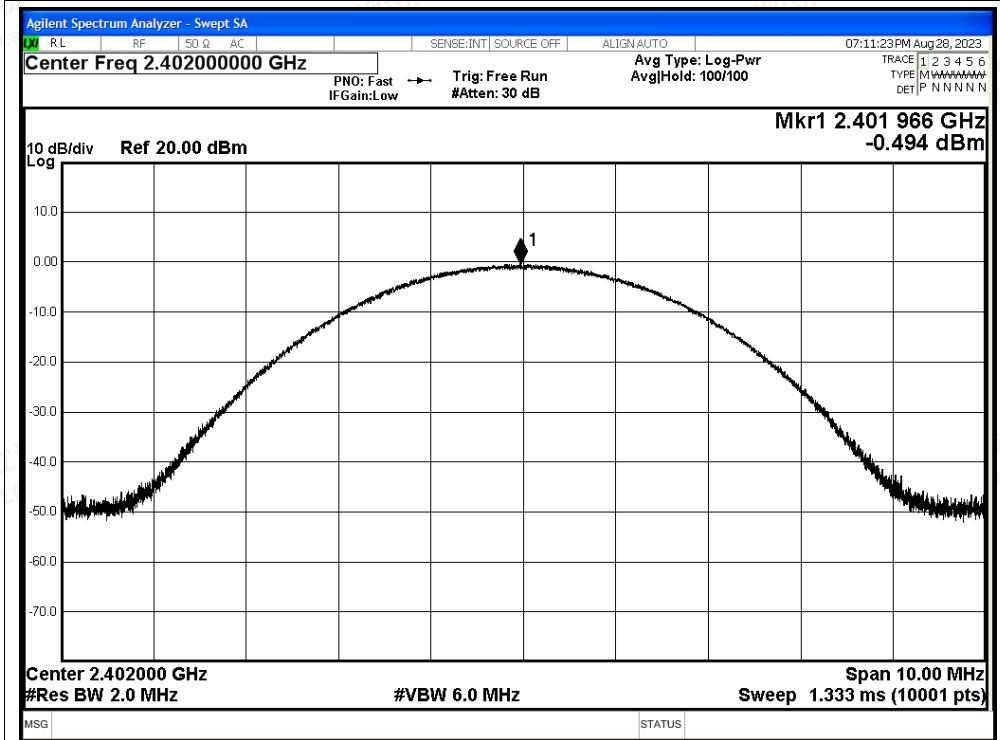


Power NVNT 2-DH5 2480MHz Ant

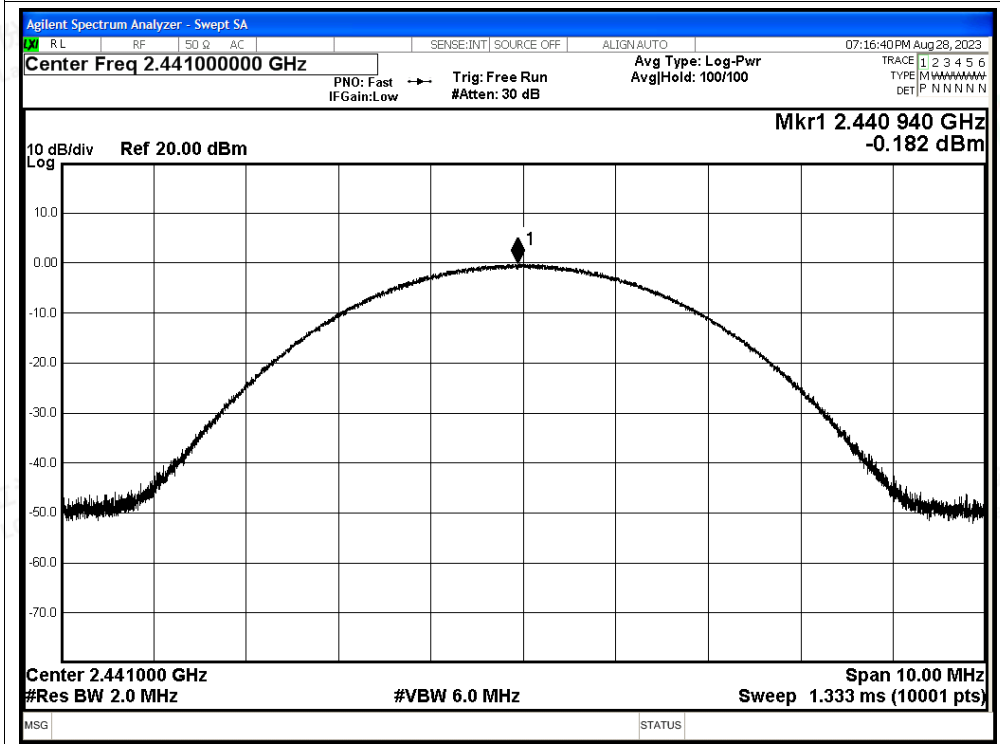


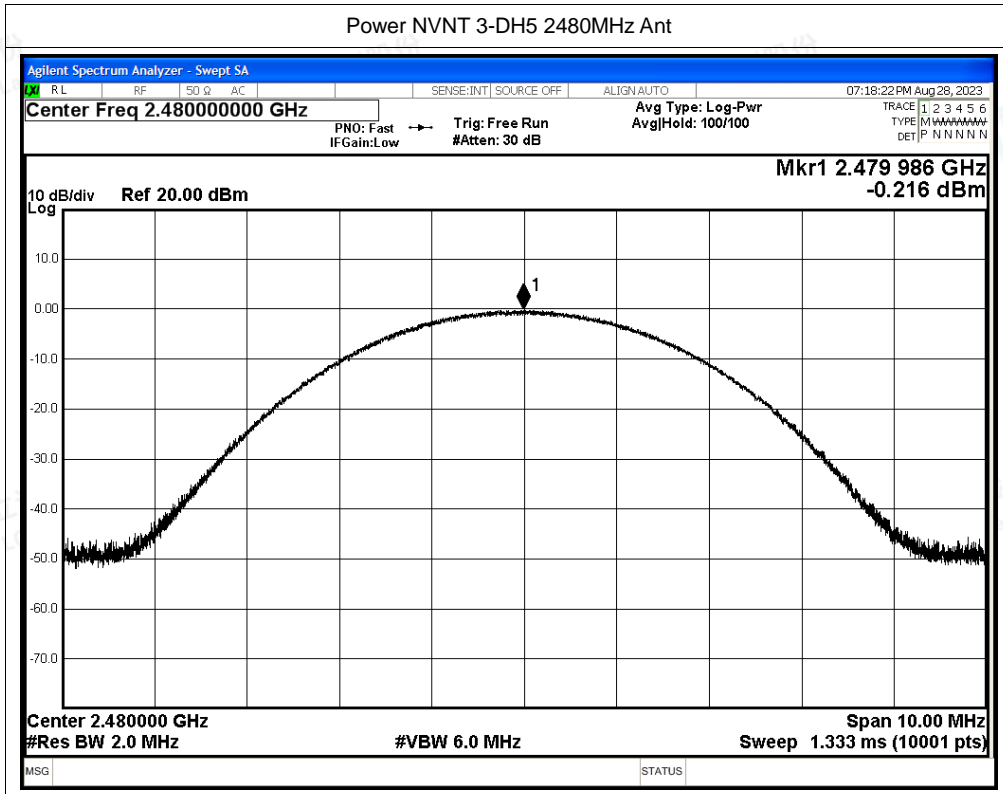


Power NVNT 3-DH5 2402MHz Ant



Power NVNT 3-DH5 2441MHz Ant







A.3 Carrier Frequencies Separation

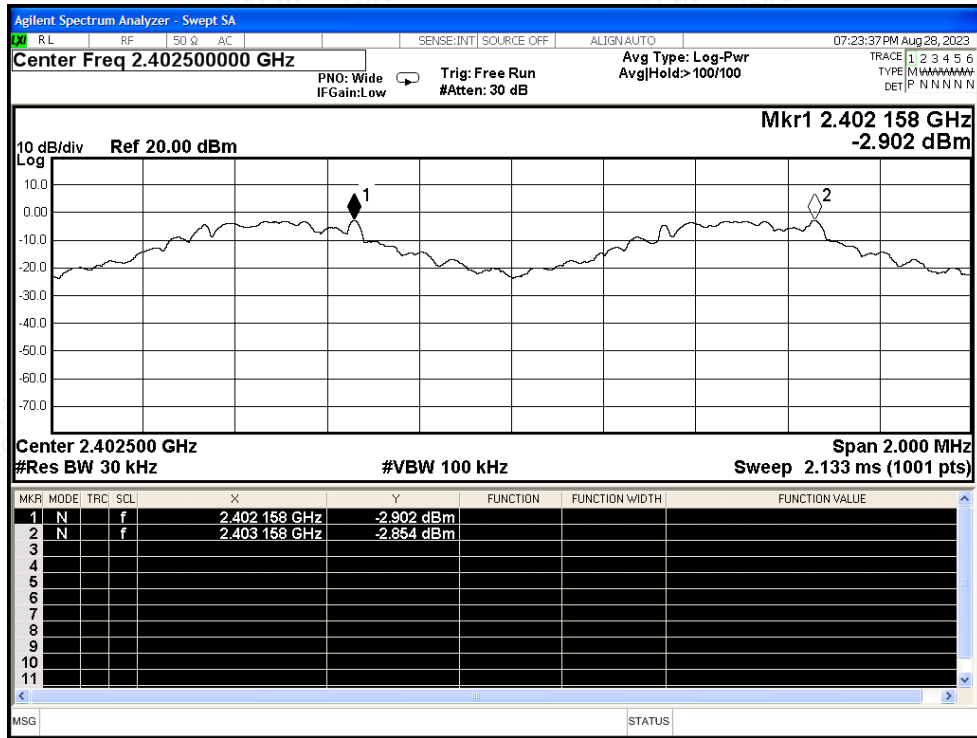
Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant	2402.158	2403.158	1	0.683	Pass
NVNT	2-DH5	Ant	2402.012	2403.16	1.148	0.857	Pass
NVNT	3-DH5	Ant	2402.01	2403.014	1.004	0.857	Pass



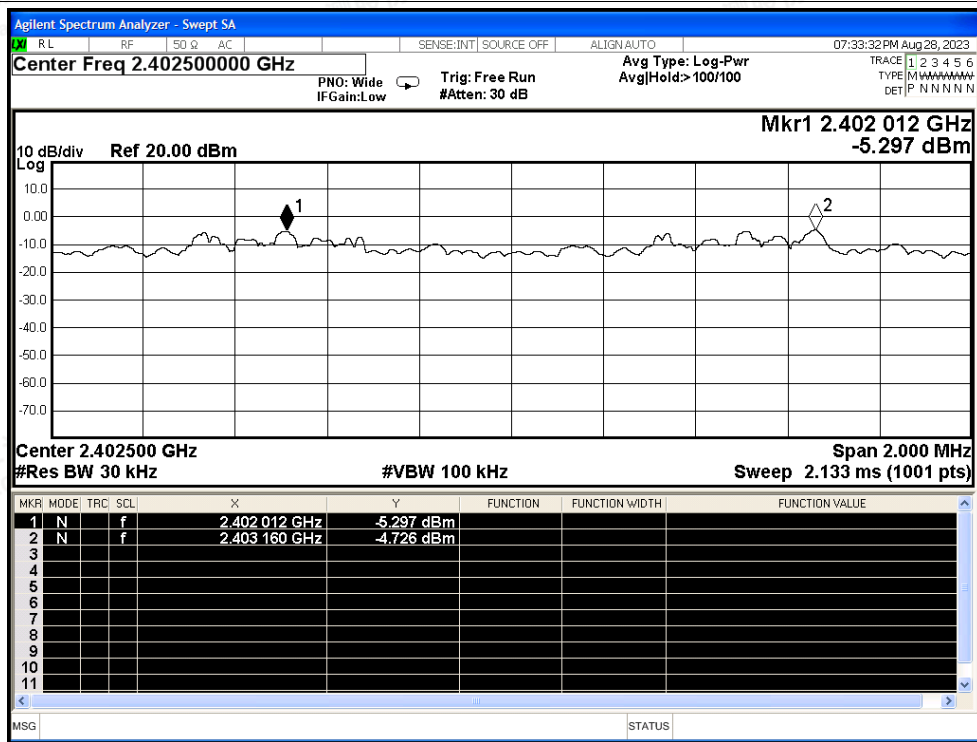


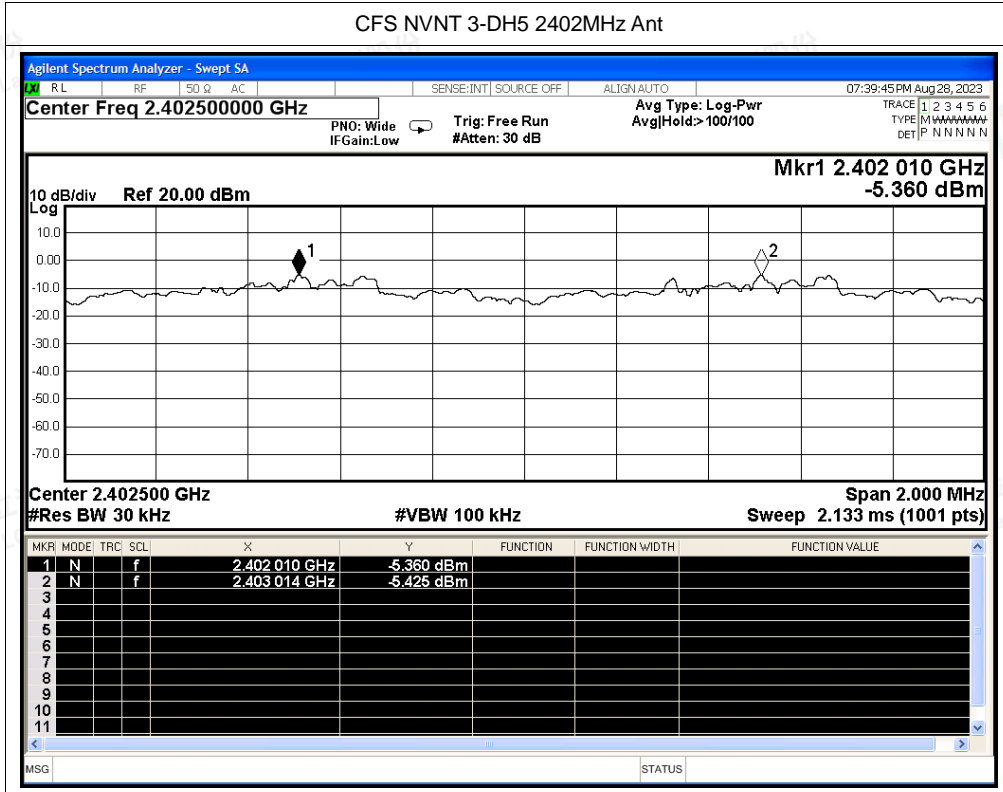
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant



CFS NVNT 2-DH5 2402MHz Ant







A.4 Dwell Time

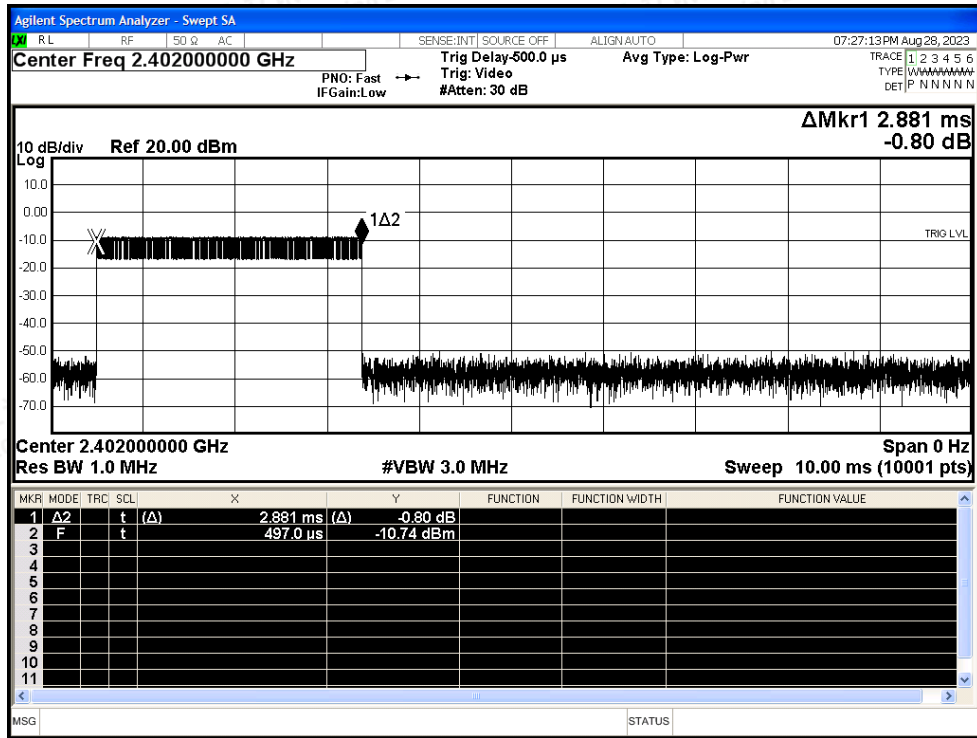
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant	2.881	322.672	112	31600	400	Pass
NVNT	2-DH5	2402	Ant	2.88	282.24	98	31600	400	Pass
NVNT	3-DH5	2402	Ant	2.886	305.916	106	31600	400	Pass



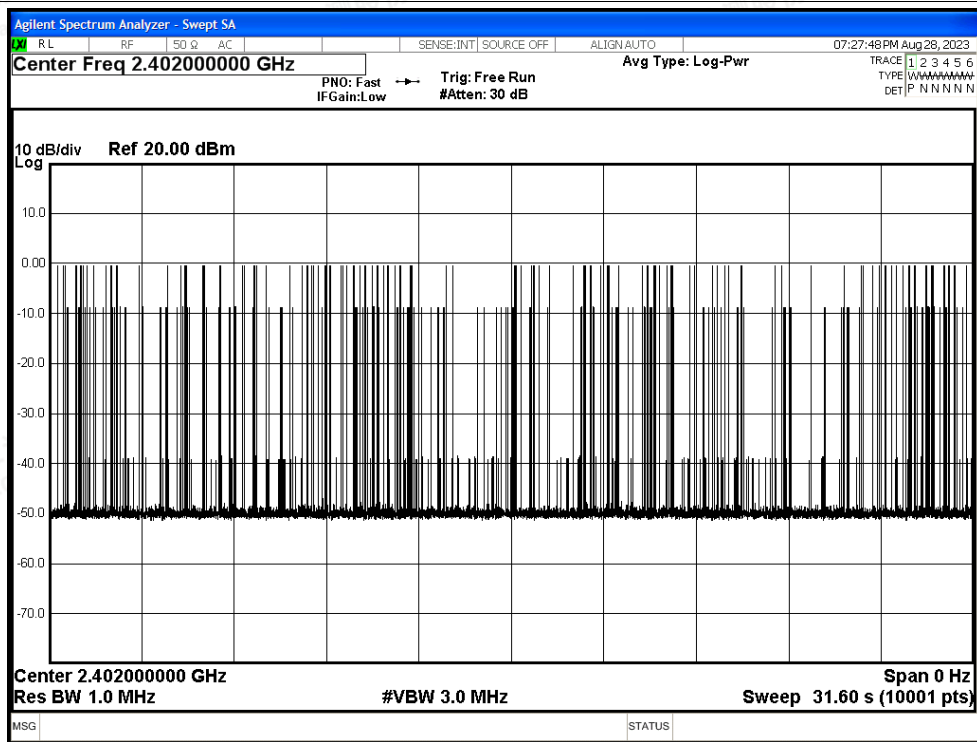


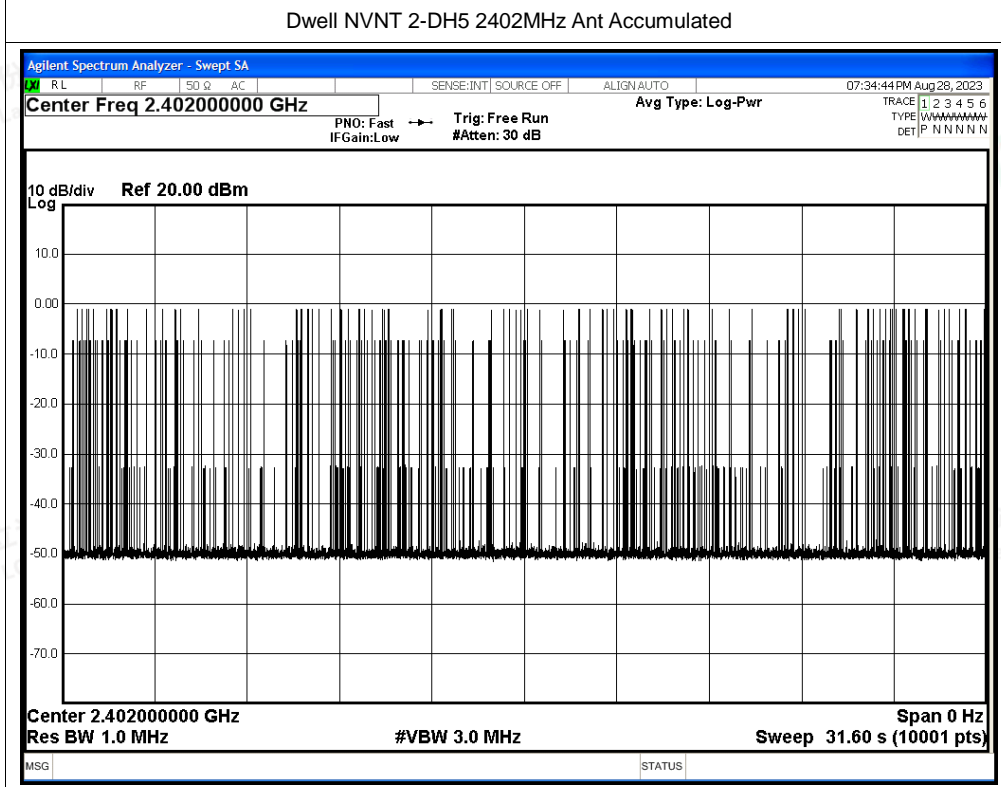
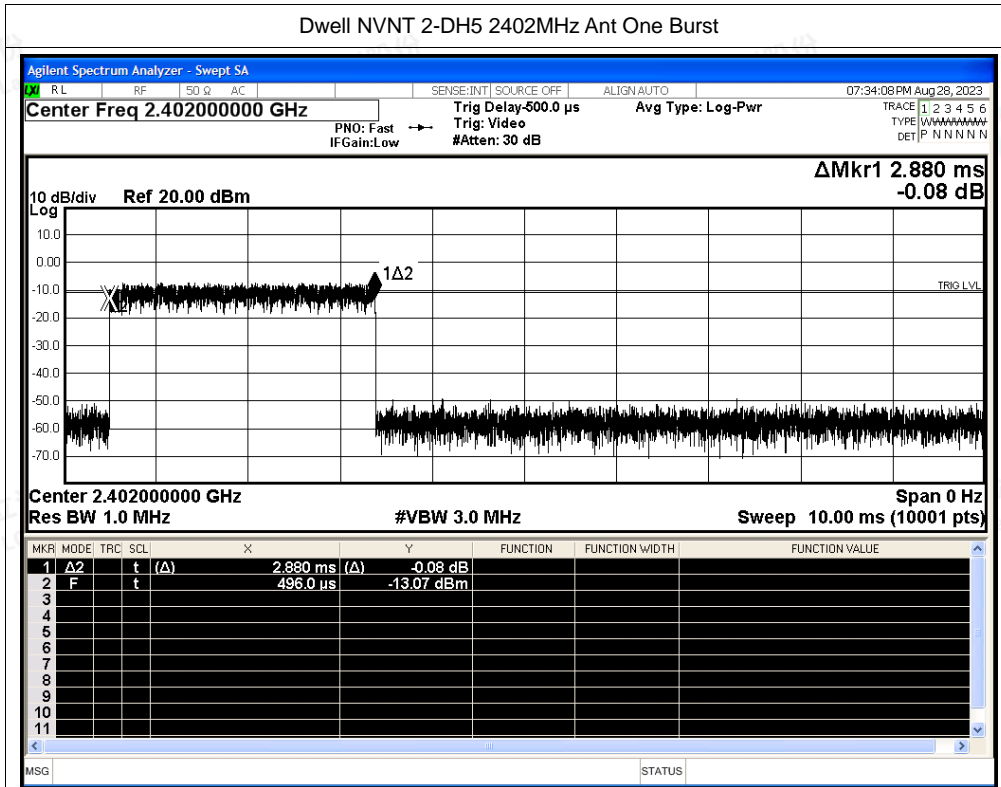
Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant One Burst



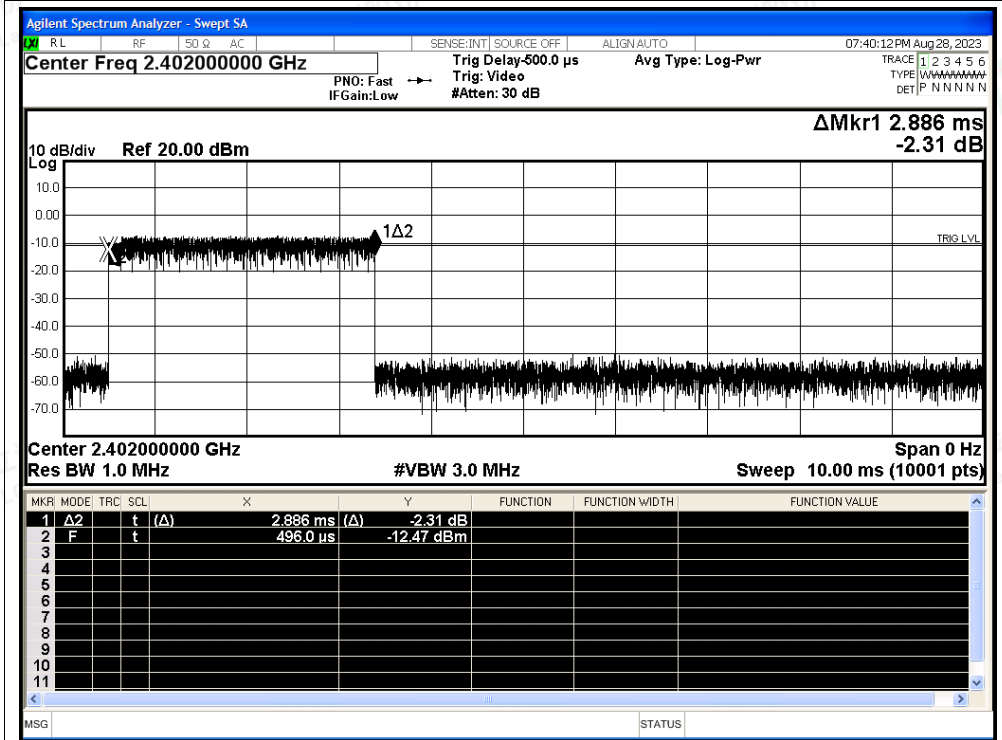
Dwell NVNT 1-DH5 2402MHz Ant Accumulated



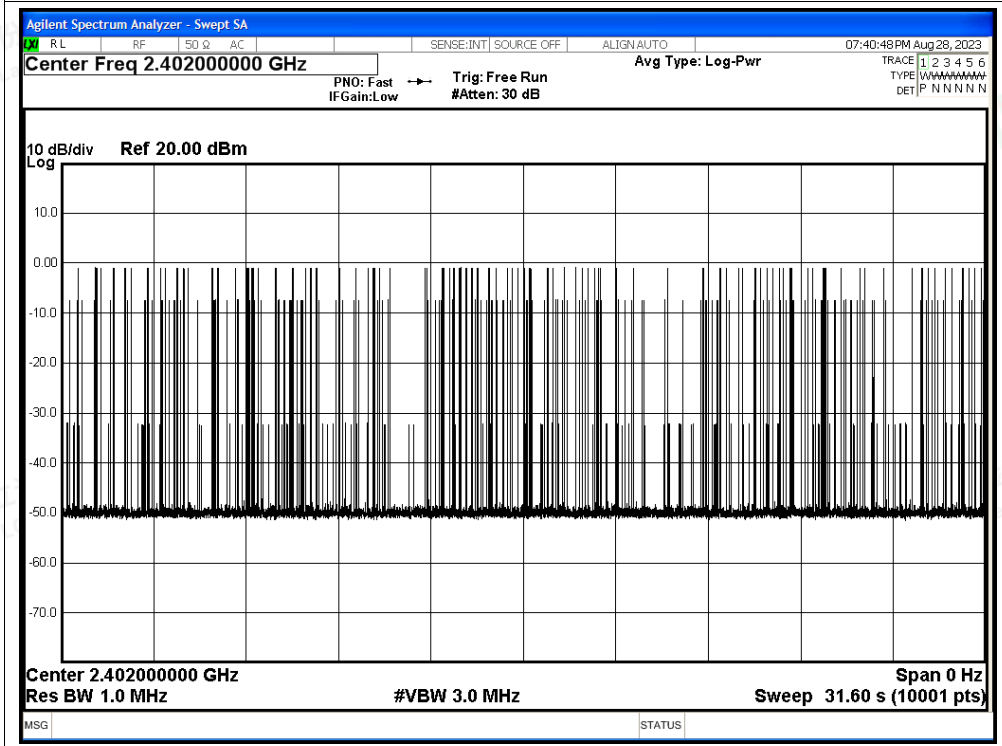




Dwell NVNT 3-DH5 2402MHz Ant One Burst



Dwell NVNT 3-DH5 2402MHz Ant Accumulated





A.5 Number of Hopping Channel

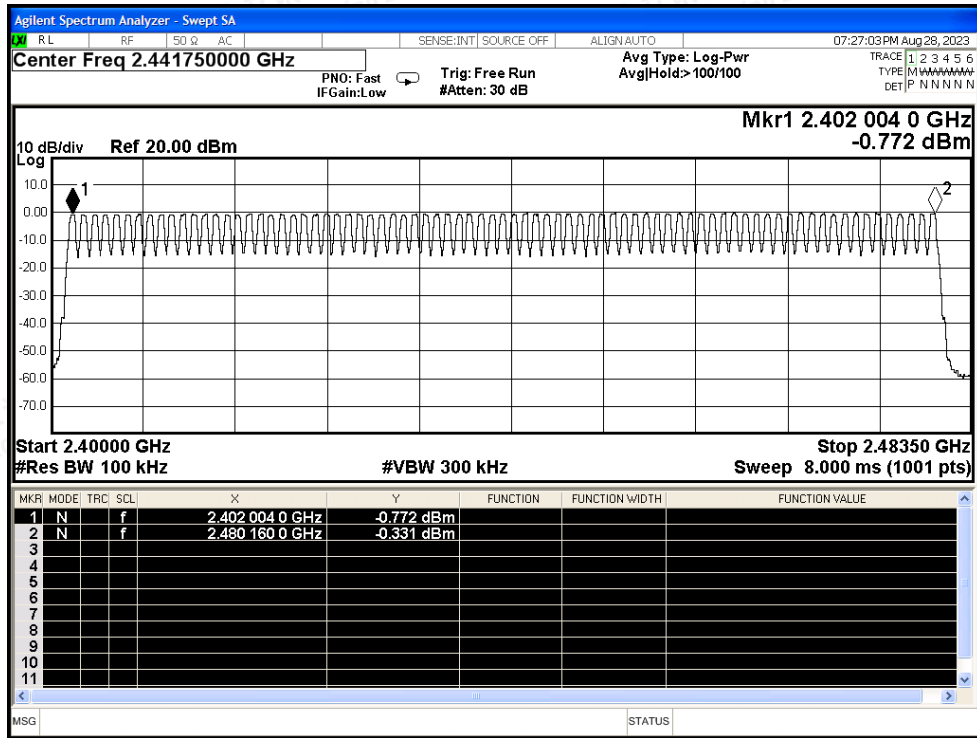
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant	79	15	Pass
NVNT	2-DH5	Ant	79	15	Pass
NVNT	3-DH5	Ant	79	15	Pass



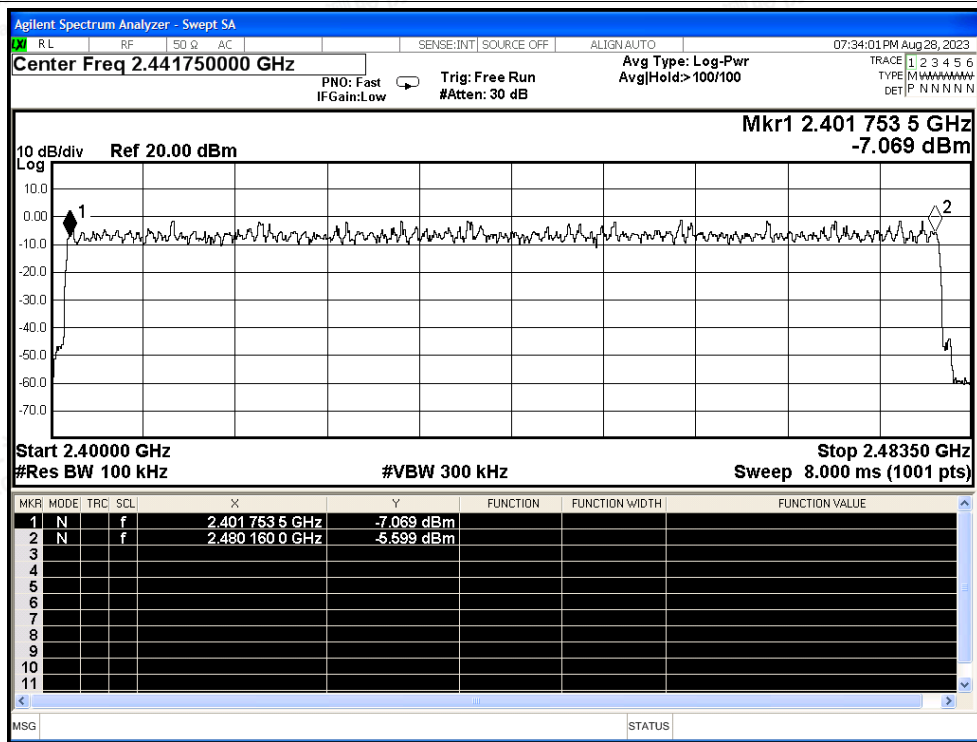


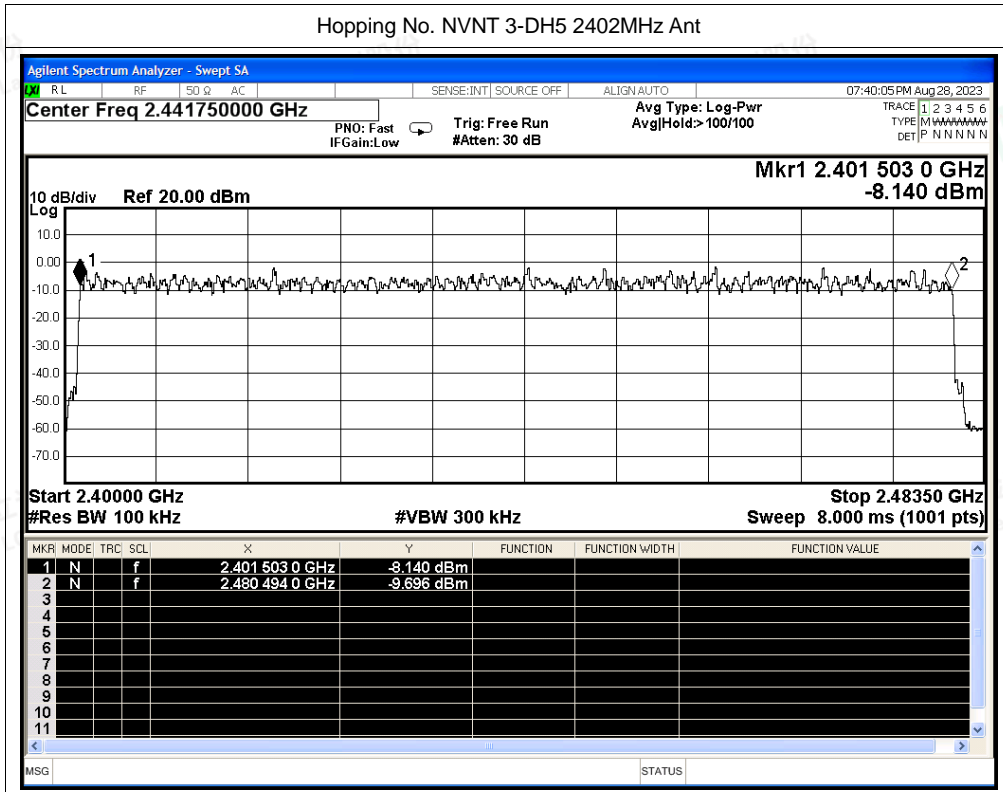
Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant



Hopping No. NVNT 2-DH5 2402MHz Ant







A.6 Band Edge

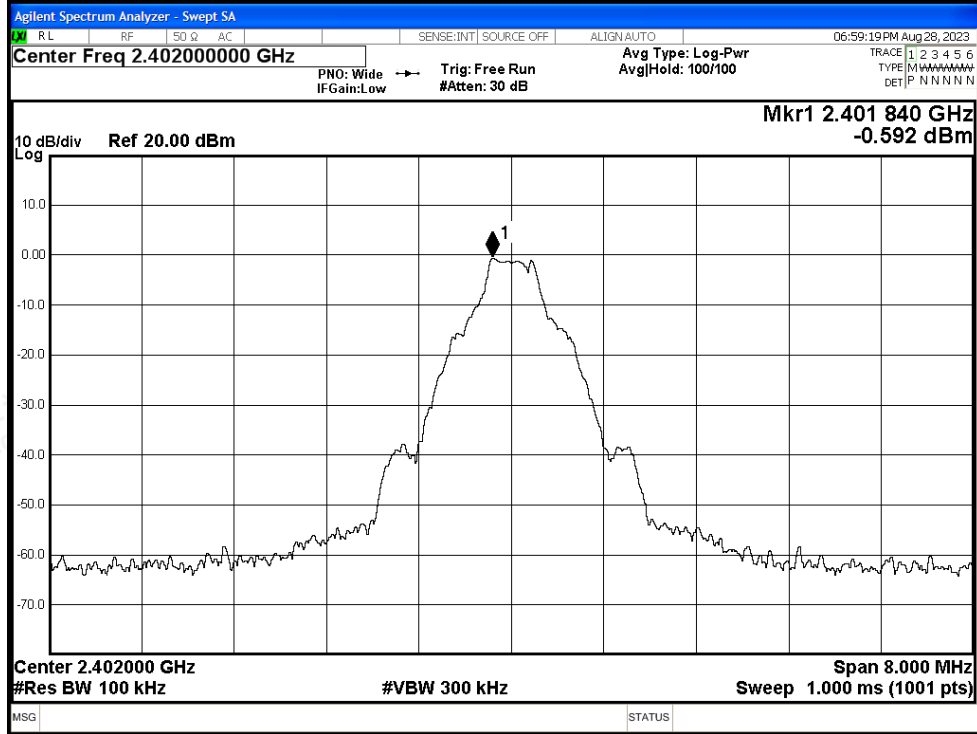
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant	No-Hopping	-56.93	-20	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	-57.59	-20	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	-54.54	-20	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	-56.2	-20	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	-52.03	-20	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	-55.98	-20	Pass



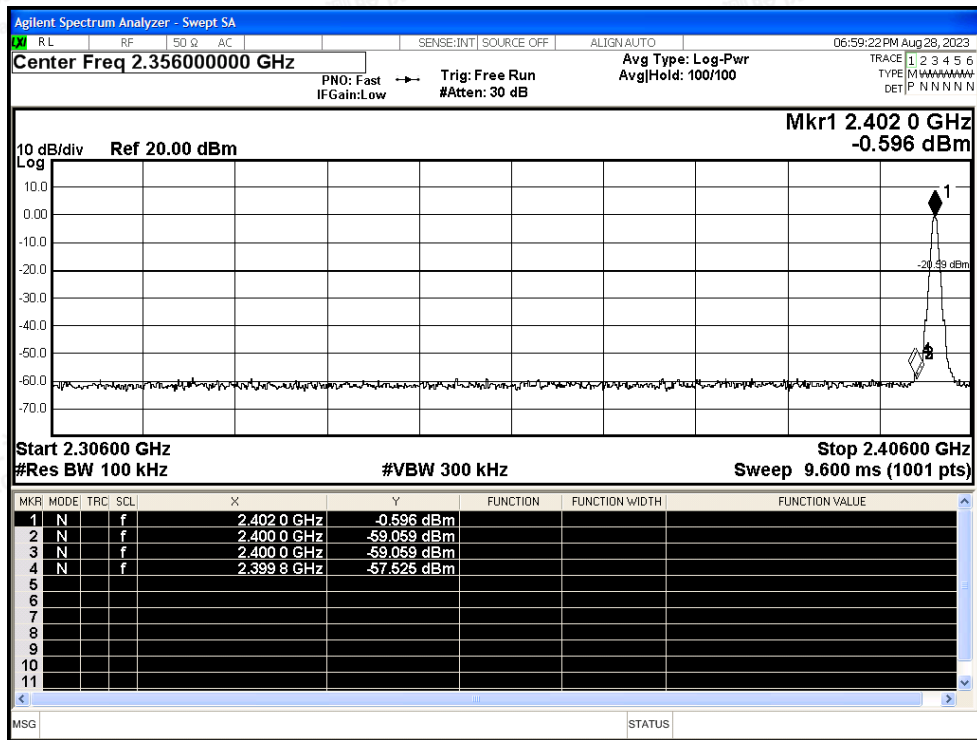


Test Graphs

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

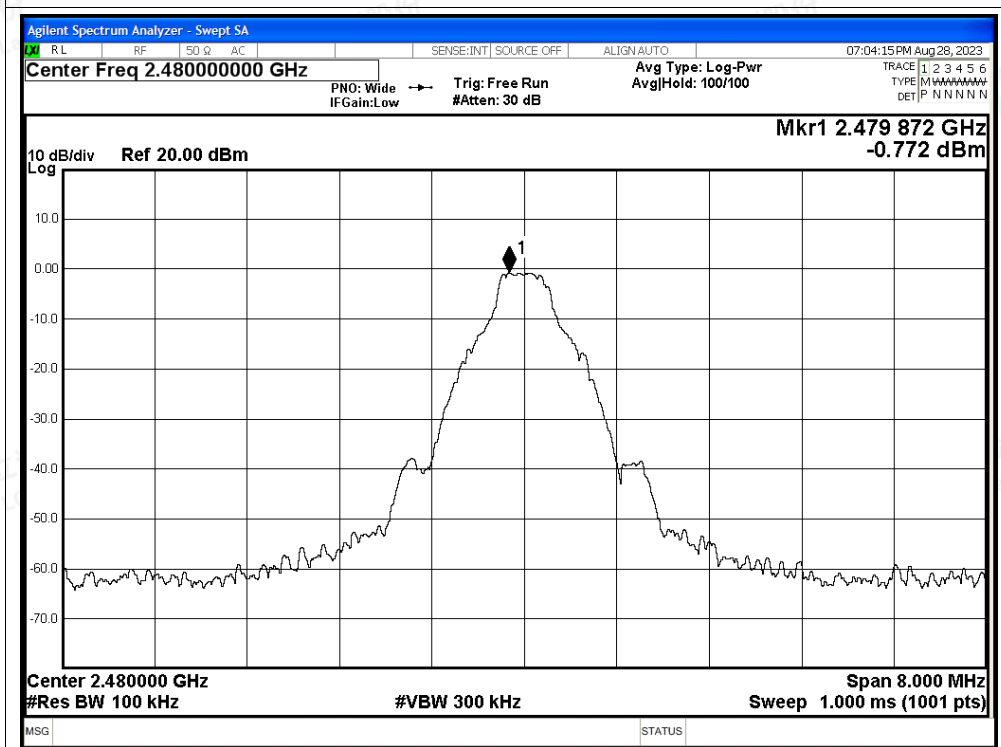


Band Edge NVNT 1-DH5 2402MHz Ant No-Hopping Emission

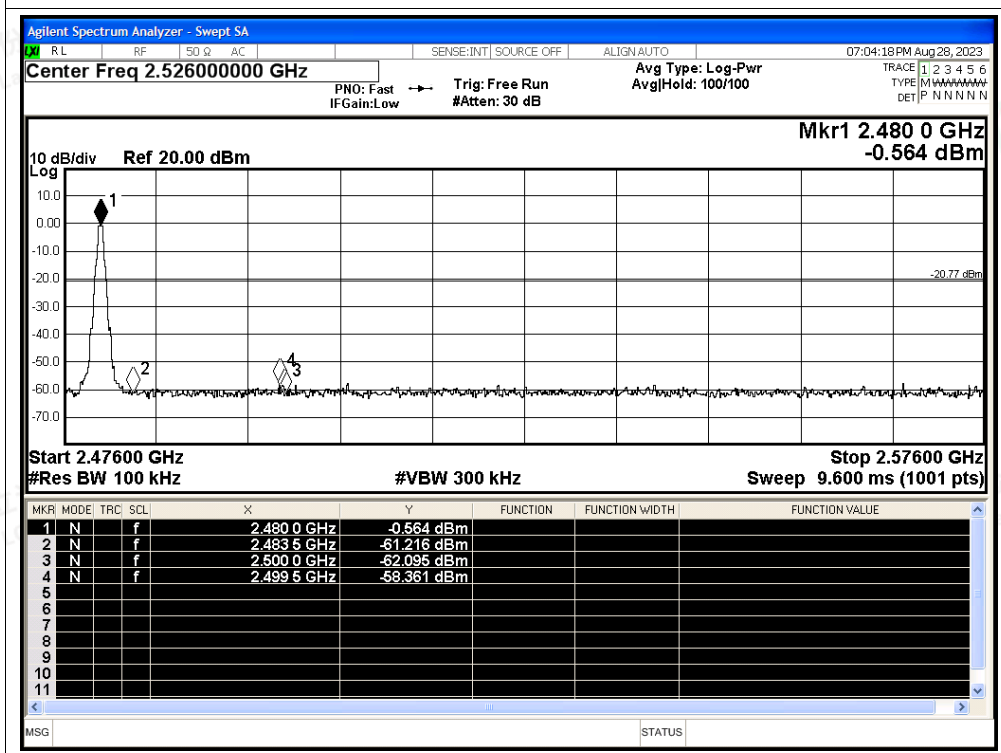




Band Edge NVNT 1-DH5 2480MHz Ant No-Hopping Ref

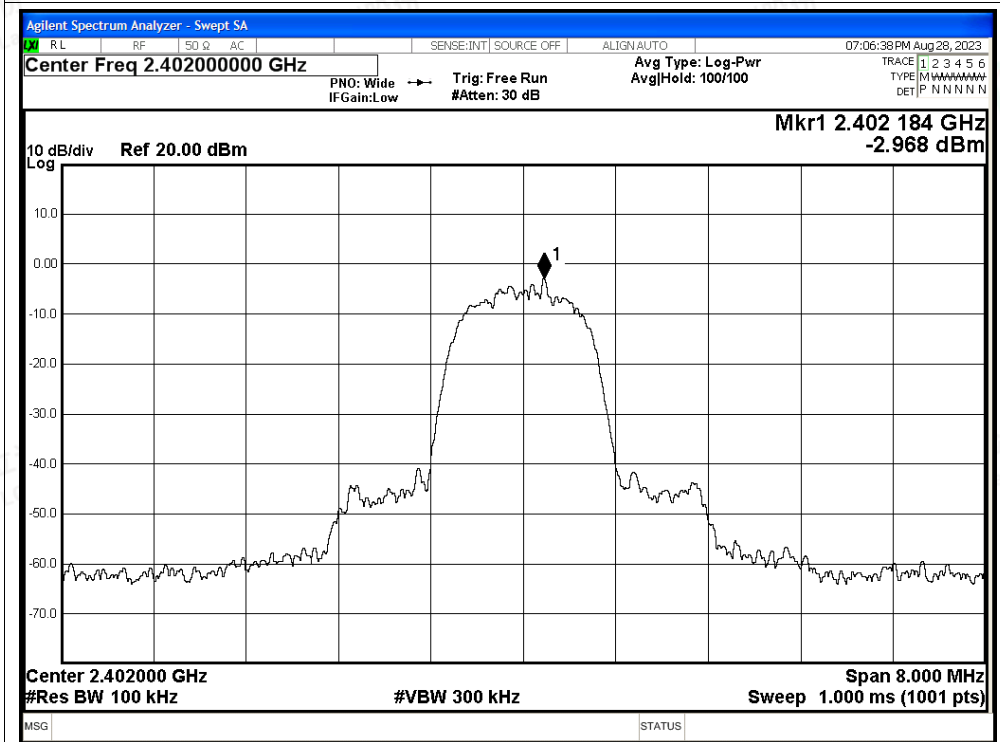


Band Edge NVNT 1-DH5 2480MHz Ant No-Hopping Emission

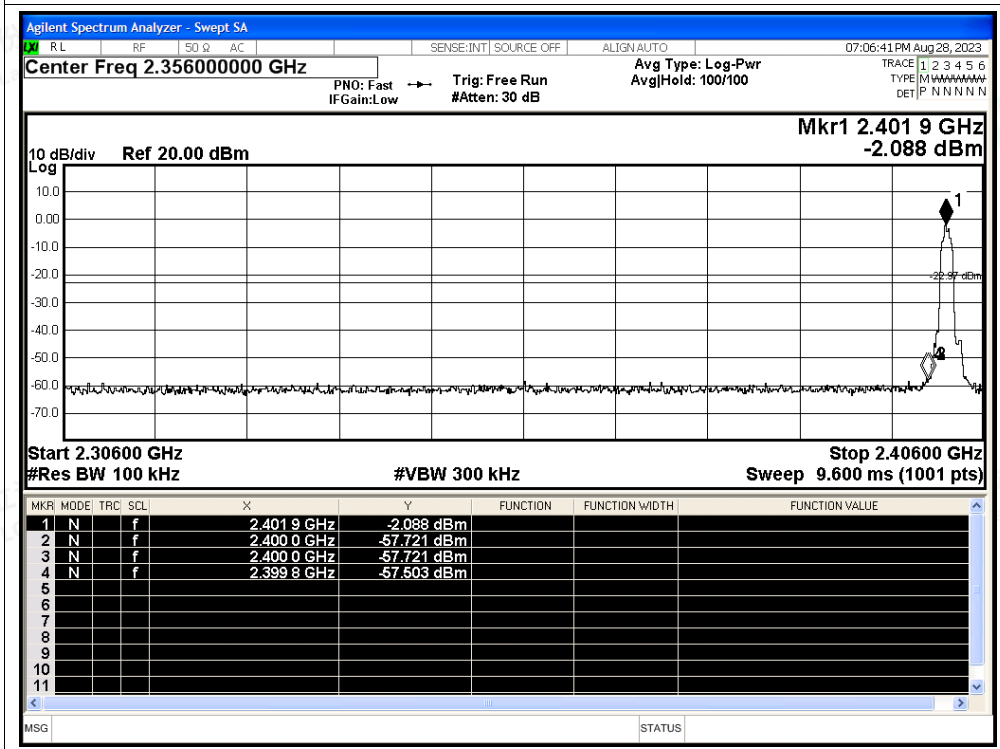




Band Edge NVNT 2-DH5 2402MHz Ant No-Hopping Ref

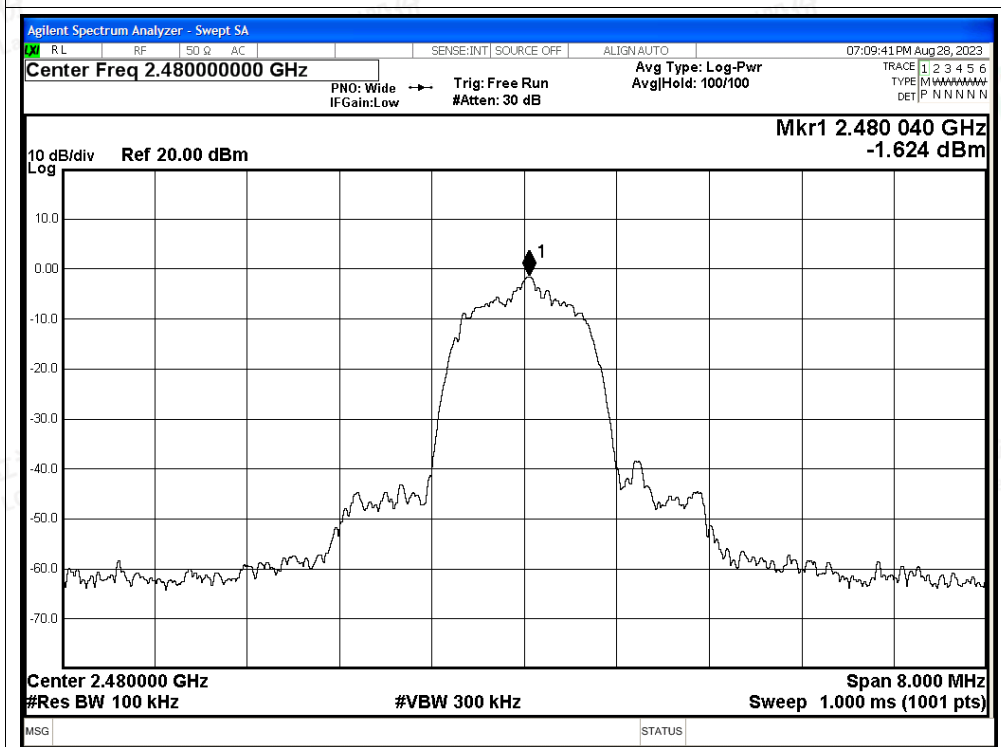


Band Edge NVNT 2-DH5 2402MHz Ant No-Hopping Emission

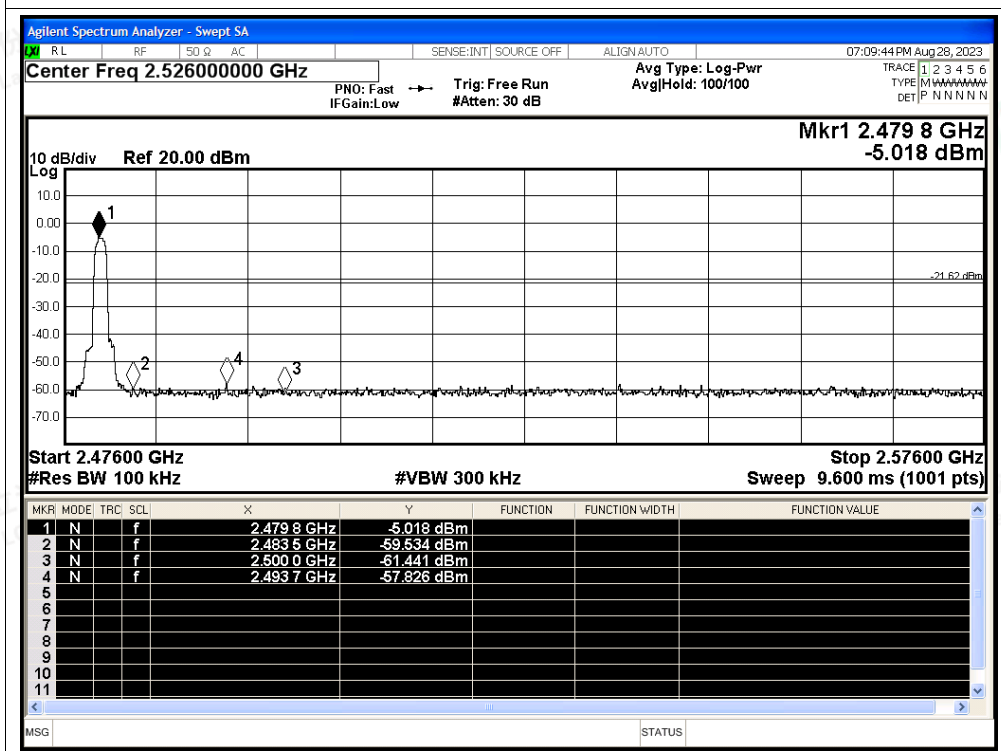




Band Edge NVNT 2-DH5 2480MHz Ant No-Hopping Ref

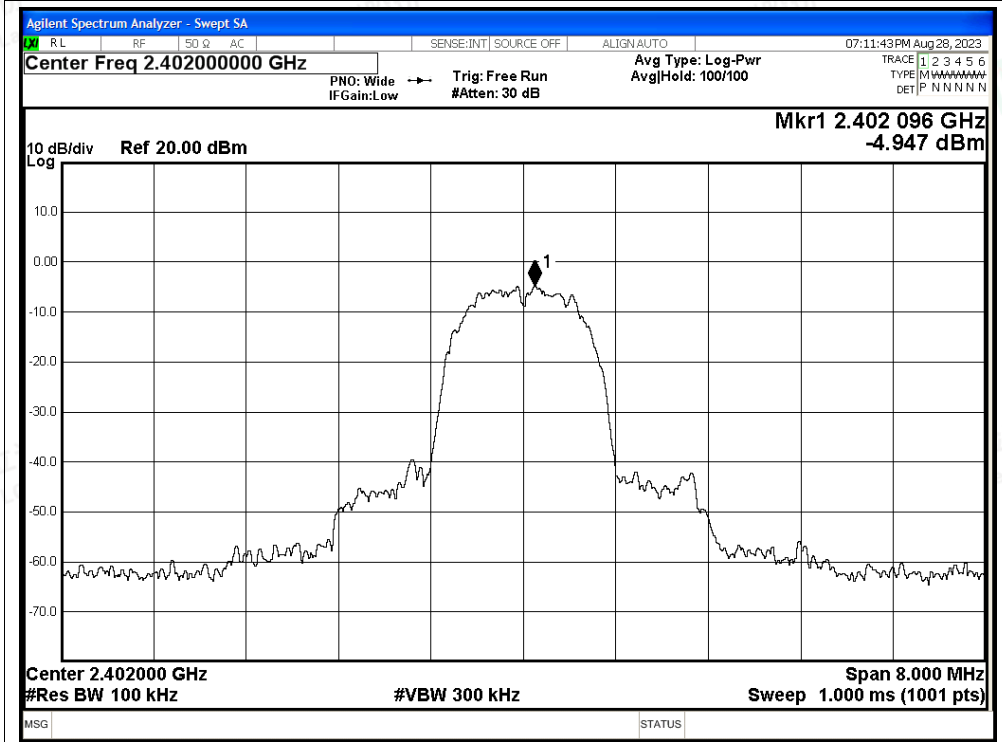


Band Edge NVNT 2-DH5 2480MHz Ant No-Hopping Emission

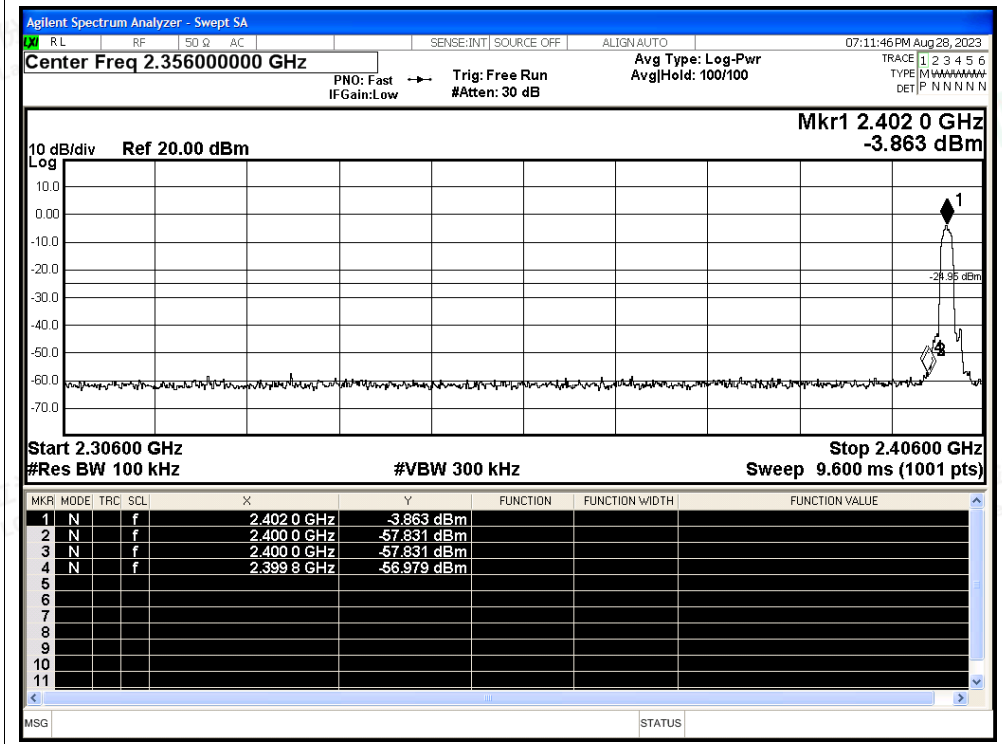




Band Edge NVNT 3-DH5 2402MHz Ant No-Hopping Ref

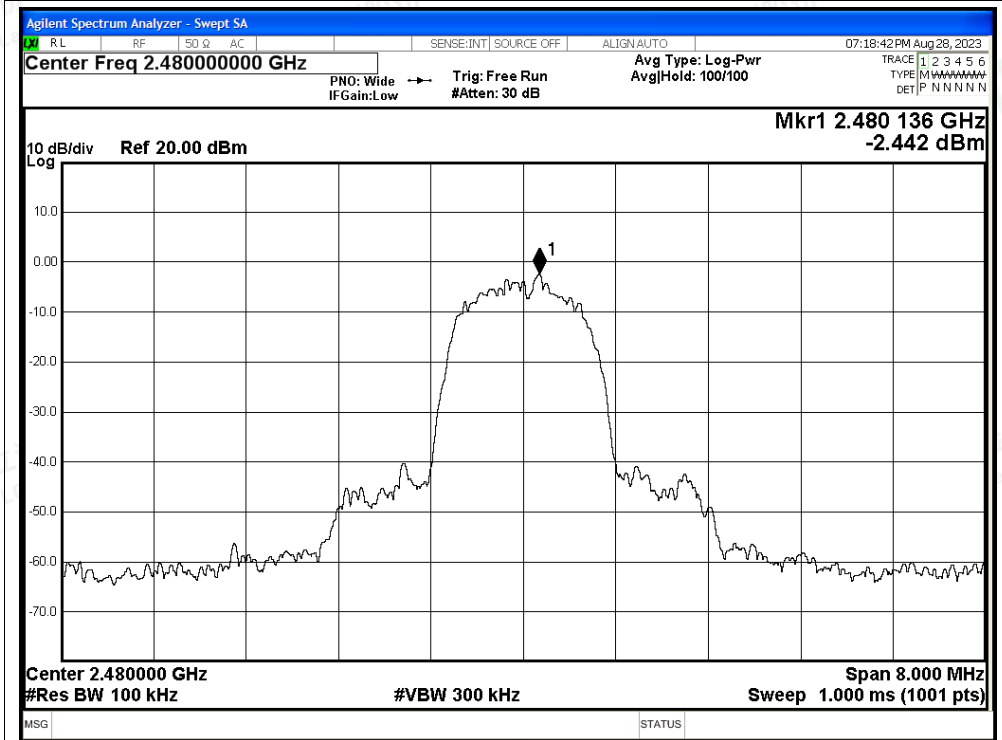


Band Edge NVNT 3-DH5 2402MHz Ant No-Hopping Emission

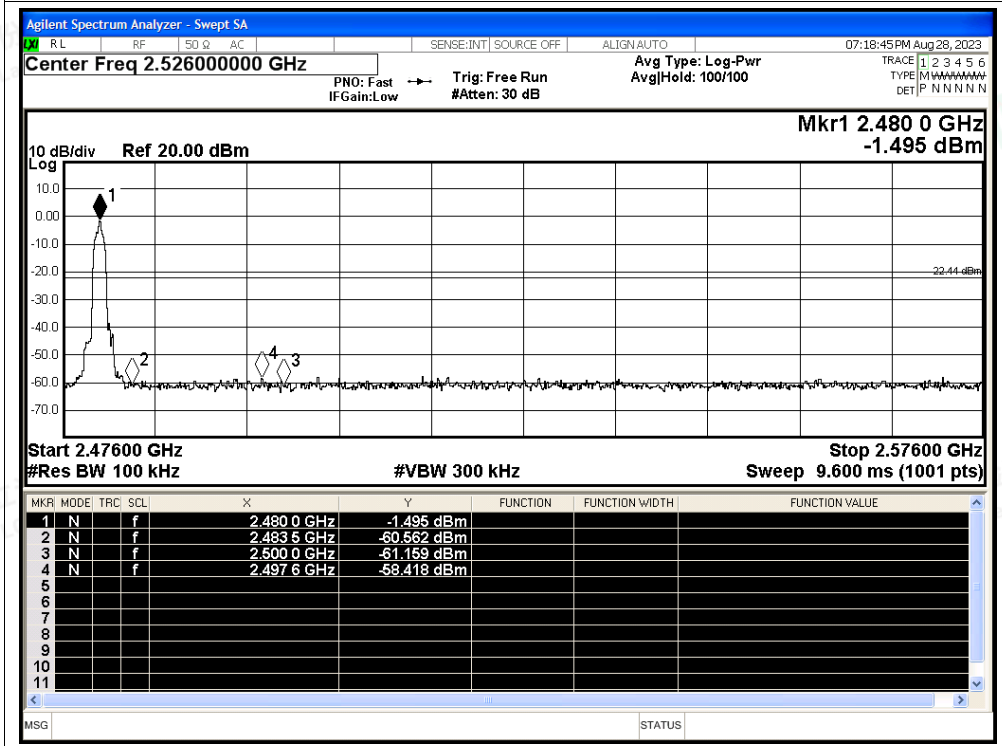




Band Edge NVNT 3-DH5 2480MHz Ant No-Hopping Ref



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





(Hopping)

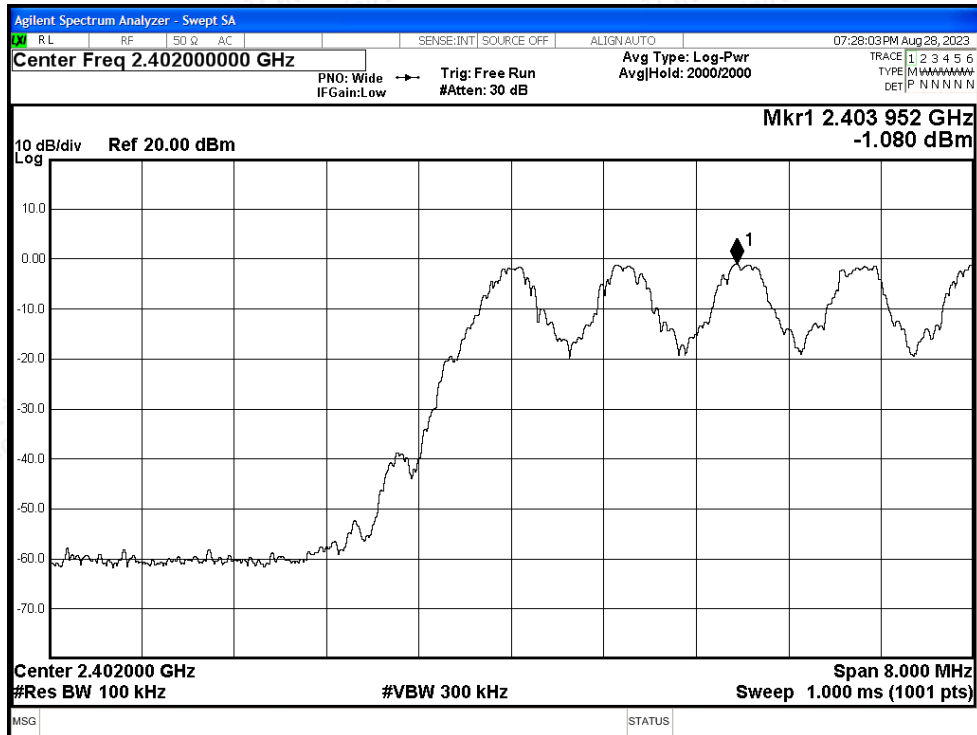
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant	Hopping	-56.45	-20	Pass
NVNT	1-DH5	2480	Ant	Hopping	-57.14	-20	Pass
NVNT	2-DH5	2402	Ant	Hopping	-54.26	-20	Pass
NVNT	2-DH5	2480	Ant	Hopping	-56.55	-20	Pass
NVNT	3-DH5	2402	Ant	Hopping	-55.73	-20	Pass
NVNT	3-DH5	2480	Ant	Hopping	-55.12	-20	Pass



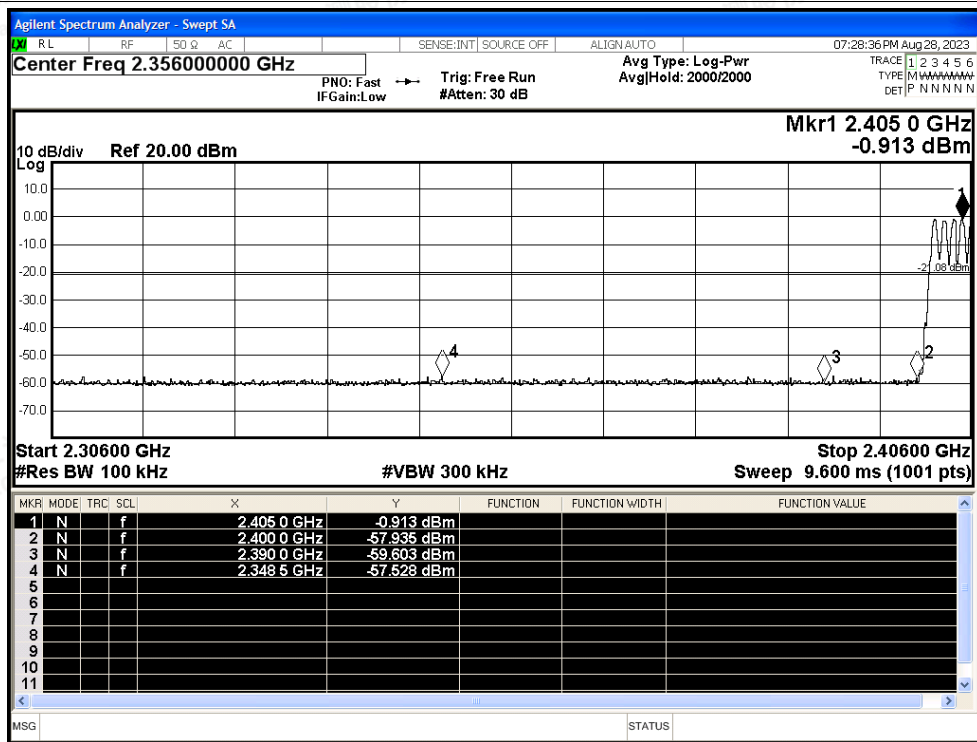


Test Graphs

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

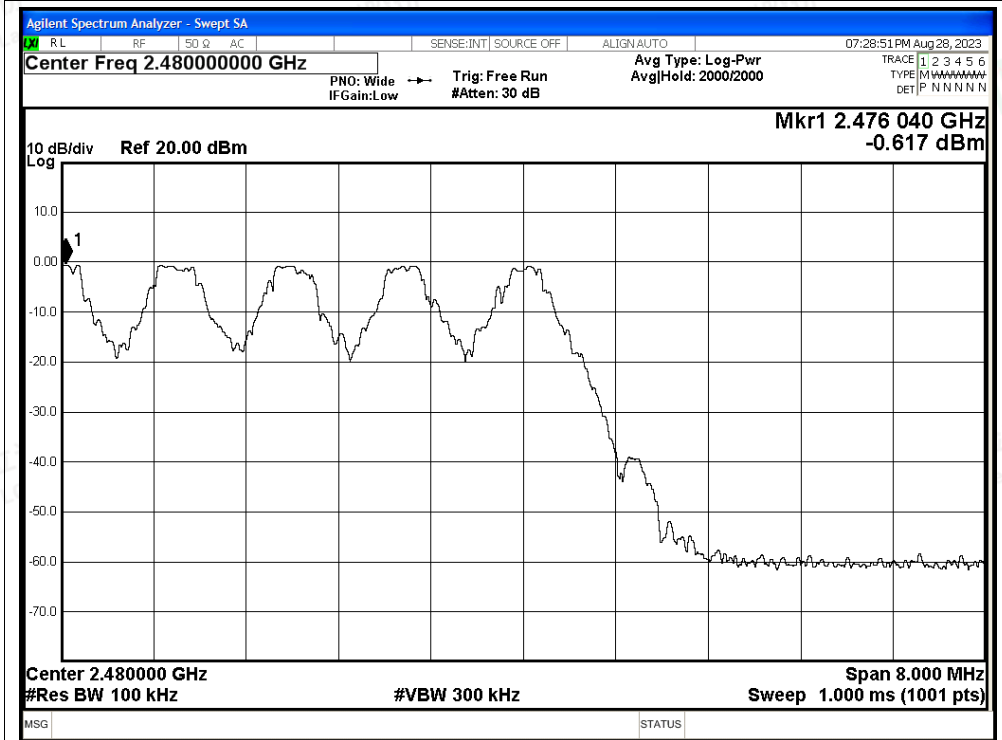


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant Hopping Emission

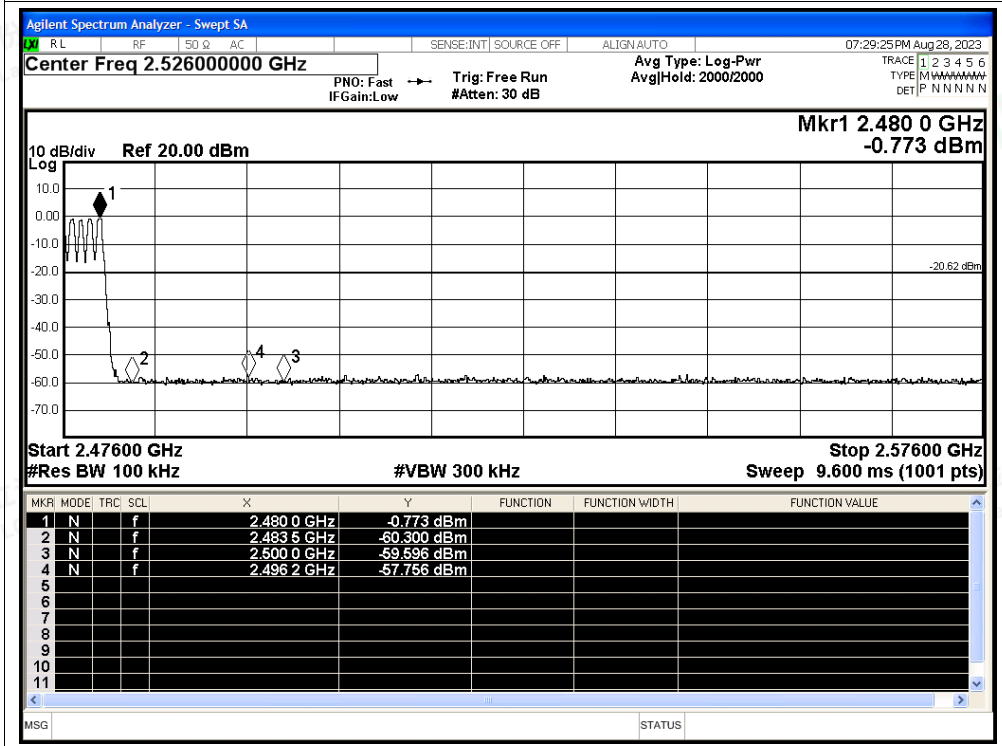




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant Hopping Ref

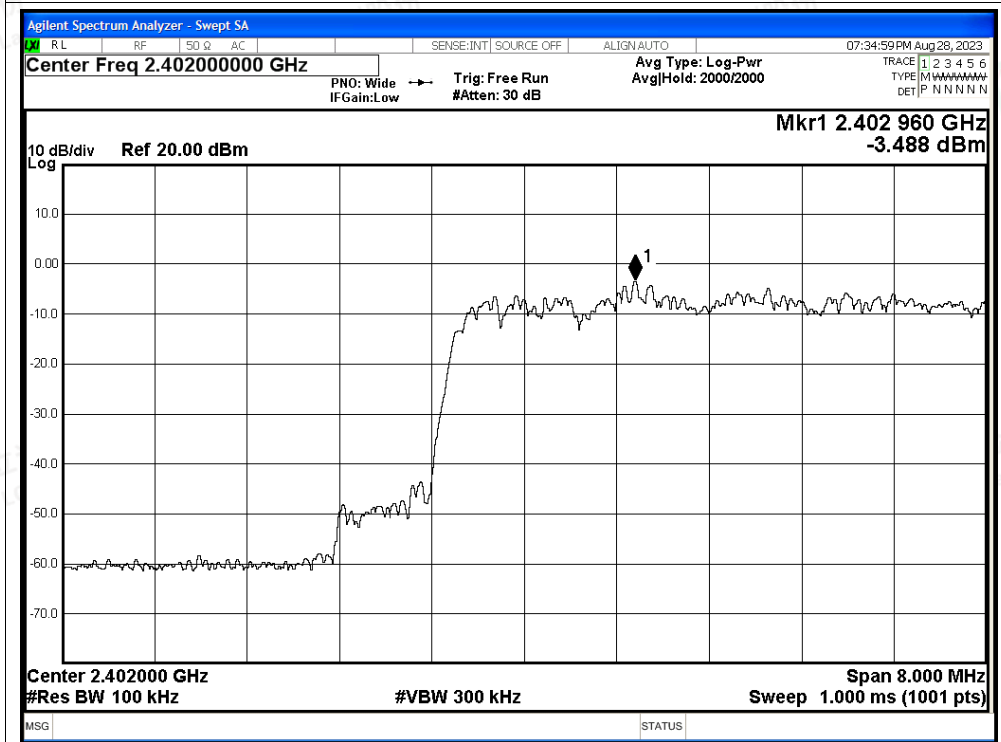


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant Hopping Emission

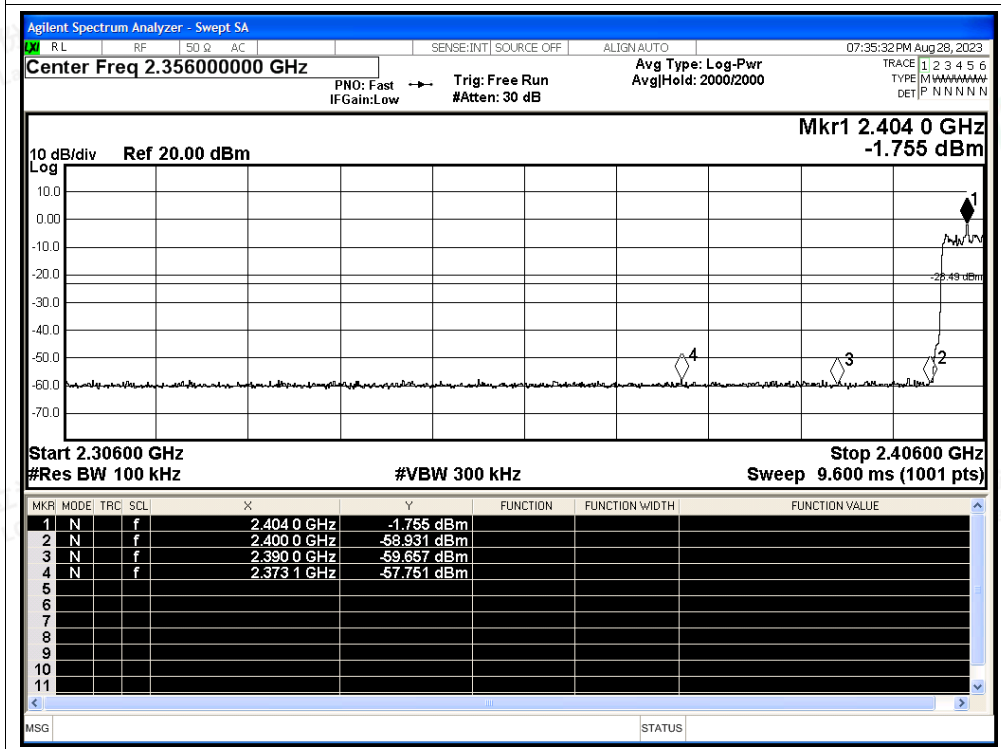




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant Hopping Ref

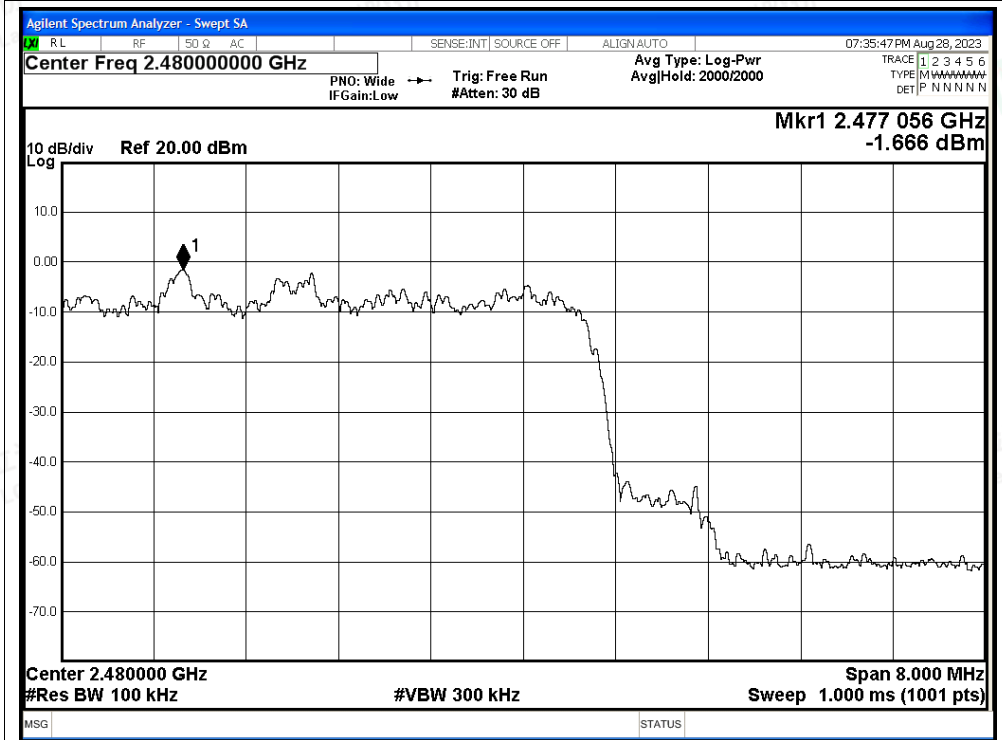


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant Hopping Emission

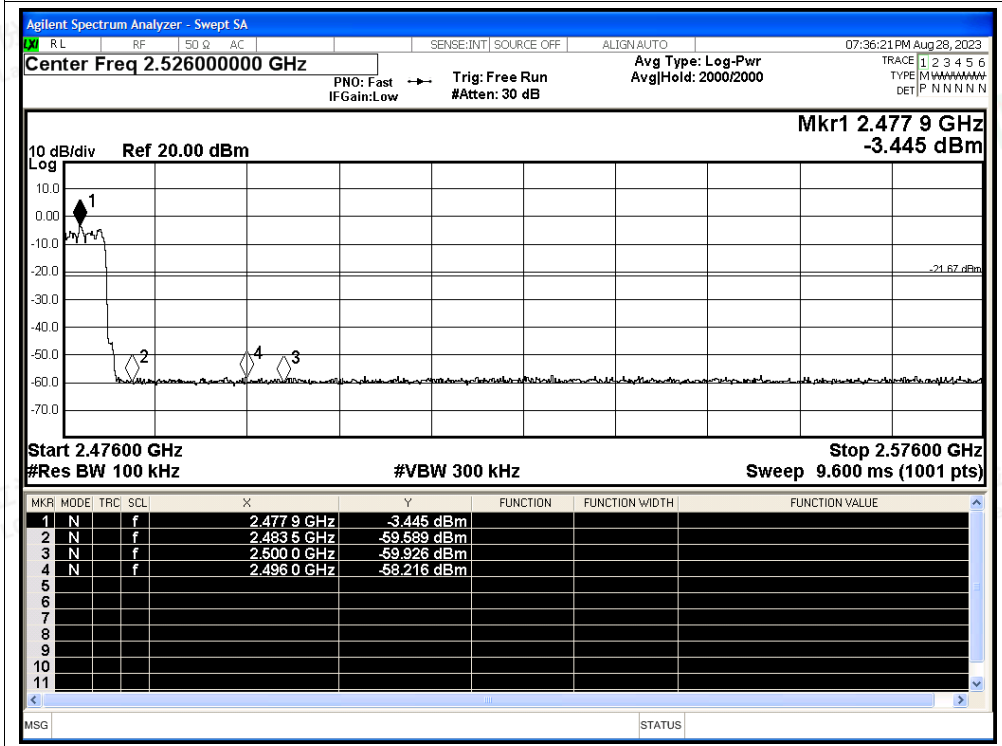




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant Hopping Ref

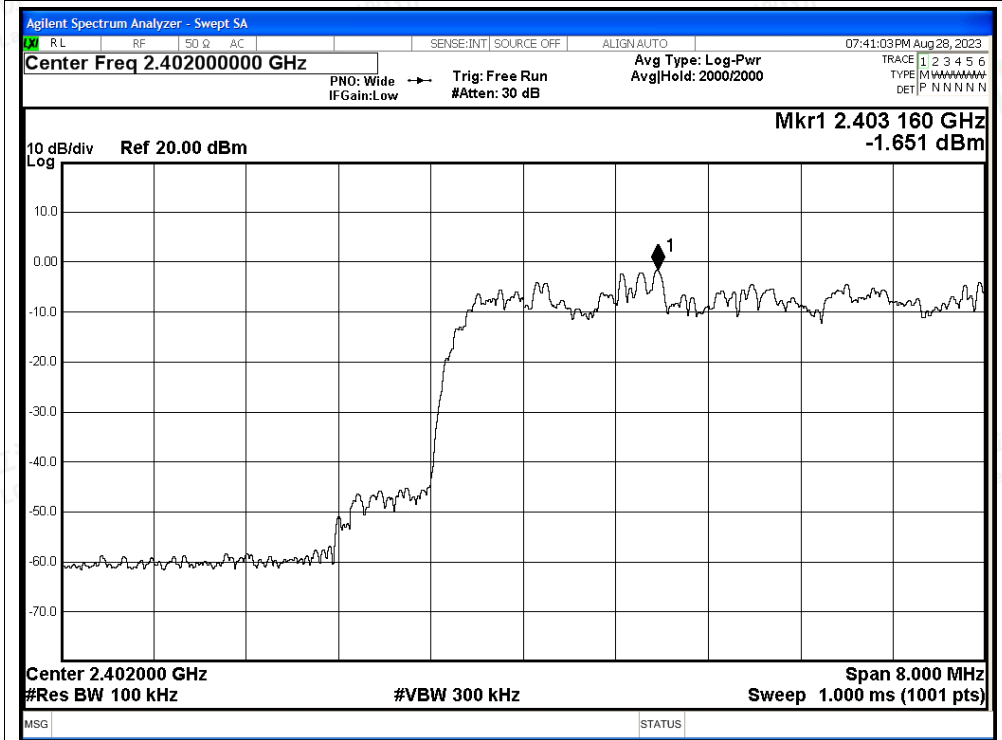


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant Hopping Emission

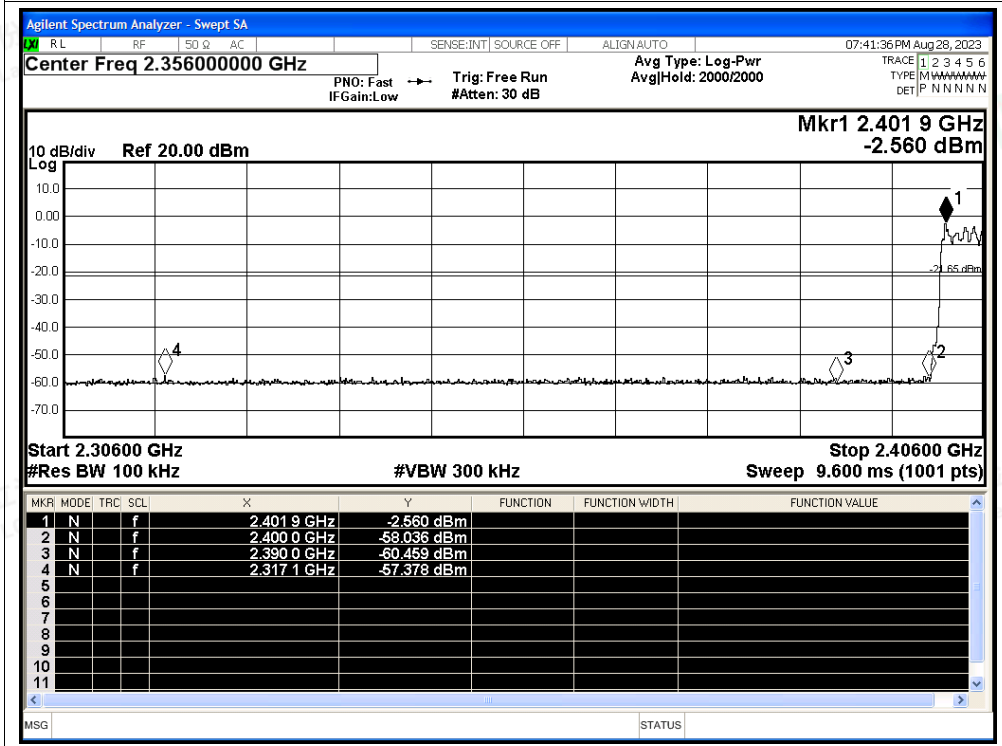


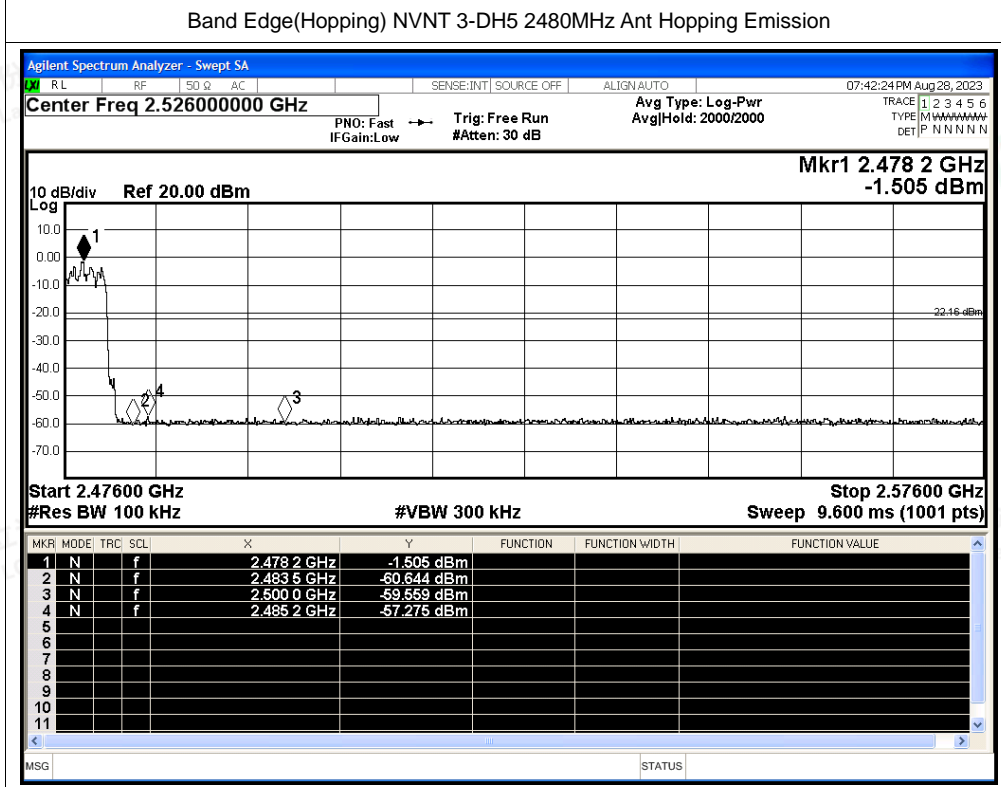
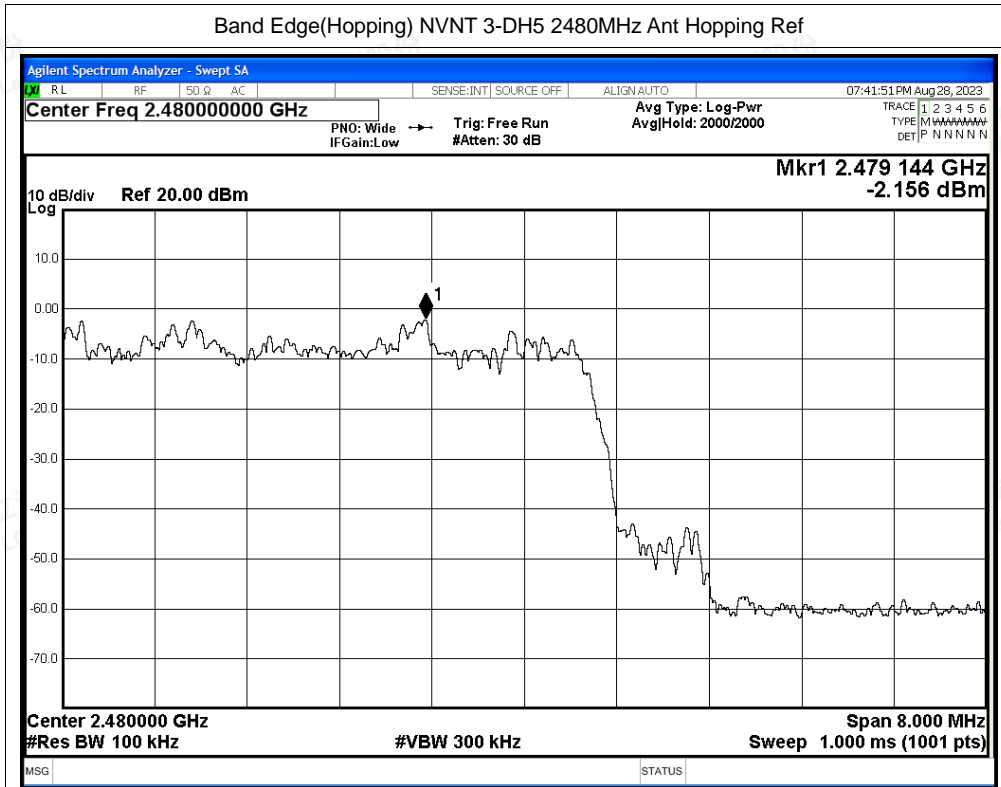


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant Hopping Ref



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







A.7 Conducted RF Spurious Emission

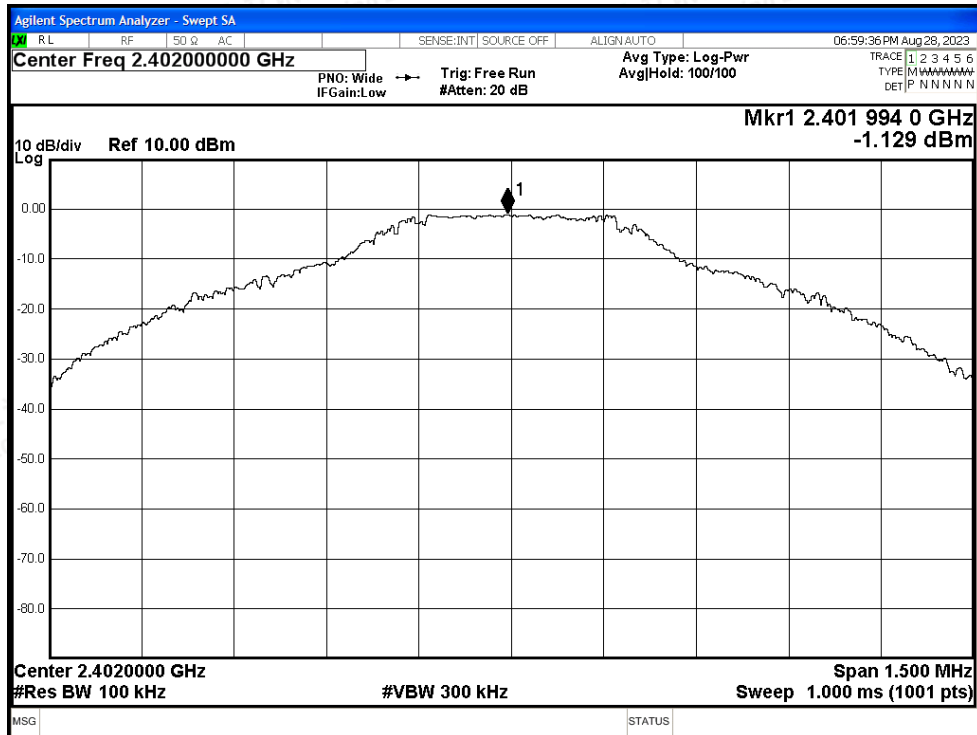
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant	-56.76	-20	Pass
NVNT	1-DH5	2441	Ant	-57.45	-20	Pass
NVNT	1-DH5	2480	Ant	-46.16	-20	Pass
NVNT	2-DH5	2402	Ant	-54.81	-20	Pass
NVNT	2-DH5	2441	Ant	-42.55	-20	Pass
NVNT	2-DH5	2480	Ant	-36.86	-20	Pass
NVNT	3-DH5	2402	Ant	-55.96	-20	Pass
NVNT	3-DH5	2441	Ant	-49.72	-20	Pass
NVNT	3-DH5	2480	Ant	-56.11	-20	Pass



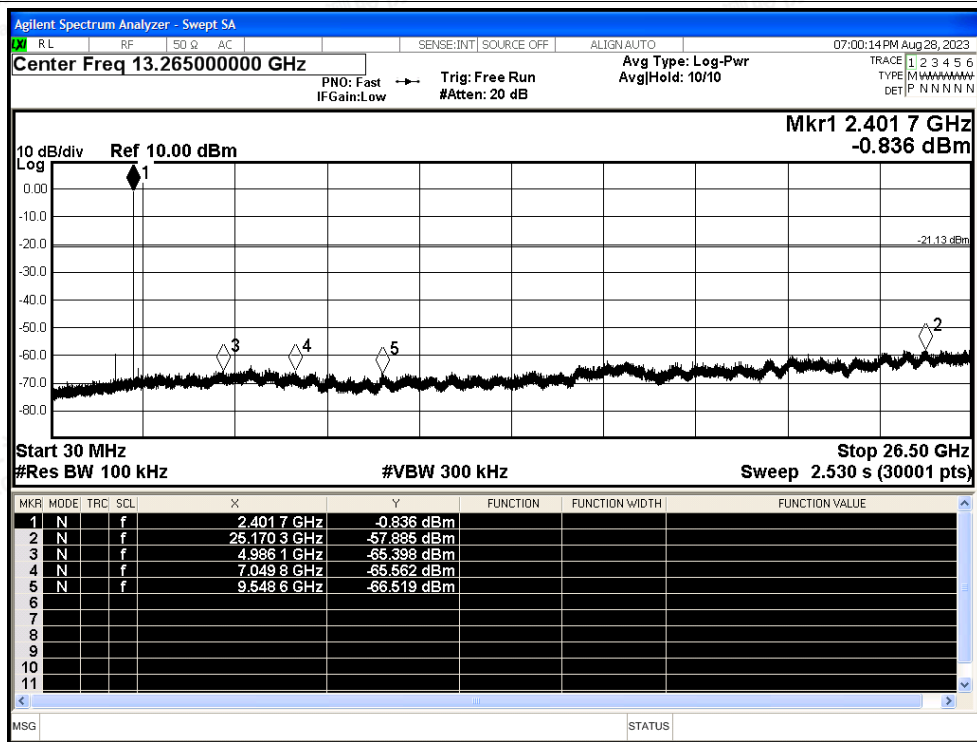


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant Ref

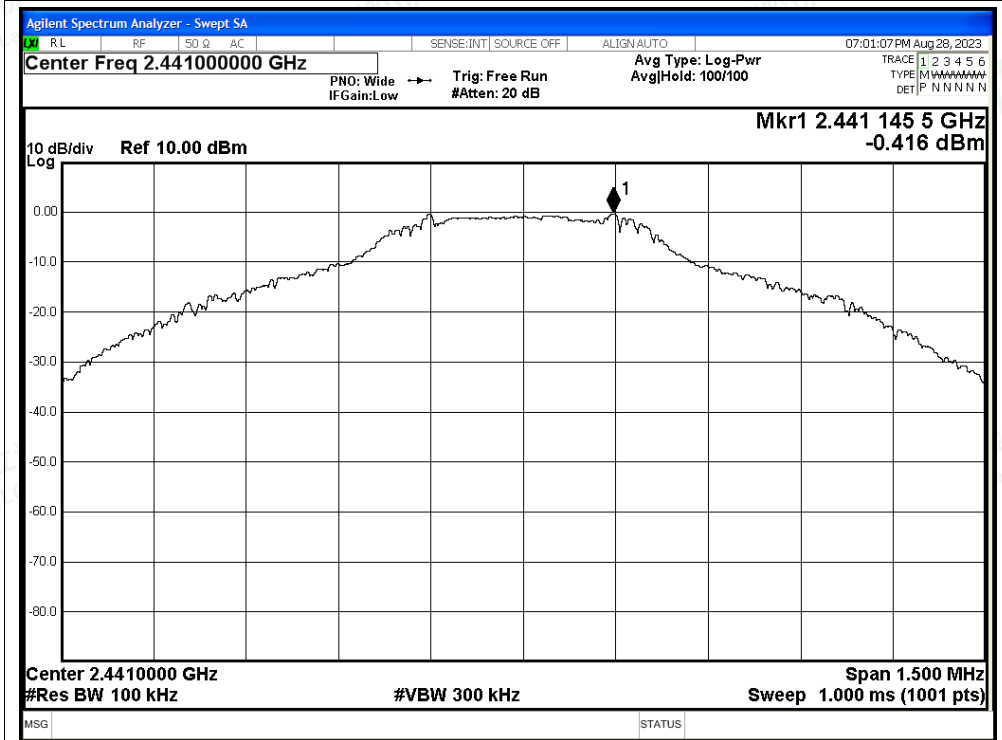


Tx. Spurious NVNT 1-DH5 2402MHz Ant Emission

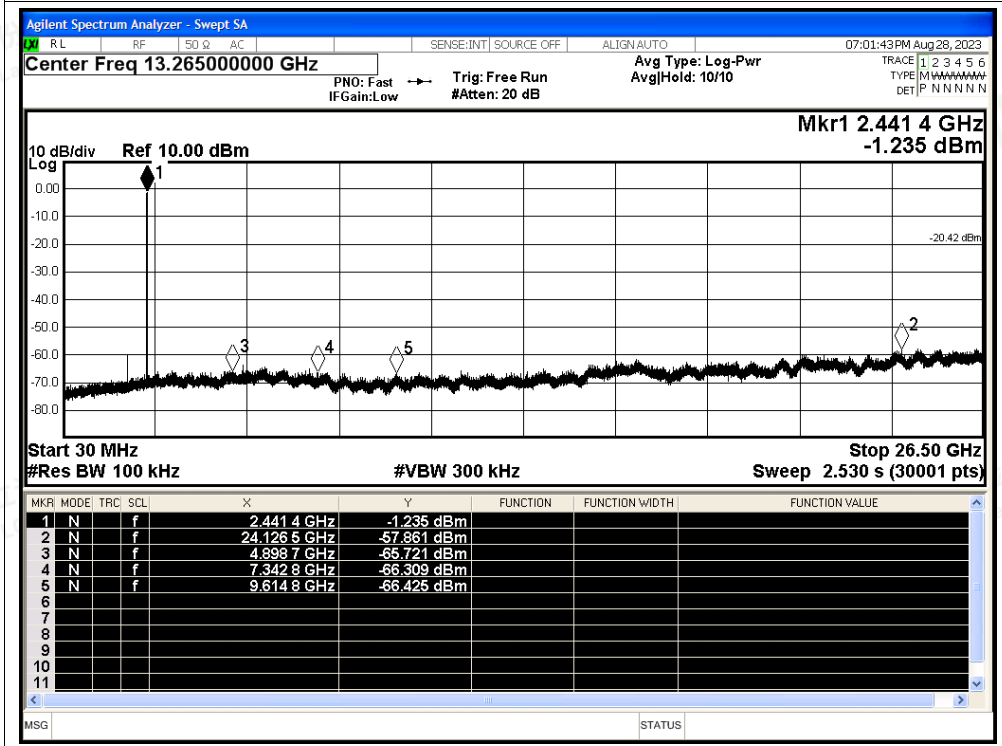




Tx. Spurious NVNT 1-DH5 2441MHz Ant Ref

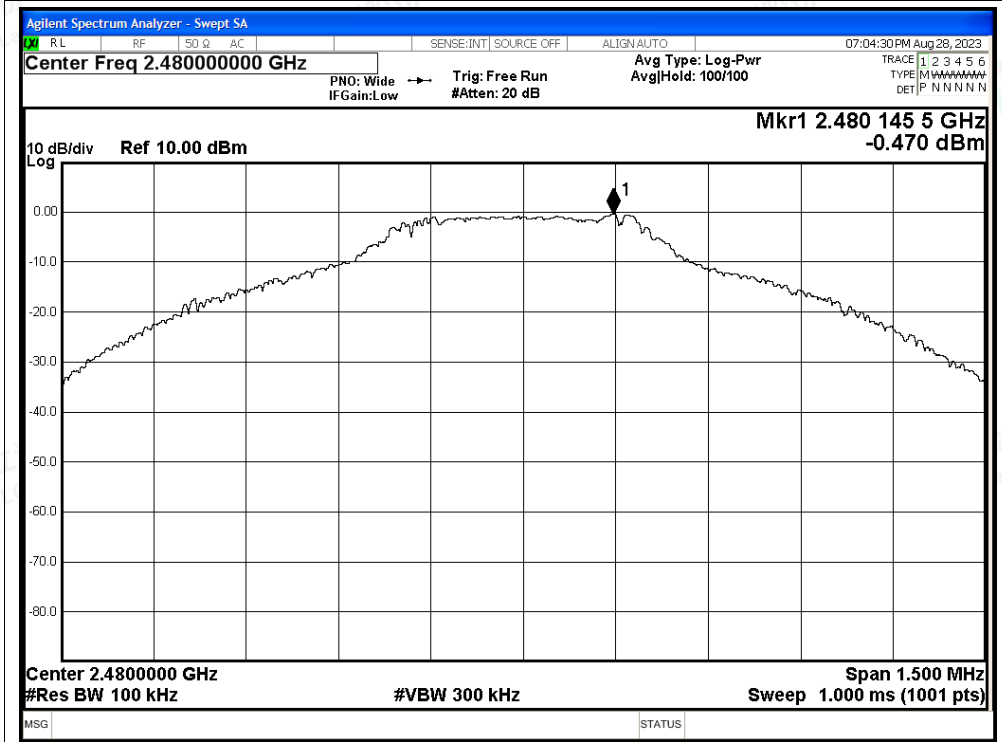


Tx. Spurious NVNT 1-DH5 2441MHz Ant Emission

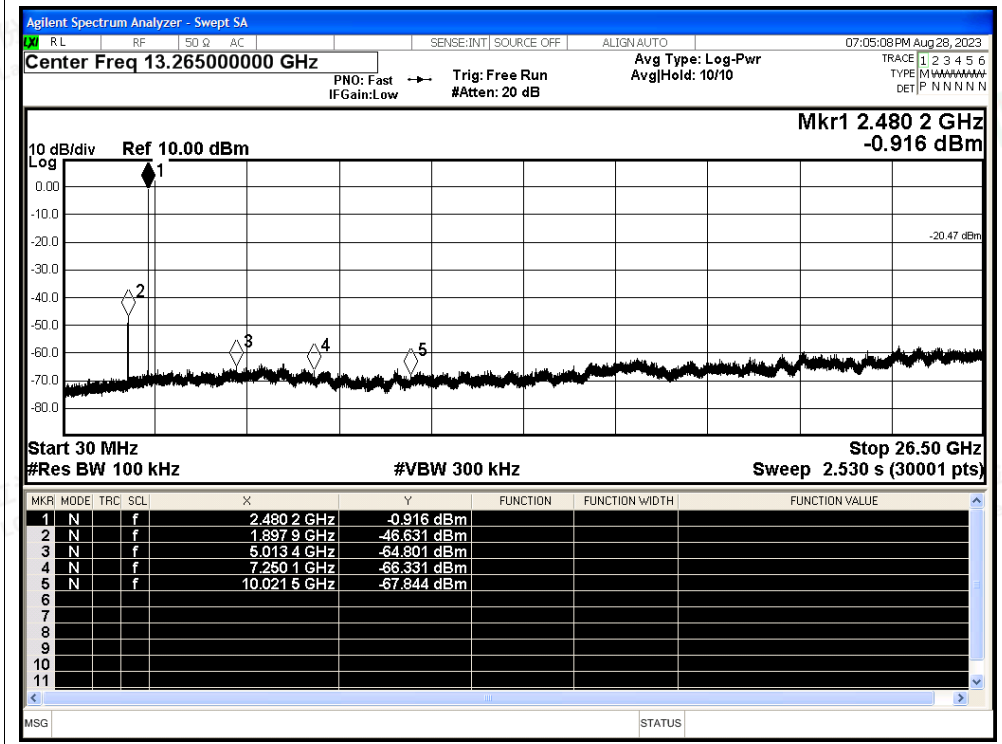




Tx. Spurious NVNT 1-DH5 2480MHz Ant Ref

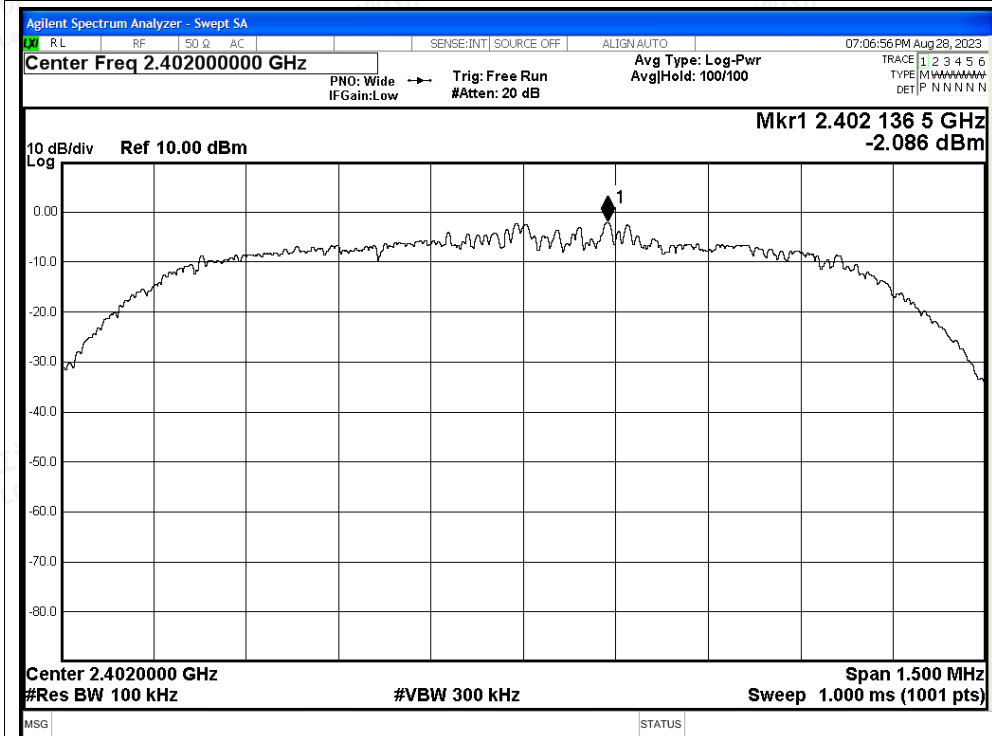


Tx. Spurious NVNT 1-DH5 2480MHz Ant Emission

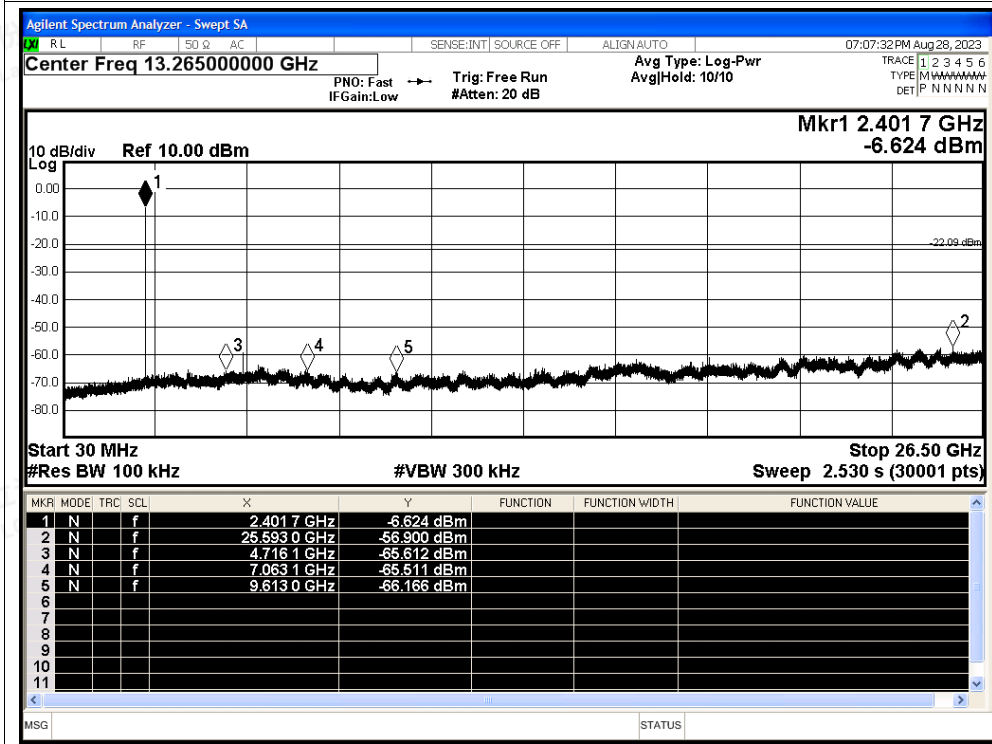




Tx. Spurious NVNT 2-DH5 2402MHz Ant Ref

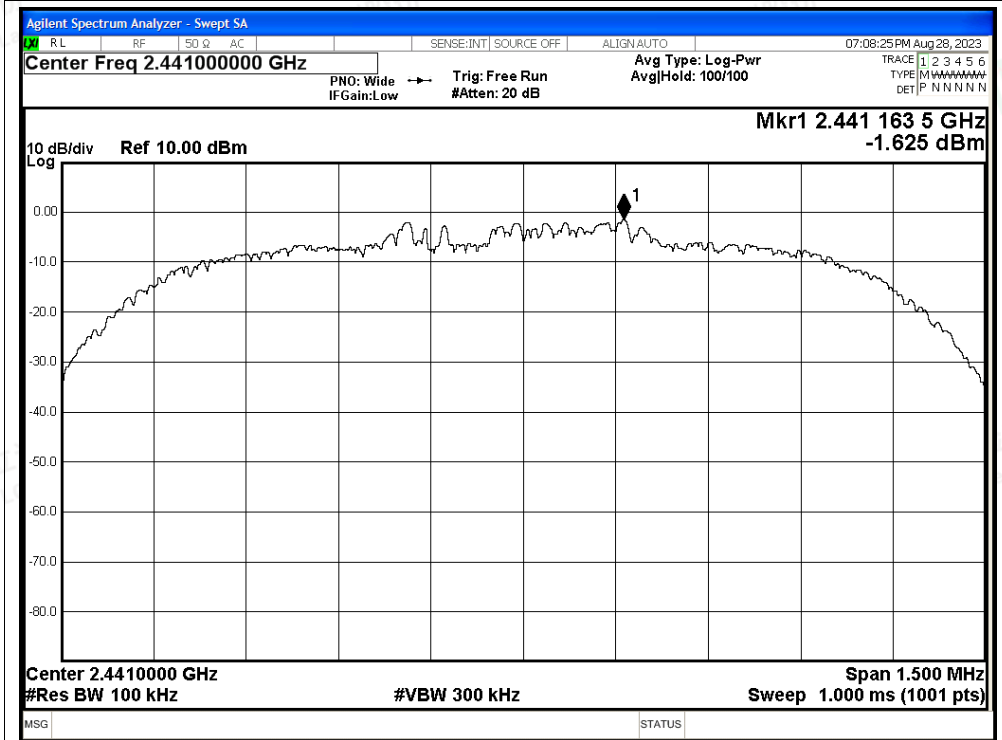


Tx. Spurious NVNT 2-DH5 2402MHz Ant Emission

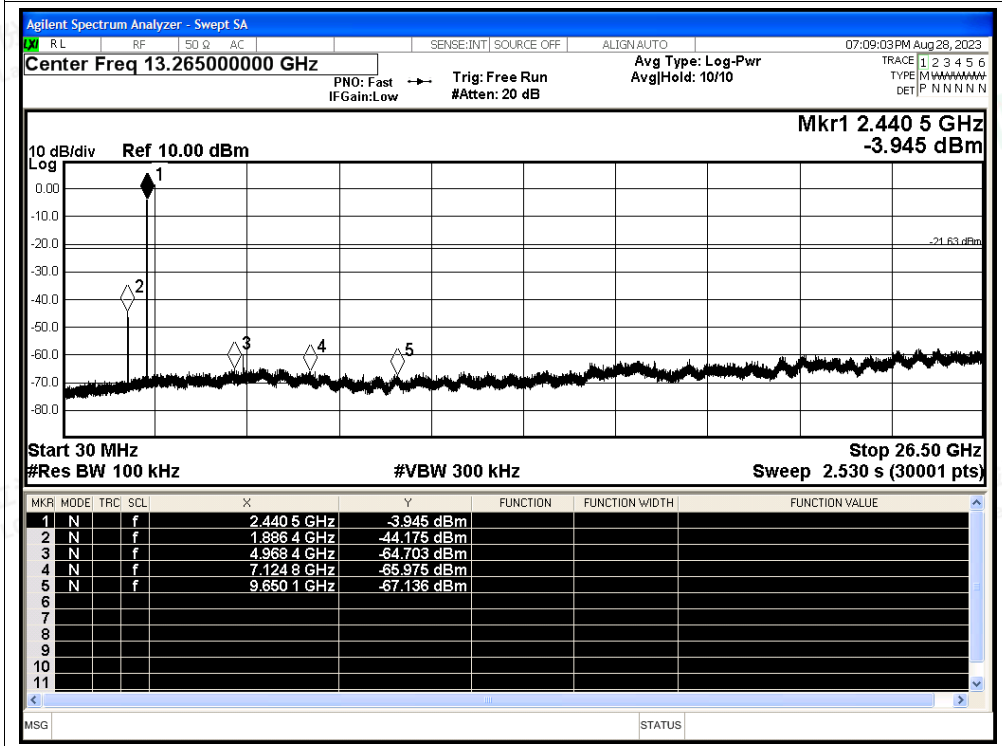




Tx. Spurious NVNT 2-DH5 2441MHz Ant Ref

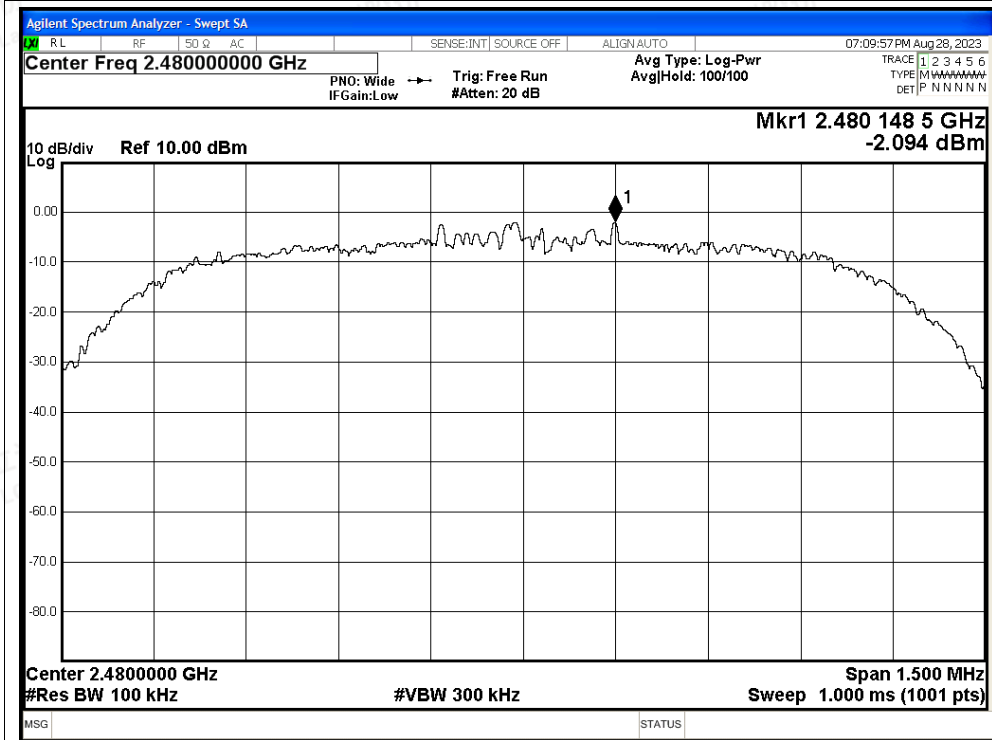


Tx. Spurious NVNT 2-DH5 2441MHz Ant Emission

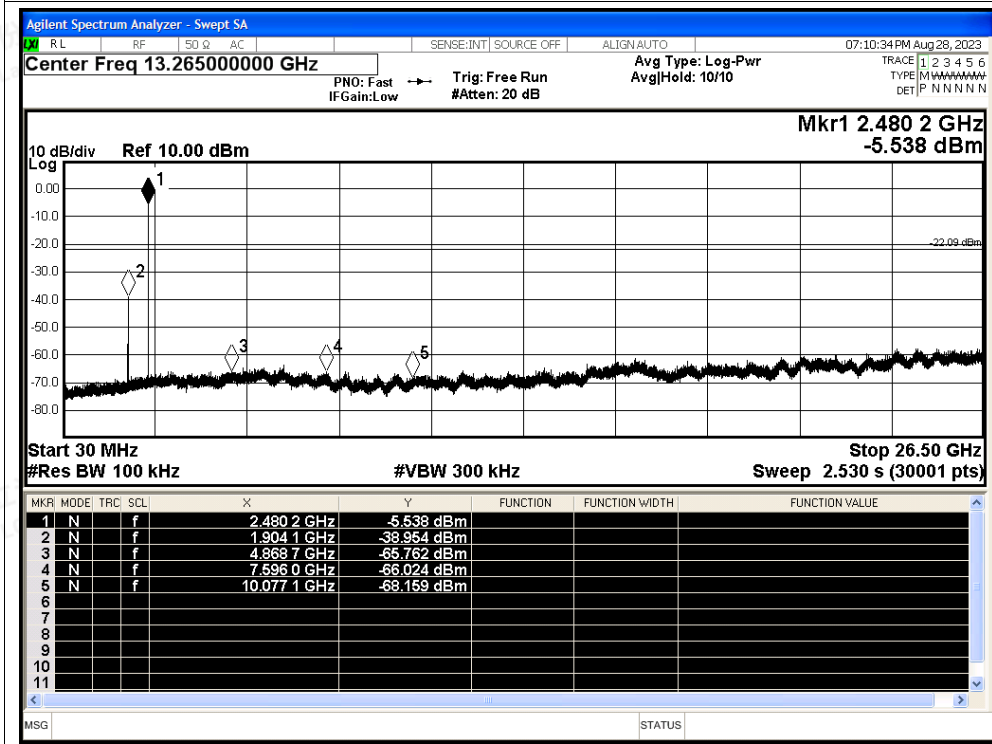




Tx. Spurious NVNT 2-DH5 2480MHz Ant Ref

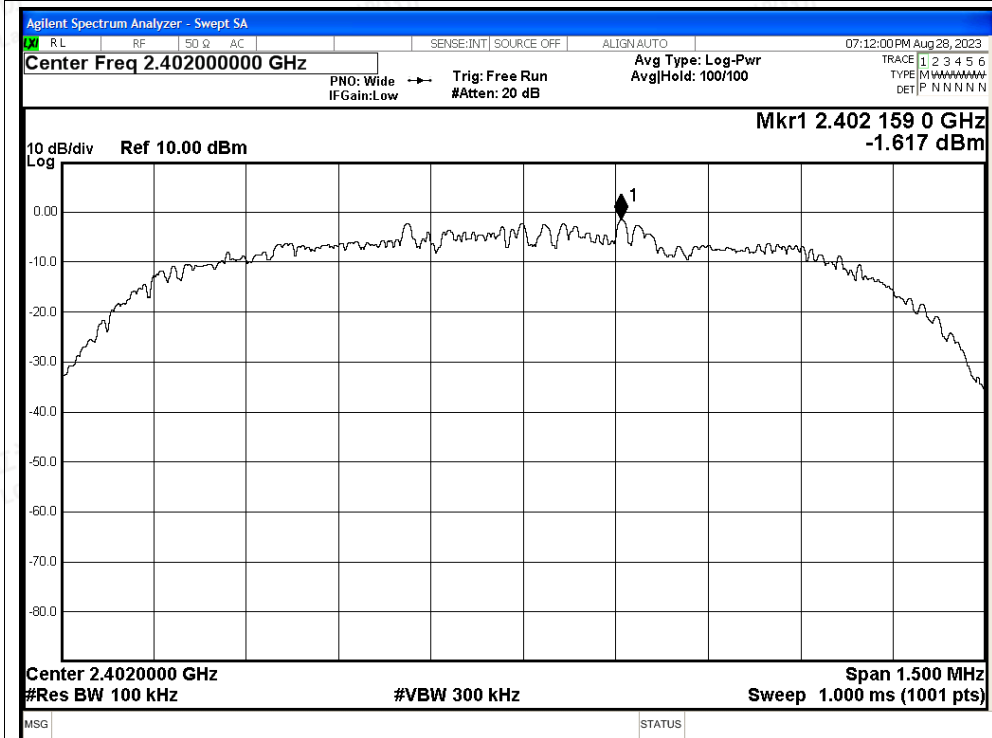


Tx. Spurious NVNT 2-DH5 2480MHz Ant Emission

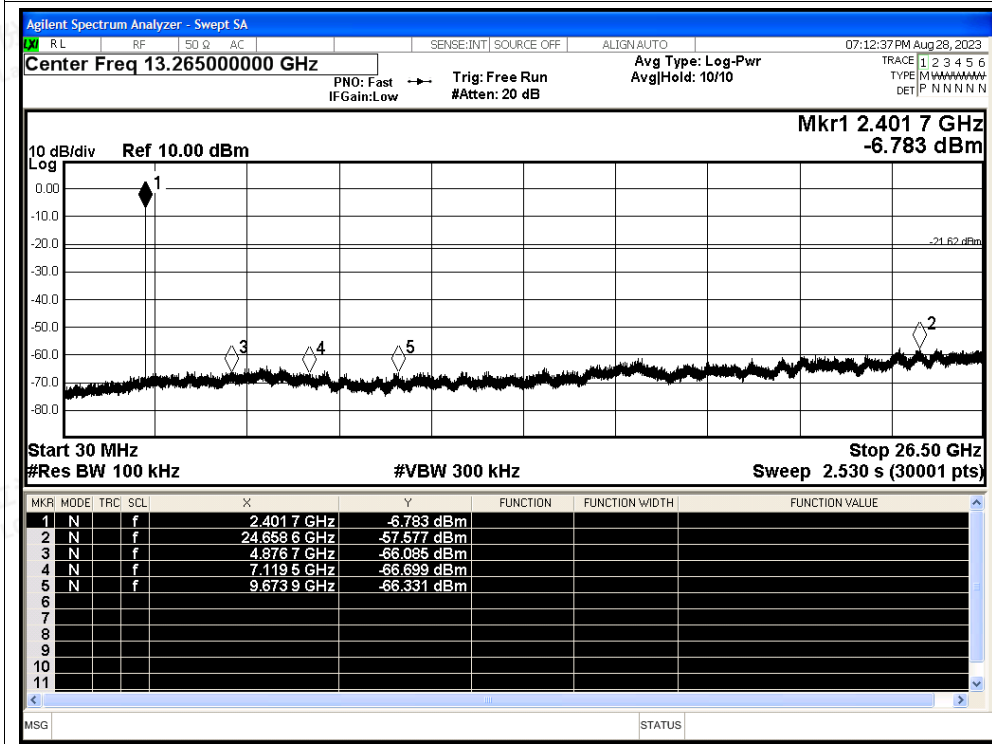




Tx. Spurious NVNT 3-DH5 2402MHz Ant Ref

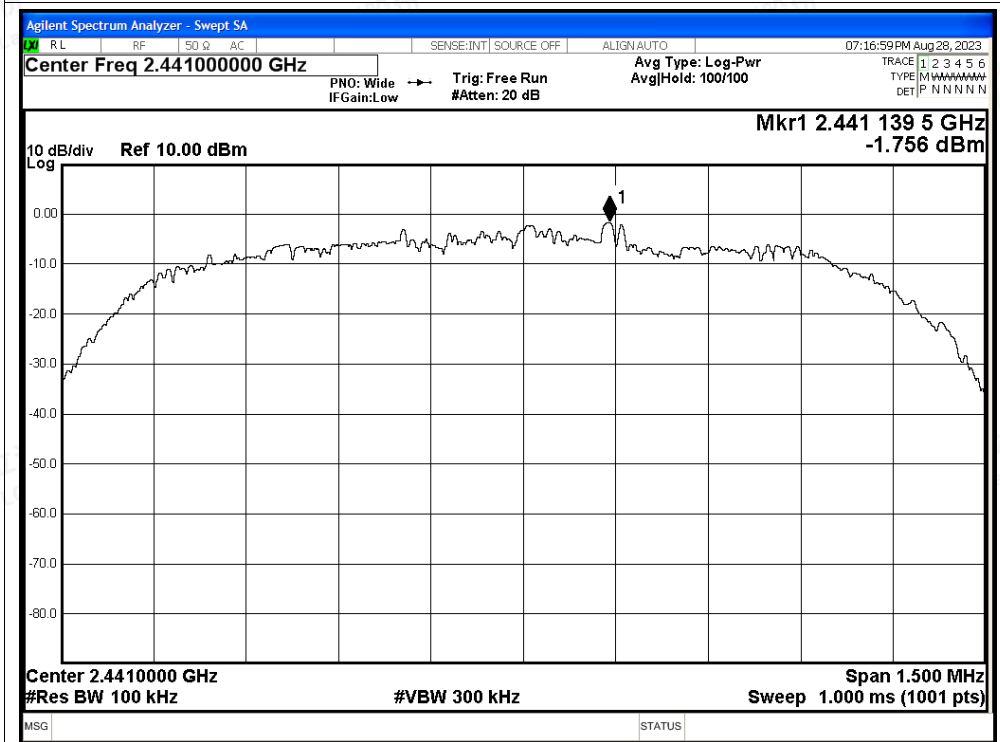


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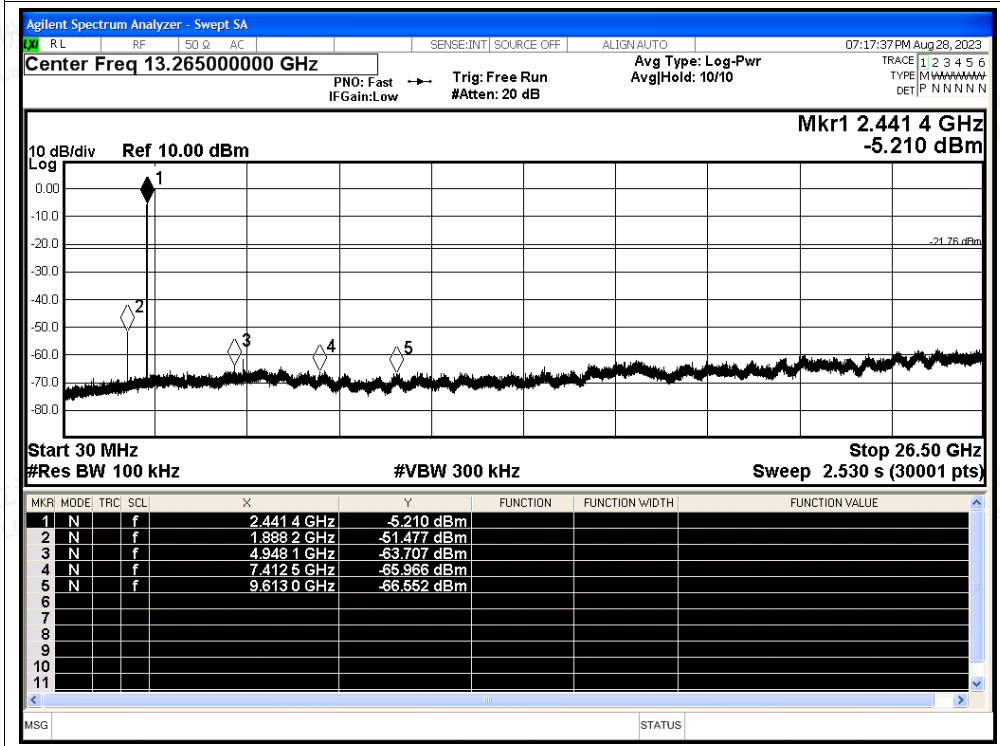




Tx. Spurious NVNT 3-DH5 2441MHz Ant Ref

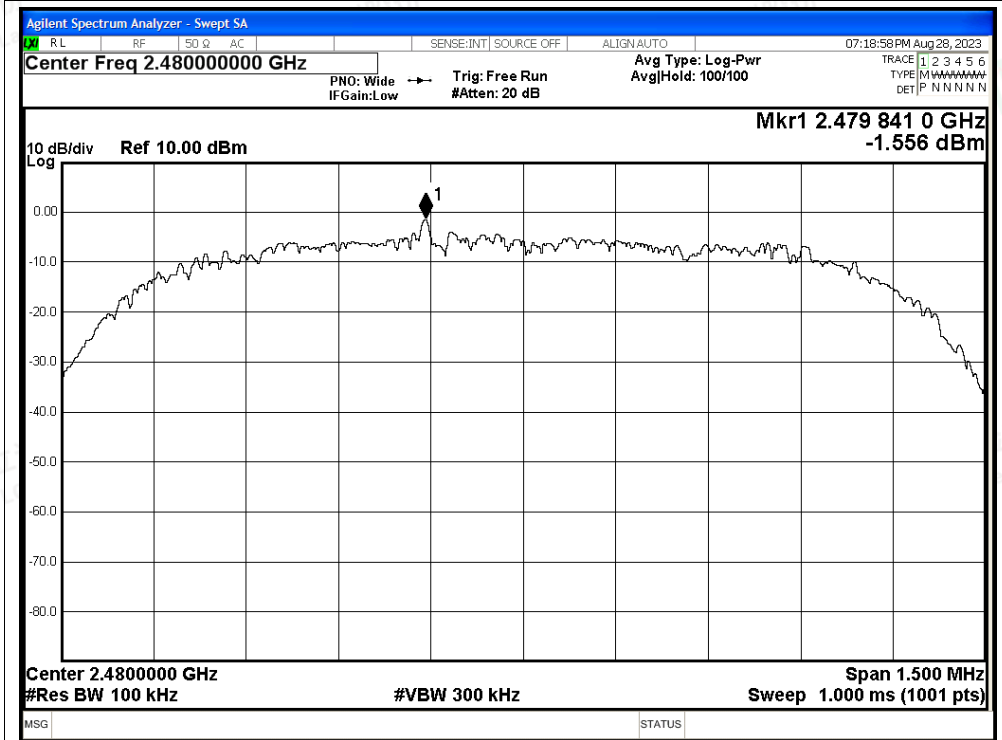


Tx. Spurious NVNT 3-DH5 2441MHz Ant Emission

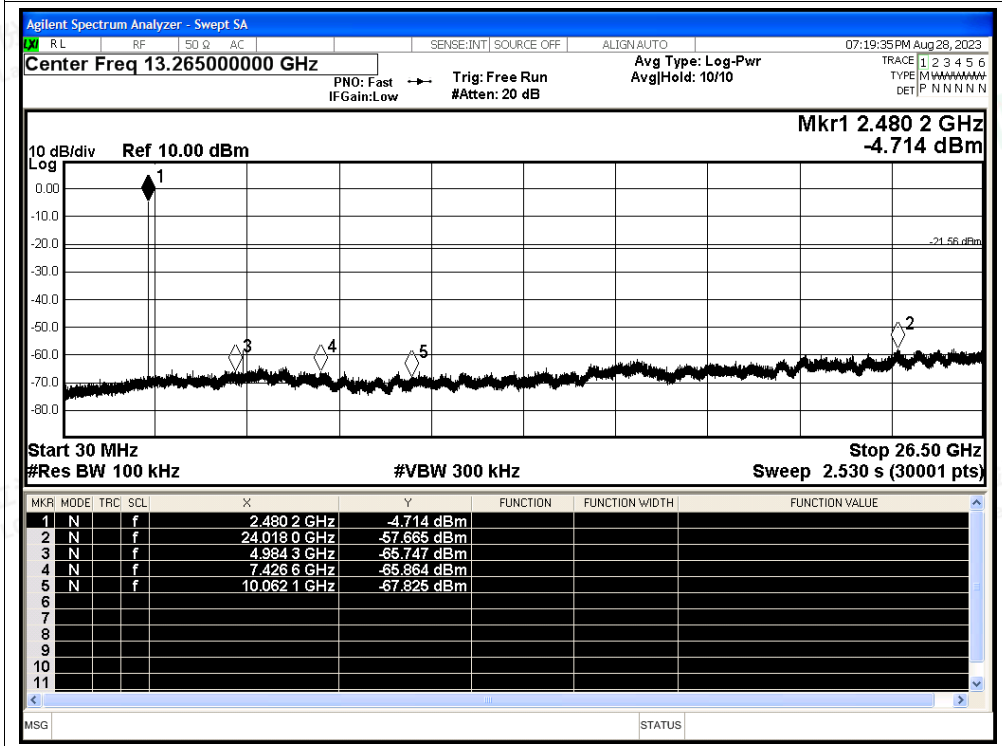




Tx. Spurious NVNT 3-DH5 2480MHz Ant Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant Emission





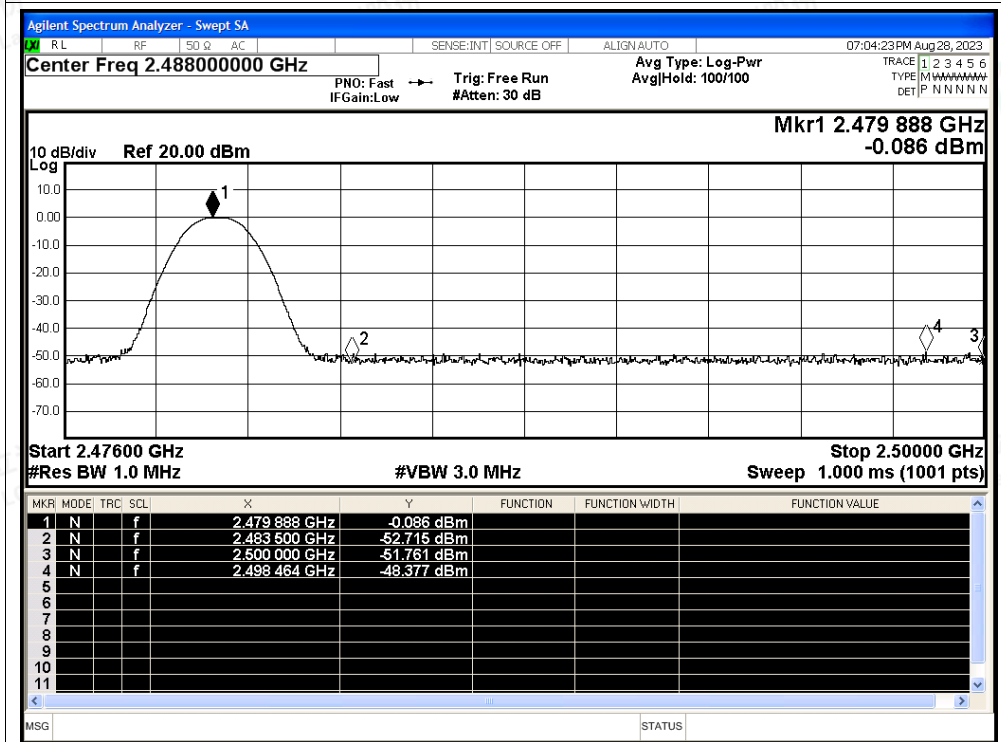
A.8 Restrict Band

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	Ant	No-Hopping	2310	-52.21	2	45.05	Peak	74	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2310	-61.96	2	35.3	Average	54	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2337.456	-48.73	2	48.53	Peak	74	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2383.44	-61.43	2	35.83	Average	54	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2390	-51.82	2	45.44	Peak	74	Pass
NVNT	1-DH5	2402	Ant	No-Hopping	2390	-61.47	2	35.79	Average	54	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2483.5	-52.72	2	44.54	Peak	74	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2483.5	-61.13	2	36.13	Average	54	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2498.464	-48.38	2	48.88	Peak	74	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2483.584	-61.06	2	36.2	Average	54	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2500	-51.76	2	45.5	Peak	74	Pass
NVNT	1-DH5	2480	Ant	No-Hopping	2500	-61.5	2	35.76	Average	54	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2310	-52.19	2	45.07	Peak	74	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2310	-61.9	2	35.36	Average	54	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2321.328	-49.66	2	47.6	Peak	74	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2382.768	-61.42	2	35.84	Average	54	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2390	-51.24	2	46.02	Peak	74	Pass
NVNT	2-DH5	2402	Ant	No-Hopping	2390	-61.6	2	35.66	Average	54	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2483.5	-50.6	2	46.66	Peak	74	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2483.5	-60.99	2	36.27	Average	54	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2498.488	-48.92	2	48.34	Peak	74	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2483.512	-60.99	2	36.27	Average	54	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2500	-51.36	2	45.9	Peak	74	Pass
NVNT	2-DH5	2480	Ant	No-Hopping	2500	-61.37	2	35.89	Average	54	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2310	-52.26	2	45	Peak	74	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2310	-62.06	2	35.2	Average	54	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2378.64	-48.56	2	48.7	Peak	74	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2381.712	-61.44	2	35.82	Average	54	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2390	-52.4	2	44.86	Peak	74	Pass
NVNT	3-DH5	2402	Ant	No-Hopping	2390	-61.61	2	35.65	Average	54	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2483.5	-52.81	2	44.45	Peak	74	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2483.5	-61.15	2	36.11	Average	54	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2489.56	-48.23	2	49.03	Peak	74	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2484.064	-61.12	2	36.14	Average	54	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2500	-51.82	2	45.44	Peak	74	Pass
NVNT	3-DH5	2480	Ant	No-Hopping	2500	-61.57	2	35.69	Average	54	Pass

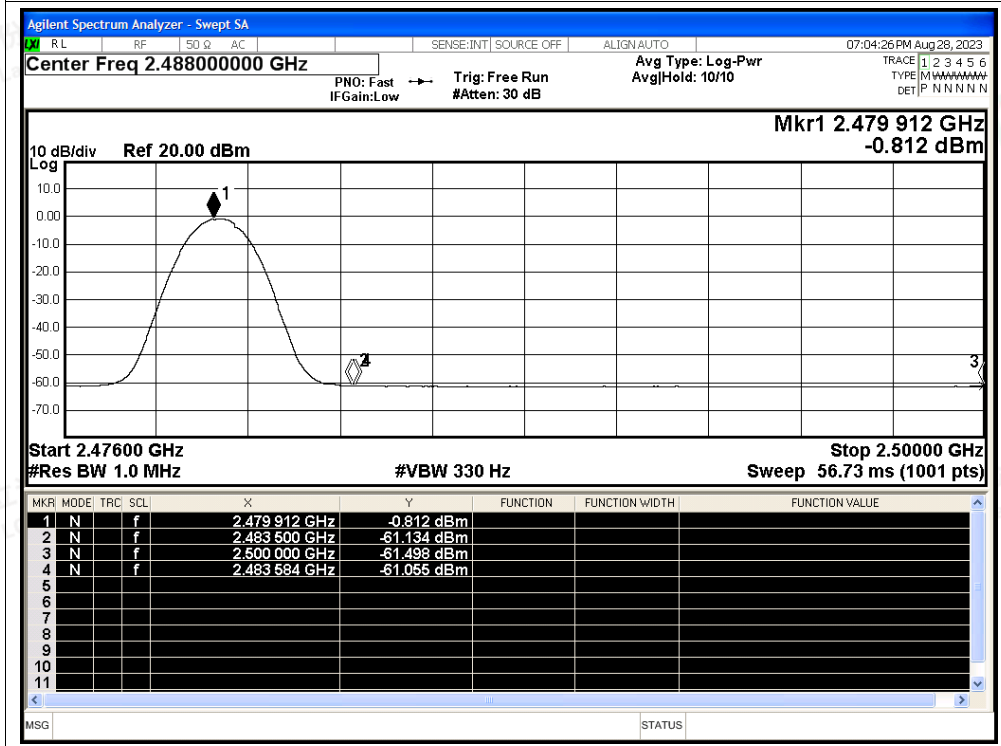




Restrict Band NVNT 1-DH5 2480MHz Ant No-Hopping Peak

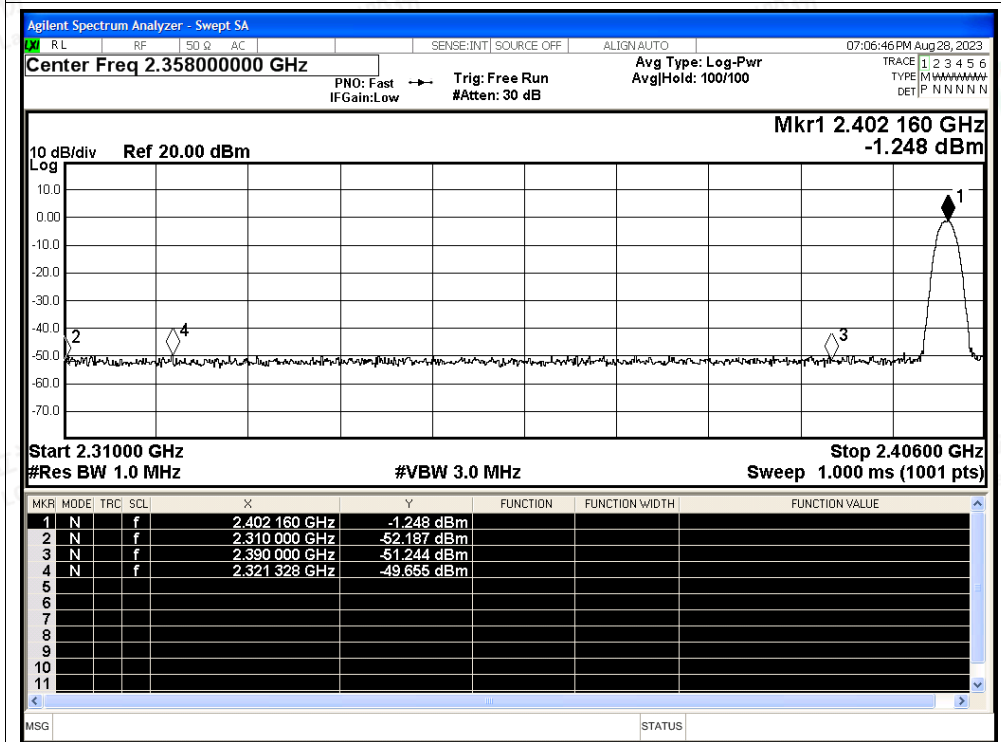


Restrict Band NVNT 1-DH5 2480MHz Ant No-Hopping Average

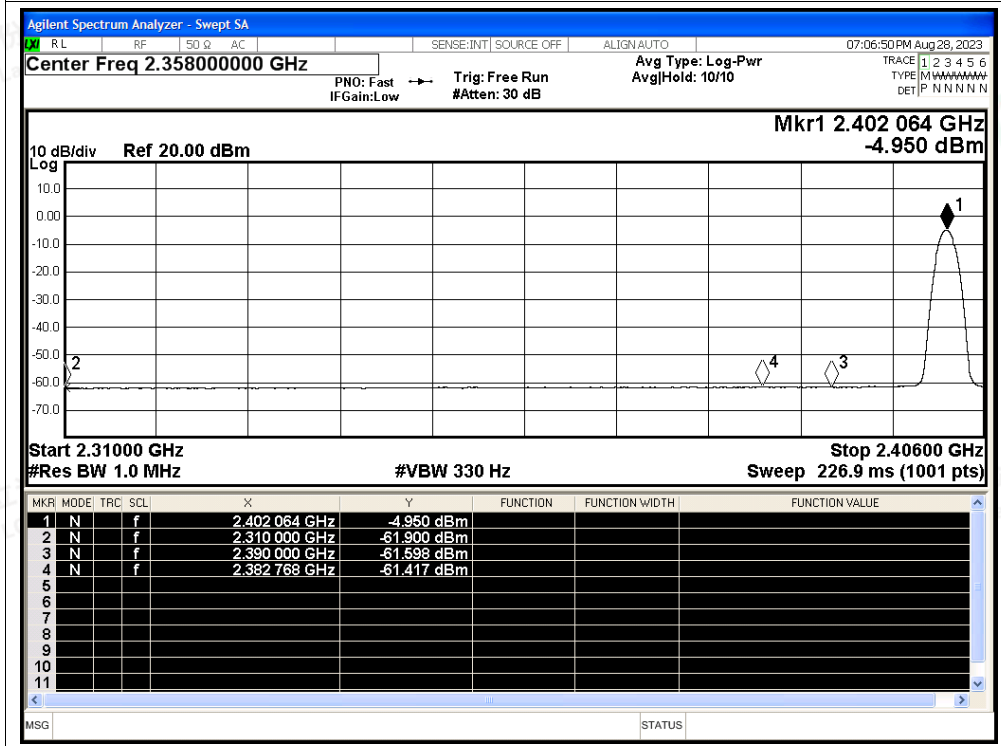




Restrict Band NVNT 2-DH5 2402MHz Ant No-Hopping Peak

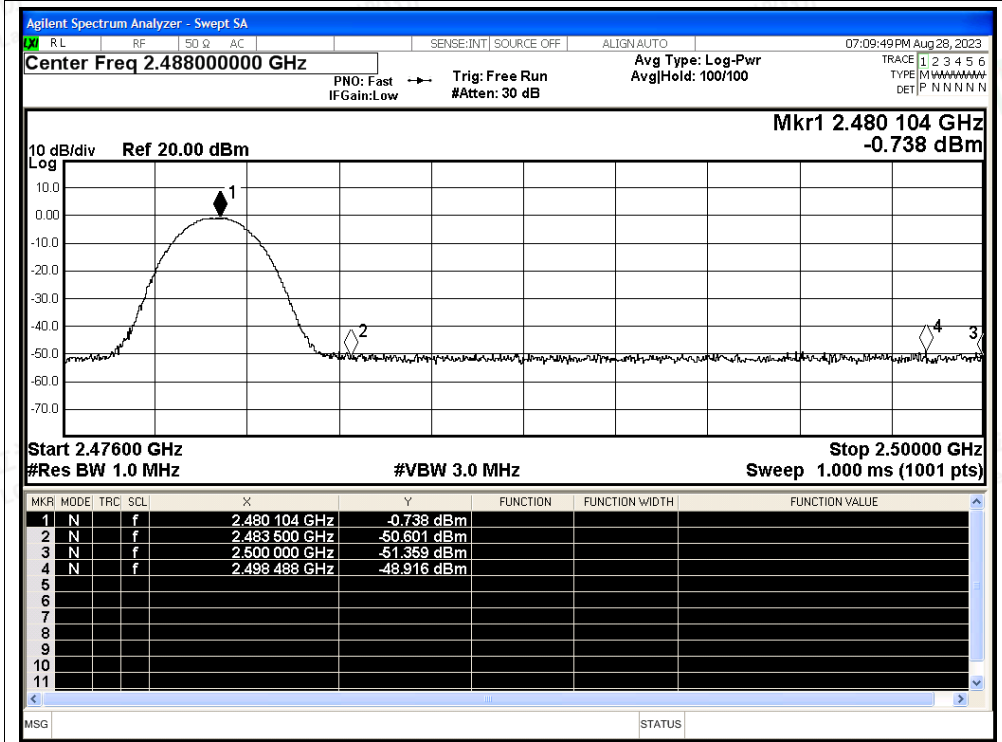


Restrict Band NVNT 2-DH5 2402MHz Ant No-Hopping Average

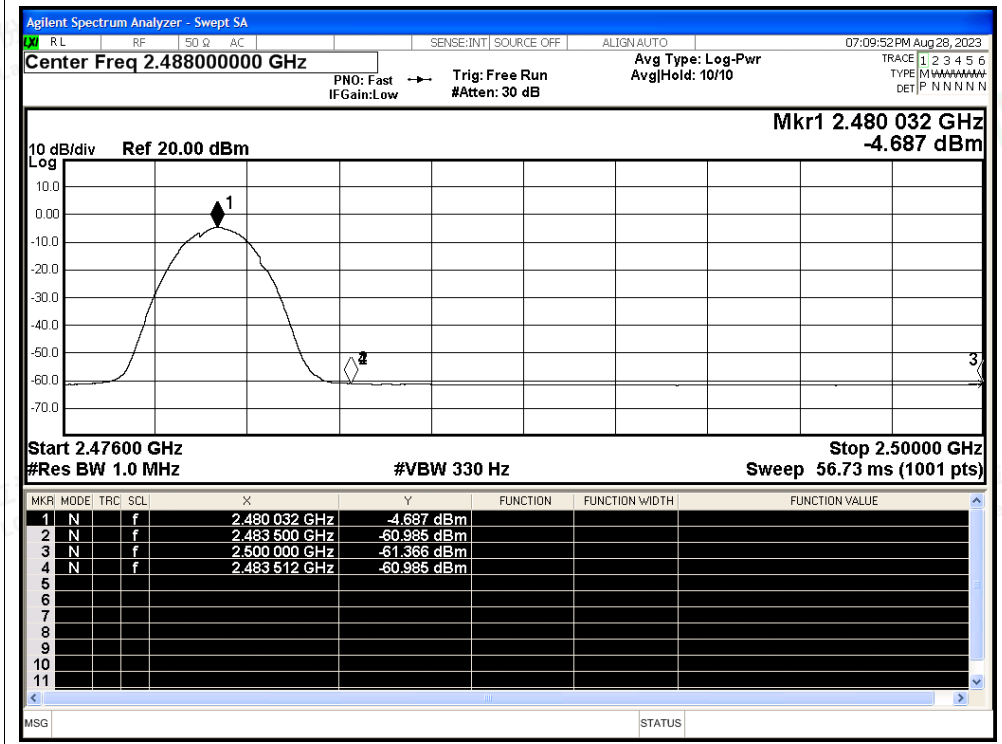




Restrict Band NVNT 2-DH5 2480MHz Ant No-Hopping Peak

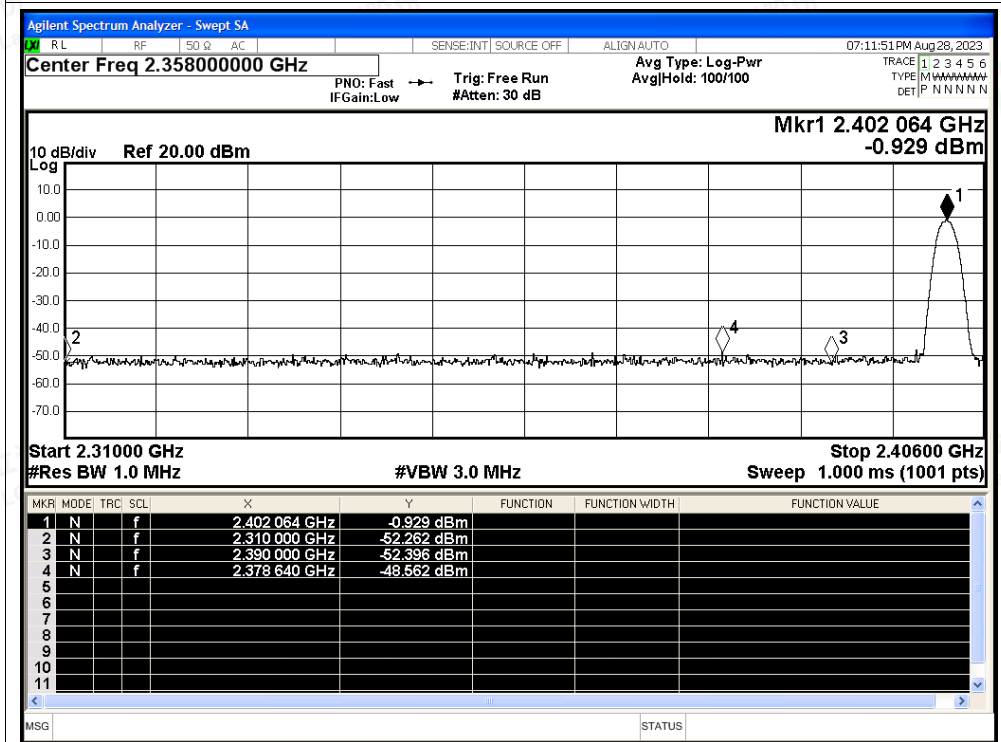


Restrict Band NVNT 2-DH5 2480MHz Ant No-Hopping Average

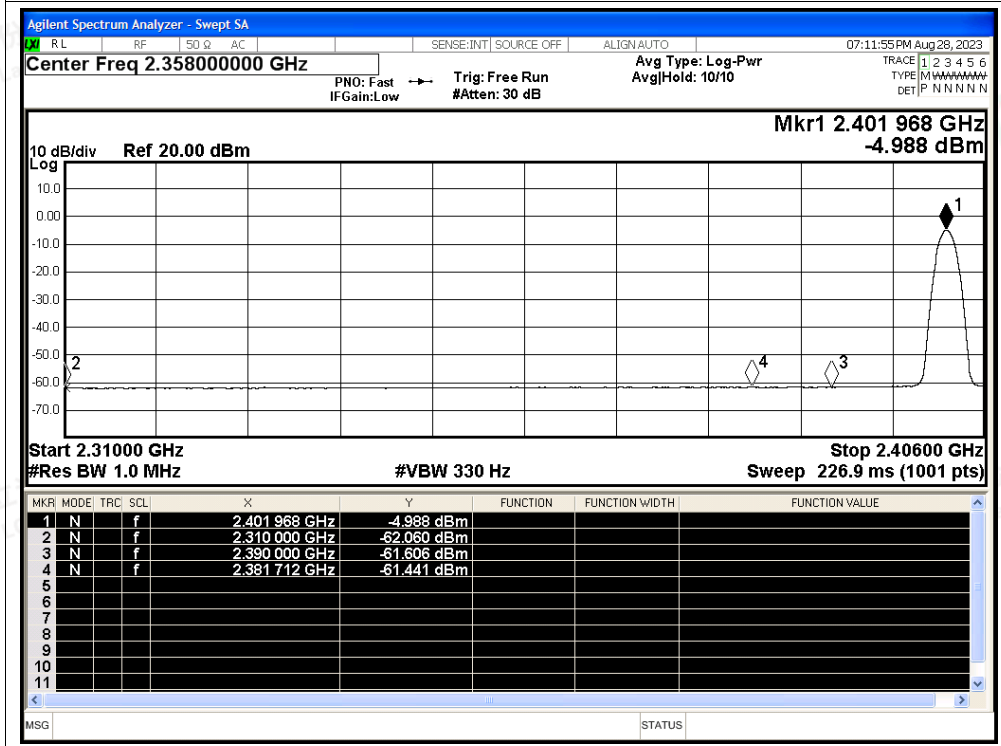




Restrict Band NVNT 3-DH5 2402MHz Ant No-Hopping Peak

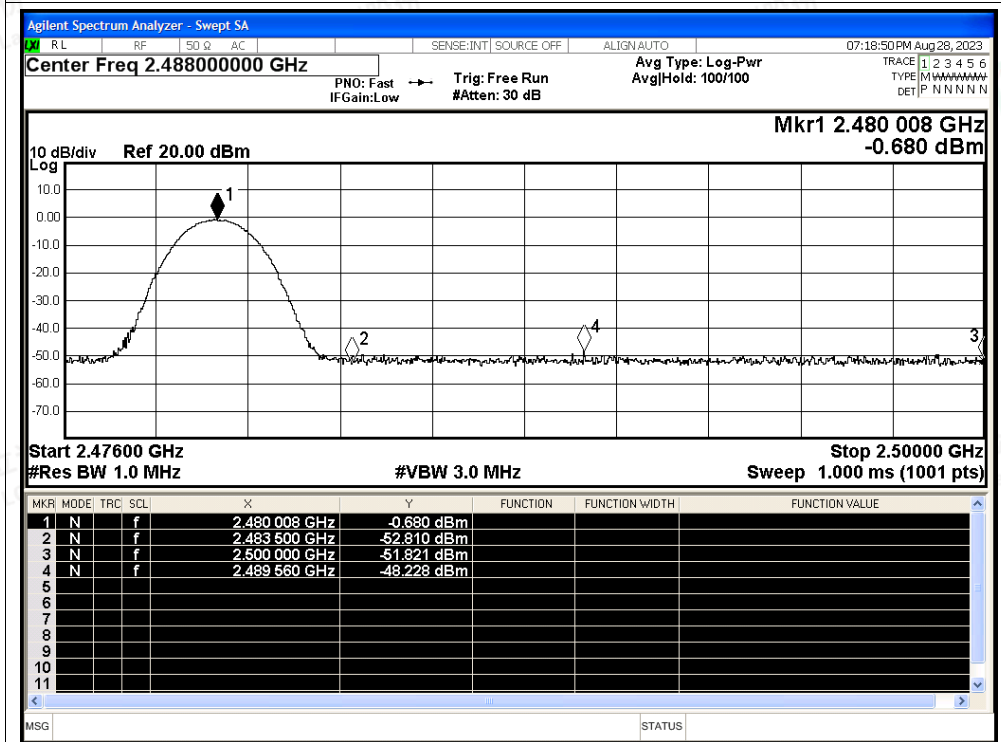


Restrict Band NVNT 3-DH5 2402MHz Ant No-Hopping Average





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



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

