



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Wireless Speaker

Test Model: X10

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
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	Ant1	1.002	0	Pass
NVNT	1-DH5	2441	Ant1	1.02	0	Pass
NVNT	1-DH5	2480	Ant1	1.01	0	Pass
NVNT	2-DH5	2402	Ant1	1.285	0	Pass
NVNT	2-DH5	2441	Ant1	1.275	0	Pass
NVNT	2-DH5	2480	Ant1	1.281	0	Pass
NVNT	3-DH5	2402	Ant1	1.299	0	Pass
NVNT	3-DH5	2441	Ant1	1.304	0	Pass
NVNT	3-DH5	2480	Ant1	1.281	0	Pass



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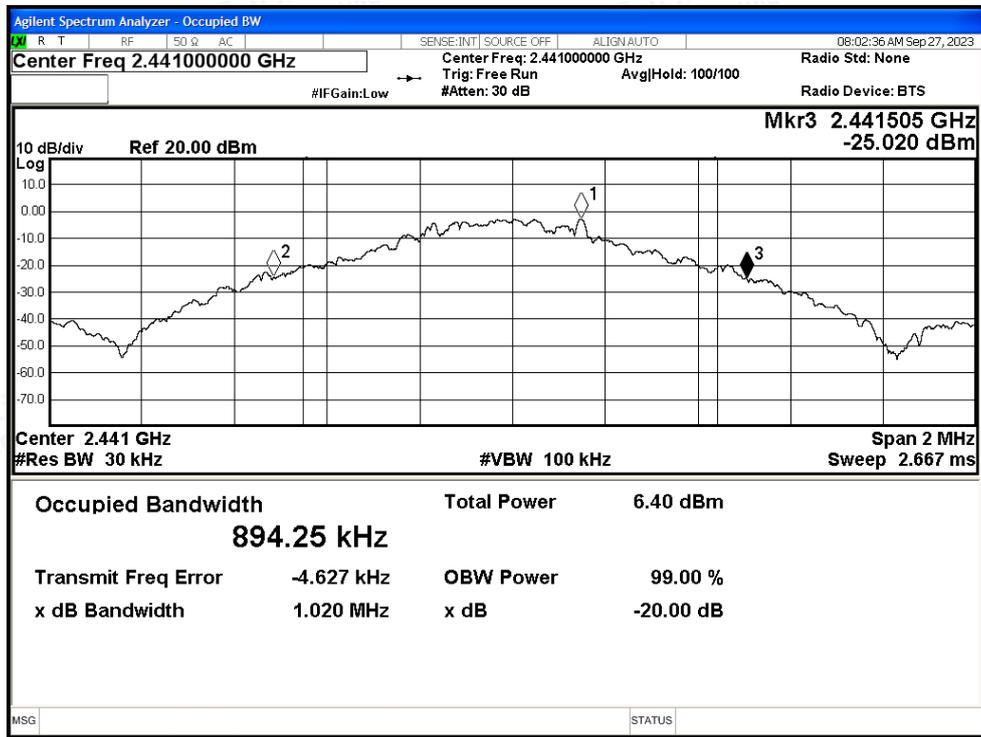


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

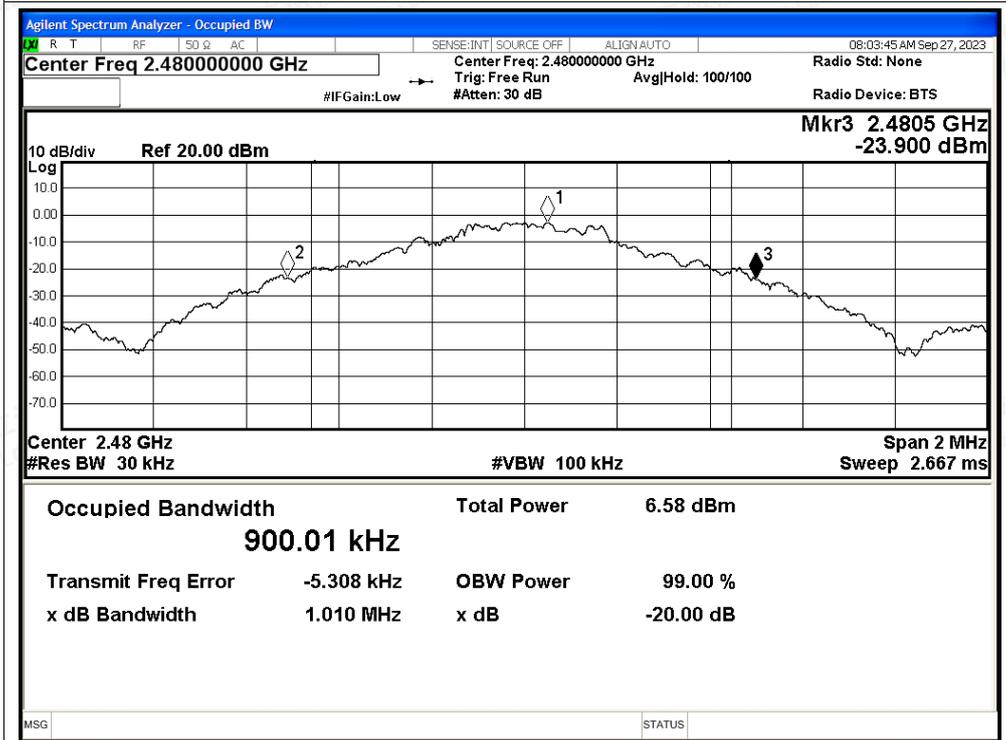


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

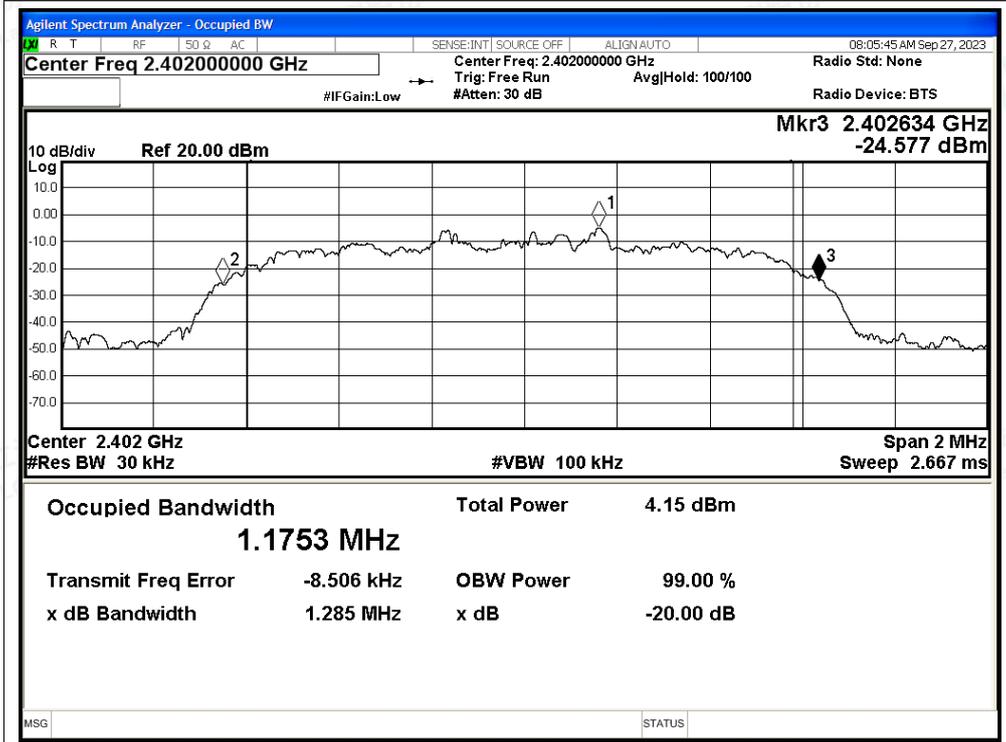




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

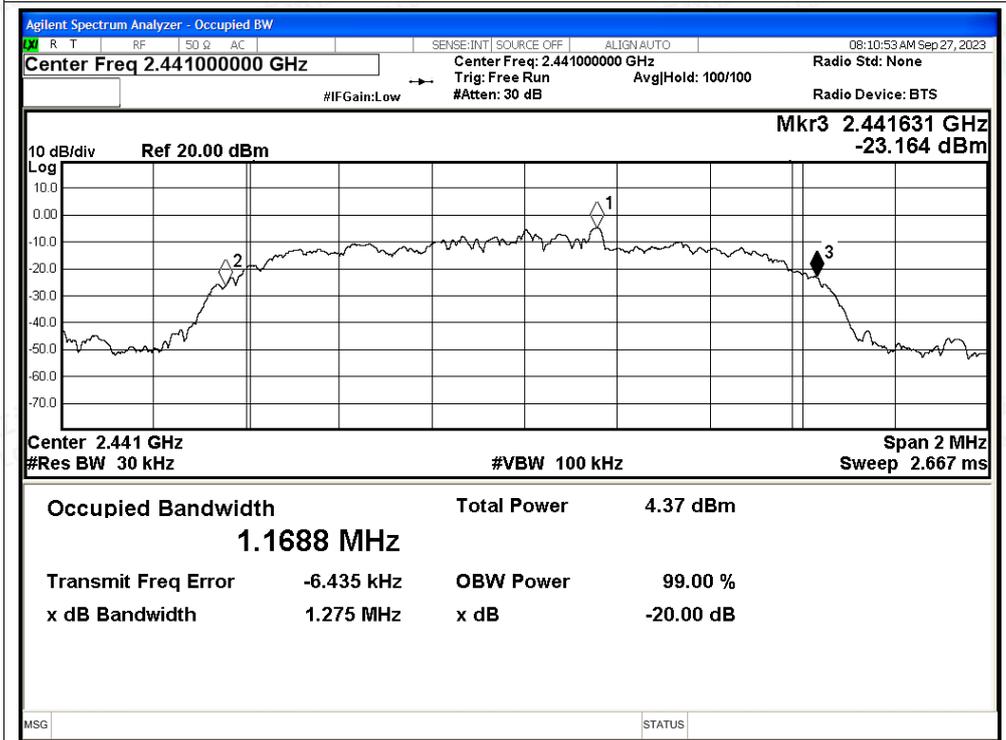


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

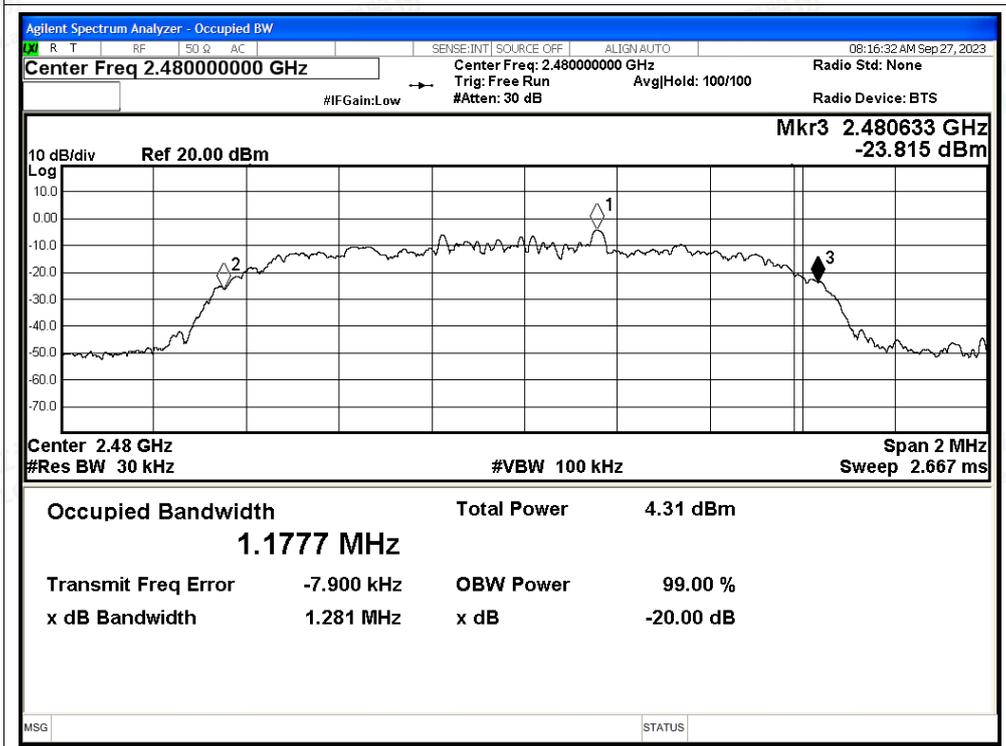




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

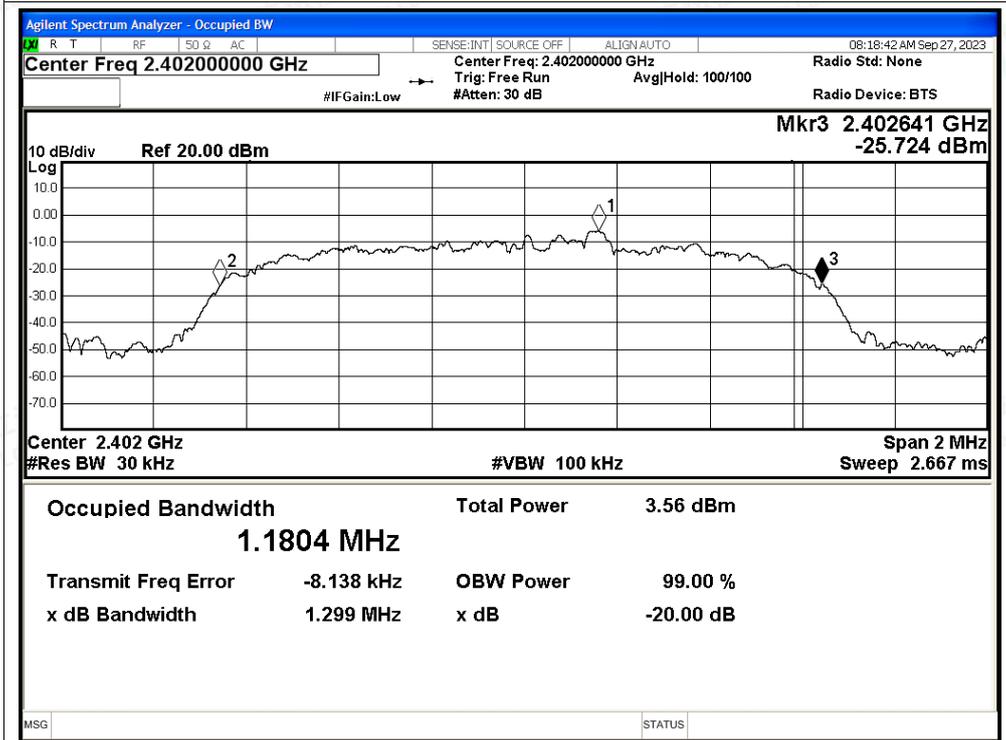


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

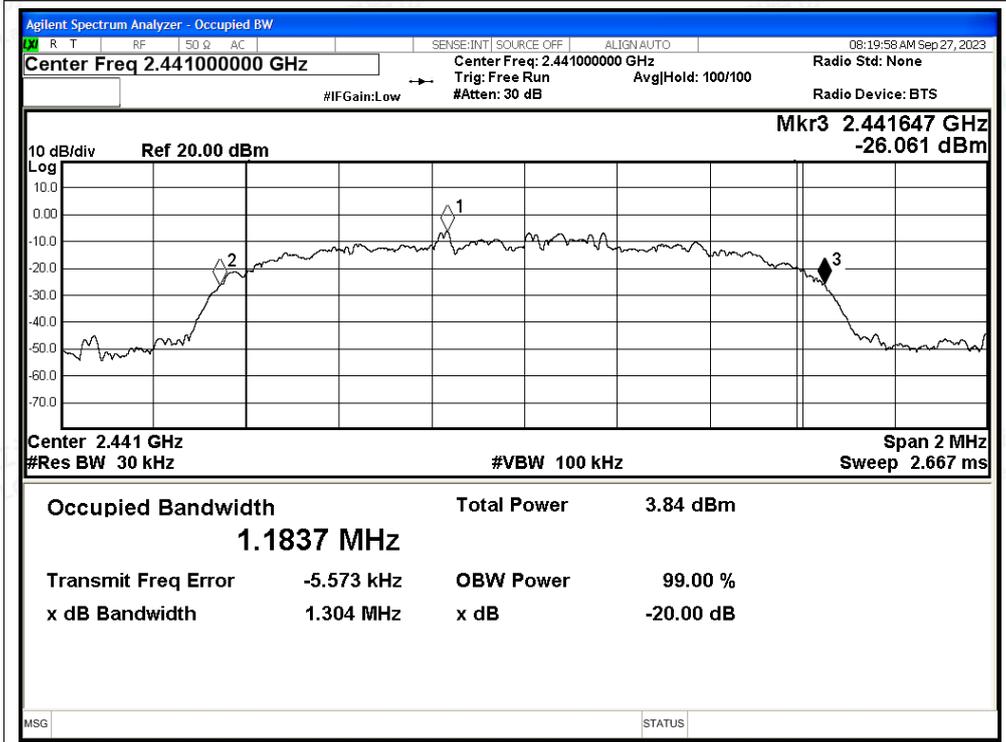


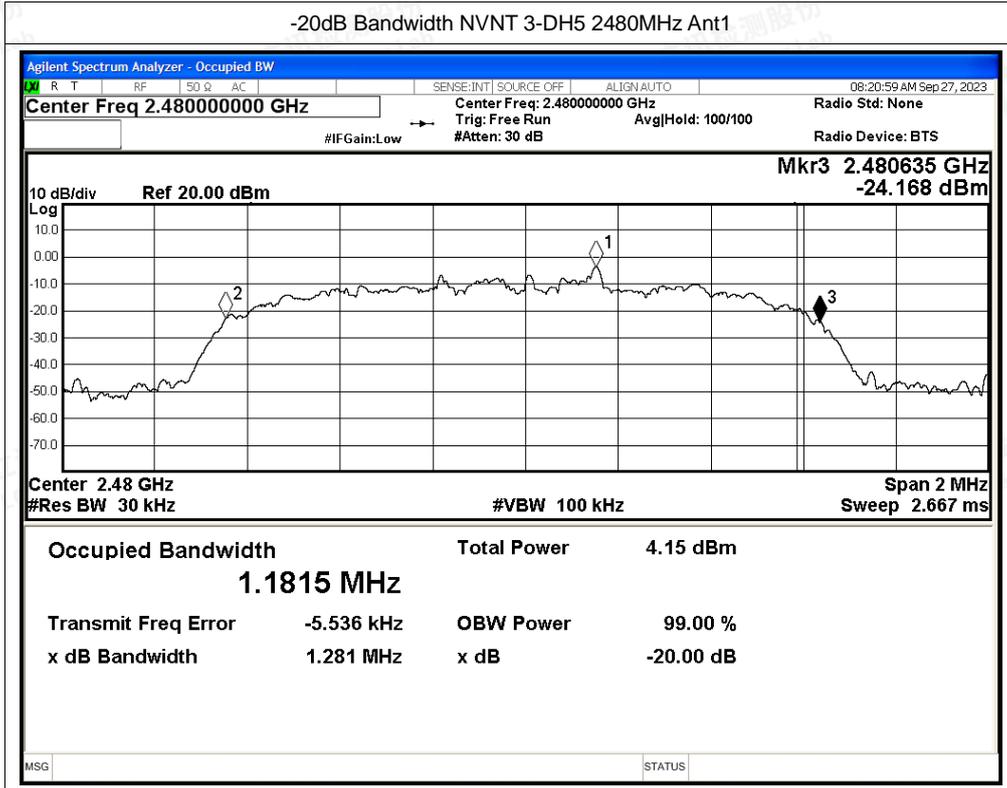


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1







A.2 Maximum Conducted Output Power

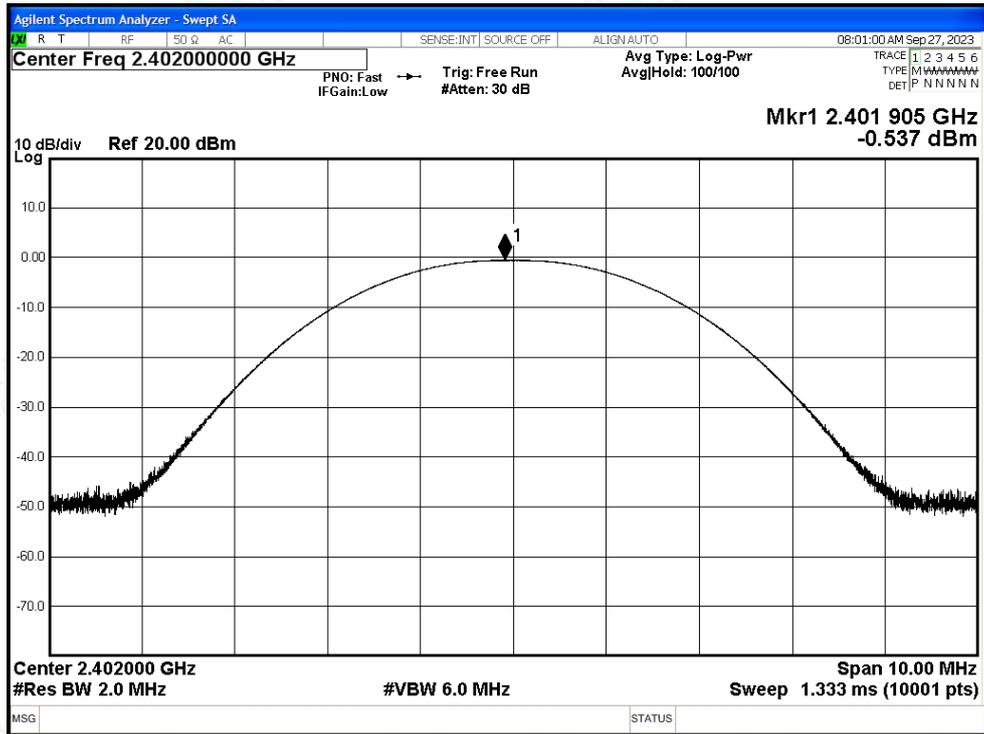
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.54	21	Pass
NVNT	1-DH5	2441	Ant1	-0.02	21	Pass
NVNT	1-DH5	2480	Ant1	0.26	21	Pass
NVNT	2-DH5	2402	Ant1	-0.62	21	Pass
NVNT	2-DH5	2441	Ant1	-0.52	21	Pass
NVNT	2-DH5	2480	Ant1	-0.29	21	Pass
NVNT	3-DH5	2402	Ant1	-0.84	21	Pass
NVNT	3-DH5	2441	Ant1	-0.39	21	Pass
NVNT	3-DH5	2480	Ant1	-0.14	21	Pass



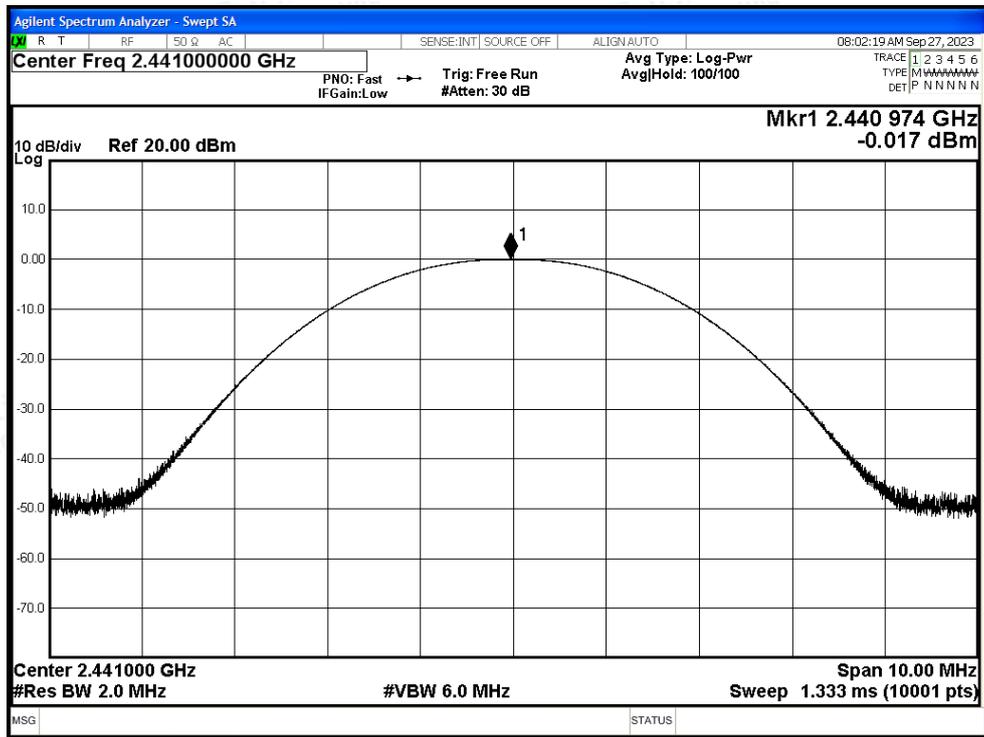


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

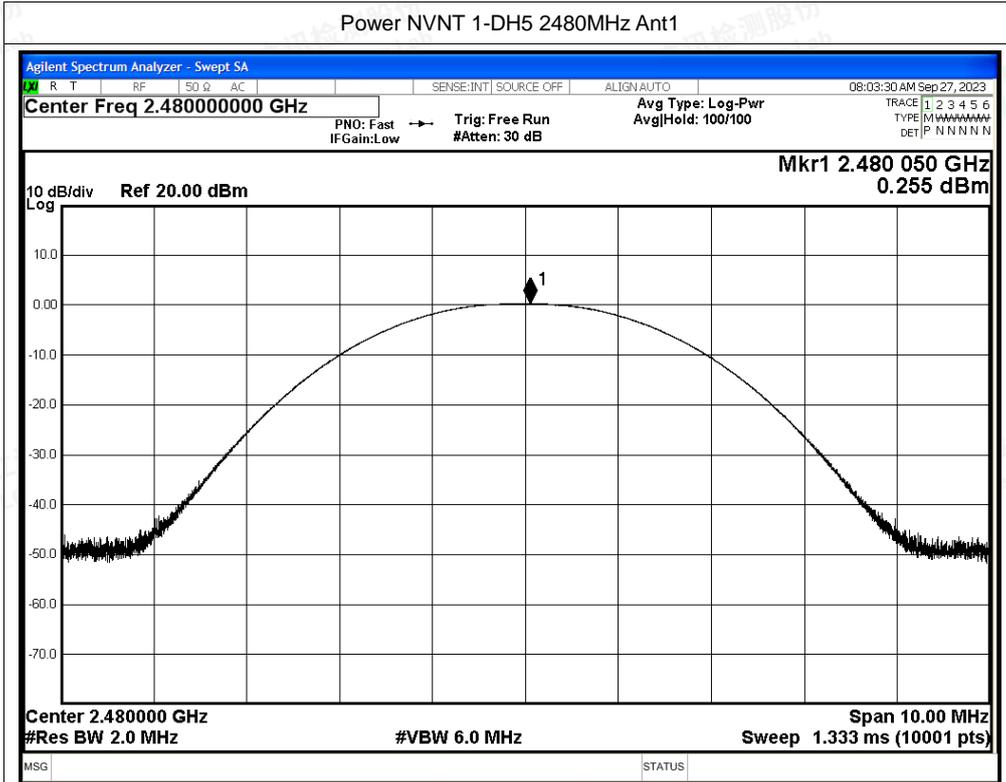


Power NVNT 1-DH5 2441MHz Ant1

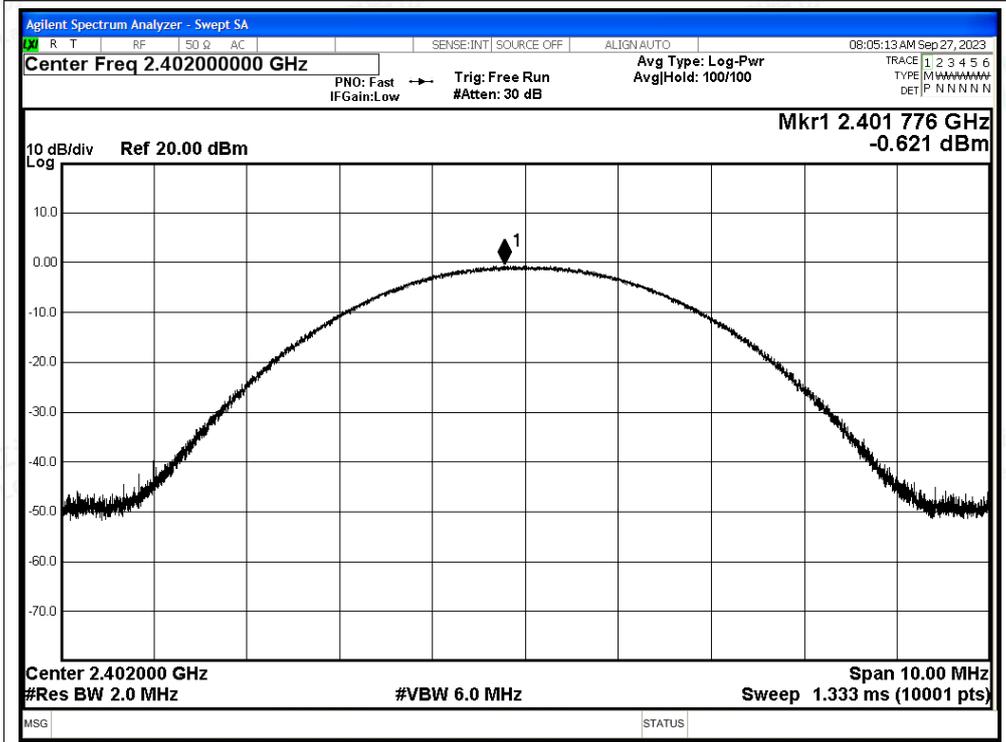




Power NVNT 1-DH5 2480MHz Ant1

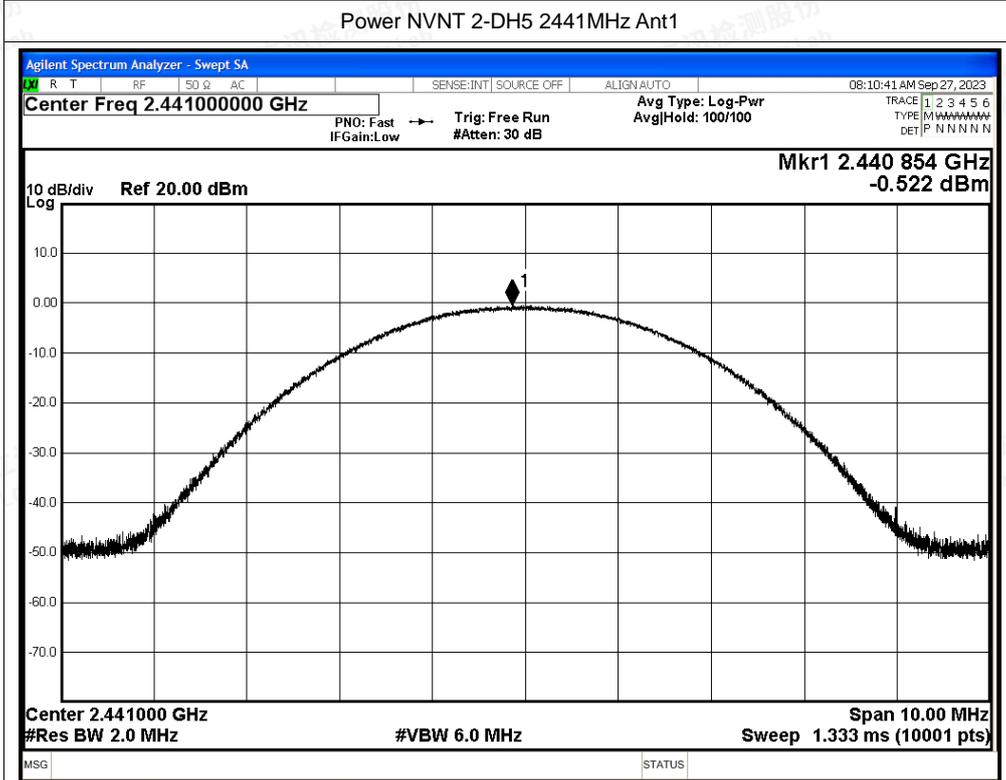


Power NVNT 2-DH5 2402MHz Ant1

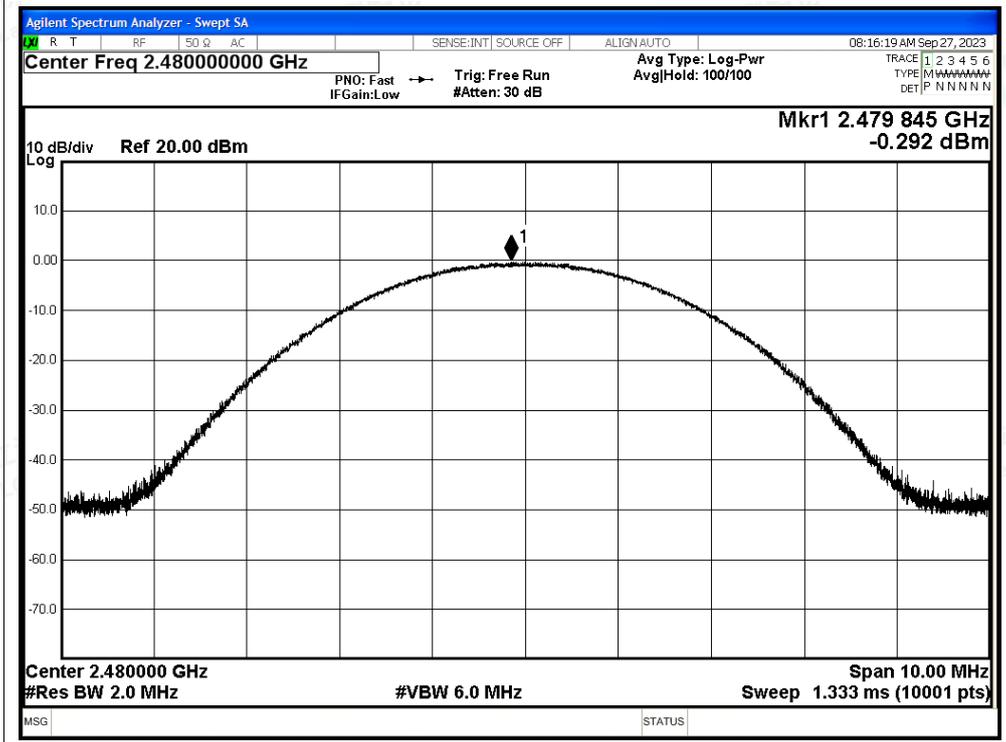




Power NVNT 2-DH5 2441MHz Ant1

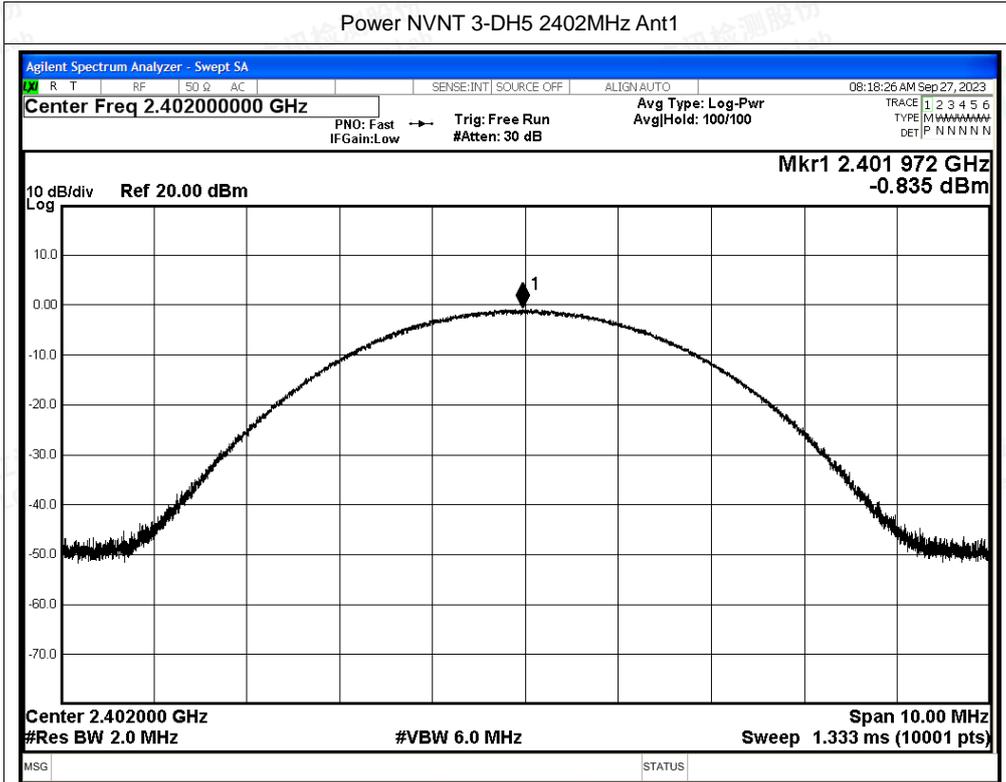


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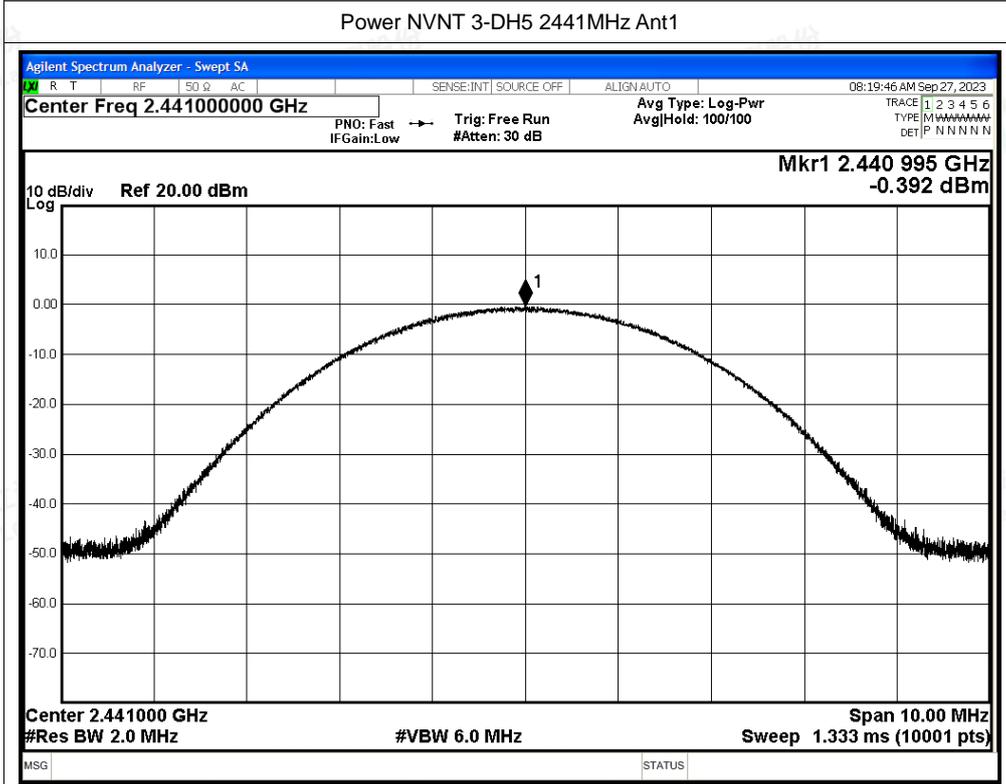


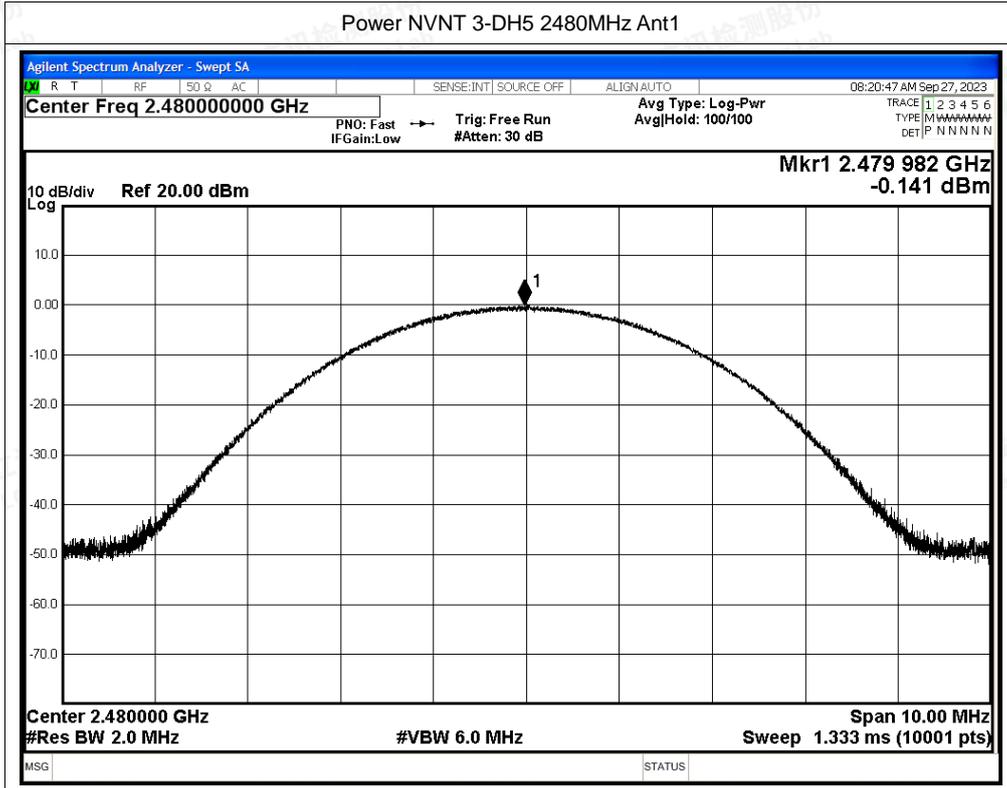


Power NVNT 3-DH5 2402MHz Ant1



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	2402.154	2402.966	0.812	0.680	Pass
NVNT	2-DH5	Ant1	2401.818	2403.02	1.202	0.857	Pass
NVNT	3-DH5	Ant1	2402.148	2403.152	1.004	0.869	Pass

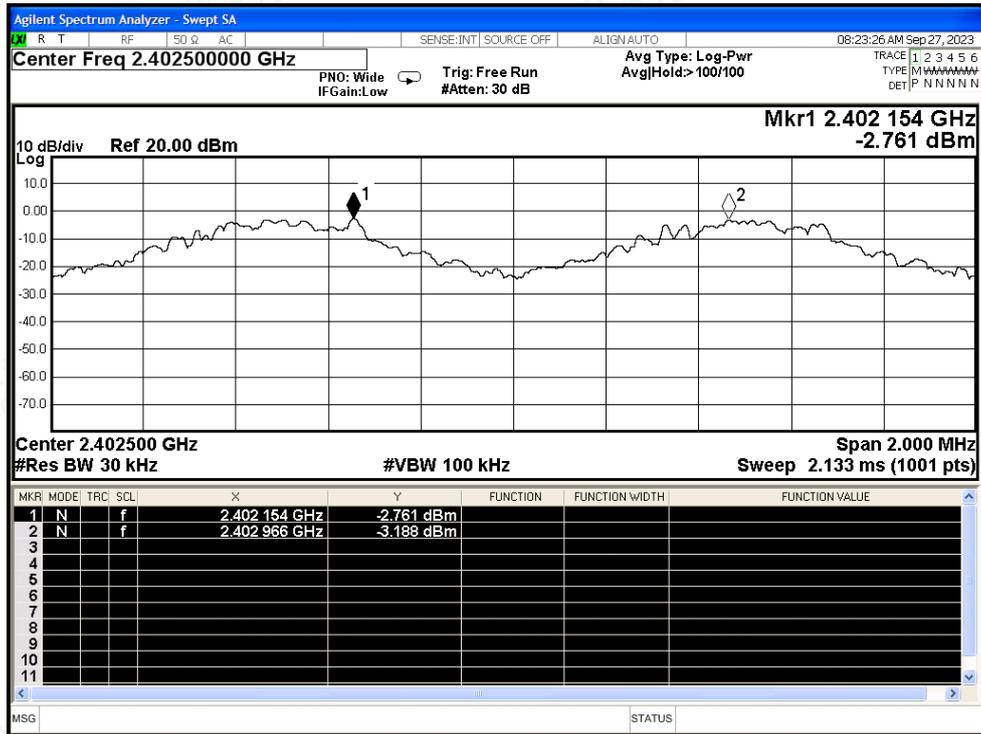


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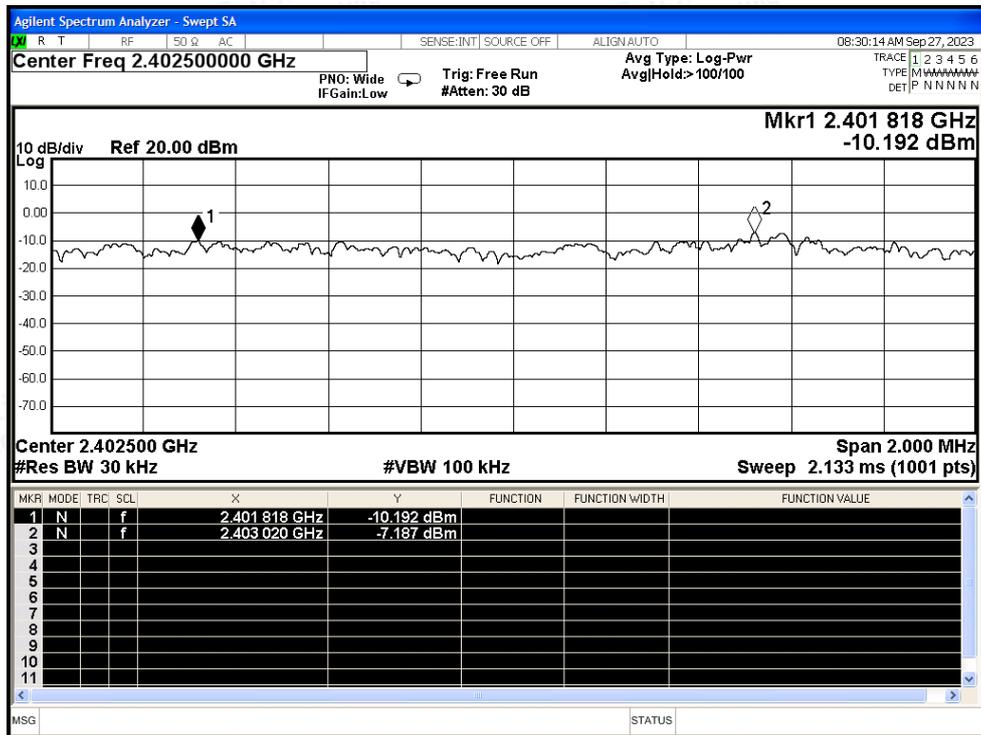


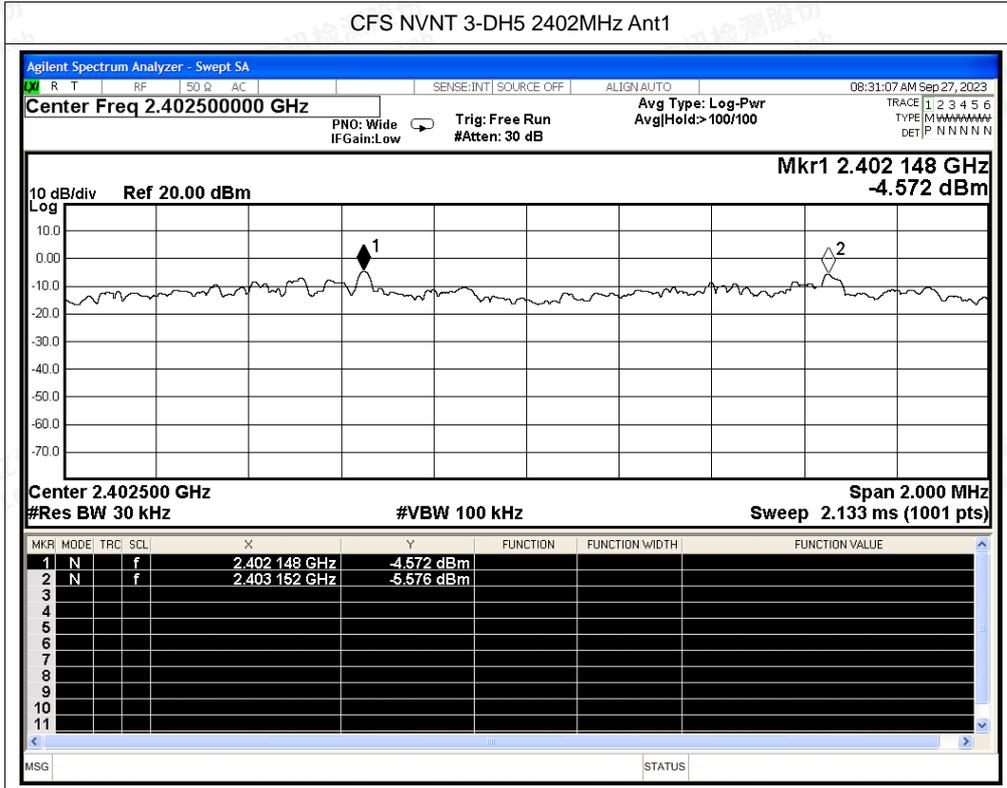
Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz 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	273.79	95	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.88	305.28	106	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.887	271.378	94	31600	400	Pass

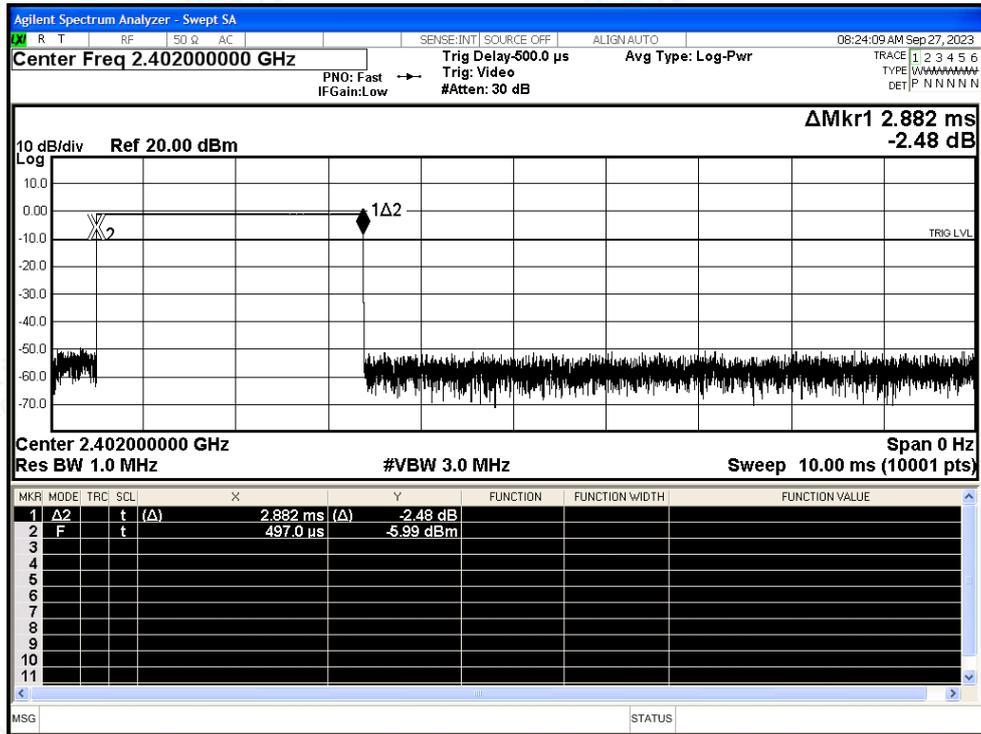


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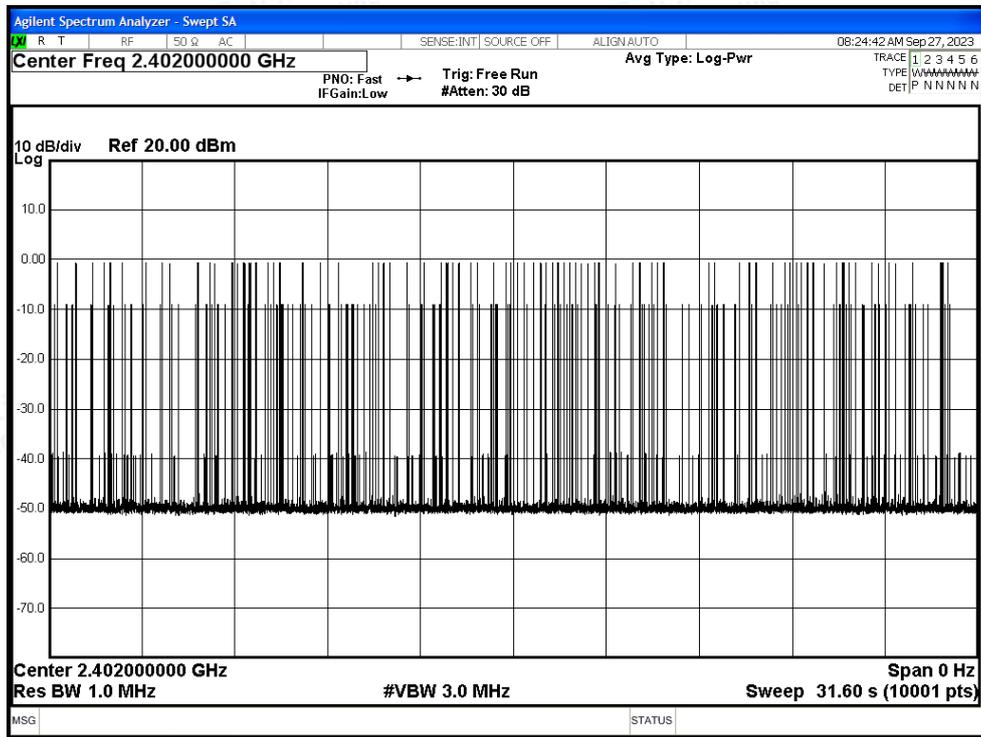


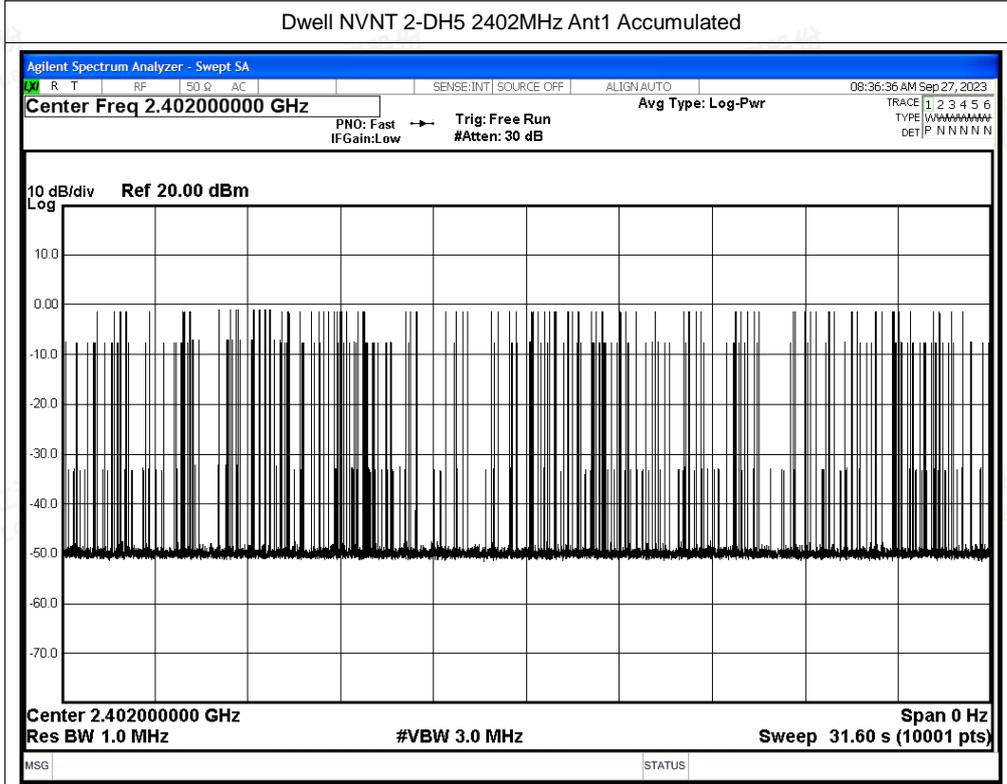
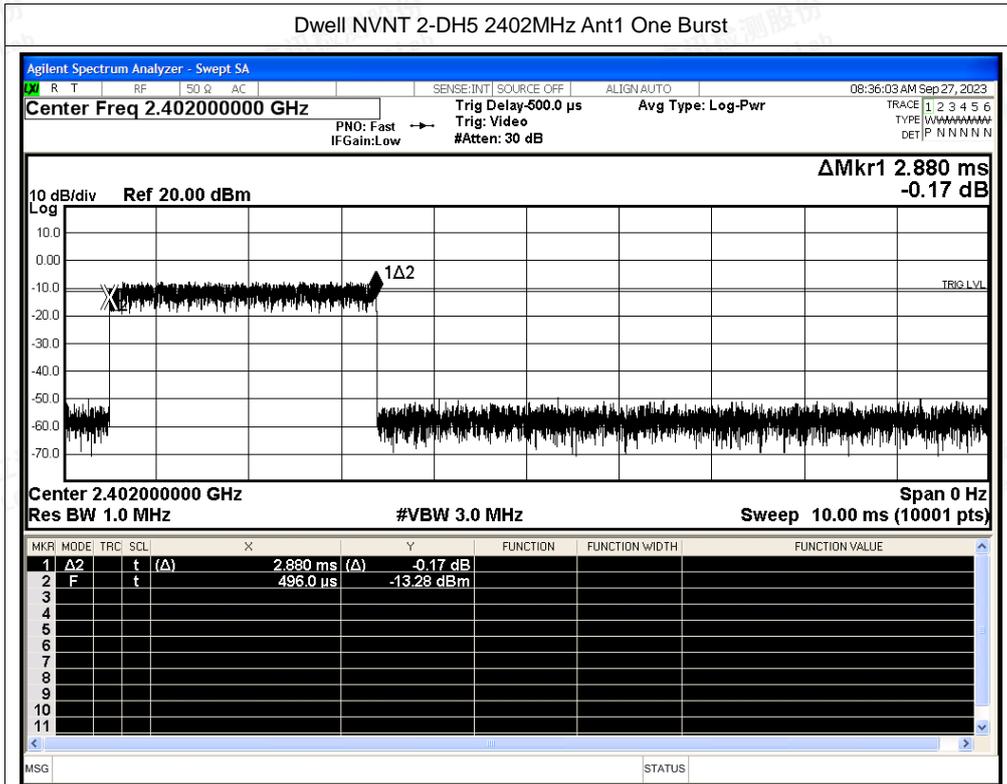
Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



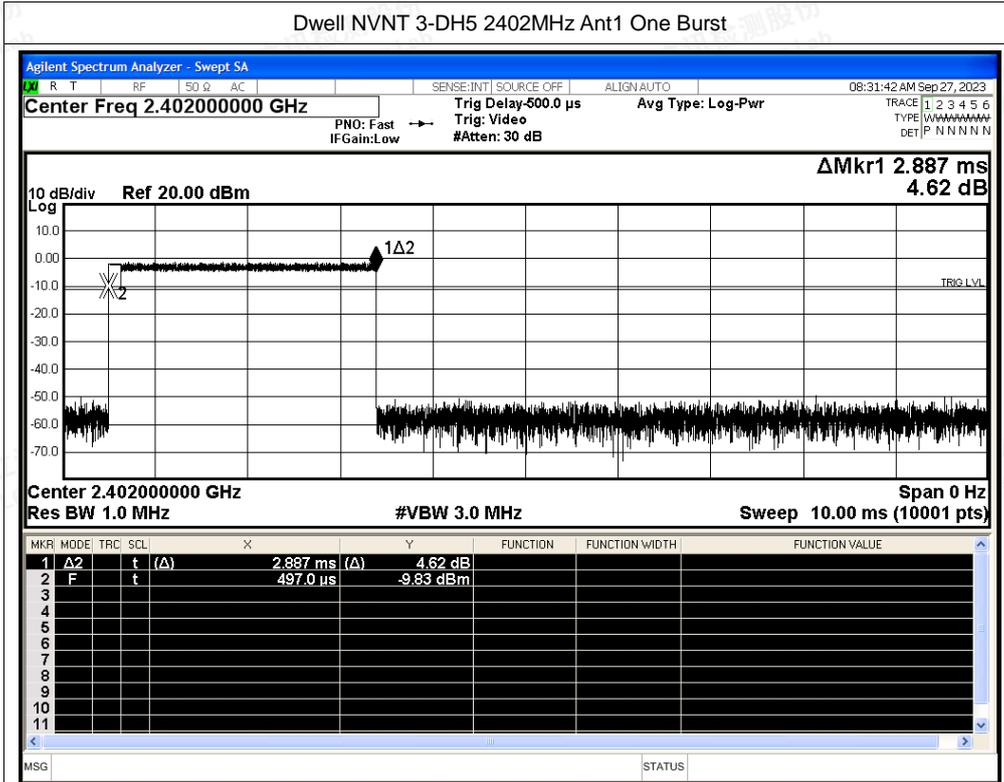
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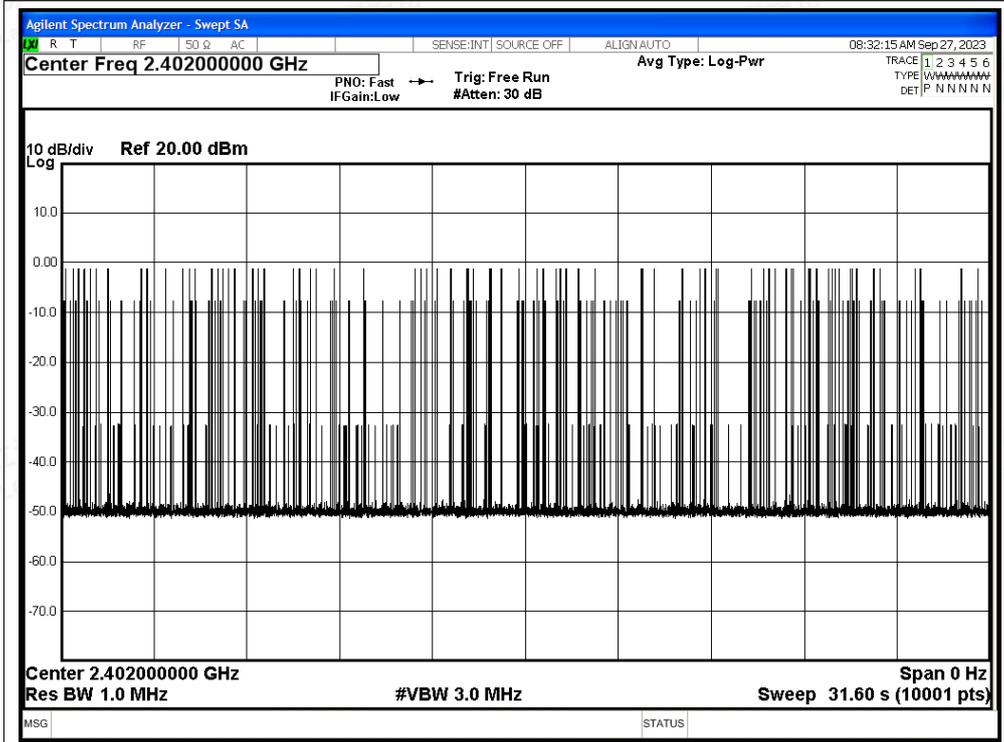




Dwell NVNT 3-DH5 2402MHz Ant1 One Burst



Dwell NVNT 3-DH5 2402MHz 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

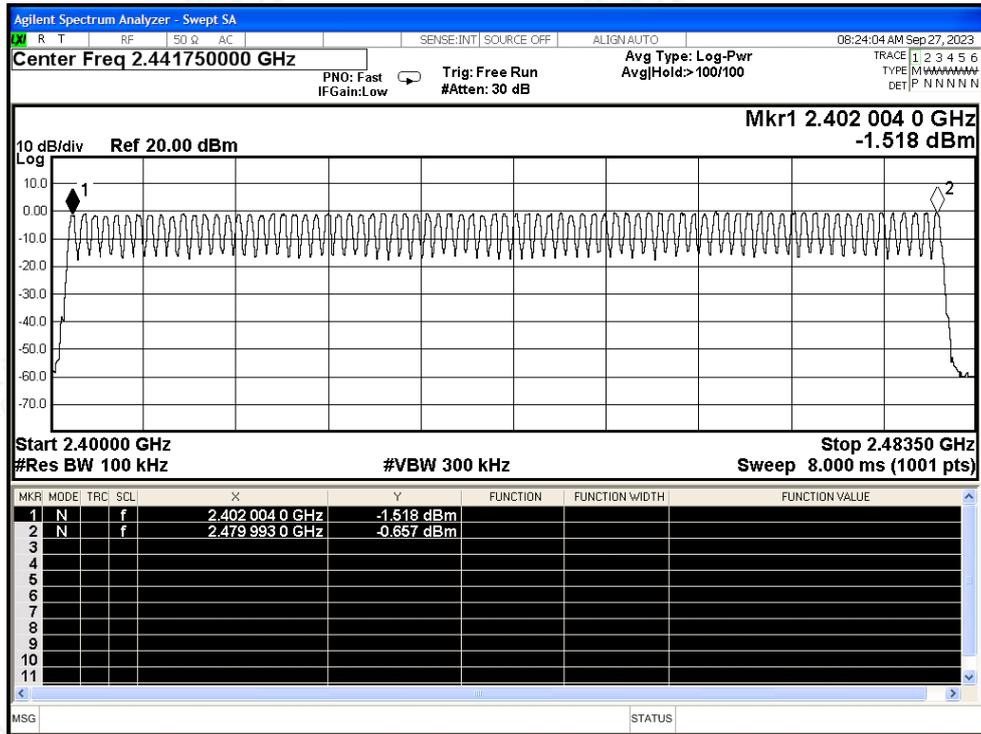


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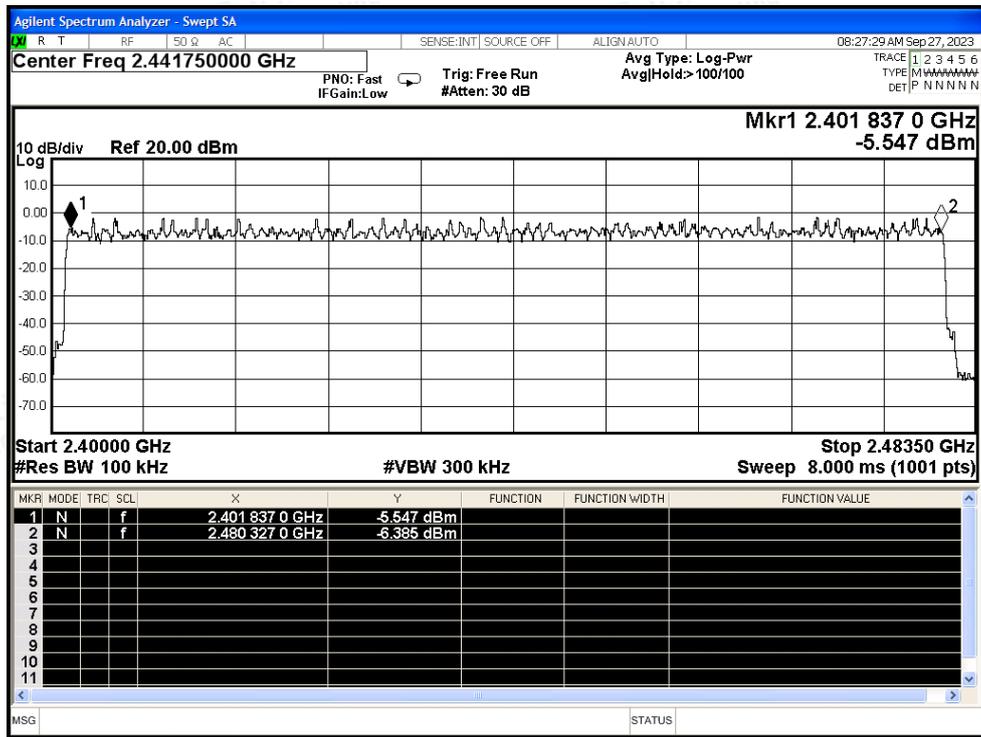


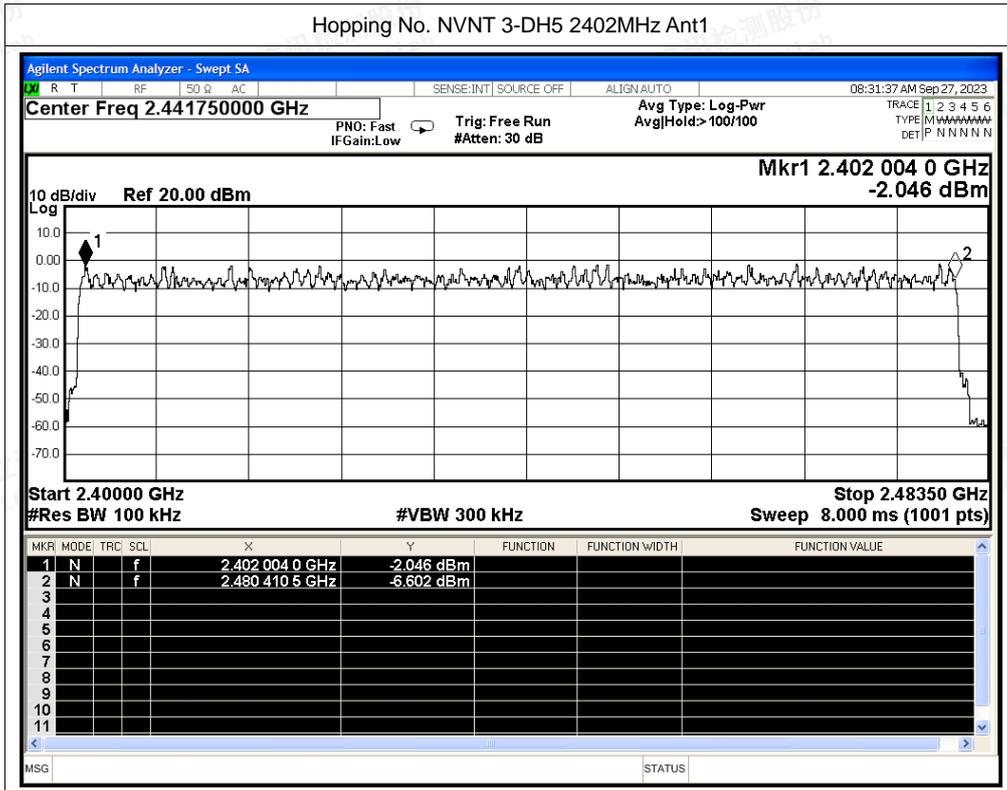
Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz 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	-56.4	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-58.59	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-54.54	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-56.45	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-55.54	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-57.62	-20	Pass

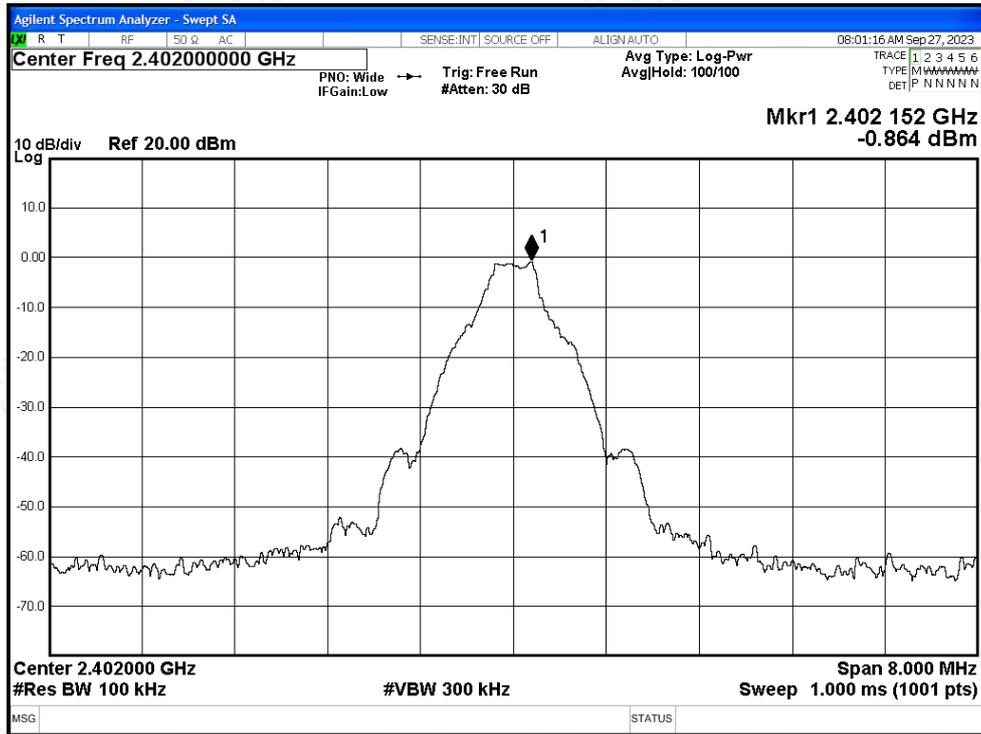


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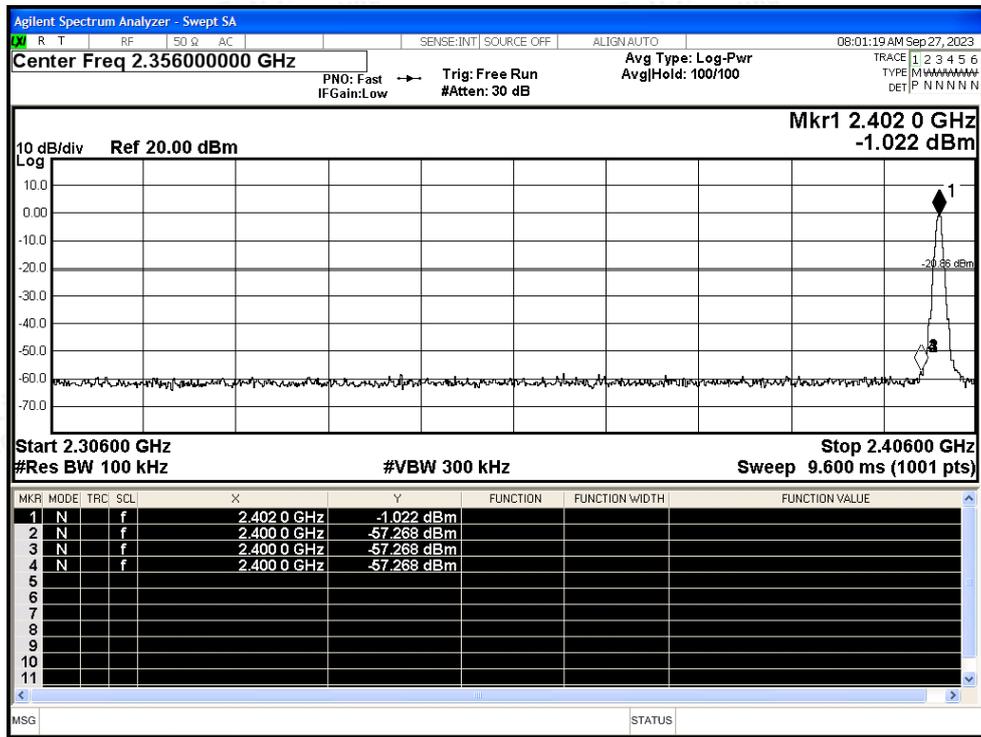


Test Graphs

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

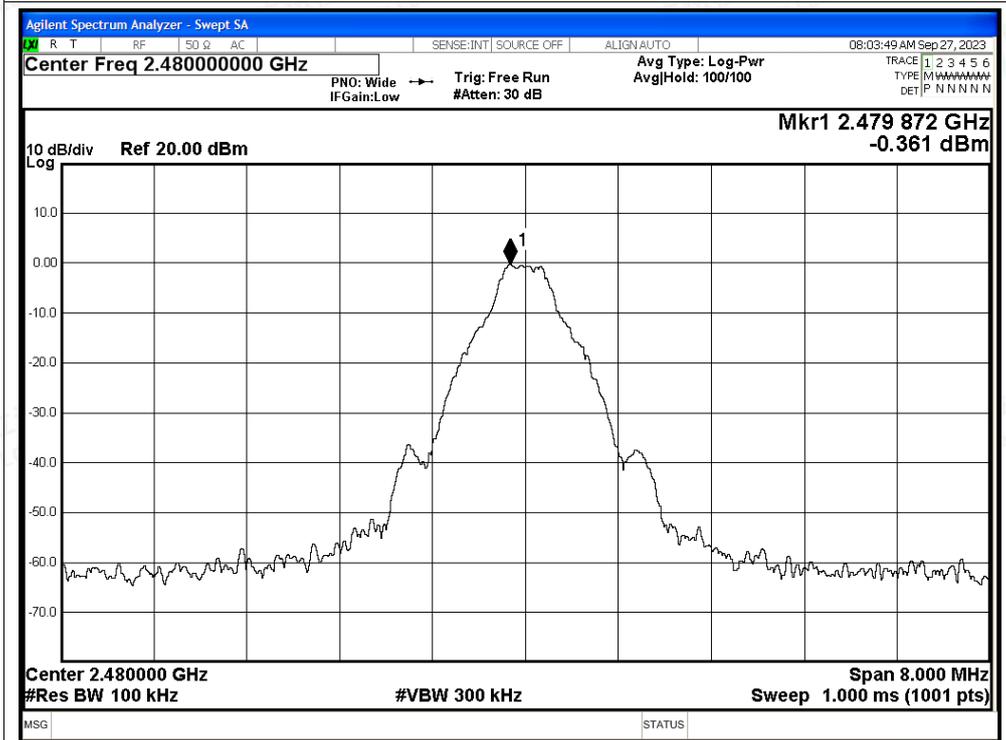


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

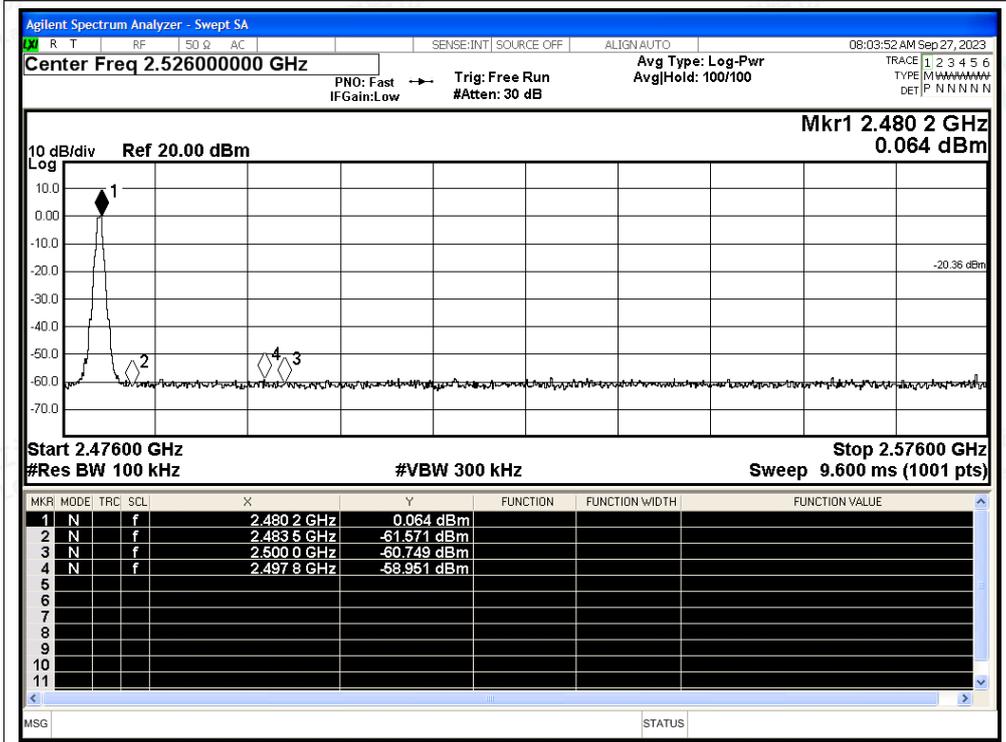




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

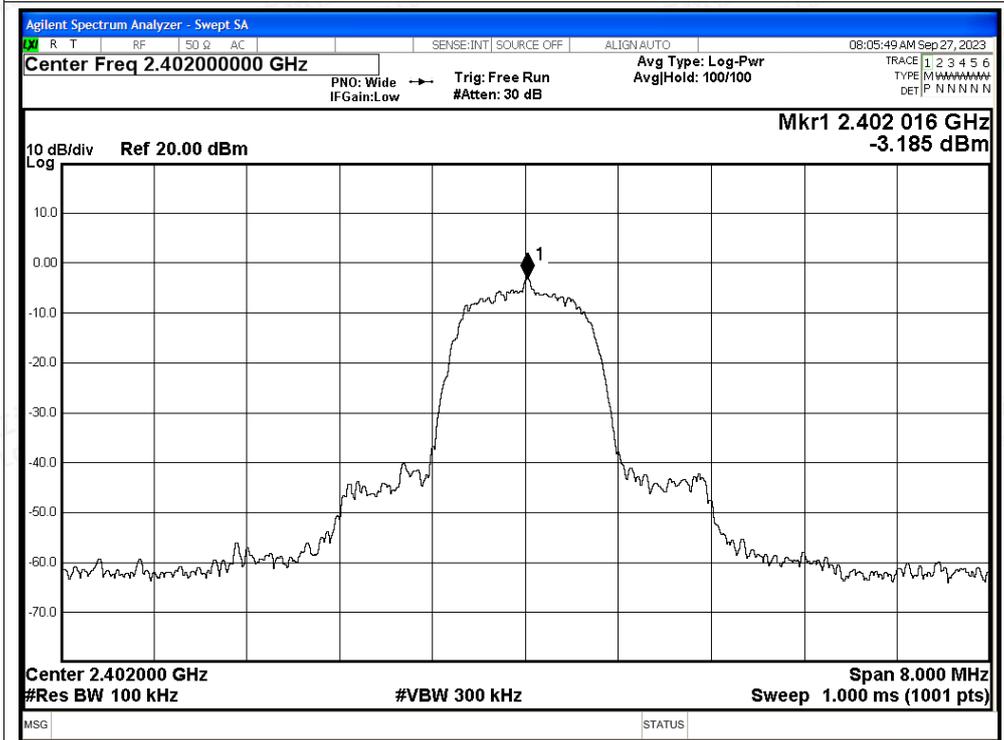


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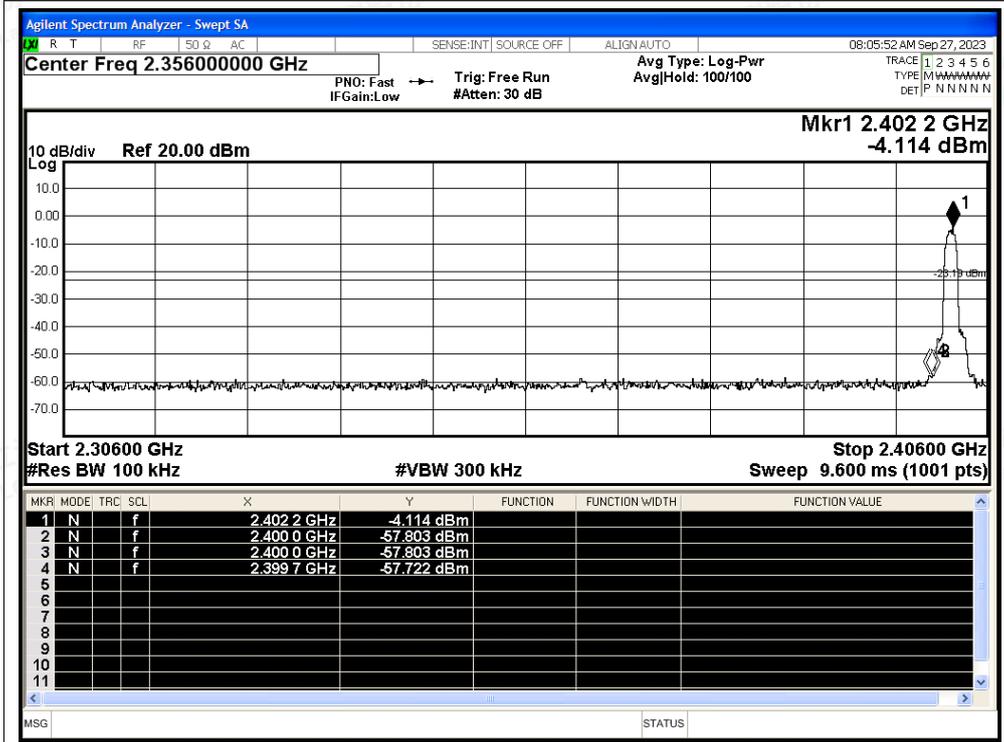


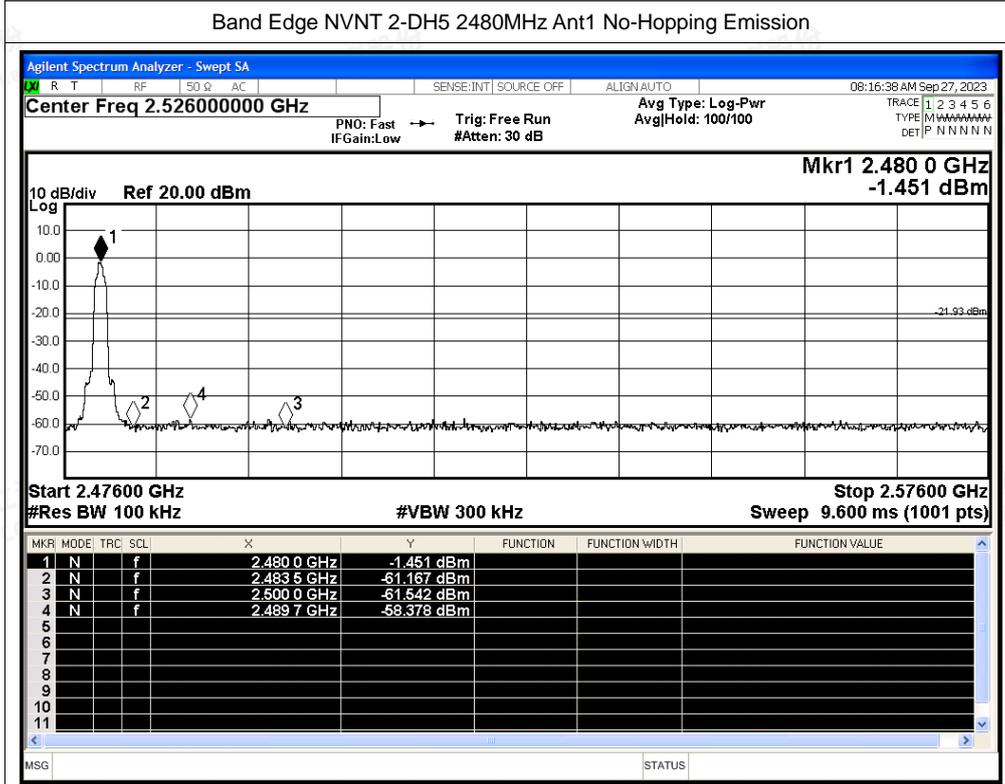
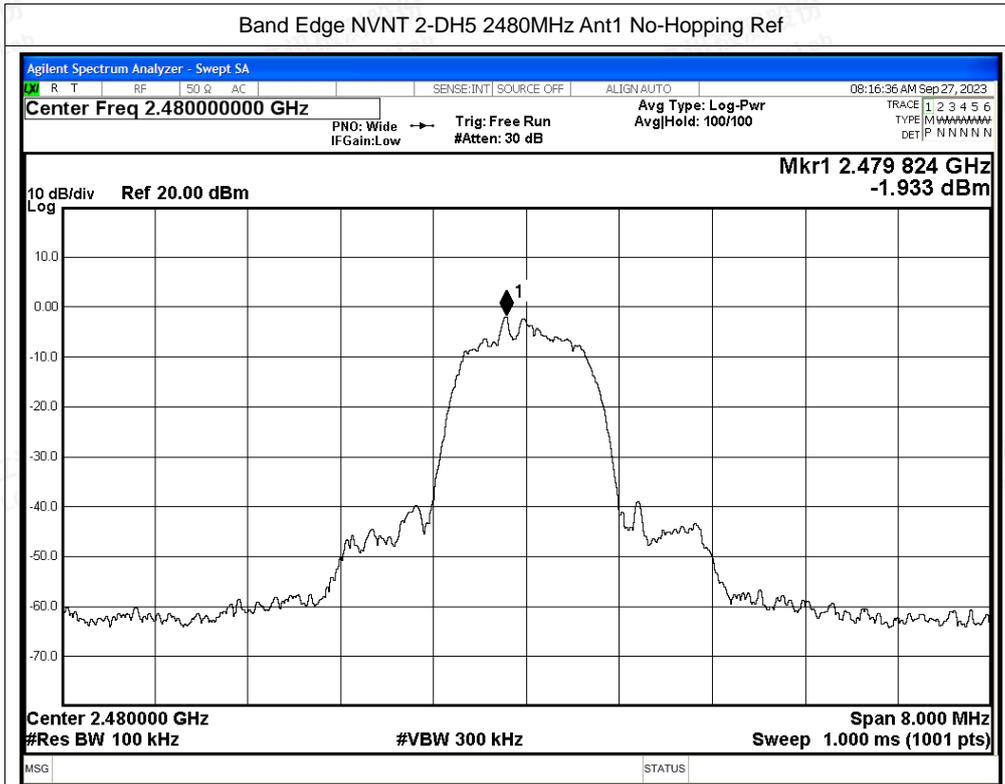


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



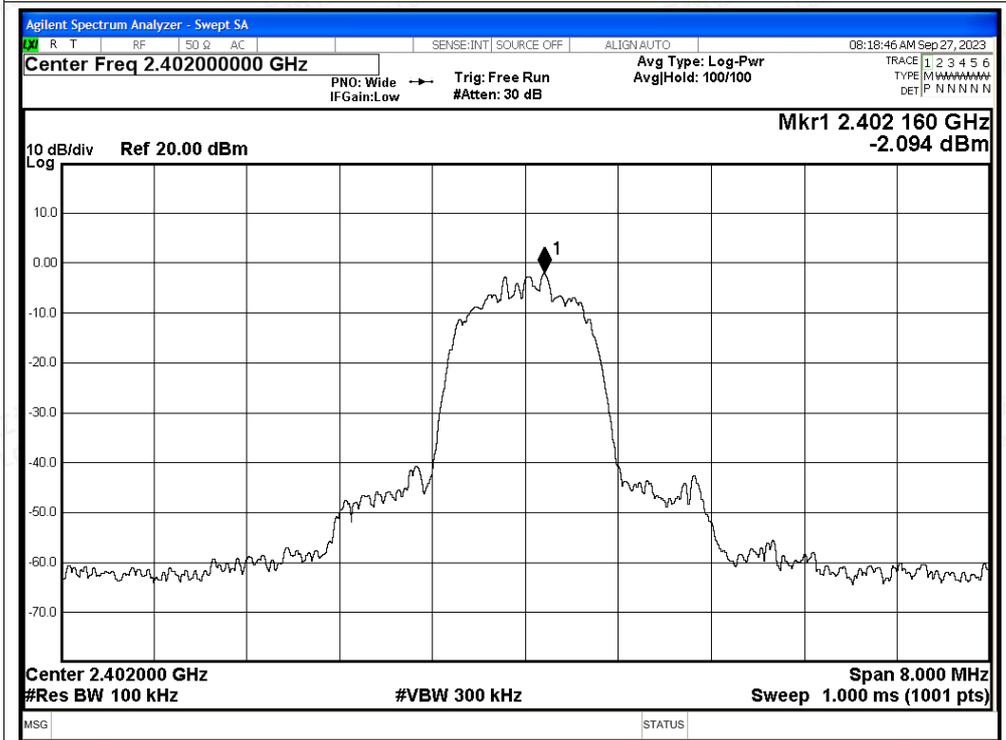
Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission



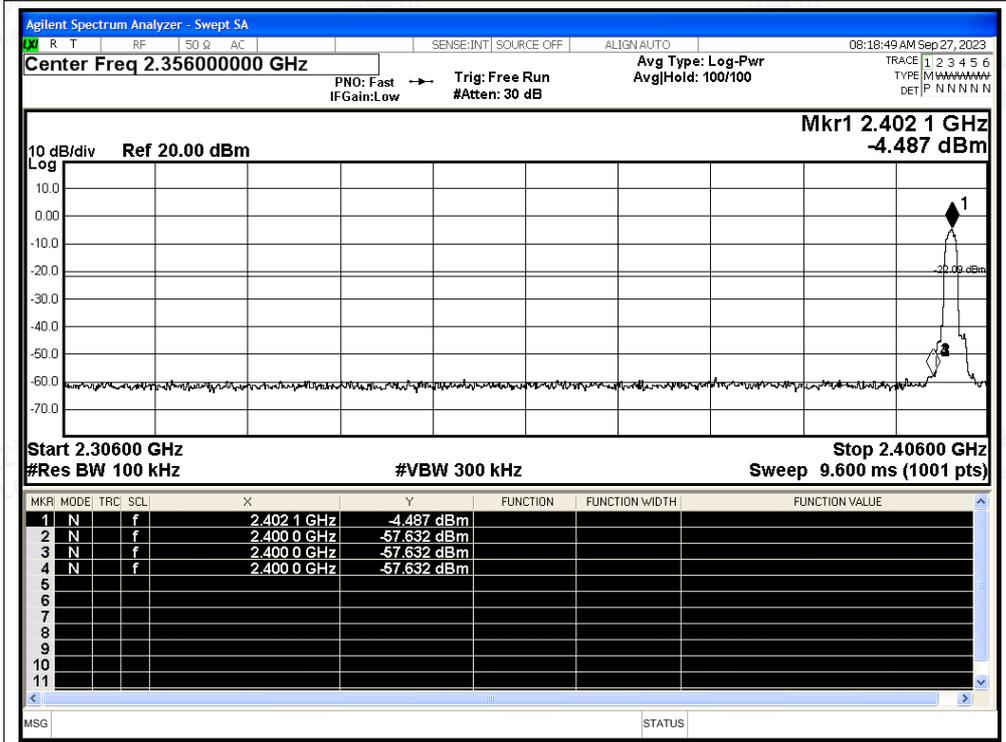




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

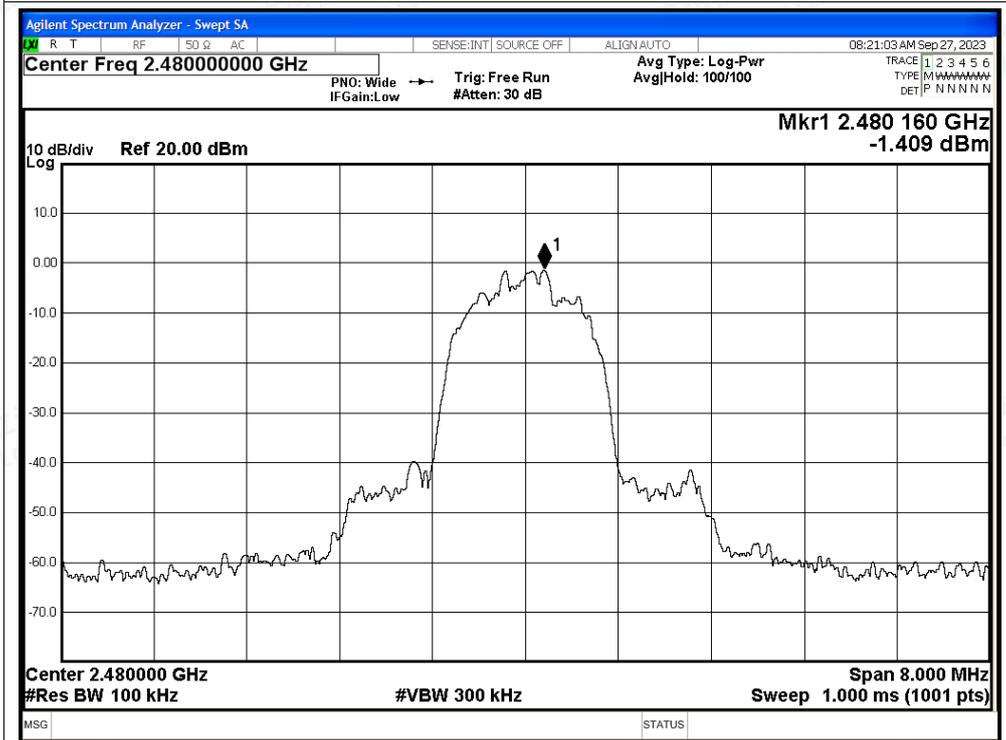


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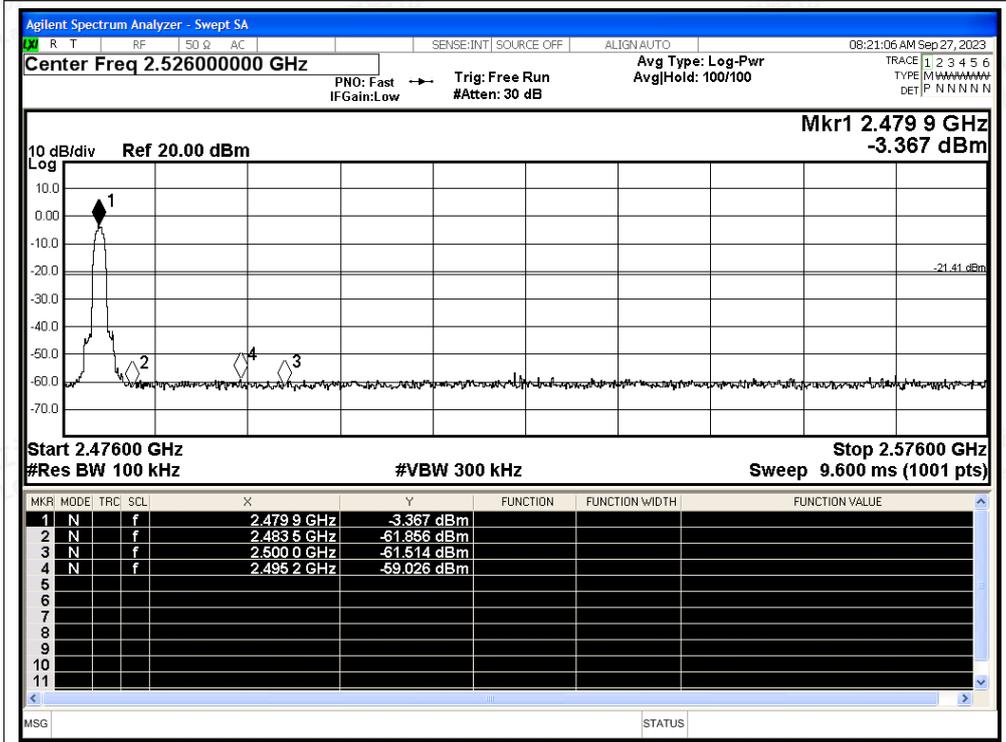




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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	-56.42	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-56.91	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-54.97	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-55.22	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-52.49	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-56.24	-20	Pass

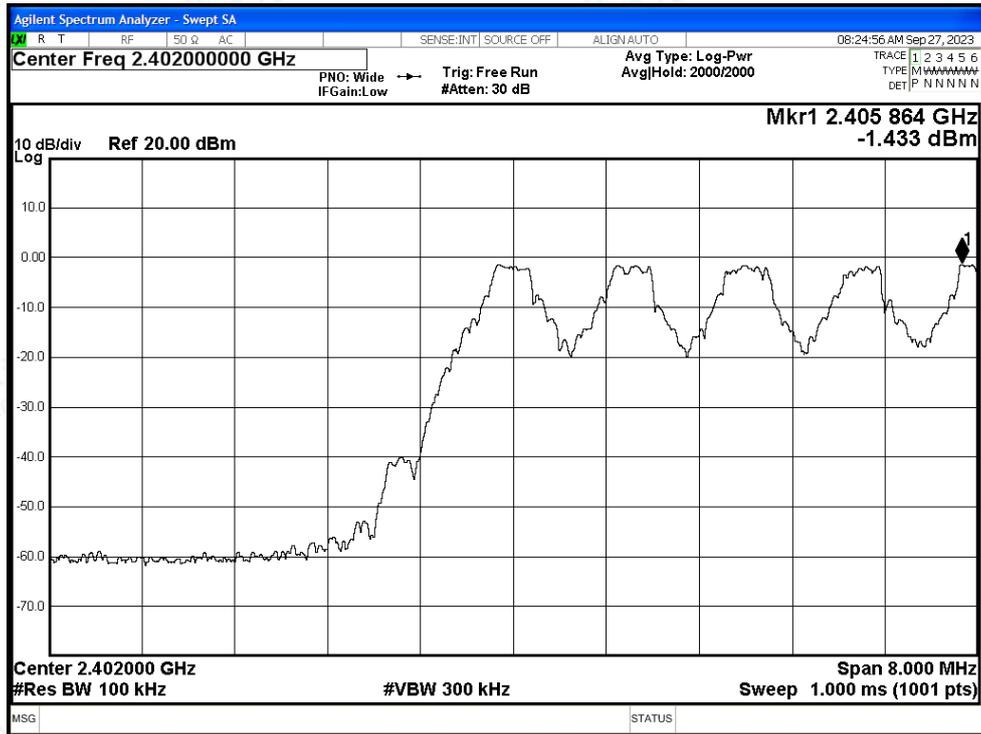


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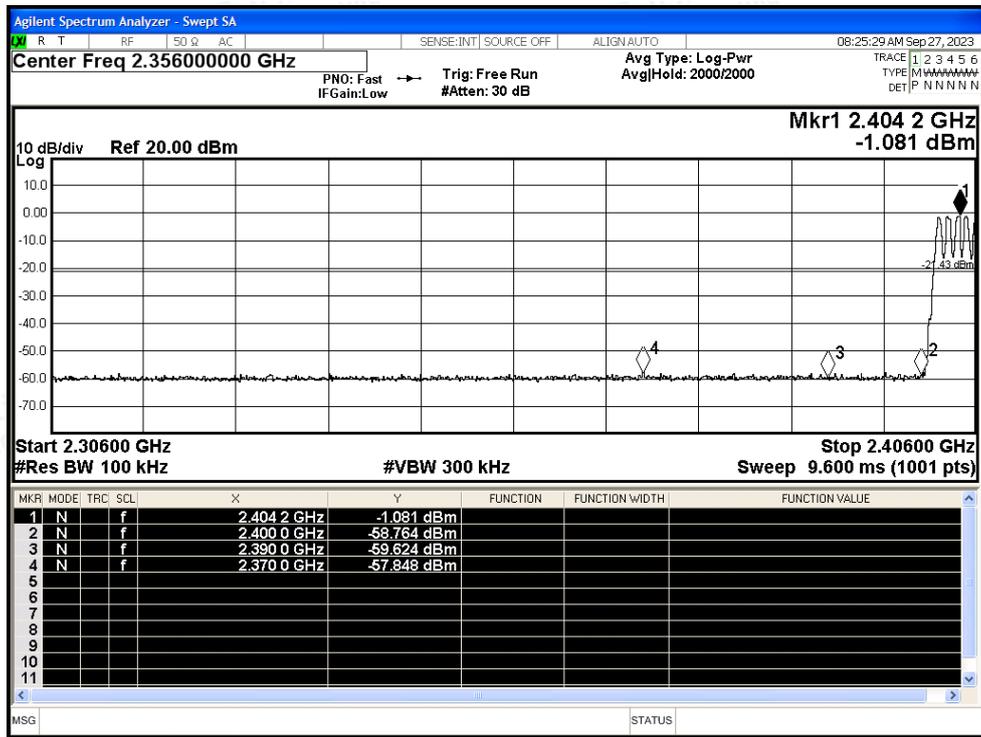


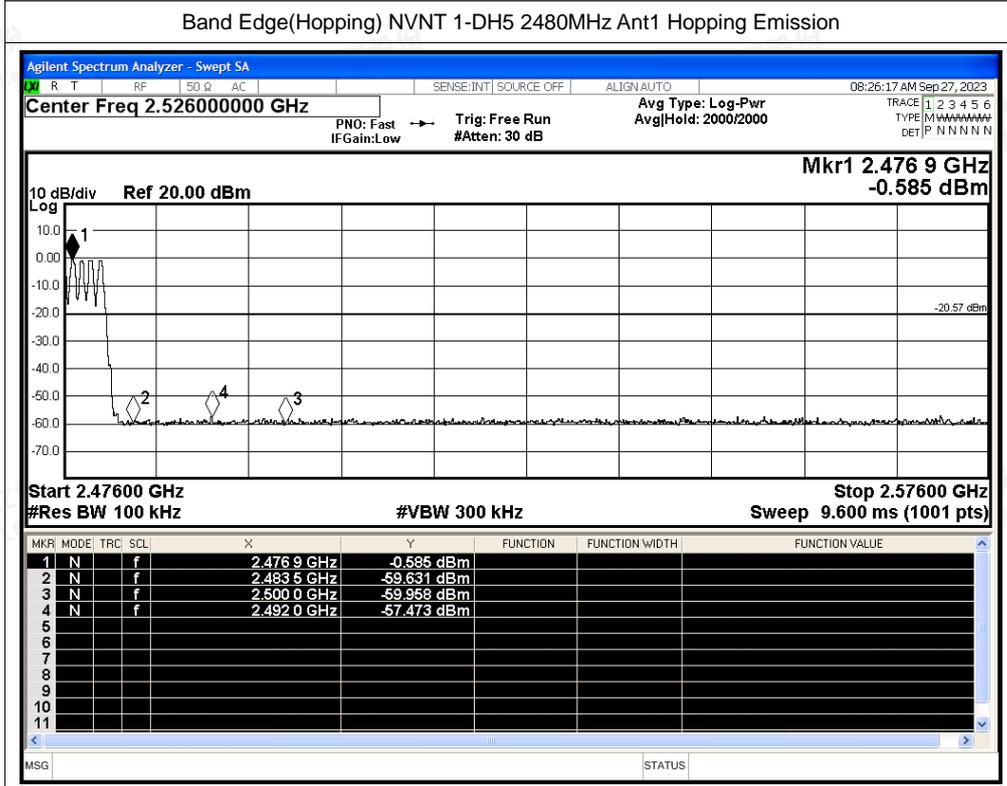
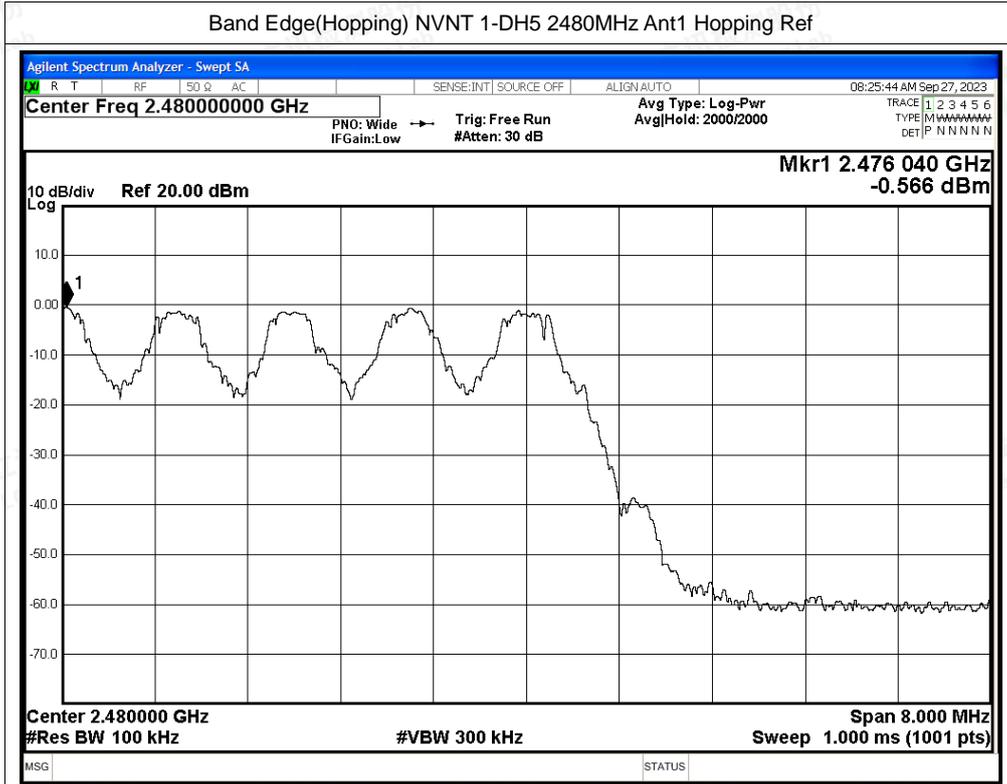
Test Graphs

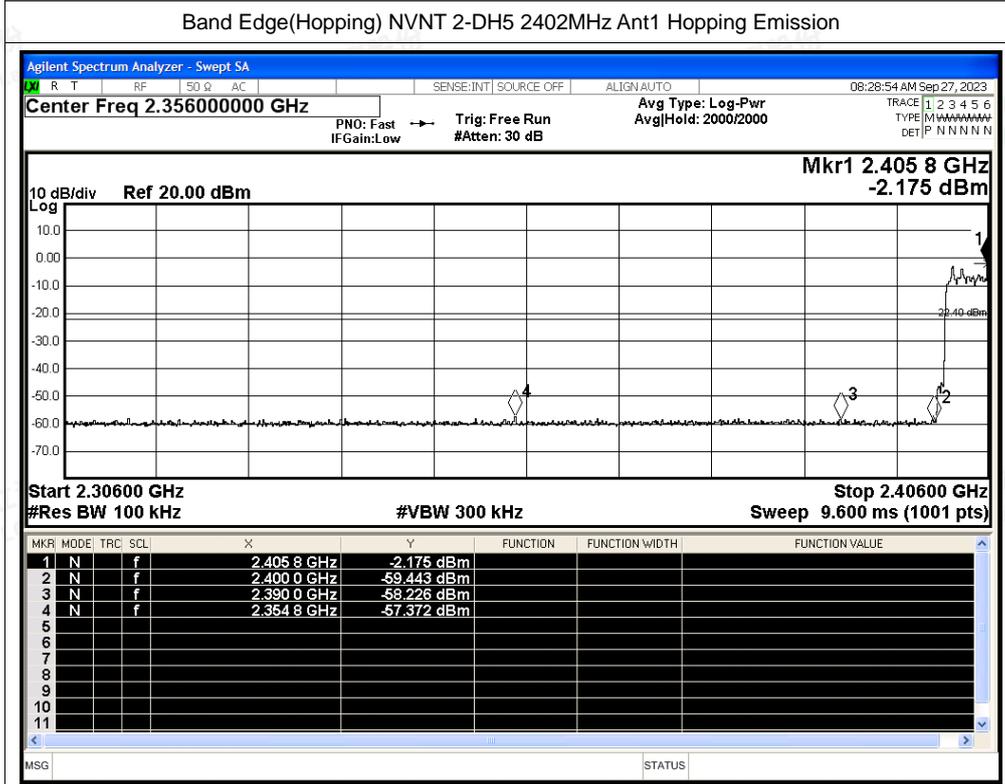
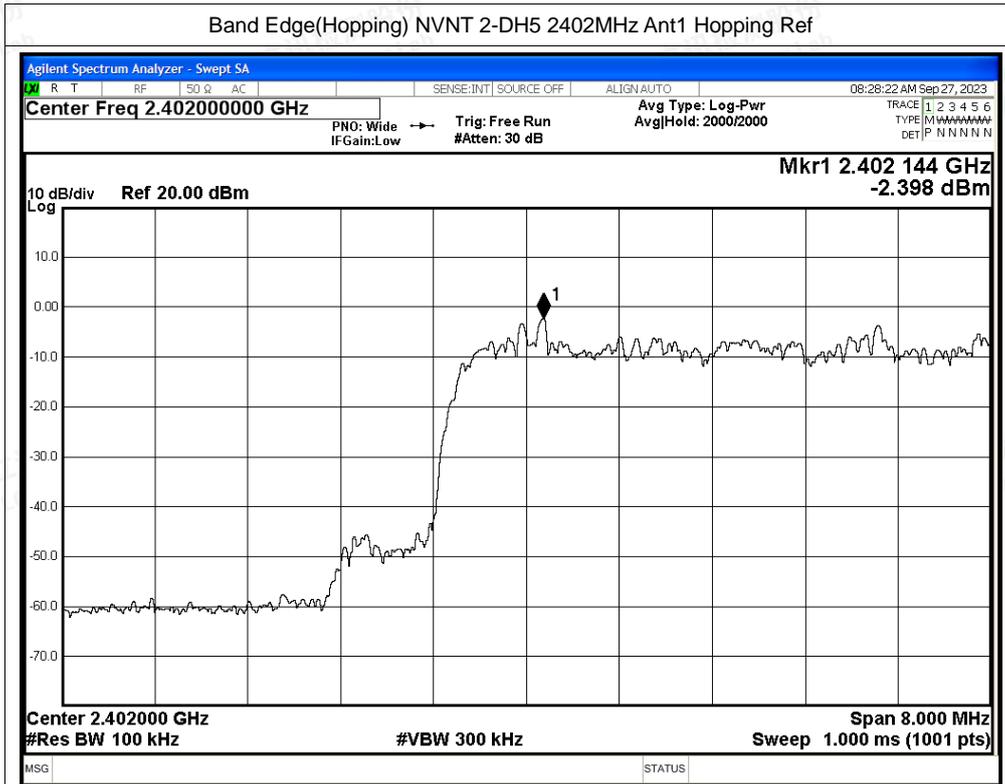
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

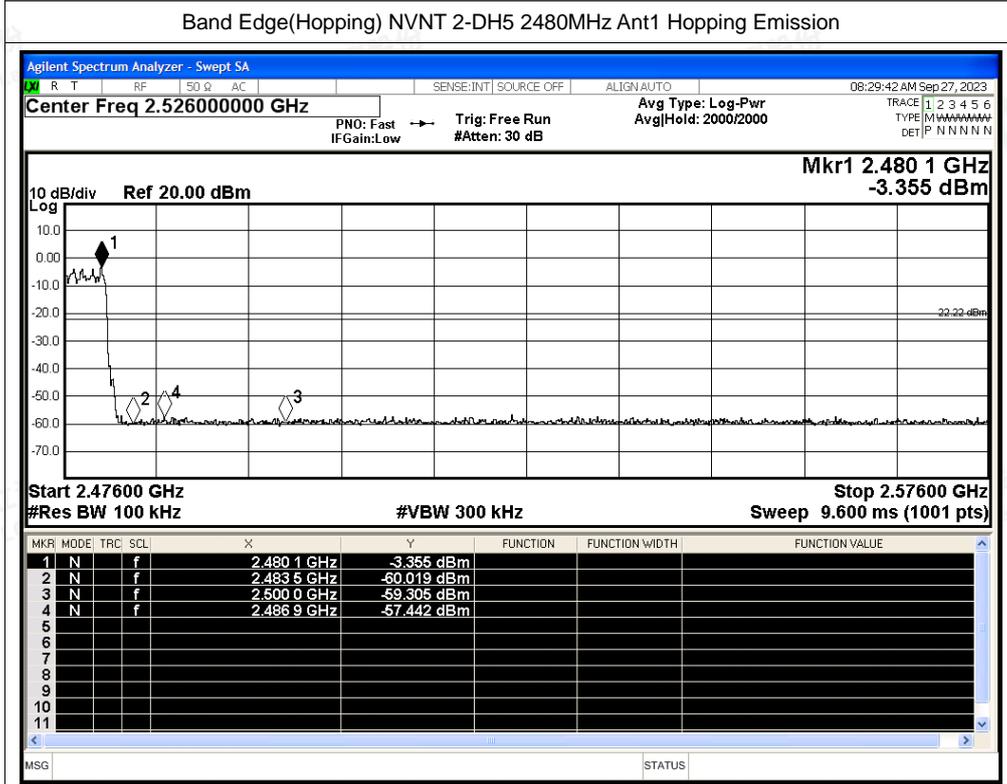
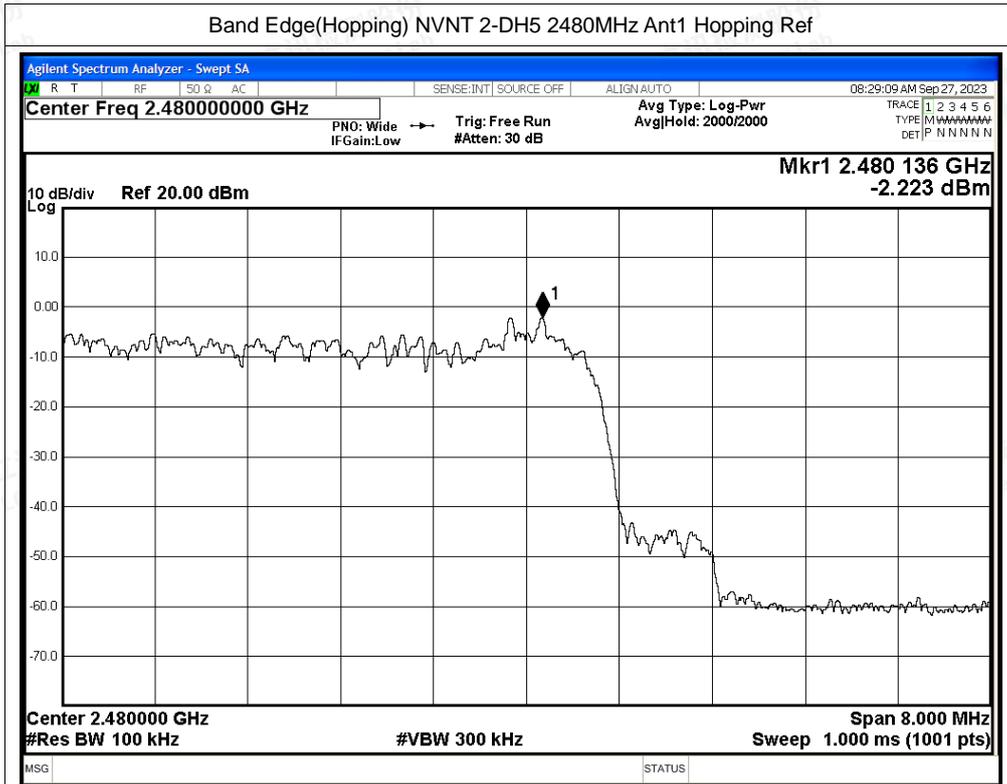


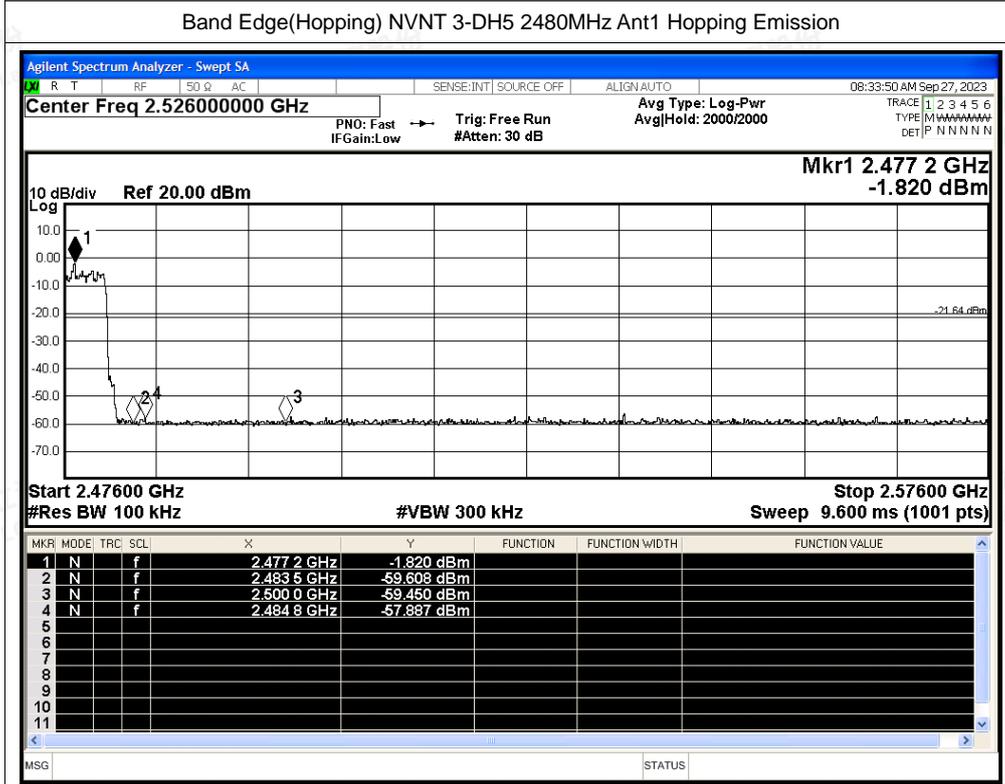
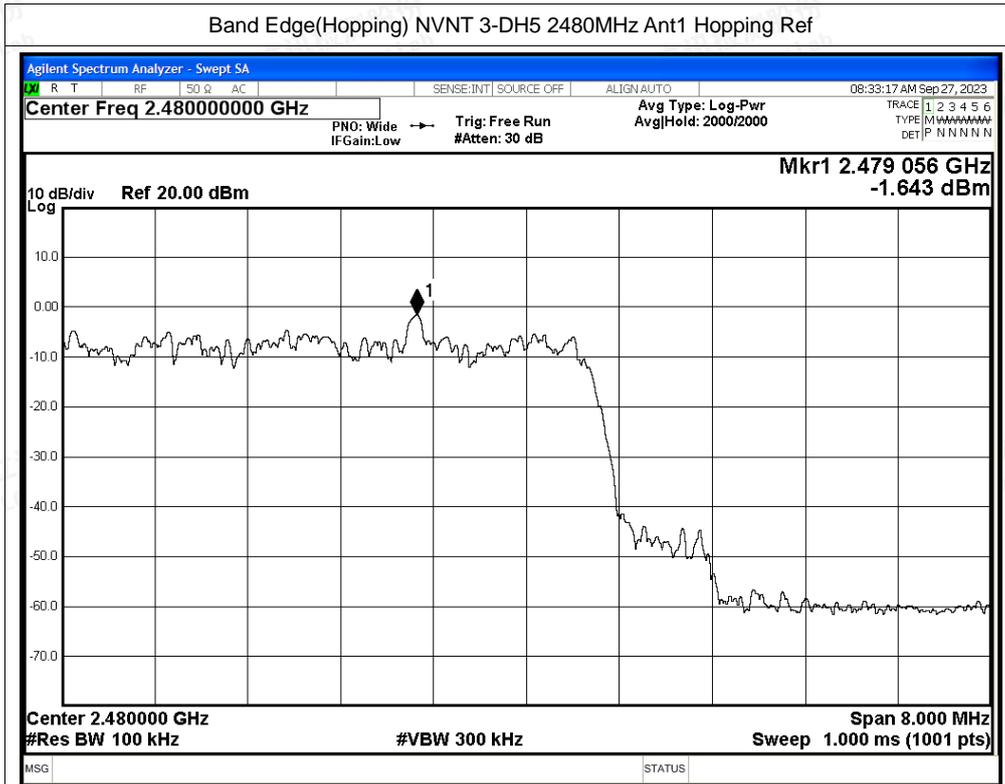
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission













A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-55.99	-20	Pass
NVNT	1-DH5	2441	Ant1	-51.79	-20	Pass
NVNT	1-DH5	2480	Ant1	-56.65	-20	Pass
NVNT	2-DH5	2402	Ant1	-55.21	-20	Pass
NVNT	2-DH5	2441	Ant1	-55.87	-20	Pass
NVNT	2-DH5	2480	Ant1	-55.9	-20	Pass
NVNT	3-DH5	2402	Ant1	-44.37	-20	Pass
NVNT	3-DH5	2441	Ant1	-55.1	-20	Pass
NVNT	3-DH5	2480	Ant1	-55.61	-20	Pass

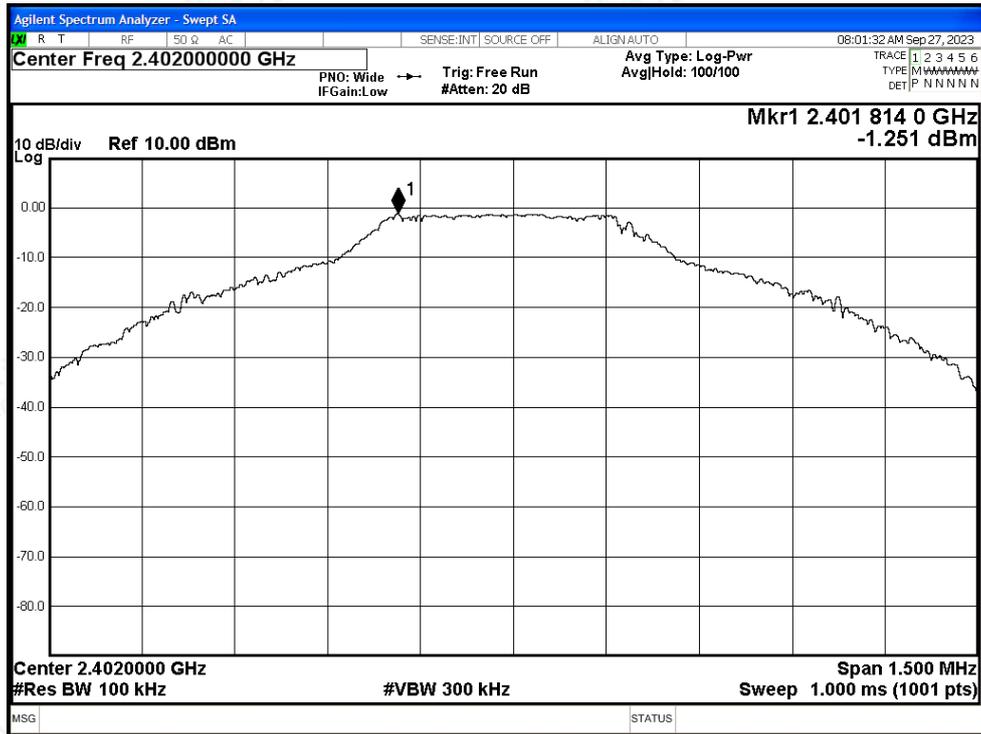


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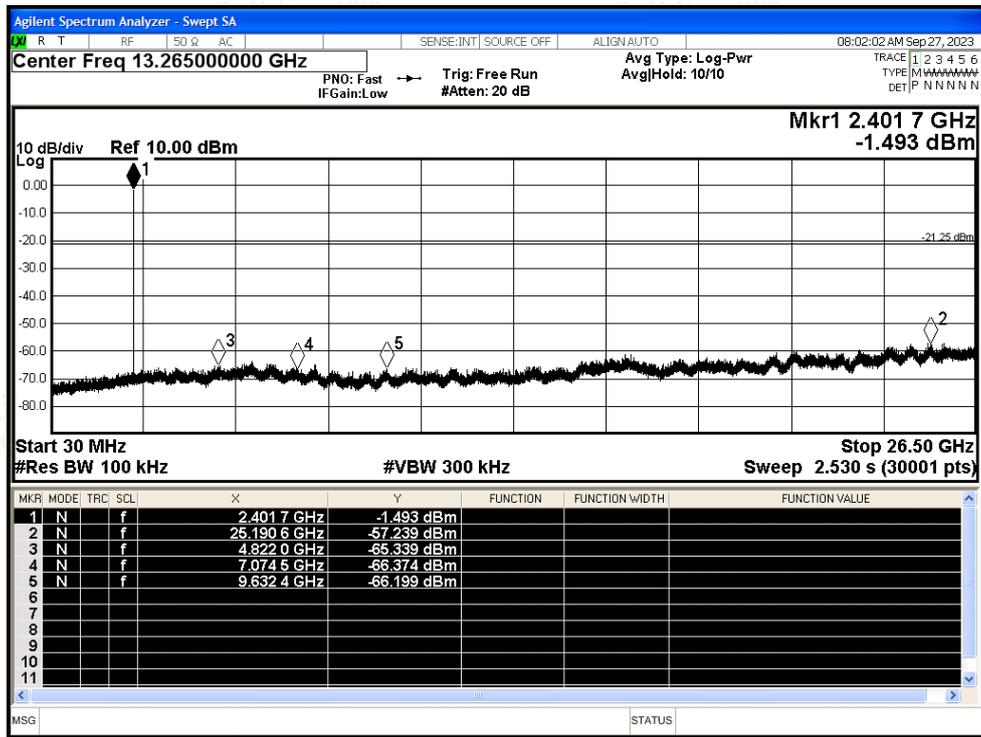


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

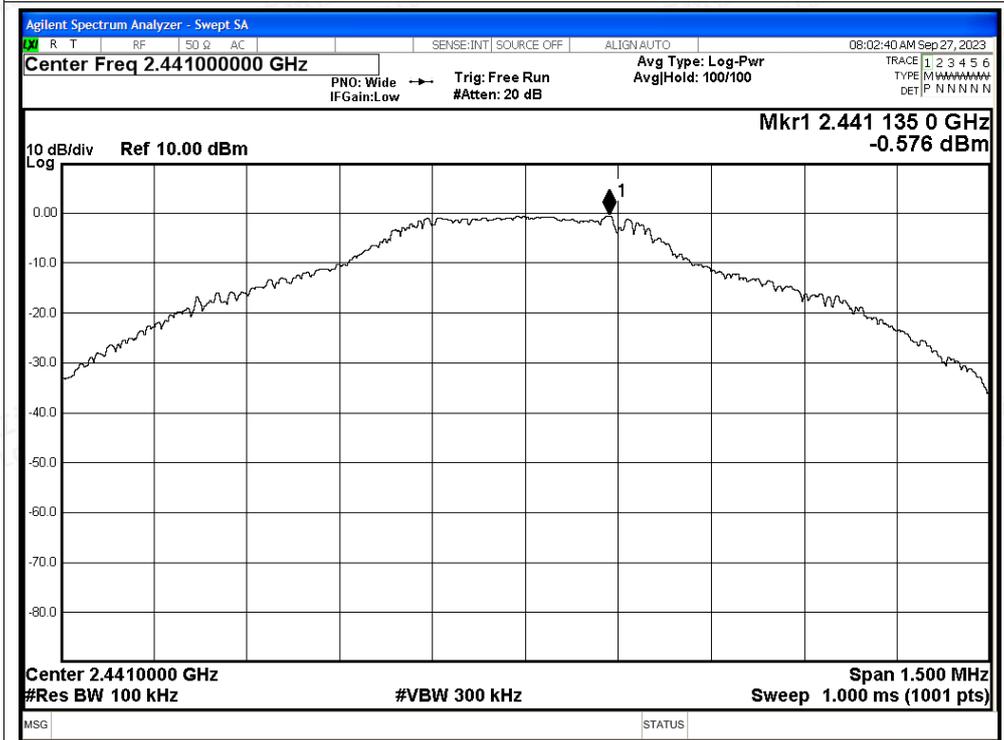


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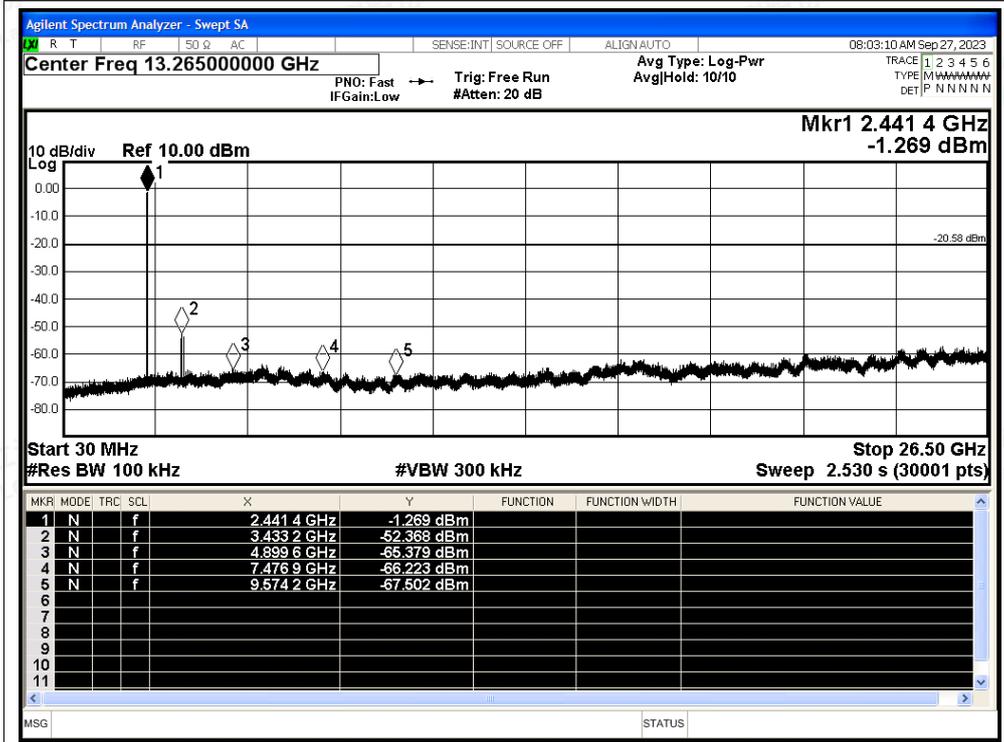




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

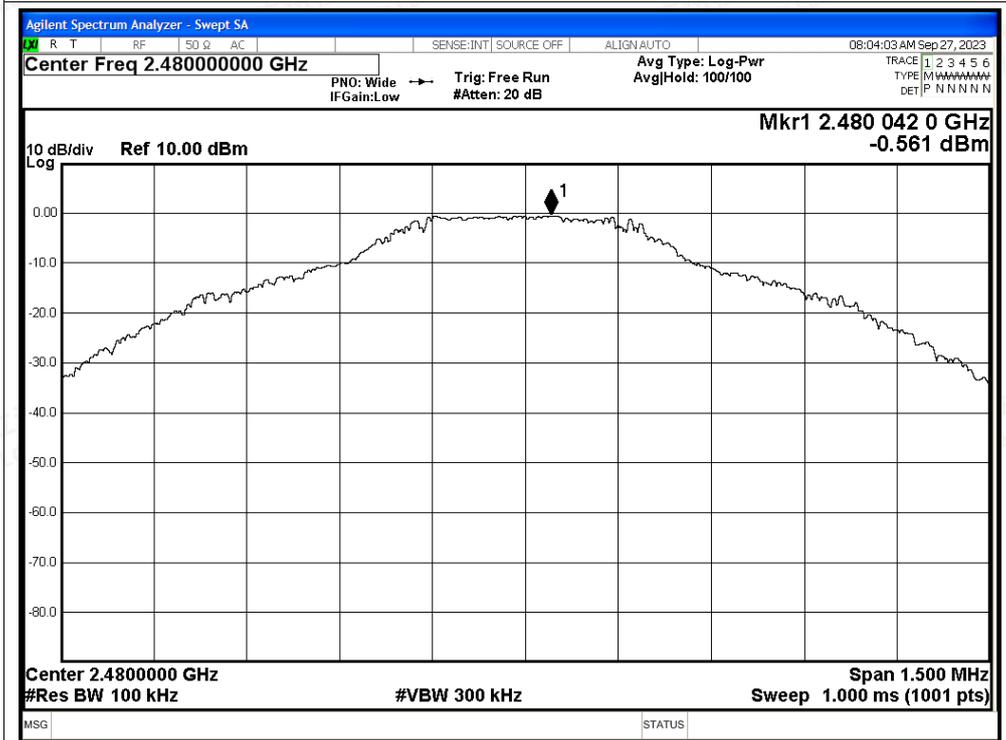


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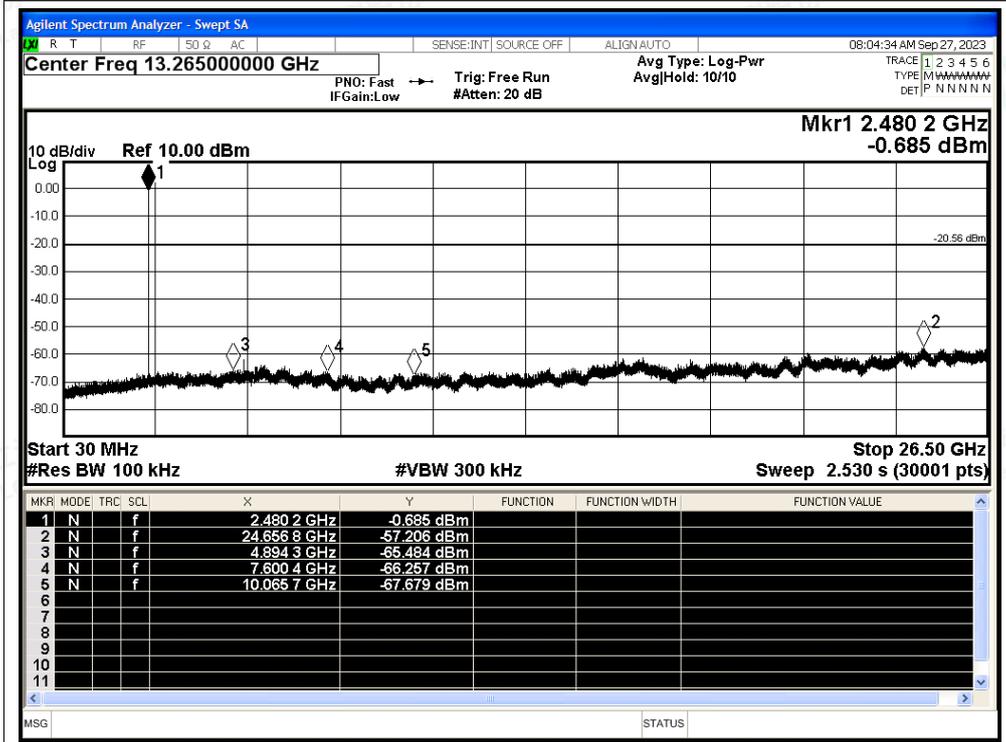




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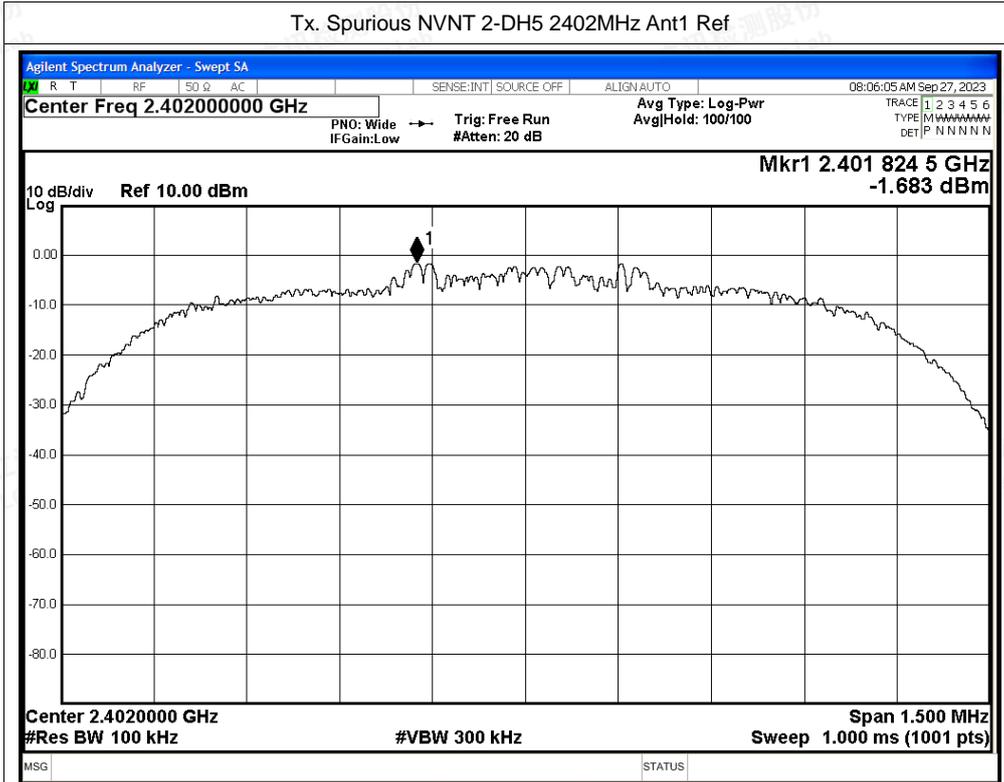


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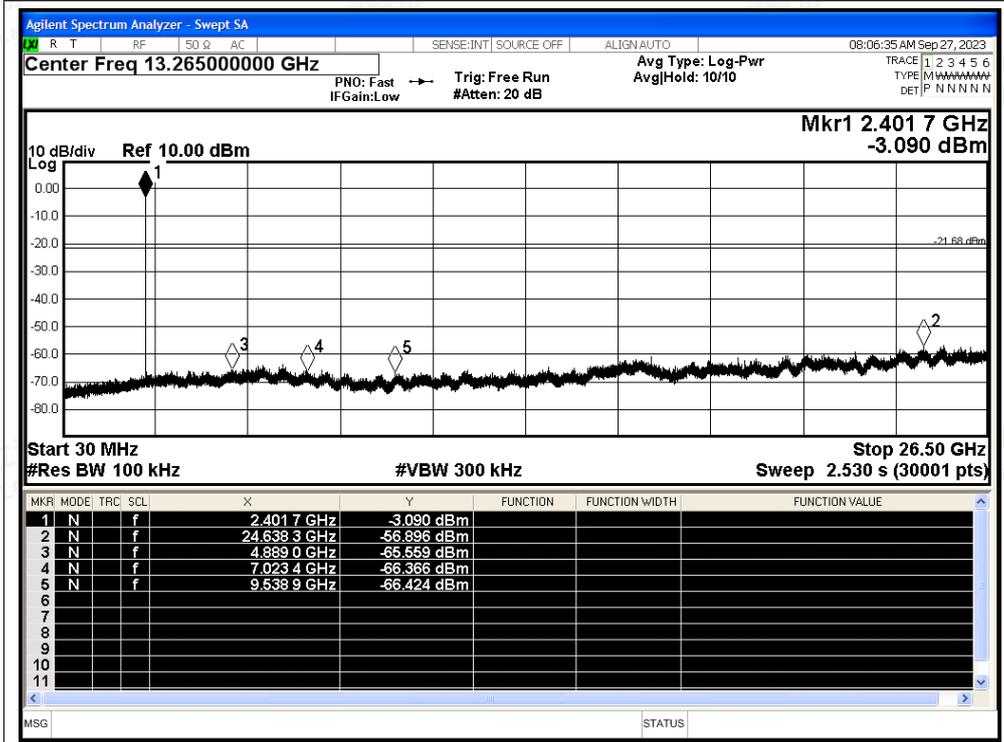




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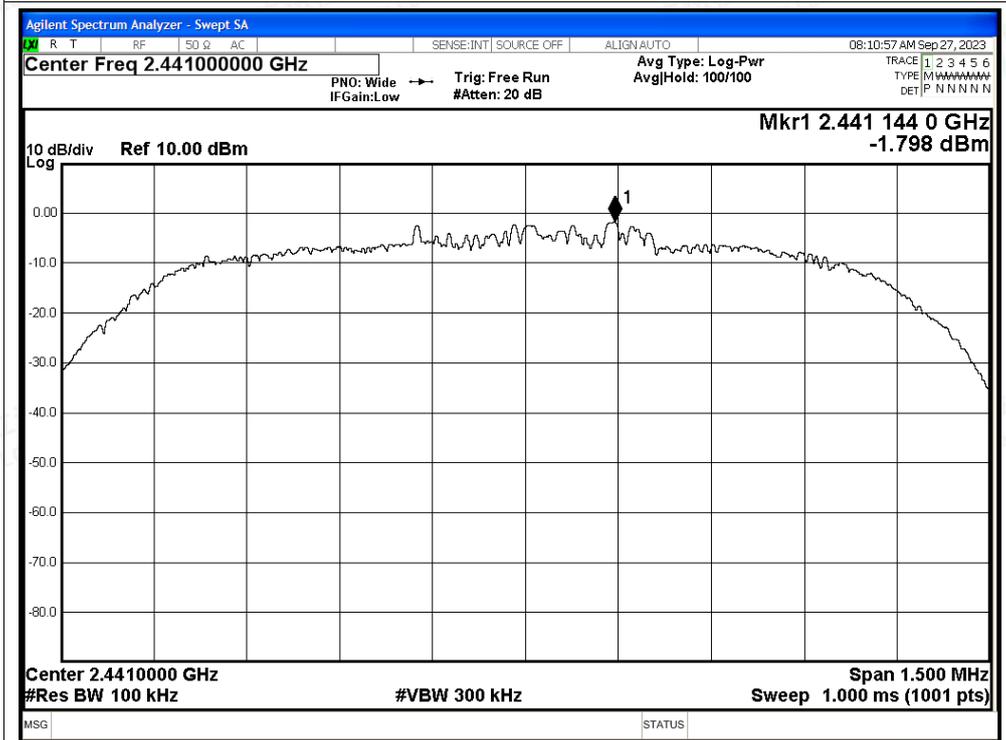


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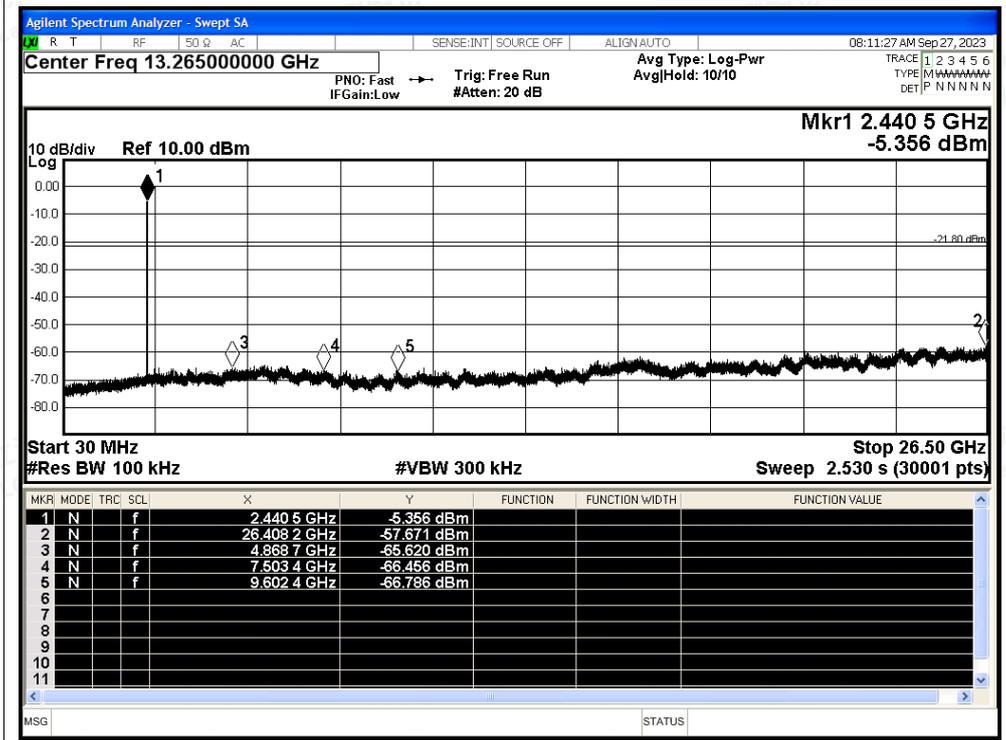




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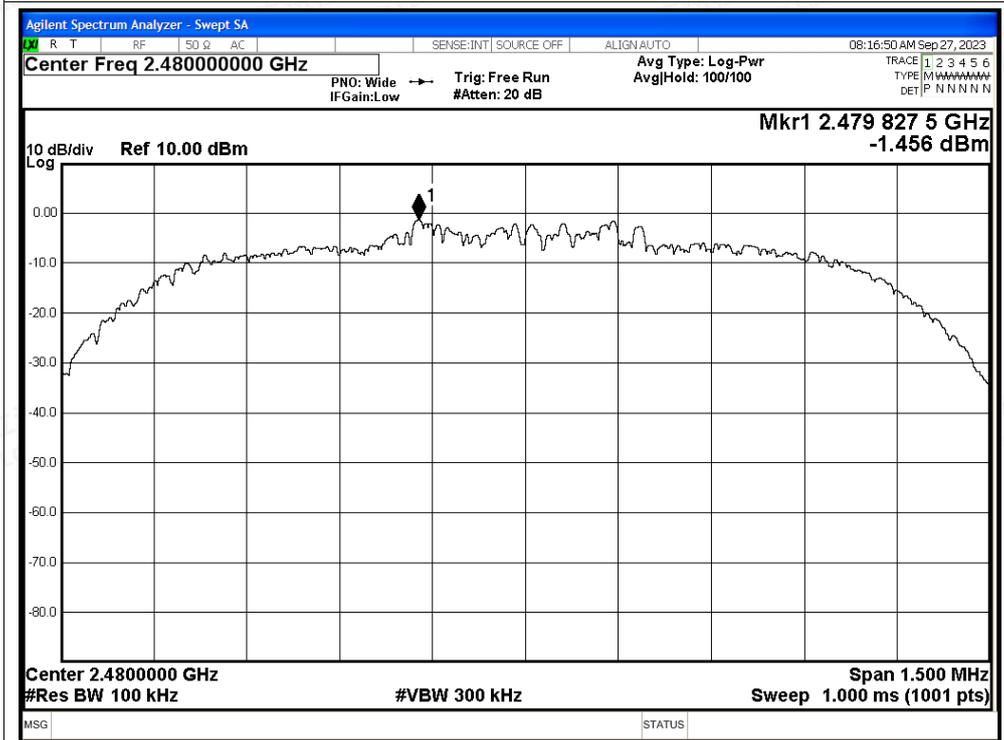


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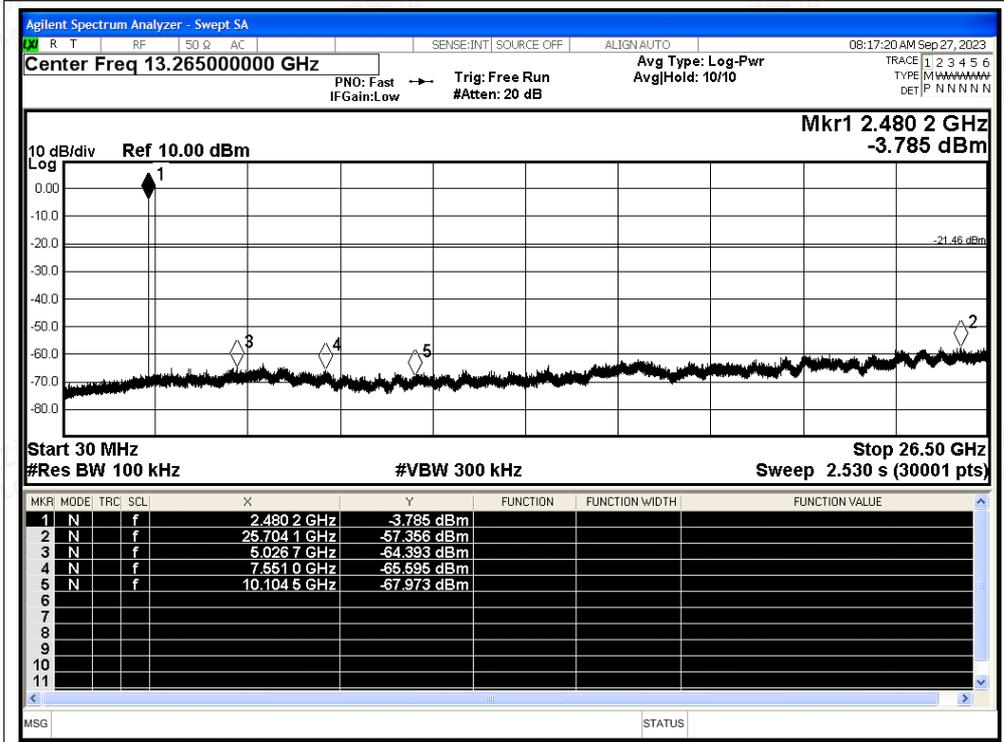




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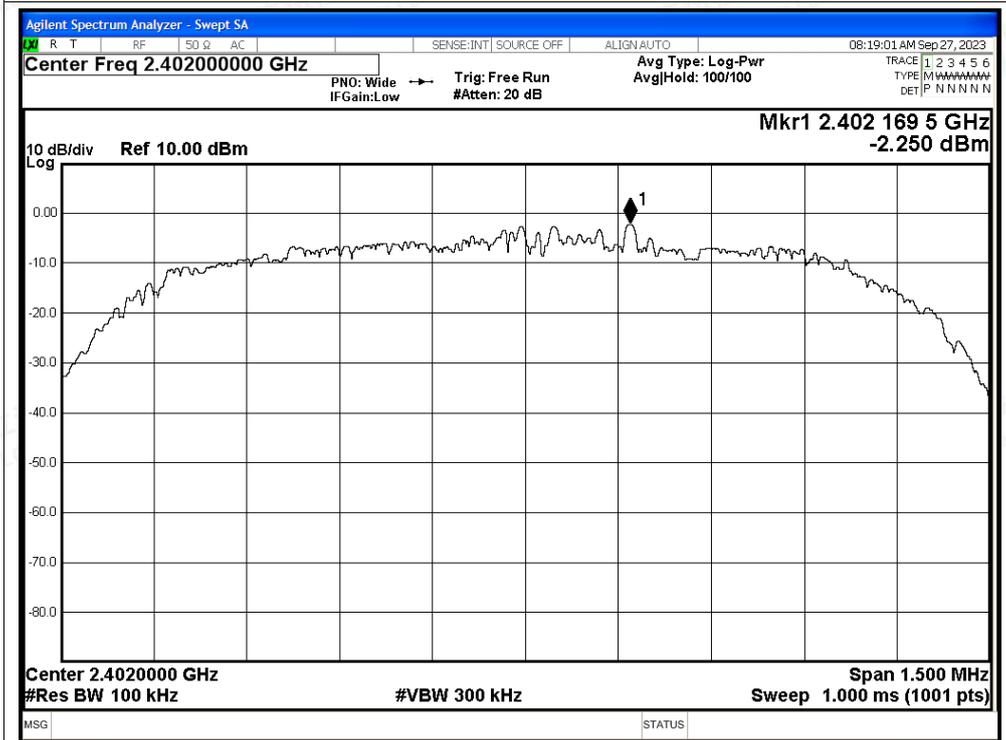


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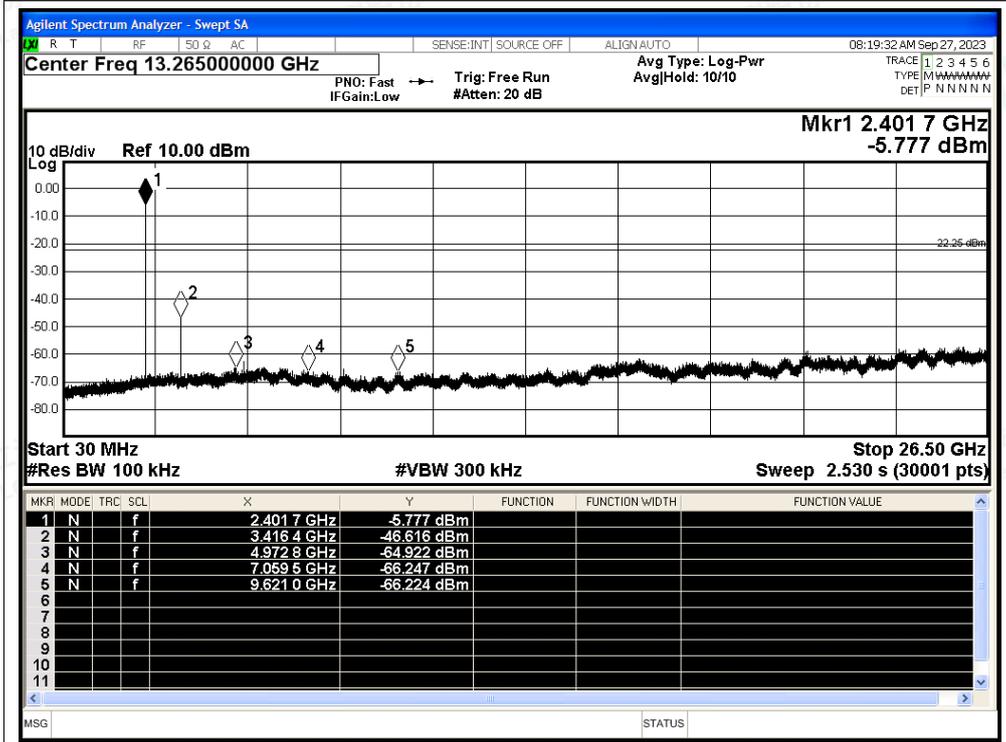




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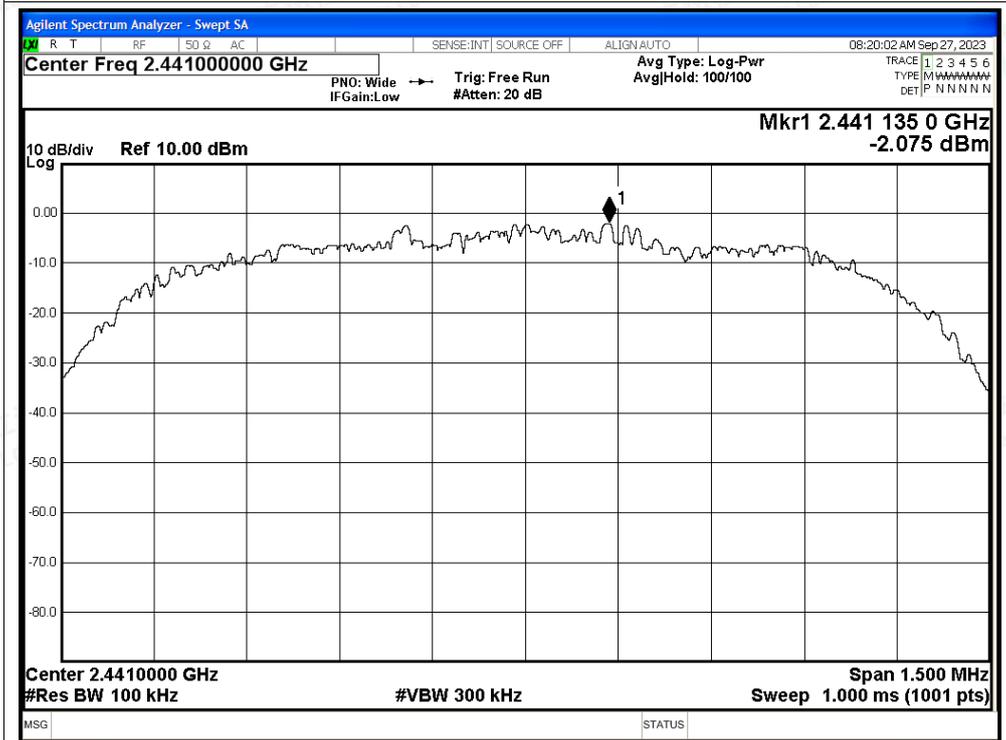


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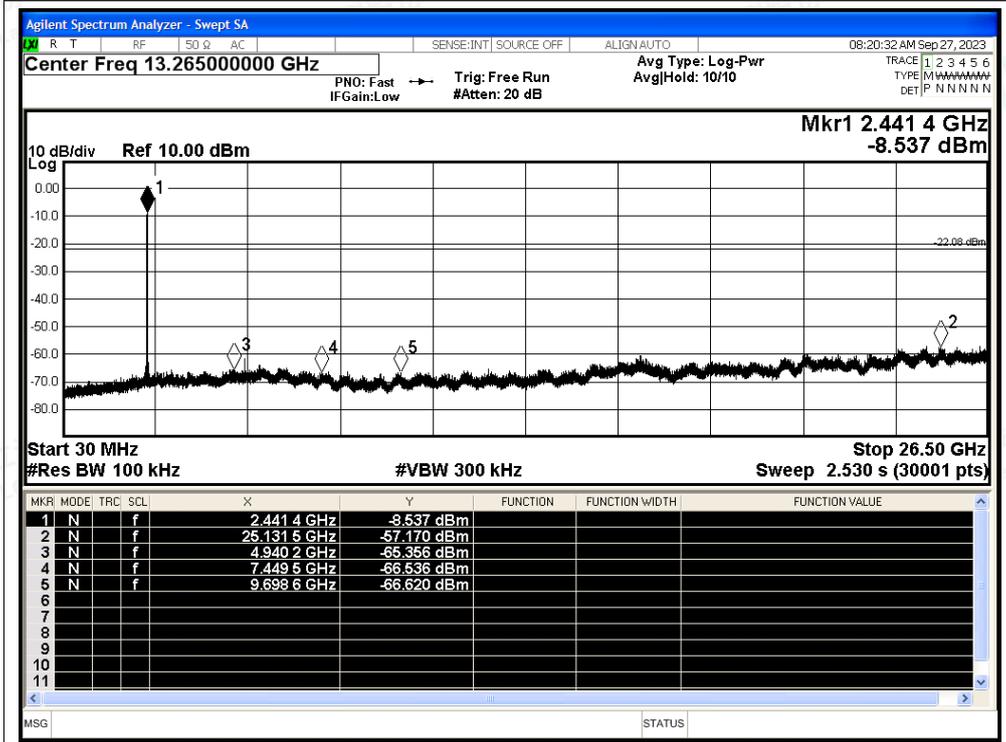




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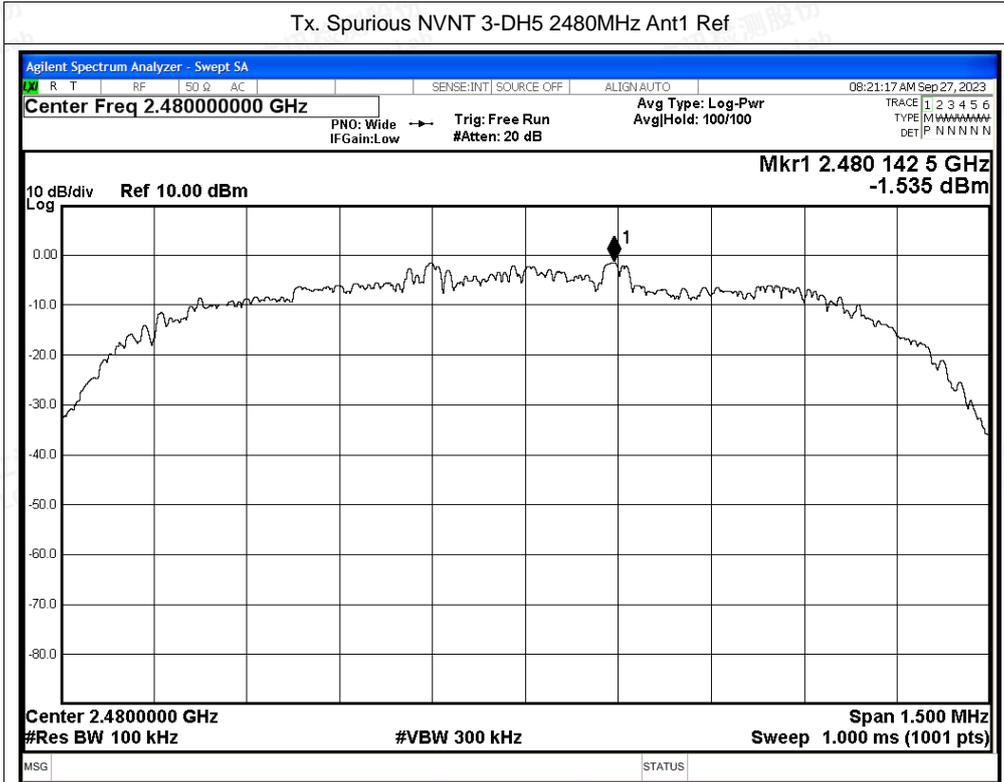


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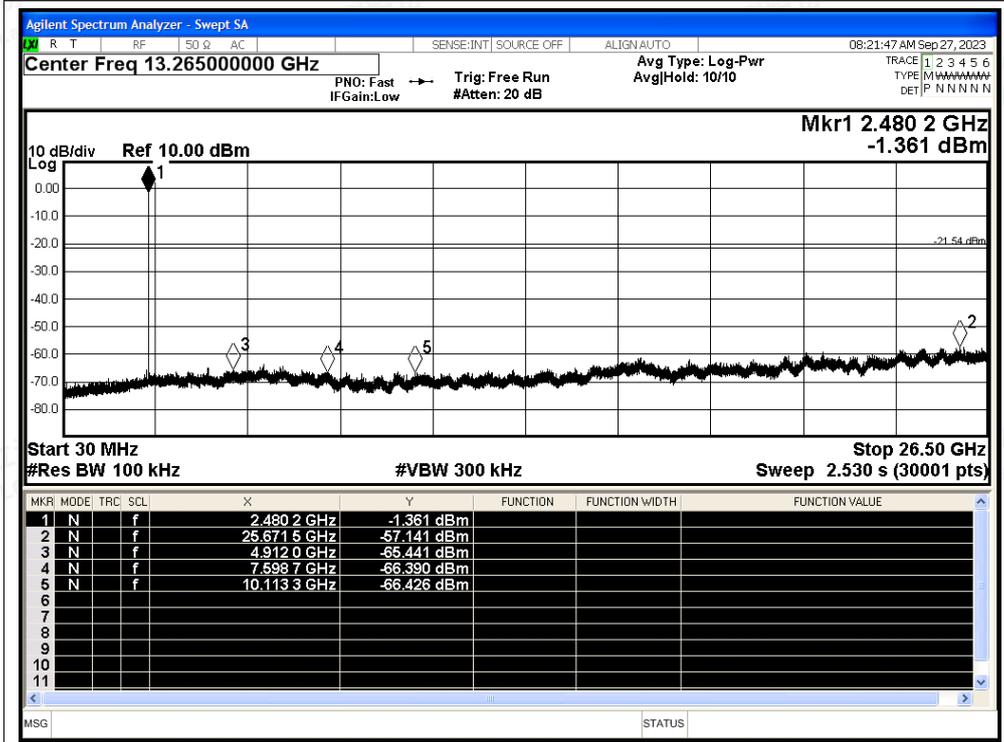




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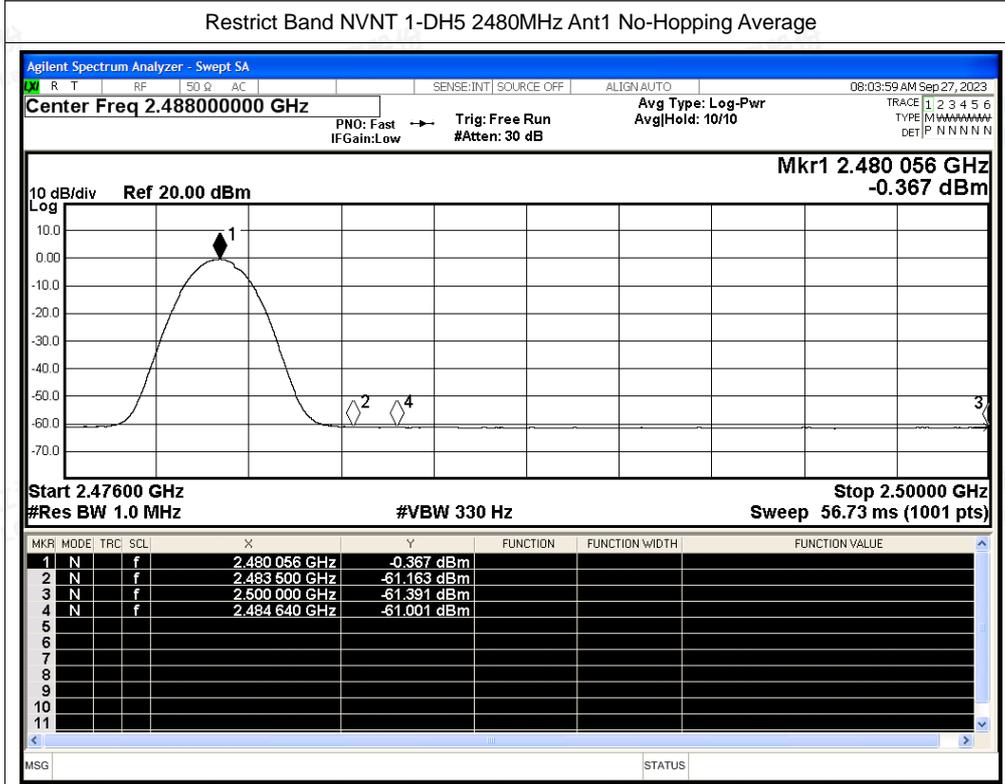
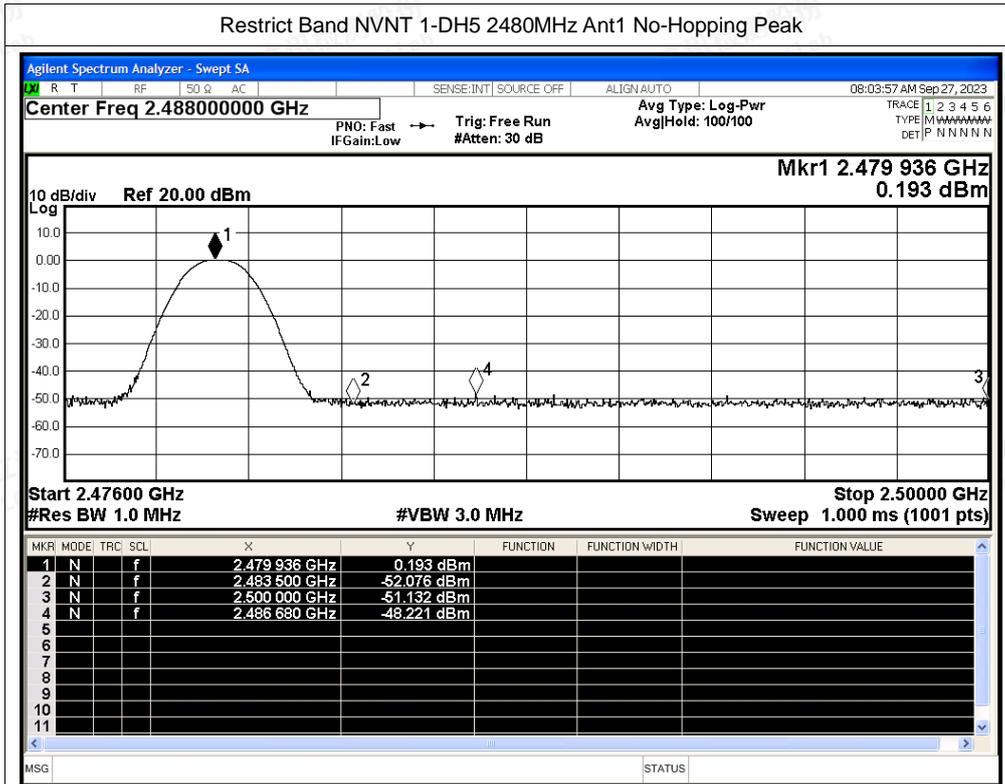


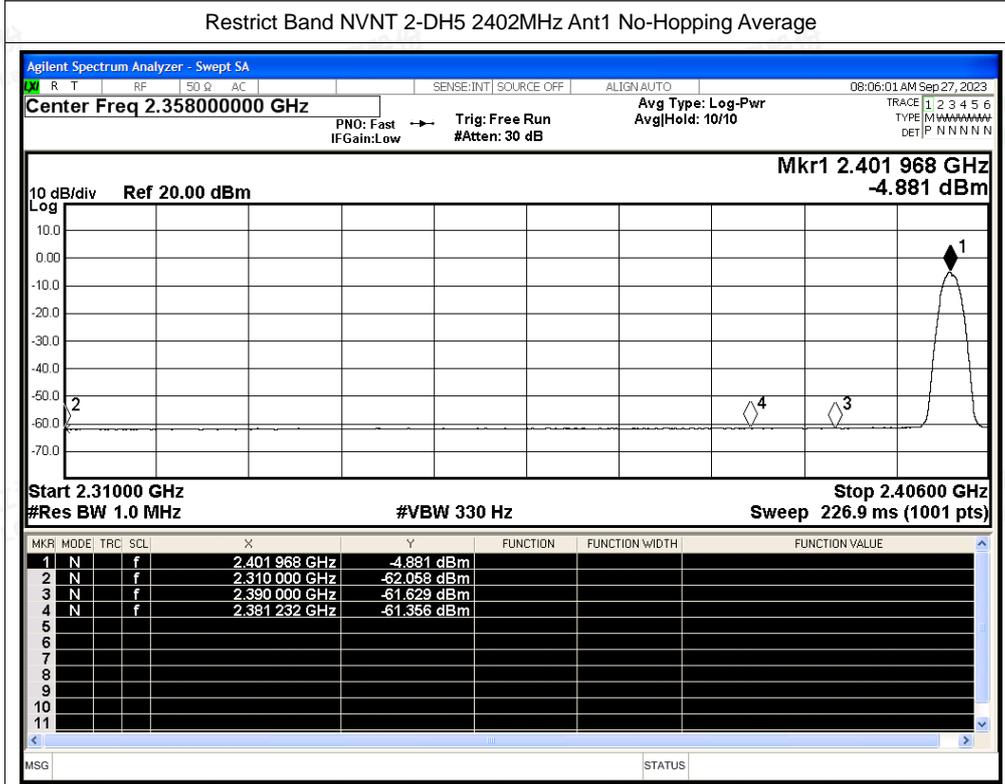
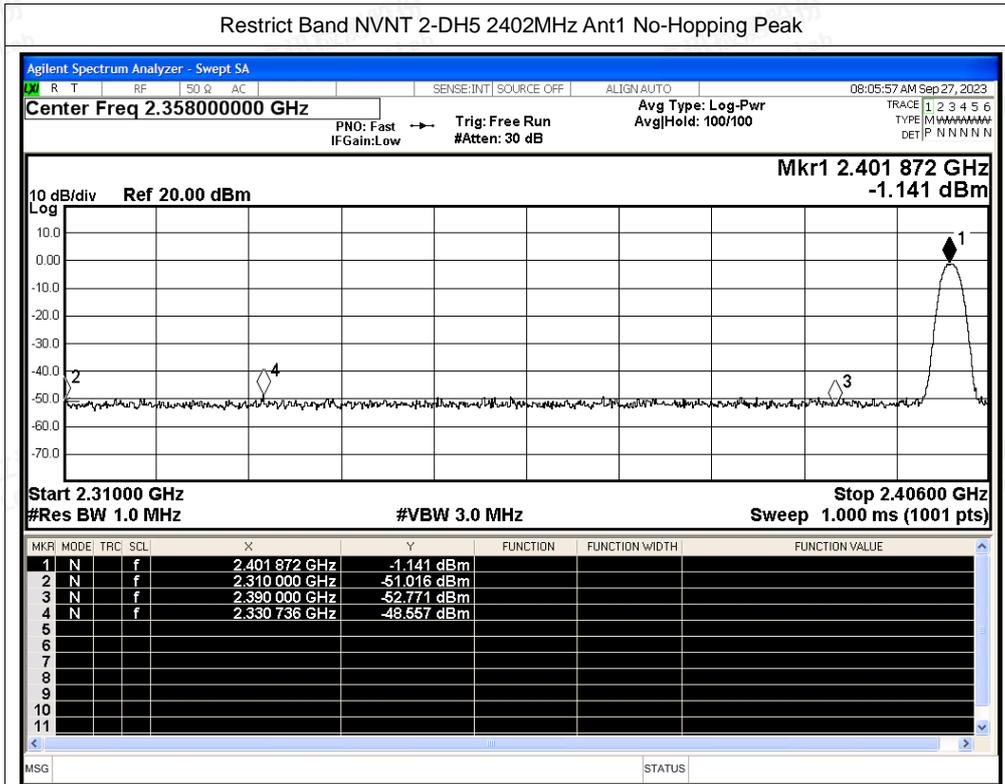


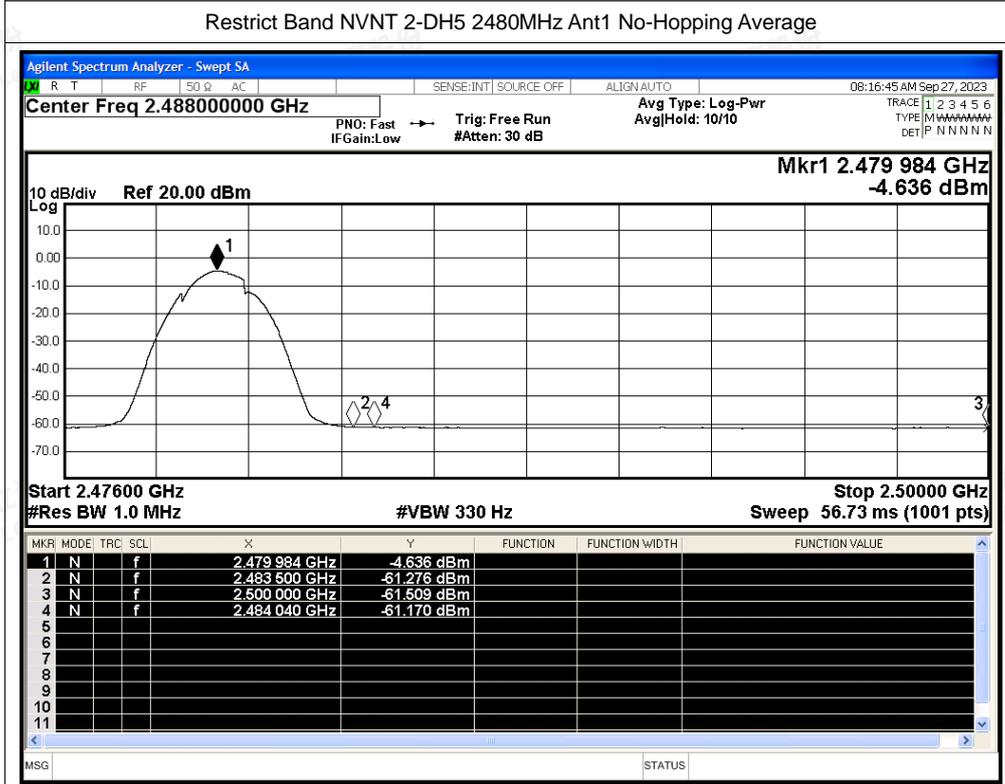
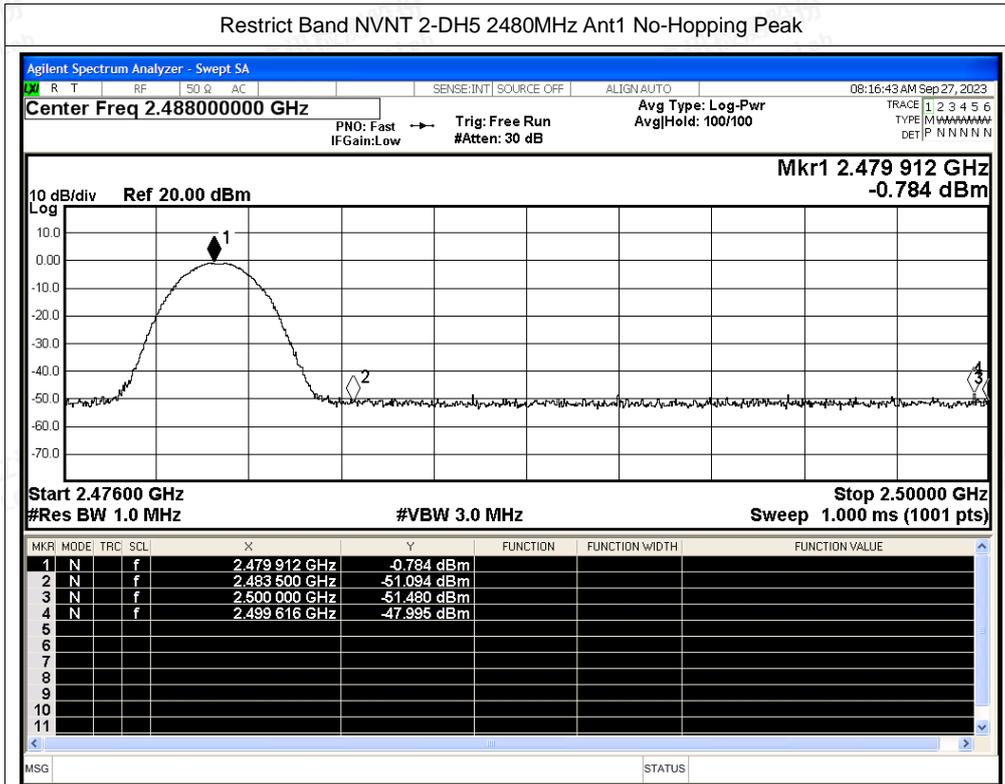
A.8 Restrict Band

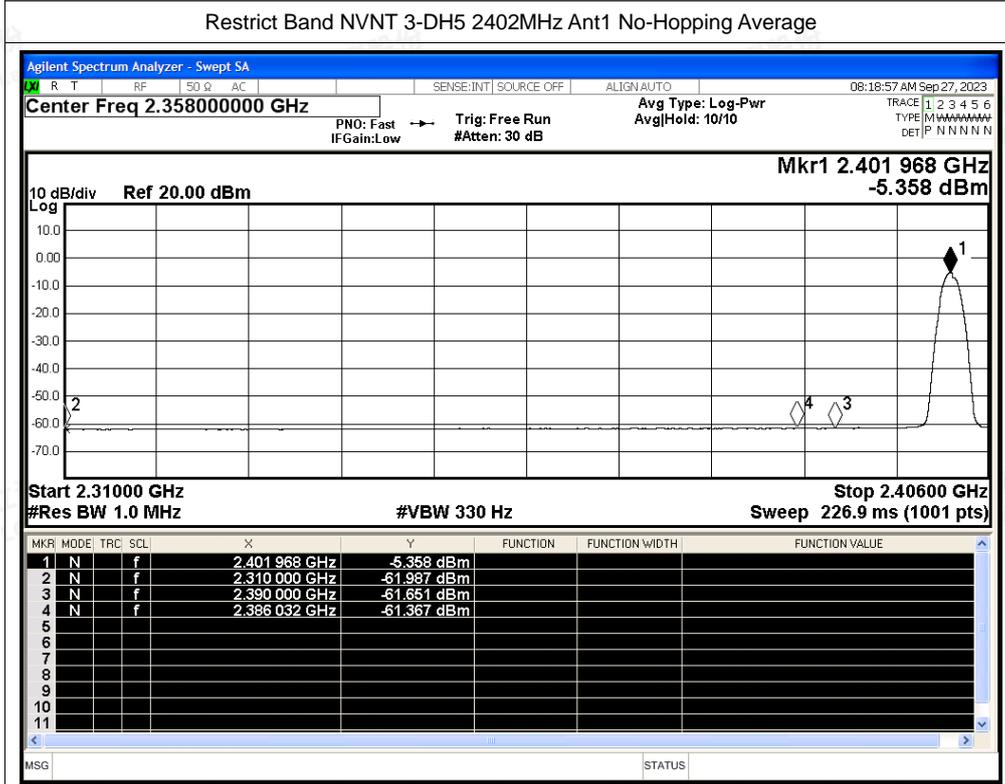
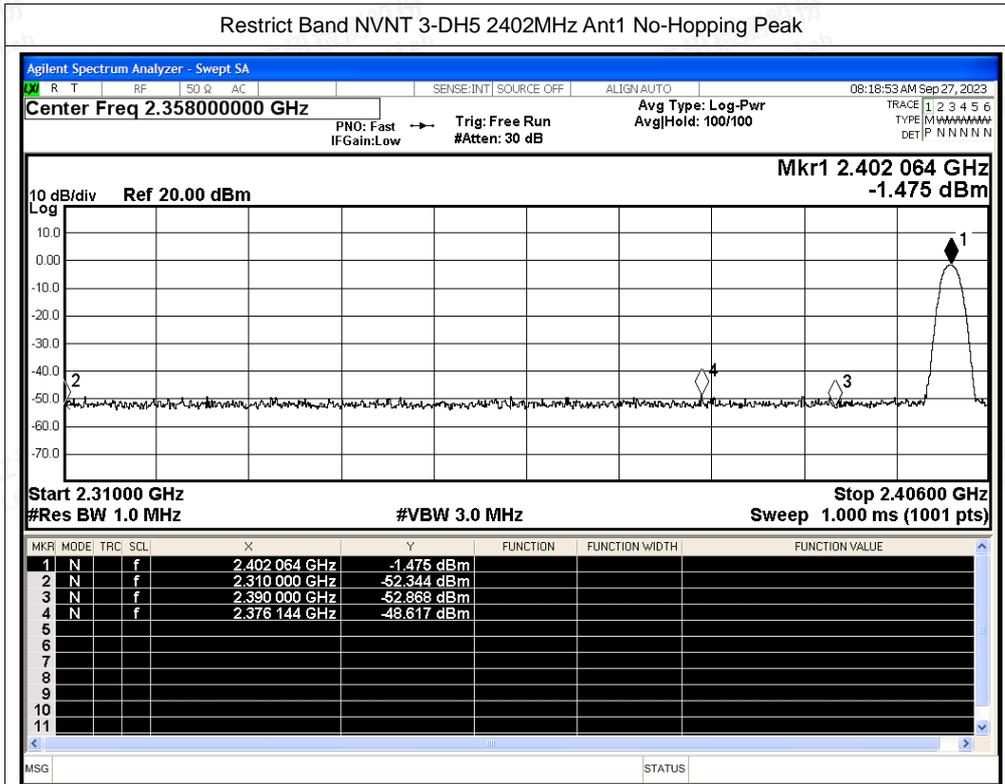
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-52.49	2	44.77	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-61.95	2	35.31	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2384.208	-48.62	2	48.64	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2385.648	-61.44	2	35.82	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-52.88	2	44.38	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-61.61	2	35.65	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-52.08	2	45.18	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-61.16	2	36.1	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2486.68	-48.22	2	49.04	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.64	-61	2	36.26	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-51.13	2	46.13	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-61.39	2	35.87	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-51.02	2	46.24	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-62.06	2	35.2	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2330.736	-48.56	2	48.7	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2381.232	-61.36	2	35.9	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-52.77	2	44.49	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-61.63	2	35.63	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-51.09	2	46.17	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-61.28	2	35.98	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2499.616	-48	2	49.26	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2484.04	-61.17	2	36.09	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-51.48	2	45.78	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-61.51	2	35.75	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-52.34	2	44.92	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-61.99	2	35.27	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2376.144	-48.62	2	48.64	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2386.032	-61.37	2	35.89	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-52.87	2	44.39	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-61.65	2	35.61	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-52.86	2	44.4	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-61.22	2	36.04	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2492.872	-48.83	2	48.43	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.992	-61.03	2	36.23	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-51.12	2	46.14	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-61.44	2	35.82	Average	54	Pass





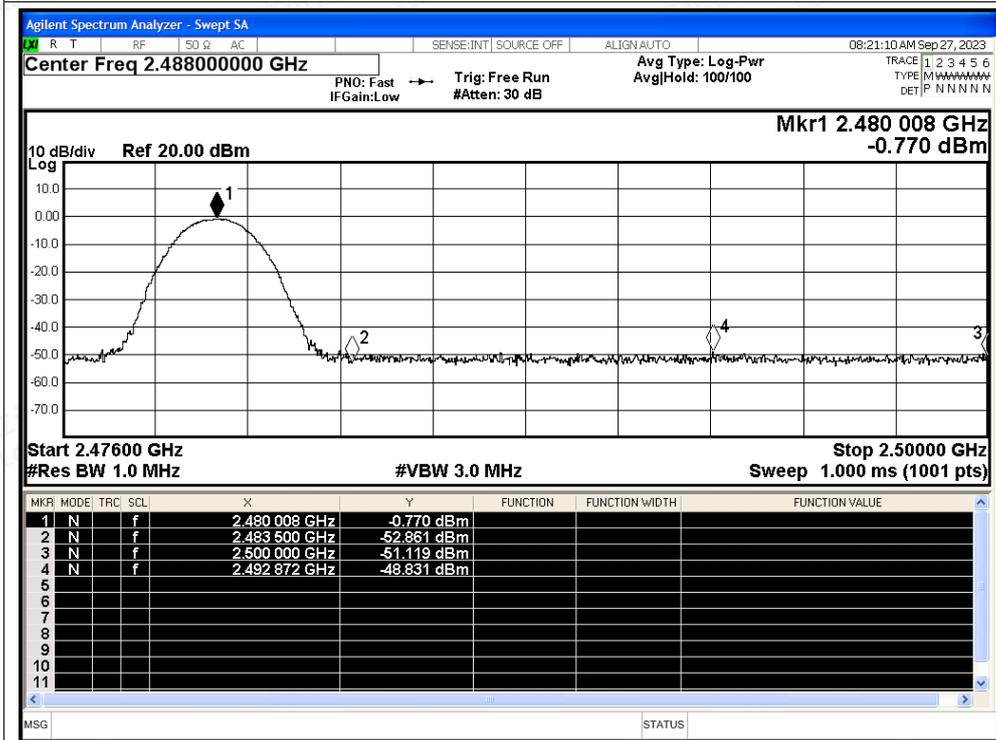








Restrict Band NVNT 3-DH5 2480MHz Ant1 No-Hopping Peak



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

