



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Bluetooth Sports Headphones

Test Model: B51S Pro

Environmental Conditions

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



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A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant1	0.947	0	Pass
NVNT	1-DH5	2441	Ant1	0.943	0	Pass
NVNT	1-DH5	2480	Ant1	0.989	0	Pass
NVNT	2-DH5	2402	Ant1	1.271	0	Pass
NVNT	2-DH5	2441	Ant1	1.281	0	Pass
NVNT	2-DH5	2480	Ant1	1.279	0	Pass
NVNT	3-DH5	2402	Ant1	0.984	0	Pass
NVNT	3-DH5	2441	Ant1	1.015	0	Pass
NVNT	3-DH5	2480	Ant1	1.014	0	Pass

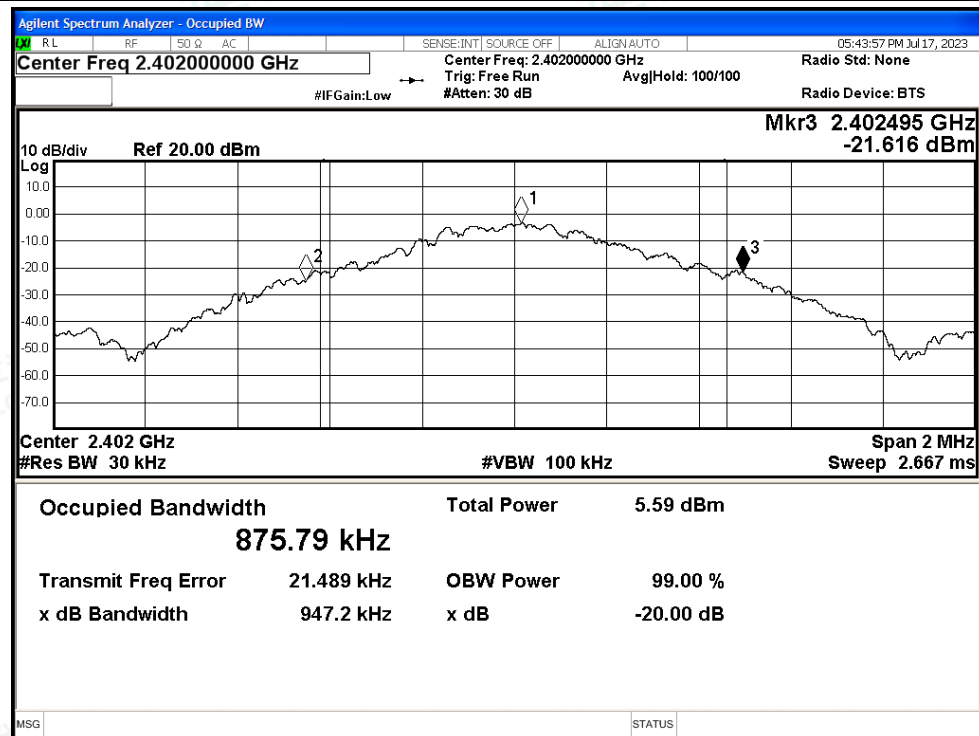


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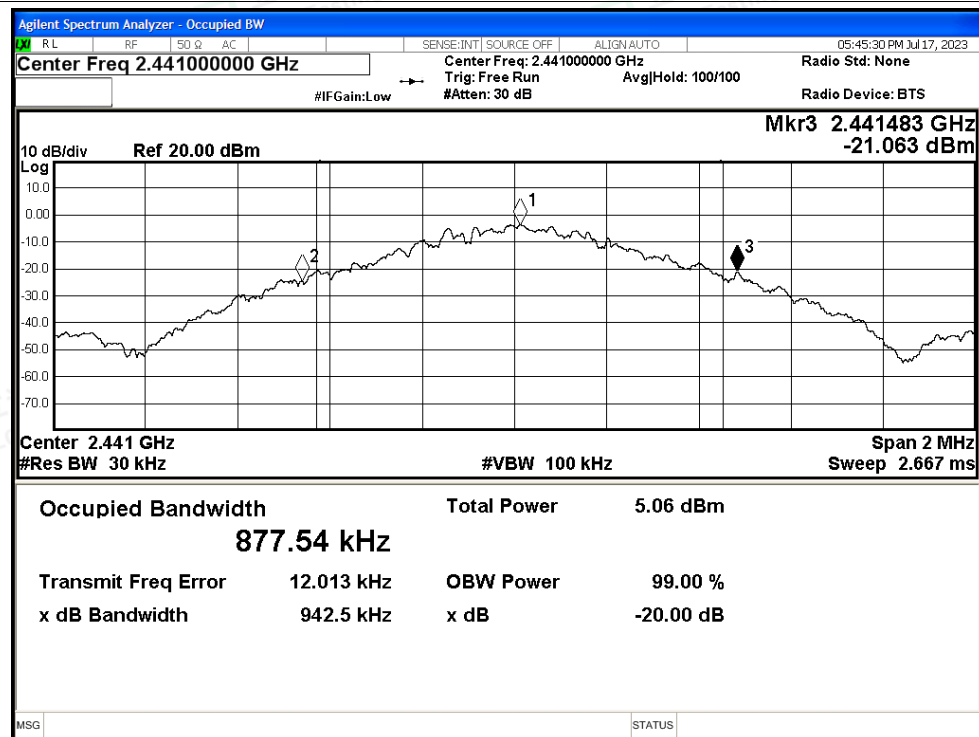


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

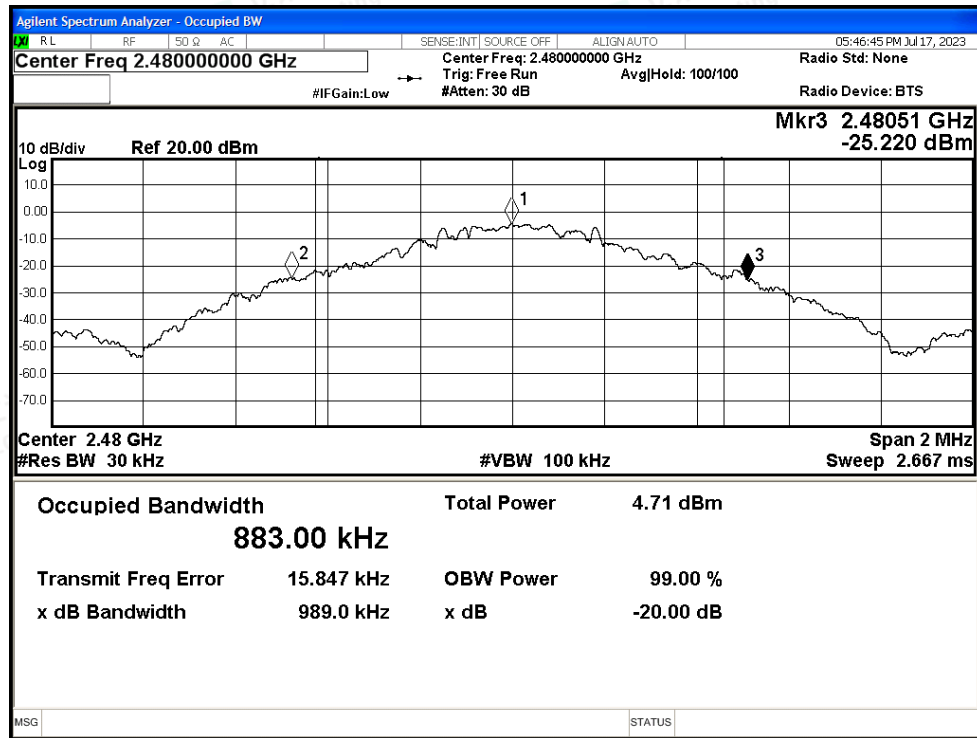


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

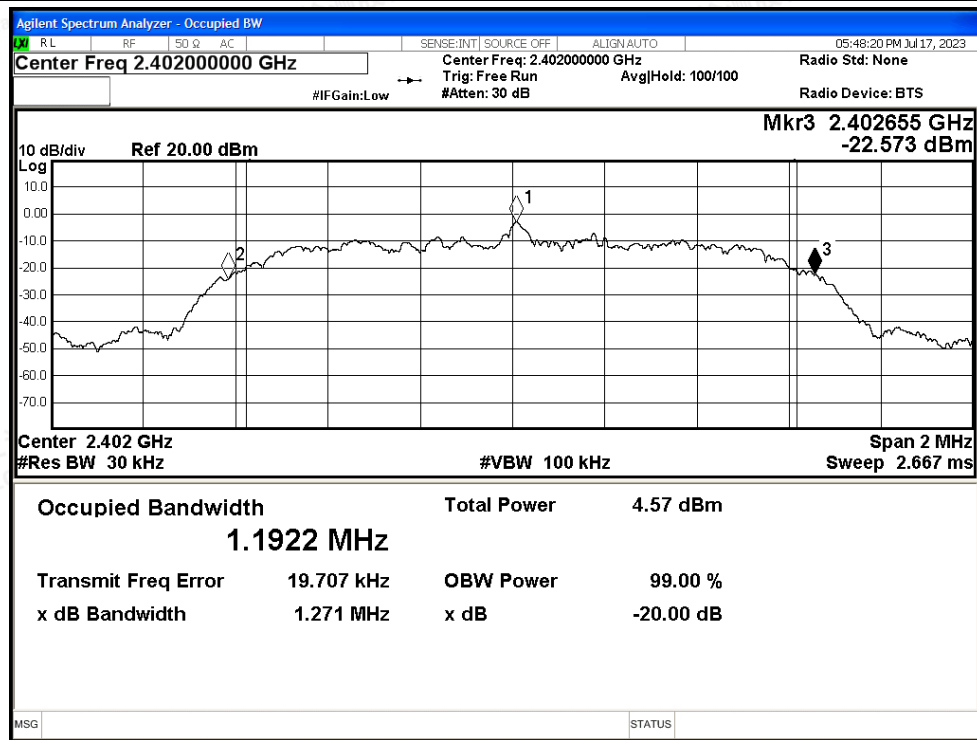




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

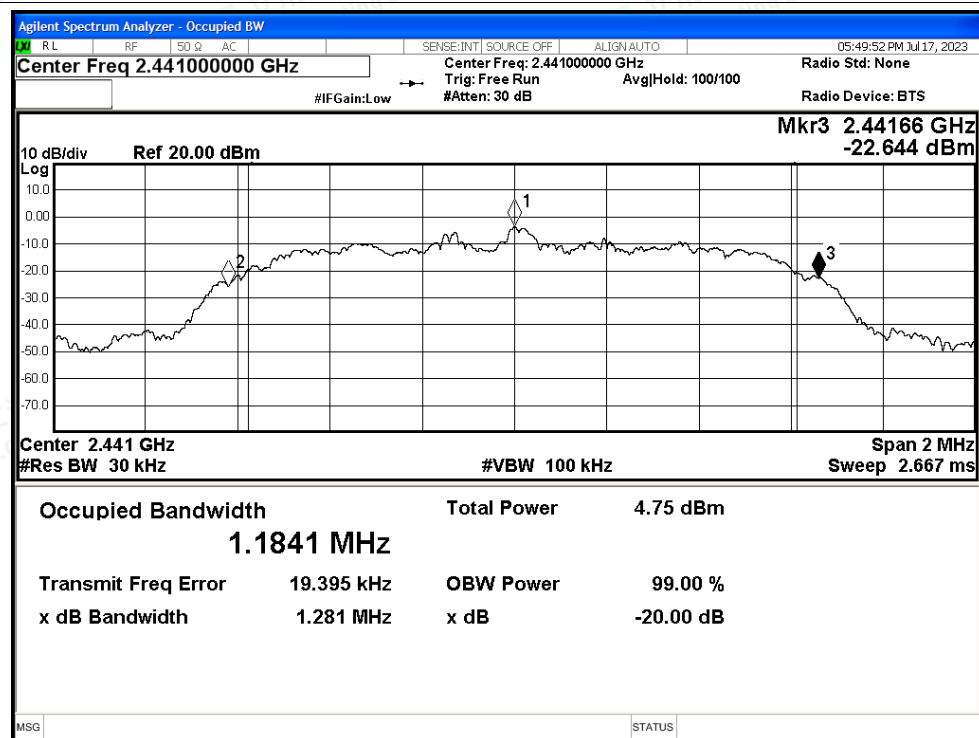


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

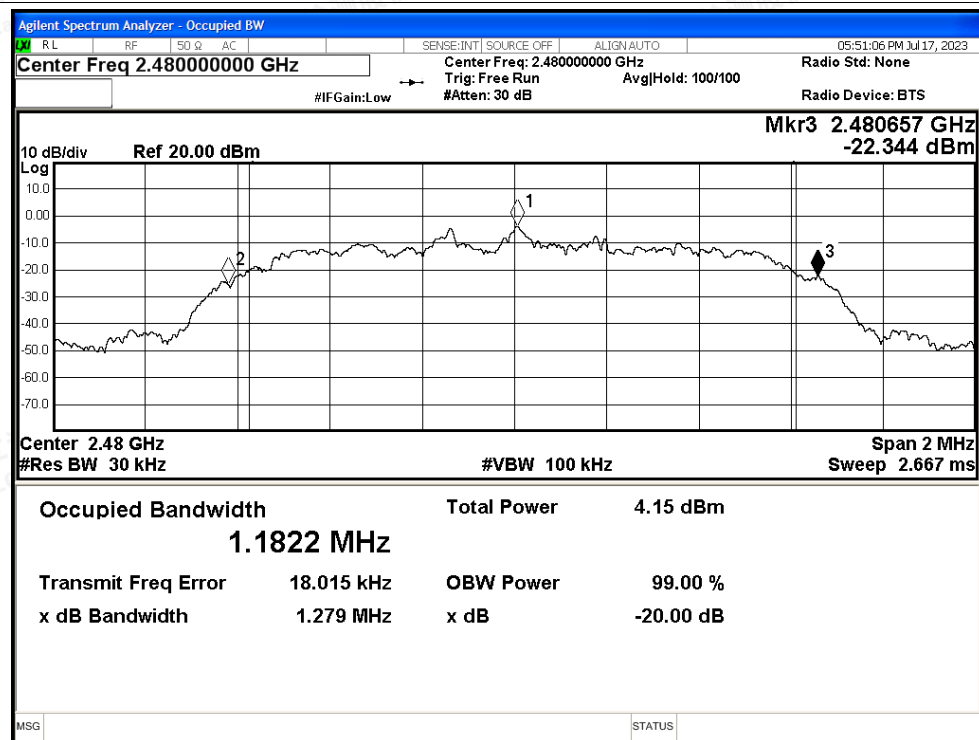




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1

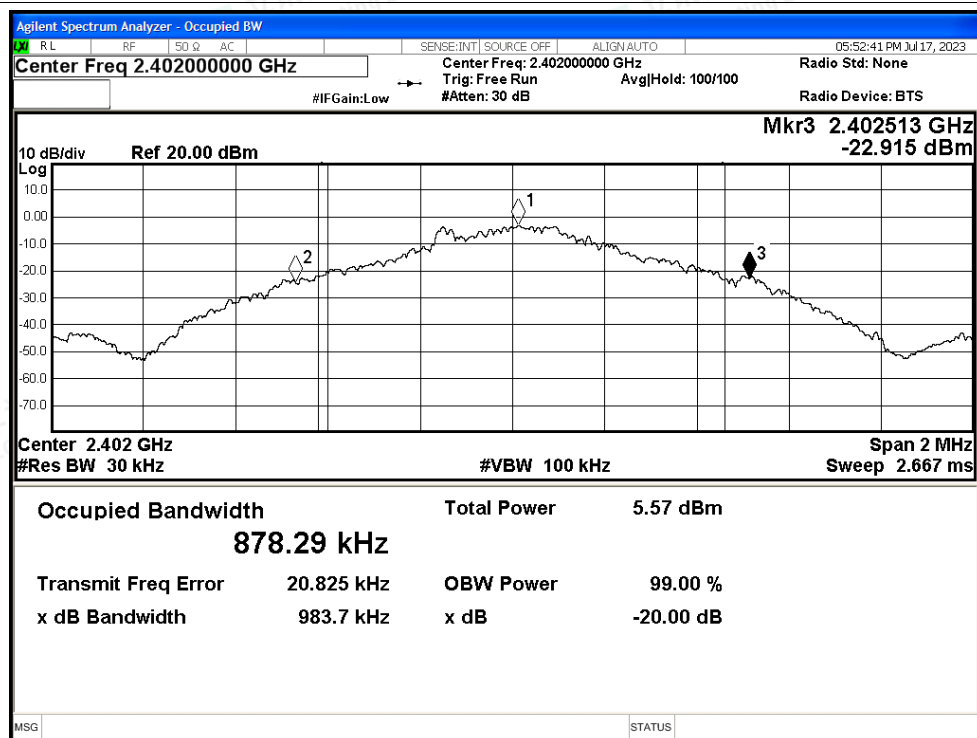


-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1

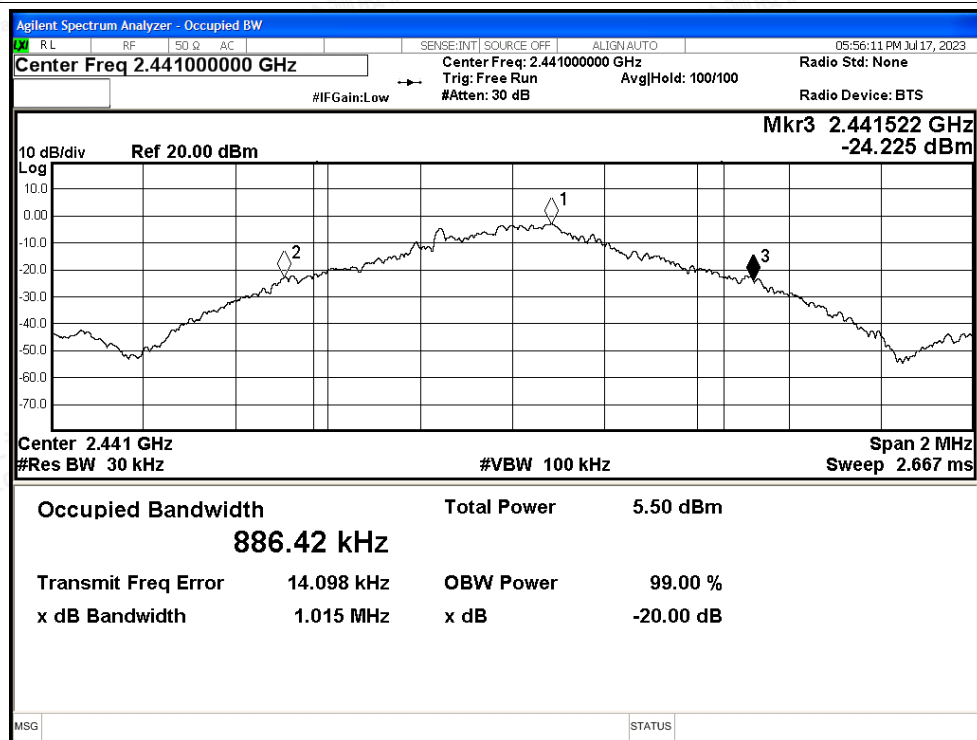


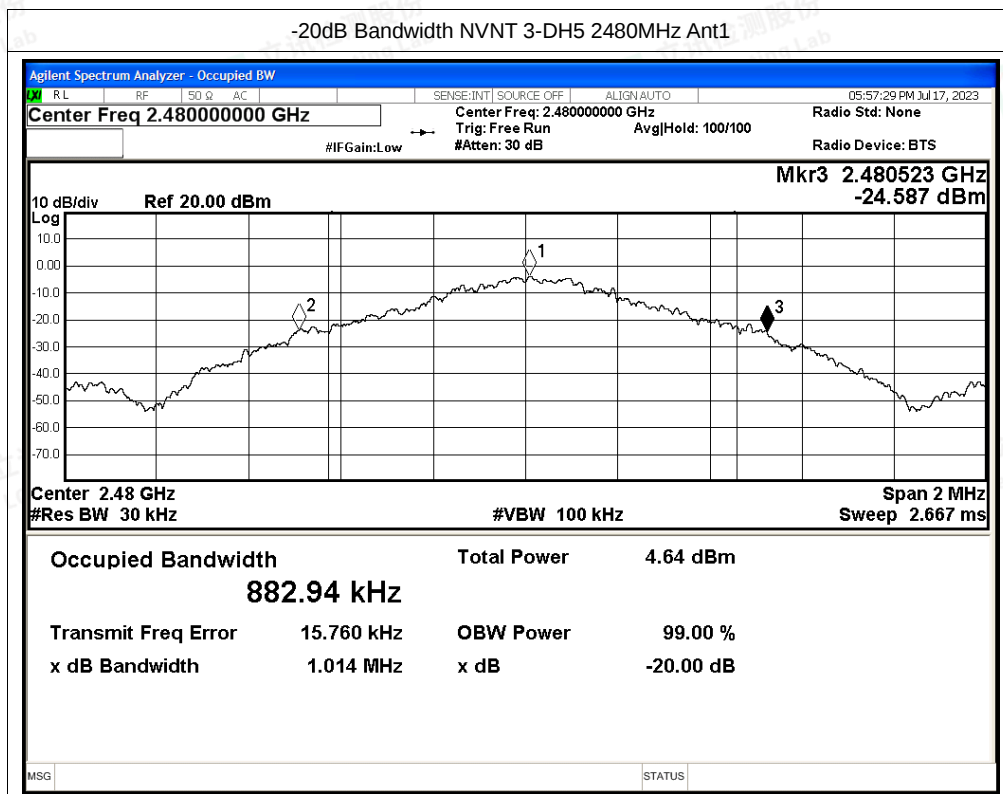


-20dB Bandwidth NVNT 3-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 3-DH5 2441MHz Ant1





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A.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.03	21	Pass
NVNT	1-DH5	2441	Ant1	-1.06	21	Pass
NVNT	1-DH5	2480	Ant1	-1.75	21	Pass
NVNT	2-DH5	2402	Ant1	-0.15	21	Pass
NVNT	2-DH5	2441	Ant1	-0.17	21	Pass
NVNT	2-DH5	2480	Ant1	-0.88	21	Pass
NVNT	3-DH5	2402	Ant1	-1.01	21	Pass
NVNT	3-DH5	2441	Ant1	-1.02	21	Pass
NVNT	3-DH5	2480	Ant1	-1.83	21	Pass

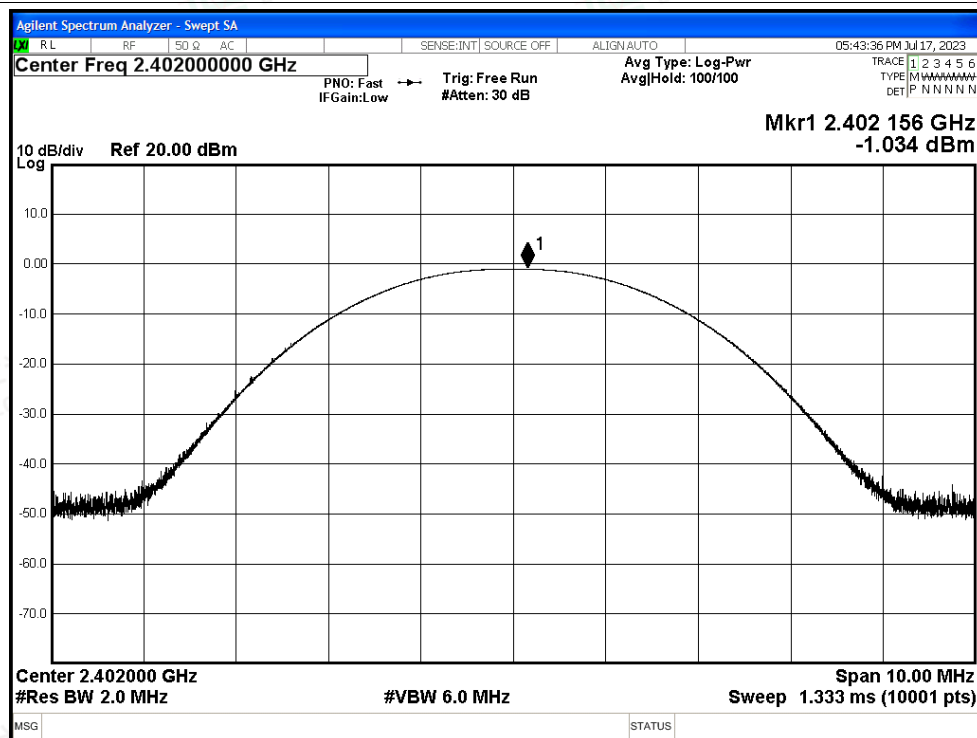


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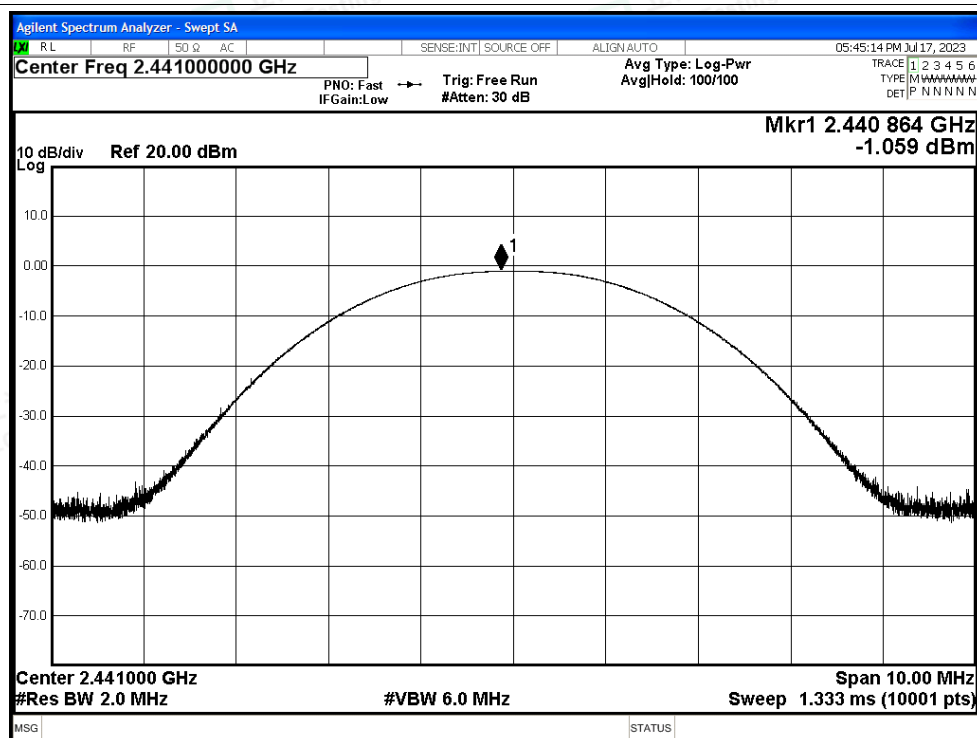


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

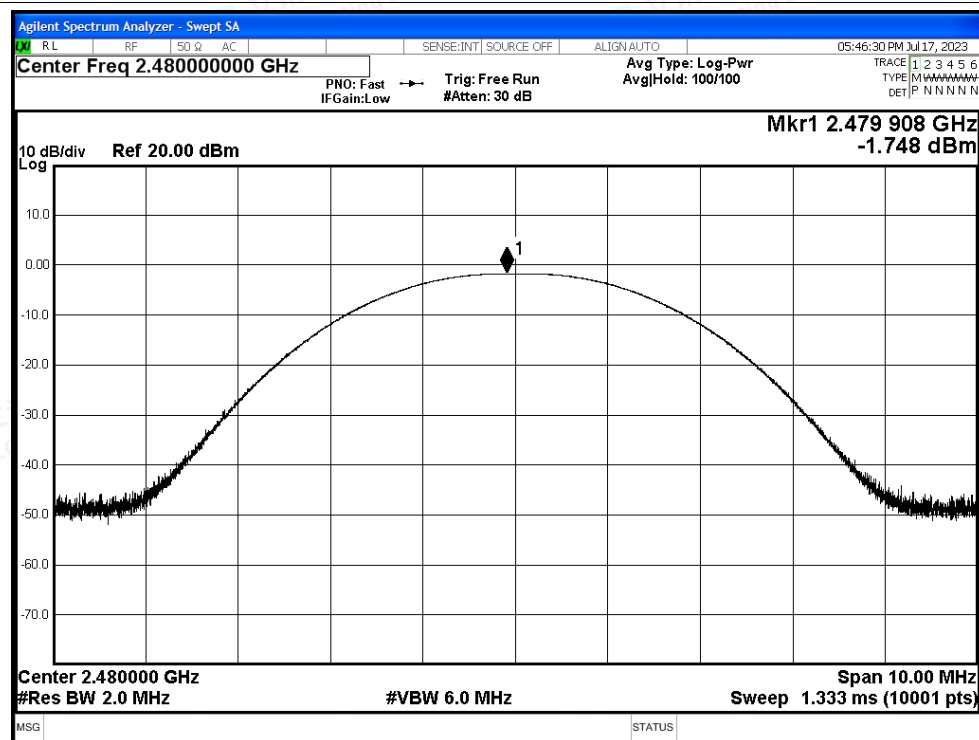


Power NVNT 1-DH5 2441MHz Ant1

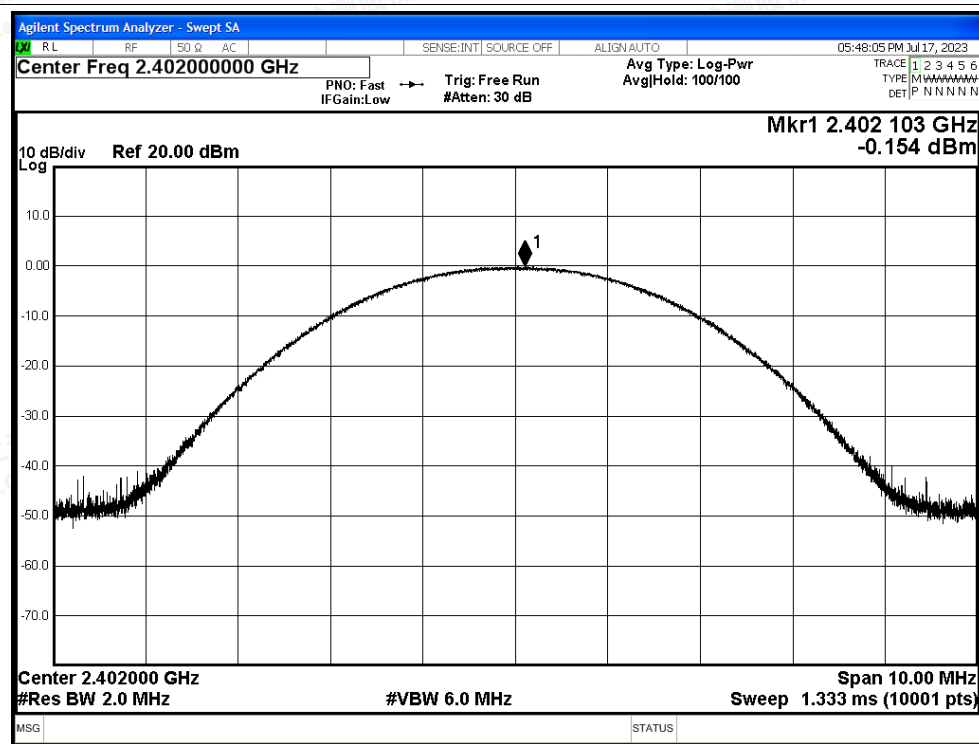


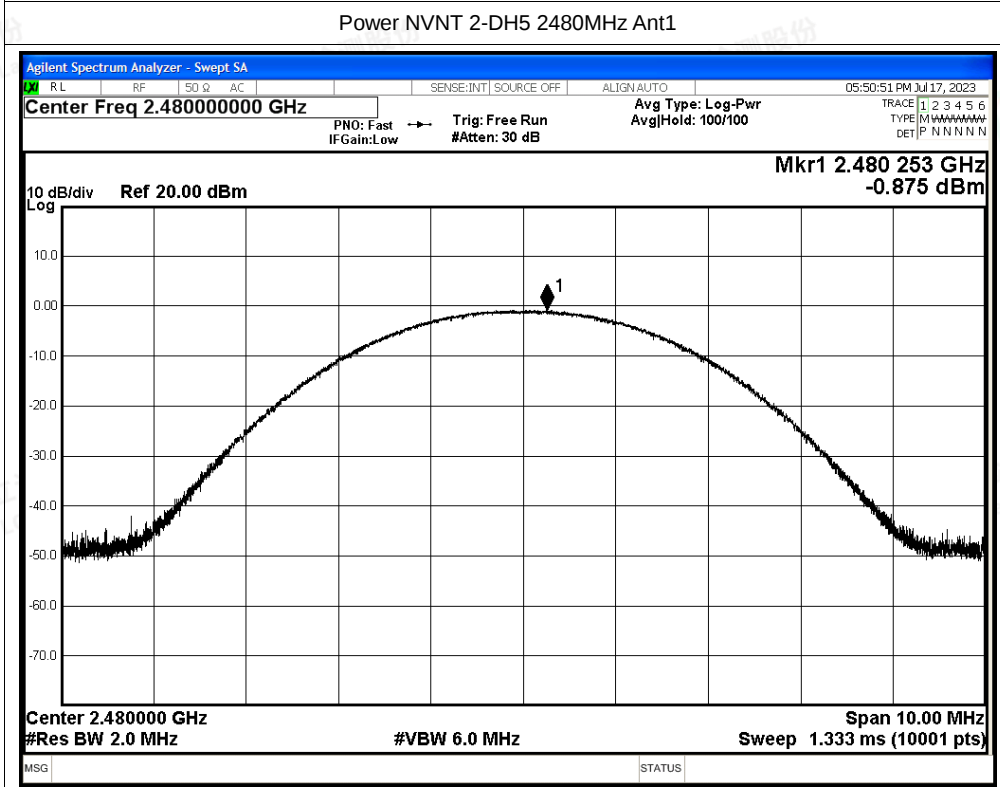
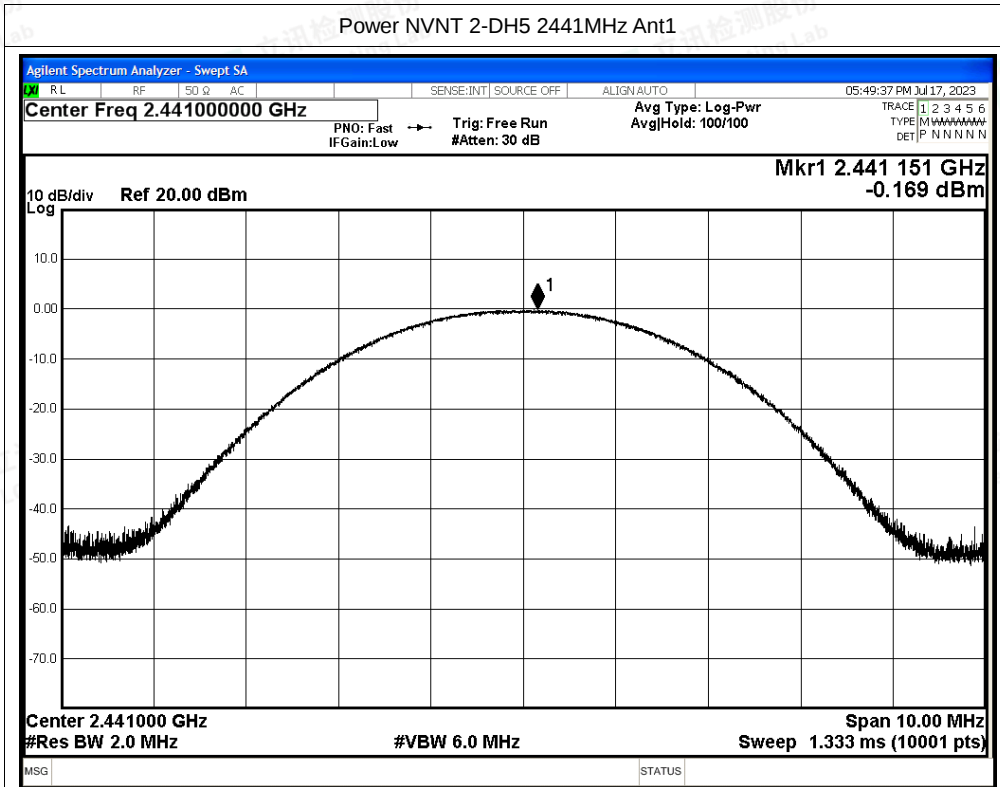


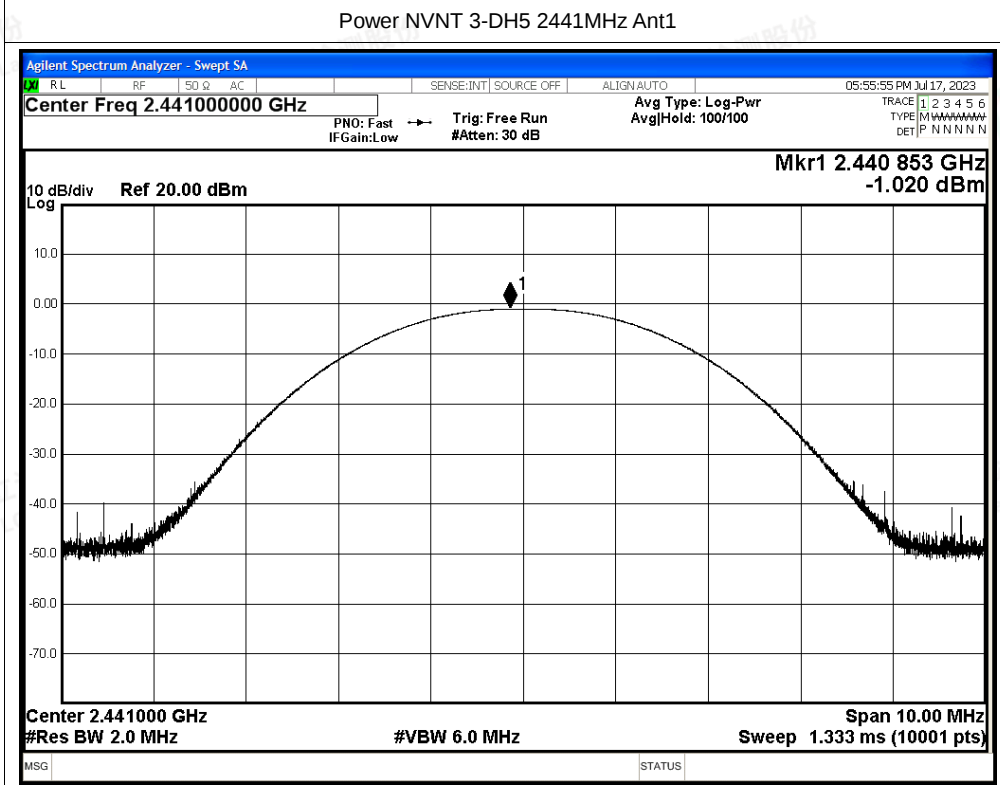
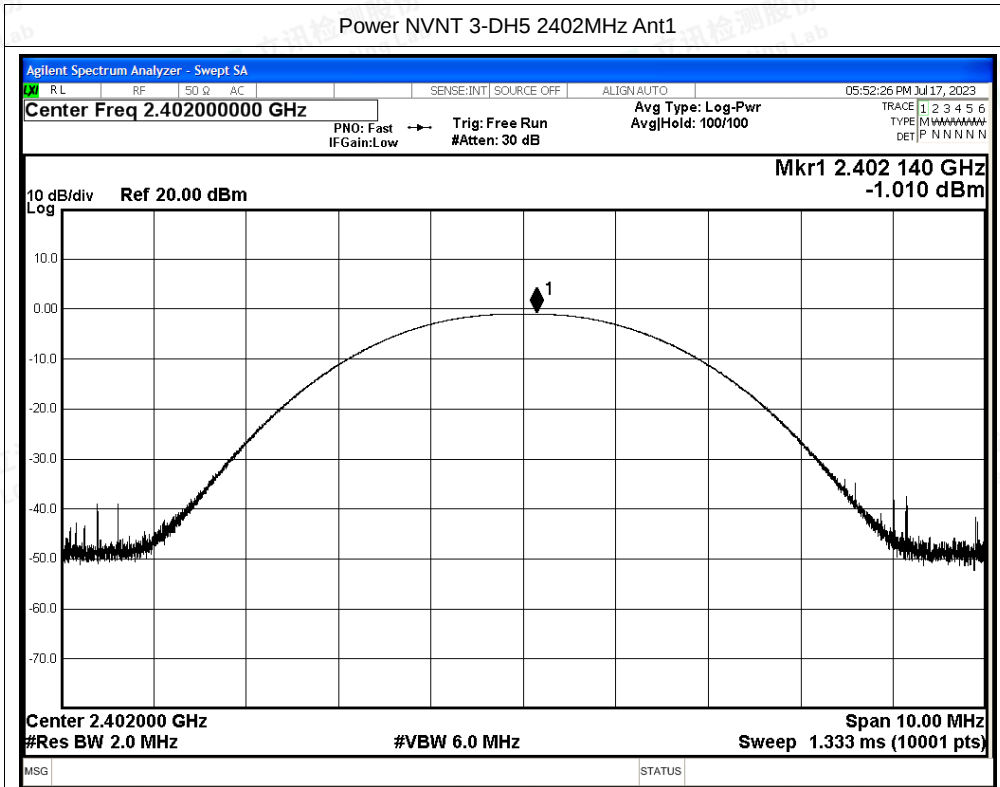
Power NVNT 1-DH5 2480MHz Ant1

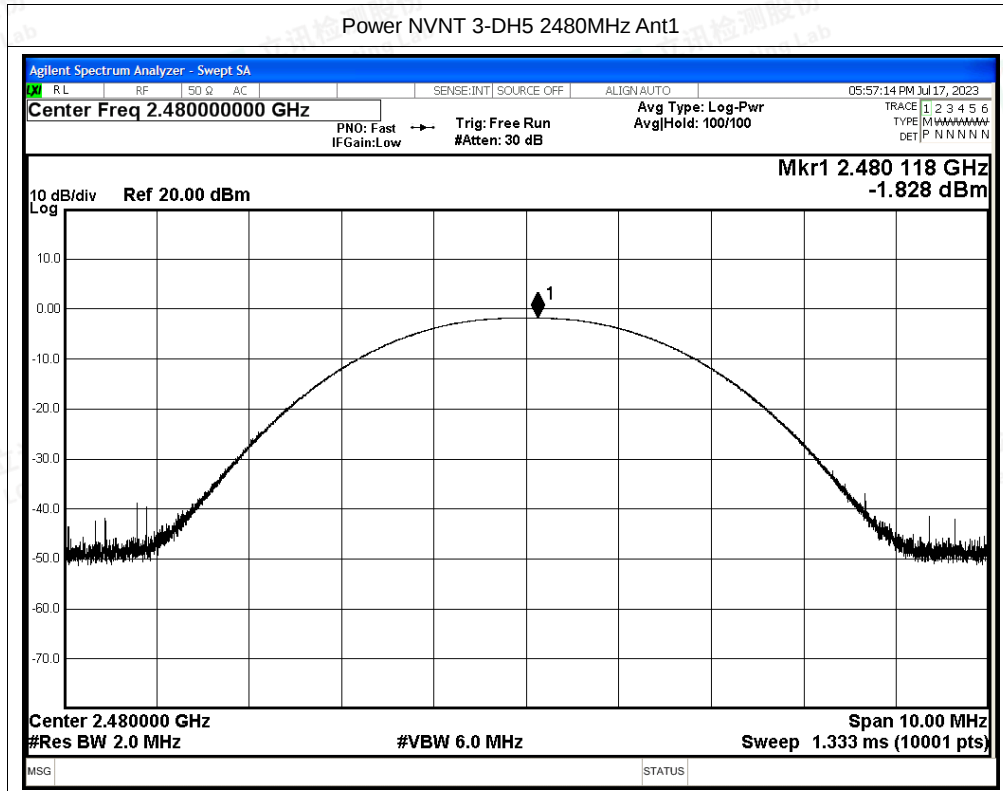


Power NVNT 2-DH5 2402MHz Ant1











A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2402.002	2403.032	1.03	0.659	Pass
NVNT	2-DH5	Ant1	2402.014	2403.01	0.996	0.854	Pass
NVNT	3-DH5	Ant1	2402	2403.012	1.012	0.677	Pass

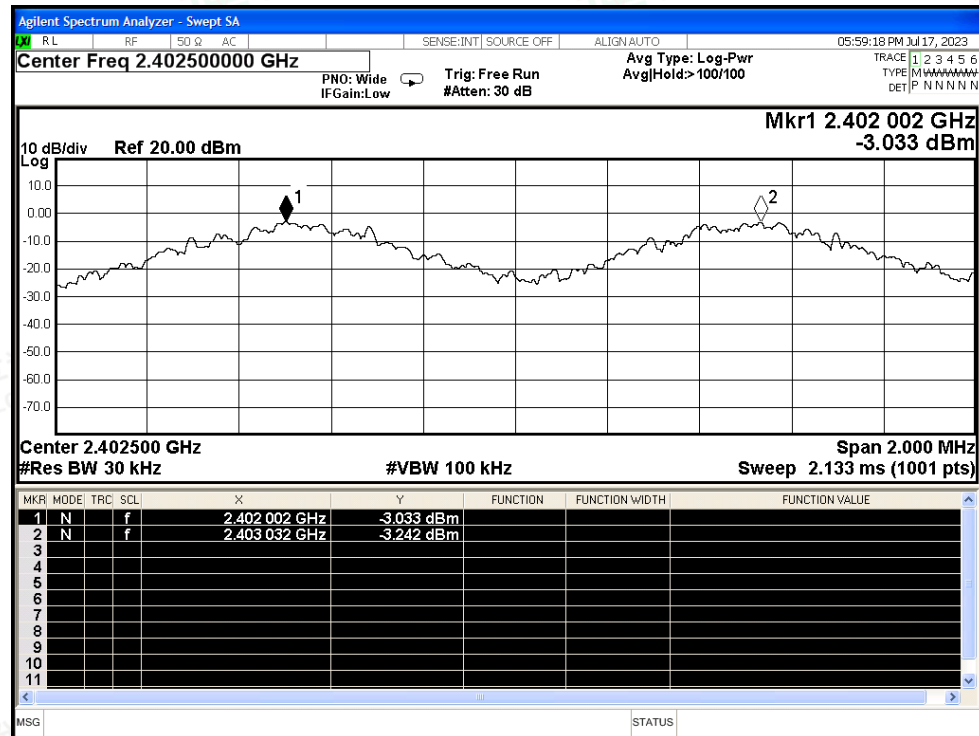


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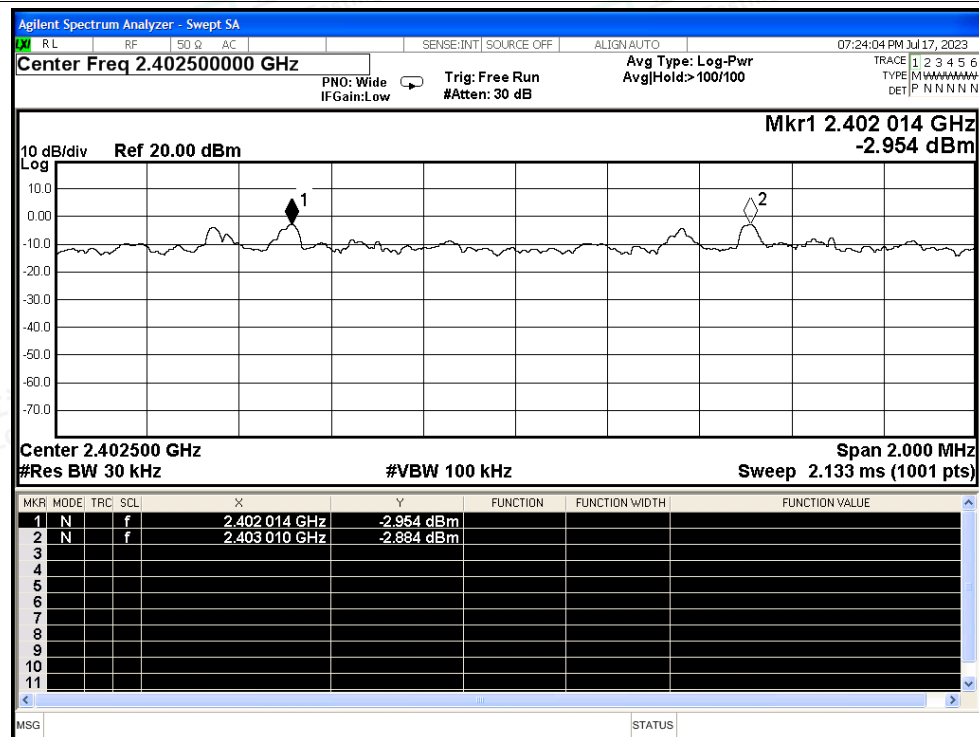


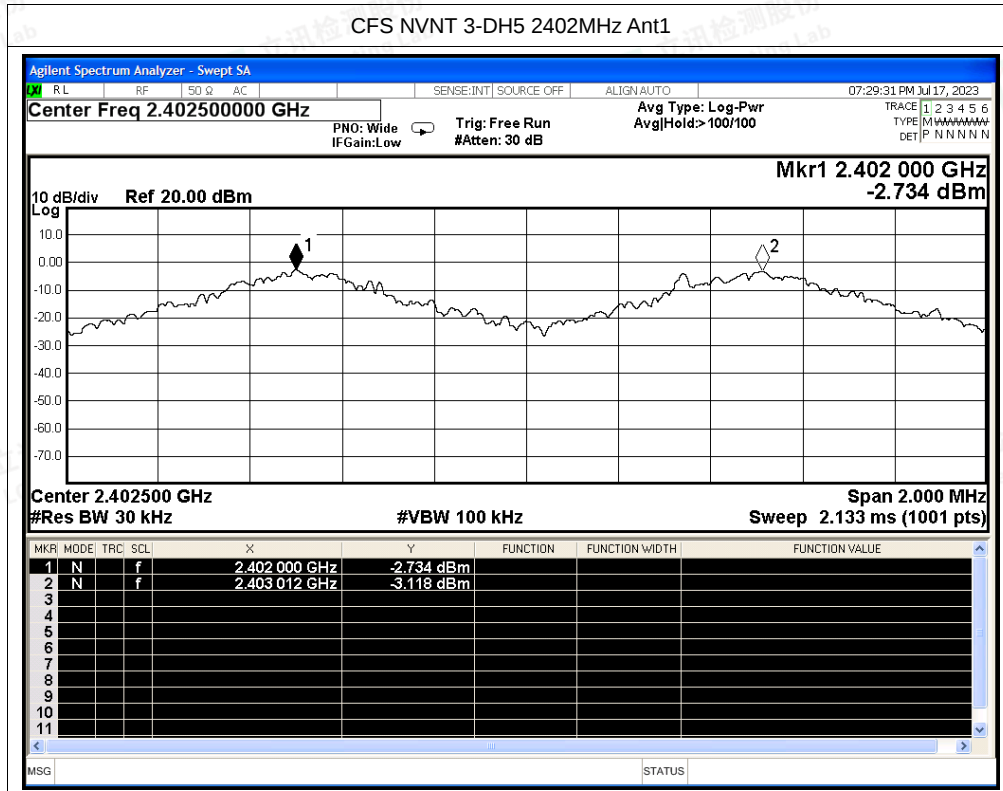
Test Graphs

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	2.887	291.587	101	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.893	297.979	103	31600	400	Pass
NVNT	3-DH5	2402	Ant1	2.364	243.492	103	31600	400	Pass

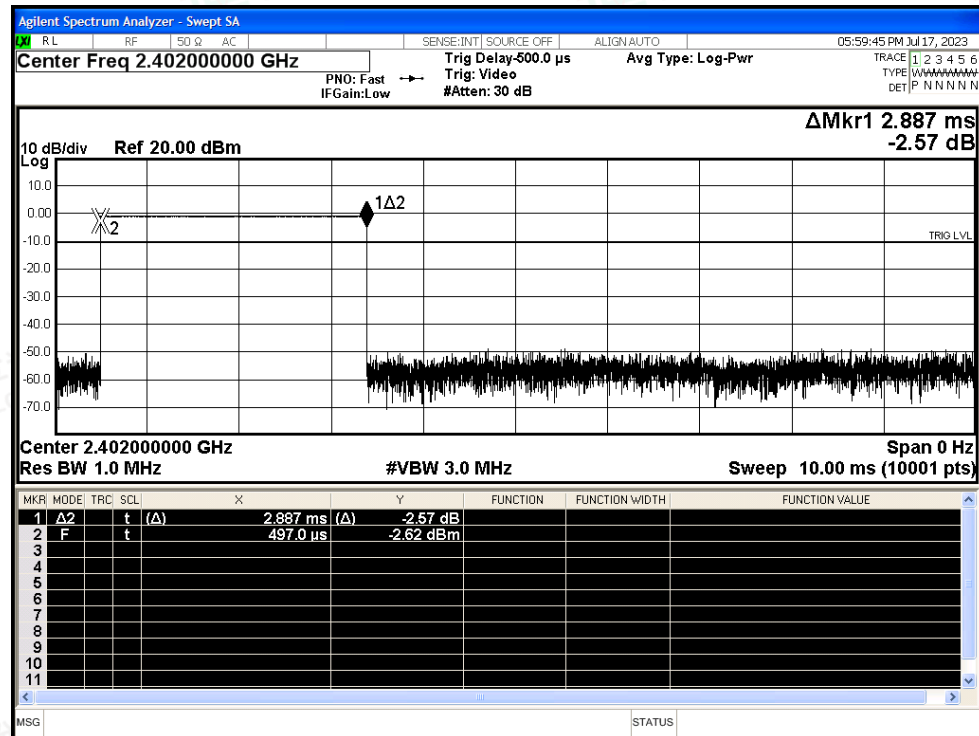


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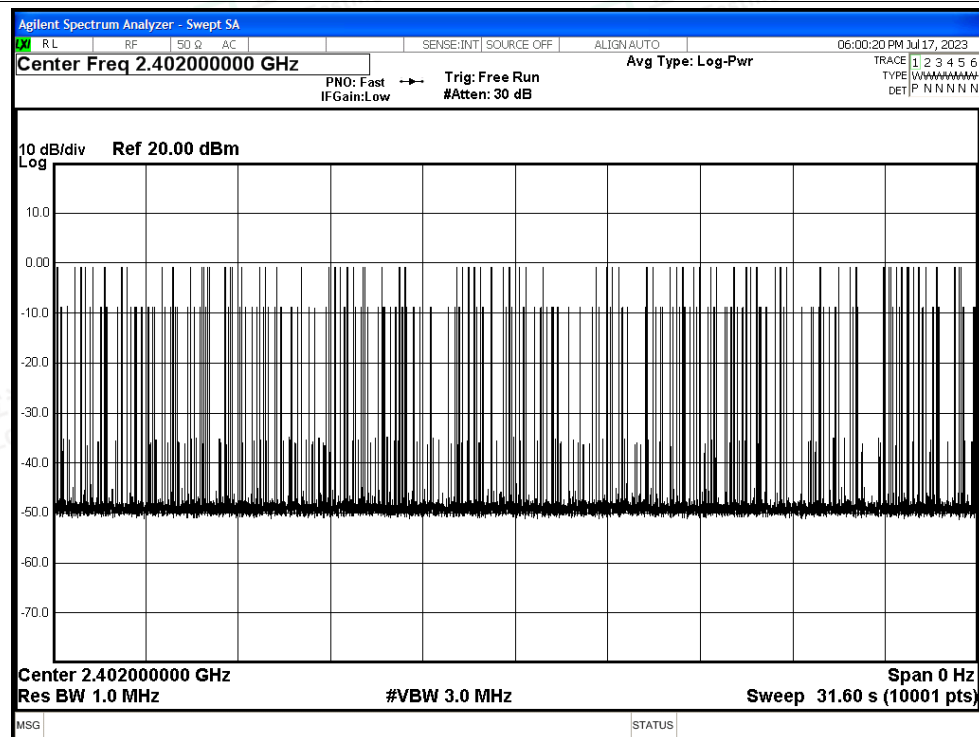


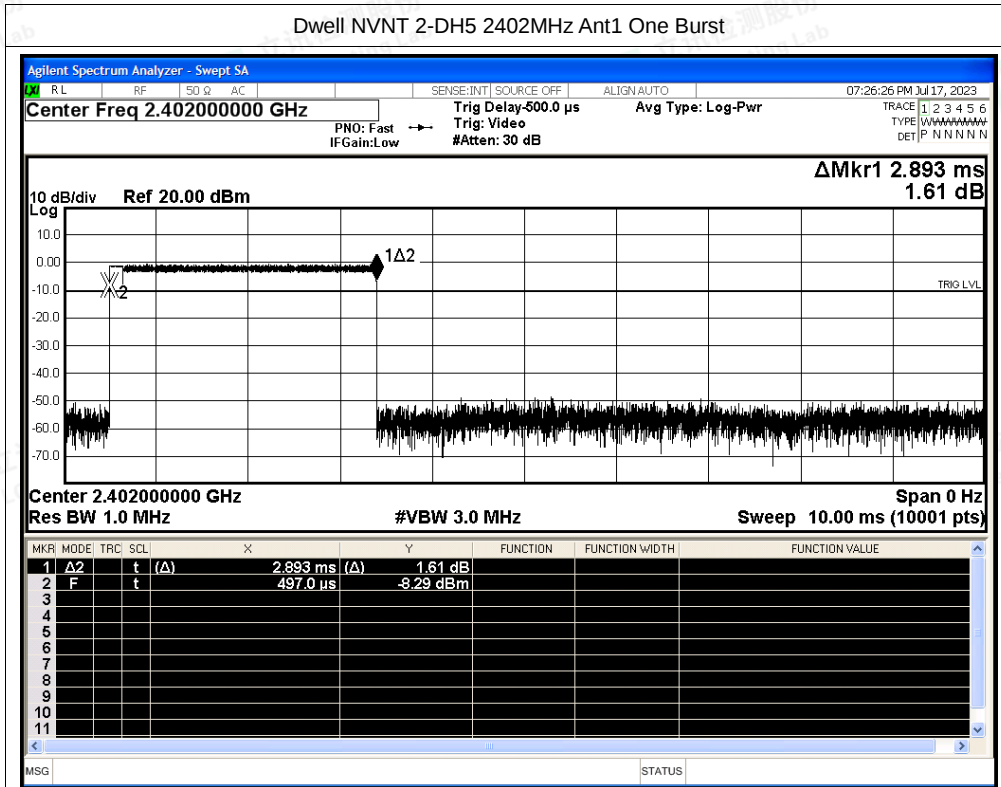
Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

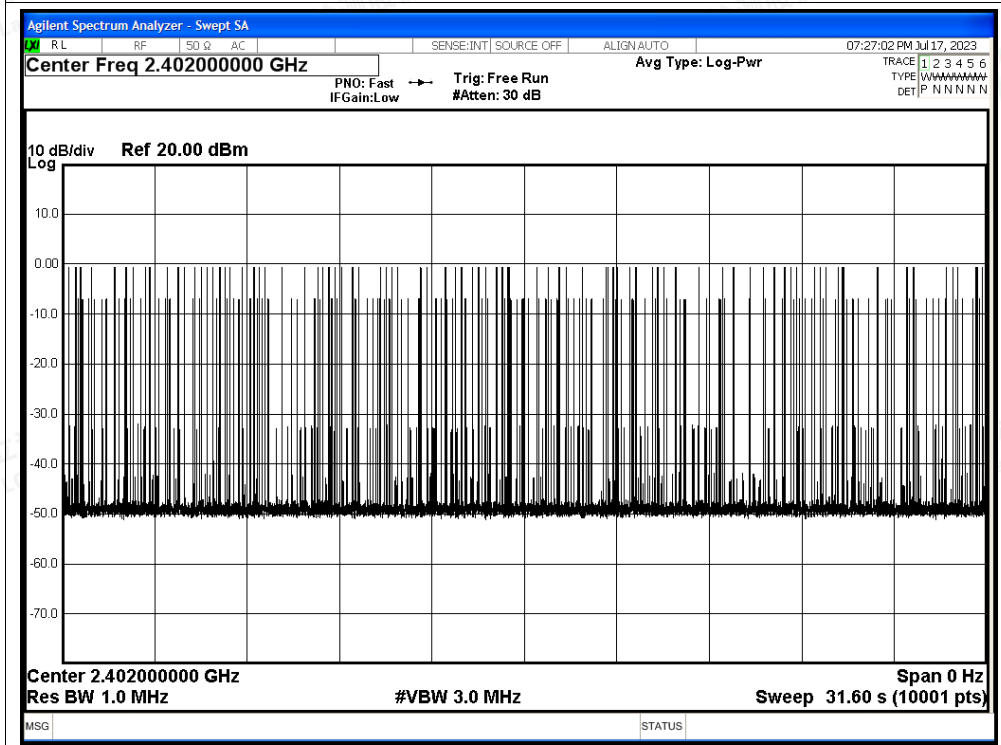


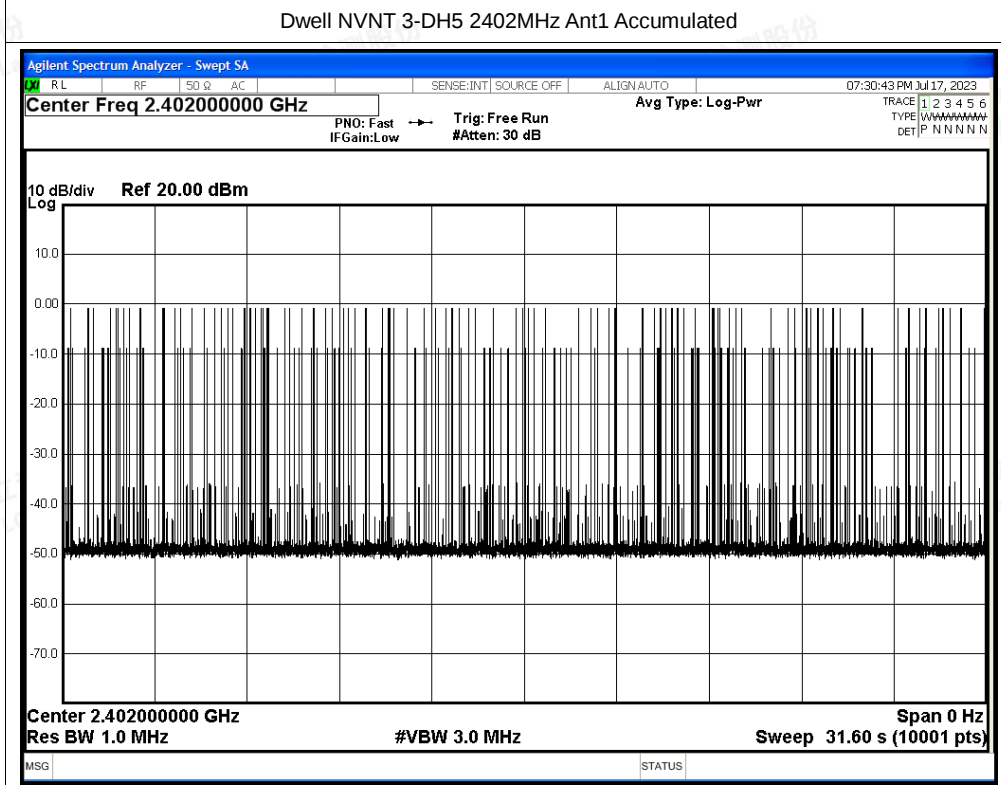
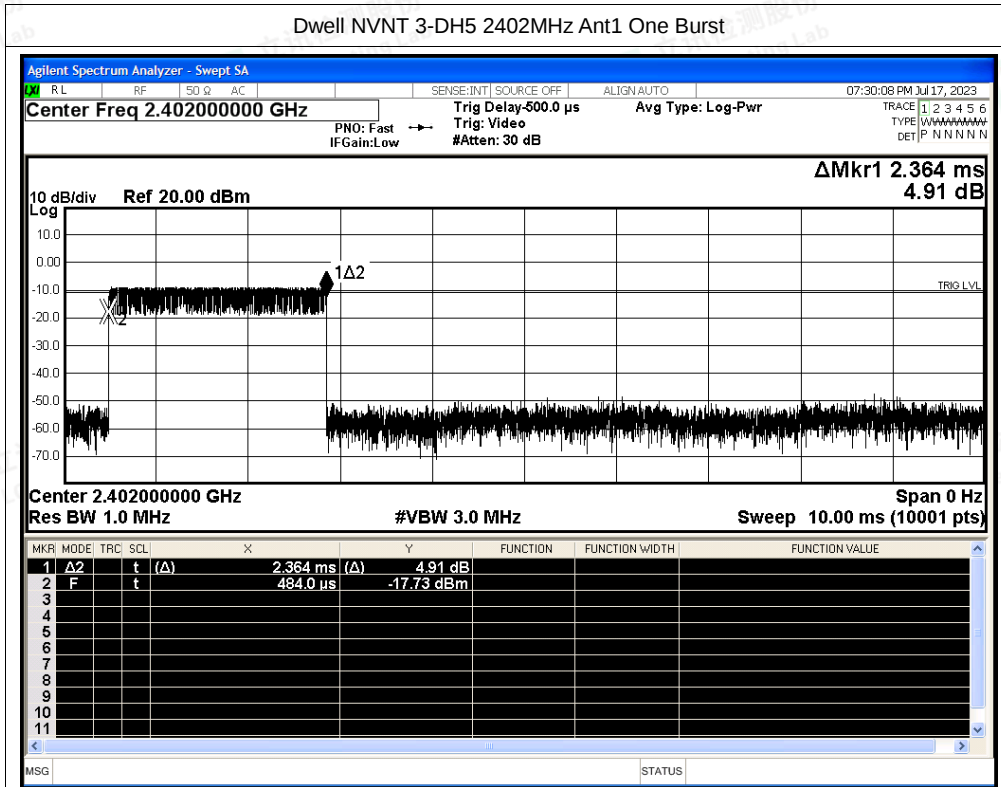
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated





Dwell NVNT 2-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

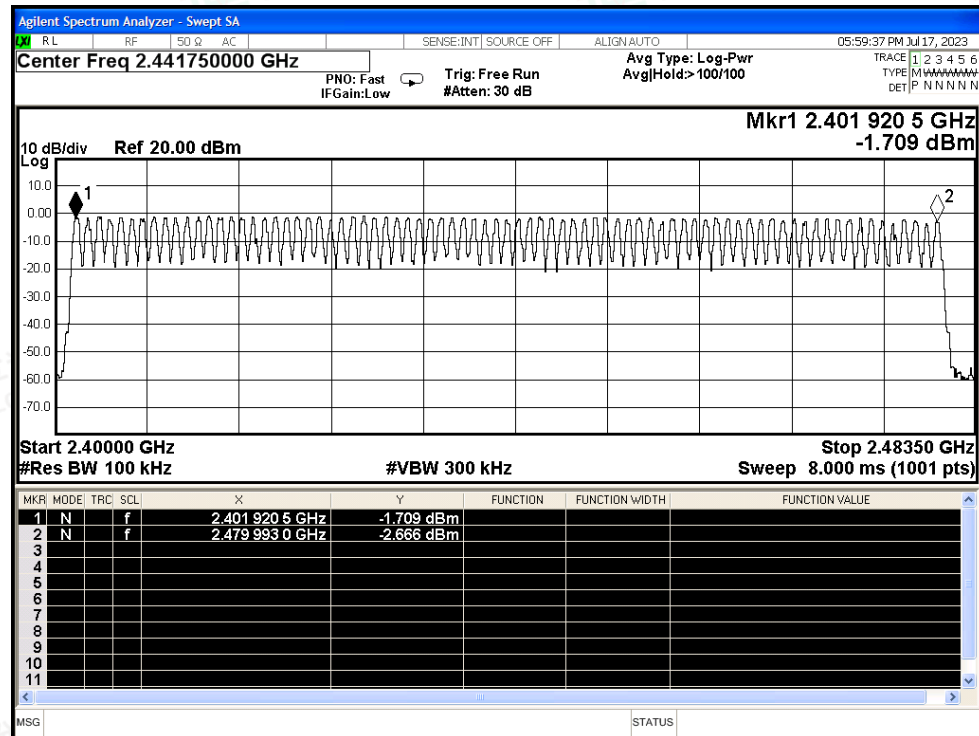


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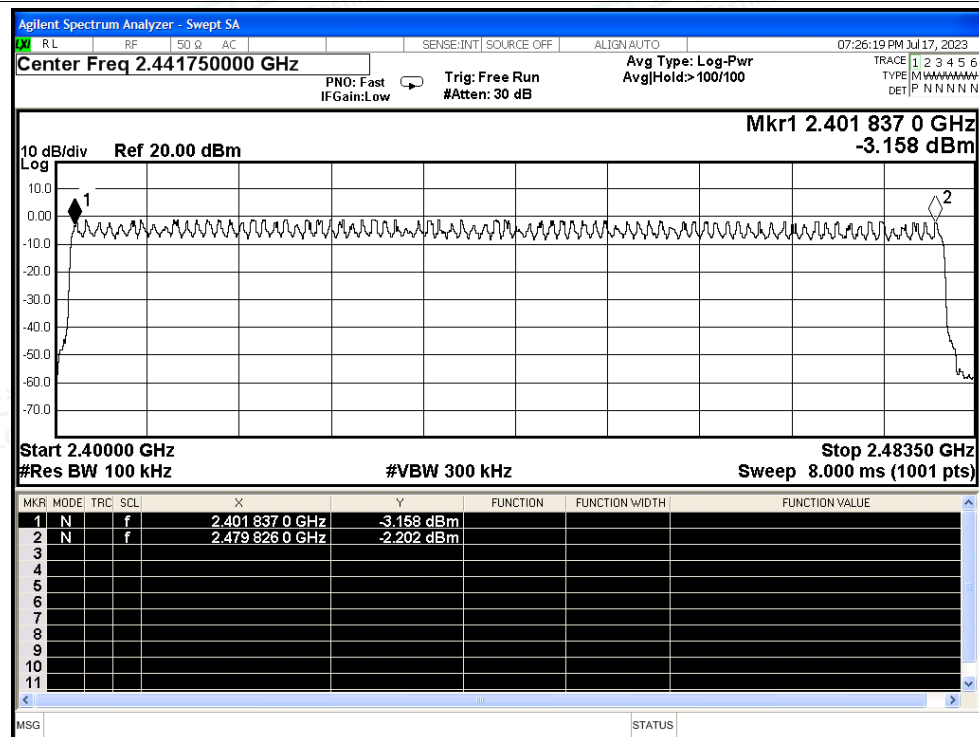


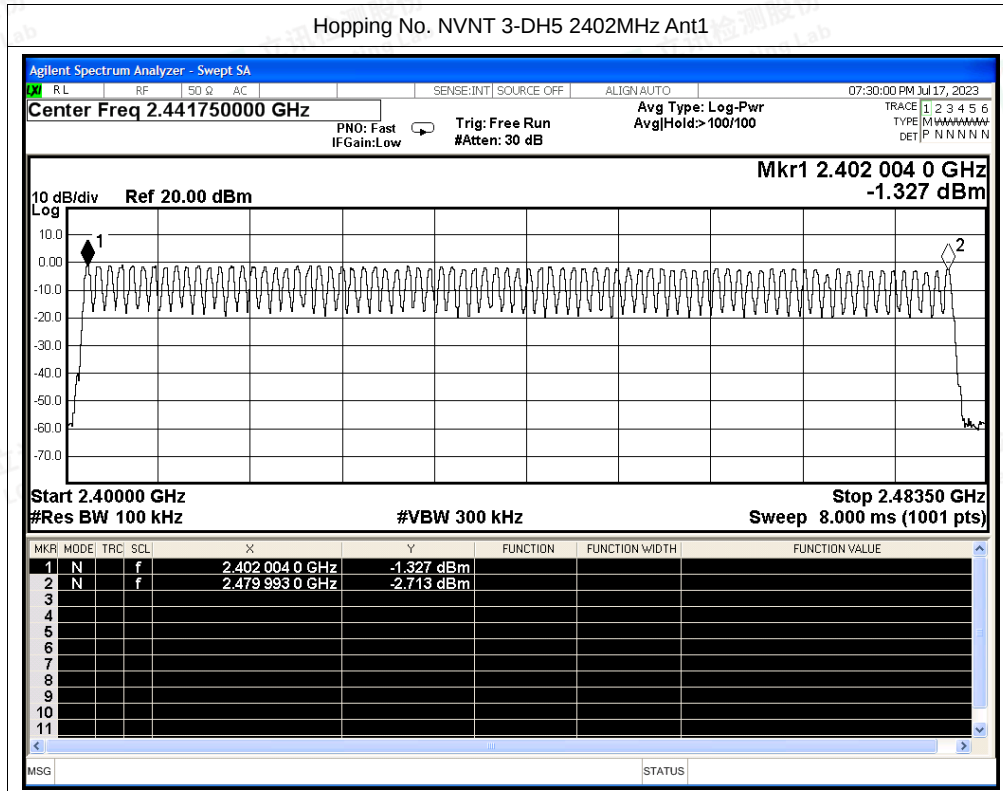
Test Graphs

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	-53.79	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-56.28	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-51.48	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-56.3	-20	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	-52.54	-20	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	-57.26	-20	Pass

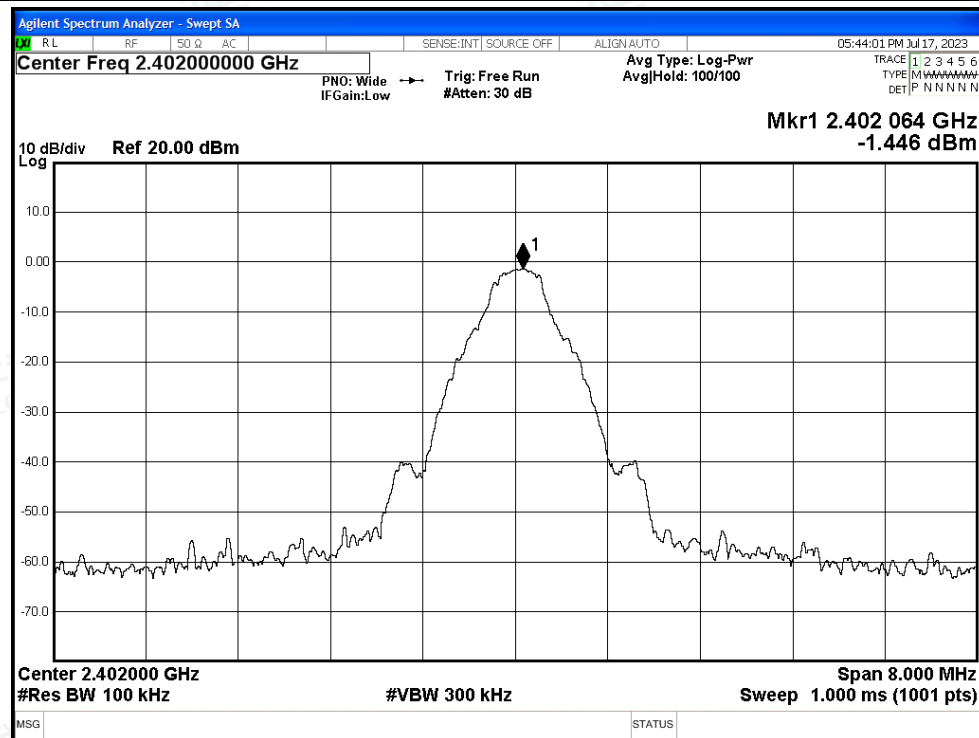


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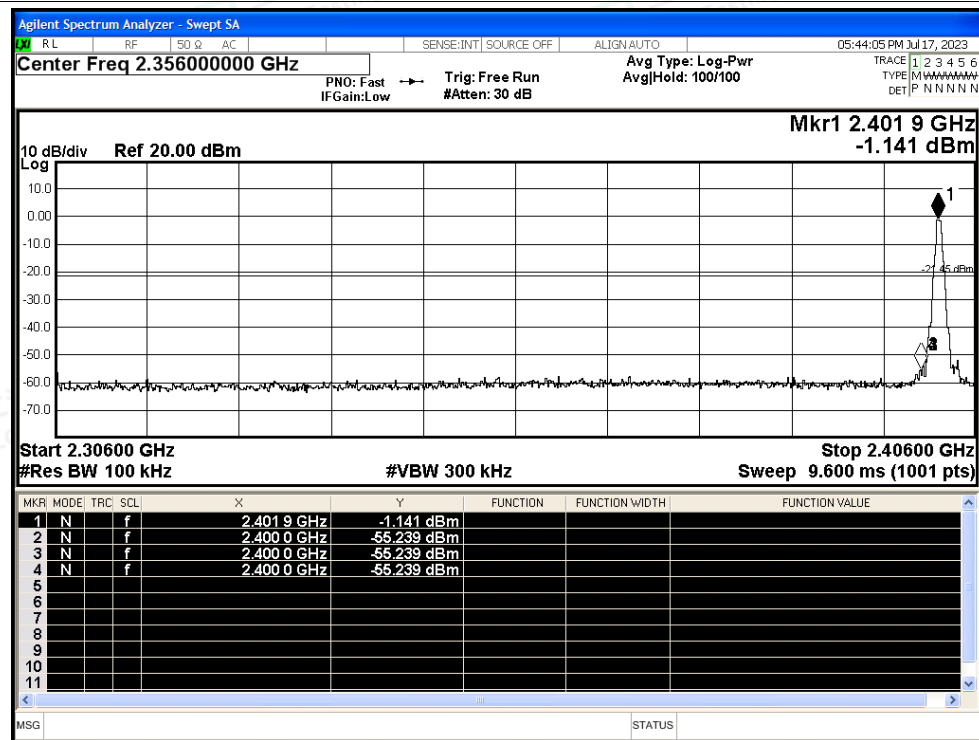


Test Graphs

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

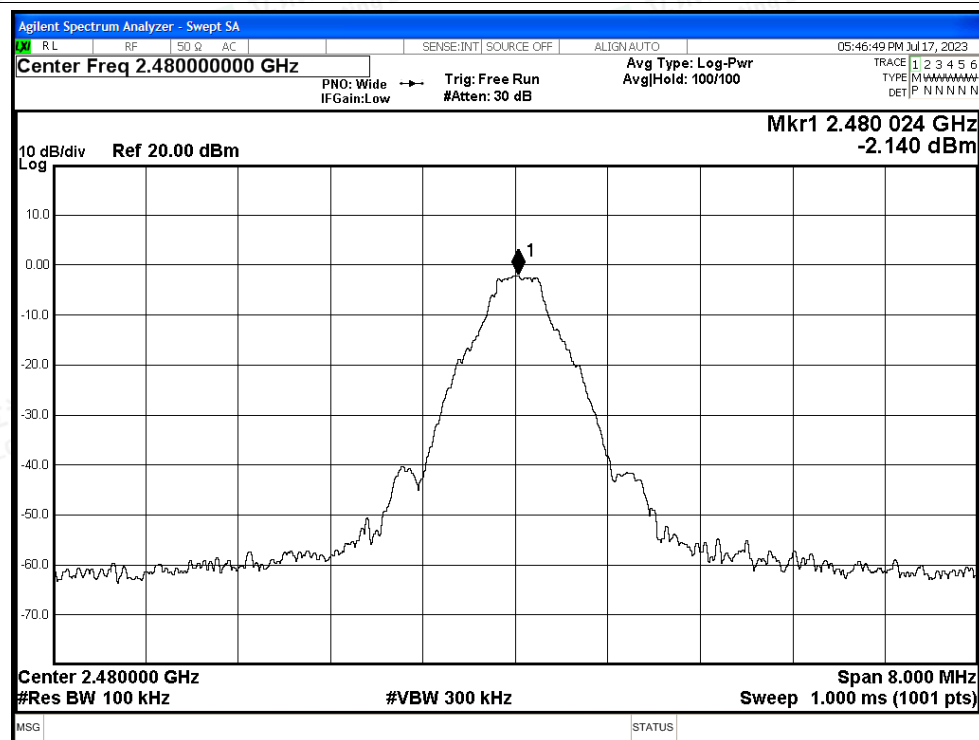


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

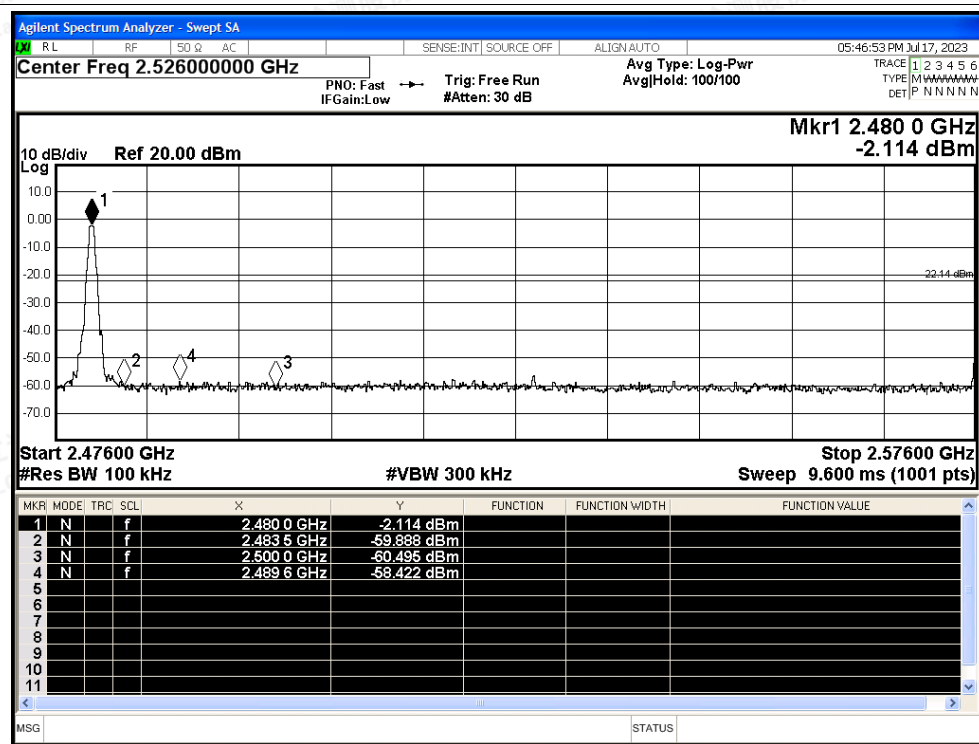




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

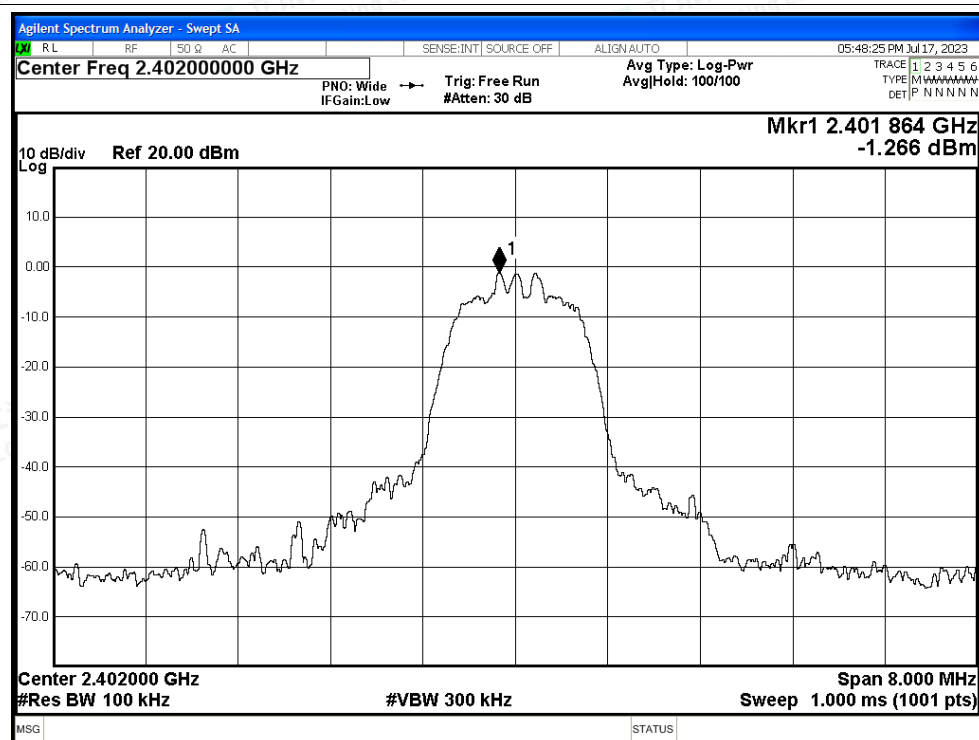


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

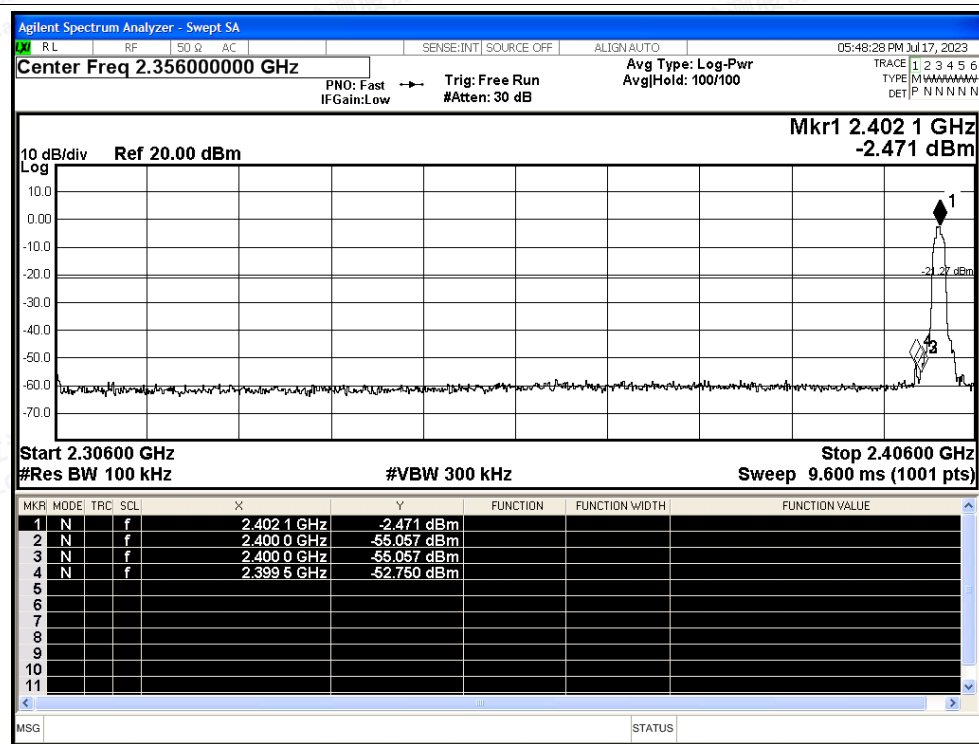




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



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



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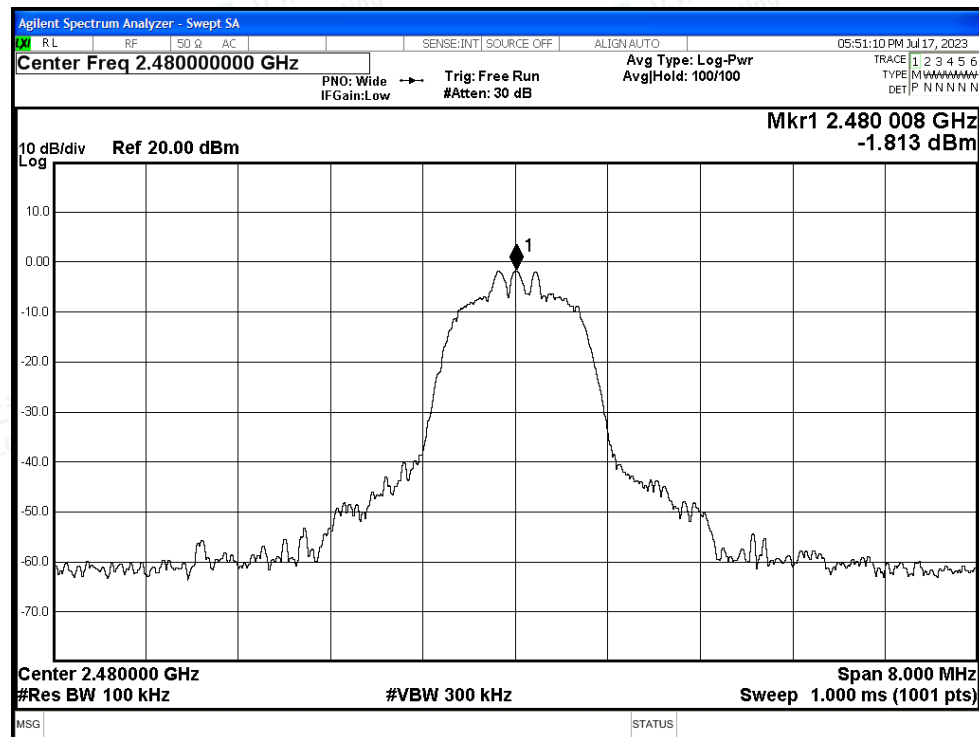
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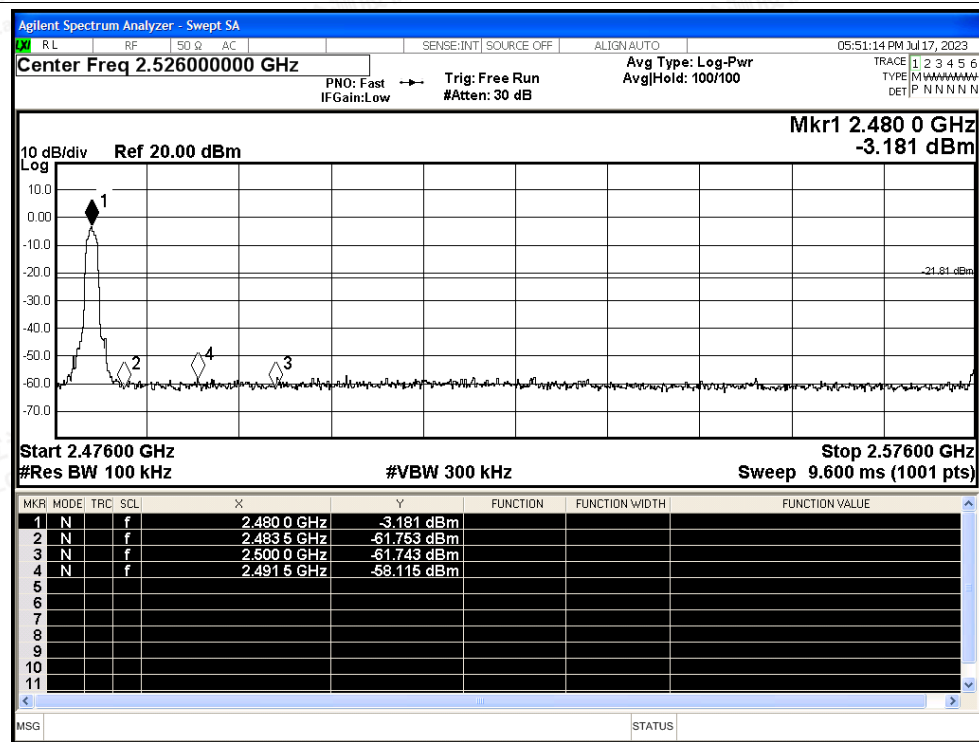
Scan code to check authenticity



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

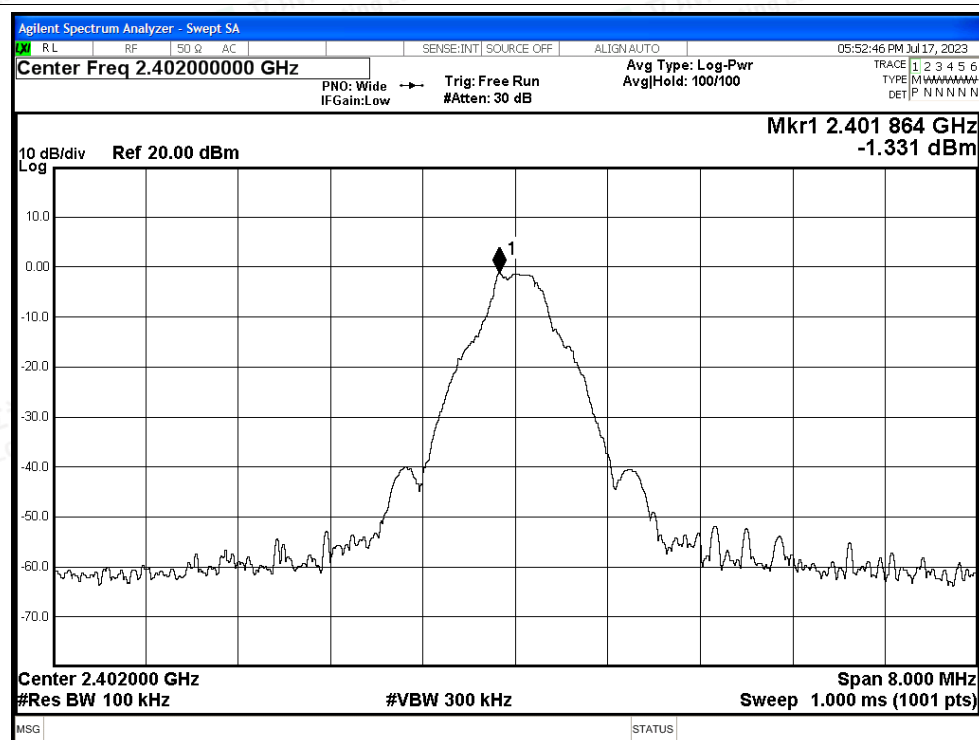


Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Emission

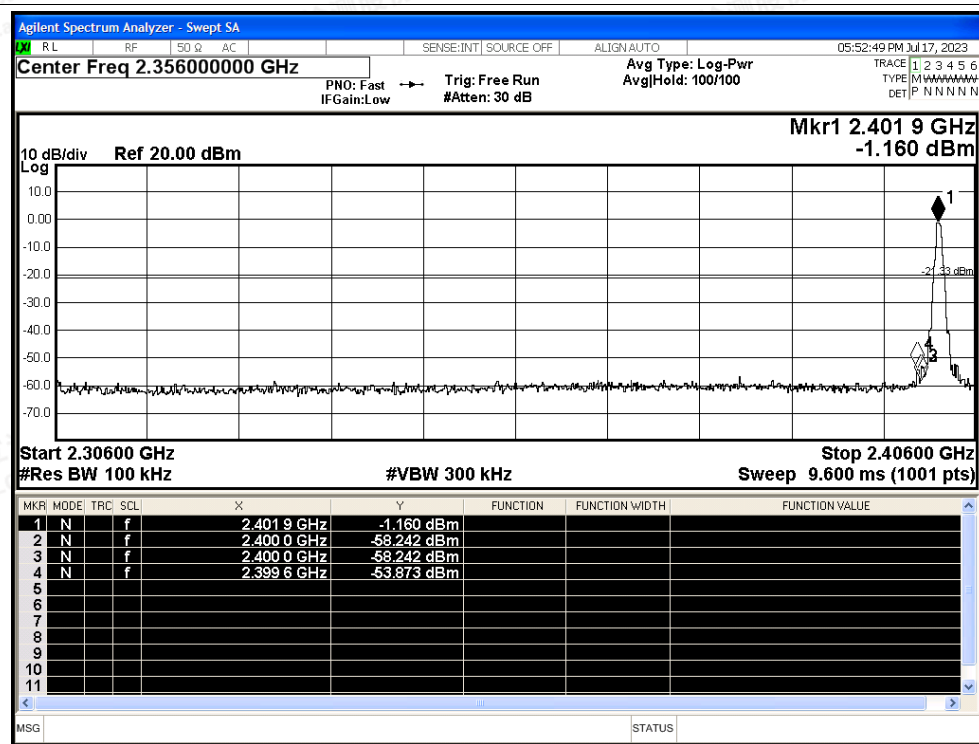




Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Ref

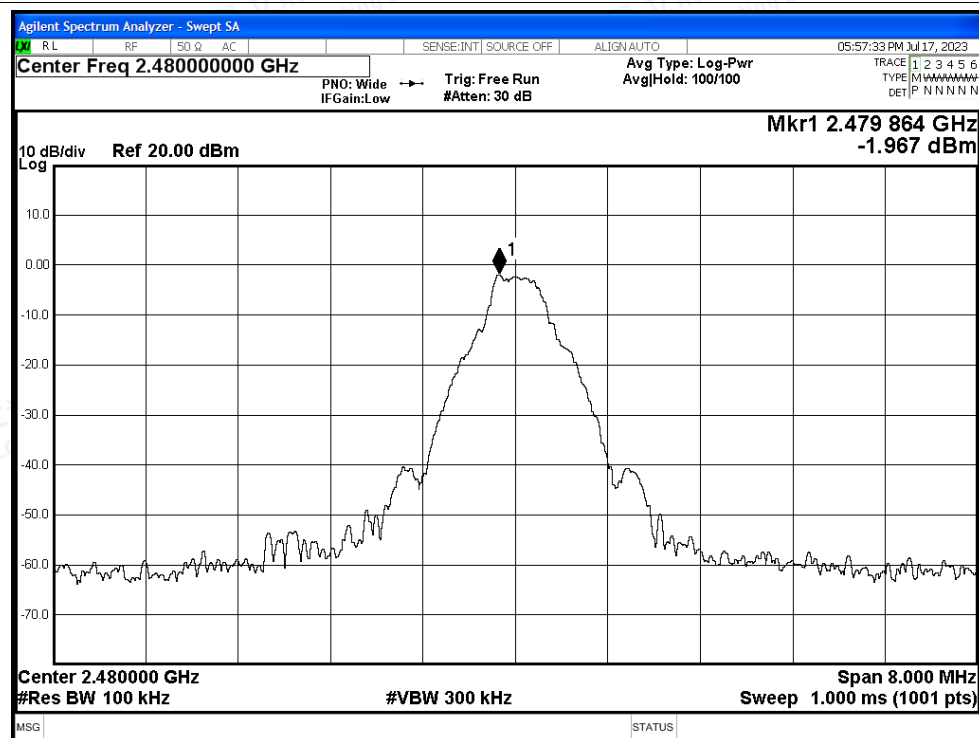


Band Edge NVNT 3-DH5 2402MHz Ant1 No-Hopping Emission

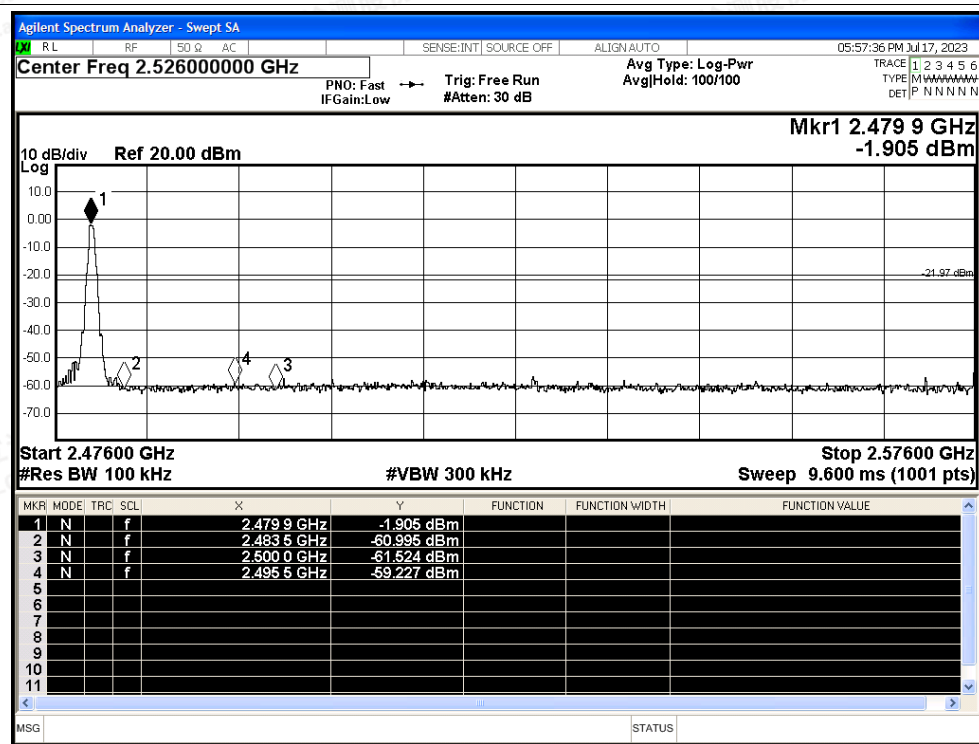




Band Edge NVNT 3-DH5 2480MHz Ant1 No-Hopping Ref



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	-49.25	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-48.9	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-51.49	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-54.16	-20	Pass
NVNT	3-DH5	2402	Ant1	Hopping	-51.67	-20	Pass
NVNT	3-DH5	2480	Ant1	Hopping	-52.87	-20	Pass

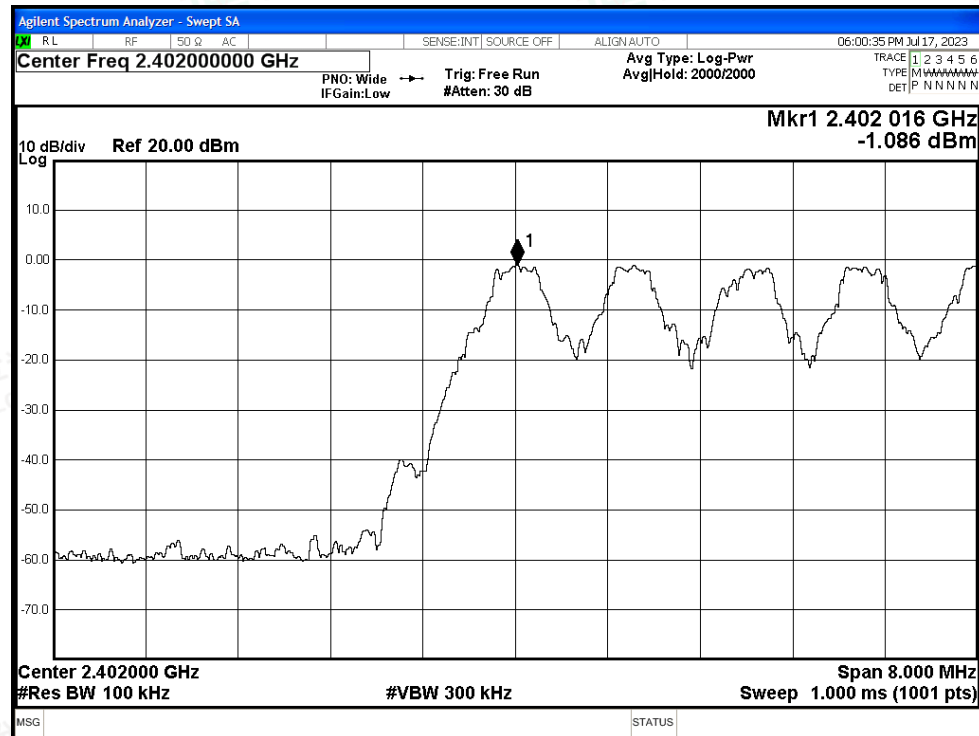


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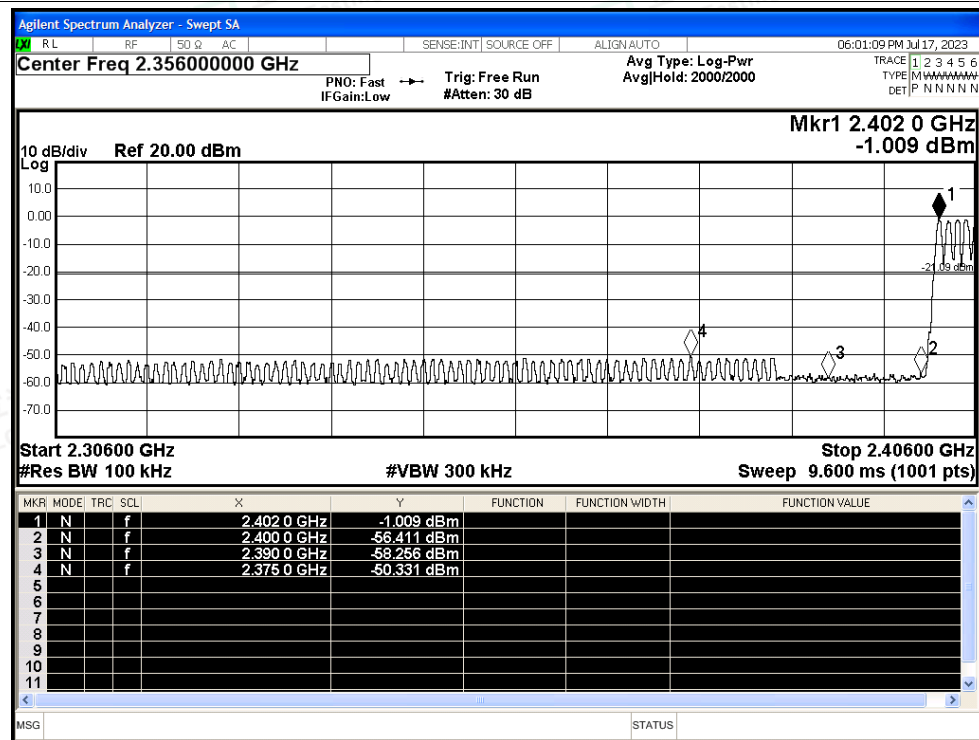


Test Graphs

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

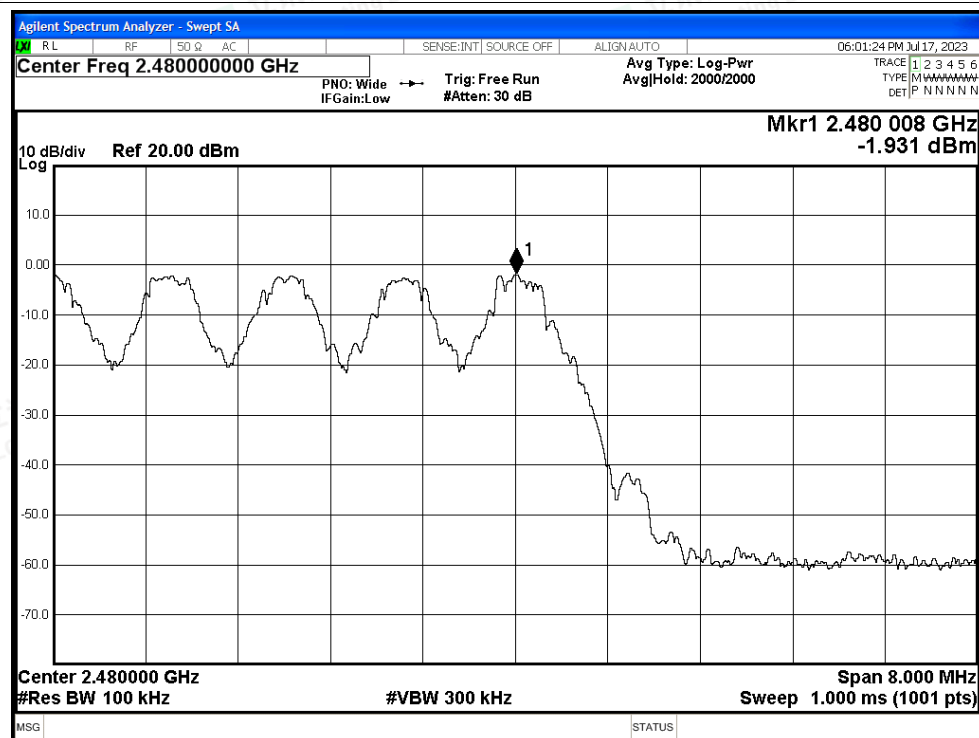


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

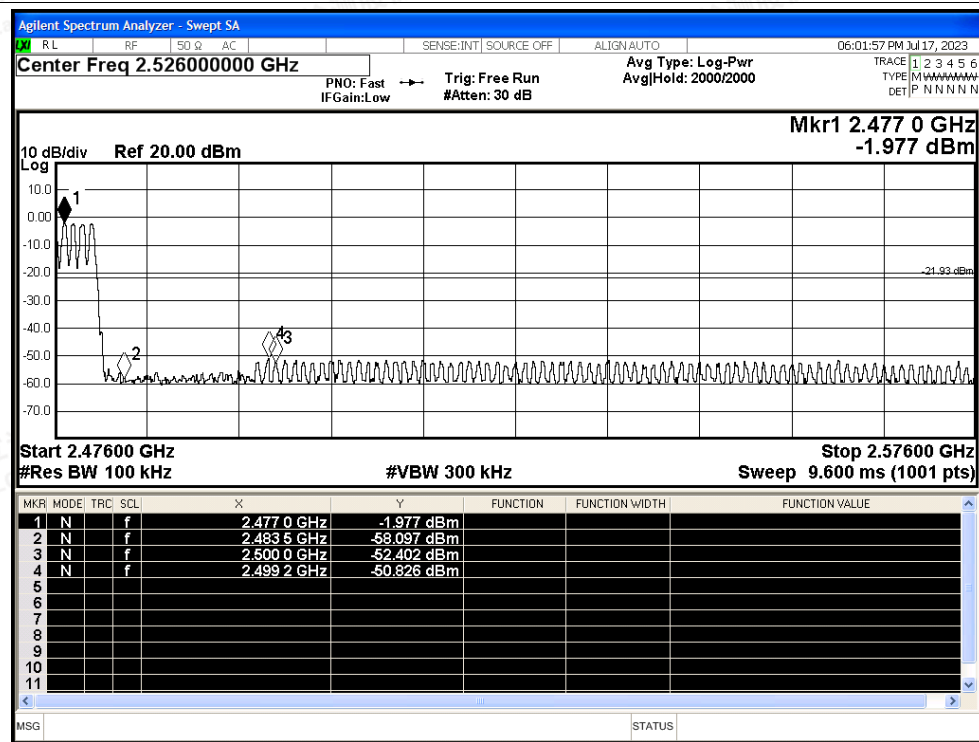




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref



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

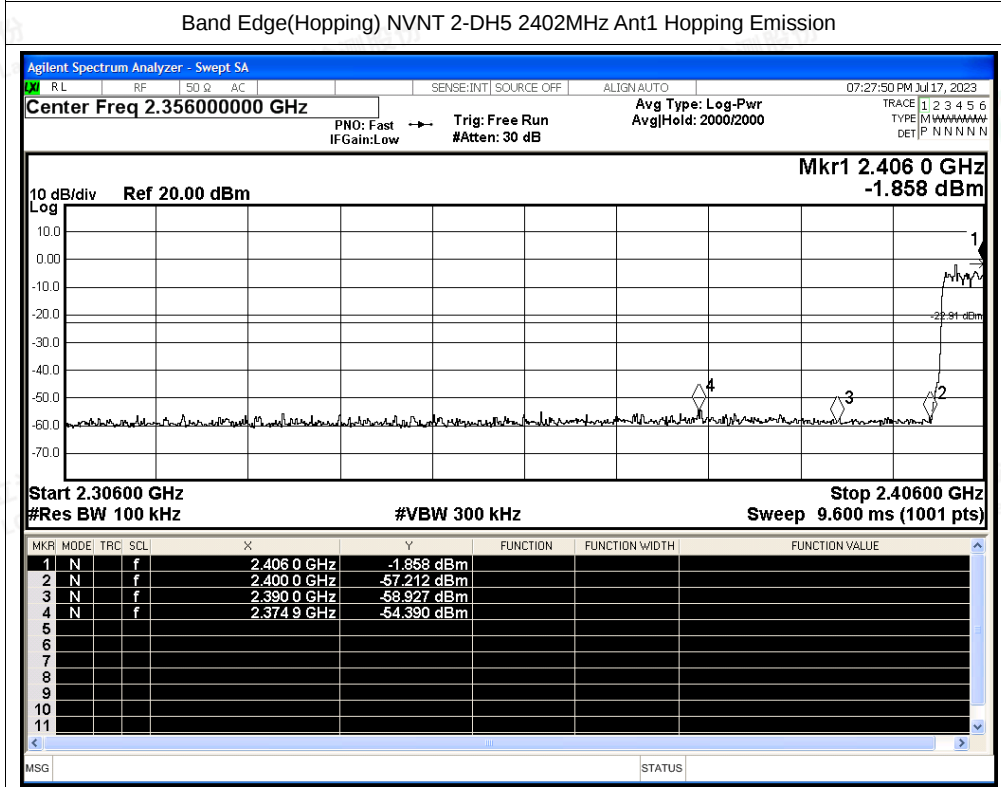
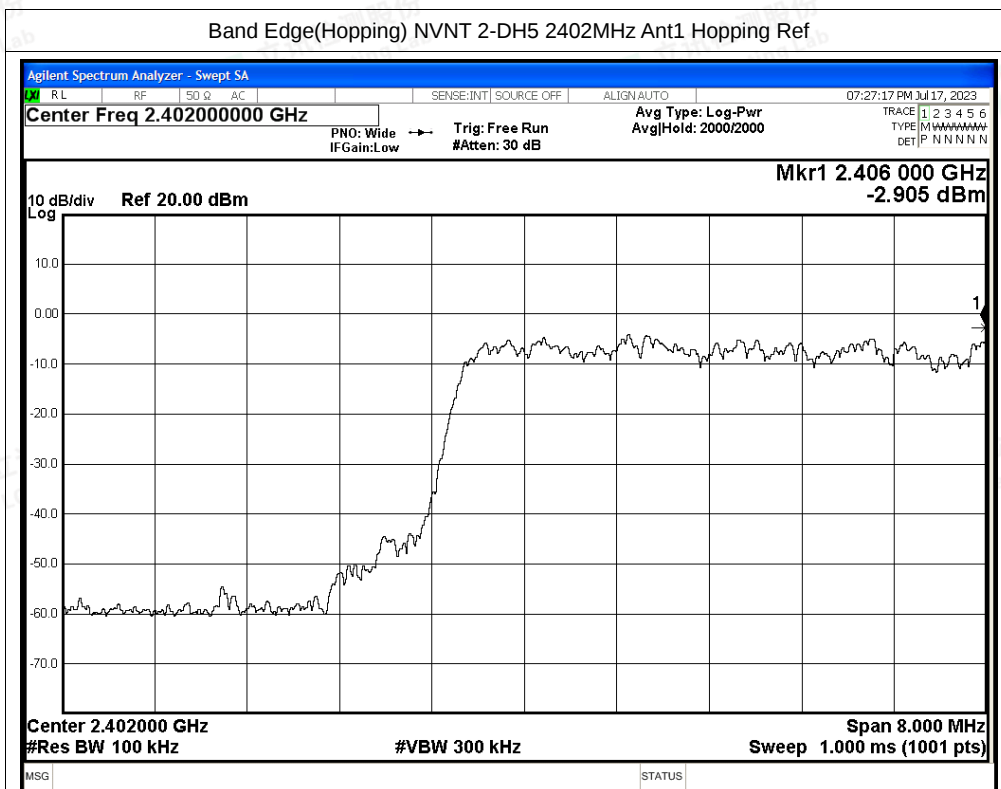


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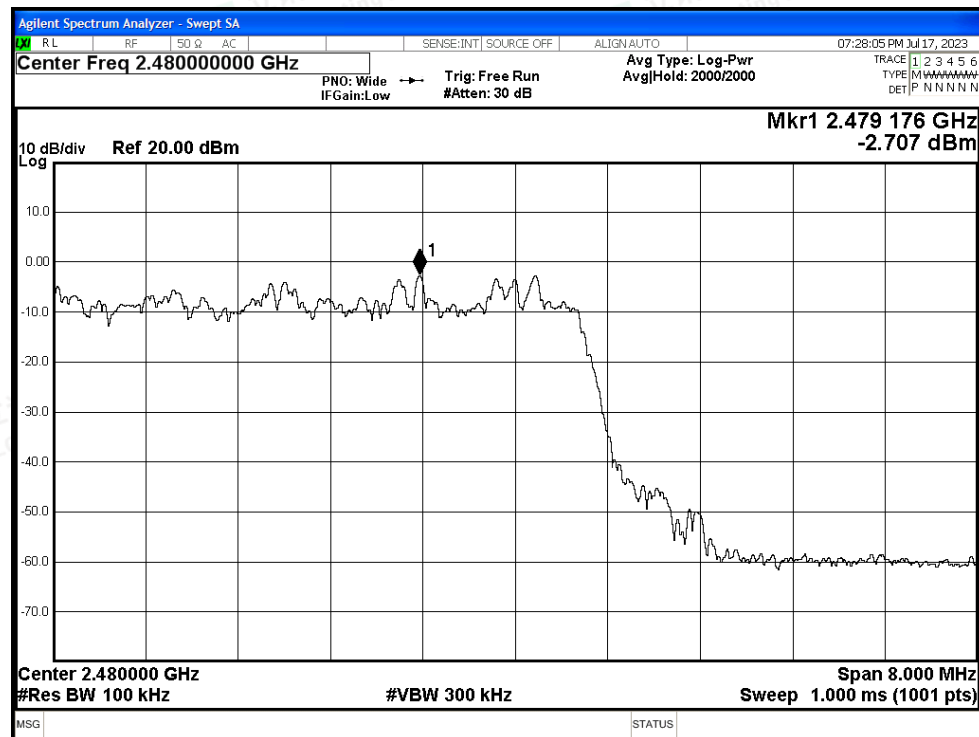
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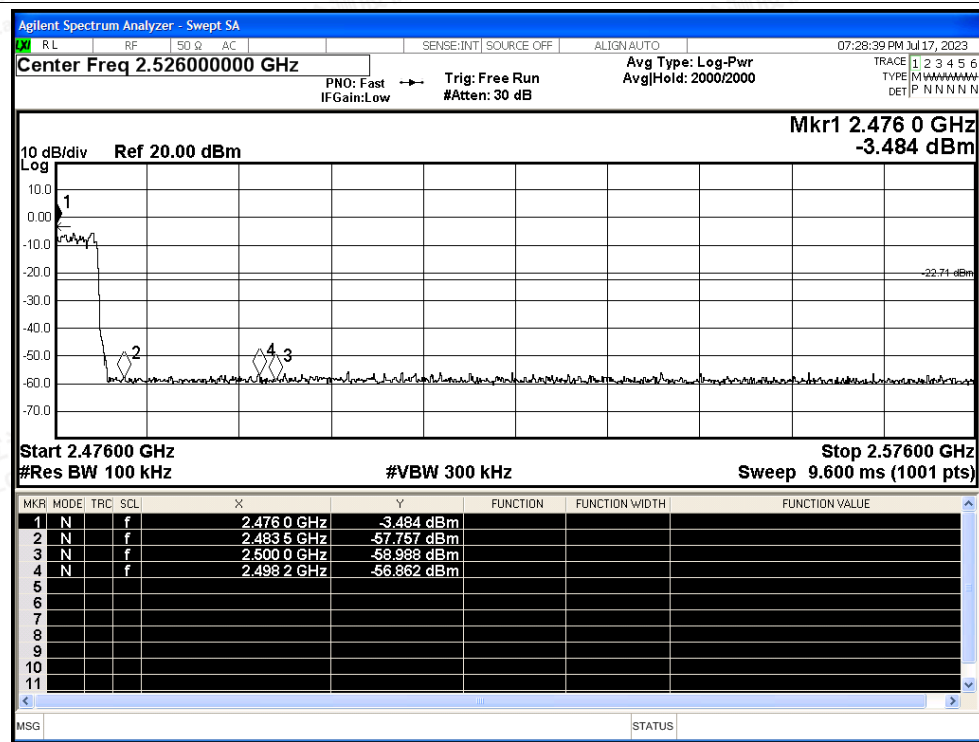




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref

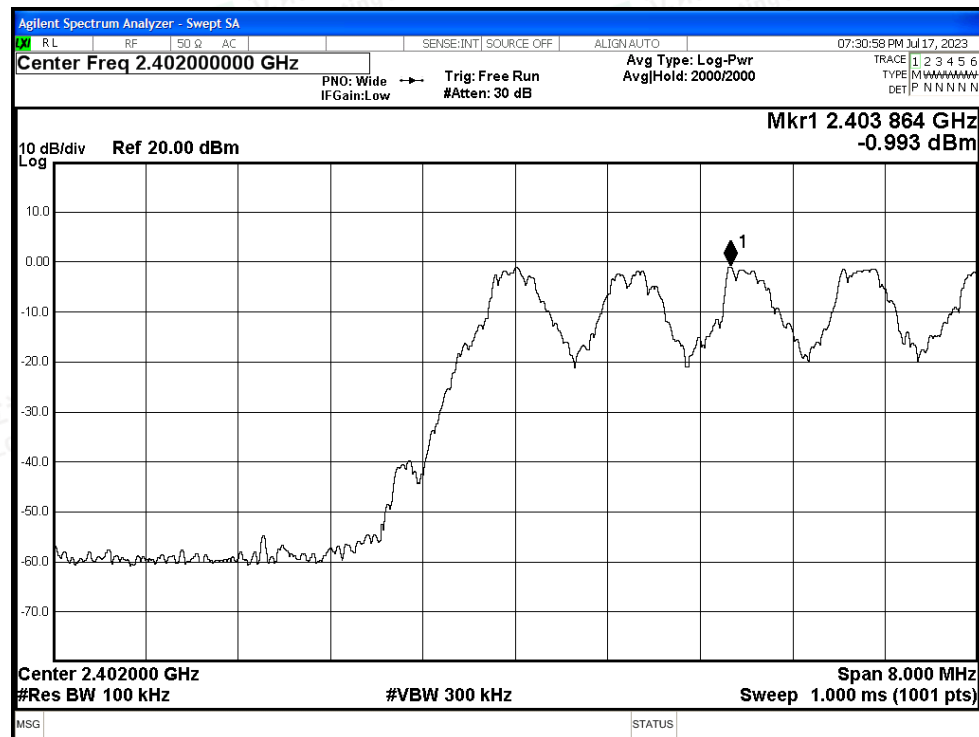


Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Emission

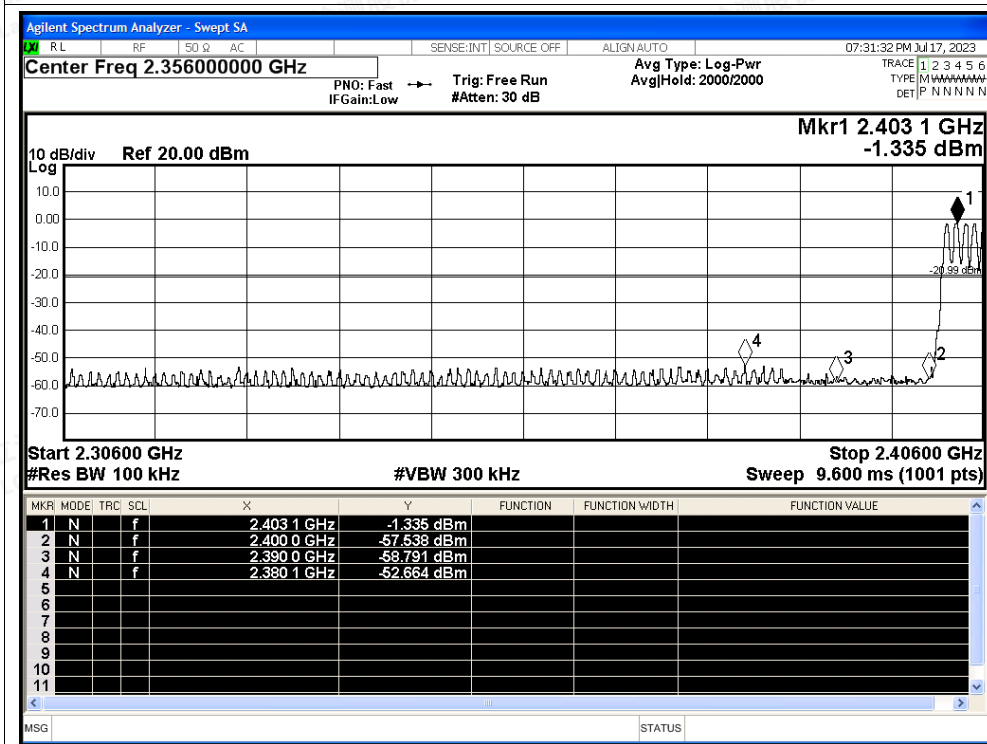


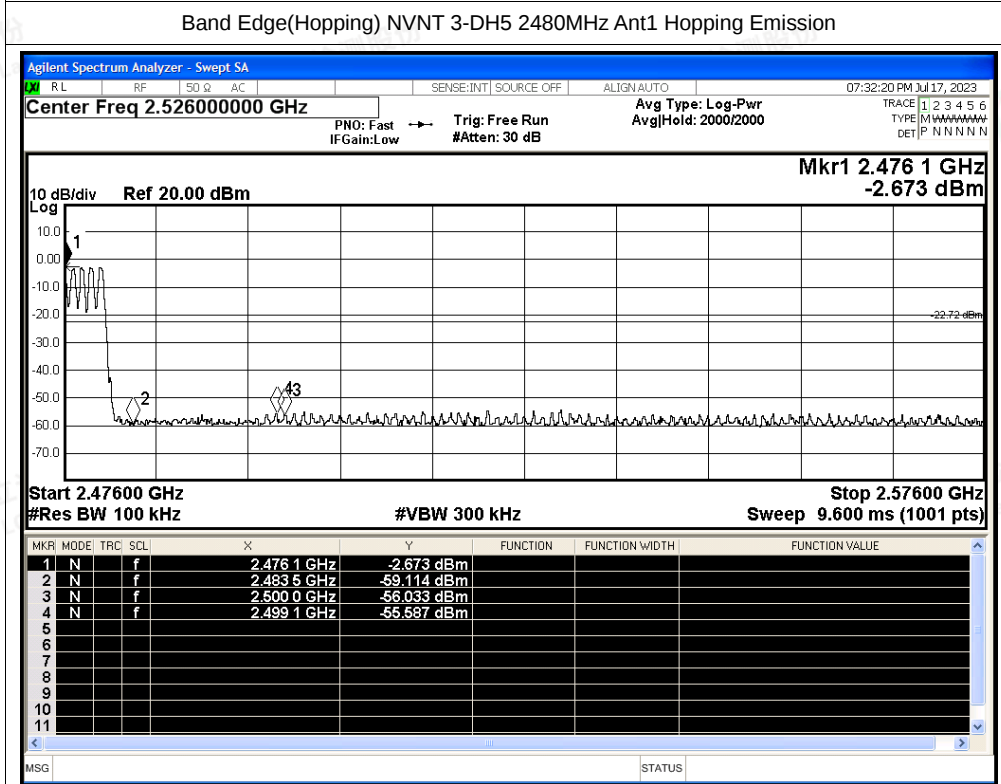
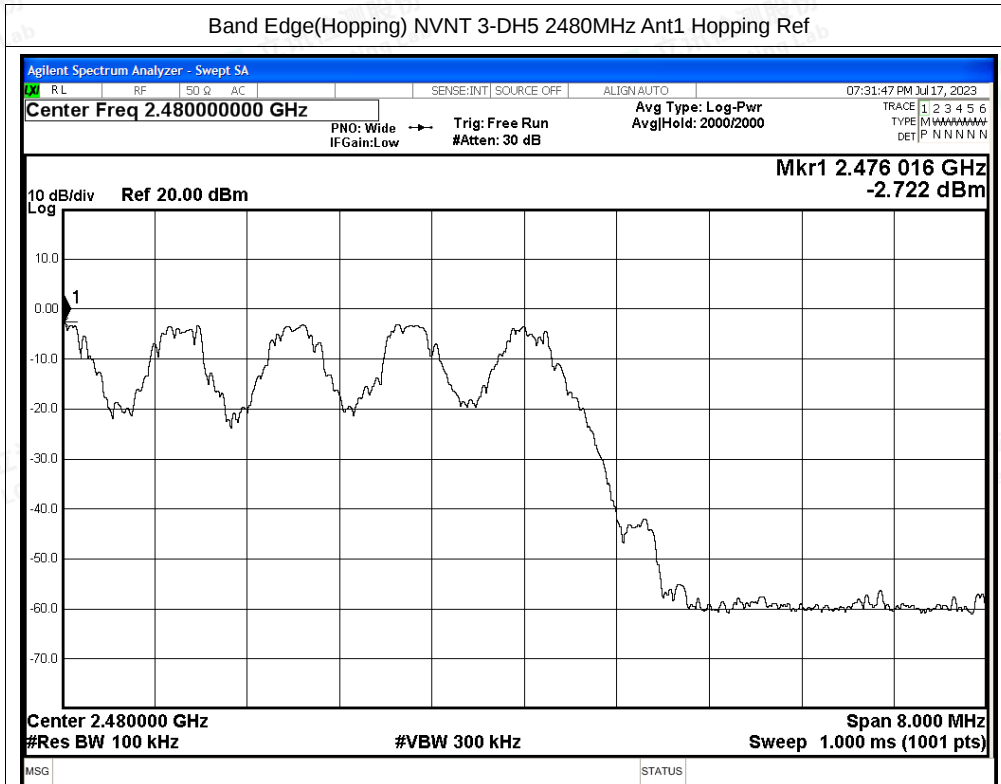


Band Edge(Hopping) NVNT 3-DH5 2402MHz Ant1 Hopping Ref



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







A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-42.31	-20	Pass
NVNT	1-DH5	2441	Ant1	-41.8	-20	Pass
NVNT	1-DH5	2480	Ant1	-38.36	-20	Pass
NVNT	2-DH5	2402	Ant1	-42.57	-20	Pass
NVNT	2-DH5	2441	Ant1	-41.95	-20	Pass
NVNT	2-DH5	2480	Ant1	-41.44	-20	Pass
NVNT	3-DH5	2402	Ant1	-43.05	-20	Pass
NVNT	3-DH5	2441	Ant1	-41.39	-20	Pass
NVNT	3-DH5	2480	Ant1	-44.3	-20	Pass

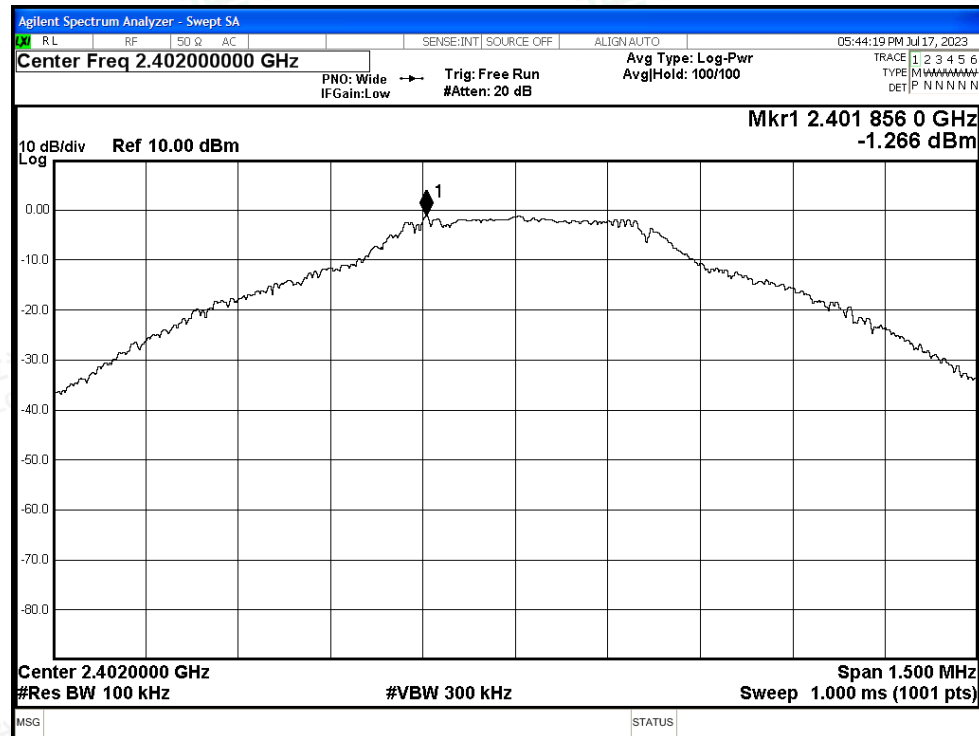


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Scan code to check authenticity

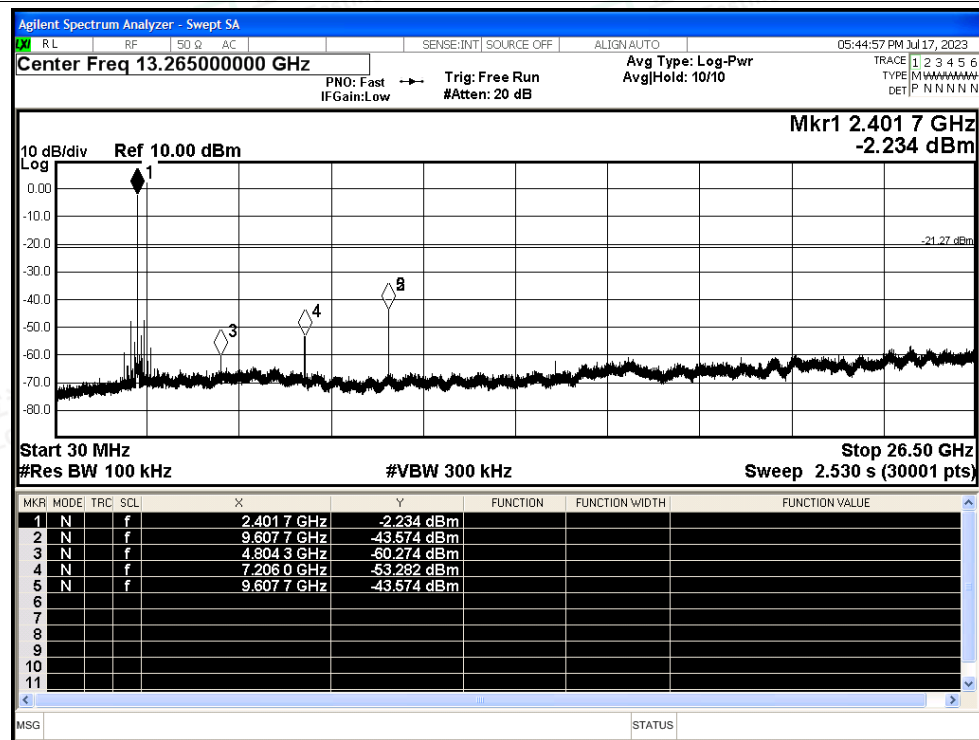


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

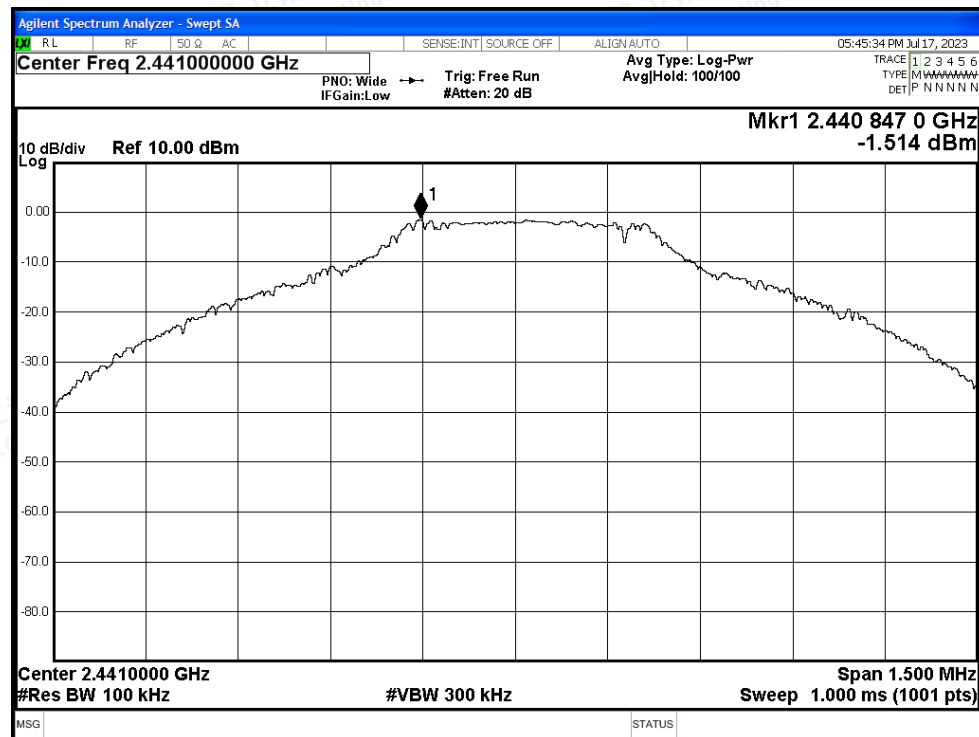


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

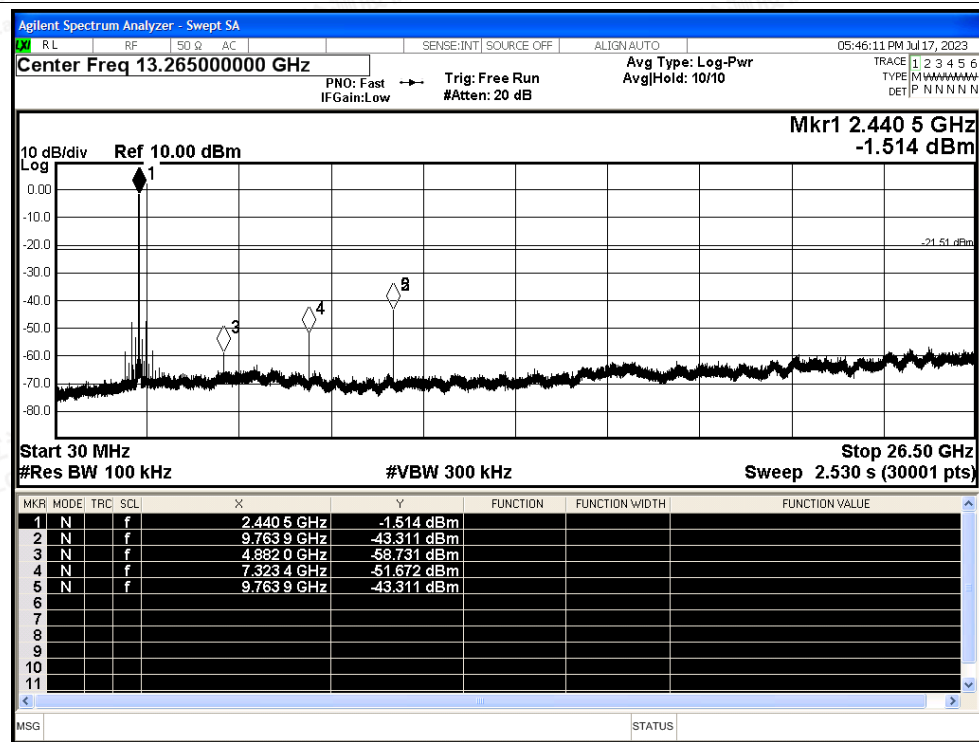




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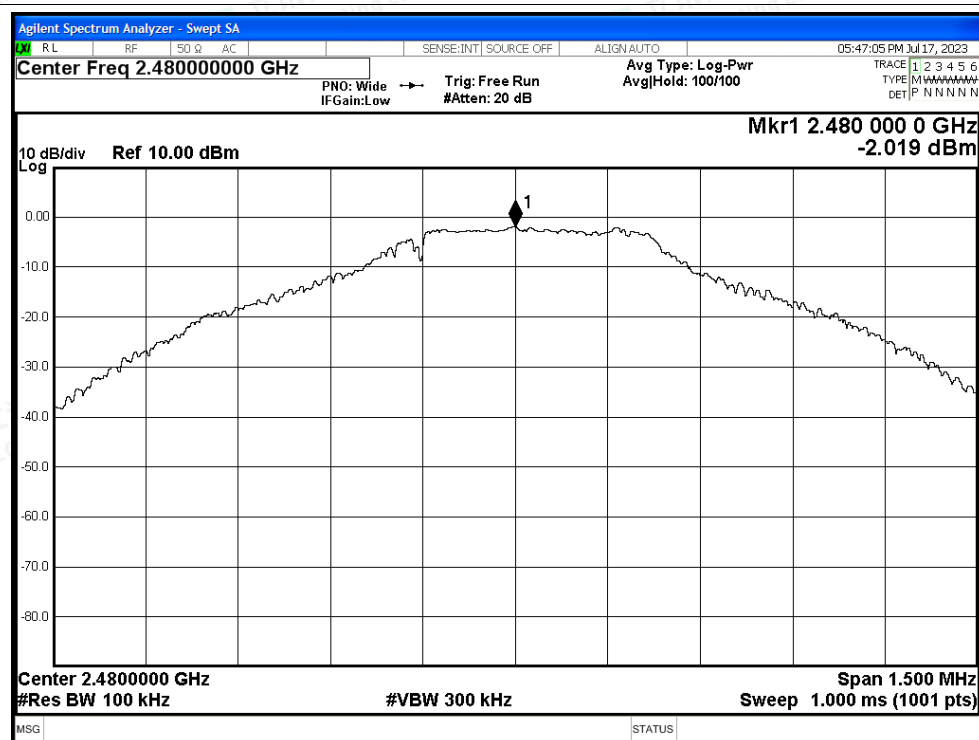


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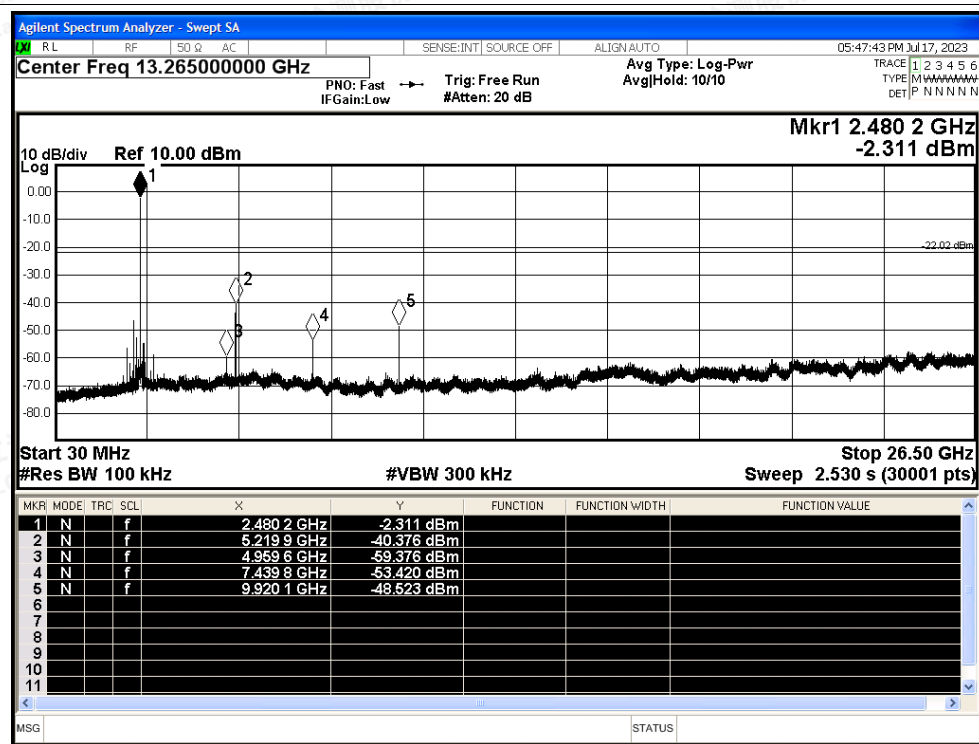




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

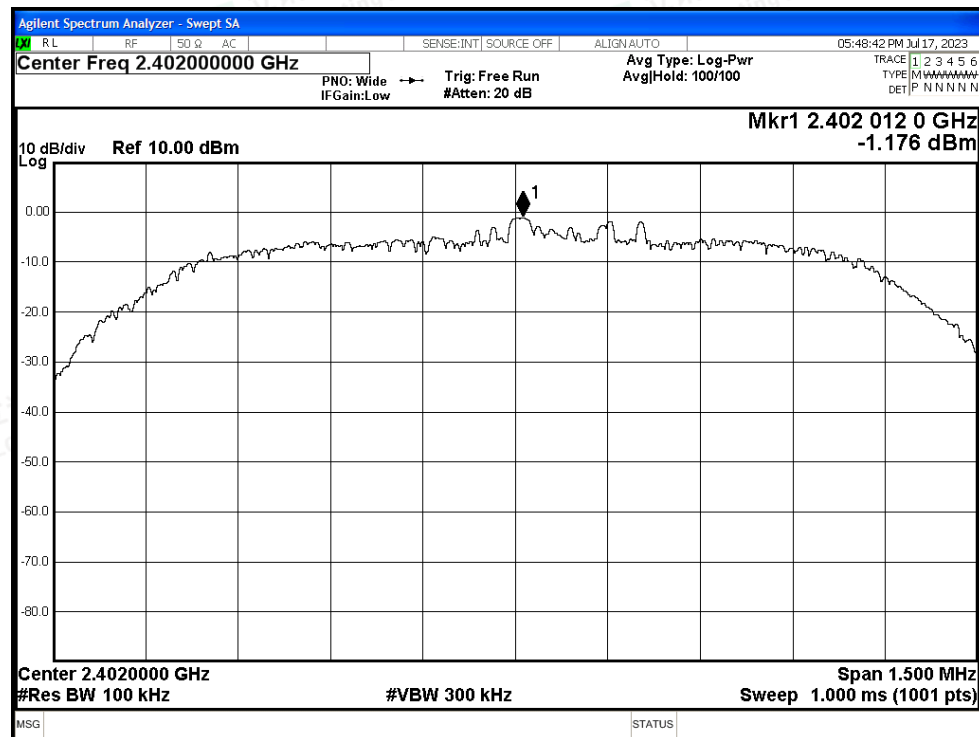


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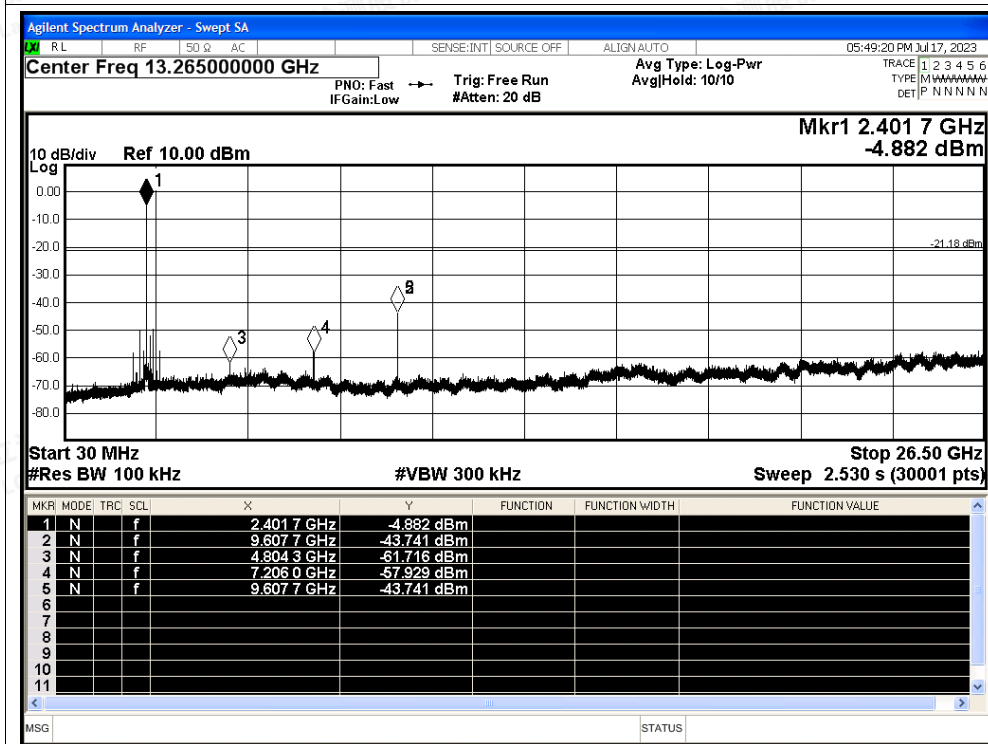




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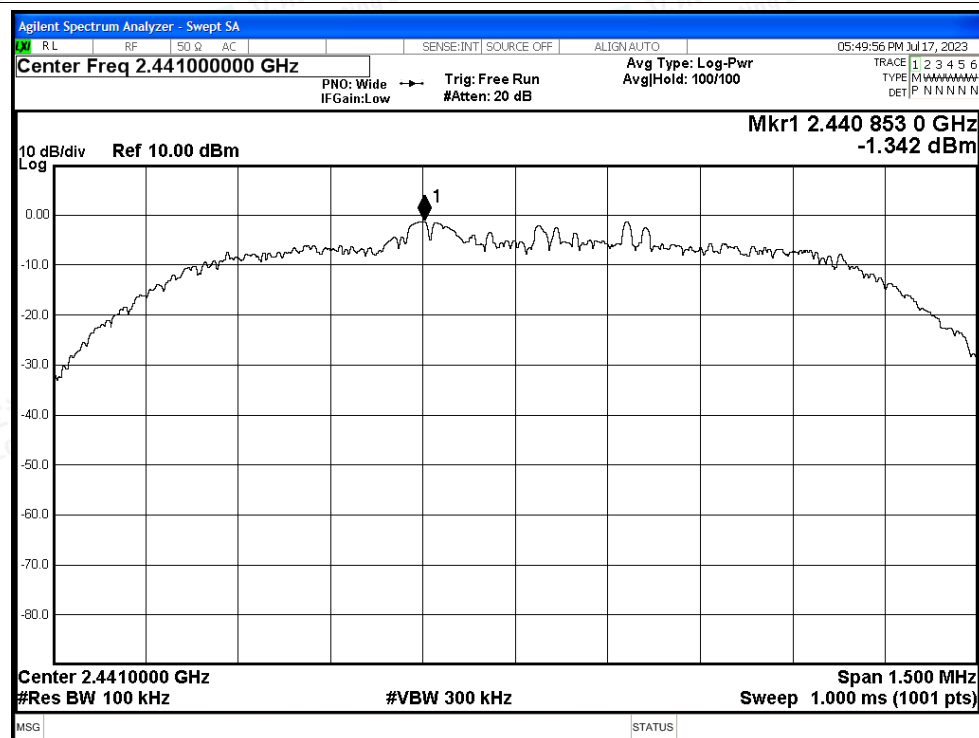


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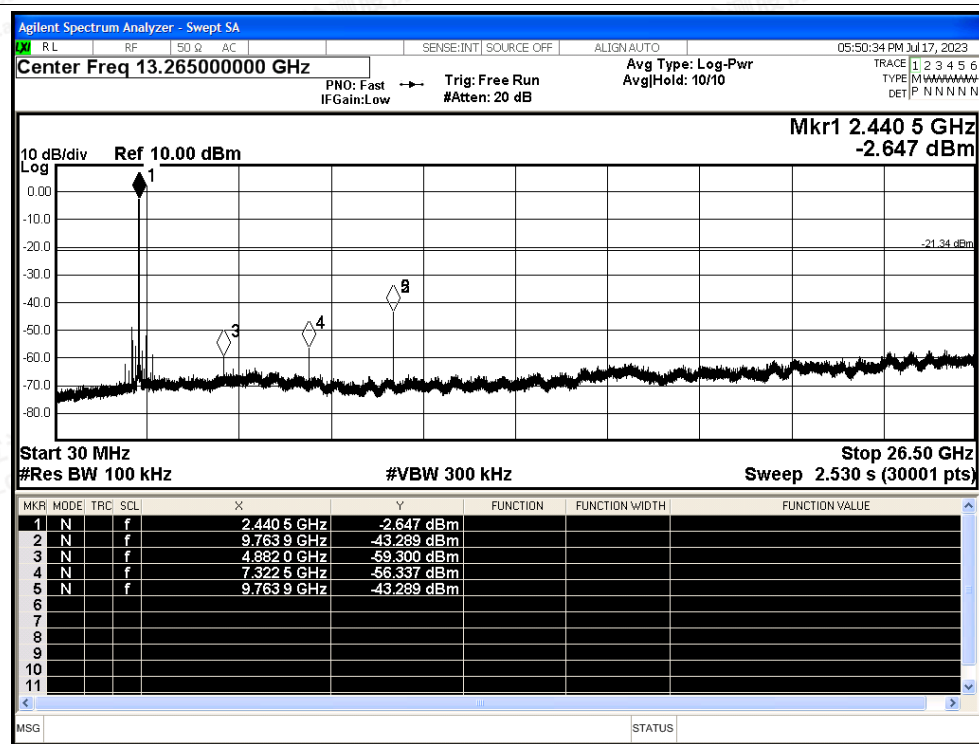




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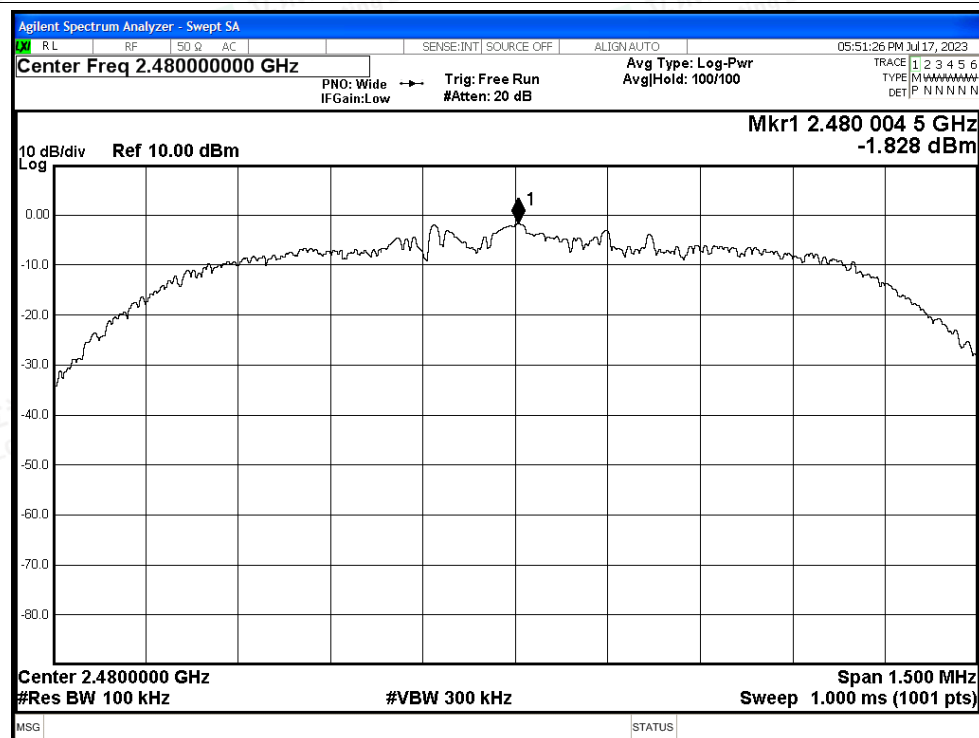


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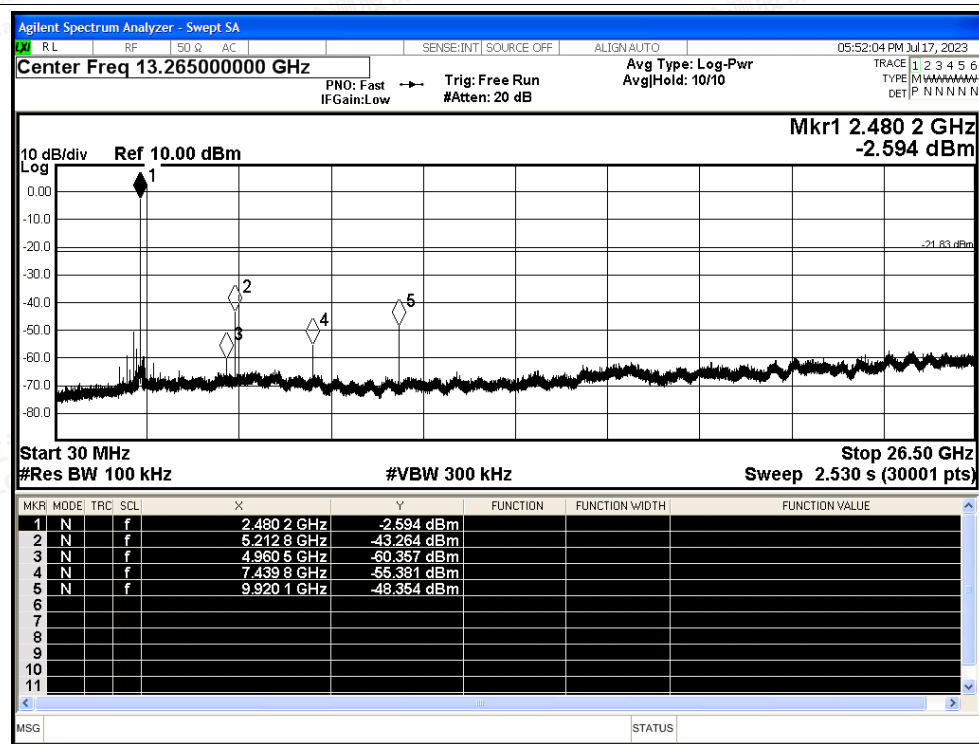




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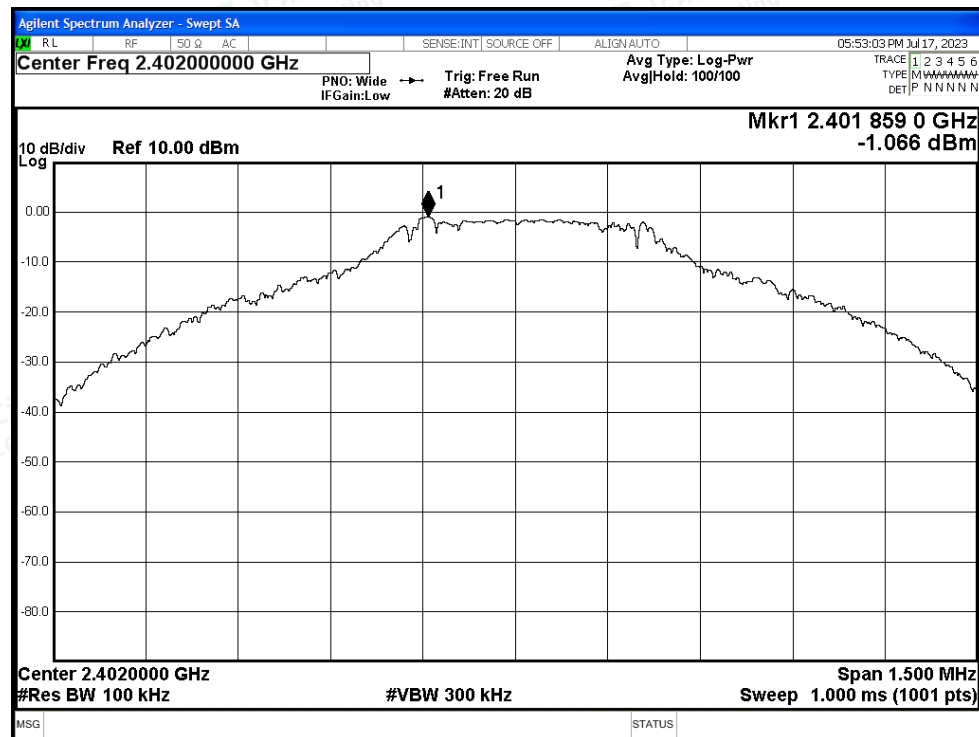


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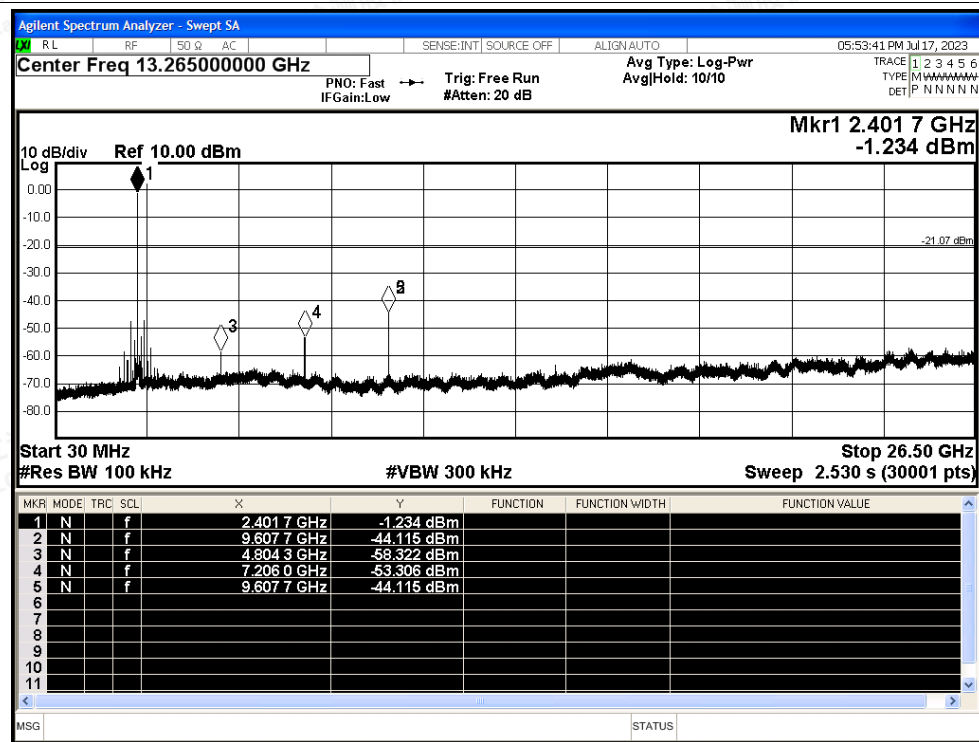




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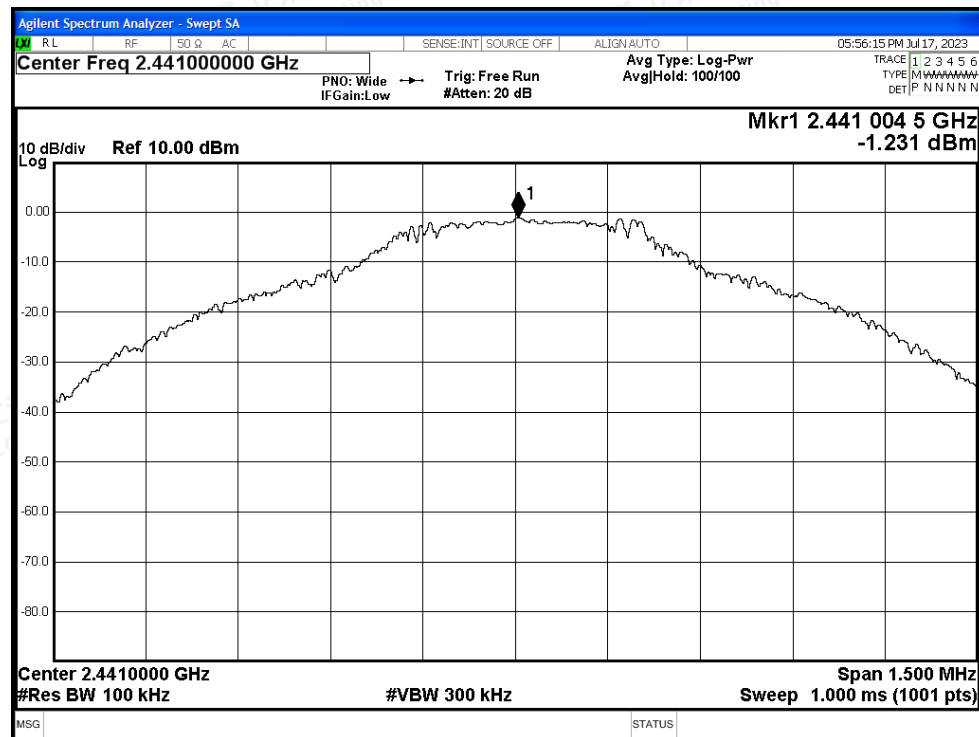


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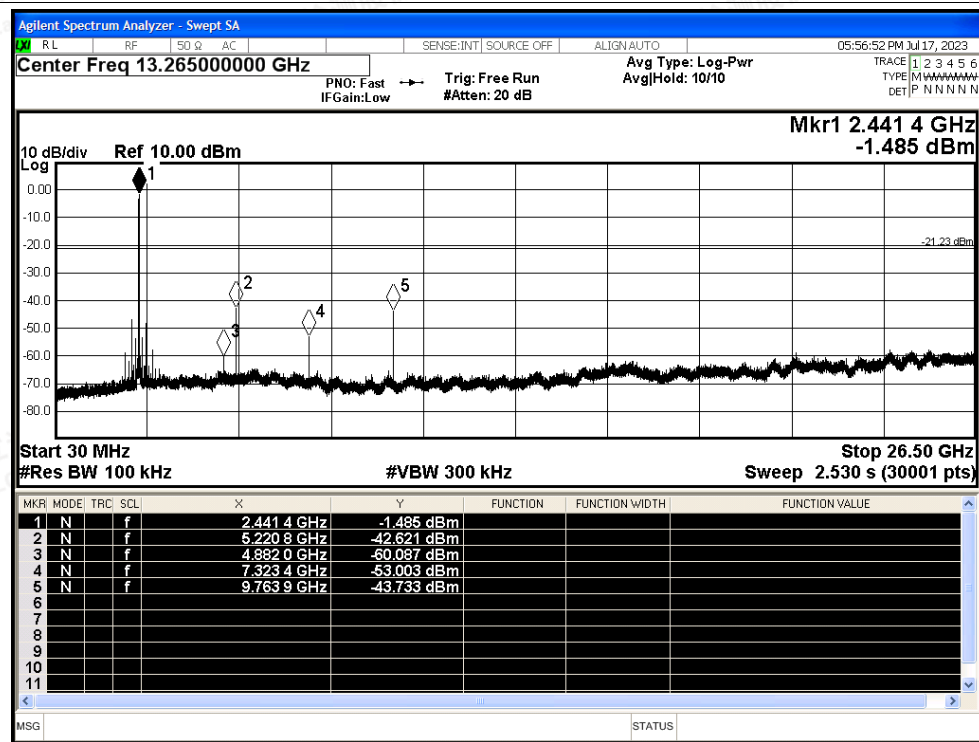




Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Ref

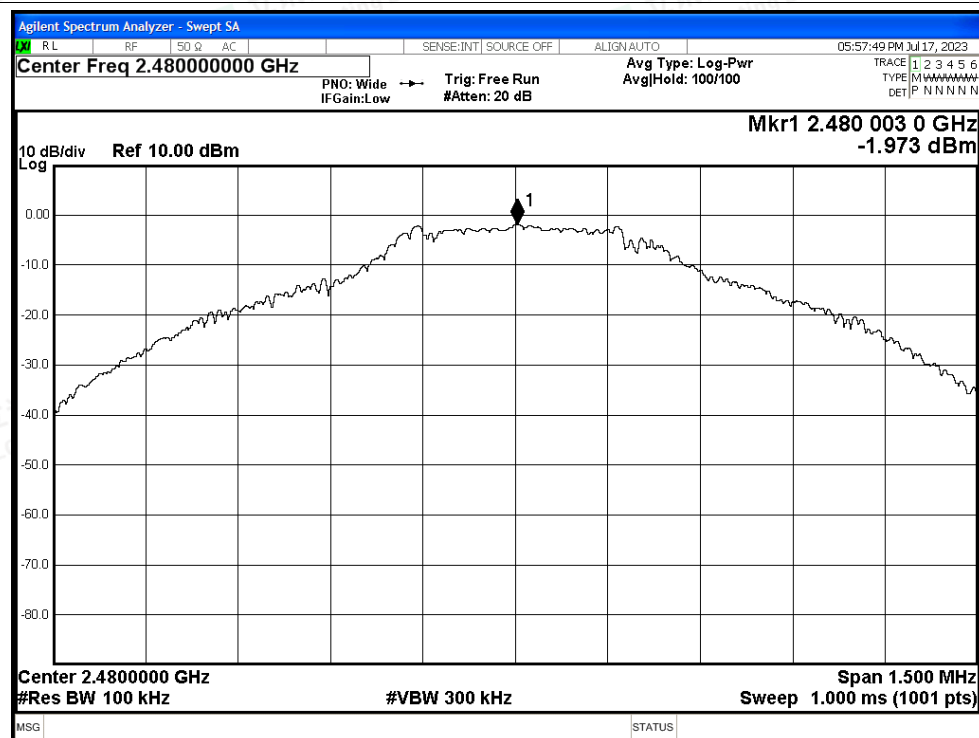


Tx. Spurious NVNT 3-DH5 2441MHz Ant1 Emission

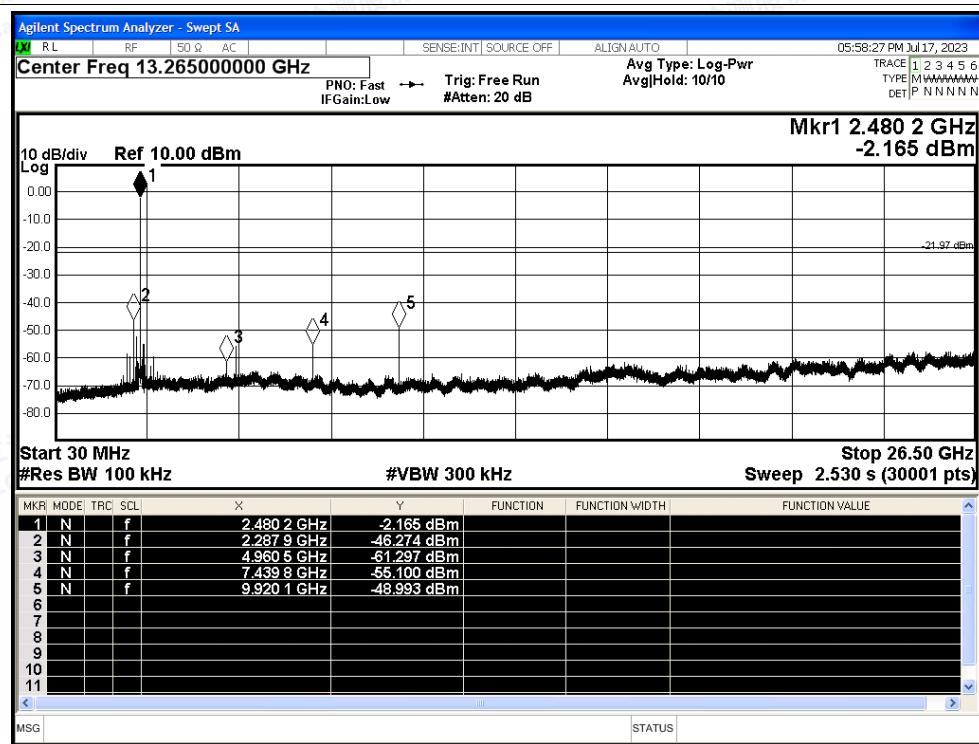




Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 3-DH5 2480MHz Ant1 Emission





A.8 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	-51.66	2	45.6	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-61.99	2	35.27	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2371.056	-47.6	2	49.66	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2354.064	-59.45	2	37.81	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-51.51	2	45.75	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-60.99	2	36.27	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.59	2	46.67	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-60.36	2	36.9	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.016	-47.87	2	49.39	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-60.36	2	36.9	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.15	2	47.11	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-60.77	2	36.49	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-51.05	2	46.21	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-61.99	2	35.27	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2384.112	-47.93	2	49.33	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2354.16	-60.01	2	37.25	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-51.02	2	46.24	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-61.02	2	36.24	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-51.02	2	46.24	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-60.4	2	36.86	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.608	-47.22	2	50.04	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.512	-60.4	2	36.86	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.21	2	47.05	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-60.78	2	36.48	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-51.29	2	45.97	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2310	-62.01	2	35.25	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2359.248	-47.01	2	50.25	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2354.064	-59.42	2	37.84	Average	54	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-51.68	2	45.58	Peak	74	Pass
NVNT	3-DH5	2402	Ant1	No-Hopping	2390	-60.97	2	36.29	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-49.89	2	47.37	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.5	-60.54	2	36.72	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2487.184	-47.25	2	50.01	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2483.512	-60.54	2	36.72	Average	54	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-50.74	2	46.52	Peak	74	Pass
NVNT	3-DH5	2480	Ant1	No-Hopping	2500	-60.68	2	36.58	Average	54	Pass

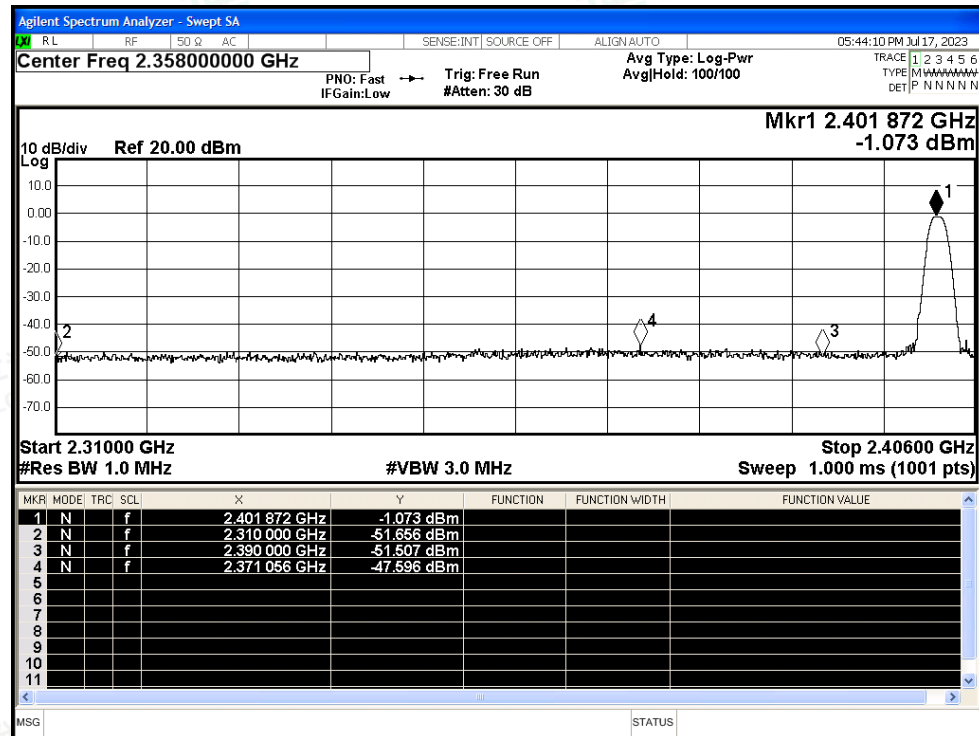


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Test Graphs

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



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

