



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: smart watch

Test Model: TB39

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jerry Chu
Supervised by:	Nick Peng



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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	0.984	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.972	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.992	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.287	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.286	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.312	N/A	Pass

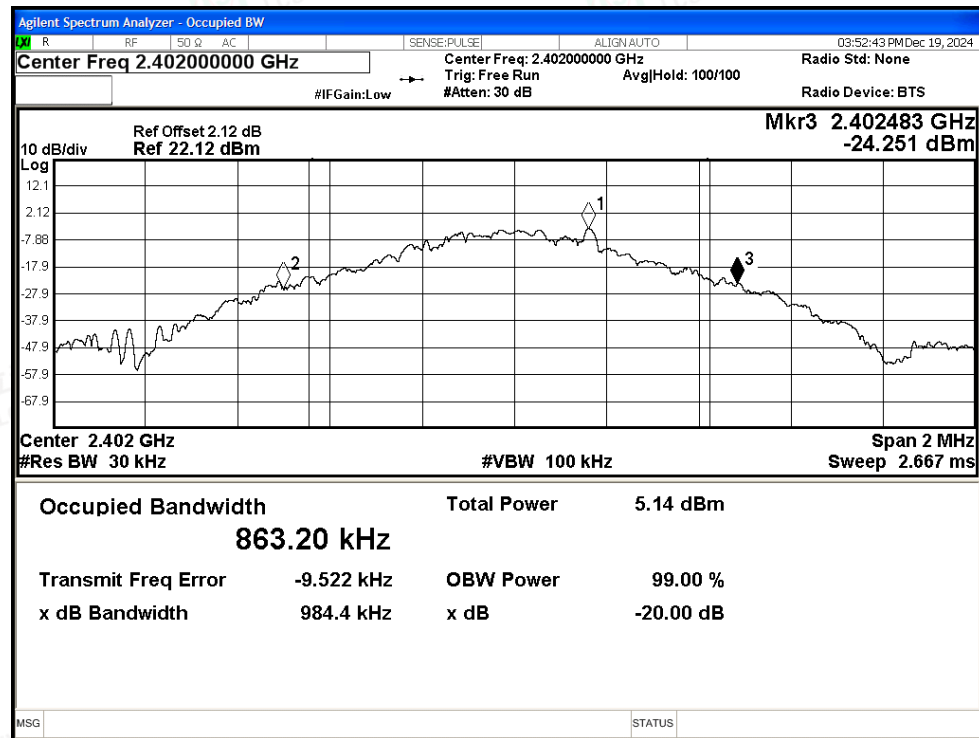


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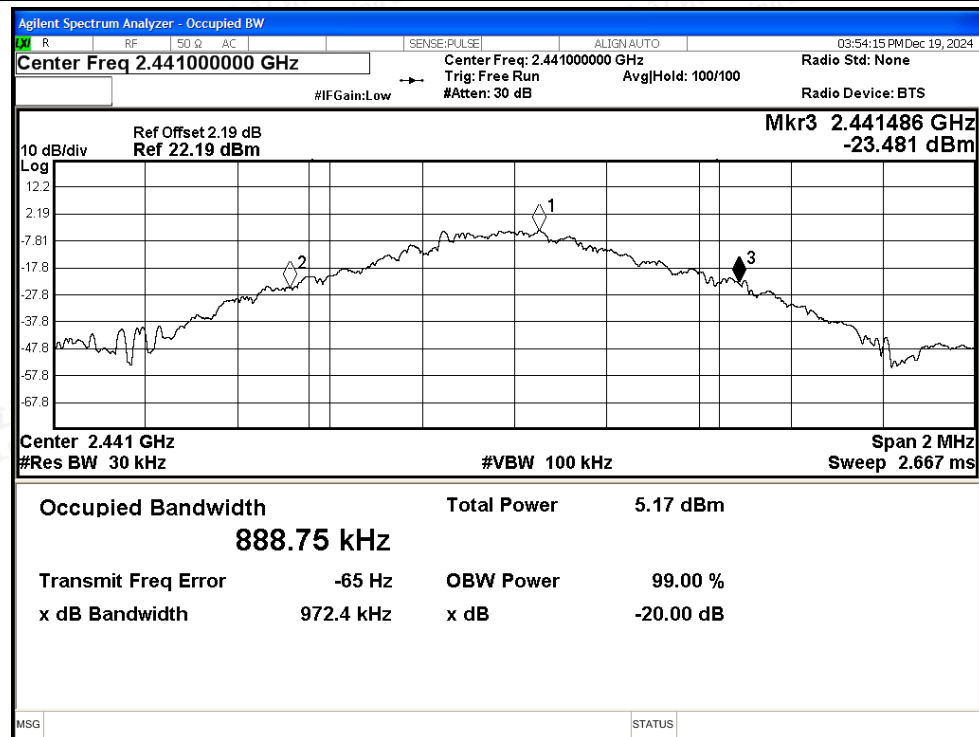


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



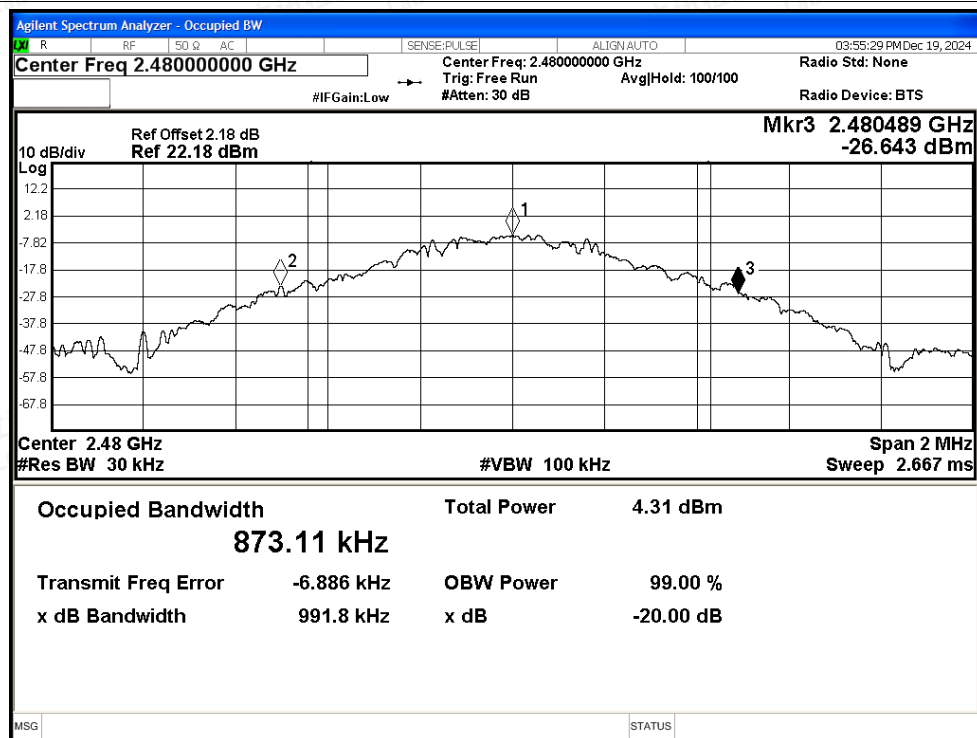
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



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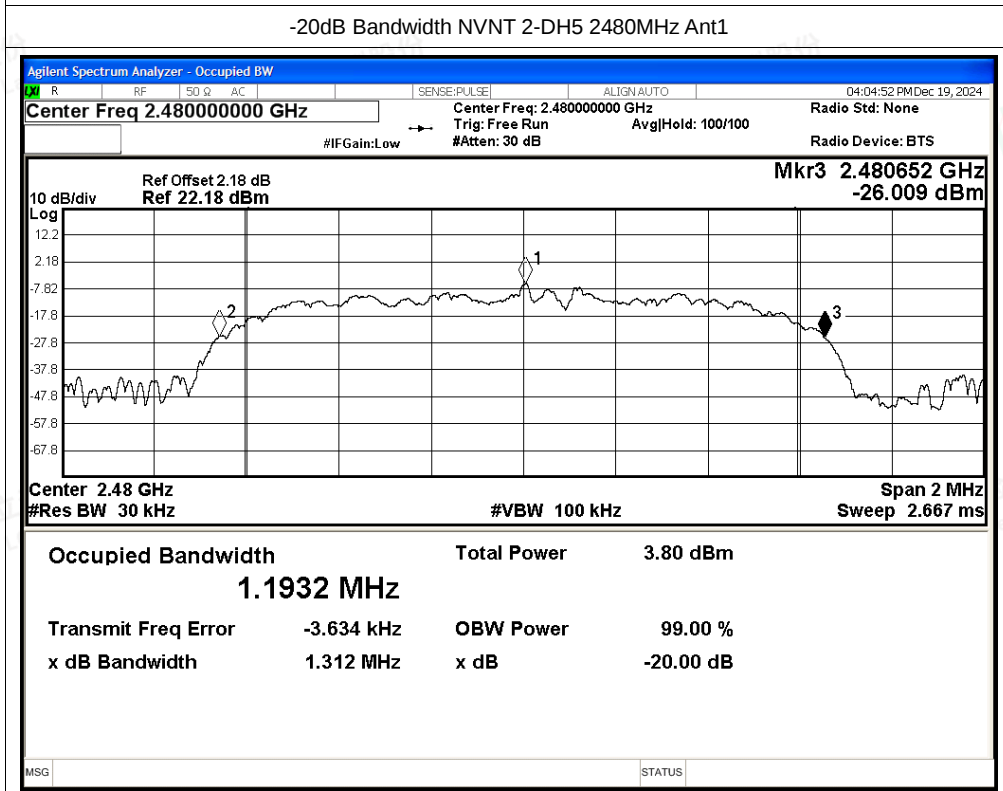
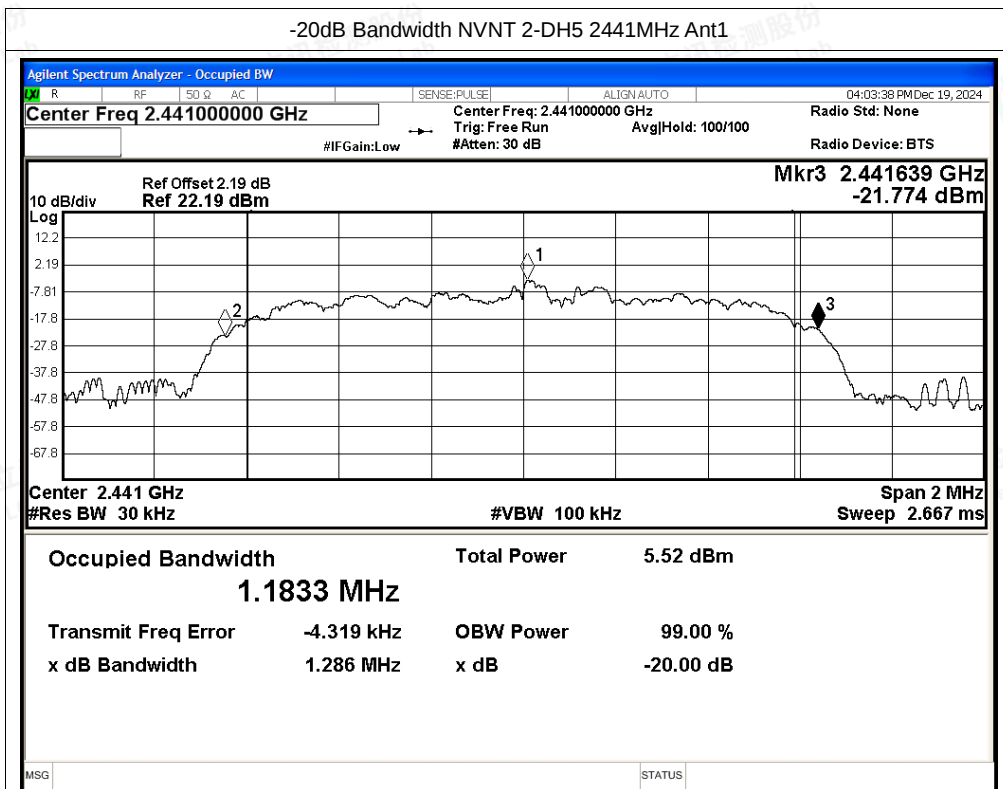


-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1







A.2 Maximum Peak Conducted Output Power

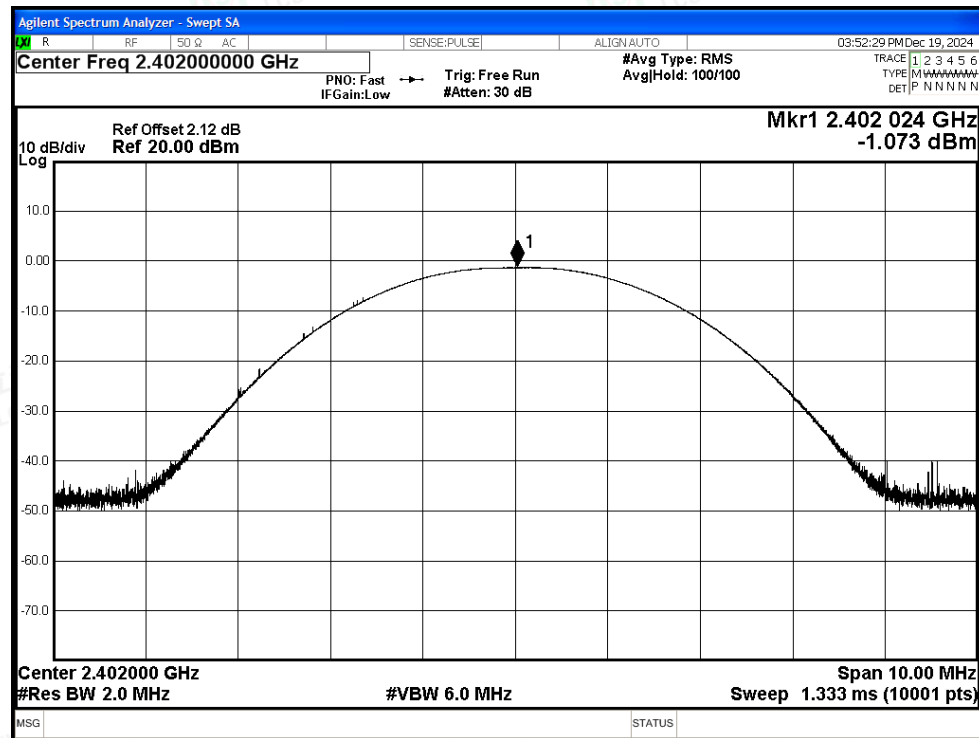
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.07	21	Pass
NVNT	1-DH5	2441	Ant1	-0.83	21	Pass
NVNT	1-DH5	2480	Ant1	-1.84	21	Pass
NVNT	2-DH5	2402	Ant1	0.8	21	Pass
NVNT	2-DH5	2441	Ant1	1.05	21	Pass
NVNT	2-DH5	2480	Ant1	-0.21	21	Pass



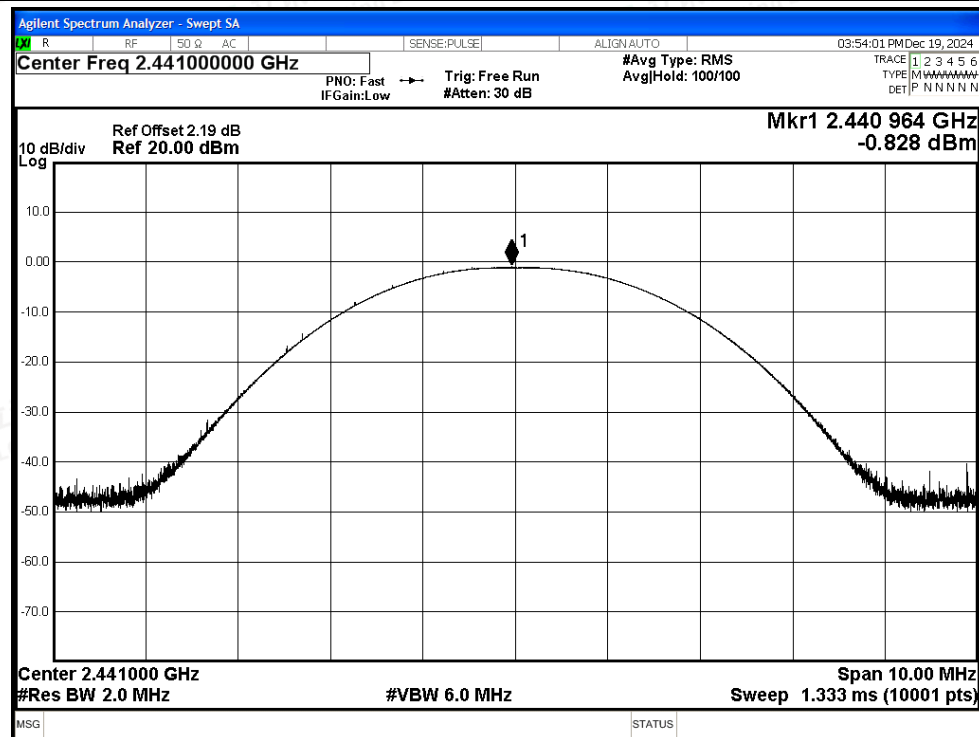


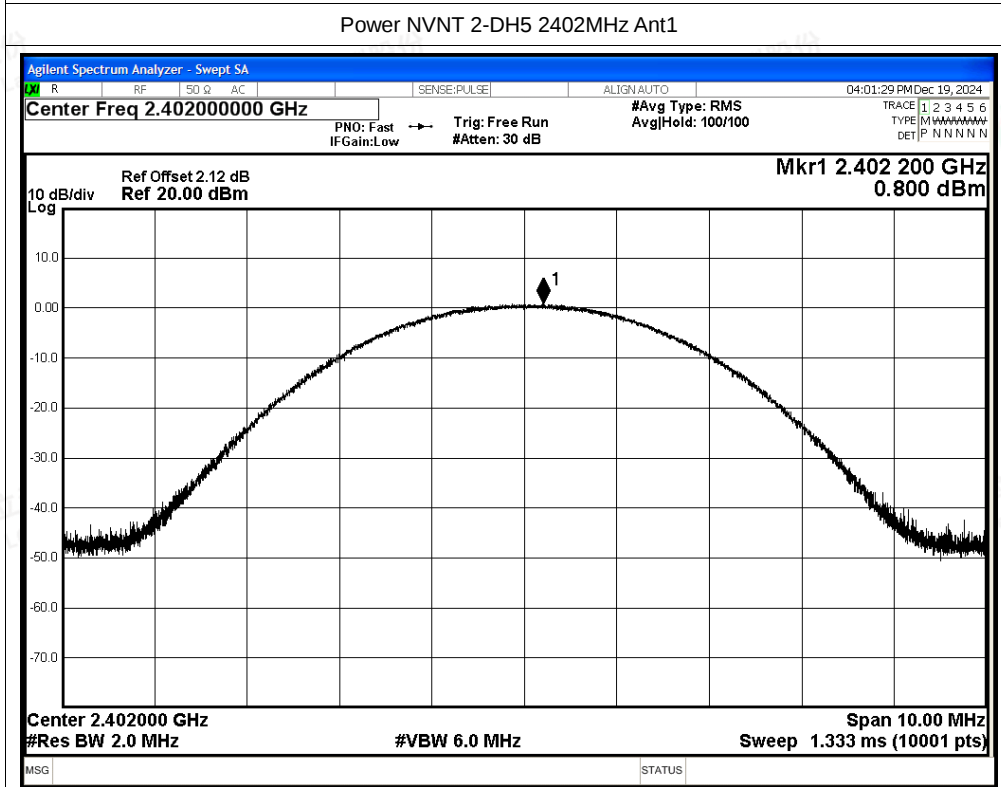
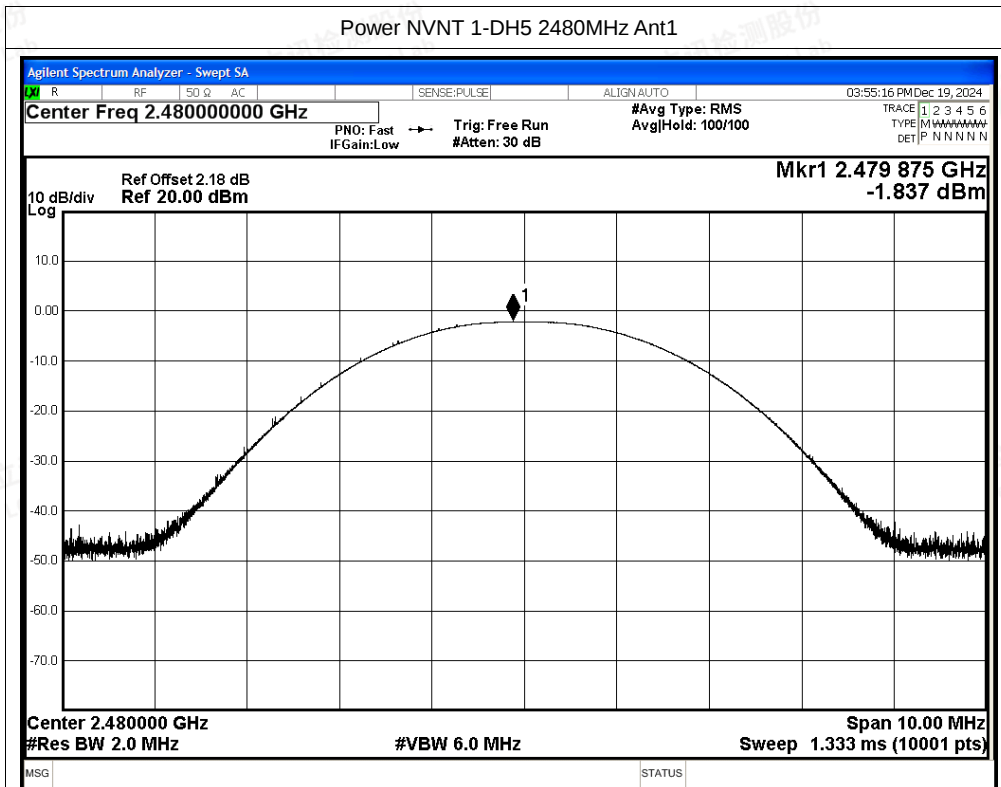
Test Graphs

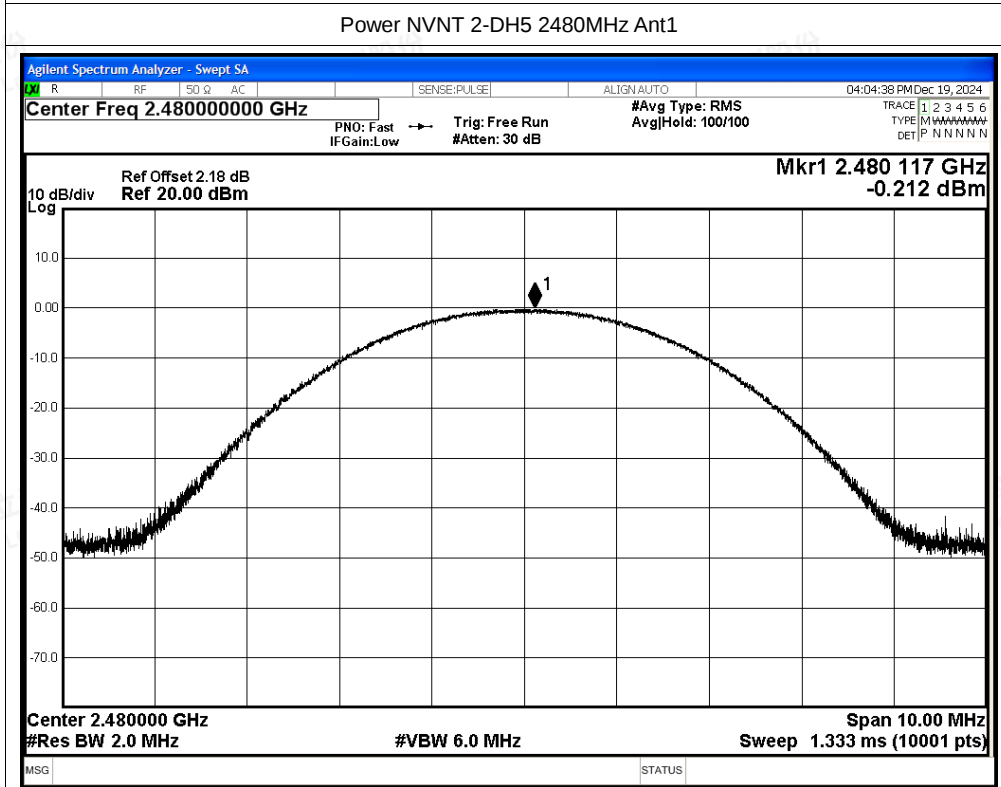
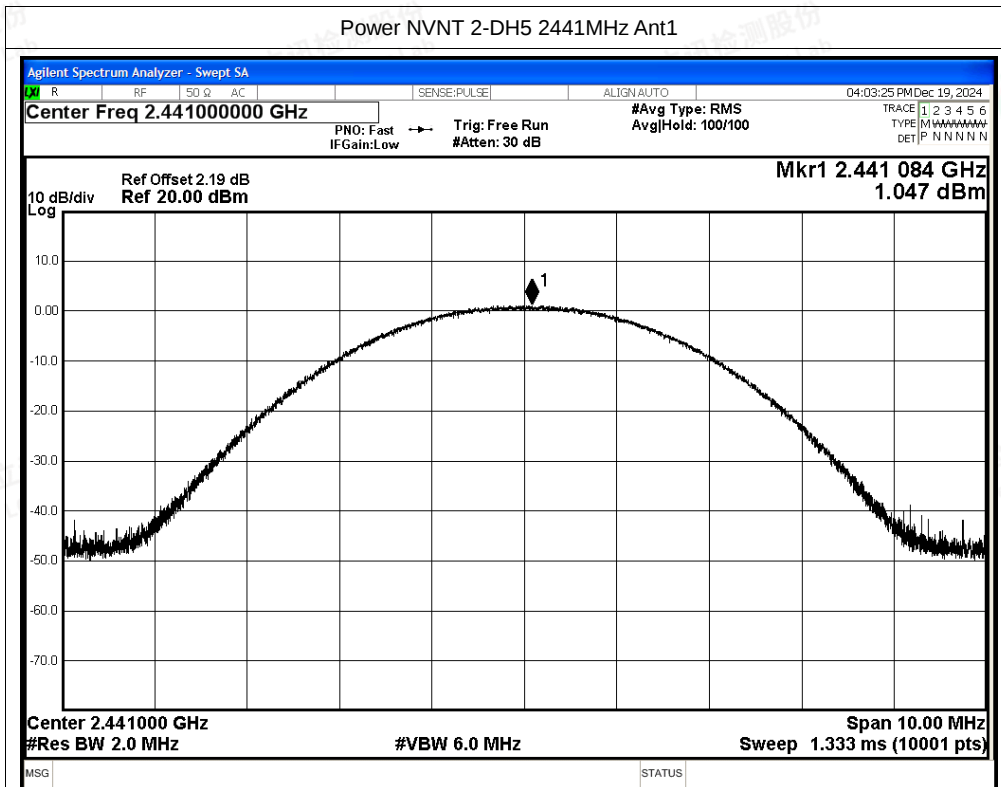
Power NVNT 1-DH5 2402MHz Ant1



Power NVNT 1-DH5 2441MHz Ant1









A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.97	2402.972	1.002	0.661	Pass
NVNT	2-DH5	Ant1	2402.028	2403.004	0.976	0.875	Pass

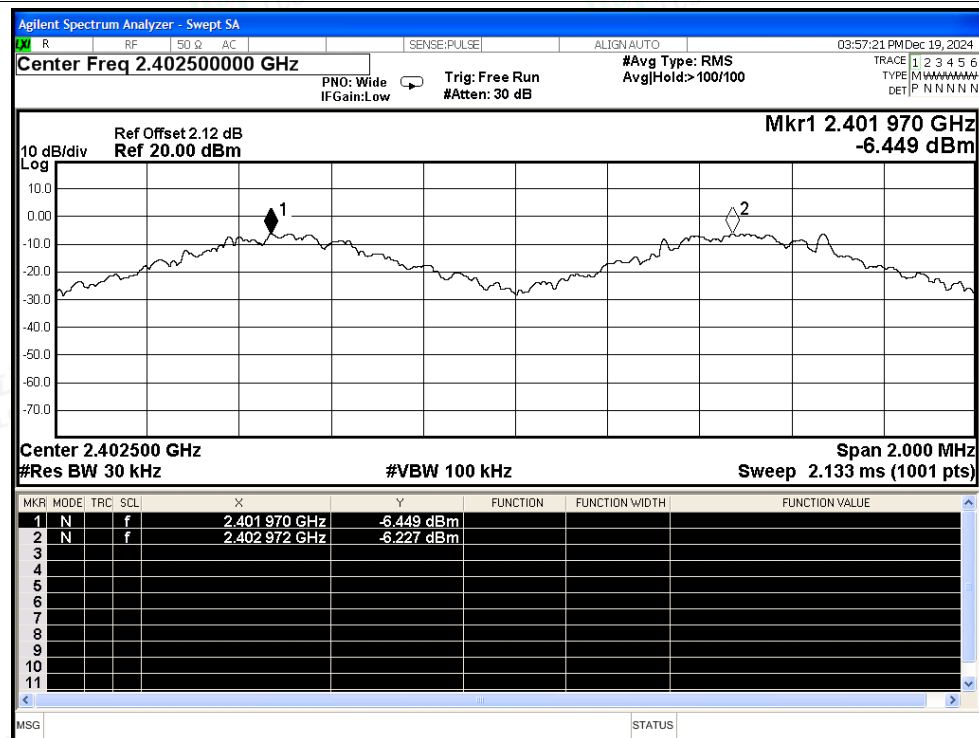


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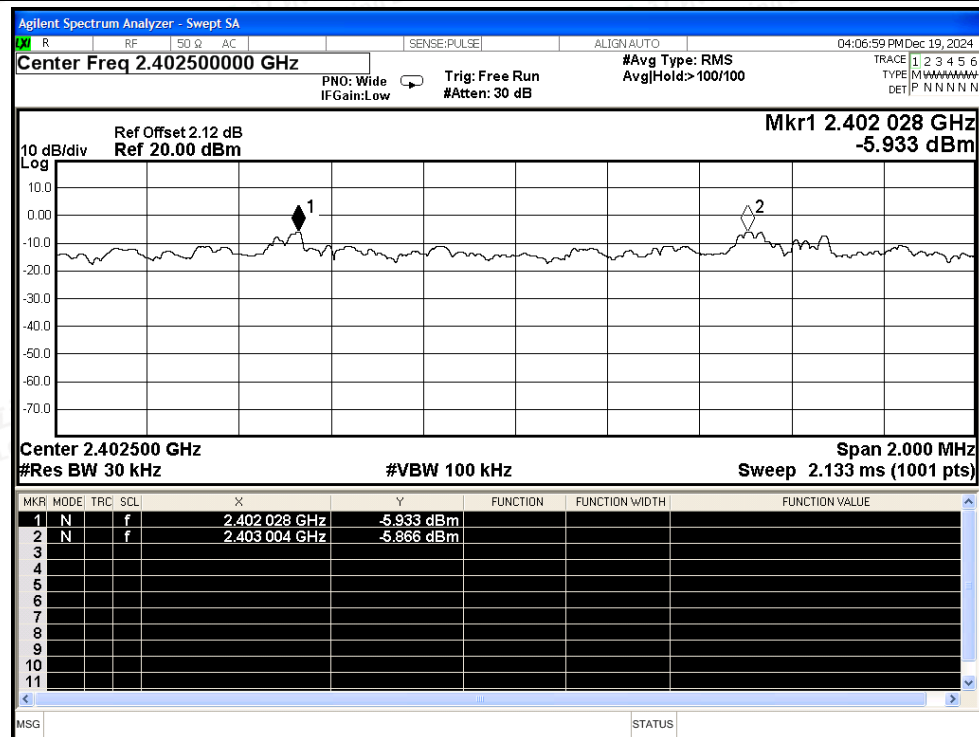


Test Graphs

CFS NVNT 1-DH5 2402MHz Ant1



CFS NVNT 2-DH5 2402MHz Ant1





A.4 Dwell Time

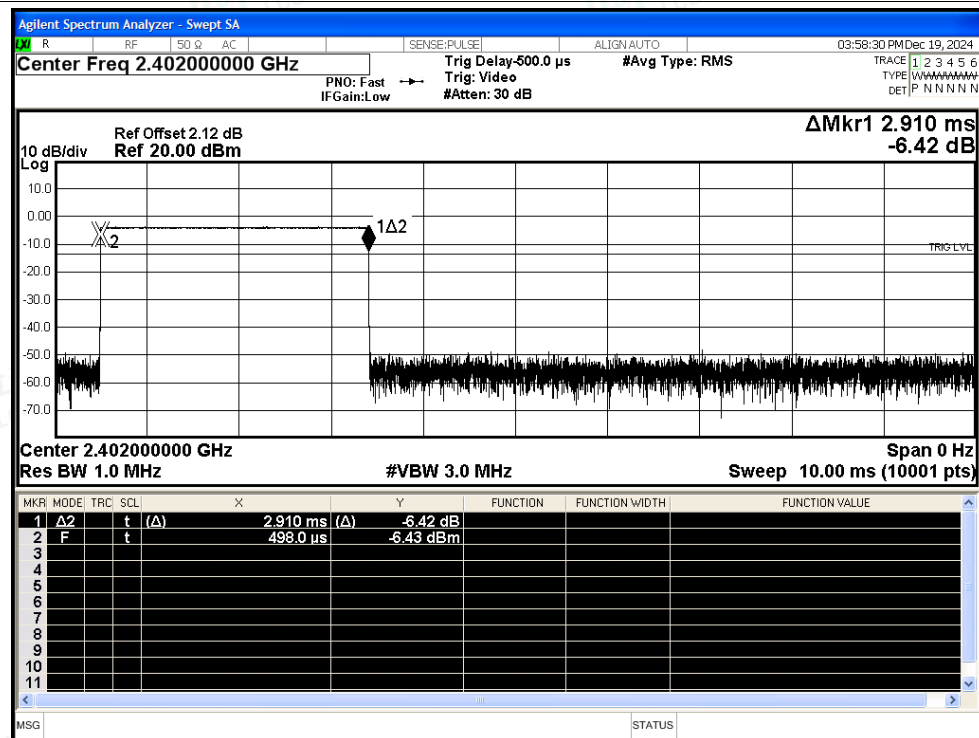
Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	1-DH5	2402	Ant1	2.91	291	100	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.899	310.193	107	31600	400	Pass



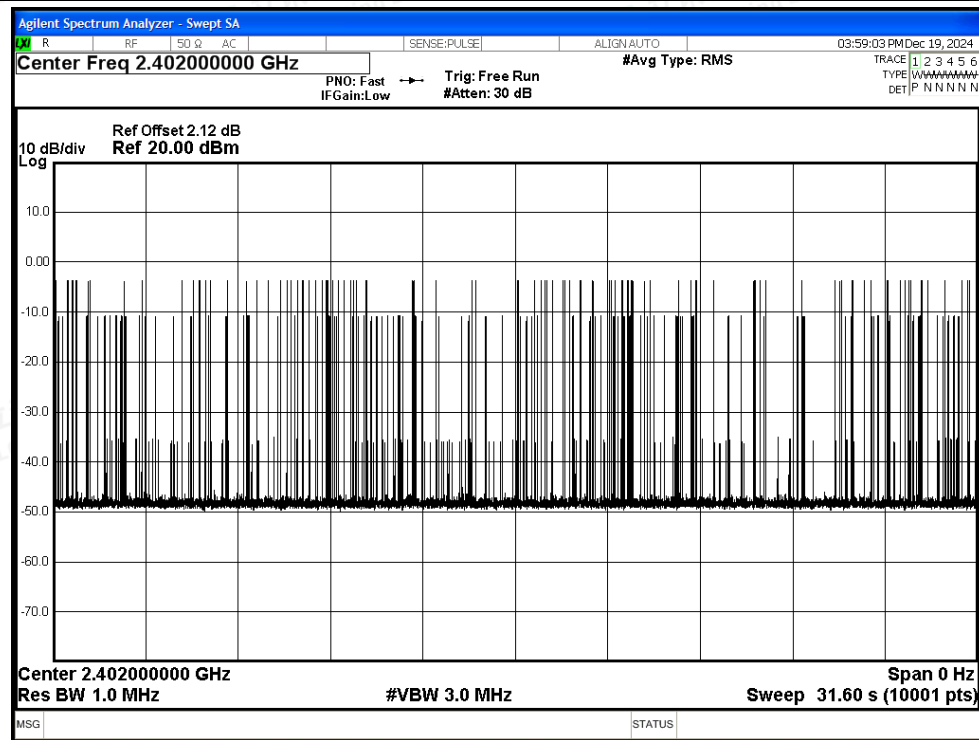


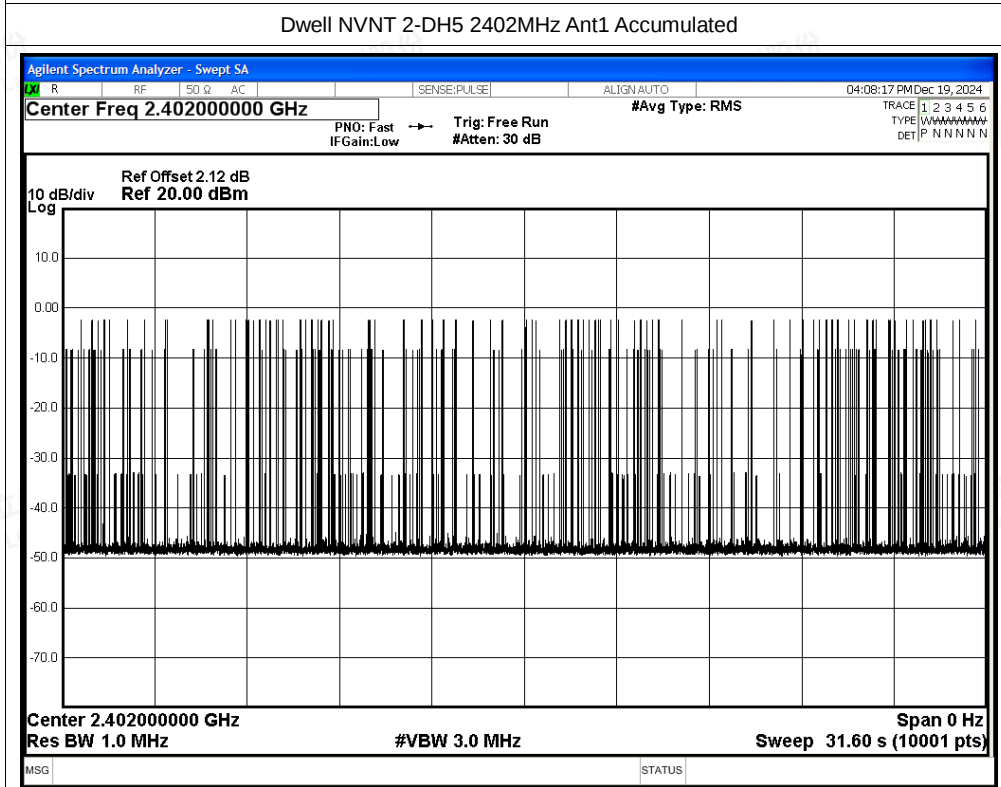
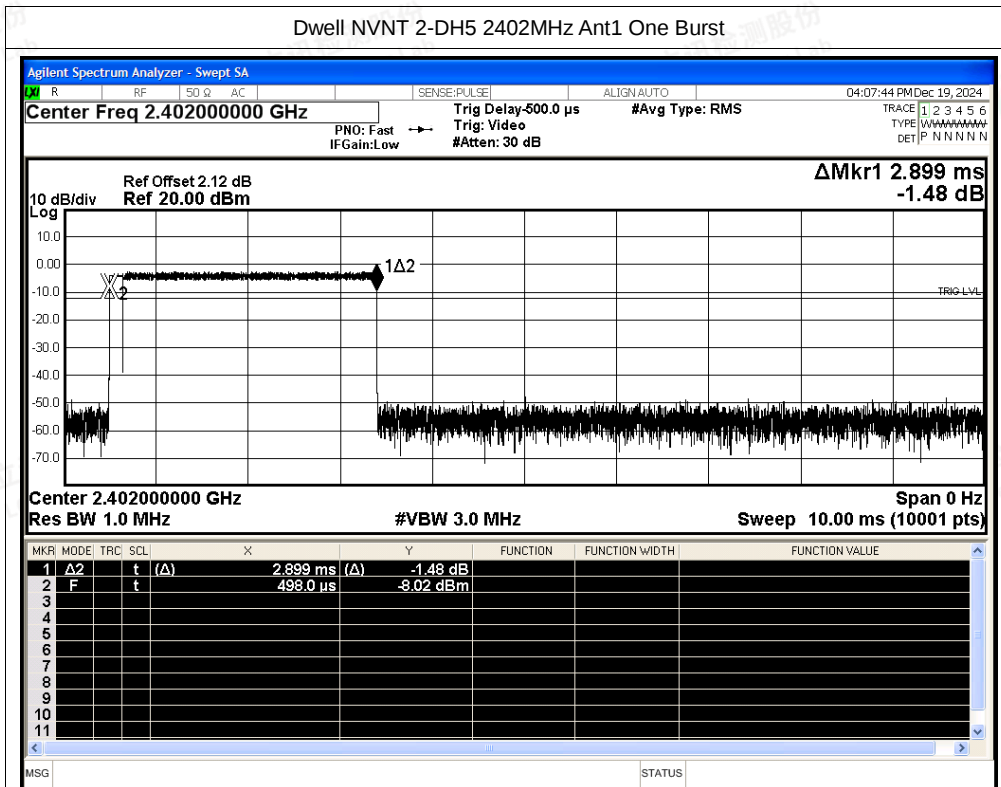
Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



Dwell NVNT 1-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

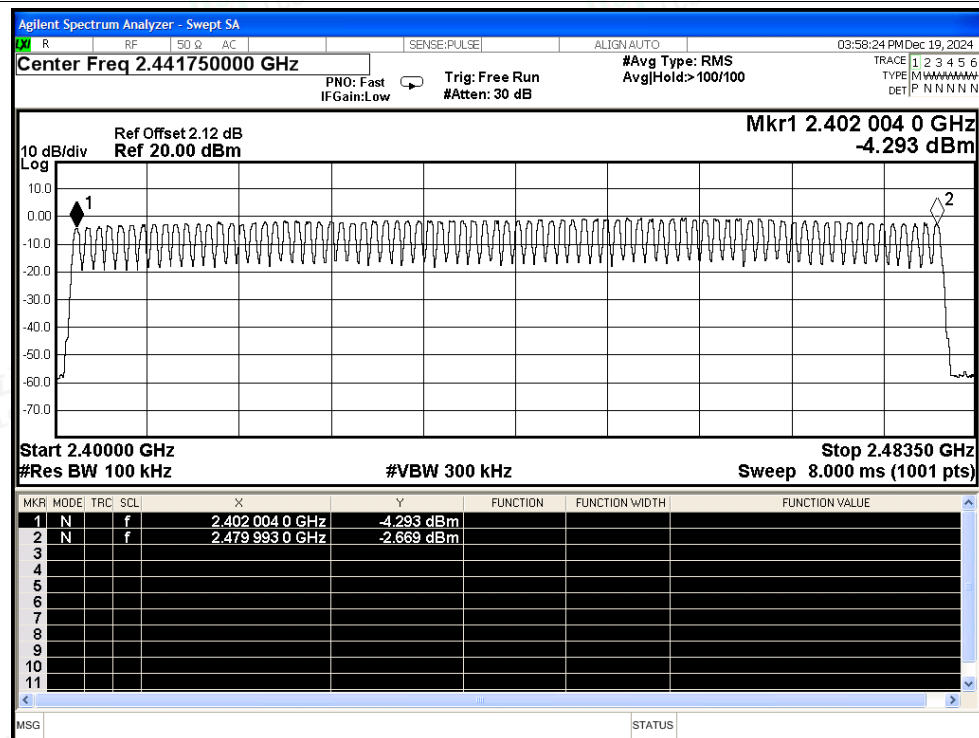


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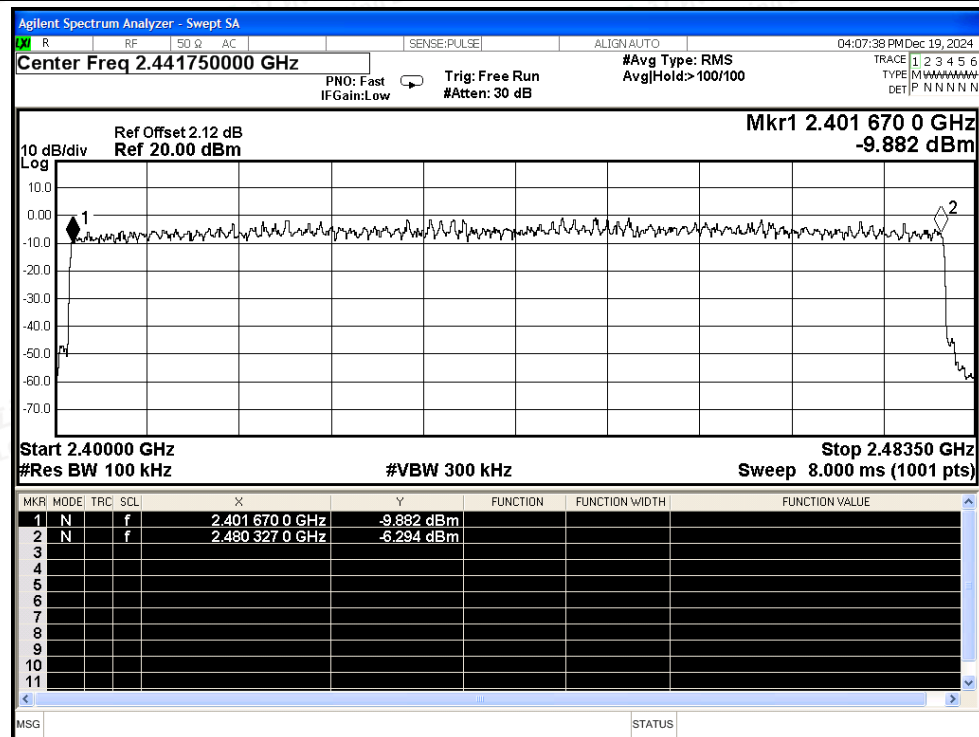


Test Graphs

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	-55.2	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.12	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-49.9	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-53.64	-20	Pass

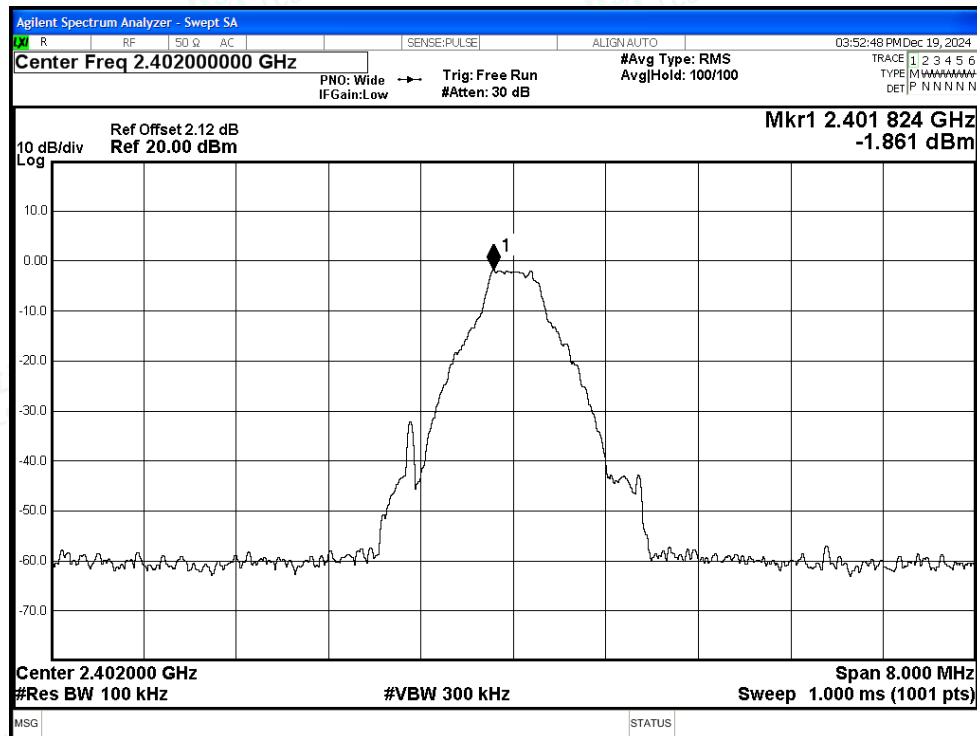


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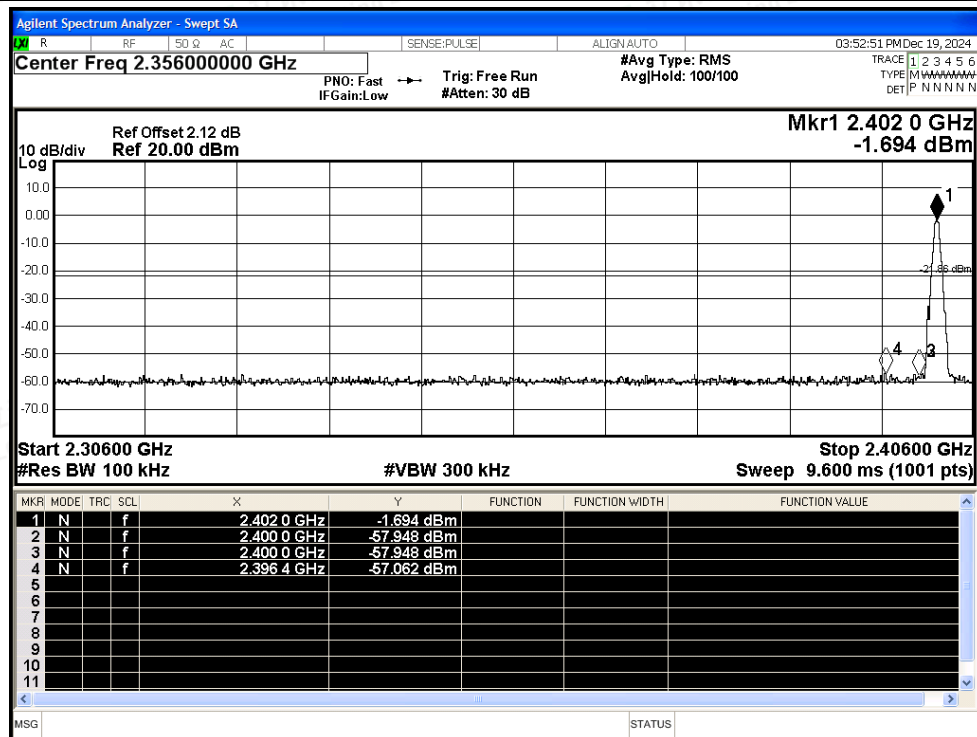


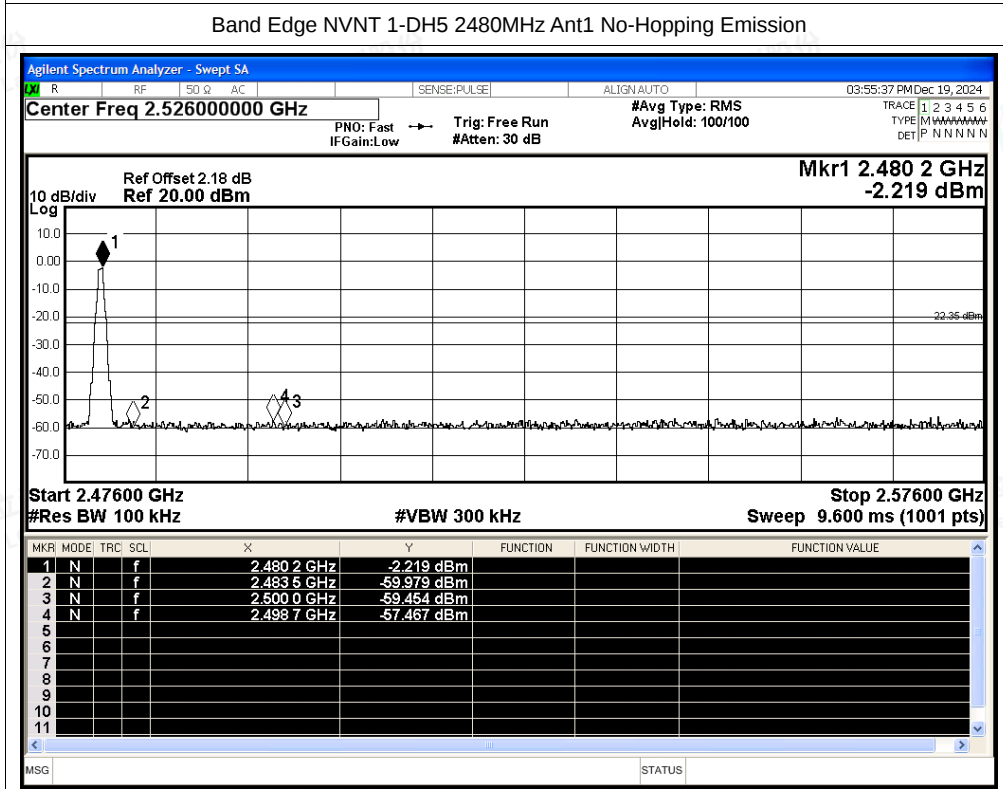
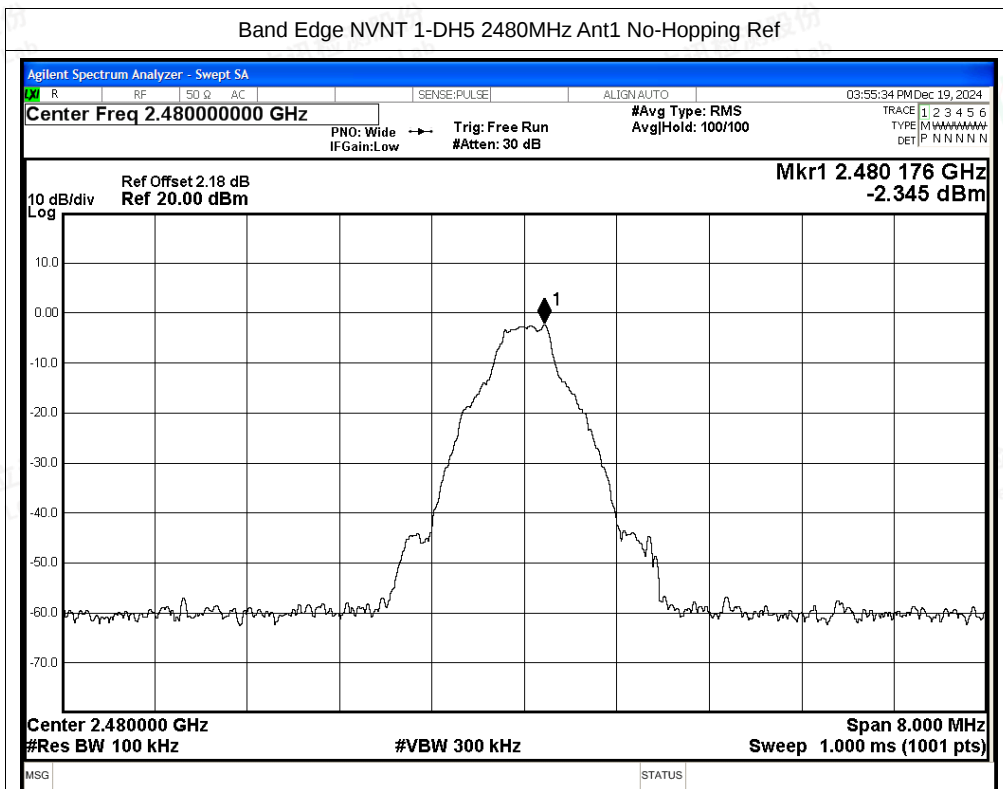
Test Graphs

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



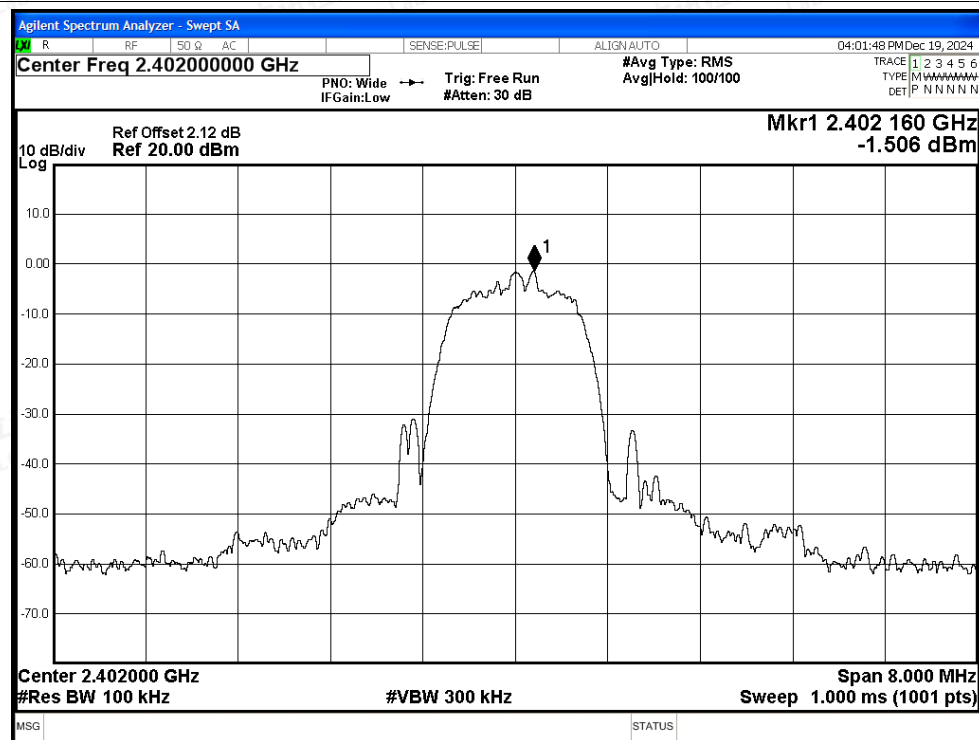
Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission



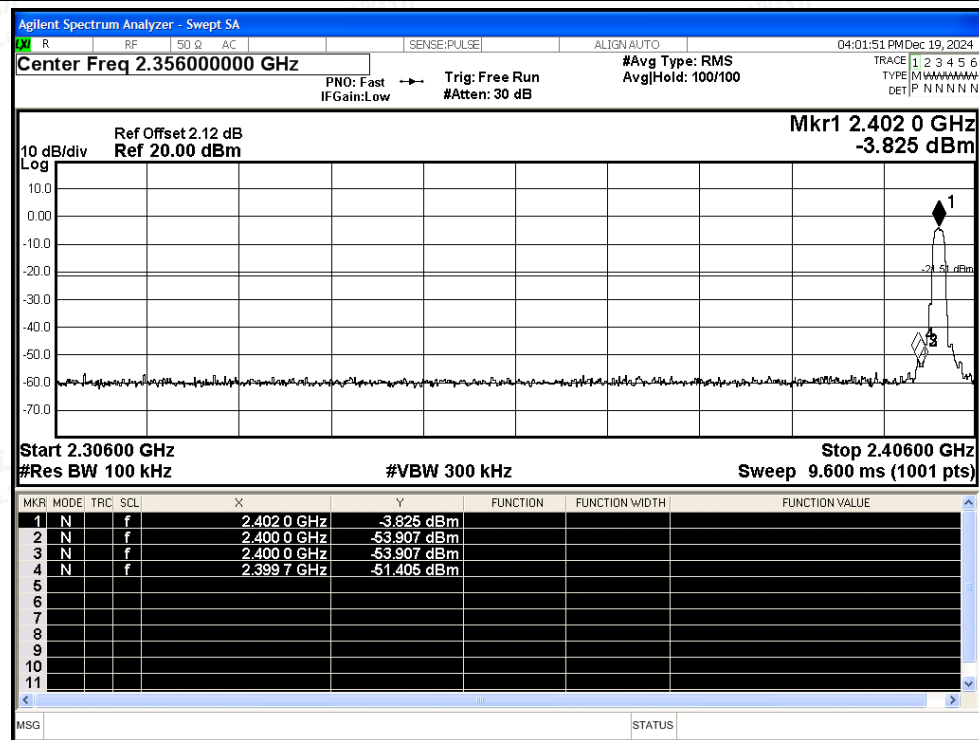


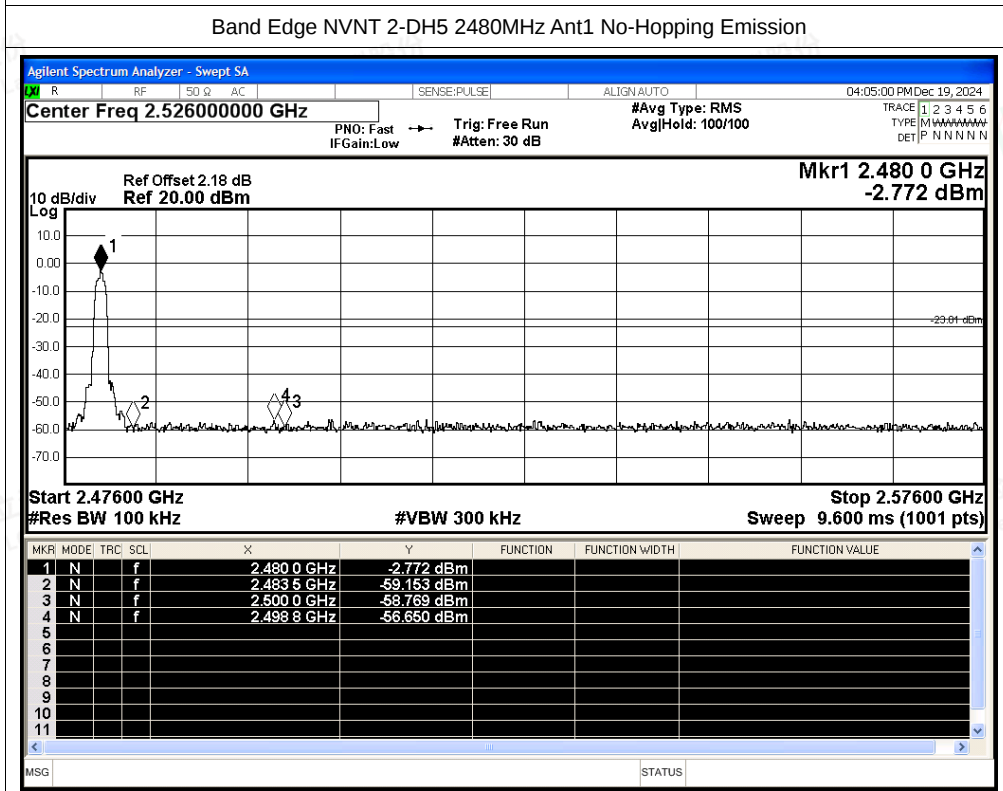
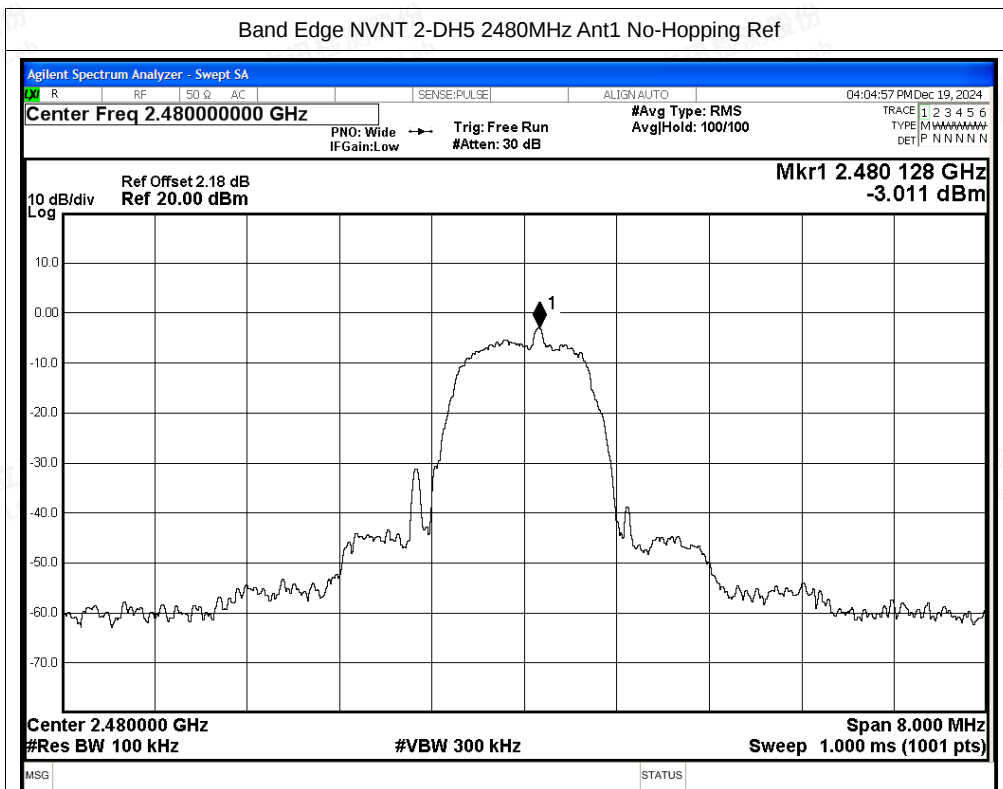


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



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







(Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-52.54	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-53.52	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-52.24	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-52.87	-20	Pass

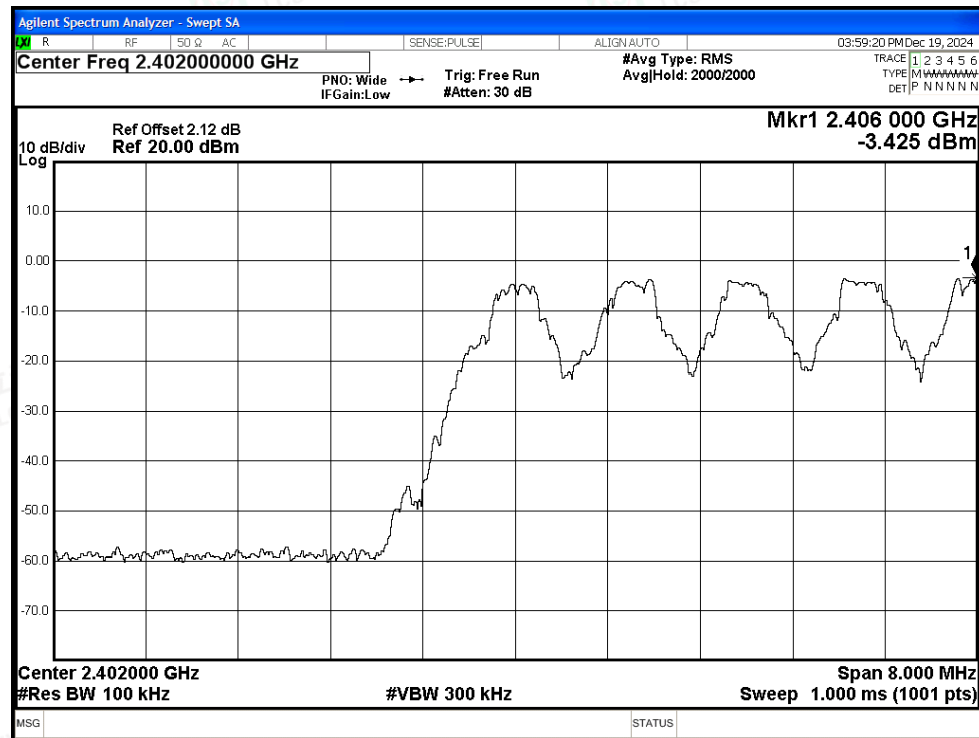


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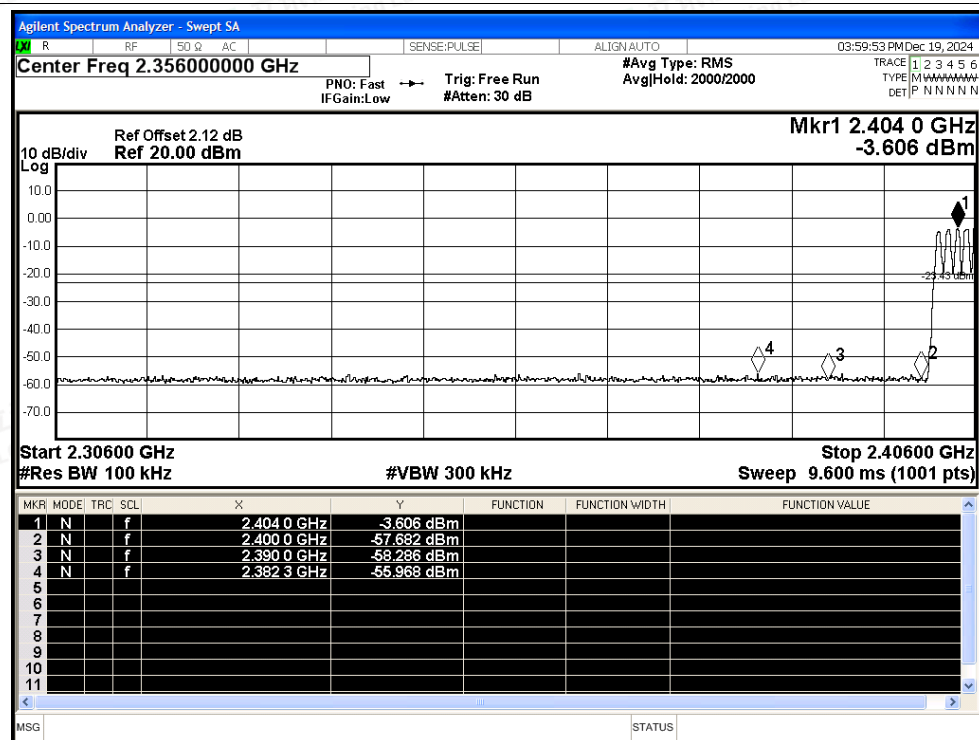


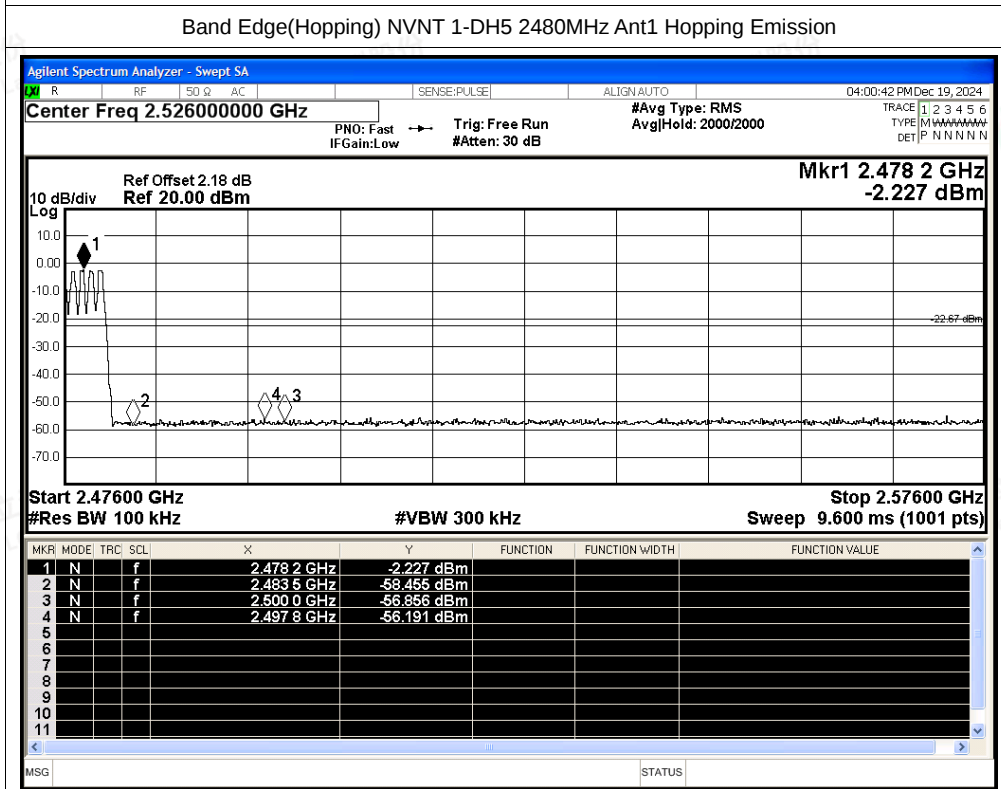
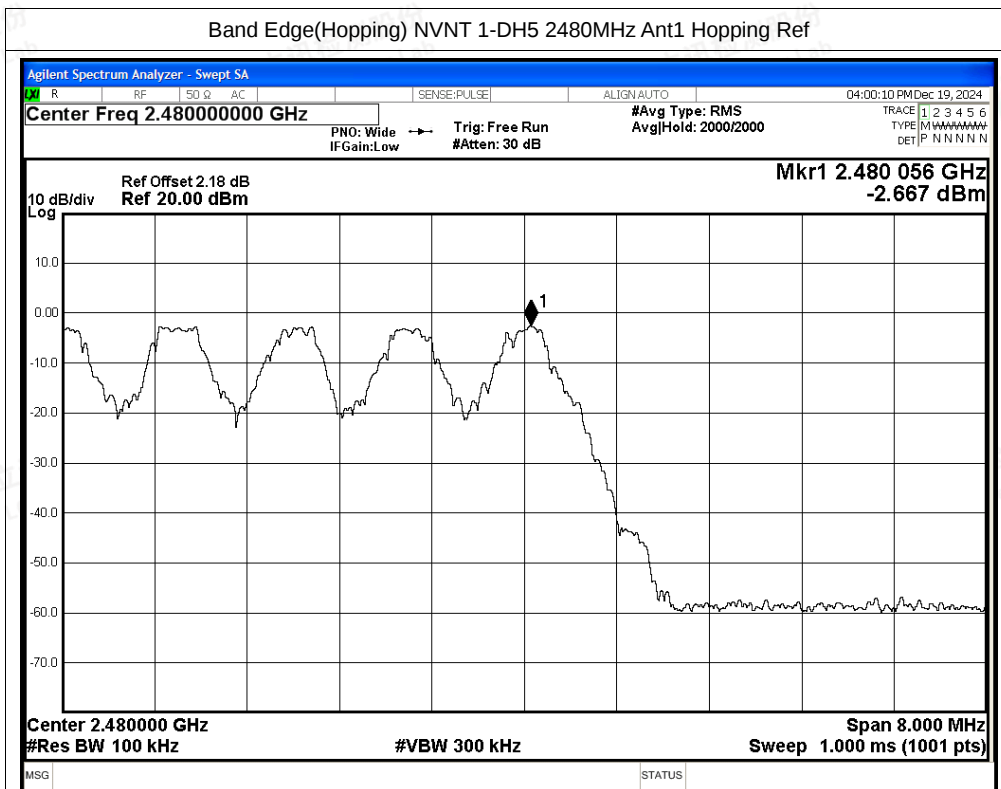
Test Graphs

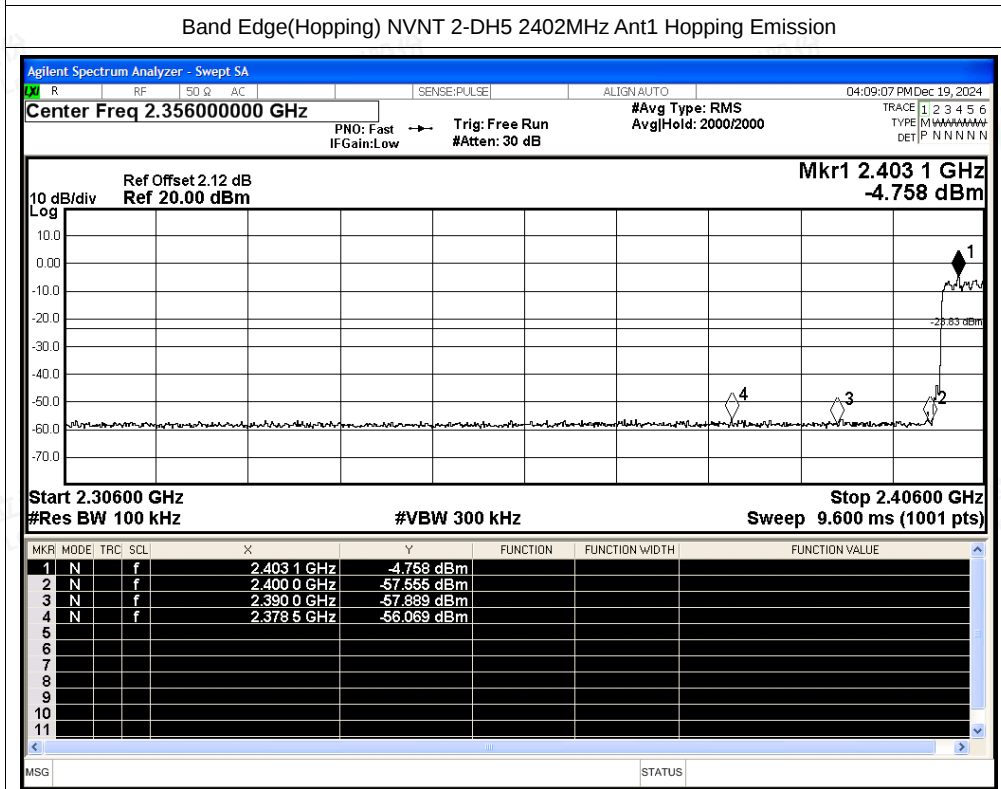
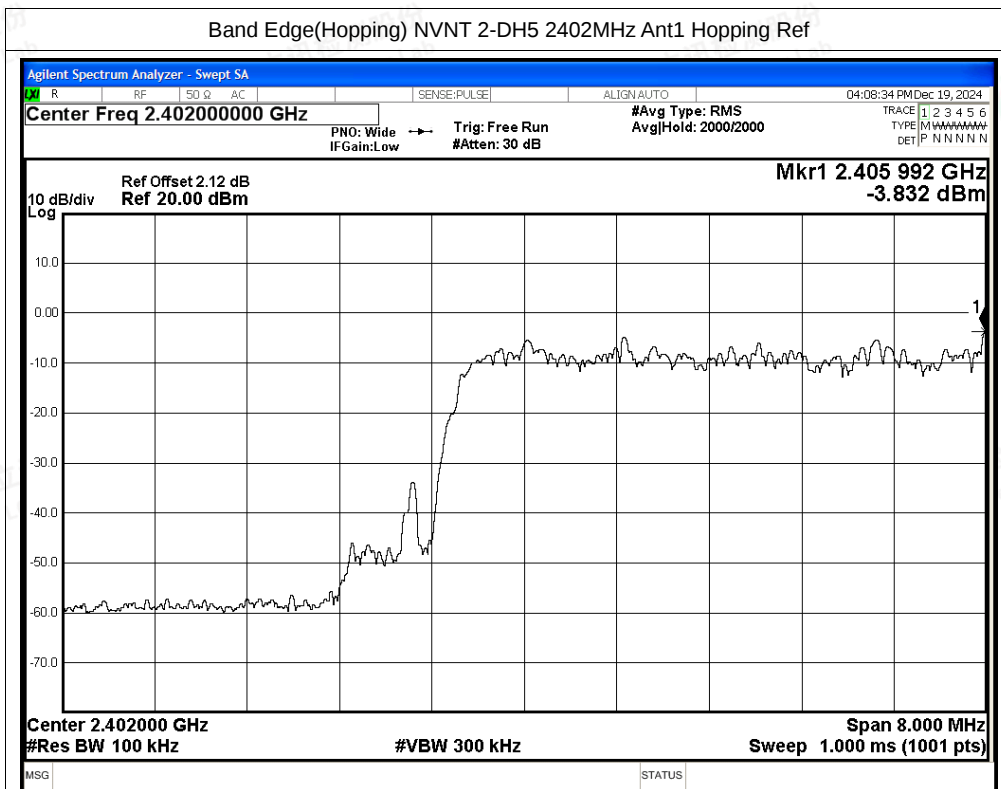
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref

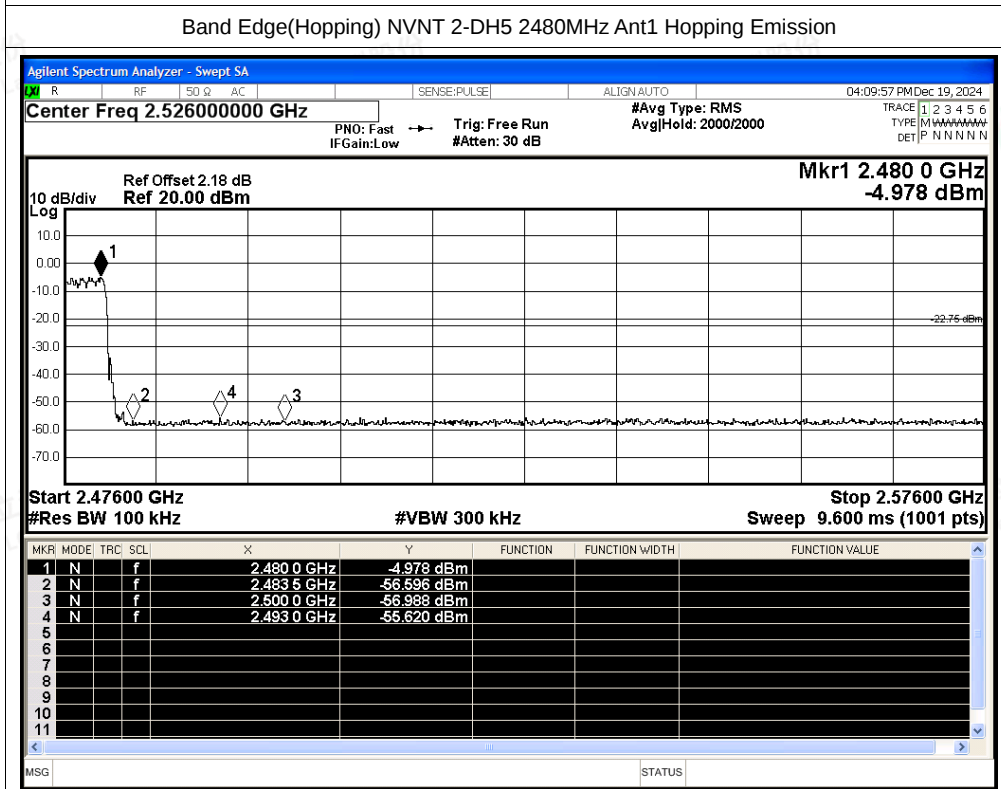
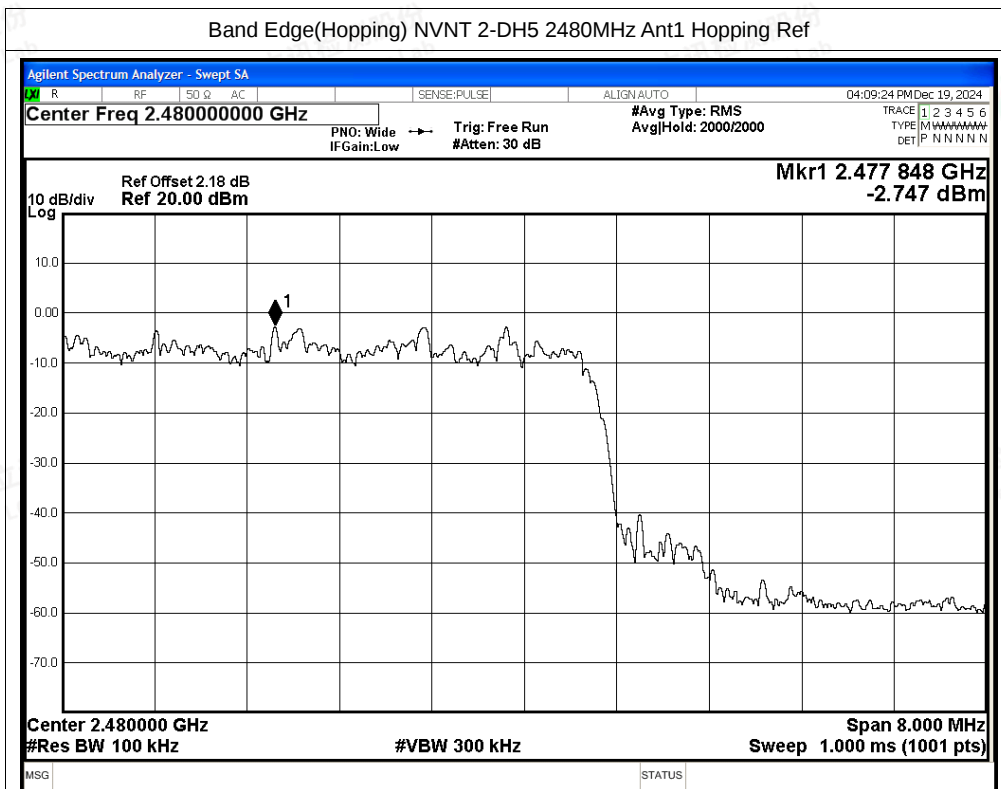


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission











A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-52.7	-20	Pass
NVNT	1-DH5	2441	Ant1	-53.34	-20	Pass
NVNT	1-DH5	2480	Ant1	-52.73	-20	Pass
NVNT	2-DH5	2402	Ant1	-52.86	-20	Pass
NVNT	2-DH5	2441	Ant1	-53.75	-20	Pass
NVNT	2-DH5	2480	Ant1	-51.41	-20	Pass

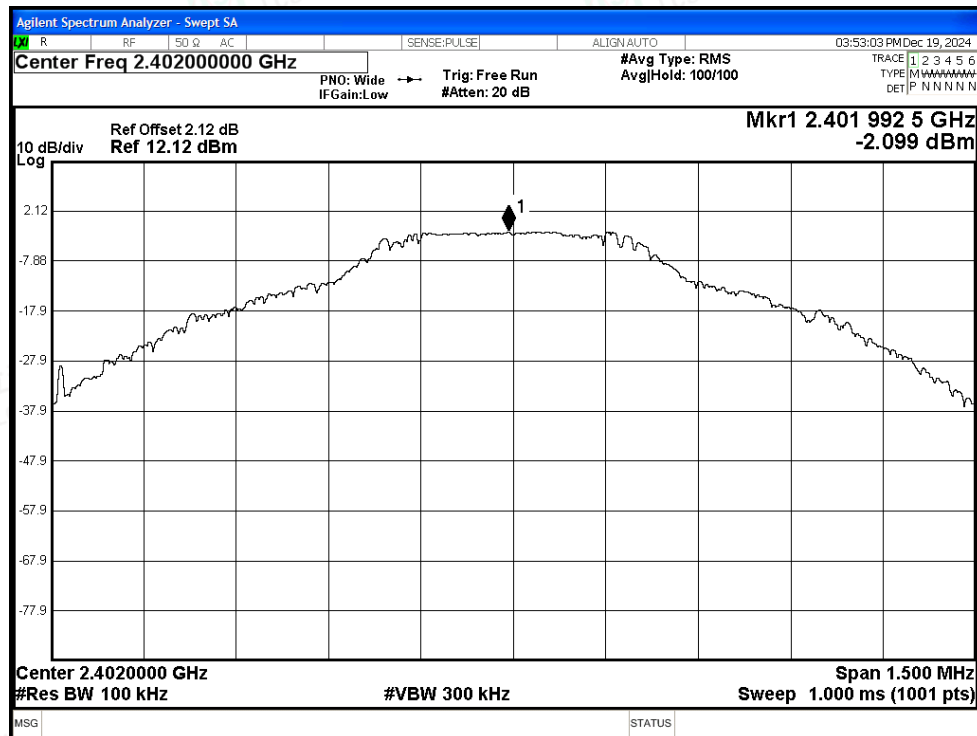


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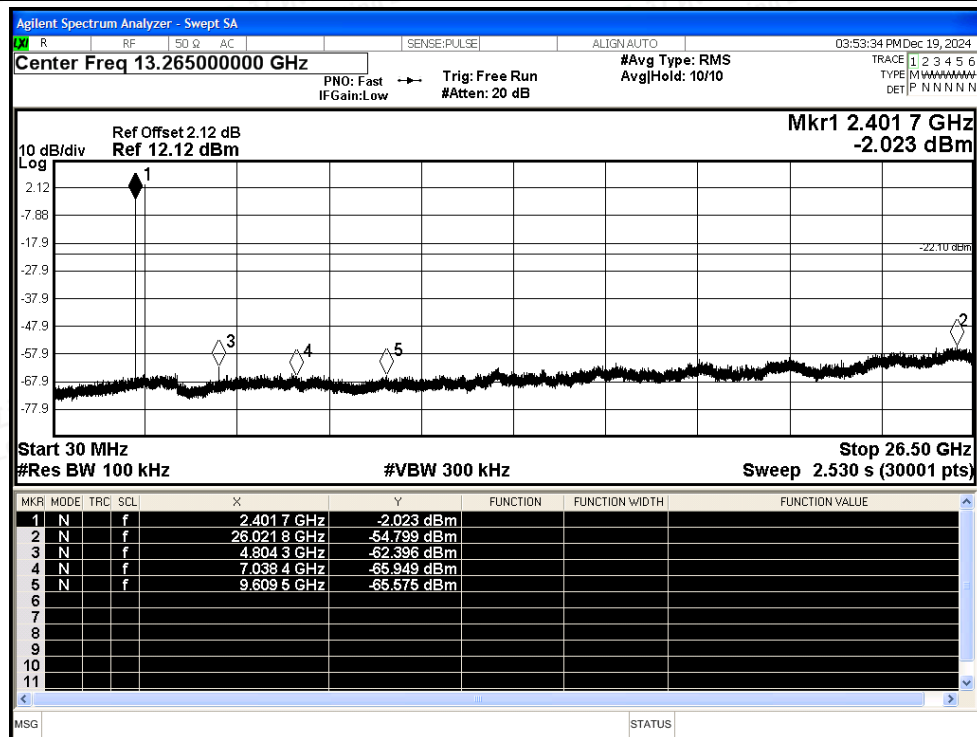


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

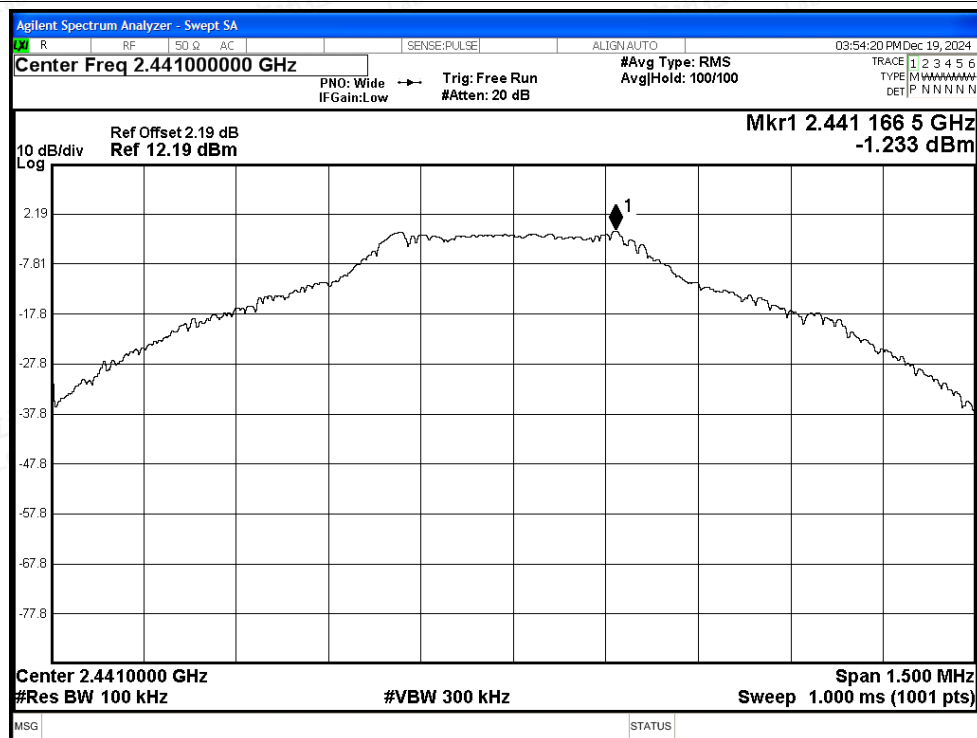


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

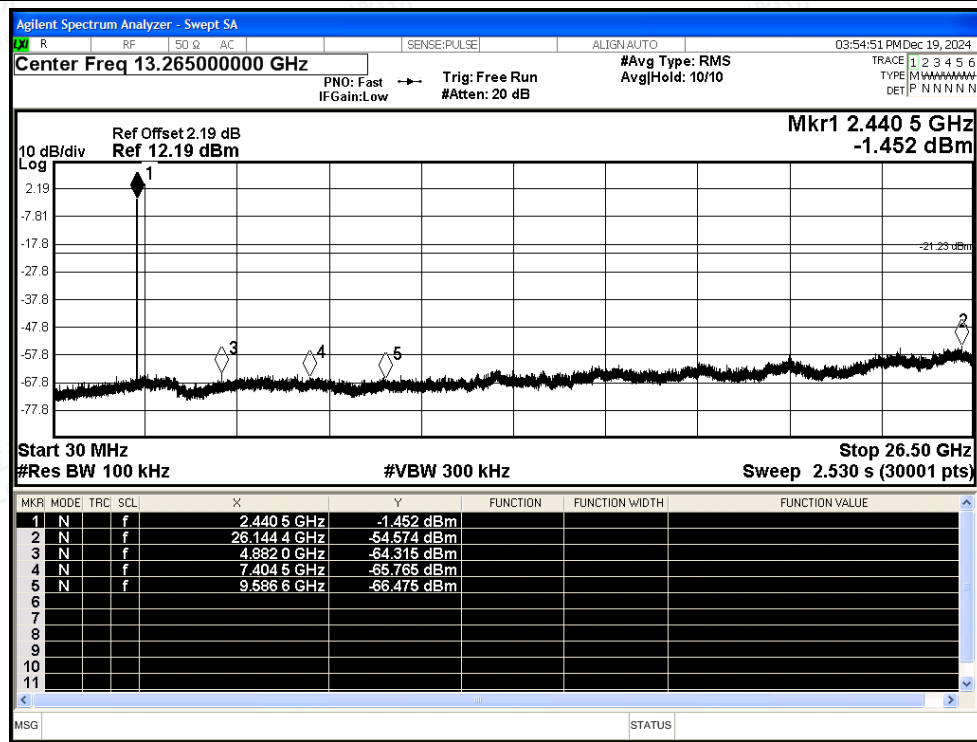




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

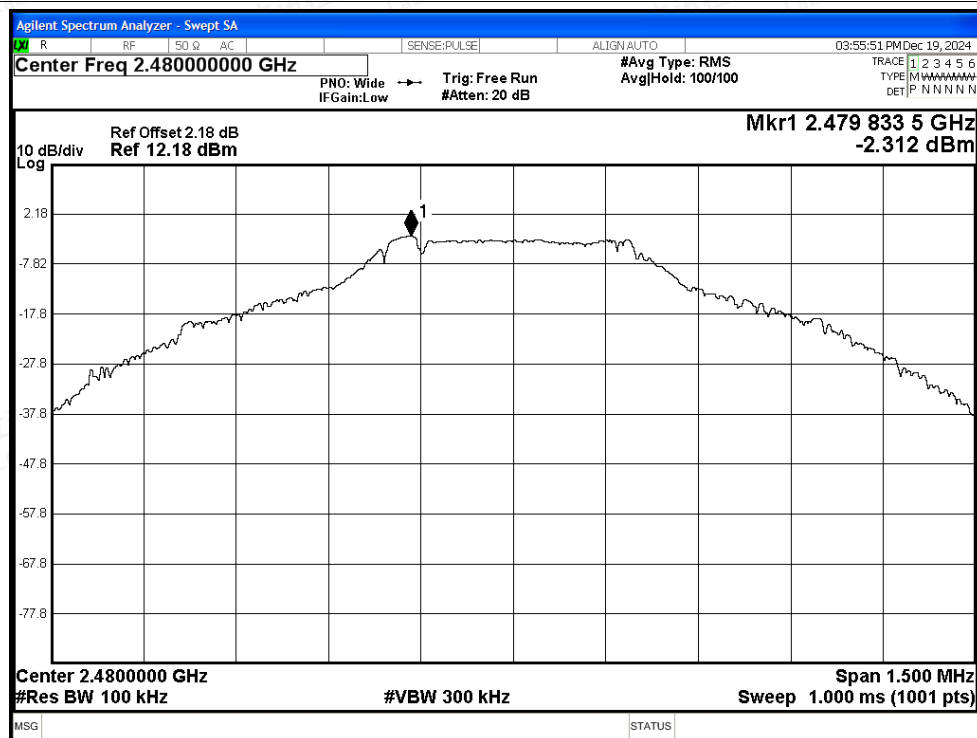


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

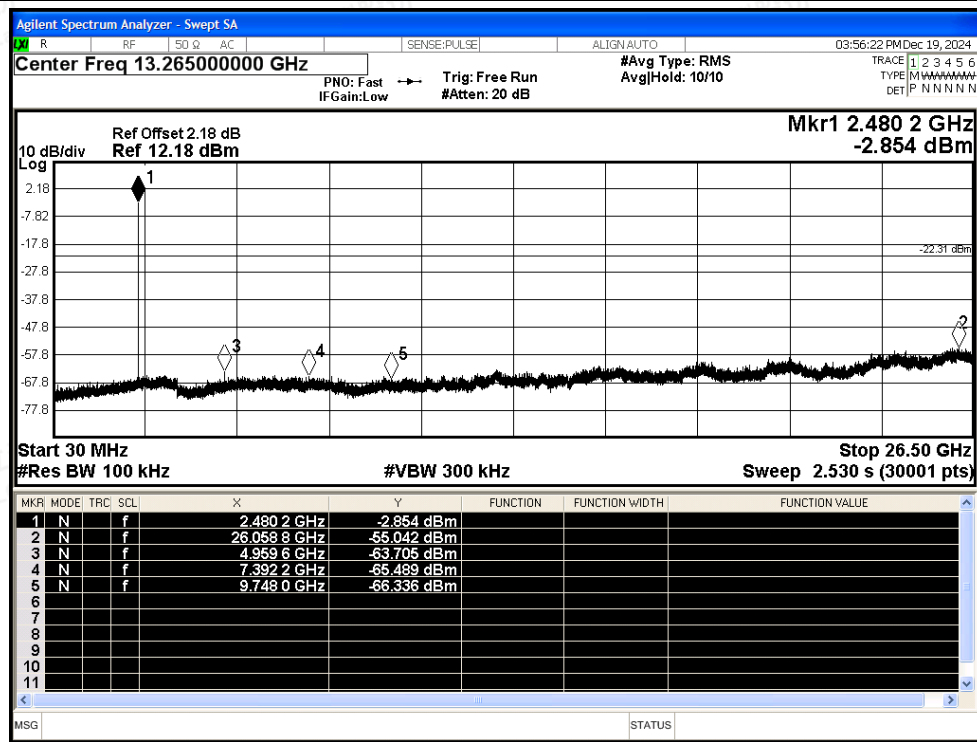




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

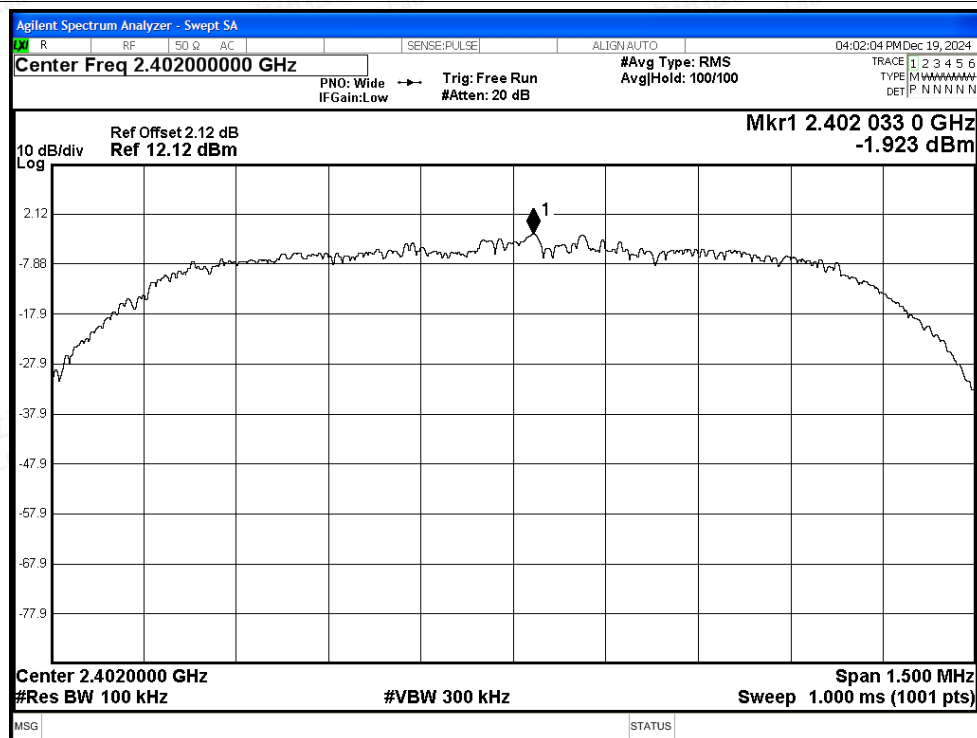


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

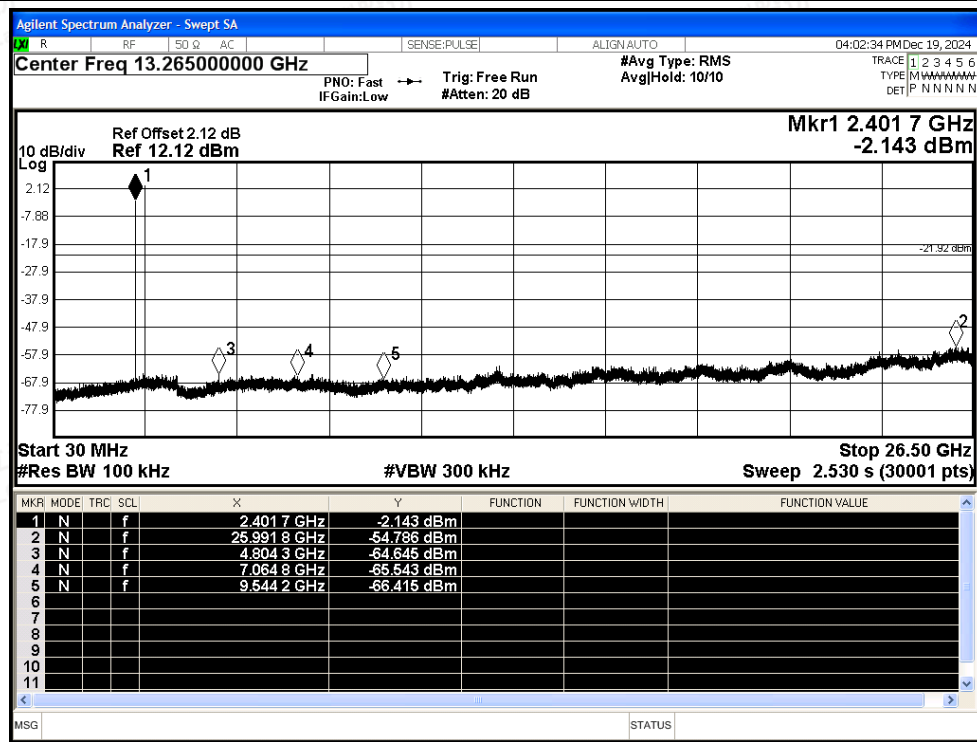




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

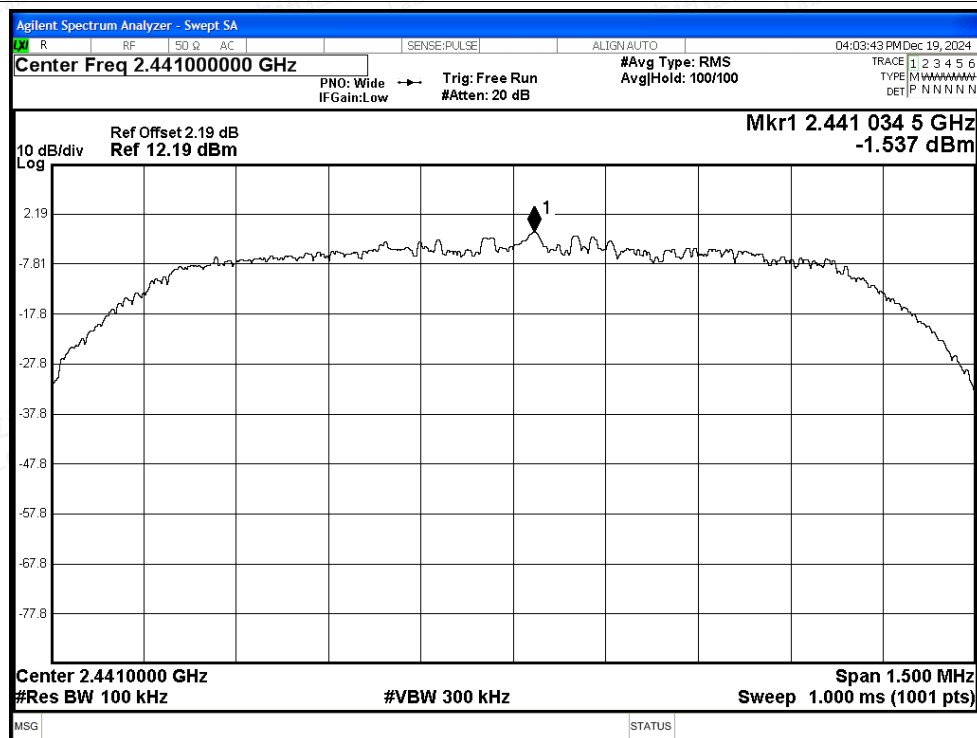


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

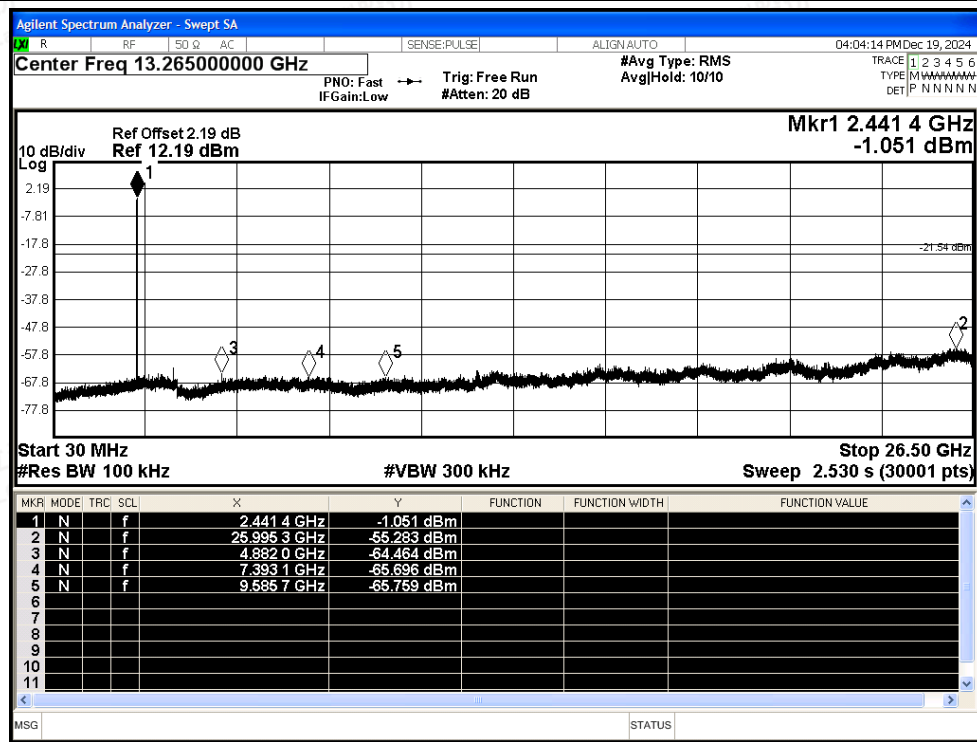




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

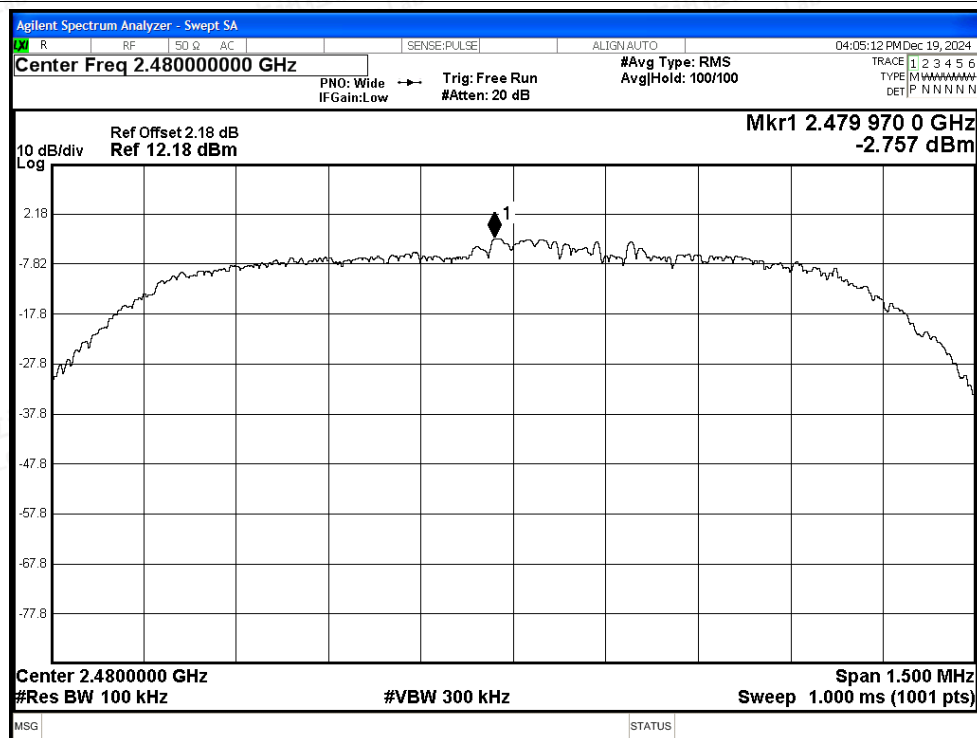


Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

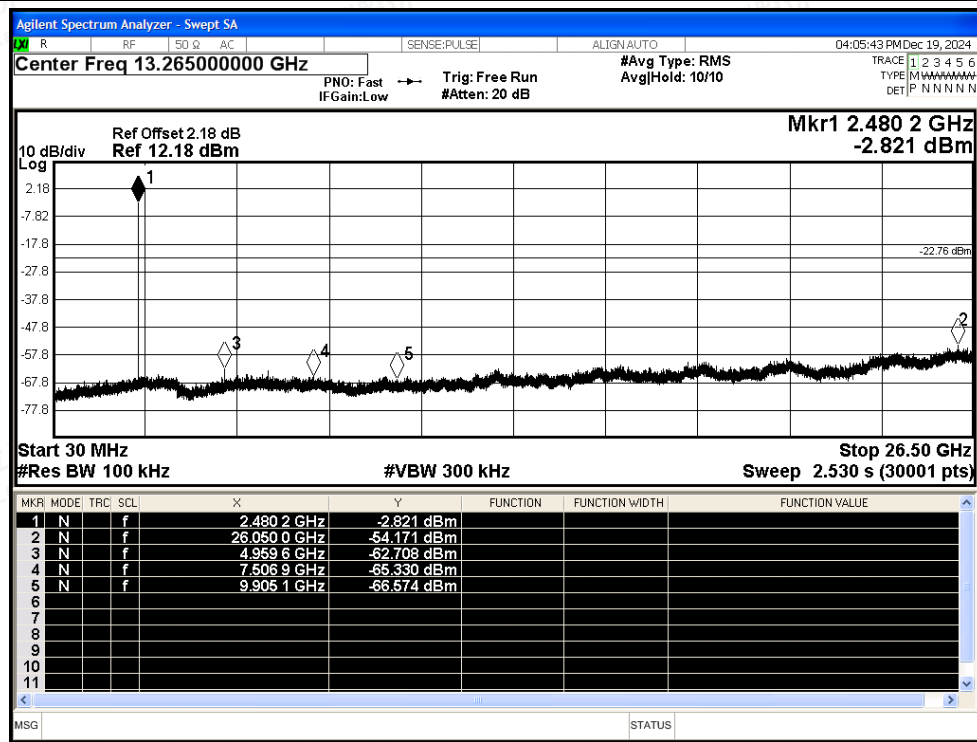




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission





A.8 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	1-DH5	2402	Ant1	77.63	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.63	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.6	1.1	0.34
NVNT	2-DH5	2402	Ant1	77.33	1.12	0.34
NVNT	2-DH5	2441	Ant1	77.33	1.12	0.34
NVNT	2-DH5	2480	Ant1	77.33	1.12	0.34

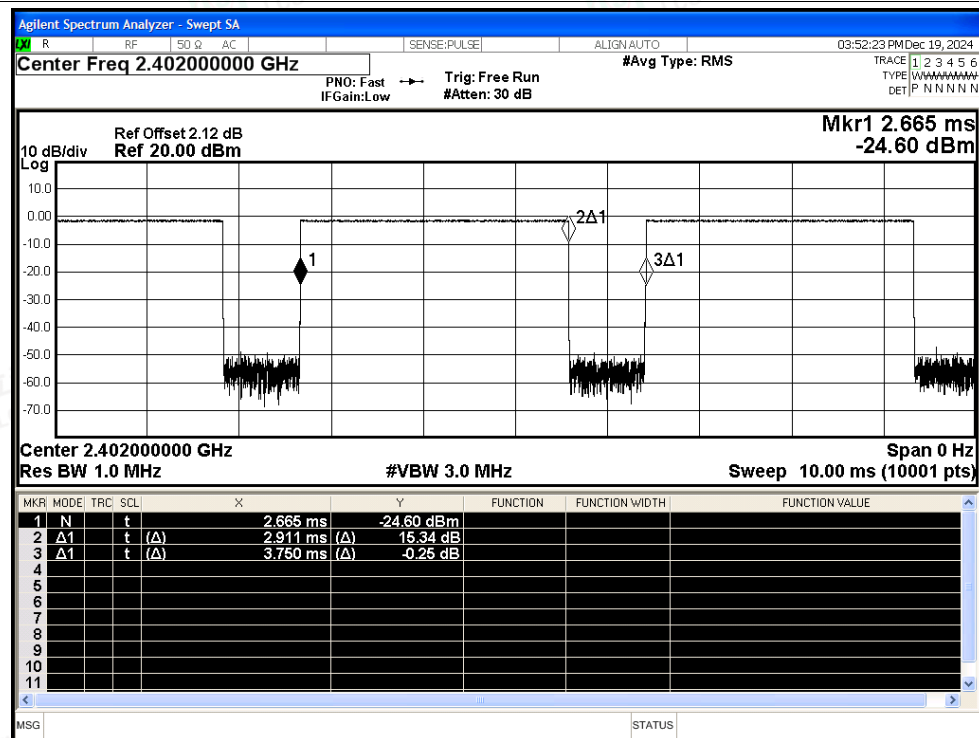


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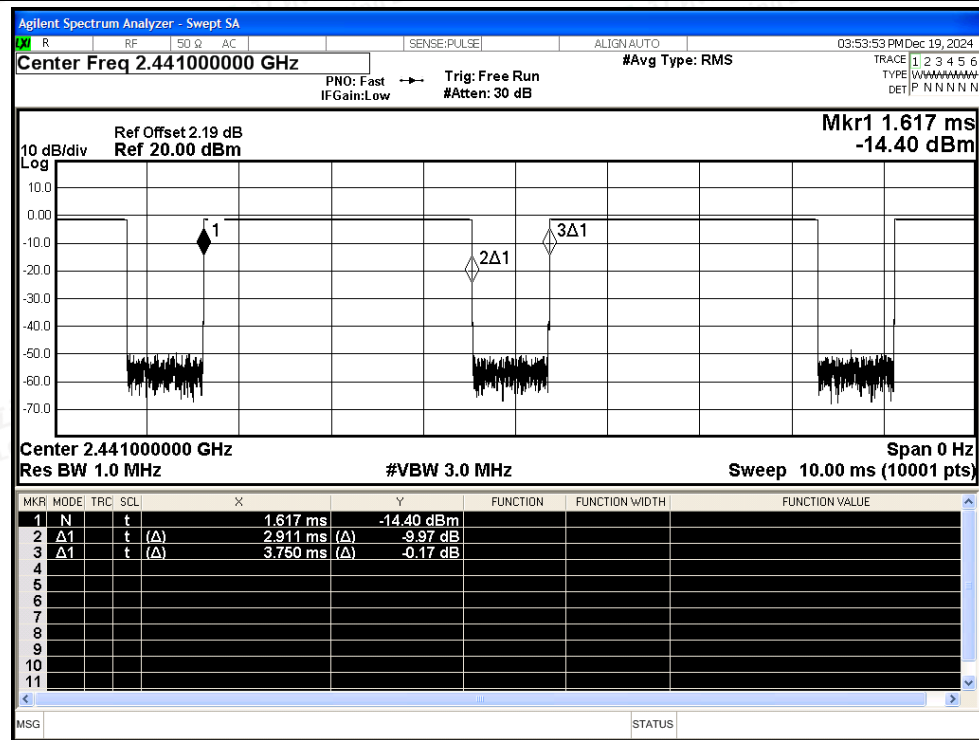


Test Graphs

Duty Cycle NVNT 1-DH5 2402MHz Ant1

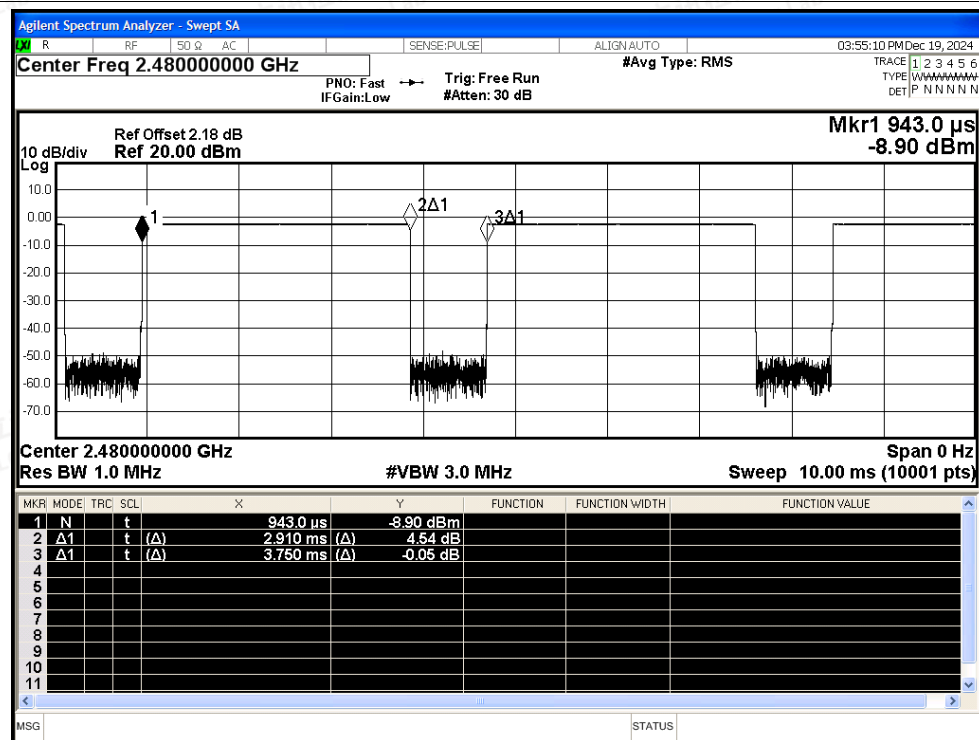


Duty Cycle NVNT 1-DH5 2441MHz Ant1

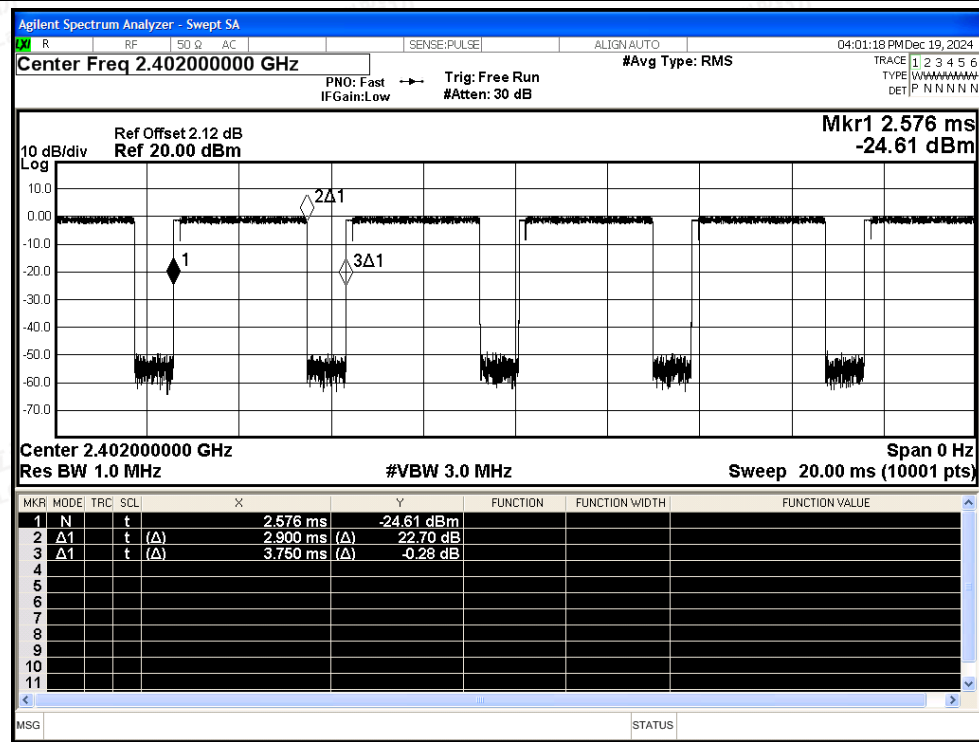




Duty Cycle NVNT 1-DH5 2480MHz Ant1

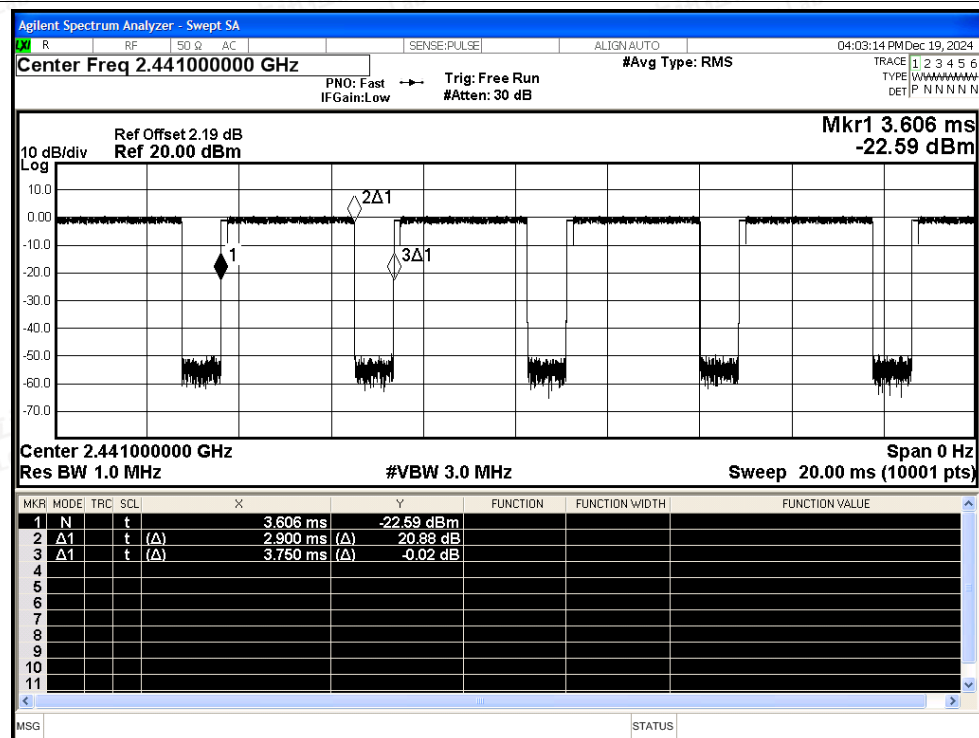


Duty Cycle NVNT 2-DH5 2402MHz Ant1

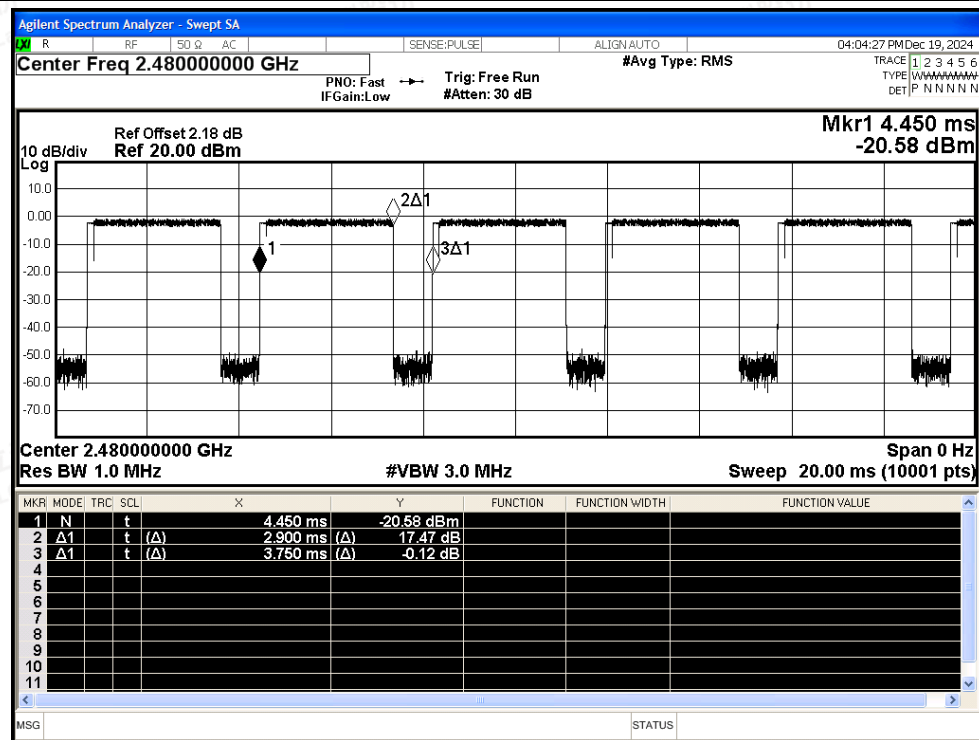




Duty Cycle NVNT 2-DH5 2441MHz Ant1



Duty Cycle NVNT 2-DH5 2480MHz Ant1





A.9 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-49.56	2.09	-	47.79	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.57	2.09	1.1	39.88	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2343.984	-47.47	2.09	-	49.88	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2374.032	-57.46	2.09	1.1	40.99	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.83	2.09	-	46.52	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.56	2.09	1.1	39.89	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-51.05	2.09	-	46.30	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.26	2.09	1.1	41.19	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2488.096	-46.53	2.09	-	50.82	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2499.856	-56.9	2.09	1.1	41.55	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.12	2.09	-	48.23	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.17	2.09	1.1	40.28	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.3	2.09	-	47.05	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.61	2.09	1.12	39.86	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2313.072	-47.73	2.09	-	49.62	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2334.384	-57.53	2.09	1.12	40.94	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-48.9	2.09	-	48.45	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-57.87	2.09	1.12	40.60	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-47.09	2.09	-	50.26	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-58.02	2.09	1.12	40.45	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2487.088	-47.03	2.09	-	50.32	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.752	-56.93	2.09	1.12	41.54	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.75	2.09	-	46.60	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.8	2.09	1.12	40.67	Average	54	Pass

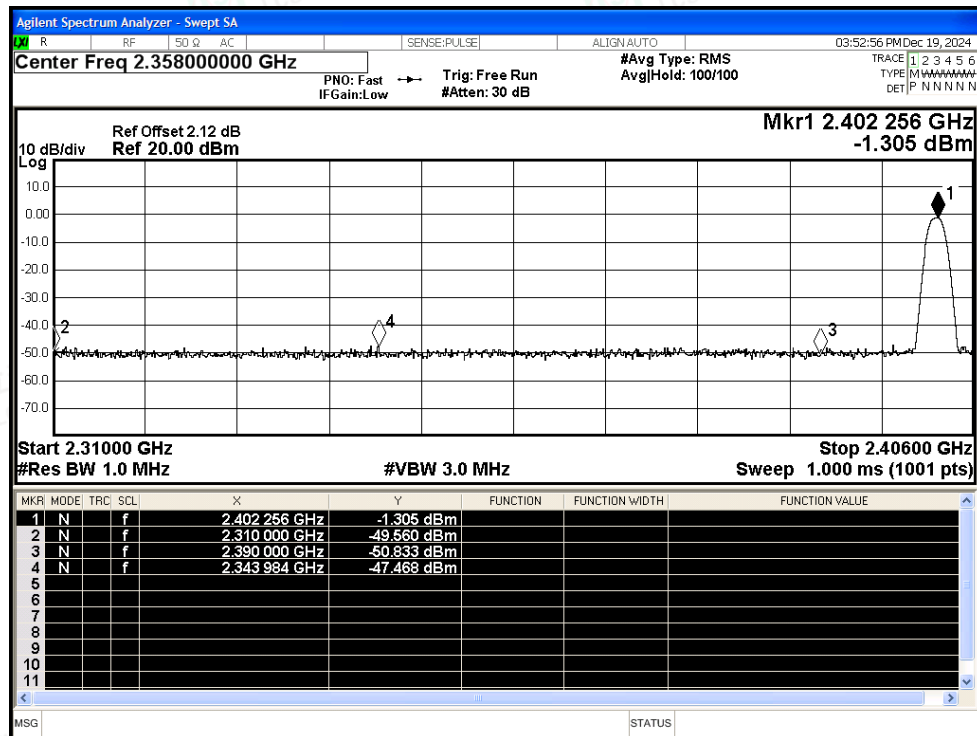


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Scan code to check authenticity

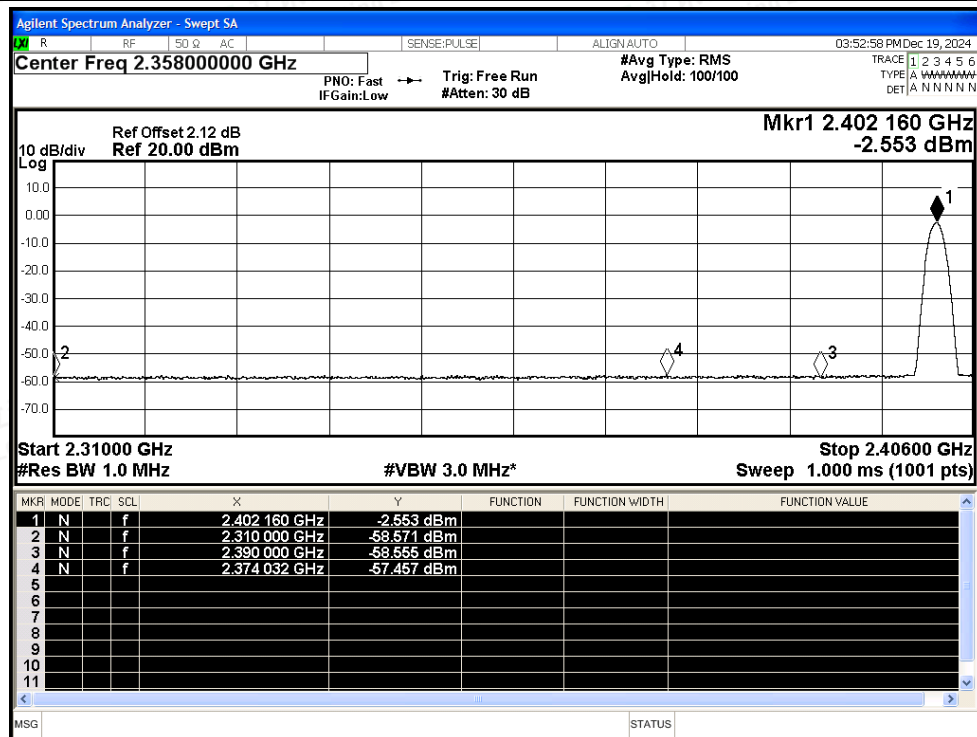


Test Graphs

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

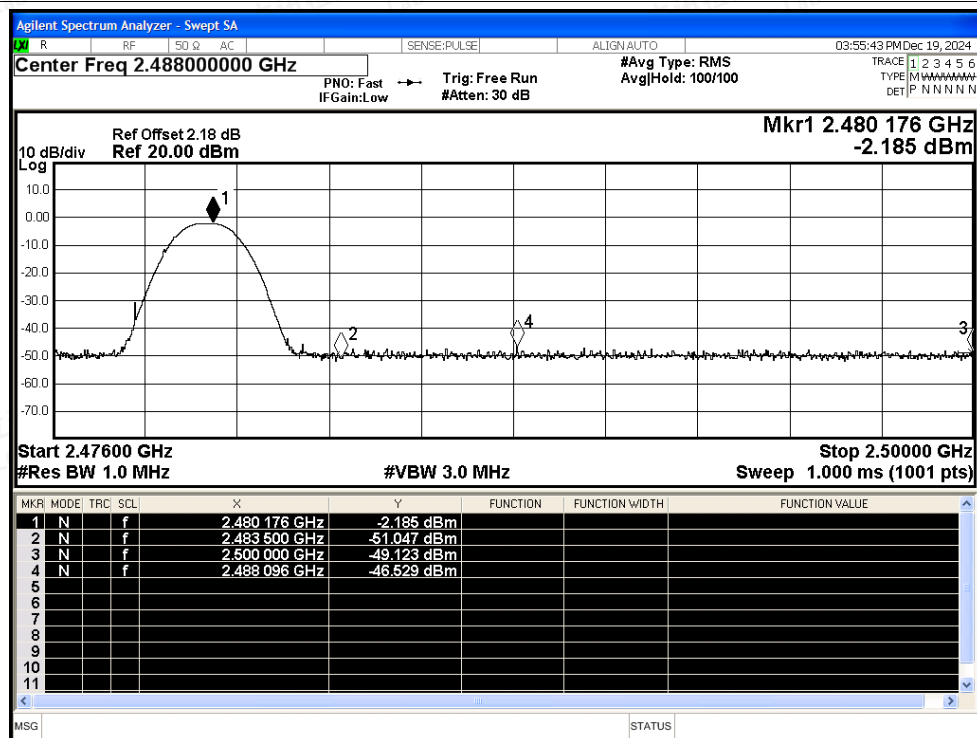


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

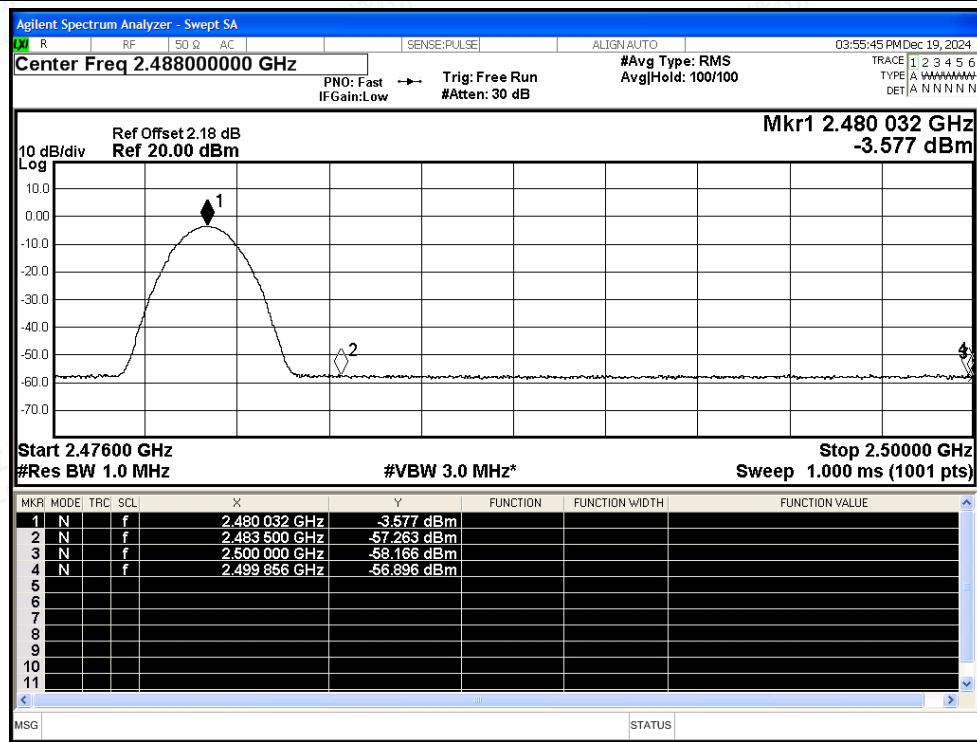


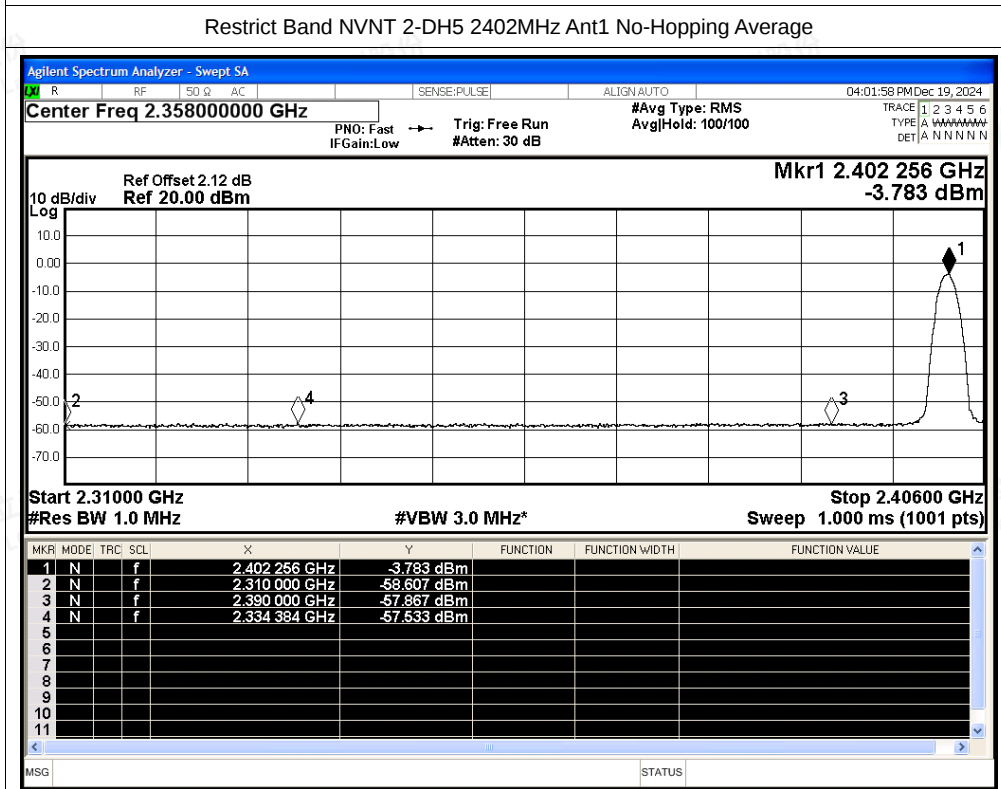
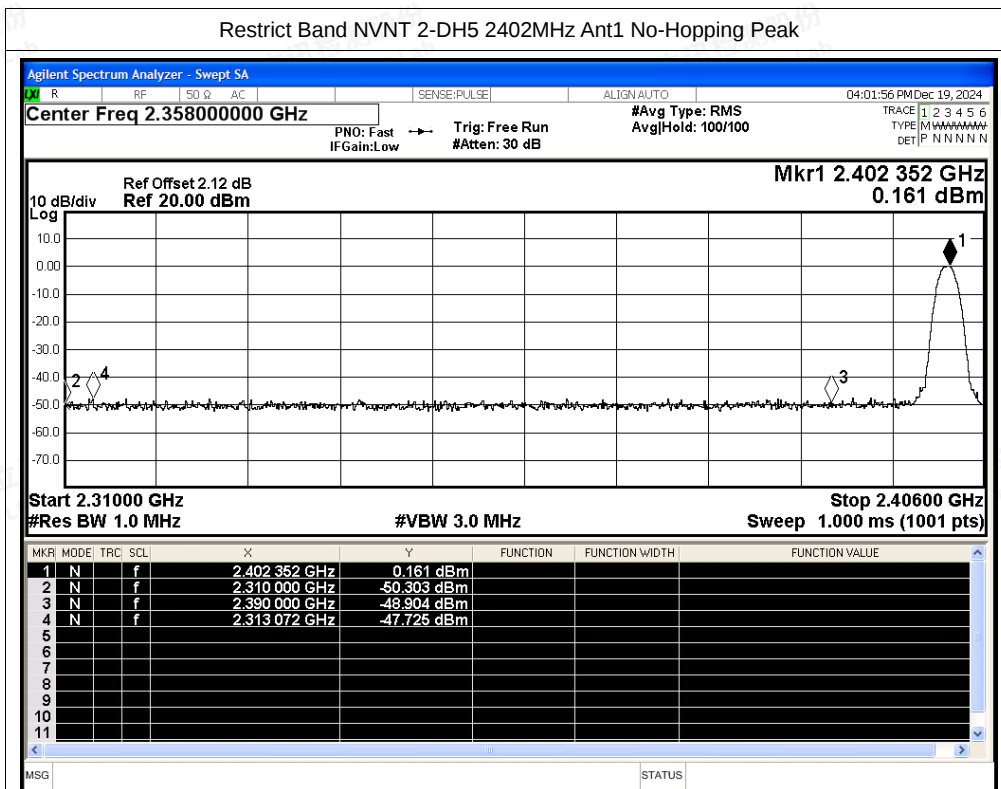


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



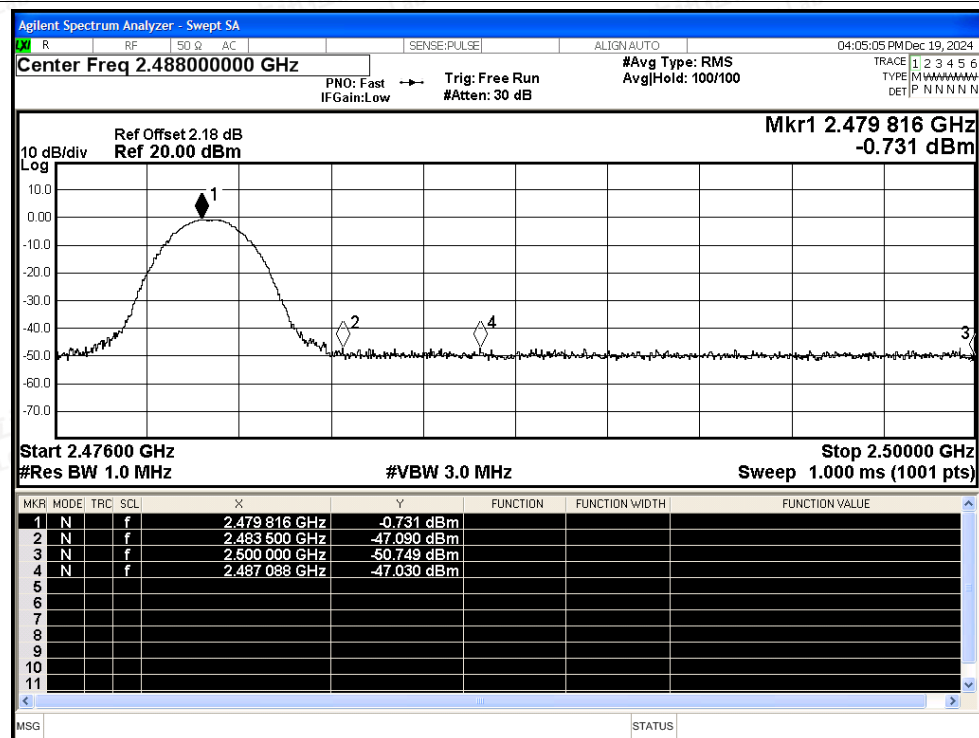
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average







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



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

