



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: smart watch

Test Model: TB97A

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	0.943	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.953	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.946	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.316	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.309	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.288	N/A	Pass



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Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



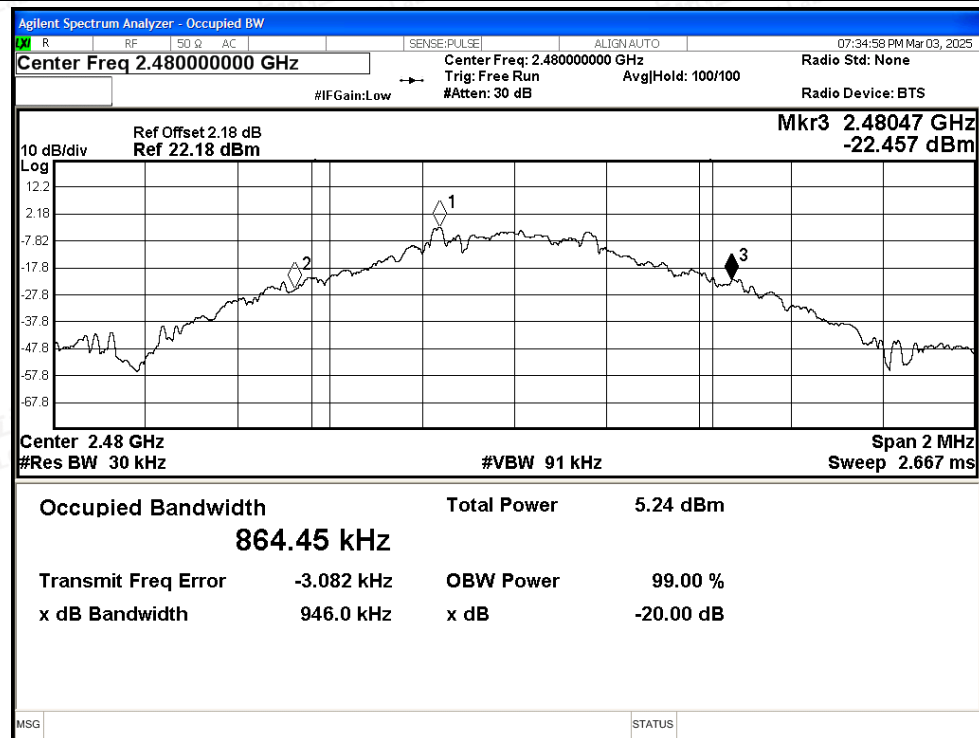
-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



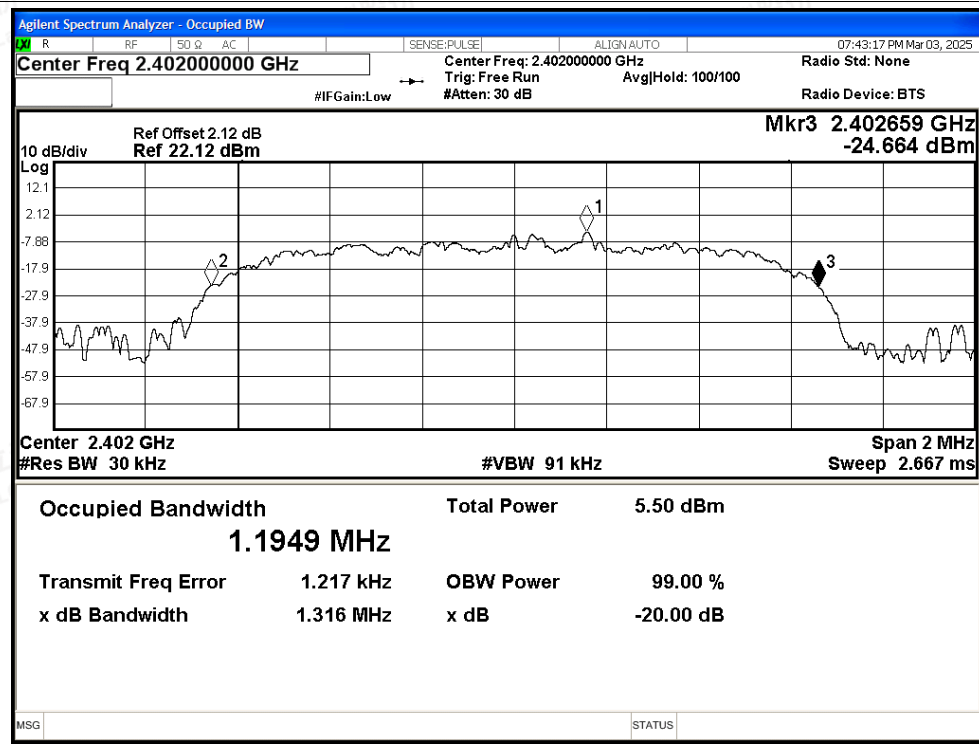
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-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

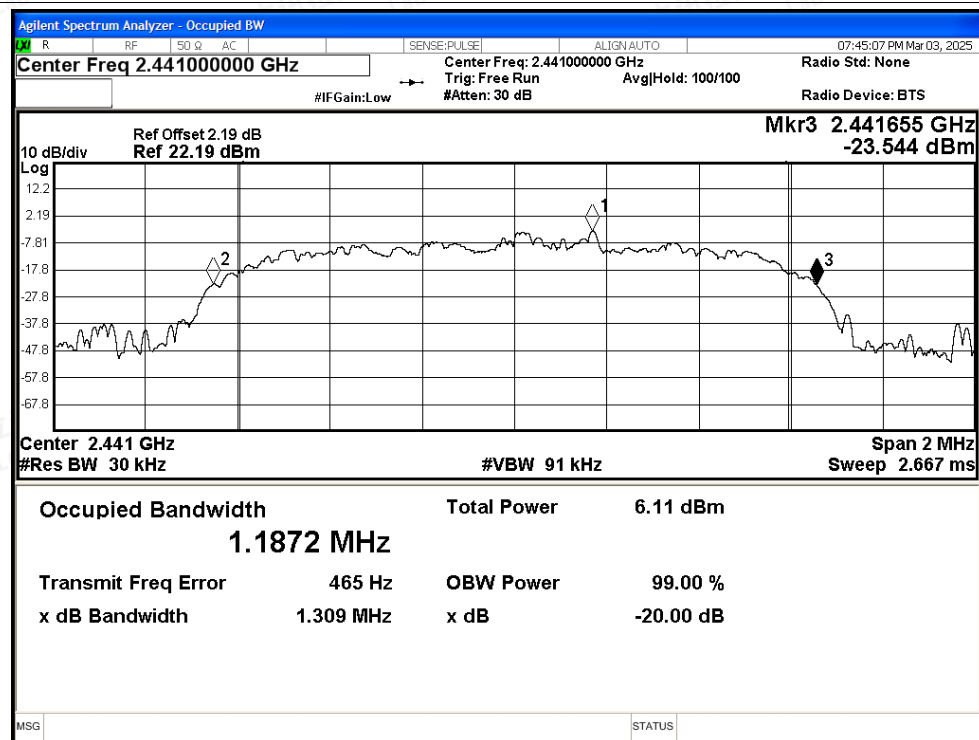


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

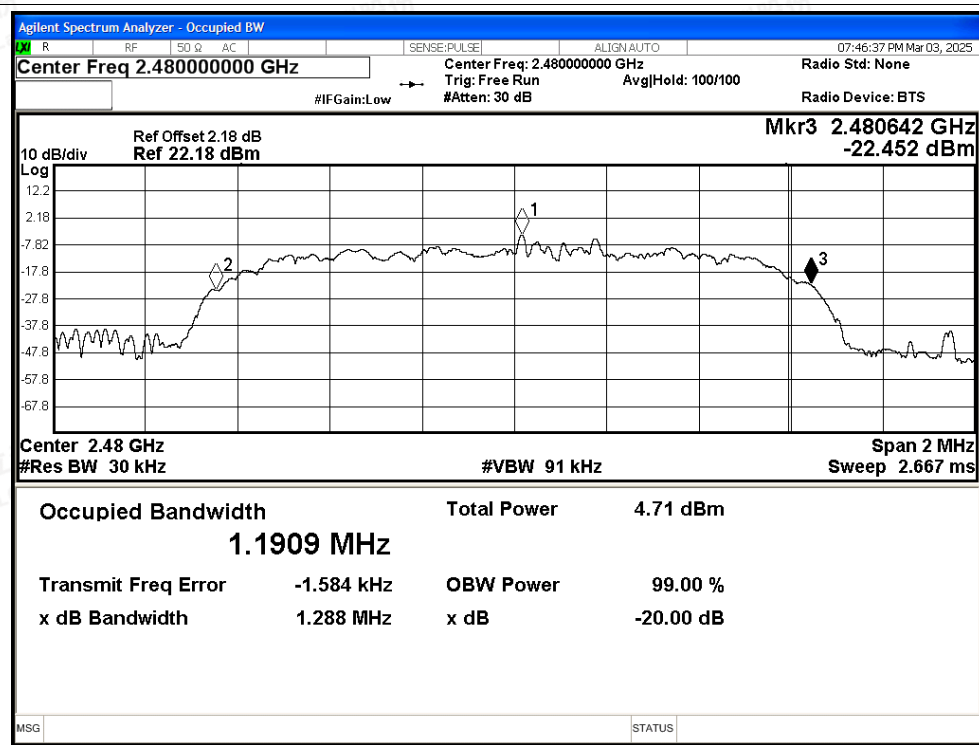




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1





A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.31	21	Pass
NVNT	1-DH5	2441	Ant1	-0.03	21	Pass
NVNT	1-DH5	2480	Ant1	-1.13	21	Pass
NVNT	2-DH5	2402	Ant1	1.43	21	Pass
NVNT	2-DH5	2441	Ant1	1.68	21	Pass
NVNT	2-DH5	2480	Ant1	0.61	21	Pass

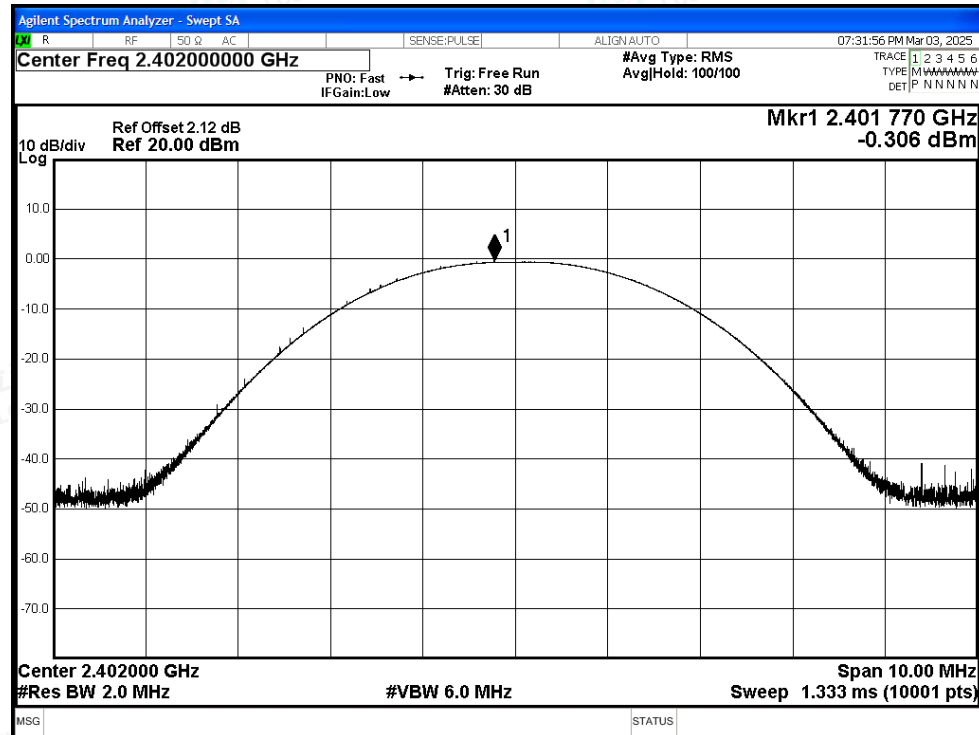


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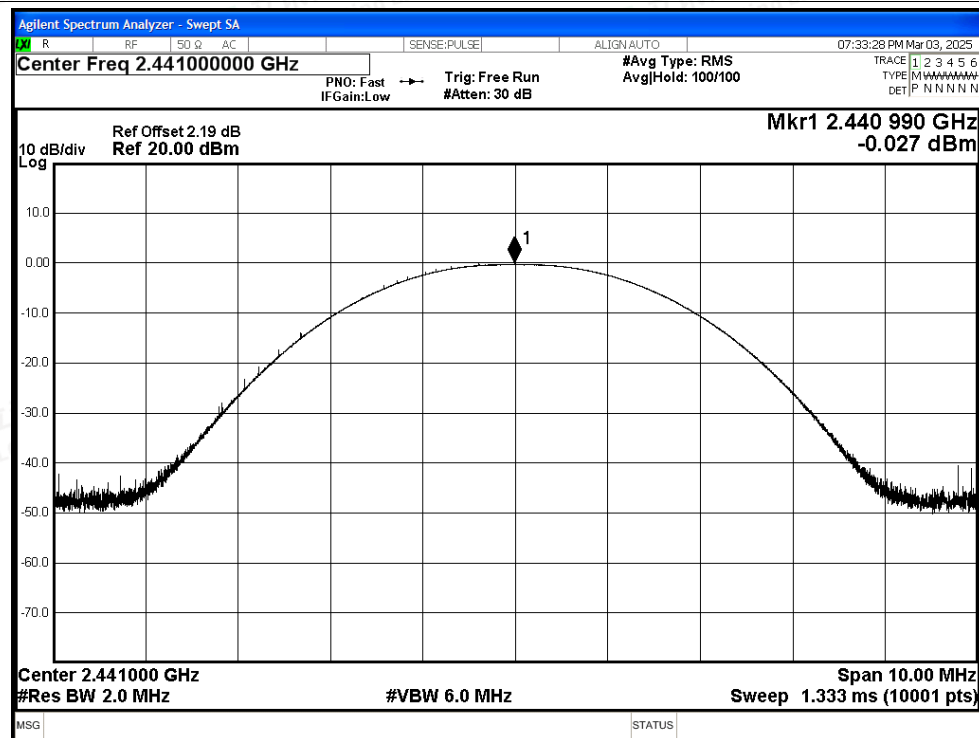


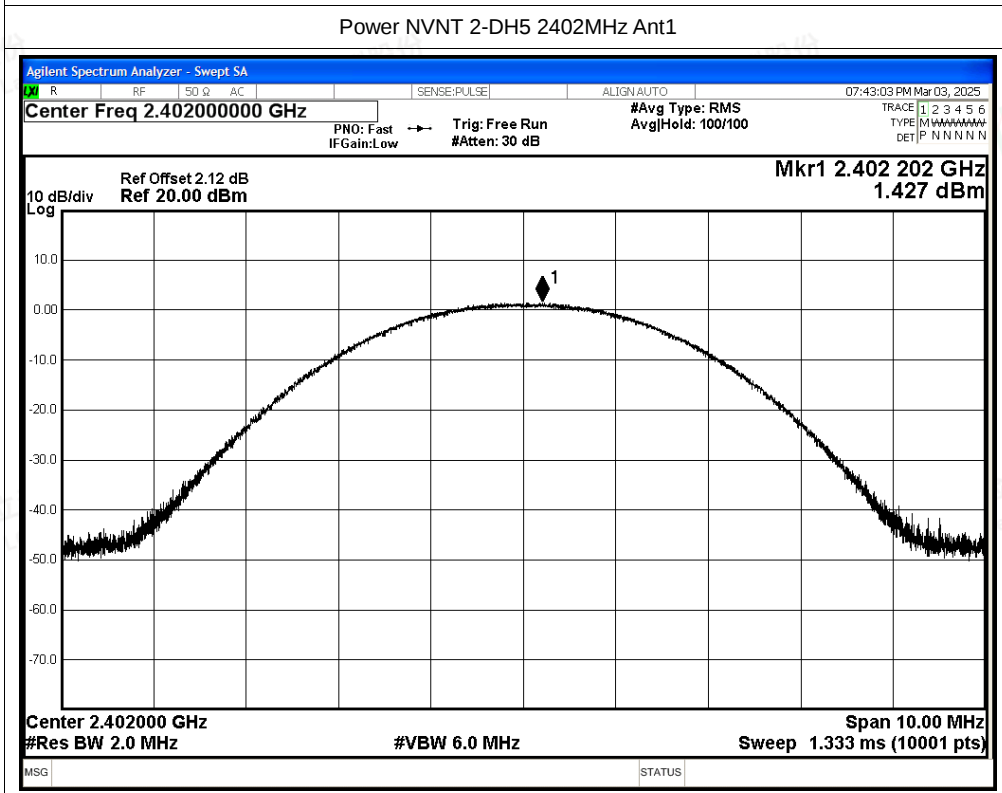
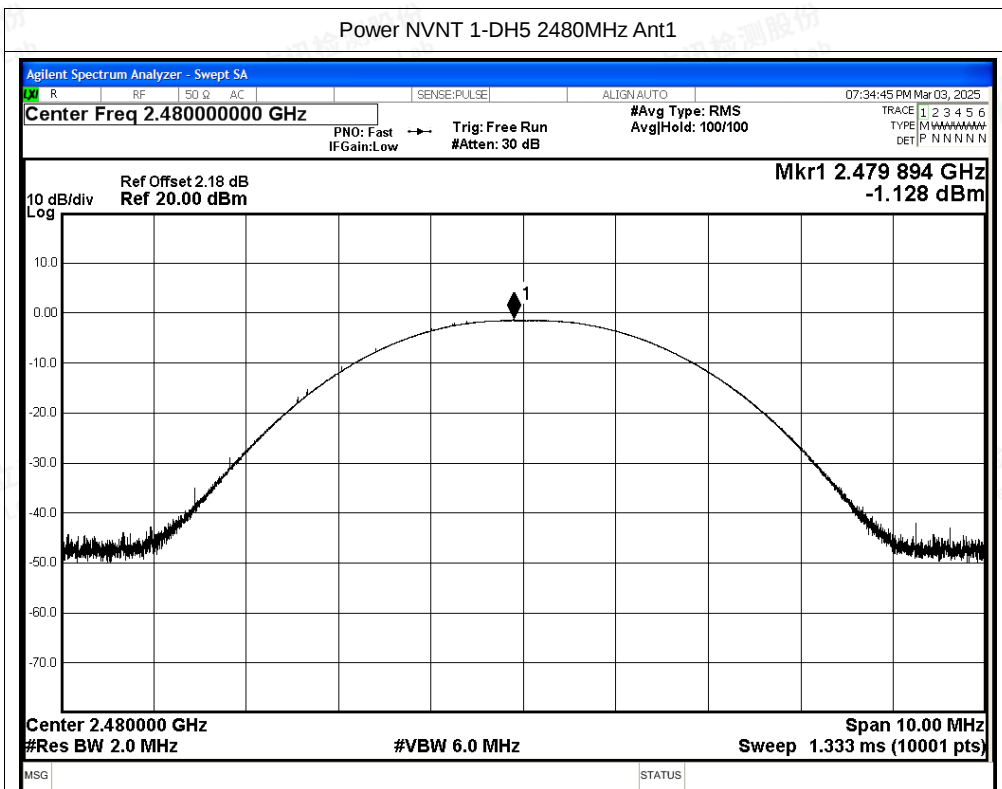
Test Graphs

Power NVNT 1-DH5 2402MHz Ant1



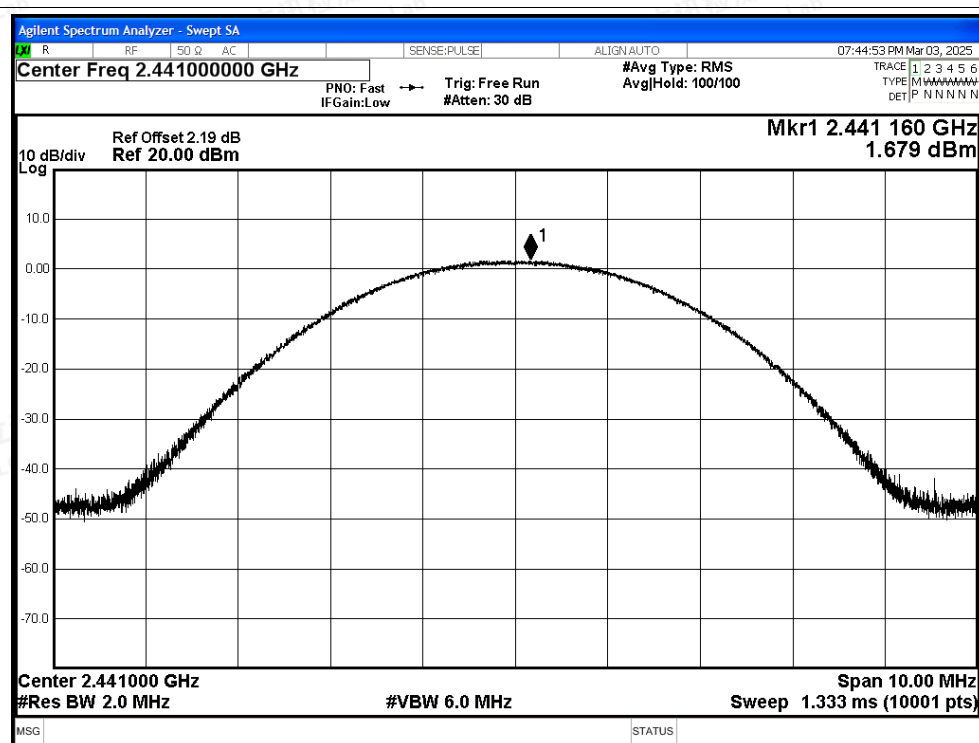
Power NVNT 1-DH5 2441MHz Ant1



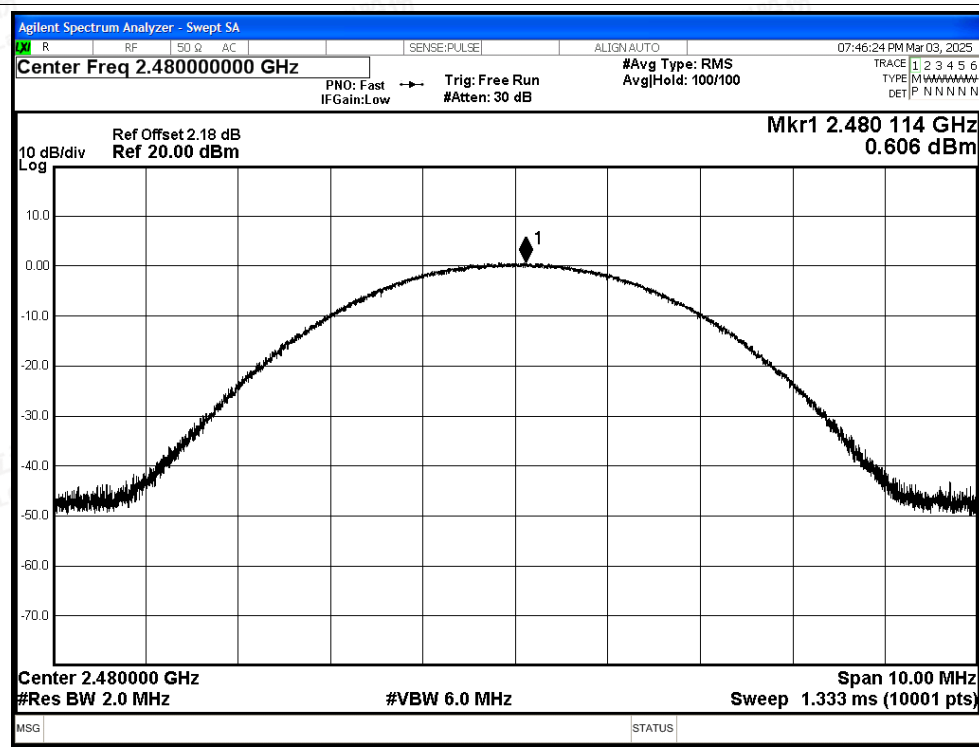




Power NVNT 2-DH5 2441MHz Ant1



Power NVNT 2-DH5 2480MHz Ant1



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A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.832	2402.838	1.006	0.635	Pass
NVNT	2-DH5	Ant1	2402.02	2403	0.98	0.877	Pass

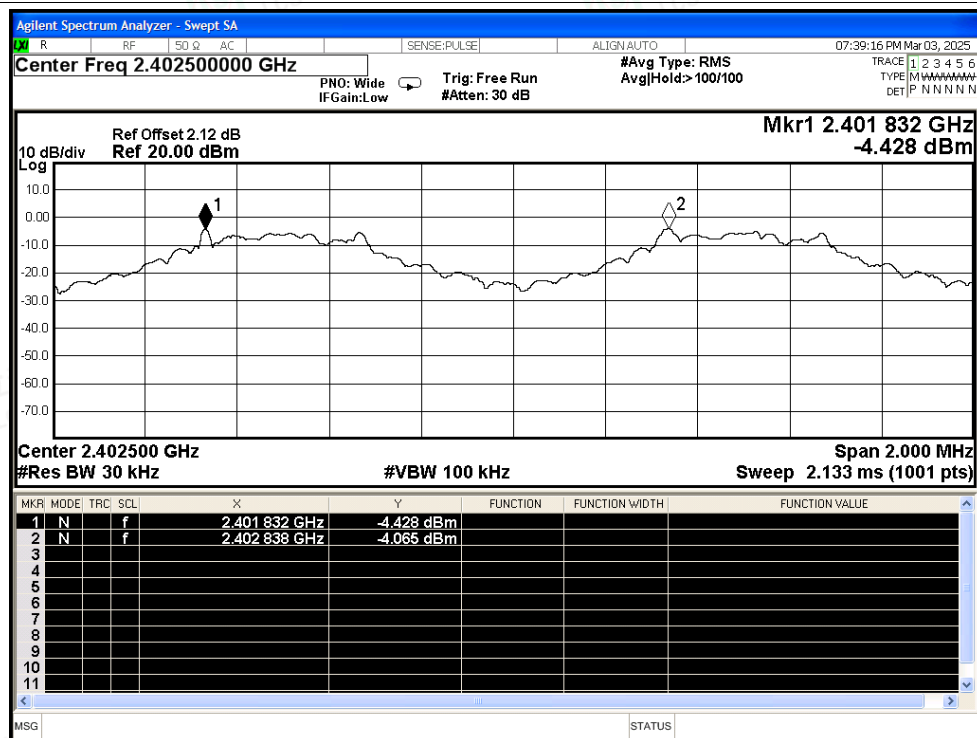


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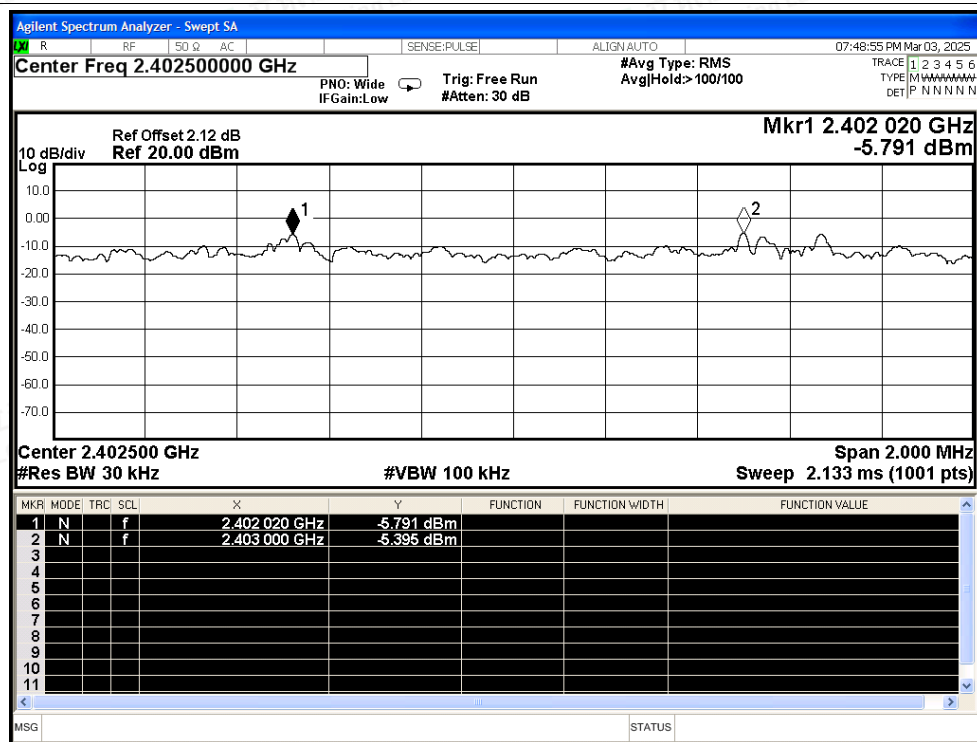


Test Graphs

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	267.72	92	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.898	304.29	105	31600	400	Pass

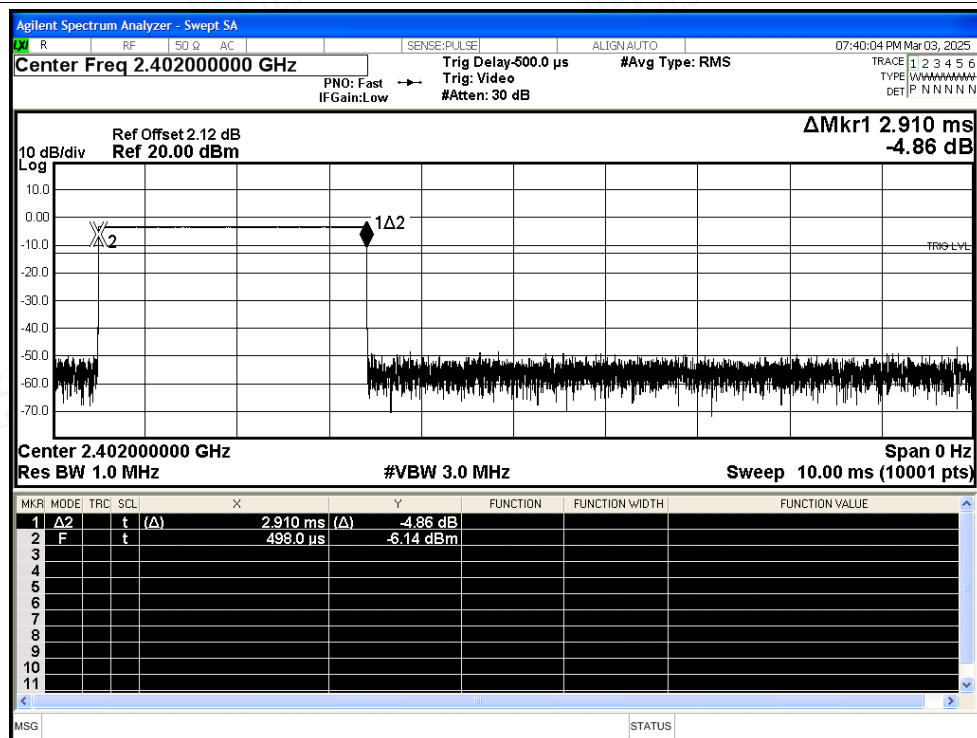


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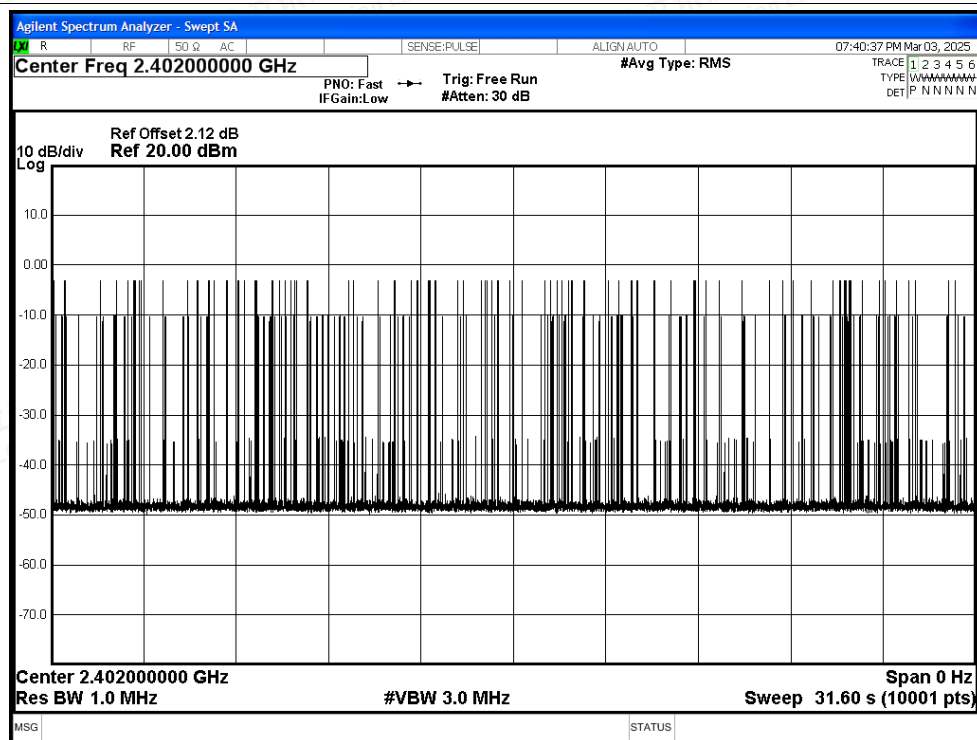


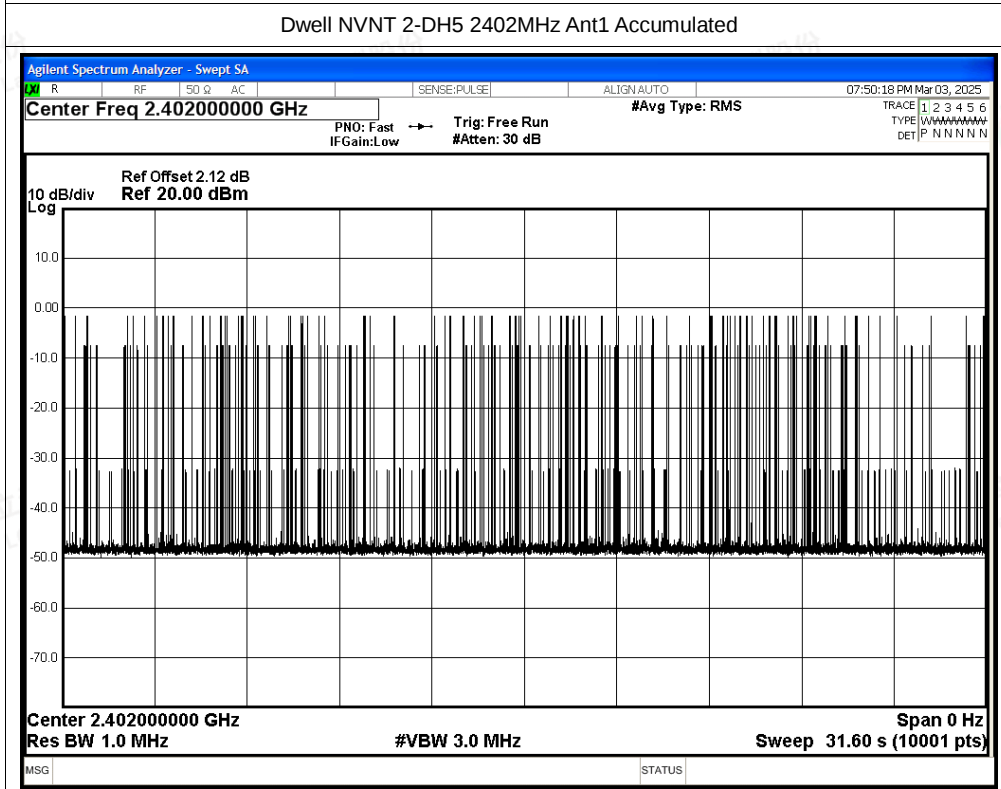
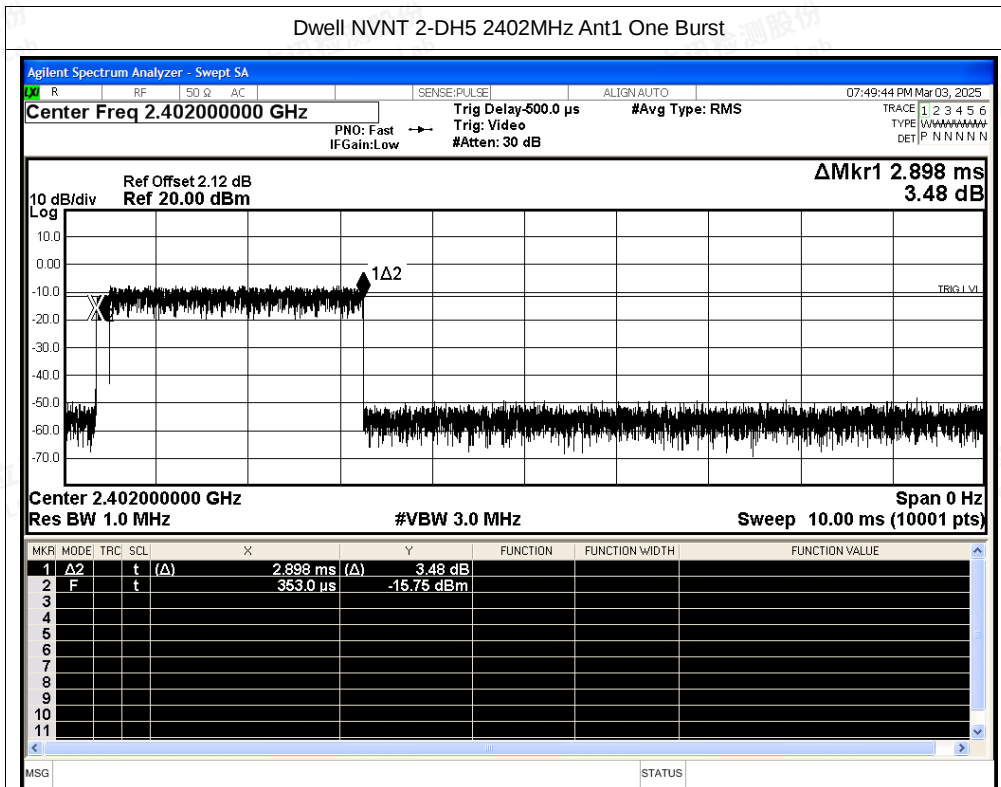
Test Graphs

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

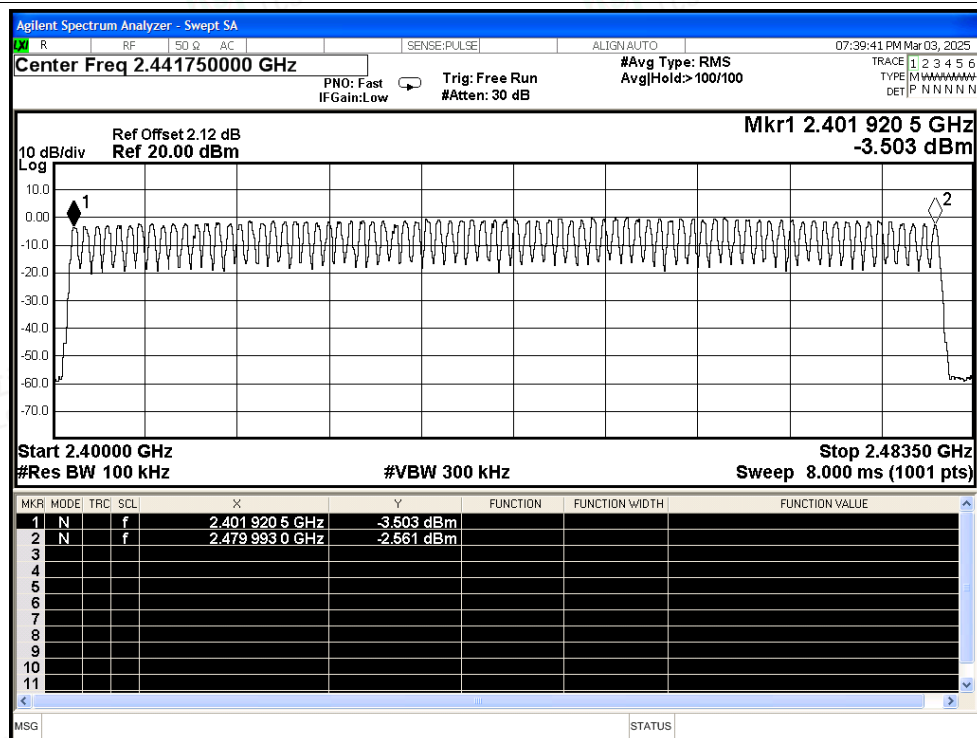


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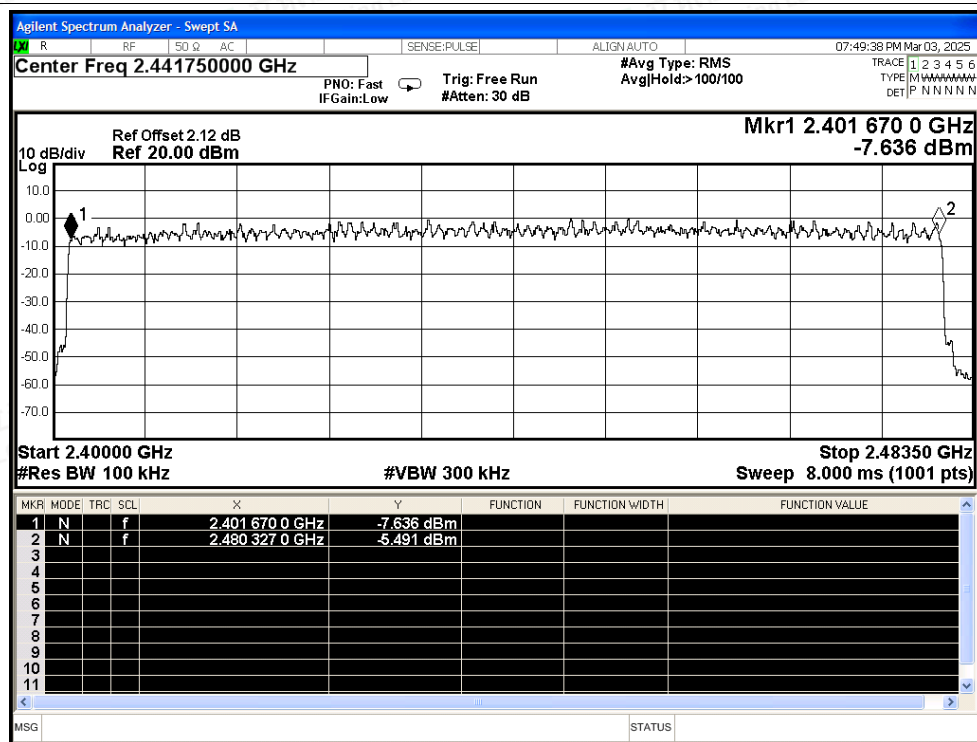


Test Graphs

Hopping No. NVNT 1-DH5 2402MHz Ant1



Hopping No. NVNT 2-DH5 2402MHz Ant1



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A.6 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	No-Hopping	-56.46	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.5	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-52.75	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-55.36	-20	Pass

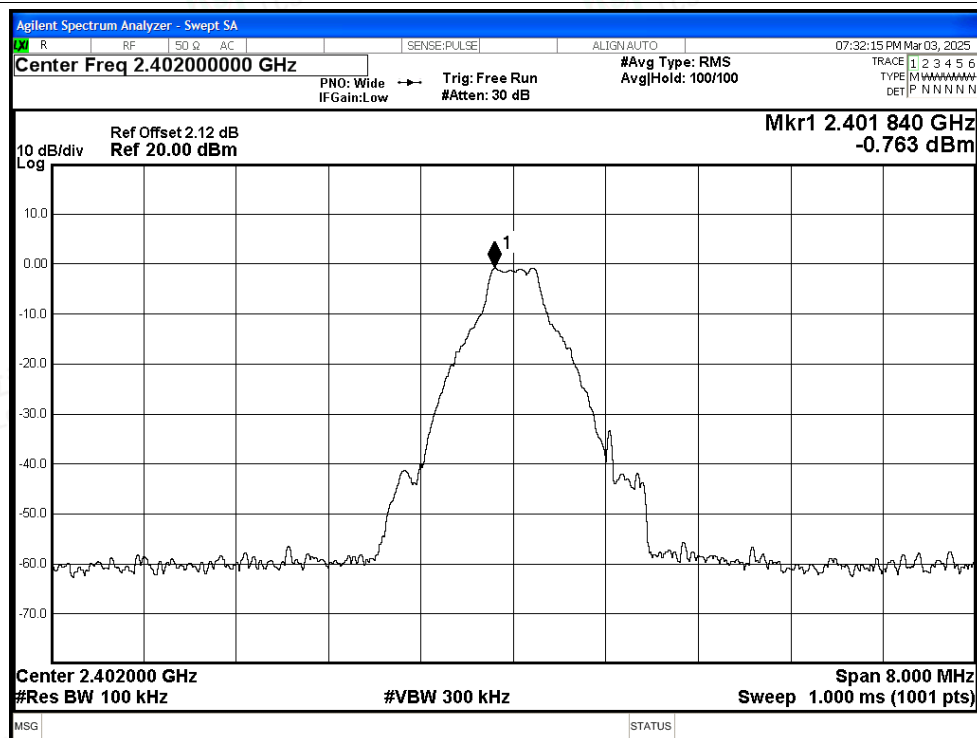


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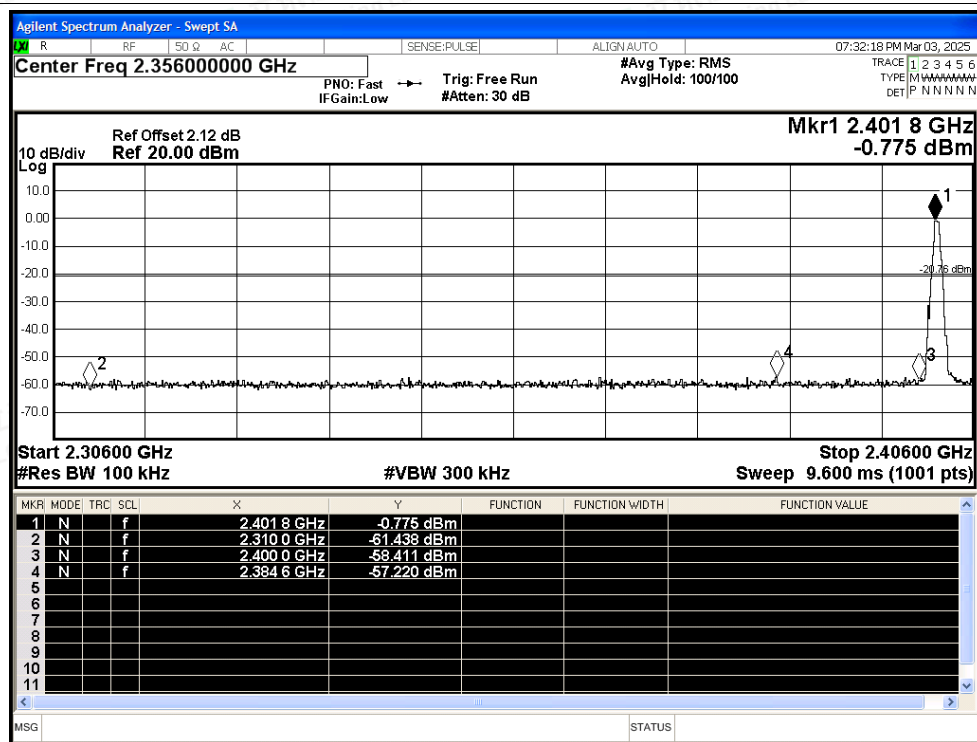


Test Graphs

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



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



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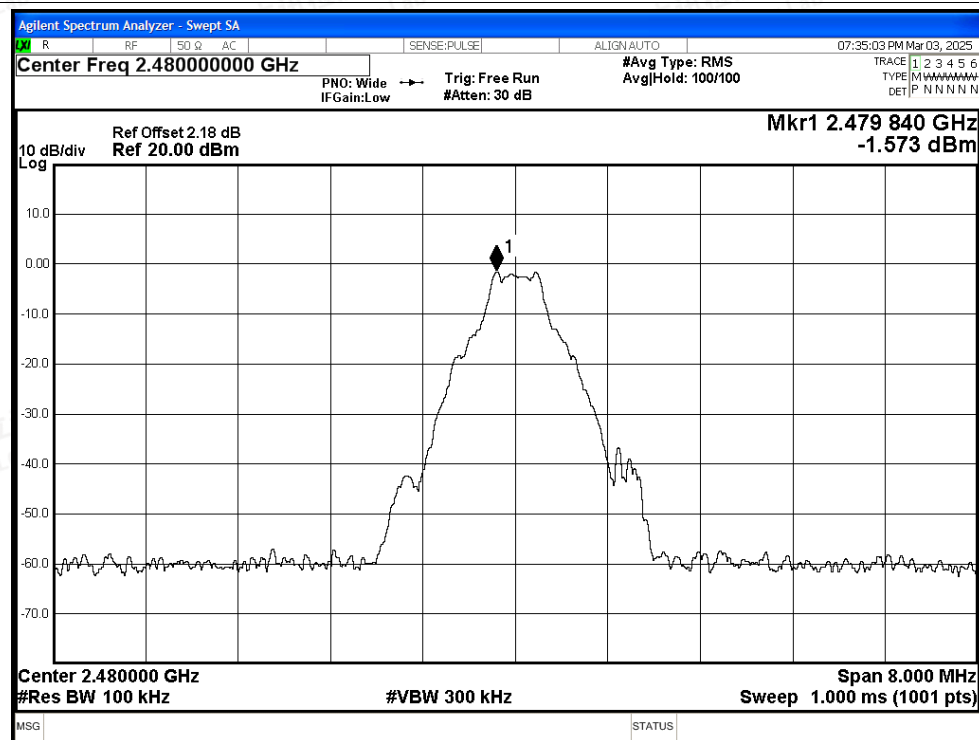
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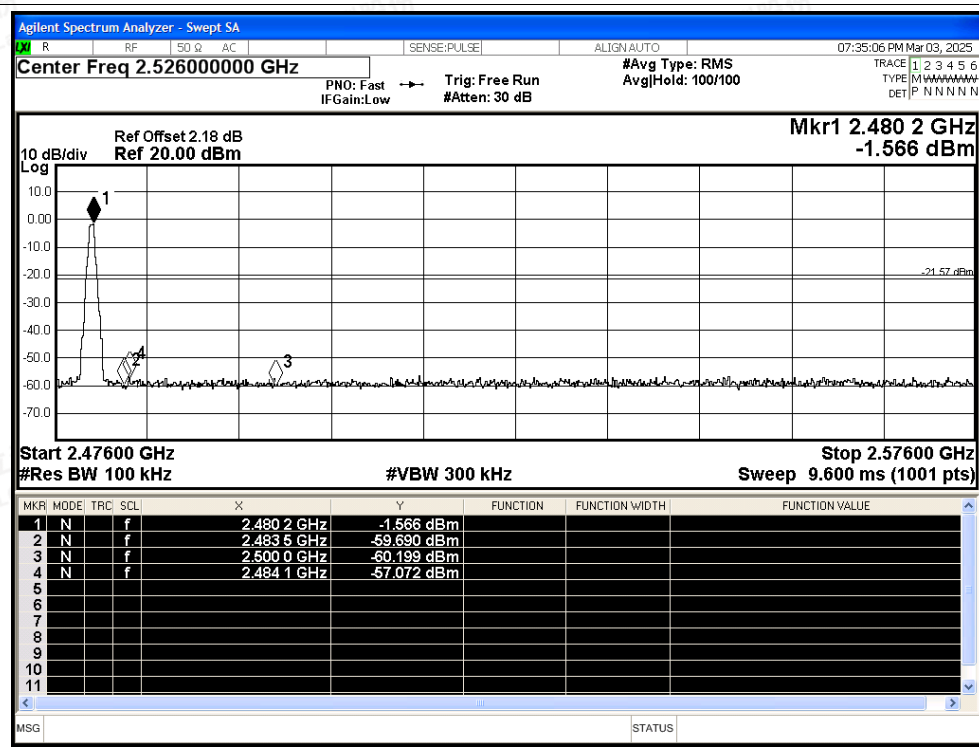
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Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref

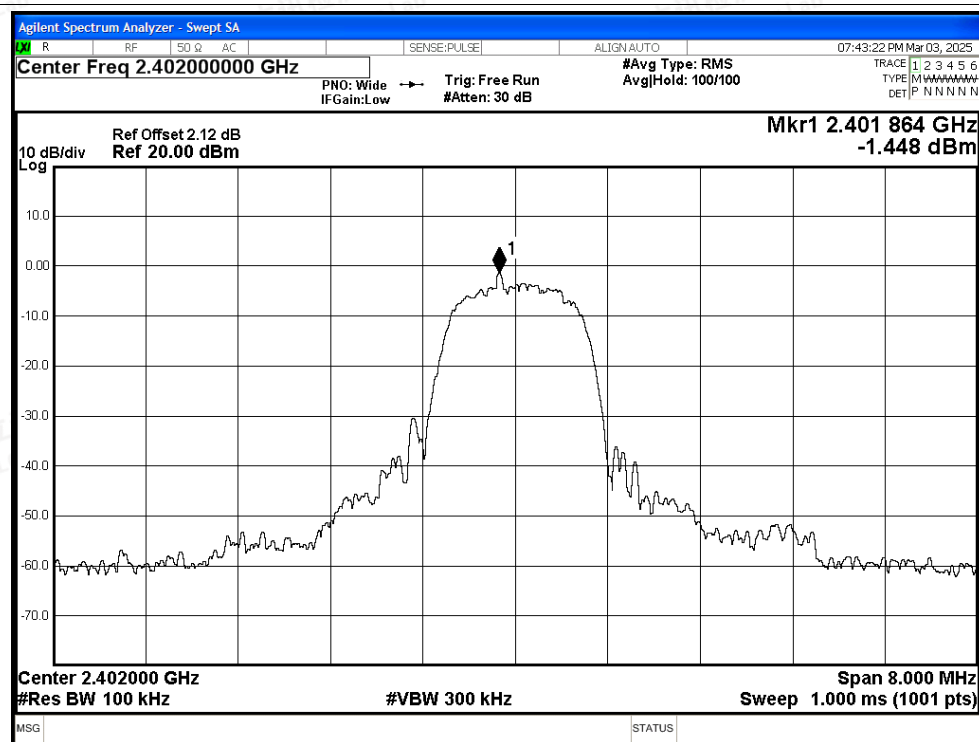


Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Emission

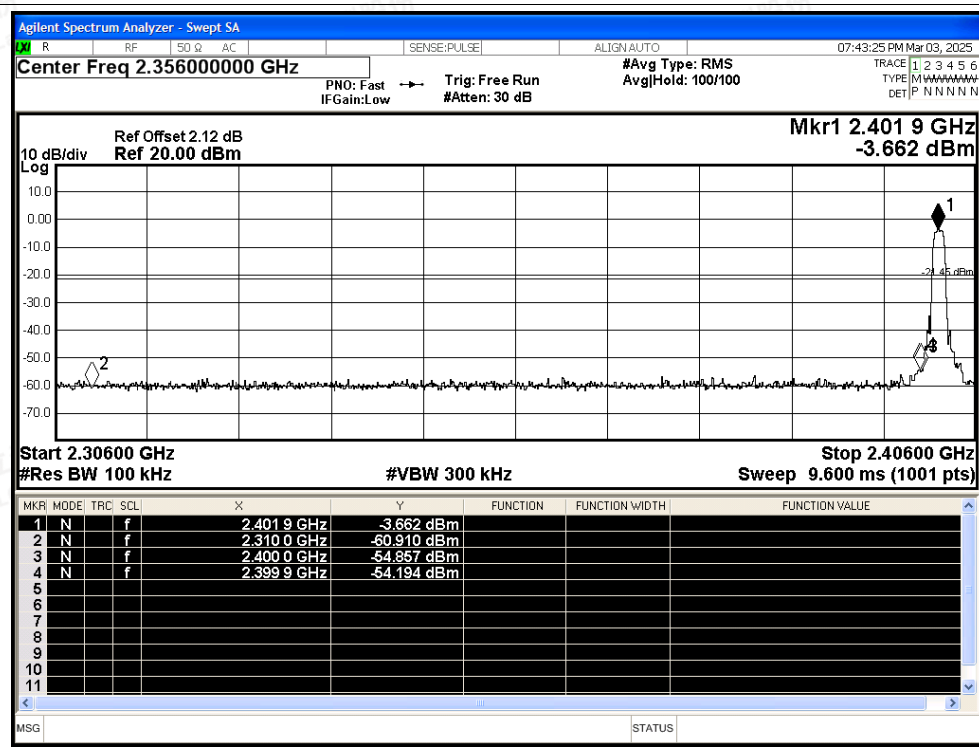




Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

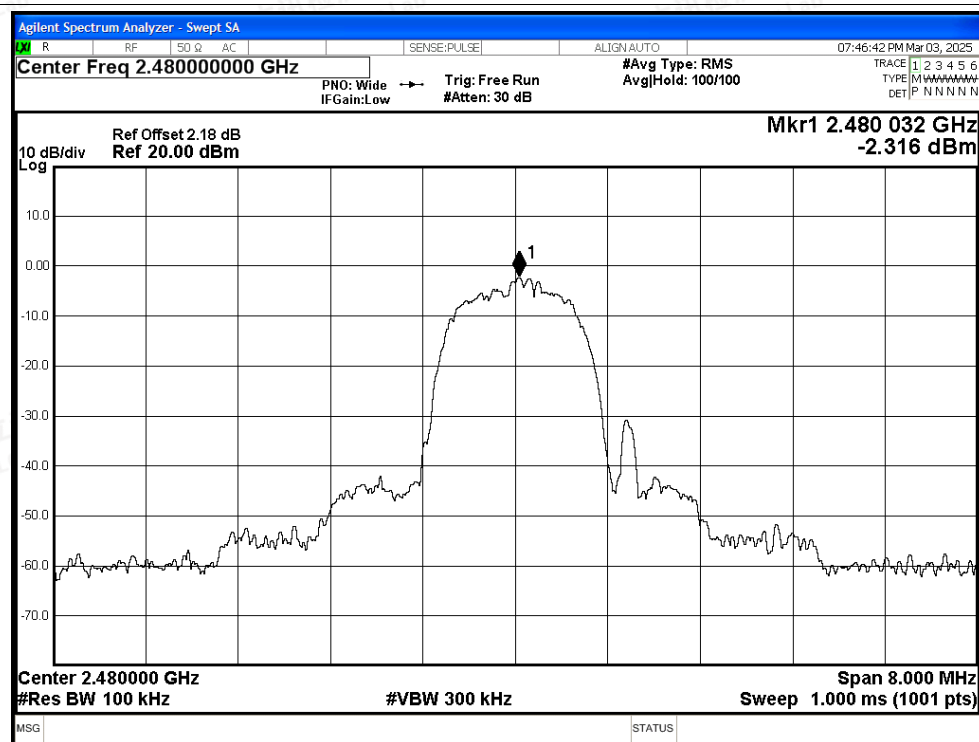


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

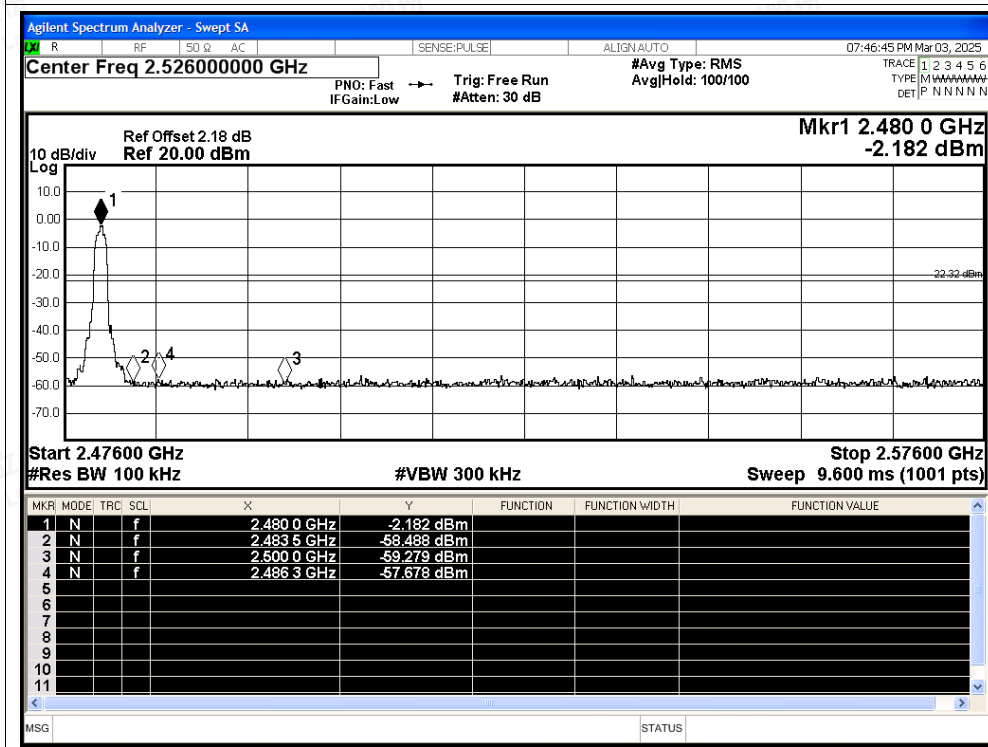




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 2-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	-53.14	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-54.61	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-50.38	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-54.33	-20	Pass

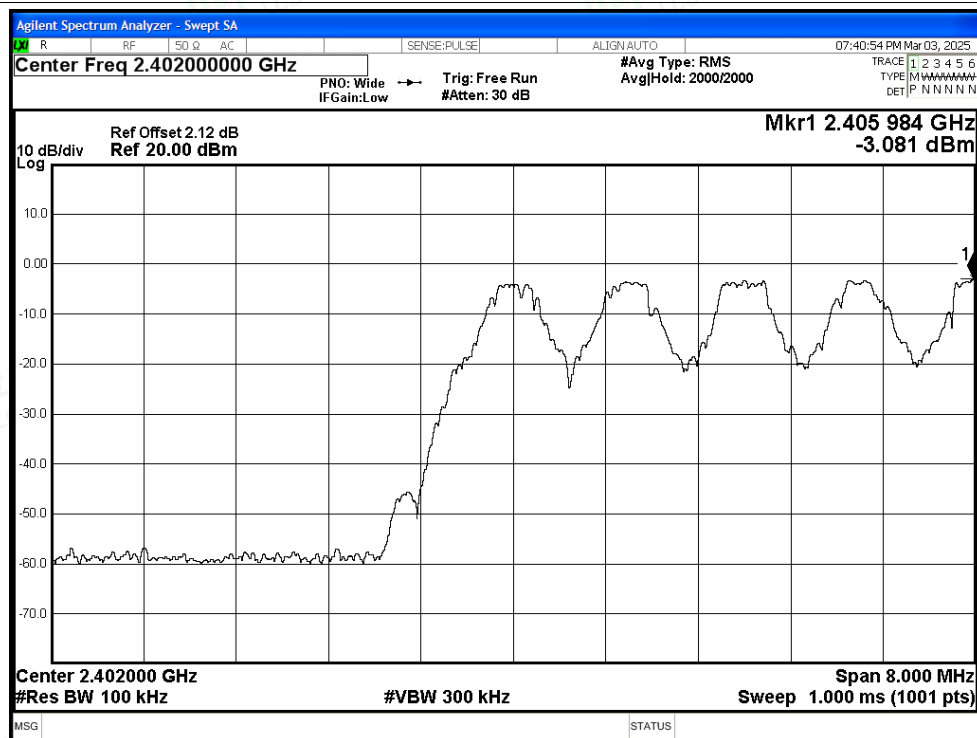


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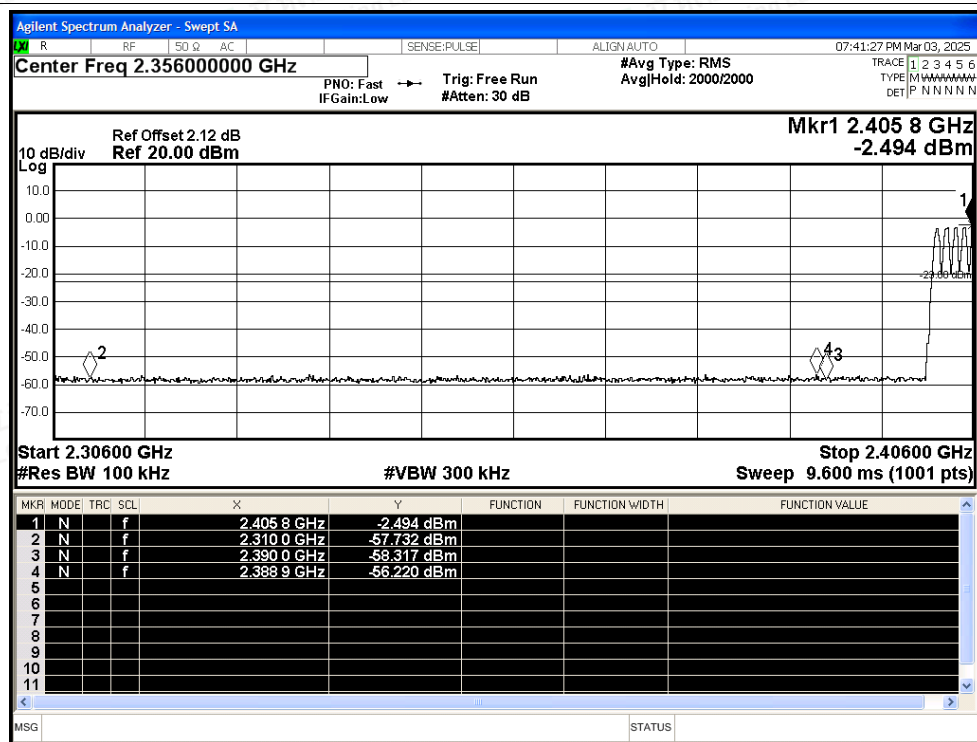


Test Graphs

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



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

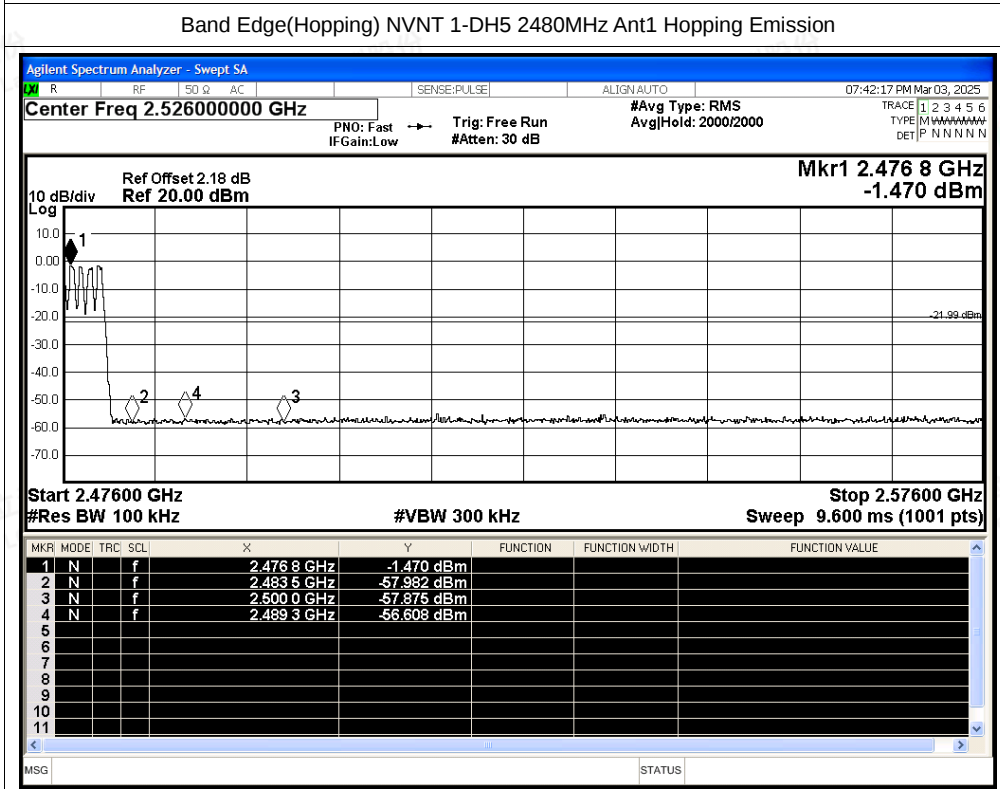
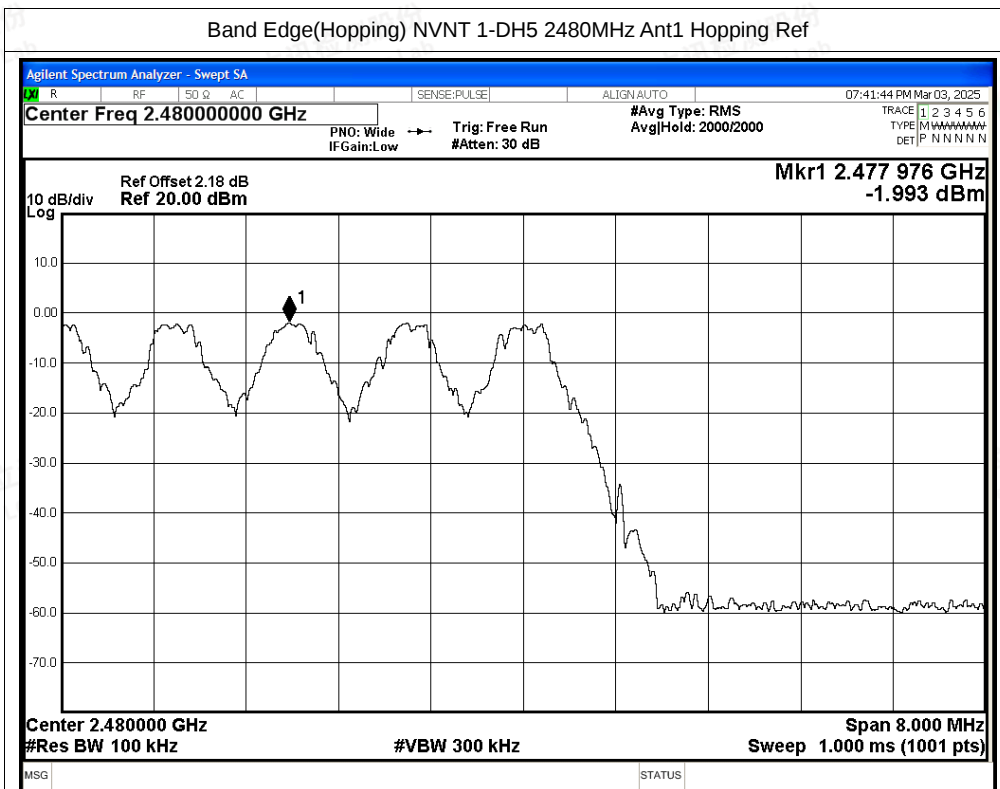


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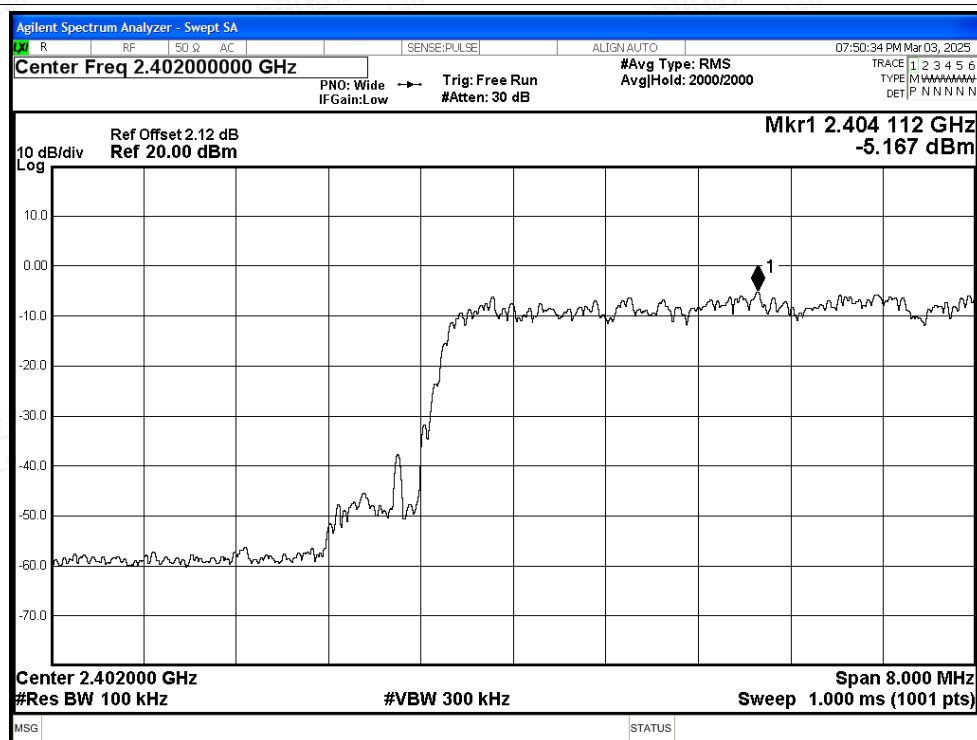
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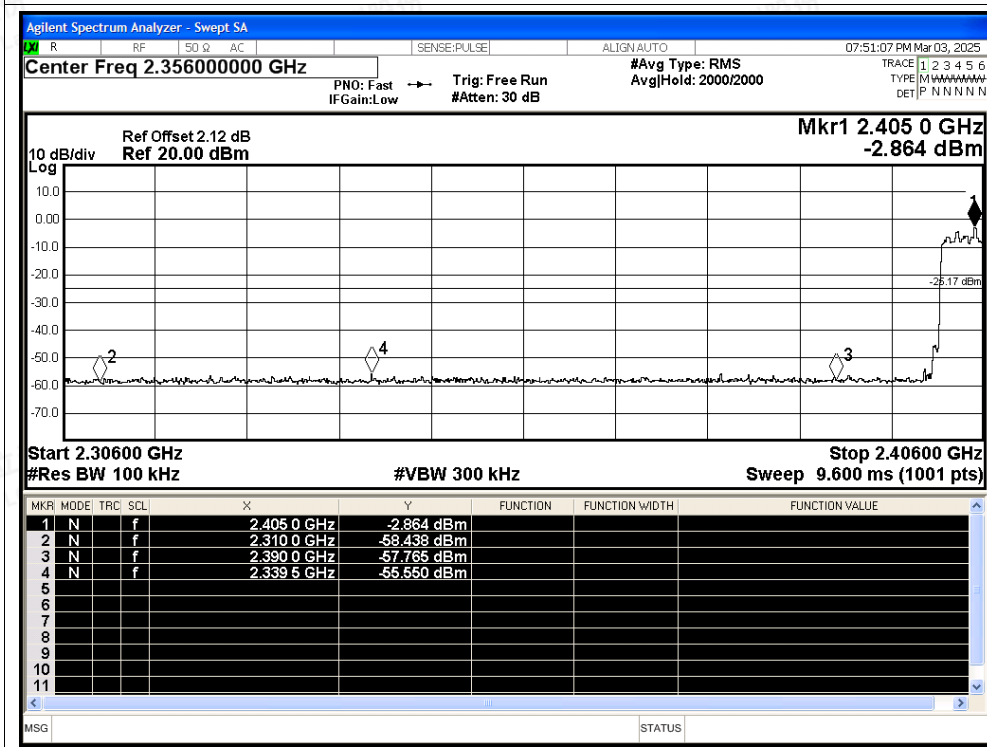
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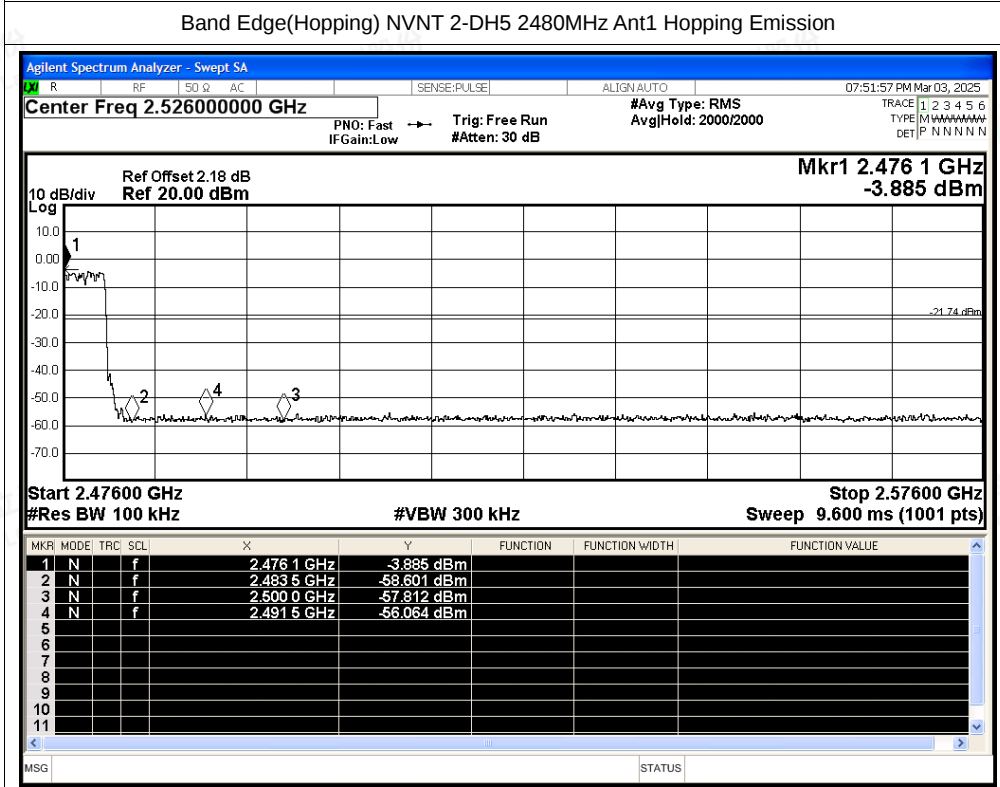
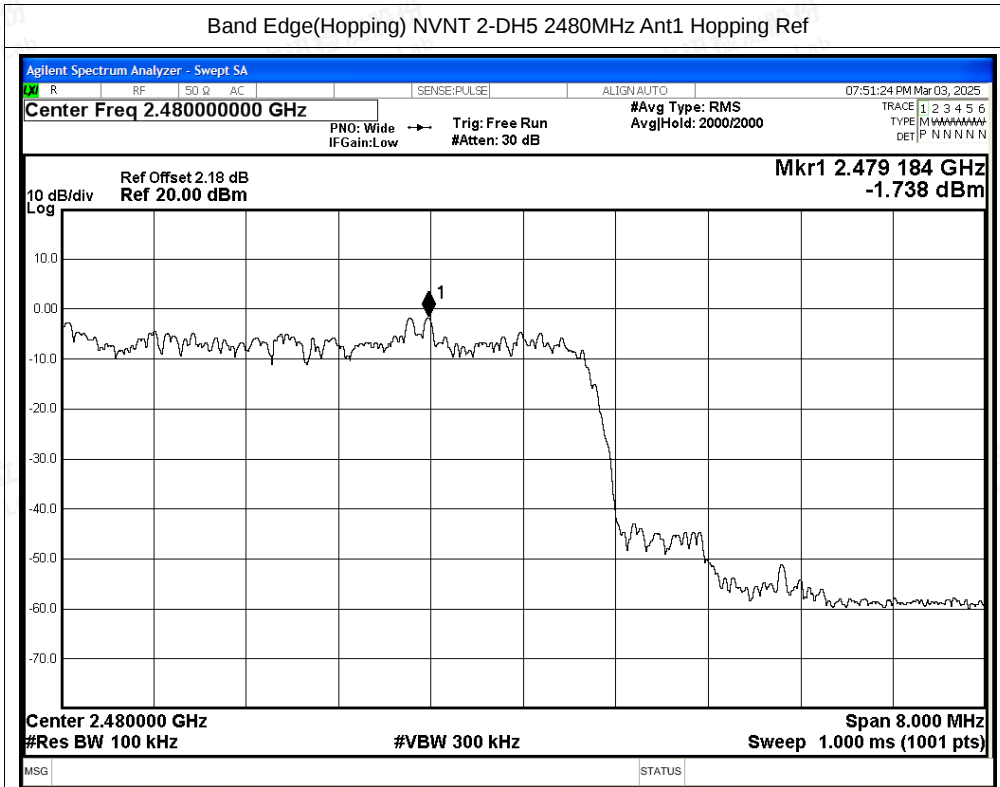


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission





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A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-53.71	-20	Pass
NVNT	1-DH5	2441	Ant1	-53.99	-20	Pass
NVNT	1-DH5	2480	Ant1	-53.22	-20	Pass
NVNT	2-DH5	2402	Ant1	-54.68	-20	Pass
NVNT	2-DH5	2441	Ant1	-54.48	-20	Pass
NVNT	2-DH5	2480	Ant1	-52.19	-20	Pass

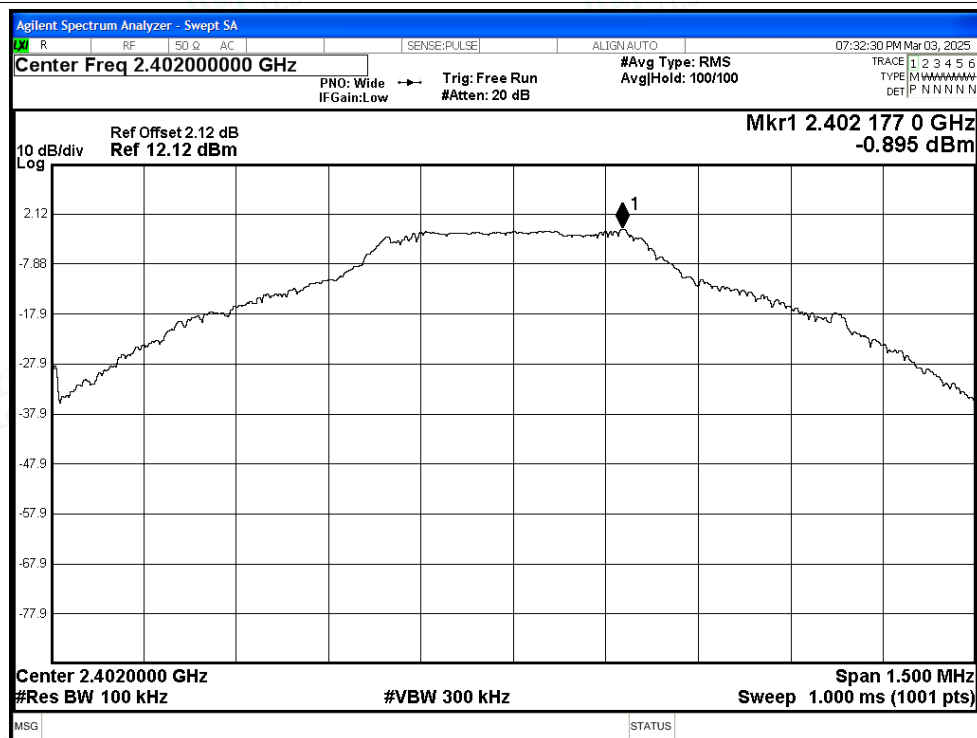


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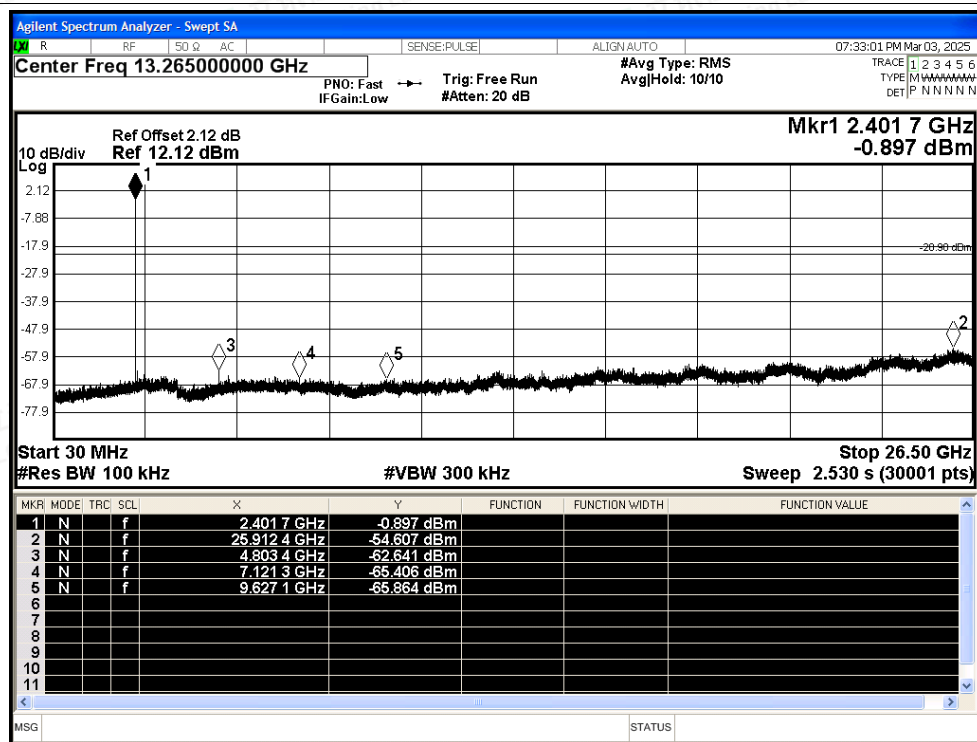


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

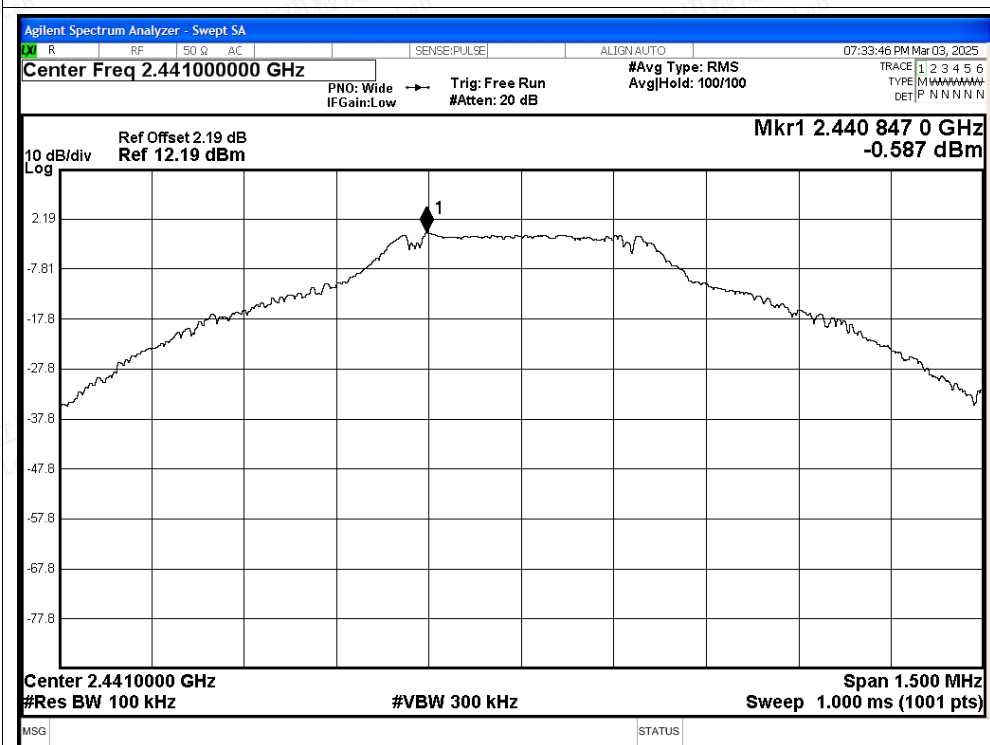


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

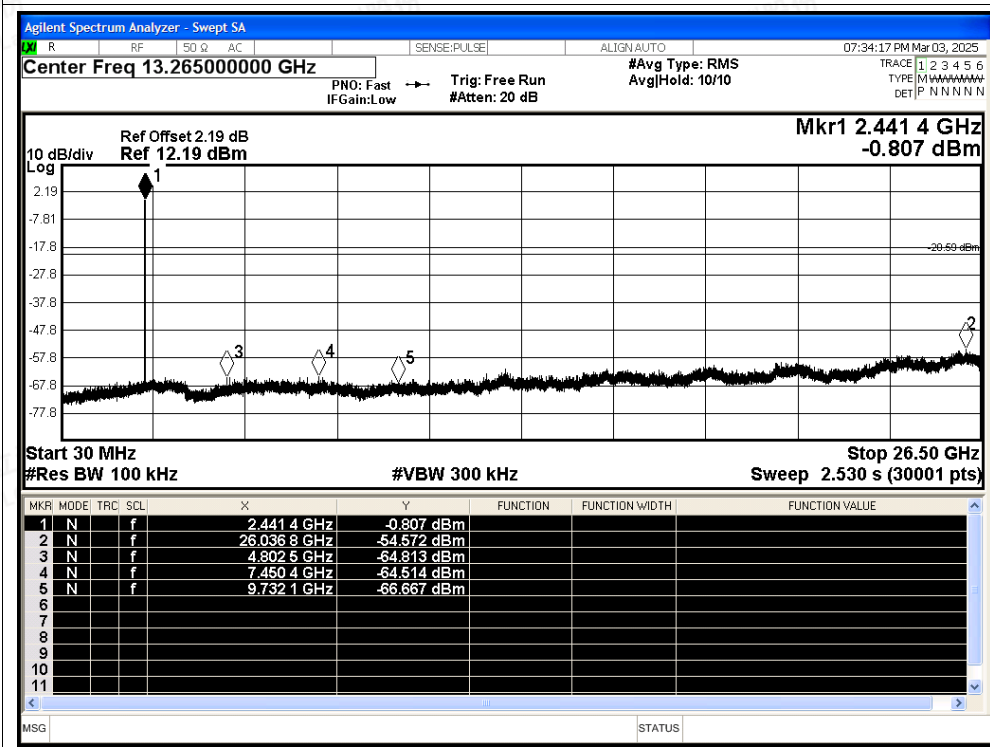




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



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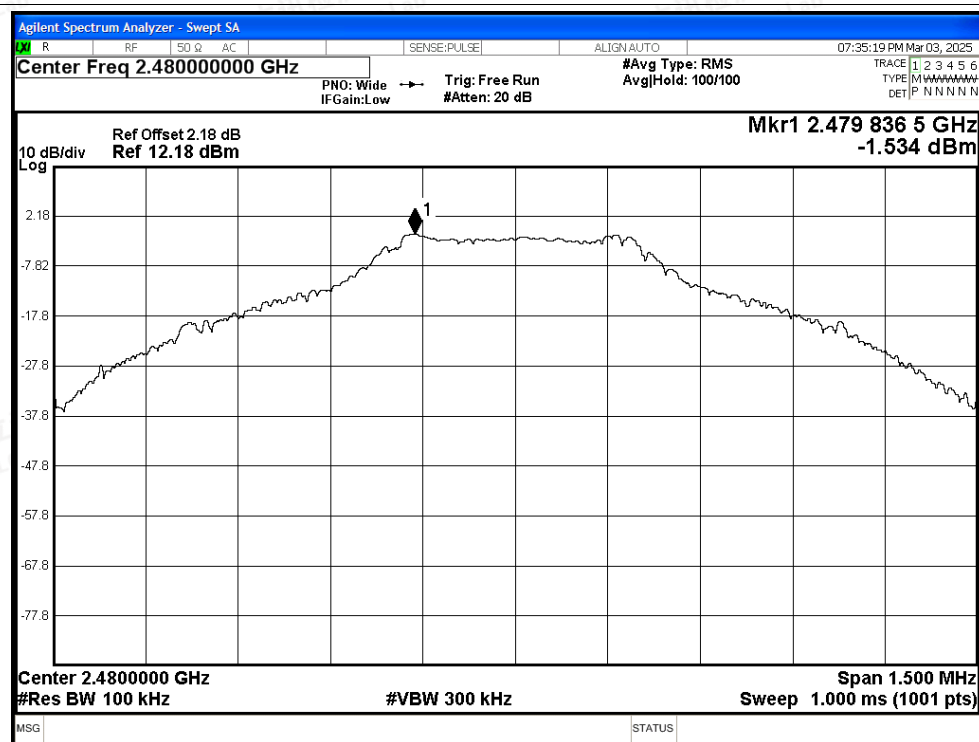
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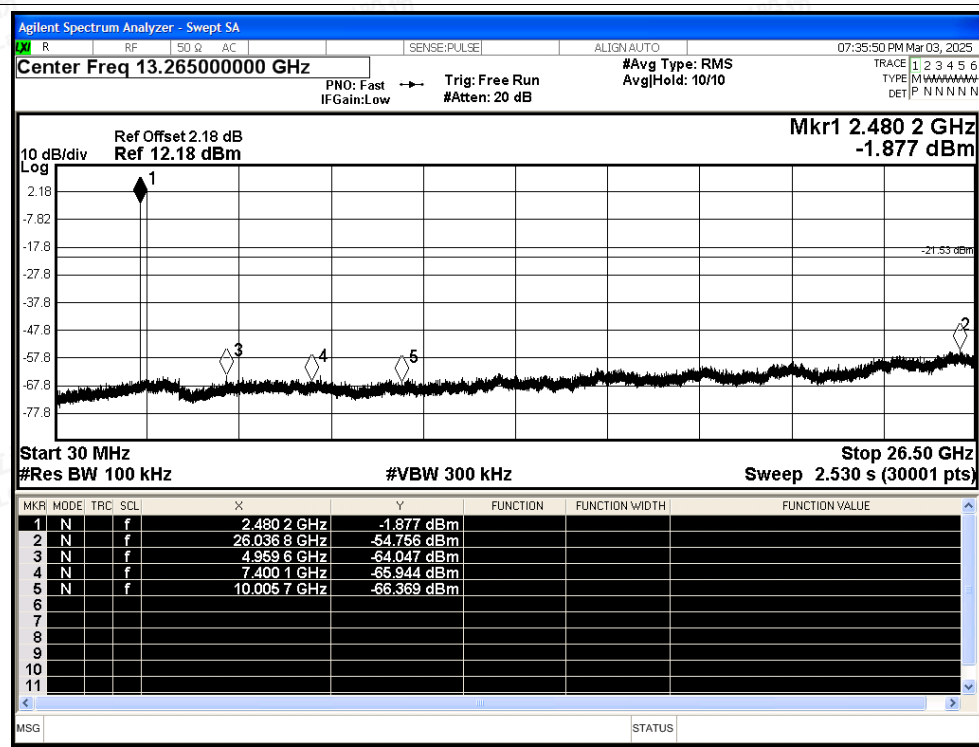
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Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

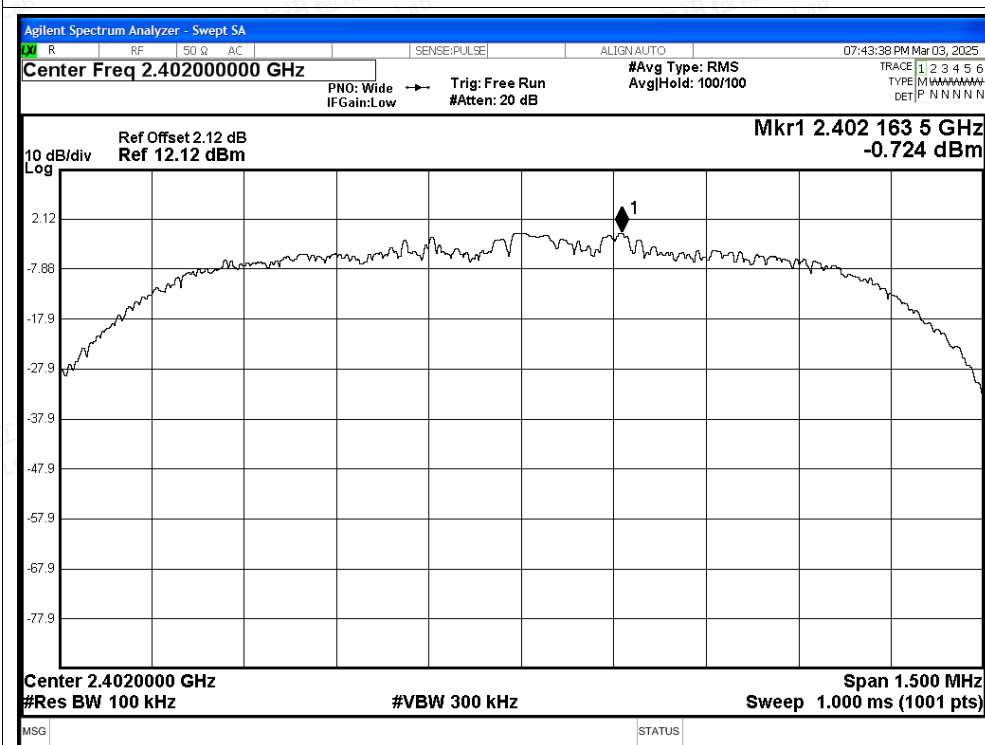


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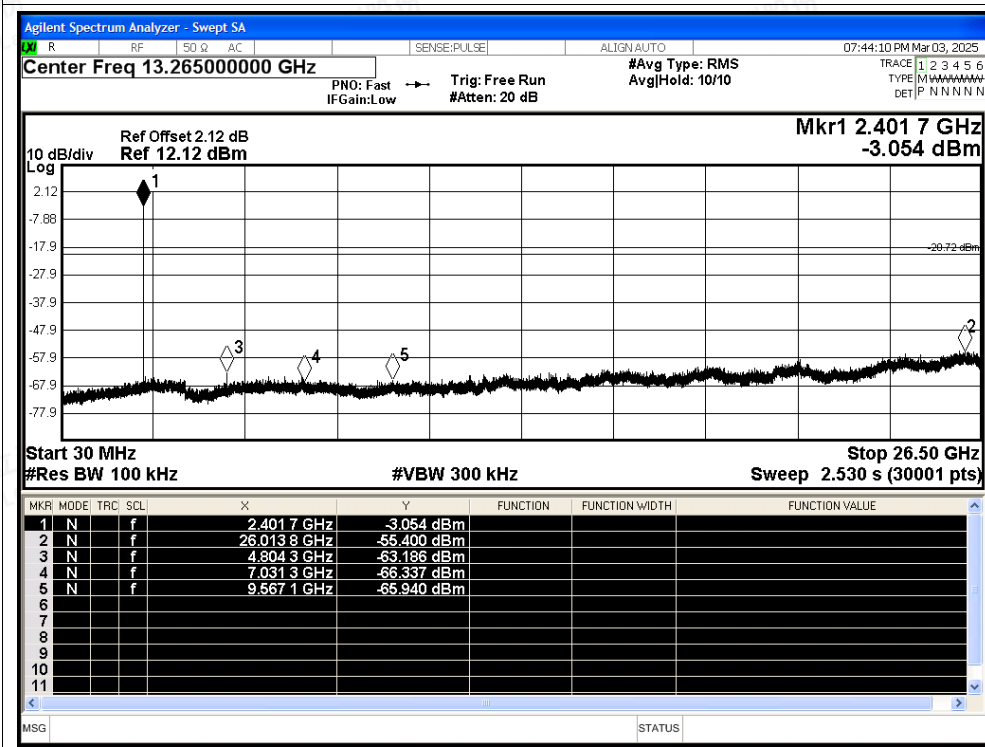




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



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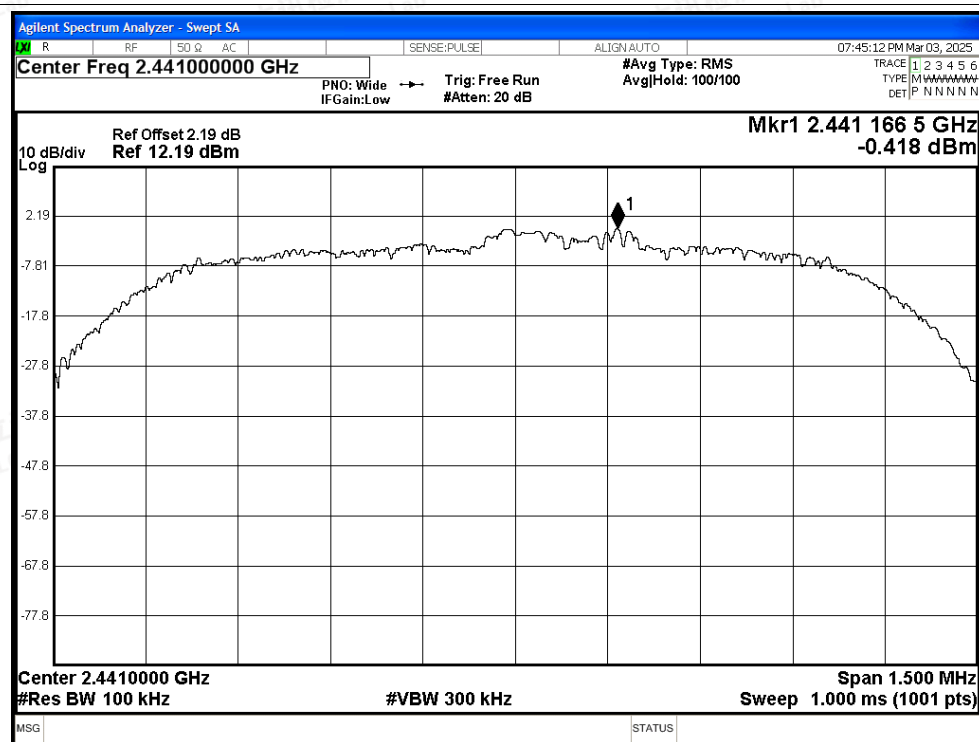
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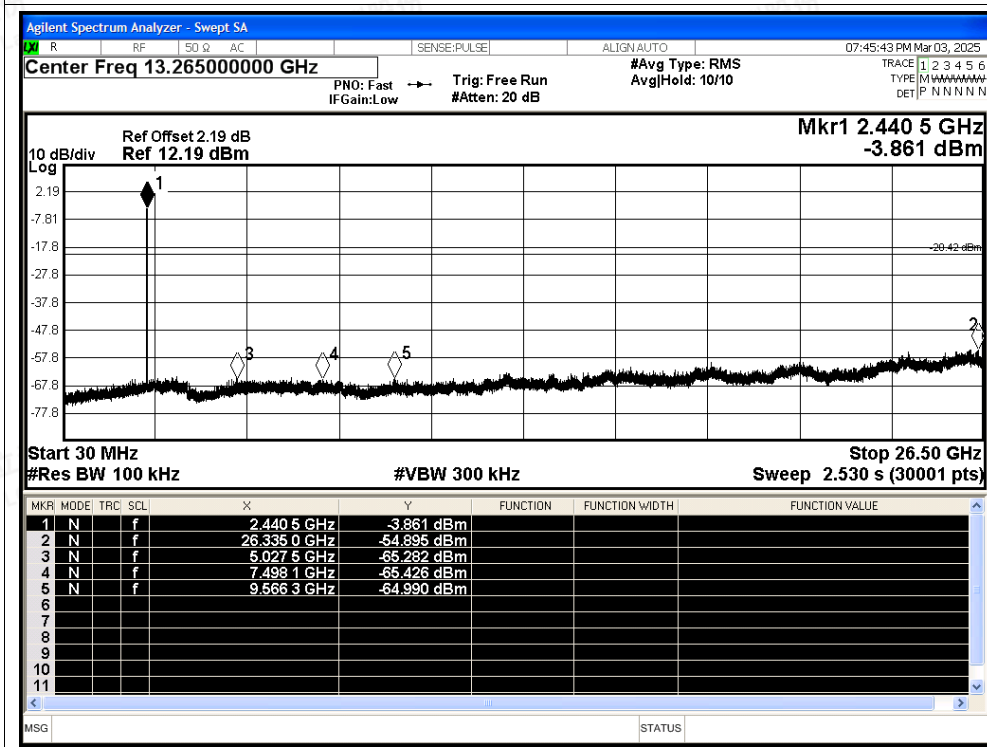
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Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

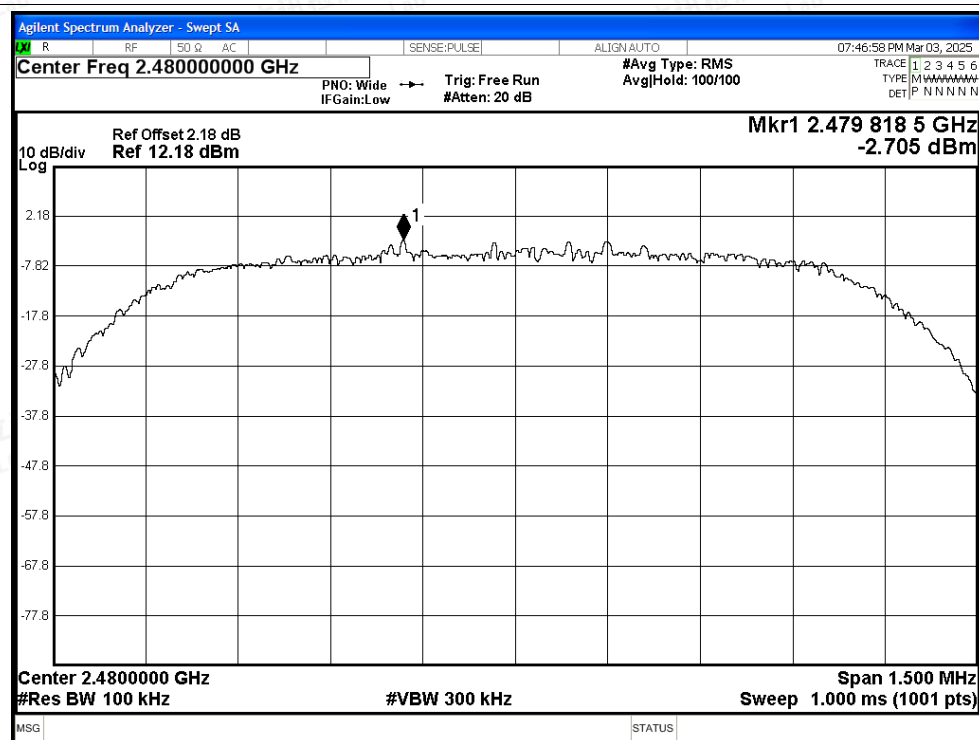


Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

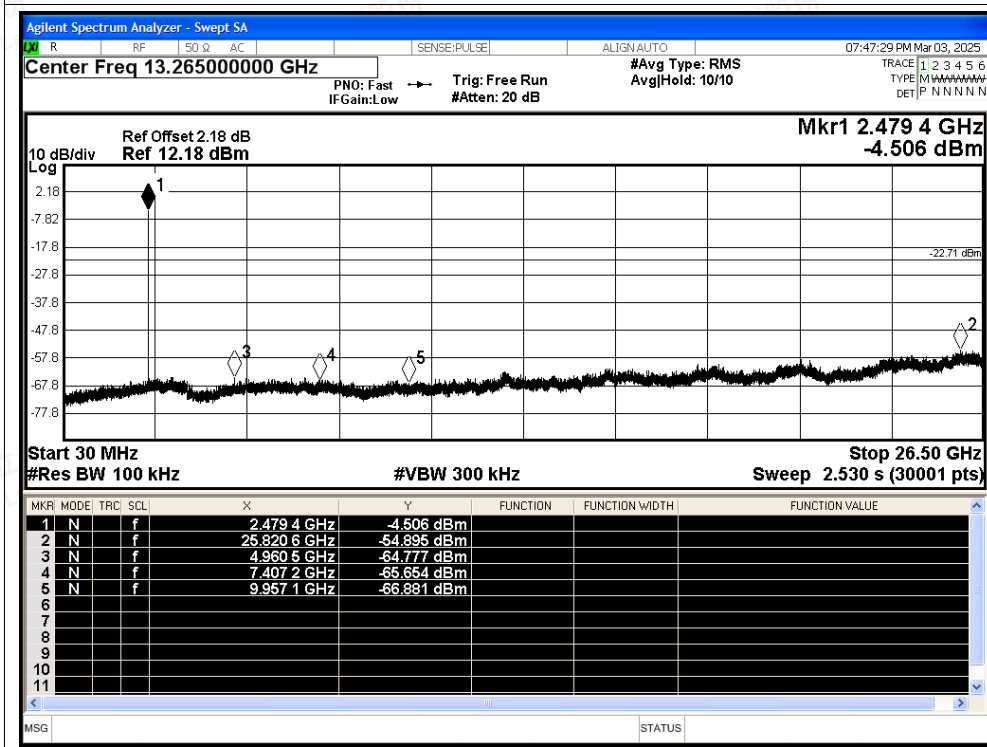




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Emission



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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	77.6	1.1	0.34
NVNT	1-DH5	2480	Ant1	77.63	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

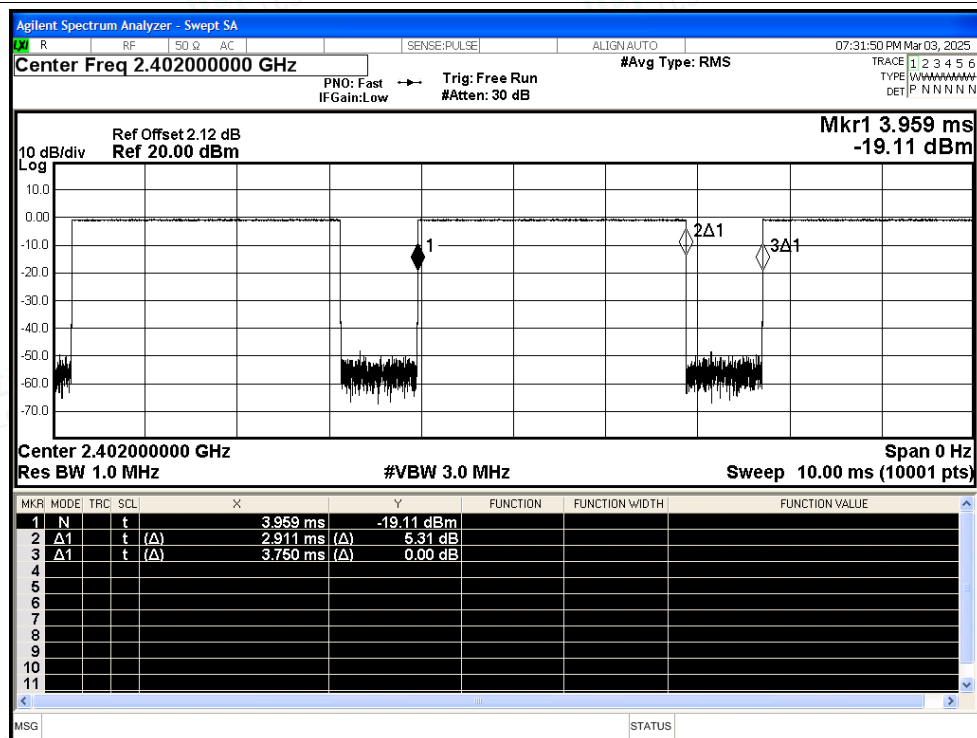


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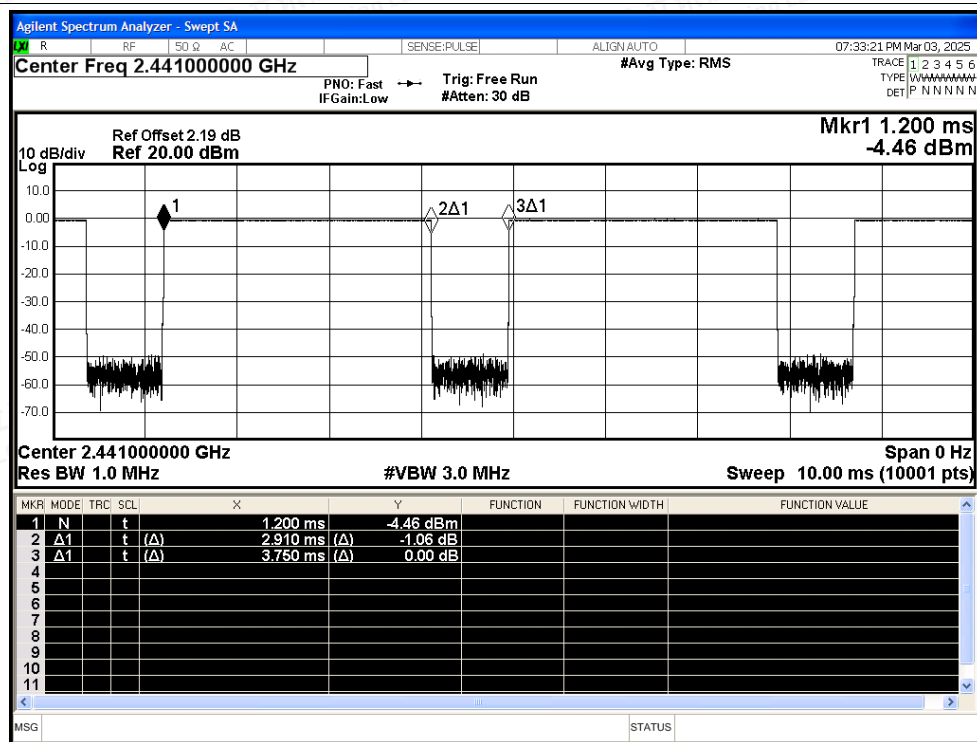


Test Graphs

Duty Cycle NVNT 1-DH5 2402MHz Ant1

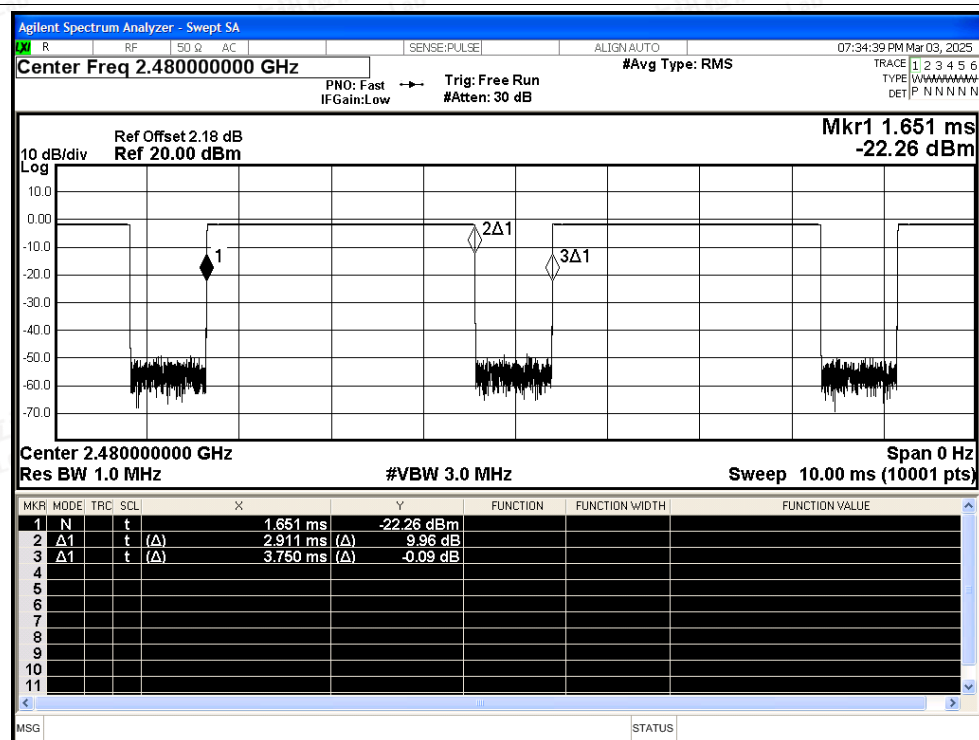


Duty Cycle NVNT 1-DH5 2441MHz Ant1

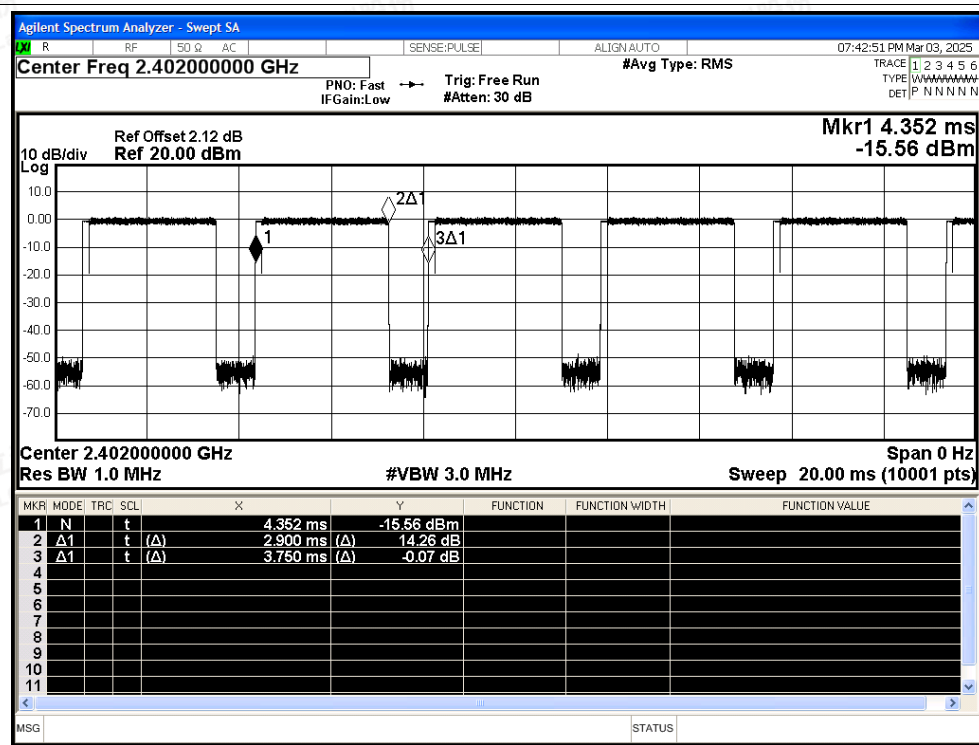




Duty Cycle NVNT 1-DH5 2480MHz Ant1

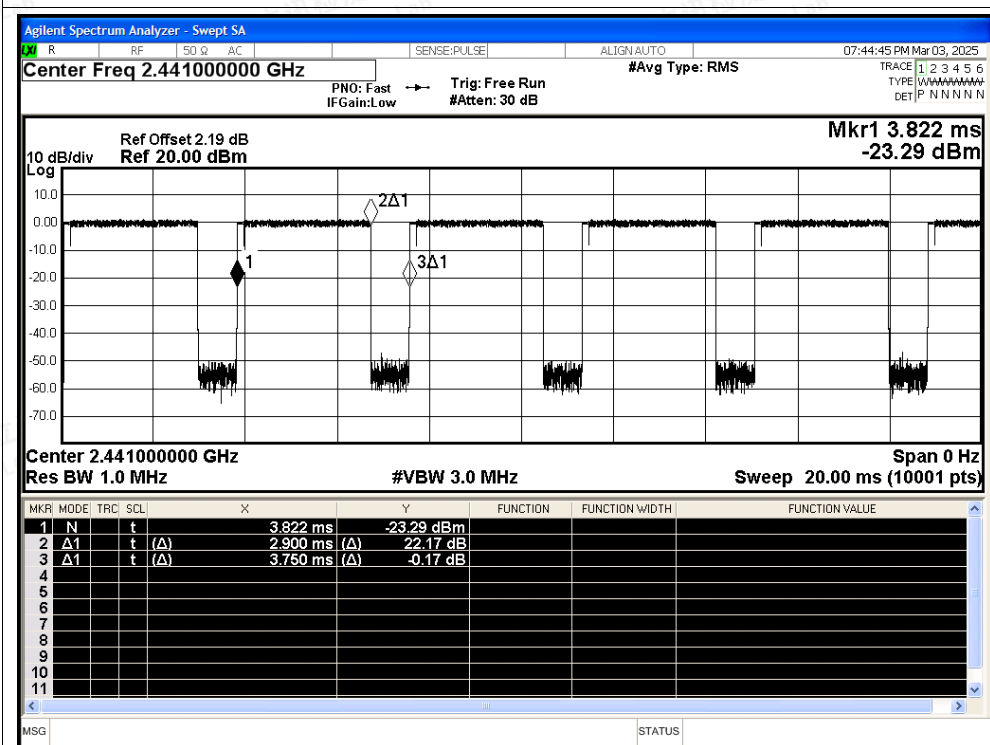


Duty Cycle NVNT 2-DH5 2402MHz Ant1

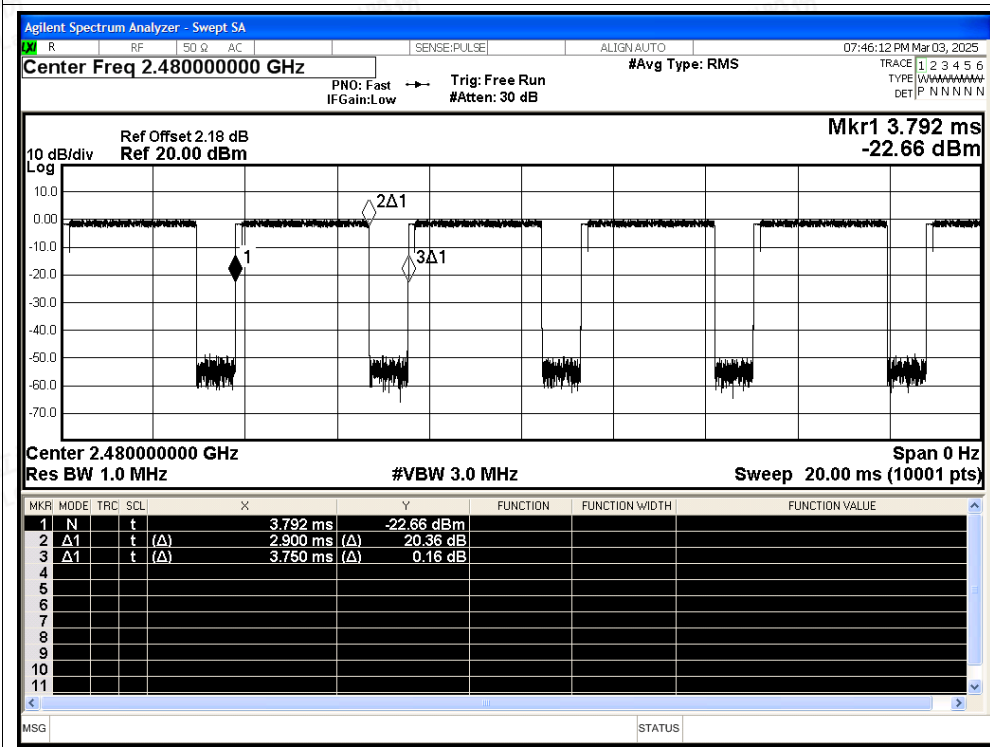




Duty Cycle NVNT 2-DH5 2441MHz Ant1



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	-51.31	2.09	-	46.04	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.87	2.09	1.1	39.58	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2346.864	-47.43	2.09	-	49.92	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2342.832	-57.49	2.09	1.1	40.96	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-49.28	2.09	-	48.07	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-57.79	2.09	1.1	40.66	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-48.67	2.09	-	48.68	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.01	2.09	1.1	41.44	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2497.576	-46.58	2.09	-	50.77	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.512	-57.01	2.09	1.1	41.44	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.1	2.09	-	48.25	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.77	2.09	1.1	40.68	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-49.93	2.09	-	47.42	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.31	2.09	1.12	39.16	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2369.52	-47.28	2.09	-	50.07	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2371.056	-57.6	2.09	1.12	40.87	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-48.36	2.09	-	48.99	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.77	2.09	1.12	39.70	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-48.29	2.09	-	49.06	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.54	2.09	1.12	40.93	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2487.472	-46.67	2.09	-	50.68	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2488.96	-56.91	2.09	1.12	41.56	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-50.42	2.09	-	46.93	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.12	2.09	1.12	40.35	Average	54	Pass

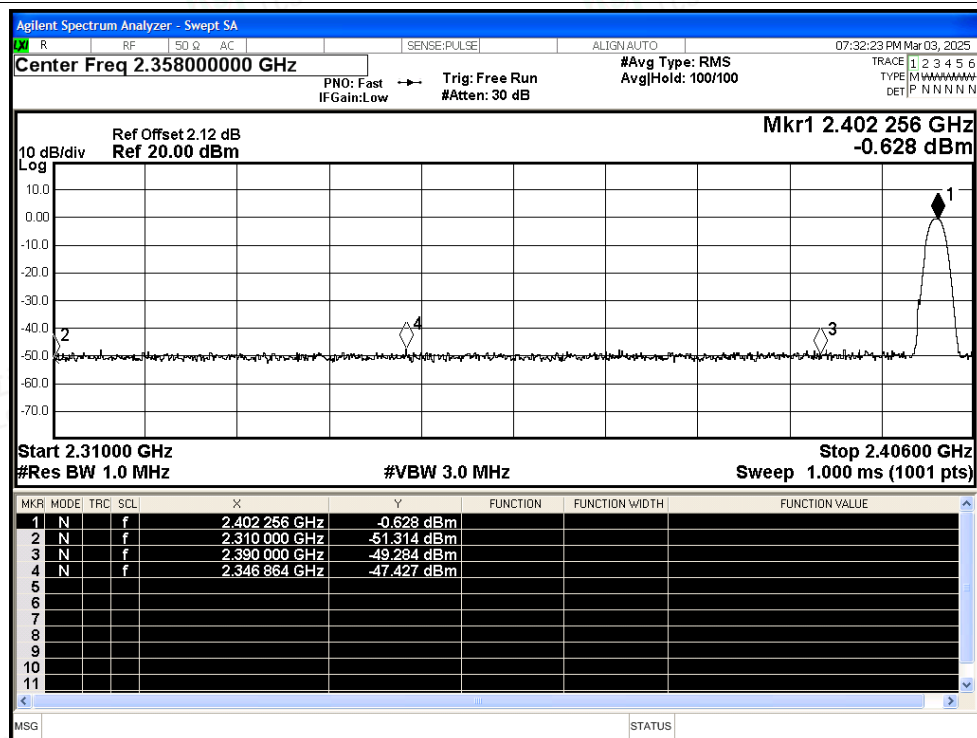


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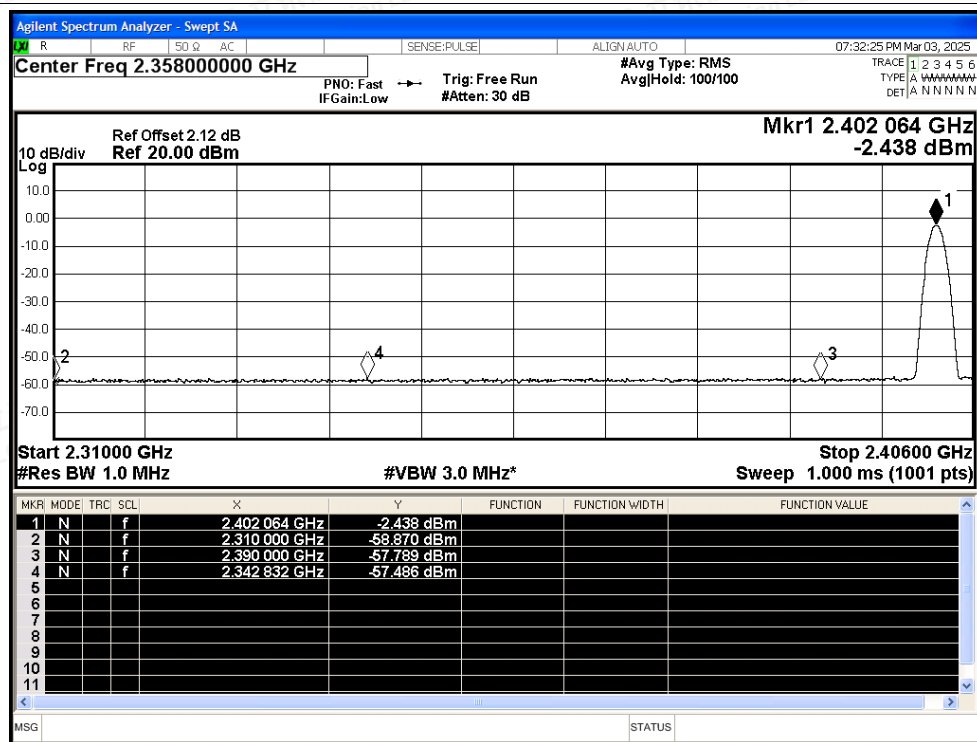


Test Graphs

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



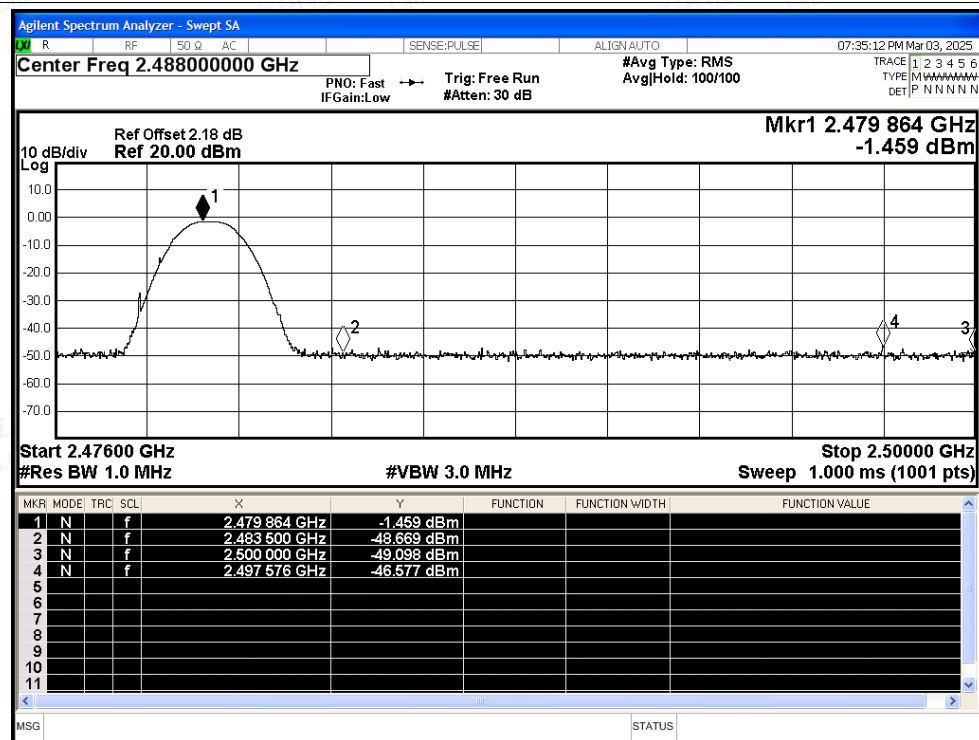
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



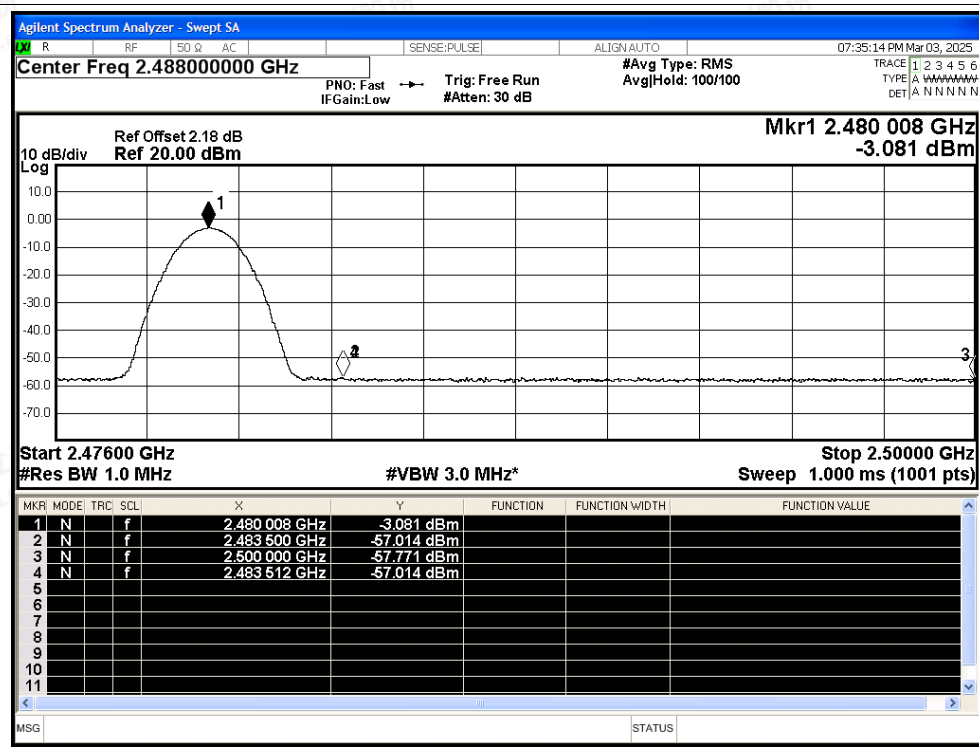
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Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

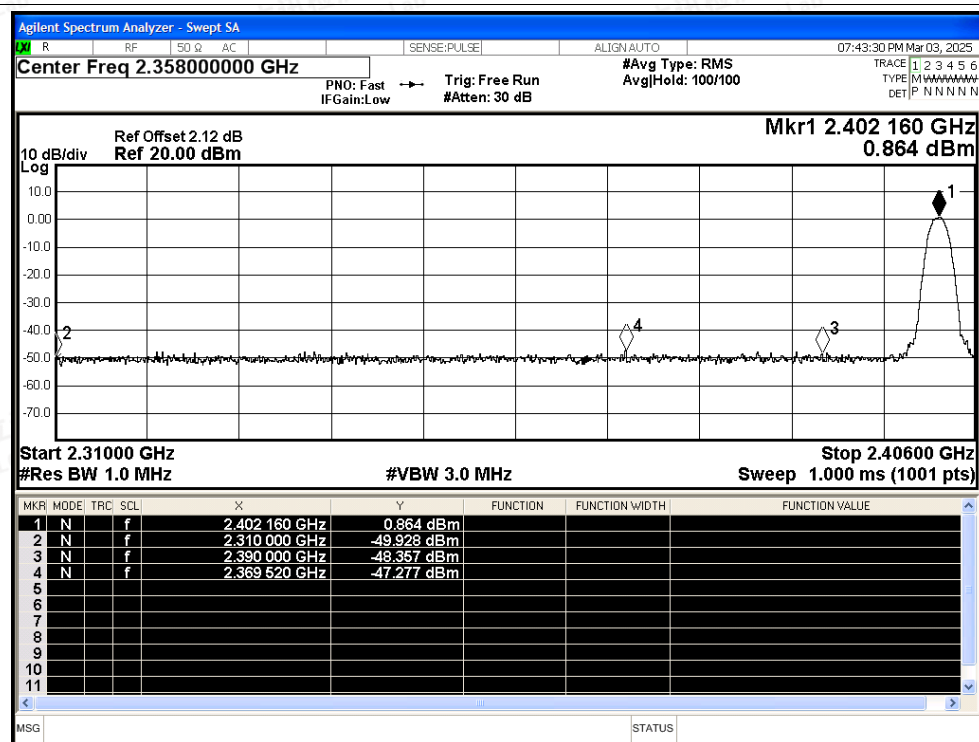


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

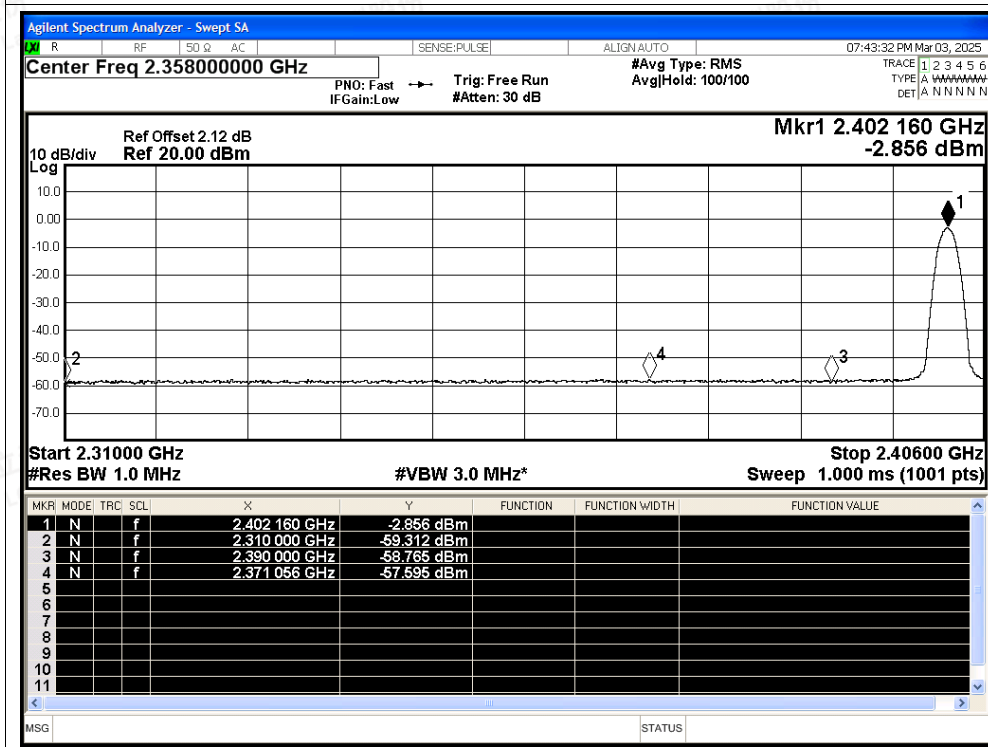




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

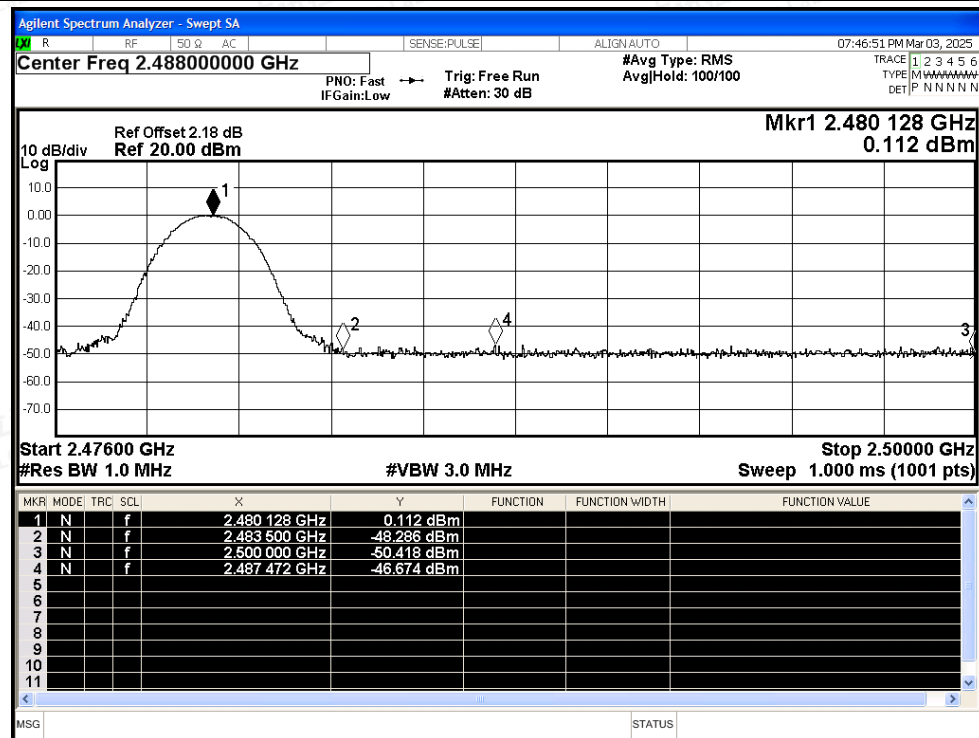


Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average





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



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

