



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	0.962	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.954	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.957	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.287	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.28	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.317	N/A	Pass



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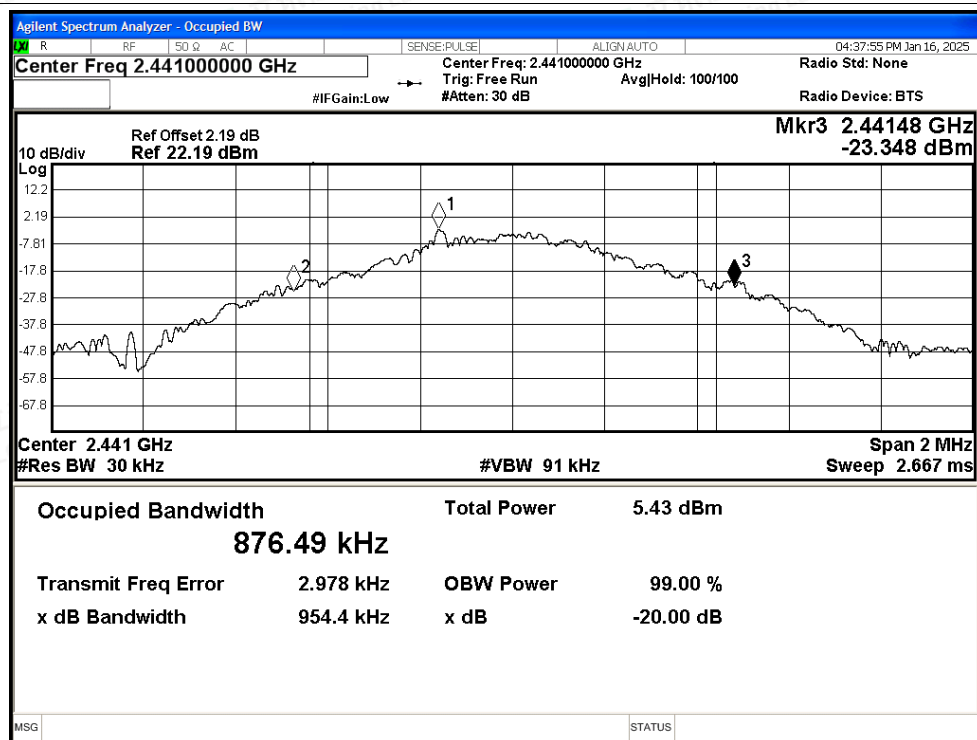


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1



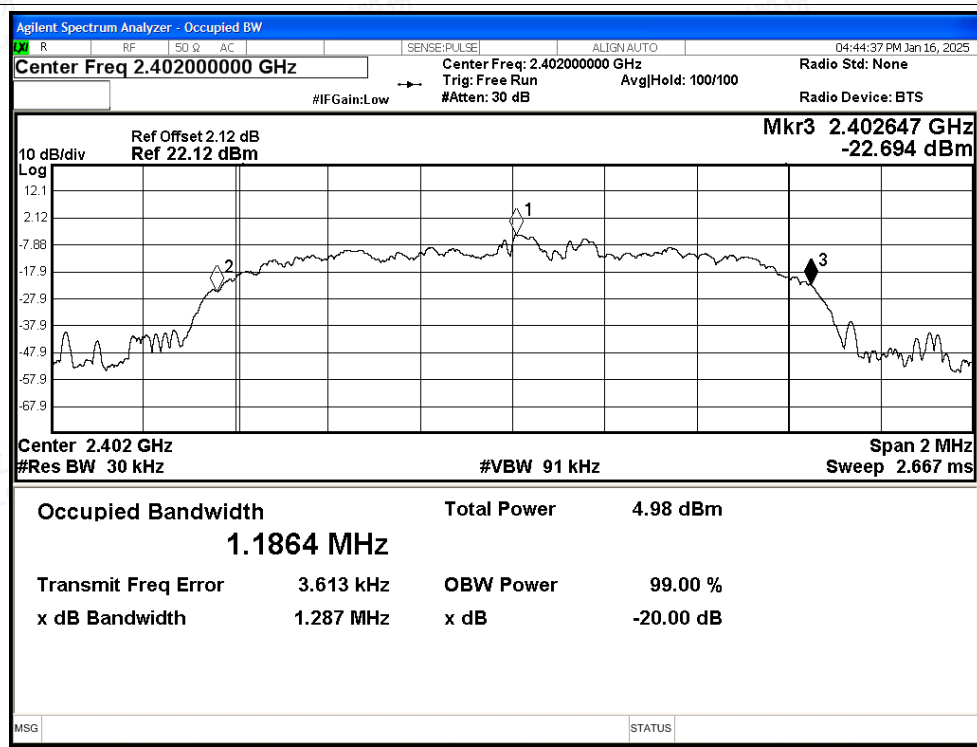
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-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

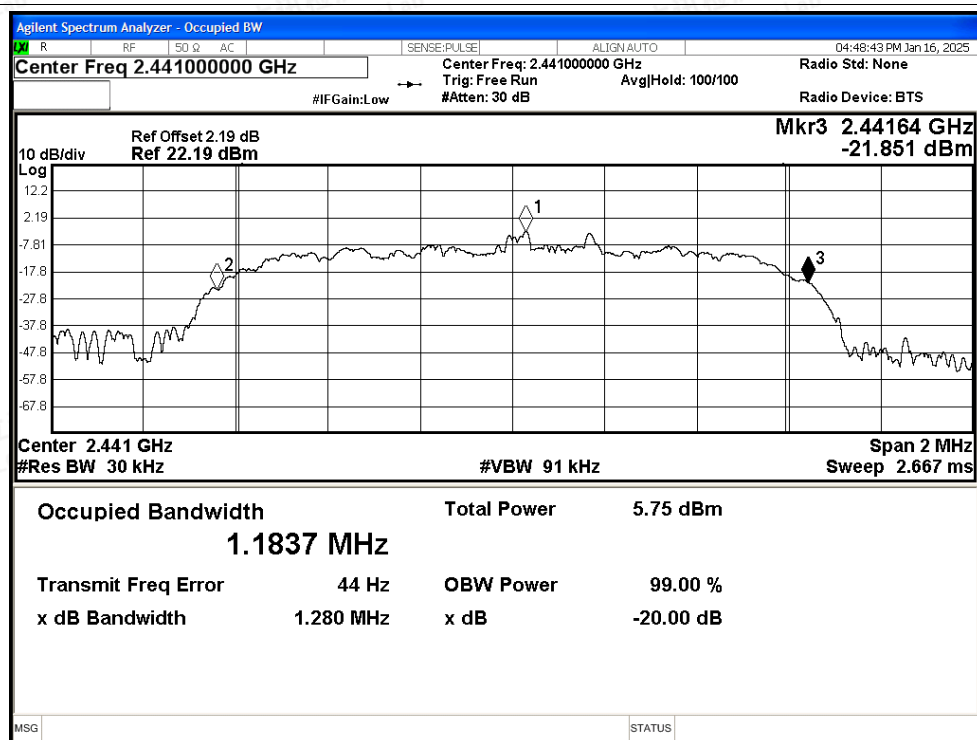


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

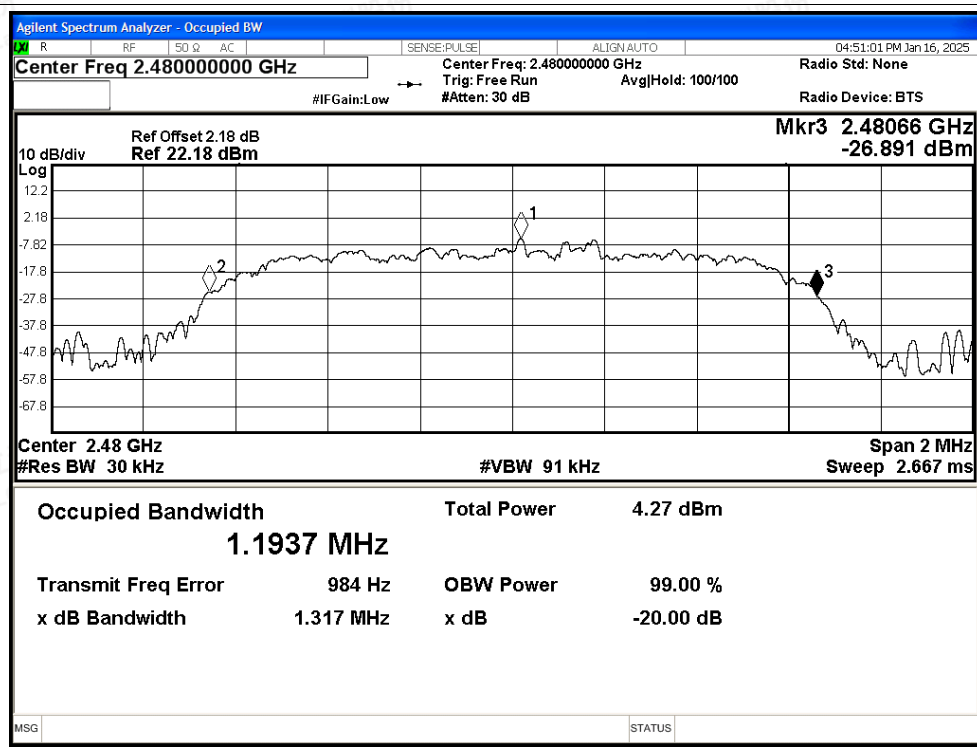




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1



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A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.5	21	Pass
NVNT	1-DH5	2441	Ant1	-0.88	21	Pass
NVNT	1-DH5	2480	Ant1	-1.87	21	Pass
NVNT	2-DH5	2402	Ant1	0.4	21	Pass
NVNT	2-DH5	2441	Ant1	1.13	21	Pass
NVNT	2-DH5	2480	Ant1	0.12	21	Pass

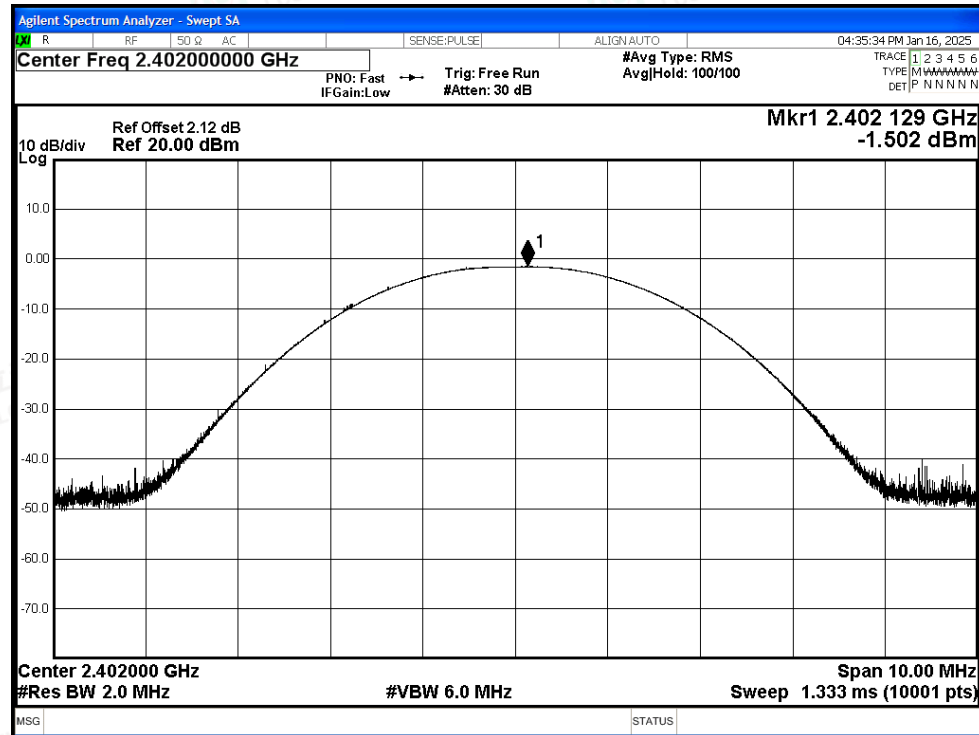


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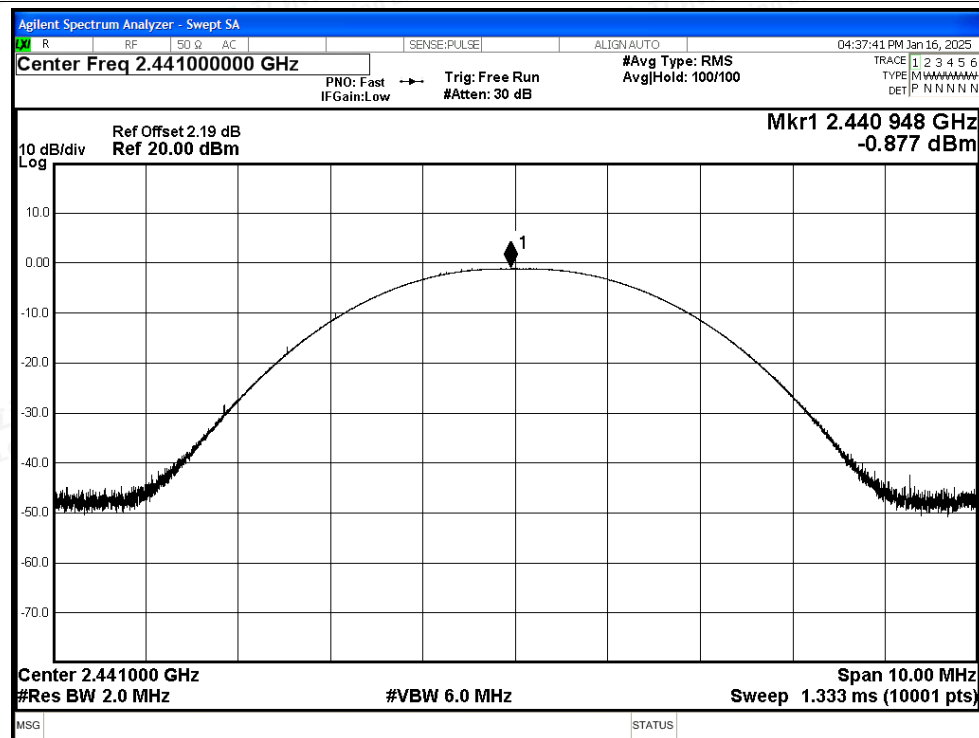


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1

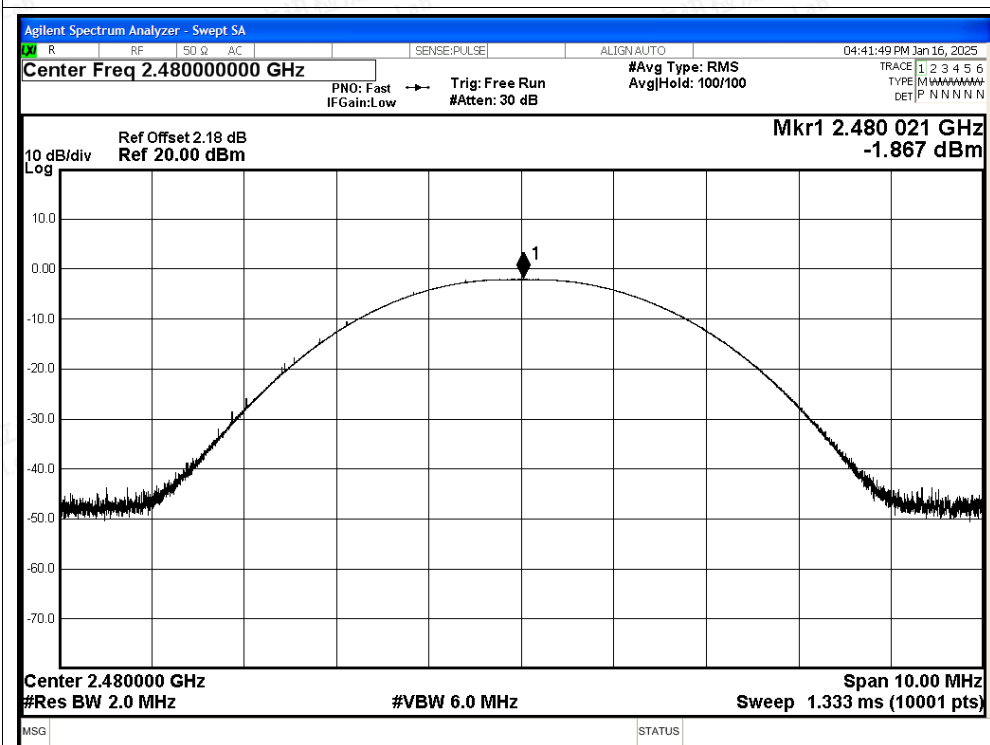


Power NVNT 1-DH5 2441MHz Ant1

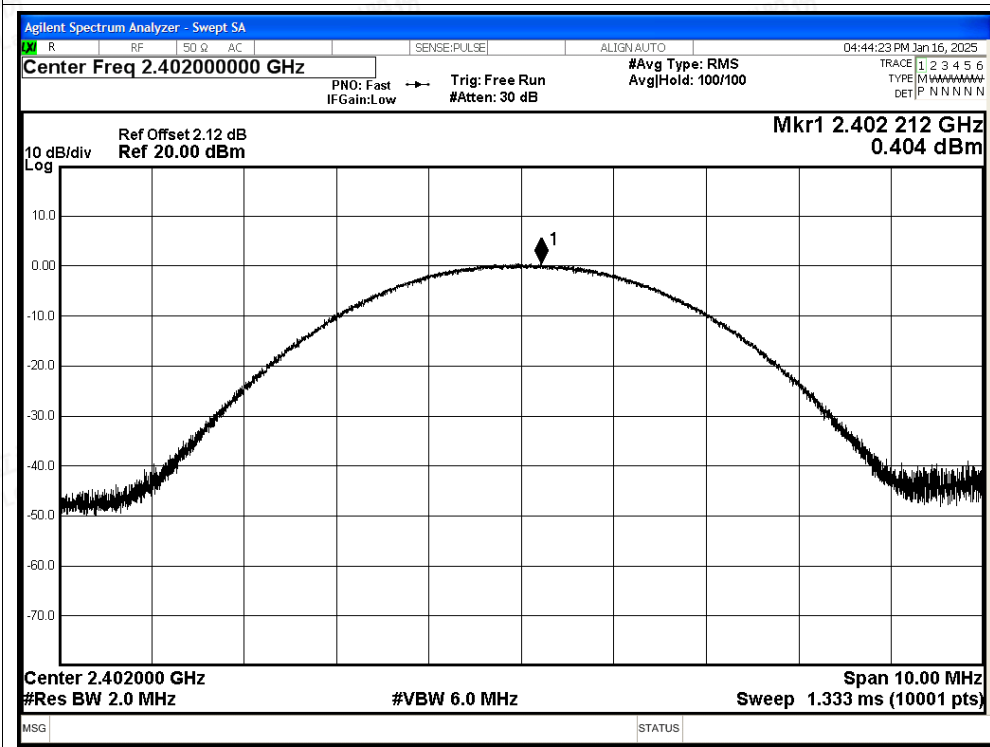




Power NVNT 1-DH5 2480MHz Ant1



Power NVNT 2-DH5 2402MHz Ant1

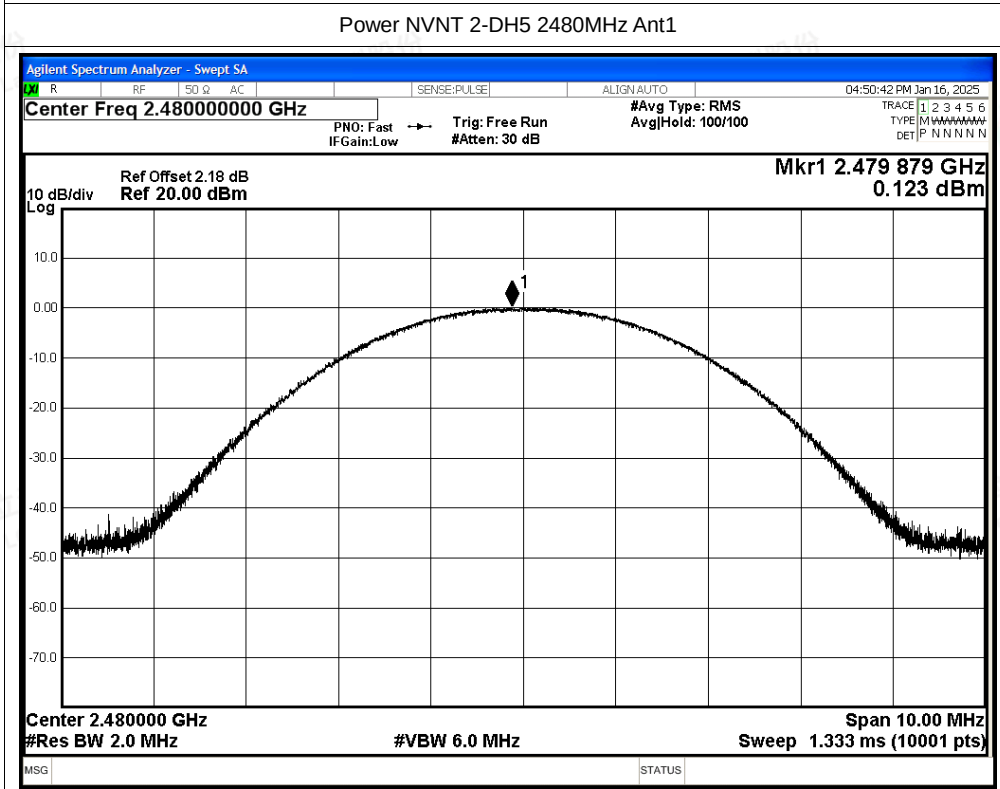
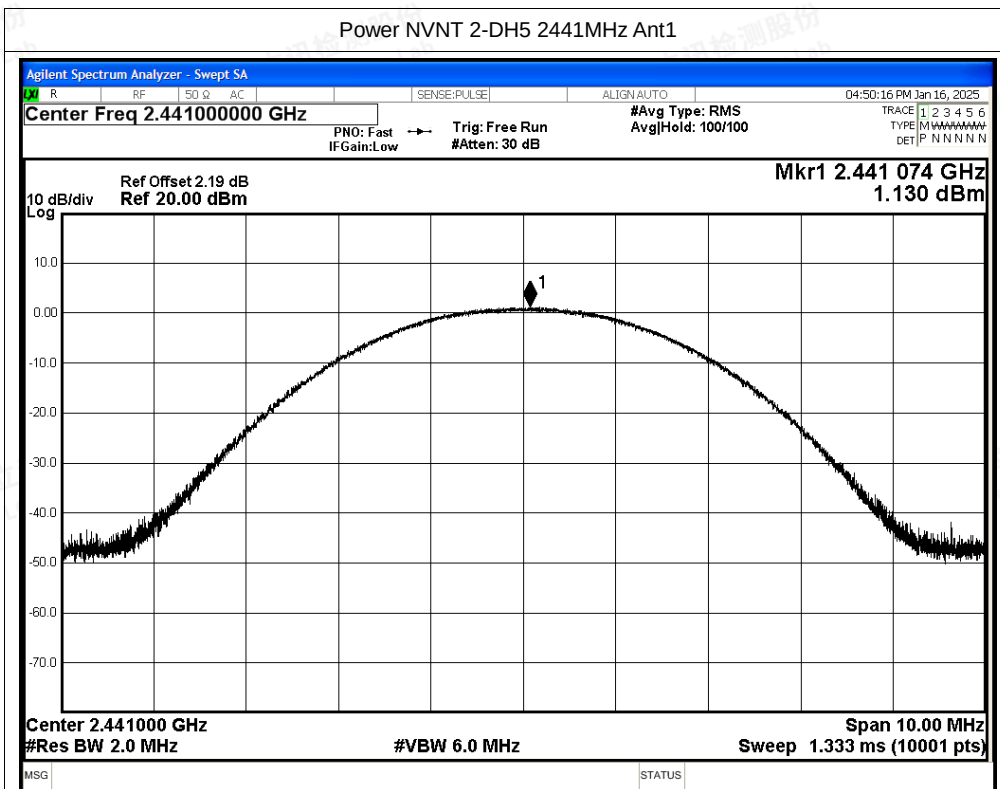


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A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.974	2402.83	0.856	0.641	Pass
NVNT	2-DH5	Ant1	2402.032	2403.026	0.994	0.878	Pass

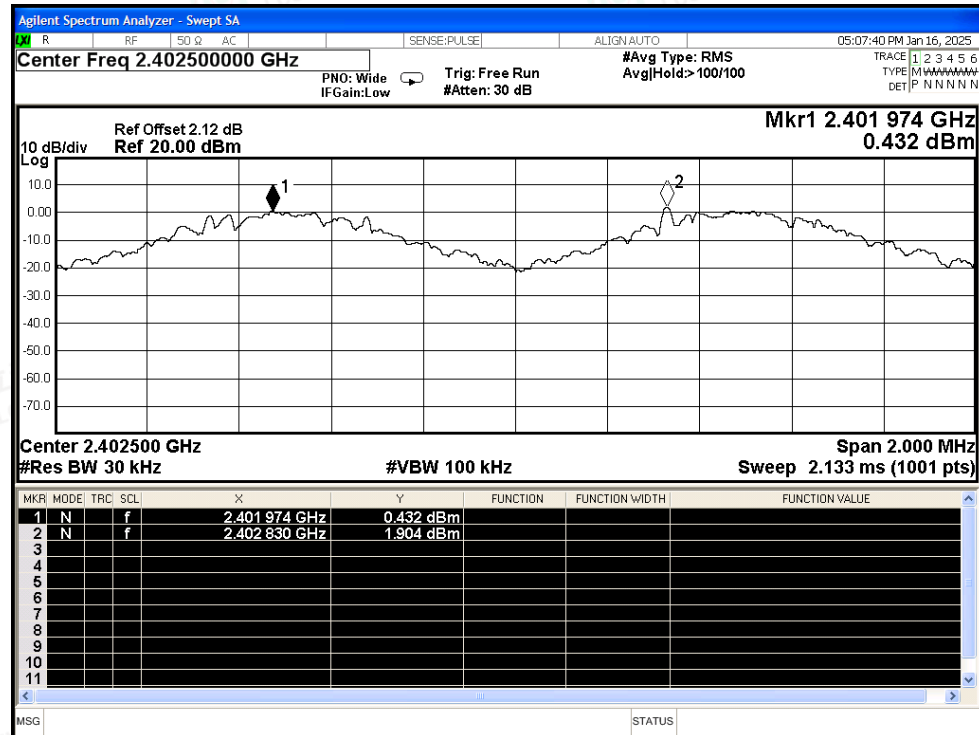


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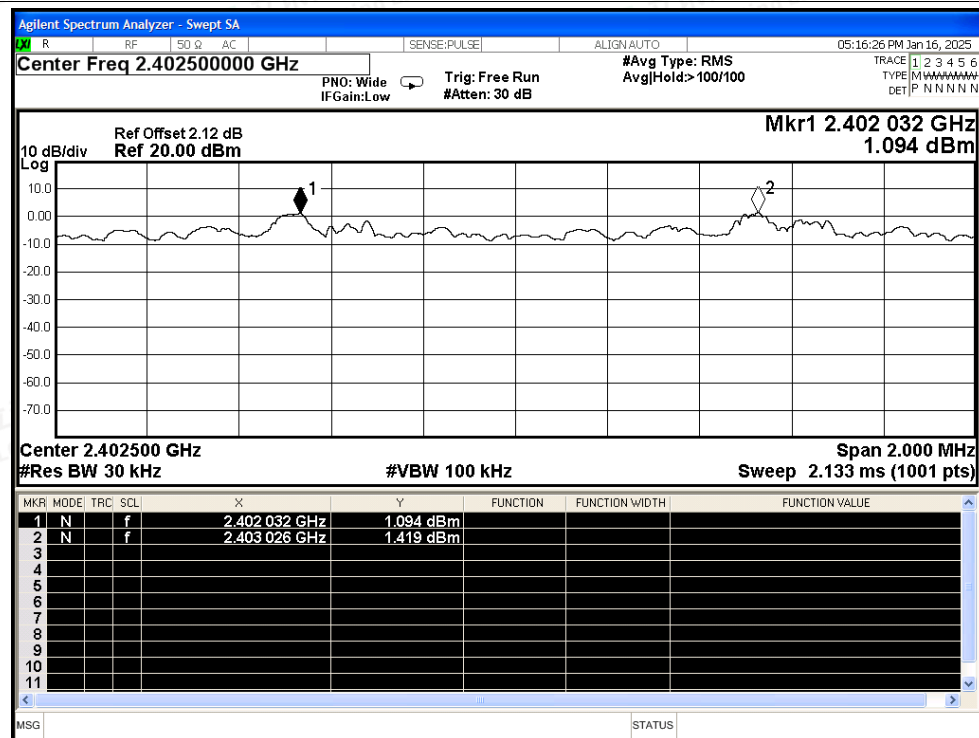


Test Graphs

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	320.1	110	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.899	307.294	106	31600	400	Pass

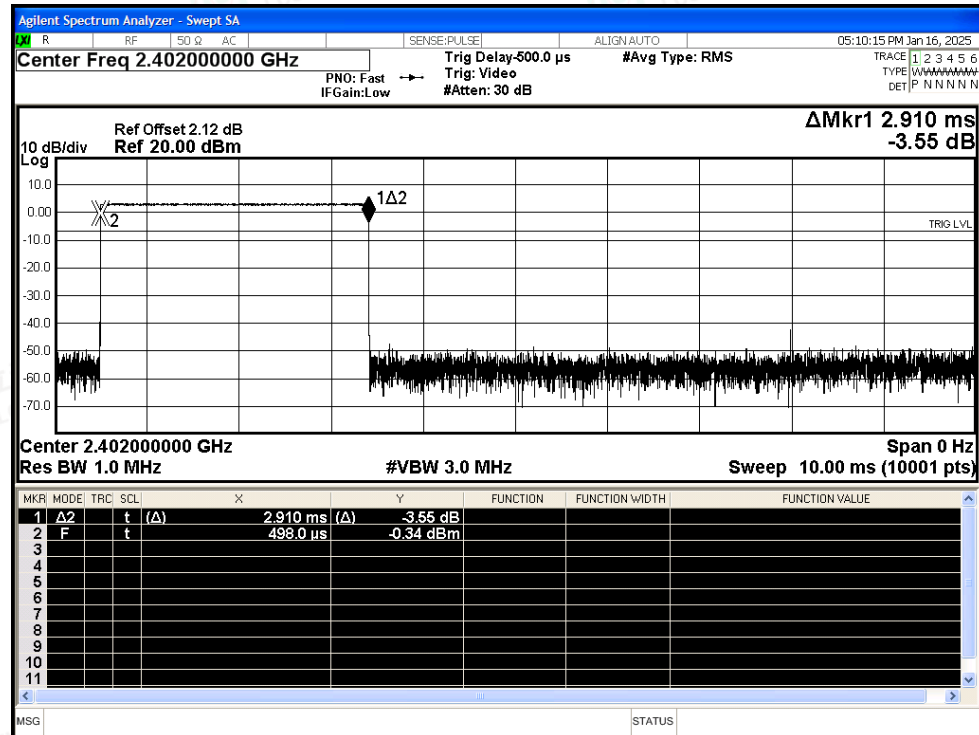


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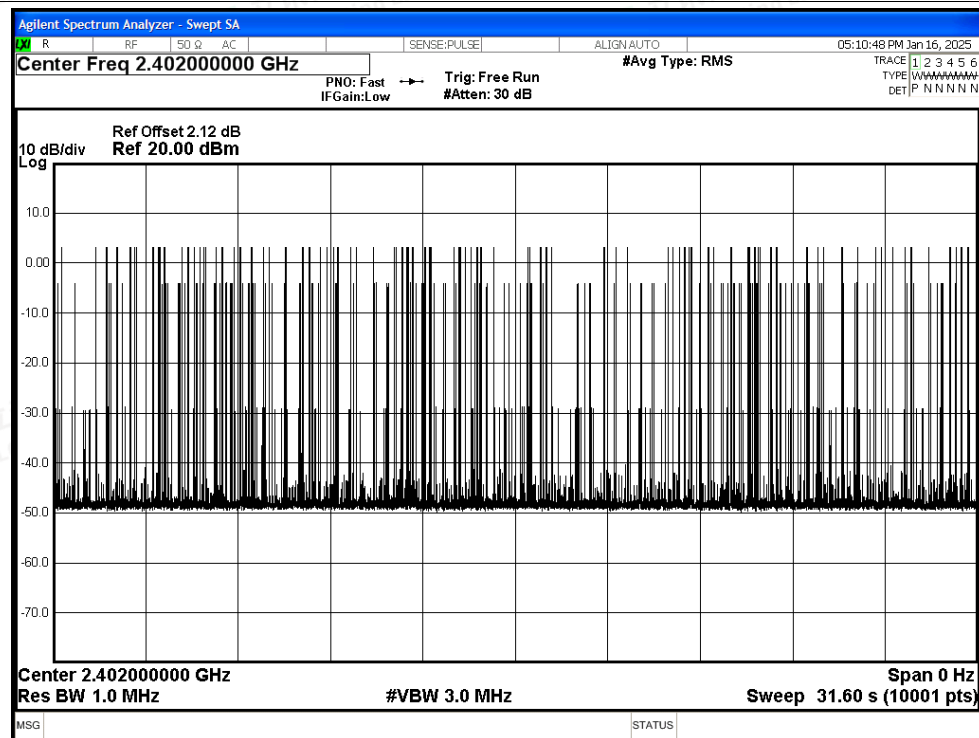


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



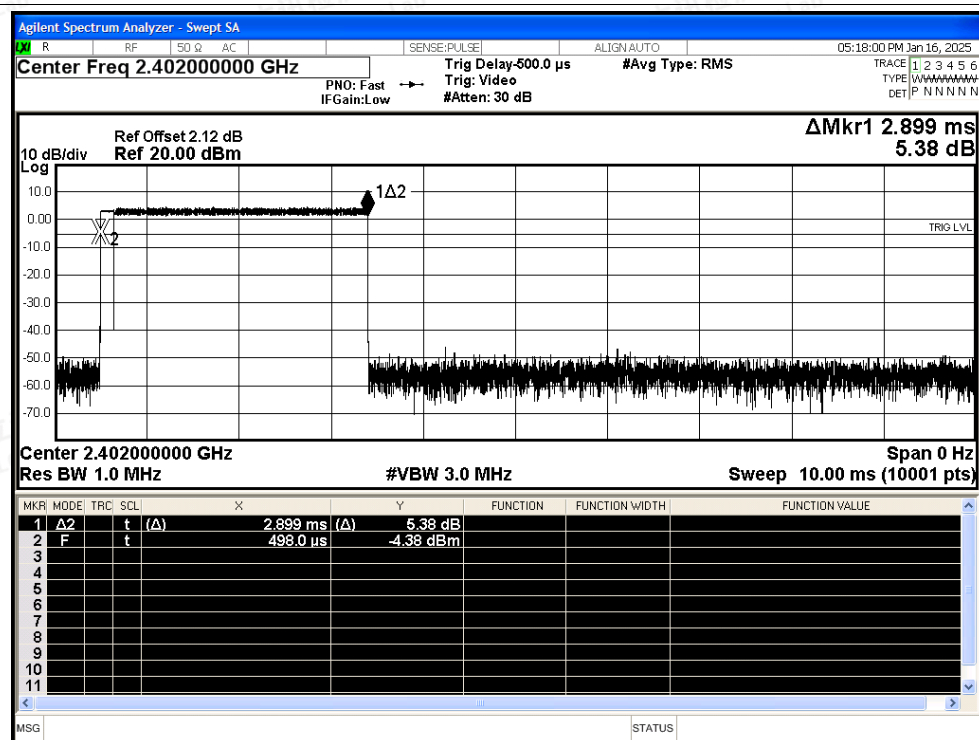
Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



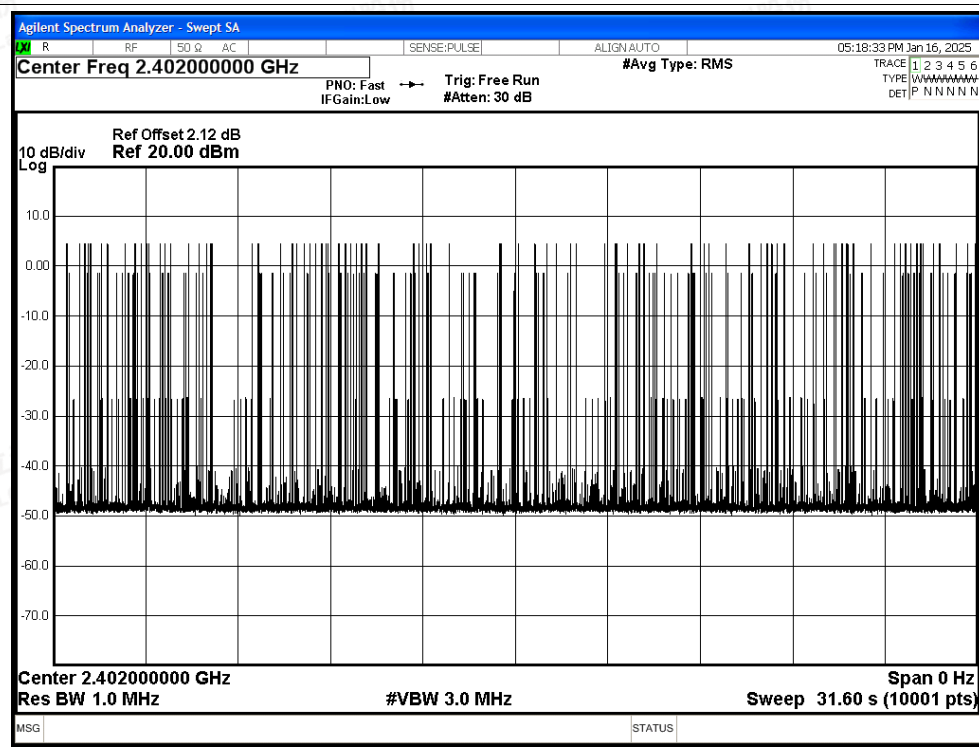
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Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



Dwell NVNT 2-DH5 2402MHz Ant1 Accumulated



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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

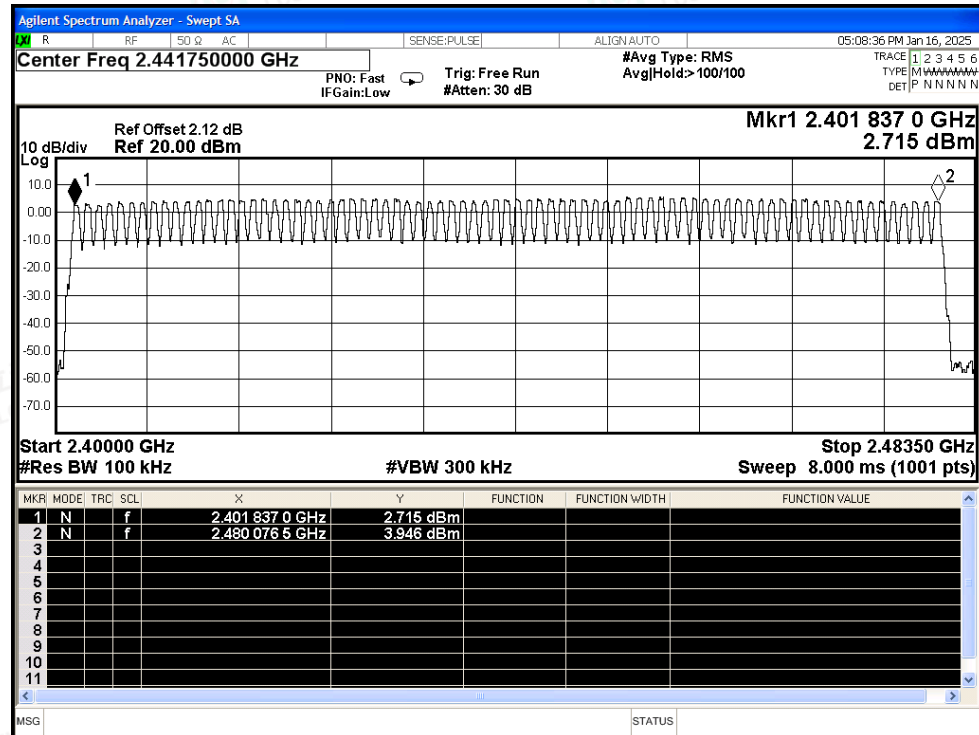


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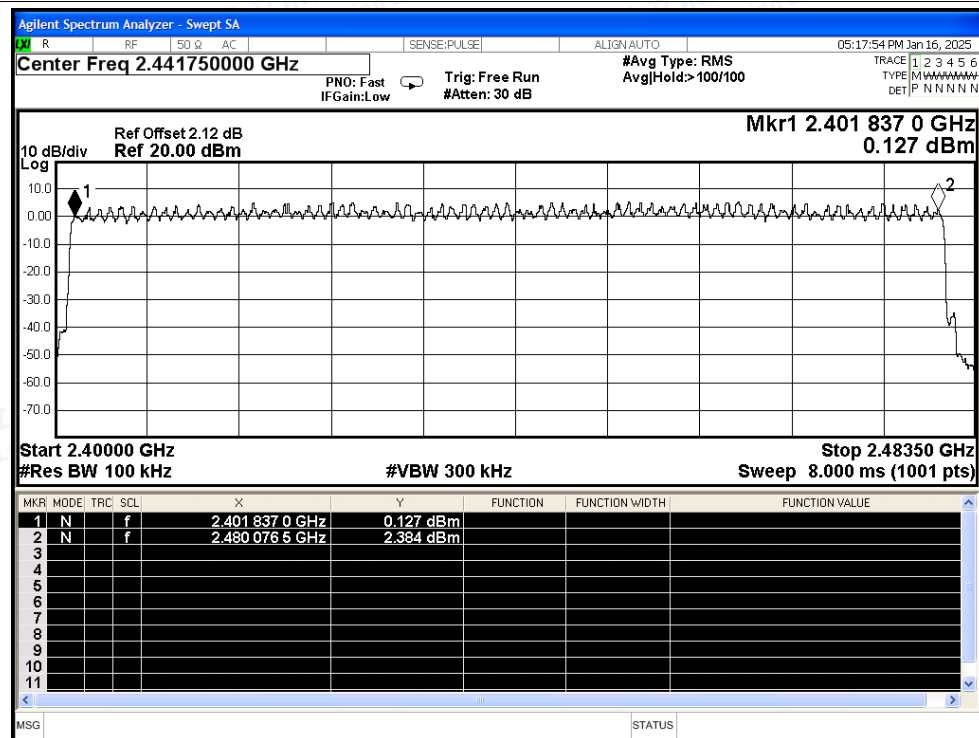


Test Graphs

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	-54.94	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-54.7	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-52.01	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-53.58	-20	Pass

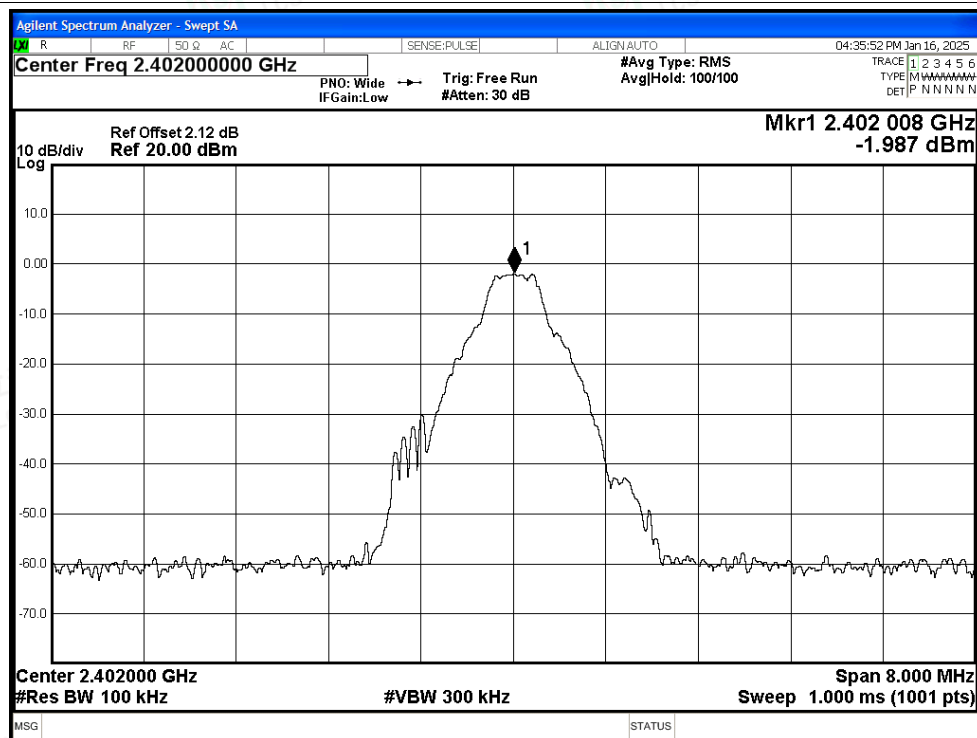


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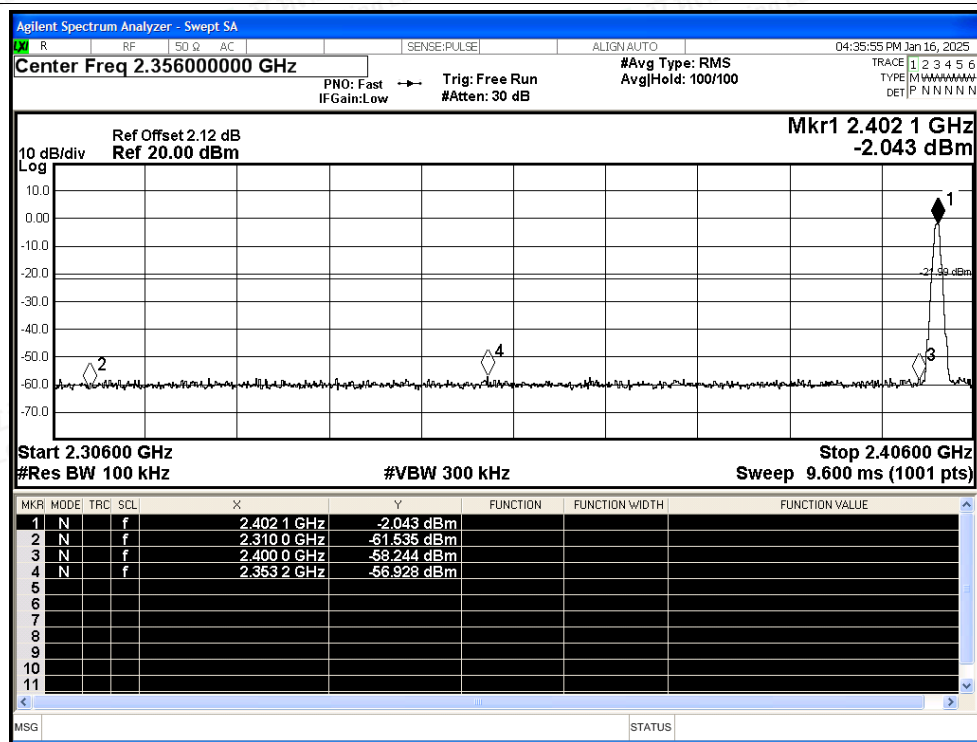


Test Graphs

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

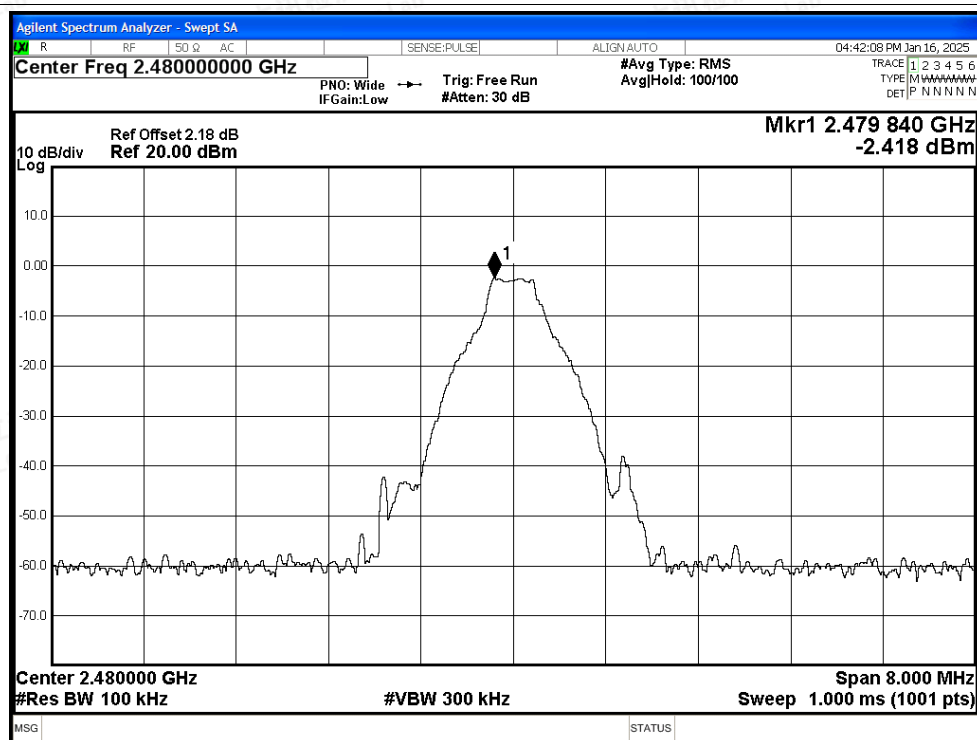


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

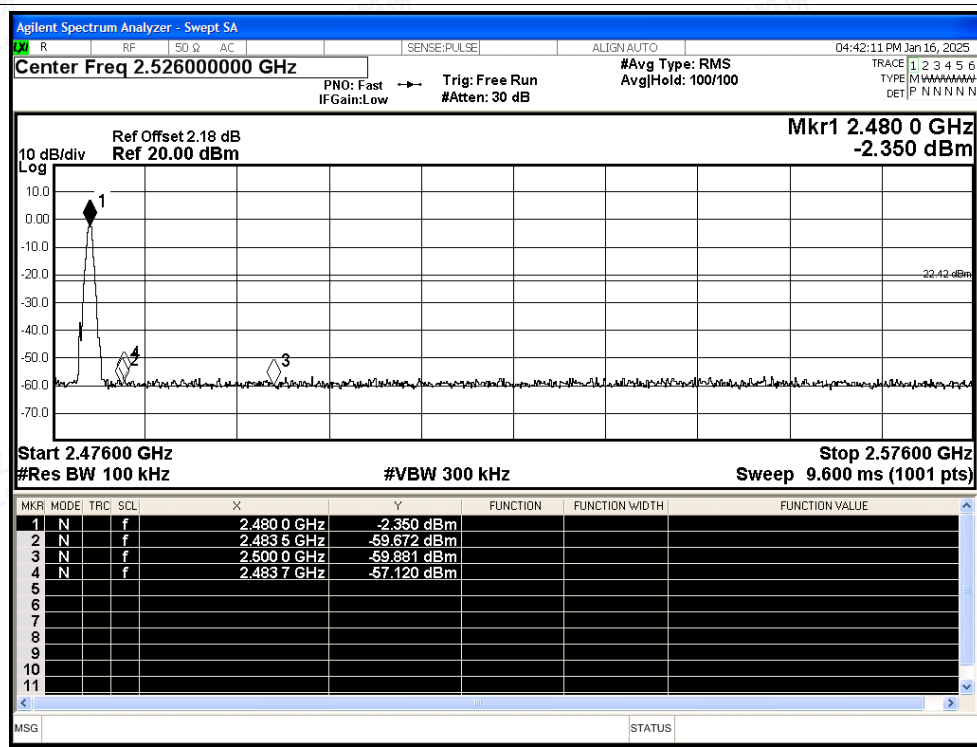




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



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



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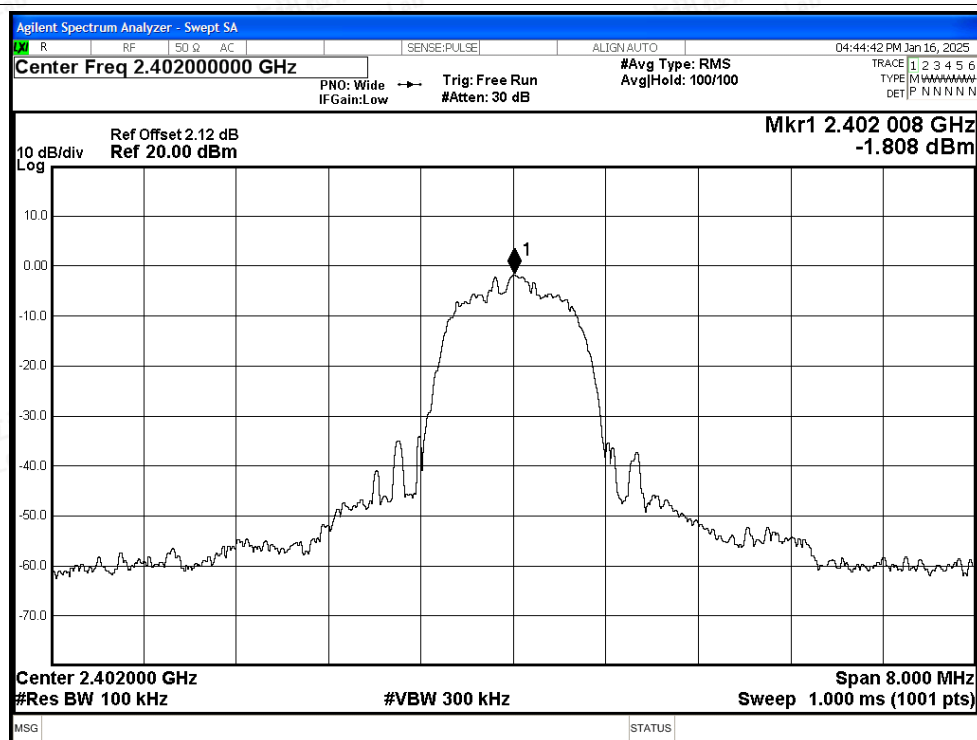
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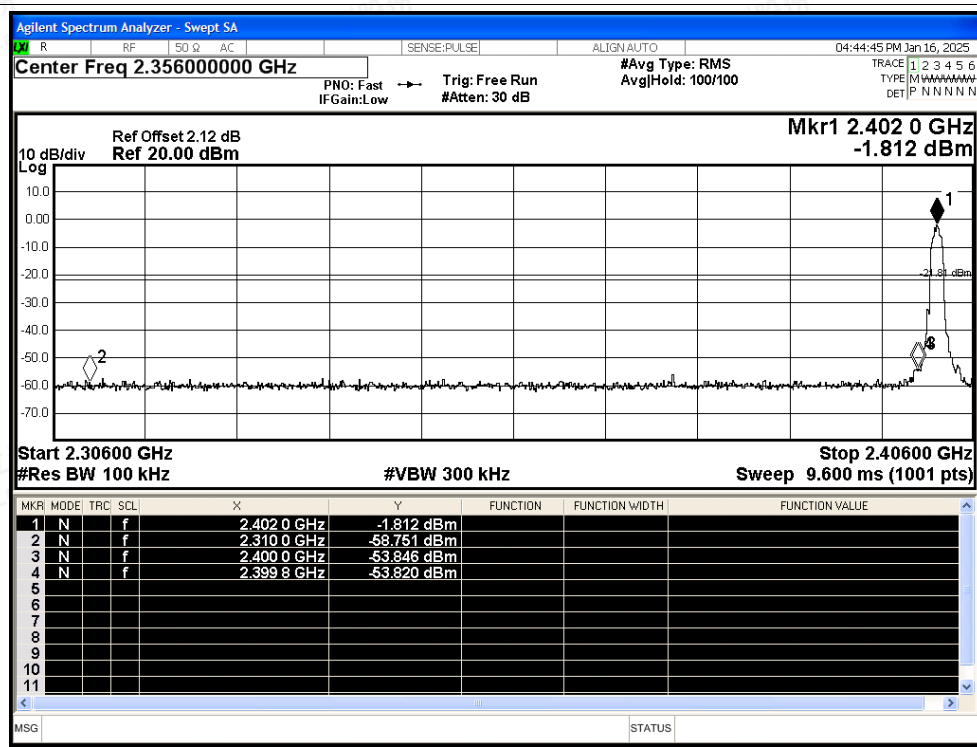
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Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref



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



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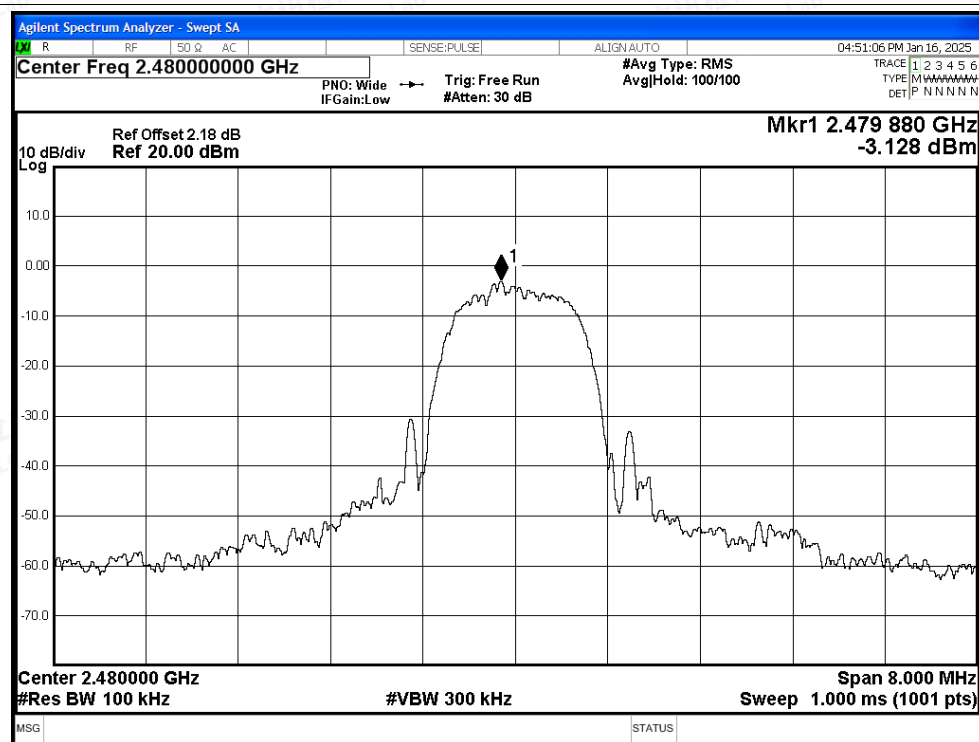
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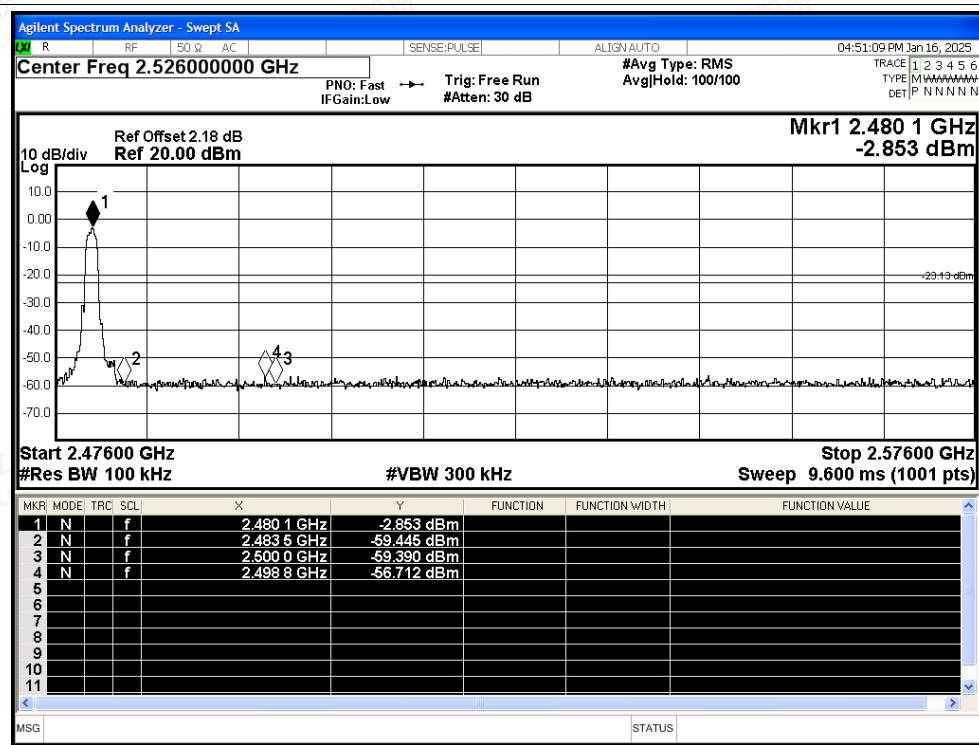
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Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



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



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**(Hopping)**

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-59.85	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-56.92	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-58.99	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-57.16	-20	Pass



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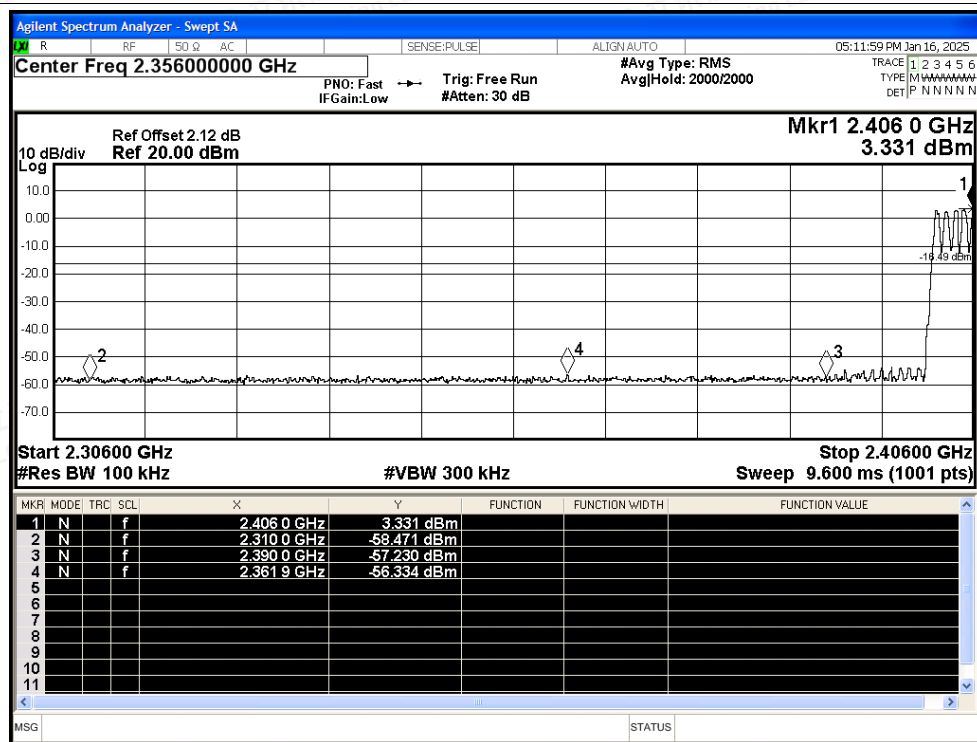


Test Graphs

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



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

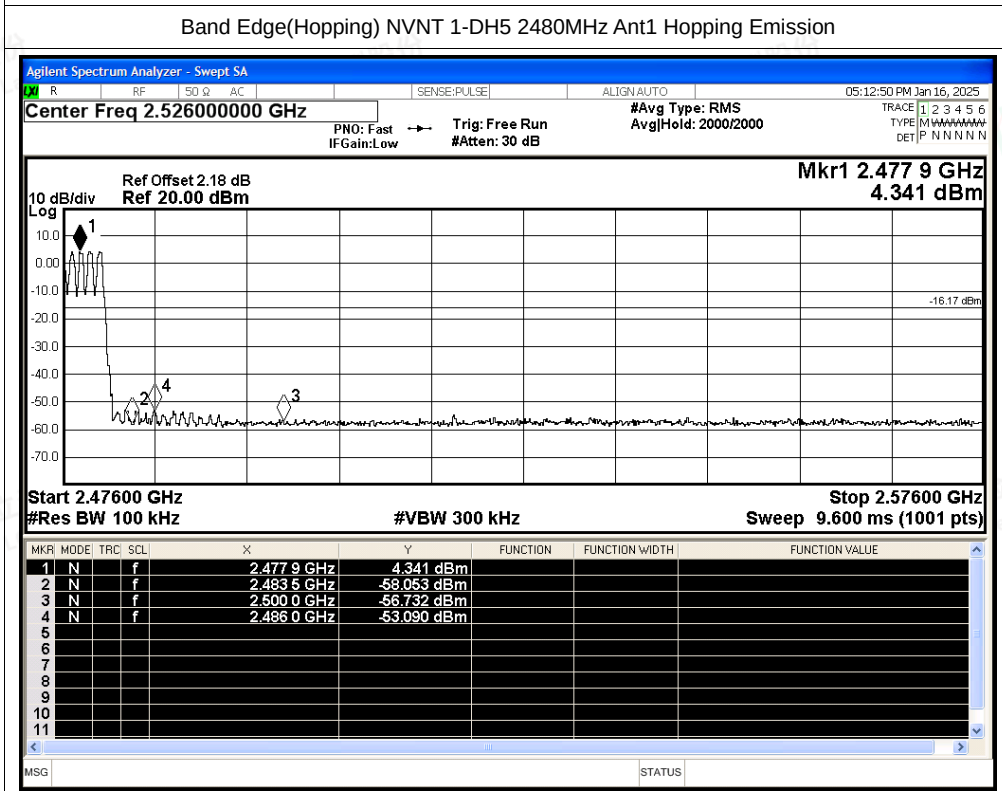
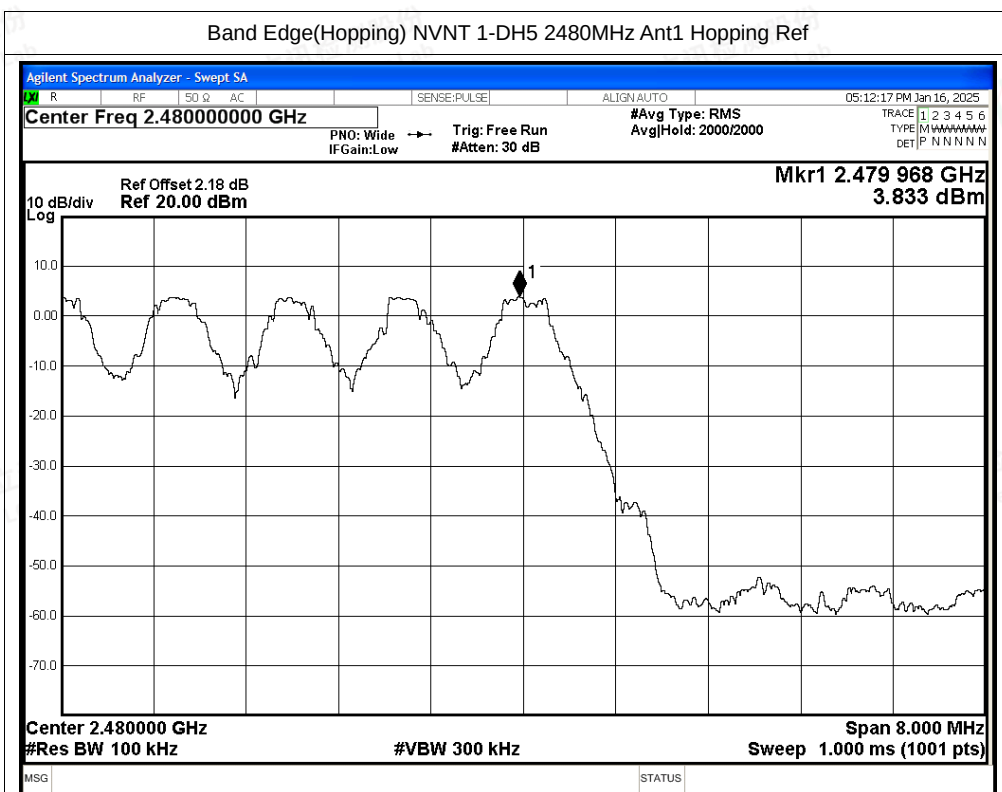


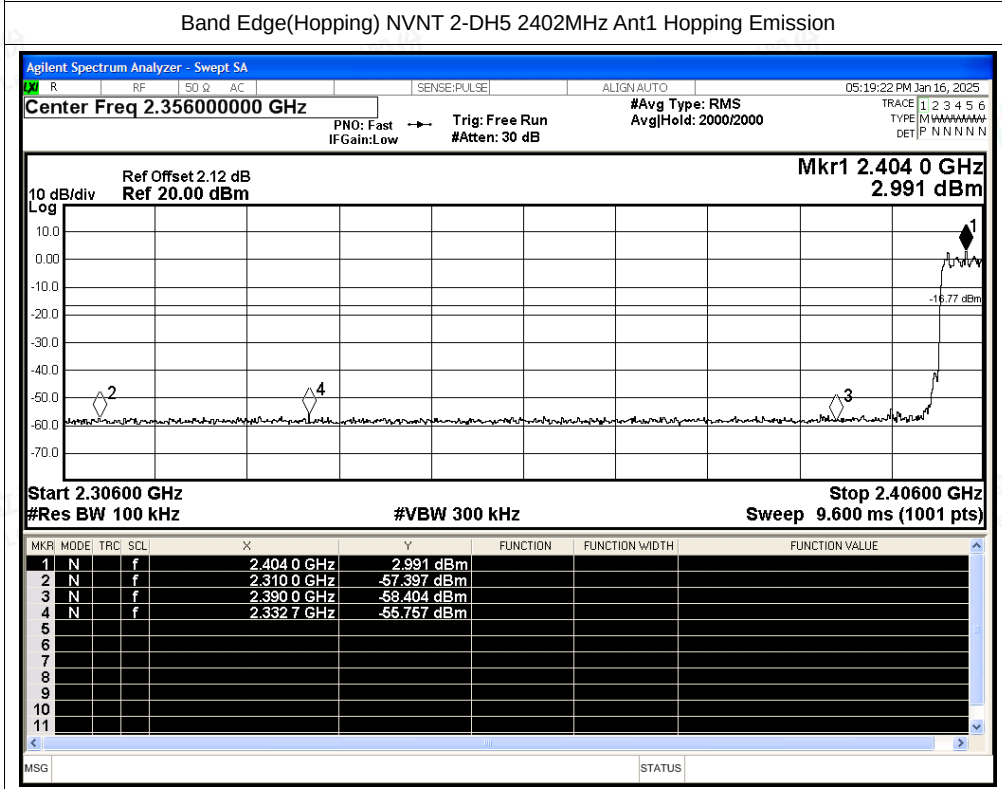
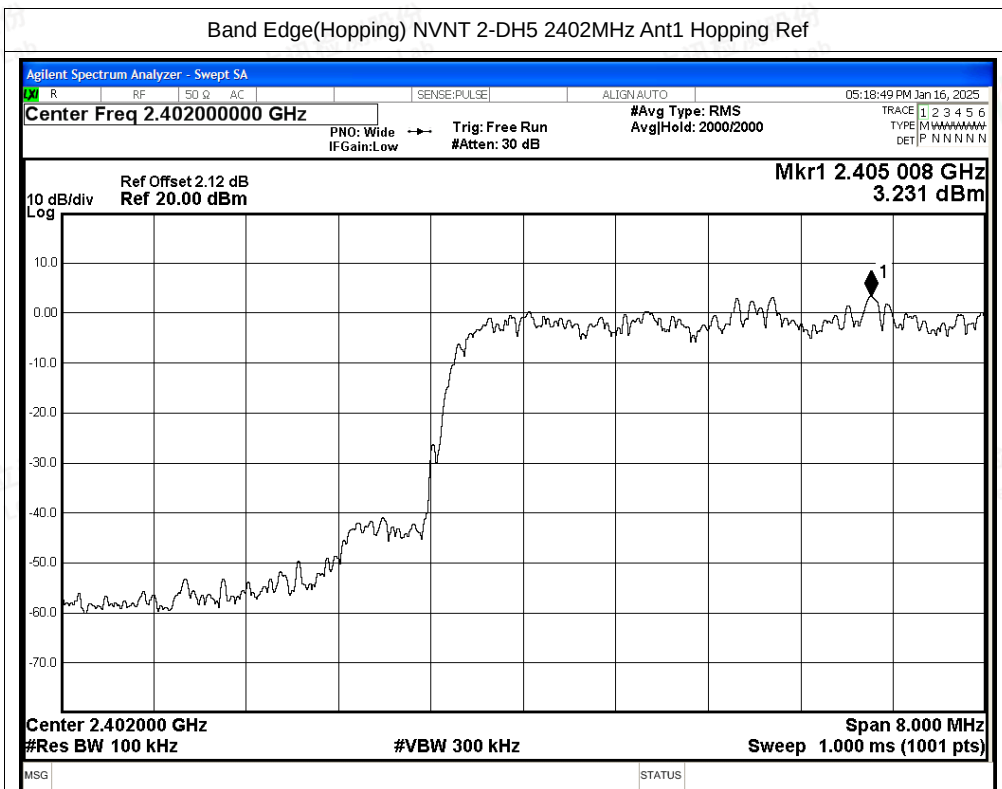
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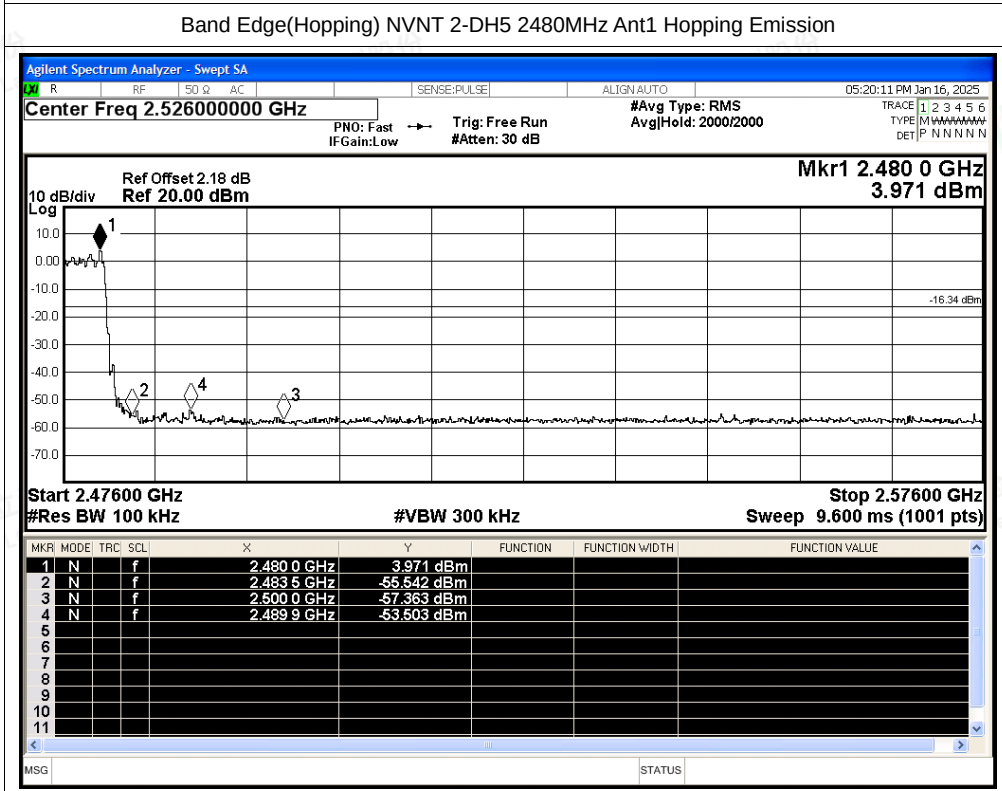
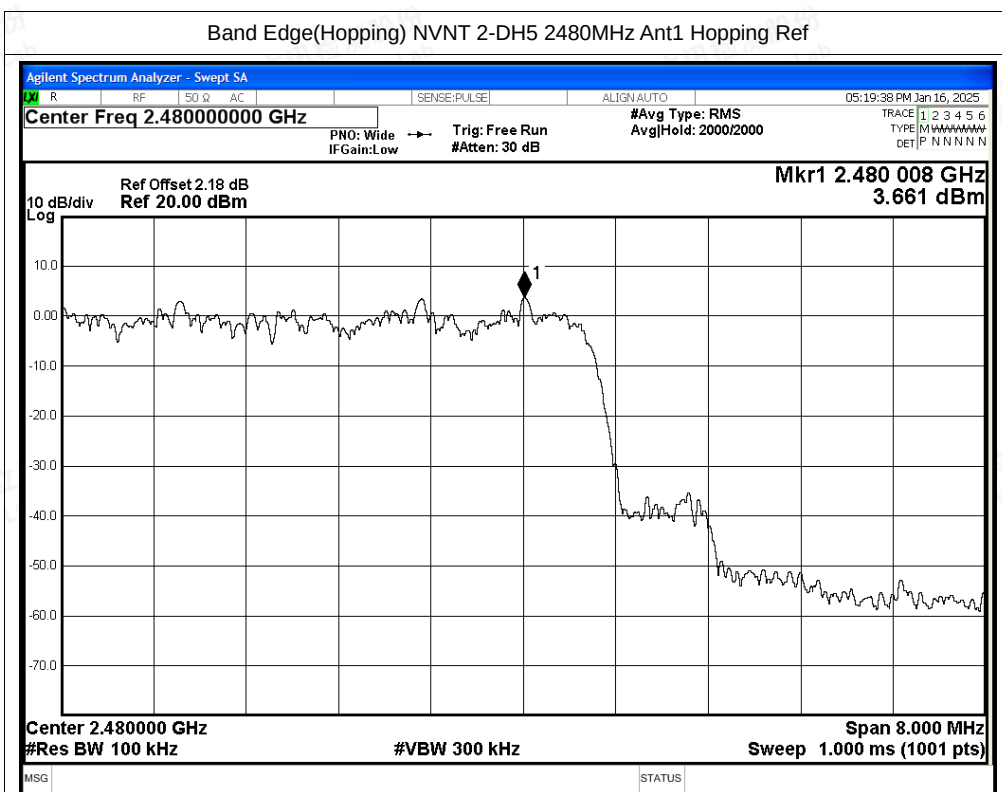
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A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-52.87	-20	Pass
NVNT	1-DH5	2441	Ant1	-54.3	-20	Pass
NVNT	1-DH5	2480	Ant1	-53.55	-20	Pass
NVNT	2-DH5	2402	Ant1	-53.89	-20	Pass
NVNT	2-DH5	2441	Ant1	-53.83	-20	Pass
NVNT	2-DH5	2480	Ant1	-53.02	-20	Pass

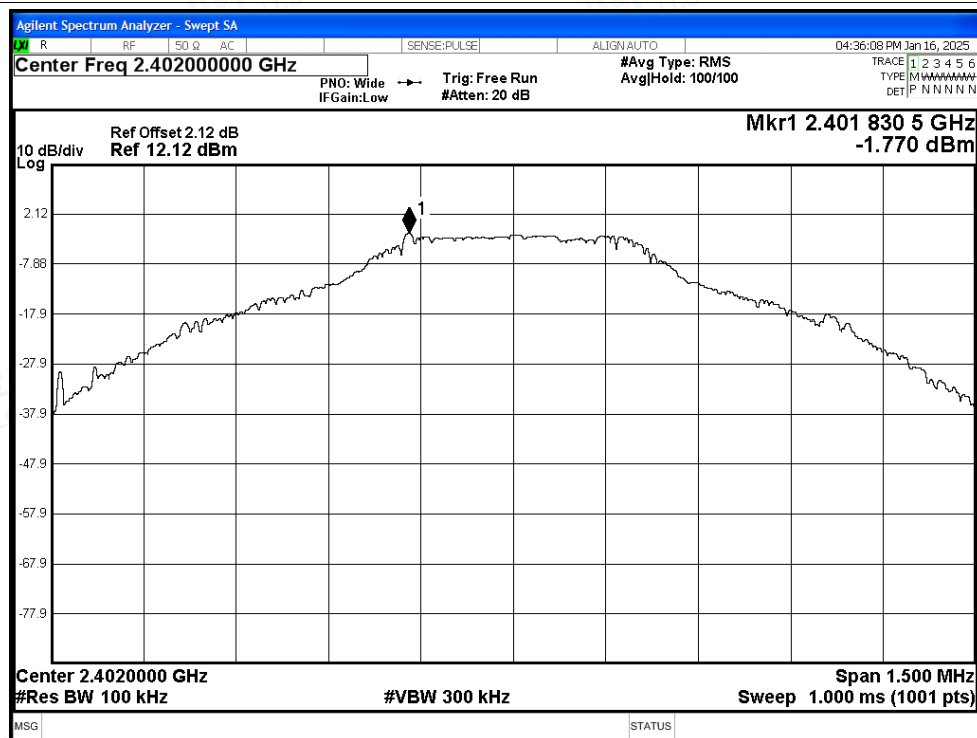


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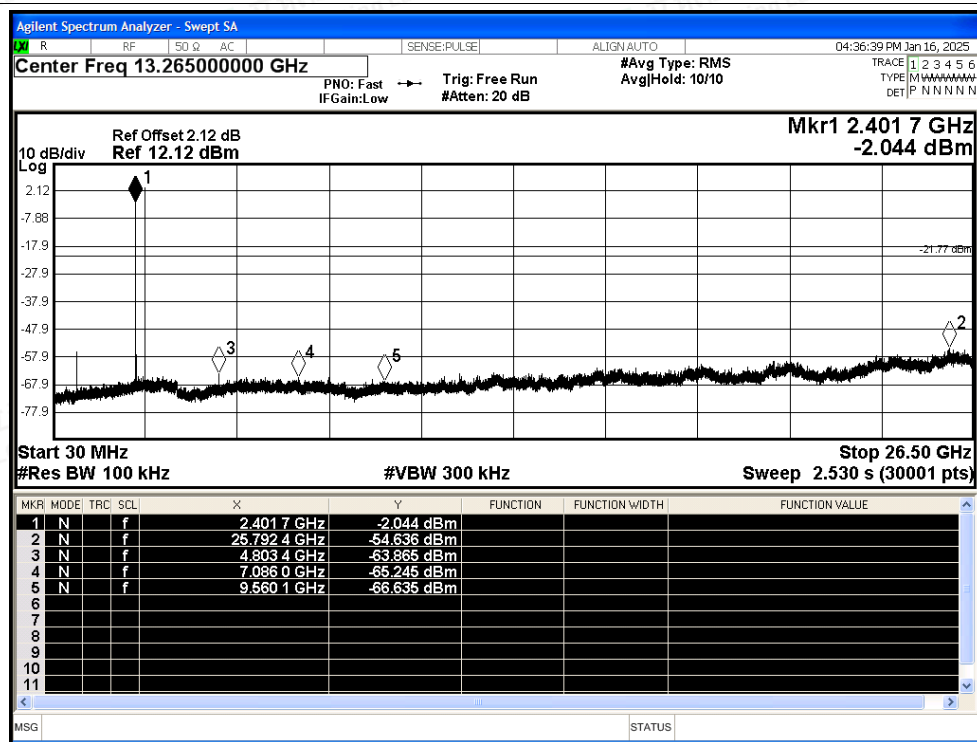


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

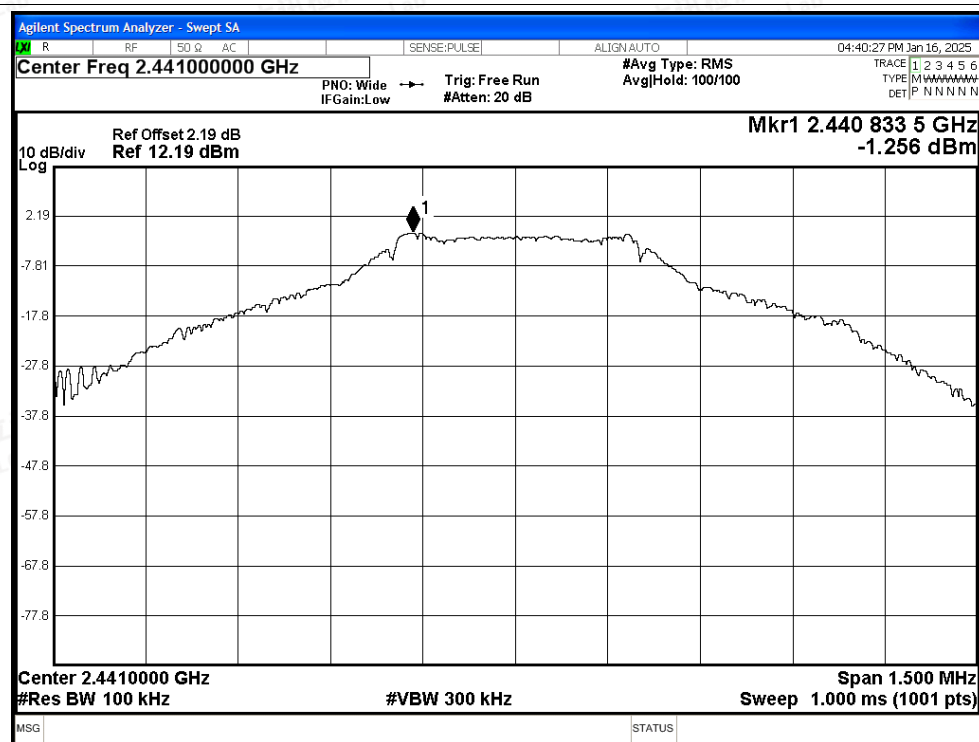


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

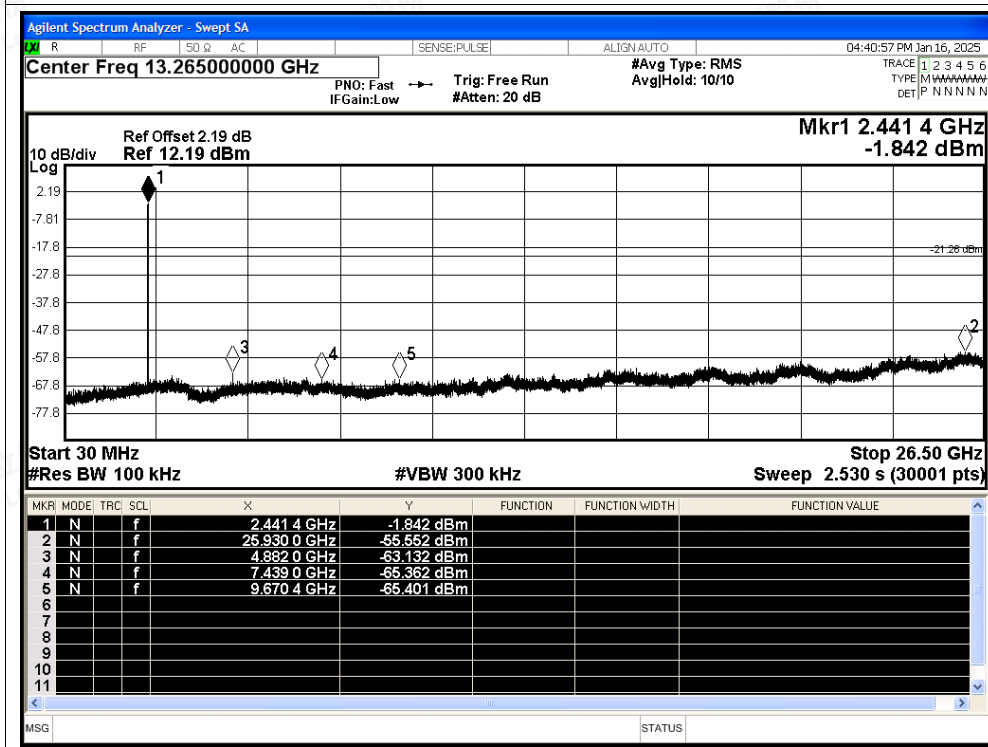




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

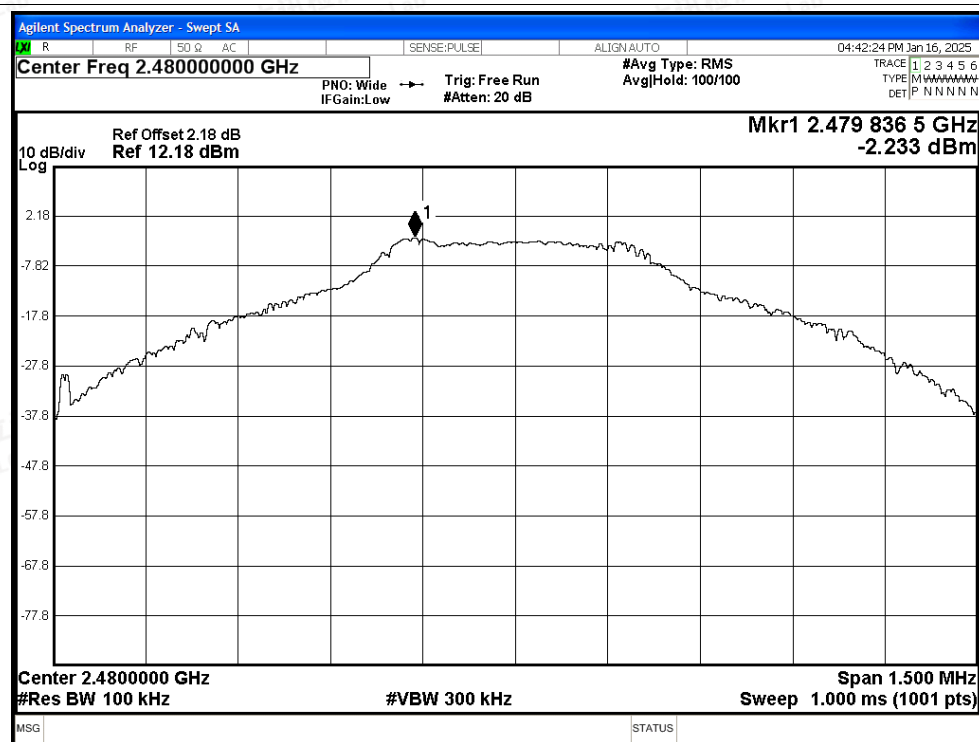


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

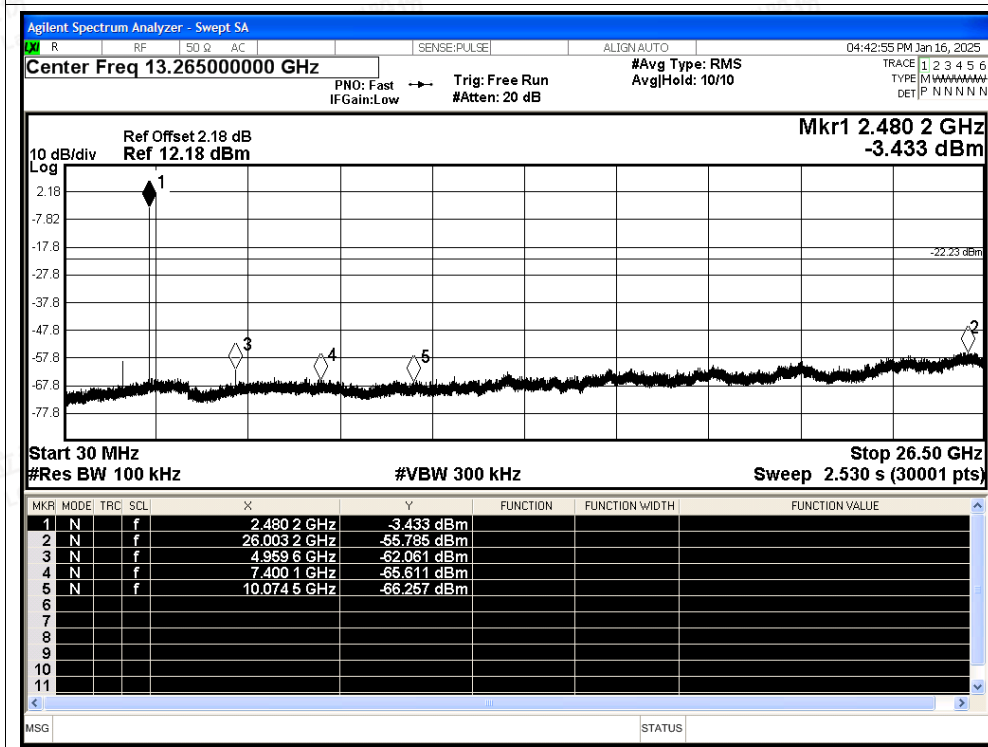




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission



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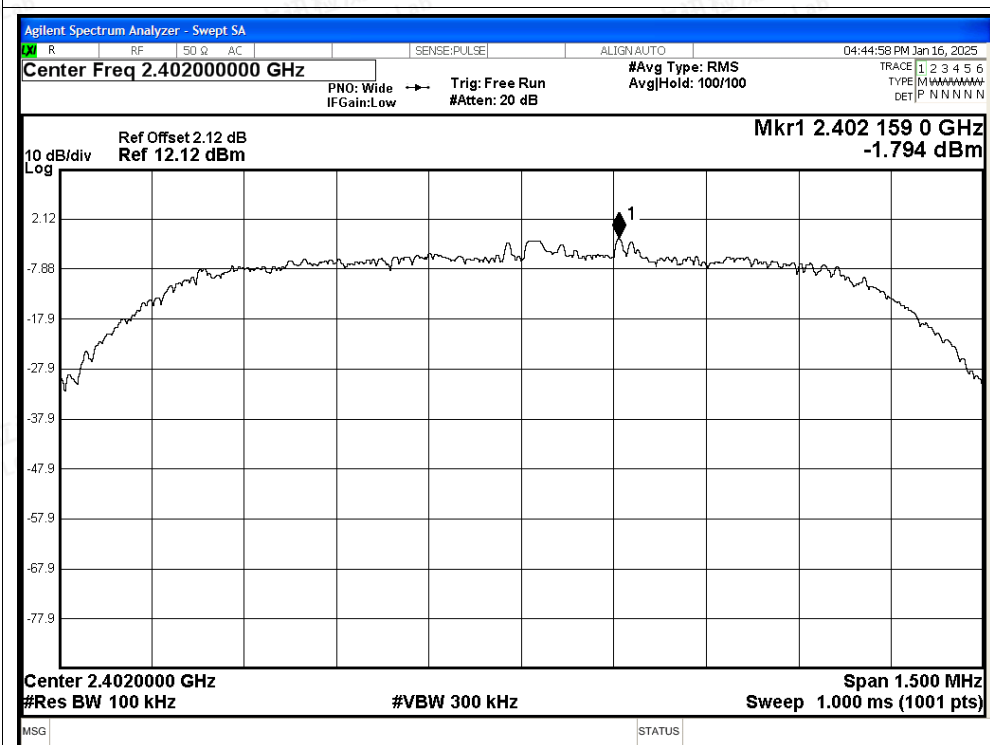
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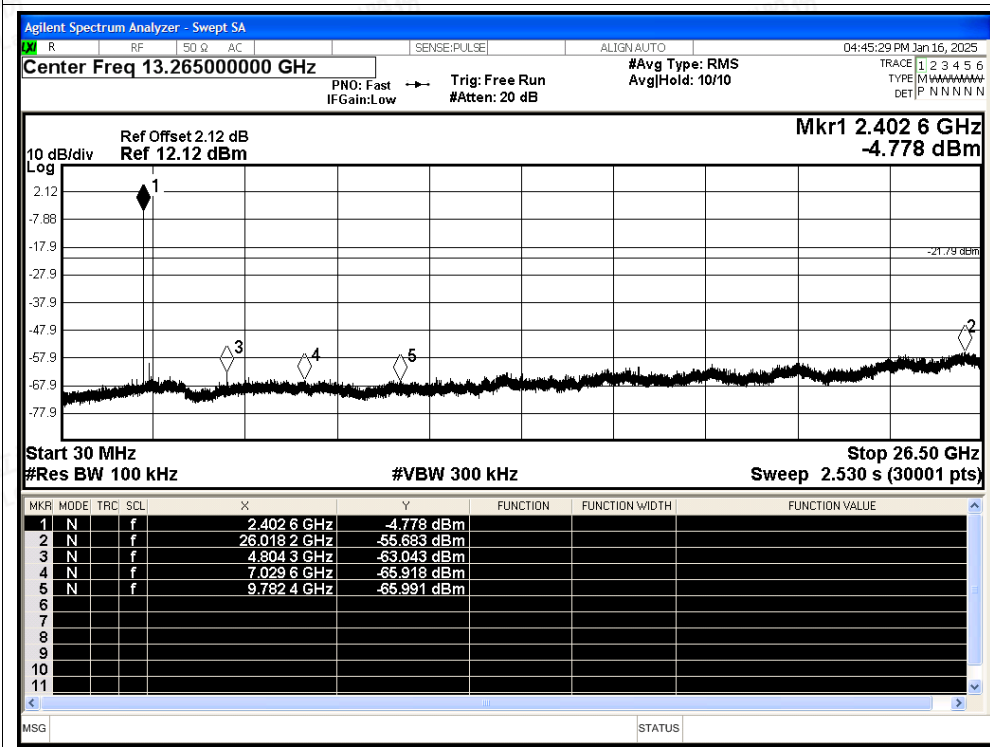
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Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission



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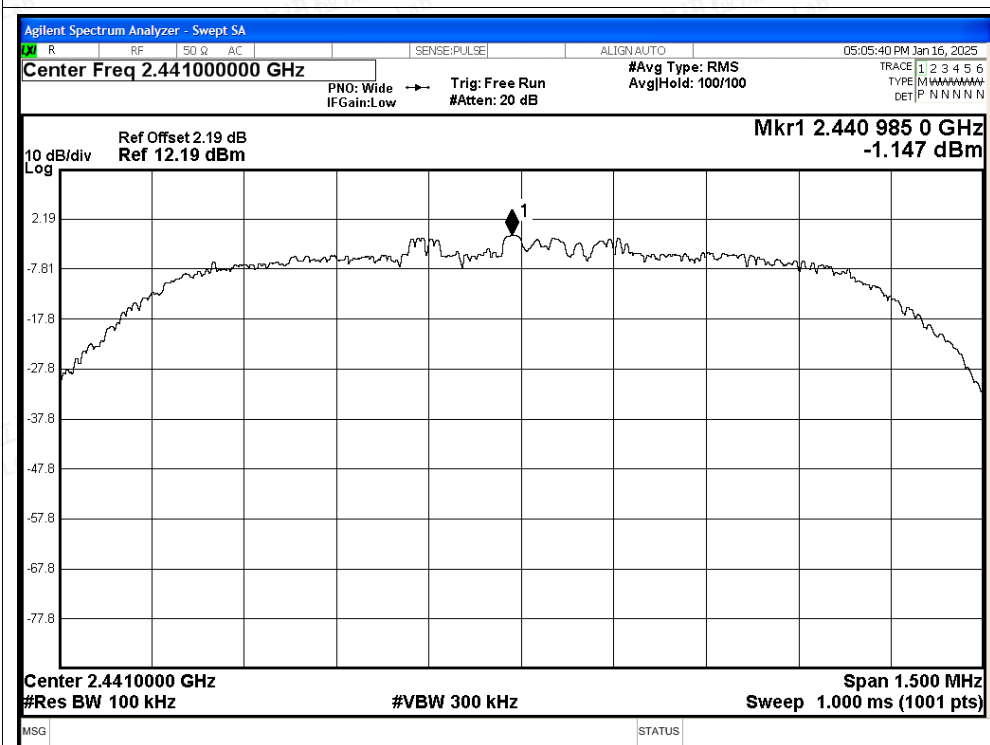
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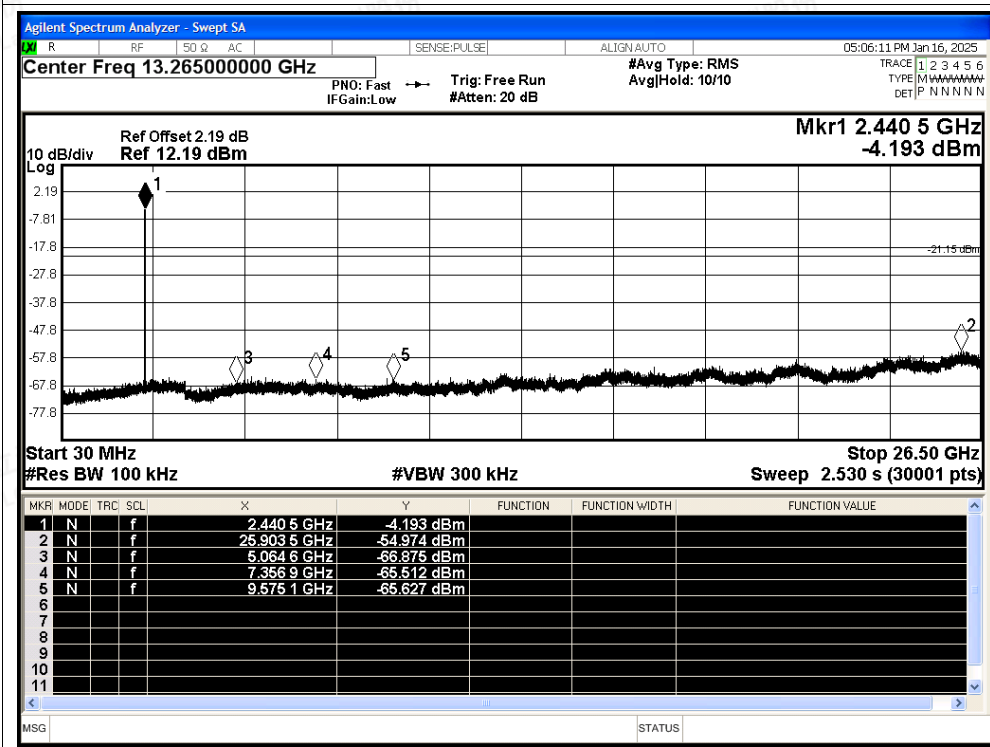
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Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref



Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission



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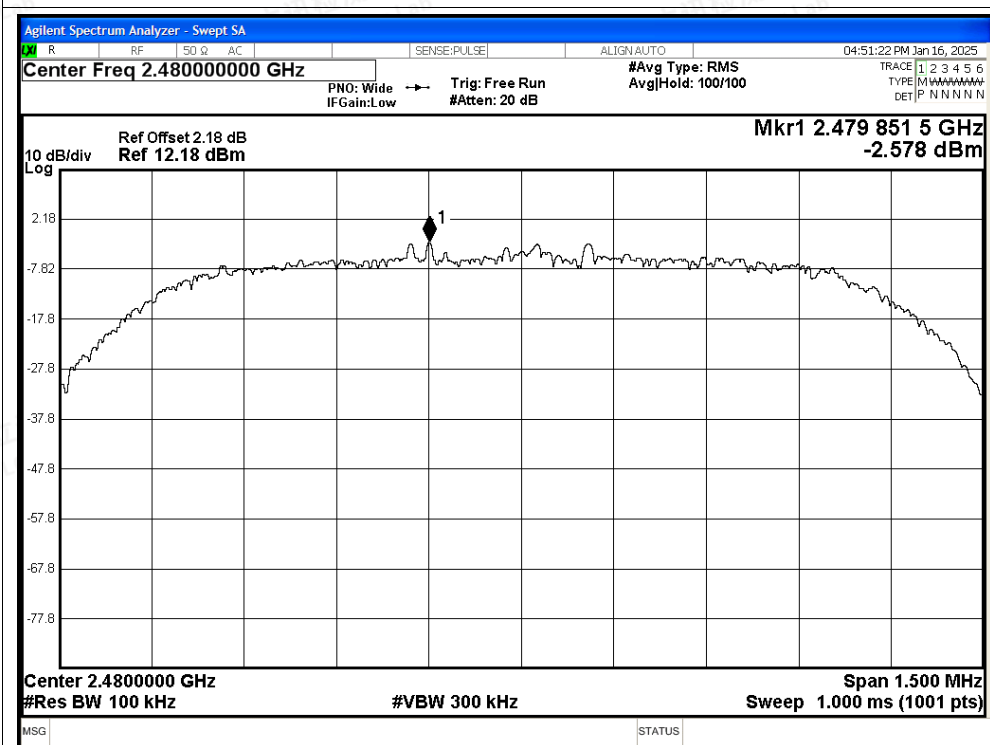
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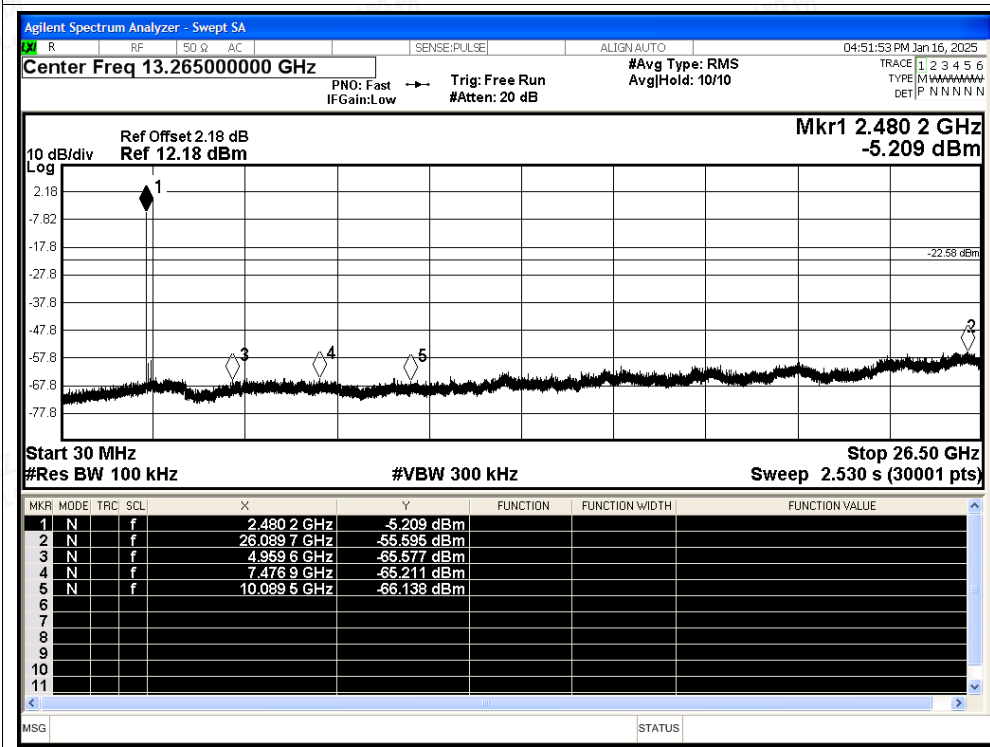
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Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



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	77.6	1.1	0.34
NVNT	1-DH5	2441	Ant1	77.6	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	77.28	1.12	0.35
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35

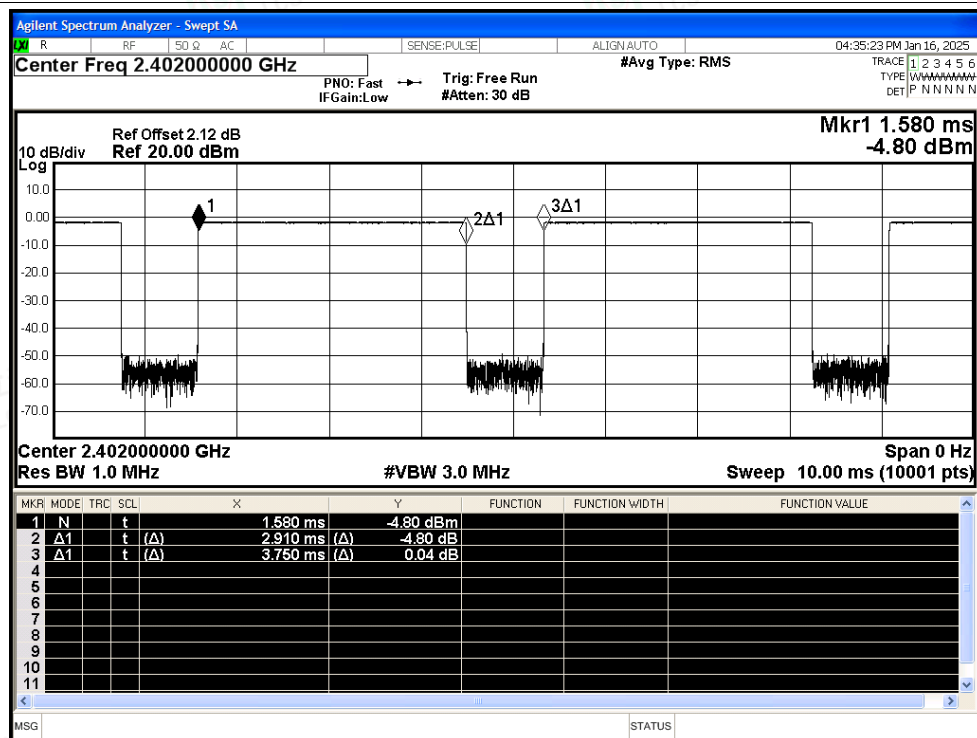


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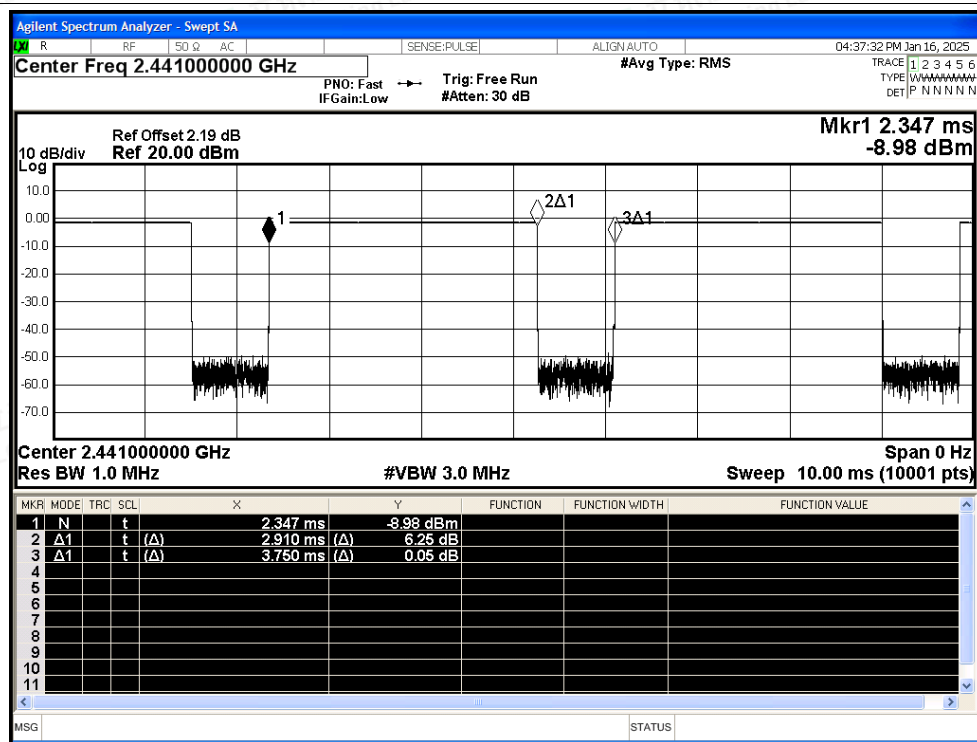


Test Graphs

Duty Cycle NVNT 1-DH5 2402MHz Ant1

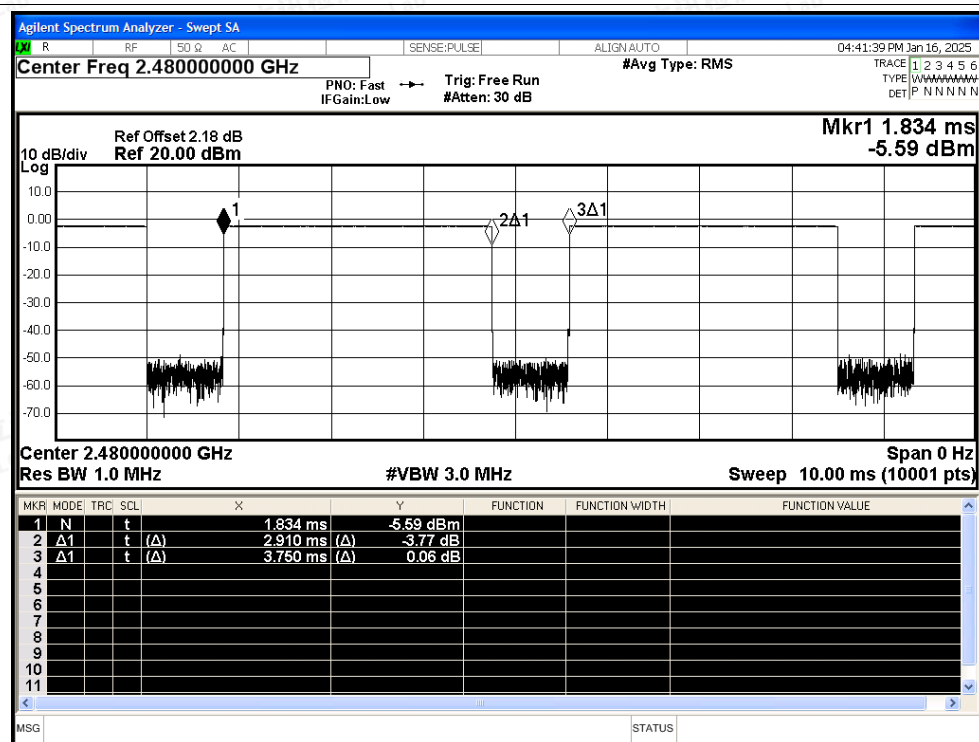


Duty Cycle NVNT 1-DH5 2441MHz Ant1

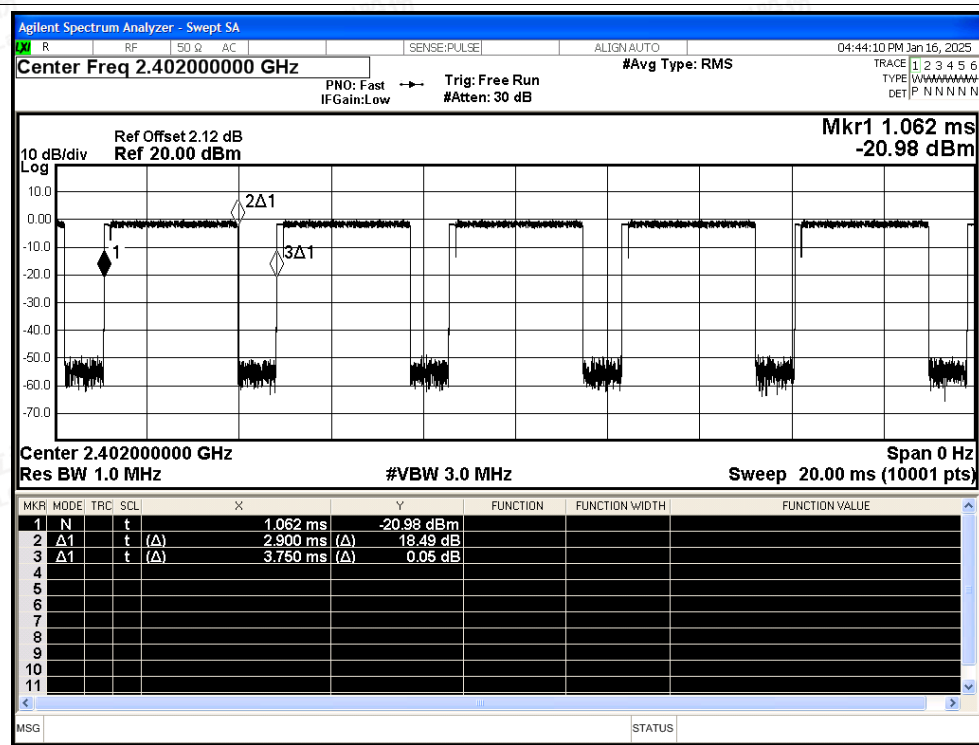




Duty Cycle NVNT 1-DH5 2480MHz Ant1

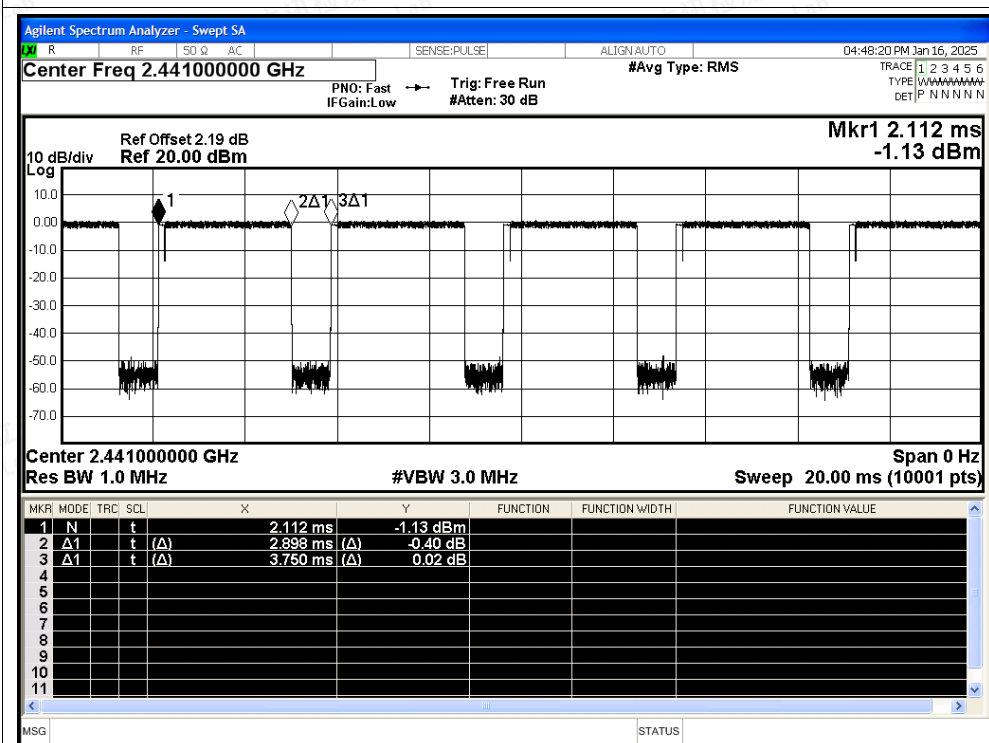


Duty Cycle NVNT 2-DH5 2402MHz Ant1

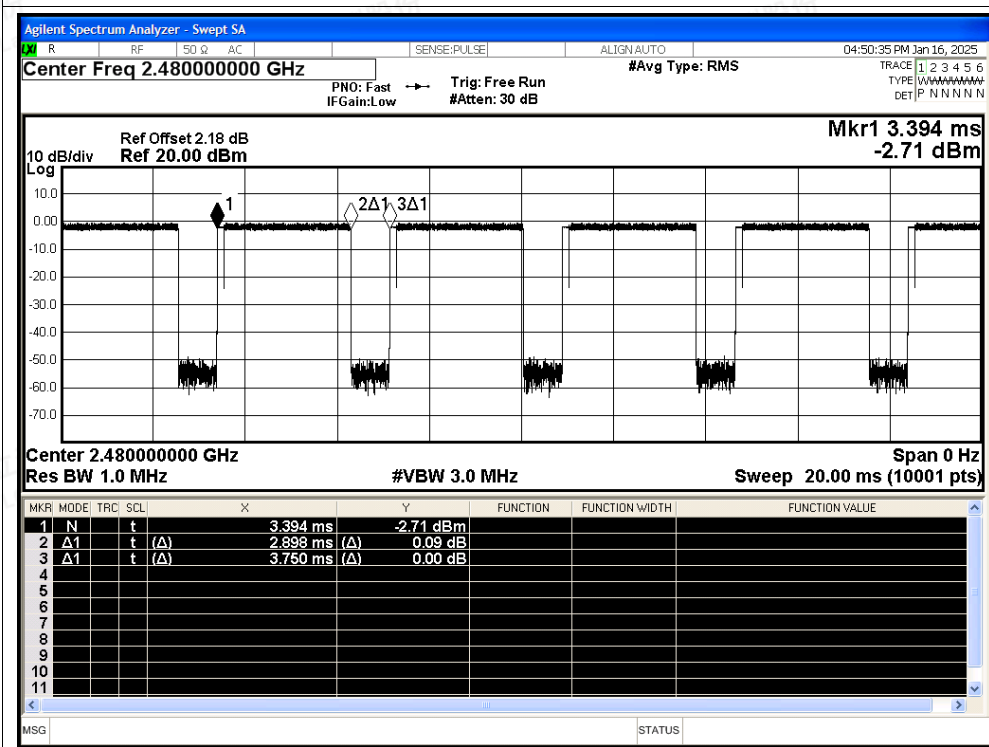




Duty Cycle NVNT 2-DH5 2441MHz Ant1



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	-50.55	2.09	-	46.80	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.44	2.09	1.1	40.01	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2376.72	-47.29	2.09	-	50.06	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2352.528	-57.86	2.09	1.1	40.59	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-50.45	2.09	-	46.90	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.03	2.09	1.1	40.42	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-49.17	2.09	-	48.18	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.98	2.09	1.1	40.47	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2499.544	-47.04	2.09	-	50.31	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2499.88	-57.17	2.09	1.1	41.28	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-48.87	2.09	-	48.48	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.87	2.09	1.1	40.58	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.04	2.09	-	47.31	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-59.59	2.09	1.12	38.88	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2321.904	-47.1	2.09	-	50.25	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2325.264	-57.61	2.09	1.12	40.86	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-50.38	2.09	-	46.97	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.5	2.09	1.12	39.97	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-48.18	2.09	-	49.17	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.5	2.09	1.12	40.97	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2497.936	-47.12	2.09	-	50.23	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.56	-56.88	2.09	1.12	41.59	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-51.32	2.09	-	46.03	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-57.4	2.09	1.12	41.07	Average	54	Pass

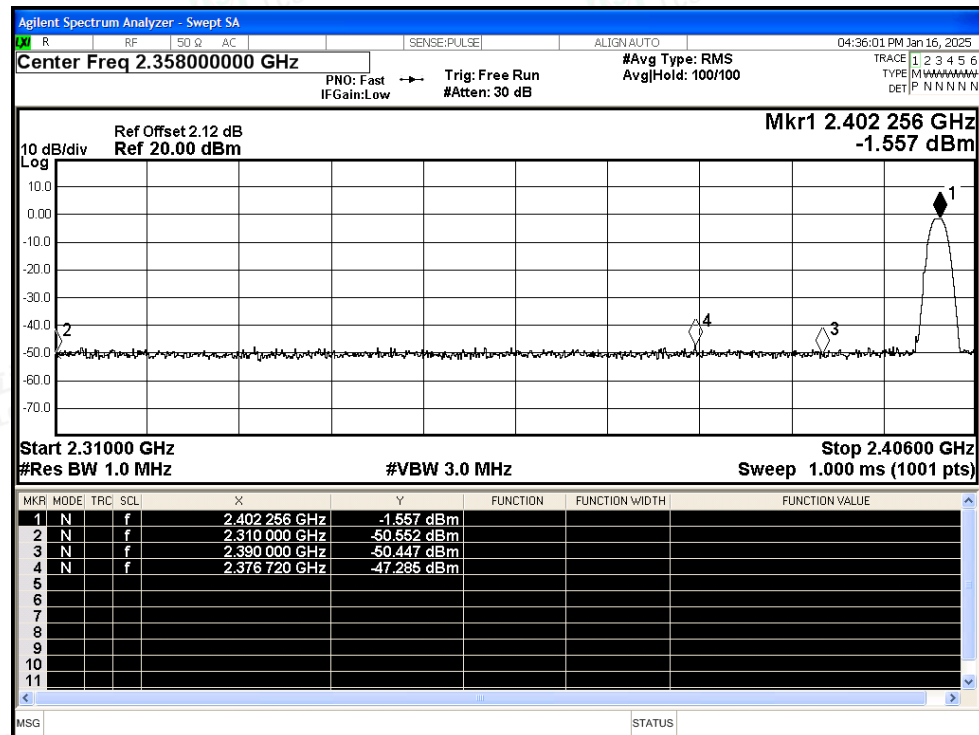


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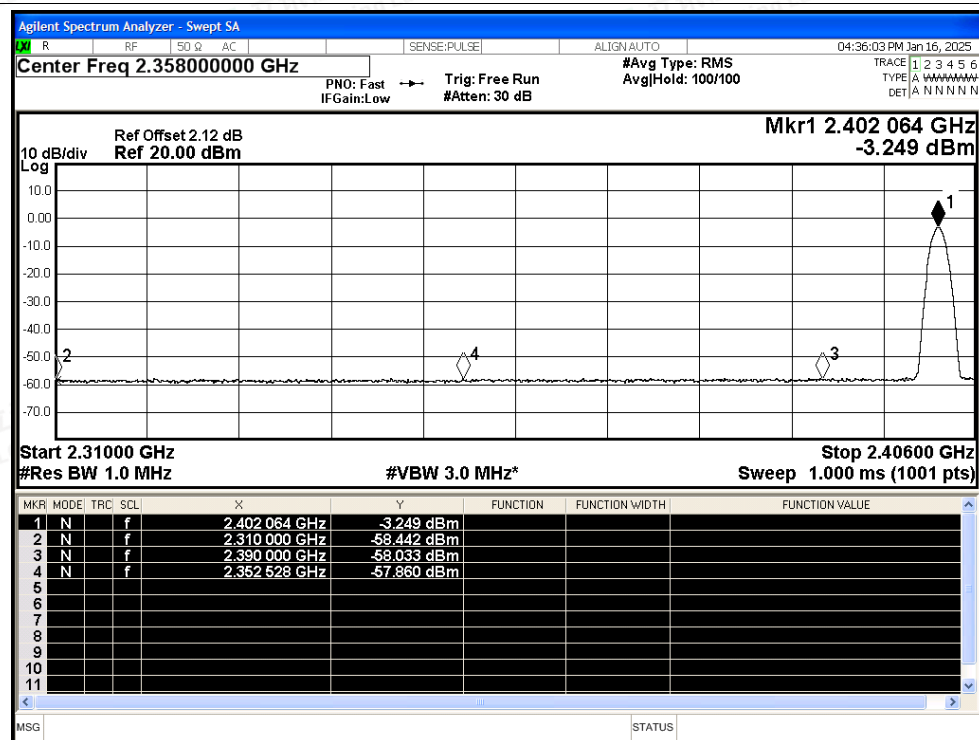


Test Graphs

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



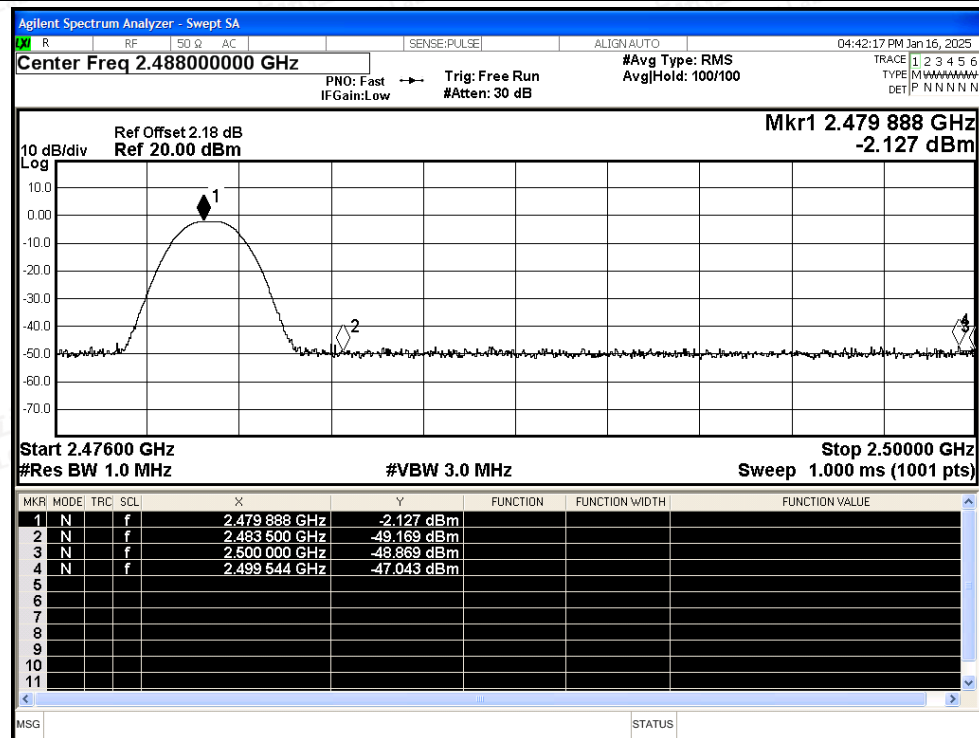
Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average



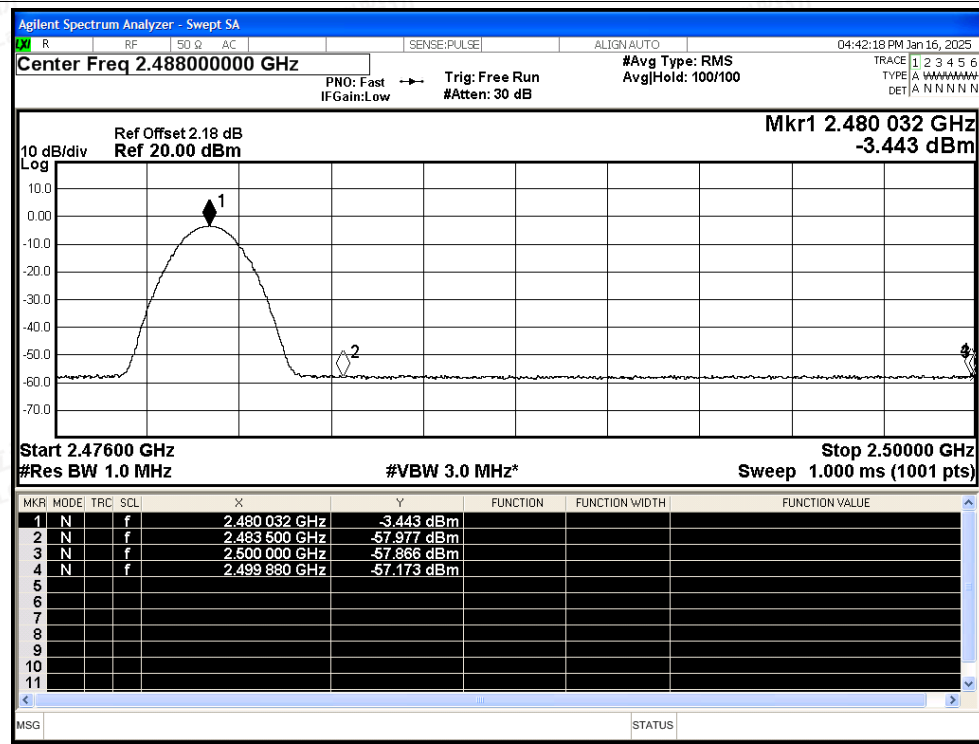
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Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak

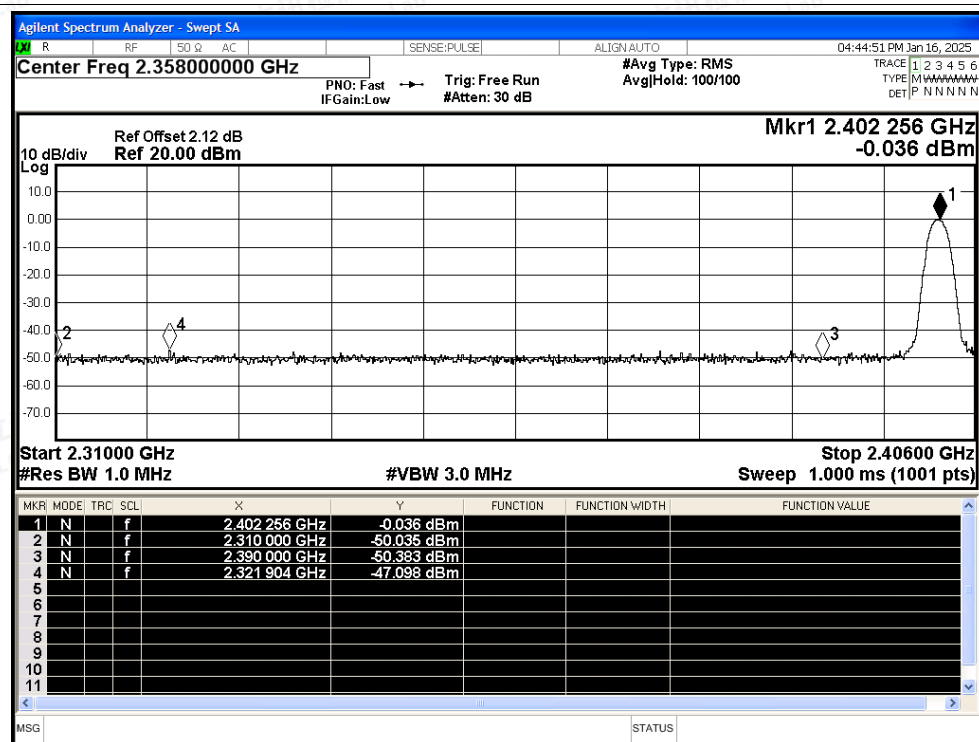


Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average

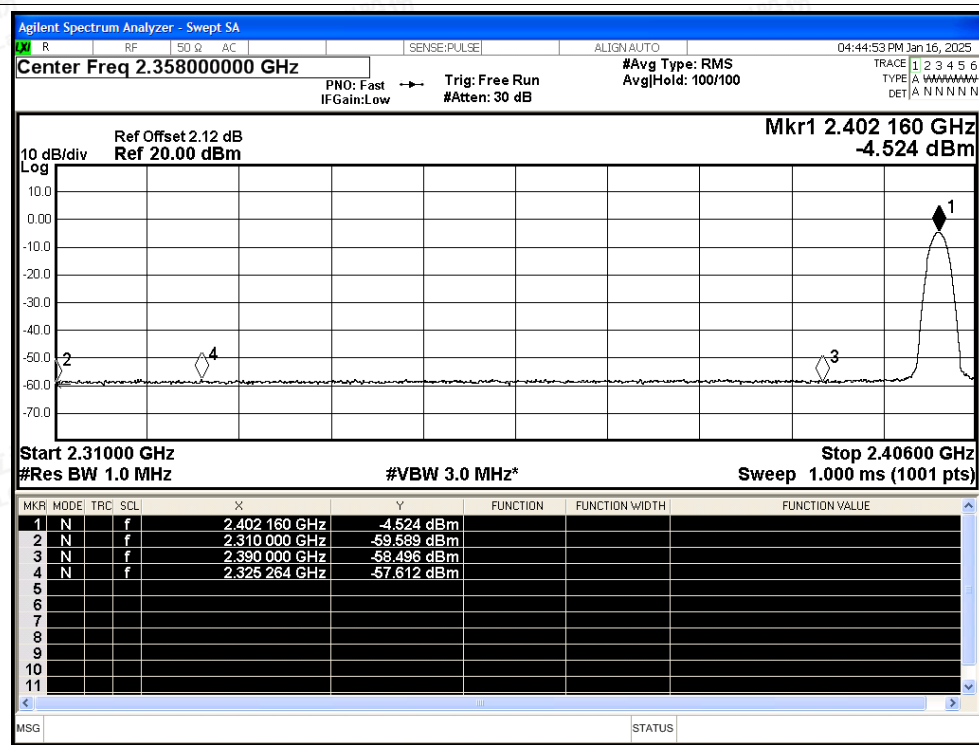




Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

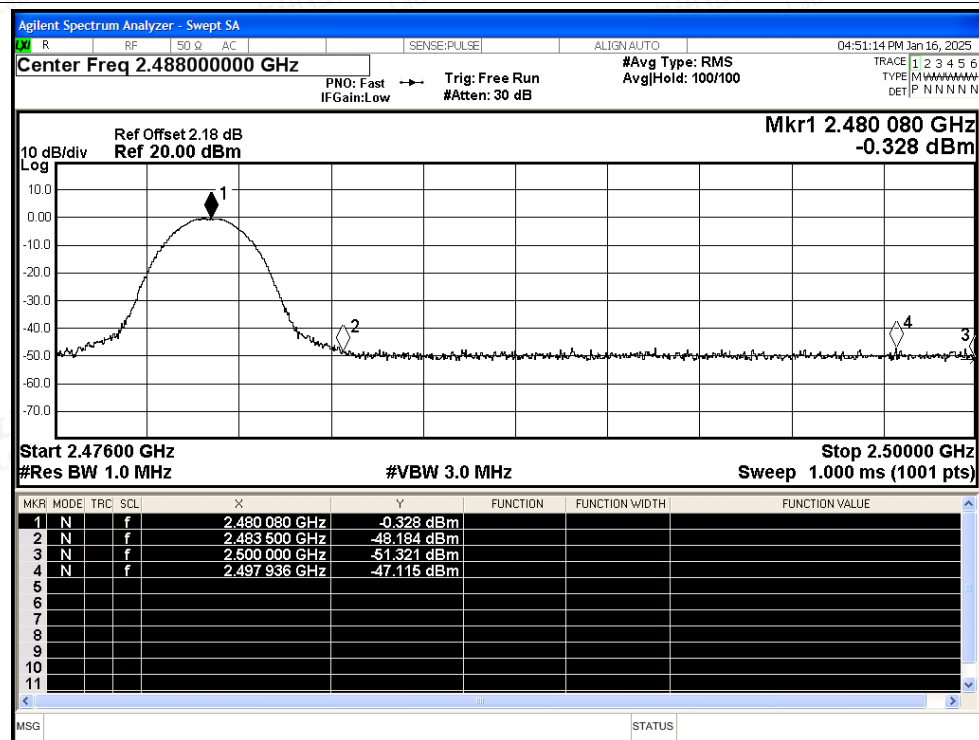


Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average





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



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

