



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: smart watch

Test Model: TB40

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	1.021	N/A	Pass
NVNT	1-DH5	2441	Ant1	0.954	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.955	N/A	Pass
NVNT	2-DH5	2402	Ant1	1.29	N/A	Pass
NVNT	2-DH5	2441	Ant1	1.286	N/A	Pass
NVNT	2-DH5	2480	Ant1	1.333	N/A	Pass

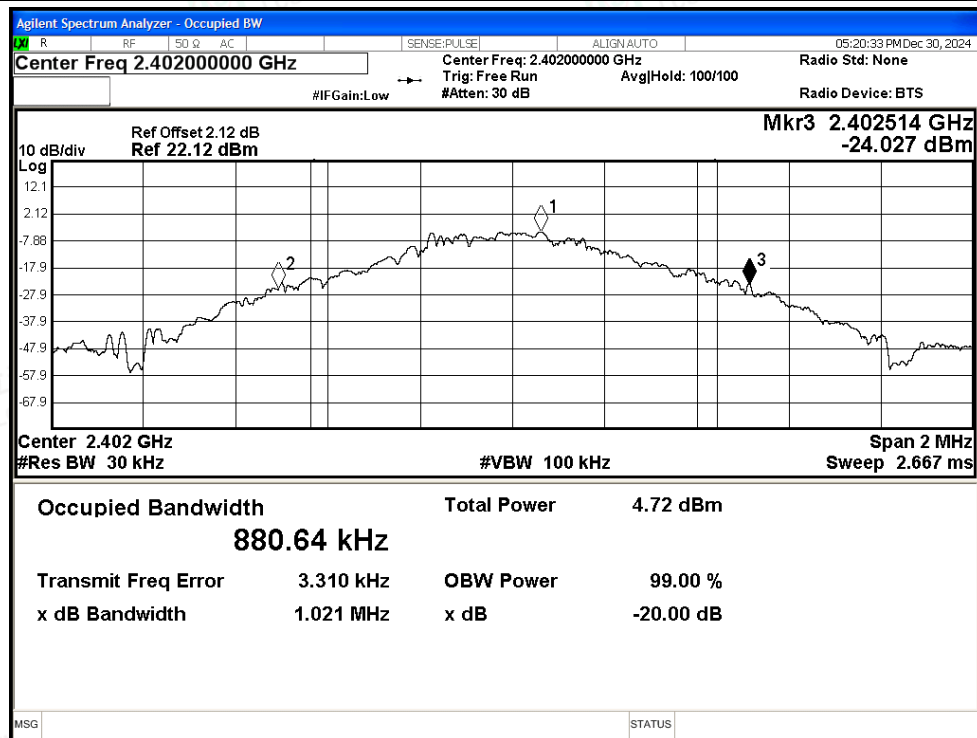


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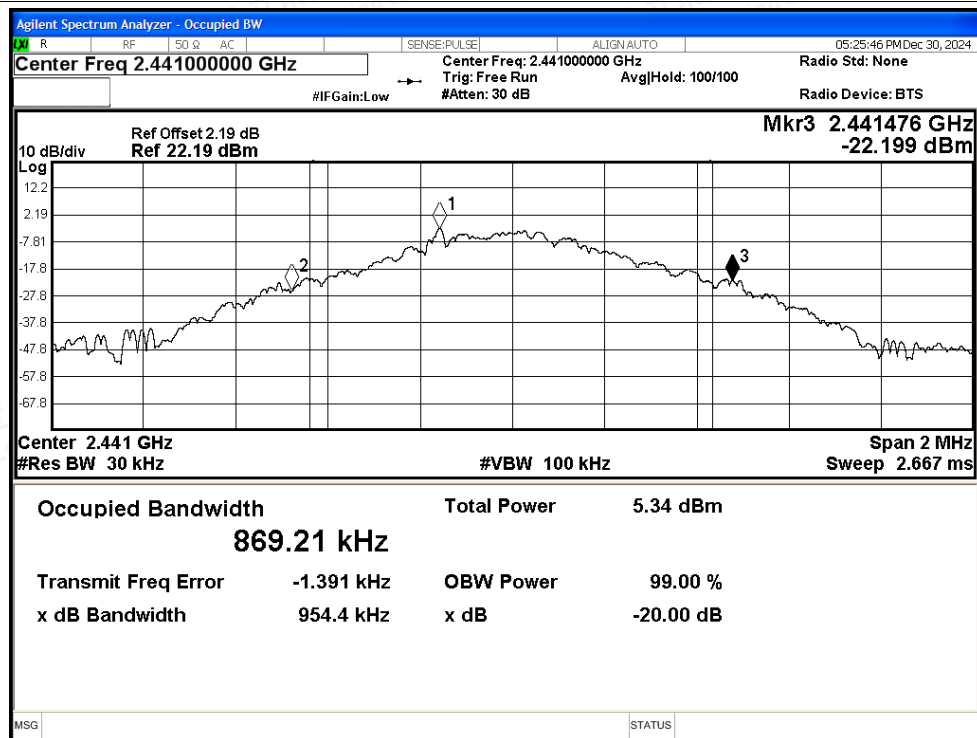


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1

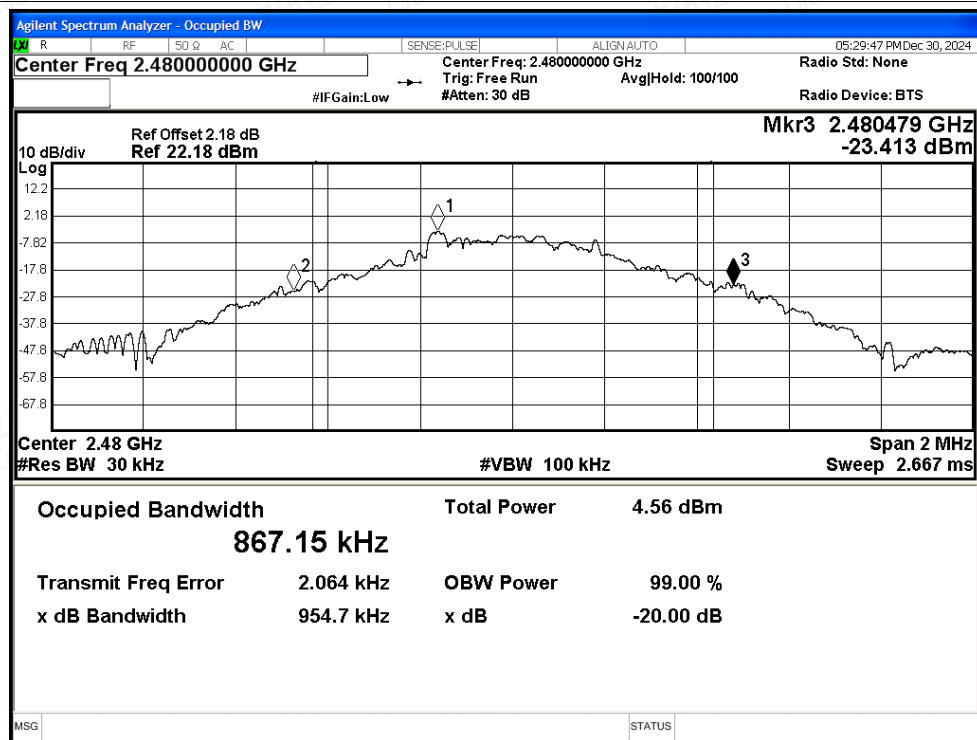


-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

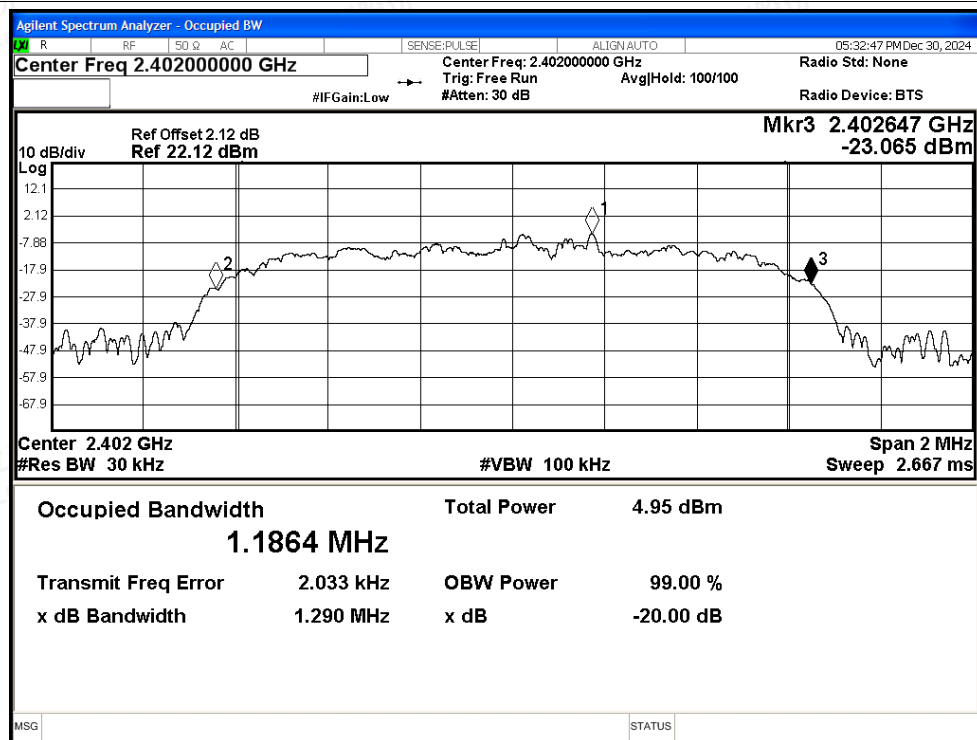




-20dB Bandwidth NVNT 1-DH5 2480MHz Ant1

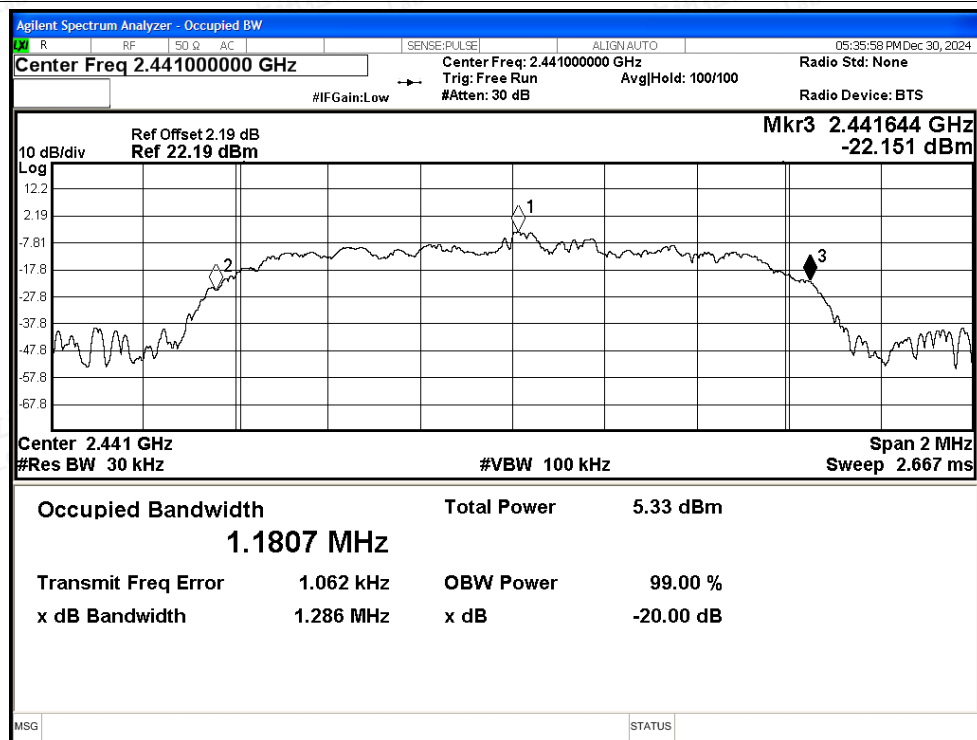


-20dB Bandwidth NVNT 2-DH5 2402MHz Ant1

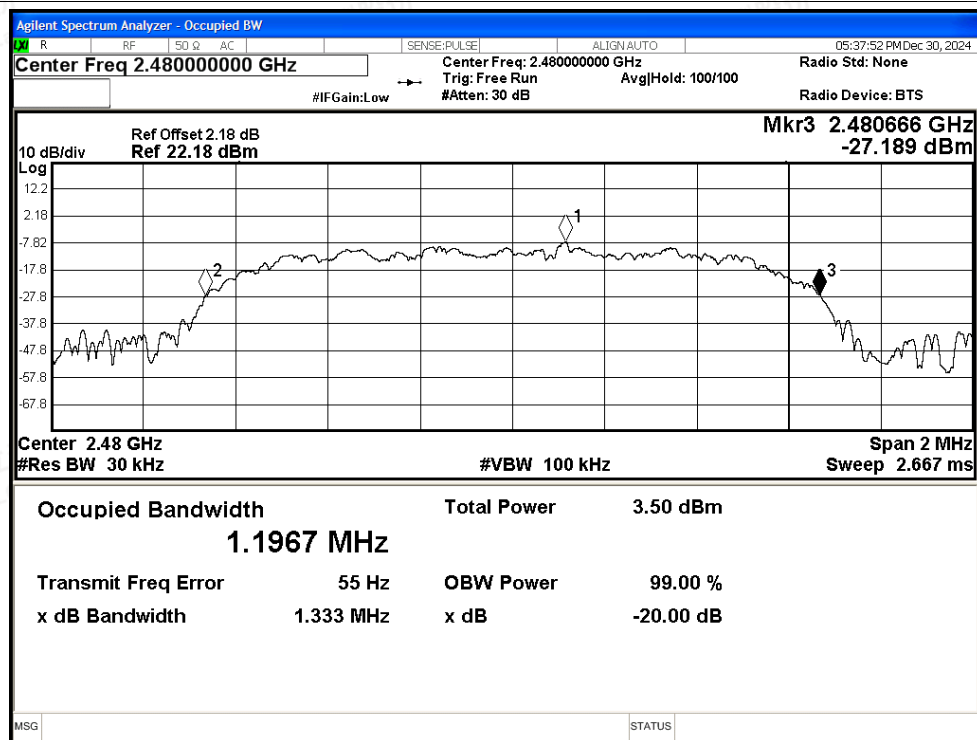




-20dB Bandwidth NVNT 2-DH5 2441MHz Ant1



-20dB Bandwidth NVNT 2-DH5 2480MHz Ant1





A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-1.33	21	Pass
NVNT	1-DH5	2441	Ant1	-1.11	21	Pass
NVNT	1-DH5	2480	Ant1	-1.82	21	Pass
NVNT	2-DH5	2402	Ant1	0.63	21	Pass
NVNT	2-DH5	2441	Ant1	0.73	21	Pass
NVNT	2-DH5	2480	Ant1	-0.27	21	Pass

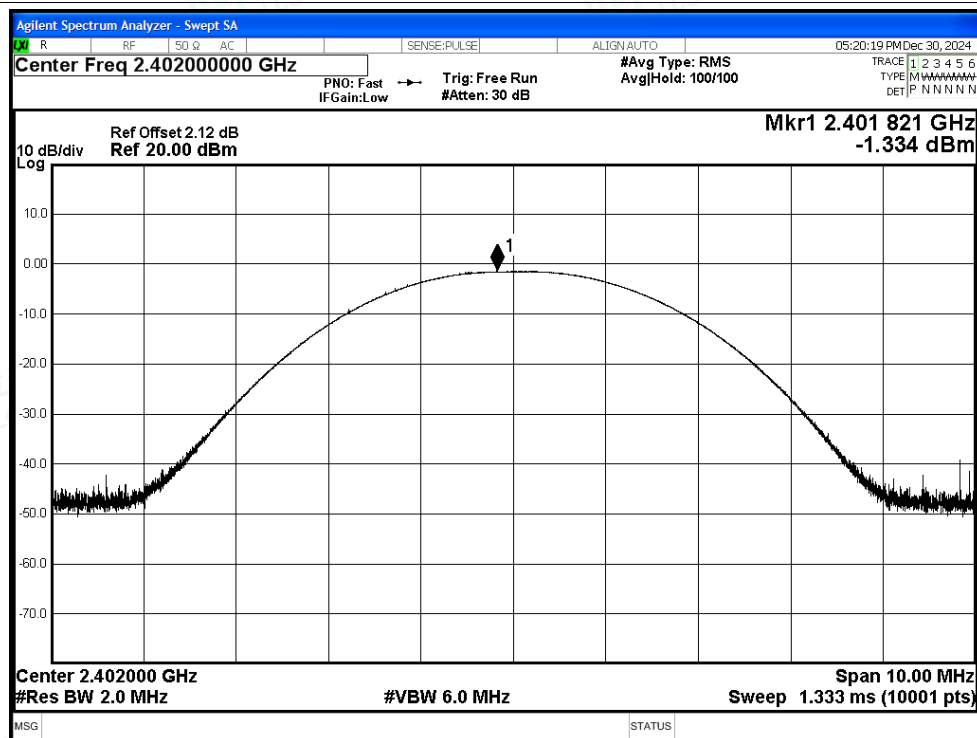


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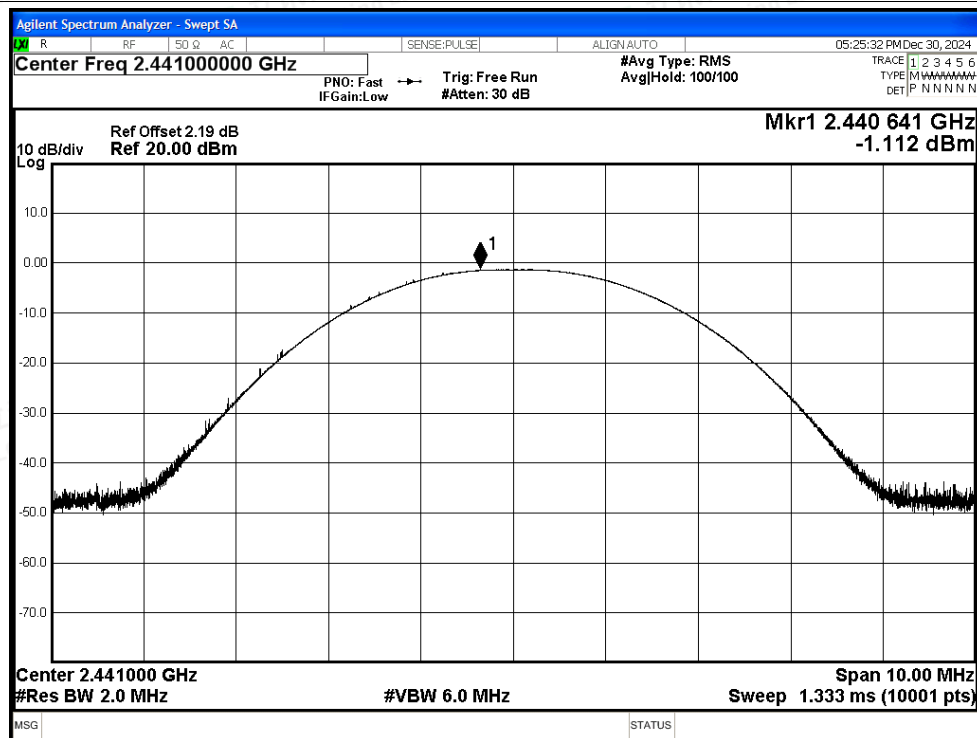


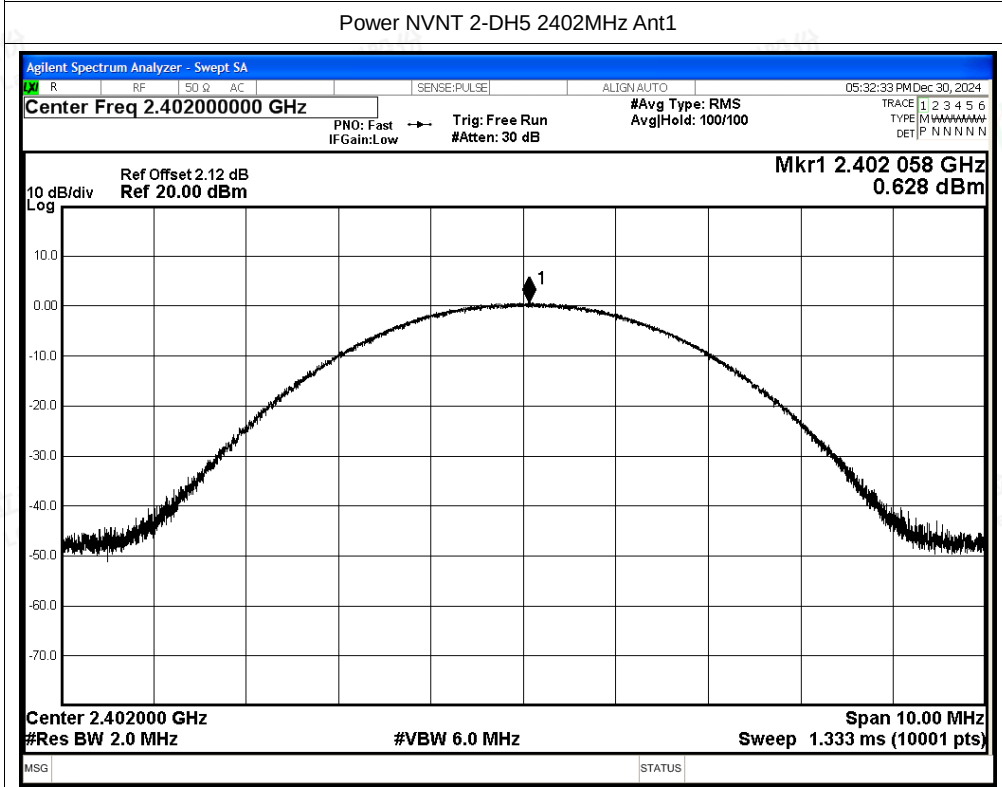
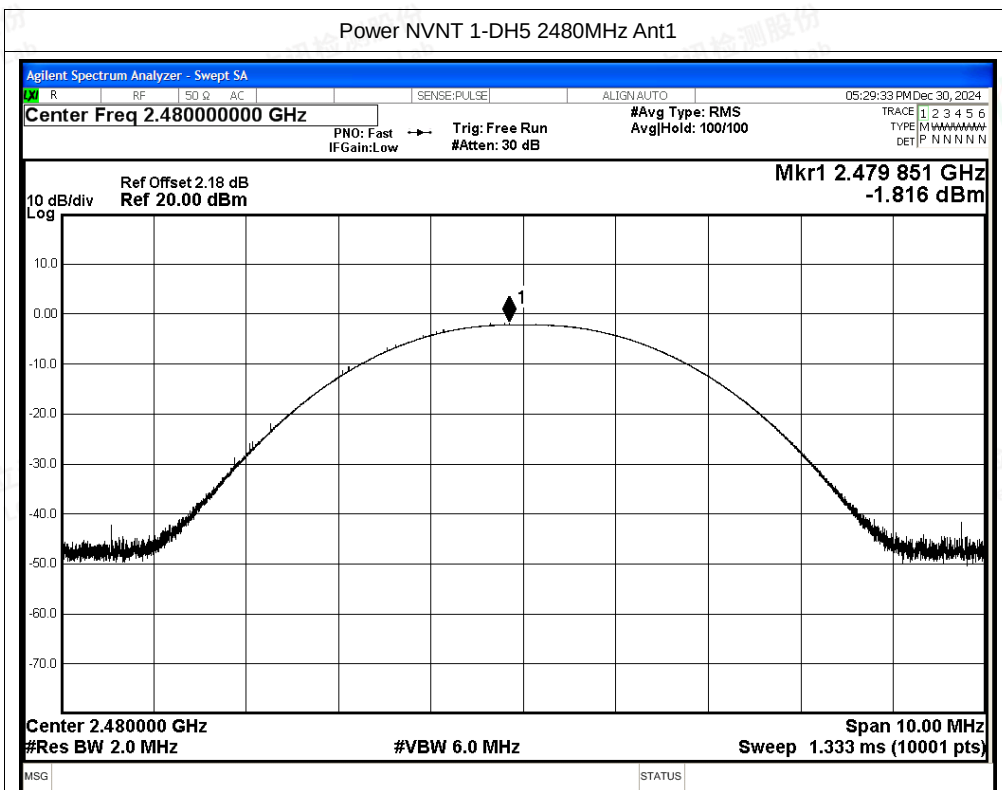
Test Graphs

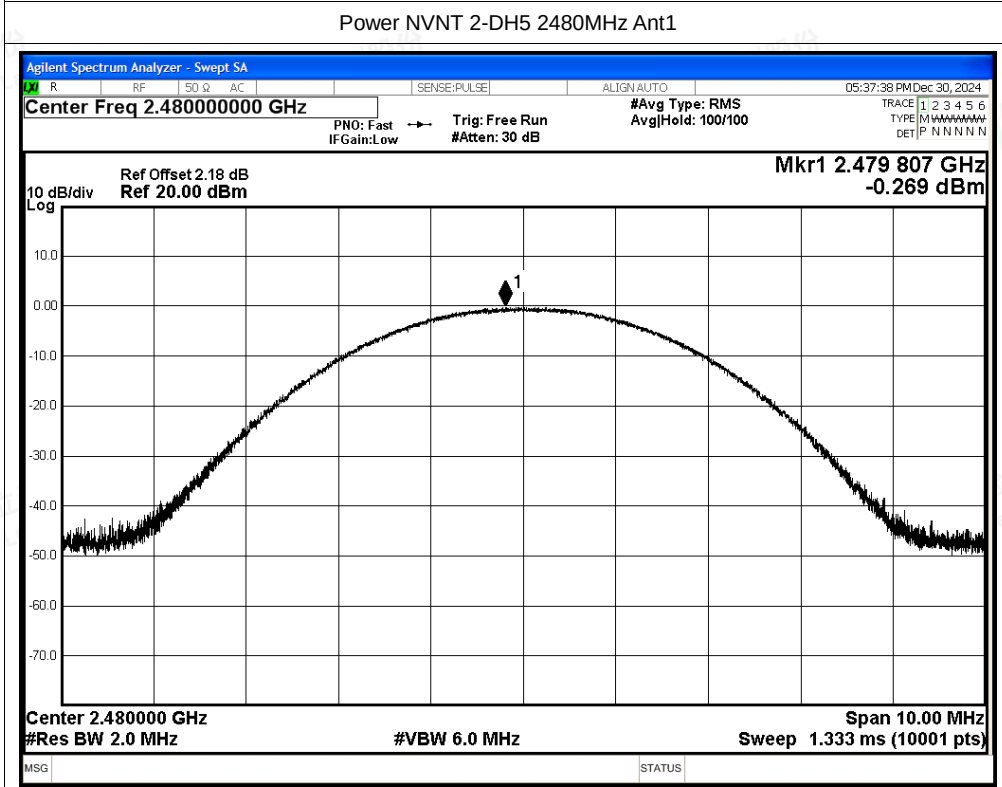
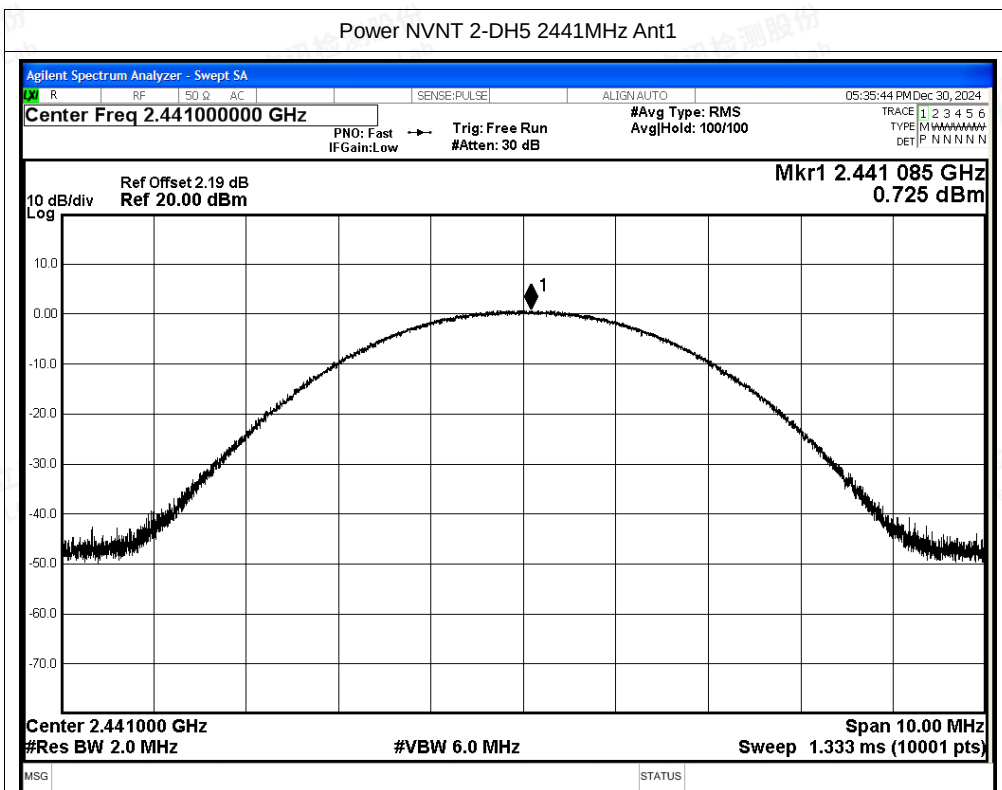
Power NVNT 1-DH5 2402MHz Ant1



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	2402.024	2403.164	1.14	0.681	Pass
NVNT	2-DH5	Ant1	2401.828	2403.038	1.21	0.889	Pass

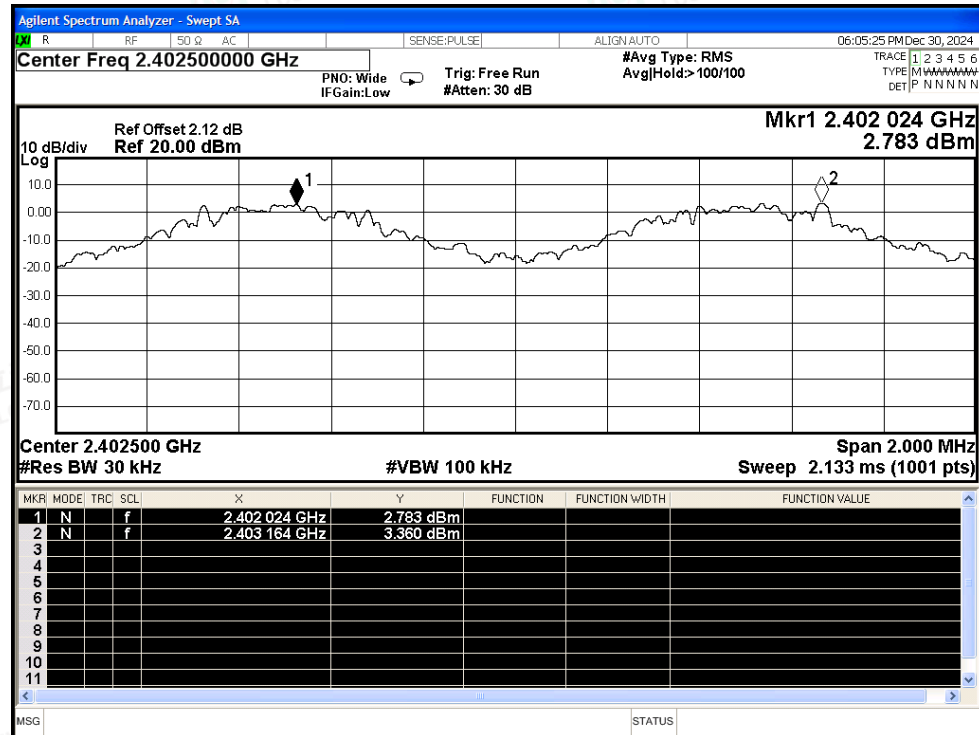


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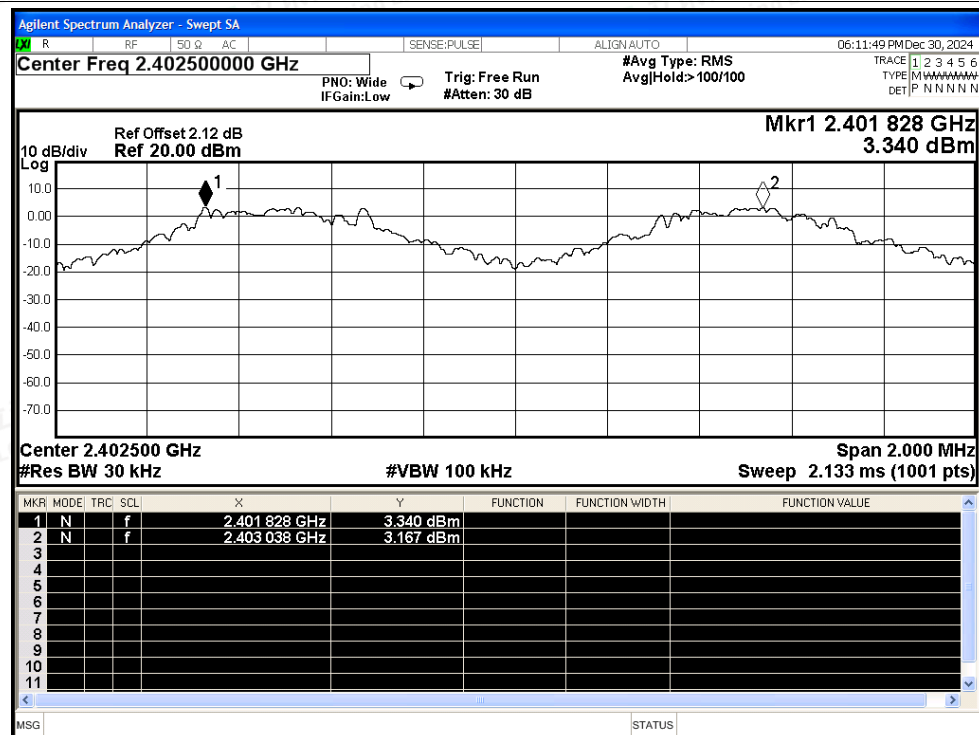


Test Graphs

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	2.909	264.719	91	31600	400	Pass
NVNT	2-DH5	2402	Ant1	2.897	298.391	103	31600	400	Pass

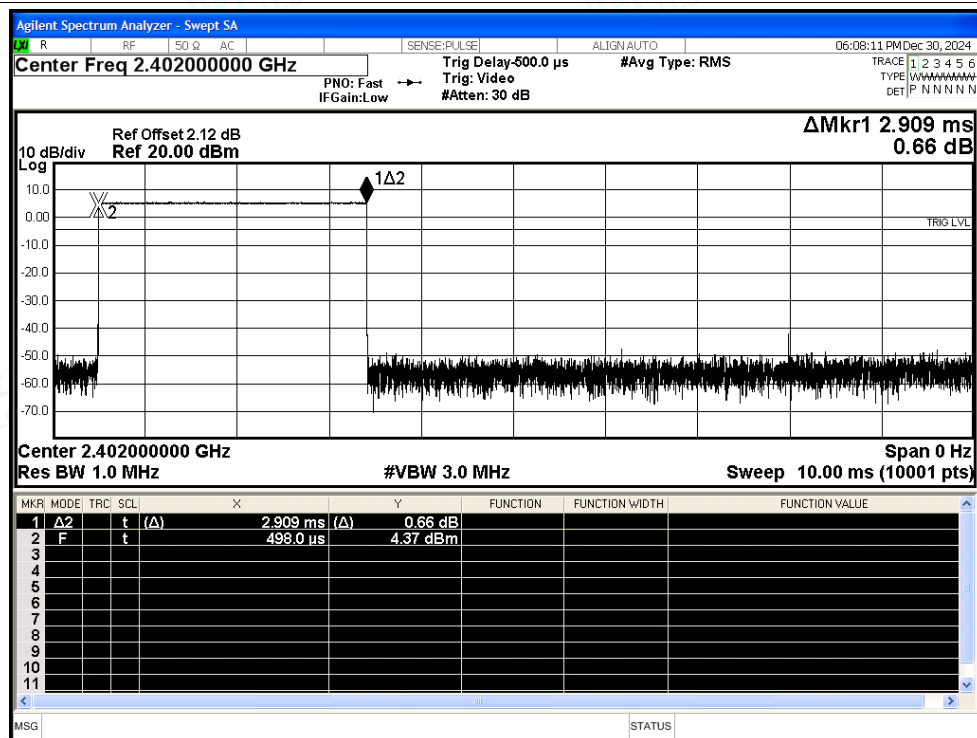


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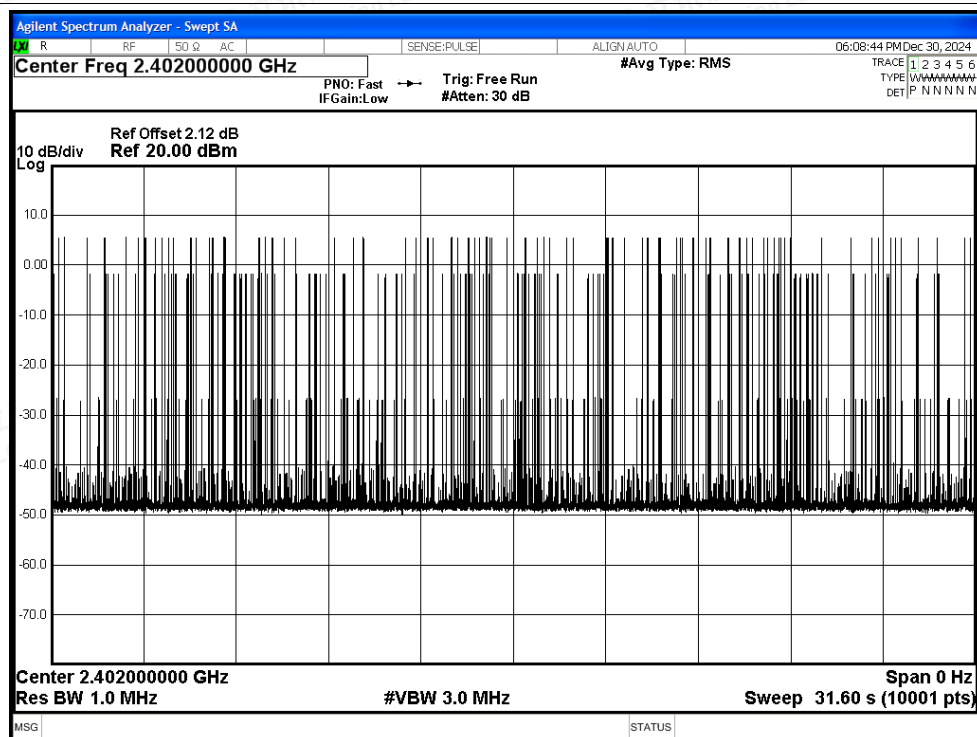


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst

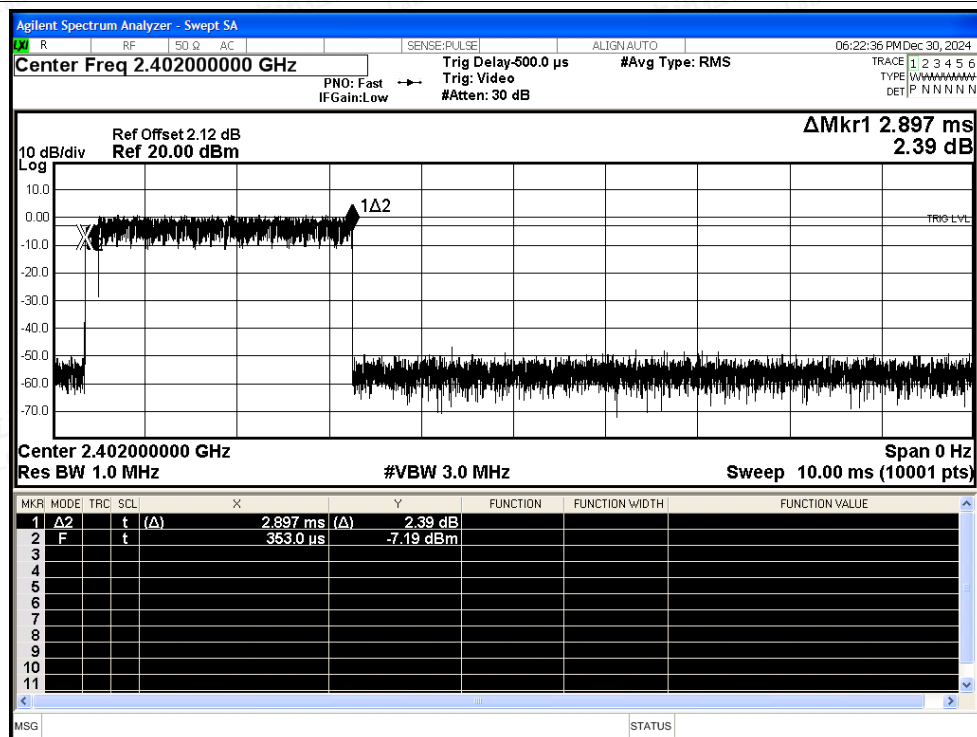


Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated

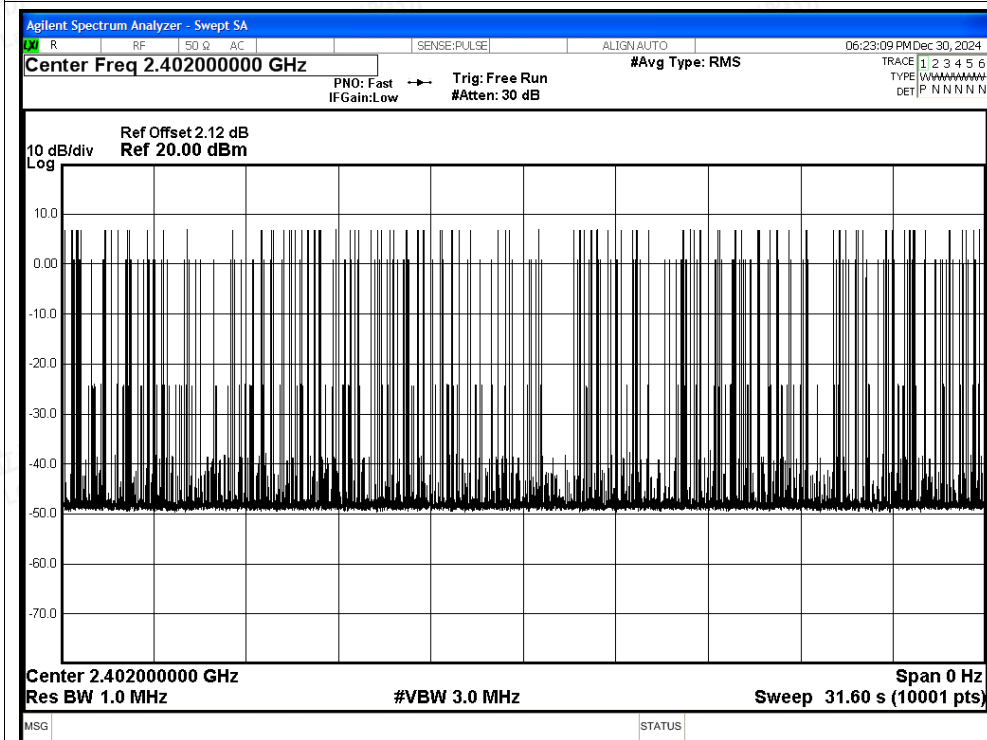




Dwell NVNT 2-DH5 2402MHz Ant1 One Burst



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

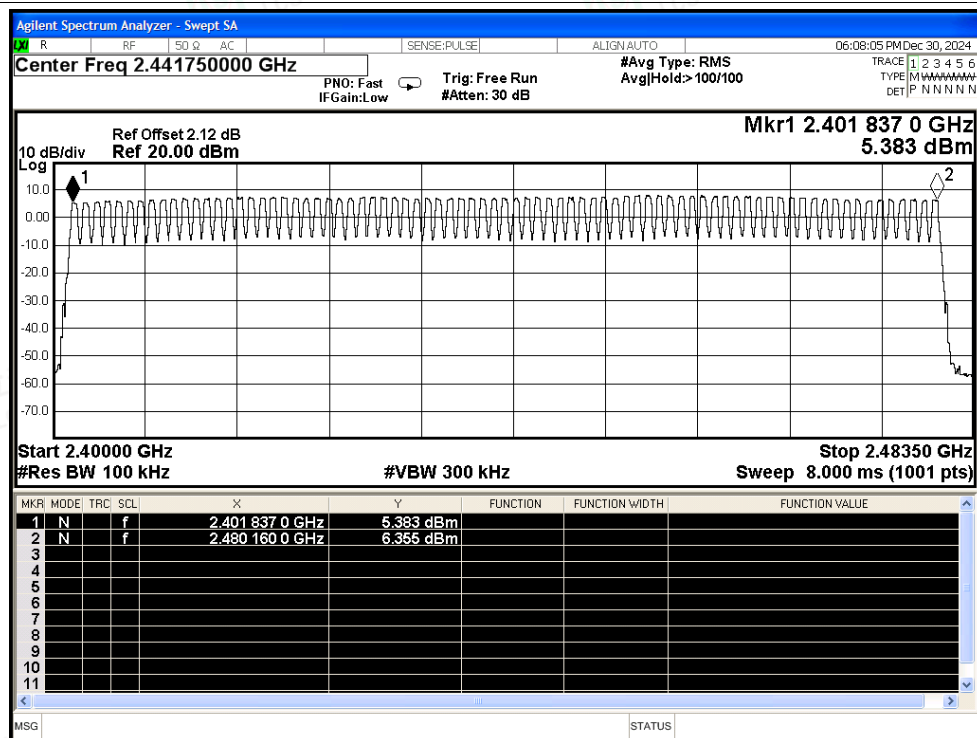


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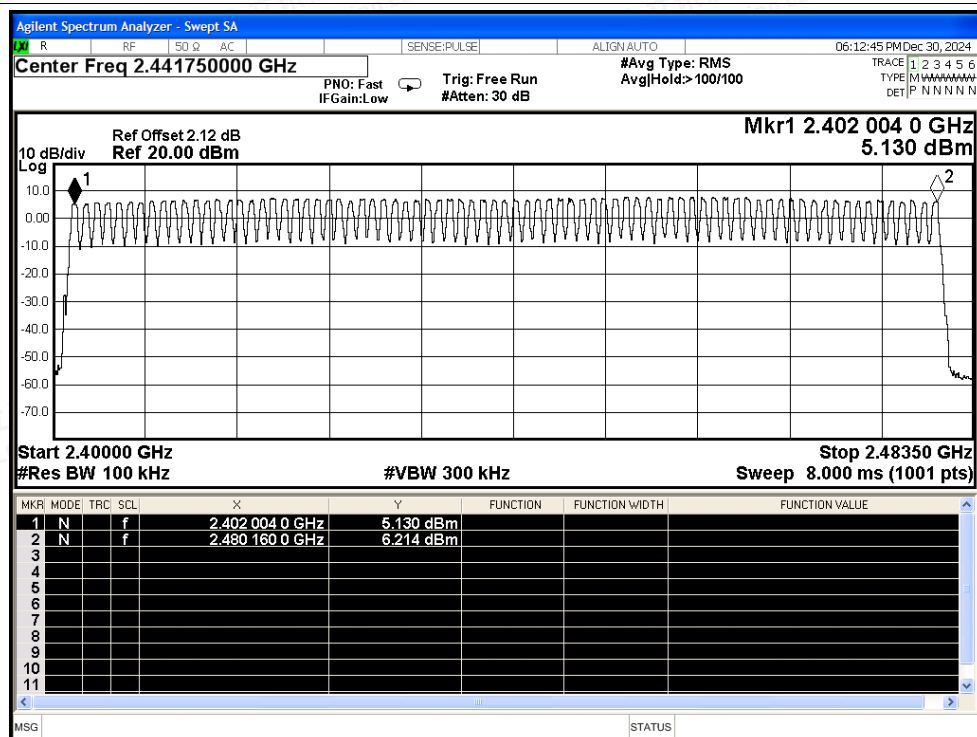


Test Graphs

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	-54.76	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-54.54	-20	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	-51.08	-20	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	-53.56	-20	Pass

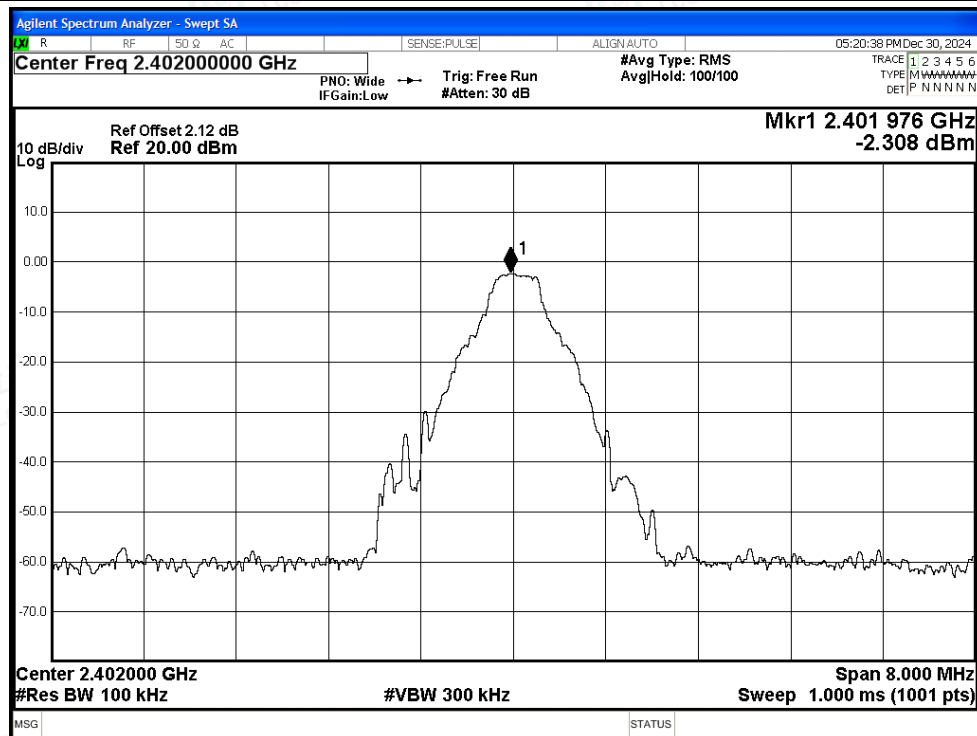


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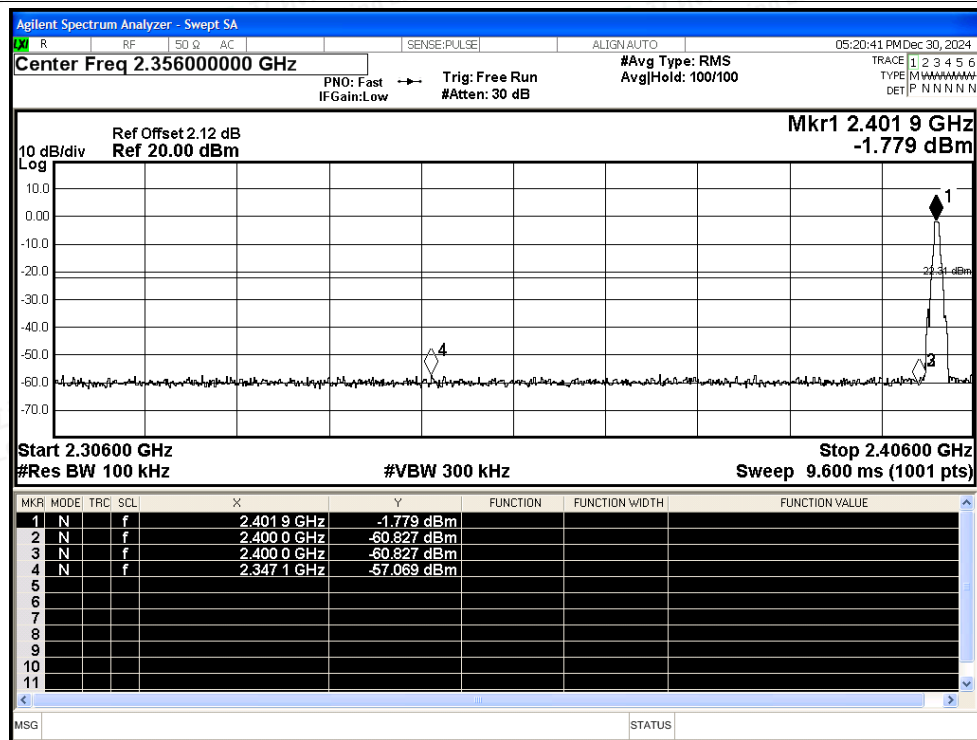


Test Graphs

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

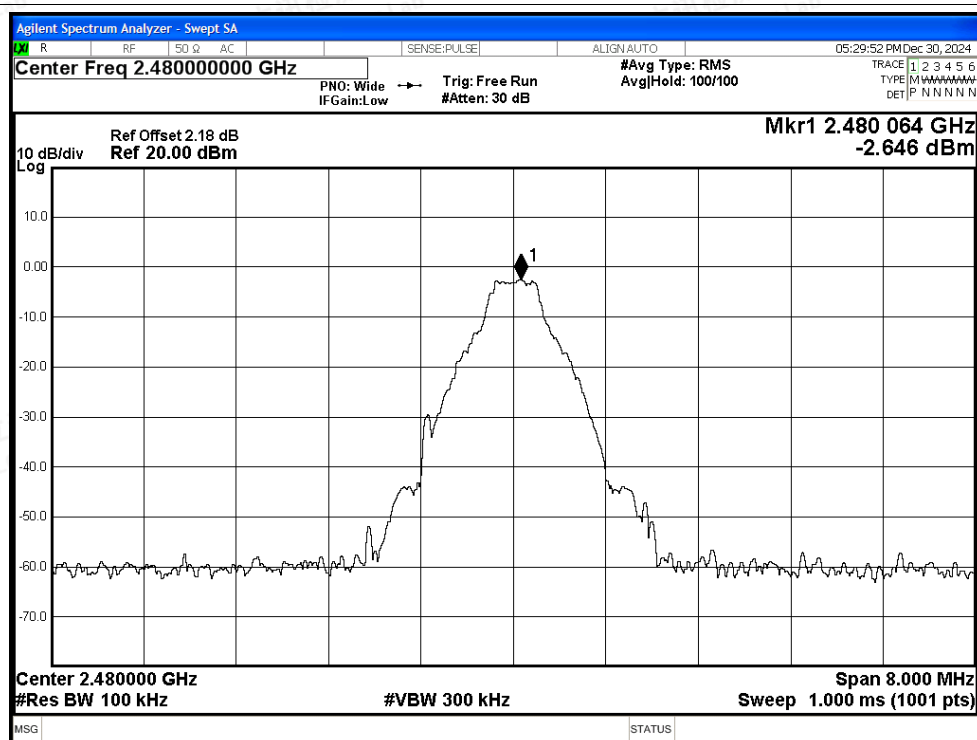


Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Emission

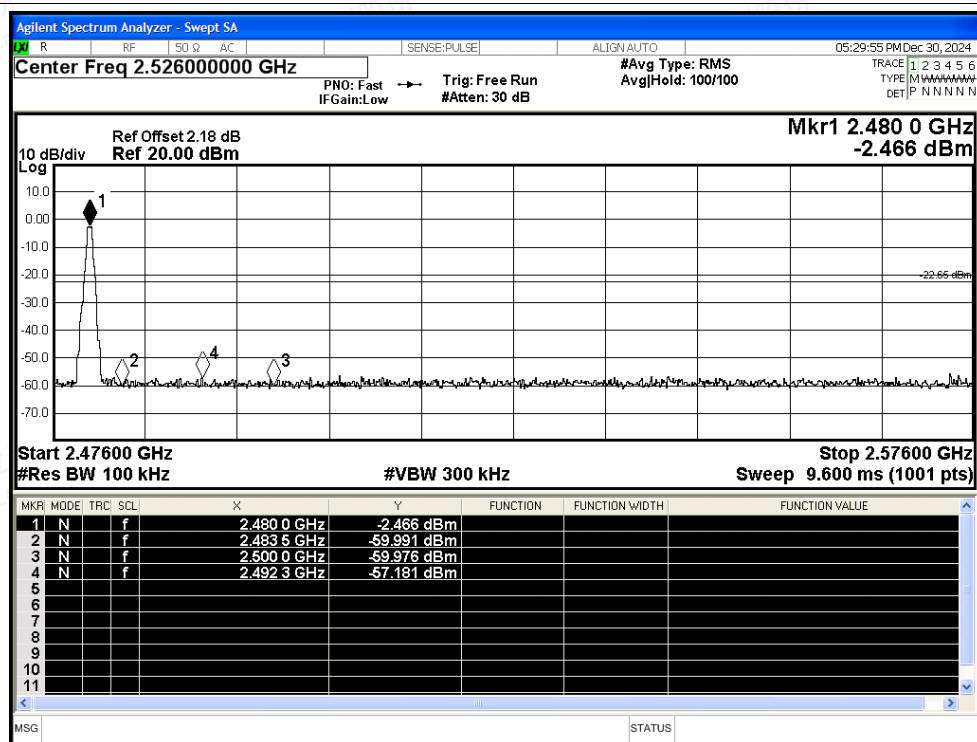




Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



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



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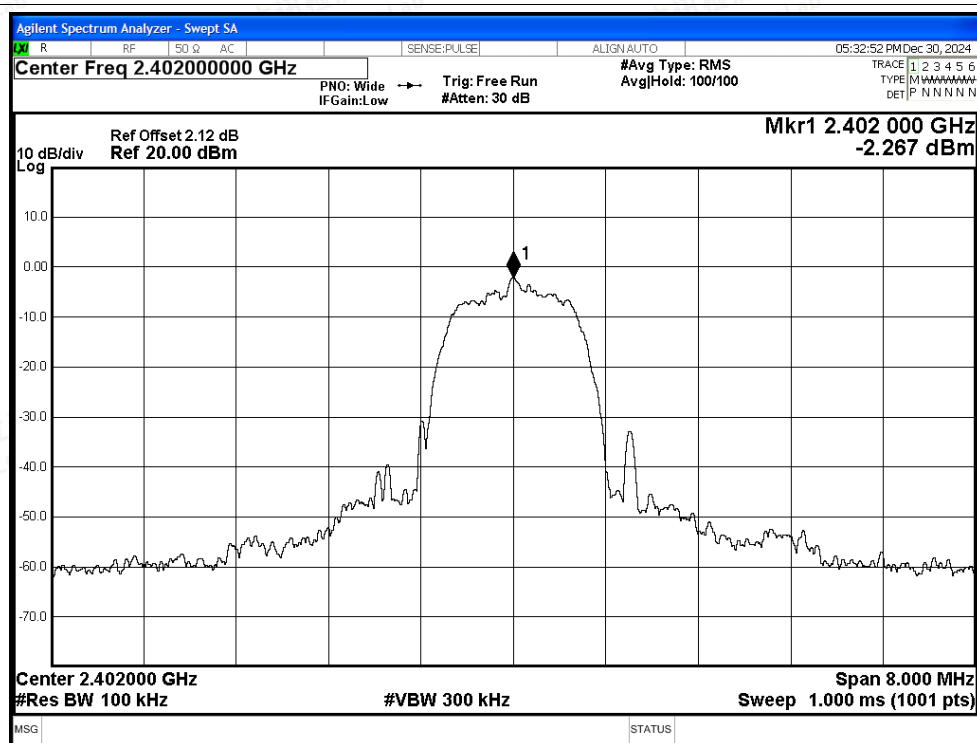
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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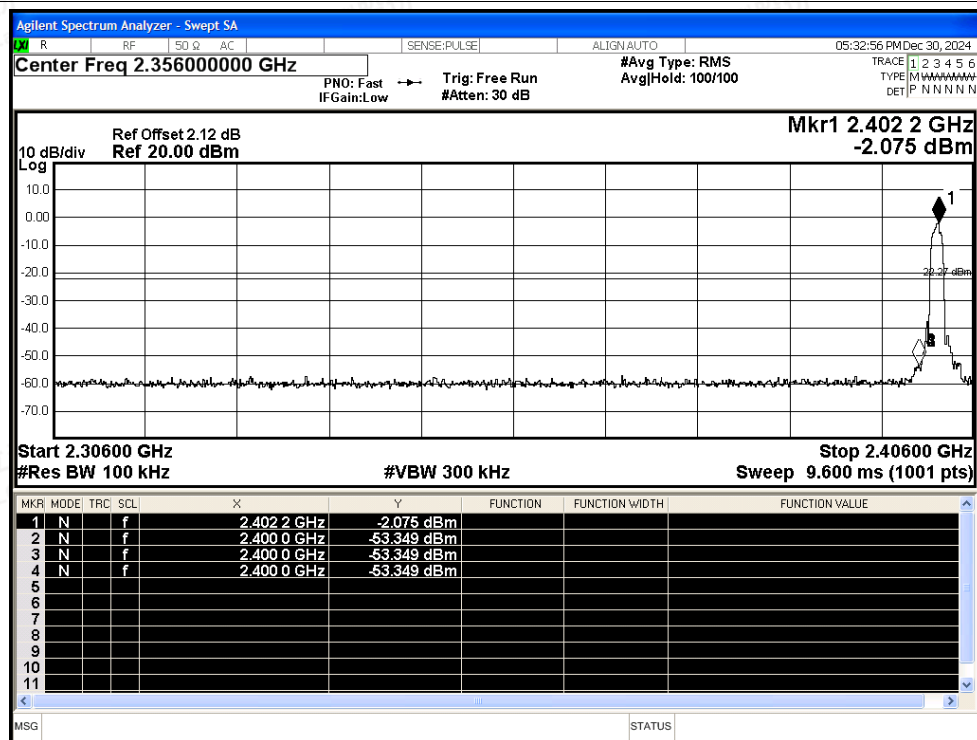
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Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Ref

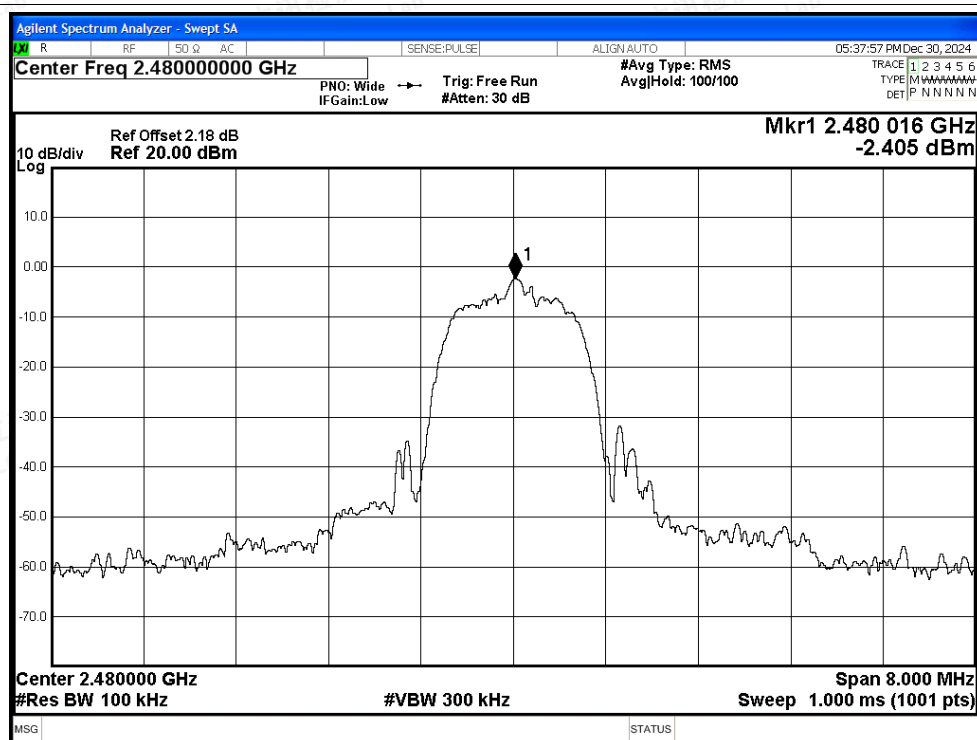


Band Edge NVNT 2-DH5 2402MHz Ant1 No-Hopping Emission

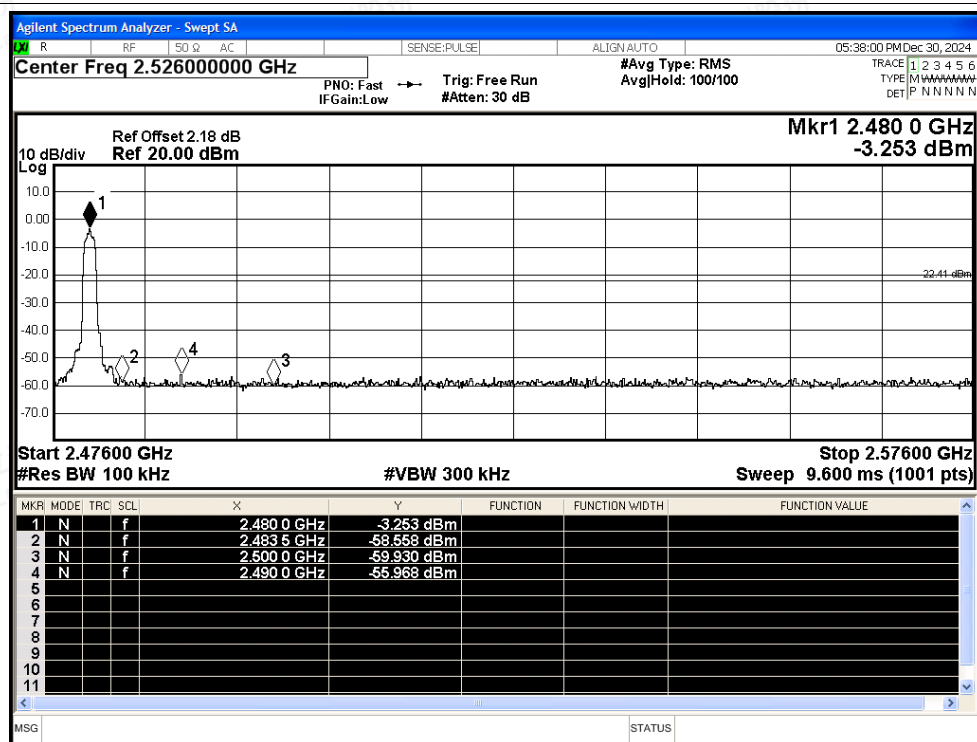




Band Edge NVNT 2-DH5 2480MHz Ant1 No-Hopping Ref



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	-61.4	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-62.28	-20	Pass
NVNT	2-DH5	2402	Ant1	Hopping	-61.52	-20	Pass
NVNT	2-DH5	2480	Ant1	Hopping	-62.21	-20	Pass

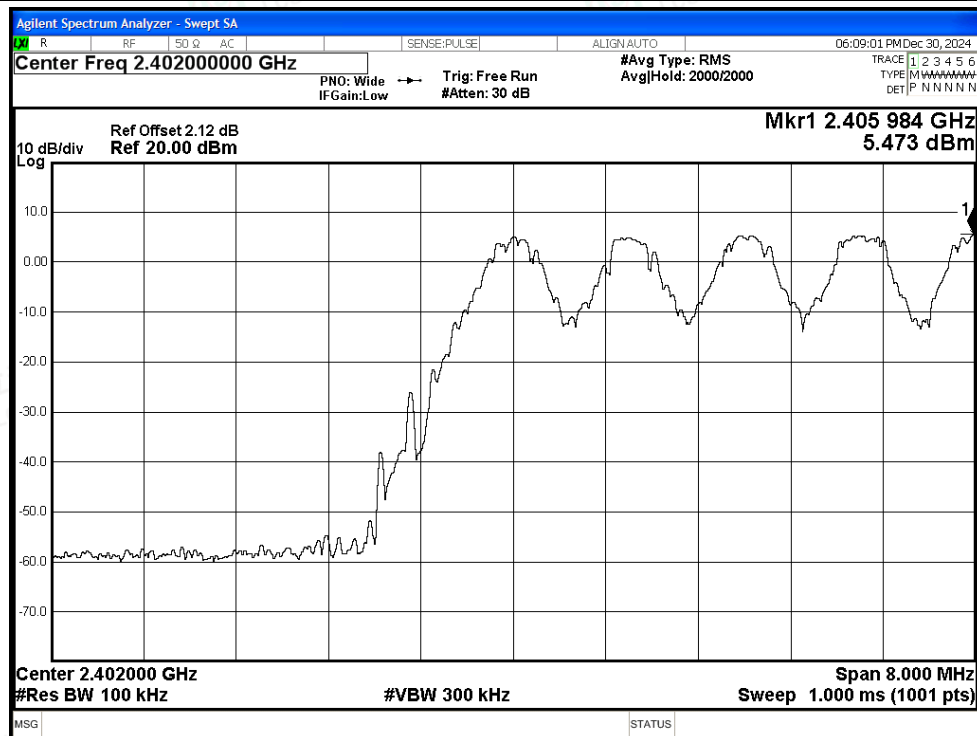


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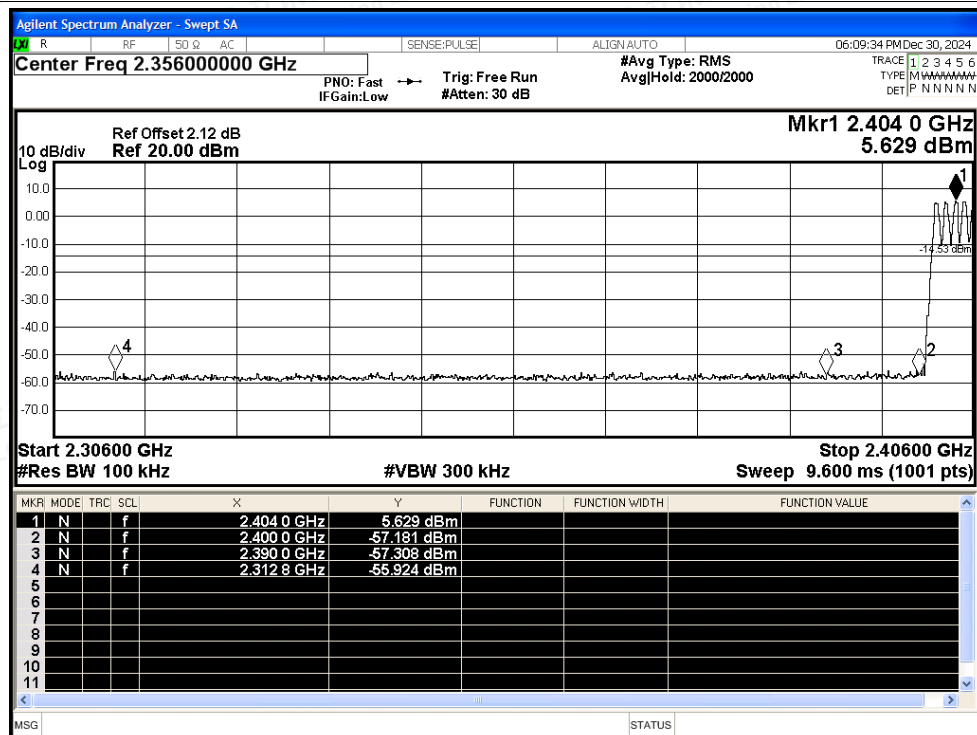


Test Graphs

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

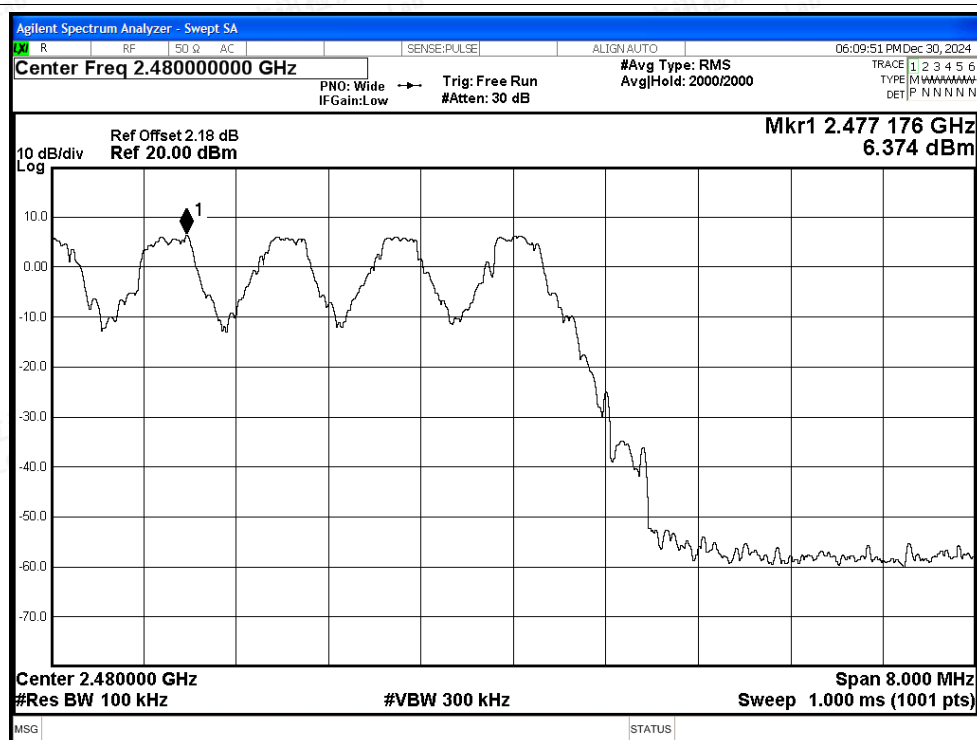


Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Emission

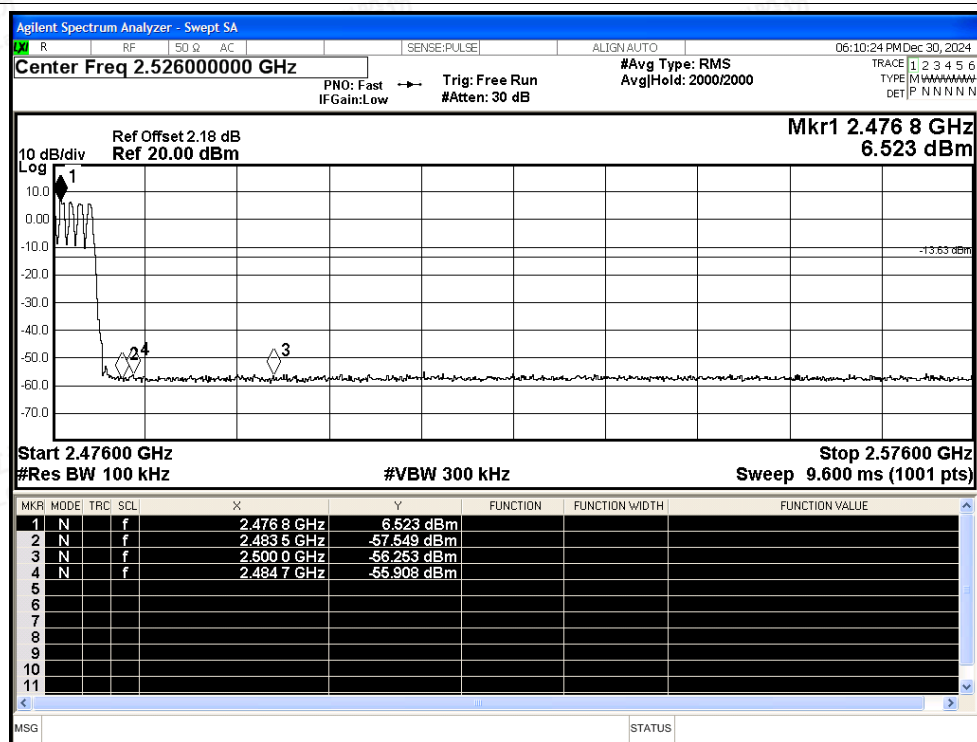




Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Ref

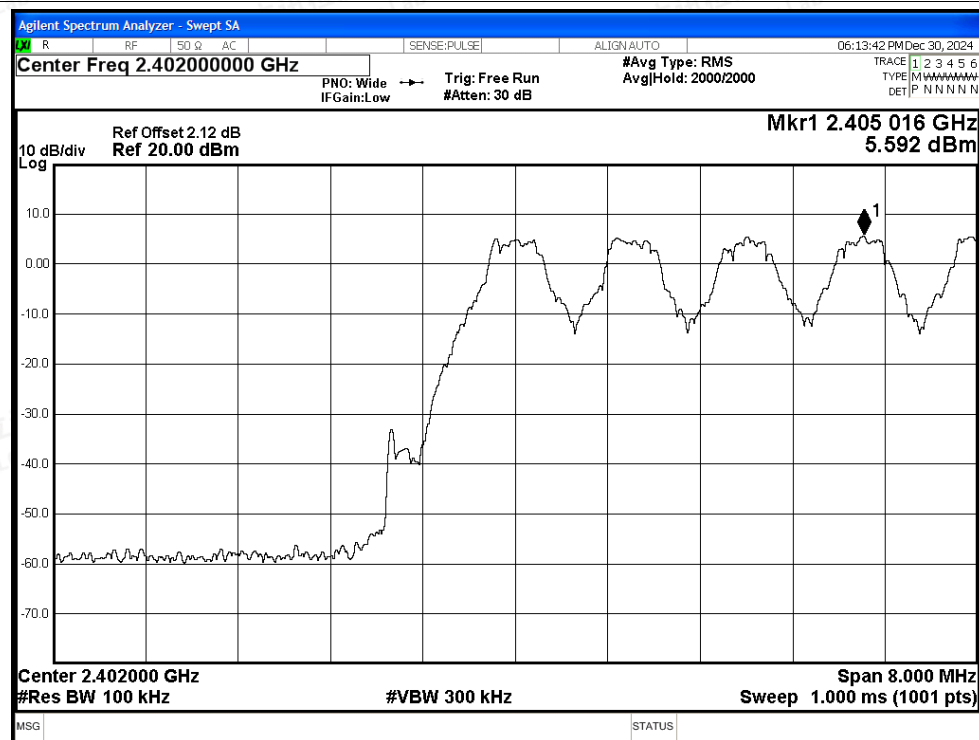


Band Edge(Hopping) NVNT 1-DH5 2480MHz Ant1 Hopping Emission

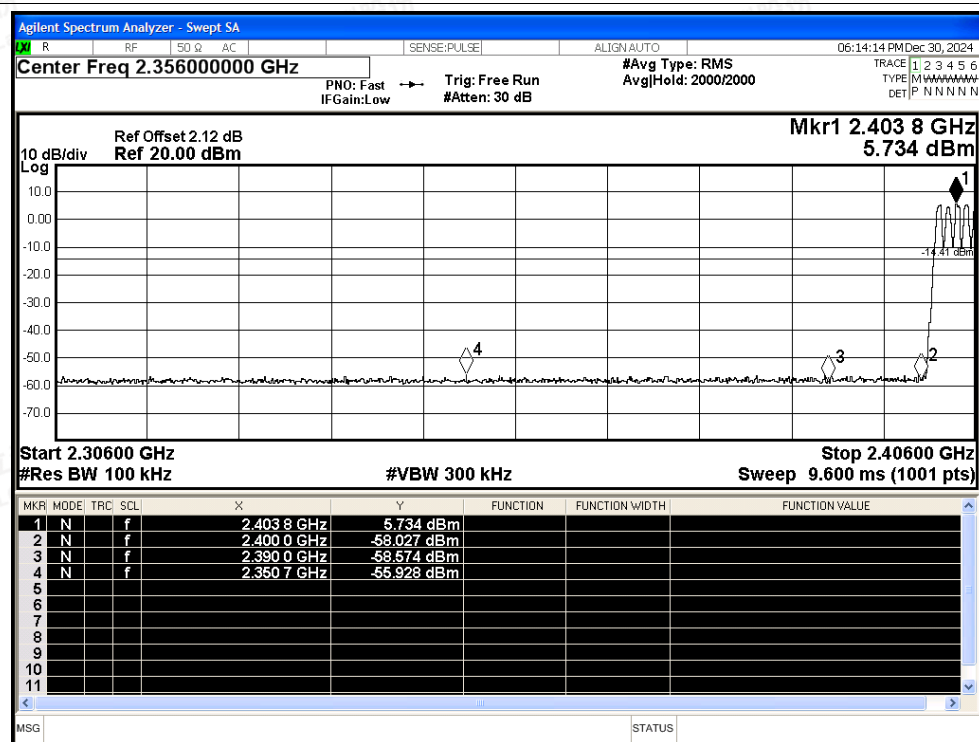




Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref

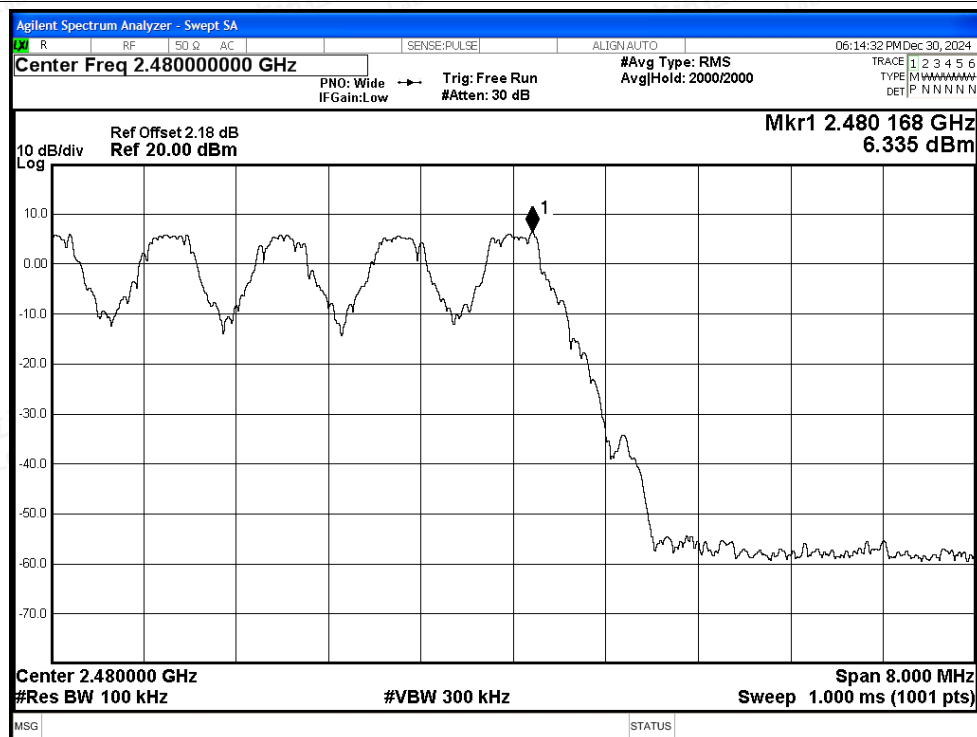


Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Emission

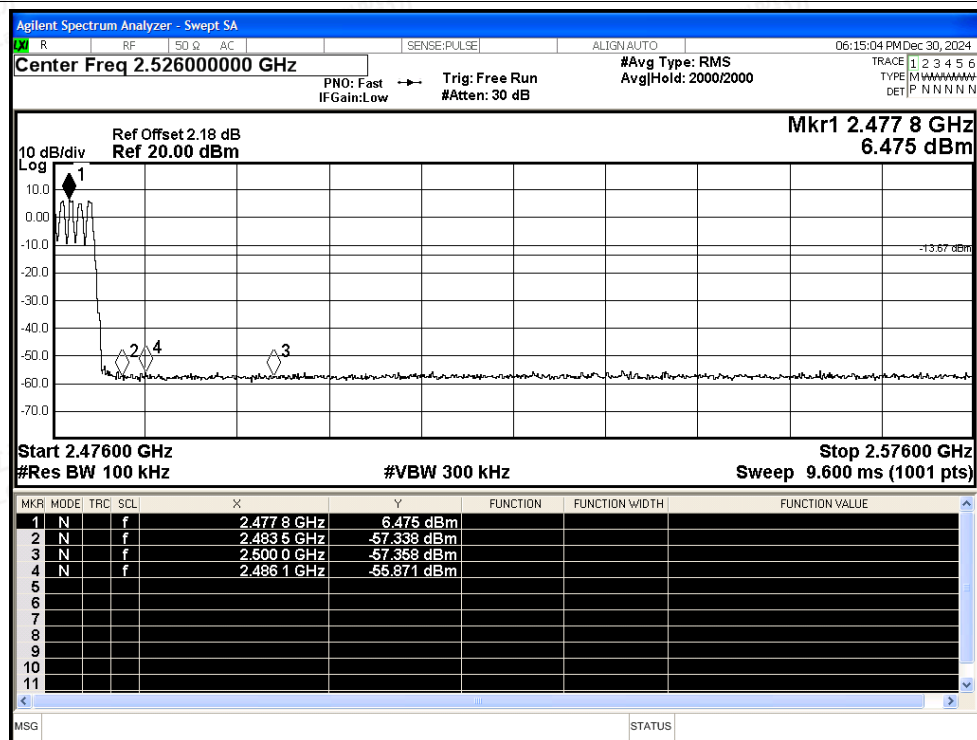




Band Edge(Hopping) NVNT 2-DH5 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 2-DH5 2480MHz 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	-44.17	-20	Pass
NVNT	1-DH5	2441	Ant1	-53.51	-20	Pass
NVNT	1-DH5	2480	Ant1	-52.66	-20	Pass
NVNT	2-DH5	2402	Ant1	-53.29	-20	Pass
NVNT	2-DH5	2441	Ant1	-53.7	-20	Pass
NVNT	2-DH5	2480	Ant1	-51.98	-20	Pass

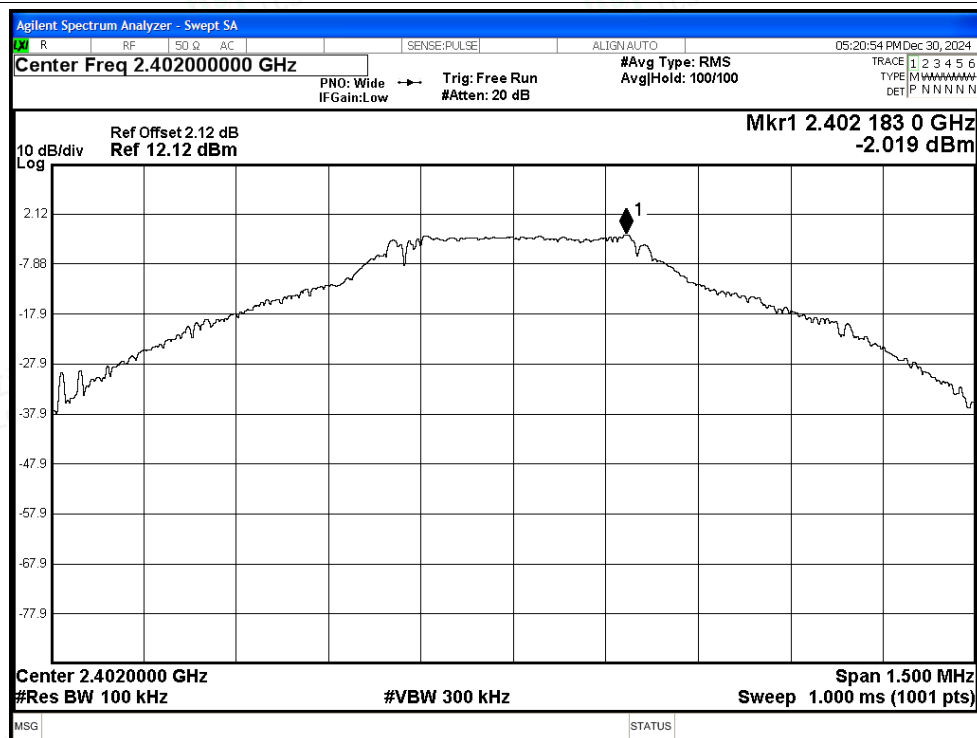


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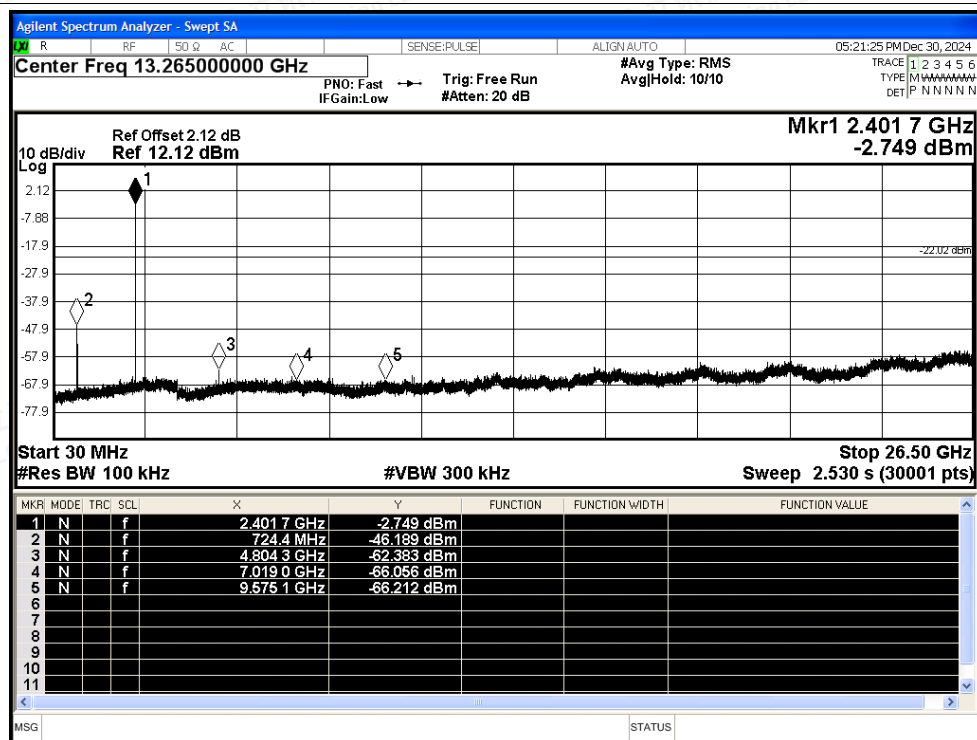


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref

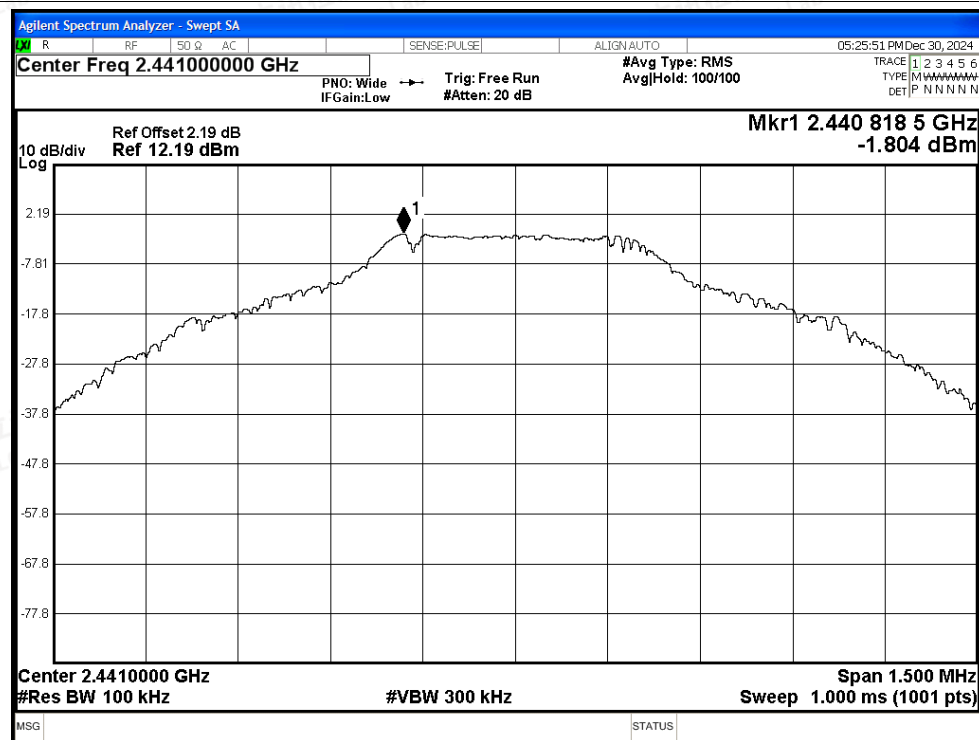


Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission

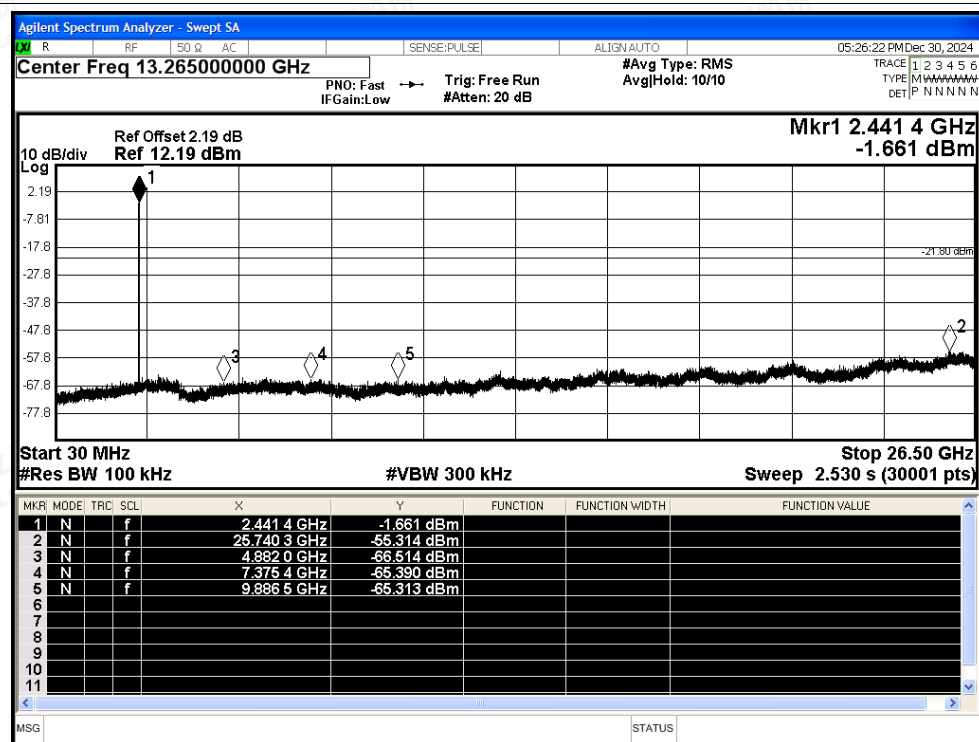




Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref

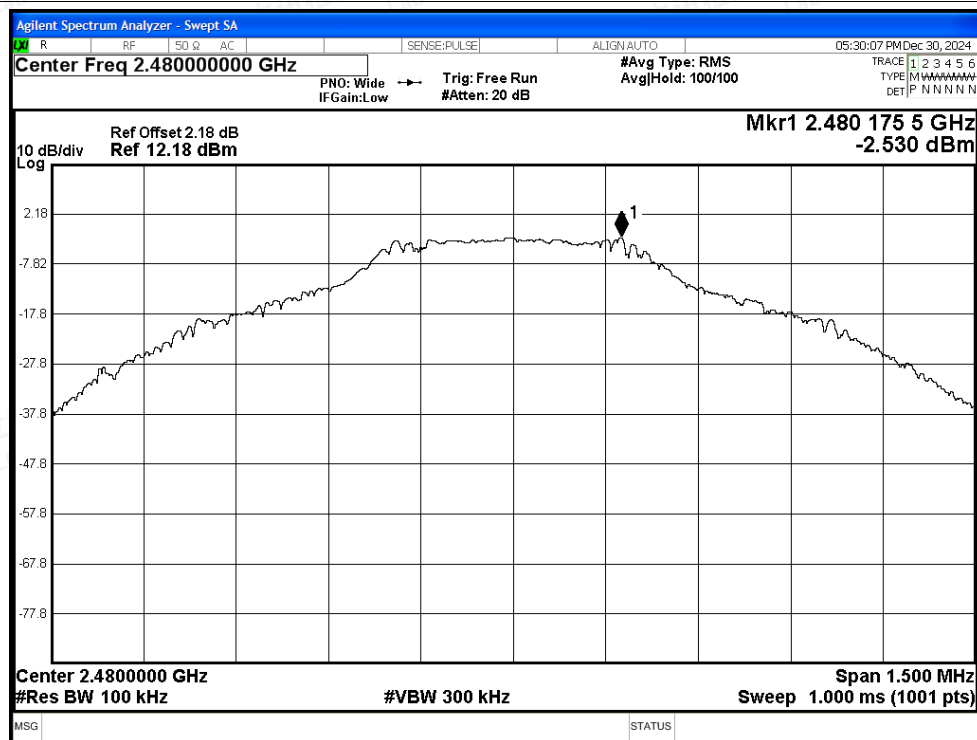


Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission

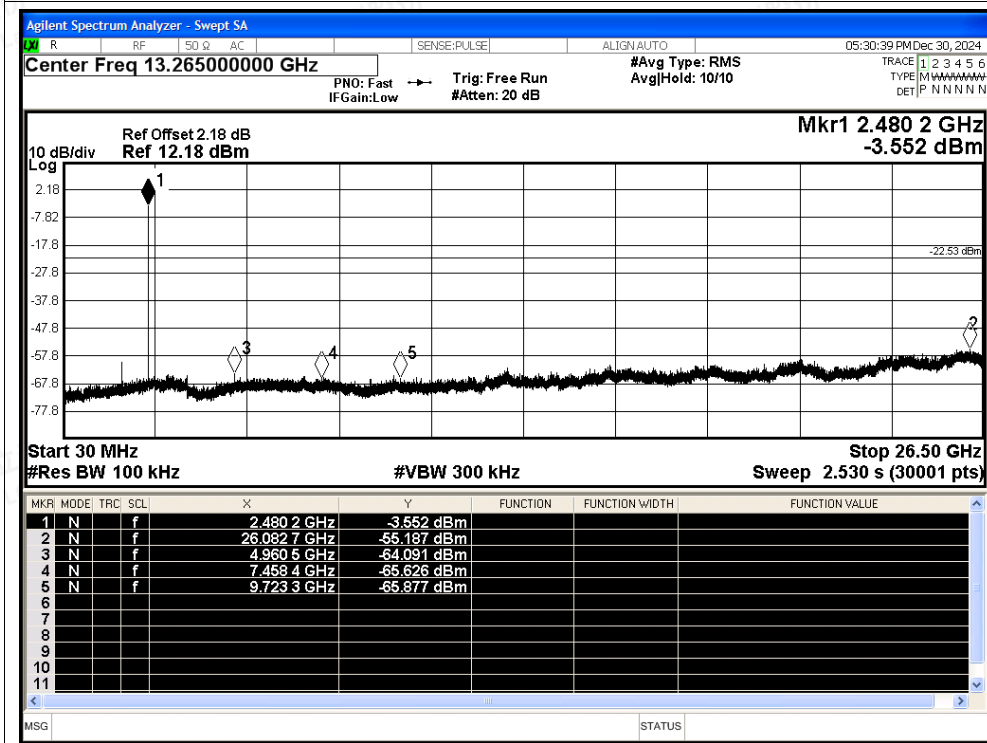




Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref

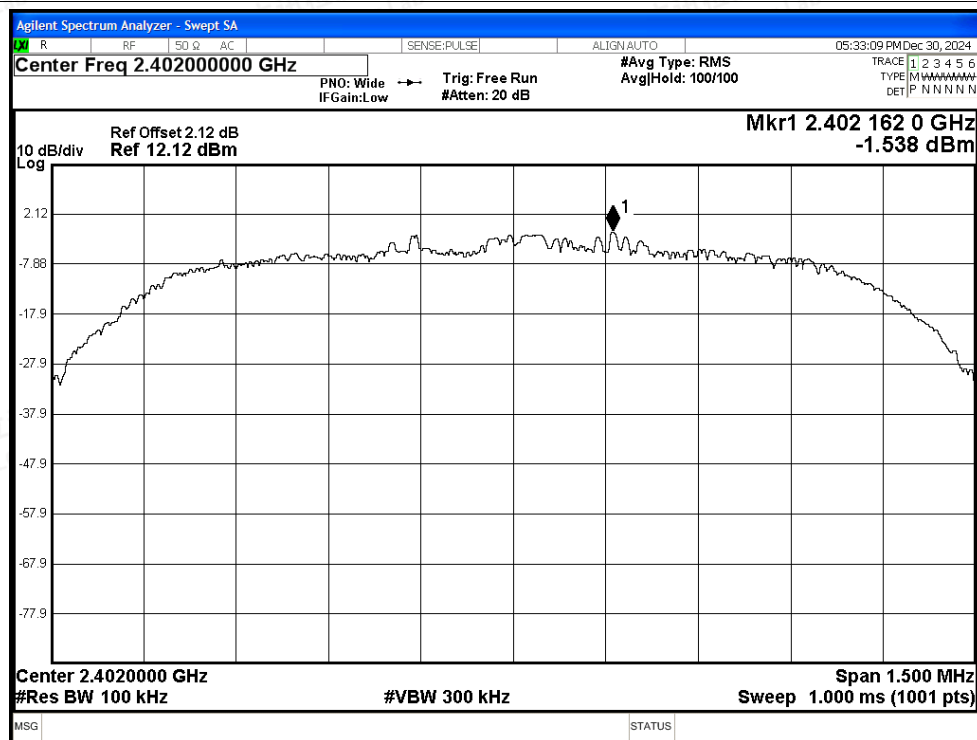


Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Emission

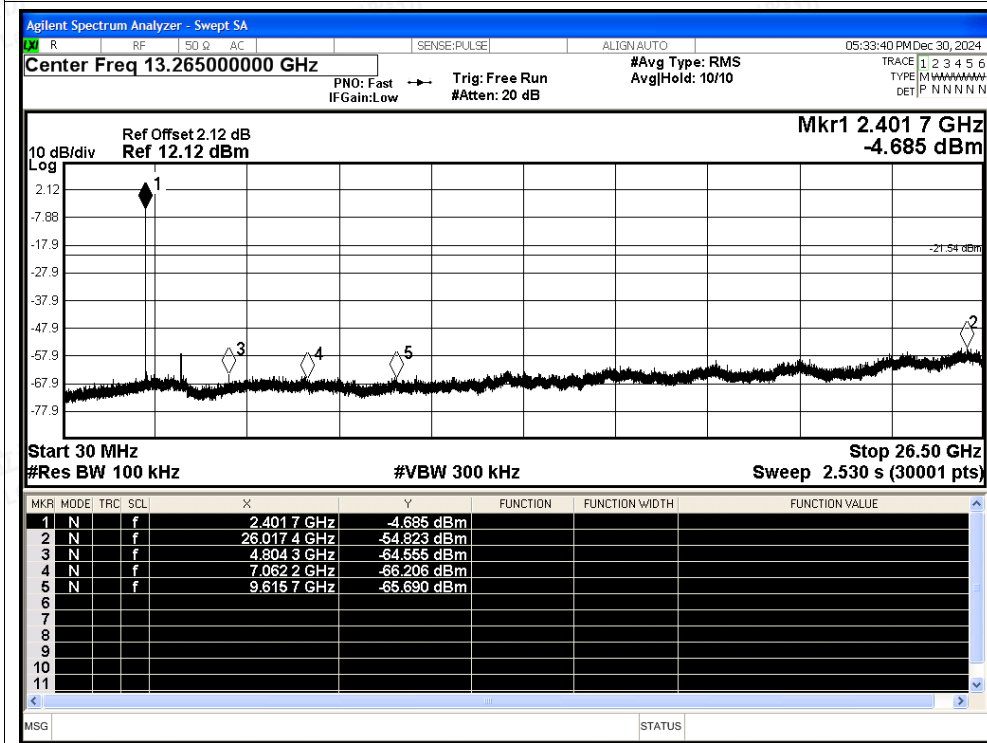




Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Ref

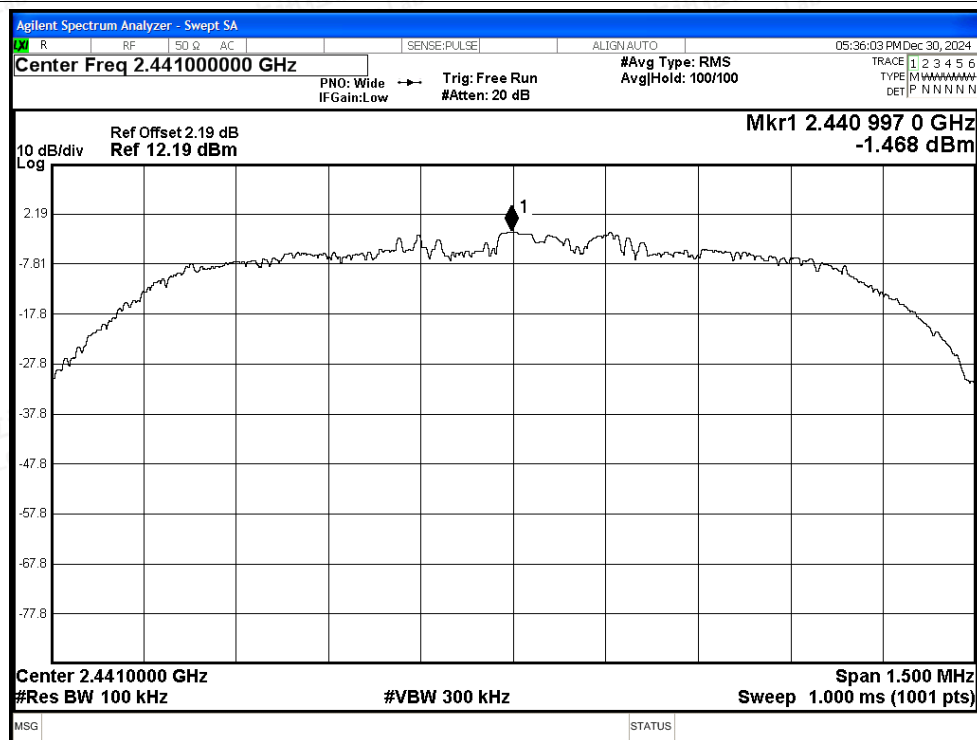


Tx. Spurious NVNT 2-DH5 2402MHz Ant1 Emission

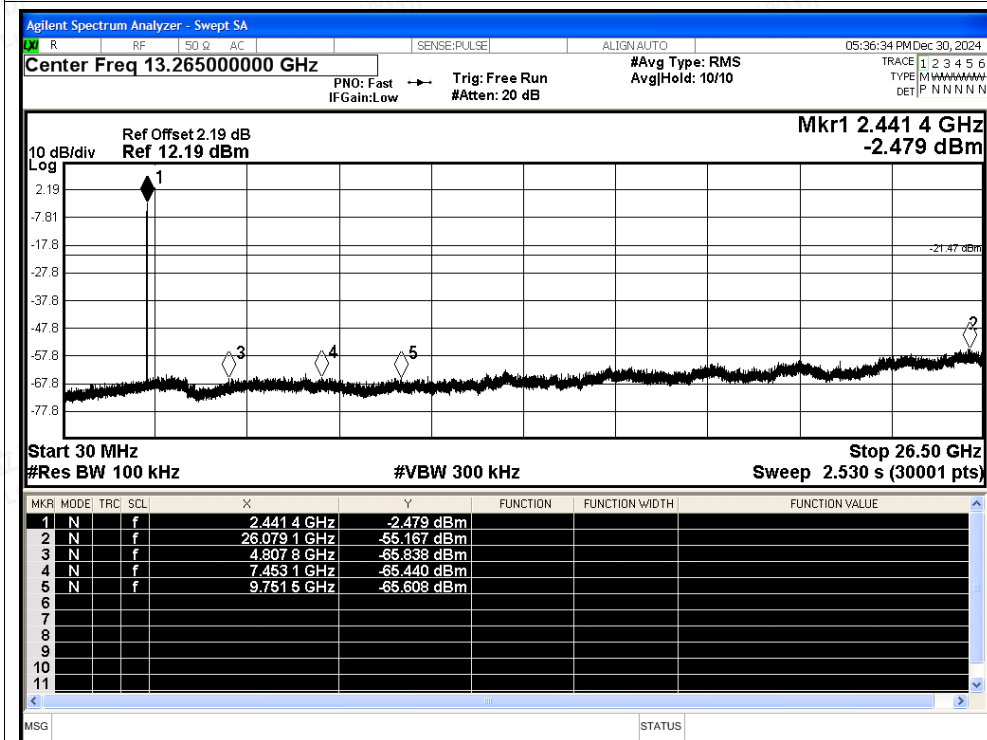




Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Ref

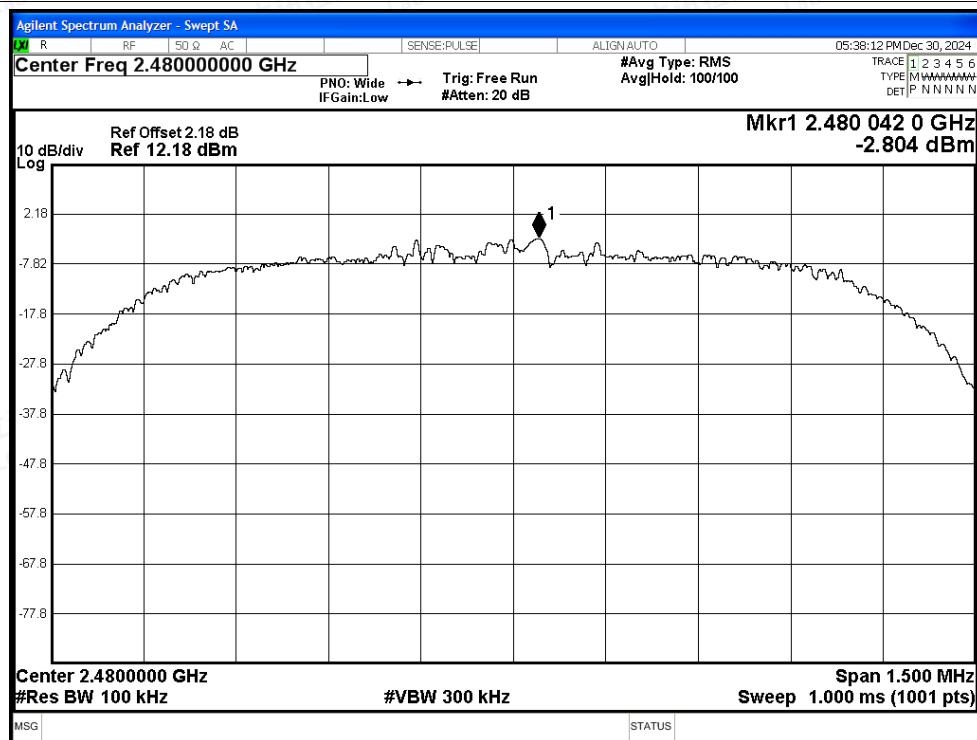


Tx. Spurious NVNT 2-DH5 2441MHz Ant1 Emission

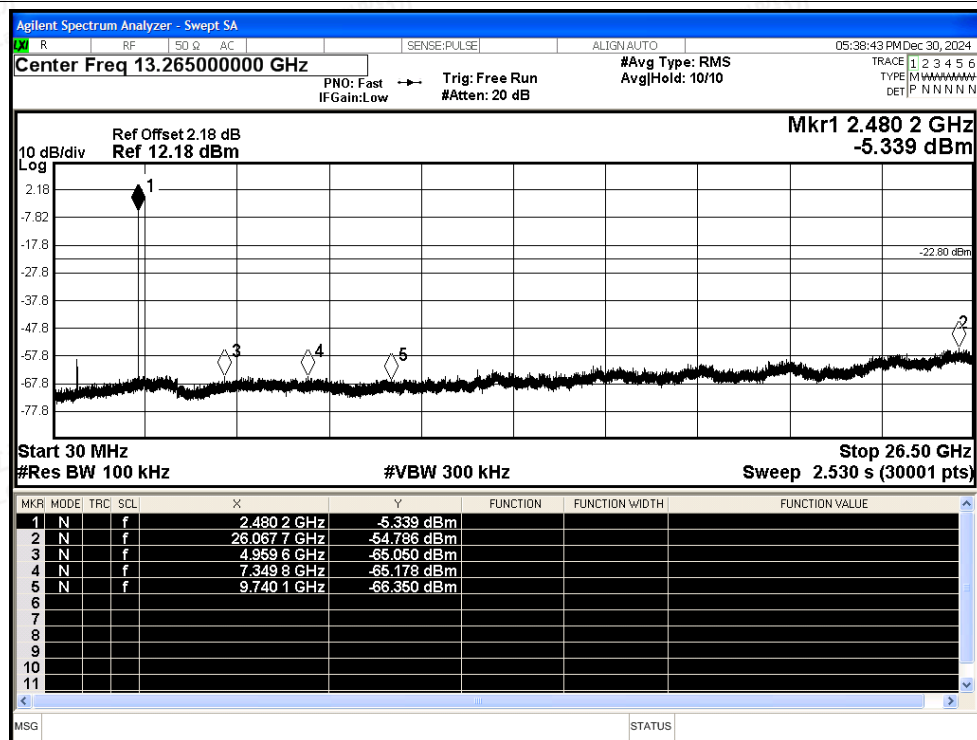




Tx. Spurious NVNT 2-DH5 2480MHz Ant1 Ref



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	77.6	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	77.33	1.12	0.34
NVNT	2-DH5	2480	Ant1	77.28	1.12	0.35

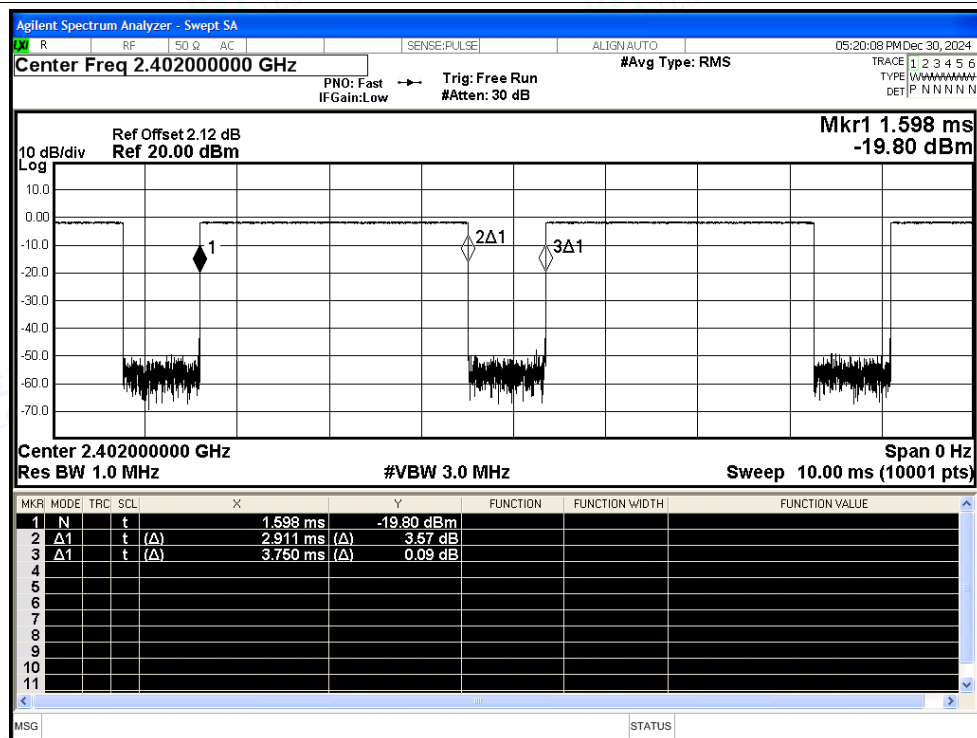


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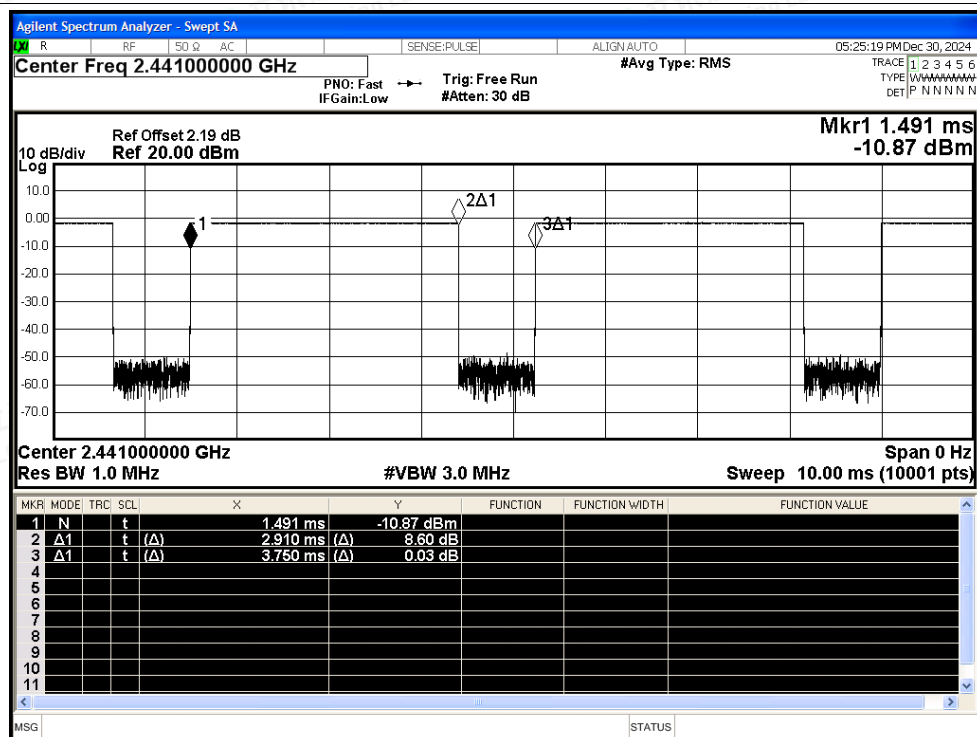


Test Graphs

Duty Cycle NVNT 1-DH5 2402MHz Ant1



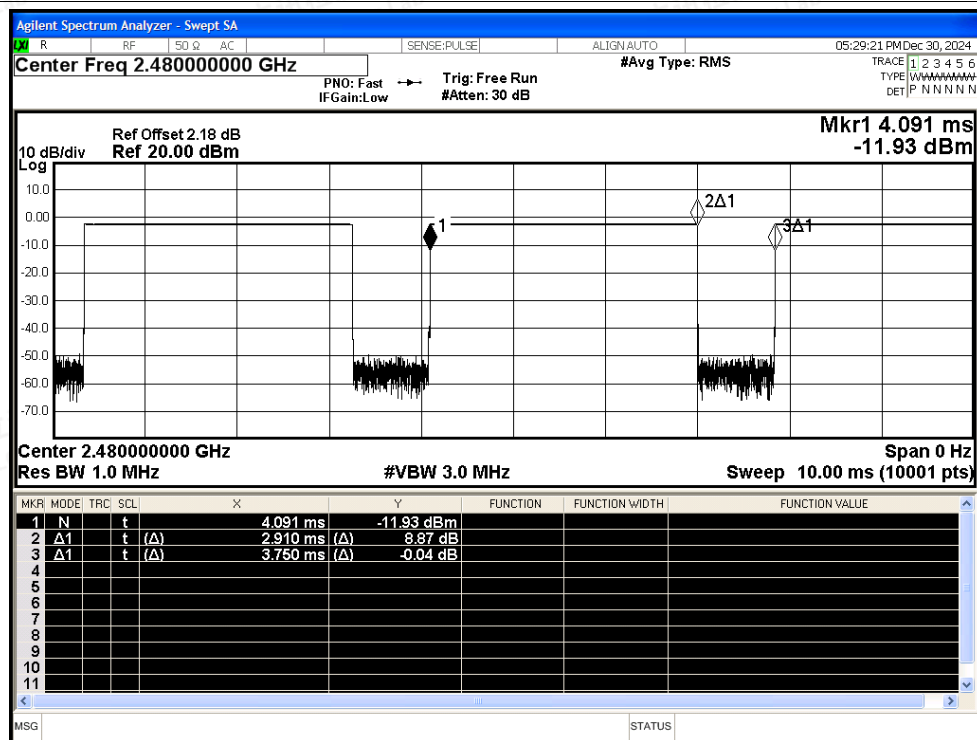
Duty Cycle NVNT 1-DH5 2441MHz Ant1



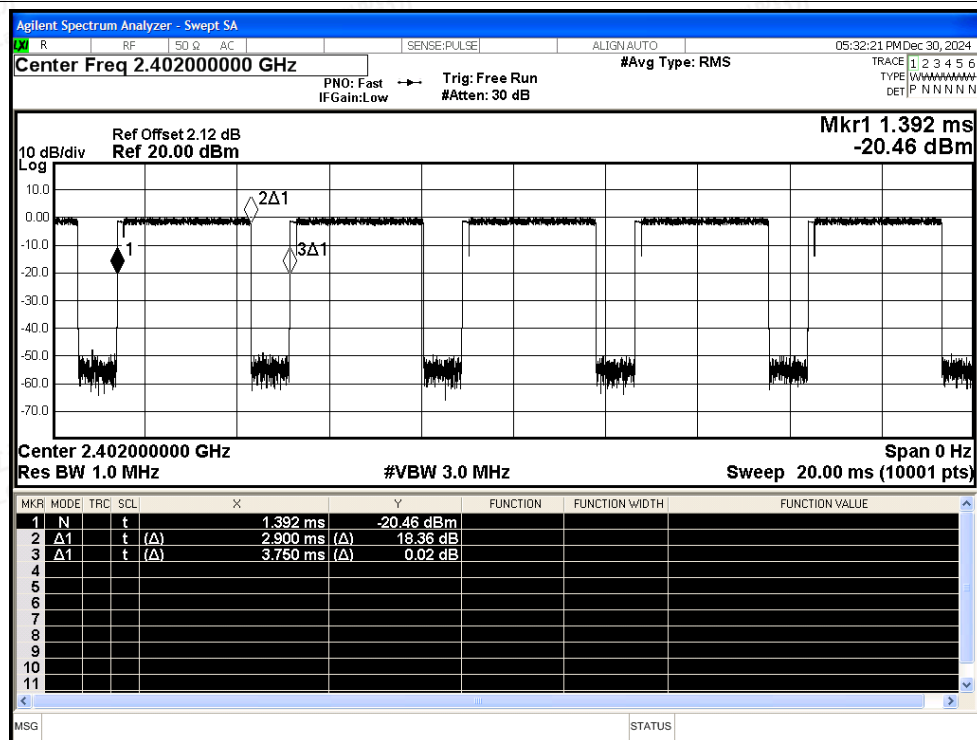
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Duty Cycle NVNT 1-DH5 2480MHz Ant1

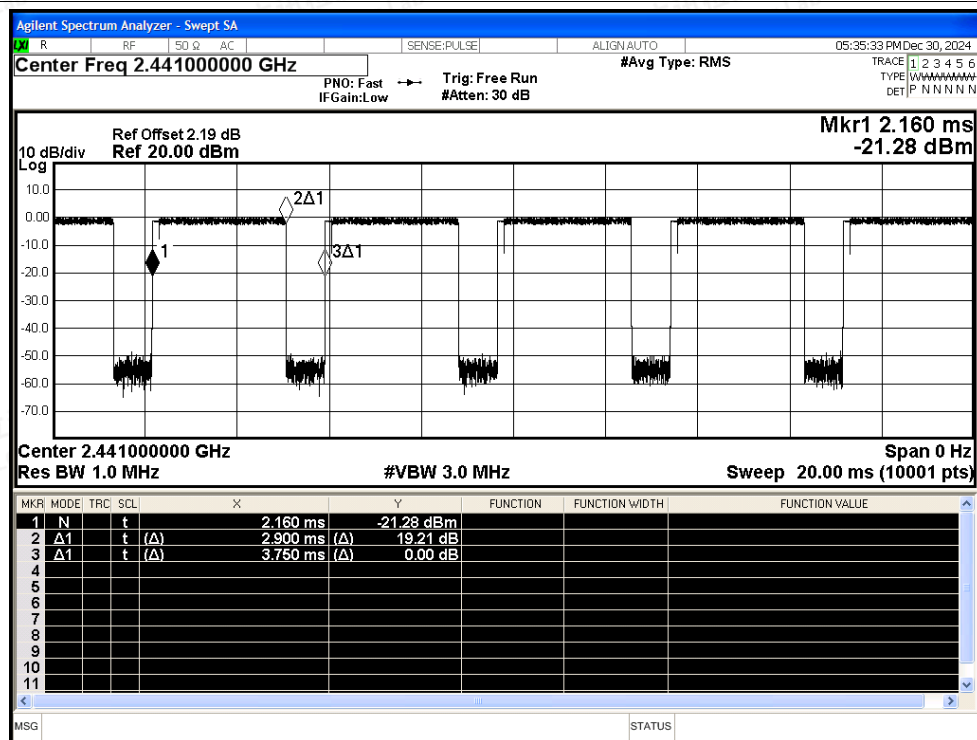


Duty Cycle NVNT 2-DH5 2402MHz Ant1

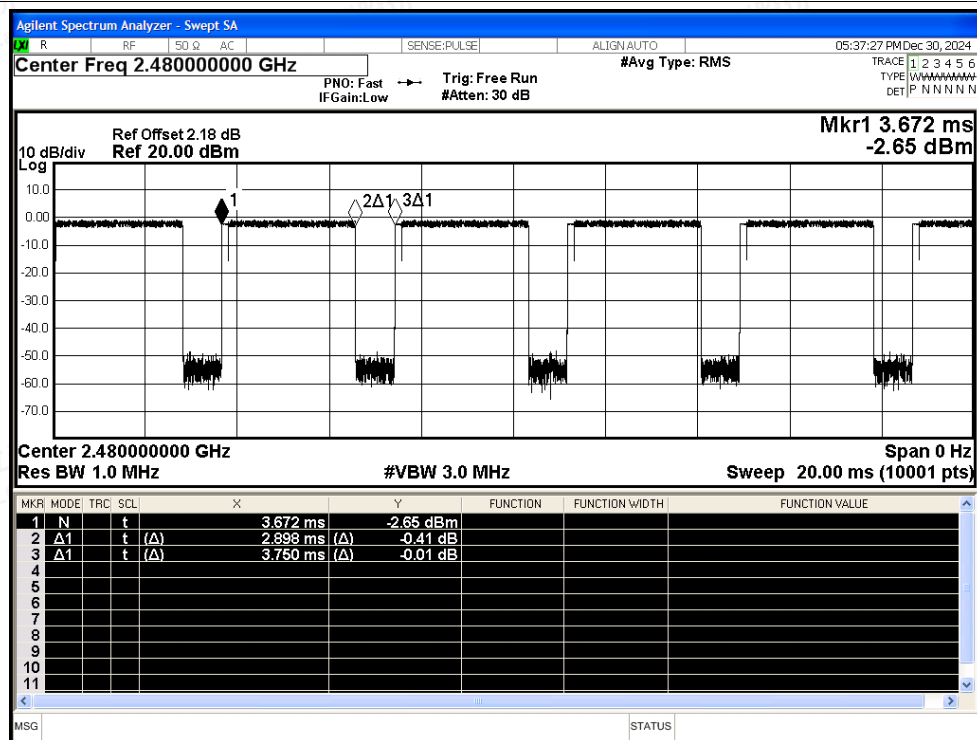




Duty Cycle NVNT 2-DH5 2441MHz Ant1



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	-49.83	2.09	-	47.52	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.86	2.09	1.1	39.59	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2353.584	-47.74	2.09	-	49.61	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2384.304	-57.52	2.09	1.1	40.93	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-49.73	2.09	-	47.62	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.44	2.09	1.1	40.01	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.67	2.09	-	46.68	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-57.59	2.09	1.1	40.86	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2487.112	-47.45	2.09	-	49.90	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2495.44	-57.02	2.09	1.1	41.43	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-50.37	2.09	-	46.98	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-58.16	2.09	1.1	40.29	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-50.73	2.09	-	46.62	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2310	-58.79	2.09	1.12	39.68	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2318.352	-47.65	2.09	-	49.70	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2384.304	-57.43	2.09	1.12	41.04	Average	54	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-51.1	2.09	-	46.25	Peak	74	Pass
NVNT	2-DH5	2402	Ant1	No-Hopping	2390	-58.3	2.09	1.12	40.17	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-48.86	2.09	-	48.49	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2483.5	-57.56	2.09	1.12	40.91	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2487.496	-46.67	2.09	-	50.68	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2497.096	-56.94	2.09	1.12	41.53	Average	54	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-49.05	2.09	-	48.30	Peak	74	Pass
NVNT	2-DH5	2480	Ant1	No-Hopping	2500	-58.09	2.09	1.12	40.38	Average	54	Pass

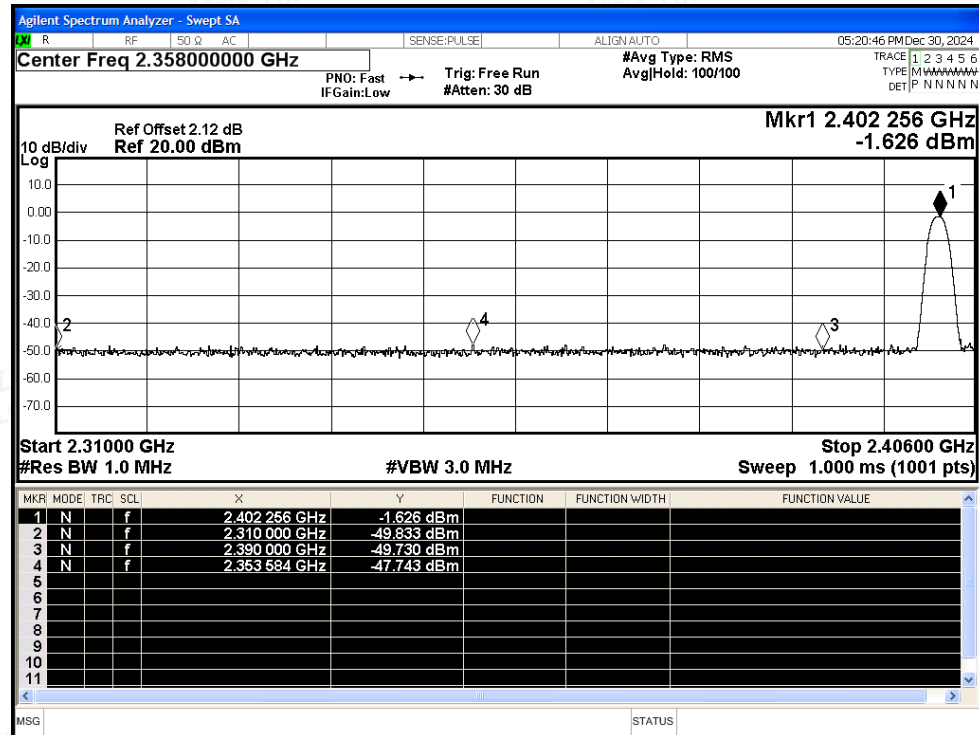


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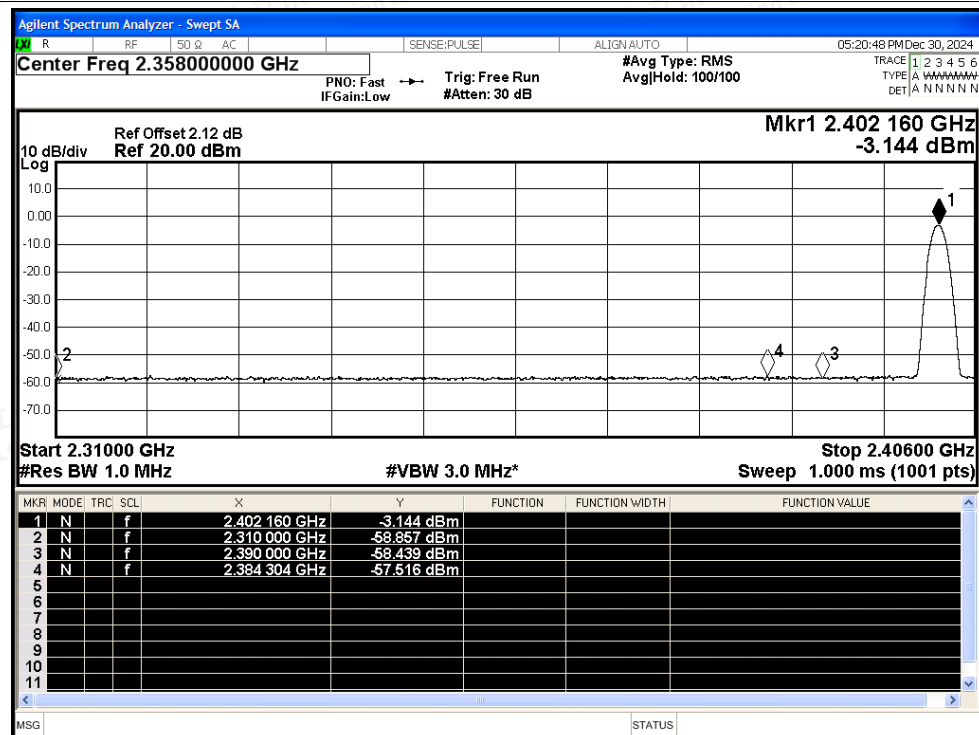


Test Graphs

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

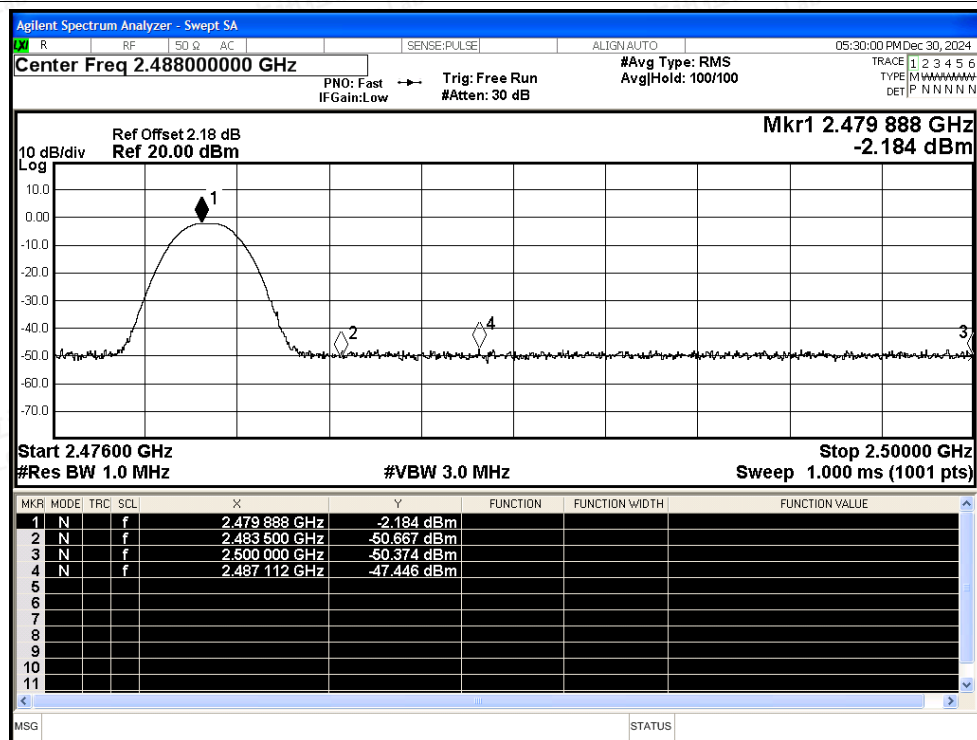


Restrict Band NVNT 1-DH5 2402MHz Ant1 No-Hopping Average

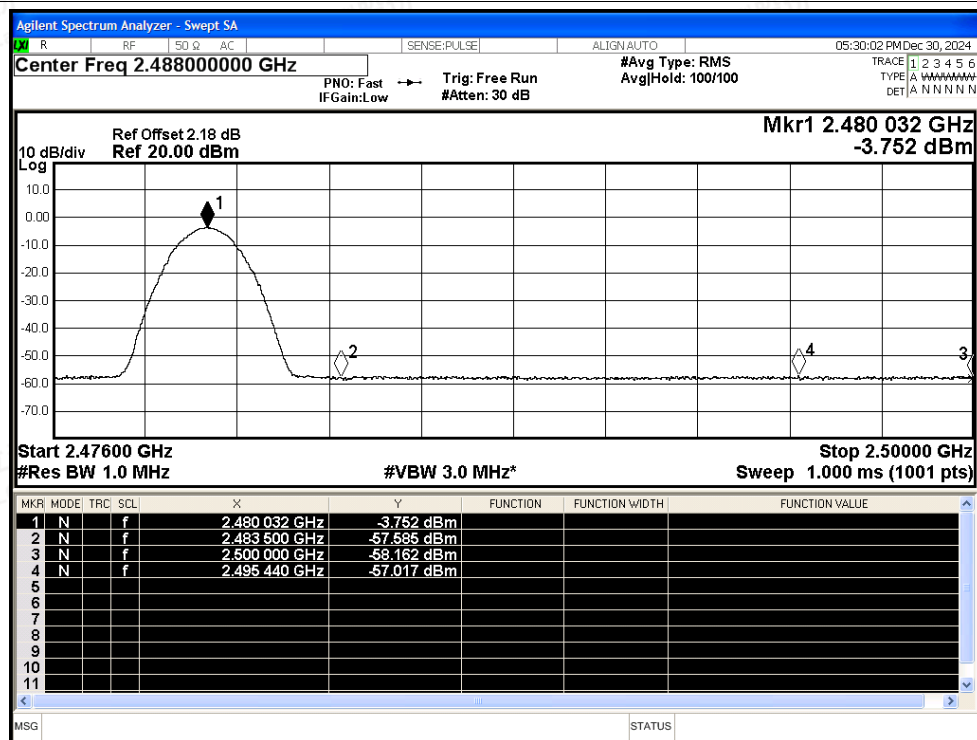




Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



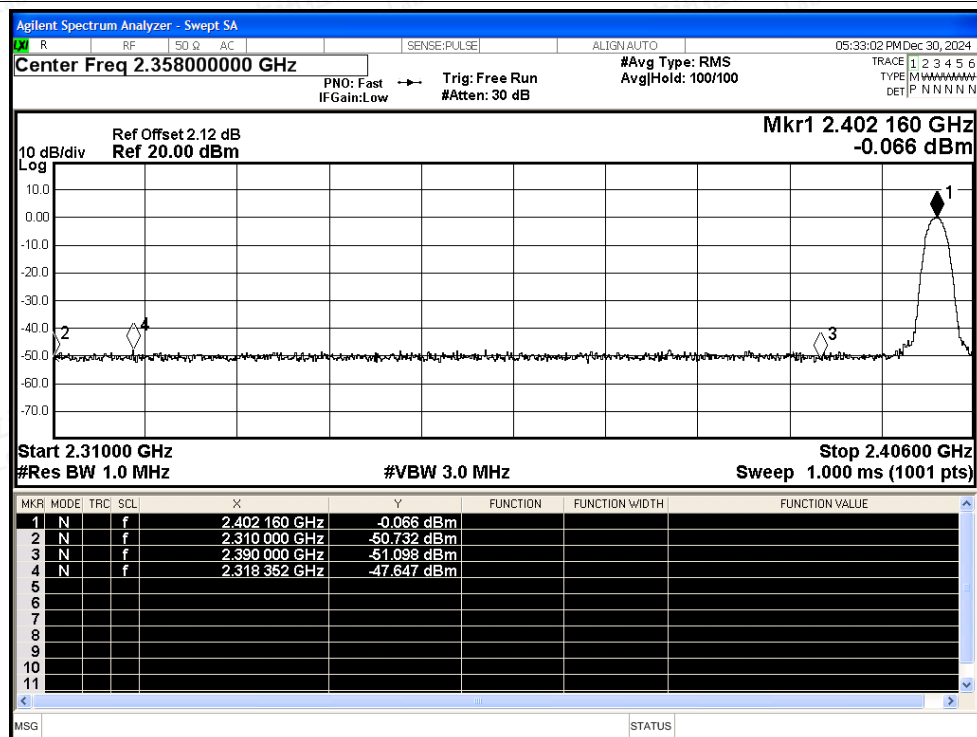
Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Average



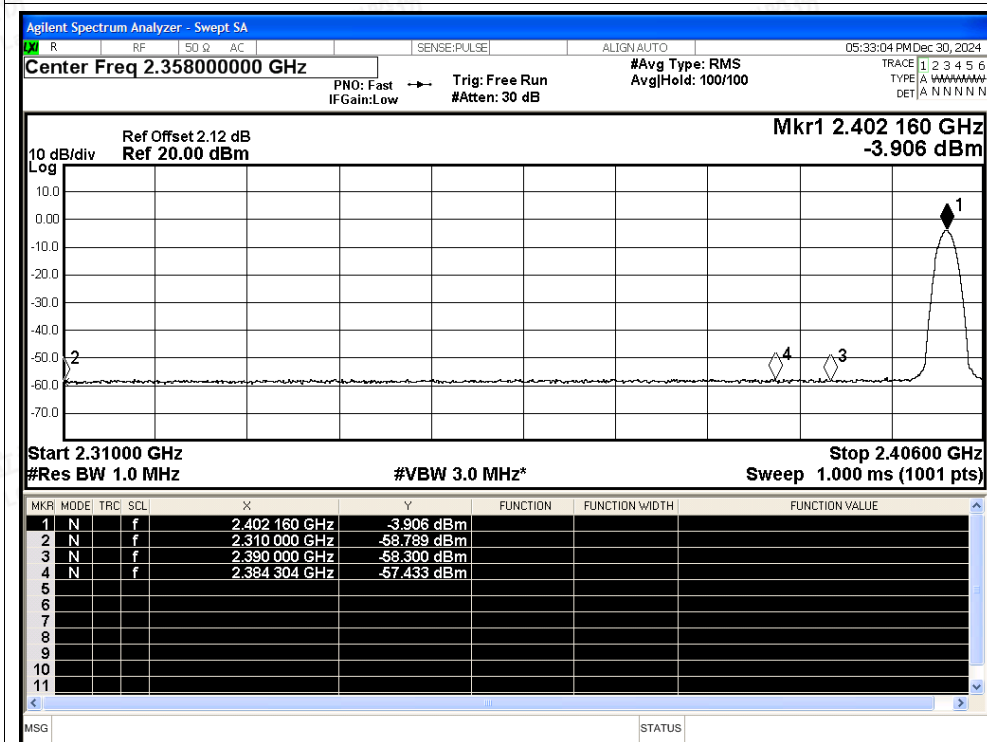
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Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Peak

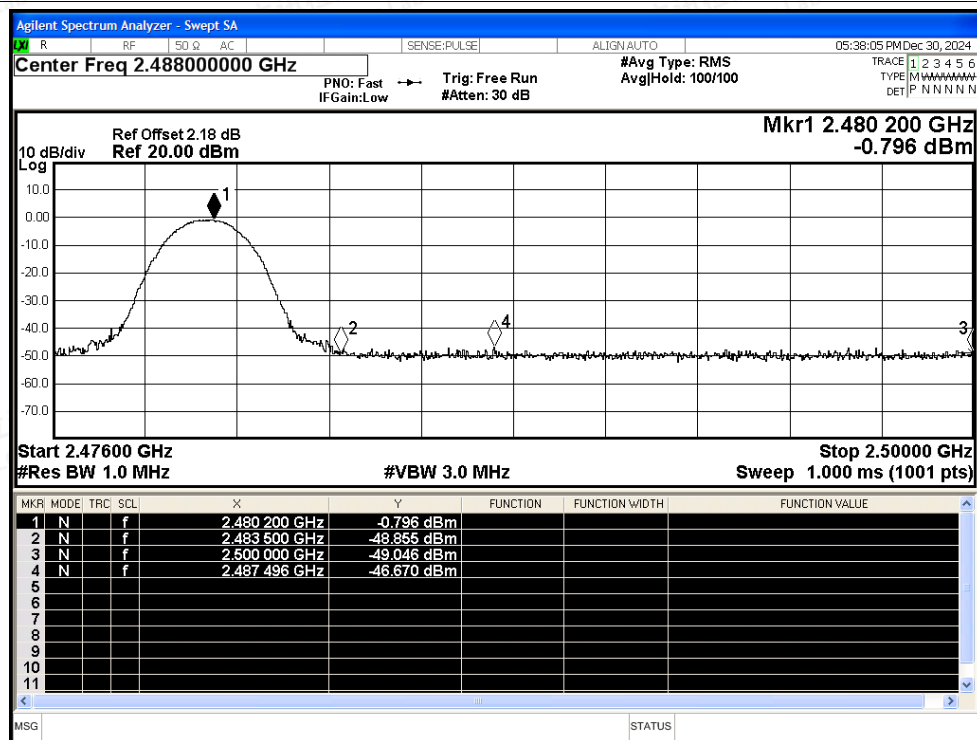


Restrict Band NVNT 2-DH5 2402MHz Ant1 No-Hopping Average





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



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

