



Appendix A

RF Test Data for BT (Conducted Measurement)

Product Name: Label Maker

Test Model: PM220S

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Eason Zhou
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	0.949	N/A	Pass
NVNT	1-DH5	2441	Ant1	1.008	N/A	Pass
NVNT	1-DH5	2480	Ant1	0.942	N/A	Pass

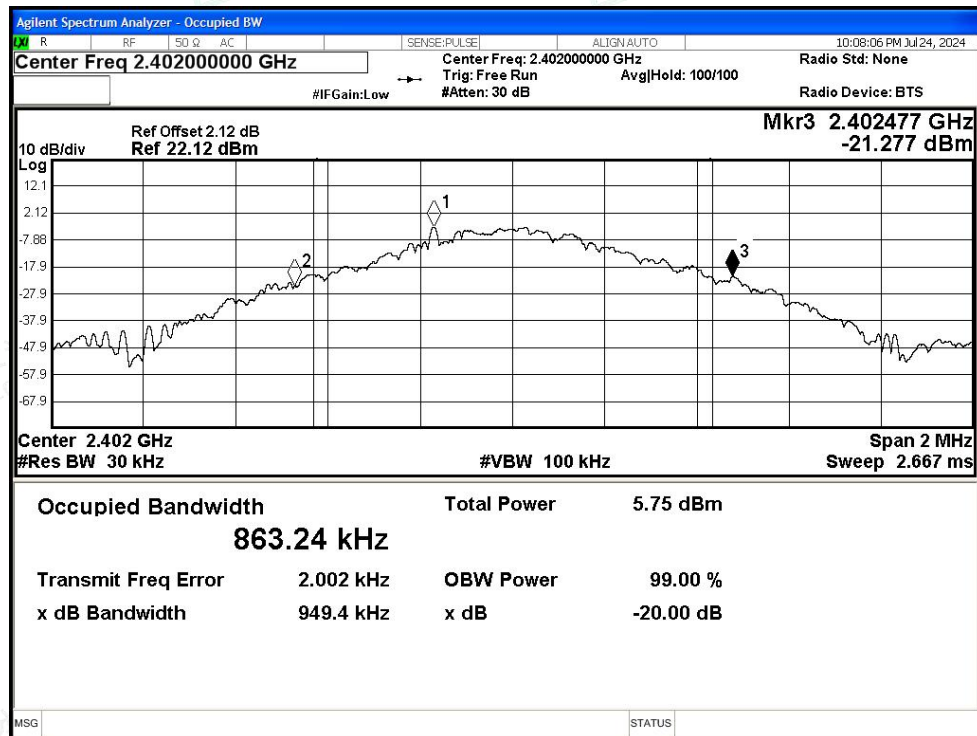


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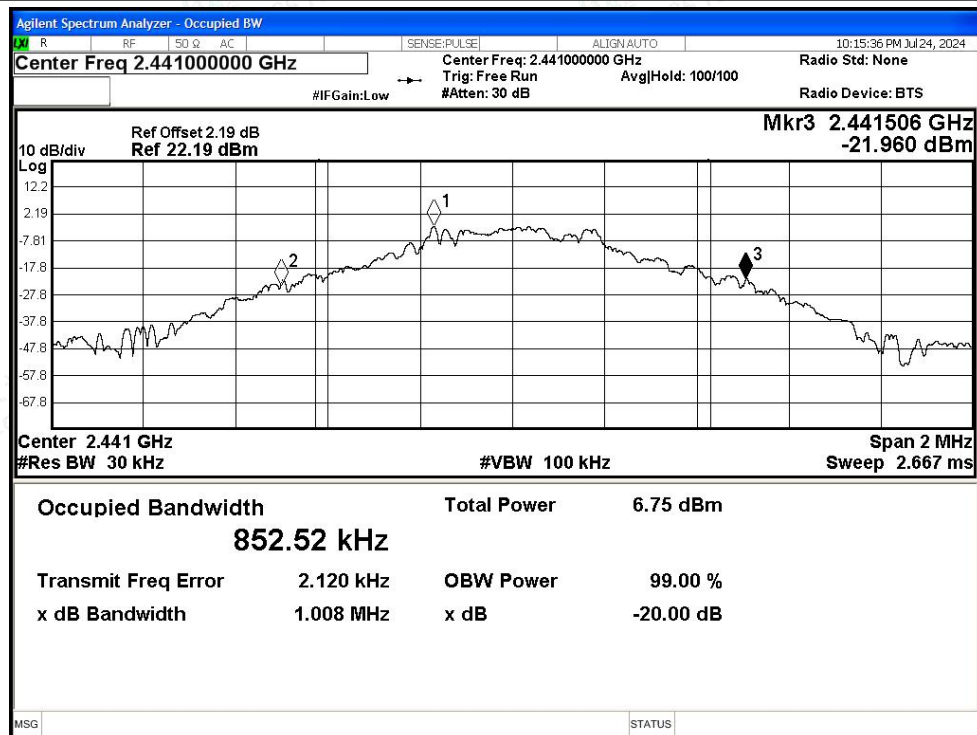


Test Graphs

-20dB Bandwidth NVNT 1-DH5 2402MHz Ant1



-20dB Bandwidth NVNT 1-DH5 2441MHz Ant1

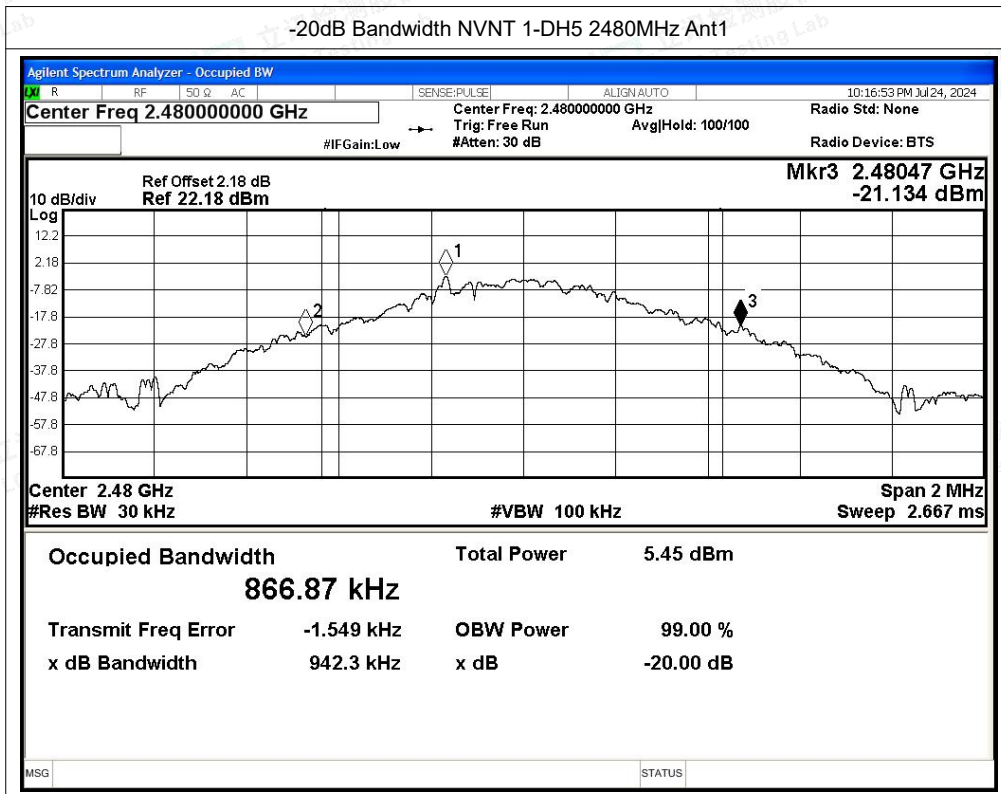


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A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant1	-0.37	21	Pass
NVNT	1-DH5	2441	Ant1	0.01	21	Pass
NVNT	1-DH5	2480	Ant1	-0.75	21	Pass

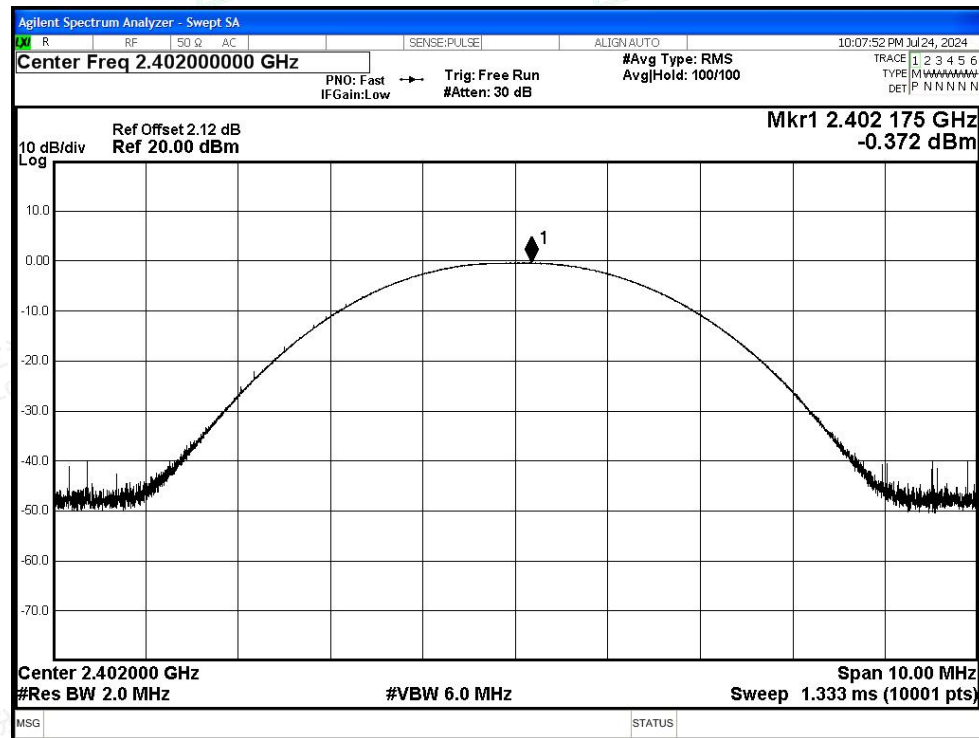


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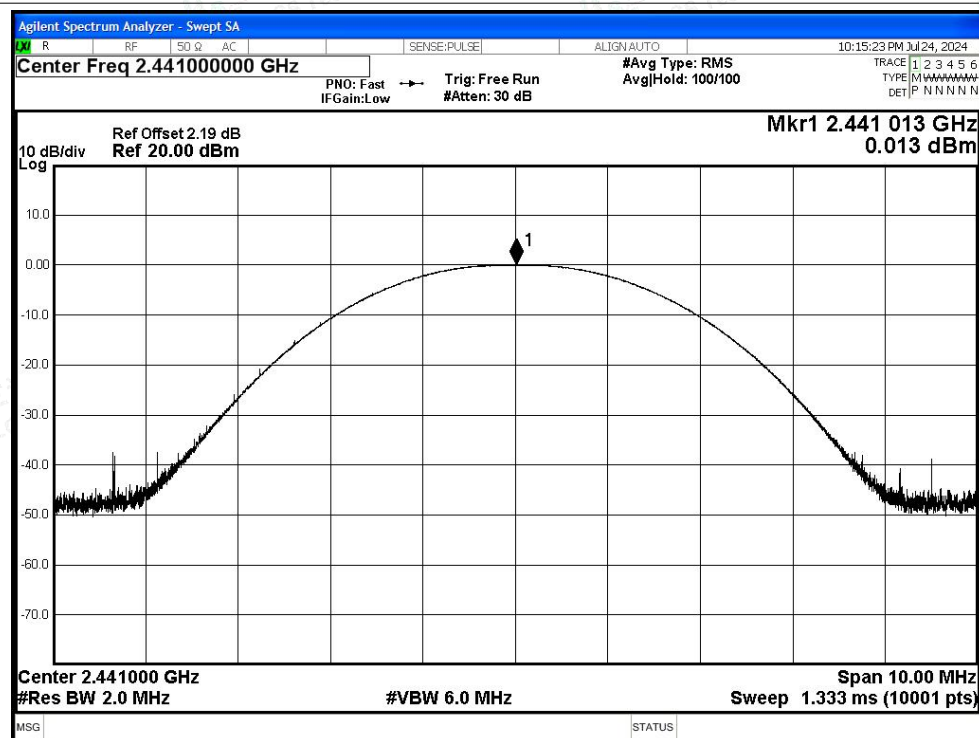


Test Graphs

Power NVNT 1-DH5 2402MHz Ant1



Power NVNT 1-DH5 2441MHz Ant1

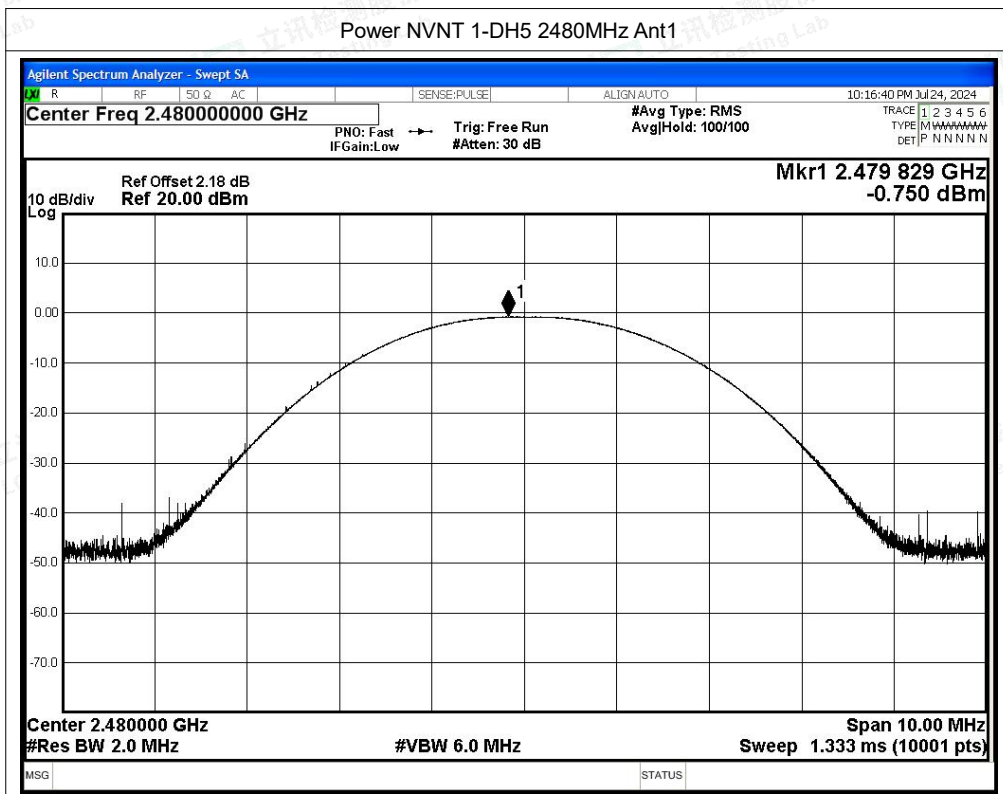


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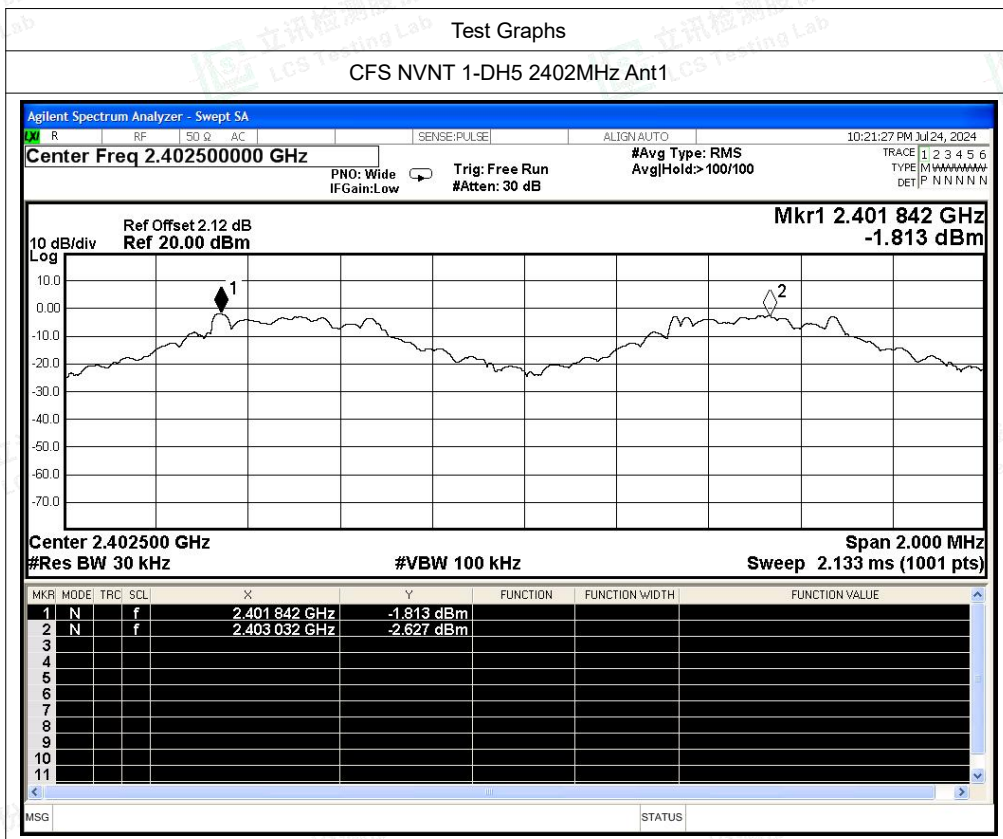


A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	Ant1	2401.842	2403.032	1.19	0.672	Pass



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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	308.46	106	31600	400	Pass

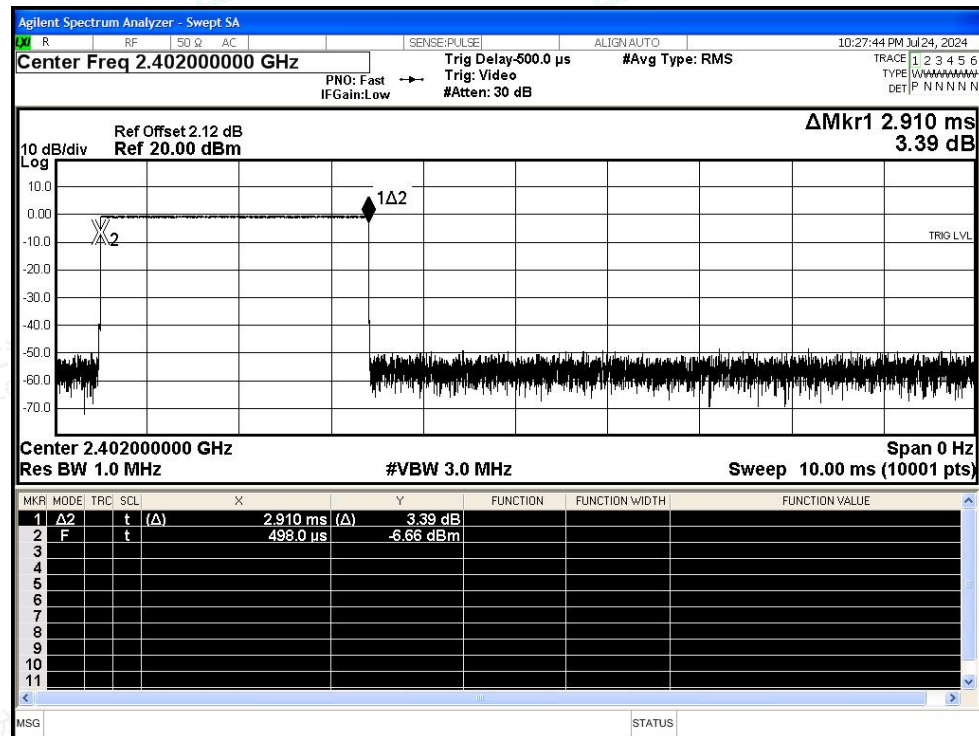


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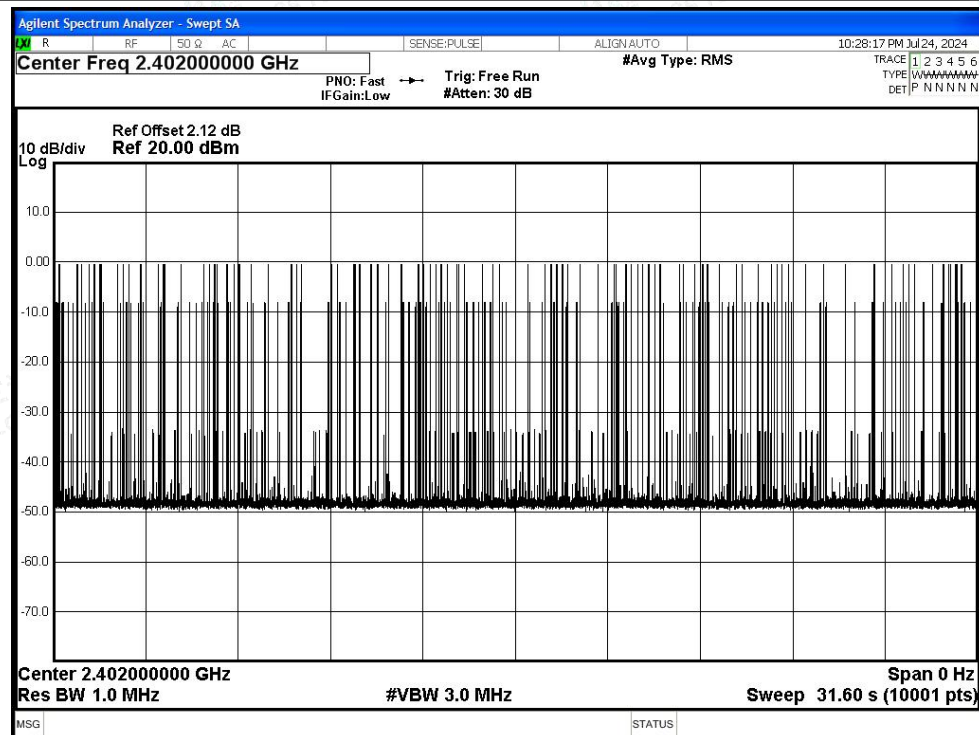


Test Graphs

Dwell NVNT 1-DH5 2402MHz Ant1 One Burst



Dwell NVNT 1-DH5 2402MHz Ant1 Accumulated



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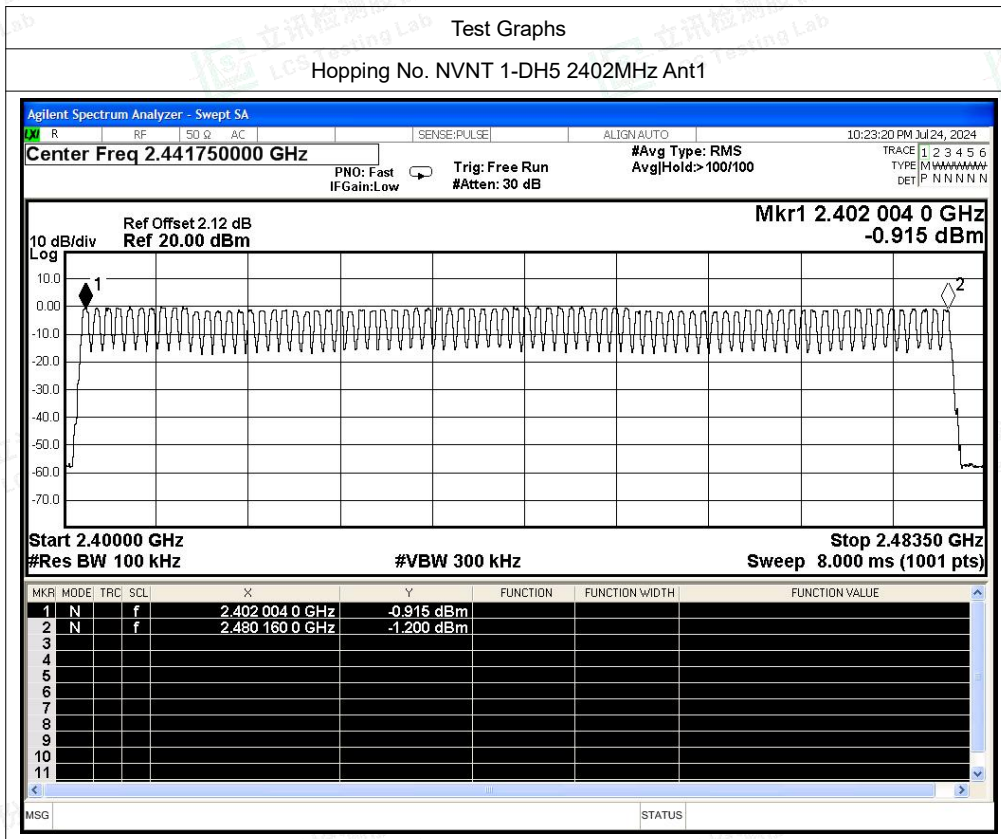


A.5 Number of Hopping Channel

Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	1-DH5	Ant1	79	15	Pass



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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	-56.32	-20	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	-55.82	-20	Pass

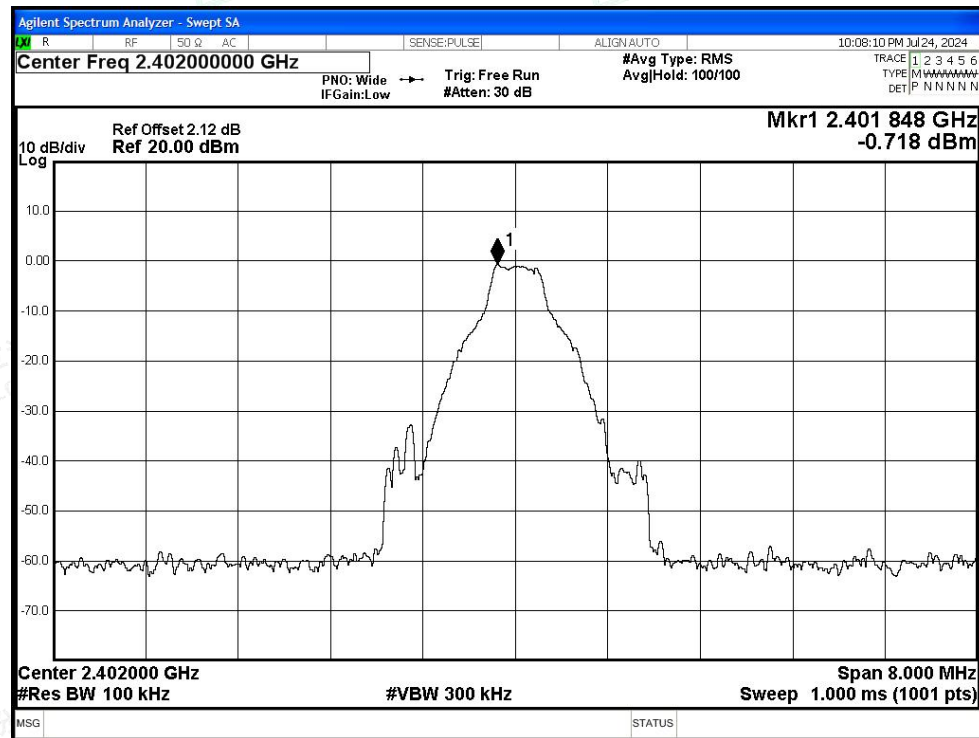


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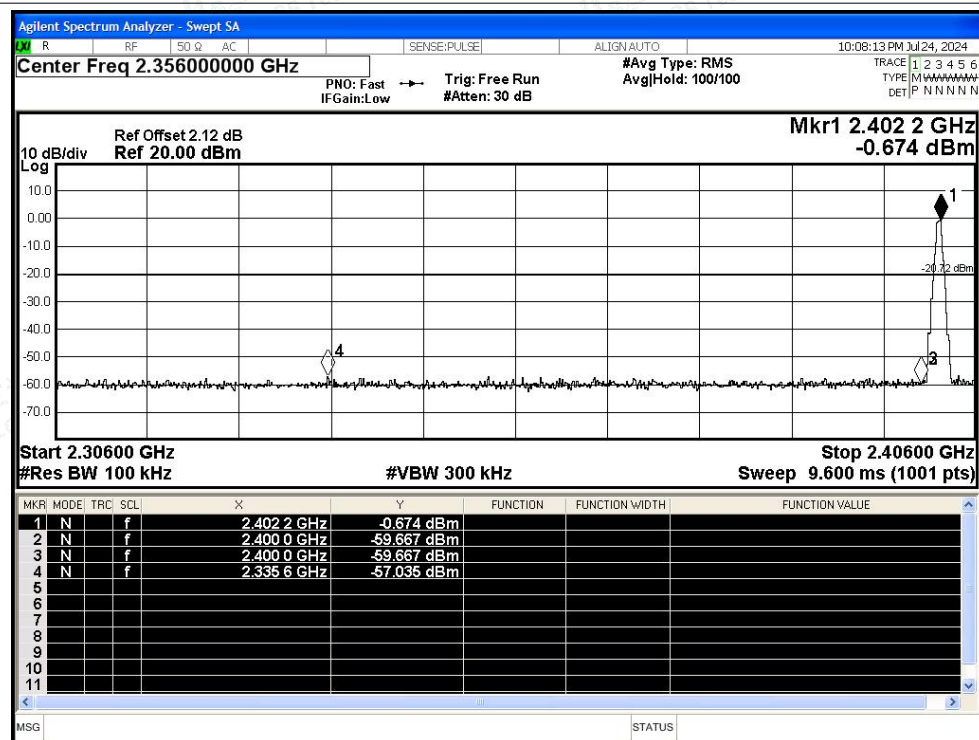


Test Graphs

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



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



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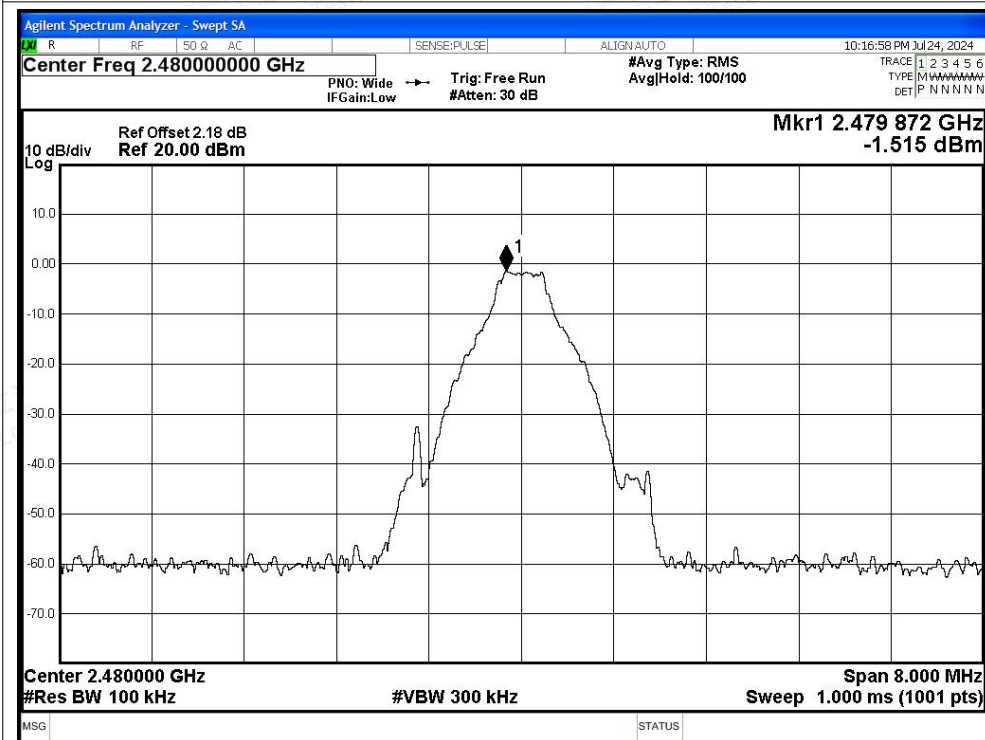
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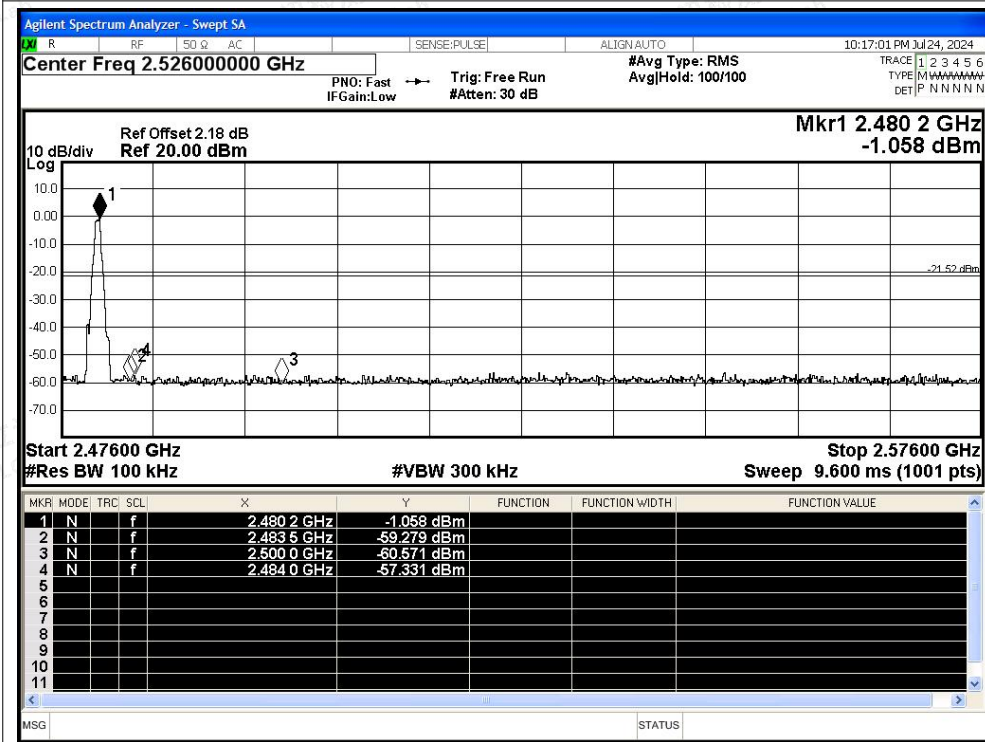
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Band Edge NVNT 1-DH5 2480MHz Ant1 No-Hopping Ref



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



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(Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	Hopping	-55.01	-20	Pass
NVNT	1-DH5	2480	Ant1	Hopping	-55.44	-20	Pass

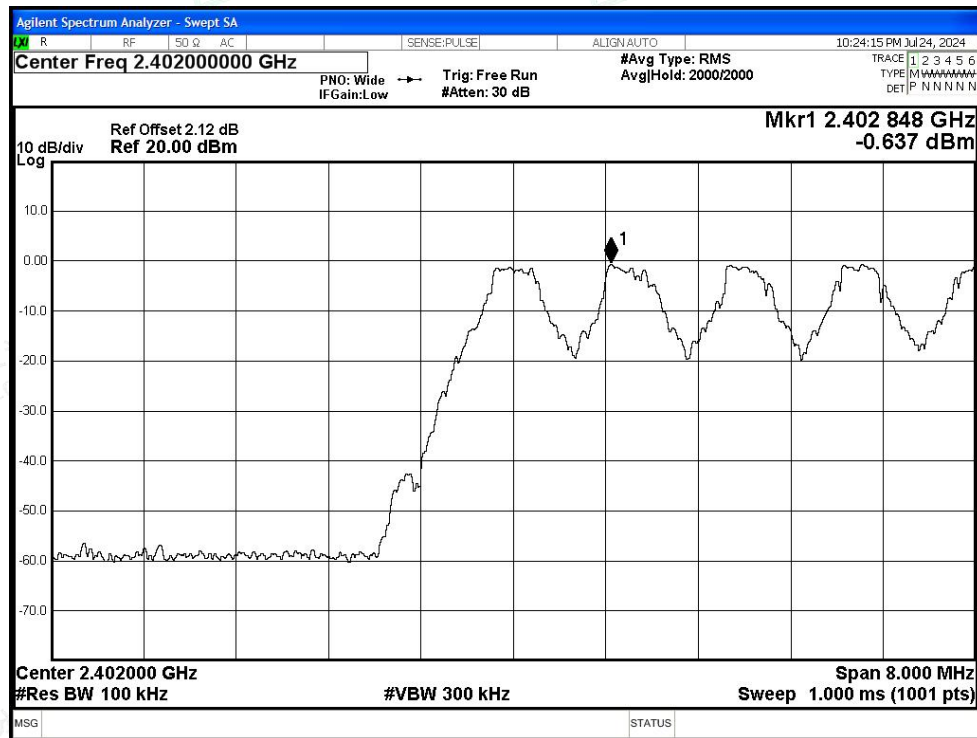


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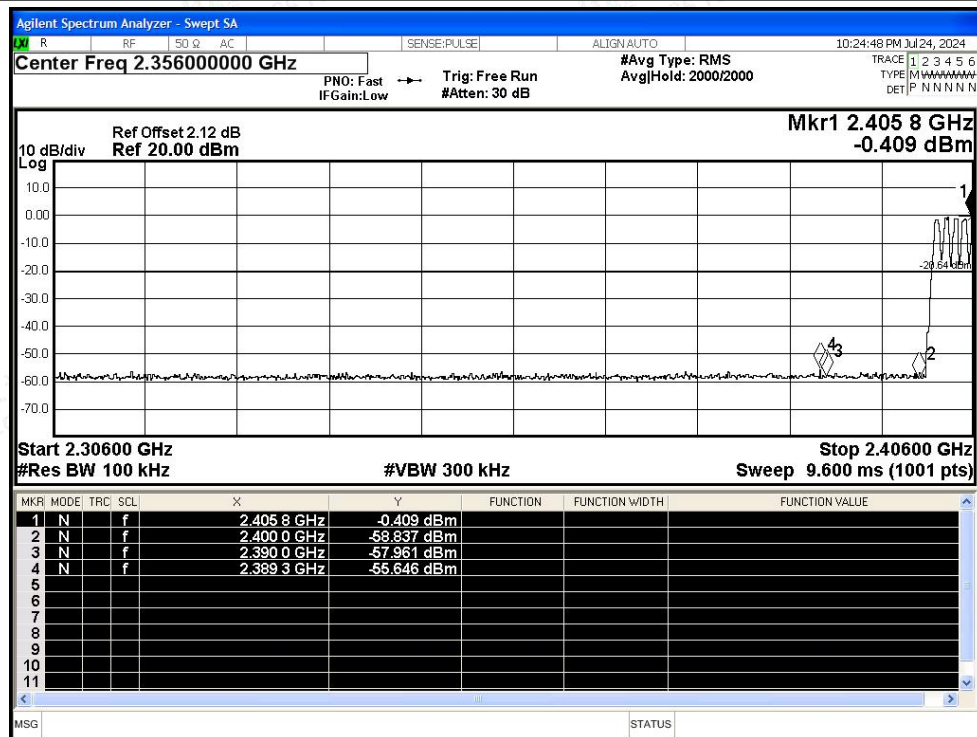


Test Graphs

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



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

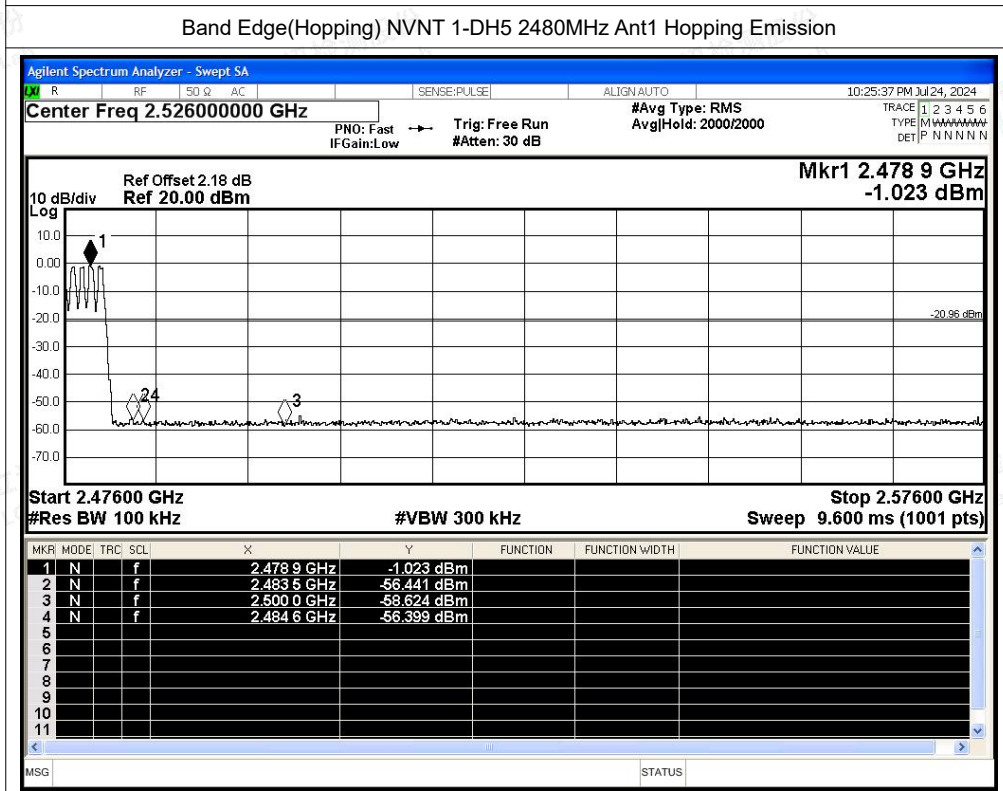
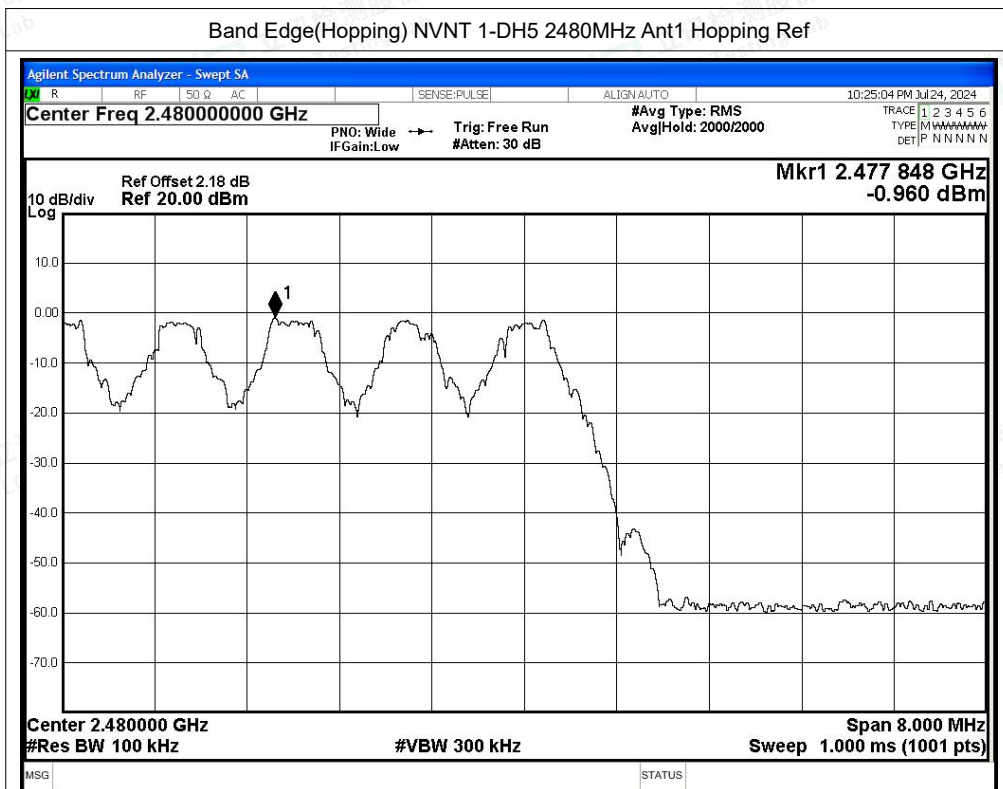


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A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant1	-54.48	-20	Pass
NVNT	1-DH5	2441	Ant1	-55.16	-20	Pass
NVNT	1-DH5	2480	Ant1	-53.75	-20	Pass

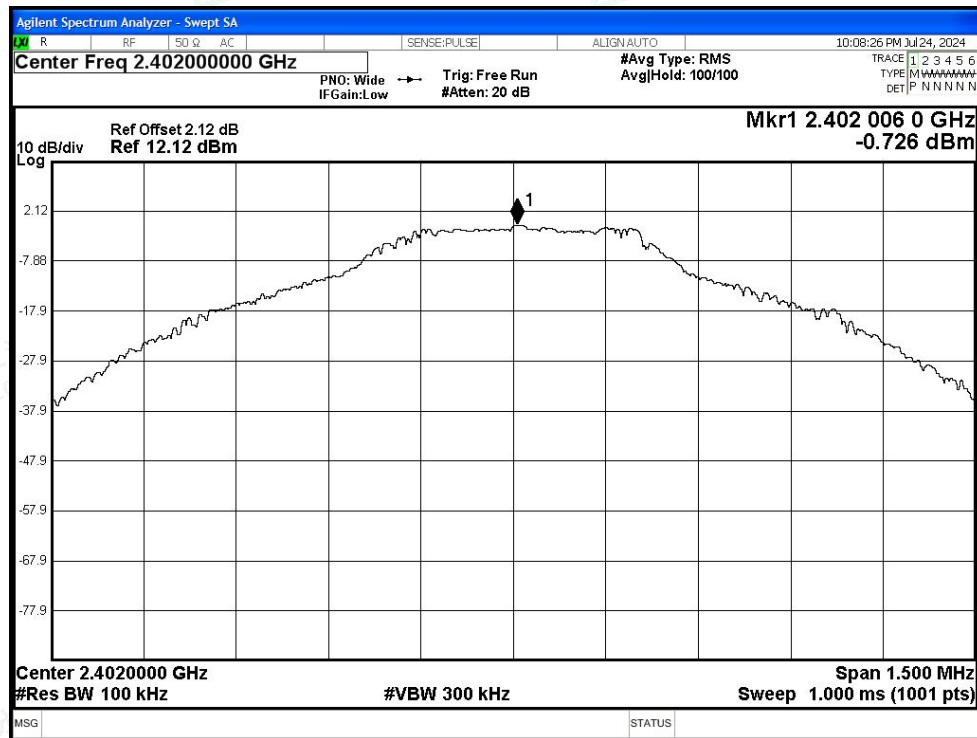


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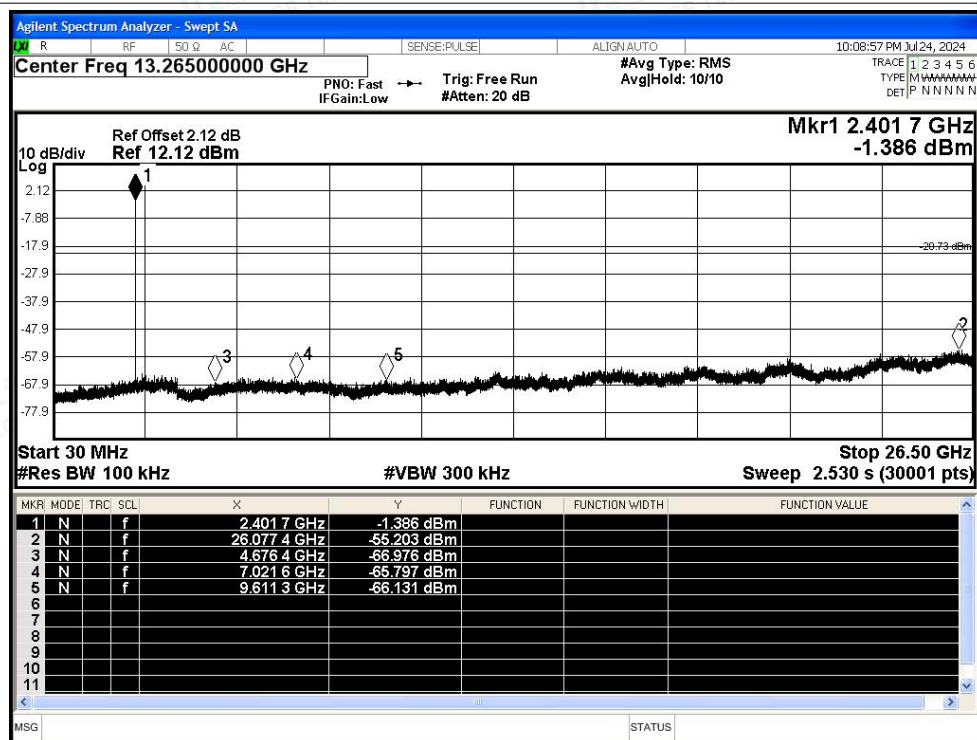


Test Graphs

Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2402MHz Ant1 Emission



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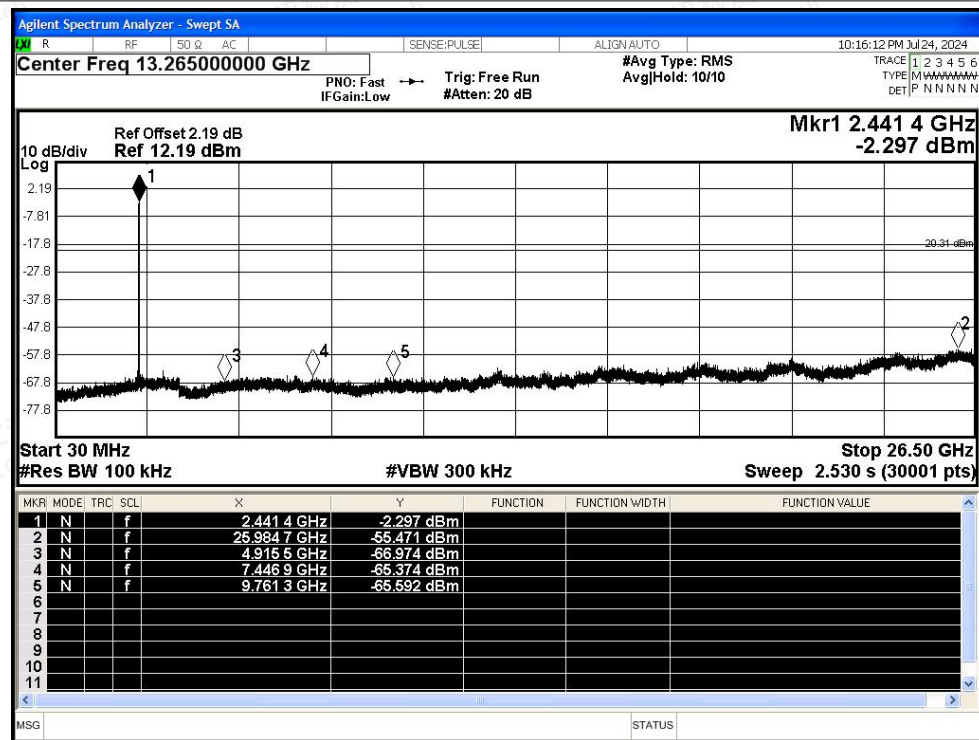
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Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Ref



Tx. Spurious NVNT 1-DH5 2441MHz Ant1 Emission



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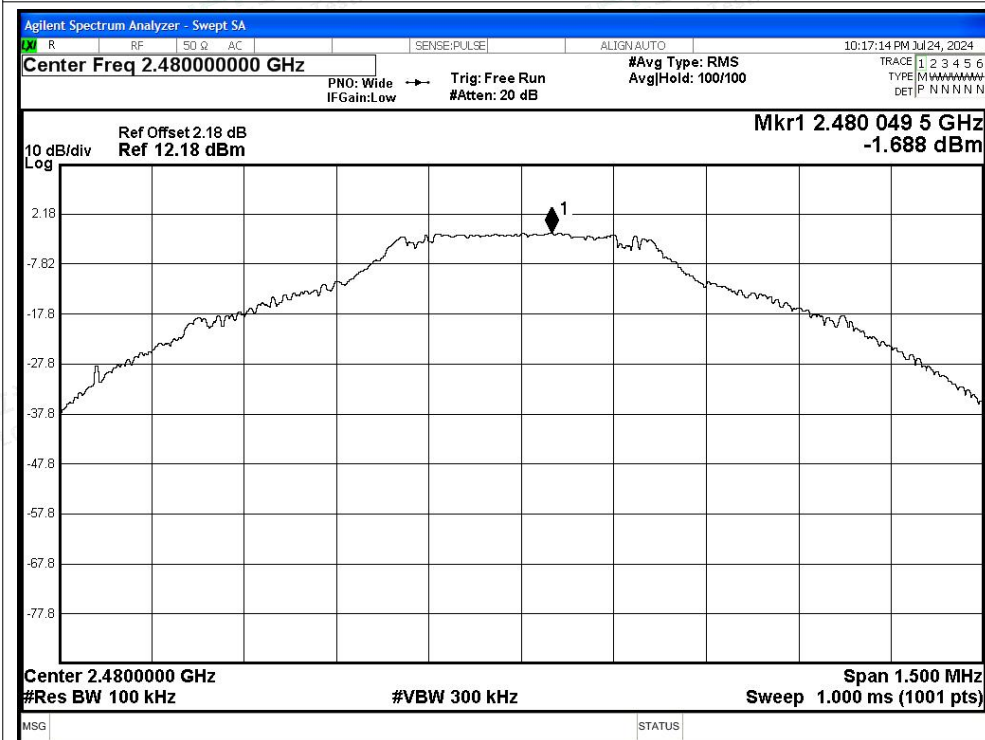
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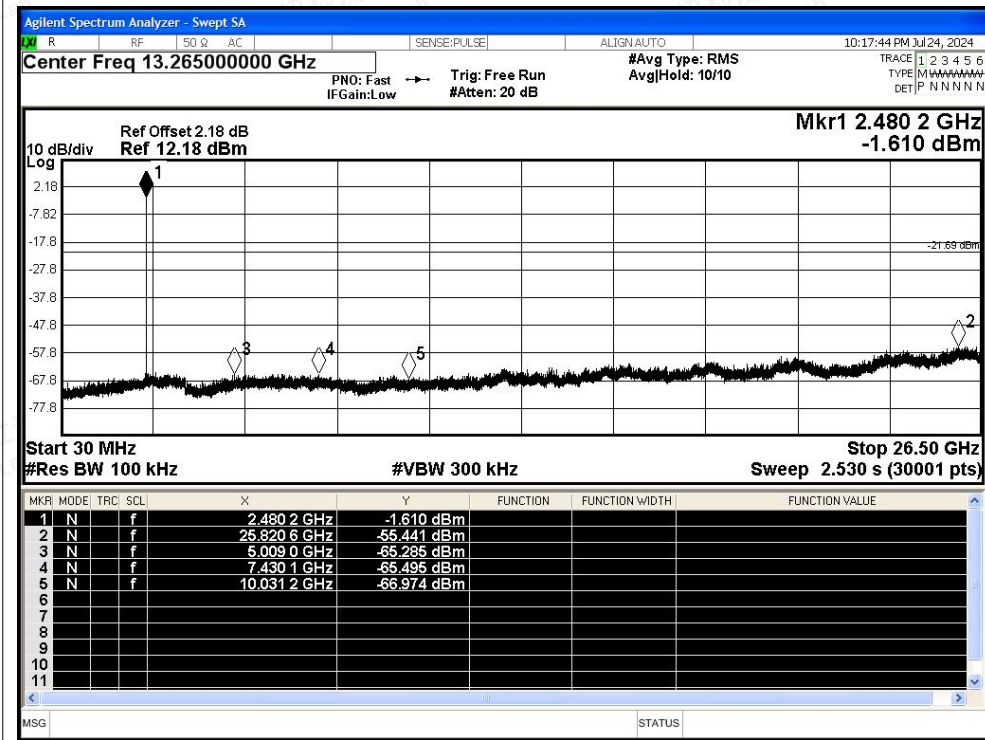
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Tx. Spurious NVNT 1-DH5 2480MHz Ant1 Ref



Tx. Spurious NVNT 1-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

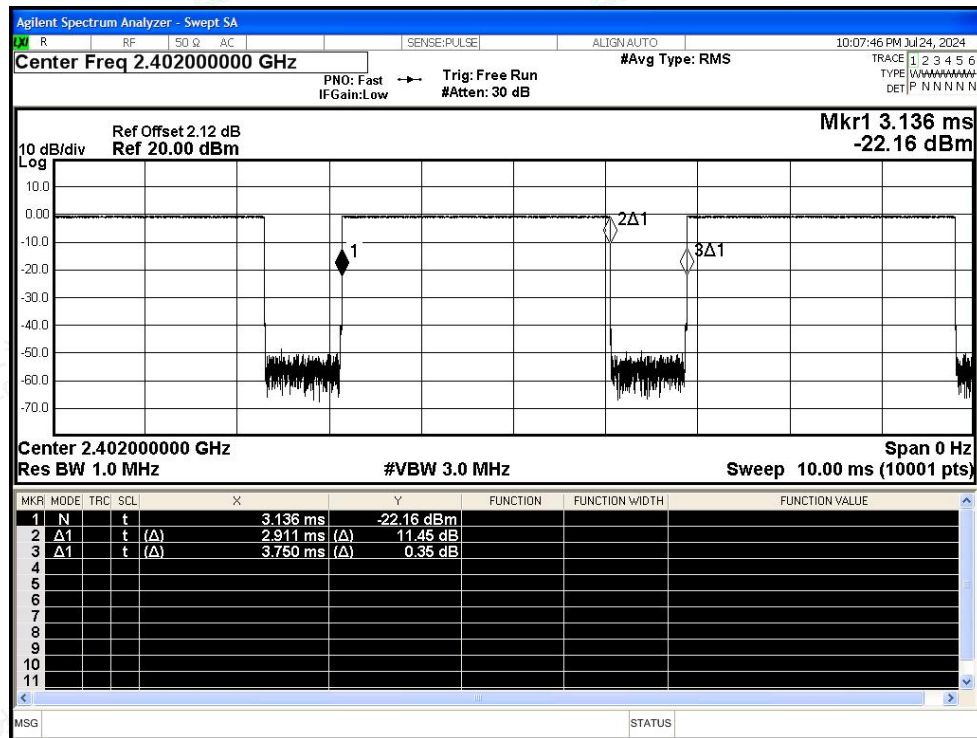


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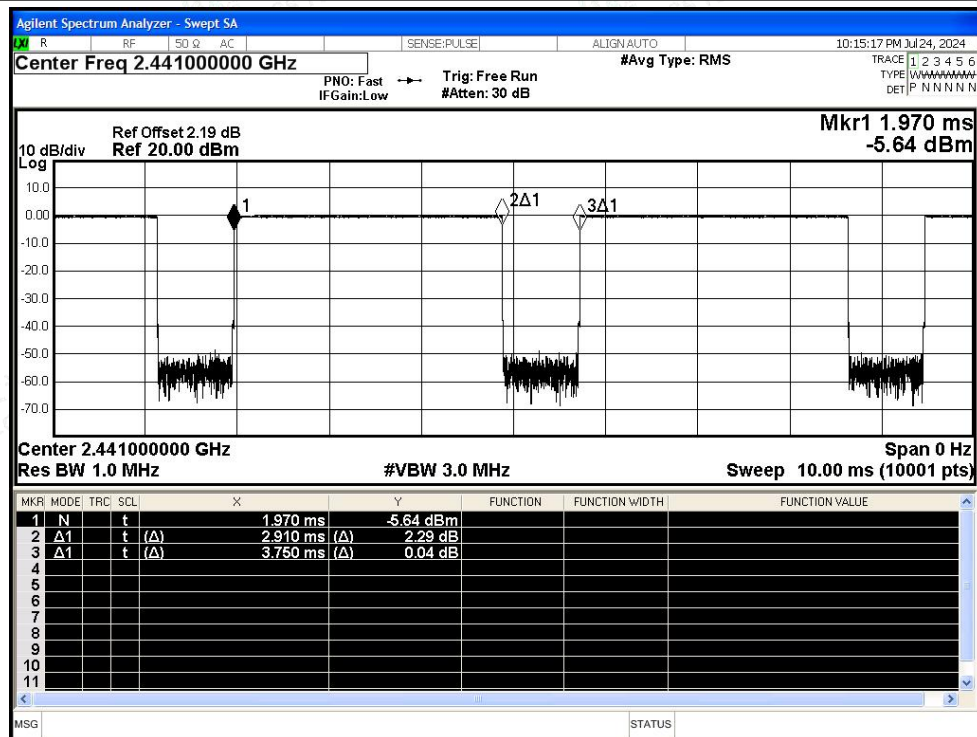


Test Graphs

Duty Cycle NVNT 1-DH5 2402MHz Ant1



Duty Cycle NVNT 1-DH5 2441MHz Ant1

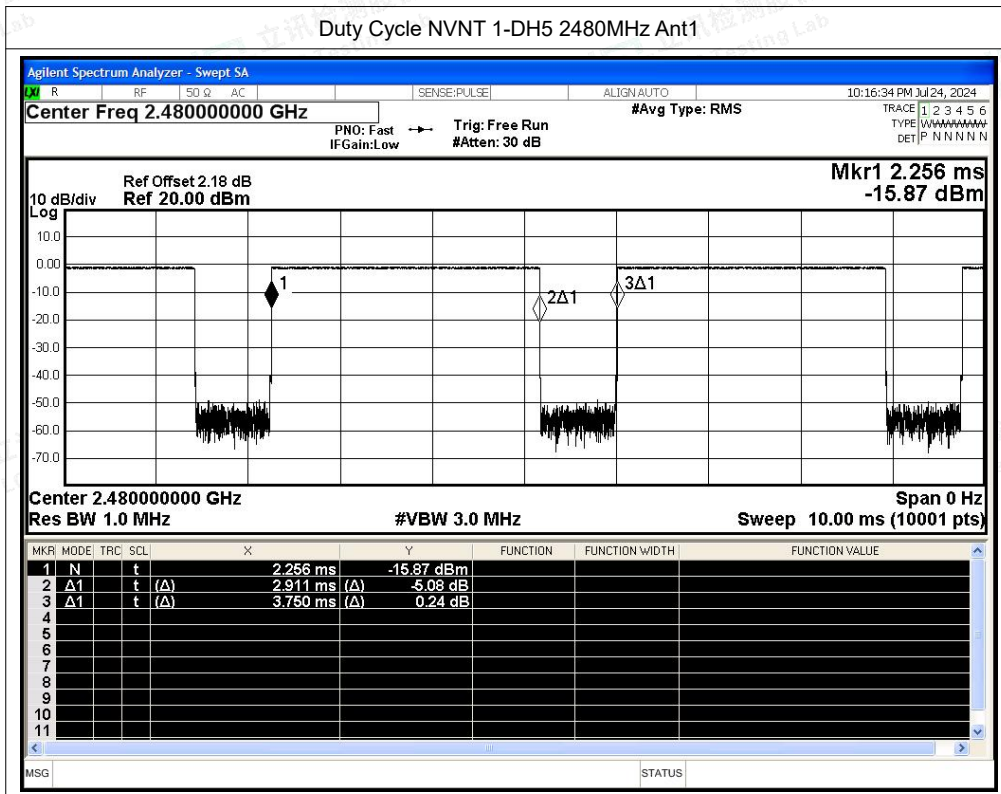


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A.9 Restrict Band

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	-50.98	2	-	46.28	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2310	-58.63	2	1.1	39.73	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2325.744	-47.34	2	-	49.92	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2368.944	-57.58	2	1.1	40.78	Average	54	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-51.18	2	-	46.08	Peak	74	Pass
NVNT	1-DH5	2402	Ant1	No-Hopping	2390	-58.34	2	1.1	40.02	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-50.32	2	-	46.94	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2483.5	-58.33	2	1.1	40.03	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2486.896	-46.44	2	-	50.82	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2484.688	-57.11	2	1.1	41.25	Average	54	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-49.62	2	-	47.64	Peak	74	Pass
NVNT	1-DH5	2480	Ant1	No-Hopping	2500	-57.97	2	1.1	40.39	Average	54	Pass

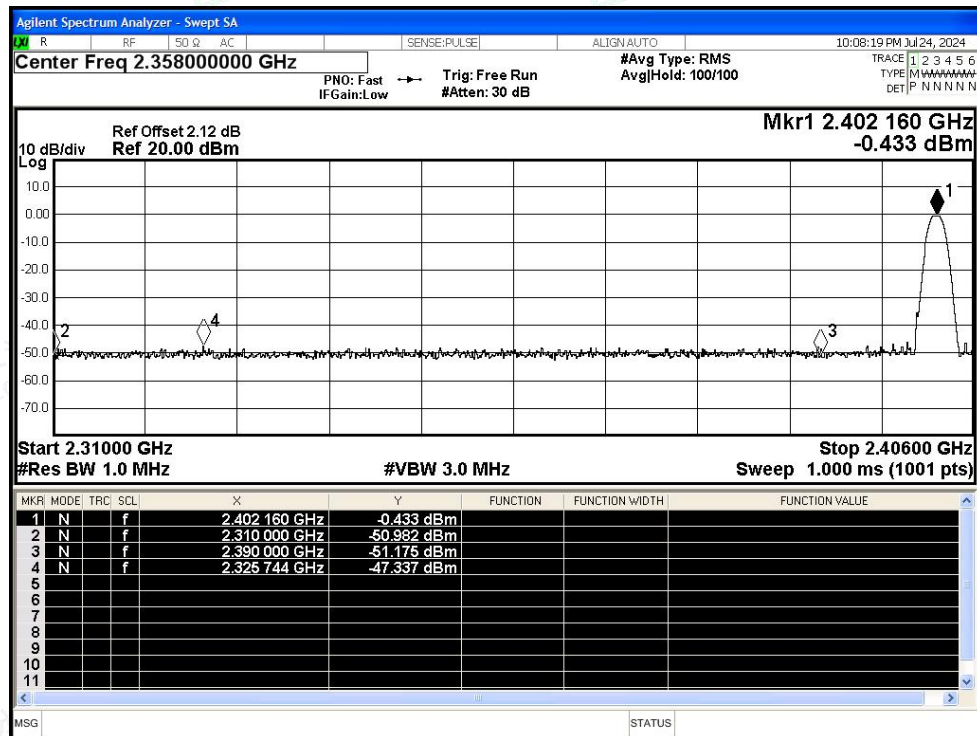


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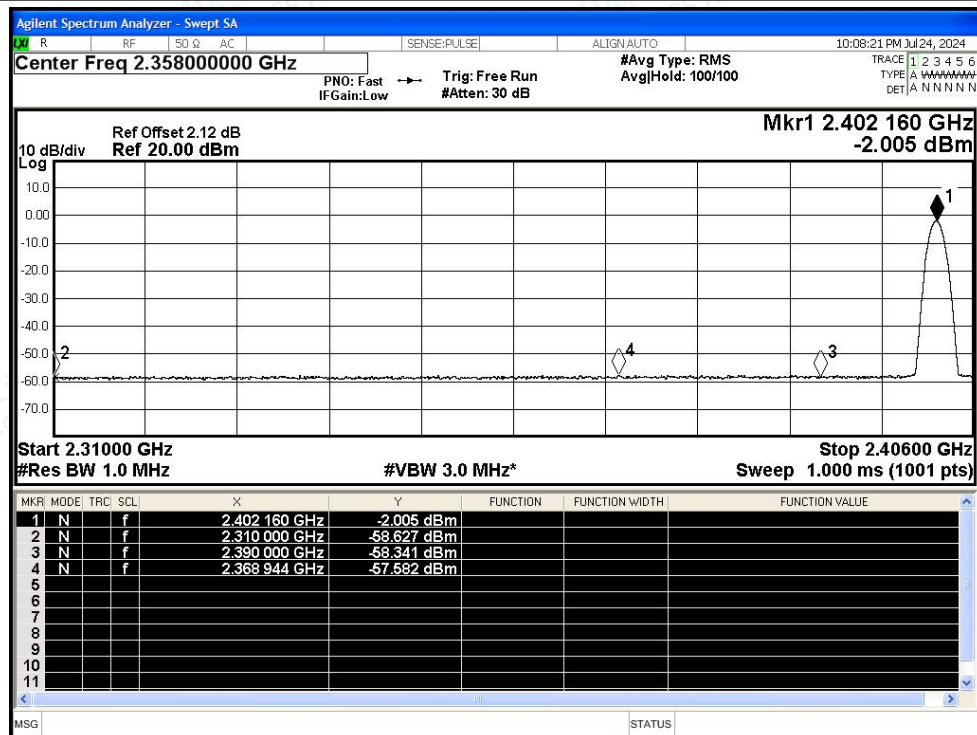


Test Graphs

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



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



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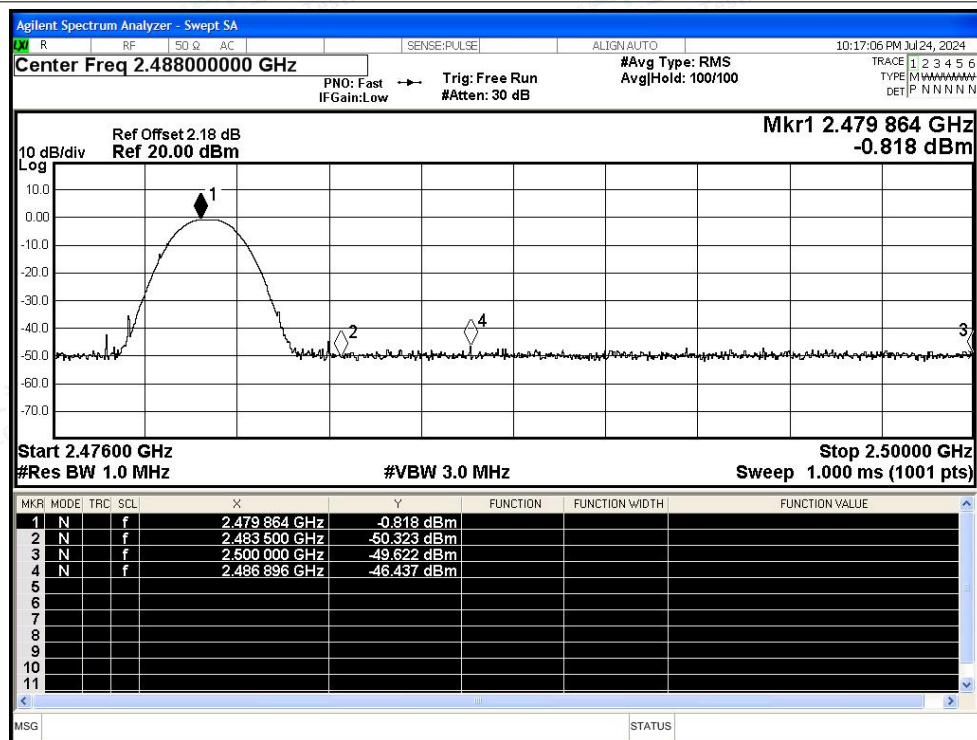
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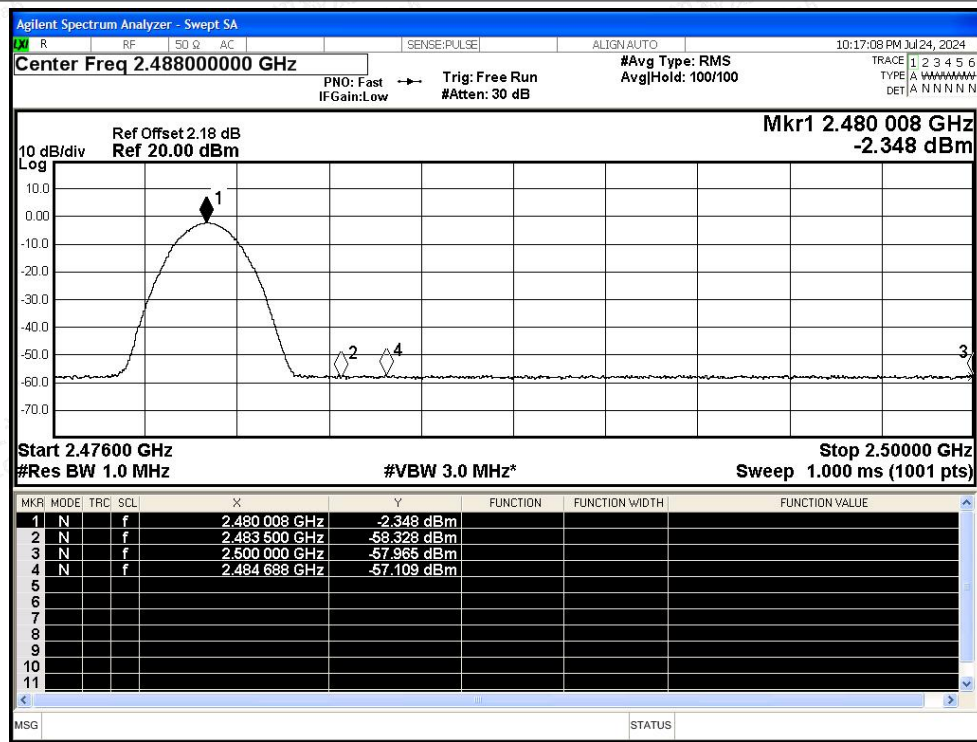
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Restrict Band NVNT 1-DH5 2480MHz Ant1 No-Hopping Peak



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



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