



Appendix A

RF Test Data for 2.4G (Conducted Measurement)

Product Name: Stage luminaire

Test Model: Omnibar 4

Environmental Conditions

Temperature:	24.6°C
Relative Humidity:	53.9%
ATM Pressure:	100.0 kPa
Test Engineer:	Jerry Chu
Supervised by:	Can Kun

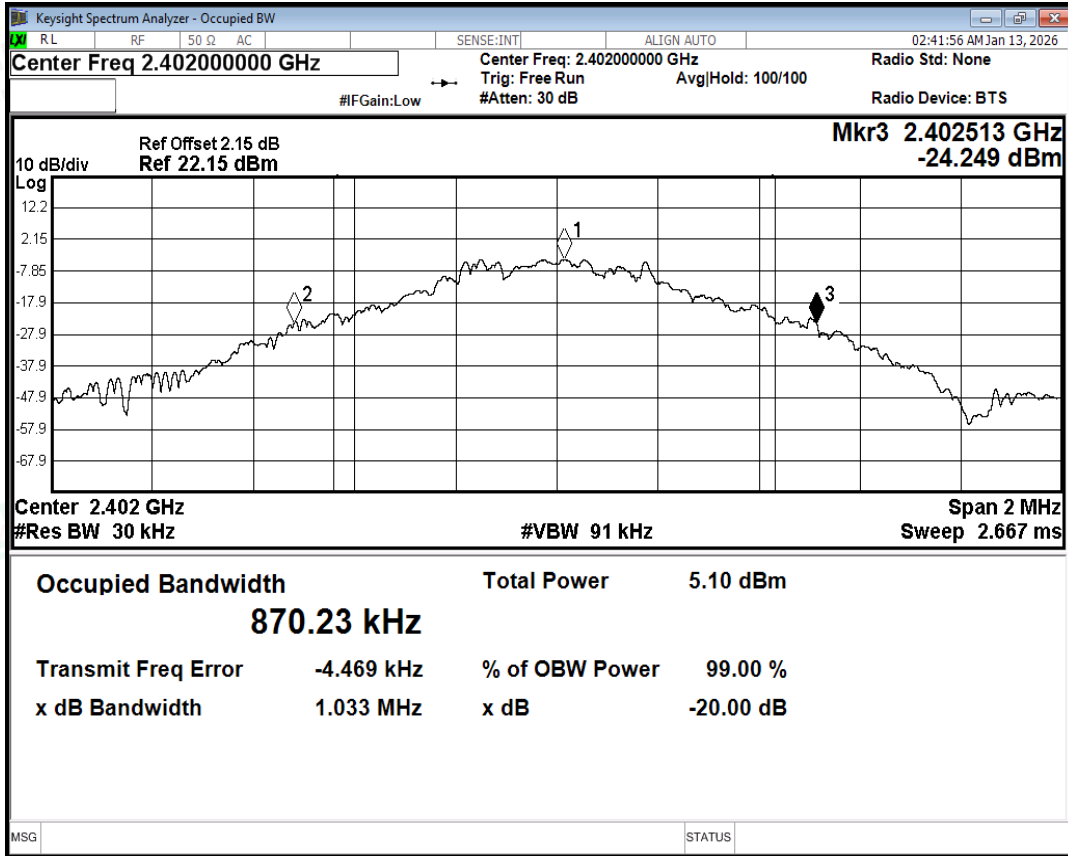




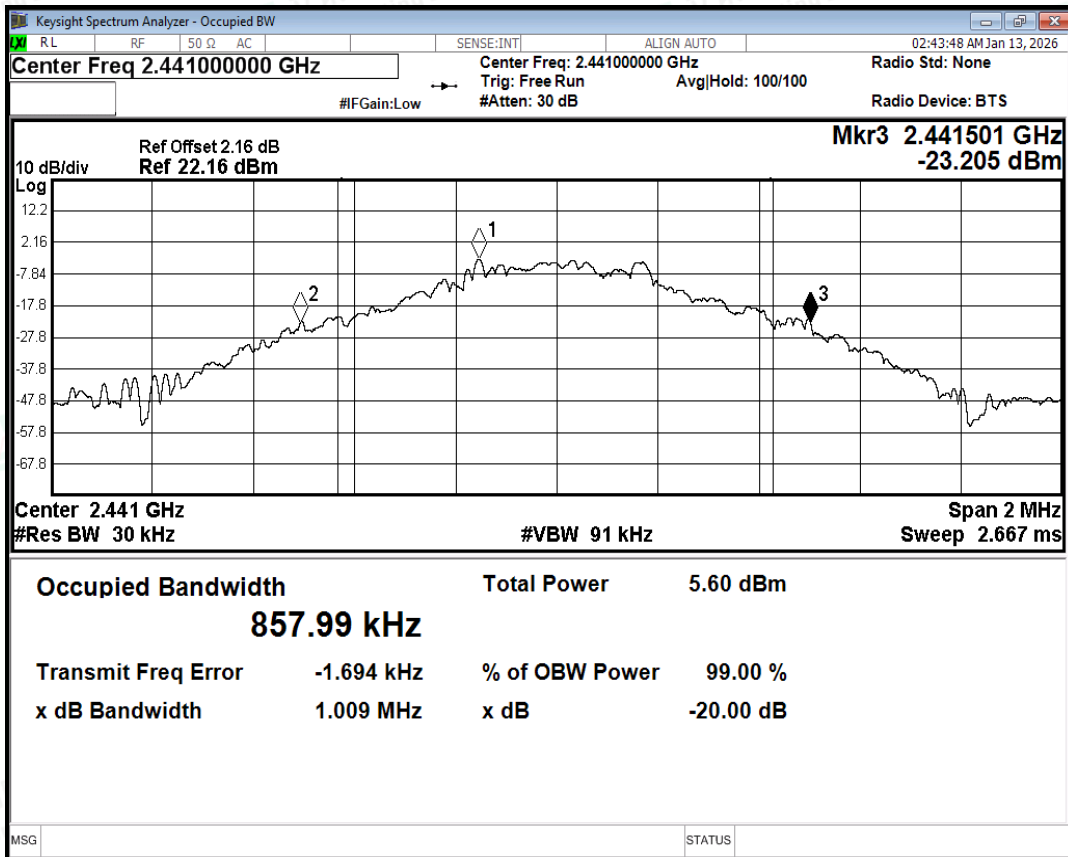
A.1 -20dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Limit -20 dB Bandwidth (MHz)	Verdict
NVNT	2.4G	2402	Ant1	1.033	0	Pass
NVNT	2.4G	2441	Ant1	1.009	0	Pass
NVNT	2.4G	2480	Ant1	0.9551	0	Pass





-20dB Bandwidth NVNT 2.4G 2402MHz Ant1



-20dB Bandwidth NVNT 2.4G 2441MHz Ant1

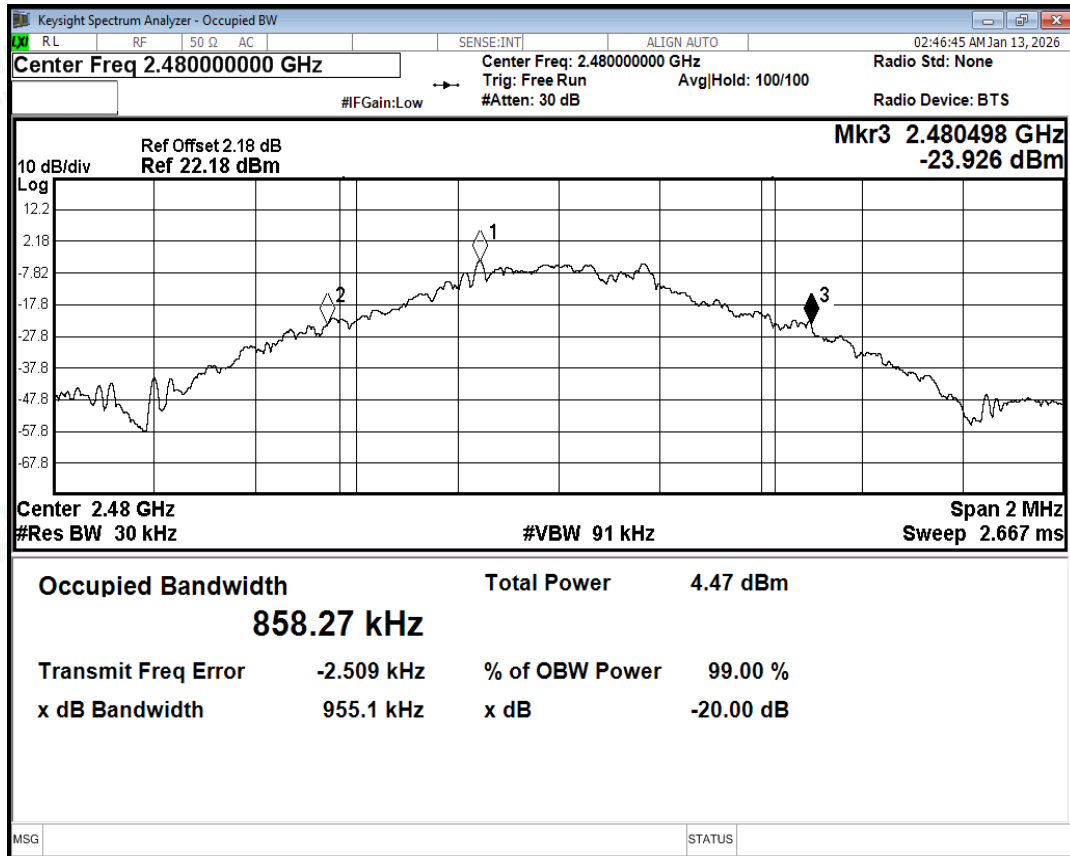


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-20dB Bandwidth NVNT 2.4G 2480MHz Ant1



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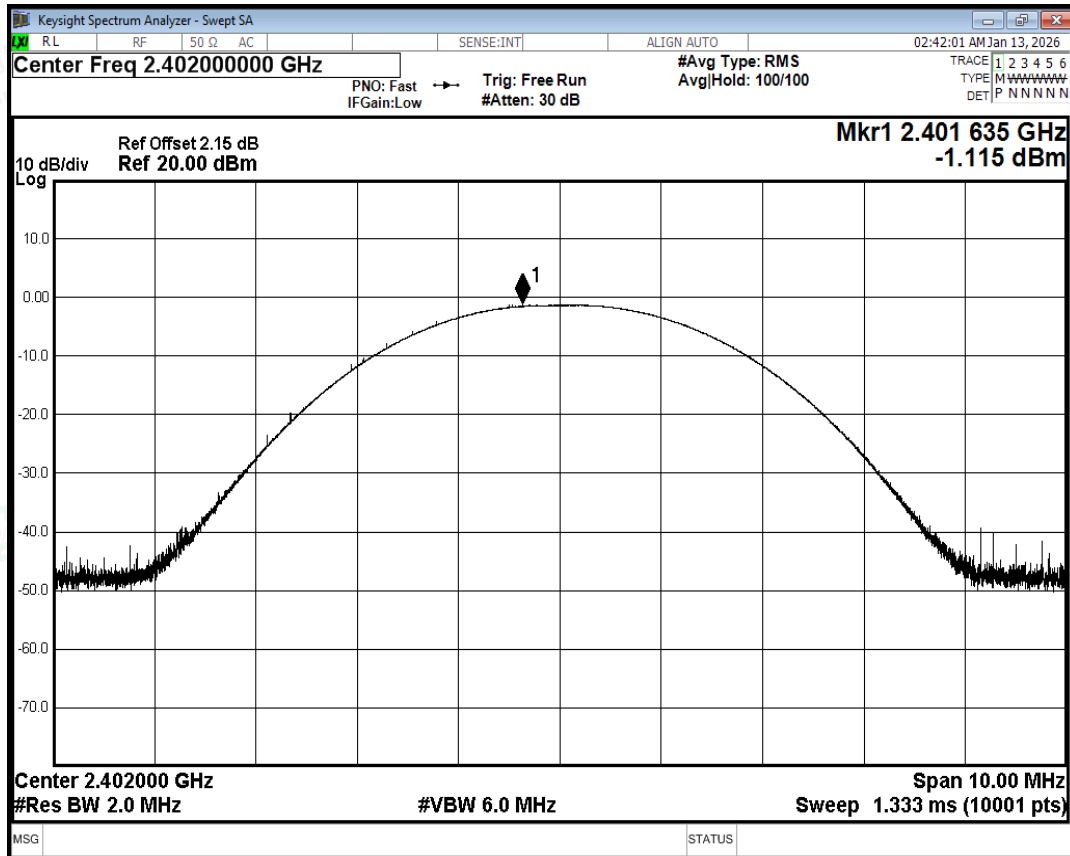
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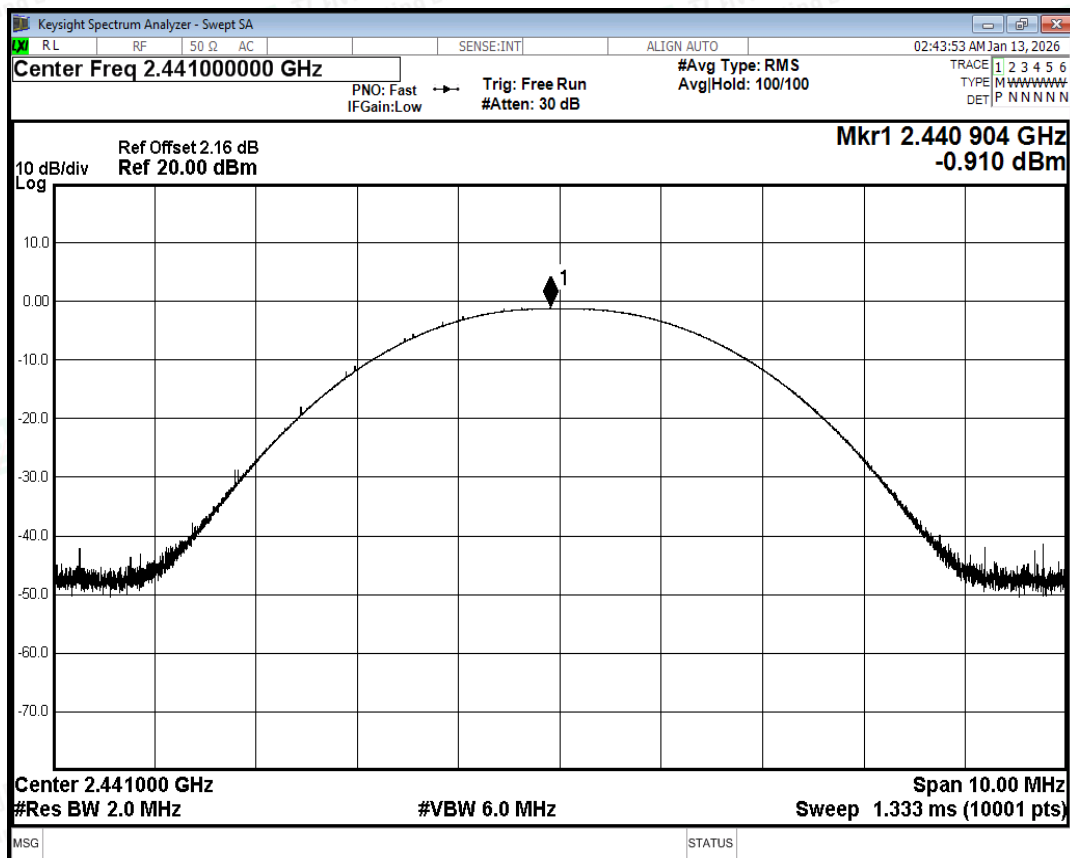
A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Total Conducted Power (W)	Limit Conducted(dBm)	Verdict
NVNT	2.4G	2402	Ant1	-1.12	0.00077	30	Pass
NVNT	2.4G	2441	Ant1	-0.91	0.00081	30	Pass
NVNT	2.4G	2480	Ant1	-1.96	0.00064	30	Pass



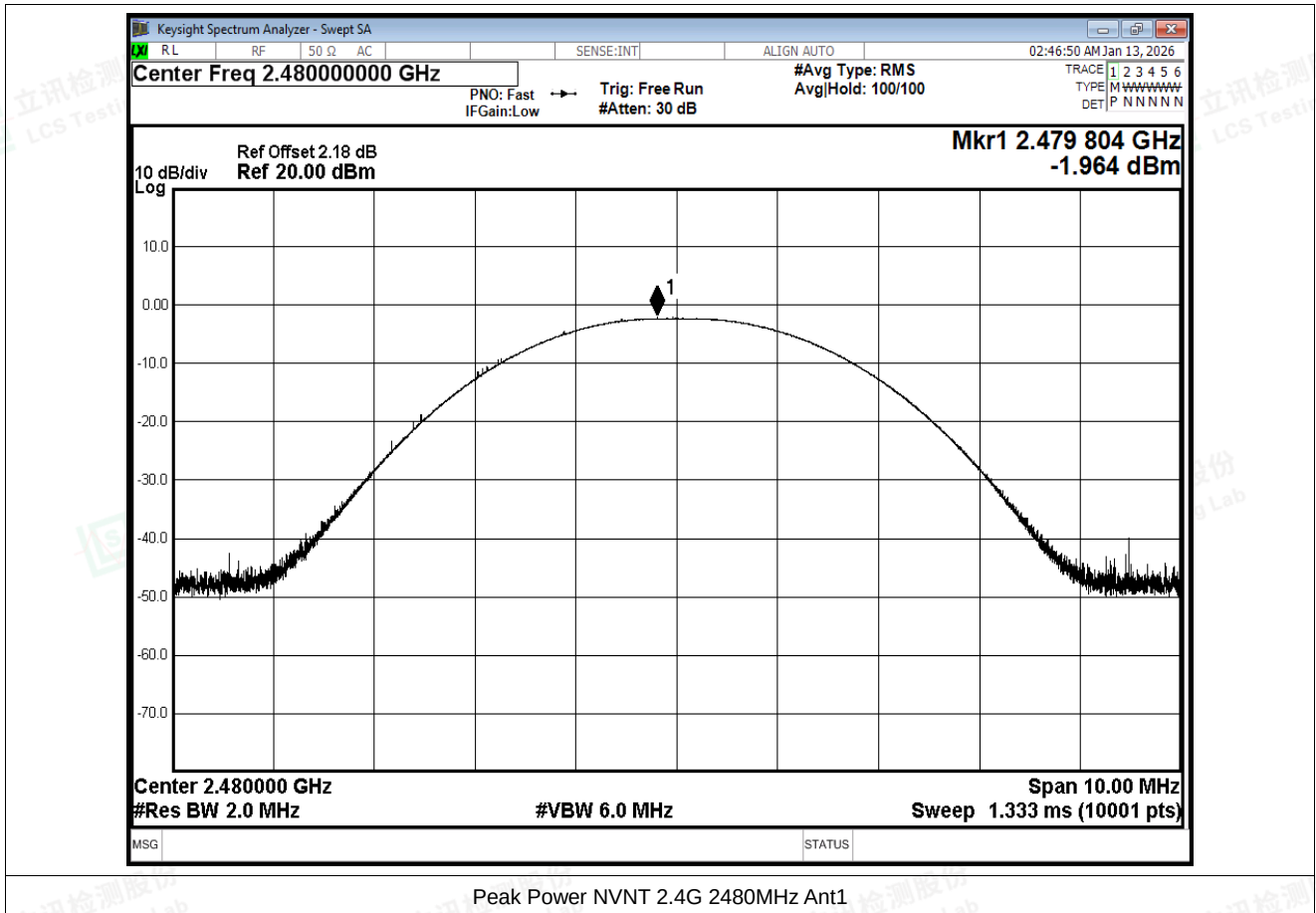


Peak Power NVNT 2.4G 2402MHz Ant1



Peak Power NVNT 2.4G 2441MHz Ant1



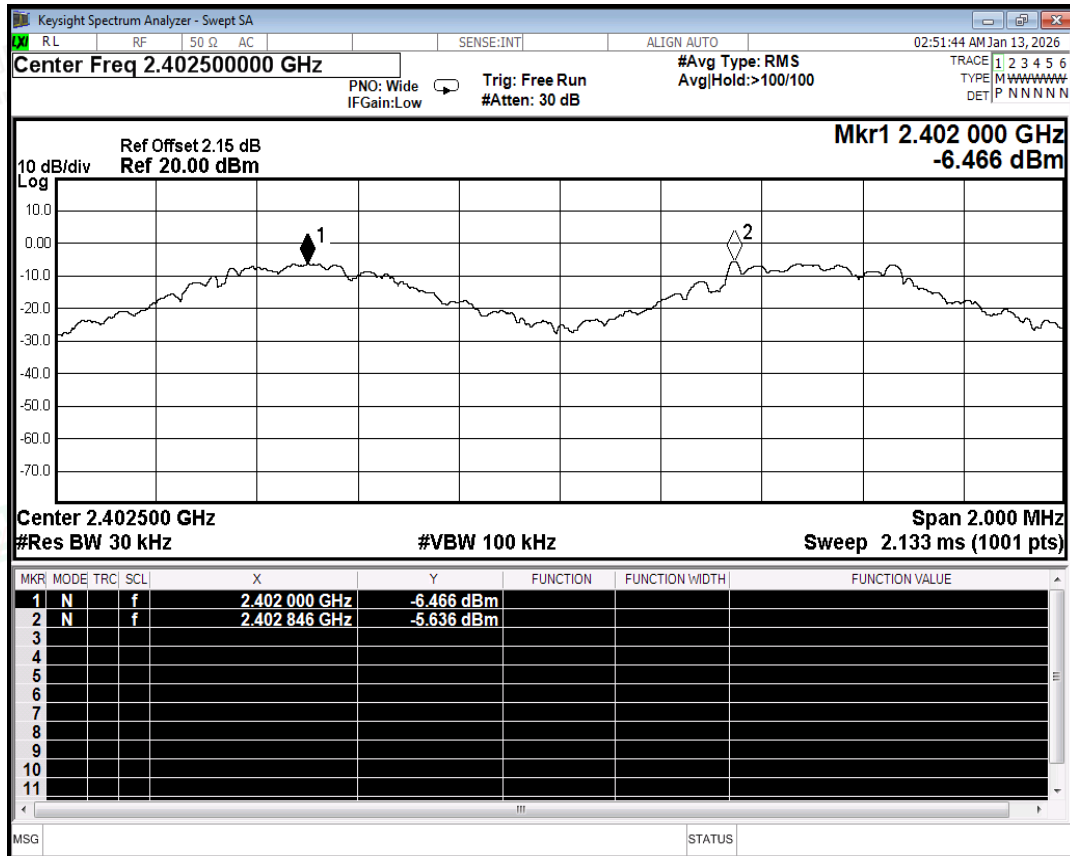




A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	2.4G	Ant1	2402	2402.846	0.846	0.689	Pass





CFS NVNT 2.4G 2402MHz Ant1

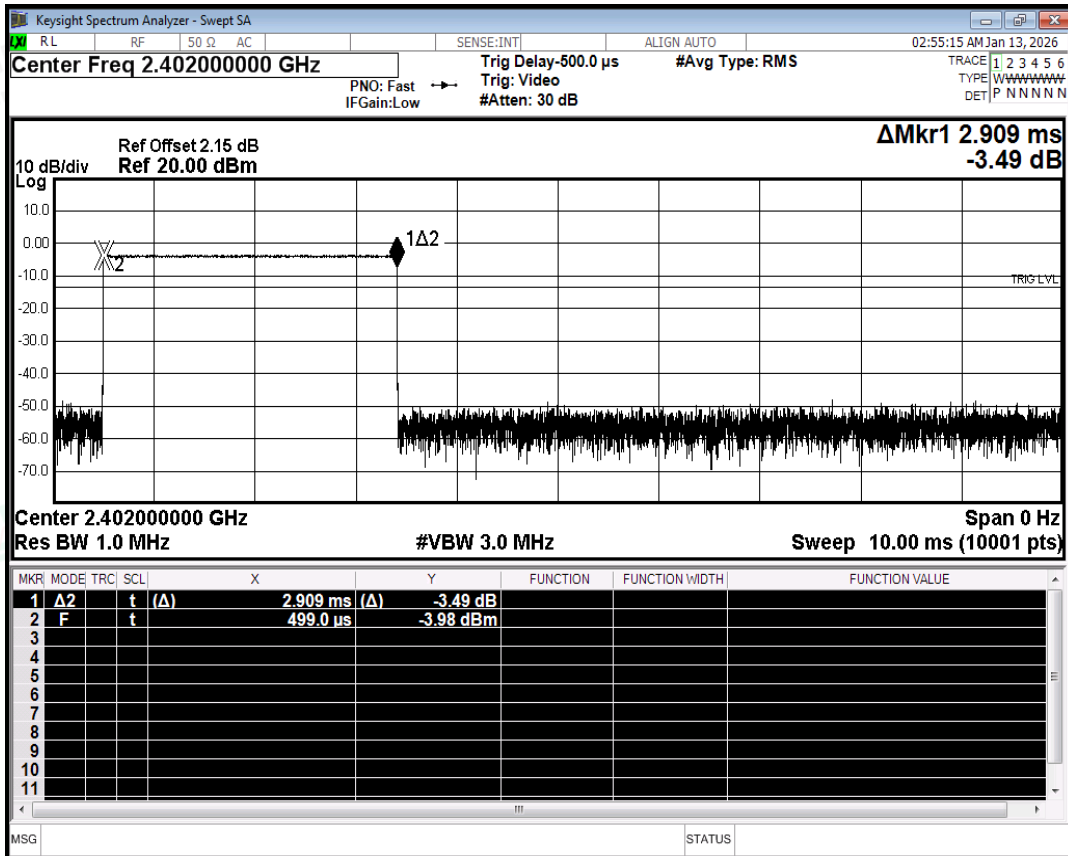




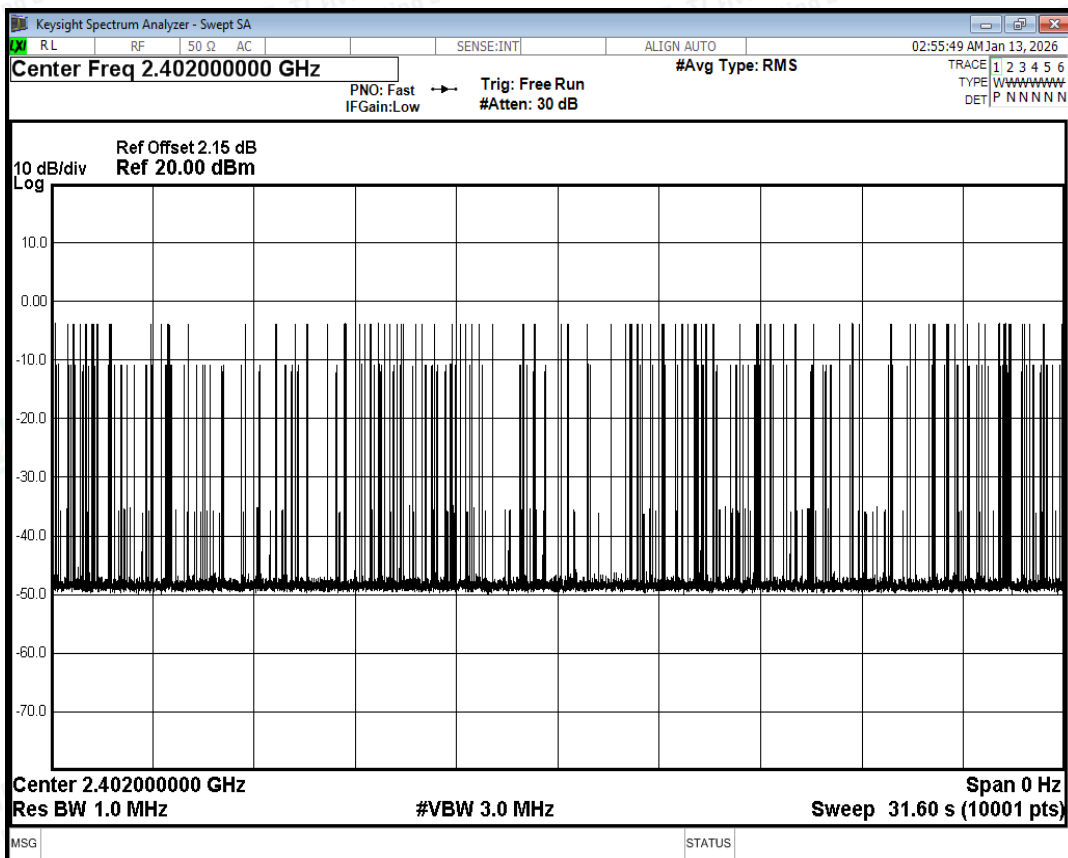
A.4 Dwell Time

Condition	Mode	Frequency (MHz)	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	2.4G	2402	Ant1	2.909	305.445	105	31600	400	Pass





Dwell NVNT 2.4G 2402MHz Ant1 One Burst



Dwell NVNT 2.4G 2402MHz Ant1 Accumulated

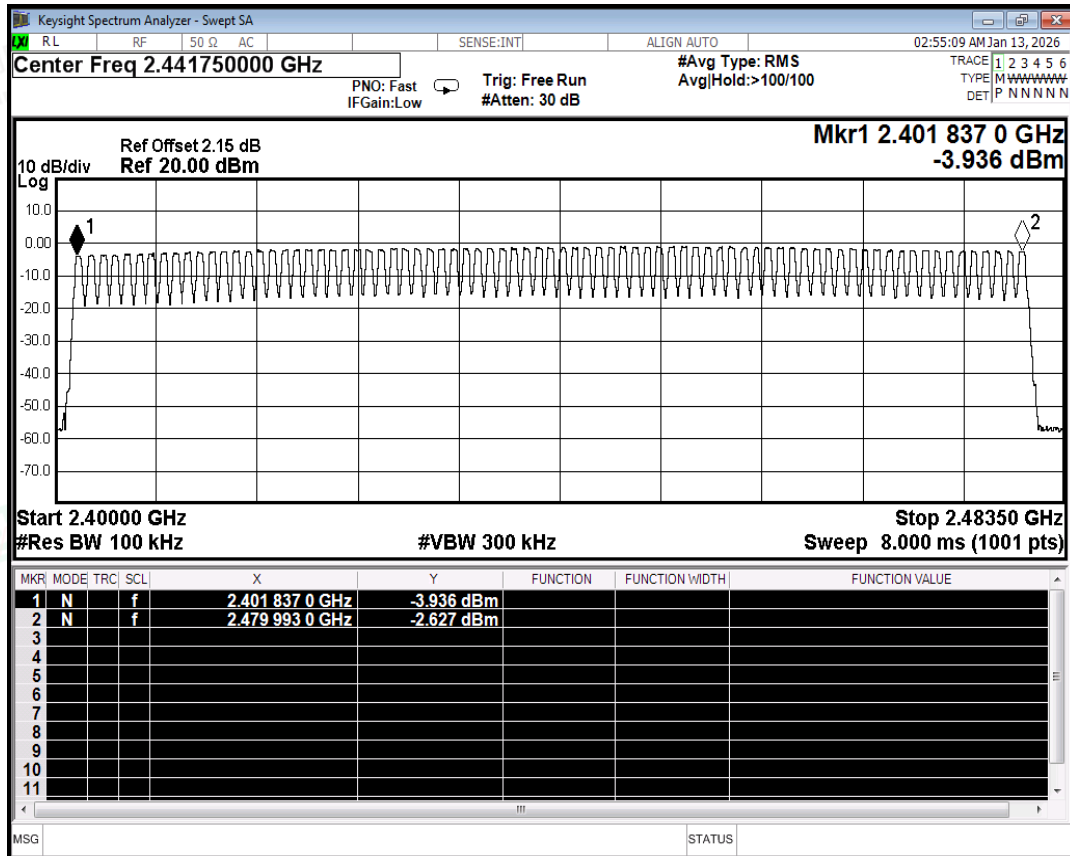




A.5 Number of Hopping Channel

Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	2.4G	Ant1	79	15	Pass





Hopping No. NVNT 2.4G 2402MHz Ant1



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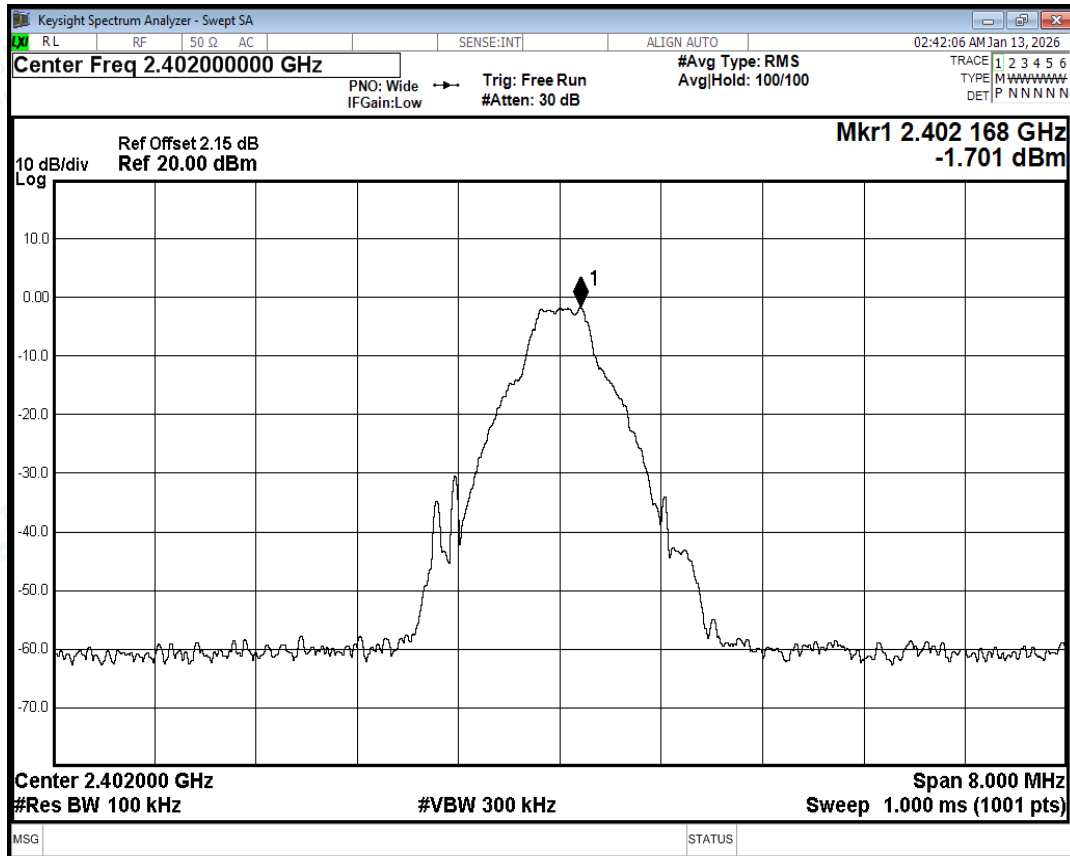
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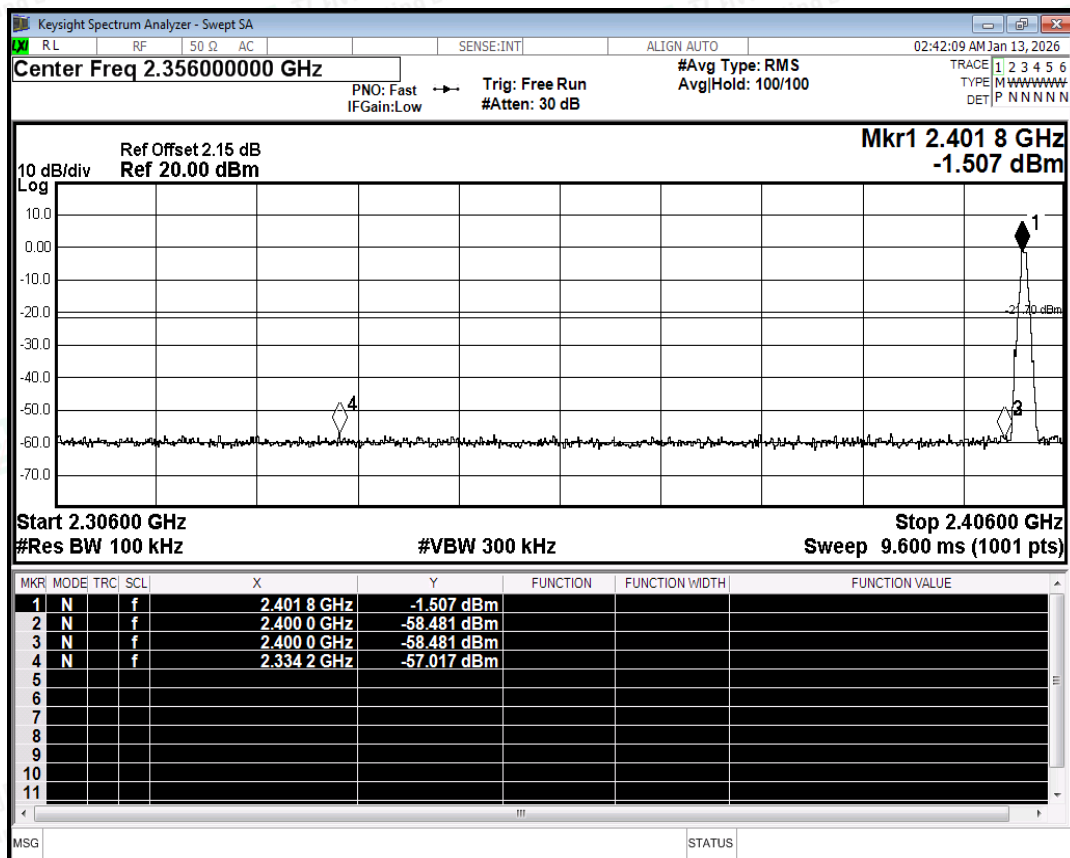
A.6 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	2.4G	2402	Ant1	No-Hopping	-55.31	-20	Pass
NVNT	2.4G	2480	Ant1	No-Hopping	-53.64	-20	Pass





Band Edge NVNT 2.4G 2402MHz Ant1 No-Hopping Ref



Band Edge NVNT 2.4G 2402MHz Ant1 No-Hopping Emission

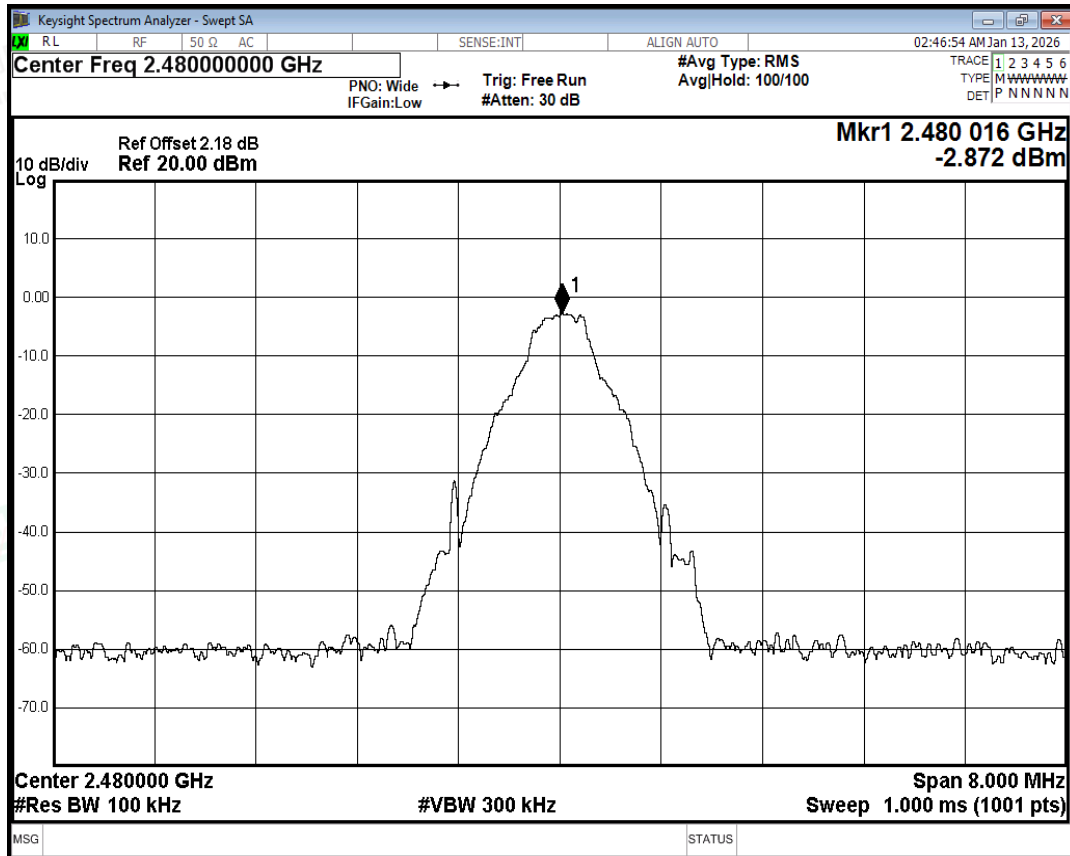


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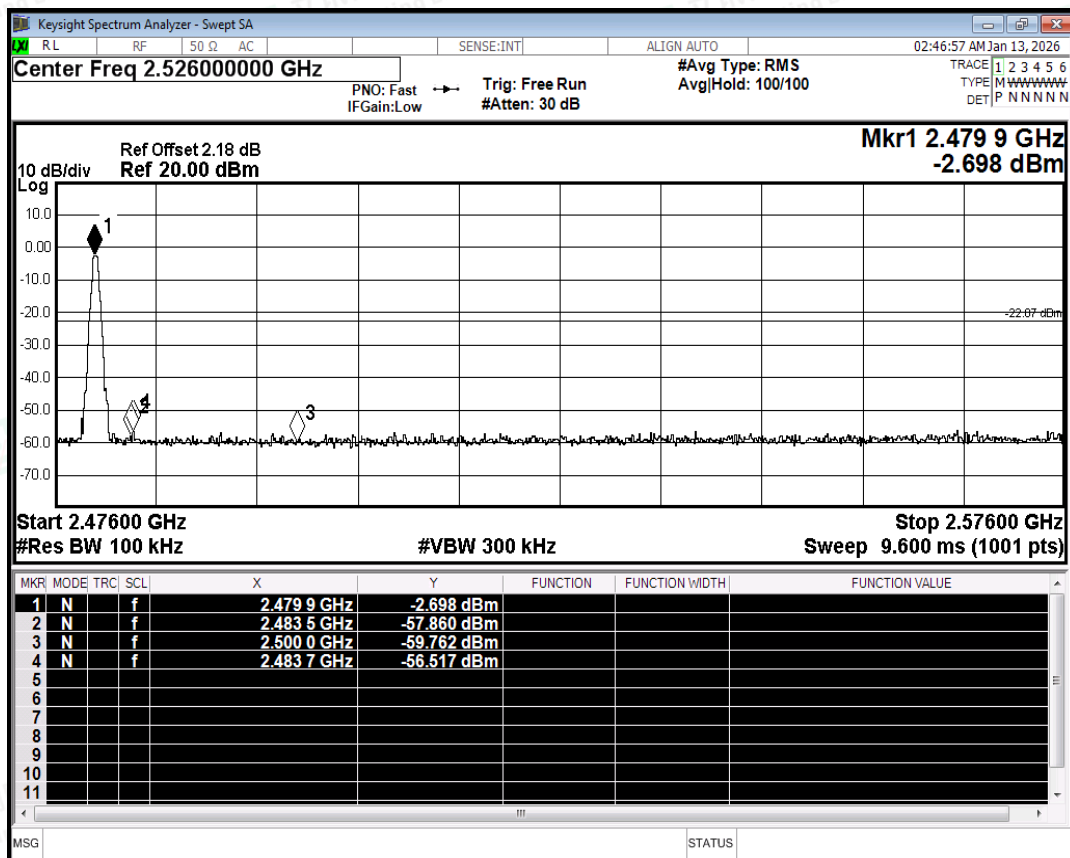
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Band Edge NVNT 2.4G 2480MHz Ant1 No-Hopping Ref



Band Edge NVNT 2.4G 2480MHz Ant1 No-Hopping Emission



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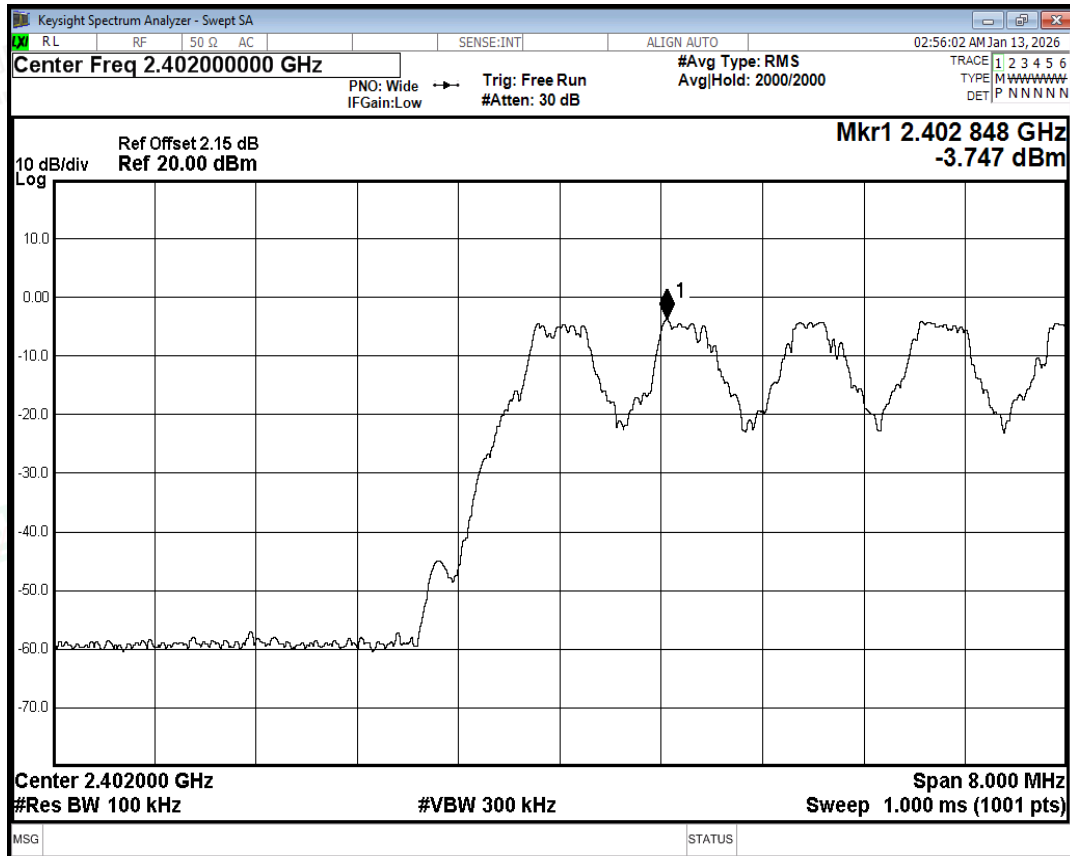
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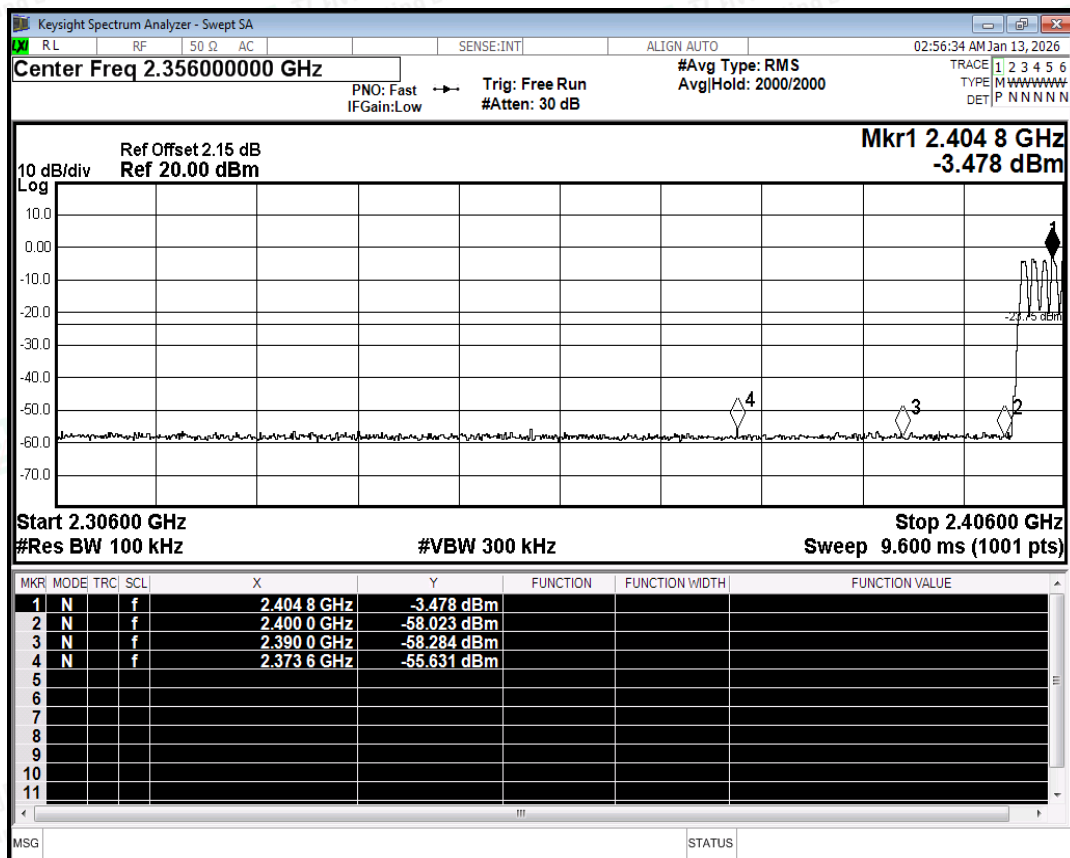
(Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	2.4G	2402	Ant1	Hopping	-51.88	-20	Pass
NVNT	2.4G	2480	Ant1	Hopping	-52.88	-20	Pass





Band Edge(Hopping) NVNT 2.4G 2402MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 2.4G 2402MHz Ant1 Hopping Emission

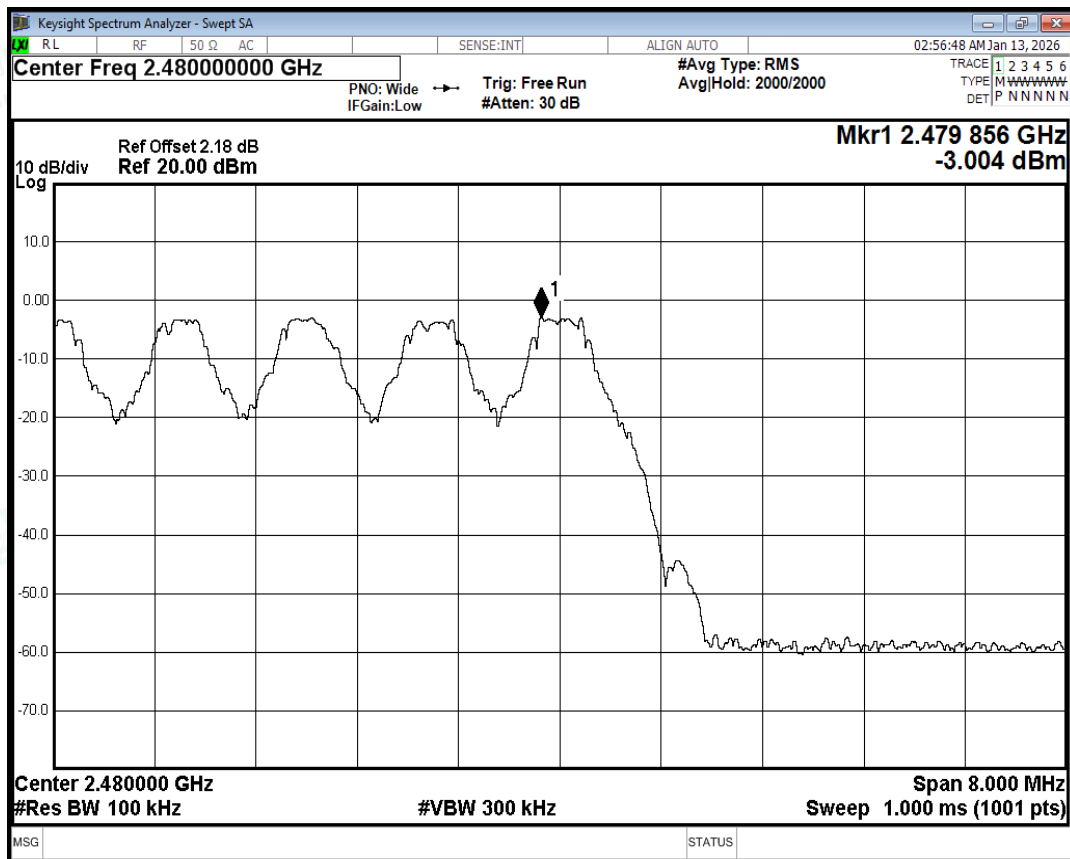


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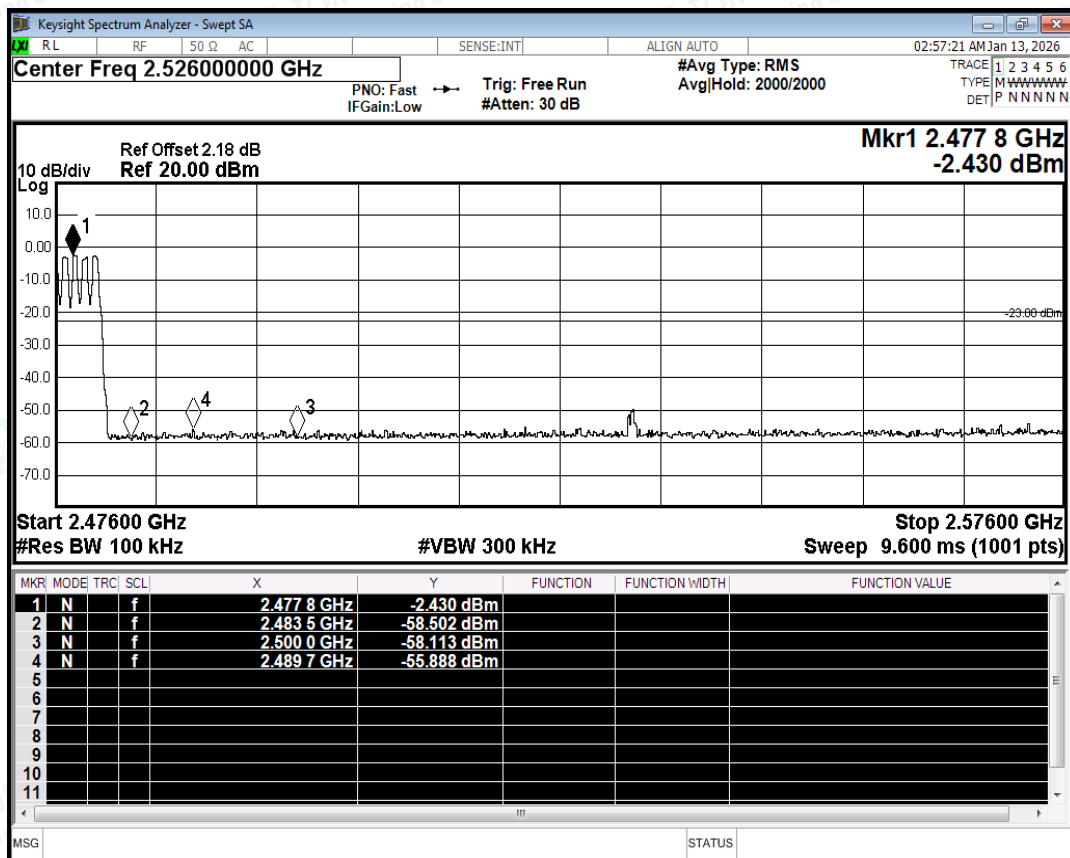
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Band Edge(Hopping) NVNT 2.4G 2480MHz Ant1 Hopping Ref



Band Edge(Hopping) NVNT 2.4G 2480MHz Ant1 Hopping Emission



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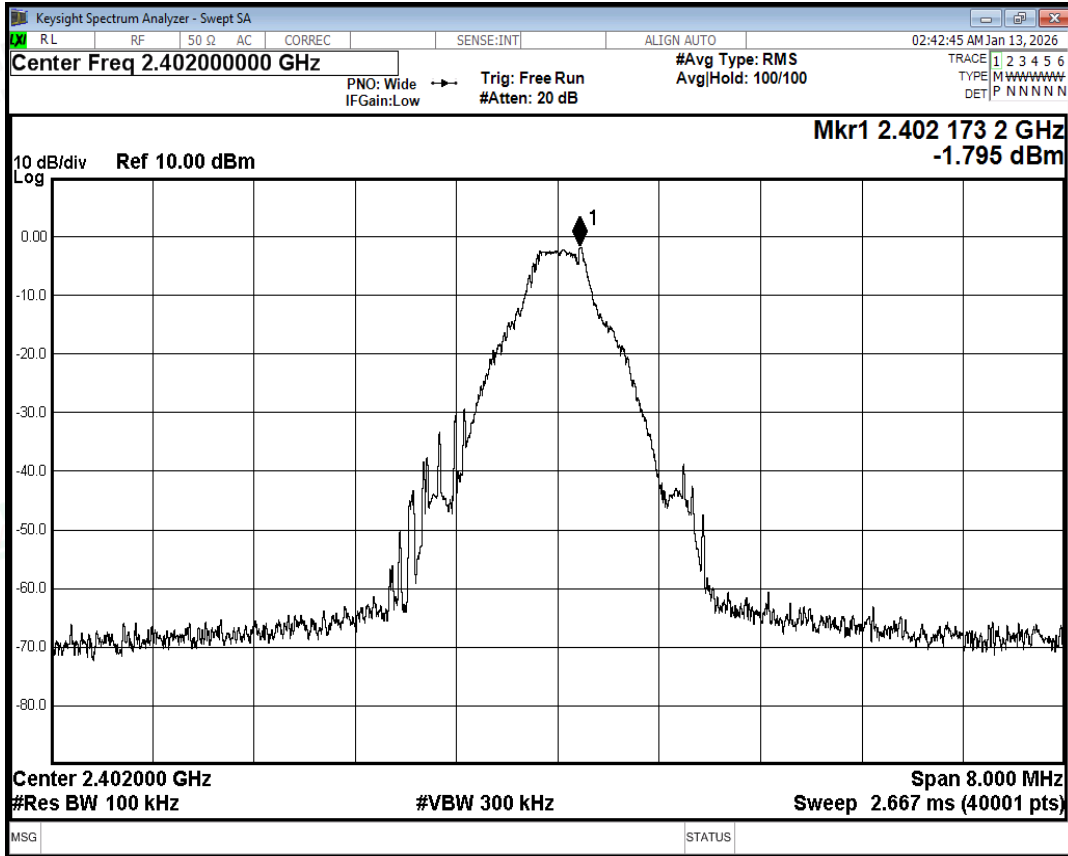
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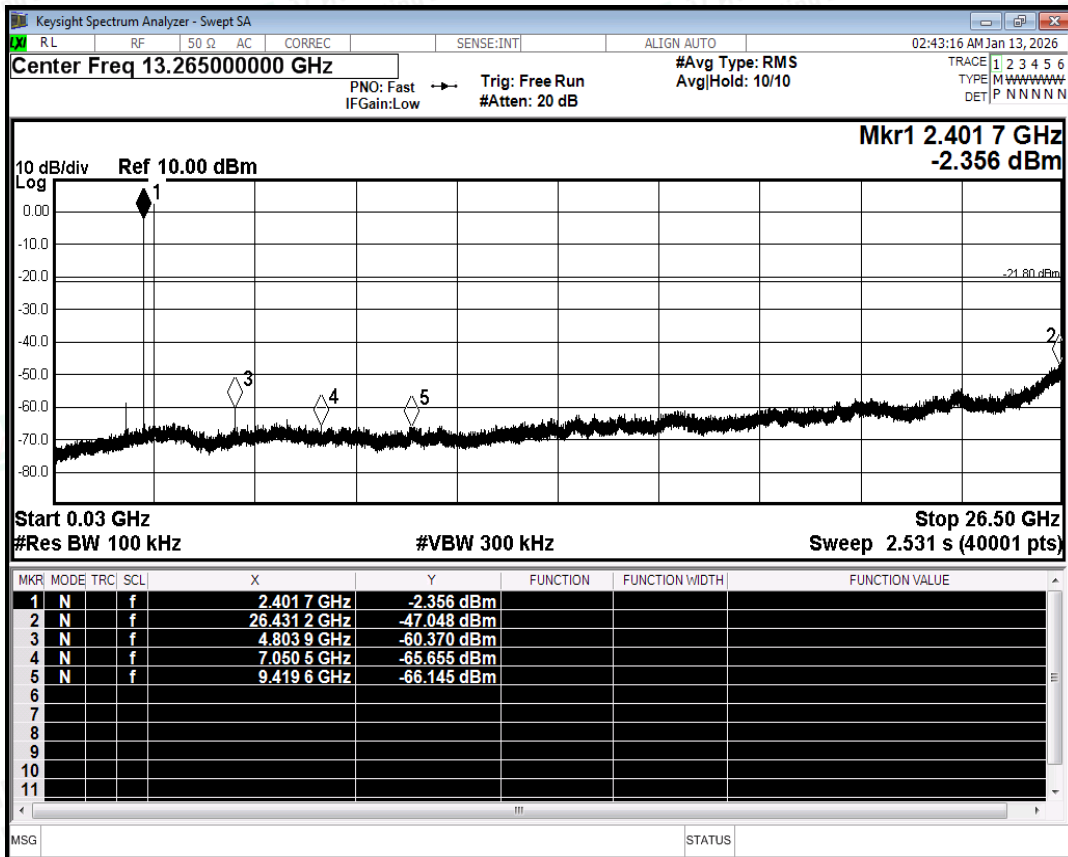
A.7 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	2.4G	2402	Ant1	-45.25	-20	Pass
NVNT	2.4G	2441	Ant1	-44.82	-20	Pass
NVNT	2.4G	2480	Ant1	-43.7	-20	Pass





Tx. Spurious NVNT 2.4G 2402MHz Ant1 Ref



Tx. Spurious NVNT 2.4G 2402MHz Ant1 Emission

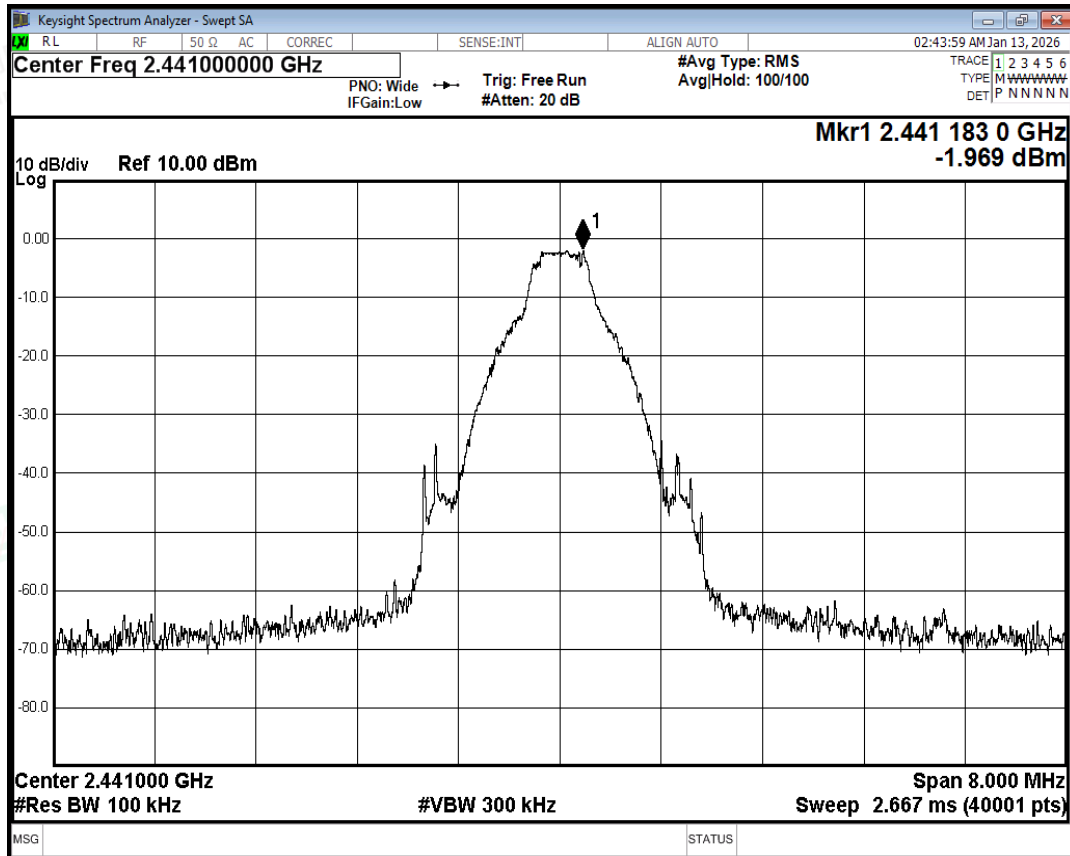


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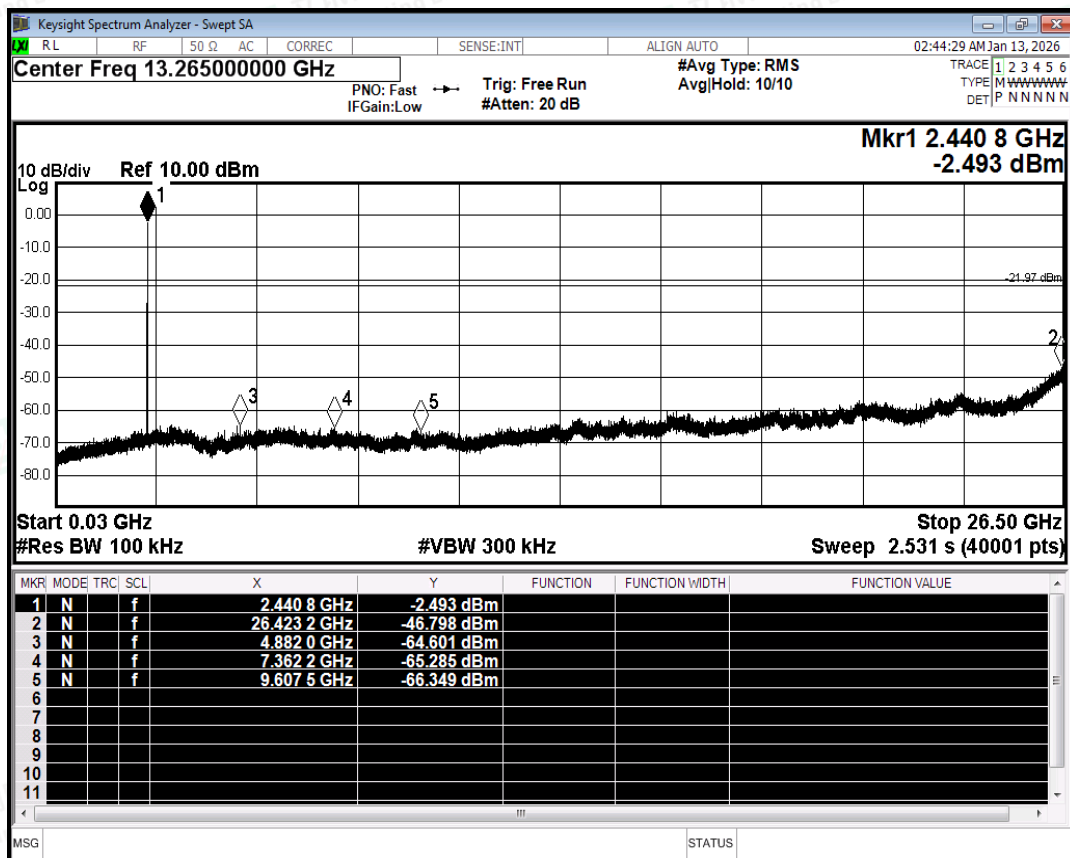
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Tx. Spurious NVNT 2.4G 2441MHz Ant1 Ref



Tx. Spurious NVNT 2.4G 2441MHz Ant1 Emission

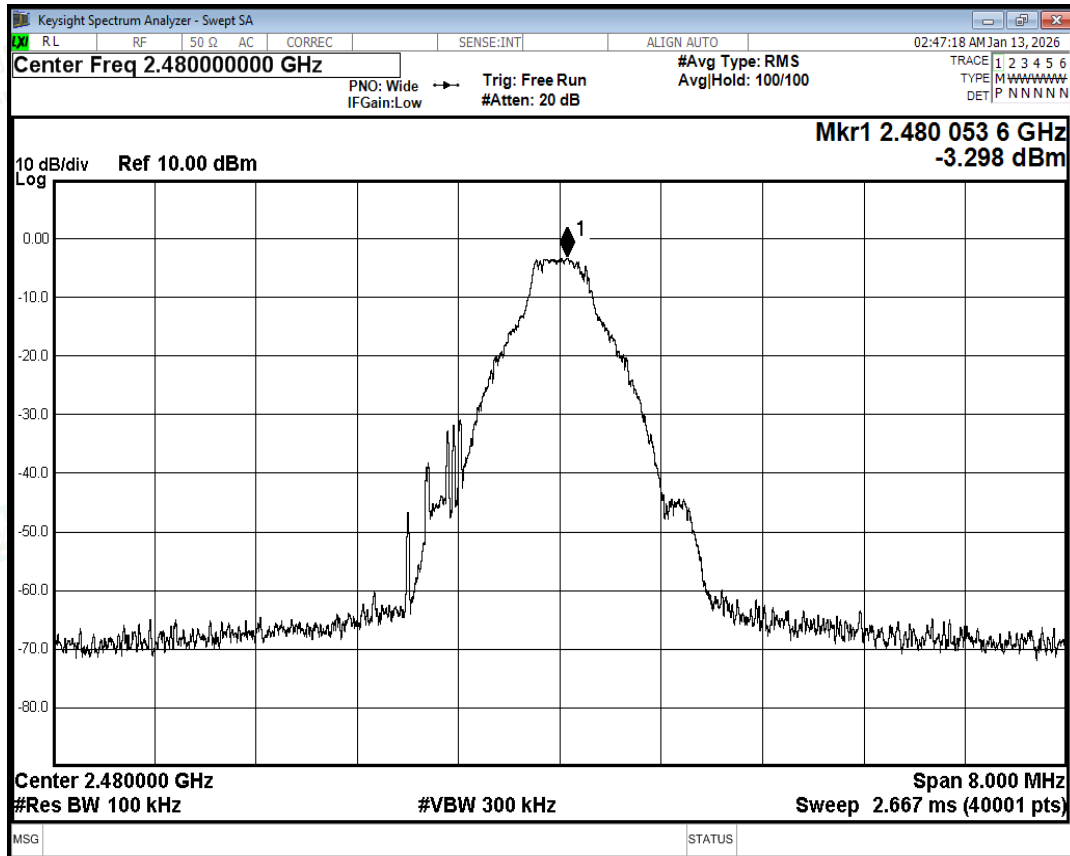


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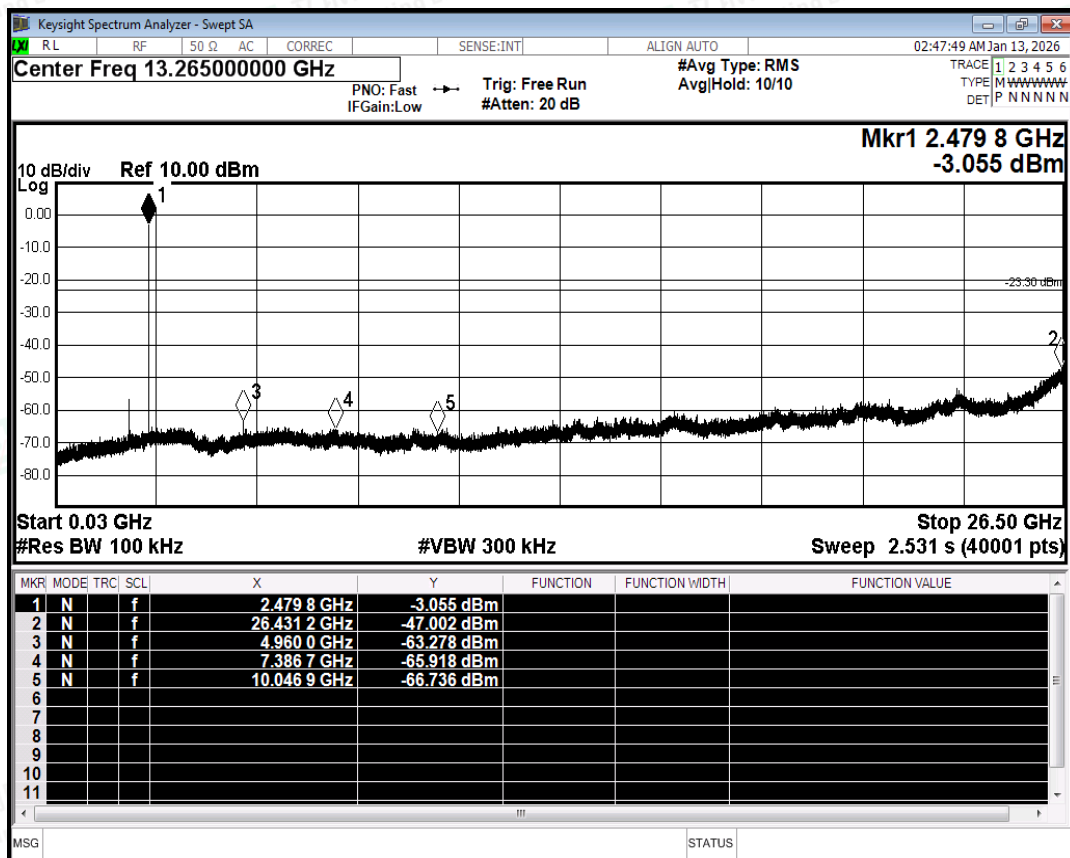
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Tx. Spurious NVNT 2.4G 2480MHz Ant1 Ref



Tx. Spurious NVNT 2.4G 2480MHz Ant1 Emission



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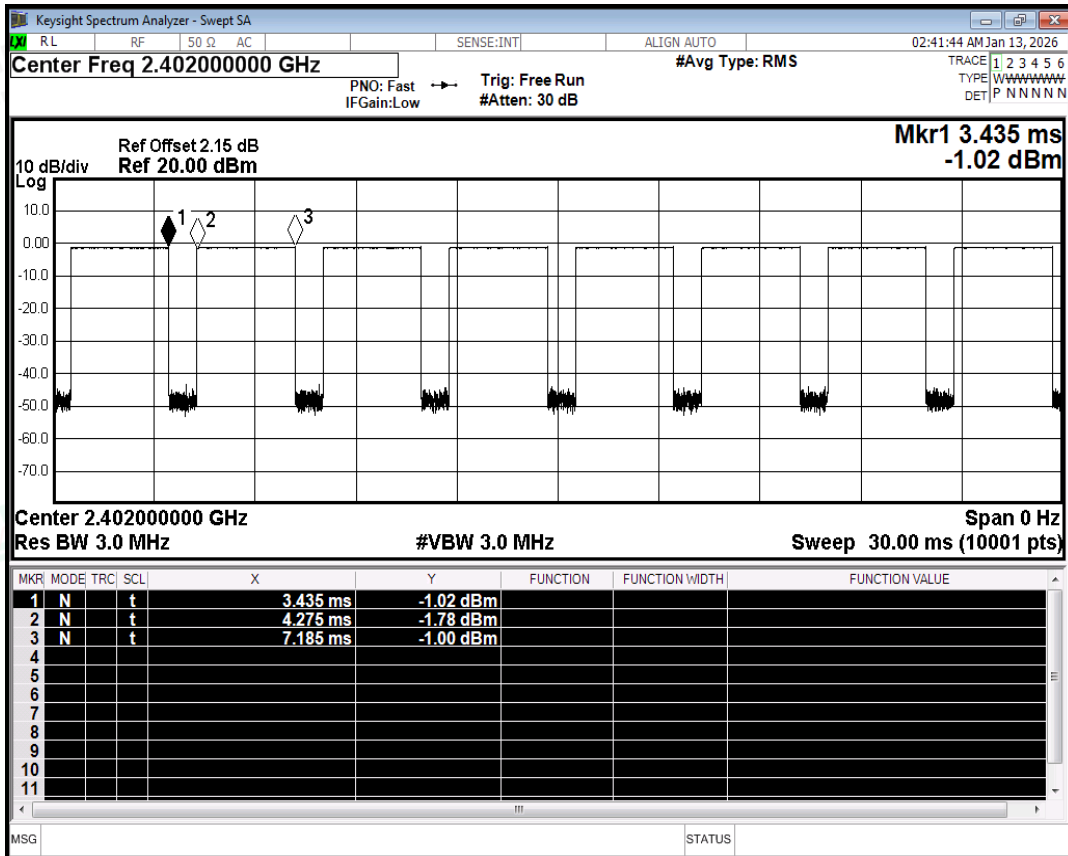
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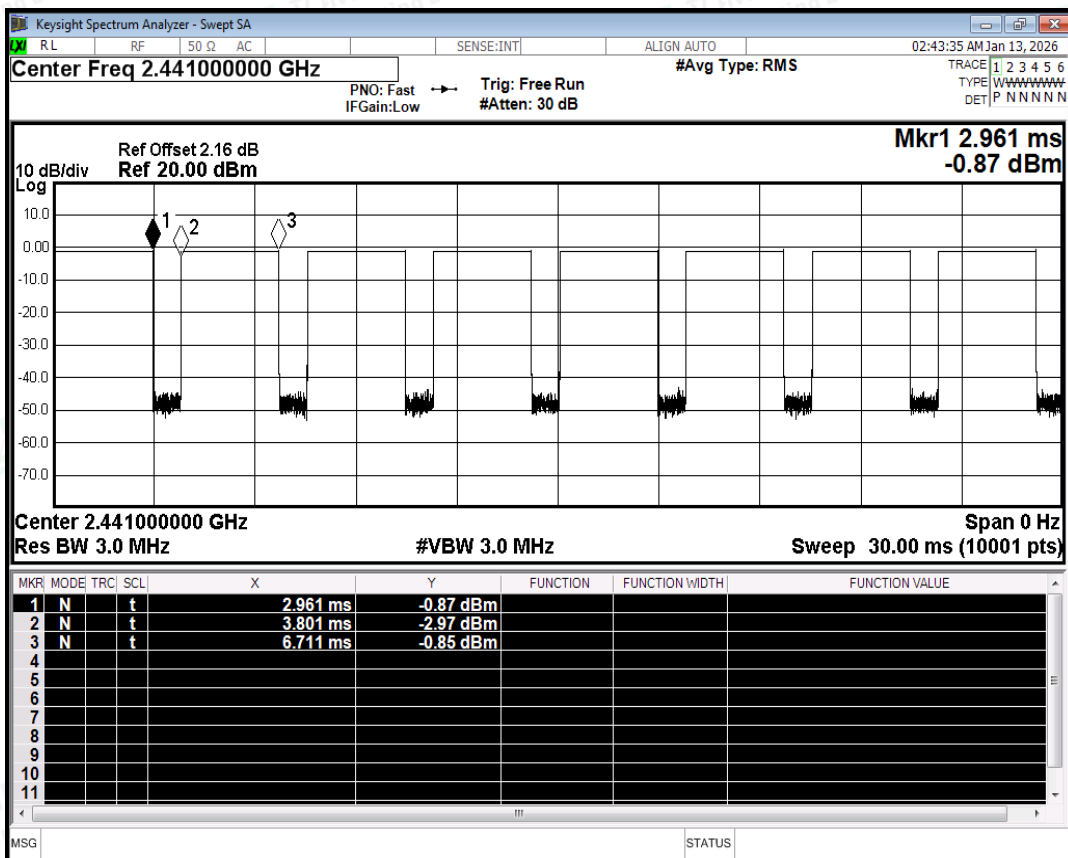
A.8 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	2.4G	2402	Ant1	77.6	1.1	0.34
NVNT	2.4G	2441	Ant1	77.6	1.1	0.34
NVNT	2.4G	2480	Ant1	77.6	1.1	0.34





Duty Cycle NVNT 2.4G 2402MHz Ant1



Duty Cycle NVNT 2.4G 2441MHz Ant1

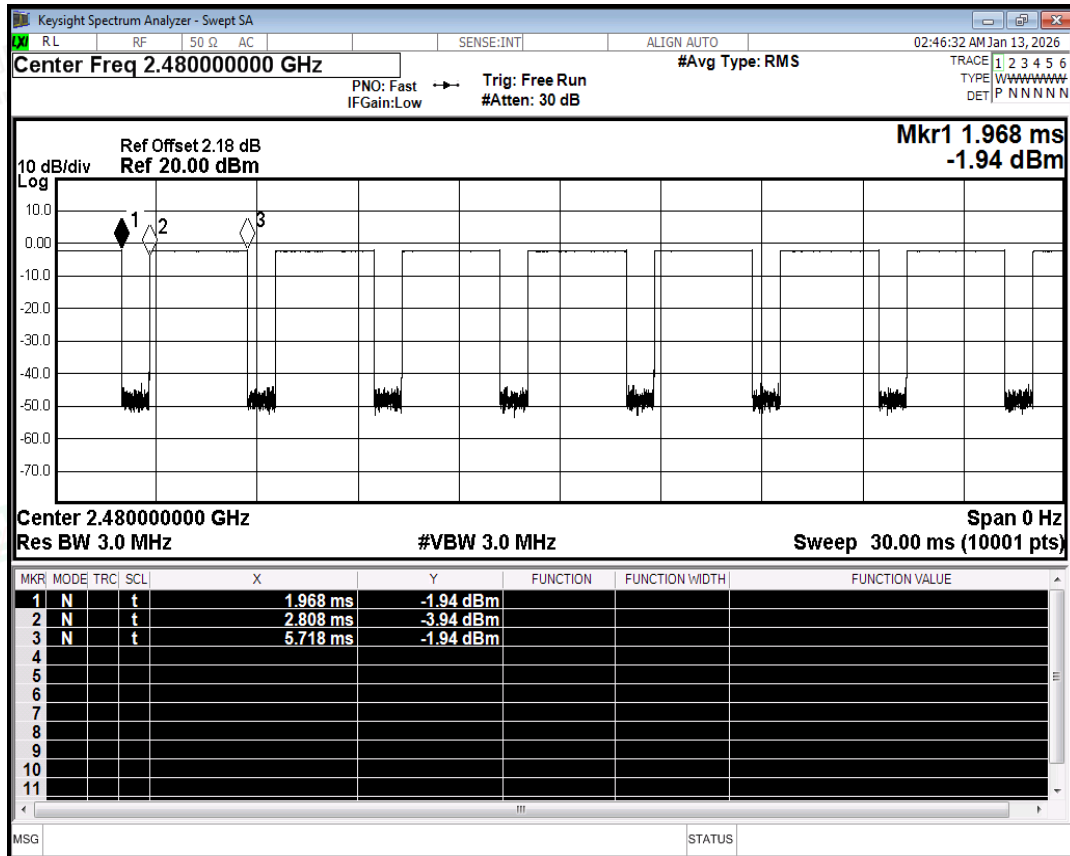


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Duty Cycle NVNT 2.4G 2480MHz Ant1



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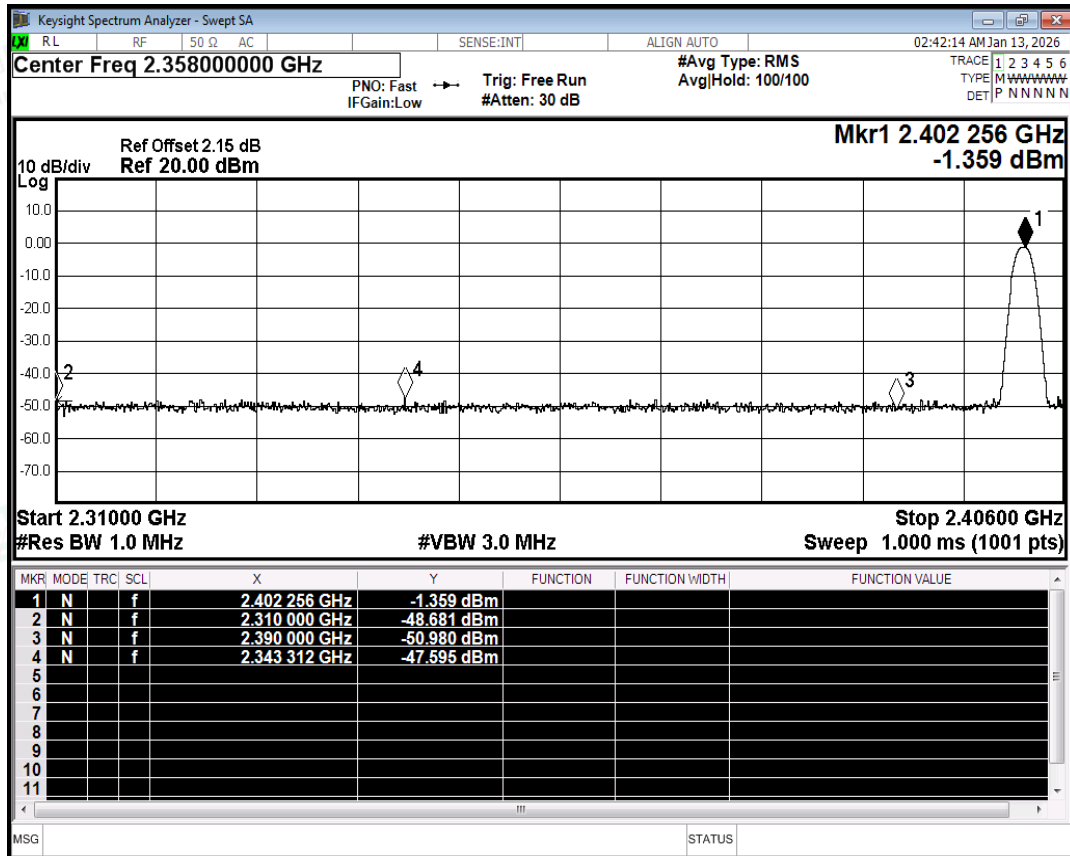
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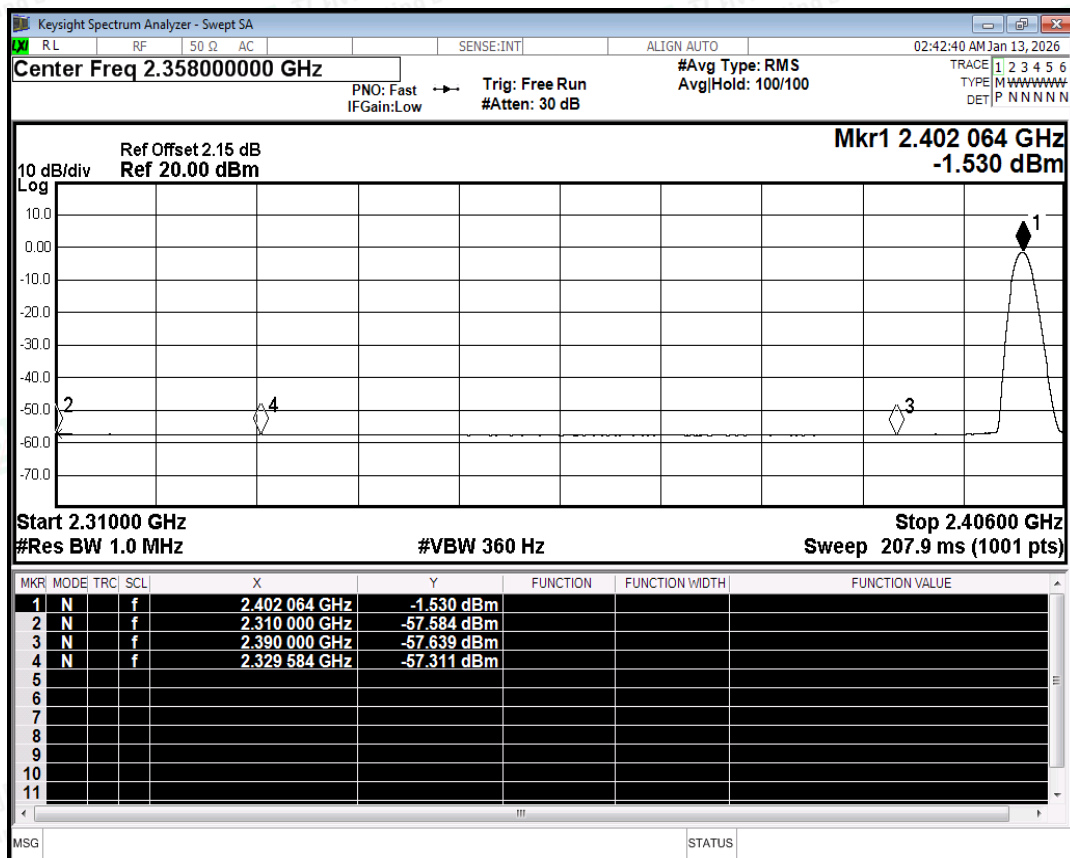
A.9 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	2.4G	2402	Ant1	No-Hopping	2310	-48.68	2	48.58	Peak	74	Pass
NVNT	2.4G	2402	Ant1	No-Hopping	2310	-57.58	2	39.68	Average	54	Pass
NVNT	2.4G	2402	Ant1	No-Hopping	2343.312	-47.59	2	49.67	Peak	74	Pass
NVNT	2.4G	2402	Ant1	No-Hopping	2329.584	-57.31	2	39.95	Average	54	Pass
NVNT	2.4G	2402	Ant1	No-Hopping	2390	-51.03	2	46.23	Peak	74	Pass
NVNT	2.4G	2402	Ant1	No-Hopping	2390	-57.63	2	39.63	Average	54	Pass
NVNT	2.4G	2480	Ant1	No-Hopping	2483.5	-48.07	2	49.19	Peak	74	Pass
NVNT	2.4G	2480	Ant1	No-Hopping	2483.5	-56.43	2	40.83	Average	54	Pass
NVNT	2.4G	2480	Ant1	No-Hopping	2497.792	-47.58	2	49.68	Peak	74	Pass
NVNT	2.4G	2480	Ant1	No-Hopping	2483.512	-56.43	2	40.83	Average	54	Pass
NVNT	2.4G	2480	Ant1	No-Hopping	2500	-51.53	2	45.73	Peak	74	Pass
NVNT	2.4G	2480	Ant1	No-Hopping	2500	-57.43	2	39.83	Average	54	Pass





Restrict Band NVNT 2.4G 2402MHz Ant1 No-Hopping Peak



Restrict Band NVNT 2.4G 2402MHz Ant1 No-Hopping Average

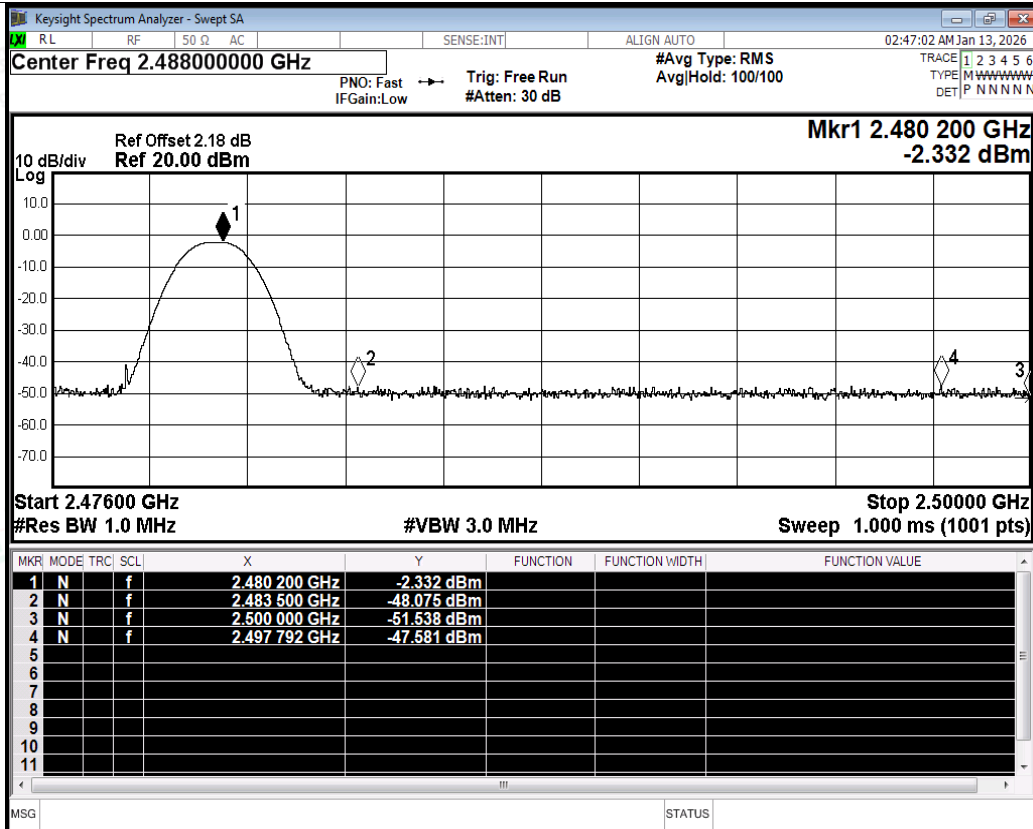


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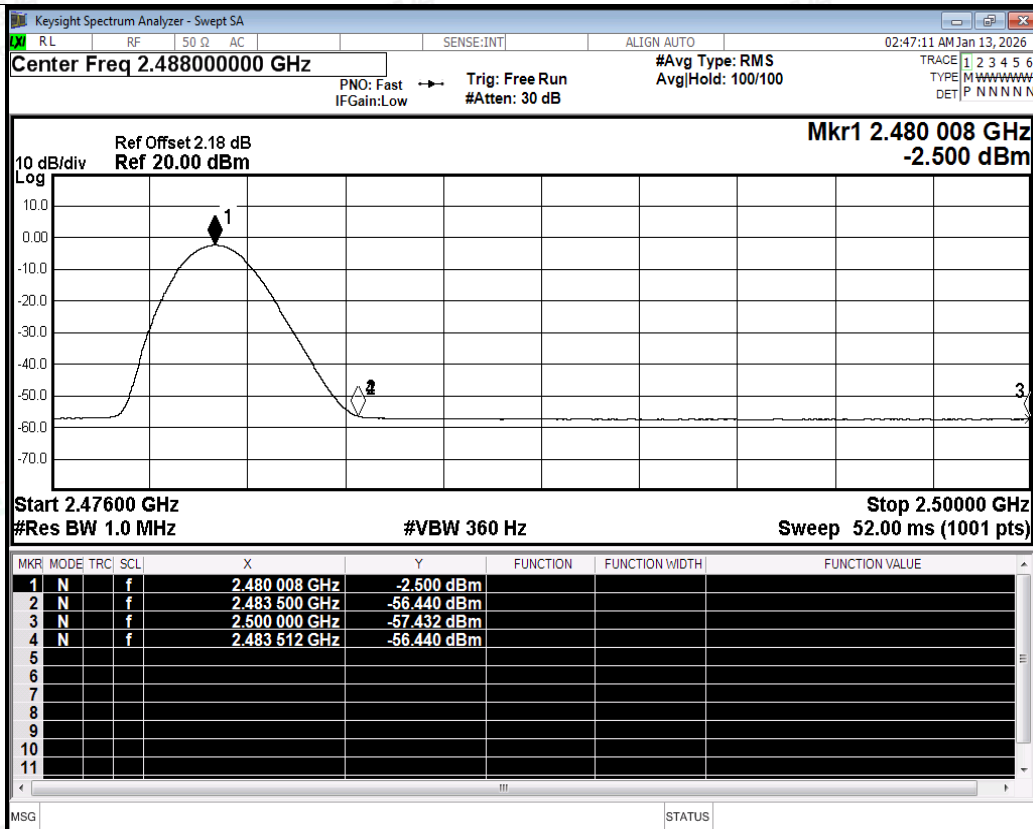
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Restrict Band NVNT 2.4G 2480MHz Ant1 No-Hopping Peak



Restrict Band NVNT 2.4G 2480MHz Ant1 No-Hopping Average



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