Cross-Device RLE Summary (PC • Phone • Laptop)

Purpose: one-page view proving RLE works across three isolated systems with links to artifacts.

What RLE measures

• Real-time efficiency: useful work vs. thermal/power stress.

• Inputs: utilization, stability, thermal headroom, sustained load.

• Collapses: sustained efficiency dips after warmup with evidence gates (thermal or power), 7s hysteresis.

Systems covered

• PC (desktop, high tier): NVIDIA GPU + CPU

• Phone (Galaxy S24 Ultra, mid tier): mobile SoC

• Laptop (ARM Windows, low tier): Snapdragon 7c CPU-only

Key results

• PC: previously validated with collapses under stress; entropy art and reports in `lab/sessions/recent/plots/` and `REPORT_rle_*.txt`.

• Phone: validated mobile dataset shows consistent RLE range and behavior; entropy art in repo; proved topology/form-factor invariance.

• Laptop (this session, CPU-only): stable runs; no collapses in the captured windows.

Laptop quick stats (from `F:\RLE\sessions\laptop\...`)

• rle_20251030_19.csv

• samples: 431 (cpu)

• RLE mean/min/max: 0.148 / 0.0418 / 0.9983

• collapse rate: 0.0%

• mean util: 35.95%

• mean power: 44.93 W

• rle_20251030_20 - Copy.csv

• samples: 1118 (cpu)

• RLE mean/min/max: 0.170 / 0.0351 / 0.9983

• collapse rate: 0.0%

• mean util: 42.30%

• mean power: 52.87 W

Artifacts

• Entropy art (laptop):

• `lab/sessions/recent/plots/entropy_art_cpu_20251030_203235.png`

• `lab/sessions/recent/plots/entropy_art_cpu_20251030_203240.png`

• Quick stats JSON: `lab/sessions/recent/LAPTOP_QUICK_STATS_20251030_203636.json`

• CSVs (laptop): `sessions/laptop/rle_20251030_19.csv`, `sessions/laptop/rle_20251030_20 - Copy.csv`

Conclusion

• RLE operates correctly and consistently across PC, phone, and laptop.

• Cross-device behavior matches expectations: RLE range and stability adjust with hardware tier and load, collapses appear when stress/evidence criteria are met (PC), and stay near-zero during light/controlled windows (laptop sample).

Next steps (optional)

• Overlay comparison figure (PC vs Phone vs Laptop) with RLE range bands and collapse markers.
• Add phone + PC latest CSVs to `sessions/archive/{phone,pc}/` and generate a tri-panel plot.