The Living Lattice™

Validation & Testing for Independent Reviewers

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Section 1 — Overview

The Living Lattice is a theoretical framework that models probability, possibility, and energy as components of a single evolving field.

This packet provides enough detail for independent reviewers to reproduce small-scale tests without revealing any proprietary formula or parameters.

The purpose is not to prove correctness in full, but to evaluate reproducibility, consistency, and scope.

Section 2 — Core Concepts (Plain Language)

- Energy Potential (E): how strongly a point or variable is charged to move or change.
- Probability (P): the likelihood a potential will manifest within a measurable timeframe.
- Possibility (Q): the set of directions a potential could unfold toward.
- Balance (B): the relation B = \dfrac{P \times Q}{E} describing instantaneous equilibrium.

- Lattice Field: a continuous map in which each datum has a coordinate defined by its most recent measurements.

Note: These relationships are conceptual. Reviewers may substitute their own sensible metrics for magnitude, directional tendency, and variability appropriate to a dataset.

Section 3 — Test Instructions (Replicable Mini-Experiments)

Each test isolates one principle of the lattice so it can be evaluated independently.

The metrics below are diagnostic and do not expose the underlying computational transformation.

1) Helical Energy Flow Test

- Use any oscillatory system (e.g., pendulum, LC circuit, EM signal).
- Plot amplitude vs. decay; inspect for self-correcting feedback that resembles a double-loop/helix rather than a pure sine.
- Record observed geometry.

2) Phase-Locking Event Test

- Apply Fourier or wavelet analysis to cyclical data (markets, climate, biological rhythms).
- Identify recurring synchronization events (“clicks”) where energy concentration coincides with coordinated resets.
- Log event timing and strength.

3) Magnitude–Duration Association Test

- For any time series (seismic, financial, neuronal), compute the relationship between move size and run length (duration in one prevailing direction).
- Report the association (correlation or conditional means).
- Expect larger moves to associate with longer runs in non-random systems.

4) Equilibrium Reversion Window

- Locate overshoots relative to a local equilibrium/baseline.
- Measure time-to-return and fit a simple exponential or comparable decay.
- Report the characteristic return time and confidence interval.

5) Probability–Possibility Field Mapping (Simulation)

- Use a Monte Carlo or agent-based model where agents experience attraction to equilibrium with a small lag.
- Visualize the point cloud in 3D (potential vs. directional tendency vs. time).
- Note emergence of toroid/helix structures indicating organized flow.

6) Predictive Benchmarking (Out-of-Sample)

- Choose any closed dataset with next-step outcomes (weather, market baskets, physiology).
- Construct a transparent ranking proxy (e.g., normalized magnitude × recent tendency) to simulate an energy-based score.
- Compare next-step accuracy to naïve/random baselines; report effect size and statistical tests.

Quick Reference: Three Simple Starter Tests

These "A–C" tests are optional shorthand versions of the six above.

Test A — Directional Consistency in Sequential Data

1. Select any daily time series (e.g., temperatures, indices, energy use).
2. Define magnitude = |\Delta \text{value}| and sign = \text{sign}(\Delta \text{value}).
3. Compute a simple field proxy = magnitude × sign.

4. Compare the sign on day t+1 vs. day t; record Directional Consistency if same sign, Reversal if different.
5. Over N points, report Directional Consistency % and Reversal % (should sum ≈ 100%).
    - Random expectation ≈ 50/50; materially higher consistency indicates non-random continuity.

Test B — Cross-System Coherence

1. Pick two distinct series (e.g., price index & temperature).
2. Normalize both to z-scores (mean 0, SD 1).
3. Plot daily z-changes against each other; observe repeating geometry/clusters.
    - Look for diagonals/loops indicating correlated energy flow across domains.

Test C — Phase-Interval Stability

1. Identify local maxima/minima in a series.
2. Measure spacing (in time steps) between successive sign changes.
3. Report median spacing as the Phase Interval (Half-Period).
    - Stable intervals across domains suggest self-organizing oscillation.

Section 4 — Results Template (what to submit)

| Dataset | Domain | Length (pts/days) | Directional Consistency % | Reversal % | Observed Geometry (e.g., loop/diagonal/none) | Phase Interval (Half-Period) | Return Time (if tested) | Notes | Researcher (opt.) | Contact (opt.) |

Email results to contact@livinglattice.com with subject "Validation Results v1".

Contributors will be acknowledged on the public validation page (or may remain anonymous on request).

Section 5 — Notes & Disclaimer

- This packet is provided for research and educational purposes only.
- The underlying equations and parameterizations remain proprietary until formal peer review.
- By downloading or using these materials, you agree not to copy, publish, or reverse-engineer the framework without citation and written consent.