

# OpenRouter Integration: End-to-End Validation Report

**Task:** validate-openrouter-end **Date:** 2026-03-08 **Branch:** safety-mandatory-validation  
**Commit under test:** 13ef7a9 (synthesis-openrouter-integration)

## 1. Config Validation

Test	Result	Notes
wg config --set-provider default openrouter	PASS	Parses and saves correctly
wg config --set-model default minimax/minimax-m2.5	PASS	Persists to .workgraph/config.toml
Config read-back via wg config --show	PASS	Shows default.provider = "openrouter" and default.model = "minimax/minimax-m2.5"
Provider routing: "openrouter" maps to OpenAiClient	PASS	provider.rs:102 — match arm includes "openrouter"
Provider routing: "local" maps to OpenAiClient	PASS	Same match arm covers "local"
API key resolution: OPENROUTER_API_KEY checked first	PASS	openai_client.rs:703 — priority order confirmed
API key resolution: fallback to OPENAI_API_KEY	PASS	Second in priority chain
API key resolution: fallback to config file	PASS	Reads [native_executor] api_key from config
Missing key error message	PASS	Clear message: "Set OPENROUTER_API_KEY or OPENAI_API_KEY..."

## 2. Build Validation

Test	Result	Notes
cargo fmt --check	PASS	No formatting issues
cargo clippy -- -D warnings	PASS	Zero warnings
cargo test (full suite)	PASS	3,900+ tests, 0 failures, 11 ignored

## 3. API Validation

**Status:** SKIPPED — No OPENROUTER\_API\_KEY environment variable set, no .openrouter.key file found.

The .openrouter.key file referenced in task logs was not present at validation time. Live API tests could not be run.

Test	Result	Notes
Real API call to minimax/minimax-m2.5	SKIPPED	No API key
Streaming verification	SKIPPED	No API key
Tool use verification	SKIPPED	No API key
Token usage reporting	SKIPPED	No API key

#### 4. Fallback Validation (No API Key)

Test	Result	Notes
Helpful error when key missing	PASS	<code>resolve_openai_api_key()</code> returns actionable error message listing env vars and config option
Config commands work without key	PASS	<code>--set-provider</code> and <code>--set-model</code> succeed without any API key set
Unit tests (mock API)	PASS	All 33 <code>openai_client</code> tests pass — cover serialization, headers, URL construction, streaming, tool calls

#### OpenRouter-Specific Unit Tests (5/5 pass)

Test	Result	What it validates
<code>test_openrouter_url_construction</code>	PASS	Base URL resolves correctly, no double <code>/v1</code>
<code>test_openrouter_headers_included</code>	PASS	HTTP-Referer and X-Title headers present for OpenRouter
<code>test_non_openrouter_no_extra_headers</code>	PASS	Non-OpenRouter providers don't get attribution headers
<code>test_openrouter_enables_streaming</code>	PASS	OpenRouter provider hint enables streaming by default
<code>test_stream_chunk_openrouter_gen_prefix</code>	PASS	Handles OpenRouter's <code>gen-</code> ID prefix in streaming chunks

#### Additional OpenAI Client Tests (28/28 pass)

Covering: SSE parsing (6 tests), stream chunk deserialization (6 tests), stream assembly (4 tests), message translation (4 tests), response translation (3 tests), tool translation (1 test), tool call accumulation (1 test), provider hint naming (1 test), streaming configuration (2 tests).

#### 5. Documentation

Artifact	Status	Path
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Research report	EXISTS	docs/reports/openrouter-research.md
Design document	EXISTS	docs/reports/openrouter-design.md
Integration guide	EXISTS	docs/research/openrouter-integration.md
Config options documented	PASS	Design doc covers env vars, config file, CLI commands
Provider hint architecture	PASS	Design doc section 1 explains <code>provider_hint</code> field
Wire format differences	PASS	Design doc section 4 catalogs all format differences
User workflow	PASS	Design doc section 2 shows 3-step setup

## 6. Regression

Test	Result	Notes
Full cargo test suite	PASS	3,900+ tests, 0 failures
Anthropic client unaffected	PASS	No changes to AnthropicClient
Agent loop unaffected	PASS	Uses <code>Provider</code> trait, provider-agnostic
Existing config paths	PASS	All pre-existing config options unchanged

## Summary

Category	Pass	Fail	Skip	Total
Config validation	9	0	0	9
Build validation	3	0	0	3
API validation (live)	0	0	4	4
Fallback validation	3	0	0	3
Unit tests (OpenRouter)	5	0	0	5
Unit tests (OpenAI client)	28	0	0	28
Documentation	7	0	0	7
Regression	4	0	0	4
<b>Total</b>	<b>59</b>	<b>0</b>	<b>4</b>	<b>63</b>

**Overall verdict: PASS** (all non-skipped tests pass; skips are due to missing API key, not code issues)

### Implementation Quality Notes

- **Architecture:** Clean `provider_hint` pattern — no subclassing, no trait changes, minimal code ( 36 lines changed)
- **Streaming:** Full SSE streaming with tool call accumulation implemented and tested

- **Error handling:** Retryable status codes (429, 500, 502, 503), clear error messages for missing keys
- **Attribution:** OpenRouter headers (HTTP-Referer, X-Title) correctly included only for OpenRouter
- **URL fix:** Resolved double /v1 bug in URL construction
- **Test coverage:** 33 unit tests cover all client functionality without API calls