Blue Pearl Solutions
ASIC, FPGA and IP Verification

AI Requirements Analysis

Overview

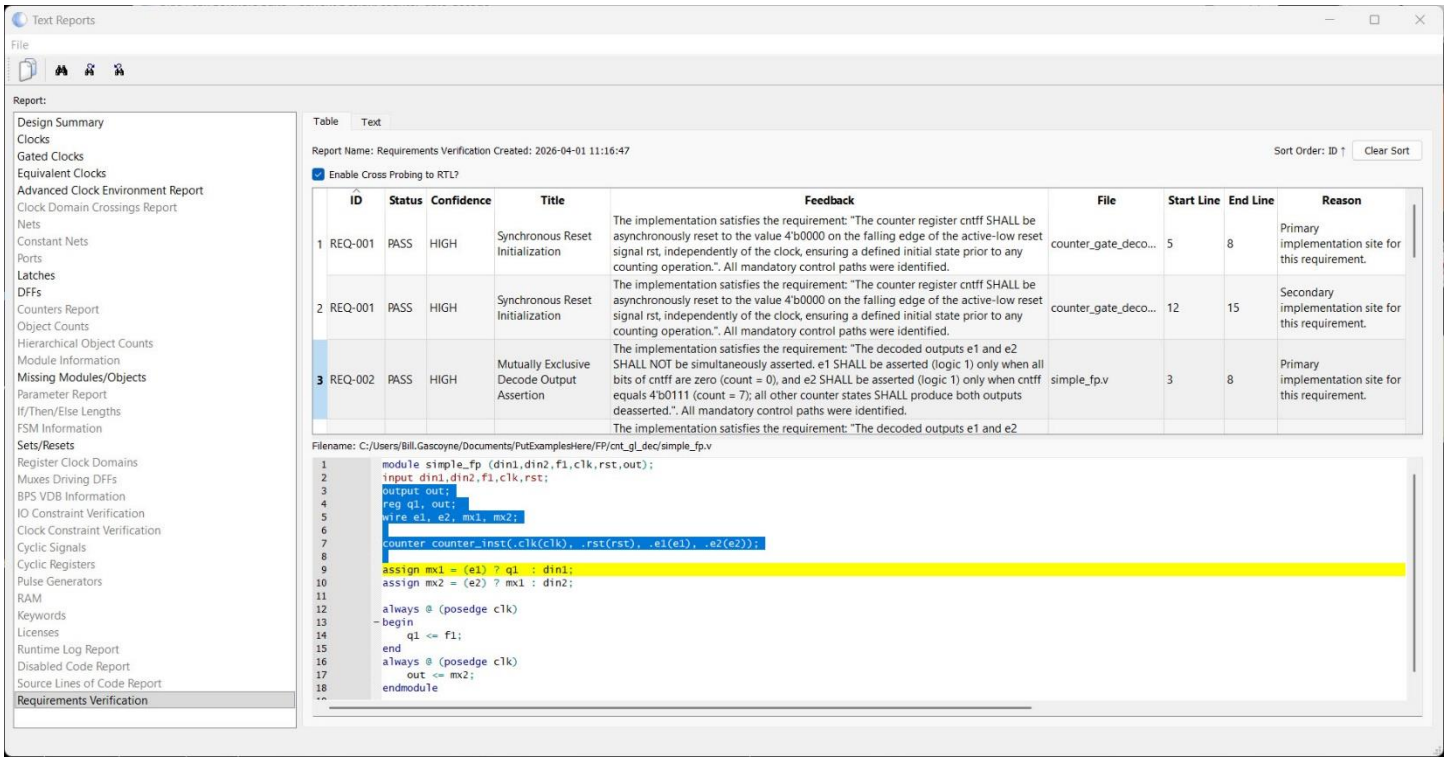
Traditional verification methods catch coding errors, however they miss the most critical issue: requirements that are never properly implemented. The Visual Verification™ Suite - AI Requirements Analysis tool understands design intent and verifies the implementation at the semantic level.

Highlights

- **Semantic Requirement Matching:** Automatically verifies if HDL code implements specified requirements, even when variable names and comments differ from requirement text
- **Real-Time IDE Integration:** The Visual Verification Suite AI Requirements extension provides instant feedback as you code - see requirement compliance status without leaving your development environment
- **Secure On-Premises Deployment:** Your code never leaves your infrastructure. Run on-premises using open-weight models for complete data sovereignty. Suggested hardware Nvidia RTX Pro 6000 Blackwell Workstation
- **FPGA Specialized Analysis:** Understands HDL-specific patterns: clock domain crossings, metastability protection, timing constraints, and resource utilization
- **Continuous Verification:** Integrates with CI/CD pipelines. Automatically re-verifies requirements as code changes, catching regressions immediately

How It works

1. **Define Requirements:** Specify structured requirements in plain English using a simple CSV spreadsheet
2. **Develop HDL Code:** Write VHDL, Verilog, or SystemVerilog as usual.
3. **Automatic Analysis**: 480 billion parameter “thinking” model analyzes your code against requirements, identifying implementations and detecting gaps or contradictions
4. **Review Results**: See compliance status in real-time, with highlighted code sections showing where requirements are met



User Benefits

- Catches functional issues and missing requirements early in the verification cycle
- Spotlights areas of code which might have functional issues
    - Saves time in simulation
    - Saves time finding potential root cause of issues
- Helps with third party assessor for safety critical applications e.g. ESA / DO-254 etc.
- Helps understand maturity of design
- Code can be generated by engineering team or AI Agentic Code generation

This product is currently in development with delivery scheduled for 2026