



AETITIS Security Audit Summary

Project: Big Picture Coin (\$BPCB)

Date of Audit: July 2025

Auditing Firm: AETITIS Blockchain Security Research Group

Chain Type: Layer 1 – Substrate-based

Methodology: Manual & automated analysis, formal verification review, runtime benchmarking, economic security modeling, and governance attack simulation







Executive Summary:


The \$BPCB blockchain underwent a comprehensive security assessment by AETITIS to evaluate the integrity, reliability, and safety of its Substrate-based Layer 1 protocol. Our team examined core modules, tokenomics logic, consensus security, upgrade mechanisms, and external exposure to ensure alignment with industry best practices.



Key Findings:

Category	Status	Summary
Consensus Integrity	Passed	BPCB implements a customized hybrid PoS consensus derived from Substrate. Finality gadgets and session rotation mechanisms were tested under various attack vectors, including validator bribing and equivocation. No consensus-breaking bugs were found.
Runtime Logic	Passed	Token issuance, balance transfers, transaction fees (0.1% routed to treasury), and staking logic were validated. Logic is deterministic, free of overflow/underflow issues, and resistant to replay attacks.

Governance Security	 Passed	On-chain governance respects quorum and delay constraints. Malicious runtime upgrades are mitigated via a multi-signature protocol enforced by community validators.
Economic Model	 Observed	The 100% community-owned, no-reserve model is structurally secure. However, AETITIS notes that without vesting or emissions, market liquidity will depend entirely on user growth. Treasury incentives and LP provisioning strategies should be transparently managed.
Smart Contracts	 N/A	As a native chain, BPCB does not rely on EVM-based smart contracts. Runtime modules (pallets) are internally audited and compiled securely.
External Interfaces	 Passed	Wallet interactions and RPC endpoints were tested for phishing vectors, injection risks, and rate-limiting bypasses. No critical issues identified.

Upgradability	 Passed	Chain upgrades are protected by multi-sig and governance delays. Runtime upgrades are atomic and revert-safe.
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Notable Strengths:

- **Immutable Supply Model** with no admin minting or inflation risk
- **Transparent Fee Routing** (0.1% to a fixed treasury wallet)
- **Open-Source Runtime Logic** for full community visibility
- **Low Surface Area for Exploits** by avoiding external smart contracts



Recommendations:

- Publish regular **treasury usage reports** to maintain trust
- Consider **formal verification** of staking and fee-distribution pallets
- Introduce a **non-custodial bug bounty** via platforms like Immunefi



Audit Conclusion:

Big Picture Coin (\$BPCB) has demonstrated a **well-secured, community-first Layer 1 blockchain** infrastructure with no critical vulnerabilities. Its minimalist design and reliance on battle-tested Substrate primitives result in a **low-attack surface** protocol suitable for public launch.

Final Verdict:  **Security-Approved for Mainnet Launch**

Risk Level: Low

Ongoing Monitoring: Recommended every 6 months