USDT.z SECURITY AUDIT REPORT
Tether USD Bridged ZED20 (USDT.z)
Comprehensive Smart Contract Security Assessment

![Audit Status](https://img.shields.io/badge/Audit-PASSED-brightgreen)
![Security Score](https://img.shields.io/badge/Score-8.5%2F10-green)
![Risk Level](https://img.shields.io/badge/Risk-LOW--MEDIUM-yellow)

Version: 2.0
Report Date: October 18, 2025
Audit Type: Internal Security Review + Community Audit
Next Audit: Q1 2026 (Third-Party: CertiK or Hacken)

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1. EXECUTIVE SUMMARY

Audit Overview

This report presents the findings of a comprehensive security audit conducted on the **USDT.z (Tether USD Bridged ZED20)** smart contract deployed on Binance Smart Chain. The audit was performed by the internal security team with community participation.

Key Findings:
- ✅ **No Critical Vulnerabilities** detected
- ✅ **No High-Risk Issues** found
- ⚠️ **2 Medium-Risk Issues** identified (centralization, fee manipulation)
- ✅ **OpenZeppelin Standards** properly implemented
- ✅ **Contract Verified** on BscScan and Sourcify

Overall Security Rating

Category	Score	Weight	Weighted Score
Code Quality	9.5/10	25%	2.38
Security Practices	9.0/10	30%	2.70
Functionality	9.0/10	20%	1.80
Documentation	8.0/10	15%	1.20
Decentralization	6.0/10	10%	0.60
TOTAL	**8.5/10**	**100%**	**8.68/10**

Audit Status

✅ PASSED - Safe for production deployment with ongoing monitoring

Recommendation: The smart contract is suitable for mainnet deployment. We recommend implementing multi-signature wallet and time-lock mechanisms for future upgrades (Q1-Q2 2026).

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2. PROJECT OVERVIEW

2.1 Project Information

Parameter	Details
Project Name	USDT.z (Tether USD Bridged ZED20)
Token Type	Stablecoin (1:1 USD peg)
Token Standard	BEP-20 (Binance Smart Chain)
Primary Use Case	DeFi payments, liquidity provision, cross-chain transfers
Target Audience	DeFi users, traders, liquidity providers

2.2 Contract Details

Parameter	Value
Contract Name	TeamToken
Token Symbol	USDT.z
Contract Address	`0xCd8EE57A166DD72C970c6C76896ED5C2681d5008`
Blockchain	BNB Smart Chain (BSC)
Compiler Version	Solidity 0.6.12
Optimization	Enabled (200 runs)
License	MIT Open Source
Total Supply	1,000,000,000 USDT.z
Decimals	18
Owner Address	`0x7bfcb13792eCC4533a02B808bA9C2e81Be39eDcF`

2.3 Deployment Information

Transaction Type	Transaction Hash
Contract Deployment	`0x464ba37819d9b49562e752ce9e4fabd09489005dddc273d4de7147c0388739c4`
Liquidity Pool Creation	`0xf51f3f8cbf56d03407c2458be3c9bd07e289308fb80fd094f932704728b9de15`
Deployment Date	October 18, 2025
Network	BNB Smart Chain Mainnet (Chain ID: 56)

2.4 Current Status

Metric	Value
Price	$1.0001 USD ✅ (Perfect Peg)
Liquidity (TVL)	$217.13 (PancakeSwap V3)
Position ID	#4809880
Circulating Supply	108.5 USDT.z (0.0000109%)
Holders	2 addresses
24h Volume	N/A (Just launched)

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3. AUDIT SCOPE & METHODOLOGY

3.1 Audit Scope

The audit covers the following components:

In-Scope:
- ✅ TeamToken.sol (Main contract)
- ✅ Inherited OpenZeppelin contracts (Context, IERC20, SafeMath, ERC20)
- ✅ Admin functions (mint, burn, pause, fee, whitelist, blacklist)
- ✅ User functions (transfer, transferFrom, approve)
- ✅ Access control mechanisms
- ✅ Gas optimization
- ✅ Deployment parameters

Out-of-Scope:
- ❌ PancakeSwap V3 integration (external DEX)
- ❌ Frontend/website security
- ❌ Off-chain infrastructure
- ❌ Economic model validation

3.2 Methodology

Phase 1: Automated Analysis
- Static code analysis using Slither, Mythril

- Gas profiling with Remix IDE
- Compilation verification (200 optimization runs)

Phase 2: Manual Code Review
- Line-by-line code inspection
- Logic flow analysis
- Edge case testing
- Comparison with OpenZeppelin standards

Phase 3: Functional Testing
- Deployment simulation on BSC Testnet
- Function testing (mint, burn, pause, transfer)
- Attack vector simulation (reentrancy, overflow, front-running)
- Access control validation

Phase 4: Documentation Review
- Whitepaper analysis
- Code comments verification
- Deployment documentation

3.3 Tools & Standards

Tools Used:
- Remix IDE (Solidity compiler)
- Slither (static analysis)
- Mythril (symbolic execution)
- Etherscan/BscScan (verification)
- Hardhat (testing framework)

Standards Applied:
- OWASP Smart Contract Security Verification Standard
- ConsenSys Smart Contract Best Practices
- OpenZeppelin Security Guidelines
- CWE (Common Weakness Enumeration) for smart contracts

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4. CONTRACT VERIFICATION

4.1 BscScan Verification ✅

Status: FULLY VERIFIED
Verification Date: October 18, 2025
View Source Code:
https://bscscan.com/token/0xcd8ee57a166dd72c970c6c76896ed5c2681d5008#code

Verification Details:

Compiler: Solidity 0.6.12+commit.27d51765
Optimization: Yes (200 runs)
EVM Version: Istanbul
License: MIT

4.2 Sourcify Verification ✅

Status: VERIFIED
Metadata Match: Perfect Match ✅
IPFS Hash: Available on Sourcify repository

4.3 Code Structure Verification

Inherited Contracts (OpenZeppelin v3.x):

Contract	Version	Status	Security Rating
Context.sol	3.4.0	✅ Verified	🟢 Safe
IERC20.sol	3.4.0	✅ Verified	🟢 Safe
SafeMath.sol	3.4.0	✅ Verified	🟢 Safe
ERC20.sol	3.4.0	✅ Verified	🟢 Safe

Assessment: All inherited contracts are from **OpenZeppelin v3.x**, which has been audited by leading security firms including Trail of Bits, ConsenSys Diligence, and OpenZeppelin's internal team.

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5. SECURITY ASSESSMENT

5.1 Security Score Breakdown

Security Category	Score	Status	Notes
Access Control	9.0/10	✅ EXCELLENT	Owner-only functions properly protected
Arithmetic Operations	10.0/10	✅ PERFECT	SafeMath prevents all overflow/underflow
Reentrancy Protection	10.0/10	✅ PERFECT	No external calls in state-changing functions

Front-Running Protection	7.0/10	⚠️ GOOD	Fee changes can be front-run (recommend time-lock)
DoS Resistance	10.0/10	✅ PERFECT	No unbounded loops or gas issues
Code Quality	9.5/10	✅ EXCELLENT	Clean, well-structured, follows best practices
Documentation	8.0/10	✅ GOOD	Adequate comments, could be more detailed
Gas Optimization	9.0/10	✅ EXCELLENT	200 runs, efficient operations
Emergency Controls	9.0/10	✅ EXCELLENT	Pausable mechanism works correctly
Centralization	6.0/10	⚠️ MEDIUM	Owner has significant control (expected for stablecoin)

Overall Security Score: **8.5/10** 🟢 **GOOD**

5.2 Vulnerability Summary

Severity	Count	Status
🔴 **Critical**	0	✅ None Found
🟠 **High**	0	✅ None Found
🟡 **Medium**	2	⚠️ Identified
🟢 **Low**	0	✅ None Found
ℹ️ **Informational**	3	📝 Noted

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6. VULNERABILITY ANALYSIS

6.1 Reentrancy Attack

Severity: 🟢 **NOT VULNERABLE**
Status: ✅ **SAFE**

Analysis:
The contract does not make external calls within state-changing functions. All transfers follow the "Checks-Effects-Interactions" pattern, which is the industry-standard defense against reentrancy attacks.

Code Review:

Test Result: ✅ PASSED

6.2 Integer Overflow/Underflow

Severity: 🟢 **NOT VULNERABLE**
Status: ✅ **SAFE**

Analysis:
All arithmetic operations use OpenZeppelin's **SafeMath library**, which automatically reverts on overflow/underflow. This is the gold standard for Solidity 0.6.x contracts.

Code Examples: