

Blockchain Security | Smart Contract Audit | KYC Certification | SAFU | CEX Listing | Marketing

MADE IN CANADA

Mar 2025

For

**(**rpturbe

Making Blockchain, Defi And Web3 A Safer Place.



















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#### **INTRODUCTION**

Auditing Firm	VITAL BLOCK SECURITY
Client Firm	XRPTURBO
Methodology	Automated Analysis, Manual Code Review
Solution	XRP Ledger
Contract Address	rPvuCxw1m8u2SWTqtRN6ZEcb1xPbU4cPFR
Source Code Light	Verified
Centralization	Active ownership
Rippling	ENABLED
Blockchain	XRP Network
Website	https://xrpturbo.com
Telegram	https://t.me/xrpturbocom
Twitter	https://x.com/xrpturbocom
Prelim Report Date	March 27 <sup>th</sup> 2025
Final Report Date	March 31st 2025

Verify the authenticity of this report on our GitHub Repo: https://www.github.com/vital-block





## **Document Properties**

Client	XRPTURBO
Title	Smart Contract Audit Report
Target	XRPTURBO
Version	1.0
Author	Akhmetshin Marat
Auditors	Akhmetshin Marat, James BK, Ben Partrick , C. John
Reviewed by	Dima Meru
Approved by	Prince Mitchell
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## **Version Info**

Version	Date	Author(s)	Description
1.0	March 28 <sup>th</sup> , 2025	C. John	Final Release
1.0-AP	March 31 <sup>st</sup> , 2025	C. John	Release Candidate

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In the following, we show the specific pull request and the commit hash value used in this audit.

- https://xrpscan.com/tx/85CAE38F785B06F34AD9DAADCDE5AE573F1744FDB836CB6BEE36DC026D7 9FF93 (TTRPH523)
- https://xrpscan.com/account/rPvuCxw1m8u2SWTqtRN6ZEcb1xPbU4cPFR (199TDHG5)

## **About Vital Block Security**

Vital Block Security provides professional, thorough, fast, and easy-to-understand smart contract security audit. We do in-depth and penetrative static, manual, automated, and intelligent analysis of the smart contract. Some of our automated scans include tools like ConsenSys MythX, Mythril, Slither, Surya. We can audit custom smart contracts, DApps, NFTs, etc (including the service of smart contract auditing). We are reachable at Telegram (<a href="https://t.me/vitalblock">https://t.me/vitalblock</a>), Twitter (<a href="https://twitter.com/Vb\_Audit">https://t.me/vitalblock</a>), Twitter (<a href="https://twitter.com/Vb\_Audit">https://twitter.com/Vb\_Audit</a>), or Email (<a href="mailto:info@vitalblock.org">info@vitalblock.org</a>).

High Critical High Medium

Low Medium Low

High Medium Low

High Medium Low

Likelihood

Table 1.2: Vulnerability Severity Classification

## Methodology

To standardize the evaluation, we define the following terminology based on the OWASP Risk Rating Methodology.

- <u>Likelihood</u> represents how likely a particular vulnerability is to be uncovered and exploited in the wild;
- Impact measures the technical loss and business damage of a successful attack;
- · Severity demonstrates the overall criticality of the risk.





## **SCOPE OF WORK**

Vital Block Security was consulted by XRPTURBO to conduct the smart contract audit of its. Verified source code. The audit scope of work is strictly limited to the mentioned .Project only:

i External contracts and/or interfaces dependencies are not checked due to being out of scope.

Verify audited contract's contract address and deployed link below:

Public Contract Address	
https://xrpscan.com	n/account/rPvuCxw1m8u2SWTqtRN6ZEcb1xPbU4cPFR
Contract Name	XRPTURBO TOKEN
Ticker	\$XRT
Total Supply	100,000,000





### **AUDIT METHODOLOGY**

Smart contract audits are conducted using a set of standards and procedures. Mutual collaboration is essential to performing an effective smart contract audit. Here's a brief overview of Vital Block

Security auditing process and methodology:

#### CONNECT

 The onboarding team gathers source codes, and specifications to make sure we understand the size, and scope of the smart contract audit.

#### **AUDIT**

- Automated analysis is performed to identify common contract vulnerabilities. We may use the
   following third-party frameworks and dependencies to perform the automated analysis:
  - Remix IDE Developer Tool
  - Open Zeppelin Code Analyzer
  - SWC Vulnerabilities Registry
  - DEX Dependencies, e.g., Pancakeswap, Uniswap
- o Simulations are performed to identify centralized exploits causing contract and/or trade locks.
- A manual line-by-line analysis is performed to identify contract issues and centralized privileges.
   We may inspect below mentioned common contract vulnerabilities, and centralized exploits:

	0	<b>Token Supply Manipulation</b>
	0	Access Control and Authorization
	0	Assets Manipulation
Centralized Exploits	0	Ownership Control
	0	Liquidity Access
	0	Stop and Pause Trading
	0	Ownable Library Verification





Lack of Arbitrary limits

**Integer Overflow** 

Incorrect Inheritance Order

Typographical Errors

Requirement Violation

Gas Optimization

Coding Style Violations

Re-entrancy

Third-Party Dependencies

Potential Sandwich Attacks

Irrelevant Codes

Divide before multiply

Conformance to Solidity Naming Guides

Compiler Specific Warnings

Language Specific Warnings

#### **REPORT**

**Common Contract Vulnerabilities** 

- The auditing team provides a preliminary report specifying all the checks which have been performed and the findings thereof.
- o The client's development team reviews the report and makes amendments to the codes.
- o The auditing team provides the final comprehensive report with open and unresolved issues.

#### **PUBLISH**

- o The client may use the audit report internally or disclose it publicly.
- It is important to note that there is no pass or fail in the audit, it is recommended to view the audit as an unbiased assessment of the safety of solidity codes.





## **Table 1.0 The Full Audit Checklist**

Category	Checklist Items
	Constructor Mismatch
	Ownership Takeover
	Redundant Fallback Function
	Overflows & Underflows
	Reentrancy
	Money-Giving Bug
	Blackhole
	Unauthorized Self-Destruct
	Revert DoS
Basic Coding Bugs	Unchecked External Call
	Gasless Send
	Send Instead Of Transfer
	Costly Loop
	(Unsafe) Use Of Untrusted Libraries
	(Unsafe) Use Of Predictable Variables
	Transaction Ordering Dependence
	Deprecated Uses
Semantic Consistency Checks	Semantic Consistency Checks
	Business Logics Review
	Functionality Checks
	Authentication Management
	Access Control & Authorization
	Oracle Security
Advanced DeFi Scrutiny	Digital Asset Escrow
Advanced Deri Scruttily	Kill-Switch Mechanism
	Operation Trails & Event Generation
	ERC20 Idiosyncrasies Handling
	Frontend-Contract Integration
	Deployment Consistency
	Holistic Risk Management
	Avoiding Use of Variadic Byte Array
	Using Fixed Compiler Version
Additional Recommendations	Making Visibility Level Explicit
	Making Type Inference Explicit
	Adhering To Function Declaration Strictly
	Following Other Best Practices



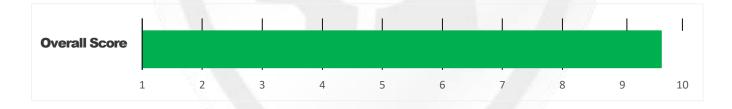


#### **EXECUTIVE SUMMARY**

Vital Block Security has performed the automated and manual analysis of the XRPTURBO XRT Project The Contract was reviewed for common vulnerabilities and centralized exploits. Here's a quick audit summary:

Status	Critical !	Major " 🤴	Medium # 🛑	Minor \$	Unknown %
Open	0	0	0	2	0
Acknowledged	0	0	1	1	0
Resolved	0	0	0	0	0
Noteworty onlyOwner Privileges	Set Taxes and Ratios, Airdrop, Set Protection Settings, Set Reward Properties, Set Reflector Settings, Set Swap Settings, Set Pair and Router				

#### XRPTURBO Smart contract has achieved the following score: 96.0



- i Please note that smart contracts deployed on blockchains aren't resistant to exploits, vulnerabilities and/or hacks. Blockchain and cryptography assets utilize new and emerging technologies. These technologies present a high level of ongoing risks. For a detailed understanding of risk severity, source code vulnerability, and audit limitations, kindly review the audit report thoroughly.
- i Please note that centralization privileges regardless of their inherited risk status constitute an elevated impact on smart contract safety and security.





#### **RISK CATEGORIES**

Smart contracts are generally designed to hold, approve, and transfer tokens. This makes them very tempting attack targets. A successful external attack may allow the external attacker to directly exploit. A successful centralization-related exploit may allow the privileged role to directly exploit. All risks which are identified in the audit report are categorized here for the reader to review:

Risk Type	Definition
	These risks could be exploited easily and can lead to asset loss, data loss, asset, or
Critical 9	data manipulation. They should be fixed right away.
	These risks are hard to exploit but very important to fix, they carry an elevated risk
Major •	of smart contract manipulation, which can lead to high-risk severity.
	These risks should be fixed, as they carry an inherent risk of future exploits, and
Medium #	hacks which may or may not impact the smart contract execution. Low-risk re-
	entrancy-related vulnerabilities should be fixed to deter exploits.
	These risks do not pose a considerable risk to the contract or those who interact
Minor 🗭	with it. They are code-style violations and deviations from standard practices. They
	should be highlighted and fixed nonetheless.
Unknown 🗩	These risks pose uncertain severity to the contract or those who interact with it. They
	should be fixed immediately to mitigate the riskuncertainty.

All statuses which are identified in the audit report are categorized here for the reader to review:

Status Type	Definition
Open	Risks are open.
Acknowledged	Risks are acknowledged, but not fixed.
Resolved	Risks are acknowledged and fixed.





#### CENTRALIZED PRIVILEGES

Centralization risk is the most common cause of cryptography asset loss. When a smart contract has a privileged role, the risk related to centralization is elevated.

There are some well-intended reasons have privileged roles, such as:

- Privileged roles can be granted the power to pause()the contract in case of an external attack.
- Privileged roles can use functions like, include(), and exclude() to add or remove wallets from fees,
   swap checks, and transaction limits. This is useful to run a presale and to list on an exchange.

Authorizing privileged roles to externally-owned-account (EOA) is dangerous. Lately, centralization-related losses are increasing in frequency and magnitude.

- The client can lower centralization-related risks by implementing below mentioned practices:
- o Privileged role's private key must be carefully secured to avoid any potential hack.
- o Privileged role should be shared by multi-signature (multi-sig) wallets.
- Authorized privilege can be locked in a contract, user voting, or community DAO can be introduced to unlock the privilege.
- Renouncing the contract ownership, and privileged roles.
- Remove functions with elevated centralization risk.
- Understand the project's initial asset distribution. Assets in the liquidity pair should be locked.
  Assets outside the liquidity pair should be locked with a release schedule.





## **XRT-01 POSSIBLE OVERFLOW**

Category	Severity •	Location	Status
Status Mathematical Operations	Minor	/CONTRACT/XRT	Acknowledged

## **Description**

In **updateForMinter**, the following equation is used inside an unchecked block

```
{
Account: "r9YjSPv3tAQqtGmZa3LXXAPRWR8RXoLUAj"
Fee: "12"
Flags: 2147614720
LastLedgerSequence: 95126885
LimitAmount: {
  currency: "XRT"
  issuer: "rPvuCxw1m8u2SWTqtRN6ZEcb1xPbU4cPFR"
  value: "1000000000"
}
```

Minter can **Not** issue more XRT tokens indefinitely.

Note that as of the date of publishing, the above review reflects the current understanding of known security patterns as they relate to the **XRT** contract.

## Recommendation

We recommend either checking for overflow in this case.





#### **XRT-02 POSSIBLE OVERFLOW**

Category	Severity •	Location	Status
Inconsistency	Informational	./CONTRACT/XRT	Acknowledged

## Description

In updateForNode, the following equation is used inside an unchecked block

```
"root":{5 items
"index":"4F7169F5FAAF31735CFD03B77E1F48A51B23D909288D89A1933E0DDBD141F35F"
"ledger_hash":"4C66DD826EA14AD9846C7E660094174CBD393DEBD60C64AD577987C33282749C"
"ledger_index":95127268
"node":{11 items
"Account":"rPvuCxwlm8u2SWTqtRN6ZEcb1xPbU4cPFR"
"Balance":"4414998"
"Domain":"787270747572626F2E636F6D"
```

The function Node () does not have the override specifier. It should be noted that since price0 > a function that overrides only a single interface function does not require the override specifier (see doc).

#### Recommendation

We recommend either checking for overflow in this case, or ensuring that the PairsIn is close enough it will never cause an overflow.





#### **General Detectors**

Zero Address Validation

Some functions in this contract has been appropriately checked for zero addresses being used.

## Attention Required



Attention Required

correct contract Version

This contract uses an unconventional version

- No compiler version inconsistencies found
- No unchecked call responses found
- No vulnerable self-destruct functions found
- No assertion vulnerabilities found
- No old solidity code found
- No external delegated calls found
- ✓ No external call dependency found
- No vulnerable authentication calls found
- No invalid character typos found
- No RTL characters found
- No dead code found
- No risky data allocation found
- No uninitialized state variables found
- No uninitialized storage variables found
- No vulnerable initialization functions found
- No risky data handling found
- No number accuracy bug found
- No out-of-range number vulnerability found
- No map data deletion vulnerabilities found

- No tautologies or contradictions found
- No faulty true/false values found
- No innacurate divisions found
- No redundant constructor calls found
- ✓ No vulnerable transfers found
- No vulnerable return values found
- No uninitialized local variables found
- No default function responses found
- No missing arithmetic events found
- No missing access control events found
- No redundant true/false comparisons found
- No state variables vulnerable through function calls found
- No buggy low-level calls found
- No expensive loops found
- ✓ No bad numeric notation practices found
- ✓ No missing constant declarations found
- No missing external function declarations found
- No vulnerable payable functions found
- No vulnerable message values found





### **Vulnerability Scan**

#### **REENTRANCY**



No reentrancy risk found

Severity Minor

Confidence Parameter Certain

# Vulnerability Description

# Scanning Line:

**NOT Mintable:** No additional amount of this token can be minted by a private wallet or contract.

(Which is normal for major contract utility options)

```
Sequence: 93128986
SigningPubKey: "03006953D9BE3DCD321E671C12906674D42F1E61F2944B6EAF70F28659BF6EF7A..."
SourceTag: 20221212
TransactionType: "TrustSet"
TxnSignature: "304402206E7209F8EE944C812FECB9877626E1242A0612667DB3F3D093198CC91..."
hash: "3840FE99C48C887E6F32B9DEBF6CA5A64CF3DBD87BD554D389746EF295F8F6E2"
ctid: "C5AB855400260000"
meta: {
AffectedNodes: [
0: {
ModifiedNode: {
FinalFields: {...}
LedgerEntryType: "DirectoryNode"
LedgerIndex: "14AE041C6D526FFD748C02C28DCA669CB4D2029403EAD598AA8C33F23A261B11"
PreviousTxnID: "655F6BA885D5E805D2277AA98F2FAB3585D448CBCF3BBEEE001AC114DA943F8D"
PreviousTxnLgrSeq: 95125410
1: {
ModifiedNode: {
FinalFields: {...}
LedgerEntryType: "DirectoryNode"
LedgerIndex: "29A227AD5E9E164DD34CE62745D00739DA53711E52142F13165D5713735194B0"
PreviousTxnID: "AA572FECF4CAA452771A5A7C4B005F736F97E60A1B9EF29FFF7883CE188845AE"
PreviousTxnLgrSeq: 95126827
```





## **Vulnerability Run check**

#### risk detection

#### Contract source code verified

This token contract is open source, see the contract code for details. Token contracts that do not provide source code are likely to have malicious functions to defraud users of assets.

#### No bonus issue

Additional issuance functions are transparent or non-existent. Hidden minting may increase the number of tokens in circulation and affect the price of tokens.

#### Owner cannot change balance

The contract owner does not have the right to modify the token balance of other addresses.

#### Pixiu risk

#### This doesn't seem to be Pixiu

We did not find any code preventing the token sale.

#### o no anti whale

There is no limit to the number of token transactions. The number of fraudulent token transactions may be limited (Pixiu risk).

#### o no whitelist feature

Discover whitelist functions

#### o no agency

There is no proxy in the contract. A proxy contract means that the contract owner can modify the functionality of the token and possibly affect the price.

#### Contract permissions cannot be regained (false abandonment)

If this function exists, it is possible for the project owner to regain ownership even if they abandon it.



#### No trade cooldown

The token contract does not have a transaction cooling function. If there is a transaction cooling function, users will not be able to sell tokens within a certain period of time or generate blocks after purchase.

#### no blacklist function

Does not include whitelist functionality.





Identifier	Definition	Severity
CEN-02	Initial asset distribution	Minor \$

```
ModifiedNode: {
FinalFields: {...}
LedgerEntryType: "AccountRoot"
LedgerIndex: "F12398ABE8316CF7FA9BE343E64188A7DF99A23D88CC4EB540602B462123C297"
PreviousFields: {...}
PreviousTxnID: "F03CB2BEE6AF00FE382F634FDA93F9927C46108CA0E1DEF9C868C23BDA8E7B2B"
PreviousTxnLgrSeq: 95125411
}
}
}
TransactionIndex: 38
TransactionResult: "tesSUCCESS"
}
validated: true
date: 796680162
ledger_index: 95126868
inLedger: 95126868
```

#### **Alleviation:**

This exhibit was acknowledged by the **XRPTURBO** team due to low severity. We consider the exhibit fully attended to as it doesn't impose any meaningful security concerns.

#### **RECOMMENDATION**

Project stakeholders should be consulted during the initial asset distribution process.





## **Contract Owner Address:**

rpkSXjQo1jHEgbuuayWaBfzeQAckMKhfL8

**Audited Files** 

XRPTURBO TOKEN CONTRACT

Contracts
Creator Hash:

CREATOR TXN HASH

https://xrpscan.com/tx/85CAE38F785B06F34AD9DAADCDE5AE573F1 744FDB836CB6BEE36DC026D79FF93

**Contracts:** 

Contract Address

XRPTURBO

https://xrpscan.com/account/rPvuCxw1m8u2SWTgtRN6ZEcb1xPbU4cPFR





#### **MANUAL REVIEW**

**XRPTURBO**: is a pioneering platform serving as the first AI Agent Launchpad on the XRP Ledger (XRPL). It introduces autonomous AI-driven agents into the XRP ecosystem, enabling intelligent automation across a range of blockchain activities.

By leveraging XRPL's fast and low-cost transactions, XRPTurbo integrates AI capabilities directly into on-chain operations, bringing new efficiency and utility to the network.

**TOKEN NAME: XRPTURBO** 

Ticker: XRT

Chain/Standard: XRP NETWORK

Decimals: 6











Issue Description Checking Status

1.	Node errors.	PASSED
2.	Race Conditions and reentrancy. Cross-Function Race Conditions.	PASSED
3.	Possible Delay In Data Delivery.	PASSED
4.	Oracle calls.	PASSED
5.	Front Running.	PASSED
6.	Ledger Dependency.	PASSED
7.	Integer Overflow And Underflow.	PASSED
8.	Node with Revert.	PASSED
9.	Node With Block Gas Limit.	PASSED
10.	Methods execution permissions.	PASSED
11.	Economy Model of the contract.	PASSED
12.	The Impact Of Exchange Rate On the Node Logic.	PASSED
13.	Private use data leaks.	PASSED
14.	Malicious Event log.	PASSED
15.	Scoping and Declarations.	PASSED
16.	Uninitialized storage pointers.	PASSED
17.	Arithmetic accuracy.	PASSED
18.	Design Logic.	PASSED
19.	Cross-Function race Conditions	PASSED
20.	Save Upon Move contract Implementation and Usage.	PASSED
21.	Fallback Function Security	PASSED





Identifier	Definition	Severity
CEN-02	Initial asset distribution	Minor 🏐

All of the initially minted assets are sent to the contract deployer when deploying the contract. This can be an issue as the deployer and/or contract owner can distribute tokens without consulting the community.

The transaction's sequence number is 93128986
It establishes 100,000,000.00 as the maximum amount of XRT from rPvuCxw1m8u2SWTqtRN6ZEcb1xPbU4cPFR
that r9YjSPv3tAQqtGmZa3LXXAPRWR8RXoLUAj is willing to hold

#### **RECOMMENDATION**

Project stakeholders should be consulted during the initial asset distribution process.





#### **RECOMMENDATION**

Deployer and/or contract owner private keys are secured carefully.

Please refer to PAGE-09 CENTRALIZED PRIVILEGES for a detailed understanding.

#### **ALLEVIATION**

The XRPTURBO project team understands the centralization risk. Some functions are provided privileged access to ensure a good runtime behavior in the project





# **CERTIFICATE BY VITAL BLOCK SECURITY**









Identifier	Definition	Severity
COD-10	Third Party Dependencies	Minor 🏐

Smart contract is interacting with third party protocols e.g., Pancakeswap router, cashier contract, protections contract. The scope of the audit treats third party entities as black boxes and assumes their functional correctness. However, in the real world, third parties can be compromised, and exploited. Moreover, upgrades in third parties can create severe impacts, e.g., increased transactional fees, deprecation of previous routers, etc.

#### **RECOMMENDATION**

Inspect and validate third party dependencies regularly, and mitigate severe impacts whenever necessary.





#### **DISCLAIMERS**

Vital Block provides the easy-to-understand audit of Solidity, Move and Raw source codes (commonly known as smart contracts).

The smart contract for this particular audit was analyzed for common contract vulnerabilities, and centralization exploits. This audit report makes no statements or warranties on the security of the code. This audit report does not provide any warranty or guarantee regarding the absolute bug-free nature of the smart contract analyzed, nor do they provide any indication of the client's business, business model or legal compliance. This audit report does not extend to the compiler layer, any other areas beyond the programming language, or other programming aspects that could present security risks. Cryptographic tokens are emergent technologies, they carry high levels of technical risks and uncertainty. You agree that your access and/or use, including but not limited to any services, reports, and materials, will be at your sole risk on an as-is, where-is, and as-available basis. This audit report could include false positives, false negatives, and other unpredictable results.

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#### **ABOUT VITAL BLOCK**

Vital Block provides intelligent blockchain Security Solutions. We provide solidity and Raw Code Review, testing, and auditing services. We have Partnered with 15+ Crypto Launchpads, audited 50+ smart contracts, and analyzed 200,000+ code lines. We have worked on major public blockchains e.g., Ethereum, Binance, Cronos, Doge, Polygon, Avalanche, Metis, Fantom, Bitcoin Cash, Aptos, Oasis, etc.

Vital Block is Dedicated to Making Defi & Web3 A Safer Place. We are Powered by Security engineers, developers, Ul experts, and blockchain enthusiasts. Our team currently consists of 5 core members, and 4+ casual contributors.

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