



**TechRate**  
AUDIT COMPANY

# Smart Contract Security Audit

TechRate

June, 2021

# Audit Details



Audited project

**Thunderbird Token**



Deployer address

**0x52b01a5C2ac1EB0da285188cE06FB8Df18356581**



Client contacts:

**Thunderbird Token team**



Blockchain

**Binance Smart Chain**



Project website:

**<https://thunderbird.finance/>**

# Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

# Background

TechRate was commissioned by Thunderbird Token to perform an audit of smart contracts:

<https://bscscan.com/address/0xD30A9bAB0Db0f81a3cC8ED48Cd5AF5142C1b4fB7#code>

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

# Contracts Details




## Token contract details for 10.06.2021

Contract name	Thunderbird Token
Contract address	0xD30A9bAB0Db0f81a3cC8ED48Cd5AF5142C1b4fB7
Total supply	20,000
Token ticker	TBIRD
Decimals	18
Token holders	29
Transactions count	82
Top 100 holders dominance	100.00%
Contract deployer address	0x52b01a5C2ac1EB0da285188cE06FB8Df18356581
Contract's current owner address	0x40c5187b7e8f25f17b878bb8d31874ba266e7134





# Thunderbird Token Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	0x0000000000000000000000000000000000dead	9,500	47.5000%
2	 0x40c5187b7e8f25f17b878bb8d31874ba266e7134	8,638.183761229432614187	43.1909%
3	 PancakeSwap V2: TBIRD-BUSD	798.218296914879049005	3.9911%
4	0x52b01a5c2ac1eb0da285188ce06fb8df18356581	497.880846289351930612	2.4894%
5	0xf3a5605c1d3d39fe14999b0495466177441d7e2e	128.031295673458693967	0.6402%
6	0x43863ba63746623d0fe0de4b5be41cb858e47c0a	48.311597088598945038	0.2416%
7	0x7141956a01f9d7e7d645b9c6356b1c4dba3bbabd	44.811094861253842439	0.2241%
8	 PancakeSwap V2: TBIRD	43.485390026568690835	0.2174%
9	0x9458c54a975e7d61c9fb7103553692a590c28e08	30.338376842082360553	0.1517%
10	0xf2ec5736b39e374823d73ffd56716bda44042a7c	28.73370279212888343	0.1437%



# Contract functions details

- + Context
  - [Int] \_msgSender
  - [Int] \_msgData
- + Ownable (Context)
  - [Int] <Constructor> #
  - [Pub] owner
  - [Pub] renounceOwnership #
    - modifiers: onlyOwner
  - [Pub] transferOwnership #
    - modifiers: onlyOwner
- + [Int] IBEP20
  - [Ext] totalSupply
  - [Ext] decimals
  - [Ext] symbol
  - [Ext] name
  - [Ext] getOwner
  - [Ext] balanceOf
  - [Ext] transfer #
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transferFrom #
- + [Lib] SafeMath
  - [Int] add
  - [Int] sub
  - [Int] sub
  - [Int] mul
  - [Int] div
  - [Int] div
  - [Int] mod
  - [Int] mod
- + BEP20 (Context, IBEP20, Ownable)
  - [Pub] <Constructor> #
  - [Ext] getOwner
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals
  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] transfer #
  - [Pub] allowance
  - [Pub] approve #
  - [Pub] transferFrom #
  - [Pub] increaseAllowance #
  - [Pub] decreaseAllowance #
  - [Pub] mint #
    - modifiers: onlyOwner
  - [Int] \_transfer #
  - [Int] \_mint #
  - [Int] \_burn #
  - [Int] \_approve #
  - [Int] \_burnFrom #
- + ThunderbirdToken (BEP20)



- [Pub] mint #
    - modifiers: onlyOwner
  - [Ext] delegates
  - [Ext] delegate #
  - [Ext] delegateBySig #
  - [Ext] getCurrentVotes
  - [Ext] getPriorVotes
  - [Int] \_delegate #
  - [Int] \_moveDelegates #
  - [Int] \_writeCheckpoint #
  - [Int] safe32
  - [Int] getChainId
- (\$) = payable function  
# = non-constant function

# Issues Checking Status

Issue description		Checking status
1.	Compiler errors.	Passed
2.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
3.	Possible delays in data delivery.	Passed
4.	Oracle calls.	Passed
5.	Front running.	Passed
6.	Timestamp dependence.	Passed
7.	Integer Overflow and Underflow.	Passed
8.	DoS with Revert.	Passed
9.	DoS with block gas limit.	Passed
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Passed
12.	The impact of the exchange rate on the logic.	Passed
13.	Private user 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.	Safe Open Zeppelin contracts implementation and usage.	Passed
21.	Fallback function security.	Passed

# Security Issues

## ✓ High Severity Issues

No high severity issues found.

## ✓ Medium Severity Issues

No medium severity issues found.

## ✓ Low Severity Issues

No low severity issues found.

## Owner privileges

- Owner can mint before transferring ownership to MasterChef.

# Conclusion

Smart contracts contain owner privileges. Audited only the token of the project.

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## ***TechRate note:***

***Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.***