

Smart Contract Security Audit Report

COS

April 2023

Security Status



www.hacksafe.io

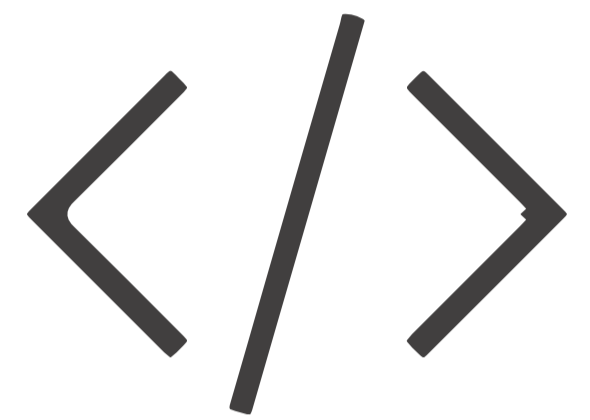


Audit Details



Audited project

COS



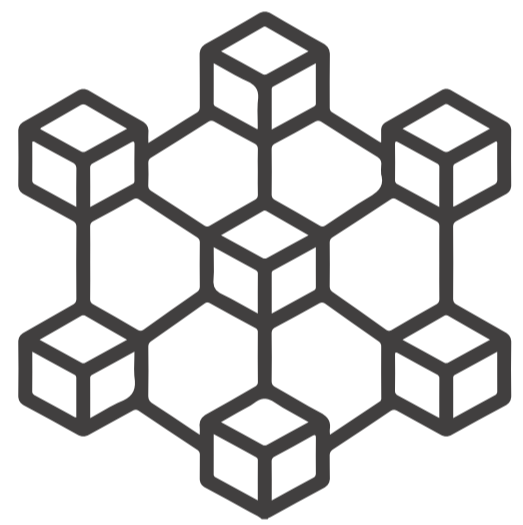
Deployer address

0xd53fa0154b759a88f337ea3a4226f0e3ec158baa



Client contacts

COS team



Blockchain

Ethereum



Website

Not Provided

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.

Procedure

Step 1 - In-Depth Manual Review

Manual line-by-line code reviews to ensure the logic behind each function is sound and safe from various attack vectors. This is the most important and lengthy portion of the audit process (as automated tools often cannot find the nuances that lead to exploits such as flash loan attacks).

Step 2 - Automated Testing

Simulation of a variety of interactions with your Smart Contract on a test blockchain leveraging a combination of automated test tools and manual testing to determine if any security vulnerabilities exist.

Step 3 - Leadership Review

The engineers assigned to the audit will schedule meetings with our leadership team to review the contracts, any comments or findings, and ask questions to further apply adversarial thinking to discuss less common attack vectors.

Step 4 - Resolution of Issues

Consulting with the team to provide our recommendations to ensure the code's security and optimize its gas efficiency, if possible. We assist project team's in resolving any outstanding issues or implementing our recommendations.

Step 5 - Published Audit Report

Boiling down results and findings into an easy-to-read report tailored to the project. Our audit reports highlight resolved issues and any risks that exist to the project or its users, along with any remaining suggested remediation measures. Diagrams are included at the end of each report to help users understand the interactions which occur within the project.

Background

HackSafe was commissioned by COS to perform an audit of smart contracts:

- <https://etherscan.io/token/0x7d3cb11f8c13730c24d01826d8f2005f0e1b348f#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 understood 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.

Contract Details

Token contract details for 04.04.2023

Type	: DEFI
Contract name	: COS
Contract address	: 0x7d3cb11f8c13730C24D01826d8F2005F0e1b348F
Total supply	: 200,000,000
Token Ticker	: COS
Decimals	: 18
Token Holders	: 583
Transactions count	: 6,196
Compiler version	: v0.5.8+commit.23d335f2
Contract deployer address	: 0xd53fa0154b759a88f337ea3a4226f0e3ec158baa
Owner address	: No Owner

Audit Summary

According to the standard audit assessment, Customer`s solidity smart contracts are **“Secure”**. This token contract does not contain owner control, which do make it fully decentralized as owner does not have control over smart contract.

Insecure

Poor secured

Secure

Well-secured

You are here



We used various tools like Slither, Mythril and Remix IDE. At the same time this finding is based on critical analysis of the manual audit. All issues found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the issues checking status.

We found 0 critical, 0 high, 1 medium and 0 low and some very low-level issues. These issues are not critical ones.

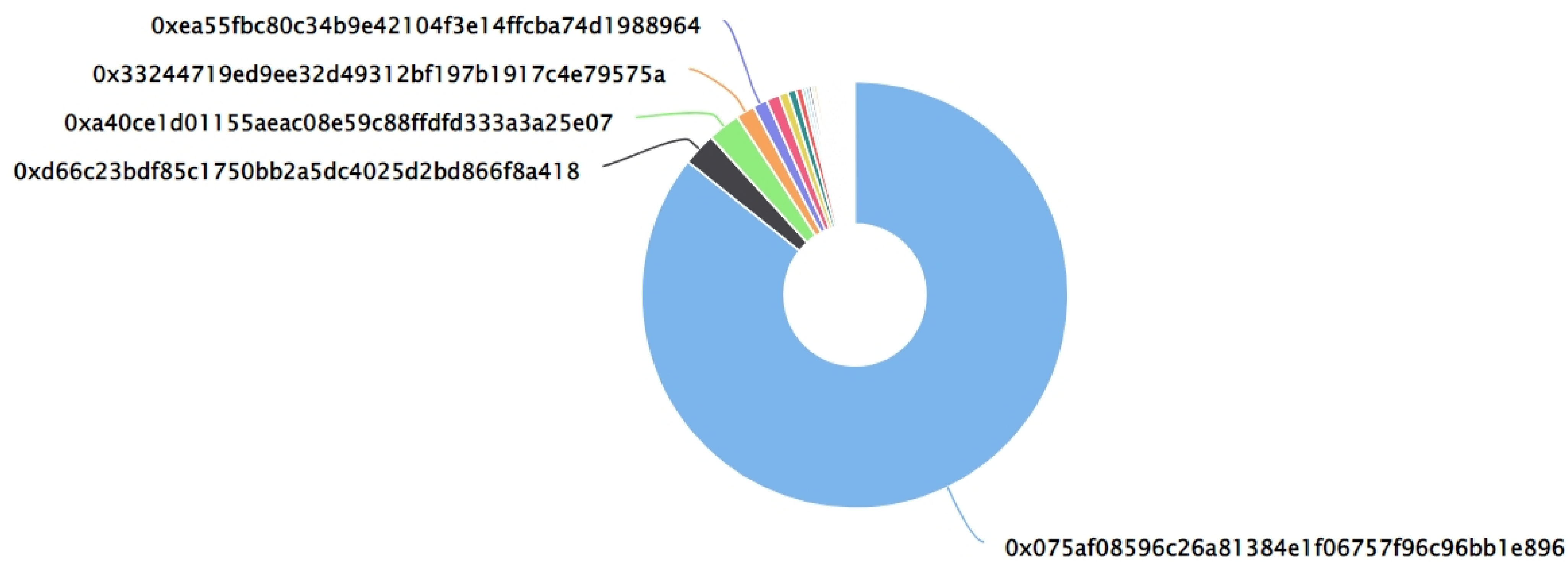
COS Token Distribution

The top 100 holders collectively own 99.87% (199,735,353.09 Tokens) of COS

Token Total Supply: 200,000,000.00 Token | Total Token Holders: 583

COS Top 100 Token Holders

Source: Etherscan.io



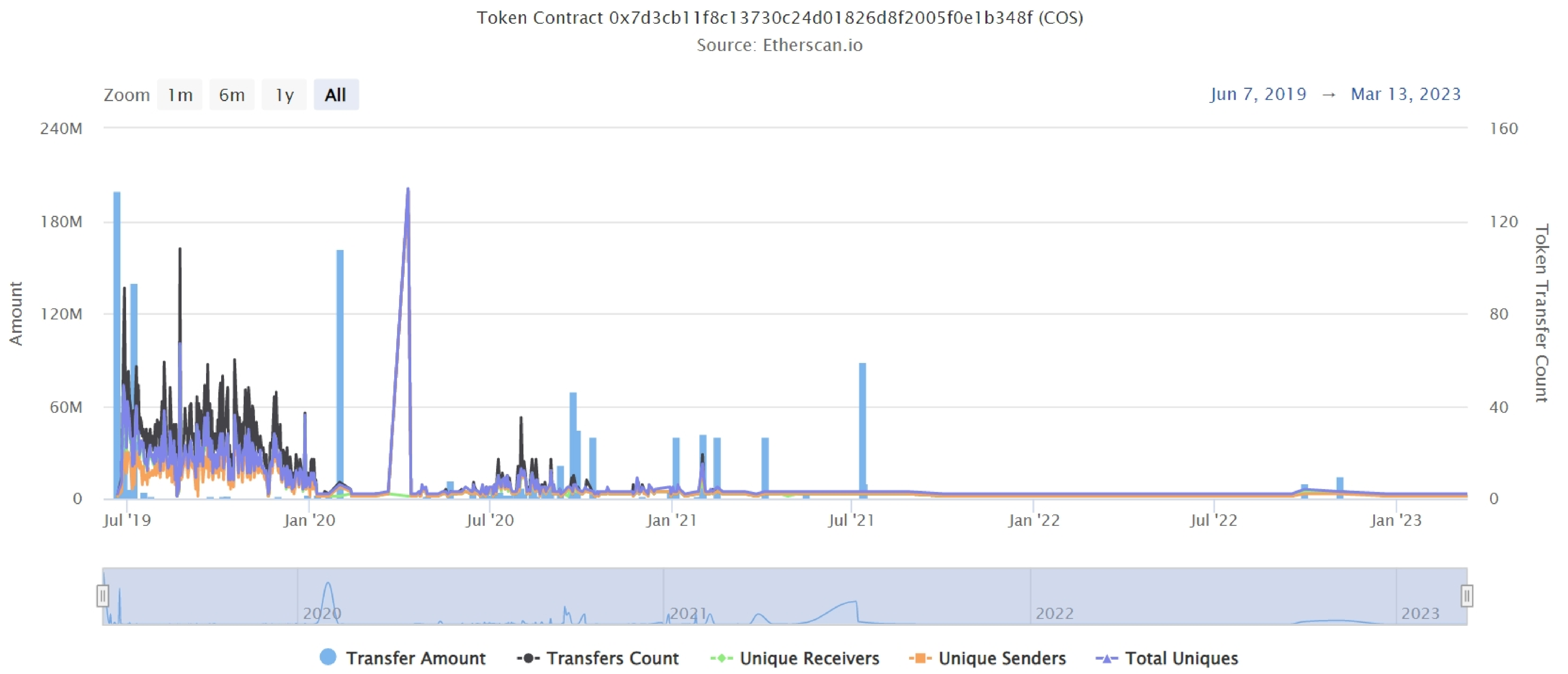
COS Token Top 20 Token Holders

(A total of 199,735,353.09 tokens held by the top 100 accounts from the total supply of 200,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	0x075aF0...6Bb1e896	171,435,704.177352819	85.7179%
2	0xD66C23...66f8a418	5,000,000	2.5000%
3	0xA40Ce1...A3a25E07	4,978,269	2.4891%
4	0x332447...4E79575a	2,824,197	1.4121%
5	0xeA55Fb...d1988964	2,200,000	1.1000%
6	0xB38fdA...7c897872	2,000,000	1.0000%
7	0xa66AA4...3B051eee	1,399,329.1996115	0.6997%
8	0xfc7658...a6E3aF0c	1,199,950	0.6000%
9	0x1875e2...887e377C	1,000,000	0.5000%
10	0x59B447...91a1465d	500,000	0.2500%
11	0xCbFc35...Bc027A57	466,197.38884032	0.2331%
12	0x6fa0a7...C271b36E	451,216.13062616	0.2256%
13	0x9a4035...E2a9E433	400,998.36510179	0.2005%
14	0x1d62AA...c822096B	396,049.01705255	0.1980%
15	0x84793d...96caA7ac	300,077	0.1500%
16	0xD6b456...97c02c51	295,056.11337816	0.1475%
17	0xFAbe9D...e47b33B3	280,032.88080669	0.1400%
18	0xFFc8d9...Dd5b4c77	213,266.9354335	0.1066%
19	Null: 0x00...dEaD	208,024.94587329	0.1040%
20	0xB1DD4C...F300CeAe	178,775	0.0894%

COS Token Distribution

COS Contract Overview



Contract functions details

+[Lib] SafeMath

- [Int] add
- [Int] sub
- [Int] mul
- [Int] div
- [Int] mod

+[Int] IERC20

- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] transfer
- [Ext] allowance
- [Ext] approve #
- [Ext] transferFrom #

+ERC20 (IERC20)

- [Pub] totalSupply
- [Pub] balanceOf
- [Pub] transfer #
- [Pub] allowance
- [Pub] burn #
- [Pub] burnFrom #
- [Pub] approve #
- [Pub] transferFrom #
- [Pub] increaseAllowance #
- [Pub] decreaseAllowance #
- [Int] _transfer #
- [Int] _burn #
- [Int] _approve #
- [Int] _burnFrom #

+COS (ERC20)

- [Pub] <constructor> #
- [Ext] airdrop #
- [Pub] name
- [Pub] symbol
- [Pub] decimals

(\$) = payable function

= non-constant function

Issues Checking Status

No.	Title	Status
1.	Compiler error	Passed
2.	Missing Input Validation	Passed
3.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
4.	Possible delays in data delivery	Passed
5.	Oracle calls.	Passed
6.	Timestamp dependence.	Passed
7.	Integer Overflow and Underflow	Passed
8.	DoS with Revert.	Passed
9.	DoS with block gas limit.	Medium Issue
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Passed
12.	Private use data leaks.	Passed
13.	Malicious Event log.	Passed
14.	Scoping and Declarations.	Passed
15.	Uninitialized storage pointers.	Passed
16.	Arithmetic accuracy.	Passed
17.	Design Logic.	Passed
18.	Safe Open Zeppelin contracts implementation and usage.	Passed
19.	Incorrect Naming State Variable	Passed
20.	Too old version	Passed

Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to assets loss or data manipulations.
High	High-level vulnerabilities are difficult to exploit; however, they also have a significant impact on smart contract execution, e.g., public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they can't lead to assets loss or data manipulations.
Low	Low-level vulnerabilities are mostly related to outdated, unused, etc. code snippets that can't have a significant impact on execution.

Security Issues

✔ Critical Severity Issues

No critical severity issue found.

✔ High Severity Issues

No high severity issue found.

✔ Medium Severity Issues

One Medium severity issues found.

1. Out of gas

Issue:

- The function `airdrop()` uses the loop to distribute tokens. Function will be aborted with `OUT_OF_GAS` exception if there will be a long `_values` and `_recipients` list.

Recommendation

- Check that the excluded array length is not too big

✔ Low Severity Issues

No low severity issue found.

Conclusion

Smart contract contains medium severity issues! Liquidity pair contract's security is not checked due to out of scope.

HackSafe 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.