

Rabbit 23 Smart Contract Audit Report



19 Jan 2023



TABLE OF CONTENTS

Audited Details

- Audited Project
- Blockchain
- Addresses
- Project Website
- Codebase

Summary

- Contract Summary
- Audit Findings Summary
- Vulnerabilities Summary

Conclusion

Audit Results

Smart Contract Analysis

- Detected Vulnerabilities

Disclaimer

About Us



AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain	
Rabbit 23	Rabbit 23	BSC	

Addresses

Contract address	0xfbfb86682EE8CBA2bd40359b8C687940B6DfFc53	
Contract deployer address	0x13ee684FcBd200Aba1CE08a3a04dE01fb106f8F9	

Project Website

https://rabbit23.com/

Codebase

https://bscscan.com/address/0xfbfb86682EE8CBA2bd40359b8C687940B6DfFc53#contracts



SUMMARY

Rabbit 23 is the last rabbit meme coin to be produced for the 2023 Chinese new year. Buy&Sel tax 4% (1%Liquidity, 1% Development and 2% Marketing). No Unlock Token and Renounced Ownership.

Contract Summary

Documentation Quality

This project has a standard of documentation.

• Technical description provided.

Code Quality

The quality of the code in this project is up to standard.

• The official Solidity style guide is followed.

Test Scope

Project test coverage is 100% (Via Codebase).

Audit Findings Summary

Issues Found

- SWC-101 | Arithmetic operation issues discovered on lines 35, 47, 57, 58, 69, 81, 419, 420, 421, and 422.
- SWC-103 | A floating pragma is set on line 6, the current pragma Solidity directive is ""^0.8.4"".
- SWC-108 | State variable visibility is not set on lines 395 and 427. It is best practice to set the visibility of state variables explicitly to public or private.
- SWC-110 | Out of bounds array access issues discovered on lines 725 and 726.



CONCLUSION

We have audited the Rabbit 23 project which has released on January 2023 to discover issues and identify potential security vulnerabilities in Rabbit 23 Project. This process is used to find technical issues and security loopholes that find some common issues in the code.

The security audit report produced satisfactory results with low-risk issues.

The most common issue found in writing code on contracts that do not pose a big risk, writing on contracts is close to the standard of writing contracts in general. The low-level issues found are some arithmetic operation issues, a floating pragma is set, a state variable visibility is not set, and out of bounds array access which the index access expression can cause an exception in case of use of an invalid array index value.



AUDIT RESULT

Article	Category	Description	Result
Default Visibility	SWC-100 SWC-108	Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously.	ISSUE FOUND
Integer Overflow and Underflow	SWC-101	If unchecked math is used, all math operations should be safe from overflows and underflows.	ISSUE FOUND
Outdated Compiler Version	SWC-102	It is recommended to use a recent version of the Solidity compiler.	PASS
Floating Pragma	SWC-103	Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.	ISSUE Found
Unchecked Call Return Value	SWC-104	The return value of a message call should be checked.	PASS
SELFDESTRUCT Instruction	SWC-106	The contract should not be self-destructible while it has funds belonging to users.	PASS
Check-Effect Interaction	SWC-107	Check-Effect-Interaction pattern should be followed if the code performs ANY external call.	PASS
Assert Violation	SWC-110	Properly functioning code should never reach a failing assert statement.	ISSUE FOUND
Deprecated Solidity Functions	SWC-111	Deprecated built-in functions should never be used.	PASS
Delegate call to Untrusted Caller	SWC-112	Delegatecalls should only be allowed to trusted addresses.	PASS
DoS (Denial of Service)	SWC-113 SWC-128	Execution of the code should never be blocked by a specific contract state unless required.	PASS
Race Conditions	SWC-114	Race Conditions and Transactions Order Dependency should not be possible.	PASS



Authorization through tx.origin	SWC-115	tx.origin should not be used for authorization.	PASS
Block values as a proxy for time	SWC-116	Block numbers should not be used for time calculations.	PASS
Signature Unique Id	SWC-117 SWC-121 SWC-122	Signed messages should always have a unique id. A transaction hash should not be used as a unique id.	PASS
Shadowing State Variable	SWC-119	State variables should not be shadowed.	PASS
Weak Sources of Randomness	SWC-120	Random values should never be generated from Chain Attributes or be predictable.	
Incorrect Inheritance Order	SWC-125	When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/.	



SMART CONTRACT ANALYSIS

Started	Wed Jan 18 2023 23:17:57 GMT+0000 (Coordinated Universal Time)		
Finished	Tue Jan 19 2023 03:21:47 GMT+0000 (Coordinated Universal Time)		
Mode	Standard		
Main Source File	Rabbit.sol		

Detected Issues

ID	Title	Severity	Status
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-108	STATE VARIABLE VISIBILITY IS NOT SET.	low	acknowledged
SWC-108	STATE VARIABLE VISIBILITY IS NOT SET.	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged







LINE 35

Iow SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Rabbit.sol

```
34 function add(uint256 a, uint256 b) internal pure returns (uint256) {
35 uint256 c = a + b;
36 require(c >= a, "SafeMath: addition overflow");
37
38 return c;
```



LINE 47

Iow SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Rabbit.sol

```
46 require(b <= a, errorMessage);
47 uint256 c = a - b;
48
49 return c;
50 }</pre>
```



LINE 57

Iow SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Rabbit.sol

```
56
57 uint256 c = a * b;
58 require(c / a == b, "SafeMath: multiplication overflow");
59
60 return c;
```



SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 58

Iow SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Rabbit.sol

```
57 uint256 c = a * b;
58 require(c / a == b, "SafeMath: multiplication overflow");
59
60 return c;
61 }
```



LINE 69

Iow SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Rabbit.sol

```
68 require(b > 0, errorMessage);
69 uint256 c = a / b;
70 // assert(a == b * c + a % b); // There is no case in which this doesn't hold
71
72 return c;
```



LINE 81

Iow SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Rabbit.sol

```
80 require(b != 0, errorMessage);
81 return a % b;
82 }
83 }
84
```



LINE 419

Iow SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Rabbit.sol

Locations

418
419 uint256 private _totalSupply = 100000000000 * 10**_decimals;
420 uint256 public _maxTxAmount = 100000000000 * 10**_decimals;
421 uint256 public _walletMax = 100000000000 * 10**_decimals;
422 uint256 private minimumTokensBeforeSwap = 100 * 10**_decimals;



LINE 420

Iow SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Rabbit.sol

```
419 uint256 private _totalSupply = 100000000000 * 10**_decimals;
420 uint256 public _maxTxAmount = 100000000000 * 10**_decimals;
421 uint256 public _walletMax = 100000000000 * 10**_decimals;
422 uint256 private minimumTokensBeforeSwap = 100 * 10**_decimals;
423
```



LINE 421

Iow SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Rabbit.sol

Locations

420 uint256 public _maxTxAmount = 100000000000 * 10**_decimals; 421 uint256 public _walletMax = 100000000000 * 10**_decimals; 422 uint256 private minimumTokensBeforeSwap = 100 * 10**_decimals; 423 424 IUniswapV2Router02 public uniswapV2Router;



LINE 422

Iow SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Rabbit.sol

```
421 uint256 public _walletMax = 10000000000 * 10**_decimals;
422 uint256 private minimumTokensBeforeSwap = 100 * 10**_decimals;
423
424 IUniswapV2Router02 public uniswapV2Router;
425 address public uniswapPair;
```



SWC-103 | A FLOATING PRAGMA IS SET.

LINE 6

Iow SEVERITY

The current pragma Solidity directive is ""^0.8.4"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- Rabbit.sol

```
5 // SPDX-License-Identifier: Unlicensed
6 pragma solidity ^0.8.4;
7
8 abstract contract Context {
9
```





C

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 395

Iow SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "_balances" is internal. Other possible visibility settings are public and private.

Source File

- Rabbit.sol

Locations

394
395 mapping (address => uint256) _balances;
396 mapping (address => mapping (address => uint256)) private _allowances;
397
398 mapping (address => bool) public isExcludedFromFee;



SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 427

Iow SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "inSwapAndLiquify" is internal. Other possible visibility settings are public and private.

Source File

- Rabbit.sol

Locations

426 427 bool inSwapAndLiquify; 428 bool public swapAndLiquifyEnabled = true; 429 bool public swapAndLiquifyByLimitOnly = false; 430 bool public checkWalletLimit = true;



SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 725

Iow SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- Rabbit.sol

```
724 address[] memory path = new address[](2);
725 path[0] = address(this);
726 path[1] = uniswapV2Router.WETH();
727
728 _approve(address(this), address(uniswapV2Router), tokenAmount);
```



SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 726

Iow SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- Rabbit.sol

```
725 path[0] = address(this);
726 path[1] = uniswapV2Router.WETH();
727
728 _approve(address(this), address(uniswapV2Router), tokenAmount);
729
```



DISCLAIMER

This report is subject to the terms and conditions (including without limitation, description of services, confidentiality, disclaimer and limitation of liability) set forth in the Services Agreement, or the scope of services, and terms and conditions provided to you ("Customer" or the "Company") in connection with the Agreement. This report provided in connection with the Services set forth in the Agreement shall be used by the Company only to the extent permitted under the terms and conditions set forth in the Agreement. This report may not be transmitted, disclosed, referred to, or relied upon by any person for any purposes, nor may copies be delivered to any other person other than the Company, without Sysfixed's prior written consent in each instance.

This report is not, nor should be considered, an "endorsement" or "disapproval" of any particular project or team. This report is not, nor should be considered, an indication of the economics or value of any "product" or "asset" created by any team or project that contracts Sysfixed to perform a security assessment. This report does not provide any warranty or guarantee regarding the absolute bug-free nature of the technology analyzed, nor do they provide any indication of the technologies proprietors, business, business model, or legal compliance.

This is a limited report on our findings based on our analysis, in accordance with good industry practice as of 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.

This report should not be used in any way to make decisions around investment or involvement with any particular project. This report in no way provides investment advice, nor should be leveraged as investment advice of any sort. This report represents an extensive assessing process intending to help our customers increase the quality of their code while reducing the high level of risk presented by cryptographic tokens and blockchain technology.

This report is provided for information purposes only and on a non-reliance basis and does not constitute investment advice. No one shall have any right to rely on the report or its contents, and Sysfixed and its affiliates (including holding companies, shareholders, subsidiaries, employees, directors, officers, and other representatives) (Sysfixed) owe no duty of care.



ABOUT US

Sysfixed is a blockchain security certification organization established in 2021 with the objective to provide smart contract security services and verify their correctness in blockchain-based protocols. Sysfixed automatically scans for security vulnerabilities in Ethereum and other EVM-based blockchain smart contracts. Sysfixed a comprehensive range of analysis techniques—including static analysis, dynamic analysis, and symbolic execution—can accurately detect security vulnerabilities to provide an in-depth analysis report. With a vibrant ecosystem of world-class integration partners that amplify developer productivity, Sysfixed can be utilized in all phases of your project's lifecycle. Our team of security experts is dedicated to the research and improvement of our tools and techniques used to fortify your code.