

KOI SHIBA (KSHIB)

SMART CONTRACT AUDIT REPORT



Prepared by:
BlockAudit

Date Of Enrollment:
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Visit : www.blockaudit.report



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SUMMARY

This Audit Report mainly focuses on the extensive security of **KOI SHIBA (KSHIB)** Smart Contracts. With this report, we attempt to ensure the reliability and correctness of the smart contract by complete and rigorous assessment of the system's architecture and the smart contract codebase.

The auditing process pays special attention to the following considerations:

- Testing the smart contracts against both common and uncommon attack vectors.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Ensuring contract logic meets the specifications and intentions of the client.
- Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders.
- Thorough line-by-line manual review of the entire codebase by industry experts.

The security assessment resulted in findings that ranged from critical to informational. We recommend addressing these findings to ensure a high level of security standards and industry practices. We suggest recommendations that could better serve the project from the security perspective:

- Enhance general coding practices for better structures of source codes;
- Add enough unit tests to cover the possible use cases;
- Provide more comments per each function for readability, especially contracts that are verified in public;
- Provide more transparency on privileged activities once the protocol is live.



OVERVIEW

Project Summary

Project Name	KOI SHIBA (KSHIB)
Logo	
Platform	BSC
Language	Solidity
Code Link	https://bscscan.com/ address/0x6F90aFE76F4bcD44CF6f93B4Bb5c20DEFc653375#code

File Summary

ID	File Name	Audit Status
KSHIB	KOISHIBA.sol	Failed

Audit Summary

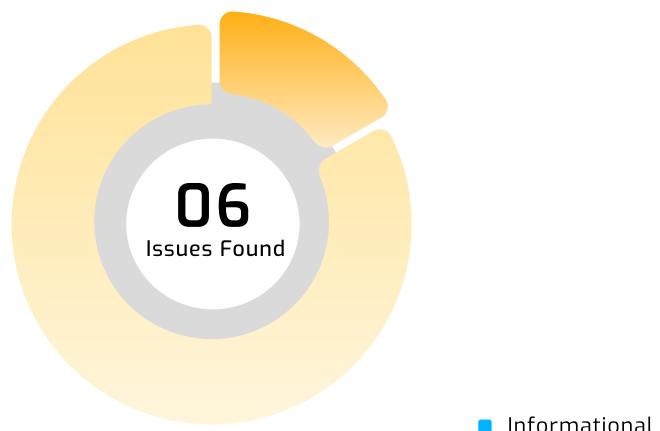
Date of Delivery	19 Oct 2021
Audit Methodology	Code Analysis. Automatic Assesment, Manual Review
Audit Result	Failed 
Audit Team	BlockAudit Report Team





FINDINGS

■ Critical	0 0.0%
■ High	0 0.0%
■ Medium	1 16.66%
■ Low	5 83.33%
■ Informational	0 0.0%
■ Ownership	0 0.0%
■ Gas Optimization	0 0.0%



Vulnerability Findings Summary

ID	Type	Line	Severity	Status
KSHIB01	Centralization Risk For Trusted Owners	6	■ Medium	Reported
KSHIB02	Unsafe ERC20 operation(s)	2	■ Low	Reported
KSHIB03	Missing Checks For Address(0) When Assigning Values To Address State Variables	1	■ Low	Reported
KSHIB04	Return Values Of Approve() Not Checked	5	■ Low	Reported
KSHIB05	Event Is Missing Indexed Fields	10	■ Low	Reported
KSHIB06	Two Step Ownership Recommended	17	■ Low	Reported



KSHIBØ1

Type	Centralization Risk for trusted owners
Severity	■ Medium
File	KOISHIBA.sol
Line	6
Status	Reported

Description

Contracts have owners with privileged rights to perform admin tasks and need to be trusted to not perform malicious updates or drain funds.

Snapshot



The screenshot shows a portion of a smart contract file named KOISHIBA.sol. The code is written in Solidity and includes several functions related to ownership and context:

```
'File: KOISHIBA.sol

144: contract Ownable is Context {
166:     function renounceOwnership() public virtual onlyOwner {
171:         function transferOwnership(address newOwner) public virtual onlyOwner {
389: contract KOISHIBA is Context, IERC20, Ownable {
834:     function excludeFromFee(address account) public onlyOwner {
838:         function includeInFee(address account) public onlyOwner {
            return go(f, seed, [])
        }
```



KSHIBØ2

Type	Unsafe ERC20 operation(s)
Severity	■ Low
File	KOISHIBA.sol
Line	2
Status	Reported

Description

Unsafe ERC20 operation(s)

Snapshot

```
● ● ●
File: KOISHIBA.sol

653:     marketingAddress.transfer(amount);

857:     recipient.transfer(amount);
```



KSHIBØ

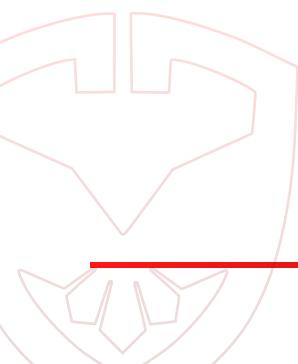
Type	Missing checks for address(0) when assigning values to address state variables
Severity	■ Low
File	KOISHIBA.sol
Line	1
Status	Reported

Description

Missing checks for address(0) when assigning values to address state variables

Snapshot

```
● ● ●
File: KOISHIBA.sol
153:         _owner = msgSender;
```





KSHIBØ4

Type	Return values of approve() not checked
Severity	■ Low
File	KOISHIBA.sol
Line	5
Status	Reported

Description

Not all IERC20 implementations revert() when there's a failure in approve(). The function signature has a boolean return value and they indicate errors that way instead. By not checking the return value, operations that should have marked as failed, may potentially go through without actually approving anything

Snapshot

```
File: KOISHIBA.sol

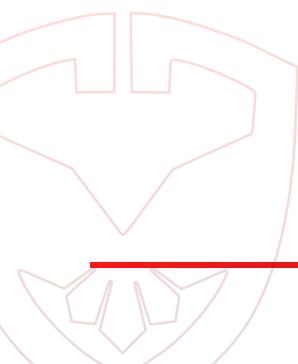
505:     _approve(_msgSender(), spender, amount);

511:     _approve(sender, _msgSender(), _allowances[sender][_msgSender()].sub(amount, "ERC20:
transfer amount exceeds allowance"));

516:     _approve(_msgSender(), spender, _allowances[_msgSender()][spender].add(addedValue));

521:     _approve(_msgSender(), spender, _allowances[_msgSender()][spender].sub(subtractedValue,
"ERC20: decreased allowance below zero"));

664:     _approve(address(this), address(uniswapV2Router), tokenAmount);
```





KSHIBØS

Type	Event is missing indexed fields
Severity	■ Low
File	KOISHIBA.sol
Line	2
Status	Reported

Description

Index event fields make the field more quickly accessible to off-chain tools that parse events. However, note that each index field costs extra gas during emission, so it's not necessarily best to index the maximum allowed per event (three fields). Each event should use three indexed fields if there are three or more fields, and gas usage is not particularly of concern for the events in question. If there are fewer than three fields, all of the fields should be indexed.

Snapshot

```
File: KOISHIBA.sol

25:   event Transfer(address indexed from, address indexed to, uint256 value);
26:   event Approval(address indexed owner, address indexed spender, uint256 value);
181:  event PairCreated(address indexed token0, address indexed token1, address pair, uint);
200:  event Approval(address indexed owner, address indexed spender, uint value);
201:  event Transfer(address indexed from, address indexed to, uint value);
220:  event Burn(address indexed sender, uint amount0, uint amount1, address indexed to);
221:  event Swap(
229:    event Sync(uint112 reserve0, uint112 reserve1);
431:    event SwapETHForTokens(
436:      event SwapTokensForETH(
```



KSHIBØ6

Type	Functions not used internally could be marked external
Severity	■ Low
File	KOISHIBA.sol
Line	17
Status	Reported

Description

Functions not used internally could be marked external

Snapshot

```
● ● ●
File: KOISHIBA.sol

474:     function name() public view returns (string memory) {
478:     function symbol() public view returns (string memory) {
482:     function decimals() public view returns (uint8) {
486:     function totalSupply() public view override returns (uint256) {
495:     function transfer(address recipient, uint256 amount) public override returns (bool) {
500:     function allowance(address owner, address spender) public view override returns (uint256) {
504:     function approve(address spender, uint256 amount) public override returns (bool) {
509:     function transferFrom(address sender, address recipient, uint256 amount) public override returns
(bool) {
525:     function isExcludedFromReward(address account) public view returns (bool) {
529:     function totalFees() public view returns (uint256) {
535:     function deliver(uint256 tAmount) public {
545:     function reflectionFromToken(uint256 tAmount, bool deductTransferFee) public view
returns(uint256) {
562:     function excludeFromReward(address account) public onlyOwner() {
830:     function isExcludedFromFee(address account) public view returns(bool) {
834:     function excludeFromFee(address account) public onlyOwner {
838:     function includeInFee(address account) public onlyOwner {
860:     function isRemovedSniper(address account) public view returns (bool) {
```



APPENDIX

Auditing Approach and Methodologies applied

The Block Audit Report team has performed rigorous testing of the project including the analysis of the code design patterns where we reviewed the smart contract architecture to ensure it is structured along with the safe use of standard inherited contracts and libraries. Our team also conducted a formal line by line inspection of the Smart Contract i.e., a manual review, to find potential issues including but not limited to

- Race conditions
- Zero race conditions approval attacks
- Re-entrancy
- Transaction-ordering dependence
- Timestamp dependence
- Check-effects-interaction pattern (optimistic accounting)
- Decentralized denial-of-service attacks
- Secure ether transfer pattern
- Guard check pattern
- Fail-safe mode
- Gas-limits and infinite loops
- Call Stack depth

In the Unit testing Phase, we coded/conducted custom unit tests written against each function in the contract to verify the claimed functionality from our client. In Automated Testing, we tested the Smart Contract with our standard set of multifunctional tools to identify vulnerabilities and security flaws. The code was tested in collaboration of our multiple team members and this included but not limited to;

- Testing the functionality of the Smart Contract to determine proper logic has been followed throughout the whole process.
- Analyzing the complexity of the code in depth and in detail line-by-line manual review of the code.
- Deploying the code on testnet using multiple clients to run live tests.
- Analyzing failure preparations to check how the Smart Contract performs in case of any bugs and vulnerabilities.
- Checking whether all the libraries used in the code are on the latest version.
- Analyzing the security of the on-chain data.



Issue Categories:

Every issue in this report was assigned a severity level from the following:

Critical Severity Issues

Issues of Critical Severity leaves smart contracts vulnerable to major exploits and can lead to asset loss and data loss. These can have significant impact on the functionality/performance of the smart contract.

We recommend these issues must be fixed before proceeding to MainNet..

High Severity Issues

Issues of High Severity are not as easy to exploit but they might endanger the execution of the smart contract and potentially create crucial problems.

Fixing these issues is highly recommended before proceeding to MainNet.

Medium Severity Issues

Issues on this level are not a major cause of vulnerability to the smart contract, they cannot lead to data-manipulations or asset loss but may affect functionality.

It is important to fix these issues before proceeding to MainNet.

Low Severity Issues

Issues at this level are very low in their impact on the overall functionality and execution of the smart contract. These are mostly code-level violations or improper formatting.

These issues can be remain unfixed or can be fixed at a later date if the code is redeployed or forked.

Informational Findings

These are finding that our team comes accross when manually reviewing a smart contract which are important to know for the owners as well as users of a contract.

These issues must be acknowledged by the owners before we publish our report.

Ownership Privileges

Owner of a smart contract can include certain rights and Privileges while deploying a smart contract that might be hidden deep inside the codebase and may make the project vulnerable to rug-pulls or other types of scams.

We at BlockAudit believe in transparency and hence we showcase Ownership Privileges separately so the owner as well as the investors can get a better understanding about the project.

Gas Optimization

Solidity gas optimization is the process of lowering the cost of operating your Solidity smart code. The term "gas" refers to the level of processing power required to perform specific tasks on the Ethereum network.

Each Ethereum transaction costs a fee since it requires the use of computer resources. It will deduct a fee anytime any function in the smart contract is invoked by the contract's owner or users.

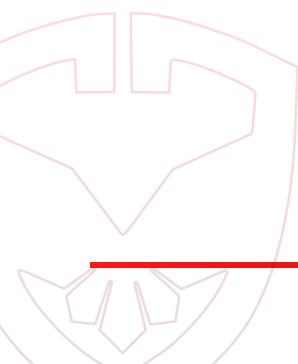


DISCLAIMER

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 the client 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 the client 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 the client to conduct the client's 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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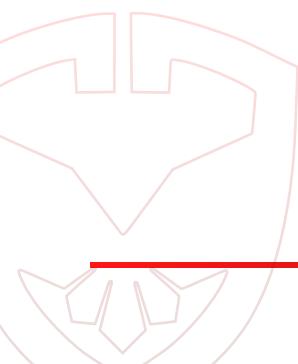




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The analysis of the security is purely based on the received smart contracts alone. No related/third-party smart contracts, applications or operations were reviewed for security. No product code has been reviewed.

Note: The statements made in this document should not be interpreted as investment or legal advice, nor should its authors be held accountable for decisions made based on them. Securing smart contracts is a multistep process. One audit cannot be considered enough. We recommend that the **KOI SHIBA (KSHIB)** team put a bug bounty program in place to encourage further analysis of the smart contracts by other third parties





About BlockAudit

BlockAudit is an industry leading security organisation that helps web3 blockchain based projects with their security and correctness of their smart-contracts. With years of experience we have a dedicated team that is capable of performing audits in a wide variety of languages including HTML, PHP, JS, Node, React, Native, Solidity, Rust and other Web3 frameworks for DApps, DeFi, GameFi and Metaverse platforms.

With a mission to make web3 a safe and secure place BlockAudit is committed to provide it's partners with a budget and investor friendly security Audit Report that will increase the value of their projects significantly.



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