



Cyberscope

# Audit Report

## **KONG**

September 2023

Network    ETH

Address    0x014ec6a5a8b1b7abf7fb150ee61d6516c21f144a

Audited by    © cyberscope

# Analysis

● Critical   ● Medium   ● Minor / Informative   ● Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Passed
●	OTUT	Transfers User's Tokens	Passed
●	ELFM	Exceeds Fees Limit	Passed
●	MT	Mints Tokens	Passed
●	BT	Burns Tokens	Passed
●	BC	Blacklists Addresses	Passed

# Diagnostics

● Critical ● Medium ● Minor / Informative

Severity	Code	Description	Status
●	IDI	Immutable Declaration Improvement	Unresolved
●	L04	Conformance to Solidity Naming Conventions	Unresolved
●	L09	Dead Code Elimination	Unresolved

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## Review

Contract Name	ERC20Token
Compiler Version	v0.5.16+commit.9c3226ce
Optimization	200 runs
Explorer	<a href="https://etherscan.io/address/0x014ec6a5a8b1b7abf7fb150ee61d6516c21f144a">https://etherscan.io/address/0x014ec6a5a8b1b7abf7fb150ee61d6516c21f144a</a>
Address	0x014ec6a5a8b1b7abf7fb150ee61d6516c21f144a
Network	ETH
Symbol	\$KONG
Decimals	18
Total Supply	100,000,000,000,000

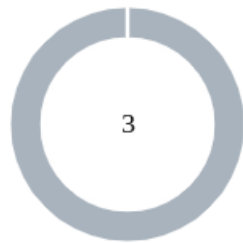
## Audit Updates

Initial Audit	25 Sep 2023
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## Source Files

Filename	SHA256
ERC20Token.sol	d5f5865965dc6427f40a72c054a0085b722151ccf592fe6a7e669287f87bcdcc

## Findings Breakdown



● Critical	0
● Medium	0
● Minor / Informative	3

Severity	Unresolved	Acknowledged	Resolved	Other
● Critical	0	0	0	0
● Medium	0	0	0	0
● Minor / Informative	3	0	0	0

## IDI - Immutable Declaration Improvement

<b>Criticality</b>	Minor / Informative
<b>Location</b>	ERC20Token.sol#L352,353,354
<b>Status</b>	Unresolved

### Description

The contract declares state variables that their value is initialized once in the constructor and are not modified afterwards. The `immutable` is a special declaration for this kind of state variables that saves gas when it is defined.

```
_name  
_symbol  
_decimals
```

### Recommendation

By declaring a variable as immutable, the Solidity compiler is able to make certain optimizations. This can reduce the amount of storage and computation required by the contract, and make it more gas-efficient.

## L04 - Conformance to Solidity Naming Conventions

<b>Criticality</b>	Minor / Informative
<b>Location</b>	ERC20Token.sol#L347,348,349
<b>Status</b>	Unresolved

### Description

The Solidity style guide is a set of guidelines for writing clean and consistent Solidity code. Adhering to a style guide can help improve the readability and maintainability of the Solidity code, making it easier for others to understand and work with.

The followings are a few key points from the Solidity style guide:

1. Use camelCase for function and variable names, with the first letter in lowercase (e.g., myVariable, updateCounter).
2. Use PascalCase for contract, struct, and enum names, with the first letter in uppercase (e.g., MyContract, UserStruct, ErrorEnum).
3. Use uppercase for constant variables and enums (e.g., MAX\_VALUE, ERROR\_CODE).
4. Use indentation to improve readability and structure.
5. Use spaces between operators and after commas.
6. Use comments to explain the purpose and behavior of the code.
7. Keep lines short (around 120 characters) to improve readability.

```
uint8 public _decimals
string public _symbol
string public _name
```

### Recommendation

By following the Solidity naming convention guidelines, the codebase increased the readability, maintainability, and makes it easier to work with.

Find more information on the Solidity documentation

<https://docs.soliditylang.org/en/v0.8.17/style-guide.html#naming-convention>.



## L09 - Dead Code Elimination

Criticality	Minor / Informative
Location	ERC20Token.sol#L566
Status	Unresolved

### Description

In Solidity, dead code is code that is written in the contract, but is never executed or reached during normal contract execution. Dead code can occur for a variety of reasons, such as:

- Conditional statements that are always false.
- Functions that are never called.
- Unreachable code (e.g., code that follows a return statement).

Dead code can make a contract more difficult to understand and maintain, and can also increase the size of the contract and the cost of deploying and interacting with it.

```
function _burnFrom(address account, uint256 amount) internal {
    _burn(account, amount);
    _approve(account, _msgSender(),
        _allowances[account][_msgSender()].sub(amount, "BEP20: burn
        amount exceeds allowance"));
}
```

### Recommendation

To avoid creating dead code, it's important to carefully consider the logic and flow of the contract and to remove any code that is not needed or that is never executed. This can help improve the clarity and efficiency of the contract.

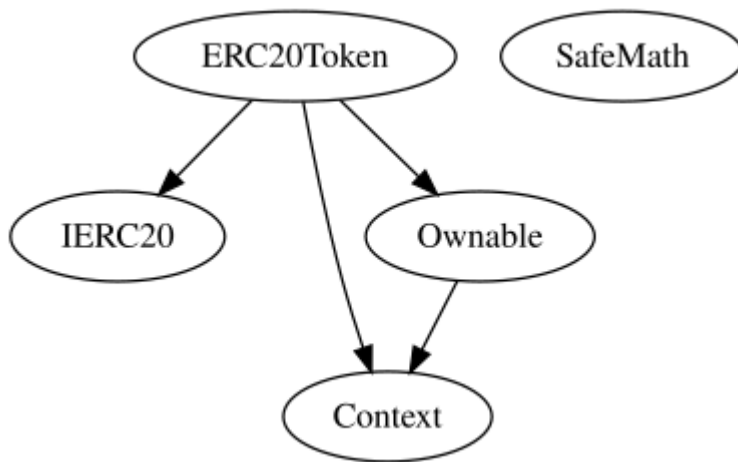
# Functions Analysis

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
<b>IERC20</b>	Interface			
	totalSupply	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	getOwner	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
<b>Context</b>	Implementation			
		Internal	✓	
	_msgSender	Internal		
	_msgData	Internal		
<b>SafeMath</b>	Library			
	add	Internal		

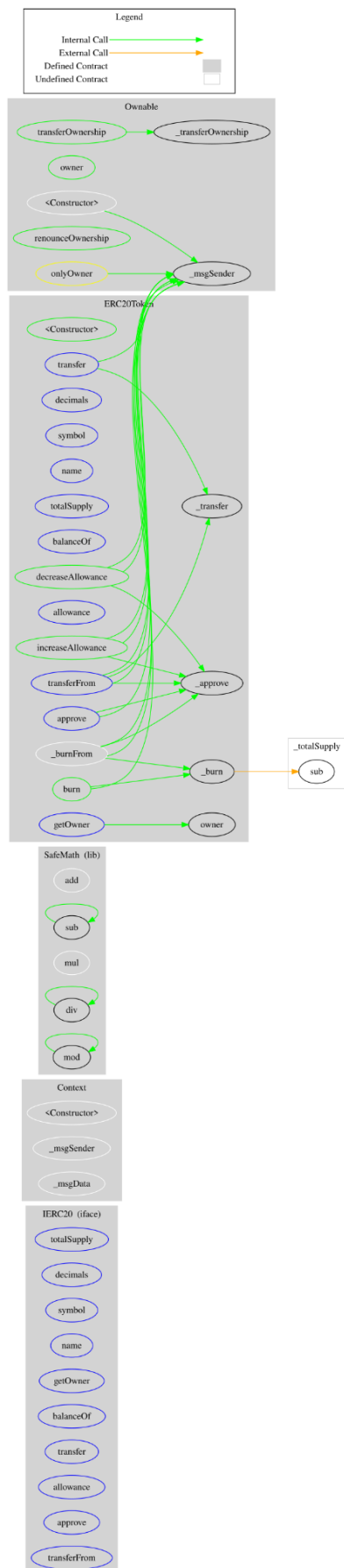
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
	mod	Internal		
<b>Ownable</b>	Implementation	Context		
		Internal	✓	
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	_transferOwnership	Internal	✓	
<b>ERC20Token</b>	Implementation	Context, IERC20, Ownable		
		Public	✓	-
	getOwner	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-

	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	burn	Public	✓	-
	_transfer	Internal	✓	
	_burn	Internal	✓	
	_approve	Internal	✓	
	_burnFrom	Internal	✓	

## Inheritance Graph



# Flow Graph



## Summary

KONG contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. KONG is an interesting project that has a friendly and growing community. The Smart Contract analysis reported no compiler error or critical issues. The contract Owner can access some admin functions that can not be used in a malicious way to disturb the users' transactions.

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Blockchain technology and cryptographic assets present a high level of ongoing risk. Cyberscope's position is that each company and individual are responsible for their own due diligence and continuous security. Cyberscope's goal is to help reduce the attack vectors and the high level of variance associated with utilizing new and consistently changing technologies and in no way claims any guarantee of security or functionality of the technology we agree to analyze. The assessment services provided by Cyberscope are subject to dependencies and are under continuing development. 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. Cryptographic tokens are emergent technologies and carry with them high levels of technical risk and uncertainty. The assessment reports could include false positives, false negatives and other unpredictable results. The services may access and depend upon multiple layers of third parties.



## About Cyberscope

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Cyberscope is one of the leading smart contract audit firms in the crypto space and has built a high-profile network of clients and partners.



**The Cyberscope team**

<https://www.cyberscope.io>