



Smart Contract Audit

FOR
X 2.0
DATED : 3 august 23'



AUDIT SUMMARY

Project name - X 2.0

Date: 3 august, 2023

Scope of Audit- Audit Ace was consulted to conduct the smart contract audit of the solidity source codes.

Audit Status: Passed

Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	0	0	0	0
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	0



USED TOOLS

Tools:

1- Manual Review:

A line by line code review has been performed by audit ace team.

2- BSC Test Network: All tests were conducted on the BSC Test network, and each test has a corresponding transaction attached to it. These tests can be found in the "Functional Tests" section of the report.

3- Slither :

The code has undergone static analysis using Slither.

Testnet version:

The tests were performed using the contract deployed on the BSC Testnet, which can be found at the following address:

<https://testnet.bscscan.com/token/0x66794e6cDF6bcCEF9BbD772573Af0B56d6C0c36d>



Token Information

Token Name : X 2.0

Token Symbol: X2.0

Decimals: 9

Token Supply: 1,000,000

Token Address:

0x635F7F08D32b3A8d9F71C577C5a68189897442d5

Checksum:

a53705f3eb183560fbe781b3424a8bd538c2271c

Owner:

0x862baF1F2B53b7D38558dE758E0851e7719269f8

(at time of writing the audit)

Deployer:

0x862baF1F2B53b7D38558dE758E0851e7719269f8



TOKEN OVERVIEW

Fees:

Buy Fees: 0-6%

Sell Fees: 0-6%

Transfer Fees: 0%

Fees Privilege: no fees

Ownership: owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: no

Blacklist: No

Other Privileges: Initial distribution of the tokens

Modifying feeds



AUDIT METHODOLOGY

The auditing process will follow a routine as special considerations by Auditace:

- Review of the specifications, sources, and instructions provided to Auditace to make sure the contract logic meets the intentions of the client without exposing the user's funds to risk.
- Manual review of the entire codebase by our experts, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
- Specification comparison is the process of checking whether the code does what the specifications, sources, and instructions provided to Auditace describe.
- Test coverage analysis determines whether the test cases are covering the code and how much code is exercised when we run the test cases.
- Symbolic execution is analysing a program to determine what inputs cause each part of a program to execute.
- Reviewing the codebase to improve maintainability, security, and control based on the established industry and academic practices.

VULNERABILITY CHECKLIST



Return values of low-level calls



Gasless Send



Private modifier



Using block.timestamp



Multiple Sends



Re-entrancy



Using Suicide



Tautology or contradiction



Gas Limit and Loops



Timestamp Dependence



Address hardcoded



Revert/require functions



Exception Disorder



Use of tx.origin



Using inline assembly



Integer overflow/underflow



Divide before multiply



Dangerous strict equalities



Missing Zero Address Validation



Using SHA3



Compiler version not fixed



Using throw



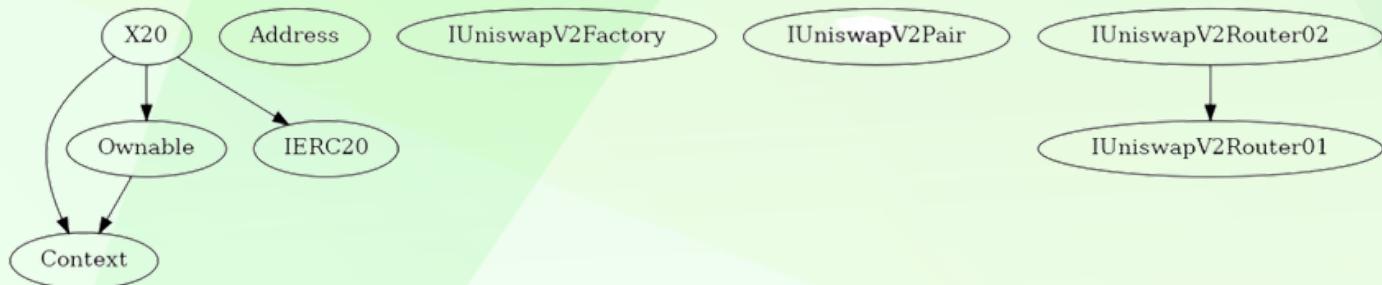
CLASSIFICATION OF RISK

Severity	Description
◆ Critical	These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
◆ High-Risk	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.
◆ Medium-Risk	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.
◆ Low-Risk	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.
◆ Gas Optimization / Suggestion	A vulnerability that has an informational character but is not affecting any of the code.

Findings

Severity	Found
◆ Critical	0
◆ High-Risk	0
◆ Medium-Risk	0
◆ Low-Risk	0
◆ Gas Optimization / Suggestions	0

INHERITANCE TREE





POINTS TO NOTE

- owner is not able to set buy/sell fees more than 6%
- owner is not able to set transfer fees (0%)
- owner is not able to blacklist an arbitrary wallet
- owner is not able to set limit for
buy/sell/transfer/holding amounts
- owner is not able to mint new tokens
- owner is not able to disable trades
- owner can exclude/include an address from fees

CONTRACT ASSESSMENT

Contract	Type	Bases			
----- ----- ----- ----- -----	----- ----- ----- ----- -----	----- ----- ----- ----- -----	----- ----- ----- ----- -----	----- ----- ----- ----- -----	----- ----- ----- ----- -----
L	**Function Name**	**Visibility**	**Mutability**	**Modifiers**	
Context	Implementation				
L _msgSender Internal	🔒				
L _msgData Internal	🔒				
Ownable	Implementation	Context			
L <Constructor> Public	!		🔴	NO !	
L owner Public	!		NO !		
L renounceOwnership Public	!		🔴	onlyOwner	
L transferOwnership Public	!		🔴	onlyOwner	
IERC20	Interface				
L totalSupply External	!		NO !		
L balanceOf External	!	,	NO !		
L transfer External	!		🔴	NO !	
L allowance External	!	,	NO !		
L approve External	!		🔴	NO !	
L transferFrom External	!		🔴	NO !	
Address	Library				
L isContract Internal	🔒				
L sendValue Internal	🔒		🔴		
L functionCall Internal	🔒		🔴		
L functionCall Internal	🔒		🔴		
L functionCallWithValue Internal	🔒		🔴		
L functionCallWithValue Internal	🔒		🔴		
L _functionCallWithValue Private	🔒		🔴		
IUniswapV2Factory	Interface				
L feeTo External	!		NO !		
L feeToSetter External	!		NO !		
L getPair External	!		NO !		

CONTRACT ASSESSMENT

```

| L | allPairs | External ! | NO ! | |
| L | allPairsLength | External ! | NO ! |
| L | createPair | External ! | ⚡ | NO ! |
| L | setFeeTo | External ! | ⚡ | NO ! |
| L | setFeeToSetter | External ! | ⚡ | NO ! |
|||||
| **IUniswapV2Pair** | Interface | ||
| L | name | External ! | NO ! |
| L | symbol | External ! | NO ! |
| L | decimals | External ! | NO ! |
| L | totalSupply | External ! | NO ! |
| L | balanceOf | External ! | NO ! |
| L | allowance | External ! | NO ! |
| L | approve | External ! | ⚡ | NO ! |
| L | transfer | External ! | ⚡ | NO ! |
| L | transferFrom | External ! | ⚡ | NO ! |
| L | DOMAIN_SEPARATOR | External ! | NO ! |
| L | PERMIT_TYPEHASH | External ! | NO ! |
| L | nonces | External ! | NO ! |
| L | permit | External ! | ⚡ | NO ! |
| L | MINIMUM_LIQUIDITY | External ! | NO ! |
| L | factory | External ! | NO ! |
| L | token0 | External ! | NO ! |
| L | token1 | External ! | NO ! |
| L | getReserves | External ! | NO ! |
| L | price0CumulativeLast | External ! | NO ! |
| L | price1CumulativeLast | External ! | NO ! |
| L | kLast | External ! | NO ! |
| L | burn | External ! | ⚡ | NO ! |
| L | swap | External ! | ⚡ | NO ! |
| L | skim | External ! | ⚡ | NO ! |
| L | sync | External ! | ⚡ | NO ! |
| L | initialize | External ! | ⚡ | NO ! |
|||||
| **IUniswapV2Router01** | Interface | ||
| L | factory | External ! | NO !

```

CONTRACT ASSESSMENT

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| L | WETH | External ! | NO ! | |
| L | addLiquidity | External ! | ❌ | NO ! |
| L | addLiquidityETH | External ! | ❌ | NO ! |
| L | removeLiquidity | External ! | ❌ | NO ! |
| L | removeLiquidityETH | External ! | ❌ | NO ! |
| L | removeLiquidityWithPermit | External ! | ❌ | NO ! |
| L | removeLiquidityETHWithPermit | External ! | ❌ | NO ! |
| L | swapExactTokensForTokens | External ! | ❌ | NO ! |
| L | swapTokensForExactTokens | External ! | ❌ | NO ! |
| L | swapExactETHForTokens | External ! | ❌ | NO ! |
| L | swapTokensForExactETH | External ! | ❌ | NO ! |
| L | swapExactTokensForETH | External ! | ❌ | NO ! |
| L | swapETHForExactTokens | External ! | ❌ | NO ! |
| L | quote | External ! | NO ! |
| L | getAmountOut | External ! | NO ! |
| L | getAmountIn | External ! | NO ! |
| L | getAmountsOut | External ! | NO ! |
| L | getAmountsIn | External ! | NO ! |
|||||
| **IUniswapV2Router02** | Interface | IUniswapV2Router01 ||
| L | removeLiquidityETHSupportingFeeOnTransferTokens | External ! | ❌ | NO ! |
| L | removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | External ! | ❌ | NO ! |
|
| L | swapExactTokensForTokensSupportingFeeOnTransferTokens | External ! | ❌ | NO ! |
| L | swapExactETHForTokensSupportingFeeOnTransferTokens | External ! | ❌ | NO ! |
| L | swapExactTokensForETHSupportingFeeOnTransferTokens | External ! | ❌ | NO ! |
|||||
| **X20** | Implementation | Context, IERC20, Ownable ||
| L | <Constructor> | Public ! | ❌ | NO ! |
| L | name | Public ! | NO ! |
| L | symbol | Public ! | NO ! |
| L | decimals | Public ! | NO ! |
| L | totalSupply | Public ! | NO ! |
| L | balanceOf | Public ! | NO ! |
| L | transfer | Public ! | ❌ | NO ! |
| L | allowance | Public ! | NO ! |

```

CONTRACT ASSESSMENT

```

| L| approve | Public ! | 🔴 | NO ! |
| L| transferFrom | Public ! | 🔴 | NO ! |
| L| increaseAllowance | Public ! | 🔴 | NO ! |
| L| decreaseAllowance | Public ! | 🔴 | NO ! |
| L| isExcludedFromReward | Public ! | NO ! |
| L| totalReflectionDistributed | Public ! | NO ! |
| L| deliver | Public ! | 🔴 | NO ! |
| L| reflectionFromToken | Public ! | NO ! |
| L| tokenFromReflection | Public ! | NO ! |
| L| excludeFromReward | Public ! | 🔴 | onlyOwner |
| L| includeInReward | External ! | 🔴 | onlyOwner |
| L| <Receive Ether> | External ! | 🔴 | NO ! |
| L| clearStuckTokens | External ! | 🔴 | NO ! |
| L| updateFeeBuy | Public ! | 🔴 | onlyOwner |
| L| updateFeeSell | Public ! | 🔴 | onlyOwner |
| L| _reflectFee | Private 🔒 | 🔴 | |
| L| _getValues | Private 🔒 | |
| L| _getTValues | Private 🔒 | |
| L| _getRValues | Private 🔒 | |
| L| _getRate | Private 🔒 | |
| L| _getCurrentSupply | Private 🔒 | |
| L| _takeLiquidity | Private 🔒 | 🔴 | |
| L| _takeMarketing | Private 🔒 | 🔴 | |
| L| calculateTaxFee | Private 🔒 | |
| L| calculateLiquidityFee | Private 🔒 | |
| L| calculateMarketingFee | Private 🔒 | |
| L| removeAllFee | Private 🔒 | 🔴 | |
| L| setBuyFee | Private 🔒 | 🔴 | |
| L| setSellFee | Private 🔒 | 🔴 | |
| L| isExcludedFromFee | Public ! | NO ! |
| L| _approve | Private 🔒 | 🔴 | |
| L| _transfer | Private 🔒 | 🔴 | |
| L| swapAndLiquify | Private 🔒 | 🔴 | |
| L| swapAndSendMarketing | Private 🔒 | 🔴 | |
| L| setSwapTokensAtAmount | External ! | 🔴 | onlyOwner |

```

CONTRACT ASSESSMENT

	└	setSwapEnabled External	!		🔴		onlyOwner
	└	_tokenTransfer Private	🔒		🔴		
	└	_transferStandard Private	🔒		🔴		
	└	_transferToExcluded Private	🔒		🔴		
	└	_transferFromExcluded Private	🔒		🔴		
	└	_transferBothExcluded Private	🔒		🔴		
	└	excludeFromFees External	!		🔴		onlyOwner
	└	isContract Internal	🔒				

Legend

	Symbol	Meaning
:----- -----		
	🔴	Function can modify state
	🔒	Function is payable



STATIC ANALYSIS

```
Variable X20._transferStandard(address,address,uint256).rTransferAmount (contracts/Token.sol#1128) is too similar to X20._getTValues(uint256).tTransferAmount (contracts/Token.sol#869)
Variable X20._transferBothExcluded(address,address,uint256).rTransferAmount (contracts/Token.sol#1196) is too similar to X20._getTValues(uint256).tTransferAmount (contracts/Token.sol#869)
Variable X20.reflectionFromToken(uint256,bool).rTransferAmount (contracts/Token.sol#747) is too similar to X20._transferFromExcluded(address,address,uint256).tTransferAmount (contracts/Token.sol#1175)
Variable X20._getTValues(uint256,uint256,uint256,uint256).rTransferAmount (contracts/Token.sol#884) is too similar to X20._getTValues(uint256).tTransferAmount (contracts/Token.sol#869)
Variable X20._transferStandard(address,address,uint256).rTransferAmount (contracts/Token.sol#1128) is too similar to X20._getValues(uint256).tTransferAmount (contracts/Token.sol#840)
Variable X20._getValues(uint256).rTransferAmount (contracts/Token.sol#845) is too similar to X20._getValues(uint256).tTransferAmount (contracts/Token.sol#840)
Variable X20._transferBothExcluded(address,address,uint256).rTransferAmount (contracts/Token.sol#1196) is too similar to X20._getValues(uint256).tTransferAmount (contracts/Token.sol#840)
Variable X20._transferStandard(address,address,uint256).rTransferAmount (contracts/Token.sol#1128) is too similar to X20._transferBothExcluded(address,address,uint256).tTransferAmount (contracts/Token.sol#1198)
Variable X20._getTValues(uint256,uint256,uint256,uint256).rTransferAmount (contracts/Token.sol#884) is too similar to X20._getValues(uint256).tTransferAmount (contracts/Token.sol#840)
Variable X20._transferToExcluded(address,address,uint256).rTransferAmount (contracts/Token.sol#1150) is too similar to X20._getTValues(uint256).tTransferAmount (contracts/Token.sol#869)
Variable X20._transferToExcluded(address,address,uint256).rTransferAmount (contracts/Token.sol#1150) is too similar to X20._transferStandard(address,address,uint256).tTransferAmount (contracts/Token.sol#1130)
Variable X20._getTValues(uint256,uint256,uint256,uint256).rTransferAmount (contracts/Token.sol#884) is too similar to X20._transferBothExcluded(address,address,uint256).tTransferAmount (contracts/Token.sol#1198)
Variable X20.reflectionFromToken(uint256,bool).rTransferAmount (contracts/Token.sol#747) is too similar to X20._getTValues(uint256).tTransferAmount (contracts/Token.sol#869)
Variable X20._transferToExcluded(address,address,uint256).rTransferAmount (contracts/Token.sol#1150) is too similar to X20._getValues(uint256).tTransferAmount (contracts/Token.sol#840)
Variable X20._transferToExcluded(address,address,uint256).rTransferAmount (contracts/Token.sol#1150) is too similar to X20._transferBothExcluded(address,address,uint256).tTransferAmount (contracts/Token.sol#1198)
Variable X20._transferFromExcluded(address,address,uint256).rTransferAmount (contracts/Token.sol#1173) is too similar to X20._getTValues(uint256).tTransferAmount (contracts/Token.sol#869)
Variable X20._transferStandard(address,address,uint256).rTransferAmount (contracts/Token.sol#1128) is too similar to X20._transferFromExcluded(address,address,uint256).tTransferAmount (contracts/Token.sol#1175)
Variable X20.reflectionFromToken(uint256,bool).rTransferAmount (contracts/Token.sol#747) is too similar to X20._getValues(uint256).tTransferAmount (contracts/Token.sol#840)
Variable X20._transferFromExcluded(address,address,uint256).rTransferAmount (contracts/Token.sol#1173) is too similar to X20._getValues(uint256).tTransferAmount (contracts/Token.sol#840)
Variable X20._getValues(uint256).rTransferAmount (contracts/Token.sol#845) is too similar to X20._transferFromExcluded(address,address,uint256).tTransferAmount (contracts/Token.sol#1175)
Variable X20._transferBothExcluded(address,address,uint256).rTransferAmount (contracts/Token.sol#1196) is too similar to X20._transferFromExcluded(address,address,uint256).tTransferAmount (contracts/Token.sol#1175)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#variable-names-too-similar

X20.DEAD (contracts/Token.sol#552) should be constant
X20._decimals (contracts/Token.sol#525) should be constant
X20._name (contracts/Token.sol#523) should be constant
X20._symbol (contracts/Token.sol#524) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant

X20.DEV (contracts/Token.sol#553) should be immutable
X20._tTotal (contracts/Token.sol#528) should be immutable
X20._mk (contracts/Token.sol#550) should be immutable
X20.totalBuyFees (contracts/Token.sol#545-546) should be immutable
X20.totalSellFees (contracts/Token.sol#547-548) should be immutable
X20.uniswapV2Pair (contracts/Token.sol#556) should be immutable
X20.uniswapV2Router (contracts/Token.sol#555) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
```

**Result => A static analysis of contract's source code has been performed using slither,
No major issues were found in the output**



FUNCTIONAL TESTING

1- Adding liquidity (**passed**):

<https://testnet.bscscan.com/tx/0xcb280ceeac015c91085c32aa61c8e0e533251786580bb8e0ee403cd2f0e6095>

2- Buying when excluded from fees (0% tax) (**passed**):

<https://testnet.bscscan.com/tx/0xcb280ceeac015c91085c32aa61c8e0e533251786580bb8e0ee403cd2f0e6095>

3- Selling when excluded from fees (0% tax) (**passed**):

<https://testnet.bscscan.com/tx/0xc5a0861b7678e9b3ed98ecd6e33bd4fb7912ad673310b29b9e5010a5e2e7547>

4- Transferring when excluded from fees (0% tax) (**passed**):

<https://testnet.bscscan.com/tx/0x355ea26c0506fa9d910e04435739e071bc84bb75aca6a14946965ad388269660>

5- Buying when not excluded from fees (0-6% tax) (**passed**):

<https://testnet.bscscan.com/tx/0x35726ffda92438afd3631c6b9da420d5cf6e9806e998171e15f99608c19e06dd>

6- Selling when not excluded from fees (0-6% tax) (**passed**):

<https://testnet.bscscan.com/tx/0x0ca0eb3a22083f5320fa1d3c5acd8c6bd899ea2dbd19ad5c320ae60522ca8038>



FUNCTIONAL TESTING

7- Transferring (0% tax) (passed):

<https://testnet.bscscan.com/tx/0xa909c24d059ee1f33b37d405f0c22af f44f849e4b7218fb37908a62feab9be72>

8- Internal swap (BNB fee + auto liquidity) (passed):

<https://testnet.bscscan.com/tx/0x0ca0eb3a22083f5320fa1d3c5acd8c6 bd899ea2dbd19ad5c320ae60522ca8038>



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