



Smart Contract Audit

FOR
Xmar Token

DATED : 24 November 23'



AUDIT SUMMARY

Project name – Xmar Token

Date: 24 November 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.

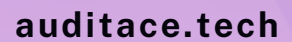
3- Slither :

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/address/0x11c109cb14b6bfe77db35910f2c746eaea5acc96#code>



Token Information

Token Address: -

0x4f3e42Ff6FfD40e5CF5BAc5Fb7Dd26253513F4ba

Name: XmarToken

Symbol: XT

Decimals: 18

Network: Binance smart chain

Token Type: BEP-20

Owner: - 0x9ce658623526B120522aeb5f070DEBB4Ee787099

Deployer: -

0x9ce658623526B120522aeb5f070DEBB4Ee787099

Token Supply: 100000000000000000000000000000000

Checksum: 511e96358f29bfd04d2679343a6d247a

Testnet version:

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

<https://testnet.bscscan.com/address/0x11c109cb14b6bfe77db35910f2c746eaea5acc96#code>



TOKEN OVERVIEW

Max tax

Buy : 6%

Sell : 10%

Transfer : 0%



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 Limitand 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

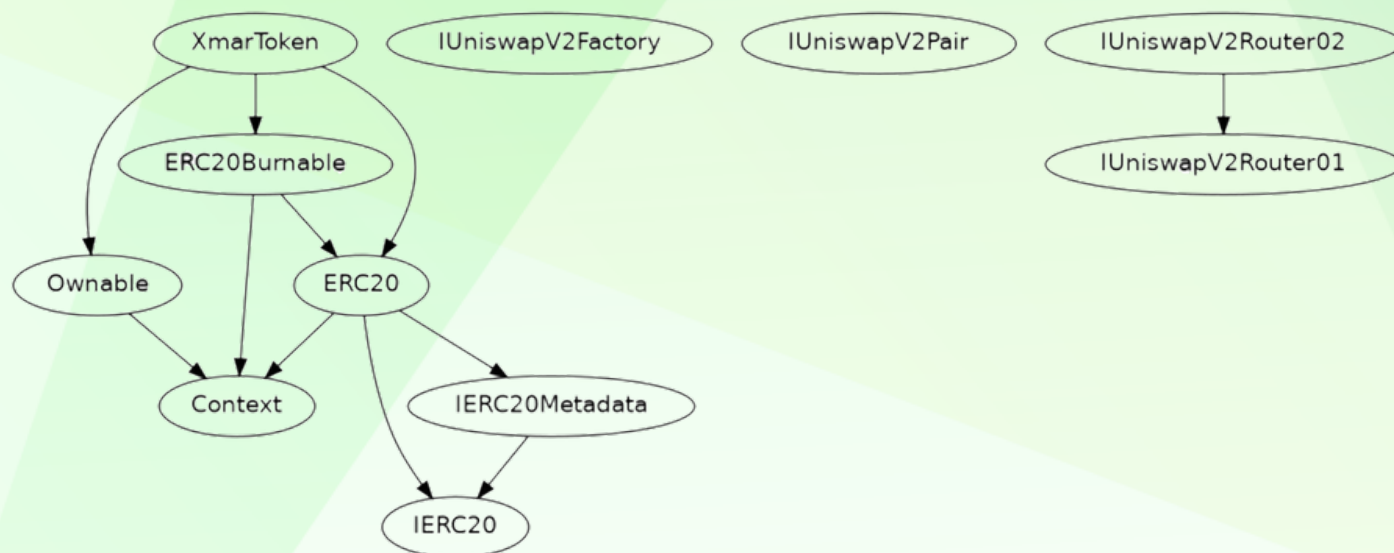
◆ Low-Risk

0

◆ Gas Optimization / Suggestions

0

INHERITANCE TREE





POINTS TO NOTE

- Owner can set marketing wallet address,
 - Owner can set Dev wallet address
 - Owner can set any arbitrary value in NumTokensSellToAddToLiquidity, NumTokensSellMarketing and NumTokensSellDev
 - owner can exclude/include accounts from rewards
 - owner can enable/disable swapping
-



STATIC ANALYSIS

```
INFO:Detectors:
XmarToken._tTotal (XmarToken.sol#942) is set pre-construction with a non-constant function or state variable:
- (MAX - (MAX * _tTotal))
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#function-initializing-state
INFO:Detectors:
Pragma version 0.8.19 (XmarToken.sol#2) necessitates a version too recent to be trusted. Consider deploying with 0.8.18.
solc 0.8.19 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity
INFO:Detectors:
Function IUniswapV2Pair.MINIMUM_LIQUIDITY() (XmarToken.sol#717) is not in mixedCase
Function IUniswapV2Router01.WETH() (XmarToken.sol#757) is not in mixedCase
Parameter XmarToken.setMarketingAddress(address)._marketingAddress (XmarToken.sol#1075) is not in mixedCase
Parameter XmarToken.setDevAddress(address)._devAddress (XmarToken.sol#1083) is not in mixedCase
Parameter XmarToken.updateNumTokensSellToAddToLiquidity(uint256)._numTokensSellToAddToLiquidity (XmarToken.sol#1091) is not in mixedCase
Parameter XmarToken.updateNumTokensSellMarketing(uint256)._numTokensSellMarketing (XmarToken.sol#1097) is not in mixedCase
Parameter XmarToken.updateNumTokensSellDev(uint256)._numTokensSellDev (XmarToken.sol#1103) is not in mixedCase
Parameter XmarToken.setSwapAndLiquifyEnabled(bool)._enabled (XmarToken.sol#1139) is not in mixedCase
Variable XmarToken.WETH (XmarToken.sol#972) is not in mixedCase
Variable XmarToken._maxTxAmount (XmarToken.sol#987) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions
INFO:Detectors:
Variable IUniswapV2Router01.addLiquidity(address,address,uint256,uint256,uint256,uint256,address,uint256).amountDesired (XmarToken.sol#762) is too similar to IUniswapV2Router01.addLiquidity(address,address,uint256,uint256,uint256,uint256,address,uint256).amountDesired (XmarToken.sol#763)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#variable-names-too-similar
INFO:Detectors:
XmarToken.slitherConstructorVariables() (XmarToken.sol#927-1519) uses literals with too many digits:
- _maxTxAmount = 10000000000 * 10 ** 18 (XmarToken.sol#987)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#too-many-digits
INFO:Detectors:
XmarToken._allowances (XmarToken.sol#930) is never used in XmarToken (XmarToken.sol#927-1519)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-state-variable
INFO:Detectors:
Loop condition i < _excluded.length (XmarToken.sol#1156) should use cached array length instead of referencing 'length' member of the storage array.
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#cache-array-length
INFO:Detectors:
XmarToken._maxTxAmount (XmarToken.sol#987) should be constant
XmarToken._tTotal (XmarToken.sol#942) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant
INFO:Detectors:
XmarToken.WETH (XmarToken.sol#972) should be immutable
XmarToken.uniswapV2Pair (XmarToken.sol#980) should be immutable
XmarToken.uniswapV2Router (XmarToken.sol#979) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
INFO:Slither:XmarToken.sol analyzed (11 contracts with 93 detectors), 47 result(s) found
```

```
INFO:Detectors:
XmarToken._tokenTransfer(address,address,uint256,XmarToken.Taxes) (XmarToken.sol#1298-1364) performs a multiplication on the result of a division:
- trfi = (tAmount * usedTaxes.cellRewards) / 100 (XmarToken.sol#1351)
- _rTotal += trfi * _getRate() (XmarToken.sol#1354)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#divide-before-multiply
INFO:Detectors:
XmarToken.addLiquidity(uint256,uint256) (XmarToken.sol#1268-1281) ignores return value by uniswapV2Router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,DEAD_ADDRESS,block.timestamp) (XmarToken.sol#1273-1280)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-return
INFO:Detectors:
XmarToken.updateNumTokensSellToAddToLiquidity(uint256) (XmarToken.sol#1090-1094) should emit an event for:
- numTokensSellToAddToLiquidity = _numTokensSellToAddToLiquidity (XmarToken.sol#1093)
XmarToken.updateNumTokensSellMarketing(uint256) (XmarToken.sol#1096-1100) should emit an event for:
- numTokensSellMarketing = _numTokensSellMarketing (XmarToken.sol#1099)
XmarToken.updateNumTokensSellDev(uint256) (XmarToken.sol#1102-1106) should emit an event for:
- numTokensSellDev = _numTokensSellDev (XmarToken.sol#1105)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#missing-events-arithmetic
INFO:Detectors:
Reentrancy in XmarToken._transfer(address,address,uint256) (XmarToken.sol#1172-1226):
  External calls:
  - handleLiquidityAndSwaps(from) (XmarToken.sol#1193)
    - uniswapV2Router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,DEAD_ADDRESS,block.timestamp) (XmarToken.sol#1273-1280)
    - uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (XmarToken.sol#1259-1265)
    - IUniswapV2Router02(uniswapV2Router).swapExactTokensForTokensSupportingFeeOnTransferTokens(contractTokenBalanceToSwapForWETH1,0,path,devAddress,block.timestamp) (XmarToken.sol#1417-1424)
    - IUniswapV2Router02(uniswapV2Router).swapExactTokensForTokensSupportingFeeOnTransferTokens(contractTokenBalanceToSwapForWETH,0,path,marketingAddress,block.timestamp) (XmarToken.sol#1386-1393)
  External calls sending eth:
  - handleLiquidityAndSwaps(from) (XmarToken.sol#1193)
    - uniswapV2Router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,DEAD_ADDRESS,block.timestamp) (XmarToken.sol#1273-1280)
  State variables written after the call(s):
  - _tokenTransfer(from,to,amount,usedTaxes) (XmarToken.sol#1224)
    - totFeesPaid.liquidity += tLiquidity (XmarToken.sol#1311)
    - totFeesPaid.cellBurn += tBurn (XmarToken.sol#1322)
    - totFeesPaid.marketing += tMarketing (XmarToken.sol#1332)
    - totFeesPaid.dev += tDev (XmarToken.sol#1343)
    - totFeesPaid.cellRewards += trfi (XmarToken.sol#1355)
Reentrancy in XmarToken.handleLiquidityAndSwaps(address) (XmarToken.sol#1464-1515):
  External calls:
  - swapAndLiquify(contractTokenBalance) (XmarToken.sol#1482)
    - uniswapV2Router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,DEAD_ADDRESS,block.timestamp) (XmarToken.sol#1273-1280)
    - uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (XmarToken.sol#1259-1265)
  External calls sending eth:
  - swapAndLiquify(contractTokenBalance) (XmarToken.sol#1482)
    - uniswapV2Router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,DEAD_ADDRESS,block.timestamp) (XmarToken.sol#1273-1280)
  State variables written after the call(s):
  - tradeTaxEnabled = true (XmarToken.sol#1408)
  - tradeTaxEnabled = false (XmarToken.sol#1495)
Reentrancy in XmarToken.handleLiquidityAndSwaps(address) (XmarToken.sol#1464-1515):
  External calls:
  - swapAndLiquify(contractTokenBalance) (XmarToken.sol#1482)
    - uniswapV2Router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,DEAD_ADDRESS,block.timestamp) (XmarToken.sol#1273-1280)
```



STATIC ANALYSIS

```
INFO:Detectors:
Reentrancy in XmarToken._transfer(address,address,uint256) (XmarToken.sol#1172-1226):
  External calls:
    - handleLiquidityAndSwaps(from) (XmarToken.sol#1193)
      - uniswapV2Router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,DEAD_ADDRESS,block.timestamp) (XmarToken.sol#1273-1280)
      - uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (XmarToken.sol#1259-1265)
      - IUniswapV2Router02(uniswapV2Router).swapExactTokensForTokensSupportingFeeOnTransferTokens(contractTokenBalanceToSwapForWETH1,0,path,devAddress,block.timestamp) (XmarToken.sol#1417-1424)
      - IUniswapV2Router02(uniswapV2Router).swapExactTokensForTokensSupportingFeeOnTransferTokens(contractTokenBalanceToSwapForWETH,0,path,marketingAddress,block.timestamp) (XmarToken.sol#1386-1393)
  External calls sending eth:
    - handleLiquidityAndSwaps(from) (XmarToken.sol#1193)
      - uniswapV2Router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,DEAD_ADDRESS,block.timestamp) (XmarToken.sol#1273-1280)
  Event emitted after the call(s):
    - Transfer(sender,recipient,tAmount) (XmarToken.sol#1290)
      - taxFreeTransfer(from,to,amount) (XmarToken.sol#1221)
    - Transfer(sender,address(this),tLiquidity) (XmarToken.sol#1213)
      - tokenTransfer(from,to,amount,usedTaxes) (XmarToken.sol#1224)
    - Transfer(sender,DEAD_ADDRESS,tBurn) (XmarToken.sol#1324)
      - tokenTransfer(from,to,amount,usedTaxes) (XmarToken.sol#1224)
    - Transfer(sender,address(this),tsMarketing) (XmarToken.sol#1335)
      - tokenTransfer(from,to,amount,usedTaxes) (XmarToken.sol#1224)
    - Transfer(sender,address(this),tsDev) (XmarToken.sol#1346)
      - tokenTransfer(from,to,amount,usedTaxes) (XmarToken.sol#1224)
    - Transfer(sender,recipient,tTransferAmount) (XmarToken.sol#1362)
      - tokenTransfer(from,to,amount,usedTaxes) (XmarToken.sol#1224)
Reentrancy in XmarToken.handleLiquidityAndSwaps(address) (XmarToken.sol#1464-1515):
  External calls:
    - swapAndLiquify(contractTokenBalance) (XmarToken.sol#1482)
      - uniswapV2Router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,DEAD_ADDRESS,block.timestamp) (XmarToken.sol#1273-1280)
      - uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (XmarToken.sol#1259-1265)
    - swapCellForWETH1() (XmarToken.sol#1496)
      - IUniswapV2Router02(uniswapV2Router).swapExactTokensForTokensSupportingFeeOnTransferTokens(contractTokenBalanceToSwapForWETH1,0,path,devAddress,block.timestamp) (XmarToken.sol#1417-1424)
  External calls sending eth:
    - swapAndLiquify(contractTokenBalance) (XmarToken.sol#1482)
      - uniswapV2Router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,DEAD_ADDRESS,block.timestamp) (XmarToken.sol#1273-1280)
  Event emitted after the call(s):
    - Approval(owner,spender,amount) (XmarToken.sol#854)
      - swapCellForWETH1() (XmarToken.sol#1496)
    - SwapCellForDev(contractTokenBalanceToSwapForWETH1) (XmarToken.sol#1426)
      - swapCellForWETH1() (XmarToken.sol#1496)
Reentrancy in XmarToken.handleLiquidityAndSwaps(address) (XmarToken.sol#1464-1515):
  External calls:
    - swapAndLiquify(contractTokenBalance) (XmarToken.sol#1482)
      - uniswapV2Router.addLiquidityETH(value: ethAmount)(address(this),tokenAmount,0,0,DEAD_ADDRESS,block.timestamp) (XmarToken.sol#1273-1280)
      - uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (XmarToken.sol#1259-1265)
    - swapCellForWETH1() (XmarToken.sol#1496)
      - IUniswapV2Router02(uniswapV2Router).swapExactTokensForTokensSupportingFeeOnTransferTokens(contractTokenBalanceToSwapForWETH1,0,path,devAddress,block.timestamp) (XmarToken.sol#1417-1424)
    - swapCellForWETH() (XmarToken.sol#1511)
      - IUniswapV2Router02(uniswapV2Router).swapExactTokensForTokensSupportingFeeOnTransferTokens(contractTokenBalanceToSwapForWETH,0,path,marketingAddress,block.timestamp) (XmarToken.sol#1386-1393)
  External calls sending eth:
    - swapAndLiquify(contractTokenBalance) (XmarToken.sol#1482)
```

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- Approve (passed):

<https://testnet.bscscan.com/tx/0x917fc29bde708314662842bd935a6ff6f1f70f5e5e647bc4662dcd6859682eac>

2- Increase Allowance (passed):

<https://testnet.bscscan.com/tx/0x5e58ebf086e109e84c4f04b314cd09a3c0de2d4aa3967d830b6bed7e226bff69>

3- Decrease Allowance (passed):

<https://testnet.bscscan.com/tx/0xc9bf67052cbaba3f44316780af9e1fb988f34bb5157ff51c12ad63d3ba034313>

4- Set Dev Address (passed):

<https://testnet.bscscan.com/tx/0x38b65c9d044d18d854dff6ab9c1cbf274f90de99dbc078582598332e5d79a7b8>

5- Set Marketing Address (passed):

<https://testnet.bscscan.com/tx/0x2366fe5d66211a0e2f4f345715dd813ee337ba4e595534e9186692fbc4181ab0>

6- Set Swap And Liquify Enabled (passed):

<https://testnet.bscscan.com/tx/0xad81d3655030ebcfaecda1bd2f76da1f52f8960fd94b21c7388e27aa7b50a461>

7- Set Trade Tax Status (passed):

<https://testnet.bscscan.com/tx/0x73fb67a308456948d0081149667f12ddddcf07d750940de78e918c6e3d6b061e>



FUNCTIONAL TESTING

8- Transfer (**passed**):

<https://testnet.bscscan.com/tx/0x6b32cd0bdb57d86a684031c512a199d1eee833101d52966766385b96272a83c7>

9- Exclude Account Rewards (**passed**):

<https://testnet.bscscan.com/tx/0xeea8f563f80647b19ee78210ed583234416e64db1acae667650f526b96b500f3>

10- Include In Fee (**passed**):

<https://testnet.bscscan.com/tx/0x40739e30fe78c3faa051dcb8ba01b3f350d0db8900c0d5735a4923b35a0aeb86>



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