



Smart Contract Security Audit

<u>TechRate</u> September, 2021

Audit Details



Audited project

MiniSports Token



Deployer address

0x77c352eaddf7a7d45b2a91b4099861b9b31453cc



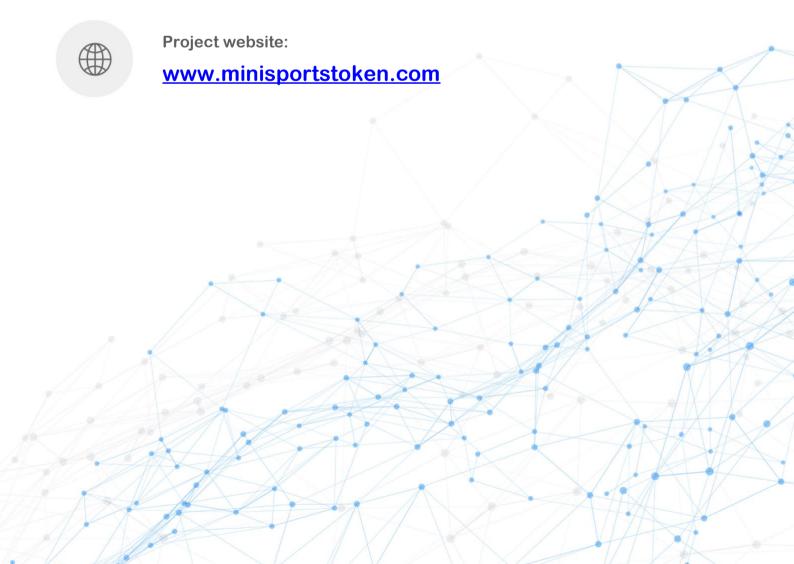
Client contacts:

MiniSports Token team



Blockchain

Binance Smart Chain



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 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.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Background

TechRate was commissioned by MiniSports Token to perform an audit of smart contracts:

https://bscscan.com/address/0x15fd9b1A9970855FBe6739C2bc220Af21f361284#code

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

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Contracts Details

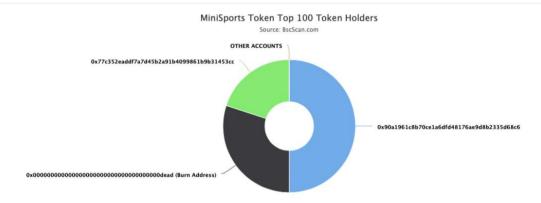
Token contract details for 01.09.2021

Contract name	MiniSports Token	
Contract address	0x15fd9b1A9970855FBe6739C2bc220Af21f361284	
Total supply	1,000,000,000,000	
Token ticker	MiniSports	
Decimals	9	
Token holders	3	
Transactions count	3	
Top 100 holders dominance	100.00%	
Liquidity fee	13	
Tax fee	2	
Total fees	0	
Uniswap V2 pair	0x18f35ff5a2a6572a635ba5d683b7cbcab25a2327	
Contract deployer address	0x77c352eaddf7a7d45b2a91b4099861b9b31453cc	
Contract's current owner address	0x77c352eaddf7a7d45b2a91b4099861b9b31453cc	

MiniSports Token Token Distribution

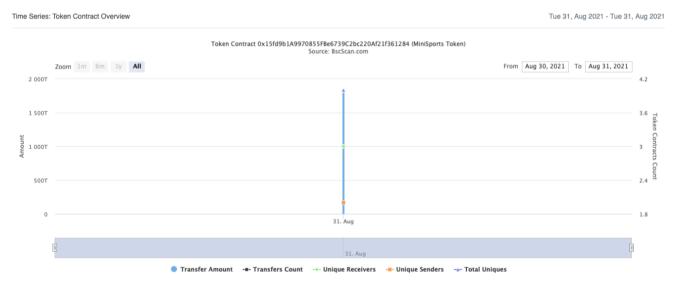


Token Total Supply: 1,000,000,000,000,000.00 Token
 Total Token Holders: 3



(A total of 1,000,000,000,000,000,000.00 tokens held by the top 100 accounts from the total supply of 1,000,000,000,000,000.00 token)

MiniSports Token Contract Interaction Details



MiniSports Token Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	₫ 0x90a1961c8b70ce1a6dfd48176ae9d8b2335d68c6	500,000,000,001,048	50.0000%
2	Burn Address	300,000,000,000,000	30.0000%
3	0x77c352eaddf7a7d45b2a91b4099861b9b31453cc	199 999 999 998 952	20.0000%



Contract functions details

+ Context - [Int] _msgSender - [Int] msgData + [Int] IERC20 - [Ext] totalSupply - [Ext] balanceOf - [Ext] transfer # - [Ext] allowance - [Ext] approve # - [Ext] transferFrom # + [Lib] SafeMath - [Int] add - [Int] sub - [Int] sub - [Int] mul - [Int] div - [Int] div - [Int] mod - [Int] mod + [Lib] Address - [Int] isContract - [Int] sendValue # - [Int] functionCall # - [Int] functionCall # - [Int] functionCallWithValue # - [Int] functionCallWithValue # - [Prv] functionCallWithValue # + Ownable (Context) - [Pub] <Constructor> # - [Pub] owner - [Pub] renounceOwnership # - modifiers: onlyOwner - [Pub] transferOwnership # - modifiers: onlyOwner - [Pub] getUnlockTime - [Pub] getTime - [Pub] lock # - modifiers: onlyOwner - [Pub] unlock # + [Int] IUniswapV2Factory - [Ext] feeTo - [Ext] feeToSetter - [Ext] getPair - [Ext] allPairs - [Ext] allPairsLength

- [Ext] createPair #

```
- [Ext] setFeeTo #
 - [Ext] setFeeToSetter#
+ [Int] IUniswapV2Pair
 - [Ext] name
 - [Ext] symbol
 - [Ext] decimals
```

- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] allowance
- [Ext] approve #
- [Ext] transfer #
- [Ext] transferFrom #
- [Ext] DOMAIN SEPARATOR
- [Ext] PERMIT_TYPEHASH
- [Ext] nonces
- [Ext] permit #
- [Ext] MINIMUM_LIQUIDITY
- [Ext] factory
- [Ext] token0
- [Ext] token1
- [Ext] getReserves
- [Ext] price0CumulativeLast
- [Ext] price1CumulativeLast
- [Ext] kLast
- [Ext] burn #
- [Ext] swap #
- [Ext] skim #
- [Ext] sync #
- [Ext] initialize #

+ [Int] IUniswapV2Router01

- [Ext] factory
- [Ext] WETH
- [Ext] addLiquidity #
- [Ext] addLiquidityETH (\$)
- [Ext] removeLiquidity #
- [Ext] removeLiquidityETH #
- [Ext] removeLiquidityWithPermit #
- [Ext] removeLiquidityETHWithPermit #
- [Ext] swapExactTokensForTokens #
- [Ext] swapTokensForExactTokens #
- [Ext] swapExactETHForTokens (\$)
- [Ext] swapTokensForExactETH #
- [Ext] swapExactTokensForETH #
- [Ext] swapETHForExactTokens (\$)
- [Ext] quote
- [Ext] getAmountOut
- [Ext] getAmountIn
- [Ext] getAmountsOut
- [Ext] getAmountsIn

+ [Int] IUniswapV2Router02 (IUniswapV2Router01)

- [Ext] removeLiquidityETHSupportingFeeOnTransferTokens #
- [Ext] removeLiquidityETHWithPermitSupportingFeeOnTransferTokens #

- [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
- [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens (\$)
- [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #
- + MiniSports (Context, IERC20, Ownable)
 - [Pub] <Constructor>#
 - [Pub] name
 - [Pub] symbol
 - [Pub] decimals
 - [Pub] totalSupply
 - [Pub] balanceOf
 - [Pub] transfer #
 - [Pub] allowance
 - [Pub] approve #
 - [Fub] approve #
 - [Pub] transferFrom #
 - [Pub] increaseAllowance #
 - [Pub] decreaseAllowance #
 - [Pub] isExcludedFromReward
 - [Pub] totalFees
 - [Pub] minimumTokensBeforeSwapAmount
 - [Pub] buyBackSellLimitAmount
 - [Pub] deliver #
 - [Pub] reflectionFromToken
 - [Pub] tokenFromReflection
 - [Pub] excludeFromReward #
 - modifiers: onlyOwner
 - [Ext] includeInReward #
 - modifiers: onlyOwner
 - [Prv] approve #
 - [Prv] transfer #
 - [Prv] swapTokens #
 - modifiers: lockTheSwap
 - [Prv] buyBackTokens #
 - modifiers: lockTheSwap
 - [Prv] swapTokensForEth #
 - [Prv] swapETHForTokens #
 - [Prv] addLiquidity #
 - [Prv] tokenTransfer #
 - [Prv] _transferStandard #
 - [Prv] _transferToExcluded #
 - [Prv] _transferFromExcluded #
 - [Prv] transferBothExcluded #
 - [Prv] _reflectFee #
 - [Prv] _getValues
 - [Prv] _getTValues
 - [Prv] _getRValues
 - [Prv] _getRate
 - [Prv] getCurrentSupply
 - [Prv] _takeLiquidity #
 - [Prv] calculateTaxFee
 - [Prv] calculateLiquidityFee
 - [Prv] removeAllFee #
 - [Prv] restoreAllFee #
 - [Pub] isExcludedFromFee
 - [Pub] excludeFromFee #

```
- modifiers: onlyOwner
- [Pub] includeInFee #
 - modifiers: onlyOwner
- [Pub] excludeFromSwapAndLiquify #
 - modifiers: onlyOwner
- [Pub] includeInSwapAndLiquify #
 - modifiers: onlyOwner
- [Prv] _getSellBnBAmount
- [Prv] removeOldSellHistories #

    [Ext] SetBuyBackMaxTimeForHistories #

 - modifiers: onlyOwner
- [Ext] SetBuyBackDivisor #
 - modifiers: onlyOwner
- [Pub] GetBuyBackTimeInterval
- [Ext] SetBuyBackTimeInterval #
 - modifiers: onlyOwner
- [Ext] SetBuyBackRangeRate #
 - modifiers: onlyOwner
- [Pub] GetSwapMinutes
- [Ext] SetSwapMinutes #
 - modifiers: onlyOwner
- [Ext] setTaxFeePercent #
 - modifiers: onlvOwner
- [Ext] setBuyFee #
 - modifiers: onlyOwner
- [Ext] setSellFee #
 - modifiers: onlyOwner
- [Ext] setLiquidityFeePercent #
 - modifiers: onlyOwner
- [Ext] setBuyBackSellLimit #
 - modifiers: onlyOwner
- [Ext] setMaxTxAmount #
 - modifiers: onlyOwner
- [Ext] setMarketingDivisor #
 - modifiers: onlyOwner
- [Ext] setNumTokensSellToAddToBuyBack #
 - modifiers: onlyOwner
- [Ext] setMarketingAddress #
 - modifiers: onlyOwner
- [Pub] setSwapAndLiquifyEnabled #
 - modifiers: onlyOwner
- [Pub] setBuyBackEnabled #
 - modifiers: onlyOwner
- [Pub] setAutoBuyBackEnabled #
 - modifiers: onlyOwner
- [Ext] prepareForPreSale #
 - modifiers: onlyOwner
- [Ext] afterPreSale #
 - modifiers: onlyOwner
- [Prv] transferToAddressETH #
- [Pub] changeRouterVersion #
 - modifiers: onlyOwner
- [Ext] <Fallback> ($)
- [Pub] transferForeignToken #
```

- modifiers: onlyOwner

- [Ext] Sweep #
- modifiers: onlyOwner
- [Ext] setAddressFee #
 - modifiers: onlyOwner
- [Ext] setBuyAddressFee #
 - modifiers: onlyOwner
- [Ext] setSellAddressFee #
 - modifiers: onlyOwner
- (\$) = payable function # = non-constant function

Issues Checking Status

	Issue description	Checking status
1.	Compiler errors.	Passed
2.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
3.	Possible delays in data delivery.	Passed
4.	Oracle calls.	Passed
5.	Front running.	Passed
6.	Timestamp dependence.	Passed
7.	Integer Overflow and Underflow.	Passed
8.	DoS with Revert.	Passed
9.	DoS with block gas limit.	Low issues
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Passed
12.	The impact of the exchange rate on the logic.	Passed
13.	Private user data leaks.	Passed
14.	Malicious Event log.	Passed
15.	Scoping and Declarations.	Passed
16.	Uninitialized storage pointers.	Passed
17.	Arithmetic accuracy.	Passed
18.	Design Logic.	Passed
19.	Cross-function race conditions.	Passed
20.	Safe Open Zeppelin contracts implementation and usage.	Passed
21.	Fallback function security.	Passed

Security Issues

High Severity Issues

No high severity issues found.

✓ Medium Severity Issues

No medium severity issues found.

- Low Severity Issues
 - 1. Out of gas

Issue:

 The function includeInReward() uses the loop to find and remove addresses from the _excluded list. Function will be aborted with OUT_OF_GAS exception if there will be a long excluded addresses list.

 The function _getCurrentSupply also uses the loop for evaluating total supply. It also could be aborted with OUT_OF_GAS exception if there will be a long excluded addresses list.

 The function _transfer() also uses the loop for calculating buyback amount if _isAutoBuyBack set true. It also could be aborted with OUT_OF_GAS exception if there will be a long sell history list.

```
for (uint i = 0; i < _sellHistories.length; i ++) {
    if (_sellHistories[i].time >= startTime) {
        sumBnbAmount = sumBnbAmount.add(_sellHistories[i].bnbAmount);
        cnt = cnt + 1;
    }
}
```

 The function _removeOldSellHistories() also uses the loop for removing old sell history items. It also could be aborted with OUT_OF_GAS exception if there will be a long sell history list.

```
function _removeOldSellHistories() private {
    uint256 i = 0;
    uint256 maxStartTimeForHistories = block.timestamp - _buyBackMaxTimeForHistories;

for (uint256 j = 0; j < _sellHistories.length; j ++) {
    if (_sellHistories[j].time >= maxStartTimeForHistories) {
        sellHistories[i].time = _sellHistories[j].time;
        _sellHistories[i].bnbAmount = _sellHistories[j].bnbAmount;

    i = i + 1;
    }
}

uint256 removedCnt = _sellHistories.length - i;

for (uint256 j = 0; j < removedCnt; j ++) {
        _sellHistories.pop();
}</pre>
```

Recommendation:

Check that the arrays' length is not too big.

Notes:

addLiquidity function is not used.

Owner privileges (In the period when the owner is not renounced)

Owner can change tax and liquidity fees.

```
ftrace | function setTaxFeePercent(uint256 taxFee1) external onlyOwner() {
    _taxFee = taxFee1;
}

ftrace | funcSig
function setLiquidityFeePercent(uint256 liquidityFee1) external onlyOwner() {
    _liquidityFee = liquidityFee1;
}
```

Owner can change maximum transaction amount.

```
ftrace|funcSig
function setMaxTxAmount(uint256 maxTxAmount 1) external onlyOwner() {
    _maxTxAmount = maxTxAmount 1;
}
```

Owner can exclude from the fee.

```
function excludeFromFee(address account1) public onlyOwner {
    _isExcludedFromFee[account1] = true;
}
```

Owner can change marketingDivisor.

```
ftrace|funcSig
function setMarketingDivisor(uint256 divisor↑) external onlyOwner() {
    marketingDivisor = divisor↑;
}
```

Owner can change minimum number of tokens to add to liquidity.

```
ftrace|funcSig
function setNumTokensSellToAddToLiquidity(uint256 _minimumTokensBeforeSwap 1) external onlyOwner() {
    minimumTokensBeforeSwap = _minimumTokensBeforeSwap 1;
}
```

Owner can change buyBackUpperLimit.

```
ftrace|funcSig
function setBuybackUpperLimit(uint256 buyBackLimit 1) external onlyOwner() {
    buyBackUpperLimit = buyBackLimit 1 * 10**18;
}
```

Owner can change marketing address.

```
ftrace|funcSig
function setMarketingAddress(address _marketingAddress1) external onlyOwner() {
    marketingAddress = payable(_marketingAddress1);
}
```

Owner can enable and disable buyBack.

```
ftrace|funcSig
function setBuyBackEnabled(bool _enabled ) public onlyOwner {
   buyBackEnabled = _enabled ;
   emit BuyBackEnabledUpdated(_enabled );
}
```

Owner can enable before and after presale modes.

```
ftrace | funcSig
function prepareForPreSale() external onlyOwner {
    setSwapAndLiquifyEnabled(false);
    taxFee = 0;
    liquidityFee = 0;
    maxTxAmount = 1000000000 * 10**6 * 10**9;
}

ftrace | funcSig
function afterPreSale() external onlyOwner {
    setSwapAndLiquifyEnabled(true);
    taxFee = 2;
    liquidityFee = 13;
    maxTxAmount = 10000000 * 10**6 * 10**9;
}
```

 Owner can lock and unlock. By the way, using these functions the owner could retake privileges even after the ownership was renounced.

```
function lock(uint256 time1) public virtual onlyOwner {
    _previousOwner = _owner;
    _owner = address(0);
    _lockTime = block.timestamp + time1;
    emit OwnershipTransferred(_owner, address(0));
}

function unlock() public virtual {
    require(_previousOwner == msg.sender, "You don't have permission to unlock");
    require(block.timestamp > _lockTime , "Contract is locked until 7 days");
    emit OwnershipTransferred(_owner, _previousOwner);
    _owner = _previousOwner;
}
```

Owner can withdraw tokens.

```
function transferForeignToken(address _token1, address _to1) public onlyOwner returns(bool _sent1){
    require(_token1 != address(this), "Can't let you take all native token");
    uint256 _contractBalance = IERC20(_token1).balanceOf(address(this));
    _sent1 = IERC20(_token1).transfer(_to1, _contractBalance);
}
```

Owner can set addresses fees.

Owner can withdraw BNBs.

```
function Sweep() external onlyOwner {
    uint256 balance = address(this).balance;
    payable(owner()).transfer(balance);
}
```

Owner can Uniswap router address.

```
function changeRouterVersion(address _router1) public onlyOwner returns(address _pair1) {
    IUniswapV2Router02 _uniswapV2Router = IUniswapV2Router02(_router1);

    _pair1 = IUniswapV2Factory(_uniswapV2Router.factory()).getPair(address(this), _uniswapV2Router.WETH());

    if(_pair1 == address(0)){
        // Pair doesn't exist
        _pair1 = IUniswapV2Factory(_uniswapV2Router.factory())
        .createPair(address(this), _uniswapV2Router.WETH());
}

uniswapV2Pair = _pair1;

// Set the router of the contract variables
uniswapV2Router = _uniswapV2Router;
}
```

Owner can disable and enable auto buyback.

```
ftrace|funcSig
function setAutoBuyBackEnabled(bool _enabled^) public onlyOwner {
    _isAutoBuyBack = _enabled^;
    emit AutoBuyBackEnabledUpdated(_enabled^);
}
```

Owner can change buyBackSellLimit.

```
function setBuyBackSellLimit(uint256 buyBackSellSetLimit ) external onlyOwner {
   buyBackSellLimit = buyBackSellSetLimit ;
}
```

Owner can change buy and sell fees.

Owner can can change intervalMinutesForSwap.

```
function SetSwapMinutes(uint256 newMinutes↑) external only0wner {
    _intervalMinutesForSwap = newMinutes↑ * 1 minutes;
}
```

Owner can change buyback time interval and range rate.

Owner can change buyback devisor.

```
function SetBuyBackDivisor(uint256 newDivisor1) external onlyOwner {
    _buyBackDivisor = newDivisor1;
}
```

Owner can include and exclude from swapAndLiquify.

```
ftrace|funcSig
function excludeFromSwapAndLiquify(address account1) public onlyOwner {
    _isExcludedFromSwapAndLiquify[account1] = true;
}

ftrace|funcSig
function includeInSwapAndLiquify(address account1) public onlyOwner {
    _isExcludedFromSwapAndLiquify[account1] = false;
}
```

Owner can change _buyBackMaxTimeForHistories.

```
function SetBuyBackMaxTimeForHistories(uint256 newMinutes1) external onlyOwner {
          buyBackMaxTimeForHistories = newMinutes1 * 1 minutes;
}
```

Conclusion

Smart contracts contain low severity issues! Liquidity pair contract's security is not checked due to out of scope. 8% of the liquidity goes to marketing address. The further transfers and operations with the funds raise are not related to this particular contract.

Liquidity locking details NOT provided by the team.

TechRate note:

Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.



