



TechRate
AUDIT COMPANY

Smart Contract Security Audit

Audit Details



Audited project

Red Rocket Token



Deployer address

0x9b67dd3c775e6ba4d3e83904dddad9d608ca4474



Client contacts:

Red Rocket Token team



Blockchain

Binance Smart Chain



Project website:

<https://redrocketrrkt.io/>

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 Red Rocket Token to perform an audit of smart contracts:

<https://bscscan.com/address/0xff876016b596c583600c69ed50b14109cc009ad5#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.

Contracts Details

Token contract details for 16.01.2022

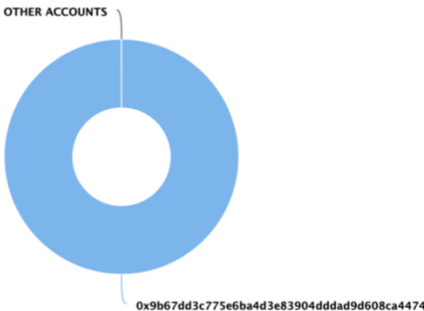
Contract name	Red Rocket Token
Contract address	0xff876016b596c583600C69ED50b14109Cc009Ad5
Total supply	100,000,000,000,000
Token ticker	RRKT
Decimals	9
Token holders	1
Transactions count	1
Top 100 holders dominance	100.00%
Liquidity fee	5
Tax fee	3
Total fees	0
Uniswap V2 pair	0xfab9b2d1bb3722f9f385cd519f271f178996d22f
Contract deployer address	0x9b67dd3c775e6ba4d3e83904dddad9d608ca4474
Contract's current owner address	0x9b67dd3c775e6ba4d3e83904dddad9d608ca4474

Red Rocket Token Token Distribution

The top 100 holders collectively own 100.00% (100,000,000,000,000.00 Tokens) of Red Rocket Token

Token Total Supply: 100,000,000,000,000.00 Token | Total Token Holders: 1

Red Rocket Token Top 100 Token Holders
Source: BscScan.com



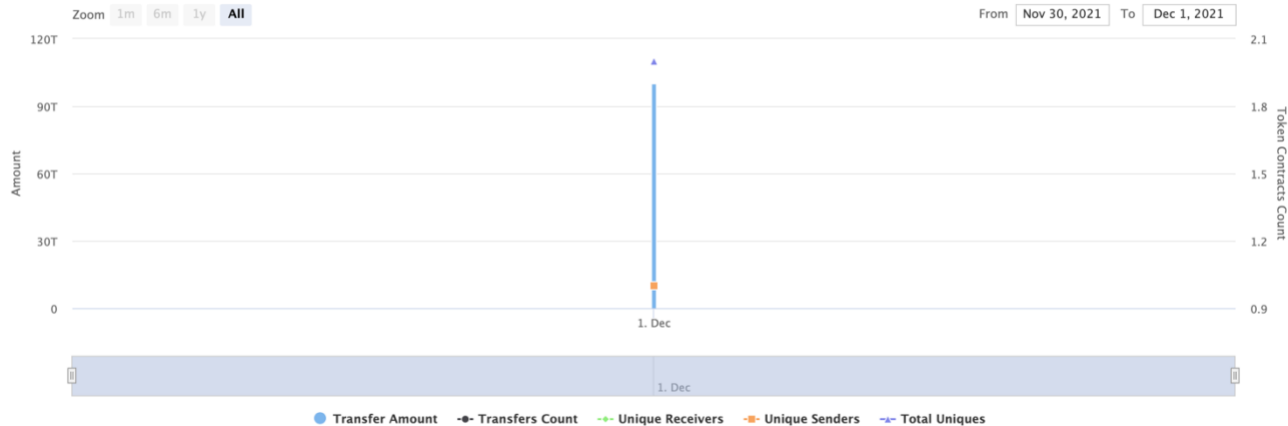
(A total of 100,000,000,000,000.00 tokens held by the top 100 accounts from the total supply of 100,000,000,000,000.00 token)

Red Rocket Token Contract Interaction Details

Time Series: Token Contract Overview

Wed 1, Dec 2021 - Wed 1, Dec 2021

Token Contract 0xff876016b596c583600c69ed50b14109cc009ad5 (Red Rocket Token)
Source: BscScan.com



Red Rocket Token Top 10 Token Holders

Rank	Address	Quantity (Token)	Percent
1.	0x9b67dd3c775e6ba4d3e83904dddad9d608ca4474	100,000,000,000,000	100.0000%



Contract functions details

+ Context

- [Int] _msgSender
- [Int] _msgData

+ Ownable (Context)

- [Pub] <Constructor> #
- [Pub] owner
- [Pub] renounceOwnership #
 - modifiers: onlyOwner
- [Pub] transferOwnership #
 - modifiers: onlyOwner
- [Pub] geUnlockTime
- [Pub] lock #
 - modifiers: onlyOwner
- [Pub] unlock #

+ [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 #

+ [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 #
- + RKT (Context, IERC20, Ownable)
 - [Pub] <Constructor> #
 - [Pub] name
 - [Pub] symbol
 - [Pub] decimals
 - [Pub] totalSupply
 - [Pub] balanceOf
 - [Pub] transfer #
 - [Pub] allowance
 - [Pub] approve #
 - [Pub] transferFrom #
 - [Pub] increaseAllowance #
 - [Pub] decreaseAllowance #
 - [Pub] isExcludedFromReward
 - [Pub] totalFees
 - [Pub] deliver #
 - [Pub] reflectionFromToken
 - [Pub] tokenFromReflection
 - [Pub] excludeFromReward #
 - modifiers: onlyOwner
 - [Ext] includeInReward #
 - modifiers: onlyOwner
 - [Prv] _transferBothExcluded #
 - [Ext] <Fallback> (\$)
 - [Prv] _reflectFee #
 - [Prv] _getValues
 - [Prv] _getTValues
 - [Prv] _getRValues
 - [Prv] _getRate
 - [Prv] _getCurrentSupply
 - [Prv] _takeLiquidity #
 - [Prv] calculateTaxFee
 - [Prv] calculateLiquidityFee
 - [Prv] removeAllFee #
 - [Prv] restoreAllFee #
 - [Pub] isExcludedFromFee
 - [Prv] _approve #
 - [Prv] _transfer #
 - [Prv] swapAndLiquify #
 - modifiers: lockTheSwap
 - [Prv] swapTokensForEth #
 - [Prv] addLiquidity #
 - [Prv] _tokenTransfer #
 - [Prv] _transferStandard #
 - [Prv] takeBurn #
 - [Prv] takeOperation #
 - [Prv] _transferToExcluded #
 - [Prv] _transferFromExcluded #
 - [Pub] excludeFromFee #
 - modifiers: onlyOwner
 - [Pub] includeInFee #
 - modifiers: onlyOwner

- [Ext] setOperationsWallet #
 - modifiers: onlyOwner
- [Ext] setFeePercent #
 - modifiers: onlyOwner
- [Ext] setNumTokensSellToAddToLiquidity #
 - modifiers: onlyOwner
- [Ext] setMaxTxAmount #
 - modifiers: onlyOwner
- [Pub] setSwapAndLiquifyEnabled #
 - 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.	Low issues
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.

```
function includeInReward(address account) external onlyOwner() {
    require(!_isExcluded[account], "Account is already excluded");
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (_excluded[i] == account) {
            _excluded[i] = _excluded[_excluded.length - 1];
            _tOwned[account] = 0;
            _isExcluded[account] = false;
            _excluded.pop();
            break;
        }
    }
}
```

- 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.

```
function _getCurrentSupply() private view returns (uint256, uint256) {
    uint256 rSupply = _rTotal;
    uint256 tSupply = _tTotal;
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (
            _rOwned[_excluded[i]] > rSupply ||
            _tOwned[_excluded[i]] > tSupply
        ) return (_rTotal, _tTotal);
        rSupply = rSupply.sub(_rOwned[_excluded[i]]);
        tSupply = tSupply.sub(_tOwned[_excluded[i]]);
    }
    if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
    return (rSupply, tSupply);
}
```

Recommendation:

Check that the excluded array length is not too big.

2. Rounding error

Issue:

- At some calculation with division, it goes first. In Solidity we don't have floating points, but instead we get rounding errors.

```
fttrace | funcSig
function takeBurn(address sender↑, uint256 tTransferAmount↑, uint256 rTransferAmount↑, uint256 tAmount↑) private
returns (uint256, uint256)
{
    if(_burnFee==0) { return(tTransferAmount↑, rTransferAmount↑); }
    uint256 tBurn = tAmount↑.div(100).mul(_burnFee);
    uint256 rBurn = tBurn.mul(_getRate());
    rTransferAmount↑ = rTransferAmount↑.sub(rBurn);
    tTransferAmount↑ = tTransferAmount↑.sub(tBurn);
    _rOwned[deadAddress] = _rOwned[deadAddress].add(rBurn);
    emit Transfer(sender↑, deadAddress, tBurn);
    return(tTransferAmount↑, rTransferAmount↑);
}

fttrace | funcSig
function takeOperation(address sender↑, uint256 tTransferAmount↑, uint256 rTransferAmount↑, uint256 tAmount↑) private
returns (uint256, uint256)
{
    if(_operationFee==0) { return(tTransferAmount↑, rTransferAmount↑); }
    uint256 tOperation = tAmount↑.div(100).mul(_operationFee);
    uint256 rOperation = tOperation.mul(_getRate());
    rTransferAmount↑ = rTransferAmount↑.sub(rOperation);
    tTransferAmount↑ = tTransferAmount↑.sub(tOperation);
    _rOwned[operationWallet] = _rOwned[operationWallet].add(rOperation);
    emit Transfer(sender↑, operationWallet, tOperation);
    return(tTransferAmount↑, rTransferAmount↑);
}
```

Recommendation:

Do division after multiplication.

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

- Owner can change the taxes.

```
function setFeePercent(uint256 taxFee↑, uint256 liquidityFee↑, uint256 operationFee↑, uint256 burnFee↑) external onlyOwner() {
    _taxFee = taxFee↑;
    _liquidityFee = liquidityFee↑;
    _operationFee = operationFee↑;
    _burnFee = burnFee↑;
}
```

- Owner can change the maximum transaction amount.

```
function setMaxTxAmount(uint256 maxTxAmount↑) external onlyOwner() {
    require(maxTxAmount↑ > 0, "transaction amount must be greater than zero");
    _maxTxAmount = maxTxAmount↑ * 10**9;
}
```

- Owner can exclude from the fee.

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

- Owner can change operation wallet address.

```
function setOperationsWallet(address newWallet↑) external onlyOwner() {
    _operationWallet = newWallet↑;
}
```

- Owner can numTokensSellToAddToLiquidity.

```
function setNumTokensSellToAddToLiquidity(uint256 newAmount↑) external onlyOwner() {
    _numTokensSellToAddToLiquidity = newAmount↑*10**9;
}
```

- Owner can enable/disable swapAndLiquifyEnabled.

```
function setSwapAndLiquifyEnabled(bool _enabled↑) public onlyOwner {
    _swapAndLiquifyEnabled = _enabled↑;
    emit SwapAndLiquifyEnabledUpdated(_enabled↑);
}
```


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

```
//Locks the contract for owner for the amount of time provided
fttrace | funcSig
function lock(uint256 time↑) public virtual onlyOwner {
    _previousOwner = _owner;
    _owner = address(0);
    _lockTime = block.timestamp + time↑;
    emit OwnershipTransferred(_owner, address(0));
}

//Unlocks the contract for owner when _lockTime is exceeds
fttrace | funcSig
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;
}
```

Conclusion

Smart contracts contain low severity issues! Liquidity pair contract's security is not checked due to out of scope.

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.