



**TechRate**  
AUDIT COMPANY

# Smart Contract Security Audit

# Audit Details



Audited project

**AgrocashX**



Deployer address

**0xcf821b58164cd2cb8f4d8217f41d85f387c8fdbe**



Client contacts:

**AgrocashX team**



Blockchain

**Binance Smart Chain**



Project website:

**<http://cryptoagrocash.com/>**

# 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 AgrocashX to perform an audit of smart contracts:

<https://bscscan.com/address/0xd80bea63a208770e1c371dfbf70cb13469d29ae6#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 26.08.2021

Contract name	AgrocashX
Contract address	0xD80BeA63a208770e1c371DFBF70Cb13469D29Ae6
Total supply	10,000,000,000,000
Token ticker	xAGC
Decimals	9
Token holders	5,866
Transactions count	24,790
Top 100 holders dominance	99.91%
Liquidity fee	5
Tax fee	5
Total fees	5285304472694764036
Uniswap V2 pair	0x8c101e614215c0e5eec1bd3ef46ba96b0cbb8fac
Contract deployer address	0xcf821b58164cd2cb8f4d8217f41d85f387c8fdb5
Contract's current owner address	0xf54586d17b308b4485d9f21ed5e2c5639c21feb5

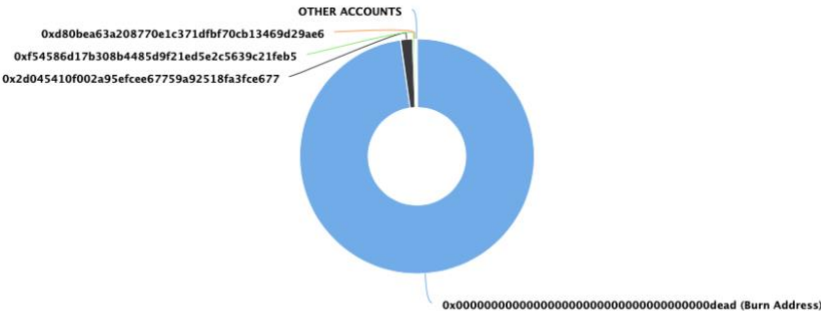
# AgrocashX Token Distribution

The top 100 holders collectively own 99.91% (9,991,253,726,183.50 Tokens) of AgrocashX

Token Total Supply: 10,000,000,000,000.00 Token | Total Token Holders: 5,866

AgrocashX Top 100 Token Holders

Source: BscScan.com



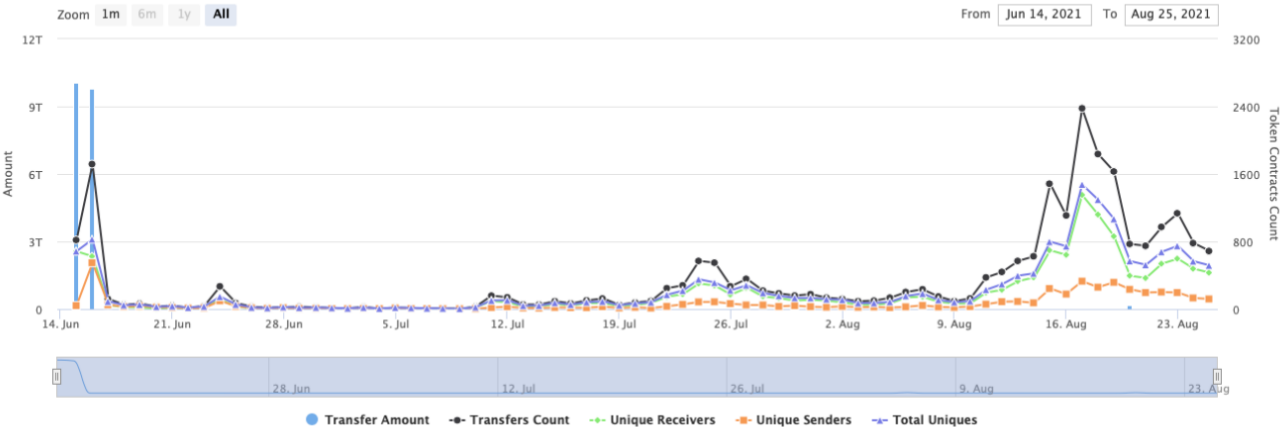
(A total of 9,991,253,726,183.50 tokens held by the top 100 accounts from the total supply of 10,000,000,000,000.00 token)

# AgrocashX Contract Interaction Details

Time Series: Token Contract Overview




Tue 15, Jun 2021 - Wed 25, Aug 2021

Token Contract 0xd80bea63a208770e1c371dfbf70cb13469d29ae6 (AgrocashX)  
Source: BscScan.com





# AgrocashX Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	Burn Address	9,776,724,912,164.475780059	97.7672%
2	 0x2d045410f002a95efcee67759a92518fa3fce677	163,380,342,510.664758748	1.6338%
3	0xf54586d17b308b4485d9f21ed5e2c5639c21feb5	28,768,611,146.051085102	0.2877%
4	 0xd80bea63a208770e1c371dfbf70cb13469d29ae6	5,166,949,905.698380387	0.0517%
5	0x7f332301b12b5b34f015012f9c9756acbbc28b8f	2,399,948,658.677366797	0.0240%
6	 PancakeSwap V2: xAGC 3	1,184,626,411.468416986	0.0118%
7	0xd5ecba58726041941d47eca35e3262f1989931f1	967,394,282.921265787	0.0097%
8	0x0cff461efce0badffe5bb16a820cf35c81d3945c	658,474,154.578144767	0.0066%
9	0x5d4326427468a587e6c5708a94ed6a8c28cf4c59	550,836,387.074696293	0.0055%
10	0x3b43751e6d1449958d83398511187d54ad25005e	542,190,299.674038241	0.0054%



# Contract functions details

- + [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
- + Context
  - [Int] \_msgSender
  - [Int] \_msgData
- + [Lib] Address
  - [Int] isContract
  - [Int] sendValue #
  - [Int] functionCall #
  - [Int] functionCall #
  - [Int] functionCallWithValue #
  - [Int] functionCallWithValue #
  - [Prv] \_functionCallWithValue #
- + Ownable (Context)
  - [Int] <Constructor> #
  - [Pub] owner
  - [Pub] renounceOwnership #
    - modifiers: onlyOwner
  - [Pub] transferOwnership #
    - modifiers: onlyOwner
  - [Pub] geUnlockTime
  - [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] mint #
  - [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 #
- + xAGC (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 #
  - [Pub] excludeFromFee #
    - modifiers: onlyOwner
  - [Pub] includeInFee #
    - modifiers: onlyOwner
  - [Ext] setTaxFeePercent #
    - modifiers: onlyOwner
  - [Ext] setLiquidityFeePercent #
    - modifiers: onlyOwner
  - [Ext] setMaxTxPercent #
    - modifiers: onlyOwner
  - [Pub] setSwapAndLiquifyEnabled #
    - modifiers: onlyOwner
  - [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] \_transferToExcluded #
- [Prv] \_transferFromExcluded #
- [Pub] setRouterAddress #
- 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.

```
ftrace | funcSig
function includeInReward(address account↑) external onlyOwner() {
    require(!_isExcluded[account↑], "Account is not 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.

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

- Owner can change the tax and liquidity fee.

```
function setTaxFeePercent(uint256 taxFee) external onlyOwner() {
    _taxFee = taxFee;
}

function setLiquidityFeePercent(uint256 liquidityFee) external onlyOwner() {
    _liquidityFee = liquidityFee;
}
```

- Owner can change the maximum transaction amount.

```
function setMaxTxPercent(uint256 maxTxPercent) external onlyOwner() {
    _maxTxAmount = _tTotal.mul(maxTxPercent).div(
        10**2
    );
}
```

- Owner can exclude from the fee.

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

- Owner can change router address.

```
function setRouterAddress(address newRouter) public onlyOwner() {
    IUniswapV2Router02 _newPancakeRouter = IUniswapV2Router02(newRouter);
    _uniswapV2Pair = IUniswapV2Factory(_newPancakeRouter.factory()).createPair(address(this), _newPancakeRouter.WETH());
    _uniswapV2Router = _newPancakeRouter;
}
```

- 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
function lock(uint256 time) public virtual onlyOwner {
    _previousOwner = _owner;
    _owner = address(0);
    _lockTime = now + time;
    emit OwnershipTransferred(_owner, address(0));
}

//Unlocks the contract for owner when _lockTime is exceeds
function unlock() public virtual {
    require(_previousOwner == msg.sender, "You don't have permission to unlock");
    require(now > _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 burning details provided by the team (18.8483 of 22.1629 LP-tokens burnt, 85% of the current liquidity tokens supply):

<https://bscscan.com/tx/0x86c98519f0f8a0178d164ad42229b71dc8ce76145f558dd3528ca0ecff120f6>

<https://bscscan.com/tx/0xd3d11aa4665485d0495f4712ed42f191d7d0ca54cdb03db2d23737e56da71042>

<https://bscscan.com/tx/0xceb0fb113aa256e157c41d30f67f879d7e60237b951151feb7062ae131dd887f>

<https://bscscan.com/tx/0xbf4a96929b063ae7e4647bfdfa1e89f26fe4ccad6ee4e048d89469a5a1c0f80c>

<https://bscscan.com/tx/0xce95d7f5166d4a290a3a3a73736f02d057947ba8b5b92660daa1da6ca7b662cc>

Other liquidity locking details NOT provided by the team.

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## *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.*



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