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AUDIT COMPANY

Smart Contract Security Audit

TechRate

August, 2021

Audit Details



Audited project

SHIB CAKE



Deployer address

0xf45342b00e4baa964d0c53fdedeb043a51c442db



Client contacts:

SHIB CAKE team



Blockchain

Binance Smart Chain



Project website:

<https://shibcake.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 SHIB CAKE to perform an audit of smart contracts:

<https://bscscan.com/address/0x90bdf238674569684a34f3af8a3f55f08088bc98#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 27.08.2021

Contract name	SHIB CAKE
Contract address	0x90bdF238674569684a34F3AF8a3F55f08088bc98
Total supply	100,000,000,000
Token ticker	SHIBCAKE
Decimals	18
Token holders	2,020
Transactions count	46,445
Top 100 holders dominance	82.44%
Liquidity fee	1
Cake reward fee	15
Marketing fee	4
Total fees	20
Dividend tracker	0xdacb1b50d095c3fdd2893f1a55ed31a7c7e496f5
Uniswap V2 pair	0x4f2d19bbd600e4e88396c2f6177ef9f2bfa30671
Contract deployer address	0xf45342b00e4baa964d0c53fdedeb043a51c442db
Contract's current owner address	0xf45342b00e4baa964d0c53fdedeb043a51c442db

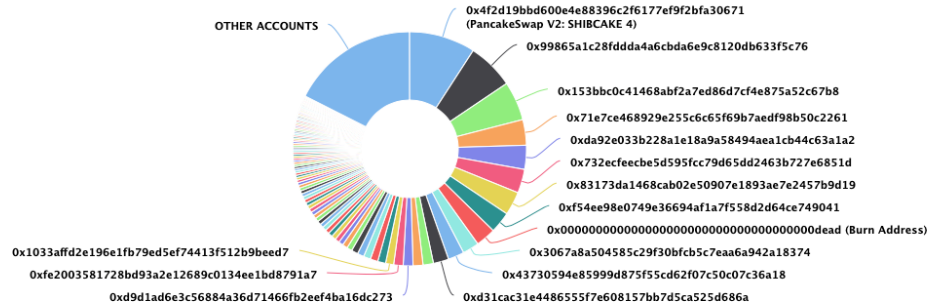
SHIB CAKE Token Distribution

The top 100 holders collectively own 82.44% (82,439,372,278.83 Tokens) of SHIB CAKE

Token Total Supply: 100,000,000,000.00 Token | Total Token Holders: 2,020

SHIB CAKE Top 100 Token Holders

Source: BscScan.com



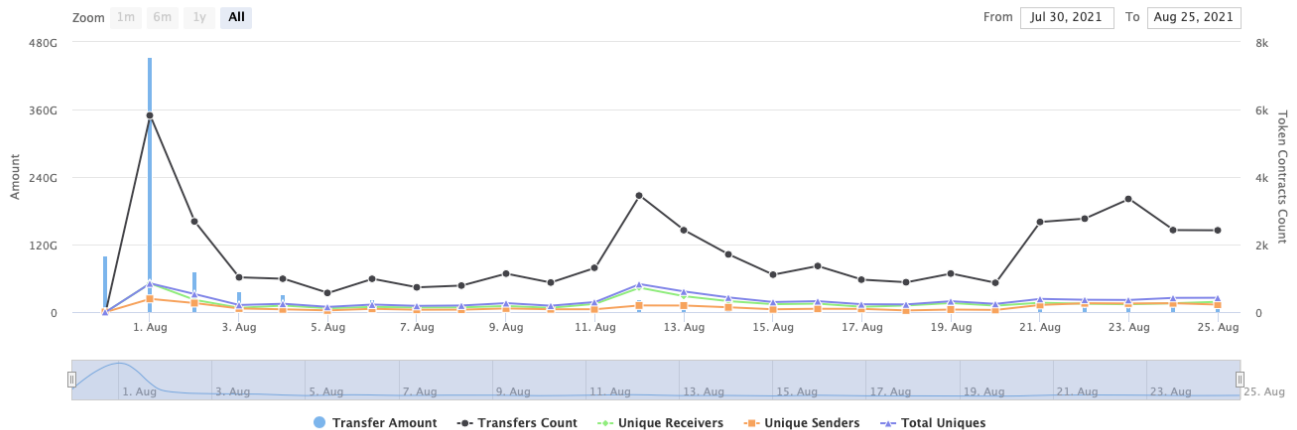
(A total of 82,439,372,278.83 tokens held by the top 100 accounts from the total supply of 100,000,000,000.00 token)

SHIB CAKE Contract Interaction Details




Time Series: Token Contract Overview

Sat 31, Jul 2021 - Wed 25, Aug 2021




Token Contract 0x90bdf238674569684a34f3af8a3f5f08088bc98 (SHIB CAKE)
Source: BscScan.com



SHIB CAKE Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	 PancakeSwap V2: SHIBCAKE 4	9,169,531,423.827250373541223181	9.1695%
2	0x99865a1c28fddda4a6cbda6e9c8120db633f5c76	6,424,849,955.005587710737287753	6.4248%
3	0x153bbc0c41468abf2a7ed86d7c4e875a52c67b8	5,391,661,129.55166130359305127	5.3917%
4	 0x71e7ce468929e255c6c65f69b7aedf98b50c2261	3,537,209,171.76480771318885118	3.5372%
5	0xda92e033b228a1e18a9a58494aea1cb44c63a1a2	3,302,883,458.346145819114804762	3.3029%
6	0x732ecfeecbe5d595cc79d65dd2463b727e6851d	3,298,975,559.820345175165649172	3.2990%
7	0x83173da1468cab02e50907e1893ae7e2457b9d19	3,247,087,223.823973324398611399	3.2471%
8	0xf54ee98e0749e36694af1a7f558d2d64ce749041	2,950,851,186.65	2.9509%
9	Burn Address	2,768,343,555.043364094336608236	2.7683%
10	 0x3067a8a504585c29f30bfc5c7eaa6a942a18374	2,272,728,491.087440812467109066	2.2727%

SHIB CAKE Top 10 LP Token Holders

Rank	Address	Quantity	Percentage
1	 0x8655e5c4d701186d16765d1cdcef6d5287e4679a	974,679.434480896390682841	48.1169%
2	 0x00	663,661.120672187361781186	32.7629%
3	 0x1dc5685088d038cce7b826bb7688142c7b5c6dec	378,776.838200311467652211	18.6990%
4	0x8cc7bc33f5188b1fb683bedc4dbffa77b136833b	3,193.434509657708525943	0.1576%
5	0x7f09f5e73c2d5b3f7e5366fcbfd09d0d676c6f6e	2,216.224711296112937978	0.1094%
6	0xe3a496f1909d9a71ffe2b70a64b9d21efe0ceab	2,106.437079427735549367	0.1040%
7	0x21119006dba67cda9871419bfbde533906d2d8cc	270.887742521485916967	0.0134%
8	0x359e17e39ce79822a8591a1692aed845d1e90d09	181.850462167498148075	0.0090%
9	0x6bc3f699545bf2451db3873eef77917791a88aad	146.727365679438404229	0.0072%
10	0x7ef69665c8ff67fdad80f2c0134333294d6976e2	103.248802165639201682	0.0051%



Contract functions details

+ [Int] IERC20

- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] transfer #
- [Ext] allowance
- [Ext] approve #
- [Ext] transferFrom #

+ Context

- [Int] _msgSender
- [Int] _msgData

+ [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 #

+ [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] IERC20Metadata (IERC20)

- [Ext] name
- [Ext] symbol
- [Ext] decimals

+ Ownable (Context)

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

+ [Lib] SafeMath

- [Int] add
- [Int] sub
- [Int] sub
- [Int] mul
- [Int] div
- [Int] div
- [Int] mod
- [Int] mod

+ [Lib] SafeMathInt

- [Int] mul
- [Int] div
- [Int] sub

- [Int] add
- [Int] abs
- [Int] toUint256Safe

+ [Lib] SafeMathUint

- [Int] toInt256Safe

+ [Lib] IterableMapping

- [Pub] get
- [Pub] getIndexOfKey
- [Pub] getKeyAtIndex
- [Pub] size
- [Pub] set #
- [Pub] remove #

+ ERC20 (Context, IERC20, IERC20Metadata)

- [Pub] <Constructor> #
- [Pub] name
- [Pub] symbol
- [Pub] decimals
- [Pub] totalSupply
- [Pub] balanceOf
- [Pub] transfer #
- [Pub] allowance
- [Pub] approve #
- [Pub] transferFrom #
- [Pub] increaseAllowance #
- [Pub] decreaseAllowance #
- [Int] _transfer #
- [Int] _mint #
- [Int] _burn #
- [Int] _approve #
- [Int] _beforeTokenTransfer #

+ [Int] DividendPayingTokenInterface

- [Ext] dividendOf
- [Ext] withdrawDividend #

+ [Int] DividendPayingTokenOptionalInterface

- [Ext] withdrawableDividendOf
- [Ext] withdrawnDividendOf
- [Ext] accumulativeDividendOf

+ DividendPayingToken (ERC20, Ownable, DividendPayingTokenInterface, DividendPayingTokenOptionalInterface)

- [Pub] <Constructor> #
 - modifiers: ERC20
- [Pub] distributeCAKEDividends #
 - modifiers: onlyOwner
- [Pub] withdrawDividend #
- [Int] _withdrawDividendOfUser #
- [Pub] dividendOf
- [Pub] withdrawableDividendOf
- [Pub] withdrawnDividendOf
- [Pub] accumulativeDividendOf

- [Int] _transfer #
- [Int] _mint #
- [Int] _burn #
- [Int] _setBalance #
- + ShibCake (ERC20, Ownable)
 - [Pub] <Constructor> #
 - modifiers: ERC20
 - [Ext] <Fallback> (\$)
 - [Pub] updateDividendTracker #
 - modifiers: onlyOwner
 - [Pub] updateUniswapV2Router #
 - modifiers: onlyOwner
 - [Pub] excludeFromFees #
 - modifiers: onlyOwner
 - [Pub] excludeMultipleAccountsFromFees #
 - modifiers: onlyOwner
 - [Ext] setMarketingWallet #
 - modifiers: onlyOwner
 - [Ext] setCAKERewardsFee #
 - modifiers: onlyOwner
 - [Ext] setLiquiditFee #
 - modifiers: onlyOwner
 - [Ext] setMarketingFee #
 - modifiers: onlyOwner
 - [Pub] setAutomatedMarketMakerPair #
 - modifiers: onlyOwner
 - [Ext] blacklistAddress #
 - modifiers: onlyOwner
 - [Prv] _setAutomatedMarketMakerPair #
 - [Pub] updateGasForProcessing #
 - modifiers: onlyOwner
 - [Ext] updateClaimWait #
 - modifiers: onlyOwner
 - [Ext] getClaimWait
 - [Ext] getTotalDividendsDistributed
 - [Pub] isExcludedFromFees
 - [Pub] withdrawableDividendOf
 - [Pub] dividendTokenBalanceOf
 - [Ext] excludeFromDividends #
 - modifiers: onlyOwner
 - [Ext] getAccountDividendsInfo
 - [Ext] getAccountDividendsInfoAtIndex
 - [Ext] processDividendTracker #
 - [Ext] claim #
 - [Ext] getLastProcessedIndex
 - [Ext] getNumberOfDividendTokenHolders
 - [Int] _transfer #
 - [Prv] swapAndSendToFee #
 - [Prv] swapAndLiquify #
 - [Prv] swapTokensForEth #
 - [Prv] swapTokensForCake #
 - [Prv] addLiquidity #
 - [Prv] swapAndSendDividends #

+ SHIBCAKEDividendTracker (Ownable, DividendPayingToken)

- [Pub] <Constructor> #
 - modifiers: DividendPayingToken
- [Int] _transfer #
- [Pub] withdrawDividend #
- [Ext] excludeFromDividends #
 - modifiers: onlyOwner
- [Ext] updateClaimWait #
 - modifiers: onlyOwner
- [Ext] getLastProcessedIndex
- [Ext] getNumberOfTokenHolders
- [Pub] getAccount
- [Pub] getAccountAtIndex
- [Prv] canAutoClaim
- [Ext] setBalance #
 - modifiers: onlyOwner
- [Pub] process #
- [Pub] processAccount #
 - 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 `excludeMultipleAccountsFromFees()` uses the loop to exclude multiple accounts from fees. Function will be aborted with `OUT_OF_GAS` exception if there will be a long addresses list.

Recommendation:

Be careful about accounts array length.

Notes:

- Dividend tracker may be changed. So that logic of `setBalance` and other functions could be another and not audited.

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

- Owner can change dividend tracker.
- Owner can change Uniswap router address.
- Owner can exclude from the fees.
- Owner can blacklist addresses.
- Owner can change liquidity, marketing and CAKE reward fees.
- Owner can exclude and include addresses in `automatedMarketMakerPairs` array.
- Owner can exclude from dividends.
- Owner can change marketing wallet.
- Owner can change gas for processing.
- Owner can update `claimWait` value.

Conclusion

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

Liquidity locking details provided by the team:

https://dxsale.app/app/v2_9/dxlockview?id=0&add=0xF45342b00e4baA964D0C53fDedeb043A51C442db&type=lplock&chain=BSC

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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