



Cyberscope

Audit Report

Pikachu

April 2022

Type BEP20

Network BSC

Address 0x55ac1a97251bcfed7aed2920bb75f12e99a5a7ff

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Contract Review

Contract Name	Pikachu
Compiler Version	v0.8.7+commit.e28d00a7
Optimization	200 runs
Licence	Unlicense
Explorer	https://bscscan.com/token/0x55ac1a97251bcfed7aed2920bb75f12e99a5a7ff
Symbol	Pikachu
Decimals	9
Total Supply	19,960,227
Domain	pikachu.cc

Source Files

Filename	SHA256
contract.sol	d644b33c38fec7a7f6ffa06abb8a1aaf6aac6010eed39464c53516a84ae5a6cc

Audit Updates

Initial Audit	17th April 2022
Corrected	

Contract Analysis

● Critical ● Medium ● Minor ● Pass

Severity	Code	Description
●	ST	Contract Owner is not able to stop or pause transactions
●	OCTD	Contract Owner is not able to transfer tokens from specific address
●	OTUT	Owner Transfer User's Tokens
●	ELFM	Contract Owner is not able to increase fees more than a reasonable percent (25%)
●	ULTW	Contract Owner is not able to increase the amount of liquidity taken by dev wallet more than a reasonable percent
●	MT	Contract Owner is not able to mint new tokens
●	BT	Contract Owner is not able to burn tokens from specific wallet
●	BC	Contract Owner is not able to blacklist wallets from selling

ELFM - Exceed Limit Fees Manipulation

Criticality	minor
Location	contract.sol#L737

Description

As long as there is no sell transaction, the fees for each buy transaction is 90%. After the first sell transaction, the maximum fee percentage will be 8%, for both, sell and buy transactions.

```
if(isMarketPair[sender]) {
    feeAmount = amount.mul(_totalTaxIfBuying).div(100);
    if(launchAt.add(3) >= block.number || launchAt == 0) {
        feeAmount = amount.mul(90).div(100);
    }
}else if(isMarketPair[recipient]) {
    feeAmount = amount.mul(_totalTaxIfSelling).div(100);
    if(liq1 == 0){
        liq1 = liq1.add(1);
        launchAt = block.number;
    }
}
```

Recommendation

The contract could embody a check for the maximum acceptable value.

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions. That risk can be prevented by temporarily locking the contract or renouncing ownership.

Contract Diagnostics

● Critical ● Medium ● Minor

Severity	Code	Description
●	L01	Public Function could be Declared External
●	L02	State Variables could be Declared Constant
●	L04	Conformance to Solidity Naming Conventions
●	L05	Unused State Variable
●	L07	Missing Events Arithmetic
●	L09	Dead Code Elimination

L01 - Public Function could be Declared External

Criticality

minor

Location

contract.sol#L161,166,172,486,490,494,498,506,510,515 and 10 more

Description

Public functions that are never called by the contract should be declared external to save gas.

```
transferFrom
transfer
changeRouterVersion
getCirculatingSupply
setSwapAndLiquifyByLimitOnly
setSwapAndLiquifyEnabled
setIsExcludedFromFee
setMarketPairStatus
approve
...
```

Recommendation

Use the external attribute for functions never called from the contract

L02 - State Variables could be Declared Constant

Criticality

minor

Location

contract.sol#L142,141,470,471,472,422,437,474,475,476 and 1 more

Description

Constant state variables should be declared constant to save gas.

```
_symbol  
_sellTeamFee  
_sellMarketingFee  
_sellLiquidityFee  
_name  
_decimals  
_buyTeamFee  
_buyMarketingFee  
_buyLiquidityFee  
...
```

Recommendation

Add the constant attribute to state variables that never change.

L04 - Conformance to Solidity Naming Conventions

Criticality

minor

Location

contract.sol#L209,210,226,245,577,411,424,425,470,471 and 10 more

Description

Solidity defines a naming convention that should be followed. Rule exceptions:

- Allow constant variable name/symbol/decimals to be lowercase.
- Allow `_` at the beginning of the `mixed_case` match for private variables and unused parameters.

```
_totalDistributionShares  
_totalTaxIfSelling  
_totalTaxIfBuying  
_teamShare  
_marketingShare  
_liquidityShare  
_sellTeamFee  
_sellMarketingFee  
_sellLiquidityFee  
...
```

Recommendation

Follow the Solidity naming convention.

<https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions>

L05 - Unused State Variable

Criticality

minor

Location

contract.sol#L141,142

Description

There are segments that contain unused state variables.

```
_lockTime  
asdasd
```

Recommendation

Remove unused state variables.

L07 - Missing Events Arithmetic

Criticality

minor

Location

contract.sol#L549,565

Description

Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes.

```
minimumTokensBeforeSwap = newLimit  
_liquidityShare = newLiquidityShare
```

Recommendation

Emit an event for critical parameter changes.

L09 - Dead Code Elimination

Criticality

minor

Location

contract.sol#L119,102,106,110,114,83,94

Description

Functions that are not used in the contract, and make the code's size bigger.

```
sendValue  
isContract  
functionCallWithValue  
functionCall  
_functionCallWithValue
```

Recommendation

Remove unused functions.

Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
SafeMath	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
	mod	Internal		
Address	Library			
	isContract	Internal		
	sendValue	Internal	✓	
	functionCall	Internal	✓	
	functionCall	Internal	✓	
	functionCallWithValue	Internal	✓	

	functionCallWithValue	Internal	✓	
	_functionCallWithValue	Private	✓	
Ownable	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	waiveOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	getTime	Public		-
IUniswapV2Factory	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
IUniswapV2Pair	Interface			
	name	External		-
	symbol	External		-
	decimals	External		-
	totalSupply	External		-
	balanceOf	External		-
	allowance	External		-
	approve	External	✓	-
	transfer	External	✓	-
	transferFrom	External	✓	-
	DOMAIN_SEPARATOR	External		-
	PERMIT_TYPEHASH	External		-
	nonces	External		-
	permit	External	✓	-

	MINIMUM_LIQUIDITY	External		-
	factory	External		-
	token0	External		-
	token1	External		-
	getReserves	External		-
	price0CumulativeLast	External		-
	price1CumulativeLast	External		-
	kLast	External		-
	burn	External	✓	-
	swap	External	✓	-
	skim	External	✓	-
	sync	External	✓	-
	initialize	External	✓	-
IUniswapV2Router01	Interface			
	factory	External		-
	WETH	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-
	removeLiquidity	External	✓	-
	removeLiquidityETH	External	✓	-
	removeLiquidityWithPermit	External	✓	-
	removeLiquidityETHWithPermit	External	✓	-
	swapExactTokensForTokens	External	✓	-
	swapTokensForExactTokens	External	✓	-
	swapExactETHForTokens	External	Payable	-
	swapTokensForExactETH	External	✓	-
	swapExactTokensForETH	External	✓	-
	swapETHForExactTokens	External	Payable	-
	quote	External		-
	getAmountOut	External		-
	getAmountIn	External		-
	getAmountsOut	External		-
	getAmountsIn	External		-

IUniswapV2Router02	Interface	IUniswapV2Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
Pikachu	Implementation	Context, IERC20, Ownable		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	allowance	Public		-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	minimumTokensBeforeSwapAmount	Public		-
	approve	Public	✓	-
	_approve	Private	✓	
	setMarketPairStatus	Public	✓	onlyOwner
	setIsTxLimitExempt	External	✓	onlyOwner
	setIsExcludedFromFee	Public	✓	onlyOwner
	setDistributionSettings	External	✓	onlyOwner
	enableDisableWalletLimit	External	✓	onlyOwner
	setIsWalletLimitExempt	External	✓	onlyOwner
	setNumTokensBeforeSwap	External	✓	onlyOwner
	setMarketingWalletAddress	External	✓	onlyOwner
	setTeamWalletAddress	External	✓	onlyOwner

	setSwapAndLiquifyEnabled	Public	✓	onlyOwner
	setSwapAndLiquifyByLimitOnly	Public	✓	onlyOwner
	getCirculatingSupply	Public		-
	transferToAddressETH	Private	✓	
	changeRouterVersion	Public	✓	onlyOwner
	<Receive Ether>	External	Payable	-
	transfer	Public	✓	-
	transferFrom	Public	✓	-
	_transfer	Private	✓	
	_basicTransfer	Internal	✓	
	swapAndLiquify	Private	✓	lockTheSwap
	swapTokensForEth	Private	✓	
	addLiquidity	Private	✓	
	takeFee	Internal	✓	

Contract Flow



Domain Info

Domain Name	pikachu.cc
Registry Domain ID	173649431_DOMAIN_CC-VRSN
Creation Date	2022-04-14T15:22:22Z
Updated Date	2022-04-14T15:55:55Z
Registry Expiry Date	2023-04-14T15:22:22Z
Registrar WHOIS Server	whois.namesilo.com
Registrar URL	http://www.namesilo.com
Registrar	NameSilo, LLC
Registrar IANA ID	1479

The domain has been created 3 days before the creation of the audit. It will expire in 12 months.

There is no public billing information, the creator is protected by the privacy settings.

Summary

The Smart Contract analysis reported no compiler error or critical issues. The contract has renounced the ownership. Hence there are no functions that can be called from the contract owner.

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The Cyberscope team

<https://www.cyberscope.io>