



Audit Report

Charla

January 2022

Type	BEP20
Network	BSC
Address	0x2187Fd19007e95b8FD8a1C673c79f3af4333c1BD
Audited by	© coinscope

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Contract Review

Contract Name	CharlaCoin
Compiler Version	v0.8.2+commit.661d1103
Optimization	200 runs
Licence	OSL-3.0
Explorer	https://bscscan.com/token/0x2187Fd19007e95b8FD8a1C673c79f3af4333c1BD
Symbol	CharlaCoin
Decimals	9
Total Supply	10,000,000,000
Source	contract.sol
Domain	charla.vip

Audit Updates

Initial Audit	16th January 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

ST - Stop Transactions

Criticality	critical
Location	contract.sol#L699,L801

Description

The contract owner has the authority to stop transactions for all users excluding the owner. The owner may take advantage of it by setting the `_maxTxAmount` to zero.

```
if(!isTxLimitExempt[sender] && !isTxLimitExempt[recipient]) {  
    require(amount <= _maxTxAmount, "Transfer amount exceeds the maxTxAmount.");  
}
```

The contract owner has the authority to stop the sales for all users excluding the owner. The owner may take advantage of it by setting the `_totalTaxIfSelling` to 100.

```
else if(isMarketPair[recipient]) {  
    feeAmount = amount.mul(_totalTaxIfSelling).div(100);  
}
```

Recommendation

The contract could embody a check for not allowing setting the `_maxTxAmount` less than a reasonable amount. A suggested implementation could check that the maximum amount should be more than a fixed percentage of the total supply.

Additionally there should be a check for the maximum amount of fees that the contract owner is able to set. [Read more on the ELFM section.](#)

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.

ELFM - Exceed Limit Fees Manipulation

Criticality

critical

Location

contract.sol#L586,L602

Description

The contract owner has the authority to increase over the allowed limit of 25%. The owner may take advantage of it by calling the `setSellTaxes` or `setBuyTaxes` function with a high percentage value.

```
function setSellTaxes(uint256 newLiquidityTax, uint256 newMarketingTax,
uint256 newTeamTax) external onlyOwner() {
    _sellLiquidityFee = newLiquidityTax;
    _sellMarketingFee = newMarketingTax;
    _sellTeamFee = newTeamTax;

    _totalTaxIfSelling =
    _sellLiquidityFee.add(_sellMarketingFee).add(_sellTeamFee);
}
```

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
●	L09	Dead Code Elimination
●	L07	Missing Events Arithmetic

L01 - Public Function could be Declared External

Criticality

minor

Location

contract.sol#L682,L677,L655 and 20 more

Description

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

```
transferFrom
transfer
changeRouterVersion
...
```

Recommendation

Use the external attribute for functions never called from the contract

L02 - State Variables could be Declared Constant

Criticality

minor

Location

contract.sol#L426,L425,L427

Description

Constant state variables should be declared constant to save gas.

```
_symbol  
_name  
_decimals
```

Recommendation

Add the constant attribute to state variables that never change.

L04 - Conformance to Solidity Naming Conventions

Criticality

minor

Location

contract.sol#L459,L458,L455 and 17 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.

```
_walletMax  
_maxTxAmount  
_totalDistributionShares  
...
```

Recommendation

Follow the Solidity naming convention.

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

L09 - Dead Code Elimination

Criticality

minor

Location

contract.sol#L100,L96,L35 and 7 more

Description

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

```
mod
_msgData
sendValue
...
```

Recommendation

Remove unused functions.

L07 - Missing Events Arithmetic

Criticality

minor

Location

contract.sol#L626,L622,L610 and 3 more

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
_walletMax = newLimit
_maxTxAmount = maxTxAmount
...
```

Recommendation

Emit an event for critical parameter changes.

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	✓	

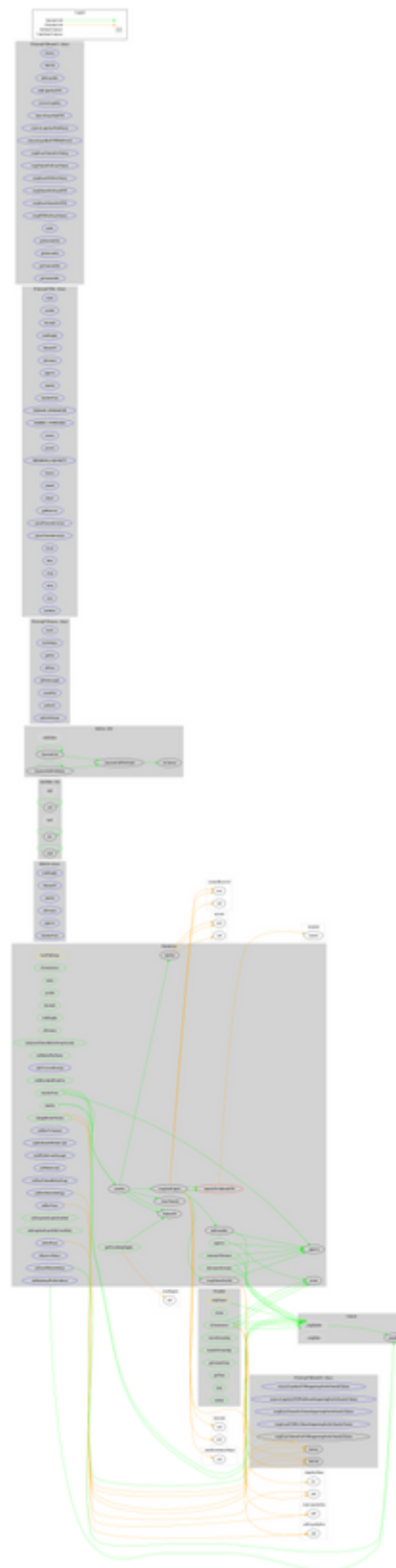
	_functionCallWithValue	Private	✓	
Ownable	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	waiveOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	getUnlockTime	Public		-
	getTime	Public		-
	lock	Public	✓	onlyOwner
	unlock	Public	✓	-
IUniswapV2Factory	Interface			
	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	✓	-
CharlaCoin	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
	setBuyTaxes	External	✓	onlyOwner
	setSellTaxes	External	✓	onlyOwner
	setDistributionSettings	External	✓	onlyOwner
	setMaxTxAmount	External	✓	onlyOwner
	enableDisableWalletLimit	External	✓	onlyOwner

	setIsWalletLimitExempt	External	✓	onlyOwner
	setWalletLimit	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	charla.vip
Registry Domain ID	D_02699051_D831D31B2A21483EB32FC74720726161_0000017E5D285528-VIP
Creation Date	2022-01-15T09:53:51Z
Updated Date	2022-01-15T09:53:52Z
Registry Expiry Date	2023-01-15T09:53:51Z
Registrar WHOIS Server	
Registrar URL	
Registrar	Go France Domains, LLC
Registrar IANA ID	1153

The domain has been created 1 day 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

Charla is aiming to build a crypto social application with a lot of features. The token has a friendly and growing community. There are some functions that can be abused by the owner, like manipulating fees and stopping transactions. The contract can stop the sales of the token by increasing only the sale taxes to 100%. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats.

Disclaimer

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CoinScope is aiming to make crypto discoverable and efficient globally. It provides all the essential tools to assist users draw their own conclusions.



The Coinscope.co team

<https://www.coinscope.co>