



# Audit Report

## **Metafintec**

February 2022

Type	BEP20
Network	BSC
Address	0x9b4fb89bb6dbebb3c8fd4987e7ebd5472c7447
Audited by	© coinscope

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## Contract Review

<b>Contract Name</b>	METAFINTEC
<b>Compiler Version</b>	v0.8.11+commit.d7f03943
<b>Optimization</b>	200 runs
<b>Licence</b>	MIT
<b>Explorer</b>	<a href="https://bscscan.com/token/0x9b4fb89bb6dbebb3c8fdfd4987e7ebd5472c7447">https://bscscan.com/token/0x9b4fb89bb6dbebb3c8fdfd4987e7ebd5472c7447</a>
<b>Symbol</b>	MAFTEC
<b>Decimals</b>	18
<b>Total Supply</b>	100,000,000,000
<b>Source</b>	contract.sol
<b>Domain</b>	

## Audit Updates

<b>Initial Audit</b>	3rd March 2022
<b>Corrected</b>	8 March 2022

# 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

# Contract Diagnostics

● Critical    ● Medium    ● Minor

Severity	Code	Description
●	L01	Public Function could be Declared External
●	L02	State Variables could be Declared Constant
●	L05	Unused State Variable
●	L04	Conformance to Solidity Naming Conventions
●	L09	Dead Code Elimination
●	L12	Using Variables before Declaration
●	L07	Missing Events Arithmetic
●	L15	Local Scope Variable Shadowing
●	L14	Uninitialized Variables in Local Scope
●	L13	Divide before Multiply Operation

## L01 - Public Function could be Declared External

<b>Criticality</b>	minor
<b>Location</b>	contract.sol#L61,66,192,200,204,223,228,232,237,248 and 23 more

### Description

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

```
process
getAccountAtIndex
buyBackUpperLimitAmount
setMaxWalletLimit
setExcludedFromWhale
setSwapAndLiquifyEnabled
dividendTokenBalanceOf
withdrawableDividendOf
isExcludedFromFees
...
```

### Recommendation

Use the external attribute for functions never called from the contract

## L02 - State Variables could be Declared Constant

**Criticality**

minor

**Location**

contract.sol#L743

### Description

Constant state variables should be declared constant to save gas.

```
totalFees
```

### Recommendation

Add the constant attribute to state variables that never change.



## L05 - Unused State Variable

**Criticality**

minor

**Location**

contract.sol#L131

### Description

There are segments that contain unused state variables.

```
MAX_INT256
```

### Recommendation

Remove unused state variables.

## L04 - Conformance to Solidity Naming Conventions

<b>Criticality</b>	minor
<b>Location</b>	contract.sol#L394,399,403,407,344,345,513,670,671,678 and 21 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.

```
_account  
deadAddress  
_marketingWalletAddress  
buybackFee  
marketingFee  
liquidityFee  
USDTRewardsFee  
_maxTxAmount  
USDT  
...
```

### Recommendation

Follow the Solidity naming convention.

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

## L09 - Dead Code Elimination

<b>Criticality</b>	minor
<b>Location</b>	contract.sol#L37,412,118,123,156,139,132

### Description

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

```
mul
div
abs
mod
_transfer
_msgData
```

### Recommendation

Remove unused functions.

## L12 - Using Variables before Declaration

**Criticality**

minor

**Location**

contract.sol#L1008

### Description

The contract is using a variable before the declaration. This is usually happening either if it has not been declared yet or the variable has been declared in a different scope.

```
iterations  
claims  
lastProcessedIndex
```

### Recommendation

The variables should be declared before any usage of them.

## L07 - Missing Events Arithmetic

<b>Criticality</b>	minor
<b>Location</b>	contract.sol#L874,1116,1167,1217,1221,1225

### 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.

```
buybackFactor = _percent
minBalanceForBuyback = _balanceInWei
buyBackUpperLimit = buyBackLimit * 10 ** 18
maxLimit = amount
_maxTxAmount = _amount
swapTokensAtAmount = _value
```

### Recommendation

Emit an event for critical parameter changes.

## L15 - Local Scope Variable Shadowing

**Criticality**

minor

**Location**

contract.sol#L352,394,399,403,407

### Description

There are variables that are defined in the local scope containing the same name from an upper scope.

```
_owner  
_symbol  
_name
```

### Recommendation

The local variables should have different names from the upper scoped variables.

## L14 - Uninitialized Variables in Local Scope

**Criticality**

minor

**Location**

contract.sol#L1008

### Description

These are variables that are defined in the local scope and are not initialized.

```
lastProcessedIndex  
claims  
iterations
```

### Recommendation

All the local scoped variables should be initialized.

## L13 - Divide before Multiply Operation

**Criticality**

minor

**Location**

contract.sol#L1033,1193,720

### Description

Performing divisions before multiplications may cause lose of prediction.

```
maxLimit = _totalSupply.div(1000).mul(1)
buyBackTokens(balance.div(100).mul(buybackFactor))
bnbForLiquidity = newBalance.div(swapableFee).mul(liquidityFee).div(2)
halfLiquidityTokens = tokens.div(swapableFee).mul(liquidityFee).div(2)
```

### Recommendation

The multiplications should be prior to the divisions.



# Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
<b>IBEP20</b>	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
<b>IBEP20Metadata</b>	Interface	IBEP20		
	name	External		-
	symbol	External		-
	decimals	External		-
<b>Context</b>	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
<b>Ownable</b>	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
<b>SafeMath</b>	Library			
	add	Internal		
	sub	Internal		

	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
	mod	Internal		
<b>SafeMathInt</b>	Library			
	mul	Internal		
	div	Internal		
	sub	Internal		
	add	Internal		
	abs	Internal		
	toUint256Safe	Internal		
<b>SafeMathUint</b>	Library			
	toInt256Safe	Internal		
<b>BEP20</b>	Implementation	Context, IBEP20, IBEP20Meta data		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	_transfer	Internal	✓	
	_mint	Internal	✓	

	_burn	Internal	✓	
	_approve	Internal	✓	
	_beforeTokenTransfer	Internal	✓	
<b>DividendPayingTokenInterface</b>	Interface			
	dividendOf	External		-
	withdrawDividend	External	✓	-
<b>DividendPayingTokenOptionalInterface</b>	Interface			
	withdrawableDividendOf	External		-
	withdrawnDividendOf	External		-
	accumulativeDividendOf	External		-
<b>DividendPayingToken</b>	Implementation	BEP20, Ownable, DividendPayingTokenInterface, DividendPayingTokenOptionalInterface		
	<Constructor>	Public	✓	BEP20
	distributeUSDTDividends	Public	✓	onlyOwner
	withdrawDividend	Public	✓	-
	_withdrawDividendOfUser	Internal	✓	
	dividendOf	Public		-
	withdrawableDividendOf	Public		-
	withdrawnDividendOf	Public		-
	accumulativeDividendOf	Public		-
	_transfer	Internal	✓	
	_mint	Internal	✓	
	_burn	Internal	✓	
	_setBalance	Internal	✓	

<b>IterableMapping</b>	Library			
	get	Public		-
	getIndexOfKey	Public		-
	getKeyAtIndex	Public		-
	size	Public		-
	set	Public	✓	-
	remove	Public	✓	-
<b>IUniswapV2Router01</b>	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		-
<b>IUniswapV2Router02</b>	Interface	IUniswapV2Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-

	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
<b>IUniswapV2Factory</b>	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
<b>IUniswapV2Pair</b>	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		-

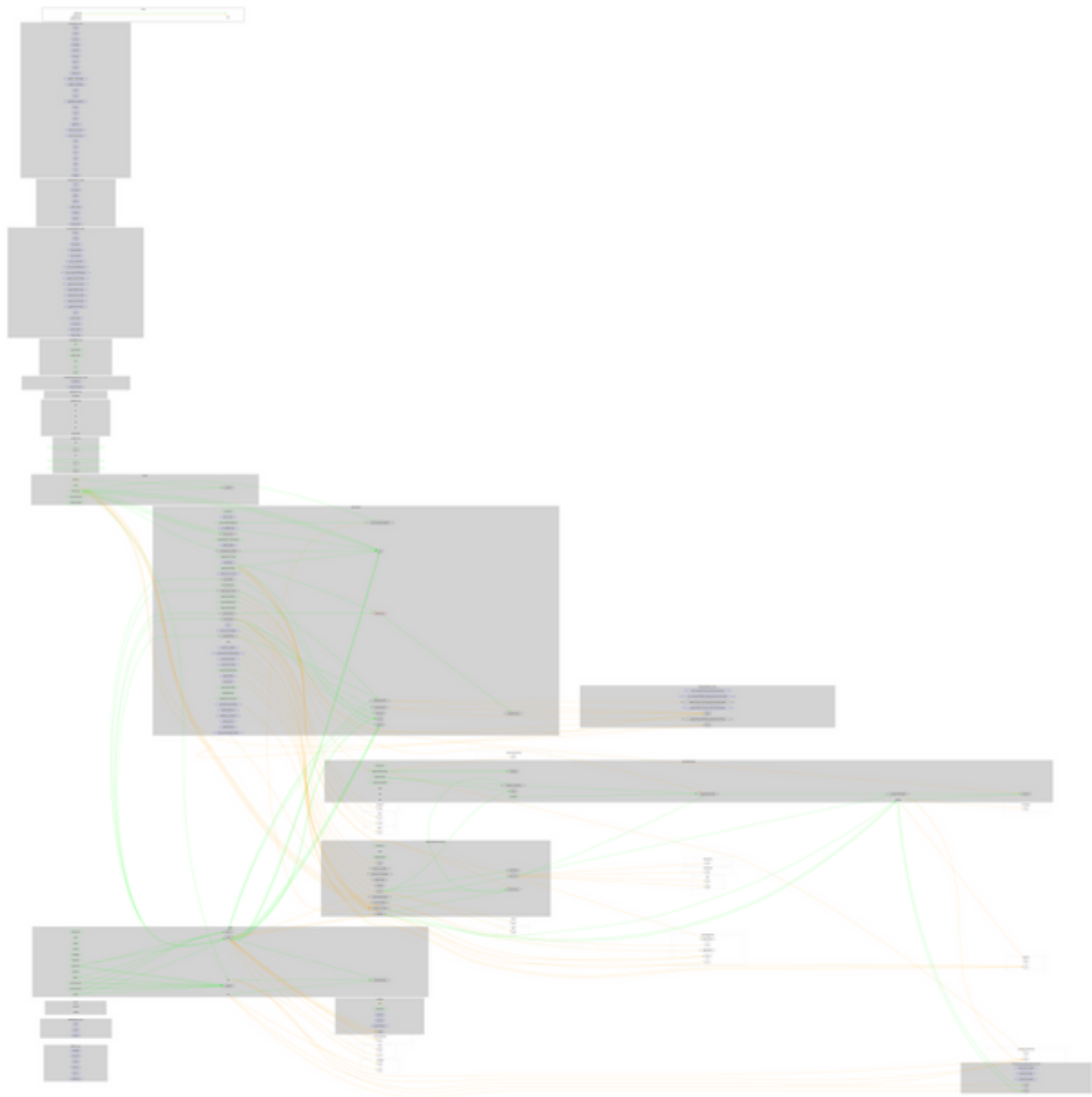
	getReserves	External		-
	price0CumulativeLast	External		-
	price1CumulativeLast	External		-
	kLast	External		-
	mint	External	✓	-
	burn	External	✓	-
	swap	External	✓	-
	skim	External	✓	-
	sync	External	✓	-
	initialize	External	✓	-
<b>LockToken</b>	Implementation	Ownable		
	<Constructor>	Public	✓	-
	openTrade	External	✓	onlyOwner
	includeToWhiteList	External	✓	onlyOwner
<b>METAFINTEC</b>	Implementation	BEP20, LockToken		
	<Constructor>	Public	✓	BEP20
	<Receive Ether>	External	Payable	-
	updateDividendTracker	Public	✓	onlyOwner
	updateUniswapV2Router	Public	✓	onlyOwner
	excludeFromFees	Public	✓	onlyOwner
	excludeMultipleAccountsFromFees	Public	✓	onlyOwner
	setMarketingWallet	External	✓	onlyOwner
	setAutomatedMarketMakerPair	Public	✓	onlyOwner
	_setAutomatedMarketMakerPair	Private	✓	
	updateGasForProcessing	Public	✓	onlyOwner
	updateClaimWait	External	✓	onlyOwner
	getClaimWait	External		-
	setSwapTokensAtAmount	External	✓	onlyOwner
	getTotalDividendsDistributed	External		-
	isExcludedFromFees	Public		-
	withdrawableDividendOf	Public		-
	dividendTokenBalanceOf	Public		-
	excludeFromDividends	External	✓	onlyOwner

	getAccountDividendsInfo	External		-
	getAccountDividendsInfoAtIndex	External		-
	processDividendTracker	External	✓	-
	claim	External	✓	-
	getLastProcessedIndex	External		-
	getNumberOfDividendTokenHolders	External		-
	_transfer	Internal	✓	open
	swapAndSendToFee	Private	✓	
	recoverBEP20Tokens	External	✓	onlyOwner
	swapAndLiquify	Private	✓	
	swapTokensForEth	Private	✓	
	swapTokensForUSDT	Private	✓	
	addLiquidity	Private	✓	
	swapAndSendDividends	Private	✓	
	setMaxTxAmount	External	✓	onlyOwner
	setSwapAndLiquifyEnabled	Public	✓	onlyOwner
	excludeWalletsFromWhales	Private	✓	
	checkForWhale	Private		
	setExcludedFromWhale	Public	✓	onlyOwner
	setMaxWalletLimit	Public	✓	onlyOwner
	buyBackUpperLimitAmount	Public		-
	buyBackTokens	Private	✓	
	checkForBuyBack	Private	✓	
	swapETHForTokens	Private	✓	
	setBuybackUpperLimit	External	✓	onlyOwner
	setMinBalanceForBuyback	External	✓	onlyOwner
	setBuyBackEnabled	External	✓	onlyOwner
	manualBuyback	External	✓	onlyOwner
<b>METAFINTECD ividendTracker</b>	Implementation	Ownable, DividendPay ingToken		
	<Constructor>	Public	✓	DividendPayin gToken
	_transfer	Internal		
	withdrawDividend	Public		-

	excludeFromDividends	External	✓	onlyOwner
	updateClaimWait	External	✓	onlyOwner
	getLastProcessedIndex	External		-
	getNumberOfTokenHolders	External		-
	getAccount	Public		-
	getAccountAtIndex	Public		-
	canAutoClaim	Private		
	setBalance	External	✓	onlyOwner
	process	Public	✓	-
	processAccount	Public	✓	onlyOwner



# Contract Flow



## Domain Info

<b>Domain Name</b>	metafintec.org
<b>Registry Domain ID</b>	D402200000018719582-LROR
<b>Creation Date</b>	2022-01-01T18:13:48Z
<b>Updated Date</b>	2022-01-09T17:56:24Z
<b>Registry Expiry Date</b>	2023-01-01T18:13:48Z
<b>Registrar WHOIS Server</b>	whois.ionos.com
<b>Registrar URL</b>	<a href="https://registrar.ionos.info/">https://registrar.ionos.info/</a>
<b>Registrar</b>	1&1 IONOS SE
<b>Registrar IANA ID</b>	83

The domain has been created about 2 months before the creation of the audit. It will expire in 10 months.

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

## Summary

The Smart Contract analysis reported no compiler errors or critical threat issues. The transaction fees are fixed to 14% and the maximum transaction amount is fixed to 1% of the total supply. The contract Owner has access to some admin functions but he can't use them in a malicious way to disturb user's transactions.

# Disclaimer

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## About Coinscope

Coinscope is the leading early coin listing, voting and auditing authority firm. The audit process is analyzing and monitoring many aspects of the project. That way, it gives the community a good sense of security using an informative report and a generic score.

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>