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Audit Report

Equity

Reflection Tracker Token

February 2022

Type	ERC20
Network	POLYGON
Address	0x56559b9b096295fd1ab805b574f73581ed5f416a
Audited by	© coinscope

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Contract Review

Contract Name	EquityRTT
Compiler Version	v0.8.12+commit.f00d7308
Optimization	500 runs
Licence	
Explorer	https://polygonscan.com/token/0x56559b9b096295fd1ab805b574f73581ed5f416a
Symbol	Equity_RTT
Decimals	18
Total Supply	75,000
Source	@openzeppelin/contracts/access/Ownable.sol @openzeppelin/contracts/token/ERC20/ERC20.sol @openzeppelin/contracts/token/ERC20/extensions/IERC20Metadata.sol @openzeppelin/contracts/token/ERC20/IERC20.sol @openzeppelin/contracts/utils/Context.sol @uniswap/v2-core/contracts/interfaces/IUniswapV2Factory.sol @uniswap/v2-periphery/contracts/interfaces/IUniswapV2Router01.sol @uniswap/v2-periphery/contracts/interfaces/IUniswapV2Router02.sol @uniswap/v2-periphery/contracts/interfaces/IWETH.sol contracts/access/SharedOwnable.sol contracts/EquityRTT.sol contracts/interfaces/IFeeable.sol contracts/interfaces/IReflectionTracker.sol contracts/interfaces/IReflective.sol contracts/libraries/IterableMappingAddressUint256.sol contracts/libraries/SafeMathInt.sol contracts/libraries/SafeMathUint.sol contracts/token/ReflectionTrackerToken.so

Audit Updates

Initial Audit	17th February 2022
Corrected	5th March 2022

Contract Analysis

Equity reflection dividend tracker is a mechanism that shares rewards to the holders. The holders automatically receive rewards either in Matic or tokens. The rewarded percentage is calculated according to a variation called "magnitude". The holders are applicable for rewards only if they hold a minimum amount of tokens. The reflective role has the authority to set the balance of any account.

Contract Diagnostics

Severity	Code	Description
●	L13	Divide before Multiply Operation

L13 - Divide before Multiply Operation

Criticality	minor
Location	contracts/token/ReflectionTrackerToken.sol#L411

Description

Performing divisions before multiplications may cause lose of prediction.

```
reflectiveValue = ((fee - baseFee) * 100) / (maxFee - baseFee)
```

Recommendation

The multiplications should be prior to the divisions.

Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
Ownable	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	_transferOwnership	Internal	✓	
ERC20	Implementation	Context, IERC20, IERC20Metadata		
	<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	✓	
	_afterTokenTransfer	Internal	✓	

IERC20Metadata	Interface	IERC20		
	name	External		-
	symbol	External		-
	decimals	External		-
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
IUniswapV2Factory	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	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	✓	-
IWETH	Interface			
	deposit	External	Payable	-
	transfer	External	✓	-
	withdraw	External	✓	-
SharedOwnable	Implementation	Ownable		
	<Constructor>	Public	✓	Ownable
	getCreator	External		-
	isSharedOwner	External		-

	setSharedOwner	Internal	✓	onlySharedOwners
	_setSharedOwner	Private	✓	
EquityRTT	Implementation	ReflectionTrackerToken		
	<Constructor>	Public	✓	ReflectionTrackerToken
IFeeable	Interface			
	getMaxFee	External		-
	getBaseFee	External		-
	getCustomFeeOf	External		-
	setCustomFeeOf	External	✓	-
IReflectionTracker	Interface			
	isBoundTo	External		-
	bindTo	External	✓	-
	getBalanceOf	External		-
	refreshBalanceOf	External	✓	-
	refreshBalance	External	✓	-
	getUniswapV2Router02Address	External		-
	setUniswapV2Router02Address	External	✓	-
	getDefaultReflectionTokenAddress	External		-
	setDefaultReflectionTokenAddress	External	✓	-
	getClaimCooldown	External		-
	setClaimCooldown	External	✓	-
	getMinimumTokenBalanceForReflections	External		-
	setMinimumTokenBalanceForReflections	External	✓	-
	getExcludedReflectionStateOfBNB	External		-
	setExcludedReflectionStateOfBNB	External	✓	-
	getExcludedReflectionTokenStateOf	External		-
	setExcludedReflectionTokenStateOf	External	✓	-
	getExcludedFromReflectionsOf	External		-

	setExcludedFromReflectionsOf	External	✓	-
	getProcessingGas	External		-
	setProcessingGas	External	✓	-
	getReflectionInBNB	External		-
	setReflectionInBNB	External	✓	-
	getReflectionTokenAddress	External		-
	setReflectionTokenAddress	External	✓	-
	getNumberOfHolders	External		-
	getLastProcessedIndex	External		-
	getTotalReflectionsTransferred	External		-
	getWithdrawnReflectionsOf	External		-
	getWithdrawableReflectionsOf	External		-
	getAccountInfoOf	External		-
	getAccountInfoAtIndex	External		-
	transferReflections	External	Payable	-
	transferReflections	External	✓	-
	process	External	✓	-
	processAll	External	✓	-
	processAll	External	✓	-
	processAll	External	✓	-
IReflective	Interface	IFeeable		
	getBalanceOf	External		-
	getFeeBalancesOf	External		-
	getTokenPairOtherTokenAddress	External		-
IterableMappingAddressUint256	Library			
	set	Internal	✓	
	remove	Internal	✓	
SafeMathInt	Library			
	toUint256Safe	Internal		
SafeMathUint	Library			

	toInt256Safe	Internal		
ReflectionTracker Token	Implementation	ERC20, IReflectionTracker, SharedOwnable		
	<Constructor>	Public	✓	ERC20
	<Receive Ether>	External	Payable	-
	isBoundTo	External		-
	bindTo	External	✓	onlySharedOwners
	getBalanceOf	External		-
	refreshBalanceOf	External	✓	-
	refreshBalancesOf	External	✓	onlySharedOwners
	refreshBalance	External	✓	-
	getUniswapV2Router02Address	External		-
	setUniswapV2Router02Address	External	✓	onlySharedOwners
	getDefaultReflectionTokenAddress	External		-
	setDefaultReflectionTokenAddress	External	✓	onlySharedOwners
	getClaimCooldown	External		-
	setClaimCooldown	External	✓	onlySharedOwners
	getMinimumTokenBalanceForReflections	External		-
	setMinimumTokenBalanceForReflections	External	✓	onlySharedOwners
	getExcludedReflectionStateOfBNB	External		-
	setExcludedReflectionStateOfBNB	External	✓	onlySharedOwners
	getExcludedReflectionTokenStateOf	External		-
	setExcludedReflectionTokenStateOf	External	✓	onlySharedOwners
	getExcludedFromReflectionsOf	External		-
	setExcludedFromReflectionsOf	External	✓	onlySharedOwners
	getProcessingGas	External		-

setProcessingGas	External	✓		onlySharedOwners
getReflectionInBNB	External			-
setReflectionInBNB	External	✓		-
setReflectionInBNBs	External	✓		onlySharedOwners
getReflectionTokenAddress	External			-
setReflectionTokenAddress	External	✓		-
setReflectionTokenAddresses	External	✓		onlySharedOwners
getNumberOfHolders	External			-
getLastProcessedIndex	External			-
getTotalReflectionsTransferred	External			-
getWithdrawnReflectionsOf	External			-
getWithdrawableReflectionsOf	External			-
getAccountInfoOf	External			-
getAccountInfoAtIndex	External			-
_getAccountInfo	Private			
transferReflections	External	Payable		onlyReflective
transferReflections	External	✓		onlyReflective
process	External	✓		-
processAll	External	✓		onlySharedOwners
processAll	External	✓		onlySharedOwners
processAll	External	✓		onlySharedOwners
_transfer	Internal			
_mint	Internal	✓		
_burn	Internal	✓		
_getTokenPair	Private			
_getBalanceOf	Private			
_refreshBalanceOf	Private	✓		
_getReflectiveBalanceOf	Private			
_updateBalanceOf	Private	✓		
_setExcludedFromReflectionsOf	Private	✓		
_getWithdrawableReflectionsOf	Private			

	_accumulativeReflectionOf	Private		
	_transferReflections	Private	✓	
	_canAutoClaim	Private		
	_process	Private	✓	
	_processAll	Private	✓	
	_withdrawReflectionOf	Private	✓	

Contract Flow
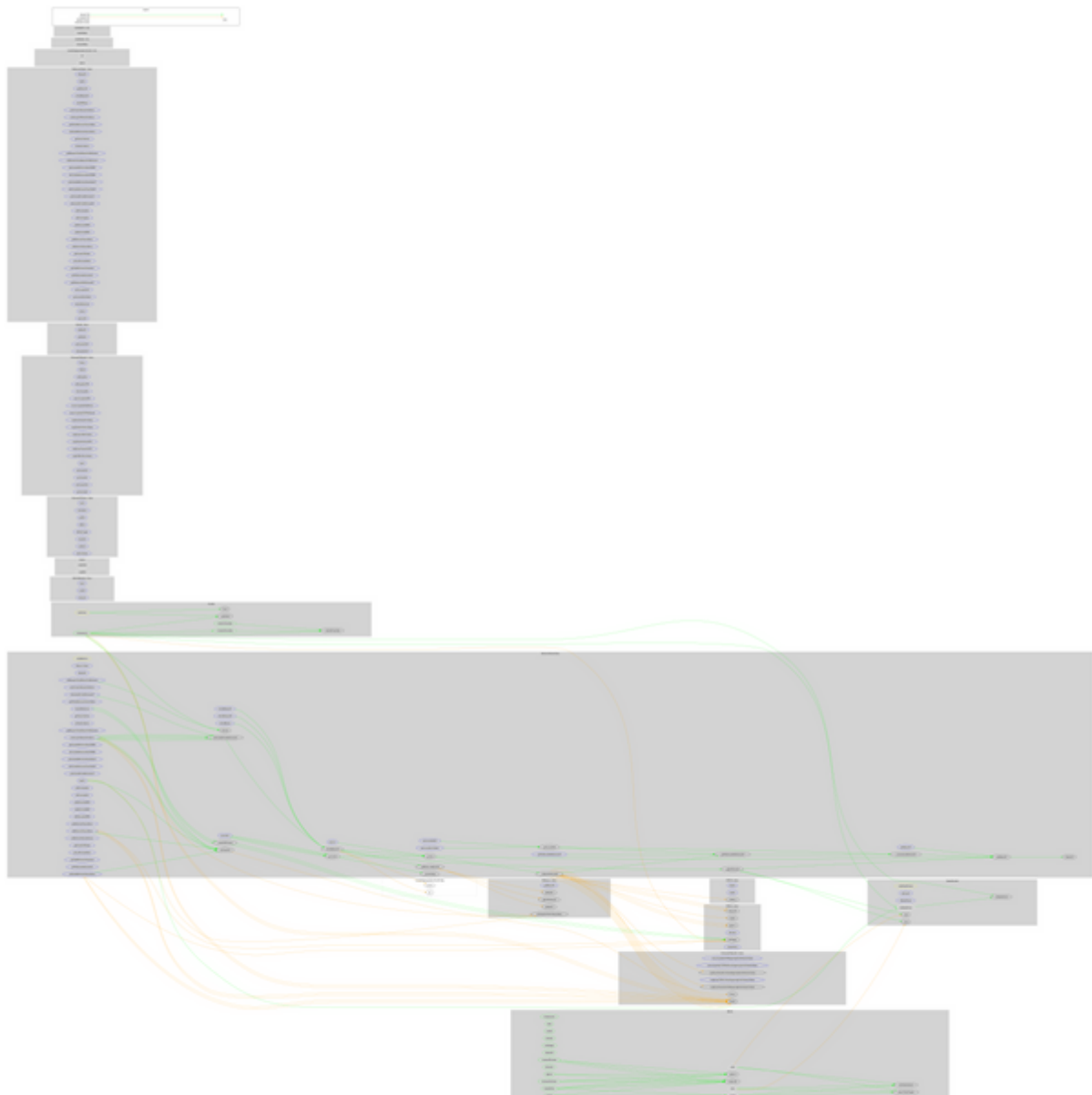
Summary

Equity Reflection Tracker implements the fundamental mechanism for sharing reflections. The smart contract analysis reported no compiler errors or critical issues. Since the contract is operating as a utility contract rather than a token, it cannot harm the user's transactions. It merely operates as a distributor. There are some roles that can mutate the reflection balance of the contract. We state that the owner privileges are necessary and required for proper protocol operations. Thus, we emphasise the contract owner to be extra careful with the credentials.

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