InterFi
NETWORK

SMART CONTRACT AUDIT

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PREPARED FOR

KALA LAND

INTRODUCTION

Auditing Firm	InterFi Network
Client Firm	KALA LAND
Methodology	Automated Analysis, Manual Code Review
Language	Solidity
Contract	0xB3F8DEFb75f9ca6412791Fd96de7aeabF3A03337
Blockchain	Binance Smart Chain
Centralization	Active ownership
Commit	daf198bae90ad8b5f723492f5f2fa2020f8676c2
Website	https://www.kalaland.online/
Telegram	https://t.me/KalaLandofficial/
Twitter	https://twitter.com/Kalatoken/
Report Date	May 11, 2023

ℹ️ Verify the authenticity of this report on our website: https://www.github.com/interfinetwork

EXECUTIVE SUMMARY

InterFi has performed the automated and manual analysis of solidity codes. Solidity codes were reviewed for common contract vulnerabilities and centralized exploits. Here's a quick audit summary:

Status	Critical 🔴	Major 🟠	Medium 🟡	Minor 🟢	Unknown 🟤
Open	0	0	0	4	0
Acknowledged	0	1	1	1	1
Resolved	0	0	0	0	0
Noteworthy Privileges	Set Fees, Update Claim Wait, Update Minimum Balance for Dividends, Process Dividend Tracker, Set AntiBot				

ℹ️ Please note that smart contracts deployed on blockchains aren't resistant to exploits, vulnerabilities and/or hacks. Blockchain and cryptography assets utilize new and emerging technologies. These technologies present a high level of ongoing risks. For a detailed understanding of risk severity, source code vulnerability, and audit limitations, kindly review the audit report thoroughly.

ℹ️ Please note that centralization privileges regardless of their inherited risk status - constitute an elevated impact on smart contract safety and security.

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SCOPE OF WORK

InterFi was consulted by KALA LAND to conduct the smart contract audit of their solidity source codes.

The audit scope of work is strictly limited to mentioned solidity file(s) only:

o   AntiBotBABYTOKEN.sol

ℹ️   If source codes are not deployed on the main net, they can be modified or altered before main-net deployment. Verify the contract's deployment status below:

Public Contract Link	
https://bscscan.com/address/0xB3F8DEFb75f9ca6412791Fd96de7aeabF3A03337#code	
Contract Name	AntiBotBABYTOKEN
Compiler Version	0.8.4
License	MIT

AUDIT METHODOLOGY

Smart contract audits are conducted using a set of standards and procedures. Mutual collaboration is essential to performing an effective smart contract audit. Here's a brief overview of InterFi's auditing process and methodology:

CONNECT

o   The onboarding team gathers source codes, and specifications to make sure we understand the size, and scope of the smart contract audit.

AUDIT

o   Automated analysis is performed to identify common contract vulnerabilities. We may use the following third-party frameworks and dependencies to perform the automated analysis:

   ▪   Remix IDE Developer Tool
   ▪   Open Zeppelin Code Analyzer
   ▪   SWC Vulnerabilities Registry
   ▪   DEX Dependencies, e.g., Pancakeswap, Uniswap

o   Simulations are performed to identify centralized exploits causing contract and/or trade locks.

o   A manual line-by-line analysis is performed to identify contract issues and centralized privileges. We may inspect below mentioned common contract vulnerabilities, and centralized exploits:

Centralized Exploits	o Token Supply Manipulation
	o Access Control and Authorization
	o Assets Manipulation
	o Ownership Control
	o Liquidity Access
	o Stop and Pause Trading
	o Ownable Library Verification

Common Contract Vulnerabilities	o Integer Overflow
	o Lack of Arbitrary limits
	o Incorrect Inheritance Order
	o Typographical Errors
	o Requirement Violation
	o Gas Optimization
	o Coding Style Violations
	o Re-entrancy
	o Third-Party Dependencies
	o Potential Sandwich Attacks
	o Irrelevant Codes
	o Divide before multiply
	o Conformance to Solidity Naming Guides
	o Compiler Specific Warnings
	o Language Specific Warnings

REPORT

o The auditing team provides a preliminary report specifying all the checks which have been performed and the findings thereof.

o The client's development team reviews the report and makes amendments to solidity codes.

o The auditing team provides the final comprehensive report with open and unresolved issues.

PUBLISH

o The client may use the audit report internally or disclose it publicly.

ℹ️ It is important to note that there is no pass or fail in the audit, it is recommended to view the audit as an unbiased assessment of the safety of solidity codes.

RISK CATEGORIES

Smart contracts are generally designed to hold, approve, and transfer tokens. This makes them very tempting attack targets. A successful external attack may allow the external attacker to directly exploit. A successful centralization-related exploit may allow the privileged role to directly exploit. All risks which are identified in the audit report are categorized here for the reader to review:

Risk Type	Definition
Critical 🔴	These risks could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
Major 🟠	These risks are hard to exploit but very important to fix, they carry an elevated risk of smart contract manipulation, which can lead to high-risk severity.
Medium 🟡	These risks should be fixed, as they carry an inherent risk of future exploits, and hacks which may or may not impact the smart contract execution. Low-risk re-entrancy-related vulnerabilities should be fixed to deter exploits.
Minor 🟢	These risks do not pose a considerable risk to the contract or those who interact with it. They are code-style violations and deviations from standard practices. They should be highlighted and fixed nonetheless.
Unknown 🟤	These risks pose uncertain severity to the contract or those who interact with it. They should be fixed immediately to mitigate the risk uncertainty.

All statuses which are identified in the audit report are categorized here for the reader to review:

Status Type	Definition
Open	Risks are open.
Acknowledged	Risks are acknowledged, but not fixed.
Resolved	Risks are acknowledged and fixed.

CENTRALIZED PRIVILEGES

Centralization risk is the most common cause of cryptography asset loss. When a smart contract has a privileged role, the risk related to centralization is elevated.

There are some well-intended reasons have privileged roles, such as:

o   Privileged roles can be granted the power to `pause()` the contract in case of an external attack.

o   Privileged roles can use functions like, `include()`, and `exclude()` to add or remove wallets from fees, swap checks, and transaction limits. This is useful to run a presale and to list on an exchange.

Authorizing privileged roles to externally-owned-account (EOA) is dangerous. Lately, centralization-related losses are increasing in frequency and magnitude.

o   The client can lower centralization-related risks by implementing below mentioned practices:

o   Privileged role's private key must be carefully secured to avoid any potential hack.

o   Privileged role should be shared by multi-signature (multi-sig) wallets.

o   Authorized privilege can be locked in a contract, user voting, or community DAO can be introduced to unlock the privilege.

o   Renouncing the contract ownership, and privileged roles.

o   Remove functions with elevated centralization risk.

ℹ️   Understand the project's initial asset distribution. Assets in the liquidity pair should be locked. Assets outside the liquidity pair should be locked with a release schedule.

AUTOMATED ANALYSIS

Symbol	Definition
🛑	Function modifies state
💵	Function is payable
🔒	Function is internal
🔓	Function is private
❗	Function is important

IERC20	Interface			
⌐	totalSupply	External ❗		NO❗
⌐	balanceOf	External ❗		NO❗
⌐	transfer	External ❗	🛑	NO❗
⌐	allowance	External ❗		NO❗
⌐	approve	External ❗	🛑	NO❗
⌐	transferFrom	External ❗	🛑	NO❗
IERC20Metadata	Interface	IERC20		
⌐	name	External ❗		NO❗
⌐	symbol	External ❗		NO❗
⌐	decimals	External ❗		NO❗
Context	Implementation			
⌐	_msgSender	Internal 🔒		
⌐	_msgData	Internal 🔒		
ERC20	Implementation	Context, IERC20, IERC20Metadata		
⌐	<Constructor>	Public ❗	🛑	NO❗
⌐	name	Public ❗		NO❗
⌐	symbol	Public ❗		NO❗
⌐	decimals	Public ❗		NO❗
⌐	totalSupply	Public ❗		NO❗
⌐	balanceOf	Public ❗		NO❗

└	transfer	Public ❗	🔴	NO❗
└	allowance	Public ❗		NO❗
└	approve	Public ❗	🔴	NO❗
└	transferFrom	Public ❗	🔴	NO❗
└	increaseAllowance	Public ❗	🔴	NO❗
└	decreaseAllowance	Public ❗	🔴	NO❗
└	_transfer	Internal 🔒	🔴	
└	_mint	Internal 🔒	🔴	
└	_burn	Internal 🔒	🔴	
└	_approve	Internal 🔒	🔴	
└	_beforeTokenTransfer	Internal 🔒	🔴	
└	_afterTokenTransfer	Internal 🔒	🔴	
Ownable	Implementation	Context		
└	<Constructor>	Public ❗	🔴	NO❗
└	owner	Public ❗		NO❗
└	renounceOwnership	Public ❗	🔴	onlyOwner
└	transferOwnership	Public ❗	🔴	onlyOwner
└	_setOwner	Private 🔐	🔴	
SafeMath	Library			
└	tryAdd	Internal 🔒		
└	trySub	Internal 🔒		
└	tryMul	Internal 🔒		
└	tryDiv	Internal 🔒		
└	tryMod	Internal 🔒		
└	add	Internal 🔒		
└	sub	Internal 🔒		
└	mul	Internal 🔒		
└	div	Internal 🔒		
└	mod	Internal 🔒		
└	sub	Internal 🔒		
└	div	Internal 🔒		
└	mod	Internal 🔒		
Clones	Library			
└	clone	Internal 🔒	🔴	

└	cloneDeterministic	Internal 🔒	🔴	
└	predictDeterministicAddress	Internal 🔒		
└	predictDeterministicAddress	Internal 🔒		
Address	Library		
└	isContract	Internal 🔒		
└	sendValue	Internal 🔒	🔴	
└	functionCall	Internal 🔒	🔴	
└	functionCall	Internal 🔒	🔴	
└	functionCallWithValue	Internal 🔒	🔴	
└	functionCallWithValue	Internal 🔒	🔴	
└	functionStaticCall	Internal 🔒		
└	functionStaticCall	Internal 🔒		
└	functionDelegateCall	Internal 🔒	🔴	
└	functionDelegateCall	Internal 🔒	🔴	
└	verifyCallResult	Internal 🔒		
IUniswapV2Factory	Interface		
└	feeTo	External ❗		NO❗
└	feeToSetter	External ❗		NO❗
└	getPair	External ❗		NO❗
└	allPairs	External ❗		NO❗
└	allPairsLength	External ❗		NO❗
└	createPair	External ❗	🔴	NO❗
└	setFeeTo	External ❗	🔴	NO❗
└	setFeeToSetter	External ❗	🔴	NO❗
IUniswapV2Router01	Interface		
└	factory	External ❗		NO❗
└	WETH	External ❗		NO❗
└	addLiquidity	External ❗	🔴	NO❗
└	addLiquidityETH	External ❗	💲	NO❗
└	removeLiquidity	External ❗	🔴	NO❗
└	removeLiquidityETH	External ❗	🔴	NO❗
└	removeLiquidityWithPermit	External ❗	🔴	NO❗
└	removeLiquidityETHWithPermit	External ❗	🔴	NO❗
└	swapExactTokensForTokens	External ❗	🔴	NO❗

| └ | swapTokensForExactTokens | External ❗ | 🔴 |NO❗ |

| └ | swapExactETHForTokens | External ❗ | 💵 |NO❗ |

| └ | swapTokensForExactETH | External ❗ | 🔴 |NO❗ |

| └ | swapExactTokensForETH | External ❗ | 🔴 |NO❗ |

| └ | swapETHForExactTokens | External ❗ | 💵 |NO❗ |

| └ | quote | External ❗ | |NO❗ |

| └ | getAmountOut | External ❗ | |NO❗ |

| └ | getAmountIn | External ❗ | |NO❗ |

| └ | getAmountsOut | External ❗ | |NO❗ |

| └ | getAmountsIn | External ❗ | |NO❗ |

||||||

| **IUniswapV2Router02** | Interface | IUniswapV2Router01 |||

| └ | removeLiquidityETHSupportingFeeOnTransferTokens | External ❗ | 🔴 |NO❗ |

| └ | removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | External ❗ | 🔴 |NO❗ |

| └ | swapExactTokensForTokensSupportingFeeOnTransferTokens | External ❗ | 🔴 |NO❗ |

| └ | swapExactETHForTokensSupportingFeeOnTransferTokens | External ❗ | 💵 |NO❗ |

| └ | swapExactTokensForETHSupportingFeeOnTransferTokens | External ❗ | 🔴 |NO❗ |

||||||

| **IPinkAntiBot** | Interface | |||

| └ | setTokenOwner | External ❗ | 🔴 |NO❗ |

| └ | onPreTransferCheck | External ❗ | 🔴 |NO❗ |

||||||

| **IERC20Upgradeable** | Interface | |||

| └ | totalSupply | External ❗ | |NO❗ |

| └ | balanceOf | External ❗ | |NO❗ |

| └ | transfer | External ❗ | 🔴 |NO❗ |

| └ | allowance | External ❗ | |NO❗ |

| └ | approve | External ❗ | 🔴 |NO❗ |

| └ | transferFrom | External ❗ | 🔴 |NO❗ |

||||||

| **IERC20MetadataUpgradeable** | Interface | IERC20Upgradeable |||

| └ | name | External ❗ | |NO❗ |

| └ | symbol | External ❗ | |NO❗ |

| └ | decimals | External ❗ | |NO❗ |

||||||

| **Initializable** | Implementation | |||

||||||

| **ContextUpgradeable** | Implementation | Initializable |||

└	__Context_init	Internal 🔒	🔴	initializer
└	__Context_init_unchained	Internal 🔒	🔴	initializer
└	_msgSender	Internal 🔒		
└	_msgData	Internal 🔒		
ERC20Upgradeable	Implementation	Initializable, ContextUpgradeable, IERC20Upgradeable, IERC20MetadataUpgradeable		
└	__ERC20_init	Internal 🔒	🔴	initializer
└	__ERC20_init_unchained	Internal 🔒	🔴	initializer
└	name	Public ❗		|NO❗
└	symbol	Public ❗		|NO❗
└	decimals	Public ❗		|NO❗
└	totalSupply	Public ❗		|NO❗
└	balanceOf	Public ❗		|NO❗
└	transfer	Public ❗	🔴	|NO❗
└	allowance	Public ❗		|NO❗
└	approve	Public ❗	🔴	|NO❗
└	transferFrom	Public ❗	🔴	|NO❗
└	increaseAllowance	Public ❗	🔴	|NO❗
└	decreaseAllowance	Public ❗	🔴	|NO❗
└	_transfer	Internal 🔒	🔴	
└	_mint	Internal 🔒	🔴	
└	_burn	Internal 🔒	🔴	
└	_approve	Internal 🔒	🔴	
└	_beforeTokenTransfer	Internal 🔒	🔴	
└	_afterTokenTransfer	Internal 🔒	🔴	
OwnableUpgradeable	Implementation	Initializable, ContextUpgradeable		
└	__Ownable_init	Internal 🔒	🔴	initializer
└	__Ownable_init_unchained	Internal 🔒	🔴	initializer
└	owner	Public ❗		|NO❗
└	renounceOwnership	Public ❗	🔴	onlyOwner
└	transferOwnership	Public ❗	🔴	onlyOwner
└	_setOwner	Private 🔐	🔴	
IUniswapV2Pair	Interface			
└	name	External ❗		|NO❗

└	symbol	External ❗			NO❗
└	decimals	External ❗			NO❗
└	totalSupply	External ❗			NO❗
└	balanceOf	External ❗			NO❗
└	allowance	External ❗			NO❗
└	approve	External ❗	🔴	NO❗
└	transfer	External ❗	🔴	NO❗
└	transferFrom	External ❗	🔴	NO❗
└	DOMAIN_SEPARATOR	External ❗			NO❗
└	PERMIT_TYPEHASH	External ❗			NO❗
└	nonces	External ❗			NO❗
└	permit	External ❗	🔴	NO❗
└	MINIMUM_LIQUIDITY	External ❗			NO❗
└	factory	External ❗			NO❗
└	token0	External ❗			NO❗
└	token1	External ❗			NO❗
└	getReserves	External ❗			NO❗
└	price0CumulativeLast	External ❗			NO❗
└	price1CumulativeLast	External ❗			NO❗
└	kLast	External ❗			NO❗
└	mint	External ❗	🔴	NO❗
└	burn	External ❗	🔴	NO❗
└	swap	External ❗	🔴	NO❗
└	skim	External ❗	🔴	NO❗
└	sync	External ❗	🔴	NO❗
└	initialize	External ❗	🔴	NO❗
SafeMathInt	Library			
└	mul	Internal 🔒			
└	div	Internal 🔒			
└	sub	Internal 🔒			
└	add	Internal 🔒			
└	abs	Internal 🔒			
└	toUint256Safe	Internal 🔒			
SafeMathUint	Library			
└	toInt256Safe	Internal 🔒			

IterableMapping	Library			
└	get	Public ❗		NO❗
└	getIndexOfKey	Public ❗		NO❗
└	getKeyAtIndex	Public ❗		NO❗
└	size	Public ❗		NO❗
└	set	Public ❗	🔴	NO❗
└	remove	Public ❗	🔴	NO❗
DividendPayingTokenInterface	Interface			
└	dividendOf	External ❗		NO❗
└	withdrawDividend	External ❗	🔴	NO❗
DividendPayingTokenOptionalInterface	Interface			
└	withdrawableDividendOf	External ❗		NO❗
└	withdrawnDividendOf	External ❗		NO❗
└	accumulativeDividendOf	External ❗		NO❗
DividendPayingToken	Implementation	ERC20Upgradeable, OwnableUpgradeable, DividendPayingTokenInterface, DividendPayingTokenOptionalInterface		
└	__DividendPayingToken_init	Internal 🔒	🔴	initializer
└	distributeCAKEDividends	Public ❗	🔴	onlyOwner
└	withdrawDividend	Public ❗	🔴	NO❗
└	_withdrawDividendOfUser	Internal 🔒	🔴	
└	dividendOf	Public ❗		NO❗
└	withdrawableDividendOf	Public ❗		NO❗
└	withdrawnDividendOf	Public ❗		NO❗
└	accumulativeDividendOf	Public ❗		NO❗
└	_transfer	Internal 🔒	🔴	
└	_mint	Internal 🔒	🔴	
└	_burn	Internal 🔒	🔴	
└	_setBalance	Internal 🔒	🔴	
BABYTOKENDividendTracker	Implementation	OwnableUpgradeable, DividendPayingToken		
└	initialize	External ❗	🔴	initializer
└	_transfer	Internal 🔒		
└	withdrawDividend	Public ❗		NO❗
└	excludeFromDividends	External ❗	🔴	onlyOwner

| └ | isExcludedFromDividends | Public ❗ | |NO❗ |

| └ | updateClaimWait | External ❗ | 🔴 | onlyOwner |

| └ | updateMinimumTokenBalanceForDividends | External ❗ | 🔴 | onlyOwner |

| └ | getLastProcessedIndex | External ❗ | |NO❗ |

| └ | getNumberOfTokenHolders | External ❗ | |NO❗ |

| └ | getAccount | Public ❗ | |NO❗ |

| └ | getAccountAtIndex | Public ❗ | |NO❗ |

| └ | canAutoClaim | Private 🔐 | | |

| └ | setBalance | External ❗ | 🔴 | onlyOwner |

| └ | process | Public ❗ | 🔴 |NO❗ |

| └ | processAccount | Public ❗ | 🔴 | onlyOwner |

||||||

| **BaseToken** | Implementation | |||

||||||

| **AntiBotBABYTOKEN** | Implementation | ERC20, Ownable, BaseToken |||

| └ | <Constructor> | Public ❗ | 💵 | ERC20 |

| └ | setEnableAntiBot | External ❗ | 🔴 | onlyOwner |

| └ | <Receive Ether> | External ❗ | 💵 |NO❗ |

| └ | setSwapTokensAtAmount | External ❗ | 🔴 | onlyOwner |

| └ | excludeFromFees | External ❗ | 🔴 | onlyOwner |

| └ | excludeMultipleAccountsFromFees | External ❗ | 🔴 | onlyOwner |

| └ | setMarketingWallet | External ❗ | 🔴 | onlyOwner |

| └ | setTokenRewardsFee | External ❗ | 🔴 | onlyOwner |

| └ | setLiquiditFee | External ❗ | 🔴 | onlyOwner |

| └ | setMarketingFee | External ❗ | 🔴 | onlyOwner |

| └ | _setAutomatedMarketMakerPair | Private 🔐 | 🔴 | |

| └ | updateGasForProcessing | Public ❗ | 🔴 | onlyOwner |

| └ | updateClaimWait | External ❗ | 🔴 | onlyOwner |

| └ | getClaimWait | External ❗ | |NO❗ |

| └ | updateMinimumTokenBalanceForDividends | External ❗ | 🔴 | onlyOwner |

| └ | getMinimumTokenBalanceForDividends | External ❗ | |NO❗ |

| └ | getTotalDividendsDistributed | External ❗ | |NO❗ |

| └ | isExcludedFromFees | Public ❗ | |NO❗ |

| └ | withdrawableDividendOf | Public ❗ | |NO❗ |

| └ | dividendTokenBalanceOf | Public ❗ | |NO❗ |

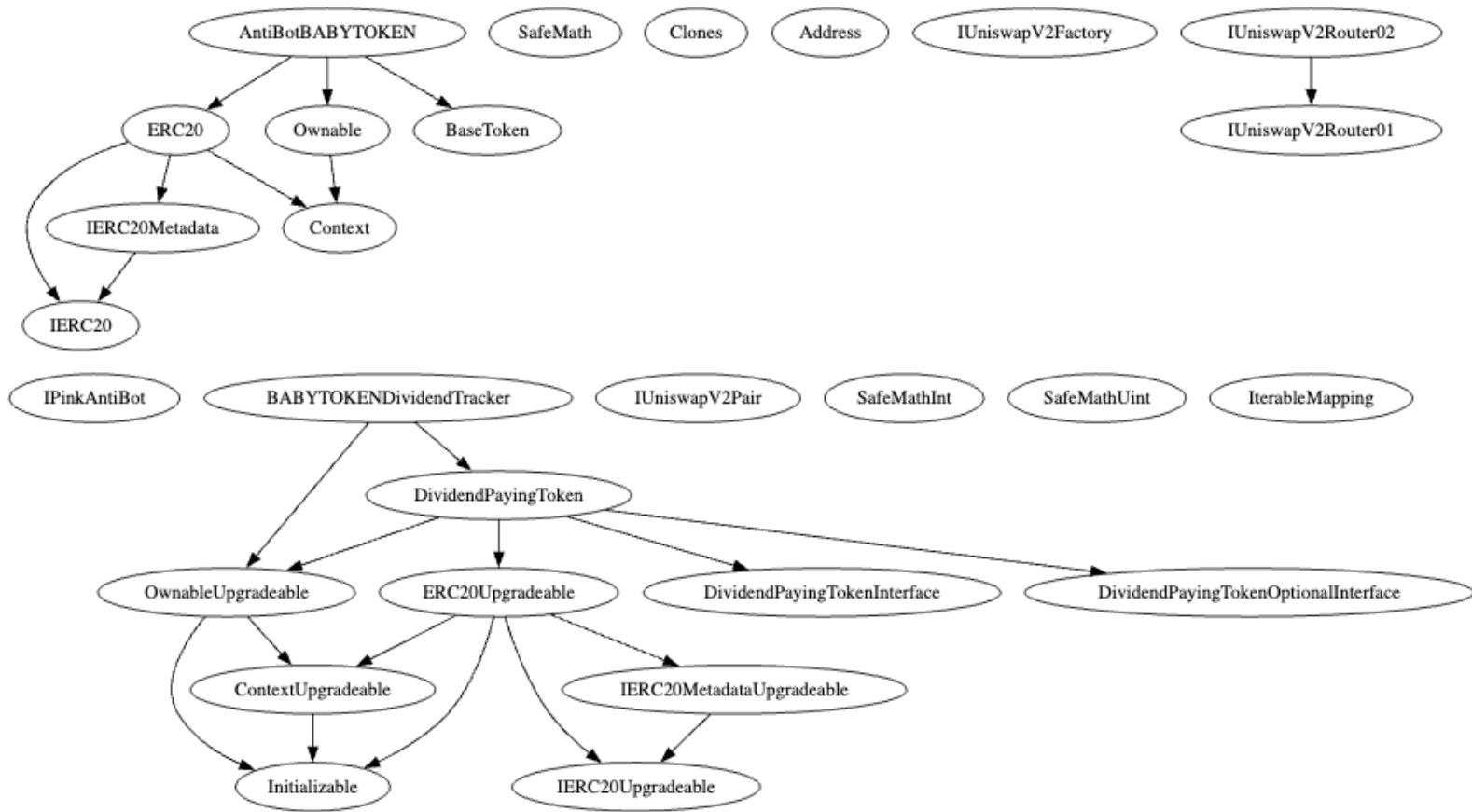| └ | excludeFromDividends | External ❗ | 🔴 | onlyOwner |

| └ | isExcludedFromDividends | Public ❗ | |NO❗ |

└	getAccountDividendsInfo	External ❗		NO❗
└	getAccountDividendsInfoAtIndex	External ❗		NO❗
└	processDividendTracker	External ❗	🛑	NO❗
└	claim	External ❗	🛑	NO❗
└	getLastProcessedIndex	External ❗		NO❗
└	getNumberOfDividendTokenHolders	External ❗		NO❗
└	_transfer	Internal 🔒	🛑	
└	swapAndSendToFee	Private 🔐	🛑	
└	swapAndLiquify	Private 🔐	🛑	
└	swapTokensForEth	Private 🔐	🛑	
└	swapTokensForCake	Private 🔐	🛑	
└	addLiquidity	Private 🔐	🛑	
└	swapAndSendDividends	Private 🔐	🛑	

INHERITANCE GRAPH

MANUAL REVIEW

Identifier	Definition	Severity
CEN-01	Centralized privileges	Major 🟠

`onlyOwner` centralized privileges are listed below:

```
transferOwnership()
excludeFromDividends()
updateClaimWait()
updateMinimumTokenBalanceForDividends()
setBalance()
processAccount()
setEnableAntiBot()
setSwapTokensAtAmount()
excludeFromFees()
excludeMultipleAccountsFromFees()
setMarketingWallet()
setTokenRewardsFee()
setLiquiditFee()
setMarketingFee()
updateGasForProcessing()
updateClaimWait()
updateMinimumTokenBalanceForDividends()
excludeFromDividends()
```

RECOMMENDATION

Deployers, contract owners, administrators, access controlled, and all other privileged roles' private-keys/access-keys/admin-keys should be secured carefully. These entities can have a single point of failure that compromises the security of the project. Manage centralized and privileged roles carefully, review PAGE 09 for more information.

Identifier	Definition	Severity
CEN-02	Initial asset distribution	Minor 🟢

All of the initially minted assets are sent to the project owner when deploying the contract. This can be an issue as the project owner can distribute tokens without consulting the community.

```
        _mint(owner(), totalSupply_);
```

RECOMMENDATION

Project must communicate with stakeholders and obtain the community consensus while distributing assets.

Identifier	Definition	Severity
CEN-09	Use of proxy and upgradeable contracts	Minor 🟢

Contract upgradeability allows privileged roles to change current contract implementation.

RECOMMENDATION

Test and validate current contract thoroughly before deployment. Future contract upgradeability negatively elevates centralization risk.

Identifier	Definition	Severity
LOG-02	Potential front-running	Minor 🟢

Potential front-running also classified as – sandwich attack happens when an attacker observes a transaction swapping tokens or adding liquidity without setting restrictions on slippage or minimum output amount. The attacker can manipulate the exchange rate by front-running a transaction to purchase assets and make profits by back-running a transaction to sell assets. Below mentioned functions are called without setting restrictions on slippage or minimum output:

```
addLiquidity()
swapExactTokensForETHSupportingFeeOnTransfer()
```

RECOMMENDATION

These functions should be provided reasonable minimum output amounts, instead of zero.

Identifier	Definition	Severity
COD-01	Authorization through `tx.origin`	Minor 🟢

Using `tx.origin` for authorization could make the contract vulnerable as it refers to the original external account that started the transaction.

RECOMMENDATION

Avoid authorizations via global variables wherever necessary.

Identifier	Definition	Severity
COD-02	Timestamp manipulation via `block.timestamp`	Minor 🟢

Be aware that the timestamp of the block can be manipulated by a miner. When the contract uses the timestamp to seed a random number, the miner can actually post a timestamp within 15 seconds of the block being validated, effectively allowing the miner to precompute an option more favorable to their chances.

RECOMMENDATION

To maintain block integrity, follow 15 seconds rule, and scale time dependent events accordingly.

Identifier	Definition	Severity
COD-09	Missing contract balance withdraw	

Smart contract may collect tokens, and ethers from external addresses. Some swap, and liquidity-add events may accumulate residual ethers, and tokens.

RECOMMENDATION

Add `withdraw()` function to take out tokens and ethers from the contract.

Identifier	Definition	Severity
COD-10	Third Party Dependencies	Unknown 🔴

Smart contract is interacting with third party protocols e.g., Market Makers, Open Zeppelin tools. The scope of the audit treats third party entities as black boxes and assumes their functional correctness. However, in the real world, third parties can be compromised, and exploited. Moreover, upgrades in third parties can create severe impacts, e.g., increased transactional fees, deprecation of previous routers, etc.

RECOMMENDATION

Inspect third party dependencies regularly, and mitigate severe impacts whenever necessary.

Identifier	Definition	Severity
COM-02	Outdated compiler version	

Compiler is set an outdated version.

RECOMMENDATION

Set Compiler to version 0.8.12 or above.

Identifier	Definition	Severity
COM-03	Unused or dead code	Medium 🟡

Remove dead code. Remove SafeMath.

RECOMMENDATION

Remove unused or dead code.

DISCLAIMERS

InterFi Network provides the easy-to-understand audit of solidity source codes (commonly known as smart contracts).

The smart contract for this particular audit was analyzed for common contract vulnerabilities, and centralization exploits. This audit report makes no statements or warranties on the security of the code. This audit report does not provide any warranty or guarantee regarding the absolute bug-free nature of the smart contract analyzed, nor do they provide any indication of the client's business, business model or legal compliance. This audit report does not extend to the compiler layer, any other areas beyond the programming language, or other programming aspects that could present security risks. Cryptographic tokens are emergent technologies, they carry high levels of technical risks and uncertainty. You agree that your access and/or use, including but not limited to any services, reports, and materials, will be at your sole risk on an as-is, where-is, and as-available basis. This audit report could include false positives, false negatives, and other unpredictable results.

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ABOUT INTERFI NETWORK

InterFi Network provides intelligent blockchain solutions. We provide solidity development, testing, and auditing services. We have developed 150+ solidity codes, audited 1000+ smart contracts, and analyzed 500,000+ code lines. We have worked on major public blockchains e.g., Ethereum, Binance, Cronos, Doge, Polygon, Avalanche, Metis, Fantom, Bitcoin Cash, Velas, Oasis, etc.

InterFi Network is built by engineers, developers, UI experts, and blockchain enthusiasts. Our team currently consists of 4 core members, and 6+ casual contributors.

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