

Y5 Trader Token

Smart Contract Security Audit Report

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Versatile Finance Audit

Helping Businesses Incubate Ideas Into Reality

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Summary

Project Name: Y5 TRADER

Contract Address: 0xc41ab777c7d1d5e04414a14fc6fa4c93766fb1eb

Client contact: Y5 TRADER Team

Blockchain: Binance smart chain

Language: Solidity

Project website: https://www.y-5.finance

Buy Tax: 3%

Sell Tax: 3%

Token supply: 50,000,000

Token ticker: Y5TT

Decimals: 18

Dividend tracker: 0xe0ac736fcd6442d2fd46896382db9be4dc2c7d48

Marketing fee receiver: 0xe6f223c3bb4b38f422f520a9da236be644d01ed5

Contract deployer address: 0xe6f223C3bb4B38F422f520a9DA236BE644D01ED5

Contract's current owner address: 0xe6f223c3bb4b38f422f520a9da236be644d01ed5

Background

Versatile Finance was commissioned by Y5 TRADER Team to perform an audit of the smart contract.

https://bscscan.com/token/0xc41ab777c7d1d5e04414a14fc6fa4c93766fb1eb

The purpose of this audit was to achieve the following:

- Identify potential security issues with smart contracts
- Formally check the logic behind given smart contracts.

Information in this report should be used for understanding the risk exposure of smart contracts, and as a guide to improving the security posture of smart contracts by remediating the issues that were identified.

What is an audit

A smart contract audit is a comprehensive review process designed to discover logical errors, security vulnerabilities, and optimization opportunities within code. Versatile Finance manages this a step further by verifying economic logic to ensure the stability of smart contracts and highlighting privileged functionality to create a report that is easy to understand for developers and community members.

Techniques and Methods

- The code quality
- Use of best practices
- Implementation of ERC-20 token standards.
- Efficient use of gas.
- Code is safe from re-entrancy and other vulnerabilities.
- Code risk issue analysis and recommendations
- Ownership privileges
- Code documentation and comments match logic and expected behavior.
- Token distribution and calculations are as per the intended behavior mentioned in the whitepaper.

The following techniques, methods, and tools were used to review all the smart contracts.

Structural Analysis

We analyze the design patterns and structure of smart contracts. A thorough check is done to ensure the smart contract is structured in a way that will not have any issues.

Static Analysis

A static Analysis of Smart Contracts is done to identify contract vulnerabilities. In this step, a series of automated tools and manual testings are used to test the security of smart contracts.

Code Review / Manual Analysis

Manual Analysis or review of code is done to identify new vulnerabilities or verify the vulnerabilities found during the static analysis. Contracts is completely manually analyzed line by line, and the logic is checked and compared with what's mentioned in the whitepaper to make sure everything's functioned as intended.

Gas Consumption

We check the behavior of smart contracts in production. Manual testings are done in DEXs to know how much gas gets consumed and the possibilities of optimization of code to reduce gas consumption.

Issue Categories

Every issue in this report has been assigned a severity level. There are four levels of severity and each of them has been explained below.

High severity issues

NO High severity issues found

A high severity issue or vulnerability means that your smart contract can be exploited. Issues on this level are critical to the smart contract's performance or functionality and we recommend these issues be fixed before moving to a live environment.

Medium-level severity issues

NO Medium severity issues found

The issues marked as medium severity usually arises because of errors and deficiencies in the smart contract code. Issues on this level could potentially bring problems and they can still be fixed. This can put users' funds at risk and has a medium to the high probability of exploitation.

Low-level severity issues

3 low-level severity issues found

Low-level severity issues can cause minor impact and or are just warnings that can remain unfixed for now. It would be better to fix these issues at some point in the future. These issues have a low probability of occurring or may have a minimal impact.

1. In excluding multiple accounts from the fees function there is any length validation for the accounts array if the user enters around more than 100 wallets at once, this function may fail because of the gas limitation of the block.

```
ftrace|funcSig
function excludeMultipleAccountsFromFees(
   address[] calldata accounts 1,
   bool excluded 1
) public onlyOwner {
   for (uint256 i = 0; i < accounts 1.length; i++) {
        isExcludedFromFees[accounts 1]] = excluded 1;
   }
   emit ExcludeMultipleAccountsFromFees(accounts 1, excluded 1);
}</pre>
```

2. Marketing fees and rewards use the same BEP20 token address so inside the swapAndSendFee function swapAndDividends tokens are swapping into the same token. Hence, both tokens can swap at once and divide according to the ratio, in the current scenario there will be an additional red candle in the chart, and also a high gas fee.

3. If the owner updates the dividend tracker, this function will deploy a totally new tracker and the token will lose all previous investors and their details.

Informational

NO informational issues found

These are severity four issues that indicate an improvement request, a general question, a cosmetic or documentation error, or a request for information. There is low-to-no impact.

Owner privileges

The owner can enable/disable anti bot feature

```
ftrace|funcSig
function setEnableAntiBot(bool _enable1) external onlyOwner {
    enableAntiBot = _enable1;
}
```

The owner can enable/disable swap point

```
ftrace|funcSig
function setSwapTokensAtAmount(uint256 amount 1) external onlyOwner {
    swapTokensAtAmount = amount 1;
}
```

The owner can update the dividend tracker address

The owner can update the router address

The owner can include/exclude wallets from fees

The owner can change marketing wallet address

The owner can change all fees total fees up to 25%

```
ftrace|funcSig
function setTokenRewardsFee(uint256 value1) external onlyOwner {
    tokenRewardsFee = value1;
    totalFees = tokenRewardsFee.add(liquidityFee).add(marketingFee);
    require(totalFees <= 25, "Total fee is over 25%");
}

ftrace|funcSig
function setLiquiditFee(uint256 value1) external onlyOwner {
    liquidityFee = value1;
    totalFees = tokenRewardsFee.add(liquidityFee).add(marketingFee);
    require(totalFees <= 25, "Total fee is over 25%");
}

ftrace|funcSig
function setMarketingFee(uint256 value1) external onlyOwner {
    marketingFee = value1;
    totalFees = tokenRewardsFee.add(liquidityFee).add(marketingFee);
    require(totalFees <= 25, "Total fee is over 25%");
}</pre>
```

The owner can add/remove a new pair address

```
ftrace|funcSig
function setAutomatedMarketMakerPair(address pair1, bool value1)

public
  onlyOwner
{
    require(
        pair1 != uniswapV2Pair,
        "BABYTOKEN: The PancakeSwap pair cannot be removed from automatedMarketMakerPairs"
    );
    _setAutomatedMarketMakerPair(pair1, value1);
}
```

The owner can change the maximum gas fee for reward sending

The owner can change the minimum claim wait

```
ftrace|funcSig
function updateClaimWait(uint256 claimWait1) external onlyOwner {
    dividendTracker.updateClaimWait(claimWait1);
}
```

The owner can change the minimum tokens balance to get rewards

Audit Results

Vulnerability Category	Status
Arbitrary Jump/Storage Write	pass
BRC20 Token standards	pass
Compiler errors	pass
Latest compiler version	Low issue
Authorization of function call to untrusted contract	pass
Dependence on Predictable Variables	pass
Ether/Token Theft	pass
Gas consumption	Low issue
Safemath features	pass
Fallback usage	pass
Deprecated items	pass
Redundant code	pass
Overriding variables	pass
Flash Loans	pass
Front Running	pass
Improper Events	pass
Improper Authorization Scheme	pass
Integer Over/Underflow	pass

Business logic issues	Low issue
Oracle issues	pass
Race Conditions	pass
Reentrancy	pass
Signature Issues	pass
Unbounded Loops	pass
Unused Code	pass
Pseudo random number generator (PRNG)	pass
Fake deposit	pass
Centralization of control	pass

Contracts Description Table

Contract	Туре	Bases		
L	Function Name	Visibility	M u t a bi li t	Modifiers
IERC20	Interface			
L	totalSupply	External		NO.

L	balanceOf	External	NO.
L	transfer	External (NO!
L	allowance	External .	NO.
L	approve	External (NO!
L	transferFrom	External (● NO!
IERC20Metadata	Interface	IERC20	
L	name	External	NO.
L	symbol	External	NO.
L	decimals	External	NO.
Context	Implementation		
L	_msgSender	Internal 🖺	
L	_msgData	Internal 🖺	
ERC20	Implementation	Context, IERC20, IERC20Metadata	
L		Public (NO!
L	name	Public .	NO.
L	symbol	Public .	NO.
L	decimals	Public .	NO.

L	totalSupply	Public	NO
L	balanceOf	Public .	ио [
L	transfer	Public [NO
L	allowance	Public	NO
L	approve	Public [NO
L	transferFrom	Public [) NO!
L	increaseAllowance	Public [NO
L	decreaseAllowance	Public [NO
L	_transfer	Internal 🖺	
L	_mint	Internal 🖺	
L	_burn	Internal 🖺	
L	_approve	Internal 🖺	
L	_beforeTokenTransfer	Internal 🖺	
L	_afterTokenTransfer	Internal 🖺	
Ownable	Implementation	Context	
L		Public .) NO.
L	owner	Public .	NO.
L	renounceOwnership	Public [onlyOwner
L	transferOwnership	Public .	onlyOwner
	l .		

L	_setOwner	Private 🖺	
SafeMath	Library		
L	tryAdd	Internal 🖺	
L	trySub	Internal 🖺	
L	tryMul	Internal 🖺	
L	tryDiv	Internal 🖺	
L	tryMod	Internal 🖺	
L	add	Internal 🖺	
L	sub	Internal 🖺	
L	mul	Internal 🖺	
L	div	Internal 🖺	
L	mod	Internal 🖺	
L	sub	Internal 🖺	
L	div	Internal 🖺	
L	mod	Internal 🖺	
Clones	Library		
L	clone	Internal 🖺	
L	cloneDeterministic	Internal 🖺	

L	predictDeterministicAddress	Internal 🖺		
L	predictDeterministicAddress	Internal 🖺		
IUniswapV2Factory	Interface			
L	feeTo	External		NO
L	feeToSetter	External		NO
L	getPair	External		NO
L	allPairs	External		NO
L	allPairsLength	External		NO
L	createPair	External		NO
L	setFeeTo	External		NO
L	setFeeToSetter	External		NO
IUniswapV2Router01	Interface			
L	factory	External		NO
L	WETH	External		NO
L	addLiquidity	External		NO
L	addLiquidityETH	External	g	NO
L	removeLiquidity	External		NO.
L	removeLiquidityETH	External		NO

L	removeLiquidityWithPermit	External		NO
L	removeLiquidityETHWithPermit	External		NO
L	swapExactTokensForTokens	External		NO
L	swapTokensForExactTokens	External		NO
L	swapExactETHForTokens	External	<u>s</u>	NO
L	swapTokensForExactETH	External		NO
L	swapExactTokensForETH	External		NO
L	swapETHForExactTokens	External	1	NO
L	quote	External		NO
L	getAmountOut	External		NO
L	getAmountIn	External		NO
L	getAmountsOut	External		NO
L	getAmountsIn	External		NO
IUniswapV2Router02	Interface	IUniswapV2Router01		
L	removeLiquidityETHSupportingFee OnTransferTokens	External .		NO
L	removeLiquidityETHWithPermitSu pportingFeeOnTransferTokens	External .		NO
L	swap Exact Tokens For Tokens Suppor ting Fee On Transfer Tokens	External		NO

L	swapExactETHForTokensSupportin gFeeOnTransferTokens	External	NO
L	swapExactTokensForETHSupportin gFeeOnTransferTokens	External	NO.
IPinkAntiBot	Interface		
L	setTokenOwner	External	NO
L	onPreTransferCheck	External	NO
IERC20Upgradeable	Interface		
L	totalSupply	External	NO.
L	balanceOf	External	NO.
L	transfer	External .	NO.
L	allowance	External .	NO
L	approve	External .	NO
L	transferFrom	External .	NO
IERC20MetadataUpgr adeable	Interface	IERC20Upgradeable	
L	name	External .	NO
L	symbol	External	NO
L	decimals	External	NO

Initializable	Implementation		
ContextUpgradeable	Implementation	Initializable	
L	Context_init	Internal 🖺	initializer
L	Context_init_unchained	Internal 🖺	initializer
L	_msgSender	Internal 🖺	
L	_msgData	Internal 🖺	
ERC20Upgradeable	Implementation	Initializable, ContextUpgradeable, IERC20Upgradeable, IERC20MetadataUpgr adeable	
L	ERC20_init	Internal 🖺	initializer
L	ERC20_init_unchained	Internal 🖺	initializer
L	name	Public	NO
L	symbol	Public	NO
L	decimals	Public	NO
L	totalSupply	Public	NO
L	balanceOf	Public	NO
L	transfer	Public	NO

L	allowance	Public	NO.
L	approve	Public	NO.
L	transferFrom	Public	NO
L	increaseAllowance	Public	NO
L	decreaseAllowance	Public	NO
L	_transfer	Internal 🖺	
L	_mint	Internal 🖺	
L	_burn	Internal 🖺	
L	_approve	Internal 🖺	
L	_beforeTokenTransfer	Internal 🖺	
L	_afterTokenTransfer	Internal 🖺	
OwnableUpgradeable	Implementation	Initializable, ContextUpgradeable	
L	Ownable_init	Internal 🖺	initializer
L	Ownable_init_unchained	Internal 🖺	initializer
L	owner	Public .	NO
L	renounceOwnership	Public	onlyOwner
L	transferOwnership	Public	onlyOwner
L	_setOwner	Private 🖺	

IUniswapV2Pair	Interface		
L	name	External J	NO
L	symbol	External J	NO
L	decimals	External .	NO
L	totalSupply	External .	NO
L	balanceOf	External .	NO
L	allowance	External .	NO
L	approve	External J	NO!
L	transfer	External J	NO!
L	transferFrom	External J	NO!
L	DOMAIN_SEPARATOR	External J	NO
L	PERMIT_TYPEHASH	External J	NO.
L	nonces	External J	NO.
L	permit	External J	O NO!
L	MINIMUM_LIQUIDITY	External J	NO
L	factory	External J	NO
L	token0	External J	NO
L	token1	External J	NO
L	getReserves	External	NO

L	price OCumulative Last	External	NO
L	price1CumulativeLast	External	NO
L	kLast	External	NO
L	mint	External (NO
L	burn	External (NO
L	swap	External (NO
L	skim	External (NO.
L	sync	External (NO
L	initialize	External (NO
SafeMathInt	Library		
L	mul	Internal 🖺	
L	div	Internal 🖺	
L	sub	Internal 🖺	
L	add	Internal 🖺	
L	abs	Internal 🖺	
L	toUint256Safe	Internal 🖺	
SafeMathUint	Library		
L	toInt256Safe	Internal 🖺	

IterableMapping	Library		
L	get	Public .	NO.
L	getIndexOfKey	Public .	NO.
L	getKeyAtIndex	Public .	NO.
L	size	Public	NO.
L	set	Public J	● NO!
L	remove	Public J	● NO!
DividendPayingTokenI nterface	Interface		
L	dividendOf	External .	NO
L	withdrawDividend	External J	● NO!
DividendPayingToken OptionalInterface	Interface		
L	withdrawableDividendOf	External	NO
L	withdrawnDividendOf	External	NO
L	accumulativeDividendOf	External .	NO.

DividendPayingToken	Implementation	ERC20Upgradeable, OwnableUpgradeable, DividendPayingTokenI nterface, DividendPayingToken OptionalInterface	
L	DividendPayingToken_init	Internal 🖺	initializer
L	distributeCAKEDividends	Public	onlyOwner
L	withdrawDividend	Public	NO
L	_withdrawDividendOfUser	Internal 🖺	
L	dividendOf	Public	NO
L	withdrawableDividendOf	Public	NO
L	withdrawnDividendOf	Public	NO
L	accumulativeDividendOf	Public	NO
L	_transfer	Internal 🖺	
L	_mint	Internal 🖺	
L	_burn	Internal 🖺	
L	_setBalance	Internal 🖺	
BABYTOKENDividendT racker	Implementation	OwnableUpgradeable, DividendPayingToken	
L	initialize	External	initializer
L	_transfer	Internal 🖺	

L	withdrawDividend	Public .		NO.
L	excludeFromDividends	External .		onlyOwner
L	isExcludedFromDividends	Public .		NO.
L	updateClaimWait	External .		onlyOwner
L	updateMinimumTokenBalanceFor Dividends	External		onlyOwner
L	getLastProcessedIndex	External .		NO.
L	getNumberOfTokenHolders	External .		NO.
L	getAccount	Public .		NO.
L	getAccountAtIndex	Public .		NO.
L	canAutoClaim	Private 🖺		
L	setBalance	External .		onlyOwner
L	process	Public .		NO.
L	processAccount	Public		onlyOwner
BaseToken	Implementation			
AntiBotBABYTOKEN	Implementation	ERC20, Ownable, BaseToken		
L		Public .	g	ERC20
L	setEnableAntiBot	External		onlyOwner

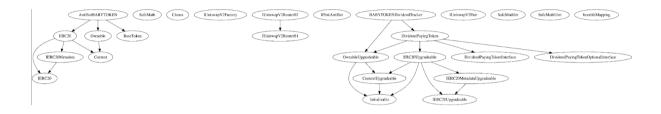
L		External	gp	NO
L	setSwapTokensAtAmount	External		onlyOwner
L	updateDividendTracker	Public		onlyOwner
L	updateUniswapV2Router	Public		onlyOwner
L	excludeFromFees	Public .		onlyOwner
L	excludeMultipleAccountsFromFees	Public .		onlyOwner
L	setMarketingWallet	External J		onlyOwner
L	setTokenRewardsFee	External		onlyOwner
L	setLiquiditFee	External		onlyOwner
L	setMarketingFee	External		onlyOwner
L	setAutomatedMarketMakerPair	Public		onlyOwner
L	_setAutomatedMarketMakerPair	Private 🖺		
L	updateGasForProcessing	Public		onlyOwner
L	updateClaimWait	External J		onlyOwner
L	getClaimWait	External		NO
L	update Minimum Token Balance For Dividends	External		onlyOwner
L	getMinimumTokenBalanceForDivi dends	External		NO.
L	getTotalDividendsDistributed	External		NO
L	isExcludedFromFees	Public .		NO

L	withdrawableDividendOf	Public	NO
L	dividendTokenBalanceOf	Public .	NO
L	excludeFromDividends	External [onlyOwner
L	isExcludedFromDividends	Public .	NO
L	getAccountDividendsInfo	External	NO
L	getAccountDividendsInfoAtIndex	External .	NO
L	processDividendTracker	External .	NO
L	claim	External .	NO
L	getLastProcessedIndex	External .	NO
L	getNumberOfDividendTokenHolde rs	External	NO
L	_transfer	Internal 🖺	
L	swapAndSendToFee	Private 🖺	
L	swapAndLiquify	Private 🖺	
L	swapTokensForEth	Private 🖺	
L	swapTokensForCake	Private 🖺	
L	addLiquidity	Private 🖺	
L	swapAndSendDividends	Private 🖺	

Legend

Symbol	Meaning
	Function can modify state
51	Function is payable

Inheritance chart



Audit conclusion

Versatile Finance team has performed in-depth testings, line by line manual code review, and automated audit of the smart contract. The smart contract was analyzed mainly for common smart contract vulnerabilities, exploits, manipulations, and hacks. According to the smart contract audit.

Smart contract functional Status: Pass

Number of risk issues: 3 low-level issues

Solidity code functional issue level: **Pass**

Number of owner privileges: 11

Centralization risk correlated to the active owner: Low

Smart contract active ownership: YES

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as of the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the disclaimer below – please make sure to read it in full.

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