



NOVOS

KYC & AUDIT.

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CERTIFICATE OF COMPLIANCE

Smart Contract Audit by NOVOS



HEAVENToken

Audit Passed

June 07, 2022

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Audit Summary

This report has been prepared for HEAVEN Token on the Binance Chain network. Novos provides both client-centered and user-centered examination of the smart contracts and their current status when applicable. This report represents the security assessment made to find issues and vulnerabilities on the source code along with the current liquidity and token holder statistics of the protocol.

A comprehensive examination has been performed, utilizing Cross Referencing, Static Analysis, In-House Security Tools, and line-by-line Manual Review.

The auditing process pays special attention to the following considerations:

- Ensuring contract logic meets the specifications and intentions of the client without exposing the user's funds to risk.
- Testing the smart contracts against both common and uncommon attack vectors.
- Inspecting liquidity and holders statistics to inform the current status to both users and client when applicable.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Verifying contract functions that allow trusted and/or untrusted actors to mint, lock, pause, and transfer assets.
- Thorough line-by-line manual review of the entire codebase by industry experts.



Project Overview

Parameter	Result
Address	0x4e54d86e3596b11d5f43c9e67b453164a4e6792c
Name	HEAVEN
Token Tracker	HV (HV)
Decimals	5
Supply	325,000
Platform	Binance Chain
Compiler	v0.7.4+commit.3f05b770
Optimization	No with 200 runs
LicenseType	None
Language	Solidity
Codebase	https://bscscan.com/address/0x4e54d86e3596b11d5f43c9e67b453164a4e6792c#code
Url	https://heavenapy.com/

Main Contract Assessed

Name	Contract	Live
HEAVEN	0x4E54D86e3596B11d5f43c9E67b453164a4E6792C	Yes



Smart Contract Vulnerability Checks

Vulnerability	Automatic Scan	Manual Scan	Result
❖ Unencrypted Private Data On-Chain	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Code With No Effects	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Message call with hardcoded gas amount	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Hash Collisions With Multiple Variable Length Arguments	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Unexpected Ether balance	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Presence of unused variables	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Right-To-Left-Override control character (U+202E)	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Typographical Error	✓ Complete	✓ Complete	✓ Low / No Risk
❖ DoS With Block Gas Limit	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Arbitrary Jump with Function Type Variable	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Insufficient Gas Griefing	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Incorrect Inheritance Order	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Write to Arbitrary Storage Location	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Requirement Violation	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Missing Protection against Signature Replay Attacks	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Weak Sources of Randomness from Chain Attributes	✓ Complete	✓ Complete	✓ Low / No Risk





Smart Contract Vulnerability Checks

Vulnerability	Automatic Scan	Manual Scan	Result
❖ Authorization through tx.origin	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Delegatecall to Untrusted Callee	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Use of Deprecated Solidity Functions	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Assert Violation	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Reentrancy	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Unprotected SELFDESTRUCT Instruction	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Unprotected Ether Withdrawal	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Unchecked Call Return Value	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Outdated Compiler Version	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Integer Overflow and Underflow	✓ Complete	✓ Complete	✓ Low / No Risk
❖ Function Default Visibility	✓ Complete	✓ Complete	✓ Low / No Risk





Contract Ownership

The contract ownership of HEAVEN is not currently renounced. The ownership of the contract grants special powers to the protocol creators, making them the sole addresses that can call sensible ownable functions that may alter the state of the protocol.

01

The current owner is the address
0xb33509e25c8b1592dccc57cdcfe754df38d9d85c
which can be viewed from: [HERE](#)

02

The owner wallet has the power to call the functions displayed on the privileged functions chart below, if the owner wallet is compromised this privileges could be exploited.

03

We recommend the team to renounce ownership at the right timing if possible, or gradually migrate to a timelock with governing functionalities in respect of transparency and safety considerations.

Important Notes To The Users:



01

The owner cannot stop trading.

02

The owner cannot blacklist wallets.

03

On sells there is an increase of tax based on the fees, this new tax cannot be higher than 20%.

04

Owner can enable trading but cannot pause or disable it.

05

Owner can change the `maxSellTransactionAmount` but it cannot be less than 10,000 tokens.

06

Owner can change the `sellFeeIncreaseFactor` up to 200, max sell tax is 20% ($10 \times 200 / 100$).

07

Owner can change the `claimWait` for dividends between 1 hour and 24 hours.

08

Owner can change the `maxWalletBalance` with no constrains.

09

Owner can change and configure the `dividendTracker` with no constrains.

10

Owner can enable/disable the `SwapAndLiquify` mechanism and the `BusdDividend` mechanism.

11

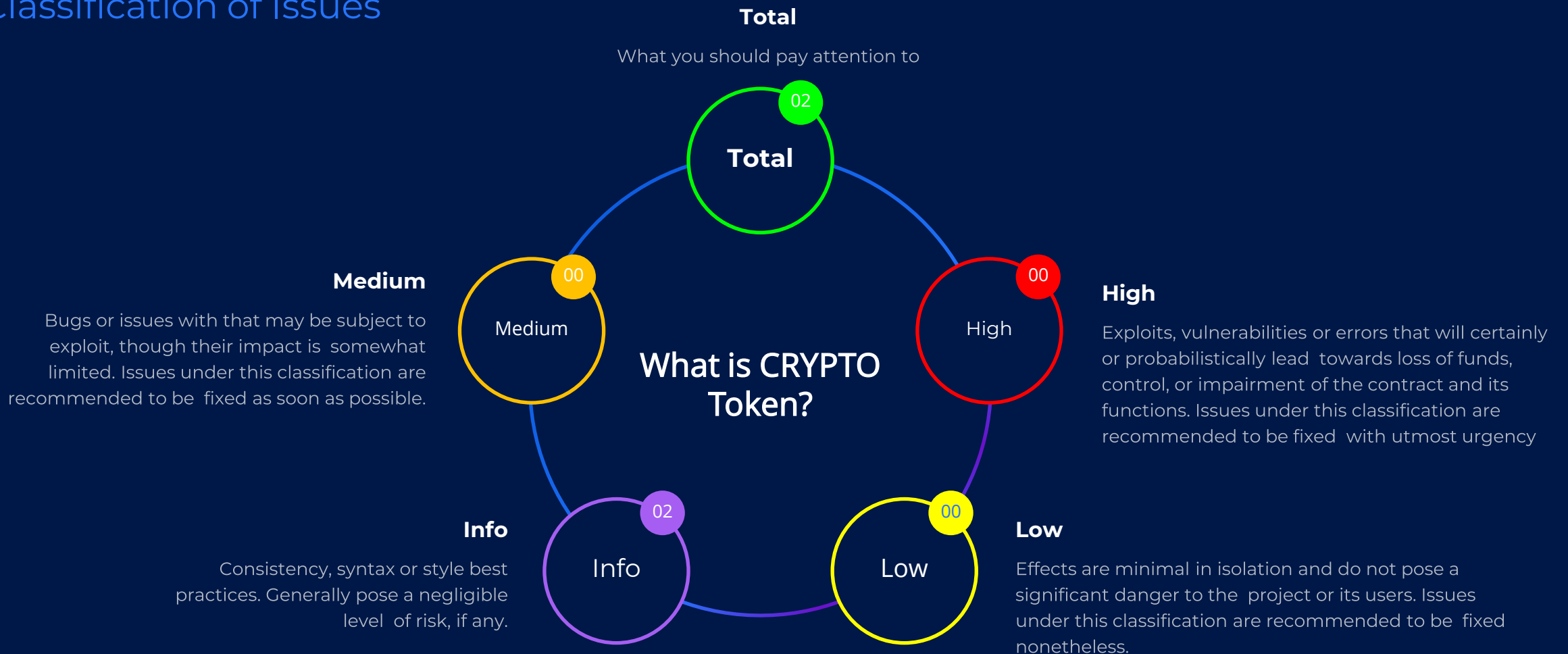
Owner can add/remove wallets from fee exemption and dividends.

12

Owner can change the minimum token balance needed to get dividends. No high-risk Exploits / Vulnerabilities Were Found in token Source Code.

Technical Findings Summary

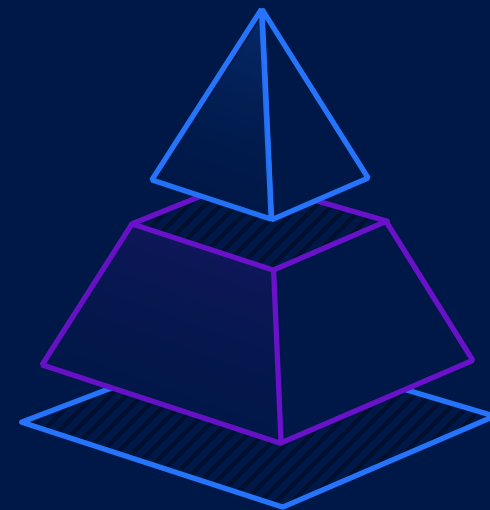
Classification of Issues





Findings

Public function that could be declared external



ID	Severity	Contract	Function
01	Informational	HEAVEN	Functions: size, getKeyAtIndex, getIndexOfKey

Description

Gas Optimization. Public function that could be declared external

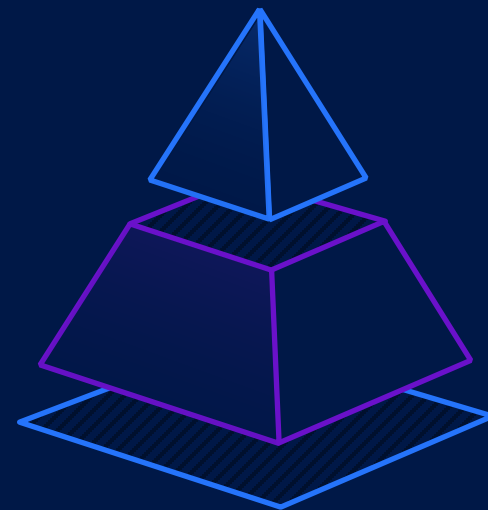
Recommendation

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



Findings

Missing events arithmetic



ID	Severity	Contract	Function
02	Informational	HEAVEN	Missing events for setWalletBalance, setMaxBuyTransaction, setMaxSellTransaction, setSwapTokensAtAmount, setSellTransactionMultiplier

Description

Functions that change critical arithmetic parameters should emit an event.

Recommendation

Emit corresponding events for critical parameter changes.



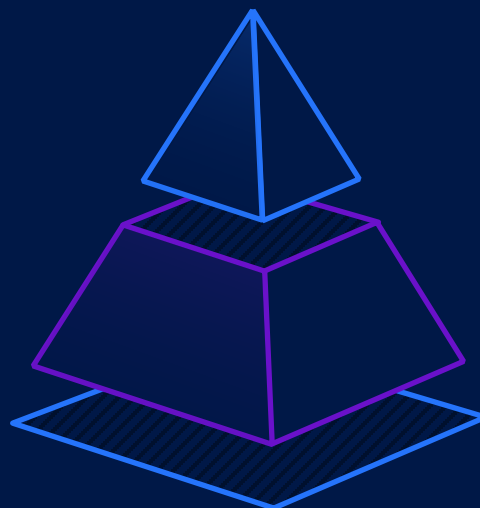
Privileged Functions (onlyOwner & Others)

Function Name	Parameters	Visibility
✓ renounceOwnership	▪ none	▪ external
✓ transferOwnership	▪ address newOwner	▪ public
✓ prepareForPartnerOrExchangeListing	▪ address_partnerOrExchangeAddress	▪ external
✓ setWalletBalance	▪ uint256 _maxWalletBalance	▪ external
✓ setMaxBuyTransaction	▪ uint256 _maxTxn	▪ external
✓ setMaxSellTransaction	▪ uint256 _maxTxn	▪ external
✓ updateBusdDividendToken	▪ address _newContract	▪ external
✓ updateMarketingWallet	▪ address _newWallet	▪ external
✓ setSwapTokensAtAmount	▪ uint256 _swapAmount	▪ external
✓ setSellTransactionMultiplier	▪ uint256 _multiplier	▪ external
✓ setTradingIsEnabled	▪ none	▪ external
✓ setBusdDividendEnabled	▪ bool _enabled	▪ external
✓ setMarketingEnabled	▪ bool _enabled	▪ external
✓ setSwapAndLiquifyEnabled	▪ bool _enabled	▪ external
✓ updatebusdDividendTracker	▪ address newAddress	▪ external
✓ updateUniswapV2Router	▪ address newAddress	▪ external



Privileged Functions (onlyOwner & Others)

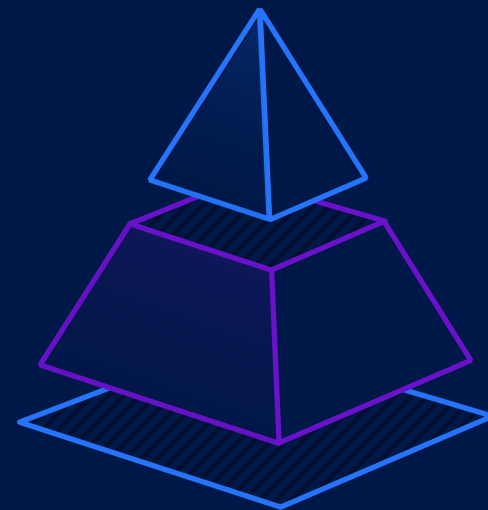
Function Name	Parameters	Visibility
✓ <code>excludeFromFees</code>	▪ <code>address account, bool excluded</code>	▪ public
✓ <code>excludeFromDividend</code>	▪ <code>address account</code>	▪ public
✓ <code>setAutomatedMarketMakerPair</code>	▪ <code>address pair, bool value</code>	▪ external
✓ <code>updateGasForProcessing</code>	▪ <code>uint256 newValue</code>	▪ external
✓ <code>updateMinimumBalanceForDividends</code>	▪ <code>uint256 newMinimumBalance</code>	▪ external
✓ <code>updateClaimWait</code>	▪ <code>uint256 claimWait</code>	▪ external
✓ <code>processDividendTracker</code>	▪ <code>uint256 gas</code>	▪ external





Statistics

Liquidity Info

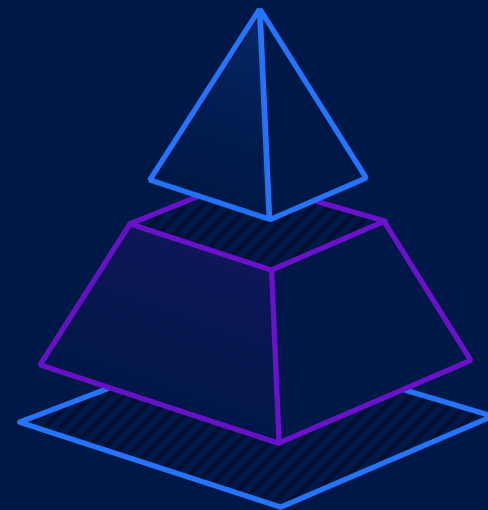
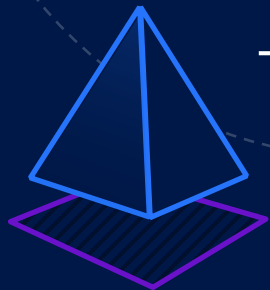


Parameter	Result
Pair Address	0x791562af1fa3a29d30164bfaf805d14237b74e2d
MEG Reserves	0.00 HV
BNB Reserves	0.00 BNB
Liquidity Value	\$0 USD



Statistics

Token (MEG) Holders Info

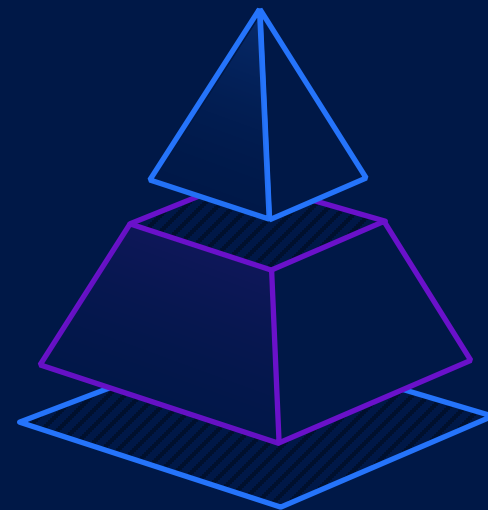
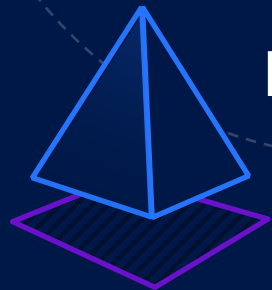


Parameter	Result
MEG Percentage Burnt	0.00%
MEG Amount Burnt	0 HV
Top 10 Percentage Own	100.00%
Top 10 Amount Owned	325,000 HV
Top 10 Aprox Value	\$NaN USD



Statistics

LP (CET/BNB) Holders Info



Parameter	Result
MEG/BNB % Burnt	0.00%
MEG/BNB Amount Burnt	0 HV/BNB
Top 10 Percentage Owned	0.00%
Top 10 Amount Owned	0 HV/BNB
Locked Tokens Percentage	0.00%

- ❖ All the data displayed above was taken on-chain at block 18449657
- ❖ The tokens on industry-standard burn wallets are not included on the top 10 wallets calculations



Disclaimer

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