ASSURE DEFI®
THE VERIFICATION GOLD STANDARD

Security Assessment:

Guardian Network TOKEN

May 30, 2024

GUARDIAN NETWORK

- Audit Status: **Pass**
- Audit Edition: **Advance**

Risk Analysis

Classifications of Manual Risk Results

Classification	Description
Critical	Danger or Potential Problems.
High	Be Careful or Fail test.
Medium	Pass, Not-Detected or Safe Item.
Low	Function Detected

Manual Code Review Risk Results

Contract Privilege	Description
Buy Tax	5%
Sale Tax	5%
Cannot Buy	Pass
Cannot Sale	Pass
Max Tax	50%
Modify Tax	No
Fee Check	Pass
Is Honeypot?	Not Detected
Trading Cooldown	Not Detected
Can Pause Trade?	Pass
Pause Transfer?	Not Detected
Max Tx?	Fail
Is Anti Whale?	Detected
Is Anti Bot?	Not Detected

Contract Privilege	Description
Is Blacklist?	Not Detected
Blacklist Check	Pass
is Whitelist?	Detected
Can Mint?	Pass
Is Proxy?	Not Detected
Can Take Ownership?	Not Detected
Hidden Owner?	Not Detected
Owner	no
Self Destruct?	Not Detected
External Call?	Detected
Other?	Not Detected
Holders	124
Auditor Confidence	Medium Risk
KYC Present	No
KYC URL	N/A

The following quick summary it's added to the project overview; however, there are more details about the audit and its results. Please read every detail.

Project Overview

Token Summary

Parameter	Result
Address	0x0188B1C1207fC71c259614E0c6D0FD15a01AdD72
Name	Guardian Network
Token Tracker	Guardian Network (GRDN)
Decimals	18
Supply	100,000,000
Platform	ETHEREUM
compiler	v0.8.20+commit.a1b79de6
Contract Name	GuardianNetwork
Optimization	Yes with 200 runs
LicenseType	MIT
Language	Solidity
Codebase	https://etherscan.io/token/0x0188b1c1207fc71c259614e0c6d0fd15a01add72#code
Payment Tx	Corporate

Main Contract Assessed
Contract Name

Name	Contract	Live
Guardian Network	0x0188B1C1207fC71c259614E0c6D0FD15a01AdD72	Yes

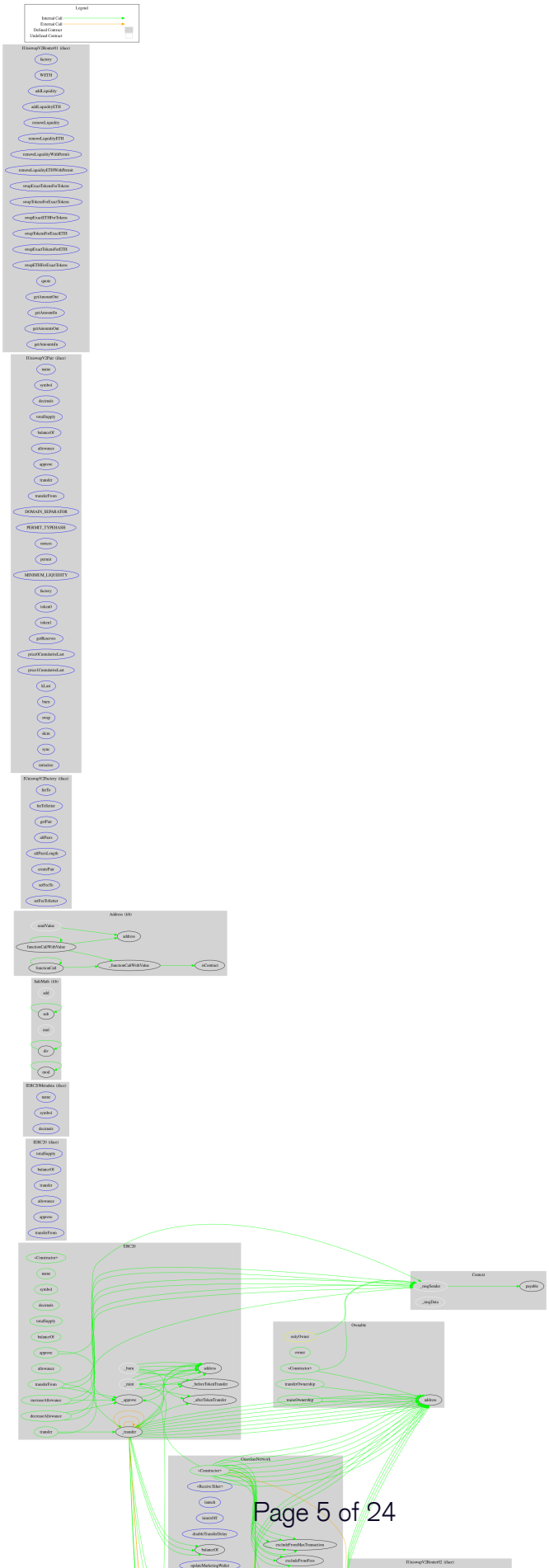
TestNet Contract was Not Assessed

Solidity Code Provided

SolID	File Sha-1	FileName
GC	c65dfc37f208d6638f04d6a5eb1eb300f58548ef	Guardian.sol
GC		
GC		
GC		
GC		
GC		

Call Graph

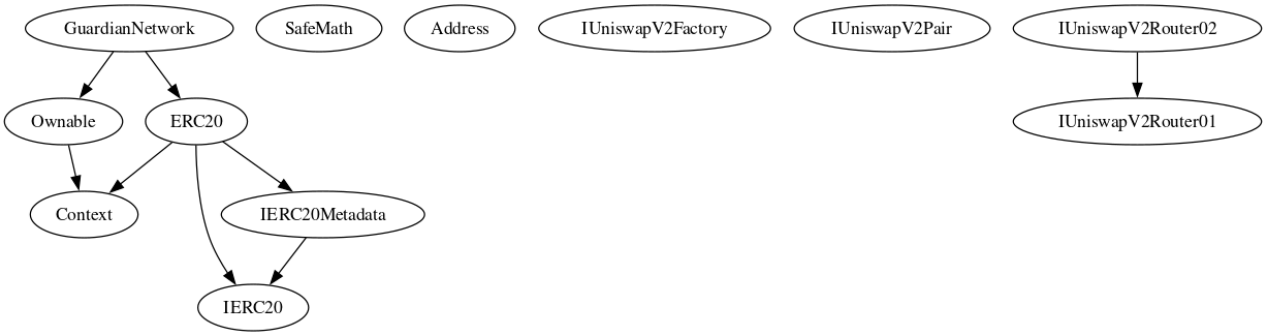
The contract for Guardian Network has the following call graph structure.



Inheritance

The contract for Guardian Network has the following inheritance structure.

The Project has a Total Supply of 100,000,000



GRDN-01 | Potential Sandwich Attacks.

Category	Severity	Location	Status
Security	Low	Guardian.sol: L: 1102	Unresolved

Description

A sandwich attack might happen 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 frontrunning (before the transaction being attacked) a transaction to purchase one of the assets and make profits by back running (after the transaction being attacked) a transaction to sell the asset. The following functions are called without setting restrictions on slippage or minimum output amount, so transactions triggering these functions are vulnerable to sandwich attacks, especially when the input amount is large:

- swapExactTokensForETHSupportingFeeOnTransferTokens()
- addLiquidityETH()

Remediation

We recommend setting reasonable minimum output amounts, instead of 0, based on token prices when calling the aforementioned functions.

Referrences:

What Are Sandwich Attacks in DeFi — and How Can You Avoid Them?.

GRDN-02 | Function Visibility Optimization.

Category	Severity	Location	Status
Gas Optimization	Informational	Guardian.sol: L: 930 C: 14	Detected

Description

The following functions are declared as public and are not invoked in any of the contracts contained within the projects scope:

Function Name	Parameters	Visibility
setAutomatedMarketMakerPair	address pair, bool value	Public

The functions that are never called internally within the contract should have external visibility

Remediation

We advise that the function's visibility specifiers are set to external, and the array-based arguments change their data location from memory to calldata, optimizing the gas cost of the function.

References:

external vs public best practices.

GRDN-03 | Lack of Input Validation.

Category	Severity	Location	Status
Volatile Code	Low	Guardian.sol: L: 1154 C: 14, L: 952 C: 14, L: 947 C: 14, L: 942 C: 14,L: 925 C: 14, L: 918 C: 14, L: 913 C: 14	Detected

Description

The given input is missing the check for the non-zero address.

The given input is missing the check for the onlyOwners need to be revisited for require..

Remediation

We advise the client to add the check for the passed-in values to prevent unexpected errors as below:

```
...
 require(receiver != address(0), "Receiver is the zero address");
...
...
require(value X limitation, "Your not able to do this function");
...
```

We also recommend customer to review the following function that is missing a required validation. onlyOwners need to be revisited for require..

GRDN-05 | Missing Event Emission.

Category	Severity	Location	Status
Volatile Code	Low	Guardian.sol: L: 1163 C: 14, L: 1158 C: 14, L: 1154 C: 14, L: 1145 C: 14, L: 1137 C: 14,L: 1145 C: 14, L: 1120 C: 14, L: 918 C: 14, L: 913 C: 14, L: 907 C: 14, L: 900 C: 14	Detected

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.The linked code does not create an event for the transfer.

Remediation

Emit an event for critical parameter changes. It is recommended emitting events for the sensitive functions that are controlled by centralization roles.

GRDN-08 | Dead Code Elimination.

Category	Severity	Location	Status
Coding Style	Low	Guardian.sol: L: 1082, L: 277, L: 341	Detected

Description

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

SafeMath
Address
min

Remediation

Remove unused functions. dead-code elimination (also known as DCE, dead-code removal, dead-code stripping, or dead-code strip) is a compiler optimization to remove code which does not affect the program results. Removing such code has several benefits: it shrinks program size, an important consideration in some contexts, and it allows the running program to avoid executing irrelevant operations, which reduces its running time. It can also enable further optimizations by simplifying program structure.

https://docs.soliditylang.org/en/latest/cheatsheet.html

GRDN-09 | Third Party Dependencies.

Category	Severity	Location	Status
Volatile Code	High	Guardian.sol: L: 347 C: 14	Detected

Description

The contract is serving as the underlying entity to interact with third party
bytes32 accountHash =
0xc5d2460186f7233c927e7db2dcc703c0e500b653ca82273b7bfad8045d85a470; protocols.
The scope of the audit treats 3rd party entities
as black boxes and assume their functional correctness. However, in the real world, 3rd parties
can be
compromised and this may lead to lost or stolen assets. In addition, upgrades of 3rd parties
can possibly
create severe impacts, such as increasing fees of 3rd parties, migrating to new LP pools, etc.

Remediation

We understand that the business logic of Guardian Network requires interaction with
bytes32 accountHash =
0xc5d2460186f7233c927e7db2dcc703c0e500b653ca82273b7bfad8045d85a470; , etc. We
encourage the team to constantly monitor the
statuses of 3rd parties to mitigate the side effects when unexpected activities are observed.

Project Action

Update Library to latest version.

GRDN-10 | Initial Token Distribution.

Category	Severity	Location	Status
Centralization / Privilege	High	Guardian.sol: L: 894	Detected

Description

All of the Guardian Network tokens are sent to the contract deployer when deploying the contract. This could be a centralization risk as the deployer can distribute tokens without obtaining the consensus of the community.

Remediation

We recommend the team to be transparent regarding the initial token distribution process, and the team shall make enough efforts to restrict the access of the private key.

Project Action

GRDN-11 | Potential Reentrancy in swapBack.

Category	Severity	Location	Status
Optimization	High	Guardian.sol: L: 1102 C: 14	Detected

Description

The swapBack function involves external calls which could be exploited for reentrancy.

Remediation

Use reentrancy guards or check-effects-interactions pattern.

Project Action

GRDN-14 | Unnecessary Use Of SafeMath

Category	Severity	Location	Status
Logical Issue	Medium	Guardian.sol: L: 277 C: 9	Detected

Description

The SafeMath library is used unnecessarily. With Solidity compiler versions 0.8.0 or newer, arithmetic operations
will automatically revert in case of integer overflow or underflow.
library SafeMath {
An implementation of SafeMath library is found.
using SafeMath for uint256;
SafeMath library is used for uint256 type in contract.

Remediation

We advise removing the usage of SafeMath library and using the built-in arithmetic operations provided by the
Solidity programming language

Project Action

GRDN-20 | Transfer Delay Mechanism.

Category	Severity	Location	Status
Optimization	Low	Guardian.sol: L: 989	Detected

Description

The transfer delay mechanism (isTransferDelayActive) can only be disabled and not re-enabled, which might be restrictive.

Remediation

Consider allowing re-enabling of the transfer delay if needed.

Project Action

Technical Findings Summary

Classification of Risk

Severity	Description
Critical	Risks are those that impact the safe functioning of a platform and must be addressed before launch. Users should not invest in any project with outstanding critical risks.
High	Risks can include centralization issues and logical errors. Under specific circumstances, these major risks can lead to loss of funds and/or control of the project.
Medium	Risks may not pose a direct risk to users' funds, but they can affect the overall functioning of a platform
Low	Risks can be any of the above but on a smaller scale. They generally do not compromise the overall integrity of the Project, but they may be less efficient than other solutions.
Informational	Errors are often recommended to improve the code's style or certain operations to fall within industry best practices. They usually do not affect the overall functioning of the code.

Findings

Severity	Found	Pending	Resolved
Critical	0	0	0
High	2	2	0
Medium	2	2	1
Low	5	5	0
Informational	1	1	0
Total	10	10	1

Social Media Checks

Social Media	URL	Result
Twitter	https://twitter.com/Guardian_GRDN	Pass
Other		
Website	https://guardiannetwork.io/	Pass
Telegram	https://t.me/Guardian_GRDN	Pass

We recommend to have 3 or more social media sources including a completed working websites.

Social Media Information Notes:

Auditor Notes: undefined

Project Owner Notes:

Audit Result

Final Audit Score

Review	Score
Security Score	85
Auditor Score	85

The Following Score System Has been Added to this page to help understand the value of the audit, the maximum score is 100, however to attain that value the project most pass and provide all the data needed for the assessment. Our Passing Score has been changed to 85 Points for a higher standard, if a project does not attain 85% is an automatic failure. Read our notes and final assessment below.

Audit Passed

Assessment Results

Important Notes:

- Overall Classification:ı
- Security Risk: Mediumı
- Code Quality: Moderateı
- Documentation: Insufficientı
- Score: 85/100ı
- Key Issues Identified:ı
- Centralization of Control:ı
- Status: Mitigated by ownership renouncement.ı
- Details: Ownership renounced in transaction 0xba3a4136fc00 0b33b4e22b02d189ec520eb31de1012ff9b094eb6ab19c6a7 3c3.ı
- Recommendation: Implement governance mechanisms if control needs to be re-established.ı
- Transfer Delay Mechanism:ı
- Status: Can only be disabled, not re-enabled.ı
- Recommendation: Allow re-enabling of transfer delay.ı
- Hardcoded Addresses:ı
- Status: Unchanged.ı
- Recommendation: Make addresses configurable.ı

- Fee Cap:ı
- Status: High maximum fee cap (50%) remains. (Can't be modify it no more.)ı
- Recommendation: Lower maximum fee cap.ı
- Reentrancy Risk:ı
- Status: Potential reentrancy in swapBack function.ı
- Recommendation: Use reentrancy guards.ı
- Event Logging:ı
- Status: Insufficient event logging for critical state changes.ı
- Recommendation: Add comprehensive event logging.ı
- Unchecked Arithmetic:ı
- Status: Unchecked arithmetic in _transfer function.ı
- Recommendation: Use SafeMath for unchecked arithmetic.ı
- Front-Running Risk:ı
- Status: Potential for front-running in swapBack.ı
- Recommendation: Introduce anti-front-running measures.ı
- Validation Checks:ı
- Status: Missing zero address validation in updateMarketingWallet.ı
- Recommendation: Add validation checks for zero addresses.ı
- Use of SafeMath:ı
- Status: Redundant in Solidity 0.8.20.ı

- Recommendation: Remove SafeMath for Solidity 0.8.20.ı
- Max Transaction and Wallet Limits:ı
- Status: Need careful setting and documentation.ı
- Recommendation: Document max transaction and wallet limits.ı
- isTradingEnabled Flag:ı
- Status: Centralized control and potential misuse.ı
- Recommendation: Decentralize control.ı
- External OnlyOwner Functions:ı
- Status: Missing emit events and validations.ı
- Recommendation: Add emit events and validations for external onlyOwner functions.ı
- Conclusion:ı
- The renouncement of ownership addresses the centralization risk, as confirmed by the transaction 0xba3a4136fc000b33b4e

22b02d189ec520eb31de1012ff9b094eb6ab19c6a73c3. However, other critical issues such as unchecked arithmetic, potential reentrancy, and insufficient event logging remain unaddressed.

Appendix

Finding Categories

Centralization / Privilege

Centralization / Privilege findings refer to either feature logic or implementation of components that actagainst the nature of decentralization, such as explicit ownership or specialized access roles incombination with a mechanism to relocate funds.

Gas Optimization

Gas Optimization findings do not affect the functionality of the code but generate different, more optimalEVM opcodes resulting in a reduction on the total gas cost of a transaction.

Logical Issue

Logical Issue findings detail a fault in the logic of the linked code, such as an incorrect notion on howblock.timestamp works.

Control Flow

Control Flow findings concern the access control imposed on functions, such as owner-only functionsbeing invoke-able by anyone under certain circumstances.

Volatile Code

Volatile Code findings refer to segments of code that behave unexpectedly on certain edge cases that mayresult in a vulnerability.

Coding Style

Coding Style findings usually do not affect the generated byte-code but rather comment on how to makethe codebase more legible and, as a result, easily maintainable.

Inconsistency

Inconsistency findings refer to functions that should seemingly behave similarly yet contain different code,such as a constructor assignment imposing different require statements on the input variables than a setterfunction.

Coding Best Practices

ERC 20 Conding Standards are a set of rules that each developer should follow to ensure the code meet a set of creterias and is readable by all the developers.

Disclaimer

Assure Defi has conducted an independent security assessment to verify the integrity of and highlight any vulnerabilities or errors, intentional or unintentional, that may be present in the reviewed code for the scope of this assessment. This report does not constitute agreement, acceptance, or advocation for the Project, and users relying on this report should not consider this as having any merit for financial advice in any shape, form, or nature. The contracts audited do not account for any economic developments that the Project in question may pursue, and the veracity of the findings thus presented in this report relate solely to the proficiency, competence, aptitude, and discretion of our independent auditors, who make no guarantees nor assurance that the contracts are entirely free of exploits, bugs, vulnerabilities or deprecation of technologies.

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