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**Blockchain Security | Smart Contract Audits | KYC
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MADE IN GERMANY

RDB Token

Audit

**Security Assessment
20. June, 2023**

For



SolidProof_io



@solidproof_io

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Version	Date	Description
1.0	14. June 2023	<ul style="list-style-type: none">• Layout project• Automated- /Manual-Security Testing• Summary
	16. June 2023	<ul style="list-style-type: none">• Reaudit
	20. June 2024	<ul style="list-style-type: none">• Added socials

Note - This Audit report comprises a security analysis of the **RDB Token** smart contracts. This analysis did not include functional testing (or unit testing) of the contract’s logic.

Network

Binance Smart Chain (BSC)

Website

<https://rdbtoken.com/>



Description

TBA

Project Engagement

During the Date of 12 June 2023, **RDB Token Team** engaged Solidproof.io to audit smart contracts that they created. The engagement was technical and focused on identifying security flaws in the design and implementation of the contracts. They provided Solidproof.io with access to their code repository and whitepaper.

Logo



Contract Link

v1.0

- Provided as Files

Note for Investors: We only Audited two almost identical token contracts for **RDBTeam** with only one function. However, If the project has other contracts (for example, a Presale or staking contract etc), and they were not provided to us in the audit scope, then we cannot comment on its security, and we are not responsible for it in any way.

Vulnerability & Risk Level

Risk represents the probability that a certain source-threat will exploit vulnerability, and the impact of that event on the organization or system. Risk Level is computed based on CVSS version 3.0.

Level	Value	Vulnerability	Risk (Required Action)
Critical	9 - 10	A vulnerability that can disrupt the contract functioning in a number of scenarios, or creates a risk that the contract may be broken.	Immediate action to reduce risk level.
High	7 – 8.9	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.	Implementation of corrective actions as soon as possible.
Medium	4 – 6.9	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.	Implementation of corrective actions in a certain period.
Low	2 – 3.9	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.	Implementation of certain corrective actions or accepting the risk.
Informational	0 – 1.9	A vulnerability that have informational character but is not effecting any of the code.	An observation that does not determine a level of risk

Auditing Strategy and Techniques Applied

Throughout the review process, care was taken to evaluate the repository for security-related issues, code quality, and adherence to specification and best practices. To do so, reviewed line-by-line by our team of expert pentesters and smart contract developers, documenting any issues as there were discovered.

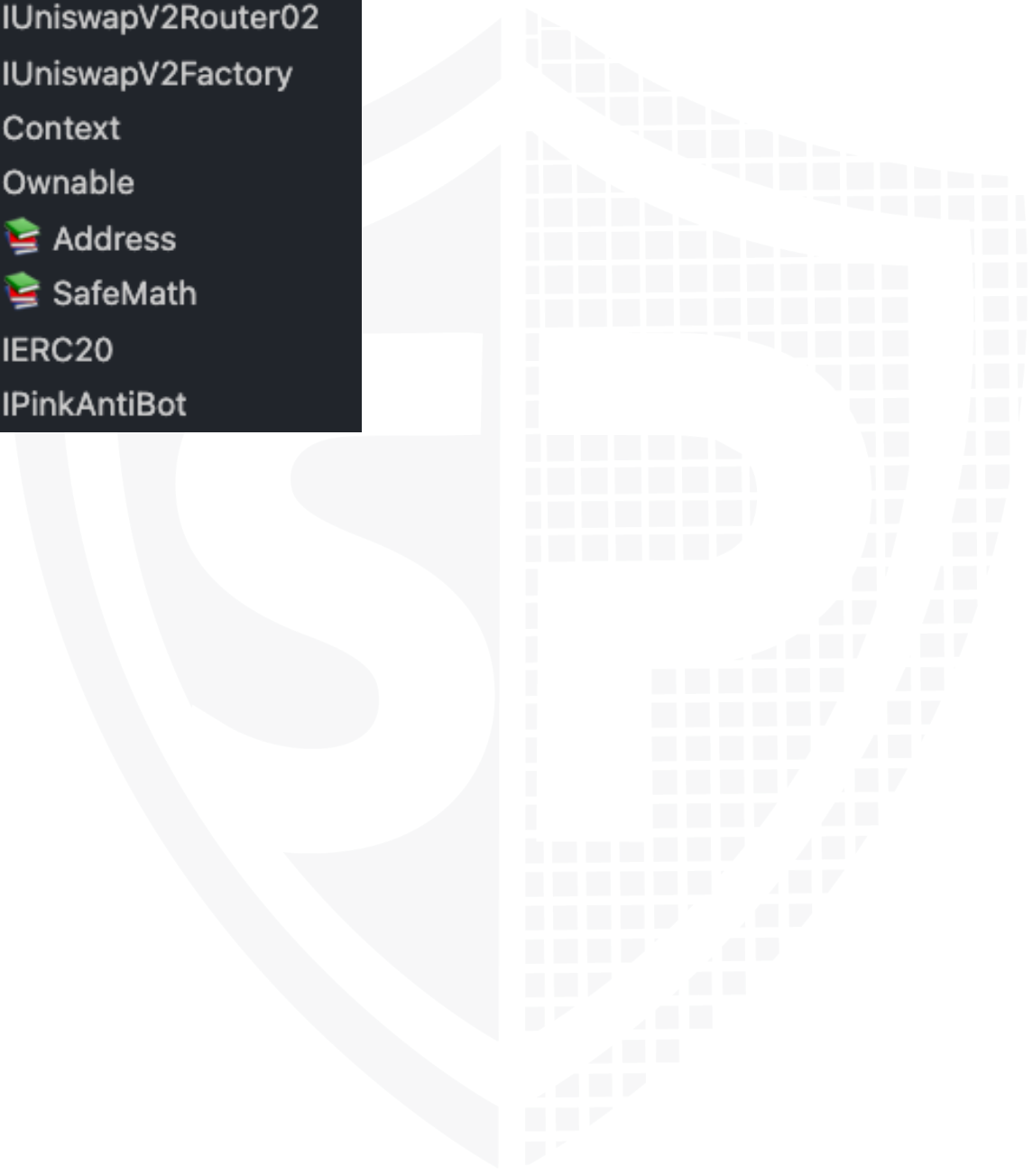
Methodology

The auditing process follows a routine series of steps:

1. Code review that includes the following:
 - i) Review of the specifications, sources, and instructions provided to SolidProof to make sure we understand the size, scope, and functionality of the smart contract.
 - ii) Manual review of code, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
 - iii) Comparison to specification, which is the process of checking whether the code does what the specifications, sources, and instructions provided to SolidProof describe.
2. Testing and automated analysis that includes the following:
 - i) Test coverage analysis, which is the process of determining whether the test cases are actually covering the code and how much code is exercised when we run those test cases.
 - ii) Symbolic execution, which is analysing a program to determine what inputs causes each part of a program to execute.
3. Best practices review, which is a review of the smart contracts to improve efficiency, effectiveness, clarify, maintainability, security, and control based on the established industry and academic practices, recommendations, and research.
4. Specific, itemized, actionable recommendations to help you take steps to secure your smart contracts.

Used Code from other Frameworks/Smart Contracts (direct imports)

Imported packages:



```
• IUniswapV2Router01
• IUniswapV2Router02
• IUniswapV2Factory
🔗 Context
🔗 Ownable
🔗 📖 Address
🔗 📖 SafeMath
• IERC20
• IPinkAntiBot
```


Tested Contract Files

This audit covered the following files listed below with a SHA-1 Hash.

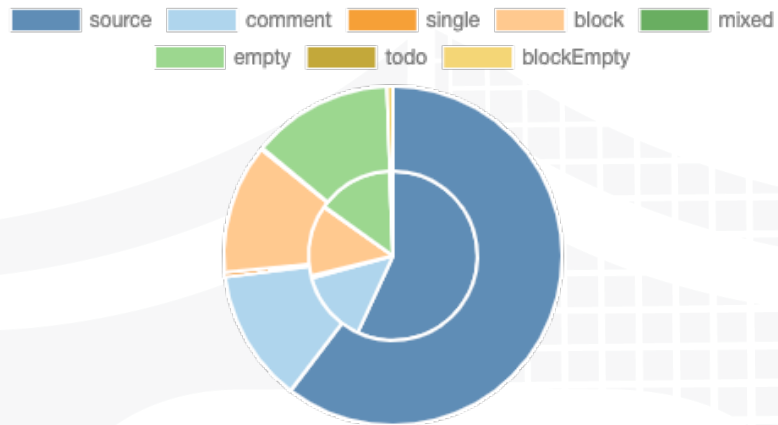
A file with a different Hash has been modified, intentionally or otherwise, after the security review. A different Hash could be (but not necessarily) an indication of a changed condition or potential vulnerability that was not within the scope of this review.

v1.0

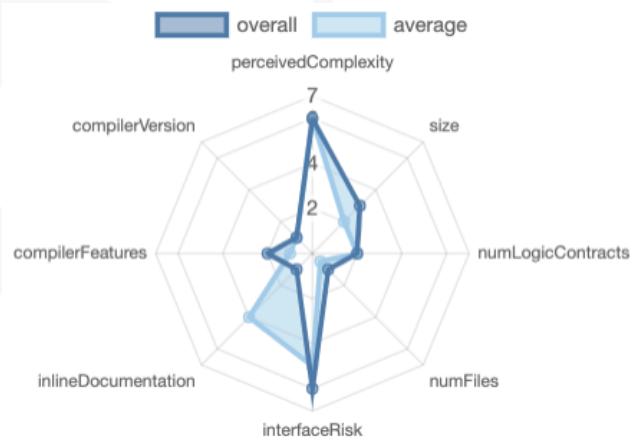
File Name	SHA-1 Hash
contracts/ RDBMainnnet.sol	f6d7e97a6c12331dd6b46ccec42fe3e6c14 9fd37
contracts/ TSTtokenPinkBot.sol	b79d8b5d113bf7e908dd7613a10029513d 07eb3a

Metrics

Source Lines v1.0



Risk Level v1.0



Capabilities

Components

 Contracts	 Libraries	 Interfaces	 Abstract
2	4	10	4

Exposed Functions

This section lists functions that are explicitly declared public or payable. Please note that getter methods for public stateVars are not included.





 Public	 Payable
148	12

External	Internal	Private	Pure	View
104	190	52	40	70


StateVariables

Total	 Public
64	20

Capabilities

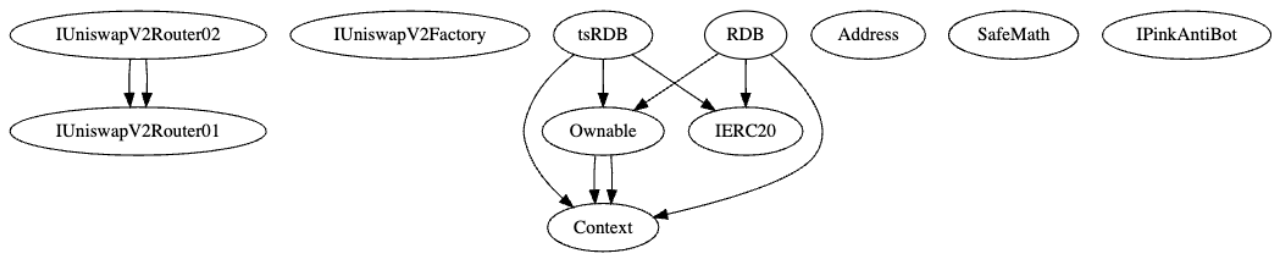
Solidity Versions observed	 Experimental Features	 Can Receive Funds	 Uses Assembly	 Has Destroyable Contracts
0.8.19		yes	yes (4 asm blocks)	

 Transfers ETH	 Low-Level Calls	 DelegateCall	 Uses Hash Functions	 ECRrecover	 New/Create/Create2
yes		yes			

 TryCatch	Σ Unchecked
	yes

Inheritance Graph

v1.0





Scope of Work/Verify Claims

The above token Team provided us with the files that needs to be tested (Github, Bscscan, Etherscan, files, etc.). The scope of the audit is the main contract (usual the same name as team appended with .sol).

We will verify the following claims:

1. Is contract an upgradeable
2. Correct implementation of Token standard
3. Deployer cannot mint any new tokens
4. Deployer cannot burn or lock user funds
5. Deployer cannot pause the contract
6. Deployer cannot set fees
7. Deployer cannot blacklist/antisnipe addresses
8. Overall checkup (Smart Contract Security)

Is contract an upgradeable

Name	
Is contract an upgradeable?	No



Correct implementation of Token standard

ERC20				
Function	Description	Exist	Tested	Verified
TotalSupply	Provides information about the total token supply	✓	✓	✓
BalanceOf	Provides account balance of the owner's account	✓	✓	✓
Transfer	Executes transfers of a specified number of tokens to a specified address	✓	✓	✓
TransferFrom	Executes transfers of a specified number of tokens from a specified address	✓	✓	✓
Approve	Allow a spender to withdraw a set number of tokens from a specified account	✓	✓	✓
Allowance	Returns a set number of tokens from a spender to the owner	✓	✓	✓

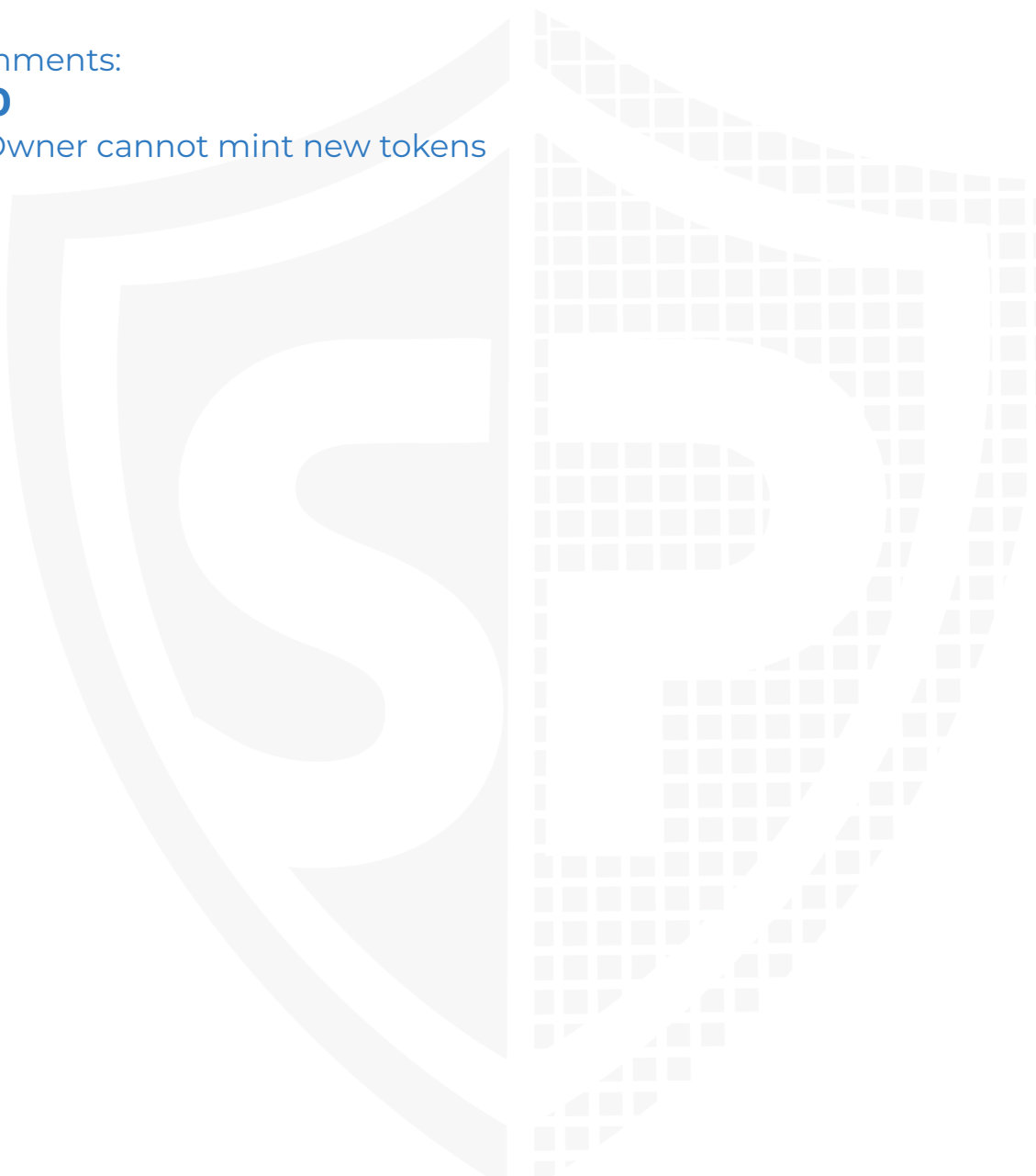
Deployer cannot mint any new tokens

Name	Exist	Tested	Status
Deployer cannot mint	✓	✓	✓
Max / Total Supply	100_000_000		

Comments:

v1.0

- Owner cannot mint new tokens



Deployer cannot burn or lock user funds

Name	Exist	Tested	Status
Deployer cannot lock	—	—	—
Deployer cannot burn	—	—	—



Deployer cannot pause the contract

Name	Exist	Tested	Status
Deployer cannot pause	—	—	—



Deployer cannot set fees

Name	Exist	Tested	Status
Deployer cannot set fees over 10%	✓	✓	✓
Deployer cannot set fees to nearly 100% or to 100%	✓	✓	✓

Comments:

v1.0

- Fees cannot be set without any limitations

Deployer can blacklist/antisnipe addresses

Name	Exist	Tested	Status
Deployer cannot blacklist/antisnipe addresses	—	—	—



Overall checkup (Smart Contract Security)


Tested	Verified
✓	✓

Legend

Attribute	Symbol
Verified / Checked	✓
Partly Verified	⚠
Unverified / Not checked	✗
Not available	—

Modifiers and public functions

v1.0



```
transfer
approve
transferFrom
increaseAllowance
decreaseAllowance
deliver
updateRouter
Ⓜ onlyOwner
managePinkBot
Ⓜ onlyOwner
updateMaxWalletAmount
Ⓜ onlyOwner
excludeFromReward
Ⓜ onlyOwner
includeInReward
Ⓜ onlyOwner
excludeFromFee
Ⓜ onlyOwner
setBuyFee
Ⓜ onlyOwner
setSellFee
Ⓜ onlyOwner
setSwapTokensAtAmount
Ⓜ onlyOwner
claimStuckTokens
Ⓜ onlyOwner
claimBNB
Ⓜ onlyOwner
enableTrading
Ⓜ onlyOwner
buybackAndBurn 💰
Ⓜ onlyOwner
```

Ownership Privileges

❖ [*RDBMainnet.sol*](#) -

- Update router address
- Enable/Disable antibot
- Update max wallet but it must be more than 1% of the total supply
- Include/Exclude wallets from rewards and fees
- Set buy and sell fee, but not more than 10%
- Set liquidity threshold to any arbitrary value

- Withdraw any type of tokens from the contract
- Buy back and burn tokens manually
- Enable Trading but cannot disable it

❖ [TSTtokenPinkBot.sol.sol](#) -

- The privileges are as same as RDBMainnet.sol because the code is identical.
- There are several authorities which are authorised to call some functions, which means, if the owner is renounced, another address is still authorised to call functions.
 - Be aware of this

Please check if an `OnlyOwner` or similar restrictive modifier has been forgotten.

Source Units in Scope

v1.0

File	Logic Contracts	Interfaces	Lines	nLines	nSLOC	Comment Lines	Complex. Score
contracts/RDBMainnnet.sol	5	5	1807	1277	803	415	604
contracts/TSTtokenPinkBot.sol	5	5	1807	1277	803	415	604
Totals	10	10	3614	2554	1606	830	1208

Legend

Attribute	Description
Lines	total lines of the source unit
nLines	normalised lines of the source unit (e.g. normalises functions spanning multiple lines)
nSLOC	normalised source lines of code (only source-code lines; no comments, no blank lines)
Comment Lines	lines containing single or block comments
Complexity Score	a custom complexity score derived from code statements that are known to introduce code complexity (branches, loops, calls, external interfaces, ...)

Audit Results

Critical issues

No critical issues

High issues

No high issues

Medium issues

Medium Issue Found

Issue	File	Type	Line	Description	Status
#1	RDB Main net.sol	Trading can be done without Enabling it.	1499, 1578	<p>The trading needs to be enabled by the owner in order for regular users to transfer tokens. On the contrary, the owner can exclude addresses from the fees manually and those addresses will be able to trade tokens. This functionality can be exploited in the following way.</p> <p>For example, there is a presale and the wallets used for the presale can be excluded from fees by the owner. All the tokens obtained can be consolidated into a final wallet address and facilitate trading and selling of the acquired tokens, the last wallet address can be excluded from fees.</p>	Open
#2	RDB Main net.sol	Native tokens	437	<p>The owner is able to pass the own contract address to "claimStuckTokens" that means if the contract holds token of "RDB" the owner can get it out. Here is recommended to prevent passing the own contract address.</p>	Open

Low issues

Issue	File	Type	Line	Description	Status
#1	RDB Main net.sol	Contract doesn't import npm packages from source (like OpenZeppelin etc.)	—	We recommend to import all packages from npm directly without flatten the contract. Functions could be modified or can be susceptible to vulnerabilities	Fixed
#2	RDB Main net.sol	Missing Zero Address Validation (missing-zero-check)	1210	Check that the address is not zero	Fixed
#3	RDB Main net.sol	State variable visibility is not set	35	It is best practice to set the visibility of state variables explicitly	Open
#4	RDB Main net.sol	State variables shadowing	652, 181	Rename the state variables that shadow another component. "owner" in this case	Open
#5	RDB Main net.sol	Missing Events Arithmetic	All setter functions	Emit an event for critical parameter changes Emit in the updateRouter function also the uniswapV2Pair because it is possible that it can be changed.	Fixed

Informational issues

Issue	File	Type	Line	Description	Status
#1	RDB Main net.sol	State variables that could be declared constant (constable-states)	49, 47, 48, 40, 84	Add the `constant` attributes to state variables that never change	Open

#2	RDB Main net.sol	SwapAndLiquify Enabled cannot be changed to false	84	The owner is unable to set the "swapAndLiquifyEnabled" variable to false. Implementing a function that the owner has the privilege to set it is recommended.	Open
#3	RDB Main net.sol	Functions that are not used	357-693	Remove unused functions. Before removing check the function, it could be possible, that you forget to implement it into the contract	Fixed
#4	RDB Main net.sol	Error message is missing	324, 596, 767, 402, 423,	Provide an error message for require statement	Open
#5	RDB Main net.sol	NatSpec documentation missing	—	If you started to comment your code, also comment all other functions, variables etc.	Open
#6	RDB Main net.sol	Replace placeholder	139-141	The addresses are only placeholder. Before deploying the contract to the mainnet replace the placeholder with your addresses.	Open

Audit Comments

We recommend you use the particular form of comments (NatSpec Format, Follow the link for more information <https://docs.soliditylang.org/en/latest/natspec-format.html>) for your contracts to provide rich documentation for functions, return variables and more. This helps investors to make clear what that variable, functions etc., do.

14. June 2023:

- Unit tests with 95% code coverage were not provided to SolidProof so we cannot ensure complete functional correctness of the code's logic.
- We recommend **RDB Token** team conduct unit and fuzz tests thoroughly to rule out the possibility of unwanted logical and calculation errors.
- There is still an owner (The owner still has not renounced ownership)
- Read the whole report and modifiers section for more information

15. June 2023:

- setPresaleAddress function has been added to the contract
- updateWallets function has been added to the contract

20. June 2023:

- There are still open issues. Fixing the issues is recommended.



SWC Attacks

ID	Title	Relationships	Status
SW C-1 36	Unencrypted Private Data On-Chain	CWE-767: Access to Critical Private Variable via Public Method	PASSED
SW C-1 35	Code With No Effects	CWE-1164: Irrelevant Code	PASSED
SW C-1 34	Message call with hardcoded gas amount	CWE-655: Improper Initialization	PASSED
SW C-1 33	Hash Collisions With Multiple Variable Length Arguments	CWE-294: Authentication Bypass by Capture-replay	PASSED
SW C-1 32	Unexpected Ether balance	CWE-667: Improper Locking	PASSED
SW C-1 31	Presence of unused variables	CWE-1164: Irrelevant Code	PASSED
SW C-1 30	Right-To-Left-Override control character (U+202E)	CWE-451: User Interface (UI) Misrepresentation of Critical Information	PASSED
SW C-1 29	Typographical Error	CWE-480: Use of Incorrect Operator	PASSED
SW C-1 28	DoS With Block Gas Limit	CWE-400: Uncontrolled Resource Consumption	PASSED

SW C-1 27	Arbitrary Jump with Function Type Variable	CWE-695: Use of Low-Level Functionality	PASSED
SW C-1 25	Incorrect Inheritance Order	CWE-696: Incorrect Behavior Order	PASSED
SW C-1 24	Write to Arbitrary Storage Location	CWE-123: Write-what-where Condition	PASSED
SW C-1 23	Requirement Violation	CWE-573: Improper Following of Specification by Caller	PASSED
SW C-1 22	Lack of Proper Signature Verification	CWE-345: Insufficient Verification of Data Authenticity	PASSED
SW C-1 21	Missing Protection against Signature Replay Attacks	CWE-347: Improper Verification of Cryptographic Signature	PASSED
SW C-1 20	Weak Sources of Randomness from Chain Attributes	CWE-330: Use of Insufficiently Random Values	PASSED
SW C-11 9	Shadowing State Variables	CWE-710: Improper Adherence to Coding Standards	NOT PASSED
SW C-11 8	Incorrect Constructor Name	CWE-665: Improper Initialization	PASSED
SW C-11 7	Signature Malleability	CWE-347: Improper Verification of Cryptographic Signature	PASSED

SW C-11 6	Timestamp Dependence	CWE-829: Inclusion of Functionality from Untrusted Control Sphere	PASSED
SW C-11 5	Authorization through tx.origin	CWE-477: Use of Obsolete Function	PASSED
SW C-11 4	Transaction Order Dependence	CWE-362: Concurrent Execution using Shared Resource with Improper Synchronization ('Race Condition')	PASSED
SW C-11 3	DoS with Failed Call	CWE-703: Improper Check or Handling of Exceptional Conditions	PASSED
SW C-11 2	Delegatecall to Untrusted Callee	CWE-829: Inclusion of Functionality from Untrusted Control Sphere	PASSED
SW C-11 1	Use of Deprecated Solidity Functions	CWE-477: Use of Obsolete Function	PASSED
SW C-11 0	Assert Violation	CWE-670: Always-Incorrect Control Flow Implementation	PASSED
SW C-1 09	Uninitialized Storage Pointer	CWE-824: Access of Uninitialized Pointer	PASSED
SW C-1 08	State Variable Default Visibility	CWE-710: Improper Adherence to Coding Standards	NOT PASSED
SW C-1 07	Reentrancy	CWE-841: Improper Enforcement of Behavioral Workflow	PASSED
SW C-1 06	Unprotected SELFDESTRUCT Instruction	CWE-284: Improper Access Control	PASSED

SW C-1 05	Unprotected Ether Withdrawal	CWE-284: Improper Access Control	PASSED
SW C-1 04	Unchecked Call Return Value	CWE-252: Unchecked Return Value	PASSED
SW C-1 03	Floating Pragma	CWE-664: Improper Control of a Resource Through its Lifetime	PASSED
SW C-1 02	Outdated Compiler Version	CWE-937: Using Components with Known Vulnerabilities	PASSED
SW C-1 01	Integer Overflow and Underflow	CWE-682: Incorrect Calculation	PASSED
SW C-1 00	Function Default Visibility	CWE-710: Improper Adherence to Coding Standards	PASSED

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