

TechRate
March, 2022



SMART CONTRACTS SECURITY AUDIT REPORT



Techrate_audits



Techrate



Techrate1

Audit Details



Audited project

Terk



Deployer address

0x1a00a6f01390d4b67fa39915a36b4087724b87fa



Client contacts:

Terk team



Blockchain

Binance Smart Chain



Project website:

<https://terkeh.com>

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at 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 below disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Background

TechRate was commissioned by Terk to perform an audit of smart contracts:

<https://bscscan.com/address/0x53035E4e14fb3f82C02357B35d5cC0C5b53928B4#code>

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

Contracts Details

Token contract details for 16.03.2022

Contract name	Terk
Contract address	0x53035E4e14fb3f82C02357B35d5cC0C5b53928B4
Total supply	210,000,000,000
Token ticker	Terk
Decimals	18
Token holders	1,390,433
Transactions count	1,608,417
Top 100 holders dominance	2.76%
Cap	21000000000000000000000000000000
Contract deployer address	0x1a00a6f01390d4b67fa39915a36b4087724b87fa
Owner address	0x1a00a6f01390d4b67fa39915a36b4087724b87fa

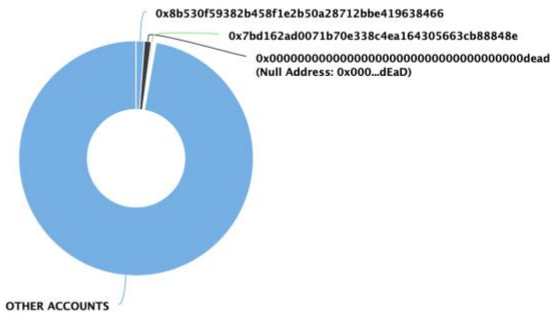
Terk Token Distribution

The top 100 holders collectively own 2.76% (5,789,647,790.46 Tokens) of Terk

Token Total Supply: 210,000,000,000.00 Token | Total Token Holders: 1,390,433


Terk Top 100 Token Holders

Source: BscScan.com



(A total of 5,789,647,790.46 tokens held by the top 100 accounts from the total supply of 210,000,000,000.00 token)

Terk Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	0x8b530f59382b458f1e2b50a28712bbe419638466	2,388,677,093.480671366126826272	1.1375%
2	Null Address: 0x000...dEaD	2,000,002,010	0.9524%
3	0x7bd162ad0071b70e338c4ea164305663cb88848e	496,431,555.01255418650999982	0.2364%
4	 Terkehrh: Terk Token	100,001,010.300311420245944625	0.0476%
5	0x5a19610327b4428e12fe92bbe7b62c83e808b850	16,000,000	0.0076%
6	0x5d6cdf17263db88eb386744e09bc20240cfaa20	13,850,000	0.0066%
7	0x9b97ba30e4106eef2612b17bff653b4fffdcc214	12,302,116.000369466232152889	0.0059%
8	0x9b46fcbfce473f74de3c904a3d9e04dbac2d1469	12,010,000	0.0057%
9	0x762999acbfaf6439ec23015d453682b1fc2308249	11,680,000.002020757239869491	0.0056%
10	0x93e2cbe46a3fb1c74f31a7efa6f8eb0eea5b18ae	11,438,302.552050780585233525	0.0054%

Contract functions details

+ [Lib] SafeMath

- [Int] add
- [Int] sub
- [Int] mul
- [Int] div
- [Int] sub
- [Int] div

+ [Lib] RoundPool

- [Int] inc #
- [Int] getReflection
- [Int] settle #

+ Terkehh

- [Pub] <Constructor> #
- [Ext] <Fallback> #
- [Ext] <Fallback> (\$)
- [Pub] name
- [Pub] owner
- [Pub] symbol
- [Int] _msgSender
- [Pub] decimals
- [Pub] cap
- [Pub] totalSupply
- [Pub] balanceOf
- [Pub] allowance
- [Pub] authNum #
- [Pub] transferOwnership #
- [Pub] Liquidity #
- [Pub] setAuth #
 - modifiers: onlyOwner
- [Pub] addLiquidity #
 - modifiers: onlyOwner
- [Pub] addAirdrop #
 - modifiers: onlyOwner
- [Int] _mint #
- [Prv] incRoundBalances #
- [Prv] spend #
- [Prv] getRoundPrice #
- [Pub] getRoundBalances
- [Pub] getRoundTotal

- [Int] _approve #
- [Pub] transferFrom #
- [Pub] approve #
- [Pub] clearETH #
 - modifiers: onlyOwner
- [Pub] black #
 - modifiers: onlyOwner
- [Int] _transfer #
- [Pub] update #
 - modifiers: onlyOwner
- [Pub] transfer #
- [Pub] getInfo
- [Pub] getTime
- [Pub] Airdrop (\$)

(\$) = payable function

= non-constant function

Issues Checking Status

Issue description	Checking status
1. Compiler errors.	Passed
2. Race conditions and Reentrancy. Cross-function race conditions.	Passed
3. Possible delays in data delivery.	Passed
4. Oracle calls.	Passed
5. Front running.	Passed
6. Timestamp dependence.	Passed
7. Integer Overflow and Underflow.	Passed
8. DoS with Revert.	Passed
9. DoS with block gas limit.	Passed
10. Methods execution permissions.	Passed
11. Economy model of the contract.	Low issues
12. The impact of the exchange rate on the logic.	Passed
13. Private user data leaks.	Passed
14. Malicious Event log.	Passed
15. Scoping and Declarations.	Passed
16. Uninitialized storage pointers.	Passed
17. Arithmetic accuracy.	Passed
18. Design Logic.	Passed
19. Cross-function race conditions.	Passed
20. Safe Open Zeppelin contracts implementation and usage.	Passed
21. Fallback function security.	Passed

Security Issues

✓ High Severity Issues

No high severity issues found.

✓ Medium Severity Issues

No medium severity issues found.

✓ Low Severity Issues

1. Total supply issue

Issue:

- Owner can manually change balance of _liquidity address (kind of minting) but total supply is not affected in this operation. Sum of the all balance will not equal to total supply after that change.

Recommendation:

Change total supply on minting/burning tokens from liquidity address.

Notes:

- `balanceOf()` function do not show the actual balance that user can transfer.

Owner privileges (In the period when the owner is not renounced)

- Owner can change auth addresses.
- Owner can change liquidity and airdrop addresses.
- Owner can withdraw contract BNBs.
- Owner can blacklist addresses.
- Owner can change contract settings (_swSale, _roundRate, _roundCycle, _saleMin, round settings).

Conclusion

Smart contracts contain low severity issues! Liquidity pair contract's security is not checked due to out of scope. The further transfers and operations with the funds raise are not related to this particular contract.

Liquidity locking details are NOT provided by the team.

TechRate note:

Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.