



Smart contracts security assessment

Final report

[Tariff: Standard](#)

Sundog

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Introduction

In accordance with the Memtember initiative, the Sundog project was selected and subjected to an audit. The Memtember campaign, designed to foster innovation and community engagement within the blockchain ecosystem, sought to identify promising projects that align with the initiative's core values.

The Sundog is standard ERC20 token implemented with OpenZeppelin library which is considered as a best practice. After deployment transfers are blocked. The owner of the contract may allow transfers to and from owner account and open transfers for all token holders. Once transfers are open for all holders, transfer restrictions can't be set back.

Name	Sundog
Audit date	2024-09-06 - 2024-09-06
Language	Solidity
Platform	TRON

Contracts checked

Name	Address
Token	TXL6rJbvmjD46zeN1JssfgxvSo99qC8MRT

Procedure

We perform our audit according to the following procedure:

Automated analysis

- Scanning the project's smart contracts with several publicly available automated Solidity analysis tools
- Manual verification (reject or confirm) all the issues found by the tools

Manual audit

- Manually analyze smart contracts for security vulnerabilities
- Smart contracts' logic check

Known vulnerabilities checked

Title	Check result
<u>Unencrypted Private Data On-Chain</u>	passed
<u>Code With No Effects</u>	passed
<u>Message call with hardcoded gas amount</u>	passed
<u>Typographical Error</u>	passed
<u>DoS With Block Gas Limit</u>	passed
<u>Presence of unused variables</u>	passed
<u>Incorrect Inheritance Order</u>	passed
<u>Requirement Violation</u>	passed
<u>Weak Sources of Randomness from Chain Attributes</u>	passed
<u>Shadowing State Variables</u>	passed
<u>Incorrect Constructor Name</u>	passed
<u>Block values as a proxy for time</u>	passed
<u>Authorization through tx.origin</u>	passed
<u>DoS with Failed Call</u>	passed
<u>Delegatecall to Untrusted Callee</u>	passed
<u>Use of Deprecated Solidity Functions</u>	passed
<u>Assert Violation</u>	passed
<u>State Variable Default Visibility</u>	passed

<u>Reentrancy</u>	passed
<u>Unprotected SELFDESTRUCT Instruction</u>	passed
<u>Unprotected Ether Withdrawal</u>	passed
<u>Unchecked Call Return Value</u>	passed
<u>Floating Pragma</u>	passed
<u>Outdated Compiler Version</u>	passed
<u>Integer Overflow and Underflow</u>	passed
<u>Function Default Visibility</u>	passed

Classification of issue severity

High severity	High severity issues can cause a significant or full loss of funds, change of contract ownership, major interference with contract logic. Such issues require immediate attention.
Medium severity	Medium severity issues do not pose an immediate risk, but can be detrimental to the client's reputation if exploited. Medium severity issues may lead to a contract failure and can be fixed by modifying the contract state or redeployment. Such issues require attention.
Low severity	Low severity issues do not cause significant destruction to the contract's functionality. Such issues are recommended to be taken into consideration.

Issues

High severity issues

No issues were found

Medium severity issues

No issues were found

Low severity issues

1. Lack of events (Token)

Status: Open

The function `setMode()` changes token transfer restrictions but does not emit any events.

```
function setMode(uint v) public onlyOwner {  
    if (_mode != MODE_NORMAL) {  
        _mode = v;  
    }  
}
```

Recommendation: Create and emit event `SetMode(uint mode)` in the function.

Conclusion

Sundog Token contract was audited. 1 low severity issue was found.

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