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AUDIT COMPANY

Smart Contract Security Audit

TechRate

June, 2021

Audit Details

Audited project

SkyBorn

Deployer address

0x113aDE8e010C930aEDAC53c2482552A260979341

Client contacts:

SkyBorn team

Blockchain

Binance Smart Chain

Project website:

Not provided by SkyBorn team

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 SkyBorn to perform an audit of smart contracts:
https://bscscan.com/address/0xf78bbc835b52d7f0e9538c3566997ba2bf050b85#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

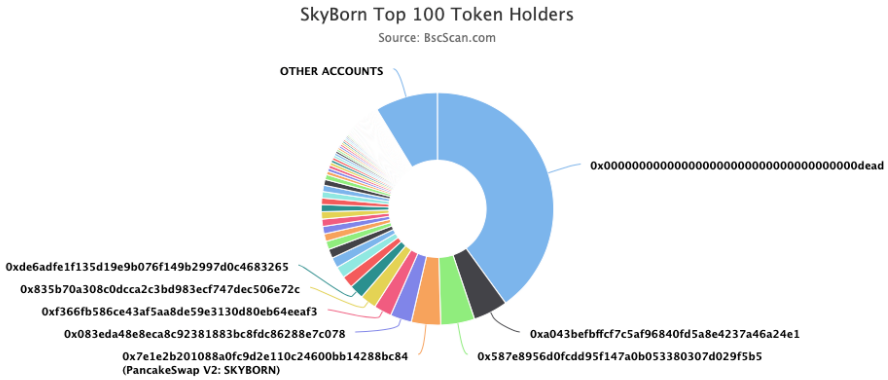
Token contract details for 04.06.2021

Contract name	SkyBorn
Contract address	0xf78Bbc835b52D7f0e9538C3566997bA2bf050B85
Total supply	1_000_000_000_000
Token ticker	SKYBORN
Decimals	18
Token holders	2,119
Transactions count	13,883
Top 100 holders dominance	91.29%
Tax fee	400
Contract deployer address	0x113aDE8e010C930aEDAC53c2482552A260979341
Contract's current owner address	0x000000000000000000000000000000000000dead

SkyBorn Token Distribution

The top 100 holders collectively own 91.29% (912,898,231,097.76 Tokens) of SkyBorn

Token Total Supply: 1,000,000,000,000.00 Token | Total Token Holders: 2,119

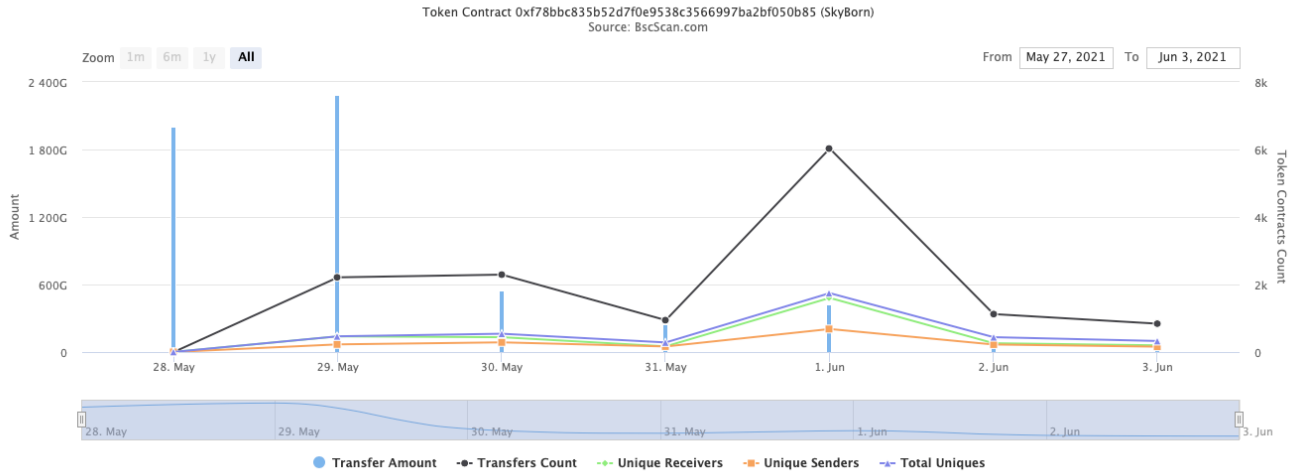


(A total of 912,898,231,097.76 tokens held by the top 100 accounts from the total supply of 1,000,000,000,000.00 token)

SkyBorn Contract Interaction Details

Time Series: Token Contract Overview

Fri 28, May 2021 - Thu 3, Jun 2021



SkyBorn Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	0x000000000000000000000000000000000000dead	400,327,988,804.060544687387348411	40.0328%
2	0xa043befbffcf7c5af96840fd5a8e4237a46a24e1	48,200,517,719.443464082751552109	4.8201%
3	0x587e8956d0fcdd95f147a0b053380307d029f5b5	47,015,752,708.101483117183890671	4.7016%
4	PancakeSwap V2: SKYBORN	40,703,423,854.174778951635114257	4.0703%
5	0x083eda48e8eca8c92381883bc8fdc86288e7c078	29,845,582,265.913321194281540916	2.9846%
6	0xf366fb586ce43af5aa8de59e3130d80eb64eeaf3	24,625,477,834.058716177934401275	2.4625%
7	0x835b70a308c0dcca2c3bd983ecf747dec506e72c	22,485,999,169.742270831465412752	2.2486%
8	0xde6adfe1f135d19e9b076f149b2997d0c4683265	20,152,826,186.609849578035817471	2.0153%
9	0x8e57fe4360fab5103e2b4af9c45abe19568c5786	16,527,044,902.52623707368759024	1.6527%
10	0xfe10714347b6149f039b71dd824696a2e2cdbc6a	16,090,656,356.168300617295423065	1.6091%

Contract functions details

+ [Int] IERC20
  - [Ext] totalSupply
  - [Ext] balanceOf
  - [Ext] transfer #
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transferFrom #

+ [Lib] Address
  - [Int] isContract
  - [Int] sendValue #
  - [Int] functionCall #
  - [Int] functionCall #
  - [Int] functionCallWithValue #
  - [Int] functionCallWithValue #
  - [Int] functionStaticCall
  - [Int] functionStaticCall
  - [Int] functionDelegateCall #
  - [Int] functionDelegateCall #
  - [Prv] _verifyCallResult

+ Context
  - [Int] _msgSender
  - [Int] _msgData

+ Ownable (Context)
  - [Pub] <Constructor> #
  - [Pub] owner
  - [Pub] renounceOwnership #
    - modifiers: onlyOwner
  - [Pub] transferOwnership #
    - modifiers: onlyOwner
  - [Pub] geUnlockTime
  - [Pub] lock #
    - modifiers: onlyOwner
  - [Pub] unlock #

+ skyborn (Context, IERC20, Ownable)
  - [Pub] <Constructor> #
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals
  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] transfer #
  - [Pub] allowance
  - [Pub] approve #
  - [Pub] transferFrom #
  - [Pub] increaseAllowance #
  - [Pub] decreaseAllowance #
  - [Int] _transfer #

- [Prv] getTransferFee
- [Pub] tokenFromReflection
- [Prv] _getRate
- [Pub] _getSupply
- [Prv] _getCurrentSupply
- [Int] _approve #
- [Pub] excludeFromFees #
  - modifiers: onlyOwner
- [Pub] includeInFees #
  - modifiers: onlyOwner
- [Pub] excludeFromReward #
  - modifiers: onlyOwner
- [Ext] includeInReward #
  - modifiers: onlyOwner
- [Pub] setFeesState #
  - modifiers: onlyOwner
- [Pub] getFeeInfo
- [Pub] isExcludedFromFee
- [Pub] isExcludedFromReward

($) = 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.	Low issues
10.	Methods execution permissions.	Passed
11.	Economy model of the contract.	Passed
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. Out of gas

Issue:

- The function `includeInReward()` uses the loop to find and remove addresses from the `_excluded` list. Function will be aborted with `OUT_OF_GAS` exception if there will be a long excluded addresses list.

```
function includeInReward(address account) external onlyOwner() {
    require(_isExcluded[account], "Account is already excluded");
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (_excluded[i] == account) {
            _excluded[i] = _excluded[_excluded.length - 1];
            _tOwned[account] = 0;
            _isExcluded[account] = false;
            _excluded.pop();
            break;
        }
    }
}
```

- The function `_getCurrentSupply` also uses the loop for evaluating total supply. It also could be aborted with `OUT_OF_GAS` exception if there will be a long excluded addresses list.

```
function _getCurrentSupply() private view returns (uint256, uint256) {
    uint256 rSupply = _rTotal;
    uint256 tSupply = _tTotal;
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (
            _rOwned[_excluded[i]] > rSupply ||
            _tOwned[_excluded[i]] > tSupply
        ) return (_rTotal, _tTotal);
        rSupply = rSupply.sub(_rOwned[_excluded[i]]);
        tSupply = tSupply.sub(_tOwned[_excluded[i]]);
    }
    if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
    return (rSupply, tSupply);
}
```

Recommendation:

Check that the excluded array length is not too big

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

- Owner can enable and disable fees.

```
ftrace | funcSig
function setFeesState(bool _enabled) public onlyOwner {
    _disableFees = _enabled;
}
```

- Owner can exclude from the fee.

```
function excludeFromFee(address account) public onlyOwner {
    _isExcludedFromFee[account] = true;
}
```

- Owner can lock and unlock. By the way, using these functions the owner could leave as owner even after the ownership was renounced.

```
//Locks the contract for owner for the amount of time provided
function lock(uint256 time) public virtual onlyOwner {
    _previousOwner = _owner;
    _owner = address(0);
    _lockTime = now + time;
    emit OwnershipTransferred(_owner, address(0));
}

//Unlocks the contract for owner when _lockTime is exceeds
function unlock() public virtual {
    require(_previousOwner == msg.sender, "You don't have permission to unlock");
    require(now > _lockTime , "Contract is locked until 7 days");
    emit OwnershipTransferred(_owner, _previousOwner);
    _owner = _previousOwner;
}
```

Conclusion

Smart contracts contain low severity issues! Liquidity pair contract's security is not checked due to out of scope.

Liquidity locking details 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.