expelee

A Secure Place For Web3

SMART CONTRACT AUDIT OF

LOTTERY-X

Contract Address

0xe8E47107af4c4985133907f20bAa9D0E56d1c404

Audit Summary

Expelee team has performed a line-by-line manual analysis and automated review of the smart contract. The smart contract was analysed mainly for common smart contract vulnerabilities, exploits, and manipulation hacks. According to the smart contract audit:

Audit Result: **PASSED**

Ownership: **NOT RENOUNCED**

KYC Verification: NOT DONE

Audit Date: 23/08/2022

Audit Team: **EXPELEE**

Be aware that smart contracts deployed on the blockchain aren't resistant to internal exploit, external vulnerability, or hack. For a detailed understanding of risk severity, source code vulnerability, functional hack, and audit disclaimer, kindly refer to the audit.

DISCLAMER

All the content provided in this document is for general information only and should not be used as financial advice or a reason to buy any investment. Team provides no guarantees against the sale of team tokens or the removal of liquidity by the project audited in this document.

Always Do your own research and protect yourselves from being scammed. The Expelee team has audited this project for general information and only expresses their opinion based on similar projects and checks from popular diagnostic tools.

Under no circumstances did Expelee receive a payment to manipulate those results or change the awarding badge that we will be adding in our website. Always Do your own research and protect yourselves from scams.

This document should not be presented as a reason to buy or not buy any particular token. The Expelee team disclaims any liability for the resulting losses.

Contract Review

Contract Name	**CoinManufactory**
Compiler Version	**v0.8.12+commit.f00d7308**
Optimization	**No with 200 runs**
License	**default license**
Explorer	**https://bscscan.com/address/0xe8E47107af4c4985133907f20bAa9D0E56d1c404#code**
Symbol	**RYX**
Decimals	**18**
Total Supply	**13,000,000,000**
Domain	**www.lottery-X.com**

Project Review

Token Name: LOTTERY-X

Web Site: www.lottery-X.com

Twitter: @x_lottery Twitter

Telegram: https://t.me/LotteryXXX

Contract Address:
0xe8E47107af4c4985133907f20bAa9D0E56d1c404

Platform: Binance Smart Chain

Token Type: BEP 20

Language: SOLIDITY

Audit Methodology

The scope of this report is to audit the smart contract source code. We have scanned the contract and reviewed the project for common vulnerabilities, exploits, hacks, and back-doors. Below is the list of commonly known smart contract vulnerabilities, exploits, and hacks:

Category

Smart Contract Vulnerabilities	- Unhandled Exceptions - Transaction Order Dependency - Integer Overflow - Unrestricted Action - Incorrect Inheritance Order - Typographical Errors - Requirement Violation
Source Code Review	- Gas Limit and Loops - Deployment Consistency - Repository Consistency - Data Consistency - Token Supply Manipulation
Functional Assessment	- Operations Trail & Event Generation - Assets Manipulation - Liquidity Access

Vulnerability Checklist

№	Description.	Result
1	Compiler warnings.	Passed
2	Race conditions and Re-entrancy. Cross-function raceconditions.	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.	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 Zeppelin module.	Passed
21	Fallback function security.	Passed

Manual Audit

Low-Risk

2 low-risk code issues found

Medium-Risk

1 medium-risk code issues found

High-Risk

0 high-risk code issues found

Audit Summary

```
Compiled with solc
Number of lines: 1710 (+ 0 in dependencies, + 0 in tests)
Number of assembly lines: 0
Number of contracts: 12 (+ 0 in dependencies, + 0 tests)

Number of optimization issues: 15
Number of informational issues: 48
Number of low issues: 2
Number of medium issues: 1
Number of high issues: 0
ERCs: ERC2612, ERC20
```

Name	# functions	ERCS	ERC20 info	Complex code	Features
Address	11			No	Send ETH Delegatecall Assembly
IUniswapV2Factory	8			No	
IUniswapV2Pair	26	ERC20,ERC2612	No Minting Approve Race Cond.	No	
IUniswapV2Router02	24			No	Receive ETH
CoinManufactory	71	ERC20	No Minting Approve Race Cond.	No	Receive ETH Send ETH

Medium-risk

1) Functions that send Ether to arbitrary destinations

Unprotected call to a function sending Ether to an arbitrary address.

```
function swapETHForTokens(uint256 amount) private {
        // generate the uniswap pair path of token -> weth
        address[] memory path = new address[](2);
        path[0] = uniswapV2Router.WETH();
        path[1] = address(this);

        // make the swap
        uniswapV2Router.swapExactETHForTokensSupportingFeeOnTransferTokens{
            value: amount
        }(
            0, // accept any amount of Tokens
            path,
            deadAddress, // Burn address
            block.timestamp + 300
        );

        emit SwapETHForTokens(amount, path);
    }
```

Recommendation

Ensure that an arbitrary user cannot withdraw unauthorized funds.

Low-Risk

2) Divide before Multiply

Solidity integer division might truncate. As a result, performing multiplication before division can sometimes avoid loss of precision.

```
CoinManufactory.constructor(string,string,uint256,uint8,address[5],uint256[5]) (sample.sol#1312-1366) performs a multiplication on the result of a division:
    -minimumTokensBeforeSwap = ((totalSupply_ * 10 ** decimals_) / 10000) * 2 (sample.sol#1349)
CoinManufactory.swapTokens(uint256) (sample.sol#1571-1609) performs a multiplication on the result of a division:
    -liquidityBalance = (transferredBalance * ((_liquidityPoolFee * 10) / 2)) / ((_combinedLiquidityFee * 10) - ((_liquidityPoolFee * 10) / 2)) (sample.sol#1598-1600)
```

```
uint256 liquidityBalance = (transferredBalance *
          ((_liquidityPoolFee * 10) / 2)) /
          ((_combinedLiquidityFee * 10) - ((_liquidityPoolFee * 10) / 2));
```

Recommendation

Consider ordering multiplication before division.

3) **Reentrancy vulnerabilities.**

Detection of the reentrancy bug.

```
transferToAddressETH(
            marketingAddress,
            ((transferredBalance) * (_marketingFee * 10)) /
                (_combinedLiquidityFee * 10 - ((_liquidityPoolFee * 10) / 2))
        );
        transferToAddressETH(
            developerAddress,
            ((transferredBalance) * (_developerFee * 10)) /
                (_combinedLiquidityFee * 10 - ((_liquidityPoolFee * 10) / 2))
        );
        transferToAddressETH(
            charityAddress,
            ((transferredBalance) * (_charityFee * 10)) /
                (_combinedLiquidityFee * 10 - ((_liquidityPoolFee * 10) / 2))
        );
```

Recommendation

Apply the check-effects-interactions pattern.

Important Points To Consider

Can Take Back Ownership	Not detected
Owner Change Balance	Not detected
Blacklist	Not detected
Modify Fees	Detected
Proxy	Not detected
Whitelisted	Not detected
Anti Whale	Detected
Trading Cooldown	Not detected
Transfer Pausable	Not detected
Cannot Sell All	Not detected
Hidden Owner	Not detected
Creator Address	0x08F8f91FB864BB63D9fc9c99E9c4b58B654F9160
Creator Balance	13,000,000,000 RYX
Owner Address	0x08F8f91FB864BB63D9fc9c99E9c4b58B654F9160
Mint	Not detected

About Expelee

Expelee is a community driven organisation dedicated to fostering an anti-rug movement. We're here to keep investment safe from fraudsters. We've encountered several rug pulls and know how it feels to be duped, which is why we don't want anybody else to go through the same experience. We are here to raise awareness through our services so that the future of cryptocurrency can be rug-free.

The auditing process focuses to the following considerations with collaboration of an expert team:

- Functionality test of the Smart Contract to determine if proper logic has been followed throughout the whole process.
- Manually detailed examination of the code line by line by experts.
- Live test by multiple clients using Test net.
- Analysing failure preparations to check how the Smart
- Contract performs in case of any bugs and vulnerabilities.
- Checking whether all the libraries used in the code are on the latest version.
- Analysing the security of the on-chain data.

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