HackSafe

Smart Contract Security Audit Report

Impermax

September 2022

Security Status

★ ★ ★ ★ ★

www.hacksafe.io

Audit Details

Audited project
Impermax

Deployer address
0x9fC5341dB9a9CdF8337B4Bd286d4cfC03B20Ad35

Client contacts
Impermax Team

Blockchain
Ethereum

Website
https://www.impermax.finance/

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.

Procedure

Step 1 - In-Depth Manual Review

Manual line-by-line code reviews to ensure the logic behind each function is sound and safe from various attack vectors. This is the most important and lengthy portion of the audit process (as automated tools often cannot find the nuances that lead to exploits such as flash loan attacks).

Step 2 - Automated Testing

Simulation of a variety of interactions with your Smart Contract on a test blockchain leveraging a combination of automated test tools and manual testing to determine if any security vulnerabilities exist.

Step 3 – Leadership Review

The engineers assigned to the audit will schedule meetings with our leadership team to review the contracts, any comments or findings, and ask questions to further apply adversarial thinking to discuss less common attack vectors.

Step 4 - Resolution of Issues

Consulting with the team to provide our recommendations to ensure the code's security and optimize its gas efficiency, if possible. We assist project team's in resolving any outstanding issues or implementing our recommendations.

Step 5 - Published Audit Report

Boiling down results and findings into an easy-to-read report tailored to the project. Our audit reports highlight resolved issues and any risks that exist to the project or its users, along with any remaining suggested remediation measures. Diagrams are included at the end of each report to help users understand the interactions which occur within the project.

Background

HackSafe was commissioned by Impermax to perform an audit of smart contract:

- https://etherscan.io/token/0x7b35ce522cb72e4077baeb96cb923a5529764a00#code

The purpose of the audit was to achieve the

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

The information in this report should be 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.

Contract Details

Token contract details for 20.09.2022

Token Type	: ERC20
Contract name	: Imx
Contract address	: 0x7b35Ce522CB72e4077BaeB96Cb923A5529764a00
Compiler version	: v0.6.6+commit.6c089d02
Total supply	: 100,000,000
Token ticker	: IMX
Decimals	: 18
Token holders	: 3,101
Transactions count	: 35,320
Contract deployer address	: 0x9fC5341dB9a9CdF8337B4Bd286d4cfC03B20Ad35
Owner address	: No owner

Social profiles

Twitter Profile	: https://twitter.com/ImpermaxFinance
Telegram profile	: https://t.me/ImpermaxFinance
Coingecko profile	: https://www.coingecko.com/en/coins/impermax/
Coinmarketcap profile	: https://coinmarketcap.com/currencies/impermax/

Claimed Smart Contract Features

Claimed Feature Detail

Tokenomics :

- **Name** : Impermax
- **Symbol** : IMX
- **Decimals** : 18
- **Protocol** : ERC20
- **Total supply** : 100,000,000
- **Contract address** : 0x7b35Ce522CB72e4077BaeB96Cb923A5529764a00

Our Observation

YES, this is valid.

Audit Summary

According to the standard audit assessment, Customer`s solidity smart contracts are “well secure”. This token contract does not contain owner control, which do make it fully decentralized as owner does not have control over smart contract.

Insecure	Poor secured	Secure	Well-secured

You are here 

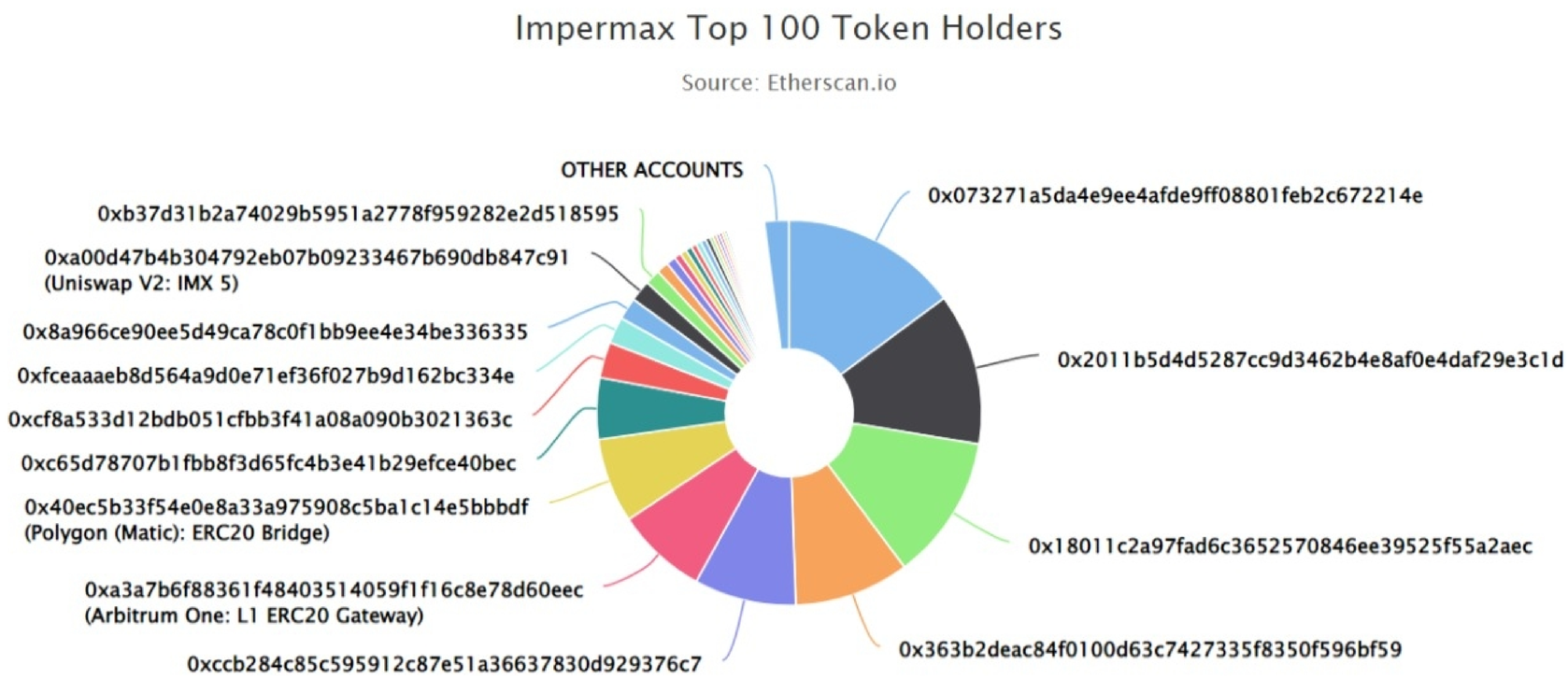
We used various tools like Slither, Mythril and Remix IDE. At the same time this finding is based on critical analysis of the manual audit. All issues found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the issues checking status.

We found 0 critical, 0 high, 0 medium and 1 low and some very low-level issues.

Impermax Token Distribution

The top 100 holders collectively own 97.95% (97,945,050.42 Tokens) of Impermax

Token Total Supply: 100,000,000.00 Token | Total Token Holders: 3,101



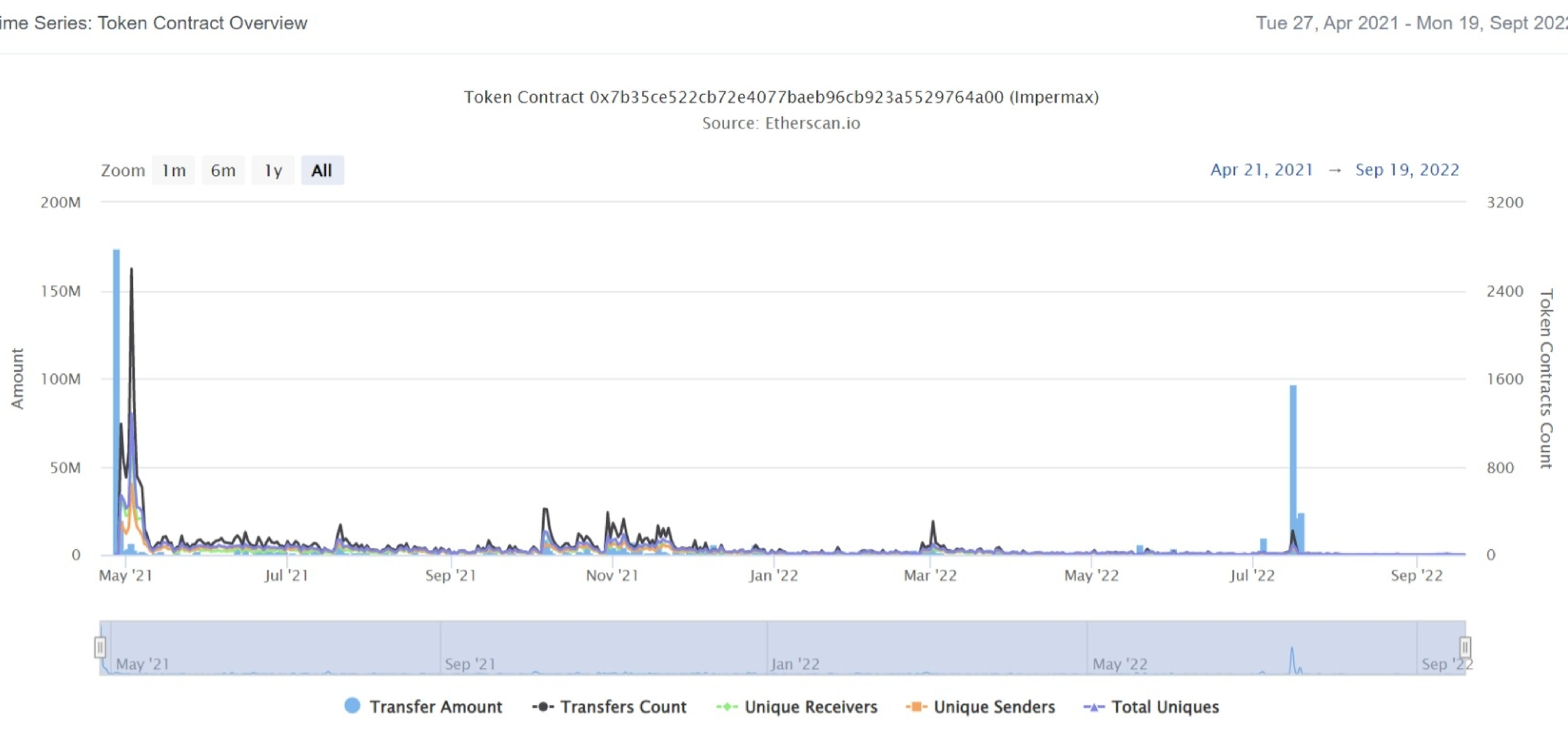
Impermax Top 20 Token Holders

(A total of 97,945,050.42 tokens held by the top 100 accounts from the total supply of 100,000,000.00 token)

Rank	Address	Quantity (Token)	Percentage
1	0x073271a5da4e9ee4afde9ff08801feb2c672214e	14,879,254.592425036761668928	14.8793%
2	0x2011b5d4d5287cc9d3462b4e8af0e4daf29e3c1d	12,753,610.141278252031894528	12.7536%
3	0x18011c2a97fad6c3652570846ee39525f55a2aec	12,170,914.8	12.1709%
4	0x363b2deac84f0100d63c7427335f8350f596bf59	9,652,483.831268941012504693	9.6525%
5	0xccb284c85c595912c87e51a36637830d929376c7	8,563,973.30323524527164469	8.5640%
6	Arbitrum One: L1 ERC20 Gateway	7,662,360.292613079826692567	7.6624%
7	Polygon (Matic): ERC20 Bridge	7,106,806.415051793248305408	7.1068%
8	0xc65d78707b1fbb8f3d65fc4b3e41b29efce40bec	5,138,220.045244563398998123	5.1382%
9	0xcf8a533d12bdb051cfbb3f41a08a090b3021363c	3,036,364.291769297748385611	3.0364%
10	0xfceaaaeb8d564a9d0e71ef36f027b9d162bc334e	2,199,410.01503672423892831	2.1994%
11	0x8a966ce90ee5d49ca78c0f1bb9ee4e34be336335	1,863,121.405124396853647032	1.8631%
12	Uniswap V2: IMX 5	1,768,532.477156968111003931	1.7685%
13	0xb37d31b2a74029b5951a2778f959282e2d518595	1,291,484.308331973191585151	1.2915%
14	0x434547433e383c505e76f22f4174d7ba68b7686c	1,002,496.546619753777094355	1.0025%
15	0x03f75e626cacb190e0f6072cf5ec5b304517e3c7	804,285.639343115923408058	0.8043%
16	0x87da8bab9fbd09593f2368dc2f6fac3f80c2a845	569,300.93271900639297745	0.5693%
17	0xa9cd49eea452ef1521a9bffec99b1f98a92da5d4	532,078.6460937	0.5321%
18	0x6b864d94b72372bf9eaf5255cd8b341e78d9ee4c	511,427.226495238312089546	0.5114%
19	0xf4bef2822f520bd6cbc016b2a35e59367b75dbdc	456,497.407004708237469868	0.4565%
20	0x0f528f19521fde0140668b9eb14025054bfec29e	441,027.390678358765260206	0.4410%

Impermax Token Distribution

Impermax Contract Overview



Contract functions details

+Imx
- -[Pub] <constructor>
- -[Ext] allowance
- -[Ext] approve #
- -[Ext] balanceOf
- -[Ext] transfer #
- -[Ext] transferFrom #
- -[Pub] delegate
- -[Pub] delegateBySig
- -[Ext] getCurrentVotes
- -[Pub] getPriorVotes #
- -[Int] _delegate #
- -[Int] _transferTokens #
- -[Int] _moveDelegates #
- -[Int] _writeCheckpoint #
- -[Int] safe32
- -[Int] safe96
- -[Int] add96
- -[Int] sub96
- -[Int] getChainId

($) = payable function
= non-constant function

Issues Checking Status

No.	Title	Status
1.	Unlocked Compiler Version	Passed
2.	Missing Input Validation	Passed
3.	Race conditions and Reentrancy. Cross-function race conditions.	Passed
4.	Possible delays in data delivery	Passed
5.	Oracle calls.	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.	Passed
12.	Private use data leaks.	Passed
13.	Malicious Event log.	Passed
14.	Scoping and Declarations.	Passed
15.	Uninitialized storage pointers.	Passed
16.	Arithmetic accuracy.	Passed
17.	Design Logic.	Passed
18.	Safe Open Zeppelin contracts implementation and usage.	Passed
19.	Incorrect Naming State Variable	Passed
20.	Too old version	Low issue

Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to assets loss or data manipulations.
High	High-level vulnerabilities are difficult to exploit; however, they also have a significant impact on smart contract execution, e.g., public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they can't lead to assets loss or data manipulations.
Low	Low-level vulnerabilities are mostly related to outdated, unused, etc. code snippets that can't have a significant impact on execution.

Security Issues

Critical Severity Issues

No critical severity issue found.

High Severity Issues

No high severity issues found.

Medium Severity Issues

No medium severity issues found.

Low Severity Issues

One low severity issue found.

1. Too old compiler version.

- **Description**

  Contract has been deployed using too old compiler version.

- **Recommendation**

  It is advisable that the compiler version of solidity should be among the new compiler versions.

Conclusion

Smart contract contains low severity issues! The further transfer and operations with the fund raised are not related to this particular contract.

HackSafe 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.