QuillAudits

Audit Report
February, 2024

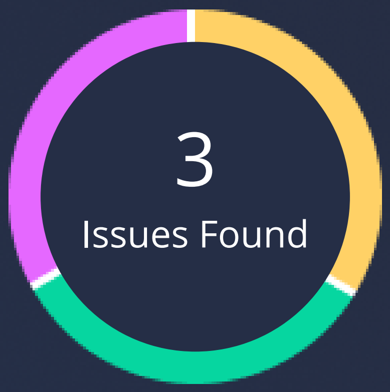
For

Table of Content

Executive Summary

Project Name	Acria
Overview	Acria is a token contract with a Total Supply of 130,000,000 ACRIA (130 Million Acria Tokens).
Timeline	2nd February 2024 - 6th February 2024
Updated Code Received	NA
Second Review	NA
Method	Manual Review, Functional Testing, Automated Testing, etc. All the raised flags were manually reviewed and re-tested to identify any false positives.
Audit Scope	The scope of this audit was to analyze the Acria codebase for quality, security, and correctness.
Source Code	*https://etherscan.io/token/0x44f5909e97e1cbf5fbbdf0fc92fd83cde5d5c58a#code*
Fixed In	NA

Number of Security Issues per Severity



🟥 High	🟨 Medium
🟩 Low	🟪 Informational

	High	Medium	Low	Informational
Open Issues	0	0	0	0
Acknowledged Issues	0	0	**1**	**1**
Partially Resolved Issues	0	0	0	0
Resolved Issues	0	**1**	0	0

Checked Vulnerabilities

- ✓ Re-entrancy
- ✓ Timestamp Dependence
- ✓ Gas Limit and Loops
- ✓ DoS with Block Gas Limit
- ✓ Transaction-Ordering Dependence
- ✓ Use of tx.origin
- ✓ Exception disorder
- ✓ Gasless send
- ✓ Balance equality
- ✓ Byte array
- ✓ Transfer forwards all gas
- ✓ ERC20 API violation
- ✓ Malicious libraries
- ✓ Compiler version not fixed
- ✓ Redundant fallback function
- ✓ Send instead of transfer
- ✓ Style guide violation
- ✓ Unchecked external call
- ✓ Unchecked math
- ✓ Unsafe type inference
- ✓ Implicit visibility level

Techniques and Methods

Throughout the audit of smart contracts, care was taken to ensure:

- The overall quality of code.
- Use of best practices.
- Code documentation and comments match logic and expected behavior.
- Token distribution and calculations are as per the intended behavior mentioned in the whitepaper.
- Implementation of ERC-20 token standards.
- Efficient use of gas.
- Code is safe from re-entrancy and other vulnerabilities.

The following techniques, methods, and tools were used to review all the smart contracts.

Structural Analysis

In this step, we have analyzed the design patterns and structure of smart contracts. A thorough check was done to ensure the smart contract is structured in a way that will not result in future problems.

Static Analysis

A static Analysis of Smart Contracts was done to identify contract vulnerabilities. In this step, a series of automated tools are used to test the security of smart contracts.

Code Review / Manual Analysis

Manual Analysis or review of code was done to identify new vulnerabilities or verify the vulnerabilities found during the static analysis. Contracts were completely manually analyzed, their logic was checked and compared with the one described in the whitepaper. Besides, the results of the automated analysis were manually verified.

Gas Consumption

In this step, we have checked the behavior of smart contracts in production. Checks were done to know how much gas gets consumed and the possibilities of optimization of code to reduce gas consumption.

Tools and Platforms used for Audit

Hardhat, Foundry.

Types of Severity

Every issue in this report has been assigned to a severity level. There are four levels of severity, and each of them has been explained below.

High Severity Issues

A high severity issue or vulnerability means that your smart contract can be exploited. Issues on this level are critical to the smart contract's performance or functionality, and we recommend these issues be fixed before moving to a live environment.

Medium Severity Issues

The issues marked as medium severity usually arise because of errors and deficiencies in the smart contract code. Issues on this level could potentially bring problems, and they should still be fixed.

Low Severity Issues

Low-level severity issues can cause minor impact and are just warnings that can remain unfixed for now. It would be better to fix these issues at some point in the future.

Informational

These are four severity issues that indicate an improvement request, a general question, a cosmetic or documentation error, or a request for information. There is low-to-no impact.

Types of Issues

Open

Security vulnerabilities identified that must be resolved and are currently unresolved.

Resolved

These are the issues identified in the initial audit and have been successfully fixed.

Acknowledged

Vulnerabilities which have been acknowledged but are yet to be resolved.

Partially Resolved

Considerable efforts have been invested to reduce the risk/impact of the security issue, but are not completely resolved.

Medium Severity Issues

1. No access control on burn function

Path

Acria.sol

Function

burn

Description

In the contract Acria, there is a burn() function to burn the tokens. According to the documentation the burn function should only be called by the owner of the contract but in the contract anyone can call the function and burn their own tokens.

Recommendation

To resolve the issue please add access control in the burn function.

Status

Resolved

Acria Team's Comment

There was a mistake in specification documentation. The tokens can be burned by anyone to reduce the supply. So it is not an issue.

Low Severity Issues

2. Does not check address and amounts are equal in length

Path

Acria.sol

Function

transferBatch()

Description

In contract Acria, there is a function transferBatch() which is used to transfer amounts to many wallets at the same time. The function works correctly but there is no check for the lengths of both of the addresses and amounts array.

Recommendation

It is better to have a check which checks their length otherwise the function should fail.

Status

Acknowledged

Informational Issues

3. Gas Optimization

- Unchecked {++i} can be used instead of i++ in transferBatch for loop

- Wallets.length should be cached in variable to save gas

- Owner address can be set as immutable

Status

Acknowledged

Functional Tests

Some of the tests performed are mentioned below:

- ✓ [PASS] test_If_TransferBatchFunctionHasWrongLengthValues()
- ✓ [PASS] test_transfer()
- ✓ [PASS] test_transferBatchFunction()
- ✓ [PASS] test_burnFunction()
- ✓ [PASS] test_AnyoneCanBurnTheirOwnTokens()
- ✓ [PASS] testFuzz_CheckIfMoreTokensCanBeMintedThanSupply()
- ✓ [PASS] test_mintFunction()

Automated Tests

No major issues were found. Some false positive errors were reported by the tools. All the other issues have been categorized above according to their level of severity.

Closing Summary

In this report, we have considered the security of the Acria Token contract. We performed our audit according to the procedure described above.

One issues of Low and informational severity were found, Some suggestions and best practices are also provided in order to improve the code quality and security posture.

Disclaimer

QuillAudits Smart contract security audit provides services to help identify and mitigate potential security risks in Acria smart contract. However, it is important to understand that no security audit can guarantee complete protection against all possible security threats. QuillAudits audit reports are based on the information provided to us at the time of the audit, and we cannot guarantee the accuracy or completeness of this information. Additionally, the security landscape is constantly evolving, and new security threats may emerge after the audit has been completed.

Therefore, it is recommended that multiple audits and bug bounty programs be conducted to ensure the ongoing security of Acria smart contract. One audit is not enough to guarantee complete protection against all possible security threats. It is important to implement proper risk management strategies and stay vigilant in monitoring your smart contracts for potential security risks.

QuillAudits cannot be held liable for any security breaches or losses that may occur subsequent to and despite using our audit services. It is the responsibility of the Acria to implement the recommendations provided in our audit reports and to take appropriate steps to mitigate potential security risks.

About QuillAudits

QuillAudits is a secure smart contracts audit platform designed by QuillHash Technologies. We are a team of dedicated blockchain security experts and smart contract auditors determined to ensure that Smart Contract-based Web3 projects can avail the latest and best security solutions to operate in a trustworthy and risk-free ecosystem.

850+
Audits Completed

$30B
Secured

$30B
Lines of Code Audited

Follow Our Journey

Audit Report
February, 2024

For

QuillAudits

Canada, India, Singapore, UAE, UK

www.quillaudits.com

audits@quillhash.com