

KRYPTAUDIT X Mermaid 365
October 15, 2022



SMART CONTRACT SECURITY AUDIT REPORT



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 cyber security 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.

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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.



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AUDIT DETAILS

**Project Name :**

Mermaid 365 (Mer365)

**Contract Address :**

0x87aa2736d70b457224dd227094e6776c38359b58

**Client Contact :**

Manu, Founder

**Blockchain :**

Binance Smart Chain

**Project Website :**

<https://mermaid365.com/>



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METHODOLOGY

Introduction

This Audit Report mainly focuses on the overall security of Mermaid 365 (Mer365) Smart Contract. With this report, we have tried to ensure the reliability and correctness of their smart contract by complete and rigorous assessment of their system's architecture and the smart contract codebase.

The KRYPTAUDIT team has performed rigorous testing of the project starting with analyzing the code design patterns in which we reviewed the smart contract architecture to ensure it is structured and safe use of third-party smart contracts and libraries. Our team then performed a formal line by line inspection of the Smart Contract to find any potential issue like race conditions, transaction-ordering dependence, timestamp dependence, and denial of service attacks. In the Unit testing Phase, we coded/conducted custom unit tests written for each function in the contract to verify that each function works as expected.

In Automated Testing, we tested the Smart Contract with our in-house developed tools to identify vulnerabilities and security flaws.

The code was tested in collaboration of our multiple team members and this included -

- Testing the functionality of the Smart Contract to determine proper logic has been followed throughout the whole process.
- Analyzing the complexity of the code in depth and detailed, manual review of the code, line-by-line.
- Deploying the code on testnet using multiple clients to run live tests.
- Analyzing 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.
- Analyzing the security of the on-chain data.

Issues category

Every issue in this report was assigned a severity level from the following:

High level severity issues : Issues on this level are critical to the smart contract's performance/functionality and should be fixed before moving to a live environment.

Medium level severity issues : Issues on this level could potentially bring problems and should eventually be fixed.

Low level severity issues : Issues on this level are minor details and warnings that can remain unfixed but would be better fixed at some point in the future.

ISSUES CHECKING REPORT

Issue description	Status
1. Compiler warnings.	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.	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.



SECURITY ISSUES

✓ HIGH SEVERITY ISSUES

No high severity issues found.

✓ MEDIUM SEVERITY ISSUES

No medium severity issues found.

✓ LOW SEVERITY ISSUES

No low severity issues found.

CONCLUSION

Report summary

Audit has been successfully passed, no high severity issues detected. Liquidity pair contract's security is not checked due to out of scope. The further transfers and operations with the funds raise are not related to this particular contract. Liquidity locking details have been provided by the team.

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 the owner.



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