



Advanced Manual **Smart Contract Audit**

May 8, 2023

Audit requested by

BBC-Group BBCG

0x60c0D11C10a0c04AcB47c6296156bDfFaC62EF97

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Table of Contents

1. Audit Summary

- 1.1 Audit scope
- 1.2 Tokenomics
- 1.3 Source Code

2. Disclaimer

3. Global Overview

- 3.1 Informational issues
- 3.2 Low-risk issues
- 3.3 Medium-risk issues
- 3.4 High-risk issues

4. Vulnerabilities Findings

5. Contract Privileges

- 5.1 Maximum Fee Limit Check
- 5.2 Contract Pausability Check
- 5.3 Max Transaction Amount Check
- 5.4 Exclude From Fees Check
- 5.5 Ability to Mint Check
- 5.6 Ability to Blacklist Check
- 5.7 Owner Privileges Check

6. Notes

- 6.1 Notes by Coinsult
- 6.2 Notes by PulseAI

7. Contract Snapshot

8. Website Review

9. Certificate of Proof

Audit Summary

Project Name	BBC-Group BBCG
Website	https://www.bbcgroup.org
Blockchain	Ethereum
Smart Contract Language	Solidity
Contract Address	0x60c0D11C10a0c04AcB47c6296156bDfFaC62EF97
Audit Method	Static Analysis, Manual Review
Date of Audit	8 May 2023

This audit report has been prepared by Zp8 experts at the request of the client. In this audit, the results of the static analysis and the manual code review will be presented. The purpose of the audit is to see if the functions work as intended, and to identify potential security issues within the smart contract.

The information in this report should be used to understand the risks associated with the smart contract. This report can be used as a guide for the development team on how the contract could possibly be improved by remediating the issues that were identified.

Audit Scope

Zp8 was commissioned by BBC-Group BBCG to perform an audit based on the following code:

<https://etherscan.io/token/0x60c0D11C10a0c04AcB47c6296156bDfFaC62EF97>

Note that we only audited the code available to us on this URL at the time of the audit. If the URL is not from any block explorer (main net), it may be subject to change. Always check the contract address on this audit report and compare it to the token you are doing research for.

Audit Method

Zp8 manual smart contract audit is an extensive methodical examination and analysis of the smart contract's code that is used to interact with the blockchain. This process is conducted to discover errors, issues and security vulnerabilities in the code in order to suggest improvements and ways to fix them.

Automated Vulnerability Check

Zp8 uses software that checks for common vulnerability issues within smart contracts. We use automated tools that scan the contract for security vulnerabilities such as integer-overflow, integer-underflow, out-of-gas-situations, unchecked transfers, etc.

Manual Code Review

Zp8 manual code review involves a human looking at source code, line by line, to find vulnerabilities. Manual code review helps to clarify the context of coding decisions. Automated tools are faster but they cannot take the developer's intentions and general business logic into consideration.

Risk Classification

Zp8 uses certain vulnerability levels, these indicate how bad a certain issue is. The higher the risk, the more strictly it is recommended to correct the error before using the contract.

Vulnerability Level	Description
Informational	Does not compromise the functionality of the contract in any way
Low-Risk	Won't cause any problems, but can be adjusted for improvement
Medium-Risk	Will likely cause problems and it is recommended to adjust
High-Risk	Will definitely cause problems, this needs to be adjusted

Zp8 has four statuses that are used for each risk level. Below we explain them briefly.

Risk Status	Description
Total	Total amount of issues within this category
Pending	Risks that have yet to be addressed by the team
Acknowledged	The team is aware of the risks but does not resolve them
Resolved	The team has resolved and remedied the risk

SWC Attack Analysis

The Smart Contract Weakness Classification Registry (SWC Registry) is an implementation of the weakness classification scheme proposed in EIP-1470. It is loosely aligned to the terminologies and structure used in the Common Weakness Enumeration (CWE) while overlaying a wide range of weakness variants that are specific to smart contracts.

ID	Description	Status
SWC-100	Function Default Visibility	Passed
SWC-101	Integer Overflow and Underflow	Passed
SWC-102	Outdated Compiler Version	Passed
SWC-103	Floating Pragma	Passed
SWC-104	Unchecked Call Return Value	Passed
SWC-105	Unprotected Ether Withdrawal	Passed
SWC-106	Unprotected SELFDESTRUCT Instruction	Passed
SWC-107	Reentrancy	Passed
SWC-108	State Variable Default Visibility	Passed
SWC-109	Uninitialized Storage Pointer	Passed
SWC-110	Assert Violation	Passed
SWC-111	Use of Deprecated Solidity Functions	Passed
SWC-112	Delegatecall to Untrusted Callee	Passed
SWC-113	DoS with Failed Call	Passed
SWC-114	Transaction Order Dependence	Passed
SWC-115	Authorization through tx.origin	Passed

Global Overview

Manual Code Review

In this audit report we will highlight the following issues:

Vulnerability Level	Total	Pending	Acknowledged	Resolved
Informational	0	0	0	0
Low-Risk	0	0	0	0
Medium-Risk	0	0	0	0
High-Risk	0	0	0	0

Centralization Risks

Coinsult checked the following privileges:

Contract Privilege	Description
Owner can mint?	Owner cannot mint new tokens
Owner can blacklist?	Owner cannot blacklist addresses
Owner can set fees > 25%?	Owner cannot set the sell fee to 25% or higher
Owner can exclude from fees?	Owner can exclude from fees
Owner can pause trading?	Owner cannot pause the contract
Owner can set Max TX amount?	Owner cannot set max transaction amount

More owner privileges are listed later in the report.

Error Code	Description
CS: 016	Initial Supply

Low-Risk: Could be fixed, will not bring problems.

Initial Supply

When the contract is deployed, the contract deployer receives all of the initially created assets. Since the deployer and/or contract owner can distribute tokens without consulting the community, this could be a problem.

Recommendation

Private keys belonging to the employer and/or contract owner should be stored properly. The initial asset allocation procedure should involve consultation with the community.

Error Code	Description
CS: 017	Reliance on third-parties

Low-Risk: Could be fixed, will not bring problems.

Reliance on third-parties

Interaction between smart contracts with third-party protocols like Uniswap and Pancakeswap. The audit's scope presupposes that third party entities will perform as intended and treats them as if they were black boxes. In the real world, third parties can be hacked and used against you. Additionally, improvements made by third parties may have negative effects, such as higher transaction costs or the deprecation of older routers.

Recommendation

Regularly check third-party dependencies, and when required, reduce severe effects.

Maximum Fee Limit Check

Error Code	Description
CEN-01	Centralization: Operator Fee Manipulation

Zp8 tests if the owner of the smart contract can set the transfer, buy or sell fee to 25% or more. It is bad practice to set the fees to 25% or more, because owners can prevent healthy trading or even stop trading when the fees are set too high.

Type of fee	Description
Transfer fee	Owner cannot set the transfer fee to 25% or higher
Buy fee	Owner cannot set the buy fee to 25% or higher
Sell fee	Owner cannot set the sell fee to 25% or higher

Type of fee	Description
Max transfer fee	1%
Max buy fee	5%
Max sell fee	5%

Contract Pausability Check

Error Code	Description
CEN-02	Centralization: Operator Pausability

Zp8 tests if the owner of the smart contract has the ability to pause the contract. If this is the case, users can no longer interact with the smart contract; users can no longer trade the token.

Privilege Check	Description
Can owner pause the contract?	Owner cannot pause the contract

Max Transaction Amount Check

Error Code	Description
CEN-03	Centralization: Operator Transaction Manipulation

Zp8 tests if the owner of the smart contract can set the maximum amount of a transaction. If the transaction exceeds this limit, the transaction will revert. Owners could prevent normal transactions to take place if they abuse this function.

Privilege Check	Description
Can owner set max tx amount?	Owner cannot set max transaction amount

Exclude From Fees Check

Error Code	Description
CEN-04	Centralization: Operator Exclusion

Zp8 tests if the owner of the smart contract can exclude addresses from paying tax fees. If the owner of the smart contract can exclude from fees, they could set high tax fees and exclude themselves from fees and benefit from 0% trading fees. However, some smart contracts require this function to exclude routers, dex, cex or other contracts / wallets from fees.

Privilege Check	Description
Can owner exclude from fees?	Owner can exclude from fees

Ability To Mint Check

Error Code	Description
CEN-05	Centralization: Operator Increase Supply

Zp8 tests if the owner of the smart contract can mint new tokens. If the contract contains a mint function, we refer to the token's total supply as non-fixed, allowing the token owner to "mint" more tokens whenever they want.

A mint function in the smart contract allows minting tokens at a later stage. A method to disable minting can also be added to stop the minting process irreversibly.

Minting tokens is done by sending a transaction that creates new tokens inside of the token smart contract. With the help of the smart contract function, an unlimited number of tokens can be created without spending additional energy or money.

Privilege Check	Description
Can owner mint?	Owner cannot mint new tokens

Ability To Blacklist Check

Error Code	Description
CEN-06	Centralization: Operator Dissallows Wallets

Zp8 tests if the owner of the smart contract can blacklist accounts from interacting with the smart contract. Blacklisting methods allow the contract owner to enter wallet addresses which are not allowed to interact with the smart contract.

This method can be abused by token owners to prevent certain / all holders from trading the token. However, blacklists might be good for tokens that want to rule out certain addresses from interacting with a smart contract.

Privilege Check	Description
Can owner blacklist?	Owner cannot blacklist addresses

Other Owner Privileges Check

Error Code	Description
CEN-100	Centralization: Operator Priviliges

Zp8 lists all important contract methods which the owner can interact with.

No other important owner privileges to mention.

Notes

Notes by BBC-Group BBCG

No notes provided by the team.

Notes by Zp8

No notes provided by zp8

Website Review

Type of check	Description
Mobile friendly?	The website is mobile friendly
Contains jQuery errors?	The website does not contain jQuery errors
Is SSL secured?	The website is SSL secured
Contains spelling errors?	The website does not contain spelling errors

Certificate of Proof

Not KYC verified by Zp8

BBCG

Audited by zp8.com



Date: 6 May 2023

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Zp8 is not responsible if a project turns out to be a scam, rug-pull or honeypot. We only provide a detailed analysis for your own research.

Zp8 is not responsible for any financial losses. Nothing in this contract audit is financial advice, please do your own research.

The information provided in this audit is for informational purposes only and should not be considered investment advice. Zp8 does not endorse, recommend, support or suggest to invest in any project.

Zp8 can not be held responsible for when a project turns out to be a rug-pull, honeypot or scam.

End of report
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