



# CFG NINJA AUDITS

Security Assessment

**Boxer Doge Token**





July 18, 2023

Audit Status: Fail

Audit Edition: Advanced

# Risk Analysis


















## Classifications of Manual Risk Results

Classification	Description
 Critical	Danger or Potential Problems.
 High	Be Careful or Fail test.
 Low	Pass, Not-Detected or Safe Item.
 Informational	Function Detected

## Manual Code Review Risk Results

Contract Privilege	Description
 Buy Tax	7%
 Sale Tax	10%
 Cannot Sale	Pass
 Cannot Sale	Pass
 Max Tax	10%
 Modify Tax	No
 Fee Check	Pass
 Is Honeygot?	Detected
 Trading Cooldown	Not Detected
 Can Pause Trade?	Detected, owner can stop and start trade.



Contract Priviledge	Description
 Pause Transfer?	Detected
 Max Tx?	Pass
 Is Anti Whale?	Not Detected
 Is Anti Bot?	Not Detected
 Is Blacklist?	Not Detected
 Blacklist Check	Pass
 is Whitelist?	Detected
 Can Mint?	Pass
 Is Proxy?	Not Detected
 Can Take Ownership?	Not Detected
 Hidden Owner?	Not Detected
 Owner	0xf023a4d934b8003c3f7e002effcd8871c104026a
 Self Destruct?	Not Detected
 External Call?	Not Detected
 Other?	Not Detected
 Holders	1
 Auditor Confidence	Medium

The following quick summary it's added to the project overview; however, there are more details about the audit and its results. Please read every detail.



# Project Overview

## Token Summary

Parameter	Result
Address	0x6D64b0c62d12617bF1504716CB270A5b66aef4a2
Name	Boxer Doge
Token Tracker	Boxer Doge (BXDOGE)
Decimals	9
Supply	1,000,000,000,000,000
Platform	Binance Smart Chain
compiler	v0.8.19+commit.7dd6d404
Contract Name	BXDOGE
Optimization	Yes with 200 runs
LicenseType	MIT
Language	Solidity
Codebase	<a href="https://bscscan.com/token/0x6D64b0c62d12617bF1504716CB270A5b66aef4a2#code">https://bscscan.com/token/0x6D64b0c62d12617bF1504716CB270A5b66aef4a2#code</a>
Payment Tx	Corporate



## Main Contract Assessed Contract Name

Name	Contract	Live
Boxer Doge	0x6D64b0c62d12617bF1504716CB270A5b66aef4a2	Yes

## TestNet Contract Assessed Contract Name

Name	Contract	Live
Boxer Doge	0x9B63a3EBF7ceB10Ed3033B2DF79411Bc292511C6	Yes

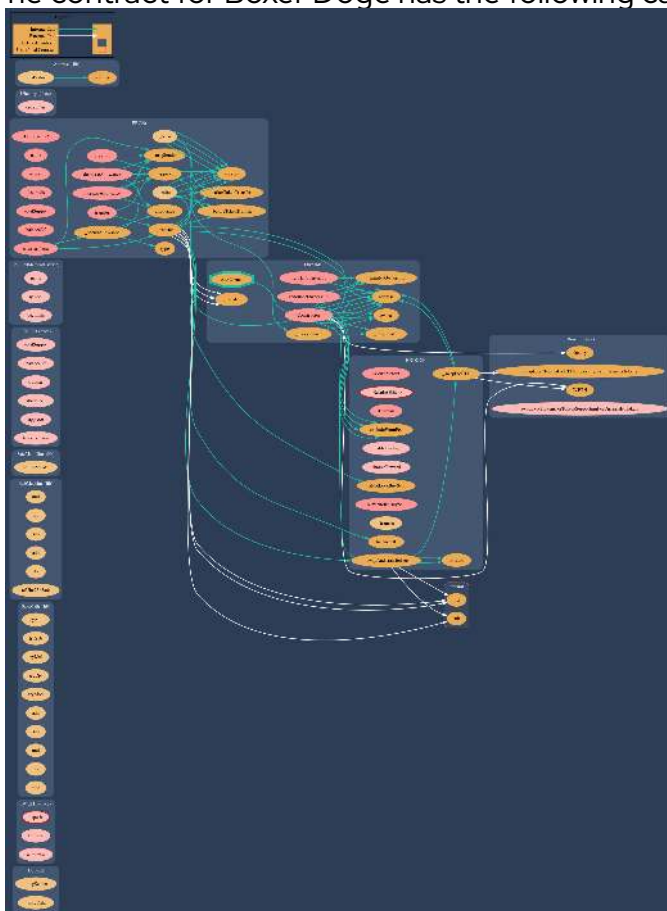
## Solidity Code Provided

SolID	File Sha-1	FileName
BXDOGE	6648f72e7202cb96b711d80b581830ffc98bef8a	bxdoge.sol
BXDOGE		
BXDOGE		
BXDOGE		



# Call Graph

The contract for Boxer Doge has the following call graph structure.



# Smart Contract Vulnerability Checks

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	Severity	Name	File	location
SWC-100	Pass	Function Default Visibility	bxdoge.sol	L: 0 C: 0
SWC-101	Pass	Integer Overflow and Underflow.	bxdoge.sol	L: 0 C: 0
SWC-102	Pass	Outdated Compiler Version file.	bxdoge.sol	L: 0 C: 0
SWC-103	Pass	A floating pragma is set.	bxdoge.sol	L: 0 C: 0
SWC-104	Pass	Unchecked Call Return Value.	bxdoge.sol	L: 0 C: 0
SWC-105	Pass	Unprotected Ether Withdrawal.	bxdoge.sol	L: 0 C: 0
SWC-106	Pass	Unprotected SELFDESTRUCT Instruction	bxdoge.sol	L: 0 C: 0
SWC-107	Pass	Read of persistent state following external call.	bxdoge.sol	L: 0 C: 0
SWC-108	Pass	State variable visibility is not set..	bxdoge.sol	L: 0 C: 0
SWC-109	Pass	Uninitialized Storage Pointer.	bxdoge.sol	L: 0 C: 0
SWC-110	Pass	Assert Violation.	bxdoge.sol	L: 0 C: 0





ID	Severity	Name	File	location
SWC-111	Pass	Use of Deprecated Solidity Functions.	bxdoge.sol	L: 0 C: 0
SWC-112	Pass	Delegate Call to Untrusted Callee.	bxdoge.sol	L: 0 C: 0
SWC-113	Pass	Multiple calls are executed in the same transaction.	bxdoge.sol	L: 0 C: 0
SWC-114	Pass	Transaction Order Dependence.	bxdoge.sol	L: 0 C: 0
SWC-115	Pass	Authorization through tx.origin.	bxdoge.sol	L: 0 C: 0
SWC-116	Pass	A control flow decision is made based on The block.timestamp environment variable.	bxdoge.sol	L: 0 C: 0
SWC-117	Pass	Signature Malleability.	bxdoge.sol	L: 0 C: 0
SWC-118	Pass	Incorrect Constructor Name.	bxdoge.sol	L: 0 C: 0
SWC-119	Pass	Shadowing State Variables.	bxdoge.sol	L: 0 C: 0
SWC-120	Pass	Potential use of block.number as source of randonmnness.	bxdoge.sol	L: 0 C: 0
SWC-121	Pass	Missing Protection against Signature Replay Attacks.	bxdoge.sol	L: 0 C: 0
SWC-122	Pass	Lack of Proper Signature Verification.	bxdoge.sol	L: 0 C: 0
SWC-123	Low	Requirement Violation.	bxdoge.sol	L: 158 C: 15, L: 12 C: 0
SWC-124	Pass	Write to Arbitrary Storage Location.	bxdoge.sol	L: 0 C: 0





ID	Severity	Name	File	location
SWC-125	Pass	Incorrect Inheritance Order.	bxdoge.sol	L: 0 C: 0
SWC-126	Pass	Insufficient Gas Griefing.	bxdoge.sol	L: 0 C: 0
SWC-127	Pass	Arbitrary Jump with Function Type Variable.	bxdoge.sol	L: 0 C: 0
SWC-128	Pass	DoS With Block Gas Limit.	bxdoge.sol	L: 0 C: 0
SWC-129	Pass	Typographical Error.	bxdoge.sol	L: 0 C: 0
SWC-130	Pass	Right-To-Left-Override control character (U+202E).	bxdoge.sol	L: 0 C: 0
SWC-131	Pass	Presence of unused variables.	bxdoge.sol	L: 0 C: 0
SWC-132	Pass	Unexpected Ether balance.	bxdoge.sol	L: 0 C: 0
SWC-133	Pass	Hash Collisions with Multiple Variable Length Arguments.	bxdoge.sol	L: 0 C: 0
SWC-134	Pass	Message call with hardcoded gas amount.	bxdoge.sol	L: 0 C: 0
SWC-135	Pass	Code With No Effects (Irrelevant/Dead Code).	bxdoge.sol	L: 0 C: 0
SWC-136	Pass	Unencrypted Private Data On-Chain.	bxdoge.sol	L: 0 C: 0

We scan the contract for additional security issues using MYTHX and industry-standard security scanning tools.



# Smart Contract Vulnerability Details

## SWC-123 - Requirement Violation

### CWE-573: Improper Following of Specification by Caller

#### Description:

The Solidity `require()` construct is meant to validate external inputs of a function. In most cases, such external inputs are provided by callers, but they may also be returned by callees. In the former case, we refer to them as precondition violations. Violations of a requirement can indicate one of two possible issues:

- A bug exists in the contract that provided the external input.
- The condition used to express the requirement is too strong.

#### Remediation:

If the required logical condition is too strong, it should be weakened to allow all valid external inputs. Otherwise, the bug must be in the contract that provided the external input and one should consider fixing its code by making sure no invalid inputs are provided.

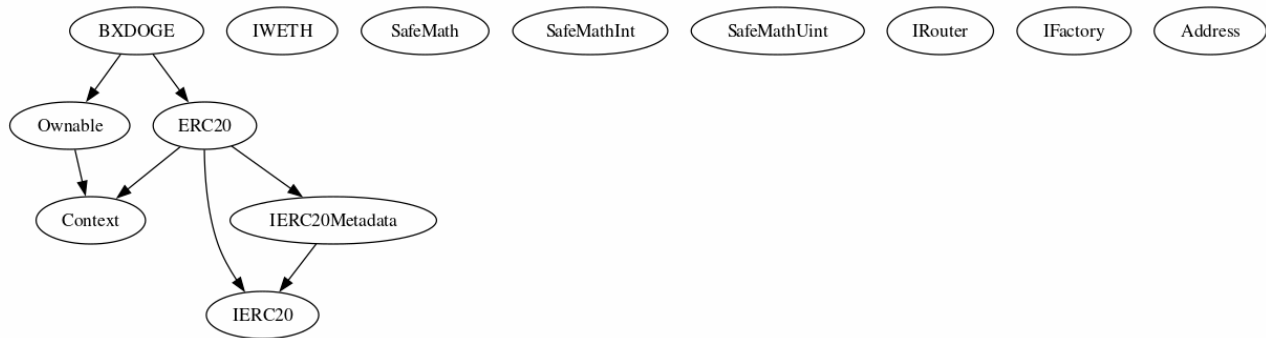
#### References:

The use of `revert()`, `assert()`, and `require()` in Solidity, and the new REVERT opcode in the EVM



# Inheritance

The contract for Boxer Doge has the following inheritance structure.



## Privileged Functions (onlyOwner)

Please Note if the contract is Renounced none of this functions can be executed.

Function Name	Parameters	Visibility
renounceOwnership		Public
transferOwnership	address newOwner	Public
changeReward		External
enableTrading		External
excludeFromFee		External



# Smart Contract Advance Checks



ID	Severity	Name	Result	Status
BXDOGE-01	Low	Potential Sandwich Attacks.	Fail	Detected
BXDOGE-02	Informational	Function Visibility Optimization	Fail	Detected
BXDOGE-03	Low	Lack of Input Validation.	Fai	Detected
BXDOGE-04	High	Centralized Risk In addLiquidity.	Pass	Not Detected
BXDOGE-05	Low	Missing Event Emission.	Fail	Detected
BXDOGE-06	Low	Conformance with Solidity Naming Conventions.	Pass	Not Detected
BXDOGE-07	Low	State Variables could be Declared Constant.	Pass	Not Detected
BXDOGE-08	Low	Dead Code Elimination.	Pass	Not Detected
BXDOGE-09	High	Third Party Dependencies.	Pass	Not Detected
BXDOGE-10	High	Initial Token Distribution.	Pass	Not Detected
BXDOGE-11	High	claimStuckTokens can claim own tokens.	Pass	Not Detected
BXDOGE-12	High	Centralization Risks In The X Role	Pass	Not Detected
BXDOGE-13	Informational	Extra Gas Cost For User..	Fail	Detected
BXDOGE-14	Medium	Unnecessary Use Of SafeMath	Pass	Not Detected
BXDOGE-15	Medium	Symbol Length Limitation due to Solidity Naming Standards.	Pass	Not Detected



ID	Severity	Name	Result	Status
BXDOGE-16	Medium	Taxes can be up to 100%	Pass	Not Detected
BXDOGE-17	Logical Issue	Highly Permissive Role Access,	Pass	Not Detected
BXDOGE-18	Critical	Stop Transactions by using Enable Trade.	Fail	Detected



## BXDOGE-01 | Potential Sandwich Attacks.

Category	Severity	Location	Status
Security	 Low	bxdoge.sol: L: 1129, C: 14	 Detected

### Description

A sandwich attack might happen when an attacker observes a transaction swapping tokens or adding liquidity without setting restrictions on slippage or minimum output amount. The attacker can manipulate the exchange rate by frontrunning (before the transaction being attacked) a transaction to purchase one of the assets and make profits by back running (after the transaction being attacked) a transaction to sell the asset. The following functions are called without setting restrictions on slippage or minimum output amount, so transactions triggering these functions are vulnerable to sandwich attacks, especially when the input amount is large:

- swapExactTokensForETHSupportingFeeOnTransferTokens()
- addLiquidityETH()

### Remediation

We recommend setting reasonable minimum output amounts, instead of 0, based on token prices when calling the aforementioned functions.



### References:

What Are Sandwich Attacks in DeFi – and How Can You Avoid Them?





## BXDOGE-02 | Function Visibility Optimization.

Category	Severity	Location	Status
Gas Optimization	 Informational	bxdoge.sol: L: 31 C: 29	 Detected

### Description

The following functions are declared as public and are not invoked in any of the contracts contained within the projects scope:

Function Name	Parameters	Visibility
ExcludeFromFee		public

The functions that are never called internally within the contract should have external visibility

### Remediation



We advise that the function's visibility specifiers are set to external, and the array-based arguments change their data location from memory to calldata, optimizing the gas cost of the function.

### References:

external vs public best practices.



## BXDOGE-03 | Lack of Input Validation.

Category	Severity	Location	Status
Volatile Code	 Low	bxdoge.sol: L: 1056, C: 0	 Detected

### Description

The given input is missing the check for the non-zero address.

The given input is missing the check for the allOnly Owners.

### Remediation



We advise the client to add the check for the passed-in values to prevent unexpected errors as below:

```
...
require(receiver != address(0), "Receiver is the zero address");
...
...
require(value X limitation, "Your not able to do this function");
...
```

We also recommend customer to review the following function that is missing a required validation. allOnly Owners.



# BXDOGE-05 | Missing Event Emission.

Category	Severity	Location	Status
Volatile Code	 Low	bxdoge.sol: L: 1056 C: 14	 Detected

## Description



Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes. The linked code does not create an event for the transfer.

## Remediation

Emit an event for critical parameter changes. It is recommended emitting events for the sensitive functions that are controlled by centralization roles.



## BXDOGE-13 | Extra Gas Cost For User.

Category	Severity	Location	Status
Logical Issue	 Informational	bxdoge.sol: L: 1074, C: 0	 Detected

### Description

The user may trigger a tax distribution during the transfer process, which will cost a lot of gas and it is unfair to let a single user bear it.



### Remediation

We advise the client to make the owner responsible for the gas costs of the tax distribution.

### Project Action



## BXDOGE-18 | Stop Transactions by using Enable Trade.

Category	Severity	Location	Status
Logical Issue	 Critical	bxdoge.sol: L: 1044 C: 0	 Detected

### Description

Enable Trade is present on the following contract and when combined with Exclude from fees it can be considered a whitelist process, this will allow anyone to trade before others and can represent an issue for the holders.

### Remediation






We recommend the project owner to carefully review this function and avoid problems when performing both actions.

### Project Action








# Technical Findings Summary

## Classification of Risk

Severity	Description
 Critical	Risks are those that impact the safe functioning of a platform and must be addressed before launch. Users should not invest in any project with outstanding critical risks.
 High	Risks can include centralization issues and logical errors. Under specific circumstances, these major risks can lead to loss of funds and/or control of the project.
 Medium	Risks may not pose a direct risk to users' funds, but they can affect the overall functioning of a platform
 Low	Risks can be any of the above but on a smaller scale. They generally do not compromise the overall integrity of the Project, but they may be less efficient than other solutions.
 Informational	Errors are often recommended to improve the code's style or certain operations to fall within industry best practices. They usually do not affect the overall functioning of the code.

## Findings

Severity	Found	Pending	Resolved
 Critical	1	0	0
 High	0	0	0
 Medium	1	0	0
 Low	2	0	0
 Informational	2	0	0
Total	6	0	0



# Social Media Checks

Social Media	URL	Result
Twitter	<a href="https://twitter.com/boxerdogebsc">https://twitter.com/boxerdogebsc</a>	Pass
Other		Fail
Website	<a href="https://boxerdoge.com/">https://boxerdoge.com/</a>	Pass
Telegram	<a href="https://t.me/BoxerDoge">https://t.me/BoxerDoge</a>	Pass

We recommend to have 3 or more social media sources including a completed working websites.

**Social Media Information Notes:**

**Auditor Notes:** undefined

**Project Owner Notes:**





# Assessment Results

## Score Results

Review	Score
Overall Score	79/100
Auditor Score	79/100
Review by Section	Score
Manual Scan Score	19/33
SWC Scan Score	35 /37
Advance Check Score	25 /30

The Following Score System Has been Added to this page to help understand the value of the audit, the maximum score is 100, however to attain that value the project must pass and provide all the data needed for the assessment. Our Passing Score has been changed to 80 Points, if a project does not attain 80% is an automatic failure. Read our notes and final assessment below.

## Audit Fail



## Assessment Results

### Important Notes:

- no vulnerabilities or issues found during swc.
- several other items need to be reviewed.
- The Project has enable trade and stop trade so can be stopped at will.
- Please DYOR on the project.

**Auditor Score =79**  
**Audit Fail**



# Appendix

## Finding Categories

### Centralization / Privilege

Centralization / Privilege findings refer to either feature logic or implementation of components that act against the nature of decentralization, such as explicit ownership or specialized access roles in combination with a mechanism to relocate funds.

### Gas Optimization

Gas Optimization findings do not affect the functionality of the code but generate different, more optimal EVM opcodes resulting in a reduction on the total gas cost of a transaction.

### Logical Issue

Logical Issue findings detail a fault in the logic of the linked code, such as an incorrect notion on how `block.timestamp` works.

### Control Flow

Control Flow findings concern the access control imposed on functions, such as owner-only functions being invoke-able by anyone under certain circumstances.

### Volatile Code

Volatile Code findings refer to segments of code that behave unexpectedly on certain edge cases that may result in a vulnerability.

### Coding Style

Coding Style findings usually do not affect the generated byte-code but rather comment on how to make the codebase more legible and, as a result, easily maintainable.

### Inconsistency

Inconsistency findings refer to functions that should seemingly behave similarly yet contain different code, such as a constructor assignment imposing different requirements on the input variables than a setter function.



## Coding Best Practices

ERC 20 Coding Standards are a set of rules that each developer should follow to ensure the code meets a set of criteria and is readable by all the developers.



## Disclaimer

CFGNINJA has conducted an independent security assessment to verify the integrity of and highlight any vulnerabilities or errors, intentional or unintentional, that may be present in the reviewed code for the scope of this assessment. This report does not constitute agreement, acceptance, or advocacy for the Project, and users relying on this report should not consider this as having any merit for financial advice in any shape, form, or nature. The contracts audited do not account for any economic developments that the Project in question may pursue, and the veracity of the findings thus presented in this report relate solely to the proficiency, competence, aptitude, and discretion of our independent auditors, who make no guarantees nor assurance that the contracts are entirely free of exploits, bugs, vulnerabilities or deprecation of technologies.

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