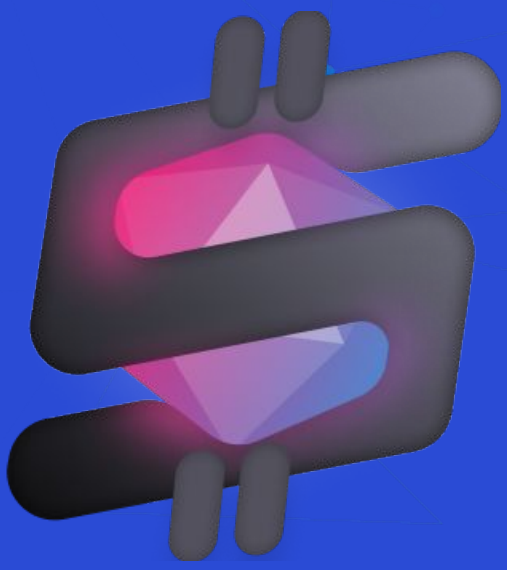
0XSAFE

SMART CONTRACT SECURITY AUDIT
for



QiUSD

Token Overview

0xSafe received the application for a smart contract security audit of **QiUSD's Token** smart contract on July 1, 2023.

Details

Client: QiUSD

Blockchain: QIE Blockchain

Contract: 0x95E0Aacc2fA619344A3A21BBcd46C3cf43340884

Compiler: N/V

Optimization: N/V

Website: https://qiusd.online/

KEY

N/V - Not Verified

Table of Contents

Methodology

Audit Details

This comprehensive audit report provides an overview of **QiUSD's Token** smart contract. 0xSafe utilizes a combination of static, automated, and manual analysis tools to check for any potential vulnerabilities or hacks in the system.

Code Quality

This includes a full review of the smart contract code. The prime areas of focus are:

- Accuracy
- Exploits
- Functionality
- Readability
- Security
- Vulnerabilities

Scope of work

QiUSD's team provided us with the files that need to be tested (BSCscan, Etherscan, Github, etc.). The focus of the security audit is the main token smart contract.

Tools

Ganache, Mithril, MythX, Open Zeppelin Code Analyzer, Proprietary tests, Remix IDE, Solidity Compiler, SWC Registry.

Risk Classification

!Critical	This signifies vulnerabilities with the smart contract's functionality or performance. Issues should be resolved immediately.
!Medium	This signifies vulnerabilities that can potentially cause problems and should eventually be fixed.
!Minor	Minor vulnerabilities may or may not impact smart contract functionality.
!Informational	This is there to offer suggestions for improvement

Audit Findings

Critical Issues

-no critical issues found-

Medium Issues

-no medium issues found-

Minor Issues

Issue	Type	Line #(s)	Description
#1	A floating pragma is set.	3	Current pragma directive is: "^v0.8.16"

SWC Attacks

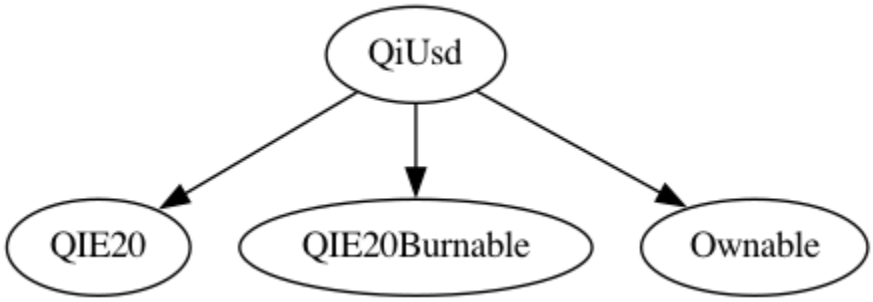
SWC ID	Description	Status
SWC-100	Function Default Visibility	PASSED
SWC-101	Integer Overflow and Underflow	PASSED
SWC-102	Outdated Compiler Version	PASSED
SWC-103	Floating Pragma	MINOR
SWC-104	Unchecked Call Return Value	PASSED
SWC-105	Unprotected Ether Withdrawal	PASSED
SWC-106	Unprotected SELFDESTRUCT 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
SWC-116	Block values as a proxy for time	PASSED
SWC-117	Signature Malleability	PASSED
SWC-118	Incorrect Constructor Name	PASSED
SWC-119	Shadowing State Variables	PASSED
SWC-120	Weak Sources of Randomness from Chain Attributes	PASSED
SWC-121	Missing Protection against Signature Replay Attacks	PASSED

SWC-122	Lack of Proper Signature Verification	PASSED
SWC-123	Requirement Violation	PASSED
SWC-124	Write to Arbitrary Storage Location	PASSED
SWC-125	Incorrect Inheritance Order	PASSED
SWC-126	Insufficient Gas Griefing	PASSED
SWC-127	Arbitrary Jump with Function Type Variable	PASSED
SWC-128	DoS With Block Gas Limit	PASSED
SWC-129	Typographical Error	PASSED
SWC-130	Right-To-Left-Override control character (U+202E)	PASSED
SWC-131	Presence of unused variables	PASSED
SWC-132	Unexpected Ether balance	PASSED
SWC-133	Hash Collisions With Multiple Variable Length Arguments	PASSED
SWC-134	Message call with hardcoded gas amount	PASSED
SWC-135	Code With No Effects	PASSED
SWC-136	Unencrypted Private Data On-Chain	PASSED

Important Notes

- Owner can mint/burn tokens
- Owner can set admin
- Owner can set fee recipient
- Owner & Admin can whitelist or un-whitelist addresses from fees
- Tax fee has no limits
- Minting has no limits

Inheritance Tree



Contract Inspection

Below is a visual description report comprising of information about the system's files, contracts, and their functions.

Legend

Symbol	Meaning
🛑	Function can modify state
💵	Function is payable
🔒	Internal function
NO ❗	Function has no modifier

Table

Contract	Type	Bases		
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**
QiUsd	Implementation	QIE20, QIE20Burnable, Ownable	
└	getAdmin	External ❗	NO ❗	
└	getTaxPercent	External ❗	NO ❗	
└	getTaxRecipient	External ❗	NO ❗	
└	getWhiteListStatusForAddress	External ❗	NO ❗	
└	<Constructor>	Public ❗	🛑	QIE20
└	mint	Public ❗	🛑	onlyOwner
└	_transfer	Internal 🔒	🛑	
└	deleteWhiteListInAddresses	External ❗	🛑	onlyOwnerOrAdmin
└	deleteWhiteListOutAddresses	External ❗	🛑	onlyOwnerOrAdmin

└	setAdmin	External ❗	🛑	onlyOwner
└	setTaxPercent	External ❗	🛑	onlyOwner
└	setTaxRecipient	External ❗	🛑	onlyOwner
└	setWhiteListInAddresses	External ❗	🛑	onlyOwnerOrAdmin
└	setWhiteListOutAddresses	External ❗	🛑	onlyOwnerOrAdmin
└	setWhiteListBothAddresses	External ❗	🛑	onlyOwnerOrAdmin

Audit Results

QiUSD's Token smart contract does not contain any severe issues or risks. The security of the smart contract was tested by 0xSafe using static, automated, and manual analysis. The

AUDIT PASSED

Note:
Please check the disclaimer below and note the audit makes no statements or warranties on the business model, investment attractiveness, or code sustainability of this project. The security audit report is provided for the only contract mentioned in this report.

Disclaimer

0xSafe.io provides contract auditing, KYC, development, and launch services for blockchain projects. The purpose of the security audit is to analyze the on-chain smart contract source code and to provide an easy-to-understand assessment of the crypto project and the smart contract. **0xSafe.io provides information as is.**

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