

**Blockchain Security | Smart Contract Audits | KYC** 

MADE IN GERMANY

# Awake

# Audit

Security Assessment 26. April, 2022

For



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Version	Date	Description
1.0	26. April 2022	<ul><li>Layout project</li><li>Automated-/Manual-Security Testing</li><li>Summary</li></ul>

#### **Network**

Binance Smart Chain (BEP20)

#### Website

https://awakeinthegalactic.com/

#### **Telegram**

https://t.me/awakeinthegalacticl

#### **Twitter**

https://twitter.com/galactic\_awake

#### Instagram

https://www.instagram.com/awakeinthegalactic/

#### **Facebook**

https://www.instagram.com/awakeinthegalactic/

#### **Discord**

https://discord.gg/wJ4D5JSY

#### Youtube

https://www.youtube.com/channel/UCel\_7\_XmOlkm8pD\_3yUOK\_Q

## **Description**

AWAKE is built on a strong and loyal community base gained through high quality experiences. Our community will be able to enjoy the following activities on the platform.

# **Project Engagement**

During the 25th of April 2022, **AWAKE Team** engaged Solidproof.io to audit smart contracts that they created. The engagement was technical in nature and focused on identifying security flaws in the design and implementation of the contracts. They provided Solidproof.io with access to their code repository and whitepaper.





# Contract Link v1.0

https://bscscan.com/address/
 0x173496f1473Db153e4bc98D50546D46184064D8C

# **Vulnerability & Risk Level**

Risk represents the probability that a certain source-threat will exploit vulnerability, and the impact of that event on the organization or system. Risk Level is computed based on CVSS version 3.0.

Level	Value	Vulnerability	Risk (Required Action)	
Critical 9 - 10 in sc		A vulnerability that can disrupt the contract functioning in a number of scenarios, or creates a risk that the contract may be broken.	Immediate action to reduce risk level.	
High	7 – 8.9	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.	Implementation of corrective actions as soon aspossible.	
Medium	4 – 6.9	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.	Implementation of corrective actions in a certain period.	
<b>Low</b> 2 – 3.9 ptl		A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.	Implementation of certain corrective actions or accepting the risk.	
Informational	0 – 1.9	A vulnerability that have informational character but is not effecting any of the code.	An observation that does not determine a level of risk	

# Auditing Strategy and Techniques Applied

Throughout the review process, care was taken to evaluate the repository for security-related issues, code quality, and adherence to specification and best practices. To do so, reviewed line-by-line by our team of expert pentesters and smart contract developers, documenting any issues as there were discovered.

# Methodology

The auditing process follows a routine series of steps:

- 1. Code review that includes the following:
  - i) Review of the specifications, sources, and instructions provided to SolidProof to make sure we understand the size, scope, and functionality of the smart contract.
  - ii) Manual review of code, which is the process of reading source code line-byline in an attempt to identify potential vulnerabilities.
  - iii) Comparison to specification, which is the process of checking whether the code does what the specifications, sources, and instructions provided to SolidProof describe.
- 2. Testing and automated analysis that includes the following:
  - i) Test coverage analysis, which is the process of determining whether the test cases are actually covering the code and how much code is exercised when we run those test cases.
  - ii) Symbolic execution, which is analysing a program to determine what inputs causes each part of a program to execute.
- 3. Best practices review, which is a review of the smart contracts to improve efficiency, effectiveness, clarify, maintainability, security, and control based on the established industry and academic practices, recommendations, and research.
- 4. Specific, itemized, actionable recommendations to help you take steps to secure your smart contracts.

# **Used Code from other Frameworks/Smart Contracts (direct imports)**

Imported packages:

IERC20

IERC20Metadata

Context

ERC20

Ownable

Pausable

IUniswapV2Pair

IUniswapV2Factory

IUniswapV2Router01

IUniswapV2Router02

#### **Tested Contract Files**

This audit covered the following files listed below with a SHA-1 Hash.

A file with a different Hash has been modified, intentionally or otherwise, after the security review. A different Hash could be (but not necessarily) an indication of a changed condition or potential vulnerability that was not within the scope of this review.

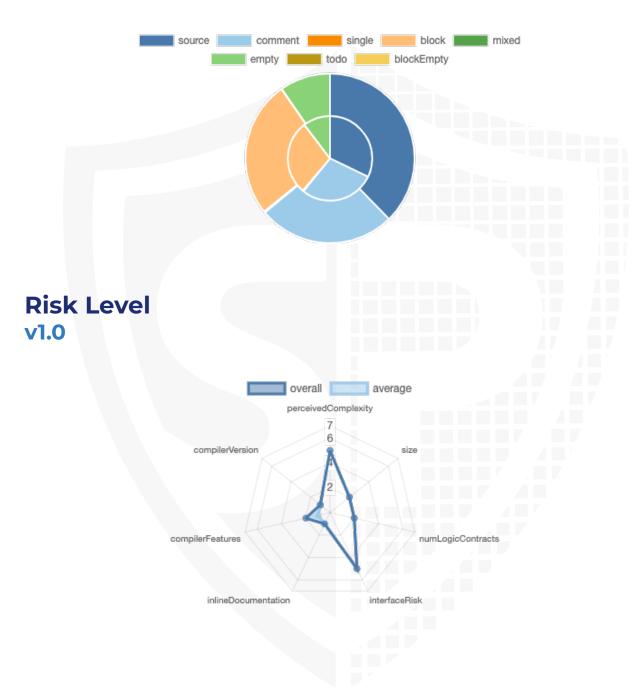
#### **v1.0**

File Name	SHA-1 Hash
contracts/awake.sol	6ab4e43fac4ce4cf2cfc5952ba25ff73d0cebe00



# **Metrics**

# Source Lines v1.0



# **Capabilities**

### Components

Version	Contracts	Libraries	Interfaces	Abstract
1.0	2	0	6	3

## **Exposed Functions**

This section lists functions that are explicitly declared public or payable. Please note that getter methods for public stateVars are not included.

Ver	sion	Public	Payable
1.0		99	6

Version	ersion External Internal		Private Pure		View	
1.0	69	75	1	10	37	

#### **State Variables**

Version	Total	Public		
1.0	35	1		

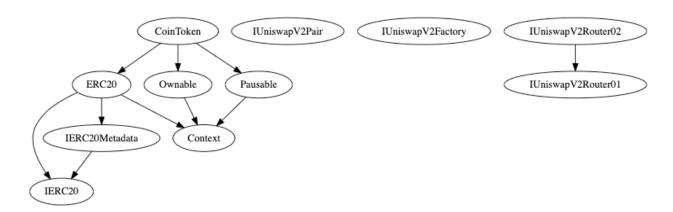
# **Capabilities**

Version	Solidity Versions observed	Experim ental Features	Can Receive Funds	Uses Assembl Y	Has Destroya ble Contract s
1.0	^0.8.9		yes	yes (3 asm blocks)	

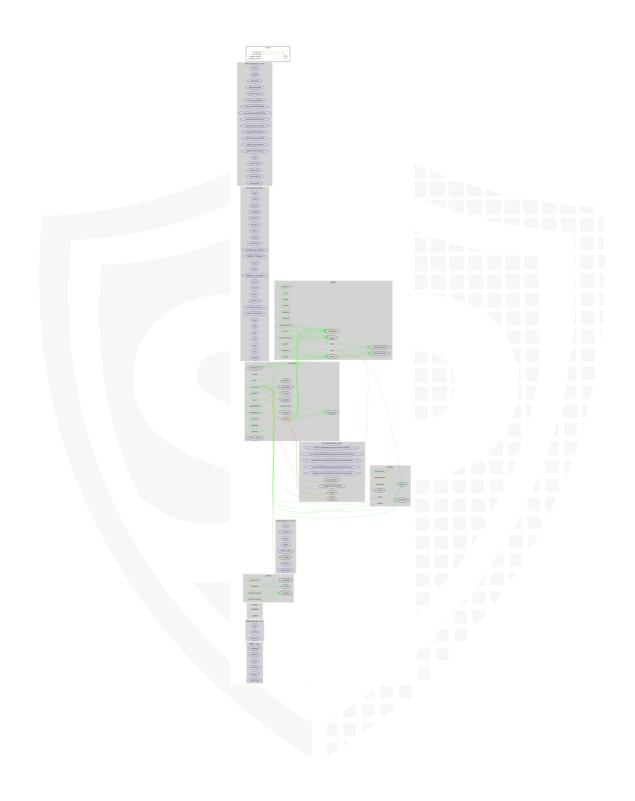
Version	Transfer s ETH	Low- Level Calls	Deleg ateCa II	Uses Hash Function s	EC Rec ove r	New/ Create/ Create2	
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|--|

# Inheritance Graph v1.0



# CallGraph v1.0



# **Scope of Work/Verify Claims**

The above token Team provided us with the files that needs to be tested (Github, Bscscan, Etherscan, files, etc.). The scope of the audit is the main contract (usual the same name as team appended with .sol).

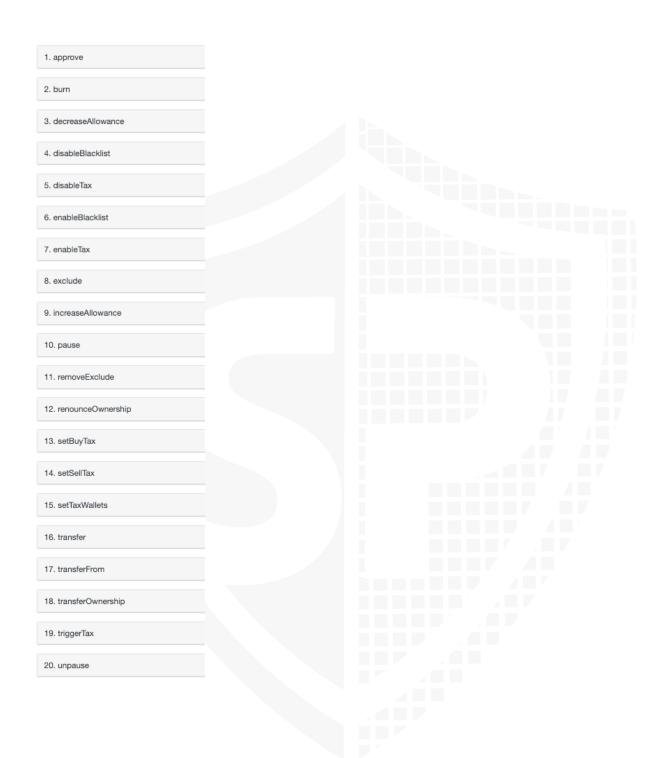
We will verify the following claims:

- 1. Correct implementation of Token standard
- 2. Deployer cannot mint any new tokens
- 3. Deployer cannot burn or lock user funds
- 4. Deployer cannot pause the contract
- 5. Overall checkup (Smart Contract Security)

# Correct implementation of Token standard

	ERC20						
Function	Function Description						
TotalSupply	Provides information about the total token supply	<b>√</b>	✓	$\checkmark$			
BalanceOf	Provides account balance of the owner's account	$\checkmark$	<b>√</b>	$\checkmark$			
Transfer	Executes transfers of a specified number of tokens to a specified address	<b>√</b>	<b>√</b>	<b>√</b>			
TransferFrom	Executes transfers of a specified number of tokens from a specified address	<b>√</b>	<b>√</b>	<b>√</b>			
Approve	Allow a spender to withdraw a set number of tokens from a specified account	<b>√</b>	<b>√</b>	<b>√</b>			
Allowance	Returns a set number of tokens from a spender to the owner	<b>√</b>	<b>√</b>	<b>√</b>			

# Write functions of contract v1.0



# **Deployer cannot mint any new tokens**

Name	Exist	Tested	Status
Deployer cannot mint	$\checkmark$	<b>√</b>	<b>√</b>
Max / Total Supply		10.0	000.000



## Deployer cannot burn or lock user funds

Name	Exist	Tested	Status
Deployer cannot lock	$\checkmark$	<b>√</b>	X
Deployer cannot burn	<b>√</b>	<b>√</b>	X

#### Comments:

#### **v1.0**

- Owner can burn own tokens
- Owner can blacklist addresses

## Deployer cannot pause the contract

Name	Exist	Tested	Status
Deployer cannot pause	$\checkmark$	<b>√</b>	X

#### Comments:

#### **v1.0**

· Owner can pause contract

# **Overall checkup (Smart Contract Security)**



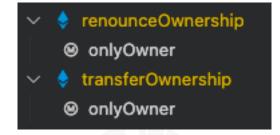
#### Legend

Attribute	Symbol
Verfified / Checked	$\checkmark$
Partly Verified	P
Unverified / Not checked	X
Not available	-

# **Modifiers and public functions**

#### **v1.0**





#### **Comments**

- Deployer can set following state variables without any limitations
  - sellTaxes["dev"]
  - sellTaxes["marketing"]
  - sellTaxes["liquidity"]
  - sellTaxes["charity"]
  - buyTaxes["dev"]
  - buyTaxes["marketing"]
  - buyTaxes["liquidity"]
  - buyTaxes["charity"]

- Deployer can enable/disable following state variables
  - taxStatus
  - excludeList
  - blacklist
  - \_paused
- Deployer can set following addresses
  - taxWallets["dev"]
  - taxWallets["marketing"]
  - taxWallets["charity"]
- We recommend you to move L895-L897 into the "else if" condition (L916)because that's the only place where it is used
- If an address send an amount to another address which is not from/to uniswap router address there are no taxes for it (for more information look at handlTax function in L894
- Pseudocode test with calling more times the \_transfer function while handle tax. It is a recursive call of the handleTax function:
  - Test result for sending 1 Ether with 5% taxes
    - Amount: 100000000000000000 Calc: 50000000000000000
    - Amount: 50000000000000000 Calc: 250000000000000
    - Amount: 2500000000000000 Calc: 12500000000000
    - Amount: 125000000000000 Calc: 6250000000000
    - Amount: 6250000000000 Calc: 312500000000
    - Amount: 312500000000 Calc: 15625000000
    - Amount: 15625000000 Calc: 781250000
    - · Amount: 781250000 Calc: 39062500
    - Amount: 39062500 Calc: 1953125
    - Amount: 1953125 Calc: 97656
    - Amount: 97656 Calc: 4882
    - Amount: 4882 Calc: 244
    - Amount: 244 Calc: 12
    - Amount: 12 Calc: 0
  - And after the handleTax is done the returning of rest amount is following
    - Amount: 12 RestAmount: 12
    - Amount: 244 RestAmount: 232
    - Amount: 4882 RestAmount: 4638
    - Amount: 97656 RestAmount: 92774
    - Amount: 1953125 RestAmount: 1855469
    - Amount: 39062500 RestAmount: 37109375
    - · Amount: 781250000 RestAmount: 742187500

- Amount: 15625000000 RestAmount: 14843750000
- Amount: 312500000000 RestAmount: 296875000000
- Amount: 625000000000 RestAmount: 5937500000000
- Amount: 12500000000000 RestAmount: 118750000000000
- Amount: 250000000000000 RestAmount: 237500000000000
- Amount: 500000000000000 RestAmount: 4750000000000000
- Amount: 10000000000000000 RestAmount: 95000000000000000
- Result balances
  - Receiver balance: BigNumber { value: "950000000000000000" }
- You can achieve the same result if you are calling super.\_transfer function in the handleTax function because you want to only the taxes without handling tax for the tax

Please check if an OnlyOwner or similar restrictive modifier has been forgotten.

# **Source Units in Scope**

#### **v1.0**

Туре	File	Logic Contracts	Interfaces	Lines	nLines	nSLOC	Comment Lines	Complex. Score	Capabilities
<b></b>	contracts/awake.sol	5	6	1140	845	382	407	458	. <u>Š</u> . <del>≛.</del> ≵.Σ
2Q.	Totals	5	6	1140	845	382	407	458	. Š. ♣.;∴Σ

## Legend

Attribute	Description
Lines	total lines of the source unit
nLines	normalized lines of the source unit (e.g. normalizes functions spanning multiple lines)
nSLOC	normalized source lines of code (only source-code lines; no comments, no blank lines)
Comment Lines	lines containing single or block comments
Complexity Score	a custom complexity score derived from code statements that are known to introduce code complexity (branches, loops, calls, external interfaces,)

# **Audit Results**

# **AUDIT PASSED**

### **Critical issues**

#### No critical issues

# **High issues**

# No high issues

## **Medium issues**

#### No medium issues

### Low issues

Issue	File	Туре	Line	Description
#1	Main	Contract doesn't import npm packages from source (like OpenZeppelin etc.)		We recommend to import all packages from npm directly without flatten the contract. Functions could be modified or can be susceptible to vulnerabilities
#2	Main	A floating pragma is set	8	The current pragma Solidity directive is ""^0.8.9"".
#3	Main	Transfer in handleTax	See description	We would recommend you to call supertransfer Instead of _transfer function (L909) in handleTax function (L894) because of you want to transfer only the tax without handling the taxes.  For more information look at modifier section

#4	Main	Unchecked low-level calls	978-980, 983	Ensure that the return value of a low-level call is checked	
				or logged	

#### Informational issues

Issue	File	Type	Line	Description
#1	Main	State variables that could be declared constant	835, 837	Add the `constant` attributes to state variables that never change
#2	Main	Unused state variables	850, 845, 840, 851, 846, 841, 849, 844, 839, 852, 847, 842	Remove unused state variables

#### **Audit Comments**

We recommend you to use the special form of comments (NatSpec Format, Follow link for more information <a href="https://docs.soliditylang.org/en/v0.5.10/natspec-format.html">https://docs.soliditylang.org/en/v0.5.10/natspec-format.html</a>) for your contracts to provide rich documentation for functions, return variables and more. This helps investors to make clear what that variables, functions etc. do.

### 26. April 2022:

· Read whole report for more information

# **SWC Attacks**

ID	Title	Relationships	Status
<u>SW</u> <u>C-1</u> <u>36</u>	Unencrypted Private Data On-Chain	CWE-767: Access to Critical Private Variable via Public Method	PASSED
<u>SW</u> <u>C-1</u> <u>35</u>	Code With No Effects	CWE-1164: Irrelevant Code	PASSED
<u>SW</u> <u>C-1</u> <u>34</u>	Message call with hardcoded gas amount	CWE-655: Improper Initialization	PASSED
<u>SW</u> <u>C-1</u> <u>33</u>	Hash Collisions With Multiple Variable Length Arguments	CWE-294: Authentication Bypass by Capture-replay	PASSED
<u>SW</u> <u>C-1</u> <u>32</u>	Unexpected Ether balance	CWE-667: Improper Locking	PASSED
<u>SW</u> <u>C-1</u> <u>31</u>	Presence of unused variables	CWE-1164: Irrelevant Code	NOT PASSED
<u>SW</u> <u>C-1</u> <u>30</u>	Right-To-Left- Override control character (U+202E)	CWE-451: User Interface (UI) Misrepresentation of Critical Information	PASSED
<u>SW</u> <u>C-1</u> <u>29</u>	Typographical Error	CWE-480: Use of Incorrect Operator	PASSED
<u>SW</u> <u>C-1</u> <u>28</u>	DoS With Block Gas Limit	CWE-400: Uncontrolled Resource Consumption	PASSED

<u>SW</u> <u>C-1</u> <u>27</u>	Arbitrary Jump with Function Type Variable	CWE-695: Use of Low-Level Functionality	PASSED
<u>SW</u> <u>C-1</u> <u>25</u>	Incorrect Inheritance Order	CWE-696: Incorrect Behavior Order	PASSED
<u>SW</u> <u>C-1</u> <u>24</u>	Write to Arbitrary Storage Location	CWE-123: Write-what-where Condition	PASSED
<u>SW</u> <u>C-1</u> <u>23</u>	Requirement Violation	CWE-573: Improper Following of Specification by Caller	PASSED
<u>SW</u> <u>C-1</u> <u>22</u>	Lack of Proper Signature Verification	CWE-345: Insufficient Verification of Data Authenticity	PASSED
<u>SW</u> <u>C-1</u> <u>21</u>	Missing Protection against Signature Replay Attacks	CWE-347: Improper Verification of Cryptographic Signature	PASSED
SW C-1 20	Weak Sources of Randomness from Chain Attributes	CWE-330: Use of Insufficiently Random Values	PASSED
<u>SW</u> <u>C-11</u> <u>9</u>	Shadowing State Variables	CWE-710: Improper Adherence to Coding Standards	PASSED
<u>SW</u> <u>C-11</u> <u>8</u>	Incorrect Constructor Name	CWE-665: Improper Initialization	PASSED
<u>SW</u> <u>C-11</u> <u>7</u>	Signature Malleability	CWE-347: Improper Verification of Cryptographic Signature	PASSED

<u>SW</u> <u>C-11</u> <u>6</u>	Timestamp Dependence	CWE-829: Inclusion of Functionality from Untrusted Control Sphere	PASSED
<u>SW</u> <u>C-11</u> <u>5</u>	Authorization through tx.origin	CWE-477: Use of Obsolete Function	PASSED
<u>SW</u> <u>C-11</u> <u>4</u>	Transaction Order Dependence	CWE-362: Concurrent Execution using Shared Resource with Improper Synchronization ('Race Condition')	PASSED
<u>SW</u> <u>C-11</u> <u>3</u>	DoS with Failed Call	CWE-703: Improper Check or Handling of Exceptional Conditions	PASSED
<u>SW</u> <u>C-11</u> <u>2</u>	Delegatecall to Untrusted Callee	CWE-829: Inclusion of Functionality from Untrusted Control Sphere	PASSED
<u>SW</u> <u>C-11</u> <u>1</u>	Use of Deprecated Solidity Functions	CWE-477: Use of Obsolete Function	PASSED
<u>SW</u> <u>C-11</u> <u>O</u>	Assert Violation	CWE-670: Always-Incorrect Control Flow Implementation	PASSED
SW C-1 09	Uninitialized Storage Pointer	CWE-824: Access of Uninitialized Pointer	PASSED
<u>SW</u> <u>C-1</u> <u>08</u>	State Variable Default Visibility	CWE-710: Improper Adherence to Coding Standards	PASSED
SW C-1 07	Reentrancy	CWE-841: Improper Enforcement of Behavioral Workflow	PASSED
<u>SW</u> <u>C-1</u> <u>06</u>	Unprotected SELFDESTRUC T Instruction	CWE-284: Improper Access Control	PASSED

Unprotected Ether Withdrawal	CWE-284: Improper Access Control	PASSED
Unchecked Call Return Value	CWE-252: Unchecked Return Value	PASSED
Floating Pragma	CWE-664: Improper Control of a Resource Through its Lifetime	NOT PASSED
Outdated Compiler Version	CWE-937: Using Components with Known Vulnerabilities	PASSED
Integer Overflow and Underflow	CWE-682: Incorrect Calculation	PASSED
Function Default Visibility	CWE-710: Improper Adherence to Coding Standards	PASSED
	Ether Withdrawal  Unchecked Call Return Value  Floating Pragma  Outdated Compiler Version  Integer Overflow and Underflow  Function Default	Ether Withdrawal  Unchecked Call Return Value  Floating Pragma  Outdated Compiler Version  Integer Overflow and Underflow  Function Default Visibility  CWE-252: Unchecked Return Value  CWE-664: Improper Control of a Resource Through its Lifetime  CWE-937: Using Components with Known Vulnerabilities  CWE-682: Incorrect Calculation  CWE-710: Improper Adherence to Coding Standards



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