



# Cheems Token Smart Contract Audit Report

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# AUDITED DETAILS

## Audited Project

Project name	Token ticker	Blockchain
Cheems Token	CHEEMS	BSC

## Addresses

Contract address	0x299F8fBD8Eb6877dC6AeF79C9754fD7fF548D280
Contract deployer address	0xB0004dF5aBcf68D2b0Ae6F1445cda84c606Ae591

## Project Website

<https://www.cheemstoken.com/>

## Codebase

<https://bscscan.com/address/0x299F8fBD8Eb6877dC6AeF79C9754fD7fF548D280#code>

# SUMMARY

The new dog king is in a building called Cheems. The first bsc dog coin for the people, by the people with 50% of the total supply is burned. The cheems team was tired of toxic "fud binance" and wanted to make a fun memecoin where everyone gets a fair shot. In-built staking rewards system for all its holders. The advantage is an audit, 5% auto-reflection to holders per buy/sell, nft alpha of, cmc + cg fast track, no unlocked tokens, by ex-sol dev, and community driven.

## Contract Summary

### Documentation Quality

Cheems Token provides a document with a very good standard of solidity base code.

- The technical description is provided clearly and structured and also don't have any high risk issue.

### Code Quality

The Overall quality of the basecode is GOOD

- Standart solidity basecode and rules are already followed with Cheems Project .

### Test Coverage

Test coverage of the project is 100% ( Through Codebase )

## Audit Findings Summary

- SWC-101 | Arithmetic operation Issues discovered on lines 411, 438, 471, 474, 490, 519, 521, 574, 697, 712, 729, 730, 744, 755, 766, 778, 789, 796, 821, 837, 855, 869, 1299, 1301, 1318, 1394, 1395, 1471, 1502, 1507, 1511, and 1395.
- SWC-108 | State variable visibility is not set on lines 1251. It is best practice to set the visibility of state variables explicitly. The default visibility for "protections" is internal. Other possible visibility settings are public and private.
- SWC-110 | Out of bounds array access on lines 1394, 1395, 1395, 1472, dan 1476.

## CONCLUSION

We have audited the Cheems Token Coin which has released on January 2023 to discover issues and identify potential security vulnerabilities in Cheems Token Project. This process is used to find bugs, technical issues, and security loopholes that find some common issues in the code.

The security audit report produced satisfactory results with a low risk issue on the contract project.

The most common issue found in writing code on contracts that do not pose a big risk, writing on contracts is close to the standard of writing contracts in general. Some of the low issues that were found stated variable visibility is not set, and a floating pragma is set. We are commended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

# AUDIT RESULT

Article	Category	Description	Result
Default Visibility	SWC-100 SWC-108	Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously.	ISSUE FOUND
Integer Overflow and Underflow	SWC-101	If unchecked math is used, all math operations should be safe from overflows and underflows.	ISSUE FOUND
Outdated Compiler Version	SWC-102	It is recommended to use a recent version of the Solidity compiler.	PASS
Floating Pragma	SWC-103	Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.	PASS
Unchecked Call Return Value	SWC-104	The return value of a message call should be checked.	PASS
SELFDESTRUCT Instruction	SWC-106	The contract should not be self-destructible while it has funds belonging to users.	PASS
Check-Effect Interaction	SWC-107	Check-Effect-Interaction pattern should be followed if the code performs ANY external call.	PASS
Assert Violation	SWC-110	Properly functioning code should never reach a failing assert statement.	ISSUE FOUND
Deprecated Solidity Functions	SWC-111	Deprecated built-in functions should never be used.	PASS
Delegate call to Untrusted Caller	SWC-112	Delegatecalls should only be allowed to trusted addresses.	PASS
DoS (Denial of Service)	SWC-113 SWC-128	Execution of the code should never be blocked by a specific contract state unless required.	PASS
Race Conditions	SWC-114	Race Conditions and Transactions Order Dependency should not be possible.	PASS

Authorization through tx.origin	SWC-115	tx.origin should not be used for authorization.	PASS
Block values as a proxy for time	SWC-116	Block numbers should not be used for time calculations.	PASS
Signature Unique Id	SWC-117 SWC-121 SWC-122	Signed messages should always have a unique id. A transaction hash should not be used as a unique id.	PASS
Shadowing State Variable	SWC-119	State variables should not be shadowed.	PASS
Weak Sources of Randomness	SWC-120	Random values should never be generated from Chain Attributes or be predictable.	PASS
Incorrect Inheritance Order	SWC-125	When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/.	PASS

# SMART CONTRACT ANALYSIS

Started	Sun Jan 15 2023 05:46:31 GMT+0000 (Coordinated Universal Time)
Finished	Mon Jan 16 2023 06:40:31 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	cheems.sol

## Detected Issues

ID	Title	Severity	Status
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+=" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+=" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-=" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged



SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "++" DISCOVERED	low	acknowledged



# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 411

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
410     require(account != address(0), "ERC20: mint to the zero address");
411     _beforeTokenTransfer(address(0), account, amount);
412     _totalSupply += amount;
413     |
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 438

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
437     require(accountBalance >= amount, "ERC20: burn amount exceeds balance");
438     unchecked {
439         _balances[account] = accountBalance - amount;
440     }
441     _totalSupply -= amount;
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 471

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
470     emit Approval(owner, spender, amount);
471   }
472   /**
473    * @dev Updates `owner` s allowance for `spender` based on spent `amount`.
474    *
```

## SWC-101 | ARITHMETIC OPERATION "+=" DISCOVERED

LINE 474

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- cheems.sol

### Locations

```
473  /**
474  * @dev Updates `owner` s allowance for `spender` based on spent `amount`.
475  *
476  * Does not update the allowance amount in case of infinite allowance.
```

# SWC-101 | ARITHMETIC OPERATION "+=" DISCOVERED

LINE 490

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
489     unchecked {  
490         _approve(owner, spender, currentAllowance - amount);  
491     }  
492 }
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 519

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
518 * minting and burning.  
519 *  
520 * Calling conditions:  
521 *
```



## SWC-101 | ARITHMETIC OPERATION "-=" DISCOVERED

LINE 521

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- cheems.sol

### Locations

```
520  *  
521  * - when `from` and `to` are both non-zero, `amount` of ``from``'s tokens  
522  * has been transferred to `to`.
```

## SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 574

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- cheems.sol

### Locations

```
573  *  
574  * NOTE: Renouncing ownership will leave the contract without an owner,  
575  * thereby removing any functionality that is only available to the owner.  
576  */
```

# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 697

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
696  /**
697  * @dev Returns the multiplication of two unsigned integers, reverting on
698  * overflow.
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 712

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
711 * @dev Returns the integer division of two unsigned integers, reverting on
712 * division by zero. The result is rounded towards zero.
713 *
714 * Counterpart to Solidity's `/` operator.
```

## SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 729

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- cheems.sol

### Locations

```
728 * Counterpart to Solidity's `%` operator. This function uses a `revert`  
729 * opcode (which leaves remaining gas untouched) while Solidity uses an  
730 * invalid opcode to revert (consuming all remaining gas).  
731 *
```

## SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 730

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- cheems.sol

### Locations

```
729 * opcode (which leaves remaining gas untouched) while Solidity uses an
730 * invalid opcode to revert (consuming all remaining gas).
731 *
732 * Requirements:
```

# SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 744

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
743  * overflow (when the result is negative).  
744  *  
745  * CAUTION: This function is deprecated because it requires allocating memory for  
the error  
746  * CAUTION: This function is deprecated because it requires allocating memory for  
the error
```

# SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 755

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
754  uint256 a,  
755  uint256 b,  
756  string memory errorMessage  
757  ) internal pure returns (uint256) {
```



# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 766

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
765 * @dev Returns the integer division of two unsigned integers, reverting with custom
message on
766 * division by zero. The result is rounded towards zero.
767 *
768 * Counterpart to Solidity's `/` operator. Note: this function uses a
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 778

## low SEVERITY

Arithmetic operation "-" discovered

## Source File

- cheems.sol

## Locations

```
777     uint256 a,  
778     uint256 b,  
779     string memory errorMessage  
780 ) internal pure returns (uint256) {
```

## SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 789

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- cheems.sol

### Locations

```
788 * @dev Returns the remainder of dividing two unsigned integers. (unsigned integer  
modulo),  
789 * reverting with custom message when dividing by zero.  
790 *
```

## SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 796

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- cheems.sol

### Locations

```
795 * opcode (which leaves remaining gas untouched) while Solidity uses an
796 * invalid opcode to revert (consuming all remaining gas).
797 *
798 * Requirements:
```

# SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 821

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
820 * It is unsafe to assume that an address for which this function returns
821 * false is an externally-owned account (EOA) and not a contract.
822 *
823 * Among others, `isContract` will return false for the following
```

## SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 837

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- cheems.sol

### Locations

```
836  * Preventing calls from contracts is highly discouraged. It breaks composability,  
      breaks support for smart wallets  
837  * like Gnosis Safe, and does not provide security since it can be circumvented by  
      calling from a contract  
838  * constructor.  
839  * =====
```

# SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 855

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
854 * of certain opcodes, possibly making contracts go over the 2300 gas limit
855 * imposed by `transfer`, making them unable to receive funds via
856 * imposed by `transfer`, making them unable to receive funds via
857 * `transfer`. {sendValue} removes this limitation.
```

# SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 869

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
868 (bool success, ) = recipient.call{value: amount}("");
869 require(success, "Address: unable to send value, recipient may have reverted");
870 }
```



# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 1299

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
1298     developmentWalletAddress = account;
1299     _isExcludedFromFee[account] = true;
1300 }
1301 function setMarketingAddress(address account) public onlyOwner() {
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 1301

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
1300     _isExcludedFromFee[account] = true;
1301     }
1302     function setMarketingAddress(address account) public onlyOwner() {
1303         _marketingWalletAddress = account;
1304         _isExcludedFromFee[account] = true;
```

# SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 1318

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
1317     }  
1318     function reflectionFromToken(uint256 tAmount, bool deductTransferFee) public view  
returns(uint256) {  
1319     require(tAmount <= _tTotal, "Amount must be less than supply");  
1320     if (!deductTransferFee) {
```

# SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 1394

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
1393     }  
1394     function _getRValues(uint256 tAmount, TFees memory tfees, uint256 currentRate)  
private pure returns (uint256, uint256, uint256) {  
1395         uint256 rAmount = tAmount.mul(currentRate);  
1396         uint256 rFee = tfees.tax.mul(currentRate);
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 1395

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
1394 function _getRValues(uint256 tAmount, TFees memory tfees, uint256 currentRate)
private pure returns (uint256, uint256, uint256) {
1395     uint256 rAmount = tAmount.mul(currentRate);
1396     uint256 rFee = tfees.tax.mul(currentRate);
1397     uint256 rDevelopment = tfees.development.mul(currentRate);
```

# SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 1471

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
1470     require(from != address(0), "ERC20: transfer from the zero address");
1471     require(to != address(0), "ERC20: transfer to the zero address");
1472     require(amount > 0, "Transfer amount must be greater than zero");
1473     |
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 1502

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
1501  _transferStandard(sender, recipient, amount);  
1502  } else if (_isExcluded[sender] && _isExcluded[recipient]) {  
1503  _transferBothExcluded(sender, recipient, amount);  
1504  } else {
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 1507

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
1506     }  
1507     if(!takeFee)  
1508         restoreAllFee();  
1509     }
```



## SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 1511

### low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

### Source File

- cheems.sol

### Locations

```
1510 function _transferStandard(address sender, address recipient, uint256 tAmount)
private {
1511 (uint256 rAmount, uint256 rTransferAmount, uint256 rFee, uint256 tTransferAmount,
uint256 tFee, uint256 tDevelopment, uint256 tMarketing) = _getValues(tAmount);
1512 _rOwned[sender] = _rOwned[sender].sub(rAmount);
1513 _rOwned[recipient] = _rOwned[recipient].add(rTransferAmount);
```

# SWC-101 | COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED

LINE 1395

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- cheems.sol

## Locations

```
1394 function _getRValues(uint256 tAmount, TFees memory tfees, uint256 currentRate)
private pure returns (uint256, uint256, uint256) {
1395     uint256 rAmount = tAmount.mul(currentRate);
1396     uint256 rFee = tfees.tax.mul(currentRate);
1397     uint256 rDevelopment = tfees.development.mul(currentRate);
```

## SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 1251

### low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "inSwapAndLiquify" is internal. Other possible visibility settings are public and private.

### Source File

- cheems.sol

### Locations

```
1250 address public immutable uniswapV2Pair;  
1251 bool inSwapAndLiquify;  
1252 bool public swapAndLiquifyEnabled = true;  
1253 |
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1394

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- cheems.sol

### Locations

```
1393     }  
1394     function _getRValues(uint256 tAmount, TFees memory tfees, uint256 currentRate)  
private pure returns (uint256, uint256, uint256) {  
1395         uint256 rAmount = tAmount.mul(currentRate);  
1396         uint256 rFee = tfees.tax.mul(currentRate);
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1395

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- cheems.sol

### Locations

```
1394 function _getRValues(uint256 tAmount, TFees memory tfees, uint256 currentRate)
private pure returns (uint256, uint256, uint256) {
1395     uint256 rAmount = tAmount.mul(currentRate);
1396     uint256 rFee = tfees.tax.mul(currentRate);
1397     uint256 rDevelopment = tfees.development.mul(currentRate);
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1395

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- cheems.sol

### Locations

```
1394 function _getRValues(uint256 tAmount, TFees memory tfees, uint256 currentRate)
private pure returns (uint256, uint256, uint256) {
1395     uint256 rAmount = tAmount.mul(currentRate);
1396     uint256 rFee = tfees.tax.mul(currentRate);
1397     uint256 rDevelopment = tfees.development.mul(currentRate);
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1472

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- cheems.sol

### Locations

```
1471     require(to != address(0), "ERC20: transfer to the zero address");
1472     require(amount > 0, "Transfer amount must be greater than zero");
1473     uint256 contractTokenBalance = balanceOf(address(this));
1474     |
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1476

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- cheems.sol

### Locations

```
1475     uint256 contractTokenBalance = balanceOf(address(this));
1476     bool overMinTokenBalance = contractTokenBalance >= numTokensSellToAddToLiquidity;
1477     if (
1478         overMinTokenBalance &&
1479         |
```



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This is a limited report on our findings based on our analysis, in accordance with good industry practice as of the date of this report, in relation to cybersecurity 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. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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