



Smart contracts security assessment

Final report

[Tariff: Standard](#)

Xpense

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Introduction

The report has been prepared for **Xpense**.

Xpense (XPE) is an ERC-20 standard token without any additional functionality. The token has no mint functionality, no taxes.

The contract is available at [0x88691f292b76Bf4D2CAa5678A54515fAE77c33AF](https://www.bscscan.com/address/0x88691f292b76Bf4D2CAa5678A54515fAE77c33AF) in the BNB Smart Chain.

Name	Xpense
Audit date	2023-11-19 - 2023-11-22
Language	Solidity
Platform	Binance Smart Chain

Contracts checked

Name	Address
StandardToken	0x88691f292b76Bf4D2CAa5678A54515fAE77c33AF

Procedure

We perform our audit according to the following procedure:

Automated analysis

- Scanning the project's smart contracts with several publicly available automated Solidity analysis tools
- Manual verification (reject or confirm) all the issues found by the tools

Manual audit

- Manually analyze smart contracts for security vulnerabilities
- Smart contracts' logic check

Known vulnerabilities checked

Title	Check result
<u>Unencrypted Private Data On-Chain</u>	passed
<u>Code With No Effects</u>	passed
<u>Message call with hardcoded gas amount</u>	passed
<u>Typographical Error</u>	passed
<u>DoS With Block Gas Limit</u>	passed
<u>Presence of unused variables</u>	passed
<u>Incorrect Inheritance Order</u>	passed
<u>Requirement Violation</u>	passed
<u>Weak Sources of Randomness from Chain Attributes</u>	passed
<u>Shadowing State Variables</u>	passed
<u>Incorrect Constructor Name</u>	passed
<u>Block values as a proxy for time</u>	passed
<u>Authorization through tx.origin</u>	passed
<u>DoS with Failed Call</u>	passed
<u>Delegatecall to Untrusted Callee</u>	passed
<u>Use of Deprecated Solidity Functions</u>	passed
<u>Assert Violation</u>	passed
<u>State Variable Default Visibility</u>	passed
<u>Reentrancy</u>	passed

<u>Unprotected SELFDESTRUCT Instruction</u>	passed
<u>Unprotected Ether Withdrawal</u>	passed
<u>Unchecked Call Return Value</u>	passed
<u>Floating Pragma</u>	passed
<u>Outdated Compiler Version</u>	passed
<u>Integer Overflow and Underflow</u>	passed
<u>Function Default Visibility</u>	passed

Classification of issue severity

High severity	High severity issues can cause a significant or full loss of funds, change of contract ownership, major interference with contract logic. Such issues require immediate attention.
Medium severity	Medium severity issues do not pose an immediate risk, but can be detrimental to the client's reputation if exploited. Medium severity issues may lead to a contract failure and can be fixed by modifying the contract state or redeployment. Such issues require attention.
Low severity	Low severity issues do not cause significant destruction to the contract's functionality. Such issues are recommended to be taken into consideration.

Issues

High severity issues

No issues were found

Medium severity issues

No issues were found

Low severity issues

No issues were found

Conclusion

Xpense StandardToken contract was audited. No severity issues were found.

Disclaimer

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This report should not be used in any way to make decisions around investment or involvement with any particular project. This report in no way provides investment advice, nor should be leveraged as investment advice of any sort. This report represents an extensive assessing process intending to help our customers increase the quality of their code while reducing the high level of risk presented by cryptographic tokens and blockchain technology.

Slither output

```

INFO:Detectors:
StandardToken.constructor(string,string,uint8,uint256,address,uint256).serviceFeeReceiver_ (contracts/StandardToken.sol#57) lacks a zero-check on :
    - address(serviceFeeReceiver_).transfer(serviceFee_) (contracts/
StandardToken.sol#67)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#missing-zero-address-validation
INFO:Detectors:
StandardToken._burn(address,uint256) (contracts/StandardToken.sol#317-328) is never used and should be removed
StandardToken._setupDecimals(uint8) (contracts/StandardToken.sol#362-364) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code
INFO:Detectors:
Pragma version=0.8.4 (contracts/StandardToken.sol#32) allows old versions
solc-0.8.4 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity
INFO:Detectors:
Variable StandardToken._totalSupply (contracts/StandardToken.sol#50) is too similar to StandardToken.constructor(string,string,uint8,uint256,address,uint256).totalSupply_ (contracts/StandardToken.sol#56)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#variable-names-too-similar
INFO:Slither:. analyzed (10 contracts with 88 detectors), 6 result(s) found

# Check StandardToken

## Check functions
[☒] totalSupply() is present
    [☒] totalSupply() -> (uint256) (correct return type)
    [☒] totalSupply() is view
[☒] balanceOf(address) is present
    [☒] balanceOf(address) -> (uint256) (correct return type)
    [☒] balanceOf(address) is view
[☒] transfer(address,uint256) is present
    [☒] transfer(address,uint256) -> (bool) (correct return type)

```

```
[X] Transfer(address,address,uint256) is emitted
[X] transferFrom(address,address,uint256) is present
    [X] transferFrom(address,address,uint256) -> (bool) (correct return type)
    [X] Transfer(address,address,uint256) is emitted
[X] approve(address,uint256) is present
    [X] approve(address,uint256) -> (bool) (correct return type)
    [X] Approval(address,address,uint256) is emitted
[X] allowance(address,address) is present
    [X] allowance(address,address) -> (uint256) (correct return type)
    [X] allowance(address,address) is view
[X] name() is present
    [X] name() -> (string) (correct return type)
    [X] name() is view
[X] symbol() is present
    [X] symbol() -> (string) (correct return type)
    [X] symbol() is view
[X] decimals() is present
    [X] decimals() -> (uint8) (correct return type)
    [X] decimals() is view

## Check events
[X] Transfer(address,address,uint256) is present
    [X] parameter 0 is indexed
    [X] parameter 1 is indexed
[X] Approval(address,address,uint256) is present
    [X] parameter 0 is indexed
    [X] parameter 1 is indexed

[X] StandardToken has increaseAllowance(address,uint256)
```



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