TEST REPORT

OF SMART MANHOLE COVER

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# Introduction

## Purpose

This SMART HAMHOLE COVER test report provides a summary of the results of test performed as outlined within this document.

# Test Environment

Operating System: Windows 10.

Software: Arduino IDE.

Test Server: Aliyun IoT platform.

# Test summary

The test performed include unit test, integration test and system test of the project, including functions of each unit, and the communication of units.

## Unit test

Unit Name: Humidity Sensor

Test Date: 4/11/2021

Test Result: OK

Unit Name: Temperature Sensor

Test Date: 4/11/2021

Test Result: OK

Unit Name: Water Level Sensor

Test Date: 4/11/2021

Test Result: Not OK

## Integration test

The connection between Arduino and IoT platform

Test Date: 4/11/2021

Test Result: OK

## System test

The overall functionality of the system

Test Date: 4/11/2021

Test Result: Partially OK

# Test assessment

The document did not perform a complete test of the project, due to the incompleteness of the project. The unit test of Arduino part, the integration test of the connection between Arduino and IoT platform are completed. However, the application part remain to be completed.

# Test results

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Unit** | **Number of Test** | **Number of Success** | **Number of Failure** | **Error Description** |
| **Humidity Sensor** | **10** | **10** | **0** |  |
| **Temperature Sensor** | **10** | **10** | **0** |  |
| **Water Level Sensor** | **10** | **9** | **1** | **The water level is high, while it should be empty** |

The result shows that the units work well, except the water level sensor. It occasionally perform wrong detection information. The reason is possibly the low precision.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Integration** | **Number of Test** | **Number of Success** | **Number of Failure** | **Error Description** |
| **Connection between Arduino and IoT platform** | **10** | **10** | **0** |  |

The result shows that the connection between Arduino unit and IoT platform is firm.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **System** | **Number of Test** | **Number of Success** | **Number of Failure** | **Error Description** |
| **Information Perform of IoT devices** | **10** | **10** | **0** |  |

The result shows that the function of performing IoT information works well.

# Suggested actions

Since the project is not completely built, some units are not tested in the document, include the application and the connection between it and the IoT platform. So the first goal is to finish these units, and build connections. Besides, the error appeared in the test: The water level detection, also need to be focused. A solution could be replacing the water level sensor with a new one.