**Product Requirements Document**

**RFID Card read/write**

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# **Overview**

RFID Card read/write is used to read and write RFID card (IC card) which has wide applications in many fields. RFID Card read/write has 4 modes: OFF, READ, WRITE and LOAD. The RFID Card read/write can connect to a webserver or a website (through wifi) to write activity log and load ID as well. The modes can be chosen by a dip switch and the options in one mode can be chosen by buttons.

# **Product Requirements**

### **Hardware Design**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Feature/Characteristic** | **Product Requirements** | **Technical/Engineering Specifications** | **Comments** |
| I.1 | Visual Interface | Shall have an LCD display |  |  |
| I.2 | Connectors | Shall have a USB-C port |  |  |
| I.3 | Communication | Shall have a module wifi and a module RFID reader and writer card |  |  |
| I.4 | Interact | Shall have at least 5 buttons, and a dip switch (2 channels) |  | Buttons for choosing IDs (5 IDs)written and dip switch for choosing modes |
| I.5 | Interrupt | Shall have a buzzer |  | Ring when done read/write function |

### **Display Screen**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Feature/Characteristic** | **Product Requirements** | **Technical/Engineering Specifications** | **Comments** |
| II.1 | Always On | The display shall always show:   * IDs * Menu and message |  |  |
| II.2 | Display Controls | Display shall be enabled with the following controls:   * ON/OFF * Settings (to change to mode read or write) |  | In read mode, show the previous ID, write mode, show at least previous 5 IDs for user choose the ID written |

### **Connectivity**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Feature/Characteristic** | **Product Requirements** | **Technical/Engineering Specifications** | **Comments** |
| III.1 | WiFi Frequency Bands | Shall operate on 2.4GHz |  |  |
| III.2 | Support protocol | Shall have UARST protocol for checking or saving data |  | In case, transfering data via wifi does’t work |

### **Power**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Feature/Characteristic** | **Product Requirements** | **Technical/Engineering Specifications** | **Comments** |
| IV.1 | Power | Shall operate with 9V DC supply |  | 9V adapter |

### **Durability**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Feature/Characteristic** | **Product Requirements** | **Technical/Engineering Specifications** | **Comments** |
| V.1 |  |  |  |  |

### **Out of Box Experience (OOBE)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Feature/Characteristic** | **Product Requirements** | **Technical/Engineering Specifications** | **Comments** |
| VII.1 | Software/Firmware | Shall Read/Write function response under 3s  Shall full process (read/write + save log) under 5s |  |  |
| VII.2 | Data Storage | IDs data and working history shall be saved on the computer |  | IDs will be saved on the excel file and history will save at log file |
| VII.2 | Data Storage | A instantaneous ID shall be saved on the EEPROM of KIT |  |  |
| VII.3 | Distance | Shall recognize RFID card under 5cm distance |  |  |

### **Security & Privacy**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Feature/Characteristic** | **Product Requirements** | **Technical/Engineering Specifications** | **Comments** |
| VIII.1 | Password Protection | Shall utilize encryption and not expose WiFi and account credentials of the user |  |  |