SR5 Utility User Manual

2021/3/4
Version:1.0.0

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Contents

1. Installation

1.1. System Requirements

- Windows XP/7/10
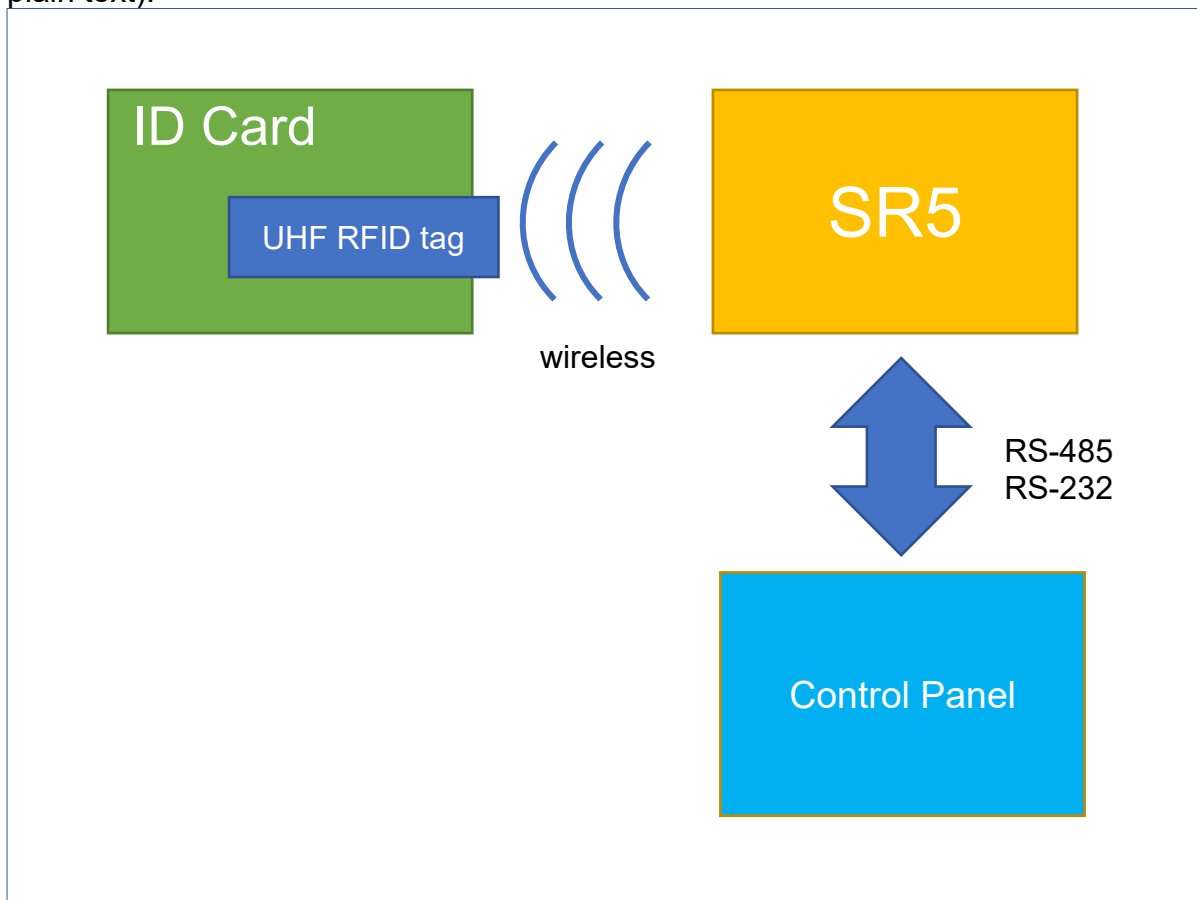- .NET Framework 4.0

1.2. Install SR5 Utility

1. Download the executable from [Disk5472](#).

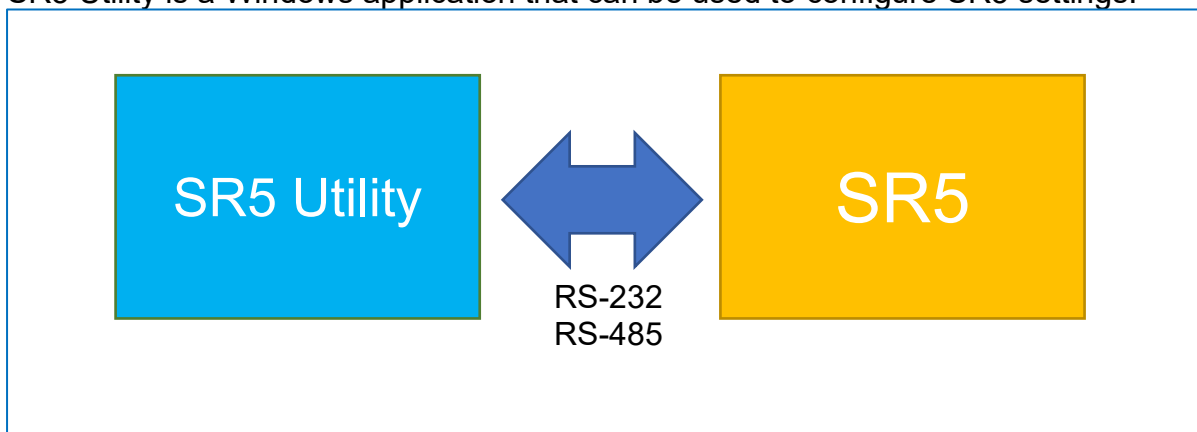2. Double-click SR5_Utility.exe to execute the application.

2. Getting started

2.1. Communication

SR5 is an UHF RFID reader that can inventory UHF tags. Read tag data can be sent via multiple interfaces (RS-485 and RS-232) and protocols (OSDP, Wiegand, GNetPlus and plain text).

SR5 Utility is a Windows application that can be used to configure SR5 settings.

2.2. Terminologies

UHF

Ultra high Frequency RFID that communications at 860 MHz – 960 MHz.

RFID

Radio-frequency identification that can be used to track tags attached to goods.

Reader

A reader transmits information to a tag by an RF signal. The tag receives both information and operating energy from this RF signal.

Tag

An RFID tag is a small circuit that can attach to goods or ID cards so RFID readers can inventory them. Tags are passive, meaning that they receive all their operating energy from the Interrogator's RF signal.

Inventory

The process of a RFID reader scan and identify a tag.

EPC

Electronic Product Code, part of the tag memory.

TID

Tag-identification, part of the tag memory.

User memory

Part of the tag memory. It is optional.

OSDP

Open Supervised Device Protocol (OSDP) is an access control communications standard developed by the Security Industry Association (SIA).
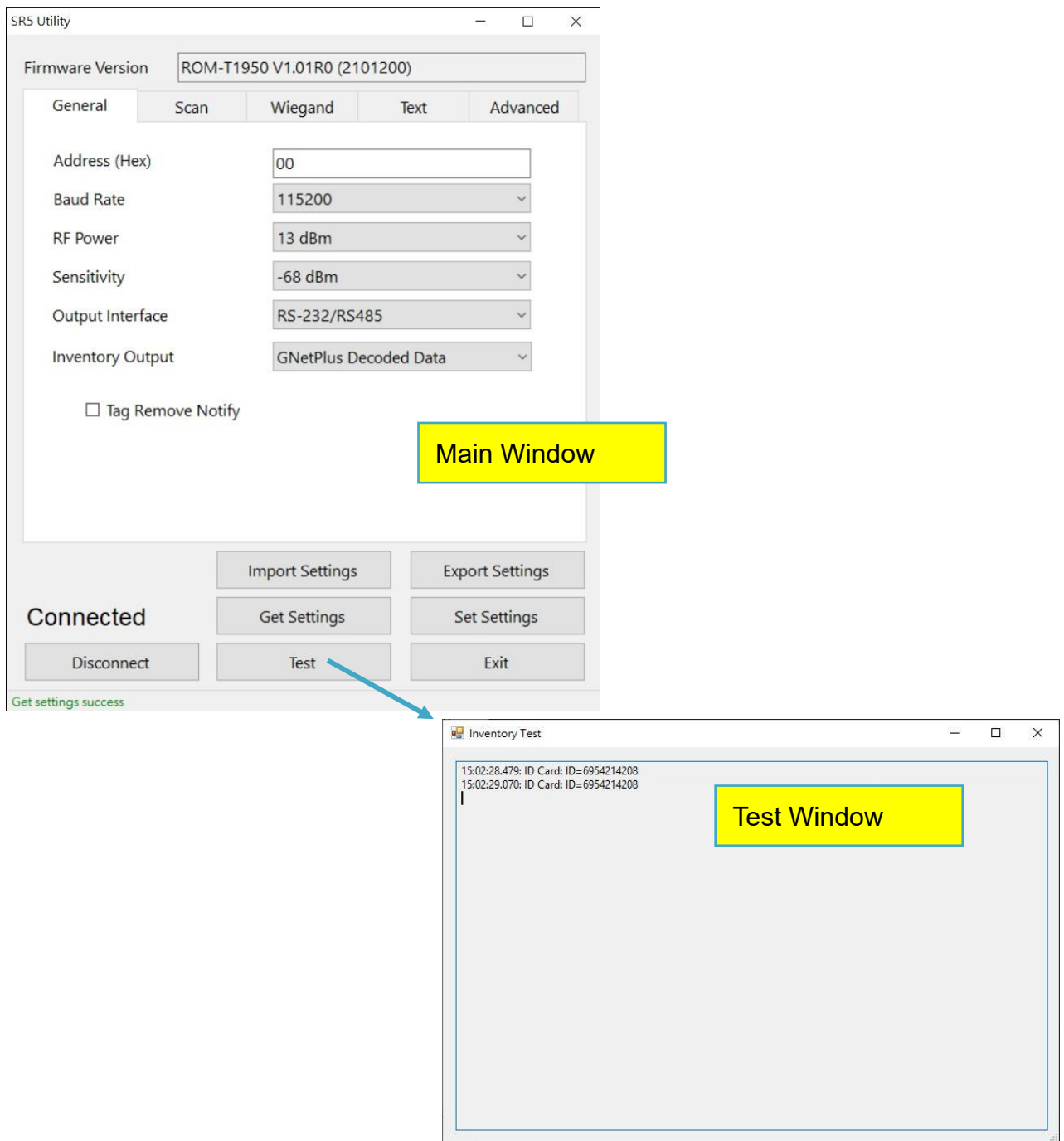
GNetPlus

A communication protocol used by GIGA-TMS.

Wiegand

A communication protocol and interface used by many card readers.

3. SR5 Utility User Interface
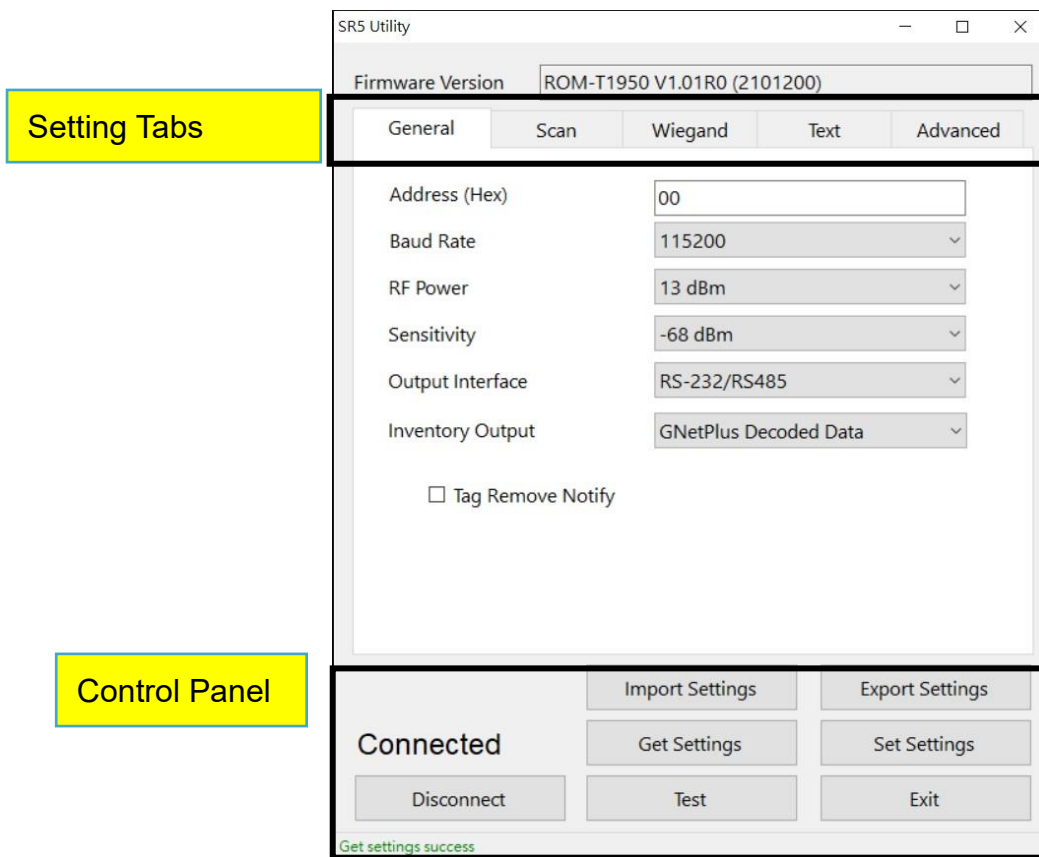
3.1. Layout Overview

Main Widow
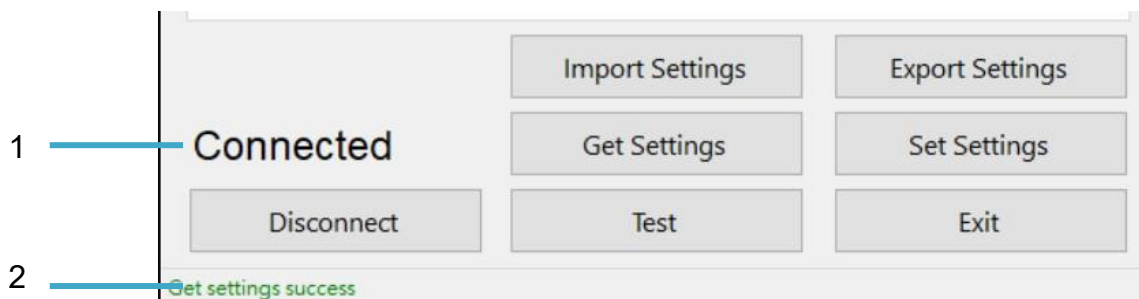Main settings and functions.

Test Window
Test whether SR5 inventory output is as expected.
Test Wiegand output is not supported.

3.2. Main Window

3.2.1. Control Panel

Connection State (1)
> SR5 connection state.

Status Bar (2)
> The result of last operation.

Connect / Disconnect:
> Connect or disconnect SR5.

Import Settings
> Import settings from file to UI.

Export Settings
> Export settings on UI to file.

Get Settings
> Read settings from SR5 and show them on UI.

Set Settings
>Write settings on UI into SR5.

Exit
>Exit the application.

3.2.2. General Tab

Address (Hex)
>RS-485 Address used by OSDP protocol.

Baud Rate
>RS-485 or RS-232 Baud settings.

RF Power
>The strength of radio frequency power.

Sensitivity
>Affect how reader distinguishes signal from noise. SR5 is more sensitive to RF signals but also more likely to consider noise as a signal if sensitivity is high.

Output Interface
- Wiegand
  >(Wiegand) Output to Wiegand interface.
- Multi RS-485
  >(GNetPlus) Output to RS-485 interface. SR5 will response only to polling.
- RS-232/RS-485
  >(GNetPlus) Output to RS-232 or RS-485 interface.
- Wi-Fi
  >Not supported.
- Auto
  >(OSDP, GNetPlus) Output to interfaces determined automatically by the system.

Note

Select **Auto** if you are using OSDP protocol to control SR5.

Inventory Output
- GNetPlus Decoded Data
  >Output with GNetPlus protocol, decoded data format. Ex: SGTIN-96, UDC, …
  - ■ Tag Remove Notify
    >Whether to be notified when tags are removed.
- GNetPlus Raw Data
  >Output with GNetPlus protocol, raw data format. PC and EPC will always be output. TID and User Bank are optional.

- **■ Tag Remove Notify**
  Whether to be notified when tags are removed.
- **■ Output TID**
  Whether to output TID data.
- **■ Output User Bank**
  Whether to output User Bank data.
- **● Plain Text**
  Output ASCII bytes without any protocol.
  - **■ Output Field 1**
    - **◆ Disabled**
      Skip this field.
    - **◆ EPC**
      Output EPC
    - **◆ PC+EPC**
      Output PC and EPC.
    - **◆ PC+EPC with Tag Remove Notify**
      Output PC, EPC and will be notified when tags are removed.
  - **■ Output TID**
    Whether to output TID field.
  - **■ Output User Bank**
    Whether to output User Bank field.

> **Note**
> Select **GNetPlus Decoded Data** and **Tag Remove Notify** if you are using OSDP protocol to control SR5.

3.2.3. Scan Tab

Inventory settings.
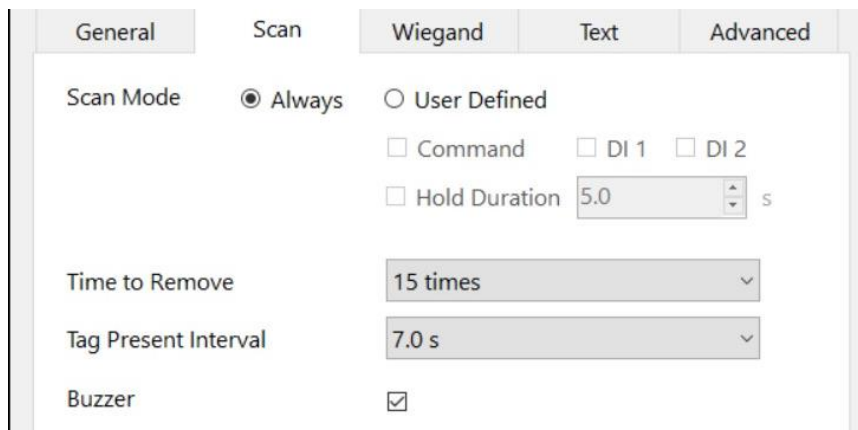
Scan Mode
Inventory condition.
- **● Always**
  Always inventory in auto mode.
- **● User Defined**
  Inventory is triggered by one of the following conditions.
  - **■ Command**
    Inventory is triggered by a trigger active command.
  - **■ DI1, DI2**
    Inventory is triggered when digital 1 or 2 is active.
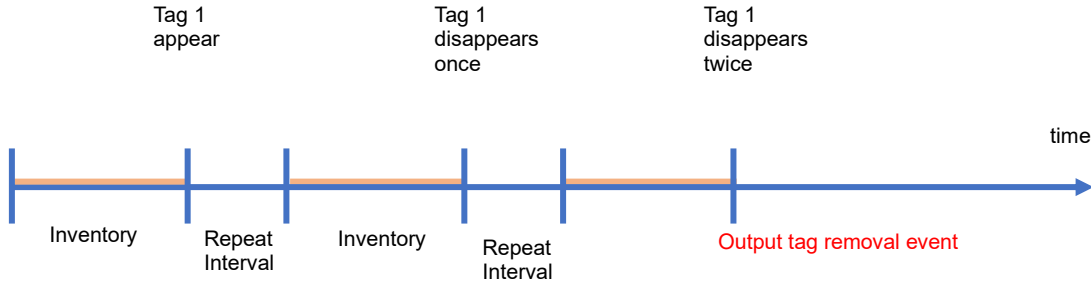
- Hold Duration

    If selected, SR5 will inventory after triggered for the specified duration before it stops inventory automatically.

    If not selected, SR5 will inventory indefinitely when trigger conditions are still active.
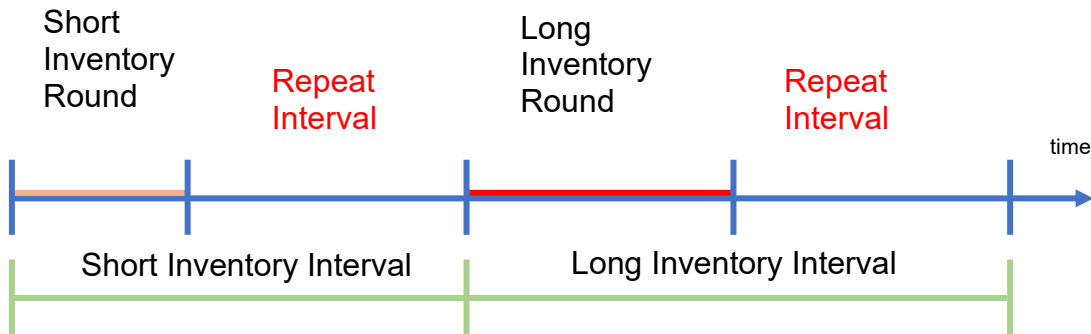
Time to Remove

If Time to Remove is set to 2, SR5 will output a tag removal event when an inventoried tag failed to inventory twice.

Time to Remove = 2

Tag Present Interval

Waiting time between each inventory round. It is not an absolute inventory time interval because of an inventory round may take longer or shorter.

Buzzer

Whether to active buzzer when tag is inventoried.

3.2.4. Wiegand Tab

Wiegand output format settings.

Wiegand Start Bit / Wiegand Bit Length
Wiegand trim settings. Count from the right to left, only bits between start bit and bit length will be output.

3.2.5. Text Tab

Plain text output settings.

Raw Data Preprocess
When a tag is inventoried, the EPC bytes will be converted to bits and then trimmed.
Count from right to left, only bits between Trim Start Bit and Total Bit Count will be passed to next step.

Output
The Raw Data Preprocess data bits will be converted to text, padded, and trimmed before output.
- Number Base
    Convert the output number to decimal or hexadecimal number text.
- Trim Start Text/ Total Text Length
    After converted to decimal (or hexadecimal) text, count from right to left, excess characters will be trimmed.
- Pad zeros on left side
    If the text is shorter than Total Text Length (without leading zeros), pad zeros on the left side.
- Trim text on left side
    If the text is longer than Total Text Length (without leading zeros), trim characters on the left side.

3.2.6. Advanced Tab

Tamper and regulation settings.

General	Scan	Wiegand	Text	Advanced

G Sensor   ☐

G Sensor Threshold   0

Profile   USA (902.75 ~ 927.25 MHz)

902.75	903.25	903.75	904.25	904.75	905.25	905.75
906.25	906.75	907.25	907.75	908.25	908.75	909.25
909.75	910.25	910.75	911.25	911.75	912.25	912.75
913.25	913.75	914.25	914.75	915.25	915.75	916.25
916.75	917.25	917.75	918.25	918.75	919.25	919.75
920.25	920.75	921.25	921.75	922.25	922.75	923.25
923.75	924.25	924.75	925.25	925.75	926.25	926.75
927.25						

G Sensor
> Whether to enable the tamper alarm sensor. If enabled, SR5 will alarm with buzzer when acceleration exceeds the specified value.

G Sensor Threshold
> The acceleration alarm threshold value.

Profile
> UHF RFID frequency regulations. This setting is read-only.

4. Revision History

- 2021/03/04

  Version: 1.0.0