SPI - Security & Protection International

RFP-1
User Manual
rev 1.0

FCC statements:
"This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation."
"Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment."

IC Statements:
"This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device."
"Cet appareil est conforme avec Industrie Canada exempts de licence standard RSS (s). Son fonctionnement est soumis aux deux conditions suivantes: (1) cet appareil ne doit pas provoquer d'interférences et (2) cet appareil doit accepter toute interférence, y compris celles pouvant causer un mauvais fonctionnement de l'appareil."

Revision history

Date	Version	Description	Author
September 9th, 2015	1.0	First draft, based upon engineering's SRS	N. Defayette

Table of contents

1. Introduction

The goal of this document is to provide an overview of all parameters available in the RFID tags.

2. User interface

SPI Tags Setter (Figure **1**) is the application to do all programming of the tags's parameter, via the programmer (RFP-1). Before you start the application, be sure that the RFP-1 is connected in a USB port and that the drivers are properly installed. This will be done automatically upon first connection, and may take about one minute. Here is a screenshot showing all parameters. Some are read/write, some are read-only.

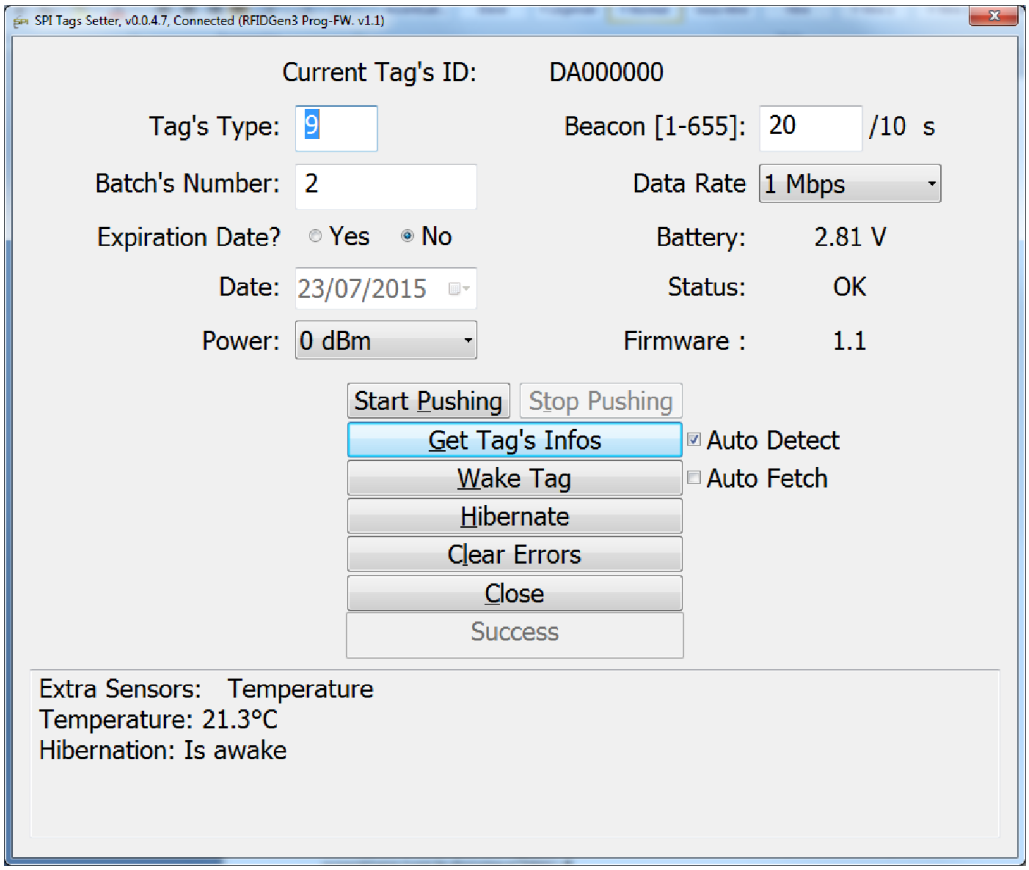

Figure 1 : **SPI Tags Setter application**

Description of fields and buttons

FIELDS

Title bar	Displays software and firmware version numbers, and connection status.
Tag's ID	Tag's unique identifier, like as serial number. 32 bit long. Read-only.
Tag's Type	The type is programmable by the user and is used to categorize the equipment it is attached to. Possible values are from 0 to 254.
Beacon	The delay between RF signals emitted by the tag. This is in thenth of a second, and programmable by user.
Batch's Number	Used internally by SPI to trace the manufacture of the tag, and ensure quality. Read-only.
Data Rate	Air bit rate, over RF. This is read-only and fixed at 1Mbps.
Expiration Date	User-programmable date, typically used by the host system to notify the operator that the asset should be retired, or its maintenance is due. Note that this date does not relate to the tag itself, but the asset on which it is affixed.
Battery	Battery level in volts. Read-only. A tag will become erratic when it battery goes below 1,9V.
Status	Indicator of the tag's internal states. Ideally, sanity should be confirmed, but some errors could appear, and in this case, the lowest pane of the screen will have more detailed information. Read-only.
Firmware	Tag's firmware revision number. Read-only.
Power	RF power level during transmission of the beacon. Values range from -18 up to 0 dBm, in four steps. User configurable. This will affect how far the tag can be detected by the antenna, and also the battery duration but very marginally.
Status bar	This field is below the Close button, and indicates the outcome of the last operation requested.
Description bar	The lowest pane of the screen is used to display complemenatry information about the tag's status, internal states, and options intalled. Read-only.

BUTTONS

Start Pushing	Initiates a writing sequence to the tag, using the information contained in each field of the screen. The user may continue with other tags in sequence, until he decides to explicitly terminate the session by pressing the "Stop Pushing" button.
Stop Pushing	Manual termination of a tag writing session.
Get Tag's Infos	To fetch all of the tag's information.
Wake Tag	Brings a tag out of hibernation state.

Hibernate Sends a command to the tag to put it in hibernation mode. This allows complete muting of any RF emission, and also for the lowest possible battery consumption. Only a Wake Tag command can bring it out of this state.

Clear Errors Re-initializes the internal error counters, if any.

Auto Detect When checked, the application will automatically detect a tag and display its minimal informations, which are its ID and firmware version. Now the rest of the screen will remain unchanged. This is convenient when the user wants to program several tags in an uninterrupted sequence, without having to re-enter all paramters each time.

Auto Fetch This option is only available when Auto Detect is active, and will automatically trigger a Get Tag's Infos action. This forces a complete reading of the tag's parameters, as soon as the programmer detects it. All fields on the screen will now reflect the tag's contents.