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03/06/2016

INFORMATIONS & INSTRUCTIONS AND TEST SETUP

PROX'N'ROLL HSP

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1. PRODUCT DESCRIPTION

1.1. ABSTRACT

Prox'N'Roll is a versatile 13.56 MHz contactless USB smartcard reader and encoder for PC/Laptop. It reads and writes all ISO 14443 compliant contactless smartcards within a distance from 0 to 5 cm.

ProxN'Roll is used as a USB contactless smartcard reader.

It supports USB full speed (12Mbps) and fastest smartcard baud rate (up to 424kbps). Prox'N'Roll is directly powered by the PC/Laptop through its USB connection.

Prox'n'Roll generates a RF field permanently and uses inductive coupling (magnetic field) to power the smartcards and communicate with them using AM modulation. The ID tag answer is demodulated and decoded by the Prox'N'Roll and sent to the PC/Laptop.

Prox'N'Roll has three different LED lightning circuits (blue, green, red) integrated. These LEDs are used as status indicators :

Blue Led blinking : Prox'N'Roll is fully operational, connected and recognized by laptop

Green Led : the TAG had been read successfully

Red Led : an error occurred during reading or writing operation of the tag

A buzzer indicating the presence of a Tag the RF field.



1.2. TECHNICAL DESCRIPTION

Name :	Prox'N'Roll HSP
Part number	FPF14294-AD
Power supply :	5V +/-10%
	Device is powered by a limited power source
	In accordance with EN 60950-1:2006.
Current consumption :	typ : 200mA - Max :250mA
Operating temperature :	-20 / +70°C
Storage temperature:	-40 / +85°C
Weight:	80gr
Length cable:	300mm
Overload protection:	Transil 5V on power line
ESD protection:	On power line and data line
	15kV (air discharge)
	8kV (contact discharge)
Mechanical	UL-HB class
RoHS compliance	

1.3. CAUTION TO USER

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

Do not repeat electrical connection may cause device damage.

Intentional Radiator informations

Frequency range : 13.56Mhz – AM modulation 106 – 424kbps

Antenna : integrated

Local oscillator: 27,12Mhz – 12Mhz .

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
- (2) This device must accept any interference received, including interference that may cause undesired operation

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

FCC Compliance Statement according to Section 15.105 (b):

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

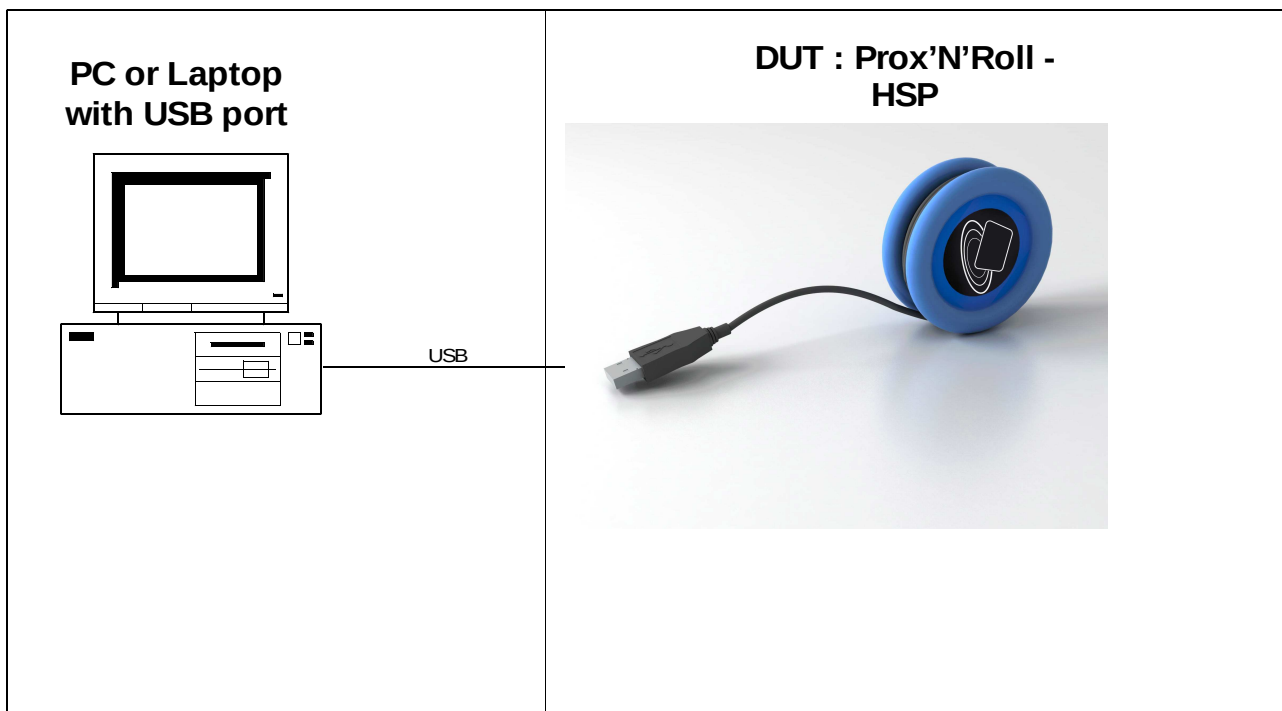
However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

2. INSTRUCTION TEST SETUP

2.1. TEST DIAGRAM OPERATION



2.2. PREREQUISITES

- Laptop with windows XP or Windows Seven (32 or 64 bits)
- Springcard Driver : <http://www.springcard.com/en/download/drivers>
 - CSB6 Family : Legacy USB Driver SDD470-BA.exe
 - PCSC Driver for windows : SDD480-BB.exe
- serial port terminal like:
hyperterminal or hercule: http://www.hw-group.com/products/hercules/index_en.html

- QuickStart for PC/SC : sq13163-AB
<http://www.springcard.com/en/download/software>

2.3. INSTRUCTION FOR TEST SETUP WITH PERMATLY RF FIELD

2.3.1. Legacy mode setup

In PC/SC mode the RF fields can't be setup up to be permantly. The product must be configuring in legacy mode to make measurement with permantly rf field activated.

The fields will be controlled by ASCII command.

The PC/SCor legacy mode of Prox'N'RoLL is controlled by internal config register. By default the product is in PC/SC Mode:

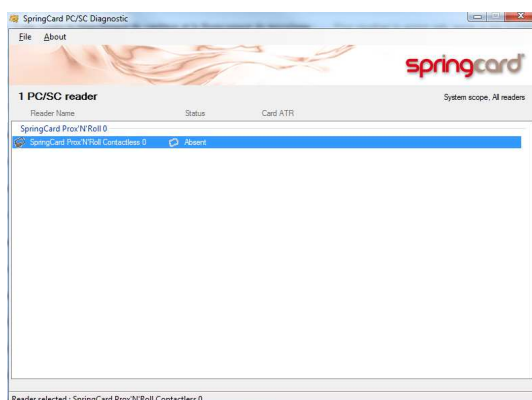
register /value

C0 = 01 : legacy mode

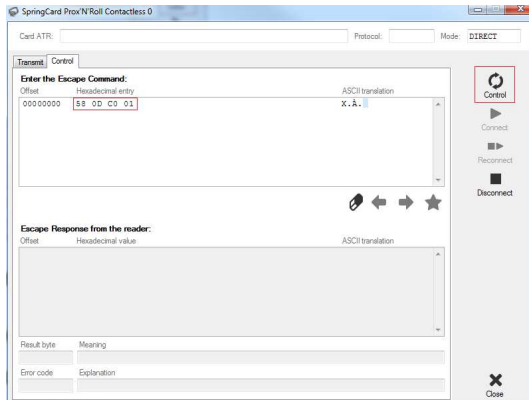
C0 = 02 : PC/SC Mode

2.3.2. Connecting product to laptop

- Install Legacy and PC/SC USB Driver on laptop.
- Connect USB interfaces to laptop with usb cable.
- Launch PCSC diagnostic utility



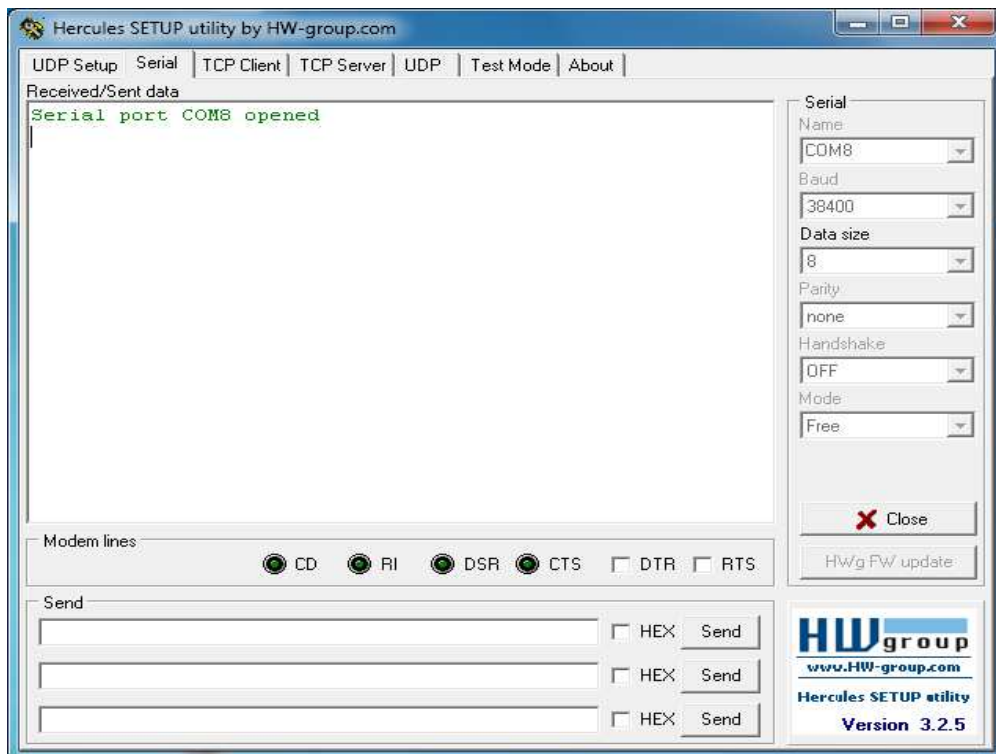
double click on **SringCard Prox'N'Roll Contactless 0**



Tape hexadecimal entry 58 0D C0 01 and click on Control



- Reset product (disconnect and reconnect the product).
- in panel configuration, check com port used (COMx)
 - ▶ Périphérique d'acquisition d'images
 - ▶ Périphériques d'interface utilisateur
 - ▶ Périphériques système
 - ▶ Ports (COM et LPT)
 - ▶ PCI Express UART Port (COM4)
 - ▶ USB Serial Port (COM8)
 - ▶ Processeurs
 - ▶ Souris et autres périphériques de pointage
 - ▶ Virtualisation USB
- in this case, the laptop use the com port "COM8".
- Launch serial port terminal. (38400,8bits,No parity,1 stop, without flow control).



- Check communication with product to test
type "info"
the product must answerd :

SpringCard Prox'N'Roll

Serno: 081969CD

Firmware:

H663 (H663) 2.04

Build 2.05_begin-6-g33811a25 (johann 160314 1728)

Features 0073232F

RFID/NFC:

Lib SpringProx v16.03 for RC663

Antenna 1*S (balanced)

SmartCard:

Lib Iso7816 v15.10 by ABC SmartCard

USB: VCP CCID

Serial: Bin ASC Sep.RX/TX

CPU: AVR32UC3B @60MHz (Gcc) powered by FreeRTOS

LEDs:1240 1 80

2.3.3. Activated RF Field without modulation.

By default the rf_field is not activated after power on.

- Present Desfire or mifare TAG in front of antenna.
- Type "tag"
the product aswred its serial number : A 0002 96913DF6 18
in this way , the rf_fiel is activated without modulation

2.3.4. Activated RF Field with modulation

- With Desfire or Mifare Tag in front of antenna
- Type "polla"
the tag aswred its serial number all time is present in front of antenna
|A 04766B39D51B80
:A 04766B39D51B80
|A 04766B39D51B80
:A 04766B39D51B80
|A 04766B39D51B80

in this way , the rf_fiel is activated with modulation .

- To leave this mode, type "esc"

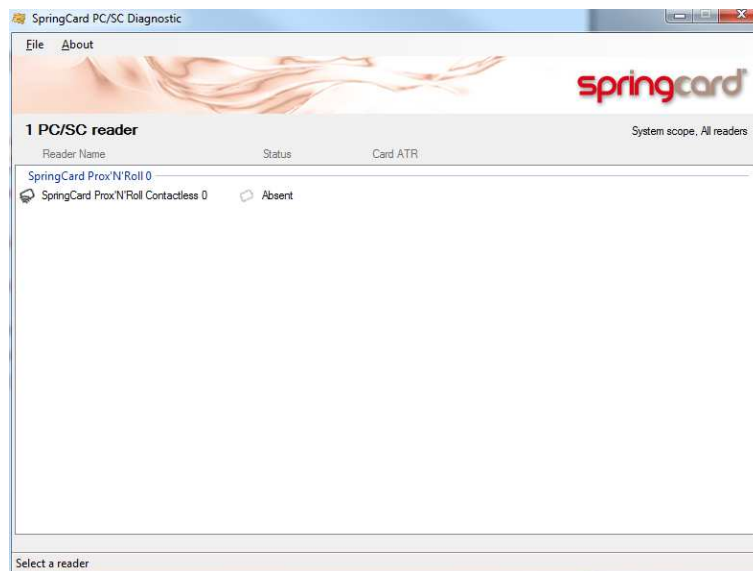
2.3.5. Manually RF Field management

- Type RF_ON : the RF Field is power on with out modulations
- Type RF_OFF: RF Field is power off.

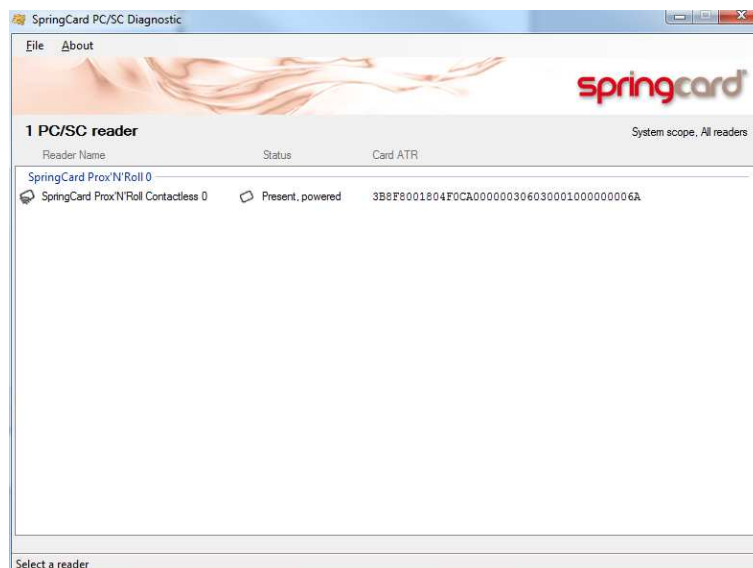
2.4. INSTRUCTION FOR TEST SETUP IN PC/SC MODE

2.4.1. PC/SC mode setup

- With serial port terminal, type “cfgC0=02”
- Reset product (disconnect and reconnect the product).
- Launch PCSC diagnostic application:



- Put the tag mifare or desfire in front of antenna:



in this case , the rf_fiel is activated with modulation in its final application.

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