INDUSTRIAL PASSPORT STATION (2 HEADS, 4 HEADS)
PST-STAT-2
PST-STAT-4
USER MANUAL
INDUSTRIAL PERSONALIZATION READER FOR SMART CARDS

V1R01a

Date: June 2018

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Table of Content

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1 ABBREVIATIONS AND SYMBOLS

BPSK	Binary Phase-Shift Keying
CPU	Central Processing Unit
ETU	Elementary Time Unit
EUT	Equipment Under Test
FCC	Federal Communications Commission
IEC	International Electrotechnical Commission
ISO	International Standards Organization
LAN	Local Area Network
n/a	Not Applicable or Not Available
NRZ	Non-Return to Zero
P/N	Part Number
PCB	Printed Circuit Board
PICC	Proximity Integrated Circuit Card
RF	Radio Frequency
RFID	Radio Frequency IDentification
S/N	Serial Number
OOK	On-Off Keying.

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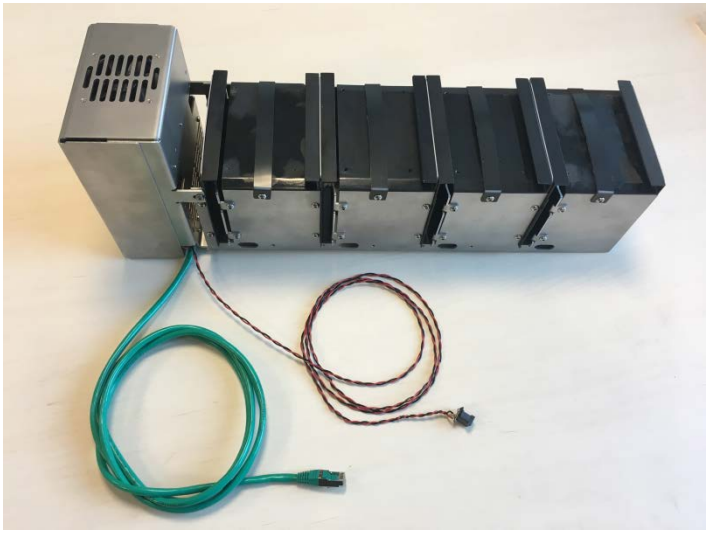
2 OVERVIEW

The Industrial Passport Stations PST-STAT-2 and PST-STAT-4 are two-head and four-head smartcard readers dedicated to personalization of smart cards in an industrial environment.



Contactless interfaces features

Supported Protocols:

- ISO/IEC 14443 (parts 2, 3 and 4)
- MasterCard PayPass
- Sony FeliCa™
- NXP MIFARE™ and MIFARE Plus™
- ISO/IEC 15693
- Proprietary protocols

Key Programmable Parameters:

- RF output level
- Communication speed up to 848 kbps
- Communication protocol parameters

Other features

- In-system firmware updates

Target Application

- Production environment
- Contactless reader/encoder

Electrostatic discharge sensitivity

The Passport Station uses semiconductors that can be damaged by electrostatic discharge (ESD). Observe precautions for handling. Damage due to inappropriate handling is not covered by the warranty.

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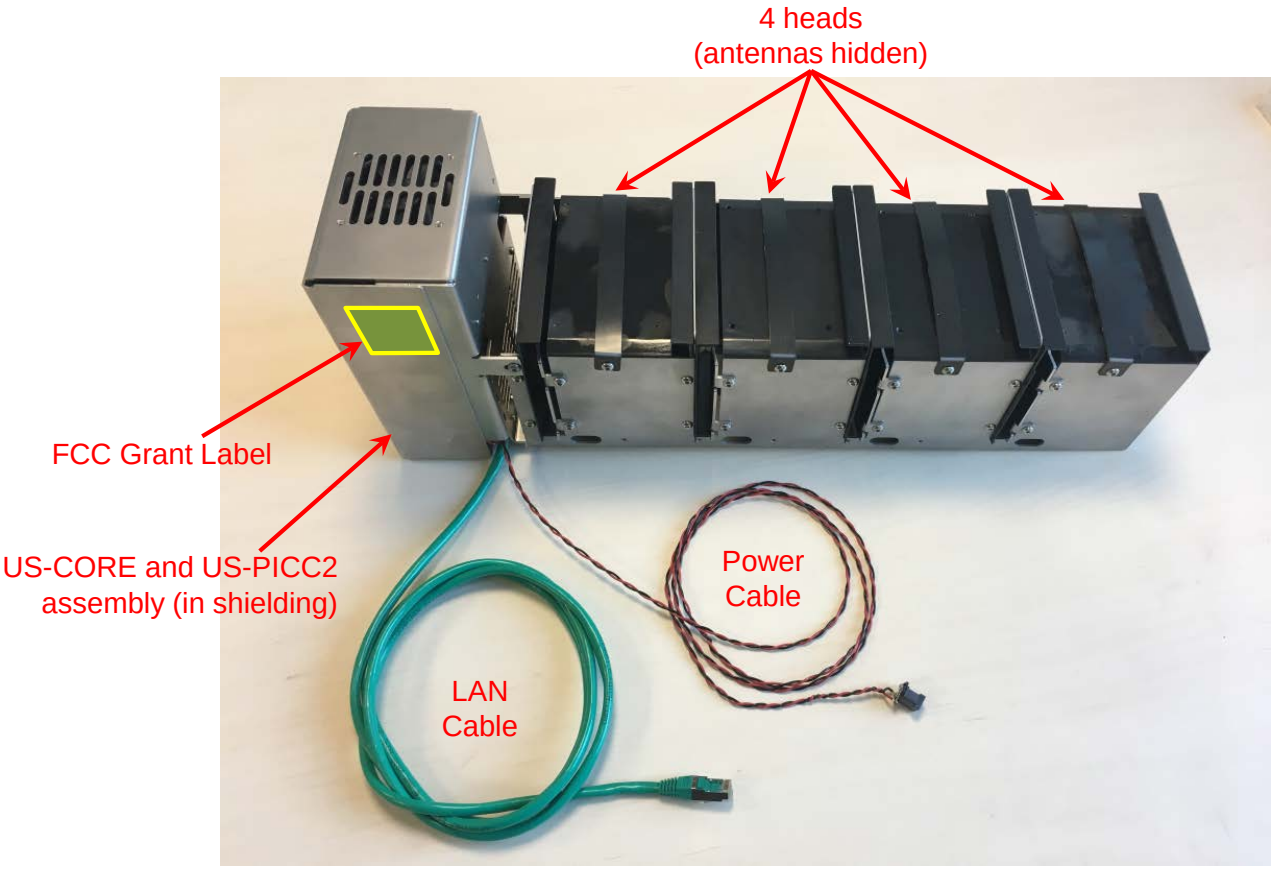
3 OVERVIEW

The Passport Station is a standalone equipment. It is powered by an external DC supply and connected to computer equipment through a LAN over an Ethernet cable.



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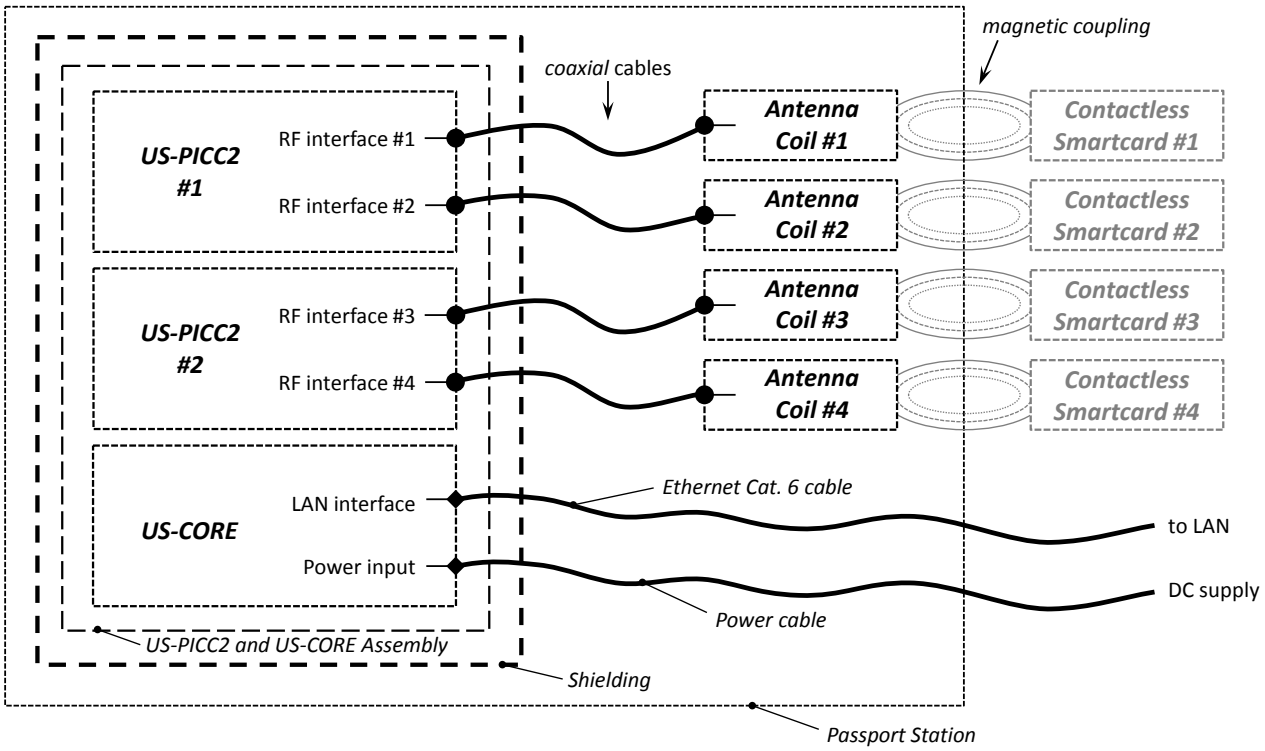
4 BLOCK DIAGRAM

The Passport Station chassis comprises

- one US-CORE board
- one or two US-PICC2 boards
- two or four antennas

The following figure shows a simplified block diagram of the Passport Station (with 4 heads).



Detailed information may be found in the US-PICC2 and US-CORE datasheets.

5 FUNCTIONNAL DESCRIPTION

US-PICC2 includes two or four contactless interfaces to communicate with contactless smart cards and smart objects.

Smartware MLOS system and CARD package manage most of the functionalities of the US-PICC2. Please refer to their documentation for more information.

5.1 COMMUNICATION PROTOCOLS AND STANDARDS

Embedded software provides the following functionalities:

- Adjustable field strength
- Timing parameters management such as FWT, FDT, EGT…
- Several protocol parameters management such as FSCI, FSDI, SOF, EOF, NAD, CID…
- Frame blocks error and recovery mechanism
- Raw mode access to support user custom protocols

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6 TECHNICAL CHARACTERISTICS

6.1 ELECTRICAL CHARACTERISTICS

POWER SUPPLY	MIN	TYPICAL	MAX
Input voltage	10.8 V	12 V	13.2 V
Input Current (V_{cc} = 12 V)	1200 mA	1400 mA	2000 mA

6.2 OPERATING ENVIRONMENT

OPERATING ENVIRONMENT	MIN	TYPICAL	MAX
Operating temperature	5°C	20°C	40°C

7 REGULATORY

7.1 GRANTS

The US-PICC2 is CD, FCC modular approval, and RoHS compliant.

7.2 WARNING TO USERS

Warning 1: The US-PICC2 is considered as a component that will be operated in combination with the final equipment. Then, the final equipment (including power supply system) still needs to re-confirm that the whole system complies with the local EMC directives.

Warning 2: The US-PICC2 model is a low power radiofrequency emitter, and then specific precaution should be taken to restrict the human presence near the antennas.

We recommend that persons should be at least at 20 cm far from the emitting antennas. This information also has to be mentioned in the end product.

Access should only be authorized to qualified personal.

If the product is not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications.

Warning 3: To reduce the risk of fire or injury to persons, follow these instructions:

All maintenance and servicing of this device must be performed in a safe area away from hazardous locations. Disconnect all power before servicing.

Use an earthed bracelet to avoid ESD damages.

Power supply must be SELV, no energy hazard.

Warning 4: To comply with directives, the backplane Ethernet cable length should be less than 3 meters.

Warning 5*:* This device has been designed to operate with the antenna(s) listed below. Antennas not included in this list are strictly prohibited for use with this device

List of acceptable antenna(s):

- *5207A-02050*

Warning 7: To comply with directives, RF power may be set from power 0 to power 10.

Warning 8: In case of collocated transmitters, the maximum number of transmitters in a small place should be 48.

Warning 9: The product shall not be modified without written authorisation of Smartware. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Warning 10: The end product's sticker should mention that it "contains a FCCID: RPM – USPICC201 product.

Warning 11:

WARNING TO USERS IN THE UNITED STATES

Federal Communication Commission Interference

Section 15.105 Information to the user

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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 instruction, 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 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 circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with FCC RF radiation exposure limits set forth for general population. This device must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

NO UNAUTHORIZED MODIFICATIONS

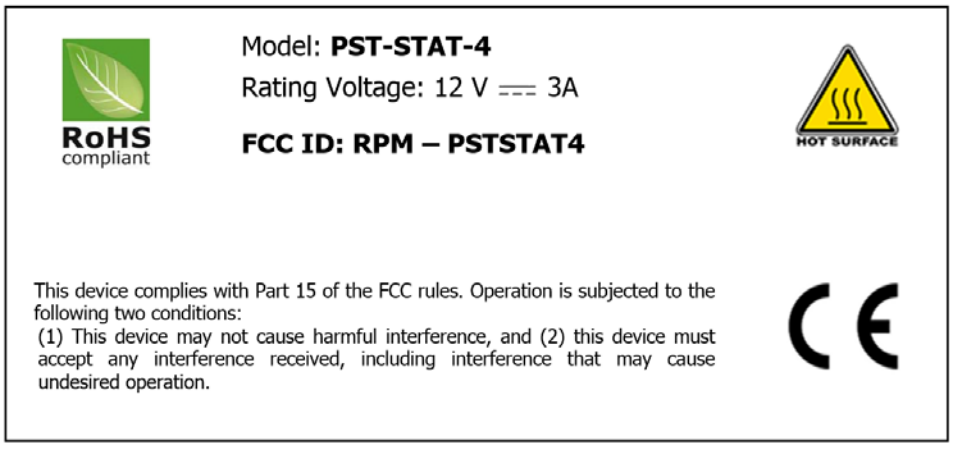
47 CFR Section 15.21

CAUTION: This equipment may not be modified, altered, or changed in any way without signed written permission from *Smartware*. Unauthorized modification may void the equipment authorization from the FCC and will void the *Smartware* warranty.

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

7.3 LABELLING

The following label is affixed on the product:



8 CONTACT INFORMATION

For more information, please send an email to: support@smartware.fr

For ordering information, please send an email to: sales@smartware.fr

9 REVISION HISTORY

VERSION	DATE	AUTHOR	DESCRIPTION OF CHANGES
V1R01a	June 2018	MZ	Creation

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