DE-620 User Manual

DUALi Inc.

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We have our development center in South Korea to provide technical support. For any technical assistance can contact our technical support team as below;

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Revision History

- 2011.06.03(Ver. 1.00) : First Release
- 2012.01.10(Ver.1.01): added chapter 5. RF Characteristics

Contents

1　Introduction

DE-620 is dual-interface Smartcard reader which supports14443 TYPE-A/B, Mifare series, Felica and NFC protocol at the same type. It also supports Contact cards (1 X ID1 type contact slot, 1 X SIM type slots) which comply with ISO 7816. DE-620 is available as USB interface only.

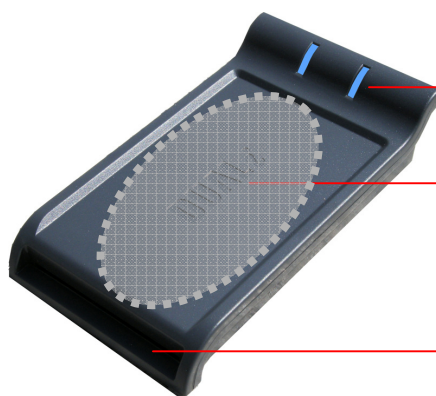Following items are contents of DE-620.

❶ DE-620 Device   ❷ Mini USB Cable

Serial cable is available as option, plz contact to the sales person of DUALi.

LED : Power supplying & operating status.

RF Field : Place contactless card here

Contact card slot : Insert Contact card
(ID 1 type) here.

SIM type SAM slots (1ea) are backside of the device when you open the case.

1.1 Hardware Specification

Smart Card Interface	Contactless Smart Card (ISO 14443 A/B), MIFARE, FeliCa, NFC 1 Contact Card and 1 SAM Card (ISO7816, T=0,T=1)
Host Interface	USB 2.0 Full Speed (12Mbps), also support USB 1.1
Host Communication	PC/SC or Proprietary(USB)
CPU	ARM 32-bit Cortex-M3(48MHz), 128Kbytes Flash, 20Kbytes SRAM
Input Voltage	5V (USB Bus powered)
Current	MAX 300mA
Connection	Mini USB
Size	70(W) * 45(L) * 8(H)mm
Antenna Matching	Direct matching
Operating Temperature	-10~60℃

2 Structure

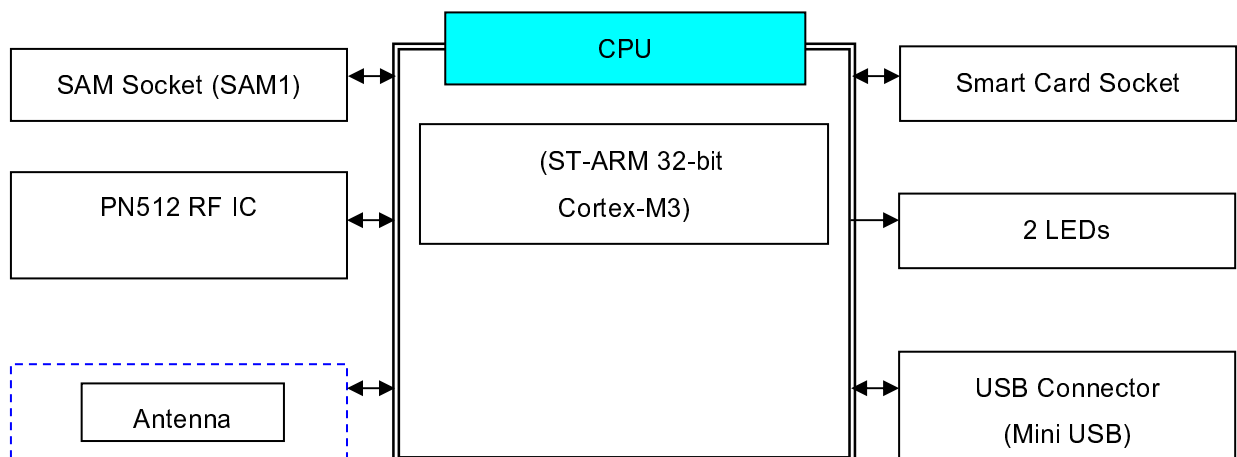### 2.1   The Structure of equipment

- DE-620 itself contains all circuits include antenna, 1 SAMs and connectors.

(USB)

| Host PC |
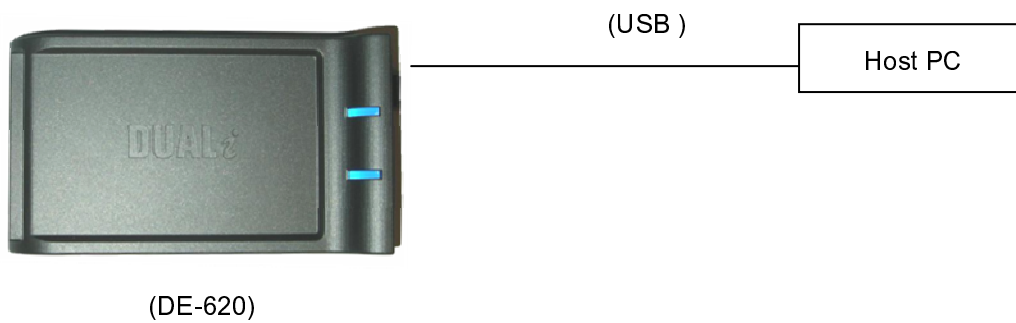
(DE-620)

2.2   The block diagram of DE-620

| SAM Socket (SAM1) |

| CPU |

| Smart Card Socket |

| PN512 RF IC |

(ST-ARM 32-bit
Cortex-M3)

| 2 LEDs |

| Antenna |

| USB Connector
(Mini USB) |

3 Description of Surface

3.1 The picture of device surface

- DUALi mark on top surface could be removed.

3.2 Communication Cable

- Mini USB cable

3.3 The size of terminal

- DE-620 :68(W) * 120(L) * 30(H)mm

4 Description of Electricity

4.1 The Description of power

- Input power : 5V (USB Bus Powered)

4.2 The using electric current
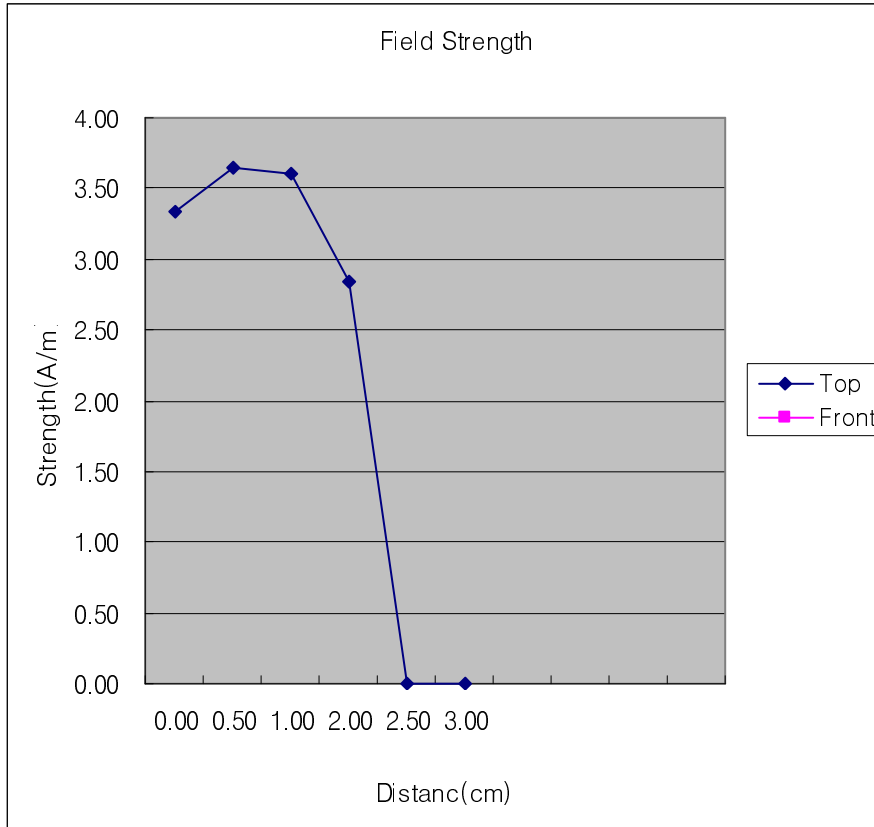
- Normal   5V,   150mA under
- MAX   5V,   200mA under

4.3 The Description of USB communication

- USB V2.0 FULL SPEED (12Mbps)

5 RF Characteristics

5.1 Power Output of Antenna

- Field strength : Min 1.5H (A/m) to Max 7.5

5.2 Frequency band

- Tolerance of the carrier frequency: 13.56 MHz   +/- 0.01% = +/- 1.356 kHz.

- Frequency bandwidth: +/- 7 kHz.

    It is comply with FCC limits for 13.56MHz frequency band

6 Description of Function

6.1 Protocol Specification

    Refer to protocol specification for detail function. (provide on request)

6.2 Control Code Specification (for USB PCSC version only)

    Refer to control code specification for detail function. (provide on request)

6.3 Firmware Download

    Refer download manual. (provide on request)

7 Property

7.1 Environment to use

- Temperature to use : -10 ~ 60 ℃
- Humidity to use : 30 ~ 90 % (relative humidity)

7.2 Environment to keep

- Temperature to keep : -20 ~ 80 ℃
- Humidity to use : 30 ~ 90 % (relative humidity)

8 Warning and Notice

- For indoor use only.
- This product is affected by an element like metal or Magnetism. So one has to take precautions.
- This device is not waterproof.

* Please see "Install driver" document and follow the steps once you first install DE-620 with your PC.

Warranty & Service

‣ Warranty and Repair service

- DUALi Inc. warrants to the original consumer or other end user that this product, DE-620, is free from defects in materials and workmanship for a period of 1 year from the date of purchase.

※ **Note** Warranty/non-warranty repair fees do not include any shipping charges.

‣ The damages(defaults) prescribed below are NOT to be covered by warranty.

- User's misuse of part/component.
- Fault by the unqualified user's own intention of repairs.
- Product's inspection requirement.
- Adding certain functions or extension of system.
- Fault by User's misuse against the product's manual.

*Please contact our service team for the technical/ sales supports.

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