

#### ● Introduction

PIMF-HSNAT-IVA (with ABS enclosure) is Mifare & Mifare Ultralight 13.56MHz UID reading module which supports ABA, UART output. Only requests DC4.9~5.4V input.

We provide complete software/Hardware support and shorten schedule of RFID product development, OEM/ODM service is available.



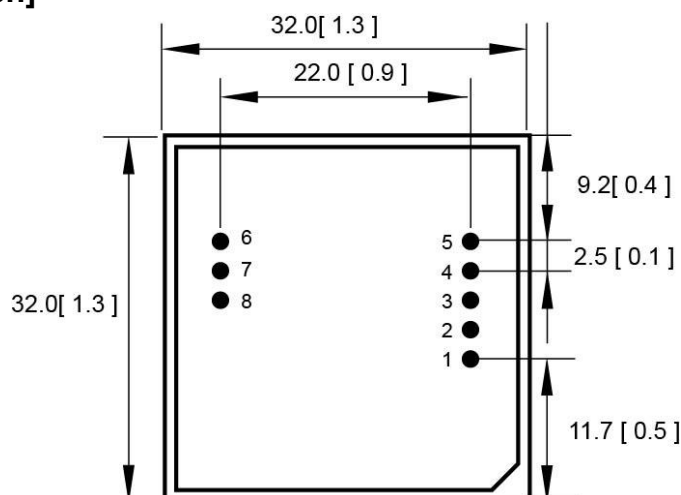
#### ● Features

- Support Mifare ISO 14443A(UID)
- Support ABA, UART Output.
- Supply firmware modification accords to request of special function
- High speed data transfer and high integrity
- Comply with ROHS

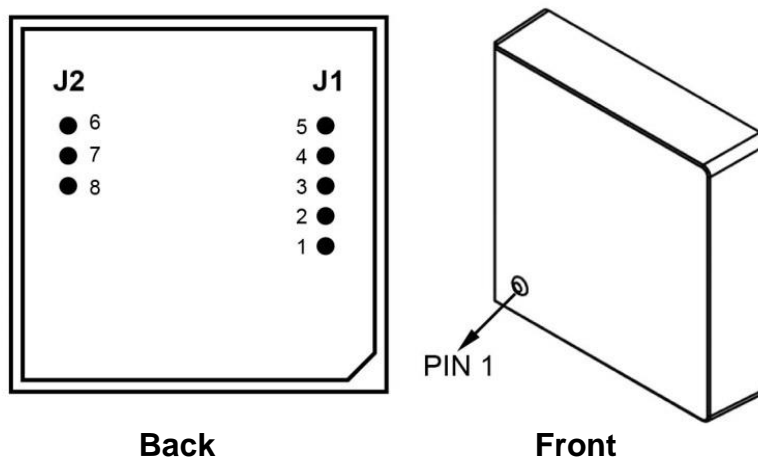
#### ● Specification

|                                 |   |
|---------------------------------|---|
| RFID frequency                  | 13.56MHz                                    |
| Applicable cards                | Mifare S50 / S70, Ultra Light or compatible |
| Reading range                   | Card (T:0.8mm)Max.2.5 cm                    |
| Output format                   | ABA, UART                                   |
| Power input                     | 5V DC±10%                                   |
| Transmission spec.              | 9,600 bps N, 8, 1                           |
| Standby / Working current       | 14~20mA @5V DC / 14~30mA @ 5V DC            |
| Material                        | ABS   |
| Dimensions(L) x(W) x(H) mm/inch | 32 x 32 x 8 /1.3 x 1.3 x 0.3                |
| Operating temperature           | -10℃~70℃                                    |
| Storage temperature             | -20℃~85℃                                    |

#### ● Dimension: Unit: mm[inch]



- **Wire configuration**



| J1- UART Output |     |                  |           |
|-----------------|-----|------------------|-----------|
| J1              | Pin | Signal direction | Function  |
| 5 ●             | 5   | →                | CLS       |
| 4 ●             | 4   | ---              | ---       |
| 3 ●             | 3   | →                | Tx        |
| 2 ●             | 2   | —                | GND       |
| 1 ●             | 1   | ←                | +4.9~5.4V |

| J2- ABA Output |     |                  |          |
|----------------|-----|------------------|----------|
| J2             | Pin | Signal direction | Function |
| ● 6            | 6   | →                | Buzzer   |
| ● 7            | 7   | →                | DATA     |
| ● 8            | 8   | →                | CLK      |

- **Data formats**

#### ABA output format

##### **Magnetic stripe ABA Track2 output format (For Mifare)**

|    |              |    |     |
|----|--------------|----|-----|
| SS | CARD ID(10D) | ES | LRC |
|----|--------------|----|-----|

**SS** is the start sentinel character of 11010

**ES** is the end character of 11111

**LRC** is the longitudinal redundancy check.

##### **Magnetic stripe ABA Track2 output format (For Ultra Light)**

|    |              |    |     |
|----|--------------|----|-----|
| SS | CARD ID(17D) | ES | LRC |
|----|--------------|----|-----|

**SS** is the start sentinel character of 11010

**ES** is the end character of 11111

**LRC** is the longitudinal redundancy check.

### UART output format

| STX(02Hex) | CARD ID(8 ASCII) | CR | LF | ETX(03Hex) |
|------------|------------------|----|----|------------|
|------------|------------------|----|----|------------|

If the card no. is 00318F59, you will get the following ASCII.

STX

ETX

Hex : 02H, 30H, 30H, 33H, 31H, 38H, 46H, 35H, 39H, 0DH, 0AH, 03H

### Transmission Spec.

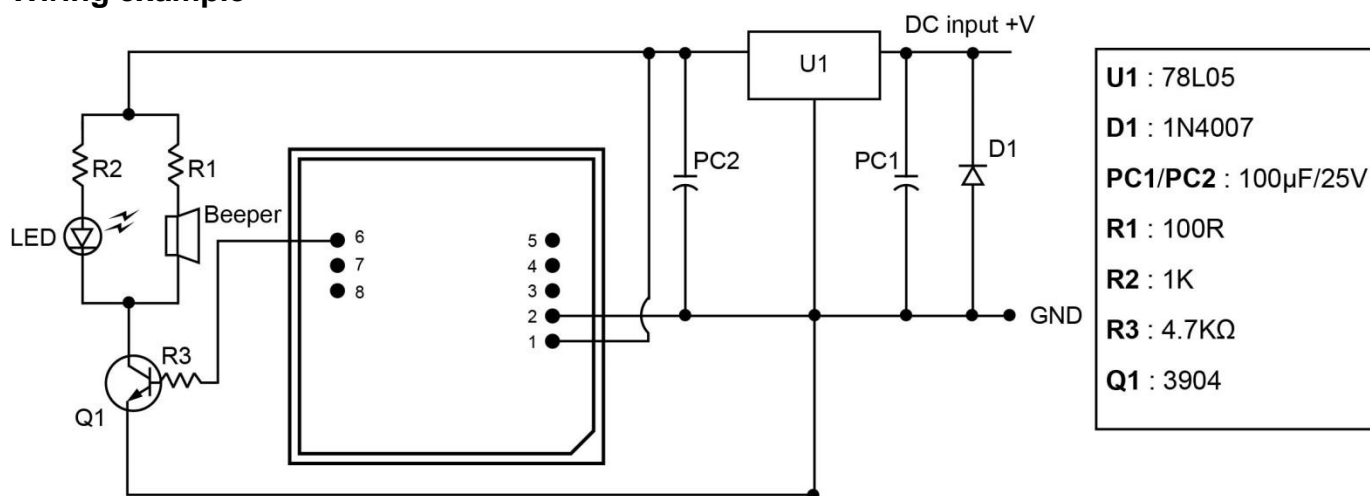
Baud rate : 9,600 bps

Parity bit : none

Data bit : 8

Stop bit : 1

### ● Wiring example



Mifare is a registered trademark of NXP B.V.

Specifications subject to change without notice for further modification.

W-04- PIMF-HSNAT-IVA/E