

## ● Introduction

PIEM-HAT-IVA1 (with ABS enclosure) is 125KHz EM reading module which supports ABA, UART output. Only requests DC4.5~5.5V input.

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



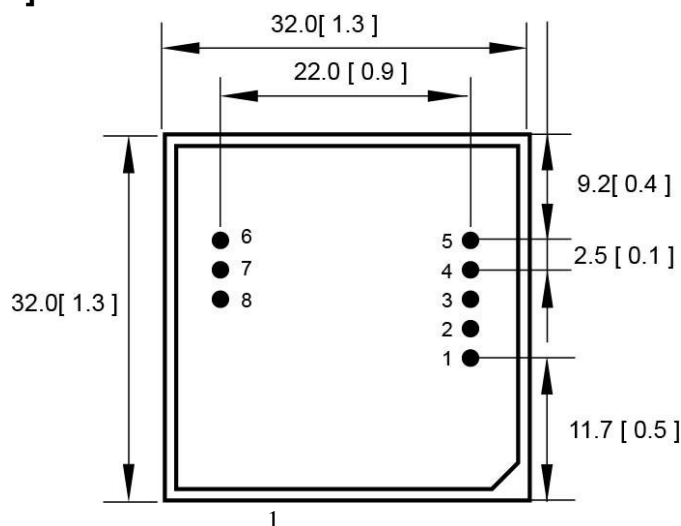
## ● Features

- Support ABA, UART Output.
- Supply firmware modification accords to request of special function
- High speed data transfer and high integrity
- Comply with ROHS

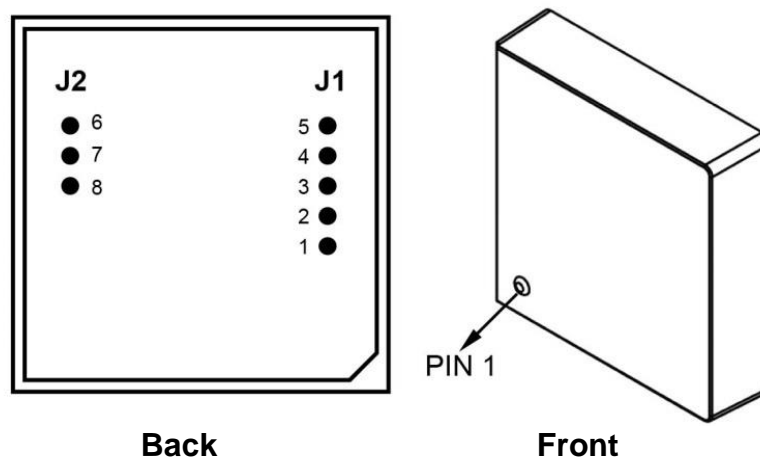
## ● Specification

RFID frequency	125KHz			
Applicable cards	EM4200, 4305, 4102, TK4100, ATA5577			
Reading range		DC4.5V	DC5V	DC5.5V
	Card (T:1.8mm)	Max.6 cm	Max.5.5 cm	Max.5 cm
	Card (T:0.8mm)	Max.4.5 cm	Max.4.5 cm	Max.4 cm
	Tag	Max.3 cm	Max.3 cm	Max.2.5 cm
Output format	ABA, UART			
Power input	DC4.5V~5.5V			
Transmission spec.	9,600 bps N, 8, 1			
Sleep current	0mA@5VDC			
Standby current	33mA@4.5VDC / 38mA@5VDC / 44mA@5.5VDC			
Working current	33mA@4.5VDC / 38mA@5VDC / 44mA@5.5VDC			
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			
<b>J1</b> 5 ● 4 ● 3 ● 2 ● 1 ●	Pin	Signal direction	Function
	5	→	CLS
	4	←	Log. 1: Sleep Mode Log. 0: Reads
	3	→	Tx
	2	—	GND
	1	←	+4.5~5.5V

J2- ABA Output			
<b>J2</b> ● 6 ● 7 ● 8	Pin	Signal direction	Function
	6	→	Buzzer
	7	→	DATA
	8	→	CLK

- Data formats

ABA output format

Magnetic stripe ABA Track2 output format

SS	CARD ID(14D)	ES	LRC
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**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(14 ASCII)	CR(0XDH)	LF(0XAH)
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If the card no. is **528283252106**, you will get the following ASCII.

STX CR LF  
Hex : 02H, 30H, 30H, 35H, 32H, 38H, 32H, 38H, 33H, 32H, 35H, 32H, 31H, 30H, 36H, 0DH, 0AH

### Transmission Spec.

Baud rate : 9,600 bps

Parity bit : none

Data bit : 8

Stop bit : 1

- **Wiring example**

