

# ELET114A Bluetooth Module

# DATASHEET

## A. Overview

ELET114A Bluetooth Module is designed by ShenZhen ElinkEtone Technology Company for intelligent wireless transmission, with integrated MCU and Bluetooth radio device, follow BT4.0 + EDR specification, support SPP protocol and so on.

It supports UART, SPI, I2C, I2S interfaces, contains four PWM ports, six 12bit ADC channels and several GPIOs, with high integration, low cost, low power consumption, and excellent Radio performance.

## B. Specifications

1. Support BT V2.1 + EDR and BT4.0(BLE) concurrent dual-mode.
2. Bluetooth HID、 SPP solution
3. Integrated 2.4G print PCB antenna, customers don't need ANT tuning.
4. Optional PIO control
5. Standard HCI interface(UART)
6. With half-hole pins, it can be used as SMD components in SMT process.
7. ROHS process
8. Support both master and slave mode.
9. Fully integrated the XTAL, LPO and other peripheral components.
10. Low cost
11. Support adaptive frequency hopping technology, in the open air, the transmitting and receiving distance can reach 10~15 meters with excellent RF performance.
12. It's applicable to a serial port application and wireless transmission with short distance, don't need to understand the protocol, easy to develop.

## C. Application Fields

ELET114A BT Module is mainly used for wireless transmission of data with short distance, it can be connected to other BT devices of PC, smart phone, and other wireless terminals easily, it also can realize the data exchange between two modules, avoid cumbersome cable connection and space constraints.

- ※Bluetooth transmission, banking system
- ※Remote control of industry equipment
- ※Distributed remote control of medical and industrial equipment
- ※Real-time wireless data transmission between remote devices
- ※Bluetooth printer, bar code scanning device
- ※POS system, wireless keyboard and mouse

- ※Industrial remote control and sensing
- ※Traffic, wireless indoor positioning, and alerting
- ※Wireless meter reading, data collection
- ※Automated data acquisition system
- ※Security, wireless monitor, entrance guard system
- ※Smart home
- ※Detection equipment of vehicle
- ※Wireless LED display, touch screen devices
- ※Bluetooth joystick, gamepad, remote control toys

## D. Physical Characteristics

Operating Frequency Band	2.4GHz-2.48GHz unlicensed ISM band
Bluetooth Specification	V2.1+EDR, BT4.0(BLE)
Output Power Class	Programmable Class 1, Class 2 or Class 3
RX Sensitivity	-88dBm
Operating Voltage	3.3V
Main Digital Interface	UART
Other Interface	SPI, I2C, I2S
PIO Control	PWM, ADC, GPIO
Dimension	27mm(L) x 13mm(W) x 2mm(H)

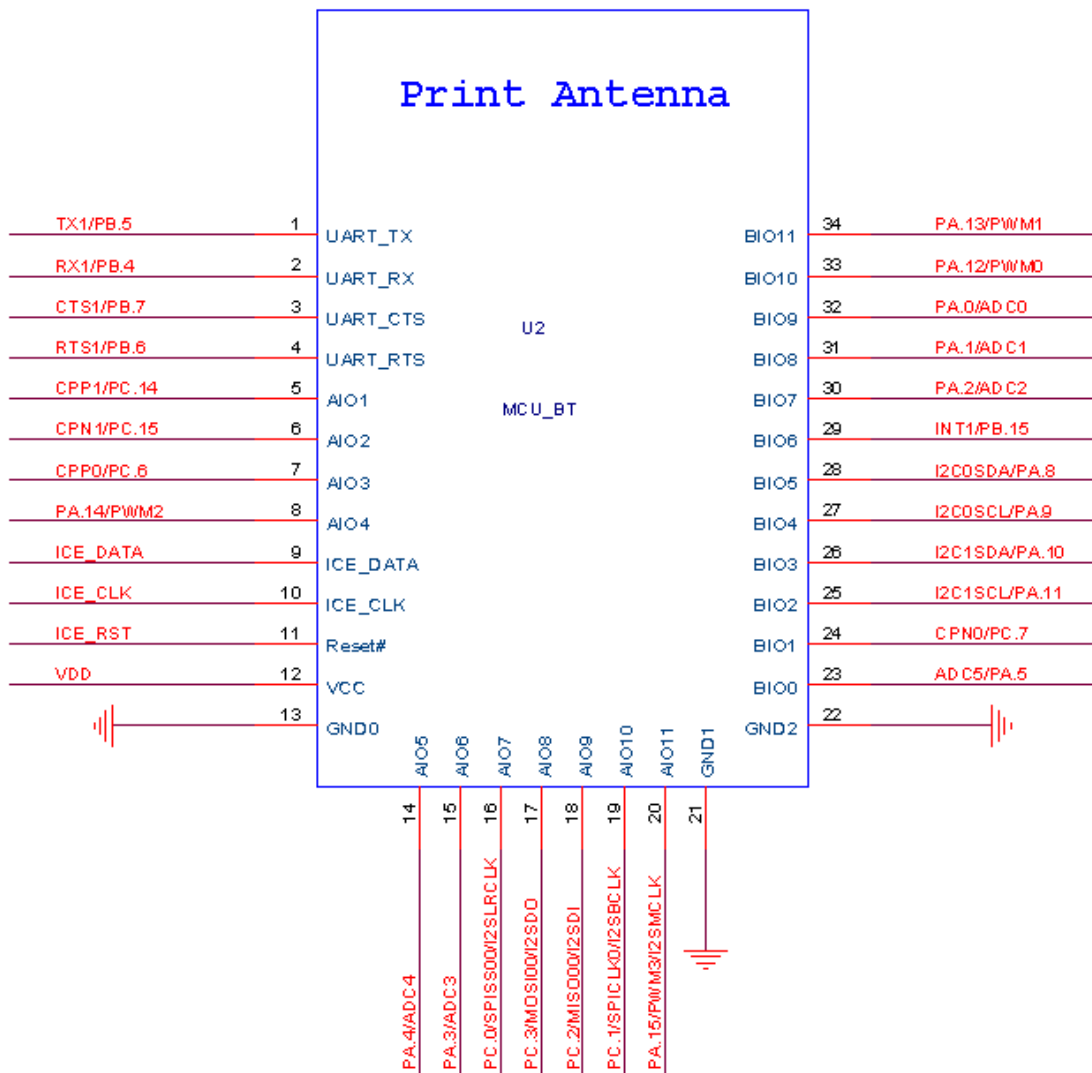
## E. DC Characteristics

Absolute Maximum Ratings		
Rating	Min	Max
Storage Temperature	-40°C	+85°C
Operating Temperature	-25°C	+70°C
Supply Voltage: VDD	-0.3V	3.6V
Other Terminal Voltages	VSS-0.3V	VDD+0.3V

## F. Interface Specification

Power	Voltage: +3.3V; Current: I<100mA
HOST interface	UART
Signals	RX、TX、CTS、RTS

## G. Reference Schematic And Pin Description



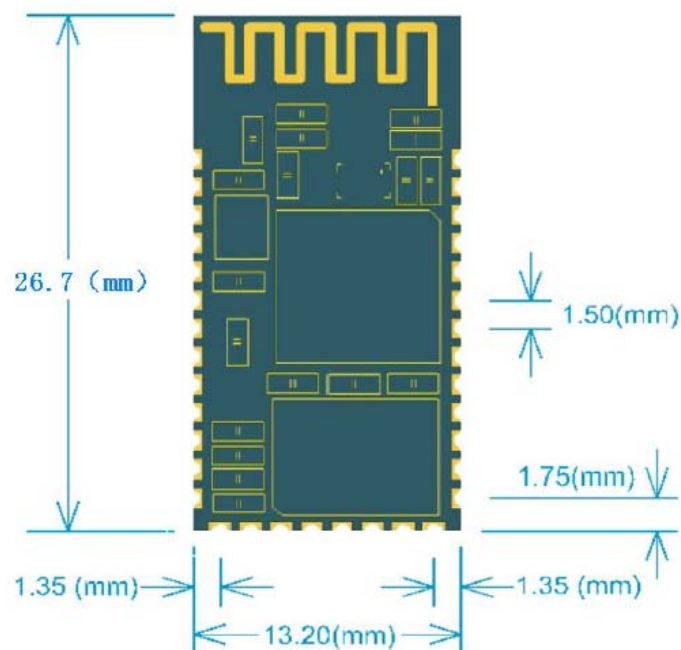
Pin.No	Name	Type	Description
1	UART_TX	O	Data transmitter output pin for UART.
2	UART_RX	I	Data receiver input pin for UART.
3	UART_CTS	I/O	1. Clear to send input pin for UART. 2. General purpose digital I/O pin.
4	UART_RTS	I/O	1. Request to send output pin for UART. 2. General purpose digital I/O pin.

5	AIO1	I/O	1. General purpose digital I/O pin. 2. Comparator1 positive input pin.
6	AIO2	I/O	1. General purpose digital I/O pin. 2. Comparator1 negative input pin.
7	AIO3	I/O	1. General purpose digital I/O pin. 2. Comparator0 positive input pin.
8	AIO4	I/O	1. General purpose digital I/O pin. 2. PWM2 output/Capture input.
9	ICE_DATA	I/O	Serial wire debugger data pin.
10	ICE_CLK	I	Serial wire debugger clock pin.
11	RESET#	I	External reset input: active low, with an internal pull-up. Set this pin low reset chip to initial state.
12	VCC	I	3.3V Power supply.
13	GND0	Ground	Ground.
14	AIO5	I/O	1. General purpose digital I/O pin. 2. ADC4 analog input.
15	AIO6	I/O	1. General purpose digital I/O pin. 2. ADC3 analog input.
16	AIO7	I/O	1. General purpose digital I/O pin. 2. SPI0 slave selection pin. 3. I2S left right channel clock.
17	AIO8	I/O	1. General purpose digital I/O pin. 2. SPI0 MOSI (Master out, Slave in) pin. 3. I2S data output.
18	AIO9	I/O	1. General purpose digital I/O pin. 2. SPI0 MISO (Master in, Slave out) pin. 3. I2S data input.
19	AIO10	I/O	1. General purpose digital I/O pin. 2. SPI0 serial clock pin. 3. I2S bit clock pin.
20	AIO11	I/O	1. General purpose digital I/O pin. 2. PWM3 output/Capture input. 3. I2S master clock output pin.
21	GND1	Ground	Ground
22	GND2	Ground	Ground
23	BIO0	I/O	1. General purpose digital I/O pin. 2. ADC5 analog input.
24	BIO1	I/O	1. General purpose digital I/O pin. 2. Comparator0 negative input pin.
25	BIO2	I/O	1. General purpose digital I/O pin. 2. I2C1 lock pin.
26	BIO3	I/O	1. General purpose digital I/O pin. 2. I2C1 data input/output pin.

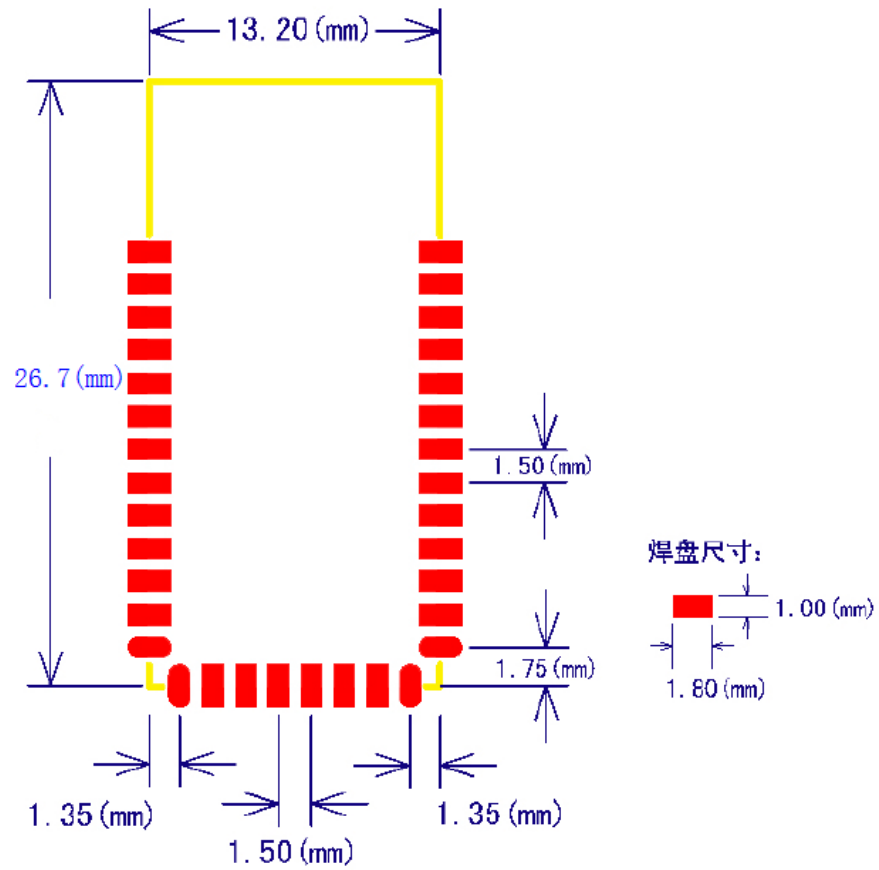
27	BIO4	I/O	1. General purpose digital I/O pin. 2. I2C0 clock pin.
28	BIO5	I/O	1. General purpose digital I/O pin. 2. I2C0 data input/output pin.
29	BIO6	I/O	1. General purpose digital I/O pin. 2. External interrupt1 input pin.
30	BIO7	I/O	1. General purpose digital I/O pin. 2. ADC2 analog input.
31	BIO8	I/O	1. General purpose digital I/O pin. 2. ADC1 analog input.
32	BIO9	I/O	1. General purpose digital I/O pin. 2. ADC0 analog input.
33	BIO10	I/O	1. General purpose digital I/O pin. 2. PWM0 output/Capture input.
34	BIO11	I/O	1. General purpose digital I/O pin. 2. PWM1 output/Capture input.

※ When the GPIO is not used, it can be leave floating directly.

## H. SIZE



## I. Package Information



- ※ The Yellow area at the top of module is 2.4G print PCB antenna, under this area, please make the PCB clean without copper and traces.