

BT Shield

-Bluetooth to Serial Port Module Shield

Overview



BT Shield V2.1 is a Serial port Bluetooth module (Slave) breakout board, and it's compatible with Arduino and IFlat-32, it can directly plug in with Arduino/IFlat-32 board, use the UART port for communicating to Arduino/IFlat-32 or FT232.

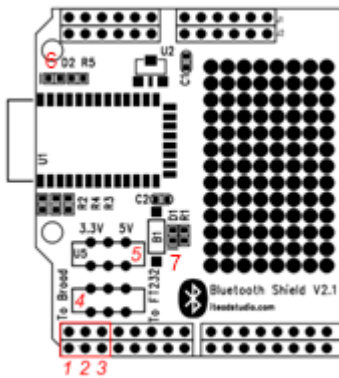
Specifications

Microprocessor	CSR BC417
PCB size	53.3mm X 47mm X 1.6mm
Indicators	PWR ,State
Power supply	5V DC
IO	3
Communication Protocol	UART/Bluetooth 2.0
RoSH	Yes

Electrical Characteristics

Specification	Min	Type	Max	Unit
Power Voltage	4.5	5	5.5	VDC
Input Voltage	Target Voltage = 3.3V			
VH	Target Voltage = 5V			
Input Voltage VL:	-0.3	0	0.5	V
Current Consumption	-	20	40	mA

Hardware



Pin	Pad Name	Type	Description
1	RX/TX	I/O	UART communication Port (Depend on switcher 4)
2	TX/RX	I/O	UART communication Port (Depend on switcher 4)
3	State	O	State Direction

Switcher	Name	Description
4	UART Communication Switch	Connect to broad or FT232
5	Communication Voltage Switch	Set the interface voltage

LED	Name	Description
6	PWR	When power on, the PWR LED light.
7	State	When the module in standby mode, the State LED will alternating light off. When the serial port open, the State LED light.

AT command

Default:

Slave, 9600 baud rate, N, 8, 1. Pincode 1234

AT command:

1. Communications Test :

Sent : AT

receive : OK

2. Change baud rate :

Sent : AT+BAUD1

receive : OK1200

Sent : AT+BAUD2

receive : OK2400

1-----1200

2-----2400

3-----4800

4-----9600

5-----19200

6-----38400

7-----57600

8-----115200

Baud rate setting can be save even power down.

3. Change Bluetooth device name:

Sent : AT+NAMEdevicename

receive : OKname

(devicename is the name you want the device to be , and it will be searched with this name)

Name setting can be save even power down.

4. Change Pincode:

Sent : AT+PINxxxx

receive : OKsetpin

(xxxx is the pin code you set)

Pin code can be save even power down.

Demo Code

```
unsigned int timeout=0;
unsigned char state=0;

ISR(TIMER2_OVF_vect)           //Timer2 Service
{
    TCNT2 = 0;
    timeout++;
    if (timeout>61)
    {
        state=1;
        timeout=0;
    }
}

void init_timer2(void)
{
    TCCR2A |= (1 << WGM21) | (1 << WGM20);
    TCCR2B |= 0x07;    // by clk/1024
    ASSR |= (0 << AS2);    // Use internal clock – external clock not used in Arduino
    TIMSK2 |= 0x01;    //Timer2 Overflow Interrupt Enable
    TCNT2 = 0;
    sei();
}

void setup()
{
    Serial.begin(9600);
    pinMode(2,INPUT);
    pinMode(13,OUTPUT);
    attachInterrupt(0,cleantime,FALLING);
    init_timer2();
}

void loop()
{
    switch(state)
    {
        case 0:
            digitalWrite(13,LOW);
            break;
    }
}
```

```
case 1:
  digitalWrite(13,HIGH);
  Serial.print("Hellow BT");
  break;
}

}

void cleantime()
{
  timeout=0;
  state=0;
}
```

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Revision History

Rev.	Description	Release date
v1.0	Initial version	1/15/2011