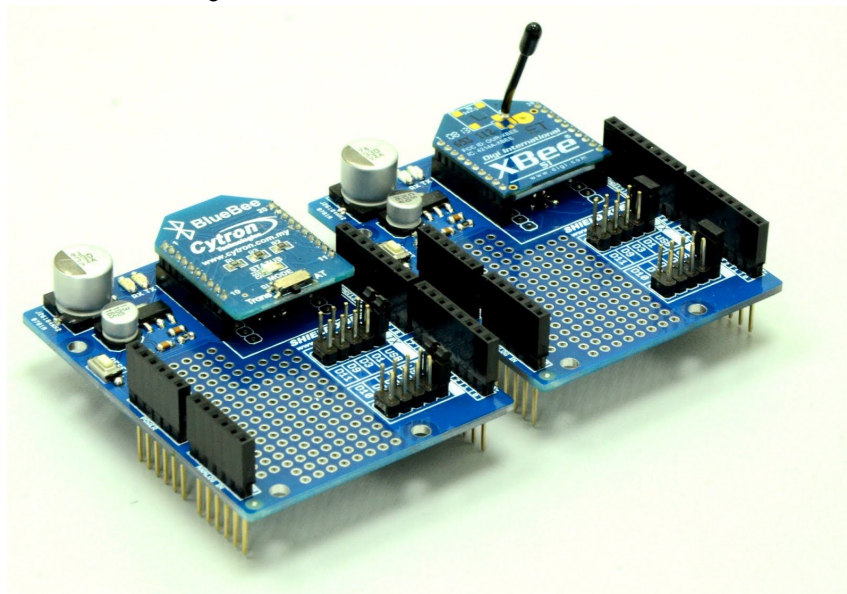




SHIELD-XBEE

Cytron XBee Shield



User's Manual

V1.0

March 2014

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1. INTRODUCTION AND OVERVIEW

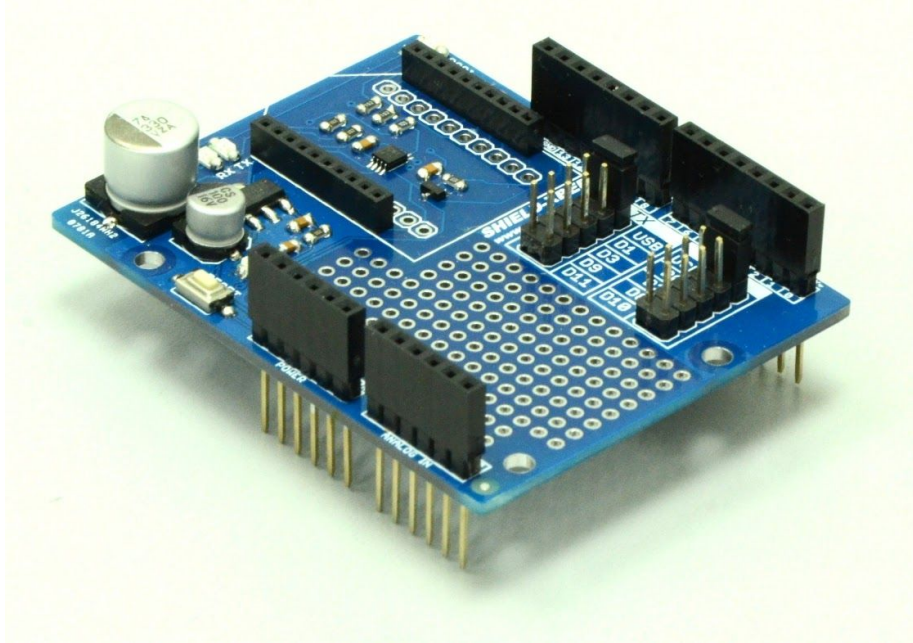
Cytron XBee Shield ([SHIELD-XBEE](#)) is an Arduino compatible shield which is compatible with [Arduino UNO](#), [Arduino Duemilanove](#), [Arduino Mega](#), [Arduino Leonardo](#) and possibly other pin compatible main boards. XBee Shield is compatible with [XBee Modules](#) and other XBee Compatible footprint module such as [BlueBee](#), [XBee WIFI](#) etc.

Cytron XBee Shield has stackable side headers which allows more Arduino shield to be stacked on top of it. Cytron XBee Shield can be used for communication between XBee and Arduino main board or XBee and computer.

Features:

- XBee, XBee Pro XBee Wifi, BlueBee compatible
- On board 5V - 3.3V level translator IC.
- Power, Transmit, Receive, Associate and RSSI LED indicators.
- Jumper selectors for software or hardware UART selection and PC-XBee Communication.
- Stackable side headers.
- Prototyping area.
- Arduino Wireless programming capable.

2. PACKING LIST



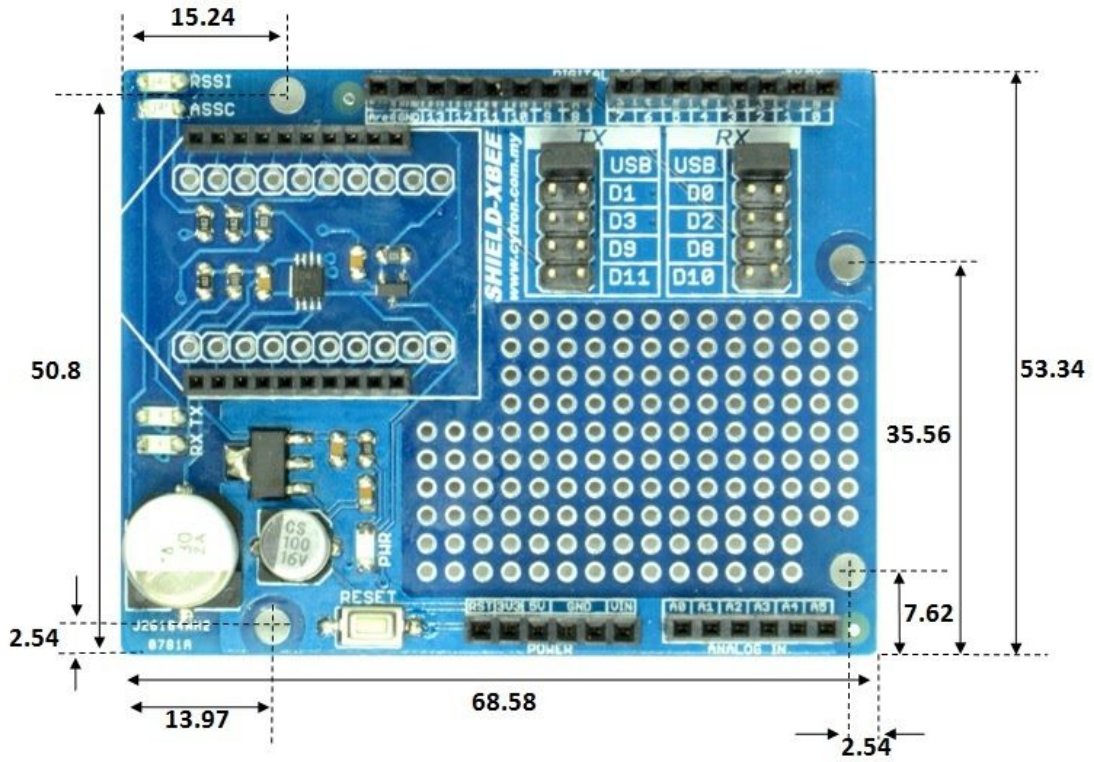
1. 1 x [Shield-XBee](#)
2. 2 x [mini jumper](#) (on board)
3. User's manual, and sample source code can be downloaded from <http://www.cytron.com.my>.

3. PRODUCT SPECIFICATION AND LIMITATIONS

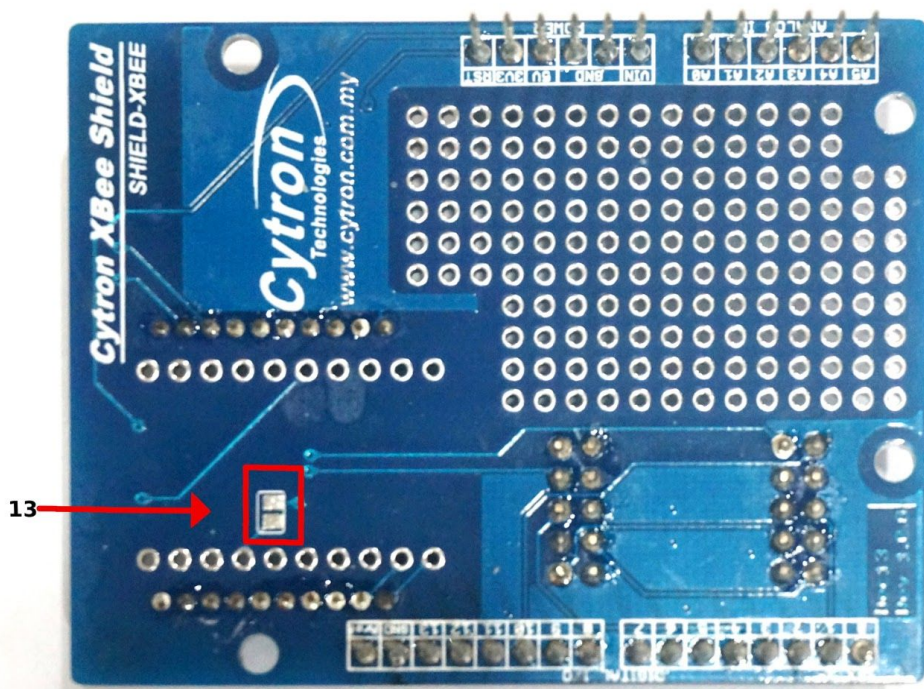
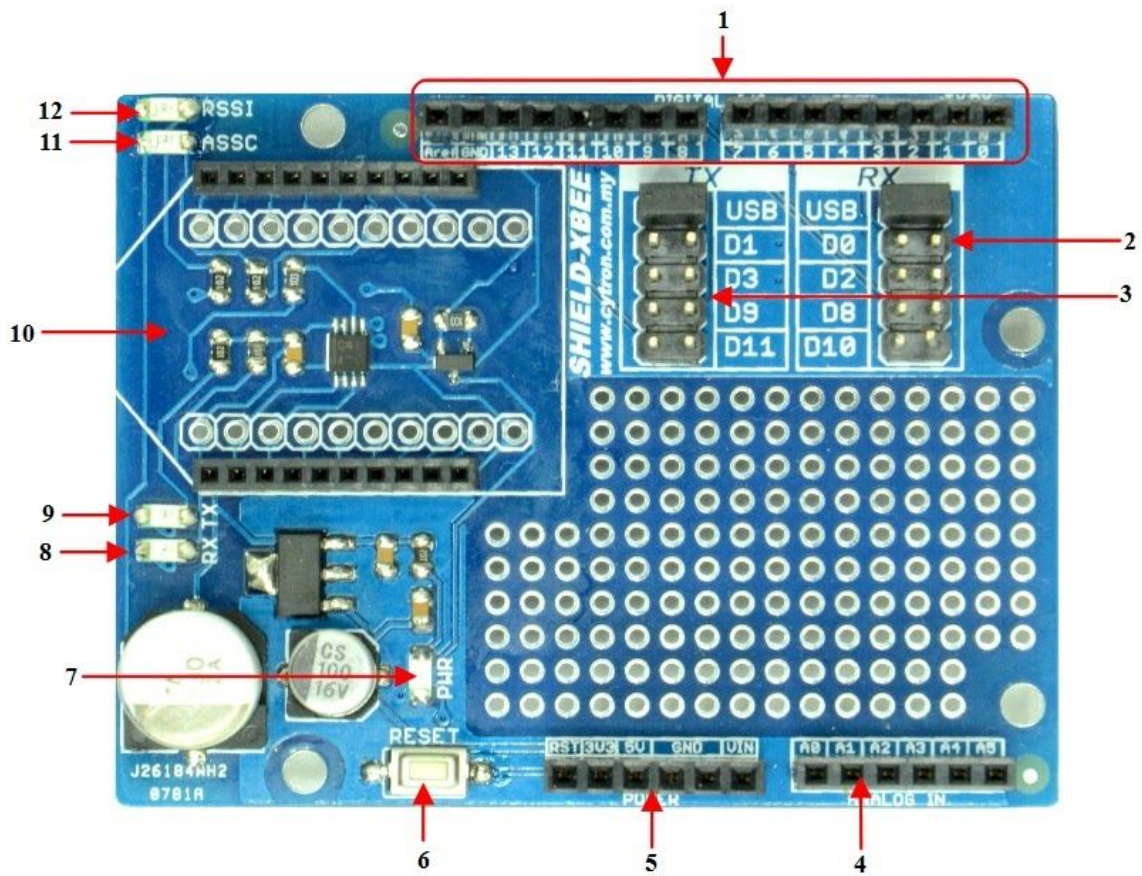
No	Parameters	Min	Typical	Max	Unit
1	Input Voltage	4.5	-	5.5	V
2	V _{IOH} (Logic Input – High Level)	2	3.3-5.0	5.5	V
3	V _{IOL} (Logic Input – Low Level)	0	0	0.8	V

4. DIMENSION

Dimensions (mm)



5. BOARD LAYOUT



1. Stackable Digital I/O Headers

Digital I/O pins stacked to the Arduino main board.

2. RX Pin Selector

User may select D0, D2, D8, D10 or USB* as the RX pin from Arduino main board with the mini jumper.

3. TX Pin Selector

User may select D1, D3, D9, D11 or USB* as the TX pin from Arduino main board with the mini jumper.

4. Stackable Analog Input Header

This is the analog port of the Arduino. The stackable header allows other stacked shield to utilize these pins.

5. Stackable Power Pins Header

This is the power port of the Arduino. The stackable header allows other stacked shield to utilize these pins.

6. Main Board reset button

Arduino main board will require around 30ms to ready after reset.

7. Power indicator LED (Green)

Indicator to shows that power is supplied to Cytron XBEE Shield.

8. Receiver status LED

RX is a LED connected to XBee's receiver (DIN, pin 3). This LED will blink if XBee receiver pin receives data from either USB or microcontroller..

9. Transmitter status LED

TX is a LED connected to XBee's Transmitter pin (DOUT, pin 2). This LED will blink when XBee module transmit data.

10. XBee module socket

User may plug in XBee, XBee PRO or BlueBee to this socket. Please mind the polarity of XBee, ensure pin 1 is plug in at left top pin of the socket.

11. ASSC status LED

ASSC is active high LED which is connect to Associate (pin 15) of XBee module.

12. RSSI status LED

RSSI is active high LED which is connect to RSSI (pin 6) of XBee module.

13. Wireless Programming solder jumper.

Solder the pads together for wireless programming, this pin is used to reset the arduino main board. It is connected to XBee module pin of DIO3.

* Selecting USB for both TX and RX on Selector Jumper for direct PC to XBee communication. User can use [XCTU](#) or other [terminal program](#) for this purpose.

6. HARDWARE

This section shows the example of using SHIELD-XBEE with Arduino UNO and Arduino Mega as the main controller. However, other Arduino main board such as Arduino Duemilanove can also be used.

Figure below shows that the SHIELD-XBEE is stacked on the Arduino UNO. Please ensure that the pins alignment is correct.

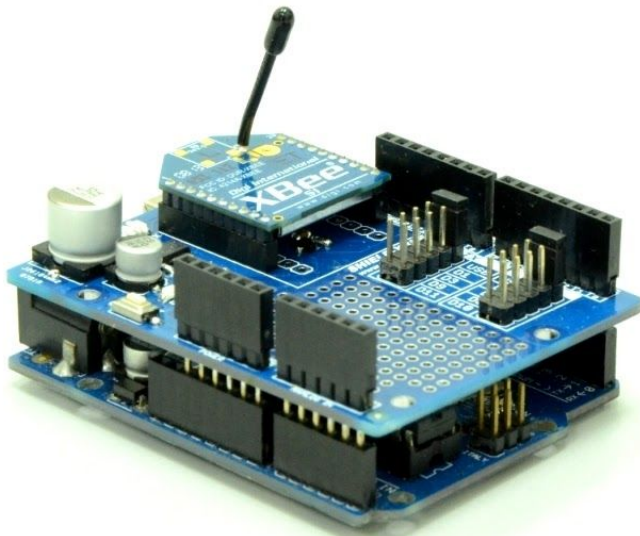
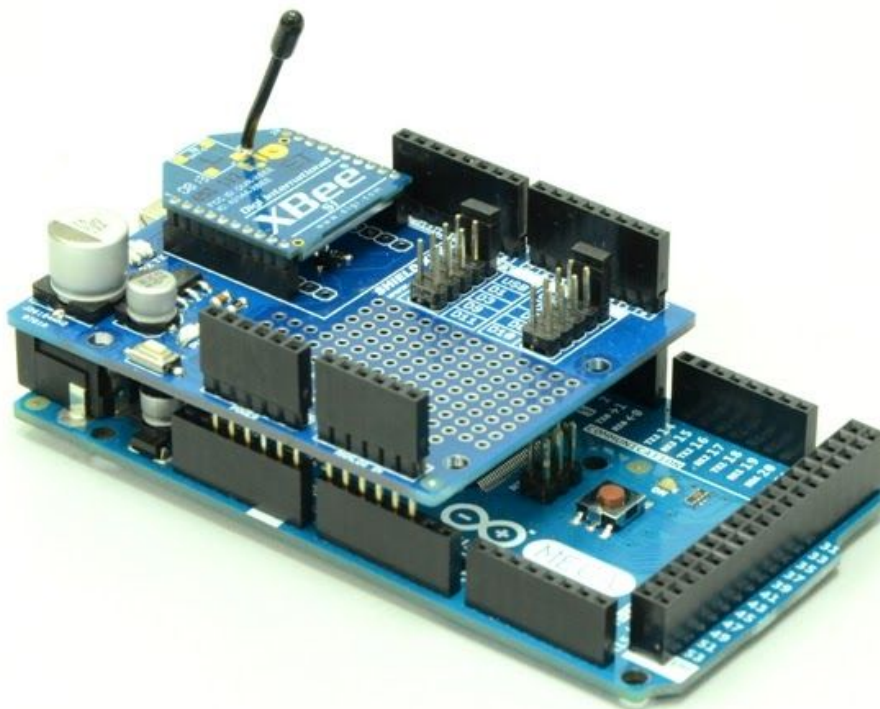


Figure below shows that the SHIELD-XBEE is stacked on the Arduino Mega. Please ensure that the pins alignment is correct.



Select the pins for UART's TX and RX. Pin D0 and D1 are **hardware serial** of most arduino main boards. Other selectable pin for TX and RX on Shield-XBee are software serial pin. The default TX pin is set to D1 while the RX pin is set to D0. However, other pins may be selected if these pins are already used by other shields.

Select USB for TX and RX if user want to use PC to communicate with XBee.

Jumper Selections:

TX	RX	Mode
USB	USB	PC-XBee Communication
D1	D0	Arduino -XBee Communication- Hardware UART
D3	D2	Arduino -XBee Communication- Software UART
D9	D8	Arduino -XBee Communication -Software UART
D11	D10	Arduino -XBee Communication- Software UART

7. SOFTWARE

User can use the Arduino Hardware Serial Library or Software Serial Library . Please Refer to Arduino website for the reference.

Hardware Serial Library:

<http://arduino.cc/en/Reference/Serial>

Software Serial Library:

<http://arduino.cc/en/Reference/SoftwareSerial>

9. WARRANTY

- Product warranty is valid for 12 months.
- Warranty only applies to manufacturing defect.
- Damaged caused by misuse is not covered under warranty
- Warranty does not cover freight cost for both ways.

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