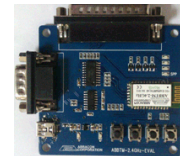# Bluetooth Module Evaluation Board

ABBTM-2.4GHz-EVAL

Pb | **RoHS** Compliant

74.0 x 68.0 mm

▷ DEVICE FEATURES:

This Evaluation Board contains Abracon's ABBTM-2.4GHz Bluetooth Module, status LEDs, buttons, interfaces and power regulator. The ABBTM-2.4GHz device features include:

• Bluetooth Spec v2.0+EDR Compliant
• CSR BlueCore4 built-in
• Class 2, up to 10-meter range
• Complete 2.4GHz Bluetooth® System
• Power management: low power 1.8V operation for Bluetooth® core
• Compact size: 26.9mm (L) x 13 (W) mm x 2.2mm (H)
• Bluetooth® Profile Supported: SPP,HSP, HFP, OPP,PBAP
• Internal antenna
• On-board flash memory (8Mbits)
• SPP profile Embedded in the module (for the software version "F5A34710040F")

▷ APPLICATION

For ABBTM-2.4GHz Bluetooth Module - Wireless serial data transmission (SPP service). Can be used for engineering evaluation of the ABBTM-2.4GHz device

▷ HARDWARE DESCRIPTION

• Interface: DB25 Parallel port, DB9 Serial port, USB interface
• Power Supply: +5V (from USB Port)
• UART Interface: Programmable baud rate up to 3Mbits with an optional by-pass mode
• Connectivity: Bluetooth laptop, computer and Bluetooth adapters, PDA and other devices for seamless connectivity (supports SPP service)
• Size: 74mm * 68mm

▷ EVALUATION BOARD IMAGE
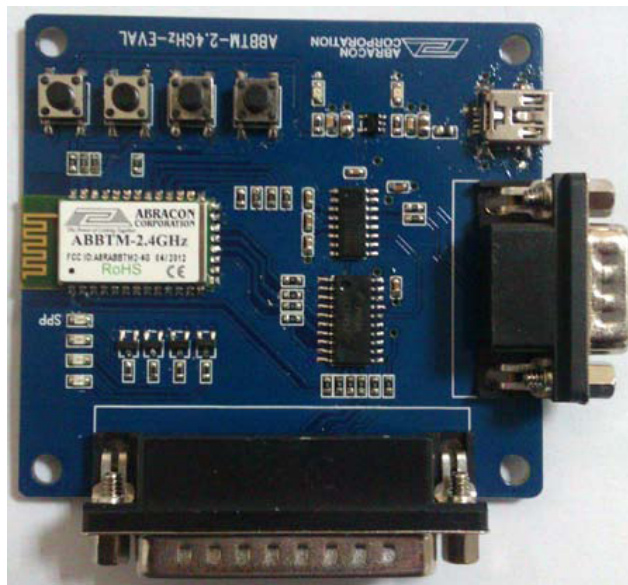
▷ FUNCTION

This Evaluation Board is designed to program and configure, Abracon 's ABBTM-2.4GHz Bluetooth Module; already soldered on the evaluation board. The user can configure the data input and output. The ABBTM-2.4GHz-EVAL is Powered Up with a USB Interface. The user can provide bias to the evaluation board either via a USB Port of a computer, or a USB AC-DC Charger.
The ABBTM-2.4GHz Bluetooth Module soldered on the evaluation board leads to four general I/O ports; which control (4) Blue LED's used as Status Indicators. Additionally, there are (4) button inputs that lead to four general I/O ports of the ABBTM-2.4GHz Module.

▷ ENVIRONMENTAL CONDITIONS

Parameter	Value
Operating Temperature Range	-40ºC to +85ºC
Storage Temperature Range	-40ºC to +85ºC
Relative Humidity (Operating)	≤ 90%
Relative Humidity (Storage)	≤ 90%

ABRACON CORPORATION

Bluetooth Module Evaluation Board

ABBTM-2.4GHz-EVAL

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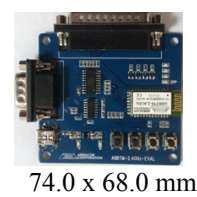
74.0 x 68.0 mm

▷ PORT DESCRIPTION

USB Port: Power Supply only; Need a USB cable with mini-A-type and universal A-type connector.
RS232 Serial port: Wireless data input \ output Interface; Need a DB9 serial cable (crossover, female- female)connect to PC.

Parameter		Possible Values
Baud Rate	Minimum	1200 baud ($\leq$2%Error)
		9600 baud ($\leq$1%Error)
	Maximum	3M baud ($\leq$1%Error)
Flow Control		RTS/CTS or None
Parity		None, Odd or Even
Number of Stop Bits		1 or 2
Bits per Channel		8

Note: In order to communicate with the UART at its maximum data rate using a Standard PC, an accelerated serial port adapter card is required for the PC.
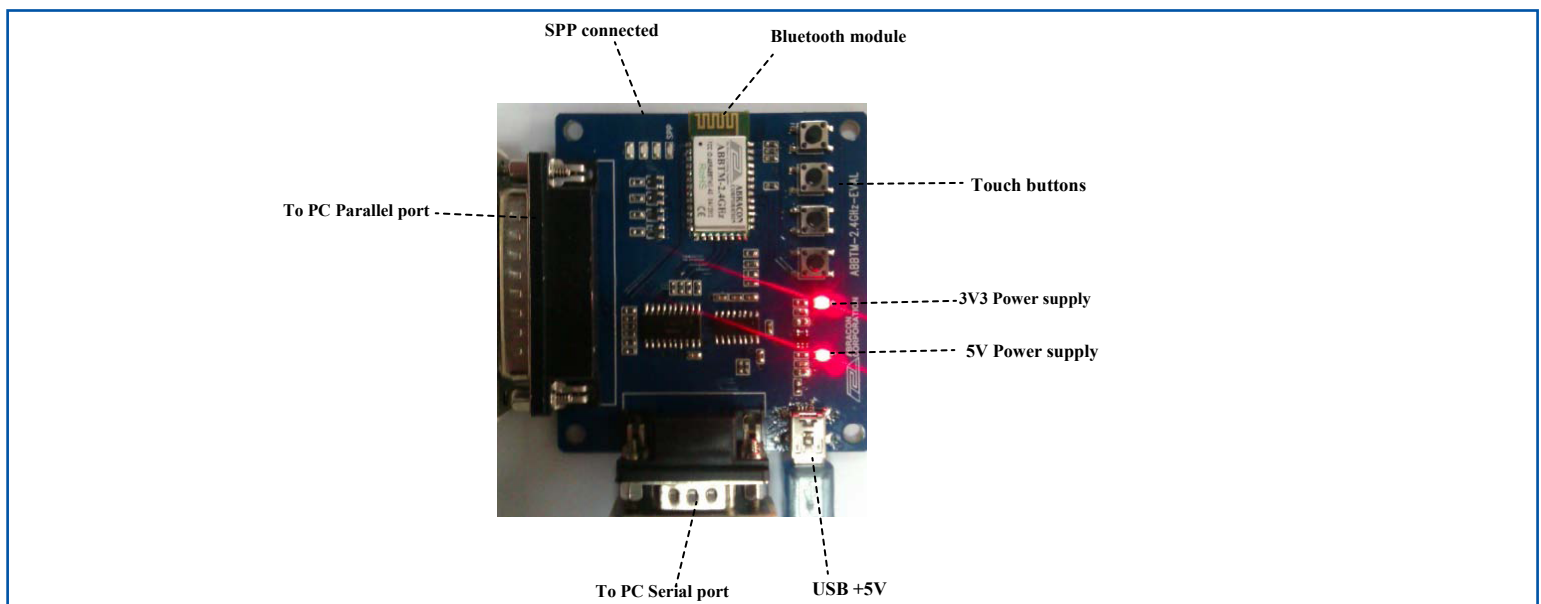
Parallel port: Need a DB25 parallel cable (male-female), the female side is to be connected to the evaluation board, while the male side is to be connected to the PC.

(4) LED Lights: One of the "SPP" indicator is used for the SPP Service of the ABBTM-2.4GHz Bluetooth Module. When ABBTM-2.4GHz is not connected with the SPP service, the LED light will continue to flash. Once SPP connection is established, the LED will be continuously lit.

The other (3) LED lights are currently reserved for the software version "F5A34710040F" of the ABBTM-2.4GHz Bluetooth Module; so there is no functionality associated with them.

(4) Touch Buttons: The touch buttons currently do not have a function associated with them. They are placed as a provision for future use

▷ BOARD DESCRIPTION

SPP connected · Bluetooth module · Touch buttons · To PC Parallel port · 3V3 Power supply · 5V Power supply · To PC Serial port · USB +5V

ABBTM-2.4GHz-EVAL

Pb | **RoHS** Compliant
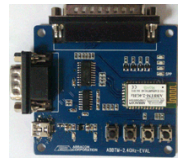
74.0 x 68.0 mm

BOARD LAYOUT AND DIMENSIONS
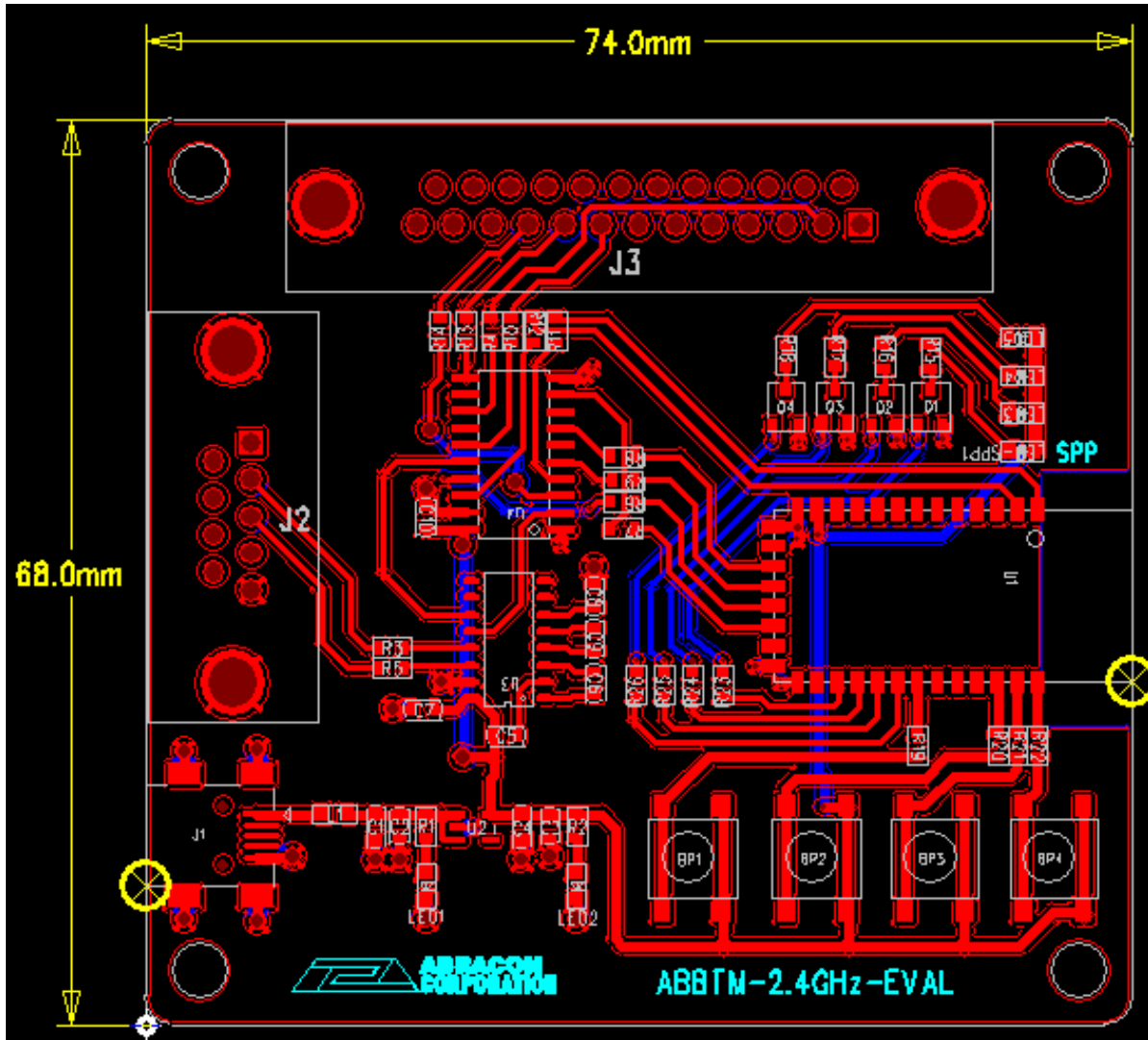
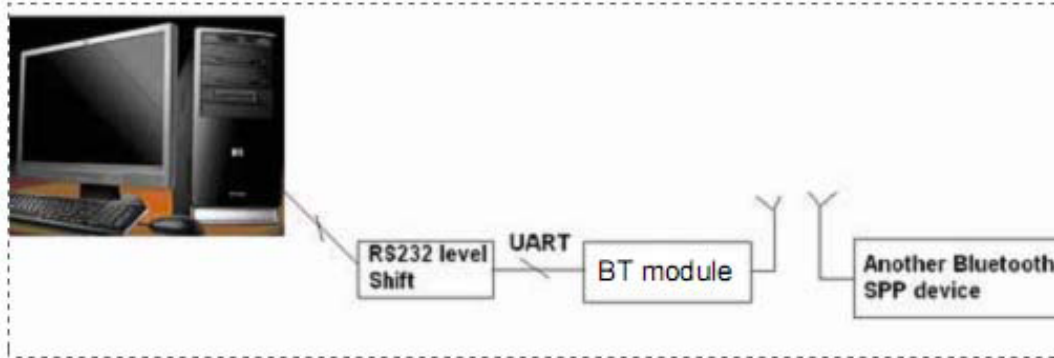ABBTM-2.4GHz-EVAL

Pb | **RoHS** Compliant
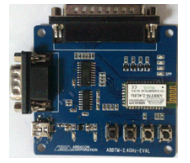
74.0 x 68.0 mm

➢ **EVALUATION BOARD USER GUIDE**

Demo environment Setup: (the example for another Bluetooth SPP device is PC+BT Dongle)Demo environment Setup: (the example for another Bluetooth SPP device is PC+BT Dongle)

1. Connect demo board to PC serial port, such as port 1.
2. Connect USB 5V Supply, the red LED will light-up indicating that the 3v3 power supply is ready
3. Run the Bluetooth software such as IVT's BlueSoleil, to drive a Bluetooth dongle. It is another SPP device
4. Inquire the Bluetooth device and find the Device named "ABBTM"
5. Refresh the service and select the SPP service. Connect it.
6. The blue LED will light-up indicating the "SPP" connection is now setup and it acts as serial port 6
7. Open the "SerCom", and set the serial port 1.
8. Open the "Sercom" again, and set the serial port 6.
9. Send the string "Send from com6" form COM6 to COM1, and COM1 receive the string "Send from com6"
10. Send the string "SEND FROM COM1" form COM1 to COM6, and COM6 receive the string "SEND FROM COM1"