Wireless Cables Inc.
1414 Soquel Avenue, Suite 212
Santa Cruz, CA 95062
Phone: (408) 850-1884
Fax: (408) 228-0687
Email: sales@aircable.net

Bluetooth Module

Model No.: ACC1600

USER GUIDE

V1.1

Federal Communication Commission Interference Statement
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

● Reorient or relocate the receiving antenna.
● Increase the separation between the equipment and receiver.
● Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
● Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:
FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This mobile device is intended for general use.

THE TRANSMITTING ANTENNA MUST BE LOCATED MORE THAN 20cm AWAY FROM THE BODY OF USER AND NEAR BY PERSON.

1) The transmitter module may not be co-located with any other transmitter or antenna. As long as condition above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

The final end product must be labeled in a visible area with the following:
" FCC ID: SQCACC1600".

Manual Information That Must be Included

The users manual for must include the following information in a prominent location
" IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements, the antenna used not be co-located or operating in conjunction with any other antenna or transmitter.

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Description

Wireless Cables Inc. provides various Bluetooth products. They are suitable for customers to exploit them to implement Bluetooth functionality into PCs. The features of Bluetooth USB interface list as below:

Features

Model Name ACC1600
Standard Bluetooth v2.0
Frequency Band 2402~2480MHz unlicensed ISM band
Spread Spectrum FHSS (Frequency Hopping Spread Spectrum)
RF Output Power Class 1 (18 dBm)
External antenna (omni up to 9dBi and directional patch up to 18dBi)
Power provided by the USB interface
USB Compliant USB V1.2
Overair Baud rate up to 720kBit/s,
Dimension 83mm x 65mm x 23mm

Photos

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What is the range of the Host XR?

The range of the AIRcable Host XR depends on 3 things:

- The Antenna attached to the AIRcable Host XR
- The other device you are wirelessly communicating with
- The environment you are communicating in

Generally speaking we give range figures using 2 XR devices (AIRcable Host XR or AIRcable Industrial XR) with the same antenna talking to each other outdoors in a line of sight environment and in beautiful Santa Cruz weather, for example: on the beach. The standard range you can expect with the included antenna is about 1km range. The largest rubber duck antenna (9dBi) gives you 2km range. This is about the limit of the FCC certification for omni-directional antennas. Using directional antennas we can reach a range of about 10km within the FCC regulations using two 18dBi directional antennas. If you use one XR and one other device with a weaker radio you get less range. With a cell phone or PDA you can expect about 100m range depending on the antenna. With a good directional antenna you get about 1km range maybe more communicating with a cell phone. Bluetooth headsets attached to your ear will have a more limited range. Bluetooth radio waves do not pass through your head, and in fact don't even get through the outer layers of the skin. If you turn your head so that your head is between the antennas, your head will reduce the range. Stereo Bluetooth headsets are better since right and left ears are connected, which helps the reception even if the antenna is only on one of the ear muffs. Anything between the transmitters will reduce signal strength. A wall will reduce the range. The range reductions will depend on the wall's material and thickness. Bluetooth radio waves bounce off walls too. A staircase between stories allows the signal to go from one level to another, even in a steel reinforce concrete building.

System Requirements:

The AIRcable Host XR is a standard USB Bluetooth adapter.

You can use the AIRcable Host XR with:

Windows, Linux, Mac OS X

Some older Windows systems do not have Bluetooth software pre-installed. We do not provide Windows software. If you have an older Windows machine, you will need to purchase a Bluetooth driver for Windows 2000 or older XP.

Here are some available Bluetooth Stacks/drivers:

IVT BlueSoleil
http://www.ivtcorporation.com

Toshiba Bluetooth Stack
http://aps.toshiba-tro.de/bluetooth/

Broadcom BCM1000-BTW
http://www.broadcom.com

Technical Specifications:

Industrial strength aluminum case
- small size: 83mm x 65mm x 23mm
- case mounting flanges
- magnetic bottom
- Industrial operating temperature range -40oC to 85oC

Power supply
- 5V through USB, max 200mA

Bluetooth with external antenna connector
- omni-directional antenna up to 2km with 9dBi
- directional antenna up to 10km with 18dBi
- professional installation up to 30km with 24dBi parabolic
- external cable available

Bluetooth profiles
depending on the host computer

Certifications
- Bluetooth certified (BQB)
- Bluetooth 2.0 compatible with 802.11b tolerance (AFH)
- FCC authorization 15C
- CE certification (pdf)

Radio
- raw output power: 19.5dBm
- input sensitivity: -92dBm
- omni directional antennas: up to 9dBi
- professional installation, directional: up to 18dBi
- antenna connector: RP-SMA