

### **Bluetooth Compact Flash (CF) card usage**

Windigo Bluetooth Compact Flash card is a complete Bluetooth transceiver packed in Compact Flash card form factor with standard Compact Flash I/O interface; this product can be used on PDA, notebook, and digital camera as long as these platforms support Bluetooth technology to transfer both data and voice between these devices. Windigo Bluetooth Compact Flash card composes these components listed below

#### **CF card connector**

This is the interface between computing device and Bluetooth CF card, and it's a 50 pin connector which conveys the signal between computing device and Bluetooth Module, like data lines, control line and address lines.

#### **CF to UART Bridge Chip**

This is a controller to delivery the information between CF slot and UART interface. On the computing device side, this controller declares itself as an standard UART like I/O device, on module side, it reads the data from Bluetooth transceiver and send it to Bluetooth protocol stack over UART interface, meanwhile it writes data to Bluetooth transceiver over UART interface.

#### **Crystal**

Crystal is used to provide the clock to the UART bridge chip. This crystal is a 18.432MHz crystal, which is the basis for bridge chip to generate the accurate UART baud rate.

#### **EEPROM**

EEPROM is used to store the CIS information for CF card configurations.

#### **Bluetooth Module**

Bluetooth module performs all the Bluetooth functions from RF transmit and receive to communication protocol, also the man-machine interface operation, including LED control.

#### **Antenna**

Antenna is the unit to send the signal to air and receive the signal from air and feed into Bluetooth module. A PCB antenna is built-in the Windigo Bluetooth Compact Flash card.

#### **Typical Windigo Bluetooth Compact Flash Card Usage Scenario**

Windigo Bluetooth Compact Flash (CF) Card with PDA is a typical usage scenario. Before user inserts the Windigo Bluetooth CF card into PDA's CF slot, the software which includes necessary graphic user interface (GUI) and Bluetooth communication protocol stack needs to be installed on PDA. After inserting Windigo Bluetooth CF card into PDA, user can start the installed Bluetooth application to communicate with other Bluetooth enabled devices. For example, when user wants to send data from the PDA to a computer, user can select the data file and start the transfer via GUI. Then data is transferred from PDA to UART bridge chip first at 115.2kbps of data rate. Therefore, the bridge chip will buffer the data, and then send the data to Bluetooth Module over UART interface. As long as the Bluetooth Module get the data, it will send data to the remote Bluetooth enabled device over air by using frequency hopping technology with GFSK (Gaussian Frequency Shift Keying) modulation method, and hopping over 79 channels at 1600 hop per second in most of countries worldwide. The data transmitted has a symbol rate of 1 Ms/s. Also TDD scheme is used for transmitter and receiver at 625us or times of 625us interval, and the maximum data rate is at 721kbps.