

## **Description of Operation Principle**

This device is designed to communicate with PC or other host equipments through standard USB interface on one side of the dongle, and propagates microwave of Bluetooth signals from host interface through the antenna on the other side.

The Bluetooth signals traveling in the air are received by the antenna of the dongle and delivered to the Bluetooth module already qualified by BQB. The Bluetooth module includes band-pass filter which filters the noises out of the operation frequency, and balun which transfers single signal to the balance ones. Then the received singles pass to the Bluetooth chip, down-convert to the frequency compatible with the base-band. Finally, the singles are transferred to USB signals by base-band controller and communicate the with host devices.

Transmitting signals enter Bluetooth Single Chip through USB port of PC system. The digital signals are converted into analog I, Q signals by the base-band circuits, then modulated and up-converted to 2.4GHz RF signals by the RF Transceiver. Finally, the RF signals are amplified by the power amplifier and transmitted into the air through the antenna.

The crystal provides the whole circuit the standard reference frequency of 16MHz .

There is no external ground connection. The ground is only that of the printed circuit board.

The input voltage of this Bluetooth USB Dongle is 5V supplied by a PC system.