

BT Keyboard

Operation Principle

1. Controller Side Radio

The BT keyboard system is mainly composed of three parts: radio modem, frequency synthesizer and baseband microprocessor. The radio modem is a GFSK modem running at 1Mbps. The antenna is an embedded PCB antenna matching is done by using lumped inductors and capacitors.

The microcontroller scans keystrokes on the BT keyboard, then packs the data by adding preambles, frame information, and error checking bytes. The radio system uses one of 79 channels (the frequency range is 2.402-2.480GHz) to send signal in random.

The BT keyboard is powered by 3.7V Li-ion batteries and regulated to 2.8V. The power consumption of RF module is about 1.8mA, the total power consumption of the BT keyboard is about 2mA in normal working mode. It will enter sleep mode if no key be pressed after 8 minutes, in this mode the total power consumption of BT keyboard is only about 35uA.