BT Keyboard

Operation Principle

1. Controller Side Radio

The radio 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 joypad, 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, Otherwise, there are 4 synchronous channels (distribute in the 79 channels uniformity).

The joypad radio is powered by 3.0V Batteries. The power consumption of RF module is about 4mA, the total power consumption of the joypad side radio system is about 5mA 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 joypad is only about 40uA.