Operation Description

The transmitter is mainly composed of two parts: radio modem and baseband microprocessor. The microcontroller scans keystrokes, wheel and sensor, then packs the data by adding preambles, frame information, and error checking bytes. The radio system uses one of 80 channels (the frequency range is 2.401-2.480GHz) to send signal in random, when the data validation error change frequency.

The transmitter is powered by 3.7V Li-ion battery. The power consumption of RF module is about 2.7mA, the total power consumption about 11mA in normal working mode. It will enter sleep mode if no key be pressed or no motion after 30 second, in this mode the total power consumption only about 100-200uA.

The transmitter will send sync packets after being powered on, and then search Dongle's responses. This is search mode. If any responses-packets be received, the transmitter will enter normal working mode. Then, if the transmitter loses synchronization, it will enter sleep mode.

Antenna is formed by a copper trace on the PCB. Common grounding on PCB is not connected to real external ground. Power supply is DC 3.7V by Li-ion battery.