Mouse M-30 transmitter

1. Optical sensor will compare the image data, and send it with X-axis, Y-axis format to MCU.
2. MCU will scan x, y axis, encoder and ID/reset key. If any signal change come from above mention. It will turn convert the data package with checking the low battery status data, and prepare for modulate to the reference x'tal directly.
3. When MCU received the signal from x, y axis, encoder and ID/reset key. Firstly, MCU will turn on the RF power, (e.g. 27.120MHz)
4. The reference x'tal will support the exact 3rd tone of the exact frequency(e.g. 27.120MHz)
5. Buffer amplifier is to change the impedance between oscillating circuit (high impedance) to low impedance
6. (PA)Power amplifier is to support enough current to drive the antenna
7. Matching circuit is to match the impedance between PA and antenna.

M-30 receiver

1. When the PC power on, the receiver will start the PnP process of USB
2. MCU will turn on the RF power of RF
3. When the RF signal comes(e.g. 27.000MHz for keyboard and 27.120MHz for mouse), the signal will direct to the mixer
4. The RF signal is pass through mixer. It means that the original signal (27.000MHz from keyboard 27.120MHz from mouse) will down convert to 480KHz from mouse or 455KHz from keyboard
5. IF1&2 filter are perform a filtering function of 455KHz and 480KHz
6. 455KHz & 480KHz resonator will perform the local oscillator (LO)function
7. When the IF1(455KHz) or IF2(480KHz) pass through discriminator, the demodulating signal will come out. We called it base band signal of mouse or keyboard
8. AF AMP will work as a data slicer, it amplify the signal to square wave digital signal.
9. This digital signal will send to MCUs. MCUs will sample the signal to check it is valid or not.
10. If the signal it valid, MCUs will convert the signal to the USB interface to PC. No-matter is exact activity of mouse or keyboard.
11. MCUs also scan the reset lock key to check user has to press this key or not.