



## RF OPTICAL MOUSE OPERATIONAL DESCRIPTION

### Mouse

- 01.MCU will scan the link button and matrix line. If any signal change come from above mention. It will turn convert the data package With checking the low battery status data, and prepares turn on the RF power setting the channel switch (ch1), Touch link button link to receiver..
- 02.When MCU received the signal of any key. Firstly, MCU will turn on the RF power, transmitter button or MOUSE data.
- 03.Power amplifier is to support enough current to drive the antenna.
- 04.. Matching circuit is to match the impedance between PA and antenna..

### Receiver

- 01.When the PC power on, the receiver will start the PnP process. No-matter the interface is USB AND PS/2.
- 02.MCU will program power, If IC will perform the exact frequency,(27.55MHz) touch link button lock channel Frequency..
- 03.When the RF signal comes (27.095 MHz), the low noise amplifier (LNA) will amplify the signal about 14 dB.
- 04.The adding signal to pall through mixer I will generate 455KHz intermediate frequency (IF). It means that the original signal (27.095MHz) will down convert to 455KHz..
- 05.IF1 filter is performing a filtering function of 455KHz (IF1).
- 06.When the L0 27.55MHz signal pall through the 1st mixer, it will generate the 1st IF1 455KHz.
- 07.After the IF1 amplifier will work for an AGC (auto gain control) function, and the signal more stable.
- 08.A 455KHz resonator will perform the LO function.
- 09.When the IF1 (455KHz) pall through discriminator, the demodulating signal will come out. We called it base band signal.
- 10.AF AMP will work as a data slicker, it amplify the signal to 8square wave digital signal.
- 11.This digital signal will send to MCU. MCU will sample the signal to check it is valid or not.
- 12.If the signal it valid, MCU will convert the signal of the interface to PC. NO-matter is PS2 let PC to do their exact activity.

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#### Mouse Antenna Spec

1. Frequency: 27Mhz
2. Antenna Type: Integrated
3. Antenna peak gain: -0.5dBi
4. VSWR: 2.6
5. Polarization: Linear
6. Impedance:  $(25-j30)$  Ohms