



Transmitter

01. MCU will scan the button and optical sensor signal. 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, Touch link button link to receiver.. then firmware will be setting the channel is ch1, if user want to use ch2, just need to touch link button link to receiver again, so, the channel is arrange in proper sequence, On this account to set up use same method.
02. When MCU received the signal of any key. Firstly, MCU will turn on the RF power, transmitter button or optical sensor data.
03. When the application MCU has data to send, set CE high. This activates RF2402 on-board data processing.
04. The address of the receiving node(RX address) and payload data is clocked into the nRF2402. The application protocol or MCU sets the speed(ex : 10kbps).
05. MCU sets CE low, this activates a nRF2402 ShockBurst transmission.
06. nRF2402 ShockBurst :
 - . RF front end is powered up
 - . RF package is completed(preamble added, CRC calculated)
 - . Data is transmitted at high speed (250kbps or 1 Mbps configured by user)
 - . nRF2402 returns to stand-by when finished
07. Power amplifier is to support enough current to drive the antenna.
08. 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.
02. MCU will program power, If IC will perform the exact frequency, touch link button lock channel Frequency..
03. When the RF signal comes, the low noise amplifier (LNA) will amplify the signal about 14 dB.
04. Correct address and size of payload of incoming RF package are set when nRF2401 is configured to Shock Burst RX.
05. To activate RX, set CE high.
06. After 200us setting. NRF2401 is monitoring the air for incoming communication.
07. When a valid package has been received(correct address and CRC found), nRF2401 removes the preamble, address and CRC bits.

08.nRF2401 then notifies(interrupts)the MCU by setting the DR1 pin high.

09.MCU may(or may not)set the CE low to disable the RF front end (low current mode).

10.The MCU clock out just the payload data at a suitable rate(ex.20kbps).

11.When all payload data is retrieved nRF2401 sets DR1 low again, and is ready for new incoming data package if CE is kept high during data download. If the CE was set low, a new start up sequence can begin.

USB let PC to do their exact activity.

一、 **Frequency scheme (I)**

Channel	Keyboard frequency
1	2450MHz