



Part 1 This is a superheterodyne receiving circuit, the 433.92MHz carrier signal received by the antenna through L1, C1, L2, C2 filter circuit, the signal will input to 2nd pin of IC SYN480. The signal is amplified by the IC, then mixing with the oscillator signal to produce an intermediate frequency signal, which is filtered, amplified, demodulated the output signal of pin 6 to the MCU. (Oscillator signal from external crystal will produce input signal to the IC, then IC will magnify frequency internally $6.7458 \times 64 = 431.7312$ MHz, Intermediate Frequency signal : $433.92 - 431.7312 = 2.1888$ MHz).

Part 2 This is the main part of the core circuit, the MCU's operating frequency generated by the internal RC oscillator. RC oscillator is supplying a 4 MHz clock signal to the MCU. When a button is pressed or the received signal from the 7th pin(MCU) and the 5th pin(MCU), the MCU will produce the driving signal to the driving circuit that makes the lighting chains work.

Part 3 This is a memory chip that can remember the current working state, the MCU can write and read out the corresponding function state.

Part 4 After the adapter inputs a DC 29V voltage reduced to 5V by LM7805 , it will provide the electricity to MCU, memory chips, the driving circuit and the receiving circuit.

Part 5 5th pin(MCU) and 7th pin (MCU) produce a signal to Q3, Q4, Q5 and driving H bridge circuit (composed by 4 MOSFET) to operate the lighting chain .