CIRCUIT DESCRIPTION:

1. 2.4 GHz transmitted frequency is produced by 26 MHz crystal Oscillator and frequency double with lock-in technique.

2. TX (Transmitter) is consisting of 2.4G-01T-IC2 and 2.4G-03R-IC1, RX (Receiver) is consist of 2.4G-03R-IC2 and 2.4G-03R-IC1.

3. Data packets are emitted every 20ms,frequency also changed accordingly. Each frame data includes 16bits preamble bits, 16bits sync word, 8bits Length, 8bits Address, 8×8 bits data and 16bits CRC.
Frequency hopping principle：On basis of 8bits address code to make up RS encoding pseudo-random numbers, transpose among 67 channel at an interval of 1M channel space within each consecutive frequency point. The 1st, 26th, 51st frequency points are the simultaneous channel of TX and RX. TX (Transmitter) emits data a time each 200ms at one of frequency point among 1st, 26th, 51st the three frequency points.

4. If signal is interrupted on route, RX (receiver) will cyclically search TX signal at the three appointed frequency points.

5. After pair encoding TX and RX, The bind system will store the address code in memory. The TX and RX will cooperate successfully when turn on power to transmitter next time.

6. Data packets of transmitter emit every 20ms. The TX is connected to a unique frequency hopping sequence, which is assigned at manufacturing. RX receives and stores the frequency hopping sequence of the desired transmitter at initial state. The associated receiver receive control packet from the transmitter and only connect to this transmitter. User can clear this stored frequency hopping sequence by pressing the button on the receiver. The receiver will then connect to the first available transmitter it hears, and store the transmitter's unique frequency hopping sequence in non-volatile memory. A transmitter is only available fore new connection for several seconds after the button pressed in order to reduce the possibility of connecting to another, undesired transmitter operating in the same area. This process is termed binding.

7. Once bound, the receiver will scan for the saved transmitter frequency hopping sequence when it is powered up, or any time no packets have been received for an extended period of time.
As the link is strictly one-way, the transmitter always behaves in the same fashion, sending control data per 20ms with link-establishment information included on a subset of the channels. For the several seconds of binding operation the link establishment data indicates that an unbound may connect.