T38 Description of Operational principle

1. Power source

   Use 1.5V 3A battery, after the adjustment, output 3V, supply CPU, transmit and receive circuit.

2. Receiver

   1. Signal magnify

      RF signal received by antenna, going through RF Switch, after SAW filter filter out 30dB noise, enter LNA (Low Noise Amplifier) to amplify signal.

   2. Local Oscillator

      Apply 82.505 crystal oscillator, go through 5 multiple frequency, output 412.52 MHz RF signal

   3. Mixer (First Intermediate Frequency)

      After magnified signal of 433.93MHz and Local oscillator signal to mix and output First Intermediate Frequency of 21.4MHz

   4. Second Mixer and Demodulation

      Use demodulation IC TA31143 to demodulate, and use IC internal vibrator to output 20.945 MHz signal. Within IC, Mixer output 455kHz Second Intermediate Frequency. 455kHz signal go through Intermediate Frequency Filter, arrive at IC demodulate the data we need.

3. Transmitter

   Use 72.3237MHz Crystal Oscillator, going through 6 multiple frequency, produce 433.92MHz radio carrier frequency, use Varicap Diode to modulate data. Then use radio frequency to carry the data, after amplifying power, transmit out from the antenna.

4. Display, Sound and Vibration Indication

   1. Display

      A. use LCD display message such as: Arm, Disarm, Door Lock, Unlock and etc.

   2. Vibration

      B. Use CPU to control motor to vibrate while arming,

   3. sound indication

      CPU basis of recovered difference message to send out music, alarm sound ,car call sound or key sound .

5. Key Function:

   Bottom 1 : Arm, Door Lock

   Button 2: Disarm, Door unlock

   Button 3: Silent arming,

   Button 4: remote start