

**Model TS433 APPLICATION for FCC****TECHNICAL DESCRIPTION****MODEL TS433 REMOTE TRANSMITTER****DESCRIPTION**

The transmitter is a low-power communication device operating at frequency 393MHZ or 418MHZ or 433.9MHZ by SAW device (Y2). The signal is a digital-coding modulated transmission which transmitted data to a receiver. This digital coding provides different patterns by proprietary IC (U1) and (U2).

**FUNCTION**

The sensor (TH1) acts a temperature detector and monitors the premise temperature change. The temperature signal is processed by the integrated circuit (U5) and display the reading on the LCD (LCD1). The integrated circuit (U5) provides the HI, LO temperature setting, clock function and alarm function. When the detected temperature reach to the preset temperature range, it will cause alarm to piezo (BZ1). In addition, it also bias the transistor (Q7) to latch on the logic circuit formed by integrated circuit (U3A, U3B, U3C) to turn on transistor (Q5) to provide power to the proprietary IC (U1) to send out the coded digital signal to the oscillator circuit. The logic circuit also acts the timed transmission control to have approximately 1 second's RF operation.

The integrated circuit (U3E & U3F) and the zener (ZD1) forms the low battery detection at about 4.5V to flash the LED (DS2) at about 4.5V to flash the LED (DS2) on 1 second and off 20 seconds approximately.

The digital modulator is employed in the proprietary IC (U1) and (U2), which sends encoded digital data. Resistor (R6) and Capacitor (C19) established the clock rate of 3MHZ

The output data from the proprietary IC (U1) drives a tuned Colpitts power oscillator. A high-Q SAW resonator controls frequency of oscillation. The inductive load L1 is configured on the PCB as the principle-radiating element which similar to an elementary dipole. Resistor (R5) in conjunction with the base bias circuit (R4) regulates the power output of the transmitter.

The unit operates from two 3V battery (CR2032). The transmitter is function with the receiver of FCC ID KUT838R, NBQSCAD.