FCC ID: RF7WT-2

WT-2 Wireless Alarm Transmitter
Principle of Operation

The WT-2 Wireless Alarm Transmitter monitors the state of a connected sentry mat. When the pressure on the mat is released the WT-2 will sound a local alarm and at the same time sends a signal to the WR-3 or WR-4 Receiver. The transmitter will also send a signal in response to the polling signal from the WR-3, or WR-4 Receiver every 60 seconds. This serves to indicate that the transmitter is within communication range from the Receiver.

The RF transmitter is a ChipCon CC1000 RF transeiver chip. The chip is programmed to work at 915Mhz ISM band and data rate is approximately 1K baud. Data is encoded in Manchester format. The logic functions are controlled by a Holtek HT46R23 micro controller unit (MCU) which communicates with the RF chip via IIC bus. The MCU is normally in Sleep mode for power saving purpose. When the button is pressed, a signal will generate an interrupt to wake up the MCU. The MCU will then send out an alarm signal with an unique ID code to the Alarm Receiver. For every 60 seconds the MCU will also wake up by action of a watchdog timer and wait for the polling from the Receiver for the out of range polling signal.