

WFM-1 Wireless Floor Mat transmitter  
Principle of operation

The WFM-1 Wireless Floor Mat Transmitter monitors the state of a pressure sensitive floor mat. When a pressure is exerted on the mat, the transmitter will transmit an alarm signal with an ID to give alert that someone is trying to go out an exit.

The RF transmitter is a ChipCon CC1050 RF transmit only 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 EMP78C138 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 pressure is exerted on the mat, 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. To ensure that the alarm is received, the same signal will be sent five times.