

Re: Certification for Siemens Receiver
Model: 5WK48203
FCC ID: M3N-5WK48203
CAN: to be provided by IC

DESCRIPTION OF OPERATION

The Siemens security control system consists of a 315 MHz transmitter and a Security Module. The Security Module contains the receiver.

The Transmitter sends a command corresponding to the button pressed on the Transmitter. The binary command is scrambled, encoded at 2kHz, then Amplitude Shift Keyed (ASK) at 315MHz. This signal is transmitted to the vehicle, i.e. the receiver.

The antenna on the Security Module board connects to the receiver. The receiver demodulates the signal and sends the Manchester data at TTL levels to the microcontroller on the Security Module. The microcontroller decodes the signal, deciphers the command, and activates the appropriate outputs. A block diagram of the Security Module is attached to this document.

This receiver was designed to be a subassembly part, a daughter-board, to maintain the ability to use the receiver on many different module boards. The module board supplies power to the receiver, regulated to 5.0Vdc with a maximum tolerance voltage of 5.1Vdc. The receiver will not operate above 5.1Vdc. The receiver is made with a double-sided circuit board with components on one side and a continuous, unbroken ground plane on the other side.

EXHIBIT 12

Page 1 of 1

U of Mich file 415031-25