Vehicle security:

RKE works in frequency range of 433.92HZ.

It’s waking up the CPU by sending the data stream of radio waves. Data stream consists of command and for security, Rolling codes. The remote keyless system’s in the car captures of the rf signal, extracts it and sends the data stream to the cpu.

Protocol used CAN(Serial Bus).

A can message is made up of 10bytes of data organized in a frame like structure.

CAN supports a data rate of 1Mbit/s @40m bus length

Door Sensor(Analog sensor) for Door condition:

* Consists of reed switch and a magnet(reed switch is connected to frame and magnet is connected to door.
* Reedpin has 2 inputs one is connected to gnd and the other is connected to pullup resistor if the state is low door is closed and viceversa.

In RKE:

* the digital data stream is transmitted between 2.4kbps and 20kbps, usually consists of data preamble, a common code, some check bits and a rolling code
* Initiate the transmission of the frame device identifier, command and a code using the authentication of the frame. (1-way communication)