Technical Description(FM231)

Product Description:

The Equipment Under Test (EUT) is a transmitter for private driveway alarm system, operating at 433.92Mhz. The product is powered by 3V d.c. (2x1.5V primary battery). It transmits a signal to corresponding receiver generating an alert sound. The transmitter incorporates a coil sensor which will activate a transmission within 3.1s when vehicle detected.

The Model: MIGHTY MULE FM231and Smartec SD2736 are the same as the Model: FM231 in hardware aspect. The difference in trade name and model number serves as marketing strategy.

Antenna Type: Internal, Integral printed circuit board.

Related Submittal(S) Grants

This is an application for certification of a transmitter. The receiver, associated with this transmitter, has FCC ID: N9KSMARTECSD2706 and has been filed.

Basic Working Principle

1. ADC Converter Circuit: Analog to digital converter technology. When a metal object such as a car, truck or motorcycle in motion disturbs the magnetic field around the magnetic coil sensor, the input analog signals from the sensor will be converted into digital signals via A/D converter IC2 AD7789.
2. Sensor's Range Adjustment Circuit: The range is adjustable from a 3 to 12 foot radius by tuning the adjustment potentiometer R7.
3. RF 433.92Mhz Generator Circuit: When the MCU IC3 detects MAGNETIC DISTURBANCES in the field caused by a vehicle in motion associated with the wand coiled sensor, would activate the IC1 PT4450 generate a AM modulated RF signals at 433.92Mhz.

Main Components Descriptions

◆ RF 433.92 Mhz Modulator (**IC1**)
   An AM modulator, RF 433.92Mhz signals generator for wireless operation

◆ SAW Crystal (**SAW1**)
  Osc. of IC1

◆ IC A/D Converter (**IC2**)
  Analog to digital converter

◆ IC MCU (**IC3**)
  Micro Controller Unit for input and output data managing and controlling etc.

◆ Ceramic Resonator (**Y1**)
  Osc. of IC3

◆ Voltage Regulator (**IC4**)
  2.5 Volts Voltage Regulator

◆ Range Adjustment (**R7**)
  An adjustment potentiometer

◆ Switch (**S1**)
  4-positions DIP switch for house code setting