

The SmarTire Tire Pressure Monitor Tool (TPMT) Operation

Overview

The SmarTire TPMT transmits and receives RF signals with automotive components. These functions are anticipated to be performed in automotive repair shops and tire changing facilities.

Function

The TPMT transmits at one frequency: 125kHz. The TPMT can additionally receive one frequency: 433MHz. The TPMT also has two different clock sources.

125kHz Transmission

The 125kHz transmission can be generated as a pulsed signal or as a continuous wave signal. In other words it can create a 125kHz signal that is turned on and off at a rate of 4kHz with a variable duty cycle. It can also create a higher powered continuous wave signal.

433MHz Receptions

The SmarTire TPMT is capable of receiving this frequency in either FSK or ASK styles.

Clock Sources

The SmarTire TPMT utilizes a 4MHz ceramic resonator for the microcontroller, which in turn uses a PLL to generate an 8MHz internal use clock signal. The high frequency receiver makes use of a crystal at the 13.225MHz frequency.

Power Source

3 "C" cell alkaline batteries power the TPMT.

Testing

The operation of the SmarTire TPMT during test will be dependent upon suggestions provided by ITS on the best way to accurately test the SmarTire TPMT.