

June 10, 2004

TRW Automotive U.S. LLC
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RE: Certification for TRW TPM '05 Initiator

Model #: 39360-S9V-A0
FCC ID: GQ4-27T
Canada IC: 1470A-8T

GENERAL DESCRIPTION

The device for which certification is being requested is a low frequency (125KHz) transmitter designed specifically for a Honda tire pressure monitoring system. With its associated tire sensors and receiver; the initiator is part of the system used to detect the tire pressure of the tires in a vehicle. Four initiators are used in each vehicle, one for each tire. They are located in or near the wheel well and are connected by wire harness to the central receiver (FCC ID:GQ4-3QR). This central receiver sends a 125KHz waveform over the wire harness to the initiator where it is converted to a magnetic field that is broadcast to a sensor in the tire. The tire sensor then responds by transmitting a 315MHz signal back to the receiver, closing the loop. With warning lights on the dashboard, the receiver informs the driver when the air pressure in a certain tire is low.

The initiator consists of one printed circuit board housed in a plastic case. Embedded in the plastic case is a low frequency ferrite antenna. A three-pin connector molded into the plastic case is used to connect the wire harness from the receiver.

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PRINCIPLES OF CIRCUIT OPERATION

The initiator receives a 125KHz waveform. Input comparator circuitry clean this waveform up where it is level shifted and timing shifted to avoid shoot through currents in the output push/pull transistor stage. The push/pull transistor stage drives a tank circuit tuned to approximately 125KHz and the inductor in the tank circuit is the magnetic transducer used to broadcast a signal to the tire sensor.