

February 8, 2008

TEE  
24175 Research Dr.  
Farmington Hills, MI 48335-2642  
Tel 248.478.7210  
Fax 248.478.7241

Re: Certification for Honda MY09 TPM Highline Receiver  
Model #: 218143-119, 218143-120  
FCC ID: GQ4-40R  
Canada IC: 1470A-12R

## **PRINCIPLES OF CIRCUIT OPERATION**

The receiver contains a microprocessor and firmware that control the entire TPM system. The microprocessor sends low frequency (125KHz-160KHz) amplitude-shift-keying data to the initiator via a signal conditioning circuit and wire harness. The initiator, which is located in each wheel well, amplifies this signal and transmits data to the tire pressure sensor located in the wheel. See

Figure 1. The sensor responds with frequency-shift-keying data modulated at 315MHz. The receiver demodulates this 315MHz signal to receive the data sent from the pressure sensor. Tire pressure problems are reported to the driver via light emitting diodes on the dashboard. A separate system will illuminate the LED's. Tire information is sent to this separate system using a high speed CAN bus. The receiver also is capable of communicating with the vehicle via a K-Line bus; this bus is used for diagnostic purposes only.

The receiver block diagram is shown in Figure 2.

The initiator block diagram is shown in

Figure 3.

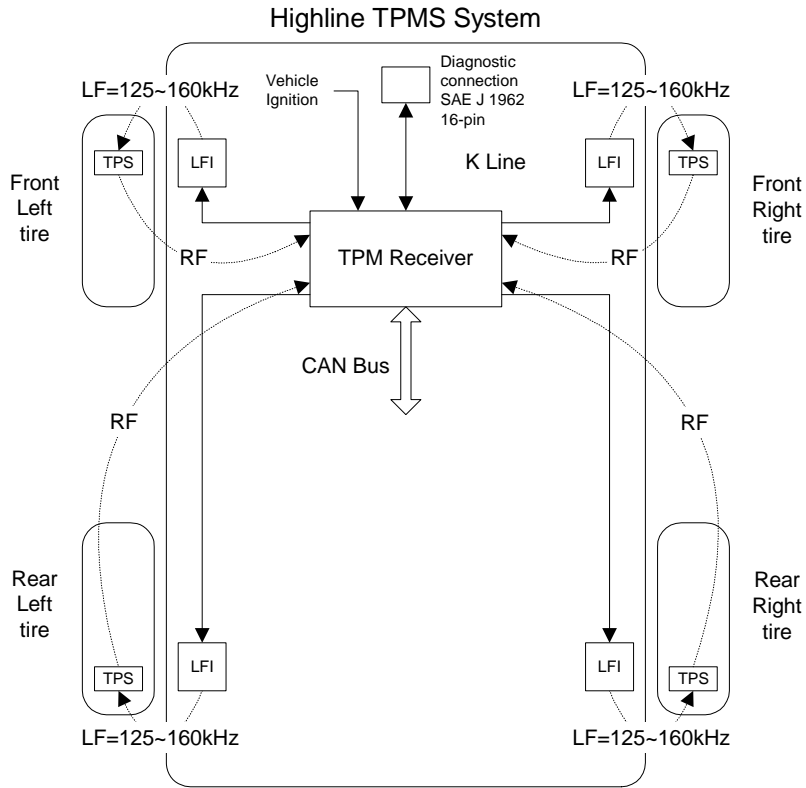


Figure 1. Vehicle Block Diagram

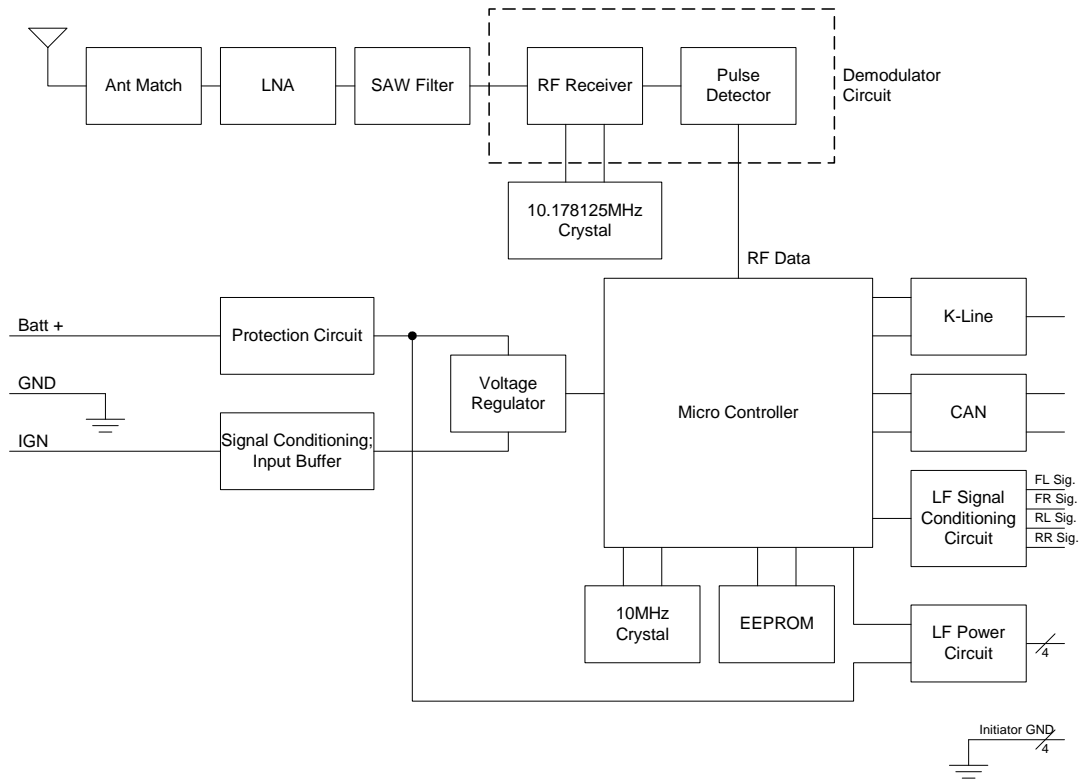


Figure 2. TPM Highline Receiver Block Diagram

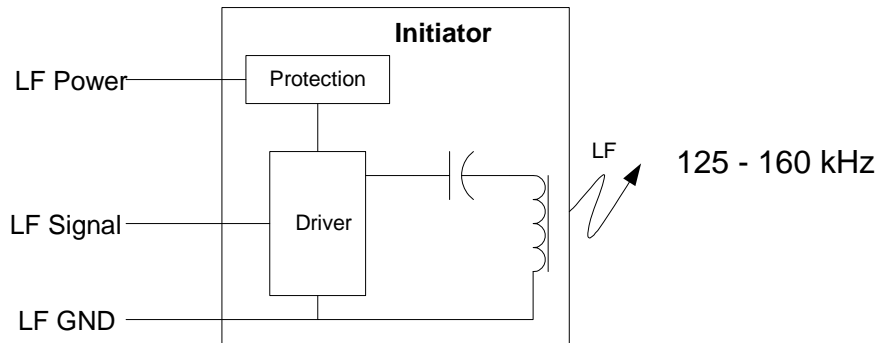


Figure 3. TPM Highline Receiver Block Diagram