



**Active & Passive
Safety Technology**
Business Unit

Certification for Toyota MY18 305B FSK 315 MHz TPM Sensor

FCC ID: **GQ4-72T**
 Canada IC: **1470A-53T**
 Model #: 335098-101, 335098-102

GENERAL DESCRIPTION

The Toyota Tire Pressure Monitor Sensor (TPM Sensor) is a self-contained module that includes the valve stem and sensor ECU subsystems and is attached to the rim of each monitored tire. There are no hardwired electrical connections to the TPM Sensors. The TPM Sensor monitors the pressure and the temperature inside the tire and transmits the information to a TPM receiver located in a vehicle by way of an Ultra High Frequency (UHF) band wireless signal.

The TPM Sensor will support a UHF simplex transmission that is able to transmit the data streams that satisfy the requirements listed in the following: The UHF transmitter nominal frequency shall be 314.98 +/- 0.035 MHz. The TPM Sensor shall allow the crystal oscillator a minimum of 2.2 ms stabilization time before UHF transmission begins. The UHF transmitter shall only be enabled during the time actual data is being transmitted or a carrier signal transmission has been requested through an LF Command. The UHF transmitter baud rate shall be set to 10,000 +/-1% bits per second over temperature range of -40°C to +120°C

The UHF transmitter shall support Frequency Shift Keying (FSK) modulation with the duty cycle of 50 +/- 0.5%.

Table 1 Sensor State Table

State Name	Vehicle State	Frequency of Transmission	Description	Mode
Park	Stop(Parking)	Single 1-FrameTPS Message at 200 seconds interval.	Measures pressure / temperature./ tire centrifugal force /battery Voltage	Consumer
Local Z Msg 1-19	Run	Single 4-Frame TPS Message at 16 second intervals after tire centrifugal force is detected during “Park” state.	Measures pressure / temperature./ tire centrifugal force /battery Voltage	Consumer
Local Z Msg 20-36	Run	Single 4-Frame TPS Message at 24 second intervals after “ Local Z Msg 1-19”.	Measures pressure / temperature./ tire centrifugal force /battery Voltage	Consumer
Drive	Run	Single 4-FrameTPS Message at 64 seconds interval during tire centrifugal force is detected	Measures pressure / temperature./ tire centrifugal force /battery Voltage	Consumer
Rest	Stop	After vehicle state moves to “Stop”(No- tire centrifugal force), Single 1-Frame TPS Message at 200 seconds intervals during 15minutes. After that “Park” state is activated.	Measures pressure / temperature./ tire centrifugal force /battery Voltage	Consumer
Alert(Accidental Pressure Change)	Stop/Run	1 minute period of 4 second interval 8-Frame TPS Messages.	Measures pressure / temperature /battery Voltage	Consumer
Storage	Stop/Run	Single 4-Frame TPS Message upon LF request.	Measures pressure / temperature./ tire centrifugal force /battery Voltage	Consumer

