Tire pressure monitoring systems (TPMS) can improve vehicle safety and fuel economy leading to CO² emissions reduction. Together with reduced tire wear for consistent ride quality, these systems are encouraged by government regulations around the world.

NXP’s pioneering system-in-package technology for TPMS provides an easy design-in solution to meet even the most sophisticated TPMS requirements.

Our tire pressure monitor sensor solution integrates a pressure sensor, microcontroller, RF transmitter and single or dual axis accelerometer into a single package. For the TPMS receiver or BCM, different NXP processors with automotive connectivity options as CAN and LIN protocols are available.

**TPMS Block Diagram**

- **Pressure**
- **Temperature**
- **Radial Acceleration**
- **Tangential Acceleration**
- **125 kHz Signal**
- **Power Management IC**
- **LF Input**
- **3 V Battery**
- **RF Trasmiter**
- **Sensors Pre-Processing**
- **8-bit MCU**
- **RF Antenna**
- **TPMS Sensor**
- **315/434 MHz**
- **TPMS (RKE) Receiver or BCM**
- **RF Antenna**
- **MCU**
- **Physical Interface**
- **Serial Data (CAN/LIN) or Display**

- **NXP Technology**
- **Non NXP Technology**
- **Optional Technology**
## Recommended Products for TPMS

| TPMS Sensor | • FXTH87E Tire Pressure Monitor Sensor (TPMS) Family  
| • NTM88: NTM88 Highly Integrated Tire Pressure Sensor Family |
|------------|---------------------------------------------------------|
| MCU        | • KEA: Ultra-Reliable KEA Automotive Microcontrollers (MCUs) based on Arm® Cortex®-M0+ Core  
|            | • S12XE: Ultra-Reliable S12XE High-Performance Automotive and Industrial Microcontrollers |
| Physical I/F| • MC33897: Single-Wire Can Transceiver  
|            | • TJA1044: High-Speed CAN Transceiver with Standby Mode - Mantis Family  
|            | • TJA1462: CAN Signal Improvement Capability Transceiver with Standby Mode |

View our complete solution for **Tire Pressure Monitoring Systems (TPMS)**.

**Note**: The information on this document is subject to change without notice.