



Driver Monitoring Systems (DMS) and Occupant Monitoring Systems

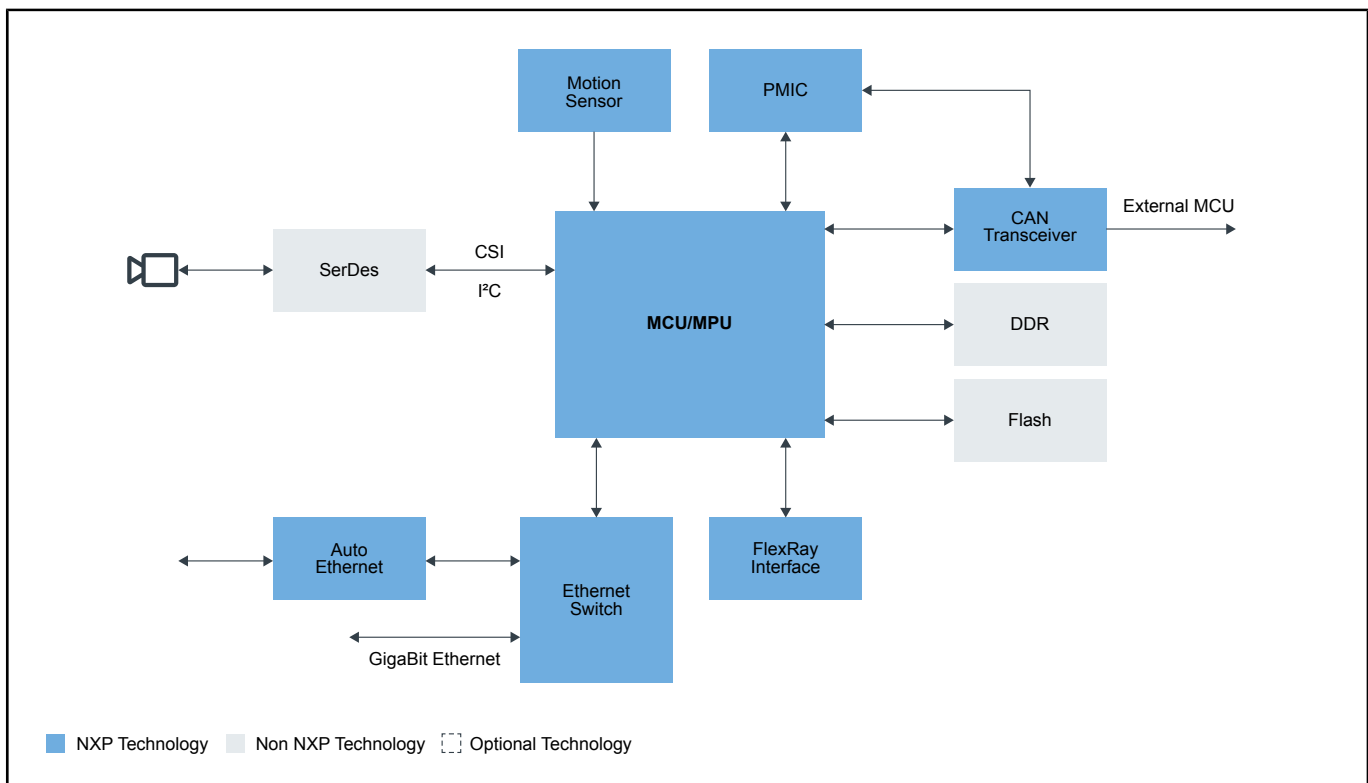
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The driving monitoring system includes a camera-based driver monitoring systems (DMS) pointed at the driver's face which provides a real-time evaluation of the presence and the state of the driver. DMS can help provide alerts to the driver and initiate an intervention to manage the control of the vehicle. The driver monitoring system ensures that the driver is prepared to take control of the vehicle when the situation dictates.

Beyond the driver, occupant monitoring systems can be valuable to understand their condition and even to provide a tailored environment specific to an identified occupant.

NXP offers dedicated silicon solutions for both driver monitoring system and occupant monitoring systems.

Driver Monitoring System Block Diagram



Recommended Products for Driver Monitoring System	
MCU/MPU	<ul style="list-style-type: none"> • S32V234: S32V2 Processors for Vision, Machine Learning and Sensor Fusion
PMIC	<ul style="list-style-type: none"> • FS5600: Automotive Dual Buck Regulator and Controller with Voltage Monitors and Watchdog Timer • PCA9452: PCA9452 Power Management IC for i.MX 93x Auto Processor • PF8100_PF8200: Power Management Integrated Circuit (PMIC) for high-performance processing applications: 12-Channel Power Management Integrated Circuit (PMIC) for High-Performance Processing Applications • FS8400: Safety System Basis Chip for S32 Microcontrollers, Fit for ASIL B • PF7100: 7-Channel Power Management Integrated Circuit for High Performance Applications, Fit for ASIL B Safety Level
Motion Sensor	<ul style="list-style-type: none"> • FXLS8974CF: ±2g/±4g/±8g/±16g, Low-Power 12-Bit Digital IoT Accelerometer • FXLS8964AF: ±2g/±4g/±8g/±16g, Low-Power 12-Bit Digital Accelerometer
CAN Transceiver	<ul style="list-style-type: none"> • TJA1145A: High Speed CAN Transceiver with Partial Networking, CAN FD Data Rates up to 5 Mbit/s
Ethernet Switches	<ul style="list-style-type: none"> • SJA1110: Multi-Gig Safe and Secure TSN Ethernet Switch with Integrated 100BASE-T1 PHYs
FlexRay Interface	<ul style="list-style-type: none"> • TJA1080ATS: FlexRay transceiver: FlexRay Transceiver
Auto Ethernet	<ul style="list-style-type: none"> • TJA1120: TJA1120, ASIL B Compliant Automotive Ethernet 100BASE-T1 PHY Transceiver • TJA1103: TJA1103, ASIL B Compliant Automotive Ethernet 100BASE-T1 PHY Transceiver

View our complete solution for [Driver Monitoring Systems \(DMS\) and Occupant Monitoring Systems](#).

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