

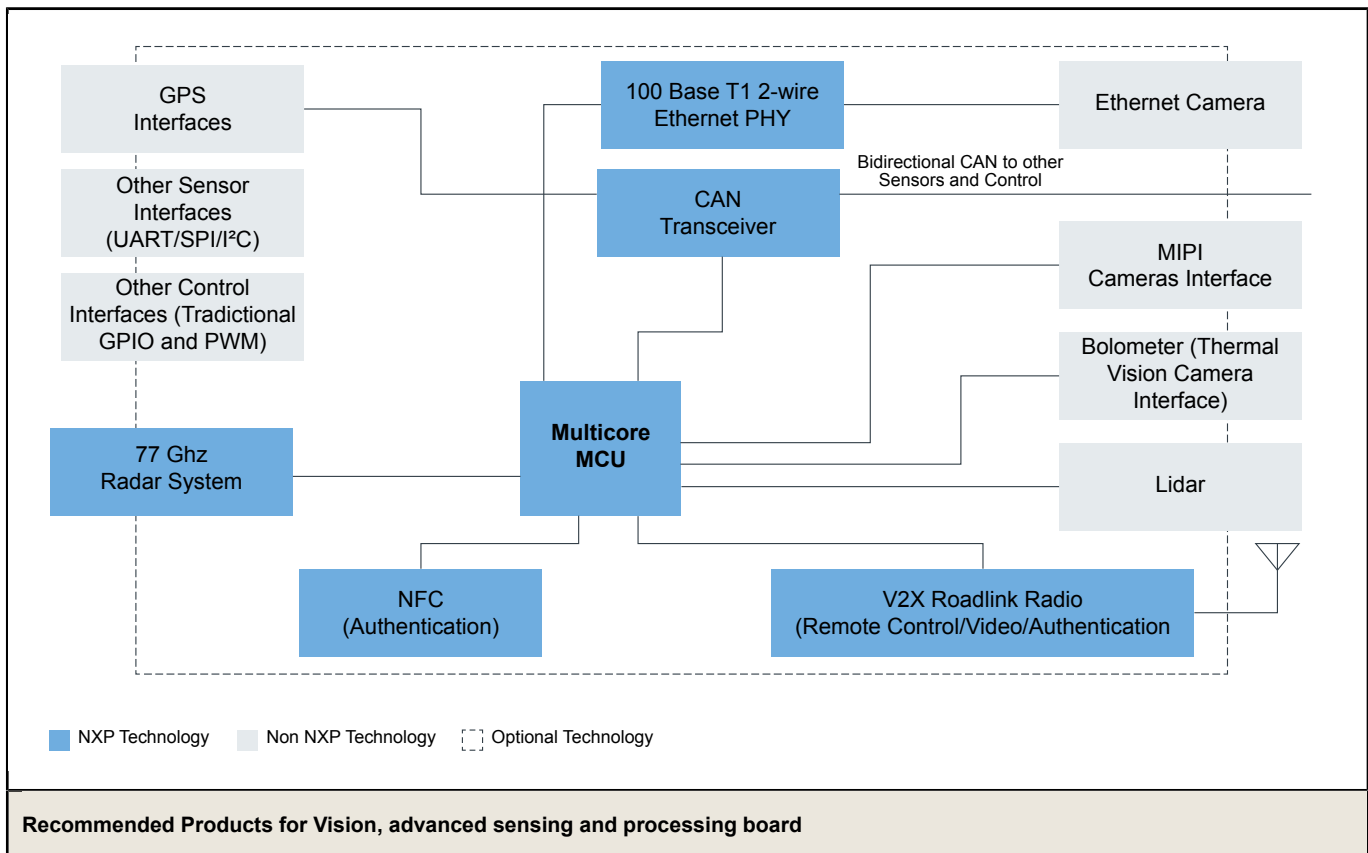


Vision, Advanced Sensing and Processing Board

Last Updated: May 28, 2024

Today's mobile robots (e.g., drones and rovers) need multiple sensor types to determine their location relative to their destination and potential obstacles: inertial sensors and sensor fusion algorithms to accurately know its position in space, or the movement and orientation of an actuator; pressure sensors to measure relative height above ground or as a measurement device for speed or turbulence; and magnetic sensors to provide high reliability angular or rotational measurement. NXP multicore 32 and 64-bit Arm® processors have the embedded hardware IP blocks for vision systems, as well as the processing power and interfaces needed.

Vision, advanced sensing and processing board Block Diagram



Multicore MCU	<ul style="list-style-type: none"> • i.MX7D: i.MX 7Dual Processors - Heterogeneous Processing with Dual Arm® Cortex®-A7 Cores and Cortex-M4 Core • i.MX6D: i.MX 6Dual Processors - Dual-Core, 3D Graphics, HD Video, Multimedia, Arm® Cortex®-A9 Core • i.MX 6 Processors: i.MX 6 Series Applications Processors: Multicore, Arm® Cortex®-A7 Core, Cortex-A9 Core, Cortex-M4 Core • LS1012A: Layerscape® 1012A Low Power Processor • S32V234: S32V2 Processors for Vision, Machine Learning and Sensor Fusion
Advanced Sensor systems	<ul style="list-style-type: none"> • TEF810X: TEF810x Fully-Integrated 77 GHz Radar Transceiver • MPL3115A2: Absolute Digital Pressure Sensor (20 to 110 kPa)
CAN Transceiver	<ul style="list-style-type: none"> • TJA144x: Automotive CAN FD Transceiver Family • TJA1463: CAN Signal Improvement Capability Transceiver with Sleep Mode
77 GHz Radar System	<ul style="list-style-type: none"> • TEF810X: TEF810x Fully-Integrated 77 GHz Radar Transceiver • S32R294: Radar Microcontroller
NFC	<ul style="list-style-type: none"> • NTAG_I2C: NTAG I²C Plus 2K: NFC Forum Type 2 Tag with I²C Interface
Ethernet Interface	<ul style="list-style-type: none"> • TJA1101: TJA1101B, IEEE 100BASE-T1 Compliant Automotive Ethernet PHY Transceiver
V2X	<ul style="list-style-type: none"> • V2X Communications: V2X Communications

View our complete solution for [Vision, Advanced Sensing and Processing Board](#).

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