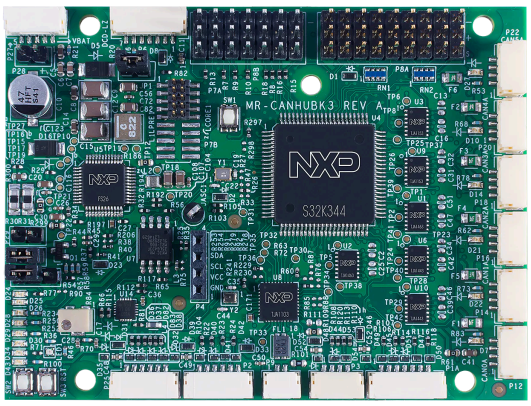
S32K344 Evaluation Board for Mobile Robotics with 100BASE-T1 and Six CANFD

MR-CANHUBK344 Receive alerts



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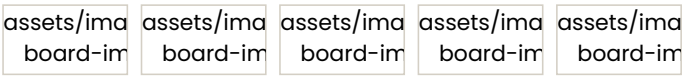
Because you are interested in MR...

MR-CANHUBK344 Hardware Design Package

Printed Circuit Boards and Schematics
ZIP 20.3 MB

Roll over image to zoom in



MR-CANHUBK344 is a general-purpose evaluation board targeted for mobile robotics applications such as autonomous mobile robots (AMR) and automated guided vehicles (AGV); factory automation, industrial vehicles and equipment such as forklifts, trucks and trains; energy management, and motor controller.

MR-CANHUBK344 is based on the Arm® Cortex®-M7 S32K3 general-purpose automotive microcontroller (MCU), featuring advanced safety, security and software support.

MR-CANHUBK344 includes 100BASE-T1 Ethernet (TJA1103 (/products/interfaces/ethernet-/automotive-ethernet-phys/tja1103-asil-b-compliant-automotive-ethernet-100base-t1-phy-transceiver:TJA1103)) and six CAN FD ports (available in the S32K344). The six CAN ports are two each of CAN FD, CAN SIC (signal improvement) and CAN SCP (secure). Tunneling CAN over Ethernet using IEEE 1722 is one use case for this board. The SE050 (/products/security-and-authentication/authentication/edgelock-se050-plug-and-trust-secure-element-family-enhanced-iot-security-with-high-flexibility:SE050) Secure Element with Near Field Communication (NFC) as well as other general purpose peripheral interfaces are also accessible on DroneCode standard JST-GH connectors.

Less

DESIGN FILES SOFTWARE

Product Details

Block Diagram | Supported Devices | Features | Applications

Block Diagram

Choose a diagram:

S32K344 EVALUATION BOARD FOR MOBILE ROBOTICS AND 100BASE-T1 TO CAN BRIDGING MOBILE ROBOTICS ECOSYSTEM

S32K344 Evaluation Board for Mobile Robotics and 100BASE-T1 to CAN Bridging

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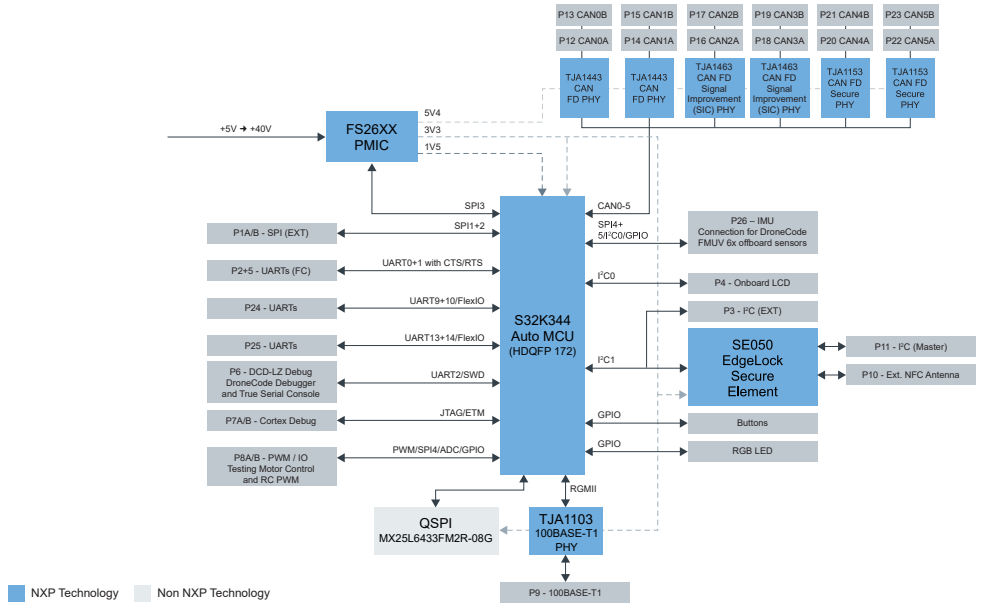
S32K344 Evaluation Board for Mobile Robotics and 100BASE-T1 to CAN

Bridging



GET DIAGRAM PDF (/ASSETS/BLOCK-DIAGRAM/EN/MR-CANHUBK344.PDF)

Supported Devices

Interfaces

CAN with Flexible Data Rate	• **TJA144x** (/products/interfaces/can-transceivers/can-with-flexible-data-rate/automotive-can-fd-transceiver-family:TJA144x)**:** Automotive CAN FD Transceiver Family
CAN Signal Improvement	• **TJA1463** (/products/interfaces/can-transceivers/can-signal-improvement/can-signal-improvement-capability-transceiver-with-sleep-mode:TJA1463)**:** CAN Signal Improvement Capability Transceiver with Sleep Mode
Secure CAN Transceivers	• **TJA1153** (/products/interfaces/can-transceivers/secure-can-transceivers/secure-hs-can-transceiver-with-sleep-mode:TJA1153)**:** Secure HS-CAN Transceiver with Sleep Mode
Automotive Ethernet PHYs	• **TJA1103** (/products/interfaces/ethernet-/automotive-ethernet-phys/tja1103-asil-b-compliant-automotive-ethernet-100base-t1-phy-transceiver:TJA1103)**:** TJA1103, ASIL B Compliant Automotive Ethernet 100BASE-T1 PHY Transceiver

Security and Authentication

Authentication	• **SE050** (/products/security-and-authentication/authentication/edgelock-se050-plug-and-trust-secure-element-family-enhanced-iot-security-with-high-flexibility:SE050)**:** EdgeLock® SE050: Plug and Trust Secure Element Family – Enhanced IoT security with high flexibility

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MR-CANHUBK344 Hardware Design Package

Printed Circuit Boards and Schematics

ZIP, 2.03 MB

Power Management

System Basis Chips	• **FS26** (/products/power-management/pmics-and-sbcs/system-basis-chips/safety-system-basis-chip-with-low-power-for-asil-d-systems:FS26)**:** Safety System Basis Chip with Low Power, for ASIL D Systems

Processors and Microcontrollers

S32K Auto General-Purpose MCUs	• **S32K3** (/products/processors-and-microcontrollers/s32-automotive-platform/s32k-auto-general-purpose-mcus/s32k3-microcontrollers-for-automotive-general-purpose:S32K3)**:** S32K3 Microcontrollers for Automotive General Purpose

Features

Hardware Features

- Six CAN FD ports allow for evaluation of each of the different new NXP CAN PHYs as well as applications such as bridging between 100BASE-T1 Ethernet to multiple CAN protocols
- Functionally safe capable MCU can be evaluated in the context of mobile robotics or other similar industries
- Additional GPIO and interfaces also make this suitable for a small robotics vehicle controller, motor controller or distributed processing peripheral

Software Features

- S32 Design Studio tools (/design/design-center/software/development-software/s32-design-studio-ide:S32-DESIGN-STUDIO-IDE)
- Example application for IEEE 1722CAN over Ethernet
- NuttX RTOS open-source repository
- NuttX/PX4 base example
- Zephyr RTOS open-source repository

Power Supply

- 5-40 V using FS2600 automotive functional safe PMIC

Interfaces

- CAN FD, CAN SIC, CAN (SCT), 100BASE-T1, UART, SPI, I^2C, GPIO, PWM

Applications

Automotive

Automated Guided Vehicles
Distributed Processing
Small Vehicle Controller
Vehicle Management

Industrial