

## Product brief

# Automotive 10Base-T1S evaluation kit

## Enabling seamless 10Base-T1S integration

The industry's rapid transition towards connected, intelligent and automated cars has a tremendous impact on the E/E architecture of tomorrow's vehicles. The advent of zonal / central based architectures requires a whole new level of system integration, highlighting the need of safe, secure, fast, scalable, reliable and cost-effective connectivity interfaces. The adoption of Ethernet as a substitute of legacy network interfaces like CAN and FlexRay has been considered one of the fundamental changes to fulfill such requirements, enabling the full potential of the new architecture concepts.

The new Automotive 10Base-T1S Ethernet kit from Infineon merges the innovations brought by the new 10Base-T1S specification with the powerful well-known multicore computing performance of the AURIX™ 2nd generation family. It enables the creation of multidrop topology networks using the same unshielded twisted pair, while benefiting from the flexibility, scalability, integrated safety and security support from AURIX™:

### AURIX™ TC377TX Triboard with extended header



The Automotive 10Base-T1S Ethernet kit consists on 2 different parts

- › An AURIX™ TC377TX Triboard features a 3/3 cores and 6MB Flash microcontroller and also includes an extended 2x20 Pin Header to connect the AddOn boards described below, providing a full MII interface, as well as SPI connection for MAC PHYs. Additionally, the board also provides a Gigabit Ethernet interface that could be used in parallel.

### AURIX™ 10Base-T1S AddOn board



- › An AURIX™ 10Base-T1S AddOn board features a single Ethernet PHY (either from Canova Tech or Microchip), a 12 Pin MINI50 Molex connector and switchable PoDL support.

## Key features

### AURIX™ TC377TX Triboard with extended header

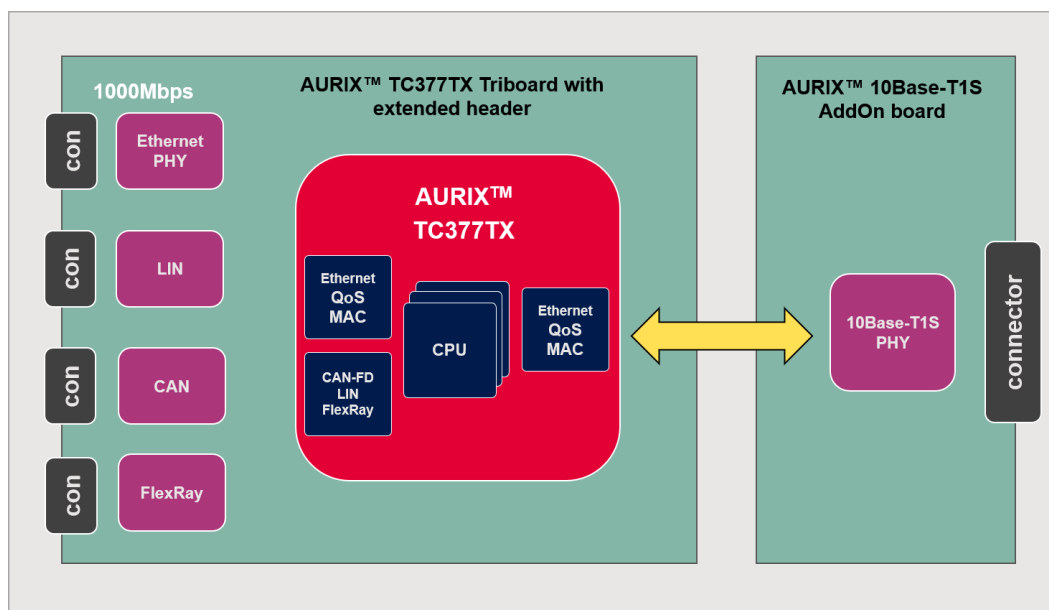
- › AURIX™ TC377TX Controller, with 3/3 cores, 6MB Flash
- › Gigabit Ethernet interface with PHY, supporting different Ethernet topologies
- › Ready to use AddOn Board interface, with extended 2x20 Pin Header:
  - Full MII interface
  - QSPI with 2 Chip Select signals
  - 4 ADC channels
- › Standard automotive interfaces (CAN, CAN-FD, FlexRay, LIN)
- › AURIX™ Computing Performance, flexibility, scalability, integrated safety and security support

### AURIX™ 10Base-T1S AddOn boards

- › Orderable in 3 different versions:
  - With Canova Tech CT25205TC PHY
  - With Microchip LAN8670 PHY
  - Without PHY
- › 12 Pin MINI50 Molex connector allowing to build a bus topology
- › Jumper to configure bus termination
- › Switchable PoDL support (selectable as source or sink)

# Automotive 10Base-T1s Ethernet kit

## Enabling seamless 10Base-T1S integration



The new Automotive 10Base-T1S Ethernet kit provides on one end a 10Base-T1S extension as PHY or MACPHY. Added to the multiple legacy automotive interfaces (like CAN-FD, LIN, Flexray and a 1Gb/s Ethernet) present on the AURIX™ TC377TX Triboard, the kit becomes a powerful tool to explore different combinations of vehicle network architectures.

For SW support please contact your preferred AUTOSAR stack vendor.

### Product table

Product name	Description
KIT_A2G_TC377TX_3V3_E_TR	AURIX™ TC377TX Triboard with extended Ethernet interface (extended header)
KIT_A2G_EXTN_CT25205TC	AURIX™ 10Base-T1S AddOn board with Canovatec CT25205TC PHY included
KIT_A2G_EXTN_LAN8670	AURIX™ 10Base-T1S AddOn board with Microchip LAN8670 PHY included
KIT_A2G_EXTN_CT_NO_PHY	AURIX™ 10Base-T1S AddOn board designed for Canovatec CT25205TC, WITHOUT THE PHY
KIT_A2G_EXTN_MC_NO_PHY	AURIX™ 10Base-T1S AddOn board designed for Microchip LAN8670, WITHOUT THE PHY

For more information and orders please contact your responsible sales person.



[www.infineon.com](http://www.infineon.com)

Published by  
Infineon Technologies AG  
Am Campeon 1-15, 85579 Neubiberg  
Germany

© 2022 Infineon Technologies AG.  
All rights reserved.

Document number: B000-I0000-V1-X-7600-EU-EC  
Date: 05 / 2022

#### Please note!

This Document is for information purposes only and any information given herein shall in no event be regarded as a warranty, guarantee or description of any functionality, conditions and/or quality of our products or any suitability for a particular purpose. With regard to the technical specifications of our products, we kindly ask you to refer to the relevant product data sheets provided by us. Our customers and their technical departments are required to evaluate the suitability of our products for the intended application.

We reserve the right to change this document and/or the information given herein at any time.

#### Additional information

For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices please contact your nearest Infineon Technologies office ([www.infineon.com](http://www.infineon.com)).

#### Warnings

Due to technical requirements, our products may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by us in a written document signed by authorized representatives of Infineon Technologies, our products may not be used in any life-endangering applications, including but not limited to medical, nuclear, military, life-critical or any other applications where a failure of the product or any consequences of the use thereof can result in personal injury.