

As of 19.05.2024

# AURIX™ TC4xx: 32-Bit Multicore Microcontroller Family (Aurix-3G Third Generation) - Live Online Training

#### **Objectives**

You know the architecture, basic on-chip peripherals and the features (especially related to multicore and safety extensions) of the AURIX™ device family.

You get to apply low-level drivers for this hardware, adapt examples as required and test them with a debugger.

Numerous exercises make this training a practice-oriented software workshop.

#### YOUR BENEFIT:

Efficient and compact jump-start into the overall topic

Practical tips on multicore and safety

Exercises for download

#### **Participants**

Hardware and software architects, hardware and software developers, test engineers // IMPORTANT NOTE: A valid NDA with the chip vendor is a pre-requirement to attend the Aurix-3G training course.

#### Requirements

ANSI-C knowledge; experience in microcontroller/microprocessor system programming and architecture

## Live-Online-Training

23.09. - 27.09.20243.500,00 €5 Days 03.03. - 07.03.20253.500,00 €5 Days

Training code: LE-AURIX3G

## Face-To-Face - English

**Date Duration** 08.07. – 12.07.20245 days 16.12. – 20.12.20245 days

#### **Live Online - German**

**Date Duration** 23.09. – 27.09.20245 days 03.03. – 07.03.20255 days

### Face-To-Face - German

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<sup>\*</sup> Price per attendee, in Euro plus VAT



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#### Content

**AURIX-3G System Architecture** 

**A3G Introduction** 

**CPU Subsystem AURIX-3G** 

**Virtual Machine Control - VM** 

#### **On-Chip Bus Systems and Bridges**

- Shared resource interconnect (SRI), flexible peripheral interconnect (FPI / SPB), low latency interconnect (LLI), bus bridges

#### Memory

**Functional Safety and Security Systems** 

**Functional Safety and Security Features** 

**Cyber Security Real-Time Module** 

Cyber Security Satellite (CSS)

Interrupts and Traps, Direct Memory Access Controller (DMA)

#### **System Control and Management**

- System control unit, clock management, system mode management unit (SMM)
- AURIX-3G power management system (PMS)

## **Peripherals - Ports and Timer Modules**

- General purpose I/O ports and peripheral I/O lines
- Timer modules: Generic timer module (GTM), enhanced timer module (eGTM)

#### **Serial Interfaces**

#### **Automotive Interfaces**

## Asynchronous Interface - ASC / Local Interconnect Network (LIN)

#### **CAN Interfaces**

- Controller area network interface (MCMCAN),
- Controller area network interface extra long (CANXL)
- FlexRay™ controller (ERAY)
- Standard serial interfaces: Inter-integrated circuit (IIC/I2C), queued serial peripheral interface (QSPI)
- eXpanded serial peripheral interface (xSPI)

#### **Ethernet Modules**

Ethernet (GETH), Lite Ethernet (LETH)

#### **PCle Module**

## **Analog to Digital Converter**

- Versatile ADC, delta-sigma ADC (DSADC)

## **Parallel Processing Unit (PPU)**

#### On-Chip Debug Support and Emulation Device

#### **Exercises**

- Numerous exercises will be conducted on an Infineon AURIX<sup>™</sup> board, covering the following aspects: use of low-level drivers, protection mechanisms, interrupt controller, DMA controller, system timer, port, multicore aspects, monitoring, performance measurement etc.

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Please note that the Aurix-3G training does not explicitly cover ADAS specific blocks. If required, please contact our service office prior to the training, phone +49 (0)89 450617-71.