

## **AURIX™ TC4xx: 32-Bit Multicore Microcontroller Family (Aurix-3G Third Generation) - Face-to-Face 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

Download of exercises

### **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

## **AURIX™ TC4xx: 32-Bit Multicore Microcontroller Family (Aurix-3G Third Generation) - Face-to-Face Training**

### **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)

**PCIe 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™ 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.

-----  
**IMPORTANT NOTE: A valid NDA with the chip vendor is a pre-requirement to attend the Aurix-3G training course.**  
-----

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.

**FACE-TO-FACE TRAINING**

Date	Price *	Duration
16.12.2024 – 20.12.2024	3.500,00 €	5 days

\* Price per attendee, in Euro plus VAT

Training code: E-AURIX3G

**Live Online - English**

Date	Duration
23.09. – 27.09.2024	5 days
03.03. – 07.03.2025	5 days

**Face-To-Face - German**

Date	Duration
16.12. – 20.12.2024	5 days

**Live Online - German**

<b>Date</b>	<b>Duration</b>
23.09. – 27.09.2024	5 days
03.03. – 07.03.2025	5 days

**Coaching**

Our coaching services offer a major advantage: our specialists introduce their expertise and experience directly in your solution process, thus contributing to the success of your projects.

We will be happy to provide you with further information or submit a quotation tailored to your requirements.