



TI Technology Day Ankara Abstracts



Session 1 **9:15 – 10:30**

Track 1

High Speed Data Converter Basics

The 1.5h High Speed Data Converter Basic session covers the basics of High Speed ADCs and High DACs. All relevant topics like the parameters, clocking, driving and testing ADCs as well as the digital featuresets inside the DACs are briefly covered. An updated product portfolio and product outlook complete this session.

Track 2

Essential concepts of complex SOC and Linux Development Tutorial on TI processors

Learn how to successfully develop with TI's ARM, OMAP™ and DaVinci™ devices. This session will provide a hardware overview as well as a dissection of software architecture. Attendees will gain an understanding of TI delivered software components (OSs, LSP, codecs), use cases, collateral and support paths, and system integration. Program management best practices will also be covered. In addition, this presentation will explore the various Linux development options available for TI's OMAP, DaVinci and Sitara processors. We will discuss both community and commercial offerings, including the benefits of each.

Track 3

C2000™ real time microcontroller platform

This session will provide you an insight into the C28x architecture, key peripherals (such as PWM, ADC, CAP, etc.), hardware tools and the controlSUITE software offering. C2000 devices are 32-bit microcontrollers with high performance integrated peripherals designed for real-time control applications. Its math-optimized core gives designers the means to improve system efficiency, reliability, and flexibility. Powerful integrated peripherals make C2000 devices the perfect single-chip control solution. C2000's development tools strategy and software (controlSUITE) create an open platform with the goal of maximizing usability and minimizing development time.

Session 2 **11:00 – 12:15**

Track 1

Tips and Tricks for the Design of Power Solutions

This topic covers background information a designer should have in mind when selecting the proper components as for example capacitors and inductors, but also for the selection of switching regulators and Power MOSFETs. In addition some practical implemented circuits to overcome device limitations or to solve specific application problems will be presented.



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Track 2

Industrial Interfaces and Isolators

Industrial Interfaces (RS232, '422, '485, Ethernet) and Sensor interfaces (4..20mA, HART, ASi, IO-link): Reasons for variety, pros and cons, technology comparison and portfolio overview on isolators. Introduction to level shifting and recent additions to interfaces. An overview of TI data line circuits in noisy and demanding environment.

Track 3

MSP430 - Next Generation & Intro to Code Composer Studio 4

The CC430 platform is a highly integrated, monolithic SoC based on the industry-leading MSP430™ MCU architecture and TI's ultra-low-power RF solutions. By making RF design easy, small, performance-rich and power efficient, the CC430 platform helps advance applications including RF networking, energy harvesting, industrial monitoring and tamper detection, personal wireless networks, automatic metering infrastructure, and heat cost allocators. Code Composer Studio™ IDE v4.0 is a major new release of Code Composer Studio software that is based on the Eclipse open-source software framework. This session will also provide an overview and explain advantages to using v4.0 of the Code Composer Studio IDE for your development.

Session 3

13:30 – 14:45

Track 1

Clocking High Speed Data Converters

This 1h-1.5h session explains the challenges when designing the clocking solution for high speed and high performance ADCs. After a brief introduction to the ADC clocking needs, the focus is on the clocking solution.

Track 2

Tackling EMI and RFI at the Board and System Level

Electromagnetic interference (EMI) and radio frequency interference (RFI) can affect any system in an undesirable manner, as the proliferation of unintentional radiators and receptors continues to increase. EMI and RFI, an undesirable byproduct of electrical systems, produce a wide range of frequency spectra that can affect otherwise properly operating circuits. During this seminar, we will review the fundamental principles of radiated interference and coupled interference, along with the respective allowed limits for both of these interference sources. We will describe transmitters and receivers, along with techniques to mitigate the effects of both culprits. The solutions we will cover will be effective power-line filtering, proper filtering for input signals of high-gain circuits and details on key components. Finally, we will discuss some common rules of thumb for wire and PCB routing to minimize EMI and RFI effects. With this seminar, you will learn some basic methods that will help reduce sources and receptors of EMI and RFI events in and near your circuits.



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Track 3

Do You Speak PLC, OFDM, SFSK or DALI? We Do! An Introduction to Power Line Communication!

Power-line communication (PLC) is on the rise for applications like metering, intelligent lighting, energy-source management and HEVs. This presentation will give a short overview on PLC history, standards and requirements. With the introduction of Piccolo™ MCUs/Concerto MCUs and dedicated analog front-ends, TI delivers a solution for these PLC applications. The PLC EVM enables customers to enhance time to market for their designs. Promoting flexible microcontroller versus chipset solutions is one key element; but as power, interfaces and drivers are in every PLC modem, we will focus on all key devices.

Session 4

15:15 – 16:30

Track 1

High Speed Layout

The basic High Speed Layout session is 1h-1.5h presentation which gives the designer hints and tricks of what he should be aware when dealing with High Speed Products. It contains helpful information for data converter, amplifier and clocking devices

Track 2

Avionics / Space / Defense / Harsh Environment

In this session we will provide an introduction into TI Analog and DSP commercial technology and roadmaps which can be brought to the Aerospace and Defense market to enable advances in signal processing. TI endeavors to make the latest commercial technology available to the European Aerospace and Defense community. This will help our customers choose products that are catalog and export friendly. An overview and an explanation of the major reliability effects is going to complete this presentation

Track 3

Stellaris® ARM® Cortex™-M3-based MCUs

This session will provide you an insight into the Cortex-M3 architecture, key peripherals (such as Ethernet, USB, External Peripheral Interface, motion control, etc.), hardware tools and the Stellaris Ware software offering. Stellaris MCUs and ARM Cortex-M3 offer a direct path to the strongest ecosystem of development tools, software, and knowledge in the industry. Designers who migrate to Stellaris will benefit from great tools, small code footprint, and outstanding performance. The Stellaris family offers the industry's first and broadest implementation of Cortex-M3 and the Thumb-2 instruction set.