



Austin Deep Dive November 10, 2011

Time	Session	Wireless Workshops	Haptics and Power Supply Design Tools	Embedded Linux	Microcontrollers
8:30 to 9 a.m.	Registration				
9 to 10 a.m.	1	SmartRF Studio Hands-on Training (Part 1 of 2)	Picking up Good Vibrations with Haptics - A Technology Overview	Hands-On Workshop: How to Debug Your ARM-Based Linux Application (Part 1)	Evaluate Stellaris® ARM® Cortex™-M4F MCUs (Part 1)
10 to 10:15 a.m.	Break				
10:15 to 11:15 a.m.	2	SmartRF Studio Hands-on Training (Part 2 of 2)	Switching Power Supplies Made Easy with SwitcherPro, the New, Powerful TINA-TI v9 and WEBBENCH (Part 1 of 4)	Hands-On Workshop: How to Debug Your ARM-Based Linux Application (Part 2)	Evaluate Stellaris® ARM® Cortex™-M4F MCUs (Part 2)
11:15 a.m. to 12:30 to 1:30 p.m.	Lunch				
12:30 to 1:30 p.m.	3	Hands-on Workshop: Understanding and Developing a ZigBee System using the CC2530 ZigBee Network Processor (Part 1 of 3)	Switching Power Supplies Made Easy with SwitcherPro, the New, Powerful TINA-TI v9 and WEBBENCH (Part 2 of 4)	Hands-On Workshop: How to Debug Your ARM-Based Linux Application (Part 3)	Touch Using MSP430™ Design, Libraries and Programming with Capacitive Touch BoosterPack (Part 1)
1:30 to 1:45 p.m.	Break				
1:45 to 2:45 p.m.	4	Hands-on Workshop: Understanding and Developing a ZigBee System using the CC2530 ZigBee Network Processor (Part 2 of 3)	Switching Power Supplies Made Easy with SwitcherPro, the New, Powerful TINA-TI v9 and WEBBENCH (Part 3 of 4)	Hands-On Workshop: How to Debug Your ARM-Based Linux Application (Part 4)	Touch Using MSP430™ Design, Libraries and Programming with Capacitive Touch BoosterPack (Part 2)
2:45 to 3 p.m.	Break				
3 to 4 p.m.	5	Hands-on Workshop: Understanding and Developing a ZigBee System using the CC2530 ZigBee Network Processor (Part 3 of 3)	Switching Power Supplies Made Easy with SwitcherPro, the New, Powerful TINA-TI v9 and WEBBENCH (Part 4 of 4)	Hands-On Workshop: How to Debug Your ARM-Based Linux Application (Part 5)	Touch Using MSP430™ Design, Libraries and Programming with Capacitive Touch BoosterPack (Part 3)

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Session Titles and Abstracts

Track and Course	Abstracts
Track 1 – Wireless Workshop	
SmartRF™ Studio Hands-On Training (Parts 1 and 2)	SmartRF™ Studio is a PC tool designed to simplify the process of evaluating, testing and experimenting with Texas Instruments low-power RF products. The tool has an easy-to-use graphical user interface to perform RF performance tests and for exporting register values. The main goals of this workshop are to get familiar with SmartRF Studio version 7 and learn some of the most important features. You will learn how to use the tool to measure the output power from an RF transmitter, how to check the link quality and measure the packet error rate, how to export settings for direct integration in your software, and how to customize the tool for your own needs.
Hands-On Workshop: Understanding and Developing a ZigBee System Using the CC2530 ZigBee Network Processor (Parts 1-3)	This three-hour workshop will introduce you to ZigBee and how to build a ZigBee application by understanding the design process for a ZigBee network processor. You will come away from this workshop understanding how to set up a ZigBee mesh network using ZigBee coordinators, routers and end devices. You will run packet sniffers and then observe the personal area network (PAN) traffic over the network. Other features you'll learn in this workshop include mesh routing, network commissioning and PAN formation. Laptops will be provided and all attendees will leave with a CC2530ZNP mini development kit (CC2530ZDK-ZNP-MINI).
Track 2 – Haptics and Power Supply Design Tools	
Picking Up Good Vibrations with Haptics: A Technology Overview	The haptics technology deep dive introduces the technology of haptics at an applications and systems level. The presentation discuss the key priorities for picking actuator technology, drivers and software for implementing haptics. The biggest decision for haptics is determining what kind of actuator response an application needs; this presentation will answer that.
Switching Power Supplies Made Easy with SwitcherPro™ Software, the New, Powerful TINA-TI™ Software v9 and WEBENCH (Parts 1-4)	In this hands-on training session, you will learn how to use free Texas Instruments tools to solve your power-supply design needs. This overview of SwitcherPro™ software, WEBENCH and TINA-TI™ software v9 will show the key features of each tool and how it can address your specific power-supply design issues. You will learn how to create a power-supply design, analyze it using SwitcherPro software and WEBENCH, and customize it for a specific solution. Once completed, you can then use TINA-TI software v9, TI's free SPICE simulator, to further customize and evaluate your design. We will also discuss some of the new features in version 9 that can be used to create an application that tests your power-supply design fully. Please bring a laptop if you wish to follow along. You can download these free tools at www.ti.com/analogelab .



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Track 3 – Embedded Linux	
<p>Hands-On Workshop: How to Debug Your ARM-Based Linux Application (Parts 1-5)</p>	<p>In this one-day workshop, you will build a Linux-based embedded system around TI's ARM (or ARM+DSP) processor architecture. Along the way, we will explore and utilize TI's ARM and ARM+DSP device architectures; TI's Linux software strategy, including software development kits; Linux distribution options for TI ARM processors; how to run algorithms on the ARM and DSP; booting your system using U-Boot; configuring networking on Linux systems; using Linux device drivers to move data to/from the processor; using GNU Make to build programs; and using the Code Composer Studio™ IDE v5 (Eclipse) to debug them. This workshop consists of a series of discussions and hands-on lab exercises. The example we utilize is audio/video-based, but the techniques learned here are applicable to a wide range of data types and embedded systems. In essence, this is a scaled-down version of our four-day hands-on workshop, all packed into one day.</p>
Track 4 – Microcontrollers	
<p>Evaluate Stellaris® ARM Cortex-M4F MCUs (Parts 1 and 2)</p>	<p>In this session, you will explore the new Stellaris® ARM Cortex-M4F MCUs and get hands-on with the EK-LM4F232 evaluation kit. You will learn about the new Cortex-M4F's floating-point capabilities along with the LM4F MCU's peripherals and features. The Stellaris EK-LM4F232 evaluation kit provides a feature-rich development platform that allows users to evaluate Stellaris® LM4F-series microcontrollers. The evaluation board features a three-axis accelerometer; an onboard color OLED screen; a Stellaris in-circuit debugging interface; temperature sensor; and USB OTG, host and device capabilities.</p>
<p>Touch Using MSP430™ MCU Design, Libraries and Programming with Capacitive Touch BoosterPack (Parts 1-3)</p>	<p>This session helps you expand the functionality of your MSP430™ Value Line LaunchPad kit with the Capacitive Touch BoosterPack. Learn how to use the capacitive touch software libraries to interface your value line devices with cap touch buttons, sliders and wheels.</p>

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