Z-Training Outline
(Zigbee Application Developers Training)

OVERVIEW

- 2-day class (80% hands-on)
- This course will allow a device development engineer to better understand ZigBee technology
- Will provide a jump-start in the development of devices and networks
- This is a practical course which will provide skills and understanding that can be used immediately
- This class is not hardware specific and is therefore suitable for developers of both two chip and SoC solutions

PRE-REQUISITES

- This course is designed for engineers developing ZigBee-compliant products with Z-Stack on a Chipcon ZigBee platform.

- No prior experience is needed with ZigBee technology; students should have basic proficiency with C programming under an Integrated Development Environment

PRE-WORK

- Introduction to Course
- ZigBee Overview
- What is in a ZigBee network?
- Protocol characteristics
- The Z-Stack Programming model
- Analysis of sample programs

AGENDA

Day 1:

Morning (8AM – 12 Noon)

Review of Pre-work pkt (lecture)

Lab: Getting started with the ZigBee Development Kit

Lunch (12 Noon – 1 PM)

Afternoon (1 PM – 5 PM)

Lab: Debugging with Z-Trace

Lab: Using Packet Sniffer

Lab: Enhance existing programs

Day 2:

Morning (8AM – 12 Noon)

Review of Day 1 (Q & A)

Important Structures

Message Handling

Network management overview

Security Features in Z-Stack

Lunch (12 Noon – 1 PM)

Afternoon (1 PM – 5 PM)

Lab: Friendlier nodes

Lab: Modify GenericApp Application

COURSE OUTLINE (MORE DETAIL)

- **Pre-work packet**
  - **Overview of ZigBee: Organization, 802.15.4, key characteristics**
  - **Overview of the Z-Stack product family**
  - **Development methodology and tools**
  - **Understanding the traffic within a working network**
  - **The Z-Stack programming model**
  - **OSAL – The Operating System**

COURSE OUTLINE (MORE DETAIL)

- Day 1
  - **Lectures**
    - **Review of Pre-work Packet (Q & A)**
  - **Hands-on**
    - **Install all software and hardware onto student laptop**
    - **Compile and run test application for simple network**
    - **Use debugger to view and modify variables**
    - **Walkthrough of source for Lighting application**
    - **Modify Lighting application**

COURSE OUTLINE (MORE DETAIL)

- Day 2
  - **Lectures**
    - **Review of Day 1 (Q & A)**
    - **The Application Layer: device objects, profiles and clusters**
    - **Defining and developing new applications**
    - **Profile Builder tool**
    - **Configurator tool**
    - **Network management: install, configure, modify, debug.**
    - **FFDs: Coordinators and Routers**
  - **Hands-on**
    - **Walkthrough of source for GenericApp application**
    - **Modify GenericApp Application**