IEEE® 802.15.4 and ZigBee™ Development Kit Fact Sheet

Wireless Connectivity with Flexis™ Microcontroller

Overview
Designers of extended wireless networks have consistently expressed a need for a microcontroller with more memory, 128Kb of Flash memory. That solution is now available in the 1320x-QE128-EVB, an evaluation board for developing IEEE® 802.15.4 software applications ranging from simple proprietary point-to-point connectivity to complete ZigBee mesh networking on the Freescale HCS08QE microcontroller platform. The Freescale QE MCU family is unique in that the user can use an 8-bit CPU or a 32-bit CPU in a pin-compatible package and also retain the same peripheral and IO set.

The 1320x-QE128EVB evaluation board is based on the Freescale MC1320x transceiver and MC9S08QE128 microcontroller unit (which is supplied as a daughter card). The 1320x-QE128EVB provides a platform to evaluate the MC1320x and MC9S08QE devices, develop software, and applications, and demonstrate the IEEE 802.15.4 and ZigBee networking capabilities. The evaluation board is supported by Freescale’s BeeKit software design environment for IEEE 802.15.4 and ZigBee applications.

Markets and Applications
Energy management and efficiency
- Automated energy/utility metering
- Demand response
- Load control
Home/Building/Industrial automation, monitoring, and control
- Lighting
- Heating
- Cooling
- Consumer electronics control
- Security
- Process management
- Asset management
- Critical equipment monitor
- Patient monitoring
- Energy management
Software Features

The 1320X-QE128-DSK and DSK-BDM are supported by Freescale's well known BeeKit, wireless connectivity design tool, and CodeWarrior®, microcontroller design tool, integrated design environments (IDE). The BeeKit provides a graphical user interface (GUI) which allows straightforward wireless transceiver and network set-up. The BeeKit is a comprehensive wireless network development tool, making it easier than ever to create and update wireless networking implementations. The BeeKit solution provides designers a tool to reduce their RF investment in time and design resources. By quickly developing the wireless network, the engineer may focus their efforts on application development. BeeKit is a complimentary tool to CodeWarrior.

The BeeKit software development environment features the ability to:
• Create, modify, save and update wireless network solutions
• Develop using a wizard and solution explorer for quick and easy configuration of parameters
• Generate the appropriate workspace files to be imported into CodeWarrior with the comprehensive code base of networking libraries, application templates, and sample applications
• Prepare .xml files for use with CodeWarrior
• Support new code bases and functionality with this exceptional and scalable development tool
• Develop with the Simple MAC (SMAC) and IEEE® 802.15.4 MAC code bases with the unlimited use, complementary BeeKit license
• Access at no charge a 90-day evaluation of BeeStack® fully compliant ZigBee stack.
• Purchase a BeeStack ZigBee code base for full ZigBee stack development as a single user license or a floating license.

CodeWarrior Development Studio for Microcontrollers is a single, integrated tool suite to get customers on the fast track to application development with Freescale's QE128 microcontroller. By combining state-of-the-art debugging technology with the simplicity of a robust development environment, CodeWarrior Development Studio takes source-level debugging and embedded application design to a new level.

The CodeWarrior software development environment features the ability to:
• Create a working project in as few as six mouse clicks with the Project Wizard
• Build systems with the optimized microcontroller compiler and embedded libraries to increase code density and performance
• Develop assembler for the QE128 microcontroller
• Utilize a graphical, source-level debugger
• Simulate instruction sets for the architecture
• Program flash through an integrated flash programmer
• Create new flash programming algorithms for external memory devices using the Flash Tool Kit
• Develop CPU and peripheral initialization code

Learn More: For more information about ZigBee products, please visit www.freescale.com/zigbee.