



Wireless Connectivity

## BeeKit Wireless Connectivity Toolkit

### Target Markets

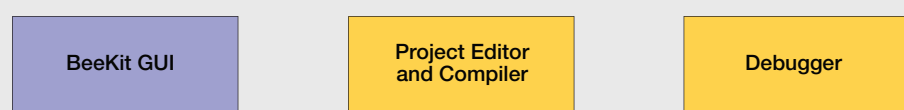
- Cable replacement
- RF remote control
- Wireless toys and gaming
- Home automation
- Smart energy
- Building automation
- Security
- Health and wellness monitoring
- Process monitoring and control
- Factory automation
- Industrial control
- Electronic shelf labels

### Overview

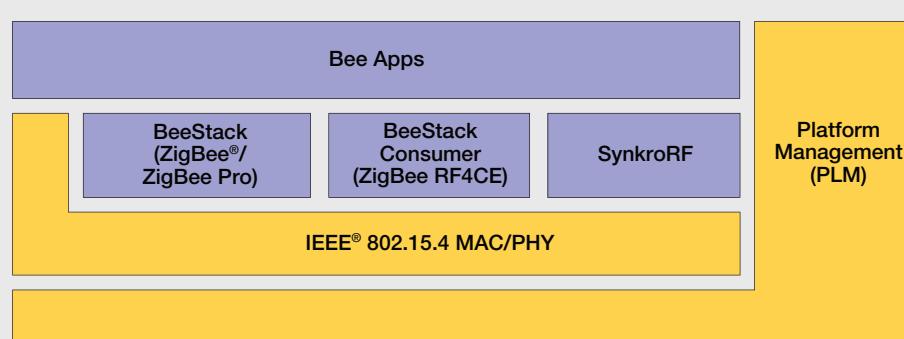
Wireless networking has enabled application developers to enhance their product offerings and take their applications to new levels of functionality. This increase in functionality is traditionally followed by an increase in application complexity. Wireless link management and protocol management are among the new topics that developers need to concern themselves with as they head down the wireless networking road. The Freescale BeeKit toolkit provides a development environment where these design considerations can be managed in a straightforward, uncomplicated approach.

### BeeKit Block Diagram

#### Windows® Based Components



#### Embedded SW Components (Codebase)



## Technical Features

- Operating system support
  - Windows® 2000
  - Windows XP
  - Windows Vista®
  - Windows 7
  - Windows 8
- The BeeKit graphical user interface (GUI) provides
  - 802.15.4 MAC
  - BeeKit Consumer (ZigBee RF4CE)
  - BeeStack (ZigBee®/ZigBee Pro)
  - SynkroRF
- Target devices and associated processor architectures supported
  - KW2x (ARM® Cortex®-M4)
  - MC12311 (HCS08QE)
  - MC1323x (HCS08QE)
  - \*MC1322x (ARM7)
  - MC1321x (HCS08GT)
  - MC1320x (transceiver used with discrete MC9S08GT/QE MCU)
- Integrated development environments (IDE)
  - CodeWarrior Development Studio for HCS08
  - IAR EWARM for ARM
- Ordering information
  - BeeKit is included with all development kits and may also be downloaded at [freescale.com/beekit](http://freescale.com/beekit).

\* Not Recommended for New Designs.

## Development Environment

BeeKit is a standalone software application targeting Windows operating systems and provides a GUI in which the users can create, modify, save and update wireless networking solutions.

With the solution explorer property list, users are able to set configuration parameters that will control the setup and execution behavior of the wireless link within their application. The configuration parameters can be validated inside the BeeKit toolkit to ensure all values provided are within acceptable ranges prior to the generation of a workspace. This functionality provides a mechanism for developers to configure and validate their network parameters without having to navigate through multiple source files to configure these parameters.

In addition to the GUI, the BeeKit toolkit includes a comprehensive resource of wireless networking libraries, application templates and sample applications. This resource provides the networking software infrastructure into which developers may tap when creating their own applications.

The codebases include Freescale BeeStack Consumer (ZigBee RF4CE) and BeeStack (ZigBee/ZigBee Pro) protocol stacks and preconfigured application samples and templates. BeeStack supports the latest ZigBee 2007, ZigBee Pro 2012, ZigBee RF4CE, remote control profile, input device profile, home automation profile, smart energy profile and the healthcare profile. BeeKit also provides a path for inclusion of 802.15.4 MAC, sample applications and templates.

Once a developer has completed the configuration of their wireless solution, BeeKit allows the solution to be exported to an integrated development environment (IDE). Within the IDE the designer may build and debug their application code.

For more information about 802.15.4/ZigBee products, please visit [freescale.com/802154](http://freescale.com/802154)



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