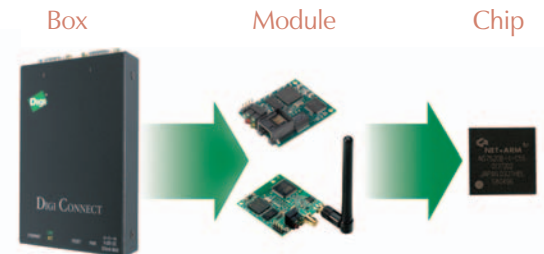


# Digi Connect<sup>®</sup> EM Family

Wired and Wireless Embedded Modules



The Digi Connect EM and the Digi Connect<sup>®</sup> Wi-EM are the industry's first interchangeable secure embedded modules, delivering wired and wireless Ethernet network connectivity that is cost-effective and easy to implement.



Seamless migration to total integration  
Future proof protection - software development migrates fully to chip solutions.

## Features/Benefits

- Interchangeable and pin-compatible single-component solution based on 32-bit NET+ARM processor
- 4 MB Flash and 8 MB RAM
- Two high-speed TTL serial interfaces
- Serial Peripheral Interface (SPI)
- Wireless Ethernet network interface
  - Dual-diversity 802.11b with data rates up to 11 Mbps
  - Strong WPA2/802.11i security with TKIP/AES encryption
  - Radio pre-certification in North America, EU and Japan reduces cost, risk, and time-to-market
- Wired Ethernet network interface
  - Auto-sensing 10/100Base-T
- Nine shared GPIO port options
- Low power consumption and industrial temperature range
- Population options available
- Strong SSL/TLS encryption with NIST certified AES algorithm for security sensitive environments
- Plug-and-play firmware option eliminates embedded software
- Easy-to-use and royalty-free NET+Works development platform for custom application development

## Overview

Wireless technology creates a new dimension in a rapidly emerging world of ubiquitous networking collaboration in which billions of networked electronic devices work invisibly and jointly with each other and with people. Making the right network technology decisions is a key factor for market success and defines the competitive edge of your products.

The Digi Connect EM family of embedded modules enables original equipment manufacturers to keep pace with ever-evolving networking technology by delivering complete and versatile embedded network connectivity solutions. They are cost-effective and easy to implement in existing and new product designs, while powerful enough to meet your future product performance needs.

Based on a unique common platform design approach, the Digi Connect EM and Digi Connect Wi-EM embedded modules offer complete "drop-in" integration. This allows you to build future-proof products based on a single design supporting secure 10/100Base-T wired and 802.11b wireless Ethernet connectivity. Digi Connect EM embedded modules make all of this possible without the traditional complexities of hardware and software integration work, and at a fraction of the time and cost required to create custom solutions.

The Digi Connect EM and Digi Connect Wi-EM embedded modules feature a variety of connectivity options, such as two high-speed serial ports, an SPI master mode interface and nine General Purpose Input/Output (GPIO) port options. For additional integration flexibility, they are available in two low-profile population options, with or without onboard LED array and an Ethernet connector. Additional customer-specific population options are available on request.

Built on leading NetSilicon<sup>®</sup> 32-bit NET+ARM technology, Digi Connect<sup>®</sup> embedded modules combine true plug-and-play functionality with the freedom and flexibility of complete software customization. The proven NetSilicon NET+Works<sup>®</sup> development platform provides a seamless migration path to a fully integrated NetSilicon system-on-chip solution.

Please contact us at 1-877-OEM-DIGI or 952-912-3444 for additional information or to discuss your specific application requirements.



# Plug-and-Play Modules

The Digi Connect EM and Digi Connect Wi-EM embedded modules with plug-and-play firmware deliver instant and completely transparent wired and wireless device server networking functionality. They significantly reduce time to market by completely eliminating the need for additional embedded hardware or software development.

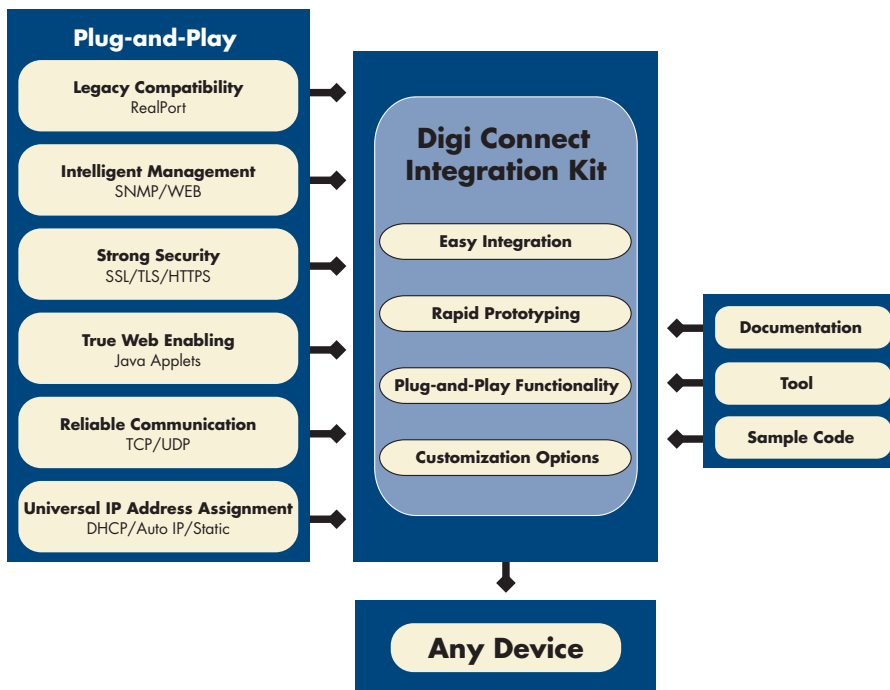
Unique and industry-leading features such as a robust TCP/IP stack, universal IP address assignment, integrated web server with user file system, fully customizable web user interface, custom Java applet support, enhanced security with strong DES/3DES/AES encryption based on the SSL/TLS standard, intelligent device management via SNMP, and patented RealPort® COM/TTY port redirection make it an ideal solution for any application that requires versatility and performance.

The Digi Connect Integration Kit provides a platform for evaluation, rapid prototyping, and integration of Digi Connect embedded modules with plug-and-play firmware. It offers the tools, sample code, and documentation that make easy product integration and web-based product customization possible.



## SOFTWARE FEATURES

- Support for two serial ports
- Robust on-board TCP/IP stack with built-in web server
  - TCP, UDP, DHCP, SNMP, SSL/TLS, Telnet, Rlogin, RFC 2217, LPD, HTTP/HTTPS, SMTP, ICMP, IGMP, ARP
- Universal IP address assignment
  - Static IP, DHCP, Auto-IP
- Secure web user interface (HTTP/HTTPS) with context-sensitive online help
- Pre-defined and custom device profiles
- Customizable web interface with optional Java applet support
  - File system w/512 kb user space
- Telnet Command Line Interface
- Modem emulation
- Low-level serial configuration
  - Command Line, RCI
- User-defined network service/port configuration
  - HTTP/HTTPS, Telnet, Rlogin, ADDP, SNMP, RealPort, SSL/TLS, TCP/UDP
- TCP/UDP forwarding characteristics
  - Bytes, Idle Time, Data Pattern
- User-configurable TCP/UDP Socket ID
- Event notification via email/SNMP traps
  - GPIO Status, Data Pattern
- Port logging
- Intelligent SNMP device management
  - RFC 1213/1215/1316/1317
- Strong SSL/TLS v1.0 encryption
  - DES (56-bit), 3DES (168-bit), AES (128/256-bit)
- Patented RealPort COM/TTY port redirection with encryption for Microsoft Windows, UNIX and Linux environments

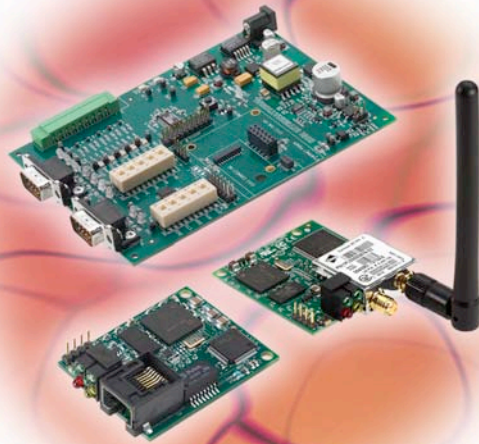


# Customizable Modules

Removing the complexities of traditional hardware design efforts, the customizable versions of the Digi Connect EM and Digi Connect Wi-EM embedded modules enable customers to quickly and cost-effectively implement and deploy application-specific and future-proof embedded software solutions for wired and wireless network environments.

Based on the easy-to-use and royalty-free NetSilicon NET+Works development platform, the Digi Connect Development Kit delivers a complete out-of-the-box solution for embedded software development including all the integrated building blocks that are required to quickly and cost-effectively create secure and fully network-enabled product solutions.

The common NetSilicon development platform provides a seamless migration path to a fully integrated NetSilicon system-on-chip solution using the award-winning family of network-enabled NET+ARM processors. It also minimizes design risk and significantly accelerates the overall embedded software development process.



## DEVELOPMENT KIT FEATURES

- Digi Connect embedded module w/JTAG
- Development board
- Macraigor Raven JTAG debugger
- Microcross™ GNU X-Tools with command line and visual GDB debugger
- ThreadX Realtime Operating System with picokernel™ architecture
  - Less than 25 kb kernel code space
- UART/SPI interface support
- Fusion™ TCP/IP stack with full networking protocol and extended network services support
  - TCP, UDP, ICMP, IGMP, DNS, SNMPv2, LDAP, POP, SMTP, PPP, FTP, SNMP, Telnet, FastIP, Fast Sockets, Multi-Homing
- Network device discovery (ADDP)
- Universal IP address assignment through Address Configuration Executive (ACE)
  - Static IP, DHCP, BOOTP, Auto-IP
- Allegro Software embedded web server
- SSL 3.0/TLS 1.0 with strong encryption
  - DES, 3 DES, AES
- Flexible and robust file system with wear leveling
- SMICng MIB complier
- Micro XML SAX parser
- Sample code
- Additional utilities
  - HTML-to-C compiler
  - Flash download
- Documentation
  - Hardware reference manual
  - Programmer's guide
  - API reference
  - Advanced web server toolkit

