Product Brief

Digi Connect ME® Family

Wired and Wireless Embedded Modules

The industry's first interchangeable secure wired and wireless embedded modules with plug-and-play functionality and comprehensive development tools make it easy to add embedded web-enabled wired and wireless network connectivity.

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
- 2 MB/4 MB Flash and 8 MB RAM
- High-speed TTL serial interface with up to 230 Kbps throughput
- Wireless Ethernet network interface
  - 802.11b with 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
  - Innovative power pass-through for network powered products
- Five shared GPIO port options
- Low power consumption and industrial temperature range
- Strong SSL/TLS encryption with NIST certified AES algorithm for security sensitive environments
- Plug-and-play firmware option eliminates embedded software development effort
- Easy-to-use and royalty-free NET+OS development platform for custom application development

Overview

The advances of personal computers and the proliferation of the Internet have laid the groundwork for an era in which billions of networked electronic devices will work invisibly and jointly with each other and with people. The introduction of wireless technology into this rapidly emerging world of ubiquitous networking creates a new dimension of network collaboration that complements existing wired infrastructures. Making the right network technology decisions is a key factor for market success and defines the competitive edge of your products.

The Digi Connect ME family of secure 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 future product performance needs.

Based on a unique common platform design approach, the Digi Connect ME and Digi Connect® Wi-ME embedded modules offer complete "drop-in" integration. This allows you to build future-proof products based on a single design supporting secure wired 10/100Base-T and 802.11b wireless Ethernet connectivity. The Digi Connect® family of embedded modules makes 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.

Built on Digi's leading 32-bit NET+ARM technology, the Digi Connect ME embedded modules also provide a seamless migration path to a fully integrated system-on-chip solution. They combine true plug-and-play functionality with the freedom and flexibility of complete software customization using the proven NET+OS® development platform.

An integration kit and a complete development kit containing a development board, documentation, sample code, cables and accessories are available for evaluation and development use.

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

www.digi.com

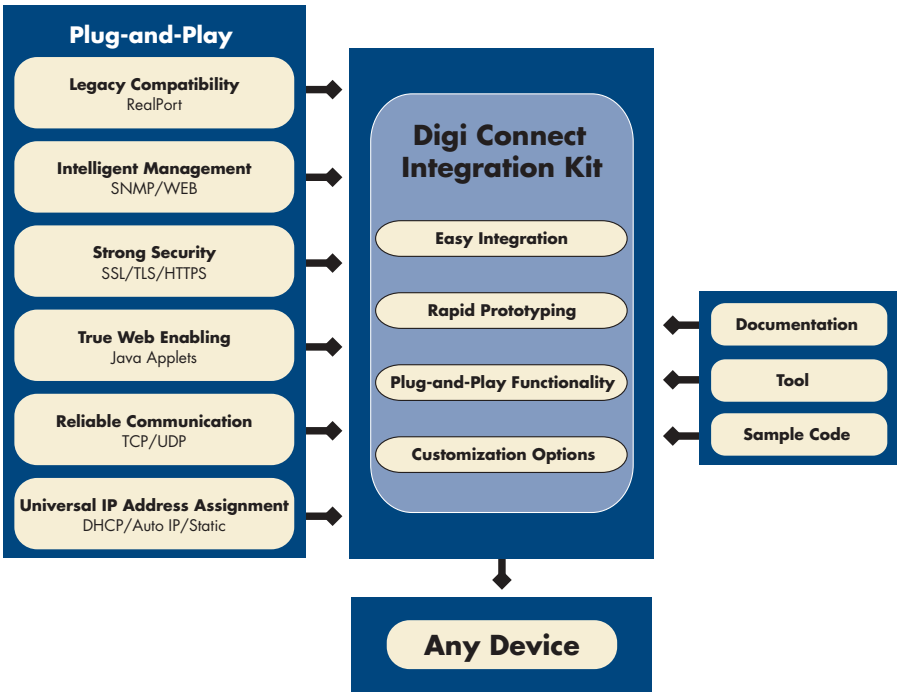
Making DEVICE NETWORKING easy™

Plug-and-Play Modules

The Digi Connect ME and Digi Connect Wi-ME embedded modules with plug-and-play firmware dramatically reduce time-to-market by eliminating the need for embedded hardware and software development. They deliver instant and completely transparent wired and wireless device server networking functionality, with the flexibility of web-based customization options.

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 all tools, sample code, and documentation that make product integration and web-based product customization possible.



SOFTWARE FEATURES

- 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
- Serial configuration interface
  - 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 3.0/TLS 1.0 based 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

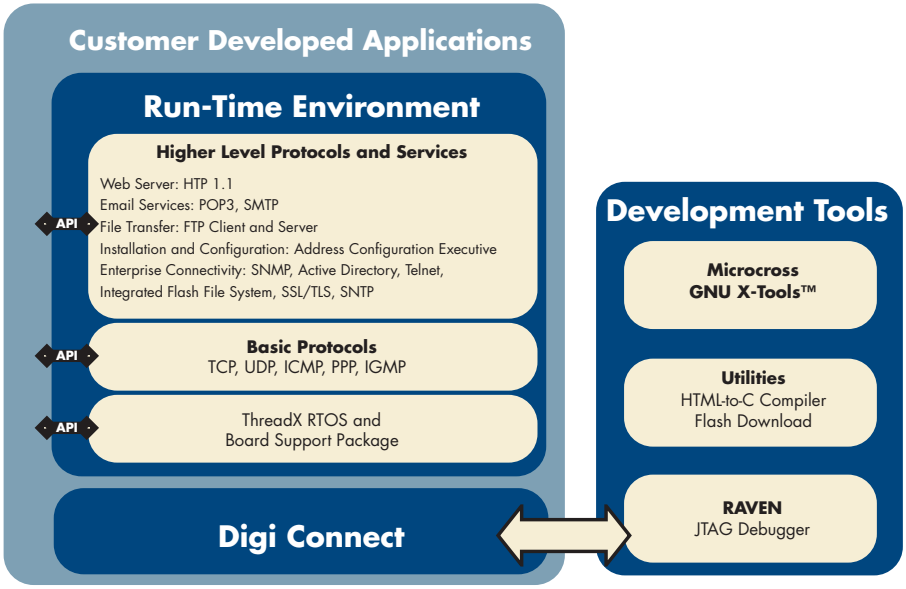
The customizable versions of the Digi Connect ME and Digi Connect Wi-ME embedded modules enable customers to quickly and cost-effectively implement and deploy application-specific and future-proof embedded software solutions for wired and wireless network environments, without the additional complexities of traditional hardware design efforts.

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

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

DEVELOPMENT KIT FEATURES

- Digi Connect embedded module w/JTAG
- Development board
- Macgraigor 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
- Fusion™ TCP/IP stack with full networking protocol and extended network services support
  - TCP, UDP, ICMP, IGMP, DNS, SNMPv2, LDAP, POP, SMTP, PPP, FTP, SNTP, 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, 3DES, AES
- Flexible and robust file system supporting RAM and Flash (with wear leveling)
- SMICng MIB complier
- Micro XML SAX parser
- Sample code
- Additional utilities
  - HTML-to-C compiler
  - Flash download
  - Sample code
- Documentation
  - Hardware reference manual
  - Programmer's guide
  - API reference
  - Advanced web server toolkit



Features/Specifications

HARDWARE

- 32-bit NET+ARM high-performance RISC processor (NS7520 @ 55 MHz)
- Digi Connect ME on-board memory
  - 2 MB Flash and 8 MB RAM
- Digi Connect Wi-ME on-board memory
  - 4 MB Flash and 8 MB RAM
- On-board power supervisor
- High-speed TTL serial interface
  - Throughput up to 230 Kbps
  - Full signal support for TXD, RXD, RTS, CTS, DTR, DSR and DCD
  - Hardware/software flow control
- Five shared General Purpose Input/Output (GPIO) ports
- Wave-solderable design (no clean flux process)

NETWORK INTERFACE

Digi Connect ME

- Standard: IEEE 802.3
- Physical Layer: 10/100Base-T
- Data rate: 10/100 Mbps (auto-sensing)
- Mode: Full or half duplex (auto-sensing)
- Connector: RJ-45
- 802.3af mid-span power pass-through

Digi Connect Wi-ME

- Standard: IEEE 802.11b
- Frequency: 2.4 GHz
- Data rate: Up to 11 Mbps with automatic fallback
- Modulation: CCK (11/5 Mbps), DQPSK (2 Mbps), DBPSK (1 Mbps)
- Transmit power: 16 dBm typical
- Receive sensitivity: -82 dBm @ 11 Mbps
- Antenna connector: 1 x RP-SMA

ENVIRONMENTAL

- Operating temperature
  - Digi Connect ME: -40° C to 85° C (-40° F to 185° F)
  - Digi Connect Wi-ME: -30° C to 75°C (-22° F to 167° F)
- Relative humidity: 5% to 90% (non-condensing)
- Altitude: 12,000 ft (3657.6 m)

WIRELESS SECURITY

- WEP (Wired Equivalent Privacy)
  - 64/128-bit encryption (RC4)
- WPA/WPA2/802.11i
  - 128-bit TKIP/CCMP encryption
  - 802.1x EAP authentication
    - LEAP (WEP only), PEAP, TTLS, TLS
    - GTC, MD5, OTP, PAP, CHAP, MSCHAP, MSCHAPv2, TTLS-MSCHAPv2
  - Enterprise and Pre-Shared Key (PSK) mode

LEDS

- Link integrity
- Network activity

DIMENSIONS

Digi Connect ME

- Length: 1.445 in (36.7 mm)
- Width: 0.75 in (19.05 mm)
- Height: 0.735 in (18.67 mm)

Digi Connect Wi-ME

- Length: 1.945 in (49.4 mm)
- Width: 0.75 in (19.05 mm)
- Height: 0.735 in (18.67 mm)

MODEL.....PART NUMBERS

Model	North America	International
Custom Application		
Digi Connect ME Development Kit	DC-ME-01T-GN	DC-ME-01T-GN
Digi Connect Wi-ME Development Kit	DC-WME-01T-GN	DC-WME-01T-GN
Plug-and-Play Firmware		
Digi Connect ME Integration Kit	DC-ME-01T-KT	DC-ME-01T-KT
Digi Connect Wi-ME Integration Kit	DC-WME-01T-KT	DC-WME-01T-KT

Bulk packs and customer-specific packaging configurations available. Please visit our website for a complete list of available part numbers.

PINOUTS

Pin	Signal	Description
1 *	VETH+	Power Pass-Thru +
2 *	VETH-	Power Pass-Thru -
3	N/A	Position Removed
4	N/A	Position Removed
5	N/A	Position Removed
6	N/A	Position Removed
7	RXD	Receive Data (Input)
8	TXD	Transmit Data (Output)
9	RTS/GPIO4	Request to Send (Output)/GPIO
10	DTR/GPIO5	Data Terminal Ready (Output)/GPIO
11	CTS/GPIO2	Clear to Send (Input)/GPIO
12	DSR/GPIO3	Data Set Ready (Input)/GPIO
13	DCD/GPIO1	Data Carrier Detect (Input)/GPIO
14	RESET	Reset
15	+3.3V	Power
16	GND	Ground
17	Reserved	Reserved
18	Reserved	Reserved
19	Reserved	Reserved
20	Reserved	Reserved

*Digi Connect ME only

Samtec FTS-110-01-F-DV-TR 20-pin micro header (10-pin double row) with 1.27 mm (.05") pitch, positions 3-6 removed

REGULATORY APPROVALS

- FCC, Part 15 Class B
- EN 55022, Class B
- EN 61000-3-2 and EN 61000-3-3
- ICES-003, Class B
- VCCI, Class II
- AS 3548
- FCC Part 15 Subpart C Section 15.247
- IC (Industry Canada) RSS-210 Issue 5 Section 6.2.2(o)
- EN 300 328
- EN 301 489-3
- UL 60950-1
- EN 60950 (European Union)
- CSA C22.2, No. 60950
- EN 55024

RoHS Compliant 2002/95/EC

POWER REQUIREMENTS

Digi Connect ME

- 3.3VDC @ 250 mA typical (825 mW)

Digi Connect Wi-ME

- 3.3VDC @ 400 mA max (1.32 W)

DIGI SERVICE AND SUPPORT

You can purchase with confidence knowing that Digi is here to support you with expert technical support and a strong five-year warranty. www.digi.com/support

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