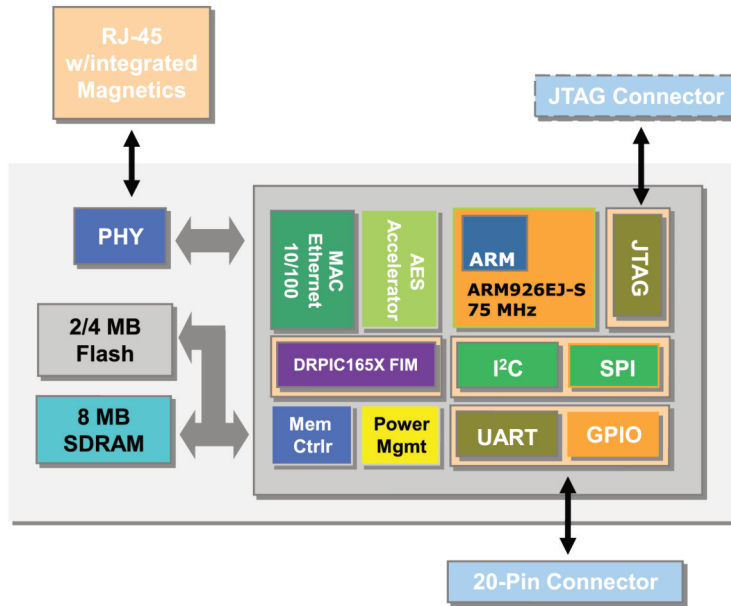


Digi Connect ME[®] 9210

Flexible and Secure Embedded Module



Compact high-performance embedded module combining on-chip security, integrated Ethernet networking, and unique interface flexibility in a fully Digi Connect ME compatible design.



Features/Benefits

- Highly integrated 32-bit ARM9 network co-processor module
- Form factor and pin-compatible with Digi Connect ME module
- 10/100 Mbit Ethernet interface
- 802.3af compliant PoE pass-thru
- High-speed UART interface with data rates up to 1.8 Mbps
- Extended set of available on-chip interfaces and signals
- Flexible application-specific hardware interface support
- Industrial operating temperature
- Power management modes
- FCC Class B low-emission design
- Complete and royalty-free ThreadX[®]-based NET+OS[®] development platform
- Digi's own ARM[®] processor offers true long-term availability
- Seamless migration path to fully integrated Digi NET+ARM system-on-chip solution

Overview

The Digi Connect ME 9210 module is a powerful embedded module solution with secure network connectivity and unique interface flexibility for a wide variety of applications. It allows customers to implement the next generation of leading network-enabled products while also maintaining full form factor and pin-compatibility with the existing Digi Connect ME family of embedded modules.

At the heart of the Digi Connect ME 9210 module is the new 32-bit ARM-based Digi NS9210 processor running at 75 MHz. Key features include an integrated 10/100 Mbit Ethernet interface, 256-bit on-chip AES accelerator, power management modes with Digi's patented dynamic clock scaling, and Flexible Interface Modules (FIMs) based on integrated DRPIC165X processor cores.

The FIM available on the Digi Connect ME 9210 provides additional application-specific and fully software-selectable interface options while also keeping the main serial port on the module functional. The growing list of FIM-supported interfaces includes a UART with 9-bit support, CAN bus, 1-Wire[®], Wiegand, low-speed USB device, I²S, and others. In addition, the Digi Connect ME 9210 also supports up to 10 shared GPIOs, external IRQs, and an extended set of standard interface options such as I²C and SPI.

Built on Digi's own ARM processor technology, the Digi Connect ME 9210 offers true long-term availability that meets the extended life cycle requirements of embedded product designs in applications such as security/access control, building and industrial automation, medical devices, retail systems, transportation, warehousing, remote device management, and more.

The easy-to-use and cost-effective Digi JumpStart Kit[™] development solution minimizes product design risks and dramatically shortens time-to-market while allowing you to immediately start your embedded product development. It enables you to leverage the reliability and flexibility of Digi's royalty-free ThreadX-based NET+OS platform, which combines Digi's professional and state-of-the-art development tools with a complete and industry-leading set of network technology components such as IPv6, SSL/TLS, and IPsec.

DIGI JUMPSTART KIT FOR NET+OS 7.X: OVERVIEW

The easy-to-use, cost-effective and complete Digi JumpStart Kits for NET+OS deliver a royalty-free turnkey solution for embedded software development based on the ThreadX Real-Time Operating System (RTOS).

With over 400 million deployments in products worldwide, ThreadX is one of the most reliable and field-proven RTOS solutions available. In addition to ThreadX, NET+OS provides a complete set of integrated building blocks needed to create secure and fully network-enabled product solutions using Digi embedded modules and microprocessors. This includes features such as a dual-mode IPv4/IPv6 TCP/IP stack, an integrated web server, POP/SMTP, PPP, XML, LDAP, SNMPv3, and hardware-assisted SSL/TLS/IPsec support.

The Digi JumpStart Kit for NET+OS minimizes product design risks and dramatically shortens traditional time-to-market aspects of your C/C++ based embedded product development by providing all needed software and hardware components right out of the box.

The included Digi ESP for NET+OS, Digi's Microsoft Windows-based Integrated Development Environment offers an easy-to-use graphical interface with editor, single-step debugging, managed make files, build environment, online help, and innovative features like the Digi project builder wizard. Through simple point-and-click operation it generates a completely functional, customized application framework with ready-to-use software components such as web-based network interface configuration, FTP-based firmware upgrade, SSL/TLS, serial and Telnet Command Line Interface (CLI), and more.



- **Royalty-free turnkey solution for embedded software development**
- **Built on field-proven and compact ThreadX Real-Time Operating System**
- **Fully integrated, standards-based support for secure networking**
- **Professional state-of-the-art software development using Digi ESP or optional Green Hills MULTI development tools**
- **Seamless migration to other Digi NET+ARM module platforms and fully integrated system-on-chip solutions**

NET+OS 7 DIGI JUMPSTART KIT: CONTENTS

- Digi Connect ME 9210 module
 - 4 MB Flash, 8 MB SDRAM
- Development board
 - 1 RS-2323 serial port, GPIO configuration switches, screw terminal for GPIO signals, prototyping area, status LEDs (serial, GPIO, power), logic signal header, test points, reset button, user/wake-up buttons, PoE module header, 9-30VDC power supply, JTAG header and RS232 console/debug port for JTAG-equipped modules
- Digi JTAG link USB 2.0 hardware debugger
- Digi NET+OS CD
 - NET+OS 7, Digi ESP IDE, BSP source code, sample code, Green Hills MULTI IDE support files, user documentation
- Documentation
 - Quick start guide, Digi ESP tutorial, NET+OS porting guide, NET+OS API documentation, Advanced Web Server, hardware reference manual, development board schematics
- Power supply and accessories
 - External wall power supply (110/240VAC to 12VDC @ 850 mA) with interchangeable outlet adapters (North America, EU, UK, and Australia), crossover serial cable, Ethernet cable



Features/Specifications

HARDWARE

- 32-bit Digi NS9210 processor @ 75 MHz (ARM926EJ-S)
- On-chip 256-bit AES accelerator
- Flexible Interface Modules (FIM)
 - 300 MHz DRPIC165X CPU
 - 2k program/192 bytes data RAM
- On-board memory
 - 2/4 MB NOR flash
 - 8 MB SDRAM
- High-speed TTL serial interface
 - Full signal support for TXD, RXD, RTS, CTS, DTR, DSR and DCD
 - Hardware/Software flow control
- Serial Peripheral Interface (SPI)
 - Master data rate up to 33.3 Mbps
 - Slave data rate up to 7.5 Mbps
- I²C v1.0 bus interface
 - 7-bit and 10-bit address modes
- 10 shared GPIO ports with
 - Up to 3 external IRQ options
- Power management modes
 - On-the-fly clock scaling
 - Low power sleep modes
 - Configurable scaling/wake-up events (EIRQ, UART, Ethernet, etc.)
- Software watchdog
- On-board power supervisor
- Wave-solderable design
 - No clean flux process

NETWORK INTERFACE

- Physical layer: 10/100Base-T
- Data rate: 10/100 Mbps (auto-sensing)
- Mode: Full or half duplex (auto-sensing)
- Connector: RJ-45 w/magnetics
- 802.3af power pass-through
 - Mid- and end-span

MODEL.....PART NUMBERS

Model	North America	International
Digi Connect ME 9210 Digi JumpStart Kit for NET+OS	DC-ME-9210-NET	DC-ME-9210-NET

See Digi website for complete list of available part numbers.

ENVIRONMENTAL

- Operating temperature: -40° C to 85° C (-40° F to 185° F)
- Storage temperature: -50° C to 125° C (-58° F to 257° F)
- Relative humidity: 5% to 90% (non-condensing)
- Altitude: 12,000 feet (3,658 meters)

POWER REQUIREMENTS

- 3.3VDC @ 346 mA typical (1.14 W)
- UART and Ethernet activated
- **Low Speed Idle Mode (approx.)**
 - 3.3VDC @ 186 mA (613 mW)
 - /16 clock scaling, Ethernet activated
- **Sleep Mode (approx.)**
 - 3.3VDC @ 34 mA (113 mW)
 - Wake-up on EIRQ, Ethernet PHY off

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 Sub C Section 15.247
- IC RSS-210 Issue 5 Section 6.2.2(o)
- EN 300 328, EN 301 489-17
- UL 60950-1, EN 60950 (EU)
- CSA C22.2, No. 60950
- EN 55024

PINOUTS

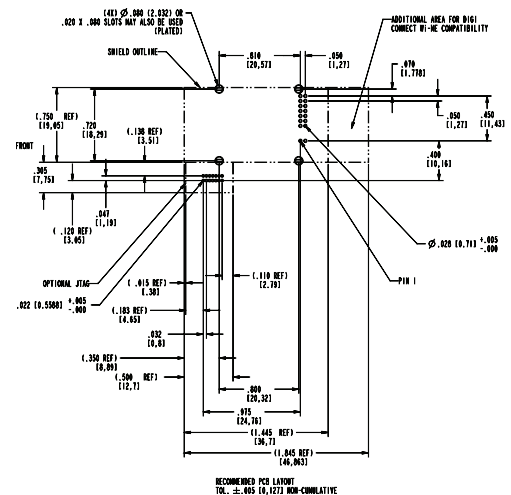
The table below provides a complete overview of the pinout and available configuration options.

Pin	UART	GPIO	Ext IRQ	I2C	SPI	FIM	Other
1							VETH+
2							VETH-
3-6	Positions removed						
7	RxD	GPIO[3]			IN	PIC[3]	
8	TxD	GPIO[7]			OUT		Timer Out 7 Timer In 8
9	RTS	GPIO[5]	3		CLK		Timer Out 6
10	DTR	GPIO[6]					Timer In 7
11	CTS	GPIO[1]	0			PIC[1]	
12	DSR	GPIO[2]	1			PIC[2]	
13	DCD	GPIO[0]			EN	PIC[0]	
14							/RST
15							3.3V
16							GND
17		GPIO[12]		SDA	CLK		RESET_DONE
18		GPIO[9]	0	SCL			
19	Reserved						
20		GPIO[13]			CLK		INIT Timer Out 9

A special model of the Digi Connect ME 9210 is required for CAN bus 2.0 support. The CAN model does not support the I2C interface. It makes GPIO[14] / PIC[0_CAN_RXD] available on pin 17, and GPIO[15] / PIC[0_CAN_TXD] on pin 18. Please contact us for availability.

DIMENSIONS

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



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Digi International, the leader in device networking for business, develops reliable products and technologies to connect and securely manage local or remote electronic devices over the network or via the web. With over 20 million ports shipped worldwide since 1985, Digi offers the highest levels of performance, flexibility and quality.

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