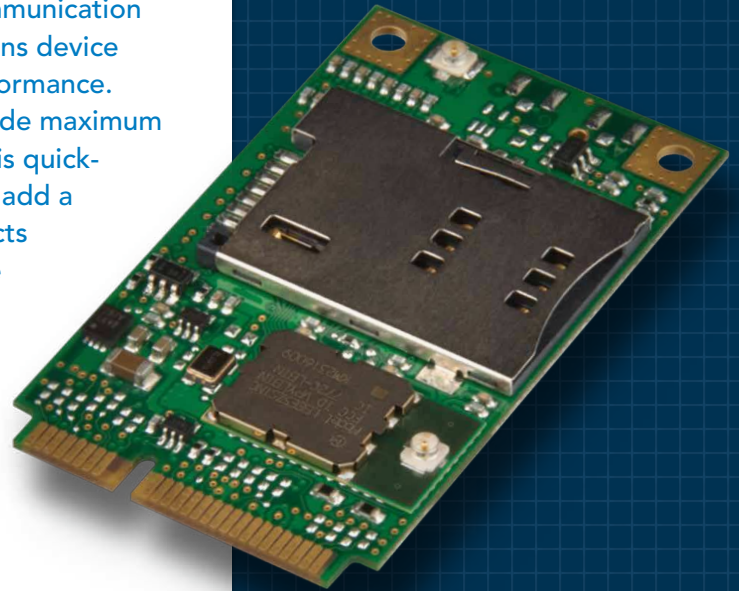


MultiConnect® PCIe



PCIe Mini Card Communication Modules

The MultiConnect® PCIe embedded PCIe mini card communication module is a complete, ready-to-integrate communications device that offers standards-based penta-band HSPA+ 21 performance. Optional GPS, Wi-Fi® and Bluetooth® functionality provide maximum application flexibility in a highly integrated package. This quick-to-market communications device allows developers to add a variety of M2M communications technologies to products with a minimum of development time and expense. The MultiConnect PCIe embedded communication module is based on industry-standard open interfaces and utilizes a PCI Express Mini Card form factor.



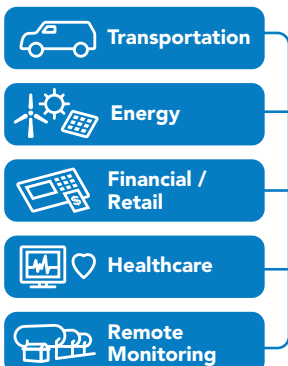
Key Features

- Penta-band HSPA+ 21
- Quad-band GSM/GPRS/EDGE
- Integrated SIM card holder
- Models with GPS tracking capability
- Onboard power supply regulator
- Optional Wi-Fi 802.11 b/g/n and Bluetooth class 1.5, V4
- Short Message Services (SMS)
- Models with digital voice
- UFL antenna connectors
- AT command compatible (cellular/GPS)
- Built-in TCP/IP stack
- PCI Express Mini Card form factor
- Bluetooth and Wi-Fi only model
- Two-year warranty

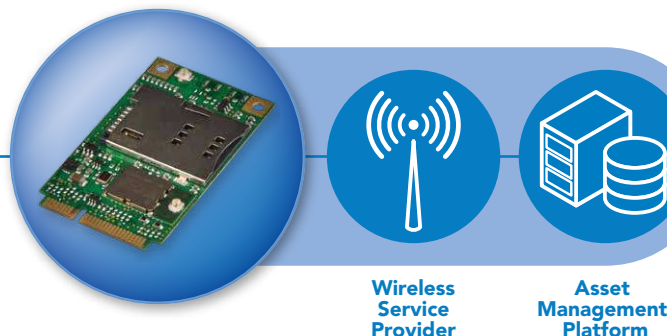
Benefits

- Interchangeable communications devices for easy migration to future networks
- Long solution lifecycle reduces redesign time and cost
- High quality, reliable solution delivers on the promise of "M2M Simplified"
- Support from the leading experts in M2M technology

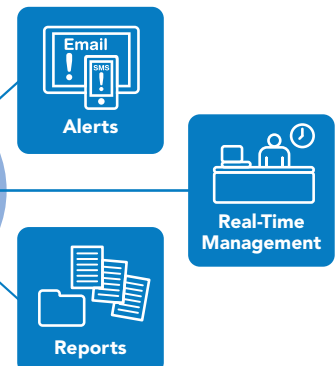
Your Devices & Data



Connecting Your Devices



Insight + Action + Control



Specifications

Cellular

Packet Data Features: HSPA+/UMTS/EDGE/GPRS

Frequency Bands:

3G: 850/900/1700 (AWS)/1900/2100 MHz

2G: 850/900/1800/1900 MHz

IP Protocols Supported: FTP, SMTP, TCP, UDP

Voice: Models with digital voice (PCM)

Host Interfaces: USB 2.0 HS and UART

Operating System Support: Linux and Windows

GPS

High sensitivity for indoor reception, better than -165 dBm with A-GPS

GPS cold start autonomous -147 dBm

GPS hot start autonomous -161 dBm

GPS tracking mode -166 dBm

Accuracy 3 m

TTF from cold start 42 s

TTF from warm start 30 s

TTF from hot start 1.8 s

Supports multi-channel GPS

L1 1575.42 MHz

GPS NMEA 0183 output format

Datum WGS-84

Wi-Fi

IEEE 802.11 b/g/n compliant

Typical WLAN Transmit Power:

+20.0dBm at 11Mbps, CCK (11b)

+15.0dBm at 54Mbps, OFDM (11g)

+14.5dBm at 65Mbps, OFDM (11n)

Typical WLAN Sensitivity:

-88.0dBm at 8% PER, 11Mbps

-73.0dBm at 10% PER, 54Mbps

-70.0dBm at 10% PER, 65Mbps

Host Interface: SDIO

Operating System Support: Linux

Bluetooth

Bluetooth version 4.0 with Bluetooth Low Energy (BLE)

Power Class 1.5

Typical Bluetooth Transmit Power: +8.0dBm BDR

Typical Bluetooth Sensitivity: -92.0dBm DH5, -85.0dBm EDR

Host Interface: UART

Operating System Support: Linux

Connectors

Antenna: Up to 3 UFL (cellular, GPS, Wi-Fi/Bluetooth)

SIM: Standard 1.8/3V SIM receptacle

Input Power

3.3VDC

Highlights

Applications

With increased 3G packet data rates, the MultiConnect PCIe embedded communication module will support highly data-intensive applications such as remote video surveillance, multimedia POS/ATM terminals and other data-intensive applications. For asset tracking and fleet management applications, models with a dedicated GPS receiver are available, as well as optional Wi-Fi and Bluetooth capabilities.

Reduces Development Time

The MultiConnect PCIe embedded communication module enhances your product while you focus on developing its core features.

Host Interfaces

The MultiConnect PCIe embedded communication module offers several host interfaces depending on model. Cellular, GPS and voice functionality are controlled through a USB 2.0 or UART interface. Wi-Fi capabilities are controlled through a SDIO interface and Bluetooth is controlled by a second UART interface. The cellular-only model and cellular with GPS and voice model are compatible with both Linux and Windows operating systems; while the model with cellular, GPS, voice and Wi-Fi/Bluetooth is compatible with the Linux operating system.

Developer's Kit

The Developer's Kit allows you to plug in the communications device and use it for testing, programming and evaluation.

Specifications

Input Power

3.3VDC

Power Draw*

MTPCIE-H5-EU Model: 57mA Idle, 266mA Typical, 727mA Maximum

MTPCIE-H5-V-BW-EU Model: 62mA Idle, 970mA Typical, 1.05A Maximum

MTPCIE-BW Model: 6.4mA Idle, 326mA Maximum

Physical Description

2.006" x 1.181" (50.952 mm x 29.997 mm)

Certifications

EMC: FCC Part 15 Class B, 22, 24, EN 301 489-1, EN 301 489-7, RSS 132, 133

Radio Compliance: EN 301 489-24, EN 301 489-3

Safety: cUL 60950-1, IEC 60950-1, UL 60950-1

Network:

EU Models: Uses a GCF certified module

Operating Environment

Temperature:

Cellular Model: -30° to +85° C†

Cellular with Wi-Fi/Bluetooth Model: -30° to +70° C†

Wi-Fi/Bluetooth Model: -30° to +70° C

Humidity: 20%-90% non-condensing

Storage: -40° to +85° C

* See device guide for additional power draw information.

† Temperatures outside -20° to +55° C might slightly deviate from ETSI specifications.

Ordering Information

Product	Description	Region
MTPCIE-H5-V-BW-EU	HSPA+, Bluetooth, Wi-Fi, GPS, Voice	Euro/GB
MTPCIE-H5-EU	HSPA+ Data only	Euro/GB
MTPCIE-BW	Bluetooth & Wi-Fi only	US/Can/Euro

Developer Kit

Product	Description	Region
MTPCIE-DK1	Universal PCIe Developer Kit	Global

Services & Warranty

Multi-Tech's comprehensive Support Services programs offer a full array of options to suit your specific needs. These services are aimed at protecting your investment, extending the life of your solution or product, and reducing total cost of ownership. Our seasoned technical experts, with an average tenure of more than 10 years, can walk you through smooth installations, troubleshoot issues and help you with configurations. Products include a 2-year warranty.

Installation Support

Multi-Tech's Installation Support Service delivers priority service with the ability to work one-on-one with an experienced Multi-Tech technical support engineer, to guide you through the installation process for our products.

Technical Support Services

At Multi-Tech, we're committed to providing you personalized attention and quality service while providing you a quick response to your product support needs. We have several options of support for you to choose from.

For additional information on Support Services as well as other service offerings, please contact your Multi-Tech representative or visit www.multitech.com/support.go.

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Produced in the U.S. of U.S. and non-U.S. components. Features and specifications are subject to change without notice.

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