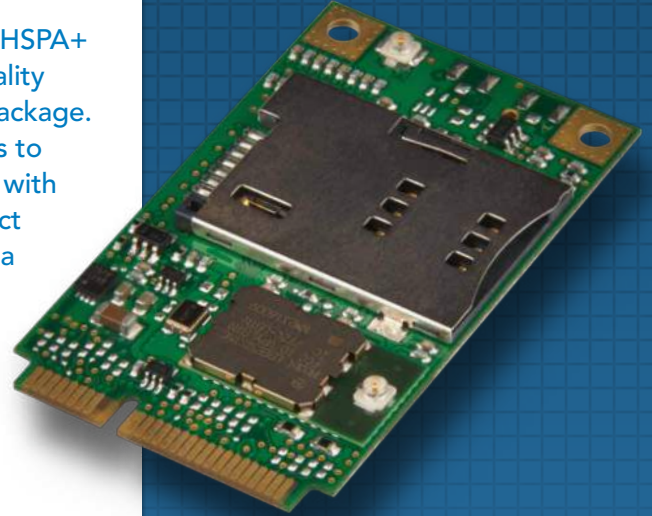


# MultiConnect® PCIe



## PCIe Mini Card Communication Modules and Modems

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



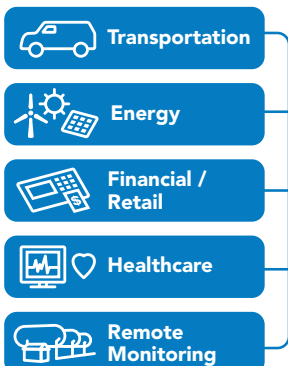
### Key Features

- Hepta-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
- Aeris models with end-device certification
- Two-year warranty

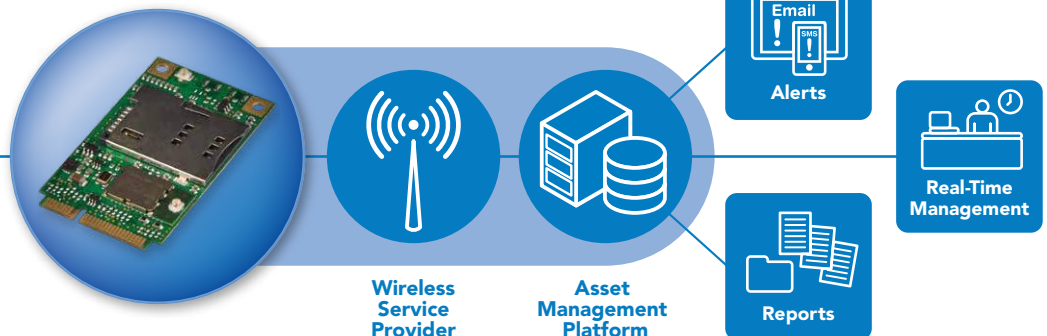
### Benefits

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

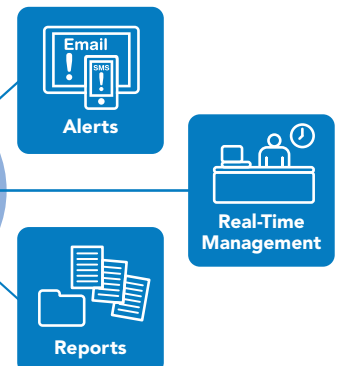
### Your Devices & Data



## 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: Mini; 1.8 and 3V

### Input Power

3.3VDC

## Highlights

### Applications

With increased 3G packet data rates, the MultiConnect PCIe embedded communication module and cellular modem 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 and cellular modem enhances your product while you focus on developing its core features.

### Host Interfaces

The MultiConnect PCIe embedded communication module and cellular modem 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 communication devices and use it for testing, programming and evaluation.

## Specifications

### Power Draw\*

Cellular Models: 57mA Idle, 266mA Typical, 727mA Maximum

Cellular with Wi-Fi/Bluetooth Models: 62mA Idle, 970mA Typical, 1.05A Maximum

Wi-Fi/Bluetooth Models: 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: Aeris

Uses a GCF certified module

### Operating Environment

Temperature:

Cellular Models: -30° to +85° C†

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

Wi-Fi/Bluetooth Models: -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+ Wi-Fi/Bluetooth, GPS, Voice	Euro/GB
MTPCIE-H5-EU	HSPA+ Data only	Euro/GB
MTPCIE-BW	Wi-Fi/Bluetooth only	US/Can/Euro
MTPCIE-H5-V-BW-AERIS	HSPA+ Wi-Fi/Bluetooth, GPS, Voice	Global
MTPCIE-H5-V-AERIS	HSPA+ GPS, Voice	Global
MTPCIE-H5-AERIS	HSPA+ Data only	Global

### Developer Kits

Product	Description	Region
MTPCIE-DK1	Universal PCIe Developer Kit	Global
MT100EOCG-PCIE	Developer Gateway for Wi-Fi/Bluetooth Models	Global

## Services & Warranty

MultiTech'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

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

### Technical Support Services

At MultiTech, 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 MultiTech representative or visit [www.multitech.com/support.go](http://www.multitech.com/support.go).

### World Headquarters

Multi-Tech Systems, Inc.  
2205 Woodale Drive  
Mounds View, MN 55112 U.S.A.  
Tel: 763-785-3500  
Toll-Free: 800-328-9717  
Email: [sales@multitech.com](mailto:sales@multitech.com)  
[www.multitech.com](http://www.multitech.com)

### EMEA Headquarters

Multi-Tech Systems (EMEA)  
United Kingdom  
Tel: +(44) 118 959 7774  
Email: [sales@multitech.co.uk](mailto:sales@multitech.co.uk)

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

Trademarks and Registered Trademarks: MultiTech and the MultiTech logo, MultiConnect: Multi-Tech Systems, Inc. All other products and technologies are the trademarks or registered trademarks of their respective holders.

1/15 • 86002165 • © 2015 by Multi-Tech Systems, Inc. All rights reserved.

