

## PH8



Five-Band  
3G



Quad-Band  
2G



HSPA+



GPS



GPRS / EDGE  
Class 12



Extended  
Temperature  
Range



Full Voice  
Support



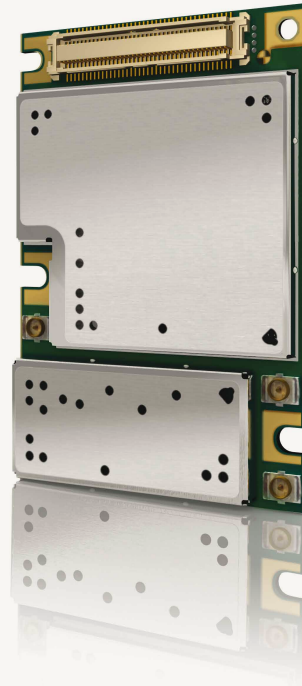
USB 2.0



TCP/IP



RIL Driver



## HSPA+

Cinterion® PH8 Wireless Module  
True Global Coverage with 3G

# Cinterion® PH8 Wireless Module

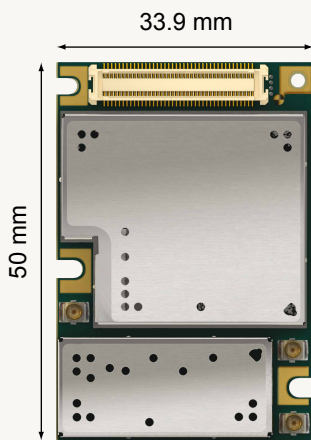
## True Global Coverage with 3G

The new Cinterion PH8 HSPA+ cellular machine-to-machine (M2M) module offers a smart solution for wireless connectivity today and in the future. With the latest HSPA+ technology, PH8 is optimized for high bandwidth and allows for speeds up to 14.4 Mbps for downlink and 5.7 Mbps for uplink. PH8 is available in two versions, the PH8 and PH8-P. Operating on quad-band GSM/GPRS, EDGE and five-band UMTS/HSPA+ (PH8: 800/850, AWS, 1900, 2100 MHz and PH8-P: 800/850, 900, 1900, 2100 MHz), PH8 provides true worldwide coverage and reliability even while roaming across different wireless network technologies. By enabling a full range of M2M functions and features, PH8 protects your technology investment by ensuring reliable communications today while

allowing room for growth to 3.5G cellular technology on evolving GSM networks for many years to come. The Cinterion PH8 offers an ideal communication solution for the challenging requirements of a variety of M2M applications such as ruggedized mobile computing, security solutions, medical equipment, payment systems and gateway routers.

The Cinterion PH8 offers GPS capabilities with three antennas for HSPA diversity and concurrent GPS tracking. An intelligent single-sided design provides superior heat dissipation characteristics. With an 80-pin B2B connector, PH8 easily supports migration from 2G to 3G and is based on a state-of-the-art chipset for an extended product life cycle.

### True Global Coverage with 3G



#### Full Voice Support

PH8 includes best-in-class analog audio processing which allows quick & easy audio implementation.

#### Improved Power Management

Improved power management features in the PH8 module preserve battery power necessary for remote M2M devices, resulting in reduced heat dissipation. Combined with its single-sided design for superior heat dissipation PH8 is the first choice for temperature critical M2M applications.

#### Three Antenna Connectors

Two antenna connectors enable diversity support, so PH8 provides improved data speed even under fluctuating 3G network conditions. The GPS antenna path is optimized for elimination of blanking on GPS for a consistent performance.

#### Gemalto M2M Support includes:

- > Personal design-in consulting for hardware and software
- > Extensive RF test capabilities
- > GCF/PTCRB conform pretests to validate approval readiness
- > Regular training workshops



Local engineers, a competent helpdesk, a dedicated team of R&D specialists and an advanced development center are the hallmarks of our leading support offer.

# Cinterion® PH8 Features

## GENERAL FEATURES

- > PH8:  
Five-Bands UMTS/HSPA+ (WCDMA/FDD)  
{800/850/AWS1700/1900/2100 MHz}  
Quad-Band GSM (850/900/1800/1900 MHz)
- > PH8-P:  
Five-Bands UMTS/HSPA+ (WCDMA/FDD)  
{800/850/900/1900/2100 MHz}  
Quad-Band GSM (850/900/1800/1900 MHz)
- > UMTS / HSPA+, 3GPP release 6 / 7
  - > Rx-Diversity with Equalizer (Type 3i)
  - > Enhanced F-DPCH, DTX, DRX, SCH-IC
- > GSM / GPRS / EDGE, 3GPP release 99 / 4  
Improved SAIC
- > SIM Application Toolkit, 3GPP release 99
- > Data, Voice and TTY support
- > Control via standardized and extended AT commands (Hayes, TS 27.007, TS 27.005)
- > Supply voltage range 3.3 - 4.2 V, highly optimized for minimal power consumption
- > Dimension: 50 × 33.9 × 3.1 mm, single sided
- > Operational Temperature Range: -40 °C to +85 °C
- > RoHS and WEEE compliant

## SPECIFICATIONS

- > HSDPA Cat.10 / HSUPA Cat.6 data rates  
DL: max. 14.4 Mbps, UL: max. 5.76 Mbps
- > EDGE Class 12 data rates  
DL: max. 237 kbps, UL: max. 237 kbps
- > GPRS Class 12 data rates  
DL: max. 85.6 kbps, UL: max. 85.6 kbps
- > CSD data transmission 14.4 kbps, V.110
- > SMS text and PDU mode, Phonebook support
- > Voice support, optimized for high quality handset, headset and hands-free telephony with dual microphone support for suppression of non-stationary background noise

## SPECIAL FEATURES

- > USB interface supports multiple composite modes and a Linux-/Mac- compliant mode
- > Multiplexer according 3GPP TS 27.010
- > Firmware update via USB and serial interface
- > TCP/IP stack access via AT commands
- > Customer IMEI/Netlock variants

## GPS/GLONASS FEATURES

- > Standalone GPS and GLONASS
- > GNSS dedicated AT commands
- > A/GPS support: standalone, XTRA®, CP E911
- > Protocol: NMEA-0183 V2.3
- > Option for temporary NMEA stream buffering
- > Tracking Sensitivity: better than -158 dBm
- > GPS active antenna supply: 3V

## INTERFACES

- > 80-pin board-to-board connector
- > 2 Connectors for WAN Diversity-Antennas
- > 1 Connector for an active GPS Antenna
- > Analog audio interface (balanced)
- > Digital audio interfaces (PCM or I2S)
- > USB 2.0 HS interface up to 480 Mbps
- > High speed serial interface up to 920 kbps
- > UICC and U/SIM card interface 1.8 V and 3 V
- > Connectors for Emergency-Off, Ignition, Network Status Indication, Low Current Indication

## DRIVERS

- > NDIS/USB/MUX driver for Microsoft® Windows XP™, Windows Vista™ and Windows 7™
- > RIL/NDIS/USB/MUX driver for devices based on Microsoft® Windows Embedded Handheld™
- > USB/MUX driver for Microsoft® Windows Embedded Compact™
- > RIL driver for devices based on Android OS™
- > CDC-ACM compliant mode for Linux

## APPROVALS

- > R&TTE, FCC, GCF, PTCRB, UL, IC, CE
- > AT&T, Telstra and other local approvals and provider certifications

**For more information, please visit**

[m2m.gemalto.com](http://m2m.gemalto.com), [www.facebook.com/gemalto](http://www.facebook.com/gemalto), or Follow @gemaltom2m on twitter.

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