

## EHS5



Multi Design  
Capability



Advanced  
Temperature  
Management



HSPA



Highly Compact  
Size



GPRS / EDGE  
Class 12



USB 2.0



Basic Voice  
Support



## 3G

**Cinterion® EHS5 Wireless Module**  
**Highly Efficient 3G in a 2G Footprint**

# Cinterion® EHS5 Wireless Module

## Highly Efficient 3G in a 2G Footprint

The Cinterion EHS5 module represents a milestone in scalable machine-to-machine communication, offering smart connectivity for industrial applications.

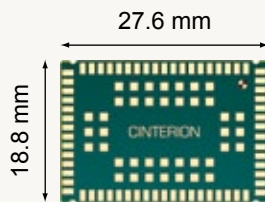
EHS5 delivers highly efficient 3G communication in an ultra-compact footprint. The EHS5 is an ideal solution for M2M applications moving to 3G technology with a focus on long-lasting, futureproof and cost efficient M2M applications. Offering a backward and forward compatible footprint, its multi design capability offers seamless migration and unmatched flexibility to choose frequency bands and global roaming whenever needed.

Powered by Intel's latest HSPA+ baseband, the next generation of the award-winning Evolution platform features high speed data communication with 7.2 Mbps (max) in the downlink and 5.76 Mbps (max) in the uplink.

The tiny EHS5 comes in Cinterion's unique LGA (Land Grid Array) package perfectly suited to the manufacturing needs of small, high-volume M2M devices with a focus on reliable and efficient processes. EHS5 supports voice and data communication and best in class low power consumption incorporated with common industrial interfaces such as USB and serial interfaces.

EHS5 is available in two variants: EHS5-US (850/1900 MHz) for North America, and EHS5-E (900/2100 MHz) assuring global coverage.

### Perfect M2M at Minimal Footprint



#### LGA technology

Land grid array, or LGA, is a surface-mount technology for fully automated manufacturing allowing to benefit from efficiency and process consistency. Cinterion's unique type of LGA technology is designed with focus on highest reliability and flexibility and to meet the demanding requirements of M2M application manufacturers.

#### Multi Design Capability

The unique EHS5 footprint, based on LGA technology, offers seamless migration from 2G to 3G within a single design footprint. Compatibility with the world's smallest HSPA wireless module ensures future-proof design and longevity of M2M applications.

#### Miniaturization

The world's slimmest module with a unique size-performance-ratio suits perfectly to size critical designs.

#### 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® EHS5 Features

## GENERAL FEATURES

- > 3GPP Rel.7 Compliant Protocol Stack
- > Dual-Band UMTS (WCDMA/FDD)
  - EHS5-E: 900 and 2100 MHz
  - EHS5-US: 850 and 1900 MHz
- > Dual-Band GSM
  - EHS5-E: 900 and 1800 MHz
  - EHS5-US: 850 and 1900 MHz
- > SIM Application Toolkit, letter class "c"
- > Control via standardized and extended AT commands (Hayes, TS 27.007 and 27.005)
- > Supply voltage range 3.3 - 4.5 V, highly optimized for minimal power consumptions
- > Dimension: 27.6 x 18.8 x 2.3 mm
- > Operation Temperature Ranges
  - Normal operation: -30 °C to +65 °C
  - Extended operation: -40 °C to +85 °C
- > Weight: 2.7 g
- > Compliance certificates
  - EHS5-E: EuP, RoHS and REACH
  - EHS5-US: RoHS

## SPECIFICATIONS

- > HSDPA Cat.8 / HSUPA Cat.6 data rates
  - DL: max. 7.2 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 up to 14.4 kbps
- > SMS text and PDU mode
- > Phonebook support
- > Basic voice support

## SPECIAL FEATURES

- > USB interface features a composite mode, compliant to Windows, Linux and Mac
- > Firmware update via USB and serial Interface
- > Multiplexer according 3GPP TS 27.010
- > Real time clock

## INTERFACES (LGA PADS)

- > Pad for GSM/WCDMA Antenna
- > USB 2.0 HS interface up to 480 Mbps
- > High speed serial modem interface ASC0, up to 920 kbps, auto-bauding
- > 4-wire high speed serial interface ASC1
- > Digital audio interface (raw PCM signal)
- > UICC and U/SIM card interface 1.8 V / 3 V
- > Lines for Module-On and Reset

## DRIVERS

- > MUX driver for Microsoft® Windows XP™, Vista™ and 7™

## APPROVALS

- > EHS5-E: R&TTE, GCF, CE
- > EHS5-US: FCC, PTCRB, IC, UL
- > AT&T (EHS5-US) and other local approvals and provider certifications

**For more information, please visit**

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

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