3G
M2M NexGen Evolution

EHS5

- Multi Design Capability
- Advanced Temperature Management
- HSPA
- Highly Compact Size
- GPRS / EDGE Class 12
- USB 2.0
- Basic Voice Support

intel Intelligent Systems Alliance

Cinterion EHS5
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, future-proof 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.

EHS5

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 consumption
- Dimension: 18.8 x 27.6 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 support
- Phonebook support
- Basic voice support

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

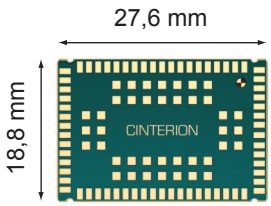
Special Features
- USB interface features a composite mode, compliant to Windows, Linux and Mac
- Firmware update via USB and serial interface
- Multiplexer according 3GPP TS 27.010
- Real time clock

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

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

For detailed specification please see hardware interface description.

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 BGS2 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.

Cinterion Global Support

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.

The Cinterion support includes:
- Personal design-in consulting for hardware and software
- Extensive RF test capabilities
- GCF/PTCRB conform pretests to validate approval readiness
- Guidelines for local approvals and acceptances
- Regular training workshops

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Further information about our products and services is also accessible via www.cinterion.com

— PRELIMINARY VERSION —