gemalto
security to be free

EHS5

- Dual Band HSPA
- Dual Band GPRS / EDGE Class 12
- Multi Design Capability (LGA)
- Java embedded
- USB 2.0 High Speed compatible
- Advanced Temperature Management
- Embedded TCP/IP Stack
- RLS Monitoring (Jamming Detection)
- FOTA configurable & royalty-free



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 embeddeded Java machine-to-machine (M2M) communication, offering smart connectivity for industrial applications.

EHS5 delivers highly efficient 3G communication in an ultra-compact footprint. 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.

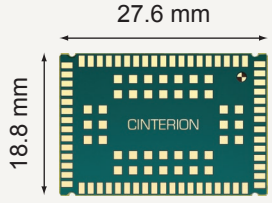
The platform incorporates an improved Java concept using Multi MIDlet Java execution to simultaneously host and run multiple applications and protocols. An extended security concept with the latest TLS/SSL engine provides secure and reliable TCP/IP connectivity while an enriched internal flash file system enables royalty free firmware updates over-the-air (FOTA) when required. Sophisticated sandbox modeling and layered architectures simplify device management (DM) and separate mobile network operator approvals from application code development, allowing simultaneous progress of both phases for a shorter time to market.

Powered by Intel's latest HSPA baseband, the next generation of the award-winning Industrial 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 Gemalto M2M'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) for the rest of the world.

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. Gemalto M2M'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.

Java™
Java offers easy and fast application development, a broad choice of tools, high code reusability, easy maintenance, a proven security concept, on-device debugging as well as multi-threading programming and program execution.

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, Class 3
- Control via standardized and extended AT commands (Hayes, TS 27.007 and 27.005)
- TCP/IP stack access via AT command and transparent TCP services
- Secure Connection for client IP services
- Internet Services TCP/UDP server/client, DNS, Ping, FTP client, HTTP client
- Supply voltage range 3.3 - 4.5 V, highly optimized for minimal power consumption
- LGA66 soldering mount, MSL4
- Dimension: 27.6 x 18.8 x 2.3 mm
- Weight: 2.7 g
- Operating Temperature: -40 °C to +90 °C

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 9.6 kbps, V.110, non-transparent
- SMS text and PDU mode, cell broadcast
- High quality voice support for handset, headset and hands-free operation
- Integrated TTY modem
- Speech codec: FR, HR, EFR and AMR

SPECIAL FEATURES

- USB interface supports multiple composite mode and a Linux-/Mac- compliant mode
- Firmware update via USB and serial interface
- Real time clock with alarm functionality
- Multiplexer according 3GPP TS 27.010
- RLS Monitoring (Jamming detection)
- Informal Network Scan
- Customer IMEI/SIM-Lock as variant
- Integrated FOTA, configurable and royalty free

JAVA OPEN PLATFORM

- Java™ ME 3.2
- Secure data transmission with HTTPS/SSL
- Multi-Threading programming and Multi-Application execution
- 6 MB RAM and 10 MB Flash File System

INTERFACES (LGA PADS)

- Pad for GSM/WCDMA Antenna
- USB 2.0 HS interface up to 480 Mbps
- High speed serial modem interface ASC0
- HSIC HS interface up to 480 Mbps
- 16 GPIO lines shared with DSR, DTR, DCD (all ASC0), ASC1 (RXD, TXD, RTS, CTS), SPI, Fast-Shutdown, Network-Status-Indication, PWM and Pulse-Counter lines
- ADC and I2C interface
- 4-wire high speed serial interface ASC1
- Digital audio interface
- UICC and U/SIM card interface 1.8 V / 3 V
- Lines for Module-On and Reset

DRIVERS

- USB, MUX driver for Microsoft® Windows XP™, Vista™ and 7™
- RIL, USB driver for Microsoft® Windows Embedded-Handheld™ >= 6.x
- USB, MUX driver for Microsoft® Windows Embedded-Compact™ >= 5.x

APPROVALS

- EHS5-E: CE, R&TTE
- EHS5-US: FCC, PTRCB, UL, IC
- GCF Listing
- AT&T and other local approvals and provider certifications
- EuP, RoHS and REACH compliant

For more information, please visit
m2m.gemalto.com, www.facebook.com/gemalto, or Follow @gemaltom2m on twitter.

The information provided in this brochure contains merely general descriptions or characteristics of performance, which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract. All product designations may be trademarks or product names of Gemalto M2M GmbH or supplier companies whose use by third parties for their own purposes could violate the rights of the owners. Oracle and Java are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners. ARM9 is a registered trademark of ARM Limited.

Gemalto M2M GmbH
St.-Martin-Str. 60
81541 Munich
Germany

M2M.GEMALTO.COM

gemalto
security to be free

© Gemalto 2013. All rights reserved. Gemalto, the Gemalto logo, are trademarks and service marks of Gemalto and are registered in certain countries. January 2014