EES3, EGS5/-X, EGS3, BGS3/-ATEX

Quad-Band

SIM Access Profile

EDGE / GPRS Class 12

Tunneling Mode

FOTA

USB

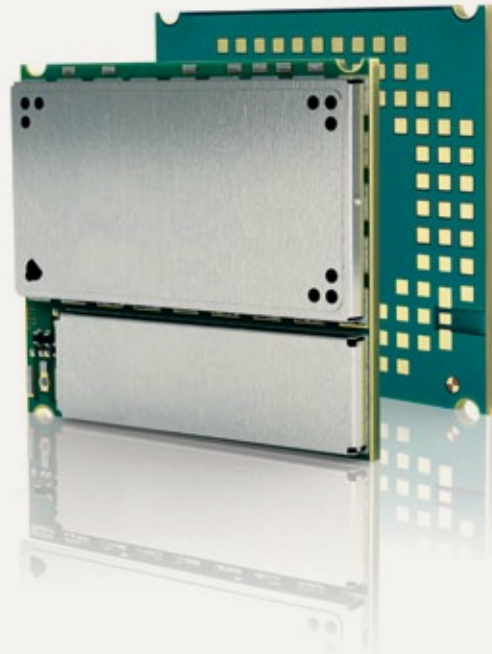Java™

RIL Driver

TCP / IP

RLS Monitoring (Jamming Detection)

EVOLUTION PLATFORM

Cinterion® EES3, EGS5/EGS5-X, EGS3, BGS3/BGS3-ATEX
Full Featured, Truly Industrial and Scalable Platform
with Leading Edge LGA Technology

Cinterion® EES3, EGS5/EGS5-X, EGS3, BGS3/BGS3-ATEX
Full Featured, Truly Industrial and Scalable Platform

The Cinterion Evolution Platform is comprised of multiple Cinterion modules all offering scalability, compatibility and an easy path to future upgrades with added functionality as technology needs expand.

Evolution LGA solderable products include EES3, EGS5, EGS3 and BGS3 modules featuring efficient and reliable LGA surface mounting technology along with optimized size and performance.

Gemalto M2M added two new modules to the second generation of its successful Evolution Platform as well as expanded features such as tunneling mode and a location API for the embedded Java variant. The new EGS5-X offers an extended memory (1.7 MB RAM, 8 MB Flash File System) and also enables integrated Firmware Over The Air Update (FOTA) to protect customer investment.

BGS3-ATEX adheres to the latest ATEX 95 standard and is designed for safe use in potentially hazardous environments where there is risk of an explosion such as in gas meters.

Gemalto M2M brings its 15 years of industry-leading expertise to its next generation Evolution products, which are based on a new advanced processor design and the company's field-proven and reliable M2M software stack. The latest chip technology enables high performance, improved efficiency and the benefit of long-term availability.

M2M Glossary

EDGE Class 12 – The highest symmetric data speed (236 kbps in uplink and downlink) for M2M applications requiring quick data transmissions.

GPRS Class 12 – High symmetric data speed (86 kbps in uplink and downlink) for M2M applications.

RLS Monitoring – Remote Link Stability Monitoring providing network performance information which enables for example effective customized jamming detection.

Tunneling mode – A smart way that allows the mcirocontroller to control any device that has a serial interface like GPS receiver or NFC device through the module and enable transparent communication.

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.

ATEX – The ATEX directive consists of two EU directives describing what equipment and work environment is allowed in an environment with an explosive atmosphere.

Advanced Temperature Management – Protects the module in critical thermal environments to maintain reliability and functionality, allowing a long product life time.

Location API – Easy connection for external GPS to provide coordinates, landmarks or landmark stores.

Cinterion® EES3, EGS5/EGS5-X, EGS3, BGS3/BGS3-ATEX with Leading Edge LGA Technology

EES3

> EDGE Class 12
> GPRS Class 12
> GSM

The EES3 Wireless Module – One of the smallest EDGE modules in the world (Enhanced Data Rates for GSM Evolution – the fastest transmission standard in GSM). The EES3 features an integrated TCP/IP stack over AT, serial and USB ports, and a RIL driver for Microsoft® Windows CE™ based devices.

EGS5 / EGS5-X

> GPRS Class 12
> GSM
> JAVA™

The EGS5 Wireless Module – Offers embedded Java™ processing based on a state-of-the-art ARM 9 processor architecture. Other features include GPRS Class 12 functionality, an integrated TCP/IP stack over AT, and an array of industrial interfaces such as SPI, I²C bus, USB, AD/DA converter, and multiple GPIOs.

The EGS5-X variant offers an extended memory for more powerful applications.

EGS3

> GPRS Class 12
> GSM

The EGS3 Wireless Module – Offers enhanced M2M connectivity with GPRS Class 12 functionality, an integrated TCP/IP stack over AT as well as industrial interfaces SPI, I2C, and USB port.
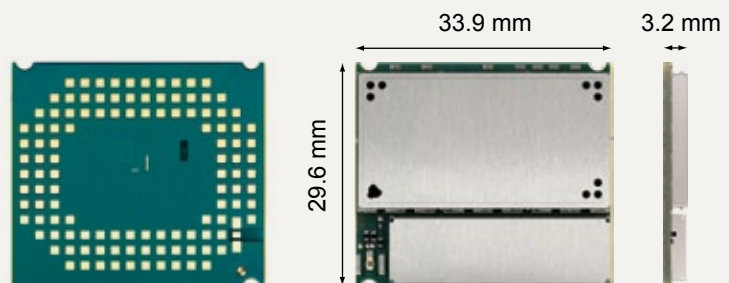
BGS3 / BGS3-ATEX

> GPRS Class 10
> GSM

The BGS3 Wireless Module – Basic M2M functionality with GPRS Class 10 functionality, two serial interfaces, an integrated TCP/IP stack over AT and a RIL driver for Microsoft® Windows CE™ based devices.

The BGS3-ATEX variant in addition is compliant with the European ATEX 95 directive.

Evolution Platform LGA Solderable Module Dimensions

33.9 mm   3.2 mm

29.6 mm

Cinterion® Evolution | LGA Solderable Modules Features

Product	EES3	EGS5/EGS5-X	EGS3	BGS3/BGS3-ATEX
	EDGE	Java™	GPRS Advanced	GPRS Standard
General features				
Control via AT commands (Hayes 3GPP TS 27.007 and 27.005)	●	●	●	●
EDGE multi-slot	Class 12			
GPRS multi-slot	Class 12	Class 12	Class 12	Class 10
Circuit Switched Data	Up to 14.4 kbps	Up to 14.4 kbps	Up to 14.4 kbps	Up to 14.4 kbps
SMS text, PDU mode, cell broadcast	●	●	●	●
Fax	Group 3, class 1	Group 3, class 1	Group 3, class 1	Group 3, class 1
SIM Application toolkit (release 99) letter class „b", „c" and „e"	●	●	●	●
TCP/IP stack access via AT commands and transparent TCP service	●	●	●	●
Internet services: TCP, UDP, HTTP, FTP, SMTP, POP3, Ping	●	●	●	●
Supply voltage range: 3.2 … 4.5 V	●	●	●	●
Operational temperature range: -40 °C to +85 °C, switch off: > +80 °C	●	●	●	●
Dimensions: 33.9 × 29.6 × 3.2 mm	●	●	●	●
Weight: 5.5 g	●	●	●	●
Specification for EDGE data transmission				
EDGE Class 12	Max. 236.8 kbps (DL and UL)			
Modulation and coding schemes MCS 1-9	●			
Specification for GPRS data transmission				
GPRS Class 12 & Class 10	Max. 86 kbps (DL and UL)	Max. 86 kbps (DL and UL)	Max. 86 kbps (DL and UL)	Max. 86 kbps (DL) Max. 43 kbps (UL)
Coding schemes CS 1-4	●	●	●	●
Specification for voice				
Triple-rate codec for HR, FR, and EFR	●	●	●	●
Adaptive multi-rate AMR	●	●	●	●
Hands-free operation, Echo cancellation & Noise reduction	●	●	●	●
Java™ features				
Java™ profile IMP-NG & CLDC 1.1 HI, GPS support		●		
Multi-threading programming and program execution		●		
Extended memory: 1,7 MB RAM and 8 MB Flash File System		● (EGS5-X)		
Special features (extract)				
Secure data transmission with HTTPS, SSL and PKI	●	●	●	●
RIL driver for Microsoft® Windows CE™ based devices	●			●
Multiplex Driver Microsoft® Windows and Linux	●	●	●	●
Serial interface modem for Microsoft® Windows 7™/XP™/Vista™	●	●	●	●
RLS Monitoring (Jamming Detection)	●	●	●	●
Advanced Temperature Management	●	●	●	●
Informal Network scan (easy scan)	●	●	●	●
Firmware update via serial and USB interface	●	●	●	●
Integrated Firmware Update Over The Air (FOTA)		● (EGS5-X)		
TLS for IP over AT	●	●	●	●
Tunneling mode for external serial devices	●	●	●	●
Real time clock with alarm functionality	●	●	●	●
Interfaces				
Antenna 50 Ω solder pad	●	●	●	●
Audio: 2 x analog, 1 x digital	●	●	●	●
Serial interfaces (ITU-T V.24 protocol)	2	2	2	2
SIM card interface	3 V, 1.8 V	3 V, 1.8 V	3 V, 1.8 V	3 V, 1.8 V
USB 2.0 full speed	●	●	●	
I²C & SPI bus	●	●	●	
ADC/DAC		2 / 1		
Multiple GPIOs		●		
Approvals				
CE, R&TTE, GCF, UL, FCC, IC, PTCRB, RoHS	●	●	●	●
Local approvals and network operator certifications (list available)	●	●	●	●
Delivery package				
Tape and Reel, modules per reel	600	600	600	600

Cinterion® Wireless Modules Evolution Platform
LGA Solderable
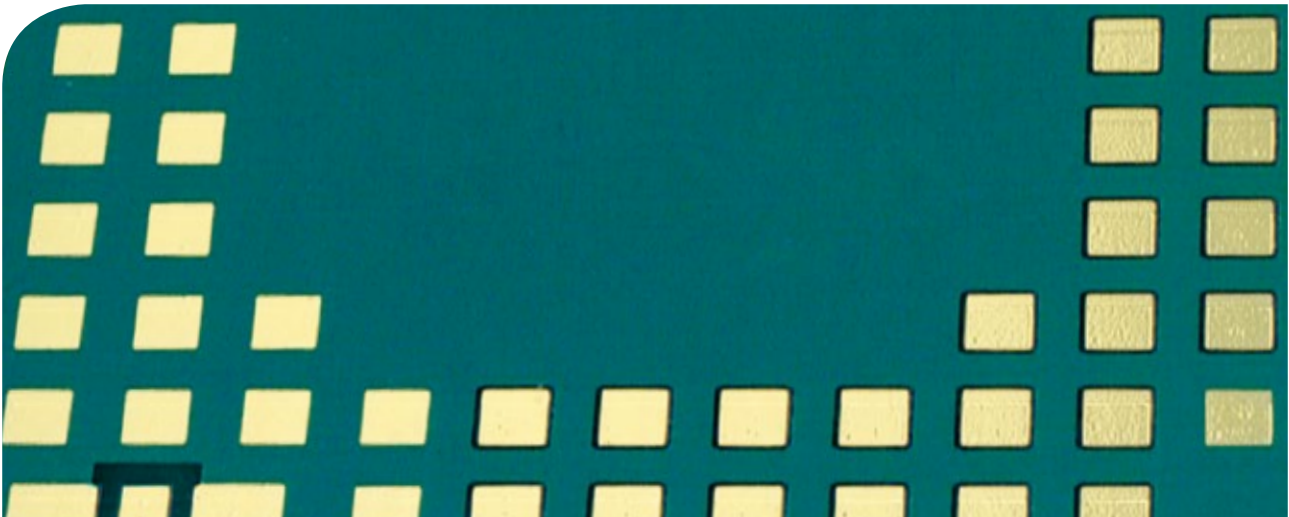
LGA Benefits

Land Grid Array, or LGA, is a surface-mount technology for fully automated manufacturing allowing the benefit of efficiency and process consistency. Cinterion's unique type of LGA technology was designed with a focus on reliability and flexibility and to meet the demanding requirements of M2M applications.

Gemalto M2M's engineering expertise and close attention to customer needs offer a competitive advantage that shortens the time to market.

Gemalto M2M Provides

> "Tape and reel" module delivery for efficient manufacturing
> Delivery of 600 modules per reel for mass production
> Daisy Chain modules for soldering tests, 50 per reel
> Evaluation Modules with soldered LGA modules on a DSB75 compatible adaptor PCB for easy and fast application development

Gemalto M2M LGA Features include

> A unique layout for heat dissipation that prevents warpage
> Customizable soldering provides the freedom to select the most beneficial soldering paste for each individual application
> Optimized pad size and layout enables customer specific overprinting

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.

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

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security to be free