Automotive
Advanced Automotive Grade Modules

CINTERION
WIRELESS MODULES

AGS3
Highest Reliability and Quality for Automotive Applications
with leading edge LGA technology

Automotive Grade

eCall Prepared

RLS Monitoring

Quad-Band

TCP/IP

LGA Mounting

Industrial Interfaces

GPRS Class 12
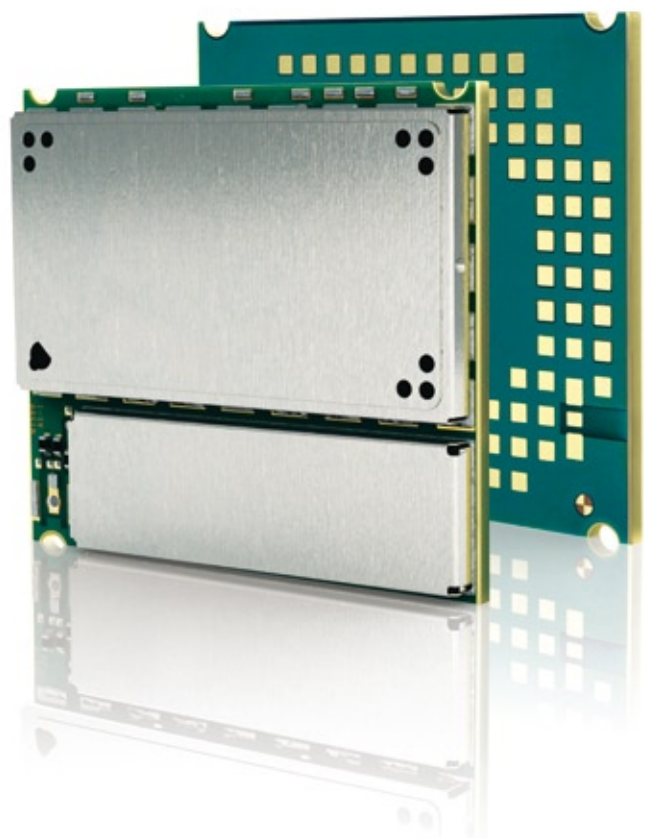
USB

Antenna Diagnostics

Advanced Temperature Management

Universal SIM Interface

SIM Access Profile

Cinterion Wireless Modules has a long history of successful products for automotive applications. Cinterion automotive grade products are designed to meet the requirements of the automotive industry offering special automotive features as well as compliance with all relevant quality standards such as TS16949. Additionally, Cinterion offers a broad range of support packages and a full lifecycle service concept.

The AGS3 represents the latest member of the 6th generation of dedicated automotive grade modules – now solderable with leading edge LGA technology. Offering advanced telematics features and prepared to meet the requirements of the European eCall initiative, the AGS3 is the perfect basis for automotive and ITS applications like toll collect, telematics, fleet management, as well as emergency call, breakdown or roadside assistance.

www.cinterion.com

Wireless Module AGS3
Solderable Automotive Module for Telematics and eCall Applications

33.9   3.2

29.6
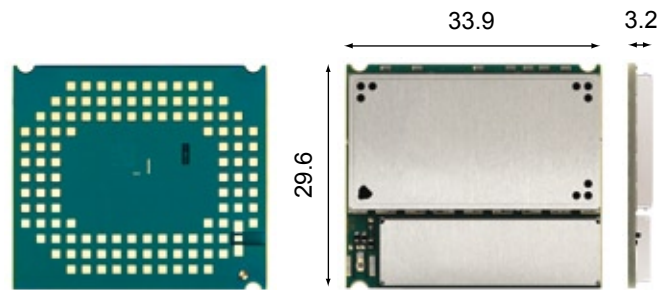
General features

- Quad-Band
  GSM 850/900/1800/1900 MHz
- GPRS multi-slot class 12
- GSM release 99
- Output power:
  - Class 4 (2W) for EGSM850
  - Class 4 (2W) for EGSM900
  - Class 1 (1W) for GSM1800
  - Class 1 (1W) for GSM1900
- Control via AT commands
  (Hayes 3GPP TS 27.007 and 27.005)
- SIM Application Toolkit (release 99)
- TCP/IP stack access via AT commands
- Internet Services: TCP, UDP, HTTP, FTP,
  SMTP, POP3
- USSD support
- Supply voltage range: 3.2 – 4.5 V
- Improved power-saving modes
- Charging control for Lithium batteries
- Operational temperature range: -40°C to +85°C
  - Protection switch off
- Dimensions: 33.9 x 29.6 x 3.2 mm
- Weight: approx. 5.5 g
- RoHS and EuP compliant

Specification for SMS

- Point-to-point MO and MT
- SMS cell broadcast
- SMS over GPRS or CSD
- Text and PDU mode

Specification for voice

- Triple-rate codec for HR, FR, and EFR
- Adaptive multi-rate AMR
- Enhanced hands-free operation according
  to VDA specification
- Echo cancellation, noise suppression
- DTMF

Specification for GPRS data transmission

- GPRS class 12: max. 86 kbps (DL & UL)
- Mobile station class B
- PBCCH support
- Coding schemes CS 1-4
- PPP-stack for GPRS data transfer

Specification for CSD data transmission

- Up to 14.4 kbps
- V.110
- Non-transparent mode

Specification for fax

- Group 3; class 1

Processor technology

- ARM9™ processor

Interfaces (LGA pads)

- Antenna 50 Ω solder pad
- Power supply
- Audio: 2x analog, 1x digital (PCM)
- 2x serial interfaces
  (ITU-T V.24 protocol, up to 921 kbps)
- USB 2.0 full speed
- SIM card interface 3 V, 1.8 V
- I²C bus and SPI bus

Automotive features

- Prepared for European eCall
- SIM Access Profile integrated
- RLS monitoring (e.g. for jamming detection)
- Advanced temperature management
- Measurement of module temperature
- Antenna diagnostic (up to 2 ext. antennas)
- Emergency call at high temperature
- IMDS listed & GADSL compliant
- TS16949 development and manufacturing
- e-marking

Approvals

- R&TTE, FCC, UL, IC, GCF, PTCRB,
  e-mark, CE
- Local approvals and network operator
  certifications

Delivery unit

- 2 reels per package
- 300 modules per reel

Special features

- Multiplex driver according 3GPP 27.010 for
  Microsoft® Windows XP™, Windows Vista™ and
  Windows 7™
- Firmware update via serial interface
- Real time clock with alarm functionality

**For detailed specification please see Hardware
Interface Description.**

LGA benefits

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 was designed with focus on highest reliability and flexibility and to meet the demanding requirements of automotive and M2M application manufacturers.

Cinterion's LGA features include

- A unique layout for superior heat dissipation preventing warpage effects
- Customizable soldering process providing highest flexibility in selecting the most beneficial soldering paste for each individual application
- Optimized pad size and layout enables customer specific overprinting assuring high quality production

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