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# AGS2-E

**2G GPRS Class 10**

**eCall prepared**

**HQ Voice Support VDA 2a**

**Voice Prompts**

**SSL Encryption**

**Advanced Temperature Management**

**GPS, GLONASS**

**Antenna Diagnostics**

**RLS Monitoring (jamming detection)**

**Generic Flash Access**

CINTERION

DEVICE PART NUMBER: S30960-S1111-A222-3

Model: AGS2-E

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CE

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intel Intelligent Systems Alliance

# 2G

## Cinterion® AGS2-E Wireless Module
## Automotive 2G optimized for eCall

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Part of the Cinterion Automotive family, the AGS2-E wireless module offers the optimum M2M solution for European automotive needs, now and in the future. The solution provides secure connectivity and eCall capabilities for Europe's current 2G mobile networks. It also shares the same footprint as Cinterion 3G and LTE solutions providing a reliable migration path to future 4G automotive infotainment systems.

AGS2-E is engineered to meet the highest level of compliance with automotive specifications providing unparalleled quality and performance, even under the harshest operating conditions.

The unique Cinterion Land Grid Array (LGA) technology enables optimized heat dissipation that prevents warping. This gives automotive customers the freedom to select the most beneficial soldering paste for each individual application.

Based on Intel's powerful 2G chipset, the module's extreme ruggedness and ultra compact LGA footprint guarantee long product availability along with optimized Total Cost of Ownership and unparalleled migration opportunities.

Equipped with high performance GPS/GLONASS, the AGS2-E platform is prepared to meet the comprehensive requirements of the European eCall initiative. It also features in-band modem functionality, voice prompts, high quality audio according to VDA 2a, jamming detection, antenna diagnosis as well as TCP/IP wireless connectivity services.

The AGS2-E is an ideal enabler for current and future high performance automotive and Intelligent Transportation System (ITS) applications including: toll collect, onboard vehicle telematics and fleet management, in-car entertainment systems as well as automatic emergency calling, breakdown support or roadside assistance.

## Automotive 2G optimized for eCall



33 mm    2.2 mm
29 mm

### Future Proof Design
At just 2.2 mm in height, AGS2-E is ideal for integration in the slimmest and most size constrained automotive solutions. Extreme ruggedness and the latest long-life chipset ensure long product availability to meet automotive market requirements. With the future proven LGA footprint, automotive applications today are already prepared for seamless migration to LTE modules in the future.

### Generic Flash Access
The Cinterion AGS2-E module provides generic access to its own internal memory, which can be used for voice prompt files common to eCall applications or for downloading application software for upgrade processes.

### Automotive Compliance
The AGS2-E solution is compliant with multiple automotive manufacturing process standards according to TS16949 and quality processes including APQP, PPAP, PCN, and 8D.

**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® AGS2-E Features

## GENERAL FEATURES

> GSM Quad-Band: 850 / 900 / 1800 / 1900 MHz
> 3GPP release 99
> GPRS multi-slot Class 10
> SIM Application Toolkit
> Control via AT commands
  (Hayes, 3GPP TS 27.007 and 27.005)
> Internet Services TCP server/client, UDP, HTTP, FTP, SMTP, POP3

> Secure Connection with TLS
> DTMF detector
> Supply voltage range 3.3 to 4.5 V
> LGA156 soldering mount, MSL4
> Dimensions: 33 × 29 × 2.2 mm
> Operating temperature: -40 °C to +95 °C (Protection switch-off)

## SPECIFICATIONS

> GPRS Class 10
  DL: max. 85.6 kbps,
  UL: max. 42.8 kbps
  Mobile Station Class B
> CSD data transmission up to 14.4 kbps,
  V.110, non-transparent
> USSD support

> SMS text and PDU mode, cell broadcast
> Fax Group 3, Class 1 and Class 2
> High quality voice support for handset, headset and hands free (double talk) operation, VDA 2a
> FR, HR, EFR and AMR speech codec support
> Integrated TTY modem

## SPECIAL FEATURES

> Prepared for EU eCall compatible
> In-band Modem Release 10.0.0
> Voice prompts
> Antenna diagnostic

> Firmware update via serial interface
> Radio Link Stability Monitoring
> Real time clock with alarm functionality
> Customer Flash Storage / Generic flash access

## GPS/GLONASS FEATURES

> Integrated 32 Channel GNSS receiver
> Bands: GPS L1, Glonass L1
> NMEA-183
> Position Accuracy (CEP50): 1.5m
> EGNOS, WAAS
> TTFF (-130dBm): 1s Hot Start, <35s Cold Start
> Active antenna feeding and control

> Sensitivity (active antenna):
  > Acquisition -145dBm
  > Navigation -156dBm
  > Tracking -160dBm
> Local ephemeris prediction
> Jammer rejection

## INTERFACES (LGA PADS)

> Power supply
> Analog & digital audio interface
> 1x serial interface 1.8 V with baud rate detection
> ICC/UICC card interface 1.8 V and 3.0 V
  supporting SIM/USIM

> GPIO pins 1.8 V (special option for PWM and status indication)
> I²C interface 1.8 V
> 2x ADC interface
> 1PPS output (GNSS)

## DRIVERS

> RIL driver for Android™ based devices
> RIL driver  for Windows Mobile™ based applications

## APPROVALS

> CE, R&TTE, GCF, UL, E-Mark
> GCF Listing
> Other local approvals and network operator certifications

**For more information, please visit**
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