# BGS2 miniPCIe

Quad-Band
2G

GPRS
Class 10

Universal SIM
Interface

USB 2.0

Advanced
Temperature
Management
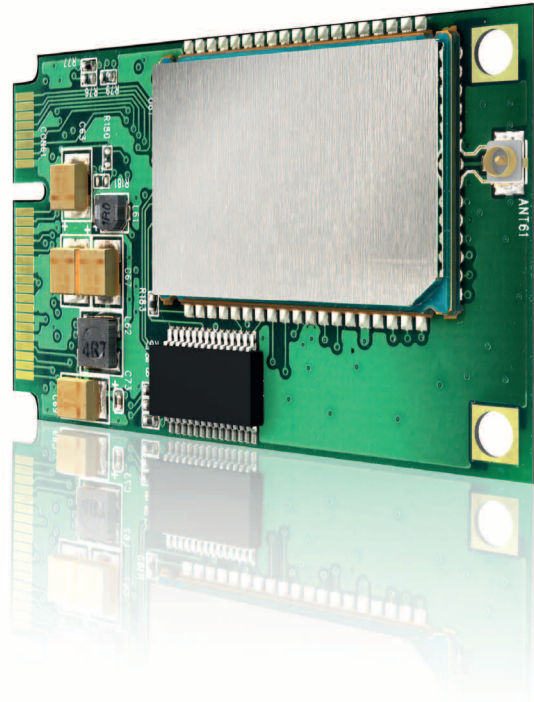


## Cinterion BGS2 miniPCIe
## The Wireless Connectivity Solution for Remote Monitoring
## and Low Bandwidth M2M Applications

The Cinterion BGS2 miniPCIe is an easy to integrate data modem card designed to add cost efficient wireless connectivity to remote monitoring applications and low bandwidth industrial electronics solutions. Leveraging the Cinterion BGS2-W module and the standard PCI Express® Mini Card form factor (miniPCIe), the solution provides global quad-band 2G/GPRS data communications enabling Internet access and cloud-based services for intelligent systems with x86-architecture.

It is ideal for remote monitoring solutions that transmit status notifications, inventory information, alerts and log files between equipment in the field and backend systems.

With an extended temperature range from -40 °C up to 85 °C, the Cinterion BGS2 miniPCIe is reliable in extreme environments for use outdoors or inside at sites that lack cooling and heating systems. It provides simple plug-in integration via the standardized 52-pin PCIe® system connector and works with built-in Windows® and Linux modem drivers easing integration work for intelligent system vendors.

With its straightforward installation and reliable, global 2G connectivity, the BGS2 miniPCIe enables cost optimized, low bandwidth cellular connectivity for any PC-based industrial M2M application.

CINTERION
a Gemalto company

— PRELIMINARY VERSION —

# BGS2 miniPCIe

## General Features
- GSM Quad-Band: 850 / 900 / 1800 / 1900 MHz
- 3GPP release 99
- GPRS multi-slot Class 10
- Compliant to GSM phase 2/2+
- Output power:
  - Class 4 (2W) for GSM850 / EGSM900
  - Class 1 (1W) for GSM1800 / GSM1900
- SIM Application Toolkit Class 3,
  letter Class B and C, Release 99
- Control via AT commands
  (Hayes, 3GPP TS 27.007 and 27.005)
- Supply voltage range: 3.0 to 3.6 V
- Dimensions: 51 x 30 x 4.8 mm
  (full mini card size)
- Operating temperature: -40°C to +85°C
- Weight: 7.6 g
- RoHS and EuP compliant

## Specifications
- GPRS Class 10, Mobile Station Class B
  DL: max. 85.6 kbps, UL: max. 42.8 kbps
- SMS text and PDU mode, cell broadcast
  Fax Group 3, Class 1 and Class 2

## Special Features
- USB driver for Windows® 7, Windows Vista®,
  Windows XP™
- Compatible with modem driver of Windows® 7,
  Windows Vista®, Windows XP™
- Compatible with USB and modem driver of Linux
  kernel, e.g. Wind River Linux

## Interfaces
- PCI Express® Mini Card system connector (52 pin)
  - Supply voltage 3.3 V
  - USB 2.0 full speed
  - UICC/SIM card interface 1.8 V / 3.0 V
  - Status LED (configurable GPIO)
  - Reset
- Antenna connector: U.FL 50 Ω

## Approvals
- R&TTE, GCF, FCC, PTCRB, IC (BGS2-W module
  full type approved)
- CE, UL

**For detailed specification please see hardware
interface description.**

## The Solution for x86-based Remote Monitoring Applications



30 mm

51 mm
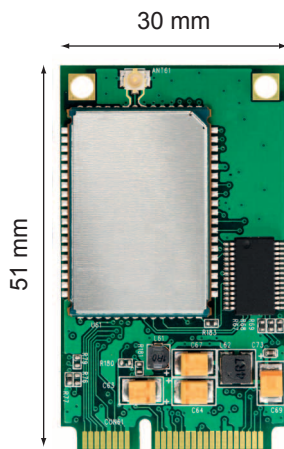
### M2M miniPCIe Offers Extended Temperature Range and Advanced Temperature Management

Compared to consumer electronic products, industrial and commercial M2M applications demand more durable components, which are designed to work 24x7 under extreme temperature conditions. The Cinterion M2M miniPCIe functions reliably in temperatures ranging from -40 °C up to +85 °C for use outdoors in snow and ice, or inside industrial facilities and equipment that lack heating and cooling systems. With an Advanced Temperature Management feature, the BGS2 module will react under extreme thermal conditions and automatically adapt GPRS performance to avoid overheating.

### Convenient miniPCIe System Connector

The miniPCIe form factor provides flexible integration of cellular modem functionality for M2M applications based on an x86-processor architecture. With the standardized 52-pin interface, the miniPCIe card just needs a USB and SIM interface as well as power supply and control pins for full operation.

### Soldered Machine Identification Modules – MIMs – Provide Increased Longevity

Gemalto's next generation MIMs are ruggedized for industrial M2M applications and can be soldered directly on the circuit board, extending the product's life with highest reliability even in harsh environments. The Cinterion BGS2 miniPCIe can be customized with soldered MIM™ for M2M applications with specific needs and ordered as a product variant upon request.

## 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

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

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