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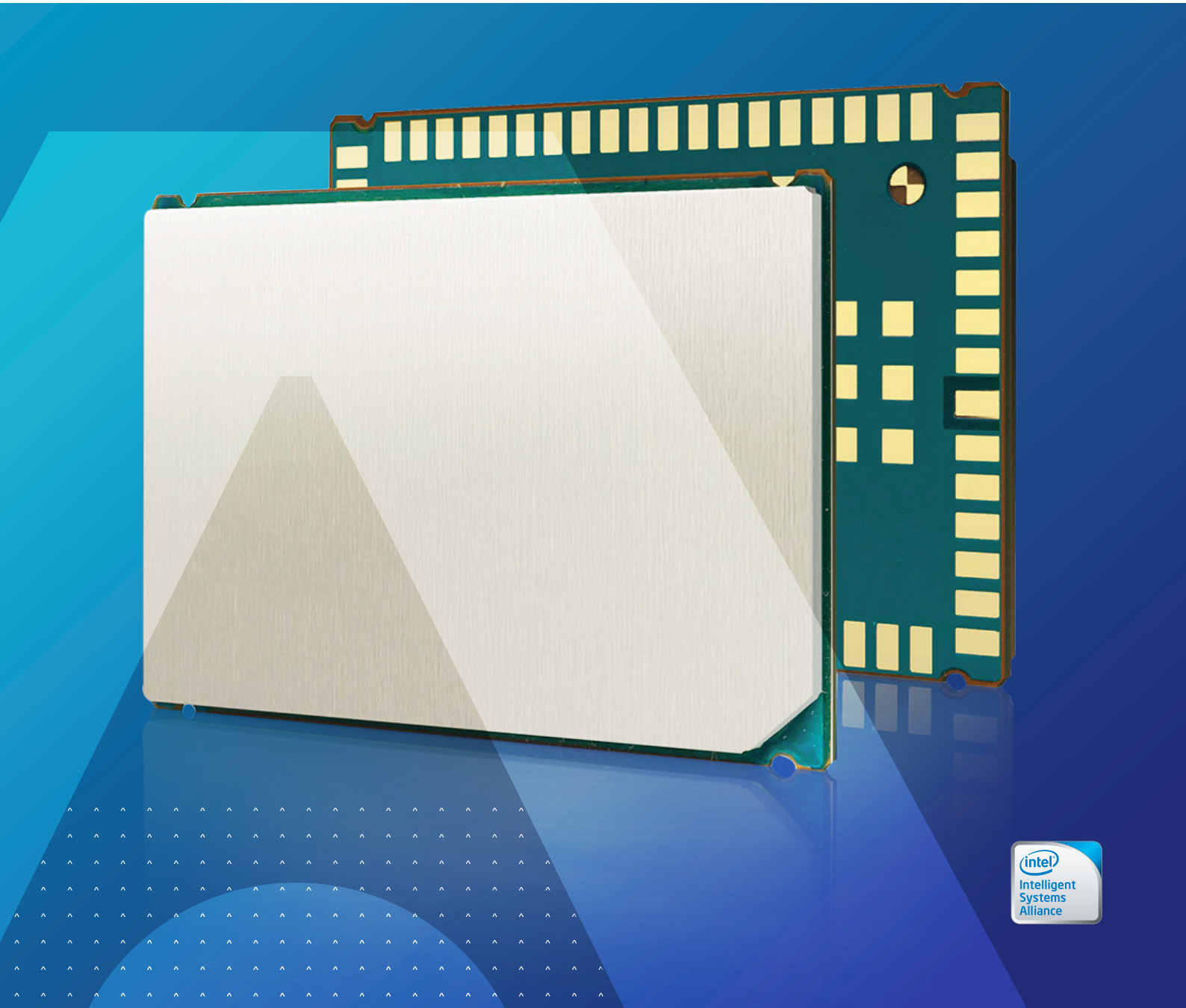
THALES

2G

Cinterion® BGS2 Wireless Module

Perfect M2M at Minimal Footprint



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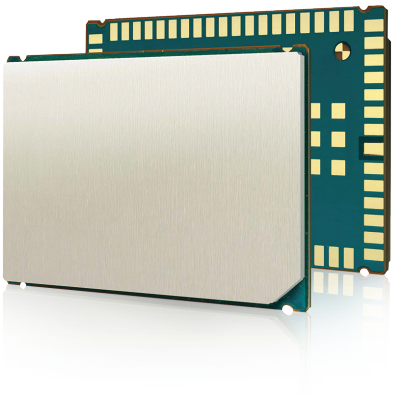


BGS2

- GPRS Class 10
- Full Voice Support
- TCP / IP
- Generic Flash Access
- Advanced Temperature Management
- Quad-Band
- RLS Monitoring
- SSL Encryption

The Cinterion BGS2 module is the most successful 2G LGA wireless module in the market offering full voice capabilities, high speed GPRS data transmission and best-in-class low power consumption, making it an exceptional choice for all-around machine-to-machine communications.

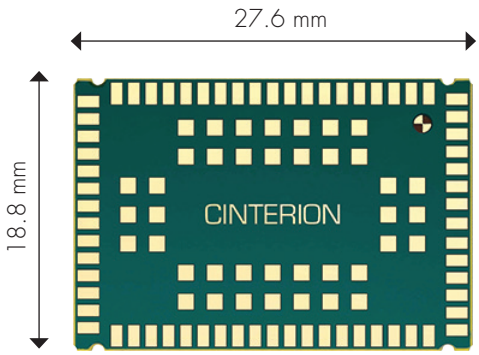
The ultra-compact design offers a minimal footprint perfectly suited to the needs of M2M manufacturers of small, high-volume devices with a focus on reliable and efficient processes.

With BGS2 Release 2, the module adds Quad-Band GSM/GPRS with advanced SSL encryption for IP-based services, jamming detection, an analog and digital audio interface and generic flash access to the internal memory of the module.

The unique multi-design capabilities of the new release allows seamless migration to the world's smallest 3G wireless module, supporting HSPA data transmission within a contiguous design framework to assure long-lasting, future-proof M2M applications.

BGS2 comes in two flavors as Quad-Band with GPRS class 10 (BGS2-W) and Dual-Band with GPRS class 8 (BGS2-E). As is true with all Cinterion modules, the BGS2 includes full type approval (FTA) for global roaming and certification for use with the largest carriers worldwide.

Perfect M2M at Minimal Footprint



Multi Design Capability

The unique BGS2 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 and longevity of M2M applications.

Generic Flash Access

The BGS2 module enables the application processor to have a generic access to the internal memory of the module, allowing it to be used either to store voice prompts or to download application software for upgrades.

RLS Monitoring

Radio link stability (RLS) monitoring enables the application to detect jamming attacks, triggering preventive actions to secure the device.

Thales 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® BGS2 Features

General Features

- GSM Quad-Band:
  850 / 900 / 1800 / 1900 MHz (BGS2-W)
- GSM Dual-Band: 900 / 1800 MHz (BGS2-E)
- 3GPP release 99
- GPRS multi-slot Class 10
- Compliant to GSM phase 2/2+
- Output power:
  - Class 4 (2W) for 850 / 900 (BGS2-W)
  - Class 1 (1W) for 1800 / 1900 (BGS2-W)
  - Class 4 (2W) for 900 (BGS2-E)
  - Class 1 (1W) for 1800 (BGS2-E)
- SIM Application Toolkit Class 3,
  letter Class B and C, Release 99
- Control via AT commands
  (Hayes, 3GPP TS 27.007 and 27.005)
- Internet Services TCP server/client, UDP, HTTP, FTP, SMTP, POP3, Ping
- Secure Connection with TLS
- DTMF detector
- Supply voltage range 3.3 to 4.5 V
- LGA66 soldering mount, MSL4
- Dimensions: 27.6 × 18.8 × 2.7 mm
- Operating temperature: -40 °C to +90 °C
- RoHS and EuP compliant

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
- FR, HR, EFR and AMR speech codec support
- Integrated TTY modem

Special Features

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

Interfaces (LGA Pads)

- Power supply
- Audio analog & digital interface
- Serial interface 1.8 V, including automatic baud rate detection
- ICC/UICC card interface 1.8 V and 3.0 V supporting SIM
- 6 GPIO pins 1.8 V (special option for PWM or Buzzer and status indication functionality, 2 GPIO usable for I^2C)
- fast shut down
- ADC interface

Drivers

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

Approvals

- CE, R&TTE, GCF
- FCC, PTRCB, UL, IC (BGS2-W)
- GCF Listing
- Other local approvals and network operator certifications

Thales in IoT: Driving digital transformation with the power of the IoT

Thales delivers innovative IoT technology that simplifies and speeds enterprise digital transformation. For more than 20 years, our customers – in a wide range of industries - trust our IoT solutions to seamlessly connect and secure their IoT devices, maximise field insights, and accelerate their global business success.

Thales solutions:

- **Connect** assets to wireless networks and cloud platforms
- **Manage** the long lifecycle of IoT solutions
- **Secure** devices and their data
- **Analyse** real-time data transforming it into business intelligence that improves decision making

Our 360° approach provides the essential building blocks needed to simplify design, streamline development and accelerate time-to-market.

For more information, please visit **www.thalesgroup.com/IoT** or follow **@ThalesIoT on Twitter**

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