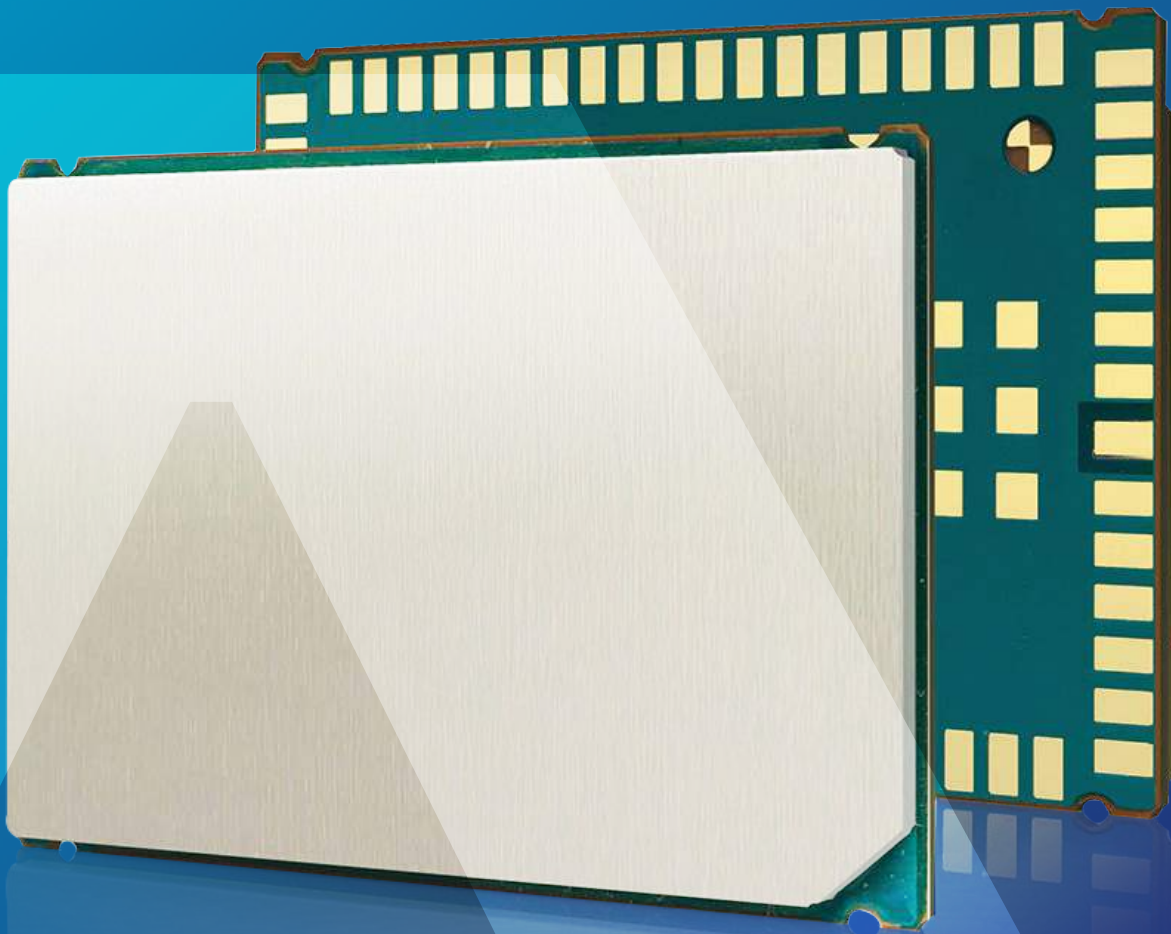


2G

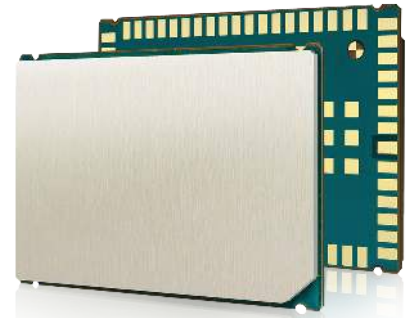
# Cinterion® BGS2 Wireless Module

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.

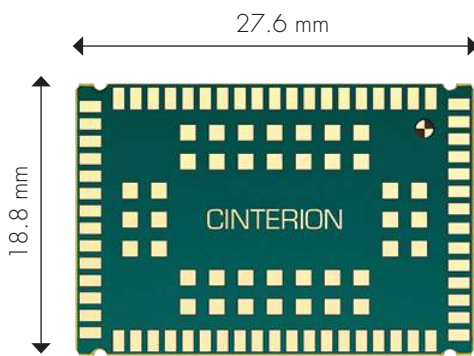
The ultra-compact design offers a minimal footprint perfectly suited to the needs of M2M manufacturers of small, high-volume devices with a focus on reliable and efficient processes.

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-WV) 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<sup>2</sup>C)
- 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](http://www.thalesgroup.com/iot) or follow [@ThalesIoT](https://twitter.com/ThalesIoT) on Twitter

