

# Wireless Modules XT65 – The M2M tracking platform

The XT65 is the very first wireless module on the market to include a logical combination of GPS and GSM technology, which considerably simplifies the development of tracking applications intended for use in fleet management, logistics, navigation, and for protecting people, vehicles, and buildings. The time required for developing new applications and launching them on the market can be dramatically reduced due to the smart integration of GPS and GSM/GPRS functionalities and the integrated Java™ Open Platform.

Aside from having superb GPS features, the XT65 also supports the GPRS data transfer standard, thereby allowing position-related data to be transmitted permanently if necessary. And as four GSM frequency ranges are supported by the module (Quad-Band), specific objects and people can be located virtually anywhere in the world. So a global market is there and waiting for applications created on the basis of the XT65! Since Java™ Open Platform has been integrated, software engineers can develop new applications quickly and at moderate cost, for valuable resources such as RAM, a controller and a TCP/IP stack are already available and don't need to be provided at extra expense.

New areas of use in fields such as fleet management, logistics, navigation, and security will all profit from this full-feature M2M tracking platform, which will make brand new services possible as well as speeding up the development stage. Take car navigation systems using the XT65, for instance – thanks to the GPRS components they contain, drivers can download updates of maps and points of interest, get up-to-the-minute reports on traffic jams and roadwork, and use other Internet services whenever they need them.



QUAD-BAND



GPRS CLASS 12



GPS



JAVA IMP-NG



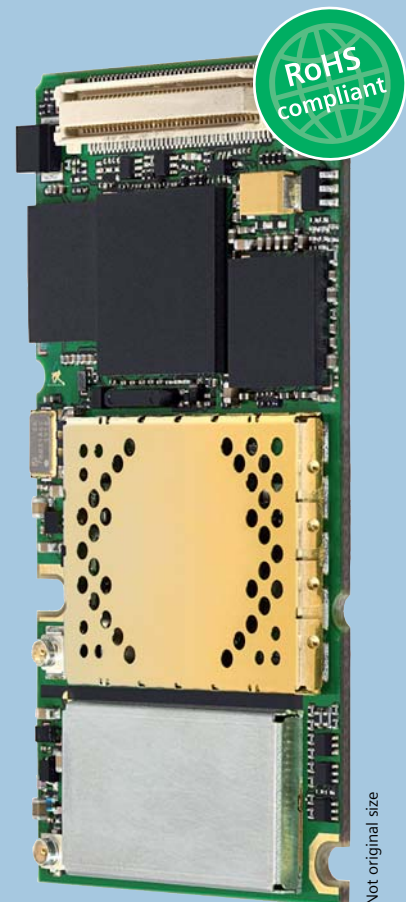
TCP/IP CONNECTIVITY



RIL DRIVER

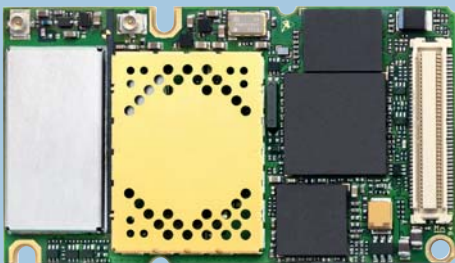


INDUSTRIAL INTERFACES



# Wireless Modules XT65

## The M2M tracking platform



Original size



### General features:

- Quad-Band GSM850/900/1800/1900 MHz
- GPRS multi-slot class 12
- GSM release 99
- Control via standardised (Hayes 3GPP TS 27.007 and 27.005) and enhanced AT commands
- SIM Application Toolkit (release 99)
- TCP/IP stack access via AT commands
- Internet Services: TCP, UDP, HTTP, FTP, SMTP, POP3
- Supply voltage range: 3.3 ... 4.5 V
- Power consumption:
  - Power down: 50 µA
  - Sleep mode: (registered DRX = 6) 4.5 mA
  - Speech mode (average): 300 mA
  - GPRS class 12 (average): 600 mA
- Charging control for Lithium batteries
- Temperature range
  - Normal Operation: -30 °C to +75 °C
  - Restricted Operation: -30 °C to +85 °C
  - Switch off: +90 °C
  - Storage: -40 °C to +85 °C
- Dimensions: 34 x 59 x 3.5 mm
- Weight: <10 g

### Specification for GPRS data transmission:

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

### Specification for SMS:

- Point-to-point MO and MT
- SMS cell broadcast
- Text and PDU mode

### Specification for CSD data transmission:

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

### Specification for fax:

- Group 3, class 1

### Specification for voice:

- Triple-rate codec for HR, FR, andEFR
- Adaptive multi-rate AMR
- Basic hands-free operation
- Echo cancellation
- Noise reduction

### Java™ features:

- CLDC 1.1 HI
- J2ME™ profile IMP-NG
- Location API (JSR179) for GPS access
- Secure data transmission with HTTPS, SSL and PKI

### Open application resources:

- ARM® Core, Blackfin® DSP
- Memory: 400 kB (RAM) and 1.2 MB (Flash)
- Improved power-saving modes
- Support for integrated development environments with On-Device-Debugging

### Over-the-air update:

- Application SW: OTAP
- Firmware: FOTA (OMA compliant)

### Approvals:

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

### Special features:

- Character framing 7E1 and 8E1 at serial interface
- Programmable module reset
- SIM Access Profile integrated
- RIL software for Microsoft® Windows Mobile™ 5.0 based devices
- Multiplexer driver for Microsoft® Windows

### Interfaces:

- 2 separated Hirose U.FL-R-SMT 50 Ω antenna connectors for GPS and GSM
- 2 separated antenna solder pads for GPS and GSM
- Molex 80-pin board-to-board connector
  - Power supply
  - Audio: 2x analog, 1x digital
  - 1x serial interface (ITU-T V.24 protocol)
  - USB 2.0 full speed
  - SIM card interface 3 V, 1.8 V
  - I<sup>2</sup>C bus and SPI bus
  - 2x analog in (ADC)
  - 1x analog out (PWM)
  - Multiple GPIOs

### Specification for GPS:

- Receiver 16 channel, L1 1575.42 MHz
- Accuracy Position: 2.5 m CEP; 5.0 m SEP
- Position with DGPS/SBAS: 2.0 m CEP; 3.0 m SEP
- GPS dedicated AT commands
- Support of SBAS (WAAS/EGNOS/MSAS)
- GPS active antenna supply: 3.0 V
- A-GPS enabled
- Tracking sensitivity: -158 dBm (with active antenna)
- Date WGS-84
- Start-up Time
  - Hot start: < 3.5 s
  - Warm start: 33 s
  - Cold start: 34 s
- Protocols: NMEA-0183 V2.3, RTCM protocol V2.2, UBX binary protocol

More about Siemens Wireless Modules at: [www.siemens.com/wm](http://www.siemens.com/wm)

Global thinking, local understanding.



U.K. ← Football → USA

### Here, there and everywhere

Global but local - Siemens lives up to this motto! Not only are we present locally but we are also able to open up amazing global business perspectives for you! Find the details of your local Siemens contact partner here: [www.siemens.com/wm-contact](http://www.siemens.com/wm-contact)

### Technical Support

Our application engineers support you from the design-in phase over the integration of the module into the application to the certification process.

### We protect your business

Profit from our strong Intellectual Property Rights position (IPR) – guarded by our legal professionalism you secure the fruits of your business effort.

Our technology portfolio covers → +++ Java™ Open Platform +++ EDGE +++ GPS +++ HSDPA +++