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Wireless Module XT75

The M2M tracking platform

CINTERION
WIRELESS MODULES

The XT75 is the first wireless module ever to integrate GSM and GPS features in an absolutely logical manner, not just combine them. Manufacturers of GPS-based tracking and tracing systems or vehicle navigation systems are now able to put their new products on the market much faster and at lower cost thanks to the platform functionality made possible by Java™ and the XT75's integrated state-of-the-art processor and GPS receiver.

The XT75 comes with a superb set of GPS features that enable users to pinpoint the location of moving objects via satellite. Due to the implementation of the ultra fast EDGE data transfer standard, information can be transmitted at a rate of up to 237 kbps in downlink. The Quad-Band support provided allows vehicles, individual people, freight containers, and other important or valuable objects to be tracked using any GSM radio network in the world. As Java™ Open Platform has also been incorporated in the module, your product development work is simplified and accelerated, and extra resources can also be saved, such as valuable RAM, a controller or a TCP/IP stack.

With GPS/GSM functionality having been integrated in an absolutely logical way, new business opportunities can be created in fields like fleet management, logistics, security (for people, vehicles, and buildings), and vehicle navigation systems. In the latter case, the system can particularly profit from the rapid data transfer via EDGE, which provides access to online services such as updates of maps and points of interest, up-to-the-minute reports on traffic jams, and construction work, and the passengers can use Internet services on the move.

- Quad-Band
- EDGE Class 10
- GPRS Class 12
- GPS
- JAVA™ IMP-NG
- TCP/IP Connectivity
- RIL Driver
- Industrial Interface

Not original size

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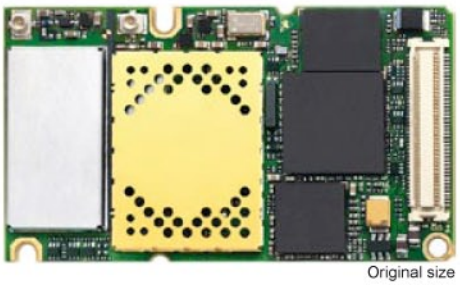

Original size

General features:
- Quad-Band GSM850/900/1800/1900 MHz
- EDGE (E-GPRS) multi-slot class 10
- 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 EDGE data transmission:
- EDGE class 10: max. 236.8 kbps (DL)
- Mobile station class B
- Modulation and coding scheme MCS 1-9

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 fax:
- Group 3, class 1

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

Special features:
- Radio Link Stability Monitor (Jamming Detection)
- Character framing 7E1 and 8E1 at serial interface
- Programmable module reset
- SIM Access Profile integrated
- RIL software for Microsoft® Windows Mobile™ based devices
- Multiplexer driver for Microsoft® Windows

Specification for CSD data transmission:
- Up to 14.4 kbps
- V.110
- Non-transparent mode
- USSD support

Specification for voice:
- Triple-rate codec for HR, FR, and EFR
- 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

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

Over-the-air update:
- Application SW: OTAP
- Firmware: FOTA (OMA compliant)

Interfaces:
- 2 separated U.FL-R-SMT 50 Ω antenna connectors for GPS and GSM
- 2 separated antenna solder pads for GPS and GSM
- 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
  - I2C 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

Global thinking, local understanding.

U.K. ← Football → USA

Here, there and everywhere
Global but local – Cinterion 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 Cinterion contact partner here: www.cinterion.com

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 +++