

# Wireless Module TC65

## The M2M application platform

The TC65 is a high performance open-platform module, which features a fully-fledged software developer's platform based on Java™. It runs on a powerful hardware which is tuned in line with this. As a result, you can speed up time-to-market and save costs.

The Java™ Virtual Machine with the new profile IMP-NG software will be supported by a powerful processor, ample memory for the application software as well as for data, an integrated TCP/IP stack, and an array of industrial interfaces. And, due to this, additional investments in hardware and licensing are unnecessary. The TC65 allows you to make software updates easily and securely via the air interface (OTAP) – a technology proven innumerable times with mobile phones – and it enables data encoding in applications that involve transmitting data in a secure environment (e.g. HTTPS and PKI). Top-of-the-range communications features such as Quad-Band and GPRS Class 12 open the door to the global market as well as ensuring high data transfer rates.

By using the TC65, the development of new applications and devices for business fields like metering, vending machines, point-of-sales service, security, facility management, logistics, and health care can be simplified and boosted, and costs can be optimized too.

The TC65 wireless module has full type approval (FTA), which rounds out its impressive feature set. This means that the TC65 has been approved by major network carriers around the world, including US operators.



QUAD-BAND



GPRS CLASS 12



JAVA IMP-NG



POWERFUL PROCESSOR/  
LARGE MEMORY PROFILE



TCP/IP CONNECTIVITY



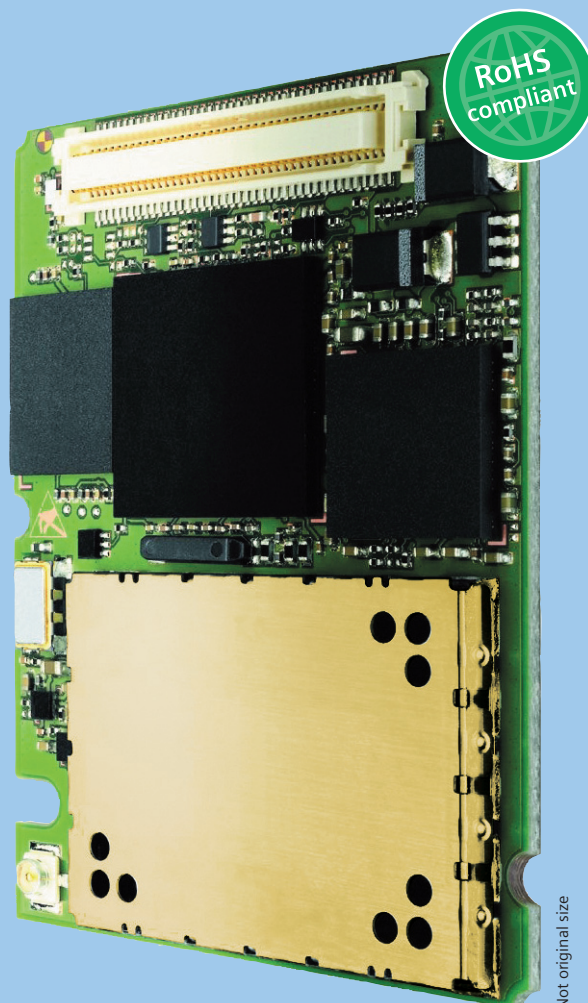
SIM ACCESS PROFILE

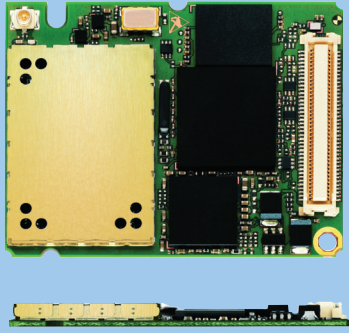


USB



INDUSTRIAL INTERFACES





Original size

# Wireless Module TC65

## The M2M application platform

### General features:

- Quad-Band GSM 850/900/1800/1900 MHz
- GPRS multi-slot class 12
- GSM release 99
- Output power:
  - Class 4 (2 W) for EGSM850
  - Class 4 (2 W) for EGSM900
  - Class 1 (1 W) for GSM1800
  - Class 1 (1 W) for GSM1900
- Control via AT commands (Hayes 3GPP TS 27.007 and 27.005)
- SIM Application Toolkit (release 99)
- TCP/IP stack access via AT commands
- Internet Services: TCP, UDP, HTTP, FTP, SMTP, POP3
- Supply voltage range: 3.2 ... 4.5 V
- Power consumption:
  - Power down 50 µA
  - Sleep mode (registered DRX = 6) 3.0 mA
  - Speech mode (average) 300 mA
  - GPRS class 12 (average) 600 mA
- Charging control for Lithium batteries
- Temperature range
  - Normal Operation: -30°C to +70°C
  - Restricted Operation: -30°C to +75°C
  - Switch off: +80°C
  - Storage: -40°C to +85°C
- Dimensions: 34 x 45 x 3.5 mm
- Weight: 7.5 g

### Specification for GPRS data transmission:

- GPRS class 12
- Mobile station class B
- PBCCH support
- Coding schemes CS 1-4

### Specification for CSD data transmission:

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

### Specification for SMS:

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

### Specification for fax:

- Group 3, class 1

### 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
- Secure data transmission with HTTPS, SSL and PKI

### Open application resources:

- ARM® Core, Blackfin® DSP
- Memory: 400 KB (RAM) and 1.7 MB (Flash)
- Improved power-saving modes

### Over-the-air update:

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

### Special features:

- Character framing 7E1 and 8E1 at serial interface
- Programmable module reset
- SIM Access Profile integrated

### Interfaces:

- Hirose U.FL-R-SMT 50 ohm antenna connector
- Antenna solder pad
- Molex 80-pin board-to-board connector
  - Power supply
  - Audio: 2 x analog, 1x digital
  - 2 x serial interfaces (ITU-T V.24 protocol)
  - USB 2.0 full speed
  - SIM card interface 3 V, 1.8 V
  - I²C bus and SPI bus
  - 2 x analog in (ADC)
  - 1 x analog out (PWM)
  - Multiple GPIOs

### Approvals:

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

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 +++