

# Wireless Module HC25

HSDPA ready to integrate



The HC25 provides HSDPA 3.6 Mbit/s download speed, Tri-Band UMTS/HSDPA, Quad-Band GSM/GPRS/EDGE, an RIL/NDIS/USB driver for Microsoft® Windows Mobile™-based devices, and robust mounting and interfaces, including a serial and USB port. Beyond that, the HC25 offers on-board GPS functionality, making it a good choice for tracking applications, and meets the USA's E911 standard.

HSDPA (High Speed Downlink Packet Access) technology is a transmission standard based on the UMTS technology. This technology, in combination with full voice and data capability, a USB and serial interface, a RIL/NDIS/USB driver and connected via a rugged board-to-board connector, provides manufacturers with the opportunity to develop new devices and solutions within a very short time and at a low cost of ownership.

As a result, the HC25 enables applications to offer services like broadband internet and e-mail access, high-speed download of large files and streaming of videos or music.

In addition, the HC25 comes with full type approval. It has also been approved by major network carriers around the world, including US operators.



Tri-Band UMTS/HSDPA



GPS



Quad-Band GSM/GPRS/EDGE



RIL/NDIS Driver



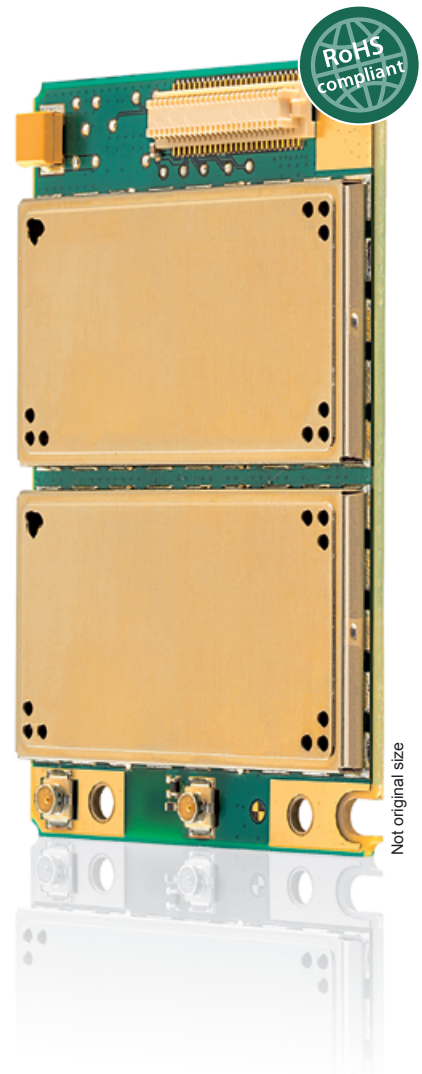
HSDPA 3.6 Mbit/s



Serial Interface



USB



Not original size

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## HSDPA ready to integrate



Original size

### General features:

- Tri-Band UMTS/HSDPA (WCDMA/FDD) 850/1900/2100 MHz
- Quad-Band GSM 850/900/1800/1900 MHz
- EDGE (E-GPRS) multi-slot class 10
- GPRS multi-slot class 10
- UMTS/HSDPA 3GPP release 5
- GSM 3GPP release 99
- Output power:
  - Class 4 (2 W) for GSM850/900
  - Class 3 (0.25 W) for UMTS/HSDPA
  - Class E2 (0.5 W) for EDGE850/900
  - Class E2 (0.4 W) for EDGE1800/1900
  - Class 1 (1 W) for GSM1800/1900
- Control via AT commands (Hayes 3GPP TS 27.007 and 27.005)
- SIM Application Toolkit (release 99)
- Supply voltage range: 3.2 ... 4.2 V  
Voltage switch off: 4.3 V
- Power consumption:
  - Power down 50  $\mu$ A
  - HSDPA @ +10dBm 420 mA
- Temperature range
  - Normal Operation: -20°C to +65°C
  - Restricted Operation: -30°C to +75°C
  - Storage: -40°C to +85°C
- Dimensions: 34 x 50 x 4.5 mm
- Weight: approx. 10g
- E911 functionality via Control Plane

### Specification for HSDPA data transmission:

- max. 3.6 Mbps (DL), max. 384 kbps (UL)
- UE CAT [1-6], 11, 12 supported
- Compressed mode (3GPP TS25.212)

### Specification for UMTS data transmission:

- UMTS: max. 384 kbps (DL & UL)

### Specification for EDGE data transmission:

- Class 10: max. 237 (DL), 118 (UL) kbps
- Mobile station class B
- Modulation and coding scheme MCS 1-9

### Specification for GPRS data transmission:

- Class 10: max. 85.6 (DL), 42,8 (UL) kbps
- Mobile station class B
- Full PBCCH support
- Coding schemes CS 1-4

### Specification for CS data transmission:

- GSM CSD data rate 14.4 kbps, V.110
- 3G UDI data rate 64 kbps, X.31
- Non-transparent and transparent mode

### Specification for voice:

- Triple-rate codec for HR, FR and EFR
- GSM & UMTS: Adaptive multi-rate AMR
- DTMF supported
- CEPT/ANSI supervisory tones supported
- Handset, Headset, Handsfree modes (improved handsfree quality)
- TTY supported

### Specification for SMS:

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

### Approvals:

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

### Specification for fax:

- Group 3, class 1

### Specification for GPS:

- Tracks up to 13 satellites, L1 1575.42 MHz
- Accuracy Position: 2.5 m CEP; 5.0 m SEP
- Protocols: NMEA-0183 V2.3
- E911 AGPS Control plane
- GPS dedicated AT commands
- Date WGS-84
- Tracking sensitivity: -158 dBm (with active antenna)
- Start-up Time: Hot start: <3s, Warm start: 30s, Cold start: 30s
- GPS active antenna supply: 3.3 V

### Special features:

- NDIS/USB driver for Microsoft® Windows XP™ & Microsoft® Windows Vista™
- RIL/NDIS/USB driver for devices based on Microsoft® Windows Mobile™ 6
- Multiplex driver for Microsoft® Windows XP™ & Microsoft® Windows Vista™
- USB driver for Microsoft® Windows CE 5.0
- Customer IMEI as variant
- Firmware update via USB & serial interface

### Interfaces:

- U.FL-R-SMT 50  $\Omega$  antenna connector
- Antenna pad
- 50-pin board-to-board connector
  - Power supply
  - Audio: 1 x analog
  - USB 2.0 full speed
  - UICC/SIM card interface 3 V, 1.8 V
  - Emergency-off & Network status
  - Serial Interface ASCO

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local understanding.



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