

## KCS TraceME Micro Rev 9

GPS / GPRS / SMS module



The KCS TraceME GPRS/GPS range of modules enable you to remotely track & trace a variety of objects, e.g. cars, trucks, containers, (motor)cycles. TraceME Micro is the latest addition, targeted for personal use and any other application that need a minimum size while maintaining the exact same options and server connection the full-size units have.

### Key Features

- Extremely small and lightweight, housing 56 x 37 x 16 mm.
- Weight 39 grams, including housing, antennas and battery.
- Also available as OEM unit without housing. Hardware measures only 46.7 x 27.6 x 12.3 mm, including 550 mAh battery and full size GPS patch.
- Wide operating temperature range
- Quad-band for worldwide coverage
- Ultra low power consumption
- Excellent GPS accuracy including full-size GPS antenna
- Multiple watchdog levels for maximum stability
- Dual charge protection for voltages and temperature range.
- SOS-Button, user configurable
- Remote configurable to fit any job
- Configuration can be both Server and Event driven, 300+ different events, over 4000 geozones.
- Runs local user scripts via .src files.
- Field upgradeable firmware via GPRS
- Supports backup server configuration

- User definable SMS commands
- Charge via any standard USB connection
- Optional audio with onboard mic.

### Typical applications

- Personal tracking with SOS
- Object protection and tracking
- Logistics
- M2M
- Security and surveillance
- Remote control and diagnostics
- Vehicle immobilization

### Product Summary

Equipped with a state-of-the-art GPS receiver, the KCS TraceME Module provides reliable and accurate navigational data. All communication is handled rapidly and effectively by a GPRS/GSM modem (QUAD band version) through GPRS or SMS. In areas without network coverage, position-data and events are stored in memory (up to 55,000 positions). As soon as communication is restored, all information can be transmitted. A unique feature is the user-configuration menu, which controls all actions like sending position information, depending on all possible events. All of the necessary server-side scripts to process and store data from the TraceME units are available, free of charge. If you do not want to host data and maps yourself, you can use the hosting services of one of our many partner companies.

### About KCS

KCS BV, founded in The Netherlands in 1984, develops and manufactures electronics in-house for industrial applications, medical purposes, broadcasting solutions, etc. Since 1999 KCS is ISO 9001-2008 and ISO 14001-2008 certified.

### Support

Please visit our support page at <http://www.trace.me>

## Specifications KCS TraceME Micro

### Data communication

GPRS Modem	Quectel M95 QUAD band, optional UG95 UMTS/HSPA Module, both global certifications and R&TTE directives.
Power saving	Typical power consumption in sleep mode: 1.3 mA @ GSM, DRX = 5 1.2 mA @ GSM, DRX = 9 1.15mA @ UMTS, DRX=9
Frequency bands	<ul style="list-style-type: none"> <li>• Quad-band GSM850, GSM900, DCS1800, PCS1900</li> <li>• Dual-band UMTS850/1900 or UMTS900/2100</li> <li>• Frequency bands can be set by AT command</li> <li>• Compliant with GSM Phase 2/2+</li> </ul>
GSM Class	Small MS
Transmitting power	<ul style="list-style-type: none"> <li>• Class 4 (2W) at GSM850 and GSM900</li> <li>• Class 1 (1W) at DCS1800 and PCS1900</li> <li>• Class 3 (250mW) at UMTS 850/900/1900/2100</li> </ul>
GPRS connectivity	<ul style="list-style-type: none"> <li>• GPRS multi-slot class 12 (default)</li> <li>• GPRS multi-slot class 1~12 (configurable)</li> <li>• GPRS mobile station class B</li> </ul>

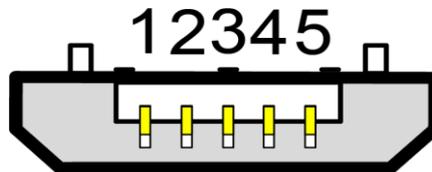
### Navigation

GPS Receiver	Quectel L70 GPS module, optional L76 GNSS (Glonass + GPS) module	
Frequency	GPS L1 1575.42Mhz C/A Code, 48 search channels Glonass L1 1598.0625 ~ 1605.375 C/A Code	
Sensitivity	Acquisition	-148dBm (typical)
	Reacquisition	-160dBm (typical)
	Tracking	-165dBm (typical)
Horizontal Position Accuracy	<2.5m CEP	

### Electrical

Charging Voltage	Power supply for charging: 5V+-10%, 500mA or up.
Charging Current	Max 450mA. Higher charging currents (for batteries with higher capacity) on request.
Power Consumption	<p>35µW standby (typical): GPS off, hot start possible. GSM off. Processor monitors timer + pushbuttons + vibration sensor + I/O, watchdog on, brownout detection on.</p> <p>8µW standby (typical): idem, but with GPS coldstart.</p> <p>Power per fix: &lt; 1.3 mAh, including cold start of GPS, GSM power-up and transmission via GPRS or SMS.</p> <p>120 mW tracking: GPS always on, GPRS active, GPRS session open.</p> <p>Power consumption depends on amount of GPRS traffic and navigation parameters</p>

## External connections KCS TraceME (MICRO-USB)



Pin	Signal	Type	Description
1	USB VCC	VCC	5V+-10% Charge input
2	Serial IN	I	Serial input or digital input (2..31V for active high), ~ 50K pulldown
3	Serial OUT	O	Serial or digital output, open collector (max 31V / 10 mA / 100mW)
4	Analog In	I	Analog Input 0..35V
5	GND	GND	GND for charge and I/O

## Environmental

Enclosure	ABS plastic
Operating Temperature	Without Li-Ion battery: -25°C to +85°C (-13°F to +185°F) non-condensing With Li-Ion battery: -20°C to +60°C (-4°F to +140°F) non-condensing Li-Ion battery cannot charge outside 0°C to +45°C (+32°F to +113°F).
Storage Temperature	Without Li-Ion battery: -40°C to +85°C (-40°F to +185°F) non-condensing With Li-Ion battery: -20°C to +60°C (-4°F to +140°F) non-condensing

## Comparison table TraceME

	TraceME Micro Rev8	TraceME Micro Rev9
Introduction date	May-2010	Apr-2011
Outside Dimensions	68 x 32 x 17 mm ABS housing	56 x 37 x 16 mm ABS housing

### GPRS / SMS

QUADBAND 850/900/ 1800/1900 Mhz	√	√
Antenna connection	micro-coax	micro-coax
GPRS internal antenna	√	√

### GPS

Tracking sensitivity / channels	-161 dBm / 65 ch	-165 dBm / 65 ch
Antenna sensing circuitry		-
Antenna connection	Onboard patch	Onboard patch
GPS antenna included	√	√

### Power

Internal battery	Li-Polymer 550mAh	Li-Polymer 700mAh (optional: Lithium Saft® LSH14/LSH20)
Average tracking power (GPS full power, GPRS connected)	175 mW	120 mW
Minimum power consumption	<0.5 mW (internal battery)	<8 μW
Power cable + fuse included	x	x

### IN / OUT

Connector	Micro-usb	Micro-usb
Digital / Analog Inputs	1 (digital)	1 digital + 1 analog
Digital outputs (max. 31 Volt)	1	1
Camera interface	x	x
RS-232 connections	x	x
3V serial connections	1 RXD+TXD	1 RXD+TXD
1-Wire / iButton interface	x	√
Optional microphone	√	√

### Miscellaneous

Internal 3 axis acceleration / G-force sensor	optional	optional
Internal Vibration sensor	√	√
Maximum items in log	6,000/ 55,000 (optional)	6,000 / 55,000 (optional)

We certify that Kolff Computer Supplies BV, Dordrecht, The Netherlands does not make any hardware or IMEI modifications to Quectel devices as used in the TraceME track&trace device. All software modifications are restricted to official firmware upgrades as provided by Quectel.

KCS is ISO 9001-2008 and ISO-14001 certified since 1999.

**WARNING:**

- The device should be turned off in vicinity of petrol pumps, chemical, flammable or hazardous environments where ignition of flammable atmospheres is possible.
- The GSM unit and antenna shall be operated at a distance greater than 20 cm from the human body.
- The device is to be operated in accordance with the user instructions or manufactured recommendations.

**Disclaimer:**

KCS BV reserves the right to make changes without further notice to any products herein to improve reliability, function or design. KCS BV does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent rights, nor the rights of others.

©2011 KCS BV  
Kuipershaven 22  
3311 AL Dordrecht  
The Netherlands  
Fax 1: +31 (0)78 6312659  
Fax 2: +31 (0)20 5248130  
email: [trade@trace.me](mailto:trade@trace.me)

<http://www.trace.me>