

Quectel MC60

The Ultra-small LCC Quad-band GSM/GPRS/GNSS Module



Quad-band



GPRS Multi-slot
Class 12



Extended Temperature
Range -40°C to +85°C



Highly Compact Size



LCC Type



Embedded Internet
Services Protocols



DSSS



Digital Audio



Bluetooth 3.0*



Multi-GNSS Systems

Key Benefits

- ☞ Ultra compact form factor with Dual SIM Single Standby (DSSS) feature
- ☞ Easier soldering process with LCC package
- ☞ Power consumption as low as 1.2mA
- ☞ Support Voice, Bluetooth and QuecFOTA™ *
- ☞ Embedded powerful Internet service protocols, multiple Sockets & IP addresses
- ☞ Embedded GNSS engine for GNSS enabled applications
- ☞ Embedded LNA for high sensitivity

QUECTEL®
Build a Smarter World

GSM/GPRS/GNSS



MC60 is a Quad-band full-feature GSM/GPRS module using LCC castellation package. With an extensive set of internet protocols (TCP, UDP, HTTP and FTP), it has integrated the GNSS technology for satellite navigation. Based on the latest 2G chipset, it has the optimal performance in SMS & data transmission and audio service even in harsh environment. Additionally, it supports Dual SIM Single Standby function.

MC60 adopts surface mount technology. The low profile and compact design which integrates GPRS and GNSS in one SMT package makes it an ideal choice for customers to develop GPS enabled applications and for large-scale manufacturing which has strict requirements for cost and efficiency. Combining advanced AGPS called EASY™ (Embedded Assist System) and proven AlwaysLocate™ technology, MC60 achieves the highest performance and fully meets the industrial standards.

The compact form factor, low power consumption and two SIM card interfaces make MC60 the best choice for applications such as wearable device, automotive, asset tracker, watch, pet tracker, telematics and other M2M applications.

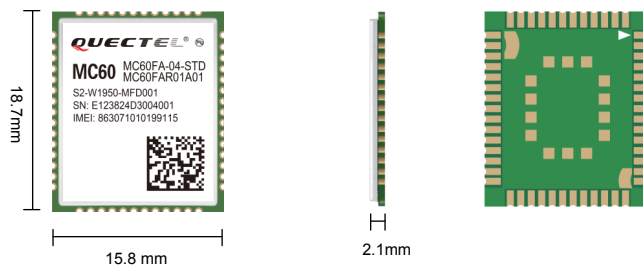
CODICO

the component distributing company

Zwingenstrasse 6-8 | 2380 Perchtoldsdorf | Austria
Tel: +43 1 86 305 - 0 | Fax: +43 1 86 305 - 5000
E-mail: office@codico.com | www.codico.com

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General Features

Quad-band	850/900/1800/1900MHz
GPRS Multi-slot Class	Class 12
GPRS Mobile Station	Class B
Compliant to GSM Phase 2/2+	Class 4 (2W @850/900MHz) Class 1 (1W @1800/1900MHz)
Supply Voltage Range	3.3~4.6V 4.0V Typ.
Low Power Consumption	1.2mA@DRX=5
Operation Temperature	-40 °C ~ +85 °C
Dimensions	18.7 × 16.0 × 2.1mm
Weight	Approx. 1.3g
Control via AT Commands	GSM 07.07, 07.05 and other enhanced AT Commands

Specifications for Data

GPRS Class 12	85.6kbps (Downlink) 85.6kbps (Uplink)
PBCCH Support	
Coding Schemes	CS 1, 2, 3, 4
USSD	
Non Transparent Mode	
Protocols	TCP/UDP/PPP/FTP/HTTP/SSL*

Specifications for SMS

Point-to-point MO and MT

SMS Cell Broadcast

Text and PDU Mode

Specifications for Voice

Speech Codec Modes	Half Rate (HR) Full Rate (FR) Enhanced Full Rate (EFR) Adaptive Multi-Rate (AMR)
Echo Arithmetic	Echo Cancellation Echo Suppression Noise Reduction

Specifications for GNSS

GPS L1 Band Receiver (1575.42MHz) GLONASS L1 Band Receiver (1601.71MHz)	Channel	33 (Tracking) / 99 (Acquisition) Up to 210 (PRN)
	C/A Code	
	SBAS	WAAS, EGNOS MSAS, GAGAN
Horizontal Position Accuracy	Autonomous	<2.5 m CEP
Velocity Accuracy	Without Aid	<0.1m/s
Acceleration Accuracy	Without Aid	0.1m/s ²
Advanced Technologies	EASY™/EPO™/LOCUS™	/AIC/AlwaysLocate™
Reacquisition Time		<1s
TTFF@-130dBm with EASY™	Cold Start	<15s
	Warm Start	<5s
	Hot Start	<1s
TTFF@-130dBm without EASY™	Cold Start	<35s
	Warm Start	<30s
	Hot Start	<1s
Sensitivity	Acquisition	-149dBm
	Tracking	-167dBm
	Reacquisition	-161dBm
Dynamic Performance	Maximum Altitude	Max.18000m
	Maximum Velocity	Max.515m/s
	Maximum Acceleration	4G

Interfaces

SIM/USIM	×2 3V/1.8V
SD*	×1
UART	×2 (×1 GSM main serial port, ×1 GSM debug port)
Analog Audio Channel	2 output channels and 1 input channel
Bluetooth*	BT 3.0 Profile: SPP/HFP-AG
ADC	×1
GPIO	×1
PCM*	×1 (LGA pad)
RTC	×1
Antenna PAD	×3 (One for GSM antenna, one for GNSS, another for Bluetooth antenna)

* Under development