Quectel UG96
UMTS/HSPA Module

Multi-band for UMTS&GSM

HSDPA 7.2Mbps HSUPA 5.76Mbps

LGA Package

Embedded Abundant Protocols

eCall*

Tiny Size

USB 2.0 High Speed Compliant Interface

DFOTA

Digital Audio (Optional)

GPRS/EDGE Multi-slot Class 12

USB Drivers

Quectel Enhanced AT Commands

Key Benefits

- Worldwide UMTS/HSPA and GSM/GPRS/EDGE coverage
- Minimal SMT form factor ideal for small end products with tight space
- Easy drop-in migration to GSM/GPRS module
- Super slim profile in LGA package
- High-quality data and image transmission even in hazard conditions and dark environment
- Fast time-to-market:

  Reference designs, evaluation tools and timely technical support minimize design-in time and development efforts
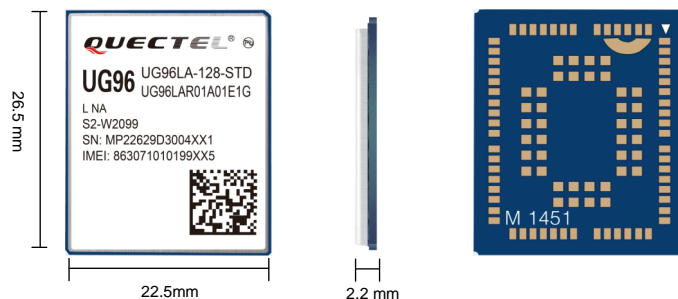- Robust mounting and interfaces

UG96 is a Penta-band UMTS/HSPA module offering a maximum data rate of 7.2Mbps downlink and 5.76Mbps uplink. With the outstanding feature of fully pin-to-pin compatibility with Quectel UMTS/HSPA UG95 and GSM/GPRS M95 module, it supports GSM/GPRS/EDGE and UMTS/HSPA/HSUPA networks, which enables integrators and developers to design their applications once and truly benefit from the flexibility of worldwide coverage and service afforded by the combination of the two most prevalent cellular technologies worldwide.

With cost-effective SMT form factor of 22.5 × 26.5 × 2.2mm and highly integration level, UG96 enables integrators and developers to easily design their applications and take advantage from the module's low power consumption and mechanical intensity. Its advanced LGA package allows fully automated manufacturing for high-volume applications.

A rich set of Internet protocols, industry-standard interfaces (USB/UART/I2C/Status Indicator/PCM) and abundant functionalities (USB drivers for Windows XP, Windows 7, Windows CE, Linux, Android/eCall) extend the applicability of the module to a wide range of M2M applications such as wireless POS, metering, telematics, security, industry PDA/PC and tablet.

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Quectel UG96
UMTS/HSPA Module

UG96 UG96LA-128-STD
UG96LAR01A01E1G
L NA
S2-W2099
SN: MP22629D3004XX1
IMEI: 863071010199XX5

M 1451

26.5 mm
22.5mm
2.2 mm

General Features

Frequency Bands	800/850/900/1900/2100MHz@UMTS 850/900/1800/1900MHz@GSM
HSUPA	Release 7 (category 6)
HSDPA	Release 7 (category 8)
EDGE	Multi-slot Class 12
GPRS	Multi-slot Class 12
UMTS	Release 99/7
GSM	Release 99/4
Supply Voltage Range	3.3V ~ 4.3V, 3.8V typ.
Operation Temperature	-40 °C ~ +85°C
Dimensions	22.5mm ×26.5mm ×2.2mm
Weight	3.1g
Control via AT commands	3GPP TS27.007, 27.005 and other enhanced AT Commands

Specifications

SMS		Point-to-point MO and MT SMS Cell Broadcast Text and PDU Mode
DATA	**HSUPA**	Max.5.76Mbps
	HSDPA	Max 7.2Mbps
	UMTS	Max.384Kbps (DL)/Max.384Kbps (UL)
	EDGE	Max.236.8Kbps (DL)/Max 236.8kbps (UL)
	GPRS	Max.85.6Kbps (DL)/Max.85.6Kbps (UL)
	CSD	14.4Kbps
Voice	**Speech Codec Modes**	HR, FR, EFR, AMR, AMR-WB
	Echo Arithmetic	Echo Cancellation Noise Reduction
Protocols		TCP/UDP/PPP/MMS/HTTP/HTTPS*/SMTP/ SMTPS*/FTP/NTP/NITZ/PING/SSL*

Special Features

Drivers	**USB Serial**	Windows XP, Windows 7, Linux2.6/3.0, Andriod2.3/4.0/4.2
eCall*		Accident, Emergency Services
Firmware Update		Firmware Update via USB and UART Interface
RAMFile*		RAM File System Access and Management
DFOTA		Delta Firmware Upgrade Over The Air

Electrical Characteristics

Output Power	Class 3 (24dBm +1.7/-3.7dB) for UMTS bands Class E2 (27dBm±3dB) for GSM850 and EGSM900 Class E2 (26dBm±3dB) for DCS1800 and PCS1900 Class 4 (33dBm ±2dB) for GSM 850/900 Class 1 (30dBm ±2dB) for GSM 1800/1900
Consumption	126µA@power off 1.1mA@GSM sleep, DRX=9 1.7mA@UMTS sleep, DRX=9 240mA@GSM voice, max power 510mA@UMTS voice, max power 610mA@GPRS data, max power 500mA@EDGE data, max power 580mA@HSDPA, max power 540mA@HSUPA, max power
Sensitivity	-110dBm@UMTS 800/850/900/2100 -109.5dBm@UMTS 1900 -109.5dBm@GSM 850 -108.5dBm@EGSM 900 -110dBm@DCS 1800 -108dBm@PCS 1900

Interfaces

USB	2.0 High Speed
Audio Digital	Digital Audio through PCM Interface (optional)
UART	×1, Full Functions
I2C	×1
PCM	×1
USIM	1.8V/3.0V
NETLIGHT	Indication for Network Status
STATUS	Indication for Power On and Off Status

∗ Under development

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