Quectel UG96

Compact UMTS/HSPA Module

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 modules, 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 a cost-effective SMT form factor of 22.5mm × 26.5mm × 2.2mm and high 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 Vista, Windows 7/8/8.1/10, Linux, Android/eCall*) extend the applicability of the module to a wide range of M2M applications such as wireless POS, smart metering, telematics, security, industrial PDA/PC and tablet.

Key Benefits

- Worldwide UMTS/HSPA and GSM/GPRS/EDGE coverage
- Compact SMT form factor ideal for size-constrained applications
- Easy drop-in migration to GSM/GPRS module
- Super slim profile in LGA package
- High-quality data and image transmission even in harsh environment
- Fast time-to-market: reference designs, evaluation tools and timely technical support minimize design-in time and development efforts
- Robust mounting and interfaces

Multi-band for UMTS & GSM

HSDPA 7.2Mbps HSUPA 5.76Mbps

LGA Package

Embedded Abundant Protocols

eCall *

Compact Size

USB 2.0 High Speed Interface

DFOTA

Audio (Optional)

GPRS/EDGE Multi-slot Class 33

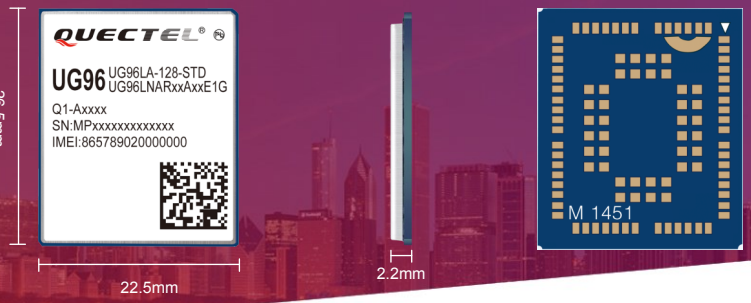
USB Drivers

Quectel Enhanced AT Commands

Quectel Confidential

Quectel UG96

Compact UMTS/HSPA Module



Variant for the Global

800/850/900/1900/2100MHz @UMTS

850/900/1800/1900MHz @GSM

Data

HSUPA: Max. 5.76Mbps

HSDPA: Max. 7.2Mbps

UMTS: Max. 384Kbps (DL), Max. 384Kbps (UL)

EDGE: Max.296Kbps (DL), Max 236.8kbps (UL)

GPRS: Max. 107Kbps (DL), Max. 85.6Kbps (UL)

CSD: 14.4 Kbps

Voice

Speech Codec Modes:

HR, FR, EFR, AMR, AMR-WB

Echo Arithmetic:

Echo Cancellation, Noise Reduction

SMS

Point-to-point MO and MT

SMS Cell Broadcast

Text and PDU Mode

Interfaces

USB 2.0 with High Speed up to 480Mbps

UART

Digital Audio through PCM Interface (Optional)

1.8V/ 3.0V (U)SIM Card Interface

I2C

NETLIGHT for Network Status Indication

STATUS for Power ON/OFF Status Indication

Enhanced Features

eCall *

Firmware Update:

via USB or UART Interface

DFOTA:

Delta Firmware Upgrade over the Air

RAMFile:

RAM File System Access and Management

Electrical Characteristics

Output Power:

Class 3 (24dBm +1/-3dB) for UMTS bands

Class E2 (27dBm±3dB) for GSM850 & EGSM900

Class E2 (26dBm±3dB) for DCS1800 & PCS1900

Class 4 (33dBm ±2dB) for GSM 850/900

Class 1 (30dBm ±2dB) for GSM 1800/1900

Consumption:

50μA @power off

1.1mA @GSM sleep, DRX=9

1.7mA @UMTS sleep, DRX=9

240mA @GSM voice, max power

490mA @UMTS voice, max power

520mA @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

Software Features

USB Driver:

Windows XP/Vista/7/8/8.1/10,

Linux 2.6/3.x/4.1, Android 4.x/5.x/6.0

RIL Driver:

Android 4.x/5.x/6.0

Protocols:

TCP/UDP/PPP/MMS/HTTP/HTTPS/SMTP/

SMTPS/FTP/NTP/NITZ/PING/SSL

General Features

Extended Temperature: -40°C ~ +85°C

Dimensions: 22.5mm × 26.5mm × 2.2mm

Approx. 3.1g

Supply Voltage: 3.3V~4.3V, 3.8V Typ.

HSUPA: Release 7 (Category 6)

HSDPA: Release 7 (Category 8)

EDGE: Multi-slot Class 33

GPRS: Multi-slot Class 33

UMTS: Release 99/7

GSM: Release 99/4

3GPP TS 27.007, 3GPP TS 27.005 and Quectel

Enhanced AT Commands

Approvals

RoHS Compliant

CE/GCF (Europe)

DoC (Russia)

FCC/PTCRB (North America)

RCM (Australia)

IFETEL/Movistar (Mexico)

ICASA (South Africa)

JATE/TELEC (Japan)

Anatel (Brazil)

Telefonica (Global)

* Under Development

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