

# Quectel UG95

## Ultra-small UMTS/HSPA Module

### High-speed Wireless Connectivity

UMTS/HSPA



Dual-mode&Multi-band  
for UMTS&GSM



HSPA 7.2Mbps



LGA Package



Embedded Abundant  
Protocols



DFOTA



Tiny Size



USB 2.0 High Speed  
Compliant Interface



USB Drivers



Quectel Enhanced  
AT Commands



UG95 is a cost effective and ultra-compact UMTS/HSPA module featuring a maximum data rate of 7.2Mbps downlink and 5.76Mbps uplink. Designed to be compatible with Quectel GSM/GPRS M95 module in the compact and unified form factor, it provides a flexible and scalable platform for migrating from GSM/GPRS/EDGE to UMTS/HSPA. This enables integrators and developers to design their applications once and take advantage of true worldwide coverage and service flexibility afforded by the combination of the two most prevalent cellular technologies worldwide.

The tiny profile of 19.9 × 23.6 × 2.2mm in cost optimized SMT form factor and highly integration level enable integrators and developers to easily design their applications and truly benefit from the module's small size, 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 handheld device, tablet, telematics, metering, security and surveillance system, and industrial PDA.

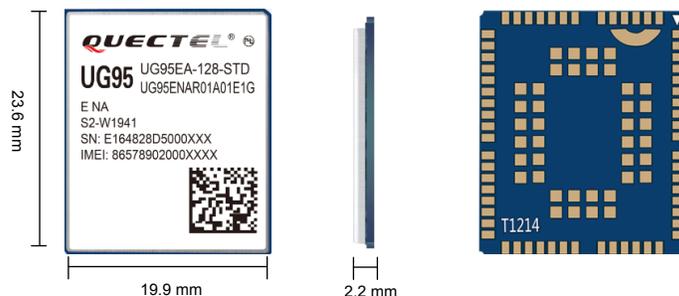
## Key Benefits

- ☞ Worldwide UMTS/HSPA and GSM/GPRS/EDGE coverage
- ☞ Minimal SMT form factor ideal for small end products with tight space
- ☞ Seamless 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

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### High-speed Wireless Connectivity



#### General Features

<b>Frequency Bands</b>	<b>UG95-E</b> 900/2100MHz@UMTS 900/1800MHz@GSM <b>UG95-A</b> 850/1900MHz@UMTS 3G only
<b>HSUPA</b>	Release 7 (category 6)
<b>HSDPA</b>	Release 7 (category 8)
<b>EDGE</b>	Downlink only
<b>GPRS</b>	Multi-slot Class 12
<b>UMTS</b>	Release 99/7
<b>GSM</b>	Release 99/4
<b>Supply Voltage Range</b>	3.3V ~ 4.3V, 3.8V typ.
<b>Operation Temperature</b>	-40°C ~ +85°C
<b>Dimensions</b>	19.9mm × 23.6mm × 2.2mm
<b>Weight</b>	Approx. 2.5g
<b>Control via AT commands</b>	3GPP TS27.007, 27.005 and other enhanced AT Commands

#### Specifications

<b>SMS</b>	Point-to-point MO and MT SMS Cell Broadcast Text and PDU Mode
<b>HSUPA</b>	Max.5.76Mbps
<b>HSDPA</b>	Max.7.2Mbps
<b>UMTS</b>	Max.384Kbps (DL)/Max.384Kbps (UL)
<b>DATA</b>	<b>EDGE</b> Max.236.8Kbps (DL)
<b>GPRS</b>	Max.85.6Kbps (DL)/Max.85.6Kbps (UL)
<b>CSD</b>	GSM: 14.4 Kbps (DL)/14.4Kbps (UL) WCDMA: 64 Kbps (DL)/64Kbps (UL)
<b>Voice</b>	<b>Speech Codec Modes</b> HR, FR, EFR, AMR, AMR-WB
<b>Echo Arithmetic</b>	Echo Cancellation Noise Reduction
<b>Protocols</b>	PPP/TCP/UDP/MMS/HTTP/HTTPS/SMTP/ SMTPS/FTP/FTPS/NTP/NITZ/PING/SSL

#### Special Features

<b>Drivers</b>	<b>USB Serial</b> Windows XP, Windows 7, Linux2.6/3.0, Android 2.3/4.0/4.2
<b>Firmware Update</b>	Firmware Update via USB and UART Interface
<b>RAMFile</b>	RAM File System Access and Management
<b>DFOTA</b>	Delta Firmware Upgrade Over The Air

#### Electrical Characteristics

<b>Output Power</b>	Class 3 (24dBm+1.7/-3.7dB) for UMTS bands Class 4 (33dBm±2dB) for GSM 900 Class 1 (30dBm±2dB) for GSM 1800
<b>Consumption</b>	70µA@power off 0.96mA@GSM sleep, DRX=9 1.15mA@UMTS sleep, DRX=9 212mA@GSM voice, max power 586mA@UMTS voice, max power 490mA@GPRS data, max power 524mA@HSDPA, max power 563mA@HSUPA, max power
<b>Sensitivity</b>	-110dBm@UMTS 900/2100 -110.5dBm@UMTS 850/1900 -110.5dBm@DCS 1800 -109.5dBm@EGSM 900

#### Interfaces

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

#### Certification

<b>Approval</b>	CE/GCF/FCC/IC/ICASA/PTCRB/AT&T/Rogers
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