

Quectel UC20

Mini-PCle

UMTS/ HSPA+ Module

UMTS/ HSPA+



Dual-mode & Multi-band
For WCDMA & GSM



HSDPA 14.4Mbps
HSUPA 5.76Mbps



LCC Package Type



Embedded Abundant
Protocols



eCall



Compact Size



USB 2.0 High Speed
Compliant Interface



USB Drivers



Digital Audio



GPRS/ EDGE
Multi-slot Class 12



Quectel Enhanced
AT Commands



UC20 Mini-PCle is the latest Quectel UMTS/ HSPA+ module offering a maximum data rate of 14.4 Mbps downlink and 5.76 Mbps uplink. UC20 is designed to provide customers with global network coverage on the connectivity of HSPA+/ WCDMA. It can also be fully backward compatible to existing EDGE and GSM/ GPRS networks through multi-band combination of dual-band WCDMA and quad-band GSM.

The tiny profile of 51.0x30.0x5.0mm in standard form factor and highly integration level enable integrators and developers to easily design their applications and truly benefit from low power consumption and mechanical intensity. Its advanced Mini-PCle package allows the customers easily use.

A rich set of internet protocols, industry-standard interfaces (USB/ UART/ PCM/ ADC/ NETLIGHT) and abundant functions (USB drivers for Windows XP, Windows Vista, Windows 7, Windows 8, Windows CE, Linux, Android) extend the applicability of the module to a wide range of M2M applications such as automotive, tracking systems, security solutions, routers, wireless POS, handheld PDA devices.

Key Benefits

- ☛ Worldwide UMTS/ HSPA+ and GSM/ GPRS/ EDGE coverage
- ☛ Mini-PCle Standard form factor ideal to easily design and deploy.
- ☛ High-quality transmission of data and images even in hazard conditions and dark environment
- ☛ Fast time-to-market: reference designs, evaluation tools and timely technical support minimize design-in time and effort
- ☛ Robust mounting and interfaces

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UMTS/ HSPA+ Module



General Features

Frequency Bands	UMTS/HSPA+: 900/ 2100 MHz (UC20-E) 850/ 1900 MHz (UC20-A) GSM/GPRS/EDGE: 850/ 900/ 1800/ 1900 MHz
HSPA+	Release 5/6 (UL category 6, DL category 10)
EDGE	Multi-slot Class 12
GPRS	Multi-slot Class 12
WCDMA	Release 99
GSM	Release 99/ 4
Supply Voltage Range	3.4 ~ 4.3V
Operation Temperature	-40 °C ~ +80 °C
Dimensions	51.0 x 30.0 x 2.5 mm
Weight	Approx. 8.0g
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
HSPA+	Max.14.4 Mbps (DL)/ Max.5.76 Mbps (UL)
UMTS	Max.384 Kbps (DL)/ Max.384 Kbps (UL)
DATA EDGE	Max.236.8 Kbps (DL)/ Max.236.8 Kbps (UL)
GPRS	Max.85.6 Kbps (DL)/ Max.85.6 Kbps (UL)
CSD	14.4 Kbps
Voice Speech Codec Modes	HR, FR, EFR, AMR
Echo Arithmetic	Echo Cancellation Noise Reduction
Protocols	PPP/ TCP/ UDP/ FTP*/ HTTP*

Special Features

USB Drivers	Windows XP, Windows Vista, Windows 7, Windows 8, Windows CE5.0*/ 6.0*, Linux 2.6*, Android 2.3*/ 4.0*
eCall*	Accident, Emergency Services
Firmware Update	Firmware Update via USB Interface
QuecFile	File System Access and Management
QuecFOTA*	

Electrical Characteristics

Output Power	Class 3 (24 dBm +/-3 dB) for UMTS bands Class E2 (27 dBm ±3 dB) for EDGE 850/ 900 Class E2 (26 dBm +/-4 dB) for EDGE 1800/ 1900 Class 4 (33 dBm ±2 dB) for GSM 850/ 900 Class 1 (30 dBm ±2 dB) for GSM 1800/ 1900
Consumption	98 µA @ Power off 3.5 mA @ Sleep, typ. 280 mA @ GSM voice, max power 450 mA @ UMTS voice, max power 580 mA @ GPRS data, max power 430 mA @ EDGE data, max power 540 mA @ UMTS data, max power 550 mA @ HSDPA, max power 510 mA @ HSUPA, max power
Sensitivity	-110 dBm @ WCDMA 2100 MHz -109 dBm @ WCDMA 1900 MHz -110 dBm @ WCDMA 850/ 900 MHz -108.5 dBm @ GSM 850/ 900 MHz -108.5 dBm @ GSM 1800/ 1900 MHz

Interfaces

AUDIO	Digital Audio through PCM Interface
USB	2.0 High Speed
UART	1 x Full Functions, 1 x Debug
USIM	1.8V/ 3V
NETLIGHT	1 x Net Mode, 1 x Net Status
RTC Backup	Real Time Clock
RESET	
PWRKEY	
ANTENNA	Connector
STATUS	Indication for Power On and Off Status

Certification

PLAN*	CE, GCF, FCC, PTCRB
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* Under development