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Quectel UC20 Mini PCIe

UMTS/HSPA+ Module

UMTS/HSPA+

Dual-mode&Multi-band for UMTS&GSM

HSDPA 14.4Mbps HSUPA 5.76Mbps

Mini PCIe Package

Embedded Abundant Protocols

eCall

Digital Audio

GLONASS+GPS

Rx-diversity

USB Drivers

GPRS/EDGE Multi-slot Class 12

Extended Temperature Range -40°C to +80°C

Quectel Enhanced AT Commands

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

The tiny profile of 51.0×30.0×4.9mm in standard Mini PCIe form factor and highly integration level enable integrators and developers to easily design their applications and truly benefit from low power consumption and convenient Plug and Play Function.

With an extended temperature range from -40°C up to 80°C, UC20 Mini PCIe functions reliably in extreme environments for use outdoors or inside at sites that lack cooling and heating systems.

A rich set of Internet protocols, industry-standard interfaces (USB/UART/PCM/LED_WWAN#/GNSS) 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 commercial and industrial M2M applications.

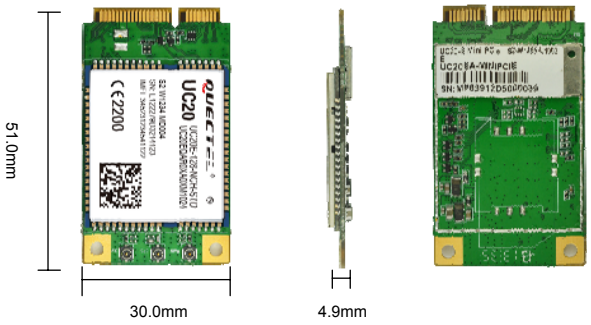
Key Benefits

- Worldwide UMTS/HSPA+ and GSM/GPRS/EDGE coverage
- Standard Mini PCIe form factor maximizes the convenience for customers to design and use
- High-quality data and image transmission even in hazard conditions and dark environment
- High sensitivity GNSS receiver
- Fast time-to-market: reference designs, evaluation tools and timely technical support minimize design-in time and development efforts
- Robust mounting and interfaces

QUECTEL
Wireless Module Expert

Quectel UC20 Mini PCIe

UMTS/HSPA+ Module



General Features

Frequency Bands	**UMTS/HSPA+:** 900/2100MHz (UC20-E Mini PCIe) 850/1900MHz (UC20-A Mini PCIe) **GSM/GPRS/EDGE:** 850/900/1800/1900MHz
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	3.0 ~ 3.6V, Typ. 3.3V
Operation Temperature	-40°C ~ +80°C
Dimensions	51.0×30.0×4.9mm
Weight	Approx. 9.8g
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	**HSPA+**	Max.14.4Mbps (DL)/Max.5.76Mbps (UL)
	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
	Echo Arithmetic	Echo Cancellation Noise Reduction
Protocols		PPP/TCP/UDP/FTP*/HTTP*/MMS/SMTP

Special Features

Drivers	**USB Serial**	Windows XP, Windows Vista, Windows 7, Windows 8, Windows CE5.0/6.0, Linux 2.6/3.0, Android 2.3/4.0
	USB RIL	Windows CE6.0, Android 2.3/4.0
	NDIS	Windows XP, Windows Vista, Windows 7, Windows 8
	MUX	Linux 2.6/3.0, Android 2.3/4.0
eCall		Accident, Emergency Services
Firmware Update		Firmware Update via USB Interface
QuecFile		File System Access and Management
QuecFOTA*		
GNSS		GPS/GLONASS

Electrical Characteristics

Output Power	Class 3 (24dBm +1/-3dB) for UMTS bands Class E2 (27dBm ±3dB) for EDGE 850/900 Class E2 (26dBm +3/-4dB) for EDGE 1800/1900 Class 4 (33dBm ±2dB) for GSM 850/900 Class 1 (30dBm ±2dB) for GSM 1800/1900
Consumption (GNSS Off)	80μA@power off 3.1mA@GSM sleep, DRX=9 3.0mA@UMTS sleep, DRX=9 43.0mA@Idle, USB active 348mA@GSM voice, max power 556mA@UMTS voice, max power 681mA@GPRS data, max power 570mA@EDGE data, max power 599mA@HSDPA, max power 598mA@HSUPA, max power
Sensitivity	-110 dBm@UMTS Bands -108.5 dBm@GSM 850/900MHz -108 dBm@GSM 1800/1900MHz

GNSS Features

GNSS Receiver		Qualcomm gpsOne Gen8
SBAS		WAAS, EGNOS, MSAS
AGNSS		Support XTRA™ Technology
Accuracy@Open Sky		<1.5m CEP-50
TTFF@-130dBm with XTRA™ , typ.	**Cold Start**	22s
	Warm Start	3s
	Hot Start	2s
TTFF@-130dBm without XTRA™ , typ.	**Cold Start**	32s
	Warm Start	29s
	Hot Start	2.5s
Sensitivity	**Cold Start**	-147dBm
	Reacquisition	-159dBm
	Tracking	-161dBm
Power Saving Mode		Support DPO Mode
Dedicated GNSS AT Commands		

Interfaces

AUDIO	Digital Audio through PCM Interface
USB	2.0 High Speed
UART	1×Seven-Line UART Interface
USIM	1.8V/3V
LED_WWAN#	Network Status
W_DISABLE#	Close RF Channel
PERST#	Reset Pin
USIM Holder	Optional

Certificates

Approval	CE
Plan	GCF/FCC/PTCRB

* Under development

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