





# Quectel UMTS/HSPA(+) Module Family

Product	UC15/ UC15 Mini PCIe	UC20/ UC20 Mini PCIe	UG95	UG96
Picture				
Form Factor	LCC	LCC	LGA	LGA
Dimensions(mm)	29.0 × 29.0 × 2.5 (UC15) 51.0 × 30.0 × 4.9 (UC15 Mini PCIe)	32.0 × 29.0 × 2.5 (UC20) 51.0 × 30.0 × 4.9 (UC20 Mini PCIe)	19.9 × 23.6 × 2.2	22.5 × 26.5 × 2.2
3G	UMTS/HSDPA	UMTS/HSPA+	UMTS/HSPA	UMTS/HSPA
Frequency Bands (MHz)	-E (Europe)	900/2100@UMTS; 900/1800@GSM	900/2100@UMTS; 900/1800@GSM	
	-A (America)	850/1900@UMTS; 850/900/1800/1900@GSM <sup>3</sup>	850/1900@UMTS	
	-G (Global)		800/850/900/1900/2100@UMTS; 850/900/1800/1900@GSM	800/850/900/1900/2100@UMTS; 850/900/1800/1900@GSM
	-T (Thailand)	850/2100@UMTS; 850/900/1800/1900@GSM <sup>3</sup>		
Weight(approx.)g	4.3	4.9	2.5	3.1
Temperature Range	-40 °C ~ +85 °C (UC15)/ -40 °C ~ +80 °C (UC15 Mini PCIe)	-40 °C ~ +85 °C (UC20)/ -40 °C ~ +80 °C (UC20 Mini PCIe)	-40 °C ~ +85 °C	-40 °C ~ +85 °C
<b>Data Transmission</b>				
HSPA data rate (Mbps)	3.6 (DL)	14.4 (DL)/ 5.76 (UL)	7.2 (DL)/ 5.76 (UL)	7.2 (DL)/ 5.76 (UL)
UMTS data rate (Kbps)	384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)
GPRS data rate (Kbps)	85.6 (DL)/ 85.6 (UL)	85.6 (DL)/ 85.6 (UL)	85.6 (DL)/ 85.6 (UL)	107 (DL)/ 85.6 (UL)
EDGE data rate (Kbps)	236.8 (DL)	236.8 (DL)	236.8 (DL)	296 (DL)/ 236.8 (UL)
SMS	•	•	•	•
CSD	•	•	•	•
Protocols	TCP/UDP/PPP/MMS/FTP/SMTP/ SMTSPS/HTTP/HTTPS/PING/SSL	PPP/TCP/UDP/FTP/HTTP/ FILE/MMS/SMTP/SSL	TCP/UDP/PPP/MMS/FTP/FTPS/ SMTP/SMTSPS/HTTP/HTTPS/NTP/ PING/SSL	TCP/UDP/PPP/MMS/HTTP/HTTPS/ SMTP/SMTSPS/FTP/NTP/NITZ/PING/ SSL
<b>Interfaces</b>				
SIM	1.8V/ 3V	1.8V/ 3V	1.8V/ 3V	1.8V/ 3V
UART	1	2	1	1
USB	2.0 Hi-Speed	2.0 Hi-Speed	2.0 Hi-Speed	2.0 Hi-Speed
Audio Analog	Optional <sup>1</sup>			
Audio Digital (PCM)	Optional <sup>1</sup>	Optional <sup>1</sup>	Optional <sup>1</sup>	Optional <sup>1</sup>
RTC Backup		•	•	•
ADC	× 2, 12bits	× 2, 15bits		
GPIO	•	•		
Antenna	Pads for Primary	Pads for Primary and GNSS	Pads for Primary	Pads for Primary
SIM Card Holder		Optional for UC20 Mini PCIe		
<b>Enhanced Features</b>				
eCall	•	•	○	○
DTMF	•	•	•	•
QuecFOTA™	•	•		
DFOTA	•	•	•	•
Audio Playback/ Audio Recording	•	•		
QuecFile	•	•		
RIL Driver	Android 4.x/5.x/6.x/7.x/8.x/9.x	Android 4.x/5.x/6.x/7.x/8.x/9.x	Android 4.x/5.x/6.x/7.x/8.x/9.x	Android 4.x/5.x/6.x/7.x/8.x/9.x
NDIS		Windows 7/ 8/ 8.1/ 10		
MUX	Linux 2.6/3.x/4.1~4.15 Android 4.x/5.x/6.x/7.x/8.x/9.x	Linux 2.6/3.x/4.1~4.15 Android 4.x/5.x/6.x/7.x/8.x/9.x		
USB Serial Driver	Windows 7/8/8.1/10 Windows CE5.0/6.0/7.0* Linux 2.6/3.x/4.1~4.15 Android 4.x/5.x/6.x/7.x/8.x/9.x	Windows 7/8/8.1/10 Windows CE5.0/6.0/7.0* Linux 2.6/3.x/4.1~4.15 Android 4.x/5.x/6.x/7.x/8.x/9.x	Windows 7/8/8.1/10 Windows CE5.0/6.0/7.0* Linux 2.6/3.x/4.1~4.15 Android 4.x/5.x/6.x/7.x/8.x/9.x	Windows 7/8/8.1/10 Windows CE5.0/6.0/7.0* Linux 2.6/3.x/4.1~4.15 Android 4.x/5.x/6.x/7.x/8.x/9.x
SIM Detection	•	•		•
GNSS		GPS/GLONASS		
Firmware Update	via USB/ UART Interface	via USB/ UART Interface	via USB/ UART Interface	via USB/ UART Interface
<b>Electrical Features</b>				
Supply Voltage Range	3.3 ~ 4.3V, typ. 3.8V(UC15)3.0~3.6V, typ.3.3V (UC15 Mini PCIe)	3.3 ~ 4.3V, typ. 3.8V(UC20) 3.0~3.6V, typ.3.3V (UC20 Mini PCIe)	3.3~4.3V, typ. 3.8V	3.3~4.3V, typ. 3.8V
Power Consumption	1.8mA@ GSM sleep, DRX=9 1.7mA@ UMTS sleep, DRX=9	1.5mA@GSM sleep, DRX=9 1.1mA@ UMTS sleep, DRX=9	0.96mA@GSM sleep, DRX=9 1.15mA@UMTS sleep, DRX=9	1.1mA@GSM sleep, DRX=9 1.7mA@UMTS sleep, DRX=9
<b>Certifications</b>				
Certifications	CE/ GCF/ FCC/ PTCRB/ IC/ AT&T/ Rogers/ NCC/ NBTC/ OFCA/ RCM/ CCC/ SRRC/ NAL/ FAC	CE/ FCC/ IC/ GCF/ PTCRB/ RCM/ AT&T/ Rogers/ ANATEL/ Vodafone/ NBTC/ JATE/ TELEC	CE/ GCF/ FCC/ IC/ ICASA/ PTCRB/ AT&T/ Rogers/ FAC/ RCM	CE/ FCC/ GCF/ PTCRB/ Anatel/ RCM/ IFETEL/ ICASA/JATE/ TELEC/ FAC/ Telefonica/ Deutsche Telekom/ IC/ RCM/ CCC
<b>Recommended Applications</b>				
Recommended Applications	Telematics, Smart Metering, Mobile POS Terminal, Gateway, Security, Tracking and Tracing, Remote Maintenance and Control, Networking, Mobile Computing, Healthcare, etc.			

Note 1: Only supported in Telematics Version.  
Note 3: Inapplicable to Mini PCIe.

○ & \* Under development