













Quectel UMTS/HSPA Module Family

Product	UC15	UC15 Mini PCIe	UC20	UC20 Mini PCIe
Picture	 		 	
Package	108-pin LCC	52-pin LCC	112-pin LCC	52-pin Mini PCIe
Dimensions	29.0 × 29.0 × 2.5mm	51.0 × 30.0 × 4.9mm	32.0 × 29.0 × 2.5mm	51.0 × 30.0 × 4.9mm
3G	UMTS/HSDPA	UMTS/HSDPA	UMTS/HSPA+	UMTS/HSPA+
Frequency Bands(MHz)	-E (for Europe)	900/2100@UMTS 900/1800@GSM	900/2100@UMTS 850/900/1800/1900@GSM	900/2100@UMTS 850/900/1800/1900@GSM
	-A (for America)	850/1900@UMTS*	850/1900@UMTS	850/1900@UMTS
	-G (for Global)		800/850/900/1900/2100@UMTS* 850/900/1800/1900@GSM*	
Weight (approx.)	4.3g	9.2g	4.9g	9.8g
Operation Temperature	-40 °C ~ +80 °C	-40 °C ~ +80 °C	-40 °C ~ +85 °C	-40 °C ~ +80 °C
Data Transmission				
HSPA/HSPA+ data rate (Mbps)	3.6 (DL)	3.6 (DL)	14.4 (DL)/ 5.76 (UL)	14.4 (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)	85.6 (DL)/ 85.6 (UL)
EDGE data rate (Kbps)	236.8 (DL)	236.8 (DL)	236.8 (DL)/ 236.8 (UL)	236.8 (DL)/ 236.8 (UL)
SMS	•	•	•	•
CSD	•	•	•	•
Protocols	TCP/ UDP/ PPP/ MMS*/ SMTP*/ FTP*/ HTTP*	TCP/ UDP/ PPP/ MMS*/ SMTP*/ FTP*/ HTTP*	TCP/ UDP/ PPP/ MMS/ SMTP/ FTP*/ HTTP*/ PING/ SSL*	TCP/ UDP/ PPP/ MMS/ SMTP/ FTP*/ HTTP*/ PING/ SSL*
Specifications for Voice				
Speech Codec Modes	HR, FR, EFR, AMR, AMR-WB	HR, FR, EFR, AMR, AMR-WB	HR, FR, EFR, AMR, AMR-WB	HR, FR, EFR, AMR, AMR-WB
Echo Arithmetic	•	•	•	•
Interfaces				
SIM	1.8V/ 3V	1.8V/ 3V	1.8V/ 3V	1.8V/ 3V
UART	1	1	2	1
USB	2.0 HS	2.0 HS	2.0 HS	2.0 HS
Audio Analog	Optional	Optional		
Audio Digital (PCM)	Optional	Optional		
RTC Backup			•	
ADC	× 2, 12bits		× 2, 15bits	
GPIO	•		•	
Antenna	Pads for Primary	Connector for Primary	Pads for Primary, Rx-diversity and GNSS	Connectors for Primary, Rx-diversity and GNSS
Sim Card Holder				Optional
Enhanced Features				
eCall	○	○	•	•
DTMF	○	○	•	•
Audio Player/Recorder	○	○		
QuecFOTA™	○	○	•	•
QuecLocator			○	○
QuecFile	•	•	•	•
RIL Driver	Windows CE6.0*, Android 2.3/4.0*, Windows Mobile 6.1/6.5	Windows CE6.0*, Android 2.3/4.0*, Windows Mobile 6.1/6.5	Windows CE6.0, Android 2.3/4.0	Windows CE6.0, Android 2.3/4.0
NDIS			Windows XP/ Vista/ 7/ 8	Windows XP/ Vista/ 7/ 8
MUX	Linux 2.6 or later, Android 2.3 or later	Linux 2.6 or later, Android 2.3 or later	Linux 2.6/3.0, Android 2.3/4.0	Linux 2.6/3.0, Android 2.3/4.0
USB Serial Driver	Windows XP/ Vista/ 7/ 8, Windows CE5.0/ 6.0*, Windows Mobile 6.1/6.5*, Linux 2.6 or later, Android 2.3 or later	Windows XP/ Vista/ 7/ 8, Windows CE5.0/ 6.0*, Windows Mobile 6.1/6.5*, Linux 2.6 or later, Android 2.3 or later	Windows XP/ Vista/ 7/ 8, Linux 2.6/3.0, Windows CE5.0/ 6.0, Android 2.3/4.0	Windows XP/ Vista/ 7/ 8, Linux 2.6/3.0, Windows CE5.0/ 6.0, Android 2.3/4.0
SIM Detection	•		•	
GNSS			GPS/GLONASS	GPS/GLONASS
Firmware Update	via USB/ UART Interface	via USB/ UART Interface	via USB/ UART Interface	via USB/ UART Interface
Electrical features				
Supply Voltage Range	3.4 ~ 4.3V	3.0~3.6V, typ. 3.3V	3.4 ~ 4.3V	3.0~3.6V, typ. 3.3V
Power Consumption	3.5mA@Sleep, typ.	3.5mA@Sleep, typ.	1.5mA@GSM sleep, DRX=9 1.4mA@UMTS sleep, DRX=9	3.1mA@GSM sleep, DRX=9 3.0mA@UMTS sleep, DRX=9
Certifications				
Certifications	CE/ GCF/ FCC*/ PTCRB*	CE/ GCF/ FCC*/ PTCRB*	CE/ KC/ GCF/ FCC*/ PTCRB*	CE/ FCC*
Recommended Applications				
Recommended Applications	Telematics, Smart Metering, Mobile POS Terminal, Gateway, Security, Tracking and Tracing, Remote Maintenance and Control, Networking, Mobile Computing, Healthcare, etc.			

Quectel GSM/GPRS Module Family

Product	M10	M12	M72	M85	M95
Picture					
Packaging	64-pin LCC Quad-band	64-pin LCC Dual-band	30-pin LCC Dual-band	83-pin LCC Quad-band	42-pin LCC Quad-band
Dimensions	29.0 × 29.0 × 3.6mm	29.0 × 29.0 × 3.6mm	27.5 × 24.0 × 3.6mm	24.5 × 25.3 × 2.6mm	19.9 × 23.6 × 2.65mm
Frequency Range (MHz)	850/ 900/ 1800/ 1900	900/ 1800	900/ 1800	850/ 900/ 1800/ 1900	850/ 900/ 1800/ 1900
Weight (approx.)	6.0 g	6.0 g	4.3 g	3.3 g	3.0 g
Operating Temperature Range	-40 °C to +85 °C	-40 °C to +80 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C
Data Transmission					
GPRS Multi-slot Class	12, 1-12 configurable	12, 1-12 configurable	12, 1-12 configurable	12, 1-12 configurable	12, 1-12 configurable
Data Rate (kbps)	85.6 (DL & UL)	85.6 (DL & UL)	85.6 (DL & UL)	85.6 (DL & UL)	85.6 (DL & UL)
CSD	•	•	•	•	•
SMS	•	•	•	•	•
Network Protocols	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ POP3/ MMS/ SSL	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ POP3/ MMS	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ MMS Sending	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ POP3/ MMS/ SSL	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ MMS Sending
Specifications for Voice					
Speech Codec Modes	HR/ FR/ EFR/ AMR	HR/ FR/ EFR/ AMR		HR/ FR/ EFR/ AMR	HR/ FR/ EFR/ AMR
Echo Arithmetic	Echo cancellation Echo suppression Noise reduction	Echo cancellation Echo suppression Noise reduction		Echo cancellation Echo suppression Noise reduction	Echo cancellation Echo suppression Noise reduction
Interfaces					
SIM	3V/ 1.8V	3V/ 1.8V	3V/ 1.8V	3V/ 1.8V	3V/ 1.8V
Audio Analog	2 inputs/ 2 outputs	2 inputs/ 2 outputs		2 inputs/ 3 outputs	2 inputs/ 2 outputs
Audio Digital				•	
RTC Backup	•	•	•	•	•
UART	3	3	2	3	2
ADC	× 2, 10bit	× 2, 10bit		× 2, 10bit	
SD Card Interface	•	•		•	
GPIO	•	•			
Temperature Detection				•	•
Enhanced Features					
eCall				•	•
Jamming Detection	•	•	•	•	•
DTMF	•	•	•	•	•
Audio Player/Recorder	•	•		•	
Dual-SIM				•	•
QuecFOTA™	•	•	•	•	•
QuecCell	•	•		•	•
QuecLocator	•	•	•	•	•
QuecFile	•	•		•	
OpenCPU™	•	•		•	
RIL for Android & WinCE	•	•	•	•	•
MUX	•	•	•	•	•
Electrical features					
Power Supply	3.3 ~ 4.6V	3.3 ~ 4.6V	3.3 ~ 4.6V	3.3 ~ 4.6V	3.3 ~ 4.6V
Low Power Consumption	1.3mA @DRX=5 1.2mA @DRX=9	1.3mA @DRX=5 1.2mA @DRX=9	1.3mA @DRX=5 1.2mA @DRX=9	1.3mA @DRX=5 1.2mA @DRX=9	1.3mA @DRX=5 1.2mA @DRX=9
Certifications					
Certifications	CE/ GCF/ PTCRB FCC/ IC/ ANATEL Rogers/ NCC/ TELCEL UCRF/ ICASA	CE/ UCRF	CE/ GCF/ UCRF/ A-Tick	CE/ GCF	CE/ GCF/ Vodafone/ PTCRB/ FCC/ IC/ ANATEL/ Rogers/ A-Tick / NCC/ TELCEL/ UCRF/ ICASA
Recommended Applications					
Recommended Applications	Telematics, Smart Metering, Mobile POS Terminal, Gateway, Security, Tracking and Tracing, Remote Maintenance and Control, Mobile Computing, Healthcare, etc.				

Quectel GNSS Module Family

Product		Standalone Module				
		L10	L16	L20	L26	L30
		Compatible		Compatible		
Picture						
GNSS		GPS	GLONASS/ GPS/ QZSS	GPS/ QZSS	GLONASS/ GPS/ QZSS	GPS/ QZSS
Packaging		28-pin LCC	28-pin LCC	24-pin LCC	24-pin LCC	21-pin LCC
Dimensions		22.4 × 17.0 × 3.0 mm	22.4 × 17.0 × 3.0 mm	16.0 × 12.2 × 2.4 mm	16.0 × 12.2 × 2.4 mm	9.0 × 9.0 × 1.6 mm
Weight (approx.)		2.0 g	2.2 g	1.0 g	1.0 g	0.6 g
Temperature Range	Operating	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C
	Storage	-45 °C to +125 °C	-45 °C to +125 °C	-45 °C to +125 °C	-45 °C to +125 °C	-45 °C to +125 °C
General Features						
Chip Solution		MT3329	ST Teseo II	SiRF IV	MT3333	SiRF IV
L1 Band Receiver (C/A Code)	Channel Number	22 Track/ 66 Acq.	32 Track/ 2 fast Acq.	48 Track	33 Track/ 99 Acq.	48 Track
	SBAS	WAAS/ EGNOSC/ MSAS	WAAS/ EGNOS/ MSAS	WAAS/ EGNOS	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS
Sensitivity	Autonomous Acquisition	-148dBm	-146dBm	-148dBm	-148dBm	-148dBm
	Reacquisition	-160dBm	-160dBm	-160dBm	-160dBm	-160dBm
	Tracking	-165dBm	-162dBm	-163dBm	-165dBm	-163dBm
TTFF(Time To First Fix)	Cold Start	<35s	<35s, Autonomous <30s, With ST-AGPS	<35s, Autonomous 25s typ. With CGEE	<35s, Autonomous <15s, With EASY	<35s, Autonomous 25s typ. With CGEE
	Warm Start	<35s	<24s, Autonomous, <5s, With ST-AGPS	<35s, Autonomous 10s typ. With CGEE	<30s, Autonomous <5s, With EASY	<35s, Autonomous 10s typ. With CGEE
	Hot Start	<1s	<2.5s	<1s	<1s	<1s
Position Accuracy (autonomous)		<2.5m CEP	<1.5m CEP	<2.5m CEP	<2.5m CEP	<2.5m CEP
Velocity Accuracy (without aid)		<0.1m/s	<0.1m/s	<0.01m/s	<0.1m/s	<0.01m/s
Maximum Acceleration Accuracy (without aid)		<0.1 m/s ²	<0.1 m/s ²	<0.1 m/s ²	<0.1 m/s ²	<0.1 m/s ²
Timing Accuracy		<61ns	<15ns	<500ns	<10ns	<500ns
Max Update Rate		5Hz	5Hz	5Hz	10Hz	5Hz
Baud Rate(default)		9600bps	9600bps	4800bps	9600bps	4800bps
Anti-jamming		•	•	•	•	•
Electrical Data						
Power Supply		3.0V to 4.3V	3.0V to 3.6V	2.0V to 3.6V	2.8V to 4.3V	1.71V to 1.89V
I/O Voltage		2.7V to 2.9V	3.3V	2.0V to 3.6V	2.7V to 2.9V	1.71V to 1.89V
Power Consumption	Acquisition	43mA	120mA	39mA	29mA (GPS+GLONASS) 26mA(GPS)	33mA
	Tracking	38mA	85mA	36mA	21mA (GPS+GLONASS) 18mA (GPS)	31mA
	Backup	4uA	75uA	33uA	7uA	15uA
Interfaces						
UART		•	•	•	•	•
IIC (NMEA)						•
DR IIC				•		•
Reset		•			•	•
Time Pulse		•	•	•	•	•
Antenna						
Antenna Detection		Short circuit detection and protection Open circuit detection			Short circuit detection and protection Open circuit detection	
Antenna Type		Active or passive	Active or passive	Active or passive	Active or passive	Active or passive with LNA
Antenna Power		External or internal	External or internal	External or internal	External or internal	External
Certificates						
Certificates		CE	CE/ FCC	CE	CE	CE
Recommended Applications						
Recommended Applications		Vehicle Tracking and Tracing, Pet tracking, Asset Tracking, Connected PND, GIS Application, Security, Industrial PDA, Digital Camera, etc.				

Quectel GNSS Module Family

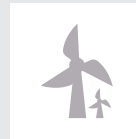
M2M Applications

Standalone Module		Antenna Module	
L70	L76	L50	L80
Compatible			
 HOT	 HOT		 HOT
GPS/ QZSS	GLONASS/ GPS/ QZSS	GPS/ QZSS	GPS/ QZSS
18-pin LCC	18-pin LCC	24-pin LCC	12-pin LCC
10.1 × 9.7 × 2.5 mm	10.1 × 9.7 × 2.5 mm	28.0 × 16.0 × 3.0 mm	16.0 × 16.0 × 6.45 mm
0.6 g	0.6 g	4.0 g	6.0 g
-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C
-45 °C to +125 °C	-45 °C to +125 °C	-45 °C to +125 °C	-45 °C to +125 °C
MT3339	MT3333	SiRF IV	MT3339
22 Track/ 66 Acq.	33 Track/ 99 Acq.	48 Track	22 Track/ 66 Acq.
WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS	WAAS/ EGNOS/ MSAS/ GAGAN
-148dBm	-148dBm	-148dBm	-148dBm
-160dBm	-160dBm	-160dBm	-160dBm
-163dBm	-163dBm	-163dBm	-165dBm
<35s, Autonomous <15s, With EASY	<35s, Autonomous <15s, With EASY	<33s, Autonomous 25s typ. With CGEE	<35s, Autonomous <15s, With EASY
<30s, Autonomous <5s, With EASY	<30s, Autonomous <5s, With EASY	<33s, Autonomous 10s typ. With CGEE	<30s, Autonomous <5s, With EASY
<1s	<1s	<1s	<1s
<2.5m CEP	<2.5m CEP	<2.5m CEP	<2.5m CEP
<0.1m/s	<0.1m/s	<0.01m/s	<0.1m/s
<0.1 m/s ²	<0.1 m/s ²	<0.1 m/s ²	<0.1 m/s ²
<10ns	<10ns	<500ns	<10ns
10Hz	10Hz	5Hz	10Hz
9600bps	9600bps	4800bps	9600bps
•	•	•	•
2.8V to 4.3V	2.8V to 4.3V	1.71V to 1.89V	3.0V to 4.3V
2.7V to 2.9V	2.7V to 2.9V	1.71V to 1.89V	2.7V to 2.9V
18mA	25mA (GPS+GLONASS) 21mA (GPS)	33mA	25mA
12mA	18mA (GPS+GLONASS) 15mA (GPS)	31mA	20mA
7uA	7uA	14uA	7uA
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
•	•	•	•
Active or passive	Active or passive	Embedded patch antenna	Embedded patch antenna or external active antenna
External or internal	External or internal	Internal	Internal
CE/ FCC	CE	CE	



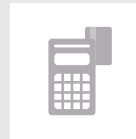
Telematics

Clean, cost effective and intelligent travel has become a new trend in this era. It has proven that M2M-enabled technology has the power to improve transportation systems in five significant areas: road safety, navigation, environmental impact, freight and logistics management and traffic management. In addition, telematics and infotainment will soon become standard in new vehicles.



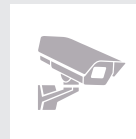
Smart Metering

With the new energy economy trend of innovation and smart communication penetrating into M2M industry, Quectel wireless solutions designed the solution that integrates wireless communication technology with smart grid, which both meet the wireless communication needs and make the energy supply smart, secure, sustainable and reliable. GSM/GPRS modules play an important role in the whole system of smart grid, which is the bridge between sensor and base station, as well as the environment of smart meter deployment is varied.



Mobile POS Terminal

Wireless payment devices expand the ways in which customers can pay and free retailers from handling cumbersome cash. Mobile-enabled M2M commerce can even extend the boundaries of a retailer's physical store by allowing them to accept payments at mobile or temporary locations without a telephone line.



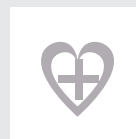
Security

Combining wireless communication technology, advanced camera equipment and 3G network, Quectel's Security & Surveillance solution provides the real time images and video when the security alarm is automatically triggered by sensor and then sends the alarm message to the user's phone or other terminals. The user can remotely control the situation and know the detailed information about it.



Networking

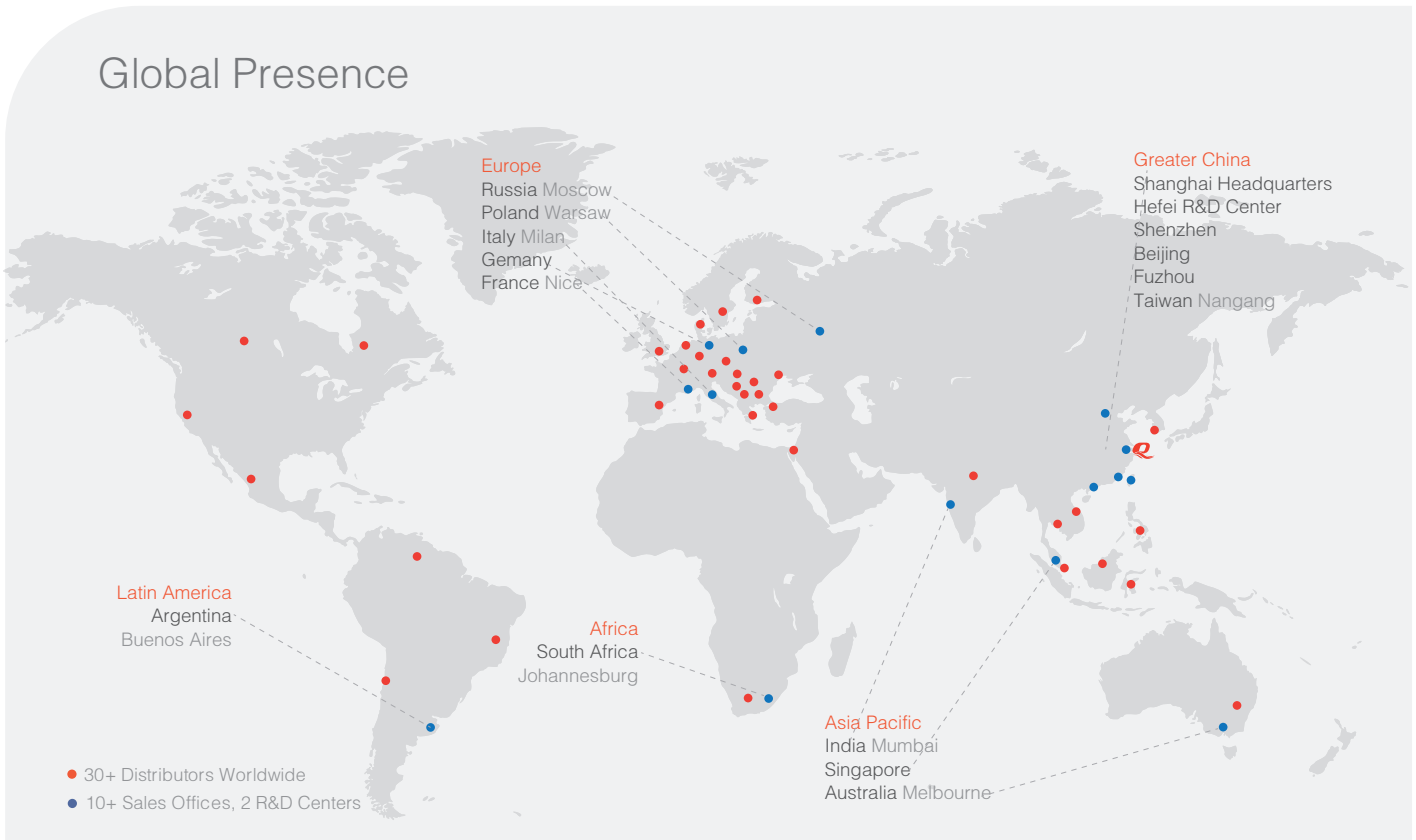
Secure high-speed wireless connections and Internet access have become the bed rock for a world that is increasingly reliant on electronic information. Highlighted concerns about the natural and man-made disaster are driving the growth of fixed cellular broadband. As broadband expands and become more reliable, 4G mobile broadband will enable networking solutions.



Healthcare

High population growth, a high burden of disease prevalence, low health care workforce, large numbers of rural inhabitants, and limited financial resources are causing great challenges for today's healthcare and social system. Medical device with built-in M2M technology is a new way of supporting wellness and delivering and managing healthcare. This device is already allowing patients to undertake tasks traditionally carried out only by the physicians or under the direct care of the physicians. Patients can be monitored, diagnosed and even treated at home or on the move, without needing to see a clinician, speed time in a hospital or clinic, or wait long periods for test results.

Global Presence



Overseas

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