
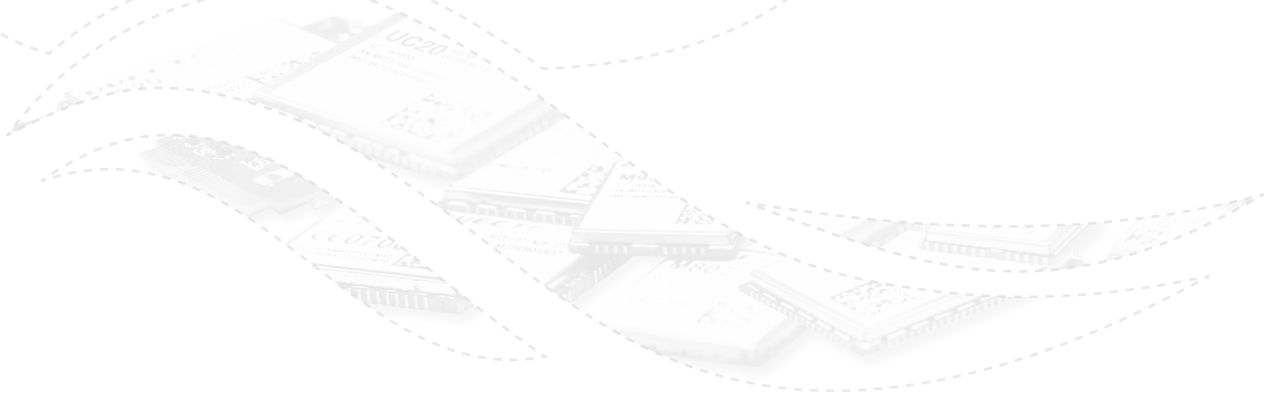
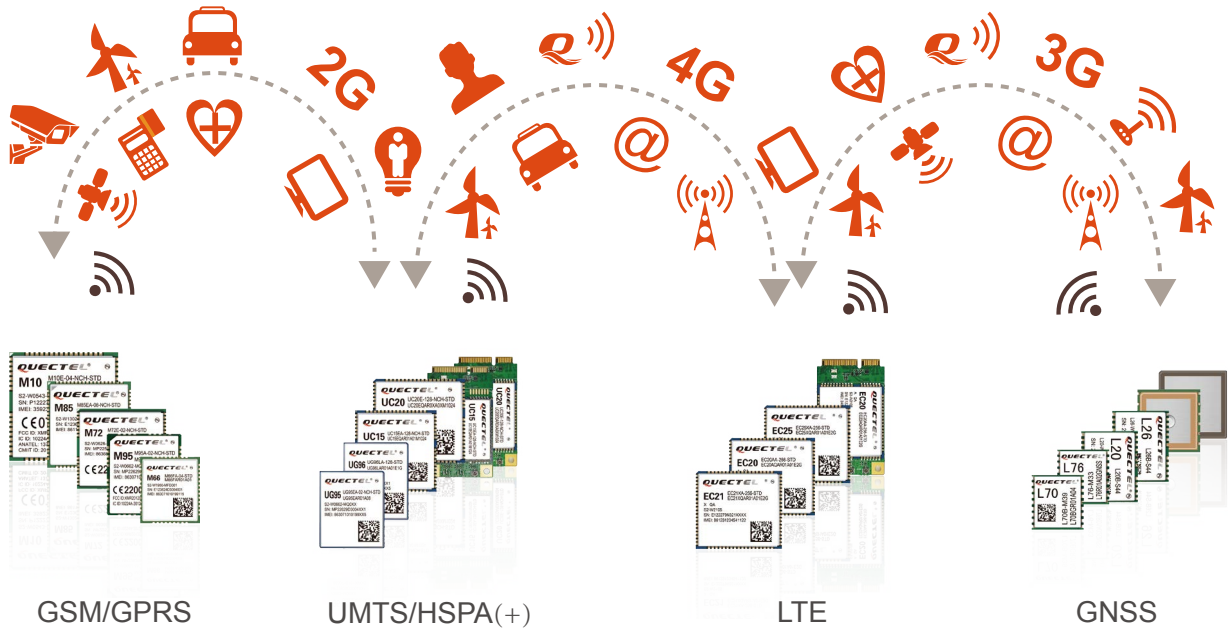


*DEDICATED SUPPLIER OF*

**M2M**   
**WIRELESS**  
**MODULES**



QUECTEL WIRELESS SOLUTIONS CO., LTD.



As a leading global supplier of M2M modules, Quectel makes machines to communicate and getting connected and deployed smart IoT solutions from transport, to payment, to energy, to logistics, to security, to healthcare, to agriculture and beyond. Quectel are connecting devices, systems, businesses, cities, societies and people around the globe, improving efficiencies and ultimately creating better experiences for human being.

Quectel offers high-performance cellular and GNSS modules based on the state-of-art technology which, already today, is aimed at the tomorrow's demands. To completely satisfy customer's needs, Quectel not only provide a wide product range with numerous integrated features capable of meeting the most sophisticated requirements from all market segment, but also provide comprehensive technical support for developers in the development and testing phase. Additionally, timely help is available from Quectel's software and hardware team throughout customer's development via phone, email and face to face meetings when necessary, which significantly reduces customer's product development time and achieve short time to market.






Quectel, as an enabler of information age, is committed to building a smarter world. Success in this world is only happened by focusing. Quectel stands behind its promise to

provide customers with high quality products and excellent service. Quectel is serving more than 2,000 customers globally with its global presense, two R&D centers, 21 sales offices worldwide and a global network of over 50 distributors. Quectel's own automatic manufacturing line and rigorous hardware & software tests ensure the high quality of each module. And comprehensive product portfolio, strong R&D capability and matchless support service established Quectel as a reliable and trusted provider of wireless modules since its establishment.

Today, tens of millions of IoT devices have Quectel modules inside. In the future, Quectel's IoT cloud-centric M2M services will enable end-to-end service provisioning for businesses and users to access applications on demand from anywhere.




# Quectel GSM/GPRS Module Family

Product	M10	M66	M66-DS	M95	MC60
Picture					
Packaging	64-pin LCC	44-pin LCC	52-pin LCC	42-pin LCC	68-pin LCC
Dimensions (mm)	29.0 × 29.0 × 3.6	17.7 × 15.8 × 2.3	17.7 × 15.8 × 2.3	23.6 × 19.9 × 2.65	18.7 × 15.8 × 2.3
Frequency Range (MHz)	850/ 900/ 1800/ 1900	850/ 900/ 1800/ 1900	850/ 900/ 1800/ 1900	850/ 900/ 1800/ 1900	850/ 900/ 1800/ 1900
Weight (approx.)	6.0 g	1.3 g	1.3 g	3.0 g	1.8 g*
Temperature Range	-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
<b>Data Transmission</b>					
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)
SMS	•	•	•	•	•
Protocols	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ MMS Sending/ SSL	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ MMS Sending/ SSL	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ MMS Sending/ SSL	TCP/ UDP/ PPP/ HTTP/ FTP
<b>Specifications for Voice</b>					
Speech Codec Modes	HR/ FR/ EFR/ AMR	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	Echo cancellation Echo suppression Noise reduction
<b>Interfaces</b>					
SIM	1.8V/ 3V	1.8V/ 3V	1.8V/ 3V	1.8V/ 3V	1.8V/ 3V
Audio Analog	2 inputs/ 2 outputs	1 input/ 2 outputs	1 input/ 2 outputs	2 inputs/ 2 outputs	1 input/ 2 outputs
Audio Digital		•	•	•	•
RTC Backup	•	•	•	•	•
UART	3	3	3	2	4
ADC	× 2, 10bit	× 1, 10bit	× 1, 10bit		× 1, 10bit
SD Card Interface	•	•	•		•
GPIO	•				•
Temperature Detection			•	•	•
<b>Enhanced Features</b>					
eCall	•	•	•	•	•
Jamming Detection	•	•	•	•	•
DTMF	•	•	•	•	•
Audio Playback/ Audio Recording	•	•	•	•	•
Dual-SIM			•	•	•
QuecFOTA™	•	•	•	•	•
QuecCell	•	•	•	•	•
QuecLocator	•	•	•	•	•
QuecFile	•	•	•		•
OpenCPU™	•	•	•		•
RIL for Android	•	•	•	•	•
MUX	•	•	•	•	•
GNSS					•
<b>Electrical Features</b>					
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
<b>Certifications</b>					
Certifications	CE/ GCF/ PTCRB/ FCC/ IC/ ANATEL/ Rogers/ NCC/ TELCEL/ UCRF/ ICASA	CE/ ANATEL/ ICASA		CE/ GCF/ Vodafone/ PTCRB/ FCC/ IC/ ANATEL/ Rogers/ RCM/ NCC/ TELCEL/ UCRF/ ICASA	
<b>Recommended Applications</b>					
Recommended Applications	Telematics, Smart Metering, Mobile POS Terminal, Gateway, Security, Tracking and Tracing, Remote Maintenance and Control, Mobile Computing, Healthcare, etc.				

\* Under development

# Quectel UMTS/HSPA(+) Module Family



Product	UC15	UC15 Mini PCIe	UC20	UC20 Mini PCIe	UG95	
Picture						
Packaging	108-pin LCC	52-pin Mini PCIe	112-pin LCC	52-pin Mini PCIe	102-pin LGA	
Dimensions (mm)	29.0 × 29.0 × 2.5	30.0 × 51.0 × 4.9	29.0 × 32.0 × 2.5	30.0 × 51.0 × 4.9	23.6 × 19.9 × 2.2	
3G	UMTS/HSDPA	UMTS/HSDPA	UMTS/HSPA+	UMTS/HSPA+	UMTS/HSPA	
Frequency Bands (MHz)	-E(for Europe)	900/2100@UMTS 900/1800@GSM	900/2100@UMTS 900/1800@GSM	900/2100@UMTS 850/900/1800/1900@GSM	900/2100@UMTS 850/900/1800/1900@GSM	900/2100@UMTS 900/1800@GSM
	-A(for America)	850/1900@UMTS 850/900/1800/1900@GSM		850/1900@UMTS	850/1900@UMTS	850/1900@UMTS
	-G(for Global)			800/850/900/1900/2100@UMTS 850/900/1800/1900@GSM	800/850/900/1900/2100@UMTS 850/900/1800/1900@GSM	
	-T(for Thailand)	850/2100@UMTS 850/900/1800/1900@GSM				
Weight (approx.)	4.3g	9.3g	4.9g	9.8g	2.5g	
Temperature Range	-40 °C ~ +85 °C	-40 °C ~ +80 °C	-40 °C ~ +85 °C	-40 °C ~ +80 °C	-40 °C ~ +85 °C	
<b>Data Transmission</b>						
HSPA data rate (Mbps)	3.6 (DL)	3.6 (DL)	14.4 (DL)/ 5.76 (UL)	14.4 (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)	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)	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)	236.8 (DL)	
SMS	•	•	•	•	•	
CSD	•	•	•	•	•	
Protocols	TCP/UDP/PPP/MMS/FTP/SMTP/SMTPS/HTTP/HTTPS/PING/SSL	TCP/UDP/PPP/MMS/FTP/SMTP/SMTPS/HTTP/HTTPS/PING/SSL	PPP/TCP/UDP/FTP/HTTP/FILE/MMS/SMTP/SSL	PPP/TCP/UDP/FTP/HTTP/FILE/MMS/SMTP/SSL	TCP/UDP/PPP/MMS/FTP/FTP/SMTP/SMTPS/HTTP/HTTPS/NTP/PING/SSL	
<b>Interfaces</b>						
SIM	1.8V/ 3V	1.8V/ 3V	1.8V/ 3V	1.8V/ 3V	1.8V/ 3V	
UART	1	1	2	1	1	
USB	2.0 Hi-Speed	2.0 Hi-Speed	2.0 Hi-Speed	2.0 Hi-Speed	2.0 Hi-Speed	
Audio Analog	Optional <sup>1</sup>	Optional <sup>1</sup>				
Audio Digital (PCM)	Optional <sup>1</sup>	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	Connector for Primary	Pads for Primary, Rx-diversity and GNSS	Connectors for Primary, Rx-diversity and GNSS	Pads for Primary	
SIM Card Holder				Optional for -E Version		
<b>Enhanced Features</b>						
eCall	•	•	•	•	◦	
DTMF	•	•	•	•	•	
QuecFOTA™	•	•	•	•	•	
DFOTA	•	•	•	•	•	
Audio Playback/ Audio Recording	•	•	•	•	•	
QuecLocator	•	•	•	•	•	
QuecFile	•	•	•	•	•	
RIL Driver	Windows CE6.0*, Android 2.3/4.0/4.2, Windows Mobile 6.1/6.5*	Windows CE6.0*, Android 2.3/4.0/4.2, Windows Mobile 6.1/6.5*	Windows CE6.0, Android 2.3/4.0/4.2/	Windows CE6.0, Android 2.3/4.0/4.2	◦	
NDIS			Windows XP/Vista/7/8, Linux 2.6/3.0	Windows XP/Vista/7/8, Linux 2.6/3.0		
MUX	Linux 2.6 or later, Android 2.3 or later	Linux/ Android	Linux 2.6/3.0, Android 2.3/4.0/4.2	Linux 2.6/3.0, Android 2.3/4.0/4.2	◦	
USB Serial Driver	Windows XP/Vista/7/8, Windows CE5.0/ 6.0/7.0, Windows Mobile 6.1*/6.5*, Linux 2.6 or later, Android 2.3 or later	Windows XP/Vista/7/8, Windows CE5.0/ 6.0/7.0, Windows Mobile 6.1/6.5*, Linux/ Android	Windows XP/Vista/7/8, Windows CE5.0/6.0/7.0, Android 2.3/4.0/4.2, Linux 2.6/3.0	Windows XP/Vista/7/8, Windows CE5.0/6.0/7.0, Android 2.3/4.0/4.2, Linux 2.6/3.0	Windows XP/Vista/7, Linux 2.6/3.0, Android 2.3/4.0/4.2	
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	via USB/ UART Interface	
<b>Electrical Features</b>						
Supply Voltage Range	3.3 ~ 4.3V	3.0~3.6V, typ. 3.3V	3.3 ~ 4.3V	3.0~3.6V, typ. 3.3V	3.3~4.3V, typ. 3.8V	
Power Consumption	1.8mA@ GSM sleep, DRX=9 1.7mA@ UMTS sleep, DRX=9	3.5mA@ GSM sleep, DRX=9 3.3mA@ UMTS sleep, DRX=9	1.5mA@GSM sleep, DRX=9 1.1mA@UMTS sleep, DRX=9	3.1mA@GSM sleep, DRX=9 3.0mA@UMTS sleep, DRX=9	0.96mA@GSM sleep, DRX=9 1.15mA@UMTS sleep, DRX=9	
<b>Certifications</b>						
Certifications	CE/ GCF/ FCC/ PTCRB/ IC/ AT&T/ Rogers/ NCC/ NBTC/ OFCA/ RCM/ CCC/ TA/ NAL/ DoC <sup>2</sup>	CE/ GCF/ NCC/ PTCRB/ FCC/ DoC <sup>2</sup>	CE/ FCC/ IC/ KC/ NCC/ OFCA/ GCF/ PTCRB/ RCM/ SKT/ AT&T/ Rogers/ ANATEL/ Vodafone/ ICASA/ CCC/ NBTC/ JATE/ TELEC/TA/ NAL/ DoC <sup>2</sup>	CE/ FCC/ PTCRB/ GCF/ RCM/ AT&T/ DoC <sup>2</sup>	CE/ GCF/ FCC/ IC/ ICASA/ PTCRB/ AT&T/ Rogers/ DoC <sup>2</sup>	
<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 2: for Russia

◦ & \* Under development

# Quectel LTE Module Family

UG96
102-pin LGA
26.5 × 22.5 × 2.2
UMTS/HSPA
800/850/900/1900/2100@UMTS 850/900/1800/1900@GSM
3.1g -40 °C ~ +85 °C
7.2 (DL)/ 5.76 (UL)
384 (DL)/ 384 (UL)
85.6 (DL)/ 85.6 (UL)
236.8 (DL)/ 236.8 (UL)
TCP/ UDP/ PPP/ MMS/ HTTP/ HTTPS/ SMTP/ SMTPS/ FTP/ NTP/ NITZ/ PING/ SSL
1.8V/ 3V
1
2.0 Hi-Speed
Optional <sup>1</sup>
Pads for Primary
Windows XP/Vista/7, Linux 2.6/3.0, Android 2.3/4.0/4.2
via USB/ UART Interface
3.3~4.3V, typ. 3.8V
1.1mA@GSM sleep, DRX=9 1.7mA@UMTS sleep, DRX=9
CE/ FCC/ GCF/ PTCRB/ ANATEL/ RCM/ IFETEL/ Movistar/ ICASA/ DoC <sup>2</sup>

Product	EC20	EC20 Mini PCIe
Picture		
Packaging	140-pin LCC	52-pin Mini PCIe
Dimensions (mm)	29.0 × 32.0 × 2.4	30.0 × 51.0 × 4.9
4G	LTE Cat3	LTE Cat3
Frequency Bands (MHz)	<ul style="list-style-type: none"> <li>-E (for Europe) B1/3/5/7/8/20 @FDD-LTE, B1/5/8 @WCDMA 850/900/1800/1900 @GSM</li> <li>-A (for America) B2/4/5/12/17 @FDD-LTE, B2/4/5 @WCDMA 850/1900 @GSM</li> <li>-C (for China) B1/3/8 @FDD-LTE, B38/39/40/41 @TDD-LTE B1/B8 @WCDMA, B34/39 @TD-SCDMA, 900/1800 @GSM</li> <li>-CE (for China) B1/B3 @FDD-LTE, B38/B39/B40/B41 @TDD-LTE B1 @WCDMA, B34/B39 @TD-SCDMA, BC0 @CDMA2000 1X/EVDO, 900/1800 @GSM</li> </ul>	<ul style="list-style-type: none"> <li>B1/3/5/7/8/20 @FDD-LTE, B1/5/8 @WCDMA 850/900/1800/1900 @GSM</li> <li>B2/4/5/12/17 @FDD-LTE, B2/4/5 @WCDMA 850/1900 @GSM</li> <li>B1/3/8 @FDD-LTE, B38/39/40/41 @TDD-LTE B1/B8 @WCDMA, B34/39 @TD-SCDMA, 900/1800 @GSM</li> <li>B1/B3 @FDD-LTE, B38/B39/B40/B41 @TDD-LTE B1 @WCDMA, B34/B39 @TD-SCDMA, BC0 @CDMA2000 1X/EVDO, 900/1800 @GSM</li> </ul>
Weight (approx.)	4.6	9.5
Temperature Range	-40 °C ~ +85 °C	-40 °C ~ +80 °C
<b>Data Transmission</b>		
LTE data rate (Mbps)	LTE-FDD Max 100 (DL)/ Max 50 (UL) LTE-TDD Max 61 (DL)/ Max 18 (UL)	LTE-FDD Max 100 (DL)/ Max 50 (UL) LTE-TDD Max 61 (DL)/ Max 18 (UL)
DC-HSPA+ data rate (Mbps)	42 (DL)/ 5.76 (UL)	42 (DL)/ 5.76 (UL)
WCDMA data rate (Kbps)	384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)
TD-SCDMA data rate (Mbps)	4.2 (DL)/ 2.2 (UL)	4.2 (DL)/ 2.2 (UL)
EDGE data rate (Kbps)	236.8 (DL)/ 236.8 (UL)	236.8 (DL)/ 236.8 (UL)
GPRS data rate (Kbps)	85.6 (DL)/ 85.6 (UL)	85.6 (DL)/ 85.6 (UL)
SMS	•	•
CSD	•	•
Protocols	TCP/ UDP/ PPP/ FTP/ HTTP/ HTTPS/ SMTP/ MMS/ FTPS/ SMTPS/ NTP/ PING/ QMI/ SSL/ NITZ	TCP/ UDP/ PPP/ FTP/ HTTP/ HTTPS/ SMTP/ MMS/ FTPS/ SMTPS/ NTP/ PING/ QMI/ SSL/ NITZ
<b>Interfaces</b>		
SIM	1.8V/ 3V	1.8V/ 3V
UART	1	1
USB	2.0 Hi-Speed	2.0 Hi-Speed
IIC	•	•
Audio Digital (PCM)	Optional <sup>1</sup>	Optional <sup>1</sup>
ADC	× 2, 15bits	
Antenna	Pads for Primary, Rx-diversity and GNSS	Connector for Primary, Rx-diversity and GNSS
SIM Card Holder		Optional
<b>Enhanced Features</b>		
TTS	•	•
DTMF	•	•
DFOTA	•	•
QM/ Rmnet	•	•
Audio Playback/ Audio Recording	Optional <sup>1</sup>	Optional <sup>1</sup>
QuecLocator	•	•
RIL Driver	Android 2.3/ 4.0/ 4.2/ 4.4/ 5.0	Android 2.3/ 4.0/ 4.2/ 4.4/ 5.0
NDIS	Windows XP/ Vista/ 7/ 8, Windows CE5.0/ 6.0/7.0	Windows XP/ Vista/ 7/ 8, Windows CE5.0/ 6.0/7.0
ECM	Linux 2.6 or later	Linux 2.6 or later
Gobinet	Linux 2.6 or later	Linux 2.6 or later
Linux qml wwan	Linux 2.6 or later	Linux 2.6 or later
USB Serial Driver	Windows XP/ Vista/ 7/ 8, Windows CE5.0* 6.0* 7.0* Linux 2.6 or later, Android 2.3 or later	Windows XP/ Vista/ 7/ 8, Windows CE5.0* 6.0* 7.0* Linux 2.6 or later, Android 2.3 or later
SIM Detection	•	•
GNSS	GPS/ GLONASS	GPS/ GLONASS
Firmware Update	via USB/ UART Interface	via USB/ UART Interface
<b>Electrical Features</b>		
Supply Voltage Range	3.3~4.3 V, typ. 3.8V	3.0~3.6V, typ. 3.3V
Power Consumption	20uA@ Power off 3mA@ Sleep	5.5mA@ Sleep
<b>Certifications</b>		
Certifications	CCC/ CE/ NAL/ TA/ DoC <sup>2</sup> / KC/ SKT/ NCC/ ICASA/ GCF* 7/ KT*/ FCC*	CCC/ CE/ NAL/ TA/ DoC <sup>2</sup> / KC/ SKT/ NCC/ ICASA/ GCF* 7/ KT*/ FCC*
<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 2: for Russia

◦ & \* Under development

# Quectel LTE Module Family






Product		EC21/ EC21Mini PCIe	EC25/ EC25 Mini PCIe
Picture			
Packaging		144-pin LCC (EC21) 52-pin (EC21 Mini PCIe)	144-pin LCC (EC25) 52-pin (EC25 Mini PCIe)
Dimensions (mm)		29.0 × 32.0 × 2.4 (EC21) 30.0 × 51.0 × 4.9 (EC21 Mini PCIe)	29.0 × 32.0 × 2.4 (EC25) 30.0 × 51.0 × 4.9 (EC25 Mini PCIe)
4G		LTE Cat1	LTE Cat4
Frequency Bands (MHz)	-E (for Europe)	B1/B3/B5/B7/B8/B20@FDD LTE; B1/B5/B8@WCDMA; B3/B8@GSM	B1/B3/B5/B7/B8/B20@FDD LTE; B38/B40/B41@TDD LTE; B1/B5/B8@WCDMA; B3/B8@GSM
	-V (for VZW)	B4/B13@FDD LTE	B4/B13@FDD LTE
	-A (for AT&T)	B2/B4/B12@FDD LTE, B2/B5@WCDMA	B2/B4/B12@FDD LTE, B2/B4/B5@WCDMA
	-AUT (for Telstra)	B3/B7/B28@FDD LTE; B1/B5@WCDMA	TBD
	-AUTL	B3/B7/B28@FDD LTE	TBD
	-J (for Japan)		TBD
	-KS (for Korea)	B3/B5/B7/B8@FDD LTE	
Weight (approx.)		4.6 (EC21) 9.8 (EC21 Mini PCIe)	4.6 (EC25) 9.8 (EC25 Mini PCIe)
Temperature Range		-40 °C ~ +85 °C (EC21) -40 °C ~ +80 °C (EC21 Mini PCIe)	-40 °C ~ +85 °C (EC25) -40 °C ~ +80 °C (EC25 Mini PCIe)
<b>Data Transmission</b>			
LTE data rate (Mbps)		LTE-FDD Max 10M (DL)/ Max 5M (UL)	LTE-FDD Max 150Mbps (DL) Max 50Mbps (UL) LTE-TDD Max 130Mbps (DL) Max35Mbps (UL)
DC-HSPA+ data rate (Mbps)		42 (DL)/ 5.76 (UL)	42 (DL)/ 5.76 (UL)
WCDMA data rate (Kbps)		384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)
EDGE data rate (Kbps)		236.8K (DL)/ 236.8K (UL)	236.8K (DL)/ 236.8K (UL)
GPRS data rate (Kbps)		85.6K (DL)/ 85.6K (UL)	85.6K (DL)/ 85.6K (UL)
SMS		•	•
CSD		•	•
Protocols		TCP/ UDP/ PPP/ FTP*/ HTTP/ HTTPS/ SMTP*/ MMS/* FTPS*/ SMTSP*/ NTP/ PING/ QMI*/ SSL*/ NITZ*	TCP/ UDP/ PPP/ FTP*/ HTTP/ HTTPS/ SMTP*/ MMS/* FTPS*/ SMTSP*/ NTP/ PING/ QMI*/ SSL*/ NITZ*
<b>Interfaces</b>			
SIM		1.8V/ 3V	1.8V/ 3V
UART		1	1
USB		2.0 Hi-Speed	2.0 Hi-Speed
IIC		•	•
Audio Digital (PCM)		Optional <sup>1</sup>	Optional <sup>1</sup>
ADC		× 2, 15bits (EC21)	× 2, 15bits (EC25)
GPIO		•	•
Antenna		Pads for Primary, Rx-diversity and GNSS	Pads for Primary, Rx-diversity and GNSS
<b>Enhanced Features</b>			
eCall		•	•
DTMF		•	•
DFOTA		•	•
QM/ Rmnet		•	•
Audio Playback/ Audio Recording		Optional <sup>1</sup>	Optional <sup>1</sup>
QuecLocator		•	•
QuecFile		•	•
RIL Driver		Android 2.3/ 4.0/ 4.2/ 4.4/ 5.0	Android 2.3/ 4.0/ 4.2/ 4.4/ 5.0
NDIS		Windows XP/ Vista/ 7/ 8, Windows CE5.0/ 6.0/7.0	Windows XP/ Vista/ 7/ 8, Windows CE5.0/ 6.0/7.0
ECM		Linux 2.6 or later	Linux 2.6 or later
Gobinet		Linux 2.6 or later	Linux 2.6 or later
Linux qml wwan		Linux 3.4 or later	Linux 3.4 or later
USB Serial Driver		Windows XP/ Vista/ 7/ 8/ 8.1, Windows CE5.0/ 6.0/7.0* Linux 2.6 or later, Android 2.3/4.0/4.2/4.4	Windows XP/ Vista/ 7/ 8/ 8.1, Windows CE5.0/ 6.0/7.0* Linux 2.6 or later, Android 2.3/4.0/4.2/4.4
SIM Detection		•	•
GNSS		GPS/ GLONASS/ Beidou/ Galileo	GPS/ GLONASS/ Beidou/ Galileo
Firmware Update		via USB/ UART Interface	via USB/ UART Interface
<b>Electrical Features</b>			
Supply Voltage Range		3.3~4.3 V (EC21) 3.0~3.6 V (EC21 Mini PCIe)	3.3~4.3 V (EC25) 3.0~3.6 V (EC25 Mini PCIe)
Power Consumption		TBD	TBD
<b>Certifications</b>			
Certifications		CE*/ FCC*/ PTCRB*/ GCF*/ VZW*/ AT&T*	CE*/ FCC*/ PTCRB*/ GCF*/ VZW*/ AT&T*
<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.

\* Under development

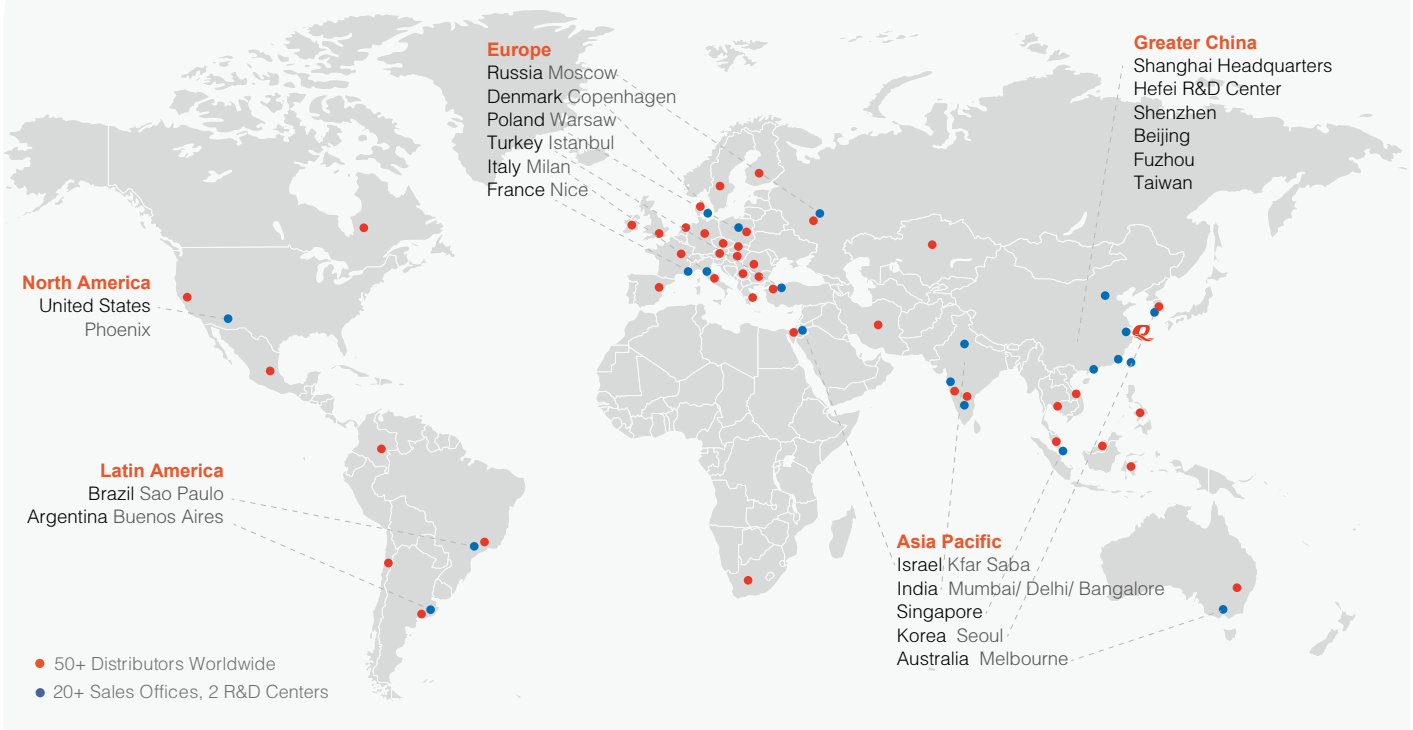


# Quectel GNSS Module Family

Product		Standalone Modules			Patch Antenna Modules	
		L26	L70/ L70-R/ L70-RL*	L76/ L76B/ L76-L*	L80/ L80-R	L86
		Compatible			Compatible	
Picture						
GNSS		GLONASS/ GPS/ QZSS	GPS/ QZSS	GLONASS/ GPS/ QZSS(L76) GPS/ BeiDou(L76B)	GPS/ QZSS	GLONASS/ GPS/ QZSS
Packaging		24-pin LCC	18-pin LCC	18-pin LCC	12-pin LCC	12-pin LCC
Dimensions (mm)		16.0 × 12.2 × 2.4	10.1 × 9.7 × 2.5	10.1 × 9.7 × 2.5	16.0 × 16.0 × 6.45	18.4 × 18.4 × 6.45
Weight (approx.)		1.0	0.6	0.6	6.0	7.6
Temperature Range		Operation	-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
<b>General Features</b>						
Chip Solution		MT3333	MT3339 (L70) MT3337 (L70-R/ L70-RL)	MT3333	MT3339 (L80) MT3337 (L80-R)	MT3333
L1 Band Receiver (C/A Code)	Channel Number	33 Track/ 99 Acq.	22 Track/ 66 Acq.	33 Track/ 99 Acq.	22 Track/ 66 Acq.	33 Track/ 99 Acq.
	SBAS	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN (Only supported L70)	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN
Sensitivity	Autonomous Acquisition	-148dBm	-148dBm (L70/ L70-R) -149dBm (L70-RL)	-148dBm (L76/ L76B) -149dBm (L76-L)	-148dBm	-148dBm
	Reacquisition	-160dBm	-160dBm (L70/ L70-R) -161dBm (L70-RL)	-160dBm (L76/ L76B) -161dBm (L76-L)	-160dBm	-160dBm
	Tracking	-167dBm	-165dBm (L70/ L70-R) -167dBm (L70-RL)	-165dBm (L76/ L76B) -167dBm (L76-L)	-165dBm	-165dBm
TTFF (Time To First Fix)	Cold Start	<35s, Autonomous <15s, With EASY	<35s, Autonomous <15s, With EASY	<35s, Autonomous <15s, With EASY	<35s, Autonomous <15s, With EASY	<35s, Autonomous <15s, With EASY
	Warm Start	<30s, Autonomous <5s, With EASY	<30s, Autonomous <5s, With EASY	<30s, Autonomous <5s, With EASY	<30s, Autonomous <5s, With EASY	<30s, Autonomous <5s, With EASY
	Hot Start	<1s	<1s	<1s	<1s	<1s
Position Accuracy (autonomous)		<2.5m CEP	<2.5m CEP	<2.5m CEP	<2.5m CEP	<2.5m CEP
Velocity Accuracy (without aid)		<0.1m/s	<0.1m/s	<0.1m/s	<0.1m/s	<0.1m/s
Maximum Acceleration Accuracy (without aid)		<0.1m/s <sup>2</sup>	<0.1m/s <sup>2</sup>	<0.1m/s <sup>2</sup>	<0.1m/s <sup>2</sup>	<0.1m/s <sup>2</sup>
Timing Accuracy		<10ns	<10ns	<10ns	<10ns	<10ns
Max Update Rate		10Hz	10Hz	10Hz	10Hz	10Hz
Baud Rate(default)		9600bps	9600bps	9600bps	9600bps	9600bps
Anti-jamming		•	•	•	•	•
LNA			Only supported L70-RL	Only supported L76-L		
<b>Electrical Data</b>						
Power Supply		2.8V to 4.3V	2.8V to 4.3V	2.8V to 4.3V	3.0V to 4.3V	3.0V to 4.3V
I/O Voltage		2.7V to 2.9V	2.7V to 2.9V	2.7V to 2.9V	2.7V to 2.9V	2.7V to 2.9V
Power Consumption	Acquisition	29mA (GPS+GLONASS) 26mA (GPS)	18mA (L70) 16mA (L70-R) 21mA (L70-RL)	25mA (GPS+GLONASS)/ 21mA (GPS) (L76) 23mA (GPS+BeiDou) (L76B) 29mA (GPS+GLONASS) (L76-L)	25mA	30mA (GPS+GLONASS)
	Tracking	21mA (GPS+GLONASS) 18mA (GPS)	12mA (L70) 13mA (L70-R) 18mA (L70-RL)	18mA (GPS+GLONASS)/ 15mA (GPS) (L76) 18mA (GPS+BeiDou) (L76B) 22mA (GPS+GLONASS) (L76-L)	20mA	26mA (GPS+GLONASS)
	Backup	7uA	7uA (L70) 8uA (L70-R/ L70-RL)	7uA	7uA	7uA
<b>Interfaces</b>						
UART		•	•	•	•	•
IIC (NMEA)						
DR IIC						
Reset		•	•	•	•	•
Time Pulse		•	•	•	•	•
<b>Antenna</b>						
Short-Circuit Detection & Open-Circuit Monitoring		•			Only supported L80	•
Automatic Switch between External and Internal Antenna					•	•
Antenna Type		Active or passive	Active or passive	Active or passive	Embedded patch antenna or external active antenna	Embedded patch antenna or external active antenna
Antenna Power		External or internal	External or internal	External or internal	Internal	Internal
<b>Certifications</b>						
Certifications		CE	CE	CE	CE	CE
<b>Recommended Applications</b>						
Recommended Applications		Vehicle Tracking and Tracing, Pet Tracking, Asset Tracking, Connected PND, GIS Application, Security, Industrial PDA, Digital Camera, etc.				

\* Under development

## Global Presence



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