
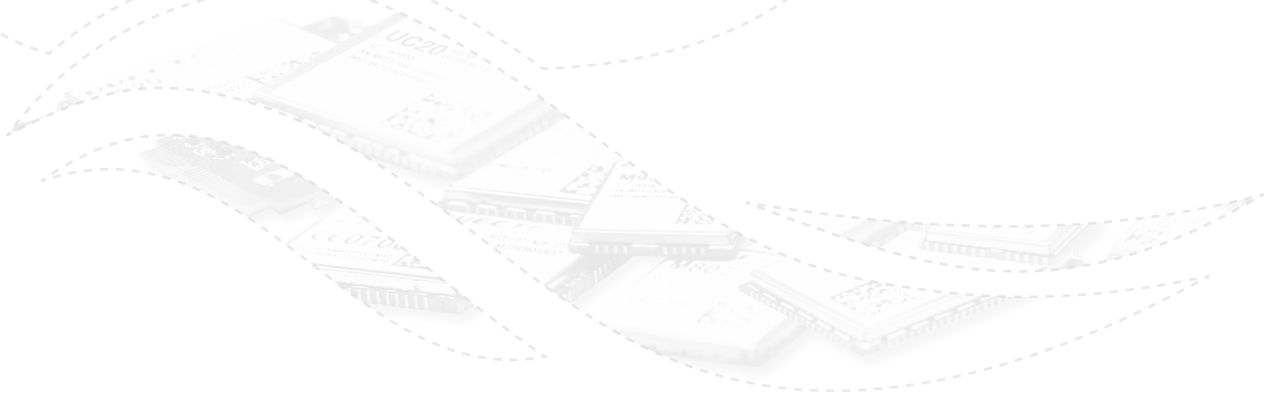







*DEDICATED SUPPLIER OF*

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



QUECTEL WIRELESS SOLUTIONS CO., LTD.

# Quectel GSM/GPRS Module Family

Product	M10	M66	M72	M85	M95
Picture					
Packaging	64-pin LCC Quad-band	44-pin LCC Quad-band	30-pin LCC Dual-band	83-pin LCC Quad-band	42-pin LCC Quad-band
Dimensions	29.0 × 29.0 × 3.6mm	17.7 × 15.8 × 2.3mm	24.0 × 27.5 × 2.7mm	25.3 × 24.5 × 2.6mm	23.6 × 19.9 × 2.65mm
Frequency Range (MHz)	850/ 900/ 1800/ 1900	850/ 900/ 1800/ 1900	900/ 1800	850/ 900/ 1800/ 1900	850/ 900/ 1800/ 1900
Weight (approx.)	6.0 g	1.3 g	3.3 g	3.3 g	3.0 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/ SSL	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ MMS Sending	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ MMS Sending	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ MMS/ SSL	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ MMS Sending/ SSL
<b>Specifications for Voice</b>					
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
<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		2 inputs/ 3 outputs	2 inputs/ 2 outputs
Audio Digital		•		•	
RTC Backup	•	•	•	•	•
UART	3	3	2	3	2
ADC	× 2, 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 & WinCE	•	•	•	•	•
MUX	•	•	•	•	•
<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	CE/ GCF/ UCRF/ RCM	GCF	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.				


# 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	29.0 × 29.0 × 2.5mm	30.0 × 51.0 × 4.9mm	29.0 × 32.0 × 2.5mm	30.0 × 51.0 × 4.9mm	23.6 × 19.9 × 2.2mm	
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	TCP/UDP/PPP/MMS/FTP/SMTP/SMTPS/HTTP/HTTPS/PING/SSL	TCP/UDP/PPP/MMS/FTP/SMTP/SMTPS/HTTP/HTTPS/PING/SSL	TCP/UDP/PPP/MMS/FTP/SMTP/SMTPS/HTTP/HTTPS/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 HS	2.0 HS	2.0 HS	2.0 HS	2.0 HS	
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 2.3/4.0/5.0, Windows Mobile 6.1/6.5*	Windows CE6.0*, Android 2.3/4.0/5.0, Windows Mobile 6.1/6.5*	Windows CE6.0, Android 2.3/4.0/4.2/5.0	Windows CE6.0, Android 2.3/4.0/4.2/5.0	◦	
NDIS			Windows XP/Vista/7/8, Linux2.6/3.0	Windows XP/Vista/7/8, Linux2.6/3.0		
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 2.3/4.0/4.2	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 2.6 or later, Android 2.3 or later	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/7/8*, 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	
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/ AT&T/ IC/ Rogers/ NCC/ NBTC/ OFCA/ RCM	CE/ GCF/ NCC	CE/ FCC/ IC/ KCC/ NCC/ OFCA/ GCF/ PTCRB/ RCM/ SKT/ AT&T/ Rogers/ ANATEL/ Vodafone/ NBTC/ TA/ NAL	CE/ FCC/ PTCRB/ GCF/ RCM	CE/ GCF/ FCC/ IC/ PTCRB/ AT&T/ Rogers	
<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 LTE Module Family







UG96

102-pin LGA
26.5 × 22.5 × 2.2mm
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 HS
Optional <sup>1</sup>
•
Pads for Primary
◦
◦
•
•
•
◦
◦
Windows XP/Vista/7/8*, Linux 2.6/3.0, Android 2.3/4.0/4.2
•
via USB/ UART Interface
3.3 ~ 4.3V
1.1mA@GSM sleep, DRX=9 1.7mA@UMTS sleep, DRX=9
CE/ GCF*/ FCC/ PTCRB*/ ANATEL*/ IFETEL*/ Movistar*

Product	EC20	EC20 Mini PCIe
Picture		
Packaging	76-pin LCC + 64 other pads	52-pin Mini PCIe
Dimensions	29.0 × 32.0 × 2.4mm	30.0 × 51.0 × 4.9mm
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/B39 @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 @CDMA 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/B39 @TD-SCDMA, 900/1800 @GSM</li> <li>B1/B3 @FDD-LTE, B38/B39/B40/B41 @TDD-LTE B1 @WCDMA, B34/B39 @TD-SCDMA, BC0 @CDMA 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)	Max 42 (DL)/ Max 5.76 (UL)	Max 42 (DL)/ Max 5.76 (UL)
WCDMA data rate (Kbps)	Max 384 (DL)/ Max 384 (UL)	Max 384 (DL)/ Max 384 (UL)
TD-SCDMA data rate (Mbps)	Max 4.2 (DL)/ Max 2.2 (UL)	Max 4.2 (DL)/ Max 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/ SMTP/ MMS/ SSL	TCP/ UDP/ PPP/ FTP/ HTTP/ SMTP/ MMS/ SSL
<b>Interfaces</b>		
SIM	1.8V/ 3V	1.8V/ 3V
UART	1	1
USB	2.0 HS	2.0 HS
IIC	•	•
Audio Analog		
Audio Digital (PCM)	Optional <sup>1</sup>	Optional <sup>1</sup>
RTC Backup		
ADC	× 2, 15bits	
GPIO	•	
Antenna	Pads for Primary, Rx-diversity and GNSS	Connector for Primary, Rx-diversity and GNSS
SIM Card Holder	•	
<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	Windows CE6.0*, Windows Mobile 6.1*/6.5* Linux 2.6 or later, Android 2.3 or later	Windows CE6.0*, Windows Mobile 6.1*/6.5* Linux 2.6 or later, Android 2.3 or later
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
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 typ.	5.5mA@ Sleep typ.
<b>Certifications</b>		
Certifications	CCC/ CE/ NAL/ TA/ FCC*/ PTCRB*/ AT&T*/ KC*/ SKT*	CCC/ CE/ NAL/ TA/ FCC*/ PTCRB*/ AT&T*/ KC*/ SKT*
<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.	

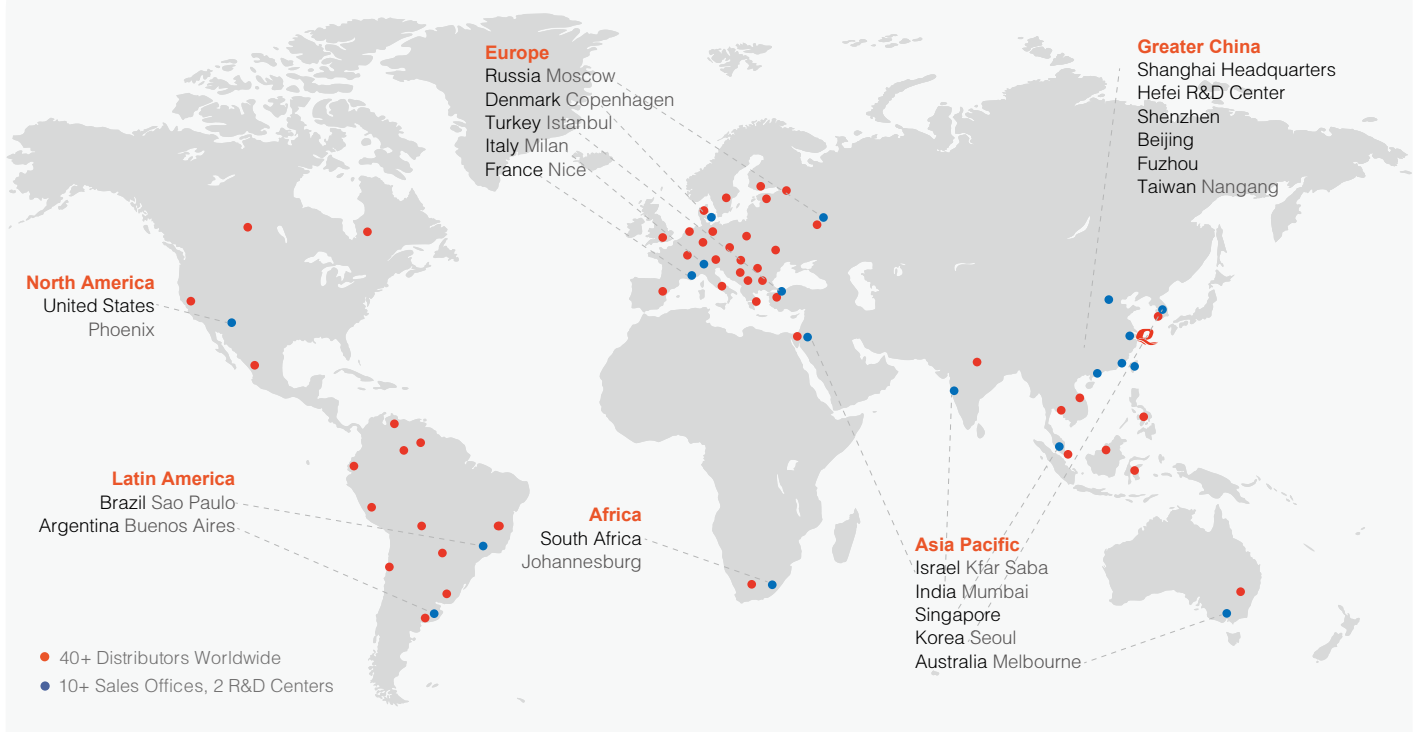
Note 1: Only supported in Telematics Version.

◦ & \* Under development

# Quectel GNSS Module Family

Product	Standalone Modules				Patch Antenna Modules		
	L20	L26	L70/ L70_R	L76/ L76B	L80	L86	
	Compatible		Compatible		Compatible		
Picture							
GNSS	GPS/ QZSS	GLONASS/ GPS/ QZSS	GPS/ QZSS	GLONASS/ GPS/ QZSS (L76) GPS/ BeiDou (L76B)	GPS/ QZSS	GLONASS/GPS/QZSS	
Packaging	24-pin LCC	24-pin LCC	18-pin LCC	18-pin LCC	12-pin LCC	12-pin LCC	
Dimensions	12.2 × 16.0 × 2.4 mm	12.2 × 16.0 × 2.4 mm	10.1 × 9.7 × 2.5 mm	10.1 × 9.7 × 2.5 mm	16.0 × 16.0 × 6.45 mm	18.4 × 18.4 × 6.45 mm	
Weight (approx.)	1.0 g	1.0 g	0.6 g	0.6 g	6.0 g	7.6 g	
Temperature Operation	-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	-40 °C to +85 °C	
Range 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	-45 °C to +125 °C	
<b>General Features</b>							
Chip Solution	SiRF IV	MT3333	MT3339 (L70) MT3337 (L70-R)	MT3333	MT3339	MT3333	
L1 Band Receiver (C/A Code)	Channel Number	48 Channels	33 Track/ 99 Acq.	22 Track/ 66 Acq.	33 Track/ 99 Acq.	22 Track/ 66 Acq.	33 Track/ 99 Acq.
	SBAS	WAAS/ EGNOS	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN
Sensitivity	Autonomous Acquisition	-148dBm	-148dBm	-148dBm	-148dBm	-148dBm	-148dBm
	Reacquisition	-160dBm	-160dBm	-160dBm	-160dBm	-160dBm	-160dBm
	Tracking	-163dBm	-167dBm	-165dBm	-165dBm	-165dBm	-165dBm
TTFF (Time To First Fix)	Cold Start	<35s, Autonomous 25s typ. With CGEE	<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	<35s, Autonomous 10s typ. With CGEE	<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	<1s
Position Accuracy (autonomous)	<2.5m CEP	<2.5m CEP	<2.5m CEP	<2.5m CEP	<2.5m CEP	<2.5m CEP	
Velocity Accuracy (without aid)	<0.01m/s	<0.1m/s	<0.1m/s	<0.1m/s	<0.1m/s	<0.1m/s	
Maximum Acceleration Accuracy (without aid)	<0.1 m/s <sup>2</sup>	<0.1 m/s <sup>2</sup>	<0.1 m/s <sup>2</sup>	<0.1 m/s <sup>2</sup>	<0.1 m/s <sup>2</sup>	<0.1 m/s <sup>2</sup>	
Timing Accuracy	<500ns	<10ns	<10ns/ <15ns	<10ns	<10ns	<10ns	
Max Update Rate	5Hz	10Hz	10Hz/ 5Hz	10Hz	10Hz	10Hz	
Baud Rate(default)	4800bps	9600bps	9600bps	9600bps	9600bps	9600bps	
Anti-jamming	•	•	•	•	•	•	
<b>Electrical Data</b>							
Power Supply	2.0V to 3.6V	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	2.0V to 3.6V	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	39mA	29mA (GPS+GLONASS) 26mA(GPS)	18mA (L70) 16mA (L70-R)	25mA (GPS+GLONASS) 21mA (GPS) 23mA (GPS+BeiDou)	25mA	25mA
	Tracking	36mA	21mA (GPS+GLONASS) 18mA (GPS)	12mA (L70) 13mA (L70-R)	18mA (GPS+GLONASS) 15mA (GPS) 18mA (GPS+BeiDou)	20mA	20mA
	Backup	33uA	7uA	7uA(L70)/ 8uA (L70-R)	7uA	7uA	7uA
<b>Interfaces</b>							
UART	•	•	•	•	•	•	
IIC (NMEA)							
DR IIC	•						
Reset		•	•	•	•	•	
Time Pulse	•	•	•	•	•	•	
<b>Antenna</b>							
Antenna Detection		Short circuit detection and protection Open circuit 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	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	External or internal	Internal	Internal	
<b>Certifications</b>							
Certifications	CE	CE	CE/ FCC	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.						

## Global Presence



### Overseas

#### Europe

Email: [europe@quectel.com](mailto:europe@quectel.com)

#### Italy

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#### France

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#### Latin America

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#### South Africa

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#### South-East Asia

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