QUECTEL®
Build a Smarter World

DEDICATED SUPPLIER OF

M2M WIRELESS MODULES

QUECTEL WIRELESS SOLUTIONS CO., LTD.

About Quectel

Quectel Wireless Solutions is the leading global supplier of cellular and GNSS modules, which cover cutting-edge technologies including 5G, LTE-A/LTE, NB-IoT/LTE-M, C-V2X, AI, GSM/GPRS, UMTS/HSPA(+) and GNSS. As a professional Internet of Things (IoT) technology developer and cellular module supplier, Quectel is able to provide one-stop service for IoT cellular modules. Quectel products have been widely applied in IoT/M2M fields including smart payment, telematics and transport, smart energy, smart city, security, wireless gateway, industry, healthcare, agriculture and environment monitoring, etc. It is estimated that globally more than 100 million devices have at least one Quectel module inside or as we call, have been Accelerated by Quectel.

AI NB-IoT LTE GNSS GSM/GPRS 5G C-V2X LPWA UMTS/HSPA(+) LTE-A

Stay Innovative in the Evolving IoT World

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IoT Applications

Telematics & Transport

Automotive OEM
Vehicle Tracking
Asset Tracking
Ship Tracking
Fleet Management
OBD
Vehicle DVR
Special Purpose Vehicle (SPV)
Usage-Based Insurance (UBI)

Energy

Electricity Meter
Gas Meter
Water Meter
Heat Meter
Smart Grid
Wind Turbines
Solar Panel
Charging Pile

Payment

Wireless POS
Cash Register
ATM
Vending Machine
Top-up Machine

Security

Alarm
Video Surveillance
Intrusion Detection
Smoke Detector
Gas Detector
Motion Sensor
Asset Protection

Smart City

Street Lighting
Traffic Light
Sharing Economy
Smart Elevator
Smart Parking
Parking Meter
Toll Collection System
Digital Signage
Advertisement Display
Trash Bin Remote Monitoring
Outdoor LED Lighting

Gateway

DTU
Consumer Router
Industrial Router
VOIP
Wi-Fi Hotspot

Industry

Industrial PDA/ Scanner
Industrial PC
Rugged Tablet PC
Pipeline Monitoring
Robot
Flowmeter
UAV
Industrial Refrigerator
Indoor Air Monitoring
Water Valve/ Pump Control

Life & Healthcare

Personal Tracker
Pet Tracker
Wearables
Home Automation
Elderly Monitoring
Remote Medical Equipment
Glucometer
Blood Pressure Monitor
Recreational Machine
Patient Monitoring
Laptop

Agriculture & Environment

Trail Camera
Food Traceability
Farmland Monitoring
Farm Machinery Management
Meteorological Station
Wildlife Tracking
Irrigation
Environmental Monitoring

Quectel LTE Module Family

Product		EC20 R2.1	EC20 Mini PCIe R2.1
Picture			
Form Factor		LCC	LCC (EC20)/ EC20 Mini PCIe
Dimensions(mm)		32.0 × 29.0 × 2.4	51.0 × 30.0 × 4.9
4G		LTE Cat 4	LTE Cat 4
Frequency Bands (MHz)	-CE (China, India)	B1/B3/B5/B8 @FDD LTE, B34/B38/B39/B40/B41 @TDD LTE B1/B8 @WCDMA, B34/B39 @TD-SCDMA, BC0 @CDMA2000 1X/EVDO, B3/B8 @GSM	B1/B3/B5/B8 @FDD LTE, B34/B38/B39/B40/B41 @TDD LTE B1/B8 @WCDMA, B34/B39 @TD-SCDMA, BC0 @CDMA2000 1X/EVDO, B3/B8 @GSM
Weight(approx.)g		5.3 (EC20 R2.1)	10.6 (EC20 Mini PCIe R2.1)
Temperature Range		-40 ° C ~ +85 ° C (EC20 R2.1)	-40 ° C ~ +80 ° C (EC20 Mini PCIe R2.1)
Data Transmission			
LTE data rate (Mbps)		LTE-FDD: Max 150 (DL)/ Max 50 (UL) LTE-TDD: Max 130 (DL)/ Max30 (UL)	LTE-FDD: Max 150 (DL)/ Max 50 (UL) LTE-TDD: Max 130 (DL)/ Max30 (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)
EVDO data rate (Mbps)		Max 3.1 (DL)/ Max 1.8 (UL)	Max 3.1 (DL)/ Max 1.8 (UL)
1x Advanced data rate (Kbps)		Max 307.2 (DL/UL)	Max 307.2 (DL/UL)
EDGE data rate (Kbps)		Max 296 (DL)/ Max 236.8 (UL)	Max 296 (DL)/ Max 236.8 (UL)
GPRS data rate (Kbps)		Max 107 (DL)/ Max 85.6 (UL)	Max 107 (DL)/ Max 85.6 (UL)
SMS		●	●
CSD		●	●
Protocols		TCP/ UDP/ PPP/ FTP/ HTTP/ NTP/ PING/ QMI/NITZ/CMUX/HTTPS/ SMTP/ MMS/ FTPS/ SMTPS/ SSL/FILE	TCP/ UDP/ PPP/ FTP/ HTTP/ NTP/ PING/ QMI/NITZ/CMUX*/HTTPS*/ SMTP*/ MMS*/ FTPS*/ SMTPS*/ SSL*/FILE*
Interfaces			
SIM		1.8V/ 3V	1.8V/ 3V
UART		2	1
USB		2.0 Hi-Speed	2.0 Hi-Speed
IIC		●	●
Audio Digital (PCM)		Optional [1]	Optional [1]
ADC		× 2, 15bits (EC20 R2.1)	
Antenna		Pads for Primary, Rx-diversity and GNSS	Pads for Primary, Rx-diversity and GNSS
SIM Card Holder			Optional (EC20 Mini PCIe)
Enhanced Features			
eCall * (For Europe)		●	●
DTMF		●	●
DFOTA		●	●
QMI/ Rmnet		●	●
Audio Playback/ Audio Recording		Optional [1]	Optional [1]
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
NDIS		Windows 7/ 8/ 8.1/ 10	Windows 7/ 8/ 8.1/ 10
ECM		Linux 2.6/ 3.x/ 4.1~4.15	Linux 2.6/ 3.x/ 4.1~4.15
Gobinet		Linux 2.6/ 3.x/ 4.1~4.15	Linux 2.6/ 3.x/ 4.1~4.15
Linux qml wwan		Linux 3.x (3.4 and later)/ 4.1~4.15	Linux 3.x (3.4 and later)/ 4.1~4.15
USB Serial Driver		Windows 7/ 8/ 8.1/ 10, 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, Linux 2.6/ 3.x/ 4.1~4.14, Android 4.x/ 5.x/ 6.x/ 7.x/ 8.x/ 9.x
SIM Detection		●	●
GNSS		Optional	Optional
Firmware Update		via USB Interface	via USB Interface
Electrical Features			
Supply Voltage Range		3.3~4.3 V	3.0~3.6 V
Power Consumption		11uA @Power off/ 1.8mA @Sleep(PF=128), Typ./ 20mA @Idle (EC20 R2.1)	4mA @Sleep(PF=128), Typ./ 30mA @Idle (EC20 Mini PCIe R2.1)
Certifications			
Certifications		CCC/ NAL/ SRRC	CCC/ NAL/ SRRC/RoHS Compliant
Recommended Applications			
Recommended Applications		Telematics, Smart Metering, Mobile POS Terminal, Gateway, Security, Tracking and Tracing, Remote Maintenace and Control, Networking, Mobile Computing, Healthcare, etc.	

Note 1: Only supported in Telematics Version.

○& * Under development

Product		EC21/EC21 Mini PCIe	EC25/EC25 Mini PCIe
Picture			
Form Factor		LCC EC21/ EC21 Mini PCIe	LCC EC25/ EC25 Mini PCIe
Dimensions(mm)		32.0 × 29.0 × 2.4 (EC21)/ 51.0 × 30.0 × 4.9 (EC21 Mini PCIe)	32.0 × 29.0 × 2.4 (EC25)/ 51.0 × 30.0 × 4.9 (EC25 Mini PCIe)
4G		LTE Cat 1	LTE Cat 4
Frequency Bands(MHz)	-E (EMEA,Korea,Thailand, India)	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
	-EU (EMEA,Korea, Thailand,India)	B1/B3/B7/B8/B20/B28A@FDD LTE; B1/B8@WCDMA; B3/B8 @GSM	B1/B3/B7/B8/B20/B28A@FDD LTE; B38/B40/B41@TDD LTE; B1/B8@WCDMA; B3/B8 @GSM
	-EC (EMEA, Korea, Thailand, India)	B1/B3/B7/B8/B20/B28A@FDD LTE; B1/B8@WCDMA; B3/B8 @GSM	B1/B3/B7/B8/B20/B28A@FDD LTE; B1/B8@WCDMA; B3/B8 @GSM
	-EUX		B1/B3/B7/B8/B20/B28A @FDD LTE; B38/B40/B41 @TDD LTE; B1/B8@WCDMA; B3/B8 @GSM
	-AFX		B2/B4/B5/B12/B13/B14/B66/B71 @LTE FDD; B2/B4/B5@WCDMA
	-MX		B2/B4/B5/B7/B28/B66 @FDD LTE; B2/B4/B5@WCDMA
	-V (Verizon)	B4/B13@FDD LTE	B4/B13@FDD LTE
	-A (AT&T, T-Mobile, Canada)	B2/B4/B12@FDD LTE; B2/B4/B5@WCDMA	B2/B4/B12@FDD LTE; B2/B4/B5@WCDMA
	-AF (AT&T, Verizon, T-mobile)		B2/B4/B5/B12/B13/B14/B66/B71 @LTE FDD; B2/B4/B5@WCDMA
	-AU (Latin America, ANZ, Taiwan)	B1/B2 [6]/B3/B4/B5/B7/B8/B28@FDD LTE; B40@TDD LTE; B1/B2/B5/B8@ WCDMA; B2/B3/B5/B8@GSM	B1/B2 [6]/B3/B4/B5/B7/B8/B28@FDD LTE; B40@TDD LTE; B1/B2/B5/B8@ WCDMA; B2/B3/B5/B8@GSM
	-AUV (Vodafone, Australia)	B1/B3/B5/B8/B28@FDD LTE; B1/B5/B8@WCDMA	
	-AUT (Telstra, Australia)	B1/B3/B5/B7/B28@FDD LTE; B1/B5@WCDMA	B1/B3/B5/B7/B28@FDD LTE; B1/B5@WCDMA[3]
	-AUTL (Telstra, Australia)		B3/B7/B28@FDD LTE [3]
	-J (Japan)	B1/B3/B8/B18/B19/B26@FDD LTE;	B1/B3/B8/B18/B19/B26@FDD LTE; B41@TDD LTE; B1/B6/B8/B19@WCDMA
	-KL (Korea)	B1/B3/B5/B7/B8@FDD LTE	
	-CEL (China)	B1/B3/B5@FDD LTE (EC20-CEL) [3]	
Weight(approx.)g		4.9 (EC21)/ 9.8 (EC21 Mini PCIe)	4.9 (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)
Data Transmission			
LTE data rate (Mbps)		LTE-FDD: Max 10 (DL) / Max 5 (UL) LTE-TDD: Max 8.96 (DL) / Max 3.1 (UL)	LTE-FDD: Max 150 (DL) / Max 50 (UL) LTE-TDD: Max 130 (DL) / Max 35 (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)
EDGE data rate (Kbps)		Max 296 (DL)/ Max 236.8 (UL)	Max 296 (DL)/ Max 236.8 (UL)
GPRS data rate (Kbps)		Max 107 (DL)/ Max 85.6 (UL)	Max 107 (DL)/ Max 85.6 (UL)
SMS		●	●
CSD		●	●
Protocols		TCP/ UDP/ PPP/ FTP/ HTTP/ NTP/ PING/ QMI/ HTTPS*/ SMTP*/ MMS/* FTPS*/ SMTPS*/ SSL*	TCP/ UDP/ PPP/ FTP/ HTTP/ NTP/ PING/ QMI/ HTTPS*/ SMTP*/ MMS/* FTPS*/ SMTPS*/ SSL*
Interfaces			
SIM		1.8V/ 3V	1.8V/ 3V
UART		1	1
USB		2.0 Hi-Speed	2.0 Hi-Speed
IIC		●	●
Audio Digital (PCM)		Optional [1]	Optional [1]
ADC		× 2, 15bits (EC21)	× 2, 15bits (EC25)
GPIO		●	●
Antenna		Pads for Primary, Rx-diversity and GNSS	Pads for Primary, Rx-diversity and GNSS
Enhanced Features			
eCall* (For Europe)		●	●
DTMF		●	●
DFOTA		○	○
QMI/ Rmnet		●	●
Audio Playback/ Audio Recording		Optional [1]	Optional [1]
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
NDIS		Windows 7/ 8/ 8.1/ 10	Windows 7/ 8/ 8.1/ 10
ECM		Linux 2.6/ 3.x/ 4.1~4.15	Linux 2.6/ 3.x/ 4.1~4.15
Gobinet		Linux 2.6/ 3.x/ 4.1~4.15	Linux 2.6/ 3.x/ 4.1~4.15
Linux qml wwan		Linux 3.x (3.4 and later)/ 4.1~4.15	Linux 3.x (3.4 and later)/ 4.1~4.15
USB Serial Driver		Windows 7/ 8/ 8.1/ 10, Linux 2.6/ 3.x/ 4.1~4.14, Android 4.x/ 5.x/ 6.x/ 7.x/ 8.x/ 9.x	Windows 7/ 8/ 8.1/ 10, Linux 2.6/ 3.x/ 4.1~4.14, Android 4.x/ 5.x/ 6.x/ 7.x/ 8.x/ 9.x
SIM Detection		●	●
GNSS		Optional	Optional
Firmware Update		via USB/ UART Interface	via USB/ UART Interface
Electrical Features			
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		20uA @Power off/ 3mA @Sleep, Typ./ 22mA @Idle (EC21) 3.5mA @Sleep, Typ./ 34mA @Idle (EC21 Mini PCIe)	20uA @Power off/ 3mA @Sleep, Typ./ 22mA @Idle (EC25) 3.6mA @Sleep, Typ./ 35mA @Idle (EC25 Mini PCIe)
Certifications			
Certifications		CE/ GCF/ Vodafone/ FCC/ PTCRB/ AT&T/ Verizon/ RCM/ Telstra/ JATE/ TELEC/ DOCOMO/ KC/ SKT/ KT/ IC/ Rogers/ Anatel/ Telefonica*/ FAC/ T-Mobile*/ Deutsche Telekom/ KDDI*	CE/ GCF/ Vodafone/ FCC/ PTCRB/ AT&T/ Verizon/ RCM/ Telstra/ JATE/ IC/ DOCOMO/ Softbank/ KDDI/ NCC/ KC/ SKT/ KT*/ LGU+*/ TELEC/ Rogers/ NBTC/ Anatel/ ICASA/ Telefonica*/ Telus/ Bell/ T-Mobile/ Deutsche Telekom/ FAC/ USCC
Recommended Applications			
Recommended Applications		Telematics, Smart Metering, Mobile POS Terminal, Gateway, Security, Tracking and Tracing, Remote Maintenace and Control, Networking, Mobile Computing, Healthcare, etc.	

Note 1: Only supported in Telematics Version.
Note 3: Inapplicable to Mini PCIe.
Note 6: Rx-diversity not supported.

○& * Under development

Quectel LTE Module Family

Product		EG91	EG95	EG25-G
Picture				
Form Factor		LGA	LGA	LGA EG25-G/EG25-G Mini PCIe
Dimensions(mm)		25.0 × 29.0 × 2.25mm	25.0 × 29.0 × 2.25mm	32.0 × 29.0 × 2.4mm(EG25-G)/ 51.0 × 30.0 × 4.9 (EG25-G Mini PCIe)
4G		LTE Cat 1	LTE Cat 4	LTE Cat 4
Frequenc Bands (MHz)	-E (Europe)	B1/B3/B7/B8/B20/B28A @LTE FDD; B1/B8 @WCDMA; B3/B8 @GSM	B1/B3/B7/B8/B20/B28A @LTE FDD; B1/B8 @WCDMA; B3/B8 @GSM	
	-EX (Europe)	B1/B3/B7/B8/B20/B28 @LTE FDD; B1/B8 @WCDMA; B3/B8 @GSM	B1/B3/B7/B8/B20/B28 @LTE FDD; B1/B8 @WCDMA; B3/B8 @GSM	
	-NS	FDD LTE:B2/B4/B5/B12/B13/B25/B26, WCDMA:B2/B4/B5		
	-VX	FDD LTE: B4/B13		
	-NAX(North America)	(North America)B2/B4/B5/B12/B13/B25/B26 @LTE FDD; B2/B4/B5 @WCDMA	B2/B4/B5/B12/B13/B25/B26 @LTE FDD; B2/B4/B5 @WCDMA	
	-NA (North America)	(North America) B2/B4/B5/B12/B13 @LTE FDD; B2/B4/B5 @WCDMA	B2/B4/B5/B12/B13 @LTE FDD; B2/B4/B5 @WCDMA	
	-G (Global)			B1/2/3/4/5/7/8/12/13/18/19/20/25/26/28 @LTE FDD; B38/39/40/41 @LTE TDD; B1/2/4/5/6/8/19 @ WCDMA; B2/3/5/8 @GSM
Weight(approx.)g		3.8	3.8	4.9 (EG25-G)/ 9.8 (EG25-G Mini PCIe)
Temperature Range		-40 ° C ~ +85 ° C	-40 ° C ~ +85 ° C	-40 ° C ~ +85 ° C (EG25-G)/ -40 ° C ~ +80 ° C (EG25-G Mini PCIe)
Data Transmission				
LTE data rate (Mbps)		Max 10 (DL)/ Max 5 (UL)	Max 150 (DL)/ Max 50 (UL)	LTE-FDD: Max 150 (DL)/ Max 50 (UL) LTE-TDD: Max 130 (DL)/ Max 35 (UL)
DC-HSPA+ data rate (Mbps)		Max 42 (DL)/ Max 5.76 (UL)	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)	Max 384 (DL)/ Max 384 (UL)
EDGE data rate (Kbps)		Max 296 (DL)/ Max 236.8 (UL)	Max 296 (DL)/ Max 236.8 (UL)	Max 296 (DL)/ Max 236.8 (UL)
GPRS data rate (Kbps)		Max 107 (DL)/ Max 85.6 (UL)	Max 107 (DL)/ Max 85.6 (UL)	Max 107 (DL)/ Max 85.6 (UL)
SMS		●	●	●
Protocols		TCP/ UDP/ PPP/ FTP/ HTTP/ NTP/ PING/ QMI/ HTTPS*/ SMTP*/ MMS*/ FTPS*/ SMTPS*/ SSL*	TCP/ UDP/ PPP/ FTP/ HTTP/ NTP/ PING/ QMI/ HTTPS*/ SMTP*/ MMS*/ FTPS*/ SMTPS*/ SSL*	TCP/ UDP/ PPP/ FTP/ HTTP/ NTP/ PING/ QMI/ HTTPS*/ SMTP*/ MMS*/ FTPS*/ SMTPS*/ SSL*
Interfaces				
SIM		1.8V/ 3V	1.8V/ 3V	1.8V/ 3V
UART		1	1	1
USB		2.0 Hi-Speed	2.0 Hi-Speed	2.0 Hi-Speed
IIC		●	●	●
Audio Digital (PCM)		Optional [1]	Optional [1]	Optional [1]
ADC				× 2, 15bits
GPIO				●
Antenna		Pads for Primary, Rx-diversity and GNSS	Pads for Primary, Rx-diversity and GNSS	Pads for Primary, Rx-diversity and GNSS
Enhanced Features				
eCall (for Europe)		○	○	○
E911(for North America)		●	●	●
DTMF		●	●	●
DFOTA		○	○	○
QMI/ Rmnet		●	●	●
Audio Playback/ Audio Recording		Optional [1]	Optional [1]	Optional [1]
QuecFile		●	●	●
RIL Driver		Android 4.x/ 5.x/ 6.x/ 7.x/ 8.0*	Android 4.x/ 5.x/ 6.x/ 7.x/ 8.0*	Android 4.x/ 5.x/ 6.x/ 7.x/ 8.0*
NDIS		Windows XP/ Vista/ 7/ 8/ 8.1/ 10	Windows XP/ Vista/ 7/ 8/ 8.1/ 10	Windows XP/ Vista/ 7/ 8/ 8.1/ 10
ECM		Linux 2.6/ 3.x/ 4.1~4.14	Linux 2.6/ 3.x/ 4.1~4.14	Linux 2.6/ 3.x/ 4.1~4.14
Gobinet		Linux 2.6/ 3.x/ 4.1~4.14	Linux 2.6/ 3.x/ 4.1~4.14	Linux 2.6/ 3.x/ 4.1~4.14
Linux qml wwan		Linux 3.x (3.4 or later)/ 4.1~4.14	Linux 3.x (3.4 or later)/ 4.1~4.14	Linux 3.x (3.4 or later)/ 4.1~4.14
USB Serial Driver		Windows 7/ 8/ 8.1/ 10, WinCE 5.0/ 6.0/ 7.0*, Linux 2.6/ 3.x/ 4.1~4.14, Android 4.x/ 5.x/ 6.x/ 7.x/ 8.0*	Windows 7/ 8/ 8.1/ 10, WinCE 5.0/ 6.0/ 7.0*, Linux 2.6/ 3.x/ 4.1~4.14, Android 4.x/ 5.x/ 6.x/ 7.x/ 8.0*	Windows 7/ 8/ 8.1/ 10, WinCE 5.0/ 6.0/ 7.0*, Linux 2.6/ 3.x/ 4.1~4.14, Android 4.x/ 5.x/ 6.x/ 7.x/ 8.0*
SIM Detection		●	●	●
GNSS		Optional	Optional	Optional
Firmware Update		via USB Interface	via USB Interface	via USB Interface
Electrical Features				
Supply Voltage Range		3.3~4.3 V	3.3~4.3 V	3.3~4.3 V, 3.8V Typ.(EG25-G)/ 3.0~3.6 V,3.3V Typ.(EG25-G Mini PCIe)
Power Consumption		13uA @Power off/ 2.6mA @Sleep, Typ. 29mA @Idle	15uA @Power off/ 2.6mA @Sleep, Typ. 31mA @Idle	22mA @Idle (EG25-G) 3.6mA @Sleep, Typ./ 35mA @ Idle (EG25-G Mini PCIe)
Certifications				
Certifications		FCC/ GCF/ PTCRB/ AT&T/ Verizon/ CE/ RCM/ FAC/ Deutsche Telekom*/ IC/ Tmobile/ Telus/ Rogers*/ USCC*	FCC/ GCF/ PTCRB/ AT&T/ Verizon/ CE/ RCM/ FAC/ IC/ Tmobile*/ Telus/ Rogers/ USCC*	Verizon*/AT&T*/T-Mobile*/Sprint*/GCF/CE/FCC/ PTCRB/IC/Anatel/SRRC/NAL/CCC/KC/NCC/JATE/ TELEC/RCM/IFETEL*/FAC*/NBTC*/ICASA*
Recommended Applications				
Recommended Applications		Telematics, Smart Metering, Mobile POS Terminal, Gateway, Security, Tracking and Tracing, Remote Maintenace and Control, Networking, Mobile Computing, Healthcare, etc.		

Note 1: Only supported in Telematics Version.

○& * Under development

Product		SC20 Smart Module	SC66
Picture			
Form Factor		LCC	LCC + LGA
Dimensions(mm)		40.5 × 40.5 × 2.8	43.0 × 44.0 × 2.85
4G		LTE Cat 4	LTE Cat 6
Frequency Bands (MHz)	-CE (China)	LTE FDD: B1/B3/B5/B8; LTE TDD: B38/B39/B40/B41 WCDMA: B1/B8; TD-SCDMA: B34/B39;CDMA: BC0; GSM: 900/1800MHz	
	-E (EMEA, Korea,Thailand, India)	LTE FDD: B1/B3/B5/B7/B8/B20; LTE TDD: B38/B40/B41 WCDMA: B1/B5/B8; GSM: 850/900/1800/1900MHz	LTE FDD: B1/B2/B3/B4/B5/B7/B8/B20/B28(A+B) LTE TDD: B38/B39/B40/B41(200M) WCDMA: B1/B2/B4/B5/B8 GSM: B2/B3/B5/B8
	-A (North America)	LTE FDD: B2/B4/B5/B7/B12/B13/B25/B26; WCDMA: B1/B2/B4/B5/B8 GSM: 850/1900MHz	LTE FDD: B2/B4/B5/B7/B12/B13/B14/B17/B25/B26/B66/B71 LTE TDD: B41(200M) WCDMA: B2/B4/B5
	-AU (ANZ, Taiwan, Brazil)	LTE FDD: B1/B3/B5/B7/B8/B28; LTE TDD: B40 WCDMA: B1/B2/B5/B8; GSM: 850/900/1800/1900MHz	
	-EU (EMEA/ Korea/ Thailand/ India)	LTE FDD: B1/B2[6]/B3/B5[6]/B7/B8/B20/B28A; LTE TDD: B38/B41(Optional) WCDMA: B1/B2/B5/B8; GSM: 850/900/1800/1900MHz	
	-J (Japan)	LTE FDD: B1/B3/B8/B18/B19/B26;LTE TDD: B41 WCDMA: B1/B6/B8/B19	LTE FDD: B1/B3/B5/B8/B11/B18/B19/B21/B26/B28(A+B) LTE TDD: B41(120M) WCDMA: B1/B6/B8/B19
	-W (Global)	Only Wi-Fi & BT	Only Wi-Fi & BT
	-MW (Global)		Only Support 2 × 2 Wi-Fi MIMO& BT
OS		Android 5.1/ 6.0/ 7.1 (Android 8.0 Optional)	Android 9.0
CPU		MSM8909, ARM Cortex-A7 microprocessor cores (quad-core) up to 1.1GHz, 512KB L2 cache	SDM660, Customized 64-bit ARM v8.0-compliant AP (Kryo260 CPU) KryoGold Quad high-performance cores targeting 2.2GHz, L2 - 1MB KryoSilver Quad low-power cores targeting 1.843GHz, L2 - 1MB
GPU		Adreno ™ 304	Qualcomm® Adreno 512 at 650MHz
Memory		8GB eMMC+1GB LPDDR3; 16GB eMMC+2GB LPDDR3	32GB eMMC+3GB LPDDR4X (Default)
LTE Version		3GPP E-UTRA Release 10 Compliant	3GPP E-UTRA Release 12
Bandwidth		1.4/3/5/10/15/20MHz	1.4/3/5/10/15/20MHz
Antenna		DL MIMO 2 × 2, Support Rx-diversity	DL MIMO 2 × 2, Support Rx-diversity
Supply Voltage Range		3.5V ~ 4.2V, 3.8V Typ.	4V
Weight (approx.) g		9.8	Approx. 12.0g
Temperature Range		-35 ° C ~ +65 ° C	-35 ° C ~ +65 ° C
Data			
LTE (Mbps)		LTE FDD: Max 150 (DL)/ Max 50 (UL) LTE TDD: Max 130 (DL)/ Max 30 (UL)	Cat 6: FDD: Max 300 (DL)/ Max 50 (UL)/ TDD: Max 265 (DL)/ Max 30 (UL) Cat 4: FDD: Max 150 (DL)/ Max 50 (UL)/ TDD: Max 130 (DL)/ Max30 (UL
UMTS		DC-HSDPA: Max 42Mbps (DL) HSUPA: Max 5.76Mbps (UL) WCDMA: Max 384Kbps (DL/UL)	DC-USDPA: Max 42Mbps (DL) DC-HSUPA: Max 11.2Mbps (UL) WCDMA: Max 384Kbps (DL/UL)
TD-SCDMA		Max 4.2Mbps (DL)/Max 2.2Mbps (UL)	Max 4.2Mbps (DL)/Max 2.2Mbps (UL)
CDMA2000		EVDO: Max 3.1Mbps (DL)/ Max 1.8Mbps (UL) 1X Advanced: Max 307.2Kbps (DL/UL)	EVDO: Max 3.1Mbps (DL)/ Max 1.8Mbps (UL) 1X Advanced: Max 307.2Kbps (DL/UL
GSM		EDGE: Max 296Kbps (DL)/ 236.8Kbps (UL) GPRS: Max 107Kbps (DL)/ 85.6Kbps (UL)	EDGE: Max 296Kbps (DL)/ 236.8Kbps (UL) GPRS: Max 107Kbps (DL)/ 85.6Kbps (UL)
Interfaces			
LCM		4-lane MIPI_DSI, up to 1.5Gbps/ lane HD (720P) @60fps	2560×1600 @60fps primary display + 4k@30fps over DP 24 bpp RGB; Dual MIPI DSI
Camera		Use MIPI_CSI, up to 1.5Gbps/ laneSupport Two Cameras: 2-lane MIPI_CSI for Rear Camera, up to 8MP 1-lane MIPI_CSI for Front Camera, up to 2MP	Three 4-lane CSIs (4/4/4 or 4/4/2/1) D-PHY 1.2 at 2.1Gbps/lane Support 3 or 4 Cameras Up to 24MP with Dual ISPs
Touch Panel		Capacitive Touch Panel	Capacitive Touch Panel
Audio		2 analog audio inputs and 3 analog audio outputs	Speaker, Earpiece, Headphone and three Microphones (including one Noise-canceling Microphone) for Analog Audio
Video		Encode: 30fps 720P (H.264), 30fps WVGA (MPEG-4/ VP8) Decode: 30fps 1080P (H.264/ MPEG-4/ VP8/ H.265 DivX4/ 5/ 6), 30fps WVGA (H.263)	Video Encoding/Decoding up to 4K at 30fps Wi-Fi Display Support up to 1080P at 30fps for Encoding and Decoding
USB		× 1 USB 2.0 Compliant Support USB OTG	× 2 , USB3.1 × 1, USB2.0 × 1
I2C		× 3	× 5
(U)SIM		× 2 (1.8V/2.95V)	× 2(1.8V/2.95V)
UART		× 2 (Support 4Mbps with Hardware Flow Control)	× 4 (Each of the four UARTs supports up to 4Mbps One of the four UARTs supports Hardware Flow Controll)
SDIO		× 1 (3.0, 4-bit SDIO)	× 1 (3.0, 4-bit SDIO)
PWRKEY		1.8V, Pulled-up Internally	1.8V, Pulled-up Internally
SPI		× 1	× 1
ADC		× 1 General purpose ADC interfaces	× 2 General purpose ADC interfaces
GPIO		× 25	× 21
PMW		× 1	× 1
Motor Drive		× 1	
Antenna		4 Solder Pads for Main/ Diversity/ GNSS/ Wi-Fi&BT Antenna, Respectively	5 Solder Pads for Main/Rx-diversity/GNSS/Wi-Fi & BT Antenna interfaces and MIMO Wi-Fi Antenna interface (SC66-CE does not support MIMO Wi-Fi)
Enhanced Features			
BT		BT2.1+EDR/3.0/4.1LE (BT4.2 on Android 7.1)	BT2.1+EDR/3.0/4.1 LE/4.2 BLE/5.0
WLAN		2.4G/ 5G, 802.11 a/b/g/n	2.4G/ 5G, 802.11 a/b/g/n
GNSS		GPS/ GLONASS/ BeiDou; or GPS/ Galileo/ BeiDou	GPS/ GLONASS/ BeiDou/ Galileo (Optional)
Charge Function		Build-in Charge IC	Build-in Charge IC & Fuel Gauge Support Qualcomm Quick Charge
softSIM		●	●(except sc66-mw)
Dual LCD			Support MIPI_DSI (up to 2560 × 1600 @60fps) and DP over USB Type-C (up to 4096 × 2160 @30fps) for Dual Independent Display Support MIPI_DSI0 (1920 × 1080 @60fps) and MIPI_DSI1 (1920 × 1080 @60fps) for Dual Independent Display as an option
DSDS		Dual SIM Dual Standby	Dual SIM Dual Standby
Firmware Upgrade		Firmware Upgrade via USB	A/B OTA Firmware Upgrade via USB
Certifications			
Certifications		CE/ GCF/ RCM/ FCC/ IC/ PTCRB/ AT&T/ Verizon/ Telstra/ T-Mobile*/Telus*/ JATE/ TELEC/ CCC/ SRRC/ NAL	CE*/ GCF*/ FCC*/ PTCRB*/ AT&T*/ Verizon*/ RCM*/ Telstra*/ IC*/ JATE*/ TELEC*
Recommended Applications			
Recommended Applications		Telematics, Mobile POS Terminal, Gateway, Security, Networking, Mobile Computing, etc.	

Note 6: Rx-diversity not supported.

& * Under development

Quectel Smart Module Family

Product		SC600Y Smart Module	SC600T Smart Module
Picture			
Form Factor		LCC	LCC
Dimensions(mm)		43.0 × 44 × 2.85	43.0 × 44 × 2.85
LTE Feature		LTE Cat 6 3GPP E-UTRA Release 10 Compliant, Support DL MIMO 2 × 2	LTE Cat 6 3GPP E-UTRA Release 10 Compliant, Support DL MIMO 2 × 2
Frequency Bands(MHz)	-CE (China)		
	-EM (EMEA/ India/ Korea/ Taiwan/ South Asia/ Latin America/ Australia/ ANZ/ South Africa)	LTE FDD: B1/B2/ B3/ B4/ B5/ B7/ B8/ B20/ B28; LTE TDD: B38/ B39/ B40/ B41 WCDMA: B1/ B2/ B4/ B5/ B8; GSM: 850/900/1800/1900MHz	LTE FDD: B1/B2/ B3/ B4/ B5/ B7/ B8/ B20/ B28; LTE TDD: B38/ B39/ B40/ B41 WCDMA: B1/ B2/ B4/ B5/ B8; GSM: 850/900/1800/1900MHz
	-NA (North America)	LTE FDD: B2/ B4/ B5/ B7/ B12/ B13/ B14/ B17/B25/ B26/ B66/ B71 LTE TDD: B41; WCDMA: B2/ B4/ B5	LTE FDD: B2/ B4/ B5/ B7/ B12/ B13/ B14/ B17/B25/ B26/ B66/ B71 LTE TDD: B41; WCDMA: B2/ B4/ B5
	-JP (Japan)	LTE FDD: B1/ B3/ B5/ B8/ B11/ B18/ B19/ B21/ B26/ B28 LTE TDD: B41; WCDMA: B1/ B6/ B8/ B19	LTE FDD: B1/ B3/ B5/ B8/ B11/ B18/ B19/ B21/ B26/ B28 LTE TDD: B41; WCDMA: B1/ B6/ B8/ B19
	-WF (Global)	Only Wi-Fi & BT	Only Wi-Fi & BT
CPU		SDM450 , Octa-core ARM Cortex-A53 64-bit CPU @1.8GHz	MSM8953, Octa-core ARM Cortex-A53 64-bit CPU @2.0GHz
GPU		Adreno ™ 506 with 64-bit addressing	Adreno ™ 506 with 64-bit addressing
Memory		16GB eMMC+2GB LPDDR3	16GB eMMC+2GB LPDDR3
Operating System		Android 9.0	Android 9.0
Supply Voltage Range		3.55V ~ 4.4V, 3.8V Typ.	3.55V ~ 4.4V, 3.8V Typ.
Weight(approx.)g		13.0	13.0
Operating temperature range		-35 ° C ~ +65 ° C	-35 ° C ~ +65 ° C
Data			
LTE (Mbps)		Cat 6*: LTE FDD: Max 300Mbps (DL)/ Max 50Mbps (UL) LTE TDD: Max 265Mbps (DL)/ Max 30Mbps (UL) Cat 4: LTE FDD: Max 150Mbps (DL)/ Max 50Mbps (UL) LTE TDD: Max 130Mbps (DL)/ Max 30Mbps (UL)	Cat 6*: LTE FDD: Max 300Mbps (DL)/ Max 50Mbps (UL) LTE TDD: Max 265Mbps (DL)/ Max 30Mbps (UL) Cat 4: LTE FDD: Max 150Mbps (DL)/ Max 50Mbps (UL) LTE TDD: Max 130Mbps (DL)/ Max 30Mbps (UL)
UMTS		DC-HSDPA: Max 42Mbps (DL) DC-HSUPA: Max 11.2Mbps (UL) WCDMA: Max 384Kbps (DL/UL)	DC-HSDPA: Max 42Mbps (DL) DC-HSUPA: Max 11.2Mbps (UL) WCDMA: Max 384Kbps (DL/UL)
TD-SCDMA		Max 4.2Mbps (DL)/Max 2.2Mbps (UL)	Max 4.2Mbps (DL)/2.2Mbps (UL)
CDMA2000		EVDO: Max 3.1Mbps (DL)/ Max 1.8Mbps (UL) 1X Advanced: Max 307.2Kbps (DL/UL)	EVDO : Max 3.1Mbps (DL)/ 1.8Mbps (UL) 1X Advanced: Max 307.2Kbps (DL/UL)
GSM		EDGE: Max 296Kbps (DL)/ 236.8Kbps (UL) GPRS: Max 107Kbps (DL)/ 85.6Kbps (UL)	EDGE: Max 296Kbps (DL)/ 236.8Kbps (UL) GPRS: Max 107Kbps (DL)/ 85.6Kbps (UL)
Interfaces			
LCM		4-lane MIPI_DSI0 + 4-lane MIPI_DSI1 WUXGA (1920×1200) @60fps	4-lane MIPI_DSI0 + 4-lane MIPI_DSI1 WUXGA (1920×1200) @60fps
Camera		3 Groups of 4-lane MIPI_CSI, up to 2.1Gbps/lane Support 3 or 4 Cameras Up to 21MP with Dual ISPs	3 Groups of 4-lane MIPI_CSI, up to 2.1Gbps/lane Support 3 or 4 Cameras Up to 24MP with Dual ISPs
Touch Panel		Capacitive Touch Panel	Capacitive Touch Panel
Audio		Speaker, Earpiece, Headphone, and 3 MICs for Analog Audio Support One Noise-canceling MIC	Speaker, Earpiece, Headphone, and 3 MICs for Analog Audio Support One Noise-canceling MIC
Video		Video encoding and decoding:1080P at 60fps Wi-Fi Video encoding and decoding: 1080P at 30fps for	Video encoding and decoding:4K at 30fps Wi-Fi Video encoding and decoding: 1080P at 30fps for
USB		× 1 USB 3.0 and 2.0 Compliant, Support USB OTG	× 1 USB 3.0 and 2.0 Compliant, Support USB OTG
I2C		× 5	× 5
(U)SIM		× 2(1.8V/2.95V)	× 2(1.8V/2.95V)
UART		× 3 Support 4Mbps with Hardware Flow Control	× 3 Support 4Mbps with Hardware Flow Control
SDIO		× 1 (3.0, 4-bit SDIO)	× 1 (3.0, 4-bit SDIO)
PWRKEY		1.8V, Pulled-up Internally	1.8V, Pulled-up Internally
SPI		× 2 Can be Multiplexed into UART and I2S Respectively, and I2S Supports Both Tx and Rx	× 2 Can be Multiplexed into UART and I2S Respectively, and I2S Supports Both Tx and Rx
ADC		× 2 General purpose ADC interfaces	× 2 General purpose ADC interfaces
GPIO		× 19	× 19
PMW		× 1	× 1
Motor Drive		× 1	× 1
Flashlight Driver		× 2	× 2
WLED Sink		× 4	× 4
Antenna		4 Solder Pads for Main/Rx-diversity/ GNSS/Wi-Fi&BT Antenna,Respectively	4 Solder Pads for Main/Rx-diversity/ GNSS/Wi-Fi&BT Antenna, Respectively
Enhanced Features			
BT		BT2.1+EDR/3.0/4.1 LE/4.2 BLE	BT2.1+EDR/3.0/4.1 LE/4.2 BLE
WLAN		2.4G/5G, 802.11 a/b/g/n/ac	2.4G/5G, 802.11 a/b/g/n/ac
GNSS		GPS/ GLONASS/ BeiDou or GPS/ Galileo/ BeiDou	GPS/ GLONASS/ BeiDou or GPS/ Galileo/ BeiDou
Charge Function		Build-in Charge IC & Fuel Gauge Qualcomm Quick Charge 3.0 technology	Build-in Charge IC & Fuel Gauge Qualcomm Quick Charge 3.0 technology
Dual LCD		Support Dual LCDs for Independent Display	Support Dual LCDs for Independent Display
DSDS		Support Dual SIM Dual Standby	Support Dual SIM Dual Standby
Firmware Upgrade		Firmware Upgrade via USB	Firmware Upgrade via USB
Certifications			
Certifications		CE*/ GCF*/ FCC*/ PTCRB*/ AT&T*/ Verizon*/ RCM*/ Telstra*/ IC*/ JATE*/ TELEC*	CE*/ GCF*/ FCC*/ PTCRB*/ AT&T*/ Verizon*/ RCM*/ Telstra*/ IC*/ JATE*/ TELEC*
Recommended Applications			
Recommended Applications		Telematics, Mobile POS Terminal, Gateway, Security, Networking, Mobile Computing, etc.	

* Under development

Quectel LPWA Module Family

Product	BC95-G	BC68
Picture		
Form Factor	LCC	LCC
Dimensions(mm)	19.9 × 23.6 × 2.2	15.8 × 17.7 × 2.0
4G	LTE Cat NB1&Cat NB2	LTE Cat NB1&Cat NB2
Frequency Bands (MHz) - G (Global)	B1 @H-FDD: 2100MHz ; B3 @H-FDD: 1800MHz ; B5 @H-FDD: 850MHz ; B8 @H-FDD: 900MHz ; B20 @H-FDD: 800MHz ; B28 @H-FDD: 700MHz ;	B1 @H-FDD: 2100MHz ; B3 @H-FDD: 1800MHz ; B5 @H-FDD: 850MHz ; B8 @H-FDD: 900MHz ; B20 @H-FDD: 800MHz ; B28 @H-FDD: 700MHz ;
Weight(approx.)g	1.8±0.2	1.1±0.2
Temperature Range	-40 ° C ~ +85 ° C	-40 ° C ~ +85 ° C
Data Transmission		
LTE Cat M1 data rate (Kbps)		
LTE Cat.NB data rate (Kbps)	Single Tone: 25.2（DL) / 15.625（UL） Multi Tone: 25.2（DL)/ 54（UL） Extended TBS/2 HARQ : 125（DL)/150（UL）	Single Tone: 25.2（DL)/ 15.625（UL） Multi Tone: 25.2（DL)/ 54（UL） Extended TBS/2 HARQ : 125（DL)/150（UL）
EDGE data rate (Kbps)		
GPRS data rate (Kbps)		
SMS	●	●
Protocols	IPv4/ IPv6/ UDP/ CoAP/ LwM2M/ Non-IP/ DTLS / TCP/ MQTT	IPv4/ IPv6/ UDP/ CoAP/LwM2M/ Non-IP/ DTLS / TCP/ MQTT
Interfaces		
(U)SIM	× 1 Supports 1.8V/ 3.0V USIM Card	× 1 Supports 1.8V/ 3.0V USIM Card
UART	× 2	× 2
USB		
I2C		
ADC*	× 1, 10bits	× 1, 10bits
GPIO	Config (OpenCPU Version Only)	Config (OpenCPU Version Only)
RESET	× 1	× 1
Antenna	Pads for Primary	Pads for Primary
Enhanced Features		
DFOTA	●	●
Firmware Update	via UART/ DFOTA	via UART/ DFOTA
RAI	●	●
Location Based Service	ECID OTDOA	ECID OTDOA
eSIM*	○	○
Electrical Features		
Supply Voltage Range	3.1~4.2V, typ. 3.6V	3.1~4.2V, typ. 3.6V
Power Consumption	3uA @PSM 0.5mA @Idle Mode, DRX=2.56s, ECL0 250mA @Tx,23dBm (B1/B3) 220mA @Tx,23dBm (B8/B5/B20) 280mA @Tx,23dBm (B28) 60mA @Rx	3uA @PSM 0.5mA @Idle Mode, DRX=2.56s, ECL0 250mA @Tx,23dBm (B1/B3) 220mA @Tx,23dBm (B8/B5/B20) 280mA @Tx,23dBm (B28) 60mA @Rx
Certifications		
Certifications	CE/ GCF/ RCM/ NCC/ JATE/ TELEC/ KC/ NBTC/ Vodafone / Deutsche Telekom / Telstra / Softbank*/ KT*/ Telefónica*/ LGU+*/ ATEX*	CE/ GCF/ RCM/ NCC/ JATE/ TELEC/ IMDA / Deutsche Telekom / Vodafone/ Telstra / ATEX /Softbank*/ KC*/ Telefónica*
Recommended Applications		
Recommended Applications	Gas Detector, Soil PH Tester, Optical Sensor, Machinery Alarm System, Irrigation Controller, Elevator, Asset Tracking, Electronics, Person/Pet Tracking, Water/Gas Metering, Smart Parking System, Fire Hydrant, Smoke Alarm, Trash Bin, Street Lighting	

○& * Under development

Quectel LPWA Module Family

Product	BG96	BC66	BC66-NA	BC92
Picture				
Form Factor	LGA	LCC	LCC	LCC
Dimensions(mm)	22.5 × 26.5 × 2.3	15.8 × 17.7 × 2.0	15.8 × 17.7 × 2.0	23.6×19.9×2.2
4G	LTE Cat M1/ NB1/ EGPRS	LTE Cat NB1	LTE Cat NB2	Cat NB1/GSM
Frequency Bands (MHz) - G (Global)	LTE FDD: B1/B2/B3/B4/B5/B8/B12/ B13/B18/B19/B20/B25[1]/B26*/B28 LTE TDD: B39 (For Cat M1 Only) EGPRS: 850/900/1800/1900MHz	B1/B2/B3/B4/B5/B8/B12/B13/B17/ B18/ B19/B20/B25/B28/B66/B26*	B1/B2/B3/B4/B5/B8/B12/B13/B17/ B18/ B19/B20/B25/B28/B66/B71/B85/ B26*	LTE Cat NB1: B3/B5/B8/B20/B28 GSM: 850/900/1800/1900MHz
Weight(approx.)g	3.1	1.2±0.2	1.2±0.2	1.7±0.2
Temperature Range	-40 ° C ~ +85 ° C	-40 ° C ~ +85 ° C	-40 ° C ~ +85 ° C	-25 ° C ~ +75 ° C
Data Transmission				
LTE Cat M1 data rate (Kbps)	375 (DL)/ 375 (UL)			
LTE Cat NB1 data rate (Kbps)	32 (DL)/ 70 (UL)	Single Tone: 25.5kbps (DL)/ 16.7kbps (UL) Multi Tone: 25.5kbps (DL)/ 62.5kbps (UL)		Single-Tone: Max. 25.5kbps (DL)/16.7kbps (UL) Mult-Tone: Max. 25.5kbps (DL)/62.5kbps (UL)
LTE Cat NB2 data rate (Kbps)			Max. 102kbps (DL)/150kbps (UL)	
EDGE data rate (Kbps)	296 (DL)/ 236.8 (UL)			
GPRS data rate (Kbps)	107 (DL)/ 85.6 (UL)			GPRS Class 12: Max. 85.6kbps (DL)/85.6kbps (UL)
SMS	●	●	●	●
Protocols	PPP/ TCP/ UDP/ SSL/ TLS/ FTP(S)/ HTTP(S)/ NITZ/ PING/ MQTT	UDP/ TCP/ LwM2M/ MQTT/ SNTP/ PPP*/ CoAP*/ TLS*/ DTLS*/ HTTP*/ HTTPS*	UDP/ TCP/ LwM2M/ MQTT/ SNTP/ PPP*/ CoAP*/ TLS*/ DTLS*/ HTTP*/ HTTPS*	UDP/TCP/CoAP/LwM2M/SNTP/PPP/ MQTT*/TLS*/DTLS*/HTTP*/HTTPS*/ FTP*
Interfaces				
(U)SIM	1.8V/ 3V	1.8V	1.8V	1.8V/3V
UART	× 3 (MAIN, DEBUG, NMEA)	× 3 (MAIN, DEBUG, AUX)	× 3 (MAIN, DEBUG, AUX)	×2 (MAIN, DEBUG)
USB	× 1			
I2C	× 1	× 1 (OpenCPU Version Only)	× 1 (OpenCPU Version Only)	× 1 (OpenCPU Version Only)
ADC	× 2	× 1	× 1	× 1
GPIO	× 2 (I2C and NMEA can be re-configured as GPIO)	Config (OpenCPU Version Only)	Config (OpenCPU Version Only)	× 1 (OpenCPU Version Only)
RESET	× 1	× 1	× 1	× 1
SPI		× 1 (OpenCPU Version Only)	× 1 (OpenCPU Version Only)	× 1 (OpenCPU Version Only)
PCM	●			× 1
PSM_EINT		× 1	× 1	
I2S		× 1 (OpenCPU Version Only)	× 1 (OpenCPU Version Only)	
Analog Audio*				× 3
Antenna	Primary, GNSS	Primary	Primary	× 2
Enhanced Features				
OpenCPU ™		●	●	●
DFOTA	●	●	●	●
RIL Driver	Android 4.x/ 5.x/ 6.x/ 7.x			
NDIS	Windows XP/ Vista/ 7/ 8/ 8.1/ 10			
USB Serial Driver	Windows XP/ Vista/ 7/ 8/ 10, Windows CE5.0*/ 6.0, Linux 2.6 or later, Android 4.x/ 5.x/ 6.0			
SIM Detection	●			
GNSS	Optional			
Firmware Update	via USB Interface	via UART Interface	via UART Interface	via UART Interface
Electrical Features				
Supply Voltage Range	3.3 ~ 4.3V, typ. 3.8V	2.1V~3.63V, typ. 3.3V	2.1V~3.63V, typ. 3.3V	Low Supply Voltage Version: 2.2V~3.6V, 3.3V Typ. High Supply Voltage Version: 3.4V~4.2V, 3.8V Typ.
Power Consumption	10uA@ PSM	3.5uA@ PSM	3.6uA@ PSM	3.8uA @PSM
Certifications				
Certifications	CE/ GCF/ FCC/ PTCRB/ AT&T/ Verizon/ T-Mobile/ RCM/ Telstra/ BELL*/ Telus/ IC / IFETEL/ CCC/ KDDI/ TELEC/ JATE/ IFETEL/ Softbank/ DOCOMO*/ KC/ SKT/ LGU+*/ IMDA/NCC/ Telefonica/ Vodafone/ Deutsche Telekom	NCC/ IC/ CE/ RCM/ GCF/ FCC/ PTCRB/ JATE/ TELEC/ KC/ NBTC/ T-Mobile/ Vodafone/ ATEX*/ IMDA*/ AT&T*/ LGU+*/ Softbank*/ DOCOMO*/ Telstra*/ Telefonica*	NCC*/ IC*/ CE*/ RCM*/ GCF*/ FCC*/ PTCRB*/ JATE*/ TELEC*/ KC*/ NBTC*/ T-Mobile*/ Vodafone*/ ATEX*/ IMDA*/ AT&T*/ LGU+*/ Softbank*/ DOCOMO*/ Telstra*/ Telefonica*	CE*
Recommended Applications				
Recommended Applications	Gas Detector, Soil PH Tester, Optical Sensor, Machinery Alarm System, Irrigation Controller, Elevator, Asset Tracking Electronics, Person/Pet Tracking, Water/Gas Metering, Smart Parking System, Fire Hydrant, Smoke Alarm, Trash Bin, Street Lighting			

Note 1: LTE B25 will be supported on BG96 with R1.2 hardware version.

○& * Under development

Quectel Wi-Fi Module Family

Product	AF20*	FC20/ FC20-N
Picture		
Dimension (mm)	15.2 × 17.2 × 2.2	13.0 × 16.6 × 2.1
Supply Voltage Range	3.14 ~3 .46V, 3.3V Typ. 1.71 ~ 1.89V, 1.8V Typ.	3.14 ~3 .46V, 3.3V Typ. 1.71 ~ 1.89V, 1.8V Typ.
Operation Temperature	-40° C ~ +85° C	-40° C ~ +85° C
Weight	1.26g	0.81g
General Features		
Function	Wi-Fi 2.4GHz + 5GHz & BT 4.2*	802.11a/b/g/n/ac (FC20) 802.11b/ g/n (FC20-N) & BT 4.2*
WLAN Standard	IEEE 802.11a/b/g/n/ac	802.11a/b/g/n/ac (FC20) 802.11b/g/n (FC20-N)
BT Standard *	BT 4.2 BLE	BT 4.2 BLE
Modulation Mode	DBPSK/ DQPSK/ CCK/ BPSK/ QPSK/ 16QAM/ 64QAM/ 256QAM	DBPSK/ DQPSK/ CCK/ BPSK/ QPSK/ 16QAM/ 64QAM/ 256QAM (FC20) DBPSK/ DQPSK/ CCK/ BPSK/ QPSK/ 16QAM/ 64QAM (FC20-N)
Encryption Mode	WEP/ TKIP/ AES/ WPA-PSK/ WPA2-PSK	WEP/ TKIP/ AES/ WPA-PSK/ WPA2-PSK
AP (Max Access Point)	16	16
Operator Mode	AP/ STA	AP/ STA
I/O Interfaces		
SDIO	1	1(SDIO 3.0)
Reset	1	1
UART	1	1
PCM	1	
Antenna	1 (Wi-Fi & BT Antenna)	1 (Wi-Fi & BT Antenna)
Electrical Characteristics		
Receiving Sensitivity	-90dBm @802.11a/6Mbps -78dBm @802.11a/54Mbps -93dBm @802.11b/1Mbps -88dBm @802.11b/11Mbps -87dBm @802.11g/6Mbps -75dBm @802.11g/54Mbps -88dBm @802.11n/HT20 MCS0 -70dBm @802.11n/HT40 MCS7 -90dBm @802.11ac/VHT20 MCS0 -61dBm @802.11ac/VHT80 MCS9	-90dBm @802.11a/6Mbps -74dBm @802.11a/54Mbps -93dBm @802.11b/1Mbps -86dBm @802.11b/11Mbps -86dBm @802.11g/6Mbps -72dBm @802.11g/54Mbps -87dBm @802.11n/HT20 MCS0 -67dBm @802.11n/HT40 MCS7 -90dBm @802.11ac/VHT20 MCS0 -59dBm @802.11ac/VHT80 MCS9
Transmitting Power	15dBm @802.11a/6Mbps 11dBm @802.11a/54Mbps 18.5dBm @802.11b/1Mbps 18.5dBm @802.11b/11Mbps 17dBm @802.11g/6Mbps 16dBm @802.11g/54Mbps 16.5dBm @802.11n/HT20 MCS0 13.5dBm @802.11n/HT40 MCS7 14.5dBm @802.11ac/VHT20 MCS0 6dBm @802.11ac/VHT80 MCS9	15.5dBm @802.11a/6Mbps 13.5dBm @802.11a/54Mbps 18.5dBm @802.11b/1Mbps 18.5dBm @802.11b/11Mbps 17dBm @802.11g/6Mbps 16dBm @802.11g/54Mbps 16.5dBm @802.11n/HT20 MCS0 13.5dBm @802.11n/HT40 MCS7 14.5dBm @802.11ac/VHT20 MCS0 10dBm @802.11ac/VHT80 MCS9
Data Transmission		
802.11a	Max 54Mbps	Max 54Mbps
802.11b	Max 11Mbps	Max 11Mbps
802.11g	Max 54Mbps	Max 54Mbps
802.11n	Max 135Mbps	Max 150Mbps
802.11ac	Max 433Mbps	Max 433Mbps
BT 4.2*	TBD	
Recommended Applications		
Recommended Applications	Automotive	Telematics, Smart Metering, Mobile POS Terminal, Gateway, Security, Tracking and Tracing, Remote Maintenace and Control, Networking, Mobile Computing, Healthcare, etc.

AF20: Must be used together with AG35.
FC20: Must be used together with EC21/ EC25/ EC20 R2.1.

Quectel C-V2X Module

Product	AG15 (C-V2X)
Picture	
Form Factor	LGA
Dimensions(mm)	32.0 × 28.0 × 2.85mm
C-V2X TDD	B47 for Global B46D for Japan (TBD)
Weight(approx.)g	5.7
Temperature Range	-40 ° C ~ +85 ° C
Data Transmission	
LTE data rate (Mbps)	C-V2X TDD: Max 26 (DL)/Max 26 (UL)
Protocols	QMI (Qualcomm MSM Interface)
Interfaces	
UART	×2
USB	USB2.0/3.0×1
PCIe	× 2 (1 for PCM)
SPI	× 1
I2C	× 2 for Wi-Fi and eMMC
1PPS	× 1
ADC	× 2
GPIO	× 8
Antenna	Main, Rx-diversity and GNSS
Enhanced Features	
High Security	•
Secure Boot*	•
SELinux*	•
ESD/EMI Protection	•
Realized through Internal Specific Circuits and Components	•
Software Features	
USB Serial Driver	•
Windows 7/8/8.1/10, Windows CE 5.0/6.0/7.0*	•
Linux 2.6/3.x/4.1~4.14	•
Android 4.x/5.x/6.x/7.x/8.x	•
PCIe Driver	•
Protocol	QMI (Qualcomm MSM Interface)
Electrical Features	
Output Power	Class 3 (23dBm±2dB) for C-V2X
Supply Voltage	VBAT_BB: 3.3V~4.3V, 3.8V Typ. VBAT_RF: 4.75V~5.25V, 5.0V Typ
Power Consumption	TBD
Sensitivity	C-V2X TDD B47: -96dBm C-V2X TDD B46D: TBD
Certifications	
Certifications	TBD
Recommended Applications	
Recommended Applications	Automotive

* Under development

Quectel Automotive Module Family

Product		AG35	AG36*
Picture			
Form Factor		LGA	LGA
Dimensions(mm)		37.5 × 33.0 × 3.0	39.5 × 37.0 × 2.8
4G		LTE Cat 4	LTE Cat 6
Frequency Bands (MHz)	-CE (China, India)	B1/B3/B5/B7/B8@LTE-FDD;B34/B38/B39/B40/B41@LTE-TDD; B1/B8 @WCDMA; B34/B39 @TD-SCDMA; BC0 @CDMA2000 1X/EVDO(Optional); B3/B8 @GSM	B1/B3/B5/B7/B8@LTE-FDD;B34/B38/B39/B40/B41@LTE-TDD; 2×CA:B1+B3/B5/B8;B3+B3/B5/B7/B8;B7+B5/B7/B8;B39+B41;B41+B41 WCDMA: B1/B8; GSM: B3/B8
	-E (EMEA)	B1/B3/B5/B7/B8/B20/B28 @LTE-FDD;B38/B40 @LTE-TDD; B1/B5/B8 @WCDMA; B3/B8 @GSM	B1/B3/B5/B7/B8/B20/B28/B32[4] @LTE-FDD; B38/B40@LTE-TDD; 2×CA:B1+B3/B5/B8/B20/B28;B3+B3/B7/B5/B8/B20/B28;B7+B7/B5/B8/B20/B28; B20+B32[4] ;B41+B41; WCDMA: B1/ B3/B5/B8; GSM: B3/B8
	-NA (North America)	B2/B4/B5/B7/B12/B13/B17 @FDD-LTE; B2/B4/B5 @WCDMA; B2/B5 @GSM	B2/B4/B5/B7/B12/B13/B17/B29[5] /B66@FDD-LTE; 2×CA: B2+B2/B5/B12/B13/B29[5] ;B4+B4/B5/B12/B13/B29[5] ; B7+B5/B7 B66+B5/B12/B13/B29[5] ; WCDMA: B2/B4/B5;
	-J* (Japan)	B1/B3/B5/B8/B9/B19/B21/B28@FDD-LTE;B41@TDD-LTE; B1/B3/B5(B6)/B8/B19 @WCDMA;	
	-LA (Latin America)	B1/B2/B3/B4/B5/B7/B8/B28@FDD-LTE; B1/B2/B3/B4/B5/B8@WCDMA; B2/B3/B5/B8@GSM	
Weight (approx.) g		8.1	9.1
Temperature Range		-40 ° C ~ +85 ° C	-40 ° C ~ +85 ° C
Data			
LTE(data rate (Mbps)		LTE-FDD: Max 150 (DL)/ Max 50 (UL) LTE-TDD: Max 130 (DL)/ Max30 (UL)	LTE-FDD: Max 300 (DL)/ Max 50 (UL) LTE-TDD: Max 226 (DL)/ Max 28 (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)	
EDGE data rate (Kbps)		Max 296 (DL)/ Max 236.8 (UL)	Max 296 (DL)/ Max 236.8 (UL)
GPRS data rate (Kbps)		Max 107 (DL)/ Max 85.6 (UL)	Max 107 (DL)/ Max 85.6 (UL)
SMS		●	●
Protocols		TCP/ UDP/ PPP/ PING/ FTP(S)/ HTTP(S)/ SMTP/ SSL/ TLS/ MMS/ NTP/ DTMF*/ FILE/ QMI	PPP/QMI/TCP*/UDP*/FTP*/HTTP*/NTP*/PING*/ HTTPS*/SMTP*/MMS*/FTPS*/SMTPS*/SSL*
Interfaces			
(U)SIM		× 1 (Support 1.8V/ 3V USIM/ SIM Cards)	× 1 (Support 1.8V/ 2.85V USIM/ SIM Cards)
UART		× 3 (for Main UART/ BT/ Debug Functions)	× 2 (for Main UART/ BT/ Debug Functions)
HSIC		× 1	
USB		USB 2.0 × 1 (with High Speed up to 480Mbps)	USB 2.0/3.0 × 1
PCIe*			PCIe Gen 2，used to connect to wi-fi, Ethernet, etc
IIC		× 2 (1 for PCM)	× 1
SGMII		× 1	
SDIO		× 2 for Wi-Fi and eMMC	× 1
SPI		SPI > 1 (for QuecOpen Version Only)	× 2(for QuecOpen Version Only)
Audio Digital (PCM)		× 1	× 1
ADC		× 3, 15bits	× 3, 15bits
GPIO		GPIO >15 (for QuecOpen Version Only)	GPIO >10 (for QuecOpen Version Only)
Antenna		Main, Rx-diversity and GNSS	Main, Rx-diversity and GNSS
Enhanced Features			
QuecOpen® (Open Linux)		●	●
eCall		●	●
Era Glonass		○	
Multi-APN		●	●
Temperature Management		●	●
DFOTA		●	●
Voice over USB(USB Audio)		●	●
GNSS		GPS/ GLONASS/ Beidou/ Galileo/ QZSS	GPS/ GLONASS/ Beidou/ Galileo/ QZSS
Advanced Security Feature			
TrustZone/ TPM*		●	●
Secure Boot		●	●
Code/User Data Backup		●	●
Software Features			
RIL Driver		Android 4.x/ 5.x/ 6.x/ 7.x/ 8.0*	Android 4.x/ 5.x/ 6.x/ 7.x/ 8.0*
MBIM			Windows 10
NDIS		Windows 7/ 8/ 8.1/ 10	Windows 7/ 8/ 8.1/ 10
ECM		Linux 2.6/ 3.x/ 4.1~4.14	Linux 2.6/ 3.x/ 4.1
Gobinet		Linux 2.6/ 3.x/ 4.1~4.14	Linux 2.6/ 3.x/ 4.1~4.14
QMI_WWAN Driver		Linux 3.x (3.4 or later)/ 4.1~4.14	Linux 3.x (3.4 or later)/ 4.1~4.14QMI
USB Serial Driver		Windows 7/ 8/ 8.1, Windows 10, WinCE 5.0/ 6.0/ 7.0*, Linux 2.6/ 3.x/ 4.1~4.14, Android 4.x/ 5.x/ 6.x/ 7.x/ 8.0*	Windows 7/ 8/ 8.1/ 10, WinCE 5.0/ 6.0/ 7.0*, Linux 2.6/ 3.x/ 4.1~4.14, Android 4.x/ 5.x/ 6.x/ 7.x/ 8.0*
Electrical Features			
Supply Voltage Range		3.3V~4.3V, 3.8V Typ	3.3V~4.3V, 3.8V Typ
Power Consumption		20uA @Power off/ 1.9mA @LTE Sleep, PF=128/ 1.6mA @LTE Sleep, PF=256/ 22mA @Idle, typ.	20uA @Power off; 1.5mA @LTE Sleep, PF=128/ 2.1mA @LTE Sleep, PF=64; 18mA @Idle, typ
Certifications			
Certifications		CCC/ SRRC/ NAL/ CE/ GCF*/ KC*/ KT*/ STK*/ LGU+*/ Verizon*/ AT&T*/ T-Mobile*/ Rogers*/ FCC*/ IC*/ PTCRB*/ Anatel*/ JATE*/ TELEC*/ NTT DOCOMO*	TBD
Recommended Applications			
Recommended Applications		Automotive	Automotive

Note 4: B32 is only for secondary component carrier
Note 5: B29 is only for secondary component carrier

○& * Under development

Quectel LTE-A Module Family

Product		EP06	EG06
Picture			
Form Factor		Mini PCIe	LGA
Dimensions (mm)		51.0 × 30.0 × 4.3	39.5 × 37.0 × 2.8
4G		LTE Cat 6	LTE Cat 6
Frequency Bands (MHz)	-E (EMEA/ Australia/ Brazil)	LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32; LTE-TDD: B38/B40/B41 2×CA: B1+B1/B5/B8/B20/B28; B3+B3/B5/B7/B8/B20/B28; B7+B5/B7/B8/B20/B28; B20+B32[4]; B38+B38; B40+B40; B41+B41; WCDMA: B1/B3/B5/B8	LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32; LTE-TDD: B38/B40/B41 2×CA: B1+B1/B5/B8/B20/B28; B3+B3/B5/B7/B8/B20/B28; B7+B5/B7/B8/B20/B28; B20+B32[4]; B38+B38; B40+B40; B41+B41; WCDMA: B1/B3/B5/B8
	-A (North America)	LTE-FDD: B2/B4/B5/B7/B12/B13/B25/B26/B29/B30/B66; 2×CA: B2+B2/B5/B12/B13/B29;B4+B4/B5/B12/B13/B29; B7+B5/B7/B12/B26;B25+B5/B12/B25/B26; B30+B5/B12/B29; B66+B5/B12/B13/B29[5]/B66; WCDMA: B2/B4/B5	LTE-FDD: B2/B4/B5/B7/B12/B13/B25/B26/B29/B30/B66; 2×CA: B2+B2/B5/B12/B13/B29;B4+B4/B5/B12/B13/B29; B7+B5/B7/B12/B26;B25+B5/B12/B25/B26; B30+B5/B12/B29; B66+B5/B12/B13/B29[5]/B66; WCDMA: B2/B4/B5
	-LA(Latin America) under planning	LTE-FDD: B2/B3/B4/B5/B7/B8/B20/B28 2×CA:B2+B2/B5/B8/B20/B28; B3+B3/B5/B7/B8/B20/B28; B4+B4/B5/B8/B20/B28; B7+B5/B7/B8/B20/B28； WCDMA: B2/B3/B4/B5/B8	LTE-FDD: B2/B3/B4/B5/B7/B8/B20/B28 2×CA:B2+B2/B5/B8/B20/B28; B3+B3/B5/B7/B8/B20/B28; B4+B4/B5/B8/B20/B28; B7+B5/B7/B8/B20/B28； WCDMA: B2/B3/B4/B5/B8
	-APAC (Asia-Pacific) under planning	LTE-FDD: B1/B3/B5/B7/B8/B18/B19/B26; LTE-TDD: B38/B39/B40/B41 2×CA: B1+B3/B8/B18/B19; B3+B5/B19; B7+B5/B7; B38+B38; B39+B39; B39+B41; B40+B40; B41+B41; WCDMA: B1/B5/B6/B8/B9/B19	LTE-FDD: B1/B3/B5/B7/B8/B18/B19/B26; LTE-TDD: B38/B39/B40/B41 2×CA: B1+B3/B8/B18/B19; B3+B5/B19; B7+B5/B7; B38+B38; B39+B39; B39+B41; B40+B40; B41+B41; WCDMA: B1/B5/B6/B8/B9/B19
	-AUTL (Australia)		LTE-FDD: B3/B7/B28; 2×CA: B3+B3/B7/B28; B7+B7/B28
Weight (approx.) g		6.0	6.7
Temperature Range		-40° C ~ +85° C	-40° C ~ +85° C
Control via AT Commands		3GPP TS27.007 and Quectel Enhanced AT Commands	3GPP TS27.007 and Quectel Enhanced AT Commands
Data			
LTE		LTE-FDD: Max 300Mbps (DL)/ Max 50Mbps (UL) LTE-TDD: Max 226Mbps (DL)/ Max 28Mbps (UL)	LTE-FDD: Max 300Mbps (DL)/ Max 50Mbps (UL) LTE-TDD: Max 226Mbps (DL)/ Max 28Mbps (UL)
UMTS		DC-HSDPA: Max 42Mbps (DL)/ HSUPA: Max 5.76Mbps (UL) WCDMA: Max 384Kbps (DL)/ Max 384Kbps (UL)	DC-HSDPA: Max 42Mbps (DL)/ HSUPA: Max 5.76Mbps (UL) WCDMA: Max 384Kbps (DL)/ Max 384Kbps (UL)
TD-SCDMA		Max 4.2Mbps (DL)/ Max 2.2Mbps (UL)	Max 4.2Mbps (DL)/ Max 2.2Mbps (UL)
SMS		○	○
Interfaces			
USB		2.0/3.0, Slave Mode	2.0/3.0, Supports Master and Slave Modes
PCM		●	●
I2C		× 1	× 1
(U)SIM		x 2, 1.8V/3.0V	1.8V/3.0V
GPIO		× 4	× 2
UART			× 3
ADC			× 2
SPI			× 1
RESET_N		Reset the Module	
PCIe			○ (only RC)
Antenna		Main, Diversity and GNSS	Main, Diversity and GNSS
Enhanced Features			
MIMO		2 × 2, 4 × 2, DL	2 × 2, 4 × 2, DL
eCall*		Emergency Service	Emergency Service
Digital Audio		●	●
VoLTE		Optional	Optional
DTMF		Dual-tone Multi-frequency	Dual-tone Multi-frequency
DFOTA		Delta Firmware over the Air	Delta Firmware over the Air
GNSS		GPS/ GLONASS/ BeiDou/ Galileo/ QZSS	GPS/ GLONASS/ BeiDou/ Galileo/ QZSS
(U)SIM Card Detection		●	●
Electrical Characteristics			
Supply Voltage Range		3.1V~4.4V, 3.3V Typ.	3.3V~4.3V, 3.8V Typ.
Consumption		TBD @Power off/ 1.9mA @Sleep, Typ. 32mA @Idle	20uA @Power off/ 1.5mA@Sleep (PT=128) 2.1mA@Sleep (PT=64) 18mA @Idle
Software Features			
USB Serial Driver		Windows XP/Vista 7/8/8.1/10, WinCE 5.0/6.0/7.0*, Linux 2.6/3.x/4.1~4.14, Android 4.x/5.x/6.x/7.x	Windows XP/Vista 7/8/8.1/10, WinCE 5.0/6.0/7.0*, Linux 2.6/3.x/4.1~4.14, Android 4.x/5.x/6.x/7.x
RIL Driver		Android 4.x/5.x/6.x/7.x	Android 4.x/5.x/6.x/7.x
NDIS Driver		Windows 7/8/8.1/10	Windows 7/8/8.1/10
ECM Driver		Linux 2.6/3.x/4.1~4.14	Linux 2.6/3.x/4.1~4.14
Gobinet Driver		Linux 2.6/3.x/4.1~4.14	Linux 2.6/3.x/4.1~4.14
QMI_WWAN Driver		Linux 3.x (3.4 or later)/4.1~4.14	Linux 3.x (3.4 or later)/4.1~4.14
Protocols		PPP/ TCP/ UDP/ FTP/ HTTP/ NTP/ PING/ QMI/ HTTPS*/ SMTP*/ MMS*/ FTPS*/ SMTPS*/ SSL*	PPP/ TCP/ UDP/ FTP/ HTTP/ NTP/ PING/ QMI/ HTTPS*/ SMTP*/ MMS*/ FTPS*/ SMTPS*/ SSL*
Certifications			
Certifications		CE/ IC/ FCC/ CCC*/ GCF/ PTCRB/ AT&T/ Verizon*/ Telstra*/ RCM/Sprint*/ Telus/ Deutsche Telekom*/Bell*/Rogers*	CE/ IC/ FCC/ CCC*/ KC/ GCF/ PTCRB/ Telstra/ AT&T/ Verizon*/ KT*/ RCM/ Deutsche Telekom/USCC*
Recommended Applications			
Recommended Applications		Industrial Router, Industrial PDA, Rugged Tablet PC, Video Surveillance and Digital Signage	

Note 4: B32 is only for secondary component carrier
Note 5: B29 is only for secondary component carrier

○& * Under development

Quectel M.2 Module Family

Product		EM05	EM06	EM12
Picture				
Form Factor		M.2	M.2	M.2
Dimensions (mm)		42.0 × 30.0 × 2.3	42.0 × 30.0 × 2.3	42.0 × 30.0 × 2.3
4G		LTE Cat 4	LTE Cat 6	LTE Cat 12
Frequency Bands (MHz)	-E (EMEA/ APAC/ Brazil)	LTE-FDD: B1/B3/B7/B8/B20/B28 LTE-TDD: B38/ B41 WCDMA: B1/B8	LTE-FDD: B1/B3/B5/B7/B8/B20/B28/B32; LTE-TDD: B38/B40/B41 2×CA: B1+B1/B5/B8/B20/B28; B3+B3/B5/B7/B8/B20/B28; B7+B5/B7/B8/B20/B28; B20+B32[4]; B38+B38; B40+B40; B41+B41; WCDMA: B1/B3/B5/B8	
	-A (North America)		LTE-FDD: B2/B4/B5/B7/B12/B13/B25/B26/B29/ B30/B66; LTE-TDD:B41 2×CA: B2+B2/B5/B12/ B13/B29;B4+B4/B5/B12/B13/B29; B7+B5/B7/B12/ B26;B25+B5/B12/B25/B26; B30+B5/B12/B29; B66+B5/ B12/B13/B29[5]/B66;B41+B41; WCDMA: B2/B4/B5	
	-LA (Latin America) under planning		LTE-FDD: B2/B3/B4/B5/B7/B8/B20/B28 2×CA:B2+B2/B5/B8/B20/B28; B3+B3/B5/B7/B8/ B20/B28; B4+B4/B5/B8/B20/B28; B7+B5/B7/B8/ B20/B28； WCDMA: B2/B3/B4/B5/B8	
	-J (Japan)		LTE-FDD: B1/B3/B8/B18/B19/B26/B28; LTE-TDD: B41 2×CA: B1+B1/B8/B18/B19/B26/B28; B3+B3/B8/B18/ B19/B26/B28; B41+B41 WCDMA: B1/B3/B6/B8/B19	
	-CE (China/Thailand/ India)	LTE-FDD: B1/B3/B5/B8; LTE-TDD: B38/B39/B40/B41; WCDMA: B1/B8; CDMA 1x/EVDO: BC0		
	-CML (Asia-Pacific)	LTE-TDD: B38/B39/B40/B41		
	-G (Global band)			LTE-FDD:B1/B2/B3/B4/B5/B7/B8/B9/B12/B13/B14/ B17/B18/B19/B20/B21/B25/B26/B28/B29/B30/ B32/B66 LTE-TDD: B38/39/B40/B41 2×CA: B1+B3/ B5/B18/B19/B20/B26; B2+B2/B4/B5/B12/B13/ B17/B29/B30/B66; B3+B3/B5/B7/B8/B19/B20/B28; B4+B4[8]/B5/B12/B13/B17/B29/B30; B5+B7/B25/ B30/B66; B7+B7/B20/B28;B12+B25/B30; B13+66; B19+21; B20+B32; B25+B25/B26/B41; B29[5]+B30; B38+B38; B39+39[8]; B39+39; B39+41; B40+40[8]; B41+41; B66+B66[8];B12/B29/B30/B5; B2+B14; B14+B30; B14+B66; 3 xCA: B1+B3+B5/B7/B8/B19/ B20/B28; B1+B7+B20, B2+B4+B5/B13, B2+B30+B5/ B12/B29, B2+B66+B5/B13/B14; B3+B7+B8/B20/B28; B4+B5+B30, B4+B12+B30, B4+B29+B30; 2 intra-band plus inter-band 3CA: B2+B2+B5/B13; B3+B3+B1/B7/ B20/B28,B3+B7+B7; B4+B4+B5/B13; B7+B7+B28; B25+B25+B26, B25+B41+B41; B39+B41+B39/ B41; B66+B66+B2/B5/B13/B14; 3 intra-band 3CA: B40+B40+B40; B41+B41+B41; B66+B66+B66; WCDMA: B1/B2/B3/B4/B5/B8/B9/B19
Weight (approx.) g		6.0	6.0	6.0
Temperature Range		-40° C ~ +85° C	-40° C ~ +85° C	-40° C ~ +85° C
Control via AT Commands		3GPP TS 27.005, 3GPP TS 27.007 and Quectel Enhanced AT Commands	3GPP TS27.007 and Quectel Enhanced AT Commands	3GPP TS 27.005, 3GPP TS 27.007 and Quectel Enhanced AT Commands
Data				
LTE		LTE-FDD: Max 150Mbps (DL)/ Max 50Mbps (UL) LTE-TDD: Max 130Mbps (DL)/ Max 30Mbps (UL)	LTE-FDD: Max 300Mbps (DL)/ Max 50Mbps (UL) LTE-TDD: Max 226Mbps (DL)/ Max 28Mbps (UL)	LTE-FDD: Max 600Mbps (DL)/ Max 150Mbps (UL) LTE-TDD: Max 430Mbps (DL)/ Max 30Mbps (UL)
UMTS		DC-HSDPA: Max 42Mbps (DL)/ HSUPA: Max 5.76Mbps (UL) WCDMA: Max 384Kbps (DL)/ Max 384Kbps (UL)	DC-HSDPA: Max 42Mbps (DL)/ HSUPA: Max 5.76Mbps (UL) WCDMA: Max 384Kbps (DL)/ Max 384Kbps (UL)	DC-HSDPA: Max 42Mbps (DL)/ HSUPA: Max 5.76Mbps (UL) WCDMA: Max 384Kbps (DL)/ Max 384Kbps (UL)
TD-SCDMA			Max 4.2Mbps (DL)/ Max 2.2Mbps (UL)	
CDMA2000		EVDO: Max 3.1Mbps (DL)/ Max 1.8Mbps (UL) 1X Advanced: Max 307.2Kbps (DL)/ Max 307.2Kbps (UL)		
SMS		●	○	●
Interfaces				
USB		2.0 Hi-Speed	2.0/3.0, Slave Mode	2.0/3.0, Slave Mode
PCM		●	●	●
I2C		× 1	× 1	× 1
(U)SIM		1.8V/3.0V	x 2, 1.8V/3.0V	× 2, 1.8V/3.0V
GPIO		× 2	× 2	× 4
RESET_N		●		× 1
PCIe				Optional
Antenna		Main, Diversity and GNSS	Main, Diversity and GNSS	Main, Diversity and GNSS
Enhanced Features				
MIMO		2 × 2, 4 × 2, DL	2 × 2, 4 × 2, DL	2 × 2, 4 × 2, DL
eCall (for Europe)		●	●	●
Digital Audio			●	●
VoLTE		Optional	Optional	Optional
DTMF		Dual-tone Multi-frequency	Dual-tone Multi-frequency	Dual-tone Multi-frequency
DFOTA		●	Delta Firmware over the Air	Delta Firmware over the Air
GNSS		GPS/GLONASS/BeiDou/Galileo/QZSS	GPS/GLONASS/BeiDou/Galileo/QZSS	GPS/ GLONASS/ BeiDou/ Galileo/ QZSS
eSIM			●	●
(U)SIM Card Detection		●	●	●
Electrical Characteristics				
Supply Voltage Range		3.135V~4.4V, 3.3V Typ.	3.135V~4.4V, 3.7V Typ.	3.135V~4.4V, 3.7V Typ
Consumption		5uA @Power off/ 3.3mA(PF=128) @LTE Sleep/ 20mA @Idle	50uA @Power off / TBD @Sleep, Typ. / 35mA @Idle	80uA @Power off/ 5mA @Sleep, Typ.25mA @Idle
Software Features				
USB Serial Driver		Windows 7/ 8/ 8.1/ 10, WinCE 5.0/ 6.0/ 7.0*, Linux 2.6/ 3.x/ 4.1~4.14, Android 4.x/ 5.x/ 6.x/ 7.x/ 8.x/9.x	Windows XP/Vista 7/8/8.1/10, WinCE 5.0/6.0/7.0*, Linux 2.6/3.x/4.1, Android 4.x/5.x/6.x/7.x	Windows 7/ 8/ 8.1/ 10, Linux 2.6/ 3.x/ 4.1~4.14, Android 4.x/ 5.x/ 6.x/ 7.x
RIL Driver		Android 4.x/ 5.x/ 6.x/ 7.x/ 8.x/9.x	Android 4.x/5.x/6.x	Android 4.x/ 5.x/ 6.x
NDIS Driver		Windows 7/8/8.1/10	Windows 7/8/8.1/10	Windows 7/8/8.1/10
ECM Driver		/	Linux 2.6/3.x/4.1	Linux 2.6/ 3.x/ 4.1~4.14
Gobinet Driver		Linux 2.6/ 3.x/ 4.1~4.15	Linux 2.6/3.x/4.1	Linux 2.6/ 3.x/ 4.1~4.14
QMI_WWAN Driver		Linux 3.x (3.4 or later)/ 4.1~4.15	Linux 3.x (3.4 or later)/4.1	Linux 3.x (3.4 or later)/ 4.1~4.14
Protocols		TCP/ UDP/ PPP/ FTP/ HTTP/ NTP/ PING/ QMI/ HTTPS*/ SMTP*/ MMS*/FTPS*/ SMTPS*/ SSL*	PPP/ TCP/ UDP/ FTP/ HTTP/ NTP/ PING/ QMI/ HTTPS*/ SMTP*/ MMS*/ FTPS*/ SMTPS*/ SSL*	PPP/ TCP/ UDP/ FTP/ HTTP/ NTP/ PING/ QMI/ HTTPS*/ SMTP*/ MMS*/ FTPS*/ SMTPS*/ SSL*
Certifications				
Certifications		CCC/ SRRC/ NAL/CE*	CE/IC/ FCC/ CCC*/ GCF/RCM/ PTCRB/ WHQL/ AT&T*/ Verizon*/ JATE/ TELEC/KDDI/ Telstra*/NCC/ICASA*/ Deutsche Telekom*	CE*/ RCM*/ FCC*/ IC*/ CCC*/ NCC*/ GCF*/ PTCRB*/ Microsoft WHQL
Recommended Applications				
Recommended Applications		Laptop, Industrial Router, Industrial PDA, Rugged Tablet PC, Video Surveillance and Digital Signage		

Note 4: B32 is only for secondary component carrier
Note 5: B29 is only for secondary component carrier
Note 8: intra-band continuous

○& * Under development

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[3]		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[3]			
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
Data Transmission					
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/ SMTPS/ HTTP/ HTTPS/ PING/ SSL	PPP/ TCP/ UDP/ FTP/ HTTP/ FILE/ MMS/ SMTP/ SSL	TCP/ UDP/ PPP/ MMS/ FTP/ FTPS/ SMTP/SMTPS/ HTTP/ HTTPS/ NTP/ PING/ SSL	TCP/ UDP/ PPP/ MMS/ HTTP/ HTTPS/ SMTP/ SMTPS/ FTP/ NTP/ NITZ/ PING/ SSL
Interfaces					
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 [1]			
Audio Digital (PCM)		Optional [1]	Optional [1]	Optional [1]	Optional [1]
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		
Enhanced Features					
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
Electrical Features					
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
Certifications					
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
Recommended Applications					
Recommended Applications		Telematics, Smart Metering, Mobile POS Terminal, Gateway, Security, Tracking and Tracing, Remote Maintenace and Control, Networking, Mobile Computing, Healthcare, etc.			

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

○& * Under development

Quectel GSM/GPRS Family

Product	M66	M66-DS	M65	M89
Picture				
Form Factor	LCC	LCC	LCC	LGA
Dimensions(mm)	15.8 × 17.7 × 2.3	15.8 × 17.7 × 2.3	15.8 × 17.7 × 2.3	18.8× 27.6× 2.3
Frequency Range(MHz)	850/ 900/ 1800/ 1900	850/ 900/ 1800/ 1900	850/ 900/ 1800/ 1900	850/ 900/ 1800/ 1900
Weight(approx.)g	1.3	1.3	1.1	2.15
Temperature Range	-40 ° C to +85 ° C	-40 ° C to +85 ° C	-35° C ~ +75° 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
Data Rate(kbps)	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/ PING/ NTP/ NITZ/ SSL/ IPV6	TCP/ UDP/ PPP/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ MMS Sending/ SSL
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	1.8V/ 3V	1.8V/ 3V	1.8V/ 3V	1.8V/ 3V
Audio Analog	1 input/ 2 outputs	1 input/ 2 outputs	1 input/ 2 outputs	1 input/ 2 outputs
Audio Digital (PCM)	●	●	●	
RTC Backup	●	●	●	●
UART	3	3	3	2
ADC	× 1, 10bit	× 1, 10bit	× 1, 10bit	× 1, 10bit
SD Card Interface	●	●		
GPIO				●
Temperature Detection		●		
Enhanced Features				
eCall	●	●	○	●
Jamming Detection	●	●	○	●
DTMF	●	●	○	●
Audio Playback/ Audio Recording	●	●	●	●
Dual-SIM		●		
QuecFOTA™	●	●	DFOTA	●
QuecCell	●	●	●	●
QuecFile	●	●	●	●
OpenCPU ™	●	●		
RIL for Android	●	●	●	●
MUX	●	●	●	●(Scan Only)
Bluetooth	●	●		
Wi-Fi				
GNSS				
Electrical Features				
Power Supply	3.3 ~ 4.6V	3.3 ~ 4.6V	3.45 ~ 4.25V	3.3 ~ 4.6V
Low Power Consumption	1.3mA @DRX=5 1.2mA @DRX=9	1.3mA @DRX=5 1.2mA @DRX=9	1.2mA @DRX=5 1.1mA @DRX=9	2.8mA @DRX=5 2.7mA @DRX=9
Certifications				
Certifications	CE/ ANATEL/ ICASA	CE	CE*	CE/ ANATEL
Recommended Applications				
Recommended Applications	Telematics, Smart Metering, Mobile POS Terminal, Gateway, Security, Tracking and Tracing, Remote Maintenace and Control, Mobile Computing, Healthcare, etc.			

○& * Under development

Quectel GSM/GPRS Family

Product	M95	MC60/ MC60E	MC90
Picture			
Form Factor	LCC	LCC	LCC
Dimensions(mm)	19.9 × 23.6 × 2.65	16.0 × 18.7 × 2.1	15.0 × 25.6 × 2.3
Frequency Range(MHz)	850/ 900/ 1800/ 1900	850/ 900/ 1800/ 1900	850/ 900/ 1800/ 1900
Weight(approx.)g	3.0	1.3	1.4
Temperature Range	-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
Data Rate(kbps)	85.6(DL & UL)	85.6(DL & UL)	85.6(DL & UL)
SMS	●	●	●
Protocols	TCP/ UDP/ PPP/ MQTT/ HTTP/ FTP/ SMTP/ PING/ NTP/ NITZ/ MMS Sending/ SSL/	TCP/ UDP/ PPP/ HTTP/ FTP/ SSL/ PING/ NTP/ NITZ/ SMS/ MQTT	TCP/ UDP/ PPP/ HTTP/ FTP/ SSL/ PING/ NTP/ NITZ/ SMS/ MQTT
Specifications for Voice			
Speech Codec Modes	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
Interfaces			
SIM	1.8V/ 3V	1.8V/ 3V	1.8V/ 3V
Audio Analog	2 input/ 2 outputs	1 input/ 2 outputs	1 input/ 2 outputs
Audio Digital (PCM)	●	●	●
RTC Backup	●	●	●
UART	2	4	4
ADC		× 1, 10bit	× 1, 10bit
SD Card Interface		●	
GPIO		●	●
Temperature Detection	●	●	●
Enhanced Features			
eCall	●	●	●
Jamming Detection	●	●	●
DTMF	●	●	●
Audio Playback/ Audio Recording	●	●	●
Dual-SIM	●	●	●
QuecFOTA™	●	●	●
QuecCell	●	●	●
QuecFile		●/○	●
OpenCPU ™		●	●
RIL for Android	●	●	●
MUX	●	●	●
Bluetooth		BT 3.0 (MC60) BT 3.0/ BT4.0 (MC60E)	
Wi-Fi			●
GNSS		BEIDOU/ GPS/ GLONASS/ Galileo/ QZSS	BEIDOU/ GPS/ GLONASS/ Galileo/ QZSS
Electrical Features			
Power Supply	3.3 ~ 4.6V	3.3 ~ 4.6V	3.3 ~ 4.3V
Low Power Consumption	1.3mA @DRX=5 1.2mA @DRX=9	1.2mA @DRX=5 0.8mA @DRX=9	1.2mA @DRX=5 0.8mA @DRX=9
Certifications			
Certifications	CE/ GCF/ Vodafone/ PTCRB/ FCC/ IC/ ANATEL/ Rogers/ RCM/ NCC/ TELCEL/ UCRF/ ICASA	CE/ FCC/ Anatel/ ICASA/ GCF	CE*
Recommended Applications			
Recommended Applications	Telematics, Smart Metering, Mobile POS Terminal, Gateway, Security, Tracking and Tracing, Remote Maintenace and Control, Mobile Computing, Healthcare, etc.		

○& * Under development

Quectel GNSS Module Family

Product		Standalone Modules				
		L26	L26-DR/L26-T*/L26-P*	L70/L70-R/L70-RL	L76/L76B/L76-L	LC79D*
		Compatible		Compatible		
Picture						
GNSS		GPS/ GLONASS/ Galileo/ QZSS	GPS/ GLONASS/ Galileo/ QZSS	GPS/ QZSS	GPS/ GLONASS/Galileo/ QZSS(L76/L76-L) GPS/ BeiDou/ GALILEO/ QZSS(L76B) GPS/ BeiDou/ QZSS(L76-LB)	GPS(L1/L5)/GLONASS/ BeiDou/Galileo(E1/E5a)/ QZSS(L1/L5)
Form Factor		LCC	LCC	LCC	LCC	LCC
Dimensions (mm)		16.0 × 12.2 × 2.4	16.0 × 12.2 × 2.3	9.7 × 10.1 × 2.5	9.7 × 10.1 × 2.5	9.7 × 10.1 × 2.5
Weight (approx.)		1.0	1.0	0.6	0.6	0.45
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
General Features						
Chip Solution		MT3333	Teseo III	MT3339 (L70) MT3337 (L70-R/ L70-RL)	MT3333 AG3331(L76-LB)	BCM47755
L1 Band Receiver (C/A Code) Channel Number		33 Track/ 99 Acq	48 Track/2 Fast Acq	22 Track/ 66 Acq.	33 Track/ 99 Acq.	36 Channels
L1 Band Receiver (C/A Code) SBAS		WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN
A-GPS		EASY ™ / EPO	Autonomous Assisted-GNSS	EASY ™ / EPO	EASY ™ / EPO	LTO
Sensitivity	Autonomous Acquisition	-148dBm	-147dBm	-148dBm (L70/ L70-R) -149dBm (L70-RL)	-148dBm (L76/ L76B) -149dBm (L76-L/L76-LB)	-150dBm*
	Reacquisition	-160dBm	-156dBm	-160dBm (L70/ L70-R) -161dBm (L70-RL)	-160dBm (L76/ L76B) -161dBm (L76-L/L76-LB)	-160dBm*
	Tracking	-167dBm	-162dBm	-165dBm (L70/ L70-R) -167dBm (L70-RL	-165dBm (L76/ L76B) -167dBm(L76-L/L76-LB)	-165dBm*
TTFF (Time To First Fix)	Cold Start	<35s, Autonomous <15s, With EASY ™	<35s, Autonomous <13s, With A-GPS	<35s, Autonomous <15s, With EASY ™	<35s, Autonomous <15s, With EASY ™	<35s, Autonomous
	Warm Start	<30s, Autonomous <5s, With EASY ™	<25s, Autonomous <5s, With A-GPS	<30s, Autonomous <5s, With EASY ™	<30s, Autonomous <5s, With EASY ™	<25s, Autonomous
	Hot Start	<1s	<2s	<1s	<1s	<1.5s*
Position Accuracy(autonomous)		<2.5m CEP	<1.8m CEP	<2.5m CEP	<2.5m CEP	<1.8m* 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^2	<0.1m/s^2	<0.1m/s^2	<0.1m/s^2	<0.1m/s^2
Timing Accuracy		<10ns	3.9ns CEP	<10ns	<10ns	/
Max Update Rate		10Hz	10Hz	10Hz (L70) 5Hz (L70-R/ L70-RL)	10Hz	1Hz
Baud Rate(default)		9600bps	115200bps(L26-DR/L26-P); 9600bps(L26-T)	9600bps	9600bps	115200bps
Geo-fence		●	●	● (Supported by L70)	●	●*
Jamming Detection		●	●	●	●	●*
Anti-jamming		●	●	●	●	●*
Built-in LNA		●	●	Supported by L70-RL	Supported by L76-L/L76-LB	●
Electrical Data						
Power Supply		2.8V to 4.3V	3.0V to 3.6V	2.8V to 4.3V	2.8V to 4.3V	1.68V to1.98V
I/O Voltage		2.7V to 2.9V	3.0V to 3.6V	2.7V to 2.9V	2.7V to 2.9V	1.68V to1.98V
Power Consumption （Acquisition）		29mA (GPS+GLONASS) 26mA (GPS)	68mA (L26-DR) 66mA* (L26-T) 68mA* (L26-P)	18mA (L70) 16mA (L70-R) 21mA (L70-RL)	25mA (GPS+GLONASS)/ 21mA (GPS) (L76) 23mA (GPS+BeiDou) (L76B) 29mA (GPS+GLONASS) (L76-L) 29mA (GPS+BeiDou) (L76-LB)	40mA*
Power Consumption （Tracking）		21mA (GPS+GLONASS) 18mA (GPS)	52mA (L26-DR) 50mA* (L26-T) 52mA* (L26-P)	12mA (L70) 13mA (L70-R) 18mA (L70-RL)	18mA (GPS+GLONASS)/ 15mA (GPS)(L76) 18mA (GPS+BeiDou) (L76B) 22mA (GPS+GLONASS) (L76-L)	30mA*
Power Consumption （Backup）		7uA	1.2mA(L26-DR/L26-P) 9uA*(L26-T)	7uA (L70) 8uA (L70-R/ L70-RL)	7uA	TBD
Interfaces						
UART		●	●	●	●	●
IIC (NMEA)					Supported by L76-L	N/A
Reset		●	●	●	●	●
Time Pulse		●	●	●	●	●
Antenna						
Short-Circuit Protection & Open-Circuit Detection		●	●			
Antenna Automatic Switch						
Antenna Type		Active or passive	Active or passive	Active or passive	Active or passive	Active or passive
Antenna Power		External or internal	External or internal	External or internal	External or internal	External or internal
Certifications						
Certifications		CE	CE*	CE	CE	CE*
Recommended Applications						
Recommended Applications		Vehicle Tracker,Pet Tracker, Asset Tracker, DVR, Connected PND, GIS Application, Security, Industrial PDA, Digital Camera, etc.				

○& * Under development

Quectel GNSS Module Family

Product		Antenna Modules			
		L80/ L80-R	L86	L89	L96
		Compatible			
Picture					
GNSS		GPS/ QZSS	GPS/ GLONASS/ Galileo/ QZSS	GPS/ GLONASS/ Galileo/ QZSS; or GPS/ IRNSS/ Galileo/QZSS;	GPS/ GLONASS/ Galileo/ QZSS; or GPS/ Beidou/ QZSS
Form Factor		LCC	LCC	LCC	LCC
Dimensions (mm)		16.0 × 16.0 × 6.45	18.4 × 18.4 × 6.45	16.0 × 25.0 × 6.8	9.6 × 14.0 × 2.0
Weight (approx.)		6.0	7.6	8.4	0.6
Temperature Range		-40 ° C to +85 ° C	-40 ° C to +85 ° C	-40 ° C to +85 ° C	-40 ° C to +85 ° C
General Features					
Chip Solution		MT3339 (L80) MT3337 (L80-R)	MT3333	Teseo III	MT3333
L1 Band Receiver (C/A Code) Channel Number		22 Track/ 66 Acq	33 Track/ 99 Acq	48 Track/2 Fast Acq	33 Track/ 99 Acq.
L1 Band Receiver (C/A Code) SBAS		WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN	WAAS/ EGNOS/ MSAS/ GAGAN
A-GPS		EASY ™ / EPO	EASY ™ / EPO	Autonomous Assisted-GNSS	EASY ™ / EPO
Sensitivity	Autonomous Acquisition	-148dBm	-149dBm	-147dBm	-148dBm
	Reacquisition	-160dBm	-161dBm	-156dBm	-160dBm
	Tracking	-165dBm	-167dBm	-162dBm	-165dBm
TTFF (Time To First Fix)	Cold Start	<35s, Autonomous <15s, With EASY ™	<35s, Autonomous <15s, With EASY ™	<35s, Autonomous <13s, With A-GPS	<35s, Autonomous <15s, With EASY ™
	Warm Start	<30s, Autonomous <5s, With EASY ™	<30s, Autonomous <5s, With EASY ™	<25s, Autonomous <5s, With A-GPS	<30s, Autonomous <5s, With EASY ™
	Hot Start	<1s	<1s	<2s	<1s
Position Accuracy(autonomous)		<2.5m CEP	<2.5m CEP	<1.8m CEP	<2.5m CEP
Velocity Accuracy(without aid)		<0.1m/s	<0.1m/s	<0.1m/s	<0.1m/s
Maximum Acceleration Accuracy (without aid)		<0.1m/s^2	<0.1m/s^2	<0.1m/s^2	<0.1m/s^2
Timing Accuracy		<10ns	<10ns	3.9ns CEP	<10ns
Max Update Rate		10Hz (L80) 5Hz (L80-R)	10Hz	10Hz	10Hz
Baud Rate(default)		9600bps	9600bps	9600bps	9600bps
Geo-fence		● (Supported by L80)	●	●	●
Jamming Detection		●	●	●	●
Anti-jamming		●	●	●	●
Built-in LNA		●	●	●	●
Electrical Data					
Power Supply		3.0V to 4.3V	3.0V to 4.3V	3.1V to 4.3V	2.8V to 4.3V
I/O Voltage		2.7V to 2.9V	2.7V to 2.9V	3.0 V	2.7V to 2.9V
Power Consumption （Acquisition）		25mA	30mA (GPS+GLONASS)	102mA (GPS+IRNSS)	25mA (GPS+GLONASS) 22mA (GPS)
Power Consumption （Tracking）		20mA	26mA (GPS+GLONASS)	100mA (GPS+IRNSS)	20mA (GPS+GLONASS)/ 20mA (GPS)
Power Consumption （Backup）		7uA	7uA	7uA	7uA
Interfaces					
UART		●	●	●	●
IIC (NMEA)				○	●
Reset		●	●	●	●
Time Pulse		●	●	●	●
Antenna					
Short-Circuit Protection & Open-Circuit Detection		Supported by L80	●	●	
Antenna Automatic Switch		Supported by L80	●	●	
Antenna Type		Embeded patch antenna or external active antenna	Embeded patch antenna or external active antenna	Embeded patch antenna or external active antenna	Embeded chip antenna or external active antenna
Antenna Power		Internal	Internal	Internal	Internal
Certifications					
Certifications		CE	CE	CE*	CE
Recommended Applications					
Recommended Applications		Vehicle Tracker,Pet Tracker, Asset Tracker, DVR, Connected PND, GIS Application, Security, Industrial PDA, Digital Camera, etc.			

○& * Under development

Build a Smarter World

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