

Quectel LTE Module Family

Product		EC21/ EC21 Mini 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)		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 Cat1	LTE Cat4
Frequency Bands (MHz)	-E (for EMEA/ Korea/ Thailand)	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 (VZW)	B4/B13@FDD LTE	B4/B13@FDD LTE
	-A (AT&T)	B2/B4/B12@FDD LTE; B2/B4/B5@WCDMA	B2/B4/B12@FDD LTE; B2/B4/B5@WCDMA
	-AU (for ANZ/ Taiwan/ Brazil)	B1/B3/B4/B5/B7/B8/B28@FDD LTE; B40@TDD LTE; B1/B2/B5/B8@WCDMA; B2/B3/B5/B8@GSM	B1/B3/B4/B5/B7/B8/B28@FDD LTE; B40@TDD LTE; B1/B2/B5/B8@WCDMA; B2/B3/B5/B8@GSM
	-AUT (for Telstra)	B1/B3/B5/B7/B28@FDD LTE; B1/B5@WCDMA	
	-AUL (for Telstra)	B3/B7/B28@FDD LTE	
	-J (for Japan)	B1/B3/B8/B18/B19/B26@FDD LTE;	B1/B3/B8/B18/B19/B26@FDD LTE; B41@TDD LTE; B1/B6/B19@WCDMA
	-KL (for Korea)	B1/B3/B5/B7/B8@FDD LTE	
		B1/B3/B5* @FDD LTE; B41@TDD LTE	
Weight (approx.) g		4.8 (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)
Data Transmission			
LTE data rate (Mbps)		LTE-FDD: 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 236.8 (DL)/ Max 236.8 (UL)	Max 236.8 (DL)/ Max 236.8 (UL)
GPRS data rate (Kbps)		Max 85.6 (DL)/ Max 85.6 (UL)	Max 85.6 (DL)/ Max 85.6 (UL)
SMS		•	•
CSD		•	•
Protocols		TCP/ UDP/ PPP/ FTP/ HTTP/ HTTPS*/ SMTP*/ MMS/* FTPS*/ SMTPS*/ NTP/ PING/ QMI/ SSL*	TCP/ UDP/ PPP/ FTP/ HTTP/ HTTPS*/ SMTP*/ MMS/* FTPS*/ SMTPS*/ NTP/ PING/ QMI/ SSL*
Interfaces			
SIM		1.8V/ 3V	1.8V/ 3V
UART		1	1
USB		2.0 HS	2.0 HS
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		◦	◦
DTMF		◦	◦
DFOTA		•	•
QMI/ Rmnet		•	•
Audio Playback/ Audio Recording		Optional ¹	Optional ¹
QuecLocator		◦	◦
QuecFile		•	•
RIL Driver		Android 4.0/ 4.2/ 4.4/ 5.0/ 5.1/ 6.0	Android 4.0/ 4.2/ 4.4/ 5.0/ 5.1/ 6.0
NDIS		Windows XP/ Vista/ 7/ 8/ 8.1/ 10	Windows XP/ Vista/ 7/ 8/ 8.1/ 10
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/ 10 Linux 2.6 or later, Android 4.0/ 4.2/ 4.4/ 5.0/ 5.1/ 6.0	Windows XP/ Vista/ 7/ 8/ 8.1 Linux 2.6 or later, Android 4.0/ 4.2/ 4.4/ 5.0/ 5.1/ 6.0
SIM Detection		•	•
GNSS		GPS/ GLONASS/ Beidou/ Galileo/ QZSS	GPS/ GLONASS/ Beidou/ Galileo/ QZSS
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		FCC/ CE/ CCC/ SRRC*/ NAL*/ PTCRB*/ AT&T*/ GCF*/ Verizon*/ RCM/ Telstra/ JATE&TELEC*/ KC*/ SKT*	FCC/ CE/ PTCRB*/ AT&T*/ GCF*/ Verizon*/ RCM/ JATE&TELEC*/ KC*/ SKT*
Recommended Applications			
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