

Quectel

EC25 Mini PCIe

IoT/M2M-optimized LTE Cat 4 Module



Cat 4
Max 150Mbps (DL)
Max 50Mbps (UL)



Max 42Mbps (DL)
Max 5.76Mbps (UL)



Mini PCIe Package



Embedded Abundant
Protocols



eCall *



Multi-constellation
GNSS



USB 2.0 High Speed
Interface



USB Drivers



Quectel Enhanced
AT Commands

Key Benefits

- ☛ LTE category 4 module optimized for broadband IoT applications
- ☛ Worldwide LTE, UMTS/HSPA+ and GSM/GPRS/EDGE coverage
- ☛ Standard PCI Express® MiniCard form factor (Mini PCIe) ideal for manufacturers to easily integrate wireless connectivity into their devices
- ☛ MIMO technology meets demands for data rate and link reliability in modern wireless communication systems
- ☛ Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment



Quectel EC25 Mini PCIe is a series of LTE category 4 module adopting standard PCI Express® MiniCard form factor (Mini PCIe). It is optimized specially for M2M and IoT applications, and delivers 150Mbps downlink and 50Mbps uplink data rates.

EC25 Mini PCIe contains 5 variants: EC25-J Mini PCIe, EC25-E Mini PCIe, EC25-AU Mini PCIe, EC25-V Mini PCIe and EC25-A Mini PCIe. This makes it backward-compatible with existing EDGE and GSM/GPRS networks, ensuring that it can be connected even in remote areas devoid of 4G or 3G coverage.

EC25 Mini PCIe supports Qualcomm® IZat™ location technology Gen8C Lite (GPS, GLONASS, BeiDou, Galileo and QZSS). The integrated GNSS greatly simplifies product design, and provides quicker, more accurate and more dependable positioning.

A rich set of Internet protocols, industry-standard interfaces and abundant functionalities (USB drivers for Windows XP, Windows Vista, Windows 7, Windows 8/8.1, Windows 10, Linux, Android/eCall*) extend the applicability of the module to a wide range of M2M applications such as industrial router, industrial PDA, rugged tablet PC, video surveillance and digital signage.

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General Features

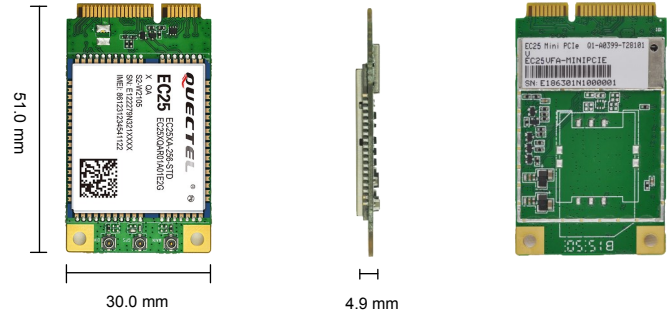
Frequency Bands	EC25-E Mini PCIe	FDD LTE: B1/B3/B5/B7/B8/B20 TDD LTE: B38/B40/B41 WCDMA: B1/B5/B8 GSM: B3/B8
	EC25-J Mini PCIe	FDD LTE: B1/B3/B8/B18/B19/B26 TDD LTE: B41 WCDMA: B1/B6/B19
	EC25-A Mini PCIe	FDD LTE: B2/B4/B12 WCDMA: B2/B4/B5
	EC25-AU Mini PCIe	FDD LTE: B1/B3/B4/B5/B7/B8/B28 TDD LTE: B40 WCDMA: B1/B2/B5/B8 GSM: B2/B3/B5/B8
	EC25-V Mini PCIe	FDD LTE: B4/B13
LTE Version	3GPP E-UTRA Release 11	
Bandwidth	1.4/3/5/10/15/20MHz	
Antenna	DL MIMO, supports Rx-diversity, GNSS	
Supply Voltage Range	3.0V~3.6V, 3.3V Typ.	
Operation Temperature	-40°C ~ +80°C	
Dimensions	51.0mm × 30.0mm × 4.9mm	
Weight	Approx. 9.8g	
Control via AT commands	3GPP TS27.007 and enhanced AT commands	

Special Features

Drivers	USB Serial	Windows XP, Windows Vista, Windows 7, Windows 8/8.1, Windows 10, Linux 2.6 or later, Android 4.0/4.2/4.4/5.0/5.1/6.0
	RIL	Android 4.0/4.2/4.4/5.0/5.1/6.0
	NDIS	Windows XP, Windows Vista, Windows 7, Windows 8/8.1, Windows 10
	ECM	Linux 2.6 or later
	Gobinet	Linux 3.4 or later
Lunux qmi wwan	Linux 3.4 or later	
DFOTA*	Delta firmware upgrade over the air	
BT4.0*/Wi-Fi	Optional	
GNSS	GPS/GLONASS/BeiDou/Galileo/QZSS	

Interfaces

USB 2.0 Device	High Speed, 480Mbps
PCM	×1, Digital Audio through PCM Interface (Optional)
USIM	1.8V/3V
LED_WWAN#	Network Status Indication
W_DISABLE#	Disable RF Function
UART	×1, UART
PERST#	Reset Pin



Specifications

Data	LTE	LTE FDD: Max 150Mbps (DL) Max 50Mbps (UL) LTE TDD: Max 130Mbps (DL) Max 35Mbps (UL)
	DC-HSPA+	Max 42Mbps (DL) Max 5.76Mbps (UL)
	UMTS	Max 384Kbps (DL) Max 384Kbps (UL)
	EDGE	Max 236.8Kbps (DL) Max 236.8Kbps
	GPRS	Max 85.6Kbps (DL) Max 85.6Kbps (UL)
Voice	Speech Codec Modes	HR, FR, EFR, AMR, AMR-WB
	Echo Arithmetic	Echo Cancellation Noise Reduction
eCall*	Accident, Emergency Services	
VoLTE*	Digital Audio and VoLTE (Voice over LTE) (Optional)	
Protocols	TCP/ UDP/ PPP/ FTP/ HTTP/ NTP/ PING/ QMI/ HTTPS*/ SMTP*/ MMS*/ FTPS*/ SMTPS*/ SSL*	

Electrical Characteristics

Output Power	Class 3 (23dBm±2dB) for LTE Class 3 (24dBm+1/-3dB) for UMTS Class E2 (27dBm±3dB) for EDGE 850/900MHz Class E2 (26dBm±3dB) for EDGE 1800/1900MHz Class 4 (33dBm±2dB) for GSM 850/900MHz Class 1 (30dBm±2dB) for GSM 1800/1900MHz
Consumption	3.6mA @Sleep.Typ. 35mA @Idle
Sensitivity	LTE B1: -101dBm (10M) LTE B2: -101dBm (10M) LTE B3: -100dBm (10M) LTE B4: -101dBm (10M) LTE B5: -102.5dBm (10M) LTE B7: -98.5dBm (10M) LTE B8: -101dBm (10M) LTE B12: -101dBm (10M) LTE B13: -100dBm (10M) LTE B20: -102.5dBm (10M) LTE B28: -102dBm (10M) LTE B38: -100dBm (10M) LTE B40: -101dBm (10M) LTE B41: -99dBm (10M) UMTS B1: -110dBm UMTS B2: -110dBm UMTS B4: -110dBm UMTS B5: -110.5dBm UMTS B8: -110.5dBm GSM: -109dBm DCS: -109dBm

Certification

Approval	FCC/ CE/ PTCRB*/ AT&T*/ GCF*/ Verizon*/RCM*/ JATE&TELEC*
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* Under development