

Quectel EC25

IoT/M2M-optimized LTE Cat 4 Module



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



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



LCC 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 M2M and IoT applications
- ☞ Worldwide LTE, UMTS/HSPA+ and GSM/GPRS/EDGE coverage
- ☞ Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment
- ☞ Feature refinements: supports DFOTA*, eCall*, QuecLocator and DTMF
- ☞ MIMO technology meets demands for data rate and link reliability in modern wireless communication systems

LTE



Quectel EC25 is a series of LTE category 4 module optimized specially for M2M and IoT applications. Adopting the 3GPP Rel. 11 LTE technology, it delivers 150Mbit/s downlink and 50Mbit/s uplink data rates. Designed in the compact and unified form factor, EC25 is compatible with Quectel UMTS/HSPA+ UC20 module and multi-mode LTE EC20/EC21 module, which allows for flexible migration among them in design and manufacturing.

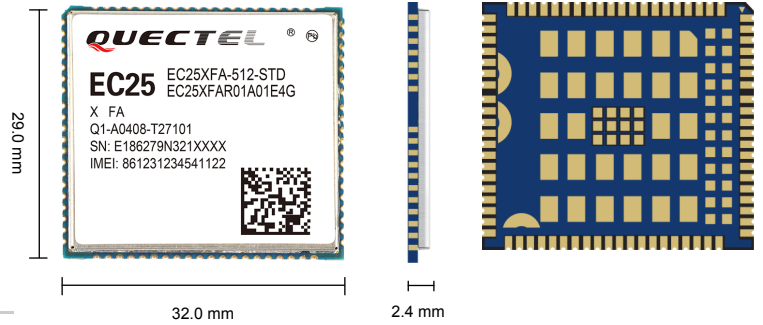
EC25 contains 5 variants: EC25-V, EC25-J, EC25-A, EC25-AU and EC25-E. This makes it backward-compatible with existing EDGE and GSM/GPRS networks, ensuring that it can be connected even in remote areas devoid of 4G or 3G coverage.

EC25 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 and IoT applications such as industrial router, industrial PDA, rugged tablet PC, video surveillance, and digital signage.

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General Features

Frequency Bands	EC25-V	FDD LTE: B4/B13
	EC25-J	FDD LTE: B1/B3/B8/B18/B19/B26 TDD LTE: B41 WCDMA: B1/B6/B19
	EC25-A	FDD LTE: B2/B4/B12 WCDMA: B2/B4/B5
	EC25-AU	FDD LTE: B1/B3/B4/B5/B7/B8/B28 TDD LTE: B40 WCDMA: B1/B2/B5/B8 GSM: B2/B3/B5/B8
	EC25-E	FDD LTE: B1/B3/B5/B7/B8/B20 TDD LTE: B38/B40/B41 WCDMA: B1/B5/B8 GSM: B3/B8
LTE Version	3GPP E-UTRA Release 11	
Bandwidth	1.4/3/5/10/15/20MHz	
Antenna	Supports Rx-diversity	
Supply Voltage Range	3.3V~4.3V, 3.8V Typ.	
Operation Temperature	-40°C ~ +85°C	
Dimensions	32.0mm × 29.0mm × 2.4mm	
Package	LCC	
Weight	Approx. 4.9g	
Control via AT Commands	3GPP TS27.007 and enhanced AT Commands	

Specifications

	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)
Data	UMTS	Max 384Kbps (DL) Max 384Kbps (UL)
	TD-SCDMA	Max 4.2Mbps (DL) Max 2.2Mbps (UL)
	EDGE	Max 236.8Kbps (DL) Max 236.8Kbps (UL)
	GPRS	Max 85.6Kbps (DL) Max 85.6Kbps (UL)
	Speech Codec Modes	HR, FR, EFR, AMR, AMR-WB
Voice	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*	

Special Features

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
Drivers	NIDS Windows XP, Windows Vista, Windows 7, Windows 8/8.1, Windows 10
ECM	Linux 2.6 or later
Gobinet	Linux 2.6 or later
Linux 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
NETLIGHT	×2, NET_STATUS and NET_MODE
UART	×1, UART
RESET	
PWRKEY	
Antenna	Pads for Primary, Rx-diversity and GNSS
ADC	×2

Electrical Characteristics

Output Power	Class 3 (23dBm±2dB) for LTE FDD Class 3 (23dBm±2dB) for LTE TDD Class 3 (24dBm +1/-3dB) for TD-SCDMA Class 3 (24dBm +1/-3dB) for UMTS Class E2 (27dBm ±3dB) for EDGE 850/900MHz Class E2 (26dBm +3/-4dB) for EDGE 1800/1900MHz Class 4 (33dBm ±2dB) for GSM 850/900MHz Class 1 (30dBm ±2dB) for GSM 1800/1900MHz	
Consumption	20uA @Power off 3mA @Sleep, Typ. 22mA @Idle	
Sensitivity	LTE B1: -101.5dBm (10M) LTE B2: -101dBm (10M) LTE B3: -101.5dBm (10M) LTE B4: -101dBm (10M) LTE B5: -101dBm (10M) LTE B7: -99.5dBm (10M) LTE B8: -101dBm (10M) LTE B12: -101dBm (10M) LTE B13: -100dBm (10M)	LTE B20: -102.5dB (10M) LTE B28: -102dBm (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

