

Quectel EC25

IoT/M2M-optimized Cat.4 LTE Module



Cat. 4 LTE Module
Max. 150Mbps (DL)
Max. 50Mbps (UL)



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



LCC Package



Embedded Abundant Protocols



eCall



GNSS



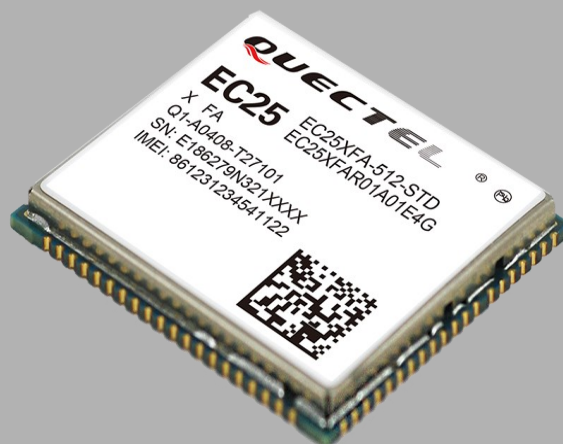
USB 2.0 High Speed Interface



USB Drivers



Quectel Enhanced AT Commands



LTE

Key Benefits

- ☞ LTE Cat. 4 module optimized for M2M and IoT applications
- ☞ Worldwide LTE, UMTS/HSPA+ and GSM/GPRS/EDGE coverage
- ☞ Compact SMT form factor ideal for small end products with tight space and extended operating temperature range
- ☞ MIMO technology meets demands for data rate and link reliability in modem wireless communication systems
- ☞ GNSS receiver available for applications requiring fast and accurate fixes in any environment
- ☞ Simple migration from 3G to 4G with a flexible and scalable platform

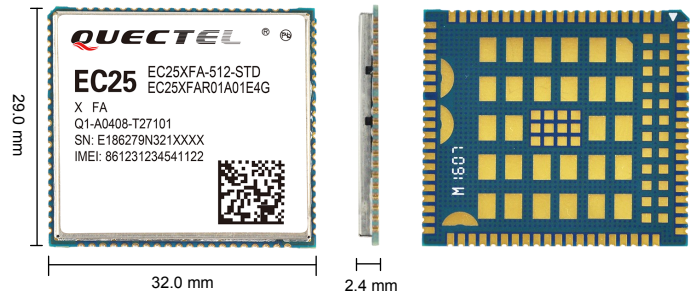
EC25 series is Quectel's new generation of LTE category-4 module, optimized specially for M2M and IoT applications. Adopting the 3GPP Rel. 10 LTE technology, it delivers 150Mbps downlink and 50Mbps uplink data rates and is fallback compatible with Quectel UMTS/HSPA+ UC20 module and multi-mode LTE EC20 module in the compact and unified form factor, providing a flexible and scalable platform for migrating from UMTS/HSPA+ to LTE. EC25 contains 4 variants: EC25-AUT, EC25-V, EC25-A, and EC25-E. This makes it backward-compatible with existing EDGE and GSM/GPRS networks, which ensures that it can be connected even in remote areas devoid of 4G or 3G coverage.

EC25 supports multiple-input multiple-output (MIMO) technology, a cutting edge antenna technology capable of transmitting multiple data streams on multiple transmitters to multiple receivers. The antennas at each end of the communication circuit are combined to minimize errors and optimize data speed. The module also combines high-speed wireless connectivity with embedded multi-constellation high-sensitivity GNSS receiver.

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, Linux, Android/eCall) extend the applicability of the module to a wide range of M2M applications such as CPE, router, data card, rugged tablet, automotive, security and industry PDA.

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General Features

Frequency Bands	EC25-E	FDD LTE: B1/B3/B5/B7/B8/B20 TDD LTE: B38/B40/B41 WCDMA: B1/B5/B8 GSM: 900/1800
	EC25-V	FDD LTE: B4/B13
	EC25-A	FDD LTE: B2/B4/B12 WCDMA: B2/B4/B5
	EC25-AUT	FDD LTE: B1/B3/B5/B7/B28 WCDMA: B1/B5
LTE Version	3GPP E-UTRA Release 10	
Bandwidth	1.4/3/5/10/15/20MHz	
Antenna	DL MIMO, 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. 4.6g	
Control via AT Commands	3GPP TS27.007 and enhanced AT Commands	

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)
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)
Data	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*/SMTP*/MMS*/NTP/ PING/DTMF*/FILE*/CMUX*/QMI		

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	×1UART
RESET	
PWRKEY	
Antenna	Pads for Primary, Rx-diversity and GNSS
ADC	×2

Special Features

Drivers	USB Serial	Windows XP, Windows Vista, Windows 7, Windows 8/8.1, Windows CE5.0/6.0/7.0, Linux 2.6 or later, Android 2.3/4.0/4.2/4.4/5.0
	RIL*	Android 4.0/4.2/4.4/5.0
	NDIS	Windows XP, Windows Vista, Windows 7, Windows 8/8.1
	ECM*	Linux 2.6 or later
	Gobinet	Linux 2.6 or later
	Linux qmi wwan	Linux 3.4 or later
DFOTA	Firmware updated via the air*	
BT4.0/WiFi *	Optional	
GNSS	GPS/GLONASS/BeiDou/Galileo and QZSS	

Electrical Characteristics

Output Power	Class 3 (23dBm±2dB) for LTE FDD
	Class 3 (23dBm±2dB) for LTE TDD
Output Power	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
Output Power	Class 4 (33dBm ±2dB) for GSM 850/900MHz
	Class 1 (30dBm ±2dB) for GSM 1800/1900MHz
Consumption	20uA @Power off
	3mA @Sleep, Typ.
Sensitivity	TBD

Certification

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