**Quectel EC25**  
*Multi-mode LTE Module*

EC25 series is the new generation of Quectel's LTE modules. Adopted the 3GPP Rel. 9 LTE technology, it delivers 150Mbps downlink and 50Mbps uplink data rates and is fallback compatible with Quectel UMTS/HSPA+ UC20 module and multimode 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 five variants EC25-A, EC25-C, EC25-CE, EC25-AU, EC25-AUT and EC25-E, which makes it backward-compatible with existing EDGE and GSM/GPRS networks to ensure that it can connect even in remote areas devoid of 4G or 3G coverage.

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

**Key Benefits**

- Worldwide LTE and UMTS/HSPA+ and GSM/GPRS/EDGE coverage
- Minimal 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 modern wireless communication systems
- GNSS receiver available for applications requiring fast and accurate fixes in any environments
- Simple migration from 3G to 4G with a flexible and scalable platform
- Internal large size of MCP (4Gbit NAND+1Gbit Nor)
Quectel EC25
Multi-mode LTE Module

General Features

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency Bands</th>
<th>Components</th>
</tr>
</thead>
</table>

LTE Version: 3GPP E-UTRA Release 9
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

Special Features

- 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
- Android 2.3/4.0/4.2/4.4/5.0
- Linux 2.6 or later
- Linux 2.6 or later
- Linux 3.4 or later
- Firmware updated via the air
- Optional
- GPRS/GLONASS/BeiDou/Galileo and QZSS
  * EC25-AUT does not support GNSS

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**
  - 20μA @Power off
  - 3mA @Sleep, Typ

- **Sensitivity**
  - TBD

Interfaces

- **USB 2.0 Device**
  - High Speed, 480Mbps
- **PCM**
  - +1, Digital Audio through PCM Interface (Optional)
- **NETLIGHT**
  - >2, NET_STATUS and NET_MODE
- **UART**
  - >1UART
- **RESET**
- **PWRKEY**
- **Antenna**
  - Pads for Primary, Rx-diversity and GNSS
- **ADC**
  - >2

Specifications

- **LTE**
  - LTE-FDD Max 150Mbps (DL) Max 50Mbps (UL)
  - LTE-TDD Max 61Mbps (DL) Max 18Mbps (UL)
  - DC-HSP+ Max 42Mbps (DL) Max 5.76Mbps (UL)
  - UMTS
    - Max 384Kbps (DL) Max 384Kbps (UL)
  - TD-SCDMA
    - Max 4.2Mbps (DL) Max 2.2Mbps (UL)
  - CDMA
    - Max 5.4Mbps (DL) Max 14.7Mbps (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 Cancellation
    - Noise Reduction
  - eCall
    - Accident, Emergency Services
  - VoLTE
    - Digital Audio and VoLTE (Voice over LTE) (Optional)
  - Protocols
    - TCP/UDP/PPP/FTP/HTTP/SMS/FTP/SMT/HTTP/PING/DTMF/FILE/CMUX/QMI

Certification

- **Approval**
  - CCC/CE/GCF/NA/FCC/PTCRB/AT/Verizon/ASK/RCM/Telstra