Quectel EG91
IoT/M2M-optimized LTE Cat 1 Module

4G LTE
Cat 1
Max 10Mbps (DL)
Max 5Mbps (UL)

3G HSPA+
Max 42Mbps (DL)
Max 5.76Mbps (UL)

LGA
LGA Package

Embedded Abundant Protocols

eCall

Compact Size

USB 2.0 High Speed Interface

USB Drivers

AT
Quectel Enhanced AT Commands

Key Benefits

- Cost-effective and low-power LTE connectivity optimized for broadband IoT applications
- Worldwide LTE, UMTS/HSPA+ and GSM/GPRS/EDGE coverage
- Compact SMT form factor ideal for size-constrained applications with extended operation temperature range
- Embedded power management unit (PMU) featuring ultra-low deep-sleep current consumption
- Simple migration from 2G/3G to 4G with a flexible and scalable platform
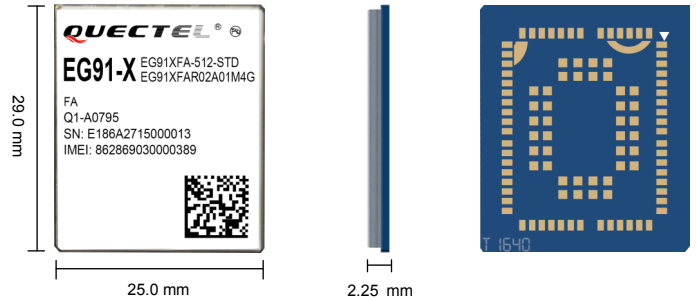
QUECTEL®
Build a Smarter World

Quectel EG91 is a series of LTE category 1 module optimized specially for M2M and IoT applications. It features cost-effective and low power LTE connectivity, and delivers M2M-optimized speeds of 10Mbit/s downlink and 5Mbit/s uplink. These make EG91 an ideal solution for numerous IoT applications that are not reliant on high speed connectivity but still require the longevity and reliability of LTE networks.

EG91 is fallback pin-to-pin compatible with Quectel UMTS/HSPA+ UG95 and UG96 modules. This makes it backward-compatible with existing EDGE and GSM/GPRS networks, ensuring that it can easily migrate from 2G/3G to 4G networks.

A rich set of Internet protocols, industry-standard interfaces and abundant functionalities (USB drivers for Windows XP, Windows 7/8/10, Linux, Android) extend the applicability of the module to a wide range of M2M and IoT applications such as smart metering, wearable devices, environmental monitoring, asset tracking, fleet management, security and alarm systems, and so on.

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29.0 mm

25.0 mm 2.25 mm

General Features

Frequency Bands	**EG91-E**	LTE FDD: B1/B3/B7/B8/B20/B28* WCDMA: B1/B8 GSM: 900/1800
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		25.0mm × 29.0mm × 2.25mm
Package		LGA
Weight		Approx. 3.8g
Control via AT Commands		3GPP TS27.007 and enhanced AT Commands

Special Features

Drivers	USB Serial	Windows XP, Windows 7/8/10, Linux 2.6 or later, Android 2.3/4.0/4.2/4.4/5.0/6.0
	RIL	Android 4.0/4.2/4.4/5.0/6.0
	NDIS	Windows XP, Windows 7/8/10
	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

Electrical Characteristics

Output Power	Class 3 (23dBm±2dB) for LTE FDD Class 3 (24dBm+1/-3dB) for UMTS Class E2 (27dBm±3dB) for EDGE 900MHz Class E2 (26dBm+3/-4dB) for EDGE 1800MHz Class 4 (33dBm±2dB) for GSM 900MHz Class 1 (30dBm±2dB) for GSM 1800MHz
Consumption	15uA @Power off 2.6mA @Sleep, Typ. 21mA @Idle
Sensitivity	LTE FDD B1: -98.5dBm (10M) LTE FDD B3: -98.4dBm (10M) LTE FDD B7: -97.2dBm (10M) LTE FDD B8: -97.5dBm (10M) LTE FDD B20: -97.3dBm (10M) UMTS B1: -110.5dBm (10M) UMTS B8: -110.4dBm (10M) GSM: -109.4dBm DCS: -110dBm

Specifications

Data	LTE	LTE FDD: Max 10Mbps (DL) Max 5Mbps (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 (UL)
	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*/ 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	× 2, 1.8V/3V
NETLIGHT	× 1
UART	× 2 (Main UART and Debug UART)
RESET	
PWRKEY	
Antenna	× 2 (Main antenna interface and Rx-diversity antenna interface)
ADC	× 1

* Under development