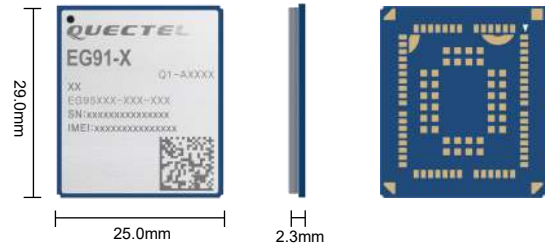


Quectel EG91 Series

IoT/M2M-optimized LTE Cat 1 Modules



Quectel EG91 is a series of LTE category 1 modules optimized specially for M2M and IoT applications. Adopting 3GPP Rel. 11 LTE technology, it delivers maximum data rates up to 10Mbps downlink and 5Mbps uplink. These make EG91 an ideal solution for numerous IoT applications that are not reliant on high speed connectivity but require the longevity and reliability of LTE network.

EG91 contains 6 variants: EG91-E, EG91-EX, EG91-NA, EG91-NS, EG91-VX and EG91-NAX. EG91 is pin-to-pin compatible with Quectel UMTS/HSPA+ module UG95/UG96 and LPWA module BG95/BG96. And it is backward-compatible with existing GSM/GPRS and UMTS/HSPA+ networks, ensuring that it can be connected even in remote areas devoid of 4G network coverage.

A rich set of Internet protocols, industry-standard interfaces and abundant functionalities (USB serial drivers for Windows 7/8/10, Linux and Android, etc.) 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.



Key Benefits

- ✓ Cost-effective and low-power LTE connectivity optimized for broadband IoT applications
- ✓ Multi-band 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



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



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



LGA Package



Embedded Abundant
Protocols



eCall*



Compact Size



USB 2.0 High Speed
Interface



USB Drivers



Quectel Enhanced
AT Commands

Quectel EG91 Series

LTE Cat 1	EG91-NA	EG91-NS	EG91-VX	EG91-NAX	EG91-E	EG91-EX
Region/Operator	North America	North America	North America	North America	EMEA	EMEA
Dimensions (mm)	29.0 × 25.0 × 2.3	29.0 × 25.0 × 2.3	29.0 × 25.0 × 2.3	29.0 × 25.0 × 2.3	29.0 × 25.0 × 2.3	29.0 × 25.0 × 2.3
Temperature Range						
Operation Temperature	-35°C ~ +75°C	-35°C ~ +75°C	-35°C ~ +75°C	-35°C ~ +75°C	-35°C ~ +75°C	-35°C ~ +75°C
Extended Temperature	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C
Frequency Bands						
LTE FDD	B2/B4/B5/B12/B13	B2/B4/B5/B12/B13/B25/B26	B4/B13	B2/B4/B5/B12/B13/B25/B26	B1/B3/B7/B8/B20/B28A	B1/B3/B7/B8/B20/B28
WCDMA	B2/B4/B5	B2/B4/B5	\	B2/B4/B5	B1/B8	B1/B8
GSM/EDGE	\	\	\	\	B3/B8	B3/B8
GNSS (Optional)	GPS/GLONASS/BeiDou/Galileo/QZSS	GPS/GLONASS/BeiDou/Galileo/QZSS	GPS/GLONASS/BeiDou/Galileo/QZSS	GPS/GLONASS/BeiDou/Galileo/QZSS	\	GPS/GLONASS/BeiDou/Galileo/QZSS
Certifications						
Carrier	North America: Verizon/AT&T/ T-Mobile/ U.S. Cellular Canada: Rogers/Telus	North America: Verizon/AT&T/ Sprint/ T-Mobile*	North America: Verizon*	North America: Verizon*/AT&T*/ T-Mobile*/ Sprint*/ U.S. Cellular*	Europe: Deutsche Telekom	\
Regulatory	Global: GCF North America: FCC/ PTCRB Canada: IC	Global: GCF North America: FCC/ PTCRB Canada: IC	Global: GCF North America: FCC	Global: GCF* North America: FCC*/ PTCRB* Canada: IC*	Global: GCF Europe: CE Brazil: Anatel* Australia & New Zealand: RCM Russia: FAC	Global: GCF* Europe: CE Australia & New Zealand: RCM
Others	WHQL/ RoHS	WHQL/ RoHS	WHQL/ RoHS	WHQL/ RoHS	WHQL/ RoHS	WHQL/ RoHS
Data Transmission						
LTE FDD Data Rate (Mbps)	10 (DL)/ 5 (UL)	10 (DL)/ 5 (UL)	10 (DL)/ 5 (UL)	10 (DL)/ 5 (UL)	10 (DL)/ 5 (UL)	10 (DL)/ 5 (UL)
DC-HSPA+ Data Rate (Mbps)	42 (DL)/ 5.76 (UL)	42 (DL)/ 5.76 (UL)		42 (DL)/ 5.76 (UL)	42 (DL)/ 5.76 (UL)	42 (DL)/ 5.76 (UL)
WCDMA Data Rate (Kbps)	384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)		384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)
EDGE Data Rate (Kbps)	\	\	\	\	296 (DL)/236.8 (UL)	296 (DL)/236.8 (UL)
GPRS Data Rate (Kbps)	\	\	\	\	107 (DL)/85.6 (UL)	107 (DL)/85.6 (UL)
Interfaces						
(U)SIM	x2	x2	x2	x2	x2	x2
UART	x2	x2	x2	x2	x2	x2
USB 2.0	x1	x1	x1	x1	x1	x1
Audio Digital (PCM)	x1	x1	x1	x1	x1	x1
I2C	x1	x1	x1	x1	x1	x1
NETLIGHT	x1	x1	x1	x1	x1	x1
SPI	x1	x1	x1	x1	x1	x1
Main Antenna	x1	x1	x1	x1	x1	x1
Rx-Diversity Antenna	x1	x1	x1	x1	x1	x1
GNSS Antenna	x1	x1	X1	x1	\	x1
PWRKEY	x1	x1	x1	x1	x1	x1
RESET_N	x1	x1	x1	x1	x1	x1
USB_BOOT	x1	x1	x1	x1	x1	x1
Voice						
Speech Codec Modes	HR/FR/EFR/AMR/AMR-WB	HR/FR/EFR/AMR/AMR-WB	HR/FR/EFR/AMR/AMR-WB	HR/FR/EFR/AMR/AMR-WB	HR/FR/EFR/AMR/AMR-WB	HR/FR/EFR/AMR/AMR-WB
Echo Arithmetic	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression
VoLTE (Optional)	Digital Audio and VoLTE (Voice over LTE)	Digital Audio and VoLTE (Voice over LTE)	Digital Audio and VoLTE (Voice over LTE)	Digital Audio and VoLTE (Voice over LTE)	Digital Audio and VoLTE (Voice over LTE)	Digital Audio and VoLTE (Voice over LTE)
Enhanced Features						
eCall*	\	\	\	\	●	●
DTMF	●	●	●	●	●	●
DFOTA	●	●	●	●	●	●
QMI/ RmNet	●	●	●	●	●	●
Audio Playback/ Audio Recording*	Optional	Optional	Optional	Optional	Optional	Optional
QuecLocator®	●	●	●	●	●	●
QuecFile	●	●	●	●	●	●
(U)SIM Card Detection	●	●	●	●	●	●

Quectel EG91 Series

LTE Cat 1	EG91-NA	EG91-NS	EG91-VX	EG91-NAX	EG91-E	EG91-EX
Drivers						
USB Serial Driver	Windows 7/ 8/ 8.1/ 10, Linux 2.6~5.4,	Windows 7/ 8/ 8.1/ 10, Linux 2.6~5.4,	Windows 7/ 8/ 8.1/ 10, Linux 2.6~5.4,	Windows 7/ 8/ 8.1/ 10, Linux 2.6~5.4,	Windows 7/ 8/ 8.1/ 10, Linux 2.6~5.4,	Windows 7/ 8/ 8.1/ 10, Linux 2.6~5.4,
GNSS/RIL Driver	Android 4.x~ 9.x	Android 4.x~ 9.x	Android 4.x~ 9.x	Android 4.x~ 9.x	Android 4.x~ 9.x	Android 4.x~ 9.x
NDIS Driver	Windows 7/ 8/ 8.1/ 10	Windows 7/ 8/ 8.1/ 10	Windows 7/ 8/ 8.1/ 10	Windows 7/ 8/ 8.1/ 10	Windows 7/ 8/ 8.1/ 10	Windows 7/ 8/ 8.1/ 10
MBIM Driver	Windows 8/8.1/10, Linux 3.18~5.4	Windows 8/8.1/10, Linux 3.18~5.4	\	\	Windows 8/8.1/10, Linux 3.18~5.4	\
GobiNet Driver	Linux 2.6~5.4	Linux 2.6~5.4	Linux 2.6~5.4	Linux 2.6~5.4	Linux 2.6~5.4	Linux 2.6~5.4
QMI_WWAN Driver	Linux 3.4~5.4	Linux 3.4~5.4	Linux 3.4~5.4	Linux 3.4~5.4	Linux 3.4~5.4	Linux 3.4~5.4
Electrical Features						
Supply Voltage Range	3.3V~4.3V, 3.8V Typ.	3.3V~4.3V, 3.8V Typ.	3.3V~4.3V, 3.8V Typ.	3.3V~4.3V, 3.8V Typ.	3.3V~4.3V, 3.8V Typ.	3.3V~4.3V, 3.8V Typ.
Power Consumption	13μA @Power off 2.6mA @Sleep, Typ. 29mA @Idle	13μA @Power off 2.6mA @Sleep, Typ. 29mA @Idle	13μA @Power off 2.6mA @Sleep, Typ. 29mA @Idle	13μA @Power off 2.6mA @Sleep, Typ. 29mA @Idle	13μA @Power off 2.6mA @Sleep, Typ. 29mA @Idle	13μA @Power off 2.6mA @Sleep, Typ. 29mA @Idle

Notes:

- * means under development/on-going.
- means supported.