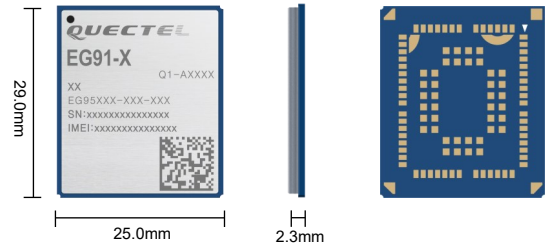


# Quectel EG91 Series

## 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
<b>Region/Operator</b>	North America	North America	North America	North America	EMEA	EMEA
<b>Dimensions (mm)</b>	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
<b>Temperature Range</b>						
<b>Operation Temperature</b>	-35°C ~ +75°C	-35°C ~ +75°C	-35°C ~ +75°C	-35°C ~ +75°C	-35°C ~ +75°C	-35°C ~ +75°C
<b>Extended Temperature</b>	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C	-40°C ~ +85°C
<b>Frequency Bands</b>						
<b>LTE FDD</b>	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
<b>WCDMA</b>	B2/B4/B5	B2/B4/B5	\	B2/B4/B5	B1/B8	B1/B8
<b>GSM/EDGE</b>	\	\	\	\	B3/B8	B3/B8
<b>GNSS (Optional)</b>	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
<b>Certifications</b>						
<b>Carrier</b>	<b>North America:</b> Verizon/AT&T/ T-Mobile/ U.S. Cellular <b>Canada:</b> Rogers/Telus	<b>North America:</b> Verizon/AT&T/ Sprint/ T-Mobile*	<b>North America:</b> Verizon*	<b>North America:</b> Verizon*/AT&T*/ T-Mobile*/ Sprint*/ U.S. Cellular*	<b>Europe:</b> Deutsche Telekom	\
<b>Regulatory</b>	<b>Global:</b> GCF <b>North America:</b> FCC/ PTCRB <b>Canada:</b> IC	<b>Global:</b> GCF <b>North America:</b> FCC/ PTCRB <b>Canada:</b> IC	<b>Global:</b> GCF <b>North America:</b> FCC	<b>Global:</b> GCF* <b>North America:</b> FCC*/ PTCRB* <b>Canada:</b> IC*	<b>Global:</b> GCF <b>Europe:</b> CE <b>Brazil:</b> Anatel* <b>Australia &amp; New Zealand:</b> RCM <b>Russia:</b> FAC	<b>Global:</b> GCF* <b>Europe:</b> CE <b>Australia &amp; New Zealand:</b> RCM
<b>Others</b>	WHQL/ RoHS	WHQL/ RoHS	WHQL/ RoHS	WHQL/ RoHS	WHQL/ RoHS	WHQL/ RoHS
<b>Data Transmission</b>						
<b>LTE FDD Data Rate (Mbps)</b>	10 (DL)/ 5 (UL)	10 (DL)/ 5 (UL)	10 (DL)/ 5 (UL)	10 (DL)/ 5 (UL)	10 (DL)/ 5 (UL)	10 (DL)/ 5 (UL)
<b>DC-HSPA+ Data Rate (Mbps)</b>	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)
<b>WCDMA Data Rate (Kbps)</b>	384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)		384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)	384 (DL)/ 384 (UL)
<b>EDGE Data Rate (Kbps)</b>	\	\	\	\	296 (DL)/236.8 (UL)	296 (DL)/236.8 (UL)
<b>GPRS Data Rate (Kbps)</b>	\	\	\	\	107 (DL)/85.6 (UL)	107 (DL)/85.6 (UL)
<b>Interfaces</b>						
<b>(U)SIM</b>	x2	x2	x2	x2	x2	x2
<b>UART</b>	x2	x2	x2	x2	x2	x2
<b>USB 2.0</b>	x1	x1	x1	x1	x1	x1
<b>Audio Digital (PCM)</b>	X1	x1	x1	x1	x1	x1
<b>I2C</b>	x1	x1	x1	x1	x1	x1
<b>NETLIGHT</b>	x1	x1	x1	x1	x1	x1
<b>SPI</b>	x1	x1	x1	x1	x1	x1
<b>Main Antenna</b>	x1	x1	x1	x1	x1	x1
<b>Rx-Diversity Antenna</b>	x1	x1	x1	x1	x1	x1
<b>GNSS Antenna</b>	x1	x1	X1	x1	\	x1
<b>PWRKEY</b>	x1	x1	x1	x1	x1	x1
<b>RESET_N</b>	x1	x1	x1	x1	x1	x1
<b>USB_BOOT</b>	x1	x1	x1	x1	x1	x1
<b>Voice</b>						
<b>Speech Codec Modes</b>	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
<b>Echo Arithmetic</b>	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression
<b>VoLTE (Optional)</b>	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)
<b>Enhanced Features</b>						
<b>eCall*</b>	\	\	\	\	●	●
<b>DTMF</b>	●	●	●	●	●	●
<b>DFOTA</b>	●	●	●	●	●	●
<b>QMI/ RmNet</b>	●	●	●	●	●	●
<b>Audio Playback/ Audio Recording*</b>	Optional	Optional	Optional	Optional	Optional	Optional
<b>QuecLocator®</b>	●	●	●	●	●	●
<b>QuecFile</b>	●	●	●	●	●	●
<b>(U)SIM Card Detection</b>	●	●	●	●	●	●

# Quectel EG91 Series

LTE Cat 1	EG91-NA	EG91-NS	EG91-VX	EG91-NAX	EG91-E	EG91-EX
<b>Drivers</b>						
<b>USB Serial Driver</b>	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,
<b>GNSS/RIL Driver</b>	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
<b>NDIS Driver</b>	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
<b>MBIM Driver</b>	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	\
<b>GobiNet Driver</b>	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
<b>QMI_WWAN Driver</b>	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
<b>Electrical Features</b>						
<b>Supply Voltage Range</b>	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.
<b>Power Consumption</b>	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.