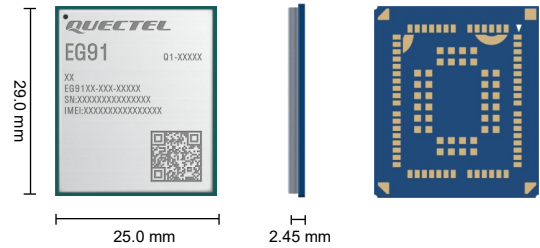


# Quectel EG91 Series

IoT/M2M-optimized  
LTE Cat 1 Modules



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

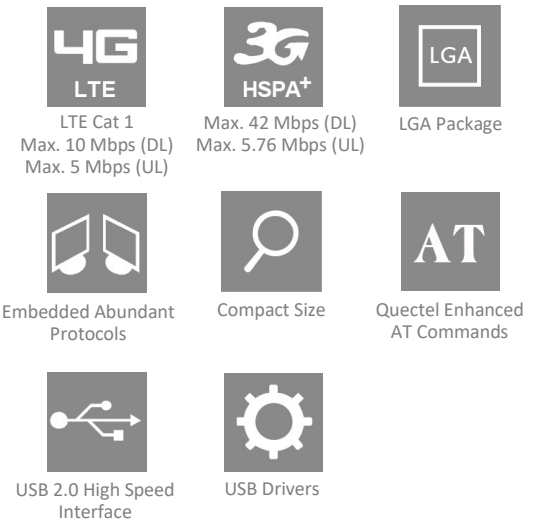
EG91 series contains 8 variants: EG91-NA, EG91-JP, EG91-VX, EG91-NAX, EG91-NAXD, EG91-E, EG91-EX and EG91-AUX. EG91 series is pin-to-pin compatible with Quectel GSM M95 module and LPWA BG95 series/BG96 modules. It is backward-compatible with existing GSM/GPRS and UMTS/HSPA(+) networks, ensuring that 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 7/8/8.1/10/11, 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, smart safety and alarm systems.



## Key Features

- ✓ 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



# Quectel EG91 Series

LTE Cat 1	EG91-NA	EG91-NAXD (Data-only)	EG91-VX	EG91-NAX
<b>Region/Operator</b>	North America	North America	North America	North America
<b>Dimensions (mm)</b>	29.0 × 25.0 × 2.45	29.0 × 25.0 × 2.45	29.0 × 25.0 × 2.45	29.0 × 25.0 × 2.45
<b>Temperature Range</b>				
<b>Operating Temperature</b>	-35 to +75 °C	-35 °C to +75 °C	-35 to +75 °C	-35 to +75 °C
<b>Extended Temperature</b>	-40 to +85 °C	-40 °C to +85 °C	-40 to +85 °C	-40 to +85 °C
<b>Frequency Bands</b>				
<b>LTE-FDD</b>	B2/4/5/12/13	B2/4/5/12/13/25/26	B4/13	B2/4/5/12/13/25/26
<b>WCDMA</b>	B2/4/5	B2/4/5	-	B2/4/5
<b>GSM/EDGE</b>	-	-	-	-
<b>GNSS (Optional)</b>	GPS/GLONASS/BDS/Galileo/QZSS	GPS/GLONASS/BDS/Galileo/QZSS	GPS/GLONASS/BDS/Galileo/QZSS	GPS/GLONASS/BDS/Galileo/QZSS
<b>Certifications</b>				
<b>Carrier</b>	America: Verizon/AT&T/T-Mobile/U.S. Cellular Canada: Rogers/Telus	America: Verizon/AT&T/T-Mobile/ Sprint/U.S. Cellular Canada: Rogers/Telus	America: Verizon	America: Verizon/AT&T/Sprint Canada: Rogers/Telus
<b>Regulatory</b>	Global: GCF North America: PTCRB America: FCC Canada: IC	Global: GCF North America: PTCRB America: FCC Canada: IC	Global: GCF America: FCC	Global: GCF North America: PTCRB America: FCC Canada: IC
<b>Others</b>	WHQL/RoHS	WHQL/RoHS	WHQL/RoHS	WHQL/RoHS
<b>Max. Data Transmission Rates</b>				
<b>LTE-FDD (Mbps)</b>	10 (DL)/5 (UL)	10 (DL)/5 (UL)	10 (DL)/5 (UL)	10 (DL)/5 (UL)
<b>DC-HSPA+ (Mbps)</b>	42 (DL)/5.76 (UL)	42 (DL)/5.76 (UL)	-	42 (DL)/5.76 (UL)
<b>WCDMA (kbps)</b>	384 (DL)/384 (UL)	384 (DL)/384 (UL)	-	384 (DL)/384 (UL)
<b>EDGE (kbps)</b>	-	-	-	-
<b>GPRS (kbps)</b>	-	-	-	-
<b>Interfaces</b>				
<b>(U)SIM</b>	× 2	× 2	× 2	× 2
<b>UART</b>	× 2	× 2	× 2	× 2
<b>USB 2.0</b>	× 1	× 1	× 1	× 1
<b>Audio Digital (PCM)</b>	× 1	× 1	× 1	× 1
<b>I2C</b>	× 1	× 1	× 1	× 1
<b>NETLIGHT</b>	× 1	× 1	× 1	× 1
<b>SPI</b>	× 1	× 1	× 1	× 1
<b>Main Antenna</b>	× 1	× 1	× 1	× 1
<b>Rx-diversity Antenna</b>	× 1	× 1	× 1	× 1
<b>GNSS Antenna</b>	× 1	× 1	× 1	× 1
<b>PWRKEY</b>	× 1	× 1	× 1	× 1
<b>RESET_N</b>	× 1	× 1	× 1	× 1
<b>USB_BOOT</b>	× 1	× 1	× 1	× 1
<b>Voice</b>				
<b>Speech Codec Modes</b>	AMR/AMR-WB	-	AMR/AMR-WB	AMR/AMR-WB
<b>Echo Arithmetic</b>	Echo Cancellation/ Noise Suppression	-	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression
<b>Audio (Optional)</b>	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>DTMF</b>	●	-	●	●
<b>DFOTA</b>	●	●	●	●
<b>QMI/RmNet</b>	●	●	●	●
<b>Audio Playback*/ Audio Recording*</b>	Optional	Optional	Optional	Optional
<b>QuecOpen®</b>	●	-	-	-
<b>QuecFile®</b>	●	●	●	●
<b>SMS</b>	●	●	●	●
<b>eSIM*①</b>	●	●	●	●
<b>Drivers</b>				
<b>USB Serial Driver</b>	Windows 7/8/8.1/10/11, Linux 2.6–6.5, Android 4.x–13.x	Windows 7/8/8.1/10/11, Linux 2.6–6.5, Android 4.x–13.x	Windows 7/8/8.1/10/11, Linux 2.6–6.5, Android 4.x–13.x	Windows 7/8/8.1/10/11, Linux 2.6–6.5, Android 4.x–13.x
<b>GNSS Driver</b>	Android 4.x–13.x	Android 4.x–13.x	Android 4.x–13.x	Android 4.x–13.x
<b>RIL Driver</b>	Android 4.x–13.x	Android 4.x–13.x	Android 4.x–13.x	Android 4.x–13.x
<b>USB NDIS Driver</b>	Windows 7/8/8.1/10/11	Windows 7/8/8.1/10/11	Windows 7/8/8.1/10/11	Windows 7/8/8.1/10/11
<b>USB MBIM Driver</b>	Windows 8/8.1/10/11, Linux 3.18–6.5	Windows 8/8.1/10/11, Linux 3.18–6.5	Windows 8/8.1/10/11, Linux 3.18–6.5	Windows 8/8.1/10/11, Linux 3.18–6.5
<b>USB GobiNet Driver</b>	Linux 2.6–6.5	Linux 2.6–6.5	Linux 2.6–6.5	Linux 2.6–6.5
<b>USB QMI_WWAN Driver</b>	Linux 3.4–6.5	Linux 3.4–6.5	Linux 3.4–6.5	Linux 3.4–6.5
<b>Electrical Features</b>				
<b>Supply Voltage Range</b>	3.3–4.3 V, 3.8 V Typ. 13 µA @ Power off	3.3–4.3 V, 3.8 V Typ. 9 µA @ Power off	3.3–4.3 V, 3.8 V Typ. 7.6 µA @ Power off	3.3–4.3 V, 3.8 V Typ. 9 µA @ Power off
<b>Power Consumption</b>	1.0 mA @ Sleep, Typ. 15 mA @ Idle	1.1 mA @ Sleep, Typ. 16.7 mA @ Idle	0.95 mA @ Sleep, Typ. 16.5 mA @ Idle	1.1 mA @ Sleep, Typ. 16.7 mA @ Idle

**NOTE:**

- \*: Under development.
- : Supported.
- ①: eSIM function can be supported by software, but an external eSIM chip is required.

# Quectel EG91 Series

LTE Cat 1	EG91-AUX	EG91-E <sup>②</sup>	EG91-EX	EG91-JP
<b>Region/Operator</b>	Latin America/Australia & New Zealand	EMEA	EMEA	Japan
<b>Dimensions (mm)</b>	29.0 × 25.0 × 2.45	29.0 × 25.0 × 2.3	29.0 × 25.0 × 2.45	29.0 × 25.0 × 2.45
<b>Temperature Range</b>				
<b>Operating Temperature</b>	-35 °C to +75 °C	-35 °C to +75 °C	-35 °C to +75 °C	-35 °C to +75 °C
<b>Extended Temperature</b>	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C
<b>Frequency Bands</b>				
<b>LTE-FDD</b>	B1/2/3/4/5/7/8/28/66	B1/3/7/8/20/28A	B1/3/7/8/20/28	B1/3/8/18/19/26
<b>WCDMA</b>	B1/2/5/8	B1/8	B1/8	-
<b>GSM/EDGE</b>	B2/3/5/8	B3/8	B3/8	-
<b>GNSS (Optional)</b>	GPS/GLONASS/BDS/Galileo/QZSS	-	GPS/GLONASS/BDS/Galileo/QZSS	GPS/GLONASS/BDS/Galileo/QZSS
<b>Certifications</b>				
<b>Carrier</b>	Australia: Telstra <sup>①</sup>	Europe: Deutsche Telekom	Europe: Deutsche Telekom Australia: Telstra	Japan: NTT DOCOMO*/KDDI*
<b>Regulatory</b>	Europe: CE America: FCC Brazil: Anatel Australia & New Zealand: RCM	Global: GCF Europe: CE The UK: UKCA Brazil: Anatel Australia & New Zealand: RCM	Global: GCF Europe: CE The UK: UKCA Taiwan, China: NCC Australia & New Zealand: RCM	Japan: JATE/TELEC
<b>Others</b>	WHQL/RoHS	WHQL/RoHS	WHQL/RoHS	WHQL/RoHS
<b>Max. Data Transmission Rates</b>				
<b>LTE-FDD (Mbps)</b>	10 (DL)/5 (UL)	10 (DL)/5 (UL)	10 (DL)/5 (UL)	10 (DL)/5 (UL)
<b>DC-HSPA+ (Mbps)</b>	42 (DL)/5.76 (UL)	42 (DL)/5.76 (UL)	42 (DL)/5.76 (UL)	-
<b>WCDMA (kbps)</b>	384 (DL)/384 (UL)	384 (DL)/384 (UL)	384 (DL)/384 (UL)	-
<b>EDGE (kbps)</b>	296 (DL)/236.8 (UL)	296 (DL)/236.8 (UL)	296 (DL)/236.8 (UL)	-
<b>GPRS (kbps)</b>	107 (DL)/85.6 (UL)	107 (DL)/85.6 (UL)	107 (DL)/85.6 (UL)	-
<b>Interfaces</b>				
<b>(U)SIM</b>	× 2	× 2	× 2	× 2
<b>UART</b>	× 2	× 2	× 2	× 2
<b>USB 2.0</b>	× 1	× 1	× 1	× 1
<b>Audio Digital (PCM)</b>	× 1	× 1	× 1	× 1
<b>I2C</b>	× 1	× 1	× 1	× 1
<b>NETLIGHT</b>	× 1	× 1	× 1	× 1
<b>SPI</b>	× 1	× 1	× 1	× 1
<b>Main Antenna</b>	× 1	× 1	× 1	× 1
<b>Rx-diversity Antenna</b>	-	× 1	× 1	× 1
<b>GNSS Antenna</b>	× 1	-	× 1	× 1
<b>PWRKEY</b>	× 1	× 1	× 1	× 1
<b>RESET_N</b>	× 1	× 1	× 1	× 1
<b>USB_BOOT</b>	× 1	× 1	× 1	× 1
<b>GRFC (Optional)</b>	× 2	-	-	× 2
<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	AMR/AMR-WB
<b>Echo Arithmetic</b>	Echo Cancellation/Noise Suppression	Echo Cancellation/Noise Suppression	Echo Cancellation/Noise Suppression	Echo Cancellation/Noise Suppression
<b>Audio (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)
<b>Enhanced Features</b>				
<b>DTMF</b>	●	●	●	●
<b>DFOTA</b>	●	●	●	●
<b>QMI/RmNet</b>	●	●	●	●
<b>Audio Playback*/Audio Recording*</b>	Optional	Optional	Optional	Optional
<b>QuecOpen<sup>®</sup></b>	-	●	-	●
<b>QuecFile<sup>®</sup></b>	●	●	●	●
<b>(U)SIM Card Detection</b>	●	●	●	●
<b>SMS</b>	●	●	●	●
<b>eSIM<sup>③</sup></b>	●	-	●	●
<b>Drivers</b>				
<b>USB Serial Driver</b>	Windows 7/8/8.1/10/11, Linux 2.6–6.5, Android 4.x–13.x	Windows 7/8/8.1/10/11, Linux 2.6–6.5, Android 4.x–13.x	Windows 7/8/8.1/10/11, Linux 2.6–6.5, Android 4.x–13.x	Windows 7/8/8.1/10/11, Linux 2.6–6.5, Android 4.x–13.x
<b>GNSS Driver</b>	Android 4.x–13.x	-	Android 4.x–13.x	Android 4.x–13.x
<b>RIL Driver</b>	Android 4.x–13.x	Android 4.x–13.x	Android 4.x–13.x	Android 4.x–13.x
<b>USB NDIS Driver</b>	Windows 7/8/8.1/10/11	Windows 7/8/8.1/10/11	Windows 7/8/8.1/10/11	Windows 7/8/8.1/10/11
<b>USB MBIM Driver</b>	Windows 8/8.1/10/11, Linux 3.18–6.5	Windows 8/8.1/10/11, Linux 3.18–6.5	Windows 8/8.1/10/11, Linux 3.18–6.5	Windows 8/8.1/10/11, Linux 3.18–6.5
<b>USB GobiNet Driver</b>	Linux 2.6–6.5	Linux 2.6–6.5	Linux 2.6–6.5	Linux 2.6–6.5
<b>USB QMI_WWAN Driver</b>	Linux 3.4–6.5	Linux 3.4–6.5	Linux 3.4–6.5	Linux 3.4–6.5
<b>Electrical Features</b>				
<b>Supply Voltage Range</b>	3.3–4.3 V, 3.8 V Typ.	3.3–4.3 V, 3.8 V Typ.	3.3–4.3 V, 3.8 V Typ.	3.3–4.3 V, 3.8 V Typ.
<b>Power Consumption</b>	10 μA @ Power off 1.1 mA @ Sleep, Typ. 23 mA @ Idle	13 μA @ Power off 1.1 mA @ Sleep, Typ. 19 mA @ Idle	15 μA @ Power off 1.3 mA @ Sleep, Typ. 21 mA @ Idle	10 μA @ Power off 0.8 mA @ Sleep 14.6 mA @ Idle

NOTE:

- \*: Under development.
- : Supported.
- ①: Certified with EG91-AUX data-only version.
- ②: Thickness of EG91-E module is 2.3 mm, whereas that of EG91-NA/NAX/NAXD/VX/AUX/EX/JP module is 2.45 mm.
- ③: eSIM function can be supported by software, but an external eSIM chip is required.