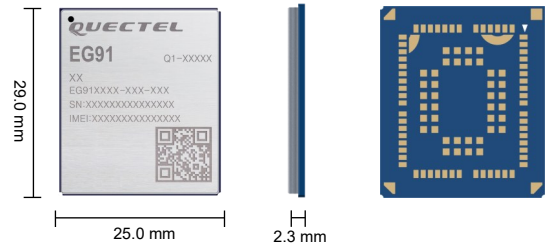




# Quectel EG91 Series

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 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-NAL, 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, UMTS/HSPA UG95/UG96 modules and LPWA BG95 series/BG96/BC95-G 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 7/8/10, 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 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



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



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



LGA Package



Embedded Abundant  
Protocols



Compact Size



Quectel Enhanced  
AT Commands



USB 2.0 High Speed  
Interface



USB Drivers

Rev.: 2.2 | Status: Released

# Quectel EG91 Series

LTE Cat 1	EG91-NA	EG91-NAL	EG91-VX	EG91-NAX
<b>Region/Operator</b>	North America	North America	North America	North America
<b>Dimensions (mm)</b>	29.0 × 25.0 × 2.3	29.0 × 25.0 × 2.3	29.0 × 25.0 × 2.3	29.0 × 25.0 × 2.3
<b>Temperature Range</b>				
<b>Operating Temperature</b>	-35 to +75 °C	-35 to +75 °C	-35 to +75 °C	-35 to +75 °C
<b>Extended Temperature</b>	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C
<b>Frequency Bands</b>				
<b>LTE-FDD</b>	B2/B4/B5/B12/B13	B2/B4/B5/B12/B13	B4/B13	B2/B4/B5/B12/B13/B25/B26
<b>WCDMA</b>	B2/B4/B5	-	-	B2/B4/B5
<b>GSM/EDGE</b>	-	-	-	-
<b>GNSS</b>	GPS/GLONASS/BeiDou/Galileo/QZSS (Optional)	GPS/GLONASS/BeiDou/Galileo/QZSS (Optional)	GPS/GLONASS/BeiDou/Galileo/QZSS (Optional)	GPS/GLONASS/BeiDou/Galileo/QZSS (Optional)
<b>Certifications</b>				
<b>Carrier</b>	<b>America:</b> Verizon/AT&T/ T-Mobile/ U.S. Cellular <b>Canada:</b> Rogers/Telus	<b>America:</b> Verizon*/AT&T*	<b>America:</b> Verizon	<b>America:</b> Verizon/AT&T/Sprint
<b>Regulatory</b>	<b>Global:</b> GCF <b>America:</b> PTCRB/FCC <b>Canada:</b> IC	<b>Global:</b> GCF* <b>America:</b> PTCRB*/FCC <b>Canada:</b> IC	<b>Global:</b> GCF <b>America:</b> FCC	<b>Global:</b> GCF <b>America:</b> PTCRB/FCC <b>Canada:</b> IC
<b>Others</b>	WHLQ/RoHS	WHLQ/RoHS	WHLQ/RoHS	WHLQ/RoHS
<b>Data Transmission</b>				
<b>LTE-FDD Data Rates (Mbps)</b>	10 (DL)/5 (UL)	10 (DL)/5 (UL)	10 (DL)/5 (UL)	10 (DL)/5 (UL)
<b>DC-HSPA+ Data Rates (Mbps)</b>	42 (DL)/5.76 (UL)	-	-	42 (DL)/5.76 (UL)
<b>WCDMA Data Rates (kbps)</b>	384 (DL)/384 (UL)	-	-	384 (DL)/384 (UL)
<b>EDGE Data Rates (kbps)</b>	-	-	-	-
<b>GPRS Data Rates (kbps)</b>	-	-	-	-
<b>Interfaces</b>				
<b>(U)SIM</b>	x 2	x 2	x 2	x 2
<b>UART</b>	x 2	x 2	x 2	x 2
<b>USB 2.0</b>	x 1	x 1	x 1	x 1
<b>Audio Digital (PCM)</b>	x 1	x 1	x 1	x 1
<b>I2C</b>	x 1	x 1	x 1	x 1
<b>NETLIGHT</b>	x 1	x 1	x 1	x 1
<b>SPI</b>	x 1	x 1	x 1	x 1
<b>Main Antenna</b>	x 1	x 1	x 1	x 1
<b>Rx-diversity Antenna</b>	x 1	x 1	x 1	x 1
<b>GNSS Antenna</b>	x 1	x 1	X 1	x 1
<b>PWRKEY</b>	x 1	x 1	x 1	x 1
<b>RESET_N</b>	x 1	x 1	x 1	x 1
<b>USB_BOOT</b>	x 1	x 1	x 1	x 1
<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
<b>Echo Arithmetic</b>	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression	Echo Cancellation/ Noise Suppression
<b>Audio</b>	Digital Audio and VoLTE (Voice over LTE) (Optional)	Digital Audio and VoLTE (Voice over LTE) (Optional)	Digital Audio and VoLTE (Voice over LTE) (Optional)	Digital Audio and VoLTE (Voice over LTE) (Optional)
<b>Enhanced Features</b>				
<b>DTMF</b>	●	●	●	●
<b>DFOTA</b>	●	●	●	●
<b>QMI/RmNet</b>	●	●	●	●
<b>MIMO 2 x 2</b>	●	●	●	●
<b>Audio Playback*/ Audio Recording*</b>	Optional	Optional	Optional	Optional
<b>QuecOpen®</b>	●	●	-	-
<b>QuecLocator®</b>	●	●	●	●
<b>QuecFile®</b>	●	●	●	●
<b>Drivers</b>				
<b>USB Serial Driver</b>	Windows 7/8/8.1/10, Linux 2.6-5.12, Android 4.x-11.x	Windows 7/8/8.1/10, Linux 2.6-5.12, Android 4.x-11.x	Windows 7/8/8.1/10, Linux 2.6-5.12, Android 4.x-11.x	Windows 7/8/8.1/10, Linux 2.6-5.12, Android 4.x-11.x
<b>GNSS Driver</b>	Android 4.x-11.x	Android 4.x-11.x	Android 4.x-11.x	Android 4.x-11.x
<b>RIL Driver</b>	Android 4.x-11.x	Android 4.x-11.x	Android 4.x-11.x	Android 4.x-11.x
<b>USB 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
<b>USB MBIM Driver</b>	Windows 8/8.1/10, Linux 3.18-5.12	Windows 8/8.1/10, Linux 3.18-5.12	-	-
<b>USB GobiNet Driver</b>	Linux 2.6-5.12	Linux 2.6-5.12	Linux 2.6-5.12	Linux 2.6-5.12
<b>USB QMI_WWAN Driver</b>	Linux 3.4-5.12	Linux 3.4-5.12	Linux 3.4-5.12	Linux 3.4-5.12
<b>Electrical Features</b>				
<b>Supply Voltage Range</b>	3.3-4.3V, 3.8V Typ.	3.3-4.3V, 3.8V Typ.	3.3-4.3V, 3.8V Typ.	3.3-4.3V, 3.8V Typ.
<b>Power Consumption</b>	13 μA @ Power off	13 μA @ Power off	13 μA @ Power off	13 μA @ Power off

# Quectel EG91 Series

LTE Cat 1	EG91-NAXD (Data-only)	EG91-E	EG91-EX	EG91-AUX
<b>Region/Operator</b>	North America	EMEA	EMEA	Latin America/Australia & New Zealand
<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
<b>Temperature Range</b>				
<b>Operating Temperature</b>	-35 to +75 °C	-35 to +75 °C	-35 to +75 °C	-35 to +75 °C
<b>Extended Temperature</b>	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C	-40 to +85 °C
<b>Frequency Bands</b>				
<b>LTE-FDD</b>	B2/B4/B5/B12/B13/B25/B26	B1/B3/B7/B8/B20/B28A	B1/B3/B7/B8/B20/B28	B1/B2/B3/B4/B5/B7/B8/B28/B66
<b>WCDMA</b>	B2/B4/B5	B1/B8	B1/B8	B1/B2/B5/B8
<b>GSM/EDGE</b>	-	B3/B8	B3/B8	B2/B3/B5/B8
<b>GNSS</b>	GPS/GLONASS/BeiDou/Galileo/QZSS (Optional)	-	GPS/GLONASS/BeiDou/Galileo/QZSS (Optional)	GPS/GLONASS/BeiDou/Galileo/QZSS (Optional)
<b>Certifications</b>				
<b>Carrier</b>	America: Verizon/AT&T/T-Mobile/Sprint	Europe: Deutsche Telekom	-	-
<b>Regulatory</b>	Global: GCF America: PTCRB/FCC Canada: IC	Global: GCF Europe: CE Brazil: Anatel Australia & New Zealand: RCM Russia: FAC	Global: GCF Europe: CE Taiwan, China: NCC Australia & New Zealand: RCM	Europe: CE America: FCC Brazil: Anatel Australia & New Zealand: RCM
<b>Others</b>	WHQL/RoHS	WHQL/RoHS	WHQL/RoHS	WHQL/RoHS
<b>Data Transmission</b>				
<b>LTE-FDD Data Rates (Mbps)</b>	10 (DL)/5 (UL)	10 (DL)/5 (UL)	10 (DL)/5 (UL)	10 (DL)/5 (UL)
<b>DC-HSPA+ Data Rates (Mbps)</b>	42 (DL)/5.76 (UL)	42 (DL)/5.76 (UL)	42 (DL)/5.76 (UL)	42 (DL)/5.76 (UL)
<b>WCDMA Data Rates (kbps)</b>	384 (DL)/384 (UL)	384 (DL)/384 (UL)	384 (DL)/384 (UL)	384 (DL)/384 (UL)
<b>EDGE Data Rates (kbps)</b>	-	296 (DL)/236.8 (UL)	296 (DL)/236.8 (UL)	296 (DL)/236.8 (UL)
<b>GPRS Data Rates (kbps)</b>	-	107 (DL)/85.6 (UL)	107 (DL)/85.6 (UL)	107 (DL)/85.6 (UL)
<b>Interfaces</b>				
<b>(U)SIM</b>	x 2	x 2	x 2	x 2
<b>UART</b>	x 2	x 2	x 2	x 2
<b>USB 2.0</b>	x 1	x 1	x 1	x 1
<b>Audio Digital (PCM)</b>	x 1	x 1	x 1	x 1
<b>I2C</b>	x 1	x 1	x 1	x 1
<b>NETLIGHT</b>	x 1	x 1	x 1	x 1
<b>SPI</b>	x 1	x 1	x 1	x 1
<b>Main Antenna</b>	x 1	x 1	x 1	x 1
<b>Rx-diversity Antenna</b>	x 1	x 1	x 1	-
<b>GNSS Antenna</b>	x 1	-	x 1	x 1
<b>PWRKEY</b>	x 1	x 1	x 1	x 1
<b>RESET_N</b>	x 1	x 1	x 1	x 1
<b>USB_BOOT</b>	x 1	x 1	x 1	x 1
<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
<b>Echo Arithmetic</b>	-	Echo Cancellation/Noise Suppression	Echo Cancellation/Noise Suppression	Echo Cancellation/Noise Suppression
<b>Audio</b>	-	Digital Audio and VoLTE (Voice over LTE) (Optional)	Digital Audio and VoLTE (Voice over LTE) (Optional)	Digital Audio and VoLTE (Voice over LTE) (Optional)
<b>Enhanced Features</b>				
<b>DTMF</b>	-	●	●	●
<b>DFOTA</b>	●	●	●	●
<b>QMI/RmNet</b>	●	●	●	●
<b>MIMO 2 x 2</b>	●	●	●	-
<b>Audio Playback*/Audio Recording*</b>	Optional	Optional	Optional	Optional
<b>QuecOpen®</b>	-	●	-	-
<b>QuecLocator®</b>	●	-	●	●
<b>QuecFile®</b>	●	●	●	●
<b>(U)SIM Card Detection</b>	●	●	●	●
<b>Drivers</b>				
<b>USB Serial Driver</b>	Windows 7/8/8.1/10, Linux 2.6-5.12, Android 4.x-11.x	Windows 7/8/8.1/10, Linux 2.6-5.12, Android 4.x-11.x	Windows 7/8/8.1/10, Linux 2.6-5.12, Android 4.x-11.x	Windows 7/8/8.1/10, Linux 2.6-5.12, Android 4.x-11.x
<b>GNSS Driver</b>	Android 4.x-11.x	-	Android 4.x-11.x	Android 4.x-11.x
<b>RIL Driver</b>	Android 4.x-10.x	Android 4.x-10.x	Android 4.x-10.x	Android 4.x-10.x
<b>USB 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
<b>USB MBIM Driver</b>	-	Windows 8/8.1/10, Linux 3.18-5.12	-	-
<b>USB GobiNet Driver</b>	Linux 2.6-5.12	Linux 2.6-5.12	Linux 2.6-5.12	Linux 2.6-5.12
<b>USB QMI_WWAN Driver</b>	Linux 3.4-5.12	Linux 3.4-5.12	Linux 3.4-5.12	Linux 3.4-5.12
<b>Electrical Features</b>				
<b>Supply Voltage Range</b>	3.3-4.3V, 3.8V Typ.	3.3-4.3V, 3.8V Typ.	3.3-4.3V, 3.8V Typ.	3.3-4.3V, 3.8V Typ.
<b>Power Consumption</b>	13 µA @ Power off	13 µA @ Power off	13 µA @ Power off	13 µA @ Power off