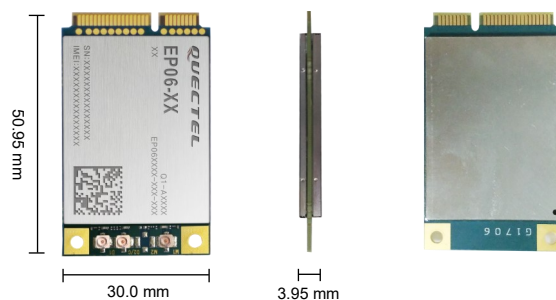




Quectel EP06 Series

IoT/M2M-optimized LTE Cat 6 Mini PCIe Module



Quectel EP06 is a series of LTE category 6 modules optimized specially for M2M and IoT applications. Adopting the 3GPP Rel-11 LTE technology, it delivers maximum data rates of 300 Mbps downlink and 50 Mbps uplink.

Designed in the Mini PCIe form factor, EP06 series contains 2 variants (EP06-E and EP06-A) for different target regions and both variants nearly cover all the mainstream carriers worldwide. The module can perform data communication in a plurality of network modes such as LTE-FDD, LTE-TDD, DC-HSDPA, HSPA+, HSDPA, HSUPA and WCDMA.

EP06 series supports Qualcomm® IZat™ location technology Gen8C Lite (GPS, GLONASS, BDS, Galileo and QZSS). The integrated GNSS greatly simplifies product design, and provides quicker, more accurate and more dependable positioning capability.

A rich set of Internet protocols, industry-standard interfaces and abundant functionalities (USB drivers for Windows 7, Windows 8/8.1, Windows 10, Linux and Android) extend the applicability of the module to a wide range of M2M and IoT applications such as industrial router, home gateway, set top box, industrial PDA, rugged tablet PC, video transmission and digital signage.



Key Features

- ✓ LTE Cat 6 module with Mini PCIe form factor, optimized for M2M and IoT applications
- ✓ Support LTE-A carrier aggregation
- ✓ Worldwide LTE-A and UMTS/HSPA(+) coverage
- ✓ Multi-constellation GNSS receiver available for applications requiring fast and accurate fixes in any environment
- ✓ Feature refinements: supports DFOTA and DTMF
- ✓ Adopting MIMO technology which meets demands for data rate and link reliability in modem wireless communication systems



LTE Cat 6
Max 300 Mbps (DL)
Max 50 Mbps (UL)



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



Mini PCIe
Package



Embedded Abundant
Protocols



Voice over LTE



Multi-constellation
GNSS (Optional)



USB 2.0/3.0 Interface



USB Drivers



Quectel Enhanced
AT Commands

Version: 1.9 | Status: Released

Quectel EP06 Series

LTE Cat 6	EP06-E	EP06-A
Region/Operator	EMEA/APAC ^① /Brazil	North America
Dimensions (mm)	30.0 × 50.95 × 3.95	30.0 × 50.95 × 3.95
Temperature Range		
Operating Temperature	-35 °C to +75 °C	-35 °C to +75 °C
Extended Temperature	-40 °C to +85 °C	-40 °C to +85 °C
Frequency Bands		
LTE-FDD	B1/ 3/ 5/ 7/ 8/ 20/ 28/ 32 ^②	B2/ 4/ 5/ 7/ 12/ 13/ 25/ 26/ 29 ^② / 30/ 66
LTE-TDD	B38/ 40/ 41	-
2 × CA	B1 + B1/ 5/ 8/ 20/ 28; B3 + B3/ 5/ 7/ 8/ 20/ 28; B7 + B5/ 7/ 8/ 20/ 28; B20 + B32 ^③ ; B38 + B38; B40 + B40; B41 + B41	B2 + B2/ 5/ 12/ 13/ 29 ^② ; B4 + B4/ 5/ 12/ 13/ 29 ^② ; B7 + B5/ 7/ 12/ 26; B25 + B5/ 12/ 25/ 26; B30 + B5/ 12/ 29 ^③ ; B66 + B5/ 12/ 13/ 29 ^② / 66
WCDMA	B1/ 3/ 5/ 8	B2/ 4/ 5
GNSS	GPS/GLONASS/BDS/Galileo/QZSS (Optional)	GPS/GLONASS/BDS/Galileo/QZSS (Optional)
Certifications		
Carrier	Europe: Deutsche Telekom Australia: Telstra	America: Verizon/AT&T/Sprint/T-Mobile Canada: Rogers/Telus
Regulatory	Global: GCF Europe: CE Taiwan, China: NCC Australia/New Zealand: RCM South Africa: ICASA Russia: FAC	Global: GCF North America: PTCRB America: FCC Canada: IC
Others	RoHS/WHQL	RoHS/WHQL
Data Transmission		
LTE-FDD Data Rate (Mbps)	300 (DL)/50 (UL)	300 (DL)/50 (UL)
LTE-TDD Data Rate (Mbps)	226 (DL)/28 (UL)	226 (DL)/28 (UL)
DC-HSPA+ Data Rate (Mbps)	42 (DL)/5.76 (UL)	42 (DL)/5.76 (UL)
WCDMA Data Rate (Kbps)	384 (DL)/384 (UL)	384 (DL)/384 (UL)
Interfaces		
USB 2.0/3.0	× 1	× 1
PCM (Digital Audio)	× 1	× 1
I2C	× 1	× 1
(U)SIM	× 2 (1.8/3.0 V)	× 2 (1.8/3.0 V)
Antenna Tuner Control* (ANTCTL)	× 4	× 4
W_DISABLE_N*	× 1	× 1
RESET_N	× 1	× 1
WAKE_N*	× 1	× 1
WWAN_LED_N	× 1	× 1
Antenna Connector	× 3 (Main, Diversity and GNSS Antennas ^⑤)	× 3 (Main, Diversity and GNSS Antennas ^⑤)
Voice		
Speech Codec Modes	AMR/AMR-WB	AMR/AMR-WB
Echo Arithmetic	Echo Cancellation/Noise Suppression	Echo Cancellation/Noise Suppression
VoLTE	CSFB and VoLTE (Voice over LTE) (Optional)	CSFB and VoLTE (Voice over LTE) (Optional)
Enhanced Features		
MIMO (2 × 2, 4 × 2, DL)	●	●
Digital Audio and VoLTE (Voice over LTE)	Optional	Optional
DTMF	●	●
Dual SIM Single Standby	●	●
DFOTA	●	●
GNSS	Optional	Optional
Drivers		
USB Driver	Windows 7/8/8.1/10, Linux 2.6–5.4, Android 4.x/5.x/6.x/7.x/9.x	Windows 7/8/8.1/10, Linux 2.6–5.4, Android 4.x/5.x/6.x/7.x/9.x
GNSS Driver	Android 4.x/5.x/6.x/7.x/8.x/9.x	Android 4.x/5.x/6.x/7.x/8.x/9.x
RIL Driver	Android 4.x/5.x/6.x/7.x/8.x/9.x/10.x	Android 4.x/5.x/6.x/7.x/8.x/9.x/10.x
NDIS Driver	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
GobiNet Driver	Linux 2.6–5.4	Linux 2.6–5.4
QMI_WWAN Driver	Linux 3.4–5.4	Linux 3.4–5.4
Electrical Features		
Supply Voltage Range	3.1–4.4 V, typ. 3.3 V	3.1–4.4 V, typ. 3.3 V
Power Consumption	3.3 mA @ Sleep, Typ. 32.12 mA @ Idle	3.6 mA @ Sleep, Typ. 31.3 mA @ Idle

NOTE:

- * means under development.
- means supported.
- ① Excluding Japan and CMCC.
- ② LTE-FDD B29 and B32 support receiving only, and are only for secondary component carrier in 2 × CA.
- ③ means the module supports only passive GNSS antenna by default.