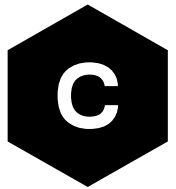


LARA-L6 series



Multi-mode LTE Cat 4 modules in smallest form factor

World's smallest LTE Cat 4 module with global coverage and extensive MNO certifications

- Focused product variants to reduce logistics complexity
- Any region, any band, any technology for simple roaming and deployment anywhere in the world
- Compatibility with LARA-R6 (LTE Cat 1)
- Secure by design to always keep your device running and updated
- Ideal for size-constrained devices



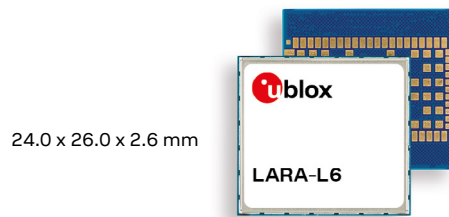
Standard



Professional



Automotive



24.0 x 26.0 x 2.6 mm

Product description

The LARA-L6 series are LTE Cat 4 modules with data rates up to 150 Mbit/s in downlink and 50 Mbit/s in uplink. They come in several variants: LARA-L6004 is a global variant supporting voice and data applications, LARA-L6004D is a global variant for data-only services, LARA-L6804 is a multi-regional variant (for most regions except North America) for data-only services, LARA-L6824 is a variant specifically for Japan supporting voice and data applications, LARA-L6824D is a data-only variant specifically for Japan, LARA-L6404 is a North American variant supporting voice and data applications, and LARA-L6404D is a North American variant for data-only services. This allows more flexibility for product selection based on application needs. The modules feature secure boot, secure updates, and are certified according to RED cybersecurity requirements using the ETSI EN 303 645 standard. Security is regularly updated via maintenance releases to keep your device running and protected from attacks.

LARA-L6004 is the smallest LTE Cat 4 multi-mode module with global coverage available in the market. As a single SKU, it provides universal connectivity and greatly simplifies logistics. This truly global module has 18 LTE bands plus 3G/2G fallback. Thanks to compatibility with LARA-R6 (LTE Cat 1) you can maximize return on development efforts and ease of migration between variants, depending on application needs and regional targets. Versatile interfaces, features, multi-band, and multi-mode capabilities make LARA-L6 ideally suited for a wide range of applications that require high data speed, seamless connectivity, superior coverage, low latency, streaming data, and voice support. These include industrial gateways, routers, alarm panels, video surveillance, telematics, fleet management, connected health, and point-of-sale terminals.

	LARA-L6004 LARA-L6004D*	LARA-L6804D*	LARA-L6824 LARA-L6824D*	LARA-L6404 LARA-L6404D*
Grade				
Automotive				
Professional	•	•	•	•
Standard				
Regions				
	Global	Multi-region	Japan	N. America
Access Technology				
LTE FDD bands	1, 2, 3, 4, 5, 7, 8, 12, 13, 18, 19, 20, 26, 28	1, 2, 3, 4, 5, 7, 8, 18, 19, 20, 26, 28	1, 3, 18, 19, 26	2, 4, 5, 12, 13, 14, 66, 71
LTE TDD bands	38, 39, 40, 41	-	-	-
UMTS/HSPA bands	850, 900, 1900, 2100	-	-	-
GSM/GPRS bands	Q	Q	-	-
Data rate	Cat 4	Cat 4	Cat 4	Cat 4
Positioning				
GNSS via modem	•	•	•	•
Compatible u-blox Services				
AssistNow™	•	•	•	•
CellLocate®	•	•	•	•
Interfaces				
UART	2	2	2	2
USB	1	1	1	1
I2C	1	1	1	1
I2S	1	1	1	1
GPIO	9	9	9	9
Features				
Power saving mode	•	•	•	•
TCP/IP, UDP/IP, HTTP/FTP	•	•	•	•
TLS / DTLS	•	•	•	•
eDRX	•	•	•	•
Secure boot / update	•	•	•	•
Rx Diversity and MIMO	•	•	•	•
Dual stack IPv4/IPv6	•	•	•	•
FW update via serial (FOAT)	•	•	•	•
FOTA/uFOTA	•	•	•	•
LwM2M	•	•	•	•
Last gasp	•	•	•	•
Jamming detection	•	•	•	•
Antenna and SIM detection	•	•	•	•
Antenna dynamic tuning	•	•	•	•
VoLTE/CSFB	Δ		Δ	Δ

Cat 4 = 150 Mbit/s DL, 50 Mbit/s UL
Q = Quad-band

* = Data-only variant
Δ = Not for data-only variant



Features

LTE	LTE Cat 4 (150 Mbit/s DL, 50 Mbit/s UL) 3GPP Release 10 – LARA-L6004(D) (Global) – LARA-L6804D (Multi-region) – LARA-L6824(D) (Japan) – LARA-L6404(D) (North America) Power saving features: – Rel 12 LTE power saving mode, PSM
UMTS	HSDPA category 24, HSUPA category 6 Bands (in MHz): 850/900/1900/2100
GSM	GPRS/EDGE multi-slot class 33 Bands (in MHz): 850/900/1800/1900
SMS	MT/MO PDU / Text mode SMS over IMS and via SMS-C
Voice (LARA-L6004, -L6404, -L6824 only)	VoLTE or CSFB Codec: HR/FR/EFR/AMR/AMR-WB Echo cancellation and noise reduction

Compatible u-blox services

Location	AssistNow CellLocate
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Software features

Protocols	Dual stack IPv4 and IPv6 Embedded TCP/IP, UDP/IP, FTP, HTTP Embedded MQTT and MQTT-SN Embedded LwM2M eSIM and Bearer Independent Protocol
GNSS Interfaces	Direct access to u-blox GNSS via module
Firmware upgrade	Via UART (FOAT) and USB (FOAT and EasyFlash) FOTA / uFOTA client/server solution (Firmware upgrade Over the Air)
Security	Secure boot Secure updates

Interfaces

Serial	2 UART 1 USB 2.0 (high-speed, 480 Mbit/s) 1 I2C 1 I2S
GPIO	Up to 9 GPIOs, configurable
(U)SIM	Supports 1.8 V and 3.0 V, SIM toolkit

Further information

For contact information, see www.u-blox.com/contact-u-blox.

For more product details and ordering information, see the [product data sheet](#).

Package

100 pin LGA (Land Grid Array): 24.0 x 26.0 x 2.6 mm, < 4 g

Environmental data, quality & reliability

Operating temperature –40 °C to +85 °C

RoHS compliant (lead-free)

u-blox qualification policy (based on AEC-Q104 standard)

Manufactured at ISO 9001 / 14001 certified production site

Certifications and approvals¹

LARA-L6004	FCC, UKCA, ISED, RED, NCC, RCM, Giteki, Anatel
LARA-L6004D	PTCRB, GCF, FCC, ISED, RED, UKCA, NCC, RCM, Giteki, Anatel, KC, AT&T, Verizon, T-Mobile, Telefonica, Telstra, DT, NTT, SBM, KDDI
LARA-L6804D	GCF, RED, UKCA, NCC, RCM, Giteki, NTT, SBM, KDDI
LARA-L6824(D)	Giteki, NTT, KDDI
LARA-L6404(D)	PTCRB, GCF, FCC, ISED, AT&T, FirstNet, Verizon, T-Mobile
All LARA-L6 variants	RED cybersecurity requirements ETSI EN 303 645

¹ = Contact u-blox for a list of achieved certification approvals

Electrical data

Power supply	3.8 V nominal, range 3.3 V to 4.5 V Extended range 3.1 V to 4.5 V
Power consumption	Active Idle Mode: ~1.1 mA

Support products

EVK-L6	Evaluation kits for LARA-L6 series RIL software available for Android 14.0 and previous versions
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Product variants

LARA-L6004	Global LTE Cat 4 module
LARA-L6004D (data-only variant)	LTE FDD bands: 1, 2, 3, 4, 5, 7, 8, 12, 13, 18, 19, 20, 26, 28 LTE TDD bands: 38, 39, 40, 41 3G bands: 1, 2, 5, 8 2G bands: Quad-band
LARA-L6804D	LTE module for multi-regional use, data-only LTE FDD bands: 1, 2, 3, 4, 5, 7, 8, 18, 19, 20, 26, 28 3G bands: 1, 2, 5, 8; 2G bands: Quad-band
LARA-L6824	LTE module for Japan
LARA-L6824D (data-only variant)	LTE FDD bands: 1, 3, 18, 19, 26
LARA-L6404	LTE module for North America
LARA-L6404D (data-only variant)	LTE FDD bands: 2, 4, 5, 12, 13, 14, 66, 71

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