

LARA-R2 series

Standard Professional Automotive

CELLULAR

Performance optimised LTE modules

Highlights

- LTE modem in very small, compact LGA package
- Single-mode LTE Cat. 1 (10 Mb/s download, 5 Mb/s upload)
- Voice over LTE (VoLTE)
- Variants for America and Europe
- Full IP Stack embedded
- Bearer Independent Protocol (BIP)
- Easy migration from u-blox LTE, W-CDMA, CDMA, GSM modules



LARA-R2 series:
22 x 27.5 x 3 mm

Product description

LARA-R2 series modules support multi-band LTE-FDD in a very small LGA package.

The modules are ideal for applications that are transitioning to LTE from 2G and 3G, due to the long term availability and scalability of LTE networks.

With a range of interface options and an integrated IP stack, the modules are designed to support a wide range of data-centric applications. The unique combination of performance and flexibility make these modules ideally suited for medium speed M2M applications, such as smart energy gateways, remote access video cameras, digital signage, telehealth and telematics.

They also support Voice over LTE (VoLTE) for applications where voice is required such as in security and surveillance systems.

The temperature range of -40 to +85 °C guarantees operation in harsh environments and in very compact designs.

The ultra-compact LGA package enables straightforward automated manufacturing. The LARA form factor follows the u-blox nested design principle and is compatible with u-blox SARA, LISA and TOBY module families. This facilitates easy migration from u-blox GSM/GPRS, CDMA, UMTS/HSPA, and multi-mode LTE modules, maximizes the investments of customers, simplifies logistics, and enables very short time-to-market.

LARA-R2 modules are manufactured in ISO/TS 16949 certified sites, with the highest production standards and the highest quality and reliability. Each module is fully tested and inspected during production. Modules are qualified according to ISO16750 – for systems installed in vehicles.

LARA-R2 modules come in variants for America and Europe. USB drivers and RIL software for Android are free of charge.

Product selector

Model	Region	Access Technology	GNSS	Interfaces	Audio	Features	Grade
		3GPP Release Baseline LTE FDD Category LTE Bands Rx Diversity	GNSS receiver	UART USB 2.0 DDC GPIO	Analog audio Digital audio	Antenna Supervisor Jamming Detection Embedded TCP/UDP Embedded HTTP, FTP, SSL Assistnow software CellLocate® Dual stack IPv4 / IPv6	Standard Professional Automotive
LARA-R200	North America	9 1 4, 13	•	1 1 1 10	1	• • • • • • •	Professional
LARA-R202	North America	9 1 2, 4, 17	•	1 1 1 10	1	• • • • • • •	Professional
LARA-R210	Europe	9 1 3, 8, 20	•	1 1 1 10	1	• • • • • • •	Professional

Features

LTE	Cat. 1 (10 Mb/s DL, 5 Mb/s UL) 3GPP Release 9 FDD bands: LARA-R200: 4, 13 (N. America) LARA-R202: 2, 4, 17 (N. America) LARA-R210: 3, 8, 20 (EU) All channel bandwidths: 1.4 - 20 MHz Rx Diversity
SMS	MT/MO PDU/Text mode SMS over IMS and via SMS-C
Voice	VoLTE Codec: HR/FR/EFR/AMR/AMR-WB Audio-over-USB Echo cancelation & noise reduction

Software features

Protocols	Dual stack IPv4 / IPv6 Embedded TCP/IP, UDP/IP HTTP/FTP/SSL (Secure Socket Layer) Bearer Independent Protocol (BIP)
GNSS Interfaces	Direct access to u-blox GNSS via LARA AssistNow software for fastest GNSS Time-To-First-Fix CellLocate® & Hybrid Positioning
Firmware upgrade	Via UART and USB

Electrical data

Power supply	3.8 V nominal, range 3.3 V to 4.4 V
Power consumption	TBD

Interfaces

Serial	1 UART 1 USB 2.0 (high-speed, 480 Mb/s) 1 SDIO (Master)
GPIO	Up to 10 configurable GPIOs
(U)SIM	Supports 1.8 V and 3 V, SIM toolkit
Audio	1 digital

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Package

96 pin LGA (Land Grid Array): 22.0 x 27.5 x 3.0 mm, < 5 g

Environmental data, quality & reliability

Operating temperature -40 to +85 ° C (extended range)
RoHS compliant (lead-free)
Qualification according to ISO 16750
Manufactured in ISO/TS 16949 certified production sites

Certifications and approvals

LARA-R200	GCF, FCC, IC, Verizon
LARA-R202	PTCRB, FCC, IC, AT&T
LARA-R210	GCF, PTCRB, FCC, RTTE&D operator approvals

Support products

EVK-R2x	Evaluation Kits for TOBY-R2 and LARA-R2 series
RIL software	Available for Android 4.2
USB driver	Available for Embedded Windows 6.x 7.x, Windows 7, 8

Product variants

LARA-R200	LTE modules for North America Cat. 1; Bands 4, 13
LARA-R202	LTE modules for North America Cat. 1; Bands 2, 4, 17
LARA-R210	LTE modules for Europe Cat. 1; Bands 3, 8, 20

Further information

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

For more product details and ordering information, see the product data sheet.