

LEXI-R10 series



Single-mode LTE Cat 1bis modules

World's smallest LTE Cat 1bis modules, ideal for size-constrained devices

- Flexible and cost-optimized designs with global and regional variants
- Certified with leading mobile operators, including US LTE networks
- Very low power consumption with eDRX and PSM power saving features
- Wi-Fi scan and u-blox CellLocate® for indoor and outdoor positioning



Standard



Professional



Automotive

16.0 × 16.0 × 2.0 mm



Product description

The LEXI-R10 series comprises highly integrated and compact modules featuring medium capacity data connectivity (10 Mbit/s downlink, 5 Mbit/s uplink) with very low energy consumption. With its 16 x 16 mm size, LEXI-R10 is the world's smallest LTE Cat 1bis single-mode module, which enables high design flexibility and smallest designs.

Thanks to connectivity to ubiquitous LTE Cat 1 networks, LEXI-R10 is ideally suited to a wide range of value-oriented applications that require medium data speed and superior coverage. Typical applications are asset tracking, telematics, healthcare, and wearables.

The LEXI-R10 series modules support multiple bands and come in three variants:

- **LEXI-R10011D** for global use comes with a comprehensive set of supported bands and all relevant regulatory and MNO certifications. It is available with an optional eSIM for cellular network connectivity.
- **LEXI-R10401D** provides an ideal LTE Cat 1bis solution for the Americas, as it supports all relevant LTE bands, is designed for use on AT&T and Verizon networks, and includes the required regulatory and MNO certifications.
- **LEXI-R10801D** for the EMEA, APAC, and Brazil regions comes with necessary regulatory approvals such as RED, NCC, RCM, and Anatel.

LEXI-R10 modules include an embedded Wi-Fi radio to scan Wi-Fi hotspots for indoor location and they support the u-blox CellLocate positioning service. The modules are professional grade and are qualified according to the u-blox qualification policy, based on the AEC-Q104 standard.

	LEXI-R10011D	LEXI-R10401D	LEXI-R10801D
Grade			
Automotive			
Professional	•	•	•
Standard			
Regions			
	Global	Americas	EMEA, APAC, Brazil
Access technology			
LTE FDD bands	1, 2, 3, 4, 5, 7, 8, 12, 13, 20, 25, 28, 66	2, 4, 5, 12, 13, 14, 66, 71	1, 3, 5, 7, 8, 20, 28
LTE TDD bands	34, 38, 39, 40, 41		
Data rate	Cat 1	Cat 1	Cat 1
Compatible u-blox services			
CellLocate	•	•	•
Interfaces			
UART	2	2	2
USB	1	1	1
GPIO	10	10	10
Features			
eSIM	o		
MQTT	•	•	•
TCP/IP, UDP/IP	•	•	•
HTTP	•	•	•
TLS / DTLS	•	•	•
Secure boot and updates	•	•	•
Dual stack IPv4/IPv6	•	•	•
FOTA	•	•	•
eDRX	•	•	•
PSM	•	•	•
Deep sleep mode	•	•	•
Backup/restore	•	•	•
Wi-Fi scan	•	•	•
Antenna dynamic tuning	•	•	•
SNTP	•	•	•

Cat 1 = 10 Mbit/s DL, 5 Mbit/s UL

o = Optional

LEXI-R10 series



Features

LTE	LTE Cat 1bis (10 Mbit/s DL, 5 Mbit/s UL) 3GPP Release 14 – LEXI-R10011D (Global) – LEXI-R10401D (Americas) – LEXI-R10801D (EMEA, APAC, and Brazil) Power saving features: PSM, eDRX, and CDRX
SMS	MT/MO PDU / Text mode SMS via SMS-C

Software features

Protocols	Dual stack IPv4 and IPv6 MQTT TCP/IP, UDP/IP HTTP TLS / DTLS GSMA SGP01/02 M2M ready (remote SIM provisioning)
Firmware upgrade	Via FOAT and FOTA (Firmware upgrade Over The Air)

Compatible u-blox services

Location	CellLocate®
----------	-------------

Electrical data

Power supply	3.8 V nominal for the modem
Power consumption	PSM: 3 µA eDRX (81.92s): 15 µA

Interfaces

Serial	2 UART 1 USB 2.0 (high-speed, 480 Mbit/s) 1 I2C (hardware-ready)
GPIO	Up to 10 GPIOs, configurable
(U)SIM	Supports 1.8 V and 3.0 V, SIM toolkit

Package

133-pin LGA (Land Grid Array): 16.0 x 16.0 x 2.0 mm

Environmental data, quality & reliability

Operating temperature	–40 °C to +85 °C
RoHS compliant (lead-free)	
u-blox qualification policy (based on AEC-Q104 standard)	

Certifications and approvals

LEXI-R10011D	PTCRB, GCF, FCC, ISED, RED, NCC, RCM, Giteki, AT&T ¹ ,
LEXI-R10401D	PTCRB, GCF, FCC, ISED, AT&T, Verizon, FirstNet
LEXI-R10801D	RED, NCC, RCM, Anatel

1 = In planning

Support products

EVK-LEXI-R10011D	Evaluation kit for LEXI-R10011D
EVK-R10401D	Evaluation kit for LEXI-R10401D
EVK-R10801D	Evaluation kit for LEXI-R10801D

Product variants

LEXI-R10011D	LTE Cat 1bis module for global use LTE FDD bands: 1, 2, 3, 4, 5, 7, 8, 12, 13, 20, 25, 28, 66 LTE TDD bands: 34, 38, 39, 40, 41
LEXI-R10401D	LTE Cat 1bis module for Americas LTE FDD bands: 2, 4, 5, 12, 13, 14, 66, 71
LEXI-R10801D	LTE Cat 1bis module for EMEA, APAC, and Brazil LTE FDD bands: 1, 3, 5, 7, 8, 20, 28

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.

Legal Notice:

u-blox or third parties may hold intellectual property rights in the products, names, logos and designs included in this document. Copying, reproduction, or modification of this document or any part thereof is only permitted with the express written permission of u-blox. Disclosure to third parties is permitted for clearly public documents only.

The information contained herein is provided "as is". No warranty of any kind, either express or implied, is made in relation to the accuracy, reliability, fitness for a particular purpose, or content of this document. This document may be revised by u-blox at any time. For most recent documents, please visit www.u-blox.com.