Product summary

LEXI-R10 series

Single-mode LTE Cat 1bis modules

C

Standard

Professional

Automotive

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

- Reduced logistics complexity with two regional product variants
- Certified with leading mobile operators, including US LTE networks
- Very low power consumption with eDRX and PSM power modes
- Wi-Fi scan and u-blox CellLocate for indoor positioning
- Universal connectivity via 4G LTE networks

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 multi-band LTE-FDD and come in two variants:

- **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 and APAC regions comes with necessary regulatory approvals such as RED, UKCA, NCC and RCM.

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-R10401D	LEXI-R10801D
Grade		
Automotive		
Professional	•	•
Standard		
Regions		
	Americas	EMEA and APAC
Access technology		
LTE FDD bands	2, 4, 5, 12, 13, 14, 66, 71	1, 3, 5, 7, 8, 20, 28
Data rate	Cat 1	Cat 1
Compatible with u-blox services		
CellLocate	•	•
Interfaces		
UART	2	2
USB	1	1
I2C	1	1
GPIO	10	10
Features		
MQTT	•	•
TCP/IP, UDP/IP, HTTP	•	•
TLS / DTLS	•	•
Secure boot / update	•	•
Dual stack IPv4/IPv6	•	•
FOTA	•	•
eDRX	•	•
Power save mode	•	•
Backup/restore	•	•
Wi-Fi scan	•	•
Antenna and SIM detection	•	•
Antenna dynamic tuning	•	•
SNTP	•	•

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

LEXI-R10 series

C

Features

LTE	LTE Cat 1bis (10 Mbit/s DL, 5 Mbit/s UL) 3GPP Release 14 – LEXI-R10401D (Americas) – LEXI-R10801D (EMEA and APAC) Power saving features: – Rel 12 LTE power save mode , PSM – Rel 13 eDRX
SMS	MT/MO PDU / Text mode SMS via SMS-C

Software features

Protocols	Dual stack IPv4 and IPv6 Embedded TCP/IP, UDP/IP, HTTP Embedded MQTT Bearer Independent Protocol
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	TBD

Interfaces

Serial	2 UART 1 USB 2.0 (high-speed, 480 Mbit/s) 1 I2C
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)	
Manufactured at IATF 16949 certified production site	

Certifications and approvals

LEXI-R10401D	PTCRB, GCF, FCC, ISED, AT&T, Verizon, FirstNet
LEXI-R10801D	RED, UKCA, NCC, RCM

Support products

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

Product variants

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 and APAC 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.