Product summary
SARA-R10001DE module

Single-mode LTE Cat 1bis module with integrated eSIM

Provides LTE global coverage thanks to Wireless Logic connectivity

- Integrated Wireless Logic eSIM
- eSIM with multi-IMSI technology and eUICC
- Easy migration path from SARA 2G/3G/LPWA designs
- 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 × 26.0 × 2.2 mm

SARA-R10001DE

Product description

The SARA-R10001DE features LTE Cat 1bis medium capacity data connectivity (10 Mbit/s downlink, 5 Mbit/s uplink) with very low energy consumption in the popular SARA form factor.

Thanks to connectivity to ubiquitous LTE Cat 1 networks and the integrated eSIM with multi-IMSI technology provided by Wireless Logic, SARA-R10001DE is ideally suited to a wide range of value-oriented applications that require medium data speed, global coverage, and positioning. Typical applications are asset tracking, telematics, healthcare and payment and vending.

The SARA-R10001DE supports multi-band LTE for worldwide coverage. It includes an embedded Wi-Fi radio to scan Wi-Fi hotspots for indoor and outdoor location and supports the u-blox CellLocate positioning service.

The Wireless Logic's eSIM provides global coverage thanks to geo-distributed mobile cores, local network breakouts, and multiple network partners in all key markets to achieve globally compliant connectivity. Wireless Logic's eSIM for global deployments combined with deep network insights and control enables rapid deployment and assurance that issues can be diagnosed and resolved quickly. Network and on-SIM intelligence enables post-deployment optimizations to be made OTA.

Global flexibility thanks to the many bands lets the customer pivot into new markets and solve regulatory or commercial issues.

SARA-R10001DE is designed to provide an easy migration path from SARA 2G/3G/LPWA designs as well as for new designs. The module is professional grade and is qualified according to the u-blox qualification policy, based on the AEC-Q104 standard.

	SARA-R10001DE
Grade	
Automotive	
Professional	•
Standard	
Regions	
	Global
Access technology	
LTE FDD bands	1, 2, 3, 4, 5, 7, 8, 12, 13, 20, 28, 66
LTE TDD bands	34, 38, 39, 40, 41
Data rate	Cat 1bis
Compatible u-blox services	
CellLocate	•
Interfaces	
UART	2
USB	1
GPIO	6
Features	
eSIM	•
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

SARA-R10001DE module

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Features

LTE	LTE Cat 1bis (10 Mbit/s DL, 5 Mbit/s UL) 3GPP Release 14 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 (81.92 s): 15 µA

Interfaces

Serial	2 UART 1 USB 2.0 (high-speed, 480 Mbit/s) 1 I2C (hardware-ready)
GPIO	Up to 6 GPIOs, configurable
(U)SIM	Integrated eSIM

Package

96-pin LGA (Land Grid Array): 16.0 x 26.0 x 2.2 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 [1]

SARA-R10001DE	FCC, ISED, RED, NCC, RCM

1 = Planned

Support products

EVK-SARA-R10001DE	Evaluation kit for SARA-R10001DE

Product variants

SARA-R10001DE	LTE Cat 1bis module for global use with integrated eSIM

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.