

TRASNA

Lena-R8

Compact Cat 1bis module,
multi-mode, and GNSS



Upgrade your IoT future with Trasna

Trasna supports over 250 leading brands across 80+ countries with end-to-end IoT connectivity hardware and software solutions for SIM, eSIM, iSIM/SoC, cellular IoT modules, and device management. We deliver the full mobile IoT value chain from chip to cloud with unmatched control, efficiency and innovation. By partnering with us, clients gain maximum value and a strong competitive edge.



Complete control

Enjoy end-to-end security. Everything starts and finishes with us, so you always have complete visibility and accountability at every stage



Complete efficiency

Our end-to-end solutions are designed to deliver optimal efficiency at every stage, reducing costs, time, and resources whilst ensuring fast, easy implementation



Complete innovation

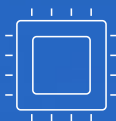
We deliver cutting-edge, scalable technology, future-proofing your business with solutions that drive rapid growth and capitalise on emerging opportunities

u-blox cellular IoT is now Trasna

In March 2025, Trasna acquired u-blox's cellular IoT modules enabling it to strengthen its IoT connectivity chip-to-cloud offering in the OEM sector. This moved included u-blox's cellular module technology IP, product portfolio, and engineering team. This strengthened Trasna's position as a comprehensive cellular IoT solutions provider, offering end-to-end capabilities spanning semiconductor chip design, SIM and eSIM manufacturing, and cloud-based remote SIM and device management services.



Chip design



(e)SIM



Device mgmt



Cellular IoT modules

Trasna in numbers



Top
02

**in cellular
modules**

Excl. China



20_{bn}

**secure
connections**

without breach



250⁺ **clients**
in 80 countries



25⁺ **years'**
in cellular IoT

Lena-R8

Lena-R8 is a compact multi-mode LTE Cat 1bis module with global band support, 2G fallback, and built-in GNSS for voice, data, and location-based IoT. With a 27 x 30 mm footprint, it simplifies deployment across markets with a single SKU and offers flexible positioning via integrated GNSS and CellLocate making it ideal for cost-sensitive applications like tracking, telematics, and voice-enabled devices.



Standard



Professional



Automotive

Same great cellular products and
team, now powered by Trasna

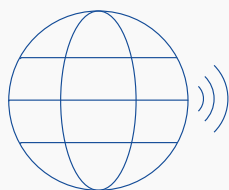
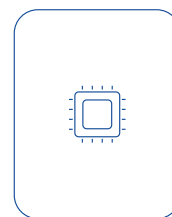


27 × 30 × 2.7 mm

Benefits

Global connectivity

Supports 14 LTE Cat 1bis bands with 2G fallback, enabling simplified worldwide deployment and wide roaming coverage

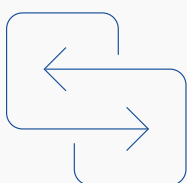


Flexible location options

Choose integrated GNSS (Lena-R8001M10), stand-alone GNSS, or CellLocate depending on application and power requirements

Voice-ready Lena

Supports VoLTE and 2G audio for alarm panels, eHealthcare, and other voice-based IoT use cases



Easy platform migration

PIN-compatible with other modules, allowing straightforward upgrades from legacy 2G/3G solutions



Highlights



Global LTE and 2G bands

Provides LTE Cat 1bis coverage across 14 bands with fallback to 2G for enhanced roaming flexibility in diverse network environments



Compact design

Small 27 x 30 x 2.7 mm form factor ideal for integration into space-limited applications



Advanced location features

Supports CellLocate for network-based positioning options suited to both high-precision and low-power applications



Voice support

Enables VoLTE and 2G audio for voice-capable applications in both modern and legacy infrastructure settings



Power-efficient dual-mode operation

Cellular subsystems operate independently, allowing optimised usage patterns to minimise energy consumption



Flexible integration

Offers dedicated interfaces for both cellular modem subsystems, providing developers with greater control and flexibility

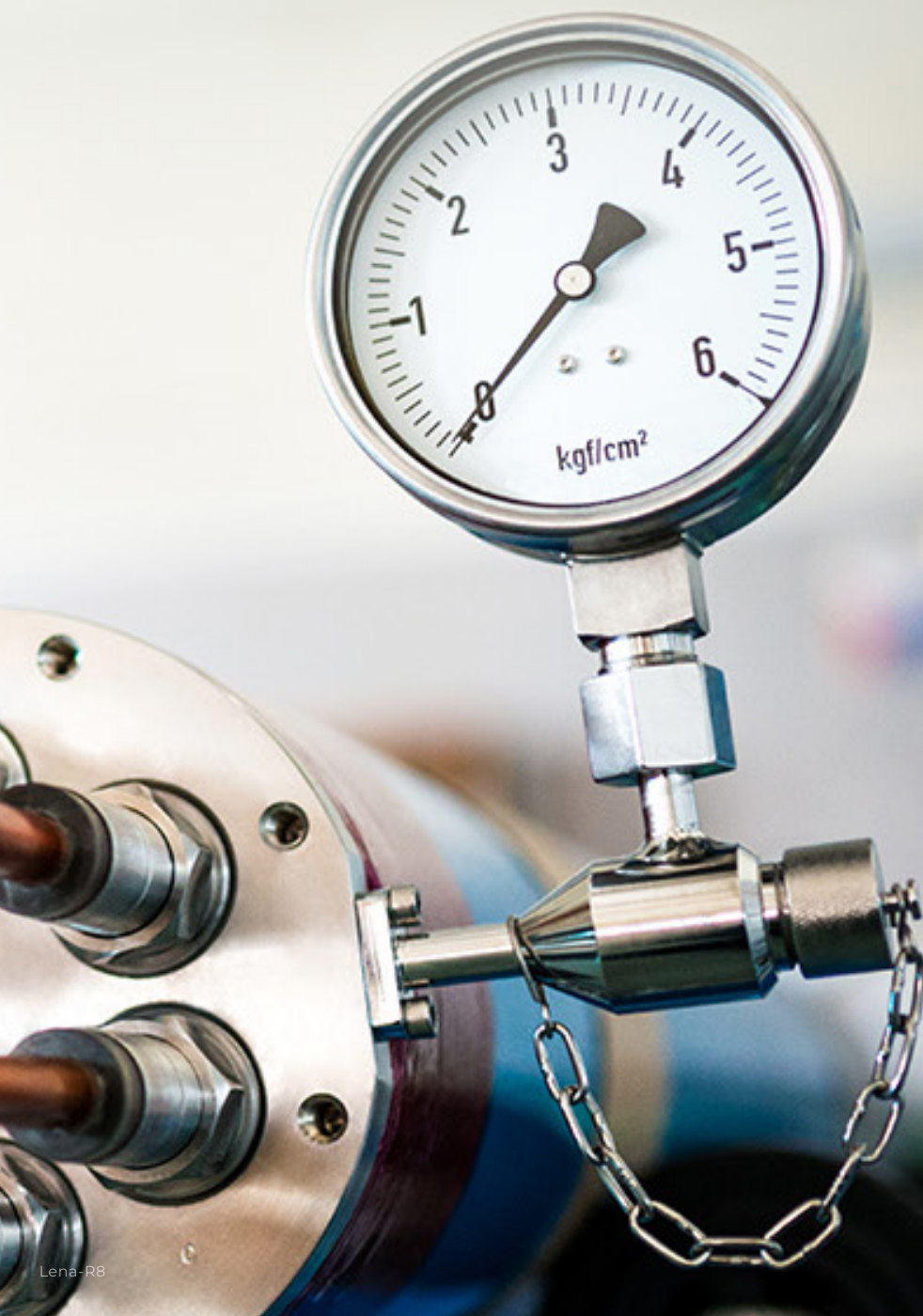


Future-ready migration path

PIN-compatible with other form factors to enable seamless transition from retiring 2G/3G networks to LTE Cat 1bis

Use cases

- Asset tracking and global fleet management
- Aftermarket telematics and insurance applications
- Alarm panels and emergency call systems
- Connected health and eHealthcare solutions
- GNSS-enabled location services and wearable tracking



Product features

		Lena-R8001	Lena-R8001M10
Grade	Automotive		
	Professional		
	Standard	•	•
Regions		Global	Global
Access technology	LTE FDD bands	1, 2, 3, 4, 5, 7, 8, 12, 20, 28, 66	1, 2, 3, 4, 5, 7, 8, 12, 20, 28, 66
	LTE TDD bands	38, 40, 41	38, 40, 41
	2G bands	Q	Q
	Data rate	Cat 1	Cat 1
Compatible Trasna services	AssistNow™	•	•
	CellLocate®	•	•
Interfaces	UART	2	3
	USB	1	1
	I2C	1	1
	I2S	1	1
	GPIO	6	6
Features	PSM	•	•
	eDRX	•	•
	MQTT / MQTT-SN	•	•
	TCP/IP, UDP/IP, HTTP/ FTP	•	•
	DTLS/TLS	•	•
	Secure boot / update	•	•
	Dual stack IPv4/IPv6	•	•
	FW update via serial (FOAT)	•	•
	FOTA	•	•
	Jamming detection	•	•
	Antenna detection	•	•
	VoLTE and CSFB	•	•

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

Q = Quad-band

Features	LTE	LTE Cat 1bis (10 Mbit/s DL, 5 Mbit/s UL) 3GPP Release 13
	GSM (2G)	GPRS multi-slot class 12 Bands (in MHz): 850/900/1800/1900
	SMS	MT/MO PDU / Text mode SMS over IMS and via SMS-C
	Voice	VoLTE or CSFB Codec: HR/FR/EFR/AMR/AMR-WB Echo cancelation & noise reduction
Software features	Protocols	Dual stack IPv4 and IPv6 Embedded TCP/IP, UDP/IP, FTP, HTTP Embedded MQTT and MQTT-SN eSIM and Bearer Independent Protocol
	Positioning	Integrated u-blox M10 chip with concurrent GNSS 1 (GPS, GLONASS, BeiDou, Galileo) Dedicated GNSS antenna interface 1 External GNSS control via modem 2
	Firmware upgrade	Via UART (FOAT) and USB (FOAT) FOTA (Firmware upgrade Over the Air)
Compatible Trasna services	Location	AssistNow CellLocate
Electrical data	Power supply	Separate supply inputs for modem and GNSS systems: 3.8 V nominal for the modem 1.8 V nominal for the GNSS
Interfaces	Serial	2 UART for the modem 1 UART for GNSS 1 1 USB 2.0 (high-speed, 480 Mbit/s) 1 I2C
	GPIO	6
	(U)SIM	Supports 1.8 V and 3.0 V, SIM toolkit
Package	100 pin LGA (Land Grid Array)	27.0 x 30.0 x 2.7 mm
Environmental data, quality & reliability	Operating temperature	-40 °C to +85 °C
	RoHS compliant	Lead-free
	Qualification	Qualified as Trasna standard grade products
Certifications and approvals	Lena-R8001 and Lena-R8001M10	GCF, FCC, ISED, RED, RCM
Support products	EVK-R8001 EVK-R8001M10	Evaluation kits for Lena-R8 series
Product variants	Lena-R8001	LTE Cat 1bis module with global coverage
	Lena-R8001M10	LTE Cat 1bis module with global coverage and integrated Trasna M10 GNSS

1 = On Lena-R8001M10

2 = On Lena-R8001

Take the next step

Grow your business with Trasna Lena-R8.
Contact your account manager to learn more.

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