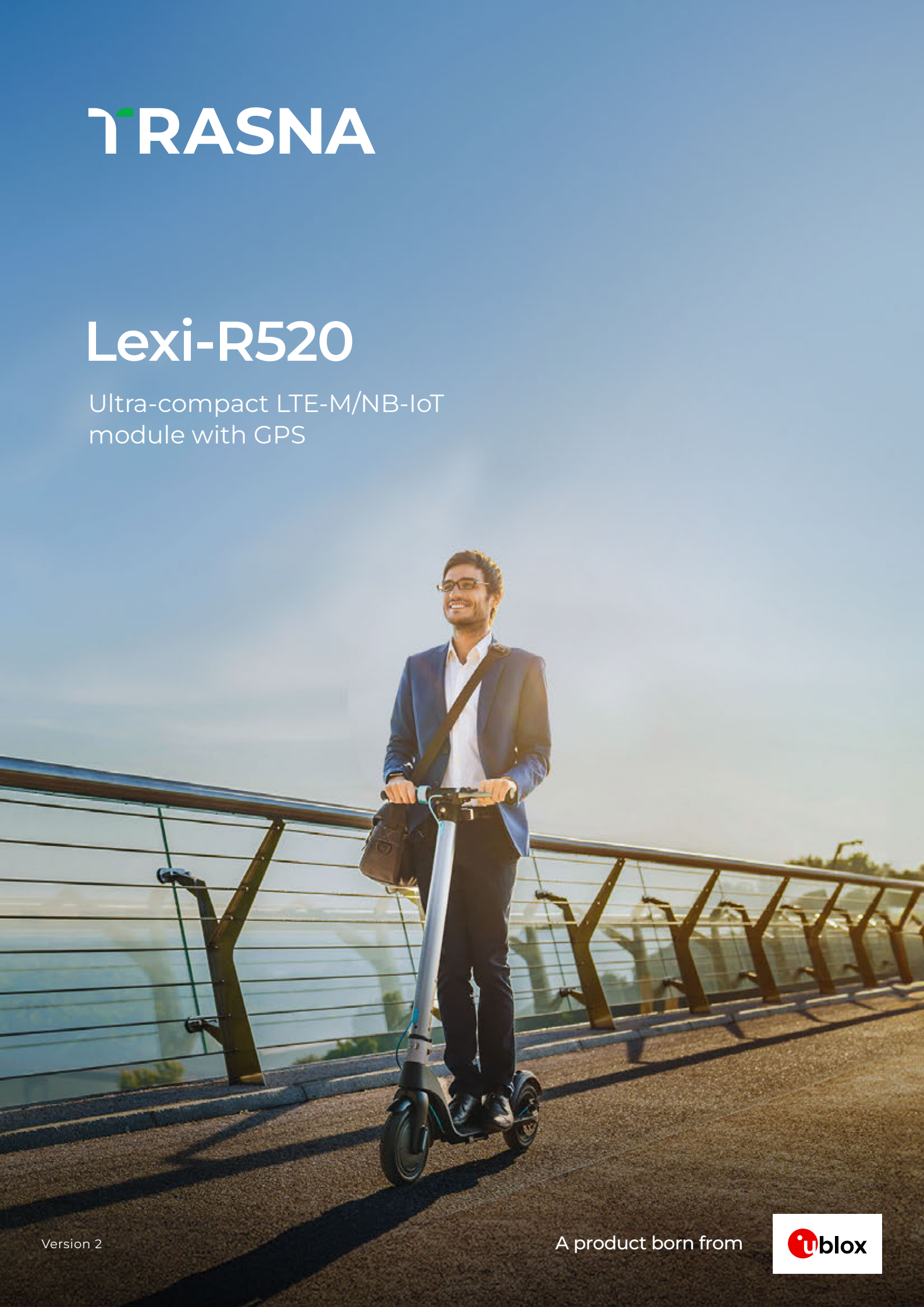
TRASNA

Lexi-R520

Ultra-compact LTE-M/NB-IoT module with GPS



Version 2

A product born from u-blox

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

Lexi-R520

Standard

Professional

Automotive

Lexi-R520 is a compact LTE-M / NB-IoT module built on the R52 chipset, offering power-efficient connectivity, integrated positioning, and embedded application support in a 16 x 16 mm form factor. Designed for space-constrained IoT devices, it delivers reliable communication with 23 dBm output power and features SpotNow and CellLocate for efficient indoor and outdoor tracking. Supporting LTE Cat M1 and NB2 with full 3GPP Rel. 14/15 capabilities, it's ideal for applications that demand performance in a small footprint.

Same great cellular products and team, now powered by Trasna

16 × 16 × 2 mm

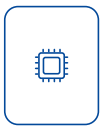
Benefits

Compact, efficient footprint
Reduces board space by 40% compared to Sara-R520 while maintaining full LTE and positioning capabilities

Robust connectivity
Delivers reliable communication at the cell edge with 23 dBm output power (PC3) across all supported bands

Optimised positioning
SpotNow and CellLocate provide low-power, cost-effective location tracking without requiring external GNSS hardware

Highlights



Compact LTE-M/NB-IoT design
Occupies just 16 x 16 mm PCB space, ideal for small devices with demanding size constraints

High transmission power
Power class 3 with 23 dBm output to ensure strong network coverage and minimise retransmissions

Cost-efficient positioning
Delivers GPS-based tracking with SpotNow and fallback cell-based location via CellLocate — no GNSS receiver needed

Low power consumption
Supports power-saving features including eDRX and PSM for long battery life in remote and battery-operated devices

Secure and updatable
Includes secure boot, firmware-over-the-air (FOTA) support, and TLS/DTLS encryption for over-the-air reliability

Efficient data protocols
Enables lightweight, secure communication with MQTT, CoAP, HTTP, TCP/IP, and dual IPv4/IPv6

Long-term availability
Backed by full hardware and software ownership of the R52 chipset, ensuring lifecycle continuity and supply stability

Use cases

- Telematics and fleet management
- Industrial automation and remote monitoring
- Smart city and building infrastructure
- Micromobility and connected healthcare
- Payment terminals and unattended retail
- Personal and pet tracking

Product features

		Lexi-R520
Grade	Automotive	
	Professional	•
	Standard	
Regions		Global
Access technology	LTE bands	1, 2, 3, 4, 5, 8, 12, 13, 18, 19, 20, 25, 26, 28, 66, 71, 85
	Data rate	M1/NB2
	LTE Power class	23 dBm
Positioning	Integrated u-blox SpotNow receiver	•
	Dedicated GNSS antenna interface	•
	External GNSS control	•
Compatible Trasna services	AssistNow™	•
	CellLocate®	•
Interfaces	UART	2
	USB (for diagnostics) 1	1
	DDC (I2C) 1	1
	USIM	1
	ADC 1	1
	GPIO	6
Features	Secure boot, updates, and production	•
	u-blox Smart Connection Manager	•
	Antenna dynamic tuning	•
	Ultra low PSM	•
	HTTP, FTP	•
	TCP/UDP	•
	TLS/DTLS	•
	MQTT, MQTT-SN	•
	CoAP and LwM2M	•
	FW update via serial (FOAT)	•
	Last gasp	•
	Jamming detection	•
	Antenna and SIM detection	•

M1 = LTE Cat M1 (588 kb/s DL, 1200 kb/s UL)
NB2 = Cat NB2 (125 kb/s DL, 140 kb/s UL)

Features	LTE	3GPP Release 13, 14 (partial support), 15 (partial support) for LTE Cat M1 and LTE Cat NB2 Cat M1 Half-duplex, 588 kb/s DL, 1200 kb/s UL Cat NB2 Half-duplex, 125 kb/s DL, 140 kb/s UL
	SMS	MT/MO PDU / text mode SMS over SG/NAS
Software features	Protocols	Dual stack IPv4 and IPv6 PPP over IPv4 and IPv6 Embedded TCP/IP, UDP/IP, FTP, HTTP, DNS Embedded MQTT and MQTT-SN Embedded CoAP and LwM2M Embedded TLS/DTLS SIM provisioning (BIP)
	Positioning	Integrated u-blox SpotNow A-GPS receiver Dedicated GNSS antenna interface Direct access to external u-blox GNSS via module
	Functionalities	Antenna dynamic tuning Last gasp Jamming detection Antenna and SIM detection
	Firmware upgrade	Via FOAT and FOTA (Firmware upgrade Over The Air)
Compatible Trasna services	Location	AssistNow CellLocate
Electrical data	Power supply	3.8 V nominal, range 3.0 V to 4.5 V
	PSM current consumption	0.5 µA
	eDRX current consumption	200 µA
	LTE Cat M1 Connected mode current consumption	195 mA (at 23 dBm)
	LTE Cat NB2 Connected mode current consumpti	135 mA (at 23 dBm)
Interfaces	Serial	8-wire UART, configurable as 2x 4-wire UART with ring indication DDC (I2C) USB for diagnostics
	GPIO	Up to 6 GPIOs, configurable
	(U)SIM	Supports 1.8 V and 3.0 V
Package	133-pin LGA	16.0 x 16.0 x 2.0 mm
Environmental data, quality & reliability	Operating temperature	−40 °C to +85 °C
	RoHS compliant	Lead-free
	Trasna qualification policy	Based on AEC-Q104 standard
	Manufactured	ISO/TS 16949 certified production sites
Certifications and approvals	Lexi-R520 [1]	FCC, ISED, GCF, PTCRB, AT&T with FirstNet, Verizon, T-Mobile, Telus, RED, Orange, Deutsche Telekom, Giteki, RCM, Telstra, NCC
	Lexi-R520	AWS IoT Core qualified Microsoft Azure certified
	1 = Planned certifications	
Support products	EVK-Lexi- R520	Evaluation kit for Lexi-R520
Product variants	Lexi-R520	LTE-M and NB-IoT module for global use

Take the next step

Grow your business with Trasna Lexi-R520.
Contact your account manager to learn more.

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