

TRASNA

Lexi-R520

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

Product summary



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.

Formed through the integration of several established specialist IoT players, Trasna delivers the full cellular IoT value chain from chip to cloud. This foundation gives us unmatched control, efficiency, and innovation across the stack. 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

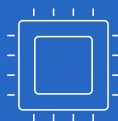
We deliver cutting-edge, scalable technology, future-proofing your business with solutions that drive rapid growth and capitalise on emerging opportunities

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 move 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
03

**in cellular
modules**

Excl. China



20_{bn}

**secure
connections**

without breach



250⁺

clients

in 80 countries



25⁺

years'

in cellular IoT



Lexi-R520

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

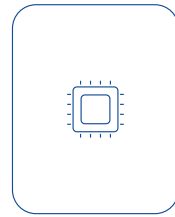


16 × 16 × 2 mm

Benefits

Compact, efficient footprint

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



Robust connectivity

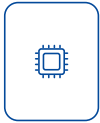
Delivers reliable communication at the cell edge with 23 dBm output power (PC3) across all supported bands

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
Features	ADC 1	1
	GPIO	6
	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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