

# TRASNA

## Sara-R52

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

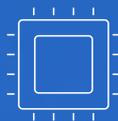
We deliver cutting-edge, scalable technology, future-proofing your business with solutions that drive rapid growth and capitalise on emerging opportunities

## 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**<sub>bn</sub>

**secure  
connections**

without breach



**250**<sup>+</sup> **clients**  
in 80 countries



**25**<sup>+</sup> **years'**  
in cellular IoT



# Sara-R52

Sara-R52 is a second-generation LTE-M / NB-IoT module series offering power-efficient connectivity, flexible positioning, and embedded application support. Built with full hardware and software ownership down to the chipset level, it ensures long-term availability and reliability. The series supports LTE Cat M1 and NB2 with 3GPP Rel. 14/15 features, offers SpotNow for low-power location, and is compatible with MQTT Anywhere, MQTT Flex, AWS IoT Core, and Microsoft Azure.

Same great cellular products and team, now powered by Trasna

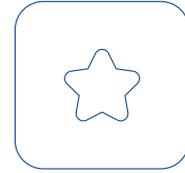


16 × 26 × 2.2 mm

# Benefits

## Application-ready architecture

Run customer applications directly within the R52 chipset, reducing hardware complexity and cost

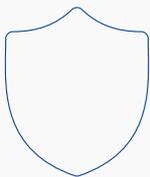


## Efficient positioning

Enables low-power, cost-effective location tracking with SpotNow, ideal for occasional or power-sensitive tracking

## Low power, long life

Supports 3GPP Rel. 14/15 features such as PSM, eDRX, and power-optimised connectivity to maximise battery life



## Secure by design

Delivers secure boot, secure firmware updates, and secure production implementations for robust device protection

## Built-in IoT cloud services

Out-of-the-box compatibility with MQTT Anywhere and MQTT Flex reduces airtime, overhead, and energy consumption



# Highlights



## Low-power LTE-M / NB-IoT connectivity

Supports LTE Cat M1 and NB2 with extended coverage, low latency, and optimised mobility for global IoT deployments



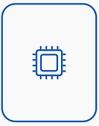
## Onboard application processing

Integrated uCPU allows users to run applications natively on the chipset, eliminating the need for an external MCU



## Advanced positioning flexibility

Offers SpotNow for efficient location tracking without GNSS



## Compact form factor

Small 2.2 × 26 × 16 mm design suited for space-constrained applications across industrial and mobile use cases



## Secure and updatable

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



## MQTT-ready communication

Fully supports MQTT Anywhere and MQTT Flex for lightweight, efficient data delivery over low-power networks



## Cloud integration

Qualified for AWS IoT Core and Microsoft Azure, enabling easy onboarding to major cloud platforms



## Long-term support

Built on a fully owned chipset and software stack, providing guaranteed availability and stability across product lifecycles

## Use cases

- Continuous and cyclic asset tracking
- Smart logistics and supply chain monitoring
- Wearables and portable medical devices
- Telematics and fleet tracking
- Smart metering and environmental sensors
- Industrial automation and remote monitoring



# Product features

		Sara-R520	Sara-R520M10
<b>Grade</b>	Automotive		
	Professional	•	•
	Standard		
<b>Regions</b>		Global	Global
<b>Access technology</b>	LTE bands	1, 2, 3, 4, 5, 8, 12, 13, 18, 19, 20, 25, 26, 28, 66, 71, 85	1, 2, 3, 4, 5, 8, 12, 13, 18, 19, 20, 25, 26, 28, 66, 71, 85
	Data rate	M1/NB2	M1/NB2
	LTE Power class	23 dBm	23 dBm
<b>Compatible Trasna services</b>	AssistNow™	•	•
	CellLocate®	•	•
<b>Positioning</b>	Integrated GNSS receiver		•
	Integrated Trasna SpotNow receiver	•	
	Dedicated GNSS antenna interface	•	•
	External GNSS control	•	
<b>Interfaces</b>	UART	2	2
	USB (for diagnostics)	1	1
	DDC (I2C)	1	1
	USIM	1	1
	ADC	1	1
	GPIO	6	6
<b>Features</b>	Secure boot, updates, and production	•	•
	Trasna 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	•	•
CellTime	•	•	

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

NB2 = Cat NB2 (125 kb/s DL, 140 kb/s UL)

<b>Features</b>	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
<b>Software features</b>	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	Dedicated GNSS antenna interface Integrated u-blox M10 chip with concurrent GNSS <sup>1</sup> (GPS, BeiDou, Galileo) Integrated u-blox SpotNow A-GPS receiver <sup>2</sup> Direct access to external u-blox GNSS via module <sup>2</sup>
	Functionalities	Antenna dynamic tuning CellTime for robust and accurate timing reference Last gasp Jamming detection Antenna and SIM detection
	Firmware upgrade	Via FOAT and FOTA (Firmware upgrade Over The Air)
	1 = On SARA-R520M10      2 = On SARA-R520	
<b>Compatible Trasna services</b>	Location	AssistNow & CellLocate
<b>Electrical data</b>	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 consumption	135 mA (at 23 dBm)
<b>Interfaces</b>	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
<b>Package</b>	96 pin LGA	16.0 x 26.0 x 2.2 mm, < 3 g
<b>Environmental data, quality &amp; reliability</b>	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
<b>Certifications and approvals</b>	Sara-R52 series <sup>3</sup>	FCC, ISED, GCF, PTCRB, AT&T with FirstNet, Verizon, T-Mobile, Telus, RED, Orange, Deutsche Telekom, Giteki, RCM, Telstra, NCC
	Sara-R52 series	AWS IoT Core qualified
	3 = Planned certifications	
<b>Support products</b>	EVK-SARA-R520	Evaluation kit for Sara-R520
	EVK-SARA-R520M10	Evaluation kit for Sara-R520M10
<b>Product variants</b>	Sara-R520	LTE-M and NB-IoT module for global use
	Sara-R520M10	LTE-M and NB-IoT module with integrated Trasna M10 GNSS receiver for global use

# Take the next step

Grow your business with Trasna Sara-R52.  
Contact your account manager to learn more.

[hello@trasna.io](mailto:hello@trasna.io) | [www.trasna.io](http://www.trasna.io)

**TRASNA**