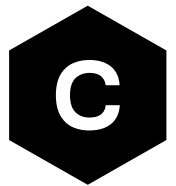


SARA-G450

Quad-band GSM/GPRS module



Standard



Professional



Automotive



16.0 × 26.0 × 2.4 mm

Ideal for cost-optimized solutions

- Industry proven SARA form factor
- Easy migration between u-blox 2G, 3G, LPWA (Cat M1 and Cat NB1), LTE Cat 4 and LTE Cat 6 modules
- Simple integration with embedded Internet suite
- Optimized power consumption for IoT applications

Product description

The SARA-G450 GSM/GPRS module features class 12 GSM/GPRS connectivity in the popular u-blox SARA form factor.

The SARA-G450 module is an ideal solution for cost and space-sensitive applications. It offers an excellent price-to-performance ratio for all M2M applications where environmental conditions (temperature, EMC and mechanical stresses) are within standard levels.

Its rich feature set – including GSM/GPRS class 12 and simple integration – enable customers to easily integrate the module and develop a wide range of M2M devices.

Thanks to its pin compatibility with the u-blox modules SARA-G3 (GSM), SARA-U2 (HSPA), SARA-R4/N4 (LTE Cat M1/ Cat NB1), SARA-N2 (LTE Cat NB1), TOBY-L2 (LTE Cat 4) and TOBY-R2/LARA-R2/LARA-R3121 (LTE Cat 1), the SARA-G450 allows customers to utilize the same PCB design, thus targeting various environmental requirements and different cellular technologies.

u-blox cellular modules are certified and approved by the main regulatory bodies and operators.

Product selector

Model	Data Rate	Bands	Positioning	Interfaces	Audio	Features	Grade
	GPRS multi-slot class 12 *	GSM/GPRS quad-band	Integrated GNSS receiver GNSS via modem AssistNow software CellLocate®	UART SPI USB 2.0 GPIO DDC for u-blox GNSS	Analog audio Digital audio	Network indication Antenna supervisor Jamming detection Embedded TCP/UDP Embedded FTP, HTTP Embedded SSL Dual stack IPv4/IPv6 FW update via serial interface	Standard Professional Automotive
SARA-G450	•	•	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1(2)	4	<input type="checkbox"/> <input type="checkbox"/>	• • <input type="checkbox"/> • • • • •

* = Downgradeable to class 10 via AT command / ☐ = Available in future FW version / (2) = Second UART supported in future FW versions



Features

GSM	GSM 850/900/1800/1900 MHz 3GPP Release 99
GPRS	GPRS Class 12 (downgradeable to Class 10 with AT command) CS1-CS4 - up to 85.6 kbit/s PBCC support
AT Commands	3GPP TS 27.005, 3GPP TS 27.007 u-blox AT command extension 3GPP 27.010 MUX protocol
SMS	MT/MO Text/PDU mode
Firmware upgrade	Via UART
Voice ¹	Codec: HR / FR / EFR / AMR
Protocols	Embedded TCP/IP, UDP/IP, HTTP, FTP, SSL and TLS 1.2 support
GNSS Interfaces ¹	Direct access to u-blox GNSS via module CellLocate® & Hybrid Positioning
Special features	Bearer Independent Protocol (BIP) ¹ IPv6 support over PPP

Electrical data

Power supply	3.40 V to 4.20 V
Digital I/O voltage level	1.8 V / 2.8 V to 3.0 V (selectable)
Power consumption	Power Off: < 100 µA Idle mode: < 1.5 mA Connected: < 230 mA

Interfaces

Antenna	50 Ω SMT pad
Serial Port	1 UART for data and AT commands
SIM	1.8 V and 3.0 V
GPIO	4, controllable over AT commands
GNSS serial ¹	1 DDC (I ² C)
Audio ¹	1 analog 1 digital (I ² S/PCM)

¹ = in future FW versions

Package

96 pin LGA: 16.0 x 26.0 x 2.4 mm, < 3 g

Environmental data, quality & reliability

Operating range –20 °C to +70 °C

Extended range –40 °C to +75 °C

RoHS compliant (lead-free)

Certifications and approvals

SARA-G450 modules offer a comprehensive set of regulatory certifications and approvals, including RED, ICASA, SRRC/CCC, and Anatel.

Contact your closest u-blox representative for the latest approvals.

Support products

EVK-G45 Evaluation Kit for SARA-G450

Product variants

SARA-G450 Quad-band GSM/GPRS module

Further information

For contact information, see www.u-blox.com/contact-us.

For more product details and ordering information, see the [product data sheet](#).

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