# **SARA-G3** series

## GSM/GPRS modules

## **Highlights**

- GSM/GPRS functionality scalable to customer needs
- Seamless drop-in migration from SARA-U UMTS/HSPA modules
- Smallest footprint; lowest standby current: < 0.90 mA
- Extended temperature range: -40 to +85°C
- Simple integration of u-blox GNSS and A-GNSS
- CellLocate™: location based on cellular network
- Manufactured in ISO/TS 16949 certified production sites



SARA-G3 series: 16.0 x 26.0 x 3.0 mm

### **Product description**

The SARA-G3 series of GSM/GPRS modules feature extremely low power consumption and a miniature LGA form factor. SARA-G3 modules are interchangeable, and have been designed with the diverse needs of M2M customers in mind. Different functionalities and feature sets are available to meet different customer and application requirements.

SARA-G350 and SARA-G340 are full-feature GSM/GPRS modules with a comprehensive feature set, including an extensive set of internet protocols (TCP, UDP, HTTP and FTP). They have fully integrated access to u-blox GNSS positioning chips and modules, along with embedded A-GNSS (AssistNow Online and AssistNow Offline) functionality. SARA-G350 is the quad-band version for global connectivity and SARA-G340 (900/1800 MHz) is the dual-band version for cost optimized use in Europe and Asia. Their rich feature set enables customers to easily develop a wide range of M2M devices with minimum software development on the host processor.

SARA-G300/G310 modules target high volume, cost sensitive applications, and provide "bit pipe" GSM/GPRS functionalities while minimizing the customer's total cost of ownership. Functionalities requiring dedicated and expensive hardware components are eliminated where they are not needed or can be implemented in the host processor.

The SARA-G350 ATEX is an ATEX / IECEx certified variant that further complements the product family by offering the ideal solution for the development of smart devices deployed in potentially explosive environments.

u-blox wireless modules are certified and approved by the main regulatory bodies and operators. RIL software for Android and Embedded Windows are available free of charge. SARA-G3 modules are manufactured in ISO/TS 16949 certified sites. Each module is tested and inspected during production. The modules are qualified according to ISO 16750 – Environmental conditions and electrical testing for electrical and electronic equipment for road vehicles.

#### **Product selector**

Model	Ва	Interfaces				Au	dio		Features													
	GSM/GPRS quad-band	GSW/GPRS dual-band (900/1800 MHz)	UART	SPI	USB	GPIO	DDC for u-blox GNSS	Analog Audio	Digital Audio	Network indication	Antenna Supervisor	Jamming Detection	Embedded TCP/UDP	Embedded FTP, HTTP, SMTP	Embedded SSL	AssistNow software	CellLocate ®	FOTA	FW update via serial interface	eCall / ERA-GLONASS	Rx diversity	GNSS via Modem
SARA-G300		•	2																•			
SARA-G310	•		2																•			
SARA-G340		•	2			4	1	•	•	•	٠	•	•	٠		•	•		٠	٠		•
SARA-G350	•		2			4	1	•	•	•	•	•	•	•		•	•	А	•	•		•
SARA-G350 ATEX	•		2			4	1	•	•	•	•	•	•	•		•	•		•	•		•

A = available upon request



#### **Features**

GSM 850/900/1800/1900 MHz 1, 2 GSM

> GSM 900 /1800 MHz 3 3GPP Release 99

**GPRS** GPRS Class 10, CS1-CS4 - up to 85.6 kb/s

PBCCH support

CSD GSM max 9.6 kb/s

AT Commands 3GPP 27.005, 3GPP 27.007

u-blox AT command extension 3GPP 27.010 MUX protocol

MT/MO Text/PDU mode SMS

Firmware upgrade Via UART

SARA-G340/G350 only:

HR / FR / EFR / AMR Voice Echo cancellation Noise reduction

Embedded TCP/IP, UDP/IP, HTTP/FTP Protocols

Network Jamming detection

**GNSS** Interfaces Direct access to u-blox GNSS via module

AssistNow software for faster acquisition CellLocate & Hybrid Positioning

inBand modem Special features

eCall and ERA-GLONASS support

- SARA-G340/G350
- SARA-G310 SARA-G300

**Electrical data** 

Power supply 3.00 to 4.50 V (extended)

Power Off: Power consumption < 40 uA

Idle mode4: < 0.9 mA< 5.0 mA Idle mode5. Connected: < 250 mA

<sup>4</sup> SARA-G300 and SARA-G310: requires external 32 kHz signal

5 SARA-G300 and SARA-G310: without external 32 kHz signal

#### **Package**

96 pin LGA: 16.0 x 26.0 x 3.0 mm, < 5 g

#### Environmental data, quality & reliability

Operating temperature -40 to +85°C (extended range)

RoHS compliant (lead-free)

Qualification according to ISO 16750

Manufactured in ISO/TS 16949 certified production sites

ATEX / IECEx certification (SARA-G350 ATEX)

#### **Certifications and approvals**

SARA modules offer a comprehensive set of regulatory certifications and approvals, including R&TTE, GCF, PTCRB, FCC, IC, NCC, ICASA, and Anatel. See the u-blox website for latest approvals.

#### Support products

EVK-G35 Evaluation Kit for SARA-G340/G350 EVK-G31 Evaluation Kit for SARA-G300/G310

RIL software Android 2.3 and 4.1

Embedded Windows 6.x 7.x Windows Mobile 6.5

#### **Interfaces**

Common to all modules

Antenna  $50 \Omega$  SMT pad

1 UART for data and AT Commands Serial Port

1 UART for tracing and firmware update

SIM 1.8V and 3V

SARA-G340/G350 only:

GPIO 4, controllable over AT commands

1 DDC (I2C) GNSS serial Audio 1 analog

1 digital (I2S/PCM)

#### **Ordering information**

SARA-G300-xxS6 Cost optimized dual-band (900/1800 MHz)

GSM/GPRS data module

SARA-G310-xxS<sup>6</sup> Cost optimized guad-band

GSM/GPRS data module

SARA-G340-xxS<sup>6</sup> Dual-band GSM/GPRS module, extended feature set

Quad-band GSM/GPRS module,

SARA-G350-xxS<sup>6</sup> extended feature set

Quad-band GSM/GPRS module,

ATEX/IECEx certified

<sup>6</sup> xx refers to firmware version

SARA-G350-xxX<sup>6</sup>

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