Standard | Professional | Automotive

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 cellular 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	Bands		Interfaces					Audio		Features													Grade		
	GSM/GPRS quad-band	GSM/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	Standard	Professional	Automotive
SARA-G300		•	2																•						
SARA-G310	•		2																•						
SARA-G340		•	2			4	1	•	•	•	•	•	•	•	V	•	•		•	•		•			
SARA-G350	•		2			4	1	•	•	•	•	•	•	•	V	•	•	A	•	•		•			
SARA-G350 ATEX	•		2			4	1	•	•	•	•	•	•	•		•	•		•	•		•			

A = available upon request
V = available from version 01S onwards

Features

GSM	GSM 850/900/1800/1900 MHz [1] GSM 900 /1800 MHz [2] 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
SMS	MT/MO Text/PDU mode
Firmware upgrade	Via UART
SARA-G340/G350 only:	
Voice	HR / FR / EFR / AMR Echo cancellation Noise reduction
Protocols	Embedded TCP/IP, UDP/IP, HTTP/FTP, HTTPs & FTPs [3]
Network	Jamming detection
GNSS Interfaces	Direct access to u-blox GNSS via module AssistNow software for faster acquisition CellLocate & Hybrid Positioning
Special features	inBand modem eCall and ERA-GLONASS support

[1] SARA-G310/G350
[2] SARA-G300/G340
[3] Available from version 01S onwards

Electrical data

Power supply	3.00 to 4.50 V (extended)	
Power consumption	Power Off:	< 40 µA
	Idle mode [4]:	< 0.9 mA
	Idle mode [5]:	< 5.0 mA
	Connected:	< 250 mA

[4] SARA-G300 and SARA-G310: requires external 32 kHz signal
[5] SARA-G300 and SARA-G310: without external 32 kHz signal

Interfaces

Common to all modules:	
Antenna	50 Ω SMT pad
Serial Port	1 UART for data and AT commands 1 UART for tracing and firmware update
SIM	1.8 V and 3 V
SARA-G340/G350 only:	
GPIO	4, controllable over AT commands
GNSS serial	1 DDC (I2C)
Audio	1 analog 1 digital (I2S/PCM)

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.x Embedded Windows 6.x 7.x

Product variants

SARA-G300	Cost optimized dual-band (900/1800 MHz) GSM/GPRS data module
SARA-G310	Cost optimized quad-band GSM/GPRS data module
SARA-G340	Dual-band (900/1800 MHz) GSM/GPRS module, extended feature set
SARA-G350	Quad-band GSM/GPRS module, extended feature set
SARA-G350 ATEX	Quad-band GSM/GPRS module, ATEX/IECEx certified

Further information

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

For more product details and ordering information, see the product data sheet.