

LEON-G1 series

GSM/GPRS modules

Highlights

- Full feature quad-band GSM/GPRS, class 10
- Easy forward migration to u-blox LISA UMTS/HSPA and CDMA 1xRTT modules
- Lowest standby current: < 0.99 mA
- Extended temperature range: -40 to +85°C
- Simple integration of u-blox GNSS and A-GNSS
- CellLocate™: location based on cellular network
- ISO 16750 qualification
- Manufactured in ISO/TS 16949 certified production sites



LEON-G100:
18.9 x 29.5 x 3.0 mm

Product description

LEON-G1 modules provide full feature quad-band GSM/GPRS data and voice communication in a compact and cost optimized SMT form factor. LEON modules are fully qualified and certified and feature extremely low power consumption and a rich set of Internet protocols. They are ideally suited to M2M and automotive applications such as: Fleet management, Automatic Meter Reading (AMR), people and asset tracking, surveillance and security and Point of Sales (PoS) terminals.

LEON modules implement fully integrated access to u-blox GNSS receivers. Wireless and GNSS are controlled through a single serial port from any host processor, and A-GNSS (Assist-Now Online and AssistNow Offline) functionality is integrated.

The compact SMT package enables easy manufacturing, and simple forward migration to u-blox LISA UMTS/HSPA and CDMA 1xRTT modules and seamless GSM to UMTS and GSM to CDMA handover. This allows customers to take maximum advantage of their hardware and software investments, and provides very short time to market. An extensive set of national regulatory and operator certificates is available. RIL software for Android and Embedded Windows is available free of charge.

LEON 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	Functions	Grade
	GSM/GPRS quad-band	UART SPI USB GPIO DDC for u-blox GNSS	Analog Audio Digital Audio	Network indication Antenna Supervisor Jamming Detection Embedded TCP/UDP Embedded HTTP, FTP, SMTP Embedded SLL AssistNow software CellLocate FOTA FW update via serial eCall / ERA-G LONASS Rx diversity GNSS via Modem	Standard Professional Automotive
LEON-G100	•	1 5 1	2 1	• • • • • • • • • • • • • • •	• • • • • • • • • • • • • • •

e = with LEON-G100-71S

Features

GSM	GSM 850 / 900 / 1800 / 1900 MHz 3GPP Release 99 PBCC support
GPRS	Class 10, CS1-CS4 - up to 85.6 kb/s
CSD	GSM max 9.6 kb/s
Voice	HR / FR / EFR / AMR Echo cancellation Noise reduction
AT Commands	3GPP 27.005, 3GPP 27.007 u-blox AT command extension 3GPP 27.010 MUX protocol
SMS	MT/MO PDU/Text mode

Software features

Protocols	Embedded TCP/IP, UDP/IP, HTTP/FTP
Network	Jamming detection
GNSS Interfaces	Direct access to u-blox GNSS via LEON AssistNow software for fastest GNSS Time-to-First-Fix CellLocate & Hybrid Positioning
AT commands	3GPP 27.005, 3GPP 27.007 u-blox proprietary AT command 3GPP 27.010 MUX protocol
Firmware upgrade	Via UART (Xmodem protocol)
Special features	DTMF decoder inBand modem eCall and ERA-GLONASS support

Electrical data

Power supply	3.00 to 4.50 V (extended range)
Power consumption	Power Off: < 90 μ A Idle mode ¹ DRX9: < 0.99 mA DRX5: < 1.60 mA GSM Voice: < 300 mA GPRS Class 10: < 410 mA

¹ GSM and GPRS attach

Interfaces

Antenna	50 Ω Antenna detection
Serial Port	1 UART 1 DDC (I ² C) for GNSS communication
Audio lines	2 audio analog 1 audio digital (I2S/PCM) interface
SIM	1.8V and 3V
GPIO	5, controllable over AT commands
RTC	Internal
A/D converter	1, accessible via AT commands

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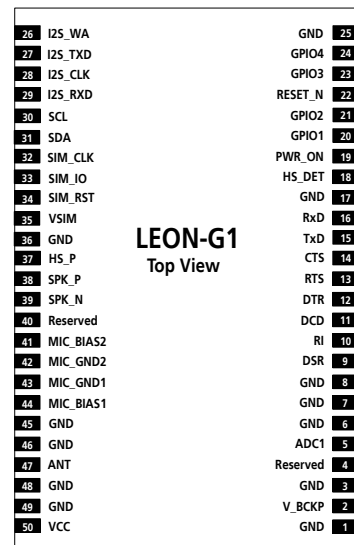
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Package

50 pin LCC (Leadless Chip Carrier): 18.9 x 29.5 x 3.0 mm, < 5 g

Pinout



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

Certifications and approvals

R&TTE, CE, GCF, PTCRB, FCC, IC, NCC, ICASA, A-Tick, AT&T, Rogers, Orange. See the u-blox website for latest approvals.

Support products

EVK-G20	Evaluation Kit for LEON-G1
RIL software	Android 2.3 and 4.1, Embedded Windows 6.x 7.x, Windows Mobile 6.5

Product variants

LEON-G100	GSM/GPRS quad-band module
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Further information

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

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