LEON-G100 Automotive

2.5G quad-band GSM/GPRS modules

Highlights

- Ready for eCall
- Meets automotive quality requirements
- Extended temperature range: –40 °C to +85 °C
- Full feature quad-band GSM/GPRS, class 10
- Embedded TCP/IP stack
- Lowest standby current: < 0.99 mA
- Simple integration of u-blox GPS and A-GPS
- Innovative CellLocate™ positioning
- SMT mountable for automatic assembly

LEON-G100 Automotive:
18.9 x 29.5 x 3.0 mm

Product description

The LEON-G100 Automotive module provides full feature quad-band GSM/GPRS data and voice communication in a compact and cost optimized SMT form factor.

LEON-G100 ISO 16750 qualified and fully certified module features an extremely low power consumption and a rich set of Internet protocols and is ideally suited for all automotive applications such as vehicle tracking and control, eCall, fleet management, anti-theft systems, road assistance, road-pricing and other automotive applications.

LEON modules implement fully integrated access to u-blox GPS receivers. Wireless and GPS are controlled through a single serial port from any host processor, and A-GPS (AssistNow Online and AssistNow Offline) functionality is integrated. LEON modules enable simple forward migration to u-blox LISA 3G modules and seamless 2G – 3G handover. Customers can thus take maximal advantage of their LEON hardware and software investments.

Product selector

Module	Bands	Interface					Audio		Functions											
	GSM/GPRS quad-band	UART	SPI	USB	DDC for u-blox GPS	GPIO	Analog Audio	Digital Audio	Network indication	Antenna Supervisor	Jamming Detection	Embedded TCP/UDP	FTP, HTTP, SMTP	SSL	GPS via Modem	AssistNow software	FW update via serial	FOTA	In-band modem	Battery charging
LEON-G100 Automotive	•	1			1	4	2	1	•	•	•	•	•		•	•	•	R	R	

R = upon request

Features

Quad-Band	GSM 850 / 900 / 1800 / 1900 MHz class 4 (2 W) for 850/900 bands class 1 (1 W) for 1800/1900 bands
GPRS	Class 10 (4 downlink, 2 uplink, max. 5) Mobile Station Class B PBCCH supported CS 1-CS 4 supported
CSD	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	PDU / Text mode / Cell broadcast
Sensitivity (25°C)	-110 dBm (typ.) @850/900 -109 dBm (typ.) @1800/1900

Software features

- TCP/IP (UDP/IP) internal stack
- Internet (FTP, HTTP, SMTP)
- Multiple socket & multiple IP addresses
- Firmware update via UART
- Access to u-blox GPS via GSM modem
- AssistNow client for fastest GPS Time-to-First-Fix
- CellLocate™: location based on cellular network

Electrical data

Power supply	3.0 to 4.5 V	
Power consumption	Power Off:	< 90 µA
	Idle mode[1]	
	DRX9:	< 0.99 mA
	DRX5:	< 1.60 mA
	Telephony GSM:	< 300 mA
	GPRS class 10:	< 410 mA

[1] GSM and GPRS attach

Interfaces

A/D converter	1 ADC accessible over AT
Antenna	50 ohm GSM Antenna Supervisor available
Audio lines	2 Audio Analog 1 Audio Digital (I2S/PCM) interface
GPIO	4 GPIOs: controllable over AT commands
RTC	Internal
SIM card	Supports 1.8 V and 3 V, SIM toolkit
Serial Port	1 UART 1 DDC (I²C) for GPS communication

Approvals

- R&TTE, CE, GCF, FCC, PTCRB, Anatel, IC, China SRRC, etc.

Package

Dimensions	50 pin LCC (Leadless Chip Carrier), surface mount package: 18.9 x 29.5 x 3.0 mm
Weight:	< 5 g
Pinout	

LEON-G100 Automotive top view

* LEON-Gx00-06 only. Reserved on previous versions.

Environmental data

Operating temp. (Ambient)	-40 to +85°C
Storage temp.	-40 to +85°C
RoHS compliant (lead-free)	

Automotive features

- Ready for European eCall
- Jamming detection
- LCC package (no connector)
- Qualification according to ISO 16750
- Production site ISO/TS 16949 certified
- VDA 1.6 level 2
- Advanced Product Quality Planning, PPAP, 8D, extended Product Change Notification (PCN)
- Firmware update over-the-air (upon request)

Support tools

EVK-G20	Evaluation Kit for LEON-G100/G200.

Ordering information

LEON-G100-xxA[2]	Quad-band GSM/GPRS module

[2] xx refers to firmware version.

Delivery packing	Tape on reel (250 pieces)

HQ Switzerland +41 44 722 7444 info@u-blox.com	China +86 10 68 133 545 info_cn@u-blox.com
EMEA +41 44 722 7444 info@u-blox.com	Japan +81 3 5775 3850 info_jp@u-blox.com
Americas +1 703 483 3180 info_us@u-blox.com	Korea +82 2 542 0861 info_kr@u-blox.com
APAC – Singapore +65 6734 3811 info_ap@u-blox.com	Taiwan +886 2 2657 1090 info_tw@u-blox.com