



LEON-G100/G200

Quad Band GSM/GPRS Data and Voice Modules

Objective Specification

Overview

The LEON-G100/G200 modules from u-blox are cost efficient solutions bringing full feature Quad Band GSM / GPRS data and voice transmission technology in a compact form factor. Featuring low power consumption and GSM/GPRS class 10 data transmission with voice capability, the LEON-G100/G200 combine baseband, RF transceiver, power management unit, and power amplifier in a single, easy-to-integrate solution.

The LEON-G100/G200 are complete, fully qualified and certified solutions enabling reduced costs and short time to market. These modules are ideally suited for M2M and automotive applications such as: Automatic Meter Reading (AMR), Remote Monitoring Automation and Control (RMAC), surveillance and security, e-call, road pricing, asset tracking, fleet management, anti theft systems and Point of Sales (PoS) terminals.

The LEON-G100/G200 support full access to u-blox GPS via the GSM modem. Thus GSM and GPS can be controlled through a single serial port from any host processor. The LEON-G100/G200's compact form factor and SMT pads enable fully automatic assembly processes with standard pick-and-place equipment and reflow soldering, permitting cost-efficient, high-volume production.



29.5 x 18.9 x 2.84 mm



Highlights

- Full feature quad-band GSM/GPRS, class 10
- Embedded TCP/IP stack
- Lowest standby current: <1.6 mA
- Simple integration of u-blox GPS and A-GPS
- Extended operating temperature range: -30 to +85°C.
- SMT mountable for automatic assembly

Features

	Interfaces				Voice		Functions								
	UART	DDC (I ² C) for u-blox GPS	GPIO	ADC	Analog Audio	Digital Audio	Battery Charging	Antenna Supervisor	Jamming Detection	TCP/IP	FTP, HTTP, POP3, SMTP	GPS via GSM Modem	Embedded AssistNow Client	FW update over UART	FW update over-the-air
LEON-G100	1	1	2	1	2		•	•	•		•	•	•	•	•
LEON-G200	1	1	2	1	2	1	•	•	•	•	•	•	•	•	•





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GSM Features

Quad-Band	GSM 850 / 900 / 1800 / 1900 MHz class 4 (2 W) for EGSM 850/900 class 1 (1 W) for GSM 1800/1900
GPRS	Class 10 CS 1...CS 4 supported
CSD (circuit switch data)	max 9.6kb/s user data
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
Modem Type	V.32, V.110

Interfaces

A/D converter	1 ADC ¹ accessible over AT commands
Antenna	50 ohm GSM Antenna Supervisor available
Audio lines	2 Audio Analog 1 Audio Digital (DAI/PSM) ² interface
GPIO	2 GPIOs: controllable over AT commands.
RTC	Internal
SIM card	Supports 1.8 and 3 V
Serial Port	1 UART: ITU V.24 [E.1] compliant 1 DDC (i°C) for communication with u-blox GPS

¹ If not used for antenna detection.

² LEON-G200 only

Electrical Data

Voltage Supply	3.25 to 4.2 V	
Power Consumption	Power Off:	<90 µA
	Standby:	<1.6 mA
	Telephony GSM:	<300 mA
	Telephony DCS:	<250 mA
	GPRS:	<450 mA

Approvals

- R&TTE, CE, GCF, FCC, PTCRB, Anatel, IC, China TA
- Local approvals and network operator certifications
- RoHS compliant

Mechanical Data

26	Reserved/WA0_DAI	GND	25
27	Reserved/TXD_DAI	Reserved	24
28	Reserved/CLK0_DAI	Reserved	23
29	Reserved/RXD_DAI	RESET_N	22
30	SCL	GPIO2	21
31	SDA	GPIO1	20
32	SIM_CLK	PWR_ON	19
33	SIM_IO	HS_DET	18
34	SIM_RST	GND	17
35	VSIM	TxD	16
36	GND	RxD	15
37	EPPA	RTS	14
38	AUOP	CTS	13
39	AUON	DTR	12
40	ADC1/A_DET	DCD	11
41	MIC_BIAS2	RI	10
42	MIC_GND2	DSR	9
43	MIC_GND1	GND	8
44	MIC_BIAS1	GND	7
45	GND	GND	6
46	GND	Reserved/CHARGE_SENSE	5
47	ANT	Reserved/V_CHARGE	4
48	GND	GND	3
49	GND	V_BCKP	2
50	VCC	GND	1

**LEON-G100/
LEON-G200
top view**

Dimensions 29.5 x 18.9 x 2.84 mm

Weight <5g

Operating Temp. -30°C to 85°C

Software Features

- TCP/IP (UDP/TCP)
- Internet (FTP, HTTP, POP3, SMTP)²
- Firewall²
- Multiple socket & multiple IP addresses
- Jamming indication (GSM)
- Firmware update through UART
- Firmware update over-the-air²
- Access to u-blox GPS via GSM modem
- AssistNow client for fastest GPS Time to First Fix

² LEON-G200 only

Support Products

EVK-G200 An easy-to-use kit to get familiar with the GSM/GPRS performance of the LEON-G100/G200 .

Ordering Information

LEON-G100-005 LEON-G100 – Quad Band GSM/GPRS Module

LEON-G200-005 LEON-G200 – Quad Band GSM/GPRS Module with extended feature set

Delivery Packing
Tape on reel (250 pieces)

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