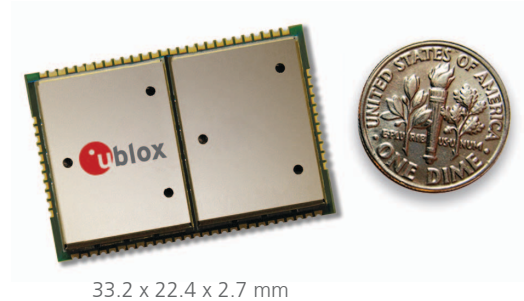# LISA-U1 series

3.75G HSPA wireless modules

Highlights

- Dual-band HSPA: HSUPA 5.6 Mb/s, HSDPA 7.2 Mb/s
- Quad-band GSM/GPRS/EDGE, class 12
- SMT form factor, small foot-print
- Easy migration from u-blox 2G modules (SW & HW)
- Low idle mode current: < 2 mA
- Extended temperature range: -40 to +85°C
- Simple integration of u-blox GPS and A-GPS

33.2 x 22.4 x 2.7 mm

Product description

The LISA-U1 series provides dual-band HSPA high-speed data and voice communication, and quad-band GSM/GPRS/EDGE, in a compact SMT form factor.

Featuring high speed data transmission, a rich set of Internet protocols, and very low power consumption, LISA is ideal for all mobile Internet terminals and applications, car infotainment and telematics, Automatic Meter Reading, Security and surveillance, road pricing, fleet management, anti theft systems, asset tracking, and Point of Sales (PoS) terminals.

LISA offers 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 Offline) functionality is integrated.

LISA enables easy migration from u-blox LEON GSM/GPRS modules and offer seamless 2G-3G handover. Customers can take maximal advantage of their LEON hardware and software investments. LISA modules are fully qualified and certified, reducing costs and enabling short time-to-market.

Features

Module	Technology		Bands		Interface					Audio		Functions										
	HSUPA [Mb/s]	HSDPA [Mb/s]	UMTS/HSPA bands [MHz]	GSM/GPRS/EDGE quad-band	UART	SPI	USB	DDC for u-blox GPS	GPIO	Analog Audio	Digital Audio	Network indication	Antenna Supervisor	Jamming Detection	Embedded TCP/UDP stack	FTP, HTTP, SMTP	SSL	GPS via Modem	Embedded AssistNow software	FW update via serial interface	FOTA	In-band modem
LISA-U100	5.6	7.2	850/1900	•	1	1	1	1	5				•	•	•	•	•	•	•	•	•	A	
LISA-U110	5.6	7.2	900/2100	•	1	1	1	1	5				•	•	•	•	•	•	•	•	•	A	
LISA-U120	5.6	7.2	850/1900	•	1	1	1	1	5	1	1		•	•	•	•	•	•	•	•	•	A	
LISA-U130	5.6	7.2	900/2100	•	1	1	1	1	5	1	1		•	•	•	•	•	•	•	•	•	A	A

A = available upon request with LISA-U1 Automotive modules

Features

UMTS/HSPA	900/2100 MHz (Bands VIII, I), or 850/1900 MHz (Bands V, II) 3GPP Release 6 5.6 Mb/s uplink, 7.2 Mb/s downlink
GSM/GPRS/EDGE	GSM 850 / 900 / 1800 / 1900 MHz 3GPP Release 99 PBCCH support GPRS Class 12, EDGE MCS1-MCS9 Coding Schemes CS1-CS4
CSD	GSM max 9.6 kb/s UMTS max 64 kb/s
Voice[1]	HR/FR/EFR/AMR Echo cancellation Noise reduction
SMS	MT/MO PDU / Text mode

[1] LISA-U120/U130 only.

Software features

- TCP/IP, UDP/IP (multiple sockets)
- Internet (FTP, HTTP, SMTP)
- SSL software for FTP and HTTP
- Multiple socket & multiple IP addresses
- Firmware update through UART and USB
- Access to u-blox GPS via LISA
- AssistNow software for fastest GPS Time to First Fix

Electrical data

Power supply	3.4 V to 4.2 V

Power consumption

Power Off	< 90 µA
Idle (GSM/UMTS)	< 2 mA
GSM Voice	< 250 mA
UMTS Voice	< 240 mA
GPRS data	< 560 mA
EDGE Data	< 460 mA
HSDPA	< 670 mA
HSUPA	< 720 mA

Interfaces

Audio[1]	1 Audio Analog 1 Audio Digital
GPIO	5 GPIOs, configurable
(U)SIM	Supports 1.8 V and 3 V, SIM toolkit
Serial	1 UART 1 DDC (I²C) for GPS communication 1 USB 2.0 (full speed, 480 Mb/s) 1 SPI

[1] LISA-U120/U130 only.

Approvals

- R&TTE, CE, GCF, PTCRB, FCC, IC, China SRRC, AT&T

Package

Package:
76 pin LCC (Leadless Chip Carrier), surface mount package

Dimensions:
33.2 x 22.4 x 2.7 mm

Weight: < 9 g

Environmental data

Operating temp.	-20 to +65°C (full operation) -40 to +85°C (extended temp. range)
Humidity	JEDEC MSL 4

RoHS compliant (lead-free)

Support products

EVK-U12	Evaluation Kit for LISA-U100/U120.
EVK-U13	Evaluation Kit for LISA-U110/U130.

Ordering information

LISA-U100-xxS[2]	HSPA 850/1900 MHz, quad-band GPRS/ EDGE, data only (no voice)
LISA-U110-xxS[2]	HSPA 900/2100 MHz, quad-band GPRS/ EDGE, data only (no voice)
LISA-U120-xxS[2]	HSPA 850/1900 MHz, quad-band GPRS/ EDGE, voice and data
LISA-U130-xxS[2]	HSPA 900/2100 MHz, quad-band GPRS/ EDGE, voice and data

[2] xx refers to firmware version.

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