



LEA-5 Module Series

u-blox 5 GPS and GALILEO Receivers

Preliminary Data

Overview

The LEA-5 module series brings the high performance of the u-blox 5 positioning engine to the industry standard LEA form factor. These versatile, stand-alone receivers combine an extensive array of features with flexible connectivity options. Their ease of integration results in fast times-to-market for a wide range of automotive, consumer and industrial applications with strict size and cost requirements.



22.4 x 17.0mm

*your position
is our focus*



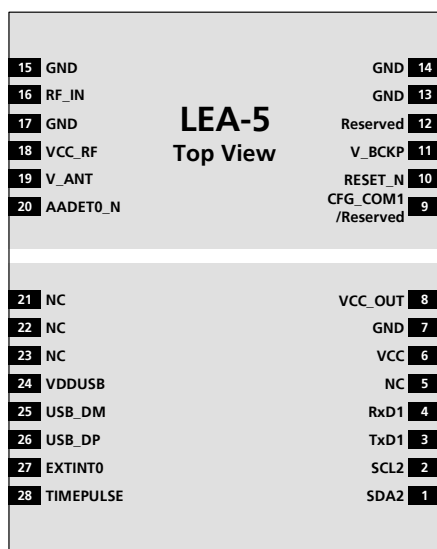
Highlights

- 50-channel u-blox 5 engine with over 1 million effective correlators
- <1 second Time To First Fix for Hot and Aided Starts
- -160dBm SuperSense® acquisition and tracking sensitivity
- Accelerated startup at weak signals with KickStart feature
- Supports AssistNow® Online and AssistNow® Offline A-GPS services; OMA SUPL compliant
- High immunity to jamming
- Hybrid GPS, GALILEO and SBAS (WAAS, EGNOS, MSAS, GAGAN) engine
- 4 Hz position update rate
- Easy migration from LEA-4 modules

Features

	Power	Size	Memory	Function			Antenna		Input / Output					
	Voltage Range (V)		Programmable (Flash) FW Update	KickStart	Dead Reckoning	Raw Data	Precision Timing	Antenna Supply	Antenna Supervisor	USB	SPI	DDC (I ² C compliant)	Reset Input	Configuration Pin
LEA-5H	2.7-3.6	3.0	•	•				•	•	1	1	1	•	
LEA-5S				•				•	•	1	1	1	•	1
LEA-5A									•	•	1	1	1	•

Mechanical Data



Dimensions 22.4mm x 17.0mm

Weight 2.1 g

Receiver Performance Data

Receiver Type	50-channel u-blox 5 engine GPS L1 C/A code GALILEO L1 Open Service (with upgrade) SBAS: WAAS, EGNOS, MSAS, GAGAN	
Max. Update Rate	4 Hz	
Accuracy¹	Position	2.5 m CEP
	SBAS	2.0 m CEP
Acquisition¹	Cold starts:	29 s
	Warm starts:	29 s
	Aided starts ² :	<1 s
	Hot starts:	<1 s
Sensitivity	Acquisition:	-160 dBm
	Tracking:	-160 dBm
	Cold starts:	-145 dBm
Multipath Suppression	Intelligent multipath detection and suppression	
A-GPS	Supports AssistNow [®] Online and AssistNow [®] Offline, OMA SUPL compliant	
Operational Limits	Velocity:	515 m/s (1000 knots)

¹ All SV @ -130 dBm

² Dependent on aiding data connection speed and latency

Interfaces

Serial Interfaces	1 UART 1 USB V2.0 Full Speed 12 Mbit/s 1 DDC (I ² C compliant) 1 SPI
Digital I/O	Configurable time pulse 1 EXTINT input 1 Reset 1 Configuration Pin (LEA-5A, LEA-5S)
Serial and I/O Voltages	3 V levels
Protocols	NMEA, UBX binary

Electrical Data

Power Supply	2.7 to 3.6 V
Power Consumption	120 mW @ 3.0V
Backup Power	1.3 V to 4.8 V, 30µA
Antenna Type	Active and Passive
Antenna Power	External or Internal VCC_RF
Antenna Supervision	Integrated short-circuit detection and antenna shutdown, open circuit detection is supported with AADET_N input and little external circuitry

Environmental Data

Operating Temp.	-40°C to 85°C
Storage Temp.	-40°C to 85°C

Support Products

EVK-5H	u-blox 5 Evaluation Kit An easy-to-use kit to get familiar with u-blox 5 positioning technology, and to evaluate functionality and visualize GPS performance.
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Ordering Information

LEA-5H-0	LEA-5H – u-blox 5 GPS/GALILEO Module
LEA-5S-0	LEA-5S – u-blox 5 GPS Module
LEA-5A-0	LEA-5A – u-blox 5 GPS Module
	Available as samples and tape on reel (250 pieces)