Product summary

NEO-D9S

u-blox D9 correction data receiver

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First mass-market L-band GNSS correction module

- Access to centimeter-level GNSS corrections globally
- Freedom to select GNSS correction data delivery channel
- High scalability for industrial and automotive applications
- Allows selection of desired L-band GNSS correction service
- Easy and seamless integration with u-blox F9 receivers

12.2 × 16.0 × 2.4 mm

u-blox

NEO-D9S

Product description

NEO-D9S is a satellite data receiver for L-band correction broadcast, which can be configured for use with a variety of correction services. It decodes the satellite transmission and outputs a correction stream, enabling a high precision GNSS receiver to reach accuracies down to centimeter level. Depending on the capabilities of the receiver used, it can consume the data output by NEO-D9S as is, or external preprocessing on the host might be needed. By providing an independent correction data stream delivered via satellite L-band, NEO-D9S ensures high availability of the position output and decreases dependency on cellular connectivity for correction service delivered via IP. Granting access to a broadcast data stream, NEO-D9S allows virtually infinite scalability, eliminating the need for a dedicated delivery channel per user. This makes NEO-D9S flexible for use in various markets and applications.

NEO-D9S is configurable for use with correction data of various providers and service levels. This ensures high precision in multiple regions globally, as well as coverage across continents.

NEO-D9S can be easily integrated with a variety of high precision GNSS receivers from the u-blox F9 platform, which allows a complete high precision solution to be built with less design effort. For more information about the u-blox F9 products, refer to the u-blox website.

In addition, NEO-D9S can be integrated in any high precision GNSS system that uses L-band correction delivery.

NEO-D9S implements u-blox security principles and advanced security features including signature and anti-jamming mechanisms, thus allowing reliable GNSS positioning in end-user products.

This L-band receiver is in the u-blox NEO form factor.

	NEO-D9S-00A	NEO-D9S-01A	NEO-D9S-00B
Grade			
Automotive	•	•	
Professional			•
Standard			
GNSS			
Satellite L-band	•	•	•
Concurrent signals	1	1	1
Interfaces			
UART	2	2	2
USB	1	1	1
SPI	1	1	1
DDC (I2C compliant)	1	1	1
Features			
Programmable (flash)	•	•	•
Additional SAW filter	•	•	•
RTC crystal	•	•	•
Oscillator	T	T	T
Active antenna / LNA supply	•	•	•
Power supply			
2.7 V – 3.6 V	•	•	•

T = TCXO

u-blox

# NEO-D9S series

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Features

Receiver type	u-blox D9 correction data receiver	
Time-to-first-frame	Initial acquisition at 2400 bit/s	<10 s
Acquisition sensitivity	For BER < 10e-5 at 2400 bit/s	-133 dBm
Oscillator	TCXO	
Frequency bands	1525 - 1559 MHz (NEO-D9S-00A/00B) 1550 - 1559 MHz (NEO-D9S-01A)	
Memory	Flash	
Supported antennas	Active	
Anti-jamming	Active CW detection and removal Onboard SAW band pass filter	

High precision GNSS architecture
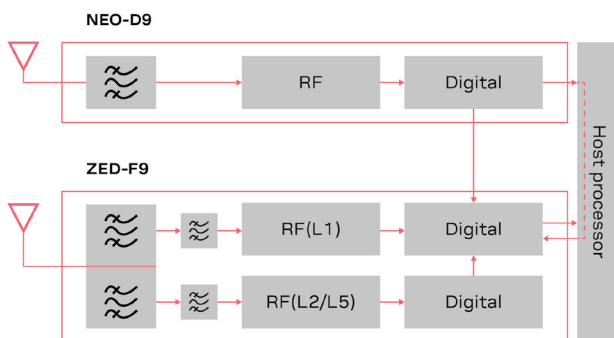
Interfaces

Serial interfaces	2 UARTs 1 USB 1 SPI 1 DDC (I2C compliant)
Protocols	UBX
Digital I/O	1 EXTINT input for Wakeup

Electrical data

Supply voltage	2.7 V to 3.6 V
Power consumption NEO-D9S-00B NEO-D9S-00A/01A	35 mA at 3.0 V (average) 55 mA at 3.0 V (average)

Package

24-pin LCC (Leadless Chip Carrier)
12.2 x 16.0 x 2.4 mm, 1.6 g

Environmental data, quality & reliability

	NEO-D9S-00A/01A	NEO-D9S-00B
Operating temp.	−40 °C to +105 °C	−40 °C to +85 °C
Storage temp.	−40 °C to +105 °C	−40 °C to +85 °C
Qualification	Professional-grade modules qualified according to ISO 16750 Automotive-grade modules qualified according to AEC-Q104	
RoHS compliant (2015/863/EU)		
Green (halogen-free)		
EU Radio Equipment Directive compliant 2014/53/EU		
Manufactured and fully tested in ISO/TS 16949 certified production sites		
High vibration and shock resistance		
Based on u-blox chips qualified according to AEC-Q100		

Related u-blox products and services

GNSS products	ZED-F9P high precision GNSS module ZED-F9R high precision dead reckoning module ZED-F9K high precision dead reckoning module for automotive markets
Location services	PointPerfect GNSS augmentation service

Support products

Evaluation kits provide reference design, and allow efficient integration and evaluation of u-blox positioning technology.

C101-D9S	NEO-D9S application board, allowing NEO-D9S module to be evaluated as a stand-alone module or combined with a suitable u-blox evaluation board, for example, C099-F9P or C100-F9K

Product variants

NEO-D9S-00A	u-blox D9 correction data receiver with satellite L-band raw output, automotive grade
NEO-D9S-01A	u-blox D9 correction data receiver with satellite L-band raw output, limited frequency band, automotive grade
NEO-D9S-00B	u-blox D9 correction data receiver with satellite L-band raw output, professional grade

Further information

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

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