Product summary

NEO-D9S series

u-blox D9 correction data receiver

Standard

Professional

Automotive

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 hardware integration and configuration

12.2 × 16.0 × 2.4 mm

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, which can be decrypted and converted to corrections on the host processor, enabling a high precision GNSS receiver to reach accuracies down to centimeter level. NEO-D9S ensures high availability of the position output and decreases dependence on cellular connectivity for correction service delivered both via IP and satellite L-band, by providing an independent second correction data stream. 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.

The NEO-D9S implements u-blox security principles and advanced security features including signature, anti-jamming, and anti-spoofing 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-00B
Grade		
Automotive	•	
Professional		•
Standard		
GNSS		
Satellite L-band	•	•
Concurrent signals	1	1
Concurrent satellites	2	2
Interfaces		
UART	2	2
USB	1	1
SPI	1	1
DDC (I2C compliant)	1	1
Features		
Programmable (flash)	•	•
Additional SAW filter	•	•
RTC crystal	•	•
Oscillator	T	T
Active antenna / LNA supply	•	•
Power supply		
1.65 V – 3.6 V	•	•

T = TCXO

NEO-D9S series

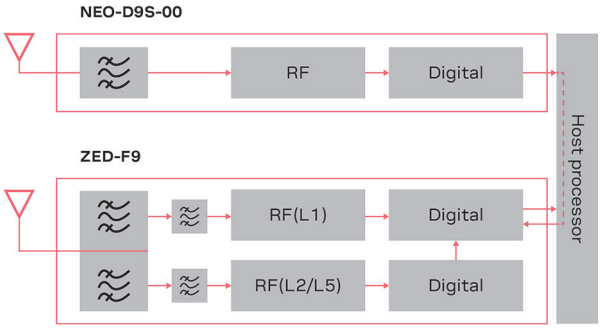
Features

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 band	1525-1559 MHz	
Memory	Flash	
Supported antennas	Active	

Security features

Anti-jamming	Active CW detection and removal Onboard SAW band pass filter
Anti-spoofing	Advanced anti-spoofing algorithms
Firmware update	Signature mechanism

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	35 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	NEO-D9S-00B
Operating temp.	–40 °C to +85 °C	–40 °C to +85 °C
Storage temp.	–40 °C to +85 °C	–40 °C to +85 °C
RoHS compliant (lead-free)		
Green (halogen-free)		
ETSI-RED compliant		
Qualification according to ISO 16750		
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		

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 the module to be evaluated as stand-alone or combined with the C099-F9P application board for use with ZED-F9P. Includes L-band antenna
C100-F9K	Application board with ZED-F9K high precision GNSS receiver, allowing inclusion of NEO-D9S for satellite L-band correction data reception.

Product variants

NEO-D9S-00A	u-blox D9 correction data receiver with satellite L-band raw output, 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-us.

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