

NEO-D9C



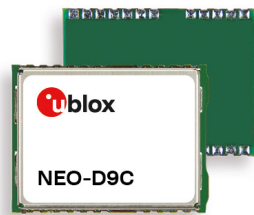
u-blox QZSS L6 correction data receiver

Easy access to Japan's high precision correction services

- Grants access to the free CLAS correction service
- Ready for QZSS MADOCA correction service
- Enables GNSS accuracy down to centimeter level in Japan
- Easy and seamless integration with u-blox F9 receivers



12.2 × 16.0 × 2.4 mm



Product description

NEO-D9C is a satellite receiver for QZSS L6 high precision GNSS correction services - CLAS and MADOCA. It decodes the satellite signals and outputs a correction stream, enabling a high precision GNSS receiver to reach accuracies down to centimeter level. Depending on the receiver used, preprocessing on an external host might be needed.

NEO-D9C can easily be integrated with high precision GNSS receivers from the u-blox F9 platform portfolio, for a complete solution with little design effort. It grants access to the CLAS augmentation for a free lifetime operation of high precision positioning or a navigation system.

The NEO-D9C ensures high availability of the position output by decoding CLAS data from two QZSS satellites in parallel. By tracking all visible QZSS satellites, NEO-D9C can automatically select the optimal satellites used for the best access to a continuous CLAS service.

NEO-D9C implements u-blox security principles and advanced security features, including signature and anti-jamming mechanisms, thus allowing reliable GNSS positioning in end-user products.

Supporting u-blox receivers

u-blox F9 GNSS receivers support NEO-D9C and the CLAS service. For more information about the u-blox F9 products, refer to the u-blox website.

About Quasi-Zenith Satellite System (QZSS)

QZSS is a Japanese satellite positioning system. With satellites in quasi-zenith orbits, three satellites are visible at all times from locations in the Asia-Oceania region.

About Centimeter Level Augmentation Service (CLAS)

CLAS provides high-accuracy augmentation to GNSS receivers and is provided for free. The CLAS service is transmitted on the L6 band. The CLAS service adopts a State Space Representation (SSR) of GNSS errors where each individual error source is described separately. The CLAS service is available over mainland Japan.

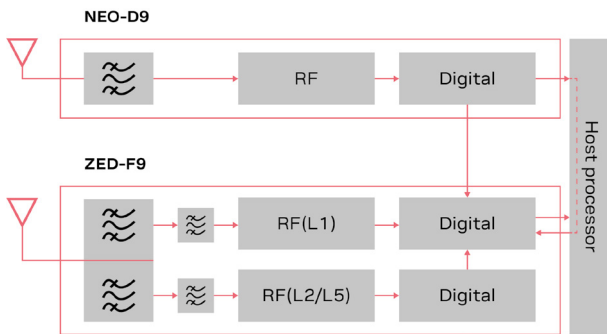
	NEO-D9C-00A	NEO-D9C-00B
Grade		
Automotive	•	
Professional		•
Standard		
GNSS		
QZSS L6 band	•	•
Concurrent signals	2	2
Interfaces		
UART	2	2
USB	1	1
SPI	1	1
DDC (I2C compliant)	1	1
Features		
Programmable (flash)	•	•
Additional SAW filter	•	•
RTC crystal	•	•
Oscillator	T	T
Active antenna / LNA supply	•	•
Power supply		
2.7 V – 3.6 V	•	•

T = TCXO

Features

Receiver type	u-blox D9 engine QZSS L2C and L6 receiver	
Time-to-first-frame	Cold start	18 s
	Hot start	3 s
Acquisition sensitivity	Cold start	-137 dBm
	Hot start	-154 dBm
Oscillator	TCXO	
Frequency band	1227.60 MHz +/- 5 MHz and 1278.75 MHz +/- 5 MHz	
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 UART 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	55 mA at 3.0 V (average)

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.

Package

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

Environmental data, quality & reliability

	NEO-D9C-00A	NEO-D9C-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 (lead-free)	Yes	
Green (halogen-free)	Yes	
Manufactured and fully tested in ISO/TS 16949 certified production sites	Yes	
High vibration and shock resistance	Yes	
Based on u-blox chips qualified according to AEC-Q100	Yes	

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 a reference design and allow efficient integration and evaluation of u-blox positioning technology.

C101-D9C	NEO-D9C application board for evaluation of the NEO-D9C as a stand-alone module or combined with a suitable u-blox F9 evaluation board, for example, C099-F9P or C100-F9K
----------	---

Product variants

NEO-D9C-00A	QZSS L6 receiver, automotive grade
NEO-D9C-00B	QZSS L6 receiver, professional grade

Legal Notice:

u-blox reserves all rights to this document and the information contained herein. Products, names, logos and designs described herein may in whole or in part be subject to intellectual property rights. Reproduction, use, modification or disclosure to third parties of this document or any part thereof without the express permission of u-blox is strictly prohibited.

The information contained herein is provided "as is". No warranty of any kind, either express or implied, is made in relation to the accuracy, reliability, fitness for a particular purpose or content of this document. This document may be revised by u-blox at any time. For most recent documents, please visit www.u-blox.com.
Copyright © 2021, u-blox AG