



Features

Bluetooth	v5.0 (Bluetooth Low Energy)
NFC	NFC-A tag support
Range	1400 m
Max. conducted output power	8 dBm
Conducted sensitivity	-94 dBm (1 Mbit/s) -100 dBm (125 Kbit/s)

u-blox connectivity software

This section describes the NINA-B31 features in the embedded u-blox connectivity software. All NINA-B31 modules are delivered with this software and configured using AT commands. More features will be available via software updates.

Software features	u-blox Low Energy Serial Port Service (SPS); GATT server and client via AT commands; Configuration over air; Extended Data Mode (EDM) protocol for simultaneous AT commands and data, and multiple simultaneous data streams; beacons; NFC tag for pairing and data; 2 Mbps modulation; 125 and 500 kbit/s modulation for long range functionality; Advertisement extensions
HW interfaces	UART, GPIO
Configuration	AT Commands
Support tools	s-center
Simultaneous connections	8
Security	Secure boot Secure Simple Pairing 128-bit AES encryption
Throughput over UART	780 Kbit/s

Electrical data

Power supply	1.7 VDC to 3.6 VDC
Power consumption in Bluetooth LE mode	Active TX @ 0 dBm: 4.9 mA Standby: 1.3 μ A Sleep: 400 nA (with wake-up on external event)

Further information

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

For more product details and ordering information, see the [product data sheet](#).

Package

Dimensions	NINA-B311: 10.0 x 11.6 x 2.2 mm NINA-B312: 10.0 x 15.0 x 3.8 mm
Weight	< 1.0 g
Mounting	Machine mountable Solder pins

Environmental data, quality & reliability

Operating temperature	-40 °C to +85 °C
Storage temperature	-40 °C to +85 °C
Humidity	RH 5 – 90% non-condensing

Certifications and approvals

Type approvals	Europe (ETSI RED); US (FCC/CFR 47 part 15 unlicensed modular transmitter approval); Australia (ACMA) ¹ ; New Zealand ¹ ; Brazil (Anatel) ¹ ; Canada (IC RSS) ¹ ; Japan (MIC) ¹ ; South Africa (ICASA) ¹ ; South Korea (KCC) ¹ ; Taiwan (NCC) ¹
Health and safety	EN 62479, EN 60950-1, IEC 60950-1
Bluetooth qualification	v5.0 (Bluetooth low energy)

1 = Pending approvals

Support products

EVK-NINA-B311	Evaluation kit for NINA-B311 module with u-blox connectivity software and antenna pin
EVK-NINA-B312	Evaluation kit for NINA-B312 module with u-blox connectivity software and internal antenna

Product variants

NINA-B311	With u-blox connectivity software and antenna pin
NINA-B312	With u-blox connectivity software and internal antenna

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