

Release Notes

Topic:	u-blox connectivity software v2.0.0 for NINA-B1
	UBX-17002487
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1 Features

u-blox connectivity software v2.0.0 for NINA-B1 has all the features of v1.0.0, plus the new features described below. For more details and information about using the features please see the *Getting Started guide [5]* and the *u-blox Short Range AT commands manual [1]*.

1.1 Central role

Enables communication with another NINA-B1 (NINA-B1 to NINA-B1 communication):

To establish communication between two Bluetooth low energy devices, one device must act as the Central, while the other one takes the role of the Peripheral. The addition of central role (in addition to the Peripheral role already available in software v1) makes it possible to connect a NINA-B1 to another NINA-B1, or a NINA-B1 to any other Bluetooth low energy device in peripheral or central role. NINA-B1 can use central role and peripheral role simultaneously.

1.2 AT commands for GATT server / client

Allows the user to create or access any Bluetooth low energy service, for example, the Heart Rate Service:

With the GATT AT commands, a user can set up, read, and write any standardized or custom Bluetooth low energy service containing a set of characteristics and attributes. An example is the standardized service "Heart Rate service", containing the characteristics "Heart Rate Measurement" and "Body Sensor Location".

The GATT client is the device that asks for data, for example "What is the current heart rate?"

The GATT server is the device that has the data, for example "The heart rate measurement is currently 87 beats per minute".

1.3 8 simultaneous connections

Enables communication with several devices at the same time:

The number of simultaneous connections has been increased from 1 to 8. This makes it possible to transfer data to/from several devices at the same time. NINA-B1 supports central role and peripheral role simultaneously, and supports up to 7 connections as central role and 1 connection as a peripheral role.

1.4 Extended Data Mode (EDM)

Makes it possible to simultaneously send data and AT commands and enables more advanced multipoint features:

Extended Data Mode (EDM) is a u-blox proprietary (but open) protocol that opens up more possibilities of an AT-based module. For example, it is possible to send AT-commands to the module simultaneously while sending the data, which is useful in scenarios where you want to use GATT and the u-blox Serial Port Service for data streaming simultaneously. It can also enable advanced multipoint scenarios; for example, when you want to send specific data to a selection of several connected devices.

1.5 Configuration over air

Makes it possible to change the configuration of NINA-B1 via Bluetooth low energy

If configuration over air is enabled, the NINA-B1 module accepts the AT commands sent to the NINA-B1 module from a remote device connected via Bluetooth low energy. This means that, it is possible to remotely write configuration and read out all data available in AT mode; for example, read and write GATT based service attributes, set beacon data, change what devices are connected, and so on.

2 Notes and limitations

2.1 Known issues in v2.0.0

- The AT command *Get RSSI +UBTRSS* can only be used to retrieve the RSSI value from a single remote device.
- In Extended Data Mode, the maximum number of simultaneous connections is currently limited to 2 (2 connections to peripherals or 1 connection to a peripheral and 1 connection to a central).
- In Extended Data Mode, the BLUE signal pin is not supported.
- In security mode 2 (AT+UBTSM, Security Enabled – Just Works), the feature to enable pairing for 60s by activating an external input signal is not supported.

3 Released software package

The released software package is NINA-B11X_2.0.0.zip and is available via www.u-blox.com [7].

3.1 Software upgrade instructions

See the *NINA-B1 series System Integration Manual* [4] for instructions on how to upgrade your module.

4 Tools

4.1 s-center

The s-center PC application is an easy-to-use graphical user interface that supports software upgrade and the AT commands to configure and control the module.

For NINA-B1 with u-blox connectivity software v2.0.0, s-center v3.0.0 or later is required.

5 Related documentation

- [1] [u-blox Short Range Modules AT Commands Manual](#), UBX-14044127
- [2] [u-blox Extended Data Mode Protocol Specification](#), UBX-14044126
- [3] [NINA-B1 Data Sheet](#), UBX-15019243
- [4] [NINA-B1 System Integration Manual](#), UBX-15026175
- [5] [NINA-B1 Getting Started](#), UBX-16009942
- [6] [EVK-NINA-B1 User Guide](#), UBX-15028120
- [7] [NINA-B1 u-blox connectivity software v2.0.0 zip package](#)